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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

NEIC ***01*** *18:45:41.7±1.7,2170S×17955W,h600km,mb4.6/6,Error ellipse: s-maj=75.5km s-min=25.7km az=151.0*
IDC ***01*** *18:45:46.3±2.6,2176S×17970W,h627km±37km,mb3.5/4, mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km s-min=20.6km az=159.0*
ISC 01 18:45:43.1±2.7,223S±02×1796W±03,h613km±42km,n22, σ1§15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

*NEIC **01** 00:11:57.3, 3221S×7174W, h29km, ML3.5(GUC), After GUC.*

GUC 01 00:11:57.3±0.7, 3221S×7174W, h29km±3km, MD4.1, ML3.5, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.41**	**142**	⇓*i*P	Pb	00 12 06.1	-0.1
PACH				*i* S	Sb	00 12 12.7	+0.4
ILCH	**Illapel**	**0.75**	**40**	⇓*i*P	Pb	00 12 11.8	+0.1
ILCH				*i* S	Sb	00 12 22.3	+0.6
ILCH				AMP		00 12 23.1	
	comp=N,2μm,0.2s						
ILCH	**Illapel**	**0.75**	**40**	⇓*i*P	Pb	00 12 11.8	+0.1
ILCH				*i* S	Sb	00 12 22.3	+0.6
IHA	**Instituto Hidr**	**0.81**	**174**	*e*P	Pn	00 12 12.5	-0.4
IHA				*e*S	Sb	00 12 23.7	+0.2
ROCH	**El Roble**	**0.97**	**141**	⇑*i*P	Pn	00 12 14.9	-0.1
ROCH				*i* S	Sn	00 12 28.2	+0.3
JACH	**Jahuel**	**1.07**	**116**	⇑*i*P	Pn	00 12 16.4	0.0
JACH				*i* S	Sn	00 12 30.8	+0.4
CMCH	**Combarbala**	**1.21**	**31**	⇑*i*P	Pn	00 12 18.6	+0.3
CMCH				*i* S	Sn	00 12 34.7	+1.0
CMCH				AMP		00 12 38.5	
	comp=E,6μm,0.7s						
CMCH	**Combarbala**	**1.21**	**31**	⇑*i*P	Pn	00 12 18.6	+0.3
CMCH				*i* S	Sn	00 12 34.7	+1.0
LCCH	**Las Cruces**	**1.27**	**174**	*e*P	Pn	00 12 19.2	+0.1
LCCH				*e*S	Sn	00 12 35.4	+0.2
PEL	**Peldehue**	**1.28**	**137**	⇑*i*P	Pn	00 12 19.8	+0.6
PEL				*i* S	Sn	00 12 37.0	+1.5
PEL				AMP		00 12 38.7	
	comp=N,2μm,0.8s						
PEL	**Peldehue**	**1.28**	**137**	⇑*i*P	Pn	00 12 19.8	+0.6
PEL				*i* S	Sn	00 12 37.0	+1.5
RCDM	**Rinconada Maip**	**1.49**	**149**	*e*P	Pn	00 12 22.9	+0.7
RCDM				*i* S	Sn	00 12 42.7	+2.0
RCDM				AMP		00 12 43.6	
	comp=E,1μm,0.1s						
RCDM	**Rinconada Maip**	**1.49**	**149**	*e*P	Pn	00 12 22.9	+0.7
RCDM				*i* S	Sn	00 12 42.7	+2.0
SAN	**Santiago**	**1.53**	**144**	*i* S	Sn	00 12 43.8	+2.2
CLCH	**Cerro Calan**	**1.55**	**140**	⇑*i*P	Pn	00 12 24.2	+1.2
CLCH				*i* S	Sn	00 12 44.4	+2.2
CLCH				AMP		00 12 47.4	
	comp=E,1μm,0.6s						
CLCH				AMP		00 12 48.0	
	comp=E,1μm,0.6s						
TACH	**Talagante**	**1.59**	**155**	*e*P	Pn	00 12 24.8	+1.4
TACH				*i* S	Sn	00 12 45.5	+2.5
ANTU	**Antumapu**	**1.64**	**146**	*e*P	Pn	00 12 25.3	+1.1
ANTU				*i* S	Sn	00 12 46.8	+2.5
ANTU				AMP		00 12 51.9	
	comp=E,698nm,0.3s						
ANTU	**Antumapu**	**1.64**	**146**	*e*P	Pn	00 12 25.3	+1.1
ANTU				*i* S	Sn	00 12 46.8	+2.5
FCH	**Farellones**	**1.65**	**133**	⇓*i*P	Pn	00 12 25.3	+1.0
FCH				*i* S	Sn	00 12 47.1	+2.6
FCH				AMP		00 12 49.2	
	comp=E,658nm,0.3s						
PCH	**Pirque**	**1.74**	**144**	*e*P	Pn	00 12 26.9	+1.3
PCH				*i* S	Sn	00 12 50.0	+3.3
CHCH	**Chadas Angostu**	**1.94**	**152**	⇓*i*P	Pn	00 12 29.9	+1.6
LMEL	**Las Melosas**	**2.08**	**142**	*i* P	Pn	00 12 32.1	+1.9
LMEL				*i* S	Sn	00 12 58.0	+2.9
LMEL				AMP		00 13 04.8	
	comp=N,562nm,0.2s						
LMEL	**Las Melosas**	**2.08**	**142**	*i* P	Pn	00 12 32.1	+1.9
LMEL				*i* S	Sn	00 12 58.0	+2.9
CACH	**El Canelo**	**2.12**	**154**	⇓*i*P	Pn	00 12 33.4	+2.5
CICH	**Cipreses**	**2.37**	**153**	*e*P	Pn	00 12 35.9	+1.7
SFDO	**San Fernando**	**2.47**	**166**	⇑*i*P	Pn	00 12 36.8	+1.2

*IDC **01** 00:13:39.8±0.8, 3523N×8954E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.8/22, mbtmp3.7/12, ML3.4/3, MS3.5/4, Ms1 3.6/4, ms1mx3.4/25, Error ellipse: s-maj=29.4km s-min=17.6km az=52.0*

*NEIC **01** 00:13:41.7±0.5, 3531N×8960E, h10km, mb4.2/2, Error ellipse: s-maj=14.1km s-min=7.9km az=49.0*

*MOS **01** 00:13:43.5±1.7, 3540N×8951E, h33km, mb4.1/8, Error ellipse: s-maj=18.9km s-min=8.6km az=105.5*

*ISCJB **01** 00:13:44.4±1.5, 3540N±007×895E±0.1, h41km±16km, mb3.8/12, MS3.8/2, Error ellipse: s-maj=16.1km s-min=10.6km az=122.7*

ISC 01 00:13:46.4±1.2, 3544N±007×896E±01, h43km±12km, n34, σ0§96/32, mb3.8/12, MS3.8/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.88**	**166**	P	**Pn**	**00 15 11.5**	**+0.6**
	10nm,0.8s						
LSA	**Lhasa**	**5.88**	**166**	P	**Pn**	**00 15 11.5**	**+0.6**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**12.59**	**337**	Pn	**Pn**	**00 16 41.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=145,slow=15,SNR=6.5						
MKAR				LR	LR	00 23 01.7	
	comp=Z,110nm,18.4s,baz=155,slow=44						
AAK	**Ala-Archa**	**13.73**	**306**	*e*Pn	**Pn**	**00 16 57.7**	**-0.7**
	comp=Z,8.1nm,1.3s						
AAK	**Ala-Archa**	**13.73**	**306**	*e*P	**Pn**	**00 16 57.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KURK	**Kurchatov**	**17.20**	**336**	*e*Pn	**Pn**	**00 17 43.2**	**-0.3**
SONM	**Songino Array**	**17.61**	**40**	P	**Pn**	**00 17 50.6**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=224,slow=12,SNR=8.0						
ULN	**Ulaanbaatar**	**17.98**	**41**	*e*Pn	**Pn**	**00 17 52.7**	**-0.3**
ZAL	**Zalesovo**	**18.80**	**351**	P	**Pn**	**00 18 02.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=299,slow=7.5,SNR=8.2						
ZAL				LR	LR	00 26 34.9	
	comp=Z,104nm,20.8s,baz=37,slow=41						
BVAR	**Borovoye Array**	**22.19**	**328**	P	**P**	**00 18 40.9**	**+2.0**
	comp=Z,0.7nm,0.6s,mb3.3,baz=123,slow=10,SNR=6.3						
BVAR	**Borovoye Array**	**22.19**	**328**	P	**P**	**00 18 40.9**	**+2.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**22.26**	**328**	*e*P	**P**	**00 18 40.0**	**+0.4**
	comp=Z,1.9nm,0.8s,mb3.6						
BRVK	**Borovoye**	**22.26**	**328**	*e*P	**P**	**00 18 40.0**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
ZRNK	**Zerenda**	**22.75**	**327**	*e*P	**P**	**00 18 46.4**	**+1.6**
TIXI	**Tiksi**	**41.61**	**18**	*e*P	**P**	**00 21 29.0**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
BRTR	**Keskin Array B**	**43.92**	**293**	P	**P**	**00 21 49.4**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.3,baz=90,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**47.05**	**324**	P	**P**	**00 22 13.6**	**0.0**
	comp=Z,1.8nm,1.0s,mb4.0,baz=111,slow=10,SNR=3.4						
FINES	**FINESS Array B**	**47.05**	**324**	P	**P**	**00 22 13.6**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MLR	**Muntele Rosu**	**48.27**	**302**	LR	LR	00 45 08.0	
	comp=Z,80nm,18.1s,MS3.7,baz=284,slow=39						
NOA	**NORSAR Array B**	**54.23**	**324**	P	**P**	**00 23 06.2**	**-1.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=106,slow=4.1,SNR=2.9						
NOA				LR	LR	00 48 33.6	
	comp=Z,77nm,18.1s,MS3.8,baz=110,slow=38						
NOA	**NORSAR Array B**	**54.23**	**324**	P	**P**	**00 23 06.3**	**-1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,77nm,18.1s						
WRAB	**Tennant Creek**	**69.54**	**135**	*e*P	**P**	**00 24 50.6**	**0.0**
	comp=Z,6.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**69.54**	**135**	*e*P	**P**	**00 24 50.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**69.54**	**135**	P	**P**	**00 24 50.1**	**-0.6**
	comp=Z,2.3nm,1.0s,mb4.1,baz=343,slow=5.5,SNR=9.0						
WRA	**Warramunga Arr**	**69.54**	**135**	P	**P**	**00 24 50.1**	**-0.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	**70.85**	**22**	P	**P**	**00 24 58.9**	**+0.2**
	comp=Z,0.7nm,0.9s,mb3.6,baz=242,slow=6.1,SNR=7.3						
ILAR	**Eielson Array**	**70.85**	**22**	P	**P**	**00 24 58.9**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**72.24**	**138**	P	**P**	**00 25 06.1**	**-1.0**
	comp=Z,1.3nm,0.8s,mb3.9,baz=324,slow=5.4,SNR=9.6						
ASAR	**Alice Springs**	**72.24**	**138**	P	**P**	**00 25 06.1**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**80.49**	**11**	P	**P**	**00 25 53.9**	**+0.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=335,slow=5.4,SNR=14						
YKA	**Yellowknife Ar**	**80.49**	**11**	P	**P**	**00 25 53.9**	**+0.1**
YKA	**Yellowknife Ar**	**80.49**	**11**	P	**P**	**00 25 53.9**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**80.79**	**280**	P	**P**	**00 25 56.0**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=44,slow=4.8,SNR=8.4						
CPUP	**Villa Florida**	**150.28**	**279**	*e*PKPbc	PKPbc	00 33 33.0	+0.2

*SOF **01** 00:23:24.6, 4086N×2267E, h2km, MD2.7*

*SKO **01** 00:23:26.8, 4095N×2277E, h23km, M2.9, ML2.8*

*ISCJB **01** 00:23:27.6±0.4, 4093N±002×2277E±004, h12km, Error ellipse: s-maj=4.8km s-min=3.3km az=169.1*

*CSEM **01** 00:23:28.0±0.1, 4096N×2276E, h12km, ML2.6, Error ellipse: s-maj=2.2km s-min=1.7km az=72.0*

*THE **01** 00:23:28.1, 4094N×2277E, h10km, ML2.6*

ISC 01 00:23:28.2±0.4, 4095N±002×2278E±004, h12km, n15, σ0§87/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.23**	**23**	*e*Pg	**Pg**	**00 23 32.9**	**-0.3**
KNT				*e*Sg	**Sg**	**00 23 36.5**	**0.0**
GRG	**Griva**	**0.29**	**272**	*e*Pg	**Pg**	**00 23 33.6**	**-0.4**
THE	**Thessaloniki**	**0.34**	**156**	*e*Pg	**Pg**	**00 23 34.4**	**-0.7**
THE				*e*Sg	**Sg**	**00 23 39.7**	**-0.1**
VAY	**Valandovo**	**0.41**	**337**	*i* Pg	**Pg**	**00 23 35.6**	**-0.7**
VAY				*i* Sg	**Sg**	**00 23 41.6**	**-0.1**
VAY				*e*Lg		00 23 41.8	
	comp=E,593nm,0.3s						
VAY				*e*Lg		00 23 42.1	
	comp=N,342nm,0.3s						
VAY	**Valandovo**	**0.41**	**337**	*e*Pg	**Pg**	**00 23 35.6**	**-0.7**
VAY				*e*Sg	**Sg**	**00 23 41.8**	**+0.1**
LIT	**Litokhoron**	**0.87**	**195**	*e*Pg	**Pg**	**00 23 44.5**	**-0.6**
LIT				*e*Sg	**Sg**	**00 23 57.0**	**+0.6**
KKB	**Krupnik**	**0.95**	**14**	*i* Pg	**Pg**	**00 23 45.2**	**-1.3**
MMB	**Musomiste**	**0.96**	**48**	*i* Pg	**Pg**	**00 23 46.0**	**-0.8**
FNA	**Florina**	**1.08**	**262**	*e*Pg	**Pg**	**00 23 48.0**	**-0.9**
FNA				*e*Sg	**Sg**	**00 24 04.1**	**+1.2**
OUR	**Ouranopolis**	**1.10**	**123**	*e*Pg	**Pg**	**00 23 49.1**	**-0.3**
PAIG	**Paliouri**	**1.23**	**146**	*e*Pg	**Pg**	**00 23 50.9**	**-0.9**
PAIG				*e*Sg	**Sg**	**00 24 09.1**	**+1.3**
RZN	**Rozhen**	**1.64**	**62**	*i* P	**Pn**	**00 23 58.0**	**+1.2**
VTS	**Vitosha**	**1.68**	**11**	*e*Pb	**Pb**	**00 23 58.8**	**-0.2**
VTS				*e*Sb	**Sb**	**00 24 21.5**	**+1.5**
VTS	**Vitosha**	**1.68**	**11**	*i* P	**Pn**	**00 23 59.0**	**+1.7**
PPT	**Papeete**	**155.79**	**342**	*e*LR	LR	00 43 54.3	
	comp=N,176nm,24.5s						

*ISCJB **01** 00:57:01.7±1.2, 266N±0.1×560E±0.1, h10km, mb3.6/8, Error ellipse: s-maj=16.6km s-min=14.6km az=128.7*

*IDC **01** 00:57:02.9±2.2, 2678N×5586E, h0km, mb3.7/8, mb1 3.7/8, mb1mx3.6/23, mbtmp3.7/8, Error ellipse: s-maj=49.3km s-min=22.7km az=157.0*

*CSEM **01** 00:57:04.1±0.4, 2668N×5603E, h20km, mb3.0, Error ellipse: s-maj=12.1km s-min=4.9km az=28.0*

*THR **01** 00:57:06.5±0.6, 2685N×5615E, h14km±9km, ML3.5*

*NEIC **01** 00:57:21.3, 2788N×5559E, h0km, MN3.0(TEH), After TEH.*

ISC 01 00:57:05.8±1.0, 2684N±008×562E±01, h10km, n23, σ1§48/26, mb3.5/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.56**	**359**	*e*PG	**Pg**	**00 57 17.1**	**+0.4**
BNDS				AML	AML	00 57 35.4	
	comp=N,2μm,0.6s						
KRBR	**Kerman**	**3.17**	**9**	*e*PN	**Pn**	**00 57 58.4**	**+2.5**
KRBR				*e*SG	**Sg**	**00 58 45.6**	**-2.3**
KRBR				AML	AML	00 59 05.8	
	comp=N,178nm,0.8s						
KRBR				AML	AML	00 59 07.0	
	comp=E,156nm,0.3s						
KRBR	**Kerman**	**3.17**	**9**	*e*Pn	**Pn**	**00 57 58.3**	**+2.5**
	SNR=52						
KRBR				*e*Sg	**Sg**	**00 58 45.6**	**-2.2**
	SNR=90						
GHIR	**Ghir-Karzin**	**3.18**	**298**	*e*PN	**Pn**	**00 57 57.8**	**+1.9**
GHIR				AML	AML	00 59 02.0	
	comp=E,100nm,0.2s						
IMOK	**Mook**	**3.77**	**306**	Pn	**Pn**	**00 58 06.8**	**+2.8**
IPAR	**Pars**	**4.07**	**318**	Pn	**Pn**	**00 58 07.8**	**-0.3**
IPAR				Sn	**Sn**	**00 58 44.9**	**-11**
IMEH	**Mehriz**	**4.74**	**344**	Pn	**Pn**	**00 58 18.2**	**+0.9**
IBAF	**Bafgh**	**4.77**	**354**	Pn	**Pn**	**00 58 18.8**	**+1.1**
ISAD	**Sadrabad**	**5.51**	**337**	Pn	**Pn**	**00 58 28.6**	**+0.7**
ICHK	**Chekchek**	**5.61**	**344**	Pn	**Pn**	**00 58 29.7**	**+0.5**
BRTR	**Keskin Array B**	**22.73**	**310**	P	**P**	**01 02 05.3**	**-2.6**
	comp=E,0.5nm,0.6s,mb3.1,baz=131,slow=13,SNR=4.5						
BRTR	**Keskin Array B**	**22.73**	**310**	P	**P**	**01 02 05.3**	**-2.6**
AKTK	**Aktyubinsk**	**23.61**	**3**	P	**P**	**01 02 16.3**	**-0.7**
AKTK	**Aktyubinsk**	**23.61**	**3**	P	**P**	**01 02 16.3**	**-0.8**
AKTO	**Aktyubinsk**	**23.61**	**3**	P	**P**	**01 02 16.3**	**-0.8**
	comp=E,1.7nm,0.6s,mb3.7,baz=166,slow=10,SNR=12						
BVAR	**Borovoye Array**	**28.23**	**18**	P	**P**	**01 02 58.2**	**-0.7**
	comp=E,1.9nm,0.7s,mb3.9,baz=202,slow=7.5,SNR=16						
MKAR	**Makanchi Array**	**28.66**	**39**	P	**P**	**01 03 04.3**	**+1.7**
	comp=E,0.2nm,0.6s,mb3.0,baz=231,slow=8.3,SNR=2.7						
ZAL	**Zalesovo**	**34.32**	**30**	P	**P**	**01 03 52.5**	**0.0**
	comp=E,1.0nm,0.5s,mb4.0,baz=248,slow=7.7,SNR=6.9						
ZAL	**Zalesovo**	**34.32**	**30**	P	**P**	**01 03 52.5**	**0.0**
FINES	**FINESS Array B**	**40.07**	**338**	P	**P**	**01 04 38.9**	**-2.5**
	comp=E,0.6nm,0.5s,mb3.6,baz=144,slow=9.3,SNR=9.8						
FINES	**FINESS Array B**	**40.07**	**338**	P	**P**	**01 04 38.8**	**-2.5**
SONM	**Songino Array**	**44.19**	**48**	P	**P**	**01 05 15.2**	**+0.3**
	comp=E,0.4nm,0.9s,mb3.2,baz=277,slow=5.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**52.62**	**266**	P	**P**	**01 06 16.8**	**-3.1**
	comp=E,1.0nm,0.6s,mb3.9,baz=66,slow=7.3,SNR=12						

*CSEM **01** 01:14:20.1±0.6, 3915N×2851W, h5km, ML2.2, Error ellipse: s-maj=5.7km s-min=2.1km az=148.0, After PDA*

*PDA **01** 01:14:20.1±0.6, 3915N×2851W, h5km, MD3.2, ML2.2, Error ellipse: s-maj=5.7km s-min=2.1km az=148.0*

SVSA 01 01:14:20.1±0.6, 3915N×2851W, h5km, MD3.2, ML2.2, Error ellipse: s-maj=5.7km s-min=2.1km az=148.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.39**	**107**	*e*S	Sg	01 14 32.3	-0.3
PGRA	**Graciosa**	**0.43**	**106**	*e*S	Sg	01 14 33.3	-0.7
PGRA							
	61nm,0.3s						
ROSA	**Rosais**	**0.48**	**154**	*e*P	Pg	01 14 28.1	-1.2
PCED	**Cedros**	**0.54**	**196**	*e*P	Pg	01 14 29.3	-1.2
PCED				*e*S	Sg	01 14 36.3	-1.2
PCED							
	120nm,0.3s						
PCED	**Cedros**	**0.54**	**196**	*e*P	Pg	01 14 29.3	-1.2
PCED				*e*S	Sg	01 14 36.3	-1.2
CALA	**Caldeira**	**0.58**	**195**	*e*P	Pg	01 14 30.1	-1.3
HOR	**Horta**	**0.63**	**188**	*e*S	Sg	01 14 38.6	-1.7
PICO	**Pico**	**0.65**	**174**	*e*P	Pg	01 14 31.3	-1.3
PCND	**Candelaria**	**0.68**	**177**	*e*S	Sg	01 14 40.7	-1.3
PCND							
	25nm,0.1s						
PPNO	**Prainha do Nor**	**0.70**	**164**	*e*S	Sg	01 14 40.6	-2.2
PPNO							
	39nm,0.2s						

*ATH **01** 01:34:32.9, 4086N×1948E, h34km±7km, MD3.5/5*

*TIR **01** 01:34:35.4, 4067N×2007E, h7km*

*PDG **01** 01:34:36.2±0.4, 4046N×1984E, h10km±1km*

*SKO **01** 01:34:37.2, 4051N×2004E, h0km, M2.0, ML2.8*

*ISCJB **01** 01:34:38.6±0.3, 4060N±002×1998E±003, h10km, Error ellipse: s-maj=3.0km s-min=2.1km az=138.3*

*CSEM **01** 01:34:38.8±0.1, 4053N×1996E, h2km, ML3.1, Error ellipse: s-maj=2.8km s-min=1.8km az=68.0*

*NEIC **01** 01:34:38.4, 4064N×1993E, h0km, MD3.5(ATH), ML3.7(THE), After THE.*

*THE **01** 01:34:38.4, 4064N×1993E, h10km, ML3.1*

ISC 01 01:34:39.1±0.3, 4059N±002×1999E±003, h10km, n51, σ1§57/95, 3C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.29**	**176**	*i* Pg	**Pg**	**01 34 43.3**	**-1.7**
TPE				*i* Sg	**Sg**	**01 34 48.9**	**0.0**
VLO	**Vlora**	**0.39**	**252**	*i* Pg	**Pg**	**01 34 45.2**	**-1.6**
VLO				*i* Sg	**Sg**	**01 34 53.1**	**+1.1**
LSK	**Leskovik**	**0.64**	**133**	*i* Pg	**Pg**	**01 34 48.6**	**-2.9**
LSK				*i* Sg	**Sg**	**01 34 59.6**	**-0.3**
SRN	**Sarande**	**0.71**	**179**	*i* Pg	**Pg**	**01 34 51.3**	**-1.4**
SRN				*i* Sg	**Sg**	**01 35 04.5**	**+2.5**
TIR	**Tirane**	**0.76**	**353**	*e*Pg	**Pg**	**01 34 51.9**	**-1.9**
TIR				*e*Sg	**Sg**	**01 35 02.4**	**-1.4**
OHR	**Ohrid**	**0.81**	**49**	*e*Pg	**Pg**	**01 34 52.9**	**-1.7**
OHR				*e*Sg	**Sg**	**01 35 05.0**	**-0.2**
OHR	**Ohrid**	**0.81**	**49**	*e*Pg	**Pg**	**01 34 51.7**	**-2.9**
OHR				*e*Sg	**Sg**	**01 35 04.0**	**-1.2**
OHR				*e*Lg		01 35 06.0	
	comp=E,317nm,0.5s						
OHR	**Ohrid**	**0.81**	**49**	*e*Pg	**Pg**	**01 34 51.7**	**-3.0**
OHR				*e*Sg	**Sg**	**01 35 04.0**	**-1.2**
KEK	**Kerkira**	**0.89**	**189**	*e*PN	**Pn**	**01 34 54.8**	**-2.7**
KEK				*e*SN	**Sn**	**01 35 11.5**	**+1.1**
FNA	**Florina**	**1.08**	**79**	*e*Pg	**Pg**	**01 34 57.8**	**-1.9**
FNA				*e*Sg	**Sg**	**01 35 15.5**	**+1.8**
IGT	**Igoumenitsa**	**1.09**	**166**	*e*Pg	**Pg**	**01 34 58.9**	**-1.1**
IGT				*e*Sg	**Sg**	**01 35 16.5**	**+2.4**
BIA	**Bitola**	**1.10**	**67**	*e*Pg	**Pg**	**01 34 59.3**	**-1.0**
BIA				*e*Sg	**Sg**	**01 35 12.9**	**-1.8**
BIA				*e*Lg		01 35 15.6	
	comp=N,96nm,0.4s						
BIA				*e*Lg		01 35 16.5	
	comp=E,88nm,0.3s						
BIA	**Bitola**	**1.10**	**67**	*e*Pg	**Pg**	**01 34 59.2**	**-1.1**
BIA				*e*Sg	**Sg**	**01 35 12.8**	**-1.8**
JAN	**Janina**	**1.14**	**144**	*e*PN	**Pn**	**01 34 59.8**	**-1.3**
JAN				*e*SN	**Sn**	**01 35 20.0**	**+3.2**
MEV	**Metsovon**	**1.25**	**130**	*e*Pg	**Pg**	**01 35 03.4**	**+0.4**
MEV				*e*Sg	**Sg**	**01 35 22.7**	**+3.5**
KZN	**Kozani**	**1.39**	**101**	*e*PB	**Pb**	**01 35 04.8**	**-0.3**
KZN				*e*SN	**Sn**	**01 35 27.0**	**+4.1**
KZN	**Kozani**	**1.39**	**101**	*e*Pb	**Pb**	**01 35 04.4**	**-0.7**
KZN				*e*Sn	**Sn**	**01 35 27.0**	**+4.1**
PUK	**Puka**	**1.46**	**357**	*i* pn?	**Pn**	**01 35 05.2**	**-0.2**
PUK				*i* Sn	**Sn**	**01 35 28.4**	**+3.9**
ULC	**Ulcinj**	**1.48**	**338**	⇑*i*Pg	**Pg**	**01 35 04.0**	**-3.5**
ULC				*e*Sg	**Sg**	**01 35 27.4**	**+0.7**
SKO	**Skopje**	**1.77**	**38**	*e*Pb	**Pb**	**01 35 10.6**	**-0.9**
SKO	**Skopje**	**1.77**	**38**	*i* Pn	**Pn**	**01 35 10.1**	**+0.5**
SKO				*e*Sg	**Sg**	**01 35 35.0**	**-0.8**
SKO				*e*Lg		01 35 35.2	
	comp=N,112nm,0.4s						
SKO				*e*Lg		01 35 35.4	
	comp=E,193nm,0.8s						
SKO	**Skopje**	**1.77**	**38**	*i* Pn	**Pn**	**01 35 10.0**	**+0.4**
SKO				*e*Sg	**Sg**	**01 35 34.9**	**-0.9**
GRG	**Griva**	**1.87**	**78**	*e*Pb	**Pb**	**01 35 11.7**	**-1.7**
GRG				*e*Sb	**Sb**	**01 35 37.9**	**+1.1**
GRG	**Griva**	**1.87**	**78**	*e*Pb	**Pb**	**01 35 11.6**	**-1.7**
GRG				*e*Sb	**Sb**	**01 35 37.9**	**+1.1**
BUM	**Brajici-Budva**	**1.90**	**335**	*e*Pn	**Pn**	**01 35 10.4**	**-1.1**
BUM				*e*Sn	**Sn**	**01 35 37.9**	**+2.5**
TTG	**Podgorica**	**1.92**	**344**	⇑*i*Pn	**Pn**	**01 35 11.2**	**-0.5**
TTG				*e*Sn	**Sn**	**01 35 38.9**	**+3.0**
LIT	**Litokhoron**	**1.98**	**103**	*e*Pn	**Pn**	**01 35 13.7**	**+1.1**
LIT				*e*Sn	**Sn**	**01 35 40.2**	**+2.9**
PVY	**Plav**	**2.00**	**360**	*e*Pn	**Pn**	**01 35 13.1**	**+0.2**
PVY				*e*Sn	**Sn**	**01 35 41.7**	**+3.6**
VAY	**Valandovo**	**2.09**	**69**	*e*Pn	**Pn**	**01 35 13.3**	**-0.8**
VAY	**Valandovo**	**2.09**	**69**	*e*Pn	**Pn**	**01 35 13.1**	**-1.0**
VAY				*e*Sg	**Sg**	**01 35 43.6**	**-2.7**
VAY				*e*Lg		01 35 49.5	
	comp=N,57nm,0.8s						
VAY				*e*Lg		01 35 50.4	
	comp=E,43nm,1.0s						
VAY	**Valandovo**	**2.09**	**69**	*e*Pn	**Pn**	**01 35 13.0**	**-1.1**
VAY				*e*Sg	**Sg**	**01 35 43.5**	**-2.8**
HCY	**Herceg Novi**	**2.17**	**329**	*e*Pn	**Pn**	**01 35 14.6**	**-0.6**
HCY				*e*Sn	**Sn**	**01 35 43.8**	**+1.7**
EVR	**Evrytania**	**2.18**	**139**	*e*PN	**Pn**	**01 35 15.1**	**-0.3**
KNT	**Kendrikon**	**2.28**	**75**	*e*Pn	**Pn**	**01 35 16.5**	**-0.2**
KNT				*e*Sn	**Sn**	**01 35 48.1**	**+3.3**
IVA	**Berane**	**2.28**	**358**	⇑*i*Pn	**Pn**	**01 35 17.5**	**+0.7**
IVA				*e*Sn	**Sn**	**01 35 48.7**	**+3.8**
NKY	**Niksic**	**2.34**	**342**	*e*Pn	**Pn**	**01 35 16.5**	**-1.1**
NKY				*e*Sn	**Sn**	**01 35 49.0**	**+2.6**
AGG	**Agios Georgios**	**2.39**	**130**	*e*Pn	**Pn**	**01 35 19.8**	**+1.5**
AGG				*e*Sn	**Sn**	**01 35 51.5**	**+3.9**
VLS

BNDS Bandar-Abbas 1.00 222 *e*Pg **Pg 02 32 54.3 -0.6**
SNR=90
BNDS *e*Sg **Sg 02 33 08.1 +0.1**
comp=E,3μm,0.7s,SNR=90
KRBR Kerman 1.84 355 *e*PG **Pg 02 33 09.0 -1.9**
KRBR *e*SG **Sg 02 33 33.8 -0.9**
KRBR AML AML 02 33 39.0
comp=N,959nm,0.5s
KRBR AML AML 02 33 39.8
comp=E,1μm,0.7s
KRBR Kerman 1.84 355 Pg **Pg 02 33 08.0 -2.8**
KRBR *e*Sg **Sg 02 33 33.8 -0.9**
comp=E,1μm,0.7s,SNR=90
KRBR Kerman 1.84 355 Pg **Pg 02 33 08.0 -2.8**
KRBR Sg **Sg 02 33 33.0 -1.7**
BANOM Banah 2.28 194 P **Pn 02 33 13.5 +0.8**
SNR=17
GHIR Ghir-Karzin 3.48 273 *e*Pn **Pn 02 33 30.7 +1.5**
GHIR AML AML 02 34 51.7
comp=N,112nm,0.5s
GHIR Ghir-Karzin 3.48 273 Pn **Pn 02 33 31.0 +1.8**
ASHO Ashiyiah 3.53 193 P **Pn 02 33 30.2 +0.3**
SNR=14
IBAF Bafgh 3.63 341 *e*Pn **Pn 02 33 33.5 +2.2**
ZHSF Zahedan 3.68 66 *e*Pn **Pn 02 33 36.6 +4.7**
IPAR Pars 3.80 297 *e*Pn **Pn 02 33 34.7 +1.1**
IMEH Mehriz 3.81 329 *e*Pn **Pn 02 33 35.7 +2.0**
IMEH Mehriz 3.81 329 Pn **Pn 02 33 36.1 +2.4**
IMOK Mook 3.81 285 *e*Pn **Pn 02 33 34.7 +0.9**
HOQ Hoqain 4.56 176 P **Pn 02 33 44.4 +0.4**
SNR=27
ICHK Chekchek 4.63 333 *e*Pn **Pn 02 33 47.0 +1.9**
ISAD Sadrabad 4.69 324 *e*Pn **Pn 02 33 47.8 +1.9**
BIDO Bidbid 4.73 167 P **Pn 02 33 45.2 -1.2**
SNR=27
ARQ Araqi 4.80 184 P **Pn 02 33 48.2 +0.8**
SNR=14
SMDO Samad 5.16 168 ⇑P **Pn 02 33 52.3 0.0**
SNR=26
BSY Bisya 5.38 177 P **Pn 02 33 56.2 +0.9**
SNR=17
BSYO Bisya 5.40 177 P **Pn 02 33 56.2 +0.6**
SNR=17
WBK Wadi Bani Khal 5.81 161 ⇓P **Pn 02 33 60.0 -1.3**
SNR=17
NASN Na'in 5.84 324 *e*Pn **Pn 02 34 03.3 +1.6**
JMDO Jabal Madar 5.85 169 ⇓P **Pn 02 34 02.1 +0.4**
SNR=17
IZEF Zefreh 6.18 321 Pn **Pn 02 34 07.1 +0.8**
IPIR Pirpir 6.90 312 Pn **Pn 02 34 16.5 +0.3**
IKLH Kalahroud 6.91 320 Pn **Pn 02 34 17.0 +0.6**
WHFO Wadi Hawf 10.58 197 ⇓P **Pn 02 35 04.2 -2.5**
SNR=14
ABTO Aybut 11.25 198 ⇑P **Pn 02 35 12.4 -3.4**
SNR=17
GNI Garni 15.64 323 Pn **Pn 02 36 20.5 +5.1**
comp=N,0.3nm,0.3s,baz=280,slow=2.4,SNR=5.9
GNI Garni 15.64 323 Pn **Pn 02 36 20.5 +5.1**
GNI *e* 02 36 21.8
GNI Garni 15.64 323 *e*P **Pn 02 36 20.1 +4.7**
GNI pmax pmax
comp=Z,15nm,1.7s
MALT Malatya 18.47 308 *e*P **Pn 02 36 51.7 +0.7**
comp=Z,6.6nm,1.0s
MALT Malatya 18.47 308 *e*P **Pn 02 36 51.7 +0.7**
comp=Z,6.6nm,1.0s
EIL Elat 19.30 280 P **Pn 02 36 56.9 -4.1**
comp=Z,66nm,0.8s
EIL Elat 19.30 280 P **Pn 02 36 56.9 -4.2**
comp=Z,66nm,0.8s
AAK Ala-Archa 20.29 40 *e*P **P 02 37 11.4 +0.6**
comp=Z,4.0nm,0.8s
AAK Ala-Archa 20.29 40 *e*P **P 02 37 11.3 +0.6**
comp=Z,4.0nm,0.8s
AAK Ala-Archa 20.29 40 *d i*P **P 02 37 10.8 0.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s
ATD Arta Tunnel 21.14 221 LR LR 02 45 34.1
comp=Z,51nm,20.2s,MS2.9,baz=42,slow=37
AKTK Aktyubinsk 22.28 2 P **P 02 37 32.8 +0.6**
AKTK Aktyubinsk 22.28 2 P **P 02 37 32.8 +0.7**
AKTK LR LR 02 47 53.7
AKTO Aktyubinsk 22.28 2 P **P 02 37 32.8 +0.7**
comp=Z,3.5nm,0.5s,mb4.0,baz=185,slow=11,SNR=17
AKTO LR LR 02 47 53.7
comp=Z,134nm,19.4s,MS3.4,baz=0.0,slow=41
BR131 Keskin Array S 22.44 307 *e*P **P 02 37 33.6 -0.3**
comp=Z,1.8nm,0.7s,mb3.6
BR131 Keskin Array S 22.44 307 *e*P **P 02 37 33.6 -0.4**
comp=Z,1.8nm,0.7s,mb3.6
BRTR Keskin Array B 22.44 307 P **P 02 37 33.5 -0.5**
comp=Z,1.8nm,0.6s,mb3.7,baz=125,slow=12,SNR=14
GKN Gorkha 24.43 84 *e*P **P 02 37 54.8 +1.2**
DMN Daman 24.89 85 *e*P **P 02 37 58.8 +0.9**
KKN Kakani 25.02 84 *e*P **P 02 38 00.3 +1.3**
GUN Gumba 25.53 84 *e*P **P 02 38 05.2 +1.5**
comp=Z,11nm,0.6s,mb4.6
JIRN Jiri 25.84 84 *e*P **P 02 38 07.1 +0.7**
comp=Z,15nm,1.0s,mb4.5
ZRNK Zerenda 26.35 17 *e*P **P 02 38 10.7 -0.4**
comp=Z,4.6nm,0.9s,mb4.0
ZRNK Zerenda 26.35 17 *e*P **P 02 38 10.7 -0.4**
comp=Z,4.6nm,0.9s,mb4.0
BRVK Borovoye 26.78 18 *e*P **P 02 38 14.5 -0.5**
comp=Z,2.3nm,1.0s,mb3.7
BVAR Borovoye Array 26.78 18 P **P 02 38 15.1 +0.1**
comp=Z,5.2nm,0.7s,mb4.2,baz=200,slow=8.3,SNR=39
MKAR Makanchi Array 27.23 40 P **P 02 38 18.7 -0.3**
comp=Z,1.4nm,0.8s,mb3.5,baz=229,slow=8.6,SNR=18
MKAR Makanchi Array 27.23 40 *i* P **P 02 38 19.5 +0.5**
comp=Z,1.0nm,0.8s,mb3.4
MKAR Makanchi Array 27.23 40 *i* P **P 02 38 19.5 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 27.89 30 *e*P **P 02 38 25.2 +0.3**
comp=Z,1.4nm,0.8s,mb3.6
KURK Kurchatov 27.89 30 *e*P **P 02 38 25.2 +0.3**
comp=Z,1.4nm,0.8s,mb3.6
KURK Kurchatov 27.89 30⇑ *e*P **P 02 38 24.1 -0.8**
OBN Obninsk 30.71 337 *e*P **P 02 38 49.7 -0.3**
comp=Z,20nm,1.6s,mb4.7
OBN Obninsk 30.71 337 *e*P **P 02 38 49.7 -0.3**
OBN pmax pmax
comp=Z,20nm,1.6s,mb4.7
ZAL Zalesovo 32.86 31 P **P 02 39 08.7 -0.2**
comp=Z,2.5nm,0.6s,mb4.3,baz=243,slow=9.2,SNR=13
KOLS Kolonicke sedl 33.72 318 *e*P **P 02 39 16.4 +0.1**
MORC Moravsky Berou 36.89 317 *e*P **P 02 39 42.4 -1.2**
comp=Z,0.9nm,0.6s,mb3.8
MORC Moravsky Berou 36.89 317 *e*P **P 02 39 42.4 -1.3**
comp=Z,1.0nm,0.6s,mb3.8
JOF Joensuu 38.59 342 *e*p **P 02 39 57.1 -0.9**
comp=Z,2.2nm,0.7s,mb4.0
JOF Joensuu 38.59 342 *e*P **P 02 39 57.1 -0.9**
JOF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
GERES GERESS Array B 38.98 314 P **P 02 39 58.3 -2.9**
comp=Z,0.5nm,0.6s,mb3.5,baz=69,slow=4.4,SNR=4.8
FINES FINESS Array B 39.12 337 P **P 02 40 01.4 -1.1**
comp=Z,5.7nm,0.8s,mb4.3,baz=133,slow=9.0,SNR=24
FINES FINESS Array B 39.12 337 *i* P **P 02 40 01.3 -1.1**
comp=Z,6.0nm,0.8s,mb4.4
FINES FINESS Array B 39.12 337 *i* P **P 02 40 01.3 -1.1**
FINES pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 39.14 314 *e*P **P 02 40 01.4 -1.2**
KHC Kasperske Hory 39.14 314 *e*P **P 02 39 58.8 -3.8**
KAF Kangasniemi 39.52 338 *e*p **P 02 40 04.3 -1.4**
comp=Z,1.4nm,0.6s,mb3.9
KAF Kangasniemi 39.52 338 *e*P **P 02 40 04.3 -1.4**
KAF pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
SONM Songino Array 42.83 49 P **P 02 40 32.8 -0.1**
comp=Z,0.3nm,0.6s,mb3.2,baz=262,slow=8.9,SNR=5.3
HFS Hagfors 43.26 330 P **P 02 40 35.0 -1.4**
comp=Z,0.7nm,0.3s,mb3.8,baz=126,slow=9.5,SNR=9.4
ULN Ulaanbaatar 43.27 49 P **P 02 40 36.6 +0.1**
comp=Z,0.9nm,0.6s,mb3.7
ULN Ulaanbaatar 43.27 49 P **P 02 40 36.6 +0.1**
comp=Z,0.9nm,0.6s,mb3.7
NOA NORSAR Array B 44.76 330 P **P 02 40 46.7 -1.8**
comp=Z,1.8nm,1.0s,mb3.9,baz=230,slow=15,SNR=3.1
ARCES ARCESS Array B 45.23 345 P **P 02 40 50.9 -1.4**
comp=Z,4.3nm,0.9s,mb4.3,baz=0.9,slow=7.6,SNR=4.7
BOD Bodaibo 49.21 36 *e*P **P 02 41 22.0 -1.3**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
EKA Eskdalemuir Ar 50.45 320 P **P 02 41 31.0 -1.7**
comp=Z,1.6nm,0.7s,mb4.1,baz=103,slow=12,SNR=4.6
TORD Torodi Ar. Bea 53.37 266 P **P 02 41 51.9 -2.6**
comp=Z,1.5nm,0.5s,mb4.1,baz=62,slow=7.4,SNR=20
ILAR Eielson Array 85.54 10 P **P 02 45 13.8 +0.6**
comp=Z,0.5nm,0.7s,mb3.8,baz=316,slow=4.4,SNR=6.9
YKA Yellowknife Ar 89.42 356 P **P 02 45 30.8 -1.1**
comp=Z,0.9nm,0.8s,mb4.2,baz=1.9,slow=5.2,SNR=18

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*IDC **01** 02:38:30.9±1.8, 594S×13007E, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.8/13, mbtmp3.9/4, ML4.1/2, Error ellipse: s-maj=123.3km s-min=27.9km az=72.0*
*NEIC **01** 02:38:41.3±0.8, 624S×13024E, h100km, mb4.0/2, Error ellipse: s-maj=37.9km s-min=10.3km az=76.0*
*ISCJB **01** 02:38:49.9±2.8, 67S±0.1×130.0E±0.1, h224km±32km, mb3.7/3, Error ellipse: s-maj=25.2km s-min=14.4km az=129.1*
ISC 01 02:38:47.8±2.2, 669S±009×1298E±02, h173km±22km, n8, σ1§20/13, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.05**	**199**	*e*P	**Pn**	**02 41 36.9**	**+2.9**
	6.9nm,0.2s						
FITZ				*e*S	**Sn**	02 43 46.4	-1.3
WRAB	**Tennant Creek**	**13.88**	**162**	*e*Pn	**Pn**	**02 41 57.2**	**-0.1**
	3.9nm,0.4s						
WRAB				*e*Sn	**Sn**	02 44 25.6	-6.0
WRA	**Warramunga Arr**	**13.89**	**162**	Pn	**Pn**	**02 41 57.4**	**+0.1**
	1.3nm,0.3s,baz=347,slow=13,SNR=6.9						
WRA				Sn	**Sn**	02 44 24.9	-6.8
	2.8nm,0.3s,baz=331,slow=23,SNR=9.7						
WB2	**Warramunga Arr**	**13.89**	**162**	*e*P	**Pn**	**02 41 56.9**	**-0.5**
WB2				*e*S	**Sn**	02 44 25.9	-5.9
ASAR	**Alice Springs**	**17.33**	**167**	P	**Pn**	**02 42 42.8**	**+3.5**
	0.3nm,0.3s,baz=353,slow=9.6,SNR=16						
ASAR				S	**S**	02 45 49.5	+0.1
	0.6nm,0.3s,baz=356,slow=27,SNR=6.7						
ULN	**Ulaanbaatar**	**57.91**	**342**	*e*P	**P**	**02 48 21.3**	**-0.4**
	1.3nm,0.6s,mb3.9						
SONM	**Songino Array**	**58.09**	**342**	P	**P**	**02 48 21.9**	**-1.0**
	0.4nm,0.5s,mb3.5,baz=162,slow=6.1,SNR=6.2						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**02 49 28.1**	**+0.8**
	1.4nm,0.4s,mb4.1,baz=116,slow=8.0,SNR=53						

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*MOS **01** 02:58:58.2±1.9, 41.08N×148.53E, h33km, mb4.2/4, Error ellipse: s-maj=42.3km s-min=18.5km az=119.5*
*NIED **01** 02:59:00, 43.20N×147.70E, h8km, Mw3.5 Best double couple: M0=2.33000×10^14 NP1:φ=138.00000°, δ=66.00000°, λ=51.00000°. NP2:φ=21.00000°, δ=45.00000°, λ=144.00000°.*
*ISCJB **01** 02:59:12.7±1.5, 433N±02×1479E±01, h46km±16km, mb3.8/6, Error ellipse: s-maj=25.3km s-min=14.4km az=4.1*
*JMA **01** 02:59:12.0±0.3, 43.16N×147.70E, h0km, M3.6*
*IDC **01** 02:59:18.7±6.2, 4386N×147.87E, h52km±49km, mb3.4/6, mb1 3.6/7, mb1mx3.4/20, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=143.5km s-min=27.9km az=167.0*
ISC 01 02:59:13.8±1.6, 433N±02×1479E±01, h38km±18km, n23, σ0§85/27, mb3.8/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.60**	**272**	P	**Pn**	**02 59 38.7**	**-0.9**
NEM2				*e*S	**Sn**	02 59 57.0	-2.0
JRA	**Rausu**	**2.13**	**288**	P	**Pn**	**02 59 46.9**	**-0.1**
JRA				*e*S	**Sn**	03 00 12.8	+0.6
JNK	**Nakash**	**2.36**	**278**	P	**Pn**	**02 59 49.1**	**-0.9**
JAK	**Akkeshi**	**2.39**	**263**	P	**Pn**	**02 59 49.8**	**-0.7**
JAK				*e*S	**Sn**	03 00 18.2	-0.4
JTKR	**Abashiri--Toko**	**3.00**	**284**	P	**Pn**	**02 59 59.4**	**+0.6**
JOB	**Onbets**	**3.03**	**264**	P	**Pn**	**03 00 00.0**	**+0.7**
JAR	**Ashorobuto**	**3.04**	**271**	P	**Pn**	**02 59 59.8**	**+0.4**
JAR				*e*S	**Sn**	03 00 34.8	+0.2
JCH	**Churui**	**3.43**	**260**	P	**Pn**	**03 00 05.0**	**+0.2**
JEM	**Erimo**	**3.76**	**251**	P	**Pn**	**03 00 10.0**	**+0.7**
ASAJ	**Asahikawa**	**3.95**	**283**	P	**Pn**	**03 00 14.8**	**+2.9**
	1.3nm,0.3s,baz=90,slow=16,SNR=5.8						
ASAJ	**Asahikawa**	**3.95**	**283**	P	**Pn**	**03 00 14.9**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JNBK	**Urakawa-nobuka**	**3.95**	**257**	P	**Pn**	**03 00 11.8**	**-0.1**
SONM	**Songino Array**	**29.17**	**294**	P	**P**	**03 05 12.3**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.4,baz=79,slow=9.0,SNR=4.5						
SONM	**Songino Array**	**29.17**	**294**	P	**P**	**03 05 12.3**	**+0.9**
SONM				pmax	pmax		
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**45.29**	**298**	P	**P**	**03 07 28.7**	**+0.9**
	comp=Z,0.4nm,0.8s,mb3.3,baz=81,slow=8.9,SNR=3.9						
INK	**Inuvik**	**46.49**	**30**	P	**P**	**03 07 37.0**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=299,slow=6.8,SNR=13						
INK	**Inuvik**	**46.49**	**30**	P	**P**	**03 07 37.0**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**55.84**	**34**	P	**P**	**03 08 46.5**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=300,slow=6.7,SNR=4.4						
YKA	**Yellowknife Ar**	**55.84**	**34**	P	**P**	**03 08 46.5**	**-0.9**
ARCES	**ARCESS Array B**	**59.85**	**340**	P	**P**	**03 09 15.5**	**0.0**
	comp=Z,6.6nm,1.1s,mb4.6,baz=30,slow=7.4,SNR=6.7						
ARCES	**ARCESS Array B**	**59.85**	**340**	P	**P**	**03 09 15.5**	**0.0**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FINES	**FINESS Array B**	**65.52**	**333**	P	**P**	**03 09 52.6**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=46,slow=6.9,SNR=7.7						
FINES	**FINESS Array B**	**65.52**	**333**	P	**P**	**03 09 52.6**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*IDC **01** 03:02:52.2±0.8, 144N×126.39E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, Error ellipse: s-maj=78.3km s-min=16.8km az=68.0*
*ISCJB **01** 03:03:02.7±0.6, 13N±01×126.2E±0.2, h100km, mb3.9/10, Error ellipse: s-maj=27.5km s-min=9.7km az=124.3*
*NEIC **01** 03:03:07.2±7.4, 120N×126.20E, h129km±74km, mb4.3/3, Error ellipse: s-maj=30.2km s-min=14.1km az=222.0*
ISC 01 03:03:04.4±0.6, 13N±01×126.3E±0.2, h100km, n16, σ0§78/16, mb3.9/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.53**	**160**	*e*P	**P**	**03 07 55.6**	**-0.3**
	13nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**22.53**	**160**	P	**P**	**03 07 55.6**	**-0.4**
	1.7nm,0.3s,mb3.9,baz=335,slow=11,SNR=22						
WB2	**Warramunga Arr**	**22.54**	**160**	*e*P	**P**	**03 07 55.2**	**-0.8**
PMG	**Port Moresby**	**23.37**	**117**	*e*P	**P**	**03 08 06.0**	**+2.1**
	7.1nm,0.6s,mb4.2						
KULM	**Kulim**	**25.87**	**279**	P	**P**	**03 08 27.8**	**+1.1**
AS31	**Alice Springs**	**25.89**	**164**	*e*P	**P**	**03 08 26.9**	**+0.1**
ASPA	**Alice Springs**	**25.89**	**164**	*e*P	**P**	**03 08 26.9**	**+0.1**
ASAR	**Alice Springs**	**25.89**	**164**	P	**P**	**03 08 27.6**	**+0.8**
	1.1nm,0.5s,mb3.5,baz=344,slow=7.4,SNR=20						
ASAR				PcP	PcP	03 11 55.5	+2.2
	0.4nm,0.3s,baz=358,slow=2.0,SNR=7.0						
STKA	**Stephens Creek**	**36.04**	**158**	P	**P**	**03 09 55.4**	**-0.6**
	1.2nm,0.3s,mb4.3,baz=341,slow=14,SNR=5.6						
STKA	**Stephens Creek**	**36.04**	**158**	*e*P	**P**	**03 09 55.2**	**-0.8**
SONM	**Songino Array**	**49.46**	**342**	P	**P**	**03 11 44.9**	**+0.6**
	0.5nm,0.6s,mb3.7,baz=163,slow=9.8,SNR=4.6						
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**	**03 12 55.0**	**-0.5**
	0.5nm,0.3s,mb4.0,baz=119,slow=7.7,SNR=28						
KURK	**Kurchatov**	**63.55**	**328**	*e*P	**P**	**03 13 23.3**	**-0.9**
	3.1nm,0.7s,mb4.2						
AKTK	**Aktyubinsk**	**75.28**	**322**	P	**P**	**03 14 36.5**	**+0.1**
AKTO	**Aktyubinsk**	**75.28**	**322**	P	**P**	**03 14 36.5**	**+0.1**
	1.0nm,0.5s,mb3.8,baz=116,slow=7.7,SNR=6.7						
ILAR	**Eielson Array**	**87.50**	**25**	P	**P**	**03 15 40.1**	**-0.7**
	0.2nm,0.4s,mb3.4,baz=256,slow=3.9,SNR=5.1						

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*ISCJB **01** 03:06:04.7±0.4, 3574N±002×393W±003, h10km, Error ellipse: s-maj=3.7km s-min=3.1km az=118.4*
*SFS **01** 03:06:05.0, 3571N×397W, h0km, ML2.2*
*IGIL **01** 03:06:06.0, 3571N×397W, h1km, ML2.4*
*INMG **01** 03:06:06.3±1.0, 3558N×397W, h31km, ML2.2, Error ellipse: s-maj=4.4km s-min=2.9km az=43.0*
*CSEM **01** 03:06:07.5±0.2, 3567N×382W, h35km, MD3.1, Error ellipse: s-maj=4.8km s-min=3.2km az=69.0*
*CNRM **01** 03:06:09.1, 3570N×377W, h17km, MD3.1*
ISC 01 03:06:05.5±0.3, 3578N±002×394W±003, h10km, n36, σ1§54/67, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.55**	**180**	*i* P	**Pg**	**03 06 18.0**	**+1.7**
MPAL				*i* S	**Sg**	03 06 26.0	+2.5
TOU	**Touzarine**	**0.83**	**169**	*i* P	**Pg**	**03 06 22.5**	**+1.0**
TOU				*i* S	**Sg**	03 06 34.0	+1.7
EMLI	**Melilla**	**0.94**	**120**	P	**Pg**	**03 06 21.9**	**-1.7**
	53nm,0.1s,SNR=6.6						
EMLI				S	**Sg**	03 06 32.4	-3.4
	157nm,0.1s,SNR=6.1						
EMIJ	**Mijas**	**1.03**	**320**	P	**Pg**	**03 06 24.1**	**-1.2**
	4.3nm,0.1s,SNR=50						
EGUA	**Guajares**	**1.09**	**16**	P	**Pb**	**03 06 25.5**	**-1.0**
	1.6nm,0.2s,SNR=7.9						
EGUA				S	**Sg**	03 06 39.3	-1.5
	6.1nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.24**	**5**	P	**Pn**	**03 06 28.5**	**-0.4**
	4.1nm,0.2s,SNR=5.4						
ERON				S	**Sb**	03 06 42.7	-2.4
	16nm,0.3s,SNR=7.9						
ZAI	**Zaio**	**1.27**	**129**	*e*P	**Pn**	**03 06 28.0**	**-1.3**
ZAI				*e*S	**Sb**	03 06 43.0	-2.8
ELOJ	**Sierra Loja**	**1.38**	**353**	P	**Pn**	**03 06 30.7**	**0.0**
	1.1nm,0.2s,SNR=6.1						
ELOJ				S	**Sb**	03 06 49.8	+0.9
	6.0nm,0.3s						
EBER	**Berja**	**1.40**	**37**	P	**Pn**	**03 06 30.0**	**-1.1**
	1.5nm,0.2s,SNR=13						
EBER				S	**Sn**	03 06 48.5	-1.2
	32nm,0.3s,SNR=7.5						
EJIF	**Jimena Fronter**	**1.41**	**299**	P	**Pn**	**03 06 30.1**	**-1.1**
	0.4nm,0.1s,SNR=11						
EJIF				S	**Sn**	03 06 48.7	-1.0
	9.6nm,0.4s,SNR=7.4						
ECOG	**Cogollos-Vega**	**1.52**	**11**	P	**Pn**	**03 06 34.7**	**+1.9**
	4.1nm,0.3s,SNR=6.3						
ECOG				S	**Sn**	03 06 53.9	+1.2
	11nm,0.3s,SNR=6.7						
LIJA	**Lijar**	**1.63**	**314**	*e*P	**Pn**	**03 06 36.0**	**+1.8**
LIJA				*e*S	**Sn**	03 06 58.0	+2.7
ELUQ	**Luque**	**1.80**	**352**	P	**Pn**	**03 06 38.1**	**+1.6**
	3.0nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	03 07 01.6	+2.2
	11nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**1.84**	**49**	P	**Pn**	**03 06 38.6**	**+1.5**
	0.9nm,0.2s,SNR=6.5						
ENIJ				S	**Sn**	03 06 58.9	-1.5
	4.7nm,0.3s						
ESPR	**Espera**	**1.89**	**306**	P	**Pn**	**03 06 38.8**	**+1.0**
	0.6nm,0.2s,SNR=4.8						
ESPR				S	**Sn**	03 07 03.0	+1.3
	11nm,0.2s,SNR=6.4						
EQES	**Quesada**	**2.14**	**19**	P	**Pn**	**03 06 43.3**	**+2.1**
	2.1nm,0.1s,SNR=18						
EQES				S	**Sn**	03 07 09.3	+1.5
	15nm,0.2s,SNR=8.2						
EBAN	**Banos Encina**	**2.38**	**3**	P	**Pn**	**03 06 46.1**	**+1.5**
	0.8nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**2.44**	**348**	P	**Pn**	**03 06 46.0**	**+0.7**
	0.7nm,0.2s,SNR=9.9						
EADA				S	**Sn**	03 07 19.0	+3.8
	4.3nm,0.1s,SNR=6.5						
CZD	**Col de Zad**	**2.89**	**199**	*i* P	**Pn**	**03 06 54.0**	**+2.5**
CZD				*i* S	**Sn**	03 07 23.5	-2.8
EMIN	**Mina Concepcio**	**2.96**	**313**	P	**Pn**	**03 06 51.8**	**-0.7**
	0.6nm,0.2s,SNR=18						
EMUR	**La Murta**	**2.99**	**46**	P	**Pn**	**03 06 53.2**	**+0.3**
	0.9nm,0.2s,SNR=4.0						
EMUR				S	**Sn**	03 07 29.0	+0.2
	1.9nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.34**	**303**	P	**Pn**	**03 06 57.4**	**-0.4**
	0.8nm,0.1s,SNR=28						
ETOB	**Tobarra**	**3.44**	**33**	P	**Pn**	**03 07 00.7**	**+1.6**
	1.1nm,0.1s,SNR=18						
PBEJ	**Beja**	**3.86**	**307**	*e*Pn	**Pn**	**03 07 04.2**	**-0.7**
PBEJ				*e*Sn	**Sn**	03 07 48.0	-2.4
PBEJ							
	2.2nm,0.3s						
PBEJ	**Beja**	**3.86**	**307**	*e*Pn	**Pn**	**03 07 04.2**	**-0.7**
PBEJ				*e*Sn	**Sn**	03 07 48.0	-2.4
MORF	**Marmelete**	**4.09**	**293**	*e*P	**Pn**	**03 07 07.9**	**-0.1**
MORF				*e*S	**Sn**	03 07 53.1	-2.8
MORF				*e*S	**Sn**	03 07 53.1	-2.8
MORF				AML	AML	03 07 59.3	
	comp=N,8.4nm,0.4s						
MORF	**Marmelete**	**4.09**	**293**	*e*P	**Pn**	**03 07 07.9**	**-0.1**
MORF				*e*S	**Sn**	03 07 53.1	-2.8
PTEO	**Sao Teotonio**	**4.23**	**296**	*e*Pn	**Pn**	**03 07 10.9**	**+0.9**
PTEO				*e*Sn	**Sn**	03 07 57.8	-1.6
PTEO							
	comp=N,5.4nm,0.4s						
PTEO	**Sao Teotonio**	**4.23**	**296**	*e*Pn	**Pn**	**03 07 10.9**	**+0.9**
PTEO				*e*Sn	**Sn**	03 07 57.8	-1.6
PCBR	**Castelo Branco**	**4.93**	**326**	*e*Pn	**Pn**	**03 07 19.8**	**+0.2**
PCBR				*e*Sn	**Sn**	03 08 13.7	-2.9
PCBR							
	comp=N,1.3nm,0.4s						
PCBR	**Castelo Branco**	**4.93**	**326**	*e*Pn	**Pn**	**03 07 19.8**	**+0.2**
PCBR				*e*Sn	**Sn**	03 08 13.7	-2.9
PTOM	**Tomar**	**5.22**	**319**	*e*Pn	**Pn**	**03 07 23.7**	**+0.1**
PTOM				*e*Sn	**Sn**	03 08 21.5	-2.3
PTOM							
	comp=N,2.4nm,0.5s						
PTOM	**Tomar**	**5.22**	**319**	*e*Pn	**Pn**	**03 07 23.7**	**+0.1**
PTOM				*e*Sn	**Sn**	03 08 21.5	-2.3
PVRL	**Vila Real**	**6.23**	**333**	*e*Pn	**Pn**	**03 07 38.5**	**+1.0**
PVRL				*e*Sn	**Sn**	03 08 46.0	-2.8
PVRL							
	comp=N,2.4nm,0.2s						
PVRL	**Vila Real**	**6.23**	**333**	*e*Pn	**Pn**	**03 07 38.5**	**+1.0**
PVRL				*e*Sn	**Sn**	03 08 46.0	-2.8
PBRG	**Braganca**	**6.40**	**341**	*e*Pn	**Pn**	**03 07 40.5**	**+0.7**

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*PRE **01** 03:16:00.5±1.7, 2193S×3392E, h5km, ML5.4*
*IDC **01** 03:16:00.9±0.9, 21.12S×3348E, h0km, mb4.1/9, mb1 4.3/13, mb1mx4.2/24, mbtmp4.3/13, ML4.5/4, MS3.4/5, Ms1 3.4/5, ms1mx3.1/25, Error ellipse: s-maj=26.6km s-min=20.7km az=142.0*
*ISCJB **01** 03:16:01.6±0.5, 2109S±006×3304E±008, h10km, mb4.2/16, Error ellipse: s-maj=12.5km s-min=6.4km az=75.5*
*NEIC **01** 03:16:03.6±0.5, 2105S×33.12E, h10km, mb4.4/9, Error ellipse: s-maj=15.5km s-min=9.6km az=129.0*
ISC 01 03:16:03.8±0.5, 2109S±006×3302E±008, h10km, n44, σ1§42/50, mb4.2/16, 1C-1D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.05**	**245**	*e*P	**Px**	03 09 27.4	
M

comp=Z,287nm,21.5s,baz=74,slow=40
LBTB Lobatse 7.87 239 *e*Pn **Pn 03 18 00.0 +1.7**
comp=Z,1.7nm,0.5s
LBTB *e*Sn **Sn 03 19 30.8 +3.4**
LBTB *e*Sg Sn 03 20 13.8 +46
SEK Senekal 8.71 213 *e*S **Sn 03 19 37.6 -10**
SEK AML AML 03 21 03.8
comp=Z,382nm,0.6s
BOSA Boshof 10.28 222 *e*P **Pn 03 18 30.1 -1.2**
BOSA *e*S **Sn 03 20 18.5 -8.1**
BOSA AML AML 03 21 42.6
comp=Z,1μm,0.8s
BOSA Boshof 10.28 222 Pn **Pn 03 18 32.0 +0.7**
comp=Z,3.6nm,0.3s,baz=53,slow=13,SNR=19
BOSA Sn **Sn 03 20 25.8 -0.9**
comp=Z,5.5nm,0.3s,baz=321,slow=17,SNR=6.1
BOSA Lg 03 21 28.0
comp=Z,3.3nm,0.3s,baz=312,slow=14,SNR=4.0
BOSA LR LR 03 22 51.1
comp=Z,379nm,20.3s,baz=52,slow=39
BOSA Boshof 10.28 222 *e*Pn **Pn 03 18 32.0 +0.6**
comp=Z,22nm,0.5s
BOSA *e*Sn **Sn 03 20 25.3 -1.3**
OPO Ambohidratompo 13.57 82 Pn **Pn 03 19 08.4 -7.9**
comp=Z,0.6nm,0.3s,baz=247,slow=13,SNR=4.9
OPO Sn **Sn 03 21 28.4 -19**
comp=Z,1.0nm,0.3s,baz=144,slow=19,SNR=4.4
TSUM Tsumeb 14.62 275 Pn **Pn 03 19 29.4 -1.2**
comp=Z,0.9nm,0.3s,baz=105,slow=11,SNR=11
TSUM Sn **Sn 03 22 08.2 -4.5**
comp=Z,0.9nm,0.3s,baz=247,slow=17,SNR=3.6
TSUM Lg 03 23 46.0
comp=Z,2.6nm,0.3s,baz=83,slow=2.0,SNR=5.0
TSUM LR LR 03 25 26.4
comp=Z,170nm,19.9s,baz=83,slow=38
TSUM Tsumeb 14.62 275 *e*Pn **Pn 03 19 30.4 -0.2**
TSUM *e*Sn **Sn 03 22 06.7 -6.0**
SUR Sutherland 15.65 222 *e*P **Pn 03 19 44.6 +0.3**
SUR *e*S **Sn 03 22 27.7 -10**
SUR Sutherland 15.65 222 Pn **Pn 03 19 45.4 +1.1**
comp=Z,2.5nm,0.3s,baz=56,slow=13,SNR=17
SUR Sn **Sn 03 22 32.1 -5.7**
comp=Z,1.8nm,0.3s,baz=1.7,slow=16,SNR=4.7
SUR Lg 03 24 15.2
comp=Z,1.4nm,0.3s,baz=325,slow=22,SNR=4.2
SUR Sutherland 15.65 222 *e*Pn **Pn 03 19 45.5 +1.2**
comp=Z,36nm,0.8s
KMBO Kilima Mbogo 20.27 12 P **P 03 20 41.7 +2.3**
comp=Z,3.0nm,1.0s,baz=187,slow=10,SNR=4.8
KMBO Lg 03 26 25.3
comp=Z,3.6nm,1.0s,baz=41,slow=24,SNR=4.2
KMBO LR LR 03 27 51.2
comp=Z,85nm,19.0s,baz=106,slow=35
KMBO Kilima Mbogo 20.27 12 P **P 03 20 39.0 -0.4**
comp=Z,1.8nm,0.8s
TORD Torodi Ar. Bea 45.88 315 P **P 03 24 26.8 +0.5**
comp=Z,13nm,0.8s,mb4.9,baz=126,slow=6.9,SNR=62
DBIC Dimbokro 46.30 302 P **P 03 24 32.0 +2.4**
comp=Z,2.0nm,0.7s,mb4.1,baz=121,slow=12,SNR=3.3
SYO Syowa Base 48.09 177⇓pP pP 03 24 51.0 +4.3
SYO Syowa Base 48.09 177⇑*e*PP PP 03 26 33.3 -2.4
SNAA Sanae 54.63 193 *e*P **P 03 25 32.0 -0.6**
comp=Z,3.9nm,0.9s,mb4.4
PALK Pallekele 54.64 64 P **P 03 25 33.0 +0.3**
comp=Z,3.4nm,0.7s,mb4.5
VNA2 Neumayer--Watz 55.14 195 *e* **P 03 25 36.9 +0.6**
baz=5.0,slow=7.0
VNA2 *e* 03 25 42.4
VNA1 Neumayer--Stat 55.17 196 *e* **P 03 25 31.3 -5.2**
VNA1 *e* 03 25 37.7
VNA3 Neumayer Olymp 55.90 195 *e* **P 03 25 42.6 +0.8**
VNA3 *e* 03 25 48.6
BRTR Keskin Array B 60.50 1 P **P 03 26 12.9 -1.0**
comp=Z,0.9nm,0.8s,mb4.0,baz=175,slow=7.3,SNR=5.1
ESDC Sonseca Array 69.62 330 P **P 03 27 15.3 +2.1**
comp=Z,2.7nm,0.8s,mb4.2,baz=138,slow=5.5,SNR=8.2
PSZ Piszkesteto 69.69 351 *e*P **P 03 27 15.0 +1.3**
comp=Z,4.8nm,1.0s,mb4.4
AKASG Malin Array Be 71.55 357 P **P 03 27 22.8 -2.2**
comp=Z,0.8nm,0.6s,mb3.8,baz=178,slow=5.8,SNR=4.8
GERES GERESS Array B 71.73 347 P **P 03 27 25.1 -1.0**
comp=Z,1.9nm,0.9s,mb4.0,baz=159,slow=5.7,SNR=8.4
AAK Ala-Archa 74.04 31 *e*P **P 03 27 39.9 +0.1**
comp=Z,1.2nm,0.8s,mb3.9
BDFB Brasilia 76.35 258 P **P 03 27 55.8 +2.8**
comp=Z,2.4nm,0.9s,mb4.1,baz=117,slow=5.7,SNR=5.9
BRVK Borovoye 80.60 22 *e*P **P 03 28 16.1 -0.5**
comp=Z,1.3nm,0.8s,mb3.9
MKAR Makanchi Array 80.87 32 P **P 03 28 14.8 -3.2**
comp=Z,0.6nm,0.7s,mb3.6,baz=219,slow=4.7,SNR=8.0
TRQA Tornquist 81.06 233 *e*P **P 03 28 21.0 +2.0**
comp=Z,4.4nm,0.8s,mb4.4
KURK Kurchatov 82.00 27 *e*P **P 03 28 24.1 +0.1**
comp=Z,5.1nm,1.2s,mb4.3
ASAR Alice Springs 91.08 116 P **P 03 29 06.9 -1.7**
comp=Z,1.4nm,0.9s,mb4.3,baz=241,slow=3.8,SNR=9.5
YKA Yellowknife Ar 133.08 340 PKP PKPdf 03 35 18.3 -1.3
comp=Z,0.2nm,0.7s,baz=41,slow=2.1,SNR=4.3
TUC Tucson 145.94 297 *e*PKPbc PKPbc 03 35 44.6 +1.1
ELK Elko 146.72 313 *e*PKPdf PKPdf 03 35 45.5 +1.3
ELK *e*PKPbc PKPbc 03 35 48.9 +3.0
NVAR Mina Array Bea 149.87 311 PKPbc PKPbc 03 35 54.1 -0.1
comp=Z,1.6nm,1.0s,baz=111,slow=3.6,SNR=7.3

*IDC **01** 03:44:49.3±5.8,3078S×17937W,h0km,mb4.0/2,*
mb1 4.3/2,mb1mx3.9/11,mbtmp4.0/2,Error ellipse:
s-maj=231.0km s-min=56.1km az=156.0
*ISCJB **01** 03:45:34.9±1.8,323S±01×1798E±04,h440km±22km,*
mb3.6/3,Error ellipse: s-maj=54.4km s-min=22.8km
az=25.1
*NEIC **01** 03:45:35.4±2.4,3210S×17969E,h414km±28km,mb4.1/1,*
Error ellipse: s-maj=33.0km s-min=30.7km az=198.0
ISC 01 03:45:38.4±1.8,323S±01×1792E±04,h406km±14km,n33,
σ0§62/35,mb3.6/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.33**	**187**	*e*PN	**Pn**	**03 47 03.8**	**-0.3**
MXZ				*e*SN	**S**	**03 48 13.8**	**0.0**
MXZ	**Matakaoa Point**	**5.33**	**187**	P	**Pn**	**03 47 04.1**	**0.0**
PUZ	**Puketiti**	**5.84**	**187**	SN	**S**	**03 48 24.1**	**+0.4**
MWZ	**Matawai**	**6.20**	**192**	*e*PN	**Pn**	**03 47 13.6**	**+0.2**
MWZ	**Matawai**	**6.20**	**192**	P	**Pn**	**03 47 13.8**	**+0.4**
URZ	**Urewera**	**6.21**	**195**	*e*PN	**Pn**	**03 47 13.0**	**-0.5**
URZ				*e*SN	**S**	**03 48 32.0**	**+0.9**
URZ	**Urewera**	**6.21**	**195**	*e*P	**Pn**	**03 47 13.1**	**-0.4**
KNZ	**Kokohu**	**6.84**	**190**	*e*PN	**Pn**	**03 47 22.2**	**+1.7**
KNZ	**Kokohu**	**6.84**	**190**	P	**Pn**	**03 47 21.9**	**+1.4**
BKZ	**Black Stump Fm**	**7.22**	**197**	*e*PN	**Pn**	**03 47 24.7**	**0.0**
MOVZ	**Moawhango**	**7.64**	**200**	*e*PN	**Pn**	**03 47 28.7**	**-0.8**
MOVZ	**Moawhango**	**7.64**	**200**	P	**P**	**03 47 28.7**	**-0.9**
PXZ	**Pawanui**	**7.97**	**193**	*e*PN	**Pn**	**03 47 32.6**	**-0.5**
TSZ	**Takapari Road**	**8.20**	**198**	*e*PN	**Pn**	**03 47 34.8**	**-0.9**
TSZ	**Takapari Road**	**8.20**	**198**	P	**P**	**03 47 34.7**	**-1.0**
KIW	**Kapiti Island**	**9.23**	**201**	*e*PN	**Pn**	**03 47 47.4**	**-0.2**
KIW	**Kapiti Island**	**9.23**	**201**	P	**P**	**03 47 47.4**	**+0.2**
MTW	**Mount Morrison**	**9.35**	**197**	*e*PN	**Pn**	**03 47 48.9**	**0.0**
MTW	**Mount Morrison**	**9.35**	**197**	P	**P**	**03 47 49.2**	**+0.7**
MRW	**Makara Radio**	**9.63**	**201**	*e*PN	**Pn**	**03 47 52.2**	**0.0**
MRW	**Makara Radio**	**9.63**	**201**	P	**P**	**03 47 52.3**	**+0.6**
SNZO	**South Karori**	**9.71**	**200**	*e*Pn	**Pn**	**03 47 52.6**	**-0.4**
SNZO				*e*S	**S**	**03 49 42.4**	**-0.5**
TCW	**Tory Channel**	**9.75**	**202**	*e*PN	**Pn**	**03 47 52.9**	**-0.6**
TCW	**Tory Channel**	**9.75**	**202**	P	**P**	**03 47 53.5**	**+0.5**
TUWZ	**Tuamarina**	**10.05**	**203**	*e*PN	**Pn**	**03 47 56.3**	**-0.7**
THZ	**Tophouse**	**10.71**	**206**	*e*PN	**Pn**	**03 48 04.2**	**-0.4**
THZ	**Tophouse**	**10.71**	**206**	*e*P	**P**	**03 48 04.4**	**+0.7**
KHZ	**Kahutara**	**11.07**	**202**	*e*PN	**Pn**	**03 48 08.9**	**+0.1**
KHZ	**Kahutara**	**11.07**	**202**	P	**P**	**03 48 08.6**	**+1.0**
ASAR	**Alice Springs**	**40.65**	**270**	P	**P**	**03 52 41.6**	**+0.5**
	0.4nm,0.4s,mb3.1,baz=108,slow=6.8,SNR=6.9						
WRAB	**Tennant Creek**	**41.81**	**276**	*e*P	**P**	**03 52 50.7**	**+0.3**
	2.5nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**41.82**	**276**	P	**P**	**03 52 50.2**	**-0.3**
	1.4nm,0.3s,mb3.8,baz=114,slow=7.9,SNR=5.8						
FINES	**FINESS Array B**	**146.00**	**337**	PKPbc	PKPbc	04 04 26.5	-4.8
	0.9nm,0.5s,baz=64,slow=3.2,SNR=9.6						

*NDI **01** 03:47:19.5±1.7,3497N×7252E,h33km,ML3.4*
*ISCJB **01** 03:47:21.2±0.8,3465N±006×728E±0.1,h33km,Error*
ellipse: s-maj=17.2km s-min=4.9km az=126.1

*NNC **01** 03:47:38.6±9.6,3548N×7320E,h211km±74km,mb2.5,*
mpv3.6,Error ellipse: s-maj=112.0km s-min=75.3km
az=78.0
ISC 01 03:47:23.9±0.7,3463N±005×728E±01,h35km,n11,
σ1§25/21,6C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.31**	**131**	*e*P	**Pn**	**03 48 15.0**	**+1.9**
THN				*e*S	**Sn**	**03 48 54.7**	**+3.5**
SDNR	**Sundarnagar**	**4.72**	**130**	*e*P	**Pn**	**03 48 33.0**	**+0.4**
SDNR				*e*S	**Sn**	**03 49 27.5**	**+1.4**
KLP	**Kalpa**	**5.55**	**122**	*e*P	**Pn**	**03 48 45.1**	**+1.1**
KLP				*e*S	**Sn**	**03 49 45.6**	**-1.0**
KLP				AML	AML	03 50 17.1	
	comp=E,69nm,0.2s						
KLP				AML	AML	03 50 17.4	
	comp=N,121nm,0.8s						
DDI	**Dehra Dun**	**6.21**	**132**	*e*P	**Pn**	**03 48 52.5**	**-0.5**
KHET	**Khetri**	**7.04**	**157**	*e*P	**Pn**	**03 49 05.4**	**+0.9**
KHET				*e*S	**Sn**	**03 50 21.7**	**-1.5**
KUDL	**Kundal**	**7.21**	**153**	*e*P	**Pn**	**03 49 06.8**	**-0.1**
KUDL				*e*S	**Sn**	**03 50 26.7**	**-0.8**
KUDL				AML	AML	03 50 31.5	
	comp=E,15nm,0.4s						
KUDL				AML	AML	03 50 31.9	
	comp=N,9.3nm,0.2s						
SONA	**Sohna**	**7.36**	**149**	*e*P	**Pn**	**03 49 09.3**	**+0.5**
SONA				*e*S	**Sn**	**03 50 28.9**	**-2.2**
SONA				AML	AML	03 50 33.3	
	comp=N,14nm,0.3s						
SONA				AML	AML	03 50 33.9	
	comp=E,38nm,0.6s						
TKM2	**Tokmak 2**	**8.57**	**14**	⇓P	**Pn**	**03 49 24.9**	**-0.5**
	comp=E,7.2nm,1.9s						
TKM2				⇑S	**Sn**	**03 50 56.7**	**-4.1**
	comp=E,3.0nm,0.6s						
KK31	**Karatay Array**	**8.64**	**349**	⇑P	**Pn**	**03 49 27.6**	**+1.3**
	comp=E,1.0nm,0.3s,baz=158,slow=10,SNR=30						
KK31				⇑S	**Sn**	**03 51 01.5**	**-1.0**
	comp=E,1.7nm,0.4s,baz=176,slow=24,SNR=8.7						
AB31	**Akbulak array**	**17.41**	**331**	⇑P	**Pn**	**03 51 25.3**	**+1.4**
	comp=E,0.3nm,0.5s,baz=141,slow=11,SNR=7.0						
AB31				⇓S	**S**	**03 54 25.7**	**-18**
	comp=E,0.3nm,0.6s						
AKTO	**Aktyubinsk**	**19.11**	**330**	⇑P	**Pn**	**03 51 43.7**	**-1.1**
	comp=E,2.3nm,2.2s						
AKTO				⇑S	**S**	**03 55 00.0**	**-19**
	comp=E,2.1nm,3.0s						

IDC 01 04:13:01.9±1.1,760N×9436E,h0km,mb3.6/5,mb1 3.8/5,
mb1mx3.6/21,mbtmp3.6/5,Error ellipse: s-maj=44.8km
s-min=23.3km az=62.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.40**	**347**	P	P	04 20 42.2	+0.6
	0.4nm,0.8s,baz=168,slow=7.7,SNR=5.3						
SONM	**Songino Array**	**41.38**	**12**	P	P	04 20 50.1	+0.4
	0.2nm,0.4s,baz=196,slow=8.1,SNR=3.7						
WRA	**Warramunga Arr**	**47.93**	**125**	P	P	04 21 42.0	0.0
	0.6nm,0.5s,baz=306,slow=8.5,SNR=2.8						
ASAR	**Alice Springs**	**49.58**	**130**	P	P	04 21 55.2	+0.5
	0.9nm,0.7s,baz=302,slow=6.9,SNR=9.8						
FINES	**FINESS Array B**	**73.05**	**332**	P	P	04 24 32.4	-1.3
	1.0nm,0.8s,baz=72,slow=4.5,SNR=3.7						
LPAZ	**La Paz**	**160.83**	**242**	PKPab	PKPab	04 33 48.1	+2.0
	5.2nm,0.6s,baz=127,slow=1.0,SNR=44						

*IDC **01** 05:09:04.3±2.4,3977N×5081E,h0km,mb3.7/8,*
mb1 3.9/10,mb1mx3.7/22,mbtmp3.8/10,ML3.8/2,MS4.0/1,
Ms1 4.0/1,ms1mx2.9/24,Error ellipse: s-maj=46.3km
s-min=21.6km az=178.0
*ISCJB **01** 05:09:08.0±0.4,3997N±004×5092E±007,h33km,*
mb3.7/10,MS4.0/1,Error ellipse: s-maj=7.6km
s-min=4.7km az=36.4
*THR **01** 05:09:08.5±0.5,3973N×5056E,h15km,ML3.6*
*MOS **01** 05:09:09.7±0.8,4020N×5092E,h33km,mb4.1/8,Error*
ellipse: s-maj=20.1km s-min=11.4km az=68.2
*CSEM **01** 05:09:09.4±0.1,3992N×5089E,h50km,mb3.8/9,Error*
ellipse: s-maj=3.1km s-min=1.8km az=92.0
*NEIC **01** 05:09:12.7±1.3,4018N×5099E,h45km,mb3.5/5,Error*
ellipse: s-maj=24.5km s-min=9.7km az=184.0
*NNC **01** 05:09:14.0±17.0,4011N×5258E,h0km,mb3.5,Error*
ellipse: s-maj=216.3km s-min=143.4km az=110.0
ISC 01 05:09:09.9±0.4,3998N±004×5090E±007,h35km,n49,
σ0§65/51,mb3.7/10,MS4.0/1,2C-1D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**2.61**	**244**	*e*Pg	**Pn**	**05 09 49.6**	**+0.1**
GRMI				*e*Sg	**Sn**	**05 10 19.6**	**-0.4**
THKV	**Tehran--Karaj**	**4.05**	**180**	*e*PN	**Pn**	**05 10 09.2**	**-0.2**
CHTH	**Charan**	**4.07**	**177**	*e*Pn	**Pn**	**05 10 08.9**	**-0.6**
CHTH				AML	AML	05 10 55.2	
	comp=E,86nm,0.4s						
CHTH				AML	AML	05 10 57.1	
	comp=N,84nm,0.3s						
IAFJ	**Afjeh**	**4.16**	**171**	*e*Pn	**Pn**	**05 10 10.6**	**-0.3**
IMHD	**Mahdasht**	**4.29**	**183**	*e*Pn	**Pn**	**05 10 13.0**	**+0.4**
DAMV	**Damavand**	**4.42**	**169**	*e*PN	**Pn**	**05 10 15.2**	**+0.7**
DAMV				AML	AML	05 11 06.2	
	comp=E,92nm,0.3s						
IFIR	**Firoozkooh**	**4.57**	**161**	*e*Pn	**Pn**	**05 10 16.8**	**+0.3**
IVRN	**Varamin**	**5.02**	**172**	*e*Pn	**Pn**	**05 10 22.4**	**-0.2**
IQOM	**Qom**	**5.13**	**178**	*e*Pn	**Pn**	**05 10 24.1**	**-0.1**
ASAO	**Ashtian**	**5.46**	**188**	*e*PN	**Pn**	**05 10 28.0**	**-0.8**
ISFB	**Sefidab**	**5.71**	**169**	*e*Pn	**Pn**	**05 10 32.2**	**0.0**
AB31	**Akbulak array**	**11.28**	**32**	Pn	**Pn**	**05 11 48.3**	**-0.3**
	comp=E,0.4nm,0.4s,baz=210,slow=13,SNR=7.1						
AB31				⇑Sn	**Sn**	**05 13 48.7**	**-4.7**
	comp=E,1.5nm,0.5s,baz=211,slow=22,SNR=6.6						
AKTK	**Aktyubinsk**	**11.59**	**23**	Pn	**Pn**	**05 11 51.6**	**-1.2**
AKTO	**Aktyubinsk**	**11.59**	**23**	⇓Pn	**Pn**	**05 11 50.4**	**-2.4**
	comp=E,1.5nm,2.0s						
AKTO				⇑Sn	**Sn**	**05 13 54.7**	**-6.2**
	comp=E,0.7nm,0.6s						
AKTO	**Aktyubinsk**	**11.59**	**23**	Pn	**Pn**	**05 11 51.6**	**-1.2**
	comp=E,0.4nm,0.3s,baz=198,slow=15,SNR=6.8						
AAK	**Ala-Archa**	**17.91**	**74**	*e*P	**Pn**	**05 13 15.6**	**-0.5**
	comp=E,8.6nm,1.5s						
AAK	**Ala-Archa**	**17.91**	**74**	*e*P	**Pn**	**05 13 15.6**	**-0.6**
	comp=E,8.6nm,1.5s						
AAK	**Ala-Archa**	**17.91**	**74**	*e*P	**Pn**	**05 13 15.6**	**-0.5**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ZRNK	**Zerenda**	**17.93**	**38**	*e*P	**Pn**	**05 13 15.3**	**-1.0**
	comp=Z,3.0nm,1.1s						
ZRNK	**Zerenda**	**17.93**	**38**	*e*P	**Pn**	**05 13 15.2**	**-1.1**
	comp=Z,3.2nm,1.1s						
ZRNK	**Zerenda**	**17.93**	**38**	*e*P	**Pn**	**05 13 15.3**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRVK	**Borovoye**	**18.60**	**39**	*e*P	**Pn**	**05 13 24.6**	**+0.1**
	comp=Z,2.2nm,0.9s						
BRVK	**Borovoye**	**18.60**	**39**	*e*P	**Pn**	**05 13 24.6**	**+0.1**
	comp=Z,2.2nm,0.9s						
BRVK	**Borovoye**	**18.60**	**39**	*e*P	**Pn**	**05 13 24.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**18.63**	**39**	P	**Pn**	**05 13 25.4**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=229,slow=9.8,SNR=21						
BVAR	**Borovoye Array**	**18.63**	**39**	P	**Pn**	**05 13 25.4**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**22.11**	**52**	*e*P	**P**	**05 14 02.2**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.6						
KURK	**Kurchatov**	**22.11**	**52**	*e*P	**P**	**05 14 02.2**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.6						
KURK	**Kurchatov**	**22.11**	**52**	*e*P	**P**	**05 14 02.2**	**+0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
MKAR	**Makanchi Array**	**23.70**	**63**	P	**P**	**05 14 19.4**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.2,baz=263,slow=10,SNR=5.8						
MKAR	**Makanchi Array**	**23.70**	**63**	P	**P**	**05 14 19.4**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**26.32**	**333**	P	**P**	**05 14 42.8**	**+0.5**
	comp=Z,1.9nm,0.8s,mb3.7,baz=133,slow=9.6,SNR=11						
FINES	**FINESS Array B**	**26.32**	**333**	P	**P**	**05 14 42.8**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**30.65**	**324**	P	**P**	**05 15 21.3**	**+0.4**
	comp=Z,1.2nm,0.3s,mb4.2,baz=115,slow=10.0,SNR=16						
HFS	**Hagfors**	**30.65**	**324**	P	**P**	**05 15 21.3**	**+0.5**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**32.13**	**324**	P	**P**	**05 15 33.6**	**-0.3**
	comp=Z,2.0nm,1.0s,mb3.9,baz=91,slow=5.3,SNR=3.5						
NOA	**NORSAR Array B**	**32.13**	**324**	P	**P**	**05 15 33.6**	**-0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**32.52**	**344**	P	**P**	**05 15 38.1**	**+0.8**
	comp=Z,1.4nm,0.8s,mb3.9,baz=142,slow=10.0,SNR=7.6						
ARCES	**ARCESS Array B**	**32.52**	**344**	P	**P**	**05 15 38.1**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**38.48**	**312**	P	**P**	**05 16 28.8**	**+0.3**
	comp=Z,1.1nm,0.6s,mb3.8,baz=94,slow=10.0,SNR=4.7						
EKA	**Eskdalemuir Ar**	**38.48**	**312**	P	**P**	**05 16 28.8**	**+0.3**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**39.99**	**60**	P	**P**	**05 16 42.0**	**+1.0**
	comp=Z,0.4nm,0.7s,mb3.3,baz=269,slow=8.8,SNR=3.9						
ULN	**Ulaanbaatar**	**40.42**	**60**	*e*P	**P**	**05 16 45.7**	**+1.1**
	comp=Z,1.2nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**40.42**	**60**	*e*P	**P**	**05 16 45.7**	**+1.0**
	comp=Z,1.2nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**40.42**	**60**	*e*P	**P**	**05 16 45.7**	**+1.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
PSI	**Prapat**	**57.01**	**118**	LR	LR	05 45 19.8	
	comp=Z,111nm,18.4s,MS4.0,baz=333,slow=38						
YKA	**Yellowknife Ar**	**77.21**	**353**	P	**P**	**05 21 00.5**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=9.5,slow=5.7,SNR=21						
YKA	**Yellowknife Ar**	**77.21**	**353**	P	**P**	**05 21 00.5**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.0						
YKA	**Yellowknife Ar**	**77.21**	**353**	P	**P**	**05 21 00.5**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 01 05:34:16.8±5.8,3968N×5077E,h0km,mb3.3/3,mb1 3.5/4,
mb1mx3.3/19,mbtmp3.4/4,Error ellipse:
s-maj=126.5km s-min=36.8km az=8.0,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**18.93**	**39**	P	Pn	05 38 38.7	-1.1
	0.2nm,0.3s,baz=232,slow=9.8,SNR=6.3						
MKAR	**Makanchi Array**	**23.93**	**62**	P	P	05 39 32.6	+0.2
	0.2nm,0.7s,baz=268,slow=8.6,SNR=3.4						
FINES	**FINESS Array B**	**26.54**	**333**	P	P	05 39 56.1	-0.2
	0.7nm,0.6s,baz=117,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**77.50**	**353**	P	P	05 46 13.8	-0.5
	0.2nm,0.6s,baz=8.6,slow=5.6,SNR=6.8						

WEL 01 05:55:22.1±0.4,3958S×17426E,h220km±3km,ML3.7/11,
2C,Error ellipse: s-maj=4.8km s-min=2.3km az=90.0,
North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.58**	**108**	PN	Pn	05 55 52.5	+0.8
WAZ				SN	S	05 56 15.0	+0.1
WAZ				*e*SN	S	05 56 15.0	+0.2
PKVZ	**Pokaka**	**0.89**	**71**	PN	Pn	05 55 53.1	-0.1
MTVZ	**Mangateitei**	**0.95**	**79**	PN	Pn	05 55 53.6	+0.1
MTVZ				SN	S	05 56 17.8	-0.3
FWVZ	**Far West T-bar**	**1.05**	**72**	PN	Pn	05 55 54.3	+0.1
WPVZ	**Whakapapa**	**1.06**	**70**	PN	Pn	05 55 53.9	-0.3
WPVZ				SN	S	05 56 18.8	-0.6
TUVZ	**Tukino**	**1.12**	**74**	PN	Pn	05 55 54.8	+0.2
HIZ	**Hauiti**	**1.16**	**24**	PN	Pn	05 55 54.0	-0.9
MOVZ	**Moawhango**	**1.17**	**82**	PN	Pn	05 55 54.5	-0.4
MOVZ				SN	S	05 56 19.0	-1.6
KRVZ	**Karewarewa**	**1.17**	**66**	PN	Pn	05 55 54.9	-0.1
DUWZ	**D'Urville Isla**	**1.25**	**192**	PN	Pn	05 55 55.7	+0.2
DUWZ				SN	S	05 56 21.2	-0.5
KIW	**Kapiti Island**	**1.37**	**159**	PN	Pn	05 55 56.7	+0.3
KIW				SN	S	05 56 22.2	-1.2
TSZ	**Takapari Road**	**1.39**	**111**	PN	Pn	05 55 56.7	+0.1
TSZ				SN	S	05 56 22.0	-1.7
MRZ	**Mangatainoka R**	**1.48**	**137**	PN	Pn	05 55 57.2	-0.1
MRZ				SN	S	05 56 24.0	-0.9
TCW	**Tory Channel**	**1.63**	**180**	PN	Pn	05 55 58.5	-0.1
TCW				SN	S	05 56 26.3	-0.9
MRW	**Makara Radio**	**1.68**	**169**	PN	Pn	05 55 58.9	-0.2
NNZ	**Nelson**	**1.77**	**202**	⇑PN	Pn	05 55 59.7	-0.2
NNZ				SN	S	05 56 27.9	-1.5
BKZ	**Black Stump Fm**	**1.78**	**77**	PN	Pn	05 55 59.3	-0.6
BKZ				*e*SN	S	05 56 26.7	-2.8
QRZ	**Quartz Range**	**1.82**	**226**	PN	Pn	05 55 59.4	-1.0
MTW	**Mount Morrison**	**1.84**	**149**	PN	Pn	05 56 00.3	-0.3
TUWZ	**Tuamarina**	**1.86**	**187**	PN	Pn	05 56 00.4	-0.4
PXZ	**Pawanui**	**2.05**	**104**	PN	Pn	05 56 02.5	-0.1
BSWZ	**Blackbirch Sta**	**2.15**	**188**	PN	Pn	05 56 03.2	-0.4
THZ	**Tophouse**	**2.41**	**205**	PN	Pn	05 56 05.6	-0.7
THZ				SN	S	05 56 38.9	-2.0
URZ	**Urewera**	**2.58**	**60**	PN	Pn	05 56 05.9	-2.2
URZ				SN	S	05 56 38.8	-5.4
MWZ	**Matawai**	**2.83**	**65**	PN	Pn	05

ILAR Eielson Array 62.17 27 P P 06 20 11.7 -0.8
0.9nm,0.6s,mb3.5,baz=260,slow=5.4,SNR=13
BVAR Borovoye Array 62.64 320 P P 06 20 15.9 +0.3
2.9nm,0.3s,mb4.3,baz=99,slow=8.1,SNR=22
ZRNK Zerenda 63.48 319 *e*P **P 06 20 21.1 0.0**
1.5nm,0.4s,mb4.0
INK Inuvik 67.69 24 P P 06 20 47.7 -0.1
0.5nm,0.5s,mb3.5,baz=289,slow=4.4,SNR=6.3
INK Inuvik 67.69 24 P **P 06 20 47.7 -0.1**
YKA Yellowknife Ar 76.58 28 P P 06 21 40.2 0.0
1.1nm,0.5s,mb3.8,baz=292,slow=5.8,SNR=32
YKA Yellowknife Ar 76.58 28 P **P 06 21 40.2 0.0**
ARCES ARCESS Array B 78.95 341 P P 06 21 53.2 0.0
4.3nm,0.8s,mb4.2,baz=60,slow=7.2,SNR=6.9
ARCES ARCESS Array B 78.95 341 P **P 06 21 53.2 0.0**
JOF Joensuu 80.32 334 *e*p **P 06 22 00.3 -0.2**
NEW Newport 80.43 42 P P 06 22 01.9 +0.9
1.5nm,0.6s,mb3.9,baz=270,slow=4.0,SNR=3.6
NEW Newport 80.43 42 P **P 06 22 01.9 +0.9**
FINES FINESS Array B 83.19 334 P P 06 22 14.3 -1.0
1.0nm,0.4s,mb4.0,baz=69,slow=5.5,SNR=12
NVAR Mina Array Bea 83.30 51 P P 06 22 16.3 +0.4
0.6nm,0.7s,mb3.5,baz=270,slow=5.7,SNR=6.0
TORD Torodi Ar. Bea 128.68 309 PKP PKPdf 06 28 55.5 +1.6
0.1nm,0.4s,baz=40,slow=2.0,SNR=2.8
PLCA Paso Flores 145.81 132 PKPbc PKPbc 06 29 27.6 +1.2
0.5nm,0.6s,baz=207,slow=2.3,SNR=5.1
LPAZ La Paz 150.08 85 PKPbc PKPbc 06 29 40.2 +2.6
0.9nm,0.5s,baz=302,slow=3.7,SNR=8.8

ISC 01 06:41:14.3±0.9, 3828N±006×2680E±005, h8km±10km, n6, σ0§65/12, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**297**	*i* P	**Pg**	**06 41 17.8**	**-0.2**
URLA				*i* S	**Sg**	**06 41 21.2**	**+0.7**
IZM	**Izmir**	**0.38**	**71**	PG	**Pg**	**06 41 21.8**	**+0.1**
IZM				SG	**Sg**	**06 41 27.1**	**+0.3**
KDAG	**Bornova**	**0.39**	**71**	*i* P	**Pg**	**06 41 21.7**	**-0.1**
KDAG				*i* S	**Sg**	**06 41 27.9**	**+0.9**
AKS	**Akhisar**	**0.99**	**53**	*e*PG	**Pg**	**06 41 31.7**	**-1.7**
AKS				*e*SG	**Sg**	**06 41 46.0**	**-0.3**
AYDN	**Tasoluk**	**1.05**	**125**	*i* P	**Pg**	**06 41 33.9**	**-0.6**
AYDN				*i* S	**Sg**	**06 41 48.4**	**+0.2**
MANT	**Manisa**	**1.40**	**81**	*i* P	**Pn**	**06 41 40.4**	**+0.3**
MANT				*i* S	**Sb**	**06 41 59.1**	**+0.5**

*IDC **01** 06:51:11.1±1.5,2741N×5318E,h0km,mb3.6/7,mb1 3.7/7, mb1mx3.6/21,mbtmp3.6/7,MS3.8/1,Ms1 3.9/1, ms1mx2.8/18,Error ellipse: s-maj=37.9km s-min=28.3km az=176.0*
*ISCJB **01** 06:51:12.5±0.8,2765N±007×5300E±010,h10km,mb3.6/6, MS3.7/1,Error ellipse: s-maj=12.7km s-min=8.7km az=134.6*
*NEIC **01** 06:51:13.5,2769N×5303E,h14km,ML3.2(THR),After THR.*
*THR **01** 06:51:13.5±0.7,2769N×5303E,h14km±9km,ML3.2*
*CSEM **01** 06:51:14.0±0.3,2770N×5299E,h20km,ML3.2,Error ellipse: s-maj=10.2km s-min=5.2km az=23.0*

ISC 01 06:51:14.6±0.9, 2770N±007×5311E±007, h10km, n19, σ1§11/24, mb3.6/6, MS3.7/1, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.59**	**350**	*e*PG	**Pg**	**06 51 24.9**	**-1.1**
GHIR				*e*SG	**Sg**	**06 51 33.9**	**+0.1**
GHIR				AML	AML	06 51 40.9	
	comp=N,1μm,0.6s						
GHIR				AML	AML	06 51 41.4	
	comp=E,1μm,0.3s						
GHIR	**Ghir-Karzin**	**0.59**	**350**	*e*Pg	**Pg**	**06 51 24.9**	**-1.1**
	SNR=90						
GHIR				*e*Sg	**Sg**	**06 51 33.9**	**+0.1**
	comp=E,1μm,0.3s,SNR=90						
GHIR	**Ghir-Karzin**	**0.59**	**350**	Pg	**Pg**	**06 51 24.0**	**-2.0**
GHIR				Sg	**Sg**	**06 51 33.0**	**-0.8**
BNDS	**Bandar-Abbas**	**2.74**	**96**	*e*PN	**Pn**	**06 52 00.0**	**+1.5**
BNDS				*e*SG	**Sg**	**06 52 41.1**	**-1.3**
BNDS				AML	AML	06 52 45.8	
	comp=N,70nm,0.5s						
BNDS				AML	AML	06 52 55.7	
	comp=E,80nm,0.5s						
BNDS	**Bandar-Abbas**	**2.74**	**96**	*e*Pn	**Pn**	**06 52 00.0**	**+1.5**
	SNR=52						
BNDS				*e*Sg	**Sg**	**06 52 41.1**	**-1.4**
	SNR=90						
BNDS	**Bandar-Abbas**	**2.74**	**96**	Pn	**Pn**	**06 52 00.0**	**+1.5**
BNDS				Sg	**Sg**	**06 52 41.0**	**-1.5**
KRBR	**Kerman**	**3.93**	**54**	*e*PN	**Pn**	**06 52 17.0**	**+2.1**
KRBR				AML	AML	06 53 25.7	
	comp=E,28nm,0.8s						
KRBR	**Kerman**	**3.93**	**54**	Pn	**Pn**	**06 52 16.0**	**+1.1**
NASN	**Na'in**	**5.09**	**357**	*e*PN	**Pn**	**06 52 32.1**	**+1.2**
NASN	**Na'in**	**5.09**	**357**	Pn	**Pn**	**06 52 32.0**	**+1.2**
BRTR	**Keskin Array B**	**20.10**	**312**	P	**P**	**06 55 49.1**	**+0.7**
	comp=E,0.6nm,0.6s,baz=130,slow=13,SNR=3.0						
BVAR	**Borovoye Array**	**28.36**	**22**	P	**P**	**06 57 09.0**	**+0.2**
	comp=E,0.6nm,0.6s,mb3.4,baz=231,slow=9.4,SNR=4.8						
FINES	**FINESS Array B**	**38.27**	**339**	P	**P**	**06 58 34.0**	**-1.0**
	comp=E,0.8nm,0.6s,mb3.7,baz=152,slow=8.4,SNR=5.3						
NOA	**NORSAR Array B**	**43.52**	**332**	LR	LR	07 19 05.9	
	comp=E,94nm,18.2s,MS3.7,baz=315,slow=38						
SONM	**Songino Array**	**45.67**	**49**	P	**P**	**06 59 36.0**	**+0.6**
	comp=E,0.5nm,0.6s,mb3.6,baz=270,slow=8.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**49.97**	**264**	P	**P**	**07 00 08.3**	**-0.4**
	comp=E,0.3nm,0.6s,mb3.5,baz=58,slow=8.1,SNR=4.7						
YKA	**Yellowknife Ar**	**89.58**	**354**	P	**P**	**07 04 11.7**	**-0.7**
	comp=E,0.2nm,0.5s,mb3.7,baz=7.6,slow=4.8,SNR=6.2						
YKA	**Yellowknife Ar**	**89.58**	**354**	P	**P**	**07 04 11.7**	**-0.7**
WRA	**Warramunga Arr**	**91.70**	**112**	P	**P**	**07 04 18.8**	**-3.4**
	comp=E,0.2nm,0.4s,mb3.8,baz=312,slow=4.0,SNR=4.8						

IDC 01 06:53:57.1±8.4, 737N×9191E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=408.4km s-min=29.1km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.14**	**350**	P	P	07 01 34.6	-0.1
	0.3nm,0.5s,baz=163,slow=8.1,SNR=6.1						
WRA	**Warramunga Arr**	**49.80**	**124**	P	P	07 02 51.6	+0.1
	0.4nm,0.6s,baz=301,slow=9.0,SNR=6.3						
ASAR	**Alice Springs**	**51.32**	**128**	P	P	07 03 03.9	+0.8
	0.2nm,0.3s,baz=302,slow=8.0,SNR=5.6						

*CSEM **01** 06:54:45.8±0.3,6774N×1962E,h2km,ML2.5/2,Error ellipse: s-maj=6.3km s-min=5.7km az=96.0*
*UPP **01** 06:54:46.3,6771N×1952E,h0km,ML2.0*

HEL 01 06:54:47.2±0.1, 6774N×1947E, h10km, ML1.6, ML2.0(UPP), Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.21**	**308**	*i* P	Pg	06 54 51.2	-0.3
NIKU				*i* S	Sg	06 54 54.6	+0.1
KUA	**Kurravaara**	**0.40**	**56**	*i* P	Pg	06 54 53.9	-1.1
KUA				*i* S	Sg	06 54 59.6	-0.6
SALU	**Saltoluokta**	**0.52**	**226**	*i* P	Pg	06 54 56.1	-1.1
SALU				*i* S	Sg	06 55 03.0	-1.0
SALU	**Saltoluokta**	**0.52**	**226**	P	Pg	06 54 56.1	-1.1
	baz=39						
DUNU	**Dundret**	**0.75**	**145**	*i* P	Pg	06 54 59.9	-1.9
DUNU				*i* S	Sg	06 55 09.9	-1.6
DUNU	**Dundret**	**0.75**	**145**	P	Pg	06 54 59.9	-1.8
	baz=315						
LANU	**Lannavaara**	**1.00**	**71**	*e*P	Pg	06 55 04.8	-1.8
LANU	**Lannavaara**	**1.00**	**71**	P	Pg	06 55 04.8	-1.7
	baz=244						
MASU	**Masugnsbyn**	**1.01**	**105**	*e*P	Pg	06 55 04.8	-1.8
MASU				*e*S	Sg	06 55 18.0	-1.8
KIF	**Kilpisjarvi**	**1.36**	**21**	*e*P	Pn	06 55 12.9	+0.7
KIF				*e*S	Sb	06 55 30.1	-0.2
KIF	**Kilpisjarvi**	**1.36**	**21**	P	Pn	06 55 12.9	+0.6
KIF				S	Sb	06 55 30.1	-0.2
PAJU	**Pajala**	**1.58**	**115**	*e*P	Pn	06 55 14.6	-0.7
PAJU				*e*S	Sn	06 55 35.3	-0.5
PAJU	**Pajala**	**1.58**	**115**	P	Pn	06 55 14.6	-0.7
	baz=301						
PAJU				S	Sn	06 55 35.3	-0.5
ERTU	**Ertsjaerv**	**1.60**	**137**	*e*P	Pn	06 55 14.9	-0.6
ERTU				*e*S	Sn	06 55 36.3	+0.1
ERTU	**Ertsjaerv**	**1.60**	**137**	P	Pn	06 55 14.9	-0.6
	baz=199						
ERTU				S	Sn	06 55 36.3	+0.2
SJUU	**Sjulsmark**	**2.40**	**158**	*e*P	Pn	06 55 27.2	+0.7
SJUU				*e*S	Sn	06 55 57.6	+1.7
LILU	**Lilltraesk**	**2.47**	**176**	*e*P	Pn	06 55 28.7	+1.2
SGF	**Sodankyl**	**2.72**	**93**	*e*P	Pn	06 55 31.2	+0.3
SGF				*e*SG	Sg	06 56 10.0	-4.6
SGF				MSG		06 56 11.9	
	comp=Z,1.2nm,0.1s						
SGF	**Sodankyl**	**2.72**	**93**	P	Pn	06 55 31.2	+0.2
SGF				Sg	Sg	06 56 10.0	-4.7
	comp=Z,1.2nm,0.1s						
BURU	**Burvik**	**3.26**	**165**	*e*P	Pn	06 55 39.4	+1.0
KEV	**Kevo**	**3.41**	**50**	*e*P	Pn	06 55 40.9	+0.4
KEV				*e*S	Sn	06 56 19.2	-1.7
KEV				*e*SB	Sb	06 56 27.9	-1.4
KEV				MSG		06 56 29.0	
	comp=Z,1.5nm,0.2s						
KEV	**Kevo**	**3.41**	**50**	P	Pn	06 55 40.8	+0.4
KEV				S	Sn	06 56 19.2	-1.7
KEV				Sb	Sb	06 56 27.9	-1.4
	comp=Z,1.5nm,0.2s						
OUL	**Oulu**	**3.71**	**133**	*e*PG	Pg	06 55 55.9	-2.5
OUL				*e*S	Sn	06 56 28.8	+0.4
OUL				*e*SG	Sg	06 56 42.1	-4.3
OUL				MSG		06 56 42.6	
	comp=Z,1.4nm,0.2s						
OUL	**Oulu**	**3.71**	**133**	Pg	Pg	06 55 55.8	-2.5
OUL				S	Sn	06 56 28.7	+0.3
OUL				Sg	Sg	06 56 42.1	-4.3
	comp=Z,1.4nm,0.2s						
KU4	**Liikasenvaara**	**4.19**	**104**	*e*S	Sn	06 56 39.0	-1.2
KU4				*e*SG	Sg	06 56 55.5	-6.4
KU4				MSG		06 56 57.1	
	comp=Z,0.7nm,0.2s						
KU4	**Liikasenvaara**	**4.19**	**104**	S	Sn	06 56 39.0	-1.2
KU4				Sg	Sg	06 56 55.4	-6.5
	comp=Z,0.7nm,0.2s						
KJN	**Kajaani**	**4.99**	**133**	*e*P	Pn	06 56 03.4	+1.3
KJN				*e*S	Sn	06 56 59.7	0.0
KJN				*e*SG	Sg	06 57 21.9	-5.4
KJN				MSG		06 57 24.2	
	comp=Z,0.6nm,0.2s						

*ISCJB **01** 07:05:48.0±1.4,3677N±006×955W±007,h10km,Error ellipse: s-maj=10.3km s-min=6.5km az=85.6*
*NEIC **01** 07:05:47.9,3667N×961W,h0km,ML2.1(LIS), MN2.6(MDD),After MDD.*
*IGIL **01** 07:05:47.7,3657N×975W,h0km,ML2.3*
*CSEM **01** 07:05:48.0±0.7,3654N×933W,h2km,ML2.1,Error ellipse: s-maj=12.4km s-min=7.9km az=33.0*
*INMG **01** 07:05:48.6±0.7,3658N×969W,h10km,ML2.1,Error ellipse: s-maj=3.7km s-min=2.9km az=60.0*

ISC 01 07:05:48.9±1.3, 3674N±006×955W±007, h10km, n29, σ1§02/53, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.92**	**51**	*e*P	**Pg**	**07 06 08.4**	**+1.9**
MORF				*e*S	**Sg**	**07 06 23.1**	**+4.6**
MORF				*e*S	**Sg**	**07 06 23.1**	**+4.6**
MORF				AML	AML	07 06 26.4	
	comp=N,52nm,0.4s						
MORF	**Marmelete**	**0.92**	**51**	*e*P	**Pg**	**07 06 08.4**	**+1.9**
MORF				*e*S	**Sg**	**07 06 23.1**	**+4.6**
PTEO	**Sao Teotonio**	**1.04**	**39**	*e*P	**Pg**	**07 06 10.3**	**+1.4**
PTEO				*e*S	**Sg**	**07 06 26.7**	**+4.2**
PTEO							
	comp=N,15nm,0.2s						
PTEO	**Sao Teotonio**	**1.04**	**39**	*e*P	**Pg**	**07 06 10.3**	**+1.4**
PTEO				*e*S	**Sg**	**07 06 26.7**	**+4.2**
	comp=N,15nm,0.2s						
EGRO	**El Granado**	**1.83**	**64**	P	**Pn**	**07 06 20.8**	**+0.4**
	comp=N,1.0nm,0.1s,SNR=7.8						
EGRO				S	**Sn**	**07 06 44.6**	**+0.9**
	comp=N,8.1nm,0.1s,SNR=16						
EGRO	**El Granado**	**1.83**	**64**	P	**Pn**	**07 06 20.8**	**+0.4**
EGRO				S	**Sn**	**07 06 44.6**	**+1.0**
PBEJ	**Beja**	**1.86**	**46**	*e*Pn	**Pn**	**07 06 21.7**	**+0.9**
PBEJ				*e*Sn	**Sn**	**07 06 46.0**	**+1.7**
PBEJ							
	comp=N,5.4nm,0.1s						
MOE	**Montemor**	**2.02**	**28**	*e*Sn	**Sn**	**07 06 50.0**	**+1.7**
PLOU	**Loures**	**2.17**	**8**	*e*Pn	**Pn**	**07 06 25.1**	**+0.1**
PLOU				*e*Sn	**Sn**	**07 06 52.8**	**+0.9**
PLOU							
	comp=N,16nm,0.1s						
PLOU	**Loures**	**2.17**	**8**	*e*Pn	**Pn**	**07 06 25.1**	**+0.1**
PLOU				*e*Sn	**Sn**	**07 06 52.8**	**+0.9**
EMIN	**Mina Concepcio**	**2.52**	**65**	P	**Pn**	**07 06 29.8**	**0.0**
	comp=N,0.6nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**07 07 00.7**	**+0.2**
	comp=N,1.7nm,0.1s,SNR=8.6						
EMIN	**Mina Concepcio**	**2.52**	**65**	P	**Pn**	**07 06 29.9**	**+0.1**
EMIN				S	**Sn**	**07 07 00.7**	**+0.2**
EBAD	**Badajoz**	**2.85**	**44**	P	**Pn**	**07 06 34.5**	**+0.2**
	comp=N,1.1nm,0.1s,SNR=6.9						
EBAD				S	**Sn**	**07 07 09.4**	**+0.7**
	comp=N,4.4nm,0.1s,SNR=7.1						
EBAD	**Badajoz**	**2.85**	**44**	P	**Pn**	**07 06 34.5**	**+0.2**
EBAD				S	**Sn**	**07 07 09.4**	**+0.7**
ESPR	**Espera**	**2.97**	**86**	S	**Sn**	**07 07 10.5**	**-1.2**
	comp=N,28nm,0.3s,SNR=7.9						
PTOM	**Tomar**	**3.01**	**17**	*e*Sn	**Sn**	**07 07 12.9**	**+0.1**
PCBR	**Castelo Branco**	**3.50**	**27**	*e*Pn	**Pn**	**07 06 44.0**	**+0.7**
PCBR				*e*Sn	**Sn**	**07 07 25.3**	**+0.5**
PCBR							
	comp=N,1.6nm,0.2s						
PCBR	**Castelo Branco**	**3.50**	**27**	*e*Pn	**Pn**	**07 06 44.0**	**+0.7**
PCBR				*e*Sn	**Sn**	**07 07 25.3**	**+0.5**
ECAB	**El Cabril**	**3.55**	**67**	P	**Pn**	**07 06 44.0**	**0.0**
	comp=N,0.2nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**07 07 24.7**	**-1.4**
	comp=N,2.8nm,0.2s,SNR=6.2						
ECAB	**El Cabril**	**3.55**	**67**	P	**Pn**	**07 06 44.0**	**0.0**
ECAB				S	**Sn**	**07 07 24.7**	**-1.4**
EADA	**Adamuz**	**4.21**	**69**	P	**Pn**	**07 06 53.1**	**+0.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**07 07 39.6**	**-2.6**
	comp=N,2.5nm,0.1s,SNR=6.5						
EADA	**Adamuz**	**4.21**	**69**	P	**Pn**	**07 06 53.1**	**+0.1**
EADA				S	**Sn**	**07 07 39.6**	**-2.6**
PVRL	**Vila Real**	**4.75**	**17**	*e*Pn	**Pn**	**07 07 00.0**	**-0.5**
PVRL				*e*Sn	**Sn**	**07 07 54.6**	**-1.1**
PVRL							
	comp=N,4.6nm,0.1s						
PCAB	**Cabril**	**5.11**	**13**	*e*Pn	**Pn**	**07 07 05.0**	**-0.4**
PCAB				*e*Sn	**Sn**	**07 08 02.9**	**-1.5**
PCAB							
	comp=N,5.5nm,0.3s						
ELOB	**Lobios**	**5.25**	**12**	P	**Pn**	**07 07 06.8**	**-0.6**
ELOB				S	**Sn**	**07 08 06.0**	**-2.0**
EQES	**Quesada**	**5.28**	**76**	S	**Sn**	**07 08 07.9**	**-0.7**
	comp=N,2.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.29**	**55**	S	**Sn**	**07 08 08.4**	**-0.5**
	comp=N,2.6nm,0.1s,SNR=7.4						
PBRG	**Braganca**	**5.51**	**22**	*e*Sn	**Sn**	**07 08 14.0**	**-0.3**
PBRG							
	comp=N,0.9nm,0.2s						
ECAL	**Calabor**	**5.64**	**22**	P	**Pn**	**07 07 12.9**	**+0.2**
ECAL				S	**Sn**	**07 08 16.2**	**-1.3**

IDC 01 07:11:20.5±1.7, 796S×12550E, h0km, mb3.9/1, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=186.0km s-min=30.2km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.08**	**179**	*e*P	Pn	07 13 44.9	-1.6
	3.0nm,0.4s						
FITZ				*e*S	Sn	07 15 29.2	-11
WRA	**Warramunga Arr**	**14.67**	**145**	Pn	Pn	07 14 48.5	-0.7
	0.4nm,0.3s,baz=318,slow=13,SNR=17						
WRA				Sn	Sn	07 17 24.1	-8.4
	0.3nm,0.3s,baz=321,slow=24,SNR=5.7						
WB2	**Warramunga Arr**	**14.68**	**145**	*e*P	Pn	07 14 49.8	+0.5
WB2				*e*S	Sn	07 17 23.3	-9.4
ASAR	**Alice Springs**	**17.57**	**154**	P	Pn	07 15 27.7	+0.9
	0.2nm,0.3s,baz=333,slow=12,SNR=14						
ASAR				S	Sn	07 18 33.6	-9.5
	0.2nm,0.3s,baz=329,slow=24,SNR=8.1						
MKAR	**Makanchi Array**	**66.67**	**329**	P	P	07 22 13.2	+0.1
	0.9nm,0.7s,baz=133,slow=7.3,SNR=14						

*NEIC **01** 07:15:43.4,32.13S×7135W,h45km,MD3.8(GUC),After GUC.*

GUC 01 07:15:43.4±0.7, 3213S×7135W, h45km±2km, MD3.8, ML2.7, 9C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.41**	**191**	⇑*i*P	Pn	07 15 53.5	+0.2
ILCH	**Illapel**	**0.52**	**17**	⇑*i*P	Pn	07 15 55.4	+0.8
ILCH				*i* S	Sn	07 16 04.0	+1.6
ILCH				AMP		07 16 04.8	
	comp=N,1μm,0.2s						
JACH	**Jahuel**	**0.84**	**131**	⇑*i*P	Pn	07 15 59.6	+0.8
JACH				*i* S	Sn	07 16 11.6	+1.5
ROCH	**El Roble**	**0.89**	**162**	⇑*i*P	Pn	07 15 60.0	+0.5
ROCH				*i* S	Sn	07 16 12.1	+0.9
CMCH	**Combarbala**	**1.00**	**17**	*e*P	Pn	07 16 01.5	+0.6
CMCH				*i* S	Sn	07 16 15.5	+1.6
CMCH				AMP		07 16 17.9	
	comp=E,2μm,0.7s						
CMCH	**Combarbala**	**1.00**	**17**	*e*P	Pn	07 16 01.5	+0.6
CMCH				*i* S	Sn	07 16 15.5	+1.6
PEL	**Peldehue**	**1.15**	**151**	⇑*i*P	Pn	07 16 03.8	+0.7
PEL				*i* S	Sn	07 16 19.6	+1.9
PEL				AMP		07 16 20.9	
	comp=E,218nm,0.4s						
PEL	**Peldehue**	**1.15**	**151**	⇑*i*P	Pn	07 16 03.8	+0.7
PEL				*i* S	Sn	07 16 19.6	+1.9
LCCH	**Las Cruces**	**1.35**	**188**	*e*P	Pn	07 16 06.2	+0.4
RCDM	**Rinconada Maip**	**1.43**	**162**	⇑*i*P	Pn	07 16 07.5	+0.6
RCDM				*i* S	Sn	07 16 26.4	+2.0
RCDM				AMP		07 16 35.0	
	comp=E,213nm,0.2s						
RCDM	**Rinconada Maip**	**1.43**	**162**	⇑*i*P	Pn	07 16 07.5	+0.6
RCDM				*i* S	Sn	07 16 26.4	+2.0
CLCH	**Cerro Calan**	**1.43**	**152**	⇓*i*P	Pn	07 16 07.8	+0.9
CLCH				*i* S	Sn	07 16 26.4	+1.8
CLCH				AMP		07 16 29.0	
	comp=E,90nm,0.2s						
FCH	**Farellones**	**1.49**	**144**	*e*P	Pn	07 16 08.8	+1.1
FCH				*i* S	Sn	07 16 28.4	+2.5
FCH				AMP		07 16 34.8	
	comp=E,71nm,0.2s						
ANTU	**Antumapu**	**1.56**	**158**	*e*P	Pn	07 16 09.5	+0.9
ANTU				AMP		07 16 34.1	
	comp=E,94nm,0.2s						
TACH	**Talagante**	**1.56**	**167**	*e*P	Pn	07 16 09.6	+1.0
TACH				*i* S	Sn	07 16 28.7	+1.1
PCH	**Pirque**	**1.64**	**155**	*e*P	Pn	07 16 10.7	+0.9
PCH				*i* S	Sn	07 16 31.5	+1.8
LMEL	**Las Melosas**	**1.96**	**151**	*e*P	Pn	07 16 15.3	+1.1
LMEL				*i* S	Sn	07 16 39.8	+2.2
LMEL				AMP		07 16 46.0	
	comp=N,143nm,0.2s						
LMEL	**Las Melosas**	**1.96**	**151**	*e*P	Pn	07 16 15.3	+1.1
LMEL				*i* S	Sn	07 16 39.8	+2.2
CACH	**El Canelo**	**2.08**	**163**	⇑*i*P	Pn	07 16 17.4	+1.7
CACH				*i* S	Sn	07 16 43.7	+3.3
CICH	**Cipreses**	**2.32**	**161**	*i* P	Pn	07 16 19.6	+0.5

IDC 01 07:18:28.5±3.5, 4869S×12069E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/11, mbtmp3.7/3, MS3.9/4, Ms1 3.8/4, ms1mx3.5/19, Error ellipse: s-maj=120.9km s-min=64.3km az=121.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**15.96**	**349**	LR	LR	07 27 00.6	
	comp=Z,187nm,19.2s,baz=340,slow=32						
STKA	**Stephens Creek**	**23.04**	**51**	P	P	07 23 35.2	0.0
	1.5nm,0.8s,baz=194,slow=4.2,SNR=3.4						
STKA				LR	LR	07 30 24.4	
	comp=Z,187nm,19.1s,baz=206,slow=31						
ASAR	**Alice Springs**	**27.07**	**27**	P	P	07 24 13.1	+0.3
	1.1nm,0.8s,baz=193,slow=10,SNR=9.5						
WRA	**Warramunga Arr**	**30.71**	**26**	P	P	07 24 44.7	-0.4
	0.8nm,0.8s,baz=196,slow=8.0,SNR=4.5						
CTA	**Charters Tower**	**35.16**	**45**	LR	LR	07 39 33.2	
	comp=Z,89nm,18.9s,baz=229,slow=36						
RAO	**Raoul Island**	**50.11**	**91**	LR	LR	07 43 58.6	
	comp=Z,581nm,20.1s,baz=60,slow=30						
YKA	**Yellowknife Ar**	**146.98**	**44**	PKPbc	PKPbc	07 38 11.1	-2.0
	0.4nm,0.8s,baz=274,slow=2.4,SNR=9.0						

IDC 01 07:27:26.5±3.6, 4882S×12144E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/11, mbtmp3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx3.1/19, Error ellipse: s-maj=123.1km s-min=66.7km az=120.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.19**	**347**	LR	LR	07 36 16.3	
	comp=Z,96nm,19.7s,baz=294,slow=33						
STKA	**Stephens Creek**	**22.75**	**49**	P	P	07 32 30.4	+0.2
	1.2nm,0.7s,baz=207,slow=14,SNR=2.9						
STKA				LR	LR	07 40 53.1	
	comp=Z,96nm,19.3s,baz=44,slow=36						
ASAR	**Alice Springs**	**26.97**	**26**	P	P	07 33 09.9	+0.2
	0.9nm,0.8s,baz=191,slow=8.2,SNR=7.4						
WRA	**Warramunga Arr**	**30.62**	**24**	P	P	07 33 42.0	-0.3
	0.7nm,0.7s,baz=197,slow=7.6,SNR=4.9						
YKA	**Yellowknife Ar**	**146.73**	**45**	PKPbc	PKPbc	07 47 08.2	-2.1
	0.5nm,0.8s,baz=272,slow=3.0,SNR=6.5						

*SKO **01** 07:28:52.2,4081N×2288E,h25km,M2.6,ML2.1*
*ISCJB **01** 07:28:55.3±0.5,4093N±002×2275E±005,h10km,Error ellipse: s-maj=5.6km s-min=3.2km az=150.3*
*THE **01** 07:28:55.6,4093N×2276E,h10km,ML2.4*

**ISC 01 07:28:55.9±0.5,

MXZ	**Matakaoa Point**	**0.89 286**	PN	Pn	07 58 05.9	-0.5
MXZ			SN	Sn	07 58 17.6	-0.5
MXZ	**Matakaoa Point**	**0.89 286**	P	Pn	07 58 05.9	-0.5
MXZ			S	Sn	07 58 17.6	-0.5
PUZ	**Puketiti**	**0.93 253**	⇑PN	Pn	07 58 06.5	-0.5
PUZ			SN	Sn	07 58 18.1	-1.0
PUZ	**Puketiti**	**0.93 253**	⇑P	Pn	07 58 06.5	-0.5
MWZ	**Matawai**	**1.55 250**	PN	Pn	07 58 14.9	-0.7
MWZ			SN	Sn	07 58 33.3	-1.3
MWZ	**Matawai**	**1.55 250**	P	Pn	07 58 14.9	-0.7
KNZ	**Kokohu**	**1.81 227**	PN	Pn	07 58 18.6	-0.6
KNZ			eSN	Sn	07 58 40.5	-0.4
KNZ	**Kokohu**	**1.81 227**	P	Pn	07 58 18.6	-0.5
URZ	**Urewera**	**1.85 255**	PN	Pn	07 58 19.7	0.0
URZ			SN	Sn	07 58 41.4	-0.5
URZ	**Urewera**	**1.85 255**	P	Pn	07 58 19.7	0.0
PXZ	**Pawanui**	**2.97 221**	ePN	Pn	07 58 33.1	-1.9
KUZ	**Kuaotunu**	**3.10 289**	PN	Pn	07 58 36.1	-0.8
KUZ	**Kuaotunu**	**3.10 289**	P	Pn	07 58 36.1	-0.9

*MOS **01** 08:06:47.2±0.5, 3720N×7267E, h80km, mb4.1/3, Error ellipse: s-maj=30.4km s-min=12.4km az=100.7*
*IDC **01** 08:06:56.0±6.6, 3780N×7286E, h112km±53km, mb3.3/6, mb1 3.3/9, mb1mx3.2/22, mbtmp3.6/9, Error ellipse: s-maj=49.2km s-min=26.2km az=177.0*
*ISCJB **01** 08:06:56.6±0.9, 3790N±006×729E±0.1, h130km±11km, mb3.3/6, Error ellipse: s-maj=15.8km s-min=9.1km az=156.9*
*NNC **01** 08:07:04.3±4.8, 3848N×7267E, h172km±65km, mb2.5, mpv3.5, Error ellipse: s-maj=49.8km s-min=21.7km az=10.0*

ISC 01 08:06:57.7±0.8, 3790N±005×729E±01, h127km±10km, n26, σ0§91/30, mb3.4/6, 6C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.27**	**8**	P	**Pn**	**08 08 01.1**	**+0.1**
	SNR=69						
UCH	**Uchtor**	**4.50**	**16**	P	**Pn**	**08 08 04.5**	**+0.5**
	SNR=18						
KZA	**Kyzart**	**4.56**	**23**	P	**Pn**	**08 08 05.1**	**+0.4**
	SNR=19						
EKS2	**Erkin-Say**	**4.80**	**8**	P	**Pn**	**08 08 08.6**	**+0.5**
	SNR=18						
AAK	**Ala-Archa**	**4.89**	**14**	P	**Pn**	**08 08 10.9**	**+1.7**
	SNR=14						
CHMS	**Chumysh**	**5.29**	**15**	P	**Pn**	**08 08 07.5**	**-7.1**
	SNR=5.4						
TKM2	**Tokmak 2**	**5.43**	**22**	⇑P	**Pn**	**08 08 16.5**	**0.0**
	0.7nm,0.3s						
TKM2				⇑S	**Sn**	**08 09 16.3**	**-1.6**
	4.3nm,0.6s						
KK31	**Karatay Array**	**5.49**	**342**	⇑P	**Pn**	**08 08 17.0**	**-0.3**
	9.7nm,0.4s,baz=157,slow=12,SNR=108						
KK31				⇑S	**Sn**	**08 09 13.9**	**-5.4**
	9.7nm,0.3s,baz=148,slow=23,SNR=16						
KKAR	**Karatay Array**	**5.49**	**342**	ePN	**Pn**	**08 08 17.1**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
THN	**Thein Dam**	**5.94**	**156**	eP	**Pn**	**08 08 24.5**	**+1.2**
THN				eS	**Sn**	**08 09 28.4**	**-1.7**
MKAR	**Makanchi Array**	**11.29**	**35**	P	**Pn**	**08 09 34.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=4.8						
AB31	**Akbulak array**	**14.68**	**325**	⇑P	**Pn**	**08 10 17.5**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=135,slow=13,SNR=42						
AB31				⇑S	**Sn**	**08 12 50.5**	**-11**
	comp=Z,0.9nm,0.6s,baz=130,slow=24,SNR=5.2						
AB31	**Akbulak array**	**14.68**	**325**	P	**Pn**	**08 10 17.6**	**-1.5**
BVAR	**Borovoye Array**	**15.22**	**354**	P	**Pn**	**08 10 27.5**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=159,slow=8.3,SNR=5.9						
AKTO	**Aktyubinsk**	**16.40**	**325**	⇓P	**Pn**	**08 10 39.8**	**-0.6**
	comp=Z,0.4nm,0.6s						
AKTO	**Aktyubinsk**	**16.40**	**325**	P	**Pn**	**08 10 40.1**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=116,slow=10.0,SNR=16						
AKTO	**Aktyubinsk**	**16.40**	**325**	P	**Pn**	**08 10 40.1**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**26.32**	**57**	P	**P**	**08 12 22.2**	**+0.6**
	comp=Z,0.3nm,0.7s,mb2.8,baz=253,slow=8.7,SNR=3.8						
FINES	**FINESS Array B**	**37.17**	**325**	P	**P**	**08 13 56.4**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.7,baz=112,slow=9.3,SNR=7.1						
ARCES	**ARCESS Array B**	**40.43**	**336**	P	**P**	**08 14 23.6**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.0,baz=60,slow=5.8,SNR=3.9						
ARCES	**ARCESS Array B**	**40.43**	**336**	P	**P**	**08 14 23.6**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**44.17**	**322**	P	**P**	**08 14 53.5**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.4,baz=84,slow=7.7,SNR=2.6						
NOA	**NORSAR Array B**	**44.17**	**322**	P	**P**	**08 14 53.5**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.23**	**269**	P	**P**	**08 17 38.6**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=54,slow=5.8,SNR=7.1						
YKA	**Yellowknife Ar**	**79.77**	**4**	P	**P**	**08 18 51.3**	**-0.3**
	comp=Z,0.1nm,0.3s,mb3.1,baz=348,slow=5.6,SNR=6.3						
YKA	**Yellowknife Ar**	**79.77**	**4**	P	**P**	**08 18 51.3**	**-0.4**

*ISCJB **01** 08:11:46.5±0.3, 5619N±003×16448E±004, h10km, mb3.9/15, MS3.7/8, Error ellipse: s-maj=4.6km s-min=3.3km az=13.0*
*MOS **01** 08:11:46.8±1.0, 5620N×16447E, h15km, mb4.3/12, Error ellipse: s-maj=13.9km s-min=8.4km az=67.4*
*IDC **01** 08:11:46.6±0.7, 5625N×16433E, h0km, mb3.8/12, mb1 4.1/14, mb1mx4.0/24, mbtmp4.0/14, ML4.2/2, MS3.8/8, Ms1 3.8/8, ms1mx3.4/25, Error ellipse: s-maj=17.7km s-min=12.8km az=16.0*
*KRSC **01** 08:11:48.4±0.9, 5616N×16438E, h18km±2km, ML4.7*
*NEIC **01** 08:11:51.9±0.9, 5615N×16442E, h42km±11km, mb4.4/3, Error ellipse: s-maj=11.7km s-min=7.9km az=143.0*

ISC 01 08:11:47.9±0.3, 5618N±003×16444E±004, h10km, n79, σ1§25/106, mb3.9/15, MS3.7/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.91**	**272**	P	**Pg**	**08 12 04.2**	**-1.2**
KBTR				S	**Sg**	**08 12 15.4**	**-1.8**
KBTR	**Krutoberegovo**	**0.91**	**272**	*i* P	**Pg**	**08 12 04.3**	**-1.1**
KBTR				*i* S	**Sg**	**08 12 16.1**	**-1.1**
KBG	**Krutoberegovo**	**0.97**	**275**	eP	**Pg**	**08 12 05.4**	**-1.2**
KBG				eS	**Sg**	**08 12 18.2**	**-1.1**
KBG				Smax			
	25μm,0.5s						
BKI	**Bering**	**1.31**	**138**	*i* P	**Pn**	**08 12 10.9**	**-1.3**
BKI				*i* S	**Sb**	**08 12 27.9**	**-1.5**
BKI				Smax			
	13μm,1.0s						
SMKR	**Semkarok**	**1.70**	**285**	P	**Pn**	**08 12 17.9**	**+0.3**
SMKR				eS	**Sn**	**08 12 38.5**	**-0.9**
BDR	**Baidarnaya**	**1.84**	**283**	*i* P	**Pn**	**08 12 19.8**	**+0.3**
BDR				eS	**Sn**	**08 12 42.0**	**-0.8**
SRKR	**Sorokina**	**1.88**	**286**	*i* P	**Pn**	**08 12 20.1**	**0.0**
SRKR				eS	**Sn**	**08 12 42.6**	**-1.2**
ZLN	**Zelenaya**	**2.04**	**267**	*i* P	**Pn**	**08 12 23.1**	**+0.8**
ZLN				eS	**Sn**	**08 12 48.1**	**+0.2**
CIRR	**Tsirk**	**2.07**	**270**	*i* P	**Pn**	**08 12 23.3**	**+0.7**
CIRR				eS	**Sn**	**08 12 48.5**	**0.0**
KLY	**Klyuchi**	**2.12**	**275**	P	**Pn**	**08 12 22.2**	**-1.1**
KLY				S	**Sn**	**08 12 46.4**	**-3.3**
KLY	**Klyuchi**	**2.12**	**275**	*i* P	**Pn**	**08 12 22.1**	**-1.2**
KLY				eS	**Sn**	**08 12 46.6**	**-3.1**
MKZ	**Mys Kozlova**	**2.25**	**225**	P	**Pn**	**08 12 24.3**	**-0.8**
MKZ				S	**Sn**	**08 12 49.9**	**-3.0**
MKZ	**Mys Kozlova**	**2.25**	**225**	*i* P	**Pn**	**08 12 24.3**	**-0.8**
MKZ				*i* S	**Sn**	**08 12 50.8**	**-2.1**
KPT	**Kopyto**	**2.38**	**267**	*i* P	**Pn**	**08 12 28.0**	**+1.1**
KPT				eS	**Sn**	**08 12 56.2**	**+0.1**
KOZR	**Kozyr**	**2.55**	**269**	PN	**Pn**	**08 12 31.3**	**+2.1**
KOZR				S	**Sn**	**08 13 02.3**	**+2.0**
KOZ	**Kozyrevsk**	**2.56**	**269**	P	**Pn**	**08 12 31.3**	**+1.9**
KOZ				S	**Sn**	**08 13 02.3**	**+1.7**
KOZ	**Kozyrevsk**	**2.56**	**269**	*i* P	**Pn**	**08 12 31.4**	**+2.0**
SRDR	**Sredinnyy**	**2.64**	**275**	*i* P	**Pn**	**08 12 31.8**	**+1.3**
SRDR				*i* S	**Sn**	**08 13 03.6**	**+1.0**
ESO	**Esso**	**3.23**	**268**	*i* P	**Pn**	**08 12 39.5**	**+0.9**
ESO				eS	**Sn**	**08 13 17.7**	**+0.5**
ESO				Smax			
	520nm,0.9s						
SPN	**Mys Shipunski**	**4.02**	**222**	eP	**Pn**	**08 12 49.0**	**-0.4**
SPN				*i* S	**Sn**	**08 13 32.1**	**-4.5**
NLC	**Nalytchevo**	**4.22**	**227**	eP	**Pn**	**08 12 52.5**	**+0.2**
NLC				eS	**Sn**	**08 13 39.1**	**-2.6**
SMAR	**Somma**	**4.39**	**231**	*i* P	**Pn**	**08 12 55.6**	**+1.1**
SMAR				eS	**Sn**	**08 13 44.1**	**-1.6**
AVH	**Avacha**	**4.41**	**231**	*i* P	**Pn**	**08 12 56.2**	**+1.3**
AVH				eS	**Sn**	**08 13 45.6**	**-0.7**
UGLR	**Uglovaya**	**4.42**	**230**	eP	**Pn**	**08 12 56.0**	**+1.1**
KOK	**Koryaka**	**4.44**	**232**	eP	**Pn**	**08 12 56.6**	**+1.4**
GNL	**Ganaly**	**4.50**	**239**	eP	**Pn**	**08 12 57.7**	**+1.6**
PET	**Petropavlovsk**	**4.62**	**229**	P	**Pn**	**08 12 58.5**	**+0.8**
PET				S	**Sn**	**08 13 49.1**	**-2.3**
PET	**Petropavlovsk**	**4.62**	**229**	eP	**Pn**	**08 12 58.4**	**+0.7**
PET				eS	**Sn**	**08 13 49.2**	**-2.2**
PET	**Petropavlovsk**	**4.62**	**229**	ePn	**Pn**	**08 12 58.3**	**+0.6**
PET				eSn	**Sn**	**08 13 48.9**	**-2.5**
PET	**Petropavlovsk**	**4.62**	**229**	ePN	**Pn**	**08 12 58.7**	**+1.0**
PET				pmax	pmax		
	comp=Z,122nm,0.5s						
PET				MLR	MLR		
	comp=Z,500nm,12.0s						
KRMR	**Karymshinskiy**	**4.98**	**230**	eP	**Pn**	**08 13 03.8**	**+1.1**
KRMR				eS	**Sn**	**08 13 58.6**	**-1.7**
RUS	**Russkaya**	**5.11**	**225**	P	**Pn**	**08 13 04.9**	**+0.4**
RUS				S	**Sn**	**08 14 00.1**	**-3.5**
RUS	**Russkaya**	**5.11**	**225**	eP	**Pn**	**08 13 04.8**	**+0.3**
RUS				eS	**Sn**	**08 14 00.2**	**-3.4**
GRL	**Gorelyy**	**5.20**	**228**	eP	**Pn**	**08 13 07.2**	**+1.4**
APC	**Apacha**	**5.35**	**235**	*i* P	**Pn**	**08 13 10.3**	**+2.6**
MIPR	**Malaya Ipel'ka**	**5.97**	**232**	*i* P	**Pn**	**08 13 18.6**	**+2.4**
FX1	**Attu Island--F**	**6.06**	**119**	Pn	**Pn**	**08 13 17.1**	**-0.3**
	comp=Z,20nm,0.3s,baz=355,slow=8.5,SNR=37						
FX1	**Attu Island--F**	**6.06**	**119**	ePn	**Pn**	**08 13 18.1**	**+0.6**
FX1				eSn	**Sn**	**08 14 22.5**	**-4.4**
FX1	**Attu Island--F**	**6.06**	**119**	PN	**Pn**	**08 13 17.1**	**-0.4**
FX1				pmax	pmax		
	comp=Z,20nm,0.3s						
KAMR	**Kamenskoye**	**6.36**	**7**	*i* P	**Pn**	**08 13 22.6**	**+1.0**
KAMR				*i* S	**Sn**	**08 14 32.2**	**-2.1**
KAMR				Smax			
	comp=Z,150nm,1.1s						
PAU	**Pauzhetka**	**6.53**	**227**	eP	**Pn**	**08 13 25.5**	**+1.5**
BILL	**Bilibino**	**11.93**	**3**	ePn	**Pn**	**08 14 40.3**	**+2.3**
	comp=Z,9.1nm,0.6s						
BILL	**Bilibino**	**11.93**	**3**	ePN	**Pn**	**08 14 40.4**	**+2.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**16.28**	**245**	eP	**Pn**	**08 15 38.0**	**+1.4**
ASAJ	**Asahikawa**	**18.39**	**238**	P	**Pn**	**08 16 02.4**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=29,slow=6.6,SNR=20						
ASAJ				LR	LR	08 24 02.1	
	comp=Z,270nm,20.2s,baz=184,slow=40						
ASAJ	**Asahikawa**	**18.39**	**238**	P	**Pn**	**08 16 02.4**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,270nm,20.2s						
TIXI	**Tiksi**	**21.50**	**330**	eP	**P**	**08 16 35.3**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,119nm,13.0s,MS3.5						
ILAR	**Eielson Array**	**24.86**	**50**	P	**P**	**08 17 10.7**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.3,baz=255,slow=5.9,SNR=10						
ILAR				LR	LR	08 28 30.0	
	comp=Z,88nm,18.6s,MS3.3,baz=269,slow=40						
ILAR	**Eielson Array**	**24.86**	**50**	P	**P**	**08 17 10.7**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,88nm,18.6s						
MAT	**Matsushiro**	**26.44**	**233**	P	**P**	**08 17 24.5**	**-0.3**
MAT	**Matsushiro**	**26.44**	**233**	eP	**P**	**08 17 25.0**	**+0.2**
	comp=Z,4.1nm,0.7s,mb4.1						
MAT	**Matsushiro**	**26.44**	**233**	eP	**P**	**08 17 25.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
MJAR	**Matsushiro Arr**	**26.44**	**233**	P	**P**	**08 17 25.6**	**+0.8**
	comp=Z,5.1nm,0.7s,mb4.2,baz=34,slow=7.3,SNR=16						
MJAR				LR	LR	08 28 17.1	
	comp=Z,152nm,19.3s,MS3.6,baz=125,slow=38						
MJAR	**Matsushiro Arr**	**26.44**	**233**	P	**P**	**08 17 25.6**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,152nm,19.3s						
INK	**Inuvik**	**29.88**	**41**	P	**P**	**08 17 55.5**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=270,slow=5.2,SNR=4.9						
INK	**Inuvik**	**29.88**	**41**	P	**P**	**08 17 55.5**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**35.71**	**282**	P	**P**	**08 18 46.3**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=58,slow=7.3,SNR=11						
SONM				LR	LR	08 34 52.5	
	comp=Z,128nm,18.2s,MS3.7,baz=324,slow=39						
SONM	**Songino Array**	**35.71**	**282**	P	**P**	**08 18 46.3**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,128nm,18.2s						
YKA	**Yellowknife Ar**	**39.19**	**47**	P	**P**	**08 19 16.3**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=299,slow=8.2,SNR=7.8						
YKA	**Yellowknife Ar**	**39.19**	**47**	P	**P**	**08 19 16.3**	**+0.4**
YKA	**Yellowknife Ar**	**39.19**	**47**	P	**P**	**08 19 16.3**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**49.09**	**296**	P	**P**	**08 20 33.8**	**-1.6**
	comp=Z,0.4nm,0.8s,mb3.5,baz=45,slow=6.0,SNR=5.8						
BVAR	**Borovoye Array**	**50.44**	**309**	P	**P**	**08 20 44.9**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.4,baz=59,slow=7.3,SNR=16						
BVAR	**Borovoye Array**	**50.44**	**309**	P	**P**	**08 20 44.9**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	**Zerenda**	**51.10**	**309**	eP	**P**	**08 20 49.8**	**-0.8**
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**51.10**	**309**	eP	**P**	**08 20 49.8**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ARCES	**ARCESS Array B**	**51.11**	**343**	LR	LR	08 44 00.9	
	comp=Z,57nm,20.0s,MS3.6,baz=193,slow=38						
AKTK	**Aktyubinsk**	**57.57**	**313**	P	**P**	**08 21 37.0**	**-0.7**
AKTO	**Aktyubinsk**	**57.57**	**313**	P	**P**	**08 21 37.0**	**-0.7**
	comp=Z,0.8nm,0.5s,mb4.0,baz=51,slow=14,SNR=3.3						
AKTO	**Aktyubinsk**	**57.57**	**313**	P	**P**	**08 21 37.0**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**58.25**	**338**	P	**P**	**08 21 41.3**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=293,slow=7.2,SNR=2.5						
FINES				LR	LR	08 53 14.6	
	comp=Z,87nm,18.0s,MS3.9,baz=357,slow=43						
NB2	**NORSAR Subarra**	**61.23**	**346**	P	**P**	**08 22 01.2**	**-1.8**
	comp=Z,3.4nm,0.9s,mb4.5,baz=18,slow=6.9						
NB2	**NORSAR Subarra**	**61.23**	**346**	P	**P**	**08 22 01.2**	**-1.8**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
NOA	**NORSAR Array B**	**61.23**	**346**	P	**P**	**08 22 01.3**	**-1.7**
	comp=Z,1.2nm,0.6s,mb4.2,baz=18,slow=6.8,SNR=5.2						
NOA	**NORSAR Array B**	**61.23**	**346**	P	**P**	**08 22 01.3**	**-1.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GNI	**Garni**	**71.33**	**315**	LR	LR	08 55 50.1	
	comp=Z,69nm,20.1s,MS3.9,baz=0.9,slow=37						
GERES	**GERESS Array B**	**72.53**	**340**	LR	LR	09 03 47.4	
	comp=Z,105nm,18.3s,MS4.2,baz=295,slow=43						
WRA	**Warramunga Arr**	**79.98**	**209**	P	**P**	**08 23 56.9**	**-0.4**
	comp=Z,0.3nm,0.8s,mb3.3,baz=8.8,slow=5.4,SNR=3.4						
ASAR	**Alice Springs**	**83.65**	**208**	P	**P**	**08 24 17.5**	**+0.9**
	comp=Z,0.2nm,0.6s,mb3.4,baz=22,slow=5.3,SNR=2.6						

IDC 01 08:46:07.7±2.3, 3517N×8924E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML2.7/1, MS3.4/1, Ms1 3.3/1, ms1mx2.6/16, Error ellipse: s-maj=76.6km s-min=32.8km az=75.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.73**	**338**	Pn	Pn	08 49 07.7	-2.4
	0.0nm,0.3s,baz=151,slow=14,SNR=3.4						
SONM	**Songino Array**	**17.98**	**40**	P	Pn	08 50 19.2	+0.1
	baz=230,slow=13,SNR=4.8						
ZAL	**Zalesovo**	**19.02**	**352**	LR	LR	08 58 46.6	
	comp=Z,96nm,18.1s,baz=322,slow=40						
WRA	**Warramunga Arr**	**69.54**	**135**	P	P	08 57 19.6	+1.3
	0.3nm,0.6s,baz=330,slow=6.4,SNR=6.0						
ASAR	**Alice Springs**	**72.22**	**137**	P	P	08 57 33.5	-1.1
	0.7nm,0.9s,baz=321,slow=6.2,SNR=4.1						

*ISCJB **01** 08:48:18.7±1.0, 3824N±004×2651E±006, h12km±5km, Error ellipse: s-maj=8.4km s-min=7.1km az=154.7*
*CSEM **01** 08:48:19.9±0.1, 3820N×2671E, h30km, MD2.8, Error ellipse: s-maj=3.4km s-min=2.0km az=135.0*
*ATH **01** 08:48:19.6, 3822N×2634E, h22km±6km, MD3.0/3*
*ISK **01** 08:48:19.2, 3832N×2659E, h29km, MD2.8*

ISC 01 08:48:19.2±0.9, 3828N±004×2651E±007, h16km±5km, n12, σ1§09/18, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.10**	**42**	*i* P	**Pg**	**08 48 22.1**	**-0.6**
URLA				*i* S	**Sg**	**08 48 24.1**	**-0.8**
BLCB	**Balcova**	**0.43**	**76**	PG	**Pg**	**08 48 27.9**	**-0.1**
BLCB				SG	**Sg**	**08 48 34.0**	**+0.1**
IZM	**Izmir**	**0.60**	**79**	PG	**Pg**	**08 48 31.3**	**+0.1**
IZM				SG	**Sg**	**08 48 40.0**	**+0.8**
KDAG	**Bornova**	**0.61**	**78**	*i* P	**Pg**	**08 48 31.2**	**0.0**
KDAG				*i* S	**Sg**	**08 48 40.1**	**+0.8**
SMG	**Samos**	**0.63**	**156**	ePB	**Pb**	**08 48 31.3**	**-0.6**
SMG				eSN	**Sg**	**08 48 42.0**	**+2.0**
PRK	**Paraskevi**	**0.98**	**349**	ePN	**Pn**	**08 48 39.4**	**+1.1**
PRK				eSN	**Sn**	**08 48 53.8**	**+2.0**
AKS	**Akhisar**	**1.18**	**59**	PN	**Pn**	**08 48 39.1**	**-2.0**
BODT	**Bodrum**	**1.38**	**152**	ePN	**Pn**	**08 48 42.4**	**-1.3**
APE	**Apeiranthos**	**1.44**	**213**	ePN	**Pn**	**08 48 45.0**	**+0.4**
APE	**Apeiranthos**	**1.44**	**213**	eP	**Pn**	**08 48 44.7**	**+0.1**
APE	**Apeiranthos**	**1.44**	**213**	ePn	**Pn**	**08 48 45.0**	**+0.4**
BALB	**Balikesir**	**1.73**	**38**	ePN	**Pn**	**08 48 46.9**	**-1.7**

IDC 01 08:57:49.1±8.8, 033N×12226E, h191km±88km, mb3.2/4, mb1 3.3/4, mb1mx3.2/18, mbtmp3.7/4, Error ellipse: s-maj=120.4km s-min=16.8km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**150**	P	P	09 02 40.1	-0.4
	2.1nm,0.5s,baz=326,slow=11,SNR=31						
ASAR	**Alice Springs**	**26.40**	**159**	P	P	09 03 08.8	+0.9
	0.6nm,0.5s,baz=334,slow=9.6,SNR=16						
ASAR				PcP	PcP	09 06 28.2	0.0
	0.3nm,0.3s,baz=345,slow=2.0,SNR=7.2						
SONM	**Songino Array**	**49.28**	**346**	P	P	09 06 18.6	+0.1
	0.6nm,0.7s,baz=161,slow=9.0,SNR=6.2						
MKAR	**Makanchi Array**	**57.95**	**329**	P	P	09 07 21.5	+0.1
	0.7nm,0.5s,baz=129,slow=8.5,SNR=17						

*ISCJB **01** 09:11:13.5±0.7, 2810S±003×709W±0.1, h54km±10km, mb3.9/2, Error ellipse: s-maj=19.0km s-min=5.7km az=3.7*
*GUC **01** 09:11:13.5±0.5, 2809S×7085W, h43km±3km, ML4.0*
*IDC **01** 09:11:14.3±1.1, 2819S×7094W, h51km±6km, mb3.7/2, mb1 3.7/5, mb1mx3.5/16, mbtmp3.8/5, Error ellipse: s-maj=45.9km s-min=24.2km az=91.0*

ISC 01 09:11:14.3±0.8, 2806S±004×710W±01, h52km±11km, n13, σ0§93/15, mb3.9/2, 1C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.90**	**39**	⇓*i* P	**Pn**	**09 11 29.7**	**-1.1**
CPCH				*i* S	**Sn**	**09 11 41.5**	**-1.3**
CPCH				AMP		09 11 43.8	
	comp=E,40μm,0.1s						
CDCH	**Caldera**	**1.00**	**8**	eP	**Pn**	**09 11 31.9**	**-0.1**
CDCH				*i* S	**Sn**	**09 11 45.6**	**+0.6**
CDCH				AMP		09 11 47.4	
	comp=N,1μm,0.2s						
CRCH	**Chaqaral**	**1.74**	**11**	⇑*i* P	**Pn**	**09 11 42.2**	**+0.1**
CRCH				*i* S	**Sn**	**09 12 03.6**	**+0.5**
CRCH				AMP		09 12 11.4	
	comp=E,950nm,0.3s						
LSCH	**La Serena**	**1.85**	**187**	eP	**Pn**	**09 11 43.5**	**-0.1**
LSCH				AMP		09 12 19.5	
	comp=E,2μm,0.2s						
CMCH	**Combarbala**	**3.10**	**180**	eP	**Pn**	**09 12 00.4**	**-0.3**
CMCH				eS	**Sn**	**09 12 36.7**	**+0.2**
CMCH				AMP		09 13 00.1	
	comp=E,2μm,0.9s						
CFAA	**Coronel Fontan**	**4.26**	**147**	P	**Pn**	**09 12 16.6**	**0.0**
	comp=E,1.5nm,0.3s,baz=336,slow=11,SNR=64						
CFAA				S	**Sn**	**09 13 06.1**	**+1.0**
	comp=E,1.6nm,0.3s,baz=100,slow=23,SNR=11						
LPAZ	**La Paz**	**12.01**	**13**	P	**Pn**	**09 14 06.5**	**+3.8**
	comp=E,0.3nm,0.3s,baz=186,slow=9.8,SNR=7.0						
SIV	**San Ignacio**	**15.12**	**39**	P	**Pn**	**09 14 47.5**	**+3.0**
	comp=E,0.2nm,0.3s,baz=

SIV	**San Ignacio**	**10.26**	**40**	P	**Pn**	**09 29 53.4**	**-3.2**
	comp=N,11nm,0.3s,baz=237,slow=10,SNR=391						
TRQA	**Tornquist**	**14.85**	**162**	*e*Pn	**Pn**	**09 30 56.2**	**-0.3**
	comp=N,13nm,0.8s						
PLCA	**Paso Flores**	**16.78**	**187**	P	**Pn**	**09 31 21.3**	**+0.7**
	comp=N,0.1nm,0.3s,baz=14,slow=9.3,SNR=4.1						
PLCA	**Paso Flores**	**16.78**	**187**	*e*P	**Pn**	**09 31 22.8**	**+2.2**
	comp=N,1.9nm,0.5s						
BDFB	**Brasilia**	**20.46**	**70**	P	**P**	**09 32 00.7**	**-0.2**
	comp=N,17nm,0.7s,baz=252,slow=11,SNR=35						
SNAA	**Sanae**	**59.57**	**161**	P	**P**	**09 37 23.9**	**0.0**
	comp=N,1.6nm,1.0s,mb4.0,baz=275,slow=11,SNR=5.4						
SNAA	**Sanae**	**59.57**	**161**	*e*P	**P**	**09 37 24.1**	**+0.2**
	comp=N,11nm,1.3s,mb4.7						
QSPA	**South Pole Qui**	**66.15**	**180**	*e*P	**P**	**09 38 07.5**	**+0.1**
	comp=N,10nm,0.5s,mb4.9						
DBIC	**Dimbokro**	**68.59**	**72**	P	**P**	**09 38 22.9**	**0.0**
	comp=N,1.3nm,0.7s,mb3.9,baz=171,slow=9.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**77.35**	**69**	P	**P**	**09 39 15.2**	**+0.8**
	comp=N,2.9nm,0.5s,mb4.3,baz=257,slow=5.7,SNR=43						
YKA	**Yellowknife Ar**	**93.89**	**340**	P	**P**	**09 40 36.5**	**-0.4**
	comp=N,0.7nm,0.7s,mb4.1,baz=132,slow=4.4,SNR=18						
YKA	**Yellowknife Ar**	**93.89**	**340**	P	**P**	**09 40 36.5**	**-0.4**
ESK	**Eskdalemuir**	**96.26**	**31**	P	**P**	**09 40 47.2**	**-0.5**
	comp=N,48nm,1.1s,mb5.8						
WRA	**Warramunga Arr**	**131.20**	**208**	PKP	PKPdf	09 46 32.3	+1.5
	comp=N,0.7nm,0.4s,baz=154,slow=1.7,SNR=25						
MKAR	**Makanchi Array**	**147.08**	**39**	PKPbc	PKPbc	09 47 00.2	-1.5
	comp=N,1.8nm,0.8s,baz=292,slow=2.4,SNR=4.6						

*IDC **01** 09:36:38.8±0.5,3522N×8961E,h0km,mb4.7/24, mb1 4.8/27,mb1mx4.8/27,mbtmp4.6/27,ML3.7/3,MS4.3/17, Ms1 4.3/17,ms1mx4.1/20,Error ellipse: s-maj=16.6km s-min=12.6km az=49.0*

*ISCJB **01** 09:36:39.6±0.1,3537N±002×8955E±002,h10km, mb4.9/94,MS4.5/38,Error ellipse: s-maj=3.2km s-min=2.6km az=169.6*

*LDG **01** 09:36:40.0±0.3,3556N×8937E,h10km,Mb5.4/21,Ms4.1/8, Error ellipse: s-maj=15.4km s-min=8.5km az=146.0*

*NEIC **01** 09:36:40.2±2.3,3529N×8954E,h6km±14km,mb5.2/44, MS4.5/2,Error ellipse: s-maj=5.2km s-min=3.8km az=211.0*

*BJI **01** 09:36:40.3,3548N×8965E,h7km,mB5.2,mb4.7,Ms5.0, Msz4.7*

*HRVD **01** 09:36:40.2±0.3,3540N×8967E,h19km±1km,MW5.1/67, Centroid moment Tensor Solution. LP body waves: s36,c55;Mantle waves: s67,c129; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.96±.26; $M_{\theta\theta}$-1.44±.18; $M_{\phi\phi}$4.41±.19; $M_{r\theta}$-0.90±.48; $M_{\theta\phi}$3.30±.14; $M_{\phi r}$2.16±.43; Best double couple: M_o5.48000×10^{16} NP1:ϕ_s60.00000°,δ50.00000°,λ-31.00000°. NP2: ϕ_s171.00000°,δ67.00000°,λ-136.00000°. Principal axes: T 6.1850, Plg10.0000°, Azm292.0000°; N -1.4010, Plg41.0000°, Azm193.0000°; P -4.7740, Plg47.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **01** 09:36:42.2,3530N×9044E,h33km,mb5.1,Qinghai, China*

*MOS **01** 09:36:42.4±0.9,3529N×8953E,h33km,mb5.2/60, MS4.4/25,Error ellipse: s-maj=7.8km s-min=4.7km az=114.2*

ISC 01 09:36:41.6±0.1,3540N±002×8959E±002,h10km, (h33km±1.2km:pP-P),n284,σ1§14/300,mb4.9/94,MS4.5/38, 7C-8D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.83**	**167**	P	**Pn**	**09 38 12.1**	**+4.0**
LSA				SG	**Sg**	**09 39 47.5**	**-1.3**
LSA				LR	LR		
	comp=N,2μm,10.8s						
LSA				LR	LR		
	comp=E,6μm,12.0s						
LSA				LR	LR		
	comp=Z,4μm,10.8s						
LSA	**Lhasa**	**5.83**	**167**	*e*Pn	**Pn**	**09 38 11.9**	**+3.8**
	comp=Z,66nm,0.8s						
LSA	**Lhasa**	**5.83**	**167**	*e*P	**Pn**	**09 38 11.9**	**+3.8**
LSA				pmax	pmax		
	comp=Z,66nm,0.8s						
GUN	**Gumba**	**8.11**	**204**	*e*P	**Pn**	**09 38 41.0**	**+1.7**
	comp=Z,85nm,1.0s						
JIRN	**Jiri**	**8.24**	**202**	*e*P	**Pn**	**09 38 42.4**	**+1.2**
	comp=Z,70nm,1.1s						
KKN	**Kakani**	**8.43**	**207**	*e*P	**Pn**	**09 38 45.2**	**+1.5**
GKN	**Gorkha**	**8.49**	**211**	*e*P	**Pn**	**09 38 46.4**	**+1.8**
	comp=Z,141nm,1.3s						
WMQ	**Urumqi**	**8.54**	**351**	P	**Pn**	**09 38 48.4**	**+3.2**
WMQ				AP		09 38 55.3	
WMQ				S	**Sn**	**09 40 24.2**	**+2.7**
WMQ				XS		09 40 34.6	
WMQ				PCP	PcP	09 45 17.4	+2.4
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,93nm,4.4s						
WMQ				LR	LR		
	comp=N,6μm,10.0s						
WMQ				LR	LR		
	comp=E,14μm,11.0s						
WMQ				LR	LR		
	comp=Z,5μm,11.0s						
PKI	**Pulchoki**	**8.58**	**206**	*e*P	**Pn**	**09 38 47.0**	**+1.2**
	comp=Z,46nm,0.8s						
DMN	**Daman**	**8.66**	**207**	*e*P	**Pn**	**09 38 48.7**	**+1.9**
	comp=Z,77nm,0.9s						
GTA	**Gaotai**	**9.06**	**61**	*e*P	**Pn**	**09 38 53.7**	**+1.3**
GTA				AP		09 39 02.6	
GTA				S	**Sn**	**09 40 34.1**	**-0.4**
GTA				XS		09 40 45.5	
GTA				AMB	AMB		
	comp=Z,18nm,1.2s						
GTA				AMB	AMB		
	comp=Z,276nm,6.1s						
GTA				LR	LR		
	comp=N,6μm,17.5s						
GTA				LR	LR		
	comp=E,3μm,15.2s						
GTA				LR	LR		
	comp=Z,3μm,14.4s						
KOLN	**Koldanda**	**9.16**	**216**	*e*P	**Pn**	**09 38 53.2**	**-0.5**
SHL	**Shillong**	**10.00**	**168**	*e*P	**Pn**	**09 39 02.0**	**-3.2**
SHL				*ex*	x	09 42 04.0	
SHL	**Shillong**	**10.00**	**168**	*e*P	**Pn**	**09 39 05.0**	**-0.2**
KLP	**Kalpa**	**10.23**	**251**	*e*P	**Pn**	**09 39 10.4**	**+2.1**
DDI	**Dehra Dun**	**10.94**	**246**	*e*P	**Pn**	**09 39 21.0**	**+2.9**
DDI				*ex*	x	09 43 46.5	
KSH	**Kashi**	**11.57**	**295**	P	**Pn**	**09 39 29.6**	**+2.8**
KSH				AP		09 39 37.2	
KSH				*e*PP		09 39 40.0	
KSH				*e*XP		09 39 42.4	
KSH				PPP		09 39 47.2	
KSH				S	**Sn**	**09 41 36.9**	**+0.8**
KSH				XS		09 41 48.1	
KSH				SS		09 41 51.8	
KSH				*e*PCP	PcP	09 45 24.2	+6.3
KSH				SCP	ScP	09 48 51.1	+0.4
KSH				PCS	PcS	09 48 54.2	+2.4
KSH				AMB	AMB		
	comp=Z,82nm,1.2s						
KSH				LR	LR		
	comp=N,4μm,7.0s						
KSH				LR	LR		
	comp=E,7μm,6.9s						
KSH				LR	LR		
	comp=Z,3μm,7.8s						
LZH	**Lanzhou**	**11.61**	**82**	⇑P	**Pn**	**09 39 29.0**	**+1.8**
LZH				PP		09 39 41.6	
LZH				S	**Sn**	**09 41 36.7**	**-0.1**
LZH				XS		09 41 50.8	
LZH				SS		09 41 52.6	
LZH				AMB	AMB		
	comp=Z,67nm,1.1s						
LZH				AMB	AMB		
	comp=Z,243nm,4.2s						
LZH				LR	LR		
	comp=N,3μm,7.1s						
LZH				LR	LR		
	comp=Z,4μm,9.8s						
BOK	**Bokaro**	**12.00**	**197**	*e*P	**Pn**	**09 39 28.9**	**-3.8**
BOK				AMb	AMB	09 39 41.5	
	comp=Z,30nm,1.2s						
BOK				*e*S	**Sn**	**09 41 30.1**	**-17**
NDI	**New Delhi**	**12.45**	**241**	*e*P	**Pn**	**09 39 40.0**	**+1.3**
NDI				*ex*	x	09 41 20.0	
NDI				*ex*	x	09 43 30.0	
NDI				*ex*	x	09 43 34.0	
AAA	**Alma-Ata**	**12.54**	**313**	*i* P	**Pn**	**09 39 41.0**	**+1.0**
AYAN	**Aya Nagar**	**12.63**	**240**	*e*P	**Pn**	**09 39 41.4**	**+0.2**
MKAR	**Makanchi Array**	**12.64**	**336**	Pn	**Pn**	**09 39 39.8**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=145,slow=15,SNR=23						
MKAR				LR	LR	09 44 41.4	
	comp=Z,925nm,18.6s,baz=148,slow=38						
MKAR	**Makanchi Array**	**12.64**	**336**	P	**Pn**	**09 39 39.3**	**-2.0**
MKAR				pmax	pmax		
	comp=Z,42nm,1.3s						
CD2	**Chengdu**	**12.69**	**107**	*e*P	**Pn**	**09 39 44.2**	**+2.2**
CD2				S	**Sn**	**09 42 05.6**	**+2.3**
CD2				XS		09 42 17.9	
CD2				SS		09 42 21.6	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,250nm,5.3s						
CD2				LR	LR		
	comp=N,3μm,6.5s						
CD2				LR	LR		
	comp=Z,2μm,9.6s						
AGRA	**Agra**	**12.86**	**234**	*e*P	**Pn**	**09 39 43.7**	**-0.6**
AGRA				AMb	AMB	09 39 44.4	
	comp=Z,48nm,0.4s						
CAL	**Calcutta**	**12.86**	**185**	*e*P	**Pn**	**09 39 38.8**	**-5.6**
CAL				*ex*	x	09 43 31.6	
TKM2	**Tokmak 2**	**13.19**	**309**	*i* P	**Pn**	**09 39 49.0**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,48nm,1.3s						
KUDL	**Kundal**	**13.28**	**241**	*e*P	**Pn**	**09 39 50.5**	**+0.4**
AAK	**Ala-Archa**	**13.77**	**306**	*e*Pn	**Pn**	**09 39 56.5**	**-0.3**
	comp=Z,35nm,0.9s						
AAK	**Ala-Archa**	**13.77**	**306**	*i* P	**Pn**	**09 39 57.3**	**+0.5**
FRU	**Bishkek**	**13.78**	**307**	*e*P	**Pn**	**09 40 01.0**	**+4.0**
FRU				pmax	pmax		
	comp=Z,50nm,2.1s						
KHET	**Khetri**	**13.81**	**242**	*e*P	**Pn**	**09 39 57.5**	**+0.2**
KHET				AMb	AMB	09 40 00.2	
	comp=Z,53nm,1.5s						
CEP	**Cherat**	**14.65**	**269**	P	**Pn**	**09 40 06.1**	**-2.7**
JBP	**Jabalpur**	**14.78**	**217**	⇓*i*P	**Pn**	**09 40 08.8**	**-1.8**
JBP				*ex*	x	09 40 17.4	
	comp=Z,33nm,1.4s						
JBP				*ex*	x	09 44 25.2	
KMI	**Kunming**	**15.28**	**129**	P	**Pn**	**09 40 18.0**	**+0.7**
KMI				AP	pP	09 40 26.2	+1.2
KMI				PP		09 40 30.8	
KMI				S	**Sn**	**09 43 10.3**	**+3.7**
KMI				SS		09 43 29.8	
KMI				AMB	AMB		
	comp=Z,26nm,1.1s						
KMI				AMB	AMB		
	comp=Z,263nm,7.0s						
KMI				LR	LR		
	comp=N,2μm,7.5s						
KMI				LR	LR		
	comp=E,2μm,7.3s						
KMI				LR	LR		
	comp=Z,2μm,8.5s						
AJM	**Ajmer**	**15.59**	**239**	*e*P	**Pn**	**09 40 22.0**	**+0.7**
AJM				AMb	AMB	09 40 29.9	
	comp=Z,44nm,1.1s						
AJM				*e*S	**Sn**	**09 43 20.5**	**+6.3**
XAN	**Xi'an**	**15.96**	**89**	P	**Pn**	**09 40 27.7**	**+1.6**
XAN				AP	pP	09 40 32.7	+0.2
XAN				AMB	AMB		
	comp=Z,37nm,1.3s						
KK31	**Karatay Array**	**16.64**	**303**	*i* P	**Pn**	**09 40 38.7**	**+3.9**
KK31				pmax	pmax		
	comp=Z,46nm,0.9s						
KKAR	**Karatay Array**	**16.64**	**303**	*i* P	**Pn**	**09 40 38.7**	**+3.9**
KKAR				pmax	pmax		
	comp=Z,43nm,1.0s						
BTO	**Baotou**	**16.91**	**66**	*e*P	**Pn**	**09 40 39.0**	**+0.8**
BTO				S	**Sn**	**09 43 44.3**	**-1.9**
BTO				AMB	AMB		
	comp=Z,37nm,1.2s						
BTO				LR	LR		
	comp=N,829nm,6.9s						
BTO				LR	LR		
	comp=E,2μm,8.8s						
GYA	**Guiyang**	**17.13**	**117**	P	**Pn**	**09 40 40.0**	**-1.0**
GYA				AP	pP	09 40 49.2	+3.7
GYA				PP		09 40 54.9	
GYA				S	**Sn**	**09 43 46.6**	**-4.9**
GYA				XS	sS	09 43 58.6	-6.9
GYA				AMB	AMB		
	comp=Z,50nm,0.8s						
GYA				AMB	AMB		
	comp=Z,120nm,2.8s						
GYA				LR	LR		
	comp=N,841nm,13.3s						
GYA				LR	LR		
	comp=E,930nm,13.4s						
GYA				LR	LR		
	comp=E,2μm,16.2s						
KURK	**Kurchatov**	**17.25**	**336**	Pn	**Pn**	**09 40 41.6**	**-0.9**
	comp=E,261nm,1.0s,SNR=16						
KURK	**Kurchatov**	**17.25**	**336**	*e*Pn	**Pn**	**09 40 41.5**	**-0.9**
	comp=E,79nm,3.2s						
KURK	**Kurchatov**	**17.25**	**336**	P	**Pn**	**09 40 41.5**	**-1.0**
KURK				S	**Sn**	**09 44 02.0**	**+7.6**
KURK				pmax	pmax		
	comp=Z,33nm,1.1s						
ENH	**Enshi**	**17.48**	**101**	*e*Pn	**Pn**	**09 40 46.2**	**+0.9**
	comp=Z,74nm,1.4s						
SONM	**Songino Array**	**17.62**	**40**	P	**Pn**	**09 40 46.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=232,slow=9.4,SNR=78						
SONM				PcP	PcP	09 45 24.3	-1.9
	baz=253,slow=1.5,SNR=3.8						
SONM				LR	LR	09 48 06.0	
	comp=Z,1μm,19.1s,baz=222,slow=39						
ZAK	**Zakamensk**	**17.98**	**29**	⇓*i*P	**Pn**	**09 40 51.5**	**0.0**
ZAK				*e*		09 44 18.8	
ZAK				pmax	pmax		
	comp=Z,56nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,19nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,35nm,1.9s						
ZAK				pmax	pmax		
	comp=Z,19nm,1.8s						
ULN	**Ulaanbaatar**	**17.99**	**41**	*d i*P	**Pn**	**09 40 53.5**	**+1.8**
HHC	**Hu-ho-hao-te**	**18.11**	**66**	*e*P	**Pn**	**09 40 54.3**	**+1.2**
HHC				AP	pP	09 40 57.9	+1.6
HHC				XP	sP	09 41 01.2	+3.6
HHC				PP		09 41 09.5	
HHC				S	**Sn**	**09 44 14.7**	**-0.5**
HHC				XS	sS	09 44 20.6	-4.8
HHC				SS		09 44 37.9	
HHC				PCP	PcP	09 45 27.6	+0.7
HHC				AMB	AMB		
	comp=Z,33nm,0.8s						
HHC				AMB	AMB		
	comp=Z,579nm,3.7s						
HHC				LR	LR		
	comp=N,4μm,18.1s						
HHC				LR	LR		
	comp=E,2μm,19.1s						
HHC				LR	LR		
	comp=Z,2μm,20.6s						
MOY	**Mondy**	**18.20**	**23**	*e*P	**Pn**	**09 40 55.1**	**+0.8**
MOY				pmax	pmax		
	comp=Z,58nm,4.0s						
AKL	**Akola**	**18.35**	**220**	*i* x	PcP	09 45 28.7	+1.4
VIS	**Vishakhapatnam**	**18.47**	**199**	*e*P	**Pn**	**09 40 53.9**	**-3.6**
VIS				*ex*	x	09 44 03.9	
ZAL	**Zalesovo**	**18.84**	**351**	P	**Pn**	**09 41 01.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=296,slow=9.7,SNR=11						
ZAL				LR	LR	09 49 23.1	
	comp=Z,2μm,18.6s,baz=302,slow=40						
ZAL	**Zalesovo**	**18.84**	**351**	P	**Pn**	**09 41 01.5**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,2μm,18.6s						
IRK	**Irkutsk**	**19.83**	**27**	*e*P	**Pn**	**09 41 11.0**	**-2.9**
IRK				pmax	pmax		
	comp=Z,140nm,2.2s						
NVS	**Novosibirsk**	**19.93**	**349**	*e*P	**Pn**	**09 41 13.1**	**-2.1**
NVS				pmax	pmax		
	comp=N,57nm,1.3s						
NVS				pmax	pmax		
	comp=E,31nm,1.3s						
NVS				pmax	pmax		
	comp=Z,63nm,1.3s						
HYB	**Hyderabad**	**20.43**	**212**	*i* P	**P**	**09 41 17.0**	**-1.9**
HYB	**Hyderabad**	**20.43**	**212**	*e*P	**P**	**09 41 17.0**	**-1.9**
BHJ	**Bhuj**	**21.13**	**240**	*e*P	**P**	**09 41 26.3**	**-0.2**
BHJ				AMb	AMB	09 41 31.8	
	comp=Z,107nm,1.4s,mb5.0						
WHN	**Wuhan**	**21.31**	**96**	P	**P**	**09 41 29.7**	**+1.3**
WHN				S	**S**	**09 45 26.2**	**+1.2**
WHN				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.8						
WHN				LR	LR		
	comp=Z,5μm,23.3s,MS4.9						
BJT	**Baijiatuau**	**21.49**	**70**	*e*P	**P**	**09 41 32.0**	**+1.6**
	comp=Z,109nm,1.4s,mb5.0						
BJT	**Baijiatuau**	**21.49**	**70**	*e*P	**P**	**09 41 32.0**	**+1.6**
BJT				pmax	pmax		
	comp=Z,109nm,1.4s						
BJI	**Beijing**	**21.50**	**70**	*e*P	**P**	**09 41 31.1**	**+0.6**
BJI				AMB	AMB		
	comp=Z,61nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=N,4μm,13.8s,MS5.0						
BJI				LR	LR		
	comp=E,1μm,15.2s,MS5.0						
BJI				LR	LR		
	comp=Z,1μm,18.4s,MS4.4						
NST	**Nakhon Sawan**	**21.80**	**152**	P	**P**	**09 41 33.4**	**-0.3**
POO	**Poona**	**21.84**	**224**	*e*P	**P**	**09 41 33.6**	**-0.5**
POO				⇓*i*P		09 41 34.0	
	comp=Z,114nm,1.2s						
POO				AMb	AMB	09 41 47.9	
	comp=Z,91nm,1.2s,mb5.1						
BOM	**Bombay**	**22.15**	**226**	*e*S	**S**	**09 45 43.5**	**+2.0**
BVA0	**Borovoye Array**	**22.24**	**328**	*i* P	**P**	**09 41 39.5**	**+1.1**
BVA0				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.2						
BVAR	**Borovoye Array**	**22.24**	**328**	P	**P**	**09 41 39.1**	**+0.7**
	comp=Z,7.1nm,0.9s,mb4.1,baz=133,slow=11,SNR=22						
BVAR	**Borovoye Array**	**22.24**	**328**	P	**P**	**09 41 39.1**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BRVK	**Borovoye**	**22.31**	**328**	P	**P**	**09 41 40.4**	**+1.3**
	comp=Z,233nm,1.1s,mb5.5,SNR=11						
BRVK	**Borovoye**	**22.31**	**328**	*e*P	**P**	**09 41 39.5**	**+0.4**
	comp=Z,54nm,1.4s,mb4.8						
BRVK	**Borovoye**	**22.31**	**328**	*e*P	**P**	**09 41 39.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,54nm,1.4s,mb4.8						
TIA	**Tai'an**	**22.32**	**80**	*e*P	**P**	**09 41 39.2**	**-0.1**
KKTK	**Khon Kaen**	**22.36**	**145**	P	**P**	**09 41 40.0**	**+0.3**
	comp=Z,432nm,0.8s,mb5.9						
KAD	**Karad**	**22.65**	**221**	*e*P	**P**	**09 41 41.8**	**-1.0**
KAD				AMb	AMB	09 41 50.8	
	comp=Z,114nm,1.7s,mb5.0						
ZRNK	**Zerenda**	**22.79**	**327**	*e*P	**P**	**09 41 44.6**	**+0.4**
	comp=Z,100nm,1.6s,mb5.0						
ZRNK	**Zerenda**	**22.79**	**327**	*e*P	**P**	**09 41 44.6**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,100nm,1.6s,mb5.0						
QIZ	**Qiongzhong**	**24.22**	**127**	P	**P**	**09 41 59.9**	**+1.6**
QIZ				S	**S**	**09 46 17.1**	**+0.4**
QIZ				XS	sS	09 46 27.6	+5.9
QIZ				AMB	AMB		
	comp=Z,34nm,1.5s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,976nm,3.9s						
QIZ				LR	LR		
	comp=E,1μm,9.6s						
QIZ				LR	LR		
	comp=Z,2μm,8.2s						
NJ2	**Nanjing**	**24.53**	**89**	*e*P	**P**	**09 42 02.4**	**+1.2**
NJ2				AP		09 42 11.7	
NJ2				PP		09 42 38.9	
NJ2				S	**S**	**09 46 19.0**	**-2.7**
NJ2				XS	sS	09 46 33.0	+6.3
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,470nm,3.9s						
NJ2				LR	LR		
	comp=N,4μm,17.6s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,17.9s,MS5.0						
NJ2				LR	LR		
	comp=Z,900nm,9.6s						
DL2	**Dalian**	**25.70**	**73**	*e*P	**P**	**09 42 12.4**	**+0.6**
DL2				S	**S**	**09 46 38.6**	**-1.9**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
DL2				AMB	AMB		
	comp=Z,300nm,4.8s						
DL2				LR	LR		
	comp=N,1μm,15.9s,MS4.5						
DL2				LR	LR		
	comp=E,390nm,12.8s,MS4.5						
DL2				LR	LR		
	comp=Z,660nm,12.1s,MS4.4						
AB31	**Akbulak array**	**25.73**	**312**	*i* P	**P**	**09 42 14.7**	**+2.6**
AB31				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.7						
HIA	**Hailar**	**26.04**	**49**	*e*P	**P**	**09 42 15.4**	**+0.5**
	comp=Z,96nm,1.8s,mb5.0						
HIA	**Hailar**	**26.04**	**49**	*e*P	**P**	**09 42 15.4**	**+0.5**
HIA				pmax	pmax		
	comp=Z,96nm,1.8s						
SSE	**Sheshan**	**26.71**	**90**	*e*P	**P**	**09 42 21.9**	**+1.0**
SSE				PCP	PcP	09 45 41.7	-2.6
SSE				S	**S**	**09 46 57.5**	**+1.1**
SSE				SCP	ScP	09 49 19.7	-4.7
SSE				AMB	AMB		
	comp=Z,21nm,0.6s,mb4.8						
SSE				AMB	AMB		
	comp=Z,105nm,3.8s						
SSE				LR	LR		
	comp=N,740nm,18.2s,MS4.3						
SSE				LR	LR		
	comp=E,340nm,18.5s,MS4.3						
SNY	**Shenyang**	**27.20**	**66**	⇓P	**P**	**09 42 25.2**	**-0.2**
SNY				AP	pP	09 42 34.9	+6.5
SNY				XP	sP	09 42 38.6	+8.9
SNY				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
SNY				AMB	AMB		
	comp=Z,450nm,8.1s						
SNY				LR	LR		
	comp=N,5μm,19.6s						
SNY				LR	LR		
	comp=Z,2μm,20.4s,MS4.6						
AKTK	**Aktyubinsk**	**27.32**	**313**	P	**P**	**09 42 26.2**	**-0.2**
AKTK				LR	LR	09 54 13.7	
AKTO	**Aktyubinsk**	**27.32**	**313**	P	**P**	**09 42 26.2**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.0,baz=112,slow=11,SNR=10						
AKTO				LR	LR	09 54 13.7	
	comp=Z,273nm,21.8s,MS3.8,baz=0.0,slow=38						
AKTO	**Aktyubinsk**	**27.32**	**313**	*i* P	**P**	**09 42 25.2**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BOD	**Bodaibo**	**27.71**	**28**	*i* P	**P**	**09 42 30.7**	**+0.7**
BOD				*e*		09 43 26.4	
BOD				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.6						
CN2	**Changchun**	**28.70**	**62**	*e*P	**P**	**09 42 39.0**	**+0.3**
CN2				*e*AP	pP	09 42 48.2	+6.4
CN2				*e*XP	sP	09 42 53.2	+10
CN2				PP	PP	09 43 27.8	-16
CN2				*e*S	**S**	**09 47 24.5**	**-3.2**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,900nm,10.0s,MS5.1						
CN2				LR	LR		
	comp=E,2μm,10.0s,MS5.1						
CN2				LR	LR		
	comp=Z,3μm,11.0s,MS5.1						
SVE	**Sverdlovsk**	**28.99**	**327**	*e*P	**P**	**09 42 42.0**	**+0.7**
SVE				*e*		10 42 48.3	
SVE				*e*		10 43 32.0	

SVE pmax pmax
comp=Z,36nm,1.3s,mb4.9
SVE MLR MLR
comp=N,1µm,12.0s,MS4.8
SVE MLR MLR
comp=E,1µm,12.0s,MS4.8
SVE MLR MLR
comp=Z,2µm,12.0s,MS4.9
KULM Kulim 31.65 159 *e*P **P 09 43 04.0 -0.9**
MDJ Mudanjiang 31.72 61 P **P 09 43 06.1 +0.6**
MDJ AP pP 09 43 14.6 +6.0
MDJ XP sP 09 43 18.7 +8.9
MDJ PP PP 09 44 14.3 -2.8
MDJ PCP PcP 09 45 55.0 -2.0
MDJ S **S 09 48 13.1 -2.0**
MDJ PCS PcS 09 49 37.0 -4.5
MDJ AMB AMB
comp=Z,19nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,212nm,4.4s
MDJ LR LR
comp=N,674nm,10.1s,MS4.7
MDJ LR LR
comp=E,633nm,11.6s,MS4.7
MDJ LR LR
comp=Z,775nm,13.5s,MS4.5
PSI Prapat 33.57 163 P **P 09 43 20.1 -1.6**
comp=Z,7.2nm,0.8s,mb4.6,baz=273,slow=2.0,SNR=7.6
PSI LR LR 09 58 36.2
comp=Z,360nm,19.7s,MS4.1,baz=130,slow=39
PSI Prapat 33.57 163 P **P 09 43 20.1 -1.6**
PSI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
PSI MLR MLR
comp=Z,360nm,19.7s,MS4.1
KLR Kul'dur 33.65 53 *e*P **P 09 43 20.0 -2.3**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,32nm,1.0s,mb5.2
KLR MLR MLR
comp=N,4µm,15.0s,MS5.3
KLR MLR MLR
comp=E,1µm,15.0s,MS5.3
KLR MLR MLR
comp=Z,2µm,13.0s,MS5.0
HABR Khabarovsk 35.73 54 *e*P **P 09 43 40.2 -0.2**
HABR *e*S **S 09 49 18.6 +1.4**
HABR pmax pmax
comp=Z,38nm,1.0s,mb5.3
HABR MLR MLR
comp=Z,843nm,15.6s,MS4.6
GOF Gofitskoye 36.39 300 *e*P **P 09 43 48.2 +2.2**
YAK Yakutsk 36.56 31 *e*P **P 09 43 47.9 +0.4**
comp=Z,45nm,0.8s,mb5.3
YAK Yakutsk 36.56 31 *e*P **P 09 43 48.4 +0.9**
YAK pmax pmax
comp=Z,20nm,0.9s,mb5.0
YAK pmax pmax
comp=E,12nm,1.2s
KIV Kislovodsk 36.68 298 *e*P **P 09 43 46.4 -2.1**
KIV *e*S **S 09 49 27.5 -4.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
KIV MLR MLR
comp=Z,245nm,16.0s,MS4.1
KKM Kota Kinabalu 38.13 134 *e*P **P 09 44 01.2 +0.4**
MAT Matsushiro 39.03 74 P **P 09 44 07.2 -1.1**
MAT S **S 09 50 03.6 -3.7**
MAT Matsushiro 39.03 74 *e*P **P 09 44 07.0 -1.3**
comp=Z,33nm,1.5s,mb4.8
MAT *e*S **S 09 50 04.0 -3.3**
MAT Matsushiro 39.03 74 *e*P **P 09 44 07.0 -1.3**
MAT *e*S **S 09 50 04.0 -3.3**
MAT pmax pmax
comp=Z,33nm,1.5s,mb4.8
MJAR Matsushiro Arr 39.03 74 P **P 09 44 07.6 -0.7**
comp=Z,4.1nm,0.8s,mb4.2,baz=286,slow=9.3,SNR=8.3
MJAR LR LR 10 01 33.6
comp=Z,298nm,19.4s,MS4.1,baz=260,slow=38
MJAR Matsushiro Arr 39.03 74 P **P 09 44 07.6 -0.7**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR MLR MLR
comp=Z,298nm,19.4s
ANN Anapa 40.38 300 *e*P **P 09 44 23.4 +3.9**
ANN pmax pmax
comp=Z,41nm,1.3s,mb5.0
ANN MLR MLR
comp=Z,627nm,17.0s,MS4.5
MOS Moscow 40.51 317 *e*P **P 09 44 18.9 -1.8**
KLMR Klimovskoe 40.58 325 *e*P **P 09 44 20.3 -0.9**
KLMR *e* 09 45 53.3
KLMR pmax pmax
comp=Z,70nm,1.5s,mb5.1
KLMR pmax pmax
comp=Z,100nm,5.6s
KLMR MLR MLR
comp=Z,670nm,12.0s,MS4.7
YSS Yuzh-Sakhalins 40.92 57 *e*P **P 09 44 24.1 +0.1**
comp=Z,24nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 40.92 57⇑ *e*P **P 09 44 24.9 +0.9**
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.9
YSS MLR MLR
comp=N,500nm,15.0s,MS5.0
YSS MLR MLR
comp=Z,1µm,15.0s,MS4.8
YSS MLR MLR
comp=E,2µm,14.0s,MS5.0
OBN Obninsk 41.03 316 *d i*P **P 09 44 27.4 +2.4**
OBN *e* 09 44 32.9
OBN pmax pmax
comp=Z,36nm,1.7s,mb4.7
OBN MLR MLR
comp=Z,400nm,23.0s,MS4.2
TIXI Tiksi 41.64 18 *e*P **P 09 44 27.9 -2.1**
TIXI *e*S **S 09 50 44.0 -2.4**
TIXI pmax pmax
comp=Z,21nm,1.1s,mb4.7
TIXI MLR MLR
comp=Z,687nm,12.0s,MS4.8
BR131 Keskin Array S 43.96 293 *e*P **P 09 44 47.7 -1.0**
comp=Z,2.5nm,0.8s,mb4.0
BRTR Keskin Array B 43.96 293 P **P 09 44 49.2 +0.5**
comp=Z,4.4nm,0.9s,mb4.2,baz=93,slow=7.9,SNR=15
BRTR Keskin Array B 43.96 293 P **P 09 44 49.3 +0.6**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
LVZ Lovozero 44.65 334⇑ *e*P **P 09 44 49.6 -4.7**
LVZ pmax pmax
comp=Z,81nm,2.1s,mb5.2
LVZ pmax pmax
comp=N,37nm,2.8s
LVZ pmax pmax
comp=E,16nm,0.9s
LVZ MLR MLR
comp=Z,952nm,15.0s,MS4.8
LVZ MLR MLR
comp=N,528nm,13.0s,MS4.8
LVZ MLR MLR
comp=E,543nm,15.0s,MS4.8
JOF Joensuu 44.82 326 *e*p **P 09 44 56.6 +1.0**
comp=E,18nm,1.0s,mb4.8
JOF Joensuu 44.82 326 *e*P **P 09 44 56.6 +1.0**
JOF pmax pmax
comp=Z,18nm,1.0s,mb4.9
AKASG Malin Array Be 45.42 309 P **P 09 45 00.1 -0.3**
comp=Z,5.8nm,0.9s,mb4.4,baz=77,slow=6.3,SNR=19
AKASG Malin Array Be 45.42 309 P **P 09 45 00.1 -0.3**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 45.82 38 *e*P **P 09 45 04.4 +0.8**
comp=Z,28nm,1.3s,mb5.0
MA2 Magadan 45.82 38 *c i*P **P 09 45 04.3 +0.7**
MA2 pmax pmax
comp=Z,21nm,0.9s,mb5.1
MA2 MLR MLR
comp=Z,600nm,21.0s,MS4.5
EIL Elat 45.93 279 *e*P **P 09 45 05.3 +0.8**
comp=Z,112nm,1.0s,mb5.8
SEY Seymchan 46.87 34 *i* P **P 09 45 12.4 +0.6**
KAF Kangasniemi 47.03 325 *e*p **P 09 45 14.0 +0.9**
comp=Z,7.8nm,1.0s,mb4.6,baz=94,slow=7.7
KAF Kangasniemi 47.03 325 *e*P **P 09 45 14.0 +0.9**
KAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
FINES FINESS Array B 47.09 324 P **P 09 45 13.5 -0.1**
comp=Z,3.1nm,0.6s,mb4.4,baz=94,slow=8.4,SNR=14
FINES LR LR 10 06 14.2
comp=Z,439nm,18.5s,MS4.5,baz=124,slow=38
FINES FINESS Array B 47.09 324 P **P 09 45 13.5 -0.1**
FINES LR LR 10 06 14.2
FINES FINESS Array B 47.09 324 P **P 09 45 13.5 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES MLR MLR
comp=Z,439nm,18.5s
KEV Kevo 47.81 335 *e*p **P 09 45 21.1 +1.9**
comp=Z,5.1nm,0.8s,mb4.6
KEV Kevo 47.81 335 *e*P **P 09 45 21.1 +1.9**
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ARCES ARCESS Array B 48.29 335 P **P 09 45 22.5 -0.3**
comp=Z,9.7nm,0.9s,mb4.8,baz=81,slow=7.5,SNR=11
ARCES LR LR 10 07 41.8
comp=Z,449nm,18.3s,MS4.5,baz=106,slow=38
ARCES ARCESS Array B 48.29 335 P **P 09 45 22.5 -0.3**
ARCES LR LR 10 07 41.8
ARCES ARCESS Array B 48.29 335 P **P 09 45 22.5 -0.3**
ARCES pmax pmax
comp=Z,10.0nm,0.9s
ARCES MLR MLR
comp=Z,449nm,18.3s
STHS Stebnicka Huta 50.69 308 *e*P **P 09 45 40.4 -0.8**
OKC Ostrava-Krasne 52.57 309 *e*P **P 09 45 56.8 +1.6**
OKC Ostrava-Krasne 52.57 309 *e*P **P 09 45 55.8 +0.6**
BILL Bilibino 52.76 27 *e*P **P 09 45 56.5 -0.1**
comp=Z,27nm,0.9s,mb5.2
BILL Bilibino 52.76 27 *c i*P **P 09 45 57.9 +1.2**
BILL pmax pmax
comp=Z,45nm,1.3s,mb5.2
MORC Moravsky Berou 52.96 309 *e*P **P 09 45 57.6 -0.6**
comp=Z,23nm,1.5s,mb4.9
MORC Moravsky Berou 52.96 309 *e*P **P 09 45 57.6 -0.6**
MORC pmax pmax
comp=Z,23nm,1.5s,mb4.9
HFS Hagfors 53.21 323 LR LR 10 09 53.0
comp=Z,337nm,19.3s,MS4.4,baz=77,slow=37
KSP Ksiaz 53.50 311 *e*P **P 09 46 05.0 +2.9**
DPC Dobruska-Polom 53.60 310 *e*P **P 09 46 03.1 +0.3**
UPC Upice 53.75 311 *e*P **P 09 46 04.2 +0.2**
NB2 NORSAR Subarra 54.27 324 P **P 09 46 07.0 -0.8**
comp=Z,9.4nm,0.8s,mb4.8,baz=82,slow=7.4
NB2 NORSAR Subarra 54.27 324 P **P 09 46 07.0 -0.8**
NB2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NOA NORSAR Array B 54.27 324 P **P 09 46 07.2 -0.6**
comp=Z,6.0nm,0.8s,mb4.6,baz=81,slow=7.2,SNR=14
NOA LR LR 10 10 25.6
comp=Z,327nm,19.8s,MS4.4,baz=55,slow=37
NOA NORSAR Array B 54.27 324 P **P 09 46 07.2 -0.6**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,327nm,19.8s
PRU Pruhonice 54.80 310 *e*P **P 09 46 12.7 +1.1**
PRU *ex* x 09 46 33.1
BRG Berggiesshubel 54.94 311 *e*P **P 09 46 13.9 +1.3**
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BRG Berggiesshubel 54.94 311 *e*P **P 09 46 13.9 +1.3**
comp=Z,7.1nm,0.9s,mb4.7
CLL Collm 55.40 312 *i* P **P 09 46 17.9 +2.0**
comp=Z,20nm,1.3s,mb5.0
CLL Collm 55.40 312 *i* P **P 09 46 17.9 +2.0**
CLL pmax pmax
comp=Z,20nm,1.3s,mb5.0
KHC Kasperske Hory 55.63 309 *e*P **P 09 46 18.8 +1.2**
KHC Kasperske Hory 55.63 309 *i* P **P 09 46 17.3 -0.3**
GERES GERESS Array B 55.63 309 P **P 09 46 17.6 0.0**
comp=Z,3.6nm,0.8s,mb4.5,baz=72,slow=4.6,SNR=15
GERES LR LR 10 12 26.2
comp=Z,208nm,18.1s,MS4.3,baz=255,slow=38
GERES GERESS Array B 55.63 309 P **P 09 46 17.6 0.0**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES MLR MLR
comp=Z,208nm,18.1s
NKC Novy Kostel 56.03 311 *e*P **P 09 46 21.3 +0.9**
MOX Moxa 56.42 312 *e*P **P 09 46 23.4 +0.1**
comp=Z,24nm,1.5s,mb5.0
MOX Moxa 56.42 312 *e*P **P 09 46 23.4 +0.1**
MOX pmax pmax
comp=Z,24nm,1.5s,mb5.0
GRF Grafenberg Arr 56.94 311 *e*P **P 09 46 27.5 +0.6**
comp=Z,22nm,1.1s,mb5.1
GRF Grafenberg Arr 56.94 311 *e*P **P 09 46 27.5 +0.6**
GRF pmax pmax
comp=Z,22nm,1.1s,mb5.1
GRF Grafenberg Arr 56.94 311 *e*P **P 09 46 27.5 +0.6**
GRF pmax pmax
comp=Z,22nm,1.1s,mb5.1
BFO Black Forest 59.18 310 P **P 09 46 41.4 -1.3**
CDF Champ du Feu 59.81 310 *e*P **P 09 46 46.5 -0.5**
comp=Z,96nm,1.5s,mb5.3
CDF Champ du Feu 59.81 310 *e*P **P 09 46 46.5 -0.5**
comp=Z,48nm,1.5s,mb5.3
CDF Champ du Feu 59.81 310 *e*P **P 09 46 46.5 -0.5**
CDF pmax pmax
comp=Z,48nm,1.5s,mb5.3
DAG Danmarks Havn 59.85 345⇓ *i*P **P 09 46 46.6 -0.7**
comp=Z,4.7nm,0.6s,mb4.7
DAG Danmarks Havn 59.85 345⇓ *i*P **P 09 46 46.6 -0.7**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
HINF Hinteralfeld 60.29 310 *e*P **P 09 46 49.6 -0.7**
HAU Haudompre 60.54 310 *e*P **P 09 46 52.2 +0.2**
HAU *e*R
comp=Z,324nm,20.2s
HAU Haudompre 60.54 310 *e*P **P 09 46 52.2 +0.2**
HAU MLR MLR
comp=Z,320nm,20.3s,MS4.5
GIVF Givet 60.71 313 *e*P **P 09 46 52.8 -0.4**
KMBO Kilima Mbogo 60.80 245 P **P 09 46 51.5 -2.3**
comp=Z,4.1nm,0.9s,mb4.5,baz=46,slow=11,SNR=6.5
KMBO LR LR 10 13 32.5
comp=Z,125nm,18.7s,MS4.1,baz=88,slow=36
KMBO Kilima Mbogo 60.80 245 *e*P **P 09 46 52.3 -1.5**
comp=Z,12nm,1.4s,mb4.8
KMBO Kilima Mbogo 60.80 245 *e*P **P 09 46 52.3 -1.5**
KMBO pmax pmax
comp=Z,12nm,1.4s
LPG La Plagne 61.21 307 *e*P **P 09 46 56.8 +0.2**
comp=Z,132nm,1.5s,mb5.5
LPG La Plagne 61.21 307 *e*P **P 09 46 56.8 +0.2**
comp=Z,66nm,1.5s,mb5.5
LPG La Plagne 61.21 307 *e*P **P 09 46 56.8 +0.2**
LPG pmax pmax
comp=Z,66nm,1.5s,mb5.5
LPL La Plagne 61.22 307 *e*P **P 09 46 56.7 +0.1**
comp=Z,26nm,0.8s,mb5.1
LPL La Plagne 61.22 307 *e*P **P 09 46 56.7 +0.1**
comp=Z,13nm,0.8s,mb5.1
LPL La Plagne 61.22 307 *e*P **P 09 46 56.7 +0.1**
LPL pmax pmax
comp=Z,13nm,0.8s,mb5.1
CABF La Chapelle 61.22 309 *e*P **P 09 46 55.8 -0.8**
LMR La Mourre 62.22 305 *e*P **P 09 47 02.5 -0.8**
LOR Lormes 62.38 310 *e*P **P 09 47 03.3 -1.1**
LOR *e*R
comp=Z,264nm,22.2s
LOR Lormes 62.38 310 *e*P **P 09 47 03.3 -1.1**
LOR MLR MLR
comp=Z,260nm,22.3s,MS4.3
SMF Signal de Mont 62.63 309 *e*P **P 09 47 05.3 -0.8**
comp=Z,87nm,1.4s,mb5.4
SMF Signal de Mont 62.63 309 *e*P **P 09 47 05.3 -0.8**
comp=Z,44nm,1.4s,mb5.4
SMF Signal de Mont 62.63 309 *e*P **P 09 47 05.3 -0.8**
SMF pmax pmax
comp=Z,44nm,1.4s,mb5.4
SSF Saint Saulge 62.68 310 *e*P **P 09 47 05.5 -0.9**
comp=Z,112nm,1.7s,mb5.4
SSF Saint Saulge 62.68 310 *e*P **P 09 47 05.5 -0.9**
comp=Z,56nm,1.7s,mb5.4
SSF Saint Saulge 62.68 310 *e*P **P 09 47 05.5 -0.9**
SSF pmax pmax
comp=Z,56nm,1.7s,mb5.4
VIVF Saint-Julien-I 62.82 307 *e*P **P 09 47 06.7 -0.6**
comp=Z,35nm,1.3s,mb5.0
VIVF Saint-Julien-I 62.82 307 *e*P **P 09 47 06.7 -0.6**
comp=Z,18nm,1.3s,mb5.0
VIVF Saint-Julien-I 62.82 307 *e*P **P 09 47 06.7 -0.6**
VIVF pmax pmax
comp=Z,18nm,1.3s,mb5.0
AVF Avril sur Loir 62.88 310 *e*P **P 09 47 06.9 -0.9**
comp=Z,103nm,1.5s,mb5.4
AVF Avril sur Loir 62.88 310 *e*P **P 09 47 06.9 -0.9**
comp=Z,52nm,1.5s,mb5.4
AVF Avril sur Loir 62.88 310 *e*P **P 09 47 06.9 -0.9**
AVF pmax pmax
comp=Z,52nm,1.5s,mb5.4
FITZ Fitzroy Crossi 63.25 141 *e*P **P 09 47 09.0 -1.2**
comp=Z,5.3nm,0.6s,mb4.8
BGF Bois d'Agland 63.30 310 *e*P **P 09 47 09.6 -0.9**
LASF Ste Croix 63.67 307 *e*P **P 09 47 12.8 -0.2**
comp=Z,86nm,1.4s,mb5.3
TCF Toulx Ste Croi 63.81 309 *e*P **P 09 47 13.5 -0.4**
comp=Z,141nm,1.5s,mb5.5
TCF Toulx Ste Croi 63.81 309 *e*P **P 09 47 13.5 -0.4**
comp=Z,70nm,1.5s,mb5.5
TCF Toulx Ste Croi 63.81 309 *e*P **P 09 47 13.5 -0.4**
TCF pmax pmax
comp=Z,70nm,1.5s,mb5.5
FLN La Foliniere 64.42 313 *e*P **P 09 47 16.9 -1.1**
FLN *e*R
comp=Z,354nm,21.8s
FLN La Foliniere 64.42 313 *e*P **P 09 47 16.9 -1.1**
FLN MLR MLR
comp=Z,350nm,21.8s,MS4.5
CAF Calviac 64.47 308 *e*P **P 09 47 18.1 -0.2**
comp=Z,35nm,1.3s,mb4.9
CAF Calviac 64.47 308 *e*P **P 09 47 18.1 -0.2**
comp=Z,18nm,1.3s,mb4.9
CAF Calviac 64.47 308 *e*P **P 09 47 18.1 -0.2**
CAF pmax pmax
comp=Z,18nm,1.3s,mb4.9
RJF Les Rejaudoux 64.66 309 *e*P **P 09 47 19.5 0.0**
comp=Z,59nm,1.3s,mb5.2
RJF *e*R
comp=Z,428nm,22.5s
RJF Les Rejaudoux 64.66 309 *e*P **P 09 47 19.5 0.0**
comp=Z,29nm,1.3s,mb5.2
RJF LR LR
comp=Z,430nm,22.5s,MS4.6
RJF Les Rejaudoux 64.66 309 *e*P **P 09 47 19.5 0.0**
RJF pmax pmax
comp=Z,29nm,1.3s,mb5.2
RJF MLR MLR
comp=Z,430nm,22.5s,MS4.6
GRR Gorron 64.81 313 *e*P **P 09 47 19.3 -1.2**
MFF Saint Martin d 65.15 311 *e*P **P 09 47 21.5 -1.2**
comp=Z,71nm,1.4s,mb5.2
MFF Saint Martin d 65.15 311 *e*P **P 09 47 21.5 -1.2**
comp=Z,36nm,1.4s,mb5.2
MFF Saint Martin d 65.15 311 *e*P **P 09 47 21.5 -1.2**
MFF pmax pmax
comp=Z,36nm,1.4s,mb5.2
LFF La Frestale 65.32 309 *e*P **P 09 47 22.4 -1.4**
SUMG Summit 66.53 345 *e*P **P 09 47 31.8 +0.2**
comp=Z,29nm,1.2s,mb5.2
ETSF Etsaut 67.07 307 *e*P **P 09 47 35.0 0.0**
comp=Z,72nm,1.5s,mb5.2
ETSF Etsaut 67.07 307 *e*P **P 09 47 35.0 0.0**
comp=Z,36nm,1.5s,mb5.2
ETSF Etsaut 67.07 307 *e*P **P 09 47 35.0 0.0**
ETSF pmax pmax
comp=Z,36nm,1.5s,mb5.2
WRAB Tennant Creek 69.49 135 P **P 09 47 49.0 -1.2**
comp=Z,129nm,0.8s,mb5.9,SNR=7.5
WRAB Tennant Creek 69.49 135 *e*P **P 09 47 49.6 -0.6**
comp=Z,35nm,1.0s,mb5.2
WRAB Tennant Creek 69.49 135 *i* P **P 09 47 49.5 -0.7**
WRA Warramunga Arr 69.49 135 P **P 09 47 48.7 -1.5**
comp=Z,17nm,1.0s,mb5.0,baz=331,slow=6.2,SNR=47
WRA Warramunga Arr 69.49 135 P **P 09 47 48.7 -1.5**
WRA pmax pmax
comp=Z,17nm,1.0s
WB2 Warramunga Arr 69.50 135 *e*P **P 09 47 49.3 -0.9**
COLA College 70.50 22 *e*P **P 09 47 56.8 +0.4**
comp=Z,36nm,1.0s,mb5.2
COLA College 70.50 22⇑ *i*P **P 09 47 56.9 +0.5**
ILAR Eielson Array 70.87 22 P **P 09 47 57.9 -0.8**
comp=Z,12nm,1.0s,mb4.8,baz=304,slow=4.8,SNR=57
ILAR PP PP 09 50 33.8 -1.9
comp=Z,4.7nm,1.2s,baz=309,slow=7.4,SNR=6.9
ILAR LR LR 10 23 55.9
comp=Z,171nm,18.4s,MS4.3,baz=357,slow=40
ILAR Eielson Array 70.87 22 P **P 09 47 57.9 -0.8**
ILAR 09 50 33.8
ILAR pmax pmax
comp=Z,12nm,1.0s
ILAR pmax pmax
comp=Z,5.0nm,1.2s
ILAR MLR MLR
comp=Z,171nm,18.4s
ESDC Sonseca Array 70.88 305 P **P 09 47 58.9 +0.2**
comp=Z,3.6nm,0.8s,mb4.4,baz=43,slow=6.6,SNR=7.2
INK Inuvik 71.72 16 P **P 09 48 03.9 +0.1**
comp=Z,22nm,1.0s,mb5.0,baz=326,slow=6.5,SNR=18
INK Inuvik 71.72 16 *e*P **P 09 48 03.8 -0.1**
comp=Z,37nm,1.2s,mb5.2
INK Inuvik 71.72 16 *e*P **P 09 48 03.8 0.0**
INK pmax pmax
comp=Z,37nm,1.2s
ASAR Alice Springs 72.19 138 P **P 09 48 05.5 -1.2**
comp=Z,9.1nm,0.9s,mb4.7,baz=326,slow=5.8,SNR=42
ASAR Alice Springs 72.19 138 P **P 09 48 05.5 -1.1**
ASAR pmax pmax
comp=Z,9.0nm,0.9s
PMR Palmer 72.33 25 *e*P **P 09 48 07.5 +0.1**
comp=Z,41nm,1.4s,mb5.2
PMR LR LR
comp=Z,100nm,17.0s,MS4.2
PMR Palmer 72.33 25 *e*P **P 09 48 07.5 +0.1**
PMR pmax pmax
comp=Z,41nm,1.4s,mb5.2
PMR MLR MLR
comp=Z,100nm,17.0s,MS4.2
SFJD Kangerlussuaq 73.53 345 P **P 09 48 14.1 -0.4**
comp=Z,14nm,0.9s,mb4.9,baz=41,slow=4.4,SNR=4.7
SFJD Kangerlussuaq 73.53 345 P **P 09 48 14.1 -0.4**
SFJD pmax pmax
comp=Z,14nm,0.9s,mb4.9
KDAK Kodiak Island 73.58 30 P **P 09 48 14.6 -0.3**
comp=Z,9.6nm,0.8s,mb4.8,baz=322,slow=2.1,SNR=4.7
KDAK Kodiak Island 73.58 30 P **P 09 48 14.6 -0.3**
DAWY Dawson 73.61 20 *e*P **P 09 48 13.5 -1.6**
EVO Evora 74.16 306 *e*P **P 09 48 17.9 -0.3**
comp=Z,38nm,1.3s,mb4.9
EVO *e*R
comp=Z,344nm,22.2s
LSZ Lusaka 76.91 240 *e*P **P 09 48 33.4 -0.7**
comp=Z,13nm,1.1s,mb4.8
LSZ Lusaka 76.91 240 *e*P **P 09 48 33.4 -0.6**
LSZ pmax pmax
comp=Z,13nm,1.1s,mb4.8
CTA Charters Tower 76.99 126 *e*P **P 09 48 33.7 -0.8**
comp=Z,12nm,1.0s,mb4.8
CTA Charters Tower 76.99 126 *e*P **P 09 48 33.7 -0.8**
CTA pmax pmax
comp=Z,12nm,1.0s
YKW3 Yellowknife Ar 80.45 11 *e*P **P 09 48 53.0 -0.5**
YKA Yellowknife Ar 80.52 11 P **P 09 48 53.4 -0.5**
comp=Z,10nm,0.9s,mb4.8,baz=339,slow=5.2,SNR=69
YKA LR LR 10 27 34.6
comp=Z,137nm,19.4s,MS4.3,baz=325,slow=38
YKA Yellowknife Ar 80.52 11 P **P 09 48 53.4 -0.5**
YKA pmax pmax
comp=Z,10.0nm,0.9s
YKA MLR MLR
comp=Z,137nm,19.4s
TORD Torodi Ar. Bea 80.82 280 P **P 09 48 55.2 -0.3**
comp=Z,13nm,1.1s,mb4.8,baz=44,slow=4.7,SNR=21
STKA Stephens Creek 82.83 137 *e*P **P 09 49 00.0 -6.1**
comp=Z,4.1nm,0.9s,mb4.5
STKA Stephens Creek 82.83 137 P **P 09 49 01.1 -4.9**
comp=Z,4.7nm,0.9s,mb4.5,baz=355,slow=6.1,SNR=5.7
STKA LR LR 10 26 01.3
comp=Z,179nm,21.2s,MS4.4,baz=197,slow=36
LBTB Lobatse 85.27 235 *e*P **P 09 49 17.9 -0.6**
comp=Z,30nm,1.2s,mb5.3
LBTB Lobatse 85.27 235 *e*P **P 09 49 17.9 -0.6**
LBTB pmax pmax
comp=Z,31nm,1.2s,mb5.3
FCC Fort Churchill 86.14 2 *e*P **P 09 49 22.1 -0.7**
comp=Z,13nm,1.2s,mb5.0
FCC Fort Churchill 86.14 2 *e*P **P 09 49 22.1 -0.8**

FCC pmax pmax
comp=Z,13nm,1.2s,mb5.0
TSUM Tsumeb 87.14 244 *eP* **P 09 49 27.3 -0.4**
comp=Z,24nm,1.4s,mb5.2
BOSA Boshof 87.92 232 P **P 09 49 30.6 -0.8**
comp=Z,12nm,1.1s,mb5.0,baz=53,slow=5.7,SNR=7.7
BOSA Boshof 87.92 232 P **P 09 49 30.7 -0.8**
BOSA pmax pmax
comp=Z,12nm,1.1s,mb5.0
EDM Edmonton 89.52 14 *eP* **P 09 49 39.1 +0.1**
FFC Flin Flon 89.69 7 P **P 09 49 39.7 -0.1**
comp=Z,75nm,0.9s,mb6.0,SNR=7.3
FFC Flin Flon 89.69 7 *eP* **P 09 49 39.2 -0.7**
comp=Z,16nm,1.1s,mb5.3
FFC Flin Flon 89.69 7 *eP* **P 09 49 39.2 -0.6**
FFC pmax pmax
comp=Z,16nm,1.1s,mb5.3
DBIC Dimbokro 89.79 278 P **P 09 49 39.9 -0.5**
comp=Z,2.9nm,0.9s,mb4.6,baz=75,slow=8.5,SNR=3.1
DBIC LR LR 10 33 48.0
comp=Z,187nm,18.9s,MS4.5,baz=44,slow=38
DBIC Dimbokro 89.79 278 P **P 09 49 39.9 -0.4**
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC MLR MLR
comp=Z,187nm,18.9s
NEW Newport 93.36 18 P **P 09 49 55.9 -0.9**
comp=Z,2.6nm,1.0s,mb4.6,baz=335,slow=3.1,SNR=4.5
NEW Newport 93.36 18 P **P 09 49 55.9 -0.9**
NEW Newport 93.36 18 P **P 09 49 55.9 -0.9**
NEW pmax pmax
comp=Z,3.0nm,1.0s
ULM Lac du Bonnet 94.59 4 P **P 09 50 01.5 -1.0**
comp=Z,2.6nm,0.8s,mb4.7,baz=335,slow=3.7,SNR=6.1
ULM LR LR 10 39 40.5
comp=Z,180nm,19.5s,MS4.5,baz=22,slow=40
LAZ Ladron 108.82 15 *e*PKPdf PKiKP 09 55 01.5 -10
SYO Syowa Base 110.41 197⇑ *eX* Pdif 09 51 19.1 +5.9
SDV Santo Domingo 132.16 333 PKP PKPdf 09 55 55.1 -0.5
comp=Z,4.4nm,0.8s,baz=215,slow=0.7,SNR=6.2
OTAV Otavalo 142.83 340 *e*PKPdf PKPdf 09 56 17.1 +1.9
SIV San Ignacio 147.44 299 PKPbc PKPbc 09 56 23.3 -2.3
comp=Z,10.0nm,1.0s,baz=79,slow=3.7,SNR=26
CPUP Villa Florida 150.31 279 *e*PKPbc PKPbc 09 56 31.8 -1.2
LPAZ La Paz 152.47 308 PKP PKPdf 09 56 31.9 +0.8
comp=Z,1.5nm,0.9s,baz=29,slow=5.5,SNR=5.0
LPAZ PKPbc PKPbc 09 56 38.9 +0.9
comp=Z,4.4nm,1.0s,baz=25,slow=11,SNR=8.1
LPAZ La Paz 152.47 308 PKIKP PKPdf 09 56 31.9 +0.8
LPAZ 09 56 38.9
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ pmax pmax
comp=Z,4.0nm,1.0s

*IDC **01** 09:40:02.8±0.8, 3513N×8935E, h0km, mb4.0/12, mb1 4.2/15, mb1mx4.1/22, mbtmp4.0/15, ML3.5/3, Error ellipse: s-maj=29.1km s-min=16.3km az=50.0*
*NEIC **01** 09:40:04.4±0.5, 3517N×8941E, h10km, mb4.4/2, Error ellipse: s-maj=14.3km s-min=9.5km az=65.0*
*MOS **01** 09:40:06.3±1.2, 3517N×8940E, h37km, mb4.4/13, Error ellipse: s-maj=19.4km s-min=10.3km az=109.3*
*ISCJB **01** 09:40:07.8±1.5, 3523N±006×895E±0.1, h50km±15km, mb4.1/17, MS4.4/1, Error ellipse: s-maj=15.4km s-min=9.6km az=173.5*
ISC 01 09:40:09.5±1.1, 3531N±005×895E±01, h48km±12km, n44, σ0§99/44, mb4.1/17, MS4.4/1, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**7.99**	**204**	*eP*	**Pn**	**09 42 02.7**	**-0.3**
	50nm,0.8s						
JIRN	**Jiri**	**8.13**	**201**	*eP*	**Pn**	**09 42 05.4**	**+0.5**
	33nm,0.7s						
GKN	**Gorkha**	**8.37**	**211**	*eP*	**Pn**	**09 42 08.7**	**+0.4**
	58nm,1.0s						
PKI	**Pulchoki**	**8.46**	**205**	*eP*	**Pn**	**09 42 09.3**	**-0.2**
	51nm,1.0s						
DMN	**Daman**	**8.54**	**207**	*eP*	**Pn**	**09 42 11.1**	**+0.6**
	75nm,0.9s						
MKAR	**Makanchi Array**	**12.69**	**337**	Pn	**Pn**	**09 43 03.6**	**-3.7**
	0.1nm,0.3s,baz=154,slow=14,SNR=7.1						
AAK	**Ala-Archa**	**13.76**	**307**	*e*Pn	**Pn**	**09 43 21.9**	**-0.1**
SONM	**Songino Array**	**17.74**	**40**	P	**Pn**	**09 44 14.0**	**+1.0**
	0.1nm,0.3s,baz=227,slow=13,SNR=5.6						
ZAL	**Zalesovo**	**18.92**	**351**	P	**Pn**	**09 44 25.9**	**-1.3**
	0.5nm,0.3s,baz=121,slow=18,SNR=5.9						
ZAL	**Zalesovo**	**18.92**	**351**	P	**Pn**	**09 44 26.0**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HYB	**Hyderabad**	**20.31**	**211**	*i* P	**P**	**09 44 40.0**	**-1.4**
HYB	**Hyderabad**	**20.31**	**211**	*e*P	**P**	**09 44 40.0**	**-1.4**
POO	**Poona**	**21.72**	**224⇑**	*i* P	**P**	**09 44 58.0**	**+1.4**
	comp=Z,91nm,1.2s,mb5.1						
BVAR	**Borovoye Array**	**22.28**	**329**	P	**P**	**09 45 01.8**	**-0.8**
	comp=Z,4.4nm,0.9s,mb3.9,baz=139,slow=12,SNR=8.7						
BVAR	**Borovoye Array**	**22.28**	**329**	P	**P**	**09 45 01.8**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	**Borovoye**	**22.35**	**329**	*e*P	**P**	**09 45 04.6**	**+1.3**
	comp=Z,21nm,1.3s,mb4.4						
BRVK	**Borovoye**	**22.35**	**329**	*e*P	**P**	**09 45 04.6**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.4						
ZRNK	**Zerenda**	**22.83**	**327**	*e*P	**P**	**09 45 09.2**	**+0.8**
	comp=Z,12nm,1.2s,mb4.2						
ZRNK	**Zerenda**	**22.83**	**327**	*e*P	**P**	**09 45 09.2**	**+0.8**
ZRNK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.2						
BOD	**Bodaibo**	**27.83**	**28**	*e*P	**P**	**09 45 45.7**	**-8.7**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.2						
KULM	**Kulim**	**31.59**	**158**	*e*P	**P**	**09 46 25.8**	**-1.8**
TIXI	**Tiksi**	**41.76**	**18**	*e*P	**P**	**09 47 53.0**	**-1.0**
TIXI				*e*S	**S**	**09 54 12.1**	**+4.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,417nm,15.0s,MS4.4						
BRTR	**Keskin Array B**	**43.92**	**293**	P	**P**	**09 48 10.9**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.4,baz=106,slow=9.1,SNR=4.1						
BRTR	**Keskin Array B**	**43.92**	**293**	P	**P**	**09 48 11.0**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**45.42**	**309**	P	**P**	**09 48 22.9**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.5,baz=77,slow=6.3,SNR=4.6						
AKASG	**Malin Array Be**	**45.42**	**309**	P	**P**	**09 48 22.9**	**-0.6**
FINES	**FINESS Array B**	**47.12**	**324**	P	**P**	**09 48 35.8**	**-1.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=89,slow=8.4,SNR=3.6						
FINES	**FINESS Array B**	**47.12**	**324**	P	**P**	**09 48 35.8**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**48.34**	**335**	P	**P**	**09 48 46.7**	**+0.4**
	comp=Z,4.9nm,0.9s,mb4.5,baz=332,slow=6.2,SNR=3.5						
ARCES	**ARCESS Array B**	**48.34**	**335**	P	**P**	**09 48 46.7**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NOA	**NORSAR Array B**	**54.31**	**324**	P	**P**	**09 49 30.7**	**-0.3**
	comp=Z,2.1nm,0.9s,mb4.0,baz=80,slow=7.4,SNR=3.0						
NOA	**NORSAR Array B**	**54.31**	**324**	P	**P**	**09 49 30.7**	**-0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**55.63**	**309**	P	**P**	**09 49 40.7**	**+0.1**
	comp=Z,2.5nm,1.0s,mb4.2,baz=46,slow=7.6,SNR=4.3						
GERES	**GERESS Array B**	**55.63**	**309**	P	**P**	**09 49 40.7**	**+0.2**
GERES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**69.48**	**135**	P	**P**	**09 51 12.4**	**-0.6**
	comp=Z,4.6nm,1.0s,mb4.4,baz=329,slow=6.3,SNR=25						
WRA	**Warramunga Arr**	**69.48**	**135**	P	**P**	**09 51 12.4**	**-0.5**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ILAR	**Eielson Array**	**70.99**	**22**	P	**P**	**09 51 23.9**	**+1.8**
	comp=Z,1.4nm,1.0s,mb3.9,baz=314,slow=6.6,SNR=4.6						
ILAR	**Eielson Array**	**70.99**	**22**	P	**P**	**09 51 24.0**	**+1.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**72.18**	**138**	P	**P**	**09 51 29.2**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=332,slow=5.6,SNR=9.0						
ASAR	**Alice Springs**	**72.18**	**138**	P	**P**	**09 51 29.3**	**0.0**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**80.62**	**11**	P	**P**	**09 52 18.5**	**+1.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=334,slow=5.3,SNR=7.9						
YKA	**Yellowknife Ar**	**80.62**	**11**	P	**P**	**09 52 18.5**	**+1.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.76**	**280**	P	**P**	**09 52 18.7**	**+0.9**
	comp=Z,1.5nm,0.6s,mb4.1,baz=46,slow=4.7,SNR=7.2						
SIV	**San Ignacio**	**147.42**	**299**	PKPbc	PKPbc	09 59 49.6	+1.5
	comp=Z,2.7nm,0.9s,baz=104,slow=4.5,SNR=5.9						

*HLW **01** 09:40:59.6, 3130N×3550E, h20km, Mb3.3*
*CSEM **01** 09:41:03.3±0.1, 3085N×3506E, h1km, ML2.3, Error ellipse: s-maj=10.0km s-min=2.8km az=113.0, Mining explosion.*
*GII **01** 09:41:03.7±1.9, 3086N×3509E, h0km±10km, ML2.3/1*
*ISCJB **01** 09:41:04.1±0.5, 3086N±003×3508E±006, h0km, Error ellipse: s-maj=7.1km s-min=3.9km az=27.3*
ISC 01 09:41:04.6±0.5, 3087N±003×3507E±006, h0km, n16, σ1§05/22, 1C-1D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.32**	**163**	Pg	**Pg**	**09 41 10.3**	**-0.6**
SVTA	**Shivta**	**0.39**	**280**	Pg	**Pg**	**09 41 11.2**	**-1.0**
MZDA	**Masada**	**0.51**	**30**	Pg	**Pg**	**09 41 14.3**	**-0.1**
MZDA				Sg	**Sg**	**09 41 22.4**	**+1.4**
MZDA	**Masada**	**0.51**	**30**	Pg	**Pg**	**09 41 14.3**	**-0.1**
MZDA				Sg	**Sg**	**09 41 22.4**	**+1.4**
KZIT	**Kziot**	**0.58**	**274**	Pg	**Pg**	**09 41 17.0**	**+1.3**
KZIT				Sg	**Sg**	**09 41 26.8**	**+3.5**
HRFI	**Mount Harif**	**0.83**	**182**	Pg	**Pg**	**09 41 20.7**	**+0.2**
HRFI				Sg	**Sg**	**09 41 33.3**	**+2.1**
MKRJ	**Makawir**	**0.84**	**35**	Pg	**Pg**	**09 41 20.9**	**+0.1**
MBH	**Mount Berech**	**1.08**	**187**	Pg	**Pg**	**09 41 25.4**	**+0.1**
AQBJ	**Aqaba**	**1.13**	**181**	Pg	**Pg**	**09 41 26.1**	**-0.3**
EIL	**Elat**	**1.20**	**185**	Pg	**Pg**	**09 41 27.2**	**-0.3**
MMLI	**Mount Malkishu**	**1.60**	**11**	Pn	**Pn**	**09 41 33.7**	**-0.4**
HBST	**Basata**	**1.67**	**190**	⇑P	**Pn**	**09 41 34.1**	**-1.0**
HBST				S	**Sn**	**09 41 58.6**	**+1.4**
HDHB	**Dhahab**	**2.17**	**191**	P	**Pn**	**09 41 40.5**	**-1.6**
HDHB				S	**Sn**	**09 42 10.5**	**+0.9**
SUZ		**2.19**	**243**	⇓P	**Pn**	**09 41 41.2**	**-1.0**
ZAF		**2.69**	**235**	P	**Pn**	**09 41 48.6**	**-0.6**
TR2		**2.73**	**206**	P	**Pn**	**09 41 48.6**	**-1.2**

*IDC **01** 09:41:03.0±2.5, 3821S×7372W, h0km, mb3.9/6, mb1 3.8/8, mb1mx3.7/15, mbtmp3.7/8, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/14, Error ellipse: s-maj=65.7km s-min=22.0km az=92.0*
*ISCJB **01** 09:41:11.8±0.7, 3828S±004×729W±0.1, h58km±5km, mb3.9/7, Error ellipse: s-maj=19.7km s-min=5.3km az=19.9*
*NEIC **01** 09:41:11.3, 3832S×7310W, h40km, mb4.4/1, After GUC.*
*GUC **01** 09:41:11.3±1.1, 3832S×7310W, h40km±5km, ML4.4*
ISC 01 09:41:12.5±0.8, 3830S±004×730W±02, h50km±6km, n23, σ1§04/33, mb3.9/7, 3C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**0.54**	**145**	⇑*i*P	**Pn**	**09 41 22.8**	**-1.4**
TMU				*i* S	**Sn**	**09 41 31.8**	**-0.7**
AGCH	**Angol**	**0.54**	**26**	*e*P	**Pn**	**09 41 23.5**	**-0.7**
AGCH				*i* S	**Sn**	**09 41 32.4**	**-0.2**
AGCH				AMP		09 41 39.9	
	comp=N,34μm,0.5s						
VLCH	**Valdivia**	**1.52**	**187**	*e*P	**Pn**	**09 41 37.9**	**+0.7**
VLCH				*i* S	**Sn**	**09 41 58.0**	**+2.1**
VLCH				AMP		09 42 05.4	
	comp=E,14μm,0.2s						
VLCH	**Valdivia**	**1.52**	**187**	*e*P	**Pn**	**09 41 37.9**	**+0.7**
VLCH				*i* S	**Sn**	**09 41 58.0**	**+2.1**
CCHI	**Chillan**	**1.84**	**24**	⇑*i*P	**Pn**	**09 41 42.3**	**+0.7**
CCHI				*i* S	**Sn**	**09 42 05.5**	**+1.8**
CCHI				AMP		09 42 26.4	
	comp=E,4μm,0.5s						
CCHI	**Chillan**	**1.84**	**24**	⇑*i*P	**Pn**	**09 41 42.3**	**+0.7**
CCHI				*i* S	**Sn**	**09 42 05.5**	**+1.8**
PLCA	**Paso Flores**	**3.08**	**143**	Pn	**Pn**	**09 41 59.4**	**+0.8**
	comp=E,2.8nm,0.3s,baz=308,slow=9.6,SNR=94						
PLCA				Sn	**Sn**	**09 42 45.8**	**+12**
	comp=E,10nm,0.3s,baz=36,slow=21,SNR=5.4						
PLCA				LR	LR	09 43 26.6	
	comp=E,268nm,19.9s,baz=321,slow=41						
PLCA	**Paso Flores**	**3.08**	**143**	*e*Pn	**Pn**	**09 41 59.0**	**+0.4**
PLCA				Sn	**Sn**	**09 42 45.8**	**+12**
PLCA				LR	LR	09 43 26.6	
NICH	**Los Niches**	**3.58**	**24**	*e*P	**Pn**	**09 42 05.0**	**-0.4**
SFDO	**San Fernando**	**4.01**	**24**	*e*P	**Pn**	**09 42 10.1**	**-1.2**
CICH	**Cipreses**	**4.48**	**28**	*e*P	**Pn**	**09 42 18.7**	**+0.9**
CACH	**El Canelo**	**4.60**	**26**	*e*P	**Pn**	**09 42 20.6**	**+1.2**
FCH	**Farellones**	**5.42**	**25**	*e*P	**Pn**	**09 42 29.8**	**-1.0**
FCH				*i* S	**Sn**	**09 43 31.9**	**+0.1**
CFAA	**Coronel Fontan**	**7.73**	**32**	Pn	**Pn**	**09 43 00.8**	**-1.6**
	comp=E,0.1nm,0.3s,baz=210,slow=13,SNR=8.9						
CFAA				Sn	**Sn**	**09 44 30.4**	**+1.8**
	comp=E,0.1nm,0.3s,baz=299,slow=19,SNR=2.3						
TRQA	**Tornquist**	**8.68**	**92**	Pn	**Pn**	**09 43 15.1**	**-0.3**
	comp=E,6.9nm,0.6s						
LPAZ	**La Paz**	**22.34**	**12**	P	**P**	**09 46 04.0**	**-1.9**
	comp=E,0.5nm,0.5s,mb3.2,baz=191,slow=19,SNR=2.0						
LPAZ	**La Paz**	**22.34**	**12**	P	**P**	**09 46 04.0**	**-1.9**
SIV	**San Ignacio**	**24.57**	**29**	P	**P**	**09 46 26.8**	**-0.8**
	comp=E,0.7nm,0.8s,mb3.3,baz=220,slow=11,SNR=5.1						
BDFB	**Brasilia**	**31.52**	**51**	P	**P**	**09 47 30.6**	**+1.0**
	comp=E,0.7nm,0.3s,mb4.0,baz=172,slow=7.1,SNR=2.1						
SNAA	**Sanae**	**47.94**	**156**	P	**P**	**09 49 45.4**	**-0.5**
	comp=E,2.3nm,1.1s,mb4.1,baz=270,slow=10,SNR=4.3						
QSPA	**South Pole Qui**	**51.95**	**180**	*e*P	**P**	**09 50 16.1**	**-0.2**
	comp=E,3.8nm,0.8s,mb4.4						
DBIC	**Dimbokro**	**77.30**	**71**	P	**P**	**09 53 01.8**	**+0.2**
	comp=E,1.9nm,0.8s,mb4.1,baz=188,slow=4.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**86.39**	**70**	P	**P**	**09 53 49.6**	**+0.2**
	comp=E,1.3nm,0.6s,mb4.4,baz=223,slow=4.0,SNR=14						

*IDC **01** 09:42:33.4±0.9, 3523N×8963E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/21, mbtmp3.9/10, ML3.2/2, Error ellipse: s-maj=35.9km s-min=18.3km az=55.0*
*NEIC **01** 09:42:35.0±0.8, 3524N×8960E, h10km, mb3.8/1, Error ellipse: s-maj=26.0km s-min=13.0km az=60.0*
*MOS **01** 09:42:36.6±1.3, 3520N×8961E, h33km, mb4.1/8, Error ellipse: s-maj=36.3km s-min=19.0km az=103.4*
*ISCJB **01** 09:42:37.9±5.4, 352N±0.1×897E±02, h45km±49km, mb3.8/9, Error ellipse: s-maj=32.4km s-min=16.4km az=106.5*
ISC 01 09:42:40.0±4.3, 353N±01×897E±02, h48km±40km, n23, σ0§70/23, mb3.8/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.79**	**337**	Pn	**Pn**	**09 45 34.2**	**-4.8**
	0.1nm,0.3s,baz=148,slow=14,SNR=5.4						
AAK	**Ala-Archa**	**13.90**	**306**	*e*P	**Pn**	**09 46 01.4**	**+7.1**
SONM	**Songino Array**	**17.69**	**40**	P	**Pn**	**09 46 43.0**	**+0.2**
	0.1nm,0.3s,baz=223,slow=14,SNR=3.3						
BVAR	**Borovoye Array**	**22.39**	**328**	P	**P**	**09 47 33.5**	**-0.6**
	1.5nm,0.8s,mb3.5,baz=134,slow=12,SNR=3.4						
BVAR	**Borovoye Array**	**22.39**	**328**	P	**P**	**09 47 33.5**	**-0.6**
BVAR	**Borovoye Array**	**22.39**	**328**	P	**P**	**09 47 33.5**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**22.45**	**328**	*e*P	**P**	**09 47 35.3**	**+0.5**
	comp=Z,2.4nm,0.6s,mb3.8						
BRVK	**Borovoye**	**22.45**	**328**	*e*P	**P**	**09 47 35.3**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
KULM	**Kulim**	**31.50**	**159**	*e*P	**P**	**09 48 56.5**	**-0.8**
FINES	**FINESS Array B**	**47.24**	**324**	P	**P**	**09 51 09.7**	**+1.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=102,slow=8.0,SNR=4.9						
FINES	**FINESS Array B**	**47.24**	**324**	P	**P**	**09 51 09.7**	**+1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**54.42**	**324**	P	**P**	**09 52 01.5**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=97,slow=4.3,SNR=3.3						
NOA	**NORSAR Array B**	**54.42**	**324**	P	**P**	**09 52 01.5**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**69.35**	**135**	P	**P**	**09 53 43.2**	**+0.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=327,slow=6.7,SNR=15						
WRA	**Warramunga Arr**	**69.35**	**135**	P	**P**	**09 53 43.2**	**+0.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**70.98**	**22**	P	**P**	**09 53 52.0**	**-0.5**
	comp=Z,1.1nm,0.9s,mb3.8,baz=303,slow=5.0,SNR=6.0						
ILAR	**Eielson Array**	**70.98**	**22**	P	**P**	**09 53 52.1**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**72.05**	**138**	P	**P**	**09 53 59.6**	**+0.6**
	comp=Z,1.9nm,0.8s,mb4.0,baz=327,slow=6.2,SNR=8.5						
ASAR	**Alice Springs**	**72.05**	**138**	P	**P**	**09 53 59.6**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**80.64**	**11**	P	**P**	**09 54 47.0**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=334,slow=5.2,SNR=8.0						
YKA	**Yellowknife Ar**	**80.64**	**11**	P	**P**	**09 54 47.0**	**-0.6**
YKA	**Yellowknife Ar**	**80.64**	**11**	P	**P**	**09 54 47.0**	**-0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.90**	**280**	P	**P**	**09 54 49.1**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=54,slow=4.6,SNR=5.6						

*TIR **01** 09:51:31.9, 4221N×1942E, h26km, Ml3.7*
*MOS **01** 09:51:32.0±0.9, 4222N×1940E, h10km, mb4.0/7, Error ellipse: s-maj=5.5km s-min=3.6km az=98.2*
*PDG **01** 09:51:33.0±0.1, 4220N×1941E, h23km*
PDG Felt at: Podgorica, Bar, Ulcinj IV-V MCS.
*BJI **01** 09:51:32.2, 4220N×1940E, h17km, mB4.6, mb4.5, Ms4.5, Msz4.3*
*LDG **01** 09:51:32.2±0.1, 4219N×1939E, h10km, Ml4.0/4, Error ellipse: s-maj=3.0km s-min=2.0km az=171.0*
*ISCJB **01** 09:51:33.7±0.2, 4220N±001×1936E±002, h27km±2km, mb3.8/12, Error ellipse: s-maj=2.3km s-min=1.6km az=94.1*
*CSEM **01** 09:51:33.5±0.1, 4224N×1942E, h20km, Ms3.8, Error ellipse: s-maj=1.2km s-min=1.1km az=159.0*
*NEIC **01** 09:51:33.3, 4220N×1942E, h17km, ML3.9(ROM), ML3.9(PDG), ML3.9(CSEM), ML4.0(LDG), ML4.4(THE), After PDG.*
*VIE **01** 09:51:33.2±0.9, 4219N×1936E, h10km, mb3.5/4, Ms3.8/4, Error ellipse: s-maj=8.9km s-min=5.2km az=90.0 32 km ENE of Shkoder*
*SKO **01** 09:51:33.4, 4227N×1952E, h0km*
*THE **01** 09:51:34.9, 4218N×1948E, h11km, ML4.2*
*IDC **01** 09:51:37.3±2.0, 4221N×1935E, h58km±18km, mb3.5/10, mb1 3.7/19, mb1mx3.6/27, mbtmp3.8/19, ML4.0/10, MS3.0/3, Ms1 3.0/3, ms1mx2.8/25, Error ellipse: s-maj=14.9km s-min=12.3km az=176.0*
*PRU **01** 09:51:39.8, 4259N×1841E, h0km*
ISC 01 09:51:33.7±0.3, 4218N±001×1939E±001, h13km±1km, n220, σ1§20/304, mb3.8/12, 17C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.24**	**207**	⇓*i*Pg	**Pg**	**09 51 39.1**	**+0.3**
ULC				*e*Sg	**Sg**	**09 51 44.2**	**+2.0**
TTG	**Podgorica**	**0.27**	**339**	⇑*i*Pg	**Pg**	**09 51 39.3**	**0.0**
TTG				*e*Sg	**Sg**	**09 51 44.3**	**+1.2**
BUM	**Brajici-Budva**	**0.39**	**289**	⇓*i*Pg	**Pg**	**09 51 41.7**	**+0.2**
BUM				*e*Sg	**Sg**	**09 51 48.3**	**+1.6**
BCI	**Bajram Curri**	**0.53**	**69**	*i* Pg	**Pg**	**09 51 42.9**	**-1.3**
BCI				*i* Sg	**Sg**	**09 51 51.8**	**+0.5**
LACI	**Lac**	**0.59**	**156**	*i* pg?	**Pg**	**09 51 50.7**	**+5.5**
PVY	**Plav**	**0.60**	**46**	⇓*i*Pg	**Pg**	**09 51 44.2**	**-1.2**
PVY				*e*Sg	**Sg**	**09 51 53.5**	**+0.2**
NKY	**Niksic**	**0.70**	**335**	⇑*i*Pg	**Pg**	**09 51 46.1**	**-1.2**
NKY				*e*Sg	**Sg**	**09 51 57.2**	**+0.8**
HCY	**Herceg Novi**	**0.72**	**292**	⇑*i*Pg	**Pg**	**09 51 46.7**	**-0.9**
HCY				*e*Sg	**Sg**	**09 51 58.6**	**+1.6**
IVA	**Berane**	**0.79**	**28**	⇓*i*Pg	**Pg**	**09 51 47.7**	**-1.3**
IVA				*e*Sg	**Sg**	**09 51 59.4**	**+0.1**
IVA	**Berane**	**0.79**	**28**	⇓*i*Pg	**Pg**	**09 51 47.7**	**-1.2**
IVA				*e*Sg	**Sg**	**09 51 59.3**	**0.0**
TIR	**Tirane**	**0.90**	**157**	*e*Pg	**Pg**	**09 51 50.0**	**-1.1**
TIR				*e*Sg	**Sg**	**09 52 04.8**	**+1.9**
TIR	**Tirane**	**0.90**	**157**	*e*Pg	**Pg**	**09 51 50.0**	**-1.1**
TIR				*e*Sg	**Sg**	**09 52 04.8**	**+1.9**
TREB	**Trebinje**	**0.94**	**305**	P	**Px**	09 51 34.5	
TREB				S	Sx	09 51 50.2	
BRY	**Bratogost**	**0.96**	**319**	⇑*i*Pg	**Pg**	**09 51 50.6**	**-1.6**
BRY				*e*Sg	**Sg**	**09 52 06.0**	**+1.3**
UPM	**Unac-Piva**	**1.08**	**341**	⇓*i*Pg	**Pg**	**09 51 53.0**	**-1.6**
UPM				*e*Sg	**Sg**	**09 52 10.0**	**+1.3**
PLE	**Pljevlja**	**1.15**	**360**	⇓*i*Pg	**Pg**	**09 51 54.3**	**-1.5**
PLE				*e*Sg	**Sg**	**09 52 11.6**	**+0.7**
KOZJ	**Kozjak Brana**	**1.38**	**102**	*e*Pn	**Pn**	**09 51 57.6**	**-1.0**
KOZJ				*i*		09 51 58.6	
KOZJ				*i* Sn	**Sn**	**09 52 17.6**	**+0.9**
KOZJ				*i*		09 52 19.3	
SAMO	**Samokov**	**1.39**	**110**	*e*Pn	**Pn**	**09 51 58.1**	**-0.7**
SAMO				*i*		09 51 59.5	
SAMO				*i* Sn	**Sn**	**09 52 18.2**	**+1.2**
SAMO				*i*		09 52 19.7	
STON	**Ston**	**1.43**	**300**	*i* Pn	**Pn**	**09 51 58.8**	**-0.6**
STON				*i* Sn	**Sn**	**09 52 20.1**	**+2.0**
STON	**Ston**	**1.43**	**300**	*i* Pn	**Pn**	**09 51 58.7**	**-0.7**
BELI	**Belica**	**1.49**	**109**	*e*Pn	**Pn**	**09 51 58.6**	**-1.5**

BLY			S	Sn	09 52 57.5	-0.1
ORI	**Oriolo Calabro**	**3.07 227**	Pn	Pn	09 52 22.4	+0.5
FG4	**Candela**	**3.09 252**	Pn	Pn	09 52 23.9	+1.7
THE	**Thessaloniki**	**3.10 119**	*e*Pn	Pn	09 52 22.9	+0.6
THE			*e*Sn	Sn	09 52 59.4	+0.1
THE	**Thessaloniki**	**3.10 119**	*e*Pn	Pn	09 52 22.9	+0.6
THE			*e*Sn	Sn	09 52 59.3	+0.1
LIT	**Litokhoron**	**3.13 131**	*e*Pn	Pn	09 52 23.3	+0.6
LIT			*e*Sn	Sn	09 53 00.2	+0.3
FG2	**Serracapriola**	**3.18 265**	Pn	Pn	09 52 22.9	-0.5
FG5	**Orsara di Pugl**	**3.21 255**	Pn	Pn	09 52 25.2	+1.3
SRS	**Serrai**	**3.32 107**	*e*Pn	Pn	09 52 25.9	+0.6
SRS			*e*Sn	Sn	09 53 05.1	+0.4
DJES	**Djerdap**	**3.35 42**	*e*Pn	Pn	09 52 26.2	+0.4
DJES			Sn	Sn	09 53 05.1	-0.4
NVR	**Nevrokopi**	**3.44 102**	*e*P	Pn	09 52 27.9	+0.8
MGR	**Morigerati**	**3.54 236**	Pn	Pn	09 52 28.3	-0.2
TIP	**Timpagrande**	**3.60 215**	*e*Pn	Pn	09 52 27.9	-1.4
TIP	**Timpagrande**	**3.60 215**	*e*Pn	Pn	09 52 27.9	-1.4
EVR	**Evrytania**	**3.74 150**	*e*P	Pn	09 52 32.5	+1.3
BZS	**Buzias**	**3.79 24**	P	Pn	09 52 31.4	-0.5
CII	**Carovilli**	**3.82 265**	Pn	Pn	09 52 33.3	+1.0
AGG	**Agios Georgios**	**3.86 144**	*e*Pn	Pn	09 52 33.0	+0.2
AGG			*e*Sn	Sn	09 53 18.9	+0.8
MIDA	**Miranda**	**3.87 264**	Pn	Pn	09 52 33.3	+0.3
PAIG	**Paliouri**	**3.94 123**	*e*Pn	Pn	09 52 34.0	0.0
PAIG			*e*Sn	Sn	09 53 20.6	+0.5
XOR	**Xorichti**	**4.03 133**	*e*Pn	Pn	09 52 35.0	-0.1
XOR			*e*Sn	Sn	09 53 23.0	+0.9
NVLJ	**Novalja**	**4.07 307**	*e*Pn	Pn	09 52 36.0	+0.3
NVLJ			*i* Sn	Sn	09 53 23.6	+0.4
NVLJ	**Novalja**	**4.07 307**	*e*Pn	Pn	09 52 35.9	+0.2
PKSM	**Moragy**	**4.07 353**	P	Pn	09 52 35.7	0.0
INTR	**Introdacqua**	**4.09 270**	Pn	Pn	09 52 35.2	-0.7
VLS	**Valsamata**	**4.10 167**	*e*P	Pn	09 52 34.5	-1.6
AQU	**L'Aquila**	**4.45 274**	*e*P	Pn	09 52 40.9	0.0
PTQR	**Pietraquaria**	**4.46 270**	Pn	Pn	09 52 42.5	+1.4
LKR	**Lokris**	**4.47 141**	*e*P	Pn	09 52 41.1	-0.1
BOJS	**Bojanci**	**4.47 319**	*i* Pn	Pn	09 52 42.4	+1.1
BOJS			*e*Sn	Sn	09 53 36.4	+3.2
BOJS	**Bojanci**	**4.47 319**	*i* Pn	Pn	09 52 42.3	+1.0
FIAM	**Fiamignano**	**4.66 273**	Pn	Pn	09 52 44.8	+1.0
NRCA	**Norcia**	**4.69 280**	Pn	Pn	09 52 44.3	+0.1
RDO	**Rodhopi**	**4.72 101**	*e*P	Pn	09 52 44.9	+0.3
CING	**Cingoli**	**4.72 287**	Pn	Pn	09 52 44.2	-0.4
KOGS	**Kog**	**4.83 333**	*e*Pn	Pn	09 52 47.2	+1.1
KOGS			*e*Sn	Sn	09 53 40.6	-1.3
ARV	**Arcevia**	**4.92 288**	Pn	Pn	09 52 47.1	-0.3
KNDS	**Knezji Dol**	**4.94 314**	*e*Pn	Pn	09 52 48.5	+0.9
KNDS			*e*Sn	Sn	09 53 45.6	+1.1
MNS	**Montasola**	**4.99 275**	Pn	Pn	09 52 48.7	+0.4
	39nm,0.7s					
MNS	**Montasola**	**4.99 275**	P	Pn	09 52 48.7	+0.4
MNS			pmax	pmax		
	comp=Z,39nm,0.7s					
ALN	**Alexandroupoli**	**5.15 102**	*e*Pn	Pn	09 52 51.6	+1.0
ALN			*e*Sn	Sn	09 53 51.8	+1.9
MURB	**Monte Urbino**	**5.18 284**	Pn	Pn	09 52 51.5	+0.6
	comp=Z,177nm,0.3s					
LJU	**Ljubljana**	**5.22 319**	*e*Pn	Pn	09 52 52.5	+1.1
MPAR	**Parnis Oros**	**5.22 139**	*e*P	Pn	09 52 51.5	0.0
PIEI	**Pieia**	**5.22 287**	Pn	Pn	09 52 51.3	-0.2
	comp=Z,25nm,0.6s					
VOIR		**5.23 50**	P	Pn	09 52 52.5	+0.9
BUD	**Budapest**	**5.31 357**	*e*Pnc		09 52 52.5	
BUD			*e*Sn	Sn	09 53 53.4	-0.4
JMB	**Yambol**	**5.34 84**	*e*Pn	Pn	09 52 53.2	+0.1
JMB			*e*Sn	Sn	09 53 51.7	-2.7
ITM	**Ithomi**	**5.36 158**	*e*P	Pn	09 52 53.5	+0.1
PERS	**Pernice**	**5.41 327**	*i* Pn	Pn	09 52 54.9	+0.8
PERS			*e*Sn	Sn	09 53 55.4	-0.8
NAIG	**Nisos Aigina**	**5.42 143**	*e*P	Pn	09 52 53.4	-0.8
BADI	**Badiali**	**5.42 287**	Pn	Pn	09 52 55.1	+0.8
	comp=Z,137nm,0.9s					
SNX	**Sinaia**	**5.45 52**	P	Pn	09 52 56.1	+1.4
KVR	**Kavouri**	**5.49 141**	*e*P	Pn	09 52 54.5	-0.7
VOY	**Vojsko**	**5.52 316**	*e*Pn	Pn	09 52 56.3	+0.6
VOY			*e*Sn	Sn	09 53 59.6	+0.5
OBKA	**Obir**	**5.55 323**	⇑*i*Pn	Pn	09 52 57.1	+1.1
OBKA			⇓*i*Sn	Sn	09 54 00.5	+0.7
SRO2	**Moca**	**5.63 353**	*e*SN	Sn	09 54 02.7	+1.0
SRO1	**Iza**	**5.64 352**	*e*SN	Sn	09 54 03.1	+1.1
SRO	**Srobarova**	**5.69 353**	*e*SN	Sn	09 54 03.0	-0.1
PSZ	**Piszkesteto**	**5.75 3**	⇑*i*Pn	Pn	09 52 58.2	-0.6
PSZ			*e*Sn	Sn	09 54 02.0	-2.7
PSZ	**Piszkesteto**	**5.75 3**	*e*Pn	Pn	09 52 57.9	-0.9
	comp=Z,92nm,0.8s					
PSZ			*e*Sn	Sn	09 54 01.2	-3.5
PSZ	**Piszkesteto**	**5.75 3**	*e*Pn	Pn	09 52 57.9	-0.9
	comp=Z,92nm,0.8s					
PSZ			*e*Sn	Sn	09 54 01.2	-3.5
PSZ	**Piszkesteto**	**5.75 3**	*e*P	Pn	09 52 57.9	-0.9
PSZ			*e*		09 54 01.2	
PSZ			pmax	pmax		
	comp=Z,92nm,0.8s					
ARSA	**Arzberg**	**5.77 333**	⇑Sn	Sn	09 54 04.5	-0.7
ARSA	**Arzberg**	**5.77 333**	⇓*i*Pn	Pn	09 52 59.6	+0.5
	SNR=9.7					
ARSA			⇑*i*Sn	Sn	09 54 04.5	-0.7
MLR	**Muntele Rosu**	**5.78 53**	P	Pn	09 53 00.4	+1.2
	comp=Z,9.7nm,0.3s,baz=196,slow=1.8,SNR=24					
MLR			S	Sn	09 54 07.4	+2.0
	comp=Z,5.2nm,0.3s,baz=284,slow=18,SNR=5.2					
MLR	**Muntele Rosu**	**5.78 53**	⇓P	Pn	09 53 01.1	+1.9
MLR	**Muntele Rosu**	**5.78 53**	⇓P	Pn	09 53 01.1	+2.0
MLR	**Muntele Rosu**	**5.78 53**	P	Pn	09 53 00.4	+1.2
MLR			S	Sn	09 54 07.4	+2.0
MLR			pmax	pmax		
	comp=Z,10.0nm,0.3s					
ROBS	**Robic**	**5.87 316**	*e*Pn	Pn	09 53 00.6	+0.2
ROBS			*e*Sn	Sn	09 54 07.1	-0.3
PTCC	**Patocco-Chiusa**	**6.05 316**	Pn	Pn	09 53 03.9	+1.0
VAE	**Valguarnera**	**6.06 221**	LR	LR	09 54 55.8	
	comp=Z,94nm,21.4s,baz=291,slow=32					
ZST	**Bratislava**	**6.23 346**	*e*PN	Pn	09 53 06.8	+1.4
ZST			*e*SN	Sn	09 54 12.5	-4.0
VRI	**Vrincioaia**	**6.44 53**	P	Pn	09 53 09.2	+0.9
FVI	**Forni Avoltri**	**6.48 315**	P	Pn	09 53 09.7	+0.9
	comp=Z,37nm,0.7s					
FVI	**Forni Avoltri**	**6.48 315**	P	Pn	09 53 09.7	+0.9
FVI			pmax	pmax		
	comp=Z,37nm,0.7s					
KBA	**Koelnbreinsper**	**6.53 321**	⇑Sn	Sn	09 54 25.4	+1.6
KBA	**Koelnbreinsper**	**6.53 321**	⇑*i*Pn	Pn	09 53 10.0	+0.6
KBA			⇑*i*Sn	Sn	09 54 25.4	+1.6
MOA	**Molln**	**6.73 329**	⇓Sn	Sn	09 54 29.1	+0.2
MOA	**Molln**	**6.73 329**	*i* Pn	Pn	09 53 14.8	+2.5
	SNR=17					
MOA			⇓*i*Sn	Sn	09 54 29.1	+0.2
CTI	**Castel Tesino**	**6.78 307**	Pn	Pn	09 53 13.0	0.0
	comp=Z,34nm,0.5s					
CTI	**Castel Tesino**	**6.78 307**	P	Pn	09 53 13.0	0.0
CTI			pmax	pmax		
	comp=Z,34nm,0.5s					
BURAR	**Bucovina Array**	**6.83 35**	⇓P	Pn	09 53 15.3	+1.7
BURAR	**Bucovina Array**	**6.83 35**	⇓P	Pn	09 53 15.3	+1.8
CRVS	**Cervenica-Dubn**	**6.88 11**	*e*PN	Pn	09 53 14.4	+0.1
CRVS			*e*SN	Sn	09 54 28.9	-3.5
APE	**Apeiranthos**	**6.96 135**	⇓P	Pn	09 53 12.0	-3.4
TIRR	**Tirgusor**	**6.96 68**	⇓P	Pn	09 53 16.7	+1.3
KOLS	**Kolonicke sedl**	**7.05 16**	*e*PN	Pn	09 53 16.6	0.0
NIE	**Niedzica**	**7.27 5**	*e*Pn	Pn	09 53 20.9	+1.3
NIE			*e*Sn	Sn	09 54 41.7	-0.4
STHS	**Stebnicka Huta**	**7.35 9**	*i* PN	Pn	09 53 21.9	+1.1
STHS			*e*SN	Sn	09 54 43.4	-0.7
VRAC	**Vranov**	**7.39 346**	P	Pn	09 53 22.1	+0.7
	comp=Z,0.5nm,0.3s,baz=176,slow=19,SNR=3.2					
VRAC			S	Sn	09 54 45.2	0.0
	comp=Z,2.2nm,0.3s,baz=52,slow=14,SNR=5.4					
VRAC			LR	LR	09 56 01.7	
	comp=Z,102nm,18.1s,baz=172,slow=36					
VRAC	**Vranov**	**7.39 346**	*e*Pn	Pn	09 53 20.4	-1.0
VRAC	**Vranov**	**7.39 346**	⇓P	Pn	09 53 22.2	+0.8
VRAC			S	Sn	09 54 45.2	+0.1
	comp=Z,102nm,18.1s					
VRAC	**Vranov**	**7.39 346**	⇓P	Pn	09 53 22.2	+0.9
VRAC	**Vranov**	**7.39 346**	P	Pn	09 53 22.1	+0.7
VRAC			S	Sn	09 54 45.2	+0.1
VRAC			pmax	pmax		
	comp=Z,1.0nm,0.3s					
VRAC			MLR	MLR		
	comp=Z,102nm,18.1s					
SQTA	**Sankt Quirin**	**7.71 314**	⇑Sn	Sn	09 54 52.4	-0.4
SQTA	**Sankt Quirin**	**7.71 314**	⇑*i*Pn	Pn	09 53 25.7	0.0
SQTA			⇑*i*Sn	Sn	09 54 52.4	-0.4
PGF	**Pioggiola**	**7.71 276**	*e*Pn	Pn	09 53 22.5	-3.2
MORC	**Moravsky Berou**	**7.71 351**	*e*P	Pn	09 53 26.5	+0.8
	comp=Z,8.0nm,0.6s					
MORC	**Moravsky Berou**	**7.71 351**	*e*Pn	Pn	09 53 26.5	+0.9
	comp=Z,7.8nm,0.6s					
MORC			*e*Sn	Sn	09 54 48.7	-4.2
MORC	**Moravsky Berou**	**7.71 351**	*e*P	Pn	09 53 26.5	+0.8
MORC			*e*		09 54 48.7	
MORC			pmax	pmax		
	comp=Z,8.0nm,0.6s					
GERES	**GERESS Array B**	**7.77 331**	P	Pn	09 53 27.7	+1.2
	comp=Z,0.8nm,0.3s,baz=156,slow=14,SNR=16					
GERES			S	Sn	09 54 54.0	-0.5
	comp=Z,0.9nm,0.3s,baz=141,slow=26,SNR=5.6					
GERES			LR	LR	09 56 34.0	
	comp=Z,129nm,20.2s,baz=295,slow=38					
GERES	**GERESS Array B**	**7.77 331**	P	Pn	09 53 27.7	+1.2
	comp=Z,1.0nm,0.3s					
GERES			S	Sn	09 54 54.0	-0.4
	comp=Z,129nm,20.2s					
GERES	**GERESS Array B**	**7.77 331**	P	Pn	09 53 27.7	+1.2
GERES			S	Sn	09 54 54.0	-0.4
GERES			pmax	pmax		
	comp=Z,1.0nm,0.3s					
GERES			MLR	MLR		
	comp=Z,129nm,20.2s					
KWP	**Kalwaria**	**7.80 16**	*e*P	Pn	09 53 28.6	+1.6
	comp=Z,18nm,0.7s					
KWP	**Kalwaria**	**7.80 16**	*e*Pn	Pn	09 53 28.6	+1.6
	comp=Z,18nm,0.7s					
KWP	**Kalwaria**	**7.80 16**	*e*P	Pn	09 53 28.6	+1.6
KWP			pmax	pmax		
	comp=Z,18nm,0.7s					
MOTA	**Moosalm**	**7.84 314**	⇑Sn	Sn	09 54 56.7	+0.7
MOTA	**Moosalm**	**7.84 314**	⇓*i*Pn	Pn	09 53 27.5	+0.1
	SNR=6.3					
MOTA			⇑*i*Sn	Sn	09 54 56.7	+0.7
OJC	**Ojcow**	**8.05 2**	*e*Pn	Pn	09 53 31.5	+1.2
OJC			*e*Sn	Sn	09 54 58.7	-2.5
KHC	**Kasperske Hory**	**8.06 332**	*e*PN	Pn	09 53 33.2	+2.8
KHC			*e*SN	Sn	09 54 59.1	-2.3
KHC			x	x	09 55 08.5	
KHC			x	x	09 55 30.0	
KHC	**Kasperske Hory**	**8.06 332**	*e*P	Pn	09 53 33.2	+2.8
KHC			*e*		09 54 59.1	
IDI	**Anoyia**	**8.11 146**	P	Pn	09 53 28.0	-3.2
	comp=Z,1.7nm,0.3s,baz=296,slow=14,SNR=7.8					
IDI			S	Sn	09 54 53.7	-9.0
	comp=Z,2.3nm,0.3s,baz=112,slow=18,SNR=5.5					
DAVOX	**Davos**	**8.21 307**	P	Pn	09 53 34.4	+1.8
	comp=Z,1.3nm,0.3s,baz=122,slow=20,SNR=7.4					
DAVOX			S	Sn	09 55 04.5	-0.7
	comp=Z,0.9nm,0.3s,baz=188,slow=18,SNR=3.5					
DAVOX	**Davos**	**8.21 307**	P	Pn	09 53 34.4	+1.8
DAVOX			S	Sn	09 55 04.5	-0.7
DPC	**Dobruska-Polom**	**8.45 346**	*e*PN	Pn	09 53 37.0	+1.2
PRU	**Pruhonice**	**8.51 338**	*e*SN	Sn	09 55 08.3	-4.2
SBF	**Sospel**	**8.92 285**	*e*Pn	Pn	09 53 38.9	-3.4
SBF			*e*Sn	Sn	09 55 12.9	-10
	comp=Z,23nm,0.7s					
FRF	**La Foret Royal**	**9.46 283**	*e*Pn	Pn	09 53 45.0	-4.7
MBDF	**Montbardon**	**9.53 290**	*e*Pn	Pn	09 53 48.6	-2.0
MBDF			*e*Sn	Sn	09 55 28.2	-9.4
	comp=Z,12nm,0.7s					
LPG	**La Plagne**	**9.72 294**	*e*Pn	Pn	09 53 50.4	-2.8
LPL	**La Plagne**	**9.74 294**	*e*Pn	Pn	09 53 50.7	-2.8
MOX	**Moxa**	**10.02 330**	*e*PN	Pn	09 53 59.9	+2.5
CLL	**Collm**	**10.13 337**	*ex*	x	09 54 28.0	
CLL			*e*S	Sn	09 55 51.0	-1.3
ORIF	**Oris-en-Rattie**	**10.19 290**	*e*Pn	Pn	09 53 56.8	-2.8
ORIF			*e*Sn	Sn	09 55 44.3	-9.5
	comp=Z,3.3nm,0.3s					
CABF	**La Chapelle**	**10.50 299**	*e*Pn	Pn	09 54 01.3	-2.6
HINF	**Hinteralfeld**	**10.52 307**	*e*Pn	Pn	09 54 00.6	-3.5
AKASG	**Malin Array Be**	**10.88 35**	P	Pn	09 54 09.4	+0.2
	comp=Z,0.7nm,0.3s,baz=225,slow=13,SNR=40					
AKASG	**Malin Array Be**	**10.88 35**	P	Pn	09 54 09.4	+0.2
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
HAU	**Haudompre**	**10.90 307**	*e*Pn	Pn	09 54 06.0	-3.5
VIVF	**Saint-Julien-l**	**11.02 289**	*e*Pn	Pn	09 54 07.7	-3.4
BRTR	**Keskin Array B**	**11.05 98**	P	Pn	09 54 13.2	+1.8
	comp=Z,0.3nm,0.3s,baz=278,slow=11,SNR=4.6					
SMF	**Signal de Mont**	**11.98 297**	*e*Pn	Pn	09 54 19.9	-4.3
LOR	**Lormes**	**12.16 300**	*e*Pn	Pn	09 54 22.8	-3.8
LOR			*e*Sn	Sn	09 56 30.1	-12
	comp=Z,8.5nm,0.6s					
BGF	**Bois d'Agland**	**12.62 296**	*e*Pn	Pn	09 54 28.4	-4.5
HFS	**Hagfors**	**18.32 351**	P	Pn	09 55 46.1	-1.4
	comp=Z,16nm,0.3s,baz=165,slow=12,SNR=13					
NB2	**NORSAR Subarra**	**19.53 348**	P	Pn	09 55 58.6	-3.6
	comp=Z,1.9nm,0.7s,baz=162,slow=11					
NOA	**NORSAR Array B**	**19.53 348**	P	Pn	09 55 58.7	-3.5
	comp=Z,0.6nm,0.3s,baz=154,slow=10,SNR=8.3					
NOA	**NORSAR Array B**	**19.53 348**	P	Pn	09 55 58.7	-3.5
NOA			pmax	pmax		
	comp=Z,1.0nm,0.3s					
FINES	**FINESS Array B**	**19.71 10**	P	Pn	09 56 00.6	-3.7
	comp=Z,0.4nm,0.3s,baz=177,slow=12,SNR=10					
EKA	**Eskdalemuir Ar**	**19.74 320**	P	Pn	09 56 01.9	-2.8
	comp=Z,0.2nm,0.3s,baz=113,slow=8.6,SNR=2.9					
KAF	**Kangasniemi**	**20.39 9**	*e*p	P	09 56 07.8	-2.4
	comp=Z,1.7nm,0.5s					
KAF	**Kangasniemi**	**20.39 9**	*e*P	P	09 56 07.8	-2.4
KAF			pmax	pmax		
	comp=Z,2.0nm,0.5s					
MDT	**Midelt**	**21.16 252**	P	P	09 56 17.5	-1.0
	comp=Z,1.8nm,0.8s,mb3.5,baz=84,slow=10,SNR=3.7					
JOF	**Joensuu**	**21.93 15**	*e*p	P	09 56 27.3	+0.4
	comp=Z,1.7nm,0.6s,mb3.6					
JOF	**Joensuu**	**21.93 15**	*e*P	P	09 56 27.3	+0.4
JOF			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7					
ARCES	**ARCESS Array B**	**27.61 5**	P	P	09 57 17.0	-3.7
	comp=Z,3.3nm,0.8s,mb4.0,baz=197,slow=10,SNR=5.6					
ARCES	**ARCESS Array B**	**27.61 5**	P	P	09 57 17.0	-3.8
ARCES			pmax	pmax		
	comp=Z,3.0nm,0.9s					
TORD	**Torodi Ar. Bea**	**32.76 213**	P	P	09 58 04.5	-1.8
	comp=Z,1.6nm,0.7s,mb4.0,baz=19,slow=9.2,SNR=12					
BVAR	**Borovoye Array**	**35.34 54**	P	P	09 58 27.4	-1.4
	comp=Z,0.5nm,0.4s,mb3.8,baz=253,slow=4.4,SNR=3.0					
BVAR	**Borovoye Array**	**35.34 54**	P	P	09 58 27.4	-1.4
BVAR			pmax	pmax		
	comp=Z,1.0nm,0.4s					
ZAL	**Zalesovo**	**43.75 51**	P	P	09 59 36.4	-2.4
	comp=Z,0.9nm,0.4s,mb3.9,baz=144,slow=18,SNR=2.9					
ZAL	**Zalesovo**	**43.75 51**	P	P	09 59 36.4	-2.4
ZAL			pmax	pmax		
	comp=Z,1.0nm,0.4s					
MKAR	**Makanchi Array**	**44.05 62**	P	P	09 59 38.8	-2.5
	comp=Z,0.7nm,0.6s,mb3.6,baz=277,slow=6.7,SNR=10					
MKAR	**Makanchi Array**	**44.05 62**	P	P	09 59 38.8	-2.4
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
SONM	**Songino Array**	**58.63 52**	P	P	10 01 28.9	-1.6
	comp=Z,0.3nm,0.7s,mb3.4,baz=297,slow=9.5,SNR=3.5					
CD2	**Chengdu**	**66.13 69**	*e*P	P	10 02 21.3	+0.6
CD2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9					
CD2			AMB	AMB		
	comp=Z,50nm,7.2s					
YKA	**Yellowknife Ar**	**69.35 339**	P	P	10 02 38.6	-2.4
	comp=Z,0.1nm,0.4s,mb3.1,baz=36,slow=5.3,SNR=6.6					
YKA	**Yellowknife Ar**	**69.35 339**	P	P	10 02 38.6	-2.4
BOSA	**Boshof**	**70.64 175**	P	P	10 02 46.8	-2.2
	comp=Z,3.2nm,1.0s,mb4.2,baz=92,slow=16,SNR=3.9					
BOSA	**Boshof**	**70.64 175**	P	P	10 02 46.8	-2.2
BOSA			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2					
ILAR	**Eielson Array**	**72.85 354**	P	P	10 02 60.0	-2.3
	comp=Z,0.2nm,0.6s,mb3.2,baz=3.7,slow=4.3,SNR=6.1					

CASC 01 10:04:31.9±3.0, 1272N×8867W, h44km±24km, MD3.5, ML3.1, 7C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.81**	**28**	⇓*e*P	Pn	10 05 09.3	+22
VSM				*e*S	Sn	10 05 21.3	+24
BLLM	**Bellamira**	**0.84**	**30**	⇓*e*P	Pn	10 05 09.4	+22
BLLM				*e*S	Sn	10 05 21.4	+23
SNVI	**San Vicente**	**0.91**	**350**	⇑*e*P	Pn	10 05 10.2	+22
SNVI				*e*S	Sn	10 05 23.1	+23
LFRS	**El Faro**	**0.98**	**337**	⇓*e*P	Pn	10 05 11.0	+22
LFRS				*e*S	Sn	10 05 26.0	+24
LCBS	**La Ceiba**	**0.98**	**342**	⇓*e*P	Pn	10 05 11.2	+22
LCBS				*e*S	Sn	10 05 25.6	+24
LBRS	**Las Brisas**	**1.08**	**340**	⇓*e*P	Pn	10 05 12.8	+22
LBRS				*e*S	Sn	10 05 30.0	+26
LFU	**La Fuente**	**1.11**	**337**	⇓*e*P	Pn	10 05 13.4	+22
LFU				*e*S	Sn	10 05 28.1	+23
BOQS	**Boqueron**	**1.18**	**330**	⇓*e*P	Pn	10 05 14.3	+22
SBLS	**San Blas**	**1.45**	**320**	⇑*e*P	Pn	10 05 18.3	+23
SBLS				*e*S	Sn	10 05 35.6	+22
SNJE	**San Jose**	**1.47**	**322**	⇑*e*P	Pn	10 05 18.4	+23
RTR	**El Retiro**	**1.51**	**321**	⇑*e*P	Pn	10 05 19.3	+23
RTR				*e*S	Sn	10 05 40.0	+25
CRIN	**San Cristobal**	**1.58**	**90**	⇓*e*P	Pn	10 04 58.5	+1.1
CRIN				*e*S	Sn	10 05 18.5	+1.9
LEON	**Leon**	**1.76**	**100**	*e*P	Pn	10 05 00.5	+0.6
LEON				*e*S	Sn	10 05 19.7	-1.3
TEL3	**Telica 3**	**1.79**	**94**	⇑*e*P	Pn	10 05 00.6	+0.3
TEL3				*e*S	Sn	10 05 21.9	+0.1
TEL3				*i*		10 05 27.0	
	comp=Z,202nm,0.6s						
TELN	**Telica**	**1.80**	**93**	*e*P	Pn	10 05 02.1	+1.7
TELN				*e*S	Sn	10 05 23.4	+1.4
MIRN	**Miramar**	**1.93**	**98**	*e*P	Pn	10 05 02.2	0.0
MIRN				*e*S	Sn	10 05 25.3	+0.1
CNGN	**Cerro Negro**	**1.94**	**96**	*e*P	Pn	10 05 02.3	0.0
CNGN				*e*S	Sn	10 05 26.4	+1.0
COPN	**Copaltepe**	**2.10**	**104**	⇑*e*P	Pn	10 05 05.0	+0.4
COPN				*e*S	Sn	10 05 27.5	-1.8
IXG	**Ixpaco**	**2.26**	**310**	*e*P	Pn	10 05 07.4	+0.6
IXG				*e*S	Sn	10 05 34.3	+0.9
XAVN	**Gruta Xavier**	**2.36**	**104**	*e*P	Pn	10 05 09.6	+1.5
XAVN				*e*S	Sn	10 05 34.2	-1.6
MGAN	**Managua**	**2.43**	**103**	*e*S	Sn	10 05 36.1	-1.5

MEX 01 10:30:40.4±0.9, 1999N×10092W, h20km±105km, MD3.7, 1D, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRX	**Morelia**	**0.39**	**222**	*i* P	Pb	10 30 47.0	-1.5
MRX				*i* S	Sb	10 30 53.0	-1.0
MOIG	**Morelia**	**0.40**	**219**	⇓*i*P	Pb	10 30 47.5	-1.3
MOIG				*i* S	Sb	10 30 53.5	-1.1
SFJM	**Santa Fe**	**2.05**	**284**	*e*P	Pn	10 31 18.0	+4.3
SFJM				*i* S	Sn	10 31 45.0	+6.3
PLIG	**Platanillo**	**2.08**	**140**	*i* P	Pn	10 31 12.3	-1.8
PLIG				*i* S	Sn	10 31 35.2	-4.2
MEIG	**Mezcala**	**2.40**	**149**	*i* P	Pn	10 31 16.5	-2.0
MEIG				*i* S	Sn	10 31 44.3	-2.9

*IDC **01** 10:38:27.2±3.0, 3992N×5078E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/21, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=54.6km s-min=26.7km az=173.0*
*ISCJB **01** 10:38:30.3±0.6, 3993N±006×507E±02, h33km, mb3.5/5, Error ellipse: s-maj=19.1km s-min=8.5km az=168.1*
*MOS **01** 10:38:36.8±1.1, 4081N×5068E, h36km, mb4.1/3, Error ellipse: s-maj=39.0km s-min=20.2km az=79.3*
*CSEM **01** 10:38:50.3, 3850N×5081E, h10km, ML3.5, After TEH*

ISC 01 10:38:32.1±0.6, 3998N±006×509E±02, h35km, n19, σ0°84/19, mb3.5/5, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAFJ	**Afjeh**	**4.17**	**170**	*e*Pn	**Pn**	**10 39 32.6**	**-0.6**
IFIR	**Firoozkooh**	**4.58**	**160**	*e*Pn	**Pn**	**10 39 39.1**	**+0.3**
IFIR	**Firoozkooh**	**4.58**	**160**	*e*Pn	**Pn**	**10 39 39.4**	**+0.6**
IFIR	**Firoozkooh**	**4.58**	**160**	*e

cutoff=50s.

MOS ***01*** *11:04:12.3±0.8, 1351N×12059E, h33km, mb5.8/87, MS5.5/46 Error ellipse: s-maj=8.9km s-min=4.0km az=119.6*

IDC ***01*** *11:04:12.6±1.2, 1355N×12073E, h28km±7km, mb5.1/31, mb1 5.2/32, mb1mx5.1/34, mbtmp5.2/32, ML4.8/1, MS5.6/9, Ms1 5.6/9, ms1mx5.4/16, Error ellipse: s-maj=13.9km s-min=6.8km az=71.0*

NEIC ***01*** *11:04:12.2±0.1, 1346N×12052E, mb5.5/90, MS5.5/144, MW5.6, Error ellipse: s-maj=4.9km s-min=3.9km az=69.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}1.76; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-1.52; $M_{r\theta}$-0.50; $M_{\theta\phi}$1.68; $M_{\phi r}$-1.43; Best double couple: M_o2.80000×10^{17} NP1: ϕ_s174.00000°, δ64.00000°, λ126.00000°. NP2: ϕ_s295.00000°, δ43.00000°, λ39.00000°. Principal axes: T 2.7300, Plg55.0000°, Azm132.0000°; N 0.1300, Plg32.0000°, Azm337.0000°; P -2.8700, Plg12.0000°, Azm239.0000°;*

NEIC Felt [V PIVS] at Looc, Lubang. Felt [III PIVS] at Manila, Pasig, San Fernando, Tagaytay and Talisay; [II PIVS] at Alabang, Bauan, Makati, Muntinlupa and Quezon City; [I PIVS] at Guiguinto and Taguig, Luzon. Also felt [II PIVS] at Puerto Galera, Mindoro. Felt at Bacoor, Cavite, Lipa and Olongapo, Luzon.

SZGRF ***01*** *11:04:24.2, 1504N×119.10E, h33km, mb5.6, MS5.9, Luzon, Philippine Islands*

ISC 01 11:04:13.3±0.1, 1343N±002×12037E±002, h25km, h25km±1.0km: pP-P, n664, σ1§13/599, mb5.5/183, MS5.5/179, 41C-27D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.33**	**338**	*e*P	**Pb**	**11 04 18.5**	**-2.2**
LUBP				*e*S	**Sb**	**11 04 24.1**	**-1.7**
PGP	**Puerto Galera**	**0.57**	**82**	⇑*i*P	**Pb**	**11 04 18.0**	**-6.6**
TGY	**Tagaytay City**	**0.87**	**39**	Pg	**Pb**	**11 04 23.0**	**-6.6**
	463nm,0.3s,baz=213,slow=3.5,SNR=32						
TGY				Lg		11 04 31.5	
	16μm,0.3s,baz=219,slow=2.3,SNR=210						
TGY	**Tagaytay City**	**0.87**	**39**	⇓*i*P	**Pb**	**11 04 31.7**	**+2.0**
TGY				*i*S	**Sb**	**11 04 46.6**	**+5.7**
BUSP	**Coron**	**1.42**	**187**	*e*P	**Pn**	**11 04 37.5**	**-0.1**
BUSP				*e*S	**Sn**	**11 04 50.1**	**-5.4**
BOAC	**Boac**	**1.43**	**88**	*e*P	**Pn**	**11 04 39.5**	**+1.9**
BOAC				*e*S	**Sn**	**11 05 00.3**	**+4.7**
OTRP	**Odiongan**	**1.92**	**123**	*e*P	**Pn**	**11 04 46.3**	**+1.9**
OTRP				*e*S	**Sb**	**11 05 17.3**	**+6.1**
POLP	**Polilio Island**	**2.00**	**49**	*e*P	**Pn**	**11 04 48.1**	**+2.7**
GQP	**Guinayangan**	**2.07**	**76**	⇑*i*P	**Pn**	**11 04 50.8**	**+4.4**
GQP				*i*S	**Sn**	**11 05 19.2**	**+7.8**
PCPH	**Palayan**	**2.24**	**18**	⇑*e*P	**Pn**	**11 04 48.8**	**+0.1**
PCPH				*i*S	**Sn**	**11 05 18.3**	**+2.7**
AUQP	**San Andres**	**2.24**	**92**	*e*P	**Pn**	**11 04 53.7**	**+4.9**
AUQP				*e*S	**Sb**	**11 05 27.6**	**+7.3**
SCZP	**Santa Cruz**	**2.38**	**349**	*e*P	**Pn**	**11 04 50.8**	**+0.1**
SCZP				*e*S	Sn	11 05 46.6	+28
ENPP	**El Nido**	**2.39**	**203**	*e*P	**Pn**	**11 04 50.0**	**-0.8**
ENPP				*e*S	**Sn**	**11 05 17.6**	**-1.8**
KALP	**Kalibo**	**2.59**	**132**	⇓*e*P	**Pn**	**11 04 57.5**	**+4.0**
CUYO	**Cuyo Island**	**2.64**	**166**	*e*P	**Pn**	**11 04 54.5**	**+0.3**
CUYO				*e*S	**Sn**	**11 05 25.2**	**-0.2**
BCPH	**Baguio City Da**	**2.95**	**4**	⇓*e*P	**Pn**	**11 05 00.7**	**+2.2**
BCPH				*e*S	**Sn**	**11 05 36.6**	**+3.6**
RCP	**Roxas**	**2.97**	**128**	⇑*e*P	**Pn**	**11 05 00.9**	**+2.1**
BOLP	**Bolinao**	**2.97**	**351**	*e*P	**Pn**	**11 05 00.2**	**+1.4**
BOLP				*e*S	**Sb**	**11 05 44.9**	**+3.6**
GUIM	**Jordan**	**3.53**	**142**	*e*P	**Pn**	**11 05 08.4**	**+1.9**
GUIM				*e*S	**Sn**	**11 05 50.8**	**+3.5**
PVCP	**Virac**	**3.68**	**87**	*e*P	**Pn**	**11 05 12.0**	**+3.4**
CAUP	**Cauayan**	**3.77**	**22**	*e*P	**Pn**	**11 05 14.2**	**+4.4**
CAUP				*e*S	**Sn**	**11 06 03.2**	**+10**
PALP	**Palanan**	**4.12**	**28**	*e*P	**Pn**	**11 05 16.8**	**+2.2**
PALP				*e*S	**Sb**	**11 06 22.4**	**+7.9**
ABRA	**Dolores**	**4.21**	**4**	*e*P	**Pn**	**11 05 18.9**	**+3.0**
ABRA				*e*S	**Sb**	**11 06 17.2**	**+0.1**
CNP	**Catarman**	**4.28**	**102**	*e*P	**Pn**	**11 05 22.0**	**+5.2**
CVP	**Callao Caves**	**4.48**	**18**	⇓*e*P	**Pn**	**11 05 23.0**	**+3.5**
APYP	**Conner**	**4.49**	**11**	*e*P	**Pn**	**11 05 23.6**	**+3.9**
APYP				*e*S	**Sb**	**11 06 24.1**	**-0.9**
LLP	**Lapu-Lapu**	**4.68**	**131**	⇓*e*P	**Pn**	**11 05 26.0**	**+3.7**
OCLP	**Ormoc**	**4.77**	**119**	*e*P	**Pn**	**11 05 28.5**	**+5.0**
PIP	**Pasuquin**	**4.88**	**3**	⇓*e*P	**Pn**	**11 05 29.5**	**+4.5**
PIP				*e*S	**Sb**	**11 06 36.1**	**-0.1**
SNPH	**Sibulan**	**4.93**	**145**	⇑*e*P	**Pn**	**11 05 25.9**	**+0.1**
SNPH				*i*S	**Sn**	**11 06 26.1**	**+4.1**
TBP	**Tagbilaran**	**5.04**	**137**	*e*P	**Pn**	**11 05 30.3**	**+3.0**
TBP				*e*S	**Sn**	**11 06 17.7**	**-7.1**
BATP	**Bataraza**	**5.25**	**209**	*e*P	**Pn**	**11 05 28.9**	**-1.1**
BATP				*e*S	**Sn**	**11 06 24.4**	**-5.3**
MSLP	**Maasin**	**5.48**	**126**	*e*P	**Pn**	**11 05 36.8**	**+3.5**
DCPH	**Dipolog City**	**5.63**	**148**	*e*P	**Pn**	**11 05 37.6**	**+2.2**
IPIL	**Ipil**	**6.00**	**159**	*e*P	**Pn**	**11 05 41.5**	**+1.0**
IPIL				*e*S	**Sn**	**11 06 46.8**	**-1.6**
SCPH	**Surigao**	**6.18**	**125**	*i*P	**Pn**	**11 05 48.1**	**+5.1**
PAGZ	**Pagadian**	**6.28**	**152**	*e*P	**Pn**	**11 05 45.7**	**+1.4**
PAGZ				*e*S	**Sn**	**11 06 58.9**	**+3.7**
CGP	**Cagayan de Oro**	**6.51**	**139**	⇓*e*P	**Pb**	**11 06 08.6**	**+2.9**
BUTP	**Butuan**	**6.79**	**130**	*e*P	**Pn**	**11 05 57.2**	**+5.9**
BUKP	**Musuan**	**7.18**	**140**	*e*P	**Pn**	**11 06 01.0**	**+4.3**
BIPH	**Bislig**	**7.86**	**131**	⇑*i*P	**Pn**	**11 06 09.9**	**+4.0**
BIPH				*i*S	**Sn**	**11 07 46.3**	**+12**
KKM	**Kota Kinabalu**	**8.40**	**210**	*e*Pn	**Pn**	**11 06 20.0**	**+6.6**
TSM	**Tawau**	**9.40**	**195**	P	**Pn**	**11 06 29.3**	**+2.1**
HKC	**Hong Kong**	**10.62**	**327**	⇑*i*P	**Pn**	**11 06 48.0**	**+4.2**
NACB	**Ninganchiao**	**10.75**	**6**	*e*Pn	**Pn**	**11 06 48.6**	**+3.0**
YHNB	**Yeheng**	**11.23**	**5**	*e*Pn	**Pn**	**11 06 55.5**	**+3.4**
QIZ	**Qiongzhong**	**11.54**	**300**	P	**Pn**	**11 06 57.0**	**+0.6**
QIZ				S	**Sn**	**11 09 06.4**	**+1.9**
QIZ				AMB	AMB		
	comp=Z,85nm,1.2s						
QIZ				LR	LR		
	comp=N,5μm,18.4s						
QIZ				LR	LR		
	comp=E,15μm,18.8s						
QIZ				LR	LR		
	comp=Z,24μm,22.7s						
QIZ	**Qiongzhong**	**11.54**	**300**	*e*Pn	**Pn**	**11 06 57.1**	**+0.7**
	comp=Z,303nm,1.4s						
QZH	**Quanzhou**	**11.58**	**352**	P	**Pn**	**11 07 01.3**	**+4.4**
QZH				S	**Sn**	**11 09 09.7**	**+4.3**
QZH				AMB	AMB		
	comp=Z,210nm,1.0s						
QZH				LR	LR		
	comp=N,34μm,18.0s						
QZH				LR	LR		
	comp=E,20μm,20.6s						
QZH				LR	LR		
	comp=Z,35μm,18.6s						
GZH	**Guangzhou**	**11.70**	**326**	P	**Pn**	**11 07 02.7**	**+4.2**
GZH				S	**Sn**	**11 09 26.0**	**+18**
GZH				LR	LR		
	comp=N,17μm,20.0s						
GZH				LR	LR		
	comp=E,10μm,17.8s						
GZH				LR	LR		
	comp=Z,26μm,19.4s						
JOW	**Kunigami**	**15.25**	**28**	Pn	**Pn**	**11 07 43.5**	**-3.5**
	comp=Z,7.7nm,0.3s,baz=357,slow=19,SNR=2.9						
KSM	**Kuching**	**15.50**	**221**	*e*P	**Pn**	**11 07 50.5**	**+0.4**
KSM				*ep*P	pP	11 07 57.5	-3.6
SSE	**Sheshan**	**17.60**	**2**	P	**Pn**	**11 08 16.9**	**+0.1**
SSE				AP	pP	11 08 23.3	-1.1
SSE				S	**Sn**	**11 11 34.0**	**+1.9**
SSE				XS	sS	11 11 50.2	+0.2
SSE				PCP	PcP	11 12 54.2	-1.2
SSE				AMB	AMB		
	comp=Z,31nm,0.7s						
SSE				AMB	AMB		
	comp=Z,798nm,4.9s						
SSE				LR	LR		
	comp=N,5μm,17.2s						
SSE				LR	LR		
	comp=E,6μm,17.5s						
SSE				LR	LR		
	comp=Z,9μm,17.5s						
WHN	**Wuhan**	**17.92**	**343**	P	**Pn**	**11 08 23.5**	**+2.8**
WHN				S	**Sn**	**11 11 48.0**	**+8.2**
WHN				LR	LR		
	comp=Z,48μm,18.4s						
GYA	**Guiyang**	**18.26**	**317**	P	**Pn**	**11 08 26.0**	**+1.1**
GYA				PP		11 08 43.1	
GYA				S	**Sn**	**11 11 56.0**	**+8.0**
GYA				AMB	AMB		
	comp=Z,40nm,1.0s						
GYA				AMB	AMB		
	comp=Z,1μm,3.8s						
GYA				LR	LR		
	comp=N,5μm,18.4s						
GYA				LR	LR		
	comp=E,16μm,18.0s						
GYA				LR	LR		
	comp=Z,15μm,18.2s						
ENH	**Enshi**	**19.55**	**331**	*e*P	**Pn**	**11 08 41.2**	**+0.8**
	comp=Z,148nm,0.9s						
KMI	**Kunming**	**20.28**	**308**	P	**P**	**11 08 50.0**	**+3.0**
KMI				AP		11 08 56.5	
KMI				PP		11 09 10.9	
KMI				S	**S**	**11 12 32.0**	**-1.2**
KMI				SS		11 13 01.7	
KMI				PCP	PcP	11 13 02.1	+2.1
KMI				SSS		11 13 15.6	
KMI				AMB	AMB		
	comp=Z,22nm,1.8s						
KMI				AMB	AMB		
	comp=Z,825nm,5.7s						
KMI				LR	LR		
	comp=N,8μm,17.0s,MS5.2						
KMI				LR	LR		
	comp=E,7μm,21.1s,MS5.2						
KMI				LR	LR		
	comp=Z,12μm,20.2s,MS5.2						
KGM	**Kluang**	**20.32**	**238**	P	**P**	**11 08 50.5**	**+3.0**
KULM	**Kulim**	**21.06**	**249**	*e*P	**P**	**11 08 57.3**	**+1.9**
KULM				*e*PcP	PcP	11 13 00.9	-0.6
IPM	**Ipoh**	**21.06**	**247**	P	**P**	**11 08 57.2**	**+1.7**
TIA	**Tai'an**	**22.88**	**353**	P	**P**	**11 09 15.4**	**+0.5**
TIA				S	**S**	**11 13 17.2**	**-6.0**
TIA				AMB	AMB		
	comp=Z,37nm,1.0s,mb4.8						
TIA				LR	LR		
	comp=N,7μm,17.0s,MS5.2						
TIA				LR	LR		
	comp=E,4μm,16.0s,MS5.2						
XAN	**Xi'an**	**23.01**	**335**	P	**P**	**11 09 15.9**	**-0.3**
XAN				AP		11 09 23.6	
XAN				S	**S**	**11 13 21.3**	**-4.0**
XAN				AMB	AMB		
	comp=Z,38nm,1.0s,mb4.8						
XAN				AMB	AMB		
	comp=Z,1μm,6.7s						
XAN				LR	LR		
	comp=N,12μm,16.0s						
XAN				LR	LR		
	comp=E,4μm,24.8s						
XAN				LR	LR		
	comp=Z,14μm,20.8s,MS5.4						
CD2	**Chengdu**	**23.17**	**321**	P	**P**	**11 09 18.2**	**+0.2**
CD2				PP		11 09 48.9	
CD2				S	**S**	**11 13 20.4**	**-7.6**
CD2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.2						
CD2				AMB	AMB		
	comp=Z,710nm,4.5s						
CD2				LR	LR		
	comp=N,8μm,16.8s						
CD2				LR	LR		
	comp=Z,8μm,18.0s,MS5.2						
PSI	**Prapat**	**23.68**	**245**	P	**P**	**11 09 24.5**	**+1.5**
	comp=Z,34nm,0.7s,mb4.9,baz=53,slow=6.5,SNR=24						
GUMO	**Guam**	**23.82**	**87**	P	**P**	**11 09 20.7**	**-3.5**
	comp=Z,112nm,1.1s,mb5.2,baz=165,slow=20,SNR=2.4						
GUMO	**Guam**	**23.82**	**87**	*e*P	**P**	**11 09 22.0**	**-2.3**
	comp=Z,231nm,1.2s,mb5.5						
GUMO				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
GUMO	**Guam**	**23.82**	**87**	*e*P	**P**	**11 09 20.6**	**-3.7**
GUMO				pmax	pmax		
	comp=Z,230nm,1.2s,mb5.5						
INCN	**Inchon**	**24.60**	**12**	*e*P	**P**	**11 09 32.2**	**+0.8**
INCN				LR	LR		
	comp=Z,7μm,20.0s,MS5.1						
KS15	**Wonju Array Si**	**24.84**	**14**	*e*P	**P**	**11 09 34.4**	**+0.8**
TIY	**Taiyuan**	**25.20**	**345**	*e*P	**P**	**11 09 42.0**	**+5.1**
TIY				S	**S**	**11 13 54.0**	**-6.7**
TIY				LR	LR		
	comp=N,13μm,17.0s						
DL2	**Dalian**	**25.40**	**2**	P	**P**	**11 09 37.9**	**-0.8**
DL2				PP		11 10 23.1	
DL2				S	**S**	**11 13 59.7**	**-4.2**
DL2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.2						
DL2				AMB	AMB		
	comp=Z,310nm,6.5s						
DL2				LR	LR		
	comp=N,5μm,16.8s,MS5.2						
DL2				LR	LR		
	comp=E,3μm,16.3s,MS5.2						
DL2				LR	LR		
	comp=Z,5μm,16.5s,MS5.1						
BJT	**Baijiatuau**	**26.75**	**353**	*e*P	**P**	**11 09 50.6**	**-0.3**
	comp=Z,110nm,1.0s,mb5.3						
BJT				LR	LR		
	comp=Z,7μm,20.0s,MS5.2						
BJT	**Baijiatuau**	**26.75**	**353**	*e*P	**P**	**11 09 50.6**	**-0.3**
BJT				pmax	pmax		
	comp=Z,110nm,1.0s						
BJT				MLR	MLR		
	comp=Z,7μm,20.0s						
BJI	**Beijing**	**26.77**	**353**	*e*P	**P**	**11 09 50.8**	**-0.3**
BJI				S	**S**	**11 14 21.0**	**-4.5**
BJI				AMB	AMB		
	comp=Z,106nm,1.1s,mb5.3						
BJI				LR	LR		
	comp=N,3μm,24.6s,MS5.3						
BJI				LR	LR		
	comp=E,9μm,24.6s,MS5.3						
BJI				LR	LR		
	comp=Z,7μm,23.6s,MS5.2						
LZH	**Lanzhou**	**27.02**	**330**	⇑P	**P**	**11 09 53.5**	**+0.2**
LZH				AP	pP	11 10 03.1	+2.5
LZH				XP	sP	11 10 07.5	+3.9
LZH				PP		11 10 40.6	
LZH				PCP	PcP	11 13 13.2	-1.1
LZH				S	**S**	**11 14 28.5**	**-0.9**
LZH				SCP	ScP	11 16 52.0	-0.9
LZH				PCS	PcS	11 16 54.2	-1.6
LZH				SCS	ScS	11 20 40.3	-3.6
LZH				AMB	AMB		
	comp=Z,69nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,437nm,6.2s						
LZH				LR	LR		
	comp=E,7μm,13.1s						
LZH				LR	LR		
	comp=Z,11μm,17.2s,MS5.5						
MAJO	**Matsushiro**	**28.03**	**32**	PFAKE		11 10 10.0	+7.6
MAJO				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
MAT	**Matsushiro**	**28.03**	**32**	P	**P**	**11 10 03.0**	**+0.6**
MAT				S	**S**	**11 14 45.0**	**-0.4**
MAT	**Matsushiro**	**28.03**	**32**	*e*P	**P**	**11 10 03.0**	**+0.6**
MAT				*e*S	**S**	**11 14 45.0**	**-0.4**
MAT				MLR	MLR		
	comp=Z,3μm,18.0s,MS4.9						
MJAR	**Matsushiro Arr**	**28.03**	**32**	P	**P**	**11 09 59.8**	**-2.5**
	comp=Z,4.3nm,1.1s,baz=209,slow=8.7,SNR=6.2						
HHC	**Hu-ho-hao-te**	**28.39**	**346**	*e*P	**P**	**11 10 06.5**	**+0.9**
HHC				PP	PP	11 10 58.0	-12
HHC				PCP	PcP	11 13 18.6	+1.0
HHC				S	**S**	**11 14 50.8**	**-0.2**
HHC				SS		11 16 18.5	
HHC				AMB	AMB		
	comp=Z,49nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,515nm,4.9s						
HHC				LR	LR		
	comp=N,11μm,19.6s,MS5.6						
HHC				LR	LR		
	comp=E,9μm,19.6s,MS5.6						
HHC				LR	LR		
	comp=Z,10μm,17.8s,MS5.5						
SNY	**Shenyang**	**28.43**	**5**	⇑P	**P**	**11 10 06.1**	**+0.1**
SNY				AP	pP	11 10 15.4	+2.1
SNY				XP	sP	11 10 19.4	+3.0
SNY				S	**S**	**11 14 47.2**	**-4.5**
SNY				AMB	AMB		
	comp=Z,42nm,0.9s,mb5.1						
SNY				AMB	AMB		
	comp=Z,380nm,4.9s						
SNY				LR	LR		
	comp=N,8μm,16.7s,MS5.4						
SNY				LR	LR		
	comp=E,3μm,14.7s,MS5.4						
SNY				LR	LR		
	comp=Z,8μm,16.9s,MS5.4						
BTO	**Baotou**	**28.56**	**343**	*e*P	**P**	**11 10 06.9**	**-0.2**
BTO				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
BTO				LR	LR		
	comp=N,2μm,21.1s						
BTO				LR	LR		
	comp=E,5μm,14.2s						
SHL	**Shillong**	**29.37**	**299**	*e*P	**P**	**11 10 14.0**	**-0.3**
SHL				*e*PCP	PcP	11 13 22.0	+1.9
SHL				*ex*	x	11 15 04.0	
SHL				*ex*	x	11 17 03.0	
CN2	**Changchun**	**30.58**	**7**	*e*P	**P**	**11 10 27.0**	**+2.0**
CN2				*e*S	**S**	**11 15 26.5**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.7s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,7μm,17.0s						
CN2				LR	LR		
	comp=E,6μm,17.0s						
CN2				LR	LR		
	comp=Z,7μm,18.0s						
VLA	**Vladivostok**	**31.21**	**16**	*e*P	**P**	**11 10 27.7**	**-2.9**
VLA				*e*S	**S**	**11 15 27.0**	**-8.4**
VLA				pmax	pmax		
	comp=Z,34μm,0.6s						
VLA				MLR	MLR		
	comp=Z,5μm,17.3s						
LSA	**Lhasa**	**31.51**	**306**	P	**P**	**11 10 33.2**	**0.0**
LSA				S	**S**	**11 15 40.9**	**+0.9**
LSA				LR	LR		
	comp=N,2μm,20.6s,MS5.2						
LSA				LR	LR		
	comp=E,4μm,20.6s,MS5.2						
LSA				LR	LR		
	comp=Z,8μm,21.3s,MS5.4						
LSA	**Lhasa**	**31.51**	**306**	*e*P	**P**	**11 10 33.7**	**+0.5**
	comp=Z,15nm,0.7s,mb4.9						
LSA				*e*PcP	PcP	11 13 27.0	+1.3
LSA				*e*S	**S**	**11 15 42.3**	**+2.3**
LSA				*e*ScP	ScP	11 17 08.7	+1.4
LSA				LR	LR		
	comp=Z,8μm,20.0s,MS5.4						
LSA	**Lhasa**	**31.51**	**306**	*e*P	**P**	**11 10 33.7**	**+0.5**
LSA				*e*		11 13 27.0	
LSA				*e*S	**S**	**11 15 42.3**	**+2.3**
LSA				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.9						
LSA				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.4						
GTA	**Gaotai**	**31.61**	**329**	*e*P	**P**	**11 10 35.2**	**+1.2**
GTA				PP	PP	11 11 38.1	-7.4
GTA				PCP	PcP	11 13 27.4	+1.4
GTA				S	**S**	**11 15 39.2**	**-2.3**
GTA				SCS	ScS	11 21 04.3	-1.2
GTA				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.0						
GTA				AMB	AMB		
	comp=Z,320nm,4.6s						
GTA				LR	LR		
	comp=N,10μm,18.3s,MS5.7						
GTA				LR	LR		
	comp=E,12μm,19.8s,MS5.7						
GTA				LR	LR		
	comp=Z,15μm,21.7s,MS5.6						
CAL	**Calcutta**	**31.74**	**291**	*e*P	**P**	**11 10 36.7**	**+1.5**
CAL				*e*S	**S**	**11 15 47.0**	**+3.5**
CAL				AMP		11 26 03.3	
	comp=Z,6μm,18.8s						
FITZ	**Fitzroy Crossi**	**31.75**	**170**	*e*P	**P**	**11 10 35.0**	**-0.3**
	comp=Z,73nm,0.9s,mb5.5						
FITZ				*e*S	**S**	**11 15 41.5**	**-2.3**
MDJ	**Mudanjiang**	**32.07**	**12**	P	**P**	**11 10 37.6**	**-0.5**
MDJ				PP	PP	11 11 50.2	-0.5
MDJ				S	**S**	**11 15 50.3**	**+1.6**
MDJ				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,214nm,4.3s						
MDJ				LR	LR		
	comp=N,5μm,20.0s,MS5.3						
MDJ				LR	LR		
	comp=E,5μm,19.6s,MS5.3						
MDJ				LR	LR		
	comp=Z,6μm,20.0s,MS5.3						
MDJ	**Mudanjiang**	**32.07**	**12**	*e*P	**P**	**11 10 37.6**	**-0.5**
	comp=Z,30nm,1.2s,mb5.0						
MDJ				LR	LR		
	comp=Z,7μm,19.0s,MS5.4						
BOK	**Bokaro**	**34.19**	**293**	*e*P	**P**	**11 10 56.4**	**-0.2**
BOK				*e*S	**S**	**11 16 22.2**	**+0.6**
MBWA	**Marble Bar**	**34.37**	**181**	*e*P	**P**	**11 10 58.5**	**+0.3**
	comp=Z,44nm,0.6s,mb5.6						
MBWA				*ep*P	pP	11 11 07.2	+1.6
MBWA				LR	LR		
	comp=Z,3μm,22.0s,MS4.9						
COCO	**West Island**	**34.53**	**224**	PFAKE		11 11 10.0	+10
COCO				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
JIRN	**Jiri**	**34.87**	**299**	*e*P	**P**	**11 11 02.8**	**+0.4**
	comp=Z,129nm,0.7s,mb6.0						
PMG	**Port Moresby**	**34.95**	**129**	P	**P**	**11 11 02.3**	**-0.9**
	comp=Z,45nm,0.9s,mb5.4,baz=340,slow=6.0,SNR=11						
PMG	**Port Moresby**	**34.95**	**129**	*e*P	**P**	**11 11 02.4**	**-0.8**
	comp=Z,73nm,1.1s,mb5.5						
PMG				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
PMG	**Port Moresby**	**34.95**	**129**	*i*P	**P**	**11 11 02.5**	**-0.7**
GUN	**Gumba**	**35.20**	**300**	*e*P	**P**	**11 11 05.7**	**+0.4**
	comp=Z,279nm,1.0s,mb6.2						
PKI	**Pulchoki**	**35.50**	**299**	*e*P	**P**	**11 11 08.0**	**+0.1**
	comp=Z,126nm,0.9s,mb5.8						
PKI	**Pulchoki**	**35.50**	**299**	*e*P	**P**	**11 11 08.0**	**+0.1**
PKI				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.5						
KKN	**Kakani**	**35.67**	**299**	*e*P	**P**	**11 11 09.7**	**+0.3**
	comp=Z,125nm,0.8s,mb5.9						
KKN	**Kakani**	**35.67**	**299**	*e*P	**P**	**11 11 09.7**	**+0.3**
KKN				pmax	pmax		
	comp=Z,63nm,0.8s,mb5.6						
HIA	**Hailar**	**35.74**	**359**	*e*P	**P**	**11 11 09.1**	**-0.9**
	comp=Z,71nm,1.4s,mb5.4						
HIA				*ep*P	pP	11 11 15.6	-1.8
HIA				*es*P	sP	11 11 17.8	-2.6
HIA				LR	LR		
	comp=Z,6μm,20.0s,MS5.4						
HIA	**Hailar**	**35.74**	**359**	*e*P	**P**	**11 11 09.1**	**-0.9**
HIA				*e**SP	sP	11 11 17.8	-2.6
HIA				pmax	pmax		
	comp=Z,71nm,1.4s						
HIA				MLR	MLR		
	comp=Z,6μm,20.0s						
DMN	**Daman**	**35.77**	**299**	*e*P	**P**	**11 11 10.6**	**+0.3**
	comp=Z,176nm,1.0s,mb5.9						
WRAB	**Tennant Creek**	**35.89**	**157**	P	**P**	**11 11 10.0**	**-1.3**
	comp=Z,4μm,0.6s,SNR=98						
WRAB	**Tennant Creek**	**35.89**	**157**	*e*P	**P**	**11 11 10.9**	**-0.3**
	comp=Z,802nm,0.8s						
WRAB				*es*S	**S**	**11 16 43.3**	**-4.5**
WRAB				LR	LR		
	comp=Z,3μm,22.0s						
WRAB	**Tennant Creek**	**35.89**	**157***c*	*i*P	**P**	**11 11 11.1**	**-0.2**
WRA	**Warramunga Arr**	**35.89**	**157**	P	**P**	**11 11 10.5**	**-0.8**
	comp=Z,415nm,0.8s,mb6.4,baz=336,slow=9.8,SNR=462	

comp=Z,12nm,0.8s,mb4.9,baz=252,slow=13,SNR=4.6
ULN Ulaanbaatar 36.09 345 *e*P **P 11 11 13.1 +0.2**
comp=Z,150nm,1.1s,mb5.8
ULN *e*pP pP 11 11 18.7 -1.6
ULN LR LR
comp=Z,10μm,20.0s,MS5.6
ULN Ulaanbaatar 36.09 345 *e*P **P 11 11 13.1 +0.2**
ULN *e**PP pP 11 11 18.7 -1.7
ULN pmax pmax
comp=Z,150nm,1.1s,mb5.8
ULN MLR MLR
comp=Z,10μm,20.0s,MS5.6
SONM Songino Array 36.23 344 P **P 11 11 13.5 -0.7**
comp=Z,81nm,0.8s,mb5.7,baz=159,slow=8.2,SNR=87
SONM S **S 11 16 50.8 -2.2**
comp=Z,0.9nm,1.0s,baz=154,slow=11,SNR=2.8
SONM LR LR 11 27 09.7
comp=Z,9μm,19.1s,MS5.6,baz=154,slow=38
GKN Gorkha 36.28 299 *e*P **P 11 11 14.4 -0.2**
comp=Z,95nm,0.9s,mb5.7
KLR Kul'dur 36.91 12 *e*P **P 11 11 16.0 -4.0**
KLR MLR MLR
comp=Z,9μm,15.0s,MS5.7
HABR Khabarovsk 37.01 16 *e*P **P 11 11 19.3 -1.5**
KOLN Koldanda 37.10 298 *e*P **P 11 11 21.4 -0.2**
comp=Z,114nm,0.8s,mb5.8
YSS Yuzh-Sakhalins 38.33 25 *e*P **P 11 11 31.0 -1.0**
comp=Z,71nm,1.4s,mb5.2
YSS *e*pP pP 11 11 38.0 -1.5
YSS LR LR
comp=Z,2μm,19.0s,MS5.0
YSS Yuzh-Sakhalins 38.33 25 *e*P **P 11 11 31.5 -0.5**
YSS *e**SP sP 11 11 45.0 +2.5
YSS *e*S **S 11 17 22.0 -3.0**
YSS *e*SSS 11 19 58.0
YSS pmax pmax
comp=Z,30nm,1.1s,mb4.9
YSS MLR MLR
comp=N,3μm,19.0s,MS5.2
YSS MLR MLR
comp=Z,2μm,19.0s,MS5.0
YSS MLR MLR
comp=E,2μm,18.0s,MS5.2
ASAR Alice Springs 39.17 160 P **P 11 11 39.0 0.0**
comp=E,225nm,0.9s,mb5.9,baz=337,slow=6.6,SNR=366
ASAR S **S 11 17 35.5 -2.0**
comp=E,4.4nm,1.1s,baz=328,slow=11,SNR=5.9
ASPA Alice Springs 39.17 160 *e*P **P 11 11 31.0 -8.0**
ASPA Alice Springs 39.17 160 *e*P **P 11 11 39.1 +0.1**
ASPA *e*S **S 11 17 35.8 -1.7**
ZAK Zakamensk 39.41 343 *e*P **P 11 11 40.2 -0.8**
ZAK pmax pmax
comp=Z,96nm,1.9s,mb5.2
JBP Jabalpur 39.44 290⇓ *i*P **P 11 11 42.0 +0.7**
JBP *e*x x 11 12 02.9
comp=Z,144nm,1.6s
JBP *e*S **S 11 17 43.5 +1.8**
PALK Pallekele 39.46 265 *e*P **P 11 11 42.8 +1.3**
comp=Z,52nm,1.4s,mb5.1
PALK *e*sP sP 11 11 53.2 +1.2
PALK LR LR
comp=Z,4μm,19.0s,MS5.3
HYB Hyderabad 40.45 281⇑ *i*P **P 11 11 51.0 +1.3**
comp=Z,70nm,1.0s,mb5.3
HYB *e*sP sP 11 11 58.5 -1.7
HYB *e* 11 12 05.0
HYB *e*PcP PcP 11 13 54.0 +1.8
HYB *e*PcS PcS 11 17 48.0 +5.2
HYB *e*S **S 11 17 58.0 +1.2**
HYB LR LR 11 31 00.0
comp=Z,5.5nm,18.0s
HYB Hyderabad 40.45 281⇑ *e*P **P 11 11 51.0 +1.3**
comp=Z,70nm,1.0s,mb5.3
HYB *e* 11 12 05.0
HYB *e* 11 17 40.0
HYB *e*S **S 11 17 55.0 -1.8**
HYB Hyderabad 40.45 281⇑ *e*P **P 11 11 51.0 +1.3**
HYB *e* 11 12 05.0
HYB *e*S **S 11 17 55.0 -1.8**
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.3
TLY Talaya 40.47 344 P **P 11 11 50.5 +0.6**
comp=Z,141nm,1.3s,mb5.5,SNR=8.2
IRK Irkutsk 40.82 345 *e*P **P 11 11 52.1 -0.6**
IRK *e*S **S 11 17 56.5 -5.8**
IRK pmax pmax
comp=Z,170nm,1.4s,mb5.5
MOY Mondy 41.22 342 *e*P **P 11 11 57.0 +1.0**
MOY pmax pmax
comp=Z,172nm,3.0s
WMQ Urumqi 41.24 324 P **P 11 11 57.6 +1.4**
WMQ PP PP 11 13 37.2 +5.7
WMQ PCP PcP 11 13 56.6 +1.8
WMQ SCS ScS 11 21 51.9 -6.9
WMQ AMB AMB
comp=Z,53nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,1μm,5.8s
WMQ LR LR
comp=N,12μm,18.0s,MS5.9
WMQ LR LR
comp=E,9μm,22.0s,MS5.9
WMQ LR LR
comp=Z,9μm,20.0s,MS5.7
BHPL Bhopal 41.79 290 *e*P **P 11 12 00.6 0.0**
BHPL AMb AMB 11 12 21.9
comp=Z,124nm,2.0s,mb5.2
CTA Charters Tower 41.92 142 *e*P **P 11 12 00.5 -1.3**
comp=Z,29nm,0.8s,mb5.0
CTA Charters Tower 41.92 142 *e*P **P 11 12 00.5 -1.3**
CTA pmax pmax
comp=Z,29nm,0.8s
CTAO Charters Tower 41.92 142 *e*P **P 11 12 02.3 +0.6**
comp=Z,47nm,0.9s,mb5.1
CTAO LR LR
comp=Z,2μm,20.0s,MS4.9
CTAO Charters Tower 41.92 142 P **P 11 12 01.1 -0.7**
CTAO pmax pmax
comp=Z,47nm,0.9s,mb5.1
DDI Dehra Dun 42.44 300 *e*P **P 11 12 08.5 +2.5**
DDI *e*x x 11 15 33.0
NDI New Delhi 42.79 298 *e*P **P 11 12 07.0 -1.9**
CLNS Chul'man 43.46 4 *e*P **P 11 12 12.5 -1.8**
CLNS *e* 11 13 57.8
CLNS *e*PPP 11 14 25.3
CLNS *e*S **S 11 18 42.6 +1.4**
CLNS pmax pmax
comp=Z,61nm,1.1s,mb5.2
CLNS pmax pmax
comp=N,43nm,1.5s
CLNS pmax pmax
comp=E,18nm,1.1s
CLNS pmax pmax
comp=Z,16nm,1.1s,mb4.7
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,16nm,1.0s
CLNS smax
comp=E,348nm,14.6s
CLNS smax
comp=Z,111nm,11.4s
CLNS smax
comp=N,76nm,14.1s
CLNS MLR MLR
comp=Z,2μm,17.0s,MS5.2
CLNS MLR MLR
comp=N,600nm,16.0s,MS5.1
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.1
BHK Bhakra 44.07 301 *e*x x 11 12 33.5
BOD Bodaibo 44.57 355 *e*P **P 11 12 22.1 -1.1**
BOD pmax pmax
comp=Z,28nm,1.8s,mb4.8
PONG Pong 44.58 302 *e*P **P 11 12 24.0 +0.7**
KAD Karad 44.63 281 *e*P **P 11 12 24.0 +0.4**
KAD *e*P 11 12 24.5
AJM Ajmer 44.68 294 *i*P **P 11 12 24.0 0.0**
AJM *e*P 11 12 24.8
AJM AMb AMB 11 12 45.0
comp=Z,154nm,1.4s,mb5.7
WAKE Wake Island 44.69 76 PFAKE 11 12 30.0 +5.9
WAKE LR LR
comp=Z,3μm,20.0s,MS5.3
KLBR Kellerberrin 44.83 183 *e*P **P 11 12 24.5 -0.7**
comp=Z,67nm,0.8s,mb5.5
POO Poona 44.92 283 *e*P **P 11 12 27.0 +1.0**
POO *e*x x 11 12 38.0
POO AMb AMB 11 12 58.6
comp=Z,119nm,1.7s,mb5.4
POO *e*PCP PcP 11 14 09.5 +2.4
POO *e*PP PP 11 14 12.5 +1.4
POO *i*S **S 11 19 05.0 +2.5**
POO *i*PPS 11 19 19.0
POO *e*SCS ScS 11 22 23.5 +1.8
POO *e*x x 11 25 08.0
MUN Mundaring 45.32 185 *e*P **P 11 12 28.7 -0.4**
MUN *e*S **S 11 19 06.6 -1.7**
HNR Honiara 45.38 118 PFAKE 11 12 40.0 +10
HNR LR LR
comp=Z,3μm,22.0s,MS5.2
MK31 Makanchi Array 46.06 324 *i*P **P 11 12 35.3 +0.3**
MK31 Makanchi Array 46.06 324 *i*P **P 11 12 35.2 +0.2**
MK31 pmax pmax
comp=Z,68nm,0.9s,mb5.6
MKAR Makanchi Array 46.06 324 P **P 11 12 35.3 +0.3**
comp=Z,35nm,0.9s,mb5.3,baz=129,slow=8.2,SNR=194
MKAR PcP PcP 11 14 11.4 +0.3
comp=Z,33nm,1.0s,baz=120,slow=4.8,SNR=6.5
MKAR ScP ScP 11 18 01.5 -1.2
comp=Z,13nm,1.1s,baz=133,slow=5.1,SNR=10
MKAR S **S 11 19 19.0 0.0**
comp=Z,1.6nm,1.1s,baz=117,slow=25,SNR=1.9
MKAR LR LR 11 33 26.3
comp=Z,10μm,18.9s,MS5.8,baz=122,slow=38
MKAR Makanchi Array 46.06 324 P **P 11 12 35.3 +0.3**
MKAR PcP PcP 11 14 11.4 +0.3
MKAR ScP ScP 11 18 01.5 -1.2
MKAR S **S 11 19 19.0 0.0**
MKAR LR LR 11 33 26.3
MKAR Makanchi Array 46.06 324 P **P 11 12 35.3 +0.3**
MKAR 11 14 11.5
MKAR S **S 11 19 19.0 0.0**
NWAO Narrogin (SRO) 46.19 184 P **P 11 12 36.2 +0.3**
comp=Z,56nm,0.7s,mb5.6,baz=14,slow=8.2,SNR=24
NWAO PcP PcP 11 14 11.6 +0.1
comp=Z,38nm,1.0s,baz=355,slow=2.6,SNR=3.1
NWAO Narrogin (SRO) 46.19 184 *e*P **P 11 12 36.0 +0.1**
comp=Z,57nm,0.9s,mb5.5
NWAO *e*pP pP 11 12 42.7 -0.8
NWAO LR LR
comp=Z,1μm,20.0s,MS4.9
NWAO Narrogin (SRO) 46.19 184 *e*P **P 11 12 36.0 0.0**
NWAO *e**PP pP 11 12 42.7 -0.8
NWAO pmax pmax
comp=Z,57nm,0.9s
NWAO MLR MLR
comp=Z,1μm,20.0s
KWAJ Kwajalein Atol 46.53 91 PFAKE 11 12 50.0 +11
KWAJ LR LR
comp=Z,18μm,21.0s,MS6.0
KSH Kashi 46.84 312 *e*P **P 11 12 45.8 +4.7**
KSH *e*SCP ScP 11 18 04.8 -1.1
KSH *e*S **S 11 19 37.8 +7.6**
KSH LR LR
comp=N,6μm,18.7s,MS5.7
KSH LR LR
comp=E,4μm,16.4s,MS5.7
KRAR Krasnoyarsk 47.50 339 *i*P **P 11 12 45.9 -0.3**
KRAR pmax pmax
comp=Z,96nm,1.2s,mb5.6
KRAR MLR MLR
comp=Z,9μm,19.0s,MS5.7
AAA Alma-Ata 47.65 317 *e*P **P 11 12 53.1 +5.7**
AAA *e*S **S 11 19 45.5 +3.9**
AAA pmax pmax
comp=Z,2μm,4.4s
AAA smax
comp=E,2μm,8.1s
AAA MLR MLR
comp=Z,6μm,19.7s,MS5.5
ULHL Ulahol 47.69 316 P **P 11 12 50.0 +2.2**
SNR=7.9
KZA Kyzart 48.31 315 P **P 11 12 54.5 +2.0**
SNR=72
TKM2 Tokmak 2 48.40 316 P **P 11 12 54.3 +1.1**
SNR=29
KBK Karagaybulak 48.74 316 P **P 11 12 57.2 +1.4**
SNR=40
UCH Uchtor 48.87 315 P **P 11 12 58.8 +2.0**
SNR=111
BHJ Bhuj 48.92 289 *e*P **P 11 12 56.9 -0.3**
BHJ AMb AMB 11 13 18.3
comp=Z,97nm,1.3s,mb5.7
YAK Yakutsk 48.99 6 *e*P **P 11 12 55.8 -2.0**
comp=Z,42nm,1.0s,mb5.4
YAK *e*pP pP 11 13 03.0 -2.4
YAK *e*sP sP 11 13 12.4 +4.0
YAK LR LR
comp=Z,2μm,19.0s,MS5.1
YAK Yakutsk 48.99 6 *e*P **P 11 12 56.5 -1.3**
YAK *e*S **S 11 19 52.5 -8.1**
YAK pmax pmax
comp=Z,19nm,0.9s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK MLR MLR
comp=N,2μm,18.0s,MS5.2
YAK MLR MLR
comp=Z,3μm,18.0s,MS5.3
YAK MLR MLR
comp=E,297nm,19.0s,MS5.2
CHMS Chumysh 49.00 316 P **P 11 12 58.5 +0.7**
SNR=18
FRU Bishkek 49.03 316 *i*P **P 11 13 00.0 +2.0**
FRU *i* 11 13 10.0
FRU *e* 11 20 04.0
FRU pmax pmax
comp=Z,50nm,1.7s,mb5.3
FRU MLR MLR
comp=N,5μm,20.0s,MS5.8
FRU MLR MLR
comp=E,8μm,20.0s,MS5.8
FRU MLR MLR
comp=Z,10μm,20.0s,MS5.8
AAK Ala-Archa 49.04 315 P **P 11 13 00.9 +2.8**
SNR=26
AAK Ala-Archa 49.04 315 P **P 11 12 58.0 -0.1**
comp=Z,263nm,1.2s,mb6.1,SNR=10
AAK Ala-Archa 49.04 315 *e*P **P 11 12 58.7 +0.6**
comp=Z,67nm,1.1s,mb5.6
AAK *e*pP pP 11 13 05.3 -0.4
AAK *e*PcP PcP 11 14 20.7 -1.0
AAK *e*ScP ScP 11 18 13.4 -1.7
AAK LR LR
comp=Z,10μm,21.0s,MS5.8
AAK Ala-Archa 49.04 315 *e*P **P 11 12 58.7 +0.6**
AAK *e**PP pP 11 13 05.3 -0.4
AAK *e* 11 14 20.7
AAK pmax pmax
comp=Z,67nm,1.1s,mb5.6
AAK MLR MLR
comp=Z,10μm,21.0s,MS5.8
ZAL Zalesovo 49.16 333 P **P 11 12 58.0 -1.0**
comp=Z,8.8nm,0.7s,mb4.9,baz=353,slow=6.3,SNR=58
ZAL S **S 11 20 00.1 -2.8**
comp=Z,1.0nm,0.7s,baz=183,slow=15,SNR=5.8
ZAL LR LR 11 35 34.8
comp=Z,9μm,18.5s,MS5.8,baz=336,slow=38
ZAL Zalesovo 49.16 333 P **P 11 12 58.0 -1.0**
ZAL S **S 11 20 00.2 -2.7**
USP Ospenovka 49.28 316 P **P 11 13 00.7 +0.7**
SNR=55
AML Almayashu 49.40 315 P **P 11 13 02.6 +1.7**
SNR=87
STKA Stephens Creek 49.42 156 *e*P **P 11 12 58.4 -2.7**
comp=Z,32nm,1.0s,mb5.3
STKA *e*S **S 11 20 02.1 -4.6**
STKA Stephens Creek 49.42 156 P **P 11 12 59.0 -2.1**
comp=Z,38nm,0.8s,mb5.5,baz=333,slow=7.4,SNR=52
EKS2 Erkin-Say 49.54 315 P **P 11 13 03.2 +1.3**
SNR=40
PET Petropavlovsk 49.82 29 PFAKE 11 13 10.0 +5.9
PET LR LR
comp=Z,2μm,19.0s,MS5.2
PET Petropavlovsk 49.82 29 *e*P **P 11 13 10.2 +6.1**
PET *e*S **S 11 20 20.0 +7.8**
PET pmax pmax
comp=Z,300nm,22.2s
PET pmax pmax
comp=Z,200nm,18.2s
PET MLR MLR
comp=Z,2μm,18.0s,MS5.1
PET MLR MLR
comp=N,1μm,17.0s,MS5.2
PET MLR MLR
comp=E,2μm,19.0s,MS5.2
KURK Kurchatov 50.24 327 P **P 11 13 07.2 -0.1**
comp=E,874nm,1.1s,SNR=82
KURK Kurchatov 50.24 327 *e*P **P 11 13 07.6 +0.3**
comp=E,131nm,0.9s,mb6.0
KURK *e*pP pP 11 13 15.1 +0.2
KURK LR LR
comp=Z,4μm,20.0s,MS5.5
KURK Kurchatov 50.24 327*c i*P **P 11 13 07.3 0.0**
NVS Novosibirsk 50.44 333 *e*P **P 11 13 08.2 -0.6**
NVS *e*S **S 11 20 16.7 -4.2**
NVS *e* 11 22 53.4
NVS pmax pmax
comp=N,38nm,1.1s
NVS pmax pmax
comp=Z,61nm,1.1s,mb5.5
NVS pmax pmax
comp=E,40nm,1.2s
NVS smax
comp=N,95nm,2.2s
ADE Adelaide 51.17 161⇓ *i*P **P 11 13 14.9 +0.6**
MA2 Magadan 51.26 19 *e*P **P 11 13 13.3 -1.7**
comp=N,31nm,0.9s,mb5.2
MA2 LR LR
comp=Z,3μm,20.0s,MS5.3
MA2 Magadan 51.26 19 *e*P **P 11 13 13.7 -1.3**
MA2 *e* 11 14 35.9
MA2 *e*S **S 11 20 26.5 -5.8**
MA2 *e* 11 23 03.4
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 pmax pmax
comp=N,10.0nm,1.2s
MA2 MLR MLR
comp=Z,2μm,17.4s,MS5.2
DGAR Diego Garcia 51.89 249 PFAKE 11 13 30.0 +10
DGAR LR LR
comp=Z,3μm,20.0s,MS5.3
KK31 Karatay Array 51.94 315 *i*P **P 11 13 20.1 +0.1**
KK31 pmax pmax
comp=Z,37nm,0.8s,mb5.4
KKAR Karatay Array 51.94 315 *i*P **P 11 13 20.1 +0.1**
KKAR pmax pmax
comp=Z,30nm,0.8s,mb5.3
ARMA Armidale 52.96 146 *e*P **P 11 13 28.9 +1.3**
SEY Seymchan 54.37 17⇑ *i*P **P 11 13 37.1 -0.8**
SEY Seymchan 54.37 17 *e*P **P 11 13 37.1 -0.8**
SEY 11 14 43.9
SEY 11 15 46.3
SEY *e*S **S 11 21 14.3 -0.3**
SEY SS SS 11 24 58.9 +2.0
SEY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SEY smax
comp=N,6μm,34.0s
SEY smax
comp=E,2μm,25.5s
CNB Canberra Magne 55.72 151 *e*P **P 11 13 47.8 +0.1**
comp=E,31nm,1.0s,mb5.3
BVA0 Borovoye Array 55.82 326 *i*P **P 11 13 47.9 -0.5**
BVA0 pmax pmax
comp=Z,37nm,1.5s,mb5.2
BVAR Borovoye Array 55.82 326 P **P 11 13 48.3 -0.1**
comp=Z,34nm,0.9s,mb5.4,baz=122,slow=11,SNR=106
BVAR PcP PcP 11 14 46.5 -0.6
comp=Z,31nm,0.9s,baz=172,slow=4.5,SNR=5.4
BVAR S **S 11 21 33.2 -0.9**
comp=Z,1.7nm,0.9s,baz=131,slow=16,SNR=4.7
BRVK Borovoye 55.89 326 P **P 11 13 49.0 +0.1**
comp=Z,801nm,0.9s,SNR=58
BRVK Borovoye 55.89 326 *e*P **P 11 13 48.8 -0.1**
comp=Z,76nm,0.9s,mb5.7
BRVK *e*pP pP 11 13 56.1 -0.5
BRVK LR LR
comp=Z,4μm,20.0s,MS5.5
BRVK Borovoye 55.89 326 *e*P **P 11 13 48.8 -0.1**
BRVK *e**PP pP 11 13 56.1 -0.5
BRVK pmax pmax
comp=Z,76nm,0.9s,mb5.7
BRVK MLR MLR
comp=Z,4μm,20.0s,MS5.5
TOO Toolangi 55.95 156 *e*P **P 11 13 49.5 +0.2**
comp=Z,36nm,1.0s,mb5.3
TOO Toolangi 55.95 156 *e*P **P 11 13 49.5 +0.2**
TOO pmax pmax
comp=Z,36nm,1.0s,mb5.4
ZRNK Zerenda 56.55 325 *e*P **P 11 13 53.4 -0.2**
comp=Z,86nm,0.9s,mb5.8
ZRNK *e*pP pP 11 14 00.9 -0.4
ZRNK Zerenda 56.55 325 *e*P **P 11 13 53.4 -0.2**
ZRNK *e**PP pP 11 14 00.9 -0.4
ZRNK pmax pmax
comp=Z,86nm,0.9s,mb5.8
TIXI Tiksi 58.42 3 *i*P **P 11 14 04.3 -2.5**
TIXI LR LR
comp=Z,5μm,19.0s,MS5.7
TIXI Tiksi 58.42 3 *e*P **P 11 13 58.8 -8.0**
TIXI *e*S **S 11 21 56.2 -12**
TIXI *e*SS SS 11 25 53.0 -7.7
TIXI pmax pmax
comp=Z,41nm,1.1s,mb5.4
TIXI smax
comp=N,205nm,14.8s
TIXI smax
comp=E,547nm,20.8s
TIXI MLR MLR
comp=Z,5μm,18.0s,MS5.7
WBK Wadi Bani Khal 58.77 288 P **P 11 14 09.7 +0.5**
SNR=6.9
MIDW Midway 59.45 65 PFAKE 11 14 20.0 +6.0
MIDW LR LR
comp=Z,3μm,19.0s,MS5.5
JMDO Jabal Madar 59.58 288 P **P 11 14 14.6 -0.3**
SNR=6.0
ABKT Ailbek 60.04 306 P **P 11 14 19.6 +1.6**
comp=Z,471nm,0.9s,mb6.5,SNR=24
AB31 Akbulak array 60.73 319 *i*P **P 11 14 22.4 -0.3**
AB31 pmax pmax
comp=Z,42nm,0.9s,mb5.6
TAU Tasmania Unive 61.26 158 *e*P **P 11 14 25.7 -0.6**
comp=Z,49nm,1.0s,mb5.6
TAU LR LR
comp=Z,2μm,19.0s,MS5.3
TAU Tasmania Unive 61.26 158 P **P 11 14 25.5 -0.8**
BILL Bilibino 62.06 18 *e*P **P 11 14 29.9 -1.8**
comp=Z,53nm,1.0s,mb5.6
BILL LR LR
comp=Z,2μm,22.0s,MS5.3
BILL Bilibino 62.06 18*c i*P **P 11 14 30.2 -1.5**
BILL pmax pmax
comp=Z,73nm,1.4s,mb5.6
BILL MLR MLR
comp=Z,2μm,20.0s,MS5.2
AKTK Aktyubinsk 62.22 320 P **P 11 14 32.1 -0.7**
AKTK S **S 11 22 59.6 +2.6**
AKTO Aktyubinsk 62.22 320 P **P 11 14 32.1 -0.7**
comp=Z,27nm,1.0s,mb5.3,baz=101,slow=7.0,SNR=43
AKTO S **S 11 22 59.6 +2.6**
comp=Z,1.5nm,0.9s,baz=84,slow=18,SNR=3.5
SHAO Shalim 62.23 283 P **P 11 14 34.1 +1.3**
SNR=7.5
FUNA Funafuti 62.34 107 PFAKE 11 14 40.0 +6.4
FUNA LR LR
comp=Z,4μm,19.0s,MS5.6
SVE Sverdlovsk 62.46 328⇓ *i*P **P 11 14 33.2 -1.2**
SVE *e* 11 14 43.0
SVE *e*S **S 11 22 55.0 -5.1**
SVE *e*PS 11 23 26.0
SVE *e*SS SS 11 27 00.0 -4.1
SVE pmax pmax
comp=Z,180nm,1.2s,mb6.1
SVE MLR MLR
comp=N,2μm,18.0s
SVE MLR MLR
comp=Z,18μm,18.0s,MS6.3
ADK Adak 62.91 38 PFAKE 11 14 50.0 +13
ADK LR LR
comp=Z,2μm,19.0s,MS5.3
ARU Arti 63.44 327 *e*P **P 11 14 40.5 -0.4**
comp=Z,47nm,0.8s,mb5.7
ARU *e*pP pP 11 14 47.3 -1.4

ARU LR LR
comp=Z,2µm,19.0s,MS5.3
ARU Arti 63.44 327 ⇓*i*P **P 11 14 40.6 -0.3**
ARU *e* 11 15 16.4
ARU *e* 11 17 03.4
ARU *e*S **S 11 23 11.5 -0.8**
ARU *e* 11 24 29.8
ARU pmax pmax
comp=Z,47nm,1.6s,mb5.4
ARU MLR MLR
comp=Z,2µm,18.0s,MS5.4
ARU MLR MLR
comp=N,1µm,19.0s,MS5.4
ARU MLR MLR
comp=E,2µm,17.0s,MS5.4
ABTO Aybut 64.51 283 P **P 11 14 48.7 +0.8**
SNR=6.3
QRN Al-Qurain 68.41 296 *e*P **P 11 15 12.5 -0.4**
QRN AMb AMB 11 15 15.2
comp=Z,90nm,0.8s,mb5.9
MAK Makhachkala 68.47 311*c i*P **P 11 15 06.5 -6.7**
MAK *i* 11 15 38.8
MAK *e*PPP 11 19 21.4
MAK *e*S S 11 24 12.8 -0.7
MAK *i* 11 24 52.8
MAK *i* SS SS 11 28 35.5 -1.9
MAK pmax pmax
comp=Z,270nm,1.2s,mb6.2
UMR Umm Al-Rimmam 68.53 297 *e*P **P 11 15 13.2 -0.4**
UMR AMb AMB 11 15 15.0
comp=Z,69nm,0.8s,mb5.6
KBD Kabd 68.58 296 *e*P **P 11 15 13.8 -0.2**
KBD AMb AMB 11 15 21.3
comp=Z,194nm,0.8s,mb6.1
RDF Al-Radifah 68.72 296 *e*P **P 11 15 14.5 -0.3**
RDF AMb AMB 11 15 17.2
comp=Z,188nm,0.8s,mb6.1
MIB Mutribah 68.85 297 *e*P **P 11 15 14.9 -0.7**
MIB AMb AMB 11 15 16.9
comp=Z,125nm,0.8s,mb5.9
NAY Al-Naaiem 68.97 296 *e*P **P 11 15 15.8 -0.6**
NAY AMb AMB 11 15 17.6
comp=Z,64nm,0.8s,mb5.6
UNV Unalaska Valle 69.32 37 PFAKE 11 15 30.0 +11
UNV LR LR
comp=Z,5µm,21.0s,MS5.7
TNA Tin City 70.31 25 *e*P **P 11 15 23.4 -1.3**
comp=Z,8.9nm,0.9s,mb4.7
TNA LR LR
comp=Z,556nm,19.0s,MS4.8
GNI Garni 70.53 308 P **P 11 15 26.0 +0.1**
comp=Z,5.5nm,0.4s,mb4.8,baz=114,slow=3.7,SNR=8.1
GNI Garni 70.53 308 *e*P **P 11 15 26.3 +0.3**
comp=Z,69nm,0.9s,mb5.6
GNI *e*pP pP 11 15 33.5 -0.4
GNI LR LR
comp=Z,2µm,22.0s,MS5.2
GNI Garni 70.53 308 *i* P **P 11 15 26.2 +0.2**
GNI pmax pmax
comp=Z,61nm,1.0s
GNI MLR MLR
comp=Z,2µm,23.0s
ZEI Tsey 71.12 311 *e*P **P 11 15 29.9 +0.4**
ZEI pmax pmax
comp=Z,38nm,1.0s,mb5.3
BHD Baghdad 71.14 301 *e*x x 11 15 22.0
BHD *e*x x 11 15 37.5
BHD *e*x x 11 24 37.0
BHD *e*x x 11 25 30.0
PECR Pechory 71.33 325 *e*P **P 11 15 30.0 -0.8**
PECR *e*S S 11 24 45.0 -2.2
PECR *e* 11 25 31.0
PECR pmax pmax
comp=Z,700nm,1.8s,mb6.3
PECR smax
comp=N,1µm,5.6s
PECR smax
comp=E,900nm,5.6s
PECR MLR MLR
comp=Z,5µm,19.0s,MS5.8
PECR MLR MLR
comp=E,2µm,18.0s
GOF Gofitskoye 71.71 313 *e*P PcP 11 15 51.0 -1.1
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.2
KIV Kislovodsk 71.97 312 P **P 11 15 35.0 +0.3**
comp=Z,418nm,0.8s,mb6.4,SNR=7.8
KIV Kislovodsk 71.97 312 *e*P **P 11 15 35.5 +0.7**
comp=Z,69nm,0.9s,mb5.6
KIV *e*pP pP 11 15 42.6 0.0
KIV LR LR
comp=Z,2µm,19.0s,MS5.3
KIV Kislovodsk 71.97 312*c i*P **P 11 15 35.2 +0.5**
KIV pmax pmax
comp=Z,71nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,1µm,17.0s,MS5.3
MSL Mosul 72.00 304 *e*x x 11 15 37.0
MSL *e*x x 11 24 55.0
AFI Afiamalu 72.47 109 PFAKE 11 15 50.0 +12
AFI LR LR
comp=Z,3µm,22.0s,MS5.5
VRHR Novokhopersk 72.62 320 *e*P **P 11 15 37.8 -0.7**
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
VRHR pmax pmax
comp=E,30nm,0.9s
KLMR Klimovskoe 73.93 330*c i*P **P 11 15 45.0 -1.3**
KLMR *e*S S 11 25 11.0 -5.8
KLMR pmax pmax
comp=Z,220nm,1.3s,mb5.9
KLMR pmax pmax
comp=Z,130nm,5.9s
KLMR smax
comp=N,20nm,3.6s
KLMR smax
comp=E,350nm,3.2s
KLMR MLR MLR
comp=Z,3µm,17.0s,MS5.7
SNZO South Karori 74.00 140 PFAKE 11 16 00.0 +13
SNZO LR LR
comp=Z,2µm,21.0s,MS5.3
VOR Voronezh 74.13 320 *e*P **P 11 15 46.5 -0.9**
VOR *e*S S 11 25 16.0 -3.0
VOR pmax pmax
comp=Z,120nm,1.4s,mb5.6
VOR smax
comp=N,290nm,1.6s
SOC Sochi 74.14 312 *e*P **P 11 15 50.6 +3.1**
SOC *e*S S 11 25 17.4 -1.8
SOC pmax pmax
comp=Z,25nm,0.7s,mb5.2
MOS Moscow 74.95 324 *e*P **P 11 15 49.6 -2.6**
MOS *i* 11 16 04.0
MOS *e* 11 18 35.6
MOS pmax pmax
comp=Z,116nm,1.1s,mb5.7
MOS MLR MLR
comp=Z,6µm,20.2s,MS5.9
ATD Arta Tunnel 75.42 279 P **P 11 15 56.2 +1.3**
comp=Z,34nm,1.1s,mb5.2,baz=292,slow=16,SNR=6.3
ATD Arta Tunnel 75.42 279 P **P 11 15 56.2 +1.3**
SVW2 Sparrevohn 75.48 30 *e*P **P 11 15 55.1 -0.2**
MALT Malatya 75.54 306 *e*P **P 11 15 57.1 +1.5**
comp=Z,24nm,1.0s,mb5.1
MALT Malatya 75.54 306 ⇓P **P 11 15 56.9 +1.3**
OBN Obninsk 75.57 324 *e*P **P 11 15 54.9 -0.9**
comp=Z,118nm,1.2s,mb5.7
OBN *e*pP pP 11 16 02.0 -1.7
OBN *e*PcP PcP 11 16 08.7 0.0
OBN LR LR
comp=Z,6µm,19.0s,MS5.9
OBN Obninsk 75.57 324 ⇓*i*P **P 11 15 54.9 -0.9**
OBN *i* pP 11 16 02.7 -1.0
OBN *i* 11 16 10.0
OBN *i* S S 11 25 36.5 +1.4
OBN *i* SS SS 11 30 32.6 +6.3
OBN pmax pmax
comp=Z,105nm,1.1s,mb5.7
OBN MLR MLR
comp=Z,7µm,22.0s,MS5.9
ANN Anapa 75.69 313 *e*P **P 11 15 56.0 -0.5**
ANN *e*S S 11 25 37.3 +0.9
ANN pmax pmax
comp=Z,39nm,1.0s,mb5.3
ANN MLR MLR
comp=N,3µm,20.0s,MS5.7
ANN MLR MLR
comp=E,2µm,20.0s,MS5.7
ANN MLR MLR
comp=Z,2µm,20.0s,MS5.4
LVZ Lovozero 76.05 337 P **P 11 15 57.7 -0.9**
comp=Z,299nm,1.2s,mb6.1,SNR=5.5
LVZ Lovozero 76.05 337 *i* P **P 11 15 57.6 -1.0**
LVZ pmax pmax
comp=Z,101nm,1.4s,mb5.6
LVZ MLR MLR
comp=Z,5µm,21.0s,MS5.8
APA Apatity 76.54 337*b i*P **P 11 16 00.4 -0.9**
APA *i* S S 11 25 42.0 -3.8
APA *i* PS 11 26 17.0
APA pmax pmax
comp=Z,130nm,1.4s,mb5.7
APA MLR MLR
comp=N,12µm,18.0s,MS6.3
APA MLR MLR
comp=E,2µm,18.0s,MS6.3
APA MLR MLR
comp=Z,15µm,18.0s,MS6.3
JOF Joensuu 77.74 332 *e*p **P 11 16 07.1 -0.9**
comp=Z,27nm,0.6s,mb5.3
JOF Joensuu 77.74 332 *e*P **P 11 16 07.1 -0.9**
JOF pmax pmax
comp=Z,27nm,0.6s,mb5.3
SIM Simferopol' 78.02 314⇑*e*P **P 11 16 09.6 0.0**
SIM *e*S S 11 26 01.8 -0.1
SIM pmax pmax
comp=Z,47nm,0.9s,mb5.4
SIM MLR MLR
comp=Z,3µm,22.0s,MS5.5
FIB Fire Island 78.09 30 PFAKE 11 16 20.0 +10
FIB LR LR
comp=Z,3µm,22.0s,MS5.5
BHL Bhannes 78.31 302 *e*P **P 11 16 12.5 +1.3**
MCK McKinley 78.38 27 *e*P **P 11 16 09.7 -2.0**
comp=Z,48nm,1.1s,mb5.3
MCK LR LR
comp=Z,766nm,21.0s,MS5.0
PMR Palmer 78.55 29 *e*P **P 11 16 11.3 -1.2**
comp=Z,46nm,1.0s,mb5.4
PMR LR LR
comp=Z,1µm,21.0s,MS5.1
PMR Palmer 78.55 29 *e*P **P 11 16 10.2 -2.3**
PMR pmax pmax
comp=Z,40nm,1.0s,mb5.3
PUL Pulkovo 78.55 329 *i* P **P 11 16 12.1 -0.4**
PUL Pulkovo 78.55 329⇓*e*P **P 11 16 11.0 -1.5**
PUL pmax pmax
comp=E,149nm,0.9s
PUL pmax pmax
comp=Z,171nm,0.9s,mb6.0
PUL MLR MLR
comp=Z,4µm,16.0s,MS5.9
PUL MLR MLR
comp=N,1µm,13.0s,MS5.8
PUL MLR MLR
comp=E,4µm,18.0s,MS5.8
KEV Kevo 78.67 339 *e*P **P 11 16 11.2 -2.0**
comp=E,9.3nm,0.5s,mb5.0
KEV LR LR
comp=Z,4µm,19.0s,MS5.7
COLA College 78.71 26 *e*P **P 11 16 11.6 -1.8**
comp=Z,37nm,1.1s,mb5.2
COLA LR LR
comp=Z,846nm,20.0s,MS5.1
COLA College 78.71 26 *i* P **P 11 16 11.7 -1.7**
BR131 Keskin Array S 79.07 308 *e*P **P 11 16 15.1 -0.3**
comp=Z,9.2nm,0.9s,mb4.7
BR131 *e*pP pP 11 16 21.4 -2.0
BR131 LR LR
comp=Z,975nm,19.0s,MS5.2
BRTR Keskin Array B 79.07 308 P **P 11 16 14.9 -0.4**
comp=Z,8.4nm,0.9s,mb4.7,baz=113,slow=4.6,SNR=26
BRTR Keskin Array B 79.07 308 *i* P **P 11 16 15.5 +0.1**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
ILAR Eielson Array 79.14 26 P **P 11 16 12.6 -3.2**
comp=Z,12nm,1.1s,mb4.8,baz=256,slow=5.6,SNR=35
ILAR PKKPbc PKKPbc 11 35 07.0 +0.1
comp=Z,1.7nm,1.2s,baz=124,slow=2.2,SNR=4.4
ARCES ARCESS Array B 79.23 339 P **P 11 16 14.8 -1.4**
comp=Z,25nm,0.8s,mb5.2,baz=78,slow=6.2,SNR=47
ARCES LR LR 11 55 52.3
comp=Z,3µm,18.4s,MS5.7,baz=81,slow=39
EIL Elat 79.56 298 *e*P **P 11 16 19.2 +1.1**
comp=Z,846nm,1.1s
ANTO Ankara 79.69 309 *e*P **P 11 16 18.9 +0.1**
comp=Z,10nm,0.8s,mb4.8
ANTO *e*pP pP 11 16 26.7 -0.1
ANTO LR LR
comp=Z,1µm,20.0s,MS5.3
CSS Prodhromos 80.05 304 *e*P **P 11 16 21.1 +0.4**
comp=Z,46nm,0.8s,mb5.5
POHA Pohakuloa 80.11 72 PFAKE 11 16 30.0 +9.0
POHA LR LR
comp=Z,3µm,21.0s,MS5.6
BJO Bjornoya 80.13 344 AMS AMS 11 58 37.4
comp=Z,4µm,15.6s,MS5.9
KAF Kangasniemi 80.14 332 *e*p **P 11 16 19.2 -2.0**
comp=Z,52nm,0.9s,mb5.5,baz=76,slow=5.0
KAF Kangasniemi 80.14 332 *e*P **P 11 16 19.2 -2.0**
KAF pmax pmax
comp=Z,52nm,0.9s,mb5.5
DIV Divide 80.22 29 PFAKE 11 16 30.0 +8.4
DIV LR LR
comp=Z,3µm,19.0s,MS5.7
FINES FINESS Array B 80.37 331 P **P 11 16 21.0 -1.4**
comp=Z,22nm,0.8s,mb5.2,baz=84,slow=5.9,SNR=56
FINES LR LR 11 55 09.0
comp=Z,4µm,20.6s,MS5.7,baz=78,slow=38
FINES FINESS Array B 80.37 331 *i* P **P 11 16 21.0 -1.4**
FINES pmax pmax
comp=Z,22nm,0.8s
KBS Kingsbay 80.39 349 *e*S S 11 26 25.2 -1.9
KBS AMS AMS 11 55 31.1
comp=Z,3µm,15.3s,MS5.8
KBS Kingsbay 80.39 349 PFAKE 11 16 30.0 +7.4
KBS LR LR
comp=Z,5µm,20.0s,MS5.9
AKASG Malin Array Be 80.47 320 P **P 11 16 21.9 -1.0**
comp=Z,13nm,0.8s,mb4.9,baz=69,slow=5.0,SNR=52
VSU Vasula 80.57 328 *i* P **P 11 16 22.4 -1.1**
VSU Vasula 80.57 328 *i* P **P 11 16 22.3 -1.2**
MNK Minsk 80.66 324⇓*e*P **P 11 16 22.0 -2.0**
MNK MLR MLR
comp=Z,11µm,18.0s,MS6.2
MNK MLR MLR
comp=E,9µm,20.0s
MENT Mentasta 80.83 27 *e*P **P 11 16 23.8 -1.1**
DRV Dumont d'Urvil 81.17 172 P **P 11 16 27.0 +0.3**
KIS Kishinev 81.37 316 *e*P **P 11 16 35.0 +7.2**
KIS MLR MLR
comp=Z,3µm,20.0s,MS5.6
KIS MLR MLR
comp=Z,600nm,20.0s
CFR Carcaliu 82.17 314 ⇓P **P 11 16 31.9 -0.1**
DAWY Dawson 82.46 26 *e*P **P 11 16 32.6 -0.9**
DAWY *e*pP pP 11 16 38.1 -3.4
VRI Vrincioaia 83.00 315 ⇓P **P 11 16 37.2 +0.9**
PRD Provadia 83.08 313 *e*P **P 11 16 38.0 +1.2**
SUW Suwalki 83.44 324 *e*P **P 11 16 38.1 -0.5**
SUW L 11 55 08.8
comp=Z,5.2nm,20.9s
INK Inuvik 83.47 21 P **P 11 16 36.1 -2.6**
comp=Z,39nm,1.0s,mb5.4,baz=281,slow=7.5,SNR=48
INK Inuvik 83.47 21 *e*P **P 11 16 36.9 -1.9**
comp=Z,53nm,1.1s,mb5.5
INK Inuvik 83.47 21 *e*P **P 11 16 36.9 -1.8**
INK pmax pmax
comp=Z,53nm,1.1s
KMBO Kilima Mbogo 83.57 267 P **P 11 16 40.5 +1.2**
comp=Z,13nm,0.9s,mb5.0,baz=44,slow=6.8,SNR=25
KMBO LR LR 11 54 28.5
comp=Z,2µm,18.2s,MS5.6,baz=95,slow=36
KMBO Kilima Mbogo 83.57 267 *e*P **P 11 16 41.1 +1.8**
comp=Z,19nm,1.1s,mb5.1
KMBO *e*pP pP 11 16 47.8 +0.5
KMBO LR LR
comp=Z,1µm,19.0s,MS5.4
KMBO Kilima Mbogo 83.57 267 *i* P **P 11 16 41.0 +1.7**
KMBO pmax pmax
comp=Z,13nm,0.9s
MLR Muntele Rosu 83.62 315 P **P 11 16 39.9 +0.3**
comp=Z,15nm,0.7s,mb5.2,baz=147,slow=2.6,SNR=9.1
MLR Muntele Rosu 83.62 315 ⇓P **P 11 16 39.4 -0.1**
BURAR Bucovina Array 83.64 317 ⇑P **P 11 16 39.9 +0.3**
BURAR Bucovina Array 83.64 317 ⇑P **P 11 16 39.9 +0.3**
LOF Lofoten 83.78 339 *e*P **P 11 16 41.3 +0.9**
LVV L'vov 83.91 320 *i* P **P 11 16 40.0 -1.0**
LVV *e*S S 11 26 59.0 -4.2
LVV *e*PS 11 27 59.0
VOIR 84.25 315 ⇑P **P 11 16 42.8 +0.1**
KWP Kalwaria 84.79 320 *e*P **P 11 16 45.6 +0.2**
KWP L 11 57 32.9
comp=Z,2.9nm,19.9s
WAR Warsaw 85.14 322 *e*P **P 11 16 48.0 +0.8**
WAR L 11 56 34.4
comp=Z,5.5nm,20.5s
KOLS Kolonicke sedl 85.24 319 *i* P **P 11 16 49.8 +2.1**
UZH Uzhgorod 85.30 319 *i* P **P 11 16 48.0 0.0**
UZH *i* 11 27 04.0
UZH *e*S 11 27 14.0
RZN Rozhen 85.35 312 *i* P **P 11 16 47.8 -0.5**
PGB Panagyurishte 85.54 313 *e*P **P 11 16 50.0 +0.8**
NSS Namsos 85.69 336 *e*P **P 11 16 47.0 -3.0**
NSS AMS AMS 11 58 50.6
comp=Z,6µm,19.4s,MS6.0
CRVS Cervenica-Dubn 85.76 319 *e*P **P 11 16 51.2 +0.9**
STHS Stebnicka Huta 85.76 320 *i* P **P 11 16 50.8 +0.5**
MMB Musomiste 86.10 312 *i* P **P 11 16 51.5 -0.5**
VTS Vitosha 86.22 313 *i* P **P 11 16 52.0 -0.6**
VTS Vitosha 86.22 313 ⇓P **P 11 16 52.3 -0.3**
NIE Niedzica 86.35 320 *e*P **P 11 16 53.5 +0.3**
OJC Ojcow 86.44 321 *e*P **P 11 16 53.4 -0.3**
OJC *e*S 11 27 20.9
OJC L 11 58 13.1
comp=Z,16nm,18.6s
KKB Krupnik 86.49 312 *i* P **P 11 16 53.0 -0.9**
BZS Buzias 86.54 316 ⇑P **P 11 16 53.8 -0.4**
IDI Anoyia 86.75 305 P **P 11 16 55.3 +0.1**
comp=Z,13nm,0.9s,mb5.2,baz=27,slow=11,SNR=3.3
BOLS Boljevac 86.78 314 ⇓*i*P **P 11 16 54.6 -0.7**
DAG Danmarks Havn 86.83 351 ⇓*i*P **P 11 16 52.1 -3.5**
comp=Z,2.7nm,0.7s,mb4.6
DAG Danmarks Havn 86.83 351⇓*e*P **P 11 16 52.1 -3.5**
comp=Z,2.7nm,0.7s,mb4.6
DAG Danmarks Havn 86.83 351⇓*e*P **P 11 16 52.1 -3.5**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
PSZ Piszkesteto 87.04 319⇓*e*PcP PcP 11 16 56.8 -2.0
PSZ Piszkesteto 87.04 319 *e*P **P 11 16 56.4 -0.2**
comp=Z,43nm,1.3s,mb5.5
PSZ *e*pP pP 11 17 04.1 -0.5
PSZ *e*sP sP 11 17 06.6 -0.9
PSZ Piszkesteto 87.04 319 *e*P **P 11 16 56.4 -0.2**
PSZ pmax pmax
comp=Z,43nm,1.3s,mb5.5
GKP Gorka Klasztor 87.04 324 *e*P **P 11 16 57.0 +0.4**
GKP L 11 57 24.6
comp=Z,7.2nm,23.5s
STIP Stip 87.19 312 *e*P **P 11 16 56.1 -1.2**
LIKS Likavka 87.21 320 *e*P **P 11 16 58.3 +0.9**
NB2 NORSAR Subarra 87.36 333 P **P 11 16 56.1 -2.0**
comp=Z,122nm,1.1s,mb6.0,baz=67,slow=4.6
NB2 NORSAR Subarra 87.36 333 P **P 11 16 56.1 -2.0**
NB2 pmax pmax
comp=Z,122nm,1.1s,mb6.0
NOA NORSAR Array B 87.36 333 P **P 11 16 56.4 -1.7**
comp=Z,61nm,1.0s,mb5.8,baz=68,slow=4.7,SNR=65
NOA LR LR 11 58 02.6
comp=Z,2µm,21.5s,MS5.6,baz=60,slow=37
NOA NORSAR Array B 87.36 333 P **P 11 16 56.4 -1.7**
NOA LR LR 11 58 02.6
VYHS Vyhne 87.55 319 *i* P **P 11 16 59.1 0.0**
OKC Ostrava-Krasne 87.57 321 *e*P **P 11 16 57.6 -1.6**
OKC AMS AMS 11 58 50.0
comp=Z,2µm,16.6s
OKC Ostrava-Krasne 87.57 321 *e*P **P 11 16 56.6 -2.6**
OKC MLR MLR
comp=Z,2µm,16.6s,MS5.6
GRUS Gruza 87.63 314 *e*P **P 11 16 58.8 -0.6**
SKO Skopje 87.65 312 *e*P **P 11 16 58.3 -1.2**
BSD Bornholm Skovb 87.72 326 *i* P **P 11 17 02.0 +2.1**
comp=Z,73nm,1.0s,mb5.9
BSD *i* 11 27 40.5
BSD
comp=Z,3µm,19.0s
BSD Bornholm Skovb 87.72 326 *e*P **P 11 17 02.0 +2.1**
comp=Z,73nm,1.0s,mb5.9
BSD *i* 11 27 40.5
BSD Bornholm Skovb 87.72 326 *e*P **P 11 17 02.0 +2.1**
BSD *i* 11 27 40.5
BSD pmax pmax
comp=Z,73nm,1.0s,mb5.9
MORC Moravsky Berou 87.96 321 *e*P **P 11 17 00.7 -0.3**
comp=Z,44nm,1.1s,mb5.6
MORC Moravsky Berou 87.96 321 ⇑P **P 11 17 01.2 +0.2**
DIVS Divcibare 88.07 315 *i* P **P 11 17 01.4 -0.1**
SRO Srobarova 88.09 319 *e*P **P 11 17 02.6 +1.0**
SRO1 Iza 88.15 319 *e*P **P 11 17 02.5 +0.6**
MOL Molde 88.30 335 *e*P **P 11 17 02.6 0.0**
MOL AMb AMB 11 17 07.4
comp=Z,89nm,2.3s,mb5.6
MOL Molde 88.30 335 *e*P **P 11 17 02.6 0.0**
comp=Z,89nm,2.3s,mb5.6
OHR Ohrid 88.35 312 *e*P **P 11 17 01.5 -1.4**
PKSM Moragy 88.36 317 P **P 11 17 03.0 +0.1**
KSP Ksiaz 88.38 322 *e*P **P 11 17 03.3 +0.3**
KSP L 11 58 44.7
comp=Z,8.7nm,19.4s
KSP Ksiaz 88.38 322 *e*P **P 11 17 02.8 -0.2**
KSP *e*S 11 27 45.0
KSP MLR MLR
comp=Z,10µm,20.1s,MS6.2
DPC Dobruska-Polom 88.52 322 *e*P **P 11 17 03.5 -0.2**
DPC AMS AMS 11 58 40.0
comp=Z,4µm,18.4s
KONO Kongsberg 88.66 332 *e*SKSa 11 27 30.7
KONO Kongsberg 88.66 332⇑*e*P **P 11 17 03.8 -0.5**
KONO LR LR
comp=Z,2µm,19.0s,MS5.6
UPC Upice 88.66 322 *e*P **P 11 17 04.7 +0.4**
VRAC Vranov 88.70 321 P **P 11 17 04.3 -0.3**
comp=Z,37nm,1.0s,mb5.7,baz=84,slow=4.3,SNR=23
VRAC Vranov 88.70 321 ⇑P **P 11 17 05.1 +0.6**
JMIC Jan Mayen 88.98 345 AMS AMS 12 01 04.7
comp=Z,2µm,22.0s,MS5.6
JMIC Jan Mayen 88.98 345 LR LR 12 00 48.2
comp=Z,2µm,19.8s,MS5.6,baz=57,slow=38
RUE Ruedersdorf 89.28 324 *e*P **P 11 17 07.0 -0.3**
comp=Z,98nm,0.9s,mb6.1
RES Resolute Bay 89.35 9 *e*P **P 11 17 05.6 -2.0**
comp=Z,16nm,0.9s,mb5.3
RES Resolute Bay 89.35 9 *e*P **P 11 17 05.6 -2.0**
RES pmax pmax
comp=Z,16nm,0.9s,mb5.3
PVCC Panska Ves 89.52 322 *e*P **P 11 17 07.9 -0.5**
PRU Pruhonice 89.72 322 *e*P **P 11 17 08.9 -0.4**
PRU AMS AMS 11 59 20.0
comp=Z,4µm,20.2s
BRG Berggiesshubel 89.77 323 *e*P **P 11 17 09.3 -0.2**
comp=Z,55nm,1.0s,mb5.8
BRG Berggiesshubel 89.77 323 *i* P **P 11 17 09.5 -0.1**
comp=Z,37nm,1.1s,mb5.6
BRG *i* 11 17 13.5
BRG S 11 27 36.0
BRG LR LR
comp=Z,2µm,18.8s,MS5.7
BRG Berggiesshubel 89.77 323 *i* P **P 11 17 09.5 0.0**
BRG S 11 27 36.0
BRG pmax pmax
comp=Z,37nm,1.1s,mb5.6
BRG pmax pmax
comp=Z,14nm,0.9s,mb5.3
BRG MLR MLR
comp=N,1µm,17.9s,MS5.6
BRG MLR MLR
comp=E,1µm,16.0s,MS5.6
BRG Berggiesshubel 89.77 323 *i* P **P 11 17 09.5 -0.1**
comp=E,37nm,1.1s,mb5.6
BRG *i* 11 17 13.5
comp=E,14nm,0.9s
BRG S 11 27 36.0

BRG
comp=N,1μm,17.9s
BRG
comp=E,1μm,17.0s
BRG
comp=Z,2μm,18.8s
ARSA Arzberg 90.06 319⇑ *i*P **P 11 17 10.6 -0.3**
comp=Z,13nm,1.0s,mb5.2
CLL Collm 90.16 323 *i* P **P 11 17 10.7 -0.7**
comp=Z,50nm,1.1s,mb5.8
CLL *e*(PP) 11 20 54.0
CLL *e*S 11 28 06.1
CLL *e*SP SP 11 29 14.1 +4.7
CLL *e*(SS) 11 34 17.5
CLL *e*LR LR 11 52 42.1
CLL *e*L 11 59 36.2
comp=Z,3μm,22.0s
CLL Collm 90.16 323 *i* P **P 11 17 10.7 -0.7**
comp=Z,49nm,1.1s,mb5.8
CLL *e*PP PP 11 20 54.0 +9.1
CLL *e*S 11 28 00.0
CLL *e*PS PS 11 29 12.0 -0.6
CLL *e*SS SS 11 34 30.0 +27
CLL Collm 90.16 323 *i* P **P 11 17 10.7 -0.7**
CLL *e**PP pP 11 17 26.0 +6.6
CLL pmax pmax
comp=Z,49nm,1.1s,mb5.8
CLL MLR MLR
comp=Z,3μm,21.9s,MS5.7
BLS5 Blasjo 90.19 332 *e*P **P 11 17 11.6 +0.1**
MUD Monsted U'grnd 90.20 329 *i* P **P 11 17 10.4 -1.1**
comp=Z,70nm,1.3s,mb5.8
MUD
comp=Z,5μm,19.0s
MUD Monsted U'grnd 90.20 329 *e*P **P 11 17 10.4 -1.1**
comp=Z,70nm,1.3s,mb5.8
MUD Monsted U'grnd 90.20 329 *e*P **P 11 17 10.4 -1.1**
MUD pmax pmax
comp=Z,70nm,1.3s,mb5.8
BER Bergen 90.25 333 AMS AMS 12 02 00.0
comp=Z,6μm,17.4s,MS6.1
KHC Kasperske Hory 90.61 321 *e*P **P 11 17 13.0 -0.5**
KHC pP pP 11 17 23.5 +1.9
KHC AMS AMS 11 59 50.0
comp=Z,3μm,17.9s
KHC Kasperske Hory 90.61 321 *i* P **P 11 17 13.3 -0.2**
KHC Kasperske Hory 90.61 321 *e*P **P 11 17 13.0 -0.5**
KHC *e* 11 17 23.5
KHC MLR MLR
comp=Z,3μm,17.9s,MS5.8
GEC2 GERESS Array S 90.64 321 *e*P **P 11 17 13.7 +0.1**
comp=Z,39nm,1.1s,mb5.7
GEC2 GERESS Array S 90.64 321 *e*P **P 11 17 13.7 +0.1**
GEC2 pmax pmax
comp=Z,39nm,1.1s,mb5.7
GERES GERESS Array B 90.64 321 P **P 11 17 13.5 -0.1**
comp=Z,19nm,0.9s,mb5.4,baz=66,slow=4.8,SNR=66
GERES LR LR 12 04 21.0
comp=Z,2μm,18.3s,MS5.6,baz=65,slow=40
BSEG Bad Segeberg 90.64 326 *e*P **P 11 17 13.3 -0.3**
comp=Z,56nm,1.1s,mb5.8
BSEG Bad Segeberg 90.64 326 *e*P **P 11 17 13.3 -0.3**
BSEG pmax pmax
comp=Z,56nm,1.1s,mb5.8
MOA Molln 90.65 320⇓ *i*P **P 11 17 13.8 +0.1**
comp=Z,72nm,1.1s,mb5.9,SNR=36
MAW Mawson 90.73 199 PFAKE 11 17 20.0 +6.0
MAW LR LR
comp=Z,2μm,21.0s,MS5.4
TANN Tannenbergstha 90.81 322 *e*P **P 11 17 14.4 0.0**
comp=Z,30nm,1.1s,mb5.5
NKC Novy Kostel 90.89 322 *e*P **P 11 17 14.9 +0.1**
NKC AMS AMS 12 00 10.0
comp=Z,5μm,18.9s
OBKA Obir 90.94 318⇑ *i*P **P 11 17 14.7 -0.3**
comp=Z,24nm,0.9s,mb5.5
WET Wettzell 91.04 321 *e*P **P 11 17 14.5 -0.9**
comp=Z,42nm,1.4s,mb5.6
WET Wettzell 91.04 321 *e*P **P 11 17 14.5 -0.9**
WET pmax pmax
comp=Z,42nm,1.4s,mb5.6
ROTZ Rotzenmuhle 91.21 322 *e*P **P 11 17 16.3 +0.1**
comp=Z,47nm,1.1s,mb5.7
MOX Moxa 91.22 323 *e*P **P 11 17 16.1 -0.2**
comp=Z,37nm,1.2s,mb5.6
MOX Moxa 91.22 323 *e*P **P 11 17 16.0 -0.3**
comp=Z,44nm,1.3s,mb5.6
MOX
comp=Z,2μm,19.0s
MOX Moxa 91.22 323 *e*P **P 11 17 16.0 -0.3**
MOX pmax pmax
comp=Z,44nm,1.3s,mb5.6
MOX MLR MLR
comp=Z,2μm,19.0s,MS5.6
CLZ Clausthal 91.46 324 *e*P **P 11 17 17.5 +0.1**
comp=Z,75nm,1.4s,mb5.8
CLZ Clausthal 91.46 324 *e*P **P 11 17 17.5 +0.1**
CLZ pmax pmax
comp=Z,75nm,1.4s,mb5.8
KBA Koelnbreinsper 91.51 319⇑ *i*P **P 11 17 17.0 -0.7**
comp=Z,29nm,1.1s,mb5.5,SNR=6.3
VOY Vojsko 91.54 318 *e*(P) **P 11 17 16.9 -0.9**
GRF Grafenberg Arr 91.83 322 *e*P **P 11 17 19.1 0.0**
comp=Z,57nm,1.3s,mb5.7
GRF *e*L 12 01 00.0
comp=Z,4μm,18.6s
GRF Grafenberg Arr 91.83 322 *e*P **P 11 17 19.1 0.0**
GRF pmax pmax
comp=Z,57nm,1.3s,mb5.7
GRF MLR MLR
comp=Z,4μm,18.6s,MS5.9
GRF Grafenberg Arr 91.83 322 *e*P **P 11 17 19.1 0.0**
GRF pmax pmax
comp=Z,57nm,1.3s,mb5.7
GRF MLR MLR
comp=Z,4μm,18.6s,MS5.9
TIP Timpagrande 91.88 311 *e*P **P 11 17 18.7 -0.7**
TIP *es*P sP 11 17 29.6 -0.7
UBBA Unterbreizbach 92.09 323 *e*P **P 11 17 20.3 0.0**
comp=Z,34nm,1.4s,mb5.5
WATA Walderalm 92.53 320⇓ *i*P **P 11 17 21.3 -1.0**
comp=Z,43nm,1.0s,mb5.8,SNR=9.0
IBBN Ibbenburen 92.73 325 *e*P **P 11 17 23.1 -0.2**
comp=Z,55nm,1.2s,mb5.9
SQTA Sankt Quirin 92.81 320⇑ *i*P **P 11 17 23.3 -0.4**
comp=Z,64nm,1.0s,mb6.0,SNR=26
MOTA Moosalm 92.82 320⇑ *i*P **P 11 17 23.0 -0.7**
comp=Z,57nm,1.0s,mb6.0,SNR=33
SUMG Summit 93.06 354 *e*P **P 11 17 24.0 -0.8**
comp=Z,13nm,1.1s,mb5.3
YKW3 Yellowknife Ar 93.11 22 *e*P **P 11 17 22.9 -2.1**
YKA Yellowknife Ar 93.15 22 P **P 11 17 23.1 -2.1**
comp=Z,5.6nm,0.9s,mb5.0,baz=308,slow=4.1,SNR=32
YKA PKKPbc PKKPbc 11 34 30.7 -2.7
comp=Z,1.9nm,1.0s,baz=121,slow=2.2,SNR=13
AQU L'Aquila 93.19 315 *e*P **P 11 17 25.4 0.0**
comp=Z,39nm,0.8s,mb5.9
AQU L'Aquila 93.19 315 *e*P **P 11 17 25.4 0.0**
AQU pmax pmax
comp=Z,15nm,0.9s,mb5.4
TNS Taunus Mts 93.24 323 *e*P **P 11 17 25.9 +0.3**
comp=Z,28nm,1.1s,mb5.6
TNS Taunus Mts 93.24 323 *e*P **P 11 17 25.9 +0.3**
TNS pmax pmax
comp=Z,28nm,1.1s,mb5.6
TOD Tromm 93.30 323 *e*P **P 11 17 26.6 +0.7**
BUG Bochum--Univer 93.39 325 *e*P **P 11 17 26.0 -0.3**
comp=Z,34nm,1.1s,mb5.7
STU Stuttgart 93.42 322 *e*P **P 11 17 26.6 +0.2**
comp=Z,40nm,1.0s,mb5.8
STU Stuttgart 93.42 322 *e*P **P 11 17 26.4 0.0**
comp=Z,20nm,0.6s,mb5.7
STU Stuttgart 93.42 322 *e*P **P 11 17 26.4 0.0**
STU pmax pmax
comp=Z,20nm,0.6s,mb5.7
DAVA Damuels 93.61 320⇑ *i*P **P 11 17 27.1 -0.3**
comp=Z,37nm,1.1s,mb5.7,SNR=7.2
DAVOX Davos 93.81 320 P **P 11 17 28.1 -0.2**
comp=Z,46nm,0.9s,mb5.9,baz=86,slow=4.1,SNR=33
VNDA Vanda 93.82 172 P **P 11 17 26.9 -1.4**
comp=Z,9.0nm,0.9s,mb5.2,baz=304,slow=5.8,SNR=6.7
VNDA Vanda 93.82 172 P **P 11 17 26.9 -1.4**
VNDA MLR MLR
comp=Z,1μm,22.0s
ABH Alteburg 93.91 323 *e*P **P 11 17 29.7 +1.0**
PPT Papeete 94.02 107 *e*LQ 11 43 39.3
comp=Z,3μm,34.2s
PPT Papeete 94.02 107 *e*PP PP 11 21 10.5 -4.9
comp=Z,218nm,26.0s
PPT Papeete 94.02 107 *e*PS PS 11 30 03.1 +7.7
comp=Z,975nm,24.5s
PPT Papeete 94.02 107 *e*LR LR 11 47 29.3
comp=Z,2μm,22.0s,baz=292
BFO Black Forest 94.12 322 *e*P **P 11 17 29.3 -0.4**
comp=Z,32nm,1.3s,mb5.6
BFO Black Forest 94.12 322 *e*P **P 11 17 28.8 -0.9**
LANF Langenberg 94.16 322 PKP **P 11 17 30.7 +0.9**
LANF Langenberg 94.16 322 *e*P **P 11 17 30.7 +0.9**
RUP Ruppelstein 94.28 323 *e*P **P 11 17 31.4 +1.0**
MEM Membach 94.47 324 P **P 11 17 31.1 -0.2**
comp=Z,12nm,1.2s,mb5.2
FELD Feldberg 94.52 321 *e*P **P 11 17 31.9 +0.4**
LIBD Limburg 94.64 322 *e*P **P 11 17 32.8 +0.7**
WLS Welschbruch 94.67 322 PKP **P 11 17 32.9 +0.7**
WLS Welschbruch 94.67 322 *e*P **P 11 17 32.9 +0.7**
CDF Champ du Feu 94.72 322 *e*P **P 11 17 32.1 -0.3**
comp=Z,83nm,1.1s,mb5.8
CDF Champ du Feu 94.72 322 *e*P **P 11 17 32.1 -0.3**
comp=Z,41nm,1.1s,mb5.8
CDF Champ du Feu 94.72 322 *e*P **P 11 17 32.1 -0.3**
CDF pmax pmax
comp=Z,41nm,1.1s,mb5.8
SBA Scott Base 94.78 171 P **P 11 17 31.5 -1.2**
WLF Walferdange 94.82 324 P **P 11 17 33.7 +0.8**
comp=Z,24nm,1.1s,mb5.5
ECH Echery 94.88 322 PKP **P 11 17 33.1 -0.1**
ECH Echery 94.88 322 *e*P **P 11 17 33.1 -0.1**
BBS Basel-Blauen 94.99 321 *e*P **P 11 17 34.1 +0.4**
MOF Molkenrain 95.05 322 PKP **P 11 17 34.4 +0.4**
MOF Molkenrain 95.05 322 *e*P **P 11 17 34.4 +0.4**
HINF Hinteralfeld 95.24 322 *e*P **P 11 17 34.0 -0.8**
comp=Z,54nm,1.3s,mb5.5
HINF Hinteralfeld 95.24 322 *e*P **P 11 17 34.0 -0.8**
comp=Z,27nm,1.3s,mb5.5
HINF Hinteralfeld 95.24 322 *e*P **P 11 17 34.0 -0.8**
HINF pmax pmax
comp=Z,27nm,1.3s,mb5.5
UCC Uccle 95.31 325 P **P 11 17 34.7 -0.4**
TBI Tubuai 95.36 113 *e*LQ 11 44 24.3
comp=Z,1μm,36.8s
TBI Tubuai 95.36 113 *e*PP PP 11 21 23.5 -2.4
comp=Z,256nm,26.2s
TBI Tubuai 95.36 113 *e*PS PS 11 30 11.9 +1.7
comp=Z,721nm,25.8s
TBI Tubuai 95.36 113 *e*SKSac SKSac 11 28 03.9 -5.8
TBI comp=Z,344nm,34.2s
*e*LR LR 11 48 05.0
comp=Z,2μm,24.5s,baz=296
GIVF Givet 95.38 324 *e*P **P 11 17 35.1 -0.3**
comp=Z,78nm,1.1s,mb5.8
GIVF Givet 95.38 324 *e*P **P 11 17 35.1 -0.3**
comp=Z,39nm,1.1s,mb5.8
GIVF Givet 95.38 324 *e*P **P 11 17 35.1 -0.3**
GIVF pmax pmax
comp=Z,39nm,1.1s,mb5.8
HAU Haudompre 95.46 322 *e*P **P 11 17 36.0 +0.2**
HAU *e*R
comp=Z,3μm,19.0s
HAU Haudompre 95.46 322 *e*P **P 11 17 36.0 +0.2**
HAU MLR MLR
comp=Z,3μm,19.0s,MS5.8
LOMF Lomont 95.46 321 PKP **P 11 17 36.3 +0.5**
LOMF Lomont 95.46 321 *e*P **P 11 17 36.3 +0.5**
SNF Seneffe 95.49 325 P **P 11 17 36.1 +0.2**
DOU Dourbes 95.51 324⇑ P **P 11 17 36.4 +0.4**
comp=Z,12nm,1.1s,mb5.2
LSZ Lusaka 95.52 256 *e*P **P 11 17 37.0 +0.9**
comp=Z,17nm,1.1s,mb5.4
LSZ *e*pP pP 11 17 42.5 -1.6
LSZ LR LR
comp=Z,1μm,20.0s,MS5.4
LSZ Lusaka 95.52 256 *e*P **P 11 17 37.0 +0.9**
LSZ pmax pmax
comp=Z,17nm,1.1s,mb5.4
LSZ MLR MLR
comp=Z,1μm,20.0s,MS5.4
MEZF Maizieres J'vi 96.00 323 *e*P **P 11 17 37.9 -0.4**
PGF Pioggiola 96.12 316 *e*P **P 11 17 38.5 -0.3**
comp=Z,125nm,1.2s,mb5.9
PGF Pioggiola 96.12 316 *e*P **P 11 17 38.5 -0.3**
comp=Z,62nm,1.2s,mb5.9
PGF Pioggiola 96.12 316 *e*P **P 11 17 38.5 -0.3**
PGF pmax pmax
comp=Z,63nm,1.2s,mb5.9
CABF La Chapelle 96.25 321 *e*P **P 11 17 39.0 -0.4**
comp=Z,45nm,1.1s,mb5.5
CABF La Chapelle 96.25 321 *e*P **P 11 17 39.0 -0.4**
comp=Z,22nm,1.1s,mb5.5
CABF La Chapelle 96.25 321 *e*P **P 11 17 39.0 -0.4**
CABF pmax pmax
comp=Z,23nm,1.1s,mb5.5
LPG La Plagne 96.33 320 *e*P **P 11 17 39.9 +0.1**
comp=Z,82nm,1.1s,mb5.8
LPG La Plagne 96.33 320 *e*P **P 11 17 39.9 +0.1**
comp=Z,41nm,1.1s,mb5.8
LPG La Plagne 96.33 320 *e*P **P 11 17 39.9 +0.1**
LPG pmax pmax
comp=Z,41nm,1.1s,mb5.8
LPL La Plagne 96.33 320 *e*P **P 11 17 39.7 -0.1**
comp=Z,101nm,1.0s,mb5.9
LPL La Plagne 96.33 320 *e*P **P 11 17 39.7 -0.1**
comp=Z,50nm,1.0s,mb5.9
LPL La Plagne 96.33 320 *e*P **P 11 17 39.7 -0.1**
LPL pmax pmax
comp=Z,51nm,1.0s,mb5.9
OCWA Octopus Mounta 96.43 38 PFAKE 11 17 50.0 +10
OCWA LR LR
comp=Z,1μm,19.0s,MS5.5
BNI Bardonecchia 96.57 319 *e*P **P 11 17 40.2 -0.7**
comp=Z,27nm,1.0s,mb5.6
BNI *e*pP pP 11 17 46.0 -3.0
BNI *e*PP PP 11 21 36.1 +0.9
BNI Bardonecchia 96.57 319 *e*P **P 11 17 40.2 -0.7**
BNI *e* 11 21 36.1
BNI pmax pmax
comp=Z,27nm,1.0s,mb5.6
SBF Sospel 96.60 318 *e*P **P 11 17 40.2 -0.8**
comp=Z,58nm,0.9s,mb5.7
SBF Sospel 96.60 318 *e*P **P 11 17 40.2 -0.8**
comp=Z,29nm,0.9s,mb5.7
SBF Sospel 96.60 318 *e*P **P 11 17 40.2 -0.8**
SBF pmax pmax
comp=Z,29nm,0.9s,mb5.7
MBDF Montbardon 96.66 319 *e*P **P 11 17 41.2 -0.1**
comp=Z,23nm,1.0s,mb5.2
MBDF Montbardon 96.66 319 *e*P **P 11 17 41.2 -0.1**
comp=Z,12nm,1.0s,mb5.3
MBDF Montbardon 96.66 319 *e*P **P 11 17 41.2 -0.1**
MBDF pmax pmax
comp=Z,12nm,1.0s,mb5.3
EKA Eskdalemuir Ar 96.77 331 P **P 11 17 41.0 -0.7**
comp=Z,13nm,1.1s,mb5.3,baz=58,slow=7.0,SNR=5.8
ESK Eskdalemuir 96.80 331 PFAKE 11 17 50.0 +8.1
ESK LR LR
comp=Z,5μm,21.0s,MS6.0
ORIF Oris-en-Rattie 97.14 319 *e*P **P 11 17 43.1 -0.3**
comp=Z,26nm,0.8s,mb5.4
ORIF *e*R
comp=Z,4μm,21.8s
ORIF Oris-en-Rattie 97.14 319 *e*P **P 11 17 43.1 -0.3**
comp=Z,13nm,0.8s,mb5.4
ORIF Oris-en-Rattie 97.14 319 *e*P **P 11 17 43.1 -0.3**
ORIF pmax pmax
comp=Z,13nm,0.8s,mb5.4
FRF La Foret Royal 97.25 318 *e*P **P 11 17 43.2 -0.7**
LOR Lormes 97.29 322 *e*P **P 11 17 43.2 -0.9**
comp=Z,35nm,1.2s,mb5.3
LOR *e*R
comp=Z,3μm,21.8s
LOR Lormes 97.29 322 *e*P **P 11 17 43.2 -0.9**
comp=Z,17nm,1.2s,mb5.4
LOR LR LR
comp=Z,3μm,21.8s,MS5.8
LOR Lormes 97.29 322 *e*P **P 11 17 43.2 -0.9**
LOR pmax pmax
comp=Z,17nm,1.2s,mb5.3
LOR MLR MLR
comp=Z,3μm,21.8s,MS5.8
SMF Signal de Mont 97.60 322 *e*P **P 11 17 44.8 -0.7**
comp=Z,38nm,1.2s,mb5.5
SMF Signal de Mont 97.60 322 *e*P **P 11 17 44.8 -0.7**
comp=Z,19nm,1.2s,mb5.5
SMF Signal de Mont 97.60 322 *e*P **P 11 17 44.8 -0.7**
SMF pmax pmax
comp=Z,19nm,1.2s,mb5.5
SSF Saint Saulge 97.60 322 *e*P **P 11 17 44.7 -0.8**
AVF Avril sur Loir 97.82 322 *e*P **P 11 17 45.7 -0.8**
comp=Z,28nm,1.1s,mb5.4
AVF Avril sur Loir 97.82 322 *e*P **P 11 17 45.7 -0.8**
comp=Z,14nm,1.1s,mb5.4
AVF Avril sur Loir 97.82 322 *e*P **P 11 17 45.7 -0.8**
AVF pmax pmax
comp=Z,14nm,1.1s,mb5.4
VIVF Saint-Julien-l 97.93 320 *e*P **P 11 17 46.3 -0.7**
comp=Z,46nm,1.1s,mb5.6
VIVF Saint-Julien-l 97.93 320 *e*P **P 11 17 46.3 -0.7**
comp=Z,23nm,1.1s,mb5.6
VIVF Saint-Julien-l 97.93 320 *e*P **P 11 17 46.3 -0.7**
VIVF pmax pmax
comp=Z,23nm,1.1s,mb5.6
PLDF La Plantade 98.06 321 PKP **P 11 17 48.0 +0.4**
PLDF La Plantade 98.06 321 *e*P **P 11 17 48.0 +0.4**
BGF Bois d'Agland 98.24 322 *e*P **P 11 17 47.7 -0.7**
comp=Z,29nm,1.1s,mb5.4
BGF Bois d'Agland 98.24 322 *e*P **P 11 17 47.7 -0.7**
comp=Z,14nm,1.1s,mb5.4
BGF Bois d'Agland 98.24 322 *e*P **P 11 17 47.7 -0.7**
BGF pmax pmax
comp=Z,15nm,1.1s,mb5.4
COR Corvallis 98.45 40 PFAKE 11 18 00.0 +11
COR LR LR
comp=Z,559nm,22.0s,MS5.0
TCF Toulx Ste Croi 98.76 322 *e*P **P 11 17 50.3 -0.4**
comp=Z,34nm,1.2s,mb5.4
TCF Toulx Ste Croi 98.76 322 *e*P **P 11 17 50.3 -0.4**
comp=Z,17nm,1.2s,mb5.5
TCF Toulx Ste Croi 98.76 322 *e*P **P 11 17 50.3 -0.4**
TCF pmax pmax
comp=Z,17nm,1.2s,mb5.5
LASF Ste Croix 98.81 319 *e*P **P 11 17 50.6 -0.4**
LDF La Druitiere 98.93 325 *e*P **P 11 17 50.8 -0.7**
comp=Z,40nm,1.1s,mb5.6
LDF La Druitiere 98.93 325 *e*P **P 11 17 50.8 -0.7**
comp=Z,20nm,1.1s,mb5.6
LDF La Druitiere 98.93 325 *e*P **P 11 17 50.8 -0.7**
LDF pmax pmax
comp=Z,20nm,1.1s,mb5.6
SYO Syowa Base 99.15 201⇑ *e*pPdiff 11 18 04.0
CAF Calviac 99.52 321 *e*P **P 11 17 54.1 0.0**
comp=Z,25nm,1.1s,mb5.3
CAF Calviac 99.52 321 *e*P **P 11 17 54.1 0.0**
comp=Z,12nm,1.1s,mb5.2
CAF Calviac 99.52 321 *e*P **P 11 17 54.1 0.0**
CAF pmax pmax
comp=Z,12nm,1.1s,mb5.2
HUMO Hull Mountain 99.61 42 PFAKE 11 18 00.0 +5.5
HUMO LR LR
comp=Z,2μm,20.0s,MS5.6
RJF Les Rejaudoux 99.67 321 *e*P Pdif 11 17 54.9 +0.1
comp=Z,39nm,1.1s
RJF *e*R
comp=Z,3μm,22.2s
RJF Les Rejaudoux 99.67 321 *e*P Pdif 11 17 54.9 +0.1
comp=Z,19nm,1.1s
RJF LR LR
comp=Z,3μm,22.3s,MS5.8
RJF Les Rejaudoux 99.67 321 *e*P Pdif 11 17 54.9 +0.1
RJF pmax pmax
comp=Z,19nm,1.1s,mb5.4
RJF MLR MLR
comp=Z,3μm,22.3s,MS5.8
LBTB Lobatse 99.82 247 PFAKE 11 18 10.0 +15
LBTB LR LR
comp=Z,2μm,20.0s,MS5.6
YBH Yreka Blue Hor 100.18 43 PFAKE 11 18 10.0 +13
YBH LR LR
comp=Z,2μm,22.0s,MS5.5
MTLF Montolieu 100.21 319 *e*P Pdif 11 17 56.7 -0.5
comp=Z,36nm,1.2s
MTLF Montolieu 100.21 319 *e*P Pdif 11 17 56.7 -0.5
comp=Z,18nm,1.2s
MTLF Montolieu 100.21 319 *e*P Pdif 11 17 56.7 -0.5
MTLF pmax pmax
comp=Z,18nm,1.2s
NEW Newport 100.24 35 PFAKE 11 18 10.0 +13
NEW LR LR
comp=Z,2μm,20.0s,MS5.5
NEW Newport 100.24 35 P Pdif 11 17 55.8 -1.5
SGMF Saint Gilles 100.48 325 *e*P Pdif 11 17 57.7 -0.7
comp=Z,140nm,1.6s
SGMF Saint Gilles 100.48 325 *e*P Pdif 11 17 57.7 -0.7
comp=Z,70nm,1.6s
SGMF Saint Gilles 100.48 325 *e*P Pdif 11 17 57.7 -0.7
SGMF pmax pmax
comp=Z,70nm,1.6s
BOSA Boshof 100.73 243 PFAKE 11 18 10.0 +10
BOSA LR LR
comp=Z,1μm,19.0s,MS5.5
WDC Whiskeytown Da 100.83 44 PFAKE 11 18 10.0 +10
WDC LR LR
comp=Z,3μm,21.0s,MS5.7
HOPS Hopland 101.21 45 PFAKE 11 18 10.0 +8.4
HOPS LR LR
comp=Z,2μm,20.0s,MS5.5
MOD Modoc 101.67 42 PFAKE 11 18 10.0 +6.3
MOD LR LR
comp=Z,1μm,21.0s,MS5.4
BMO Blue Mountains 102.00 38 PFAKE 11 18 20.0 +15
BMO LR LR
comp=Z,1μm,19.0s,MS5.5
WVOR Wild Horse Val 102.46 41 PFAKE 11 18 20.0 +13
WVOR LR LR
comp=Z,3μm,20.0s,MS5.8
FCC Fort Churchill 102.78 18 P Pdif 11 18 07.0 -1.6
MSO Missoula 102.83 35 PFAKE 11 18 20.0 +11
MSO LR LR
comp=Z,883nm,20.0s,MS5.3
FFC Flin Flon 103.25 24 PFAKE 11 18 20.0 +9.3
FFC LR LR
comp=Z,1μm,20.0s,MS5.4
QSPA South Pole Qui 103.27 180 *e*Pdif Pdif 11 18 11.1 +0.3
comp=Z,4.6nm,0.9s
QSPA LR LR
comp=Z,1μm,22.0s,MS5.4
SAO San Andreas Ge 103.39 47 PFAKE 11 18 20.0 +8.7
SAO LR LR
comp=Z,2μm,20.0s,MS5.6
CMB Columbia Colle 103.52 45 PFAKE 11 18 20.0 +8.1
CMB LR LR
comp=Z,1μm,20.0s,MS5.4
CMB Columbia Colle 103.52 45 P Pdif 11 18 10.5 -1.4
EGMT Eagleton 104.35 32 PFAKE 11 18 30.0 +14
EGMT LR LR
comp=Z,737nm,19.0s,MS5.2
BMN Battle Mountai 104.42 42 PFAKE 11 18 30.0 +14
BMN LR LR
comp=Z,1μm,22.0s,MS5.5
NVAR Mina Array Bea 104.74 44 PP PP 11 22 33.6 -3.4
comp=Z,1.3nm,1.1s,baz=298,slow=6.6,SNR=4.1
NVAR PKKPbc PKKPbc 11 34 01.7 +0.7
comp=Z,1.5nm,0.9s,baz=150,slow=3.7,SNR=8.8
BOZ Bozeman (W) 104.82 35 PFAKE 11 18 30.0 +12
BOZ LR LR
comp=Z,1μm,20.0s,MS5.5
MNV Mina 104.84 44 PFAKE 11 18 30.0 +12
MNV LR LR
comp=Z,27nm,22.0s
SUR Sutherland 105.05 240 PFAKE 11 22 50.0 +17
SUR LR LR
comp=Z,2μm,20.0s,MS5.6
ELK Elko 105.52 41 PFAKE 11 22 50.0 +16
ELK LR LR
comp=Z,2μm,21.0s,MS5.7
YMR Madison River 105.79 35 PFAKE 11 22 50.0 +15
YMR LR LR
comp=Z,2μm,19.0s,MS5.6
ISA Isabella 106.02 46 PFAKE 11 22 50.0 +15
ISA LR LR
comp=Z,319nm,20.0s,MS4.9
ESLA Sonseca Array 106.08 318 PFAKE 11 22 50.0 +15
ESLA LR LR
comp=Z,8μm,21.0s,MS6.2
LKWY Lake 106.17 35 PFAKE 11 22 50.0 +15
LKWY LR LR
comp=Z,2μm,20.0s,MS5.5
TSUM Tsumeb 106.20 254 PFAKE 11 22 50.0 +15
TSUM LR LR
comp=Z,1μm,20.0s,MS5.5

AHID Auburn Hatcher 106.87 37 PFAKE 11 22 50.0 +13
AHID LR LR
comp=Z,991nm,19.0s,MS5.4
LAO LASA Array 107.03 32 PFAKE 11 22 50.0 +13
LAO LR LR
comp=Z,1μm,19.0s,MS5.6
HWUT Hardware Ranch 107.29 38 PFAKE 11 22 50.0 +13
HWUT LR LR
comp=Z,1μm,20.0s,MS5.5
DUG Dugway 107.36 40 PFAKE 11 22 50.0 +12
DUG LR LR
comp=Z,2μm,20.0s,MS5.6
GSC Goldstone 107.38 46 P Pdif 11 18 28.2 -0.9
BW06 Boulder Array 107.77 36 PFAKE 11 22 50.0 +12
BW06 LR LR
comp=Z,1μm,20.0s,MS5.5
MPU Maple Canyon 108.20 40 PFAKE 11 22 50.0 +11
MPU LR LR
comp=Z,2μm,20.0s,MS5.6
RKT Rikitea 108.46 110 *e*PP PP 11 23 03.1 -1.3
comp=Z,193nm,27.0s
RKT Rikitea 108.46 110 *e*PS PS 11 32 36.0 +6.9
comp=Z,998nm,28.0s
RKT Rikitea 108.46 110 *e*SS SS 11 38 12.3 -6.3
RKT comp=Z,560nm,35.8s
*e*LR LR 11 54 20.1
comp=Z,2μm,26.8s,baz=293
PFO Pinyon Flat Ob 108.50 47 PFAKE 11 22 50.0 +10
PFO LR LR
comp=Z,1μm,22.0s,MS5.5
MVU Marysvale 108.71 41 PFAKE 11 22 50.0 +10
MVU LR LR
comp=Z,1μm,21.0s,MS5.5
WUAZ Wupatki 110.98 43 PFAKE 11 23 00.0 +16
WUAZ LR LR
comp=Z,2μm,21.0s,MS5.6
ISCO Idaho Springs 111.95 37 PFAKE 11 23 00.0 +14
ISCO LR LR
comp=Z,2μm,19.0s,MS5.6
EYMN Ely 112.63 23 PFAKE 11 23 00.0 +13
EYMN LR LR
comp=Z,2μm,20.0s,MS5.6
TUC Tucson 113.21 46 PFAKE 11 23 00.0 +11
TUC LR LR
comp=Z,1μm,20.0s,MS5.4
SDCO Great Sand Dun 113.35 38 PFAKE 11 23 00.0 +11
SDCO LR LR
comp=Z,1μm,20.0s,MS5.5
TORD Torodi Ar. Bea 113.75 291 PKP PKiKP 11 22 50.3 +0.7
comp=Z,2.9nm,1.0s,baz=42,slow=0.8,SNR=9.4
TORD PP PP 11 23 41.3 -1.1
comp=Z,2.1nm,1.0s,baz=66,slow=5.6,SNR=4.5
TORD PKKPbc PKKPbc 11 33 31.3 -0.8
comp=Z,2.0nm,1.0s,baz=274,slow=2.5,SNR=6.6
VNA2 Neumayer--Watz 114.44 197 ⇑ *i*PKPdf PKiKP 11 22 52.3 +1.3
baz=100,slow=1.0
VNA2 *e* 11 23 09.7
VNA2 *e* 11 23 16.7
ANMO Albuquerque 114.54 41 PFAKE 11 23 00.0 +8.9
ANMO LR LR
comp=Z,2μm,22.0s,MS5.6
VNA1 Neumayer--Stat 114.83 197 ⇑ *i*PKPdf PKiKP 11 22 55.8 +4.1
VNA3 Neumayer Olymp 114.89 196 ⇑ *i*PKPdf PKiKP 11 22 56.8 +5.0
VNA3 *e* 11 23 14.0
VNA3 *e* 11 23 21.0
CBKS Cedar Bluff 115.94 34 PFAKE 11 23 10.0 +16
CBKS LR LR
comp=Z,1μm,19.0s,MS5.5
MNTX Cornudas Mount 117.26 43 PFAKE 11 23 10.0 +14
MNTX LR LR
comp=Z,925nm,20.0s,MS5.4
WMOK Wichita Mounta 119.38 37 PFAKE 11 23 10.0 +10
WMOK LR LR
comp=Z,1μm,19.0s,MS5.6
LTX Lajitas 119.89 44 PFAKE 11 23 10.0 +8.6
LTX LR LR
comp=Z,1μm,20.0s,MS5.5
AAM Ann Arbor 120.31 20 PFAKE 11 23 10.0 +7.8
AAM LR LR
comp=Z,2μm,19.0s,MS5.7
NCB Newcomb 121.35 12 PFAKE 11 23 20.0 +16
NCB LR LR
comp=Z,1μm,20.0s,MS5.6
LBNH Lisbon 121.53 10 PFAKE 11 23 20.0 +15
LBNH LR LR
comp=Z,2μm,20.0s,MS5.8
ERPA Erie 121.64 18 PFAKE 11 23 20.0 +15
ERPA LR LR
comp=Z,2μm,20.0s,MS5.8
JCT Junction City 121.70 41 *e*PKPdf PKPdf 11 23 05.3 +0.4
JCT LR LR
comp=Z,961nm,19.0s,MS5.5
DBIC Dimbokro 122.07 287 PKP PKPdf 11 23 06.1 +0.5
comp=Z,11nm,1.0s,baz=30,slow=4.5,SNR=11
DBIC Dimbokro 122.07 287 PKIKP PKPdf 11 23 06.1 +0.5
DBIC MLR MLR
comp=Z,952nm,19.0s
ACSO Alum Creek Sta 122.38 21 PFAKE 11 23 20.0 +14
ACSO LR LR
comp=Z,1μm,22.0s,MS5.5
MIAR Mount Ida 122.42 33 PFAKE 11 23 20.0 +14
MIAR LR LR
comp=Z,1μm,20.0s,MS5.6
WCI Wyandotte Cave 122.86 25 PFAKE 11 23 20.0 +13
WCI LR LR
comp=Z,359nm,22.0s,MS5.0
HRV Harvard--Oak R 123.28 11 PFAKE 11 23 20.0 +12
HRV LR LR
comp=Z,1μm,21.0s,MS5.6
WES Weston 123.44 10 PFAKE 11 23 20.0 +12
WES LR LR
comp=Z,2μm,22.0s,MS5.6
NATX Nacogdoches 123.91 36 PFAKE 11 23 20.0 +11
NATX LR LR
comp=Z,2μm,20.0s,MS5.7
MCWV Mont Chateau 123.93 19 PFAKE 11 23 20.0 +11
MCWV LR LR
comp=Z,2μm,19.0s,MS5.8
WVT Waverly 123.97 27 PFAKE 11 23 20.0 +11
WVT LR LR
comp=Z,1μm,20.0s,MS5.5
HKT Hockley 124.53 38 PFAKE 11 23 20.0 +10
HKT LR LR
comp=Z,333nm,19.0s,MS5.0
OXF Oxford 124.56 30 PFAKE 11 23 20.0 +10
OXF LR LR
comp=Z,1μm,20.0s,MS5.6
PLAL Pickwick Lake 124.81 28 PFAKE 11 23 20.0 +9.1
PLAL LR LR
comp=Z,1μm,21.0s,MS5.6
CBN Corbin 126.02 17 PFAKE 11 23 20.0 +6.8
CBN LR LR
comp=Z,2μm,21.0s,MS5.8
LRAL Lakeview Retre 126.92 29 PFAKE 11 23 30.0 +15
LRAL LR LR
comp=Z,2μm,20.0s,MS5.7
PMSA Palmer Station 128.62 178 PFAKE 11 23 30.0 +12
PMSA LR LR
comp=Z,1μm,22.0s,MS5.6
NHSC New Hope 129.74 23 PFAKE 11 23 30.0 +10
NHSC LR LR
comp=Z,2μm,21.0s,MS5.7
DWPF Disney 133.62 27 PFAKE 11 23 40.0 +12
DWPF LR LR
comp=Z,389nm,22.0s,MS5.1
ASCN Ascension 135.23 272 PFAKE 11 23 40.0 +9.4
ASCN LR LR
comp=Z,914nm,20.0s,MS5.5
HOPE Hope Point 135.36 199 PFAKE 11 23 40.0 +9.1
HOPE LR LR
comp=Z,799nm,20.0s,MS5.4
TEIG Tepich 136.27 41 PFAKE 11 23 40.0 +7.4
TEIG LR LR
comp=Z,114nm,20.0s,MS4.6
JTS JuntasAbangare 145.55 48 PKPbc PKPbc 11 23 48.6 -0.9
comp=Z,10nm,0.9s,baz=300,slow=8.1,SNR=3.0
JTS JuntasAbangare 145.55 48 *e*PKIKP PKPdf 11 23 48.7 -0.5
JTS MLR MLR
comp=Z,747nm,22.0s
PAYG Puerto Ayora 147.10 70 PFAKE 11 24 00.0 +8.1
PAYG LR LR
comp=Z,1μm,20.0s,MS5.8
SJG San Juan 148.01 12 PFAKE 11 24 10.0 +17
SJG LR LR
comp=Z,1μm,19.0s,MS5.7

CPD Cerro la Pandu 148.13 11 *e*PKPdf PKPdf 11 23 51.9 -1.7
CPD *e*PKPbc PKPbc 11 23 56.4 -0.4
PLCA Paso Flores 151.16 163 PKP PKPdf 11 23 59.2 +0.8
comp=Z,4.0nm,1.0s,baz=100,slow=2.1,SNR=6.0
PLCA PKPbc PKPbc 11 24 04.2 -0.1
comp=Z,13nm,0.9s,baz=186,slow=3.5,SNR=22
PLCA Paso Flores 151.16 163 *e*PKIKP PKPdf 11 23 59.4 +1.0
PLCA *e* 11 24 05.3
PLCA MLR MLR
comp=Z,710nm,21.0s
SDV Santo Domingo 155.29 27 PKP PKPdf 11 24 04.4 0.0
comp=Z,7.3nm,0.9s,baz=267,slow=2.0,SNR=7.4
SDV Santo Domingo 155.29 27 *e*PKPdf PKPdf 11 24 03.9 -0.4
SDV LR LR
comp=Z,712nm,20.0s,MS5.5
TRQA Tornquist 155.38 176 *e*PKPdf PKPdf 11 24 01.8 -2.7
TRQA *e*pPKPdf pPKPdf 11 24 11.2 -1.6
TRQA *e*PKPab PKPab 11 24 28.7 -1.2
TRQA LR LR
comp=Z,1μm,21.0s,MS5.6
RCBR Riachuelo 155.44 286 PFAKE 11 24 20.0 +15
RCBR LR LR
comp=Z,1μm,20.0s,MS5.7
OTAV Otavalo 156.93 55 *e*PKPdf PKPdf 11 24 07.8 +1.3
OTAV *e*PKPab PKPab 11 24 36.2 -0.3
OTAV LR LR
comp=Z,711nm,20.0s,MS5.5
CFAA Coronel Fontan 160.25 158 PKP PKPdf 11 24 10.5 0.0
comp=Z,1.0nm,1.0s,baz=228,slow=3.0,SNR=7.6
NNA Nana 163.14 87 PFAKE 11 24 20.0 +6.5
NNA LR LR
comp=Z,884nm,21.0s
CPUP Villa Florida 166.98 189 PFAKE 11 24 30.0 +13
CPUP LR LR
comp=Z,149nm,20.0s
BDFB Brasilia 168.54 258 PKPab PKPab 11 25 29.3 +1.9
comp=Z,6.9nm,0.8s,baz=140,slow=3.5,SNR=7.0
LPAZ La Paz 171.30 110 PKP PKPdf 11 24 20.8 +1.3
comp=Z,2.6nm,0.9s,baz=25,slow=7.7,SNR=7.4
LPAZ PKPab PKPab 11 25 41.5 +1.8
comp=Z,4.5nm,0.9s,baz=281,slow=2.7,SNR=8.0
LPAZ La Paz 171.30 110 *e*PKPdf PKPdf 11 24 21.2 +1.8
LPAZ *es*PKPdf 11 24 30.3
LPAZ *e*PKPab PKPab 11 25 42.3 +2.7
LPAZ *e*PP PP 11 29 35.1 +4.8
LPAZ LR LR
comp=Z,782nm,20.0s
LPAZ La Paz 171.30 110 *e*PKIKP PKPdf 11 24 21.2 +1.8
LPAZ *e* 11 24 30.3
LPAZ *e* 11 29 35.1
LPAZ MLR MLR
comp=Z,782nm,20.0s
SIV San Ignacio 177.09 151 PKP PKPdf 11 24 21.6 +0.2
comp=Z,4.3nm,0.9s,baz=210,slow=1.5,SNR=19
SIV PP PP 11 29 59.2 +0.9
comp=Z,2.1nm,1.0s,baz=161,slow=5.8,SNR=4.9

IDC ***01*** *11:20:43.7±1.5, 1334N×12007E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=31.0km s-min=13.2km az=121.0*
ISCJB ***01*** *11:20:45.6±1.6, 1341N±005×120.1E±02, h22km±10km, mb4.0/3, Error ellipse: s-maj=26.1km s-min=8.6km az=5.9*
ISC 01 11:20:46.3±1.3, 1340N±005×1202E±01, h15km±7km, n10, σ0°73/14, mb4.0/3, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**7**		*e*P		**Pg**	**11 20 53.4**	**+0.1**
LUBP					*e*S		**Sg**	**11 20 58.0**	**+0.1**
PGP	**Puerto Galera**	**0.74**	**82**		*e*P		**Pg**	**11 21 00.4**	**-0.2**
TGY	**Tagaytay City**	**1.00**	**45**	Pg			**Pg**	**11 21 06.0**	**+0.4**
	392nm,0.3s,baz=10,slow=22,SNR=3.6								
TGY				Lg				11 21 20.7	
	937nm,0.3s,baz=344,slow=22,SNR=9.1								
BUSP	**Coron**	**1.39**	**180**		*e*P		**Pn**	**11 21 19.3**	**+8.2**
BUSP					*e*S		**Sn**	**11 21 29.5**	**+0.4**
PCPH	**Palayan**	**2.32**	**22**	⇓	*e*P		**Pn**	**11 21 24.3**	**+0.4**
PCPH					*i* S		**Sn**	**11 21 52.8**	**+0.6**
AUQP	**San Andres**	**2.41**	**91**		*e*P		**Pn**	**11 21 33.5**	**+8.4**
AUQP					*e*S		**Sn**	**11 22 07.0**	**+13**
CAUP	**Cauayan**	**3.86**	**24**		*e*P		**Pn**	**11 21 42.3**	**-2.8**
WRA	**Warramunga Arr**	**35.93**	**157**		P		**P**	**11 27 45.5**	**-0.5**
	3.4nm,0.6s,mb4.5,baz=336,slow=9.6,SNR=26								
SONM	**Songino Array**	**36.21**	**344**		P		**P**	**11 27 48.4**	**0.0**
	0.5nm,0.6s,mb3.6,baz=162,slow=9.9,SNR=5.1								
ASAR	**Alice Springs**	**39.20**	**160**		P		**P**	**11 28 13.9**	**+0.3**
	1.7nm,0.5s,mb4.0,baz=339,slow=7.0,SNR=19								

ISCJB ***01*** *11:21:45.8±1.0, 1332N±003×120.13E±006, h9km±7km, mb4.2/4, Error ellipse: s-maj=9.6km s-min=5.6km az=11.1*
IDC ***01*** *11:21:45.1±1.2, 1401N×12209E, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.9/20, mbtmp4.2/4, Error ellipse: s-maj=25.3km s-min=12.6km az=20.0*
MAN ***01*** *11:21:50.3, 1330N×12028E, h48km, mb3.9, ML4.9, MS3.5*
ISC 01 11:21:46.4±1.2, 1334N±004×12013E±006, h3km±8km, n22, σ1°02/30, mb4.2/4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.41**	**16**		*e*P		**Pg**	**11 21 54.3**	**+0.1**
LUBP					*e*S		**Sg**	**11 21 59.2**	**-0.3**
TGY	**Tagaytay City**	**1.09**	**46**	Pg			**Pg**	**11 22 06.5**	**-0.7**
	1μm,0.3s,baz=182,slow=2.2,SNR=9.5								
TGY				Lg				11 22 22.0	
	2μm,0.3s,baz=118,slow=22,SNR=9.9								
LQP	**Lukban**	**1.57**	**61**		*e*P		**Pn**	**11 22 14.8**	**-0.3**
BOAC	**Boac**	**1.67**	**86**		*e*P		**Pn**	**11 22 16.0**	**-0.5**
BOAC					*e*S		**Sn**	**11 22 34.9**	**-3.5**
OTRP	**Odiongan**	**2.08**	**118**		*e*P		**Pn**	**11 22 21.9**	**-0.2**
OTRP					*e*S		**Sn**	**11 22 54.5**	**+5.9**
POLP	**Polilio Island**	**2.23**	**52**		*e*P		**Pn**	**11 22 24.8**	**+0.6**
ENPP	**El Nido**	**2.23**	**198**		*e*P		**Pn**	**11 22 25.4**	**+1.2**
GQP	**Guinayangan**	**2.32**	**76**	⇓	*i*P		**Pn**	**11 22 26.4**	**+1.1**
GQP					*i* S		**Sn**	**11 22 55.7**	**+1.4**
PCPH	**Palayan**	**2.40**	**23**		*e*P		**Pn**	**11 22 26.1**	**-0.4**
PCPH					*i* S		**Sn**	**11 22 55.9**	**-0.4**
CUYO	**Cuyo Island**	**2.62**	**161**		*e*P		**Pn**	**11 22 29.9**	**+0.4**
CUYO					*e*S		**Sn**	**11 23 00.2**	**-1.6**
RCP	**Roxas**	**3.10**	**124**	⇑	*e*P		**Pn**	**11 22 40.2**	**+4.1**
GUIM	**Jordan**	**3.61**	**138**		*e*P		**Pn**	**11 22 44.0**	**+0.8**
GUIM					*e*S		**Sn**	**11 23 25.6**	**-0.7**
PVCP	**Virac**	**3.92**	**86**		*e*P		**Pn**	**11 22 47.6**	**+0.3**
APYP	**Conner**	**4.62**	**13**		*e*P		**Pb**	**11 23 08.1**	**0.0**
SNPH	**Sibulan**	**5.00**	**142**		*e*P		**Pn**	**11 23 01.0**	**-1.3**
PAGZ	**Pagadian**	**6.32**	**149**		*e*P		**Pn**	**11 23 23.2**	**+2.8**
PAGZ					*e*S		**Sn**	**11 24 34.3**	**+1.2**
WRA	**Warramunga Arr**	**35.91**	**157**		P		**P**	**11 28 46.6**	**-1.2**
	14nm,0.9s,mb4.9,baz=336,slow=9.6,SNR=32								
WB2	**Warramunga Arr**	**35.91**	**157**		*e*P		**P**	**11 28 46.6**	**-1.2**
SONM	**Songino Array**	**36.25**	**344**		P		**P**	**11 28 49.6**	**-1.1**
	0.8nm,0.7s,mb3.8,baz=162,slow=8.7,SNR=6.3								
ASAR	**Alice Springs**	**39.17**	**160**		P		**P**	**11 29 15.1**	**-0.3**
	6.3nm,0.7s,mb4.5,baz=337,slow=7.3,SNR=34								
ASPA	**Alice Springs**	**39.17**	**160**		*e*P		**P**	**11 29 15.1**	**-0.2**
BVAR	**Borovoye Array**	**55.76**	**326**		P		**P**	**11 31 26.8**	**+2.4**
	0.9nm,0.9s,mb3.8,baz=111,slow=7.0,SNR=4.1								

IDC ***01*** *11:27:52.1±1.1, 1330N×120.12E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/19, mbtmp3.9/4, Error ellipse: s-maj=23.3km s-min=12.4km az=121.0*
MAN ***01*** *11:27:53.7, 1335N×120.18E, h4km, mb3.0, ML4.4, MS1.9*
ISCJB ***01*** *11:27:54.2±0.9, 1341N±003×12008E±006, h25km±8km, mb3.8/4, Error ellipse: s-maj=9.3km s-min=5.6km az=25.3*
ISC 01 11:27:54.1±1.0, 1340N±004×12011E±005, h11km±7km, n22, σ1°20/31, mb3.8/4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.36**	**21**		*e*P		**Pg**	**11 28 01.0**	**-0.2**
LUBP					*e*S		**Sg**	**11 28 05.6**	**-0.5**
PGP	**Puerto Galera**	**0.82**	**82**		*e*P		**Pg**	**11 28 09.1**	**-0.9**
TGY	**Tagaytay City**	**1.06**	**49**	Pg			**Pg**	**11 28 14.3**	**-0.2**
	429nm,0.3s,baz=209,slow=4.6,SNR=14								
TGY				Lg				11 28 28.8	
	850nm,0.3s,baz=116,slow=24,SNR=26								
TGY	**Tagaytay City**	**1.06**	**49**		*i* P		**Pb**	**11 28 14.4**	**-0.2**
TGY					*i* S		**Sg**	**11 28 28.8**	**+0.4**
BUSP	**Coron**	**1.39**	**177**		*e*P		**Pn**	**11 28 21.3**	**+1.9**
BUSP					*e*S		**Sn**	**11 28 37.3**	**-0.4**
LQP	**Lukban**	**1.56**	**63**		*e*P		**Pn**	**11 28 23.0**	**+1.2**
BOAC	**Boac**	**1.68**	**88**		*e*P		**Pn**	**11 28 21.7**	**-1.8**
BOAC					*e*S		**Sn**	**11 28 41.2**	**-3.9**
OTRP	**Odiongan**	**2.12**	**119**		*e*P		**Pn**	**11 28 32.1**	**+2.5**
OTRP					*e*S		**Sn**	**11 28 58.7**	**+2.8**
POLP	**Polilio Island**	**2.21**	**53**		*e*P		**Pn**	**11 28 31.2**	**+0.4**
ENPP	**El Nido**	**2.28**	**197**		*e*P		**Pn**	**11 28 32.5**	**+0.9**
GQP	**Guinayangan**	**2.32**	**77**	⇓	*i*P		**Pn**	**11 28 33.1**	**+0.9**
GQP					*i* S		**Sn**	**11 28 59.6**	**-1.2**
SCZP	**Santa Cruz**	**2.38**	**355**		*e*P		**Pn**	**11 28 39.7**	**+6.7**
SCZP					*e*S		**Sn**	**11 29 11.6**	**+9.5**
AUQP	**San Andres**	**2.49**	**91**		*e*P		**Pn**	**11 28 36.8**	**+2.1**
CUYO	**Cuyo Island**	**2.68**	**161**		*e*P		**Pn**	**11 28 36.9**	**-0.3**
CUYO					*e*S		**Sn**	**11 29 07.1**	**-2.6**
GUIM	**Jordan**	**3.67**	**138**		*e*P		**Pn**	**11 28 50.3**	**-0.4**
GUIM					*e*S		**Sn**	**11 29 34.1**	**+0.2**
SNPH	**Sibulan**	**5.06**	**142**		*e*P		**Pn**	**11 29 11.0**	**+1.1**
WRA	**Warramunga Arr**	**35.96**	**157**		P		**P**	**11 34 53.5**	**-1.3**
	4.9nm,0.7s,mb4.6,baz=336,slow=9.6,SNR=50								
WB2	**Warramunga Arr**	**35.97**	**157**		*e*P		**P**	**11 34 53.3**	**-1.5**
SONM	**Songino Array**	**36.19**	**344**		P		**P**	**11 34 56.1**	**-0.6**
	0.2nm,0.5s,mb3.3,baz=168,slow=11,SNR=3.6								
ASPA	**Alice Springs**	**39.22**	**160**		*e*P		**P**	**11 35 21.7**	**-0.7**
ASAR	**Alice Springs**	**39.23**	**160**		P		**P**	**11 35 21.9**	**-0.6**
	2.6nm,0.6s,mb4.1,baz=340,slow=7.0,SNR=45								
MKAR	**Makanchi Array**	**45.94**	**324**		P		**P**	**11 36 18.1**	**+1.1**
	0.4nm,0.8s,mb3.4,baz=116,slow=3.4,SNR=2.3								

IDC ***01*** *11:34:36.4±1.1, 1404N×122.10E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/19, mbtmp4.0/5, Error ellipse: s-maj=24.1km s-min=11.9km az=21.0*
ISCJB ***01*** *11:34:38.0±0.9, 1334N±003×120.11E±005, h11km±6km, mb4.0/5, Error ellipse: s-maj=8.0km s-min=4.6km az=5.0*
MAN ***01*** *11:34:42.2, 1328N×12024E, h32km, mb3.4, ML4.6, MS3.4*
ISC 01 11:34:38.6±1.0, 1333N±003×12014E±005, h7km±7km, n23, σ1°09/33, mb4.0/5, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.42**	**15**		*e*P		**Pg**	**11 34 46.2**	**-0.4**
LUBP					*e*S		**Sg**	**11 34 51.2**	**-0.9**
TGY	**Tagaytay City**	**1.09**	**45**	Pg			**Pg**	**11 34 59.2**	**-0.3**
	501nm,0.3s,baz=209,slow=3.2,SNR=28								
TGY				Lg				11 35 12.7	
	412nm,0.3s,baz=128,slow=23,SNR=24								
BUSP	**Coron**	**1.32**	**177**		*e*P		**Pn**	**11 35 04.0**	**+0.6**
BUSP					*e*S		**Sb**	**11 35 20.3**	**-0.5**
LQP	**Lukban**	**1.57**	**60**		*e*P		**Pn**	**11 35 08.2**	**+1.4**
BOAC	**Boac**	**1.67**	**85**		*e*P		**Pn**	**11 35 07.3**	**-0.9**
BOAC					*e*S		**Sn**	**11 35 27.8**	**-2.1**
OTRP	**Odiongan**	**2.07**	**117**		*e*P		**Pn**	**11 35 13.7**	**-0.1**
OTRP					*e*S		**Sn**	**11 35 40.5**	**+0.6**
ENPP	**El Nido**	**2.22**	**198**		*e*P		**Pn**	**11 35 17.4**	**+1.5**
POLP	**Polilio Island**	**2.23**	**51**		*e*P		**Pn**	**11 35 16.0**	**0.0**
GQP	**Guinayangan**	**2.32**	**75**	⇓	*i*P		**Pn**	**11 35 18.3**	**+1.1**
GQP					*i* S		**Sn**	**11 35 47.0**	**+1.1**
PCPH	**Palayan**	**2.41**	**23**	⇓	*e*P		**Pn**	**11 35 17.3**	**-1.1**
PCPH					*e*S		**Sn**	**11 35 48.0**	**-0.1**
SCZP	**Santa Cruz**	**2.44**	**355**		*e*P		**Pn**	**11 35 21.4**	**+2.5**
SCZP					*e*S		**Sn**	**11 35 47.8**	**-1.2**
AUQP	**San Andres**	**2.47**	**90**		*e*P		**Pn**	**11 35 20.7**	**+1.5**
AUQP					*e*S		**Sn**	**11 36 00.1**	**+10**
CUYO	**Cuyo Island**	**2.61**	**161**		*e*P		**Pn**	**11 35 21.3**	**+0.1**
CUYO					*e*S		**Sn**	**11 35 52.0**	**-1.1**
GUIM	**Jordan**	**3.60**	**138**		*e*P		**Pn**	**11 35 34.0**	**-0.8**
GUIM					*e*S		**Sn**	**11 36 18.0**	**+0.3**
CAUP	**Cauayan**	**3.94**	**24**		*e*P		**Pn**	**11 35 41.4**	**+1.8**
SNPH	**Sibulan**	**4.99**	**142**		*e*P		**Pn**	**11 35 55.0**	**+1.1**
WRA	**Warramunga Arr**	**35.90**	**157**		P		**P**	**11 41 38.4**	**-0.9**
	5.8nm,0.7s,mb4.7,baz=336,slow=9.5,SNR=64								
WB2	**Warramunga Arr**	**35.90**	**157**		*e*P		**P**	**11 41 38.4**	**-0.9**
SONM	**Songino Array**	**36.26**	**344**		P		**P**	**11 41 41.5**	**-0.9**
	0.8nm,0.8s,mb3.7,baz=165,slow=8.9,SNR=8.3								
ASPA	**Alice Springs**	**39.16**	**160**		*e*P		**P**	**11 42 06.5**	**-0.4**
ASAR	**Alice Springs**	**39.16**	**160**		P		**P**	**11 42 06.8**	**-0.1**
	4.3nm,0.6s,mb4.4,baz=340,slow=7.3,SNR=92								
MKAR	**Makanchi Array**	**46.01**	**324**		P		**P**	**11 43 04.0**	**+1.4**
	0.4nm,0.8s,mb3.4,baz=128,slow=9.4,SNR=4.2								
STKA	**Stephens Creek**	**49.43**	**156**		P		**P**	**11 43 26.1**	**-3.1**
	0.7nm,0.6s,mb3.9,baz=352,slow=9.4,SNR=2.9								

IDC 01 11:35:36.9±1.5, 1338N×12007E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=28.8km s-min=13.3km az=125.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.11**	**50**	Pg			Pg	11 35 59.2	+1.1
	436nm,0.3s,baz=103,slow=14,SNR=2.4								
TGY				Lg				11 36 12.3	
	304nm,0.3s,baz=195,slow=19,SNR=2.7								
WRA	**Warramunga Arr**	**35.97**	**157**		P		P	11 42 39.2	-0.1
	2.0nm,0.5s,baz=332,slow=10,SNR=13								
SONM	**Songino Array**	**36.19**	**344**		P		P	11 42 41.2	+0.1
	0.3nm,0.7s,baz=162,slow=11,SNR=2.7								
ASAR	**Alice Springs**	**39.23**	**160**		P		P	11 43 07.5	+0.6
	1.5nm,0.7s,baz=337,slow=6.9,SNR=5.5								

MAN ***01*** *11:37:48.1, 1356N×11994E, h27km, mb1.0, ML3.1, MS3.0*
IDC ***01*** *11:37:48.1±1.4, 1334N×12006E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=29.3km s-min=13.3km az=122.0*
ISCJB ***01*** *11:37:49.5±1.2, 1341N±005×12008E±008, h22km±9km, mb3.7/3, Error ellipse: s-maj=13.2km s-min=8.9km az=5.0*
ISC 01 11:37:50.0±1.3, 1339N±006×12013E±008, h13km±9km, n12, σ0°86/16, mb3.7/3, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.36**	**19**		*e*P		**Pg**	**11 37 57.5**	**+0.2**
LUBP					*e*S		**Sg**	**11 38 02.5**	**+0.4**
PGP	**Puerto Galera**	**0.81**	**82**		*e*P		**Pg**	**11 38 05.2**	**-0.5**
TGY	**Tagaytay City**	**1.06**	**48**	Pg			**Pg**	**11 38 10.3**	**-0.1**
	406nm,0.3s,baz=206,slow=4.1,SNR=7.7								
TGY				Lg				11 38 25.4	
	263nm,0.3s,baz=163,slow=19,SNR=8.7								
BUSP	**Coron**	**1.38**	**177**		*e*P		**Sn**	**11 38 32.9**	**-0.2**
BOAC	**Boac**	**1.67**	**88**		*e*P		**Pn**	**11 38 18.3**	**-0.7**
BOAC					*e*S		**Sn**	**11 38 40.7**	**+0.5**
OTRP	**Odiongan**	**2.11**	**119**		*e*P		**Pn**	**11 38 28.5**	**+3.5**
OTRP					*e*S		**Sn**	**11 38 56.1**	**+5.1**
POLP	**Polilio Island**	**2.20**	**53**		*e*P		**Pn**	**11 38 24.4**	**-1.8**
CUYO	**Cuyo Island**	**2.67**	**161**		*e*P		**Pn**	**11 38 33.5**	**+0.7**
CUYO					*e*S		**Sn**	**11 39 03.7**	**-1.3**
GUIM	**Jordan**	**3.65**	**139**		*e*S		**Sn**	**11 39 30.4**	**+1.3**
WRA	**Warramunga Arr**	**35.96**	**157**		P		**P**	**11 44 50.1**	**-0.2**
	1.4nm,0.6s,mb4.1,baz=336,slow=9.6,SNR=12								
SONM	**Songino Array**	**36.20**	**344**		P		**P**	**11 44 52.8**	**+0.5**
	0.3nm,0.6s,mb3.4,baz=148,slow=8.5,SNR=2.3								
ASAR	**Alice Springs**	**39.22**	**160**		P		**P**	**11 45 18.2**	**+0.4**
	0.8nm,0.5s,mb3.7,baz=337,slow=6.7,SNR=12								

IDC ***01*** *11:46:03.9±1.0, 1425N×122.17E, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/18, mbtmp4.2/5, Error ellipse: s-maj=19.2km s-min=13.4km az=17.0*
ISCJB ***01*** *11:46:06.4±0.8, 1338N±002×12006E±004, h12km±5km, mb4.2/8, Error ellipse: s-maj=6.4km s-min=3.9km az=18.4*
NEIC ***01*** *11:46:06.3±3.7, 1423N×12208E, h16km±21km, mb4.6/3, Error ellipse: s-maj=32.1km s-min=8.3km az=62.0*
MAN ***01*** *11:

BOAC	**Boac**	**1.70**	**87**	*e*P	**Pn**	**11 46 34.7**	**-2.6**
BOAC				*e*S	**Sn**	**11 46 58.7**	**-0.4**
OTRP	**Odiongan**	**2.14**	**118**	*e*P	**Pn**	**11 46 43.0**	**-0.2**
OTRP				*e*S	**Sn**	**11 47 02.0**	**-7.9**
POLP	**Polilio Island**	**2.23**	**53**	*e*P	**Pn**	**11 46 43.8**	**-0.7**
POLP				*e*S	**Sn**	**11 47 14.2**	**+2.0**
ENPP	**El Nido**	**2.27**	**197**	*e*P	**Pn**	**11 46 46.5**	**+1.5**
ENPP				*e*S	**Sn**	**11 47 13.5**	**+0.5**
GQP	**Guinayangan**	**2.34**	**77**⇑	*i*P	**Pn**	**11 46 46.7**	**+0.7**
GQP				*i* S	**Sn**	**11 47 15.8**	**+0.9**
PCPH	**Palayan**	**2.37**	**24**⇓	*e*P	**Pn**	**11 46 46.3**	**0.0**
PCPH				*e*S	**Sn**	**11 47 15.7**	**+0.2**
SCZP	**Santa Cruz**	**2.38**	**356**	*e*P	**Pn**	**11 46 48.8**	**+2.2**
SCZP				*e*S	**Sn**	**11 47 24.5**	**+8.6**
AUQP	**San Andres**	**2.51**	**91**	*e*P	**Pn**	**11 46 49.0**	**+0.7**
CUYO	**Cuyo Island**	**2.68**	**160**	*e*P	**Pn**	**11 46 50.6**	**0.0**
CUYO				*e*S	**Sn**	**11 47 21.3**	**-1.9**
BOLP	**Bolinao**	**2.98**	**357**	*e*S	**Sn**	**11 47 29.2**	**-1.4**
GUIM	**Jordan**	**3.67**	**138**	*e*P	**Pn**	**11 47 04.8**	**+0.5**
GUIM				*e*S	**Sn**	**11 47 47.6**	**-0.2**
CAUP	**Cauayan**	**3.91**	**25**	*e*P	**Pn**	**11 47 06.2**	**-1.4**
CAUP				*e*S	**Sn**	**11 48 04.6**	**+11**
PVCP	**Virac**	**3.96**	**87**	*e*P	**Pn**	**11 47 08.8**	**+0.6**
PALP	**Palanan**	**4.29**	**31**	*e*P	**Pn**	**11 47 21.9**	**+9.1**
APYP	**Conner**	**4.58**	**14**	*e*P	**Pn**	**11 47 18.5**	**+1.7**
APYP				*e*S	**Sn**	**11 48 07.7**	**-2.5**
SNPH	**Sibulan**	**5.07**	**142**	*e*P	**Pn**	**11 47 25.5**	**+2.0**
PAGZ	**Pagadian**	**6.38**	**149**	*e*P	**Pn**	**11 47 41.5**	**-0.1**
PAGZ				*e*S	**Sn**	**11 48 55.3**	**+0.7**
WRAB	**Tennant Creek**	**35.96**	**157**	*e*P	**P**	**11 53 07.3**	**-1.0**
22nm,0.9s,mb5.1							
WRA	**Warramunga Arr**	**35.97**	**157**	P	**P**	**11 53 07.4**	**-0.9**
12nm,0.7s,mb4.9,baz=335,slow=9,6,SNR=94							
WB2	**Warramunga Arr**	**35.97**	**157**⇑	*i*P	**P**	**11 53 07.2**	**-1.2**
SONM	**Songino Array**	**36.19**	**344**	P	**P**	**11 53 07.5**	**-2.7**
0.9nm,0.7s,mb3.8,baz=162,slow=9.5,SNR=9.3							
AS31	**Alice Springs**	**39.23**	**160**	*e*P	**P**	**11 53 35.8**	**-0.1**
ASAR	**Alice Springs**	**39.23**	**160**	P	**P**	**11 53 35.9**	**-0.1**
6.8nm,0.7s,mb4.5,baz=340,slow=7.1,SNR=83							
ASPA	**Alice Springs**	**39.23**	**160**	*e*P	**P**	**11 53 35.8**	**-0.1**
MKAR	**Makanchi Array**	**45.93**	**324**	P	**P**	**11 54 31.6**	**+1.2**
0.3nm,0.7s,mb3.3,baz=139,slow=8.5,SNR=3.8							
STKA	**Stephens Creek**	**49.50**	**156**	P	**P**	**11 54 55.0**	**-3.1**
1.7nm,0.7s,mb4.2,baz=328,slow=15,SNR=3.3							
KURK	**Kurchatov**	**50.12**	**327**	*e*P	**P**	**11 55 02.9**	**0.0**
1.9nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**55.70**	**326**	P	**P**	**11 55 44.6**	**+0.5**
0.5nm,0.5s,mb3.8,baz=116,slow=5.3,SNR=3.2							
ZRNK	**Zerenda**	**56.42**	**326**	*e*P	**P**	**11 55 49.8**	**+0.5**

*IDC **01** 11:49:43.6±1.4, 1333N×12002E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=29.0km s-min=13.6km az=122.0*
*ISCJB **01** 11:49:44.8±1.2, 1336N±005×12008E±008, h17km±10km, mb3.9/3, Error ellipse: s-maj=12.9km s-min=8.6km az=5.6*
*MAN **01** 11:49:47.0, 1343N×12025E, h8km, mb1.9, ML3.7, MS1.2*

ISC 01 11:49:45.7±1.1, 1336N±005×12016E±007, h10km±9km, n13, σ0°92/19, mb3.9/3, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.39**	**13**	*e*P	**Pg**	**11 49 53.6**	**+0.3**
LUBP				*e*S	**Sg**	**11 49 58.3**	**-0.2**
PGP	**Puerto Galera**	**0.79**	**79**	*e*P	**Pg**	**11 50 00.5**	**-0.5**
TGY	**Tagaytay City**	**1.06**	**45**	Pg	**Pg**	**11 50 06.2**	**+0.1**
309nm,0.3s,baz=189,slow=7.1,SNR=6.5							
TGY				Lg		11 50 22.2	
511nm,0.3s,baz=175,slow=23,SNR=8.4							
BUSP	**Coron**	**1.34**	**178**	*e*P	**Pn**	**11 50 12.1**	**+1.6**
BUSP				*e*S	**Sb**	**11 50 28.2**	**-0.1**
BOAC	**Boac**	**1.65**	**86**	*e*P	**Pn**	**11 50 14.0**	**-0.7**
BOAC				*e*S	**Sn**	**11 50 36.6**	**+0.7**
OTRP	**Odiongan**	**2.07**	**118**	*e*P	**Pn**	**11 50 25.2**	**+4.7**
OTRP				*e*S	**Sn**	**11 50 50.9**	**+4.5**
POLP	**Polilio Island**	**2.20**	**52**	*e*P	**Pn**	**11 50 22.7**	**+0.3**
ENPP	**El Nido**	**2.25**	**199**	*e*P	**Pn**	**11 50 26.4**	**+3.3**
CUYO	**Cuyo Island**	**2.63**	**161**	*e*P	**Pn**	**11 50 25.0**	**-3.3**
CUYO				*e*S	**Sn**	**11 50 58.9**	**-1.3**
GUIM	**Jordan**	**3.61**	**138**	*e*P	**Pn**	**11 50 41.8**	**+0.1**
GUIM				*e*S	**Sn**	**11 51 25.0**	**+0.6**
WRA	**Warramunga Arr**	**35.91**	**157**	P	**P**	**11 56 45.2**	**-0.9**
2.7nm,0.6s,mb4.4,baz=336,slow=9.7,SNR=21							
SONM	**Songino Array**	**36.24**	**344**	P	**P**	**11 56 48.3**	**-0.6**
0.3nm,0.7s,mb3.3,baz=156,slow=11,SNR=2.8							
ASAR	**Alice Springs**	**39.17**	**160**	P	**P**	**11 57 14.2**	**+0.5**
1.5nm,0.6s,mb3.9,baz=339,slow=7.1,SNR=17							

*MAN **01** 11:50:44.1, 1388N×11984E, h35km, mb2.6, ML4.1, MS1.4*
*IDC **01** 11:50:46.6±1.5, 1337N×12004E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=31.1km s-min=13.3km az=123.0*
*ISCJB **01** 11:50:48.2±1.5, 1346N±010×12004E±009, h22km±12km, mb4.0/3, Error ellipse: s-maj=16.6km s-min=14.8km az=141.6*

ISC 01 11:50:48.6±1.5, 1342N±008×12011E±009, h10km±10km, n8, σ0°72/10, mb4.0/3, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**23**	*e*P	**Pg**	**11 50 55.8**	**+0.3**
LUBP				*e*S	**Sg**	**11 51 00.1**	**+0.1**
PGP	**Puerto Galera**	**0.83**	**84**	*e*P	**Pg**	**11 51 03.9**	**-0.7**
TGY	**Tagaytay City**	**1.06**	**50**	Pg	**Pg**	**11 51 09.3**	**+0.4**
205nm,0.3s,baz=159,slow=8.6,SNR=2.7							
TGY				Lg		11 51 23.4	
321nm,0.3s,baz=147,slow=20,SNR=7.0							
BUSP	**Coron**	**1.41**	**176**	*e*P	**Pn**	**11 51 15.5**	**+1.2**
BOAC	**Boac**	**1.69**	**88**	*e*P	**Pn**	**11 51 17.0**	**-1.2**
BOAC				*e*S	**Sn**	**11 51 40.8**	**+0.9**
WRA	**Warramunga Arr**	**35.99**	**157**	P	**P**	**11 57 48.8**	**-0.8**
3.3nm,0.6s,mb4.4,baz=336,slow=9.6,SNR=17							
SONM	**Songino Array**	**36.17**	**344**	P	**P**	**11 57 51.0**	**-0.2**
0.4nm,0.5s,mb3.6,baz=164,slow=9.4,SNR=4.2							
ASAR	**Alice Springs**	**39.25**	**160**	P	**P**	**11 58 17.2**	**0.0**
1.6nm,0.6s,mb3.9,baz=338,slow=7.1,SNR=17							

MAN 01 11:55:19.6, 1349N×12007E, h19km, mb2.0, ML3.7, MS2.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.86**	**89**	*e*P	Pb	11 55 35.8	-0.1
BOAC	**Boac**	**1.73**	**91**	*e*P	Pn	11 55 48.6	0.0
BOAC				*e*S	Sn	11 56 12.6	+2.4

*BJI **01** 11:56:24.3, 5050N×9084E, h9km, mB4.8, mb4.4, ML4.8, Ms4.3, Msz4.1*
*ISCJB **01** 11:56:24.9±0.3, 5049N±003×9086E±004, h10km, mb4.2/26, Error ellipse: s-maj=4.4km s-min=3.8km az=62.1*
*IDC **01** 11:56:24.5±0.6, 5026N×9103E, h0km, mb4.0/14, mb1 4.1/17, mb1mx4.1/22, mbtmp4.0/17, ML3.6/3, Error ellipse: s-maj=16.1km s-min=9.6km az=162.0*
*NEIC **01** 11:56:27.1±0.6, 5055N×9090E, h10km, mb4.2/9, Error ellipse: s-maj=12.2km s-min=8.2km az=182.0*
*MOS **01** 11:56:27.1±2.1, 5036N×9093E, h27km, mb4.4/15, Error ellipse: s-maj=8.0km s-min=6.4km az=99.8*
*NNC **01** 11:56:28.1±10.0, 5021N×9097E, h23km±61km, mb4.2, mpv4.4, Error ellipse: s-maj=71.2km s-min=41.4km az=55.0*

ISC 01 11:56:26.5±0.3, 5047N±003×9086E±004, h10km, n94, σ1°26/110, mb4.2/26, 10C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERR	**Cheremushki**	**2.41**	**8**	*e*PN	**Pg**	**11 57 11.9**	**-0.9**
CERR				*e*S	**Sg**	**11 57 44.5**	**+0.5**
ARTR	**Artybash**	**2.62**	**302**	*e*PN	**Pb**	**11 57 12.9**	**-0.6**
TASR	**Tashtagol**	**2.95**	**322**	*e*PN	**Pg**	**11 57 22.3**	**-0.8**
TASR				*e*S	**Sg**	**11 58 00.9**	**-0.4**
ELT	**Yel'tsovka**	**4.00**	**316**	*e*PN	**Pg**	**11 57 40.9**	**-2.3**
ELT				*e*S	**Sg**	**11 58 31.1**	**-3.9**
SHRR	**Shira**	**4.06**	**354**	*e*PN	**Pn**	**11 57 29.3**	**+0.7**
SHRR				*i*		11 57 40.8	
SHRR				*i*		11 58 33.2	
KRAR	**Krasnoyarsk**	**5.68**	**12**	*e*PN	**Pn**	**11 57 53.7**	**+2.7**
KRAR				*e*		11 58 11.6	
KRAR				*i*		11 59 23.0	
NVS	**Novosibirsk**	**6.38**	**316**	*e*PN	**Pn**	**11 58 02.0**	**+1.5**
NVS				*e*		11 58 23.8	
NVS				*i*		11 59 47.3	
MOY	**Mondy**	**6.50**	**75**	*e*PN	**Pn**	**11 58 09.5**	**+7.3**
MOY				*e*		11 58 22.7	
MOY				*e*S	**Sn**	**11 59 16.7**	**+0.3**
MOY				*e*		11 59 45.5	
MOY				pmax	pmax		
comp=Z,44nm,0.9s							
MOY				smax			
comp=N,597nm,1.4s							
MK31	**Makanchi Array**	**6.76**	**240**	⇑Pn	**Pn**	**11 58 06.8**	**+1.0**
comp=N,12nm,0.7s,baz=52,slow=16,SNR=196							
MK31				Pg	**Pg**	**11 58 31.9**	**-4.1**
comp=N,61nm,0.7s,baz=66,slow=15,SNR=15							
MK31				⇓Lg		11 59 58.8	
comp=N,297nm,0.9s,baz=61,slow=33,SNR=4.3							
MK31	**Makanchi Array**	**6.76**	**240**	⇑Pn	**Pn**	**11 58 06.8**	**+0.9**
comp=N,12nm,0.6s							
MK31				Pg	**Pg**	**11 58 31.9**	**-4.1**
MK31				Lg		11 59 58.8	
MKAR	**Makanchi Array**	**6.76**	**240**	Pn	**Pn**	**11 58 06.6**	**+0.7**
comp=N,1.5nm,0.3s,baz=51,slow=17,SNR=64							
MKAR				Pg	**Pg**	**11 58 30.5**	**-5.6**
comp=N,5.0nm,0.3s,baz=61,slow=14,SNR=20							
MKAR				Sn	**Sn**	**11 59 20.9**	**-2.1**
comp=N,6.4nm,0.3s,baz=68,slow=19,SNR=2.8							
MKAR				Lg		11 59 58.2	
comp=N,9.9nm,0.3s,baz=57,slow=30,SNR=4.3							
WMQ	**Urumqi**	**6.99**	**199**	P	**Pn**	**11 58 10.0**	**+1.0**
WMQ				SG	**Sg**	**12 00 04.5**	**-6.5**
WMQ				Smax			
comp=N,383nm,1.0s							
WMQ				Smax			
comp=E,458nm,1.0s							
WMQ				LR	LR		
comp=N,1μm,5.0s							
KURK	**Kurchatov**	**7.80**	**277**	⇑Pn	**Pn**	**11 58 20.6**	**+0.6**
comp=N,11nm,1.0s							
KURK				⇓Lg		12 00 35.8	
comp=N,88nm,0.8s							
KURK	**Kurchatov**	**7.80**	**277**	P	**Pn**	**11 58 20.6**	**+0.6**
KURK				pmax	pmax		
comp=Z,11nm,1.0s							
KURK				pmax	pmax		
comp=Z,71nm,0.8s							
ZAK	**Zakamensk**	**7.94**	**86**	*e*P	**Pn**	**11 58 31.6**	**+10**
ZAK				pmax	pmax		
comp=Z,45nm,1.5s							
SONM	**Songino Array**	**10.51**	**99**	Pn	**Pn**	**11 58 55.5**	**-1.7**
comp=Z,0.2nm,0.3s,baz=286,slow=15,SNR=11							
SONM				Lg		12 01 53.7	
comp=Z,1.2nm,0.3s,baz=279,slow=31,SNR=6.1							
ULN	**Ulaanbaatar**	**10.92**	**98**	*e*P	**Pn**	**11 59 01.7**	**-1.1**
VOSK	**Vostochnaya**	**12.56**	**288**	⇑Pn	**Pn**	**11 59 23.8**	**-1.5**
comp=Z,5.5nm,1.2s							
VOSK				⇓Sn	**Sn**	**12 01 48.6**	**+3.3**
comp=Z,31nm,1.1s							
VOSK	**Vostochnaya**	**12.56**	**288**	⇑Pn	**Pn**	**11 59 23.8**	**-1.5**
comp=Z,5.5nm,1.3s							
VOSK				Sn	**Sn**	**12 01 48.6**	**+3.3**
VOSK	**Vostochnaya**	**12.56**	**288**	⇑P	**Pn**	**11 59 23.8**	**-1.5**
VOSK						12 01 48.6	
VOSK				pmax	pmax		
comp=Z,6.0nm,1.3s							
BVA0	**Borovoye Array**	**12.93**	**289**	Pn	**Pn**	**11 59 29.5**	**-0.8**
comp=Z,0.7nm,0.7s,baz=92,slow=12,SNR=12							
BVA0				Sn	**Sn**	**12 01 55.4**	**+1.0**
comp=Z,3.6nm,1.1s,baz=99,slow=23,SNR=3.8							
BVA0	**Borovoye Array**	**12.93**	**289**	Pn	**Pn**	**11 59 29.5**	**-0.8**
comp=Z,0.7nm,0.6s							
BVA0				Sn	**Sn**	**12 01 55.4**	**+1.0**
BVA0	**Borovoye Array**	**12.93**	**289**	P	**Pn**	**11 59 29.5**	**-0.9**
BVA0						12 01 55.4	
BVA0				pmax	pmax		
comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**12.93**	**289**	Pn	**Pn**	**11 59 29.4**	**-0.9**
comp=Z,0.7nm,0.3s,baz=90,slow=13,SNR=17							
BVAR				Sn	**Sn**	**12 01 52.9**	**-1.5**
comp=Z,0.9nm,0.3s,baz=100,slow=22,SNR=5.0							
BVAR	**Borovoye Array**	**12.93**	**289**	P	**Pn**	**11 59 29.4**	**-1.0**
BVAR						12 01 52.9	
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**13.00**	**289**	*e*Pn	**Pn**	**11 59 30.1**	**-1.1**
comp=Z,3.4nm,0.6s							
BRVK	**Borovoye**	**13.00**	**289**	*e*P	**Pn**	**11 59 30.1**	**-1.2**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.6s							
AAK	**Ala-Archa**	**13.70**	**241**	*e*Pn	**Pn**	**11 59 44.3**	**+3.4**
comp=Z,2.1nm,0.5s							
AAK	**Ala-Archa**	**13.70**	**241**	*e*P	**Pn**	**11 59 44.3**	**+3.5**
AAK				pmax	pmax		
comp=Z,2.0nm,0.5s							
ZRNK	**Zerenda**	**13.77**	**289**	⇑Pn	**Pn**	**11 59 39.9**	**-1.8**
comp=Z,20nm,1.1s							
ZRNK				⇑Sn	**Sn**	**12 02 18.9**	**+4.2**
comp=Z,33nm,1.3s							
ZRNK	**Zerenda**	**13.77**	**289**	*e*Pn	**Pn**	**11 59 40.4**	**-1.4**
comp=Z,30nm,0.4s							
ZRNK				*e*Sn	**Sn**	**12 02 08.9**	**-5.8**
ZRNK	**Zerenda**	**13.77**	**289**	*e*P	**Pn**	**11 59 40.4**	**-1.3**
ZRNK				*e*		12 02 08.9	
ZRNK				pmax	pmax		
comp=Z,30nm,0.4s							
BOD	**Bodaibo**	**15.37**	**53**	*e*P	**Pn**	**12 00 08.4**	**+4.9**
BOD				pmax	pmax		
comp=Z,6.0nm,1.2s							
KK31	**Karatay Array**	**15.73**	**250**	⇑Pn	**Pn**	**12 00 11.4**	**+3.2**
comp=Z,4.4nm,0.7s,baz=0.0,slow=0.1,SNR=12							
KK31				⇓Sn	**Sn**	**12 03 10.6**	**+8.0**
comp=Z,15nm,0.8s							
KK31	**Karatay Array**	**15.73**	**250**	⇑P	**Pn**	**12 00 11.4**	**+3.2**
KK31						12 03 10.6	
KK31				pmax	pmax		
comp=Z,4.0nm,0.6s							
KKAR	**Karatay Array**	**15.73**	**250**	P	**Pn**	**12 00 12.2**	**+4.0**
KKAR						12 03 10.5	
KKAR				pmax	pmax		
comp=Z,5.0nm,0.7s							
LZH	**Lanzhou**	**17.17**	**142**	*e*P	**Pn**	**12 00 28.5**	**+2.0**
LZH				AP	pP	12 00 31.5	+0.6
LZH				XP	sP	12 00 34.5	+2.3
LZH				PP		12 00 39.8	
LZH				AMB	AMB		
comp=Z,21nm,1.2s							
LZH				AMB	AMB		
comp=Z,97nm,4.3s							
LZH				LR	LR		
comp=N,451nm,8.3s							
LZH				LR	LR		
comp=Z,1μm,11.2s							
SVE	**Sverdlovsk**	**18.90**	**301**	*e*P	**Pn**	**12 00 50.8**	**+3.0**
AB31	**Akbulak array**	**19.90**	**279**	P	**Pn**	**12 00 59.4**	**-0.4**
comp=Z,4.1nm,0.8s,baz=78,slow=10,SNR=24							
AB31	**Akbulak array**	**19.90**	**279**	*i* P	**Pn**	**12 00 59.3**	**-0.5**
AB31				pmax	pmax		
comp=Z,4.0nm,0.9s							
ARU	**Arti**	**20.01**	**300**	*e*P	**P**	**12 01 04.0**	**+4.7**
BJI	**Beijing**	**20.55**	**111**	*e*P	**P**	**12 01 06.3**	**+1.1**
BJI				AMB	AMB		
comp=Z,23nm,0.8s							
BJT	**Baijiatuan**	**20.56**	**111**	*e*P	**P**	**12 01 05.2**	**-0.2**
comp=Z,22nm,1.0s							
BJT	**Baijiatuan**	**20.56**	**111**	*e*P	**P**	**12 01 05.2**	**-0.1**
BJT				pmax	pmax		
comp=Z,21nm,1.0s							
LSA	**Lhasa**	**20.75**	**179**	*e*P	**P**	**12 01 09.1**	**+1.8**
comp=Z,14nm,0.9s							
LSA	**Lhasa**	**20.75**	**179**	*e*P	**P**	**12 01 09.1**	**+1.8**
LSA				pmax	pmax		
comp=Z,14nm,0.9s							
AKTK	**Aktyubinsk**	**20.82**	**283**	P	**P**	**12 01 09.2**	**+1.0**
AKTO	**Aktyubinsk**	**20.82**	**283**	P	**P**	**12 01 09.2**	**+1.0**
comp=Z,1.6nm,0.8s							
AKTO	**Aktyubinsk**	**20.82**	**283**	P	**P**	**12 01 09.2**	**+1.0**
comp=Z,3.1nm,0.4s,baz=89,slow=11,SNR=13							
AKTO	**Aktyubinsk**	**20.82**	**283**	P	**P**	**12 01 09.2**	**+1.0**
AKTO				pmax	pmax		
comp=Z,3.0nm,0.4s							
GUN	**Gumba**	**22.85**	**191**	*e*P	**P**	**12 01 29.5**	**-0.3**
comp=Z,29nm,0.8s,mb4.8							
GKN	**Gorkha**	**22.93**	**194**	*e*P	**P**	**12 01 29.7**	**-1.0**
comp=Z,52nm,1.0s,mb4.9							
JIRN	**Jiri**	**23.06**	**191**	*e*P	**P**	**12 01 31.7**	**-0.3**
comp=Z,29nm,0.9s,mb4.7							
KOLN	**Koldanda**	**23.34**	**196**	*e*P	**P**	**12 01 34.6**	**-0.4**
comp=Z,18nm,1.0s,mb4.4							
TIXI	**Tiksi**	**27.24**	**25**	*e*P	**P**	**12 02 11.0**	**+0.3**
TIXI				pmax	pmax		
comp=Z,4.0nm,1.6s,mb3.7							
NJ2	**Nanjing**	**27.70**	**121**	*e*P	**P**	**12 02 11.9**	**-3.0**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.7							
HABR	**Khabarovsk**	**28.47**	**77**	*e*P	**P**	**12 02 19.4**	**-2.3**
HABR				*e*S	**S**	**12 07 08.4**	**-0.7**
HABR				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.2							
SSE	**Sheshan**	**29.72**	**119**	P	**P**	**12 02 29.1**	**-3.7**
SSE				AMB	AMB		
comp=Z,11nm,0.9s,mb4.6							
SSE				AMB	AMB		
comp=Z,221nm,3.4s							
ARCES	**ARCESS Array B**	**35.53**	**327**	PcP	PcP	12 05 51.4	-1.4
comp=Z,4.6nm,0.9s,baz=74,slow=2.4,SNR=9.8							
FINES	**FINESS Array B**	**36.35**	**313**	P	**P**	**12 03 31.6**	**+0.9**
comp=Z,1.5nm,0.8s,mb4.0,baz=55,slow=7.2,SNR=4.4							
FINES	**FINESS Array B**	**36.35**	**313**	*i* P	**P**	**12 03 35.0**	**+4.3**
FINES				pmax	pmax		
comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**38.12**	**295**	P	**P**	**12 03 46.0**	**+0.4**
comp=Z,1.2nm,0.5s,mb3.9,baz=56,slow=8.8,SNR=6.4							
AKASG	**Malin Array Be**	**38.12**	**295**	*e*P	**P**	**12 03 46.1**	**+0.4**
BR131	**Keskin Array S**	**40.85**	**278**	*e*P	**P**	**12 04 10.0**	**+1.5**
comp=Z,1.8nm,0.6s,mb3.9							
BRTR	**Keskin Array B**	**40.85**	**278**	P	**P**	**12 04 10.2**	**+1.8**
comp=Z,2.8nm,0.7s,mb4.0,baz=82,slow=8.7,SNR=12							
BRTR	**Keskin Array B**	**40.85**	**278**	*e*P	**P**	**12 04 10.3**	**+1.9**
NB2	**NORSAR Subarra**	**43.29**	**316**	P	**P**	**12 04 28.6**	**+0.2**
comp=Z,1.5nm,0.6s,mb3.9,baz=62,slow=7.9							
NB2	**NORSAR Subarra**	**43.29**	**316**	P	**P**	**12 04 28.6**	**+0.2**
NB2				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.0							
NOA	**NORSAR Array B**	**43.29**	**316**	P	**P**	**12 04 28.9**	**+0.5**
comp=Z,2.2nm,0.7s,mb4.0,baz=63,slow=7.6,SNR=8.6							
NOA	**NORSAR Array B**	**43.29**	**316**	P	**P**	**12 04 28.9**	**+0.5**
NOA	**NORSAR Array B**	**43.29**	**316**	P	**P**	**12 04 28.9**	**+0.5**
NOA				pmax	pmax		
comp=Z,2.0nm,0.7s							
MORC	**Moravsky Berou**	**45.20**	**299**	*e*P	**P**	**12 04 44.5**	**+0.8**
comp=Z,3.0nm,0.9s,mb4.1							
MORC	**Moravsky Berou**	**45.20**	**299**	*e*P	**P**	**12 04 44.5**	**+0.8**
MORC				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.1							
SUMG	**Summit**	**52.30**	**343**	*e*P	**P**	**12 05 39.7**	**+1.4**
comp=Z,2.9nm,0.6s,mb4.4							
ILAR	**Eielson Array**	**56.72**	**26**	P	**P**	**12 06 10.6**	**+0.3**
comp=Z,1.5nm,0.7s,mb4.2,baz=318,slow=5.1,SNR=26							
ILAR	**Eielson Array**	**56.72**	**26**	P	**P**	**12 06 10.6**	**+0.3**
ILAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
INK	**Inuvik**	**57.03**	**18**	P	**P**	**12 06 13.2**	**+0.6**
comp=Z,3.5nm,0.6s,mb4.6,baz=351,slow=8.6,SNR=19							
INK	**Inuvik**	**57.03**	**18**	P	**P**	**12 06 13.2**	**+0.7**
INK				pmax	pmax		
comp=Z,4.0nm,0.6s							
CART	**Cartagena**	**63.21**	**297**	*e*P	**P**	**12 06 53.6**	**-1.3**
comp=Z,31nm,0.8s,mb5.5							
YKA	**Yellowknife Ar**	**65.58**	**13**	P	**P**	**12 07 09.9**	**-0.6**
comp=Z,0.3nm,0.8s,mb3.4,baz=339,slow=6.9,SNR=6.2							
YKA				PcP	PcP	12 07 40.4	-1.6
comp=Z,0.3nm,0.7s,baz=341,slow=4.8,SNR=6.1							
YKA	**Yellowknife Ar**	**65.58**	**13**	P	**P**	**12 07 09.9**	**-0.6**
YKA						12 07 40.4	
TORD	**Torodi Ar. Bea**	**79.46**	**278**	P	**P**	**12 08 33.5**	**+0.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=37,slow=4.9,SNR=14							
ULM	**Lac du Bonnet**	**79.50**	**4**	P	**P**	**12 08 32.7**	**-0.7**
comp=Z,0.4nm,0.3s,mb3.8,baz=218,slow=2.1,SNR=3.2							
WRA	**Warramunga Arr**	**79.90**	**139**	P	**P**	**12 08 34.2**	**-1.3**
comp=Z,2.0nm,0.7s,mb4.2,baz=342,slow=5.9,SNR=13							
WRA	**Warramunga Arr**	**79.90**	**139**	P	**P**	**12 08 34.2**	**-1.3**
WRA				pmax	pmax		
comp=Z,2.0nm,0.7s							
ASAR	**Alice Springs**	**83.04**	**141**	P	**P**	**12 08 50.5**	**-1.6**
comp=Z,0.7nm,0.6s,mb3.9,baz=334,slow=5.6,SNR=5.5							
ASAR	**Alice Springs**	**83.04**	**141**	P	**P**	**12 08 50.6**	**-1.6**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
NVAR	**Mina Array Bea**	**87.83**	**23**	P	**P**	**12 09 16.9**	**+0.8**
comp=Z,0.5nm,0.8s,mb3.8,baz=326,slow=2.7,SNR=4.2							
DBIC	**Dimbokro**	**88.54**	**279**	P	**P**	**12 09 19.4**	**+0.1**
comp=Z,0.8nm,0.6s,mb4.2,baz=118,slow=19,SNR=3.6							
DBIC	**Dimbokro**	**88.54**	**279**	P	**P**	**

PCPH	**Palayan**	**2.39**	**26**	*e*P		**Pn**	**12 02 45.4**	**+0.9**
PCPH				*e*S		**Sn**	**12 03 13.5**	**-0.5**
GQP	**Guinayangan**	**2.42**	**78**	⇑*i*P		**Pn**	**12 02 45.5**	**+0.8**
GQP				*i* S		**Sn**	**12 03 15.0**	**+0.5**
AUQP	**San Andres**	**2.59**	**91**	*e*P		**Pn**	**12 02 48.2**	**+1.1**
AUQP				*e*S		**Sn**	**12 03 21.0**	**+2.2**
AUQP	**San Andres**	**2.59**	**91**	*e*P		**Pn**	**12 02 48.4**	**+1.3**
CUYO	**Cuyo Island**	**2.71**	**159**	*e*P		**Pn**	**12 02 49.6**	**+0.7**
CUYO				*e*S		**Sn**	**12 03 19.9**	**-2.1**
CAUP	**Cauayan**	**3.93**	**26**	*e*P		**Pn**	**12 03 05.5**	**-0.2**
CAUP	**Cauayan**	**3.93**	**26**	*e*P		**Pn**	**12 03 07.6**	**+1.9**
ABRA	**Dolores**	**4.28**	**9**	*e*P		**Pn**	**12 03 17.1**	**+6.6**
APYP	**Conner**	**4.59**	**15**	*e*P		**Pn**	**12 03 16.5**	**+1.7**
WRA	**Warramunga Arr**	**36.00**	**157**	P		**P**	**12 09 05.7**	**-0.8**
	2.2nm,0.6s,mb4.3,baz=336,slow=9.6,SNR=18							
SONM	**Songino Array**	**36.16**	**344**	P		**P**	**12 09 07.9**	**0.0**
	0.7nm,0.7s,mb3.7,baz=163,slow=9.7,SNR=3.6							
ASAR	**Alice Springs**	**39.26**	**160**	P		**P**	**12 09 34.2**	**+0.2**
	1.2nm,0.5s,mb3.9,baz=340,slow=6.9,SNR=12							
ARCES	**ARCESS Array B**	**79.13**	**339**	P		**P**	**12 14 08.3**	**-1.8**
	14nm,1.2s,mb4.8,baz=70,slow=7.8,SNR=4.0							

*ATH **01** 12:02:17.0, 3807N×2702E, h57km±4km, MD3.3/3*
*ISCJB **01** 12:02:18.8±1.0, 3811N±003×2648E±005, h1km±6km, Error ellipse: s-maj=7.1km s-min=4.7km az=169.5*
*CSEM **01** 12:02:18.2±0.4, 3817N×2663E, h2km, MD3.0, Error ellipse: s-maj=10.5km s-min=7.5km az=101.0*
*ISK **01** 12:02:23.3, 3804N×2678E, h18km, MD3.0*

ISC 01 12:02:18.9±0.8, 3810N±003×2645E±005, h3km±6km, n16, σ1§25/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.28**	**24**	*i* P	**Pg**	**12 02 22.9**	**-1.6**
URLA				*i* S	**Sg**	**12 02 32.7**	**+4.6**
SMG	**Samos**	**0.50**	**142**	*e*P	**Pg**	**12 02 28.3**	**-0.1**
SMG				*e*S	**Sg**	**12 02 36.0**	**+1.1**
IZM	**Izmir**	**0.70**	**65**	PG	**Pg**	**12 02 34.5**	**+2.0**
IZM				SG	**Sg**	**12 02 41.5**	**-0.1**
KDAG	**Bornova**	**0.71**	**65**	*i* P	**Pg**	**12 02 28.3**	**-4.3**
KDAG				*i* S	**Sg**	**12 02 41.2**	**-0.6**
PRK	**Paraskevi**	**1.15**	**353**	*e*P	**Pg**	**12 02 39.8**	**-1.2**
PRK				*e*S	**Sg**	**12 02 57.0**	**+1.0**
AYDN	**Tasoluk**	**1.21**	**111**	*i* P	**Pg**	**12 02 39.4**	**-2.8**
AYDN				*i* S	**Sg**	**12 02 58.8**	**+0.9**
AYVA	**Ayvalik**	**1.22**	**9**	*i* S	**Sg**	**12 02 58.2**	**0.0**
AYVA	**Ayvalik**	**1.22**	**9**	*i* S	**Sg**	**12 02 58.2**	**0.0**
BODT	**Bodrum**	**1.24**	**146**	*e*PN	**Pn**	**12 02 44.0**	**+0.9**
BODT				*e*SN	**Sn**	**12 02 59.6**	**-0.8**
APE	**Apeiranthos**	**1.26**	**216**	*e*PN	**Pn**	**12 02 48.8**	**+5.4**
APE				*e*SN	**Sn**	**12 03 06.2**	**+5.3**
APE	**Apeiranthos**	**1.26**	**216**	*e*Pb	**Pb**	**12 02 43.5**	**+0.2**
APE				*e*Sn	**Sn**	**12 03 06.2**	**+5.3**
MLSB	**Milas**	**1.32**	**127**	*e*PN	**Pn**	**12 02 43.6**	**-0.7**
MANT	**Manisa**	**1.70**	**76**	*i* P	**Pn**	**12 02 46.8**	**-2.7**
MANT				*i* S	**Sn**	**12 03 11.4**	**-0.4**
EZN	**Ezine**	**1.73**	**357**	*e*PN	**Pn**	**12 02 54.5**	**+4.7**
BALB	**Balikesir**	**1.90**	**36**	*e*PN	**Pn**	**12 02 55.2**	**+3.0**
BALB				*e*SN	**Sn**	**12 03 17.4**	**+0.8**
BALB	**Balikesir**	**1.90**	**36**	*e*Sn	**Sn**	**12 03 17.4**	**+0.8**

MEX 01 12:05:10.5±0.5, 1817N×9751W, h51km±8km, MD3.7, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPIG	**Tehuac#an**	**0.29**	**30**	*i* P	Pn	12 05 18.2	-1.3
TPIG				*i* S	Sn	12 05 24.9	-1.2
OXX	**Oaxaca**	**1.31**	**145**	*i* P	Pn	12 05 32.0	-0.5
OXX				*i* S	Sn	12 05 52.0	+3.1
PPM	**Popocatepetl**	**1.39**	**310**	*i* P	Pn	12 05 32.4	-1.1
PPM				*i* S	Sn	12 05 49.7	-0.9
MEIG	**Mezcala**	**2.02**	**264**	*e*P	Pn	12 05 40.1	-2.0
MEIG				*i* S	Sn	12 06 04.1	-2.0
CMIG	**Matias Romero**	**2.73**	**113**	*e*P	Pn	12 05 50.3	-1.5
CMIG				*i* S	Sn	12 06 22.4	-1.1
HUIG	**Huatulco**	**2.74**	**150**	*i* P	Pn	12 05 50.6	-1.3
HUIG				*i* S	Sn	12 06 23.5	-0.3

MAN 01 12:15:36.8, 1337N×12019E, h5km, mb1.2, ML3.2, MS3.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.36**	**9**	*e*P	Pg	12 15 43.9	+0.1
PGP	**Puerto Galera**	**0.75**	**80**	*e*P	Pg	12 15 51.7	+0.4
TGY	**Tagaytay City**	**1.03**	**45**	⇑*e*P	Pg	12 15 58.0	+1.6
TGY				*i* S	Sg	12 16 10.9	+1.1
BUSP	**Coron**	**1.36**	**180**	*e*P	Pn	12 16 02.5	0.0
BUSP				*e*S	Sb	12 16 19.9	-0.5
BUSP	**Coron**	**1.36**	**180**	*e*P	Pn	12 16 02.3	-0.2
BUSP				*e*S	Sb	12 16 19.3	-1.2
BOAC	**Boac**	**1.61**	**87**	*e*P	Pn	12 16 04.5	-1.4
BOAC				*e*S	Sn	12 16 28.3	+1.3
BOAC	**Boac**	**1.61**	**87**	*e*P	Pn	12 16 04.8	-1.0
BOAC				*e*S	Sn	12 16 25.6	-1.4
CUYO	**Cuyo Island**	**2.63**	**162**	*e*P	Pn	12 16 19.7	-0.2
CUYO				*e*S	Sn	12 16 50.2	-2.1
CUYO	**Cuyo Island**	**2.63**	**162**	*e*P	Pn	12 16 19.6	-0.3
CUYO				*e*S	Sn	12 16 50.0	-2.3

*IDC **01** 12:18:10.1±1.4, 1327N×120.19E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=32.0km s-min=12.7km az=116.0*
*ISCJB **01** 12:18:11.1±1.1, 1341N±006×1201E±01, h10km, mb3.8/3, Error ellipse: s-maj=18.8km s-min=7.4km az=22.7*

ISC 01 12:18:12.6±1.9, 1339N±009×1202E±02, h15km±15km, n7, σ1§10/8, mb3.8/3, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**4**	*e*P	**Pg**	**12 18 19.0**	**-0.7**
PGP	**Puerto Galera**	**0.72**	**81**	*e*P	**Pg**	**12 18 26.7**	**+0.1**
TGY	**Tagaytay City**	**0.99**	**44**	Pg	**Pg**	**12 18 32.1**	**+0.4**
	233nm,0.3s,baz=112,slow=12,SNR=1.7						
TGY				Lg		12 18 45.6	
	934nm,0.3s,baz=339,slow=23,SNR=6.2						
BUSP	**Coron**	**1.38**	**181**	*e*P	**Pn**	**12 18 38.6**	**+1.4**
BUSP				*e*S	**Sn**	**12 18 54.9**	**-0.2**
WRA	**Warramunga Arr**	**35.91**	**157**	P	**P**	**12 25 11.0**	**-1.2**
	2.2nm,0.6s,mb4.2,baz=336,slow=9.6,SNR=13						
SONM	**Songino Array**	**36.23**	**344**	P	**P**	**12 25 15.6**	**+0.7**
	0.3nm,0.5s,mb3.5,baz=161,slow=8.3,SNR=3.0						
ASAR	**Alice Springs**	**39.18**	**160**	P	**P**	**12 25 39.4**	**-0.5**
	1.0nm,0.6s,mb3.8,baz=340,slow=7.0,SNR=10						

*MAN **01** 12:19:37.8, 1491N×119.46E, h136km, mb2.7, ML4.2, MS5.8*
*IDC **01** 12:19:57.0±1.4, 1335N×120.11E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=29.5km s-min=12.8km az=121.0*
*ISCJB **01** 12:19:59.0±1.4, 1342N±006×12005E±008, h24km±11km, mb3.8/3, Error ellipse: s-maj=14.4km s-min=9.7km az=47.3*

ISC 01 12:19:58.8±1.3, 1337N±006×12012E±008, h7km±9km, n11, σ0§65/14, mb3.8/3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.38**	**18**	*e*P	**Pg**	**12 20 06.5**	**+0.2**
PGP	**Puerto Galera**	**0.82**	**81**	*e*P	**Pg**	**12 20 13.7**	**-0.9**
TGY	**Tagaytay City**	**1.08**	**47**	Pg	**Pg**	**12 20 19.3**	**-0.2**
	190nm,0.3s,baz=211,slow=4.8,SNR=5.4						
TGY				Lg		12 20 32.2	
	601nm,0.3s,baz=154,slow=22,SNR=6.9						
TGY	**Tagaytay City**	**1.08**	**47**	⇑*e*P	**Pb**	**12 20 20.1**	**+0.4**
TGY				*e*S	**Sb**	**12 20 34.8**	**+0.8**
BUSP	**Coron**	**1.36**	**177**	*e*P	**Pn**	**12 20 25.1**	**+0.9**
BUSP				*e*S	**Sn**	**12 20 42.6**	**+0.2**
BOAC	**Boac**	**1.68**	**87**	*e*P	**Pn**	**12 20 21.8**	**-6.7**
BOAC				*e*S	**Sn**	**12 20 49.9**	**-0.4**
OTRP	**Odiongan**	**2.10**	**118**	*e*P	**Pn**	**12 20 34.8**	**+0.3**
CUYO	**Cuyo Island**	**2.65**	**161**	*e*P	**Pn**	**12 20 42.5**	**+0.5**
WRA	**Warramunga Arr**	**35.94**	**157**	P	**P**	**12 26 58.8**	**-1.1**
	3.0nm,0.8s,mb4.3,baz=335,slow=9.7,SNR=17						
SONM	**Songino Array**	**36.22**	**344**	P	**P**	**12 27 01.6**	**-0.6**
	0.2nm,0.5s,mb3.3,baz=165,slow=6.0,SNR=3.7						
ASAR	**Alice Springs**	**39.20**	**160**	P	**P**	**12 27 27.2**	**-0.3**
	1.4nm,0.7s,mb3.8,baz=338,slow=7.1,SNR=12						

MAN 01 12:22:50.6, 1374N×11985E, h57km, mb2.3, ML3.9, MS6.3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.38**	**91**	*e*P	Pn	12 23 02.7	+1.6
LUBP				*e*S	Sn	12 23 07.5	-1.2
PGP	**Puerto Galera**	**1.10**	**102**	*e*P	Pn	12 23 10.4	+0.6
BUSP	**Coron**	**1.76**	**169**	*e*P	Pn	12 23 20.8	+2.1
BUSP				*e*S	Sn	12 23 37.4	-2.5
BOAC	**Boac**	**1.96**	**98**	*e*P	Pn	12 23 23.2	+1.9
BOAC				*e*S	Sn	12 23 46.3	+1.5
OTRP	**Odiongan**	**2.52**	**123**	*e*P	Pn	12 23 29.3	+0.3
OTRP				*e*S	Sn	12 24 03.6	+5.1
AUQP	**San Andres**	**2.78**	**98**	*e*P	Pn	12 23 40.7	+8.1
AUQP				*e*S	Sn	12 24 12.2	+7.3
CUYO	**Cuyo Island**	**3.09**	**158**	*e*P	Pn	12 23 38.2	+1.4
CUYO				*e*S	Sn	12 24 08.9	-3.6

*IDC **01** 12:27:29.8±1.1, 2240N×12504E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/18, mbtmp3.9/5, Error ellipse: s-maj=141.4km s-min=18.6km az=67.0*
*ISCJB **01** 12:27:42.6±1.5, 2289N±01×1259E±03, h135km±20km, mb3.7/5, Error ellipse: s-maj=45.5km s-min=12.9km az=142.9*

ISC 01 12:27:43.6±1.4, 2289N±01×1260E±03, h124km±19km, n11, σ0§58/13, mb3.8/5, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**5.17**	**350**	*e*P	**Pn**	**12 28 58.2**	**-0.7**
BUKP				*e*S	**Sn**	**12 29 58.2**	**+0.9**
PAGZ	**Pagadian**	**5.67**	**333**	*e*P	**Pn**	**12 29 04.8**	**-0.7**
PAGZ				*e*S	**Sn**	**12 30 09.6**	**+0.1**
IPIL	**Ipil**	**6.03**	**326**	*e*P	**Pn**	**12 29 10.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.73**	**181**	*e*P	**P**	**12 32 14.2**	**0.0**
	4.8nm,0.4s						
WRA	**Warramunga Arr**	**24.01**	**160**	P	**P**	**12 32 47.0**	**+0.2**
	3.9nm,0.3s,mb4.2,baz=334,slow=11,SNR=134						
WB2	**Warramunga Arr**	**24.02**	**160**	⇓*i*P	**P**	**12 32 47.1**	**+0.2**
ASPA	**Alice Springs**	**27.38**	**164**	*e*P	**P**	**12 33 17.8**	**+0.6**
ASAR	**Alice Springs**	**27.38**	**164**	P	**P**	**12 33 17.8**	**+0.5**
	0.3nm,0.3s,mb3.3,baz=339,slow=7.6,SNR=16						
STKA	**Stephens Creek**	**37.51**	**158**	P	**P**	**12 34 44.2**	**-1.1**
	1.2nm,0.4s,mb4.1,baz=347,slow=9.3,SNR=6.3						
SONM	**Songino Array**	**47.98**	**342**	P	**P**	**12 36 09.1**	**-0.7**
	0.2nm,0.5s,mb3.2,baz=159,slow=9.4,SNR=4.0						
MKAR	**Makanchi Array**	**57.91**	**326**	P	**P**	**12 37 23.1**	**+0.4**
	0.7nm,0.4s,mb4.0,baz=121,slow=7.7,SNR=14						

*ISCJB **01** 12:31:28.4±0.6, 5148N±003×1607E±003, h0km, Error ellipse: s-maj=5.0km s-min=2.8km az=24.8*
*IPEC **01** 12:31:28.8±0.3, 5160N×1619E, h0km, ML2.3/3, Error ellipse: s-maj=3.2km s-min=1.6km az=69.0*
*WAR **01** 12:31:30.7, 5154N×1606E, ML2.7, Mining Induced*
*CSEM **01** 12:31:31.7±0.2, 5149N×1611E, h1km, ML3.2/4, Error ellipse: s-maj=3.8km s-min=2.5km az=1.0*
*PRU **01** 12:31:31.5, 5147N×1603E, h0km*
*IDC **01** 12:31:32.0±1.0, 5144N×1597E, h0km, mb1 3.2/4, mb1mx3.0/19, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=17.0km s-min=8.1km az=120.0*
*VIE **01** 12:31:33.3±0.5, 5128N×1619E, h0km, mb2.2/3, ML2.8/3, Error ellipse: s-maj=3.4km s-min=2.9km az=96.0 60 km WNW of Breslau Suspected Mining induced.*

ISC 01 12:31:28.9±0.5, 5155N±003×1610E±003, h0km, n29, σ0§92/54, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**170**	*e*Pg	**Pg**	**12 31 43.6**	**+0.9**
KSP				*i* Sg	**Sg**	**12 31 53.0**	**+0.9**
KSP	**Ksiaz**	**0.72**	**170**	*e*Pg	**Pg**	**12 31 43.4**	**+0.7**
KSP				*e*Sg	**Sg**	**12 31 52.7**	**+0.6**
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pg**	**12 31 49.6**	**+0.6**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pg**	**12 31 52.4**	**+0.2**
DPC				*e*SG	**Sg**	**12 32 08.0**	**+0.1**
	52nm,0.5s						
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*Pg	**Pg**	**12 31 52.3**	**+0.1**
DPC				*e*Sg	**Sg**	**12 32 08.2**	**+0.3**
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pg**	**12 31 56.5**	**+0.6**
PVCC	**Panska Ves**	**1.41**	**224**	*e*Pg	**Pg**	**12 31 56.2**	**+0.3**
BRG	**Berggiesshubel**	**1.52**	**244**	PN	**Pn**	**12 31 57.4**	**+0.1**
BRG				PG	**Pg**	**12 31 58.4**	**+0.4**
BRG				SG	**Sg**	**12 32 17.9**	**+0.3**
	24nm,0.5s						
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pg**	**12 32 03.2**	**-1.2**
PRU				*e*SG	**Sg**	**12 32 27.6**	**-0.8**
	27nm,0.3s						
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**12 32 03.0**	**-0.3**
CLL				*i* Pg	**Pg**	**12 32 05.8**	**-0.5**
CLL				*i* x	x	12 32 10.0	
CLL				*i* Sg	**Sg**	**12 32 32.0**	**+0.4**
	comp=Z,40nm,0.5s						
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**12 32 04.3**	**+0.3**
MORC				*e*Sg	**Sg**	**12 32 32.3**	**-1.0**
	comp=Z,19nm,0.3s						
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PG	**Pg**	**12 32 09.6**	**-0.6**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*Pg	**Pg**	**12 32 08.6**	**-1.6**
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**12 32 07.4**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=351,slow=14,SNR=3.1						
VRAC				Lg		12 32 38.9	
	comp=Z,6.1nm,0.3s,baz=274,slow=19,SNR=8.6						
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**12 32 08.1**	**+0.5**
VRAC				*e*Sg	**Sg**	**12 32 41.3**	**-0.5**
	comp=Z,17nm,0.3s						
KRUC	**Moravsky**	**2.50**	**175**	*e*Pn	**Pn**	**12 32 11.5**	**+0.7**
KRUC				*e*Sg	**Sg**	**12 32 48.5**	**-0.8**
	comp=Z,9.0nm,0.2s						
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**12 32 13.4**	**+0.4**
NKC				*e*SG	**Sg**	**12 32 55.7**	**+1.3**
	comp=Z,45nm,0.6s						
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**12 32 21.7**	**+1.1**
OJC				*e*Sg	**Sg**	**12 32 56.9**	**+1.3**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**12 32 16.6**	**+0.1**
KHC				*e*PG	**Pg**	**12 32 22.6**	**-2.1**
KHC				*e*SN	**Sn**	**12 32 50.5**	**-1.7**
KHC				*e*SG	**Sg**	**12 33 02.1**	**-0.4**
	comp=Z,13nm,0.4s						
KHC	**Kasperske Hory**	**2.91**	**215**	*e*Pg	**Pg**	**12 32 22.6**	**-2.1**
KHC				*e*Sn	**Sn**	**12 32 50.5**	**-1.7**
KHC				*e*Sg	**Sg**	**12 33 02.1**	**-0.4**
MOX	**Moxa**	**2.97**	**254**	*e*PG	**Pg**	**12 32 26.0**	**+0.2**
MOX				*e*SG	**Sg**	**12 33 05.3**	**+1.1**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**12 32 19.9**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=26,slow=13,SNR=9.0						
GERES				Pg	**Pg**	**12 32 27.5**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=26,slow=13,SNR=18						
GERES				Lg		12 33 06.8	
	comp=Z,3.0nm,0.3s,baz=26,slow=28,SNR=7.8						
VYHS	**Vyhne**	**3.54**	**149**	*e*SG	**Sg**	**12 33 21.9**	**-0.6**
MOA	**Molln**	**3.89**	**198**	⇑*i*Pn	**Pn**	**12 32 30.9**	**+0.9**
MOA				⇑*i*Sg	**Sg**	**12 33 34.3**	**+0.3**
	comp=Z,14nm,0.7s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN	**Pn**	**12 32 35.4**	**+5.0**
STHS				*e*PG	**Pg**	**12 32 45.2**	**+1.1**
STHS				*e*SG	**Sg**	**12 33 38.8**	**+3.9**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pg	**Pg**	**12 32 45.2**	**+1.1**
KECS	**Kecovo**	**4.18**	**136**	*e*SG	**Sg**	**12 33 42.4**	**-0.7**
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**12 33 31.8**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=278,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**12 34 10.4**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=213,slow=15,SNR=2.7						
FINES				Sn	**Sn**	**12 36 17.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=243,slow=17,SNR=6.6						

*NEIC **01** 12:38:24.9, 1886N×6870W, h58km, MD3.5(RSPR), After RSPR.*

RSPR 01 12:38:24.9, 1886N×6870W, h58km±23km, MD3.5/3, MD3.5/3, 5C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.73**	**119**	⇑*e*P	Pn	12 38 51.3	-1.4
CRPR				*e*S	Sn	12 39 13.6	0.0
AOPR	**Arecibo Observ**	**1.92**	**105**	*e*S	Sn	12 39 17.5	-0.7
AOPR	**Arecibo Observ**	**1.92**	**105**	⇑*e*P	Pn	12 38 53.9	-1.3
AOPR				*e*S	Sn	12 39 17.5	-0.7
CELP	**Cerrillos**	**2.16**	**111**	*e*S	Sn	12 39 22.9	-1.1
CBYP	**Canovanas**	**2.76**	**102**	*e*S	Sn	12 39 38.8	0.0
CBYP	**Canovanas**	**2.76**	**102**	⇑*e*P	Pn	12 39 06.6	-0.1
CBYP				*e*S	Sn	12 39 38.8	0.0
CPD	**Cerro la Pandu**	**2.77**	**107**	*e*S	Sn	12 39 38.6	-0.3
CPD	**Cerro la Pandu**	**2.77**	**107**	⇑*e*P	Pn	12 39 06.6	-0.1
CPD				*e*S	Sn	12 39 38.6	-0.3
MTP	**Monte Pirata**	**3.08**	**104**	*e*S	Sn	12 39 45.8	-0.9
MTP	**Monte Pirata**	**3.08**	**104**	⇑*e*P	Pn	12 39 11.1	0.0
MTP				*e*S	Sn	12 39 45.8	-0.9

MAN 01 12:38:29, 1344N×12014E, h4km, mb3.1, ML4.4, MS2.5, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.31**	**19**	*e*P	Pg	12 38 35.6	+0.5
LUBP				*e*S	Sg	12 38 39.8	+0.7
LUBP	**Lubang**	**0.31**	**19**	*e*P	Pg	12 38 35.4	+0.3
LUBP				*e*S	Sg	12 38 39.7	+0.5
PGP	**Puerto Galera**	**0.79**	**85**	*e*P	Pg	12 38 44.5	+0.3
BUSP	**Coron**	**1.42**	**178**	*e*P	Pn	12 38 54.9	-0.7
BUSP				*e*S	Sb	12 39 11.3	-3.3
BOAC	**Boac**	**1.66**	**89**	*e*P	Pn	12 38 57.5	-1.4
OTRP	**Odiongan**	**2.12**	**120**	*e*P	Pn	12 39 08.9	+3.7
OTRP				*e*S	Sn	12 39 34.9	+2.9
POLP	**Polilio Island**	**2.17**	**53**	*e*P	Pn	12 39 06.7	+0.9

*IDC **01** 12:43:14.0±0.8, 1334N×12002E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.1/21, mbtmp4.3/9, MS3.8/1, Ms1 3.7/1, ms1mx3.1/27, Error ellipse: s-maj=17.9km s-min=12.8km az=133.0*
*ISCJB **01** 12:43:15.0±0.8, 1336N±002×12001E±003, h13km±5km, mb4.4/12, MS3.8/1, Error ellipse: s-maj=4.9km s-min=3.6km az=21.1*
*MAN **01** 12:43:16.6, 1337N×120.18E, h6km, mb4.2, ML5.1, MS1.8*
*MOS **01** 12:43:17.1±0.6, 1332N×12007E, h33km, mb4.7/4, Error ellipse: s-maj=25.4km s-min=13.5km az=108.9*
*NEIC **01** 12:43:19.2±0.4, 1339N×12022E, h35km, mb4.3/4, Error ellipse: s-maj=17.0km s-min=8.0km az=69.0*

ISC 01 12:43:15.2±0.8, 1337N±002×12004E±003, h4km±5km, n50, σ1§09/67, mb4.4/12, MS3.8/1, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.41**	**29**	*e*P	**Pg**	**12 43 23.5**	**+0.3**
LUBP				*e*S	**Sg**	**12 43 28.2**	**-0.4**
PGP	**Puerto Galera**	**0.90**	**82**	*e*P	**Pg**	**12 43 31.9**	**-0.6**
PGP				*e*S	**Sg**	**12 43 42.5**	**-1.7**
TGY	**Tagaytay City**	**1.14**	**50**	Pg	**Pg**	**12 43 37.0**	**-0.1**
	2μm,0.3s,baz=245,slow=2.1,SNR=45						
TGY				Lg		12 43 52.2	
	3μm,0.3s,baz=341,slow=23,SNR=30						
TGY	**Tagaytay City**	**1.14**	**50**	⇑*e*P	**Pg**	**12 43 37.1**	**0.0**
TGY				*i* S	**Sg**	**12 43 52.0**	**+0.3**
BUSP	**Coron**	**1.37**	**173**	*e*P	**Pn**	**12 43 42.2**	**+1.2**
BUSP				*e*S	**Sb**	**12 43 59.8**	**+0.6**
LQP	**Lukban**	**1.64**	**63**	*e*P	**Pn**	**12 43 45.4**	**+0.7**
BOAC	**Boac**	**1.76**	**87**	*e*P	**Pn**	**12 43 44.8**	**-1.7**
BOAC				*e*S	**Sn**	**12 44 08.4**	**-0.9**
OTRP	**Odiongan**	**2.18**	**117**	*e*P	**Pn**	**12 43 51.8**	**-0.4**
OTRP				*e*S	**Sn**	**12 44 21.2**	**+1.6**
ENPP	**El Nido**	**2.23**	**196**	*e*P	**Pb**	**12 43 55.5**	**-0.6**
ENPP				*e*S	**Sn**	**12 44 21.8**	**+0.9**
POLP	**Polilio Island**	**2.29**	**54**	*e*P	**Pn**	**12 43 53.1**	**-0.6**
SCZP	**Santa Cruz**	**2.40**	**357**	*e*P	**Pb**	**12 43 57.5**	**-1.3**
SCZP				*e*S	**Sg**	**12 44 31.2**	**-0.9**
GQP	**Guinayangan**	**2.40**	**77**	⇓*i*P	**Pn**	**12 43 56.0**	**+0.8**
GQP				*i* S	**Sn**	**12 44 24.9**	**-0.1**
PCPH	**Palayan**	**2.41**	**25**	⇓*e*P	**Pn**	**12 43 55.8**	**+0.4**
PCPH				*e*S	**Sn**	**12 44 24.3**	**-0.9**
AUQP	**San Andres**	**2.57**	**91**	*e*P	**Pn**	**12 43 58.7**	**+1.2**
AUQP				*e*S	**Sn**	**12 44 30.2**	**+1.0**
CUYO	**Cuyo Island**	**2.68**	**159**	*e*P	**Pn**	**12 43 59.5**	**+0.4**
CUYO				*e*S	**Sn**	**12 44 29.7**	**-2.3**
BOLP	**Bolinao**	**3.00**	**358**	*e*S	**Sb**	**12 44 48.2**	**+2.2**
BCPH	**Baguio City Da**	**3.04**	**10**	*e*P	**Pn**	**12 44 05.7**	**+1.7**
BCPH				*i* S	**Sb**	**12 44 47.1**	**-0.1**
RCP	**Roxas**	**3.20**	**124**	⇑*e*P	**Pn**	**12 44 07.0**	**+0.8**
GUIM	**Jordan**	**3.70**	**137**

*IPEC **01** 13:03:50.8±0.5,5157N×1620E,h0km±2km,ML2.9/3,Error ellipse: s-maj=4.3km s-min=1.9km az=54.0*
*MOS **01** 13:03:50.0±0.9,5164N×1615E,h10km,mb3.8/1,Error ellipse: s-maj=11.7km s-min=5.8km az=88.6*
*WAR **01** 13:03:52.2,5152N×1611E,ML3.0,Mining Induced*
*PRU **01** 13:03:52.9,5146N×1608E,h0km*
*IDC **01** 13:03:52.3±0.7,5150N×1604E,h0km,mb3.2/1,mb1 3.5/7, mb1mx3.3/20,mbtmp3.4/7,ML3.1/6,Error ellipse: s-maj=11.5km s-min=6.6km az=104.0*
*BGR **01** 13:03:54.2±1.5,5151N×1598E,h1km,ML3.0/2,Error ellipse: s-maj=21.1km s-min=14.5km az=174.0*
*CSEM **01** 13:03:54.6±0.1,5143N×1600E,h1km,ML3.8/6*
*NEIC **01** 13:03:54.2,5151N×1598E,h1km,ML3.0(SZGRF),After SZGRF.*
*VIE **01** 13:03:55.9±0.5,5121N×1622E,h0km,mb2.7/3,ML3.2/4, Error ellipse: s-maj=3.2km s-min=3.1km az=118.0 56 km WNW of Breslau Suspected Mining induced.*

ISC 01 13:03:51.1±0.3,5151N±002×1609E±002,h0km,n67, σ0§91/115,mb3.3/1,3C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pg**	**13 04 04.8**	**+0.6**
KSP				e		13 04 06.4	
KSP				*e*Sg	**Sg**	**13 04 13.9**	**+0.9**
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pg**	**13 04 04.8**	**+0.6**
KSP				*e*Sg	**Sg**	**13 04 13.7**	**+0.7**
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pg**	**13 04 04.8**	**+0.6**
KSP				*e*		13 04 06.4	
KSP				*e*Sg	**Sg**	**13 04 13.9**	**+0.9**
UPC	**Upice**	**1.00**	**183**	*e*PG	**Pg**	**13 04 11.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	**Pg**	**13 04 13.7**	**+0.1**
DPC				*e*SG	**Sg**	**13 04 29.0**	**+0.3**
145nm,0.4s							
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg	**Pg**	**13 04 13.6**	**0.0**
DPC				*e*Sg	**Sg**	**13 04 29.1**	**+0.4**
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*P	**Pg**	**13 04 13.7**	**+0.1**
DPC				*e*		13 04 29.0	
DPC				smax			
comp=N,145nm,0.4s							
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pg**	**13 04 18.2**	**+0.7**
PVCC	**Panska Ves**	**1.37**	**225**	*e*Pg	**Pg**	**13 04 17.5**	**0.0**
PVCC	**Panska Ves**	**1.37**	**225**	*e*P	**Pg**	**13 04 18.2**	**+0.7**
BRG	**Berggiesshubel**	**1.49**	**246**	*e*Pg	**Pg**	**13 04 18.9**	**-0.9**
BRG				*e*Sg	**Sg**	**13 04 40.0**	**+0.8**
BRG	**Berggiesshubel**	**1.49**	**246**	*e*Pg	**Pg**	**13 04 18.9**	**-0.9**
BRG				*e*Sg	**Sg**	**13 04 40.0**	**+0.8**
BRG	**Berggiesshubel**	**1.49**	**246**	P	**Pn**	**13 04 18.6**	**-0.6**
BRG						13 04 40.2	
BRG				smax			
comp=N,147nm,0.5s							
BRG	**Berggiesshubel**	**1.49**	**246**	PN	**Pn**	**13 04 18.6**	**-0.6**
BRG				PG	**Pg**	**13 04 19.9**	**+0.1**
BRG				SG	**Sg**	**13 04 40.2**	**+1.1**
comp=N,147nm,0.5s							
PRU	**Pruhonice**	**1.81**	**213**	*e*PN	**Pn**	**13 04 23.9**	**+0.3**
PRU				*e*PG	**Pg**	**13 04 25.2**	**-0.7**
PRU				*e*SG	**Sg**	**13 04 49.3**	**-0.1**
comp=N,167nm,0.3s							
PRU	**Pruhonice**	**1.81**	**213**	*e*Pg	**Pg**	**13 04 25.2**	**-0.7**
PRU	**Pruhonice**	**1.81**	**213**	*e*P	**Pn**	**13 04 23.9**	**+0.3**
PRU				*e*		13 04 49.3	
PRU				smax			
comp=N,167nm,0.3s							
FBE	**Freiberg**	**1.82**	**252**	*e*Pg	**Pg**	**13 04 25.2**	**-0.8**
GKP	**Gorka Klasztor**	**1.90**	**21**	*e*Pg	**Pg**	**13 04 32.4**	**+4.9**
GKP				*e*Sg	**Sg**	**13 04 53.8**	**+1.7**
CLL	**Collm**	**1.94**	**265**	*e*Sg	**Sg**	**13 04 53.5**	**-0.2**
CLL	**Collm**	**1.94**	**265**	*i* Pn	**Pn**	**13 04 24.6**	**-0.8**
CLL				*i* x	x	13 04 26.0	
CLL				*i* Pg	**Pg**	**13 04 28.0**	**-0.4**
CLL				*i* x	x	13 04 30.7	
CLL				*i* Sg	**Sg**	**13 04 54.5**	**+0.9**
comp=Z,73nm,0.7s							
CLL	**Collm**	**1.94**	**265**	*i* P	**Pn**	**13 04 24.6**	**-0.8**
CLL				Sg	**Sg**	**13 04 53.5**	**-0.1**
CLL				*i* S	**Sg**	**13 04 54.5**	**+0.9**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**13 04 25.4**	**-0.3**
MORC				*e*Sg	**Sg**	**13 04 53.2**	**-1.1**
comp=Z,77nm,0.3s							
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pg**	**13 04 30.0**	**-1.9**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*P	**Pn**	**13 04 29.0**	**+1.1**
VRAC	**Vranov**	**2.23**	**172**	Pn	**Pn**	**13 04 30.1**	**+0.8**
comp=Z,4.3nm,0.3s,baz=348,slow=14,SNR=13							
VRAC				Lg		13 05 00.3	
comp=Z,20nm,0.3s,baz=262,slow=22,SNR=10							
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	**Pn**	**13 04 29.7**	**+0.4**
VRAC	**Vranov**	**2.23**	**172**	P	**Pn**	**13 04 30.1**	**+0.8**
comp=Z,4.0nm,0.3s							
VRAC				*e*Sg	**Sg**	**13 05 02.2**	**-0.5**
comp=Z,80nm,0.5s							
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn	**Pn**	**13 04 33.1**	**+0.6**
KRUC				*e*Sg	**Sg**	**13 05 09.3**	**-0.8**
comp=Z,41nm,0.3s							
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN	**Pn**	**13 04 35.5**	**+0.6**
NKC				*e*SG	**Sg**	**13 05 17.6**	**+1.7**
comp=Z,149nm,0.3s							
NKC	**Novy Kostel**	**2.64**	**242**	*e*P	**Pn**	**13 04 35.5**	**+0.6**
NKC				*e*		13 05 17.6	
NKC				smax			
comp=N,149nm,0.3s							
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**13 04 41.9**	**-0.6**
OJC				*e*Sg	**Sg**	**13 05 17.1**	**-0.2**
NEUB	**Neuenburg**	**2.72**	**265**	*e*Sg	**Sg**	**13 05 18.6**	**0.0**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**13 04 38.2**	**0.0**
KHC				*e*PG	**Pg**	**13 04 45.5**	**-0.7**
KHC				*e*SN	**Sn**	**13 05 13.0**	**-0.5**
KHC				*e*SG	**Sg**	**13 05 22.5**	**-1.0**
comp=N,32nm,0.4s							
KHC	**Kasperske Hory**	**2.87**	**215**	*e*Pg	**Pg**	**13 04 45.5**	**-0.7**
KHC				*e*S	**Sn**	**13 05 13.0**	**-0.5**
comp=N,32nm,0.4s							
KHC				*e*Sg	**Sg**	**13 05 22.5**	**-1.0**
comp=N,32nm,0.4s							
MOX	**Moxa**	**2.95**	**255**	*e*Pg	**Pg**	**13 04 47.4**	**-0.3**
MOX	**Moxa**	**2.95**	**255**	*e*PN	**Pn**	**13 04 40.2**	**+0.9**
MOX				*e*PG	**Pg**	**13 04 47.6**	**-0.1**
MOX				*e*SG	**Sg**	**13 05 27.3**	**+1.3**
MOX	**Moxa**	**2.95**	**255**	Pg	**Pg**	**13 04 47.4**	**-0.3**
MOX	**Moxa**	**2.95**	**255**	*e*Pn	**Pn**	**13 04 40.2**	**+0.9**
MOX				*e*Pg	**Pg**	**13 04 47.4**	**-0.3**
MOX				*e*Pg	**Pg**	**13 04 47.6**	**-0.1**
MOX				*e*Sg	**Sg**	**13 05 27.3**	**+1.3**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**13 04 42.1**	**+1.1**
comp=N,1.0nm,0.3s,baz=31,slow=12,SNR=21							
GERES				Pg	**Pg**	**13 04 48.2**	**-2.0**
comp=N,2.5nm,0.3s,baz=31,slow=26,SNR=23							
GERES				Lg		13 05 26.6	
comp=N,14nm,0.3s,baz=32,slow=30,SNR=16							
GERES	**GERESS Array B**	**3.08**	**211**	Pg	**Pg**	**13 04 48.2**	**-1.9**
ZST	**Bratislava**	**3.38**	**168**	*e*SG	**Sg**	**13 05 40.1**	**+0.3**
NIE	**Niedzica**	**3.41**	**126**	*e*P	**Pg**	**13 04 56.0**	**-0.6**
NIE				*e*S	**Sg**	**13 05 40.8**	**0.0**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN	**Pn**	**13 04 46.2**	**-0.6**
VYHS				*e*PG	**Pg**	**13 04 59.2**	**+1.0**
VYHS	**Vyhne**	**3.50**	**149**	*e*Pg	**Pg**	**13 04 59.2**	**+1.0**
GRA1	**Grafenberg Arr**	**3.60**	**242**	Sg	**Sg**	**13 05 46.6**	**-0.1**
GRF	**Grafenberg Arr**	**3.60**	**242**	*e*Sg	**Sg**	**13 05 46.6**	**-0.1**
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**13 04 47.4**	**-1.9**
BSD				*i* S	**Sn**	**13 05 27.3**	**-6.0**
MOA	**Molln**	**3.85**	**199**	⇓Sg	**Sg**	**13 05 54.8**	**-0.1**
comp=N,38nm,0.5s							
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**13 04 52.3**	**+0.6**
MOA				⇓*i*Sg	**Sg**	**13 05 54.8**	**-0.1**
comp=N,38nm,0.5s							
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*PN	**Pn**	**13 04 54.0**	**+1.7**
STHS				*e*PG	**Pg**	**13 05 07.0**	**+1.1**
STHS				*e*SG	**Sg**	**13 05 56.7**	**+0.2**
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*Pg	**Pg**	**13 05 07.0**	**+1.1**
KECS	**Kecovo**	**4.15**	**135**	*e*PN	**Pn**	**13 04 55.7**	**0.0**
KECS				*e*PG	**Pg**	**13 05 10.9**	**+0.2**
KECS				*e*SG	**Sg**	**13 06 04.4**	**0.0**
ARSA	**Arzberg**	**4.28**	**185**	⇑Sg	**Sg**	**13 06 07.2**	**-1.4**
comp=N,35nm,0.6s							
ARSA	**Arzberg**	**4.28**	**185**	⇓*i*Pn	**Pn**	**13 04 58.3**	**+0.8**
ARSA				⇑*i*Sg	**Sg**	**13 06 07.2**	**-1.4**
comp=N,35nm,0.6s							
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*PN	**Pn**	**13 05 01.0**	**+2.9**
CRVS				*e*PG	**Pg**	**13 05 14.3**	**+0.3**
CRVS				*e*SG	**Sg**	**13 06 10.8**	**+0.7**
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*Pg	**Pg**	**13 05 14.3**	**+0.3**
CRVS				*e*Sg	**Sg**	**13 06 10.8**	**+0.7**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN	**Pn**	**13 05 03.5**	**-0.2**
KOLS				*e*PG	**Pg**	**13 05 21.7**	**-0.1**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*Pg	**Pg**	**13 05 21.7**	**-0.1**
DAVOX	**Davos**	**6.24**	**223**	Lg		13 07 10.5	
comp=N,1.0nm,0.3s,baz=174,slow=23,SNR=4.9							
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**Pn**	**13 05 52.0**	**-0.8**
comp=N,1.0nm,0.3s,baz=277,slow=12,SNR=5.0							
AKASG				Sn	**Sn**	**13 07 20.3**	**-7.1**
comp=N,1.4nm,0.3s,baz=272,slow=25,SNR=4.3							
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**Pn**	**13 05 52.0**	**-0.8**
AKASG				Sn	**Sn**	**13 07 20.3**	**-7.1**
AKASG	**Malin Array Be**	**8.31**	**90**	P	**Pn**	**13 05 52.1**	**-0.7**
AKASG						13 07 20.3	
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
HFS	**Hagfors**	**8.75**	**352**	Pn	**Pn**	**13 05 58.9**	**0.0**
comp=Z,0.1nm,0.3s,baz=182,slow=11,SNR=2.9							
HFS				Sn	**Sn**	**13 07 31.2**	**-7.0**
comp=Z,0.1nm,0.3s,baz=176,slow=26,SNR=2.4							
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**13 06 31.7**	**-3.1**
comp=Z,0.2nm,0.3s,baz=208,slow=9.7,SNR=5.3							
FINES				Sn	**Sn**	**13 08 31.3**	**-11**
comp=Z,0.3nm,0.3s,baz=212,slow=23,SNR=3.4							
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**Pn**	**13 08 06.6**	**-3.8**
comp=Z,0.2nm,0.3s,baz=198,slow=11,SNR=5.4							
YKA	**Yellowknife Ar**	**59.85**	**336**	P	**P**	**13 13 57.7**	**-0.8**
comp=Z,0.2nm,0.7s,mb3.3,baz=32,slow=6.9,SNR=6.0							

*ISCJB **01** 13:14:36.4±1.3,1352N±007×1199E±01,h33km,mb3.5/3, Error ellipse: s-maj=15.6km s-min=8.5km az=43.3*
*IDC **01** 13:14:39.1±1.3,1342N×1265E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.4/19,mbtmp3.5/3,Error ellipse: s-maj=38.2km s-min=11.5km az=50.0*

ISC 01 13:14:39.2±1.4,1347N±007×1201E±02,h35km,n7, σ0§90/10,mb3.5/3,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.00**	**51**	Pg	**Pn**	**13 14 57.0**	**+0.3**
28nm,0.3s,baz=317,slow=23,SNR=2.2							
TGY				Lg		13 15 11.5	
46nm,0.3s,baz=148,slow=23,SNR=6.4							
BUSP	**Coron**	**1.46**	**178**	*e*P	**Pn**	**13 15 03.5**	**+0.6**
BUSP				*e*S	**Sn**	**13 15 20.8**	**-0.1**
BOAC	**Boac**	**1.66**	**90**	*e*P	**Pn**	**13 15 04.9**	**-0.9**
BOAC				*e*S	**Sn**	**13 15 29.5**	**+3.7**
CUYO	**Cuyo Island**	**2.74**	**162**	*e*P	**Pn**	**13 15 21.1**	**+0.5**
CUYO				*e*S	**Sn**	**13 15 51.3**	**-1.2**
MJAR	**Matsushiro Arr**	**28.11**	**32**	P	**P**	**13 20 26.5**	**-1.2**
0.7nm,0.3s,mb3.7,baz=223,slow=7.3,SNR=4.8							
WRA	**Warramunga Arr**	**36.02**	**157**	P	**P**	**13 21 37.2**	**+0.3**
0.4nm,0.4s,mb3.7,baz=339,slow=9.4,SNR=7.5							
ASAR	**Alice Springs**	**39.28**	**160**	P	**P**	**13 22 05.3**	**+0.8**
0.3nm,0.6s,mb3.2,baz=342,slow=7.1,SNR=5.5							

MAN 01 13:48:18.3,1363N×12012E,h34km,mb2.7,ML4.2,MS3.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.16**	**50**	*e*P	Pb	13 48 26.0	+1.4
LUBP				*e*S	Sb	13 48 30.7	+1.8
BUSP	**Coron**	**1.62**	**177**	*e*P	Pn	13 48 44.7	+0.3
BUSP				*e*S	Sn	13 49 02.2	-1.8
BOAC	**Boac**	**1.69**	**96**	*e*P	Pn	13 48 47.8	+2.4
BOAC				*e*S	Sn	13 49 05.2	-0.6
OTRP	**Odiongan**	**2.24**	**124**	*e*P	Pn	13 48 50.0	-3.0
OTRP				*e*S	Sn	13 49 27.6	+8.1
ENPP	**El Nido**	**2.50**	**196**	*e*P	Pn	13 48 57.4	+0.9
ENPP				*e*S	Sn	13 49 23.4	-2.5

MAN 01 13:57:39.2,1342N×12016E,h11km,mb2.5,ML4.0,MS1.7, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.33**	**15**	*e*P	Pg	13 57 46.4	+0.6
LUBP				*e*S	Sg	13 57 51.3	+1.2
PGP	**Puerto Galera**	**0.78**	**84**	*e*P	Pg	13 57 54.4	+0.2
BUSP	**Coron**	**1.41**	**178**	*e*P	Pn	13 58 04.8	0.0
BUSP				*e*S	Sn	13 58 21.8	-1.6
BOAC	**Boac**	**1.64**	**88**	*e*P	Pn	13 58 07.2	-0.8
BOAC				*e*S	Sn	13 58 29.2	+0.2
OTRP	**Odiongan**	**2.10**	**120**	*e*P	Pn	13 58 14.2	0.0
OTRP				*e*S	Sn	13 58 45.6	+5.3
POLP	**Polilio Island**	**2.16**	**53**	*e*P	Pn	13 58 15.5	+0.3
POLP				*e*S	Sn	13 58 43.5	+1.5
ENPP	**El Nido**	**2.31**	**198**	*e*P	Pn	13 58 17.8	+0.5
ENPP				*e*S	Sn	13 58 43.7	-2.0
AUQP	**San Andres**	**2.45**	**92**	*e*P	Pn	13 58 22.6	+3.5
CUYO	**Cuyo Island**	**2.69**	**162**	*e*P	Pn	13 58 22.3	-0.1
CUYO				*e*S	Sn	13 58 52.1	-2.7
BATP	**Bataraza**	**5.14**	**207**	*e*P	Sn	14 00 03.8	+8.3

*ISCJB **01** 14:01:59.9±1.1,1330N±003×12000E±003,h12km±7km, mb4.4/13,MS3.6/1,Error ellipse: s-maj=5.6km s-min=4.5km az=41.7*
*IDC **01** 14:01:59.2±0.8,1335N×12004E,h0km,mb4.3/10, MS3.6/1,Ms1 3.6/1,ms1mx3.1/30,Error ellipse: s-maj=16.3km s-min=12.4km az=128.0*
*MAN **01** 14:02:02.0,1335N×12022E,h2km,mb4.1,ML5.1,MS2.0*
*NEIC **01** 14:02:04.1±0.5,1339N×12026E,h35km,mb4.6/4,Error ellipse: s-maj=19.4km s-min=9.1km az=69.0*

ISC 01 14:02:01.4±0.9,1333N±002×12009E±003,h8km±5km,n37, σ1§32/53,mb4.4/13,MS3.6/1,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.86**	**78**	*e*P	**Pg**	**14 02 17.1**	**-0.8**
TGY	**Tagaytay City**	**1.13**	**47**	Pg	**Pg**	**14 02 21.7**	**-1.4**
768nm,0.3s,baz=185,slow=4.1,SNR=61							
TGY				Lg		14 02 36.8	
2μm,0.3s,baz=130,slow=23,SNR=31							
TGY	**Tagaytay City**	**1.13**	**47**	*e*P	**Pg**	**14 02 22.4**	**-0.7**
TGY				*i* S	**Sg**	**14 02 37.4**	**-0.4**
BUSP	**Coron**	**1.32**	**175**	*e*P	**Pn**	**14 02 27.7**	**+1.5**
BUSP				*e*S	**Sb**	**14 02 45.4**	**+1.8**
BOAC	**Boac**	**1.71**	**85**	*e*P	**Pn**	**14 02 30.1**	**-1.6**
BOAC				*e*S	**Sn**	**14 02 53.0**	**-0.8**
OTRP	**Odiongan**	**2.12**	**117**	*e*P	**Pn**	**14 02 37.0**	**-0.1**
OTRP				*e*S	**Sn**	**14 03 02.8**	**-0.8**
ENPP	**El Nido**	**2.20**	**197**	*e*P	**Pn**	**14 02 40.4**	**+2.0**
ENPP				*e*S	**Sn**	**14 03 06.9**	**+1.1**
POLP	**Polilio Island**	**2.27**	**52**	*e*P	**Pn**	**14 02 38.3**	**-1.0**
POLP				*e*S	**Sn**	**14 03 07.7**	**+0.1**
GQP	**Guinayangan**	**2.37**	**76**	⇑*i*P	**Pn**	**14 02 40.9**	**+0.4**
GQP				*i* S	**Sn**	**14 03 09.9**	**+0.1**
PCPH	**Palayan**	**2.43**	**24**	*e*P	**Pn**	**14 02 41.5**	**+0.1**
PCPH				*i* S	**Sn**	**14 03 10.5**	**-0.9**
SCZP	**Santa Cruz**	**2.44**	**356**	*e*P	**Pn**	**14 02 42.8**	**+1.1**
SCZP				*e*S	**Sn**	**14 03 14.6**	**+2.9**
AUQP	**San Andres**	**2.52**	**90**	*e*P	**Pn**	**14 02 44.7**	**+2.0**
AUQP				*e*S	**Sn**	**14 03 15.6**	**+2.0**
CUYO	**Cuyo Island**	**2.62**	**160**	*e*P	**Pn**	**14 02 44.9**	**+0.7**
CUYO				*e*S	**Sn**	**14 03 14.8**	**-1.4**
GUIM	**Jordan**	**3.63**	**137**	*e*P	**Pn**	**14 02 59.5**	**+1.5**
GUIM				*e*S	**Sn**	**14 03 42.0**	**+0.9**
PVCP	**Virac**	**3.97**	**86**	*e*P	**Pn**	**14 03 03.0**	**+0.4**
CAUP	**Cauayan**	**3.97**	**25**	*e*P	**Pn**	**14 03 04.2**	**+1.6**
ABRA	**Dolores**	**4.34**	**8**	*e*P	**Pn**	**14 03 11.9**	**+4.2**
ABRA				*e*S	**Sn**	**14 04 06.2**	**+7.7**
PALP	**Palanan**	**4.35**	**31**	*e*P	**Pn**	**14 03 10.7**	**+2.9**
APYP	**Conner**	**4.64**	**14**	*e*P	**Pn**	**14 03 14.5**	**+2.6**
APYP				*e*S	**Sn**	**14 04 14.5**	**+8.5**
BATP	**Bataraza**	**5.03**	**207**	*e*P	**Pn**	**14 03 36.9**	**-0.9**
BATP				*e*S	**Sn**	**14 04 15.0**	**-0.5**
IPIL	**Ipil**	**6.02**	**156**	*e*P	**Pn**	**14 03 23.8**	**-7.1**
IPIL				*e*S	**Sn**	**14 04 36.9**	**-3.1**
WRAB	**Tennant Creek**	**35.91**	**157**	*e*P	**P**	**14 09 01.2**	**-0.9**
25nm,0.9s,mb5.2							
WRA	**Warramunga Arr**	**35.91**	**157**	P	**P**	**14 09 01.5**	**-0.6**
15nm,0.7s,mb5.0,baz=336,slow=9.6,SNR=110							
WB2	**Warramunga Arr**	**35.92**	**157**	*e*P	**P**	**14 09 01.6**	**-0.6**
SONM	**Songino Array**	**36.25**	**344**	P	**P**	**14 09 04.5**	**-0.6**
3.0nm,0.7s,mb4.3,baz=161,slow=9.6,SNR=26							
SONM				LR	LR	14 24 04.3	
comp=Z,90nm,18.5s,MS3.6,baz=270,slow=37							
ASAR	**Alice Springs**	**39.17**	**160**	P	**P**	**14 09 29.9**	**+0.2**
8.7nm,0.7s,mb4.6,baz=340,slow=6.9,SNR=133							
CTA	**Charters Tower**	**42.02**	**142**	P	**P**	**14 09 53.0**	**-0.2**
4.9nm,0.9s,mb4.1,baz=323,slow=14,SNR=2.4							
MKAR	**Makanchi Array**	**45.98**	**324**	P	**P**	**14 10 25.6**	**+0.5**
1.2nm,0.8s,mb3.9,baz=131,slow=9.1,SNR=9.0							
MKAR				PcP	PcP	14 12 00.6	-1.2
0.8nm,0.8s,baz=131,slow=3.7,SNR=3.9							
STKA	**Stephens Creek**	**49.45**	**156**	P	**P**	**14 10 48.8**	**-3.2**
2.0nm,0.8s,mb4.2,baz=332,slow=15,SNR=4.0							
KURK	**Kurchatov**	**50.17**	**327**	*e*P	**P**	**14 10 57.4**	**-0.2**
7.7nm,1.1s,mb4.7							
BVAR	**Borovoye Array**	**55.75**	**326**	P	**P**	**14 11 38.4**	**-0.3**
0.7nm,0.6s,mb3.9,baz=123,slow=11,SNR=5.5							
ZRNK	**Zerenda**	**56.47**	**326**	*e*P	**P**	**14 11 43.1**	**-0.8**
5.5nm,1.1s,mb4.5							
ZRNK				*e*		14 11 49.8	
MCK	**McKinley**	**78.60**	**27**	P	**P**	**14 14 00.5**	**-3.2**
ARCES	**ARCESS Array B**	**79.22**	**339**	P	**P**	**14 14 04.8**	**-2.3**
2.4nm,0.8s,mb4.2,baz=72,slow=7.8,SNR=6.4							
FINES	**FINESS Array B**	**80.32**	**331**	P	**P**	**14 14 10.7**	**-2.4**
1.9nm,0.8s,mb4.1,baz=73,slow=7.0,SNR=5.8							
NB2	**NORSAR Subarra**	**87.32**	**333**	P	**P**	**14 14 46.2**	**-2.7**
comp=Z,2.4nm,0.7s,mb4.5,baz=71,slow=4.4							
NOA	**NORSAR Array B**	**87.32**	**333**	P	**P**	**14 14 45.9**	**-3.0**
comp=Z,2.3nm,0.8s,mb4.5,baz=69,slow=4.5,SNR=5.5							

*IDC **01** 14:09:12.1±4.3,4062N×12667W,h0km,mb3.2/3, mb1 3.4/4,mb1mx3.3/20,mbtmp3.1/4,ML2.8/1,Error ellipse: s-maj=85.1km s-min=20.9km az=43.0*
*ISCJB **01** 14:09:14.2±1.2,4075N±006×1264W±01,h10km,mb3.0/3, Error ellipse: s-maj=13.0km s-min=6.1km az=106.1*
*NEIC **01** 14:09:14.2±1.4,4073N×12653W,h10km,ML3.1(NCEDC), Error ellipse: s-maj=16.8km s-min=8.4km az=63.0*

ISC 01 14:09:15.6±1.2,4078N±007×1264W±01,h10km,n27, σ1§21/33,mb3.0/3,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**2.03**	**86**	*e*Pn	**Pn**	**14 09 48.8**	**-1.1**
KHMM				*e*Sn	**Sn**	**14 10 14.2**	**-1.1**
KBO	**Bosley Butte**	**2.18**	**48**	*e*Pn	**Pn**	**14 09 50.0**	**-1.9**
KCPM	**Cahto Peak**	**2.42**	**116**	*e*Pn	**Pn**	**14 09 54.3**	**-0.9**
KCPM				*e*S	**Sn**	**14 10 24.5**	**-0.4**
KIPM	**Iron Peak**	**2.44**	**112**	*e*Pn	**Pn**	**14 09 54.5**	**-0.9**
KIPM				*e*S	**Sn**	**14 10 21.9**	**-3.4**
KEBM	**Edson Butte**	**2.61**	**36**	*e*Pn	**Pn**	**14 09 56.1**	**-1.7**
WDC	**Whiskeytown Da**	**2.95**	**93**	*e*Pn	**Pn**	**14 10 01.9**	**-0.6**
WDC				*e*S	**Sn**	**14 10 37.8**	**-0.1**
YBH	**Yreka Blue Hor**	**2.95**	**70**	*e*Pn	**Pn**	**14 10 02.9**	**+0.4**
HUMO	**Hull Mountain**	**3.17**	**54**	*e*Pn	**Pn**	**14 10 04.8**	**-0.7**
HUMO				*e*S	**Sn**	**14 10 40.5**	**-2.8**
LHEM	**Herd Peak**	**3.27**	**74**	P	**Pn**	**14 10 08.1**	**+1.2**
DBO	**Dodson Butte**	**3.33**	**44**	P	**Pn**	**14 10 07.1**	**-0.6**
BUOR	**Burton Butte**	**3.47**	**63**	P	**Pn**	**14 10 11.5**	**+1.9**
BBOR	**Butler Butte**	**3.50**	**52**	P	**Pn**	**14 10 10.5**	**+0.5**
VSP	**Spence Mountai**	**3.69**	**63**	P	**Pn**	**14 10 14.0**	**+1.3**
HBO	**Huckleberry Mo**	**4.31**	**43**	P	**Pn**	**14 10 21.7**	**+0.5**
COR	**Corvallis**	**4.44**	**30**	*e*Pn	**Pn**	**14 10 26.1**	**+3.1**
IRO	**Indian Ridge**	**4.46**	**42**	P	**Pn**	**14 10 23.5**	**+0.2**
FRIS	**Frissel Point**	**4.68**	**41**	P	**Pn**	**14 10 26.7**	**+0.4**
MOD	**Modoc**	**4.73**	**74**	*e*Pn	**Pn**	**14 10 27.6**	**+0.6**
CMB	**Columbia Colle**	**5.41**	**118**	Pn	**Pn**	**14 10 36.0**	**-0.3**
CMB				*e*S	**Sn**	**14 11 40.2**	**+1.6**
WVOR	**Wild Horse Val**	**6.06**	**72**	*e*Pn	**Pn**	**14 10 45.1**	**-0.1**
8.4nm,0.5s							
NVAR	**Mina Array

comp=N,1.1nm,0.6s,baz=328,slow=5.3,SNR=5.1

IDC 01 14:12:19.4±1.1,3669S×5337E,h0km,mb3.8/5,mb1 4.0/6, mb1mx3.8/19,mbtmp3.9/6,ML4.7/1,MS3.5/4,Ms1 3.4/4, ms1mx3.1/26,Error ellipse: s-maj=51.6km s-min=23.7km az=30.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.85**	**342**	P	Pn	14 16 41.1	-0.3
	2.2nm,0.3s,baz=165,slow=10,SNR=18						
BOSA	**Boshof**	**24.94**	**281**	P	P	14 17 45.3	+1.0
	3.4nm,0.8s,baz=318,slow=3.3,SNR=5.2						
BOSA				LR	LR	14 26 01.9	
	comp=Z,42nm,18.8s,baz=337,slow=33						
LBTB	**Lobatse**	**26.43**	**288**	LR	LR	14 26 27.6	
	comp=Z,80nm,19.8s,baz=334,slow=32						
LSZ	**Lusaka**	**30.93**	**307**	LR	LR	14 31 03.4	
	comp=Z,62nm,18.8s,baz=160,slow=36						
MAW	**Mawson**	**31.43**	**173**	LR	LR	14 30 05.1	
	comp=Z,208nm,18.5s,baz=250,slow=34						
ASAR	**Alice Springs**	**68.99**	**104**	P	P	14 23 26.3	-0.3
	0.3nm,0.5s,baz=234,slow=5.9,SNR=10						
STKA	**Stephens Creek**	**70.50**	**116**	P	P	14 23 36.4	+0.4
	1.1nm,0.6s,baz=47,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**71.32**	**101**	P	P	14 23 42.6	+1.7
	0.8nm,0.9s,baz=235,slow=5.5,SNR=4.8						
MKAR	**Makanchi Array**	**87.07**	**19**	P	P	14 25 07.6	+0.6
	0.1nm,0.6s,baz=175,slow=2.0,SNR=2.6						
ILAR	**Eielson Array**	**149.39**	**17**	PKPbc	PKPbc	14 32 08.2	-2.2
	0.9nm,0.7s,baz=315,slow=3.0,SNR=16						
YKA	**Yellowknife Ar**	**153.11**	**348**	PKPbc	PKPbc	14 32 16.7	-2.3
	0.2nm,0.7s,baz=13,slow=1.8,SNR=5.0						

*SKO **01** 14:22:11.6,3960N×2053E,h0km*
*ISCJB **01** 14:22:14.8±0.6,3981N±004×2064E±005,h10km,Error ellipse: s-maj=6.3km s-min=5.1km az=61.4*
*CSEM **01** 14:22:14.9±0.2,3987N×2067E,h8km,MD3.2,Error ellipse: s-maj=6.6km s-min=4.8km az=128.0*
*NEIC **01** 14:22:15.1,3978N×2068E,h19km,MD3.2(ATH),After ATH.*
*ATH **01** 14:22:15.1,3978N×2068E,h19km±2km,MD3.2/6*
ISC 01 14:22:15.3±0.8,3985N±005×2070E±006,h9km±6km,n10, σ0=92/15,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.23**	**149**	ePB	**Pg**	**14 22 19.6**	**-0.3**
JAN				eSB	**Sg**	**14 22 23.4**	**+0.5**
KEK	**Kerkira**	**0.71**	**259**	ePB	**Pg**	**14 22 27.5**	**-1.4**
KEK				eSN	**Sg**	**14 22 38.9**	**+0.7**
KZN	**Kozani**	**0.94**	**61**	ePN	**Pn**	**14 22 33.9**	**-0.8**
KZN				eSN	**Sn**	**14 22 48.1**	**-0.2**
BIA	**Bitola**	**1.26**	**22**	ePn	**Pn**	**14 22 39.5**	**+0.4**
BIA				eSg	**Sg**	**14 23 00.5**	**+4.7**
EVR	**Evrytania**	**1.27**	**137**	ePN	**Pn**	**14 22 38.3**	**-0.9**
VLS	**Valsamata**	**1.67**	**183**	ePN	**Pn**	**14 22 45.3**	**+0.5**
VLS				eSN	**Sn**	**14 23 06.1**	**-0.3**
VAY	**Valandovo**	**2.04**	**44**	ePn	**Pn**	**14 22 51.1**	**+1.2**
VAY	**Valandovo**	**2.04**	**44**	ePn	**Pn**	**14 22 51.0**	**+1.1**
LKR	**Lokris**	**2.15**	**123**	ePN	**Pn**	**14 22 52.9**	**+1.6**
PLG	**Polygyros**	**2.17**	**75**	ePB	**Pb**	**14 22 53.5**	**-1.2**

*ISCJB **01** 14:23:27.1±0.9,1340N±004×12010E±006,h24km±9km, Error ellipse: s-maj=11.1km s-min=5.6km az=48.7*
*MAN **01** 14:23:27.5,1346N×120.14E,h16km,mb3.1,ML4.4,MS3.3*
ISC 01 14:23:27.2±1.0,1338N±005×12014E±007,h12km±8km, n12,σ0=99/21,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**16**	eP	**Pg**	**14 23 34.0**	**-0.6**
LUBP				eS	**Sg**	**14 23 38.5**	**-1.0**
PGP	**Puerto Galera**	**0.80**	**81**	eP	**Pg**	**14 23 42.8**	**+0.2**
BUSP	**Coron**	**1.37**	**178**	eP	**Pn**	**14 23 53.2**	**+1.0**
BUSP				eS	**Sb**	**14 24 10.4**	**+0.1**
BOAC	**Boac**	**1.66**	**87**	eP	**Pn**	**14 23 55.8**	**-0.4**
BOAC				eS	**Sn**	**14 24 16.8**	**-0.5**
OTRP	**Odiongan**	**2.09**	**119**	eP	**Pn**	**14 24 02.2**	**+0.1**
OTRP				eS	**Sn**	**14 24 27.5**	**-0.6**
POLP	**Polilio Island**	**2.20**	**52**	eP	**Pn**	**14 24 04.7**	**+1.1**
POLP				eS	**Sn**	**14 24 30.9**	**+0.2**
ENPP	**El Nido**	**2.27**	**198**	eP	**Pn**	**14 24 06.0**	**+1.4**
ENPP				eS	**Sn**	**14 24 30.1**	**-2.4**
AUQP	**San Andres**	**2.46**	**91**	eP	**Pn**	**14 24 00.9**	**-6.3**
AUQP				eS	**Sn**	**14 24 41.0**	**+3.7**
CUYO	**Cuyo Island**	**2.66**	**161**	eP	**Pn**	**14 24 10.8**	**+0.9**
CUYO				eS	**Sn**	**14 24 40.0**	**-2.0**
GUIM	**Jordan**	**3.64**	**139**	eP	**Pn**	**14 24 24.6**	**+1.3**
GUIM				eS	**Sn**	**14 25 06.3**	**+0.2**
WB2	**Warramunga Arr**	**35.94**	**157**	eP	**P**	**14 30 27.0**	**-0.6**
ASPA	**Alice Springs**	**39.20**	**160**	eP	**P**	**14 30 55.6**	**+0.4**

*IDC **01** 14:24:03.0±3.1,2824N×5677E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.5/22,mbtmp3.7/5,MS3.5/1,Ms1 3.4/1, ms1mx2.6/29,Error ellipse: s-maj=69.0km s-min=33.6km az=142.0*
*CSEM **01** 14:24:06.9±0.2,2823N×5687E,h37km,ML3.3,Error ellipse: s-maj=7.1km s-min=2.9km az=118.0*
*THR **01** 14:24:07.9±0.4,2830N×5667E,h17km±3km,ML3.3*
*ISCJB **01** 14:24:08.6±0.6,2808N±004×5687E±008,h66km±8km, mb3.6/5,Error ellipse: s-maj=12.4km s-min=7.3km az=4.0*
*NEIC **01** 14:24:08.6,2829N×5667E,h25km,ML3.3(THR),After THR.*
*OMAN **01** 14:24:29.3±2.6,2636N×5702E,h6km±7km,Error ellipse: s-maj=32.6km s-min=7.9km az=2.0*
ISC 01 14:24:09.6±0.6,2811N±004×5686E±009,h57km±9km,n24, σ0=96/29,mb3.7/5,MS3.4/1,1C-2D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.94**	**221**	ePg	**Pn**	**14 24 26.6**	**0.0**
BNDS				eSG	**Sn**	**14 24 40.6**	**+1.4**
BNDS				AML	AML	14 24 45.0	
	comp=N,673nm,0.6s						
BNDS				AML	AML	14 24 46.2	
	comp=E,987nm,0.3s						
BNDS	**Bandar-Abbas**	**0.94**	**221**	Pg	**Pn**	**14 24 27.0**	**+0.3**
BNDS				eSg	**Sn**	**14 24 40.6**	**+1.4**
	SNR=92						
BNDS	**Bandar-Abbas**	**0.94**	**221**	Pg	**Pn**	**14 24 27.0**	**+0.3**
BNDS				Sg	**Sn**	**14 24 40.0**	**+0.8**
KRBR	**Kerman**	**1.86**	**357**	ePG	**Pn**	**14 24 38.9**	**-0.2**
KRBR				eSG	**Sn**	**14 25 01.3**	**-0.3**
KRBR				AML	AML	14 25 10.5	
	comp=E,272nm,0.3s						
KRBR				AML	AML	14 25 13.9	
	comp=N,432nm,0.4s						
KRBR	**Kerman**	**1.86**	**357**	ePg	**Pn**	**14 24 38.9**	**-0.3**
	SNR=91						
KRBR				eSg	**Sn**	**14 25 01.3**	**-0.3**
	SNR=91						
KRBR	**Kerman**	**1.86**	**357**	Pg	**Pn**	**14 24 39.0**	**-0.2**
KRBR				Sg	**Sn**	**14 25 01.0**	**-0.6**
BANOM	**Banah**	**2.24**	**193**	P	**Pn**	**14 24 44.3**	**+0.1**
	SNR=26						
GHIR	**Ghir-Karzin**	**3.42**	**274**	ePN	**Pn**	**14 25 00.2**	**-0.2**
GHIR				AML	AML	14 26 13.0	
	comp=E,44nm,0.4s						
GHIR	**Ghir-Karzin**	**3.42**	**274**	Pn	**Pn**	**14 25 00.0**	**-0.4**
ASHO	**Ashiyiah**	**3.49**	**192**	P	**Pn**	**14 25 02.1**	**+0.7**
	SNR=10						
ZHSF	**Zahedan**	**3.75**	**66**	ePN	**Pn**	**14 25 08.3**	**+3.4**
ZHSF	**Zahedan**	**3.75**	**66**	Pn	**Pn**	**14 25 08.0**	**+3.1**
HOQ	**Hoqain**	**4.53**	**175**	⇓P	**Pn**	**14 25 14.7**	**-0.9**
BIDO	**Bidbid**	**4.71**	**166**	P	**Pn**	**14 25 17.5**	**-0.6**
	SNR=7.3						
SMDO	**Samad**	**5.14**	**168**	⇓P	**Pn**	**14 25 23.2**	**-0.8**
WBK	**Wadi Bani Khal**	**5.80**	**160**	⇑P	**Pn**	**14 25 32.4**	**-0.7**
AAK	**Ala-Archa**	**20.35**	**40**	P	**P**	**14 28 43.9**	**+2.6**
AAK	**Ala-Archa**	**20.35**	**40**	P	**P**	**14 28 43.9**	**+2.6**
BRTR	**Keskin Array B**	**22.41**	**307**	P	**P**	**14 29 02.9**	**-0.5**
	comp=E,1.7nm,0.9s,mb3.5,baz=113,slow=9.5,SNR=4.7						
BVAR	**Borovoye Array**	**26.83**	**18**	P	**P**	**14 29 44.8**	**+0.2**
	comp=E,1.4nm,0.7s,mb3.6,baz=204,slow=9.8,SNR=6.3						
ZAL	**Zalesovo**	**32.92**	**31**	LR	LR	14 46 24.0	
	comp=E,74nm,20.5s,MS3.4,baz=82,slow=41						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**39.13**	**337**	P	**P**	**14 31 29.8**	**-1.8**
	comp=E,1.1nm,0.5s,mb3.9,baz=140,slow=8.8,SNR=13						
TORD	**Torodi Ar. Bea**	**53.31**	**266**	P	**P**	**14 33 23.6**	**+0.8**
	comp=E,0.8nm,0.6s,mb3.8,baz=61,slow=7.2,SNR=5.2						
YKA	**Yellowknife Ar**	**89.45**	**356**	P	**P**	**14 37 00.8**	**+0.4**
	comp=E,0.2nm,0.7s,mb3.5,baz=5.0,slow=5.0,SNR=3.9						

*ISCJB **01** 14:24:35.6±0.6,4256N±002×4342E±003,h0km±4km, Error ellipse: s-maj=4.2km s-min=3.6km az=100.3*
*TIF **01** 14:24:35.6,4258N×4343E,h14km±1km*
*MOS **01** 14:24:39.3±2.1,4269N×4370E,h14km,mb4.2/1,Error ellipse: s-maj=12.7km s-min=6.5km az=77.8*
ISC 01 14:24:36.5±0.5,4256N±002×4344E±003,h8km±3km,n22, σ0=82/42,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**16**	P	**Pg**	**14 24 38.3**	**+0.4**
ONI				S	**Sg**	**14 24 40.0**	**+0.9**
DIGR	**Digorskoe uzhe**	**0.36**	**17**	*i* PG	**Pg**	**14 24 43.4**	**-0.1**
DIGR				*i* S	**Sg**	**14 24 48.8**	**+0.5**
ZEI	**Tsey**	**0.40**	**57**	*i* PG	**Pg**	**14 24 44.5**	**+0.2**
ZEI				*i* S	**Sg**	**14 24 50.4**	**+0.8**
LACR	**Lac**	**0.69**	**67**	*i* PG	**Pg**	**14 24 49.3**	**-0.4**
LACR				*i* S	**Sg**	**14 24 59.0**	**-0.4**
KORR	**Kora**	**0.70**	**41**	*i* PG	**Pg**	**14 24 49.7**	**-0.3**
KORR				*i* S	**Sg**	**14 24 59.5**	**+0.3**
GOR	**Gori**	**0.76**	**139**	P	Px	14 25 10.8	
GOR				S	Sx	14 25 22.1	
LSNR	**Lesken**	**0.77**	**21**	*i* PG	**Pg**	**14 24 50.8**	**-0.5**
LSNR				*i* S	**Sg**	**14 25 01.5**	**+0.2**
ARNR	**Ardon**	**0.88**	**44**	ePG	**Pg**	**14 24 52.9**	**-0.6**
ARNR				*i* S	**Sg**	**14 25 05.1**	**+0.1**
CHVG	**Ch'k'valeri**	**1.01**	**280**	P	**Pg**	**14 24 55.1**	**-0.9**
CHVG				S	**Sg**	**14 25 09.4**	**+0.2**
KMSR	**Komsomolskaya**	**1.03**	**37**	*i* PG	**Pg**	**14 24 55.3**	**-0.9**
KMSR				*i* S	**Sg**	**14 25 09.5**	**-0.1**
VLKR	**Vladikavkaz**	**1.03**	**61**	ePG	**Pg**	**14 24 55.7**	**-0.6**
VLKR				eS	**Sg**	**14 25 09.8**	**0.0**
DUS	**Dusheti**	**1.04**	**116**	P	**Pg**	**14 24 56.8**	**+0.3**
DUS				S	**Sg**	**14 25 12.6**	**+2.5**
SNJR	**Sundja**	**1.13**	**63**	ePG	**Pg**	**14 24 57.2**	**-1.0**
SNJR				eS	**Sg**	**14 25 12.7**	**-0.2**
AKH	**Akhalkalaki**	**1.15**	**178**	P	**Pg**	**14 24 57.4**	**-1.1**
AKH				S	**Sg**	**14 25 14.0**	**+0.7**
BTKR	**Batakoyurt**	**1.15**	**44**	*i* PG	**Pg**	**14 24 57.3**	**-1.2**
BTKR				*i* S	**Sg**	**14 25 12.9**	**-0.6**
KUBR	**Kubataba**	**1.24**	**359**	PG	**Pg**	**14 25 01.2**	**+0.8**
KUBR				S	**Sb**	**14 25 19.2**	**+2.8**
KUBR				pmax	pmax		
	comp=Z,177nm,0.3s						
KUBR				smax			
	comp=N,603nm,0.5s						
SHAR	**Shatzhatmas**	**1.31**	**335**	PG	**Pg**	**14 25 01.5**	**-0.2**
SHAR				S	**Sb**	**14 25 18.5**	**+0.1**
SHAR				pmax	pmax		
	comp=Z,252nm,1.5s						
SHAR				smax			
	comp=N,489nm,0.4s						
MTA	**Mtatsminda**	**1.32**	**130**	P	**Pn**	**14 25 00.7**	**-0.5**
MTA				S	**Sb**	**14 25 19.1**	**+0.5**
PRTR	**Priterechnaya**	**1.34**	**27**	ePG	**Pg**	**14 25 00.5**	**-1.8**
PRTR				eS	**Sb**	**14 25 18.5**	**-0.7**
PYA	**Pyatigorsk**	**1.50**	**349**	PG	**Pg**	**14 25 04.8**	**-0.5**
PYA				S	**Sn**	**14 25 24.1**	**+0.6**
KIV	**Kislovodsk**	**1.50**	**339**	PG	**Pg**	**14 25 04.6**	**-0.7**
KIV				S	**Sn**	**14 25 24.1**	**+0.6**
KIV				pmax	pmax		
	comp=Z,153nm,0.8s						
KIV				smax			
	comp=N,297nm,0.5s						
GOF	**Gofitskoye**	**2.52**	**353**	ePN	**Pg**	**14 25 26.6**	**+1.8**
GOF				*i* S	**Sg**	**14 25 57.5**	**+0.1**
GOF				pmax	pmax		
	comp=Z,70nm,1.0s						
GOF				smax			
	comp=N,90nm,0.8s						
GOF				smax			
	comp=E,280nm,0.8s						

*NNC **01** 14:26:42.4±9.6,4490N×8665E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=87.3km s-min=65.8km az=117.0*
*ISCJB **01** 14:26:44.7±1.5,437N±0.1×8524E±009,h10km,mb3.5/1, Error ellipse: s-maj=20.1km s-min=6.6km az=42.9*
*IDC **01** 14:26:44.9±1.8,4360N×8508E,h0km,mb3.5/1,mb1 4.0/4, mb1mx3.5/22,mbtmp3.8/4,Error ellipse: s-maj=54.6km s-min=19.0km az=59.0*
*BJI **01** 14:26:47.9,4424N×8526E,h16km,ML3.7*
ISC 01 14:26:47.1±1.5,436N±01×8527E±009,h10km,n8, σ0=90/12,mb3.5/1,5C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.77**	**83**	⇓*i* PG	**Pg**	**14 27 20.0**	**-1.0**
WMQ				SG	**Sg**	**14 27 44.0**	**+0.1**
WMQ				Smax			
	comp=N,881nm,1.0s						
WMQ				Smax			
	comp=E,905nm,0.8s						
MK31	**Makanchi Array**	**3.81**	**327**	⇑Pn	**Pn**	**14 27 41.0**	**-4.8**
	comp=E,0.2nm,0.2s,baz=144,slow=14,SNR=480						
MK31				⇑Pg	**Pb**	**14 27 48.5**	**-6.0**
	comp=E,4.3nm,0.3s,baz=138,slow=17,SNR=45						
MK31				⇓Lg		14 28 31.9	
	comp=E,44nm,0.5s,baz=138,slow=32,SNR=17						
MKAR	**Makanchi Array**	**3.81**	**327**	Pn	**Pn**	**14 27 45.9**	**0.0**
	comp=E,6.9nm,0.3s,baz=140,slow=17,SNR=125						
MKAR				Sn	**Sn**	**14 28 30.9**	**+0.3**
	comp=E,34nm,0.3s,baz=136,slow=30,SNR=22						
TKM2	**Tokmak 2**	**7.10**	**268**	⇑Pn	**Pb**	**14 28 41.5**	**-8.9**
	comp=E,2.8nm,0.6s						
TKM2				⇑Sn	**Sb**	**14 30 22.7**	**+7.4**
	comp=E,4.8nm,0.4s						
KURK	**Kurchatov**	**8.42**	**330**	⇑Pn	**Pn**	**14 28 43.2**	**-5.9**
	comp=E,0.7nm,0.4s						
KURK				⇓Lg		14 30 55.5	
	comp=E,16nm,0.9s						
ZAL	**Zalesovo**	**10.33**	**358**	Pn	**Pn**	**14 29 14.3**	**-1.0**
	comp=E,1.3nm,0.3s,baz=307,slow=7.3,SNR=14						
SONM	**Songino Array**	**15.33**	**67**	Pn	**Pn**	**14 30 25.5**	**+2.0**
	comp=E,0.3nm,0.3s,baz=269,slow=11,SNR=20						
WRA	**Warramunga Arr**	**77.61**	**133**	P	**P**	**14 38 43.4**	**-0.1**
	comp=E,0.6nm,1.1s,mb3.5,baz=333,slow=4.7,SNR=9.0						

*CSEM **01** 14:35:36.9±0.7,3707N×2433W,h10km,ML3.1,Error ellipse: s-maj=4.9km s-min=2.8km az=59.0,After PDA*
*PDA **01** 14:35:36.9±0.7,3707N×2433W,h10km,MD2.8,ML3.1, Error ellipse: s-maj=4.9km s-min=2.8km az=59.0*
SVSA 01 14:35:36.9±0.7,3707N×2433W,h10km,MD2.8,ML3.1, Error ellipse: s-maj=4.9km s-min=2.8km az=59.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.59**	**264**	*i* P	Pg	14 35 46.5	-1.9
PSMN				eS	Sg	14 35 53.9	-2.2
PSMN	**Pico do Norte,**	**0.59**	**264**	eS	Sg	14 35 53.9	-2.2
MIRA	**Miradouro**	**1.04**	**314**	*i* P	Pg	14 35 52.6	-4.3
FRA1	**Furnas**	**1.06**	**310**	*i* P	Pg	14 35 52.9	-4.4
PCNG	**Congro**	**1.10**	**310**	eP	Pb	14 35 53.6	-4.4
PCNG				eS	Sg	14 36 06.4	-5.9
PCNG							
	167nm,0.5s						
PCNG	**Congro**	**1.10**	**310**	eP	Pb	14 35 53.6	-4.4
PCNG				eS	Sg	14 36 06.4	-5.9
PFAD	**Fenais da Ajud**	**1.10**	**315**	*i* P	Pb	14 35 53.6	-4.5
VIF	**Vila Franca**	**1.11**	**308**	*i* P	Pb	14 35 53.9	-4.3
VIF				eS	Sg	14 36 06.5	-6.2
VIF							
	106nm,0.3s						
VIF	**Vila Franca**	**1.11**	**308**	eS	Sg	14 36 06.5	-6.2
PRCH	**Ribeira Ch**	**1.13**	**306**	eP	Pb	14 35 54.2	-4.3
PRCH				eS	Sb	14 36 07.1	-6.1
PRCH							
	265nm,0.2s						
PRCH	**Ribeira Ch**	**1.13**	**306**	eP	Pb	14 35 54.2	-4.3
PRCH				eS	Sb	14 36 07.1	-6.1
MESC	**Monte Escuro**	**1.15**	**310**	*i* P	Pb	14 35 54.3	-4.5
MESC				eS	Sb	14 36 07.3	-6.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**1.15**	**310**	eS	Sb	14 36 07.3	-6.4
LFA	**Lagoa do Fogo**	**1.16**	**308**	*i* P	Pb	14 35 54.7	-4.3
PMAT	**Coroa da Mata**	**1.18**	**310**	eP	Pb	14 35 54.6	-4.7
PMAT				eS	Sb	14 36 08.0	-6.6
PMAT							
	6.1nm,0.2s						
PMAT	**Coroa da Mata**	**1.18**	**310**	eP	Pb	14 35 54.6	-4.7
PMAT				eS	Sb	14 36 08.0	-6.6
PVER	**Pico Vermelho**	**1.19**	**308**	eP	Pb	14 35 55.0	-4.6
PVER				eS	Sb	14 36 08.3	-6.7
PVER							
	118nm,0.5s						
PVER	**Pico Vermelho**	**1.19**	**308**	eP	Pb	14 35 55.0	-4.6
PVER				eS	Sb	14 36 08.3	-6.7
CML	**Cha da Macela**	**1.20**	**306**	*i* P	Pb	14 35 55.1	-4.5
PDA	**Ponta Delgada**	**1.26**	**303**	eS	Sb	14 36 09.8	-7.2
FAC	**Faja de Cima**	**1.27**	**304**	eP	Pn	14 35 55.7	-4.9
PSET	**Sete Cidades**	**1.34**	**305**	eP	Pn	14 35 56.7	-4.9
PSET				eS	Sb	14 36 12.5	-6.8
PSET							
	168nm,0.3s						
PSET	**Sete Cidades**	**1.34**	**305**	eP	Pn	14 35 56.7	-4.9
PSET				eS	Sb	14 36 12.5	-6.8
PSAN	**Santo Antonio**	**1.36**	**306**	eP	Pn	14 35 57.1	-4.8
PFET	**Feteiras**	**1.38**	**303**	eP	Pn	14 35 57.8	-4.4
SET2	**Ginetes**	**1.41**	**304**	eP	Pn	14 35 58.0	-4.6
SET4	**Mosteiros**	**1.42**	**305**	eP	Pn	14 35 58.3	-4.4
PFAV	**Pico das Favas**	**2.73**	**308**	eP	Pn	14 36 16.4	-4.3
PFAV				eS	Sn	14 36 46.0	-7.8
PFAV							
	42nm,0.4s						
PFAV	**Pico das Favas**	**2.73**	**308**	eP	Pn	14 36 16.4	-4.3
PFAV				eS	Sn	14 36 46.0	-7.8
RIB2	**Ribeirinha**	**2.76**	**306**	eP	Pn	14 36 17.1	-4.1
RIB2				eS	Sn	14 36 46.7	-7.9
RIB2							
	40nm,0.2s						
RIB2	**Ribeirinha**	**2.76**	**306**	eP	Pn	14 36 17.1	-4.1
RIB2				eS	Sn	14 36 46.7	-7.9
PVNV	**Vila Nova**	**2.80**	**308**	eP	Pn	14 36 17.6	-4.2
PVNV				eS	Sn	14 36 47.8	-7.8
PVNV							
	24nm,0.3s						
PVNV	**Vila Nova**	**2.80**	**308**	eP	Pn	14 36 17.6	-4.2
PVNV				eS	Sn	14 36 47.8	-7.8
PPAD	**Pico dos Padre**	**2.85**	**306**	eP	Pn	14 36 18.2	-4.2
PPAD				eS	Sn	14 36 48.8	-8.0
PPAD							
	21nm,0.3s						
PPAD	**Pico dos Padre**	**2.85**	**306**	eP	Pn	14 36 18.2	-4.2
PPAD				eS	Sn	14 36 48.8	-8.0
PBIS	**Biscoitos**	**2.86**	**307**	eS	Sn	14 36 49.0	-8.1
PBIS							
	13nm,0.2s						
ASBA	**Santa Barbara**	**2.89**	**306**	*erx*		14 37 53.6	
ROSA	**Rosais**	**3.51**	**299**	*i* P	Pn	14 36 28.1	-3.3
PICO	**Pico**	**3.55**	**295**	eP	Pn	14 36 27.6	-4.4
CALA	**Caldeira**	**3.78**	**295**	eP	Pn	14 36 30.7	-4.5

*SZGRF **01** 14:35:52.0,175N×9882E,h33km,mb5.0,Northern Sumatera, Indonesia*
*BJI **01** 14:36:00.5,256N×9596E,h27km,mB5.4,mb5.4,Ms4.9, Msz4.6*
*ISCJB **01** 14:36:01.0±0.2,266N±003×9591E±003,h24km, mb5.2/116,MS4.5/42,Error ellipse: s-maj=5.0km s-min=3.7km az=56.2*
*HRVD **01** 14:36:02.5±0.7,262N×9544E,h26km±2km,MW5.0/43, Centroid moment Tensor Solution. LP body waves: s26,c32;Mantle waves: s43,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.27±.26; $M_{\theta\theta}$-0.46±.13; $M_{\phi\phi}$-1.81±.18; $M_{r\theta}$0.69±.21; $M_{\theta\phi}$0.47±.09; $M_{\phi r}$-2.58±.33; Best double couple: $M_0$3.40700×10^{16} NP1:ϕ_s341.00000°,δ19.00000°,λ87.00000°. NP2: ϕ_s164.00000°,δ71.00000°,λ91.00000°. Principal axes: T 3.5640, Plg64.0000°, Azm76.0000°; N -0.3140, Plg1.0000°, Azm344.0000°; P -3.2510, Plg26.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **01** 14:36:02.9±1.0,279N×9599E,h33km,mb5.3/50 Error ellipse: s-maj=9.4km s-min=4.9km az=110.1*
*IDC **01** 14:36:02.2±0.6,264N×9588E,h20km±3km,mb4.7/25, mb1 4.8/26,mb1mx4.8/29,mbtmp4.8/26,ML4.3/1,MS4.3/18, Ms1 4.3/18,ms1mx4.1/39,Error ellipse: s-maj=15.6km s-min=10.6km az=37.0*
*NEIC **01** 14:36:02.5±0.2,267N×9590E,mb5.1/39,MS4.3/4,Error ellipse: s-maj=5.3km s-min=3.6km az=214.0*
ISC 01 14:36:03.5±0.2,268N±003×9590E±003,h25km, h25km±1.2km:pP-P,n305,σ0=98/287,mb5.2/116,MS4.5/42, 23C-11D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.78**	**73**	P	**Pn**	**14 36 48.1**	**+1.7**
	4μm,1.0s						
BSI	**Banda Aceh**	**2.86**	**348**	P	**Pn**	**14 36 45.6**	**-1.9**
	1μm,0.6s						
PSI	**Prapat**	**3.02**	**88**	Pn	**Pn**	**14 36 51.1**	**+1.4**
	39nm,0.3s,baz=282,slow=7.2,SNR=163						
PSI				LR	LR	14 37 26.6	
	comp=Z,3μm,20.9s,baz=267,slow=28						
KULM	**Kulim**	**5.40**	**61**	⇑*e*P	**Pn**	**14 37 23.5**	**+1.1**
IPM	**Ipoh**	**5.41**	**71**	P	**Pn**	**14 37 24.2**	**+1.6**
PPI	**Padang Panjang**	**5.47**	**125**	P	**Pn**	**14 37 24.0**	**+0.6**
	255nm,0.8s						
PKT	**Phuket**	**5.82**	**23**	P	**Pn**	**14 37 30.5**	**+2.3**
KGM	**Kluang**	**7.44**	**95**	P	**Pn**	**14 37 51.4**	**+1.0**
KSI	**Kapahiang**	**9.18**	**133**	P	**Pn**	**14 38 14.0**	**-0.3**
	217nm,1.1s						
NST	**Nakhon Sawan**	**13.56**	**18**	P	**Pn**	**14 39 13.2**	**-1.1**
KSM	**Kuching**	**14.45**	**94**	eP	**Pn**	**14 39 26.9**	**+0.6**
KKTK	**Khon Kaen**	**15.18**	**26**	P	**Pn**	**14 39 38.0**	**+1.8**
	2μm,0.5s				

comp=Z,74nm,1.1s,mb5.0
KMI AMB AMB
comp=Z,367nm,5.6s
KMI LR LR
comp=N,2μm,14.3s,MS4.7
KMI LR LR
comp=E,467nm,10.9s,MS4.7
KMI LR LR
comp=Z,2μm,14.5s,MS4.6
NGP Nagpur 24.62 319 *e*P **P 14 41 23.7 +1.9**
NGP AMb AMB 14 41 25.8
comp=Z,36nm,1.1s,mb4.8
NGP *e*S **S 14 45 44.5 +2.9**
GYA Guiyang 25.80 23⇑*i*P **P 14 41 33.0 +0.5**
GYA AP pP 14 41 38.6 -1.3
GYA XP sP 14 41 41.8 -1.1
GYA PP 14 42 12.7
GYA S **S 14 45 57.6 -2.7**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,120nm,3.0s
GYA LR LR
comp=N,670nm,16.4s
GYA LR LR
comp=Z,870nm,17.0s,MS4.3
KAD Karad 25.81 306 *e*P **P 14 41 32.8 +0.2**
KAD AMb AMB 14 41 40.8
comp=Z,16nm,0.8s,mb4.6
CUYO Cuyo Island 26.20 71 *e*P **P 14 41 35.9 -0.2**
JIRN Jiri 26.52 340 *e*P **P 14 41 40.2 +1.2**
comp=Z,618nm,0.7s,mb6.2
JIRN Jiri 26.52 340 *e*P **P 14 41 40.2 +1.2**
comp=Z,618nm,0.7s,mb6.2
PKI Pulchoki 26.70 339 *e*P **P 14 41 41.5 +0.8**
comp=Z,129nm,0.7s,mb5.6
PKI Pulchoki 26.70 339 *e*P **P 14 41 41.6 +0.9**
comp=Z,129nm,0.7s,mb5.6
PKI Pulchoki 26.70 339 *e*P **P 14 41 41.5 +0.8**
PKI pmax pmax
comp=Z,64nm,0.7s,mb5.3
POO Poona 26.73 308 *e*P **P 14 41 41.0 +0.1**
DMN Daman 26.85 338 *e*P **P 14 41 43.0 +1.0**
comp=Z,213nm,0.9s,mb5.7
DMN Daman 26.85 338 *e*P **P 14 41 43.0 +1.0**
comp=Z,213nm,0.9s,mb5.7
GUN Gumba 26.85 340 *e*P **P 14 41 42.9 +0.9**
comp=Z,438nm,0.8s,mb6.1
GUN Gumba 26.85 340 *e*P **P 14 41 43.1 +1.1**
comp=Z,438nm,0.8s,mb6.1
KKN Kakani 26.95 339 *e*P **P 14 41 43.6 +0.7**
comp=Z,393nm,0.9s,mb6.0
KKN Kakani 26.95 339 *e*P **P 14 41 43.7 +0.8**
comp=Z,393nm,0.9s,mb6.0
KKN Kakani 26.95 339 *e*P **P 14 41 43.6 +0.7**
KKN pmax pmax
comp=Z,196nm,0.9s,mb5.6
BHPL Bhopal 27.16 320 *e*P **P 14 41 44.0 -0.9**
BHPL AMb AMB 14 41 55.6
comp=Z,20nm,1.2s,mb4.5
TGY Tagaytay City 27.20 64 P **P 14 41 45.3 +0.2**
comp=Z,95nm,0.5s,baz=217,slow=10,SNR=2.8
LSA Lhasa 27.25 351 P **P 14 41 46.5 +0.9**
LSA AMB AMB
comp=Z,50nm,0.6s,mb5.2
LSA Lhasa 27.25 351 P **P 14 41 46.0 +0.4**
GKN Gorkha 27.38 338 *e*P **P 14 41 47.6 +0.8**
comp=Z,407nm,0.9s,mb6.0
GKN Gorkha 27.38 338 *e*P **P 14 41 47.6 +0.8**
comp=Z,407nm,0.9s,mb6.0
KOLN Koldanda 27.58 336 *e*P **P 14 41 49.5 +1.0**
comp=Z,166nm,0.7s,mb5.8
KOLN Koldanda 27.58 336 *e*P **P 14 41 49.5 +1.0**
comp=Z,170nm,0.6s,mb5.8
CD2 Chengdu 29.04 14⇑*i*P **P 14 42 00.8 -0.8**
CD2 AP pP 14 42 09.6 +0.6
CD2 XP sP 14 42 15.7 +3.6
CD2 PP PP 14 42 51.8 -15
CD2 S **S 14 46 45.8 -5.6**
CD2 XS sS 14 47 01.8 -1.9
CD2 AMB AMB
comp=Z,70nm,0.7s,mb5.5
CD2 AMB AMB
comp=Z,50nm,5.8s
CD2 LR LR
comp=N,740nm,12.6s
CD2 LR LR
comp=Z,860nm,12.6s,MS4.6
APYP Conner 29.07 57 *e*P **P 14 41 56.6 -5.2**
BUKP Musuan 29.48 79 *e*P **P 14 42 07.0 +1.6**
MSLP Maasin 29.69 74 *e*P **P 14 42 07.4 +0.1**
ENH Enshi 30.31 24 *e*P **P 14 42 11.4 -1.4**
comp=Z,66nm,0.9s,mb5.4
ENH LR LR
comp=Z,504nm,19.0s,MS4.2
NDI New Delhi 31.39 327 *e*P **P 14 42 21.5 -0.8**
DDI Dehra Dun 32.27 330 *e*P **P 14 42 31.3 +1.2**
DDI *e*S **S 14 47 48.0 +6.0**
WHN Wuhan 32.75 30 P **P 14 42 34.5 +0.2**
WHN AMB AMB
comp=Z,120nm,1.2s,mb5.7
MBWA Marble Bar 33.26 137 *e*P **P 14 42 38.5 -0.2**
XAN Xi'an 33.48 20 P **P 14 42 39.7 -0.9**
XAN AP pP 14 42 50.3 +2.2
XAN AMB AMB
comp=Z,83nm,1.0s,mb5.6
LZH Lanzhou 34.04 12⇑P **P 14 42 44.8 -0.7**
LZH AP pP 14 42 51.0 -2.0
LZH XP sP 14 42 53.7 -2.3
LZH PP PP 14 44 00.2 -2.6
LZH PCP PcP 14 45 21.9 -1.0
LZH *e*S **S 14 48 09.5 0.0**
LZH XS sS 14 48 19.3 -2.5
LZH SCP ScP 14 49 04.3 -1.8
LZH PCS PcS 14 49 06.8 -2.2
LZH SCS ScS 14 53 05.2 -2.9
LZH AMB AMB
comp=Z,47nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,246nm,6.5s
LZH LR LR
comp=E,1μm,13.3s
LZH LR LR
comp=Z,2μm,17.2s,MS5.0
DLH Dalhousie 35.11 330 *e*P **P 14 42 57.0 +2.2**
FITZ Fitzroy Crossi 35.84 126 *e*P **P 14 43 00.0 -1.1**
comp=Z,18nm,0.9s,mb5.0
NJ2 Nanjing 36.33 34 *e*P **P 14 43 05.5 +0.3**
NJ2 AP pP 14 43 12.8 +0.1
NJ2 XP sP 14 43 16.2 +0.4
NJ2 PP PP 14 44 28.9 +0.9
NJ2 S **S 14 48 44.0 -0.6**
NJ2 XS sS 14 48 56.0 -1.0
NJ2 AMB AMB
comp=Z,50nm,1.2s,mb5.3
NJ2 AMB AMB
comp=Z,250nm,4.0s
NJ2 LR LR
comp=N,1μm,18.8s
NJ2 LR LR
comp=E,1μm,13.2s
NJ2 LR LR
comp=Z,3μm,17.2s,MS5.1
GTA Gaotai 36.73 5⇑*i*P **P 14 43 08.5 -0.1**
GTA AP pP 14 43 15.1 -1.0
GTA XP sP 14 43 18.1 -1.1
GTA PP PP 14 44 30.7 -1.7
GTA PCP PcP 14 45 31.7 +0.9
GTA S **S 14 48 47.0 -3.8**
GTA SCP ScP 14 49 16.6 +0.7
GTA AMB AMB
comp=Z,118nm,0.8s,mb5.8
GTA AMB AMB
comp=Z,196nm,5.7s
GTA LR LR
comp=N,339nm,16.0s,MS4.4
GTA LR LR
comp=E,375nm,14.8s,MS4.4
GTA LR LR
comp=Z,340nm,16.3s,MS4.2
SSE Sheshan 36.99 38 P **P 14 43 10.7 -0.2**
SSE XP sP 14 43 23.3 +1.9
SSE PP PP 14 44 35.3 0.0
SSE PCP PcP 14 45 30.1 -1.5
SSE S **S 14 48 55.9 +1.1**
SSE XS sS 14 49 11.1 +3.9
SSE AMB AMB
comp=Z,32nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,218nm,4.8s
SSE LR LR
comp=N,396nm,18.5s,MS4.4
SSE LR LR
comp=E,478nm,18.2s,MS4.4
SSE LR LR
comp=Z,494nm,21.9s,MS4.3
NIL Nilore 37.38 328 P **P 14 43 14.9 +0.7**
comp=Z,206nm,0.5s,mb6.2,SNR=7.2
JOW Kunigami 39.22 49 LR LR 14 59 31.8
comp=Z,194nm,19.3s,MS4.0,baz=293,slow=36
BTO Baotou 39.85 17 *e*P **P 14 43 35.1 +0.2**
BTO AMB AMB
comp=Z,49nm,1.3s,mb5.1
HHC Hu-ho-hao-te 40.54 18 *e*P **P 14 43 41.8 +1.2**
HHC AP pP 14 43 51.5 +3.3
HHC XP sP 14 43 55.6 +4.4
HHC PP PP 14 45 19.5 +5.3
HHC PCP PcP 14 45 44.3 +1.6
HHC S **S 14 49 48.4 +0.1**
HHC XS sS 14 50 04.6 +3.9
HHC SS SS 14 52 45.3 -3.1
HHC AMB AMB
comp=Z,72nm,0.8s,mb5.3
HHC LR LR
comp=N,1μm,15.7s,MS4.9
HHC LR LR
comp=E,683nm,18.1s,MS4.9
HHC LR LR
comp=Z,1μm,16.2s,MS4.8
NWAO Narrogin (SRO) 40.76 152 P **P 14 43 42.3 -0.2**
comp=Z,15nm,0.9s,mb4.6
NWAO Narrogin (SRO) 40.76 152 P **P 14 43 42.3 -0.2**
NWAO pmax pmax
comp=Z,15nm,0.9s
KSH Kashi 40.90 336 *e*P **P 14 43 44.5 +0.9**
KSH AP pP 14 43 55.6 +4.5
KSH *e*XP sP 14 43 58.9 +4.7
KSH *e*PP PP 14 45 24.9 +6.9
KSH *e*PCP PcP 14 45 46.1 +2.2
KSH *e*SCP ScP 14 49 33.1 +1.3
KSH PCS PcS 14 49 36.8 +2.1
KSH S **S 14 49 53.7 +0.1**
KSH XS sS 14 50 11.7 +5.7
KSH SS SS 14 52 54.4 -1.1
KSH SCS ScS 14 53 46.1 -0.8
KSH AMB AMB
comp=Z,20nm,0.8s,mb4.8
KSH AMB AMB
comp=Z,198nm,3.4s
KSH LR LR
comp=N,208nm,4.0s
KSH LR LR
comp=E,383nm,6.3s
KSH LR LR
comp=Z,276nm,6.7s
BJT Baijiatuau 41.46 24 P **P 14 43 49.3 +1.1**
BJI Beijing 41.48 24 *e*P **P 14 43 49.2 +0.8**
BJI PP PP 14 45 28.7 +4.4
BJI PCP PcP 14 45 46.3 +0.5
BJI SCS ScS 14 53 50.4 0.0
BJI AMB AMB
comp=Z,331nm,0.8s,mb6.0
BJI LR LR
comp=N,546nm,15.4s,MS4.7
BJI LR LR
comp=E,648nm,14.6s,MS4.7
BJI LR LR
comp=Z,158nm,30.8s
WMQ Urumqi 41.60 351⇑*i*P **P 14 43 50.0 +0.6**
WMQ AP pP 14 43 57.4 +0.4
WMQ XP sP 14 44 00.8 +0.8
WMQ PP PP 14 45 29.8 +4.1
WMQ PCP PcP 14 45 48.0 +1.8
WMQ PPP 14 46 00.0
WMQ *e*S **S 14 50 04.6 +0.5**
WMQ SS SS 14 53 04.8 -4.7
WMQ SCS ScS 14 53 49.6 -1.6
WMQ AMB AMB
comp=Z,73nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,105nm,3.2s
WMQ LR LR
comp=N,325nm,22.0s,MS4.4
WMQ LR LR
comp=E,422nm,22.0s,MS4.4
WMQ LR LR
comp=Z,267nm,22.0s,MS4.1
DL2 Dalian 43.01 30 P **P 14 44 01.3 +0.5**
DL2 AP pP 14 44 08.1 -0.3
DL2 *e*S **S 14 50 25.5 +0.7**
DL2 XS sS 14 50 40.9 +3.6
DL2 AMB AMB
comp=Z,80nm,0.8s,mb5.5
DL2 AMB AMB
comp=Z,170nm,4.9s
DL2 LR LR
comp=N,270nm,15.7s,MS4.4
DL2 LR LR
comp=E,270nm,13.8s,MS4.4
DL2 LR LR
comp=Z,270nm,12.4s,MS4.3
ULHL Ulahol 43.15 339 P **P 14 44 03.0 +1.1**
SNR=26
KZA Kyzart 43.37 338 P **P 14 44 05.1 +1.3**
SNR=24
UCH Uchtor 43.78 337 P **P 14 44 08.6 +1.5**
SNR=69
WRA Warramunga Arr 43.92 123 P **P 14 44 07.8 -0.3**
comp=Z,10nm,0.6s,mb4.7,baz=301,slow=9.2,SNR=57
WRA ScP ScP 14 49 44.4 +0.4
comp=Z,0.4nm,0.7s,baz=294,slow=7.6,SNR=3.7
WRAB Tennant Creek 43.92 123 P **P 14 44 08.0 -0.2**
comp=Z,135nm,1.2s,mb5.5,SNR=12
WRAB Tennant Creek 43.92 123 *e*P **P 14 44 07.8 -0.3**
comp=Z,55nm,1.3s,mb5.1
WRAB LR LR
comp=Z,679nm,20.0s,MS4.6
WRAB Tennant Creek 43.92 123 *i*P **P 14 44 08.0 -0.2**
WB2 Warramunga Arr 43.93 123 *e*P **P 14 44 07.9 -0.3**
TKM2 Tokmak 2 43.97 338 P **P 14 44 09.5 +1.0**
SNR=28
TKM2 Tokmak 2 43.97 338 *i*P **P 14 44 09.3 +0.8**
KBK Karagaybulak 43.98 338 P **P 14 44 10.3 +1.6**
SNR=55
AML Almayashu 44.03 336 P **P 14 44 10.6 +1.6**
SNR=55
AAK Ala-Archa 44.13 337 P **P 14 44 11.4 +1.5**
SNR=24
AAK Ala-Archa 44.13 337 P **P 14 44 10.4 +0.5**
comp=Z,161nm,1.1s,mb5.7,SNR=22
AAK Ala-Archa 44.13 337 *e*P **P 14 44 10.2 +0.3**
comp=Z,26nm,0.9s,mb5.0
AAK Ala-Archa 44.13 337 *i*P **P 14 44 10.2 +0.3**
AAK pmax pmax
comp=Z,34nm,1.2s,mb5.0
AAK MLR MLR
comp=Z,300nm,17.0s,MS4.3
FRU Bishkek 44.26 338 *e*P **P 14 44 12.5 +1.6**
FRU *e* pP 14 44 20.0 +1.5
FRU pmax pmax
comp=Z,80nm,2.5s,mb5.0
CHMS Chumysh 44.35 338 P **P 14 44 12.4 +0.8**
SNR=13
EKS2 Erkin-Say 44.44 337 P **P 14 44 13.7 +1.4**
SNR=47
JNU Nakatsue 44.59 43 P **P 14 44 13.0 -0.5**
comp=Z,19nm,1.0s,mb4.9,baz=140,slow=11,SNR=3.6
USP Ospenovka 44.67 338 P **P 14 44 15.1 +0.9**
SNR=62
ASPA Alice Springs 45.32 127⇑*i*P **P 14 44 19.1 -0.2**
AS31 Alice Springs 45.32 127⇑*i*P **P 14 44 19.1 -0.2**
ASAR Alice Springs 45.32 127 P **P 14 44 19.1 -0.2**
comp=Z,4.9nm,0.6s,mb4.5,baz=300,slow=8.0,SNR=118
ASAR ScP ScP 14 49 49.8 0.0
comp=Z,0.9nm,0.9s,baz=296,slow=4.4,SNR=4.9
KS15 Wonju Array Si 45.37 36 *e*P **P 14 44 19.5 -0.2**
MK31 Makanchi Array 45.51 347 *i*P **P 14 44 20.9 +0.1**
MKAR Makanchi Array 45.51 347 P **P 14 44 20.7 -0.1**
comp=Z,34nm,0.4s,mb5.6,baz=159,slow=8.4,SNR=668
MKAR pP pP 14 44 27.2 -1.3
comp=Z,58nm,0.8s,baz=160,slow=7.8,SNR=20
MKAR Makanchi Array 45.51 347 P **P 14 44 20.7 -0.1**
MKAR pP pP 14 44 27.2 -1.3
MKAR Makanchi Array 45.51 347 *i*P **P 14 44 20.7 -0.1**
MKAR pmax pmax
comp=Z,34nm,0.4s
SONM Songino Array 45.88 10 P **P 14 44 23.8 0.0**
comp=Z,45nm,0.6s,mb5.6,baz=191,slow=8.8,SNR=393
SONM pP pP 14 44 29.6 -1.8
comp=Z,44nm,0.9s,baz=193,slow=7.5,SNR=21
SONM PcP PcP 14 46 01.2 +0.6
comp=Z,8.4nm,0.7s,baz=197,slow=3.7,SNR=7.3
SONM LR LR 15 06 01.9
comp=Z,506nm,20.0s,MS4.5,baz=355,slow=39
SONM Songino Array 45.88 10 P **P 14 44 23.8 0.0**
SONM *PP pP 14 44 29.6 -1.8
SONM 14 46 01.2
ULN Ulaanbaatar 46.03 10 *e*P **P 14 44 24.6 -0.3**
comp=Z,23nm,0.6s,mb5.3
ULN LR LR
comp=Z,550nm,20.0s,MS4.5
ULN Ulaanbaatar 46.03 10 *e*P **P 14 44 24.6 -0.3**
ULN pmax pmax
comp=Z,23nm,0.6s,mb5.3
ULN MLR MLR
comp=Z,550nm,20.0s,MS4.5
KK31 Karatay Array 46.16 334 *i*P **P 14 44 26.3 +0.3**
KK31 Karatay Array 46.16 334 *i*P **P 14 44 26.2 +0.2**
KK31 pmax pmax
comp=Z,18nm,0.6s,mb5.2
KKAR Karatay Array 46.16 334 *i*P **P 14 44 26.2 +0.2**
KKAR pmax pmax
comp=Z,11nm,0.6s,mb5.0
SNY Shenyang 46.21 29⇑P **P 14 44 25.9 -0.4**
SNY AP pP 14 44 35.5 +1.5
SNY XP sP 14 44 39.9 +2.9
SNY AMB AMB
comp=Z,45nm,0.8s,mb5.5
SNY AMB AMB
comp=Z,380nm,4.5s
SNY LR LR
comp=N,651nm,20.3s
SNY LR LR
comp=E,413nm,15.0s
SNY LR LR
comp=Z,602nm,15.3s,MS4.7
ZAK Zakamensk 47.94 6 *e*P **P 14 44 39.1 -0.7**
ZAK pmax pmax
comp=Z,42nm,1.7s,mb5.2
CN2 Changchun 48.60 28⇑P **P 14 44 44.4 -0.6**
CN2 *e*AP pP 14 44 50.0 -2.6
CN2 *e*XP sP 14 44 53.6 -2.1
CN2 PCP PcP 14 46 10.1 -0.2
CN2 *e*S **S 14 51 44.3 -1.0**
CN2 SS SS 14 55 06.5 -8.9
CN2 AMB AMB
comp=Z,40nm,0.5s,mb5.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.7
CN2 LR LR
comp=E,400nm,16.0s,MS4.7
CN2 LR LR
comp=Z,400nm,18.0s,MS4.5
MOY Mondy 49.00 4 *e*P **P 14 44 48.0 0.0**
ABKT Ailbek 49.25 320 P **P 14 44 50.6 +0.6**
comp=Z,198nm,0.8s,mb6.2,SNR=10
IRK Irkutsk 49.88 7 *e*P **P 14 44 52.5 -2.3**
IRK pmax pmax
comp=Z,59nm,2.1s,mb5.2
KURK Kurchatov 50.04 346 P **P 14 44 56.2 +0.2**
comp=Z,296nm,0.6s,SNR=47
KURK Kurchatov 50.04 346 P **P 14 44 55.6 -0.3**
KURK *e*P 14 44 55.8
CBIJ Chichi jima 50.47 57 LR LR 15 06 59.6
comp=Z,367nm,18.2s,MS4.4,baz=119,slow=37
HIA Hailar 50.68 20 *e*P **P 14 45 00.5 -0.3**
comp=Z,47nm,1.0s,mb5.4
HIA *e* pP 14 45 06.7 -1.8
HIA Hailar 50.68 20 *e*P **P 14 45 00.5 -0.3**
HIA *e* pP 14 45 06.7 -1.8
HIA pmax pmax
comp=Z,47nm,1.0s
MDJ Mudanjiang 51.23 31 P **P 14 45 05.2 +0.2**
MDJ PCP PcP 14 46 21.1 +1.1
MDJ PP PP 14 47 01.6 -0.3
MDJ S **S 14 52 27.4 +5.4**
MDJ LR LR
comp=N,316nm,12.5s,MS4.7
MDJ LR LR
comp=E,381nm,14.7s,MS4.7
MDJ LR LR
comp=Z,544nm,13.2s,MS4.8
MDJ Mudanjiang 51.23 31 P **P 14 45 04.3 -0.6**
comp=Z,17nm,0.8s,mb5.0
VLA Vladivostok 51.43 33 *i*P **P 14 45 05.0 -1.4**
VLA Vladivostok 51.43 33*c i*P **P 14 45 05.4 -1.0**
VLA *e* 14 46 18.6
VLA *e* 14 47 10.5
VLA pmax pmax
comp=Z,70nm,1.3s,mb5.4
VLA MLR MLR
comp=Z,500nm,16.9s,MS4.6
MAT Matsushiro 51.50 44 PCP PcP 14 46 21.5 +0.5
MJAR Matsushiro Arr 51.50 44 P **P 14 45 06.0 -1.0**
comp=Z,1.5nm,0.6s,mb4.1,baz=249,slow=3.8,SNR=4.0
MJAR PcP PcP 14 46 21.6 +0.7
comp=Z,8.7nm,0.9s,baz=241,slow=3.2,SNR=14
MJAR LR LR 15 09 09.6
comp=Z,215nm,19.7s,MS4.2,baz=265,slow=38
MJAR Matsushiro Arr 51.50 44 P **P 14 45 06.0 -1.0**
MJAR 14 46 21.6
ZAL Zalesovo 51.90 352 P **P 14 45 09.6 -0.3**
comp=Z,33nm,0.5s,mb5.5,baz=307,slow=5.6,SNR=196
OPO Ambohidratompo 52.38 244 P **P 14 45 11.9 -1.6**
comp=Z,2.4nm,0.3s,mb4.6,baz=62,slow=12,SNR=3.5
PMG Port Moresby 52.46 104 P **P 14 45 14.0 -0.1**
comp=Z,22nm,0.7s,mb5.2,baz=312,slow=4.7,SNR=11
PMG Port Moresby 52.46 104 *e*P **P 14 45 13.7 -0.4**
PMG Port Moresby 52.46 104⇑*e*P **P 14 45 14.7 +0.6**
UMR Umm Al-Rimmam 52.91 305 *e*P **P 14 45 17.7 +0.2**
UMR AMb AMB 14 45 19.0
comp=Z,43nm,0.8s,mb5.5
NVS Novosibirsk 53.01 351⇑*i*P **P 14 45 17.1 -1.1**
NVS *i*S **S 14 52 44.9 -1.5**
NVS pmax pmax
comp=N,20nm,0.9s
NVS pmax pmax
comp=E,14nm,0.9s
NVS pmax pmax
comp=Z,30nm,0.9s,mb5.2
NVS smax
comp=N,16nm,1.6s
NVS smax
comp=E,27nm,1.6s
NAY Al-Naaiem 53.19 305 *e*P **P 14 45 19.6 +0.1**
NAY AMb AMB 14 45 21.6
comp=Z,16nm,1.1s,mb4.8
MIB Mutribah 53.30 306 *e*P **P 14 45 21.0 +0.7**
MIB AMb AMB 14 45 22.6
comp=Z,64nm,0.9s,mb5.5
VOSK Vostochnaya 53.99 342 P **P 14 45 24.7 -0.7**
VOSK pmax pmax
comp=Z,23nm,0.8s,mb5.2
CTA Charters Tower 54.32 117 *e*P **P 14 45 28.2 +0.4**
comp=Z,17nm,0.9s,mb5.0
CTA Charters Tower 54.32 117 P **P 14 45 27.5 -0.3**
comp=Z,21nm,0.8s,mb5.1,baz=294,slow=7.3,SNR=13
CTA LR LR 15 11 51.2
comp=Z,285nm,19.4s,MS4.3,baz=285,slow=40
CTA Charters Tower 54.32 117 *e*P **P 14 45 28.2 +0.4**
CTA pmax pmax
comp=Z,17nm,0.9s
CTAO Charters Tower 54.32 117 *e*P **P 14 45 28.2 +0.4**
comp=Z,18nm,0.8s,mb5.0
CTAO Charters Tower 54.32 117 *e*P **P 14 45 28.2 +0.4**
CTAO pmax pmax
comp=Z,18nm,0.8s,mb5.0
BVA0 Borovoye Array 54.44 341 P **P 14 45 28.1 -0.5**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BVAR Borovoye Array 54.44 341 P **P 14 45 28.1 -0.5**
comp=Z,26nm,0.8s,mb5.2,baz=144,slow=8.5,SNR=140
BRVK Borovoye 54.50 341 P **P 14 45 28.3 -0.8**
comp=Z,243nm,0.7s,SNR=26
BRVK Borovoye 54.50 341 *e*P **P 14 45 28.1 -0.9**

comp=Z,15nm,0.6s,mb5.1
BRVK LR LR
comp=Z,157nm,20.0s,MS4.1
BRVK Borovoye 54.50 341 *e*P **P 14 45 28.1 -1.0**
BRVK pmax pmax
comp=Z,15nm,0.6s,mb5.1
BRVK MLR MLR
comp=Z,157nm,20.0s,MS4.1
ZRNK Zerenda 54.83 340 *e*P **P 14 45 30.6 -0.9**
comp=Z,28nm,0.9s,mb5.3
ZRNK Zerenda 54.83 340 *i* P **P 14 45 30.6 -0.8**
ZRNK pmax pmax
comp=Z,25nm,0.9s,mb5.2
STKA Stephens Creek 55.31 132 *e*P **P 14 45 33.0 -1.9**
comp=Z,13nm,0.8s,mb5.0
STKA Stephens Creek 55.31 132 P **P 14 45 33.4 -1.5**
comp=Z,15nm,0.7s,mb5.1,baz=312,slow=7.5,SNR=29
STKA LR LR 15 11 29.9
comp=Z,160nm,20.2s,MS4.1,baz=25,slow=38
KLR Kul'dur 55.53 28⇓*i*P **P 14 45 33.8 -2.8**
KLR *e* pP 14 45 40.2 -4.1
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,82nm,1.6s,mb5.5
AB31 Akbulak array 55.60 332 *i* P **P 14 45 36.9 -0.2**
AB31 pmax pmax
comp=Z,43nm,0.9s,mb5.5
HABR Khabarovsk 56.62 30 *e*P **P 14 45 43.4 -0.9**
HABR *e*S **S 14 53 34.3 -0.5**
HABR pmax pmax
comp=Z,32nm,0.8s,mb5.4
BOD Bodaibo 56.81 11 *e*P **P 14 45 45.4 -0.3**
BOD pmax pmax
comp=Z,27nm,1.0s,mb5.2
BHD Baghdad 56.90 308 *ex* x 14 45 43.0
AKTK Aktyubinsk 57.32 332 P **P 14 45 48.6 -0.6**
AKTK LR LR 15 17 02.0
AKTO Aktyubinsk 57.32 332 P **P 14 45 48.6 -0.6**
comp=Z,16nm,0.9s,mb5.0,baz=123,slow=7.9,SNR=44
AKTO LR LR 15 17 02.0
comp=Z,112nm,18.1s,MS4.0,baz=134,slow=43
ASAJ Asahikawa 58.28 38 LR LR 15 10 39.3
comp=Z,262nm,19.4s,MS4.4,baz=193,slow=36
CLNS Chul'man 58.73 18 *e*P **P 14 45 59.3 +0.1**
CLNS pmax pmax
comp=Z,32nm,0.8s,mb5.4
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.8s
KMBO Kilima Mbogo 58.76 267 P **P 14 46 00.4 +1.1**
comp=E,2.1nm,0.6s,mb4.3,baz=55,slow=11,SNR=5.3
KMBO Kilima Mbogo 58.76 267 *i* P **P 14 46 01.1 +1.8**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
GNI Garni 59.33 316 *i* P **P 14 46 03.2 -0.1**
GNI pmax pmax
comp=Z,24nm,1.1s
YSS Yuzh-Sakhalins 59.88 35 *e*P **P 14 46 07.0 -0.1**
comp=Z,25nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 59.88 35⇑*e*P **P 14 46 07.8 +0.7**
YSS *e* 14 46 54.0
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.5
SVE Sverdlovsk 60.84 339⇑*i*P **P 14 46 12.5 -1.2**
SVE *e* 14 46 23.0
SVE pmax pmax
comp=Z,100nm,1.0s,mb5.9
SVE MLR MLR
comp=N,200nm,14.0s,MS4.6
SVE MLR MLR
comp=E,200nm,14.0s,MS4.6
SVE MLR MLR
comp=Z,400nm,14.0s,MS4.7
ZEI Tsey 61.03 318 *e*P **P 14 46 14.1 -0.9**
ZEI *i* *PP pP 14 46 22.2 -0.6
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ONI Oni 61.25 318 P **P 14 46 21.1 +4.6**
ARU Arti 61.32 337 *i* P **P 14 46 16.1 -0.8**
ARU Arti 61.32 337⇑*i*P **P 14 46 16.2 -0.7**
ARU *e* 14 48 27.3
ARU *e*S **S 14 54 35.1 -0.8**
ARU *e*SS SS 14 58 38.1 +1.7
ARU *e*SSS 15 01 20.5
ARU pmax pmax
comp=Z,45nm,0.9s,mb5.6
KIV Kislovodsk 62.34 319 *e*P **P 14 46 23.2 -0.6**
comp=Z,23nm,1.0s,mb5.3
KIV Kislovodsk 62.34 319*c* *i*P **P 14 46 23.7 -0.1**
KIV pmax pmax
comp=Z,22nm,1.2s,mb5.2
MALT Malatya 63.18 312⇓P **P 14 46 30.5 +1.1**
EIL Elat 63.58 302 *e*P **P 14 46 32.8 +0.8**
comp=Z,221nm,1.0s,mb6.1
SOKR Solikamsk 64.24 339*c* *i*P **P 14 46 35.8 -0.6**
SOKR pmax pmax
comp=Z,50nm,0.6s,mb5.7
SOKR MLR MLR
comp=Z,130nm,15.0s,MS4.2
YAK Yakutsk 64.38 17 *e*P **P 14 46 35.7 -1.5**
comp=Z,163nm,0.9s,mb6.1
YAK *e*pP pP 14 46 42.0 -3.2
YAK Yakutsk 64.38 17 *e*P **P 14 46 36.3 -1.0**
YAK *e* 14 47 06.6
YAK *e* 14 48 58.5
YAK *e*PPP 14 50 34.3
YAK *e*S **S 14 55 13.1 -1.0**
YAK *e*SS SS 14 59 28.2 +4.1
YAK pmax pmax
comp=Z,77nm,0.9s,mb5.7
YAK pmax pmax
comp=N,27nm,1.3s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax
comp=N,7.0nm,1.3s
ANN Anapa 66.14 318 *e*P **P 14 46 47.3 -1.4**
ANN *e*S S 14 55 34.4 -1.3
ANN pmax pmax
comp=Z,62nm,0.8s,mb5.7
BR131 Keskin Array S 67.16 312 *e*P **P 14 46 54.4 -0.8**
comp=Z,2.4nm,0.4s,mb4.6
BRTR Keskin Array B 67.16 312 P **P 14 46 54.5 -0.7**
comp=Z,1.9nm,0.8s,mb4.2,baz=127,slow=6.3,SNR=7.9
BRTR pP pP 14 47 01.0 -2.1
comp=Z,2.8nm,0.5s,baz=138,slow=7.4,SNR=12
VORD Divnogorie 67.44 325 *e*P **P 14 46 54.4 -2.6**
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
LSZ Lusaka 69.30 253 P **P 14 47 13.7 +5.1**
comp=Z,9.3nm,1.1s,mb4.6
LSZ Lusaka 69.30 253 P **P 14 47 13.7 +5.1**
LSZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MOS Moscow 70.40 329 *e*P **P 14 47 13.0 -2.4**
MOS pmax pmax
comp=Z,58nm,0.8s,mb5.6
MA2 Magadan 70.57 26 *e*P **P 14 47 16.2 -0.2**
MA2 *e* 14 47 37.9
MA2 pmax pmax
comp=Z,20nm,1.3s,mb4.9
MA2 pmax pmax
comp=N,4.0nm,0.8s
OBN Obninsk 70.68 328⇓*i*P **P 14 47 16.2 -0.9**
OBN *i* 14 47 28.9
OBN pmax pmax
comp=Z,21nm,0.7s,mb5.2
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
KWAJ Kwajalein Atol 71.52 82 P **P 14 47 22.7 +0.5**
PET Petropavlovsk 71.74 34 *e*P **P 14 47 22.9 -0.6**
PET *e*S 14 57 13.0
PET pmax pmax
comp=Z,29nm,1.1s,mb5.1
KLMR Klimovskoe 71.86 335 *e*P **P 14 47 22.3 -2.0**
KLMR pmax pmax
comp=Z,50nm,1.2s,mb5.3
TIXI Tiksi 71.97 10*c* *i*P **P 14 47 23.2 -1.7**
TIXI pmax pmax
comp=Z,46nm,1.1s,mb5.3
TIRR Tirgusor 72.16 316⇓P **P 14 47 23.5 -2.5**
CFR Carcaliu 72.53 317⇓P **P 14 47 24.5 -3.7**
SEY Seymchan 72.92 24 *i* P **P 14 47 29.8 -0.7**
SEY Seymchan 72.92 24 *e*P **P 14 47 29.9 -0.6**
SEY *e* 14 50 17.4
SEY *e*S S 14 56 57.4 +1.9
SEY pmax pmax
comp=Z,40nm,1.0s,mb5.3
SEY smax
comp=N,250nm,30.2s
SEY smax
comp=E,25nm,16.7s
SEY MLR MLR
comp=Z,680nm,23.0s,MS4.9
SEY MLR MLR
comp=N,210nm,17.0s
SEY MLR MLR
comp=E,310nm,24.0s
DZM Mont Dzumac 73.06 114 P **P 14 47 32.5 +1.1**
comp=E,7.6nm,0.8s,mb4.7,baz=282,slow=5.8,SNR=3.3
AKASG Malin Array Be 73.30 322 P **P 14 47 31.6 -1.2**
comp=E,5.9nm,0.6s,mb4.7,baz=94,slow=5.1,SNR=37
AKASG PP PP 14 50 13.3 -2.9
comp=E,2.0nm,0.9s,baz=95,slow=6.6,SNR=4.0
LBTB Lobatse 73.39 243 *e*P **P 14 47 34.3 +1.0**
comp=E,15nm,0.9s,mb4.9
LBTB *e*pP pP 14 47 40.4 -0.9
LBTB Lobatse 73.39 243 *e*P **P 14 47 34.3 +1.0**
LBTB *e**PP pP 14 47 40.4 -0.9
LBTB pmax pmax
comp=Z,15nm,0.9s,mb4.9
VRI Vrincioaia 73.66 317⇓P **P 14 47 35.5 +0.6**
VRI Vrincioaia 73.66 317⇓P **P 14 47 35.6 +0.7**
MAW Mawson 73.86 193 LR LR 15 15 29.5
comp=Z,230nm,20.9s,MS4.4,baz=258,slow=32
MLR Muntele Rosu 74.11 317 P **P 14 47 37.8 +0.3**
comp=Z,4.7nm,0.6s,mb4.6,baz=166,slow=11,SNR=4.8
MLR Muntele Rosu 74.11 317⇓P **P 14 47 38.4 +0.9**
BOSA Boshof 74.40 239 P **P 14 47 39.9 +0.6**
comp=Z,3.5nm,0.9s,mb4.3,baz=335,slow=13,SNR=3.0
BURAR Bucovina Array 75.06 319⇓P **P 14 47 43.3 +0.2**
BURAR Bucovina Array 75.06 319⇓P **P 14 47 43.3 +0.2**
JOF Joensuu 76.26 335 *e*p **P 14 47 49.4 -0.5**
comp=Z,14nm,0.9s,mb4.9
JOF Joensuu 76.26 335 *e*P **P 14 47 49.4 -0.5**
JOF pmax pmax
comp=Z,14nm,0.9s,mb4.9
VSU Vasula 76.92 330 *i* P **P 14 47 53.1 -0.6**
KWP Kalwaria 77.11 320 *e*P **P 14 47 55.1 +0.4**
KOLS Kolonicke sedl 77.25 320 *i* P **P 14 47 56.1 +0.6**
KOLS *e* pP 14 48 02.0 -1.6
APA Apatity 77.29 340⇑*i*P **P 14 47 55.0 -0.8**
APA pmax pmax
comp=Z,54nm,1.4s,mb5.3
SUW Suwalki 77.72 325 *e*P **P 14 47 57.4 -0.8**
STHS Stebnicka Huta 78.01 320 *i* P **P 14 48 00.2 +0.5**
STHS *e* 14 48 14.7
FINES FINESS Array B 78.09 333 P **P 14 47 59.6 -0.6**
comp=Z,13nm,0.7s,mb5.0,baz=97,slow=7.9,SNR=44
FINES LR LR 15 27 16.4
comp=Z,176nm,18.6s,MS4.4,baz=132,slow=39
FINES FINESS Array B 78.09 333 *i* P **P 14 47 59.5 -0.7**
FINES pmax pmax
comp=Z,13nm,0.7s
KAF Kangasniemi 78.18 333 *e*p **P 14 47 59.6 -1.1**
comp=Z,19nm,0.8s,mb5.1,baz=104,slow=5.1
KAF Kangasniemi 78.18 333 *e*P **P 14 47 59.6 -1.1**
KAF pmax pmax
comp=Z,19nm,0.8s,mb5.1
KECS Kecovo 78.34 319 *e*P **P 14 48 01.5 -0.1**
KECS *e* 14 48 20.4
KECS *e*PP PP 14 51 02.0 +3.2
PSZ Piszkesteto 78.65 318 *e*P **P 14 48 02.9 -0.3**
comp=Z,15nm,1.0s,mb4.9
PSZ P 14 48 03.3
PSZ Piszkesteto 78.65 318 *e*P **P 14 48 02.9 -0.4**
PSZ pmax pmax
comp=Z,15nm,1.0s,mb4.9
OJC Ojcow 79.06 321 *e*P **P 14 48 05.7 +0.1**
VYHS Vyhne 79.43 319 *e*P **P 14 48 07.5 -0.1**
TSUM Tsumeb 79.87 250 *e*P **P 14 48 11.3 +1.4**
comp=Z,8.1nm,0.9s,mb4.7
OKC Ostrava-Krasne 80.06 320 *e*P **P 14 48 09.7 -1.3**
OKC Ostrava-Krasne 80.06 320 *e*P **P 14 48 08.7 -2.3**
BILL Bilibino 80.25 21 *e*P **P 14 48 11.1 -0.9**
comp=Z,3.5nm,0.4s,mb4.6
BILL Bilibino 80.25 21 *i* P **P 14 48 11.3 -0.7**
BILL pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
KEV Kevo 80.28 341 *e*p **P 14 48 10.9 -1.3**
comp=Z,8.7nm,0.8s,mb4.7
KEV Kevo 80.28 341 *e*P **P 14 48 10.9 -1.3**
KEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MORC Moravsky Berou 80.44 320 *e*P **P 14 48 11.7 -1.3**
comp=Z,7.1nm,1.0s,mb4.5
MORC P 14 48 13.3
MORC Moravsky Berou 80.44 320 *e*P **P 14 48 11.7 -1.3**
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZST Bratislava 80.54 318 *e*P **P 14 48 14.0 +0.4**
ARCES ARCESS Array B 80.71 340 P **P 14 48 14.2 -0.3**
comp=Z,12nm,0.7s,mb5.0,baz=94,slow=5.0,SNR=71
ARCES LR LR 15 28 55.3
comp=Z,188nm,18.7s,MS4.5,baz=350,slow=39
ARE0 ARCESS Array S 80.71 340 *e*P **P 14 48 13.9 -0.5**
SYO Syowa Base 81.01 198⇓*e*P **P 14 48 16.9 +0.8**
SYO *e* 14 51 13.2
RPZ Rata Peaks 81.17 135 LR LR 15 25 02.0
comp=Z,292nm,18.5s,MS4.7,baz=97,slow=36
DPC Dobruska-Polom 81.29 320 *e*P **P 14 48 18.5 +0.9**
UPC Upice 81.50 321 *e*P **P 14 48 19.0 +0.3**
UPC *ex* x 14 48 35.1
BOJS Bojanci 81.54 315 *e*P **P 14 48 19.2 +0.3**
PERS Pernice 81.72 317 *e*P **P 14 48 20.1 +0.2**
VISS Visnje 81.85 316 *e*P **P 14 48 20.8 +0.2**
PRU Pruhonice 82.39 320 *e*P **P 14 48 23.5 +0.1**
BRG Berggiesshubel 82.85 321 *e*P **P 14 48 29.0 +3.3**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BRG Berggiesshubel 82.85 321 *e*P **P 14 48 29.0 +3.3**
comp=Z,3.1nm,1.0s,mb4.3
GERES GERESS Array B 82.85 319 P **P 14 48 26.2 +0.5**
comp=Z,8.4nm,0.9s,mb4.8,baz=93,slow=5.3,SNR=40
KHC Kasperske Hory 82.95 319 *e*P **P 14 48 26.5 +0.2**
KHC *ex* x 14 48 42.6
KHC Kasperske Hory 82.95 319 *i* P **P 14 48 26.6 +0.3**
CLL Collm 83.47 321 *e*P **P 14 48 30.0 +1.0**
comp=Z,10.0nm,1.3s,mb4.7
CLL Collm 83.47 321 *e*P **P 14 48 30.0 +1.0**
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
HFS Hagfors 83.80 330 LR LR 15 32 26.4
comp=Z,174nm,18.3s,MS4.5,baz=264,slow=40
GRF Grafenberg Arr 84.52 319 *e*P **P 14 48 34.8 +0.5**
comp=Z,13nm,1.0s,mb5.0
GRF Grafenberg Arr 84.52 319 *e*P **P 14 48 34.8 +0.5**
GRF pmax pmax
comp=Z,13nm,1.0s,mb5.0
GRF Grafenberg Arr 84.52 319 *e*P **P 14 48 34.8 +0.5**
GRF pmax pmax
comp=Z,13nm,1.0s,mb5.0
URZ Urewera 84.75 129 LR LR 15 26 53.2
comp=Z,220nm,18.1s,MS4.6,baz=273,slow=36
NB2 NORSAR Subarra 85.09 331 P **P 14 48 36.3 -0.9**
comp=Z,9.6nm,0.9s,mb4.9,baz=97,slow=5.6
NB2 NORSAR Subarra 85.09 331 P **P 14 48 36.3 -0.9**
NB2 pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
NOA NORSAR Array B 85.09 331 P **P 14 48 36.7 -0.5**
comp=Z,8.3nm,0.9s,mb4.9,baz=94,slow=5.5,SNR=13
NOA PP PP 14 51 49.0 -5.3
comp=Z,2.8nm,1.0s,baz=87,slow=7.7,SNR=3.3
NOA LR LR 15 31 05.5
comp=Z,123nm,20.3s,MS4.3,baz=10.0,slow=39
NOA NORSAR Array B 85.09 331 P **P 14 48 36.7 -0.5**
NOA PP PP 14 51 49.0 -5.3
NOA LR LR 15 31 05.5
NOA NORSAR Array B 85.09 331 P **P 14 48 36.7 -0.5**
NOA 14 51 49.1
LPG La Plagne 87.51 315 *e*P **P 14 48 49.5 +0.4**
comp=Z,20nm,1.0s,mb5.0
LPG La Plagne 87.51 315 *e*P **P 14 48 49.5 +0.4**
comp=Z,10nm,1.0s,mb5.0
LPG La Plagne 87.51 315 *e*P **P 14 48 49.5 +0.4**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
VNDA Vanda 87.53 169 LR LR 15 22 50.7
comp=Z,275nm,18.1s,MS4.7,baz=297,slow=32
DAG Danmarks Havn 92.89 348⇑*i*P **P 14 49 13.2 -1.0**
comp=Z,4.0nm,0.6s,mb5.0
DAG Danmarks Havn 92.89 348⇑*i*P **P 14 49 13.2 -1.0**
DAG pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
TORD Torodi Ar. Bea 93.49 283 P **P 14 49 17.4 +0.4**
comp=Z,2.8nm,1.2s,mb4.6,baz=88,slow=3.8,SNR=7.2
TORD pP pP 14 49 24.3 -0.8
comp=Z,3.3nm,1.0s,baz=84,slow=5.5,SNR=11
ILAR Eielson Array 98.84 23 P **P 14 49 38.8 -2.5**
comp=Z,0.6nm,0.8s,mb4.2,baz=294,slow=4.4,SNR=7.6
ILAR PP PP 14 53 27.8 -15
comp=Z,1.2nm,0.9s,baz=292,slow=7.5,SNR=6.2
ILAR PKKPbc PKKPbc 15 06 08.1 -0.2
comp=Z,0.5nm,1.0s,baz=110,slow=2.1,SNR=3.0
ILAR LR LR 15 36 16.0
comp=Z,109nm,19.4s,MS4.4,baz=174,slow=36
YKA Yellowknife Ar 111.00 15 PKiKP PKiKP 14 54 33.1 -1.5
comp=Z,0.2nm,0.6s,baz=335,slow=1.8,SNR=4.4
YKA PP PP 14 55 07.7 -5.3
comp=Z,0.6nm,0.6s,baz=333,slow=7.7,SNR=7.6
YKA PKKPbc PKKPbc 15 05 30.3 -1.2
comp=Z,0.1nm,0.3s,baz=246,slow=6.0,SNR=3.6
YKA Yellowknife Ar 111.00 15 PKPdf PKiKP 14 54 33.1 -1.5
YKA PP PP 14 55 07.7 -5.3
YKA PKKPbc PKKPbc 15 05 30.3 -1.2
YKA Yellowknife Ar 111.00 15 PKiKP PKiKP 14 54 33.1 -1.5
YKA 14 55 07.7
TBI Tubuai 113.64 114 *e*LR LR 15 28 41.1
comp=Z,159nm,29.5s
PPT Papeete 114.17 108 *e*LR LR 15 28 56.1
comp=Z,113nm,25.0s
EGMT Eagleton 124.75 21 *e*PKPdf PKPdf 14 55 01.3 +0.3
MOD Modoc 124.80 32 PKPdf PKPdf 14 55 02.7 +1.6
OHCM Honcut 125.89 36 PKPdf PKPdf 14 55 03.1 0.0
BOZ Bozeman (W) 126.03 24 PKPdf PKPdf 14 55 04.2 +0.7
ULM Lac du Bonnet 126.31 9 PKPdf PKPdf 14 55 03.2 -0.8
comp=Z,5.0nm,0.8s,baz=328,slow=2.0,SNR=13
ULM Lac du Bonnet 126.31 9 PKP PKPdf 14 55 03.2 -0.8
HLID Hailey 126.51 27 PKPdf PKPdf 14 55 05.6 +1.3
RKT Rikitea 126.76 117 *e*LR LR 15 34 45.6
comp=Z,197nm,37.5s
LAO LASA Array 127.11 19 PKPdf PKPdf 14 55 06.1 +0.6
LAO *e*PKPdf PKPdf 14 55 07.0 +1.6
NVAR Mina Array Bea 128.32 34 PKP PKPdf 14 55 08.6 +0.8
comp=Z,2.9nm,0.9s,baz=268,slow=2.9,SNR=19
DUG Dugway 129.88 29 PKPdf PKPdf 14 55 11.2 +0.4
DUG PKPdf PKPdf 14 55 11.6 +0.8
RSSD Black Hills 130.09 19 PKPdf PKPdf 14 55 11.9 +0.7
TMUT Trail Mountain 131.35 28 PKPdf PKPdf 14 55 14.6 +1.1
GSC Goldstone 131.36 36 PKPdf PKPdf 14 55 12.7 -0.8
MSU Marysvale 131.50 30 *e*PKPdf PKPdf 14 55 15.8 +2.0
MSU PKPdf PKPdf 14 55 16.1 +2.3
SRU San Rafael 131.81 28 PKPdf PKPdf 14 55 14.9 +0.4
NEN Nelson 132.24 34 *e*PKPdf PKPdf 14 55 17.0 +1.7
PV10 Paradox Valley 133.09 27 *e*PKPdf PKPdf 14 55 17.9 +1.1
WUAZ Wupatki 134.22 31 PKPdf PKPdf 14 55 21.3 +2.3
BNM Barren Site 137.66 28 PKPdf PKPdf 14 55 26.8 +1.5
PLCA Paso Flores 140.19 196 PKP PKPdf 14 55 28.4 -1.6
comp=Z,0.4nm,0.4s,baz=139,slow=20,SNR=2.3
MNTX Cornudas Mount 140.27 29 *e*PKPdf PKPdf 14 55 31.2 +1.1
TZTN Tazewell 140.97 359 PKPdf PKPdf 14 55 32.8 +1.4
JCT Junction City 143.77 23 *e*PKPpre 14 55 34.0
JCT PKPdf PKPdf 14 55 34.6 -1.8
CPUP Villa Florida 145.18 225 PKPdf PKPdf 14 55 39.4 +0.6
LPAZ La Paz 159.28 228 PKP PKPdf 14 55 59.9 +0.3
comp=Z,1.8nm,1.1s,baz=33,slow=14,SNR=4.2
LPAZ pPKP pPKPdf 14 56 07.5 -0.5
comp=Z,2.4nm,0.9s,baz=141,slow=4.9,SNR=5.5
LPAZ pPKPab pPKPab 14 56 44.7 -0.4
comp=Z,4.2nm,0.8s,baz=126,slow=4.1,SNR=7.2
LPAZ La Paz 159.28 228 *e*PKPdf PKPdf 14 56 01.4 +1.9
LPAZ PKPdf PKPdf 14 56 02.0 +2.4

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*CSEM **01** 14:36:39.1±1.0,3705N×2435W,h10km,ML4.0,Error ellipse: s-maj=5.5km s-min=3.3km az=53.0,After PDA*
*PDA **01** 14:36:39.1±1.0,3705N×2435W,h10km,MD3.6,ML4.0, Error ellipse: s-maj=5.5km s-min=3.3km az=53.0*
SVSA 01 14:36:39.1±1.0,3705N×2435W,h10km,MD3.6,ML4.0, Error ellipse: s-maj=5.5km s-min=3.3km az=53.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.58**	**265**	*i* P	Pg	14 36 48.4	-1.9
PSMN				*e*S	Sg	14 36 55.8	-2.1
PSMN	**Pico do Norte,**	**0.58**	**265**	*e*S	Sg	14 36 55.8	-2.1
MIRA	**Miradouro**	**1.04**	**315**	*e*P	Pg	14 36 54.5	-4.7
MIRA				*e*S	Sg	14 37 06.9	-5.9
FRA1	**Furnas**	**1.06**	**311**	*e*P	Pg	14 36 55.5	-4.0
PCNG	**Congro**	**1.10**	**311**	*i* P	Pb	14 36 55.5	-4.7
PCNG				*e*S	Sg	14 37 08.4	-6.2
PCNG	1μm,0.3s						
PCNG	**Congro**	**1.10**	**311**	*e*S	Sg	14 37 08.4	-6.2
PFAD	**Fenais da Ajud**	**1.11**	**316**	*e*P	Pb	14 36 55.6	-4.7
PFAD				*e*S	Sg	14 37 08.5	-6.3
VIF	**Vila Franca**	**1.11**	**309**	*i* P	Pb	14 36 55.8	-4.6
VIF				*e*S	Sg	14 37 08.9	-6.1
VIF	506nm,0.2s						
VIF	**Vila Franca**	**1.11**	**309**	*e*S	Sg	14 37 08.9	-6.1
PRCH	**Ribeira Ch**	**1.13**	**307**	*e*P	Pb	14 36 56.0	-4.7
PRCH				*e*S	Sb	14 37 09.1	-6.3
PRCH	2μm,0.4s						
PRCH	**Ribeira Ch**	**1.13**	**307**	*e*P	Pb	14 36 56.0	-4.7
PRCH				*e*S	Sb	14 37 09.1	-6.3
MESC	**Monte Escuro**	**1.15**	**311**	*e*P	Pb	14 36 56.2	-4.8
MESC				*e*S	Sb	14 37 09.6	-6.4
LFA	**Lagoa do Fogo**	**1.16**	**309**	*e*P	Pb	14 36 56.5	-4.7
PMAT	**Coroa da Mata**	**1.18**	**311**	*e*P	Pb	14 36 57.3	-4.2
PMAT				*e*S	Sb	14 37 10.8	-6.0
PMAT	38nm,0.4s						
PMAT	**Coroa da Mata**	**1.18**	**311**	*e*P	Pb	14 36 57.3	-4.2
PMAT				*e*S	Sb	14 37 10.8	-6.0
PVER	**Pico Vermelho**	**1.19**	**309**	*e*P	Pb	14 36 57.0	-4.8
PVER				*e*S	Sb	14 37 10.6	-6.6
PVER	958nm,0.4s						
PVER	**Pico Vermelho**	**1.19**	**309**	*e*P	Pb	14 36 57.0	-4.8
PVER				*e*S	Sb	14 37 10.6	-6.6
CML	**Cha da Macela**	**1.20**	**307**	*e*P	Pb	14 36 57.1	-4.7
PDA	**Ponta Delgada**	**1.26**	**304**	*e*P	Pn	14 36 57.5	-5.2
PDA				*e*S	Sb	14 37 11.7	-7.5
FAC	**Faja de Cima**	**1.27**	**305**	*e*P	Pn	14 36 58.4	-4.4
PSET	**Sete Cidades**	**1.34**	**306**	*i* P	Pn	14 36 58.3	-5.5
PSET				*e*S	Sb	14 37 14.3	-7.2
PSET	1μm,0.3s						
PSET	**Sete Cidades**	**1.34**	**306**	*e*S	Sb	14 37 14.3	-7.2
PSAN	**Santo Antonio**	**1.36**	**306**	*e*P	Pn	14 36 59.4	-4.7
PFET	**Feteiras**	**1.38**	**304**	*e*P	Pn	14 36 59.8	-4.6
SET2	**Ginetes**	**1.41**	**305**	*e*P	Pn	14 37 00.2	-4.6
SET4	**Mosteiros**	**1.42**	**306**	*e*P	Pn	14 37 00.8	-4.1
PFAV	**Pico das Favas**	**2.73**	**308**	*e*P	Pn	14 37 18.8	-4.1
PFAV				*e*S	Sn	14 37 48.2	-7.8
PFAV	136nm,0.3s						
PFAV	**Pico das Favas**	**2.73**	**308**	*e*P	Pn	14 37 18.8	-4.1
PFAV				*e*S	Sn	14 37 48.2	-7.8
RIB2	**Ribeirinha**	**2.76**	**307**	*e*P	Pn	14 37 19.6	-3.8
RIB2				*e*S	Sn	14 37 49.4	-7.4
RIB2	142nm,0.2s						
RIB2	**Ribeirinha**	**2.76**	**307**	*e*P	Pn	14 37 19.6	-3.8
RIB2				*e*S	Sn	14 37 49.4	-7.4
ADH	**Angra Heroismo**	**2.79**	**306**	*e*P	Pn	14 37 19.1	-4.7
ADH				*e*S	Sn	14 37 49.6	-8.0
PVNV	**Vila Nova**	**2.80**	**308**	*e*P	Pn	14 37 19.9	-4.1
PVNV				*e*S	Sn	14 37 50.1	-7.7
PVNV	171nm,0.4s						

PVNV	**Vila Nova**	**2.80 308**	*e*P	Pn	14 37 19.9	-4.1
PVNV			*e*S	Sn	14 37 50.1	-7.7
PPAD	**Pico dos Padre**	**2.85 306**	*e*P	Pn	14 37 20.9	-3.7
PPAD			*e*S	Sn	14 37 51.2	-7.8
PPAD						
	98nm,0.4s					
PPAD	**Pico dos Padre**	**2.85 306**	*e*P	Pn	14 37 20.9	-3.7
PPAD			*e*S	Sn	14 37 51.2	-7.8
PBIS	**Biscoitos**	**2.86 307**	*e*P	Pn	14 37 20.6	-4.2
PBIS			*e*S	Sn	14 37 51.7	-7.6
PBIS						
	74nm,0.5s					
PBIS	**Biscoitos**	**2.86 307**	*e*P	Pn	14 37 20.6	-4.2
PBIS			*e*S	Sn	14 37 51.7	-7.6
ASBA	**Santa Barbara**	**2.89 306**	*e*P	Pn	14 37 21.6	-3.5
ASBA			*e*S	Sn	14 37 52.0	-7.9
ASBA						
	93nm,0.2s					
ASBA	**Santa Barbara**	**2.89 306**	*e*P	Pn	14 37 21.6	-3.5
ASBA			*e*S	Sn	14 37 52.0	-7.9
PSBA	**Serra de Santa**	**2.91 307**	*e*P	Pn	14 37 21.0	-4.5
PSBA			*e*S	Sn	14 37 52.7	-7.8
PSBA						
	413nm,0.3s					
PSBA	**Serra de Santa**	**2.91 307**	*e*P	Pn	14 37 21.0	-4.5
PSBA			*e*S	Sn	14 37 52.7	-7.8
PMAN	**Manadas**	**3.36 299**	*e*S	Sn	14 38 02.5	-9.0
PMAN						
	103nm,0.3s					
PPNO	**Prainha do Nor**	**3.41 296**	*e*P	Pn	14 37 27.9	-4.5
PPNO			*e*S	Sn	14 38 04.3	-8.6
PPNO						
	84nm,0.3s					
PPNO	**Prainha do Nor**	**3.41 296**	*e*P	Pn	14 37 27.9	-4.5
PPNO			*e*S	Sn	14 38 04.3	-8.6
PBOI	**Pico dos Bois**	**3.48 295**	*e*P	Pn	14 37 29.4	-3.9
PBOI			*e*S	Sn	14 38 06.5	-8.1
PBOI						
	39nm,0.4s					
ROSA	**Rosais**	**3.50 300**	*e*P	Pn	14 37 29.6	-4.0
ROSA			*e*S	Sn	14 38 06.7	-8.4
PICO	**Pico**	**3.54 295**	*e*P	Pn	14 37 30.1	-4.0
PICO			*e*S	Sn	14 38 07.8	-8.3
PCND	**Candelaria**	**3.56 295**	*e*P	Pn	14 37 30.6	-3.7
HOR	**Horta**	**3.70 295**	*e*P	Pn	14 37 32.4	-3.9
CALA	**Caldeira**	**3.77 295**	*e*P	Pn	14 37 33.0	-4.3
CALA			*e*S	Sn	14 38 13.3	-8.5
PCED	**Cedros**	**3.79 296**	*e*P	Pn	14 37 33.3	-4.3

*ISCJB **01** 14:39:14.9±1.1, 1342N±006×120.10E±0.10, h17km±14km, Error ellipse: s-maj=17.7km s-min=7.1km az=54.3*
*MAN **01** 14:39:41.4, 1360N×12001E, h24km, mb2.3, ML3.9, MS1.3*

ISC 01 14:39:14.8±1.6, 1336N±010×1202E±01, h6km±21km, n7, σ0°82/12, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.38**	**13**	*e*P	**Pg**	**14 39 22.2**	**-0.1**
LUBP				*e*S	**Sg**	**14 39 26.7**	**-0.5**
BUSP	**Coron**	**1.35**	**178**	*e*P	**Pn**	**14 39 41.0**	**+0.8**
BUSP				*e*S	**Sb**	**14 39 58.3**	**+0.3**
BOAC	**Boac**	**1.64**	**86**	*e*P	**Pn**	**14 39 43.8**	**-0.5**
BOAC				*e*S	**Sn**	**14 40 06.5**	**+0.8**
OTRP	**Odiongan**	**2.07**	**118**	*e*P	**Pn**	**14 39 54.3**	**+4.1**
ENPP	**El Nido**	**2.26**	**199**	*e*P	**Pn**	**14 39 53.6**	**+0.8**
ENPP				*e*S	**Sn**	**14 40 20.4**	**-0.5**
CUYO	**Cuyo Island**	**2.63**	**161**	*e*P	**Pn**	**14 39 58.5**	**+0.6**
CUYO				*e*S	**Sn**	**14 40 28.0**	**-2.1**
GUIM	**Jordan**	**3.61**	**139**	*e*P	**Pn**	**14 40 11.2**	**-0.1**

MAN 01 14:43:53.5, 1364N×12004E, h33km, mb3.2, ML4.5, MS3.5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.22**	**63**	*e*P	Pb	14 44 02.2	+1.9
LUBP				*e*S	Sb	14 44 07.0	+2.1
TGY	**Tagaytay City**	**0.98**	**62**	‖*i*P	Pn	14 44 16.2	+5.2
TGY				*i* S	Sn	14 44 28.9	+5.2
BUSP	**Coron**	**1.63**	**175**	*e*P	Pn	14 44 20.2	+0.4
BUSP				*e*S	Sn	14 44 38.0	-1.7
BOAC	**Boac**	**1.76**	**95**	*e*P	Pn	14 44 21.4	-0.2
BOAC				*e*S	Sn	14 44 44.1	+1.2
OTRP	**Odiongan**	**2.31**	**123**	*e*P	Pn	14 44 30.2	+1.0
OTRP				*e*S	Sn	14 44 59.9	+3.5
ENPP	**El Nido**	**2.49**	**194**	*e*P	Pn	14 44 33.0	+1.3
ENPP				*e*S	Sn	14 45 01.1	+0.2
CUYO	**Cuyo Island**	**2.93**	**161**	*e*P	Pn	14 44 37.7	0.0
CUYO				*e*S	Sn	14 45 08.1	-3.6

MAN 01 14:46:46, 1367N×12030E, h55km, mb1.8, ML3.6, MS4.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.09**	**321**	*e*P	Pn	14 46 55.1	+0.8
BUSP	**Coron**	**1.66**	**183**	*e*P	Pn	14 47 14.4	+1.7
BUSP				*e*S	Sn	14 47 30.8	-2.1
ENPP	**El Nido**	**2.59**	**199**	*e*P	Pn	14 47 26.4	+1.0
ENPP				*e*S	Sn	14 47 52.0	-3.7
CUYO	**Cuyo Island**	**2.89**	**166**	*e*P	Pn	14 47 30.7	+1.2
CUYO				*e*S	Sn	14 47 48.6	-14

MAN 01 14:48:32.9, 1359N×12011E, h29km, mb2.2, ML3.9, MS6.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**43**	*e*P	Pb	14 48 39.5	+0.6
LUBP				*e*S	Sb	14 48 43.3	+0.3
PGP	**Puerto Galera**	**0.83**	**96**	*e*P	Pn	14 48 48.6	+0.1
BUSP	**Coron**	**1.58**	**177**	*e*P	Pn	14 48 59.6	+0.7
BUSP				*e*S	Sn	14 49 18.0	-0.4
BOAC	**Boac**	**1.69**	**94**	*e*P	Pn	14 49 01.2	+0.8
BOAC				*e*S	Sn	14 49 24.7	+3.5
ENPP	**El Nido**	**2.46**	**196**	*e*P	Pn	14 49 12.1	+1.1
ENPP				*e*S	Sn	14 49 38.6	-1.4
CUYO	**Cuyo Island**	**2.87**	**162**	*e*S	Pn	14 49 17.1	+0.5

MAN 01 14:50:30.3, 1335N×12017E, h7km, mb2.5, ML4.1, MS1.8, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.39**	**11**	*e*P	Pg	14 50 38.1	+0.2
LUBP				*e*S	Sg	14 50 43.0	+0.1
PGP	**Puerto Galera**	**0.78**	**79**	*e*P	Pg	14 50 45.6	+0.4
TGY	**Tagaytay City**	**1.05**	**45**	‖*e*P	Pg	14 50 51.6	+1.0
TGY				*i* S	Sg	14 51 06.1	+1.9
BUSP	**Coron**	**1.34**	**179**	*e*P	Pn	14 50 56.1	+0.6
BUSP				*e*S	Sb	14 51 13.6	+0.5
BOAC	**Boac**	**1.63**	**86**	*e*P	Pn	14 50 57.9	-1.6
BOAC				*e*S	Sn	14 51 21.2	+0.5
OTRP	**Odiongan**	**2.06**	**118**	*e*P	Pn	14 51 08.3	+3.0
OTRP				*e*S	Sn	14 51 29.9	-1.3
ENPP	**El Nido**	**2.25**	**199**	*e*P	Pn	14 51 08.5	+0.5
ENPP				*e*S	Sn	14 51 36.4	+0.3
CUYO	**Cuyo Island**	**2.62**	**161**	*e*P	Pn	14 51 13.5	+0.5
CUYO				*e*S	Sn	14 51 43.2	-1.9

MAN 01 14:57:00.1, 1358N×12019E, h33km, mb2.3, ML3.9, MS2.4, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.16**	**20**	*e*P	Pb	14 57 07.6	+1.4
LUBP				*e*S	Sb	14 57 12.0	+1.6
BUSP	**Coron**	**1.57**	**180**	*e*P	Pn	14 57 26.0	+0.4
BUSP				*e*S	Sn	14 57 43.7	-1.2
ENPP	**El Nido**	**2.48**	**198**	*e*P	Pn	14 57 38.8	+0.7
ENPP				*e*S	Sn	14 58 06.1	-1.1

MAN 01 15:01:37.6, 1353N×12008E, h25km, mb2.4, ML4.0, MS3.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.26**	**38**	*e*P	Pb	15 01 45.0	+1.0
LUBP				*e*S	Sb	15 01 49.5	+1.1
PGP	**Puerto Galera**	**0.85**	**92**	*e*P	Pb	15 01 53.2	-0.4
BUSP	**Coron**	**1.52**	**176**	*e*P	Pn	15 02 03.2	0.0
BUSP				*e*S	Sn	15 02 20.9	-1.2
BOAC	**Boac**	**1.71**	**92**	*e*P	Pn	15 02 06.7	+0.9
BOAC				*e*S	Sn	15 02 27.6	+0.7
ENPP	**El Nido**	**2.39**	**196**	*e*P	Pn	15 02 16.3	+1.2
ENPP				*e*S	Sn	15 02 42.7	-1.0
CUYO	**Cuyo Island**	**2.81**	**161**	*e*P	Pn	15 02 21.0	+0.1

*IDC **01** 15:14:11.2±1.6, 1335N×12005E, h0km, mb3.9/3, Error ellipse: s-maj=32.8km s-min=12.8km az=123.0*
*ISCJB **01** 15:14:13.6±0.8, 1341N±004×120.13E±006, h23km±8km, mb4.1/4, Error ellipse: s-maj=10.6km s-min=6.2km az=51.0*
*MAN **01** 15:14:13.6, 1337N×120.17E, h8km, mb3.3, ML4.6, MS2.3*
*NEIC **01** 15:14:16.1±1.0, 1340N×12020E, h35km, mb4.6/1, Error ellipse: s-maj=29.1km s-min=13.4km az=94.0*

ISC 01 15:14:13.7±1.0, 1339N±004×12014E±006, h12km±7km, n17, σ0°94/28, mb4.1/4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.36**	**16**	*e*P	**Pg**	**15 14 20.8**	**-0.1**
LUBP				*e*S	**Sg**	**15 14 25.4**	**-0.5**
PGP	**Puerto Galera**	**0.80**	**82**	*e*P	**Pg**	**15 14 28.7**	**-0.4**
TGY	**Tagaytay City**	**1.05**	**47**	Pg	**Pg**	**15 14 33.8**	**-0.2**
	695nm,0.3s,baz=227,slow=3.0,SNR=23						
TGY				Lg		15 14 48.2	
	674nm,0.3s,baz=171,slow=21,SNR=23						
TGY	**Tagaytay City**	**1.05**	**47**	‖P	**Pb**	**15 14 34.4**	**+0.6**
TGY				*i* S	**Sb**	**15 14 41.0**	**-6.5**
BUSP	**Coron**	**1.38**	**178**	*e*P	**Pn**	**15 14 39.1**	**+0.5**
BUSP				*e*S	**Sn**	**15 14 56.6**	**-0.1**
BOAC	**Boac**	**1.66**	**87**	*e*P	**Pn**	**15 14 41.6**	**-0.9**
BOAC				*e*S	**Sn**	**15 15 01.1**	**-2.6**
OTRP	**Odiongan**	**2.09**	**119**	*e*P	**Pn**	**15 14 49.0**	**+0.4**
OTRP				*e*S	**Sn**	**15 15 19.7**	**+5.2**
POLP	**Polilio Island**	**2.19**	**52**	*e*P	**Pn**	**15 14 50.1**	**+0.2**
POLP				*e*S	**Sn**	**15 15 17.9**	**+0.9**
ENPP	**El Nido**	**2.28**	**198**	*e*P	**Pn**	**15 14 52.1**	**+1.1**
ENPP				*e*S	**Sn**	**15 15 18.9**	**-0.1**
SCZP	**Santa Cruz**	**2.39**	**355**	*e*P	**Pn**	**15 14 46.7**	**-5.9**
SCZP				*e*S	**Sn**	**15 15 28.2**	**+6.5**
AUQP	**San Andres**	**2.46**	**91**	*e*P	**Pn**	**15 14 56.6**	**+2.9**
AUQP				*e*S	**Sn**	**15 15 39.5**	**+16**
CUYO	**Cuyo Island**	**2.66**	**161**	*e*P	**Pn**	**15 14 56.6**	**+0.3**
CUYO				*e*S	**Sn**	**15 15 26.6**	**-1.9**
GUIM	**Jordan**	**3.64**	**139**	*e*P	**Pn**	**15 15 11.1**	**+1.2**
GUIM				*e*S	**Sn**	**15 15 53.3**	**+0.7**
WRAB	**Tennant Creek**	**35.94**	**157**	*e*P	**P**	**15 21 13.1**	**-0.9**
	4.1nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**35.94**	**157**	P	**P**	**15 21 13.2**	**-0.8**
	3.6nm,0.6s,mb4.5,baz=336,slow=9.6,SNR=101						
SONM	**Songino Array**	**36.21**	**344**	P	**P**	**15 21 15.7**	**-0.6**
	0.2nm,0.5s,mb3.3,baz=178,slow=6.6,SNR=2.7						
ASAR	**Alice Springs**	**39.21**	**160**	P	**P**	**15 21 41.6**	**0.0**
	2.4nm,0.6s,mb4.1,baz=340,slow=7.1,SNR=42						

MAN 01 15:23:17.5, 1364N×12026E, h45km, mb1.3, ML3.3, MS6.6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.09**	**351**	*e*P	Pn	15 23 25.9	+1.3
LUBP				*e*S	Sn	15 23 30.7	+1.1
PGP	**Puerto Galera**	**0.69**	**102**	*e*P	Pn	15 23 33.1	+2.2
BOAC	**Boac**	**1.55**	**97**	*e*P	Pn	15 23 43.0	+0.4
BOAC				*e*S	Sn	15 24 09.5	+8.0
BUSP	**Coron**	**1.63**	**182**	*e*P	Pn	15 23 45.4	+1.7
BUSP				*e*S	Sn	15 24 01.9	-1.6
ENPP	**El Nido**	**2.56**	**199**	*e*P	Pn	15 23 57.0	+0.6
ENPP				*e*S	Sn	15 24 24.2	-2.1
CUYO	**Cuyo Island**	**2.87**	**165**	*e*P	Pn	15 24 01.6	+0.9
CUYO				*e*S	Sn	15 24 31.8	-2.2

MAN 01 15:24:12.4, 1362N×12006E, h32km, mb2.2, ML3.9, MS4.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.21**	**59**	*e*P	Pb	15 24 19.9	+0.9
LUBP				*e*S	Sb	15 24 24.0	+0.5
BUSP	**Coron**	**1.61**	**175**	*e*P	Pn	15 24 39.7	+1.0
BUSP				*e*S	Sn	15 24 56.7	-1.6
BOAC	**Boac**	**1.75**	**95**	*e*P	Pn	15 24 41.1	+0.6
BOAC				*e*S	Sn	15 25 02.2	+0.7
ENPP	**El Nido**	**2.48**	**195**	*e*P	Pn	15 24 52.0	+1.4
ENPP				*e*S	Sn	15 25 19.5	-0.3
CUYO	**Cuyo Island**	**2.91**	**161**	*e*P	Pn	15 24 57.0	+0.5

*ISCJB **01** 15:26:52.1±0.5, 5839N±004×1072E±007, h0km, Error ellipse: s-maj=6.0km s-min=4.7km az=94.1*
*HEL **01** 15:26:54.2±0.7, 5838N×1059E, h0km, MD3.0(BER), ML2.3(NAO), Explosion*
*NAO **01** 15:26:54.0±1.8, 5844N×1047E, ML2.3*
*BER **01** 15:26:55.8±3.7, 5841N×1049E, h0km±25km, MD3.0, ML2.3(NAO)*
*IDC **01** 15:26:57.7±2.0, 5855N×1058E, h0km, mb1 3.6/3, mb1mx3.1/20, mbtmp3.5/3, ML2.9/4, Error ellipse: s-maj=14.9km s-min=14.8km az=89.0*

ISC 01 15:26:53.3±0.5, 5841N±004×1058E±007, h0km, n26, σ1°26/40, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KON	**Kongsberg**	**1.34**	**338**	Pn	**Pn**	**15 27 19.0**	**-0.2**
KON				Lg		15 27 36.7	
KONO	**Kongsberg**	**1.34**	**338**	*e*P	**Pg**	**15 27 18.9**	**-0.1**
KONO				*e*S	**Sg**	**15 27 37.5**	**+1.1**
SNART	**Snartemo**	**1.78**	**269**	*e*P	**Pn**	**15 27 24.9**	**-0.4**
MUD	**Monsted U'grnd**	**2.11**	**202**	*i* P	**Pn**	**15 27 30.0**	**+0.2**
MUD				*i*		15 27 32.8	
MUD				*e*S	**Sn**	**15 27 55.6**	**-1.1**
HFS	**Hagfors**	**2.35**	**41**	*e*P	**Pn**	**15 27 34.5**	**+1.3**
HFS				*e*SG	**Sg**	**15 28 08.0**	**-0.9**
HFS	**Hagfors**	**2.35**	**41**	Pn	**Pn**	**15 27 34.5**	**+1.3**
	baz=232,slow=14						
HFS				Lg		15 28 08.0	
	baz=210,slow=37						
HFS	**Hagfors**	**2.35**	**41**	Pn	**Pn**	**15 27 34.6**	**+1.4**
	2.0nm,0.3s,baz=221,slow=14,SNR=89						
HFS				Sn	**Sn**	**15 28 03.1**	**+0.4**
	1.8nm,0.3s,baz=235,slow=20,SNR=6.6						
HFS				Lg		15 28 08.7	
	4.2nm,0.3s,baz=220,slow=27,SNR=11						
BLS5	**Blasjo**	**2.37**	**297**	*e*P	**Pn**	**15 27 35.1**	**+1.7**
ODD1	**Odda**	**2.53**	**308**	*e*P	**Pn**	**15 27 34.5**	**-1.2**
NB2	**NORSAR Subarra**	**2.65**	**7**	Pn	**Pn**	**15 27 37.4**	**0.0**
	baz=191,slow=16						
NB2	**NORSAR Subarra**	**2.65**	**7**	*e*P	**Pn**	**15 27 37.4**	**0.0**
NOA	**NORSAR Array B**	**2.65**	**7**	Pn	**Pn**	**15 27 37.5**	**+0.2**
	1.1nm,0.3s,baz=188,slow=13,SNR=6.4						
NOA				Lg		15 28 17.6	
	2.4nm,0.3s,baz=230,slow=23,SNR=6.1						
KMY	**Karmoy**	**2.89**	**288**	*e*P	**Pn**	**15 27 39.6**	**-0.9**
BSD	**Bornholm Skovb**	**4.08**	**142**	*i* P	**Pn**	**15 27 57.8**	**+0.9**
BSD				*i*		15 28 06.3	
BSD				*e*S	**Sn**	**15 28 59.8**	**+14**
RAF	**Rauma**	**6.23**	**60**	*e*P	**Pn**	**15 28 27.7**	**+1.2**
RAF				*e*S	**Sn**	**15 29 34.2**	**-4.2**
MEF	**Metsahovi**	**7.30**	**70**	*e*P	**Pn**	**15 28 41.2**	**0.0**
MEF				*e*S	**Sn**	**15 29 57.4**	**-7.3**
VAF	**Ylistaro**	**7.52**	**47**	*e*P	**Pn**	**15 28 46.1**	**+1.9**
VAF				*e*S	**Sn**	**15 30 07.2**	**-3.0**
KEF	**Keuruu**	**8.03**	**56**	*e*P	**Pn**	**15 28 52.3**	**+1.1**
KEF				*e*S	**Sn**	**15 30 17.6**	**-5.1**
PVF	**Pernaja**	**8.07**	**68**	*e*P	**Pn**	**15 28 51.1**	**-0.6**
PVF				*e*S	**Sn**	**15 30 16.9**	**-6.7**
FIA0	**FINESS Array S**	**8.35**	**62**	*e*P	**Pn**	**15 28 55.9**	**+0.3**
FIA0				*e*S	**Sn**	**15 30 25.1**	**-5.5**
FIA0	**FINESS Array S**	**8.35**	**62**	Pn	**Pn**	**15 28 56.8**	**+1.2**
	baz=252,slow=12						
FIA0				Sn	**Sn**	**15 30 28.1**	**-2.5**
	baz=246,slow=28						
FIA0				Lg		15 31 14.9	
	baz=269,slow=28						
FINES	**FINESS Array B**	**8.35**	**62**	Pn	**Pn**	**15 28 57.0**	**+1.4**
	0.3nm,0.3s,baz=255,slow=13,SNR=9.4						
FINES				Sn	**Sn**	**15 30 25.1**	**-5.5**
	0.1nm,0.3s,baz=261,slow=17,SNR=3.0						
FINES				Lg		15 31 16.0	
	0.2nm,0.3s,baz=260,slow=21,SNR=2.9						
SUF	**Sumiainen**	**8.79**	**54**	*e*P	**Pn**	**15 29 02.2**	**+0.6**
SUF				*e*S	**Sn**	**15 30 35.4**	**-5.9**
ARA0	**ARCESS Array S**	**12.88**	**24**	Pn	**Pn**	**15 29 54.7**	**-3.0**
	baz=206,slow=14						
ARA0	**ARCESS Array S**	**12.88**	**24**	*e*P	**Pn**	**15 29 54.7**	**-3.0**
ARCES	**ARCESS Array B**	**12.88**	**24**	Pn	**Pn**	**15 29 54.5**	**-3.2**
	0.1nm,0.3s,baz=210,slow=14,SNR=5.3						

MAN 01 15:28:03.6, 1368N×12023E, h47km, mb1.6, ML3.4, MS9.9, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.06**	**11**	*e*P	Pn	15 28 12.1	+1.2
LUBP				*e*S	Sn	15 28 16.6	+0.6
BOAC	**Boac**	**1.58**	**98**	*e*P	Pn	15 28 29.8	+0.6
BOAC				*e*S	Sn	15 28 56.3	+7.9
BUSP	**Coron**	**1.66**	**181**	*e*P	Pn	15 28 31.8	+1.5
BUSP				*e*S	Sn	15 28 48.4	-2.0
ENPP	**El Nido**	**2.58**	**198**	*e*P	Pn	15 28 43.2	+0.4
ENPP				*e*S	Sn	15 29 10.9	-2.0

*ISCJB **01** 15:28:48.2±0.5, 3885N±002×2345E±004, h17km±6km, Error ellipse: s-maj=4.9km s-min=3.7km az=17.0*
*CSEM **01** 15:28:48.3±0.1, 3886N×2344E, h5km, ML3.0, Error ellipse: s-maj=2.3km s-min=1.4km az=86.0*
*ATH **01** 15:28:48.4, 3885N×2341E, h18km±2km, MD3.0/9, ML3.0*
*NEIC **01** 15:28:48.5, 3885N×2342E, h17km, ML3.0(ATH), After ATH.*
*THE **01** 15:28:49.1, 3891N×2343E, h8km, ML2.7*

ISC 01 15:28:47.7±0.5, 3885N±002×2346E±004, h13km±4km, n23, σ0°98/36, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.41**	**241**	‖*i*PB	**Pg**	**15 28 56.3**	**+0.4**
LKR				*e*SB	**Sg**	**15 29 02.5**	**+1.1**
AOS	**Alonnisos**	**0.46**	**46**	*e*Pg	**Pg**	**15 28 57.2**	**+0.5**
AOS				*e*Sg	**Sg**	**15 29 03.5**	**+0.7**
NEO	**Neokhori**	**0.49**	**338**	*e*PB	**Pb**	**15 28 57.9**	**-0.2**
NEO				*e*SB	**Sg**	**15 29 05.0**	**+1.2**
XOR	**Xorichti**	**0.55**	**338**	*e*Pg	**Pg**	**15 28 59.0**	**+0.5**
XOR				*e*Sg	**Sg**	**15 29 06.4**	**+0.6**
MPAR	**Parnis Oros**	**0.73**	**163**	*e*PN	**Pn**	**15 29 02.5**	**-1.2**
PTL	**Penteli**	**0.87**	**158**	*e*PB	**Pb**	**15 29 04.5**	**0.0**
MGER	**Gerania Oros**	**0.88**	**190**	*e*PB	**Pb**	**15 29 04.5**	**-0.3**
AGG	**Agios Georgios**	**0.89**	**281**	*e*Pg	**Pg**	**15 29 04.9**	**-0.1**
AGG				*e*Sg	**Sg**	**15 29 17.8**	**+1.1**
ATH	**Athens Observa**	**0.90**	**167**	*e*PN	**Pn**	**15 29 05.5**	**-0.5**
ATH				*e*SN	**Sn**	**15 29 18.5**	**-0.4**
KVR	**Kavouri**	**1.05**	**166**	*e*PN	**Pn**	**15 29 08.5**	**+0.4**
PAIG	**Paliouri**	**1.08**	**9**	*e*Pg	**Pg**	**15 29 08.0**	**-0.6**
PAIG				*e*Sg	**Sg**	**15 29 23.4**	**+0.7**
NAIG	**Nisos Aigina**	**1.09**	**179**	*e*PN	**Pn**	**15 29 08.9**	**+0.2**
EVR	**Evrytania**	**1.29**	**273**	*e*PN	**Pn**	**15 29 11.8**	**+0.5**
LIT	**Litokhoron**	**1.45**	**329**	*e*Pg	**Pg**	**15 29 13.8**	**-1.8**
LIT				*e*Sg	**Sg**	**15 29 32.3**	**-2.1**
PLG	**Polygyros**	**1.52**	**360**	*e*PB	**Pb**	**15 29 15.6**	**-0.1**
PLG	**Polygyros**	**1.52**	**360**	*e*Pb	**Pb**	**15 29 14.5**	**-1.2**
OUR	**Ouranopolis**	**1.53**	**15**	*e*Pg	**Pg**	**15 29 14.9**	**-2.2**
OUR				*e*Sg	**Sg**	**15 29 35.6**	**-1.4**
LOS	**Limnos**	**1.66**	**49**	*e*Pb	**Pb**	**15 29 18.6**	**+0.6**
LOS				*e*Sb	**Sb**	**15 29 39.0**	**+0.2**
LIA	**Limnos Island**	**1.70**	**52**	*e*PN	**Pn**	**15 29 20.1**	**+3.2**
MEV	**Metsovon**	**1.96**	**299**	*e*Pb	**Pb**	**15 29 21.2**	**-2.0**
MEV				*e*Sb	**Sb**	**15 29 47.0**	**-0.6**
GRG	**Griva**	**2.25**	**339**	*e*Pn	**Pn**	**15 29 24.6**	**0.0**
SRS	**Serrai**	**2.26**	**3**	*e*Pn	**Pn**	**15 29 25.4**	**+0.6**
SRS				*e*Sn	**Sn**	**15 29 53.1**	**+0.6**
KNT	**Kendrikon**	**2.34**	**350**	*e*Pn	**Pn**	**15 29 26.8**	**+1.0**
KNT				*e*Sn	**Sn**	**15 29 55.4**	**+0.9**

MAN 01 15:37:36.3, 1581N×12138E, h24km, mb2.5, ML4.1, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.20**	**111**	*e*P	Pb	15 37 44.0	+2.2
BALP				*e*S	Sb	15 37 50.4	+4.7
CAUP	**Cauayan**	**1.20**	**21**	*e*P	Pn	15 37 56.0	-1.6
CAUP				*e*S	Sn	15 38 12.8	-0.4
POLP	**Polilio Island**	**1.21**	**153**	*e*P	Pn	15 37 56.4	-1.3
POLP				*e*S	Sn	15 38 14.1	+0.8
PALP	**Palanan**	**1.60**	**39**	*e*P	Pn	15 38 02.1	-1.0
APYP	**Conner**	**2.04**	**356**	*e*P	Pn	15 38 10.3	+1.1
APYP				*e*S	Sn	15 38 37.4	+3.5
APYP	**Conner**	**2.04**	**356**	*e*P	Pn	15 38 10.6	+1.4
APYP				*e*S	Sn	15 38 37.8	+3.9

*IDC **01** 15:38:43.3±1.2, 1332N×12004E, h0km, mb3.9/4, Error ellipse: s-maj=27.1km s-min=17.9km az=100.0*
*MAN **01** 15:38:45.6, 1347N×120.13E, h15km, mb3.4, ML4.6, MS1.7*
*ISCJB **01** 15:38:46.8±0.5, 1341N±003×12008E±005, h33km, mb4.0/6, Error ellipse: s-maj=6.5km s-min=3.9km az=35.3*
*NEIC **01** 15:38:48.4±0.5, 1339N×12024E, h35km, mb4.3/2, Error ellipse: s-maj=18.2km s-min=9.1km az=77.0*

ISC 01 15:38:46.0±1.2, 1340N±003×12012E±005, h15km±7km, n23, σ0°92/33, mb4.0/6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.82**	**83**	*e*P	**Pg**	**15 39 01.0**	**-1.0**
TGY	**Tagaytay City**	**1.06**	**49**	Pg	**Pg**	**15 39 05.9**	**-0.6**
	300nm,0.3s,baz=213,slow=3.3,SNR=17						
TGY		

az=55.0
*ISCJB **01** 15:59:57.4±0.7, 25N×01×9584E±0.10, h33km, mb4.4/24, MS4.2/2, Error ellipse: s-maj=18.3km s-min=8.7km az=85.3*
*MOS **01** 15:59:57.1±0.8, 250N×9575E, h33km, mb4.6/7, Error ellipse: s-maj=18.4km s-min=11.3km az=112.0*
*NEIC **01** 15:59:58.8±0.5, 250N×9583E, h30km, mb4.5/12, Error ellipse: s-maj=12.7km s-min=5.7km az=223.0*
*BJI **01** 16:00:00.8, 306N×9605E, h30km, mB5.0, mb4.8*
ISC 01 16:00:00.0±0.7, 26N±01×9588E±010, h35km, n41, σ0§82/40, mb4.4/24, MS4.2/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.05**	**86**	Pn	**Pn**	**16 00 46.4**	**+0.6**
	3.8nm,0.3s,baz=286,slow=6.3,SNR=19						
PSI				LR	LR	16 02 20.3	
	comp=Z,566nm,18.2s,baz=266,slow=45						
KULM	**Kulim**	**5.48**	**60**	*eP*	**Pn**	**16 01 19.2**	**+0.2**
SHL	**Shillong**	**23.19**	**351**	*eP*	**P**	**16 05 00.0**	**-3.7**
JIRN	**Jiri**	**26.62**	**341**	*eP*	**P**	**16 05 35.7**	**+0.6**
	67nm,1.1s,mb5.1						
DMN	**Daman**	**26.95**	**339**	*eP*	**P**	**16 05 39.0**	**+0.9**
	19nm,0.9s,mb4.6						
GUN	**Gumba**	**26.95**	**340**	*eP*	**P**	**16 05 39.1**	**+1.0**
	27nm,0.8s,mb4.8						
KKN	**Kakani**	**27.05**	**339**	*eP*	**P**	**16 05 39.4**	**+0.4**
	28nm,0.9s,mb4.8						
KKN	**Kakani**	**27.05**	**339**	*eP*	**P**	**16 05 39.4**	**+0.4**
KKN				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
LSA	**Lhasa**	**27.36**	**351**	P	**P**	**16 05 42.8**	**+1.0**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
LSA	**Lhasa**	**27.36**	**351**	*eP*	**P**	**16 05 42.4**	**+0.7**
	comp=Z,5.2nm,0.8s,mb4.1						
LSA	**Lhasa**	**27.36**	**351**	*eP*	**P**	**16 05 42.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
GKN	**Gorkha**	**27.48**	**338**	*eP*	**P**	**16 05 43.5**	**+0.6**
	comp=Z,39nm,1.1s,mb4.9						
KOLN	**Koldanda**	**27.68**	**336**	*eP*	**P**	**16 05 45.1**	**+0.5**
	comp=Z,12nm,0.8s,mb4.6						
LZH	**Lanzhou**	**34.16**	**12**	*eP*	**P**	**16 06 40.5**	**-1.3**
LZH				AP	pP	16 06 50.1	-1.8
LZH				XP	sP	16 06 53.5	-2.6
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.9						
GTA	**Gaotai**	**36.85**	**5**	*eP*	**P**	**16 07 04.3**	**-0.5**
GTA				AP	pP	16 07 10.8	-4.2
GTA				XP	sP	16 07 13.6	-5.6
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
HHC	**Hu-ho-hao-te**	**40.66**	**18**	*eP*	**P**	**16 07 32.9**	**-3.9**
HHC				AMB	AMB		
	comp=Z,6.0nm,0.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,136nm,4.8s						
BJT	**Baijiatuau**	**41.58**	**24**	*eP*	**P**	**16 07 45.0**	**+0.7**
	comp=Z,13nm,0.9s,mb4.5						
BJT	**Baijiatuau**	**41.58**	**24**	*eP*	**P**	**16 07 45.0**	**+0.7**
BJT				pmax	pmax		
	comp=Z,13nm,0.9s						
BJI	**Beijing**	**41.60**	**24**	*eP*	**P**	**16 07 45.1**	**+0.6**
BJI				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**43.88**	**122**	P	**P**	**16 08 02.3**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.6,baz=300,slow=9.5,SNR=8.3						
WRAB	**Tennant Creek**	**43.88**	**122**	*eP*	**P**	**16 08 03.7**	**+0.7**
AAK	**Ala-Archa**	**44.23**	**337**	*eP*	**P**	**16 08 06.7**	**+0.9**
	comp=Z,2.5nm,1.0s,mb3.9						
AAK	**Ala-Archa**	**44.23**	**337**	*eP*	**P**	**16 08 06.7**	**+0.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
ASAR	**Alice Springs**	**45.27**	**127**	P	**P**	**16 08 14.6**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.6,baz=299,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**45.62**	**347**	P	**P**	**16 08 16.6**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.3,baz=162,slow=8.7,SNR=98						
MKAR	**Makanchi Array**	**45.62**	**347**	*eP*	**P**	**16 08 16.4**	**-0.4**
SONM	**Songino Array**	**46.00**	**10**	P	**P**	**16 08 19.3**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.3,baz=189,slow=8.9,SNR=28						
ULN	**Ulaanbaatar**	**46.15**	**10**	*eP*	**P**	**16 08 20.9**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.2						
ULN	**Ulaanbaatar**	**46.15**	**10**	*eP*	**P**	**16 08 20.9**	**-0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KKAR	**Karatay Array**	**46.26**	**334**	*iP*	**P**	**16 08 22.4**	**+0.5**
KURK	**Kurchatov**	**50.15**	**346**	*eP*	**P**	**16 08 51.7**	**-0.2**
	comp=Z,12nm,1.4s,mb4.8						
KURK	**Kurchatov**	**50.15**	**346**	*eP*	**P**	**16 08 51.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
ZAL	**Zalesovo**	**52.01**	**352**	P	**P**	**16 09 05.4**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.2,baz=297,slow=7.5,SNR=12						
NVS	**Novosibirsk**	**53.12**	**351**	*eP*	**P**	**16 09 12.7**	**-1.4**
ZRNK	**Zerenda**	**54.93**	**340**	*eP*	**P**	**16 09 26.4**	**-0.9**
	comp=Z,1.7nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**54.93**	**340**	*eP*	**P**	**16 09 26.4**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**55.24**	**132**	P	**P**	**16 09 29.2**	**-0.4**
	comp=Z,1.9nm,0.9s,mb4.1,baz=323,slow=10,SNR=3.0						
STKA				LR	LR	16 35 58.2	
	comp=Z,223nm,19.4s,MS4.2,baz=203,slow=39						
STKA	**Stephens Creek**	**55.24**	**132**	P	**P**	**16 09 29.2**	**-0.4**
STKA				LR	LR	16 35 58.2	
BOD	**Bodaibo**	**56.93**	**11**	*eP*	**P**	**16 09 38.2**	**-3.4**
BOD				pmax	pmax		
	comp=Z,3.0nm,2.3s,mb3.9						
BOSA	**Boshof**	**74.32**	**239**	LR	LR	16 41 11.1	
	comp=Z,100nm,18.8s,MS4.1,baz=163,slow=33						
ARCES	**ARCESS Array B**	**80.81**	**340**	P	**P**	**16 12 08.9**	**-1.1**
	comp=Z,3.5nm,1.0s,mb4.2,baz=105,slow=6.2,SNR=6.3						

*ISCJB **01** 16:01:03.9±2.7, 5.1S±0.1×1456E±0.3, h98km±40km, mb3.5/2, Error ellipse: s-maj=44.2km s-min=17.4km az=7.8*
*IDC **01** 16:01:04.7±4.2, 5.14S×14550E, h82km±54km, mb3.4/2, mb1 3.6/4, mb1mx3.3/14, mbtmp3.7/4, Error ellipse: s-maj=55.4km s-min=23.1km az=90.0*
*NEIC **01** 16:01:06.0±2.1, 5.13S×14550E, h97km±33km, Error ellipse: s-maj=41.0km s-min=13.1km az=101.0*
ISC 01 16:01:04.8±2.2, 511S±010×1455E±02, h87km±37km, n7, σ0§65/9, mb3.5/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.57**	**159**	P	**Pn**	**16 02 12.8**	**+1.3**
	1.0nm,0.3s,baz=306,slow=5.9,SNR=8.7						
PMG				S	**Sn**	16 03 02.4	-0.9
	6.8nm,0.3s,baz=156,slow=19,SNR=19						
PMG	**Port Moresby**	**4.57**	**159**	*eP*	**Pn**	**16 02 12.8**	**+1.2**
PMG				S	**Sn**	16 03 02.5	-0.9
WRAB	**Tennant Creek**	**18.30**	**215**	*eP*	**Pn**	**16 05 12.4**	**-0.3**
WRA	**Warramunga Arr**	**18.31**	**215**	P	**Pn**	**16 05 12.7**	**-0.2**
	0.4nm,0.3s,baz=33,slow=10,SNR=28						
GUMO	**Guam**	**18.59**	**358**	P	**Pn**	**16 05 15.8**	**-0.4**
	6.8nm,0.3s,baz=143,slow=15,SNR=2.4						
ASAR	**Alice Springs**	**21.57**	**210**	P	**P**	**16 05 47.5**	**+0.3**
	0.6nm,0.5s,mb3.2,baz=39,slow=8.7,SNR=32						
STKA	**Stephens Creek**	**26.88**	**187**	P	**P**	**16 06 37.7**	**+0.3**
	1.1nm,0.3s,mb3.8,baz=21,slow=12,SNR=8.2						

*IDC **01** 16:01:10.5±2.6, 384N×9503E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/21, mbtmp4.0/5, Error ellipse: s-maj=104.9km s-min=29.2km az=57.0*
*ISCJB **01** 16:01:19.6±1.8, 48N±03×965E±02, h33km, mb4.0/6, Error ellipse: s-maj=42.9km s-min=17.9km az=70.4*
*NEIC **01** 16:01:21.1±1.7, 474N×9654E, h30km, mb4.2/1, Error ellipse: s-maj=41.8km s-min=17.4km az=217.0*
ISC 01 16:01:22.2±1.9, 48N±03×966E±02, h35km, n7, σ0§97/7, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.08**	**83**	*eP*	**Pn**	**16 02 21.6**	**-0.5**
MKAR	**Makanchi Array**	**43.61**	**346**	P	**P**	**16 09 23.1**	**+0.1**
	1.8nm,0.4s,mb4.2,baz=160,slow=8.7,SNR=18						
SONM	**Songino Array**	**43.68**	**10**	P	**P**	**16 09 25.8**	**+2.2**
	1.4nm,0.5s,mb3.9,baz=195,slow=9.0,SNR=7.0						
WRA	**Warramunga Arr**	**44.53**	**125**	P	**P**	**16 09 30.6**	**+0.3**
	0.2nm,0.6s,mb3.1,baz=299,slow=9.3,SNR=4.8						
KURK	**Kurchatov**	**48.17**	**345**	*eP*	**P**	**16 09 58.1**	**-0.8**
	1.1nm,0.5s,mb4.1						
ZAL	**Zalesovo**	**49.91**	**351**	P	**P**	**16 10 11.4**	**-0.8**
	1.4nm,0.6s,mb4.2,baz=308,slow=8.1,SNR=4.1						
ARCES	**ARCESS Array B**	**78.95**	**340**	P	**P**	**16 13 16.4**	**-5.8**
	3.7nm,0.9s,mb4.3,baz=97,slow=6.5,SNR=5.8						

*ISCJB **01** 16:12:35.7±0.5, 5852N±004×1059E±007, h0km, Error ellipse: s-maj=5.8km s-min=4.9km az=4.1*
*CSEM **01** 16:12:35.3±0.1, 5836N×1031E, h1km, ML2.3, Error ellipse: s-maj=2.9km s-min=1.7km az=30.0, Mining explosion.*
*NAO **01** 16:12:35.7±1.4, 5840N×1038E, ML2.3*
*HEL **01** 16:12:36.4±0.2, 5847N×1037E, h0km, ML2.5, MD2.4(BER), ML2.4(UPP), Explosion*
*BER **01** 16:12:38.2±2.2, 5839N×1045E, h0km, MD2.4, ML2.3(NAO), Suspected explosion*
*UPP **01** 16:12:38.6, 5838N×1066E, h0km, ML2.4, Suspected Mining explosion.*
ISC 01 16:12:36.6±0.4, 5852N±004×1054E±006, h0km, n43, σ1§45/60, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KON	**Kongsberg**	**1.23**	**337**	Pn	**Pn**	**16 13 01.2**	**+0.2**
KON				Lg		16 13 18.2	
KONO	**Kongsberg**	**1.23**	**337**	*eP*	**Pg**	**16 13 01.3**	**+1.1**
KONO				*eS*	**Sg**	**16 13 20.5**	**+4.4**
KONO	**Kongsberg**	**1.23**	**337**	Pn	**Pn**	**16 13 01.2**	**+0.2**
KONO	**Kongsberg**	**1.23**	**337**	*eP*	**Pg**	**16 13 01.3**	**+1.2**
	SNR=70						
KONO				*eS*	**Sg**	**16 13 20.5**	**+4.4**
	SNR=70						
SNART	**Snartemo**	**1.76**	**265**	*eP*	**Pn**	**16 13 07.8**	**-0.5**
MUD	**Monsted U'grnd**	**2.20**	**200**	*iP*	**Pn**	**16 13 12.6**	**-1.8**
MUD				*i*		16 13 15.3	
MUD				*eS*	**Sn**	**16 13 37.3**	**-5.0**
MUD	**Monsted U'grnd**	**2.20**	**200**	*eP*	**Pn**	**16 13 12.6**	**-1.8**
MUD				*eS*	**Sn**	**16 13 37.3**	**-5.0**
ASKU	**Askersund**	**2.27**	**79**	*eP*	**Pn**	**16 13 16.9**	**+1.6**
HFS	**Hagfors**	**2.28**	**44**	*eP*	**Pn**	**16 13 17.1**	**+1.6**
HFS				*e*SG	**Sg**	**16 13 51.8**	**+1.8**
HFS	**Hagfors**	**2.28**	**44**	Pn	**Pn**	**16 13 17.1**	**+1.6**
	baz=225,slow=12						
HFS				Lg		16 13 51.8	
	baz=218,slow=37						
BLS5	**Blasjo**	**2.30**	**295**	*eP*	**Pn**	**16 13 17.5**	**+1.8**
ODD1	**Odda**	**2.45**	**306**	*eP*	**Pn**	**16 13 16.9**	**-0.8**
NB2	**NORSAR Subarra**	**2.55**	**7**	Pn	**Pn**	**16 13 19.8**	**+0.7**
	baz=190,slow=14						
NB2	**NORSAR Subarra**	**2.55**	**7**	*eP*	**Pn**	**16 13 19.8**	**+0.7**
NRAU	**Nora**	**2.55**	**64**	*eP*	**Pn**	**16 13 20.7**	**+1.6**
LNKU	**Linkoeping**	**2.63**	**94**	*eP*	**Pn**	**16 13 21.1**	**+0.9**
EKSU	**Eksjoe**	**2.70**	**109**	*eP*	**Pn**	**16 13 21.8**	**+0.6**
DEL	**Delary**	**2.73**	**137**	*eP*	**Pn**	**16 13 21.9**	**+0.2**
KMY	**Karmoy**	**2.84**	**286**	*eP*	**Pn**	**16 13 21.7**	**-1.4**
VXJU	**Vaexsjoe**	**2.85**	**122**	*eP*	**Pn**	**16 13 24.0**	**+0.7**
ESKU	**Eskilstuna**	**3.12**	**74**	*eP*	**Pn**	**16 13 29.5**	**+2.5**
OSKU	**Oskarshamn**	**3.25**	**112**	*eP*	**Pn**	**16 13 29.4**	**+0.6**
VSTU	**Vaestervik**	**3.30**	**103**	*eP*	**Pn**	**16 13 30.3**	**+0.9**
ASPU	**Aespoe**	**3.41**	**106**	*eP*	**Pn**	**16 13 31.9**	**+0.9**
BLEU	**Blekinge**	**3.62**	**126**	*eP*	**Pn**	**16 13 33.3**	**-0.5**
BACU	**Backbrunna**	**3.63**	**66**	*eP*	**Pn**	**16 13 35.9**	**+1.8**
OSTU	**Oestervaala**	**3.78**	**60**	*eP*	**Pn**	**16 13 38.8**	**+2.7**
BSD	**Bornholm Skovb**	**4.18**	**143**	*iP*	**Pn**	**16 13 40.2**	**-1.3**
BSD				*i* S	**Sn**	**16 14 42.3**	**+11**
NRTU	**Norrtaelje**	**4.33**	**71**	*eP*	**Pn**	**16 13 46.1**	**+2.5**
RAF	**Rauma**	**6.20**	**61**	*eP*	**Pn**	**16 14 09.6**	**+0.4**
RAF				*eS*	**Sn**	**16 15 19.7**	**-1.1**
RAF	**Rauma**	**6.20**	**61**	P	**Pn**	**16 14 09.6**	**+0.3**
RAF				S	**Sn**	**16 15 19.6**	**-1.2**
MEF	**Metsahovi**	**7.28**	**71**	*eP*	**Pn**	**16 14 23.1**	**-1.0**
MEF				*eS*	**Sn**	**16 15 45.7**	**-1.7**
MEF				MSN		16 15 49.8	
	comp=Z,0.8nm,0.2s						
MEF	**Metsahovi**	**7.28**	**71**	P	**Pn**	**16 14 23.1**	**-1.0**
MEF				S	**Sn**	**16 15 45.7**	**-1.8**
	comp=Z,0.8nm,0.2s						
VAF	**Ylistaro**	**7.46**	**48**	*eP*	**Pn**	**16 14 25.1**	**-1.5**
VAF				*eS*	**Sn**	**16 15 49.0**	**-3.0**
KEF	**Keuruu**	**7.99**	**57**	*eP*	**Pn**	**16 14 32.9**	**-0.9**
KEF				*eS*	**Sn**	**16 16 02.6**	**-2.2**
FIA0	**FINESS Array S**	**8.32**	**63**	*eP*	**Pn**	**16 14 37.0**	**-1.4**
FIA0				*eS*	**Sn**	**16 16 09.9**	**-3.1**
FIA0				MSN		16 16 15.9	
	comp=Z,0.7nm,0.3s						
FIA0	**FINESS Array S**	**8.32**	**63**	Pn	**Pn**	**16 14 39.0**	**+0.6**
	baz=252,slow=14						
FIA0				Sn	**Sn**	**16 16 10.8**	**-2.2**
	baz=255,slow=22						
FIA0				Lg		16 16 58.6	
	baz=262,slow=28						
FIA0	**FINESS Array S**	**8.32**	**63**	P	**Pn**	**16 14 36.9**	**-1.5**
FIA0				S	**Sn**	**16 16 09.8**	**-3.2**
	comp=Z,0.7nm,0.3s						
KAF	**Kangasniemi**	**8.60**	**59**	*eP*	**Pn**	**16 14 40.7**	**-1.6**
KAF				*eS*	**Sn**	**16 16 16.8**	**-3.3**
KAF	**Kangasniemi**	**8.60**	**59**	P	**Pn**	**16 14 40.6**	**-1.7**
SUF	**Sumiainen**	**8.74**	**55**	*eP*	**Pn**	**16 14 42.8**	**-1.4**
SUF				*eS*	**Sn**	**16 16 19.6**	**-3.9**
SUF				MSN		16 16 25.5	
	comp=Z,0.5nm,0.3s						
ARA0	**ARCESS Array S**	**12.79**	**24**	Pn	**Pn**	**16 15 37.6**	**-2.1**
	baz=208,slow=14						
ARA0	**ARCESS Array S**	**12.79**	**24**	*eP*	**Pn**	**16 15 37.6**	**-2.1**

*IDC **01** 16:16:60.0±0.8, 271S×13856E, h0km, mb4.4/7, mb1 4.4/9, mb1mx4.3/14, mbtmp4.4/9, ML3.9/2, MS4.0/2, Ms1 4.0/2, ms1mx3.2/26, Error ellipse: s-maj=32.5km s-min=17.4km az=64.0*
*ISCJB **01** 16:17:03.9±3.4, 274S±009×13843E±0.10, h38km±34km, mb4.6/21, MS4.3/2, Error ellipse: s-maj=16.4km s-min=14.5km az=141.4*
*MOS **01** 16:17:03.3±0.9, 270S×13836E, h33km, mb4.5/6, Error ellipse: s-maj=19.3km s-min=8.4km az=102.5*
*BJI **01** 16:17:07.0, 240S×13894E, h69km, mB5.3, mb4.8, Ms4.6, Msz4.5*
*NEIC **01** 16:17:10.0±2.2, 286S×13834E, h78km±23km, mb4.5/9, Error ellipse: s-maj=14.5km s-min=12.2km az=96.0*
ISC 01 16:17:09.0±2.1, 279S±006×13850E±009, h71km±21km, n56, σ1§11/56, mb4.5/21, 3C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.83**	**128**	Pn	**Pn**	**16 19 43.6**	**+2.5**
	0.8nm,0.3s,baz=303,slow=12,SNR=5.8						
PMG	**Port Moresby**	**10.83**	**128**	*eP*	**Pn**	**16 19 45.6**	**+4.4**
WRAB	**Tennant Creek**	**17.51**	**193**	*eP*	**Pn**	**16 21 06.5**	**-1.9**
	53nm,0.8s						
WRAB				*eS*	S	16 24 05.6	-21
WRAB	**Tennant Creek**	**17.51**	**193**	*eP*	**Pn**	**16 21 06.5**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,53nm,0.8s						
WB2	**Warramunga Arr**	**17.52**	**193**	*eP*	**Pn**	**16 21 06.6**	**-1.9**
WRA	**Warramunga Arr**	**17.52**	**193**	P	**Pn**	**16 21 06.7**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=14,slow=12,SNR=46						
WRA				S	**S**	**16 24 13.7**	**-13**
	comp=Z,0.3nm,0.3s,baz=15,slow=22,SNR=5.0						
CTA	**Charters Tower**	**18.79**	**157**	*eP*	**Pn**	**16 21 26.6**	**+2.8**
	comp=Z,15nm,2.0s						
CTA	**Charters Tower**	**18.79**	**157**	P	**Pn**	**16 21 20.4**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=331,slow=21,SNR=2.0						
CTA				LR	LR	16 29 09.4	
	comp=Z,274nm,18.9s,baz=336,slow=39						
CTA	**Charters Tower**	**18.79**	**157**	*eP*	**Pn**	**16 21 26.6**	**+2.8**
CTA				LR	LR	16 29 09.4	
CTAO	**Charters Tower**	**18.79**	**157**	*eP*	**Pn**	**16 21 24.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.76**	**219**	*eP*	**Pn**	**16 21 38.2**	**+2.9**
	comp=Z,19nm,1.3s						
AS31	**Alice Springs**	**21.22**	**192**	*eP*	**P**	**16 21 49.5**	**+0.5**
ASAR	**Alice Springs**	**21.22**	**192**	P	**P**	**16 21 48.8**	**-0.2**
	comp=Z,9.7nm,0.6s,mb4.3,baz=18,slow=8.0,SNR=67						
ASAR				S	**S**	**16 25 41.7**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=18,slow=24,SNR=4.7						
ASPA	**Alice Springs**	**21.23**	**192**	*eP*	**P**	**16 21 49.5**	**+0.5**
HNR	**Honiara**	**22.32**	**108**	P	**P**	**16 22 00.6**	**0.0**
	comp=Z,31nm,0.8s,mb4.7,baz=280,slow=3.1,SNR=6.0						
TGY	**Tagaytay City**	**24.18**	**314**	P	**P**	**16 22 19.4**	**+0.7**
	comp=Z,282nm,0.4s,baz=122,slow=1.8,SNR=3.7						
MBWA	**Marble Bar**	**25.83**	**224**	*eP*	**P**	**16 22 33.4**	**-0.3**
NWAO	**Narrogin (SRO)**	**36.00**	**211**	LR	LR	16 40 00.3	
	comp=Z,361nm,19.1s,baz=291,slow=38						
ENH	**Enshi**	**42.99**	**322**	*eP*	**P**	**16 25 01.5**	**+0.2**
	comp=Z,11nm,1.1s,mb4.5						
XAN	**Xi'an**	**46.02**	**325**	P	**P**	**16 25 25.1**	**-0.3**
XAN				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
CN2	**Changchun**	**47.84**	**347**	*eP*	**P**	**16 25 35.4**	**-4.2**
YSS	**Yuzh-Sakhalins**	**49.67**	**4**	*iP*	**P**	**16 25 52.5**	**-1.1**
LZH	**Lanzhou**	**50.42**	**323**	*eP*	**P**	**16 25 58.5**	**-0.8**
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,57nm,6.3s						
LZH				LR	LR		
	comp=N,259nm,13.5s						
LZH				LR	LR		
	comp=Z,398nm,17.3s						
KLR	**Kul'dur**	**52.14**	**354**	*eP*	**P**	**16 26 09.0**	**-3.1**
GTA	**Gaotai**	**55.01**	**324**	*eP*	**P**	**16 26 34.0**	**+0.9**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
LSA	**Lhasa**	**55.60**	**309**	*eP*	**P**	**16 26 38.6**	**+1.2**
	comp=Z,1.0nm,0.5s,mb4.1						
LSA	**Lhasa**	**55.60**	**309**	*eP*	**P**	**16 26 38.6**	**+1.2**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ULN	**Ulaanbaatar**	**57.45**	**335**	*eP*	**P**	**16 26 51.0**	**+0.6**
	comp=Z,2.5nm,0.4s,mb4.6						
ULN	**Ulaanbaatar**	**57.45**	**335**	*cP*	**P**	**16 26 51.2**	**+0.7**
SONM	**Songino Array**	**57.70**	**335**	P	**P**	**16 26 53.0**	**+0.7**
	comp=Z,1.9nm,0.6s,mb4.3,baz=156,slow=7.5,SNR=22						
ZAK	**Zakamensk**	**60.97**	**335**	*eP*	**P**	**16 27 14.6**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
MOY	**Mondy**	**62.89**	**335**	*eP*	**P**	**16 27 29.1**	**+1.4**
MA2	**Magadan**	**62.93**	**7**	*iP*	**P**	**16 27 28.0**	**+0.1**
BOD	**Bodaibo**	**63.54**	**346**	*eP*	**P**	**16 27 31.1**	**-0.9**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
WMQ	**Urumqi**	**64.94**	**322**	*eP*	**P**	**16 27 42.6**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,75nm,4.6s						
YAK	**Yakutsk**	**64.99**	**355**	*eP*	**P**	**16 27 41.1**	**-0.4**
	comp=Z,38nm,0.8s,mb5.3						
YAK	**Yakutsk**	**64.99**	**355⇑**	*eP*	**P**	**16 27 41.4**	**-0.1**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
SEY	**Seymchan**	**66.38**	**7**	*iP*	**P**	**16 27 50.8**	**+0.4**
MKAR	**Makanchi Array**	**69.72**	**323**	P	**P**	**16 28 11.9**	**+0.6**
	comp=N,9.2nm,1.1s,mb4.5,baz=116,slow=7.2,SNR=26						
MKAR	**Makanchi Array**	**69.72**	**323⇑**	*eP*	**P**	**16 28 11.8**	**+0.5**
ZAL	**Zalesovo**	**71.90**	**330**	P	**P**	**16 28 23.8**	**-0.8**
	comp=N,1.2nm,0.7s,mb3.9,baz=4.6,slow=5.8,SNR=9.0						
ZAL	**Zalesovo**	**71.90**	**330**	*iP*	**P**	**16 28 23.7**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**73.11**	**316**	*iP*	**P**	**16 28 31.8**	**0.0**
NVS	**Novosibirsk**	**73.15**	**330**	*eP*	**P**	**16 28 31.0**	**-1.0**
BILL	**Bilibino**	**73.28**	**11**	*iP*	**P**	**16 28 32.8**	**0.0**
KURK	**Kurchatov**	**73.66**	**325**	*eP*	**P**	**16 28 35.0**	**0.0**
	comp=Z,4.9nm,1.1s,mb4.2						
KURK	**Kurchatov**	**73.66**	**325**	*iP*	**P**	**16 28 34.8**	**-0.2**
TIXI	**Tiksi**	**74.57**	**357**	*eP*	**P**	**16 28 38.1**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
BVAR	**Borovoye Array**	**79.25**	**325**	P	**P**	**16 29 07.1**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.2,baz=103,slow=7.6,SNR=15						
ZRNK	**Zerenda**	**80.02**	**325**	*eP*	**P**	**16 29 10.4**	**-0.4**
	comp=Z,2.3nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**80.02**	**325**	*eP*	**P**	**16 29 10.4**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
MCK	**McKinley**	**84.84**	**25**	*eP*	**P**	**16 29 36.0**	**+0.2**
ILAR	**Eielson Array**	**85.99**	**24**	P	**P**	**16 29 40.2**	**-1.4**
	comp=Z,1.7nm,0.6s,mb4.1,baz=266,slow=4.3,SNR=38						
QSPA	**South Pole Qui**	**87.16**	**180**	*eP*	**P**	**16 29 49.7**	**+2.4**
	comp=Z,12nm,1.3s,mb4.7						
DAWY	**Dawson**	**89.03**	**26**	*eP*	**P**	**16 29 56.6**	**+0.4**
LPAZ	**La Paz**	**147.57**	**127**	PKPbc	PKPbc	16 36 47.9	+2.7
	comp=Z,1.5nm,0.8s,baz=230,slow=3.4,SNR=7.4						

*IDC **01** 16:23:55.4±1.1, 1328N×120.13E,

ellipse: s-maj=1.4km s-min=1.1km az=93.0, Mining explosion., France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAF	**Calviac**	**0.91**	**245**	*e*Pg	Pg	16 25 16.6	-0.4
CAF				*e*Sg	Sg	16 25 28.6	-0.2
12nm,0.4s							
VIVF	**Saint-Julien-l**	**1.12**	**114**	*e*Pg	Pg	16 25 20.7	-0.3
VIVF				*e*Sg	Sg	16 25 35.5	0.0
11nm,0.4s							
TCF	**Toulx Ste Croi**	**1.21**	**324**	*e*Pg	Pg	16 25 22.4	-0.2
TCF				*e*Sg	Sg	16 25 37.8	-0.5
4.0nm,0.3s							
RJF	**Les Rejaudoux**	**1.21**	**270**	*e*Pg	Pg	16 25 22.0	-0.7
RJF				*e*Sg	Sg	16 25 38.0	-0.3
8.1nm,0.4s							
BGF	**Bois d'Agland**	**1.27**	**348**	*e*Pg	Pg	16 25 23.3	-0.6
BGF				*e*Sg	Sg	16 25 40.2	-0.2
25nm,0.3s							
LASF	**Ste Croix**	**1.32**	**160**	*e*Pg	Pg	16 25 24.0	-0.7
LASF				*e*Sg	Sg	16 25 42.5	+0.7
14nm,0.4s							
SMF	**Signal de Mont**	**1.40**	**18**	*e*Pg	Pg	16 25 25.3	-1.0
SMF				*e*Sg	Sg	16 25 44.0	-0.4
8.0nm,0.3s							
AVF	**Avril sur Loir**	**1.48**	**3**	*e*Pg	Pg	16 25 27.2	-0.7
AVF				*e*Sg	Sg	16 25 46.3	-0.7
6.1nm,0.4s							
SSF	**Saint Saulge**	**1.76**	**6**	*e*Pg	Pg	16 25 32.0	-1.2
SSF				*e*Sg	Sg	16 25 55.5	-0.5
6.8nm,0.4s							
MTLF	**Montolieu**	**2.10**	**201**	*e*Sg	Sg	16 26 06.2	-0.8
1.8nm,0.3s							

*NAO **01** 16:29:53.6±1.8, 5845N×1031E, ML2.6*
*CSEM **01** 16:29:53.0±0.1, 5840N×1037E, h1km, ML2.6, Error ellipse: s-maj=2.1km s-min=1.7km az=23.0, Mining explosion.*
*BER **01** 16:29:55.8±2.0, 5846N×1038E, h0km, MD2.9, ML2.6(NAO)*
*UPP **01** 16:29:58.5, 5844N×1105E, h0km, ML2.6, Suspected Mining explosion.*

HEL 01 16:29:53.6±0.2, 5841N×1034E, h0km, ML2.6(UPP), ML2.6(NAO), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONO	**Kongsberg**	**1.30**	**343**	*e*P	Pg	16 30 18.6	+0.1
FINU	**Finntorp**	**1.49**	**47**	*e*P	Pn	16 30 21.1	-0.6
FINU	**Finntorp**	**1.49**	**47**	P	Pn	16 30 21.0	-0.7
SNART	**Snartemo**	**1.65**	**269**	*e*P	Pn	16 30 24.1	+0.3
SNART				*e*S	Sn	16 30 46.6	+0.9
MUD	**Monsted U'grnd**	**2.06**	**198**	*i* P	Pn	16 30 29.0	-0.4
MUD				*i*		16 30 41.4	
MUD				*i* S	Sn	16 30 56.8	+1.0
BLS5	**Blasjo**	**2.25**	**298**	*e*P	Pn	16 30 32.2	+0.1
ASKU	**Askersund**	**2.40**	**76**	*e*P	Pn	16 30 33.7	-0.4
ODD1	**Odda**	**2.43**	**310**	*e*P	Pn	16 30 34.5	-0.1
HFS	**Hagfors**	**2.44**	**43**	*e*P	Pn	16 30 34.4	-0.3
HFS				*e*SG	Sg	16 31 08.6	-3.5
HFS	**Hagfors**	**2.44**	**43**	Pn	Pn	16 30 34.4	-0.3
baz=230,slow=14							
HFS				Lg		16 31 08.6	
baz=219,slow=37							
NB2	**NORSAR Subarra**	**2.68**	**9**	Pn	Pn	16 30 37.2	-0.7
baz=189,slow=14							
NB2	**NORSAR Subarra**	**2.68**	**9**	*e*P	Pn	16 30 37.2	-0.7
NRAU	**Nora**	**2.70**	**62**	*e*P	Pn	16 30 37.9	-0.3
LNKU	**Linkoeping**	**2.73**	**92**	*e*P	Pn	16 30 38.5	-0.3
KMY	**Karmoy**	**2.77**	**289**	*e*P	Pn	16 30 38.6	-0.6
EKSU	**Eksjoe**	**2.77**	**105**	*e*P	Pn	16 30 39.3	0.0
COP	**Copenhagen**	**2.96**	**156**	*i* P	Pn	16 30 42.2	+0.3
COP				*e*S	Sn	16 31 29.5	+11
COP	**Copenhagen**	**2.96**	**156**	*e*P	Pn	16 30 42.2	+0.3
RUND	**Rundenannen**	**3.24**	**310**	*e*P	Pn	16 30 45.0	-0.7
ESKU	**Eskilstuna**	**3.26**	**73**	*e*P	Pn	16 30 46.4	+0.5
OSKU	**Oskarshamn**	**3.32**	**109**	*e*P	Pn	16 30 46.7	-0.1
VSTU	**Vaestervik**	**3.38**	**100**	*e*P	Pn	16 30 47.5	-0.2
ASPU	**Aespoe**	**3.49**	**104**	*e*P	Pn	16 30 49.2	+0.1
FALU	**Falun**	**3.50**	**51**	*e*P	Pn	16 30 49.9	+0.6
FALU	**Falun**	**3.50**	**51**	P	Pn	16 30 49.8	+0.6
BACU	**Backbrunna**	**3.78**	**65**	*e*P	Pn	16 30 53.5	+0.4
OSTU	**Oestervaala**	**3.93**	**59**	*e*P	Pn	16 30 55.7	+0.5
BSD	**Bornholm Skovb**	**4.16**	**141**	*i* P	Pn	16 30 57.4	-0.9
BSD				*i*		16 31 06.9	
BSD				*i* S	Sn	16 31 59.5	+12
FLYU	**Flymyra**	**4.24**	**63**	*e*P	Pn	16 30 59.6	+0.1
NRTU	**Norrtaelje**	**4.47**	**70**	*e*P	Pn	16 31 03.5	+0.5
AAL	**Aland**	**5.26**	**66**	*e*P	Pn	16 31 13.8	+0.3
RAF	**Rauma**	**6.35**	**61**	*e*P	Pn	16 31 27.0	-1.4
RAF				*e*S	Sn	16 32 37.3	-4.3
MEF	**Metsahovi**	**7.42**	**70**	*e*P	Pn	16 31 41.0	-2.2
MEF				*e*S	Sn	16 33 02.7	-5.3
VAF	**Ylistaro**	**7.62**	**47**	*e*P	Pn	16 31 47.0	+1.1
VAF				*e*S	Sn	16 33 11.2	-1.7
KEF	**Keuruu**	**8.14**	**56**	*e*P	Pn	16 31 52.5	-0.5
KEF				*e*S	Sn	16 33 20.2	-5.4
KEF	**Keuruu**	**8.14**	**56**	P	Pn	16 31 52.4	-0.6
PVF	**Pernaja**	**8.19**	**68**	*e*P	Pn	16 31 50.6	-3.0
PVF				*e*S	Sn	16 33 21.5	-5.4
FIA0	**FINESS Array S**	**8.47**	**62**	Pn	Pn	16 31 56.6	-0.9
baz=251,slow=12							
FIA0				Sn	Sn	16 33 28.8	-4.9
baz=250,slow=22							
FIA0	**FINESS Array S**	**8.47**	**62**	*e*P	Pn	16 31 57.3	-0.2
FIA0				*e*S	Sn	16 33 28.1	-5.6
FIA0	**FINESS Array S**	**8.47**	**62**	P	Pn	16 31 57.2	-0.3
KAF	**Kangasniemi**	**8.76**	**58**	*e*P	Pn	16 32 00.9	-0.5
KAF				*e*S	Sn	16 33 35.4	-5.5
ARA0	**ARCESS Array S**	**12.94**	**24**	Pn	Pn	16 32 54.7	-4.0
baz=212,slow=14							
ARA0	**ARCESS Array S**	**12.94**	**24**	*e*P	Pn	16 32 54.7	-4.0

*IDC **01** 16:42:57.5±0.7, 1332N×11994E, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.1/20, mbtmp4.2/10, MS3.6/2, Ms1 3.6/2, ms1mx3.1/31, Error ellipse: s-maj=15.4km s-min=12.8km az=108.0*
*ISCJB **01** 16:42:58.5±0.8, 1339N±002×11996E±004, h11km±5km, mb4.4/15, MS3.5/2, Error ellipse: s-maj=5.9km s-min=4.0km az=10.8*
*MAN **01** 16:42:60.0, 1342N×12007E, h8km, mb4.0, ML5.0, MS2.4*
*NEIC **01** 16:43:03.1±0.4, 1343N×12021E, h35km, mb4.4/5, Error ellipse: s-maj=16.1km s-min=7.3km az=72.0*

ISC 01 16:43:00.2±0.9, 1340N±002×12002E±004, h11km±5km, n52, σ1§24/67, mb4.4/15, MS3.5/2, 3C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**34**	*e*P	**Pg**	**16 43 07.6**	**-0.5**
LUBP				*e*S	**Sg**	**16 43 11.9**	**-1.6**
TGY	**Tagaytay City**	**1.14**	**52**	Pg	**Pg**	**16 43 21.2**	**-0.9**
1μm,0.3s,baz=245,slow=3.1,SNR=44							
TGY				Lg		16 43 38.4	
5μm,0.3s,baz=326,slow=23,SNR=21							
BUSP	**Coron**	**1.40**	**173**	*e*P	**Pn**	**16 43 26.8**	**+1.1**
BUSP				*e*S	**Sb**	**16 43 44.2**	**0.0**
LQP	**Lukban**	**1.64**	**64**	*e*P	**Pn**	**16 43 29.2**	**+0.1**
BOAC	**Boac**	**1.78**	**88**	*e*P	**Pn**	**16 43 29.2**	**-1.7**
BOAC				*e*S	**Sn**	**16 43 53.6**	**0.0**
OTRP	**Odiongan**	**2.21**	**118**	*e*P	**Pn**	**16 43 36.5**	**-0.4**
OTRP				*e*S	**Sn**	**16 44 07.3**	**+3.1**
ENPP	**El Nido**	**2.25**	**195**	*e*P	**Pn**	**16 43 39.5**	**+2.1**
ENPP				*e*S	**Sn**	**16 44 06.3**	**+1.1**
POLP	**Polilio Island**	**2.29**	**54**	*e*P	**Pn**	**16 43 37.4**	**-0.5**
POLP				*e*S	**Sn**	**16 44 08.6**	**+2.5**
SCZP	**Santa Cruz**	**2.37**	**358**	*e*P	**Pn**	**16 43 38.6**	**-0.4**
PCPH	**Palayan**	**2.39**	**26**	⇓*e*P	**Pn**	**16 43 39.3**	**0.0**
GQP	**Guinayangan**	**2.42**	**78**	⇓*i* P	**Pn**	**16 43 40.1**	**+0.4**
GQP				*i* S	**Sn**	**16 44 08.9**	**-0.3**
AUQP	**San Andres**	**2.59**	**91**	*e*P	**Pn**	**16 43 43.4**	**+1.3**
AUQP				*e*S	**Sn**	**16 44 20.9**	**+7.4**
CUYO	**Cuyo Island**	**2.72**	**159**	*e*P	**Pn**	**16 43 44.1**	**+0.3**
CUYO				*e*S	**Sn**	**16 44 15.0**	**-1.7**
BALP	**Baler**	**2.78**	**33**	*e*P	**Pn**	**16 43 45.6**	**+1.0**
BALP				*e*S	**Sn**	**16 44 16.5**	**-1.7**
BOLP	**Bolinao**	**2.97**	**358**	*e*P	**Pn**	**16 43 47.6**	**+0.4**
BCPH	**Baguio City Da**	**3.02**	**10**	⇓*e*P	**Pg**	**16 43 58.1**	**+0.1**
BCPH				*e*S	**Sn**	**16 44 28.1**	**+4.1**
GUIM	**Jordan**	**3.73**	**137**	*e*P	**Pn**	**16 43 58.5**	**+0.7**
GUIM				*e*S	**Sn**	**16 44 39.8**	**-1.9**
CAUP	**Cauayan**	**3.93**	**26**	*e*P	**Pn**	**16 44 02.5**	**+1.9**
PVCP	**Virac**	**4.03**	**87**	*e*P	**Pn**	**16 44 01.5**	**-0.4**
ABRA	**Dolores**	**4.28**	**9**	*e*P	**Pn**	**16 44 06.0**	**+0.7**
ABRA				*e*S	**Sn**	**16 45 03.3**	**+8.1**
PALP	**Palanan**	**4.32**	**32**	*e*P	**Pn**	**16 44 08.4**	**+2.5**
APYP	**Conner**	**4.59**	**15**	*e*P	**Pn**	**16 44 13.9**	**+4.2**
APYP				*e*S	**Sn**	**16 45 06.4**	**+3.5**
OCLP	**Ormoc**	**5.06**	**117**	*e*P	**Pn**	**16 44 06.2**	**-10**
BATP	**Bataraza**	**5.06**	**206**	*e*P	**Pn**	**16 44 24.0**	**+8.0**
BATP				*e*S	**Sn**	**16 45 13.3**	**-1.3**
MSLP	**Maasin**	**5.75**	**124**	*e*P	**Pn**	**16 44 18.4**	**-7.0**
IPIL	**Ipil**	**6.12**	**155**	*e*P	**Pn**	**16 44 31.3**	**+0.8**
IPIL				*e*S	**Sn**	**16 45 34.4**	**-6.1**
PAGZ	**Pagadian**	**6.43**	**149**	*e*P	**Pn**	**16 44 36.8**	**+1.9**
BUKP	**Musuan**	**7.39**	**137**	*e*P	**Pn**	**16 44 50.8**	**+2.7**
PSI	**Prapat**	**23.36**	**245**	LR	LR	16 57 19.4	
comp=Z,99nm,18.3s,MS3.3,baz=200,slow=37							
MBWA	**Marble Bar**	**34.34**	**180**	*e*P	**P**	**16 49 48.4**	**+1.4**
3.5nm,0.5s,mb4.5							
WRAB	**Tennant Creek**	**36.00**	**157**	*e*P	**P**	**16 50 00.3**	**-0.9**
34nm,0.6s							
WRA	**Warramunga Arr**	**36.01**	**157**	P	**P**	**16 50 00.6**	**-0.7**
25nm,0.6s,mb5.3,baz=336,slow=9,6,SNR=211							
WB2	**Warramunga Arr**	**36.01**	**157**	⇑*i* P	**P**	**16 50 00.6**	**-0.7**
ULN	**Ulaanbaatar**	**36.02**	**345**	*e*P	**P**	**16 50 01.6**	**+0.2**
1.6nm,0.6s,mb4.1							
SONM	**Songino Array**	**36.16**	**344**	P	**P**	**16 50 02.9**	**+0.2**
3.1nm,0.6s,mb4.4,baz=163,slow=9,8,SNR=34							
AS31	**Alice Springs**	**39.26**	**160**	⇑*i* P	**P**	**16 50 28.9**	**+0.1**
ASAR	**Alice Springs**	**39.26**	**160**	P	**P**	**16 50 29.0**	**+0.2**
13nm,0.6s,mb4.8,baz=340,slow=7,1,SNR=247							
ASPA	**Alice Springs**	**39.26**	**160**	⇑*i* P	**P**	**16 50 28.9**	**+0.1**
CTA	**Charters Tower**	**42.12**	**142**	P	**P**	**16 50 51.6**	**-0.8**
9.1nm,1.1s,mb4.3,baz=328,slow=9.5,SNR=3.4							
MKAR	**Makanchi Array**	**45.88**	**324**	P	**P**	**16 51 23.4**	**+0.8**
1.2nm,0.8s,mb3.9,baz=136,slow=9.8,SNR=10.0							
MKAR				LR	LR	17 11 53.5	
comp=Z,76nm,20.0s,MS3.6,baz=291,slow=38							
STKA	**Stephens Creek**	**49.54**	**156**	P	**P**	**16 51 48.2**	**-2.9**
2.0nm,0.5s,mb4.4,baz=326,slow=13,SNR=8.6							
STKA	**Stephens Creek**	**49.54**	**156**	P	**P**	**16 51 48.2**	**-2.9**
KURK	**Kurchatov**	**50.07**	**327**	*e*P	**P**	**16 51 56.0**	**+0.9**
5.3nm,0.8s,mb4.6							
BVAR	**Borovoye Array**	**55.65**	**326**	P	**P**	**16 52 35.1**	**-1.2**
1.3nm,0.6s,mb4.2,baz=116,slow=7.8,SNR=7.9							
BRVK	**Borovoye**	**55.72**	**326**	*e*P	**P**	**16 52 36.7**	**-0.1**
3.6nm,1.0s,mb4.4							
MCK	**McKinley**	**78.56**	**27**	*e*P	**P**	**16 54 58.9**	**-2.9**
0.8nm,0.6s,mb3.8							
ARCES	**ARCESS Array B**	**79.13**	**339**	P	**P**	**16 55 03.2**	**-1.7**
5.6nm,0.9s,mb4.5,baz=75,slow=6.8,SNR=14							
ILAR	**Eielson Array**	**79.31**	**26**	P	**P**	**16 55 04.2**	**-1.7**
0.2nm,0.6s,baz=305,slow=5.4,SNR=5.3							
FINES	**FINESS Array B**	**80.22**	**331**	P	**P**	**16 55 10.2**	**-0.7**
1.0nm,0.5s,mb4.0,baz=54,slow=7.1,SNR=9.1							
NB2	**NORSAR Subarra**	**87.22**	**333**	P	**P**	**16 55 44.9**	**-1.8**
comp=Z,1.7nm,0.7s,mb4.4,baz=67,slow=4.8							
NOA	**NORSAR Array B**	**87.22**	**333**	P	**P**	**16 55 45.2**	**-1.5**
comp=Z,2.3nm,0.7s,mb4.5,baz=67,slow=4.7,SNR=8.9							
NOA	**NORSAR Array B**	**87.22**	**333**	P	**P**	**16 55 45.2**	**-1.5**

NNC 01 16:46:30.5±2.9, 4194N×7013E, h0km, mb3.2, mpv3.1, 3C-2D, Error ellipse: s-maj=18.2km s-min=13.9km az=42.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**1.20**	**13**	P	Pg	16 46 53.0	-0.4
3.1nm,0.2s,baz=197,slow=17,SNR=365							
KK31				⇓S	Sg	16 47 09.7	+0.8
17nm,0.2s,baz=191,slow=26,SNR=24							
TKM2	**Tokmak 2**	**4.16**	**75**	⇑Pg	Pg	16 47 45.8	-4.4
3.2nm,0.6s							
TKM2				⇑Lg		16 48 39.1	
18nm,0.6s							
MK31	**Makanchi Array**	**9.96**	**57**	Pn	Pn	16 48 58.8	+3.9
0.3nm,0.5s,baz=235,slow=13,SNR=8.7							
MK31				⇑Lg		16 51 42.9	
1.7nm,0.8s,baz=142,slow=8.4,SNR=7.5							
AB31	**Akbulak array**	**10.21**	**319**	⇓Pn	Pn	16 48 53.7	-4.6
0.2nm,0.4s,baz=137,slow=12,SNR=8.2							

*ISCJB **01** 16:49:14.8±0.4, 3532N×004×8964E±006, h10km, mb3.9/12, MS3.7/8, Error ellipse: s-maj=7.3km s-min=6.0km az=33.0*
*NEIC **01** 16:49:16.9±0.5, 3540N×8976E, h10km, mb3.9/4, Error ellipse: s-maj=13.7km s-min=8.3km az=87.0*
*MOS **01** 16:49:17.7±1.6, 3532N×8954E, h33km, mb4.1/7, Error ellipse: s-maj=22.5km s-min=9.0km az=102.5*
*BJI **01** 16:49:17.3, 3549N×8955E, h11km, mB4.7, mb4.0, Ms4.2, Msz3.8*
*IDC **01** 16:49:22.5±5.2, 3531N×8950E, h70km±47km, mb3.5/8, mb1 3.7/11, mb1mx3.6/22, mbtmp3.8/11, ML3.1/3, MS3.8/9, Ms1 3.8/9, ms1mx3.4/27, Error ellipse: s-maj=32.6km s-min=19.0km az=45.0*

ISC 01 16:49:16.9±0.4, 3534N±003×8959E±006, h10km, n50, σ1§43/46, mb3.9/12, MS3.7/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.78**	**166**	P	**Pn**	**16 50 46.6**	**+3.9**
LSA				SG	**Sg**	**16 52 21.8**	**-0.6**
LSA				LR	LR		
comp=N,830nm,11.7s							
LSA				LR	LR		
comp=E,3μm,12.3s							
LSA				LR	LR		
comp=Z,2μm,11.7s							
LSA	**Lhasa**	**5.78**	**166**	*e*P	**Pn**	**16 50 45.9**	**+3.2**
comp=Z,32nm,0.9s							
LSA	**Lhasa**	**5.78**	**166**	*e*P	**Pn**	**16 50 45.9**	**+3.2**
LSA				pmax	pmax		
comp=Z,32nm,0.9s							
GUN	**Gumba**	**8.05**	**204**	*e*P	**Pn**	**16 51 17.5**	**+3.6**
comp=Z,22nm,0.9s							
JIRN	**Jiri**	**8.19**	**202**	*e*P	**Pn**	**16 51 16.1**	**+0.3**
comp=Z,17nm,0.8s							
GKN	**Gorkha**	**8.44**	**211**	*e*P	**Pn**	**16 51 21.6**	**+2.4**
comp=Z,29nm,1.1s							
WMQ	**Urumqi**	**8.59**	**351**	*e*P	**Pn**	**16 51 20.5**	**-0.8**
WMQ				LR	LR		
comp=N,1μm,10.0s							
WMQ				LR	LR		
comp=E,2μm,10.8s							
WMQ				LR	LR		
comp=Z,2μm,10.4s							
DMN	**Daman**	**8.61**	**208**	*e*P	**Pn**	**16 51 23.8**	**+2.3**
comp=Z,33nm,1.0s							
GTA	**Gaotai**	**9.10**	**60**	*e*P	**Pn**	**16 51 32.0**	**+3.8**
GTA				AP		16 51 40.4	
GTA				XP		16 51 44.3	
GTA				S	**Sn**	**16 53 12.3**	**+1.6**
GTA				XS		16 53 18.8	
GTA				AMB	AMB		
comp=Z,3.0nm,1.0s							
GTA				AMB	AMB		
comp=Z,133nm,4.6s							
GTA				LR	LR		
comp=N,971nm,15.6s							
GTA				LR	LR		
comp=E,490nm,13.7s							
GTA				LR	LR		
comp=Z,469nm,13.3s							
SHL	**Shillong**	**9.94**	**168**	*e*P	**Pn**	**16 51 40.0**	**+0.2**
LZH	**Lanzhou**	**11.62**	**82**	*e*P	**Pn**	**16 52 02.7**	**0.0**
LZH				AP		16 52 13.2	
LZH				PP		16 52 14.5	
LZH				AMB	AMB		
comp=Z,19nm,1.0s							
LZH				AMB	AMB		
comp=Z,75nm,4.3s							
LZH				LR	LR		
comp=E,187nm,8.7s							
LZH				LR	LR		
comp=Z,371nm,11.6s							
MKAR	**Makanchi Array**	**12.69**	**337**	P	**Pn**	**16 52 18.9**	**+1.5**
comp=Z,0.1nm,0.3s,baz=152,slow=16,SNR=3.2							
AAK	**Ala-Archa**	**13.80**	**306**	*e*P	**Pn**	**16 52 42.2**	**+10**
FRU	**Bishkek**	**13.81**	**307**	*e*P	**Pn**	**16 52 42.5**	**+10**
FRU				pmax	pmax		
comp=E,80nm,2.5s							
KURK	**Kurchatov**	**17.30**	**336**	*e*P	**Pn**	**16 53 18.6**	**+0.1**
ENH	**Enshi**	**17.47**	**101**	P	**Pn**	**16 53 20.5**	**-0.1**
comp=E,8.0nm,1.0s							
SONM	**Songino Array**	**17.67**	**40**	P	**Pn**	**16 53 25.5**	**+2.4**
comp=E,0.1nm,0.3s,baz=228,slow=13,SNR=9.5							
ULN	**Ulaanbaatar**	**18.04**	**41**	*e*P	**Pn**	**16 53 27.6**	**0.0**
comp=E,5.2nm,1.3s							
ULN	**Ulaanbaatar**	**18.04**	**41**	*e*P	**Pn**	**16 53 27.6**	**0.0**
ULN				pmax	pmax		
comp=Z,5.0nm,1.3s							
ZAL	**Zalesovo**	**18.89**	**351**	P	**Pn**	**16 53 37.2**	**-0.9**
comp=Z,0.1nm,0.3s,baz=307,slow=11,SNR=9.9							
ZAL				LR	LR	17 02 08.2	
comp=Z,395nm,18.3s,baz=296,slow=40							
ZAL	**Zalesovo**	**18.89**	**351**	P	**Pn**	**16 53 37.2**	**-0.9**
ZAL				LR	LR	17 02 08.2	
NVS	**Novosibirsk**	**19.99**	**349**	*e*P	**Pn**	**16 53 51.4**	**+0.2**
BJI	**Beijing**	**21.52**	**69**	*e*P	**P**	**16 54 07.0**	**+0.9**
BJI				AMB	AMB		
comp=Z,5.0nm,0.7s,mb4.0							
BJI				LR	LR		
comp=N,531nm,12.5s							
BJI				LR	LR		
comp=E,166nm,9.6s							
BJI				LR	LR		
comp=Z,199nm,18.3s							
BVAR	**Borovoye Array**	**22.28**	**328**	P	**P**	**16 54 15.6**	**+1.4**
comp=Z,1.4nm,0.8s,mb3.4,baz=139,slow=12,SNR=4.7							
BVAR	**Borovoye Array**	**22.28**	**328**	P	**P**	**16 54 15.6**	**+1.4**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
BRVK	**Borovoye**	**22.35**	**328**	*e*P	**P**	**16 54 14.9**	**0.0**
comp=Z,9.0nm,1.3s,mb4.0							
BRVK	**Borovoye**	**22.35**	**328**	*e*P	**P**	**16 54 14.9**	**0.0**
BRVK				pmax	pmax		
comp=Z,9.0nm,1.3s,mb4.0							
ZRNK	**Zerenda**	**22.84**	**327**	P	**P**	**16 54 20.8**	**+0.7**
comp=Z,6.8nm,1.3s,mb3.9							
ZRNK	**Zerenda**	**22.84**	**327**	P	**P**	**16 54 20.8**	**+0.7**
ZRNK				pmax	pmax		
comp=Z,7.0nm,1.3s,mb3.9							
PSI	**Prapat**	**33.52**	**163**	LR	LR	17 12 37.4	
comp=Z,64nm,18.4s,MS3.4,baz=202,slow=42							
MJAR	**Matsushiro Arr**	**39.05**	**74**	LR	LR	17 14 06.6	
comp=Z,144nm,19.3s,MS3.8,baz=110,slow=38							
ASAJ	**Asahikawa**	**41.08**	**61**	LR	LR	17 15 03.5	
comp=Z,134nm,18.5s,MS3.8,baz=350,slow=37							
AKASG	**Malin Array Be**	**45.45**	**309**	P	**P**	**16 57 34.4**	**-1.7**
comp=Z,0.2nm,0.4s,mb3.3,baz=80,slow=5.7,SNR=4.6							
FINES	**FINESS Array B**	**47.14**	**324**	P	**P**	**16 57 45.5**	**-3.7**
comp=Z,1.0nm,1.0s,mb3.7,baz=70,slow=12,SNR=2.3							
FINES				LR	LR	17 19 44.4	
comp=Z,88nm,20.1s,MS3.7,baz=182,slow=39							
FINES	**FINESS Array B**	**47.14**	**324**	P	**P**	**16 57 45.5**	**-3.8**
FINES				pmax	pmax		
comp=Z,1.0nm,1.0s							
FINES				MLR	MLR		
comp=Z,88nm,20.1s							
ARCES	**ARCESS Array B**	**48.34**	**335**	LR	LR	17 21 13.1	
comp=Z,32nm,21.5s,MS3.3,baz=5.3,slow=40							
NOA	**NORSAR Array B**	**54.32**	**324**	LR	LR	17 24 08.6	
comp=Z,62nm,18.3s,MS3.7,baz=65,slow=38							
GERES	**GERESS Array B**	**55.66**	**309**	LR	LR	17 24 07.5	
comp=Z,125nm,18.2s,MS4.0,baz=102,slow=38							
WRAB	**Tennant Creek**	**69.45**	**135**	*e*P	**P**	**17 00 23.3**	**-2.1**
comp=Z,13nm,1.1s,mb4.8							
WRAB	**Tennant Creek**	**69.45**	**135**	*e*P	**P**	**17 00 23.3**	**-2.0**
WRAB				pmax	pmax		
comp=Z,13nm,1.1s,mb4.8							
WRA	**Warramunga Arr**	**69.46**	**135**	P	**P**	**17 00 23.7**	**-1.7**
comp=Z,3.9nm,1.1s,mb4.3,baz=329,slow=6.3,SNR=17							
WRA	**Warramunga Arr**	**69.46**	**135**	P	**P**	**17 00 23.7**	**-1.6**
WRA				pmax	pmax		
comp=Z,4.0nm,1.1s							
ILAR	**Eielson Array**	**70.93**	**22**	P	**P**	**17 00 32.1**	**-2.2**
comp=Z,1.5nm,1.2s,mb3.8,baz=287,slow=4.6,SNR=5.5							
ILAR	**Eielson Array**	**70.93**	**22**	P	**P**	**17 00 32.2**	**-2.1**
ILAR				pmax	pmax		
comp=Z,2.0nm,1.2s							
ASAR	**Alice Springs**	**72.15**	**138**	P	**P**	**17 00 40.0**	**-1.7**
comp=Z,1.7nm,1.0s,mb4.0,baz=321,slow=5.6,SNR=11							
ASAR	**Alice Springs**	**72.15**	**138**	P	**P**	**17 00 40.0**	**-1.7**
ASAR				pmax	pmax		
comp=Z,2.0nm,1.0s							
YKA	**Yellowknife Ar**	**80.57**	**11**	P	**P**	**17 01 27.4**	**-2.1**
comp=Z,0.6nm,0.8s,mb3.5,baz=343,slow=4.4,SNR=6.1							
YKA				LR	LR	17 39 01.5	
comp=Z,82nm,19.5s,MS4.1,baz=65,slow=37							
YKA	**Yellowknife Ar**	**80.57**	**11**	P	**P**	**17 01 27.4**	**-2.1**
YKA				LR	LR	17 39 01.5	
YKA	**Yellowknife Ar**	**80.57**	**11**	P	**P**	**17 01 27.4**	**-2.1**
YKA				pmax	pmax		
comp=Z,1.0nm,0.8s							
YKA				MLR	MLR		
comp=Z,82nm,19.5s							
TORD	**Torodi Ar. Bea**	**80.82**	**280**	P	**P**	**17 01 29.2**	**-1.6**
comp=Z,2.

TYV eSn Sn 17 11 36.2 -2.6
TYV eSg Sg 17 11 57.8 +4.4
TYV A 17 12 02.0
55nm,0.7s
TYV A 17 12 02.0
37nm,0.7s
GRNR Gornyy 5.13 232 erx rx 17 11 47.6
GRNR ePg Pg 17 11 50.1 +2.6
GRNR AMB AMB 17 11 55.2
6.0nm,0.6s
GRNR eSg Sg 17 13 00.5 +6.5
GRNR A 17 13 08.0
38nm,0.8s
EKMR Ekimchan 5.96 264 ePg Pg 17 12 06.0 +2.7
EKMR AMB AMB 17 12 20.8
4.0nm,0.5s
EKMR eSg Sg 17 13 28.0 +7.6
EKMR A 17 13 43.0
24nm,0.7s
EKMR A 17 13 43.0
14nm,0.7s
KLR Kul'dur 8.42 239 erx rx 17 14 21.7
KLR erx rx 17 15 00.0
YASR Yasnyy 8.83 271 erx rx 17 13 11.5
YASR erx rx 17 15 08.5
ZEA Zeya 9.19 274 erx rx 17 15 21.9
KROS Kirovskiy 9.27 278 erx rx 17 12 34.6
KROS erx rx 17 15 21.4
PET Petropavlovsk 9.50 90 erx rx 17 13 00.8
PET erx rx 17 13 16.0

MAN 01 17:11:09.2, 1336N×12020E, h6km, mb2.8, ML4.2, MS2.1, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**7**	*e*P	Pg	17 11 16.3	-0.2
LUBP				*e*S	Sg	17 11 20.1	-1.3
PGP	**Puerto Galera**	**0.75**	**79**	*e*P	Pg	17 11 24.4	+0.8
TGY	**Tagaytay City**	**1.03**	**44**	*i* P	Pg	17 11 30.4	+1.4
TGY				*i* S	Sg	17 11 44.1	+1.7
BUSP	**Coron**	**1.35**	**180**	*e*P	Pn	17 11 35.1	+0.5
BUSP				*e*S	Sb	17 11 52.7	+0.2
BOAC	**Boac**	**1.61**	**86**	*e*P	Pn	17 11 37.2	-0.9
BOAC				*e*S	Sn	17 11 59.6	+0.4
OTRP	**Odiongan**	**2.04**	**119**	*e*P	Pn	17 11 44.6	+0.6
OTRP				*e*S	Sn	17 12 13.4	+3.6
POLP	**Polilio Island**	**2.17**	**51**	*e*P	Pn	17 11 46.5	+0.6
POLP				*e*S	Sn	17 12 11.9	-1.2
ENPP	**El Nido**	**2.27**	**199**	*e*P	Pn	17 11 47.8	+0.5
ENPP				*e*S	Sn	17 12 14.3	-1.3
CUYO	**Cuyo Island**	**2.62**	**162**	*e*P	Pn	17 11 52.4	+0.3
CUYO				*e*S	Sn	17 12 22.6	-1.6
BALP	**Baler**	**2.72**	**29**	*e*P	Pn	17 11 54.9	+1.5
BALP				*e*S	Sn	17 12 27.7	+1.1
GUIM	**Jordan**	**3.59**	**139**	*e*P	Pn	17 12 06.2	+0.8
GUIM				*e*S	Sn	17 12 47.6	-0.4

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*OMAN **01** 17:15:05.8±2.5, 3117N×5761E, h120km±20km, Error ellipse: s-maj=30.4km s-min=26.3km az=69.0*
*IDC **01** 17:15:41.1±1.9, 2797N×5681E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, MS3.3/2, Ms1 3.3/2, ms1mx2.9/31, Error ellipse: s-maj=43.6km s-min=21.5km az=158.0*
*ISCJB **01** 17:15:42.5±0.4, 2814N±003×5694E±006, h10km, mb3.9/12, MS3.1/2, Error ellipse: s-maj=7.1km s-min=3.7km az=9.8*
*CSEM **01** 17:15:44.9±0.1, 2811N×5692E, h30km, mb3.8/2, ML4.6/2, Error ellipse: s-maj=3.4km s-min=2.2km az=105.0*
*THR **01** 17:15:45.9±0.5, 2816N×5674E, h14km±4km, ML3.7*
*NEIC **01** 17:15:45.9, 2816N×5674E, h14km, mb3.6/4, ML3.7(THR), After THR.*
*TEH **01** 17:15:51.2, 2826N×5645E, h18km, Mn3.7*

ISC 01 17:15:44.5±1.0, 2814N±003×5690E±006, h12km±6km, n52, σ1§07/58, mb3.9/12, MS3.1/2, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.98**	**221**	*e*PG	**Pg**	**17 16 03.4**	**0.0**
BNDS				*e*SG	**Sg**	**17 16 15.8**	**-0.3**
BNDS				AML	AML	17 16 20.0	
	comp=E,3μm,0.4s						
BNDS				AML	AML	17 16 22.4	
	comp=N,3μm,0.5s						
BNDS	**Bandar-Abbas**	**0.98**	**221**	*e*Pg	**Pg**	**17 16 03.4**	**0.0**
	SNR=90						
BNDS				*e*Sg	**Sg**	**17 16 15.8**	**-0.3**
	comp=N,3μm,0.5s,SNR=90						
BNDS	**Bandar-Abbas**	**0.98**	**221**	Pg	**Pg**	**17 16 03.0**	**-0.4**
BNDS				Sg	**Sg**	**17 16 15.0**	**-1.1**
KRBR	**Kerman**	**1.84**	**356**	*e*PG	**Pg**	**17 16 18.9**	**-1.0**
KRBR				*e*SG	**Sg**	**17 16 43.6**	**-0.1**
KRBR				AML	AML	17 16 56.4	
	comp=E,589nm,0.7s						
KRBR				AML	AML	17 16 57.0	
	comp=N,552nm,0.8s						
KRBR	**Kerman**	**1.84**	**356**	*e*Pg	**Pg**	**17 16 18.9**	**-1.0**
	SNR=90						
KRBR				*e*Sg	**Sg**	**17 16 43.6**	**-0.2**
	comp=N,552nm,0.8s,SNR=90						
KRBR	**Kerman**	**1.84**	**356**	Pg	**Pg**	**17 16 18.0**	**-1.9**
KRBR				Sg	**Sg**	**17 16 43.0**	**-0.8**
BANOM	**Banah**	**2.27**	**194**	⇑P	**Pn**	**17 16 22.6**	**+0.9**
BANOM	**Banah**	**2.27**	**194**	P	**Pn**	**17 16 22.6**	**+0.8**
GHIR	**Ghir-Karzin**	**3.45**	**273**	*e*PN	**Pn**	**17 16 39.4**	**+1.3**
GHIR				AML	AML	17 18 10.4	
	comp=E,103nm,0.7s						
GHIR	**Ghir-Karzin**	**3.45**	**273**	Pn	**Pn**	**17 16 39.0**	**+0.9**
ASHO	**Ashiyiah**	**3.52**	**192**	P	**Pn**	**17 16 40.9**	**+1.9**
	SNR=6.1						
IBAF	**Bafgh**	**3.63**	**342**	*e*Pn	**Pn**	**17 16 42.9**	**+2.4**
IBAF				*e*Sn	**Sn**	**17 17 21.6**	**-1.6**
ZHSF	**Zahedan**	**3.71**	**66**	*e*PN	**Pn**	**17 16 46.5**	**+5.0**
ZHSF	**Zahedan**	**3.71**	**66**	Pn	**Pn**	**17 16 46.0**	**+4.5**
IPAR	**Pars**	**3.77**	**298**	*e*Pn	**Pn**	**17 16 43.3**	**+0.8**
IMOK	**Mook**	**3.79**	**285**	*e*Pn	**Pn**	**17 16 42.1**	**-0.5**
IMEH	**Mehriz**	**3.80**	**329**	*e*Pn	**Pn**	**17 16 45.2**	**+2.4**
HOQ	**Hoqain**	**4.55**	**175**	P	**Pn**	**17 16 53.5**	**+0.4**
	SNR=10						
HOQ	**Hoqain**	**4.55**	**175**	P	**Pn**	**17 16 53.5**	**+0.3**
	SNR=10						
ICHK	**Chekchek**	**4.62**	**333**	*e*Pn	**Pn**	**17 16 55.8**	**+1.6**
BIDO	**Bidbid**	**4.73**	**166**	P	**Pn**	**17 16 54.5**	**-1.1**
	SNR=31						
SMDO	**Samad**	**5.16**	**168**	P	**Pn**	**17 17 01.2**	**-0.3**
	SNR=21						
BSY	**Bisya**	**5.38**	**177**	P	**Pn**	**17 17 05.3**	**+0.8**
	SNR=11						
BSYO	**Bisya**	**5.39**	**177**	P	**Pn**	**17 17 05.3**	**+0.6**
	SNR=11						
NASN	**Na'in**	**5.83**	**324**	*e*PN	**Pn**	**17 17 13.1**	**+2.3**
NASN	**Na'in**	**5.83**	**324**	Pn	**Pn**	**17 17 13.0**	**+2.2**
WHFO	**Wadi Hawf**	**10.57**	**196**	P	**Pn**	**17 18 14.1**	**-1.7**
	SNR=8.4						
ABTO	**Aybut**	**11.23**	**198**	P	**Pn**	**17 18 24.3**	**-0.5**
	SNR=8.5						
MALT	**Malatya**	**18.45**	**308**	*e*P	**Pn**	**17 19 59.6**	**-0.4**
	comp=E,3.8nm,0.9s						
AAK	**Ala-Archa**	**20.31**	**40**	*e*P	**P**	**17 20 21.0**	**+0.7**
	comp=E,2.6nm,0.8s						
AAK	**Ala-Archa**	**20.31**	**40**	*e*P	**P**	**17 20 21.0**	**+0.7**
	comp=E,2.6nm,0.8s						
ATD	**Arta Tunnel**	**21.12**	**221**	LR	LR	17 27 36.1	
	comp=E,49nm,19.3s,MS2.9,baz=76,slow=34						
AKTK	**Aktyubinsk**	**22.28**	**2**	P	**P**	**17 20 41.8**	**+0.3**
AKTK	**Aktyubinsk**	**22.28**	**2**	P	**P**	**17 20 41.8**	**+0.3**
AKTK				LR	LR	17 31 02.2	
AKTO	**Aktyubinsk**	**22.28**	**2**	P	**P**	**17 20 41.8**	**+0.3**
	comp=E,3.1nm,0.6s,mb3.9,baz=181,slow=11,SNR=12						
AKTO				LR	LR	17 31 02.2	
	comp=E,121nm,18.2s,MS3.4,baz=0.0,slow=41						
BR131	**Keskin Array S**	**22.43**	**307**	*e*P	**P**	**17 20 43.2**	**+0.2**
	comp=E,2.4nm,0.7s,mb3.7						
BR131	**Keskin Array S**	**22.43**	**307**	*e*P	**P**	**17 20 43.1**	**+0.1**
	comp=E,2.4nm,0.7s,mb3.7						
BRTR	**Keskin Array B**	**22.43**	**307**	P	**P**	**17 20 43.0**	**-0.1**
	comp=E,1.7nm,0.8s,mb3.5,baz=125,slow=11,SNR=9.1						
BVAR	**Borovoye Array**	**26.80**	**18**	P	**P**	**17 21 24.7**	**+0.3**
	comp=E,3.5nm,0.7s,mb4.0,baz=202,slow=9.1,SNR=30						
BRVK	**Borovoye**	**26.80**	**18**	*e*P	**P**	**17 21 24.3**	**-0.1**
	comp=E,1.4nm,0.9s,mb3.5						
BRVK	**Borovoye**	**26.80**	**18**	*e*P	**P**	**17 21 24.3**	**-0.1**
	comp=E,1.4nm,0.9s,mb3.5						
MKAR	**Makanchi Array**	**27.25**	**40**	P	**P**	**17 21 28.9**	**+0.5**
	comp=E,1.0nm,0.8s,mb3.4,baz=230,slow=9.2,SNR=12						
ZAL	**Zalesovo**	**32.88**	**31**	P	**P**	**17 22 18.1**	**-0.1**
	comp=E,1.9nm,0.5s,mb4.3,baz=242,slow=9.2,SNR=11						
ZAL	**Zalesovo**	**32.88**	**31**	P	**P**	**17 22 18.1**	**-0.2**
JOF	**Joensuu**	**38.59**	**342**	*e*p	**P**	**17 23 06.8**	**-0.4**
	comp=E,1.5nm,0.8s,mb3.8						
FINES	**FINESS Array B**	**39.12**	**337**	P	**P**	**17 23 10.8**	**-0.8**
	comp=E,2.4nm,0.5s,mb4.2,baz=130,slow=9.7,SNR=20						
KHC	**Kasperske Hory**	**39.12**	**314**	*e*P	**P**	**17 23 10.7**	**-1.0**
SONM	**Songino Array**	**42.85**	**49**	P	**P**	**17 23 42.4**	**-0.1**
	comp=E,0.5nm,0.8s,mb3.3,baz=263,slow=8.4,SNR=4.4						
ARCES	**ARCESS Array B**	**45.23**	**345**	P	**P**	**17 23 59.8**	**-1.7**
	comp=E,3.7nm,1.1s,mb4.1,baz=137,slow=7.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**53.34**	**266**	P	**P**	**17 25 01.8**	**-1.8**
	comp=E,2.4nm,0.5s,mb4.4,baz=65,slow=7.4,SNR=16						
YKA	**Yellowknife Ar**	**89.43**	**356**	P	**P**	**17 28 40.2**	**-1.0**
	comp=E,0.6nm,0.7s,mb4.0,baz=360,slow=5.1,SNR=12						
YKA	**Yellowknife Ar**	**89.43**	**356**	P	**P**	**17 28 40.2**	**-1.0**

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*IDC **01** 17:16:31.9±0.8, 1106N×9189E, h0km, mb3.9/13, mb1 4.0/14, mb1mx4.0/24, mbtmp3.9/14, ML3.5/1, Error ellipse: s-maj=38.9km s-min=14.6km az=54.0*
*ISCJB **01** 17:16:36.7±1.8, 1103N±007×9191E±007, h49km±17km, mb4.1/23, MS3.5/1, Error ellipse: s-maj=12.5km s-min=10.0km az=64.6*
*NEIC **01** 17:16:37.4±1.2, 1105N×9205E, h37km±13km, mb4.1/8, Error ellipse: s-maj=15.4km s-min=7.9km az=58.0*
*BJI **01** 17:16:38.6, 1136N×9188E, h23km, mB4.1, mb4.3, Ms3.8, Msz3.3*

ISC 01 17:16:37.8±1.1, 1106N±006×9196E±007, h38km±11km, n45, σ1§14/45, mb4.1/23, MS3.5/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.97**	**52**	*e*P	Px	17 17 06.3	
PBA				*e*S	Sx	17 17 19.4	
VIS	**Vishakhapatnam**	**10.66**	**309**	*e*P	**Pn**	**17 19 06.2**	**-1.8**
VIS				*e*S	**Sn**	**17 20 55.4**	**-11**
PSI	**Prapat**	**10.73**	**139**	Pn	**Pn**	**17 19 06.9**	**-1.9**
	0.4nm,0.3s,baz=338,slow=18,SNR=2.1						
MDRS	**Chennai**	**11.63**	**281**	*ex*	x	17 18 59.0	
MDRS				*e*P		17 19 20.8	
PALK	**Pallekele**	**11.73**	**252**	P	**Pn**	**17 19 23.9**	**+1.3**
	25nm,1.0s						
BOK	**Bokaro**	**13.92**	**336**	*e*P	**Pn**	**17 19 52.4**	**0.0**
BOK				AMb	AMB	17 20 02.2	
	comp=Z,5.3nm,0.6s						
HYB	**Hyderabad**	**14.44**	**297**	*i* P	**Pn**	**17 19 59.0**	**-0.6**
HYB				*e*		17 20 07.0	
HYB				*e*		17 22 25.0	
HYB				*e*S	**Sn**	**17 22 38.0**	**-0.4**
HYB	**Hyderabad**	**14.44**	**297**	*e*P	**Pn**	**17 20 07.0**	**+7.4**
HYB				*e*		17 22 25.0	
HYB				*e*S	**Sn**	**17 22 38.0**	**-0.4**
LATR	**Latur**	**16.58**	**298**	*ex*	x	17 23 14.3	
JIRN	**Jiri**	**17.38**	**343**	*e*P	**Pn**	**17 20 38.9**	**+1.6**
PKI	**Pulchoki**	**17.54**	**340**	*e*P	**Pn**	**17 20 41.5**	**+2.2**
DMN	**Daman**	**17.68**	**340**	*e*P	**Pn**	**17 20 42.9**	**+1.9**
GKN	**Gorkha**	**18.20**	**339**	*e*P	**Pn**	**17 20 47.3**	**-0.1**
	comp=Z,15nm,0.6s						
KOLN	**Koldanda**	**18.38**	**336**	*e*P	**Pn**	**17 20 49.4**	**-0.2**
	comp=Z,30nm,0.9s						
BHPL	**Bhopal**	**18.41**	**313**	*e*P	**Pn**	**17 20 50.3**	**+0.3**
BHPL				AMb	AMB	17 20 59.4	
	comp=Z,13nm,1.2s						
LSA	**Lhasa**	**18.56**	**358**	*e*P	**Pn**	**17 20 54.3**	**+2.5**
LSA	**Lhasa**	**18.56**	**358**	*e*P	**Pn**	**17 20 51.6**	**-0.2**
	comp=Z,4.2nm,0.6s						
POO	**Poona**	**19.01**	**295**	*e*P	**Pn**	**17 20 56.0**	**-1.2**
POO				*i* PP		17 21 11.0	
POO				*i* x	x	17 24 12.0	
POO				*i* x	x	17 24 13.0	
POO				*i* x	x	17 24 34.0	
POO				*i* SSS		17 24 47.0	
POO				*i* x	x	17 25 03.0	
POO				*i* PCP	PcP	17 25 35.0	+15
POO				*i* PCS	PcS	17 29 11.0	+14
CD2	**Chengdu**	**22.58**	**27**	P	**P**	**17 21 33.9**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,5.6s						
ENH	**Enshi**	**25.12**	**38**	*e*P	**P**	**17 21 57.9**	**-1.2**
	comp=Z,22nm,0.7s,mb4.8						
XAN	**Xi'an**	**27.63**	**31**	P	**P**	**17 22 23.8**	**+2.1**
AAK	**Ala-Archa**	**34.95**	**337**	*e*P	**P**	**17 23 25.9**	**-0.1**
	comp=Z,2.0nm,1.0s,mb4.0						
BJI	**Beijing**	**35.95**	**32**	*e*P	**P**	**17 23 33.8**	**-0.9**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
BJI				LR	LR		
	comp=Z,83nm,18.9s,MS3.5						
MKAR	**Makanchi Array**	**36.54**	**349**	P	**P**	**17 23 39.8**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.9,baz=173,slow=8.7,SNR=14						
SONM	**Songino Array**	**38.61**	**16**	P	**P**	**17 23 57.8**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.4,baz=208,slow=8.7,SNR=3.5						
ZAL	**Zalesovo**	**43.14**	**354**	P	**P**	**17 24 33.4**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=287,slow=5.7,SNR=4.4						
ZAL	**Zalesovo**	**43.14**	**354**	P	**P**	**17 24 33.4**	**-1.1**
CN2	**Changchun**	**43.59**	**35**	*e*P	**P**	**17 24 44.9**	**+6.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**45.30**	**342**	P	**P**	**17 24 50.8**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.6,baz=140,slow=7.8,SNR=5.3						
AKTK	**Aktyubinsk**	**48.14**	**331**	P	**P**	**17 25 13.4**	**-0.5**
AKTO	**Aktyubinsk**	**48.14**	**331**	P	**P**	**17 25 13.4**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.2,baz=131,slow=7.7,SNR=6.0						
GNI	**Garni**	**50.69**	**313**	P	**P**	**17 25 29.3**	**-4.2**
	comp=Z,2.1nm,0.5s,mb4.4,baz=345,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**51.86**	**126**	P	**P**	**17 25 42.8**	**+0.6**
	comp=Z,1.2nm,0.7s,mb4.0,baz=300,slow=10,SNR=32						
WRAB	**Tennant Creek**	**51.87**	**126**	*e*P	**P**	**17 25 42.5**	**+0.2**
ASAR	**Alice Springs**	**53.60**	**130**	P	**P**	**17 25 56.0**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.0,baz=304,slow=7.3,SNR=14						
MALT	**Malatya**	**54.78**	**309**	*e*P	**P**	**17 26 05.0**	**+1.3**
	comp=Z,3.3nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**58.74**	**310**	P	**P**	**17 26 31.6**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=121,slow=7.7,SNR=9.6						
STKA	**Stephens Creek**	**63.85**	**131**	P	**P**	**17 27 07.2**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=219,slow=6.5,SNR=4.5						
JOF	**Joensuu**	**67.06**	**334**	*e*p	**P**	**17 27 27.1**	**0.0**
	comp=Z,3.8nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**68.90**	**332**	P	**P**	**17 27 38.1**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.2,baz=98,slow=3.9,SNR=6.8						
KAF	**Kangasniemi**	**68.99**	**333**	*e*p	**P**	**17 27 37.1**	**-2.1**
	comp=Z,0.6nm,0.4s,mb3.9						
KEV	**Kevo**	**71.13**	**341**	*e*p	**P**	**17 27 54.2**	**+1.9**
	comp=Z,20nm,1.2s,mb4.9						
NOA	**NORSAR Array B**	**75.91**	**330**	P	**P**	**17 28 19.1**	**-1.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=96,slow=5.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**87.78**	**283**	P	**P**	**17 29 24.2**	**+1.4**
	comp=Z,0.9nm,0.8s,mb4.0,baz=90,slow=3.6,SNR=4.7						
ILAR	**Eielson Array**	**92.60**	**22**	P	**P**	**17 29 44.1**	**-1.2**
	comp=Z,0.4nm,0.8s,mb3.9,baz=303,slow=3.2,SNR=4.9						

MAN 01 17:17:11.2, 1357N×12003E, h28km, mb2.2, ML3.8, MS4.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.27**	**51**	*e*P	Pb	17 17 18.9	+1.0
LUBP				*e*S	Sb	17 17 23.9	+1.4
BUSP	**Coron**	**1.56**	**174**	*e*P	Pn	17 17 37.0	-0.1
BUSP				*e*S	Sn	17 17 54.5	-1.9
BOAC	**Boac**	**1.77**	**93**	*e*P	Pn	17 17 41.1	+1.3
BOAC				*e*S	Sn	17 18 01.8	+0.5
POLP	**Polilio Island**	**2.18**	**58**	*e*P	Pn	17 17 34.1	-11
POLP				*e*S	Sn	17 18 16.7	+5.1
ENPP	**El Nido**	**2.42**	**194**	*e*P	Pn	17 17 49.8	+0.9
ENPP				*e*S	Sn	17 18 16.5	-1.0
CUYO	**Cuyo Island**	**2.87**	**160**	*e*P	Pn	17 17 54.7	-0.3
CUYO				*e*S	Sn	17 18 24.8	-3.8

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*IDC **01** 17:20:29.5±0.7, 1329N×11998E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.1/20, mbtmp4.3/9, Error ellipse: s-maj=16.6km s-min=13.3km az=117.0*
*ISCJB **01** 17:20:32.1±0.8, 1342N±003×12007E±004, h23km±6km, mb4.3/13, Error ellipse: s-maj=6.3km s-min=4.2km az=164.6*
*MAN **01** 17:20:32.5, 1335N×12020E, h4km, mb3.3, ML4.6, MS2.0*
*NEIC **01** 17:20:34.9±0.4, 1340N×12023E, h35km, mb4.3/4, Error ellipse: s-maj=17.6km s-min=7.6km az=74.0*

ISC 01 17:20:32.1±0.9, 1342N±003×12009E±004, h11km±5km, n46, σ1§12/62, mb4.3/13, 4C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**26**	*e*P	**Pg**	**17 20 39.2**	**+0.2**
LUBP				*e*S	**Sg**	**17 20 43.6**	**-0.2**
PGP	**Puerto Galera**	**0.85**	**84**	*e*P	**Pg**	**17 20 47.2**	**-1.3**
PGP				*e*S	**Sg**	**17 20 58.6**	**-0.9**
TGY	**Tagaytay City**	**1.07**	**50**	Pg	**Pg**	**17 20 52.6**	**-0.1**
	2μm,0.3s,baz=242,slow=2.8,SNR=105						
TGY				Lg		17 21 10.2	
	5μm,0.3s,baz=140,slow=22,SNR=20						
TGY	**Tagaytay City**	**1.07**	**50**	*i* P	**Pg**	**17 20 52.9**	**+0.2**
TGY				*i* S	**Sg**	**17 21 06.1**	**-0.6**
BUSP	**Coron**	**1.41**	**175**	*e*P	**Pn**	**17 20 58.2**	**+0.5**
BUSP				*e*S	**Sn**	**17 21 16.0**	**-0.2**
LQP	**Lukban**	**1.57**	**64**	*e*P	**Pn**	**17 21 00.6**	**+0.7**
BOAC	**Boac**	**1.71**	**88**	*e*P	**Pn**	**17 21 00.6**	**-1.3**
BOAC				*e*S	**Sn**	**17 21 23.2**	**-0.6**
OTRP	**Odiongan**	**2.16**	**119**	*e*P	**Pn**	**17 21 10.7**	**+2.7**
OTRP				*e*S	**Sn**	**17 21 37.6**	**+2.9**
POLP	**Polilio Island**	**2.22**	**54**	*e*P	**Pn**	**17 21 08.9**	**+0.1**
ENPP	**El Nido**	**2.29**	**196**	*e*P	**Pn**	**17 21 10.9**	**+1.1**
ENPP				*e*S	**Sn**	**17 21 38.0**	**0.0**
GQP	**Guinayangan**	**2.35**	**78**	‖*i*P	**Pn**	**17 21 11.6**	**+1.0**
GQP				*i* S	**Sn**	**17 21 40.6**	**+1.2**
PCPH	**Palayan**	**2.35**	**25**	*e*P	**Pn**	**17 21 11.2**	**+0.7**
SCZP	**Santa Cruz**	**2.35**	**356**	*e*P	**Pn**	**17 21 10.4**	**-0.2**
SCZP	**Santa Cruz**	**2.35**	**356**	*e*P	**Pn**	**17 21 10.4**	**-0.2**
AUQP	**San Andres**	**2.52**	**92**	*e*P	**Pn**	**17 21 13.4**	**+0.4**
AUQP				*e*S	**Sn**	**17 21 53.8**	**+10**
CUYO	**Cuyo Island**	**2.71**	**160**	*e*P	**Pn**	**17 21 15.8**	**+0.2**
CUYO				*e*S	**Sn**	**17 21 46.6**	**-1.8**
BALP	**Baler**	**2.72**	**32**	*e*P	**Pn**	**17 21 17.6**	**+1.8**
BALP				*e*S	**Sn**	**17 21 45.7**	**-3.1**
BOLP	**Bolinao**	**2.95**	**357**	*e*P	**Pn**	**17 21 19.8**	**+0.9**
BCPH	**Baguio City Da**	**2.98**	**9**	‖*i*P	**Pn**	**17 21 20.4**	**+1.0**
BCPH				*e*S	**Sn**	**17 22 10.6**	**+15**
GUIM	**Jordan**	**3.70**	**138**	*e*P	**Pn**	**17 21 30.0**	**+0.8**
GUIM				*e*S	**Sn**	**17 22 12.9**	**+0.1**
PVCP	**Virac**	**3.96**	**87**	*e*P	**Pn**	**17 21 30.7**	**-2.1**
PVCP	**Virac**	**3.96**	**87**	*e*P	**Pn**	**17 21 30.7**	**-2.1**
SNPH	**Sibulan**	**5.09**	**142**	*e*P	**Pn**	**17 21 51.0**	**+2.7**
BATP	**Bataraza**	**5.11**	**206**	*e*P	**Pn**	**17 21 56.0**	**+7.5**
BATP				*e*S	**Sn**	**17 22 43.7**	**-3.8**
IPIL	**Ipil**	**6.10**	**156**	*e*P	**Pn**	**17 22 04.3**	**+2.1**
IPIL				*e*S	**Sn**	**17 23 06.3**	**-5.8**
PAGZ	**Pagadian**	**6.41**	**149**	*e*P	**Pn**	**17 22 07.2**	**+0.7**
PAGZ				*e*S	**Sn**	**17 23 19.3**	**-0.3**
MBWA	**Marble Bar**	**34.36**	**181**	*e*P	**P**	**17 27 20.5**	**+1.6**
WRAB	**Tennant Creek**	**35.99**	**157**	*e*P	**P**	**17 27 31.9**	**-1.1**
	21nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**35.99**	**157**	P	**P**	**17 27 32.1**	**-0.9**
	14nm,0.6s,mb5.1,baz=336,slow=9.6,SNR=125						
WB2	**Warramunga Arr**	**36.00**	**157**	⇑*i*P	**P**	**17 27 32.2**	**-0.9**
ULN	**Ulaanbaatar**	**36.02**	**345**	*e*P	**P**	**17 27 33.1**	**-0.1**
	4.1nm,1.3s,mb4.2						
SONM	**Songino Array**	**36.16**	**344**	P	**P**	**17 27 34.6**	**+0.1**
	2.1nm,0.6s,mb4.3,baz=164,slow=9.8,SNR=17						
AS31	**Alice Springs**	**39.25**	**160**	⇑*i*P	**P**	**17 28 00.4**	**-0.2**
ASAR	**Alice Springs**	**39.26**	**160**	P	**P**	**17 28 00.6**	**-0.1**
	6.9nm,0.6s,mb4.6,baz=338,slow=6.5,SNR=82						
ASPA	**Alice Springs**	**39.26**	**160**	⇑*i*P	**P**	**17 28 00.4**	**-0.2**
MKAR	**Makanchi Array**	**45.91**	**324**	P	**P**	**17 28 55.2**	**+0.5**
	0.3nm,0.3s,mb3.6,baz=126,slow=8.0,SNR=9.1						
MKAR				PcP	PcP	17 30 31.2	-0.4
	0.6nm,0.6s,baz=114,slow=3.1,SNR=5.2						
NWAO	**Narrogin (SRO)**	**46.16**	**183**	P	**P**	**17 28 55.0**	**-1.7**
STKA	**Stephens Creek**	**49.53**	**156**	P	**P**	**17 29 19.9**	**-2.9**
	1.4nm,0.6s,mb4.2,baz=356,slow=19,SNR=4.1						
KURK	**Kurchatov**	**50.09**	**327**	*e*P	**P**	**17 29 27.5**	**+0.5**
	2.9nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**55.67**	**326**	P	**P**	**17 30 08.9**	**+0.6**
	0.8nm,0.6s,mb4.0,baz=117,slow=8.9,SNR=9.9						
BRVK	**Borovoye**	**55.74**	**326**	*e*P	**P**	**17 30 08.8**	**0.0**
	0.9nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**79.13**	**339**	P	**P**	**17 32 35.6**	**-1.2**
	4.0nm,0.9s,mb4.3,baz=70,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**80.24**	**331**	P	**

BOAC eS Sn 17 43 54.7 -0.7
OTRP Odiongan 2.11 120 eP Pn 17 43 43.2 +2.9
ENPP El Nido 2.30 198 eP Pn 17 43 43.5 +0.6
ENPP eS Sn 17 44 09.5 -1.9
SCZP Santa Cruz 2.36 355 eS Sn 17 44 12.0 -0.7
AUQP San Andres 2.47 92 eP Pn 17 43 37.5 -7.7
AUQP eS Sn 17 44 18.7 +3.3
CUYO Cuyo Island 2.69 161 eP Pn 17 43 48.4 +0.2
CUYO eS Sn 17 44 15.9 -4.9
BALP Baler 2.70 31 eP Pn 17 43 48.6 +0.3
BALP eS Sn 17 44 18.6 -2.4
GUIM Jordan 3.66 139 eP Pn 17 44 03.2 +1.7
GUIM eS Sn 17 44 45.0 +0.1

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*IDC **01** 17:43:40.4±1.6, 4078N×5166E, h0km, mb4.1/6, mb1 4.2/10, mb1mx3.9/23, mbtmp4.2/10, ML4.3/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=30.2km s-min=11.6km az=148.0*
*NEIC **01** 17:43:41.9±4.5, 4078N×5179E, h14km±33km, mb3.8/6, ML4.2(THR), ML4.2(TEH), Error ellipse: s-maj=7.8km s-min=7.1km az=78.0*
*ISCJB **01** 17:43:41.7±0.3, 4073N±003×5186E±007, h33km, mb4.0/12, Error ellipse: s-maj=7.3km s-min=4.3km az=28.5*
*CSEM **01** 17:43:43.0±0.1, 4078N×5168E, h40km, mb3.9/11, ML3.8/2, Error ellipse: s-maj=2.4km s-min=1.7km az=99.0*
*MOS **01** 17:43:44.3±1.5, 4108N×5167E, h31km, mb4.2/12, Error ellipse: s-maj=13.8km s-min=9.9km az=75.5*
*NNC **01** 17:43:52.0±2.7, 4131N×5297E, h0km, mb3.8, Error ellipse: s-maj=41.7km s-min=17.0km az=98.0*
*THR **01** 17:43:57.3±0.3, 3944N×5078E, h16km±4km, ML4.3*
*TEH **01** 17:43:59.6, 3946N×5186E, h18km, ML4.2*

ISC 01 17:43:40.8±0.3, 4075N±003×5172E±006, h10km, n73, σ1§49/103, mb4.0/12, 5C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**3.53**	**238**	*e*PN	**Pn**	**17 44 37.0**	**+1.4**
GRMI				*e*SG	**Sn**	**17 45 10.5**	**-6.9**
IPRN	**Paran-Amol**	**4.52**	**175**	*e*Pn	**Pn**	**17 44 48.8**	**-0.4**
IPRN				*e*Sn	**Sn**	**17 45 26.9**	**-15**
IPRN	**Paran-Amol**	**4.52**	**175**	Pn	**Pn**	**17 44 48.8**	**-0.4**
IPRN				Sn	**Sn**	**17 45 26.8**	**-15**
IGLO	**Galoogah**	**4.65**	**162**	*e*Sn	**Sn**	**17 45 31.4**	**-14**
IKIA	**Kiasar**	**4.79**	**161**	*e*Pn	**Pn**	**17 44 53.5**	**+0.5**
IKIA				*e*Sn	**Sn**	**17 45 33.3**	**-15**
CHTH	**Charan**	**4.86**	**186**	*e*PN	**Pn**	**17 44 54.0**	**+0.1**
THKV	**Tehran--Karaj**	**4.87**	**188**	*e*PN	**Pn**	**17 44 53.7**	**-0.4**
THKV				*e*SG	**Sn**	**17 45 46.7**	**-3.8**
THKV				AML	AML	17 45 48.8	
	comp=N,446nm,0.4s						
THKV				AML	AML	17 45 50.6	
	comp=E,582nm,0.7s						
THKV	**Tehran--Karaj**	**4.87**	**188**	*e*Pn	**Pn**	**17 44 53.7**	**-0.4**
	SNR=52						
THKV				*e*Sg	**Sn**	**17 45 46.7**	**-3.8**
	comp=E,582nm,0.7s,SNR=90						
IAFJ	**Afjeh**	**4.89**	**180**	*e*Sn	**Sn**	**17 45 37.5**	**-13**
ISHM	**Shahmirzad**	**5.09**	**165**	*e*Pn	**Pn**	**17 44 59.1**	**+2.0**
DAMV	**Damavand**	**5.12**	**178**	*e*PN	**Pn**	**17 44 59.0**	**+1.6**
DAMV				SN	**Sn**	**17 45 44.3**	**-12**
DAMV				AML	AML	17 45 56.6	
	comp=N,586nm,0.4s						
DAMV				AML	AML	17 45 56.7	
	comp=E,324nm,0.3s						
IMHD	**Mahdasht**	**5.12**	**190**	*e*Pn	**Pn**	**17 44 59.3**	**+1.8**
IMHD				*e*Sn	**Sn**	**17 45 40.5**	**-16**
IFIR	**Firoozkooh**	**5.17**	**171**	*e*Pn	**Pn**	**17 44 59.3**	**+1.2**
IFIR				*e*Sn	**Sn**	**17 45 42.3**	**-15**
GNI	**Garni**	**5.36**	**266**	Pn	**Pn**	**17 45 04.3**	**+3.6**
	comp=E,2.6nm,0.3s,baz=302,slow=5.5,SNR=8.3						
GNI				Sn	**Sn**	**17 45 59.4**	**-3.1**
	comp=E,1.8nm,0.3s,baz=247,slow=12,SNR=4.2						
GNI	**Garni**	**5.36**	**266**	*e*Pn	**Pn**	**17 45 04.1**	**+3.4**
GNI	**Garni**	**5.36**	**266**	*e*P	**Pn**	**17 45 04.0**	**+3.3**
GNI				Sn	**Sn**	**17 45 59.4**	**-3.1**
ILAS	**Lasjerd**	**5.45**	**169**	*e*Pn	**Pn**	**17 45 02.7**	**+0.7**
ILAS				*e*Sn	**Sn**	**17 45 48.3**	**-16**
ILAS	**Lasjerd**	**5.45**	**169**	Pn	**Pn**	**17 45 02.6**	**+0.6**
ILAS				Sn	**Sn**	**17 45 48.3**	**-16**
IRAZ	**Razeghan**	**5.52**	**195**	*e*Pn	**Pn**	**17 45 13.3**	**+10**
IRAZ				*e*Sn	**Sn**	**17 45 54.5**	**-12**
IRAZ	**Razeghan**	**5.52**	**195**	Pn	**Pn**	**17 45 13.3**	**+10**
IRAZ				Sn	**Sn**	**17 45 54.4**	**-12**
IANJ	**Anjiloo**	**5.55**	**161**	*e*Pn	**Pn**	**17 45 05.5**	**+2.1**
IANJ				*e*Sn	**Sn**	**17 45 53.5**	**-14**
IVRN	**Varamin**	**5.74**	**180**	*e*Pn	**Pn**	**17 45 07.7**	**+1.6**
IVRN				*e*Sn	**Sn**	**17 45 56.4**	**-16**
IVRN	**Varamin**	**5.74**	**180**	Pn	**Pn**	**17 45 07.6**	**+1.5**
IVRN				Sn	**Sn**	**17 45 56.4**	**-16**
ASAO	**Ashtian**	**6.34**	**193**	*e*PN	**Pn**	**17 45 12.9**	**-1.3**
SNGE	**Sanandaj**	**6.62**	**213**	*e*PN	**Pn**	**17 45 15.9**	**-2.2**
KIV	**Kislovodsk**	**7.42**	**299**	*e*P	**Pn**	**17 45 30.9**	**+1.9**
	comp=E,8.4nm,0.6s						
KIV				*e*S	**Sn**	**17 46 52.7**	**-0.5**
KIV	**Kislovodsk**	**7.42**	**299**	*e*P	**Pn**	**17 45 28.4**	**-0.6**
KIV				*e*		17 46 52.7	
KIV				pmax	pmax		
	comp=Z,13nm,1.2s						
AB31	**Akbulak array**	**10.30**	**32**	Pn	**Pn**	**17 46 07.8**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=208,slow=12,SNR=37						
AB31				⇓Sn	**Sn**	**17 47 57.3**	**-6.8**
	comp=Z,6.7nm,0.5s,baz=226,slow=24,SNR=18						
AKTK	**Aktyubinsk**	**10.64**	**22**	Pn	**Pn**	**17 46 13.3**	**+0.1**
AKTK				Sn	**Sn**	**17 48 05.0**	**-7.3**
AKTK	**Aktyubinsk**	**10.64**	**22**	Pn	**Pn**	**17 46 13.3**	**+0.1**
AKTK				Sn	**Sn**	**17 48 05.0**	**-7.3**
AKTK				LR	LR	17 51 09.5	
AKTO	**Aktyubinsk**	**10.64**	**22**	Pn	**Pn**	**17 46 13.3**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=205,slow=12,SNR=33						
AKTO				Sn	**Sn**	**17 48 05.0**	**-7.3**
	comp=Z,5.5nm,0.3s,baz=173,slow=23,SNR=22						
AKTO				LR	LR	17 51 09.5	
	comp=Z,47nm,21.8s,baz=0.0,slow=42						
AKTO	**Aktyubinsk**	**10.64**	**22**	Pn	**Pn**	**17 46 12.9**	**-0.3**
	comp=Z,1.4nm,0.7s						
AKTO				Sn	**Sn**	**17 48 05.4**	**-6.9**
	comp=Z,5.3nm,0.6s						
AKTO	**Aktyubinsk**	**10.64**	**22**	P	**Pn**	**17 46 13.3**	**+0.1**
AKTO						17 48 05.0	
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,47nm,21.8s						
ZRNK	**Zerenda**	**16.93**	**38**	⇑Pn	**Pn**	**17 47 36.3**	**-1.5**
	comp=Z,2.2nm,0.7s						
ZRNK				⇑Sn	**Sn**	**17 50 35.7**	**-10**
	comp=Z,9.6nm,1.0s						
ZRNK	**Zerenda**	**16.93**	**38**	*e*P	**Pn**	**17 47 36.1**	**-1.7**
	comp=Z,2.5nm,0.5s						
ZRNK	**Zerenda**	**16.93**	**38**	*e*P	**Pn**	**17 47 36.1**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BRVK	**Borovoye**	**17.61**	**39**	*e*P	**Pn**	**17 47 43.5**	**-2.8**
	comp=Z,2.3nm,0.7s						
BRVK	**Borovoye**	**17.61**	**39**	*e*P	**Pn**	**17 47 43.5**	**-2.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVA0	**Borovoye Array**	**17.64**	**40**	Pn	**Pn**	**17 47 44.6**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=254,slow=4.3,SNR=32						
BVA0				⇑Sn	**Sn**	**17 50 49.5**	**-14**
	comp=Z,0.9nm,0.7s,baz=230,slow=25,SNR=7.0						
BVAR	**Borovoye Array**	**17.64**	**40**	P	**Pn**	**17 47 45.7**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=224,slow=12,SNR=18						
BVAR				S	**Sn**	**17 50 51.5**	**-12**
	comp=Z,0.8nm,0.3s,baz=232,slow=24,SNR=8.2						
BVAR	**Borovoye Array**	**17.64**	**40**	P	**Pn**	**17 47 45.7**	**-0.9**
	comp=Z,1.0nm,0.3s						
BVAR				Sn	**Sn**	**17 50 49.5**	**-14**
	comp=Z,0.9nm,0.7s,SNR=7.0						
BVAR	**Borovoye Array**	**17.64**	**40**	P	**Pn**	**17 47 45.7**	**-0.9**
BVAR				S	**Sn**	**17 50 51.5**	**-12**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	**Vostochnaya**	**17.76**	**41**	⇓Pn	**Pn**	**17 47 48.5**	**+0.5**
	comp=Z,4.4nm,1.1s						
VOSK				⇑Sn	**Sn**	**17 50 53.3**	**-13**
	comp=Z,2.3nm,0.6s						
AKASG	**Malin Array Be**	**18.52**	**310**	P	**Pn**	**17 47 57.4**	**0.0**
	comp=Z,4.5nm,0.3s,baz=112,slow=10,SNR=24						
AKASG	**Malin Array Be**	**18.52**	**310**	P	**Pn**	**17 47 57.4**	**0.0**

AKASG pmax pmax
comp=Z,5.0nm,0.3s
KURK Kurchatov 21.15 53 ⇑P **P 17 48 26.8 +0.8**
comp=Z,5.4nm,0.9s,mb3.9
KURK Kurchatov 21.15 53 *e*P **P 17 48 26.5 +0.6**
comp=Z,8.8nm,0.8s,mb4.1
KURK Kurchatov 21.15 53 *e*P **P 17 48 26.5 +0.6**
KURK pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
KLMR Klimovskoe 21.48 344 *e*P **P 17 48 31.3 +1.8**
comp=Z,60nm,2.7s,mb4.5
KLMR Klimovskoe 21.48 344 *e*P **P 17 48 31.3 +1.8**
KLMR pmax pmax
comp=Z,60nm,2.7s,mb4.5
IDI Anoyia 21.79 264 P **P 17 48 33.4 +0.6**
comp=Z,14nm,0.9s,mb4.4,baz=79,slow=16,SNR=4.8
MK31 Makanchi Array 22.80 64 P **P 17 48 44.5 +1.0**
comp=Z,2.4nm,0.7s,mb3.8,baz=262,slow=11,SNR=17
MKAR Makanchi Array 22.80 64 P **P 17 48 44.8 +1.2**
comp=Z,1.8nm,0.8s,mb3.6,baz=257,slow=11,SNR=19
MKAR Makanchi Array 22.80 64 P **P 17 48 44.8 +1.3**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
ZAL Zalesovo 25.74 48 P **P 17 49 11.6 +0.2**
comp=Z,1.4nm,0.4s,mb3.8,baz=220,slow=6.4,SNR=8.7
ZAL Zalesovo 25.74 48 P **P 17 49 11.6 +0.2**
ZAL Zalesovo 25.74 48 P **P 17 49 11.6 +0.2**
ZAL pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 25.93 332 P **P 17 49 12.8 -0.3**
comp=Z,3.3nm,0.5s,mb4.1,baz=136,slow=12,SNR=22
FINES FINESS Array B 25.93 332 P **P 17 49 12.8 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 26.29 333 *e*p **P 17 49 18.4 +2.0**
comp=Z,1.0nm,0.4s,mb3.7
KAF Kangasniemi 26.29 333 *e*P **P 17 49 18.4 +2.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
NB2 NORSAR Subarra 31.88 323 P **P 17 50 05.0 -1.1**
comp=Z,2.5nm,1.0s,mb4.0,baz=113,slow=8.6
NB2 NORSAR Subarra 31.88 323 P **P 17 50 05.0 -1.1**
NB2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
NOA NORSAR Array B 31.88 323 P **P 17 50 05.7 -0.4**
comp=Z,1.2nm,0.8s,mb3.8,baz=115,slow=8.5,SNR=3.1
NOA NORSAR Array B 31.88 323 P **P 17 50 05.7 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.9s
ARCES ARCESS Array B 31.96 343 P **P 17 50 07.2 +0.4**
comp=Z,3.9nm,0.9s,mb4.2,baz=145,slow=8.6,SNR=8.2
ARCES ARCESS Array B 31.96 343 P **P 17 50 07.2 +0.4**
ARCES ARCESS Array B 31.96 343 P **P 17 50 07.2 +0.4**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 39.49 61 *e*P **P 17 51 12.5 +1.1**
comp=Z,2.0nm,1.0s,mb3.8
ULN Ulaanbaatar 39.49 61 *e*P **P 17 51 12.5 +1.1**
comp=Z,1.7nm,1.0s,mb3.7
ULN Ulaanbaatar 39.49 61 *e*P **P 17 51 12.5 +1.1**
ULN pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
BOD Bodaibo 42.41 45 *e*P **P 17 51 34.4 -1.0**
comp=Z,2.0nm,1.1s,mb3.7
BOD Bodaibo 42.41 45 *e*P **P 17 51 34.4 -1.0**
BOD *e* 17 51 46.5
BOD pmax pmax
comp=Z,2.0nm,1.1s,mb3.7
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb3.9

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*ISCJB **01** 18:01:42.6±0.3, 3638S±003×7098W±009, h145km±5km, mb4.2/7, Error ellipse: s-maj=12.8km s-min=4.3km az=33.5*
*GUC **01** 18:01:43.2±1.2, 3634S×71.12W, h152km±9km, ML4.7*
*IDC **01** 18:01:43.9±1.7, 3636S×7081W, h138km±12km, mb4.0/7, mb1 4.0/10, mb1mx3.9/17, mbtmp4.4/10, Error ellipse: s-maj=37.3km s-min=9.4km az=101.0*
*NEIC **01** 18:01:43.2, 3634S×71.12W, h152km, mb4.6/2, After GUC.*
NEIC Felt [III] at San Javier and Talca; [II] at Cauquenes.

ISC 01 18:01:43.7±0.3, 3638S±003×7099W±009, h141km±5km, n57, σ0§92/67, mb4.2/7, 13C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.72**	**317**	⇑*i*P	**Pn**	**18 02 05.8**	**+0.4**
LNCH				*i* S	**Sn**	**18 02 22.4**	**+0.5**
LNCH				AMP		18 02 23.3	
	comp=E,34μm,0.3s						
LNCH	**Linares**	**0.72**	**317**	⇑*i*P	**Pn**	**18 02 05.8**	**+0.4**
LNCH				*i* S	**Sn**	**18 02 22.4**	**+0.5**
CCHI	**Chillan**	**0.90**	**255**	⇑*i*P	**Pn**	**18 02 07.1**	**+0.4**
CCHI				*i* S	**Sn**	**18 02 24.6**	**+0.4**
CCHI				AMP		18 02 26.3	
	comp=N,5μm,0.7s						
CCHI	**Chillan**	**0.90**	**255**	⇑*i*P	**Pn**	**18 02 07.1**	**+0.4**
CCHI				*i* S	**Sn**	**18 02 24.6**	**+0.4**
TALC	**Talca**	**1.11**	**332**	*e*P	**Pn**	**18 02 08.6**	**0.0**
TALC				*i* S	**Sn**	**18 02 27.4**	**-0.1**
TALC				AMP		18 02 28.7	
	comp=E,25μm,0.4s						
TALC	**Talca**	**1.11**	**332**	*e*P	**Pn**	**18 02 08.6**	**0.0**
TALC				*i* S	**Sn**	**18 02 27.4**	**-0.1**
NICH	**Los Niches**	**1.39**	**352**	⇑*i*P	**Pn**	**18 02 11.9**	**+0.6**
NICH				*i* S	**Sn**	**18 02 32.3**	**-0.2**
CNCO	**Chanco**	**1.41**	**297**	⇑*i*P	**Pn**	**18 02 12.1**	**+0.6**
CNCO				*i* S	**Sn**	**18 02 32.2**	**-0.5**
CNCO				AMP		18 02 38.6	
	comp=E,11μm,0.7s						
CNCO	**Chanco**	**1.41**	**297**	P	**Pn**	**18 02 12.1**	**+0.6**
CNCO				*i* S	**Sn**	**18 02 32.2**	**-0.5**
SFDO	**San Fernando**	**1.76**	**359**	⇓*i*P	**Pn**	**18 02 15.8**	**+0.4**
AGCH	**Angol**	**1.97**	**223**	*e*P	**Pn**	**18 02 16.7**	**-1.2**
AGCH				*i* S	**Sn**	**18 02 42.1**	**-2.1**
AGCH				AMP		18 02 53.0	
	comp=N,11μm,0.4s						
CICH	**Cipreses**	**2.11**	**13**	⇑*e*P	**Pn**	**18 02 20.1**	**+0.7**
CICH				*i* S	**Sn**	**18 02 48.8**	**+1.8**
CACH	**El Canelo**	**2.28**	**8**	⇓*i*P	**Pn**	**18 02 22.1**	**+0.5**
CACH				*i* S	**Sn**	**18 02 52.1**	**+1.3**
LNV	**Longovilo**	**2.44**	**352**	⇓*i*P	**Pn**	**18 02 23.5**	**-0.1**
CHCH	**Chadas Angostu**	**2.46**	**7**	⇑*i*P	**Pn**	**18 02 23.9**	**+0.1**
LMEL	**Las Melosas**	**2.61**	**15**	*e*P	**Pn**	**18 02 26.3**	**+0.7**
LMEL				*i* S	**Sn**	**18 02 59.6**	**+1.6**
LMEL				AMP		18 03 06.5	
	comp=N,1μm,0.4s						
LMEL	**Las Melosas**	**2.61**	**15**	*e*P	**Pn**	**18 02 26.3**	**+0.7**
LMEL				*i* S	**Sn**	**18 02 59.6**	**+1.6**
TACH	**Talagante**	**2.72**	**1**	⇑*i*P	**Pn**	**18 02 26.7**	**-0.4**
PCH	**Pirque**	**2.78**	**8**	*e*P	**Pn**	**18 02 27.9**	**0.0**
ANTU	**Antumapu**	**2.82**	**6**	⇓*i*P	**Pn**	**18 02 28.5**	**+0.2**
ANTU				*i* S	**Sn**	**18 03 03.1**	**+0.3**
ANTU				AMP		18 03 04.3	
	comp=N,2μm,0.2s						
ANTU	**Antumapu**	**2.82**	**6**	⇓*i*P	**Pn**	**18 02 28.5**	**+0.2**
ANTU				*i* S	**Sn**	**18 03 03.1**	**+0.3**
RCDM	**Rinconada Maip**	**2.89**	**3**	⇓*i*P	**Pn**	**18 02 28.8**	**-0.4**
RCDM				*i* S	**Sn**	**18 03 02.5**	**-1.9**
RCDM				AMP		18 03 05.2	
	comp=E,2μm,0.3s						
RCDM	**Rinconada Maip**	**2.89**	**3**	⇓*i*P	**Pn**	**18 02 28.8**	**-0.4**
RCDM				S	**Sn**	**18 03 02.5**	**-1.9**
FCH	**Farellones**	**3.10**	**11**	⇓*i*P	**Pn**	**18 02 31.9**	**0.0**
FCH				*i* S	**Sn**	**18 03 08.9**	**-0.3**
FCH				AMP		18 03 12.0	
	comp=N,2μm,0.2s						
PEL	**Peldehue**	**3.24**	**5**	⇑*i*P	**Pn**	**18 02 33.3**	**-0.4**
PEL				*i* S	**Sn**	**18 03 11.0**	**-1.4**
JACH	**Jahuel**	**3.70**	**5**	*e*P	**Pn**	**18 02 38.9**	**-0.9**
PLCA	**Paso Flores**	**4.36**	**176**	P	**Pn**	**18 02 47.2**	**-1.2**
	comp=N,4.0nm,0.3s,baz=348,slow=12,SNR=80						
PLCA				S	**Sn**	**18 03 40.8**	**+2.0**
	comp=N,2.4nm,0.3s,baz=344,slow=15,SNR=4.7						
PLCA	**Paso Flores**	**4.36**	**176**	P	**Pn**	**18 02 47.2**	**-1.2**
PLCA				S	**Sn**	**18 03 40.8**	**+2.0**
CFAA	**Coronel Fontan**	**5.28**	**26**	P	**Pn**	**18 02 59.6**	**-1.1**
	comp=N,2.0nm,0.3s,baz=204,slow=12,SNR=119						
CFAA				S	**Sn**	**18 03 59.1**	**-1.6**
	comp=N,3.8nm,0.3s,baz=80,slow=19,SNR=22						
TRQA	**Tornquist**	**7.38**	**106**	*e*P	**Pn**	**18 03 27.0**	**-1.7**
	comp=N,10.0nm,0.6s						
USHA	**Ushuaia**	**18.54**	**175**	P	**P**	**18 05 50.1**	**+0.8**
	comp=N,0.9nm,0.3s,baz=336,slow=17,SNR=5.8						
LPAZ	**La Paz**	**20.17**	**8**	P	**P**	**18 06 09.7**	**+2.7**
	comp=N,8.4nm,0.8s,baz=183,slow=8.1,SNR=15						
SIV	**San Ignacio**	**22.14**	**26**	P	**P**	**18 06 27.2**	**-0.7**
	comp=N,3.6nm,0.8s,mb3.9,baz=219,slow=10,SNR=22						
BDFB	**Brasilia**	**29.07**	**51**	P	**P**	**18 07 30.1**	**-0.5**
	comp=N,3.2nm,0.7s,mb4.2,baz=211,slow=7.0,SNR=4.2						
VNA3	**Neumayer Olymp**	**46.84**	**157**	⇑*i*	**P**	**18 09 59.1**	**-0.2**
VNA2	**Neumayer--Watz**	**47.49**	**156**	⇑*i*	**P**	**18 10 04.0**	**-0.3**
	baz=284,slow=8.7						
SNAA	**Sanae**	**49.06**	**157**	P	**P**	**18 10 16.3**	**-0.1**
	comp=N,4.7nm,0.7s,mb4.2,baz=270,slow=7.7,SNR=27						
SNAA	**Sanae**	**49.06**	**157**	⇑*i*	**P**	**18 10 16.3**	**-0.1**
QSPA	**South Pole Qui**	**53.86**	**180**	*e*P	**P**	**18 10 53.2**	**+1.1**
	comp=N,10nm,0.9s,mb4.6						
DBIC	**Dimbokro**	**75.16**	**70**	P	**P**	**18 13 10.8**	**+0.4**
	comp=N,6.9nm,0.8s,mb4.4,baz=193,slow=3.5,SNR=11						
DBIC	**Dimbokro**	**75.16**	**70**	P	**P**	**18 13 10.8**	**+0.4**
BOSA	**Boshof**	**78.22**	**117**	P	**P**	**18 13 27.8**	**+0.2**
	comp=N,4.5nm,0.6s,mb4.3,baz=250,slow=4.8,SNR=12						
BOSA	**Boshof**	**78.22**	**117**	P	**P**	**18 13 27.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**84.23**	**69**	P	**P**	**18 13 59.5**	**+0.3**
	comp=N,4.5nm,0.7s,mb4.3,baz=247,slow=3.6,SNR=26						
ASAR	**Alice Springs**	**115.82**	**205**	PKP	PKPdf	18 20 09.5	+0.1
	comp=N,0.6nm,1.1s,baz=138,slow=1.7,SNR=4.8						
WRA	**Warramunga Arr**	**119.08**	**207**	PKP	PKPdf	18 20 15.9	+0.3
	comp=N,0.5nm,0.5s,baz=169,slow=1.5,SNR=26						
PSI	**Prapat**	**145.31**	**162**	PKPbc	PKPbc	18 21 05.0	+0.4
	comp=N,4.2nm,0.4s,baz=166,slow=11,SNR=8.2						
HYB	**Hyderabad**	**147.12**	**117**	*i* PKP	PKPdf	18 21 11.0	+3.4
KOLN	**Koldanda**	**156.87**	**105**	*e*P	PKPab	18 21 52.6	-0.1
	comp=N,9.3nm,0.7s						
MKAR	**Makanchi Array**	**157.57**	**54**	PKP	PKPdf	18 21 23.4	+0.4
	comp=N,0.4nm,0.7s,baz=199,slow=0.0,SNR=5.1						
MKAR				PKPab	PKPab	18 21 55.3	-0.4
	comp=N,0.6nm,0.5s,baz=265,slow=2.2,SNR=4.7						
MKAR	**Makanchi Array**	**157.57**	**54**	PKP	PKPdf	18 21 23.4	+0.4
MKAR				PKPab	PKPab	18 21 55.3	-0.4
GKN	**Gorkha**	**157.79**	**105**	*e*P	PKPab	18 21 56.5	-0.1
	comp=N,11nm,0.7s						
DMN	**Daman**	**157.97**	**107**	*e*P	PKPab	18 21 57.8	+0.4
	comp=N,15nm,0.8s						
PKI	**Pulchoki**	**158.18**	**107**	*e*P	PKPab	18 21 58.7	+0.4
KKN	**Kakani**	**158.19**	**106**	*e*P	PKPab	18 21 58.3	-0.1
	comp=N,16nm,0.8s						
GUN	**Gumba**	**158.71**	**107**	*e*P	PKPab	18 22 00.8	+0.2
	comp=N,7.3nm,0.6s						
JIRN	**Jiri**	**158.83**	**108**	*e*P	PKPab	18 22 01.5	+0.4
	comp=N,9.2nm,0.7s						

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*IDC **01** 18:12:52.5±1.7, 027N×9845E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, Error ellipse: s-maj=85.8km s-min=19.1km az=56.0*
*NEIC **01** 18:12:56.8±0.8, 025N×9846E, h30km, mb4.4/1, Error ellipse: s-maj=22.8km s-min=11.7km az=65.0*
*ISCJB **01** 18:13:00.2±6.5, 05N±03×987E±04, h67km±48km, mb3.9/8, Error ellipse: s-maj=80.8km s-min=19.4km az=114.5*

ISC 01 18:13:00.3±6.1, 04N±003×986E±04, h55km±46km, n11, σ0§43/11, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.30**	**23**	*e*P	**Pn**	**18 14 16.9**	**-0.1**
LSA	**Lhasa**	**30.03**	**347**	*e*P	**P**	**18 19 04.7**	**+0.8**
ENH	**Enshi**	**31.50**	**18**	*e*P	**P**	**18 19 16.5**	**-0.4**
WRA	**Warramunga Arr**	**40.41**	**122**	P	**P**	**18 20 33.0**	**-0.1**
	0.4nm,0.8s,mb3.2,baz=304,slow=8.7,SNR=7.8						
WRA				PcP	PcP	18 22 36.9	+1.7
	0.4nm,0.6s,baz=313,slow=2.6,SNR=6.4						
ASAR	**Alice Springs**	**41.78**	**127**	P	**P**	**18 20 44.5**	**+0.2**
	0.3nm,0.7s,mb3.0,baz=298,slow=7.8,SNR=17						
AAK	**Ala-Archa**	**47.33**	**336**	*e*P	**P**	**18 21 23.9**	**-4.6**
	2.6nm,0.6s,mb4.3						
AAK				*e*	pP	18 21 33.7	-9.2
SONM	**Songino Array**	**47.77**	**7**	P	**P**	**18 21 32.5**	**+0.6**
	0.7nm,0.5s,mb4.0,baz=190,slow=10,SNR=14						
MKAR	**Makanchi Array**	**48.40**	**345**	P	**P**	**18 21 36.8**	**0.0**
	1.8nm,0.5s,mb4.4,baz=154,slow=9.3,SNR=52						
ZAL	**Zalesovo**	**54.60**	**350**	P	**P**	**18 22 22.6**	**-0.6**
	1.6nm,0.3s,mb4.5,baz=292,slow=2.6,SNR=6.7						
FINES	**FINESS Array B**	**81.38**	**332**	P	**P**	**18 25 10.7**	**-0.5**
	2.5nm,0.9s,mb4.1,baz=102,slow=6.0,SNR=6.8						
ARCES	**ARCESS Array B**	**83.79**	**340**	P	**P**	**18 25 23.8**	**+0.2**
	3.3nm,0.8s,mb4.5,baz=64,slow=8.2,SNR=3.8						

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*PDA **01** 18:17:06.9±0.6, 3704N×2430W, h10km, MD2.9, ML2.4, Error ellipse: s-maj=4.4km s-min=3.0km az=73.0*
*CSEM **01** 18:17:06.9±0.6, 3704N×2430W, h10km, ML2.4, Error ellipse: s-maj=4.4km s-min=3.0km az=73.0, After PDA*

SVSA 01 18:17:06.9±0.6, 3704N×2430W, h10km, MD2.9, ML2.4, Error ellipse: s-maj=4.4km s-min=3.0km az=73.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.61**	**267**	*e*P	Pg	18 17 16.9	-1.9
PSMN				*e*S	Sg	18 17 24.5	-2.4
MIRA	**Miradouro**	**1.08**	**314**	*e*P	Pg	18 17 23.2	-4.5

CEYT	Ceyhan	1.02 152	*i* PG	Pg	18 36 13.2 +0.5
MERS	Mersin	1.15 206	PN	Pg	18 36 15.5 +0.2
COBT	Iskenderun	1.64 147	*i* P	Pn	18 36 22.5 -0.7
COBT			*i* S	Sn	18 36 46.8 +1.9
GAZ	Gaziantep	1.80 113	PN	Pn	18 36 24.7 -0.6
KAMT	Kaman	1.84 323	PN	Pn	18 36 25.2 -0.7
HTY	Hatay	1.95 156	PN	Pn	18 36 26.4 -1.0
GZT	Gaziantep	2.00 105	*i* P	Pn	18 36 26.6 -1.4
GZT			*i* S	Sn	18 36 53.3 -0.4
ERMK	Ermenek	2.18 235	*i* P	Pn	18 36 28.6 -2.0
ERMK			*i* S	Sg	18 37 02.4 -1.1
KONT	Konya--Tatoy	2.20 272	PN	Pn	18 36 31.3 +0.4
CORM	Corum	2.30 350	PN	Pn	18 36 32.8 +0.5
SVST	Sivas	2.34 37	*i* P	Pn	18 36 33.3 +0.6
MALT	Malatya	2.62 80	PN	Pn	18 36 36.3 -0.3
MYA	Malataya	2.62 80	PN	Pn	18 36 36.9 +0.3
ANTO	Ankara	2.69 318	PN	Pn	18 36 38.1 +0.6
CTKT	Corum	2.73 354	*i* P	Pn	18 36 41.6 +3.5
ELDT	Eldivan	2.91 333	*i* P	Pn	18 36 43.8 +3.2
URFA	Urfa	2.95 98	*e*PN	Pn	18 36 41.6 +0.4
BOYT	Boyabat	3.51 357	*i* P	Pb	18 36 55.8 -0.4
SGKT	Sivrigoynuk	3.58 319	*i* P	Pn	18 36 54.0 +4.2

NIED ***01*** *18:40:00,28.10N×12900E,h14km,Mw4.6 Best double couple: M01.01000×10^16 NP1:φs95.00000°,δ58.00000°, λ-91.00000°. NP2:φs278.00000°,δ32.00000°, λ-88.00000°.*
BJI ***01*** *18:40:10.6,2744N×12949E,h45km,mB4.7,mb4.5,Ms4.3, Msz4.1*
JMA ***01*** *18:40:11.9,2806N×12901E,h15km±1km,M4.9*
JMA Felt III J1.
ISCJB ***01*** *18:40:12.3±0.5,2791N±003×129.19E±003,h26km±3km, mb4.6/62,MS4.1/16,Error ellipse: s-maj=6.0km s-min=2.9km az=75.6*
MOS ***01*** *18:40:13.1±1.1,2791N×129.11E,h33km,mb4.9/27, MS4.0/6,Error ellipse: s-maj=11.5km s-min=6.2km az=115.4*
SZGRF ***01*** *18:40:14.9,2802N×12978E,h33km,mb5.2,Ryukyu Islands, Japan*
IDC ***01*** *18:40:15.7±1.7,2791N×12902E,h41km±16km,mb4.2/16, mb1 4.4/18,mb1mx4.4/21,mbtmp4.4/18,ML4.2/2,MS4.1/6, Ms1 4.1/6,ms1mx3.6/33,Error ellipse: s-maj=16.4km s-min=9.8km az=100.0*
NEIC ***01*** *18:40:16.2±0.7,2787N×129.11E,h46km±6km,mb4.7/34, MW4.6(NIED),Error ellipse: s-maj=6.5km s-min=5.1km az=112.0*
NEIC Recorded [3 JMA] on Amami-oshima and Tokuno-shima; [2 JMA] on Okino-erabu-shima; [1 JMA] on Kikaiga-shima and Okinawa.

ISC 01 18:40:12.9±0.7,2791N±003×12919E±003,h19km±4km, h35km±5.8km:pP-P,n172,σ1§13/180,mb4.6/62,MS4.1/16, 3C-2D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.25**	**241**	P	**Pg**	**18 40 17.8**	**-0.8**
JTK				S	**Sg**	**18 40 21.8**	**-0.7**
JAM	**Amami Oshima**	**0.62**	**36**	P	**Pb**	**18 40 23.9**	**-1.2**
JAM				S	**Sb**	**18 40 32.4**	**-1.1**
JZK	**Kikaishima**	**0.80**	**59**	P	**Pb**	**18 40 28.5**	**+0.3**
JZK				S	**Sb**	**18 40 40.7**	**+2.1**
JOW	**Kunigami**	**1.35**	**218**	P	**Pn**	**18 40 36.5**	**-0.1**
	3μm,0.3s,baz=66,slow=16,SNR=1529						
JOW				S	**Sn**	**18 40 52.5**	**-1.4**
	4μm,0.3s,baz=123,slow=26,SNR=37						
JOW	**Kunigami**	**1.35**	**218**	P	**Pn**	**18 40 36.4**	**-0.2**
JOW				S	**Sn**	**18 40 52.8**	**-1.2**
JIH	**Iheya**	**1.39**	**232**	P	**Pn**	**18 40 36.7**	**-0.6**
JIH				S	**Sn**	**18 40 54.1**	**-1.0**
JNN	**Nakanoshima**	**2.02**	**17**	P	**Pn**	**18 40 45.0**	**-0.9**
JNN				*e*S	**Sn**	**18 41 09.7**	**-0.9**
NAH1	**Naha**	**2.16**	**219**	P	**Pn**	**18 40 48.9**	**+1.1**
NAH1				*e*S	**Sn**	**18 41 15.4**	**+1.3**
JAGN	**Aguni-jima**	**2.18**	**233**	P	**Pn**	**18 40 48.1**	**0.0**
JAGN				*e*S	**Sn**	**18 41 13.7**	**-0.8**
JJT2	**Tamagusuku 2**	**2.18**	**217**	P	**Pn**	**18 40 49.0**	**+0.9**
JJT2				*e*S	**Sn**	**18 41 15.6**	**+1.0**
JKE	**Kume jima 2**	**2.66**	**234**	P	**Pn**	**18 40 54.6**	**-0.1**
JKE				*e*S	**Sn**	**18 41 25.7**	**-0.7**
JKC	**Kuchinoerabu**	**2.69**	**19**	P	**Pn**	**18 40 54.9**	**-0.3**
JKC				*e*S	**Sn**	**18 41 26.0**	**-1.3**
JTN	**Tanegashima 3**	**3.15**	**29**	*e*S	**Sn**	**18 41 37.8**	**-0.8**
JNU	**Nakatsue**	**5.40**	**15**	P	**Pn**	**18 41 35.0**	**+2.7**
	13nm,0.3s,baz=177,slow=13,SNR=29						
TATO	**Taipei**	**7.50**	**249**	*e*P	**Pn**	**18 42 03.3**	**+2.1**
	85nm,0.8s						
YHNB	**Yeheng**	**7.72**	**247**	*e*P	**Pn**	**18 42 05.9**	**+1.7**
NACB	**Ninganchiao**	**7.78**	**243**	*e*P	**Pn**	**18 42 03.7**	**-1.3**
KS15	**Wonju Array Si**	**9.57**	**354**	*e*P	**Pn**	**18 42 32.5**	**+2.8**
NJ2	**Nanjing**	**9.87**	**297**	*e*P	**Pn**	**18 42 37.9**	**+4.2**
NJ2				S	**Sn**	**18 44 26.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,350nm,4.6s						
NJ2				LR	LR		
	comp=N,1μm,14.9s						
NJ2				LR	LR		
	comp=E,2μm,11.8s						
NJ2				LR	LR		
	comp=Z,880nm,11.8s						
MJAR	**Matsushiro Arr**	**11.50**	**39**	P	**Pn**	**18 42 57.2**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=236,slow=13,SNR=6.8						
APYP	**Conner**	**12.39**	**218**	*e*P	**Pn**	**18 43 05.6**	**-2.6**
ABRA	**Dolores**	**12.85**	**219**	*e*P	**Pn**	**18 43 08.9**	**-5.6**
CAUP	**Cauayan**	**12.86**	**213**	*e*P	**Pn**	**18 43 06.0**	**-8.6**
BALP	**Baler**	**14.01**	**212**	*e*P	**Pn**	**18 43 28.9**	**-1.4**
SNY	**Shenyang**	**14.63**	**343**	⇑P	**Pn**	**18 43 46.4**	**+7.7**
SNY				AP	pP	18 43 54.3	+4.0
SNY				XP	sP	18 43 59.0	+6.3
SNY				S	**Sn**	**18 46 29.5**	**+9.2**
SNY				XS	sS	18 46 39.8	-7.8
SNY				PCS	PcS	18 52 26.2	-0.3
SNY				AMB	AMB		
	comp=Z,34nm,1.4s						
SNY				AMB	AMB		
	comp=Z,350nm,6.0s						
SNY				LR	LR		
	comp=N,2μm,12.8s						
SNY				LR	LR		
	comp=E,530nm,18.3s						
SNY				LR	LR		
	comp=Z,1μm,13.9s						
CN2	**Changchun**	**16.15**	**350**	*e*P	**Pn**	**18 44 04.2**	**+5.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s						
CN2				LR	LR		
	comp=E,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
BJT	**Baijiatuau**	**16.19**	**322**	P	**Pn**	**18 44 01.0**	**+1.8**
	comp=Z,55nm,1.1s						
BJT	**Baijiatuau**	**16.19**	**322**	P	**Pn**	**18 44 01.0**	**+1.8**
BJT				pmax	pmax		
	comp=Z,55nm,1.1s						
BJI	**Beijing**	**16.20**	**322**	*e*P	**Pn**	**18 44 02.1**	**+2.7**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s						
BJI				AMB	AMB		
	comp=Z,82nm,2.6s						
BJI				LR	LR		
	comp=N,700nm,13.3s						
BJI				LR	LR		
	comp=E,411nm,12.3s						
BJI				LR	LR		
	comp=Z,337nm,16.5s						
MDJ	**Mudanjiang**	**16.68**	**1**	P	**Pn**	**18 44 08.7**	**+3.2**
	comp=Z,45nm,1.6s						
ENH	**Enshi**	**17.39**	**283**	P	**Pn**	**18 44 17.1**	**+2.8**
	comp=Z,23nm,0.9s						
MSLP	**Maasin**	**18.14**	**194**	*e*P	**Pn**	**18 44 25.4**	**+1.7**
GUIM	**Jordan**	**18.28**	**201**	*e*P	**Pn**	**18 44 32.6**	**+7.3**
XAN	**Xi'an**	**18.41**	**294**	P	**Pn**	**18 44 27.3**	**+0.3**
XAN				AMB	AMB		
	comp=Z,22nm,0.6s						
HHC	**Hu-ho-hao-te**	**19.41**	**316**	*e*P	**Pn**	**18 44 42.0**	**+3.0**
HHC				AP	pP	18 44 50.9	+7.8
HHC				AMB	AMB		
	comp=Z,14nm,0.4s						
HHC				AMB	AMB		
	comp=Z,181nm,5.5s						
HHC				LR	LR		
	comp=N,640nm,14.1s						
HHC				LR	LR		
	comp=E,359nm,10.4s						
HHC				LR	LR		
	comp=Z,746nm,12.7s						
ASAJ	**Asahikawa**	**19.43**	**30**	P	**Pn**	**18 44 37.0**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=216,slow=15,SNR=6.2						
BUKP	**Musuan**	**20.30**	**192**	*e*P	**P**	**18 44 47.9**	**+0.4**
GUMO	**Guam**	**20.41**	**131**	LR	LR	18 51 31.9	
	comp=Z,363nm,18.9s,MS3.8,baz=65,slow=33						
YSS	**Yuzh-Sakhalins**	**21.79**	**26**	P	**P**	**18 45 03.5**	**-0.2**
	comp=Z,61nm,1.4s,mb4.8						
YSS	**Yuzh-Sakhalins**	**21.79**	**26**	*e*P	**P**	**18 45 04.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,50nm,2.0s,mb4.6						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.0						
BATP	**Bataraza**	**21.84**	**212**	*e*P	**P**	**18 45 04.1**	**-0.1**
CD2	**Chengdu**	**22.35**	**284**	P	**P**	**18 45 10.3**	**+0.7**
CD2				PP		18 45 35.6	
CD2				S	**S**	**18 49 04.5**	**-10**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,50nm,5.6s						
CD2				LR	LR		
	comp=E,580nm,14.4s						
CD2				LR	LR		
	comp=Z,630nm,12.2s,MS4.2						
LZH	**Lanzhou**	**22.95**	**297**	*e*P	**P**	**18 45 15.3**	**-0.6**
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,55nm,4.8s						
LZH				LR	LR		
	comp=N,376nm,10.6s						
LZH				LR	LR		
	comp=Z,574nm,13.8s,MS4.2						
KMI	**Kunming**	**23.82**	**269**	P	**P**	**18 45 25.3**	**+0.7**
KMI				LR	LR		
	comp=N,364nm,13.4s,MS4.3						
KMI				LR	LR		
	comp=E,552nm,13.0s,MS4.3						
KMI				LR	LR		
	comp=Z,470nm,14.4s,MS4.1						
ULN	**Ulaanbaatar**	**26.34**	**325**	*e*P	**P**	**18 45 47.2**	**-0.4**
	comp=Z,6.3nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**26.34**	**325**	*e*P	**P**	**18 45 47.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**26.65**	**324**	P	**P**	**18 45 50.4**	**-0.1**
	comp=Z,2.3nm,0.8s,mb3.8,baz=149,slow=8.5,SNR=14						
SONM				PcP	PcP	18 49 13.8	-0.2
	comp=Z,0.5nm,0.6s,baz=151,slow=3.1,SNR=4.1						
GTA	**Gaotai**	**26.89**	**303**	⇑P	**P**	**18 45 53.1**	**+0.5**
GTA				AP	pP	18 46 03.9	+5.6
GTA				PP		18 46 40.4	
GTA				PCP	PcP	18 49 15.4	+0.9
GTA				S	**S**	**18 50 27.4**	**-1.0**
GTA				SS		18 51 44.9	
GTA				AMB	AMB		
	comp=Z,27nm,0.6s,mb5.0						
GTA				AMB	AMB		
	comp=Z,134nm,5.3s						
GTA				LR	LR		
	comp=N,427nm,15.2s,MS4.2						
GTA				LR	LR		
	comp=E,275nm,18.3s,MS4.2						
GTA				LR	LR		
	comp=Z,414nm,17.1s,MS4.1						
ZAK	**Zakamensk**	**29.86**	**326**	*e*P	**P**	**18 46 22.4**	**+3.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb3.8						
LSA	**Lhasa**	**33.29**	**282**	*e*P	**P**	**18 46 50.3**	**+1.1**
	comp=Z,7.2nm,0.6s,mb4.8						
LSA	**Lhasa**	**33.29**	**282**	*e*P	**P**	**18 46 50.3**	**+1.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
SHL	**Shillong**	**33.32**	**275**	*e*P	**P**	**18 46 48.0**	**-1.5**
YAK	**Yakutsk**	**34.13**	**0**	*i* P	**P**	**18 46 55.4**	**-1.1**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
YAK				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.0						
JIRN	**Jiri**	**37.90**	**280**	*e*P	**P**	**18 47 29.4**	**+0.6**
	comp=Z,10.0nm,0.6s,mb4.8						
GUN	**Gumba**	**38.12**	**280**	*e*P	**P**	**18 47 31.8**	**+1.1**
	comp=Z,26nm,0.5s,mb5.2						
SEY	**Seymchan**	**38.17**	**17**	⇑*i* P	**P**	**18 47 30.5**	**-0.6**
PKI	**Pulchoki**	**38.60**	**280**	*e*P	**P**	**18 47 34.7**	**+0.1**
	comp=Z,19nm,0.5s,mb5.0						
PKI	**Pulchoki**	**38.60**	**280**	*e*P	**P**	**18 47 34.7**	**+0.1**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
KKN	**Kakani**	**38.67**	**280**	*e*P	**P**	**18 47 35.7**	**+0.5**
	comp=Z,24nm,0.6s,mb5.1						
KKN	**Kakani**	**38.67**	**280**	*e*P	**P**	**18 47 35.7**	**+0.5**
KKN				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
DMN	**Daman**	**38.85**	**280**	*e*P	**P**	**18 47 37.1**	**+0.3**
	comp=Z,40nm,1.0s,mb5.1						
GKN	**Gorkha**	**39.19**	**281**	*e*P	**P**	**18 47 39.6**	**0.0**
	comp=Z,26nm,0.5s,mb5.2						
KOLN	**Koldanda**	**40.13**	**281**	*e*P	**P**	**18 47 47.3**	**-0.2**
	comp=Z,14nm,0.6s,mb4.9						
MK31	**Makanchi Array**	**41.09**	**310**	*i* P	**P**	**18 47 54.6**	**-0.7**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**41.09**	**310**	P	**P**	**18 47 54.9**	**-0.5**
	comp=Z,4.0nm,0.7s,mb4.2,baz=99,slow=9.9,SNR=42						
MKAR				PcP	PcP	18 49 54.5	-0.3
	comp=Z,2.4nm,0.8s,baz=86,slow=3.5,SNR=7.5						
MKAR				LR	LR	19 06 36.7	
	comp=Z,106nm,18.4s,MS3.7,baz=73,slow=39						
MKAR	**Makanchi Array**	**41.09**	**310**	P	**P**	**18 47 54.9**	**-0.4**
MKAR						18 49 54.5	
ZAL	**Zalesovo**	**41.46**	**321**	P	**P**	**18 47 57.1**	**-1.3**
	comp=Z,2.7nm,0.5s,mb4.1,baz=11,slow=8.8,SNR=14						
ZAL				PcP	PcP	18 49 55.0	-1.1
	comp=Z,1.0nm,0.9s,baz=27,slow=4.9,SNR=5.3						
TIXI	**Tiksi**	**43.79**	**360**	*e*P	**P**	**18 48 16.0**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
TIXI				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.3						
KURK	**Kurchatov**	**44.22**	**315**	*e*P	**P**	**18 48 20.0**	**-0.8**
	comp=Z,3.2nm,0.6s,mb4.2						
KURK	**Kurchatov**	**44.22**	**315**	*e*P	**P**	**18 48 20.0**	**-0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ULHL	**Ulahol**	**44.95**	**303**	P	**P**	**18 48 27.2**	**+0.7**
	SNR=8.5						
TKM2	**Tokmak 2**	**45.44**	**304**	P	**P**	**18 48 31.0**	**+0.5**
	SNR=16						
TKM2	**Tokmak 2**	**45.44**	**304**	*i* P	**P**	**18 48 31.2**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
KZA	**Kyzart**	**45.68**	**303**	P	**P**	**18 48 34.1**	**+1.7**
	SNR=9.7						
BILL	**Bilibino**	**45.82**	**18**	*e*P	**P**	**18 48 32.7**	**-0.8**
	comp=Z,19nm,1.3s,mb4.9						
BILL	**Bilibino**	**45.82**	**18**	*e*P	**P**	**18 48 33.1**	**-0.4**
BILL				pmax	pmax		
	comp=Z,27nm,2.1s,mb4.8						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.9						
FITZ	**Fitzroy Crossi**	**45.86**	**185**	*e*P	**P**	**18 48 33.8**	**-0.1**
	comp=Z,23nm,0.8s,mb5.2						
KBK	**Karagaybulak**	**45.91**	**304**	P	**P**	**18 48 34.9**	**+0.7**
	SNR=7.7						
CHMS	**Chumysh**	**46.06**	**304**	P	**P**	**18 48 35.6**	**+0.2**
	SNR=5.3						
UCH	**Uchtor**	**46.23**	**303**	P	**P**	**18 48 38.5**	**+1.8**
	SNR=26						
AAK	**Ala-Archa**	**46.24**	**304**	*e*P	**P**	**18 48 35.9**	**-0.9**
	comp=Z,2.2nm,0.5s,mb4.3						
AAK	**Ala-Archa**	**46.24**	**304**	*i* P	**P**	**18 48 36.1**	**-0.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
AAK				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.1						
AML	**Almayashu**	**46.84**	**303**	P	**P**	**18 48 42.8**	**+1.3**
	SNR=7.0						
WRAB	**Tennant Creek**	**47.82**	**173**	*e*P	**P**	**18 48 48.5**	**-0.6**
	comp=Z,12nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**47.82**	**173**	*e*P	**P**	**18 48 48.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**47.83**	**173**	P	**P**	**18 48 48.8**	**-0.4**
	comp=Z,7.8nm,0.9s,mb4.8,baz=353,slow=8.1,SNR=42						
WRA				PcP	PcP	18 50 17.0	-0.9
	comp=Z,1.2nm,0.6s,baz=0.0,slow=4.4,SNR=8.3						
WB2	**Warramunga Arr**	**47.83**	**173**	*e*P	**P**	**18 48 48.7**	**-0.5**
KK31	**Karatay Array**	**49.16**	**304**	*i* P	**P**	**18 48 59.6**	**+0.1**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
KKAR	**Karatay Array**	**49.16**	**304**	*i* P	**P**	**18 48 59.6**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BVA0	**Borovoye Array**	**49.62**	**317**	*i* P	**P**	**18 49 01.8**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**49.62**	**317**	P	**P**	**18 49 02.4**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.6,baz=88,slow=9.3,SNR=28						
BVAR				PcP	PcP	18 50 23.8	-0.5
	comp=Z,3.9nm,0.7s,baz=102,slow=3.4,SNR=9.2						
MBWA	**Marble Bar**	**49.63**	**192**	*e*P	**P**	**18 49 02.6**	**-0.4**
BRVK	**Borovoye**	**49.68**	**317**	*e*P	**P**	**18 49 02.6**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.3						
BRVK	**Borovoye**	**49.68**	**317**	*e*P	**P**	**18 49 02.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**50.44**	**317**	*e*P	**P**	**18 49 08.1**	**-1.1**
	comp=Z,3.5nm,0.7s,mb4.5						
ZRNK				*e*PcP	PcP	18 50 26.4	-0.9
ZRNK	**Zerenda**	**50.44**	**317**	*e*P	**P**	**18 49 08.1**	**-1.1**
ZRNK				*e*		18 50 26.4	
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CTA	**Charters Tower**	**50.49**	**159**	*e*P	**P**	**18 49 10.2**	**+0.6**
	comp=Z,10nm,0.9s,mb4.9						
CTA	**Charters Tower**	**50.49**	**159**	*e*P	**P**	**18 49 10.2**	**+0.6**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CTAO	**Charters Tower**	**50.49**	**159**	*e*P	**P**	**18 49 10.2**	**+0.6**
ASAR	**Alice Springs**	**51.47**	**174**	P	**P**	**18 49 17.1**	**+0.2**
	comp=Z,6.0nm,0.7s,mb4.7,baz=4.2,slow=12,SNR=54						
ASAR				PcP	PcP	18 50 30.8	-0.4
	comp=Z,1.1nm,0.5s,baz=349,slow=3.4,SNR=10						
AB31	**Akbulak array**	**56.14**	**312**	*i* P	**P**	**18 49 50.2**	**-0.9**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**60.61**	**168**	P	**P**	**18 50 19.7**	**-2.7**
	comp=Z,4.6nm,0.8s,mb4.7,baz=344,slow=9.3,SNR=8.3						
STKA	**Stephens Creek**	**60.61**	**168**	*e*P	**P**	**18 50 20.0**	**-2.3**
COLA	**College**	**62.14**	**29**	*e*P	**P**	**18 50 33.8**	**+1.1**
	comp=Z,4.8nm,0.7s,mb4.7						
COLA	**College**	**62.14**	**29**	*e*P	**P**	**18 50 34.9**	**+2.2**
ILAR	**Eielson Array**	**62.56**	**29**	P	**P**	**18 50 36.1**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.4,baz=285,slow=7.5,SNR=24						
INK	**Inuvik**	**67.02**	**24**	*e*P	**P**	**18 51 04.2**	**-0.3**
	comp=Z,8.2nm,1.1s,mb4.7						
INK	**Inuvik**	**67.02**	**24**	*e*P	**P**	**18 51 04.2**	**-0.4**
INK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GOF	**Gofitskoye**	**68.26**	**310**	*e*P	**P**	**18 51 06.6**	**-5.8**
GOF				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
ARCES	**ARCESS Array B**	**68.77**	**338**	P	**P**	**18 51 13.9**	**-1.7**
	comp=Z,4.0nm,0.7s,mb4.5,baz=62,slow=7.1,SNR=5.3						
ARCES				LR	LR	19 27 09.3	
	comp=Z,206nm,18.9s,MS4.4,baz=192,slow=41						
KIV	**Kislovodsk**	**68.84**	**309**	*e*P	**P**	**18 51 16.3**	**+0.3**
	comp=Z,17nm,1.2s,mb4.9						
KIV	**Kislovodsk**	**68.84**	**309**	*e*P	**P**	**18 51 16.4**	**+0.4**
KIV				pmax	pmax		
	comp=Z,31nm,1.7s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
JOF	**Joensuu**	**69.00**	**331**	*e*p	**P**	**18 51 15.1**	**-1.9**
	comp=Z,7.3nm,0.7s,mb4.7						
OBN	**Obninsk**	**69.04**	**322**	*e*P	**P**	**18 51 16.7**	**-0.5**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KAF	**Kangasniemi**	**71.45**	**331**	*e*p	**P**	**18 51 29.6**	**-2.4**
	comp=Z,5.1nm,0.8s,mb4.5						
KAF	**Kangasniemi**	**71.45**	**331**	*e*P	**P**	**18 51 29.6**	**-2.4**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**71.83**	**330**	P	**P**	**18 51 32.8**	**-1.5**
	comp=Z,3.2nm,0.5s,mb4.5,baz=65,slow=5.8,SNR=30						
FINES				LR	LR	19 26 59.0	
	comp=Z,156nm,18.7s,MS4.3,baz=355,slow=39						
RES	**Resolute Bay**	**73.75**	**11**	*e*P	**P**	**18 51 44.6**	**-1.1**
	comp=Z,9.5nm,0.7s,mb4.8						
RES	**Resolute Bay**	**73.75**	**11**	*e*P	**P**	**18 51 44.6**	**-1.1**
RES				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
MALT	**Malatya**	**73.85**	**305**	*e*P	**P**	**18 51 47.2**	**+0.9**
	comp=Z,12nm,1.4s,mb4.6						
MALT	**Malatya**	**73.85**	**305**	*e*P	**P**	**18 51 47.2**	**+0.9**
MALT				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
AKASG	**Malin Array Be**	**74.82**	**320**	P	**P**	**18 51 50.6**	**-1.3**
	comp=Z,4.4nm,0.6s,mb4.5,baz=60,slow=6.3,SNR=14						
YKA	**Yellowknife Ar**	**76.65**	**25**	P	**P**	**18 52 02.2**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=303,slow=5.4,SNR=22						
BR131	**Keskin Array S**	**76.69**	**308**	*e*P	**P**	**18 52 02.5**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**76.69**	**308**	P	**P**	**18 52 02.5**	**-0.2**
	comp=Z,3.1nm,0.9s,mb4.2,baz=83,slow=5.3,SNR=10						
NB2	**NORSAR Subarra**	**78.19**	**334**	P	**P**	**18 52 08.8**	**-2.2**
	comp=Z,6.1nm,1.0s,mb4.5,baz=50,slow=5.9						
NB2	**NORSAR Subarra**	**78.19**	**334**	P	**P**	**18 52 08.8**	**-2.2**
NB2				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
NOA	**NORSAR Array B**	**78.19**	**334**	P	**P**	**18 52 09.3**	**-1.7**
	comp=Z,1.8nm,0.6s

CMB	**Columbia Colle**	**87.60**	**48**	*e*P	**P**	**18 53 00.7 +0.9**	
	comp=Z,17nm,1.3s,mb5.1						
CMB	**Columbia Colle**	**87.60**	**48**	*e*P	**P**	**18 53 00.7 +0.9**	
CMB				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.1						
DLMT	**Dillon**	**87.98**	**38**	*e*P	**P**	**18 53 02.4 +0.7**	
	comp=Z,16nm,0.9s,mb5.2						
BOZ	**Bozeman (W)**	**88.33**	**38**	*e*P	**P**	**18 53 04.6 +1.3**	
	comp=Z,3.4nm,0.9s,mb4.6						
BOZ	**Bozeman (W)**	**88.33**	**38**	*e*P	**P**	**18 53 04.6 +1.3**	
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**88.73**	**47**	P	**P**	**18 53 07.0 +1.8**	
	comp=Z,2.2nm,0.7s,mb4.6,baz=291,slow=5.3,SNR=12						
MSU	**Marysvale**	**92.52**	**44**	*e*P	**P**	**18 53 25.1 +2.3**	
ULM	**Lac du Bonnet**	**92.54**	**27**	P	**P**	**18 53 23.2 +0.3**	
	comp=Z,4.6nm,0.9s,mb4.9,baz=325,slow=3.9,SNR=11						
NEN	**Nelson**	**92.61**	**47**	*e*P	**P**	**18 53 24.7 +1.5**	
GLA	**Glamis**	**94.18**	**49**	*e*P	**P**	**18 53 32.1 +1.7**	
PV10	**Paradox Valley**	**94.50**	**42**	*e*P	**P**	**18 53 33.9 +1.9**	
BOSA	**Boshof**	**114.16 249**		PKP	PKiKP	18 58 49.6 -1.3	
	comp=Z,2.8nm,1.1s,baz=261,slow=3.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**114.81 302**		PKP	PKiKP	18 58 51.8 -0.3	
	comp=Z,0.8nm,0.8s,baz=0.2,slow=1.5,SNR=6.8						
SDV	**Santo Domingo**	**138.70**	**31**	PKP	PKPdf	18 59 38.9 +1.3	
	comp=Z,9.4nm,0.8s,baz=8.4,slow=1.1,SNR=14						
SDV	**Santo Domingo**	**138.70**	**31**	PKP	PKPdf	18 59 38.9 +1.3	
PLCA	**Paso Flores**	**159.33 133**		PKPab	PKPab	19 00 48.6 +1.1	
	comp=Z,4.8nm,1.2s,baz=230,slow=3.2,SNR=3.7						
LPAZ	**La Paz**	**160.25**	**58**	PKP	PKPdf	19 00 13.4 +2.4	
	comp=Z,1.3nm,1.1s,baz=309,slow=5.0,SNR=4.5						
LPAZ				PKPab	PKPab	19 00 52.1 +0.7	
	comp=Z,2.2nm,1.0s,baz=350,slow=8.0,SNR=4.5						
SIV	**San Ignacio**	**164.81**	**41**	PKP	PKPdf	19 00 17.0 +1.5	
	comp=Z,2.7nm,0.9s,baz=337,slow=1.4,SNR=9.8						
SIV				PKPab	PKPab	19 01 11.0 -0.4	
	comp=Z,0.8nm,0.6s,baz=297,slow=9.0,SNR=2.9						

BJI ***01*** *18:57:16.7, 2021N×15580W, h5km, mB4.9, mb4.8, Ms4.8, Msz4.5*

NEIC 01 18:57:13.0, 1944N×15532W, h6km, MD4.0(HVO)**, After HVO., Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.37**	**327**	*e*P	Pg	18 57 20.3	+0.1
HPO	**Honuapo**	**0.42**	**212**	*e*P	Pg	18 57 22.1	+1.1
HPO				*e*S	Sg	18 57 27.4	+0.9
HON	**Honolulu**	**3.14**	**307**	*e*Sn	Sn	18 58 34.5	-6.2
KIP	**Kipapa**	**3.21**	**308**	P	Pn	18 58 02.1	-1.8
KIP				S	Sn	18 58 38.7	-3.7
CN2	**Changchun**	**69.15**	**310**	*e*P	P	19 08 22.1	+1.9
NJ2	**Nanjing**	**76.52**	**299**	*e*P	P	19 09 05.3	+1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**79.83**	**310**	*e*P	P	19 09 23.2	+0.9
HHC				PCP	PcP	19 09 31.7	+1.8
HHC				PP	PP	19 12 26.1	+2.6
HHC				S	S	19 19 24.8	-1.0
HHC				SKS		19 19 35.4	
HHC				AMB	AMB		
	comp=Z,5.0nm,0.4s						
HHC				AMB	AMB		
	comp=Z,67nm,3.6s						
HHC				LR	LR		
	comp=N,182nm,6.3s						
HHC				LR	LR		
	comp=E,142nm,4.9s						
HHC				LR	LR		
	comp=Z,125nm,5.5s						
LZH	**Lanzhou**	**87.12**	**307**	*e*P	P	19 10 01.5	+1.7
LZH				AP	pP	19 10 03.4	+1.7
LZH				AMB	AMB		
	comp=Z,18nm,1.4s						
LZH				AMB	AMB		
	comp=Z,53nm,7.8s						
LZH				LR	LR		
	comp=E,263nm,15.6s						
LZH				LR	LR		
	comp=Z,375nm,18.2s						
WMQ	**Urumqi**	**94.68**	**320**	*e*P	P	19 10 37.4	+2.3
WMQ				AP	pP	19 10 42.2	+5.2
WMQ				XP	sP	19 10 44.4	+6.7
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s						

SZGRF ***01*** *19:00:47.0, 20.10S×16985E, h40km, Vanuatu Islands*
LDG ***01*** *19:00:47.6±0.1, 1868S×16805E, h10km, Mb5.1/4, Ms4.4/7, Error ellipse: s-maj=15.0km s-min=3.4km az=106.0*
BJI ***01*** *19:00:48.4, 1857S×16881E, h18km, mB5.1, mb4.8*
ISCJB ***01*** *19:00:49.2±0.3, 1917S±004×16861E±006, h37km, mb4.8/34, MS4.2/13, Error ellipse: s-maj=8.4km s-min=6.3km az=26.9*
HRVD ***01*** *19:00:50.7±0.5, 1921S×16846E, h45km±1km, MW4.9/39, Centroid moment Tensor Solution. LP body waves: s27,c37;Mantle waves: s39,c51; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.70±.22; Mθθ0.04±.16; Mφφ-2.74±.15; Mrθ-0.38±.15; Mθφ1.42±.09; Mφr-0.23±.13; Best double couple: M0 3.06400×10^16 NP1:φs326.00000°, δ46.00000°, λ74.00000°. NP2:φs168.00000°, δ47.00000°, λ106.00000°. Principal axes: T 2.7890, Plg79.0000°, Azm154.0000°; N 0.5470, Plg11.0000°, Azm337.0000°; P -3.3380, Plg1.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***01*** *19:00:50.7±0.3, 1913S×16867E, mb4.9/15 Error ellipse: s-maj=8.7km s-min=8.3km az=172.0*
MOS ***01*** *19:00:51.5±2.7, 1879S×16859E, h33km, mb5.1/14, Error ellipse: s-maj=14.2km s-min=9.4km az=40.8*
IDC ***01*** *19:00:51.1±0.8, 1916S×16861E, h39km±6km, mb4.4/11, mb1 4.5/13, mb1mx4.5/17, mbtmp4.7/13, ML4.8/1, MS3.9/14, Ms1 3.9/14, ms1mx3.8/27, Error ellipse: s-maj=16.8km s-min=15.0km az=114.0*

ISC 01 19:00:51.1±0.3, 1917S±004×16865E±006, h39km, h39km±.9km:pP-P, n164, σ1.9±12/66, mb4.8/34, MS4.2/13, 44C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.54**	**345**	⇓*i*P	**Pn**	**19 01 16.7**	**+0.7**
DZM	**Mont Dzumac**	**3.55**	**215**	Pn	**Pn**	**19 01 43.4**	**-0.3**
	92nm,0.3s,baz=57,slow=19,SNR=755						
DZM				Sn	**Sn**	**19 02 23.7**	**-0.8**
	355nm,0.3s,baz=288,slow=24,SNR=11						
DZM				LR	LR	19 03 03.1	
	comp=Z,2μm,21.6s,baz=21,slow=37						
HNR	**Honiara**	**12.83**	**318**	Pn	**Pn**	**19 03 53.2**	**+2.4**
	3.5nm,0.3s,baz=100,slow=2.7,SNR=5.3						
HNR				LR	LR	19 07 57.7	
	comp=Z,338nm,20.4s,baz=177,slow=33						
RAO	**Raoul Island**	**15.83**	**132**	Pn	**Pn**	**19 04 32.3**	**+1.3**
	116nm,0.3s,baz=213,slow=22,SNR=4.5						
RAO				LR	LR	19 08 17.0	
	comp=Z,151nm,20.6s,baz=98,slow=28						
AFI	**Afiamalu**	**19.47**	**77**	P	**Pn**	**19 05 15.4**	**-0.6**
	5.4nm,0.3s,baz=298,slow=9.7,SNR=4.9						
AFI				LR	LR	19 11 20.2	
	comp=Z,519nm,21.0s,baz=267,slow=32						
URZ	**Urewera**	**20.40**	**161**	P	**P**	**19 05 26.1**	**+1.5**
	15nm,0.6s,baz=116,slow=3.2,SNR=8.9						
URZ				LR	LR	19 11 56.0	
	comp=Z,295nm,18.8s,MS3.7,baz=169,slow=33						
CTA	**Charters Tower**	**21.12**	**264**	*e*P	**P**	**19 05 35.0**	**+2.7**
	22nm,0.8s,mb4.5						
CTA	**Charters Tower**	**21.12**	**264**	P	**P**	**19 05 33.6**	**+1.4**
	5.6nm,0.7s,mb4.0,baz=90,slow=13,SNR=8.1						
CTA				LR	LR	19 12 34.1	
	comp=Z,501nm,21.4s,MS3.9,baz=72,slow=33						
CTA	**Charters Tower**	**21.12**	**264**	*e*P	**P**	**19 05 35.0**	**+2.7**
CTA				pmax	pmax		
	comp=Z,22nm,0.8s						
CTAO	**Charters Tower**	**21.12**	**264**	*e*P	**P**	**19 05 35.0**	**+2.7**
	comp=Z,38nm,0.9s,mb4.7						
CTAO	**Charters Tower**	**21.12**	**264**	*e*P	**P**	**19 05 35.0**	**+2.7**
CTAO				pmax	pmax		
	comp=Z,38nm,0.9s,mb4.7						
PMG	**Port Moresby**	**22.95**	**292**	P	**P**	**19 05 52.7**	**+0.9**
	comp=Z,36nm,1.0s,mb4.7,baz=188,slow=2.8,SNR=6.7						
PMG				LR	LR	19 13 33.3	
	comp=Z,269nm,20.8s,MS3.7,baz=353,slow=33						
CNB	**Canberra Magne**	**23.44**	**223**	*e*P	**P**	**19 05 58.8**	**+1.9**
	comp=Z,30nm,0.6s,mb4.9						
RPZ	**Rata Peaks**	**24.56**	**176**	P	**P**	**19 06 08.0**	**+0.9**
	comp=Z,30nm,0.7s,mb4.9,baz=60,slow=19,SNR=12						
STKA	**Stephens Creek**	**27.42**	**237**	⇓*i*P	**P**	**19 06 32.1**	**-0.8**
	comp=Z,6.6nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.42**	**237**	P	**P**	**19 06 32.3**	**-0.7**
	comp=Z,2.9nm,0.5s,mb4.0,baz=76,slow=9.7,SNR=11						
STKA				PcP	PcP	19 09 49.5	-1.4
	comp=Z,3.2nm,0.7s,baz=308,slow=5.1,SNR=2.9						
RAR	**Rarotonga**	**29.68**	**99**	LR	LR	19 15 23.7	
	comp=Z,218nm,20.5s,MS3.8,baz=312,slow=29						
WB2	**Warramunga Arr**	**32.30**	**263**	*e*P	**P**	**19 07 14.7**	**-1.4**
WRA	**Warramunga Arr**	**32.31**	**263**	P	**P**	**19 07 15.4**	**-0.9**
	comp=Z,1.1nm,0.5s,mb4.0,baz=88,slow=8.3,SNR=29						
WRA				PcP	PcP	19 10 03.6	+0.1
	comp=Z,0.9nm,0.6s,baz=88,slow=2.9,SNR=4.6						
AS31	**Alice Springs**	**32.60**	**256**	*e*P	**P**	**19 07 18.8**	**0.0**
ASAR	**Alice Springs**	**32.61**	**256**	P	**P**	**19 07 18.8**	**-0.1**
	comp=Z,6.9nm,0.7s,mb4.7,baz=83,slow=8.4,SNR=114						
ASAR				PcP	PcP	19 10 06.6	+2.2
	comp=Z,0.3nm,0.6s,baz=71,slow=2.6,SNR=3.8						
ASPA	**Alice Springs**	**32.61**	**256**	*e*P	**P**	**19 07 18.8**	**-0.1**
GUMO	**Guam**	**40.10**	**323**	LR	LR	19 22 31.9	
	comp=Z,161nm,19.6s,MS3.9,baz=64,slow=32						
FITZ	**Fitzroy Crossi**	**40.70**	**264**	*e*P	**P**	**19 08 27.8**	**+0.1**
	comp=Z,19nm,0.8s,mb4.8						
MBWA	**Marble Bar**	**45.82**	**259**	*e*P	**P**	**19 09 06.6**	**-2.5**
PVCP	**Virac**	**54.59**	**303**	*e*P	**P**	**19 10 13.8**	**-1.6**
VNDA	**Vanda**	**58.49**	**182**	LR	LR	19 30 06.3	
	comp=Z,204nm,20.8s,MS4.2,baz=201,slow=30						
MJAR	**Matsushiro Arr**	**62.43**	**333**	P	**P**	**19 11 09.7**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.6,baz=161,slow=7.0,SNR=56						
ASAJ	**Asahikawa**	**67.34**	**340**	P	**P**	**19 11 43.0**	**+1.1**
	comp=Z,20nm,0.8s,mb5.2,baz=200,slow=9.2,SNR=8.2						
ASAJ				LR	LR	19 36 30.2	
	comp=Z,135nm,20.7s,MS4.2,baz=272,slow=32						
YSS	**Yuzh-Sakhalins**	**69.83**	**341**	*e*P	**P**	**19 11 58.0**	**+0.5**
	comp=Z,19nm,0.9s,mb5.0						
YSS	**Yuzh-Sakhalins**	**69.83**	**341**	*e*P	**P**	**19 11 58.0**	**+0.5**
YSS				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
QSPA	**South Pole Qui**	**70.89**	**180**	⇑*i*P	**P**	**19 12 03.7**	**-0.3**
	comp=Z,21nm,1.1s,mb5.0						
WHN	**Wuhan**	**71.89**	**313**	*e*P	**P**	**19 12 10.7**	**+0.7**
WHN				AP	pP	19 12 22.5	+0.6
MDJ	**Mudanjiang**	**72.79**	**332**	P	**P**	**19 12 15.6**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,115nm,5.5s						
MDJ	**Mudanjiang**	**72.79**	**332**	*e*P	**P**	**19 12 15.6**	**+0.2**
	comp=Z,18nm,1.0s,mb5.0						
MDJ				*e*pP	pP	19 12 27.5	+0.2
CN2	**Changchun**	**74.11**	**329**	*e*P	**P**	**19 12 23.3**	**+0.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
ENH	**Enshi**	**75.20**	**310**	*e*P	**P**	**19 12 29.4**	**0.0**
ENH				*e*pP	pP	19 12 41.2	-0.2
KLR	**Kul'dur**	**75.58**	**336**	*e*P	**P**	**19 12 29.0**	**-2.6**
KLR				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.0						
BJT	**Baijiatuau**	**76.52**	**321**	*e*P	**P**	**19 12 37.3**	**+0.2**
BJI	**Beijing**	**76.53**	**321**	*e*P	**P**	**19 12 37.7**	**+0.6**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
KMI	**Kunming**	**77.76**	**302**	P	**P**	**19 12 45.9**	**+1.9**
KMI				AP	pP	19 12 57.2	+1.2
KMI				AMB	AMB		
	comp=Z,14nm,0.7s,mb5.0						
CD2	**Chengdu**	**79.75**	**308**	*e*P	**P**	**19 12 55.5**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
MA2	**Magadan**	**79.81**	**351**	*e*P	**P**	**19 12 53.9**	**-1.3**
	comp=Z,13nm,1.1s,mb4.8						
MA2	**Magadan**	**79.81**	**351**	*e*P	**P**	**19 12 54.0**	**-1.2**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
HIA	**Hailar**	**80.77**	**330**	*e*P	**P**	**19 12 59.9**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.4						
HIA	**Hailar**	**80.77**	**330**	*e*P	**P**	**19 12 59.9**	**-0.5**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LZH	**Lanzhou**	**82.27**	**312**	*e*P	**P**	**19 13 10.1**	**+1.8**
LZH				AP	pP	19 13 22.1	+1.7
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
CLNS	**Chul'man**	**84.11**	**338**	*e*P	**P**	**19 13 17.4**	**-0.4**
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.4						
CLNS				pmax	pmax		
	comp=E,13nm,1.0s						
ULN	**Ulaanbaatar**	**86.47**	**324**	*e*P	**P**	**19 13 29.6**	**-0.1**
	comp=E,26nm,1.2s,mb5.3						
ULN				*e*pP	pP	19 13 41.3	-0.4
ULN	**Ulaanbaatar**	**86.47**	**324**	*e*P	**P**	**19 13 29.6**	**0.0**
ULN				*e**PP	pP	19 13 41.3	-0.4
ULN				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.3						
YAK	**Yakutsk**	**86.63**	**343**	*e*P	**P**	**19 13 29.1**	**-1.2**
	comp=Z,36nm,0.9s,mb5.6						
YAK	**Yakutsk**	**86.63**	**343**	*e*P	**P**	**19 13 29.2**	**-1.2**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.3						
GTA	**Gaotai**	**86.67**	**314**	*e*P	**P**	**19 13 31.2**	**+0.6**
GTA				AP	pP	19 13 43.2	+0.5
GTA				XP	sP	19 13 47.0	-0.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.7						
SONM	**Songino Array**	**86.83**	**323**	P	**P**	**19 13 31.5**	**+0.2**
	comp=Z,6.3nm,0.9s,mb4.8,baz=133,slow=4.0,SNR=31						
SONM				pP	pP	19 13 42.8	-0.7
	comp=Z,11nm,1.0s,baz=144,slow=2.9,SNR=17						
BILL	**Bilibino**	**86.97**	**359**	*e*P	**P**	**19 13 30.6**	**-1.4**
	comp=Z,20nm,0.9s,mb5.3						
BILL	**Bilibino**	**86.97**	**359**	⇑*e*P	**P**	**19 13 30.6**	**-1.4**
BILL				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.4						
CMB	**Columbia Colle**	**87.52**	**48**	P	**P**	**19 13 35.0**	**+0.3**
	comp=Z,5.6nm,0.4s,mb5.2						
CMB	**Columbia Colle**	**87.52**	**48**	P	**P**	**19 13 35.0**	**+0.3**
CMB				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.2						
LSA	**Lhasa**	**89.02**	**302**	*e*P	**P**	**19 13 42.6**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.6						
LSA				*e*pP	pP	19 13 54.4	+0.5
LSA	**Lhasa**	**89.02**	**302**	*e*P	**P**	**19 13 42.7**	**+0.9**
LSA				*e**PP	pP	19 13 54.4	+0.4
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
BOD	**Bodaibo**	**89.02**	**334**	*e*P	**P**	**19 13 40.4**	**-1.4**
BOD				*e*	pP	19 13 49.9	-4.1
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.7						
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.8						
NVAR	**Mina Array Bea**	**89.17**	**49**	P	**P**	**19 13 42.6**	**+0.1**
	comp=Z,2.0nm,0.8s,mb4.5,baz=225,slow=7.4,SNR=6.3						
NVAR				LR	LR	19 45 42.7	
	comp=Z,56nm,20.2s,MS4.0,baz=180,slow=30						
SNAA	**Sanae**	**89.21**	**183**	⇑*i*Pdiff	**P**	**19 13 44.2**	**+1.5**
VNA3	**Neumayer Olymp**	**89.82**	**181**	⇑*i*Pdiff	**P**	**19 13 44.0**	**-1.6**
VNA3				*e*		19 13 48.0	
VNA3				*e*	pP	19 13 55.9	-1.8
ZAK	**Zakamensk**	**89.91**	**324**	⇑*e*P	**P**	**19 13 45.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,13nm,1.5s,mb5.0						
VNA2	**Neumayer--Watz**	**90.11**	**181**	⇑*i*Pdiff	**P**	**19 13 45.8**	**-1.1**
	baz=188,slow=4.0						
VNA2				*e*		19 13 49.8	
VNA2				*e*	pP	19 13 57.4	-1.7
ILAR	**Eielson Array**	**90.33**	**17**	P	**P**	**19 13 44.9**	**-3.0**
	comp=Z,2.4nm,0.8s,mb4.6,baz=240,slow=4.9,SNR=16						
ILAR				LR	LR	19 47 41.6	
	comp=Z,78nm,19.4s,MS4.2,baz=182,slow=31						
TIXI	**Tiksi**	**94.56**	**348**	*e*P	**P**	**19 14 03.7**	**-3.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.6						
PDAR	**Pinedale Array**	**96.97**	**47**	LR	LR	19 51 29.0	
	comp=Z,68nm,19.3s,MS4.2,baz=163,slow=31						
YKA	**Yellowknife Ar**	**100.86**	**27**	P	Pdif	19 14 34.9	-0.9
	comp=Z,0.7nm,0.6s,baz=256,slow=4.7,SNR=16						
YKA				pP		19 14 46.9	
	comp=Z,0.3nm,0.6s,baz=254,slow=4.7,SNR=3.9						
YKA	**Yellowknife Ar**	**100.86**	**27**	P	Pdif	19 14 34.9	-0.9
YKA				pP		19 14 46.9	
MKAR	**Makanchi Array**	**101.30**	**316**	P	Pdif	19 14 38.9	+1.2
	comp=Z,0.7nm,0.8s,baz=100,slow=5.4,SNR=7.9						
MKAR				pP		19 14 50.7	
	comp=Z,0.8nm,0.7s,baz=93,slow=6.0,SNR=6.4						
MKAR				PKKPbc	PKKPbc	19 30 44.7	-2.2
	comp=Z,0.3nm,0.5s,baz=280,slow=4.0,SNR=4.5						
MKAR	**Makanchi Array**	**101.30**	**316**	P	Pdif	19 14 38.9	+1.1
MKAR				pP		19 14 50.7	
MKAR				PKKPbc	PKKPbc	19 30 44.7	-2.2
BOSA	**Boshof**	**120.78**	**218**	PKP	PKPdf	19 19 39.1	+0.3
	comp=Z,3.0nm,0.6s,baz=233,slow=3.2,SNR=7.9						
ARCES	**ARCESS Array B**	**124.85**	**345**	PKP	PKPdf	19 19 44.7	-1.9
	comp=Z,6.1nm,0.8s,baz=5.7,slow=1.2,SNR=13						
AKASG	**Malin Array Be**	**135.11**	**324**	PKP	PKPdf	19 20 05.4	-0.7
	comp=Z,0.3nm,0.4s,baz=61,slow=2.4,SNR=4.8						
NOA	**NORSAR Array B**	**135.23**	**345**	PKP	PKPdf	19 20 05.8	-0.6
	comp=Z,1.2nm,0.8s,baz=31,slow=2.0,SNR=4.1						
BRTR	**Keskin Array B**	**136.33**	**308**	pPKP	pPKPdf	19 20 22.3	+1.4
	comp=Z,0.8nm,0.8s,baz=143,slow=4.7,SNR=2.8						
BRTR				PP	PP	19 22 51.2	+2.1
	comp=Z,0.8nm,0.9s,baz=15,slow=6.0,SNR=3.4						
NKC	**Novy Kostel**	**143.67**	**334**	*e*PKP	PKPdf	19 20 18.2	-3.5
MOX	**Moxa**	**143.68**	**335**	*e*PKPbc	PKPdf	19 20 18.1	-3.6
MOX	**Moxa**	**143.68**	**335**	*e*PKP	PKPdf	19 20 18.5	-3.2
MOX				*e*		19 20 32.7	
	comp=Z,38nm,2.0s						
KHC	**Kasperske Hory**	**144.01**	**332**	*e*PKP	PKPdf	19 20 20.2	-2.1
KHC				pPKP	pPKPdf	19 20 30.0	-4.8
KHC	**Kasperske Hory**	**144.01**	**332**	*e*PKIKP	PKPdf	19 20 20.2	-2.1
KHC				*e*		19 20 30.0	
ROTZ	**Rotzenmuhle**	**144.12**	**334**	*e*PKPbc	PKPdf	19 20 20.3	-2.2
GEC2	**GERESS Array S**	**144.16**	**331**	*e*PKPbc	PKPdf	19 20 20.6	-1.9
GERES	**GERESS Array B**	**144.16**	**331**	PKP	PKPdf	19 20 20.7	-1.9
	comp=Z,2.8nm,0.8s,baz=23,slow=7.2,SNR=10						
WET	**Wettzell**	**144.31**	**332**	*e*PKPbc	PKPdf	19 20 20.5	-2.3
ARSA	**Arzberg**	**144.42**	**328**	⇑*i*PKPdf	PKPdf	19 20 22.2	-0.8
	comp=Z,12nm,1.2s						
GRF	**Grafenberg Arr**	**144.59**	**335**	*e*PKPbc	PKPdf	19 20 21.6	-1.7
BUG	**Bochum--Univer**	**144.60**	**340**	*e*PKPbc	PKPdf	19 20 21.0	-2.3
MOA	**Molln**	**144.62**	**330**	⇑*i*PKPab	PKPdf	19 20 21.2	-2.2
	comp=Z,29nm,1.0s						
PERS	**Pernice**	**145.04**	**328**	*e*PKPdf	PKPdf	19 20 23.1	-0.9
PERS				*e*PKPbc	pPKPdf	19 20 34.9	-1.7
DOBS	**Dobrina**	**145.19**	**327**	*e*PKPdf	PKPdf	19 20 23.6	-0.7
DOBS				*e*PKPbc	pPKPdf	19 20 35.3	-1.6
TNS	**Taunus Mts**	**145.22**	**338**	*e*PKPbc	PKPbc	19 20 23.4	-0.7
TNS				*ep*PKPbc	pPKPbc	19 20 35.4	-1.1
RCBR	**Riachuelo**	**145.34**	**133**	*e*PKPdf	PKPdf	19 20 23.2	-1.4
OBKA	**Obir**	**145.41**	**328**	⇑*i*PKPab	PKPab	19 20 24.3	-0.6
	comp=Z,17nm,1.5s						
TOD	**Tromm**	**145.60**	**337**	PKP	PKPdf	19 20 24.8	-0.2
KBA	**Koelnbreinsper**	**145.61**	**330**	⇑*i*PKPdf	PKPdf	19 20 24.2	-0.8
	comp=Z,21nm,1.2s						
BOJS	**Bojanci**	**145.73**	**326**	PKPdf	PKPdf	19 20 26.4	+1.1
BOJS				*e*PKPbc	pPKPdf	19 20 37.9	+0.1
DLF	**Lyons Farm**	**145.73**	**355**	*e*P	PKPdf	19 20 24.1	-1.1
DCN	**Croghan**	**145.74**	**356**	*e*P	PKPdf	19 20 24.2	-1.1
LJU	**Ljubljana**	**145.74**	**327**	*e*PKPdf	PKPdf	19 20 25.5	+0.2
LJU				*e*PKPbc	pPKPdf	19 20 37.5	-0.3
ABH	**Alteburg**	**145.83**	**338**	PKP	PKPdf	19 20 25.6	+0.2
VOY	**Vojsko**	**146.07**	**328**	*e*PKPdf	PKPdf	19 20 25.7	-0.1
VOY				*e*PKPbc	pPKPdf	19 20 38.5	+0.1
STU	**Stuttgart**	**146.13**	**335**	*e*PKPbc	PKPbc	19 20 26.0	-0.9
RUP	**Ruppelstein**	**146.15**	**338**	PKP	PKPdf	19 20 26.6	+0.6
MOTA	**Moosalm**	**146.44**	**332**	⇑*i*PKPab	PKPab	19 20 27.1	-1.6
	comp=Z,17nm,1.0s						
LANF	**Langenberg**	**146.49**	**337**	PKP	PKPdf	19 20 27.6	+1.1
SQTA	**Sankt Quirin**	**146.49**	**332**	⇑*i*PKPab	PKPab	19 20 27.5	-1.5
	comp=Z,14nm,1.0s						
WLF	**Walferdange**	**146.49**	**339**	*e*PKPbc	PKPbc	19 20 27.6	-0.4
WLF	**Walferdange**	**146.49**	**339**	*e*PKPbc	PKPbc	19 20 27.9	0.0
WLF				*ep*PKPdf	pPKPdf	19 20 37.5	-1.6
GIVF	**Givet**	**146.54**	**341**	⇑*i*PKP1	PKPbc	19 20 27.2	-0.9
	comp=Z,63nm,1.1s						
BFO	**Black Forest**	**146.82**	**336**	*e*PKPbc	PKPbc	19 20 28.2

LASF Ste Croix 152.09 336 ⇑*i*PKP1 PKPbc 19 20 41.5 -0.6
comp=Z,20nm,0.9s
LFF La Frestale 152.40 341 *e*PKP1 PKPbc 19 20 41.9 -0.9
comp=Z,15nm,0.8s
MTLF Montolieu 153.32 338 ⇑*i*PKP1 PKPbc 19 20 44.1 -0.7
EPF Esparros 154.24 340 *e*PKP1 PKPbc 19 20 44.6 -2.2
DBIC Dimbokro 166.07 208 PKPab PKPab 19 21 52.3 +0.1
comp=Z,3.0nm,0.9s,baz=127,slow=6.9,SNR=5.3
TORD Torodi Ar. Bea 166.12 246 PKP PKPdf 19 20 51.5 -0.3
comp=Z,2.5nm,1.0s,baz=64,slow=0.8,SNR=9.6
TORD pPKP pPKPdf 19 21 04.9 +0.5
comp=Z,2.2nm,0.9s,baz=116,slow=0.9,SNR=6.1
TORD PKPab PKPab 19 21 53.1 +0.6
comp=Z,3.8nm,1.1s,baz=111,slow=4.9,SNR=8.3

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*CSEM **01** 19:07:36.5,2365S×17970E,h33km,mb5.5*
*MOS **01** 19:08:25.0±1.5,2400S×17958E,h508km,mb5.1/12,Error ellipse: s-maj=10.2km s-min=9.8km az=130.2*
*ISCJB **01** 19:08:26.8±0.2,2424S±003×17956E±005,h536km, mb4.8/59,Error ellipse: s-maj=5.5km s-min=4.0km az=7.9*
*BJI **01** 19:08:26.7,2400S×17991E,h539km,mB4.9,mb4.8*
*NEIC **01** 19:08:27.8±0.2,2423S×17960E,mb4.8/19,Error ellipse: s-maj=6.7km s-min=5.6km az=128.0*
*IDC **01** 19:08:27.6±0.6,2422S×17956E,h535km±6km,mb4.4/22, mb1 4.4/24,mb1mx4.3/25,mbtmp5.2/24,Error ellipse: s-maj=10.1km s-min=8.0km az=1.0*
ISC 01 19:08:27.7±0.2,2435S±003×17962E±004,h537km, h537km±4.4km;pP-P,n311,σ1517/157,mb4.8/58,30C-25D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.36**	**156**	P		**P**	**19 10 00.3**	**+0.5**
	306nm,0.3s,baz=80,slow=13,SNR=13							
RAO				S		**S**	**19 11 15.1**	**-0.1**
	94nm,0.3s,baz=106,slow=23,SNR=2.6							
RAO	**Raoul Island**	**5.36**	**156**	*e*P		**P**	**19 10 00.1**	**+0.3**
	828nm,0.4s							
RAO				*e*S		**S**	**19 11 15.9**	**+0.8**
RAO	**Raoul Island**	**5.36**	**156**	*e*P		**P**	**19 10 00.1**	**+0.3**
RAO				*e*S		**S**	**19 11 16.0**	**+0.9**
RAO				pmax		pmax		
	comp=Z,828nm,0.4s							
DZM	**Mont Dzumac**	**12.32**	**278**	P		**P**	**19 11 12.1**	**+2.6**
	comp=Z,10nm,0.3s,baz=83,slow=16,SNR=72							
DZM				S		**S**	**19 13 25.4**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=189,slow=18,SNR=1.5							
AFI	**Afiamalu**	**13.18**	**40**	P		**P**	**19 11 12.8**	**-5.6**
	comp=Z,12nm,0.3s,baz=25,slow=3.1,SNR=14							
AFI				S		**S**	**19 13 28.7**	**-10**
	comp=Z,17nm,0.3s,baz=180,slow=22,SNR=6.0							
AFI	**Afiamalu**	**13.18**	**40**	*e*P		**P**	**19 11 12.4**	**-6.0**
	comp=Z,180nm,0.8s							
AFI				*e*S		**S**	**19 13 24.9**	**-14**
AFI	**Afiamalu**	**13.18**	**40**	*e*P		**P**	**19 11 12.4**	**-6.0**
AFI				*e*S		**S**	**19 13 24.9**	**-14**
AFI				pmax		pmax		
	comp=Z,180nm,0.8s							
PUZ	**Puketiti**	**13.73**	**185**	*e*PN		**P**	**19 11 24.8**	**+0.7**
URZ	**Urewera**	**14.03**	**188**	P		**P**	**19 11 25.6**	**-1.7**
	comp=Z,7.0nm,0.3s,baz=336,slow=4.4,SNR=37							
URZ				S		**S**	**19 13 53.9**	**-1.2**
	comp=Z,12nm,0.3s,baz=146,slow=22,SNR=18							
URZ	**Urewera**	**14.03**	**188**	*e*PN		**P**	**19 11 25.6**	**-1.7**
URZ	**Urewera**	**14.03**	**188**	*e*P		**P**	**19 11 25.6**	**-1.6**
MWZ	**Matawai**	**14.06**	**187**	PN		**P**	**19 11 26.0**	**-1.5**
MWZ	**Matawai**	**14.06**	**187**	P		**P**	**19 11 26.0**	**-1.5**
KNZ	**Kokohu**	**14.72**	**186**	*e*PN		**P**	**19 11 35.9**	**+1.6**
KNZ				*e*SN		**S**	**19 14 05.5**	**-2.6**
KNZ	**Kokohu**	**14.72**	**186**	*e*P		**P**	**19 11 35.9**	**+1.6**
KNZ				*e*S		**S**	**19 14 05.5**	**-2.6**
BKZ	**Black Stump Fm**	**15.01**	**189**	*e*PN		**P**	**19 11 34.7**	**-2.6**
BKZ	**Black Stump Fm**	**15.01**	**189**	*e*P		**P**	**19 11 34.7**	**-2.6**
BFZ	**Birch Farm**	**16.53**	**189**	*e*SN		**S**	**19 14 38.8**	**-1.1**
MRZ	**Mangatainoka R**	**16.62**	**191**	*e*PN		**P**	**19 11 51.2**	**-2.2**
MRZ	**Mangatainoka R**	**16.62**	**191**	*e*P		**P**	**19 11 51.2**	**-2.2**
KIW	**Kapiti Island**	**16.93**	**192**	*e*PN		**P**	**19 11 54.6**	**-1.7**
KIW	**Kapiti Island**	**16.93**	**192**	P		**P**	**19 11 54.6**	**-1.7**
QRZ	**Quartz Range**	**17.47**	**198**	PN		**P**	**19 12 02.8**	**+1.6**
NNZ	**Nelson**	**17.61**	**196**	*e*PN		**P**	**19 12 02.4**	**-0.1**
THZ	**Tophouse**	**18.25**	**196**	PN		**P**	**19 12 09.3**	**+1.0**
THZ				SN		**S**	**19 15 06.5**	**-1.4**
THZ	**Tophouse**	**18.25**	**196**	P		**P**	**19 12 09.3**	**+1.0**
THZ				S		**S**	**19 15 06.5**	**-1.4**
RAR	**Rarotonga**	**19.26**	**85**	P		**P**	**19 12 16.7**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=258,slow=8.0,SNR=12							
LTZ	**Lake Taylor**	**19.36**	**196**	*e*PN		**P**	**19 12 18.2**	**-0.3**
LTZ	**Lake Taylor**	**19.36**	**196**	*e*P		**P**	**19 12 18.2**	**-0.3**
WVZ	**Waitaha Valley**	**20.06**	**199**	*e*PN		**P**	**19 12 25.5**	**+0.7**
WVZ	**Waitaha Valley**	**20.06**	**199**	*e*P		**P**	**19 12 25.5**	**+0.6**
RPZ	**Rata Peaks**	**20.56**	**198**	P		**P**	**19 12 30.6**	**+1.3**
	comp=Z,33nm,0.5s,baz=20,slow=1.8,SNR=22							
HNR	**Honiara**	**23.91**	**305**	P		**P**	**19 12 57.9**	**-1.5**
	comp=Z,138nm,0.5s,mb5.8,baz=112,slow=0.9,SNR=28							
HNR	**Honiara**	**23.91**	**305**	*e*P		**P**	**19 12 58.1**	**-1.2**
	comp=Z,108nm,0.6s,mb5.7							
HNR	**Honiara**	**23.91**	**305**	*e*P		**P**	**19 12 58.1**	**-1.3**
HNR				pmax		pmax		
	comp=Z,108nm,0.6s,mb5.7							
CNB	**Canberra Magne**	**28.33**	**240**	*e*P		**P**	**19 13 40.8**	**+2.6**
	comp=Z,68nm,1.1s,mb5.2							
PAE	**Paea**	**29.47**	**83**	*e*P		**P**	**19 13 47.5**	**-0.7**
	comp=Z,119nm,1.1s,mb5.4							
PPT	**Papeete**	**29.50**	**83**	*e*P		**P**	**19 13 48.0**	**-0.5**
	comp=Z,62nm,1.2s,mb5.0							
PPT	**Papeete**	**29.50**	**83**	P		**P**	**19 13 48.5**	**0.0**
	comp=Z,35nm,0.7s,mb5.0,baz=347,slow=1.2,SNR=4.1							
TVO	**Taravao**	**29.73**	**83**	*e*P		**P**	**19 13 49.8**	**-0.6**
	comp=Z,93nm,0.9s,mb5.3							
CTA	**Charters Tower**	**31.13**	**271**	*e*P		**P**	**19 14 03.8**	**+1.4**
	comp=Z,112nm,0.4s,mb5.8							
CTA	**Charters Tower**	**31.13**	**271**	P		**P**	**19 14 03.9**	**+1.4**
	comp=Z,120nm,0.4s,mb5.8,baz=94,slow=10,SNR=467							
CTA	**Charters Tower**	**31.13**	**271**	*e*P		**P**	**19 14 03.8**	**+1.4**
CTA				pmax		pmax		
	comp=Z,112nm,0.4s							
CTAO	**Charters Tower**	**31.13**	**271**	P		**P**	**19 14 03.9**	**+1.5**
TOO	**Toolangi**	**31.91**	**237**	⇓*i*P		**P**	**19 14 11.2**	**+2.1**
	comp=Z,20nm,0.5s,mb4.9							
TOO	**Toolangi**	**31.91**	**237**	⇓*i*P		**P**	**19 14 11.2**	**+2.1**
TOO				pmax		pmax		
	comp=Z,20nm,0.5s,mb4.9							
VAH	**Vaihoa**	**32.06**	**80**	*e*P		**P**	**19 14 09.4**	**-1.0**
	comp=Z,92nm,1.1s,mb5.2							
STKA	**Stephens Creek**	**34.23**	**249**	⇓*i*P		**P**	**19 14 28.3**	**-0.4**
	comp=Z,13nm,0.6s,mb4.6							
STKA				*e*PCP		PcP	19 16 49.2	-0.6
STKA	**Stephens Creek**	**34.23**	**249**	P		**P**	**19 14 28.3**	**-0.4**
	comp=Z,19nm,0.5s,mb4.9,baz=93,slow=10,SNR=79							
STKA				PcP		PcP	19 16 49.0	-0.8
	comp=Z,4.8nm,0.6s,baz=323,slow=3.7,SNR=3.6							
PMG	**Port Moresby**	**34.31**	**290**	P		**P**	**19 14 29.4**	**0.0**
	comp=Z,78nm,0.7s,mb5.4,baz=105,slow=5.0,SNR=45							
PMG	**Port Moresby**	**34.31**	**290**	P		**P**	**19 14 29.7**	**+0.3**
PMG	**Port Moresby**	**34.31**	**290**	*d*i P		**P**	**19 14 29.6**	**+0.2**
RKT	**Rikitea**	**41.45**	**98**	*e*P		**P**	**19 15 27.7**	**+0.2**
	comp=Z,82nm,1.2s,mb5.2							
ASAR	**Alice Springs**	**41.62**	**261**	P		**P**	**19 15 29.7**	**+0.9**
	comp=Z,14nm,0.4s,mb4.9,baz=95,slow=7.2,SNR=630							
ASAR				pP		pP	19 17 04.1	-0.6
	comp=Z,2.1nm,0.5s,baz=89,slow=7.5,SNR=2.1							
ASAR				PcP		PcP	19 17 13.7	+0.6
	comp=Z,8.7nm,1.1s,baz=100,slow=6.3,SNR=4.7							
ASAR				ScP		ScP	19 20 15.1	+3.0
	comp=Z,5.8nm,1.1s,baz=107,slow=3.8,SNR=9.5							
ASAR				S		**S**	**19 21 05.7**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=102,slow=13,SNR=11							
ASAR	**Alice Springs**	**41.62**	**261**	P		**P**	**19 15 29.7**	**+0.9**
ASAR				*PP		pP	19 17 04.1	-0.6
ASAR							19 17 13.7	
ASAR				S		**S**	**19 21 05.7**	**-0.7**
WB2	**Warramunga Arr**	**42.02**	**267**	⇓*i*P		**P**	**19 15 32.2**	**+0.2**
WB2				*e*SCP		ScP	19 20 17.3	+3.6
WB2				*e*S		**S**	**21 09.4**	**-2.7**
WRAB	**Tennant Creek**	**42.02**	**267**	P		**P**	**19 15 31.8**	**-0.2**
WRAB	**Tennant Creek**	**42.02**	**267**	*d*i P		**P**	**19 15 32.2**	**+0.2**
WRA	**Warramunga Arr**	**42.03**	**267**	P		**P**	**19 15 32.2**	**+0.1**
	comp=Z,40nm,0.5s,mb5.2,baz=104,slow=8.4,SNR=719							
WRA				pP		pP	19 17 07.0	-1.2
	comp=Z,3.8nm,1.0s,baz=104,slow=8.8,SNR=1.6							
WRA				PcP		PcP	19 17 14.7	+0.2
	comp=Z,6.5nm,0.9s,baz=98,slow=4.6,SNR=6.5							
WRA				ScP		ScP	19 20 17.2	+3.5
	comp=Z,5.6nm,0.8s,baz=103,slow=4.4,SNR=12							
WRA				S		**S**	**19 21 10.0**	**-2.3**
	comp=Z,4.3nm,0.9s,baz=100,slow=14,SNR=8.0							
WRA	**Warramunga Arr**	**42.03**	**267**	P		**P**	**19 15 32.2**	**+0.1**
WRA				*PP		pP	19 17 07.0	-1.2
WRA							19 17 14.7	
WRA				S		**S**	**19 21 10.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**50.45**	**266**	⇓*i*P		**P**	**19 16 36.7**	**+0.8**
	comp=Z,50nm,0.6s,mb5.1							
FITZ				*e*S		**S**	**19 23 10.3**	**+0.8**
GUMO	**Guam**	**50.73**	**314**	P		**P**	**19 16 37.1**	**-0.9**
	comp=Z,79nm,0.5s,mb5.3,baz=172,slow=23,SNR=5.4							
VNDA	**Vanda**	**53.91**	**185**	P		**P**	**19 17 02.3**	**+1.6**
	comp=Z,2.8nm,0.7s,mb3.7,baz=354,slow=13,SNR=3.9							
KLBR	**Kellerberrin**	**54.49**	**248**	⇓*i*P		**P**	**19 17 05.2**	**+0.3**
	comp=Z,26nm,0.7s,mb4.7							
MBWA	**Marble Bar**	**54.95**	**260**	P		**P**	**19 17 08.1**	**0.0**
	comp=Z,52nm,1.0s,mb4.7							
MUN	**Mundaring**	**55.73**	**247**	⇓*i*P		**P**	**19 17 14.2**	**+0.7**
CBIJ	**Chichi jima**	**62.62**	**322**	P		**P**	**19 17 58.7**	**-0.8**
	comp=Z,85nm,0.5s,mb5.4,baz=303,slow=20,SNR=5.3							
MSLP	**Maasin**	**63.48**	**296**	*e*P		**P**	**19 18 03.8**	**-1.3**
GUIM	**Jordan**	**65.61**	**295**	*e*P		**P**	**19 18 15.9**	**-2.7**
QSPA	**South Pole Qui**	**65.74**	**180**	⇑*i*P		**P**	**19 18 21.6**	**+2.3**
	comp=Z,22nm,0.8s,mb4.7							
KKM	**Kota Kinabalu**	**68.70**	**287**	*e*P		**P**	**19 18 37.8**	**+0.3**
JOW	**Kunigami**	**71.03**	**312**	P		**P**	**19 18 51.5**	**+0.1**
	comp=Z,65nm,0.7s,mb5.2,baz=177,slow=7.7,SNR=4.6							
KSM	**Kuching**	**71.84**	**280**	*e*P		**P**	**19 18 56.4**	**+0.3**
MJAR	**Matsushiro Arr**	**72.07**	**326**	P		**P**	**19 18 56.5**	**-1.0**
	comp=Z,27nm,0.8s,mb4.7,baz=161,slow=5.7,SNR=49							
MAJO	**Matsushiro**	**72.07**	**326**	P		**P**	**19 18 56.6**	**-0.9**
	comp=Z,35nm,0.8s,mb4.8							
MAJO	**Matsushiro**	**72.07**	**326**	P		**P**	**19 18 56.6**	**-0.9**
MAJO				pmax		pmax		
	comp=Z,35nm,0.8s,mb4.8							
MAT	**Matsushiro**	**72.07**	**326**	P		**P**	**19 18 56.2**	**-1.3**
MAT	**Matsushiro**	**72.07**	**326**	*e*P		**P**	**19 18 56.0**	**-1.5**
	comp=Z,25nm,0.9s,mb4.7							
MAT	**Matsushiro**	**72.07**	**326**	*e*P		**P**	**19 18 56.0**	**-1.5**
MAT				pmax		pmax		
	comp=Z,25nm,0.9s,mb4.6							
JNU	**Nakatsue**	**73.63**	**319**	P		**P**	**19 19 06.0**	**-0.4**
	comp=Z,21nm,0.9s,mb4.6,baz=139,slow=3.0,SNR=7.1							
ADK	**Adak**	**75.97**	**2**	*e*P		**P**	**19 19 17.6**	**-1.9**
ASAJ	**Asahikawa**	**76.11**	**333**	P		**P**	**19 19 21.2**	**+1.0**
	comp=Z,25nm,0.8s,mb4.7,baz=221,slow=8.6,SNR=10							
FX1	**Attu Island--F**	**77.11**	**356**	P		**P**	**19 19 24.3**	**-1.4**
	comp=Z,28nm,0.6s,mb4.8,baz=61,slow=20,SNR=6.2							
KS15	**Wonju Array Si**	**78.38**	**320**	P		**P**	**19 19 32.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**78.39**	**335**	P		**P**	**19 19 33.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**78.39**	**335**	⇓*i*P		**P**	**19 19 33.7**	**+1.0**
YSS				pmax		pmax		
	comp=Z,50nm,0.6s,mb5.0							
SSE	**Sheshan**	**78.53**	**312**	P		**P**	**19 19 33.5**	**+0.1**
SSE				AMB		AMB		
	comp=Z,41nm,0.7s,mb4.9							
SSE				AMB		AMB		
	comp=Z,117nm,3.9s							
PET	**Petropavlovsk**	**79.18**	**347**	⇓*i*P		**P**	**19 19 35.4**	**-1.5**
PET				pmax		pmax		
	comp=Z,41nm,0.6s,mb4.9							
VLA	**Vladivostok**	**80.21**	**327**	*e*P		**P**	**19 19 40.1**	**-2.2**
VLA				pmax		pmax		
	comp=Z,26nm,1.2s,mb4.4							
NJ2	**Nanjing**	**80.69**	**311**	*e*P		**P**	**19 19 45.6**	**+0.8**
NJ2				PP		PP	19 22 59.8	+1.5
NJ2				AMB		AMB		
	comp=Z,40nm,1.0s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,320nm,5.1s							
MDJ	**Mudanjiang**	**82.44**	**326**	P		**P**	**19 19 53.7**	**-0.1**
MDJ				AMB		AMB		
	comp=Z,28nm,1.1s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,165nm,5.4s							
MDJ	**Mudanjiang**	**82.44**	**326**	*e*P		**P**	**19 19 53.6**	**-0.1**
	comp=Z,33nm,1.1s,mb4.7							
SYO	**Syowa Base**	**82.50**	**194**	⇓*e*P		**P**	**19 19 54.1**	**+0.1**
HABR	**Khabarovsk**	**82.74**	**332**	*e*P		**P**	**19 19 55.4**	**+0.2**
WHN	**Wuhan**	**83.00**	**308**	P		**P**	**19 19 57.0**	**+0.5**
WHN				AMB		AMB		
	comp=Z,70nm,1.0s,mb5.2							
ISA	**Isabella**	**83.58**	**46**	P		**P**	**19 20 00.3**	**+0.9**
CMB	**Columbia Colle**	**83.76**	**43**	P		**P**	**19 20 00.9**	**+0.6**
SNY	**Shenyang**	**83.78**	**321**	⇓P		**P**	**19 20 00.0**	**-0.4**
SNY				S		S	19 29 40.5	+1.6
SNY				AMB		AMB		
	comp=Z,17nm,0.8s,mb4.6							
SNY				AMB		AMB		
	comp=Z,280nm,4.7s							
CN2	**Changchun**	**84.04**	**324**	⇓*i*P		**P**	**19 20 01.6**	**-0.1**
CN2				*e*AP		pP	19 22 02.1	+4.0
CN2				*e*S			19 29 41.7	
CN2				AMB		AMB		
	comp=Z,40nm,1.2s,mb4.8							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
TIA	**Tai'an**	**84.29**	**314**	P		**P**	**19 20 03.1**	**+0.2**
TIA				AMB		AMB		
	comp=Z,67nm,1.0s,mb5.1							
VNA3	**Neumayer Olymp**	**84.45**	**177**	*e*P		**P**	**19 20 04.2**	**+0.5**
VNA3				*e*			19 20 06.1	
VNA3				*e*			19 22 09.0	
GSC	**Goldstone**	**84.48**	**47**	P		**P**	**19 20 04.9**	**+1.0**
MTUM	**Tungsten Hills**	**84.52**	**45**	P		**P**	**19 20 04.9**	**+0.9**
DAC	**Darwin (Calif)**	**84.52**	**46**	P		**P**	**19 20 00.0**	**-4.0**
GLA	**Glamis**	**84.58**	**50**	P		**P**	**19 20 05.6**	**+1.2**
YBH	**Yreka Blue Hor**	**84.65**	**39**	P		**P**	**19 20 06.0**	**+1.3**
	comp=Z,3.9nm,0.9s,mb4.0,baz=113,slow=7.0,SNR=3.6							
KLR	**Kul'dur**	**84.75**	**331**	*e*P		**P**	**19 20 02.3**	**-2.9**
KLR				pmax		pmax		
	comp=Z,63nm,2.0s,mb4.8							
VNA2	**Neumayer--Watz**	**84.86**	**178**	*e*P		**P**	**19 20 06.1**	**+0.3**
VNA2				*e*			19 20 08.7	
VNA2				*e*			19 22 11.5	
NVAR	**Mina Array Bea**	**85.31**	**44**	P		**P**	**19 20 08.3**	**+0.3**
	comp=Z,1.8nm,0.7s,mb3.7,baz=217,slow=8.7,SNR=9.9							
NVAR				pP		pP	19 22 06.0	+1.3
	comp=Z,0.4nm,0.4s,baz=238,slow=8.5,SNR=3.2							
NVAR	**Mina Array Bea**	**85.31**	**44**	P		**P**	**19 20 08.3**	**+0.3**
NVAR				pP		pP	19 22 06.0	+1.3
ENH	**Enshi**	**86.41**	**305**	*e*P		**P**	**19 20 13.6**	**+0.4**
	comp=Z,41nm,1.0s,mb5.0							
MA2	**Magadan**	**86.92**	**346**	*d*i P		**P**	**19 20 14.1**	**-1.5**
MA2				pmax		pmax		
	comp=Z,51nm,1.2s,mb5.0							
TUC	**Tucson**	**87.07**	**53**	P		**P**	**19 20 17.8**	**+1.6**
	comp=Z,12nm,1.1s,mb4.4							
TUC	**Tucson**	**87.07**	**53**	P		**P**	**19 20 17.8**	**+1.5**
TUC				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.4							
SLKM	**Skilak Lake**	**88.05**	**14**	P		**P**	**19 20 19.8**	**-1.1**
PLCA	**Paso Flores**	**88.20**	**134**	P		**P**	**19 20 23.2**	**+1.7**
	comp=Z,1.7nm,0.5s,mb4.1,baz=248,slow=6.4,SNR=8.5							
PLCA				pP		pP	19 22 21.5	+2.1
	comp=Z,2.6nm,0.8s,baz=207,slow=7.2,SNR=4.5							
XAN	**Xi'an**	**88.74**	**308**	P		**P**	**19 20 24.8**	**+0.7**
XAN				AMB		AMB		
	comp=Z,36nm,1.1s,mb5.1							
KMI	**Kunming**	**89.16**	**298**	P		**P**	**19 20 27.1**	**+1.1**
KMI				AP		pP	19 22 24.5	+0.4
KMI				AMB		AMB		
	comp=Z,17nm,1.5s,mb4.7							
MVU	**Marysvale**	**89.32**	**47**	P		**P**	**19 20 34.2**	**+7.5**
	comp=Z,8.1nm,1.4s,mb4.4							
SEY	**Seymchan**	**89.63**	**348**	*e*P		**P**	**19 20 27.5**	**-0.7**
SEY				*e*			19 36 49.5	
SEY				pmax		pmax		
	comp=E,3.0nm,0.8s							
SEY				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.6							
TNA	**Tin City**	**90.13**	**5**	P		**P**	**19 20 29.4**	**-1.1**
	comp=Z,12nm,1.0s,mb4.7							
TMUT	**Trail Mountain**	**90.40**	**46**	P		**P**	**19 20 33.5**	**+1.7**
HHC	**Hu-ho-hao-te**	**90.49**	**315**	*e*P		**P**	**19 20 32.5**	**+0.3**
HHC				AP		pP	19 22 32.0	+1.6
HHC				XP		sP	19 23 25.5	+1.0
HHC				PP		PP	19 24 19.3	+2.9
HHC				SKS			19 30 12.9	
HHC				S			19 30 40.5	
HHC				XS		sS	19 34 12.2	-0.8
HHC				AMB		AMB		
	comp=Z,13nm,0.5s,mb5.0							
HHC				AMB		AMB		
	comp=Z,99nm,5.0s							
HIA	**Hailar**	**90.57**	**325**	*i* P		**P**	**19 20 31.6**	**-0.9**
SPUT	**South Promonto**	**90.66**	**44**	P		**P**	**19 20 34.5**	**+1.6**
HLID	**Hailey**	**90.66**	**42**	P		**P**	**19 20 34.0**	**+1.1**
SRU	**San Rafael**	**90.76**	**47**	P		**P**	**19 20 35.0**	**+1.6**
LTX	**Lajitas**	**90.96**	**58**	P		**P**	**19 20 35.7**	**+1.3**
	comp=Z,12nm,1.3s,mb4.7							
LTX	**Lajitas**	**90.96**	**58**	P		**P**	**19 20 35.7**	**+1.3**
LTX				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.7							
CD2	**Chengdu**	**91.03**	**304**	P		**P**	**19 20 35.7**	**+1.0**
CD2				AMB		AMB		
	comp=Z,30nm,0.9s,mb5.2							
CD2				AMB		AMB		
	comp=Z,60nm,5.9s							
TCUT	**Toone Canyon**	**91.22**	**45**	P		**P**	**19 20 36.0**	**+0.4**
ILAR	**Eielson Array**	**92.55**	**14**	P		**P**	**19 20 39.2**	**-2.4**
	comp=Z,1.8nm,0.8s,mb4.2,baz=227,slow=5.3,SNR=17							
ILAR				PP		PP	19 24 32.2	-0.1
	comp=Z,1.5nm,1.1s,baz=218,slow=9.5,SNR=4.7							
BILL	**Bilibino**	**92.64**	**355**	*d*i P		**P**	**19 20 40.7**	**-1.4**
LZH	**Lanzhou**	**93.37**	**308**	⇑P		**P**	**19 20 45.5**	**+0.1**
LZH				AP		pP	19 22 45.4	+1.5
LZH				XP		sP	19 23 38.5	+0.6
LZH				PP		PP	19 24 41.2	+2.5
LZH				S			19 31 05.2	
LZH				XS		sS	19 34 37.8	-2.1
LZH				SS		SS	19 37 42.3	+2.9
LZH				AMB		AMB		
	comp=Z,26nm,1.2s,mb5.1							
LZH				AMB		AMB		
	comp=Z,156nm,7.1s							
YAK	**Yakutsk**	**94.86**	**339**	*i* P		**P**	**19 20 50.7**	**-1.5**
YAK				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb5.0							
ULN	**Ulaanbaatar**	**96.84**	**320**	P		**P**	**19 21 00.8**	**-0.3**
	comp=Z,2.1nm,0.8s,mb4.4							
ULN	**Ulaanbaatar**	**96.84**	**320**	*i* P		**P**	**19 21 01.5**	**+0.4**
SONM	**Songino Array**	**97.21**	**319**	P		**P**	**19 21 01.9**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.3,baz=128,slow=3.7,SNR=7.7							
SONM				pP		pP	19 23 02.3	+0.7
	comp=Z,0.3nm,0.8s,baz=105,slow=1.1,SNR=0.9							
SONM				PP		PP	19 25 02.5	-5.5
	comp=Z,1.1nm,1.0s,baz=107,slow=4.2,SNR=4.7							
SONM				PKKPbc		PKKPbc	19 37 39.5	+0.6
	comp=Z,0.5nm,0.6s,baz=260,slow=2.3,SNR=5.4							
SONM	**Songino Array**	**97.21**	**319**	P		**P**	**19 21 01.9**	**-0.9**
SONM							19 25 02.5	
GTA	**Gaotai**	**97.71**	**310**	*e*P		Pdif	19 21 05.8	+0.8
GTA				AP		pP	19 23 06.3	+2.4
GTA				AMB		AMB		
	comp=Z,7.0nm,1.5s,mb4.8							
GTA				AMB		AMB		
	comp=Z,171nm,4.6s							
INK	**Inuvik**	**98.55**	**16**	P		Pdif	19 21 06.8	-1.9
	comp=Z,3.0nm,1.0s,baz=225,slow=3.2,SNR=6.4							
YKA	**Yellowknife Ar**	**100.92**	**26**	P		Pdif	19 21 19.0	-0.2
	comp=Z,0.4nm,0.8s,baz=245,slow=4.3,SNR=4.1							
YKA				PKiKP		PKiKP	19 25 39.2	-2.1
	comp=Z,0.2nm,0.7s,baz=248,slow=2.2,SNR=4.0							
YKA				PKKPbc		PKKPbc	19 37 27.8	-0.9
	comp=Z,0.1nm,0.7s,baz=56,slow=2.8,SNR=3.7							
TIXI	**Tiksi**	**101.89**	**345**	*e*P		Pdif	19 21 20.0	-3.6
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.2s							
MKAR	**Makanchi Array**	**112.20**	**313**	Pdiff		Pdif	19 22 07.6	-1.8
	comp=Z,0.

NB2 NORSAR Subarra 142.47 351 PKPa 19 26 54.2
comp=Z,9.1nm,0.8s,baz=16,slow=3.2
NOA NORSAR Array B 142.47 351 PKhKP 19 26 54.6
comp=Z,14nm,0.8s,baz=16,slow=4.8,SNR=37
NOA SKPbc SKPbc 19 29 46.4 -0.2
comp=Z,1.5nm,0.6s,baz=15,slow=4.1,SNR=5.5
NAO01 NORSAR Array S 142.70 351 PKPdf 19 26 55.6
ANN Anapa 143.22 313 *i* PKHKP 19 26 46.3
ANN pmax pmax
comp=Z,287nm,1.1s
KELT Kelkit 143.29 305 *i* P PKPdf 19 26 59.0 -1.8
GRSN GIRESUNGRSN 143.83 307 *i* P PKPdf 19 26 59.1 -2.6
ELZG Elazig 143.85 302 *i* P PKPdf 19 27 02.1 +0.3
KONO Kongsberg 144.03 351 PKPdf 19 27 00.4 -1.7
KONO Kongsberg 144.03 351 ⇑*i*PKIKP PKPdf 19 27 00.3 -1.8
MALT Malatya 144.31 302 PKPdf 19 27 03.0 +0.5
MALT Malatya 144.31 302 ⇓PKIKP PKPdf 19 27 03.1 +0.5
SVST Sivas 145.10 305 *i* P PKPdf 19 27 06.0 +2.1
AKASG Malin Array Be 145.15 327 PKPbc PKPbc 19 27 03.5 -1.4
AKASG SKPbc SKPbc 19 29 53.0 +0.2
comp=Z,4.0nm,0.4s,baz=44,slow=3.0,SNR=16
GZT Gaziantep 145.17 301 *i* P PKPdf 19 27 05.2 +1.2
SIM Simferopol' 145.33 315 ⇓*i*PKP2 PKPab 19 27 05.6 -1.0
SIM pmax pmax
comp=Z,46nm,1.2s
SUW Suwalki 145.53 335 *e*PKP PKPdf 19 27 05.0 +0.4
MUD Monsted U'grnd 147.18 350 *i* P PKPdf 19 27 09.8 +2.4
comp=Z,23nm,0.6s
BSD Bornholm Skovb 147.25 344 ⇓*i*P PKPdf 19 27 09.5 +2.0
comp=Z,41nm,0.8s
COP Copenhagen 147.31 347 *i* P PKPdf 19 27 09.6 +2.0
comp=Z,24nm,0.8s
COP Copenhagen 147.31 347 *e*PKIKP PKPdf 19 27 09.6 +2.0
ELDT Eldivan 147.48 308 *i* P PKPdf 19 27 11.5 +3.6
BR131 Keskin Array S 147.56 306 PKPdf PKPdf 19 27 09.7 +1.7
BRTR Keskin Array B 147.56 306 PKP PKPdf 19 27 07.5 -0.6
comp=Z,11nm,0.7s,baz=133,slow=3.4,SNR=45
BRTR PKPbc PKPbc 19 27 11.4 -0.1
comp=Z,14nm,0.6s,baz=129,slow=3.0,SNR=47
ANTO Ankara 148.14 307 *e*PKPdf PKPdf 19 27 09.3 +0.3
ANTO *e*PKPbc PKPbc 19 27 13.2 +0.2
EIL Elat 148.16 287 *e*PKPbc PKPbc 19 27 13.4 +0.4
GKP Gorka Klasztor 148.20 340 *e*PKP PKPbc 19 27 12.9 -0.3
SGKT Sivrigoynuk 148.43 309 *i* P PKPbc 19 27 13.6 -0.1
CFR Carcaliu 148.94 319 ⇑P PKPbc 19 27 14.9 -0.1
ERMK Ermenek 148.96 301 *i* P PKPdf 19 27 11.3 +1.0
CSS Prodhromos 148.98 298 *e*PKPbc PKPbc 19 27 15.1 0.0
KWP Kalwaria 148.99 330 *e*PKP PKPbc 19 27 15.0 -0.1
KDHN Kadinhani 149.06 305 *i* P PKPbc 19 27 14.6 -0.7
BURAR Bucovina Array 149.14 325 ⇑P PKPbc 19 27 15.9 +0.4
HENT Hendek 149.15 310 *i* P PKPbc 19 27 14.9 -0.6
BSEG Bad Segeberg 149.38 348 *e*PKPbc PKPbc 19 27 15.2 -0.8
BSEG *e*PKPab PKPab 19 27 22.2 -0.9
VRI Vrincioaia 149.38 321 ⇑P PKPbc 19 27 15.7 -0.4
ESKT Eskisehir 149.67 307 *i* P PKPbc 19 27 16.2 -0.5
KOLS Kolonicke sedl 149.69 330 *i* PKP PKPbc 19 27 17.2 +0.4
KOLS *e* 19 27 23.9
OJC Ojcow 149.79 334 *i* PKPd PKPbc 19 27 16.7 -0.3
STHS Stebnicka Huta 149.79 331 *i* PKP PKPbc 19 27 17.3 +0.3
RUE Ruedersdorf 149.91 343 PKPbc PKPbc 19 27 17.2 -0.1
MLR Muntele Rosu 150.05 321 ⇓P PKPbc 19 27 17.7 +0.1
CRVS Cervenica-Dubn 150.08 331 *e*PKP PKPbc 19 27 18.0 +0.3
CRVS *e* 19 27 25.5
NIE Niedzica 150.19 332 *i* PKPd PKPbc 19 27 18.3 +0.3
TKTP Tekketepe 150.55 305 *i* P PKPbc 19 27 18.3 -0.5
KSP Ksiaz 150.57 338 *e*PKP PKPbc 19 27 18.9 +0.1
KSP Ksiaz 150.57 338 ⇓*i*PKPdf PKPbc 19 27 18.8 0.0
KSP *e*PKPab PKPab 19 27 27.5 -0.6
OKC Ostrava-Krasne 150.74 335 ⇑*e*PKPB PKPbc 19 27 17.5 -1.7
OKC *e*PKPAB PKPab 19 27 26.8 -1.9
OKC Ostrava-Krasne 150.74 335 *e*PKIKP PKPbc 19 27 16.5 -2.7
OKC *e* 19 27 25.8
KECS Kecovo 150.82 331 *e*PKP PKPbc 19 27 18.8 -0.6
KECS *e* 19 27 28.4
UPC Upice 150.96 338 ⇑*e*PKPB PKPbc 19 27 19.6 -0.1
UPC *e*PKPAB PKPab 19 27 29.6 -0.1
DPC Dobruska-Polom 150.98 338 ⇑*e*PKPB PKPbc 19 27 19.8 0.0
DPC *e*PKPAB PKPab 19 27 29.7 -0.1
MORC Moravsky Berou 151.02 336 PKPbc PKPbc 19 27 19.3 -0.5
MORC PKPab PKPab 19 27 29.5 -0.4
CLL Collm 151.18 342 *e*PKPbc PKPbc 19 27 19.5 -0.7
CLL *e*PKPab PKPab 19 27 29.7 -0.9
CLL Collm 151.18 342 ⇓*i*PKPbc PKPbc 19 27 19.8 -0.4
comp=Z,75nm,0.8s
CLL ⇑*i*PKPab PKPab 19 27 29.9 -0.7
comp=Z,39nm,1.2s
CLL *i* x x 19 27 40.1
CLL *e*pPKPab pPKPab 19 29 29.0 -1.8
CLL Collm 151.18 342 ⇓*i*PKIKP PKPbc 19 27 19.8 -0.4
CLL *i* 19 27 29.9
CLL pmax pmax
comp=Z,75nm,0.8s
CLL pmax pmax
comp=Z,39nm,1.2s
BRG Berggiesshubel 151.30 341 *e*PKPbc PKPbc 19 27 19.9 -0.6
BRG *e*PKPab PKPab 19 27 30.5 -0.6
BRG Berggiesshubel 151.30 341 *i* PKP PKPdf 19 27 13.6 -0.3
BRG *i* 19 27 20.2
comp=Z,27nm,1.0s
BRG *i* 19 27 27.0
comp=Z,7.8nm,1.1s
BRG *e*pPKP pPKPdf 19 29 27.3 +6.9
comp=Z,4.4nm,1.1s
CLZ Clausthal 151.34 346 *e*PKPbc PKPbc 19 27 19.9 -0.7
CLZ *e*PKPab PKPab 19 27 30.5 -0.8
IBBN Ibbenburen 151.40 350 *e*PKPab PKPab 19 27 30.5 -1.0
PSZ Piszkesteto 151.51 331 PKPbc PKPbc 19 27 20.3 -0.6
PSZ PKPab PKPab 19 27 31.4 -0.6
VYHS Vyhne 151.53 333 *e*PKP PKPbc 19 27 20.1 -0.9
VYHS *e* 19 27 30.3
BTOK Tokmak 151.59 310 *i* P PKPbc 19 27 20.6 -0.5
PRU Pruhonice 151.89 339 ⇑*e*PKPB PKPbc 19 27 21.1 -0.7
PRU *e*PKPAB PKPab 19 27 33.1 -0.5
SMOL Smolenice 152.08 334 *e*PKP PKPbc 19 27 21.9 -0.3
SMOL *e* 19 27 33.0
TANN Tannenbergstha 152.13 342 *e*PKPbc PKPbc 19 27 21.8 -0.6
TANN *e*PKPab PKPab 19 27 33.9 -0.7
MOX Moxa 152.15 344 *e*PKPbc PKPbc 19 27 21.4 -1.0
MOX *e*PKPab PKPab 19 27 33.8 -0.9
MOX Moxa 152.15 344 *e*PKP PKPbc 19 27 21.9 -0.5
comp=Z,17nm,1.2s
MOX *e* 19 27 33.8
TREC Trest 152.16 337 ⇑*e*PKPB PKPbc 19 27 21.9 -0.5
TREC *e*PKPAB PKPab 19 27 34.4 -0.4
NKC Novy Kostel 152.30 342 ⇑*e*PKPB PKPbc 19 27 22.3 -0.4
NKC *e*PKPAB PKPab 19 27 34.3 -1.0
BUG Bochum--Univer 152.32 350 *e*PKPbc PKPbc 19 27 22.0 -0.8
BUG *e*PKPab PKPab 19 27 33.8 -1.6
SRO1 Iza 152.35 332 *e*PKP PKPbc 19 27 22.3 -0.5
UBBA Unterbreizbach 152.38 346 *e*PKPbc PKPbc 19 27 21.9 -1.0
ZST Bratislava 152.47 334 *e*PKP PKPbc 19 27 22.9 -0.2
ZST *e* 19 27 36.0
ROTZ Rotzenmuhle 152.79 342 *e*PKPab PKPab 19 27 37.0 -0.4
RZN Rozhen 152.91 316 *i* P PKPbc 19 27 23.8 -0.2
KHC Kasperske Hory 152.94 340 *e*PKPDF PKPdf 19 27 16.0 -0.3
KHC ⇑*e*PKPB 19 27 23.7
KHC *e*PKPAB PKPab 19 27 37.7 -0.4
GRF Grafenberg Arr 153.12 343 *e*PKPab PKPab 19 27 38.2 -0.7
WET Wettzell 153.15 341 *e*PKPab PKPab 19 27 38.8 -0.2
GEC2 GERESS Array S 153.15 339 *e*PKPbc PKPbc 19 27 24.0 -0.6
GEC2 *e*PKPab PKPab 19 27 38.5 -0.5
GERES GERESS Array B 153.15 339 PKPbc PKPbc 19 27 24.2 -0.4
comp=Z,4.2nm,0.8s,baz=48,slow=2.0,SNR=17
GERES PKPab PKPab 19 27 38.5 -0.5
comp=Z,2.5nm,0.6s,baz=35,slow=4.9,SNR=7.5
TNS Taunus Mts 153.27 347 *e*PKPbc PKPbc 19 27 24.0 -0.8
TNS *e*PKPab PKPab 19 27 38.1 -1.4
MEM Membach 153.32 351 PKPbc PKPbc 19 27 24.1 -0.9
MEM PKPab PKPab 19 27 38.2 -1.5
VTS Vitosha 153.34 319 *e*P PKPbc 19 27 23.0 -2.0
VTS Vitosha 153.34 319 ⇑PKP2 PKPab 19 27 40.3 +0.5
MMB Musomiste 153.59 316 *e*P PKPbc 19 27 24.0 -1.5
SNF Seneffe 153.63 353 PKP PKPdf 19 27 17.1 -0.2
SNF PKPbc PKPbc 19 27 28.0 +2.4
SNF PKPab PKPab 19 27 40.0 -1.0
KKB Krupnik 153.84 318 *i* P PKPbc 19 27 26.0 0.0
GIVF Givet 153.97 352 *e*PKP2 PKPab 19 27 41.1 -1.4
DOU Dourbes 154.01 353 PKPab PKPab 19 27 41.4 -1.2
WLF Walferdange 154.22 350 *e*PKPbc PKPbc 19 27 26.6 -0.2
WLF *e*PKPab PKPab 19 27 42.9 -0.6
WLF Walferdange 154.22 350 PKPbc PKPbc 19 27 26.9 +0.1
WLF PKPab PKPab 19 27 43.7 +0.2
STU Stuttgart 154.48 345 *e*PKPab PKPab 19 27 43.6 -1.1
BFO Black Forest 155.09 346 *e*PKPab PKPab 19 27 46.1 -1.2
BFO Black Forest 155.09 346 *e*PKP2 PKPab 19 27 46.2 -1.1
CDF Champ du Feu 155.23 348 ⇑*i*PKP2 PKPab 19 27 46.8 -1.1
comp=Z,37nm,1.0s
MEZF Maizieres J'vi 155.51 351 ⇑*i*PKP2 PKPab 19 27 48.1 -1.0
comp=Z,58nm,1.0s
FLN La Foliniere 155.63 0 ⇑*i*PKP2 PKPab 19 27 47.7 -1.9
HAU Haudompre 155.79 349 ⇑*i*PKP2 PKPab 19 27 50.1 -0.2
comp=Z,28nm,0.7s
LDF La Druitiere 155.80 360 ⇑*i*PKP2 PKPab 19 27 48.2 -2.1
comp=Z,11nm,0.5s
HINF Hinteralfeld 155.88 348 ⇑*i*PKP2 PKPab 19 27 49.3 -1.4
comp=Z,20nm,0.9s
ROSF Rostrenen 155.95 5 *e*PKP2 PKPab 19 27 49.8 -1.2
GRR Gorron 156.00 1 *e*PKP2 PKPab 19 27 49.3 -1.9
SGMF Saint Gilles 156.08 4 *e*PKP2 PKPab 19 27 49.8 -1.8
LOR Lormes 156.88 353 ⇑*i*PKP2 PKPab 19 27 53.9 -1.1
comp=Z,32nm,1.1s
SSF Saint Saulge 157.12 353 ⇑*i*PKP2 PKPab 19 27 55.0 -1.1
comp=Z,45nm,0.8s
CABF La Chapelle 157.19 348 *e*PKP2 PKPab 19 27 54.7 -1.6
comp=Z,26nm,1.0s
AVF Avril sur Loir 157.41 353 ⇑*i*PKP2 PKPab 19 27 56.1 -1.2
comp=Z,43nm,1.1s
SMF Signal de Mont 157.49 352 ⇑*i*PKP2 PKPab 19 27 56.6 -1.1
comp=Z,61nm,0.9s
BGF Bois d'Agland 157.69 354 *e*PKP2 PKPab 19 27 57.6 -0.9
comp=Z,12nm,0.7s
MFF Saint Martin d 157.79 360 *e*PKP2 PKPab 19 27 57.4 -1.6
TCF Toulx Ste Croi 158.01 355 ⇑*i*PKP2 PKPab 19 27 58.7 -1.2
comp=Z,16nm,1.0s
LPL La Plagne 158.11 346 *e*PKP2 PKPab 19 27 59.5 -0.9
comp=Z,14nm,0.8s
LPG La Plagne 158.12 346 *e*PKP2 PKPab 19 27 59.6 -0.8
comp=Z,38nm,1.1s
MBDF Montbardon 158.85 346 *e*PKP2 PKPab 19 28 02.2 -1.4
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 158.85 348 ⇑*i*PKP2 PKPab 19 28 03.2 -0.4
comp=Z,30nm,0.8s
RJF Les Rejaudoux 159.04 356 *e*PKP2 PKPab 19 28 03.0 -1.4
VIVF Saint-Julien-l 159.13 350 ⇑*i*PKP2 PKPab 19 28 04.2 -0.6
comp=Z,45nm,1.1s
LFF La Frestale 159.44 358 *e*PKP2 PKPab 19 28 04.9 -1.3
SMRF Simiane la Rot 159.82 347 *e*PKP2 PKPab 19 28 06.7 -1.1
comp=Z,33nm,1.2s
FRF La Foret Royal 159.98 345 *e*PKP2 PKPab 19 28 07.5 -1.1
LASF Ste Croix 160.02 351 *e*PKP2 PKPab 19 28 07.4 -1.3
LMR La Mourre 160.23 345 *e*PKP2 PKPab 19 28 07.8 -1.8
comp=Z,17nm,0.8s
MTLF Montolieu 160.94 354 *e*PKP2 PKPab 19 28 12.0 -0.7
comp=Z,27nm,1.2s
SJPF Ste Jean 161.27 2 *e*PKP2 PKPab 19 28 12.5 -1.7
comp=Z,17nm,1.0s
ETSF Etsaut 161.50 0 *e*PKP2 PKPab 19 28 13.8 -1.4
comp=Z,10nm,0.9s
DBIC Dimbokro 161.91 166 PKP PKPdf 19 27 27.8 +0.5
comp=Z,2.5nm,0.9s,baz=42,slow=4.7,SNR=4.5
DBIC PKPab PKPab 19 28 18.0 +1.0
comp=Z,1.8nm,0.6s,baz=169,slow=4.9,SNR=6.0
ESDC Sonseca Array 164.42 10 PKPab PKPab 19 28 27.3 -0.8
comp=Z,3.9nm,0.7s,baz=345,slow=4.1,SNR=8.9
TORD Torodi Ar. Bea 168.69 190 PKP PKPdf 19 27 32.9 0.0
comp=Z,2.6nm,0.9s,baz=348,slow=0.9,SNR=11
TORD PKPab PKPab 19 28 48.4 +1.5
comp=Z,6.6nm,0.8s,baz=175,slow=4.0,SNR=26
TORD PP PP 19 32 38.1 +0.9
comp=Z,1.3nm,0.9s,baz=199,slow=5.1,SNR=4.4

MAN 01 19:41:52.2, 1351N×12014E, h17km, mb2.6, ML4.1, MS2.3, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.25**	**25**	*e*P	Pg		19 41 58.6	+0.9
LUBP				*e*S	Sg		19 42 03.0	+1.4
PGP	**Puerto Galera**	**0.80**	**90**	*e*P	Pb		19 42 07.3	-0.3
TGY	**Tagaytay City**	**0.98**	**53**	⇓*e*P	Pb		19 42 13.6	+2.9
TGY				*i* S	Sb		19 42 25.8	+2.5
BUSP	**Coron**	**1.50**	**178**	*e*P	Pn		19 42 18.4	+0.1
BUSP				*e*S	Sn		19 42 35.1	-2.3
BOAC	**Boac**	**1.66**	**91**	*e*P	Pn		19 42 19.9	-0.7
BOAC				*e*S	Sn		19 42 39.5	-2.0
POLP	**Polilio Island**	**2.13**	**55**	*e*P	Pn		19 42 28.6	+1.6
POLP				*e*S	Sn		19 42 53.9	+0.9
OTRP	**Odiongan**	**2.16**	**122**	*e*P	Pn		19 42 28.6	+1.2
OTRP				*e*S	Sn		19 42 54.9	+1.1
ENPP	**El Nido**	**2.39**	**197**	*e*P	Pn		19 42 31.0	+0.4
ENPP				*e*S	Sn		19 42 57.0	-2.5
CUYO	**Cuyo Island**	**2.78**	**162**	*e*P	Pn		19 42 35.6	-0.3
CUYO				*e*S	Sn		19 43 05.8	-3.2
GUIM	**Jordan**	**3.74**	**140**	*e*P	Pn		19 42 49.9	+0.8
GUIM				*e*S	Sn		19 43 31.3	-1.4
PVCP	**Virac**	**3.91**	**88**	*e*P	Pn		19 42 54.3	+2.9

*FUNV **01** 19:56:47.8, 1066N×6134W, h60km, MW3.7*
*ISCJB **01** 19:56:48.1±0.6, 1048N±003×6157W±004, h71km±7km, Error ellipse: s-maj=8.0km s-min=4.1km az=71.2*
*TRN **01** 19:56:51.0, 1060N×6143W, h37km, MD3.6*
TRN Felt (II) and (III) in some parts of central and northern Trinidad.

ISC 01 19:56:49.7±0.5, 1050N±003×6157W±004, h47km±8km, n30, σ1°02/46, 1C-6D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.22**	**49**	⇓*i*P		**Pn**	**19 56 57.2**	**-0.7**
TRN				*e*S		**Sn**	**19 57 01.5**	**-2.2**
TPP	**Pointe-a-Pierr**	**0.22**	**147**	⇑*i*P		**Pn**	**19 56 58.9**	**+1.0**
TPP				*e*S		**Sn**	**19 57 04.9**	**+1.2**
ALNG	**Atlantic LNG**	**0.34**	**200**	*e*S		**Sn**	**19 57 10.2**	**+4.6**
SIPA	**Siparia**	**0.36**	**170**	*e*P		**Pn**	**19 57 00.2**	**+0.9**
TBH	**Brigand Hill**	**0.50**	**92**	*e*P		**Pn**	**19 57 00.9**	**+0.2**
TBH				*e*S		**Sn**	**19 57 06.2**	**-2.5**
GUIV	**Guiria**	**0.66**	**283**	⇓*i*P		**Pn**	**19 57 03.4**	**+0.6**
TPR	**Prospect**	**1.03**	**49**	⇓*i*P		**Pn**	**19 57 07.7**	**-0.2**
BOT	**Bacolet**	**1.07**	**52**	⇓*i*P		**Pn**	**19 57 08.0**	**-0.3**
GUNV	**Guanoco**	**1.39**	**256**	*e*P		**Pn**	**19 57 14.8**	**+2.1**
GUNV				*e*S		**Sn**	**19 57 33.7**	**+3.8**
CRUV	**Carupano**	**1.65**	**276**	*e*P		**Pn**	**19 57 16.2**	**0.0**
GRW	**Mount Saint Ca**	**1.65**	**357**	*e*P		**Pn**	**19 57 16.9**	**+0.7**
GRHS	**Sauteurs**	**1.71**	**358**	*e*P		**Pn**	**19 57 17.5**	**+0.4**
GRHS				*e*S		**Sn**	**19 57 36.7**	**-1.0**
ITEV	**Isla Los Testi**	**1.75**	**299**	*e*P		**Pn**	**19 57 16.6**	**-0.9**
ITEV				*i* S		**Sn**	**19 57 38.3**	**-0.4**
GRIC	**Isle de Caille**	**1.77**	**360**	*e*P		**Pn**	**19 57 18.4**	**+0.5**
GRSS	**Sisters**	**1.78**	**359**	*e*P		**Pn**	**19 57 18.0**	**-0.1**
GRSS				*e*S		**Sn**	**19 57 39.6**	**+0.1**
GRCU	**Cariacou**	**1.96**	**3**	*e*P		**Pn**	**19 57 20.5**	**0.0**
ORIV	**Oritupano**	**2.31**	**232**	⇓*i*P		**Pn**	**19 57 27.0**	**+1.8**
ORIV				*e*S		**Sn**	**19 57 55.4**	**+3.0**
SVB	**Belmont**	**2.77**	**6**	*e*P		**Pn**	**19 57 32.4**	**+0.9**
SVB				*e*S		**Sn**	**19 58 03.4**	**-0.3**
SVV	**Soufriere Volc**	**2.82**	**7**	*e*P		**Pn**	**19 57 32.8**	**+0.6**
SVV				*e*S		**Sn**	**19 58 04.9**	**-0.1**
SSV	**Crater Summit**	**2.83**	**7**	*e*P		**Pn**	**19 57 33.5**	**+1.1**
SSV				*e*S		**Sn**	**19 58 05.4**	**+0.2**
PCRV	**Puerto La Cruz**	**3.03**	**264**	*e*P		**Pn**	**19 57 35.8**	**+0.6**
PCRV				*e*S		**Sn**	**19 58 09.8**	**-0.5**
GURV	**El Guri**	**3.11**	**209**	*e*P		**Pn**	**19 57 36.4**	**+0.2**
BIM	**Bigot**	**4.02**	**7**	⇓*e*P		**Pn**	**19 57 48.5**	**-0.2**
CUPV	**Cœpira**	**4.17**	**264**	*e*P		**Pn**	**19 57 51.6**	**+0.8**
CUPV				*e*S		**Sn**	**19 58 37.4**	**-0.9**
FDF	**Fort de France**	**4.22**	**6**	*e*P		**Pn**	**19 57 51.1**	**-0.4**
CRM	**Caravelle**	**4.27**	**9**	*e*P		**Pn**	**19 57 52.3**	**+0.1**
LUEV	**Luepa**	**4.63**	**179**	*e*P		**Pn**	**19 57 55.8**	**-1.3**
LUEV				*e*S		**Sn**	**19 58 46.2**	**-3.4**
MERV	**Las Mercedes**	**4.82**	**255**	*e*P		**Pn**	**19 57 59.6**	**-0.1**
MERV				*e*S		**Sn**	**19 58 53.2**	**-1.0**
CAOV	**Caicara del Or**	**5.66**	**236**	*e*S		**Sn**	**19 59 12.5**	**-2.3**
BAUV	**El Baul**	**6.56**	**257**	*e*P		**Pn**	**19 58 22.9**	**-0.7**
BAUV				*e*S		**Sn**	**19 59 33.2**	**-3.9**

*ISCJB **01** 20:04:38.9±1.4, 12S±06×122E±, h0km, mb3.2/4, Error ellipse: s-maj=204.8km s-min=20.6km az=128.5*
*IDC **01** 20:04:40.8±1.4, 1.17S×122.40E, h0km, mb3.1/4, mb1 3.3/4, mb1mx3.3/15, mbtmp3.1/4, Error ellipse: s-maj=152.8km s-min=22.8km az=65.0*

ISC 01 20:04:41.0±1.4, 11S±06×122E±, h0km, n4, σ0°40/4, mb3.2/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.01**	**149**	P		**P**	**20 09 36.6**	**-0.2**
	0.5nm,0.7s,mb3.0,baz=325,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**25.00**	**154**	P		**P**	**20 10 06.7**	**+0.3**
	0.7nm,1.0s,mb3.3,baz=324,slow=9.1,SNR=4.3							
SONM	**Songino Array**	**50.75**	**346**	P		**P**	**20 13 42.8**	**+0.1**
	0.2nm,0.7s,mb3.2,baz=168,slow=9.2,SNR=2.6							
MKAR	**Makanchi Array**	**59.29**	**329**	P		**P**	**20 14 44.4**	**-0.1**
	0.2nm,0.5s,mb3.4,baz=116,slow=7.6,SNR=3.7							

*LDG **01** 20:21:36.9±0.4, 1739S×69.11W, h60km, Mb5.1/16, Ms3.2/1, Error ellipse: s-maj=30.6km s-min=6.2km az=68.0*
*ISCJB **01** 20:21:41.6±0.2, 1831S±004×69.17W±005, h125km, mb5.1/61, Error ellipse: s-maj=7.0km s-min=4.9km az=102.3*
*HRVD **01** 20:21:43.7±0.4, 1822S×69.39W, h141km±3km, MW5.1/69, Centroid moment Tensor Solution. LP body waves: s27,c30;Mantle waves: s69,c108; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.81±.18; $M_{\theta\theta}$-1.90±.18; $M_{\phi\phi}$3.71±.21; $M_{r\theta}$-1.21±.12; $M_{\theta\phi}$-2.50±.18; $M_{\phi r}$-2.74±.17; Best double couple: $M_0$5.02300×10^{16} NP1:ϕ_s119.00000°, δ47.00000°, λ-161.00000°. NP2: ϕ_s16.00000°, δ76.00000°, λ-44.00000°. Principal axes: T 5.3480, Plg18.0000°, Azm74.0000°; N -0.6500, Plg44.0000°, Azm182.0000°; P -4.6980, Plg41.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **01** 20:21:43.7, 1820S×69.00W, h126km, mB5.4*
*IDC **01** 20:21:43.4±0.8, 1826S×69.11W, h126km±6km, mb4.8/16, mb1 4.8/17, mb1mx4.7/22, mbtmp5.2/17, MS3.7/5, Ms1 3.7/5, ms1mx3.4/23, Error ellipse: s-maj=18.2km s-min=13.1km az=49.0*
*NEIC **01** 20:21:43.7±0.2, 1823S×69.03W, mb5.2/47, Error ellipse: s-maj=7.5km s-min=4.4km az=221.0*
NEIC Felt [III] at Tacna and [II] at Arequipa, Peru. Also felt [II] at Arica, Chile.
*MOS **01** 20:21:44.4±0.8, 1750S×68.93W, h119km, mb5.2/23, Error ellipse: s-maj=12.2km s-min=7.3km az=112.3*

ISC 01 20:21:43.6±0.2, 1832S±004×6908W±005, h127km, h127km±2.0km: pP-P, n280, σ0°97/238, mb5.1/61, 4C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.21**	**24**	P		**Pn**	**20 22 23.6**	**+3.6**
	252nm,0.3s,baz=210,slow=7.8,SNR=7949							
LPAZ				S		**Sn**	**20 22 50.2**	**+2.3**
	46nm,0.3s,baz=240,slow=13,SNR=3.5							
LPAZ				LR		LR	20 23 14.5	
	comp=Z,737nm,19.5s,baz=105,slow=42							
LPAZ	**La Paz**	**2.21**	**24**	P		**Pn**	**20 22 23.5**	**+3.5**
ARE	**Arequipa**	**2.95**	**308**	⇑*i*P		**Pn**	**20 22 26.8**	**-2.6**
ARE				*i* S		**Sn**	**20 22 59.3**	**-5.4**
CEN1	**Los Morros**	**5.15**	**192**	⇓*i*P		**Pn**	**20 22 56.5**	**-2.1**
CEN1				*e*S		**Sn**	**20 23 49.7**	**-7.4**
ANCH	**Antofagasta**	**5.48**	**193**	⇓*i*P		**Pn**	**20 22 55.2**	**-7.8**
ANCH				*i* S		**Sn**	**20 23 50.1**	**-15**
CPN1	**Cerro Paranal**	**6.40**	**191**	⇓*i*P		**Pn**	**20 23 10.0**	**-5.3**
CPN1				*e*S		**Sn**	**20 24 14.6**	**-12**
SIV	**San Ignacio**	**8.00**	**74**	P		**Pn**	**20 23 37.2**	**+0.2**
	37nm,0.3s,baz=257,slow=13,SNR=847							
CDCH	**Caldera**	**8.86**	**190**	*e*P		**Pn**	**20 23 40.7**	**-7.9**
CDCH				*i* S		**Sn**	**20 25 10.0**	**-17**
NNA	**Nana**	**9.78**	**309**	Pn		**Pn**	**20 23 56.2**	**-4.8**
NNA				*e*S		Sn	20 25 26.7	-22
CFAA	**Coronel Fontan**	**13.25**	**177**	P		**Pn**	**20 24 41.6**	**-5.1**
	0.3nm,0.3s,baz=4.1,slow=16,SNR=11							
CFAA				S		**Sn**	**20 26 59.4**	**-13**
	0.5nm,0.3s,baz=221,slow=14,SNR=6.4							
CPUP	**Villa Florida**	**13.48**	**128**	Pn		**Pn**	**20 24 48.5**	**-1.2**
BDFB	**Brasilia**	**20.32**	**86**	P		**P**	**20 26 10.2**	**+0.6**
	136nm,0.6s,baz=264,slow=10,SNR=68							
BAO	**Brasilia Array**	**20.35**	**86**	P		**P**	**20 26 14.5**	**+4.7**
OTAV	**Otavalo**	**20.61**	**332**	P		**P**	**20 26 13.3**	**+0.7**
TRQA	**Tornquist**	**20.62**	**164**	P		**P**	**20 26 12.2**	**-0.6**
PLCA	**Paso Flores**	**22.37**	**183**	P		**P**	**20 26 30.9**	**-0.4**
	10nm,0.9s,mb4.1,baz=2.1,slow=12,SNR=22							
PLCA	**Paso Flores**	**22.37**	**183**	P		**P**	**20 26 30.9**	**-0.5**
PLCA				*e**PP			20 26 52.5	
ROSC	**El Rosal**	**23.60**	**347**	P		**P**	**20 26 42.5**	**-0.3**
	11nm,0.3s,mb4.6,baz=98,slow=20,SNR=7.0							
SDV	**Santo Domingo**	**27.07**	**357**	P		**P**	**20 27 12.8**	**-1.3**
	45nm,0.8s,mb5.0,baz=208,slow=6.0,SNR=32							
SDV				LR		LR	20 39 12.1	
	comp=Z,122nm,18.2s,baz=3.6,slow=39							
SDV	**Santo Domingo**	**27.07**	**357**	P		**P**	**20 27 12.2**	**-1.9**
	43nm,0.8s,mb5.0							
JTS	**JuntasAbangare**	**32.46**	**330**	P		**P**	**20 28 02.6**	**+0.9**
	19nm,0.7s,mb4.9,baz=228,slow=2.5,SNR=9.0							
JTS	**JuntasAbangare**	**32.46**	**330**	P		**P**	**20 28 02.8**	**+1.1**
	27nm,0.8s,mb5.0							
JTS	**JuntasAbangare**	**32.46**	**330**	*i* P		**P**	**20 28 03.1**	**+1.4**
RCBR	**Riachuelo**	**34.66**	**73**	P		**P**	**20 28 22.4**	**+1.6**
	47nm,1.0s,mb5.3							
CPD	**Cerro la Pandu**	**36.26**	**5**	*e*P		**P**	**20 28 32.5**	**-2.0**
SJG	**San Juan**	**36.32**	**5**	P		**P**	**20 28 33.3**	**-1.6**
	16nm,0.3s,mb5.4,baz=311,slow=19,SNR=7.1							
SJG	**San Juan**	**36.32**	**5**	P		**P**	**20 28 32.9**	**-2.0**
	50nm,0.9s,mb5.5							
SJG	**San Juan**	**36.32**	**5**	P		**P**	**20 28 32.9**	**-2.0**
SJG				pmax		pmax		
	comp=Z,50nm,0.9s							
TEIG	**Tepich**	**42.68**	**333**	P		**P**	**20 29 27.4**	**-0.3**
SOR	**Soroa**	**43.06**	**341**	*e*P	

MIV	Mineville/With	62.22 356	P	P	20 31 51.9	+0.3
LBNH	Lisbon	62.30 358	P	P	20 31 52.5	+0.3
KSU1	Kansas State U	62.66 336	P	P	20 31 53.3	-1.3
LONY	Lake Ozonia	62.83 356	eP	P	20 31 55.3	-0.4
BNM	Barren Site	63.25 326	P	P	20 31 58.7	+0.2
VNA1	Neumayer--Stat	63.33 161 ⇓	iP	P	20 32 01.7	+2.7
VNA1			e		20 32 17.3	
VNA1			e	pP	20 32 30.4	+0.7
LPM	Los Pinos Moun	63.38 326	P	P	20 31 59.5	+0.2
SADO	Sadowa	63.45 352	P	P	20 31 58.9	-0.9
	comp=Z,16nm,0.6s,mb5.1,baz=193,slow=7.4,SNR=14					
SADO	Sadowa	63.45 352	P	P	20 31 58.9	-0.9
LENM	Lemitar	63.45 325	P	P	20 32 00.3	+0.5
CBKS	Cedar Bluff	63.68 334	P	P	20 32 01.6	+0.3
VNA2	Neumayer--Watz	63.70 161 ⇓	iP	P	20 32 01.8	+0.4
	baz=307,slow=9.8					
VNA2			e		20 32 18.5	
VNA2			e	pP	20 32 33.6	+1.5
VNA2			e		20 32 37.3	
VNA2			e		20 32 45.2	
LAZ	Ladron	63.72 325	eP	P	20 32 02.3	+0.7
ANMO	Albuquerque	63.77 326	P	P	20 32 02.0	+0.1
	comp=Z,27nm,1.2s,mb5.0					
ANMO	Albuquerque	63.77 326	iP	P	20 32 01.7	-0.2
TUC	Tucson	64.25 321	eP	P	20 32 05.0	0.0
	comp=Z,31nm,1.5s,mb4.9					
TUC	Tucson	64.25 321	eP	P	20 32 05.0	-0.1
TUC			pmax	pmax		
	comp=Z,31nm,1.5s,mb4.9					
SNAA	Sanae	65.33 161 ⇓	iP	P	20 32 12.5	+0.5
SNAA			e		20 32 30.3	
SNAA			e	pP	20 32 43.4	+0.5
SDCO	Great Sand Dun	65.44 329	P	P	20 32 13.2	+0.4
WUAZ	Wupatki	66.88 323	P	P	20 32 22.8	+0.8
	comp=Z,72nm,1.1s,mb5.4					
ISCO	Idaho Springs	67.11 330	P	P	20 32 23.9	+0.5
	comp=Z,44nm,1.1s,mb5.2					
ISCO	Idaho Springs	67.11 330	P	P	20 32 23.9	+0.5
ISCO			pmax	pmax		
	comp=Z,44nm,1.1s,mb5.2					
GLA	Glamis	67.22 319	P	P	20 32 23.6	-0.5
SMCO	Snowmass	67.28 329	eP	P	20 32 25.4	+0.9
	comp=Z,31nm,0.9s,mb5.1					
PV01	Paradox Valley	67.29 327	P	P	20 32 25.4	+0.8
PV10	Paradox Valley	67.72 327	eP	P	20 32 26.8	-0.4
DBIC	Dimbokro	68.02 75	P	P	20 32 30.0	+0.9
	comp=Z,41nm,0.7s,mb5.4,baz=228,slow=6.4,SNR=86					
DBIC	Dimbokro	68.02 75	P	P	20 32 29.9	+0.8
BAR	Barrett	68.13 318	P	P	20 32 30.0	+0.2
PHWY	Pilot Hill	68.23 331	P	P	20 32 30.8	+0.4
PFO	Pinyon Flat Ob	68.61 319	P	P	20 32 33.0	+0.2
	comp=Z,152nm,1.1s,mb5.7,SNR=7.8					
PFO	Pinyon Flat Ob	68.61 319	P	P	20 32 33.7	+0.9
	comp=Z,36nm,1.1s,mb5.1					
PFO	Pinyon Flat Ob	68.61 319	P	P	20 32 33.7	+0.9
PFO			pmax	pmax		
	comp=Z,35nm,1.1s,mb5.1					
LDFC	Landfair	68.76 321	eP	P	20 32 35.1	+1.4
NEN	Nelson	68.99 321	eP	P	20 32 35.4	+0.2
RWWY	Rawlins	69.35 330	P	P	20 32 38.2	+0.8
MSU	Marysvale	69.48 325	eP	P	20 32 39.0	+0.8
MVU	Marysvale	69.50 325	P	P	20 32 46.1	+7.9
	comp=Z,61nm,1.1s,mb5.3					
TMUT	Trail Mountain	69.53 326	eP	P	20 32 39.0	+0.5
ARUT	Antelope Range	69.66 324	eP	P	20 32 40.4	+1.1
SHPR	Sheep Range	69.76 322	P	P	20 32 40.9	+1.0
RSSD	Black Hills	69.88 334	P	P	20 32 47.1	+6.5
GSC	Goldstone	69.94 320	P	P	20 32 42.1	+1.1
MWC	Mount Wilson	70.02 318	P	P	20 32 42.0	+0.6
MPU	Maple Canyon	70.28 327	P	P	20 32 44.1	+1.0
DAU	Daniels Canyon	70.38 327	eP	P	20 32 44.4	+0.7
NLU	North Lily Min	70.47 326	eP	P	20 32 42.5	-1.7
TCUT	Toone Canyon	70.97 327	P	P	20 32 48.2	+1.0
DUG	Dugway	71.03 326	P	P	20 32 48.4	+0.7
	comp=Z,49nm,1.1s,mb5.2					
DUG	Dugway	71.03 326	P	P	20 32 48.4	+0.8
DUG			pmax	pmax		
	comp=Z,49nm,1.1s,mb5.2					
DAC	Darwin (Calif)	71.06 320	P	P	20 32 48.5	+0.7
	comp=Z,36nm,1.1s,mb5.1					
DAC	Darwin (Calif)	71.06 320	P	P	20 32 48.6	+0.8
DAC			pmax	pmax		
	comp=Z,36nm,1.1s,mb5.1					
ISA	Isabella	71.20 319	P	P	20 32 49.7	+1.0
	comp=Z,36nm,1.2s,mb5.1					
ISA	Isabella	71.20 319	P	P	20 32 49.7	+1.0
ISA			pmax	pmax		
	comp=Z,36nm,1.2s,mb5.1					
BW06	Boulder Array	71.29 330	P	P	20 32 48.9	-0.3
	comp=Z,37nm,1.3s,mb5.1					
HWUT	Hardware Ranch	71.41 328	P	P	20 32 49.9	0.0
SPUT	South Promonto	71.65 327	P	P	20 32 51.7	+0.4
BGU	Big Grassy Mou	71.67 326	eP	P	20 32 55.7	+4.2
QSPA	South Pole Qui	71.86 180	eP	P	20 32 52.6	0.0
	comp=Z,5.7nm,0.7s,mb4.5					
AHID	Auburn Hatcher	72.04 329	P	P	20 32 54.2	+0.6
	comp=Z,38nm,0.9s,mb5.2					
HVU	Hansel Valley	72.16 327	P	P	20 32 54.5	+0.1
ULM	Lac du Bonnet	72.25 342	P	P	20 32 53.7	-1.2
	comp=Z,17nm,0.4s,mb5.2,baz=152,slow=6.5,SNR=59					
ULM			pP	pP	20 33 24.6	-1.6
	comp=Z,12nm,0.7s,baz=145,slow=6.6,SNR=4.2					
ULM			LR	LR	21 03 47.0	
	comp=Z,83nm,19.6s,baz=88,slow=35					
MTUM	Tungsten Hills	72.36 321	P	P	20 32 56.8	+1.3
REDW	Red Top Meadow	72.36 329	P	P	20 32 56.0	+0.4
SNOW	Snow King Moun	72.39 329	eP	P	20 32 56.1	+0.4
LOHW	Long Hollow	72.43 330	P	P	20 32 56.2	+0.3
MOOW	Moose Ponds	72.60 330	P	P	20 32 57.2	+0.2
ELK	Elko	72.73 325	P	P	20 32 58.2	+0.5
FLWY	Flagg Ranch	72.83 330	eP	P	20 32 59.1	+0.8
	comp=Z,91nm,1.1s,mb5.5					
LAO	LASA Array	72.86 334	P	P	20 32 58.6	+0.1
	comp=Z,70nm,1.2s,mb5.4					
NVAR	Mina Array Bea	72.91 322	P	P	20 32 59.6	+0.8
	comp=Z,16nm,1.0s,mb4.8,baz=141,slow=6.9,SNR=47					
NVAR			LR	LR	21 05 09.7	
	comp=Z,43nm,20.5s,baz=180,slow=36					
NVAR	Mina Array Bea	72.91 322	P	P	20 32 59.6	+0.8
NVAR			LR	LR	21 05 09.7	
LKWY	Lake	73.05 330	P	P	20 33 01.4	+1.8
	comp=Z,54nm,1.1s,mb5.3					
LKWY	Lake	73.05 330	P	P	20 33 01.4	+1.8
LKWY			pmax	pmax		
	comp=Z,54nm,1.1s,mb5.3					
YFT	Old Faithful	73.17 330	P	P	20 33 02.5	+2.2
LRV	Little Rabbit	73.28 318	eP	P	20 33 02.6	+1.6
YMR	Madison River	73.39 330	eP	P	20 33 02.7	+1.0
	comp=Z,99nm,1.2s,mb5.5					
DGMT	Dagmar	73.50 336	P	P	20 33 02.7	+0.4
QLMT	Earthquake Lak	73.73 330	P	P	20 33 05.0	+1.3
CMB	Columbia Colle	73.90 320	P	P	20 33 05.0	+0.4
HLID	Hailey	74.28 328	P	P	20 33 07.8	+1.0
	comp=Z,51nm,1.1s,mb5.2					
MCMT	McKenzie Canyo	74.41 329	eP	P	20 33 08.6	+1.0
BOZ	Bozeman (W)	74.44 331	P	P	20 33 07.9	+0.2
	comp=Z,46nm,1.3s,mb5.0					
BOZ	Bozeman (W)	74.44 331	P	P	20 33 07.9	+0.2
BOZ			pmax	pmax		
	comp=Z,46nm,1.3s,mb5.0					
DLMT	Dillon	74.68 330	eP	P	20 33 09.4	+0.2
	comp=Z,59nm,1.3s,mb5.2					
LRM	Limekiln Ridge	74.95 330	P	P	20 33 11.2	+0.6
HRY	Holter Researc	75.32 331	P	P	20 33 13.8	+0.9
CHMT	Chamberlain Mo	76.13 331	P	P	20 33 18.0	+0.6
MOD	Modoc	76.33 323	P	P	20 33 19.5	+0.9
	comp=Z,64nm,1.2s,mb5.2					
MSO	Missoula	76.39 330	P	P	20 33 20.0	+1.1
TORD	Torodi Ar. Bea	76.46 71	P	P	20 33 19.7	+0.4
	comp=Z,37nm,0.8s,mb5.1,baz=250,slow=5.1,SNR=254					
BMO	Blue Mountains	76.67 327	P	P	20 33 20.7	+0.2
	comp=Z,71nm,1.2s,mb5.3					
BMO	Blue Mountains	76.67 327	P	P	20 33 20.7	+0.3
BMO			pmax	pmax		
	comp=Z,71nm,1.2s,mb5.3					
WDC	Whiskeytown Da	76.80 321	P	P	20 33 19.4	-1.8
BSMT	Bassoo Peak	77.53 330	P	P	20 33 26.0	+0.8
YBH	Yreka Blue Hor	77.61 322	P	P	20 33 24.9	-0.8
	comp=Z,6.6nm,0.9s,mb4.4,baz=178,slow=6.7,SNR=6.9					
FFC	Flin Flon	77.98 341	P	P	20 33 26.0	-1.8
	comp=Z,63nm,0.8s,mb5.4,SNR=6.0					
FFC	Flin Flon	77.98 341	P	P	20 33 26.3	-1.5
FRIS	Frissel Point	78.82 324	P	P	20 33 33.0	+0.7
HAWA	Hanford	78.86 327	P	P	20 33 33.4	+0.8
OD2	Odessa Site #2	79.11 328	P	P	20 33 34.5	+0.6
FCC	Fort Churchill	79.51 347	P	P	20 33 35.6	-0.5
	comp=Z,50nm,1.1s,mb5.3					
FCC	Fort Churchill	79.51 347	P	P	20 33 35.6	-0.5
FCC			pmax	pmax		
	comp=Z,50nm,1.1s,mb5.3					
SYO	Syowa Base	79.53 160 ⇑	epP	pP	20 34 05.3	-2.8
SYO	Syowa Base	79.53 160 ⇑	eP	P	20 33 36.9	+0.7
SYO			⇑epP	pP	20 34 05.3	-2.8
TBM	Table Mountain	79.92 327	P	P	20 33 39.4	+1.1
WTV	Waterville	79.94 328	P	P	20 33 39.0	+0.5
ETW	Entiat	80.07 328	P	P	20 33 39.9	+0.7
RMW	Rattlesnake Mo	80.74 327	P	P	20 33 42.7	0.0
EDM	Edmonton	80.83 335	P	P	20 33 42.2	-1.0
TSUM	Tsumeb	81.12 107	P	P	20 33 46.1	+1.3
TSUM			pP	pP	20 34 19.7	+2.9
RPW	Rockport	81.22 328	P	P	20 33 45.0	-0.3
GNW	Green Mountain	81.34 326	P	P	20 33 46.2	+0.3
CMW	Cultus Mountai	81.52 327	P	P	20 33 46.8	0.0
ESLA	Sonseca Array	83.69 45	P	P	20 34 00.6	+2.5
BOSA	Boshof	85.09 118	P	P	20 34 06.3	+1.2
	comp=Z,2.1nm,0.5s,mb4.3,baz=109,slow=6.3,SNR=6.9					
BBB	Bella Bella	86.86 328	P	P	20 34 13.3	-0.5
	comp=Z,12nm,0.8s,mb4.9,baz=15,slow=12,SNR=4.0					
SJPF	Ste Jean	87.17 43	eP	P	20 34 16.6	+1.3
	comp=Z,13nm,0.9s,mb4.6					
SJPF	Ste Jean	87.17 43	eP	P	20 34 16.6	+1.3
	comp=Z,6.4nm,0.9s,mb4.5					
SJPF	Ste Jean	87.17 43	eP	P	20 34 16.6	+1.3
SJPF			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
ETSF	Etsaut	87.50 43	eP	P	20 34 18.0	+1.1
EPF	Esparros	88.14 43	eP	P	20 34 20.0	0.0
	comp=Z,53nm,1.6s,mb5.0					
EPF	Esparros	88.14 43	eP	P	20 34 20.0	0.0
	comp=Z,27nm,1.6s,mb5.0					
EPF	Esparros	88.14 43	eP	P	20 34 20.0	0.0
EPF			pmax	pmax		
	comp=Z,27nm,1.6s,mb5.0					
YKA	Yellowknife Ar	88.15 341	P	P	20 34 19.4	-0.6
	comp=Z,13nm,0.4s,mb5.3,baz=134,slow=4.8,SNR=321					
YKA			pP	pP	20 34 51.7	-0.8
	comp=Z,5.9nm,0.6s,baz=134,slow=4.8,SNR=4.0					
YKA			LR	LR	21 15 54.9	
	comp=Z,68nm,18.2s,baz=90,slow=37					
YKA	Yellowknife Ar	88.15 341	P	P	20 34 19.4	-0.6
YKA			pP	pP	20 34 51.7	-0.8
YKA			LR	LR	21 15 54.9	
YKA	Yellowknife Ar	88.15 341	P	P	20 34 19.4	-0.6
YKA			*PP	pP	20 34 51.7	-0.8
YKW3	Yellowknife Ar	88.20 341	P	P	20 34 19.0	-1.2
YKW3			epP	pP	20 34 51.6	-1.2
LFF	La Frestale	89.27 42	eP	P	20 34 24.9	-0.3
	comp=Z,24nm,0.7s,mb5.0					
LFF	La Frestale	89.27 42	eP	P	20 34 24.9	-0.3
	comp=Z,12nm,0.7s,mb5.0					
LFF	La Frestale	89.27 42	eP	P	20 34 24.9	-0.3
LFF			pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0					
MTLF	Montolieu	89.51 44	eP	P	20 34 25.9	-0.5
	comp=Z,15nm,1.1s,mb4.8					
MTLF	Montolieu	89.51 44	eP	P	20 34 25.9	-0.5
	comp=Z,7.3nm,1.0s,mb4.8					
MTLF	Montolieu	89.51 44	eP	P	20 34 25.9	-0.5
MTLF			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8					
GRR	Gorron	89.88 38	eP	P	20 34 27.0	-1.1
	comp=Z,37nm,0.9s,mb5.2					
GRR	Gorron	89.88 38	eP	P	20 34 27.0	-1.1
	comp=Z,19nm,0.9s,mb5.2					
GRR	Gorron	89.88 38	eP	P	20 34 27.0	-1.1
GRR			pmax	pmax		
	comp=Z,19nm,0.9s,mb5.2					
RJF	Les Rejaudoux	89.92 42	eP	P	20 34 27.8	-0.5
	comp=Z,26nm,1.2s,mb4.9					
RJF	Les Rejaudoux	89.92 42	eP	P	20 34 27.8	-0.5
	comp=Z,13nm,1.2s,mb4.9					
RJF	Les Rejaudoux	89.92 42	eP	P	20 34 27.8	-0.5
RJF			pmax	pmax		
	comp=Z,13nm,1.2s,mb4.9					
CAF	Calviac	90.10 42	eP	P	20 34 28.8	-0.3
	comp=Z,9.7nm,0.8s,mb4.7					
CAF	Calviac	90.10 42	eP	P	20 34 28.8	-0.3
	comp=Z,4.8nm,0.8s,mb4.7					
CAF	Calviac	90.10 42	eP	P	20 34 28.8	-0.3
CAF			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7					
FLN	La Foliniere	90.28 38	eP	P	20 34 29.0	-1.0
LDF	La Druitiere	90.41 38	eP	P	20 34 29.5	-1.1
TCF	Toulx Ste Croi	90.79 41	eP	P	20 34 31.6	-0.7
	comp=Z,18nm,1.1s,mb4.8					
TCF	Toulx Ste Croi	90.79 41	eP	P	20 34 31.6	-0.7
	comp=Z,8.8nm,1.1s,mb4.8					
TCF	Toulx Ste Croi	90.79 41	eP	P	20 34 31.6	-0.7
TCF			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8					
LASF	Ste Croix	90.90 44	eP	P	20 34 32.7	-0.1
	comp=Z,21nm,1.1s,mb4.9					
SSF	Saint Saulge	91.93 41	eP	P	20 34 36.5	-1.1
	comp=Z,11nm,1.1s,mb4.7					
SSF	Saint Saulge	91.93 41	eP	P	20 34 36.5	-1.1
	comp=Z,5.5nm,1.1s,mb4.7					
SSF	Saint Saulge	91.93 41	eP	P	20 34 36.5	-1.1
SSF			pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.7					
LOR	Lormes	92.23 41	eP	P	20 34 37.9	-1.1
ORIF	Oris-en-Rattie	92.56 43	eP	P	20 34 40.5	0.0
	comp=Z,17nm,1.0s,mb5.0					
ORIF	Oris-en-Rattie	92.56 43	eP	P	20 34 40.5	0.0
	comp=Z,8.6nm,1.0s,mb5.0					
ORIF	Oris-en-Rattie	92.56 43	eP	P	20 34 40.5	0.0
ORIF			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0					
SUMG	Summit	92.96 9	P	P	20 34 43.1	+0.7
	comp=Z,26nm,1.0s,mb5.5					
SBF	Sospel	93.18 45	eP	P	20 34 43.4	0.0
	comp=Z,87nm,1.0s,mb5.7					
SBF	Sospel	93.18 45	eP	P	20 34 43.4	0.0
	comp=Z,44nm,1.0s,mb5.7					
SBF	Sospel	93.18 45	eP	P	20 34 43.4	0.0
SBF			pmax	pmax		
	comp=Z,44nm,1.0s,mb5.7					
LPL	La Plagne	93.35 43	eP	P	20 34 44.0	-0.2
LPG	La Plagne	93.36 43	eP	P	20 34 43.7	-0.5
	comp=Z,9.6nm,0.9s,mb4.8					
LPG	La Plagne	93.36 43	eP	P	20 34 43.7	-0.5
	comp=Z,4.8nm,0.9s,mb4.8					
LPG	La Plagne	93.36 43	eP	P	20 34 43.7	-0.5
LPG			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8					
MEZF	Maizieres J'vi	93.47 40	eP	P	20 34 43.9	-0.8
RES	Resolute Bay	94.24 353	P	P	20 34 47.9	-0.3
HINF	Hinteralfeld	94.31 41	eP	P	20 34 47.7	-0.9
INK	Inuvik	97.91 340	P	P	20 35 03.8	-1.1
	comp=Z,1.4nm,0.5s,mb4.7,baz=114,slow=7.5,SNR=6.6					
ILAR	Eielson Array	101.32 335	P	Pdif	20 35 19.9	-0.2
	comp=Z,0.3nm,0.5s,baz=122,slow=4.9,SNR=5.2					
ILAR			PP	PP	20 39 19.1	-12
	comp=Z,1.2nm,1.1s,baz=93,slow=6.8,SNR=4.6					
STKA	Stephens Creek	122.07 211	PKP	PKPdf	20 40 21.4	-1.7
	comp=Z,1.4nm,0.6s,baz=160,slow=4.2,SNR=6.3					
TIXI	Tiksi	125.63 353	PKPdf	PKPdf	20 40 28.8	-1.1
TIXI	Tiksi	125.63 353	iPKIKP	PKPdf	20 40 29.4	-0.5
SEY	Seymchan	127.12 338	iPKIKP	PKPdf	20 40 33.3	+0.6
AB31	Akbulak array	128.90 41	iPKIKP	PKPdf	20 40 36.9	+0.8
AB31			pmax	pmax		
	comp=Z,6.0nm,0.8s					
ZRNK	Zerenda	132.57 33	PKPdf	PKPdf	20 40 44.2	+1.2
ASAR	Alice Springs	132.62 209	PKhKP		20 40 34.5	
	comp=Z,0.3nm,0.4s,baz=124,slow=1.4,SNR=7.1					
ASAR			PKP	PKPdf	20 40 43.3	+0.1
	comp=Z,1.8nm,0.6s,baz=139,slow=1.9,SNR=18					
YAK	Yakutsk	134.39 348	iPKIKP	PKPdf	20 40 48.1	+1.6
WRA	Warramunga Arr	135.57 212	PKhKP		20 40 35.7	
	comp=Z,0.7nm,0.8s,baz=183,slow=1.8,SNR=9.9					
WRA			PKP	PKPdf	20 40 49.5	+0.8
	comp=Z,3.4nm,0.6s,baz=151,slow=1.5,SNR=23					
WRA			pPKP	pPKPdf	20 41 23.0	+0.2
	comp=Z,1.9nm,0.8s,baz=155,slow=1.7,SNR=3.9					
NVS	Novosibirsk	137.85 24	iPKIKP	PKPdf	20 40 53.4	+0.5
KURK	Kurchatov	138.73 31	PKPdf	PKPdf	20 40 55.5	+1.0
KURK	Kurchatov	138.73 31	iPKIKP	PKPdf	20 40 55.8	+1.3
BOD	Bodaibo	140.49 357	ePKHKP		20 40 49.3	
BOD			pmax	pmax		
	comp=Z,3.0nm,1.9s					
AAK	Ala-Archa	140.80 44	ePKPdf	PKPdf	20 40 59.2	+0.9
AAK	Ala-Archa	140.80 44	iPKIKP	PKPdf	20 40 59.4	+1.1
MKAR	Makanchi Array	143.12 33	PKhKP		20 40 58.2	
	comp=Z,0.8nm,0.5s,baz=343,slow=3.8,SNR=17					
MKAR			pPKP	pPKPdf	20 41 37.0	+0.5
	comp=Z,1.3nm,0.7s,baz=336,slow=2.7,SNR=3.1					
MKAR			SKPbc	SKPbc	20 44 28.5	-0.5
	comp=Z,0.4nm,0.6s,baz=289,slow=2.9,SNR=5.3					
MKAR	Makanchi Array	143.12 33	PKP		20 40 58.2	
MKAR			pPKP	pPKPdf	20 41 37.0	+0.5
MKAR			SKPbc	SKPbc	20 44 28.5	-0.5
KLR	Kul'dur	144.88 336 ⇑	iPKHKP		20 41 02.2	
KLR			pmax	pmax		
	comp=E,20nm,1.2s					
KLR			pmax	pmax		
	comp=Z,64nm,1.2s					
MOY	Mondy	145.81 11	ePKIKP	PKPdf	20 41 08.9	+1.8
MOY			pmax	pmax		
	comp=Z,45nm,2.0s					
ZAK	Zakamensk	147.43 9	ePKIKP	PKPdf	20 41 11.3	+1.5
ZAK			pmax	pmax		
	comp=Z,24nm,1.5s					
NDI	New Delhi	147.52 65	eP	PKPdf	20 41 10.0	0.0
WMQ	Urumqi	147.93 33	ePKP	PKPdf	20 41 10.3	-0.3
HIA	Hailar	148.31 349	ePKPdf	PKPdf	20 41 11.3	0.0
HYB	Hyderabad	149.20 87	iPKP	PKPbc	20 41 18.0	+0.9
HYB			e		20 41 31.0	
HYB			epPKP	pPKPdf	20 41 54.0	+7.2
HYB	Hyderabad	149.20 87	ePKIKP	PKPbc	20 41 18.0	+0.9
HYB			e		20 41 54.0	
MDJ	Mudanjiang	149.47 333	PKP	PKPdf	20 41 16.8	+3.7
MDJ	Mudanjiang	149.47 333	ePKPdf	PKPdf	20 41 14.8	+1.6
VLA	Vladivostok	149.57 329	ePKIKP	PKPdf	20 41 15.2	+1.9
VLA			i		20 41 22.1	
VLA			pmax	pmax		
	comp=Z,34nm,1.6s					
MJAR	Matsushiro Arr	149.89 313	PKPbc	PKPbc	20 41 19.2	+0.4
	comp=Z,13nm,0.9s,baz=197,slow=0.4,SNR=12					
MAT	Matsushiro	149.89 313	PKP	PKPdf	20 41 17.4	+3.6
SONM	Songino Array	150.33 6	PKP	PKPdf	20 41 15.3	+0.8
	comp=Z,14nm,0.8s,baz=225,slow=0.6,SNR=87					
SONM			PKPbc	PKPbc	20 41 20.5	+0.6
	comp=Z,14nm,0.8s,baz=334,slow=1.8,SNR=160					
SONM			pPKPbc	pPKPbc	20 41 54.4	+0.7
	comp=Z,5.4nm,0.9s,baz=329,slow=2.2,SNR=2.8					
ULN	Ulaanbaatar	150.36 5	ePKPdf	PKPdf	20 41 15.6	+1.1
ULN			ePKPbc	PKPbc	20 41 20.4	+0.5
CN2	Changchun	151.80 337	ePKP	PKPdf	20 41 20.5	+3.8
CN2			PKP2	PKPab	20 41 38.2	+5.6
CN2			XPKP		20 42 00.3	
KOLN	Koldanda	153.21 64	eP	PKPab	20 41 41.6	+3.0
GKN	Gorkha	154.03 63	eP	PKPab	20 41 43.6	+1.5
	comp=Z,16nm,0.4s					
DMN	Daman	154.54 64	eP	PKPab	20 41 44.1	-0.1
KKN	Kakani	154.64 64	eP	PKPab	20 41 43.9	-0.8
GUN	Gumba	155.11 63	eP	PKPab	20 41 45.7	-1.0
	comp=Z,14nm,0.6s					
JIRN	Jiri	155.45 63	eP	PKPab	20 41 46.1	-2.0
	comp=Z,5.8nm,0.5s					
GTA	Gaotai	156.88 22	ePKP	PKPdf	20 41 25.4	+1.6
GTA			APKP		20 41 54.8	
GTA			XPKP		20 42 08.1	
HHC	Hu-ho-hao-te	157.54 359	ePKP	PKPdf	20 41 23.1	-1.5
HHC			PKS		20 44 55.5	
HHC			PP	PP	20 45 38.7	+2.1
HHC			SKS	SKSdf	20 48 11.3	-7.5
HHC			SS	SS	21 05 17.6	-4.9
HHC			LR	LR		
	comp=N,186nm,4.5s					
HHC			LR	LR		
	comp=E,244nm,4.9s					
HHC			LR	LR		
	comp=Z,95nm,7.4s					
LSA	Lhasa	158.72 54	ePKPdf	PKPdf	20 41 28.1	+2.0
SSE	Sheshan	164.24 326	PKP	PKPdf	20 41 34.1	+2.3
NJ2	Nanjing	164.56 334	ePKP	PKPdf	20 41 35.2	+3.1
NJ2			APKP		20 42 02.1	
NJ2			PKP2	PKPab	20 42 32.7	+4.9
NJ2			PKS		20 45 07.0	
NJ2			PP	PP	20 46 20.0	+5.8
NJ2			PP	PP		
	comp=Z,180nm,4.8s					
NJ2			LR	LR		
	comp=N,510nm,27.8s					
NJ2			LR	LR		
	comp=E,420nm,28.2s					
NJ2			LR	LR		
	comp=Z,400nm,25.1s					
CD2	Chengdu	165.88 26	ePKP	PKPdf	20 41 36.2	+3.0
CD2			APKP		20 42 02.9	
CD2			PP	PP	20 46 26.0	+5.0
CD2			PP	PP		
	comp=Z,80nm,6.8s					
CD2			LR	LR		
	comp=Z,130nm,9.6s					
ENH	Enshi	168.03 6	ePKPdf	PKPdf	20 41 35.9	+1.0
GYA	Guiyang	171.00 25	PKP	PKPdf	20 41 38.0	+1.4
GYA			APKP		20 42 05.0	
GYA			PKP2	PKPab	20 42 55.7	-0.6
GYA			PP	PP	20 46 46.3	-0.6
GYA			PP	PP		
	comp=Z,110nm,7.8s					

*IDC **01** 20:22:13.6±3.1, 4052N±2021E, h0km, mb3.1/4, mb1 3.4/5, mb1mx3.2/18, mbtmp3.2/5, ML3.3/1, Error ellipse: s-maj=67.9km s-min=20.8km az=43.0*
*ISCJB **01** 20:22:14.9±0.4, 4044N±002×2001E±002, h1km±3km, mb3.2/3, Error ellipse: s-maj=2.9km s-min=2.3km az=84.4*
*CSEM **01** 20:22:15.1±0.1,

KZN	**Kozani**	**1.35**	**95**	*e*PB	**Pb**	**20 22 40.5**	**-1.1**
KZN				*e*SN	**Sn**	**20 23 00.0**	**-0.1**
LCI	**Lecce**	**1.46**	**266**	Pn	**Pn**	**20 22 42.4**	**-0.7**
SAMO	**Samokov**	**1.51**	**34**	*e*Pn	**Pn**	**20 22 42.9**	**-0.9**
SAMO				*i*		20 22 43.5	
SAMO				*i*		20 22 45.4	
SAMO				*i* Sn	**Sn**	**20 23 05.2**	**+1.0**
PUK	**Puka**	**1.60**	**357**	*i* Pn	**Pn**	**20 22 45.6**	**+0.5**
PUK				*i* Sn	**Sn**	**20 23 09.1**	**+2.7**
ULC	**Ulcinj**	**1.63**	**339** ⇑	*i* Pn	**Pn**	**20 22 45.2**	**-0.2**
ULC				*e*Sn	**Sn**	**20 23 08.6**	**+1.5**
SKO	**Skopje**	**1.87**	**35**	*e*Pb	**Pb**	**20 22 49.8**	**-0.7**
SKO				*e*Sb	**Sb**	**20 23 15.1**	**+0.7**
SKO	**Skopje**	**1.87**	**35**	*e*Pn	**Pn**	**20 22 49.7**	**+1.0**
SKO				*e*Sg	**Sg**	**20 23 15.2**	**-0.4**
SKO				*e*Lg		20 23 15.6	
	comp=N,253nm,0.4s						
SKO				*e*Lg		20 23 15.7	
	comp=E,242nm,0.5s						
SKO	**Skopje**	**1.87**	**35**	*e*Pn	**Pn**	**20 22 49.7**	**+1.0**
SKO				*e*Sg	**Sg**	**20 23 15.2**	**-0.4**
GRG	**Griva**	**1.88**	**73**	*e*Pb	**Pb**	**20 22 49.1**	**-1.7**
GRG				*e*Sb	**Sb**	**20 23 13.4**	**-1.5**
LIT	**Litokhoron**	**1.92**	**99**	*e*Pb	**Pb**	**20 22 49.4**	**-2.1**
LIT				*e*Sb	**Sb**	**20 23 14.7**	**-1.2**
LIT	**Litokhoron**	**1.92**	**99**	*e*Pb	**Pb**	**20 22 49.3**	**-2.1**
LIT				*e*Sb	**Sb**	**20 23 14.7**	**-1.2**
BCI	**Bajram Curri**	**1.93**	**1**	*i* pn?	**Sn**	**20 23 16.4**	**+2.0**
PE1	**Pezze di Greco**	**2.01**	**281**	*e*Pn	**Pn**	**20 22 49.7**	**-1.0**
BUM	**Brajici-Budva**	**2.04**	**336** ⇑	*i* Pn	**Pn**	**20 22 50.8**	**-0.3**
BUM				*e*Sn	**Sn**	**20 23 18.6**	**+1.4**
EVR	**Evrytania**	**2.06**	**137**	*e*PN	**Pn**	**20 22 51.0**	**-0.3**
EVR	**Evrytania**	**2.06**	**137**	*e*Pn	**Pn**	**20 22 53.0**	**+1.7**
TTG	**Podgorica**	**2.07**	**344** ⇑	*i* Pn	**Pn**	**20 22 51.4**	**0.0**
TTG				*e*Sn	**Sn**	**20 23 19.6**	**+1.7**
VAY	**Valandovo**	**2.13**	**65**	*e*Pn	**Pn**	**20 22 51.5**	**-0.8**
VAY				*e*Sg	**Sg**	**20 23 20.6**	**-3.4**
VAY				*e*Lg		20 23 21.2	
	comp=E,102nm,0.8s						
VAY				*e*Lg		20 23 22.8	
	comp=N,82nm,0.6s						
VAY	**Valandovo**	**2.13**	**65**	*e*Sg	**Sg**	**20 23 20.5**	**-3.4**
PVY	**Plav**	**2.15**	**359** ⇑	*i* Pn	**Pn**	**20 22 52.9**	**+0.3**
PVY				*e*Sn	**Sn**	**20 23 21.5**	**+1.5**
BRT	**Bari-Castellan**	**2.19**	**282**	Pn	**Pn**	**20 22 52.8**	**-0.3**
THE	**Thessaloniki**	**2.25**	**84**	*e*Pn	**Pn**	**20 22 53.7**	**-0.4**
THE				*e*Sn	**Sn**	**20 23 22.6**	**+0.1**
THE	**Thessaloniki**	**2.25**	**84**	*e*Sn	**Sn**	**20 23 22.6**	**+0.1**
AGG	**Agios Georgios**	**2.28**	**128**	*e*Pn	**Pn**	**20 22 55.9**	**+1.5**
AGG				*e*Sn	**Sn**	**20 23 24.7**	**+1.7**
AGG	**Agios Georgios**	**2.28**	**128**	*e*Pn	**Pn**	**20 22 55.8**	**+1.5**
AGG				*e*Sn	**Sn**	**20 23 24.7**	**+1.6**
KNT	**Kendrikon**	**2.30**	**71**	*e*Pn	**Pn**	**20 22 54.8**	**+0.1**
KNT				*e*Sn	**Sn**	**20 23 24.3**	**+0.7**
KNT	**Kendrikon**	**2.30**	**71**	*e*Sn	**Sn**	**20 23 24.3**	**+0.6**
VLS	**Valsamata**	**2.30**	**169**	*e*PN	**Pn**	**20 22 54.3**	**-0.4**
HCY	**Herceg Novi**	**2.31**	**331** ⇑	*i* Pn	**Pn**	**20 22 54.6**	**-0.2**
HCY				*e*Sn	**Sn**	**20 23 25.2**	**+1.4**
IVA	**Berane**	**2.43**	**358** ⇑	*i* Pn	**Pn**	**20 22 56.6**	**+0.2**
IVA				*e*Sn	**Sn**	**20 23 27.8**	**+0.9**
BAI	**Bari**	**2.48**	**287**	*e*Pn	**Pn**	**20 22 55.9**	**-1.2**
NKY	**Niksic**	**2.49**	**342** ⇑	*i* Pn	**Pn**	**20 22 57.0**	**-0.2**
NKY				*e*Sn	**Sn**	**20 23 29.5**	**+1.1**
NKY	**Niksic**	**2.49**	**342** ⇑	*i* Pn	**Pn**	**20 22 57.0**	**-0.3**
NKY				*e*Sn	**Sn**	**20 23 29.5**	**+1.2**
SG1	**Sgolgore (BA)**	**2.57**	**280**	*e*Pn	**Pn**	**20 22 57.4**	**-1.0**
PLG	**Polygyros**	**2.62**	**90**	*e*PN	**Pn**	**20 22 59.0**	**0.0**
PLG	**Polygyros**	**2.62**	**90**	*e*Pb	**Pb**	**20 22 59.4**	**-3.9**
RLS	**Riolos of Patr**	**2.63**	**154**	*e*PN	**Pn**	**20 22 59.4**	**+0.2**
XOR	**Xorichti**	**2.67**	**113**	*e*Pn	**Pn**	**20 23 00.8**	**+1.1**
XOR				*e*Sn	**Sn**	**20 23 33.7**	**+1.0**
XOR	**Xorichti**	**2.67**	**113**	*e*Sn	**Sn**	**20 23 33.7**	**+1.0**
BRY	**Bratogost**	**2.69**	**336** ⇑	*i* Pn	**Pn**	**20 22 60.0**	**-0.1**
BRY				*e*Sn	**Sn**	**20 23 34.3**	**+0.9**
NEO	**Neokhori**	**2.71**	**114**	*e*PN	**Pn**	**20 23 01.2**	**+0.8**
NEO	**Neokhori**	**2.71**	**114**	*e*Pb	**Pb**	**20 23 01.4**	**-3.6**
SRS	**Serrai**	**2.80**	**75**	*e*Pn	**Pn**	**20 23 00.8**	**-0.7**
SRS				*e*Sn	**Sn**	**20 23 35.8**	**-0.2**
SRS	**Serrai**	**2.80**	**75**	*e*Sn	**Sn**	**20 23 35.8**	**-0.1**
PAIG	**Paliouri**	**2.85**	**99**	*e*Pn	**Pn**	**20 23 02.4**	**+0.1**
PAIG				*e*Sn	**Sn**	**20 23 37.0**	**-0.3**
PAIG	**Paliouri**	**2.85**	**99**	*e*Sn	**Sn**	**20 23 37.0**	**-0.2**
UPM	**Unac-Piva**	**2.88**	**344** ⇑	*i* Pn	**Pn**	**20 23 02.8**	**+0.1**
UPM				*e*Sn	**Sn**	**20 23 39.1**	**+1.1**
CDT	**Castel del Mon**	**2.92**	**284**	*e*Pn	**Pn**	**20 23 02.2**	**-0.9**
LKR	**Lokris**	**2.92**	**127**	*e*PN	**Pn**	**20 23 03.8**	**+0.7**
PLE	**Pljevlja**	**2.92**	**351** ⇑	*i* Pn	**Pn**	**20 23 03.8**	**+0.5**
PLE				*e*Sn	**Sn**	**20 23 40.1**	**+1.1**
STON	**Ston**	**2.99**	**325**	*i* Pn	**Pn**	**20 23 02.3**	**-1.8**
STON				*i* Sn	**Sn**	**20 23 37.3**	**-3.3**
STON	**Ston**	**2.99**	**325**	*i* Pn	**Pn**	**20 23 02.3**	**-1.8**
STON				*i* Sn	**Sn**	**20 23 37.2**	**-3.4**
OUR	**Ouranopolis**	**3.03**	**91**	*e*Pn	**Pn**	**20 23 05.0**	**+0.3**
OUR				*e*Sn	**Sn**	**20 23 41.5**	**-0.2**
OUR	**Ouranopolis**	**3.03**	**91**	*e*Sn	**Sn**	**20 23 41.5**	**-0.1**
NVR	**Nevrokopi**	**3.05**	**71**	*e*PN	**Pn**	**20 23 05.6**	**+0.6**
FGMS	**Monte Sant'Ang**	**3.32**	**294**	Pn	**Pn**	**20 23 07.9**	**-0.8**
GRUS	**Gruza**	**3.48**	**8**	*e*Pn	**Pn**	**20 23 09.3**	**-1.6**
DIVS	**Divcibare**	**3.66**	**360**	*i* Pn	**Pn**	**20 23 12.9**	**-0.4**
DIVS				Sg	**Sn**	**20 23 56.0**	**-1.0**
DIVS	**Divcibare**	**3.66**	**360**	*e*Pn	**Pn**	**20 23 14.0**	**+0.7**
DIVS	**Divcibare**	**3.66**	**360**	*e*Pn	**Pn**	**20 23 14.0**	**+0.7**
DIVS				Sg	**Sn**	**20 23 56.0**	**-1.1**
FG5	**Orsara di Pugl**	**3.70**	**285**	Pn	**Pn**	**20 23 14.8**	**+0.9**
CII	**Carovilli**	**4.50**	**288**	Pn	**Pn**	**20 23 25.7**	**+0.7**
NRCA	**Norcia**	**5.70**	**297**	Pn	**Pn**	**20 23 41.1**	**-0.3**
BOJS	**Bojanci**	**6.15**	**327**	*i* Pn	**Pn**	**20 23 46.9**	**-0.7**
BOJS				*i* Sn	**Sn**	**20 24 53.9**	**-4.7**
BOJS	**Bojanci**	**6.15**	**327**	Pn	**Pn**	**20 23 46.8**	**-0.8**
BOJS				*i* Sn	**Sn**	**20 24 53.9**	**-4.7**
KNDS	**Knezji Dol**	**6.55**	**323**	*e*Pn	**Pn**	**20 23 51.7**	**-1.4**
PERS	**Pernice**	**7.14**	**332**	*i* Pn	**Pn**	**20 24 00.4**	**-0.8**
PERS				*e*Sn	**Sn**	**20 25 16.6**	**-6.4**
ROBS	**Robic**	**7.49**	**323**	*e*Pn	**Pn**	**20 24 04.6**	**-1.4**
ROBS				*e*Sn	**Sn**	**20 25 27.1**	**-4.5**
KECS	**Kecovo**	**8.05**	**2**	*e*SN	**Pn**	**20 24 18.4**	**+4.7**
GERES	**GERESS Array B**	**9.53**	**334**	Pn	**Pn**	**20 24 33.2**	**-0.8**
	comp=N,0.1nm,0.3s,baz=158,slow=14,SNR=2.8						
GERES				Sn	**Sn**	**20 26 19.5**	**-2.2**
	comp=N,0.1nm,0.3s,baz=152,slow=23,SNR=3.6						
NOA	**NORSAR Array B**	**21.33**	**348**	P	**P**	**20 27 00.1**	**-3.9**
	comp=N,1.1nm,0.8s,mb3.3,baz=158,slow=9.6,SNR=2.5						
FINES	**FINESS Array B**	**21.36**	**8**	P	**P**	**20 26 59.8**	**-4.5**
	comp=N,1.2nm,0.9s,mb3.2,baz=188,slow=9.4,SNR=4.5						
MKAR	**Makanchi Array**	**44.48**	**60**	P	**P**	**20 30 25.8**	**-2.7**
	comp=N,0.1nm,0.3s,mb3.0,baz=283,slow=7.8,SNR=5.2						
YKA	**Yellowknife Ar**	**71.14**	**340**	P	**P**	**20 33 33.5**	**-2.3**
	comp=N,0.0nm,0.3s,baz=36,slow=5.7,SNR=4.2						

IDC 01 20:43:13.9±1.7, 191S×14967E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, ML2.9/1, Error ellipse: s-maj=102.0km s-min=25.3km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.85**	**198**	Pn	Pn	20 45 09.3	0.0
	0.9nm,0.3s,baz=0.0,slow=9.1,SNR=2.8						
WRA	**Warramunga Arr**	**23.36**	**219**	P	P	20 48 23.8	-0.2
	2.3nm,0.6s,baz=42,slow=10,SNR=36						
ASAR	**Alice Springs**	**26.47**	**214**	P	P	20 48 53.0	+0.3
	1.2nm,0.9s,baz=43,slow=7.6,SNR=8.2						
ILAR	**Eielson Array**	**80.70**	**23**	P	P	20 55 28.3	-0.6
	0.6nm,0.9s,baz=258,slow=5.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**146.40**	**291**	PKPbc	PKPbc	21 02 58.1	+1.3
	0.2nm,0.5s,baz=53,slow=3.5,SNR=2.7						

*ISCJB **01** 20:48:33.9±0.3, 4937N×686E±003, h0km, Error ellipse: s-maj=2.5km s-min=2.0km az=28.0*
*CSEM **01** 20:48:35.6±0.1, 4939N×692E, h1km, ML2.6/11, Error ellipse: s-maj=1.6km s-min=1.1km az=105.0*
*BGR **01** 20:48:35.5±0.4, 4936N×686E, h1km, ML2.0/2, Error ellipse: s-maj=7.8km s-min=4.4km az=33.0*
*LDG **01** 20:48:35.7±0.1, 4938N×689E, h1km, Md2.6/1, Ml2.7/9, Error ellipse: s-maj=2.1km s-min=1.6km az=108.0, Suspected Mining induced.*
*NEIC **01** 20:48:35.1, 4939N×685E, h1km, ML2.3(STR), ML2.7(LDG), After STR.*

*BNS **01** 20:48:37.7±0.9, 4944N×699E, h1km, ML1.8*

ISC 01 20:48:34.8±0.3, 4937N±001×686E±003, h0km, n48, σ1§02/91, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.35**	**22**	*e*Pg	**Pg**	**20 48 42.0**	**+0.4**
RUP				*e*Sg	**Sg**	**20 48 46.3**	**+0.1**
RUP	**Ruppelstein**	**0.35**	**22**	Pg	**Pg**	**20 48 42.1**	**+0.5**
WLF	**Walferdange**	**0.54**	**303**	*e*Pg	**Pg**	**20 48 46.5**	**+1.3**
	SNR=4.3						
WLF				*e*Sg	**Sg**	**20 48 52.2**	**-0.1**
WLF	**Walferdange**	**0.54**	**303**	*e*P	**Sg**	**20 48 46.4**	**+1.1**
ABH	**Alteburg**	**0.68**	**41**	Pg	**Pg**	**20 48 47.7**	**-0.1**
LANF	**Langenberg**	**0.74**	**122**	Pg	**Pg**	**20 48 48.9**	**0.0**
LANF				*e*Sg	**Sg**	**20 48 57.9**	**-0.6**
	19nm,0.3s						
BGG	**Burgeitz**	**0.89**	**20**	*e*Pg	**Pg**	**20 48 53.1**	**+1.3**
BGG				*e*Sg	**Sg**	**20 49 03.9**	**+0.5**
	21nm,0.5s						
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn	**Pn**	**20 48 54.9**	**-1.2**
CDF				*e*Sg	**Sg**	**20 49 06.9**	**-0.1**
	15nm,0.3s						
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn	**Pn**	**20 48 54.9**	**-1.2**
CDF				*e*Sg	**Sg**	**20 49 06.9**	**-0.1**
	7.4nm,0.3s						
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg	**Pg**	**20 48 53.8**	**-0.2**
CDF				*e*Pn	**Pn**	**20 48 54.9**	**-1.2**
CDF				*e*Sg	**Sg**	**20 49 06.9**	**-0.1**
WLS	**Welschbruch**	**1.01**	**161**	Pg	**Pg**	**20 48 55.2**	**+0.9**
WLS				Sg	**Sg**	**20 49 09.0**	**+1.6**
ECH	**Echery**	**1.18**	**170**	Pg	**Pg**	**20 48 58.1**	**+0.8**
ECH				Sg	**Sg**	**20 49 13.9**	**+1.3**
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**20 48 58.0**	**+0.6**
RFYF				*e*Sg	**Sg**	**20 49 14.0**	**+1.4**
	15nm,0.2s						
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**20 48 58.0**	**+0.6**
RFYF				*e*Sg	**Sg**	**20 49 14.0**	**+1.4**
	7.7nm,0.2s						
STB	**Steinbach**	**1.22**	**359**	*e*Pg	**Pg**	**20 48 59.0**	**+0.8**
STB				*e*Sg	**Sg**	**20 49 15.6**	**+1.5**
	11nm,0.6s						
THEF	**They Montfort**	**1.28**	**207**	*e*Pg	**Pg**	**20 48 59.3**	**-0.1**
THEF				Sg	**Sg**	**20 49 16.8**	**+0.7**
THEF	**They Montfort**	**1.28**	**207**	Pg	**Pg**	**20 48 58.9**	**-0.5**
THEF				Sg	**Sg**	**20 49 16.8**	**+0.7**
TOD	**Tromm**	**1.29**	**79**	Pg	**Pg**	**20 48 59.1**	**-0.4**
TOD				Sg	**Sg**	**20 49 16.9**	**+0.6**
KLL	**Kalltalsperre**	**1.32**	**345**	*e*Pg	**Pg**	**20 49 00.6**	**+0.5**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**20 49 00.3**	**-0.1**
	SNR=3.8						
TNS				*e*Sg	**Sg**	**20 49 18.0**	**+0.2**
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**20 49 02.9**	**+1.1**
HAU				*e*Sg	**Sg**	**20 49 21.0**	**+0.9**
	23nm,0.4s						
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**20 49 02.9**	**+1.1**
HAU				*e*Sg	**Sg**	**20 49 21.0**	**+0.9**
	11nm,0.4s						
HAU	**Haudompre**	**1.41**	**194**	*e*Pn	**Pn**	**20 49 01.4**	**-0.3**
HAU				*e*Pg	**Pg**	**20 49 02.9**	**+1.1**
HAU				*e*Sg	**Sg**	**20 49 21.0**	**+0.9**
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**20 49 02.4**	**+0.3**
	SNR=4.1						
BFO				*e*Sg	**Sg**	**20 49 19.8**	**-0.9**
BFO	**Black Forest**	**1.43**	**136**	*e*P	**Pn**	**20 49 00.0**	**-2.0**
BFO				*e*S	**Sg**	**20 49 20.9**	**+0.2**
BFO	**Black Forest**	**1.43**	**136**	*e*P	**Pn**	**20 49 00.0**	**-1.9**
BFO				*e*S	**Sg**	**20 49 20.9**	**+0.2**
MEZF	**Maizieres J'vi**	**1.48**	**234**	*e*Pn	**Pn**	**20 49 02.4**	**-0.2**
	baz=50						
MEZF	**Maizieres J'vi**	**1.48**	**234**	*e*Pg	**Pg**	**20 49 04.5**	**+1.4**
	baz=56						
MEZF				*e*Sg	**Sg**	**20 49 24.1**	**+1.9**
	7.9nm,0.3s						
MEZF	**Maizieres J'vi**	**1.48**	**234**	*e*Pg	**Pg**	**20 49 04.5**	**+1.4**
MEZF				*e*Sg	**Sg**	**20 49 24.1**	**+1.9**
	4.0nm,0.3s						
MEZF	**Maizieres J'vi**	**1.48**	**234**	*e*Pn	**Pn**	**20 49 02.4**	**-0.2**
MEZF				*e*Pg	**Pg**	**20 49 04.5**	**+1.4**
MEZF				*e*Sg	**Sg**	**20 49 24.1**	**+1.9**
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**20 49 04.1**	**+0.4**
GIVF				*e*Sg	**Sg**	**20 49 23.6**	**+0.3**
	14nm,0.4s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**20 49 04.1**	**+0.4**
GIVF				*e*Sg	**Sg**	**20 49 23.6**	**+0.3**
	6.9nm,0.4s						
GIVF	**Givet**	**1.51**	**300**	*e*Pn	**Pn**	**20 49 01.4**	**-1.7**
GIVF				*e*Pg	**Pg**	**20 49 04.1**	**+0.4**
GIVF				*e*Sg	**Sg**	**20 49 23.6**	**+0.3**
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**20 49 04.3**	**+0.1**
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	**20 49 04.5**	**-0.2**
HINF				*e*Sg	**Sg**	**20 49 25.0**	**+0.1**
	28nm,0.4s						
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	**20 49 04.5**	**-0.2**
HINF				*e*Sg	**Sg**	**20 49 25.0**	**+0.1**
	14nm,0.4s						
HOBG	**Hohbusch**	**1.64**	**11**	*e*Pg	**Pg**	**20 49 05.7**	**-0.5**
HOBG				*e*Sg	**Sg**	**20 49 25.6**	**-1.9**
	27nm,1.0s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pg	**Pg**	**20 49 07.3**	**+0.3**
	baz=41						
SFTF				*e*Sg	**Sg**	**20 49 29.8**	**+1.1**
	9.7nm,0.4s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pg	**Pg**	**20 49 07.3**	**+0.3**
SFTF				*e*Sg	**Sg**	**20 49 29.8**	**+1.1**
	4.8nm,0.4s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	**Pn**	**20 49 04.7**	**-0.7**
SFTF				*e*Pg	**Pg**	**20 49 07.3**	**+0.3**
SFTF				*e*Sg	**Sg**	**20 49 29.8**	**+1.1**
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn	**Pn**	**20 49 20.3**	**-0.7**
LOR	**Lormes**	**2.91**	**225**	*e*Pn	**Pn**	**20 49 21.0**	**-1.3**
	baz=49						
LOR				*e*Sn	**Sn**	**20 49 56.4**	**-1.5**
SSF	**Saint Saulge**	**3.22**	**225**	*e*Pn	**Pn**	**20 49 25.0**	**-1.6**
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	**Pn**	**20 49 27.4**	**-1.7**
AVF	**Avril sur Loir**	**3.49**	**224**	*e*Pn	**Pn**	**20 49 28.1**	**-2.3**
AVF				*e*Sn	**Sn**	**20 50 10.2**	**-2.2**
BGF	**Bois d'Agland**	**3.90**	**225**	*e*Sn	**Sn**	**20 50 19.5**	**-2.9**
BGF				*e*Sg	**Sg**	**20 50 39.7**	**-0.4**
	11nm,0.5s						
BGF	**Bois d'Agland**	**3.90**	**225**	*e*Sn	**Sn**	**20 50 19.5**	**-2.9**
BGF				*e*Sg	**Sg**	**20 50 39.7**	**-0.4**
	5.4nm,0.5s						
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**20 49 44.8**	**+0.2**
	SNR=6.1						

*PRU **01** 20:57:40.8, 5032N×1877E, h0km*
*NEIC **01** 20:57:41.3±1.3, 5017N×1884E, h5km, MG2.6(WAR), Error ellipse: s-maj=20.4km s-min=7.2km az=178.0*
*VIE **01** 20:57:43.6±0.8, 5000N×1868E, h0km, mb1.8/2, ML2.1/3, Error ellipse: s-maj=6.6km s-min=4.8km az=157.0 36 km ENE of Ostrava Suspected Mining induced.*

WAR 01 20:57:40.4, 5027N×1885E, ML2.5, 1C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.46**	**247**	*e*Pg	Pg	20 57 50.0	+0.8
RAC				*e*Sg	Sg	20 57 56.8	+1.6
OJC	**Ojcow**	**0.61**	**94**	*e*Pgd	Pg	20 57 52.3	+0.2
OJC				*e*Sg	Sg	20 58 00.7	+0.7
OKC	**Ostrava-Krasne**	**0.62**	**227**	*e*PG	Pg	20 57 51.0	-1.4
OKC				*e*SG	Sg	20 58 02.1	+1.6
	49nm,1.1s						
MORC	**Moravsky Berou**	**0.98**	**240**	*e*P	Pg	20 57 58.4	-0.8
MORC				*e*S	Sg	20 58 10.1	-1.7
NIE	**Niedzica**	**1.27**	**131**	*e*Pg	Pg	20 58 04.7	0.0
NIE				*e*Sg	Sg	20 58 22.8	+1.6
DPC	**Dobruska-Polom**	**1.62**	**274**	*e*PG	Pg	20 58 09.1	-2.5
DPC				*e*SG	Sg	20 58 30.1	-2.5
	14nm,0.8s						
KSP	**Ksiaz**	**1.73**	**290**	*e*Pg	Pg	20 58 12.5	-1.1
KSP				*e*Sg	Sg	20 58 35.3	-0.8
STHS	**Stebnicka Huta**	**1.77**	**118**	*e*PN	Pn	20 58 13.6	+1.4
STHS				*e*SN	Sn	20 58 39.0	+3.6
VYHS	**Vyhne**	**1.77**	**180**	*e*PN	Pn	20 58 11.2	-1.1
VYHS				*e*SN	Sn	20 58 35.6	0.0
UPC	**Upice**	**1.83**	**279**	*e*SG	Sg	20 58 37.4	-2.0
KECS	**Kecovo**	**2.08**	**149**	*e*PN	Pn	20 58 15.0	-1.5
KECS				*e*SN	Sn	20 58 41.5	-1.6
KECS	**Kecovo**	**2.08**	**149**	*e*Pn	Pn	20 58 15.0	-1.5
KECS				*e*Sn	Sn	20 58 41.5	-1.6
KECS				*e*		21 28 37.4	
CRVS	**Cervenica-Dubn**	**2.18**	**128**	*e*PN	Pn	20 58 20.8	+2.9
CRVS				*e*SN	Sn	20 58 48.3	+2.7
KOLS	**Kolonicke sedl**	**2.59**	**120**	*e*	Pn	20 58 31.6	+8.0
KOLS				*e*		20 58 54.2	
BRG	**Berggiesshubel**	**3.19**	**283**	SG	Sg	20 59 21.2	-1.6
	4.5nm,0.1s						
KHC	**Kasperske Hory**	**3.61**	**254**	*e*PG	Pg	20 58 48.5	-1.1
KHC				*e*SG	Sg	20 59 33.4	-2.9
MOA	**Molln**	**3.87**	**233** ⇓	*i* Pn	Pn	20 58 40.9	-0.2
MOA				⇑ *i* Sg	Sg	20 59 41.6	-3.0
	1.6nm,0.4s						

IDC 01 21:08:56.6±2.2, 2270S×17155E, h0km, mb4.0/4, mb1 4.2/5, mb1mx4.1/11, mbtmp4.0/5, ML3.7/1, MS4.0/14, Ms1 4.0/14, ms1mx3.7/30, Error ellipse: s-maj=92.7km s-min=28.2km az=166.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.77**	**277**	Pn	Pn	21 10 11.6	+2.0
	3.3nm,0.3s,baz=317,slow=17,SNR=34						
DZM				Sn	Sn	21 11 06.9	+1.3
	2.8nm,0.3s,baz=0.0,slow=20,SNR=3.0						
RAO	**Raoul Island**	**11.50**	**127**	LR	LR	21 14 22.6	
	comp=Z,146nm,18.7s,baz=63,slow=28						
URZ	**Urewera**	**16.23**	**164**	LR	LR	21 17 29.3	
	comp=Z,716nm,19.9s,baz=338,slow=32						
AFI	**Afiamalu**	**18.07**	**64**	LR	LR	21 18 37.5	
	comp=Z,220nm,19.3s,baz=29,slow=32						
RPZ	**Rata Peaks**	**20.96**	**181**	LR	LR	21 20 26.6	
	comp=Z,305nm,19.7s,baz=28,slow=33						
PMG	**Port Moresby**	**26.85**	**296**	LR	LR	21 24 01.6	
	comp=Z,160nm,18.9s,baz=194,slow=34						
STKA	**Stephens Creek**	**28.07**	**245**	LR	LR	21 24 43.1	
	comp=Z,203nm,20.3s,baz=213,slow=34						
ASAR	**Alice Springs**	**34.55**	**261**	P	P	21 15 47.1	+0.3
	1.1nm,0.7s,baz=84,slow=8.8,SNR=8.9						
WRA	**Warramunga Arr**	**34.72**	**267**	P	P	21 15 47.8	-0.4
	0.4nm,0.4s,baz=100,slow=8.3,SNR=7.4						
PPT	**Papeete**	**36.78**	**89**	eLR	LR	21 26 07.0	
	61nm,22.5s						
PPT	**Papeete**	**36.78**	**89**	LR	LR	21 27 30.4	
	comp=Z,116nm,20.1s,baz=43,slow=30						
VNDA	**Vanda**	**55.07**	**183**	LR	LR	21 38 18.7	
	comp=Z,214nm,19.2s,baz=311,slow=32						
ASAJ	**Asahikawa**	**71.59**	**338**	LR	LR	21 45 02.7	
	comp=Z,85nm,22.0s,baz=313,slow=30						
MAW	**Mawson**	**76.05**	**202**	LR	LR	21 51 40.5	
	comp=Z,175nm,18.1s,baz=245,slow=34						
YBH	**Yreka Blue Hor**	**88.31**	**43**	LR	LR	21 50 36.0	
	comp=Z,110nm,20.2s,baz=165,slow=28						
NVAR	**Mina Array Bea**	**89.50**	**48**	P	P	21 21 56.5	+0.9
	1.5nm,1.1s,baz=219,slow=6.9,SNR=4.2						
NVAR				LR	LR	21 55 54.9	
	comp=Z,59nm,21.2s,baz=0.0,slow=32						
SONM	**Songino Array**	**91.27**	**322**	P	P	21 22 03.6	-0.3
	2.3nm,1.1s,baz=123,slow=3.9,SNR=10						
ILAR	**Eielson Array**	**92.90**	**17

comp=N,244nm,0.7s
PYA Pyatigorsk 1.53 350 Pg **Pg 21 16 37.8 -0.7**
PYA Sg **Sg 21 16 58.7 +0.4**
ARTV Artvin 1.75 220 *i* P **Pn 21 16 40.9 +1.2**
ARTV *i* S **Sn 21 17 02.4 +0.3**
GOF Gofitskoye 2.54 354 *e*PN **Pn 21 16 59.0 +8.5**
GOF *i* S **Sn 21 17 29.6 +8.1**
GOF pmax pmax
comp=Z,40nm,1.0s
GOF smax
comp=N,90nm,0.6s
GOF smax
comp=E,210nm,0.6s
ERZM Erzurum 3.05 211 *i* P **Pn 21 17 04.3 +6.7**
ERZM *i* S **Sn 21 17 44.6 +10**

*IDC **01** 21:27:28.4±1.1, 1361N×11964E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/15, Error ellipse: s-maj=20.6km s-min=16.0km az=160.0*
*ISCJB **01** 21:27:33.3±1.1, 1331N±004×12009E±008, h5km±8km, mb3.5/4, MS3.4/1, Error ellipse: s-maj=14.3km s-min=5.4km az=45.4*
*MAN **01** 21:27:34.7, 1338N×120.16E, h8km, mb2.7, ML4.2, MS1.6*
ISC 01 21:27:34.0±0.9, 1330N±004×12010E±008, h4km±6km, n17, σ1°00/23, mb3.5/4, MS3.4/1, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.45**	**18**	*e*P	**Pg**	**21 27 42.5**	**-0.1**
LUBP				*e*S	**Sg**	**21 27 47.6**	**-0.9**
PGP	**Puerto Galera**	**0.85**	**76**	*e*P	**Pg**	**21 27 49.6**	**-0.7**
TGY	**Tagaytay City**	**1.14**	**46**	Pg	**Pg**	**21 27 55.8**	**0.0**
	411nm,0.3s,baz=213,slow=2.2,SNR=22						
TGY				Lg		21 28 10.6	
	190nm,0.3s,baz=154,slow=23,SNR=14						
BUSP	**Coron**	**1.30**	**176**	*e*P	**Pg**	**21 27 59.8**	**+0.9**
BUSP				*e*S	**Sg**	**21 28 16.6**	**+1.0**
BOAC	**Boac**	**1.70**	**85**	*e*P	**Pn**	**21 28 03.2**	**-1.2**
BOAC				*e*S	**Sn**	**21 28 26.5**	**-0.1**
OTRP	**Odiongan**	**2.09**	**116**	*e*P	**Pn**	**21 28 10.5**	**+0.7**
OTRP				*e*S	**Sn**	**21 28 41.1**	**+4.9**
ENPP	**El Nido**	**2.19**	**198**	*e*P	**Pn**	**21 28 12.4**	**+1.3**
ENPP				*e*S	**Sn**	**21 28 37.5**	**-1.1**
POLP	**Polilio Island**	**2.28**	**51**	*e*P	**Pn**	**21 28 11.9**	**-0.4**
POLP				*e*S	**Sn**	**21 28 44.2**	**+3.4**
CUYO	**Cuyo Island**	**2.60**	**160**	*e*P	**Pn**	**21 28 16.1**	**-0.6**
CUYO	**Cuyo Island**	**2.60**	**160**	*e*P	**Pn**	**21 28 16.1**	**-0.6**
BALP	**Baler**	**2.81**	**30**	*e*P	**Pn**	**21 28 21.4**	**+1.8**
BALP				*e*S	**Sn**	**21 28 55.0**	**+1.0**
GUIM	**Jordan**	**3.61**	**137**	*e*P	**Pn**	**21 28 30.2**	**-0.4**
GUIM				*e*S	Sn	21 28 52.6	-21
MJAR	**Matsushiro Arr**	**28.27**	**32**	LR	LR	21 43 58.8	
	comp=Z,103nm,20.1s,MS3.4,baz=155,slow=35						
WRA	**Warramunga Arr**	**35.88**	**157**	P	**P**	**21 34 33.6**	**-1.4**
	0.4nm,0.4s,mb3.7,baz=332,slow=11,SNR=11						
SONM	**Songino Array**	**36.27**	**344**	P	**P**	**21 34 29.0**	**-9.4**
	0.2nm,0.8s,mb3.1,baz=172,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**39.14**	**160**	P	**P**	**21 35 01.9**	**-0.7**
	0.4nm,0.6s,mb3.4,baz=345,slow=7.3,SNR=5.9						
MKAR	**Makanchi Array**	**46.01**	**324**	P	**P**	**21 35 50.2**	**-8.2**
	0.4nm,0.5s,mb3.6,baz=158,slow=5.9,SNR=7.0						

*ATH **01** 21:27:39.9, 3802N×2202E, h5km±4km, MD3.5/19, ML3.4*
*ISCJB **01** 21:27:40.1±0.3, 3803N±002×2207E±003, h5km, Error ellipse: s-maj=3.2km s-min=2.6km az=120.1*
*CSEM **01** 21:27:40.6±0.1, 3802N×2204E, h0km, ML3.4, Error ellipse: s-maj=2.5km s-min=1.5km az=81.0*
*NEIC **01** 21:27:40.4, 3802N×2202E, h7km, ML3.4(ATH), ML3.5(THE), After ATH,*
*THE **01** 21:27:43.0, 38.10N×2239E, h10km, ML3.2*
ISC 01 21:27:40.7±0.4, 3802N±002×2208E±003, h1km±4km, n46, σ1°05/64, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.49**	**275**	⇑*i*PB	**Pg**	**21 27 48.6**	**-1.5**
RLS				*e*SB	**Sg**	**21 27 55.7**	**-0.7**
ITM	**Ithomi**	**0.84**	**188**	*e*PB	**Pg**	**21 27 56.1**	**-0.8**
ITM				*e*SB	**Sg**	**21 28 09.2**	**+1.4**
ITM	**Ithomi**	**0.84**	**188**	*e*Pb	**Pg**	**21 27 55.5**	**-1.4**
ITM				*e*Sb	**Sg**	**21 28 09.2**	**+1.4**
EVR	**Evrytania**	**0.92**	**347**	*e*PB	**Pg**	**21 27 57.7**	**-0.7**
MGER	**Gerania Oros**	**0.93**	**92**	*e*PN	**Pg**	**21 27 59.0**	**+0.4**
MGER	**Gerania Oros**	**0.93**	**92**	*e*Pn	**Pn**	**21 28 00.5**	**-0.4**
LKR	**Lokris**	**0.96**	**48**	*e*PG	**Pg**	**21 27 58.6**	**-0.5**
LKR				*e*SB	**Sg**	**21 28 13.5**	**+1.9**
AGG	**Agios Georgios**	**1.02**	**11**	*e*Pg	**Pg**	**21 27 59.6**	**-0.7**
AGG				*e*Sg	**Sg**	**21 28 13.6**	**0.0**
NAIG	**Nisos Aigina**	**1.14**	**103**	*e*PB	**Pb**	**21 28 03.0**	**-0.2**
VLS	**Valsamata**	**1.19**	**278**	*e*PG	**Pg**	**21 28 01.2**	**-2.3**
VLS	**Valsamata**	**1.19**	**278**	*e*Pg	**Pg**	**21 28 01.0**	**-2.5**
ATH	**Athens Observa**	**1.29**	**91**	*e*PB	**Pg**	**21 28 06.1**	**+0.6**
ATH				*e*SB	**Sg**	**21 28 23.2**	**+1.0**
MPAR	**Parnis Oros**	**1.31**	**84**	*e*PG	**Pg**	**21 28 05.2**	**-0.7**
KVR	**Kavouri**	**1.35**	**98**	*e*PB	**Pb**	**21 28 07.0**	**+0.3**
PTL	**Penteli**	**1.41**	**88**	*e*PB	**Pb**	**21 28 08.0**	**+0.2**
PTL	**Penteli**	**1.41**	**88**	*e*Pg	**Pg**	**21 28 08.7**	**+1.0**
VLI	**Veliai**	**1.46**	**152**	*e*PG	**Pg**	**21 28 08.0**	**-0.8**
VLI				*e*SB	**Sb**	**21 28 28.9**	**+1.1**
NEO	**Neokhori**	**1.57**	**34**	*e*PG	**Pn**	**21 28 09.3**	**-0.4**
XOR	**Xorichti**	**1.60**	**32**	*e*Pg	**Pn**	**21 28 09.8**	**-0.3**
XOR				*e*Sg	**Sn**	**21 28 29.9**	**-1.6**
MEV	**Metsovon**	**1.89**	**340**	*e*Pb	**Pg**	**21 28 16.1**	**-0.8**
MEV				*e*Sb	**Sg**	**21 28 42.0**	**+0.7**
MEV	**Metsovon**	**1.89**	**340**	*e*Pb	**Pg**	**21 28 16.1**	**-0.8**
MEV				*e*Sb	**Sg**	**21 28 42.0**	**+0.6**
KYTH	**Kithira**	**1.89**	**156**	*e*PN	**Pg**	**21 28 16.0**	**-1.0**
JAN	**Janina**	**1.90**	**330**	*e*PN	**Pg**	**21 28 16.0**	**-1.1**
JAN	**Janina**	**1.90**	**330**	*e*Pg	**Pg**	**21 28 16.8**	**-0.3**
IGT	**Igoumenitsa**	**2.04**	**318**	*e*Pn	**Pg**	**21 28 19.9**	**0.0**
IGT				*e*Sn	**Sg**	**21 28 48.1**	**+1.9**
LIT	**Litokhoron**	**2.11**	**9**	*e*Pn	**Pn**	**21 28 16.4**	**-0.6**
LIT				*e*Sn	**Sn**	**21 28 44.1**	**+0.2**
PAIG	**Paliouri**	**2.28**	**33**	*e*Pn	**Pn**	**21 28 18.7**	**-0.7**
PAIG				*e*Sn	**Sn**	**21 28 46.7**	**-1.5**
KZN	**Kozani**	**2.30**	**354**	*e*PG	**Pn**	**21 28 22.3**	**+2.6**
KEK	**Kerkira**	**2.46**	**314**	*e*PN	**Pn**	**21 28 22.8**	**+0.9**
SRN	**Sarande**	**2.47**	**320**	*e*Pn	**Pn**	**21 28 23.2**	**+1.1**
PLG	**Polygyros**	**2.58**	**24**	*e*PN	**Pn**	**21 28 25.0**	**+1.4**
PLG	**Polygyros**	**2.58**	**24**	*e*Pn	**Pn**	**21 28 22.9**	**-0.7**
THE	**Thessaloniki**	**2.70**	**14**	*e*Pn	**Pn**	**21 28 24.8**	**-0.4**
OUR	**Ouranopolis**	**2.75**	**32**	*e*Pn	**Pn**	**21 28 25.4**	**-0.4**
OUR				*e*Sn	**Sn**	**21 28 57.3**	**-2.3**
FNA	**Florina**	**2.82**	**349**	*e*Pn	**Pn**	**21 28 28.0**	**+1.2**
FNA				*e*Sn	**Sn**	**21 29 04.3**	**+2.9**
APE	**Apeiranthos**	**2.90**	**108**	*e*Pn	**Pn**	**21 28 27.8**	**-0.1**
APE				*e*Sn	**Sn**	**21 29 01.4**	**-2.0**
GRG	**Griva**	**2.95**	**5**	*e*Pn	**Pn**	**21 28 29.4**	**+0.7**
VAM	**Vamos**	**3.11**	**146**	*e*PB	**Pn**	**21 28 32.5**	**+1.6**
VAM	**Vamos**	**3.11**	**146**	*e*Pn	**Pn**	**21 28 31.9**	**+1.0**
KNT	**Kendrikon**	**3.20**	**11**	*e*Pn	**Pn**	**21 28 32.2**	**+0.1**
KNT				*e*Sn	**Sn**	**21 29 11.0**	**0.0**
SRS	**Serrai**	**3.31**	**20**	*e*Pn	**Pn**	**21 28 33.5**	**-0.1**
SRS				*e*Sn	**Sn**	**21 29 13.5**	**-0.1**
VAY	**Valandovo**	**3.32**	**6**	*e*Pn	**Pn**	**21 28 34.1**	**+0.3**
VAY	**Valandovo**	**3.32**	**6**	*e*Pn	**Pn**	**21 28 34.0**	**+0.2**
NVR	**Nevrokopi**	**3.60**	**22**	*e*Pn	**Pn**	**21 28 37.5**	**-0.1**
TIR	**Tirane**	**3.74**	**333**	*e*Pn	**Pn**	**21 28 42.4**	**+2.9**
LAST	**Lasithi**	**3.95**	**135**	*e*Pn	**Pn**	**21 28 43.0**	**+0.6**

IDC 01 21:42:36.5±1.8, 1417N×14567E, h104km±15km, mb3.2/6, mb1 3.5/6, mb1mx3.3/17, mbtmp3.6/6, MS3.8/1, Ms1 3.8/1, ms1mx2.7/12, Error ellipse: s-maj=39.6km s-min=25.1km az=98.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.96**	**234**	P	Pn	21 42 58.4	+1.6
	241nm,0.3s,baz=47,slow=1.1,SNR=60						
GUMO				S	Sn	21 43 12.5	+0.4
	467nm,0.3s,baz=357,slow=23,SNR=77						
CTA	**Charters Tower**	**34.04**	**179**	LR	LR	22 02 19.3	
	comp=Z,134nm,19.4s,baz=50,slow=35						
WRA	**Warramunga Arr**	**35.68**	**198**	P	P	21 49 25.1	+0.5
	0.2nm,0.6s,baz=21,slow=9.2,SNR=3.8						
SONM	**Songino Array**	**46.72**	**324**	P	P	21 50 56.1	+1.2
	0.2nm,0.4s,baz=145,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**61.62**	**316**	P	P	21 52 43.7	+0.7
	0.1nm,0.4s,baz=89,slow=8.7,SNR=5.6						
ILAR	**Eielson Array**	**67.72**	**25**	P	P	21 53 21.9	-0.8
	0.5nm,0.5s,baz=252,slow=5.6,SNR=5.7						
YKA	**Yellowknife Ar**	**81.99**	**28**	P	P	21 54 45.0	+0.2
	0.2nm,0.5s,baz=287,slow=5.4,SNR=5.6						
FINES	**FINESS Array B**	**90.97**	**335**	P	P	21 55 26.9	-1.9
	0.6nm,0.4s,baz=90,slow=5.3,SNR=8.5						

MAN 01 21:51:46.5, 1315N×12045E, h2km, mb2.6, ML4.1, MS1.5, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.60**	**54**	*e*P	Pg	21 51 58.4	+0.4
LUBP	**Lubang**	**0.61**	**341**	*e*P	Pg	21 51 50.4	-7.9
LUBP				*e*S	Sg	21 51 54.9	-11
BUSP	**Coron**	**1.17**	**192**	*e*P	Pg	21 52 08.9	0.0
BUSP				*e*S	Sg	21 52 26.6	+2.6
BOAC	**Boac**	**1.39**	**77**	*e*P	Pn	21 52 04.6	-8.3
OTRP	**Odiongan**	**1.72**	**117**	*e*P	Pn	21 52 19.6	+2.2
OTRP				*e*S	Sn	21 52 49.6	+10
CUYO	**Cuyo Island**	**2.35**	**166**	*e*P	Pn	21 52 26.4	+0.2
CUYO				*e*S	Sn	21 52 56.9	+1.3
BALP	**Baler**	**2.79**	**23**	*e*P	Pn	21 52 33.1	+0.9

*ISCJB **01** 22:06:03.6±0.7, 109N±0.1×9183E±008, h26km, mb4.0/12, Error ellipse: s-maj=19.3km s-min=8.1km az=57.2*
*MOS **01** 22:06:05.0±1.3, 1091N×9208E, h33km, mb4.7/3, Error ellipse: s-maj=29.2km s-min=16.2km az=114.6*
*NEIC **01** 22:06:06.9±0.6, 11.10N×9212E, mb4.9/2, Error ellipse: s-maj=14.8km s-min=10.0km az=204.0*
*IDC **01** 22:06:06.5±2.3, 1107N×9202E, h26km±4km, mb3.6/7, mb1 3.8/7, mb1mx3.6/20, mbtmp3.8/7, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=56.0km s-min=28.7km az=144.0*
*BJI **01** 22:06:11.0, 11.13N×9237E, h17km, mB4.9, mb4.3*
ISC 01 22:06:06.7±0.7, 110N±01×9192E±008, h28km, h28km±4km: pP-P, n27, σ1°24/31, mb4.0/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.04**	**51**	*e*P	Px	22 06 36.5	
PBA				*e*S	Sx	22 06 49.1	
PBA				*ex*	x	22 06 51.3	
	comp=N,12μm,0.3s						
PBA				*ex*	x	22 06 51.9	
	comp=E,12μm,0.5s						
KULM	**Kulim**	**10.33**	**123**	Pn	**Pn**	**22 08 33.5**	**+0.6**
VIS	**Vishakhapatnam**	**10.68**	**310**	*e*P	**Pn**	**22 08 36.4**	**-1.4**
VIS				AMb	AMB	22 08 45.5	
	comp=Z,45nm,0.7s						
VIS				*e*S	**Sn**	**22 10 25.7**	**-11**
PSI	**Prapat**	**10.70**	**139**	LR	LR	22 13 48.8	
	comp=Z,104nm,19.5s,baz=204,slow=43						
PALK	**Pallekele**	**11.68**	**253**	*e*Pn	**Pn**	**22 08 55.2**	**+3.8**
	comp=Z,6.6nm,0.7s						
PALK				*e*Sn	**Sn**	**22 10 54.8**	**-5.9**
BOK	**Bokaro**	**13.97**	**336**	*e*P	**Pn**	**22 09 28.5**	**+5.7**
BOK				AMb	AMB	22 09 29.4	
	comp=Z,6.2nm,0.8s						
BOK				*e*S	**Sn**	**22 11 46.3**	**-11**
HYB	**Hyderabad**	**14.44**	**298**	*i* P	**Pn**	**22 09 33.0**	**+3.8**
HYB				*e*		22 11 55.0	
HYB				*e*S	**Sn**	**22 12 08.0**	**-0.4**
HYB	**Hyderabad**	**14.44**	**298**	*e*P	**Pn**	**22 09 33.0**	**+3.8**
HYB				*e*S	**Sn**	**22 12 08.0**	**-0.4**
KAD	**Karad**	**18.30**	**292**	*e*P	**Pn**	**22 10 22.3**	**+3.8**
KAD				*e*S	**Sn**	**22 13 22.8**	**-19**
LSA	**Lhasa**	**18.63**	**358**	*e*P	**Pn**	**22 10 30.2**	**+7.7**
LSA	**Lhasa**	**18.63**	**358**	*e*P	**Pn**	**22 10 23.0**	**+0.5**
	comp=Z,1.4nm,0.5s						
LSA	**Lhasa**	**18.63**	**358**	*e*P	**Pn**	**22 10 23.0**	**+0.5**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CD2	**Chengdu**	**22.66**	**27**	*e*P	**P**	**22 11 07.7**	**+2.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
KKM	**Kota Kinabalu**	**24.52**	**100**	P	**P**	**22 11 22.9**	**-0.8**
ENH	**Enshi**	**25.20**	**38**	*e*P	**P**	**22 11 28.2**	**-1.6**
	comp=Z,20nm,0.6s,mb4.8						
ENH				*e*	pP	22 11 35.7	-2.3
ENH				*e*		22 11 41.0	
MKAR	**Makanchi Array**	**36.61**	**349**	P	**P**	**22 13 10.1**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.7,baz=166,slow=7.8,SNR=13						
MKAR				pP	pP	22 13 17.8	-0.9
	comp=Z,0.6nm,0.6s,baz=170,slow=8.2,SNR=6.7						
SONM	**Songino Array**	**38.69**	**16**	P	**P**	**22 13 28.0**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.2,baz=203,slow=7.5,SNR=3.1						
SONM				pP	pP	22 13 35.5	-0.9
	comp=Z,1.2nm,0.8s,baz=201,slow=8.0,SNR=9.4						
CN2	**Changchun**	**43.67**	**35**	*e*P	**P**	**22 14 14.5**	**+5.5**
BOD	**Bodaibo**	**49.69**	**15**	*e*P	**P**	**22 15 00.6**	**+4.5**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
WRAB	**Tennant Creek**	**51.85**	**126**	*e*P	**P**	**22 15 11.4**	**-1.0**
	comp=Z,9.4nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**51.85**	**126**	*e*P	**P**	**22 15 11.4**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
BRTR	**Keskin Array B**	**58.76**	**310**	P	**P**	**22 16 02.0**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=109,slow=6.7,SNR=5.2						
BRTR				pP	pP	22 16 10.7	-0.1
	comp=Z,0.9nm,0.7s,baz=118,slow=8.4,SNR=4.2						
TIXI	**Tiksi**	**64.64**	**12**	*e*P	**P**	**22 16 44.1**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
FINES	**FINESS Array B**	**68.95**	**332**	P	**P**	**22 17 08.8**	**-0.4**
	comp=Z,2.7nm,1.0s,mb4.1,baz=104,slow=6.1,SNR=4.9						
FINES				pP	pP	22 17 17.2	-0.8
	comp=Z,1.6nm,0.8s,baz=106,slow=6.2,SNR=2.3						
GERES	**GERESS Array B**	**74.06**	**318**	P	**P**	**22 17 40.1**	**+0.1**
	comp=Z,0.1nm,0.3s,mb3.3,baz=331,slow=1.7,SNR=4.3						
GERES				pP	pP	22 17 49.0	+0.1
	comp=Z,0.6nm,0.7s,baz=48,slow=2.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**87.76**	**283**	P	**P**	**22 18 55.3**	**+2.3**
	comp=Z,0.3nm,0.8s,mb3.6,baz=77,slow=4.9,SNR=4.0						
TORD				pP	pP	22 19 03.6	+1.6
	comp=Z,0.5nm,0.7s,baz=107,slow=5.1,SNR=3.4						
ILAR	**Eielson Array**	**92.68**	**22**	P	**P**	**22 19 14.7**	**-1.3**
	comp=Z,0.3nm,0.6s,mb3.9,baz=319,slow=4.7,SNR=3.9						
ILAR				pP	pP	22 19 22.9	-2.2
	comp=Z,0.5nm,0.8s,baz=295,slow=4.8,SNR=4.2						

*IDC **01** 22:08:27.2±1.7, 745S×12833E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.8/12, mbtmp3.8/4, Error ellipse: s-maj=191.5km s-min=29.2km az=67.0*
*ISCJB **01** 22:08:28.4±0.7, 699S±008×1296E±02, h33km, mb4.4/10, Error ellipse: s-maj=25.1km s-min=8.0km az=140.9*
*NEIC **01** 22:08:30.7±0.7, 6.98S×12957E, h35km, mb3.9/3, Error ellipse: s-maj=25.4km s-min=9.1km az=74.0*
ISC 01 22:08:31.0±0.7, 699S±008×1296E±02, h35km, n16, σ0°82/21, mb4.4/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.69**	**199**	*e*P	**Pn**	**22 11 16.6**	**+1.3**
	5.5nm,0.4s						
FITZ				*e*S	**Sn**	**22 13 14.3**	**-10**
WRAB	**Tennant Creek**	**13.68**	**161**	*e*P	**Pn**	**22 11 42.2**	**-0.2**
	24nm,0.8s						
WRAB				*e*Sn	**Sn**	**22 14 04.1**	**-8.9**
WRA	**Warramunga Arr**	**13.68**	**161**	Pn	**Pn**	**22 11 41.9**	**-0.6**
	0.8nm,0.3s,baz=329,slow=13,SNR=57						
WRA				Sn	**Sn**	**22 14 04.4**	**-8.7**
	1.7nm,0.3s,baz=332,slow=22,SNR=17						
WB2	**Warramunga Arr**	**13.69**	**161**	*e*P	**Pn**	**22 11 42.3**	**-0.2**
WB2				*e*S	**Sn**	**22 14 03.7**	**-10**
MBWA	**Marble Bar**	**17.00**	**213**	Pn	**Pn**	**22 12 25.3**	**-0.7**
ASAR	**Alice Springs**	**17.10**	**166**	Pn	**Pn**	**22 12 27.6**	**+0.5**
	0.3nm,0.3s,baz=340,slow=9.9,SNR=14						
ASAR				Sn	**Sn**	**22 15 26.6**	**-10**
	0.3nm,0.3s,baz=347,slow=25,SNR=6.9						
LSA	**Lhasa**	**51.90**	**317**	*e*P	**P**	**22 17 35.0**	**-1.1**
	1.0nm,0.4s,mb4.1						
JIRN	**Jiri**	**54.26**	**311**	*e*P	**P**	**22 17 53.8**	**+0.4**
	4.5nm,0.4s,mb4.8						
GUN	**Gumba**	**54.63**	**311**	*e*P	**P**	**22 17 56.6**	**+0.5**
	9.7nm,0.4s,mb5.2						
KKN	**Kakani**	**55.01**	**311**	*e*P	**P**	**22 17 58.8**	**-0.1**
	4.2nm,0.4s,mb4.8						
GKN	**Gorkha**	**55.61**	**311**	*e*P	**P**	**22 18 03.4**	**+0.3**
	10nm,0.4s,mb5.2						
KOLN	**Koldanda**	**56.27**	**310**	*e*P	**P**	**22 18 07.0**	**-0.9**
	5.7nm,0.6s,mb4.8						
SONM	**Songino Array**	**58.30**	**342**	P	**P**	**22 18 23.9**	**+1.7**
	0.2nm,0.6s,mb3.3,baz=155,slow=6.7,SNR=4.1						
MKAR	**Makanchi Array**	**67.98**	**327**	P	**P**	**22 19 26.8**	**+0.3**
	0.8nm,0.4s,mb4.1,baz=122,slow=8.4,SNR=19						
KURK	**Kurchatov**	**72.29**	**329**	*e*P	**P**	**22 19 53.0**	**+0.2**
	1.3nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**78.53**	**327**	*e*P	**P**	**22 20 27.2**	**-1.5**
	0.3nm,0.4s,mb3.6						

*ISCJB **01** 22:19:23.5±3.7, 146S±0.1×1678E±0.1, h34km±36km, mb3.9/7, MS3.2/1, Error ellipse: s-maj=23.9km s-min=18.2km az=95.0*
*IDC **01** 22:19:27.0±7.7, 1461S×16776E, h50km±85km, mb3.7/6, mb1 3.9/7, mb1mx3.8/13, mbtmp4.0/7, ML3.6/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/20, Error ellipse: s-maj=72.0km s-min=32.2km az=145.0*
*NEIC **01** 22:19:27.3±2.1, 1465S×16778E, h55km±21km, mb4.1/1, Error ellipse: s-maj=18.5km s-min=11.9km az=160.0*
ISC 01 22:19:27.0±2.9, 146S±01×1679E±01, h54km±30km, n12, σ0°54/11, mb3.9/7, MS3.2/1, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.57**	**190**	P	**Pn**	**22 21 14.2**	**-0.4**
	1.0nm,0.3s,baz=59,slow=18,SNR=10						
DZM				S	**Sn**	**22 22 39.7**	**+0.8**
	0.2nm,0.3s,baz=122,slow=19,SNR=2.2						
AFI	**Afiamalu**	**19.73**	**91**	LR	LR	22 29 26.2	
	comp=Z,91nm,18.3s,baz=113,slow=30						
AFI	**Afiamalu**	**19.73**	**91**	P	**Pn**	**22 23 53.8**	**-0.2**
CTA	**Charters Tower**	**21.34**	**252**	LR	LR	22 31 19.7	
	comp=Z,103nm,20.4s,MS3.2,baz=230,slow=34						
STKA	**Stephens Creek**	**29.53**	**230**	P	**P**	**22 25 25.8**	**-0.4**
	3.1nm,0.5s,mb4.3,baz=49,slow=9.2,SNR=12						
WRA	**Warramunga Arr**	**32.43**	**256**	P	**P**	**22 25 51.4**	**-0.4**
	0.9nm,1.1s,mb3.5,baz=86,slow=9.5,SNR=6.1						
ASAR	**Alice Springs**	**33.27**	**249**	P	**P**	**22 25 58.8**	**-0.4**
	0.7nm,0.7s,mb3.7,baz=77,slow=9.4,SNR=6.8						
GUMO	**Guam**	**36.09**	**320**	P	**P**	**22 26 23.4**	**0.0**
SONM	**Songino Array**	**82.73**	**323**	P	**P**	**22 31 45.8**	**+0.8**
	0.4nm,0.7s,mb3.6,baz=137,slow=3.3,SNR=5.2						
ILAR	**Eielson Array**	**86.21**	**18**	P	**P**	**22 32 02.5**	**-0.1**
	0.7nm,0.9s,mb3.9,baz=232,slow=5.4,SNR=7.7						
SNAA	**Sanae**	**93.72**	**183**	*e*P	**P**	**22 32 37.2**	**-0.6**
	0.6nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**97.51**	**316**	P	**P**	**22 32 56.0**	**+1.0**
	0.7nm,0.7s,mb4.3,baz=94,slow=6.1,SNR=11						

*NEIC **01** 22:30:10.3, 3196S×7162W, h33km±4km, ML2.6(GUC), After GUC.*
GUC 01 22:30:10.3±0.8, 3196S×7162W, h33km±4km, MD3.6, ML2.6, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.94**	**34**	⇓*i*P	Pn	22 30 27.6	+0.4
CMCH				*i* S	Sn	22 30 40.5	+1.0
CMCH				AMP		22 30 43.8	
	comp=E,434nm,0.4s						
CMCH	**Combarbala**	**0.94**	**34**	⇓*i*P	Pn	22 30 27.6	+0.4
CMCH				*i* S	Sn	22 30 40.5	+1.0
JACH	**Jahuel**	**1.13**	**130**	⇓*i*P	Pn	22 30 30.3	+0.6
JACH				*i* S	Sn	22 30 46.0	+1.9
ROCH	**El Roble**	**1.13**	**153**	⇑*i*P	Pn	22 30 31.0	+1.2
ROCH				*i* S	Sn	22 30 46.0	+1.8
PEL	**Peldehue**	**1.42**	**147**	⇓*i*P	Pn	22 30 35.2	+1.5
PEL				*i* S	Sn	22 30 53.9	+2.6
PEL				AMP		22 30 55.4	
	comp=E,332nm,0.3s						
PEL	**Peldehue**	**1.42**	**147**	⇓*i*P	Pn	22 30 35.2	+1.5
PEL				*i* S	Sn	22 30 53.9	+2.6
LCCH	**Las Cruces**	**1.51**	**178**	*e*P	Pn	22 30 35.7	+0.7
RCDM	**Rinconada Maip**	**1.67**	**156**	*e*P	Pn	22 30 38.4	+1.2
RCDM				AMP		22 31 05.2	
	comp=E,78nm,0.1s						
FCH	**Farellones**	**1.77**	**141**	⇓*i*P	Pn	22 30 40.7	+2.2
FCH				*i* S	Sn	22 31 03.5	+3.7
FCH				AMP		22 31 05.8	
	comp=E,61nm,0.3s						
TACH	**Talagante

SNR=8.2
ASHO Ashiyiah 3.37 193 P Pn 22 38 03.6 +1.0
SNR=5.3
GHIR Ghir-Karzin 3.47 276 *e*PN **Pn 22 38 04.0 0.0**
HOQ Hoqain 4.39 175 P Pn 22 38 17.0 +0.4
SNR=7.3
BIDO Bidbid 4.57 166 P Pn 22 38 18.9 -0.2
SNR=10.0
ABTO Aybut 11.08 198 P Pn 22 39 46.5 -1.7
SNR=6.8
BRTR Keskin Array B 22.53 307 P P 22 42 08.2 +0.8
comp=E,0.7nm,0.6s,mb3.3,baz=128,slow=13,SNR=4.8
MKAR Makanchi Array 27.37 40 P P 22 42 52.8 +0.4
comp=E,0.1nm,0.3s,mb2.8,baz=227,slow=11,SNR=5.2
FINES FINESS Array B 39.27 337 P P 22 44 35.0 -0.7
comp=E,0.8nm,0.5s,mb3.7,baz=139,slow=11,SNR=6.9
TORD Torodi Ar. Bea 53.34 266 P P 22 46 25.9 0.0
comp=E,0.3nm,0.5s,mb3.5,baz=63,slow=7.4,SNR=7.0

IDC 01 23:22:33.8±4.8, 2009S×17530W, h0km, mb4.5/4, mb1 4.6/4, mb1mx4.1/15, mbtmp4.5/4, Error ellipse: s-maj=156.5km s-min=81.3km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.05**	**263**	P	P	23 29 38.7	+1.8
	7.5nm,0.4s,baz=88,slow=10,SNR=7.5						
STKA	**Stephens Creek**	**40.24**	**244**	P	P	23 30 12.3	0.0
	0.8nm,0.4s,baz=72,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**47.07**	**256**	P	P	23 31 07.4	+0.1
	6.4nm,0.8s,baz=97,slow=7.5,SNR=41						
WRA	**Warramunga Arr**	**47.16**	**261**	P	P	23 31 07.5	-0.5
	2.9nm,0.6s,baz=97,slow=7.8,SNR=29						
AKASG	**Malin Array Be**	**143.83**	**333**	PKP	PKPdf	23 42 10.5	-0.5
	0.6nm,0.4s,baz=45,slow=3.9,SNR=6.9						

*ISCJB **01** 23:24:43.0±1.1, 3835N±008×734E±02, h154km±26km, Error ellipse: s-maj=24.2km s-min=12.9km az=151.4*
*NNC **01** 23:24:53.0±6.8, 39.17N×73.44E, h190km±50km, mb2.3, mpv3.5, Error ellipse: s-maj=89.6km s-min=26.3km az=21.0*
ISC 01 23:24:42.3±1.2, 3835N±009×730E±02, h174km±22km, n15, σ0§88/19, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.81**	**8**	P	**Pn**	**23 25 41.3**	**+0.5**
	SNR=96						
UCH	**Uchtor**	**4.04**	**16**	P	**Pn**	**23 25 44.0**	**+0.3**
	SNR=59						
KZA	**Kyzart**	**4.10**	**24**	P	**Pn**	**23 25 43.8**	**-0.7**
	SNR=20						
EKS2	**Erkin-Say**	**4.35**	**8**	P	**Pn**	**23 25 48.7**	**+1.1**
	SNR=77						
AAK	**Ala-Archa**	**4.43**	**15**	P	**Pn**	**23 25 49.0**	**+0.3**
	SNR=30						
KBK	**Karagaybulak**	**4.55**	**18**	P	**Pn**	**23 25 50.6**	**+0.4**
	SNR=11						
ULHL	**Ulahol**	**4.61**	**32**	P	**Pn**	**23 25 49.9**	**-1.2**
	SNR=9.7						
TKM2	**Tokmak 2**	**4.97**	**23**	P	**Pn**	**23 25 55.7**	**0.0**
	SNR=8.3						
TKM2	**Tokmak 2**	**4.97**	**23**	⇑P	**Pn**	**23 25 55.2**	**-0.6**
	3.7nm,0.5s						
USP	**Ospenovka**	**5.04**	**13**	P	**Pn**	**23 25 56.9**	**+0.3**
	SNR=5.8						
KK31	**Karatay Array**	**5.11**	**339**	P	**Pn**	**23 26 00.4**	**+2.9**
	2.9nm,0.3s,baz=138,slow=12,SNR=228						
KK31				⇑S	**Sn**	**23 26 55.2**	**-1.3**
	24nm,0.6s,baz=157,slow=25,SNR=26						
THN	**Thein Dam**	**6.31**	**159**	*e*P	**Pn**	**23 26 12.8**	**-0.5**
THN				*e*S	**Sn**	**23 27 17.1**	**-7.7**
MK31	**Makanchi Array**	**10.86**	**36**	⇓P	**Pn**	**23 27 13.1**	**0.0**
	0.4nm,0.6s,baz=207,slow=11,SNR=7.2						
AB31	**Akbulak array**	**14.38**	**323**	⇑P	**Pn**	**23 28 03.5**	**+5.6**
	0.8nm,0.8s,baz=129,slow=14,SNR=5.3						
AB31				⇓S	**Sn**	**23 30 34.0**	**-4.0**
	0.6nm,0.5s,baz=122,slow=33,SNR=5.3						
AKTO	**Aktyubinsk**	**16.10**	**323**	⇑P	**Pn**	**23 28 25.4**	**+6.4**
	0.7nm,1.8s						
AKTO				⇓S	**S**	**23 31 17.6**	**-0.2**
	0.4nm,1.1s						

IDC 01 23:35:17.5±3.7, 1235S×6981W, h0km, mb4.0/1, mb1 3.8/3, mb1mx3.5/17, mbtmp3.7/3, ML3.0/1, MS3.3/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=87.5km s-min=43.1km az=77.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.24**	**158**	Pn	Pn	23 36 24.4	+1.2
	0.5nm,0.3s,baz=249,slow=7.1,SNR=15						
SIV	**San Ignacio**	**9.21**	**114**	Pn	Pn	23 37 30.6	-0.9
	0.7nm,0.3s,baz=267,slow=12,SNR=17						
BDFB	**Brasilia**	**21.40**	**101**	LR	LR	23 49 43.2	
	comp=Z,80nm,20.7s,baz=141,slow=40						
TORD	**Torodi Ar. Bea**	**75.29**	**73**	P	P	23 47 03.5	+1.2
	0.6nm,0.5s,baz=254,slow=5.5,SNR=17						
MKAR	**Makanchi Array**	**138.40**	**29**	PKP	PKPdf	23 54 42.6	-2.3
	0.5nm,0.6s,baz=309,slow=2.9,SNR=7.5						

GUC 01 23:37:23.9±0.8, 2421S×6756W, h200km, ML3.8, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.56**	**288**	⇑*i*P	Pn	23 38 11.1	+2.7
CEN1				*i* S	Sn	23 38 46.0	+2.9
CEN1				AMP		23 38 47.3	
	comp=E,127nm,0.5s						
CPN1	**Cerro Paranal**	**2.63**	**260**	⇓*i*P	Pn	23 38 11.5	+2.3
CPN1				*i* S	Sn	23 38 47.7	+3.1
CPN1				AMP		23 38 48.8	
	comp=E,105nm,0.3s						
ANCH	**Antofagasta**	**2.66**	**281**	⇑*i*P	Pn	23 38 08.3	-1.3
ANCH				*i* S	Sn	23 38 44.0	-1.3
ANCH				AMP		23 38 47.1	
	comp=N,326nm,0.1s						
CRCH	**Chaqaral**	**3.50**	**232**	⇓*i*P	Pn	23 38 20.9	+1.5
CRCH				*i* S	Sn	23 39 05.4	+2.4
CRCH				AMP		23 39 06.0	
	comp=E,180nm,0.3s						

NNC 01 23:39:14.1±9.0, 3729N×7120E, h232km±115km, mb2.1, mpv3.3, 3C-1D, Error ellipse: s-maj=90.3km s-min=53.8km az=21.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.83**	**355**	P	Pn	23 40 39.6	0.0
	1.3nm,0.2s,baz=172,slow=12,SNR=86						
KK31				S	S	23 41 48.6	+0.7
	1.3nm,0.3s,baz=189,slow=25,SNR=12						
TKM2	**Tokmak 2**	**6.56**	**30**	⇑P	Pn	23 40 48.1	-0.8
	0.9nm,0.6s						
TKM2				⇑S	S	23 42 05.4	+0.8
	1.2nm,0.6s						
AB31	**Akbulak array**	**14.48**	**329**	⇓P	Pn	23 42 31.0	+2.5
	0.2nm,0.4s,baz=163,slow=12,SNR=12						
AB31				⇑S	S	23 45 07.0	-1.9
	0.3nm,0.5s						

*ISCJB **01** 23:42:23.1±2.6, 399N±02×748E±0.1, h10km, Error ellipse: s-maj=24.6km s-min=10.1km az=26.9*
*NNC **01** 23:42:24.3±4.6, 3968N×7588E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=37.9km s-min=23.6km az=167.0*
ISC 01 23:42:20.1±2.1, 396N±01×748E±01, h10km, n14, σ1§17/17, 5C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**2.54**	**7**	P	**Pn**	**23 42 59.6**	**-1.7**
	SNR=37						
UCH	**Uchtor**	**2.68**	**355**	P	**Pn**	**23 43 03.3**	**+0.1**
	SNR=34						
AML	**Almayashu**	**2.71**	**342**	P	**Pn**	**23 43 05.4**	**+1.7**
	SNR=8.9						
ULHL	**Ulahol**	**2.89**	**21**	P	**Pn**	**23 43 05.1**	**-1.1**
	SNR=53						
AAK	**Ala-Archa**	**3.08**	**355**	P	**Pn**	**23 43 09.6**	**+0.8**
	SNR=27						
KBK	**Karagaybulak**	**3.10**	**2**	P	**Pn**	**23 43 08.6**	**-0.4**
	SNR=87						
EKS2	**Erkin-Say**	**3.20**	**346**	P	**Pn**	**23 43 11.6**	**+1.2**
	SNR=7.9						
TKM2	**Tokmak 2**	**3.41**	**10**	P	**Pn**	**23 43 12.1**	**-1.2**
	SNR=16						
TKM2	**Tokmak 2**	**3.41**	**10**	⇓Pn	**Pn**	**23 43 12.0**	**-1.4**
	14nm,0.3s						
TKM2				⇓Sn	**Sn**	**23 43 56.6**	**+2.8**
	35nm,0.8s						
CHMS	**Chumysh**	**3.44**	**359**	P	**Pn**	**23 43 13.5**	**-0.2**
	SNR=21						
USP	**Ospenovka**	**3.71**	**356**	P	**Pn**	**23 43 17.6**	**+0.1**
	SNR=6.6						
KNDC	**Almaty**	**4.00**	**23**	⇑Pn	**Pn**	**23 43 25.4**	**+4.0**
	223nm,0.6s						
KNDC				⇑Sn	**Sn**	**23 44 07.3**	**-0.9**
	1μm,0.8s						
KK31	**Karatay Array**	**4.80**	**319**	⇑Pn	**Pg**	**23 43 47.6**	**-4.6**
	0.7nm,0.3s,baz=124,slow=12,SNR=5.0						
KK31				⇑Sn	**Sg**	**23 44 53.5**	**-0.8**
	4.1nm,0.7s,baz=124,slow=26,SNR=5.0						
MK31	**Makanchi Array**	**9.05**	**35**	⇓Pn	**Pn**	**23 44 31.5**	**+0.7**
	1.0nm,0.8s,baz=218,slow=14,SNR=6.7						
MK31				⇑Lg		23 46 50.8	
	4.4nm,1.6s,baz=219,slow=25,SNR=3.7						

*JMA **01** 23:42:58.9±0.3, 4016N×13699E, h49km, M3.4*
*IDC **01** 23:42:58.9±1.3, 3996N×13655E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=37.6km s-min=25.5km az=79.0*
*ISCJB **01** 23:42:59.7±0.9, 40.17N±006×13708E±009, h33km, mb3.5/3, Error ellipse: s-maj=10.6km s-min=8.1km az=43.7*
ISC 01 23:43:00.9±0.9, 4018N±006×13710E±009, h35km, n10, σ1§18/12, mb3.5/3, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTB	**Tobi-shima**	**2.14**	**117**	*e*S	**Sn**	**23 43 59.7**	**+0.4**
JIW	**Iwasaki**	**2.26**	**79**	P	**Pn**	**23 43 36.3**	**+0.6**
JHG	**Hegura jima**	**2.33**	**183**	P	**Pn**	**23 43 35.6**	**-1.1**
JHG				*e*S	**Sn**	**23 44 02.3**	**-1.8**
JAW	**Awa shima**	**2.40**	**135**	P	**Pn**	**23 43 37.4**	**-0.2**
JOSM	**Okushiri--Mats**	**2.62**	**43**	P	**Pn**	**23 43 40.3**	**-0.3**
JOSM				*e*S	**Sn**	**23 44 08.9**	**-2.2**
JYK	**Kaneyama**	**2.82**	**116**	P	**Pn**	**23 43 43.9**	**+0.5**
MJAR	**Matsushiro Arr**	**3.74**	**166**	Pn	**Pn**	**23 43 58.5**	**+2.5**
	0.4nm,0.3s,baz=345,slow=15,SNR=3.1						
SONM	**Songino Array**	**23.26**	**299**	P	**P**	**23 48 05.7**	**+0.4**
	0.2nm,0.7s,mb2.6,baz=98,slow=10,SNR=2.6						
ILAR	**Eielson Array**	**48.70**	**34**	P	**P**	**23 51 47.7**	**+6.0**
	1.0nm,0.7s,mb4.0,baz=281,slow=9.2,SNR=15						
WRA	**Warramunga Arr**	**59.86**	**183**	P	**P**	**23 53 04.1**	**+1.2**
	1.1nm,0.8s,mb3.9,baz=360,slow=7.5,SNR=8.4						

*PDA **01** 23:47:57.3±0.9, 3701N×2430W, h5km, MD2.9, ML2.5, Error ellipse: s-maj=6.1km s-min=4.2km az=78.0*
*CSEM **01** 23:47:57.3±0.9, 3701N×2430W, h5km, ML2.5, Error ellipse: s-maj=6.1km s-min=4.2km az=78.0, After PDA*
SVSA 01 23:47:57.3±0.9, 3701N×2430W, h5km, MD2.9, ML2.5, Error ellipse: s-maj=6.1km s-min=4.2km az=78.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.61**	**270**	*e*P	Pg	23 48 08.0	-1.1
PSMN				*e*S	Sg	23 48 15.3	-1.8
MIRA	**Miradouro**	**1.10**	**315**	*e*P	Pg	23 48 14.2	-4.2
MIRA				*e*S	Sg	23 48 27.2	-5.5
FRA1	**Furnas**	**1.12**	**311**	*e*P	Pg	23 48 14.7	-4.1
FRA1				*e*S	Sg	23 48 27.7	-5.6
PCNG	**Congro**	**1.16**	**311**	*e*S	Sg	23 48 28.9	-5.6
PCNG							
	38nm,0.2s						
PFAD	**Fenais da Ajud**	**1.17**	**316**	*e*P	Pg	23 48 15.4	-4.2
PFAD				*e*S	Sg	23 48 28.6	-6.1
VIF	**Vila Franca**	**1.17**	**309**	*e*S	Sg	23 48 29.5	-5.4
VIF							
	40nm,0.1s						
PRCH	**Ribeira Ch**	**1.19**	**308**	*e*S	Sg	23 48 29.8	-5.6
PRCH							
	80nm,0.3s						
MESC	**Monte Escuro**	**1.21**	**311**	*e*P	Pg	23 48 16.1	-4.3
MESC				*e*S	Sg	23 48 30.0	-6.0
LFA	**Lagoa do Fogo**	**1.22**	**309**	*e*P	Pg	23 48 16.1	-4.5
PMAT	**Coroa da Mata**	**1.23**	**311**	*e*S	Sg	23 48 31.1	-5.9
PVER	**Pico Vermelho**	**1.25**	**310**	*e*P	Pg	23 48 16.6	-4.7
PVER				*e*S	Sg	23 48 31.1	-6.4
PVER							
	25nm,0.3s						
PVER	**Pico Vermelho**	**1.25**	**310**	*e*P	Pg	23 48 16.6	-4.7
PVER				*e*S	Sg	23 48 31.1	-6.4
CML	**Cha da Macela**	**1.25**	**308**	*e*P	Pg	23 48 16.7	-4.6
PDA	**Ponta Delgada**	**1.31**	**305**	*e*S	Sg	23 48 31.3	-8.3
PSAN	**Santo Antonio**	**1.42**	**307**	*e*P	Pn	23 48 19.2	-4.5

*CSEM **02** 00:05:04.9±0.7, 3704N×2432W, h5km, ML2.7, Error ellipse: s-maj=4.4km s-min=3.0km az=70.0, After PDA*
*PDA **02** 00:05:04.9±0.7, 3704N×2432W, h5km, MD3.0, ML2.7, Error ellipse: s-maj=4.4km s-min=3.0km az=70.0*
SVSA 02 00:05:04.9±0.7, 3704N×2432W, h5km, MD3.0, ML2.7, Error ellipse: s-maj=4.4km s-min=3.0km az=70.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.60**	**266**	*e*P	Pg	00 05 15.0	-1.4
PSMN				*e*S	Sg	00 05 22.6	-1.5
MIRA	**Miradouro**	**1.06**	**315**	*e*P	Pg	00 05 21.3	-4.0
MIRA				*e*S	Sg	00 05 34.0	-5.1
FRA1	**Furnas**	**1.08**	**311**	*e*P	Pg	00 05 21.7	-3.9
FRA1				*e*S	Sg	00 05 34.0	-5.6
PCNG	**Congro**	**1.12**	**311**	*e*P	Pg	00 05 22.5	-3.9
PCNG				*e*S	Sg	00 05 35.8	-5.1
PCNG							
	70nm,0.2s						
PCNG	**Congro**	**1.12**	**311**	*e*P	Pg	00 05 22.5	-3.9
PCNG				*e*S	Sg	00 05 35.8	-5.1
PFAD	**Fenais da Ajud**	**1.12**	**315**	*e*P	Pg	00 05 22.5	-4.0
PFAD				*e*S	Sg	00 05 35.4	-5.7
VIF	**Vila Franca**	**1.13**	**309**	*e*P	Pg	00 05 22.4	-4.2
VIF				*e*S	Sg	00 05 36.1	-5.2
VIF							
	61nm,0.1s						
VIF	**Vila Franca**	**1.13**	**309**	*e*P	Pg	00 05 22.4	-4.2
VIF				*e*S	Sg	00 05 36.1	-5.2
PRCH	**Ribeira Ch**	**1.15**	**307**	*e*P	Pg	00 05 23.0	-3.9
PRCH				*e*S	Sg	00 05 36.4	-5.4
PRCH							
	117nm,0.3s						
PRCH	**Ribeira Ch**	**1.15**	**307**	*e*P	Pg	00 05 23.0	-3.9
PRCH				*e*S	Sg	00 05 36.4	-5.4
MESC	**Monte Escuro**	**1.17**	**310**	*e*P	Pg	00 05 23.1	-4.2
MESC				*e*S	Sg	00 05 36.8	-5.6
LFA	**Lagoa do Fogo**	**1.18**	**309**	*e*P	Pg	00 05 23.4	-4.1
PMAT	**Coroa da Mata**	**1.20**	**310**	*e*S	Sg	00 05 37.1	-6.3
PVER	**Pico Vermelho**	**1.21**	**309**	*e*P	Pg	00 05 23.7	-4.4
PVER				*e*S	Sg	00 05 37.9	-5.9
PVER							
	32nm,0.3s						
PVER	**Pico Vermelho**	**1.21**	**309**	*e*P	Pg	00 05 23.7	-4.4
PVER				*e*S	Sg	00 05 37.9	-5.9
CML	**Cha da Macela**	**1.22**	**307**	*e*P	Pg	00 05 23.7	-4.5
CML				*e*S	Sg	00 05 37.9	-6.1
PDA	**Ponta Delgada**	**1.28**	**304**	*e*S	Sg	00 05 38.3	-7.7
FAC	**Faja de Cima**	**1.28**	**305**	*e*P	Pn	00 05 24.9	-4.6
PSET	**Sete Cidades**	**1.36**	**305**	*e*P	Pn	00 05 25.9	-4.6
PSET				*e*S	Sb	00 05 41.4	-7.1
PSAN	**Santo Antonio**	**1.38**	**306**	*e*S	Sb	00 05 41.9	-7.1
PFET	**Feteiras**	**1.40**	**304**	*e*S	Sb	00 05 43.3	-6.4
SET2	**Ginetes**	**1.43**	**305**	*e*rx		00 05 43.1	
SET4	**Mosteiros**	**1.44**	**306**	*e*rx		00 05 46.4	

*CSEM **02** 00:07:34.3, 1439N×51.14E, h8km, ML3.7, After DHMR*

DHMR 02 00:07:34.3±0.6, 1439N×5114E, h8km±23km, ML3.7, 2C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.04**	**273**	⇓*i*P	Pn	00 08 10.4	+1.5
MUKL				*i* S	Sn	00 08 37.9	+3.4
MUKL				AML	AML	00 08 40.4	
	comp=N,742nm,0.3s						
BDHA	**Al Bayda'**	**5.42**	**266**	⇑*i*P	Pn	00 08 57.4	+2.1
BDHA				*i* S	Sn	00 10 02.5	+4.6
LBOS		**5.74**	**266**	*i* P	Pn	00 09 01.6	+1.9
LBOS				*i* S	Sn	00 10 10.3	+4.6
TRBA	**At Turbah**	**6.92**	**261**	⇑*i*P	Pn	00 09 17.6	+1.7

*NEIC **02** 00:11:03.8, 3129S×7084W, h122km, MD3.5(GUC), After GUC.*
GUC 02 00:11:03.8±0.6, 3129S×7084W, h122km±3km, MD3.5, ML3.5, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.18**	**311**	⇓*i*P	Pn	00 11 20.9	+0.4
CMCH				*i* S	Sn	00 11 33.8	+0.6
CMCH				AMP		00 11 35.2	
	comp=N,2μm,0.7s						
CMCH	**Combarbala**	**0.18**	**311**	⇓*i*P	Pn	00 11 20.9	+0.4
CMCH				*i* S	Sn	00 11 33.8	+0.6
JACH	**Jahuel**	**1.40**	**171**	*i* P	Pn	00 11 30.7	+0.5
JACH				*i* S	Sn	00 11 51.2	+1.0
PEL	**Peldehue**	**1.85**	**176**	*e*P	Pn	00 11 36.4	+1.0
PEL				*i* S	Sn	00 12 00.2	+0.6
PEL				AMP		00 12 02.1	
	comp=N,335nm,0.3s						
PEL	**Peldehue**	**1.85**	**176**	P	Pn	00 11 36.4	+1.0
PEL				*i* S	Sn	00 12 00.2	+0.6
FCH	**Farellones**	**2.08**	**167**	*i* P	Pn	00 11 39.4	+1.1
FCH				*i* S	Sn	00 12 06.2	+1.4
FCH				AMP		00 12 08.6	
	comp=E,307nm,0.3s						
CLCH	**Cerro Calan**	**2.11**	**173**	*e*P	Pn	00 11 39.2	+0.5
CLCH				*i* S	Sn	00 12 06.5	+1.1
CLCH				AMP		00 12 13.9	
	comp=E,242nm,0.5s						
RCDM	**Rinconada Maip**	**2.19**	**179**	*e*P	Pn	00 11 40.2	+0.6
RCDM				*i* S	Sn	00 12 07.9	+0.7
RCDM				AMP		00 12 09.0	
	comp=E,492nm,0.3s						
RCDM	**Rinconada Maip**	**2.19**	**179**	*e*P	Pn	00 11 40.2	+0.6
RCDM				*i* S	Sn	00 12 07.9	+0.7
ANTU	**Antumapu**	**2.28**	**176**	*i* S	Sn	00 12 10.1	+0.9
ANTU				AMP		00 12 11.1	
	comp=N,275nm,0.3s						
PCH	**Pirque**	**2.34**	**173**	*i* P	Pn	00 11 42.5	+0.9
PCH				*i* S	Sn	00 12 11.2	+0.7
TACH	**Talagante**	**2.35**	**182**	*i* P	Pn	00 11 42.1	+0.3
TACH				*i* S	Sn	00 12 11.7	+0.8
LMEL	**Las Melosas**	**2.60**	**168**	*e*P	Pn	00 11 45.8	+0.8
LMEL				*i* S	Sn	00 12 18.0	+1.3
LMEL				AMP		00 12 20.3	
	comp=N,232nm,0.1s						
LMEL	**Las Melosas**	**2.60**	**168**	*e*P	Pn	00 11 45.8	+0.8
LMEL				*i* S	Sn	00 12 18.0	+1.3
CHCH	**Chadas Angostu**	**2.64**	**177**	⇑*i*P	Pn	00 11 45.6	+0.2
CHCH				*i* S	Sn	00 12 18.0	+0.6
LNV	**Longovilo**	**2.70**	**190**	*e*P	Pn	00 11 46.7	+0.5
LNV				*i* S	Sn	00 12 18.9	+0.1
CICH	**Cipreses**	**3.04**	**173**	*i* S	Sn	00 12 27.4	+0.6

IDC 02 00:32:06.3±2.1, 708S×12872E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.3/14, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=122.6km s-min=32.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.90**	**157**	Pn	Pn	00 35 25.8	+1.3
	0.1nm,0.3s,baz=336,slow=13,SNR=3.4						
WRA				Sn	Sn	00 37 51.3	-8.2
	0.1nm,0.3s,baz=337,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**17.23**	**164**	P	Pn	00 36 07.7	-0.6
	0.1nm,0.3s,baz=348,slow=10.0,SNR=5.9						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	00 43 05.0	+0.2
	0.2nm,0.5s,baz=128,slow=6.6,SNR=4.6						

*HLW **02** 00:32:32.8, 3728N×2838E, h33km, Mb3.3*
*CSEM **02** 00:32:34.4±0.1, 3692N×2826E, h20km, MD3.4, Error ellipse: s-maj=2.1km s-min=1.7km az=53.0*
*NEIC **02** 00:32:34.0, 3700N×2828E, h12km, MD3.4(ATH), MD3.4(ISK), After ISK.*
*ISK **02** 00:32:34.9, 3700N×2829E, h12km, MD3.4*
*ATH **02** 00:32:35.1, 3701N×2819E, h22km±1km, MD3.4/7*
*ISCJB **02** 00:32:35.1±0.4, 3692N±002×2827E±003, h26km±4km, Error ellipse: s-maj=4.5km s-min=3.4km az=126.8*
ISC 02 00:32:35.4±0.4, 3697N±002×2826E±003, h15km±3km, n47, σ0§92/61, 10C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**5**	*e*PG	**Pg**	**00 32 38.5**	**-1.1**
DALT	**Dalyan (Mudla)**	**0.36**	**123**	PG	**Pg**	**00 32 42.8**	**+0.1**
DALT				SG	**Sg**	**00 32 48.6**	**+0.9**
MLSB	**Milas**	**0.51**	**310**	*e*PG	**Pg**	**00 32 45.6**	**+0.1**
MLSB				*e*SG	**Sg**	**00 32 53.4**	**+1.1**
DAT	**Datca**	**0.60**	**247**	*e*PG	**Pg**	**00 32 46.8**	**-0.4**
DAT				*e*SG	**Sg**	**00 32 56.6**	**+1.5**
BDRM	**Kayabasi**	**0.66**	**279**	*i* P	**Pg**	**00 32 47.9**	**-0.5**
BDRM				*i* S	**Sg**	**00 32 57.7**	**+0.5**
BDRM	**Kayabasi**	**0.66**	**279**	*i* P	**Pg**	**00 32 47.9**	**-0.5**
BDRM				*i* S	**Sg**	**00 32 57.7**	**+0.5**
BDRM	**Kayabasi**	**0.66**	**279**	*i* P	**Pg**	**00 32 47.8**	**-0.6**
BDRM				*i* S	**Sg**	**00 32 57.7**	**+0.5**
FETY	**Fethiye**	**0.74**	**116**	*e*PG	**Pg**	**00 32 48.7**	**-1.1**
ARG	**Arkhangelos**	**0.76**	**188**	⇑*i*PB	**Pb**	**00 32 50.0**	**-0.3**
ARG				*e*SN	**Sn**	**00 33 02.2**	**-0.5**
ARG	**Arkhangelos**	**0.76**	**188**	⇑*i*Pn	**Pn**	**00 32 49.3**	**-2.3**
ARG				*e*Sn	**Sn**	**00 33 02.2**	**-0.5**
AYDN	**Tasoluk**	**0.76**	**336**	*i* P	**Pg**	**00 32 49.5**	**-0.7**
AYDN				*i* S	**Sg**	**00 32 59.4**	**-0.8**
BODT	**Bodrum**	**0.77**	**277**	*e*PG	**Pg**	**00 32 50.6**	**+0.2**
DENT	**Denizli**	**1.00**	**38**	*i* PG	**Pg**	**00 32 53.5**	**-1.2**
GOLH	**Golhisar**	**1.07**	**75**	*i* P	**Pb**	**00 32 54.9**	**-0.7**
ELL	**Elmali**	**1.34**	**99**	*e*PN	**Pn**	**00 32 59.8**	**+0.3**
KSL	**Kastellorizon**	**1.34**	**127**	*e*PN	**Pn**	**00 33 01.5**	**+1.9**
SMG	**Samos**	**1.36**	**304**	⇓*i*PN	**Pn**	**00 32 59.9**	**+0.1**
SMG				*e*SN	**Sn**	**00 33 17.1**	**-0.4**
MANT	**Manisa**	**1.54**	**9**	*i* P	**Pn**	**00 33 02.3**	**0.0**
MANT				*i* S	**Sn**	**00 33 21.9**

*IDC **02** 00:36:03.6±3.4, 3517S×17965W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.8/11, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=76.1km s-min=37.1km az=120.0*
*ICSJB **02** 00:36:04.6±2.3, 352S±0.1×1798W±04, h10km, mb3.6/2, Error ellipse: s-maj=44.9km s-min=10.8km az=32.3*
ISC 02 00:36:05.2±2.3, 352S±01×1796W±04, h10km, n8, σ0§47/12, mb3.6/2, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.85**	**215**	*e*PN	**Pn**	**00 36 50.2**	**-0.6**
MXZ				*e*SN	**Sn**	00 37 25.4	+0.3
PUZ	**Puketiti**	**3.29**	**210**	*e*PN	**Pn**	**00 36 56.9**	**+0.1**
PUZ				SN	**Sn**	00 37 35.9	-0.1
MWZ	**Matawai**	**3.84**	**216**	PN	**Pn**	**00 37 04.6**	**+0.3**
MWZ				SN	**Sn**	**00 37 49.0**	**-0.4**
URZ	**Urewera**	**3.99**	**220**	Pn	**Pn**	**00 37 07.0**	**+0.6**
	3.1nm,0.3s,baz=356,slow=17,SNR=20						
URZ				Sn	**Sn**	**00 37 54.5**	**+1.3**
	3.4nm,0.3s,baz=155,slow=20,SNR=9.7						
URZ	**Urewera**	**3.99**	**220**	PN	**Pn**	**00 37 06.6**	**+0.2**
URZ				*e*SN	**Sn**	**00 37 52.2**	**-0.9**
ASAR	**Alice Springs**	**41.73**	**273**	P	**P**	**00 43 54.2**	**-0.1**
	0.7nm,0.6s,mb3.5,baz=115,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**43.16**	**278**	P	**P**	**00 44 06.0**	**0.0**
	0.8nm,0.6s,mb3.6,baz=120,slow=7.7,SNR=7.4						
FINES	**FINESS Array B**	**149.11**	**336**	PKPbc	PKPbc	00 55 52.1	-1.6
	1.5nm,1.0s,baz=321,slow=2.0,SNR=3.4						

*ICSJB **02** 00:36:48.8±0.9, 1309N±004×1433E±0.1, h206km±10km, mb3.7/17, Error ellipse: s-maj=22.7km s-min=13.1km az=167.9*
*NEIC **02** 00:36:50.1±1.1, 1310N×14335E, h205km±11km, mb4.0/6, Error ellipse: s-maj=18.0km s-min=10.7km az=81.0*
*IDC **02** 00:36:50.2±1.0, 1312N×14336E, h204km±9km, mb3.4/10, mb1 3.6/10, mb1mx3.5/19, mbtmp4.0/10, Error ellipse: s-maj=20.2km s-min=12.0km az=87.0*
ISC 02 00:36:50.3±0.9, 1313N±008×1434E±01, h205km±10km, n25, σ1§04/23, mb3.7/17, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.54**	**73**	P	**Pn**	**00 37 24.8**	**0.0**
	44nm,0.3s,baz=23,slow=3.8,SNR=7.2						
GUMO				S	**Sn**	**00 37 51.5**	**0.0**
	175nm,0.3s,baz=20,slow=23,SNR=18						
NACB	**Ninganchiao**	**23.33**	**301**	*e*P	**P**	**00 41 38.8**	**-1.3**
WRAB	**Tennant Creek**	**34.03**	**195**	*e*P	**P**	**00 43 14.5**	**-0.3**
	6.2nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**34.04**	**195**	P	**P**	**00 43 14.6**	**-0.3**
	3.5nm,0.6s,mb4.1,baz=16,slow=9.5,SNR=52						
ASAR	**Alice Springs**	**37.72**	**194**	P	**P**	**00 43 45.6**	**-0.5**
	1.0nm,0.7s,mb3.5,baz=20,slow=12,SNR=14						
ASAR	**Alice Springs**	**37.72**	**194**	P	**P**	**00 43 45.6**	**-0.5**
DZM	**Mont Dzumac**	**41.67**	**147**	P	**P**	**00 44 20.1**	**+1.5**
	3.2nm,0.5s,mb4.0,baz=311,slow=19,SNR=9.5						
STKA	**Stephens Creek**	**44.78**	**182**	P	**P**	**00 44 40.6**	**-2.9**
	0.9nm,0.4s,mb3.5,baz=11,slow=10,SNR=3.7						
ULN	**Ulaanbaatar**	**45.93**	**326**	*e*P	**P**	**00 44 53.7**	**+1.1**
	0.6nm,0.5s,mb3.2						
SONM	**Songino Array**	**46.27**	**326**	P	**P**	**00 44 56.3**	**+1.1**
	1.2nm,0.5s,mb3.5,baz=151,slow=7.9,SNR=14						
NWAO	**Narrogin (SRO)**	**52.16**	**208**	*e*P	**P**	**00 45 41.6**	**+1.9**
	5.2nm,0.7s,mb4.1						
MKAR	**Makanchi Array**	**60.80**	**316**	P	**P**	**00 46 41.4**	**+0.7**
	0.6nm,0.5s,mb3.5,baz=93,slow=8.0,SNR=13						
KURK	**Kurchatov**	**63.99**	**320**	*e*P	**P**	**00 47 01.7**	**-0.1**
	2.9nm,0.9s,mb3.9						
BRVK	**Borovoye**	**69.44**	**322**	*e*P	**P**	**00 47 36.6**	**+0.4**
	1.3nm,0.4s,mb3.9						
ILAR	**Eielson Array**	**69.61**	**25**	P	**P**	**00 47 35.8**	**-1.4**
	0.3nm,0.4s,mb3.3,baz=250,slow=5.9,SNR=8.3						
ZRNK	**Zerenda**	**70.20**	**322**	*e*P	**P**	**00 47 41.0**	**+0.2**
	0.9nm,0.4s,mb3.8						
YKA	**Yellowknife Ar**	**83.94**	**27**	P	**P**	**00 48 56.6**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=288,slow=5.3,SNR=4.3						
ARCES	**ARCESS Array B**	**87.06**	**342**	P	**P**	**00 49 12.3**	**-0.3**
	3.0nm,0.8s,mb4.1,baz=66,slow=9.0,SNR=2.7						
NVAR	**Mina Array Bea**	**88.35**	**51**	P	**P**	**00 49 19.8**	**+1.1**
	0.7nm,0.7s,mb3.6,baz=258,slow=7.3,SNR=3.5						
NVAR	**Mina Array Bea**	**88.35**	**51**	P	**P**	**00 49 19.8**	**+1.1**
FINES	**FINESS Array B**	**90.95**	**335**	P	**P**	**00 49 29.2**	**-1.7**
	1.2nm,0.9s,mb3.8,baz=42,slow=3.1,SNR=6.7						
FINES	**FINESS Array B**	**90.95**	**335**	P	**P**	**00 49 29.2**	**-1.7**
CFAA	**Coronel Fontan**	**145.66**	**128**	PKPbc	PKPbc	00 56 05.3	+0.5
	0.2nm,0.5s,baz=234,slow=7.0,SNR=3.9						
LPAZ	**La Paz**	**149.40**	**100**	PKPbc	PKPbc	00 56 17.2	+2.3
	0.7nm,0.5s,baz=73,slow=1.4,SNR=5.6						
LPAZ	**La Paz**	**149.40**	**100**	PKPbc	PKPbc	00 56 17.2	+2.3

*ISCJB **02** 00:48:05.6±0.4, 1041N±004×7208W±004, h165km±3km, mb3.8/10, Error ellipse: s-maj=6.8km s-min=5.8km az=15.6*
*IDC **02** 00:48:06.2±0.6, 1043N×7204W, h159km±5km, mb3.6/10, mb1 3.8/13, mb1mx3.6/22, mbtmp4.2/13, Error ellipse: s-maj=15.3km s-min=9.8km az=56.0*
*NEIC **02** 00:48:07.4, 1042N×7215W, h162km, mb4.3/2, MW4.2(CAR), After CAR.*
*FUNV **02** 00:48:07.4, 1042N×7215W, h162km, MW4.2*
ISC 02 00:48:06.8±0.4, 1042N±003×7207W±004, h159km±3km, h165km±2.2km: pP-P, n50, σ0§84/60, mb3.8/10, 4C-4D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.34**	**285**	⇓*i*P	**Pn**	**00 48 28.4**	**0.0**
VIRV				*e*S	**Sn**	**00 48 44.1**	**-0.8**
DABV	**Dabajuro**	**1.50**	**70**	⇓*i*P	**Pn**	**00 48 37.8**	**+0.9**
QARV	**Quebrada Arrib**	**1.54**	**98**	⇓*e*P	**Pn**	**00 48 38.4**	**+1.1**
QARV				*e*S	**Sn**	**00 49 02.0**	**+1.2**
VIGV	**El Vigia**	**1.71**	**156**	⇑*i*P	**Pn**	**00 48 40.1**	**+0.9**
VIGV				*e*S	**Sn**	**00 49 02.9**	**-1.2**
SDV	**Santo Domingo**	**2.08**	**137**	P	**Pn**	**00 48 43.9**	**+0.7**
	29nm,0.3s,baz=221,slow=5.9,SNR=172						
SDV				S	**Sn**	**00 49 11.2**	**-0.2**
	338nm,0.3s,baz=360,slow=17,SNR=78						
SDV	**Santo Domingo**	**2.08**	**137**	*e*Pn	**Pn**	**00 48 43.8**	**+0.6**
SDV				*e*S	**Sn**	**00 49 11.1**	**-0.3**
CURV	**Curarigua**	**2.12**	**101**	⇓*i*P	**Pn**	**00 48 44.7**	**+1.0**
CURV				*e*S	**Sn**	**00 49 12.2**	**0.0**
SIQV	**Siquisique**	**2.24**	**84**	*e*P	**Pn**	**00 48 46.0**	**+0.9**
IMOV	**Isla Los Monje**	**2.25**	**31**	*e*P	**Pn**	**00 48 45.7**	**+0.5**
IMOV				*e*S	**Sn**	**00 49 13.8**	**-1.1**
SOCV	**Socops**	**2.44**	**150**	⇑*i*P	**Pn**	**00 48 47.8**	**+0.3**
SOCV				*e*S	**Sn**	**00 49 18.1**	**-0.8**
CAPV	**Capacho**	**2.55**	**185**	⇑*i*P	**Pn**	**00 48 48.9**	**+0.1**
CAPV				*e*S	**Sn**	**00 49 20.3**	**-1.0**
MONV	**Montecano**	**2.57**	**53**	*e*P	**Pn**	**00 48 48.9**	**-0.1**
SANV	**Sanarito**	**2.66**	**110**	*e*P	**Pn**	**00 48 51.2**	**+1.0**
SANV				*e*S	**Sn**	**00 49 22.6**	**-1.2**
TEPV	**Terepaima**	**2.87**	**99**	*e*P	**Pn**	**00 48 53.3**	**+0.5**
JACV	**Jacura**	**3.26**	**78**	*e*P	**Pn**	**00 48 58.8**	**+1.1**
TURV	**Turiamo**	**4.16**	**89**	*e*P	**Pn**	**00 49 10.4**	**+1.1**
BAUV	**El Baul**	**4.24**	**110**	*e*P	**Pn**	**00 49 10.0**	**-0.3**
BAUV				*e*S	**Sn**	**00 49 57.8**	**-1.9**
ELOV	**Elorza**	**4.25**	**143**	⇑*i*P	**Pn**	**00 49 10.0**	**-0.4**
BIRV	**Birongo**	**5.71**	**89**	*e*P	**Pn**	**00 49 29.8**	**+0.2**
BIRV	**Birongo**	**5.71**	**89**	*e*P	**Pn**	**00 49 28.8**	**-0.8**
MERV	**Las Mercedes**	**5.81**	**101**	*e*P	**Pn**	**00 49 30.9**	**-0.1**
ROSC	**El Rosal**	**5.96**	**202**	P	**Pn**	**00 49 34.5**	**+1.5**
	8.3nm,0.3s,baz=87,slow=9.8,SNR=13						
ROSC				S	**Sn**	**00 50 27.2**	**-13**
	3.4nm,0.3s,baz=297,slow=23,SNR=3.9						
CUPV	**Cepira**	**6.20**	**93**	*e*P	**Pn**	**00 49 35.7**	**-0.4**
PCRV	**Puerto La Cruz**	**7.32**	**91**	*e*P	**Pn**	**00 49 50.7**	**-0.4**
SJG	**San Juan**	**9.56**	**36**	P	**Pn**	**00 50 18.9**	**-1.8**
	7.3nm,0.3s,baz=212,slow=13,SNR=11						
SJG				S	**Sn**	**00 51 55.9**	**-11**
	15nm,0.3s,baz=1.5,slow=16,SNR=11						
SJG	**San Juan**	**9.56**	**36**	*e*Pn	**Pn**	**00 50 19.0**	**-1.8**
	21nm,0.3s						
OTAV	**Otavalo**	**11.94**	**212**	*e*Pn	**Pn**	**00 50 51.9**	**+0.1**
CCCC	**Cccc**	**12.04**	**334**	*e*P	**Pn**	**00 50 54.1**	**+0.9**
TEIG	**Tepich**	**18.41**	**304**	*e*P	**P**	**00 52 08.8**	**-0.9**
LPAZ	**La Paz**	**26.82**	**172**	P	**P**	**00 53 32.2**	**0.0**
	0.4nm,0.4s,mb3.4,baz=349,slow=9.0,SNR=4.8						
LPAZ				pP	pP	00 54 06.7	+1.6
	0.6nm,0.6s,baz=23,slow=4.5,SNR=2.8						
LPAZ	**La Paz**	**26.82**	**172**	*e*P	**P**	**00 53 32.4**	**+0.3**
	0.4nm,0.4s,mb3.4						
SIV	**San Ignacio**	**28.41**	**157**	P	**P**	**00 53 46.6**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=326,slow=15,SNR=3.3						
SIV				pP	pP	00 54 19.9	+0.5
	1.5nm,0.7s,baz=337,slow=8.2,SNR=6.1						
ULM	**Lac du Bonnet**	**44.31**	**338**	P	**P**	**00 56 00.2**	**-0.6**
	0.7nm,0.3s,mb3.7,baz=120,slow=5.5,SNR=5.7						
ULM	**Lac du Bonnet**	**44.31**	**338**	P	**P**	**00 56 00.2**	**-0.6**
TRQA	**Tornquist**	**49.13**	**169**	P	**P**	**00 56 37.8**	**-0.5**
PLCA	**Paso Flores**	**50.91**	**179**	*e*P	**P**	**00 56 52.1**	**+0.5**
YKA	**Yellowknife Ar**	**60.29**	**339**	P	**P**	**00 57 57.7**	**-0.7**
	0.9nm,0.5s,mb3.8,baz=126,slow=7.2,SNR=15						
YKA	**Yellowknife Ar**	**60.29**	**339**	P	**P**	**00 57 57.7**	**-0.7**
DBIC	**Dimbokro**	**66.48**	**87**	P	**P**	**00 58 38.6**	**-0.5**
	1.8nm,0.8s,mb4.0,baz=247,slow=7.7,SNR=5.3						
ESLA	**Sonseca Array**	**66.59**	**51**	*e*P	**P**	**00 58 40.4**	**+0.6**
EKA	**Eskdalemuir Ar**	**69.53**	**35**	P	**P**	**00 58 57.6**	**-0.6**
	2.0nm,0.9s,mb3.8,baz=266,slow=4.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**72.03**	**79**	P	**P**	**00 59 13.0**	**-0.3**
	1.2nm,0.5s,mb3.9,baz=286,slow=6.6,SNR=36						
TORD				pP	pP	00 59 52.2	+0.5
	0.2nm,0.4s,baz=287,slow=6.1,SNR=1.9						
ILAR	**Eielson Array**	**74.17**	**335**	P	**P**	**00 59 25.4**	**-0.5**
	145nm,0.3s,baz=110,slow=4.6,SNR=4.0						
NOA	**NORSAR Array B**	**77.71**	**30**	P	**P**	**00 59 46.6**	**+0.7**
	1.7nm,0.8s,mb3.7,baz=269,slow=5.7,SNR=3.8						
GERES	**GERESS Array B**	**79.47**	**42**	P	**P**	**00 59 55.1**	**-0.4**
	0.7nm,0.6s,mb3.5,baz=272,slow=4.0,SNR=7.2						
ARCES	**ARCESS Array B**	**82.96**	**21**	P	**P**	**01 00 13.1**	**-0.8**
	4.7nm,0.8s,mb4.3,baz=311,slow=4.5,SNR=5.2						
TSUM	**Tsumeb**	**93.05**	**109**	*e*P	**P**	**01 01 04.3**	**+2.0**
MKAR	**Makanchi Array**	**118.61**	**20**	PKP	PKPdf	01 06 34.1	-1.6
	0.1nm,0.3s,baz=315,slow=2.2,SNR=5.0						
ASAR	**Alice Springs**	**151.95**	**239**	PKPbc	PKPbc	01 07 42.9	0.0
	0.9nm,0.6s,baz=110,slow=2.7,SNR=8.9						
ASAR				pPKPbc	pPKPbc	01 08 23.7	-0.8
	0.5nm,0.6s,baz=114,slow=2.5,SNR=2.9						
WRA	**Warramunga Arr**	**152.84**	**246**	PKPbc	PKPbc	01 07 44.9	0.0
	0.5nm,0.4s,baz=99,slow=2.9,SNR=15						
WRA				PKPab	PKPab	01 07 56.3	-0.2
	0.4nm,0.8s,baz=100,slow=4.2,SNR=4.7						
WRA				pPKPbc	pPKPbc	01 08 26.9	+0.3
	0.8nm,0.5s,baz=104,slow=2.8,SNR=5.4						

MAN 02 00:57:53.2, 1371N×12000E, h27km, mb2.5, ML4.0, MS1.0, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.24**	**85**	⇓*e*P	Pb	00 58 01.2	+1.6
LUBP	**Lubang**	**0.24**	**85**	*e*P	Pb	00 58 01.2	+1.6
LUBP				*e*S	Sb	00 58 05.6	+1.6
PGP	**Puerto Galera**	**0.95**	**103**	⇑*i*P	Pn	00 58 10.1	-0.7
PGP				*i* S	Sb	00 58 20.5	-2.8
BUSP	**Coron**	**1.71**	**173**	*e*P	Pn	00 58 21.4	+0.2
BUSP				*e*S	Sn	00 58 38.6	-3.5
BOAC	**Boac**	**1.81**	**98**	*e*P	Pn	00 58 22.9	+0.2
BOAC				*e*S	Sn	00 58 45.6	+0.8
ENPP	**El Nido**	**2.55**	**193**	*e*P	Pn	00 58 33.6	+0.8

*ISCJB **02** 01:19:38.4±0.8, 5175N±004×692E±005, h0km, Error ellipse: s-maj=6.4km s-min=4.2km az=130.1*
*NEIC **02** 01:19:39.5±7.2, 5182N×700E, h10km, ML2.5(LDG), Error ellipse: s-maj=81.0km s-min=16.9km az=209.0*
*BGR **02** 01:19:41.7±1.1, 5170N×696E, h1km, ML2.1/3, Error ellipse: s-maj=14.5km s-min=5.6km az=137.0*
*BUG **02** 01:19:42.1, 5159N×705E, h1km, ML1.2*
*LDG **02** 01:19:42.5±0.2, 5166N×699E, h1km, Ml2.5/2, Error ellipse: s-maj=3.2km s-min=2.2km az=29.0, Suspected Mining induced.*
*BNS **02** 01:19:42.4±0.5, 5166N×700E, h1km, ML1.0*
ISC 02 01:19:40.3±0.8, 5172N±004×695E±005, h0km, n23, σ1§05/38, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.11**	**208**	Pg	**Pg**	**01 19 44.5**	**+2.1**
BZER				Sg	**Sg**	**01 19 46.7**	**+2.8**
WTSB	**Winterswijk**	**0.27**	**339**	*e*Pg	**Pg**	**01 19 50.2**	**+4.8**
	28nm,0.3s						
BUG	**Bochum--Univer**	**0.34**	**144**	*e*Pg	**Pg**	**01 19 48.0**	**+1.1**
	SNR=16						
LAUG	**Laupendahl**	**0.37**	**181**	*e*Pg	**Pg**	**01 19 48.1**	**+0.7**
BNS	**Bensberg**	**0.77**	**169**	*e*Pg	**Pg**	**01 19 55.6**	**+0.6**
HOBG	**Hohbusch**	**0.77**	**162**	*e*Pg	**Pg**	**01 19 55.7**	**+0.6**
HOBG				*e*Sg	**Sg**	**01 20 05.7**	**+0.5**
STB	**Steinbach**	**1.13**	**184**	*e*Pg	**Pg**	**01 20 02.6**	**+0.7**
STB				*e*Sg	**Sg**	**01 20 17.1**	**+0.6**
	19nm,0.3s						
KLL	**Kalltalsperre**	**1.15**	**201**	*e*Pg	**Pg**	**01 20 02.8**	**+0.5**
KLL				*e*Sg	**Sg**	**01 20 18.2**	**+1.1**
HGN	**Heimansgroeve**	**1.15**	**214**	*e*Pg	**Pg**	**01 20 03.3**	**+0.9**
	11nm,0.1s,baz=40						
HGN				*e*Sg	**Sg**	**01 20 18.5**	**+1.2**
BGG	**Burgeitz**	**1.53**	**171**	*e*Pg	**Pg**	**01 20 08.7**	**-1.0**
BGG				*e*Sg	**Sg**	**01 20 27.4**	**-2.2**
TNS	**Taunus Mts**	**1.77**	**147**	*e*Pg	**Pg**	**01 20 13.5**	**-0.7**
	SNR=2.8						
TNS				*e*Sg	**Sg**	**01 20 37.0**	**-0.3**
GIVF	**Givet**	**2.10**	**221**	*e*Pg	**Pg**	**01 20 21.3**	**+0.6**
GIVF				*e*Sn	**Sn**	**01 20 41.5**	**-2.2**
GIVF				*e*Sg	**Sg**	**01 20 47.3**	**-0.7**
	10nm,0.3s						
GIVF	**Givet**	**2.10**	**221**	*e*Pn	**Pn**	**01 20 16.4**	**-0.4**
GIVF				*e*Pg	**Pg**	**01 20 21.3**	**+0.6**
GIVF				*e*Sn	**Sn**	**01 20 41.5**	**-2.2**
GIVF				*e*Sg	**Sg**	**01 20 47.3**	**-0.7**
WLF	**Walferdange**	**2.12**	**194**	*e*Pg	**Pg**	**01 20 21.4**	**+0.5**
	SNR=1.1						
WLF				*e*Sg	**Sg**	**01 20 48.7**	**+0.3**
CLZ	**Clausthal**	**2.13**	**85**	*e*Pg	**Pg**	**01 20 21.0**	**-0.1**
	SNR=1.4						
CLZ				*e*Sg	**Sg**	**01 20 49.9**	**+1.2**
CDF	**Champ du Feu**	**3.32**	**176**	*e*Pn	**Pn**	**01 20 32.9**	**-0.6**
CDF				*e*Sg	**Sg**	**01 21 24.7**	**-2.2**
	1.4nm,0.4s						
SFTF	**Sexfontaines**	**3.73**	**200**	*e*Pn	**Pn**	**01 20 38.6**	**-0.5**
LOR	**Lormes**	**4.89**	**206**	*e*Pn	**Pn**	**01 20 54.5**	**-0.6**
CABF	**La Chapelle**	**5.14**	**187**	*e*Pn	**Pn**	**01 20 58.0**	**-0.6**
SSF	**Saint Saulge**	**5.17**	**207**	*e*Pn	**Pn**	**01 20 58.3**	**-0.7**
SMF	**Signal de Mont**	**5.47**	**203**	*e*Pn	**Pn**	**01 21 02.2**	**-0.9**
FLN	**La Foiniere**	**5.61**	**241**	*e*Pn	**Pn**	**01 21 03.9**	**-1.1**
BGF	**Bois d'Agland**	**5.82**	**209**	*e*Pn	**Pn**	**01 21 07.2**	**-0.7**

*IDC **02** 01:34:13.2±1.7, 176N×12372E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=198.3km s-min=24.6km az=63.0*
*ISCJB **02** 01:34:17.1±1.4, 04N±02×1212E±06, h33km, mb3.4/3, Error ellipse: s-maj=88.7km s-min=15.1km az=140.5*
ISC 02 01:34:19.5±1.4, 04N±02×1213E±06, h35km, n5, σ1§42/5, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**13.29**	**356**	*e*P	**Pn**	**01 37 25.8**	**+0.2**
WRA	**Warramunga Arr**	**23.92**	**148**	P	**P**	**01 39 29.4**	**-0.8**
	1.3nm,0.3s,mb3.8,baz=333,slow=11,SNR=30						
WB2	**Warramunga Arr**	**23.93**	**148**	*e*P	**P**	**01 39 29.4**	**-0.8**
ASAR	**Alice Springs**	**26.88**	**154**	P	**P**	**01 39 59.0**	**+2.0**
	0.2nm,0.3s,mb3.1,baz=352,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**57.38**	**329**	P	**P**	**01 44 04.0**	**-0.3**
	0.2nm,0.5s,mb3.4,baz=115,slow=8.8,SNR=4.1						

*NEIC **02** 02:03:54.0, 2907S×7048W, h86km, MD3.2(GUC), After GUC.*
GUC 02 02:03:54.0±0.7, 2907S×7048W, h86km±18km, MD3.2, ML3.5, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.07**	**218**	*e*P	Pn	02 04 14.4	+0.3
LSCH				*i* S	Sn	02 04 30.0	+0.7
LSCH				AMP		02 04 30.6	
	comp=N,626nm,0.2s						
LSCH	**La Serena**	**1.07**	**218**	*e*P	Pn	02 04 14.4	+0.3
LSCH				*i* S	Sn	02 04 30.0	+0.7
CPCH	**Copiapo**	**1.71**	**4**	⇑*i*P	Pn	02 04 23.0	+0.7
CPCH				*i* S	Sn	02 04 44.4	+0.7
CPCH				AMP		02 04 47.5	
	comp=E,2μm,0.2s						
CPCH	**Copiapo**	**1.71**	**4**	⇑*i*P	Pn	02 04 23.0	+0.7
CPCH				*i* S	Sn	02 04 44.4	+0.7
CDCH	**Caldera**	**2.01**	**351**	*e*P	Pn	02 04 26.8	+0.6
CDCH				*i* S	Sn	02 04 50.9	+0.1
CMCH	**Combarbala**	**2.14**	**192**	*e*P	Pn	02 04 28.6	+0.6
CMCH				*i* S	Sn	02 04 54.5	+0.7
CMCH				AMP		02 05 06.5	
	comp=E,345nm,0.7s						
CMCH	**Combarbala**	**2.14**	**192**	*e*P	Pn	02 04 28.6	+0.6
CMCH				*i* S	Sn	02 04 54.5	+0.7

IDC 02 02:03:59.7±2.1, 3208S×17845W, h0km, mb4.0/2, mb1 4.2/3, mb1mx4.0/13, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=46.4km s-min=36.4km az=99.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.16**	**209**	Pn	Pn	02 05 45.2	-0.5
	1.2nm,0.3s,baz=103,slow=14,SNR=9.1						
URZ				Sn	Sn	02 07 06.2	-1.5
	1.0nm,0.3s,baz=245,slow=18,SNR=7.3						
ASAR	**Alice Springs**	**42.67**	**269**	P	P	02 11 58.5	+0.4
	0.6nm,0.4s,baz=104,slow=7.7,SNR=10						
WRA	**Warramunga Arr**	**43.81**	**274**	P	P	02 12 07.7	+0.4
	1.5nm,0.3s,baz=112,slow=8.0,SNR=57						
FINES	**FINESS Array B**	**146.57**	**339**	PKPbc	PKPbc	02 23 41.2	-1.9
	1.0nm,0.8s,baz=27,slow=3.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**161.16**	**180**	PKPab	PKPab	02 24 45.6	+0.2
	2.0nm,1.2s,baz=177,slow=4.1,SNR=3.9						

*IDC **02** 02:13:44.3±5.3, 3126N×13782E, h214km±89km, mb2.8/4, mb1 3.0/6, mb1mx2.9/21, mbtmp3.4/6, Error ellipse: s-maj=128.1km s-min=15.8km az=63.0*
*ISCJB **02** 02:13:46.9±0.7, 3205N±008×1392E±0.1, h316km±8km, mb2.9/4, Error ellipse: s-maj=20.1km s-min=12.5km az=176.5*
*JMA **02** 02:13:47.3±0.2, 3199N×13905E, h303km, M3.7*
ISC 02 02:13:48.1±0.7, 3209N±008×1392E±01, h310km±8km, n17, σ1§14/25, mb2.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.13**	**24**	P	**Pn**	**02 14 29.8**	**-0.3**
	41nm,0.3s,baz=230,slow=17,SNR=7.0						
JHJ				S	**S**	**02 15 04.6**	**+1.1**
	20nm,0.3s,baz=73,slow=19,SNR=2.1						
JHJ2	**Mitsune**	**1.13**	**26**	P	**Pn**	**02 14 29.7**	**-0.4**
TK02	**Tokai 2**	**2.23**	**327**	P	**Pn**	**02 14 36.9**	**-0.6**
BSO3	**Boso 3**	**2.91**	**21**	P	**Pn**	**02 14 43.8**	**+0.2**
BSO3				S	**S**	**02 15 29.1**	**+1.1**
BSO1	**Boso 1**	**2.94**	**29**	P	**Pn**	**02 14 44.0**	**+0.1**
BSO1				*e*S	**S**	**02 15 29.2**	**+0.6**
BSO4	**Boso 4**	**3.04**	**17**	P	**Pn**	**02 14 45.7**	**+0.9**
BSO4				*e*S	**S**	**02 15 30.4**	**+0.2**
JWY	**Kouya**	**3.72**	**306**	P	**Pn**	**02 14 50.6**	**-1.2**
JHU	**Hanno**	**3.75**	**1**	*e*S	**S**	**02 15 42.1**	**-1.4**
JRY	**Ryogami san**	**3.93**	**356**	P	**Pn**	**02 14 55.0**	**+1.0**
JRY				*e*S	**S**	**02 15 47.1**	**+0.2**
JYT	**Yasato**	**4.21**	**11**	*e*S	**S**	**02 15 49.2**	**-3.1**
JAG	**Ashikaga**	**4.33**	**2**	P	**Pn**	**02 14 58.7**	**+0.3**
JAG				*e*S	**S**	**02 15 52.7**	**-2.1**
MJAR	**Matsushiro Arr**	**4.52**	**349**	P	**Pn**	**02 15 03.4**	**+2.8**
	0.8nm,0.3s,baz=175,slow=12,SNR=4.2						
MJAR				S	**S**	**02 16 04.1**	**+5.3**
	0.9nm,0.3s,baz=99,slow=24,SNR=4.2						
JHO	**Hitachi**	**4.64**	**13**	P	**Pn**	**02 15 02.1**	**+0.2**
JHO				*e*S	**S**	**02 15 59.3**	**-1.9**
SONM	**Songino Array**	**29.41**	**312**	P	**P**	**02 19 25.0**	**+1.6**
	0.1nm,0.4s,mb2.6,baz=118,slow=7.9,SNR=5.0						
MKAR	**Makanchi Array**	**45.39**	**306**	P	**P**	**02 21 37.6**	**+1.2**
	0.2nm,0.5s,mb2.6,baz=85,slow=8.8,SNR=4.7						
WRA	**Warramunga Arr**	**51.95**	**186**	P

PBEJ	**Beja**	**1.79**	**52**	*e*Pn	Pn	02 18 15.7	-2.0
PBEJ				*e*Sn	Sn	02 18 37.2	-2.8
PBEJ	comp=N,12nm,0.1s						
PBEJ	**Beja**	**1.79**	**52**	*e*Sn	Sn	02 18 37.2	-2.8
	comp=N,12nm,0.1s						
LIS	**Lisbon**	**1.82**	**13**	*e*P	Pn	02 18 16.9	-1.2
LIS				*e*S	Sn	02 18 38.0	-2.8
LIS				*e*S	Sn	02 18 38.0	-2.8
LIS				AML	AML	02 18 40.5	
	comp=N,131nm,0.4s						
LIS	**Lisbon**	**1.82**	**13**	P	Pn	02 18 16.9	-1.2
LIS				S	Sn	02 18 38.0	-2.8
LIS	**Lisbon**	**1.82**	**13**	*e*P	Pn	02 18 16.9	-1.2
LIS				*e*S	Sn	02 18 38.0	-2.8
EGRO	**El Granado**	**1.83**	**70**	P	Pn	02 18 16.7	-1.6
	comp=N,2.4nm,0.1s,SNR=37						
EGRO				S	Sn	02 18 38.6	-2.5
	comp=N,21nm,0.2s,SNR=19						
EGRO	**El Granado**	**1.83**	**70**	P	Pn	02 18 16.7	-1.5
	comp=N,2.4nm,0.1s,SNR=37						
EGRO				S	Sn	02 18 38.6	-2.5
	comp=N,21nm,0.2s,SNR=19						
MOE	**Montemor**	**1.89**	**33**	*e*Pn	Pn	02 18 17.7	-1.3
MOE				*e*Sn	Sn	02 18 40.3	-2.2
PLOU	**Loures**	**1.98**	**11**	*i* Pn	Pn	02 18 18.3	-2.0
PLOU				*e*Sn	Sn	02 18 42.2	-2.6
PLOU	comp=N,60nm,0.1s						
EMIN	**Mina Concepcio**	**2.52**	**70**	P	Pn	02 18 25.7	-2.0
	comp=N,1.9nm,0.1s,SNR=37						
EMIN				S	Sn	02 18 54.5	-3.5
	comp=N,7.8nm,0.2s						
EMIN	**Mina Concepcio**	**2.52**	**70**	P	Pn	02 18 25.7	-2.0
	comp=N,1.9nm,0.1s,SNR=37						
EMIN				S	Sn	02 18 54.5	-3.5
	comp=N,7.8nm,0.2s						
EBAD	**Badajoz**	**2.77**	**48**	P	Pn	02 18 28.9	-2.3
	comp=N,8.7nm,0.1s,SNR=47						
EBAD				S	Sn	02 19 00.8	-3.3
	comp=N,22nm,0.1s,SNR=7.6						
EBAD	**Badajoz**	**2.77**	**48**	P	Pn	02 18 28.9	-2.2
	comp=N,8.7nm,0.1s,SNR=47						
EBAD				S	Sn	02 19 00.8	-3.4
	comp=N,22nm,0.1s,SNR=7.6						
PTOM	**Tomar**	**2.85**	**20**	*e*Pn	Pn	02 18 30.4	-1.8
PTOM				*e*Sn	Sn	02 19 02.6	-3.6
PTOM	comp=N,19nm,0.1s						
ESPR	**Espera**	**3.04**	**90**	⇑P	Pn	02 18 33.2	-1.7
	comp=N,19nm,0.2s,SNR=18						
ESPR				S	Sn	02 19 08.2	-2.8
	comp=N,39nm,0.2s						
ESPR	**Espera**	**3.04**	**90**	P	Pn	02 18 33.2	-1.7
	comp=N,19nm,0.2s,SNR=18						
ESPR				S	Sn	02 19 08.2	-2.8
	comp=N,39nm,0.2s						
PCBR	**Castelo Branco**	**3.37**	**30**	*i* Pn	Pn	02 18 37.8	-1.5
PCBR				*e*Sn	Sn	02 19 15.2	-3.7
PCBR	comp=N,3.3nm,0.1s						
EJIF	**Jimena Fronter**	**3.40**	**97**	P	Pn	02 18 38.5	-1.2
	comp=N,0.3nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**3.83**	**25**	*e*Pn	Pn	02 18 43.9	-1.8
MTE				*e*Sn	Sn	02 19 26.1	-4.3
MTE	comp=N,4.9nm,0.2s						
EMIJ	**Mijas**	**3.94**	**94**	P	Pn	02 18 44.9	-2.3
	comp=N,0.7nm,0.1s,SNR=4.6						
EMIJ				S	Sn	02 19 30.8	-2.2
	comp=N,2.1nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.01**	**19**	*e*Pn	Pn	02 18 46.3	-2.0
PVIS				*e*Sn	Sn	02 19 30.3	-4.6
PVIS	comp=N,14nm,0.1s						
EADA	**Adamuz**	**4.22**	**72**	P	Pn	02 18 49.3	-1.8
	comp=N,2.0nm,0.1s,SNR=17						
EADA				S	Sn	02 19 35.0	-4.9
	comp=N,17nm,0.1s						
EADA	**Adamuz**	**4.22**	**72**	P	Pn	02 18 49.3	-1.7
	comp=N,2.0nm,0.1s,SNR=17						
EADA				S	Sn	02 19 35.0	-4.9
	comp=N,17nm,0.1s						
ELUQ	**Luque**	**4.34**	**80**	P	Pn	02 18 51.1	-1.7
	comp=N,0.4nm,0.1s,SNR=7.9						
ELUQ				S	Sn	02 19 39.8	-3.3
	comp=N,4.5nm,0.2s,SNR=13						
PVRL	**Vila Real**	**4.59**	**19**	*e*Pn	Pn	02 18 54.0	-2.1
PVRL				*e*Sn	Sn	02 19 43.9	-5.1
PVRL	comp=N,18nm,0.1s						
ECOG	**Cogollos-Vega**	**4.88**	**84**	P	Pn	02 18 58.9	-1.2
	comp=N,0.5nm,0.1s,SNR=7.9						
ECOG				S	Sn	02 19 52.3	-3.9
	comp=N,1.1nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**4.93**	**14**	*e*Pn	Pn	02 18 58.6	-2.2
PCAB				*e*Sn	Sn	02 19 52.3	-5.2
PCAB	comp=N,5.7nm,0.1s						
EQUE	**Quentar**	**4.98**	**85**	S	Sn	02 19 55.2	-3.5
	comp=N,1.9nm,0.2s,SNR=4.6						
ELOB	**Lobios**	**5.08**	**14**	P	Pn	02 19 00.2	-2.6
	comp=N,1.3nm,0.1s,SNR=10						
ELOB				S	Sn	02 19 55.3	-5.8
	comp=N,3.1nm,0.1s						
ELOB	**Lobios**	**5.08**	**14**	P	Pn	02 19 00.2	-2.6
	comp=N,1.3nm,0.1s,SNR=10						
ELOB				S	Sn	02 19 55.3	-5.8
	comp=N,3.1nm,0.1s						
ESDC	**Sonseca Array**	**5.24**	**57**	P	Pn	02 19 03.2	-1.9
	comp=N,2.0nm,0.1s,baz=245,slow=13,SNR=9.3						
ESDC				S	Sn	02 20 00.7	-4.5
	comp=N,4.5nm,0.2s,baz=243,slow=23,SNR=21						
ESDC	**Sonseca Array**	**5.24**	**57**	P	Pn	02 19 03.2	-1.9
	comp=N,2.0nm,0.1s,SNR=9.3						
ESDC	**Sonseca Array**	**5.24**	**57**	P	Pn	02 19 03.2	-1.9
ESDC				S	Sn	02 20 00.7	-4.5
EZAM	**Zamans**	**5.26**	**8**	P	Pn	02 19 02.9	-2.4
	comp=N,2.5nm,0.3s,SNR=7.9						
EZAM				S	Sn	02 20 00.1	-5.4
	comp=N,3.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.31**	**79**	P	Pn	02 19 04.2	-1.9
	comp=N,0.2nm,0.1s,SNR=6.7						
EQES				S	Sn	02 20 02.7	-4.2
	comp=N,4.6nm,0.1s						
EQES	**Quesada**	**5.31**	**79**	P	Pn	02 19 04.2	-1.9
	comp=N,0.2nm,0.1s,SNR=6.7						
EQES				S	Sn	02 20 02.8	-4.2
PBRG	**Braganca**	**5.36**	**24**	*e*Pn	Pn	02 19 04.5	-2.2
PBRG				*e*Sn	Sn	02 20 01.9	-6.2
PBRG	comp=N,4.0nm,0.1s						
EBER	**Berja**	**5.42**	**88**	P	Pn	02 19 06.6	-1.0
	comp=N,0.6nm,0.2s,SNR=7.9						
EBER				S	Sn	02 20 05.6	-4.0
	comp=N,0.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.42**	**88**	P	Pn	02 19 06.6	-1.0
	comp=N,0.6nm,0.2s,SNR=7.9						
EBER				S	Sn	02 20 05.6	-4.0
	comp=N,0.9nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.48**	**23**	P	Pn	02 19 06.4	-2.1
	comp=N,4.9nm,0.2s,SNR=17						
ECAL				S	Sn	02 20 06.0	-5.1
	comp=N,6.4nm,0.3s						
ECAL	**Calabor**	**5.48**	**23**	P	Pn	02 19 06.4	-2.0
	comp=N,4.9nm,0.2s,SNR=17						
ECAL				S	Sn	02 20 06.0	-5.1
	comp=N,6.4nm,0.3s						
GUD	**Guadarrama**	**5.67**	**48**	P	Pn	02 19 08.9	-2.1
	comp=N,0.6nm,0.1s,SNR=7.9						
GUD				S	Sn	02 20 10.3	-5.4
	comp=N,1.3nm,0.1s,SNR=5.2						
ERUA	**La Rua**	**5.78**	**19**	P	Pn	02 19 10.1	-2.4
	comp=N,1.8nm,0.1s,SNR=7.9						
ERUA				S	Sn	02 20 12.8	-5.7
	comp=N,3.3nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**5.91**	**71**	S	Sn	02 20 15.9	-5.9
	comp=N,4.6nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.03**	**5**	P	Pn	02 19 12.5	-3.4
	comp=N,1.4nm,0.1s,SNR=6.5						
EMAZ				S	Sn	02 20 16.0	-8.5
	comp=N,4.8nm,0.1s						
EMAZ	**Mazaricos**	**6.03**	**5**	P	Pn	02 19 12.6	-3.3
ETOB	**Tobarra**	**6.64**	**73**	P	Pn	02 19 22.0	-2.3
	comp=N,0.6nm,0.1s,SNR=6.1						
ETOB				S	Sn	02 20 32.4	-7.3
	comp=N,0.5nm,0.1s						
ETOB	**Tobarra**	**6.64**	**73**	P	Pn	02 19 22.0	-2.4
	comp=N,0.6nm,0.1s,SNR=6.1						
EPON	**Pontenova**	**6.66**	**16**	P	Pn	02 19 22.3	-2.4
	comp=N,0.3nm,0.1s,SNR=7.9						
EPON				S	Sn	02 20 32.3	-7.9
	comp=N,1.0nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**6.66**	**16**	P	Pn	02 19 22.3	-2.4
	comp=N,0.3nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.21**	**27**	P	Pn	02 19 30.6	-1.5
	comp=N,0.6nm,0.2s,SNR=9.2						
EARI				S	Sn	02 20 49.5	-4.2
	comp=N,0.2nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.21**	**27**	P	Pn	02 19 30.6	-1.5
	comp=N,0.6nm,0.2s,SNR=9.2						
EARI				S	Sn	02 20 49.5	-4.1
	comp=N,0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**7.96**	**62**	P	Pn	02 19 41.1	-1.3
	comp=N,1.3nm,0.2s,SNR=7.9						
EMOS				S	Sn	02 21 07.4	-4.6
	SNR=7.9						
EMOS	**Mosqueruela**	**7.96**	**62**	P	Pn	02 19 41.1	-1.3
EMOS				S	Sn	02 21 07.4	-4.6

*IDC **02** 02:26:29.9±0.6, 404S×12996E, h0km, mb4.3/9, mb1 4.4/11, mb1mx4.3/17, mbtmp4.3/11, ML4.2/2, Error ellipse: s-maj=50.7km s-min=15.1km az=72.0*
*ISCJB **02** 02:26:33.3±0.3, 422S±004×12966E±009, h33km, mb4.6/41, MS4.2/5, Error ellipse: s-maj=13.6km s-min=4.9km az=144.8*
*MOS **02** 02:26:33.2±1.1, 417S×12959E, h33km, mb4.6/19, Error ellipse: s-maj=22.7km s-min=8.1km az=111.4*
*NEIC **02** 02:26:35.7±1.5, 408S×12969E, h37km±14km, mb4.6/18, Error ellipse: s-maj=11.8km s-min=6.9km az=55.0*
*BJI **02** 02:26:35.7, 410S×12970E, h37km, mB5.0, mb4.7, Ms4.7, Msz4.3*

ISC 02 02:26:35.3±0.3, 427S±004×12973E±009, h34km, h34km±.5km:pP-P, n81, σ1°19/88, mb4.6/41, MS4.2/5, 2C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 16nm,0.6s	**8.80**	**162**	*e*P	**Pn**	**02 28 42.3**	**+2.2**
FITZ	**Fitzroy Crossi** 23nm,0.5s	**14.31**	**196**	*e*P	**Pn**	**02 29 59.1**	**+3.7**
WRAB	**Tennant Creek** 14nm,0.8s	**16.20**	**164**	*e*P	**Pn**	**02 30 20.4**	**+0.1**
WRAB				*e*Sn	**Sn**	**02 33 16.1**	**-2.8**
WRAB	**Tennant Creek**	**16.20**	**164**	*e*P	**Pn**	**02 30 20.4**	**+0.1**
WRAB				*e*		02 33 16.1	
WRAB	comp=Z,14nm,0.8s			pmax	pmax		
WRA	**Warramunga Arr**	**16.21**	**164**	Pn	**Pn**	**02 30 19.5**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=350,slow=13,SNR=16						
WRA				Sn	**Sn**	**02 33 15.9**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=346,slow=22,SNR=3.3						
WB2	**Warramunga Arr**	**16.21**	**164**	*e*P	**Pn**	**02 30 20.5**	**+0.1**
MBWA	**Marble Bar**	**19.39**	**209**	*e*P	**Pn**	**02 31 00.0**	**+0.5**
	comp=Z,21nm,0.8s						
AS31	**Alice Springs**	**19.70**	**169**	⇓*i*P	**Pn**	**02 31 04.4**	**+1.2**
ASAR	**Alice Springs**	**19.70**	**169**	P	**Pn**	**02 31 04.2**	**+1.1**
	comp=Z,2.8nm,0.3s,baz=346,slow=9.8,SNR=111						
ASAR				S	**Sn**	**02 34 42.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=351,slow=22,SNR=3.9						
ASAR				PcP	PcP	02 35 20.6	+1.1
	comp=Z,0.3nm,0.3s,baz=7.3,slow=1.4,SNR=7.5						
ASAR	**Alice Springs**	**19.70**	**169**	P	**Pn**	**02 31 04.3**	**+1.1**
ASAR				S	**Sn**	**02 34 42.3**	**-1.1**
ASPA	**Alice Springs**	**19.70**	**169**	⇓*i*P	**Pn**	**02 31 04.4**	**+1.2**
KSM	**Kuching**	**20.23**	**286**	*e*P	**P**	**02 31 06.7**	**-0.6**
CTA	**Charters Tower**	**22.50**	**136**	⇓*i*P	**P**	**02 31 34.8**	**+3.0**
	comp=Z,11nm,0.6s,mb4.5						
CTA	**Charters Tower**	**22.50**	**136**	P	**P**	**02 31 35.0**	**+3.2**
	comp=Z,12nm,0.6s,mb4.5,baz=322,slow=12,SNR=25						
CTA	**Charters Tower**	**22.50**	**136**	⇓*i*P	**P**	**02 31 34.8**	**+3.0**
CTA				pmax	pmax		
	comp=Z,11nm,0.6s						
CTAO	**Charters Tower**	**22.50**	**136**	*e*P	**P**	**02 31 34.5**	**+2.8**
	comp=Z,12nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**22.50**	**136**	*e*P	**P**	**02 31 34.5**	**+2.7**
CTAO				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**29.63**	**159**	P	**P**	**02 32 37.2**	**-0.1**
	comp=Z,1.7nm,0.4s,mb4.2,baz=354,slow=8.8,SNR=5.6						
STKA	**Stephens Creek**	**29.63**	**159**	*e*P	**P**	**02 32 37.3**	**-0.1**
QIZ	**Qiongzhong**	**30.32**	**320**	*e*P	**P**	**02 32 43.7**	**+0.2**
SSE	**Sheshan**	**36.10**	**348**	P	**P**	**02 33 35.3**	**+1.5**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,116nm,3.6s						
NJ2	**Nanjing**	**37.58**	**345**	*e*P	**P**	**02 33 47.4**	**+1.0**
NJ2				AP	pP	02 33 57.1	+0.7
NJ2				XP	sP	02 34 01.1	+0.5
NJ2				PP	PP	02 35 11.9	-0.5
NJ2				S	**S**	**02 39 33.0**	**-0.4**
NJ2				XS	sS	02 39 49.0	-1.0
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,330nm,5.2s						
NJ2				LR	LR		
	comp=N,640nm,18.5s,MS4.6						
NJ2				LR	LR		
	comp=E,340nm,13.8s,MS4.6						
NJ2				LR	LR		
	comp=Z,180nm,16.6s,MS4.0						
KMI	**Kunming**	**39.26**	**319**	P	**P**	**02 34 02.3**	**+1.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
MAJO	**Matsushiro**	**41.37**	**10**	P	**P**	**02 34 17.0**	**-1.0**
	comp=Z,6.1nm,0.5s,mb4.5						
MAJO	**Matsushiro**	**41.37**	**10**	P	**P**	**02 34 17.0**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.5						
MJAR	**Matsushiro Arr**	**41.37**	**10**	P	**P**	**02 34 14.9**	**-3.1**
	comp=Z,2.5nm,0.6s,mb4.0,baz=180,slow=8.8,SNR=6.4						
CD2	**Chengdu**	**42.88**	**326**	*e*P	**P**	**02 34 32.0**	**+1.7**
CD2				AP	pP	02 34 41.9	+1.4
CD2				PP	PP	02 36 14.5	+4.4
CD2				S	**S**	**02 40 54.2**	**+1.6**
CD2				XS	sS	02 41 11.1	+1.7
CD2				SS	SS	02 44 00.9	-3.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
CD2				LR	LR		
	comp=N,90nm,9.6s						
CD2				LR	LR		
	comp=Z,70nm,15.6s,MS3.7						
LZH	**Lanzhou**	**46.89**	**331**	*e*P	**P**	**02 35 04.9**	**+2.7**
LZH				AP	pP	02 35 15.4	+2.9
LZH				XP	sP	02 35 19.3	+2.7
LZH				PP	PP	02 36 55.2	+2.4
LZH				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,79nm,7.2s						
LZH				LR	LR		
	comp=N,356nm,15.2s						
LZH				LR	LR		
	comp=Z,397nm,18.4s,MS4.4						
HHC	**Hu-ho-hao-te**	**47.89**	**341**	*e*P	**P**	**02 35 12.7**	**+2.7**
HHC				AP	pP	02 35 22.6	+2.4
HHC				XP	sP	02 35 26.5	+2.2
HHC				PCP	PcP	02 36 40.9	+2.8
HHC				PP	PP	02 37 03.5	+1.5
HHC				S	**S**	**02 42 08.1**	**+3.3**
HHC				XS	sS	02 42 24.6	+2.8
HHC				SCS	ScS	02 45 00.1	-0.5
HHC				SS	SS	02 45 31.0	-2.7
HHC				AMB	AMB		
	comp=Z,3.0nm,0.2s,mb5.0						
HHC				AMB	AMB		
	comp=Z,48nm,3.8s						
HHC				LR	LR		
	comp=N,231nm,5.9s						
HHC				LR	LR		
	comp=E,155nm,4.9s						
HHC				LR	LR		
	comp=Z,161nm,5.5s						
CN2	**Changchun**	**48.01**	**356**	*e*P	**P**	**02 35 13.8**	**+2.9**
CN2				*e*AP	pP	02 35 23.6	+2.4
CN2				*e*S	**S**	**02 42 09.3**	**+2.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,17.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,17.0s,MS4.6						
CN2				LR	LR		
	comp=Z,200nm,13.0s,MS4.3						
MDJ	**Mudanjiang**	**48.67**	**360**	P	**P**	**02 35 16.5**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,62nm,4.6s						
LSA	**Lhasa**	**50.07**	**315**	P	**P**	**02 35 27.3**	**+0.6**
LSA	**Lhasa**	**50.07**	**315**	*e*P	**P**	**02 35 27.4**	**+0.7**
	comp=Z,6.1nm,0.6s,mb4.8						
LSA	**Lhasa**	**50.07**	**315**	*e*P	**P**	**02 35 27.4**	**+0.7**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
GTA	**Gaotai**	**51.47**	**330**	*e*P	**P**	**02 35 37.5**	**+0.2**
GTA				AP	pP	02 35 47.3	-0.3
GTA				XP	sP	02 35 51.6	-0.1
GTA				PP	PP	02 37 34.7	+0.1
GTA				S	**S**	**02 42 53.0**	**-2.0**
GTA				XS	sS	02 43 09.7	-2.3
GTA				SS	SS	02 46 27.1	-4.0
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
GTA				AMB	AMB		
	comp=Z,122nm,6.8s						
GTA				LR	LR		
	comp=N,145nm,13.7s,MS4.4						
GTA				LR	LR		
	comp=E,205nm,14.8s,MS4.4						
GTA				LR	LR		
	comp=Z,131nm,17.1s,MS4.0						
JIRN	**Jiri**	**52.62**	**310**	*e*P	**P**	**02 35 45.5**	**-0.3**
	comp=Z,9.8nm,0.6s,mb4.9						
GUN	**Gumba**	**52.98**	**310**	*e*P	**P**	**02 35 48.1**	**-0.4**
	comp=Z,25nm,0.7s,mb5.3						
DMN	**Daman**	**53.43**	**309**	*e*P	**P**	**02 35 51.1**	**-0.7**
GKN	**Gorkha**	**53.99**	**309**	*e*P	**P**	**02 35 54.9**	**-0.9**
	comp=Z,9.7nm,0.4s,mb5.1						
KOLN	**Koldanda**	**54.68**	**308**	*e*P	**P**	**02 36 00.4**	**-0.5**
	comp=Z,27nm,0.9s,mb5.3						
HYB	**Hyderabad**	**54.91**	**295**	*i* P	**P**	**02 36 01.0**	**-1.5**
HYB	**Hyderabad**	**54.91**	**295**	*e*P	**P**	**02 36 01.0**	**-1.5**
ULN	**Ulaanbaatar**	**55.60**	**342**	*e*P	**P**	**02 36 07.5**	**0.0**
	comp=Z,4.9nm,0.8s,mb4.6						
ULN				*e*	pP	02 36 17.1	-0.9
ULN	**Ulaanbaatar**	**55.60**	**342**	*e*P	**P**	**02 36 07.6**	**+0.1**
ULN				*e*	pP	02 36 17.1	-0.9
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
SONM	**Songino Array**	**55.79**	**341**	P	**P**	**02 36 08.8**	**-0.1**
	comp=Z,1.4nm,0.9s,mb4.0,baz=145,slow=8.4,SNR=10.0						
ZAK	**Zakamensk**	**59.02**	**341**	*e*P	**P**	**02 36 27.2**	**-4.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
WMQ	**Urumqi**	**60.98**	**326**	*e*P	**P**	**02 36 46.8**	**+1.7**
WMQ				AP	pP	02 36 56.8	+1.2
WMQ				XP	sP	02 37 00.8	+1.1
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.8						
BOD	**Bodaibo**	**63.18**	**351**	*e*P	**P**	**02 36 58.6**	**-1.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
MK31	**Makanchi Array**	**65.81**	**326**	*i* P	**P**	**02 37 16.6**	**-0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**65.81**	**326**	P	**P**	**02 37 16.7**	**-0.3**
	comp=Z,5.2nm,0.5s,mb4.8,baz=115,slow=7.9,SNR=102						
MKAR	**Makanchi Array**	**65.81**	**326**	*e*P	**P**	**02 37 16.6**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YAK	**Yakutsk**	**66.12**	**360**	*e*P	**P**	**02 37 18.2**	**-0.8**
	comp=Z,27nm,0.5s,mb5.5						
YAK	**Yakutsk**	**66.12**	**360**	*e*P	**P**	**02 37 18.2**	**-0.8**
YAK				pmax	pmax		
	comp=Z,27nm,0.5s,mb5.5						
TKM2	**Tokmak 2**	**67.73**	**320**	*i* P	**P**	**02 37 29.1**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**68.30**	**319**	*e*P	**P**	**02 37 32.1**	**-0.7**
	comp=Z,2.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**68.30**	**319**	⇑*e*P	**P**	**02 37 31.4**	**-1.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.3s,mb4.2						
ZAL	**Zalesovo**	**69.04**	**333**	P	**P**	**02 37 36.3**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=355,slow=9.8,SNR=10						
ZAL	**Zalesovo**	**69.04**	**333**	*i* P	**P**	**02 37 36.7**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SEY	**Seymchan**	**69.19**	**11**	*i* P	**P**	**02 37 39.3**	**+0.9**
KURK	**Kurchatov**	**70.07**	**328**	*e*P	**P**	**02 37 43.0**	**-0.8**
	comp=Z,12nm,0.8s,mb4.9						
KURK	**Kurchatov**	**70.07**	**328**	*c i*P	**P**	**02 37 43.4**	**-0.4**
VNDA	**Vanda**	**75.17**	**173**	P	**P**	**02 38 14.5**	**+0.4**
	comp=Z,2.2nm,1.0s,mb4.0,baz=335,slow=4.7,SNR=7.7						
VNDA	**Vanda**	**75.17**	**173**	P	**P**	**02 38 14.3**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.0						
VNDA	**Vanda**	**75.17**	**173**	P	**P**	**02 38 14.3**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VOSK	**Vostochnaya**	**75.17**	**327**	P	**P**	**02 38 13.3**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BVA0	**Borovoye Array**	**75.63**	**328**	P	**P**	**02 38 16.3**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BVAR	**Borovoye Array**	**75.63**	**328**	P	**P**	**02 38 16.4**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.4,baz=126,slow=9.6,SNR=28						
BRVK	**Borovoye**	**75.70**	**328**	*e*P	**P**	**02 38 16.5**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.4						
BRVK	**Borovoye**	**75.70**	**328**	*e*P	**P**	**02 38 16.5**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI	**Tiksi**	**75.78**	**360**	*i* P	**P**	**02 38 16.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
**ZRNK

MAN 02 02:50:46.8, 1352N×12014E, h32km, mb2.6, ML4.1, MS6.7, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.23**	**25**	*eP*	Pb	02 50 54.2	+0.6
LUBP	**Lubang**	**0.23**	**25**	*eP*	Pb	02 50 54.3	+0.7
LUBP				*eS*	Sb	02 50 59.1	+0.9
PGP	**Puerto Galera**	**0.79**	**92⇑**	*eP*	Pn	02 51 02.8	+1.1
BUSP	**Coron**	**1.51**	**178**	*eP*	Pn	02 51 11.7	+0.1
BUSP				*eS*	Sn	02 51 29.9	-0.3
BOAC	**Boac**	**1.66**	**92**	*eP*	Pn	02 51 13.4	-0.1
BOAC				*eS*	Sn	02 51 39.4	+5.6
ENPP	**El Nido**	**2.41**	**197**	*eP*	Pn	02 51 25.3	+1.3
ENPP				*eS*	Sn	02 51 51.9	-0.4
CUYO	**Cuyo Island**	**2.79**	**162**	*eP*	Pn	02 51 30.1	+0.9
CUYO				*eS*	Sn	02 52 00.6	-1.2

NEIC ***02*** *03:03:49.0±1.0, 5.11N×9445E, h30km, mb4.0/4, Error ellipse: s-maj=30.0km s-min=9.4km az=46.0*
IDC ***02*** *03:03:52.4±7.9, 5.19N×9461E, h58km±55km, mb3.5/5, mb1 3.7/6, mb1mx3.4/22, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=133.7km s-min=19.2km az=61.0*
ISCJB ***02*** *03:03:53.9±4.0, 53N±02×949E±03, h82km±31km, mb3.8/9, Error ellipse: s-maj=63.9km s-min=16.6km az=116.1*

ISC 02 03:03:55.2±3.8, 54N±02×949E±03, h75km±29km, n11, σ0§20/11, mb3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.78**	**122**	P	**Pn**	**03 05 04.8**	**0.0**
	1.7nm,0.3s,baz=330,slow=15,SNR=6.7						
KULM	**Kulim**	**5.77**	**90**	Pn	**Pn**	**03 05 18.2**	**0.0**
AAK	**Ala-Archa**	**41.29**	**337**	P	**P**	**03 11 33.4**	**+0.3**
	1.0nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**42.69**	**347**	P	**P**	**03 11 44.2**	**-0.4**
	0.5nm,0.4s,mb3.6,baz=165,slow=7.8,SNR=14						
SONM	**Songino Array**	**43.47**	**11**	P	**P**	**03 11 51.0**	**+0.1**
	0.6nm,0.8s,mb3.4,baz=182,slow=8.0,SNR=5.6						
WRA	**Warramunga Arr**	**46.24**	**124**	P	**P**	**03 12 13.0**	**+0.1**
	1.1nm,0.6s,mb3.8,baz=300,slow=9.8,SNR=16						
WRAB	**Tennant Creek**	**46.25**	**124**	*eP*	**P**	**03 12 12.7**	**-0.2**
	2.2nm,0.6s,mb4.1						
KURK	**Kurchatov**	**47.22**	**346**	*eP*	**P**	**03 12 20.8**	**+0.3**
	1.2nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**47.77**	**129**	P	**P**	**03 12 24.9**	**+0.1**
	0.5nm,0.4s,mb3.7,baz=296,slow=8.1,SNR=9.2						
ZAL	**Zalesovo**	**49.13**	**352**	P	**P**	**03 12 35.2**	**0.0**
	1.3nm,0.5s,mb4.1,baz=326,slow=7.2,SNR=5.8						
ZRNK	**Zerenda**	**51.98**	**340**	*eP*	**P**	**03 12 56.4**	**-0.3**
	0.8nm,0.4s,mb4.1						

ISCJB ***02*** *03:08:51.2±0.4, 4047N±002×2320E±004, h12km±6km, Error ellipse: s-maj=5.2km s-min=3.4km az=130.6*
THE ***02*** *03:08:51.8, 4048N×2321E, h11km, ML2.4*
CSEM ***02*** *03:08:52.0±0.1, 4048N×2321E, h20km, ML2.4, Error ellipse: s-maj=2.4km s-min=1.8km az=59.0*
ATH ***02*** *03:08:52.2, 4049N×2323E, h19km, MD3.1/3*
SKO ***02*** *03:08:53.2, 4050N×2318E, h2km*

ISC 02 03:08:51.4±0.4, 4046N±002×2320E±003, h17km±5km, n17, σ0§98/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.21**	**114**	*e*PB	**Pg**	**03 08 56.8**	**+0.5**
PLG				*e*SB	**Sg**	**03 09 00.2**	**+0.5**
THE	**Thessaloniki**	**0.25**	**314**	*e*Pg	**Pg**	**03 08 57.1**	**0.0**
THE				*e*Sg	**Sg**	**03 09 00.5**	**-0.3**
OUR	**Ouranopolis**	**0.61**	**102**	*e*Pg	**Pg**	**03 09 04.0**	**+0.5**
OUR				*e*Sg	**Sg**	**03 09 12.2**	**+0.5**
PAIG	**Paliouri**	**0.65**	**145**	*e*Pg	**Pg**	**03 09 04.2**	**+0.1**
PAIG				*e*Sg	**Sg**	**03 09 13.6**	**+0.8**
LIT	**Litokhoron**	**0.65**	**237**	*e*Pg	**Pg**	**03 09 04.7**	**+0.5**
LIT				*e*Sg	**Sg**	**03 09 14.0**	**+1.1**
SRS	**Serrai**	**0.72**	**24**	*e*Pg	**Pg**	**03 09 05.3**	**-0.3**
SRS				*e*Sg	**Sg**	**03 09 15.4**	**+0.2**
KNT	**Kendrikon**	**0.74**	**342**	*e*Pg	**Pg**	**03 09 05.8**	**-0.1**
KNT				*e*Sg	**Sg**	**03 09 15.4**	**-0.3**
GRG	**Griva**	**0.79**	**310**	*e*Pg	**Pg**	**03 09 07.0**	**+0.2**
GRG				*e*Sg	**Sg**	**03 09 18.0**	**+0.9**
VAY	**Valandovo**	**0.98**	**331**	*e*Pg	**Pg**	**03 09 10.1**	**-0.4**
VAY				*e*Sg	**Sg**	**03 09 23.6**	**+0.1**
VAY	**Valandovo**	**0.98**	**331**	*i* Pg	**Pg**	**03 09 10.1**	**-0.4**
VAY				*e*Sg	**Sg**	**03 09 22.8**	**-0.7**
VAY	**Valandovo**	**0.98**	**331**	*e*Pg	**Pg**	**03 09 10.1**	**-0.4**
VAY				*e*Sg	**Sg**	**03 09 22.7**	**-0.8**
NVR	**Nevrokopi**	**1.02**	**29**	*e*PN	**Pn**	**03 09 11.0**	**0.0**
NVR				*e*SN	**Sn**	**03 09 24.7**	**-0.3**
XOR	**Xorichti**	**1.09**	**180**	*e*Pg	**Pg**	**03 09 12.7**	**+0.2**
XOR				*e*Sg	**Sg**	**03 09 27.8**	**+0.9**
LOS	**Limnos**	**1.53**	**109**	*e*Pg	**Pg**	**03 09 18.1**	**-2.9**
LOS				*e*Sg	**Sg**	**03 09 38.7**	**-2.3**
LOS	**Limnos**	**1.53**	**109**	*e*Pg	**Pg**	**03 09 18.0**	**-3.0**
LOS				*e*Sg	**Sg**	**03 09 38.7**	**-2.2**
AGG	**Agios Georgios**	**1.58**	**205**	*e*Pg	**Pg**	**03 09 19.7**	**-2.2**
AGG				*e*Sg	**Sg**	**03 09 40.7**	**-1.8**
RDO	**Rodhopi**	**1.90**	**68**	*e*PN	**Pn**	**03 09 25.5**	**+2.4**

TEH ***02*** *04:02:48.7, 3197N×4898E, h17km, ML4.3*
OMAN ***02*** *04:03:36.5, 3199N×4844E, h35km, Error ellipse: s-maj=491.6km s-min=26.5km az=333.0*
ISCJB ***02*** *04:03:37.9±0.2, 3192N±003×4896E±002, h19km, mb4.5/48, MS3.8/4, Error ellipse: s-maj=4.0km s-min=2.8km az=42.0*
CSEM ***02*** *04:03:38.7±0.1, 3193N×4887E, h30km, mb4.5/38, Error ellipse: s-maj=2.6km s-min=1.7km az=20.0*
THR ***02*** *04:03:39.5±0.8, 3196N×4906E, h19km±10km, ML4.1*
BJI ***02*** *04:03:39.5, 3200N×4910E, h19km, mB5.1, mb4.7, Ms4.7, Msz4.4*
NEIC ***02*** *04:03:39.5, 3196N×4906E, h19km, mb4.6/24, ML4.1(THR), ML4.3(TEH), After THR.*
MOS ***02*** *04:03:40.1±1.0, 3208N×4896E, h33km, mb4.5/26, Error ellipse: s-maj=9.4km s-min=6.4km az=107.3*
IDC ***02*** *04:03:42.2±2.5, 3211N×4908E, h30km±15km, mb4.1/16, mb1 4.1/18, mb1mx4.0/25, mbtmp4.2/18, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/30, Error ellipse: s-maj=21.7km s-min=13.7km az=142.0*

ISC 02 04:03:40.7±0.2, 3204N±002×4899E±002, h19km, (h43km±1.3km:pP-P), n213, σ1§38/228, mb4.5/48, MS3.8/4, 7C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.17**	**294**	*e*PG	**Pg**	**04 03 45.5**	**+0.2**
SHGR				*e*SG	**Sg**	**04 03 49.9**	**+1.4**
SHGR	**Shooshtar-Gavs**	**0.17**	**294**	Pg	**Pg**	**04 03 45.0**	**-0.3**
SHGR				Sg	**Sg**	**04 03 49.0**	**+0.6**
IPIR	**Pirpir**	**1.73**	**68**	*e*Pn	**Pn**	**04 04 10.9**	**+1.1**
IPIR				*e*Sn	**Sn**	**04 04 33.5**	**+2.1**
IPIR	**Pirpir**	**1.73**	**68**	Pn	**Pn**	**04 04 10.8**	**+1.0**
IPIR				Sn	**Sn**	**04 04 33.4**	**+2.0**
IKOM	**Komasi**	**2.46**	**330**	*e*Sn	**Sn**	**04 04 51.7**	**+2.3**
IKLH	**Kalahroud**	**2.53**	**59**	*e*Pn	**Pn**	**04 04 22.8**	**+2.1**
IKLH	**Kalahroud**	**2.53**	**59**	Pn	**Pn**	**04 04 22.7**	**+2.0**
MIB	**Mutribah**	**2.64**	**213**	*e*P	**Pn**	**04 04 25.1**	**+2.8**
MIB				AML	AML	04 05 12.5	
	comp=Z,527nm,0.4s						
ASAO	**Ashtian**	**2.65**	**19**	*e*PN	**Pn**	**04 04 24.6**	**+2.2**
ASAO				AML	AML	04 05 13.8	
	comp=E,686nm,0.6s						
ASAO	**Ashtian**	**2.65**	**19**	Pn	**Pn**	**04 04 24.0**	**+1.6**
UMR	**Umm Al-Rimmam**	**2.71**	**204**	*e*P	**Pn**	**04 04 25.7**	**+2.5**
UMR				*e*S	**Sn**	**04 05 00.7**	**+5.2**
IGAR	**Garneh**	**2.73**	**85**	*e*Pn	**Pn**	**04 04 23.3**	**-0.2**
IZEF	**Zefreh**	**2.95**	**72**	*e*Pn	**Pn**	**04 04 27.8**	**+1.3**
IZEF				*e*Sn	**Sn**	**04 05 02.0**	**+0.6**
IGHG	**Ghaleghazi**	**3.06**	**319**	*e*Pn	**Pn**	**04 04 29.7**	**+1.7**
IGHG				*e*Sn	**Sn**	**04 05 05.2**	**+1.2**
IGHG	**Ghaleghazi**	**3.06**	**319**	Pn	**Pn**	**04 04 29.7**	**+1.7**
IGHG				Sn	**Sn**	**04 05 05.1**	**+1.1**
KBD	**Kabd**	**3.06**	**202**	*e*P	**Pn**	**04 04 30.5**	**+2.4**
KBD				AML	AML	04 05 15.1	
	comp=Z,746nm,0.3s						
KBD	**Kabd**	**3.06**	**202**	*e*P	**Pn**	**04 04 30.5**	**+2.4**
KBD				*e*S	**Sn**	**04 05 09.3**	**+5.1**
NAY	**Al-Naaiem**	**3.16**	**209**	*e*P	**Pn**	**04 04 31.9**	**+2.5**
NAY	**Al-Naaiem**	**3.16**	**209**	*e*P	**Pn**	**04 04 31.9**	**+2.5**
NAY				*e*S	**Sn**	**04 05 12.5**	**+5.9**
NASN	**Na'in**	**3.32**	**76**	*e*PN	**Pn**	**04 04 32.8**	**+1.2**
NASN	**Na'in**	**3.32**	**76**	Pn	**Pn**	**04 04 32.0**	**+0.4**
SNGE	**Sanandaj**	**3.34**	**336**	*e*PN	**Pn**	**04 04 34.5**	**+2.6**
SNGE				AML	AML	04 05 39.7	
	comp=E,368nm,0.7s						
SNGE	**Sanandaj**	**3.34**	**336**	Pn	**Pn**	**04 04 34.0**	**+2.1**
RDF	**Al-Radifah**	**3.34**	**202**	*e*P	**Pn**	**04 04 34.6**	**+2.7**
QRN	**Al-Qurain**	**3.41**	**196**	*e*P	**Pn**	**04 04 35.3**	**+2.4**
IDHR	**Dehrash**	**3.43**	**321**	*e*Sn	**Sn**	**04 05 13.4**	**+0.1**
IRAZ	**Razeghan**	**3.45**	**13**	*e*Pn	**Pg**	**04 04 44.3**	**-2.4**
IRAZ	**Razeghan**	**3.45**	**13**	Pn	**Pg**	**04 04 44.2**	**-2.5**
IVRN	**Varamin**	**3.73**	**37**	*e*Pn	**Pn**	**04 04 38.7**	**+1.4**
IVRN				*e*Sn	**Sn**	**04 05 21.6**	**+0.9**
IMHD	**Mahdasht**	**3.90**	**21**	*e*Pn	**Pn**	**04 04 41.2**	**+1.7**
IMHD	**Mahdasht**	**3.90**	**21**	Pn	**Pn**	**04 04 41.1**	**+1.6**
BHD	**Baghdad**	**4.08**	**289**	*ex*	x	04 04 59.0	
BHD				*ex*	x	04 05 05.0	
BHD				*ex*	x	04 05 51.0	
BHD				*ex*	x	04 06 05.0	
IPAR	**Pars**	**4.12**	**121**	*e*Pn	**Pn**	**04 04 43.0**	**+0.4**
THKV	**Tehran--Karaj**	**4.17**	**22**	*e*PN	**Pn**	**04 04 45.3**	**+1.9**
THKV				AML	AML	04 06 13.5	
	comp=E,220nm,0.7s						
THKV	**Tehran--Karaj**	**4.17**	**22**	Pn	**Pn**	**04 04 45.0**	**+1.7**
CHTH	**Charan**	**4.25**	**24**	*e*PN	**Pn**	**04 04 45.8**	**+1.5**
DAMV	**Damavand**	**4.36**	**34**	*e*PN	**Pn**	**04 04 47.1**	**+1.2**
DAMV				AML	AML	04 06 10.7	
	comp=E,168nm,0.6s						
DAMV	**Damavand**	**4.36**	**34**	Pn	**Pn**	**04 04 47.0**	**+1.1**
IMOK	**Mook**	**4.38**	**132**	*e*Pn	**Pn**	**04 04 41.6**	**-4.6**
IAFJ	**Afjeh**	**4.43**	**30**	*e*Pn	**Pn**	**04 04 48.5**	**+1.6**
IAFJ	**Afjeh**	**4.43**	**30**	Pn	**Pn**	**04 04 48.4**	**+1.5**
ICHK	**Chekchek**	**4.60**	**86**	*e*Pn	**Pn**	**04 04 49.7**	**+0.5**
ICHK				*e*Sn	**Sn**	**04 05 40.9**	**-1.2**
ICHK	**Chekchek**	**4.60**	**86**	Pn	**Pn**	**04 04 49.6**	**+0.4**
ICHK				Sn	**Sn**	**04 05 40.8**	**-1.3**
IFIR	**Firoozkooh**	**4.77**	**40**	*e*Pn	**Pn**	**04 04 52.9**	**+1.4**
IFIR	**Firoozkooh**	**4.77**	**40**	Pn	**Pn**	**04 04 52.8**	**+1.3**
IMEH	**Mehriz**	**4.84**	**96**	*e*Pn	**Pn**	**04 04 52.9**	**+0.5**
IPRN	**Paran-Amol**	**4.99**	**32**	*e*Pn	**Pn**	**04 04 57.4**	**+2.9**
GHIR	**Ghir-Karzin**	**5.10**	**136**	*e*PN	**Pn**	**04 04 55.8**	**-0.2**
GHIR				AML	AML	04 06 02.4	
	comp=E,150nm,0.6s						
GHIR	**Ghir-Karzin**	**5.10**	**136**	Pn	**Pn**	**04 04 55.0**	**-1.0**
ISHM	**Shahmirzad**	**5.19**	**42**	*e*Pn	**Pn**	**04 04 58.0**	**+0.7**
IANJ	**Anjiloo**	**5.34**	**49**	*e*Pn	**Pn**	**04 04 58.9**	**-0.5**
IANJ				*e*Sn	**Sn**	**04 05 59.2**	**-1.2**
IANJ	**Anjiloo**	**5.34**	**49**	Pn	**Pn**	**04 04 58.8**	**-0.6**
IANJ				Sn	**Sn**	**04 05 59.2**	**-1.2**
IBAF	**Bafgh**	**5.62**	**93**	*e*Pn	**Pn**	**04 05 03.7**	**+0.5**
IBAF	**Bafgh**	**5.62**	**93**	Pn	**Pn**	**04 05 03.6**	**+0.4**
IGLO	**Galoogah**	**5.66**	**40**	*e*Pn	**Pn**	**04 05 09.6**	**+5.8**
IGLO	**Galoogah**	**5.66**	**40**	Pn	**Pn**	**04 05 09.5**	**+5.7**
IKIA	**Kiasar**	**5.70**	**42**	*e*Pn	**Pn**	**04 05 05.7**	**+1.4**
MSL	**Mosul**	**6.47**	**313**	*ex*	x	04 05 11.0	
MSL				*ex*	x	04 06 29.0	
CUKT	**Cukurca**	**6.83**	**321**	*e*PN	**Pn**	**04 05 20.0**	**+0.2**
KRBR	**Kerman**	**6.98**	**105**	*e*PN	**Pn**	**04 05 22.1**	**+0.3**
KRBR	**Kerman**	**6.98**	**105**	Pn	**Pn**	**04 05 22.0**	**+0.1**
HKR	**Hakkari**	**7.01**	**323**	*e*PN	**Pn**	**04 05 24.2**	**+1.9**
BNDS	**Bandar-Abbas**	**7.77**	**125**	*e*PN	**Pn**	**04 05 32.5**	**-0.3**
BNDS	**Bandar-Abbas**	**7.77**	**125**	*e*P	**Pn**	**04 05 32.0**	**-0.7**
VANT	**Van**	**7.86**	**326**	*e*PN	**Pn**	**04 05 36.8**	**+2.8**
CLDR	**Caldiran**	**8.20**	**331**	*e*P	**Pn**	**04 05 44.9**	**+6.2**
MARD	**Mardin**	**8.57**	**310**	*i* P	**Pn**	**04 05 42.4**	**-1.3**
MARD				*i* S	**Sn**	**04 07 14.9**	**-4.9**
BEST	**Besiri**	**8.61**	**315**	*i* P	**Pn**	**04 05 49.6**	**+5.3**
BTMT	**Batman**	**8.68**	**317**	*e*P	**Pn**	**04 05 40.5**	**-4.8**
GNI	**Garni**	**8.79**	**338**	Pn	**Pn**	**04 05 53.7**	**+7.0**
	comp=E,0.5nm,0.3s,baz=27,slow=9.0,SNR=3.0						
GNI	**Garni**	**8.79**	**338**	P	**Pn**	**04 05 47.0**	**+0.3**
BANOM	**Banah**	**8.84**	**132**	⇑P	**Pn**	**04 05 45.8**	**-1.5**
	SNR=11						
ASHO	**Ashiyiah**	**9.61**	**138**	⇓P	**Pn**	**04 05 57.1**	**-0.9**
	SNR=20						
MALT	**Malatya**	**10.67**	**309**	*e*P	**Pn**	**04 06 14.8**	**+2.3**
	comp=E,4.0nm,0.6s						
MALT	**Malatya**	**10.67**	**309**	*e*Pn	**Pn**	**04 06 14.8**	**+2.3**
	comp=E,4.5nm,0.6s						
MALT	**Malatya**	**10.67**	**309**	*e*P	**Pn**	**04 06 14.8**	**+2.3**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZEI	**Tsey**	**11.45**	**341**	*e*P	**Pn**	**04 06 30.0**	**+6.9**
BSY	**Bisya**	**11.78**	**140**	⇑P	**Pn**	**04 06 25.6**	**-2.0**
	SNR=16						
SMDO	**Samad**	**12.02**	**136**	P	**Pn**	**04 06 29.8**	**-1.2**
	SNR=12						
EIL	**Elat**	**12.29**	**263**	*e*Pn	**Pn**	**04 06 34.5**	**-0.2**
	comp=Z,186nm,0.7s						
BR131	**Keskin Array S**	**14.61**	**306**	*e*Pn	**Pn**	**04 07 07.4**	**+1.1**
	comp=Z,1.8nm,0.5s						
BR131				*e*P		04 07 13.1	
BRTR	**Keskin Array B**	**14.61**	**306**	Pn	**Pn**	**04 07 07.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=124,slow=12,SNR=3.8						
ABTO	**Aybut**	**15.13**	**164**	⇑P	**Pn**	**04 07 09.8**	**-3.6**
	SNR=23						
RBK	**Rabkut**	**15.22**	**161**	⇑P	**Pn**	**04 07 10.6**	**-3.9**
	SNR=22						
ANTO	**Ankara**	**15.25**	**305**	P	**Pn**	**04 07 15.0**	**+0.1**
	comp=Z,4.0nm,0.6s						
ANTO	**Ankara**	**15.25**	**305**	P	**Pn**	**04 07 15.0**	**+0.1**
ANTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TKTP	**Tekketepe**	**16.41**	**297**	*i* P	**Pn**	**04 07 28.1**	**-1.8**
ESKT	**Eskisehir**	**16.49**	**302**	*i* P	**Pn**	**04 07 35.4**	**+4.5**
AKTK	**Aktyubinsk**	**19.57**	**17**	P	**Pn**	**04 08 06.5**	**-2.2**
AKTK	**Aktyubinsk**	**19.57**	**17**	P	**Pn**	**04 08 06.5**	**-2.2**
AKTO	**Aktyubinsk**	**19.57**	**17**	P	**Pn**	**04 08 06.5**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=213,slow=11,SNR=17						
IDI	**Anoyia**	**20.31**	**286**	P	**P**	**04 08 16.4**	**+1.0**
	comp=Z,13nm,0.8s,baz=81,slow=8.4,SNR=5.2						
ANR	**Andizhan**	**20.68**	**59**	*e*P	**P**	**04 08 19.0**	**-0.5**
MLR	**Muntele Rosu**	**22.34**	**314**	P	**P**	**04 08 41.3**	**+4.0**
	comp=Z,5.8nm,0.8s,mb4.0,baz=166,slow=4.1,SNR=8.7						
MLR	**Muntele Rosu**	**22.34**	**314**	P	**P**	**04 08 41.3**	**+4.0**
MLR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AAK	**Ala-Archa**	**22.79**	**55**	*i* P	**P**	**04 08 41.2**	**-0.9**
	comp=Z,200nm,15.0s						
AAK	**Ala-Archa**	**22.79**	**55**	*e*P	**P**	**04 08 41.5**	**-0.6**
	comp=Z,2.9nm,0.7s,mb3.8						
AAK	**Ala-Archa**	**22.79**	**55**	*i* P	**P**	**04 08 41.2**	**-0.9**
AAK				pmax	pmax		
	comp=Z,10.0nm,2.0s,mb3.9						
AAK				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.7						
AKASG	**Malin Array Be**	**23.70**	**328**	P	**P**	**04 08 50.5**	**-0.8**
	comp=Z,1.1nm,0.4s,mb3.6,baz=106,slow=7.1,SNR=12						
AKASG				ScP	ScP	04 16 11.3	-1.1
	comp=Z,0.9nm,0.7s,baz=101,slow=1.9,SNR=4.2						
AKASG	**Malin Array Be**	**23.70**	**328**	P	**P**	**04 08 50.5**	**-0.8**
AKASG				ScP	ScP	04 16 11.3	-1.1
AKASG	**Malin Array Be**	**23.70**	**328**	P	**P**	**04 08 50.5**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				pmax	pmax		
	comp=N,1.0nm,0.7s						
OBN	**Obninsk**	**24.68**	**343**	*i* P	**P**	**04 08 59.8**	**-0.6**
	comp=N,16nm,0.6s,mb4.7						
OBN	**Obninsk**	**24.68**	**343**	*e*P	**P**	**04 08 57.9**	**-2.5**
	comp=N,22nm,0.6s,mb4.8						
OBN	**Obninsk**	**24.68**	**343**	*i* P	**P**	**04 08 59.8**	**-0.6**
OBN				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.7						
ARU	**Arti**	**25.28**	**12**	*e*P	**P**	**04 09 04.5**	**-1.3**
	comp=Z,4.9nm,0.7s,mb4.2						
ARU	**Arti**	**25.28**	**12**	*e*P	**P**	**04 09 04.5**	**-1.3**
	comp=Z,4.9nm,0.7s,mb4.2						
ARU	**Arti**	**25.28**	**12**	*e*P	**P**	**04 09 08.6**	**+2.8**
ARU				*e*		04 09 50.5	
ARU				*e*SS		04 14 47.4	
ZRNK	**Zerenda**	**25.42**	**29**	*e*P	**P**	**04 09 06.2**	**-0.9**
	comp=Z,6.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**25.42**	**29**	*e*P	**P**	**04 09 06.2**	**-0.9**
	comp=Z,6.2nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**25.42**	**29**	*e*P	**P**	**04 09 06.2**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**26.03**	**30**	*e*P	**P**	**04 09 12.0**	**-0.6**
	comp=Z,5.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**26.03**	**30**	*e*P	**P**	**04 09 12.0**	**-0.7**
	comp=Z,4.6nm,0.7s,mb4.1						
BRVK	**Borovoye**	**26.03**	**30**	*e*P	**P**	**04 09 12.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**26.05**	**30**	P	**P**	**04 09 12.3**	**-0.6**
	comp=Z,7.6nm,0.5s,mb4.5,baz=224,slow=8.5,SNR=52						
BVAR				ScP	ScP	04 16 16.5	-2.5
	comp=Z,2.6nm,0.7s,baz=222,slow=2.7,SNR=17						
BVAR	**Borovoye Array**	**26.05**	**30**	P	**P**	**04 09 12.3**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BVAR				pmax	pmax		
	comp=N,3.0nm,0.7s						
TIP	**Timpagrande**	**27.06**	**294**	*e*P	**P**	**04 09 22.9**	**+1.0**
TIP	**Timpagrande**	**27.06**	**294**	*e*P	**P**	**04 09 22.9**	**+1.1**
KURK	**Kurchatov**	**28.74**	**41**	*i* P	**P**	**04 09 36.1**	**-0.8**
KURK	**Kurchatov**	**28.74**	**41**	*e*P	**P**	**04 09 36.4**	**-0.5**
	comp=N,3.0nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**29.39**	**50**	P	**P**	**04 09 42.5**	**-0.2**
	comp=N,1.8nm,0.6s,mb4.0,baz=247,slow=7.9,SNR=26						
MKAR				ScP	ScP	04 16 26.3	-3.0
	comp=N,0.4nm,0.7s,baz=260,slow=4.2,SNR=4.0						
MKAR	**Makanchi Array**	**29.39**	**50**	P	**P**	**04 09 42.5**	**-0.2**
MKAR				ScP	ScP	04 16 26.3	-3.0
MKAR	**Makanchi Array**	**29.39**	**50**	P	**P**	**04 09 42.5**	**-0.2**
MKAR						04 16 26.3	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GKN	**Gorkha**	**31.04**	**88**	*e*P	**P**	**04 09 56.8**	**-0.5**
	comp=Z,9.3nm,0.4s,mb5.0						
KHC	**Kasperske Hory**	**31.49**	**313**	*i* P	**P**	**04 10 05.6**	**+4.4**
DMN	**Daman**	**31.55**	**89**	*e*P	**P**	**04 10 01.6**	**-0.2**
	comp=Z,16nm,0.7s,mb5.0						
KKN	**Kakani**	**31.64**	**88**	*e*P	**P**	**04 10 02.6**	**0.0**
	comp=Z,22nm,0.7s,mb5.1						
KKN	**Kakani**	**31.64**	**88**	*e*P	**P**	**04 10 02.6**	**0.0**
KKN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
GUN	**Gumba**	**32.12**	**88**	*e*P	**P**	**04 10 06.9**	**+0.1**
	comp=Z,24nm,0.7s,mb5.1						
WMQ	**Urumqi**	**32.44**	**58**	*e*P	**P**	**04 10 10.7**	**+1.1**
WMQ				AP	pP	04 10 22.7	+7.4
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
SQTA	**Sankt Quirin**	**32.45**	**309⇑**	*i* P	**P**	**04 10 09.6**	**-0.1**
	comp=Z,6.9nm,0.5s,mb4.8						
SQTA	**Sankt Quirin**	**32.45**	**309**	P	**P**	**04 10 09.6**	**-0.1**
	comp=Z,6.9nm,0.5s,mb4.8						
JIRN	**Jiri**	**32.45**	**88**	*e*P	**P**	**04 10 09.7**	**0.0**
	comp=Z,13nm,0.6s,mb5.0						
MOTA	**Moosalm**	**32.55**	**309⇑**	*i* P	**P**	**04 10 10.3**	**-0.3**
	comp=Z,2.8nm,0.4s,mb4.5						
JOF	**Joensuu**	**32.89**	**345**	*ep*	**P**	**04 10 12.8**	**-0.7**
	comp=Z,4.3nm,0.6s,mb4.6						
JOF	**Joensuu**	**32.89**	**345**	*e*P	**P**	**04 10 12.8**	**-0.7**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**32.98**	**340**	P	**P**	**04 10 13.7**	**-0.6**
	comp=Z,3.2nm,0.4s,mb4.6,baz=142,slow=9.2,SNR=40						
FINES	**FINESS Array B**	**32.98**	**340**	*i* P	**P**	**04 10 13.6**	**-0.7**
	comp=Z,3.0nm,0.4s,mb4.6						
FINES	**FINESS Array B**	**32.98**	**340**	*i* P	**P**	**04 10 13.6**	**-0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
**

HHC	**Hu-ho-hao-te**	**50.16**	**61**	*e*P	**P**	**04 12 34.8**	**-0.1**
HHC				AP	pP	04 12 47.3	+6.5
HHC				PCP	PcP	04 13 54.6	+0.5
HHC				PP	PP	04 14 31.1	+1.0
HHC				S	**S**	**04 19 40.7**	**-5.0**
HHC				XS	sS	04 20 01.8	+6.4
HHC				SCS	ScS	04 22 18.9	-6.3
HHC				SS	SS	04 23 11.4	-7.6
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,134nm,4.5s						
HHC				LR	LR		
	comp=N,108nm,5.8s						
HHC				LR	LR		
	comp=E,91nm,6.2s						
HHC				LR	LR		
	comp=Z,182nm,6.3s						
BOD	**Bodaibo**	**50.36**	**39**	*e*P	**P**	**04 12 35.3**	**-1.2**
	comp=Z,3.0nm,0.9s,mb4.3						
BOD	**Bodaibo**	**50.36**	**39**	*e*P	**P**	**04 12 35.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
LSZ	**Lusaka**	**51.10**	**206**	*e*P	**P**	**04 12 43.6**	**+1.6**
	comp=Z,6.0nm,1.0s,mb4.5						
LSZ	**Lusaka**	**51.10**	**206**	*e*P	**P**	**04 12 43.6**	**+1.6**
	comp=Z,5.6nm,1.0s,mb4.5						
LSZ	**Lusaka**	**51.10**	**206**	*e*P	**P**	**04 12 43.6**	**+1.6**
LSZ				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
DBIC	**Dimbokro**	**56.04**	**255**	P	**P**	**04 13 18.6**	**+0.4**
	comp=Z,8.6nm,0.8s,mb4.8,baz=23,slow=8.4,SNR=20						
DBIC	**Dimbokro**	**56.04**	**255**	*e*P	**P**	**04 13 18.3**	**+0.1**
	comp=Z,9.0nm,0.8s,mb4.8						
DBIC	**Dimbokro**	**56.04**	**255**	*e*P	**P**	**04 13 18.3**	**+0.1**
	comp=Z,9.1nm,0.8s,mb4.9						
DBIC	**Dimbokro**	**56.04**	**255**	*e*P	**P**	**04 13 18.3**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TIXI	**Tiksi**	**56.77**	**22**	*i* P	**P**	**04 13 21.1**	**-2.3**
	comp=Z,3.0nm,1.1s,mb4.2						
TIXI	**Tiksi**	**56.77**	**22**	*i* P	**P**	**04 13 21.1**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
YAK	**Yakutsk**	**57.97**	**33**	*e*P	**P**	**04 13 30.6**	**-1.3**
	comp=Z,20nm,0.6s,mb5.3						
YAK	**Yakutsk**	**57.97**	**33**	*e*P	**P**	**04 13 30.6**	**-1.3**
	comp=Z,20nm,0.6s,mb5.3						
YAK	**Yakutsk**	**57.97**	**33**	*e*P	**P**	**04 13 30.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
TSUM	**Tsumeb**	**59.17**	**215**	*e*P	**P**	**04 13 40.9**	**+0.6**
	comp=Z,3.9nm,0.9s,mb4.4						
TSUM	**Tsumeb**	**59.17**	**215**	*e*P	**P**	**04 13 40.9**	**+0.6**
	comp=Z,3.9nm,0.9s,mb4.4						
CN2	**Changchun**	**59.46**	**55**	*e*P	**P**	**04 13 42.0**	**-0.3**
SSE	**Sheshan**	**60.39**	**70**	P	**P**	**04 13 48.8**	**+0.1**
SSE				AMB	AMB		
	comp=Z,12nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,93nm,5.8s						
LBTB	**Lobatse**	**60.97**	**204**	*e*P	**P**	**04 13 53.5**	**+0.9**
	comp=Z,8.0nm,0.8s,mb4.9						
LBTB	**Lobatse**	**60.97**	**204**	*e*P	**P**	**04 13 53.5**	**+0.8**
	comp=Z,7.5nm,0.8s,mb4.9						
LBTB	**Lobatse**	**60.97**	**204**	*e*P	**P**	**04 13 53.5**	**+0.9**
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
BOSA	**Boshof**	**64.40**	**203**	P	**P**	**04 14 16.1**	**+0.6**
	comp=Z,7.7nm,0.8s,mb4.8,baz=6.5,slow=4.8,SNR=13						
BOSA	**Boshof**	**64.40**	**203**	*e*P	**P**	**04 14 15.7**	**+0.2**
	comp=Z,7.0nm,0.7s,mb4.8						
BOSA	**Boshof**	**64.40**	**203**	*e*P	**P**	**04 14 15.7**	**+0.2**
	comp=Z,6.6nm,0.7s,mb4.8						
BOSA	**Boshof**	**64.40**	**203**	*e*P	**P**	**04 14 15.7**	**+0.2**
BOSA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
SEY	**Seymchan**	**67.70**	**29**	*i* P	**P**	**04 14 33.7**	**-3.0**
BILL	**Bilibino**	**69.96**	**21**	P	**P**	**04 14 50.0**	**-0.8**
	comp=Z,4.0nm,1.4s,mb4.2						
BILL	**Bilibino**	**69.96**	**21**	P	**P**	**04 14 50.0**	**-0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
INK	**Inuvik**	**79.94**	**1**	P	**P**	**04 15 47.0**	**-1.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=6.8,slow=2.7,SNR=6.3						
INK	**Inuvik**	**79.94**	**1**	P	**P**	**04 15 46.6**	**-1.9**
	comp=Z,0.8nm,0.6s,mb3.8						
INK	**Inuvik**	**79.94**	**1**	P	**P**	**04 15 47.0**	**-1.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**82.71**	**7**	P	**P**	**04 16 01.6**	**-1.5**
	comp=Z,0.5nm,0.7s,mb3.6,baz=322,slow=4.1,SNR=7.5						
ILAR	**Eielson Array**	**82.71**	**7**	P	**P**	**04 16 01.7**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**84.88**	**352**	P	**P**	**04 16 12.8**	**-1.4**
	comp=Z,0.7nm,0.6s,mb4.0,baz=14,slow=5.3,SNR=12						
YKA	**Yellowknife Ar**	**84.88**	**352**	P	**P**	**04 16 12.8**	**-1.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***02*** *04:29:09.1±0.6, 1151N×8486W, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, MS3.9/5, Ms1 4.0/5, ms1mx3.4/32, Error ellipse: s-maj=28.5km s-min=9.8km az=80.0*

CASC ***02*** *04:29:10.1±2.4, 1023N×8623W, h12km±10km, MD4.3, ML3.9, mb4.3(NEIC)*

NEIC ***02*** *04:29:11.4±0.5, 1053N×8612W, mb4.3/22, MD4.4(CASC), Error ellipse: s-maj=16.3km s-min=4.8km az=220.0*

MOS ***02*** *04:29:11.2±1.6, 1066N×8598W, h33km, mb4.5/11, Error ellipse: s-maj=23.4km s-min=9.1km az=120.2*

BJI ***02*** *04:29:11.4, 1050N×8610W, h25km, mB4.9, Ms4.8, Msz4.9*

ISC 02 04:29:08.5±1.2, 1014N±004×8632W±004, h14km±8km, n96, σ1§16/93, mb4.2/31, MS4.1/6, 13C-8D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.68**	**91⇑**	*e*P	**Pg**	**04 29 22.2**	**+0.4**
VCR	**Vista de Mar**	**0.68**	**91⇑**	*e*P	**Pg**	**04 29 22.3**	**+0.5**
LIM1	**Limonal**	**1.19**	**62⇑**	*i*P	**Pn**	**04 29 28.5**	**-2.2**
LIM1				*e*S	**Sb**	**04 29 44.3**	**-1.7**
SSNN	**San Juan del S**	**1.23**	**22⇑**	*e*P	**Pn**	**04 29 30.6**	**-0.7**
SSNN				*e*S	**Sb**	**04 29 46.7**	**-0.6**
JTS	**JuntasAbangare**	**1.36**	**84**	Pg	**Pg**	**04 29 31.6**	**-3.0**
	baz=306,slow=19						
JTS				Lg		04 29 50.0	
	353nm,0.3s,baz=289,slow=18,SNR=12						
JTS	**JuntasAbangare**	**1.36**	**84⇑**	*i*Pn	**Pn**	**04 29 31.6**	**-1.4**
JTS				*e*Sn	**Sn**	**04 29 50.5**	**-0.3**
MADN	**Villa Maderas**	**1.48**	**32⇑**	*e*P	**Pn**	**04 29 34.8**	**+0.1**
CONN	**Concepcion**	**1.57**	**26⇑**	*e*P	**Pn**	**04 29 35.7**	**-0.2**
APON	**Apoyo**	**1.78**	**8⇑**	*e*P	**Pn**	**04 29 38.8**	**-0.1**
APON				*e*S	**Sn**	**04 30 02.4**	**+1.0**
CGA2	**Cerro Gallo 2**	**1.83**	**94⇓**	*e*P	**Pn**	**04 29 39.6**	**+0.1**
CGA2				*e*S	**Sg**	**04 30 12.0**	**+4.6**
TICN	**Ticuantepe**	**1.88**	**3⇓**	*e*P	**Pn**	**04 29 40.4**	**+0.1**
PRS1	**Puriscal**	**1.99**	**94⇓**	*e*P	**Pn**	**04 29 41.2**	**-0.5**
MGAN	**Managua**	**2.00**	**2⇑**	*e*P	**Pn**	**04 29 41.8**	**0.0**
MGAN				*e*		04 30 12.2	
	comp=E,1μm,0.4s						
XAVN	**Gruta Xavier**	**2.00**	**360⇓**	*e*P	**Pn**	**04 29 42.3**	**+0.5**
WILN	**Americas 2**	**2.01**	**4⇓**	*e*P	**Pn**	**04 29 41.9**	**-0.1**
WILN				*e*S	**Sn**	**04 30 08.0**	**+1.1**
COPN	**Copaltepe**	**2.04**	**353⇓**	*e*P	**Pn**	**04 29 42.7**	**+0.3**
VPS2	**Volcan Poas 2**	**2.06**	**88⇑**	*e*P	**Pn**	**04 29 43.2**	**+0.6**
APYN	**Apoyeque**	**2.08**	**359⇑**	*e*P	**Pn**	**04 29 43.4**	**+0.4**
APYN				*e*S	**Sn**	**04 30 10.5**	**+1.9**
LAJ	**Bijagual**	**2.19**	**97**	*e*P	**Pn**	**04 29 38.9**	**-5.5**
SJS	**Escuela Geolog**	**2.24**	**95**	*e*P	**Pn**	**04 29 47.7**	**+2.5**
SJS				*e*S	**Sg**	**04 30 29.1**	**+8.6**
MOMJ	**Momotombo**	**2.26**	**355**	*e*P	**Pn**	**04 29 45.7**	**+0.2**
MIRN	**Miramar**	**2.32**	**351⇓**	*e*P	**Pn**	**04 29 46.6**	**+0.4**
MIRN				*e*S	**Sn**	**04 30 15.0**	**+0.5**
LCR2	**La Lucha 2**	**2.32**	**100**	*e*P	**Pn**	**04 29 46.8**	**+0.6**
LEON	**Leon**	**2.33**	**346⇑**	*e*P	**Pn**	**04 29 47.0**	**+0.6**
CNGN	**Cerro Negro**	**2.37**	**351**	*e*P	**Pn**	**04 29 46.9**	**0.0**
CNGN				*e*S	**Sn**	**04 30 17.1**	**+1.1**
ICR	**Volcan Irazu**	**2.46**	**93**	*e*P	**Pn**	**04 29 50.6**	**+2.4**
TEL3	**Telica 3**	**2.47**	**348**	*e*P	**Pn**	**04 29 49.0**	**+0.7**
TELN	**Telica**	**2.50**	**349⇓**	*e*P	**Pn**	**04 29 49.4**	**+0.7**
URSC	**Urasca**	**2.52**	**97**	*e*P	**Pn**	**04 29 50.6**	**+1.5**
BUS	**Buena Vista**	**2.59**	**103⇓**	*e*P	**Pn**	**04 29 51.2**	**+1.2**
CRIN	**San Cristobal**	**2.64**	**344**	*e*P	**Pn**	**04 29 51.1**	**+0.4**
LCBS	**La Ceiba**	**4.35**	**324**	*e*P	Px	04 30 43.8	
LCBS				*e*S	Sx	04 31 33.1	
SBLS	**San Blas**	**4.89**	**319**	*e*P	Px	04 30 52.8	
SBLS				*e*S	Sx	04 31 47.9	
RTR	**El Retiro**	**4.95**	**319**	*e*P	Px	04 30 54.1	
RTR				*e*S	Sx	04 31 49.9	
OTAV	**Otavalo**	**12.57**	**141**	*e*Pn	**Pn**	**04 32 11.1**	**+4.2**
HKT	**Hockley**	**21.62**	**337**	*e*P	**P**	**04 33 56.9**	**-1.2**
	comp=E,44nm,1.5s,mb4.7						
HKT	**Hockley**	**21.62**	**337**	*e*P	**P**	**04 33 56.9**	**-1.2**
HKT				pmax	pmax		
	comp=Z,44nm,1.5s,mb4.7						
JCT	**Junction City**	**23.82**	**330**	*e*P	**P**	**04 34 20.0**	**-1.0**
	comp=Z,7.1nm,0.6s,mb4.3						
JCT	**Junction City**	**23.82**	**330**	*e*P	**P**	**04 34 20.0**	**-1.0**
JCT				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
JSC	**Jenkinsville**	**24.47**	**10**	*e*P	**P**	**04 34 25.2**	**-1.8**
PLAL	**Pickwick Lake**	**24.78**	**357**	*e*P	**P**	**04 34 28.1**	**-1.7**
	comp=Z,9.2nm,0.6s,mb4.5						
SWET	**Sewanee**	**24.96**	**1**	*e*P	**P**	**04 34 28.7**	**-2.8**
LTX	**Lajitas**	**25.06**	**322**	*e*P	**P**	**04 34 32.7**	**+0.4**
	comp=Z,5.9nm,0.6s,mb4.3						
LTX	**Lajitas**	**25.06**	**322**	*e*P	**P**	**04 34 32.7**	**+0.4**
LTX				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
UALR	**University of**	**25.13**	**348**	*e*P	**P**	**04 34 31.0**	**-2.0**
	comp=Z,13nm,0.8s,mb4.5						
MIAR	**Mount Ida**	**25.18**	**346**	*e*P	**P**	**04 34 31.0**	**-2.4**
	comp=Z,9.9nm,0.6s,mb4.5						
MIAR	**Mount Ida**	**25.18**	**346**	*e*P	**P**	**04 34 31.0**	**-2.5**
MIAR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
MNTX	**Cornudas Mount**	**27.78**	**323**	*e*P	**P**	**04 34 56.6**	**-0.3**
	comp=Z,2.3nm,0.9s,mb3.8						
WCI	**Wyandotte Cave**	**27.97**	**0**	*e*P	**P**	**04 34 55.6**	**-3.0**
	comp=Z,11nm,0.9s,mb4.5						
WCI	**Wyandotte Cave**	**27.97**	**0**	*e*P	**P**	**04 34 55.6**	**-3.0**
WCI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
ANMO	**Albuquerque**	**30.78**	**326**	P	**P**	**04 35 25.4**	**+1.8**
	comp=Z,0.5nm,0.4s,mb3.7,baz=156,slow=7.9,SNR=9.9						
ANMO	**Albuquerque**	**30.78**	**326**	*e*P	**P**	**04 35 25.2**	**+1.6**
	comp=Z,1.6nm,0.7s,mb4.0						
ANMO	**Albuquerque**	**30.78**	**326**	*e*P	**P**	**04 35 25.2**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**31.84**	**145**	LR	LR	04 49 32.4	
	comp=Z,71nm,20.6s,MS3.3,baz=255,slow=38						
SDCO	**Great Sand Dun**	**32.45**	**331**	*e*P	**P**	**04 35 38.2**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.2						
SMCO	**Snowmass**	**34.29**	**331**	*e*P	**P**	**04 35 55.5**	**+1.2**
	comp=Z,1.8nm,0.6s,mb4.2						
PV10	**Paradox Valley**	**34.72**	**328**	*e*P	**P**	**04 35 57.7**	**-0.3**
SIV	**San Ignacio**	**36.04**	**136**	P	**P**	**04 36 12.6**	**+3.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=323,slow=8.3,SNR=5.6						
BW06	**Boulder Array**	**38.32**	**332**	*e*P	**P**	**04 36 27.6**	**-1.1**
	comp=Z,1.0nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**38.32**	**332**	P	**P**	**04 36 27.6**	**-1.0**
	comp=Z,1.2nm,0.7s,mb3.8,baz=127,slow=11,SNR=13						
HWUT	**Hardware Ranch**	**38.41**	**329**	*e*P	**P**	**04 36 29.0**	**-0.5**
	comp=Z,4.5nm,0.7s,mb4.3						
HWUT				*e*pP	pP	04 36 36.5	+2.8
HWUT				*e*PcP	PcP	04 38 44.3	+1.5
REDW	**Red Top Meadow**	**39.38**	**331**	*e*P	**P**	**04 36 36.8**	**-0.8**
	comp=Z,10.0nm,1.0s,mb4.5						
REDW				*e*pP	pP	04 36 44.2	+2.4
SNOW	**Snow King Moun**	**39.41**	**332**	*e*P	**P**	**04 36 38.3**	**+0.5**
	comp=Z,4.7nm,0.5s,mb4.5						
LOHW	**Long Hollow**	**39.46**	**332**	*e*P	**P**	**04 36 37.9**	**-0.4**
	comp=Z,2.2nm,0.7s,mb4.0						
ELK	**Elko**	**39.78**	**325**	*e*P	**P**	**04 36 41.6**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.1						
ELK	**Elko**	**39.78**	**325**	*e*P	**P**	**04 36 41.6**	**+0.7**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**40.16**	**320**	P	**P**	**04 36 46.9**	**+2.8**
	comp=Z,2.9nm,0.6s,mb4.2,baz=137,slow=7.6,SNR=32						
NVAR				PcP	PcP	04 38 51.4	+3.1
	comp=Z,1.2nm,0.6s,baz=147,slow=4.4,SNR=7.6						
BMN	**Battle Mountai**	**40.72**	**323**	*e*P	**P**	**04 36 50.5**	**+1.8**
	comp=Z,2.8nm,0.4s,mb4.2						
BMN	**Battle Mountai**	**40.72**	**323**	*e*P	**P**	**04 36 50.5**	**+1.8**
BMN				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
ULM	**Lac du Bonnet**	**40.76**	**351**	P	**P**	**04 36 43.5**	**-5.5**
	comp=Z,3.1nm,0.9s,mb3.9,baz=157,slow=7.9,SNR=5.3						
ULM				PcP	PcP	04 38 50.0	-0.2
	comp=Z,0.8nm,0.3s,baz=119,slow=2.4,SNR=4.5						
ULM	**Lac du Bonnet**	**40.76**	**351**	P	**P**	**04 36 43.5**	**-5.5**
ULM				PcP	PcP	04 38 50.0	-0.2
HLID	**Hailey**	**41.28**	**329**	*e*P	**P**	**04 36 53.3**	**0.0**
	comp=Z,3.0nm,0.9s,mb3.9						
BOZ	**Bozeman (W)**	**41.49**	**333**	*e*P	**P**	**04 36 54.3**	**-0.8**
WVOR	**Wild Horse Val**	**42.81**	**324**	*e*P	**P**	**04 37 05.9**	**+0.1**
	comp=Z,4.4nm,0.7s,mb4.3						
WVOR	**Wild Horse Val**	**42.81**	**324**	*e*P	**P**	**04 37 05.9**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
YBH	**Yreka Blue Hor**	**44.83**	**321**	P	**P**	**04 37 22.3**	**+0.3**
	comp=Z,2.1nm,0.7s,mb4.1,baz=181,slow=17,SNR=3.7						
YBH				LR	LR	04 56 40.8	
	comp=Z,196nm,19.1s,MS4.0,baz=79,slow=37						
BDFB	**Brasilia**	**45.77**	**124**	P	**P**	**04 37 30.1**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.1,baz=296,slow=7.3,SNR=3.8						
PLCA	**Paso Flores**	**52.67**	**165**	P	PcP	04 38 31.5	-61
	comp=Z,1.9nm,0.9s,baz=18,slow=10,SNR=5.4						
PLCA	**Paso Flores**	**52.67**	**165**	*e*P	**P**	**04 38 27.1**	**+4.7**
	comp=Z,2.9nm,0.9s,mb4.2						
PLCA	**Paso Flores**	**52.67**	**165**	*e*P	**P**	**04 38 27.1**	**+4.8**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**56.12**	**345**	P	**P**	**04 38 43.8**	**-3.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=139,slow=7.1,SNR=18						
YKA				PcP	PcP	04 39 44.2	-1.1
	comp=Z,0.4nm,0.6s,baz=146,slow=4.1,SNR=7.2						
YKA				LR	LR	05 05 34.9	
	comp=Z,183nm,18.2s,MS4.2,baz=130,slow=40						
YKA	**Yellowknife Ar**	**56.12**	**345**	P	**P**	**04 38 43.8**	**-3.6**
YKA				PcP	PcP	04 39 44.2	-1.1
YKA				LR	LR	05 05 34.9	
YKA	**Yellowknife Ar**	**56.12**	**345**	P	**P**	**04 38 43.8**	**-3.6**
YKA						04 39 44.2	
SFJD	**Kangerlussuaq**	**61.63**	**15**	P	**P**	**04 39 17.3**	**-8.4**
	comp=Z,7.5nm,0.7s,mb4.9,baz=149,slow=12,SNR=3.7						
SFJD				LR	LR	05 04 36.6	
	comp=Z,313nm,18.4s,MS4.5,baz=191,slow=36						
SFJD	**Kangerlussuaq**	**61.63**	**15**	P	**P**	**04 39 17.3**	**-8.4**
SFJD				LR	LR	05 04 36.6	
RES	**Resolute Bay**	**64.70**	**357**	*e*P	**P**	**04 39 41.7**	**-4.4**
	comp=Z,1.3nm,0.6s,mb4.1						
RES	**Resolute Bay**	**64.70**	**357**	*e*P	**P**	**04 39 41.7**	**-4.4**
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**68.57**	**336**	P	**P**	**04 40 09.1**	**-1.7**
	comp=Z,1.0nm,0.9s,mb3.8,baz=99,slow=4.4,SNR=11						
ILAR				LR	LR	05 10 00.3	
	comp=Z,43nm,20.1s,MS3.7,baz=166,slow=36						
CN2	**Changchun**	**119.04**	**334**	*e*PKP	PKPdf	04 47 56.6	-0.2
MKAR	**Makanchi Array**	**122.42**	**9**	PKP	PKPdf	04 48 02.5	-0.8
	comp=Z,0.1nm,0.4s,baz=327,slow=3.4,SNR=4.2						
WMQ	**Urumqi**	**126.02**	**5**	*e*PKP	PKPdf	04 48 08.3	-1.9
HHC	**Hu-ho-hao-te**	**126.64**	**343**	*e*PKP	PKPdf	04 48 09.6	-1.8
LZH	**Lanzhou**	**133.03**	**349**	*e*PKP	PKPdf	04 48 24.2	+0.7
LZH				XPKP		04 48 35.2	
LZH				LR	LR		
	comp=N,149nm,18.3s						
LZH				LR	LR		
	comp=Z,237nm,20.2s,MS4.9						
CD2	**Chengdu**	**138.05**	**347**	*e*PKP	PKPdf	04 48 31.4	-1.5
ASAR	**Alice Springs**	**139.38**	**245**	PKP	PKPdf	04 48 40.4	+5.1
	comp=Z,0.7nm,0.9s,baz=108,slow=3.0,SNR=4.2						
WRA	**Warramunga Arr**	**139.63**	**251**	PKhKP		04 48 35.9	
	comp=Z,0.4nm,0.6s,baz=94,slow=2.8,SNR=8.9						
WRA				PKP	PKPdf	04 48 41.1	+5.4
	comp=Z,0.3nm,0.5s,baz=93,slow=2.4,SNR=9.7						

ISCJB ***02*** *04:30:25.4±2.7, 72S×02×1226E±02, h410km±35km, mb3.3/3, Error ellipse: s-maj=31.9km s-min=21.0km az=121.0*

NEIC ***02*** *04:30:29.9±1.7, 736S×122.75E, h455km±25km, mb4.2/2, Error ellipse: s-maj=22.3km s-min=16.3km az=55.0*

IDC ***02*** *04:30:30.4±8.9, 7.26S×12292E, h457km±111km, mb3.1/3, mb1 3.3/5, mb1mx3.2/17, mbtmp4.1/5, Error ellipse: s-maj=175.5km s-min=21.2km az=68.0*

ISC 02 04:30:29.5±2.2, 73S±02×1227E±02, h445km±31km, n15, σ0§50/14, mb3.4/3, 1C, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.95**	**120**	*e*P	**P**	**04 32 56.9**	**+0.1**
	7.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.08**	**166**	*e*P	**P**	**04 32 58.8**	**+0.5**
	8.1nm,0.8s						
FITZ				*e*S	S	04 35 24.2	+23
MBWA	**Marble Bar**	**14.06**	**192**	*e*P	**P**	**04 33 30.2**	**-0.3**
	4.4nm,0.5s						
WRA	**Warramunga Arr**	**16.85**	**139**	P	**P**	**04 34 00.1**	**-0.1**
	1.2nm,0.3s,baz=312,slow=10,SNR=52						
WRAB	**Tennant Creek**	**16.85**	**139**	*e*P	**P**	**04 33 59.9**	**-0.4**
	99nm,1.8s						
WB2	**Warramunga Arr**	**16.86**	**139⇑**	*i*P	**P**	**04 34 00.0**	**-0.3**
ASPA	**Alice Springs**	**19.46**	**148**	*e*P	**P**	**04 34 26.5**	**+0.4**
AS31	**Alice Springs**	**19.46**	**148**	*e*P	**P**	**04 34 26.5**	**+0.4**
ASAR	**Alice Springs**	**19.47**	**148**	P	**P**	**04 34 27.1**	**+0.9**
	1.0nm,0.3s,baz=324,slow=8.3,SNR=49						
STKA	**Stephens Creek**	**30.09**	**147**	*e*P	**P**	**04 36 00.0**	**-0.9**
	1.3nm,0.4s,mb3.7						
STKA	**Stephens Creek**	**30.09**	**147**	P	**P**	**04 35 59.8**	**-1.1**
	0.4nm,0.3s,mb3.3,baz=311,slow=12,SNR=6.9						
STKA	**Stephens Creek**	**30.09**	**147**	*e*P	**P**	**04 35 59.5**	**-1.4**
SONM	**Songino Array**	**56.79**	**347**	P	**P**	**04 39 29.9**	**0.0**
	0.6nm,0.6s,mb3.1,baz=168,slow=9.0,SNR=6.2						
MKAR	**Makanchi Array**	**64.75**	**330**	P	**P**	**04 40 22.6**	**0.0**
	1.1nm,0.8s,mb3.5,baz=134,slow=7.8,SNR=12						
TORD	**Torodi Ar. Bea**	**121.80**	**281**	PKP	PKPdf	04 48 32.8	+0.9
	0.4nm,0.6s,baz=64,slow=1.9,SNR=6.9						

SOF ***02*** *04:52:42.1, 4002N×2423E, h2km, MD3.5*

IDC ***02*** *04:52:42.6±1.1, 3986N×2414E, h0km, mb3.4/3, mb1 3.6/8, mb1mx3.4/24, mbtmp3.5/8, ML3.6/5, MS2.9/2, Ms1 2.9/2, ms1mx2.6/23, Error ellipse: s-maj=20.3km s-min=14.7km az=110.0*

ISCJB ***02*** *04:52:42.9±0.4, 3994N±002×2405E±002, h9km±3km, mb3.3/3, Error ellipse: s-maj=2.6km s-min=2.4km az=168.1*

MOS ***02*** *04:52:43.1±1.1, 3994N×2413E, h15km, mb3.8/1, Error ellipse: s-maj=6.6km s-min=4.1km az=92.8*

CSEM ***02*** *04:52:43.5±0.1, 3995N×2405E, h15km, ML3.7, Error ellipse: s-maj=1.4km s-min=1.2km az=97.0*

ATH ***02*** *04:52:43.3, 3994N×2403E, h26km, MD3.8/19, ML3.7*

THE ***02*** *04:52:44.2, 3993N×2405E, h6km, ML3.8*

NEIC ***02*** *04:52:44.2, 3993N×2405E, h6km, MD3.5(SOF), ML3.4(THE), ML3.7(ATH), After THE.*

NEIC Felt in southern and central Chalkidiki and in southeastern Thessaloniki.

SKO ***02*** *04:52:45.2, 3993N×2399E, h8km, M3.1, ML3.9*

ISC 02 04:52:43.5±0.4, 3993N±002×2404E±002, h7km±3km, n129, σ1§21/164, mb3.3/3, 7C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.28**	**270**	*e*Pg	**Pg**	**04 52 49.5**	**+0.5**
PAIG				*e*Sg	**Sg**	**04 52 54.0**	**+1.3**
PAIG	**Paliouri**	**0.28**	**270**	P	**Pg**	**04 52 49.5**	**+0.5**
PAIG				S	**Sg**	**04 52 54.2**	**+1.5**
OUR	**Ouranopolis**	**0.41**	**354**	*e*Pg	**Pg**	**04 52 52.3**	**+0.8**
OUR	**Ouranopolis**	**0.41**	**354**	P	**Pg**	**04 52 52.3**	**+0.8**
OUR				S	**Sg**	**04 52 57.9**	**+1.0**
PLG	**Polygyros**	**0.64**	**315**	*e*PN	**Pg**	**04 52 55.5**	**-0.3**
PLG				*e*SN	**Sg**	**04 53 04.0**	**-0.1**
AOS	**Alonnisos**	**0.77**	**189

SKO S Sn 04 54 03.6 0.0
IGT Igoumenitsa 2.89 263 *e*Pn Pn 04 53 33.0 +3.1
IGT *e*Sn Sn 04 54 08.1 +3.3
IZM Izmir 2.93 120 *e*PN Pn 04 53 33.9 +3.4
KDAG Bornova 2.93 120 *i* P Pn 04 53 39.6 +9.1
BALB Balikesir 2.97 94 *e*PN Pn 04 53 33.9 +2.8
BNT Bandirma 3.00 81 *e*PN Pn 04 53 33.4 +1.9
BTOK Tokmak 3.08 92 *i* P Pn 04 53 32.5 0.0
APE Apeiranthos 3.08 157 *e*PN Pn 04 53 32.7 +0.1
APE Apeiranthos 3.08 157 *e*Pn Pn 04 53 32.3 -0.2
APE Apeiranthos 3.08 157 *e*Pn Pn 04 53 32.1 -0.5
AKS Akhisar 3.10 108 *e*PN Pn 04 53 36.9 +4.0
SRN Sarande 3.11 270 *e*Pn Pn 04 53 34.5 +1.6
SMG Samos 3.11 135 *e*PN Pn 04 53 33.3 +0.3
JMB Yambol 3.18 36 *i* P Pn 04 53 33.0 -0.9
JMB Yambol 3.18 36 *e*Pn Pn 04 53 33.0 -0.9
ITM Ithomi 3.20 212 *e*PN Pn 04 53 35.3 +1.1
ITM Ithomi 3.20 212 *e*Pb Pb 04 53 36.2 -4.5
VLS Valsamata 3.20 238 *e*PN Pn 04 53 35.0 +0.8
VLS Valsamata 3.20 238 *e*Pb Pb 04 53 36.5 -4.2
KEK Kerkira 3.27 268 *e*PN Pn 04 53 36.0 +0.8
KEK Kerkira 3.27 268 *e*Pb Pb 04 53 38.7 -3.2
VLI Veliai 3.32 196 *e*PN Pn 04 53 36.0 +0.2
VLI Veliai 3.32 196 *e*Pb Pb 04 53 38.0 -4.7
PVL Pavlikeni 3.43 16 *i* P Pn 04 53 36.0 -1.3
CTT Catalca 3.56 69 *e*PN Pn 04 53 40.0 +0.9
ELBA Catalca 3.56 69 *i* P Pn 04 53 41.4 +2.3
ORLT Orhaneli 3.73 87 *e*PN Pn 04 53 43.7 +2.2
AYDN Tasoluk 3.76 126 *i* P Pn 04 53 41.8 0.0
MANT Manisa 3.79 111 *i* P Pn 04 53 49.3 +7.0
ULDT Uludag 3.92 85 *i* P Pn 04 53 43.7 -0.4
PRD Provadia 4.13 37 *i* P Pn 04 53 46.5 -0.5
IZI Iznik 4.18 83 *e*PN Pn 04 53 48.7 +1.0
YER Yerkesik 4.34 129 *e*P Pn 04 53 54.3 +4.4
KARN Karanos 4.52 181 *e*Pn Pn 04 53 53.9 +1.6
KARN Karanos 4.52 181 *e*Pn Pn 04 53 53.8 +1.5
GRUS Gruza 4.67 329 *e*Pn Pn 04 53 53.8 -0.6
GRUS Sg Sg 04 55 13.0 -0.5
IDI Anoyia 4.68 171 Pn Pn 04 53 54.0 -0.5
comp=E,3.2nm,0.3s,baz=341,slow=11,SNR=18
IDI LR LR 04 56 10.0
comp=E,82nm,18.5s,baz=61,slow=45
DIVS Divcibare 5.14 325 *e*Pn Pn 04 54 00.4 -0.5
DIVS Sn Sg 04 55 28.5 -0.2
DIVS Divcibare 5.14 325 *e*Pn Pn 04 54 01.6 +0.7
TKTP Tekketepe 5.24 109 *i* P Pn 04 54 03.4 +1.1
ESKT Eskisehir 5.27 92 *i* P Pn 04 54 04.4 +1.8
SEYT Eskypehyr 5.27 92 *i* P Pn 04 54 04.4 +1.8
MTUR Matau 5.35 8 ⇑P Pn 04 54 05.1 +1.4
HARR Harsova 5.57 30 ⇓P Pn 04 54 04.4 -2.3
TIRR Tirgusor 5.57 34 ⇓P Pn 04 54 05.5 -1.3
TIRR Tirgusor 5.57 34 *e*Pn Pn 04 54 06.1 -0.7
TIP Timpagrande 5.68 265 *e*Pn Pn 04 54 08.4 +0.2
TIP Timpagrande 5.68 265 *e*Pn Pn 04 54 08.4 +0.2
MLR Muntele Rosu 5.74 14 Pn Pn 04 54 10.1 +1.0
comp=E,1.2nm,0.3s,baz=178,slow=9.3,SNR=20
MLR Lg 04 55 46.2
comp=E,0.7nm,0.3s,baz=133,slow=18,SNR=2.9
MLR LR LR 04 56 43.5
comp=E,156nm,18.2s,baz=46,slow=42
MLR Muntele Rosu 5.74 14 ⇑P Pn 04 54 10.1 +1.0
BZS Buzias 5.96 343 ⇑P Pn 04 54 12.7 +0.6
CFR Carcaliu 6.06 29 ⇑P Pn 04 54 13.0 -0.5
VRI Vrincioaia 6.26 17 ⇑P Pn 04 54 17.4 +1.2
BR131 Keskin Array S 7.39 88 *e*Pn Pn 04 54 33.7 +1.9
comp=E,0.8nm,0.3s
BR131 Keskin Array S 7.39 88 *e*Pn Pn 04 54 33.7 +2.0
comp=E,0.8nm,0.3s
BRTR Keskin Array B 7.39 88 Pn Pn 04 54 32.4 +0.6
comp=E,0.3nm,0.3s,baz=263,slow=11,SNR=12
BRTR Sn Sn 04 55 53.5 -2.4
baz=274,slow=15,SNR=2.2
BRTR Lg 04 56 42.3
comp=E,0.0nm,0.3s,baz=270,slow=24,SNR=7.4
BRTR Keskin Array B 7.39 88 P Pn 04 54 32.4 +0.6
BRTR Sn Sn 04 55 53.5 -2.4
BURAR Bucovina Array 7.73 6 ⇓P Pn 04 54 37.4 +0.9
BURAR Bucovina Array 7.73 6 ⇓P Pn 04 54 37.4 +1.0
AKASG Malin Array Be 11.37 17 Pn Pn 04 55 25.1 -1.3
comp=E,0.6nm,0.3s,baz=205,slow=11,SNR=4.3
AKASG Malin Array Be 11.37 17 P Pn 04 55 25.1 -1.2
AKASG pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 11.57 324 Pn Pn 04 55 32.6 +3.5
comp=Z,0.1nm,0.3s,baz=172,slow=16,SNR=2.9
ESDC Sonseca Array 21.49 278 P P 04 57 32.1 -0.6
comp=Z,0.7nm,0.6s,mb3.2,baz=73,slow=11,SNR=3.0
TORD Torodi Ar. Bea 33.14 223 P P 04 59 20.2 -0.2
comp=Z,0.5nm,0.6s,mb3.6,baz=32,slow=7.3,SNR=6.8
MKAR Makanchi Array 42.05 61 P P 05 00 36.0 +0.3
comp=Z,0.4nm,0.6s,mb3.2,baz=276,slow=6.2,SNR=7.1

NEIC ***02*** *04:53:31.3, 40.43N×125.46W, h5km, MD2.9(NCEDC), After NCEDC.*
ISCJB ***02*** *04:53:32.1±1.8, 44.04N±0.06×125.2W±0.1, h8km±11km, mb3.2/2, Error ellipse: s-maj=17.8km s-min=9.1km az=152.4*
IDC ***02*** *04:53:33.6±2.8, 40.65N×125.19W, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.2/21, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=31.3km s-min=23.3km az=84.0*
ISC 02 04:53:32.8±2.0, 40.41N±0.006×125.2W±0.01, h9km±12km, n15, σ0.94/18, mb3.2/2, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.19**	**67**	*e*Pg	**Pg**	04 53 54.9	-0.6
KCPM	**Cahto Peak**	**1.42**	**120**	*e*Pn	**Pn**	04 53 58.7	0.0
KCPM				*e*Sn	**Sn**	04 54 14.8	-2.7
KIPM	**Iron Peak**	**1.43**	**115**	*e*Pn	**Pn**	04 53 58.9	+0.1
KIPM				*e*Sn	**Sn**	04 54 17.7	0.0
KBO	**Bosley Butte**	**1.93**	**21**	*e*Pn	**Pn**	04 54 04.3	-1.6
WDC	**Whiskeytown Da**	**2.01**	**84**	*e*Pn	**Pn**	04 54 07.5	+0.6
HOPS	**Hopland**	**2.15**	**131**	*e*Pn	**Pn**	04 54 07.8	-1.0
YBH	**Yreka Blue Hor**	**2.28**	**54**	Pn	**Pn**	04 54 10.9	+0.4
	4.0nm,0.3s,baz=250,slow=15,SNR=74						
YBH				Sn	**Sn**	04 54 38.9	+0.2
	4.9nm,0.3s,baz=210,slow=20,SNR=7.3						
NSHM	**Saint Helena R**	**2.74**	**133**	*e*Pn	**Pn**	04 54 17.0	+0.1
HUMO	**Hull Mountain**	**2.75**	**36**	*e*Pn	**Pn**	04 54 16.5	-0.5
MOD	**Modoc**	**3.96**	**66**	*e*Pn	**Pn**	04 54 34.5	+0.8
CMB	**Columbia Colle**	**4.41**	**121**	*e*Pn	**Pn**	04 54 41.9	+2.0
WVOR	**Wild Horse Val**	**5.31**	**66**	*e*Pn	**Pn**	04 54 53.1	+0.8
NVAR	**Mina Array Bea**	**5.67**	**108**	Pn	**Pn**	04 55 01.3	+4.1
	0.2nm,0.3s,baz=281,slow=16,SNR=5.1						
ULM	**Lac du Bonnet**	**22.69**	**55**	P	**P**	04 58 35.2	+0.6
	2.0nm,0.7s,mb3.6,baz=253,slow=8.9,SNR=6.9						
YKA	**Yellowknife Ar**	**23.01**	**13**	P	**P**	04 58 37.6	-0.3
	0.3nm,0.8s,mb2.8,baz=200,slow=9.3,SNR=3.4						

IDC ***02*** *05:04:55.7±0.9, 11.20S×161.88E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, ML4.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/17, Error ellipse: s-maj=32.6km s-min=21.0km az=151.0*
ISCJB ***02*** *05:04:59.5±2.9, 11.33S±0.1×161.9E±0.2, h36km±26km, mb3.9/8, Error ellipse: s-maj=28.8km s-min=18.5km az=76.5*
NEIC ***02*** *05:05:01.1±2.1, 11.18S×161.88E, h36km±20km, mb4.3/2, Error ellipse: s-maj=19.5km s-min=12.4km az=125.0*
ISC 02 05:05:00.9±6.8, 112S±01×161.9E±0.2, h34km±48km, n12, σ0.56/12, mb3.9/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.57**	**312**	*e*Pn	**Pn**	05 05 39.9	-0.2
CTA	**Charters Tower**	**17.46**	**238**	*e*P	**Pn**	05 09 01.9	+0.2
	0.6nm,0.3s,baz=63,slow=13,SNR=7.0						
CTA				LR	LR	05 13 22.7	
	comp=Z,46nm,19.2s,baz=45,slow=29						
CTAO	**Charters Tower**	**17.46**	**238**	*e*P	**Pn**	05 09 03.0	+1.3
	5.2nm,0.6s						
STKA	**Stephens Creek**	**27.85**	**219**	P	**P**	05 10 47.9	+0.7
	1.1nm,0.6s,mb3.6,baz=268,slow=15,SNR=3.4						
STKA	**Stephens Creek**	**27.85**	**219**	P	**P**	05 10 47.9	+0.7
WRA	**Warramunga Arr**	**27.90**	**248**	P	**P**	05 10 47.2	-0.5
	1.1nm,0.6s,mb3.7,baz=78,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**29.38**	**241**	P	**P**	05 10 59.8	-1.1
	1.3nm,0.7s,mb3.7,baz=74,slow=9.4,SNR=13						
RAR	**Rarotonga**	**38.06**	**110**	P	**P**	05 12 15.8	-0.4
	2.7nm,0.4s,mb4.3,baz=283,slow=8.4,SNR=1.9						
MBWA	**Marble Bar**	**41.58**	**251**	*e*P	**P**	05 12 45.2	-0.2
	23nm,1.4s,mb4.6						
SONM	**Songino Array**	**76.56**	**325**	P	**P**	05 16 48.3	+0.5
	2.4nm,0.7s,mb4.2,baz=288,slow=29,SNR=11						
ILAR	**Eielson Array**	**84.86**	**20**	P	**P**	05 17 32.2	0.0
	0.3nm,0.7s,mb3.5,baz=252,slow=4.6,SNR=4.7						
YKA	**Yellowknife Ar**	**96.83**	**28**	P	**P**	05 18 28.6	+0.3
	0.1nm,0.3s,mb3.7,baz=262,slow=4.5,SNR=4.8						

PGC 02 05:05:19.9, 6495N×12899W, h10km, ML3.9/3, Mackenzie Mountains, Northwest Territories, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**3.82**	**334**	Pn	Pn	05 06 18.2	-0.5
INK				Pg	Pg	05 06 28.4	-4.7
INK				Sn	Sn	05 07 00.2	-3.5
INK				Sg	Sg	05 07 18.7	-3.9
INK				Trac		05 07 25.1	
	comp=Z,114nm,0.5s						
DAWY	**Dawson**	**4.58**	**264**	Pn	Pn	05 06 28.5	-0.7
DAWY				Pg	Pg	05 06 43.5	-4.1
DAWY				Sn	Sn	05 07 19.9	-2.6
DAWY				Sg	Sg	05 07 42.7	-4.4
DAWY				Trac		05 07 54.5	
	comp=Z,58nm,0.7s						
WHY	**Whitehorse**	**5.09**	**215**	Pn	Pn	05 06 35.5	-0.6
WHY				Pg	Pg	05 06 51.4	-5.9
WHY				Sn	Sn	05 07 29.1	-5.8
WHY				Sg	Sg	05 07 53.5	-10
WHY				Trac		05 08 14.5	
	comp=Z,58nm,1.1s						
HYT	**Haines Junctio**	**5.68**	**227**	Pn	Pn	05 06 42.7	-1.6
HYT				Sg	Sg	05 08 16.1	-6.2
HYT				Trac		05 08 29.1	
	comp=Z,88nm,1.2s						
FNBB	**Fort Nelson**	**6.70**	**152**	Pn	Pn	05 06 57.0	-1.4
FNBB				Sn	Sn	05 08 08.1	-6.6
FNBB				Sg	Sg	05 08 45.4	-10
FNBB				Trac		05 09 06.2	
	comp=Z,12nm,0.9s						
FNBB				Trac		05 09 06.2	
	comp=Z,12nm,0.9s						
YKW3	**Yellowknife Ar**	**6.81**	**104**	Pn	Pn	05 06 58.9	-0.9
YKW3				Pn	Pn	05 06 59.5	-0.2
YKW3				Sn	Sn	05 08 10.8	-6.5
YKW3				Sn	Sn	05 08 11.3	-5.9
YKW3				Sg	Sg	05 08 51.7	-6.6
YKW3				Sg	Sg	05 08 52.1	-6.2
YKW3				Trac		05 09 04.5	
	comp=Z,31nm,1.1s						
YKW3				Trac		05 09 04.5	
	comp=Z,31nm,1.1s						
YKW3				Trac		05 09 04.9	
	comp=Z,25nm,0.8s						
YKW3				Trac		05 09 04.9	
	comp=Z,25nm,0.8s						
BMBC	**Bull Mountain**	**9.55**	**156**	Trac		05 10 39.3	
	comp=Z,10.0nm,0.6s						
BMBC				Trac		05 10 39.3	
	comp=Z,10.0nm,0.6s						
BMBC	**Bull Mountain**	**9.55**	**156**	Sn	Sn	05 09 16.5	-8.2
BMBC				Sg	Sn	05 10 17.4	+53
RES	**Resolute Bay**	**14.98**	**35**	P	Pn	05 08 48.4	-3.2
RES				Sn	Sn	05 11 22.2	-15
RES				Trac		05 13 33.3	
	comp=Z,8.0nm,0.9s						
RES				Trac		05 13 33.3	
	comp=Z,8.0nm,0.9s						

IDC ***02*** *05:10:18.4±1.2, 43.60N×88.11E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.6/22, mbtmp3.9/4, ML3.4/2, Error ellipse: s-maj=50.4km s-min=15.8km az=52.0*
ISCJB ***02*** *05:10:22.4±1.6, 43.8N±0.1×88.2E±0.2, h42km±16km, mb3.7/2, Error ellipse: s-maj=32.7km s-min=12.7km az=103.5*
BJI ***02*** *05:10:22.8, 44.00N×88.43E, h15km, ML3.8*
NNC ***02*** *05:10:22.8±1.1, 44.61N×88.75E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=15.7km s-min=7.8km az=29.0*
ISC 02 05:10:20.2±2.9, 43.9N±0.2×88.5E±0.2, h12km±18km, n7, σ0.96/12, mb3.7/2, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.57**	**259**	⇓*i*PG	**Pg**	05 10 31.6	+0.2
WMQ				SG	**Sg**	05 10 38.5	-0.5
WMQ				Smax			
	comp=N,4μm,0.6s						
WMQ				Smax			
	comp=E,7μm,0.6s						
MK31	**Makanchi Array**	**5.21**	**305**	Pn	**Pn**	05 11 39.3	+1.4
	comp=E,1.3nm,0.3s,baz=112,slow=12,SNR=108						
MK31				⇓Sn	**Sn**	05 12 39.1	+1.3
	comp=E,6.0nm,0.5s,baz=113,slow=26,SNR=3.7						
MK31				⇑Lg		05 13 03.0	
	comp=E,24μm,0.5s						
MKAR	**Makanchi Array**	**5.21**	**305**	Pn	**Pn**	05 11 38.5	+0.5
	comp=E,1.1nm,0.3s,baz=120,slow=15,SNR=90						
MKAR				Pg	**Pg**	05 11 49.2	-11
	comp=E,2.2nm,0.3s,baz=114,slow=16,SNR=18						
MKAR				Sn	**Sn**	05 12 37.3	-0.5
	comp=E,2.0nm,0.3s,baz=138,slow=28,SNR=4.4						
MKAR				Lg		05 13 02.4	
	comp=E,4.0nm,0.3s,baz=116,slow=28,SNR=4.5						
KURK	**Kurchatov**	**9.52**	**319**	⇑Pn	**Pn**	05 12 36.3	-0.7
	comp=E,0.9nm,0.6s						
KURK				⇑Sn	**Sn**	05 14 20.7	-3.2
	comp=E,3.0nm,0.7s						
KURK				⇓Lg		05 15 15.0	
	comp=E,8.6nm,1.5s						
ZAL	**Zalesovo**	**10.29**	**348**	Pn	**Pn**	05 12 52.3	+4.6
	comp=E,0.7nm,0.3s,baz=180,slow=5.1,SNR=2.6						
ZAL				Lg		05 15 53.8	
	comp=E,0.3nm,0.3s,baz=194,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**76.18**	**136**	P	**P**	05 22 08.0	-0.3
	comp=E,0.8nm,0.7s,mb3.8,baz=338,slow=5.6,SNR=11						
ASAR	**Alice Springs**	**79.12**	**138**	P	**P**	05 22 24.5	-0.1
	comp=E,0.5nm,0.5s,mb3.7,baz=332,slow=4.9,SNR=7.8						

THR ***02*** *05:19:38.7±0.5, 31.93N×49.03E, h14km±8km, ML3.5*
ISCJB ***02*** *05:19:39.6±1.6, 32.05N±0.04×49.12E±0.05, h7km±11km, Error ellipse: s-maj=9.0km s-min=5.1km az=73.9*
CSEM ***02*** *05:19:39.5±0.1, 32.07N×49.14E, h10km, ML3.6, Error ellipse: s-maj=2.5km s-min=1.8km az=125.0*
TEH ***02*** *05:19:41.8, 31.95N×49.05E, h18km, Mn3.7*
KISR ***02*** *05:19:41.1±1.1, 32.02N×49.06E, h33km, ML3.4*
ISC 02 05:19:40.8±1.8, 32.04N±0.004×49.13E±0.006, h6km±13km, n22, σ0.74/30, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.63**	**66**	*e*Pn	**Pn**	05 20 09.6	-0.4
IKLH	**Kalahroud**	**2.43**	**58**	*e*Pn	**Pn**	05 20 20.8	-0.2
IKOM	**Komasi**	**2.52**	**328**	*e*Pn	**Pn**	05 20 22.4	+0.1
ASAO	**Ashtian**	**2.61**	**17**	*e*PN	**Pn**	05 20 24.7	+1.2
ASAO				*e*SG	**Sg**	05 21 04.6	-0.1
ASAO				AML	AML	05 21 08.3	
	comp=N,187nm,0.6s						
ASAO				AML	AML	05 21 11.4	
	comp=E,148nm,0.6s						
ASAO	**Ashtian**	**2.61**	**17**	*e*Pn	**Pn**	05 20 24.7	+1.2
	SNR=52						
ASAO				*e*Sg	**Sg**	05 21 04.6	-0.1
	SNR=90						
IGAR	**Garneh**	**2.61**	**85**	*e*Pn	**Pn**	05 20 21.3	-2.2
IZEF	**Zefreh**	**2.84**	**72**	*e*Pn	**Pn**	05 20 26.2	-0.4
KBD	**Kabd**	**3.11**	**204**	*e*P	**Pn**	05 20 30.9	+0.6
KBD				*e*S	**Sn**	05 21 08.0	+0.2
KBD				AML	AML	05 21 10.2	
	comp=Z,205nm,0.2s						
KBD	**Kabd**	**3.11**	**204**	*e*P	**Pn**	05 20 30.9	+0.6
KBD				*e*S	**Sn**	05 21 08.0	+0.2
IGHG	**Ghaleghazi**	**3.13**	**317**	*e*Pn	**Pn**	05 20 31.1	+0.4
NASN	**Na'in**	**3.21**	**75**	*e*PN	**Pn**	05 20 32.4	+0.8
NASN				Sn	**Sn**	05 21 11.8	+1.6
NAY	**Al-Naaiem**	**3.22**	**211**	*e*P	**Pn**	05 20 31.6	-0.2
NAY				*e*S	**Sn**	05 21 10.5	0.0
NAY				AML	AML	05 21 13.1	
	comp=Z,28nm,0.4s						
NAY	**Al-Naaiem**	**3.22**	**211**	*e*P	**Pn**	05 20 31.6	-0.3
NAY				*e*S	**Sn**	05 21 10.5	0.0
SNGE	**Sanandaj**	**3.39**	**334**	*e*PN	**Pn**	05 20 34.2	0.0
SNGE				AML	AML	05 21 37.2	
	comp=N,102nm,0.6s						
SNGE				AML	AML	05 21 37.5	
	comp=E,78nm,0.5s						
RDF	**Al-Radifah**	**3.39**	**204**	*e*P	**Pn**	05 20 34.5	+0.3
RDF				*e*S	**Sn**	05 21 13.9	-0.8
RDF				AML	AML	05 21 15.4	
	comp=Z,116nm,0.3s						
RDF	**Al-Radifah**	**3.39**	**204**	*e*P	**Pn**	05 20 34.5	+0.3
RDF				*e*S	**Sn**	05 21 13.9	-0.8
IDHR	**Dehrash**	**3.50**	**320**	*e*Pn	**Pn**	05 20 35.8	0.0
IVRN	**Varamin**	**3.66**	**36**	*e*Pn	**Pn**	05 20 38.1	+0.1
IMHD	**Mahdasht**	**3.86**	**19**	*e*Sn	**Sn**	05 21 25.0	-1.2
BHD	**Baghdad**	**4.19**	**288**	*e*x	x	05 21 01.5	
BHD				*e*x	x	05 21 53.0	
IAFJ	**Afjeh**	**4.37**	**29**	*e*Pn	**Pn**	05 20 47.9	+0.2
IFIR	**Firoozkooh**	**4.69**	**39**	*e*Pn	**Pn**	05 20 51.7	-0.4

NEIC ***02*** *05:49:34.0±0.8, 22.68S×66.03W, h260km±13km, mb3.6/1, Error ellipse: s-maj=18.7km s-min=9.7km az=108.0*
IDC 02 05:49:33.0±1.4, 22.68S×66.11W, h250km±18km, mb3.5/3, mb1 3.4/8, mb1mx3.3/17, mbtmp3.9/8, Error ellipse: s-maj=25.3km s-min=13.2km az=99.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.63**	**343**	P	Pn	05 51 11.4	+2.3
	0.5nm,0.3s,baz=147,slow=11,SNR=17						
LPAZ				S	S	05 52 25.8	-0.2
	0.3nm,0.3s,baz=339,slow=16,SNR=11						
SIV	**San Ignacio**	**8.17**	**36**	P	Pn	05 51 28.9	+0.5
	2.2nm,0.3s,baz=230,slow=12,SNR=68						
CFAA	**Coronel Fontan**	**9.09**	**192**	P	Pn	05 51 41.4	+1.3
	0.3nm,0.3s,baz=23,slow=12,SNR=35						
CFAA				S	S	05 53 20.1	-2.8
	0.3nm,0.3s,baz=174,slow=16,SNR=16						
PLCA	**Paso Flores**	**18.39**	**191**	P	P	05 53 30.2	+0.4
	0.1nm,0.3s,baz=18,slow=16,SNR=3.0						
PLCA	**Paso Flores**	**18.39**	**191**	P	P	05 53 30.2	+0.5
	1.6nm,0.8s						
BDFB	**Brasilia**	**18.46**	**71**	P	P	05 53 30.6	+0.2
	0.5nm,0.3s,baz=253,slow=12,SNR=13						
DBIC	**Dimbokro**	**66.60**	**72**	P	P	05 59 56.9	+0.3
	0.6nm,0.5s,baz=303,slow=21,SNR=4.3						
TORD	**Torodi Ar. Bea**	**75.33**	**69**	P	P	06 00 49.6	+0.7
	1.7nm,0.4s,baz=254,slow=5.9,SNR=53						
YKA	**Yellowknife Ar**	**93.17**	**340**	P	P	06 02 18.2	-0.6
	0.2nm,0.6s,baz=130,slow=4.4,SNR=7.9						

MAN 02 05:55:05.5, 15.90N×126.19E, h25km, mb4.0, ML5.0, MS1.2, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.59**	**252**	*e*P	Pb	05 55 17.9	+0.7
BUTP				*e*S	Sb	05 55 28.7	+3.4
SCPH	**Surigao**	**0.93**	**312**	*e*P	Pn	05 55 22.5	-0.5
SCPH				*e*S	Sb	05 55 35.5	+0.5
BIPH	**Bislig**	**0.98**	**170**	⇑*i*P	Pn	05 55 22.1	-1.6
BIPH				*i* S	Sb	05 55 34.4	-1.8
CGP	**Cagayan de Oro**	**1.64**	**245**	⇑*e*P	Pn	05 55 32.5	-0.2
CGP				*i* S	Sn	05 55 51.5	-1.4
MSLP	**Maasin**	**1.64**	**307**	*e*P	Pn	05 55 32.4	-0.2
MSLP				*e*S	Sn	05 55 55.3	+2.4
BUKP	**Musuan**	**1.69**	**222**	*e*P	Pn	05 55 33.2	-0.2
BUKP				*e*S	Sn	05 55 55.5	+1.3
TBP	**Tagbilaran**	**2.36**	**283**	*e*P	Pn	05 55 43.1	+0.5
TBP				*e*S	Sn	05 56 09.8	-1.0
OCLP	**Ormoc**	**2.45**	**321**	*e*P	Pn	05 55 45.6	+1.8
LLP	**Lapu-Lapu**	**2.48**	**298**	*e*P	Pn	05 55 42.6	-1.7
LLP				*e*S	Sn	05 56 13.8	0.0
BESP	**Borongan**	**2.54**	**343**	*e*P	Pn	05 55 46.5	+1.4
DCPH	**Dipolog City**	**2.86**	**259**	⇓P	Pn	05 55 50.0	+0.5
DCPH				*i* S	Sn	05 56 23.8	+0.6
SNPH	**Sibulan**	**2.92**	**274**	*e*P	Pn	05 55 51.0	+0.6
PAGZ	**Pagadian**	**3.07**	**245**	*e*P	Pn	05 55 53.7	+1.3
PAGZ				*e*S	Sn	05 56 29.1	+0.8
CNP	**Cataman**	**3.66**	**336**	*e*P	Pn	05 56 01.2	+0.7
CNP				*e*S	Sn	05 56 44.6	+1.8
GUIM	**Jordan**	**3.84**	**293**	*e*P	Pn	05 56 03.0	0.0

MOS ***02*** *05:55:52.6±1.0, 6.85S×155.57E, h33km, mb4.8/11, Error ellipse: s-maj=11.2km s-min=10.0km az=63.5*
ISCJB ***02*** *05:55:56.1±1.3, 7.05S±0.08×155.60E±0.05, h70km±13km, mb4.5/37, Error ellipse: s-maj=13.1km s-min=7.4km az=171.3*
BJI ***02*** *05:55:56.0, 7.00S×155.74E, h75km, mB5.0, mb4.8, Ms4.8, Msz4.3*
NEIC ***02*** *05:55:57.8±0.9, 7.03S×155.60E, h72km±8km, mb4.7/18, Error ellipse: s-maj=7.7km s-min=6.2km az=169.0*
IDC ***02*** *05:55:58.3±2.2, 7.10S×155.59E, h80km±20km, mb4.0/11, mb1 4.2/14, mb1mx4.2/18, mbtmp4.3/14, MS3.9/5, Ms1 3.9/5, ms1mx3.6/19, Error ellipse: s-maj=18.7km s-min=12.3km az=0.0*
ISC 02 05:55:59.0±1.1, 7.09S±0.08×155.63E±0.05, h82km±11km, h72km±5.1km; pP-P, n79, σ0.94/72, mb4.5/37, 3C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.86**	**119**	P	**Pn**	05 57 10.5	+0.8
	10nm,0.3s,baz=270,slow=3.5,SNR=7.9						
HNR				S	**Sn**	05 58 05.0	+0.3
	24nm,0.3s,baz=267,slow=9.8,SNR=2.7						
HNR				LR	LR	05 58 56.6	
	comp=Z,1μm,20.9s,baz=180,slow=36						
HNR	**Honiara**	**4.86**	**119**	*e*P	**Pn**	05 57 09.5	-0.2
PMG	**Port Moresby**	**8.69**	**254**	P	**Pn**	05 58 01.7	-0.1
	10.0nm,0.3s,baz=47,slow=7.8,SNR=19						
PMG				S	**Sn**	05 59 36.2	-2.0
	0.7nm,0.3s,baz=14,slow=12,SNR=1.7						
PMG				LR	LR	06 01 27.2	
	comp=Z,523nm,18.3s,baz=238,slow=38						
PMG	**Port Moresby**	**8.69**	**254**	*e*Pn	**Pn**	05 58 01.1	-0.8
	61nm,0

MBWA *e*pP pP 06 03 12.1 -11
KKM Kota Kinabalu 41.44 287 P **P 06 03 37.4 0.0**
MJAR Matsushiro Arr 46.38 341 P **P 06 04 15.9 -1.2**
comp=Z,1.4nm,0.5s,mb4.0,baz=166,slow=7.3,SNR=4.8
SSE Sheshan 50.28 321 P **P 06 04 48.3 +1.3**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,63nm,7.0s
NJ2 Nanjing 52.39 320 *e*P **P 06 05 03.2 +0.4**
NJ2 AP pP 06 05 17.1 -6.0
NJ2 PP PP 06 07 02.7 +0.5
NJ2 S **S 06 12 24.0 +1.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,40nm,4.6s
NJ2 LR LR
comp=N,970nm,28.9s
NJ2 LR LR
comp=E,620nm,25.2s
NJ2 LR LR
comp=Z,240nm,25.4s
YSS Yuzh-Sakhalins 55.01 349 *e*P **P 06 05 21.5 -0.5**
comp=Z,13nm,0.6s,mb5.2
YSS Yuzh-Sakhalins 55.01 349⇑ *e*P **P 06 05 22.4 +0.5**
YSS pmax pmax
comp=Z,27nm,1.2s,mb5.2
YSS MLR MLR
comp=Z,100nm,18.0s
KULM Kulim 56.23 281 *e*P **P 06 05 30.1 -0.6**
MDJ Mudanjiang 56.56 338 P **P 06 05 32.9 -0.1**
MDJ AMB AMB
comp=Z,9.0nm,1.8s,mb4.5
MDJ AMB AMB
comp=Z,121nm,5.6s
CN2 Changchun 57.55 334 *e*P **P 06 05 43.0 +3.0**
ENH Enshi 57.77 312 P **P 06 05 41.5 0.0**
comp=Z,3.6nm,0.4s,mb4.8
KMI Kunming 60.59 304 P **P 06 06 03.2 +2.2**
KMI AP pP 06 06 22.6 +0.9
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb4.7
KMI LR LR
comp=Z,51nm,23.2s
CD2 Chengdu 62.35 310 *e*P **P 06 06 13.5 +0.6**
CD2 AP pP 06 06 33.0 -0.7
CD2 PP PP 06 08 33.2 +2.3
CD2 S **S 06 14 31.5 -1.6**
CD2 XS sS 06 15 05.1 -3.5
CD2 SS SS 06 18 37.5 -0.3
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,50nm,5.8s
CD2 LR LR
comp=E,90nm,8.4s
CD2 LR LR
comp=Z,60nm,15.6s
HHC Hu-ho-hao-te 62.54 324 *e*P **P 06 06 15.5 +1.4**
HHC AP pP 06 06 35.0 0.0
HHC XP sP 06 06 43.7 -0.3
HHC PCP PcP 06 06 53.6 +1.0
HHC PP PP 06 08 35.4 +2.9
HHC S **S 06 14 35.8 +0.3**
HHC XS sS 06 15 09.4 -1.6
HHC SCS ScS 06 15 57.2 -1.8
HHC AMB AMB
comp=Z,8.0nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,115nm,6.1s
HHC LR LR
comp=N,148nm,5.3s
HHC LR LR
comp=E,167nm,5.5s
HHC LR LR
comp=Z,127nm,5.9s
HIA Hailar 64.28 335 *e*P **P 06 06 25.8 +0.2**
comp=Z,7.9nm,0.8s,mb4.6
HIA Hailar 64.28 335 *e*P **P 06 06 25.8 +0.2**
HIA pmax pmax
comp=Z,8.0nm,0.8s
MA2 Magadan 66.56 357 P **P 06 06 39.7 -0.6**
comp=Z,4.9nm,0.7s,mb4.5
MA2 Magadan 66.56 357 P **P 06 06 38.9 -1.4**
MA2 *e* 06 06 53.2
SONM Songino Array 69.76 327 P **P 06 07 00.8 +0.5**
comp=Z,6.5nm,0.8s,mb4.5,baz=136,slow=6.0,SNR=50
SEY Seymchan 69.86 358⇑ *e*P **P 06 07 01.3 +0.3**
ZAK Zakamensk 72.91 328 *e*P **P 06 07 16.8 -2.5**
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.2
BOD Bodaibo 72.94 338 *e*P **P 06 07 18.9 -0.5**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
JIRN Jiri 75.37 301 *e*P **P 06 07 34.5 +0.9**
GUN Gumba 75.71 301 *e*P **P 06 07 36.4 +0.9**
comp=Z,16nm,0.7s,mb4.9
PKI Pulchoki 76.02 301 *e*P **P 06 07 37.7 +0.4**
comp=Z,9.1nm,0.6s,mb4.7
PKI Pulchoki 76.02 301 *e*P **P 06 07 37.7 +0.4**
PKI pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
DMN Daman 76.28 301 *e*P **P 06 07 39.7 +0.9**
comp=Z,17nm,0.7s,mb4.9
GKN Gorkha 76.79 301 *e*P **P 06 07 41.8 +0.1**
KOLN Koldanda 77.61 300 *e*P **P 06 07 46.5 +0.2**
TIXI Tiksi 80.54 352⇑ *e*P **P 06 08 02.5 +0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.5s,mb4.1
MCK McKinley 81.91 22 *e*P **P 06 08 08.1 -1.4**
comp=Z,4.7nm,1.0s,mb4.3
MCK McKinley 81.91 22 *e*P **P 06 08 08.1 -1.4**
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
QSPA South Pole Qui 82.89 180 *e*P **P 06 08 14.8 +0.2**
comp=Z,11nm,0.7s,mb4.8
COLA College 82.94 21 *e*P **P 06 08 13.5 -1.4**
comp=Z,3.4nm,0.7s,mb4.3
COLA College 82.94 21 *e*P **P 06 08 13.5 -1.4**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ILAR Eielson Array 83.23 21 P **P 06 08 14.5 -1.9**
comp=Z,1.3nm,0.8s,mb3.8,baz=250,slow=4.8,SNR=18
MKAR Makanchi Array 83.89 319 P **P 06 08 19.7 0.0**
comp=Z,3.6nm,0.7s,mb4.3,baz=101,slow=5.9,SNR=36
ZAL Zalesovo 84.62 326 P **P 06 08 21.9 -1.5**
comp=Z,1.9nm,0.4s,mb4.4,baz=322,slow=4.5,SNR=4.9
KURK Kurchatov 87.30 322 *e*P **P 06 08 36.4 -0.2**
comp=Z,1.0nm,0.4s,mb4.1
KURK Kurchatov 87.30 322 *e*P **P 06 08 36.4 -0.2**
KURK pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
AAK Ala-Archa 88.28 313 *e*P **P 06 08 41.7 +0.5**
comp=Z,1.3nm,0.7s,mb4.1
AAK Ala-Archa 88.28 313 *e*P **P 06 08 41.9 +0.6**
AAK pmax pmax
comp=Z,2.0nm,2.1s,mb3.8
INK Inuvik 89.59 21 *e*P **P 06 08 46.7 -0.7**
comp=Z,3.3nm,0.8s,mb4.5
INK Inuvik 89.59 21 *e*P **P 06 08 46.7 -0.7**
INK pmax pmax
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 91.28 52 P **P 06 08 56.5 +1.1**
comp=Z,0.8nm,0.9s,mb3.9,baz=252,slow=6.9,SNR=4.6
SYO Syowa Base 92.44 199‖ *es*P sP 06 09 31.2 -0.3
BVAR Borovoye Array 92.75 323 P **P 06 09 02.0 -0.1**
comp=Z,1.3nm,0.7s,mb4.4,baz=114,slow=7.3,SNR=6.0
ZRNK Zerenda 93.57 323 *e*P **P 06 09 05.2 -0.7**
comp=Z,1.3nm,0.8s,mb4.3
ZRNK Zerenda 93.57 323 *e*P **P 06 09 05.2 -0.7**
ZRNK pmax pmax
comp=Z,1.0nm,0.8s,mb4.2
PDAR Pinedale Array 98.30 48 P **P 06 09 27.5 +0.2**
comp=Z,0.8nm,1.0s,mb4.2,baz=291,slow=2.5,SNR=4.0
PDAR LR LR 06 47 59.2
comp=Z,102nm,18.8s,baz=158,slow=32
PLCA Paso Flores 116.26 142 PKP PKPdf 06 14 33.9 +1.0
comp=Z,1.3nm,0.6s,baz=221,slow=6.5,SNR=9.2
AKASG Malin Array Be 117.98 325 PKP PKPdf 06 14 37.0 +0.8
comp=Z,1.1nm,0.8s,baz=66,slow=2.1,SNR=6.6
KHC Kasperske Hory 127.34 329 *e*PKP PKPdf 06 14 55.4 +1.3
GERES GERESS Array B 127.46 329 PKP PKPdf 06 14 55.6 +1.3
comp=Z,1.3nm,0.7s,baz=40,slow=2.3,SNR=7.0
LPAZ La Paz 130.86 119 PKP PKPdf 06 15 03.5 +2.7
comp=Z,1.9nm,0.9s,baz=290,slow=4.8,SNR=4.6
LPAZ La Paz 130.86 119 *e*PKPdf PKPdf 06 15 03.6 +2.8
SDV Santo Domingo 134.17 85 *e*PKPdf PKPdf 06 15 09.2 +2.2
CAM4 Nova Friburgo 145.73 149‖ *i*P PKPdf 06 15 30.6 +2.7
CAM4 *i* 06 15 33.0
BDFB Brasilia 147.46 134 PKPbc PKPbc 06 15 32.8 -0.7
comp=Z,20nm,0.7s,baz=261,slow=0.8,SNR=47
CAM3 Guarapari 148.12 150 *e*P PKPdf 06 15 37.0 +5.0
CAM3 *i* 06 15 40.0
CAM3 *i* 06 15 45.0
TORD Torodi Ar. Bea 153.66 285 PKPbc PKPbc 06 15 47.6 -0.7
comp=Z,0.7nm,0.6s,baz=55,slow=2.5,SNR=5.5
TORD PKPab PKPab 06 15 59.3 -1.9
comp=Z,1.9nm,0.9s,baz=33,slow=2.5,SNR=9.4
DBIC Dimbokro 160.62 270 PKPab PKPab 06 16 32.1 +0.9
comp=Z,3.1nm,1.1s,baz=166,slow=4.2,SNR=3.6

OTT 02 06:01:53.4±0.3, 6523N×8755W, h18km, MN3.0/7, 158km southwest from Repulse Bay, Nu Boothia Ungava Seismic Zone. Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRTN	**Rankin Inlet**	**3.15**	**222**	PN	Pn	06 02 43.1	+1.1
YRTN				SN	Sn	06 03 17.9	-1.2
YRTN				LG		06 03 30.5	
YRTN				Trac		06 03 34.3	
	comp=Z,63nm,0.1s						
FCC	**Fort Churchill**	**7.18**	**208**	PN	Pn	06 03 38.0	+0.6
FCC				SN	Sn	06 04 52.6	-5.8
FCC				LG		06 05 36.1	
FCC				Trac		06 05 44.2	
	comp=Z,10nm,0.2s						
PINU	**Pond Inlet**	**8.24**	**20**	PN	Pn	06 03 51.0	-0.9
PINU				SN	Sn	06 05 17.5	-7.1
PINU				LG		06 06 08.2	
PINU				Trac		06 06 15.6	
	comp=Z,100nm,0.8s						
GLWN	**Glow Worm Lake**	**9.23**	**277**	PN	Pn	06 04 08.3	+2.7
GLWN				SN	Sn	06 05 40.2	-8.8
GLWN				LG		06 06 35.2	
GLWN				Trac		06 06 47.4	
	comp=Z,4.5nm,0.4s						
KNDN	**Kennady Lake**	**9.55**	**269**	PN	Pn	06 04 10.8	+0.8
KNDN				SN	Sn	06 05 48.2	-8.6
KNDN				Trac		06 06 10.9	
	comp=Z,2.7nm,0.3s						
KNDN				LG		06 06 49.9	
LGSN	**Lac de Gras So**	**9.66**	**275**	PN	Pn	06 04 13.7	+2.2
LGSN				SN	Sn	06 05 51.4	-8.1
LGSN				LG		06 06 51.6	
MLON	**Marlo Lake**	**9.67**	**273**	PN	Pn	06 04 10.1	-1.4
MLON				SN	Sn	06 05 49.6	-10
MLON				LG		06 06 51.0	
MLON				Trac		06 06 56.4	
	comp=Z,3.6nm,0.3s						
MCKN	**MacKay Lake No**	**9.73**	**274**	PN	Pn	06 04 11.2	-1.2
MCKN				SN	Sn	06 05 54.5	-6.8
MCKN				LG		06 06 50.9	
MCKN				Trac		06 07 02.7	
	comp=Z,2.0nm,0.2s						
YNEN	**Yamba Lake Nor**	**9.87**	**280**	PN	Pn	06 04 15.2	+0.8
COWN	**Contwyoto Lake**	**9.89**	**281**	SN	Sn	06 05 53.5	-12
COWN				LG		06 06 53.8	
SNPN	**Snap Lake**	**10.24**	**271**	PN	Pn	06 04 19.6	+0.3
SNPN				SN	Sn	06 06 04.5	-9.2
SNPN				Trac		06 06 16.0	
	comp=Z,3.6nm,0.1s						
SILO	**Sutton Inlier**	**10.86**	**172**	PN	Pn	06 04 26.4	-1.5
SILO				SN	Sn	06 06 20.7	-8.3
SILO				LG		06 07 32.8	
YKB0	**Yellowknife Ar**	**12.14**	**270**	PN	Pn	06 04 43.7	-1.7
YKW3	**Yellowknife Ar**	**12.17**	**270**	PN	Pn	06 04 44.9	-0.9
YKW3				SN	Sn	06 06 49.3	-12
YKW3				LG		06 08 09.2	
YKW3				Trac		06 08 22.5	
	comp=Z,9.5nm,0.7s						
VIMO	**Victor Mine**	**12.60**	**169**	PN	Pn	06 04 49.0	-2.7
VIMO				SN	Sn	06 07 00.3	-11
VIMO				LG		06 08 33.7	
FFC	**Flin Flon**	**12.73**	**221**	PN	Pn	06 04 52.3	-1.1
FFC				SN	Sn	06 07 03.4	-11
FFC				SN	Sn	06 07 04.4	-10
FFC				LG		06 08 21.7	
FFC				LG		06 08 32.5	
GALN	**Gameti Lake**	**12.73**	**279**	PN	Pn	06 04 52.4	-1.1
GALN				SN	Sn	06 07 01.8	-13
GALN				LG		06 08 23.3	
LG4Q	**La Grande 4**	**13.45**	**143**	PN	Pn	06 05 01.0	-2.4
LG4Q				SN	Sn	06 07 22.8	-10
LG4Q				LG		06 08 46.1	
LG4Q				Trac		06 08 49.9	
	comp=Z,1.4nm,0.3s						
PKLO	**Pickle Lake**	**13.85**	**187**	PN	Pn	06 05 09.4	+0.8
PKLO				SN	Sn	06 07 30.6	-11
YOSQ	**Ashton Mining**	**14.63**	**141**	PN	Pn	06 05 16.7	-2.7
NANO	**Nakina Ontario**	**14.92**	**179**	PN	Pn	06 05 24.4	+1.1
NANO				SN	Sn	06 07 54.1	-14
ULM	**Lac du Bonnet**	**15.64**	**200**	PN	Pn	06 05 29.1	-3.6
ULM				SN	Sn	06 08 12.5	-13
EPLO	**Experimental L**	**15.93**	**195**	PN	Pn	06 05 35.2	-1.3

IDC 02 06:13:55.9±2.8, 2784N×5689E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.5/5, Error ellipse: s-maj=58.0km s-min=29.4km az=150.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**22.58**	**2**	P	P	06 18 57.4	-0.4
	1.1nm,0.7s,baz=170,slow=8.4,SNR=3.6						
BRTR	**Keskin Array B**	**22.60**	**308**	P	P	06 18 59.4	+1.3
	0.9nm,0.6s,baz=119,slow=13,SNR=6.1						
MKAR	**Makanchi Array**	**27.48**	**40**	P	P	06 19 44.3	+0.5
	0.1nm,0.4s,baz=228,slow=9.3,SNR=6.5						
FINES	**FINESS Array B**	**39.39**	**337**	P	P	06 21 26.3	-0.9
	1.3nm,0.6s,baz=131,slow=10,SNR=7.7						
TORD	**Torodi Ar. Bea**	**53.32**	**266**	P	P	06 23 16.9	+0.2
	0.3nm,0.5s,baz=64,slow=7.5,SNR=7.1						

ISCJB ***02*** *06:23:11.9±0.3, 4358N±001×059W±002, h9km±2km, Error ellipse: s-maj=2.5km s-min=1.9km az=62.0*
CSEM ***02*** *06:23:14.8±0.0, 4348N×062W, h8km, ML2.8/22, Error ellipse: s-maj=1.1km s-min=0.7km az=131.0*
NEIC ***02*** *06:23:14.6, 4348N×060W, h5km, ML2.6(STR), ML2.8(LDG), MN2.2(MDD), After STR.*
LDG ***02*** *06:23:14.6±0.0, 4346N×063W, h15km, Md2.8/2, Ml2.8/13, Error ellipse: s-maj=1.1km s-min=0.7km az=129.0*
STR ***02*** *06:23:14.6±0.3, 4348N×060W, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***02*** *06:23:14.9±0.3, 4348N×061W, h6km±4km, mbLg2.1/26, Error ellipse: s-maj=2.7km s-min=1.9km az=178.0, PRXIMO*

ISC 02 06:23:13.6±0.2, 4353N±001×061W±002, h13km±2km, n115, σ0:96/211, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.39**	**217**	Pg	**Pg**	**06 23 21.6**	**+0.2**
ORDF	**Ordiarp**	**0.39**	**217**	P	**Pg**	**06 23 21.4**	**0.0**
ORDF				S	**Sg**	**06 23 26.9**	**+0.1**
ATE	**Arette**	**0.45**	**188**	Pg	**Pg**	**06 23 22.2**	**-0.2**
ATE				Sg	**Sg**	**06 23 28.3**	**-0.1**
ATE	**Arette**	**0.45**	**188**	P	**Pg**	**06 23 22.4**	**0.0**
ATE				S	**Sg**	**06 23 28.4**	**0.0**
REYF	**Montagne du Re**	**0.48**	**161**	Pg	**Pg**	**06 23 22.7**	**-0.4**
REYF				Sg	**Sg**	**06 23 29.5**	**-0.1**
REYF	**Montagne du Re**	**0.48**	**161**	P	**Pg**	**06 23 22.5**	**-0.6**
REYF				S	**Sg**	**06 23 29.6**	**-0.1**
OSSF	**Osses**	**0.55**	**240**	Pg	**Pg**	**06 23 24.8**	**+0.5**
OSSF				Sg	**Sg**	**06 23 32.9**	**+1.4**
OSSF	**Osses**	**0.55**	**240**	P	**Pg**	**06 23 24.1**	**-0.2**
OSSF				S	**Sg**	**06 23 33.0**	**+1.4**
LARF	**Larrau**	**0.56**	**209**	Pg	**Pg**	**06 23 24.2**	**-0.4**
LARF				Sg	**Sg**	**06 23 32.1**	**+0.1**
LARF	**Larrau**	**0.56**	**209**	P	**Pg**	**06 23 24.3**	**-0.2**
LARF				S	**Sg**	**06 23 32.1**	**+0.1**
SJPF	**Ste Jean**	**0.61**	**227**	*e*Pg	**Pg**	**06 23 25.3**	**-0.2**
SJPF				*e*Sg	**Sg**	**06 23 32.6**	**-0.9**
	57nm,0.3s						
SJPF	**Ste Jean**	**0.61**	**227**	*e*Pg	**Pg**	**06 23 25.3**	**-0.2**
SJPF				*e*Sg	**Sg**	**06 23 32.6**	**-0.9**
	28nm,0.3s						
ETSF	**Etsaut**	**0.63**	**176**	*e*Pg	**Pg**	**06 23 25.3**	**-0.6**
ETSF				*e*Sg	**Sg**	**06 23 33.5**	**-0.7**
	56nm,0.2s						
ETSF	**Etsaut**	**0.63**	**176**	*e*Pg	**Pg**	**06 23 25.3**	**-0.6**
ETSF				*e*Sg	**Sg**	**06 23 33.5**	**-0.7**
	28nm,0.2s						
LABF	**Labassere**	**0.69**	**134**	Pg	**Pg**	**06 23 27.3**	**+0.2**
LABF				Sg	**Sg**	**06 23 36.5**	**+0.3**
LABF	**Labassere**	**0.69**	**134**	P	**Pg**	**06 23 27.0**	**-0.1**
LABF				S	**Sg**	**06 23 36.7**	**+0.5**
FDAF	**Les Forges d'A**	**0.71**	**177**	P	**Pg**	**06 23 26.9**	**-0.5**
FDAF				S	**Sg**	**06 23 36.0**	**-0.7**
EALK	**Alkurruntz**	**0.72**	**245**	Pg	**Pg**	**06 23 27.7**	**+0.1**
	15nm,0.3s,SNR=45						
EALK				Lg		06 23 37.5	
	70nm,0.3s,SNR=11						
ELIZ	**Elizondo**	**0.76**	**242**	Pg	**Pg**	**06 23 28.5**	**+0.1**
	24nm,0.2s,SNR=7.9						
ELIZ				Lg		06 23 39.5	
	30nm,0.2s,SNR=7.9						
VIEF	**Viey**	**0.79**	**144**	Pg	**Pg**	**06 23 28.2**	**-0.8**
VIEF				Sg	**Sg**	**06 23 39.7**	**+0.3**
VIEF	**Viey**	**0.79**	**144**	P	**Pg**	**06 23 28.3**	**-0.7**
VIEF				S	**Sg**	**06 23 39.6**	**+0.3**
EPF	**Esparros**	**0.85**	**125**	*e*Pg	**Pg**	**06 23 30.3**	**+0.2**
EPF				*e*Sg	**Sg**	**06 23 41.7**	**+0.4**
	48nm,0.3s						
EPF	**Esparros**	**0.85**	**125**	*e*Pg	**Pg**	**06 23 30.3**	**+0.2**
EPF				*e*Sg	**Sg**	**06 23 41.7**	**+0.4**
	24nm,0.3s						
IUSE	**Utxeti**	**0.90**	**230**	Pg	**Pg**	**06 23 31.0**	**+0.1**
	7.0nm,0.1s,SNR=7.9						
IUSE				Lg		06 23 42.7	
	16nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.90**	**230**	Pg	**Pg**	**06 23 31.0**	**+0.1**
	7.0nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.90**	**217**	Pg	**Pg**	**06 23 30.9**	**-0.1**
	1.8nm,0.2s,SNR=7.9						
IPRE				Lg		06 23 42.3	
	29nm,0.4s,SNR=7.9						
IPRE	**Itoiz**	**0.90**	**217**	Pg	**Pg**	**06 23 30.9**	**-0.2**
	1.8nm,0.2s,SNR=7.9						
RESF	**Ens**	**1.00**	**136**	S	**Sb**	**06 23 46.3**	**+0.4**
EBIE	**Bielsa**	**1.01**	**146**	Pg	**Pg**	**06 23 32.1**	**-0.9**
	2.3nm,0.1s,SNR=36						
EBIE				Lg		06 23 45.0	
	27nm,0.2s,SNR=9.5						
EBIE	**Bielsa**	**1.01**	**146**	Pg	**Pg**	**06 23 32.1**	**-0.9**
	2.3nm,0.1s,SNR=36						
IUNC	**Unciti**	**1.01**	**220**	Pg	**Pg**	**06 23 33.6**	**+0.5**
	4.1nm,0.2s,SNR=7.9						
IUNC				Lg		06 23 46.6	
	12nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**1.01**	**220**	Pg	**Pg**	**06 23 33.6**	**+0.6**
	4.1nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**1.03**	**223**	Pg	**Pg**	**06 23 34.4**	**+0.8**
	2.1nm,0.1s,SNR=7.9						
EARA				Lg		06 23 47.2	
	12nm,0.3s,SNR=7.9						
MELF	**Melles**	**1.20**	**123**	P	**Pn**	**06 23 36.2**	**+0.2**
MELF				S	**Sb**	**06 23 51.5**	**0.0**
EGRA	**Graus**	**1.50**	**153**	Pg	**Pg**	**06 23 43.1**	**+0.7**
	1.9nm,0.2s,SNR=6.9						
EGRA				Lg		06 24 02.1	
	9.9nm,0.3s,SNR=8.7						
SALF	**Salau**	**1.53**	**120**	Pg	**Pg**	**06 23 43.4**	**+0.5**
SALF	**Salau**	**1.53**	**120**	P	**Pn**	**06 23 43.5**	**+2.9**
SALF				S	**Sn**	**06 24 01.9**	**+1.7**
LFF	**La Frestale**	**1.71**	**34**	*e*Pg	**Pg**	**06 23 48.4**	**+1.9**
LFF				*e*Sg	**Sg**	**06 24 11.2**	**+2.5**
	31nm,0.4s						
LFF	**La Frestale**	**1.71**	**34**	*e*Pg	**Pg**	**06 23 48.4**	**+1.9**
LFF				*e*Sg	**Sg**	**06 24 11.2**	**+2.5**
	15nm,0.4s						
ESAC	**San Caprasio**	**1.81**	**177**	Pg	**Pg**	**06 23 47.7**	**-0.6**
	42nm,0.2s,SNR=21						
ESAC				Lg		06 24 09.9	
	186nm,0.3s,SNR=11						
ESAC	**San Caprasio**	**1.81**	**177**	Pg	**Pg**	**06 23 47.7**	**-0.6**
	42nm,0.2s,SNR=21						
MTLF	**Montolieu**	**2.07**	**94**	*e*Pg	**Pg**	**06 23 53.3**	**0.0**
MTLF				*e*Sn	**Sn**	**06 24 11.2**	**-2.5**
MTLF				*e*Sg	**Sg**	**06 24 20.1**	**0.0**
	8.8nm,0.3s						
MTLF	**Montolieu**	**2.07**	**94**	Pn	**Pn**	**06 23 47.4**	**-0.6**
MTLF				Pg	**Pg**	**06 23 53.3**	**0.0**
MTLF				Sn	**Sn**	**06 24 11.2**	**-2.5**
MTLF				Lg		06 24 20.1	
	4.4nm,0.3s						
MTLF	**Montolieu**	**2.07**	**94**	*e*Pg	**Pg**	**06 23 53.3**	**0.0**
MTLF				*e*Sn	**Sn**	**06 24 11.2**	**-2.5**
MTLF				*e*Sg	**Sg**	**06 24 20.1**	**0.0**
	4.4nm,0.3s						
MTLF	**Montolieu**	**2.07**	**94**	*e*Pn	**Pn**	**06 23 47.4**	**-0.6**
MTLF				*e*Pg	**Pg**	**06 23 53.3**	**0.0**
MTLF				*e*Sn	**Sn**	**06 24 11.2**	**-2.5**
MTLF				*e*Sg	**Sg**	**06 24 20.1**	**0.0**
ELAN	**Lanestosa**	**2.08**	**263**	Pn	**Pn**	**06 23 50.1**	**+1.9**
	0.6nm,0.2s,SNR=7.9						
ELAN				Pg	**Pg**	**06 23 53.6**	**+0.2**
	2.4nm,0.2s,SNR=9.4						
ELAN				Sn	**Sn**	**06 24 14.1**	**+0.2**
	4.1nm,0.3s,SNR=7.9						
ELAN				Lg		06 24 20.4	
	6.6nm,0.3s,SNR=6.1						
ELAN	**Lanestosa**	**2.08**	**263**	Pn	**Pn**	**06 23 50.1**	**+2.0**
	0.6nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.08**	**263**	Pg	**Pg**	**06 23 53.6**	**+0.1**
	2.4nm,0.2s,SNR=9.4						
ELAN				Sn	**Sn**	**06 24 14.1**	**+0.2**
	4.1nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.25**	**135**	Pg	**Pg**	**06 23 54.5**	**-2.3**
	4.7nm,0.2s,SNR=7.9						
EMIR				Lg		06 24 24.3	
	4.7nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.25**	**135**	Pg	**Pg**	**06 23 54.5**	**-2.3**
	4.7nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.34**	**40**	*e*Pg	**Pg**	**06 23 59.3**	**+0.8**
RJF				*e*Sn	**Sn**	**06 24 19.2**	**-1.2**
RJF				*e*Sg	**Sg**	**06 24 30.2**	**+1.4**
	12nm,0.3s						
RJF	**Les Rejaudoux**	**2.34**	**40**	Pn	**Pn**	**06 23 51.8**	**0.0**
RJF				Pg	**Pg**	**06 23 59.3**	**+0.8**
RJF				Sn	**Sn**	**06 24 19.2**	**-1.2**
RJF				Lg		06 24 30.2	
	6.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.34**	**40**	*e*Pg	**Pg**	**06 23 59.3**	**+0.8**
RJF				*e*Sn	**Sn**	**06 24 19.2**	**-1.2**
RJF				*e*Sg	**Sg**	**06 24 30.2**	**+1.4**
	6.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.34**	**40**	*e*Pn	**Pn**	**06 23 51.8**	**0.0**
RJF				*e*Pg	**Pg**	**06 23 59.3**	**+0.8**
RJF				*e*Sn	**Sn**	**06 24 19.2**	**-1.2**
RJF				*e*Sg	**Sg**	**06 24 30.2**	**+1.4**
CAF	**Calviac**	**2.38**	**53**	*e*Pg	**Pg**	**06 23 59.4**	**+0.2**
CAF				*e*Sn	**Sn**	**06 24 19.4**	**-1.9**
CAF				*e*Sg	**Sg**	**06 24 31.0**	**+1.0**
	5.1nm,0.2s						
CAF	**Calviac**	**2.38**	**53**	Pn	**Pn**	**06 23 52.7**	**+0.4**
CAF				Pg	**Pg**	**06 23 59.4**	**+0.2**
CAF				Sn	**Sn**	**06 24 19.4**	**-1.9**
CAF				Lg		06 24 31.0	
	2.5nm,0.2s						
CAF	**Calviac**	**2.38**	**53**	*e*Pg	**Pg**	**06 23 59.4**	**+0.2**
CAF				*e*Sn	**Sn**	**06 24 19.4**	**-1.9**
CAF				*e*Sg	**Sg**	**06 24 31.0**	**+1.0**
	2.5nm,0.2s						
CAF	**Calviac**	**2.38**	**53**	*e*Pn	**Pn**	**06 23 52.7**	**+0.4**
CAF				*e*Pg	**Pg**	**06 23 59.4**	**+0.2**
CAF				*e*Sn	**Sn**	**06 24 19.4**	**-1.9**
CAF				*e*Sg	**Sg**	**06 24 31.0**	**+1.0**
EPOB	**Poblet**	**2.51**	**149**	Pn	**Pn**	**06 23 55.7**	**+1.6**
	0.3nm,0.2s,SNR=7.9						
EPOB				Pg	**Pg**	**06 24 00.0**	**-1.7**
	0.7nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**06 24 24.4**	**0.0**
	1.5nm,0.3s,SNR=7.9						
EPOB				Lg		06 24 31.3	
	9.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.51**	**149**	Pn	**Pn**	**06 23 55.7**	**+1.6**

EPOB	**Poblet**	**2.51**	**149**	Pg	**Pg**	**06 24 00.0 -1.7**
	0.7nm,0.1s,SNR=7.9					
EPOB				Sn	**Sn**	**06 24 24.4 -0.1**
	1.5nm,0.3s,SNR=7.9					
ERTA	**Horta de San J**	**2.66**	**164**	Pn	**Pn**	**06 23 57.3 +1.1**
	0.9nm,0.2s,SNR=6.1					
ERTA				Pg	**Pg**	**06 24 02.6 -2.0**
	1.3nm,0.1s,SNR=7.9					
ERTA				Sn	**Sn**	**06 24 28.5 +0.2**
	2.5nm,0.2s,SNR=7.9					
ERTA				Lg		06 24 37.4
	6.4nm,0.4s,SNR=7.9					
ERTA	**Horta de San J**	**2.66**	**164**	Pn	**Pn**	**06 23 57.3 +1.1**
	0.9nm,0.2s,SNR=6.1					
ERTA	**Horta de San J**	**2.66**	**164**	Pg	**Pg**	**06 24 02.6 -2.0**
	1.3nm,0.1s,SNR=7.9					
ERTA				Sn	**Sn**	**06 24 28.5 +0.2**
	2.5nm,0.2s,SNR=7.9					
EJON	**La Jonquera**	**2.79**	**112**	Pn	**Pn**	**06 23 58.4 +0.6**
	SNR=4.0					
EJON				Sn	**Sn**	**06 24 31.6 +0.2**
	7.2nm,0.5s,SNR=7.9					
EJON				Lg		06 24 41.4
	1.3nm,0.2s,SNR=7.9					
EJON	**La Jonquera**	**2.79**	**112**	Pn	**Pn**	**06 23 58.4 +0.5**
	SNR=4.0					
EJON				Sn	**Sn**	**06 24 31.6 +0.3**
	7.2nm,0.5s,SNR=7.9					
EBR	**Ebro Roquetas**	**2.83**	**163**	*e*SG	**Sg**	**06 24 46.5 +2.1**
MFF	**Saint Martin d**	**3.09**	**6**	*e*Pg	**Pg**	**06 24 13.0 +0.2**
MFF				*e*Sg	**Sg**	**06 24 54.0 +1.1**
	9.3nm,0.5s					
MFF	**Saint Martin d**	**3.09**	**6**	Pn	**Pn**	**06 24 02.3 +0.2**
MFF				Pg	**Pg**	**06 24 13.0 +0.2**
MFF				Lg		06 24 54.0
	4.7nm,0.5s					
MFF	**Saint Martin d**	**3.09**	**6**	*e*Pg	**Pg**	**06 24 13.0 +0.2**
MFF				*e*Sg	**Sg**	**06 24 54.0 +1.1**
	4.7nm,0.5s					
MFF	**Saint Martin d**	**3.09**	**6**	*e*Pn	**Pn**	**06 24 02.3 +0.2**
MFF				*e*Pg	**Pg**	**06 24 13.0 +0.2**
MFF				*e*Sg	**Sg**	**06 24 54.0 +1.1**
EMOS	**Mosqueruela**	**3.16**	**178**	Pn	**Pn**	**06 24 04.6 +1.5**
	0.8nm,0.1s,SNR=7.9					
EMOS				Sn	**Sn**	**06 24 40.2 -0.5**
	2.8nm,0.4s,SNR=7.9					
EMOS				Lg		06 24 54.4
	3.9nm,0.3s,SNR=7.9					
EMOS	**Mosqueruela**	**3.16**	**178**	Pn	**Pn**	**06 24 04.6 +1.5**
	0.8nm,0.1s,SNR=7.9					
EMOS				Sn	**Sn**	**06 24 40.2 -0.5**
	2.8nm,0.4s,SNR=7.9					
EMOS	**Mosqueruela**	**3.16**	**178**	Pn	**Pn**	**06 24 04.6 +1.5**
EMOS				Sn	**Sn**	**06 24 40.2 -0.5**
EMOS				Lg		06 24 49.8
LASF	**Ste Croix**	**3.28**	**79**	*e*Pg	**Pg**	**06 24 15.8 -0.7**
LASF				*e*Sg	**Sg**	**06 24 58.6 -0.4**
	4.1nm,0.4s					
LASF	**Ste Croix**	**3.28**	**79**	Pn	**Pn**	**06 24 04.0 -0.7**
LASF				Pg	**Pg**	**06 24 15.8 -0.7**
LASF				Lg		06 24 58.6
	2.0nm,0.4s					
LASF	**Ste Croix**	**3.28**	**79**	*e*Pg	**Pg**	**06 24 15.8 -0.7**
LASF				*e*Sg	**Sg**	**06 24 58.6 -0.4**
	2.0nm,0.4s					
LASF	**Ste Croix**	**3.28**	**79**	*e*Pn	**Pn**	**06 24 04.0 -0.7**
LASF				*e*Pg	**Pg**	**06 24 15.8 -0.7**
LASF				*e*Sg	**Sg**	**06 24 58.6 -0.4**
EARI	**Arriondas**	**3.36**	**268**	Pn	**Pn**	**06 24 07.3 +1.6**
	1.1nm,0.7s,SNR=7.9					
EARI				Pg	**Pg**	**06 24 16.3 -1.6**
	1.8nm,0.7s,SNR=7.9					
EARI				Sn	**Sn**	**06 24 44.7 -0.8**
	4.7nm,0.5s,SNR=7.9					
EARI				Lg		06 25 01.5
	0.3nm,0.2s,SNR=7.9					
EARI	**Arriondas**	**3.36**	**268**	Pn	**Pn**	**06 24 07.3 +1.6**
	1.1nm,0.7s,SNR=7.9					
EARI	**Arriondas**	**3.36**	**268**	Pg	**Pg**	**06 24 16.3 -1.6**
	1.8nm,0.7s,SNR=7.9					
EARI				Sn	**Sn**	**06 24 44.7 -0.8**
	4.7nm,0.5s,SNR=7.9					
TCF	**Toulx Ste Croi**	**3.41**	**35**	*e*Pg	**Pg**	**06 24 18.9 0.0**
TCF				*e*Sg	**Sg**	**06 25 04.0 +0.9**
	4.4nm,0.3s					
TCF	**Toulx Ste Croi**	**3.41**	**35**	Pn	**Pn**	**06 24 06.6 +0.1**
TCF				Pg	**Pg**	**06 24 18.9 0.0**
TCF				Lg		06 25 04.0
	2.2nm,0.3s					
TCF	**Toulx Ste Croi**	**3.41**	**35**	*e*Pg	**Pg**	**06 24 18.9 0.0**
TCF				*e*Sg	**Sg**	**06 25 04.0 +0.9**
	2.2nm,0.3s					
TCF	**Toulx Ste Croi**	**3.41**	**35**	*e*Pn	**Pn**	**06 24 06.6 +0.1**
TCF				*e*Pg	**Pg**	**06 24 18.9 0.0**
TCF				*e*Sg	**Sg**	**06 25 04.0 +0.9**
BGF	**Bois d'Agland**	**3.90**	**38**	*e*Pg	**Pg**	**06 24 27.6 -0.6**
BGF				*e*Sg	**Sg**	**06 25 18.8 +0.1**
	16nm,0.4s					
BGF	**Bois d'Agland**	**3.90**	**38**	*e*Pg	**Pg**	**06 24 27.6 -0.6**
BGF				*e*Sg	**Sg**	**06 25 18.8 +0.1**
	7.8nm,0.4s					
BGF	**Bois d'Agland**	**3.90**	**38**	*e*Pn	**Pn**	**06 24 12.8 -0.3**
BGF				*e*Pg	**Pg**	**06 24 27.6 -0.6**
BGF				*e*Sg	**Sg**	**06 25 18.8 +0.1**
GUD	**Guadarrama**	**3.91**	**224**	Pn	**Pn**	**06 24 15.1 +1.8**
	0.4nm,0.2s,SNR=7.9					
GUD				Pg	**Pg**	**06 24 26.6 -1.8**
	0.2nm,0.2s,SNR=4.0					
GUD				Sn	**Sn**	**06 25 00.0 +1.1**
	2.0nm,0.6s,SNR=4.0					
GUD				Lg		06 25 18.6
	1.1nm,0.4s,SNR=7.9					
GUD	**Guadarrama**	**3.91**	**224**	Pg	**Pg**	**06 24 26.6 -1.8**
	0.2nm,0.2s,SNR=4.0					
GUD				Sn	**Sn**	**06 25 00.0 +1.0**
	2.0nm,0.6s,SNR=4.0					
VIVF	**Saint-Julien-l**	**4.03**	**69**	*e*Pg	**Pg**	**06 24 29.6 -1.1**
VIVF				*e*Sg	**Sg**	**06 25 22.1 -0.8**
	3.6nm,0.4s					
VIVF	**Saint-Julien-l**	**4.03**	**69**	*e*Pg	**Pg**	**06 24 29.6 -1.1**
VIVF				*e*Sg	**Sg**	**06 25 22.1 -0.8**
	1.8nm,0.4s					
VIVF	**Saint-Julien-l**	**4.03**	**69**	*e*Pn	**Pn**	**06 24 14.3 -0.6**
VIVF				*e*Pg	**Pg**	**06 24 29.6 -1.1**
VIVF				*e*Sg	**Sg**	**06 25 22.1 -0.8**
AVF	**Avril sur Loir**	**4.30**	**39**	*e*Sg	**Sg**	**06 25 31.2 -0.5**
	6.0nm,0.5s					
AVF	**Avril sur Loir**	**4.30**	**39**	*e*Sg	**Sg**	**06 25 31.2 -0.5**
	3.0nm,0.5s					
HYF	**Humbligny**	**4.39**	**30**	*e*Pn	**Pn**	**06 24 19.8 -0.1**
SMF	**Signal de Mont**	**4.43**	**44**	*e*Pn	**Pn**	**06 24 20.0 -0.5**
SSF	**Saint Saulge**	**4.57**	**38**	*e*Sg	**Sg**	**06 25 40.0 -0.4**
	4.1nm,0.5s					
SSF	**Saint Saulge**	**4.57**	**38**	*e*Sg	**Sg**	**06 25 40.0 -0.4**
	2.0nm,0.5s					
ESDC	**Sonseca Array**	**4.60**	**214**	Pn	**Pn**	**06 24 23.4 +0.7**
	0.6nm,0.2s,baz=39,slow=13,SNR=6.0					
ESDC	**Sonseca Array**	**4.60**	**214**	Pn	**Pn**	**06 24 23.4 +0.6**
	0.6nm,0.2s,SNR=6.0					
QUIF	**Quistinic**	**4.74**	**339**	*e*Pn	**Pn**	**06 24 23.9 -0.8**
EPON	**Pontenova**	**4.77**	**270**	Sn	**Sn**	**06 25 17.9 -2.3**
	11nm,0.6s,SNR=4.0					
EPON	**Pontenova**	**4.77**	**270**	Sn	**Sn**	**06 25 17.9 -2.3**
	11nm,0.6s,SNR=4.0					
ECAL	**Calabor**	**4.78**	**253**	Pn	**Pn**	**06 24 26.3 +1.0**
	0.9nm,0.3s,SNR=7.9					
ECAL				Sn	**Sn**	**06 25 18.2 -2.4**
	2.7nm,0.4s,SNR=7.9					
ECAL				Lg		06 25 47.1
	0.9nm,0.3s,SNR=4.0					
ECAL	**Calabor**	**4.78**	**253**	Pn	**Pn**	**06 24 26.3 +1.0**
	0.9nm,0.3s,SNR=7.9					
ECAL				Sn	**Sn**	**06 25 18.2 -2.4**
	2.7nm,0.4s,SNR=7.9					
GRR	**Gorron**	**4.86**	**358**	*e*Pn	**Pn**	**06 24 26.0 -0.4**
LOR	**Lormes**	**4.89**	**39**	*e*Sg	**Sg**	**06 25 49.8 -0.7**
	3.4nm,0.4s					
LOR	**Lormes**	**4.89**	**39**	*e*Sg	**Sg**	**06 25 49.8 -0.7**
	1.7nm,0.4s					
SGMF	**Saint Gilles**	**4.92**	**345**	*e*Pn	**Pn**	**06 24 26.6 -0.6**
ETOB	**Tobarra**	**4.93**	**189**	Pn	**Pn**	**06 24 28.9 +1.5**
	0.8nm,0.3s,SNR=4.0					
ETOB	**Tobarra**	**4.93**	**189**	Pn	**Pn**	**06 24 28.9 +1.6**
LDF	**La Druitiere**	**5.08**	**4**	*e*Pn	**Pn**	**06 24 29.6 +0.2**
ROSF	**Rostrenen**	**5.16**	**340**	*e*Pn	**Pn**	**06 24 29.9 -0.5**
FLN	**La Foliniere**	**5.24**	**1**	*e*Pn	**Pn**	**06 24 31.0 -0.6**

TRN 02 06:33:56.3, 1572N×6080W, h37km, MD3.3, M3.5(FDF), Md3.0(FDF), 6C-6D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.52**	**253**	⇑*i*P	Pn	06 34 10.8	+3.6
DWS				*e*S	Sn	06 34 19.3	+4.4
MGG	**Marie-Galante**	**0.54**	**291**	*e*P	Pn	06 34 08.8	+1.3
DEG	**La Desirade**	**0.64**	**337**	⇑*e*P	Pn	06 34 08.8	-0.1
DEG				*e*S	Sn	06 34 17.8	0.0
SFG	**Saint Francois**	**0.65**	**324**	*e*P	Pn	06 34 09.8	+0.7
BBL	**Barber's Block**	**0.68**	**253**	⇓*e*P	Pn	06 34 10.9	+1.5
BBL				*e*S	Sn	06 34 21.0	+2.2
DBCT	**Belle View Cho**	**0.70**	**230**	*e*P	Pn	06 34 11.3	+1.7
DBCT				*e*S	Sn	06 34 21.5	+2.3
MDN	**Morne-Daniel**	**0.70**	**235**	⇓*i*P	Pn	06 34 11.6	+1.8
MDN				*e*S	Sn	06 34 22.2	+2.9
DSHT	**Scott's Head**	**0.75**	**228**	*e*P	Pn	06 34 12.4	+2.0
DSHT				*e*S	Sn	06 34 23.1	+2.5
TBG	**Guadaloupe-3**	**0.83**	**279**	⇓*e*P	Pn	06 34 13.1	+1.6
DOG	**Dongo Capester**	**0.85**	**291**	*e*P	Pn	06 34 13.6	+1.8
PHG	**Guadaloupe-2**	**0.87**	**290**	⇑*i*P	Pn	06 34 13.9	+2.0
SCG	**Saint Claude**	**0.91**	**290**	⇑*e*P	Pn	06 34 14.3	+1.8
SCG				*e*S	Sn	06 34 27.2	+2.8
SEG	**Port Louis**	**0.96**	**315**	⇑*i*P	Pn	06 34 14.6	+1.4
CRM	**Caravelle**	**0.97**	**187**	⇑*e*P	Pn	06 34 14.7	+1.3
CRM				*e*S	Sn	06 34 27.8	+1.8
LZG	**Guadaloupe-1**	**1.03**	**294**	*e*P	Pn	06 34 16.1	+1.8
LZG				*e*S	Sn	06 34 29.8	+2.3
FDF	**Fort de France**	**1.04**	**199**	⇓*e*P	Pn	06 34 15.9	+1.6
FDF				*e*S	Sn	06 34 30.4	+2.7
MVM	**Montagne Vaucl**	**1.17**	**185**	⇓*e*P	Pn	06 34 17.7	+1.6
MVM				*e*S	Sn	06 34 32.9	+2.1
BIM	**Bigot**	**1.23**	**193**	⇓*e*P	Pn	06 34 18.8	+1.8
BIM				*e*S	Sn	06 34 35.2	+2.9
BPA	**Boggy Peak**	**1.66**	**322**	*e*P	Pn	06 34 24.9	+1.9
BPA				*e*S	Sn	06 34 44.7	+1.7

ISCJB ***02*** *06:39:50.6±1.0, 1340N±004×12003E±006, h13km±7km, mb4.0/4, MS3.4/1, Error ellipse: s-maj=11.3km s-min=5.5km az=53.3*
IDC ***02*** *06:39:50.0±1.2, 1403N×12209E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.0/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/28, Error ellipse: s-maj=26.0km s-min=12.7km az=20.0*
MAN ***02*** *06:39:51.7, 1347N×12009E, h10km, mb3.3, ML4.5, MS1.7*
ISC 02 06:39:51.7±1.1, 1338N±004×12011E±006, h9km±7km, n25, σ1§03/33, mb4.0/4, MS3.4/1, 4C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.38**	**21**	⇓*i*P	**Pg**	**06 39 59.0**	**-0.1**
LUBP	**Lubang**	**0.38**	**21**	*e*P	**Pg**	**06 39 59.0**	**-0.2**
LUBP				*e*S	**Sg**	**06 40 03.7**	**-0.5**
PGP	**Puerto Galera**	**0.83**	**81**	⇑*i*P	**Pg**	**06 40 07.2**	**-0.5**
PGP				*i* S	**Sg**	**06 40 17.1**	**-1.4**
PAZ	**Puerto Azul**	**1.01**	**33**	⇓*e*P	**Sg**	**06 40 25.9**	**+1.7**
TGY	**Tagaytay City**	**1.08**	**48**	Pg	**Pg**	**06 40 12.1**	**0.4**
	715nm,0.3s,baz=233,slow=5.0,SNR=51						
TGY				Lg		06 40 26.6	
	1μm,0.3s,baz=292,slow=22,SNR=40						
TGY	**Tagaytay City**	**1.08**	**48**	⇓*e*P	**Pg**	**06 40 12.9**	**+0.4**
TGY				*e*S	**Sg**	**06 40 26.6**	**+0.1**
LBPH	**Los Banos**	**1.30**	**53**	⇑*e*P	**Pn**	**06 40 16.8**	**+0.8**
BUSP	**Coron**	**1.37**	**176**	*e*P	**Pn**	**06 40 18.6**	**+1.7**
BUSP				*e*S	**Sb**	**06 40 35.4**	**+0.4**
NBP	**Mount Natib**	**1.39**	**12**	⇑*e*P	**Pn**	**06 40 11.0**	**-6.3**
ARP	**Angono**	**1.54**	**41**	⇑*e*P	**Pn**	**06 40 15.7**	**-3.5**
QVPH	**Quezon City--P**	**1.57**	**36**	*e*P	**Pn**	**06 40 18.1**	**-1.6**
LQP	**Lukban**	**1.57**	**62**	⇓*e*P	**Pn**	**06 40 20.9**	**+1.1**
LQP				*e*S	**Sn**	**06 40 47.4**	**+7.2**
BOAC	**Boac**	**1.69**	**87**	*e*P	**Pn**	**06 40 20.6**	**-0.8**
BOAC				*e*S	**Sn**	**06 40 44.0**	**+0.9**
OTRP	**Odiongan**	**2.12**	**118**	*e*P	**Pn**	**06 40 28.7**	**+1.5**
OTRP				*e*S	**Sn**	**06 41 00.1**	**+6.3**
POLP	**Polilio Island**	**2.23**	**53**	*e*P	**Pn**	**06 40 28.2**	**-0.6**
ENPP	**El Nido**	**2.26**	**197**	*e*P	**Pn**	**06 40 30.0**	**+0.9**
AUQP	**San Andres**	**2.50**	**91**	*e*P	**Pn**	**06 40 34.1**	**+1.6**
CUYO	**Cuyo Island**	**2.66**	**160**	*e*P	**Pn**	**06 40 34.6**	**-0.2**
CUYO				*e*S	**Sn**	**06 41 05.4**	**-1.7**
GUIM	**Jordan**	**3.66**	**138**	*e*P	**Pn**	**06 40 49.0**	**+0.6**
WRA	**Warramunga Arr**	**35.95**	**157**	P	**P**	**06 46 51.4**	**-1.1**
	8.2nm,0.7s,mb4.8,baz=336,slow=9.6,SNR=39						
WB2	**Warramunga Arr**	**35.95**	**157**	*e*P	**P**	**06 46 51.4**	**-1.1**
SONM	**Songino Array**	**36.21**	**344**	P	**P**	**06 46 54.2**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=169,slow=8.8,SNR=4.8						
SONM				LR		07 01 43.4	
	comp=Z,56nm,18.2s,MS3.4,baz=315,slow=36						
ASPA	**Alice Springs**	**39.21**	**160**	*e*P	**P**	**06 47 19.6**	**-0.5**
ASAR	**Alice Springs**	**39.21**	**160**	P	**P**	**06 47 20.1**	**+0.1**
	4.5nm,0.7s,mb4.3,baz=340,slow=6.9,SNR=52						
MKAR	**Makanchi Array**	**45.95**	**324**	P	**P**	**06 48 19.3**	**+4.4**
	0.4nm,0.9s,mb3.4,baz=139,slow=9.4,SNR=3.7						

CSEM ***02*** *06:54:52.9±0.2, 3465N×2394E, h39km±1km, ML3.3, Error ellipse: s-maj=7.2km s-min=2.4km az=93.0*
HLW ***02*** *06:54:52.4, 3488N×2405E, h33km, Mb3.3*
ISCJB ***02*** *06:54:53.7±1.0, 3458N±005×24.1E±0.1, h28km±10km, Error ellipse: s-maj=14.8km s-min=7.5km az=151.8*
ATH ***02*** *06:54:55.7, 3483N×2416E, h25km±3km, MD3.3/7*
NEIC ***02*** *06:55:01.9, 3551N×2451E, h10km, MD3.2(ATH), After ATH.*
ISC 02 06:54:54.7±1.0, 3464N±005×2415E±010, h21km±10km, n17, σ1§01/20, 1C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.21**	**346**	*e*PB	**Pb**	**06 55 00.0**	**-0.1**
GVD	**Gavdhos**	**0.21**	**346**	Pg	**Pb**	**06 55 00.5**	**+0.4**
SIVA	**Sivas**	**0.66**	**55**	Pg	**Pb**	**06 55 08.4**	**+0.8**
VAM	**Vamos**	**0.77**	**3**	*e*PN	**Pb**	**06 55 07.7**	**-1.7**
IDI	**Anoyia**	**0.89**	**43**	Pg	**Pb**	**06 55 11.2**	**-0.2**
XRY	**Khrisi**	**1.29**	**79**	*e*PN	**Pn**	**06 55 20.0**	**+2.5**
NPS	**Neapolis**	**1.35**	**62**	*e*Pb	**Pb**	**06 55 19.2**	**-0.2**
NPS				Pn	**Pn**	**06 55 22.4**	**+4.1**
KYTH	**Kithira**	**1.87**	**331**	*e*PN	**Pn**	**06 55 27.0**	**+1.5**
SANT	**Santorini**	**2.03**	**31**	*e*P	**Pn**	**06 55 26.7**	**-1.0**
SANT	**Santorini**	**2.03**	**31**	*e*P	**Pn**	**06 55 26.7**	**-1.0**
VLI	**Veliai**	**2.30**	**335**	*e*PN	**Pn**	**06 55 31.0**	**-0.3**
APE	**Apeiranthos**	**2.67**	**24**	*e*PN	**Pn**	**06 55 36.5**	**0.0**
APE	**Apeiranthos**	**2.67**	**24**	*e*Pn	**Pn**	**06 55 34.7**	**-1.8**
HMAT	**Matruh**	**4.32**	**144**	⇑*e*P	**Pn**	**06 55 59.4**	**+0.3**
HMAT				S	**Sn**	**06 56 48.0**	**-0.8**
SWA2		**5.49**	**168**	⇓*e*P	**Pn**	**06 56 15.8**	**+0.5**
SWA1		**5.52**	**166**	⇓*e*P	**Pn**	**06 56 15.8**	**+0.1**
SWA1				S	**Sn**	**06 57 17.3**	**-1.1**
HFRF	**Wahat Farafira**	**8.28**	**153**	⇓P	**Pn**	**06 56 54.2**	**+0.7**

IDC 02 06:56:44.6±1.7, 489N×12620E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/18, mbtmp4.0/4, Error ellipse: s-maj=182.7km s-min=20.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.94**	**162**	P	P	07 02 19.7	+1.2
	1.8nm,0.5s,baz=340,slow=10,SNR=33						
WB2	**Warramunga Arr**	**25.94**	**162**	*e*P	P	07 02 19.5	+1.0
ASAR	**Alice Springs**	**29.36**	**165**	P	P	07 02 49.7	+0.6
	1.0nm,0.6s,baz=347,slow=7.6,SNR=20						
STKA	**Stephens Creek**	**39.39**	**159**	P	P	07 04 15.1	-0.8
	1.7nm,0.6s,baz=334,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**56.31**	**325**	P	P	07 06 27.9	+0.8
	0.7nm,0.4s,baz=124,slow=6.7,SNR=22						
MKAR				PcP	PcP	07 07 23.1	-1.4
	0.7nm,0.7s,baz=114,slow=5.9,SNR=6.4						

IDC 02 06:57:18.1±3.2, 2778N×5730E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/22, mbtmp3.6/3, Error ellipse: s-maj=83.7km s-min=33.0km az=150.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**27.29**	**39**	P	P	07 03 04.3	+0.1
	0.3nm,0.4s,baz=270,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**39.58**	**337**	P	P	07 04 50.7	-0.3
	0.8nm,0.5s,baz=131,slow=7.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**53.68**	**266**	P	P	07 06 41.9	+0.4
	0.5nm,0.6s,baz=58,slow=6.6,SNR=4.9						

MAN 02 07:30:57.6, 1358N×12010E, h33km, mb1.0, ML3.1, MS3.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.21**	**42**	⇑*i*P	Pb	07 31 05.8	+1.5
LUBP	**Lubang**	**0.21**	**42**	*e*P	Pb	07 31 05.8	+1.5
LUBP				*e*S	Sb	07 31 11.4	+2.5
PGP	**Puerto Galera**	**0.83**	**95**	*e*P	Pn	07 31 13.3	+0.2
BUSP	**Coron**	**1.57**	**176**	*e*P	Pn	07 31 23.7	+0.6
BUSP				*e*S	Sn	07 31 39.6	-2.6
ENPP	**El Nido**	**2.44**	**196**	*e*P	Pn	07 31 35.6	+0.4

MAN 02 07:40:35.3, 1352N×12005E, h18km, mb1.9, ML3.6, MS0.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**41**	⇑*i*P	Pg	07 40 42.8	+1.1
LUBP	**Lubang**	**0.29**	**41**	*e*P	Pg	07 40 42.7	+1.1
LUBP				*e*S	Sg	07 40 47.8	+1.9
BUSP	**Coron**	**1.51**	**174**	*e*P	Pn	07 41 00.9	-0.5
BUSP				*e*S	Sn	07 41 18.5	-2.1
BOAC	**Boac**	**1.75**	**92**	*e*P	Pn	07 41 04.6	-0.1
BOAC				*e*S	Sn	07 41 27.3	+0.8
ENPP	**El Nido**	**2.38**	**195**	*e*P	Pn	07 41 13.9	+0.6
ENPP				*e*S	Sn	07 41 40.6	-1.3

IDC ***02*** *07:47:53.3±0.7, 1546S×17621W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.5/16, mbtmp4.3/12, ML3.8/1, MS4.4/17, Ms1 4.4/17, ms1mx4.3/21, Error ellipse: s-maj=27.5km s-min=17.7km az=131.0*
NEIC ***02*** *07:47:56.7±0.4, 1549S×17600W, h20km, mb4.9/9, Error ellipse: s-maj=17.3km s-min=10.3km az=153.0*
HRVD ***02*** *07:47:56.7±0.2, 1533S×17593W, h12km, MW5.2/90, Centroid moment Tensor Solution. LP body waves: s62,c94;Mantle waves: s90,c157; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.79±.14; $M_{\theta\theta}$6.23±.13; $M_{\phi\phi}$-5.44±.14; $M_{r\theta}$0.69±.35; $M_{\theta\phi}$2.67±.13; $M_{\phi r}$-1.60±.36; Best double couple: $M_0$6.67900×10^{16} NP1:ϕ_s34.00000°,δ76.00000°,λ-170.00000°. NP2: ϕ_s301.00000°,δ80.00000°,λ-14.00000°. Principal axes: T 6.8270, Plg3.0000°, Azm348.0000°; N -0.2910, Plg73.0000°, Azm87.0000°; P -6.5320, Plg17.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***02*** *07:47:57.3±0.4, 1554S±009×176.12W±008, h33km, mb4.5/19, MS4.5/14 Error ellipse: s-maj=14.6km s-min=9.8km az=116.8*
MOS ***02*** *07:47:57.0±1.3, 1547S×17603W, h32km, mb4.9/6, Error ellipse: s-maj=24.7km s-min=16.3km az=177.6*
ISC 02 07:47:59.3±0.4, 1554S±009×17608W±008, h35km, n59, σ1§14/43, mb4.5/19, MS4.5/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.47**	**69**	Pn	**Pn**	**07 48 58.7**	**-5.8**
	15nm,0.3s,baz=351,slow=6.0,SNR=14						
AFI				Sn	**Sn**	**07 49 44.5**	**-11**
	32nm,0.3s,baz=58,slow=24,SNR=14						
AFI				LR	LR	07 50 13.2	
	comp=Z,2μm,20.1s,baz=257,slow=31						
AFI				T		07 53 17.3	
	21nm,0.3s,baz=126,slow=20,SNR=5.2						
AFI	**Afiamalu**	**4.47**	**69**	*e*Pn	**Pn**	**07 48 58.7**	**-5.8**
AFI				*e*Sn	**Sn**	**07 49 44.0**	**-11**
RAO	**Raoul Island**	**13.75**	**187**	LR	LR	07 55 41.0	
	comp=Z,5μm,21.8s,baz=18,slow=34						
RAR	**Rarotonga**	**16.47**	**112**	Pn	**Pn**	**07 51 46.7**	**-0.9**
	0.4nm,0.3s,baz=223,slow=19,SNR=2.8						
RAR				LR	LR	07 56 00.5	
	comp=Z,819nm,19.3s,baz=291,slow=29						
URZ	**Urewera**	**23.42**	**194**	P	**P**	**07 53 04.5**	**-0.7**
	12nm,0.8s,mb4.4,baz=319,slow=12,SNR=4.0						
URZ				LR	LR	08 00 59.6	
	comp=Z,4μm,20.7s,MS4.9,baz=48,slow=34						
HNR	**Honiara**	**24.16**	**282**	LR	LR	08 01 06.5	
	comp=Z,2μm,19.8s,MS4.7,baz=171,slow=33						
PPT	**Papeete**	**25.48**	**98**	*e*LQ		07 58 31.2	
	2μm,25.5s						
PPT				*e*LR	LR	07 59 29.0	
	2μm,26.5s,baz=268						
PPT	**Papeete**	**25.48**	**98**	LR	LR	08 00 19.2	
	comp=Z,942nm,21.0s,MS4.3,baz=268,slow=29						
TBI	**Tubuai**	**26.25**	**111**	*e*LQ		07 58 54.3	
	3μm,27.2s						
TBI	

MCMT McKenzie Canyo 83.00 40 *e*P **P 08 00 22.6 +1.7**
ILAR Eielson Array 83.10 12 P **P 08 00 19.3 -2.0**
comp=Z,1.3nm,0.8s,mb4.0,baz=233,slow=5.8,SNR=11
ILAR LR LR 08 31 14.5
comp=Z,218nm,20.0s,MS4.5,baz=192,slow=31
QLMT Earthquake Lak 83.88 40 *e*P **P 08 00 24.7 -0.6**
PDAR Pinedale Array 84.11 43 P **P 08 00 26.7 +0.2**
comp=Z,1.9nm,0.6s,mb4.4,baz=198,slow=2.4,SNR=9.7
BILL Bilibino 84.33 353 P **P 08 00 34.0 +6.4**
HRY Holter Researc 84.55 39 *e*P **P 08 00 29.5 +0.7**
MAW Mawson 86.82 199 LR LR 08 34 54.1
comp=Z,410nm,21.3s,MS4.8,baz=89,slow=32
YKA Yellowknife Ar 91.27 24 P **P 08 01 00.4 -0.5**
comp=Z,0.7nm,0.8s,mb4.0,baz=239,slow=4.7,SNR=6.8
YKA LR LR 08 35 03.1
comp=Z,310nm,19.5s,MS4.8,baz=250,slow=31
YKA Yellowknife Ar 91.27 24 P **P 08 01 00.4 -0.5**
YKA LR LR 08 35 03.1
PLCA Paso Flores 91.32 133 LR LR 08 31 44.1
comp=Z,95nm,21.4s,MS4.2,baz=239,slow=29
SONM Songino Array 93.23 319 P **P 08 01 10.4 +0.3**
comp=Z,0.6nm,0.8s,mb4.0,baz=114,slow=4.7,SNR=4.0
SONM LR LR 08 37 47.2
comp=Z,122nm,21.4s,MS4.3,baz=140,slow=32
TIXI Tiksi 94.45 345 *e*P **P 08 01 09.1 -6.6**
TIXI pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
ULM Lac du Bonnet 95.67 39 LR LR 08 36 30.7
comp=Z,193nm,20.7s,MS4.6,baz=283,slow=30
BR131 Keskin Array S 144.59 319 *e*PKPdf PKPdf 08 07 31.2 -0.8
BRTR Keskin Array B 144.59 319 PKP PKPdf 08 07 31.1 -1.0
comp=Z,5.0nm,0.9s,baz=72,slow=2.4,SNR=19
GRF Grafenberg Arr 145.42 352 *e*PKP PKiKP 08 07 38.0 +0.6
GERES GERESS Array B 145.83 348 PKPbc PKPbc 08 07 33.4 -1.3
comp=Z,0.5nm,0.5s,baz=32,slow=5.8,SNR=4.6

IDC 02 08:13:13.9±4.1, 1530S×6568W, h74km±59km, mb3.1/2, mb1 3.1/4, mb1mx3.0/17, mbtmp3.2/4, ML2.8/2, Error ellipse: s-maj=117.2km s-min=9.7km az=176.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.55**	**247**	P	Pn	08 13 53.1	0.0
	2.9nm,0.3s,baz=17,slow=11,SNR=92						
LPAZ				S	Sn	08 14 25.0	+1.9
	baz=192,slow=15,SNR=2.0						
SIV	**San Ignacio**	**4.49**	**99**	P	Pn	08 14 19.0	-0.5
	0.1nm,0.3s,baz=254,slow=19,SNR=2.8						
SIV				S	Sn	08 15 11.7	+1.2
	0.6nm,0.3s,baz=258,slow=10,SNR=14						
TORD	**Torodi Ar. Bea**	**72.40**	**71**	P	P	08 24 32.4	+0.3
	0.6nm,0.9s,baz=259,slow=7.0,SNR=3.7						
YKA	**Yellowknife Ar**	**86.44**	**339**	P	P	08 25 48.3	0.0
	0.1nm,0.6s,baz=133,slow=4.7,SNR=5.8						

MAN 02 08:33:16.0, 1361N×12012E, h32km, mb1.6, ML3.5, MS3.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.17**	**44**	*e*P	Pb	08 33 23.7	+1.5
LUBP				*e*S	Sb	08 33 28.7	+2.3
PGP	**Puerto Galera**	**0.81**	**98**	↑*i*P	Pn	08 33 31.5	+0.2
BUSP	**Coron**	**1.60**	**177**	*e*P	Pn	08 33 42.5	+0.4
BUSP				*e*S	Sn	08 33 59.4	-2.2
ENPP	**El Nido**	**2.49**	**196**	*e*P	Pn	08 33 54.7	+0.4

NIED ***02*** *09:11:00, 44.10N×148.10E, h44km, Mw3.5 Best double couple: M0 1.92000×10^14 NP1:φs3.00000°, δ89.00000°, λ67.00000°. NP2:φs270.00000°, δ23.00000°, λ177.00000°.*

JMA 02 09:11:19.8±0.2, 4406N×14806E, h0km, M4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.82**	**248**	P	Pn	09 11 52.7	+0.4
NEM2				*e*S	Sn	09 12 16.5	+0.4
JRA	**Rausu**	**2.12**	**268**	P	Pn	09 11 57.2	+0.7
JRA				*e*S	Sn	09 12 24.6	+1.0
JNK	**Nakash**	**2.46**	**260**	P	Pn	09 12 02.3	+1.1
JNK				*e*S	Sn	09 12 32.9	+0.9
JAK	**Akkeshi**	**2.67**	**248**	P	Pn	09 12 04.8	+0.8
JAK				*e*S	Sn	09 12 37.7	+0.7
JTKR	**Abashiri--Toko**	**3.00**	**270**	P	Pn	09 12 09.8	+1.3
JAR	**Ashorobuto**	**3.21**	**258**	P	Pn	09 12 13.3	+1.9
JAR				*e*S	Sn	09 12 52.9	+2.6
JCH	**Churui**	**3.72**	**249**	P	Pn	09 12 19.7	+1.2
JCH				*e*S	Sn	09 13 03.2	+0.2
JNBK	**Urakawa-nobuka**	**4.27**	**247**	P	Pn	09 12 27.9	+1.9
JKB	**Kayabe**	**5.59**	**250**	P	Pn	09 12 45.9	+1.7
JKB				*e*S	Sn	09 13 50.2	+1.0
JOT	**Ohata**	**5.82**	**245**	P	Pn	09 12 48.2	+0.9
JOT				*e*S	Sn	09 13 54.9	+0.2

ISCJB ***02*** *09:16:42.9±0.8, 1421N±006×9253W±004, h64km±10km, mb3.4/4, Error ellipse: s-maj=10.9km s-min=4.7km az=52.0*
MEX ***02*** *09:16:45.2±0.6, 1418N×9256W, h24km±27km, MD4.4*
CASC ***02*** *09:16:47.2±2.0, 1441N×9227W, h58km±17km, MD4.2, ML4.5*
IDC ***02*** *09:16:53.0±4.8, 1538N×9150W, h95km±61km, mb3.1/4, mb1 3.5/5, mb1mx3.3/18, mbtmp3.5/5, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/11, Error ellipse: s-maj=127.5km s-min=42.9km az=41.0*

ISC 02 09:16:44.0±0.8, 1419N±006×9252W±004, h54km±10km, n25, σ1§09/30, mb3.4/4, MS3.7/1, 1C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.86**	**82**	⇑*e*P	**Pn**	**09 17 01.2**	**+1.2**
JAT				*e*S	**Sn**	**09 17 10.6**	**-1.2**
FUG	**Fuego 3**	**1.65**	**81**	⇓*e*P	**Pn**	**09 17 10.5**	**0.0**
PCG	**Pacaya**	**1.86**	**84**	*e*P	**Pn**	**09 17 14.4**	**+0.9**
PCG				*e*S	**Sn**	**09 17 35.7**	**-0.1**
IXG	**Ixpaco**	**2.00**	**90**	⇓*e*P	**Pn**	**09 17 15.5**	**+0.1**
IXG				*e*S	**Sn**	**09 17 38.9**	**-0.3**
IXG				AML	AML	09 17 43.6	
	comp=E,13μm,0.3s						
CCIG	**Comitan**	**2.11**	**10**	*e*P	**Pn**	**09 17 18.0**	**+1.1**
CCIG				*i* S	**Sn**	**09 17 41.5**	**-0.4**
SCX	**San Cristobal**	**2.53**	**357**	*i* P	**Pn**	**09 17 23.0**	**+0.4**
SCX				*i* S	**Sn**	**09 17 53.0**	**+0.7**
SBLS	**San Blas**	**2.83**	**97**	*e*P	Px	09 17 58.4	
SBLS				*e*S	Sx	09 18 30.7	
SNJE	**San Jose**	**2.84**	**96**	*e*P	Px	09 17 59.4	
SNJE				*e*S	Sx	09 18 30.7	
MRL	**Marmol**	**2.87**	**72**	*e*P	**Pn**	**09 17 28.0**	**+0.7**
MRL				*e*S	**Sn**	**09 17 57.4**	**-3.2**
BOQS	**Boqueron**	**3.18**	**98**	*e*P	Px	09 18 03.9	
BOQS				*e*S	Sx	09 18 39.4	
SNET	**Serv Nac Est T**	**3.23**	**99**	*e*P	**Pn**	**09 17 33.0**	**+0.8**
SNET				*e*S	**Sn**	**09 18 08.6**	**-0.8**
LFRS	**El Faro**	**3.40**	**99**	*e*P	Px	09 18 06.7	
LFRS				*e*S	Sx	09 18 44.6	
LCBS	**La Ceiba**	**3.48**	**98**	*e*P	Px	09 18 07.8	
LCBS				*e*S	Sx	09 18 46.8	
CMIG	**Matias Romero**	**3.67**	**322**	*i* P	**Pn**	**09 17 38.5**	**+0.2**
CMIG				*i* S	**Sn**	**09 18 19.9**	**-0.4**
OXX	**Oaxaca**	**4.97**	**306**	*i* P	**Pn**	**09 17 57.0**	**+1.0**
OXX				*i* S	**Sn**	**09 18 50.0**	**-2.1**
VHO	**Vista Hermosa**	**4.97**	**306**	*i* P	**Pn**	**09 17 55.8**	**-0.3**
VHO				*i* S	**Sn**	**09 18 52.0**	**-0.2**
TPIG	**Tehuac#an**	**6.27**	**313**	*i* S	**Sn**	**09 19 23.9**	**-0.2**
TEIG	**Tepich**	**7.24**	**33**	*i* P	**Pn**	**09 18 25.1**	**-2.1**
TEIG				*i* S	**Sn**	**09 19 49.2**	**+1.2**
PPM	**Popocatepetl**	**7.60**	**310**	*i* S	**Sn**	**09 20 01.2**	**+4.4**
JTS	**JuntasAbangare**	**8.35**	**117**	P	**Pn**	**09 18 48.5**	**+6.2**
	comp=E,1.1nm,0.3s,baz=313,slow=21,SNR=8.5						
JTS				LR	LR	09 22 29.9	
	comp=E,50nm,18.0s,baz=193,slow=41						
ANMO	**Albuquerque**	**24.19**	**331**	P	**P**	**09 21 56.4**	**+1.0**
	comp=E,0.6nm,0.6s,mb3.2,baz=148,slow=13,SNR=3.2						
SADO	**Sadowa**	**32.53**	**18**	LR	LR	09 35 45.0	
	comp=E,138nm,19.5s,MS3.7,baz=130,slow=36						
NVAR	**Mina Array Bea**	**33.21**	**321**	P	**P**	**09 23 18.5**	**+2.8**
	comp=E,0.5nm,0.6s,mb3.6,baz=134,slow=8.7,SNR=4.4						
YKA	**Yellowknife Ar**	**50.73**	**347**	P	**P**	**09 25 36.2**	**-2.1**
	comp=E,0.4nm,0.8s,mb3.4,baz=147,slow=7.5,SNR=6.1						
YKA				PcP	PcP	09 26 55.2	+0.3
	comp=E,0.1nm,0.8s,baz=158,slow=2.3,SNR=4.1						
ILAR	**Eielson Array**	**62.47**	**337**	P	**P**	**09 27 00.8**	**-0.9**
	comp=E,0.2nm,0.6s,mb3.4,baz=114,slow=5.9,SNR=5.0						

ISCJB ***02*** *09:31:10.2±0.9, 529S±0.1×141E±, h10km, mb4.3/6, MS3.8/5, Error ellipse: s-maj=122.9km s-min=13.4km az=166.7*
IDC ***02*** *09:31:10.8±0.8, 5294S×14068E, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.2/9, mbtmp4.2/4, MS3.9/5, Ms1 3.8/5, ms1mx3.5/17, Error ellipse: s-maj=61.6km s-min=21.2km az=79.0*
NEIC ***02*** *09:31:12.3±0.6, 5298S×14025E, h10km, mb4.7/2, Error ellipse: s-maj=62.2km s-min=10.2km az=83.0*

ISC 02 09:31:11.9±0.9, 530S±01×141E±, h10km, n22, σ0§22/8, mb4.3/6, MS3.8/5, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.07**	**2**	P	**P**	**09 35 55.9**	**-0.3**
	11nm,0.9s,mb4.2,baz=154,slow=12,SNR=7.3						
STKA				LR	LR	09 42 54.8	
	comp=Z,195nm,20.0s,MS3.5,baz=199,slow=33						
STKA	**Stephens Creek**	**21.07**	**2**	*e*P	**P**	**09 35 56.3**	**+0.1**
RPZ	**Rata Peaks**	**21.91**	**77**	LR	LR	09 43 03.3	
	comp=Z,295nm,20.2s,MS3.7,baz=5.2,slow=32						
VNDA	**Vanda**	**25.83**	**170**	P	**P**	**09 36 43.5**	**+0.2**
	6.6nm,0.8s,mb4.2,baz=323,slow=7.5,SNR=9.1						
VNDA	**Vanda**	**25.83**	**170**	P	**P**	**09 36 43.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**26.28**	**310**	LR	LR	09 44 42.1	
	comp=Z,184nm,21.8s,MS3.6,baz=320,slow=31						
ASAR	**Alice Springs**	**29.73**	**347**	P	**P**	**09 37 18.6**	**+0.3**
	1.3nm,0.6s,mb3.8,baz=166,slow=9.5,SNR=26						
ASAR				PcP	PcP	09 40 21.6	-0.4
	0.8nm,0.6s,baz=161,slow=2.2,SNR=10						
WRA	**Warramunga Arr**	**33.35**	**349**	P	**P**	**09 37 50.0**	**-0.1**
	3.6nm,0.8s,mb4.4,baz=173,slow=7.2,SNR=34						
WRA				PcP	PcP	09 40 31.0	-0.7
	1.4nm,0.7s,baz=180,slow=2.3,SNR=14						
WRAB	**Tennant Creek**	**33.36**	**349**	*e*P	**P**	**09 37 50.0**	**-0.2**
	7.3nm,0.8s,mb4.7						
QSPA	**South Pole Qui**	**37.15**	**180**	*e*P	**P**	**09 38 22.6**	**-0.2**
	18nm,1.0s,mb4.8						
MAW	**Mawson**	**38.43**	**217**	LR	LR	09 51 48.6	
	comp=Z,248nm,19.2s,MS4.0,baz=241,slow=32						
BOSA	**Boshof**	**81.44**	**233**	LR	LR	10 11 29.9	
	comp=Z,78nm,19.0s,MS4.1,baz=339,slow=30						
NVAR	**Mina Array Bea**	**125.56**	**72**	PKP	PKPdf	09 50 14.4	+1.1
	0.8nm,0.8s,baz=220,slow=6.1,SNR=5.5						
ILAR	**Eielson Array**	**129.79**	**32**	PKP	PKPdf	09 50 20.4	-1.0
	0.4nm,0.7s,baz=270,slow=1.6,SNR=6.1						
ANMO	**Albuquerque**	**130.17**	**83**	PKP	PKPdf	09 50 23.9	+1.7
	0.5nm,0.8s,baz=199,slow=9.2,SNR=4.7						
YKA	**Yellowknife Ar**	**140.84**	**45**	PKiKP		09 50 36.2	
	0.2nm,0.7s,baz=236,slow=3.3,SNR=5.9						
YKA				PKP	PKPdf	09 50 42.1	+0.1
	0.3nm,0.8s,baz=221,slow=1.7,SNR=5.4						
YKA	**Yellowknife Ar**	**140.84**	**45**	PKP		09 50 36.2	
FINES	**FINESS Array B**	**145.14**	**310**	PKPbc	PKPbc	09 50 47.6	-1.5
	3.4nm,0.6s,baz=106,slow=6.2,SNR=15						
KAF	**Kangasniemi**	**145.22**	**311**	*e*p	PKPbc	09 50 46.9	-2.5
	5.2nm,0.7s						
ULM	**Lac du Bonnet**	**145.39**	**71**	PKPbc	PKPbc	09 50 48.4	-1.5
	0.8nm,0.5s,baz=198,slow=1.2,SNR=4.7						
ARCES	**ARCESS Array B**	**146.80**	**325**	PKPbc	PKPbc	09 50 52.4	-1.7
	3.4nm,0.6s,baz=87,slow=3.8,SNR=14						
GERES	**GERESS Array B**	**147.10**	**284**	PKPbc	PKPbc	09 50 52.5	-2.5
	0.6nm,0.5s,baz=101,slow=2.0,SNR=5.0						

ISCJB ***02*** *09:31:29.4±1.3, 2120S±009×686W±0.1, h119km±17km, mb3.6/3, Error ellipse: s-maj=19.2km s-min=11.4km az=115.9*
NEIC ***02*** *09:31:30.9±1.3, 2118S×6855W, h111km±15km, mb4.0/2, Error ellipse: s-maj=18.4km s-min=12.8km az=64.0*
IDC ***02*** *09:31:32.1±2.6, 2124S×6837W, h119km±24km, mb3.4/4, mb1 3.5/7, mb1mx3.4/17, mbtmp3.9/7, Error ellipse: s-maj=33.1km s-min=19.5km az=86.0*

ISC 02 09:31:30.9±1.1, 2121S±009×687W±01, h117km±15km, n13, σ1§14/14, mb3.6/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.92**	**6**	P	**Pn**	**09 32 44.9**	**+2.3**
	0.6nm,0.3s,baz=175,slow=11,SNR=17						
LPAZ				S	**Sn**	**09 33 42.1**	**+3.7**
	baz=325,slow=16,SNR=2.9						
ARE	**Arequipa**	**5.43**	**330**	P	**Pn**	**09 32 49.0**	**-0.6**
ARE				*e*S	**Sn**	**09 33 50.0**	**-0.9**
SIV	**San Ignacio**	**8.86**	**55**	P	**Pn**	**09 33 33.0**	**-3.0**
	6.9nm,0.3s,baz=248,slow=14,SNR=184						
CPUP	**Villa Florida**	**11.55**	**118**	*e*Pn	**Pn**	**09 34 12.3**	**+0.2**
	7.2nm,0.7s						
TRQA	**Tornquist**	**17.76**	**162**	*e*P	**Pn**	**09 35 29.6**	**-0.9**
	2.7nm,1.0s						
PLCA	**Paso Flores**	**19.53**	**184**	P	**P**	**09 35 50.5**	**+1.4**
	0.1nm,0.3s,baz=7.8,slow=9.1,SNR=5.5						
PLCA	**Paso Flores**	**19.53**	**184**	*e*P	**P**	**09 35 50.6**	**+1.4**
BDFB	**Brasilia**	**20.34**	**78**	P	**P**	**09 35 57.7**	**-0.1**
	1.2nm,0.3s,baz=250,slow=8.6,SNR=2.6						
SNAA	**Sanae**	**62.48**	**161**	P	**P**	**09 41 41.6**	**-0.2**
	2.3nm,1.1s,mb4.1,baz=270,slow=12,SNR=3.5						
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P	**P**	**09 43 10.8**	**-0.2**
	0.3nm,0.5s,mb3.3,baz=241,slow=5.0,SNR=4.9						
YKA	**Yellowknife Ar**	**90.99**	**341**	P	**P**	**09 44 21.9**	**+0.1**
	0.4nm,1.1s,mb3.5,baz=134,slow=4.6,SNR=4.1						
YKA				pP	pP	09 44 54.5	+2.4
	0.4nm,0.8s,baz=132,slow=4.8,SNR=9.9						
YKA	**Yellowknife Ar**	**90.99**	**341**	P	**P**	**09 44 21.9**	**+0.2**
YKA				pP	pP	09 44 54.5	+2.4
MKAR	**Makanchi Array**	**145.25**	**36**	PKPbc	PKPbc	09 50 55.5	+0.9
	0.5nm,0.7s,baz=321,slow=1.8,SNR=6.6						

IDC 02 10:01:08.7±5.3, 2960N×8843E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/21, mbtmp3.3/3, MS2.4/1, Ms1 2.4/1, ms1mx2.3/15, Error ellipse: s-maj=94.6km s-min=83.6km az=1.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.82**	**346**	P	Pn	10 05 18.0	-0.1
	0.1nm,0.3s,baz=150,slow=12,SNR=5.3						
SONM	**Songino Array**	**22.89**	**32**	P	P	10 06 14.2	+0.3
	0.8nm,0.8s,baz=222,slow=11,SNR=7.5						
TGY	**Tagaytay City**	**33.74**	**110**	LR	LR	10 23 49.9	
	comp=Z,5.2nm,18.6s,baz=322,slow=40						
YKA	**Yellowknife Ar**	**86.39**	**10**	P	P	10 13 52.5	-0.4
	0.2nm,0.7s,baz=331,slow=4.8,SNR=4.2						

IDC ***02*** *10:05:50.9±1.4, 1334N×12004E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/19, mbtmp4.0/3, Error ellipse: s-maj=28.8km s-min=13.0km az=123.0*
ISCJB ***02*** *10:05:51.4±1.1, 1334N±004×12008E±005, h9km±7km, mb4.0/3, Error ellipse: s-maj=8.9km s-min=6.6km az=18.6*
MAN ***02*** *10:05:53.1, 1344N×12010E, h18km, mb3.2, ML4.5, MS2.2*

ISC 02 10:05:53.3±1.1, 1338N±004×12014E±006, h13km±7km, n19, σ0§83/26, mb4.0/3, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**17**	⇑*e*P	**Pg**	**10 06 00.6**	**-0.2**
LUBP	**Lubang**	**0.37**	**17**	*e*P	**Pg**	**10 06 00.6**	**-0.1**
LUBP				*e*S	**Sg**	**10 06 05.3**	**-0.4**
PGP	**Puerto Galera**	**0.81**	**81**	⇑*i*P	**Pg**	**10 06 08.7**	**-0.3**
PGP				*i* S	**Sg**	**10 06 18.7**	**-0.8**
PAZ	**Puerto Azul**	**0.99**	**32**	*e*P	**Sg**	**10 06 32.9**	**+7.4**
TGY	**Tagaytay City**	**1.06**	**47**	Pg	**Pg**	**10 06 13.7**	**-0.1**
	635nm,0.3s,baz=215,slow=2.4,SNR=21						
TGY				Lg		10 06 28.5	
	470nm,0.3s,baz=123,slow=23,SNR=26						
TGY	**Tagaytay City**	**1.06**	**47**	⇓*i*P	**Pg**	**10 06 13.7**	**-0.1**
TGY				*i* S	**Sg**	**10 06 29.7**	**+2.1**
LBPH	**Los Banos**	**1.27**	**53**	*e*P	**Pn**	**10 06 18.2**	**+1.3**
BUSP	**Coron**	**1.37**	**177**	*e*P	**Pn**	**10 06 19.3**	**+1.2**
BUSP				*e*S	**Sb**	**10 06 36.8**	**+0.6**
NBP	**Mount Natib**	**1.38**	**11**	⇑*e*P	**Pn**	**10 06 12.5**	**-5.8**
ARP	**Angono**	**1.52**	**41**	*e*P	**Pn**	**10 06 17.0**	**-3.2**
QVPH	**Quezon City--P**	**1.55**	**35**	*i* P	**Pn**	**10 06 19.8**	**-0.9**
BOAC	**Boac**	**1.67**	**87**	*e*P	**Pn**	**10 06 21.8**	**-0.4**
BOAC				*e*S	**Sn**	**10 06 44.1**	**+0.6**
OTRP	**Odiongan**	**2.10**	**119**	*e*P	**Pn**	**10 06 27.9**	**-0.3**
OTRP				*e*S	**Sg**	**10 07 00.5**	**-0.3**
CUYO	**Cuyo Island**	**2.66**	**161**	*e*P	**Pn**	**10 06 36.7**	**+0.8**
CUYO				*e*S	**Sn**	**10 07 07.1**	**-0.8**
WRA	**Warramunga Arr**	**35.94**	**157**	P	**P**	**10 12 52.9**	**-0.6**
	3.8nm,0.6s,mb4.5,baz=335,slow=9.6,SNR=48						
WB2	**Warramunga Arr**	**35.95**	**157**	*e*P	**P**	**10 12 53.0**	**-0.5**
SONM	**Songino Array**	**36.21**	**344**	P	**P**	**10 12 55.5**	**-0.3**
	0.2nm,0.3s,mb3.5,baz=152,slow=6.5,SNR=2.3						
ASPA	**Alice Springs**	**39.20**	**160**	*e*P	**P**	**10 13 21.2**	**+0.1**
ASAR	**Alice Springs**	**39.20**	**160**	P	**P**	**10 13 21.4**	**+0.2**
	2.3nm,0.6s,mb4.1,baz=340,slow=7.1,SNR=54						

MEX 02 10:15:15.6±0.8, 1707N×9447W, h127km±8km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.40**	**273**	*i* P	Pn	10 15 32.2	-1.5
CMIG				*i* S	Sn	10 15 45.6	-1.8
SCX	**San Cristobal**	**1.79**	**100**	*i* P	Pn	10 15 45.5	-1.3
SCX				*i* S	Sn	10 16 09.5	-1.1
OXX	**Oaxaca**	**2.16**	**271**	*i* P	Pn	10 15 50.0	-1.3
OXX				*i* S	Sn	10 16 16.0	-2.7
VHO	**Vista Hermosa**	**2.17**	**270**	*i* P	Pn	10 15 50.7	-0.8
VHO				*i* S	Sn	10 16 18.5	-0.4
CCIG	**Comitan**	**2.37**	**109**	*i* P	Pn	10 15 52.9	-1.0
CCIG				*i* S	Sn	10 16 21.7	-1.7
MEIG	**Mezcala**	**4.99**	**281**	*i* P	Pn	10 16 27.4	-1.1
MEIG				*i* S	Sn	10 17 22.4	-2.8

ROM ***02*** *10:18:37.8±0.1, 4430N×1067E, h6km±2km, Md2.9/12, Ml3.0/13, Error ellipse: s-maj=2.1km s-min=1.8km az=153.0*
GEN ***02*** *10:18:37.1, 4436N×1071E, h20km, ML3.0*
NEIC ***02*** *10:18:37.8, 4430N×1067E, h6km, ML3.0(ROM), ML3.3(LDG), After ROM.*
ISCJB ***02*** *10:18:37.5±0.2, 4435N±002×1063E±002, h22km±2km, Error ellipse: s-maj=3.6km s-min=2.4km az=160.5*
LDG ***02*** *10:18:38.4±0.1, 4428N×1082E, h10km, Ml3.3/17, Error ellipse: s-maj=1.7km s-min=1.3km az=25.0*
CSEM ***02*** *10:18:38.5±0.1, 4423N×1069E, h12km, ML3.2/15, Error ellipse: s-maj=1.5km s-min=1.3km az=27.0*

ISC 02 10:18:37.9±0.2, 4431N±002×1065E±002, h18km±2km, n106, σ1§23/160, 23C-5D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCL	**Gusciola**	**0.06**	**316**	⇑*i*Pg	**Pg**	**10 18 39.9**	**-1.3**
ERBM	**Eremo**	**0.20**	**304**	⇑*i*Pg	**Pg**	**10 18 42.7**	**-0.2**
ERBM				Sg	**Sg**	**10 18 46.5**	**+0.2**
	2μm,0.7s						
SARO	**Sassorosso**	**0.21**	**236**	P	**Pg**	**10 18 43.2**	**+0.2**
PZZT	**Monte Pizzetto**	**0.23**	**139**	Pg	**Pg**	**10 18 42.6**	**-0.7**
PZZT				Sg	**Sg**	**10 18 46.6**	**-0.4**
	2μm,0.5s						
VLC	**Villacollemand**	**0.24**	**232**	⇑*i*Pg	**Pg**	**10 18 43.8**	**+0.4**
VLC				Sg	**Sg**	**10 18 48.7**	**+1.5**
	1μm,0.4s						
ZCCA	**Zocca**	**0.24**	**79**	⇑*i*Pg	**Pg**	**10 18 42.8**	**-0.6**
ZCCA				Sg	**Sg**	**10 18 47.9**	**+0.7**
	217nm,0.4s						
BDI	**Bagni Di Lucca**	**0.25**	**189**	⇑*i*Pg	**Pg**	**10 18 43.6**	**+0.1**
BDI				Sg	**Sg**	**10 18 48.2**	**+0.9**
	5μm,0.3s						
VALM		**0.29**	**279**	P	**Pg**	**10 18 44.1**	**-0.2**
FNVD	**Fontana Vidola**	**0.37**	**112**	⇓*i*Pg	**Pg**	**10 18 44.7**	**-0.9**
FNVD				Sg	**Sg**	**10 18 51.1**	**+0.3**
	2μm,0.3s						
VINC	**Vinca**	**0.39**	**245**	P	**Pg**	**10 18 46.2**	**+0.2**
BACM		**0.41**	**266**	P	**Pg**	**10 18 46.2**	**-0.2**
GRAM		**0.46**	**294**	P	**Pg**	**10 18 46.5**	**-0.7**
RAVA	**Ravarino**	**0.56**	**37**	Pg	**Pg**	**10 18 49.9**	**+0.8**
	3μm,1.0s						
SEI	**Scarperia**	**0.57**	**116**	Pg	**Pg**	**10 18 48.5**	**-0.7**
SEI				Sg	**Sg**	**10 18 59.1**	**+2.3**
	924nm,0.3s						
CODM		**0.58**	**279**	P	**Pg**	**10 18 48.8**	**-0.6**
PII	**Pisa**	**0.59**	**189**	Pg	**Pg**	**10 18 49.6**	**0.0**
FIU	**Minerbio Fiu**	**0.69**	**61**	Pg	**Pg**	**10 18 52.9**	**+1.4**
	3μm,1.1s						
VMG	**Vicchio**	**0.73**	**118**	Pg	**Pg**	**10 18 51.1**	**-1.1**
	545nm,0.7s						
SC2M	**Scurtabr**	**0.81**	**277**	P	**Pb**	**10 18 52.7**	**-0.7**
CSNT	**Castellina Chi**	**0.95**	**151**	Pg	**Pg**	**10 18 56.4**	**0.0**
	279nm,0.6s						
BOB	**Bobbio (Coli)**	**0.97**	**299**	Pg	**Pg**	**10 18 56.3**	**-0.5**
CRE	**Caprese Michel**	**1.16**	**126**	Pg	**Pg**	**10 18 59.6**	**-0.8**
	63nm,0.4s						
GRFL	**Gerfalco**	**1.18**	**168**	Pg	**Pg**	**10 19 00.5**	**-0.2**
	59nm,0.4s						
SALO	**Salr**	**1.32**	**356**	Pg	**Pg**	**10 19 02.8**	**-0.5**
SALO				Sg	**Sg**	**10 19 22.1**	**+1.6**
	1μm,0.6s						
BADI	**Badiali**	**1.40**	**124**	Pg	**Pg**	**10 19 04.3**	**-0.6**
	139nm,0.7s						

DAVA	**Damuels**	**3.03 350**	⇑Sn	**Sn**	**10 20 05.4**	**+4.7**
DAVA	**Damuels**	**3.03 350**	⇓iPn	**Pn**	**10 19 27.6**	**+2.6**
DAVA			⇑iSn	**Sn**	**10 20 05.4**	**+4.7**
LPL	**La Plagne**	**3.04 295**	ePn	**Pn**	**10 19 26.8**	**+1.8**
MOTA	**Moosalm**	**3.06 6**	⇑Sn	**Sn**	**10 20 06.4**	**+5.0**
MOTA	**Moosalm**	**3.06 6**	⇑iPn	**Pn**	**10 19 27.1**	**+1.8**
	SNR=9.3					
MOTA			⇑iSn	**Sn**	**10 20 06.4**	**+5.0**
WATA	**Walderalm**	**3.10 12**	⇑Sn	**Sn**	**10 20 06.4**	**+3.9**
WATA	**Walderalm**	**3.10 12**	⇓iPn	**Pn**	**10 19 27.1**	**+1.2**
WATA			⇑iSn	**Sn**	**10 20 06.4**	**+3.9**
LMR	**La Mourre**	**3.15 253**	ePn	**Pn**	**10 19 27.7**	**+1.1**
LMR			eSn	**Sn**	**10 20 03.6**	**-0.1**
	27nm,0.4s					
LMR	**La Mourre**	**3.15 253**	ePn	**Pn**	**10 19 27.7**	**+1.1**
LMR			eSn	**Sn**	**10 20 03.6**	**-0.1**
	14nm,0.4s					
VISS	**Visnje**	**3.33 62**	iPn	**Pn**	**10 19 28.8**	**-0.2**
VISS			eSn	**Sn**	**10 20 06.9**	**-1.1**
KBA	**Koelnbreinsper**	**3.35 33**	⇑Sn	**Sn**	**10 20 10.5**	**+1.7**
KBA	**Koelnbreinsper**	**3.35 33**	⇑iPn	**Pn**	**10 19 30.0**	**+0.6**
KBA			⇑iSn	**Sn**	**10 20 10.5**	**+1.7**
ORIF	**Oris-en-Rattie**	**3.46 282**	ePn	**Pn**	**10 19 32.7**	**+1.9**
ORIF			eSn	**Sn**	**10 20 11.6**	**+0.2**
	18nm,0.6s					
ORIF	**Oris-en-Rattie**	**3.46 282**	ePn	**Pn**	**10 19 32.7**	**+1.9**
ORIF			eSn	**Sn**	**10 20 11.6**	**+0.2**
	9.1nm,0.6s					
OBKA	**Obir**	**3.52 50**	⇑Sn	**Sn**	**10 20 12.8**	**-0.1**
OBKA	**Obir**	**3.52 50**	⇑iPn	**Pn**	**10 19 30.7**	**-1.0**
OBKA			⇑iSn	**Sn**	**10 20 12.8**	**-0.1**
SMRF	**Simiane la Rot**	**3.67 267**	ePn	**Pn**	**10 19 36.5**	**+2.8**
SMRF			eSn	**Sn**	**10 20 17.8**	**+1.3**
	12nm,0.4s					
SMRF	**Simiane la Rot**	**3.67 267**	ePn	**Pn**	**10 19 36.5**	**+2.8**
SMRF			eSn	**Sn**	**10 20 17.8**	**+1.3**
	5.8nm,0.4s					
CABF	**La Chapelle**	**3.95 307**	ePn	**Pn**	**10 19 39.5**	**+1.9**
CABF			eSn	**Sn**	**10 20 24.9**	**+1.4**
	7.3nm,0.4s					
CABF	**La Chapelle**	**3.95 307**	ePn	**Pn**	**10 19 39.5**	**+1.9**
CABF			eSn	**Sn**	**10 20 24.9**	**+1.4**
	3.7nm,0.4s					
VIVF	**Saint-Julien-l**	**4.30 279**	ePn	**Pn**	**10 19 43.7**	**+1.2**
VIVF			eSn	**Sn**	**10 20 32.1**	**-0.1**
	7.0nm,0.5s					
VIVF	**Saint-Julien-l**	**4.30 279**	ePn	**Pn**	**10 19 43.7**	**+1.2**
VIVF			eSn	**Sn**	**10 20 32.1**	**-0.1**
	3.5nm,0.5s					
MOA	**Molln**	**4.35 34**	⇑Sn	**Sn**	**10 20 34.1**	**+0.9**
MOA	**Molln**	**4.35 34**	⇑iPn	**Pn**	**10 19 43.3**	**+0.3**
	SNR=7.9					
MOA			⇑iSn	**Sn**	**10 20 34.1**	**+0.9**
HINF	**Hinteralfeld**	**4.39 324**	ePn	**Pn**	**10 19 45.1**	**+1.4**
HINF			eSn	**Sn**	**10 20 33.9**	**-0.5**
	14nm,0.4s					
HINF	**Hinteralfeld**	**4.39 324**	ePn	**Pn**	**10 19 45.1**	**+1.4**
HINF			eSn	**Sn**	**10 20 33.9**	**-0.5**
	6.9nm,0.4s					
CDF	**Champ du Feu**	**4.72 332**	ePn	**Pn**	**10 19 49.0**	**+0.8**
CDF			eSn	**Sn**	**10 20 40.9**	**-1.6**
	9.4nm,0.3s					
CDF	**Champ du Feu**	**4.72 332**	ePn	**Pn**	**10 19 49.0**	**+0.8**
CDF			eSn	**Sn**	**10 20 40.9**	**-1.6**
	4.7nm,0.3s					
HAU	**Haudompre**	**4.76 323**	ePn	**Pn**	**10 19 49.5**	**+0.8**
HAU			eSn	**Sn**	**10 20 41.7**	**-1.6**
	30nm,0.5s					
HAU	**Haudompre**	**4.76 323**	ePn	**Pn**	**10 19 49.5**	**+0.8**
HAU			eSn	**Sn**	**10 20 41.7**	**-1.6**
	15nm,0.5s					
LASF	**Ste Croix**	**4.89 270**	ePn	**Pn**	**10 19 51.6**	**+1.1**
LANF	**Langenberg**	**5.07 338**	ePn	**Pn**	**10 19 53.2**	**+0.2**
LANF			eSn	**Sn**	**10 20 49.8**	**-1.2**
	14nm,0.5s					
THEF	**They Montfort**	**5.08 322**	ePn	**Pn**	**10 19 54.0**	**+0.9**
KHC	**Kasperske Hory**	**5.23 22**	ePN	**Pn**	**10 19 55.4**	**+0.2**
KHC			eSN	**Sn**	**10 20 52.8**	**-2.2**
SMF	**Signal de Mont**	**5.33 298**	ePn	**Pn**	**10 19 57.2**	**+0.7**
SMF			eSn	**Sn**	**10 20 56.9**	**-0.5**
	8.1nm,0.4s					
SMF	**Signal de Mont**	**5.33 298**	ePn	**Pn**	**10 19 57.2**	**+0.7**
SMF			eSn	**Sn**	**10 20 56.9**	**-0.5**
	4.1nm,0.4s					
LOR	**Lormes**	**5.60 304**	ePn	**Pn**	**10 20 00.3**	**+0.1**
LOR			eSn	**Sn**	**10 21 02.1**	**-1.9**
	17nm,0.6s					
LOR	**Lormes**	**5.60 304**	ePn	**Pn**	**10 20 00.3**	**+0.1**
LOR			eSn	**Sn**	**10 21 02.1**	**-1.9**
	8.3nm,0.6s					
AVF	**Avril sur Loir**	**5.70 298**	ePn	**Pn**	**10 20 02.3**	**+0.7**
SSF	**Saint Saulge**	**5.71 301**	ePn	**Pn**	**10 20 02.5**	**+0.7**
SSF			eSn	**Sn**	**10 21 04.9**	**-2.0**
	3.0nm,0.4s					
SSF	**Saint Saulge**	**5.71 301**	ePn	**Pn**	**10 20 02.5**	**+0.7**
SSF			eSn	**Sn**	**10 21 04.9**	**-2.0**
	1.5nm,0.4s					
RUP	**Ruppelstein**	**5.93 337**	ePn	**Pn**	**10 20 05.1**	**+0.3**
RUP			eSn	**Sn**	**10 21 09.8**	**-2.4**
BGF	**Bois d'Agland**	**5.94 295**	ePn	**Pn**	**10 20 05.2**	**+0.4**
MTLF	**Montolieu**	**6.17 264**	ePn	**Pn**	**10 20 08.8**	**+0.6**
EPF	**Esparros**	**7.58 264**	ePn	**Pn**	**10 20 28.2**	**+0.7**
EPF			eSn	**Sn**	**10 21 50.1**	**-2.9**
	1.3nm,0.2s					
EPF	**Esparros**	**7.58 264**	ePn	**Pn**	**10 20 28.2**	**+0.7**
EPF			eSn	**Sn**	**10 21 50.1**	**-2.9**
	0.6nm,0.2s					

JMA 02 10:43:20.2±0.1,2685N×13034E,h55km,M3.7, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.30**	**142**	P	Pn	10 43 42.5	+0.5
JMZ				eS	Sn	10 43 58.6	+0.3
JZK	**Kikaishima**	**1.50**	**347**	S	Sn	10 44 05.0	+1.9
JTK	**Tokunoshima**	**1.55**	**307**	P	Pn	10 43 46.1	+0.7
JTK				eS	Sn	10 44 05.0	+0.6
JAM	**Amami Oshima**	**1.69**	**337**	P	Pn	10 43 47.7	+0.4
JAM				eS	Sn	10 44 06.9	-0.9
JOW	**Kunigami**	**1.85**	**270**	P	Pn	10 43 50.4	+0.9
JOW				eS	Sn	10 44 12.1	+0.4
JIH	**Iheya**	**2.13**	**276**	P	Pn	10 43 54.3	+1.0
JIH				eS	Sn	10 44 19.1	+0.6
JJT2	**Tamagusuku 2**	**2.43**	**254**	P	Pn	10 43 58.6	+1.2
JJT2				eS	Sn	10 44 26.8	+0.9
NAH1	**Naha**	**2.46**	**255**	eS	Sn	10 44 26.7	0.0
JAGN	**Aguni-jima**	**2.78**	**265**	eS	Sn	10 44 34.3	-0.3
JKE	**Kume jima 2**	**3.23**	**261**	P	Pn	10 44 09.5	+1.2
JKE				eS	Sn	10 44 45.9	+0.4

*CSEM **02** 11:13:49.0±0.8,3696N×2431W,h10km,ML2.4,Error ellipse: s-maj=9.0km s-min=4.7km az=89.0,After PDA*
*PDA **02** 11:13:49.0±0.8,3696N×2431W,h10km,MD2.7,ML2.4, Error ellipse: s-maj=9.0km s-min=4.7km az=89.0*

SVSA 02 11:13:49.0±0.8,3696N×2431W,h10km,MD2.7,ML2.4, Error ellipse: s-maj=9.0km s-min=4.7km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.61**	**274**	eP	Pg	11 13 59.1	-1.7
PSMN				eS	Sg	11 14 06.1	-2.6
MIRA	**Miradouro**	**1.13**	**317**	eP	Pb	11 14 05.8	-4.8
MIRA				eS	Sb	11 14 18.9	-6.4
PCNG	**Congro**	**1.18**	**313**	eS	Sb	11 14 20.5	-6.3
PCNG							
	17nm,0.2s						
PFAD	**Fenais da Ajud**	**1.19**	**318**	eS	Sb	11 14 20.4	-6.7
VIF	**Vila Franca**	**1.19**	**311**	eS	Sb	11 14 20.8	-6.3
VIF							
	29nm,0.4s						
PRCH	**Ribeira Ch**	**1.21**	**310**	eS	Sb	11 14 21.0	-6.5
PRCH							
	41nm,0.3s						
MESC	**Monte Escuro**	**1.23**	**313**	eS	Sb	11 14 21.7	-6.4
LFA	**Lagoa do Fogo**	**1.24**	**311**	eP	Pn	11 14 08.0	-4.3

*MAN **02** 11:19:25.8,573N×12641E,h13km,mb3.8,ML4.9,MS6.2*
*IDC **02** 11:19:28.3±6.3,630N×12622E,h95km±57km,mb3.9/12, mb1 4.1/12,mb1mx4.0/20,mbtmp4.2/12,Error ellipse: s-maj=39.6km s-min=14.2km az=73.0*
*ISCJB **02** 11:19:32.1±0.5,620N±005×12621E±008,h146km±5km, mb4.2/20,Error ellipse: s-maj=14.1km s-min=7.4km az=155.0*
*BJI **02** 11:19:32.9,613N×12602E,h147km,mB4.6,mb4.7*
*NEIC **02** 11:19:33.2±0.8,628N×12625E,h145km±7km,mb4.5/8, Error ellipse: s-maj=28.6km s-min=6.2km az=71.0*

ISC 02 11:19:33.5±0.5,623N±005×12621E±008,h141km±5km, n43,σ0°74/47,mb4.2/20,5C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.04**	**323**	ePn	**Pn**	**11 19 57.7**	**-0.1**
DAV				eSn	**Sn**	**11 20 15.4**	**-0.8**
KCP	**Kidapawan**	**1.35**	**305**	⇑eP	**Pn**	**11 20 00.2**	**-0.5**
KCP				iS	**Sn**	**11 20 20.9**	**-0.7**
BIPH	**Bislig**	**1.95**	**4**	⇑eP	**Pn**	**11 20 06.8**	**-0.6**
BIPH				iS	**Sn**	**11 20 32.7**	**-0.7**
BUKP	**Musuan**	**1.99**	**325**	eP	**Pn**	**11 20 08.2**	**+0.2**
BUKP				eS	**Sn**	**11 20 35.6**	**+1.2**
CTBH	**Cotabato--PC H**	**2.18**	**297**	⇓iP	**Pn**	**11 20 09.3**	**-0.9**
CTBH				iS	**Sn**	**11 20 33.8**	**-4.6**
CGP	**Cagayan de Oro**	**2.67**	**326**	⇑iP	**Pn**	**11 20 16.9**	**+0.7**
CGP				iS	**Sn**	**11 20 49.5**	**+0.2**
BUTP	**Butuan**	**2.78**	**348**	eP	**Pn**	**11 20 17.7**	**0.0**
BUTP				eS	**Sn**	**11 20 58.3**	**+6.6**
PAGZ	**Pagadian**	**3.23**	**300**	eP	**Pn**	**11 20 22.9**	**-0.5**
SCPH	**Surigao**	**3.60**	**349**	eP	**Pn**	**11 20 29.6**	**+1.4**
IPIL	**Ipil**	**3.93**	**293**	eP	**Pn**	**11 20 32.4**	**-0.1**
MSLP	**Maasin**	**4.10**	**341**	eP	**Pn**	**11 20 35.2**	**+0.4**
TBP	**Tagbilaran**	**4.15**	**326**	iP	**Pn**	**11 20 35.6**	**+0.2**
SNPH	**Sibulan**	**4.27**	**317**	eP	**Pn**	**11 20 38.5**	**+1.5**
KAKA	**Kakadu**	**19.81**	**162**	⇓iP	**P**	**11 23 53.8**	**+0.9**
	22nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.18**	**181**	⇓iP	**P**	**11 24 37.3**	**+0.6**
	27nm,2.0s,mb4.4						
NJ2	**Nanjing**	**26.59**	**346**	eP	**P**	**11 25 00.1**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,10,0nm,0.5s,mb4.7						
WRAB	**Tennant Creek**	**27.21**	**163**	eP	**P**	**11 25 03.9**	**0.0**
	comp=Z,5.3nm,0.4s,mb4.5						
WRAB				e		11 25 13.3	
WRA	**Warramunga Arr**	**27.21**	**163**	P	**P**	**11 25 03.4**	**-0.5**
	comp=Z,0.7nm,0.3s,mb3.7,baz=331,slow=10,SNR=25						
WRA				PcP	PcP	11 28 21.6	+1.2
	comp=Z,0.4nm,0.4s,baz=330,slow=2.3,SNR=5.1						
WB2	**Warramunga Arr**	**27.21**	**163**	eP	**P**	**11 25 03.8**	**-0.2**
MBWA	**Marble Bar**	**27.95**	**193**	eP	**P**	**11 25 10.2**	**-0.4**
	comp=Z,6.3nm,0.5s,mb4.6						
AS31	**Alice Springs**	**30.65**	**166**	eP	**P**	**11 25 34.8**	**+0.4**
ASAR	**Alice Springs**	**30.65**	**166**	P	**P**	**11 25 34.9**	**+0.5**
	comp=Z,2.7nm,0.4s,mb4.3,baz=345,slow=7.0,SNR=59						
ASAR				PcP	PcP	11 28 30.2	+1.1
	comp=Z,0.9nm,0.4s,baz=348,slow=2.5,SNR=9.4						
ASPA	**Alice Springs**	**30.65**	**166**	eP	**P**	**11 25 34.8**	**+0.4**
CD2	**Chengdu**	**32.35**	**322**	eP	**P**	**11 25 51.4**	**+2.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
KLBR	**Kellerberrin**	**38.47**	**192**	eP	**P**	**11 26 41.6**	**+0.1**
	comp=Z,7.1nm,0.3s,mb4.8						
MUN	**Mundaring**	**39.17**	**194**	⇑iP	**P**	**11 26 47.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**39.86**	**192**	P	**P**	**11 26 53.9**	**+0.8**
	comp=Z,15nm,0.6s,mb4.8,baz=17,slow=8.2,SNR=24						
NWAO	**Narrogin (SRO)**	**39.86**	**192**	eP	**P**	**11 26 53.4**	**+0.2**
	comp=Z,9.7nm,0.4s,mb4.8						
NWAO				e		11 27 18.1	
STKA	**Stephens Creek**	**40.64**	**160**	eP	**P**	**11 26 58.5**	**-1.0**
	comp=Z,6.2nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**40.64**	**160**	P	**P**	**11 26 58.8**	**-0.7**
	comp=Z,7.7nm,0.6s,mb4.5,baz=351,slow=7.4,SNR=24						
SONM	**Songino Array**	**44.78**	**341**	P	**P**	**11 27 32.5**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.2,baz=157,slow=7.5,SNR=6.0						
SONM				PcP	PcP	11 29 13.3	+0.8
	comp=Z,0.7nm,0.6s,baz=166,slow=3.0,SNR=6.3						
MKAR	**Makanchi Array**	**55.22**	**325**	P	**P**	**11 28 51.2**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.7,baz=118,slow=7.4,SNR=12						
MKAR				PcP	PcP	11 29 50.6	-0.3
	comp=Z,1.6nm,0.6s,baz=124,slow=3.3,SNR=11						
ZAL	**Zalesovo**	**58.14**	**333**	P	**P**	**11 29 11.4**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.9,baz=140,slow=8.5,SNR=3.1						
KURK	**Kurchatov**	**59.37**	**327**	eP	**P**	**11 29 20.3**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**65.69**	**326**	eP	**P**	**11 30 01.7**	**-1.0**
	comp=Z,2.0nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**83.08**	**26**	P	**P**	**11 31 43.1**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.7,baz=248,slow=5.0,SNR=24						
ARCES	**ARCESS Array B**	**87.94**	**340**	P	**P**	**11 32 06.5**	**-0.7**
	comp=Z,4.3nm,0.7s,mb4.4,baz=82,slow=6.4,SNR=13						
BRTR	**Keskin Array B**	**88.04**	**310**	P	**P**	**11 32 06.8**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.7,baz=123,slow=6.3,SNR=4.0						
FINES	**FINESS Array B**	**89.40**	**332**	P	**P**	**11 32 13.4**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=54,slow=4.9,SNR=8.1						
SYO	**Syowa Base**	**94.56**	**201**	⇑epP	pP	11 33 13.7	-0.2
YKA	**Yellowknife Ar**	**97.45**	**24**	P	**P**	**11 32 50.7**	**-0.4**
	comp=Z,0.3nm,0.8s,mb3.7,baz=296,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**121.62**	**289**	PKP	PKPdf	11 38 11.6	+1.2
	comp=Z,1.2nm,0.6s,baz=71,slow=2.1,SNR=12						
DBIC	**Dimbokro**	**129.51**	**284**	PKP	PKPdf	11 38 27.2	+1.8
	comp=Z,1.3nm,0.6s,baz=90,slow=6.1,SNR=3.5						

*NIED **02** 11:37:00,2480N×12540E,h38km,Mw4.0 Best double couple: M0:1.15000×10^15 NP1:φ=60.00000°,δ89.00000°, λ103.00000°. NP2:φ=155.00000°,δ13.00000°,λ5.00000°.*
*ISCJB **02** 11:37:36.8±0.4,2502N±010×12530E±006,h46km±8km, mb3.8/7,MS3.9/1,Error ellipse: s-maj=18.0km s-min=3.8km az=124.3*
*NEIC **02** 11:37:36.8,2483N×12540E,h50km,MG4.0(JMA),After JMA.*
*IDC **02** 11:37:36.7±0.8,2575N×12502E,h0km,mb3.9/9, mb1 4.0/10,mb1mx3.9/21,mbtmp3.9/10,ML3.1/1,MS3.8/1, Ms1 3.8/1,ms1mx2.7/28,Error ellipse: s-maj=26.0km s-min=17.5km az=58.0*
*JMA **02** 11:37:36.8±0.1,2483N×12540E,h50km±1km,M4.0*
JMA Felt II J1.

ISC 02 11:37:37.6±0.4,2500N±009×12532E±006,h40km±8km, n30,σ1°15/42,mb3.8/7,MS3.9/1,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.19**	**189**	P	**Pn**	**11 37 44.4**	**-0.4**
JMJ				S	**Sn**	**11 37 49.8**	**0.0**
JOGS	**Gusukube**	**0.25**	**163**	P	**Pn**	**11 37 44.4**	**-0.9**
JOGS				S	**Sn**	**11 37 50.1**	**-0.6**
JTJ	**Tarama**	**0.67**	**238**	P	**Pn**	**11 37 50.1**	**-0.5**
JTJ				S	**Sn**	**11 37 59.4**	**-0.5**
JIJ	**Ishigaki jima**	**1.25**	**240**	P	**Pn**	**11 37 57.9**	**-0.6**
JIJ				eS	**Sn**	**11 38 13.6**	**-0.5**
JKRS	**Kuro-shima**	**1.42**	**238**	P	**Pn**	**11 38 00.7**	**-0.1**
JKRS				eS	**Sn**	**11 38 18.4**	**+0.1**
IRIF	**Iriomote-Funau**	**1.59**	**246**	P	**Pn**	**11 38 02.7**	**-0.6**
IRIF				S	**Sn**	**11 38 22.3**	**-0.4**
HATJ	**Hateruma jima**	**1.67**	**236**	P	**Pn**	**11 38 05.7**	**+1.4**
HATJ				S	**Sn**	**11 38 26.2**	**+1.6**
JKE	**Kume jima 2**	**1.87**	**45**	P	**Pn**	**11 38 08.1**	**-1.1**
YOJ	**Yonaguni jima**	**2.17**	**256**	P	**Pn**	**11 38 10.8**	**-0.4**
YOJ				eS	**Sn**	**11 38 37.2**	**+0.3**
JAGN	**Aguni-jima**	**2.34**	**47**	P	**Pn**	**11 38 15.2**	**+1.6**
JAGN				eS	**Sn**	**11 38 40.9**	**-0.2**
NAH1	**Naha**	**2.45**	**60**	P	**Pn**	**11 38 17.8**	**+2.8**
JIH	**Iheya**	**3.12**	**49**	P	**Pn**	**11 38 25.4**	**+1.1**
JOW	**Kunigami**	**3.22**	**55**	Pn	**Pn**	**11 38 26.4**	**+0.8**
	4.5nm,0.3s,baz=138,slow=24,SNR=6.8						
JOW				Sn	**Sn**	**11 39 05.6**	**+2.8**
	8.2nm,0.3s,baz=107,slow=18,SNR=3.5						
JOW	**Kunigami**	**3.22**	**55**	P	**Pn**	**11 38 26.3**	**+0.7**
TATO	**Taipei**	**3.48**	**270**	ePn	**Pn**	**11 38 31.5**	**+2.3**
TATO				eSn	**Sn**	**11 39 08.8**	**-0.4**
NACB	**Ninganchiao**	**3.49**	**257**	ePn	**Pn**	**11 38 28.5**	**-0.9**
YHNB	**Yeheng**	**3.60**	**266**	ePn	**Pn**	**11 38 32.9**	**+2.1**
YHNB				eS	**Sn**	**11 39 21.8**	**+10**
JTK	**Tokunoshima**	**4.27**	**49**	P	**Pn**	**11 38 39.7**	**-0.4**
JTK				eS	**Sn**	**11 39 26.0**	**-2.7**
JAM	**Amami Oshima**	**5.12**	**47**	P	**Pn**	**11 38 51.0**	**-0.7**
JAM				eS	**Sn**	**11 39 47.2**	**-2.3**
JMZ	**Minamidaito 2**	**5.39**	**80**	P	**Pn**	**11 38 51.4**	**-4.1**
JMZ				eS	**Sn**	**11 39 46.9**	**-9.4**
SONM	**Songino Array**	**27.27**	**332**	P	**P**	**11 43 17.3**	**-0.7**
	0.3nm,0.4s,mb3.2,baz=153,slow=9.6,SNR=6.0						
MKAR	**Makanchi Array**	**40.44**	**314**	P	**P**	**11 45 11.4**	**-0.6**
	1.2nm,0.5s,mb3.9,baz=101,slow=10,SNR=22						
ZAL	**Zalesovo**	**41.69**	**325**	P	**P**	**11 45 20.9**	**-1.4**
	1.3nm,0.4s,mb3.9,baz=356,slow=9.2,SNR=3.8						
WRA	**Warramunga Arr**	**45.52**	**168**	P	pP	11 46 03.7	-0.8
	2.7nm,0.8s,baz=348,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**49.09**	**170**	P	pP	11 46 33.0	+0.6
	0.6nm,0.5s,baz=357,slow=8.5,SNR=12						
BVAR	**Borovoye Array**	**49.47**	**319**	P	**P**	**11 46 22.7**	**-1.1**
	0.3nm,0.5s,mb3.6,baz=101,slow=7.5,SNR=3.2						
ILAR	**Eielson Array**	**66.75**	**28**	P	**P**	**11 48 26.8**	**+2.1**
	0.5nm,0.6s,mb3.7,baz=253,slow=5.6,SNR=4.3						
FINES	**FINESS Array B**	**72.63**	**330**	P	**P**	**11 49 00.5**	**-0.4**
	3.8nm,1.1s,mb4.3,baz=55,slow=5.3,SNR=2.8						
BRTR	**Keskin Array B**	**75.70**	**307**	P	**P**	**11 49 19.0**	**+0.2**
	1.8nm,0.8s,mb4.1,baz=107,slow=6.6,SNR=9.3						
IDI	**Anoyia**	**83.84**	**306**	LR	LR	12 29 10.7	
	comp=Z,53nm,19.5s,MS3.9,baz=14,slow=37						

IDC 02 11:41:02.9±5.8,2255S×17603W,h0km,mb4.2/2, mb1 4.4/2,mb1mx3.9/13,mbtmp4.2/2,Error ellipse: s-maj=275.2km s-min=46.5km az=149.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.87**	**258**	P	P	11 49 27.1	+0.2
	3.5nm,0.9s,baz=93,slow=8.2,SNR=27						
ASPA	**Alice Springs**	**45.87**	**258**	eP	P	11 49 26.3	-0.6
WB2	**Warramunga Arr**	**46.15**	**264**	eP	P	11 49 29.6	+0.5
WRA	**Warramunga Arr**	**46.16**	**264**	P	P	11 49 29.8	+0.5
	1.4nm,0.5s,baz=102,slow=8.3,SNR=52						
AKASG	**Malin Array Be**	**145.68**	**331**	PKPbc	PKPbc	12 00 42.9	-0.7
	3.0nm,0.6s,baz=41,slow=4.1,SNR=18						
BRTR	**Keskin Array B**	**149.56**	**311**	PKPbc	PKPbc	12 00 53.8	-0.5
	0.7nm,0.7s,baz=74,slow=1.0,SNR=4.8						

*MOS **02** 11:41:16.3±0.9,5256N×15883E,h33km,mb5.2/68, MS3.8/13,Error ellipse: s-maj=9.8km s-min=5.4km az=94.8*
MOS Felt (II-III) at Petropavlovsk-Kamchatskii.
*ISCJB **02** 11:41:17.4±0.2,5226N±002×15896E±004,h51km, mb4.8/125,MS3.9/26,Error ellipse: s-maj=4.1km s-min=2.9km az=77.1*
*BJI **02** 11:41:17.6,5271N×15898E,h61km,mB4.8,mb4.7,Ms4.3, Msz4.0*
*HRVD **02** 11:41:19.8±0.6,5244N×15928E,h73km±4km,MW4.7/47, Centroid moment Tensor Solution. LP body waves: s23,c29;Mantle waves: s47,c71; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.37±.10; Mθθ-0.49±.09; Mφφ-0.88±.08; Mrθ0.28±.07; Mθφ-0.77±.07; Mφr0.45±.06; Best double couple: M0:1.52100×10^16 NP1:φ=220.00000°,δ35.00000°,λ94.00000°. NP2: φ=35.00000°,δ55.00000°,λ87.00000°. Principal axes: T 1.4670, Plg80.0000°, Azm294.0000°; N 0.1080, Plg2.0000°, Azm37.0000°; P -1.5760, Plg10.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **02** 11:41:19.6±2.8,5258N×15871E,h51km±25km,mb4.3/25, mb1 4.6/27,mb1mx4.6/28,mbtmp4.7/27,ML4.5/2,MS3.7/14, Ms1 3.8/14,ms1mx3.6/28 Error ellipse: s-maj=14.2km s-min=11.6km az=152.0*
*NEIC **02** 11:41:19.8±0.2,5251N×15880E,mb5.0/70,Error ellipse: s-maj=5.6km s-min=3.9km az=168.0*
NEIC Felt (III) at Petropavlovsk-Kamchatskiy.
*KRSC **02** 11:41:21.1±0.9,5244N×159.14E,h43km±6km,ML5.2*
*SZGRF **02** 11:41:22.5,53.14N×15757E,h33km,mb5.1,Kamchatka Peninsula, Russia*

ISC 02 11:41:19.2±0.2,5233N±003×15887E±004,h53km, h53km±1.9km:pP-P,n350,σ1°25/366,mb4.8/125,MS3.9/26, 100C-8D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.24**	**295**	iP	**Pn**	**11 41 31.1**	**+3.0**
GRL	**Gorelyy**	**0.54**	**295**	iP	**Pn**	**11 41 35.1**	**+4.0**
GRL				eS	**Sn**	**11 41 45.8**	**+6.2**
KRMR	**Karymshinskiy**	**0.68**	**318**	iP	**Pn**	**11 41 35.1**	**+2.4**
KRMR				iS	**Sn**	**11 41 45.9**	**+3.3**
PET	**Petropavlovsk**	**0.71**	**349**	iP	**Pn**	**11 41 34.3**	**+1.1**
PET				iS	**Sn**	**11 41 43.8**	**+0.5**
PET	**Petropavlovsk**	**0.71**	**349**	⇓iP	**Pn**	**11 41 34.2**	**+1.1**
PET				eSn	**Sn**	**11 41 43.7**	**+0.5**
PET	**Petropavlovsk**	**0.71**	**349**	K iPN	**Pn**	**11 41 33.7**	**+0.5**
PET				pmax	pmax		
	comp=Z,6μm,0.5s	

ASAJ Asahikawa 13.59 239 P **Pn** **11 44 31.1 +2.0**
comp=Z,2.4nm,0.3s,baz=58,slow=12,SNR=29
ASAJ LR LR 11 49 40.1
comp=Z,168nm,20.5s,baz=104,slow=37
ASAJ Asahikawa 13.59 239 P **Pn** **11 44 31.2 +2.1**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,169nm,20.5s
HABR Khabarovsk 15.65 265 *e*P **Pn** **11 44 54.0 -2.2**
HABR *e*S **S** **11 47 46.5 -15**
BILL Bilibino 16.16 10 P **Pn** **11 45 04.0 +1.2**
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL MLR MLR
comp=Z,200nm,20.0s
KLR Kul'dur 17.39 271 *e*P **Pn** **11 45 19.7 +1.6**
YAK Yakutsk 18.40 313 *e*P **Pn** **11 45 29.1 -1.3**
comp=Z,29nm,0.9s
YAK *es*P sP 11 45 45.8 -2.5
YAK Yakutsk 18.40 313 *e*P **Pn** **11 45 29.1 -1.3**
YAK pmax pmax
comp=Z,29nm,0.9s
CLNS Chul'man 20.07 296 *e*P **P** **11 45 46.1 -2.0**
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS pmax pmax
comp=Z,21nm,0.8s
CLNS MLR MLR
comp=E,300nm,14.0s,MS3.8
CLNS MLR MLR
comp=Z,200nm,14.0s,MS3.6
CLNS MLR MLR
comp=N,100nm,15.0s,MS3.8
MDJ Mudanjiang 20.78 260 P **P** **11 45 56.3 +0.5**
MDJ AP 11 46 08.2
MDJ XP sP 11 46 14.0 -0.4
MDJ S **S** **11 49 44.1 -0.7**
MDJ SCP ScP 11 53 36.3 +0.9
MDJ PCS PcS 11 53 41.0 -0.1
MDJ SCS ScS 11 57 17.6 -1.1
MDJ AMB AMB
comp=Z,8.0nm,2.0s
MDJ AMB AMB
comp=Z,162nm,5.1s
MDJ LR LR
comp=N,200nm,28.6s
MDJ LR LR
comp=E,93nm,41.9s
MDJ LR LR
comp=Z,168nm,31.7s,MS3.2
TNA Tin City 21.31 39 *e*P **P** **11 46 01.1 -0.5**
comp=Z,11nm,0.9s,mb4.2
MAJO Matsushiro 21.49 231 *e*P **P** **11 46 05.8 +2.3**
comp=Z,44nm,0.8s,mb4.8
MAJO Matsushiro 21.49 231 *e*P **P** **11 46 05.8 +2.4**
MAJO pmax pmax
comp=Z,43nm,0.8s,mb4.8
MAT Matsushiro 21.49 231 P **P** **11 46 05.3 +1.9**
MAT Matsushiro 21.49 231 *e*P **P** **11 46 05.0 +1.6**
comp=Z,37nm,0.8s,mb4.8
MAT Matsushiro 21.49 231 *e*P **P** **11 46 05.0 +1.6**
MAT pmax pmax
comp=Z,37nm,0.8s,mb4.8
MJAR Matsushiro Arr 21.49 231 P **P** **11 46 05.8 +2.4**
comp=Z,29nm,0.9s,mb4.6,baz=22,slow=11,SNR=57
MJAR PcP PcP 11 50 04.8 +0.3
comp=Z,0.4nm,0.4s,baz=60,slow=1.5,SNR=5.2
MJAR LR LR 11 54 01.1
comp=Z,120nm,21.4s,MS3.3,baz=90,slow=35
MJAR Matsushiro Arr 21.49 231 P **P** **11 46 05.8 +2.4**
MJAR 11 50 04.8
MJAR pmax pmax
comp=Z,29nm,0.9s
MJAR MLR MLR
comp=Z,120nm,21.4s
TIXI Tiksi 23.48 337⇓ *i*P **P** **11 46 22.4 -1.7**
TIXI pmax pmax
comp=Z,23nm,1.0s,mb4.6
TIXI MLR MLR
comp=Z,200nm,20.0s,MS3.6
CN2 Changchun 23.73 262 *e*P **P** **11 46 25.7 -0.8**
CN2 XP sP 11 46 44.3 -1.6
CN2 PCP PcP 11 50 12.9 +3.8
CN2 *e*S **S** **11 50 33.5 -4.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,12.0s,MS4.1
CN2 LR LR
comp=E,300nm,12.0s,MS4.1
CN2 LR LR
comp=Z,200nm,18.0s
HIA Hailar 24.71 279 *e*P **P** **11 46 36.2 +0.8**
comp=Z,26nm,0.9s,mb4.8
HIA Hailar 24.71 279 *e*P **P** **11 46 36.2 +0.8**
HIA pmax pmax
comp=Z,26nm,0.9s
BOD Bodaibo 25.88 300 *e*P **P** **11 46 44.9 -1.1**
BOD *e* pP 11 47 01.2 +1.9
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
KDAK Kodiak Island 27.83 59 P **P** **11 47 03.1 -0.4**
comp=Z,11nm,1.0s,mb4.4,baz=309,slow=13,SNR=3.1
MCK McKinley 29.02 46 *e*P **P** **11 47 13.0 -1.1**
comp=Z,4.2nm,0.9s,mb4.2
MCK McKinley 29.02 46 *e*P **P** **11 47 13.0 -1.1**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
SML Sawmill 29.42 50 *e*P **P** **11 47 16.3 -1.3**
COLA College 29.47 44 *e*P **P** **11 47 16.2 -1.8**
comp=Z,8.0nm,0.8s,mb4.5
COLA College 29.47 44⇓ *i*P **P** **11 47 16.8 -1.3**
ILAR Eielson Array 29.88 44 P **P** **11 47 20.1 -1.6**
comp=Z,8.6nm,0.8s,mb4.5,baz=263,slow=7.8,SNR=95
ILAR PcP PcP 11 50 21.8 -1.8
comp=Z,0.7nm,0.5s,baz=283,slow=3.3,SNR=8.3
ILAR LR LR 11 58 56.3
comp=Z,120nm,19.4s,MS3.5,baz=349,slow=36
ILAR Eielson Array 29.88 44 P **P** **11 47 20.2 -1.5**
ILAR 11 50 21.8
ILAR pmax pmax
comp=Z,9.0nm,0.8s
ILAR MLR MLR
comp=Z,121nm,19.4s
DAWY Dawson 33.19 45 *e*P **P** **11 47 49.6 -1.1**
DAWY *ep*P pP 11 48 01.5 -2.8
SONM Songino Array 33.35 284 P **P** **11 47 51.8 -0.4**
comp=Z,0.7nm,0.6s,mb3.8,baz=63,slow=7.2,SNR=7.8
SONM PcP PcP 11 50 32.7 -0.3
comp=Z,3.0nm,0.8s,baz=81,slow=1.9,SNR=13
SONM LR LR 12 02 41.7
comp=Z,284nm,19.2s,MS4.0,baz=29,slow=39
SONM Songino Array 33.35 284 P **P** **11 47 51.8 -0.4**
SONM 11 50 32.7
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,284nm,19.2s
HHC Hu-ho-hao-te 33.89 269 *e*P **P** **11 47 57.1 +0.2**
HHC AP pP 11 48 09.1 -1.3
HHC XP sP 11 48 14.4 -2.2
HHC PP PP 11 49 10.4 -3.9
HHC S **S** **11 53 17.9 +0.3**
HHC SS SS 11 55 22.1 -24
HHC SCS ScS 11 58 16.1 -0.5
HHC AMB AMB
comp=Z,12nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,104nm,3.8s
HHC LR LR
comp=N,110nm,4.9s
HHC LR LR
comp=E,147nm,4.7s
HHC LR LR
comp=Z,236nm,6.9s
ZAK Zakamensk 34.05 289 *e*P **P** **11 47 56.3 -2.0**
ZAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
SSE Sheshan 34.68 247 P **P** **11 48 04.1 +0.4**
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,41nm,4.8s
INK Inuvik 34.93 37 *e*P **P** **11 48 04.6 -1.3**
comp=Z,5.9nm,0.8s,mb4.6
INK Inuvik 34.93 37 *e*P **P** **11 48 04.6 -1.3**
INK pmax pmax
comp=Z,6.0nm,0.8s
NJ2 Nanjing 35.31 251 *e*P **P** **11 48 11.3 +2.2**
NJ2 AP pP 11 48 23.4 +0.7
NJ2 XP sP 11 48 28.8 -0.1
NJ2 PP PP 11 49 31.2 +1.2
NJ2 S **S** **11 53 40.0 +0.6**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,170nm,6.5s
NJ2 LR LR
comp=N,280nm,19.6s
NJ2 LR LR
comp=E,2μm,25.2s
NJ2 LR LR
comp=Z,1μm,18.7s,MS4.7
LZH Lanzhou 41.59 269 *e*P **P** **11 49 02.3 +0.5**
LZH AP pP 11 49 16.7 +1.0
LZH XP sP 11 49 21.9 +0.1
LZH PP PP 11 50 41.8 +3.1
LZH AMB AMB
comp=Z,26nm,1.5s,mb4.6
LZH AMB AMB
comp=Z,98nm,6.7s
LZH LR LR
comp=N,446nm,14.3s
LZH LR LR
comp=Z,543nm,18.1s,MS4.5
GTA Gaotai 41.95 276 *e*P **P** **11 49 04.5 -0.3**
GTA AP pP 11 49 17.0 -1.6
GTA XP sP 11 49 22.0 -2.8
GTA PP PP 11 50 44.9 +2.3
GTA S **S** **11 55 17.1 -2.5**
GTA SS SS 11 58 17.7 -10
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb3.8
GTA AMB AMB
comp=Z,92nm,4.9s
GTA LR LR
comp=N,164nm,15.2s,MS4.1
GTA LR LR
comp=E,177nm,19.0s,MS4.1
GTA LR LR
comp=Z,204nm,17.9s,MS4.0
ZAL Zalesovo 42.58 303 PcP PcP 11 51 00.8 -0.6
comp=Z,1.8nm,0.7s,baz=34,slow=3.1,SNR=6.9
ZAL LR LR 12 08 45.6
comp=Z,224nm,18.5s,MS4.1,baz=32,slow=39
NVS Novosibirsk 42.94 305 *i*P **P** **11 49 10.5 -2.3**
YKA Yellowknife Ar 44.23 42 P **P** **11 49 22.3 -0.9**
comp=Z,2.7nm,0.8s,mb4.1,baz=298,slow=7.9,SNR=40
YKA PcP PcP 11 51 06.2 -0.8
comp=Z,0.6nm,0.8s,baz=294,slow=3.2,SNR=4.6
YKA LR LR 12 08 48.1
comp=Z,83nm,18.3s,MS3.7,baz=275,slow=37
YKA Yellowknife Ar 44.23 42 P **P** **11 49 22.3 -0.9**
YKA 11 51 06.2
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA MLR MLR
comp=Z,83nm,18.3s
RES Resolute Bay 44.31 21 *e*P **P** **11 49 22.6 -1.2**
comp=Z,15nm,0.8s,mb4.8
RES *e*PcP PcP 11 51 06.0 -1.3
RES Resolute Bay 44.31 21 *e*P **P** **11 49 22.6 -1.2**
RES *e* 11 51 06.1
RES pmax pmax
comp=Z,15nm,0.8s,mb4.8
CD2 Chengdu 45.15 264 *e*P **P** **11 49 31.8 +1.3**
CD2 AP pP 11 49 44.2 -0.3
CD2 XP sP 11 49 49.5 -1.1
CD2 PP PP 11 51 18.1 +1.3
CD2 S **S** **11 56 06.5 +0.2**
CD2 XS sS 11 56 27.4 -2.3
CD2 SS SS 11 59 20.2 -10
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,50nm,5.9s
CD2 LR LR
comp=E,120nm,10.8s
CD2 LR LR
comp=Z,110nm,13.2s,MS4.0
WMQ Urumqi 46.52 289 *e*P **P** **11 49 41.5 +0.2**
WMQ AP pP 11 49 55.5 +0.2
WMQ XP sP 11 50 01.3 -0.1
WMQ PCP PcP 11 51 16.3 +1.3
WMQ PP PP 11 51 30.7 -0.6
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,76nm,4.6s
WMQ LR LR
comp=N,123nm,22.0s,MS3.9
WMQ LR LR
comp=E,65nm,18.0s,MS3.9
WMQ LR LR
comp=Z,83nm,18.0s,MS3.7
KURK Kurchatov 47.51 302 P **P** **11 49 47.4 -1.6**
comp=Z,39nm,1.3s,mb5.3,SNR=5.1
KURK Kurchatov 47.51 302 *e*P **P** **11 49 47.0 -2.1**
comp=Z,4.6nm,0.8s,mb4.6
KURK Kurchatov 47.51 302 *i*P **P** **11 49 46.2 -2.8**
MKAR Makanchi Array 47.81 296 P **P** **11 49 49.1 -2.3**
comp=Z,1.2nm,0.6s,mb4.1,baz=54,slow=6.9,SNR=19
MKAR LR LR 12 10 52.2
comp=Z,117nm,20.6s,MS3.8,baz=90,slow=37
MKAR Makanchi Array 47.81 296⇑ *e*P **P** **11 49 49.5 -1.9**
EDM Edmonton 49.82 52 *e*P **P** **11 50 06.5 -0.3**
KMI Kunming 49.95 259 P **P** **11 50 10.0 +2.2**
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb4.7
BVAR Borovoye Array 50.28 308 P **P** **11 50 07.5 -2.8**
comp=Z,3.2nm,0.9s,mb4.4,baz=56,slow=7.9,SNR=13
BVAR PcP PcP 11 51 27.5 -1.0
comp=Z,3.8nm,0.8s,baz=56,slow=2.7,SNR=6.7
BVAR Borovoye Array 50.28 308 P **P** **11 50 07.5 -2.8**
BVAR 11 51 27.5
BVAR pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 50.31 308 *e*P **P** **11 50 08.3 -2.2**
comp=Z,3.0nm,0.9s,mb4.3
BRVK Borovoye 50.31 308 *e*P **P** **11 50 08.4 -2.1**
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
QIZ Qiongzhong 50.47 248 P **P** **11 50 14.6 +2.9**
ZRNK Zerenda 50.99 309 *e*P **P** **11 50 12.9 -2.7**
comp=Z,3.2nm,1.0s,mb4.2
ZRNK *e*PcP PcP 11 51 29.6 -1.5
ZRNK Zerenda 50.99 309 *e*P **P** **11 50 12.9 -2.7**
ZRNK *e* 11 51 29.6
ZRNK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
DAG Danmarks Havn 51.16 359⇑ *i*P **P** **11 50 15.3 -1.6**
comp=Z,6.0nm,0.8s,mb4.6
DAG Danmarks Havn 51.16 359⇑ *i*P **P** **11 50 15.3 -1.6**
DAG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ARCES ARCESS Array B 53.78 342 P **P** **11 50 34.1 -2.2**
comp=Z,7.5nm,0.8s,mb4.7,baz=39,slow=7.9,SNR=8.1
ARCES PcP PcP 11 51 40.8 -0.9
comp=Z,3.9nm,0.9s,baz=354,slow=2.4,SNR=4.7
ARCES LR LR 12 18 51.8
comp=Z,66nm,18.6s,MS3.7,baz=188,slow=42
ARCES ARCESS Array B 53.78 342 P **P** **11 50 34.1 -2.2**
ARCES 11 51 40.8
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES MLR MLR
comp=Z,66nm,18.6s
CHMT Chamberlain Mo 53.81 58 *e*P **P** **11 50 36.2 -0.4**
HRY Holter Researc 54.69 57 *e*P **P** **11 50 43.1 +0.3**
SUMG Summit 54.80 6 *e*P **P** **11 50 43.0 -0.7**
comp=Z,24nm,0.9s,mb5.2
MCMT McKenzie Canyo 55.40 60 *e*P **P** **11 50 48.0 0.0**
MCMT *ep*P pP 11 51 02.5 +0.2
BOZ Bozeman (W) 55.50 58 *e*P **P** **11 50 49.4 +0.7**
comp=Z,5.0nm,0.6s,mb4.7
BOZ Bozeman (W) 55.50 58 *e*P **P** **11 50 49.4 +0.7**
BOZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
QLMT Earthquake Lak 56.15 59 *e*P **P** **11 50 54.2 +0.8**
GCMT Greycliff 56.42 57 *e*P **P** **11 50 56.2 +0.9**
NVAR Mina Array Bea 56.71 69 P **P** **11 50 58.8 +1.4**
comp=Z,5.5nm,0.8s,mb4.6,baz=291,slow=7.9,SNR=20
NVAR LR LR 12 11 60.0
comp=Z,54nm,19.1s,MS3.7,baz=0.0,slow=32
FLWY Flagg Ranch 57.04 59 *e*P **P** **11 51 01.1 +1.4**
comp=Z,8.3nm,0.8s,mb4.8
SCO Scoresbysund 57.49 0 *i*P **P** **11 51 01.9 -1.0**
SCO *i*S sP 11 51 31.4 +8.1
AKTK Aktyubinsk 57.79 312 P **P** **11 51 02.8 -2.2**
AKTK PcP PcP 11 51 56.0 -1.1
AKTO Aktyubinsk 57.79 312 P **P** **11 51 02.8 -2.2**
comp=Z,1.3nm,0.5s,mb4.2,baz=78,slow=5.7,SNR=6.4
AKTO PcP PcP 11 51 56.0 -1.1
comp=Z,6.6nm,0.8s,baz=40,slow=2.5,SNR=11
AKTO Aktyubinsk 57.79 312 P **P** **11 51 02.8 -2.2**
AKTO 11 51 56.0
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
HWUT Hardware Ranch 58.28 62 *e*P **P** **11 51 09.4 +1.0**
comp=Z,8.3nm,0.9s,mb4.8
PDAR Pinedale Array 58.55 60 P **P** **11 51 11.1 +0.8**
comp=Z,14nm,0.8s,mb5.1,baz=317,slow=2.7,SNR=120
SFJD Kangerlussuaq 58.93 13 *i*P **P** **11 51 10.8 -2.2**
comp=Z,9.3nm,0.5s,mb5.1
SFJD Kangerlussuaq 58.93 13 *i*P **P** **11 51 10.8 -2.2**
SFJD pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
ULM Lac du Bonnet 59.89 46 P **P** **11 51 18.2 -1.3**
comp=Z,4.4nm,0.8s,mb4.6,baz=322,slow=5.5,SNR=10
ULM LR LR 12 15 54.1
comp=Z,117nm,18.7s,MS4.0,baz=339,slow=35
MSU Marysvale 60.10 65 *e*P **P** **11 51 22.5 +1.5**
FINES FINESS Array B 60.52 336 P **P** **11 51 21.3 -2.6**
comp=Z,3.4nm,0.8s,mb4.5,baz=38,slow=9.6,SNR=10
FINES LR LR 12 21 06.1
comp=Z,86nm,20.5s,MS3.9,baz=0.7,slow=40
FINES FINESS Array B 60.52 336 P **P** **11 51 21.3 -2.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES MLR MLR
comp=Z,86nm,20.5s
SRU San Rafael 60.59 63 *e*P **P** **11 51 25.3 +1.0**
comp=Z,16nm,0.9s,mb5.1
SRU San Rafael 60.59 63 *e*P **P** **11 51 25.3 +0.9**
SRU pmax pmax
comp=Z,16nm,0.9s,mb5.2
HNR Honiara 61.52 179 LR LR 12 15 08.3
comp=Z,60nm,19.8s,MS3.8,baz=358,slow=33
PV10 Paradox Valley 61.93 63 *e*P **P** **11 51 34.8 +1.3**
PV10 *ep*P pP 11 51 50.0 +2.1
PV01 Paradox Valley 62.36 63 *e*P **P** **11 51 37.1 +0.8**
SMCO Snowmass 62.74 61 *e*P **P** **11 51 37.8 +0.8**
comp=Z,12nm,0.8s,mb5.1
ISCO Idaho Springs 62.74 60 *e*P **P** **11 51 40.0 +1.2**
comp=Z,13nm,1.1s,mb5.0
ISCO Idaho Springs 62.74 60 *e*P **P** **11 51 40.0 +1.1**
ISCO pmax pmax
comp=Z,13nm,1.1s,mb5.0
NB2 NORSAR Subarra 64.06 343 P **P** **11 51 45.9 -1.7**
comp=Z,13nm,0.7s,mb5.1,baz=22,slow=6.9
NB2 NORSAR Subarra 64.06 343 P **P** **11 51 45.9 -1.7**
NB2 pmax pmax
comp=Z,13nm,0.7s,mb5.1
NOA NORSAR Array B 64.06 343 P **P** **11 51 46.0 -1.6**
comp=Z,13nm,0.8s,mb5.0,baz=22,slow=6.6,SNR=40
NOA LR LR 12 21 53.4
comp=Z,47nm,18.9s,MS3.7,baz=5.0,slow=38
NOA NORSAR Array B 64.06 343 P **P** **11 51 46.0 -1.6**
NOA LR LR 12 21 53.4
NOA NORSAR Array B 64.06 343 P **P** **11 51 46.0 -1.6**
NOA pmax pmax
comp=Z,13nm,0.8s
NOA MLR MLR
comp=Z,47nm,18.9s
SDCO Great Sand Dun 64.30 61 *e*P **P** **11 51 50.0 +0.8**
comp=Z,11nm,1.4s,mb4.7
ANMO Albuquerque 65.84 64 *i*P **P** **11 51 59.2 +0.1**
BNM Barren Site 66.34 65 *e*P **P** **11 52 03.5 +1.2**
MNTX Cornudas Mount 68.87 65 *e*P **P** **11 52 19.0 +0.7**
comp=Z,14nm,1.2s,mb4.8
AKASG Malin Array Be 68.88 328 P **P** **11 52 16.5 -1.8**
comp=Z,8.2nm,0.7s,mb4.8,baz=30,slow=6.0,SNR=24
AKASG Malin Array Be 68.88 328 P **P** **11 52 16.5 -1.8**
AKASG Malin Array Be 68.88 328 P **P** **11 52 16.5 -1.8**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
GDL2 Guadalupe Moun 69.06 64 *e*P **P** **11 52 20.4 +1.0**
WMOK Wichita Mounta 70.14 59 *e*P **P** **11 52 25.5 -0.6**
comp=Z,8.0nm,0.8s,mb4.7
WMOK *ep*P pP 11 52 40.0 -0.8
WMOK Wichita Mounta 70.14 59 *e*P **P** **11 52 25.5 -0.6**
WMOK *e**PP pP 11 52 40.0 -0.9
WMOK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BSEG Bad Segeberg 70.90 341 *e*P **P** **11 52 30.3 -0.4**
comp=Z,24nm,1.2s,mb5.0
BSEG Bad Segeberg 70.90 341 *e*P **P** **11 52 30.3 -0.4**
BSEG pmax pmax
comp=Z,24nm,1.2s,mb5.0
CCM Cathedral Cave 71.34 52 *e*P **P** **11 52 32.2 -1.2**
comp=Z,17nm,1.5s,mb4.8
CCM Cathedral Cave 71.34 52 *e*P **P** **11 52 32.2 -1.2**
CCM pmax pmax
comp=Z,17nm,1.5s,mb4.8
LTX Lajitas 71.62 66 *e*P **P** **11 52 35.8 +0.7**
comp=Z,18nm,0.9s,mb5.0
LTX Lajitas 71.62 66 *e*P **P** **11 52 35.8 +0.7**
LTX pmax pmax
comp=Z,18nm,0.9s,mb5.0
EKA Eskdalemuir Ar 71.67 349 P **P** **11 52 34.5 -0.9**
comp=Z,11nm,0.7s,mb4.9,baz=20,slow=5.3,SNR=21
EKA Eskdalemuir Ar 71.67 349 P **P** **11 52 34.5 -0.9**
EKA pmax pmax
comp=Z,11nm,0.7s
OJC Ojcow 72.11 334 *e*P **P** **11 52 37.3 -0.7**
STHS Stebnicka Huta 72.43 333 *e*P **P** **11 52 40.0 +0.1**
KOLS Kolonicke sedl 72.57 332 *i*P **P** **11 52 40.2 -0.6**
CLL Collm 72.80 338 *e*P **P** **11 52 40.5 -1.6**
comp=Z,16nm,1.1s,mb4.9
CLL Collm 72.80 338⇑ *i*P **P** **11 52 40.5 -1.6**
comp=Z,21nm,1.2s,mb4.9
CLL *i* x x 11 52 45.6
CLL *i* sP sP 11 53 03.3 +0.4
CLL Collm 72.80 338⇑ *i*P **P** **11 52 40.5 -1.6**
CLL *i* 11 52 45.6
CLL *i* *PP pP 11 53 03.3 +6.3
CLL pmax pmax
comp=Z,21nm,1.2s,mb4.9
BURAR Bucovina Array 72.86 329⇓ P **P** **11 52 41.4 -1.1**
CLZ Clausthal 72.87 340 *e*P **P** **11 52 41.9 -0.6**
comp=Z,34nm,1.0s,mb5.2
CLZ Clausthal 72.87 340 *e*P **P** **11 52 41.9 -0.6**
CLZ pmax pmax
comp=Z,34nm,1.0s,mb5.2
JCT Junction City 72.88 62 *e*P **P** **11 52 42.3 -0.3**
comp=Z,16nm,1.3s,mb4.8
JCT Junction City 72.88 62 *e*P **P** **11 52 42.3 -0.3**
JCT pmax pmax
comp=Z,16nm,1.3s,mb4.8
IBBN Ibbenburen 72.95 342 *e*P **P** **11 52 42.6 -0.4**
comp=Z,34nm,0.9s,mb5.3
BRG Berggiesshubel 72.98 338 *e*P **P** **11 52 42.0 -1.3**
comp=Z,4.2nm,1.0s,mb4.3
WTSB Winterswijk 73.45 342 *e*P **P** **11 52 45.6 -0.4**
comp=Z,36nm,0.8s,mb5.3
KECS Kecovo 73.49 333 *e*P **P** **11 52 44.0 -2.2**
MOX Moxa 73.73 339 *e*P **P** **11 52 46.7 -0.9**
comp=Z,8.0nm,0.9s,mb4.7
VRAC Vranov 73.79 335 P **P** **11 52 47.2 -0.8**
comp=Z,2.1nm,0.4s,mb4.4,baz=141,slow=0.4,SNR=3.8
VRAC Vranov 73.79 335 P **P** **11 52 47.2 -0.7**
VRAC pmax pmax
comp=Z,2.0nm,0.4s
BUG Bochum–Univer 73.86 342 *e*P **P** **11 52 47.5 -0.9**
comp=Z,25nm,0.8s,mb5.2
VYHS Vyhne 73.94 334 *e*P **P** **11 52 48.1 -0.7**
ROTZ Rotzenmuhle 74.42 338 *e*P **P** **11 52 50.8 -0.8**
comp=Z,10.0nm,1.1s,mb4.7
MLR Muntele Rosu 74.50 328 P **P** **11 52 51.3 -0.8**
comp=Z,4.2nm,0.7s,mb4.5,baz=213,slow=8.1,SNR=6.5
MLR Muntele Rosu 74.50 328⇓ P **P** **11 52 50.8 -1.3**
MLR Muntele Rosu 74.50 328 P **P** **11 52 51.3 -0.8**

MLR pmax pmax
comp=Z,4.0nm,0.7s
WVT Waverly 74.52 50 *eP* **P 11 52 51.2 -0.9**
comp=Z,4.0nm,0.8s,mb4.4
WVT Waverly 74.52 50 *eP* **P 11 52 51.2 -1.0**
WVT pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TIRR Tirgusor 74.58 326 ⇑P **P 11 52 51.7 -0.8**
TIRR Tirgusor 74.58 326 *eP* **P 11 52 50.8 -1.7**
KHC Kasperske Hory 74.69 337 *eP* **P 11 52 52.5 -0.7**
GRF Grafenberg Arr 74.71 339 *eP* **P 11 52 52.8 -0.5**
comp=Z,20nm,0.9s,mb5.0
GRF Grafenberg Arr 74.71 339 *eP* **P 11 52 52.8 -0.5**
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
GRF Grafenberg Arr 74.71 339 *eP* **P 11 52 52.8 -0.5**
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
HGN Heimansgroeve 74.76 343 *eP* **P 11 52 52.8 -0.8**
comp=Z,45nm,0.9s,mb5.4
BEBN Eben Emael 74.78 343 P **P 11 52 53.1 -0.6**
comp=Z,12nm,0.7s,mb4.9
TNS Taunus Mts 74.80 341 *eP* **P 11 52 53.5 -0.3**
comp=Z,20nm,0.8s,mb5.1
TNS Taunus Mts 74.80 341 *eP* **P 11 52 53.5 -0.3**
TNS pmax pmax
comp=Z,20nm,0.8s,mb5.1
WET Wettzell 74.85 338 *eP* **P 11 52 54.0 -0.1**
comp=Z,22nm,1.3s,mb4.9
WET Wettzell 74.85 338 *eP* **P 11 52 54.0 -0.1**
WET pmax pmax
comp=Z,22nm,1.3s,mb4.9
MEM Membach 74.90 342 ⇑P **P 11 52 53.8 -0.6**
comp=Z,46nm,0.8s,mb5.5
GEC2 GERESS Array S 74.93 337 *eP* **P 11 52 54.0 -0.6**
comp=Z,6.0nm,0.9s,mb4.5
GEC2 GERESS Array S 74.93 337 *eP* **P 11 52 54.0 -0.6**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GERES GERESS Array B 74.93 337 P **P 11 52 54.0 -0.6**
comp=Z,3.0nm,0.8s,mb4.3,baz=35,slow=4.9,SNR=12
GERES GERESS Array B 74.93 337 P **P 11 52 54.0 -0.6**
GERES pmax pmax
comp=Z,3.0nm,0.8s
WRAB Tennant Creek 75.07 204 P **P 11 52 56.0 +0.6**
comp=Z,110nm,0.8s,mb5.8,SNR=5.5
WRAB Tennant Creek 75.07 204 *eP* **P 11 52 56.6 +1.2**
comp=Z,17nm,0.8s,mb5.0
WRAB Tennant Creek 75.07 204 *eP* **P 11 52 56.6 +1.2**
WRAB pmax pmax
comp=Z,17nm,0.8s,mb5.0
WB2 Warramunga Arr 75.07 204⇑*iP* **P 11 52 56.6 +1.2**
WRA Warramunga Arr 75.08 204 P **P 11 52 56.7 +1.3**
comp=Z,12nm,0.8s,mb4.9,baz=19,slow=6.0,SNR=64
WRA Warramunga Arr 75.08 204 P **P 11 52 56.7 +1.3**
WRA pmax pmax
comp=Z,13nm,0.8s
SNF Seneffe 75.30 344 P **P 11 52 56.1 -0.6**
GIVF Givet 75.60 343⇑*iP* **P 11 52 57.6 -0.8**
comp=Z,30nm,0.8s,mb5.0
GIVF Givet 75.60 343⇑*iP* **P 11 52 57.6 -0.8**
comp=Z,15nm,0.8s,mb5.0
GIVF Givet 75.60 343⇑*iP* **P 11 52 57.6 -0.8**
GIVF pmax pmax
comp=Z,15nm,0.8s,mb5.0
DOU Dourbes 75.64 343 ⇑P **P 11 52 57.9 -0.8**
comp=Z,9.5nm,0.9s,mb4.7
WLF Walferdange 75.78 342 P **P 11 52 58.4 -1.1**
FITZ Fitzroy Crossi 75.85 213 *eP* **P 11 53 01.8 +1.9**
comp=Z,18nm,0.9s,mb5.0
FUR Furstenfeldbru 76.14 338 *eP* **P 11 53 01.4 -0.1**
comp=Z,34nm,1.1s,mb5.2
FUR Furstenfeldbru 76.14 338 *eP* **P 11 53 01.4 -0.1**
FUR pmax pmax
comp=Z,34nm,1.1s,mb5.2
BFO Black Forest 76.62 340 *eP* **P 11 53 03.5 -0.7**
comp=Z,16nm,0.9s,mb5.0
BFO Black Forest 76.62 340 *eP* **P 11 53 03.8 -0.4**
KBA Koelnbreinsper 76.67 337⇑*iP* **P 11 53 04.8 +0.4**
comp=Z,49nm,1.1s,mb5.3
BRTR Keskin Array B 76.73 320 P **P 11 53 04.1 -0.7**
comp=Z,1.0nm,0.6s,mb3.9,baz=64,slow=3.9,SNR=5.2
BRTR Keskin Array B 76.73 320 P **P 11 53 04.1 -0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
CDF Champ du Feu 76.75 341⇑*iP* **P 11 53 04.4 -0.6**
comp=Z,48nm,0.9s,mb5.1
CDF Champ du Feu 76.75 341⇑*iP* **P 11 53 04.4 -0.6**
comp=Z,24nm,0.9s,mb5.1
CDF Champ du Feu 76.75 341⇑*iP* **P 11 53 04.4 -0.6**
CDF pmax pmax
comp=Z,24nm,0.9s,mb5.1
OBKA Obir 76.90 336⇓*iP* **P 11 53 05.5 -0.3**
comp=Z,16nm,1.2s,mb4.8
MOTA Moosalm 76.95 338⇑*iP* **P 11 53 05.8 -0.2**
comp=Z,16nm,1.0s,mb4.9
MEZF Maizieres J'vi 77.10 342⇑*iP* **P 11 53 06.6 -0.3**
comp=Z,40nm,0.6s,mb5.2
MEZF Maizieres J'vi 77.10 342⇑*iP* **P 11 53 06.6 -0.3**
comp=Z,40nm,0.6s,mb5.5
HAU Haudompre 77.33 341⇑*iP* **P 11 53 08.5 +0.3**
comp=Z,47nm,0.9s,mb5.1
HAU *eR*
comp=Z,107nm,21.2s
HAU Haudompre 77.33 341⇑*iP* **P 11 53 08.5 +0.3**
comp=Z,24nm,0.9s,mb5.1
HAU LR LR
comp=Z,110nm,21.3s,MS4.2
HAU Haudompre 77.33 341⇑*iP* **P 11 53 08.5 +0.3**
HAU pmax pmax
comp=Z,24nm,0.9s,mb5.1
HAU MLR MLR
comp=Z,110nm,21.3s,MS4.2
HINF Hinteralfeld 77.41 341⇑*iP* **P 11 53 07.7 -0.9**
comp=Z,17nm,0.8s,mb4.7
HINF Hinteralfeld 77.41 341⇑*iP* **P 11 53 07.7 -0.9**
comp=Z,8.6nm,0.8s,mb4.7
HINF Hinteralfeld 77.41 341⇑*iP* **P 11 53 07.7 -0.9**
HINF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DAVOX Davos 77.76 339 P **P 11 53 10.4 -0.2**
comp=Z,11nm,0.7s,mb4.9,baz=23,slow=4.8,SNR=10
FLN La Foliniere 77.76 346⇑*iP* **P 11 53 09.7 -0.9**
comp=Z,58nm,1.0s,mb5.1
FLN *eR*
comp=Z,117nm,22.8s
FLN La Foliniere 77.76 346⇑*iP* **P 11 53 09.7 -0.9**
comp=Z,29nm,1.0s,mb5.2
FLN LR LR
comp=Z,120nm,22.8s,MS4.2
FLN La Foliniere 77.76 346⇑*iP* **P 11 53 09.7 -0.9**
FLN pmax pmax
comp=Z,29nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,120nm,22.8s,MS4.2
LDF La Druitiere 77.87 346 *eP* **P 11 53 10.2 -1.0**
comp=Z,24nm,0.9s,mb4.8
LDF La Druitiere 77.87 346 *eP* **P 11 53 10.2 -1.0**
comp=Z,12nm,0.9s,mb4.8
LDF La Druitiere 77.87 346 *eP* **P 11 53 10.2 -1.0**
LDF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRR Gorron 78.18 346 *eP* **P 11 53 12.1 -0.8**
comp=Z,55nm,1.0s,mb5.1
GRR Gorron 78.18 346 *eP* **P 11 53 12.1 -0.8**
comp=Z,27nm,1.0s,mb5.1
GRR Gorron 78.18 346 *eP* **P 11 53 12.1 -0.8**
GRR pmax pmax
comp=Z,27nm,1.0s,mb5.1
LOR Lormes 78.50 343⇑*iP* **P 11 53 14.1 -0.6**
comp=Z,65nm,0.9s,mb5.2
LOR *eR*
comp=Z,123nm,17.5s
LOR Lormes 78.50 343⇑*iP* **P 11 53 14.1 -0.6**
comp=Z,33nm,0.9s,mb5.3
LOR LR LR
comp=Z,120nm,17.5s,MS4.3
LOR Lormes 78.50 343⇑*iP* **P 11 53 14.1 -0.6**
LOR pmax pmax
comp=Z,33nm,0.9s,mb5.3
LOR MLR MLR
comp=Z,120nm,17.5s,MS4.3
SGMF Saint Gilles 78.55 347 *eP* **P 11 53 14.3 -0.7**
comp=Z,51nm,1.0s,mb5.1
SGMF Saint Gilles 78.55 347 *eP* **P 11 53 14.3 -0.7**
comp=Z,26nm,1.0s,mb5.1
SGMF Saint Gilles 78.55 347 *eP* **P 11 53 14.3 -0.7**
SGMF pmax pmax
comp=Z,26nm,1.0s,mb5.1
ROSF Rostrenen 78.56 348 *eP* **P 11 53 14.4 -0.6**
comp=Z,39nm,1.0s,mb5.0
ROSF Rostrenen 78.56 348 *eP* **P 11 53 14.4 -0.6**
comp=Z,20nm,1.0s,mb5.0
ROSF Rostrenen 78.56 348 *eP* **P 11 53 14.4 -0.6**
ROSF pmax pmax
comp=Z,20nm,1.0s,mb5.0
CABF La Chapelle 78.71 341⇑*iP* **P 11 53 15.6 -0.3**
comp=Z,58nm,0.9s,mb5.2
CABF La Chapelle 78.71 341⇑*iP* **P 11 53 15.6 -0.3**
comp=Z,29nm,0.9s,mb5.2
CABF La Chapelle 78.71 341⇑*iP* **P 11 53 15.6 -0.3**
CABF pmax pmax
comp=Z,29nm,0.9s,mb5.2
HYF Humbligny 78.72 344 *eP* **P 11 53 15.7 -0.2**
AS31 Alice Springs 78.76 203⇑*iP* **P 11 53 18.0 +1.9**
ASAR Alice Springs 78.76 203 P **P 11 53 18.1 +2.0**
comp=Z,10nm,0.7s,mb4.9,baz=14,slow=5.5,SNR=154
ASAR Alice Springs 78.76 203 P **P 11 53 18.1 +2.0**
ASAR pmax pmax
comp=Z,10.0nm,0.7s
ASPA Alice Springs 78.76 203⇑*iP* **P 11 53 18.0 +1.9**
SSF Saint Saulge 78.77 343⇑*iP* **P 11 53 15.6 -0.6**
comp=Z,29nm,0.8s,mb5.0
SSF Saint Saulge 78.77 343⇑*iP* **P 11 53 15.6 -0.6**
comp=Z,15nm,0.8s,mb5.0
SSF Saint Saulge 78.77 343⇑*iP* **P 11 53 15.6 -0.6**
SSF pmax pmax
comp=Z,15nm,0.8s,mb5.0
QUIF Quistinic 78.96 348⇑*iP* **P 11 53 16.5 -0.7**
comp=Z,31nm,0.9s,mb4.9
QUIF Quistinic 78.96 348⇑*iP* **P 11 53 16.5 -0.7**
comp=Z,16nm,0.9s,mb4.9
QUIF Quistinic 78.96 348⇑*iP* **P 11 53 16.5 -0.7**
QUIF pmax pmax
comp=Z,16nm,0.9s,mb5.0
AVF Avril sur Loir 79.05 343⇑*iP* **P 11 53 17.2 -0.5**
comp=Z,62nm,0.9s,mb5.2
AVF Avril sur Loir 79.05 343⇑*iP* **P 11 53 17.2 -0.5**
comp=Z,31nm,0.9s,mb5.2
AVF Avril sur Loir 79.05 343⇑*iP* **P 11 53 17.2 -0.5**
AVF pmax pmax
comp=Z,31nm,0.9s,mb5.2
SMF Signal de Mont 79.11 343⇑*iP* **P 11 53 17.5 -0.5**
comp=Z,36nm,0.9s,mb5.0
SMF Signal de Mont 79.11 343⇑*iP* **P 11 53 17.5 -0.5**
comp=Z,18nm,0.9s,mb5.0
SMF Signal de Mont 79.11 343⇑*iP* **P 11 53 17.5 -0.5**
SMF pmax pmax
comp=Z,18nm,0.9s,mb5.0
BGF Bois d'Agland 79.37 343⇑*iP* **P 11 53 19.0 -0.5**
comp=Z,19nm,0.8s,mb4.8
BGF Bois d'Agland 79.37 343⇑*iP* **P 11 53 19.0 -0.5**
comp=Z,9.4nm,0.8s,mb4.8
BGF Bois d'Agland 79.37 343⇑*iP* **P 11 53 19.0 -0.5**
BGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPL La Plagne 79.63 340⇑*iP* **P 11 53 21.4 +0.5**
comp=Z,53nm,0.9s,mb5.2
LPL La Plagne 79.63 340⇑*iP* **P 11 53 21.4 +0.5**
comp=Z,27nm,0.9s,mb5.2
LPL La Plagne 79.63 340⇑*iP* **P 11 53 21.4 +0.5**
LPL pmax pmax
comp=Z,27nm,0.9s,mb5.2
LPG La Plagne 79.65 340⇑*iP* **P 11 53 21.6 +0.6**
comp=Z,61nm,1.0s,mb5.2
LPG La Plagne 79.65 340⇑*iP* **P 11 53 21.6 +0.6**
comp=Z,30nm,1.0s,mb5.2
LPG La Plagne 79.65 340⇑*iP* **P 11 53 21.6 +0.6**
LPG pmax pmax
comp=Z,31nm,1.0s,mb5.2
TCF Toulx Ste Croi 79.74 344⇑*iP* **P 11 53 21.2 -0.3**
comp=Z,38nm,0.9s,mb5.0
TCF Toulx Ste Croi 79.74 344⇑*iP* **P 11 53 21.2 -0.3**
comp=Z,19nm,0.9s,mb5.0
TCF Toulx Ste Croi 79.74 344⇑*iP* **P 11 53 21.2 -0.3**
TCF pmax pmax
comp=Z,19nm,0.9s,mb5.0
MFF Saint Martin d 79.82 345⇑*iP* **P 11 53 21.6 -0.3**
comp=Z,24nm,0.9s,mb4.8
MFF Saint Martin d 79.82 345⇑*iP* **P 11 53 21.6 -0.3**
comp=Z,12nm,0.9s,mb4.8
MFF Saint Martin d 79.82 345⇑*iP* **P 11 53 21.6 -0.3**
MFF pmax pmax
comp=Z,12nm,0.9s,mb4.8
BNI Bardonecchia 80.09 340 *eP* **P 11 53 23.7 +0.3**
comp=Z,33nm,1.4s,mb5.1
BNI Bardonecchia 80.09 340 *eP* **P 11 53 23.7 +0.3**
BNI pmax pmax
comp=Z,33nm,1.4s,mb5.1
ORIF Oris-en-Rattie 80.38 341⇑*iP* **P 11 53 25.3 +0.4**
comp=Z,30nm,0.9s,mb4.9
ORIF *eR*
comp=Z,64nm,20.0s
ORIF Oris-en-Rattie 80.38 341⇑*iP* **P 11 53 25.3 +0.4**
comp=Z,15nm,0.9s,mb4.9
ORIF Oris-en-Rattie 80.38 341⇑*iP* **P 11 53 25.3 +0.4**
ORIF pmax pmax
comp=Z,15nm,0.9s,mb4.9
MBDF Montbardon 80.38 340⇑*iP* **P 11 53 24.8 -0.1**
comp=Z,14nm,0.7s,mb4.7
MBDF Montbardon 80.38 340⇑*iP* **P 11 53 24.8 -0.1**
comp=Z,7.1nm,0.7s,mb4.7
MBDF Montbardon 80.38 340⇑*iP* **P 11 53 24.8 -0.1**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
VIVF Saint-Julien-l 80.67 342⇑*iP* **P 11 53 26.6 +0.1**
comp=Z,49nm,0.9s,mb5.2
VIVF Saint-Julien-l 80.67 342⇑*iP* **P 11 53 26.6 +0.1**
comp=Z,25nm,0.9s,mb5.1
VIVF Saint-Julien-l 80.67 342⇑*iP* **P 11 53 26.6 +0.1**
VIVF pmax pmax
comp=Z,25nm,0.9s,mb5.1
RJF Les Rejaudoux 80.81 344⇑*iP* **P 11 53 27.2 0.0**
comp=Z,29nm,0.9s,mb4.9
RJF *eR*
comp=Z,122nm,19.2s
RJF Les Rejaudoux 80.81 344⇑*iP* **P 11 53 27.2 0.0**
comp=Z,14nm,0.9s,mb4.9
RJF LR LR
comp=Z,120nm,19.3s,MS4.3
RJF Les Rejaudoux 80.81 344⇑*iP* **P 11 53 27.2 0.0**
RJF pmax pmax
comp=Z,14nm,0.9s,mb4.9
RJF MLR MLR
comp=Z,120nm,19.3s,MS4.3
SBF Sospel 81.06 340⇑*iP* **P 11 53 28.9 +0.3**
comp=Z,25nm,0.6s,mb5.0
SBF Sospel 81.06 340⇑*iP* **P 11 53 28.9 +0.3**
comp=Z,12nm,0.6s,mb5.0
SBF Sospel 81.06 340⇑*iP* **P 11 53 28.9 +0.3**
SBF pmax pmax
comp=Z,12nm,0.6s,mb5.0
CAF Calviac 81.09 344⇑*iP* **P 11 53 29.1 +0.4**
comp=Z,47nm,0.8s,mb5.2
CAF Calviac 81.09 344⇑*iP* **P 11 53 29.1 +0.4**
comp=Z,24nm,0.8s,mb5.2
CAF Calviac 81.09 344⇑*iP* **P 11 53 29.1 +0.4**
CAF pmax pmax
comp=Z,23nm,0.8s,mb5.2
LFF La Frestale 81.30 344⇑*iP* **P 11 53 30.1 +0.3**
comp=Z,31nm,0.7s,mb5.0
LFF La Frestale 81.30 344⇑*iP* **P 11 53 30.1 +0.3**
comp=Z,16nm,0.7s,mb5.0
LFF La Frestale 81.30 344⇑*iP* **P 11 53 30.1 +0.3**
LFF pmax pmax
comp=Z,16nm,0.7s,mb5.1
SMRF Simiane la Rot 81.34 341 *eP* **P 11 53 30.6 +0.5**
comp=Z,14nm,0.9s,mb4.6
SMRF Simiane la Rot 81.34 341 *eP* **P 11 53 30.6 +0.5**
comp=Z,14nm,0.9s,mb4.9
LASF Ste Croix 81.58 342⇑*iP* **P 11 53 31.7 +0.4**
comp=Z,8.8nm,0.7s,mb4.5
LMR La Mourre 81.77 340⇑*iP* **P 11 53 31.8 -0.5**
comp=Z,21nm,0.8s,mb4.8
LMR La Mourre 81.77 340⇑*iP* **P 11 53 31.8 -0.5**
comp=Z,10nm,0.8s,mb4.8
LMR La Mourre 81.77 340⇑*iP* **P 11 53 31.8 -0.5**
LMR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PGF Pioggiola 81.97 338⇑*iP* **P 11 53 33.3 -0.1**
comp=Z,18nm,0.6s,mb4.9
PGF Pioggiola 81.97 338⇑*iP* **P 11 53 33.3 -0.1**
comp=Z,9.1nm,0.6s,mb4.9
PGF Pioggiola 81.97 338⇑*iP* **P 11 53 33.3 -0.1**
PGF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
MTLF Montolieu 82.59 343⇑*iP* **P 11 53 36.9 +0.3**
comp=Z,38nm,1.0s,mb5.1
MTLF Montolieu 82.59 343⇑*iP* **P 11 53 36.9 +0.3**
comp=Z,19nm,1.0s,mb5.1
MTLF Montolieu 82.59 343⇑*iP* **P 11 53 36.9 +0.3**
MTLF pmax pmax
comp=Z,19nm,1.0s,mb5.1
PPT Papeete 82.69 131 LR LR 12 22 00.4
comp=Z,54nm,21.3s,MS3.9,baz=315,slow=29
TIP Timpagrande 83.09 331 *eP* **P 11 53 38.7 -0.5**
TIP *ep*P pP 11 53 53.5 -0.8
EPF Esparros 83.22 344⇑*iP* **P 11 53 39.5 -0.4**
comp=Z,27nm,0.9s,mb5.0
EPF Esparros 83.22 344⇑*iP* **P 11 53 39.5 -0.4**
comp=Z,14nm,0.9s,mb5.0
EPF Esparros 83.22 344⇑*iP* **P 11 53 39.5 -0.4**
EPF pmax pmax
comp=Z,14nm,0.9s,mb5.0
SJPF Ste Jean 83.39 345 *eP* **P 11 53 41.4 +0.7**
comp=Z,56nm,1.0s,mb5.2
SJPF Ste Jean 83.39 345 *eP* **P 11 53 41.4 +0.7**
comp=Z,28nm,1.0s,mb5.2
SJPF Ste Jean 83.39 345 *eP* **P 11 53 41.4 +0.7**
SJPF pmax pmax
comp=Z,28nm,1.0s,mb5.2
ETSF Etsaut 83.50 345⇑*iP* **P 11 53 41.8 +0.5**
comp=Z,31nm,0.7s,mb5.1
ETSF Etsaut 83.50 345⇑*iP* **P 11 53 41.8 +0.5**
comp=Z,15nm,0.7s,mb5.1
ETSF Etsaut 83.50 345⇑*iP* **P 11 53 41.8 +0.5**
ETSF pmax pmax
comp=Z,15nm,0.7s,mb5.1
STKA Stephens Creek 85.20 195 P **P 11 53 49.4 -0.5**
comp=Z,4.3nm,0.8s,mb4.6,baz=340,slow=7.3,SNR=8.1
ESDC Sonseca Array 87.16 347 P **P 11 53 58.6 -1.0**
comp=Z,4.4nm,0.7s,mb4.8,baz=359,slow=4.8,SNR=10
MDT Midelt 93.99 346 P **P 11 54 30.3 -1.2**
comp=Z,2.0nm,0.7s,mb4.7,baz=52,slow=3.2,SNR=4.9
TORD Torodi Ar. Bea 111.87 336 PKiKP PKiKP 11 59 48.4 +0.1
comp=Z,0.8nm,0.6s,baz=4.1,slow=1.9,SNR=7.4
DBIC Dimbokro 119.61 341 PKIKP PKPdf 12 00 03.0 -0.1
comp=Z,5.5nm,0.6s,baz=7.7,slow=2.4,SNR=17
DBIC Dimbokro 119.61 341 PKIKP PKPdf 12 00 03.0 -0.1
DBIC pmax pmax
comp=Z,6.0nm,0.6s
LPAZ La Paz 128.46 64 PKP PKPdf 12 00 20.9 +0.9
comp=Z,0.9nm,0.8s,baz=344,slow=8.2,SNR=5.2
LPAZ La Paz 128.46 64 PKIKP PKPdf 12 00 21.0 +0.9
LPAZ pmax pmax
comp=Z,10.0nm,0.8s
PLCA Paso Flores 144.74 91 PKP PKPdf 12 00 48.9 -1.2
comp=Z,9.7nm,0.7s,baz=292,slow=3.7,SNR=33
PLCA Paso Flores 144.74 91 *e*PKIKP PKPdf 12 00 48.6 -1.4
TRQA Tornquist 148.33 80 *e*PKPbc PKPbc 12 00 58.9 -0.7

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*IDC **02** 11:51:52.5±2.0, 6330N×151.11W, h97km±33km, mb3.0/1, mb1 2.8/4, mb1mx2.7/18, mbtmp3.0/4, Error ellipse: s-maj=44.5km s-min=11.3km az=114.0*
*ISCJB **02** 11:51:54.7±0.6, 6330N±003×1505W±01, h132km±5km, mb3.3/1, Error ellipse: s-maj=8.6km s-min=4.7km az=29.3*
*NEIC **02** 11:51:56.6, 6331N×150.46W, h121km, MG2.7(AEIC), After AEIC.*

ISC 02 11:51:55.6±0.6, 6330N±003×1505W±01, h129km±5km, n23, σ0§82/36, mb3.3/1, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.18**	**34**	P	**Pn**	**11 52 13.7**	**+0.5**
TRF				S	**Sn**	**11 52 26.4**	**-0.1**
KTH	**Kantishna Hill**	**0.31**	**323**	P	**Pn**	**11 52 14.1**	**+0.5**
KTH				S	**Sn**	**11 52 27.0**	**-0.2**
MCK	**McKinley**	**0.82**	**58**	P	**Pn**	**11 52 17.0**	**+0.2**
MCK				S	**Sn**	**11 52 32.1**	**-0.8**
GHO	**Glory Hole Cre**	**1.70**	**154**	P	**Pn**	**11 52 26.6**	**+0.7**
GHO				S	**Sn**	**11 52 50.2**	**+1.2**
SML	**Sawmill**	**1.81**	**145**	P	**Pn**	**11 52 26.9**	**-0.3**
SML				S	**Sn**	**11 52 51.4**	**+0.1**
PMR	**Palmer**	**1.83**	**159**	P	**Pn**	**11 52 27.3**	**-0.2**
PMR				S	**Sn**	**11 52 51.0**	**-0.8**
COLA	**College**	**1.96**	**35**	P	**Pn**	**11 52 28.9**	**-0.1**
COLA				S	**Sn**	**11 52 54.0**	**-0.6**
FIB	**Fire Island**	**2.15**	**176**	P	**Pn**	**11 52 32.4**	**+1.1**
FIB				S	**Sn**	**11 53 00.1**	**+1.4**
ILAR	**Eielson Array**	**2.17**	**46**	P	**Pn**	**11 52 31.4**	**-0.1**
	1.4nm,0.3s,baz=227,slow=13,SNR=105						
ILAR				S	**Sn**	**11 52 58.5**	**-0.6**
	2.2nm,0.3s,baz=239,slow=16,SNR=9.6						
IL1	**Eielson Array**	**2.17**	**46**	P	**Pn**	**11 52 31.4**	**-0.1**
IL1				S	**Sn**	**11 52 59.6**	**+0.5**
RC01	**Rabbit Creek A**	**2.25**	**170**	P	**Pn**	**11 52 32.6**	**0.0**
RC01				S	**Sn**	**11 52 59.9**	**-1.1**
PAX	**Paxson**	**2.31**	**96**	P	**Pn**	**11 52 33.7**	**+0.4**
TT01	**Tatalina**	**2.54**	**263**	P	**Pn**	**11 52 36.8**	**+0.6**
SLKM	**Skilak Lake**	**2.81**	**177**	*e*Pn	**Pn**	**11 52 40.2**	**+0.5**
SLKM				*e*Sn	**Sn**	**11 53 12.1**	**-1.5**
MENT	**Mentasta**	**3.10**	**94**	*e*P	**Pn**	**11 52 43.4**	**-0.1**
SVW2	**Sparrevohn**	**3.25**	**229**	*e*P	**Pn**	**11 52 46.1**	**+0.7**
EYAK	**Cordova Ski Ar**	**3.56**	**139**	P	**Pn**	**11 52 49.2**	**-0.3**
BMRM	**Bremner River**	**3.63**	**128**	P	**Pn**	**11 52 50.0**	**-0.4**
DAWY	**Dawson**	**5.01**	**76**	*e*Pn	**Pn**	**11 53 08.8**	**+0.1**
KDAK	**Kodiak Island**	**5.63**	**191**	P	**Pn**	**11 53 14.8**	**-2.3**
	0.4nm,0.3s,baz=56,slow=15,SNR=5.7						
KDAK				S	**Sn**	**11 54 15.2**	**-5.5**
	2.1nm,0.3s,baz=341,slow=20,SNR=16						
YKA	**Yellowknife Ar**	**16.25**	**77**	P	**Pn**	**11 55 38.5**	**+2.2**
	baz=296,slow=10,SNR=4.3						
YKA	**Yellowknife Ar**	**16.25**	**77**	P	**Pn**	**11 55 38.5**	**+2.2**
MKAR	**Makanchi Array**	**62.57**	**322**	P	**P**	**12 02 04.5**	**-1.3**
	0.2nm,0.4s,mb3.3,baz=32,slow=4.9,SNR=4.8						

CASC 02 11:59:03.8±1.9, 1147N×8603W, h175km±6km, MD3.8, 9C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.41**	**76**	*e*P	Pn	11 59 28.6	+1.0
CONN				*e*S	Sn	11 59 48.1	+2.3
APON	**Apoyo**	**0.45**	**356**	*e*P	Pn	11 59 28.2	+0.4
MADN	**Villa Maderas**	**0.49**	**97**	⇓*e*P	Pn	11 59 28.4	+0.5
TICN	**Ticuantepe**	**0.60**	**341**	*e*P	Pn	11 59 29.0	+0.6
WILN	**Americas 2**	**0.71**	**348**	⇑*i*P	Pn	11 59 29.5	+0.5
WILN				*e*S	Sn	11 59 49.0	+0.6
MGAN	**Managua**	**0.71**	**343**	⇑*i*P	Pn	11 59 29.6	+0.6
MGAN				*e*S	Sn	11 59 48.8	+0.5
XAVN	**Gruta Xavier**	**0.74**	**337**	⇑*e*P	Pn	11 59 29.6	+0.4
APYN	**Apoyeque**	**0.82**	**338**	*e*P	Pn	11 59 30.1	+0.4
COPN	**Copaltepe**	**0.90**	**322**	⇓*e*P	Pn	11 59 30.2	0.0
COPN				*e*S	Sn	11 59 50.7	+0.2
MOMJ	**Momotombo**	**1.06**	**332**	*e*P	Pn	11 59 31.4	0.0
MOMJ				*e*S	Sn	11 59 53.3	+0.6
MIRN	**Miramar**	**1.17**	**326**	*e*P	Pn	11 59 32.7	+0.4
MIRN				*e*S	Sn	11 59 54.9	+0.6
CNGN	**Cerro Negro**	**1.22**	**328**	⇑*e*P	Pn	11 59 32.6	-0.1
CNGN				*e*S	Sn	11 59 56.7	+1.7
LEON	**Leon**	**1.26**	**318**	⇑*e*P	Pn	11 59 33.2	+0.1
LEON				*e*S	Sn	11 59 55.5	-0.3
TEL3	**Telica 3**	**1.36**	**324**	⇑*e*P	Pn	11 59 34.5	+0.5
TEL3				*e*S	Sn	11 59 58.5	+1.3
TELN	**Telica**	**1.37**	**325**	*e*P	Pn	11 59 34.0	-0.1
TELN				*e*S	Sn	11 59 58.6	+1.1
VCR	**Vista de Mar**	**1.39**	**163**	⇑*e*P	Pn	11 59 35.2	+1.0
CRIN	**San Cristobal**	**1.58**	**321**	*e*P	Pn	11 59 36.4	+0.4
CRIN				*e*S	Sn	12 00 02.6	+1.6
CGA2	**Cerro Gallo 2**	**2.11**	**133**	*e*P	Pn	11 59 43.5	+1.8
CGA2				*e*S	Sn	12 00 11.6	+0.6
PRS1	**Puriscal**	**2.24**	**131**	*e*P	Pn	11 59 45.1	+1.9
LAJ	**Bijagual**	**2.46**	**130**	*e*P	Pn	11 59 45.1	-0.6
LCR2	**La Lucha 2**	**2.63**	**130**	*e*P	Pn	11 59 48.8	+1.1
LCR2				*e*S	Sn	12 00 22.7	+0.9
BUS	**Buena Vista**	**2.93**	**130**	⇑*e*P	Pn	11 59 53.1	+1.7
BUS				*e*S	Sn	12 00 29.3	+0.9

ISC 02 12:07:52.9±0.9, 4854N±006×2083E±006, h0km, n6, σ1§01/12, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.24**	**257**	*e*PG	**Pg**	**12 07 57.6**	**+0.2**

KECS				*e*SG		**Sg**	**12 08 01.5 +1.1**
CRVS	**Cervenica-Dubn**	**0.56**	**49**	*e*PG		**Pg**	**12 08 04.3 +0.8**
CRVS				*e*SG		**Sg**	**12 08 12.3 +1.6**
STHS	**Stebnicka Huta**	**0.92**	**17**	*e*PN		**Pn**	**12 08 11.4 -1.6**
STHS				*e*SN		**Sn**	**12 08 24.9 -2.1**
NIE	**Niedzica**	**0.95**	**339**	*e*Pg		**Pg**	**12 08 11.0 0.0**
NIE				e			12 08 13.4
NIE				*e*Sg		**Sg**	**12 08 24.2 +0.9**
KOLS	**Kolonicke sedl**	**1.03**	**67**	*e*PN		**Pn**	**12 08 14.5 -0.1**
KOLS				*e*SN		**Sn**	**12 08 29.7 -0.1**
VYHS	**Vyhne**	**1.33**	**269**	*e*PN		**Pn**	**12 08 18.1 -0.5**
VYHS				*e*SN		**Sn**	**12 08 36.4 -0.6**

MAN 02 12:09:19.9, 883N×12622E, h21km, mb3.4, ML4.6, MS2.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.61**	**283**	*e*P		Pb	12 09 32.6 +0.8
BUTP				*e*S		Sb	12 09 43.6 +3.6
BIPH	**Bislig**	**0.65**	**168**	⇓*i*P		Pb	12 09 32.2 -0.4
BIPH				*i* S		Sb	12 09 41.8 +0.6
SCPH	**Surigao**	**1.19**	**323**	*e*P		Pn	12 09 41.0 -0.3
BUKP	**Musuan**	**1.49**	**231**	*e*P		Pn	12 09 45.1 -0.3
BUKP				*e*S		Sn	12 10 05.5 +1.4
CGP	**Cagayan de Oro**	**1.56**	**256**	⇑*i*P		Pn	12 09 45.3 -1.0
CGP				*i* S		Sn	12 10 04.7 -1.2
MSLP	**Maasin**	**1.87**	**314**	*e*P		Pn	12 10 02.3 +12
PAGZ	**Pagadian**	**2.98**	**251**	*e*P		Pn	12 10 06.2 +0.3

OMAN ***02*** *12:15:28.1, 3376N×5692E, h35km, Error ellipse: s-maj=329.9km s-min=72.3km az=11.0*
TEH ***02*** *12:16:10.6, 2803N×5676E, h26km, ML4.0*
IDC ***02*** *12:16:39.5±1.0, 2810N×5679E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/24, mbtmp4.2/16, MS3.5/5, Ms1 3.5/5, ms1mx3.2/24, Error ellipse: s-maj=22.6km s-min=17.3km az=157.0*
ISCJB ***02*** *12:16:39.7±0.3, 28.17N±002×5698E±005, h10km, mb4.2/31, MS3.4/6, Error ellipse: s-maj=5.9km s-min=3.4km az=172.2*
CSEM ***02*** *12:16:42.6±0.1, 2817N×5687E, h35km, mb4.4/15, Error ellipse: s-maj=2.9km s-min=1.7km az=91.0*
NEIC ***02*** *12:16:43.4, 2821N×5676E, h16km, mb4.3/15, ML4.2(THR), MN4.0(TEH), After THR.*
THR ***02*** *12:16:43.4±0.5, 2821N×5676E, h16km±4km, ML4.2*
MOS ***02*** *12:16:46.3±1.1, 2872N×5684E, h33km, mb4.4/5, Error ellipse: s-maj=19.2km s-min=10.1km az=108.8*
ISC 02 12:16:41.4±0.3, 2816N±002×5695E±005, h10km, n117, σ1§31/122, mb4.2/31, MS3.4/6, 14C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.02**	**222**	*e*PG		**Pg**	**12 17 01.4 +0.3**
BNDS				*e*SG		**Sg**	**12 17 15.0 +0.6**
BNDS				AML	AML	12 17 20.2	
	comp=N,7μm,0.4s						
BNDS				AML	AML	12 17 22.5	
	comp=E,7μm,0.5s						
BNDS	**Bandar-Abbas**	**1.02**	**222**	*e*Pg		**Pg**	**12 17 01.4 +0.3**
	SNR=91						
BNDS				*e*Sg		**Sg**	**12 17 15.0 +0.6**
	SNR=91						
BNDS	**Bandar-Abbas**	**1.02**	**222**	*e*Pg		**Pg**	**12 17 01.4 +0.3**
BNDS				*e*Sg		**Sg**	**12 17 15.0 +0.6**
KRBR	**Kerman**	**1.82**	**355**	*e*PG		**Pg**	**12 17 15.8 -0.5**
KRBR				AML	AML	12 17 46.7	
	comp=E,3μm,0.7s						
BANOM	**Banah**	**2.30**	**195**	⇓P		**Pn**	**12 17 20.1 +0.7**
	SNR=78						
GHIR	**Ghir-Karzin**	**3.50**	**273**	*e*PN		**Pn**	**12 17 36.8 +1.0**
ASHO	**Ashiyiah**	**3.55**	**193**	⇑P		**Pn**	**12 17 37.7 +1.1**
	SNR=29						
IBAF	**Bafgh**	**3.62**	**341**	*e*Pn		**Pn**	**12 17 40.3 +2.8**
IBAF				*e*Sg		**Sg**	**12 18 41.2 +3.5**
ZHSF	**Zahedan**	**3.65**	**66**	*e*PN		**Pn**	**12 17 43.5 +5.5**
IMEH	**Mehriz**	**3.80**	**328**	*e*Pn		**Pn**	**12 17 42.5 +2.5**
IPAR	**Pars**	**3.80**	**297**	*e*Pn		**Pn**	**12 17 41.4 +1.4**
IPAR	**Pars**	**3.80**	**297**	Pn		**Pn**	**12 17 41.3 +1.3**
IMOK	**Mook**	**3.83**	**284**	*e*Pn		**Pn**	**12 17 40.6 +0.3**
HOQ	**Hoqain**	**4.57**	**176**	⇑P		**Pn**	**12 17 50.6 0.0**
	SNR=21						
ICHK	**Chekchek**	**4.62**	**332**	*e*Pn		**Pn**	**12 17 54.0 +2.7**
ICHK				*e*Lg			12 19 11.9
ICHK	**Chekchek**	**4.62**	**332**	Pn		**Pn**	**12 17 53.9 +2.6**
ICHK				Lg			12 19 11.8
ISAD	**Sadrabad**	**4.69**	**324**	*e*Pn		**Pn**	**12 17 55.0 +2.8**
ISAD	**Sadrabad**	**4.69**	**324**	Pn		**Pn**	**12 17 54.9 +2.7**
BIDO	**Bidbid**	**4.74**	**167**	⇑P		**Pn**	**12 17 52.2 -0.7**
	SNR=20						
ARQ	**Araqi**	**4.82**	**185**	⇑P		**Pn**	**12 17 55.2 +1.3**
	SNR=7.8						
ARQ	**Araqi**	**4.82**	**185**	P		**Pn**	**12 17 55.2 +1.2**
	SNR=7.8						
SMDO	**Samad**	**5.18**	**169**	⇓P		**Pn**	**12 18 00.1 +1.3**
	SNR=25						
BSY	**Bisya**	**5.40**	**178**	⇓P		**Pn**	**12 18 03.4 +1.5**
	SNR=18						
BSYO	**Bisya**	**5.41**	**177**	P		**Pn**	**12 18 03.4 +1.3**
	SNR=18						
WBK	**Wadi Bani Khal**	**5.82**	**161**	⇑P		**Pn**	**12 18 08.2 +0.5**
	SNR=14						
NASN	**Na'in**	**5.84**	**323**	*e*PN		**Pn**	**12 18 10.2 +2.2**
NASN	**Na'in**	**5.84**	**323**	*e*Pn		**Pn**	**12 18 10.2 +2.2**
	SNR=52						
JMDO	**Jabal Madar**	**5.86**	**169**	⇓P		**Pn**	**12 18 09.2 +0.9**
	SNR=18						
IANJ	**Anjiloo**	**7.73**	**341**	*e*Pn		**Pn**	**12 18 36.6 +2.7**
IANJ				*e*Lg			12 20 48.8
IANJ	**Anjiloo**	**7.73**	**341**	Pn		**Pn**	**12 18 36.5 +2.6**
IANJ				Lg			12 20 48.7
IVRN	**Varamin**	**8.14**	**328**	*e*Pn		**Pn**	**12 18 41.6 +2.1**
ISHM	**Shahmirzad**	**8.23**	**339**	*e*Pn		**Pn**	**12 18 33.9 -6.9**
IGLO	**Galoogah**	**8.63**	**341**	*e*Pn		**Pn**	**12 18 50.4 +4.1**
IGLO	**Galoogah**	**8.63**	**341**	Pn		**Pn**	**12 18 50.3 +4.0**
ASAO	**Ashtian**	**8.69**	**319**	*e*PN		**Pn**	**12 18 49.5 +2.3**
CHTH	**Charan**	**9.17**	**329**	*e*PN		**Pn**	**12 18 55.8 +2.1**
WHFO	**Wadi Hawf**	**10.61**	**197**	⇓P		**Pn**	**12 19 11.3 -2.1**
	SNR=11						
ABTO	**Aybut**	**11.27**	**198**	⇑P		**Pn**	**12 19 19.5 -2.9**
	SNR=19						
GNI	**Garni**	**15.63**	**323**	Pn		**Pn**	**12 20 25.9 +4.1**
	comp=E,0.7nm,0.3s,baz=34,slow=6.0,SNR=5.5						
GNI	**Garni**	**15.63**	**323**	*i* P		**Pn**	**12 20 24.7 +3.0**
GNI	**Garni**	**15.63**	**323**	*e*P		**Pn**	**12 20 27.6 +5.9**
	comp=E,12nm,0.9s						
ZEI	**Tsey**	**18.01**	**327**	*e*P		**Pn**	**12 20 53.7 +2.0**
MALT	**Malatya**	**18.48**	**308**	*e*P		**Pn**	**12 20 59.2 +1.7**
	comp=E,9.9nm,0.9s						
MALT	**Malatya**	**18.48**	**308**	*e*P		**Pn**	**12 20 59.2 +1.7**
	comp=E,9.9nm,0.9s						
KIV	**Kislovodsk**	**19.48**	**328**	*e*P		**Pn**	**12 21 08.5 -1.1**
	comp=E,100nm,21.0s						
KIV	**Kislovodsk**	**19.48**	**328**	⇑*e*P		**Pn**	**12 21 08.5 -1.1**
KIV				pmax	pmax		
	comp=Z,15nm,1.2s						
KIV				MLR	MLR		
	comp=Z,100nm,21.0s						
GOF	**Gofitskoye**	**20.18**	**330**	*e*P		**P**	**12 21 14.0 -2.0**
GOF				pmax	pmax		
	comp=Z,30nm,0.8s						
SOC	**Sochi**	**20.72**	**323**	*e*P		**P**	**12 21 19.5 -2.3**
SOC				*e*S		**S**	**12 24 57.9 -15**
SOC				*e**SS		sS	12 25 44.1 +26
SOC				MLR	MLR		
	comp=Z,205nm,13.0s,MS3.7						
AKTK	**Aktyubinsk**	**22.26**	**2**	P		**P**	**12 21 39.3 +0.9**
AKTK	**Aktyubinsk**	**22.26**	**2**	P		**P**	**12 21 39.4 +0.9**
AKTK				LR	LR		12 31 59.2
AKTO	**Aktyubinsk**	**22.26**	**2**	P		**P**	**12 21 39.4 +0.9**
	comp=Z,6.1nm,0.8s,mb4.1,baz=180,slow=11,SNR=16						
AKTO				LR	LR		12 31 59.2
	comp=Z,223nm,18.7s,MS3.6,baz=0.0,slow=41						
BRTR	**Keskin Array B**	**22.45**	**307**	P		**P**	**12 21 40.4 -0.1**
	comp=Z,5.3nm,0.8s,mb4.0,baz=110,slow=11,SNR=27						
BRTR	**Keskin Array B**	**22.45**	**307**	P		**P**	**12 21 40.3 -0.1**
BRTR	**Keskin Array B**	**22.45**	**307**	*i* P		**P**	**12 21 40.4 0.0**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BR131	**Keskin Array S**	**22.45**	**307**	*e*P		**P**	**12 21 41.5 +1.1**
	comp=Z,6.0nm,0.8s,mb4.1						
BR131	**Keskin Array S**	**22.45**	**307**	*e*P		**P**	**12 21 41.5 +1.1**
	comp=Z,6.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**26.33**	**17**	*e*P		**P**	**12 22 17.2 -0.1**
	comp=Z,7.4nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**26.33**	**17**	*e*P		**P**	**12 22 17.2 -0.1**
	comp=Z,7.4nm,1.0s,mb4.2						
BVAR	**Borovoye Array**	**26.76**	**18**	P		**P**	**12 22 21.7 +0.5**
	comp=Z,7.4nm,0.7s,mb4.3,baz=200,slow=8.9,SNR=51						
BRVK	**Borovoye**	**26.76**	**18**	*e*P		**P**	**12 22 21.5 +0.2**
	comp=Z,3.9nm,0.9s,mb3.9						
BRVK	**Borovoye**	**26.76**	**18**	*e*P		**P**	**12 22 21.5 +0.3**
	comp=Z,3.9nm,0.9s,mb3.9						
MKAR	**Makanchi Array**	**27.20**	**40**	P		**P**	**12 22 26.2 +1.0**
	comp=Z,1.8nm,0.8s,mb3.7,baz=231,slow=7.7,SNR=22						
MKAR	**Makanchi Array**	**27.20**	**40**	⇑*e*P		**P**	**12 22 26.2 +1.0**
KURK	**Kurchatov**	**27.87**	**30**	*i* P		**P**	**12 22 31.4 +0.2**
KURK	**Kurchatov**	**27.87**	**30**	*e*P		**P**	**12 22 31.9 +0.8**
	comp=Z,1.8nm,0.8s,mb3.8						
IDI	**Anoyia**	**28.09**	**293**	P		**P**	**12 22 32.8 -0.4**
	comp=Z,2.5nm,0.2s,mb4.4,baz=70,slow=22,SNR=6.3						
OBN	**Obninsk**	**30.71**	**337**	*e*P		**P**	**12 22 56.2 -0.2**
	comp=Z,26nm,1.4s,mb4.9						
OBN	**Obninsk**	**30.71**	**337**	⇑*e*P		**P**	**12 22 56.2 -0.2**
OBN				pmax	pmax		
	comp=Z,26nm,1.4s,mb4.9						
AKASG	**Malin Array Be**	**30.76**	**325**	P		**P**	**12 22 55.6 -1.2**
	comp=Z,0.8nm,0.5s,mb3.8,baz=132,slow=8.1,SNR=7.7						
AKASG	**Malin Array Be**	**30.76**	**325**	*i* P		**P**	**12 22 55.5 -1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVS	**Novosibirsk**	**32.77**	**28**	*e*P		**P**	**12 23 07.1 -7.4**
ZAL	**Zalesovo**	**32.84**	**31**	P		**P**	**12 23 15.2 +0.1**
	comp=Z,4.0nm,0.7s,mb4.5,baz=238,slow=8.0,SNR=25						
ZAL				LR	LR		12 39 40.3
	comp=Z,58nm,19.6s,MS3.3,baz=26,slow=42						
ZAL	**Zalesovo**	**32.84**	**31**	⇑*e*P		**P**	**12 23 15.1 0.0**
OJC	**Ojcow**	**35.72**	**318**	*e*P		**P**	**12 23 39.4 -0.7**
JOF	**Joensuu**	**38.58**	**341**	*e*p		**P**	**12 24 02.8 -1.6**
	comp=Z,6.1nm,0.9s,mb4.3						
JOF	**Joensuu**	**38.58**	**341**	*e*P		**P**	**12 24 02.8 -1.6**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**38.98**	**314**	P		**P**	**12 24 07.2 -0.6**
	comp=Z,1.2nm,0.7s,mb3.8,baz=108,slow=8.7,SNR=8.1						
FINES	**FINESS Array B**	**39.11**	**337**	P		**P**	**12 24 08.1 -0.8**
	comp=Z,6.7nm,0.6s,mb4.6,baz=128,slow=11,SNR=37						
FINES				LR	LR		12 44 28.8
	comp=Z,46nm,19.1s,MS3.3,baz=166,slow=43						
FINES	**FINESS Array B**	**39.11**	**337**	⇑*e*P		**P**	**12 24 08.1 -0.8**
KHC	**Kasperske Hory**	**39.14**	**314**	*e*P		**P**	**12 24 08.4 -0.7**
KAF	**Kangasniemi**	**39.51**	**338**	*e*p		**P**	**12 24 09.5 -2.6**
	comp=Z,2.9nm,0.8s,mb4.1						
KAF	**Kangasniemi**	**39.51**	**338**	*e*P		**P**	**12 24 09.5 -2.6**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
SONM	**Songino Array**	**42.80**	**49**	P		**P**	**12 24 40.0 +0.8**
	comp=Z,0.6nm,0.7s,mb3.4,baz=261,slow=7.6,SNR=6.8						
MBDF	**Montbardon**	**42.92**	**306**	*e*P		**P**	**12 24 39.1 -1.1**
	comp=Z,17nm,1.0s,mb4.4						
MBDF	**Montbardon**	**42.92**	**306**	*e*P		**P**	**12 24 39.1 -1.1**
	comp=Z,8.6nm,1.0s,mb4.4						
LPG	**La Plagne**	**43.01**	**308**	*e*P		**P**	**12 24 39.5 -1.4**
	comp=Z,11nm,0.8s,mb4.3						
LPG	**La Plagne**	**43.01**	**308**	*e*P		**P**	**12 24 39.5 -1.4**
	comp=Z,5.4nm,0.8s,mb4.3						
LPL	**La Plagne**	**43.02**	**308**	*e*P		**P**	**12 24 40.2 -0.8**
	comp=Z,35nm,1.2s,mb4.7						
LPL	**La Plagne**	**43.02**	**308**	*e*P		**P**	**12 24 40.2 -0.8**
	comp=Z,18nm,1.2s,mb4.7						
CABF	**La Chapelle**	**43.59**	**309**	*e*P		**P**	**12 24 44.4 -1.2**
VIVF	**Saint-Julien-l**	**44.42**	**307**	*e*P		**P**	**12 24 50.3 -2.0**
	comp=Z,9.7nm,1.0s,mb4.2						
VIVF	**Saint-Julien-l**	**44.42**	**307**	*e*P		**P**	**12 24 50.3 -2.0**
	comp=Z,4.8nm,1.0s,mb4.2						
NOA	**NORSAR Array B**	**44.76**	**330**	P		**P**	**12 24 53.5 -1.5**
	comp=Z,1.8nm,0.8s,mb4.0,baz=116,slow=8.0,SNR=4.4						
NOA				LR	LR		12 46 53.4
	comp=Z,35nm,20.4s,MS3.3,baz=285,slow=40						
SMF	**Signal de Mont**	**45.13**	**309**	*e*P		**P**	**12 24 56.8 -1.2**
	comp=Z,15nm,0.8s,mb4.6						
SMF	**Signal de Mont**	**45.13**	**309**	*e*P		**P**	**12 24 56.8 -1.2**
	comp=Z,7.5nm,0.8s,mb4.6						
LOR	**Lormes**	**45.18**	**310**	*e*P		**P**	**12 24 57.0 -1.3**
ARCES	**ARCESS Array B**	**45.22**	**345**	P		**P**	**12 24 57.9 -0.7**
	comp=Z,2.9nm,0.8s,mb4.2,baz=134,slow=7.7,SNR=5.9						
SSF	**Saint Saulge**	**45.40**	**310**	*e*P		**P**	**12 24 59.1 -1.0**
	comp=Z,22nm,1.1s,mb4.6						
SSF	**Saint Saulge**	**45.40**	**310**	*e*P		**P**	**12 24 59.1 -1.0**
	comp=Z,11nm,1.1s,mb4.6						
AVF	**Avril sur Loir**	**45.48**	**309**	*e*P		**P**	**12 24 59.3 -1.4**
	comp=Z,8.0nm,0.7s,mb4.3						
AVF	**Avril sur Loir**	**45.48**	**309**	*e*P		**P**	**12 24 59.3 -1.4**
	comp=Z,4.0nm,0.7s,mb4.3						
TCF	**Toulx Ste Croi**	**46.23**	**308**	*e*P		**P**	**12 25 05.6 -1.1**
CAF	**Calviac**	**46.27**	**306**	*e*P		**P**	**12 25 06.5 -0.5**
RJF	**Les Rejaudoux**	**46.67**	**307**	*e*P		**P**	**12 25 10.0 -0.1**
	comp=Z,28nm,1.2s,mb4.8						
RJF	**Les Rejaudoux**	**46.67**	**307**	*e*P		**P**	**12 25 10.0 -0.1**
	comp=Z,14nm,1.2s,mb4.8						
PSI	**Prapat**	**47.28**	**115**	LR	LR		12 45 57.2
	comp=Z,52nm,21.1s,MS3.5,baz=205,slow=37						
BOD	**Bodaibo**	**49.19**	**36**	*e*P		**P**	**12 25 28.1 -1.5**
	comp=Z,4.0nm,1.1s,mb4.4						
BOD	**Bodaibo**	**49.19**	**36**	*e*P		**P**	**12 25 28.1 -1.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
SGMF	**Saint Gilles**	**49.56**	**311**	*e*P		**P**	**12 25 31.4 -1.0**
TORD	**Torodi Ar. Bea**	**53.39**	**266**	P		**P**	**12 25 59.2 -1.9**
	comp=Z,2.2nm,0.6s,mb4.3,baz=62,slow=6.7,SNR=17						
HABR	**Khabarovsk**	**61.86**	**48**	*e*P		**P**	**12 27 00.7 -0.1**
HABR				*e*S		**S**	**12 35 11.1 -13**
BOSA	**Boshof**	**64.09**	**211**	P		**P**	**12 27 14.9 -0.7**
	comp=Z,3.2nm,0.9s,mb4.3,baz=42,slow=6.2,SNR=3.1						
SEY	**Seymchan**	**67.71**	**29**	⇑*e*P		**P**	**12 27 38.9 0.0**
WRA	**Warramunga Arr**	**88.73**	**113**	P		**P**	**12 29 36.4 +1.3**
	comp=Z,0.9nm,1.1s,mb4.0,baz=315,slow=3.7,SNR=4.7						
WRA	**Warramunga Arr**	**88.73**	**113**	⇑*e*P		**P**	**12 29 40.5 +5.3**
YKA	**Yellowknife Ar**	**89.41**	**356**	P		**P**	**12 29 38.2 -0.1**
	comp=Z,1.3nm,0.7s,mb4.3,baz=0.9,slow=5.2,SNR=35						
YKA	**Yellowknife Ar**	**89.41**	**356**	⇑*e*P		**P**	**12 29 37.7 -0.6**

MOS ***02*** *12:25:40.0±1.1, 055N×12658E, h40km, mb4.6/6, Error ellipse: s-maj=28.8km s-min=9.9km az=101.7*
IDC ***02*** *12:25:43.4±2.6, 051N×12677E, h56km±22km, mb4.2/13, mb1 4.3/13, mb1mx4.1/20, mbtmp4.5/13, Error ellipse: s-maj=30.2km s-min=8.8km az=70.0*
BJI ***02*** *12:25:47.3, 040N×12670E, h93km, mB5.2, mb4.6*
NEIC ***02*** *12:25:47.4±1.8, 044N×12669E, h94km±18km, mb4.6/7, Error ellipse: s-maj=14.2km s-min=5.9km az=65.0*
NEIC Felt [II] on Ternate, Indonesia.
ISCJB ***02*** *12:25:48.9±2.2, 039N±006×1266E±0.1, h126km±21km, mb4.5/26, Error ellipse: s-maj=19.1km s-min=7.6km az=141.2*
ISC 02 12:25:49.8±1.9, 041N±005×1266E±01, h116km±19km, n45, σ0§96/46, mb4.5/26, 4C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.81**	**298**	*e*Pn		**Pn**	**12 28 33.9 -0.6**
LUBP	**Lubang**	**14.68**	**335**	⇓*e*P		**Pn**	**12 29 13.2 +1.6**
KSM	**Kuching**	**16.36**	**274**	*e*P		**Pn**	**12 29 32.2 -0.4**
FITZ	**Fitzroy Crossi**	**18.42**	**183**	*e*P		**P**	**12 29 56.1 +0.1**
	3.9nm,0.3s						
WRAB	**Tennant Creek**	**21.58**	**160**	*e*P		**P**	**12 30 29.9 -0.2**
	108nm,0.4s,mb5.5						
WRA	**Warramunga Arr**	**21.59**	**160**	P		**P**	**12 30 30.1 -0.1**
	56nm,0.4s,mb5.2,baz=334,slow=11,SNR=516						
WRA				S		**S**	**12 34 24.2 +1.6**
	0.9nm,0.5s,baz=332,slow=21,SNR=4.8						
WB2	**Warramunga Arr**	**21.59**	**160**	*e*P		**P**	**12 30 29.8 -0.4**
MBWA	**Marble Bar**	**22.47**	**197**	*e*P		**P**	**12 30 38.1 -1.4**
	9.1nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**24.95**	**164**	P		**P**	**12 31 03.0 +0.8**
	31nm,0.4s,mb5.1,baz=346,slow=12,SNR=342						
ASAR				PcP	PcP		12 34 36.6 +2.0
	0.8nm,0.5s,baz=357,slow=1.6,SNR=6.9						
ASAR				S		**S**	**12 35 26.0 +8.7**
	1.4nm,0.8s,baz=340,slow=20,SNR=7.7						
ASAR				ScP	ScP		12 38 09.0 +6.1
	0.3nm,0.8s,baz=343,slow=3.1,SNR=4.6						
ASAR	**Alice Springs**	**24.95**	**164**	P		**P**	**12 31 03.0 +0.7**
ASAR							12 34 36.6
ASAR				S		**S**	**12 35 26.0 +8.7**
CTA	**Charters Tower**	**28.00**	**138**	P		**P**	**12 31 30.4 +0.8**
	4.2nm,0.9s,mb4.0,baz=339,slow=8.6,SNR=4.0						
NJ2	**Nanjing**	**32.32**	**348**	*e*P		**P**	**12 32 08.3 +0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
KLBR	**Kellerberrin**	**32.92**	**194**	*e*P		**P**	**12 32 13.3 +0.3**
	comp=Z,6.5nm,0.5s,mb4.7						
MUN	**Mundaring**	**33.69**	**196**	*e*P		**P**	**12 32 20.3 +0.6**
KMI	**Kunming**	**33.72**	**319**	P		**P**	**12 32 23.8 +3.9**
NWAO	**Narrogin (SRO)**	**34.32**	**194**	P		**P**	**12 32 25.0 -0.1**
	comp=Z,10nm,1.1s,mb4.6,baz=21,slow=3.6,SNR=6.6						
STKA	**Stephens Creek**	**35.09**	**158**	P		**P**	**12 32 30.6 -1.1**
	comp=Z,12nm,0.5s,mb5.0,baz=329,slow=9.0,SNR=52						
STKA	**Stephens Creek**	**35.09**	**158**	*e*P		**P**	**12 32 30.4 -1.4**
CD2	**Chengdu**	**37.30**	**327**	*e*P		**P**	**12 32 53.7 +3.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
MJAR	**Matsushiro Arr**	**37.52**	**15**	P		**P**	**12 32 50.4 -2.0**
	comp=Z,2.3nm,0.4s,mb4.4,baz=186,slow=8.9,SNR=15						
DZM	**Mont Dzumac**	**44.77**	**123**	P		**P**	**12 33 52.4 +0.7**
	comp=Z,7.5nm,1.0s,mb4.4,baz=235,slow=9.8,SNR=6.2						
HABR	**Khabarovsk**	**48.43**	**7**	*e*P		**P**	**12 34 15.4 -4.8**
ULN	**Ulaanbaatar**	**50.24**	**343**	*e*P		**P**	**12 34 34.4 +0.5**
	comp=Z,2.2nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**50.24**	**343**	*e*P		**P**	**12 34 34.4 +0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SONM	**Songino Array**	**50.41**	**342**	P		**P**	**12 34 35.8 +0.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=156,slow=8.4,SNR=13						
BOD	**Bodaibo**	**58.12**	**352**	*e*P		**P**	**12 35 28.3 -2.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.8s,mb4.0						
MKAR	**Makanchi Array**	**60.23**	**326**	P		**P**	**12 35 46.2 +0.6**
	comp=Z,7.9nm,0.5s,mb5.0,baz=117,slow=8.3,SNR=186						
MKAR				PcP	PcP		12 36 30.4 +0.4
	comp=Z,1.0nm,0.4s,baz=111,slow=4.4,SNR=3.8						
YAK	**Yakutsk**	**61.51**	**2**	⇑*e*P		**P**	**12 35 54.0 -0.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
MA2	**Magadan**	**61.93**	**14**	*e*P		**P**	**12 35 57.5 +0.4**
	comp=Z,8.9nm,0.8s,mb4.8						
MA2	**Magadan**	**61.93**	**14**	*e*P		**P**	**12 35 58.0 +0.9**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**63.50**	**334**	P		**P**	**12 36 07.3 -0.2**
	comp=Z,1.3nm,0.3s,mb4.3,baz=78,slow=7.3,SNR=5.5						
KURK	**Kurchatov**	**64.49**	**328**	*e*P		**P**	**12 36 14.2 +0.1**
	comp=Z,9.2nm,0.8s,mb4.7						
KURK	**Kurchatov**	**64.49**	**328**	⇑*e*P		**P**	**12 36 13.2 -0.8**
SEY	**Seymchan**	**65.27**	**13**	⇑*e*P		**P**	**12 36 20.2 +1.1**
BVAR	**Borovoye Array**	**70.05**	**328**	P		**P**	**12 36 49.2 +0.1**
	comp=Z,2.1nm,0.8s,mb4.0,baz=134,slow=8.5,SNR=10						
ZRNK	**Zerenda**	**70.76**	**327**	*e*P		**P**	**12 36 53.3 -0.1**
	comp=Z,2.0nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**70.76**	**327**	*e*P		**P**	**12 36 53.3 -0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
TIXI	**Tiksi**	**71.14**	**1**	⇑*e*P		**P**	**12 36 54.7 -1.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.2						
AKTK	**Aktyubinsk**	**76.20**	**322**	P		**P**	**12 37 25.8 +0.5**
AKTO	**Aktyubinsk**	**76.20**	**322**	P		**P**	**12 37 25.8 +0.5**
	comp=Z,2.2nm,0.7s,mb4.0,baz

KLP				*e*S	**Sn**	**12 48 38.3**	**+1.7**
KLP				AML	AML	12 49 04.8	
	comp=E,2μm,0.5s						
KLP				AML	AML	12 49 07.5	
	comp=N,2μm,0.8s						
DDI	**Dehra Dun**	**5.65**	**137**	*e*P	**Pn**	**12 47 50.8**	**+1.5**
DDI				*ex*	x	12 49 28.3	
NDI	**New Delhi**	**6.60**	**151**	*e*P	**Pn**	**12 48 02.0**	**-0.3**
NDI				*e*S	**Sn**	**12 49 13.0**	**-4.6**
KHET	**Khetri**	**6.70**	**163**	*e*P	**Pn**	**12 48 03.8**	**0.0**
KHET				*e*S	**Sn**	**12 49 15.4**	**-4.8**
KUDL	**Kundal**	**6.83**	**158**	*e*P	**Pn**	**12 48 04.8**	**-0.6**
KUDL				*e*S	**Sn**	**12 49 18.1**	**-5.1**
KUDL				AML	AML	12 50 11.9	
	comp=N,185nm,0.6s						
KUDL				AML	AML	12 50 15.3	
	comp=E,175nm,0.5s						
SONA	**Sohna**	**6.94**	**153**	*e*P	**Pn**	**12 48 06.9**	**0.0**
SONA				*e*S	**Sn**	**12 49 21.2**	**-4.6**
PTH	**Pithoragarh**	**7.51**	**129**	*e*P	**Pn**	**12 48 18.5**	**+3.7**
PTH				*e*S	**Sn**	**12 49 38.5**	**-1.6**
LGTI	**Lohaghat**	**7.60**	**130**	*e*P	**Pn**	**12 48 17.3**	**+1.3**
LGTI				*ex*	x	12 49 41.0	
AML	**Almayashu**	**7.60**	**1**	P	**Pn**	**12 48 19.8**	**+3.7**
	SNR=134						
KZA	**Kyzart**	**7.66**	**9**	P	**Pn**	**12 48 21.2**	**+4.3**
	SNR=14						
UCH	**Uchtor**	**7.74**	**5**	P	**Pn**	**12 48 22.0**	**+4.1**
	SNR=111						
ULHL	**Ulahol**	**8.00**	**14**	P	**Pn**	**12 48 26.6**	**+5.1**
	SNR=14						
AJM	**Ajmer**	**8.07**	**173**	*i* P	**Pn**	**12 48 22.0**	**-0.4**
AJM				*e*P		12 48 22.5	
AJM				*e*S	**Sn**	**12 49 45.9**	**-7.8**
EKS2	**Erkin-Say**	**8.13**	**1**	P	**Pn**	**12 48 27.3**	**+3.9**
	SNR=59						
AAK	**Ala-Archa**	**8.14**	**5**	P	**Pn**	**12 48 27.4**	**+3.9**
	SNR=29						
AGRA	**Agra**	**8.18**	**151**	*e*P	**Pn**	**12 48 25.0**	**+1.0**
AGRA				*e*S	**Sn**	**12 49 49.1**	**-7.4**
KBK	**Karagaybulak**	**8.20**	**7**	P	**Pn**	**12 48 28.1**	**+3.8**
	SNR=12						
FRU	**Bishkek**	**8.35**	**5**	*e*P	**Pn**	**12 48 31.0**	**+4.7**
FRU				pmax	pmax		
	comp=Z,45nm,1.8s						
FRU				pmax	pmax		
	comp=N,175nm,1.6s						
CHMS	**Chumysh**	**8.52**	**6**	P	**Pn**	**12 48 32.7**	**+4.0**
	SNR=16						
TKM2	**Tokmak 2**	**8.54**	**10**	P	**Pn**	**12 48 32.9**	**+3.9**
	SNR=33						
TKM2	**Tokmak 2**	**8.54**	**10**	⇓P	**Pn**	**12 48 32.3**	**+3.4**
	comp=N,11nm,0.4s						
TKM2				⇑S	**Sn**	**12 50 05.9**	**+0.5**
	comp=N,26nm,0.6s						
TKM2	**Tokmak 2**	**8.54**	**10**	⇓P	**Pn**	**12 48 32.3**	**+3.4**
	comp=N,11nm,0.4s						
TKM2				S	**Sn**	**12 50 05.9**	**+0.5**
TKM2	**Tokmak 2**	**8.54**	**10**	P	**Pn**	**12 48 32.3**	**+3.3**
TKM2				S	**Sn**	**12 50 05.0**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.4s						
USP	**Ospenovka**	**8.77**	**5**	P	**Pn**	**12 48 35.5**	**+3.4**
	SNR=6.8						
KK31	**Karatay Array**	**8.90**	**345**	⇓P	**Pn**	**12 48 36.5**	**+2.7**
	comp=Z,69nm,0.4s						
KK31				⇓S	**Sn**	**12 50 13.0**	**-1.1**
	comp=Z,38nm,0.5s						
KK31	**Karatay Array**	**8.90**	**345**	⇓P	**Pn**	**12 48 36.5**	**+2.7**
	comp=Z,69nm,0.4s						
KK31				S	**Sn**	**12 50 13.0**	**-1.1**
KK31	**Karatay Array**	**8.90**	**345**	⇓P	**Pn**	**12 48 36.5**	**+2.7**
KK31				S	**Sn**	**12 50 13.0**	**-1.1**
KK31				pmax	pmax		
	comp=Z,69nm,0.4s						
KKAR	**Karatay Array**	**8.90**	**345**	P	**Pn**	**12 48 36.3**	**+2.5**
KKAR				S	**Sn**	**12 50 11.7**	**-2.4**
KKAR				pmax	pmax		
	comp=Z,24nm,0.3s						
KOLN	**Koldanda**	**10.91**	**125**	*e*Pn	**Pn**	**12 49 00.2**	**-1.3**
KOLN				*e*Sn	**Sn**	**12 50 55.6**	**-8.0**
	comp=Z,127nm,0.8s						
KOLN	**Koldanda**	**10.91**	**125**	*e*Pn	**Pn**	**12 49 00.2**	**-1.3**
	comp=Z,64nm,0.8s						
KOLN				*e*Sn	**Sn**	**12 50 55.6**	**-8.0**
GKN	**Gorkha**	**11.48**	**121**	*e*Pn	**Pn**	**12 49 07.3**	**-2.0**
GKN				*e*Sn	**Sn**	**12 51 06.9**	**-11**
	comp=Z,90nm,0.3s						
GKN	**Gorkha**	**11.48**	**121**	*e*Pn	**Pn**	**12 49 07.3**	**-2.0**
	comp=Z,45nm,0.3s						
GKN				*e*Sn	**Sn**	**12 51 06.9**	**-11**
BHJ	**Bhuj**	**11.73**	**198**	*e*P	**Pn**	**12 49 11.3**	**-1.4**
BHJ				*e*S	**Sn**	**12 51 13.1**	**-11**
BHPL	**Bhopal**	**11.73**	**162**	*e*P	**Pn**	**12 49 11.1**	**-1.6**
BHPL				*e*S	**Sn**	**12 51 13.9**	**-10**
DMN	**Daman**	**12.05**	**122**	*e*Pn	**Pn**	**12 49 14.7**	**-2.3**
DMN				*e*Sn	**Sn**	**12 51 21.5**	**-10**
	comp=Z,109nm,0.6s						
DMN	**Daman**	**12.05**	**122**	*e*Pn	**Pn**	**12 49 14.7**	**-2.3**
	comp=Z,54nm,0.6s						
DMN				*e*Sn	**Sn**	**12 51 21.5**	**-10**
KKN	**Kakani**	**12.07**	**121**	*e*Pn	**Pn**	**12 49 14.6**	**-2.6**
KKN				*e*Sn	**Sn**	**12 51 22.0**	**-10**
	comp=Z,207nm,1.0s						
KKN	**Kakani**	**12.07**	**121**	*e*Pn	**Pn**	**12 49 14.6**	**-2.6**
	comp=Z,103nm,1.0s						
KKN				*e*Sn	**Sn**	**12 51 22.0**	**-10**
PKI	**Pulchoki**	**12.29**	**121**	*e*Pn	**Pn**	**12 49 17.8**	**-2.5**
PKI				*e*Sn	**Sn**	**12 51 26.6**	**-11**
	comp=Z,82nm,0.4s						
PKI	**Pulchoki**	**12.29**	**121**	*e*Pn	**Pn**	**12 49 17.8**	**-2.5**
	comp=Z,41nm,0.4s						
PKI				*e*Sn	**Sn**	**12 51 26.6**	**-11**
GUN	**Gumba**	**12.43**	**119**	*e*Pn	**Pn**	**12 49 20.5**	**-1.7**
JBP	**Jabalpur**	**12.63**	**152**	*i* P	**Pn**	**12 49 25.3**	**+0.4**
JBP				*e*S	**Sn**	**12 51 35.5**	**-10**
JIRN	**Jiri**	**12.79**	**119**	*e*Pn	**Pn**	**12 49 25.2**	**-2.0**
JIRN				*e*Sn	**Sn**	**12 51 39.5**	**-10**
	comp=Z,161nm,0.7s						
JIRN	**Jiri**	**12.79**	**119**	*e*Pn	**Pn**	**12 49 25.2**	**-2.0**
	comp=Z,81nm,0.7s						
JIRN				*e*Sn	**Sn**	**12 51 39.5**	**-10**
MK31	**Makanchi Array**	**13.93**	**26**	⇓P	**Pn**	**12 49 42.5**	**-0.2**
	comp=Z,3.9nm,0.3s,baz=204,slow=14,SNR=98						
MK31	**Makanchi Array**	**13.93**	**26**	⇓P	**Pn**	**12 49 42.5**	**-0.1**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR	**Makanchi Array**	**13.93**	**26**	Pn	**Pn**	**12 49 42.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=210,slow=9.4,SNR=46						
MKAR				LR	LR	12 55 46.3	
	comp=Z,246nm,21.8s,baz=265,slow=40						
MKAR	**Makanchi Array**	**13.93**	**26⇑**	*e*P	**Pn**	**12 49 42.7**	**+0.1**
AKL	**Akola**	**14.10**	**167**	*i* x	x	12 49 05.2	
AKL				*i* x	x	12 51 33.0	
WMQ	**Urumqi**	**14.35**	**45**	*e*P	**Pn**	**12 49 47.4**	**-1.1**
WMQ				AP	pP	12 49 50.8	-7.6
WMQ				XP	sP	12 49 54.2	-5.5
WMQ				PP		12 49 58.9	
WMQ				PPP		12 50 06.0	
WMQ				XS		12 52 31.4	
WMQ				SS		12 52 43.4	
WMQ				PCP	PcP	12 55 03.6	-1.4
WMQ				AMB	AMB		
	comp=Z,35nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,232nm,4.6s						
WMQ				LR	LR		
	comp=N,221nm,15.0s						
WMQ				LR	LR		
	comp=E,304nm,16.0s						
WMQ				LR	LR		
	comp=Z,333nm,18.0s						
BLSP	**Bilaspur**	**14.46**	**146**	*e*S	**Sn**	**12 52 38.0**	**+7.8**
BOK	**Bokaro**	**15.15**	**132**	*ex*	x	12 49 55.4	
BOK				AMb	AMB	12 49 59.2	
	comp=Z,5.1nm,0.4s						
BOK				*ex*	x	12 52 36.9	
LSA	**Lhasa**	**15.66**	**103**	*e*P	**Pn**	**12 50 03.1**	**-2.8**
LSA	**Lhasa**	**15.66**	**103**	*e*Pn	**Pn**	**12 50 06.5**	**+0.6**
	comp=Z,15nm,0.8s						
LSA	**Lhasa**	**15.66**	**103**	*e*P	**Pn**	**12 50 06.5**	**+0.6**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s						
POO	**Poona**	**15.93**	**179**	*ex*	x	12 50 02.0	
POO				*e*P		12 50 10.1	
POO				*i* PPP		12 50 23.5	
POO				AMb	AMB	12 50 31.3	
	comp=Z,24nm,0.5s						
POO				*i* S	**Sn**	**12 53 05.0**	**-1.0**
POO				*e*S	**Sn**	**12 53 07.1**	**+1.1**
POO				*e*SS		12 53 24.0	
POO				*e*SSS		12 53 37.0	
POO				*ex*	x	12 53 48.5	
POO				*i* PCP	PcP	12 54 55.0	-12
LATR	**Latur**	**16.26**	**170**	*ex*	x	12 53 02.5	
KURK	**Kurchatov**	**16.60**	**11**	*e*P	**Pn**	**12 50 19.1**	**+1.0**
	comp=Z,42nm,1.3s						
KURK	**Kurchatov**	**16.60**	**11⇓**	*i*P	**Pn**	**12 50 18.9**	**+0.8**
KAD	**Karad**	**17.15**	**178**	*e*P	**Pn**	**12 50 24.4**	**-0.6**
KAD				AMb	AMB	12 50 26.4	
	comp=Z,12nm,0.5s						
KAD				*ex*	x	12 53 24.4	
HYB	**Hyderabad**	**17.61**	**164**	*i* P	**Pn**	**12 50 29.0**	**-1.7**
HYB				*e*S	**Sn**	**12 53 55.0**	**+8.3**
AB31	**Akbulak array**	**17.84**	**330**	⇓P	**Pn**	**12 50 33.2**	**-0.3**
	comp=Z,19nm,0.8s						
AB31	**Akbulak array**	**17.84**	**330**	P	**Pn**	**12 50 33.2**	**-0.3**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
VOSK	**Vostochnaya**	**18.29**	**355**	⇑P	**Pn**	**12 50 38.9**	**-0.2**
	comp=Z,9.7nm,0.5s						
VOSK	**Vostochnaya**	**18.29**	**355**	⇑P	**Pn**	**12 50 38.9**	**-0.2**
	comp=Z,9.7nm,0.4s						
VOSK	**Vostochnaya**	**18.29**	**355**	⇑P	**Pn**	**12 50 38.9**	**-0.2**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
BVA0	**Borovoye Array**	**18.64**	**354**	⇑P	**Pn**	**12 50 44.0**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=155,slow=13,SNR=121						
BVA0	**Borovoye Array**	**18.64**	**354**	⇑P	**Pn**	**12 50 44.0**	**+0.6**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**18.64**	**354**	P	**Pn**	**12 50 42.3**	**-1.0**
	comp=Z,6.5nm,0.3s,baz=152,slow=7.6,SNR=83						
BVAR	**Borovoye Array**	**18.64**	**354**	P	**Pn**	**12 50 42.3**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
BRVK	**Borovoye**	**18.68**	**354**	*e*P	**Pn**	**12 50 44.2**	**+0.3**
	comp=Z,12nm,0.6s						
BRVK	**Borovoye**	**18.68**	**354**	*e*P	**Pn**	**12 50 44.2**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,12nm,0.6s						
ZRNK	**Zerenda**	**18.71**	**351**	⇑P	**Pn**	**12 50 43.5**	**-0.7**
	comp=Z,9.5nm,0.6s						
ZRNK	**Zerenda**	**18.71**	**351**	*e*P	**Pn**	**12 50 44.1**	**-0.1**
	comp=Z,14nm,0.5s						
ZRNK	**Zerenda**	**18.71**	**351**	*e*P	**Pn**	**12 50 44.1**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,14nm,0.5s						
VIS	**Vishakhapatnam**	**18.87**	**150**	*e*P	**Pn**	**12 50 47.1**	**+1.0**
VIS				*ex*	x	12 53 00.2	
AKTK	**Aktyubinsk**	**19.54**	**329**	⇓P	**Pn**	**12 50 53.5**	**-0.7**
AKTO	**Aktyubinsk**	**19.54**	**329**	⇓P	**Pn**	**12 50 53.5**	**-0.7**
	comp=Z,11nm,0.7s						
AKTO	**Aktyubinsk**	**19.54**	**329**	P	**Pn**	**12 50 54.1**	**-0.2**
	comp=Z,8.4nm,0.3s,baz=134,slow=10,SNR=276						
AKTO	**Aktyubinsk**	**19.54**	**329**	P	**Pn**	**12 50 54.1**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ZAL	**Zalesovo**	**20.97**	**19**	P	**P**	**12 51 08.1**	**-0.3**
	comp=Z,24nm,0.4s,baz=249,slow=6.2,SNR=70						
ZAL				LR	LR	13 00 41.6	
	comp=Z,154nm,20.3s,MS3.4,baz=262,slow=41						
ZAL	**Zalesovo**	**20.97**	**19**	P	**P**	**12 51 08.1**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,24nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,155nm,20.3s						
NVS	**Novosibirsk**	**21.41**	**15**	*e*P	**P**	**12 51 12.3**	**-1.0**
NVS				*e*S	**S**	**12 55 11.6**	**+0.8**
NVS				pmax	pmax		
	comp=N,26nm,0.8s						
NVS				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.5						
NVS				pmax	pmax		
	comp=E,8.0nm,0.7s						
NVS				smax			
	comp=N,12nm,1.6s						
NVS				smax			
	comp=E,9.0nm,1.0s						
GTA	**Gaotai**	**21.51**	**69**	P	**P**	**12 51 14.9**	**+0.6**
GTA				AP		12 51 19.0	
GTA				XP	sP	12 51 22.0	+3.6
GTA				PP		12 51 37.7	
GTA				S	**S**	**12 55 07.2**	**-5.4**
GTA				XS	sS	12 55 14.1	-3.1
GTA				SS		12 55 42.2	
GTA				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,110nm,4.2s						
GTA				LR	LR		
	comp=N,143nm,12.5s,MS3.6						
GTA				LR	LR		
	comp=E,126nm,16.0s,MS3.6						
GTA				LR	LR		
	comp=Z,148nm,12.9s,MS3.6						
GNI	**Garni**	**23.54**	**292**	P	**P**	**12 51 36.6**	**+0.7**
	comp=Z,11nm,0.7s,mb4.4,baz=13,slow=5.0,SNR=8.0						
GNI	**Garni**	**23.54**	**292**	*e*P	**P**	**12 51 39.0**	**+3.2**
	comp=Z,15nm,0.8s,mb4.5						
GNI	**Garni**	**23.54**	**292⇓**	*i*P	**P**	**12 51 38.9**	**+3.1**
GNI				pmax	pmax		
	comp=Z,15nm,0.9s						
SVE	**Sverdlovsk**	**23.99**	**342**	*e*P	**P**	**12 51 40.0**	**0.0**
SVE				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.0						
ZEI	**Tsey**	**24.50**	**298**	*e*P	**P**	**12 51 46.2**	**+1.6**
ZEI				*i* *PP		12 51 57.7	
ZEI				*i*		12 52 22.3	
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
LZH	**Lanzhou**	**24.72**	**78**	*e*P	**P**	**12 51 46.5**	**-0.1**
LZH				AP		12 51 49.3	
LZH				XP	sP	12 51 51.2	+0.3
LZH				PP		12 52 23.0	
LZH				*e*S	**S**	**12 56 04.5**	**-4.1**
LZH				XS	sS	12 56 10.6	-3.0
LZH				SS		12 56 59.7	
LZH				AMB	AMB		
	comp=Z,28nm,1.4s,mb4.6						
LZH				AMB	AMB		
	comp=Z,95nm,4.6s						
LZH				LR	LR		
	comp=N,457nm,10.2s						
LZH				LR	LR		
	comp=Z,956nm,13.0s,MS4.5						
CD2	**Chengdu**	**25.61**	**90**	*e*P	**P**	**12 51 54.4**	**-0.4**
CD2				AP	pP	12 51 58.6	+0.8
CD2				PP		12 52 33.3	
CD2				S	**S**	**12 56 18.0**	**-4.8**
CD2				XS	sS	12 56 25.0	-2.8
CD2				SS		12 57 19.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
CD2				LR	LR		
	comp=N,150nm,13.2s						
CD2				LR	LR		
	comp=Z,60nm,8.4s						
MOY	**Mondy**	**26.14**	**41**	*e*P	**P**	**12 52 00.2**	**+0.7**
ZAK	**Zakamensk**	**26.82**	**45**	*e*P	**P**	**12 52 05.2**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.0						
KMI	**Kunming**	**26.91**	**102**	P	**P**	**12 52 10.2**	**+3.7**
KMI				XP	sP	12 52 14.2	+3.4
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.5						
SONM	**Songino Array**	**27.84**	**51**	P	**P**	**12 52 15.9**	**+1.1**
	comp=Z,5.4nm,0.8s,mb4.2,baz=256,slow=9.7,SNR=49						
SONM				LR	LR	13 04 40.7	
	comp=Z,258nm,19.2s,MS3.8,baz=335,slow=39						
SONM	**Songino Array**	**27.84**	**51**	P	**P**	**12 52 15.9**	**+1.1**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,258nm,19.2s						
ULN	**Ulaanbaatar**	**28.27**	**52**	*e*P	**P**	**12 52 19.4**	**+0.8**
	comp=Z,4.6nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**28.27**	**52⇑**	*e*P	**P**	**12 52 19.0**	**+0.3**
ANN	**Anapa**	**29.43**	**301**	*e*P	**P**	**12 52 23.4**	**-5.6**
ANN				pmax	pmax		
	comp=Z,130nm,1.2s,mb5.5						
HHC	**Hu-ho-hao-te**	**30.56**	**67**	*e*P	**P**	**12 52 38.9**	**-0.1**
HHC				AP	pP	12 52 43.3	+1.3
HHC				XP	sP	12 52 45.9	+2.6
HHC				PP	PP	12 53 38.5	-9.4
HHC				PCP	PcP	12 55 39.6	+2.0
HHC				S	**S**	**12 57 38.0**	**-2.7**
HHC				XS	sS	12 57 44.9	-0.8
HHC				SS	SS	12 59 17.5	-33
HHC				SCS	ScS	13 03 14.0	-2.4
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,135nm,6.4s						
HHC				LR	LR		
	comp=N,185nm,6.5s						
HHC				LR	LR		
	comp=E,176nm,5.1s						
HHC				LR	LR		
	comp=Z,147nm,5.5s						
BR131	**Keskin Array S**	**32.06**	**291**	*e*P	**P**	**12 52 54.2**	**+2.0**
	comp=Z,1.8nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**32.06**	**291**	P	**P**	**12 52 54.1**	**+1.9**
	comp=Z,1.7nm,0.6s,mb4.1,baz=93,slow=7.9,SNR=9.3						
BRTR	**Keskin Array B**	**32.06**	**291**	P	**P**	**12 52 54.1**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**32.80**	**320⇓**	*e*P	**P**	**12 52 59.0**	**+0.4**
OBN				*e*		12 54 14.2	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
KLMR	**Klimovskoe**	**34.23**	**331**	*e*P	**P**	**12 53 10.4**	**-0.7**
KLMR				pmax	pmax		
	comp=Z,50nm,2.4s,mb5.0						
BOD	**Bodaibo**	**35.63**	**37**	*e*P	**P**	**12 53 23.0**	**-0.2**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AKASG	**Malin Array Be**	**35.82**	**311**	P	**P**	**12 53 24.2**	**-0.6**
	comp=Z,5.2nm,0.4s,mb4.8,baz=84,slow=7.7,SNR=36						
AKASG				PcP	PcP	12 55 50.9	-1.4
	comp=Z,0.2nm,0.2s,baz=83,slow=4.2,SNR=4.3						
AKASG	**Malin Array Be**	**35.82**	**311**	P	**P**	**12 53 24.3**	**-0.5**
AKASG						12 55 50.9	
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MLR	**Muntele Rosu**	**37.58**	**302**	⇓P	**P**	**12 53 42.4**	**+2.5**
NJ2	**Nanjing**	**37.71**	**81**	*e*P	**P**	**12 53 41.4**	**+0.5**
NJ2				AP	pP	12 53 45.9	+1.9
NJ2				XP	sP	12 53 48.4	+3.2
NJ2				PP	PP	12 55 09.9	+3.0
NJ2				S	**S**	**12 59 31.0**	**-0.1**
NJ2				XS	sS	12 59 38.0	+1.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,80nm,3.8s						
NJ2				LR	LR		
	comp=N,360nm,14.1s,MS4.5						
NJ2				LR	LR		
	comp=E,250nm,11.8s,MS4.5						
NJ2				LR	LR		
	comp=Z,2μm,22.6s						
BURAR	**Bucovina Array**	**38.12**	**305**	⇓P	**P**	**12 53 45.3**	**+0.9**
JOF	**Joensuu**	**38.62**	**330**	*ep*	**P**	**12 53 49.4**	**+0.8**
	comp=Z,7.9nm,0.3s,mb4.9						
JOF	**Joensuu**	**38.62**	**330**	*e*P	**P**	**12 53 49.4**	**+0.8**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb4.9						
SSE	**Sheshan**	**39.89**	**81**	P	**P**	**12 53 58.5**	**-0.7**
SSE				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.7						
SSE				AMB	AMB		
	comp=Z,81nm,4.0s						
FINES	**FINESS Array B**	**40.29**	**327**	P	**P**	**12 54 02.6**	**+0.1**
	comp=Z,2.8nm,0.5s,mb4.3,baz=119,slow=11,SNR=21						
FINES				LR	LR	13 11 57.5	
	comp=Z,83nm,18.1s,MS3.6,baz=56,slow=38						
FINES	**FINESS Array B**	**40.29**	**327⇑**	*e*P	**P**	**12 54 02.5**	**0.0**
KAF	**Kangasniemi**	**40.42**	**328**	*ep*	**P**	**12 54 02.6**	**-1.0**
	comp=Z,2.0nm,0.6s,mb4.0						
KAF	**Kangasniemi**	**40.42**	**328**	*e*P	**P**	**12 54 02.6**	**-1.0**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
BZS	**Buzias**	**40.62**	**302**	⇓P	**P**	**12 54 06.7**	**+1.4**
CN2	**Changchun**	**40.71**	**61**	*e*P	**P**	**12 54 06.8**	**+0.8**
MORC	**Moravsky Berou**	**43.23**	**308**	*e*P	**P**	**12 54 26.8**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.2						
MORC	**Moravsky Berou**	**43.23**	**308**	*e*P	**P**	**12 54 26.8**	**+0.2**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
MDJ	**Mudanjiang**	**43.59**	**59**	P	**P**	**12 54 28.5**	**-1.0**
MDJ				AP	pP	12 54 31.6	-1.0
MDJ				XP	sP	12 54 32.9	-1.0
MDJ				PCP	PcP	12 56 16.8	-0.2
MDJ				SCP	ScP	13 00 08.0	-0.5
MDJ				PCS	PcS	13 00 09.4	-0.3
MDJ				S	**S**	**13 00 57.2**	**-1.5**
MDJ				SS	SS	13 04 08.9	-4.6
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,62nm,5.1s						
MDJ				LR	LR		
	comp=N,27nm,17.7s,MS3.4						
MDJ				LR	LR		
	comp=E,33nm,20.5s,MS3.4						
MDJ				LR	LR		
	comp=Z,58nm,17.3s,MS3.5						
ARCES	**ARCESS Array B**	**43.77**	**338**	P	**P**	**12 54 31.2**	**+0.2**
	comp=Z,5.0nm,0.5s,mb4.5,baz=113,slow=8.2,SNR=70						
ARCES				LR	LR	13 13 45.5	
	comp=Z,152nm,19.4s,MS3.9,baz=14,slow=37						
ARCES	**ARCESS Array B**	**43.77**	**338**	P	**P**	**12 54 31.2**	**+0.2**
ARCES				LR	LR	13 13 45.5	
ARCES	**ARCESS Array B**	**43.77**	**338**	P	**P**	**12 54 31.2**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,152nm,19.4s						
YAK	**Yakutsk**	**44.40**	**34**	*e*P	**P**	**12 54 35.4**	**-0.6**
	comp=Z,14nm,0.6s,mb4.9						
YAK	**Yakutsk**	**44.40**	**34⇑**	*e*P	**P**	**12 54 35.3**	**-0.7**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.9						
KLR	**Kul'dur**	**44.66**	**52**	*e*P	**P**	**12 54 35.3**	**

comp=Z,10nm,0.5s,mb4.7
MBDF Montbardon 51.13 303 *e*P **P 12 55 27.9 -0.3**
comp=Z,5.3nm,0.5s,mb4.7
CABF La Chapelle 51.19 305 *e*P **P 12 55 29.9 +1.2**
comp=Z,11nm,0.7s,mb4.6
CABF La Chapelle 51.19 305 *e*P **P 12 55 29.9 +1.2**
comp=Z,5.3nm,0.7s,mb4.6
GIVF Givet 51.36 310 *e*P **P 12 55 29.5 -0.5**
MEZF Maizieres J'vi 51.51 308 *e*P **P 12 55 30.3 -0.8**
MJAR Matsushiro Arr 51.75 68 P **P 12 55 32.7 -0.1**
comp=Z,2.7nm,0.7s,mb4.3,baz=291,slow=11,SNR=8.5
MJAR Matsushiro Arr 51.75 68 P **P 12 55 32.7 -0.1**
YSS Yuzh-Sakhalins 52.28 54⇑e*P* **P 12 55 37.9 +1.1**
VIVF Saint-Julien-I 52.55 303 *e*P **P 12 55 38.9 +0.1**
comp=Z,6.0nm,0.5s,mb4.5
VIVF Saint-Julien-I 52.55 303 *e*P **P 12 55 38.9 +0.1**
comp=Z,3.0nm,0.5s,mb4.5
SMF Signal de Mont 52.70 306⇑ *i*P **P 12 55 39.6 -0.3**
comp=Z,25nm,0.8s,mb4.9
SMF Signal de Mont 52.70 306⇑ *i*P **P 12 55 39.6 -0.3**
comp=Z,13nm,0.8s,mb4.9
SMF Signal de Mont 52.70 306⇑ *i*P **P 12 55 39.6 -0.3**
SMF pmax pmax
comp=Z,13nm,0.8s,mb4.9
SSF Saint Saulge 52.83 306 *e*P **P 12 55 40.4 -0.5**
comp=Z,14nm,0.8s,mb4.6
SSF Saint Saulge 52.83 306 *e*P **P 12 55 40.4 -0.5**
comp=Z,7.0nm,0.8s,mb4.6
SSF Saint Saulge 52.83 306 *e*P **P 12 55 40.4 -0.5**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AVF Avril sur Loir 52.99 306⇑ *i*P **P 12 55 41.7 -0.4**
comp=Z,24nm,0.8s,mb4.9
AVF Avril sur Loir 52.99 306⇑ *i*P **P 12 55 41.7 -0.4**
comp=Z,12nm,0.8s,mb4.9
AVF Avril sur Loir 52.99 306⇑ *i*P **P 12 55 41.7 -0.4**
AVF pmax pmax
comp=Z,12nm,0.8s,mb4.9
LASF Ste Croix 53.31 303 *e*P **P 12 55 44.7 +0.2**
comp=Z,15nm,0.8s,mb4.7
BGF Bois d'Agland 53.38 306 *e*P **P 12 55 44.4 -0.6**
comp=Z,14nm,0.8s,mb4.7
BGF Bois d'Agland 53.38 306 *e*P **P 12 55 44.4 -0.6**
comp=Z,7.1nm,0.8s,mb4.7
BGF Bois d'Agland 53.38 306 *e*P **P 12 55 44.4 -0.6**
BGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TCF Toulx Ste Croi 53.88 306⇑ *i*P **P 12 55 48.7 +0.1**
comp=Z,22nm,0.8s,mb4.8
TCF Toulx Ste Croi 53.88 306⇑ *i*P **P 12 55 48.7 +0.1**
comp=Z,11nm,0.8s,mb4.8
TCF Toulx Ste Croi 53.88 306⇑ *i*P **P 12 55 48.7 +0.1**
TCF pmax pmax
comp=Z,11nm,0.8s,mb4.8
CAF Calviac 54.33 304 *e*P **P 12 55 52.1 +0.2**
comp=Z,20nm,0.9s,mb4.8
CAF Calviac 54.33 304 *e*P **P 12 55 52.1 +0.2**
comp=Z,10nm,0.9s,mb4.8
CAF Calviac 54.33 304 *e*P **P 12 55 52.1 +0.2**
CAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
RJF Les Rejaudoux 54.60 305 *e*P **P 12 55 54.2 +0.3**
comp=Z,12nm,0.8s,mb4.7
RJF Les Rejaudoux 54.60 305 *e*P **P 12 55 54.2 +0.3**
comp=Z,6.3nm,0.8s,mb4.7
RJF Les Rejaudoux 54.60 305 *e*P **P 12 55 54.2 +0.3**
RJF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MTLF Montolieu 54.66 302 *e*P **P 12 55 54.3 0.0**
comp=Z,5.6nm,0.6s,mb4.5
MTLF Montolieu 54.66 302 *e*P **P 12 55 54.3 0.0**
comp=Z,2.8nm,0.6s,mb4.5
MTLF Montolieu 54.66 302 *e*P **P 12 55 54.3 0.0**
MTLF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LDF La Druitiere 54.84 309 *e*P **P 12 55 54.9 -0.7**
comp=Z,13nm,0.7s,mb4.8
LDF La Druitiere 54.84 309 *e*P **P 12 55 54.9 -0.7**
comp=Z,6.7nm,0.7s,mb4.8
LDF La Druitiere 54.84 309 *e*P **P 12 55 54.9 -0.7**
LDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
SEY Seymchan 54.91 33⇑ *e*P **P 12 55 56.7 +0.6**
FLN La Foliniere 55.03 309 *e*P **P 12 55 56.3 -0.7**
comp=Z,26nm,0.9s,mb5.0
FLN La Foliniere 55.03 309 *e*P **P 12 55 56.3 -0.7**
comp=Z,13nm,0.9s,mb5.0
FLN La Foliniere 55.03 309 *e*P **P 12 55 56.3 -0.7**
FLN pmax pmax
comp=Z,13nm,0.9s,mb5.0
LFF La Frestale 55.23 304 *e*P **P 12 55 58.6 +0.2**
comp=Z,22nm,0.8s,mb5.0
LFF La Frestale 55.23 304 *e*P **P 12 55 58.6 +0.2**
comp=Z,11nm,0.8s,mb4.9
LFF La Frestale 55.23 304 *e*P **P 12 55 58.6 +0.2**
LFF pmax pmax
comp=Z,11nm,0.8s,mb4.9
GRR Gorron 55.37 309 *e*P **P 12 55 59.3 -0.1**
MFF Saint Martin d 55.37 306 *e*P **P 12 55 58.8 -0.6**
EPF Esparros 56.06 302 *e*P **P 12 56 03.5 -0.9**
ETSF Etsaut 56.73 302 *e*P **P 12 56 09.4 +0.2**
comp=Z,17nm,0.6s,mb5.0
ETSF Etsaut 56.73 302 *e*P **P 12 56 09.4 +0.2**
comp=Z,8.6nm,0.6s,mb5.0
ETSF Etsaut 56.73 302 *e*P **P 12 56 09.4 +0.2**
ETSF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ROSF Rostrenen 56.93 309 *e*P **P 12 56 09.9 -0.7**
comp=Z,23nm,0.8s,mb4.9
ROSF Rostrenen 56.93 309 *e*P **P 12 56 09.9 -0.7**
comp=Z,11nm,0.8s,mb5.0
ROSF Rostrenen 56.93 309 *e*P **P 12 56 09.9 -0.7**
ROSF pmax pmax
comp=Z,11nm,0.8s,mb4.9
DAG Danmarks Havn 57.21 344⇓ *i*P **P 12 56 12.0 -0.6**
comp=Z,2.8nm,0.5s,mb4.5
DAG Danmarks Havn 57.21 344⇓ *e*P **P 12 56 12.0 -0.6**
comp=Z,2.8nm,0.5s,mb4.5
DAG Danmarks Havn 57.21 344⇓ *e*P **P 12 56 12.0 -0.6**
DAG pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
BILL Bilibino 59.47 26 *e*P **P 12 56 28.9 +0.5**
comp=Z,14nm,1.4s,mb4.8
BILL Bilibino 59.47 26⇑ *e*P **P 12 56 29.0 +0.6**
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.0
ESDC Sonseca Array 60.24 300 P **P 12 56 33.9 +0.2**
comp=Z,2.4nm,0.6s,mb4.4,baz=58,slow=7.6,SNR=7.8
SUMG Summit 63.60 342 *e*P **P 12 56 56.7 +0.4**
TORD Torodi Ar. Bea 67.80 271 P **P 12 57 23.0 -0.3**
comp=Z,5.0nm,0.6s,mb4.7,baz=44,slow=5.8,SNR=37
TNA Tin City 69.58 23 *e*P **P 12 57 35.0 +0.5**
comp=Z,9.6nm,1.1s,mb4.6
INK Inuvik 75.51 10 *e*P **P 12 58 09.5 -0.2**
comp=Z,10nm,0.6s,mb4.9
INK Inuvik 75.51 10 *e*P **P 12 58 09.5 -0.3**
INK pmax pmax
comp=Z,10.0nm,0.6s
COLA College 75.78 17 *e*P **P 12 58 11.2 -0.2**
comp=Z,22nm,0.9s,mb5.1
COLA College 75.78 17 *e*P **P 12 58 11.2 -0.1**
COLA pmax pmax
comp=Z,22nm,0.9s,mb5.1
ILAR Eielson Array 76.09 17 P **P 12 58 12.2 -1.0**
comp=Z,8.3nm,1.0s,mb4.6,baz=298,slow=5.0,SNR=60
ILAR Eielson Array 76.09 17 P **P 12 58 12.2 -0.9**
ILAR pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 76.45 18 *e*P **P 12 58 14.6 -0.5**
comp=Z,3.3nm,0.9s,mb4.3
MCK McKinley 76.45 18 *e*P **P 12 58 14.6 -0.6**
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
DBIC Dimbokro 76.72 269 P **P 12 58 16.6 -0.1**
comp=Z,4.9nm,0.6s,mb4.6,baz=35,slow=4.7,SNR=14
DBIC Dimbokro 76.72 269 *e*P **P 12 58 16.6 -0.1**
comp=Z,4.1nm,0.6s,mb4.5
DBIC Dimbokro 76.72 269 P **P 12 58 16.6 -0.1**
DBIC pmax pmax
comp=Z,5.0nm,0.6s
BOSA Boshof 77.63 222 *e*P **P 12 58 20.9 -0.9**
comp=Z,34nm,0.9s,mb5.3
BOSA Boshof 77.63 222 *e*P **P 12 58 20.9 -0.9**
BOSA pmax pmax
comp=Z,34nm,0.9s,mb5.3
PMR Palmer 78.16 19 *e*P **P 12 58 28.1 +3.4**
comp=Z,5.1nm,0.8s,mb4.5
PMR Palmer 78.16 19 *e*P **P 12 58 28.1 +3.4**
PMR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
DAWY Dawson 78.35 14 *e*P **P 12 58 25.6 -0.2**
WRA Warramunga Arr 79.16 123 P **P 12 58 30.1 -0.1**
comp=Z,5.6nm,0.6s,mb4.7,baz=320,slow=4.7,SNR=129
WRA Warramunga Arr 79.16 123 P **P 12 58 30.1 -0.2**
WRA pmax pmax
comp=Z,6.0nm,0.6s
WB2 Warramunga Arr 79.17 123⇑ *i*P **P 12 58 30.2 -0.1**
ASPA Alice Springs 81.40 126⇑ *i*P **P 12 58 42.1 -0.2**
AS31 Alice Springs 81.40 126⇑ *i*P **P 12 58 42.1 -0.2**
ASAR Alice Springs 81.40 126 P **P 12 58 42.0 -0.3**
comp=Z,5.5nm,0.6s,mb4.7,baz=309,slow=5.2,SNR=166
ASAR Alice Springs 81.40 126 P **P 12 58 42.1 -0.2**
ASAR pmax pmax
comp=Z,6.0nm,0.6s
YKW3 Yellowknife Ar 83.04 4 *e*P **P 12 58 50.3 -0.5**
YKA Yellowknife Ar 83.10 4 P **P 12 58 50.8 -0.4**
comp=Z,8.6nm,0.8s,mb4.9,baz=348,slow=5.2,SNR=173
YKA Yellowknife Ar 83.10 4⇑ *e*P **P 12 58 50.7 -0.5**
STKA Stephens Creek 91.93 128 P **P 12 59 34.9 +0.9**
comp=Z,1.6nm,0.3s,mb4.8,baz=349,slow=13,SNR=3.1
EDM Edmonton 92.42 4 *e*P **P 12 59 36.3 0.0**
ULM Lac du Bonnet 95.09 353 P **P 12 59 47.8 -0.7**
comp=Z,1.8nm,0.9s,mb4.5,baz=106,slow=10,SNR=3.3
PLCA Paso Flores 151.05 247 PKPbc PKPbc 13 06 17.4 -1.1
comp=Z,1.1nm,0.6s,baz=231,slow=22,SNR=6.9
PLCA Paso Flores 151.05 247 PKIKP PKPbc 13 06 17.4 -1.1
PLCA pmax pmax
comp=Z,1.0nm,0.6s

IDC 02 13:06:19.2±2.5, 1556S×17585W, h0km, mb4.0/6, mb1 4.4/7, mb1mx4.2/15, mbtmp4.1/7, ML3.5/1, MS4.1/19, Ms1 4.1/19, ms1mx3.9/29, Error ellipse: s-maj=150.7km s-min=21.6km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.27**	**68**	Pn	Pn	13 07 17.5	-7.9
	8.6nm,0.3s,baz=28,slow=8.6,SNR=12						
AFI				Sn	Sn	13 08 00.7	-15
	21nm,0.3s,baz=28,slow=21,SNR=7.9						
AFI				LR	LR	13 08 21.4	
	comp=Z,208nm,18.9s,baz=54,slow=29						
RAO	**Raoul Island**	**13.76**	**188**	LR	LR	13 13 55.8	
	comp=Z,1μm,19.1s,baz=12,slow=33						
RAR	**Rarotonga**	**16.26**	**113**	LR	LR	13 14 43.6	
	comp=Z,673nm,19.0s,baz=340,slow=31						
DZM	**Mont Dzumac**	**17.96**	**246**	P	Pn	13 10 32.2	+2.0
	0.2nm,0.3s,baz=58,slow=13,SNR=4.2						
DZM				LR	LR	13 16 21.8	
	comp=Z,327nm,18.4s,baz=205,slow=34						
URZ	**Urewera**	**23.45**	**194**	LR	LR	13 19 26.4	
	comp=Z,510nm,19.5s,baz=204,slow=34						
HNR	**Honiara**	**24.39**	**282**	LR	LR	13 19 39.8	
	comp=Z,990nm,21.0s,baz=176,slow=33						
PAE	**Paea**	**25.26**	**98**	*e*T		13 37 23.7	
	17nm,0.4s						
PPT	**Papeete**	**25.26**	**98**	*e*LQ		13 16 49.4	
	994nm,25.2s						
PPT				*e*LR	LR	13 17 40.8	
	582nm,26.8s						
PPT	**Papeete**	**25.26**	**98**	LR	LR	13 18 48.0	
	comp=Z,348nm,19.0s,baz=273,slow=30						
TVO	**Taravao**	**25.57**	**99**	*e*T		13 37 40.0	
	5.4nm,0.3s						
TBI	**Tubuai**	**26.03**	**111**	*e*LQ		13 16 58.7	
	443nm,28.8s						
TBI				*e*LR	LR	13 18 08.7	
	837nm,27.8s,baz=289						
TBI	**Tubuai**	**26.03**	**111**	*e*T		13 38 40.4	
	6.4nm,0.3s						
RPZ	**Rata Peaks**	**30.20**	**199**	LR	LR	13 23 41.3	
	comp=Z,565nm,20.1s,baz=17,slow=34						
RKT	**Rikitea**	**39.20**	**108**	*e*LR	LR	13 24 13.2	
	336nm,25.0s,baz=282						
RKT	**Rikitea**	**39.20**	**108**	*e*T		13 55 10.6	
	2.6nm,0.3s						
STKA	**Stephens Creek**	**41.91**	**239**	LR	LR	13 28 30.4	
	comp=Z,175nm,19.9s,baz=27,slow=32						
WRA	**Warramunga Arr**	**47.50**	**257**	P	P	13 14 55.6	-0.4
	1.3nm,1.0s,baz=90,slow=7.9,SNR=4.5						
ASAR	**Alice Springs**	**47.81**	**252**	P	P	13 14 58.8	+0.4
	1.7nm,0.7s,baz=85,slow=8.2,SNR=15						
MJAR	**Matsushiro Arr**	**67.56**	**321**	LR	LR	13 39 01.8	
	comp=Z,155nm,21.8s,baz=125,slow=29						
JOW	**Kunigami**	**68.69**	**307**	LR	LR	13 47 09.9	
	comp=Z,64nm,18.4s,baz=178,slow=36						
KDAK	**Kodiak Island**	**75.57**	**13**	LR	LR	13 50 00.5	
	comp=Z,97nm,18.1s,baz=274,slow=35						
NVAR	**Mina Array Bea**	**76.05**	**43**	P	P	13 18 08.8	+0.4
	1.3nm,0.8s,baz=228,slow=9.5,SNR=6.9						
ILAR	**Eielson Array**	**83.08**	**12**	P	P	13 18 46.2	-0.4
	0.6nm,0.8s,baz=220,slow=4.6,SNR=6.6						
ILAR				LR	LR	13 48 41.6	
	comp=Z,73nm,20.2s,baz=355,slow=31						
PDAR	**Pinedale Array**	**83.98**	**43**	P	P	13 18 51.9	+0.6
	2.2nm,0.9s,baz=222,slow=2.0,SNR=9.6						
PDAR				LR	LR	13 47 13.1	
	comp=Z,98nm,19.9s,baz=273,slow=29						
MAW	**Mawson**	**86.87**	**199**	LR	LR	13 55 54.6	
	comp=Z,184nm,18.0s,baz=90,slow=34						
PLCA	**Paso Flores**	**91.14**	**133**	LR	LR	13 53 00.0	
	comp=Z,57nm,20.7s,baz=189,slow=31						
YKA	**Yellowknife Ar**	**91.20**	**24**	P	P	13 19 25.9	-0.2
	1.0nm,1.0s,baz=240,slow=4.0,SNR=9.0						
YKA				LR	LR	13 53 31.2	
	comp=Z,156nm,19.0s,baz=265,slow=31						
SONM	**Songino Array**	**93.40**	**319**	LR	LR	13 55 51.0	
	comp=Z,66nm,19.0s,baz=45,slow=32						
ULM	**Lac du Bonnet**	**95.55**	**39**	LR	LR	13 58 35.4	
	comp=Z,117nm,18.0s,baz=234,slow=33						
BRTR	**Keskin Array B**	**144.76**	**319**	PKP	PKPdf	13 25 57.0	-1.0
	2.1nm,0.8s,baz=98,slow=2.6,SNR=8.5						
GERES	**GERESS Array B**	**145.90**	**349**	PKPbc	PKPbc	13 26 00.4	-0.1
	0.3nm,0.4s,baz=17,slow=4.4,SNR=2.8						

ISCJB ***02*** *13:10:28.6±0.4, 3983S±003×7263W±008, h75km±4km, mb4.2/11, Error ellipse: s-maj=9.6km s-min=4.5km az=2.7*
NEIC ***02*** *13:10:29.5±0.5, 3980S×7275W, mb4.4/10, Error ellipse: s-maj=14.2km s-min=7.2km az=88.0*
NEIC Felt [IV] at La Union; [III] at Corral, Los Lagos, Panguipulli, Valdivia and Villarrica; [II] at Temuco.
GUC ***02*** *13:10:30.3±0.8, 3979S×7299W, h78km±7km, ML5.2*
IDC ***02*** *13:10:31.6±3.3, 3971S×7220W, h79km±21km, mb4.1/6, mb1 4.1/8, mb1mx4.0/16, mbtmp4.4/8, MS3.9/3, Ms1 3.8/3, ms1mx3.3/15, Error ellipse: s-maj=40.5km s-min=13.3km az=80.0*

ISC 02 13:10:29.7±0.4, 3983S±003×7271W±009, h72km±4km, h71km±1.6km: pP-P, n49, σ1°22/54, mb4.2/11, 4C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**0.42**	**274⇑**	*i*P	**Pn**	**13 10 41.7**	**-0.2**
VLCH				*i*S	**Sn**	**13 10 50.9**	**0.0**
VLCH				AMP		13 10 51.6	
	comp=N,223μm,0.5s						
VLCH	**Valdivia**	**0.42**	**274⇑**	*i*P	**Pn**	**13 10 41.7**	**-0.2**
VLCH				*i*S	**Sn**	**13 10 50.9**	**0.0**
TMU	**Temuco**	**1.10**	**4⇑**	*i*P	**Pn**	**13 10 50.7**	**+1.2**
TMU				*i*S	**Sn**	**13 11 06.2**	**+1.8**
PMCH	**Puerto Montt**	**1.66**	**185**	*e*P	**Pn**	**13 10 54.4**	**-2.4**
PMCH				*i*S	**Sn**	**13 11 15.8**	**-1.5**
PMCH				AMP		13 11 19.0	
	comp=N,49μm,0.1s						
PMCH	**Puerto Montt**	**1.66**	**185**	*e*P	**Pn**	**13 10 54.4**	**-2.4**
PMCH				*i*S	**Sn**	**13 11 15.8**	**-1.5**
PLCA	**Paso Flores**	**1.88**	**119**	P	**Pn**	**13 10 59.8**	**+0.1**
	comp=N,15nm,0.3s,baz=290,slow=9.8,SNR=167						
PLCA				S	**Sn**	**13 11 18.8**	**-3.7**
	comp=N,92nm,0.3s,baz=295,slow=13,SNR=18						
PLCA				LR	LR	13 11 42.8	
	comp=N,500nm,21.7s,baz=297,slow=44						
PLCA	**Paso Flores**	**1.88**	**119**	*e*Pn	**Pn**	**13 10 59.8**	**+0.1**
AGCH	**Angol**	**2.02**	**0**	*e*P	**Pn**	**13 11 02.6**	**+1.0**
AGCH				*i*S	**Sn**	**13 11 26.3**	**+0.3**
CCHI	**Chillan**	**3.26**	**9⇓**	*i*P	**Pn**	**13 11 18.6**	**+0.1**
CCHI				*i*S	**Sn**	**13 11 54.9**	**-1.2**
CCHI				AMP		13 11 57.4	
	comp=E,3μm,0.6s						
CCHI	**Chillan**	**3.26**	**9**	P	**Pn**	**13 11 18.6**	**+0.1**
CCHI				S	**Sn**	**13 11 54.9**	**-1.2**
LNCH	**Linares**	**4.08**	**13**	*i*P	**Pn**	**13 11 30.9**	**+1.4**
LNCH				*i*S	**Sn**	**13 12 17.1**	**+1.1**
LNCH				AMP		13 12 19.1	
	comp=E,1μm,0.5s						
LNCH	**Linares**	**4.08**	**13**	*i*P	**Pn**	**13 11 30.9**	**+1.4**
LNCH				*i*S	**Sn**	**13 12 17.1**	**+1.1**
SFDO	**San Fernando**	**5.38**	**15**	*i*P	**Pn**	**13 11 46.2**	**-1.2**
SFDO				*i*S	**Sn**	**13 12 45.6**	**-2.3**
COYC	**Coyhaique**	**5.75**	**176**	*e*P	**Pn**	**13 11 54.6**	**+2.2**
CICH	**Cipreses**	**5.80**	**19**	*e*P	**Pn**	**13 11 52.7**	**-0.3**
CICH				*i*S	**Sn**	**13 12 59.0**	**+0.9**
CLCH	**Cerro Calan**	**6.66**	**16**	*e*P	**Pn**	**13 12 02.5**	**-2.3**
FCH	**Farellones**	**6.78**	**17⇑**	*i*P	**Pn**	**13 12 05.2**	**-1.2**
TRQA	**Tornquist**	**8.54**	**81**	*e*Pn	**Pn**	**13 12 31.5**	**+0.9**
	comp=E,45nm,0.8s						
CFAA	**Coronel Fontan**	**8.98**	**25**	P	**Pn**	**13 12 33.6**	**-2.8**
	comp=E,1.6nm,0.3s,baz=204,slow=12,SNR=118						
CFAA				S	**Sn**	**13 14 10.0**	**-6.0**
	comp=E,0.9nm,0.3s,baz=28,slow=14,SNR=10						
USHA	**Ushuaia**	**15.28**	**171**	P	**Pn**	**13 14 02.4**	**+1.3**
	comp=E,1.2nm,0.3s,baz=337,slow=8.8,SNR=6.5						
EFI	**East Falkland**	**15.61**	**144**	*e*Pn	**Pn**	**13 14 07.3**	**+2.0**
	comp=E,21nm,0.5s						
CPUP	**Villa Florida**	**18.60**	**48**	*e*P	**Pn**	**13 14 43.1**	**+0.9**
	comp=E,9.5nm,0.8s						
LPAZ	**La Paz**	**23.80**	**11**	P	**P**	**13 15 37.3**	**+1.5**
	comp=E,1.3nm,0.5s,mb3.5,baz=188,slow=6.7,SNR=6.4						
LPAZ	**La Paz**	**23.80**	**11**	*e*P	**P**	**13 15 37.1**	**+1.4**
	comp=E,16nm,0.8s,mb4.4						
SIV	**San Ignacio**	**25.83**	**26**	P	**P**	**13 15 53.6**	**-0.7**
	comp=E,4.0nm,0.8s,mb3.9,baz=220,slow=9.0,SNR=24						
BDFB	**Brasilia**	**32.33**	**49**	LR	LR	13 29 49.3	
	comp=E,107nm,20.1s,baz=278,slow=36						
OTAV	**Otavalo**	**40.23**	**351**	P	**P**	**13 17 58.3**	**-0.9**
	comp=E,7.3nm,1.3s,mb4.3						
OTAV				*e*pP	pP	13 18 16.3	-0.5
VNA2	**Neumayer--Watz**	**44.90**	**155**	*e*	**P**	**13 18 36.8**	**-0.3**
	baz=267,slow=9.1						
VNA2				*e*		13 18 40.0	
SNAA	**Sanae**	**46.44**	**156**	P	**P**	**13 18 49.1**	**-0.1**
	comp=E,7.4nm,0.9s,mb4.4,baz=277,slow=5.1,SNR=13						
SNAA	**Sanae**	**46.44**	**156**	*e*	**P**	**13 18 48.4**	**-0.8**
SNAA				*e*		13 18 51.7	
SNAA	**Sanae**	**46.44**	**156**	*e*P	**P**	**13 18 48.4**	**-0.8**
SDV	**Santo Domingo**	**48.51**	**3**	*e*P	**P**	**13 19 04.3**	**-0.9**
	comp=E,4.1nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**50.41**	**180**	*e*P	**P**	**13 19 20.3**	**+0.6**
	comp=E,20nm,1.2s,mb4.9						
LTX	**Lajitas**	**74.60**	**332**	*e*P	**P**	**13 22 02.2**	**+1.2**
	comp=E,1.4nm,0.6s,mb3.9						
LTX				*e*pP	pP	13 22 19.9	-0.2
SWET	**Sewanee**	**75.67**	**349**	P	**P**	**13 22 06.7**	**-0.4**
SWET				*e*pP	pP	13 22 25.9	-0.5
DBIC	**Dimbokro**	**77.60**	**70**	P	**P**	**13 22 17.7**	**-0.3**
	comp=E,5.2nm,0.4s,mb4.6,baz=197,slow=6.5,SNR=22						
DBIC				LR	LR	13 51 04.7	
	comp=E,45nm,19.1s,baz=51,slow=32						
DBIC	**Dimbokro**	**77.60**	**70**	*e*P	**P**	**13 22 17.5**	**-0.5**
	comp=E,5.3nm,0.5s,mb4.5						
TSUM	**Tsumeb**	**78.18**	**105**	P	**P**	**13 22 21.6**	**+0.4**
	comp=E,1.6nm,0.4s,mb4.1,baz=216,slow=9.2,SNR=6.3						
TSUM	**Tsumeb**	**78.18**	**105**	*e*P	**P**	**13 22 20.9**	**-0.2**
	comp=E,2.4nm,0.5s,mb4.2						
RPZ	**Rata Peaks**	**78.90**	**222**	LR	LR	13 49 40.8	
	comp=E,161nm,18.2s,baz=315,slow=30						
ANMO	**Albuquerque**	**80.67**	**332**	*e*P	**P**	**13 22 35.5**	**+0.8**
	comp=E,0.7nm,0.6s,mb3.7						
ANMO				*e*pP	pP	13 22 54.8	+0.6
TORD	**Torodi Ar. Bea**	**86.70**	**70**	P	**P**	**13 23 04.5**	**-1.1**
	comp=E,1.9nm,0.6s,mb4.2,baz=229,slow=5.1,SNR=11						
BR131	**Keskin Array S**	**124.98**	**65**	*e*Pdif	Pdif	13 25 58.5	+0.6
AKTO	**Aktyubinsk**	**144.27**	**56**	PKP	PKPdf	13 29 54.9	-2.5
	comp=E,3.5nm,0.6s,baz=252,slow=2.7,SNR=15						
ARU	**Arti**	**144.36**	**46**	*e*PKPdf	PKPdf	13 29 54.9	-2.6
ZRNK	**Zerenda**	**150.89**	**50**	*e*PKPdf	PKPdf	13 30 07.2	-1.1
ZRNK				*e*PKPbc	PKPbc	13 30 13.1	-0.9
BVAR	**Borovoye Array**	**151.69**	**50**	PKPbc	PKPbc	13 30 15.3	-0.5
	comp=E,2.7nm,0.6s,baz=286,slow=2.7,SNR=19						
ZAL	**Zalesovo**	**159.26**	**40**	PKP	PKPdf	13 30 18.7	-0.9
	comp=E,0.6nm,0.5s,baz=334,slow=2.5,SNR=4.8						
MKAR	**Makanchi Array**	**160.57**	**61**	PKP	PKPdf	13 30 19.7	-1.4
	comp=E,0.3nm,0.7s,baz=270,slow=1.2,SNR=4.1						
MKAR				PKPab	PKPab	13 31 01.4	-1.5
	comp=E,0.9nm,0.6s,baz=277,slow=4.2,SNR=11						

IDC 02 13:11:01.7±1.8, 025N×12525E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=186.1km s-min=24.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**157**	P	P	13 15 56.2	-0.7
	1.3nm,0.8s,baz=335,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**25.22**	**161**	P	P	13 16 30.1	+1.0
	0.5nm,0.4s,baz=343,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**59.60**	**327**	P	P	13 21 07.4	+0.1
	0.3nm,0.4s,baz=121,slow=8.2,SNR=9.2						

IDC ***02*** *13:14:08.3±1.1, 609N×12667E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, Error ellipse: s-maj=58.6km s-min=21.2km az=77.0*
ISCJB ***02*** *13:14:24.4±1.0, 59N±01×1265E±01, h155km±14km, mb3.6/6, Error ellipse: s-maj=24.1km s-min=16.7km az=162.2*

ISC 02 13:14:25.9±1.0, 59N±01×1265E±01, h151km±14km, n13, σ0°34/15, mb3.6/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**2.24**	**356⇑**	*e*P	**Pn**	**13 15 04.1**	**+0.3**
BIPH				*i*S	**Sn**	**13 15 32.7**	**-0.4**
BUKP	**Musuan**	**2.42**	**323**	*e*P	**Pn**	**13 15 06.0**	**0.0**
BUKP				*e*S	**Sn**	**13 15 37.2**	**+0.2**
PAGZ	**Pagadian**	**3.66**	**301**	*e*P	**Pn**	**13 15 21.6**	**-0.1**
WRA	**Warramunga Arr**	**26.84**	**164**	P	**P**	**13 19 52.1**	**0.0**
	0.4nm,0.3s,mb3.5,baz=344,slow=10.0,SNR=11						
WB2	**Warramunga Arr**	**26.84**	**164**	*e*P	**P**	**13 19 52.1**	**0.0**
ASAR	**Alice Springs**	**30.29**	**167**	P	**P**	**13 20 23.1**	**+0.3**
	0.4nm,0.5s,mb3.4,baz=345,slow=7.4,SNR=15						
ASPA	**Alice Springs**	**30.29**	**167**	*e*P	**P**	**13 20 23.2**	**+0.5**
KLBR	**Kellerberrin**	**38.25**	**192**	*e*P	**P**	**13 21 31.0**	**-0.2**
MUN	**Mundaring**	**38.97**	**194**	*e*P	**P**	**13 21 36.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**39.65**	**192**	P	**P**	**13 21 43.2**	**+0.4**
	9.4nm,1.1s,m

ISC 02 13:25:14.4±0.3, 3310N±003×13683E±003, h30km, h30km±2.5km: pP-P, n110, σ1§15/133, mb4.3/39, MS3.7/8, 8C-8D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.92**	**44**	P		**Pn**	**13 25 29.2**	**-2.1**
TK01				*e*S		**Sn**	**13 25 42.3**	**-1.3**
JWZ	**Kozaga**	**1.02**	**295**	⇑P		**Pn**	**13 25 31.0**	**-1.7**
JWZ				S		**Sn**	**13 25 44.5**	**-1.6**
TK02	**Tokai 2**	**1.15**	**42**	⇓P		**Pn**	**13 25 32.6**	**-1.9**
TK02				S		**Sn**	**13 25 48.5**	**-0.7**
JKN2	**Miekihoku**	**1.23**	**338**	⇓P		**Pn**	**13 25 34.9**	**-0.6**
JKN2				S		**Sn**	**13 25 50.5**	**-0.6**
JIE	**Ise**	**1.29**	**356**	⇓P		**Pn**	**13 25 36.1**	**-0.3**
JIE				S		**Sn**	**13 25 52.7**	**0.0**
JWM	**Minabe**	**1.44**	**302**	⇑P		**Pn**	**13 25 37.3**	**-1.1**
JWM				S		**Sn**	**13 25 55.4**	**-0.9**
JWY	**Kouya**	**1.52**	**318**	P		**Pn**	**13 25 39.3**	**-0.2**
JWY				S		**Sn**	**13 25 58.7**	**+0.4**
TK04	**Tokai 4**	**1.55**	**34**	⇓P		**Pn**	**13 25 38.9**	**-1.1**
TK04				S		**Sn**	**13 25 58.8**	**-0.3**
TSUJ	**Tsu 2**	**1.64**	**348**	⇓P		**Pn**	**13 25 41.1**	**-0.1**
TSUJ				S		**Sn**	**13 26 01.3**	**0.0**
JHE	**Heguri**	**1.82**	**329**	⇓P		**Pn**	**13 25 43.6**	**-0.1**
JHE				S		**Sn**	**13 26 06.2**	**+0.5**
JAJ2	**Tsuna**	**2.08**	**310**	P		**Pn**	**13 25 47.2**	**-0.1**
JAJ2				S		**Sn**	**13 26 12.2**	**-0.1**
JAI	**Aioi**	**2.10**	**290**	P		**Pn**	**13 25 46.4**	**-1.2**
JAI				S		**Sn**	**13 26 11.3**	**-1.4**
SHZ3	**Shizuoka 3**	**2.27**	**30**	⇓P		**Pn**	**13 25 48.6**	**-1.3**
SHZ3				S		**Sn**	**13 26 15.7**	**-1.2**
JHJ	**Hachijo jima 2**	**2.48**	**89**	Pn		**Pn**	**13 25 51.0**	**-1.7**
	66nm,0.3s,baz=211,slow=19,SNR=9.9							
JHJ				Sn		**Sn**	**13 26 17.7**	**-4.4**
	98nm,0.3s,baz=256,slow=22,SNR=12							
JHJ				LR		LR	13 26 53.2	
	comp=Z,951nm,18.9s,baz=322,slow=39							
MJAR	**Matsushiro Arr**	**3.62**	**18**	Pn		**Pn**	**13 26 09.0**	**+0.6**
	28nm,0.3s,baz=204,slow=14,SNR=288							
MJAR				Sn		**Sn**	**13 26 51.5**	**+1.4**
	12nm,0.3s,baz=207,slow=25,SNR=4.6							
MJAR	**Matsushiro Arr**	**3.62**	**18**	P		**Pn**	**13 26 09.0**	**+0.6**
MJAR							13 26 51.5	
MJAR				pmax		pmax		
	comp=Z,28nm,0.3s							
MAJO	**Matsushiro**	**3.62**	**18**	*e*Pn		**Pn**	**13 26 08.9**	**+0.5**
MAJO				*e*Sn		**Sn**	**13 26 51.2**	**+1.1**
MAT	**Matsushiro**	**3.62**	**18**	P		**Pn**	**13 26 08.9**	**+0.5**
MAT				S		**Sn**	**13 26 51.1**	**+1.0**
MAT	**Matsushiro**	**3.62**	**18**	*e*P		**Pn**	**13 26 09.0**	**+0.6**
MAT				*e*S		**Sn**	**13 26 51.0**	**+0.9**
JNU	**Nakatsue**	**4.99**	**272**	Pn		**Pn**	**13 26 20.9**	**-6.4**
	comp=Z,0.5nm,0.3s,baz=325,slow=6.1,SNR=1.8							
JNU				LR		LR	13 28 24.3	
	comp=Z,319nm,18.3s,baz=273,slow=38							
INCN	**Inchon**	**9.41**	**301**	*e*Pn		**Pn**	**13 27 21.2**	**-6.7**
	comp=Z,11nm,0.3s							
JOW	**Kunigami**	**9.69**	**232**	LR		LR	13 30 59.2	
	comp=Z,129nm,19.6s,baz=96,slow=36							
ASAJ	**Asahikawa**	**11.89**	**21**	Pn		**Pn**	**13 28 00.8**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=221,slow=14,SNR=9.0							
ASAJ				LR		LR	13 33 15.5	
	comp=Z,156nm,18.8s,baz=338,slow=40							
ASAJ	**Asahikawa**	**11.89**	**21**	P		**Pn**	**13 28 00.9**	**-0.9**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,156nm,18.8s							
SSE	**Sheshan**	**13.41**	**266**	P		**Pn**	**13 28 25.0**	**+2.4**
SSE				AP			13 28 31.8	
SSE				S		**Sn**	**13 30 47.6**	**-3.0**
SSE				AMB		AMB		
	comp=Z,19nm,0.8s							
SSE				AMB		AMB		
	comp=Z,113nm,4.3s							
YSS	**Yuzh-Sakhalins**	**14.56**	**16**	*e*Pn		**Pn**	**13 28 37.2**	**-1.1**
	comp=Z,36nm,1.1s							
YSS	**Yuzh-Sakhalins**	**14.56**	**16**	*e*P		**Pn**	**13 28 38.0**	**-0.3**
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
NJ2	**Nanjing**	**15.19**	**271**	*e*P		**Pn**	**13 28 47.2**	**+0.4**
NJ2				AP		pP	13 28 54.0	-5.4
NJ2				PP			13 28 58.5	
NJ2				AMB		AMB		
	comp=Z,20nm,1.0s							
NJ2				AMB		AMB		
	comp=Z,110nm,4.4s							
NJ2				LR		LR		
	comp=N,440nm,16.6s							
NJ2				LR		LR		
	comp=E,280nm,19.2s							
NJ2				LR		LR		
	comp=Z,180nm,22.0s							
HABR	**Khabarovsk**	**15.42**	**356**	*e*P		**Pn**	**13 28 48.5**	**-1.2**
HABR				*e*S		**Sn**	**13 31 42.3**	**+2.8**
KLR	**Kul'dur**	**16.56**	**348**	*e*P		**Pn**	**13 29 03.0**	**-1.3**
KLR				MLR		MLR		
	comp=N,500nm,13.0s							
KLR				MLR		MLR		
	comp=Z,2μm,13.0s							
BJI	**Beijing**	**17.96**	**299**	*e*P		**Pn**	**13 29 21.7**	**-0.1**
BJI				AMB		AMB		
	comp=Z,4.0nm,0.8s							
BJI				LR		LR		
	comp=N,219nm,12.3s							
BJI				LR		LR		
	comp=E,243nm,15.1s							
BJI				LR		LR		
	comp=Z,105nm,18.1s							
WHN	**Wuhan**	**19.27**	**268**	*e*P		**Pn**	**13 29 38.5**	**+0.9**
HHC	**Hu-ho-hao-te**	**21.57**	**298**	*e*P		**P**	**13 30 00.0**	**-1.4**
HHC				AP			13 30 07.0	
HHC				AMB		AMB		
	comp=Z,13nm,0.4s,mb4.7							
HHC				AMB		AMB		
	comp=Z,197nm,4.6s							
HHC				LR		LR		
	comp=N,185nm,5.1s							
HHC				LR		LR		
	comp=E,188nm,5.1s							
HHC				LR		LR		
	comp=Z,126nm,10.2s,MS3.6							
BTO	**Baotou**	**22.66**	**297**	*e*P		**P**	**13 30 12.9**	**-0.2**
XAN	**Xi'an**	**23.25**	**280**	P		**P**	**13 30 19.0**	**-0.3**
XAN				AMB		AMB		
	comp=Z,48nm,0.9s,mb4.9							
ENH	**Enshi**	**23.41**	**270**	*e*P		**P**	**13 30 21.5**	**+0.5**
	comp=Z,16nm,0.7s,mb4.6							
ULN	**Ulaanbaatar**	**26.82**	**312**	*e*P		**P**	**13 30 52.8**	**+0.8**
	comp=Z,2.7nm,0.8s,mb3.8							
ULN	**Ulaanbaatar**	**26.82**	**312**	⇑*e*P		**P**	**13 30 53.0**	**+1.0**
SONM	**Songino Array**	**27.22**	**312**	P		**P**	**13 30 56.8**	**+1.2**
	comp=Z,3.2nm,0.9s,mb3.9,baz=112,slow=8.0,SNR=18							
SONM				PcP		PcP	13 34 15.8	+0.6
	comp=Z,0.5nm,0.7s,baz=156,slow=1.9,SNR=4.2							
SONM				LR		LR	13 41 13.0	
	comp=Z,46nm,21.6s,MS3.0,baz=56,slow=35							
SONM	**Songino Array**	**27.22**	**312**	P		**P**	**13 30 56.8**	**+1.2**
SONM							13 34 15.8	
SONM				pmax		pmax		
	comp=Z,3.0nm,0.9s							
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SONM				MLR		MLR		
	comp=Z,46nm,21.6s							
LZH	**Lanzhou**	**27.24**	**286**	*e*P		**P**	**13 30 56.2**	**+0.4**
LZH				AP		pP	13 30 59.2	-5.2
LZH				AMB		AMB		
	comp=Z,25nm,1.2s,mb4.6							
LZH				AMB		AMB		
	comp=Z,103nm,4.8s							
LZH				LR		LR		
	comp=N,443nm,10.5s							
LZH				LR		LR		
	comp=Z,876nm,13.2s,MS4.5							
CD2	**Chengdu**	**28.07**	**275**	*e*P		**P**	**13 31 06.5**	**+3.3**
CD2				AP		pP	13 31 10.8	-1.0
CD2				XP		sP	13 31 13.5	-1.9
CD2				PP		PP	13 31 52.4	-14
CD2				S		**S**	**13 35 41.7**	**-4.3**
CD2				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8							
CD2				AMB		AMB		
	comp=Z,80nm,7.5s							
CD2				LR		LR		
	comp=N,180nm,13.2s							
CD2				LR		LR		
	comp=Z,160nm,16.8s,MS3.7							
GTA	**Gaotai**	**30.35**	**293**	*e*P		**P**	**13 31 23.8**	**+0.3**
GTA				AP		pP	13 31 28.6	-3.5
GTA				XP		sP	13 31 31.6	-4.2
GTA				PP		PP	13 32 19.2	-13
GTA				S		**S**	**13 36 16.1**	**-5.8**
GTA				SS		SS	13 38 02.2	-30
GTA				AMB		AMB		
	comp=Z,6.0nm,1.0s,mb4.3							
GTA				AMB		AMB		
	comp=Z,112nm,4.6s							
GTA				LR		LR		
	comp=N,119nm,12.2s,MS4.0							
GTA				LR		LR		
	comp=E,191nm,12.5s,MS4.0							
GTA				LR		LR		
	comp=Z,159nm,13.7s,MS3.8							
KMI	**Kunming**	**30.72**	**264**	P		**P**	**13 31 30.3**	**+3.6**
KMI				S		**S**	**13 36 26.5**	**-1.2**
KMI				AMB		AMB		
	comp=Z,9.0nm,0.5s,mb4.9							
KMI				LR		LR		
	comp=Z,76nm,34.1s,MS3.1							
TIXI	**Tiksi**	**38.85**	**356**	*e*P		**P**	**13 32 36.2**	**-0.6**
TIXI				*e*			13 32 47.2	
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb3.8							
TIXI				MLR		MLR		
	comp=Z,73nm,14.0s,MS3.7							
LSA	**Lhasa**	**38.90**	**278**	*e*P		**P**	**13 32 38.8**	**+1.5**
LSA	**Lhasa**	**38.90**	**278**	*e*P		**P**	**13 32 39.0**	**+1.8**
	comp=Z,2.6nm,0.5s,mb4.2							
LSA				*e*			13 32 50.2	
LSA	**Lhasa**	**38.90**	**278**	*e*P		**P**	**13 32 39.0**	**+1.7**
LSA				*e*			13 32 50.2	
LSA				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.3							
WMQ	**Urumqi**	**39.41**	**300**	*e*P		**P**	**13 32 42.0**	**+0.5**
WMQ				AP		pP	13 32 46.5	-3.9
WMQ				XP		sP	13 32 49.0	-4.9
WMQ				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.5							
WMQ				LR		LR		
	comp=N,505nm,20.0s							
WMQ				LR		LR		
	comp=Z,333nm,16.0s,MS4.3							
ZAL	**Zalesovo**	**41.95**	**316**	P		**P**	**13 33 02.2**	**-0.3**
	comp=Z,1.0nm,0.9s,mb3.5,baz=16,slow=9.5,SNR=7.6							
ZAL				PcP		PcP	13 34 56.6	-0.9
	comp=Z,1.5nm,0.7s,baz=346,slow=6.1,SNR=8.1							
ZAL	**Zalesovo**	**41.95**	**316**	P		**P**	**13 33 02.2**	**-0.3**
ZAL							13 34 56.7	
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NVS	**Novosibirsk**	**42.98**	**317**	*i*P		**P**	**13 33 11.4**	**+0.5**
MKAR	**Makanchi Array**	**43.15**	**305**	P		**P**	**13 33 13.2**	**+0.9**
	comp=Z,6.4nm,0.7s,mb4.5,baz=90,slow=10,SNR=77							
MKAR				PcP		PcP	13 35 00.7	-0.9
	comp=Z,0.9nm,0.8s,baz=104,slow=5.1,SNR=3.9							
MKAR	**Makanchi Array**	**43.15**	**305**	P		**P**	**13 33 13.2**	**+0.9**
MKAR							13 35 00.7	
MKAR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
KURK	**Kurchatov**	**45.52**	**311**	*e*P		**P**	**13 33 31.3**	**+0.1**
	comp=Z,10nm,0.9s,mb4.8							
KURK	**Kurchatov**	**45.52**	**311**	⇑*e*P		**P**	**13 33 31.7**	**+0.5**
BVAR	**Borovoye Array**	**50.52**	**314**	P		**P**	**13 34 10.4**	**+0.6**
	comp=Z,3.1nm,0.7s,mb4.3,baz=102,slow=8.3,SNR=20							
BVAR				PcP		PcP	13 35 27.1	-0.4
	comp=Z,1.4nm,0.7s,baz=98,slow=3.0,SNR=5.6							
BVAR	**Borovoye Array**	**50.52**	**314**	P		**P**	**13 34 10.4**	**+0.6**
BVAR							13 35 27.1	
BVAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**50.58**	**314**	*e*P		**P**	**13 34 10.4**	**+0.1**
	comp=Z,3.5nm,1.0s,mb4.2							
BRVK	**Borovoye**	**50.58**	**314**	*e*P		**P**	**13 34 10.4**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
ZRNK	**Zerenda**	**51.36**	**314**	*e*P		**P**	**13 34 16.3**	**+0.2**
	comp=Z,10.0nm,1.3s,mb4.6							
ZRNK	**Zerenda**	**51.36**	**314**	*e*P		**P**	**13 34 16.3**	**+0.2**
ZRNK				pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.6							
WRA	**Warramunga Arr**	**52.80**	**183**	P		**P**	**13 34 24.5**	**-2.4**
	comp=Z,2.9nm,0.8s,mb4.3,baz=0.8,slow=7.8,SNR=30							
WRA	**Warramunga Arr**	**52.80**	**183**	P		**P**	**13 34 24.5**	**-2.3**
WRA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ILAR	**Eielson Array**	**54.81**	**31**	P		**P**	**13 34 45.8**	**+4.2**
	comp=Z,0.7nm,0.8s,mb3.7,baz=282,slow=5.3,SNR=7.7							
ILAR	**Eielson Array**	**54.81**	**31**	P		**P**	**13 34 45.8**	**+4.2**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**56.52**	**183**	P		**P**	**13 34 52.0**	**-1.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=11,slow=12,SNR=21							
ASAR				pP		pP	13 35 03.1	+0.2
	comp=Z,1.6nm,0.8s,baz=9.9,slow=9.8,SNR=8.3							
ASAR	**Alice Springs**	**56.52**	**183**	P		**P**	**13 34 52.0**	**-1.8**
ASAR				*PP		pP	13 35 03.1	+0.2
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ASAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ARU	**Arti**	**56.85**	**319**	*e*P		**P**	**13 34 56.2**	**0.0**
	comp=Z,11nm,1.2s,mb4.8							
ARU	**Arti**	**56.85**	**319**	⇓*i*P		**P**	**13 34 56.8**	**+0.6**
ARU				*e*			13 37 03.8	
ARU				*e*PPP			13 38 19.1	
ARU				*e*S		**S**	**13 42 52.3**	**+4.5**
ARU				*e*SS		SS	13 46 40.8	+4.7
ARU				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb4.4							
AKTK	**Aktyubinsk**	**58.53**	**313**	P		**P**	**13 35 10.2**	**+2.2**
AKTO	**Aktyubinsk**	**58.53**	**313**	P		**P**	**13 35 10.2**	**+2.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=85,slow=14,SNR=4.7							
AKTO	**Aktyubinsk**	**58.53**	**313**	P		**P**	**13 35 10.3**	**+2.3**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
STKA	**Stephens Creek**	**64.78**	**176**	P		**P**	**13 35 46.5**	**-3.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=354,slow=4.2,SNR=7.1							
ARCES	**ARCESS Array B**	**66.33**	**339**	P		**P**	**13 36 00.5**	**+0.3**
	comp=Z,1.7nm,0.8s,mb4.1,baz=62,slow=8.5,SNR=4.0							
ARCES	**ARCESS Array B**	**66.33**	**339**	P		**P**	**13 36 00.5**	**+0.3**
ARCES	**ARCESS Array B**	**66.33**	**339**	P		**P**	**13 36 00.5**	**+0.3**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
RES	**Resolute Bay**	**67.31**	**13**	*e*P		**P**	**13 36 06.8**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.4							
RES				*e*pP		pP	13 36 16.6	+0.9
RES	**Resolute Bay**	**67.31**	**13**	*e*P		**P**	**13 36 06.8**	**+0.4**
RES				*e**PP		pP	13 36 16.6	+0.9
RES				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
NWAO	**Narrogin (SRO)**	**68.22**	**198**	P		**P**	**13 36 10.2**	**-1.9**
	comp=Z,5.4nm,0.8s,mb4.7,baz=341,slow=7.3,SNR=5.3							
NWAO	**Narrogin (SRO)**	**68.22**	**198**	P		**P**	**13 36 10.2**	**-1.9**
NWAO				pmax		pmax		
	comp=Z,5.0nm,0.8s							
YKA	**Yellowknife Ar**	**69.07**	**28**	P		**P**	**13 36 19.2**	**+1.8**
	comp=Z,0.8nm,0.8s,mb3.7,baz=296,slow=6.2,SNR=11							
YKA				pP		pP	13 36 28.2	+1.5
	comp=Z,1.7nm,0.9s,baz=296,slow=6.0,SNR=10.0							
YKA	**Yellowknife Ar**	**69.07**	**28**	P		**P**	**13 36 19.2**	**+1.8**
YKA				*PP		pP	13 36 28.2	+1.5
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YKA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
DAG	**Danmarks Havn**	**69.33**	**354**	⇑*i*P		**P**	**13 36 19.6**	**+0.6**
	comp=Z,2.7nm,0.6s,mb4.3							
DAG	**Danmarks Havn**	**69.33**	**354**	⇑*e*P		**P**	**13 36 19.6**	**+0.6**
	comp=Z,2.7nm,0.6s,mb4.3							
DAG	**Danmarks Havn**	**69.33**	**354**	⇑*e*P		**P**	**13 36 19.6**	**+0.6**
DAG				pmax		pmax		

NIED ***02*** *13:25:00, 3300N×13690E, h8km, Mw4.2 Best double couple: M0=2.01000×10^15 NP1:φs=77.00000°, δ=56.00000°, λ=53.00000°. NP2:φs=311.00000°, δ=48.00000°, λ=132.00000°.*
JMA ***02*** *13:25:11.8±0.1, 3299N×13686E, h39km±5km, M3.9*
JMA Felt II J1.
MOS ***02*** *13:25:12.2±1.1, 3298N×13699E, h33km, mb4.4/22, Error ellipse: s-maj=15.1km s-min=6.7km az=97.0*
BJI ***02*** *13:25:12.8, 3318N×13674E, h17km, mB4.6, mb4.6, Ms4.0, Msz3.7*
ISCJB ***02*** *13:25:12.8±0.3, 3308N±003×13684E±003, h28km, mb4.3/39, MS3.7/8, Error ellipse: s-maj=4.4km s-min=3.2km az=119.0*
IDC ***02*** *13:25:14.4±0.6, 3286N×13682E, h33km±5km, mb3.9/18, mb1 4.1/20, mb1mx4.1/24, mbtmp4.2/20, MS3.3/5, Ms1 3.3/5, ms1mx3.0/31, Error ellipse: s-maj=18.3km s-min=12.3km az=78.0*
NEIC ***02*** *13:25:14.3±0.4, 3293N×13685E, mb4.5/12, MW4.1(NIED), Error ellipse: s-maj=10.6km s-min=8.5km az=111.0*
NEIC Recorded [2 JMA] in Nara and [1 JMA] in Wakayama Prefectures.

comp=Z,3.0nm,0.6s,mb4.4
FINES FINESS Array B 70.50 332 P **P** **13 36 26.6 +0.3**
comp=Z,2.5nm,0.7s,mb4.3,baz=70,slow=6.3,SNR=9.1
FINES FINESS Array B 70.50 332 P **P** **13 36 26.6 +0.4**
FINES pmax pmax
comp=Z,3.0nm,0.7s
ANN Anapa 73.49 313 *e*P **P** **13 36 37.8 -6.4**
ANN *e*S S 13 46 04.1 -7.7
ANN pmax pmax
comp=Z,107nm,1.3s,mb5.6
SUMG Summit 74.56 359 *e*P **P** **13 36 51.5 +1.1**
comp=Z,4.6nm,0.6s,mb4.6
SUMG *e*pP pP 13 37 02.2 +2.4
AKASG Malin Array Be 75.05 321 P **P** **13 36 52.9 -0.3**
comp=Z,2.9nm,0.6s,mb4.4,baz=50,slow=6.2,SNR=9.8
AKASG Malin Array Be 75.05 321 P **P** **13 36 52.9 -0.3**
AKASG Malin Array Be 75.05 321 P **P** **13 36 52.9 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 76.30 336 P **P** **13 37 00.0 -0.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=43,slow=5.6
NB2 NORSAR Subarra 76.30 336 P **P** **13 37 00.0 -0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 76.30 336 P **P** **13 36 59.9 -0.5**
comp=Z,2.5nm,0.9s,mb4.2,baz=48,slow=4.9,SNR=5.7
NOA NORSAR Array B 76.30 336 P **P** **13 36 59.9 -0.5**
NOA pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 78.56 310 P **P** **13 37 13.8 +0.8**
comp=Z,1.9nm,0.8s,mb4.1,baz=102,slow=5.2,SNR=9.4
BRTR Keskin Array B 78.56 310 P **P** **13 37 13.8 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
NVAR Mina Array Bea 80.37 50 P **P** **13 37 25.4 +2.5**
comp=Z,0.4nm,0.5s,mb3.6,baz=310,slow=5.8,SNR=3.6
NVAR pP pP 13 37 34.4 +2.0
comp=Z,0.9nm,0.9s,baz=292,slow=4.6,SNR=3.7
CLL Collm 82.54 328 *e*P **P** **13 37 33.0 -1.4**
PRU Pruhonice 82.78 327 *e*P **P** **13 37 37.2 +1.6**
PDAR Pinedale Array 83.10 43 P **P** **13 37 38.3 +1.1**
comp=Z,0.5nm,0.9s,mb3.6,baz=332,slow=9.2,SNR=2.4
KHC Kasperske Hory 83.83 326 *e*P **P** **13 37 40.5 -0.5**
KHC Kasperske Hory 83.83 326⇑*e*P **P** **13 37 41.4 +0.4**
GERES GERESS Array B 83.97 326 P **P** **13 37 41.6 -0.1**
comp=Z,1.6nm,0.8s,mb4.2,baz=36,slow=5.0,SNR=8.4
GERES pP pP 13 37 51.6 +0.4
comp=Z,0.4nm,0.5s,baz=27,slow=6.1,SNR=3.3
GERES GERESS Array B 83.97 326 P **P** **13 37 41.6 -0.1**
GERES *PP pP 13 37 51.6 +0.4
GERES pmax pmax
comp=Z,2.0nm,0.8s
PV10 Paradox Valley 86.20 46 *e*P **P** **13 37 54.2 +1.3**
PV10 *e*pP pP 13 38 04.7 +2.3
PV01 Paradox Valley 86.64 46 *e*P **P** **13 37 56.7 +1.6**
PV01 *e*pP pP 13 38 05.5 +0.9
SDCO Great Sand Dun 88.72 45 *e*P **P** **13 38 07.0 +1.9**
comp=Z,5.0nm,1.5s,mb4.6
SDCO *e*pP pP 13 38 17.1 +2.5

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*OMAN **02** 13:36:11.8, 3237N×5696E, h35km, Error ellipse: s-maj=1229.0km s-min=58.4km az=5.0*
*IDC **02** 13:37:03.2±2.3, 2796N×5692E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.7/24, mbtmp3.8/10, Error ellipse: s-maj=49.5km s-min=22.5km az=156.0*
*CSEM **02** 13:37:04.8±0.1, 2816N×5703E, h12km, ML3.4, Error ellipse: s-maj=4.2km s-min=2.2km az=117.0*
*ISCJB **02** 13:37:04.0±0.8, 2819N±003×5701E±005, h6km±6km, mb3.7/10, Error ellipse: s-maj=7.8km s-min=5.0km az=46.0*
*THR **02** 13:37:07.9±0.5, 2824N×5680E, h14km±4km, ML3.4*
*NEIC **02** 13:37:07.9, 2823N×5682E, h14km, ML3.4(THR), MN3.2(TEH), After THR.*
ISC 02 13:37:06.1±0.8, 2818N±003×5695E±005, h9km±6km, n31, σ0§99/37, mb3.7/10, 3C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.04**	**222**	*e*PG	**Pg**	**13 37 26.7**	**+0.5**
BNDS				*e*SG	**Sg**	**13 37 40.8**	**+1.1**
BNDS				AML	AML	13 37 45.5	
	comp=N,973nm,0.3s						
BNDS				AML	AML	13 37 46.9	
	comp=E,1μm,0.4s						
BNDS	**Bandar-Abbas**	**1.04**	**222**	Pg	**Pg**	**13 37 26.0**	**-0.1**
BNDS				Sg	**Sg**	**13 37 40.0**	**+0.3**
KRBR	**Kerman**	**1.80**	**355**	*e*PG	**Pg**	**13 37 39.8**	**-0.9**
KRBR				*e*SG	**Sg**	**13 38 03.0**	**-1.0**
KRBR				AML	AML	13 38 14.7	
	comp=N,514nm,0.4s						
KRBR				AML	AML	13 38 14.7	
	comp=E,382nm,0.6s						
KRBR	**Kerman**	**1.80**	**355**	Pg	**Pg**	**13 37 39.0**	**-1.7**
KRBR				Sg	**Sg**	**13 38 03.0**	**-1.1**
BANOM	**Banah**	**2.32**	**195**	⇑P	**Pn**	**13 37 44.9**	**+0.4**
	SNR=14						
GHIR	**Ghir-Karzin**	**3.50**	**273**	*e*PN	**Pn**	**13 38 02.3**	**+1.5**
GHIR				AML	AML	13 39 12.1	
	comp=N,47nm,0.9s						
GHIR				AML	AML	13 39 24.1	
	comp=E,75nm,0.6s						
GHIR	**Ghir-Karzin**	**3.50**	**273**	Pn	**Pn**	**13 38 02.0**	**+1.3**
ASHO	**Ashiyiah**	**3.57**	**193**	⇓P	**Pn**	**13 38 01.1**	**-0.6**
	SNR=7.1						
IBAF	**Bafgh**	**3.60**	**341**	Pn	**Pn**	**13 38 04.6**	**+2.5**
IBAF				Lg		13 38 55.5	
ZHSF	**Zahedan**	**3.64**	**66**	*e*PN	**Pn**	**13 38 07.6**	**+4.9**
ZHSF				*e*SG	**Sg**	**13 39 04.2**	**+1.2**
ZHSF	**Zahedan**	**3.64**	**66**	Pn	**Pn**	**13 38 07.0**	**+4.3**
ZHSF				Sg	**Sg**	**13 39 03.0**	**-0.1**
IMEH	**Mehriz**	**3.79**	**328**	Pn	**Pn**	**13 38 05.7**	**+1.0**
IPAR	**Pars**	**3.80**	**297**	Pn	**Pn**	**13 38 03.2**	**-1.6**
HOQ	**Hoqain**	**4.59**	**176**	⇑P	**Pn**	**13 38 16.3**	**+0.6**
	SNR=7.2						
ICHK	**Chekchek**	**4.61**	**332**	Pn	**Pn**	**13 38 17.2**	**+1.2**
BIDO	**Bidbid**	**4.76**	**167**	⇑P	**Pn**	**13 38 16.9**	**-1.1**
	SNR=11						
BIDO	**Bidbid**	**4.76**	**167**	P	**Pn**	**13 38 16.9**	**-1.1**
	SNR=11						
WHFO	**Wadi Hawf**	**10.62**	**197**	⇓P	**Pn**	**13 39 37.5**	**-1.0**
	SNR=6.5						
AKTK	**Aktyubinsk**	**22.24**	**2**	P	**P**	**13 42 03.6**	**+0.5**
AKTK	**Aktyubinsk**	**22.24**	**2**	P	**P**	**13 42 03.6**	**+0.5**
AKTO	**Aktyubinsk**	**22.24**	**2**	P	**P**	**13 42 03.6**	**+0.5**
	comp=E,1.1nm,0.4s,mb3.6,baz=195,slow=9.9,SNR=6.5						
BRTR	**Keskin Array B**	**22.44**	**307**	P	**P**	**13 42 05.9**	**+0.6**
	comp=E,1.6nm,0.8s,mb3.5,baz=116,slow=11,SNR=8.4						
BVAR	**Borovoye Array**	**26.74**	**18**	P	**P**	**13 42 46.4**	**+0.4**
	comp=E,2.0nm,0.7s,mb3.7,baz=204,slow=9.0,SNR=16						
MKAR	**Makanchi Array**	**27.19**	**40**	P	**P**	**13 42 50.9**	**+0.9**
	comp=E,0.2nm,0.5s,mb2.9,baz=226,slow=8.8,SNR=6.0						
MKAR	**Makanchi Array**	**27.19**	**40**	P	**P**	**13 42 50.8**	**+0.8**
MLR	**Muntele Rosu**	**29.99**	**314**	P	**P**	**13 43 14.5**	**-0.5**
	comp=E,1.5nm,0.5s,mb4.0,baz=276,slow=7.9,SNR=3.4						
ZAL	**Zalesovo**	**32.82**	**31**	P	**P**	**13 43 39.5**	**-0.3**
	comp=E,1.2nm,0.3s,mb4.3,baz=205,slow=5.6,SNR=5.2						
GERES	**GERESS Array B**	**38.97**	**314**	P	**P**	**13 44 32.4**	**-0.2**
	comp=E,0.2nm,0.2s,mb3.4,baz=235,slow=4.7,SNR=3.5						
FINES	**FINESS Array B**	**39.10**	**337**	P	**P**	**13 44 32.8**	**-0.9**
	comp=E,1.9nm,0.6s,mb4.0,baz=136,slow=8.6,SNR=12						
TORD	**Torodi Ar. Bea**	**53.40**	**266**	P	**P**	**13 46 24.5**	**-1.6**
	comp=E,0.8nm,0.6s,mb3.8,baz=62,slow=7.1,SNR=9.1						
YKA	**Yellowknife Ar**	**89.39**	**356**	P	**P**	**13 50 02.3**	**-0.9**
	comp=E,0.1nm,0.4s,mb3.5,baz=0.0,slow=4.4,SNR=4.3						

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*NEIC **02** 13:55:47.2±1.4, 1058S×16576E, h157km±12km, mb4.2/3, Error ellipse: s-maj=13.2km s-min=11.7km az=151.0*
*ISCJB **02** 13:55:48.0±2.0, 107S±0.1×1658E±0.1, h180km±17km, mb3.8/8, Error ellipse: s-maj=20.4km s-min=16.7km az=70.1*
*IDC **02** 13:55:48.1±3.0, 1067S×16579E, h167km±26km, mb3.4/7, mb1 3.7/9, mb1mx3.6/16, mbtmp4.0/9, MS3.2/2, Ms1 3.2/2, ms1mx2.7/18, Error ellipse: s-maj=24.7km s-min=20.4km az=131.0*
ISC 02 13:55:47.9±2.0, 106S±01×1658E±01, h165km±17km, n14, σ0§84/14, mb3.8/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.92**	**281**	P	**Pn**	**13 57 11.8**	**-1.8**
	4.8nm,0.3s,baz=79,slow=2.1,SNR=4.6						
HNR				S	**Sn**	**13 58 22.2**	**+1.2**
	5.1nm,0.3s,baz=261,slow=16,SNR=2.4						
HNR				LR	LR	13 59 24.5	
	comp=Z,99nm,18.5s,baz=176,slow=37						
DZM	**Mont Dzumac**	**11.38**	**177**	P	**Pn**	**13 58 26.1**	**+0.4**
	2.0nm,0.3s,baz=57,slow=18,SNR=35						
CTA	**Charters Tower**	**21.07**	**241**	P	**P**	**14 00 19.4**	**+0.3**
	5.4nm,0.8s,mb4.0,baz=80,slow=9.8,SNR=10						
CTAO	**Charters Tower**	**21.07**	**241**	*e*P	**P**	**14 00 19.2**	**+0.1**
	4.1nm,0.5s,mb4.0						
RAO	**Raoul Island**	**23.95**	**143**	LR	LR	14 08 18.9	
	comp=Z,126nm,18.2s,baz=257,slow=31						
WRAB	**Tennant Creek**	**31.70**	**249**	*e*P	**P**	**14 01 55.6**	**-0.2**
	2.2nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**31.70**	**249**	*e*P	**P**	**14 01 55.6**	**-0.2**
WRA	**Warramunga Arr**	**31.71**	**249**	P	**P**	**14 01 55.8**	**-0.1**
	1.7nm,0.5s,mb4.0,baz=82,slow=8.9,SNR=30						
ASAR	**Alice Springs**	**33.05**	**243**	P	**P**	**14 02 07.0**	**-0.6**
	0.6nm,0.5s,mb3.6,baz=64,slow=9.9,SNR=17						
FITZ	**Fitzroy Crossi**	**39.57**	**254**	*e*P	**P**	**14 03 03.2**	**+0.3**
	6.7nm,0.5s,mb4.5						
ILAR	**Eielson Array**	**83.10**	**18**	P	**P**	**14 07 54.9**	**-0.2**
	0.6nm,0.5s,mb3.6,baz=240,slow=5.1,SNR=22						
NVAR	**Mina Array Bea**	**85.69**	**50**	P	**P**	**14 08 09.7**	**+1.6**
	0.3nm,0.3s,mb3.5,baz=245,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**93.28**	**317**	P	**P**	**14 08 44.3**	**+0.5**
	0.5nm,0.7s,mb3.7,baz=109,slow=5.6,SNR=5.8						
YKA	**Yellowknife Ar**	**94.57**	**27**	P	**P**	**14 08 48.6**	**-1.1**
	0.1nm,0.7s,mb3.1,baz=263,slow=3.8,SNR=3.9						

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*NIED **02** 14:09:00, 3230N×14190E, h5km, Mw3.8 Best double couple: M0:5.32000×10^14 NP1:φs:9.00000°, δ:47.00000°, λ:103.00000°. NP2:φs:170.00000°, δ:44.00000°, λ:76.00000°.*
*JMA **02** 14:09:35.6±0.7, 3235N×14192E, h0km, M4.0*
*IDC **02** 14:09:35.8±0.9, 3224N×14189E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, ML3.7/2, Error ellipse: s-maj=27.9km s-min=17.0km az=73.0*
*ISCJB **02** 14:09:37.0±1.8, 3222N±004×14185E±008, h22km±14km, mb4.0/10, Error ellipse: s-maj=12.8km s-min=5.8km az=132.1*
*NEIC **02** 14:09:38.8±8.0, 3220N×14177E, h18km±50km, mb4.4/4, Error ellipse: s-maj=23.5km s-min=13.8km az=99.0*
*MOS **02** 14:09:38.8±1.1, 3220N×14168E, h35km, mb4.3/6, Error ellipse: s-maj=27.6km s-min=11.8km az=109.1*
ISC 02 14:09:37.9±2.0, 3222N±004×14181E±009, h14km±13km, n36, σ0§95/48, mb4.0/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.91**	**298**	P	**Pn**	**14 10 10.1**	**+0.2**
JHJ	**Hachijo jima 2**	**1.93**	**298**	Pn	**Pn**	**14 10 10.3**	**0.0**
	22nm,0.3s,baz=76,slow=22,SNR=7.4						
JHJ				Sn	**Sn**	**14 10 33.0**	**-1.4**
	32nm,0.3s,baz=73,slow=19,SNR=3.5						
BSO1	**Boso 1**	**2.53**	**344**	P	**Pn**	**14 10 17.7**	**-0.8**
BSO2	**Boso 2**	**2.68**	**341**	*e*S	**Sn**	**14 10 52.6**	**-0.1**
BSO3	**Boso 3**	**2.80**	**337**	P	**Pn**	**14 10 21.6**	**-0.6**
BSO3				*e*S	**Sn**	**14 10 56.3**	**+0.6**
BSO4	**Boso 4**	**3.02**	**336**	P	**Pn**	**14 10 26.4**	**+1.1**
BSO4				*e*S	**Sn**	**14 11 02.8**	**+1.4**
KTR	**Katsuura**	**3.18**	**337**	P	**Pn**	**14 10 23.6**	**-3.8**
JRY	**Ryogami san**	**4.49**	**328**	P	**Pn**	**14 10 46.8**	**+1.3**
JRY				*e*S	**Sn**	**14 11 38.8**	**+1.2**
JAG	**Ashikaga**	**4.63**	**336**	P	**Pn**	**14 10 47.7**	**+0.3**
JAG				*e*S	**Sn**	**14 11 40.0**	**-0.9**
CBIJ	**Chichi jima**	**5.12**	**176**	Pn	**Pn**	**14 10 54.7**	**+0.6**
	7.6nm,0.3s,baz=310,slow=18,SNR=2.1						
CBIJ				Sn	**Sn**	**14 11 49.3**	**-3.7**
	6.2nm,0.3s,baz=246,slow=20,SNR=2.5						
MJAR	**Matsushiro Arr**	**5.24**	**326**	Pn	**Pn**	**14 10 56.2**	**+0.4**
	1.2nm,0.3s,baz=152,slow=10,SNR=10						
MJAR				Sn	**Sn**	**14 11 55.6**	**-0.5**
	baz=150,slow=14,SNR=3.0						
MJAR	**Matsushiro Arr**	**5.24**	**326**	P	**Pn**	**14 10 56.2**	**+0.4**
MJAR						14 11 55.6	
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**5.24**	**326**	*e*Pn	**Pn**	**14 10 54.7**	**-1.2**
MAT	**Matsushiro**	**5.24**	**326**	P	**Pn**	**14 10 58.0**	**+2.2**
MAT				*e*S	**Sn**	**14 11 56.5**	**+0.4**
MAT	**Matsushiro**	**5.24**	**326**	P	**Pn**	**14 10 56.2**	**+0.4**
MAT				S	**Sn**	**14 11 56.5**	**+0.4**
MAT	**Matsushiro**	**5.24**	**326**	*e*P	**Pn**	**14 10 57.0**	**+1.2**
MAT				*e*S	**Sn**	**14 11 55.0**	**-1.1**
JMM	**Marumori**	**5.70**	**352**	P	**Pn**	**14 11 00.7**	**-1.3**
JMM				*e*S	**Sn**	**14 12 02.5**	**-4.7**
JMK	**Ichinoseki**	**6.74**	**356**	P	**Pn**	**14 11 15.2**	**-1.1**
JMK				*e*S	**Sn**	**14 12 26.7**	**-6.1**
SONM	**Songino Array**	**30.96**	**311**	P	**P**	**14 15 56.1**	**+1.6**
	comp=Z,0.9nm,0.7s,mb3.7,baz=102,slow=8.7,SNR=7.3						
SONM	**Songino Array**	**30.96**	**311**	P	**P**	**14 15 56.1**	**+1.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.09**	**306**	P	**P**	**14 18 08.8**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=91,slow=9.2,SNR=17						
MKAR				PcP	PcP	14 19 41.4	+0.4
	comp=Z,0.2nm,0.6s,baz=70,slow=6.3,SNR=2.1						
MKAR	**Makanchi Array**	**47.09**	**306**	P	**P**	**14 18 08.9**	**-0.4**
MKAR						14 19 41.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**49.26**	**312**	*e*P	**P**	**14 18 25.2**	**-0.9**
	comp=Z,1.7nm,0.8s,mb4.1						
KURK	**Kurchatov**	**49.26**	**312**	*e*P	**P**	**14 18 25.2**	**-0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**52.35**	**189**	P	**P**	**14 18 49.1**	**-0.2**
	comp=Z,10nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**52.35**	**189**	P	**P**	**14 18 49.1**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**52.36**	**189**	P	**P**	**14 18 49.3**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=6.9,slow=7.6,SNR=35						
WRA	**Warramunga Arr**	**52.36**	**189**	P	**P**	**14 18 49.3**	**-0.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MCK	**McKinley**	**52.50**	**32**	P	**P**	**14 18 52.1**	**+1.7**
	comp=Z,9.6nm,1.7s,mb4.5						
MCK	**McKinley**	**52.50**	**32**	P	**P**	**14 18 52.1**	**+1.7**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
ILAR	**Eielson Array**	**53.42**	**30**	P	**P**	**14 18 56.4**	**-0.9**
	comp=Z,0.5nm,1.0s,mb3.4,baz=249,slow=5.6,SNR=4.2						
ILAR	**Eielson Array**	**53.42**	**30**	P	**P**	**14 18 56.4**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**56.08**	**189**	P	**P**	**14 19 17.2**	**+0.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=8.4,slow=6.3,SNR=9.2						
RES	**Resolute Bay**	**67.18**	**14**	P	**P**	**14 20 30.8**	**-0.6**
	comp=Z,2.6nm,1.0s,mb4.2						
RES	**Resolute Bay**	**67.18**	**14**	P	**P**	**14 20 30.8**	**-0.6**
RES				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
YKA	**Yellowknife Ar**	**67.82**	**29**	P	**P**	**14 20 35.2**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.5,baz=296,slow=6.2,SNR=6.1						

IDC 02 14:16:40.9±2.0, 656S×12856E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.5/14, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=130.9km s-min=30.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.44**	**158**	Pn	Pn	14 20 05.5	-1.1
	0.1nm,0.3s,baz=336,slow=14,SNR=5.6						
WRA				Sn	Sn	14 22 34.7	-13
	0.4nm,0.3s,baz=333,slow=23,SNR=7.8						
ASAR	**Alice Springs**	**17.77**	**164**	P	Pn	14 20 50.7	+1.0
	0.1nm,0.3s,baz=352,slow=10,SNR=8.6						
ASAR				S	Sn	14 23 58.6	-10
	0.1nm,0.3s,baz=354,slow=26,SNR=4.7						
MKAR	**Makanchi Array**	**67.08**	**327**	P	P	14 27 36.2	+0.2
	0.4nm,0.4s,baz=114,slow=8.0,SNR=12						

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*THR **02** 14:20:47.8±0.6, 3256N×4820E, h14km±5km, ML3.1*
*ISCJB **02** 14:20:48.6±1.6, 324N±0.1×482E±0.1, h31km±19km, Error ellipse: s-maj=25.7km s-min=11.0km az=67.8*
*CSEM **02** 14:20:48.1±0.2, 3249N×4821E, h25km, ML3.5, Error ellipse: s-maj=3.9km s-min=2.5km az=46.0*
*TEH **02** 14:20:48.0, 3241N×4817E, h12km, Mn3.5*
ISC 02 14:20:48.3±1.9, 324N±01×481E±01, h15km±17km, n16, σ0§79/20, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.64**	**119**	*e*PG	**Pg**	**14 21 00.7**	**-0.1**
SHGR				AML	AML	14 21 30.2	
	comp=E,759nm,0.6s						
IKOM	**Komasi**	**1.83**	**343**	*e*Pn	**Pn**	**14 21 18.6**	**-0.5**
IPIR	**Pirpir**	**2.34**	**83**	*e*Pn	**Pn**	**14 21 27.1**	**+0.9**
ASAO	**Ashtian**	**2.64**	**36**	*e*PN	**Pn**	**14 21 30.5**	**+0.2**
ASAO				*e*SG	**Sn**	**14 22 06.2**	**+4.2**
ASAO				AML	AML	14 22 13.7	
	comp=E,89nm,0.5s						
ASAO				AML	AML	14 22 18.3	
	comp=N,80nm,0.6s						
ASAO	**Ashtian**	**2.64**	**36**	*e*Pn	**Pn**	**14 21 30.5**	**+0.2**
	SNR=52						
ASAO				*e*Sg	**Sn**	**14 22 06.2**	**+4.1**
	SNR=90						
IDHR	**Dehrash**	**2.70**	**328**	*e*Pn	**Pn**	**14 21 31.8**	**+0.6**
SNGE	**Sanandaj**	**2.74**	**346**	*e*PN	**Pn**	**14 21 31.9**	**+0.2**
SNGE				*e*SG	**Sn**	**14 22 10.0**	**+5.3**
SNGE				AML	AML	14 22 15.5	
	comp=E,88nm,0.8s						
SNGE				AML	AML	14 22 16.9	
	comp=N,71nm,0.6s						
SNGE	**Sanandaj**	**2.74**	**346**	*e*Pn	**Pn**	**14 21 31.9**	**+0.1**
	SNR=52						
SNGE				*e*Sg	**Sn**	**14 22 10.0**	**+5.3**
	SNR=90						
IKLH	**Kalahroud**	**3.03**	**72**	*e*Pn	**Pn**	**14 21 36.9**	**+1.2**
BHD	**Baghdad**	**3.28**	**286**	*e*x	x	14 21 45.0	
BHD				*e*x	x	14 22 28.0	
BHD				*e*x	x	14 22 35.5	
BHD				*e*x	x	14 22 44.0	
IZEF	**Zefreh**	**3.56**	**81**	*e*Pn	**Pn**	**14 21 44.1**	**+1.1**
IVRN	**Varamin**	**3.94**	**48**	*e*Pn	**Pn**	**14 21 47.8**	**-0.4**
IPAR	**Pars**	**4.93**	**120**	*e*Pn	**Pn**	**14 22 00.7**	**-1.1**
IFIR	**Firoozkooh**	**5.00**	**49**	*e*Pn	**Pn**	**14 22 02.3**	**-0.4**
ISHM	**Shahmirzad**	**5.44**	**50**	*e*Pn	**Pn**	**14 22 08.2**	**-0.7**
IANJ	**Anjiloo**	**5.68**	**56**	*e*Pn	**Pn**	**14 22 11.3**	**-0.8**
IANJ				*e*Sn	**Sn**	**14 23 12.9**	**-4.1**

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*NIED **02** 14:28:00, 3420N×13520E, h5km, Mw3.8 Best double couple: M0:5.47000×10^14 NP1:φs:351.00000°, δ:55.00000°, λ:44.00000°. NP2:φs:232.00000°, δ:55.00000°, λ:136.00000°.*
*IDC **02** 14:28:42.7±0.7, 3411N×13524E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, ML3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=16.4km s-min=11.9km az=146.0*
*ISCJB **02** 14:28:43.4±0.6, 3417N±004×135.19E±004, h13km±3km, mb3.9/16, Error ellipse: s-maj=7.0km s-min=4.9km az=57.5*
*JMA **02** 14:28:43.7, 3421N×13521E, h4km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs:236.00000°, δ:57.00000°, λ:147.00000°. NP2: φs:345.00000°, δ:63.00000°, λ:38.00000°. Principal axes: T Plg45.0000°, Azm203.0000°; N Plg45.0000°, Azm15.0000°; P Plg4.0000°, Azm109.0000°;*
JMA Felt III J1.
*MOS **02** 14:28:45.6±0.8, 3408N×13522E, h33km, mb4.2/11 Error ellipse: s-maj=17.5km s-min=11.4km az=75.5*
*NEIC **02** 14:28:46.8±2.6, 3413N×13527E, h26km±19km, mb4.1/7, Error ellipse: s-maj=11.0km s-min=7.8km az=155.0*
ISC 02 14:28:43.8±0.6, 3419N±004×13520E±004, h4km±4km, n41, σ0§98/50, mb3.9/16, 1C-2D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.33**	**84**	⇓P	**Pg**	**14 28 49.7**	**-0.5**
JWY				S	**Sg**	**14 28 54.3**	**-0.1**
JAJ2	**Tsuna**	**0.35**	**312**	⇓P	**Pg**	**14 28 50.6**	**+0.1**
JAJ2				S	**Sg**	**14 28 55.5**	**+0.4**
JWM	**Minabe**	**0.36**	**159**	⇑P	**Pg**	**14 28 51.4**	**+0.6**
JWM				S	**Sg**	**14 28 56.7**	**+1.2**
MAJO	**Matsushiro**	**3.40**	**45**	*e*Pn	**Pn**	**14 29 38.1**	**+0.6**
MAT	**Matsushiro**	**3.40**	**45**	P	**Pn**	**14 29 38.4**	**+0.8**
MAT				S	**Sn**	**14 30 18.9**	**+0.6**
MAT	**Matsushiro**	**3.40**	**45**	*e*P	**Pn**	**14 29 38.0**	**+0.4**
MAT				*e*S	**Sn**	**14 30 33.0**	**+15**
MJAR	**Matsushiro Arr**	**3.40**	**45**	Pn	**Pn**	**14 29 38.3**	**+0.7**
	3.5nm,0.3s,baz=90,slow=11,SNR=31						
MJAR				Pg	**Pg**	**14 29 47.3**	**-1.7**
	5.3nm,0.3s,baz=223,slow=16,SNR=20						
MJAR				Lg		14 30 32.1	
	5.3nm,0.3s,baz=214,slow=28,SNR=8.1						
JNU	**Nakatsue**	**3.76**	**255**	Pn	**Pn**	**14 29 43.7**	**+1.2**
	4.4nm,0.3s,baz=104,slow=12,SNR=6.9						
JNU				Pg	**Pg**	**14 29 53.0**	**-2.9**
	3.3nm,0.3s,baz=27,slow=7.9,SNR=5.7						
JNU				Lg		14 30 43.3	
	1.8nm,0.3s,baz=150,slow=20,SNR=3.9						
JNU				LR	LR	14 31 00.4	
	comp=Z,231nm,20.4s,baz=151,slow=36						
JNU	**Nakatsue**	**3.76**	**255**	Pn	**Pn**	**14 29 43.7**	**+1.2**
JNU				Pg	**Pg**	**14 29 53.0**	**-2.9**
JNU				Lg		14 30 43.3	
JNU				LR	LR	14 31 00.4	
JHJ	**Hachijo jima 2**	**3.97**	**104**	Pn	**Pn**	**14 29 45.4**	**0.0**
	20nm,0.3s,baz=216,slow=18,SNR=3.6						
JHJ				Sn	**Sn**	**14 30 32.8**	**+0.4**
	16nm,0.3s,baz=75,slow=20,SNR=2.2						
KS15	**Wonju Array Si**	**6.77**	**301**	Pn	**Pn**	**14 30 24.2**	**+0.3**
ENH	**Enshi**	**22.08**	**267**	*e*P	**P**	**14 33 42.9**	**+3.2**
	5.7nm,0.6

comp=Z,2.8nm,0.9s,mb4.3,baz=349,slow=23,SNR=5.6
STKA Stephens Creek 65.99 174 *e*P **P 14 39 29.2 -2.0**
YKA Yellowknife Ar 68.75 28 P **P 14 39 48.5 -0.3**
comp=Z,0.4nm,0.9s,mb3.4,baz=300,slow=7.0,SNR=5.6
FINES FINESS Array B 68.90 331 P **P 14 39 47.8 -1.9**
comp=Z,0.5nm,0.6s,mb3.6,baz=70,slow=8.1,SNR=4.8
FINES FINESS Array B 68.90 331 P **P 14 39 47.8 -1.9**
FINES pmax pmax
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 80.72 50 P **P 14 40 57.4 -0.7**
comp=Z,0.3nm,0.3s,mb3.7,baz=276,slow=4.3,SNR=3.9
NVAR Mina Array Bea 80.72 50 P **P 14 40 57.4 -0.7**

MAN 02 14:51:26.3,1369N×12003E,h32km,mb1.6,ML3.5,MS3.7, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.22**	**78**	*e*P	Pb	14 51 34.2	+1.3
LUBP	**Lubang**	**0.22**	**78**	*e*P	Pb	14 51 34.1	+1.2
LUBP				*e*S	Sb	14 51 39.2	+1.8
TGY	**Tagaytay City**	**0.97**	**65**	⇓*i*P	Pn	14 51 48.6	+4.9
TGY				*i*S	Sn	14 52 02.4	+5.9
ARP	**Angono**	**1.38**	**52**	*e*P	Pn	14 51 48.9	-0.4
QVPH	**Quezon City--P**	**1.39**	**46**	*e*P	Pn	14 51 49.9	+0.5
BUSP	**Coron**	**1.68**	**174**	*e*P	Pn	14 51 53.7	+0.2
BUSP				*e*S	Sn	14 52 10.0	-4.0
BOAC	**Boac**	**1.78**	**97**	*e*P	Pn	14 51 56.3	+1.4
BOAC				*e*S	Sn	14 52 16.7	+0.3

IDC ***02*** *15:23:54.6±14.0, 1698S×16709E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, ML3.5/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/33, Error ellipse: s-maj=239.9km s-min=38.4km az=67.0*
ISCJB ***02*** *15:23:58.4±3.5, 1715S±02×1672E±03, h54km±52km, mb3.6/3, MS3.7/1, Error ellipse: s-maj=49.2km s-min=19.1km az=58.6*
ISC 02 15:23:59.1±3.8,170S±02×1673E±02,h43km±48km,n6, σ0$42/7,mb3.6/3,MS3.7/1,1C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.12**	**126**	⇑*i*P	**Pn**	**15 24 18.1**	**-0.3**
BKM				S	**Sn**	**15 24 32.9**	**+0.2**
DZM	**Mont Dzumac**	**5.10**	**189**	Pn	**Pn**	**15 25 13.2**	**+0.1**
1.7nm,0.3s,baz=329,slow=18,SNR=189							
DZM				Sn	**Sn**	**15 26 10.6**	**0.0**
2.6nm,0.3s,baz=321,slow=23,SNR=9.1							
STKA	**Stephens Creek**	**27.59**	**233**	P	**P**	**15 29 41.8**	**-0.5**
0.9nm,0.6s,mb3.6,baz=48,slow=12,SNR=3.4							
WRA	**Warramunga Arr**	**31.36**	**259**	P	**P**	**15 30 15.7**	**0.0**
0.2nm,0.6s,mb3.1,baz=86,slow=8.4,SNR=7.7							
ASAR	**Alice Springs**	**31.95**	**252**	P	**P**	**15 30 21.3**	**+0.5**
2.2nm,0.8s,mb4.0,baz=80,slow=8.8,SNR=41							
GUMO	**Guam**	**37.61**	**323**	LR	LR	15 42 46.0	
comp=Z,137nm,21.0s,MS3.7,baz=181,slow=30							

ISCJB ***02*** *15:24:55.9±0.1, 1804S±004×17844W±003, h611km, mb5.2/91, Error ellipse: s-maj=5.0km s-min=3.3km az=123.5*
MOS ***02*** *15:24:55.6±1.1, 1791S×17843W, h601km, mb5.4/27, Error ellipse: s-maj=9.0km s-min=6.7km az=51.9*
BJI ***02*** *15:24:55.6, 1788S×17770W, h631km, mB4.9, mb5.0*
IDC ***02*** *15:24:56.3±0.4, 1803S×17842W, h606km±4km, mb4.6/27, mb1 4.7/31, mb1mx4.7/31, mbtmp5.6/31, Error ellipse: s-maj=8.9km s-min=6.3km az=139.0*
NEIC ***02*** *15:24:57.1±0.1, 1802S×17841W, mb5.3/48, Error ellipse: s-maj=6.0km s-min=3.4km az=142.0*
HRVD ***02*** *15:24:57.1±0.3, 1800S×17824W, h633km±2km, MW5.5/79, Centroid moment Tensor Solution. LP body waves: s79,c130; Half duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.45±.04; $M_{\theta\theta}$1.09±.07; $M_{\phi\phi}$-0.64±.07; $M_{r\theta}$0.89±.07; $M_{\theta\phi}$-1.07±.06; $M_{\phi r}$-1.79±.07; Best double couple: $M_0$2.45200×10^{17} NP1:ϕ_s73.00000°, δ33.00000°, λ-168.00000°. NP2:ϕ_s333.00000°, δ84.00000°, λ-57.00000°. Principal axes: T 2.5580, Plg31.0000°, Azm37.0000°; N -0.2110, Plg32.0000°, Azm149.0000°; P -2.3470, Plg42.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s.*
BGS ***02*** *15:24:59.2±2.8, 1785S×17851W, h617km, mb5.3(NEIC)*
SZGRF ***02*** *15:25:00.6, 1731S×17699W, h630km, Fiji Islands region*
ISC 02 15:24:57.4±0.1,1806S±003×17838W±003,h613km, h613km±1.9km:pP-P,n517,σ0$93/316,mb5.2/90,73C-27D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.57**	**58**	P	**P**	**15 26 51.0**	**-2.1**
35nm,0.3s,baz=355,slow=1.2,SNR=110							
AFI				S	**S**	**15 28 24.9**	**-3.0**
1.9nm,0.3s,baz=30,slow=20,SNR=2.0							
RAO	**Raoul Island**	**11.15**	**178**	P	**P**	**15 27 25.5**	**-2.1**
47nm,0.3s,baz=75,slow=22,SNR=6.1							
RAO				S	**S**	**15 29 30.2**	**-0.9**
40nm,0.3s,baz=92,slow=23,SNR=4.0							
DZM	**Mont Dzumac**	**14.81**	**252**	P	**P**	**15 28 03.9**	**+0.8**
7.0nm,0.3s,baz=70,slow=17,SNR=23							
DZM				S	**S**	**15 30 35.7**	**+0.9**
baz=93,slow=18,SNR=2.7							
DZM				ScP	ScP	15 35 08.4	+3.0
0.4nm,0.3s,baz=45,slow=17,SNR=5.1							
RAR	**Rarotonga**	**17.80**	**103**	P	**P**	**15 28 30.1**	**-0.5**
1.0nm,0.3s,baz=251,slow=6.3,SNR=16							
URZ	**Urewera**	**20.51**	**190**	P	**P**	**15 28 53.7**	**-1.3**
27nm,0.6s,baz=350,slow=6.9,SNR=28							
URZ				S	**S**	**15 32 03.8**	**-2.8**
16nm,0.8s,baz=168,slow=22,SNR=6.0							
HNR	**Honiara**	**22.71**	**289**	P	**P**	**15 29 14.5**	**-0.2**
153nm,0.9s,mb5.6,baz=213,slow=1.7,SNR=13							
QRZ	**Quartz Range**	**24.00**	**197**	PN	**P**	**15 29 26.9**	**+0.8**
QRZ				*e*SN	**S**	**15 33 00.2**	**-1.4**
QRZ	**Quartz Range**	**24.00**	**197**	P	**P**	**15 29 26.9**	**+0.8**
QRZ				S	**S**	**15 33 01.4**	**-0.2**
TUWZ	**Tuamarina**	**24.21**	**194**	*e*PN	**P**	**15 29 26.5**	**-1.3**
THZ	**Tophouse**	**24.77**	**196**	PN	**P**	**15 29 32.4**	**-0.5**
THZ				*e*SN	**S**	**15 33 09.9**	**-3.8**
THZ	**Tophouse**	**24.77**	**196**	P	**P**	**15 29 32.4**	**-0.5**
THZ				*e*S	**S**	**15 33 11.1**	**-2.6**
KHZ	**Kahutara**	**25.24**	**194**	*e*PN	**P**	**15 29 36.1**	**-0.8**
KHZ				SN	**S**	**15 33 17.1**	**-3.9**
KHZ	**Kahutara**	**25.24**	**194**	*e*P	**P**	**15 29 36.1**	**-0.9**
KHZ				S	**S**	**15 33 17.1**	**-3.9**
LTZ	**Lake Taylor**	**25.89**	**196**	*e*PN	**P**	**15 29 41.8**	**-1.0**
LTZ				SN	**S**	**15 33 27.6**	**-3.6**
LTZ	**Lake Taylor**	**25.89**	**196**	*e*P	**P**	**15 29 41.8**	**-0.9**
LTZ				S	**S**	**15 33 27.6**	**-3.6**
RPZ	**Rata Peaks**	**27.09**	**197**	P	**P**	**15 29 52.1**	**-1.1**
26nm,0.7s,mb5.0,baz=92,slow=5.7,SNR=10							
PAE	**Paea**	**27.40**	**94**	⇑*i*P	**P**	**15 29 56.1**	**+0.2**
360nm,1.2s,mb5.9							
PAE				*e*ScP	ScP	15 35 40.0	+3.1
62nm,1.2s							
PPT	**Papeete**	**27.42**	**93**	⇑*i*P	**P**	**15 29 56.5**	**+0.5**
137nm,1.0s,mb5.5							
PPT				*e*pP		15 31 31.6	
46nm,1.2s							
PPT				*e*ScP	ScP	15 35 40.0	+3.0
38nm,1.1s							
PPT	**Papeete**	**27.42**	**93**	P	**P**	**15 29 56.7**	**+0.6**
112nm,0.6s,mb5.7,baz=239,slow=3.9,SNR=22							
PPT				ScP	ScP	15 35 38.1	+1.2
27nm,0.9s,baz=99,slow=2.3,SNR=3.9							
TBI	**Tubuai**	**27.53**	**106**	*e*P	**P**	**15 29 58.2**	**+1.2**
138nm,0.8s,mb5.6							
TVO	**Taravao**	**27.70**	**94**	⇑*i*P	**P**	**15 29 59.0**	**+0.4**
173nm,0.8s,mb5.8							
TVO				*e*ScP	ScP	15 35 41.1	+3.2
56nm,0.9s							
LBZ	**Lake Benmore**	**27.95**	**198**	*e*PN	**P**	**15 29 59.0**	**-1.7**
LBZ	**Lake Benmore**	**27.95**	**198**	*e*P	**P**	**15 29 59.0**	**-1.7**
MEH	**Mehetia**	**28.82**	**94**	*e*P	**P**	**15 30 08.4**	**+0.2**
VAH	**Vaihoa**	**29.58**	**89**	⇑*i*P	**P**	**15 30 14.8**	**+0.1**
196nm,0.8s,mb5.8							
RIV	**Riverview**	**31.42**	**234**	*e*P	**P**	**15 30 31.5**	**+1.0**
CNB	**Canberra Magne**	**33.36**	**233**	*e*P	**P**	**15 30 48.4**	**+1.6**
646nm,1.0s,mb6.2							
CNB				*e*S	**S**	**15 35 28.2**	**+2.4**
CNB				*e*SCP	ScP	15 36 00.3	+3.5
CTA	**Charters Tower**	**33.45**	**261**	⇓*i*P	**P**	**15 30 48.1**	**+0.6**
170nm,1.0s,mb5.6							
CTA				*e*PCP	PcP	15 33 10.9	+1.0
CTA				*e*SCP	ScP	15 35 59.9	+2.8
CTA	**Charters Tower**	**33.45**	**261**	P	**P**	**15 30 48.1**	**+0.5**
150nm,0.6s,mb5.8,baz=86,slow=13,SNR=23							
CTA				ScP	ScP	15 35 58.8	+1.6
29nm,1.0s,baz=82,slow=3.3,SNR=8.7							
CTA	**Charters Tower**	**33.45**	**261**	⇓*i*P	**P**	**15 30 48.1**	**+0.6**
CTA				*e*		15 33 10.9	
CTA				pmax	pmax		
comp=Z,170nm,1.0s							
CTAO	**Charters Tower**	**33.45**	**261**	P	**P**	**15 30 48.2**	**+0.6**
CTAO				*e*PcP	PcP	15 33 10.2	+0.2
CTAO				*e*ScP	ScP	15 35 59.9	+2.8
CTAO	**Charters Tower**	**33.45**	**261**	P	**P**	**15 30 48.2**	**+0.7**
CTAO				*e*		15 33 10.2	
PMG	**Port Moresby**	**34.51**	**280**	P	**P**	**15 30 57.7**	**+1.3**
PMG	**Port Moresby**	**34.51**	**280**	*d*P	**P**	**15 30 57.6**	**+1.2**
TAU	**Tasmania Unive**	**38.15**	**222**	P	**P**	**15 31 27.0**	**+0.9**
comp=Z,445nm,0.9s,mb6.0,SNR=7.3							
TAU	**Tasmania Unive**	**38.15**	**222**	P	**P**	**15 31 27.2**	**+1.1**
comp=Z,72nm,0.9s,mb5.2							
TAU	**Tasmania Unive**	**38.15**	**222**	P	**P**	**15 31 27.2**	**+1.1**
TAU				pmax	pmax		
comp=Z,72nm,0.9s,mb5.2							
STKA	**Stephens Creek**	**38.58**	**241**	*e*P	**P**	**15 31 28.9**	**-0.7**
comp=Z,402nm,1.0s,mb5.9							
STKA				*e*SCP	ScP	15 36 17.6	+1.4
STKA				*e*S	**S**	**15 36 41.4**	**-1.9**
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**15 31 29.1**	**-0.6**
comp=Z,289nm,0.7s,mb5.9,baz=87,slow=8.9,SNR=486							
STKA				ScP	ScP	15 36 16.0	-0.3
comp=Z,13nm,0.9s,baz=11,slow=0.7,SNR=5.0							
STKA				P3KPbc		16 01 18.4	
comp=Z,2.6nm,0.8s,baz=261,slow=4.7,SNR=4.8							
RKT	**Rikitea**	**40.83**	**105**	*e*P	**P**	**15 31 47.2**	**-0.3**
comp=Z,142nm,1.0s,mb5.4							
ADE	**Adelaide**	**41.58**	**237**	⇓*i*P	**P**	**15 31 54.3**	**+0.9**
HON	**Honolulu**	**43.94**	**28**	P	**P**	**15 32 11.5**	**-0.2**
KIP	**Kipapa**	**44.02**	**28**	P	**P**	**15 32 12.0**	**-0.3**
WB2	**Warramunga Arr**	**44.62**	**260**	⇓*i*P	**P**	**15 32 16.8**	**-0.1**
WB2				*e*S	**S**	**15 38 06.5**	**-3.2**
WB2				*e*SCS	ScS	15 41 08.5	+1.7
WRAB	**Tennant Creek**	**44.62**	**260**	P	**P**	**15 32 16.0**	**-0.9**
comp=Z,1μm,0.7s							
WRAB	**Tennant Creek**	**44.62**	**260**	P	**P**	**15 32 16.8**	**-0.2**
WRAB	**Tennant Creek**	**44.62**	**260**	*d*P	**P**	**15 32 16.8**	**-0.1**
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**15 32 16.7**	**-0.4**
comp=Z,125nm,0.6s,mb5.6,baz=94,slow=7.4,SNR=990							
WRA				PcP	PcP	15 33 45.7	-0.3
comp=Z,25nm,0.9s,baz=91,slow=3.5,SNR=6.2							
WRA				ScP	ScP	15 36 42.9	+2.4
comp=Z,10.0nm,1.0s,baz=91,slow=4.4,SNR=9.8							
WRA				S	**S**	**15 38 06.0**	**-3.9**
comp=Z,2.6nm,0.7s,baz=93,slow=14,SNR=5.3							
WRA				ScS	ScS	15 41 07.9	+1.0
comp=Z,1.8nm,1.0s,baz=93,slow=4.6,SNR=4.6							
WRA				P3KPbc		16 00 56.0	
comp=Z,0.7nm,1.0s,baz=284,slow=6.7,SNR=4.6							
WRA				PKP2bc		16 04 03.2	
comp=Z,3.5nm,1.1s,baz=283,slow=2.4,SNR=8.7							
WRA				P4KPbc		16 09 56.2	
comp=Z,0.6nm,0.8s,baz=94,slow=4.4,SNR=4.9							
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**15 32 16.7**	**-0.4**
WRA				PcP	PcP	15 33 45.7	-0.3
WRA				ScP	ScP	15 36 42.9	+2.4
WRA				S	**S**	**15 38 06.0**	**-3.9**
WRA				ScS	ScS	15 41 07.9	+1.0
WRA				*e*		16 00 56.0	
WRA				⇑*e*		16 04 03.2	
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**15 32 16.7**	**-0.3**
WRA						15 33 45.7	
WRA				S	**S**	**15 38 06.0**	**-3.9**
WRA						15 41 07.9	
AS31	**Alice Springs**	**44.78**	**254**	⇓*i*P	**P**	**15 32 18.6**	**+0.5**
AS31				*e*S	**S**	**15 38 10.6**	**-1.3**
AS31				*e*ScS	ScS	15 41 09.3	+1.5
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**15 32 18.7**	**+0.6**
comp=Z,574nm,0.8s,mb6.2,baz=88,slow=8.7,SNR=3718							
ASAR				PcP	PcP	15 33 47.0	+0.4
comp=Z,24nm,0.7s,baz=108,slow=3.6,SNR=6.7							
ASAR				pP	pP	15 34 05.3	-0.1
comp=Z,21nm,1.1s,baz=92,slow=7.2,SNR=2.5							
ASAR				ScP	ScP	15 36 43.5	+2.4
comp=Z,19nm,1.0s,baz=106,slow=4.7,SNR=7.9							
ASAR				S	**S**	**15 38 10.4**	**-1.5**
comp=Z,17nm,1.1s,baz=89,slow=16,SNR=19							
ASAR				ScS	ScS	15 41 09.4	+1.5
comp=Z,3.1nm,1.0s,baz=93,slow=6.8,SNR=8.5							
ASAR				P3KPbc		16 00 54.1	
comp=Z,0.5nm,0.9s,baz=280,slow=4.0,SNR=6.5							
ASAR				PKP2bc		16 04 01.8	
comp=Z,1.9nm,0.9s,baz=268,slow=3.5,SNR=11							
ASAR				P4KPbc		16 10 00.5	
comp=Z,0.2nm,0.7s,baz=84,slow=4.9,SNR=4.4							
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**15 32 18.7**	**+0.6**
ASAR				PcP	PcP	15 33 47.0	+0.4
ASAR				pP	pP	15 34 05.3	-0.1
ASAR				ScP	ScP	15 36 43.5	+2.4
ASAR				S	**S**	**15 38 10.4**	**-1.5**
ASAR				ScS	ScS	15 41 09.4	+1.5
ASAR				*e*		16 00 54.1	
ASAR				⇑*e*		16 04 01.8	
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**15 32 18.7**	**+0.6**
ASAR						15 33 47.0	
ASAR				*PP	pP	15 34 05.3	0.0
ASAR				S	**S**	**15 38 10.5**	**-1.4**
ASAR						15 41 09.4	
ASPA	**Alice Springs**	**44.78**	**254**	⇓*i*P	**P**	**15 32 18.6**	**+0.5**
ASPA				*e*S	**S**	**15 38 10.6**	**-1.4**
ASPA				*e*SCS	ScS	15 41 09.3	+1.4
GUMO	**Guam**	**47.99**	**308**	P	**P**	**15 32 42.2**	**-0.1**
comp=Z,347nm,1.0s,mb5.9,baz=183,slow=5.4,SNR=8.5							
GUMO	**Guam**	**47.99**	**308**	P	**P**	**15 32 42.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**53.03**	**261**	⇓*i*P	**P**	**15 33 19.2**	**+0.4**
comp=Z,130nm,1.8s,mb5.0							
MBWA	**Marble Bar**	**58.06**	**256**	P	**P**	**15 33 53.6**	**+0.1**
comp=Z,234nm,1.1s,mb5.2							
KLBR	**Kellerberrin**	**58.79**	**244**	⇓*i*P	**P**	**15 33 58.1**	**-0.2**
comp=Z,272nm,0.9s,mb5.4							
NWAO	**Narrogin (SRO)**	**59.16**	**242**	P	**P**	**15 34 00.9**	**+0.1**
MUN	**Mundaring**	**60.08**	**243**	⇓*i*P	**P**	**15 34 06.8**	**-0.1**
SBA	**Scott Base**	**60.27**	**184**	P	**P**	**15 34 10.4**	**+2.2**
VNDA	**Vanda**	**60.30**	**185**	P	**P**	**15 34 09.2**	**+0.9**
comp=Z,13nm,0.8s,mb4.2,baz=353,slow=7.2,SNR=9.5							
VNDA	**Vanda**	**60.30**	**185**	P	**P**	**15 34 10.0**	**+1.7**
BUTP	**Butuan**	**61.45**	**291**	*e*P	**P**	**15 34 16.1**	**+0.3**
BUKP	**Musuan**	**61.48**	**290**	*e*P	**P**	**15 34 16.7**	**+0.6**
CTBH	**Cotabato--PC H**	**61.94**	**289**	⇓*i*P	**P**	**15 34 19.5**	**+0.5**
MSLP	**Maasin**	**62.64**	**292**	*e*P	**P**	**15 34 23.6**	**+0.1**
PAGZ	**Pagadian**	**62.98**	**289**	*e*P	**P**	**15 34 26.1**	**+0.5**
OCLP	**Ormoc**	**63.27**	**293**	*e*P	**P**	**15 34 27.5**	**0.0**
IPIL	**Ipil**	**63.68**	**289**	*e*P	**P**	**15 34 30.3**	**+0.2**
CNP	**Catarman**	**63.88**	**294**	*e*P	**P**	**15 34 31.8**	**+0.4**
PVCP	**Virac**	**64.82**	**295**	*e*P	**P**	**15 34 37.8**	**+0.5**
GUIM	**Jordan**	**64.86**	**291**	*e*P	**P**	**15 34 36.7**	**-0.9**
OTRP	**Odiongan**	**66.12**	**293**	*e*P	**P**	**15 34 45.2**	**-0.2**
CUYO	**Cuyo Island**	**66.35**	**291**	*e*P	**P**	**15 34 46.6**	**-0.2**
TSM	**Tawau**	**66.63**	**283**	P	**P**	**15 34 49.6**	**+1.1**
BOAC	**Boac**	**66.76**	**294**	*e*P	**P**	**15 34 48.8**	**-0.5**
BUSP	**Coron**	**67.57**	**292**	*e*P	**P**	**15 34 54.6**	**+0.3**
PALP	**Palanan**	**67.90**	**298**	*e*P	**P**	**15 34 57.0**	**+0.7**
ENPP	**El Nido**	**67.92**	**291**	*e*P	**P**	**15 34 56.7**	**+0.3**
MJAR	**Matsushiro Arr**	**68.04**	**323**	P	**P**	**15 34 56.4**	**-0.7**
comp=Z,6.8nm,0.4s,mb4.4,baz=155,slow=5.7,SNR=29							
MAJO	**Matsushiro**	**68.05**	**323**	P	**P**	**15 34 56.1**	**-1.0**
MAT	**Matsushiro**	**68.05**	**323**	P	**P**	**15 34 56.1**	**-1.1**
MAT				S	S	15 43 02.2	-7.2
MAT	**Matsushiro**	**68.05**	**323**	*e*P	**P**	**15 34 56.0**	**-1.2**
comp=Z,15nm,0.8s,mb4.5							
MAT				*e*S	S	15 43 02.0	-7.4
MAT	**Matsushiro**	**68.05**	**323**	*e*P	**P**	**15 34 56.0**	**-1.2**
MAT				*e*S	S	15 43 02.0	-7.4
MAT				pmax	pmax		
comp=Z,15nm,0.8s,mb4.5							
LUBP	**Lubang**	**68.27**	**293**	*e*P	**P**	**15 34 55.5**	**-3.1**
CAUP	**Cauayan**	**68.36**	**297**	*e*P	**P**	**15 35 04.6**	**+5.6**
BATP	**Bataraza**	**68.41**	**287**	*e*P	**P**	**15 34 59.4**	**+0.1**
KKM	**Kota Kinabalu**	**68.81**	**284**	P	**P**	**15 35 02.7**	**+1.0**
KKM	**Kota Kinabalu**	**68.81**	**284**	⇓*i*P	**P**	**15 35 02.0**	**+0.3**
APYP	**Conner**	**69.27**	**298**	*e*P	**P**	**15 35 04.6**	**+0.1**
ADK	**Adak**	**69.66**	**1**	P	**P**	**15 35 04.8**	**-2.0**
FX1	**Attu Island--F**	**71.02**	**355**	P	**P**	**15 35 13.0**	**-1.8**
comp=Z,56nm,0.7s,mb5.2,baz=138,slow=4.9,SNR=13							
FX1	**Attu Island--F**	**71.02**	**355**	*e*P	**P**	**15 35 12.9**	**-1.9**
ASAJ	**Asahikawa**	**71.42**	**331**	P	**P**	**15 35 16.4**	**-0.8**
comp=Z,9.6nm,0.7s,mb4.5,baz=333,slow=4.2,SNR=9.0							
QSPA	**South Pole Qui**	**72.00**	**180**	⇓*e*P	**P**	**15 35 21.0**	**+0.5**
comp=Z,148nm,1.0s,mb5.5							
QSPA				*e*pP	pP	15 37 26.7	+2.2
NACB	**Ninganchiao**	**72.02**	**304**	⇓*e*P	**P**	**15 35 19.4**	**-1.3**
YHNB	**Yeheng**	**72.44**	**304**	*e*P	**P**	**15 35 22.8**	**-0.3**
KSM	**Kuching**	**72.73**	**277**	⇓*i*P	**P**	**15 35 25.6**	**+0.9**
PET	**Petropavlovsk**	**73.53**	**346**	*e*P	**P**	**15 35 27.6**	**-1.6**
PET				*e*S	S	15 44 08.0	-3.0
PET				*e*SP		15 44 41.1	
PET				*e*SSS		15 52 29.0	
PET				pmax	pmax		
comp=Z,32nm,0.8s,mb4.9							
PET				smax			
comp=E,600nm,16.7s							
YSS	**Yuzh-Sakhalins**	**73.56**	**333**	P	**P**	**15 35 30.1**	**+0.7**
YSS	**Yuzh-Sakhalins**	**73.56**	**333**	*e*P	**P**	**15 35 30.5**	**+1.1**
YSS				*e*S	S	15 44 14.0	+2.7
SSE	**Sheshan**	**75.86**	**310**	P	**P**	**15 35 42.0**	**-0.2**
SSE				PCP	PcP	15 35 51.2	-0.2
SSE				AP	pP	15 37 49.1	+0.9
SSE				XP	sP	15 38 51.7	+1.1
SSE				S	S	15 44 37.2	+1.1
SSE				XS	sS	15 48 25.0	+4.5
SSE				AMB	AMB		
comp=Z,42nm,0.8s,mb4.9							
SSE				AMB	AMB		
comp=Z,67nm,4.3s							
SAO	**San Andreas Ge**	**76.51**	**44**	P	**P**	**15 35 46.7**	**+0.9**
comp=Z,146nm,0.9s,mb5.4							
SAO	**San Andreas Ge**	**76.51**	**44**	P	**P**	**15 35 46.7**	**+0.9**
SAO				pmax	pmax		
comp=Z,146nm,0.9s,mb5.4							
LRV	**Little Rabbit**	**76.60**	**44**	*e*P	**P**	**15 35 46.8**	**+0.5**
PTRM	**Twissleman Ran**	**76.71**	**45**	*e*P	**P**	**15 35 47.1**	**+0.2**
HOPS	**Hopland**	**76.77**	**41**	P	**P**	**15 35 48.0**	**+0.8**
comp=Z,152nm,1.2s,mb5.3							
NSHM	**Saint Helena R**	**76.78**	**42**	*e*P	**P**	**15 35 47.4**	**+0.1**
MWC	**Mount Wilson**	**77.42**	**48**	P	**P**	**15 35 51.0**	**+0.3**
MWC				*e*PP	PP	15 38 52.3	-4.5
BAR	**Barrett**	**77.60**	**49**	P	**P**	**15 35 51.9**	**+0.2**
ISA	**Isabella**	**77.90**	**46**	P	**P**	**15 35 53.3**	**0.0**
comp=Z,128nm,0.9s,mb5.3							
ISA	**Isabella**	**77.90**	**46**	P	**P**	**15 35 53.3**	**0.0**
ISA				pmax	pmax		
comp=Z,128nm,0.9s,mb5.3							
CMB	**Columbia Colle**	**77.93**	**43**	P	**P**	**15 35 53.6**	**+0.1**
comp=Z,97nm,1.0s,mb5.2							
CMB	**Columbia Colle**	**77.93**	**43**	P	**P**	**15 35 53.6**	**+0.1**
CMB				pmax	pmax		
comp=Z,97nm,1.0s,mb5.2							
OHCM	**Honcut**	**77.97**	**42**	P	**P**	**15 35 53.6**	**0.0**
WDC	**Whiskeytown Da**	**78.04**	**40**	P	**P**	**15 35 54.1**	**+0.1**
comp=Z,166nm,1.4s,mb5.3							
WDC	**Whiskeytown Da**	**78.04**	**40**	P	**P**	**15 35 54.2**	**+0.1**
WDC				pmax	pmax		
comp=Z,166nm,1.4s,mb5.3							
NJ2	**Nanjing**	**78.06**	**309**	*e*P	**P**	**15 35 55.2**	**+1.1**
NJ2				AP	pP	15 38 01.7	+0.6
NJ2				PP	PP	15 39 04.3	+2.3
NJ2				S	S	15 45 03.0	+3.8
NJ2				AMB	AMB		
comp=Z,50nm,1.0s,mb4.9							
NJ2				AMB	AMB		
comp=Z,40nm,3.5s							
HABR	**Khabarovsk**	**78.16**	**330**	*e*P	**P**	**15 35 54.9**	**+0.2**
HABR				*e*S	S	15 45 01.3	+1.0
HABR				pmax	pmax		
comp=Z,59nm,1.7s,mb4.7							
PFO	**Pinyon Flat Ob**	**78.23**	**49**	P	**P**	**15 35 55.2**	**+0.1**
comp=Z,250nm,1.0s,mb5.6,SNR=7.9							
PFO	**Pinyon Flat Ob**	**78.23**	**49**	P	**P**	**15 35 55.4**	**+0.3**
MDJ	**Mudanjiang**	**78.33**	**325**	P	**P**	**15 35 56.3**	**+0.7**
MDJ				AP	pP	15 38 02.3	-0.3
MDJ				XP	sP	15 39 04.7	-0.1
MDJ				S	S	15 45 03.8	+1.8
MDJ				XS	sS	15 48 52.7	+4.3
MDJ				PS		15 50 27.4

comp=Z,127nm,1.0s,mb5.3
MA2 Magadan 81.35 345 P **P 15 36 09.4 -1.9**
MA2 Magadan 81.35 345 *c iP* **P 15 36 09.4 -1.9**
MA2 *e**PP pP 15 38 14.2 -5.5
MA2 *i* S S 15 45 28.9 -3.9
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
MA2 pmax pmax
comp=N,4.0nm,1.1s
LVP Lakeview Peak 81.40 36 P **P 15 36 11.7 +0.1**
OCWA Octopus Mounta 81.48 34 P **P 15 36 13.1 +1.1**
WVOR Wild Horse Val 81.50 40⇑ *iP* **P 15 36 12.0 -0.1**
comp=N,158nm,1.0s,mb5.5
WVOR *e*pP pP 15 38 21.9 +1.3
WVOR Wild Horse Val 81.50 40⇑ *iP* **P 15 36 12.0 -0.1**
WVOR *e**PP pP 15 38 21.9 +1.3
WVOR pmax pmax
comp=Z,158nm,1.0s,mb5.5
SLKM Skilak Lake 81.53 14 P **P 15 36 10.6 -1.7**
TUC Tucson 81.77 52 P **P 15 36 14.1 +0.6**
comp=Z,93nm,1.1s,mb5.2
TUC Tucson 81.77 52 P **P 15 36 14.1 +0.6**
TUC pmax pmax
comp=Z,93nm,1.1s,mb5.2
PGC Sidney 82.42 33 P **P 15 36 16.8 0.0**
BBB Bella Bella 82.44 29 P **P 15 36 16.2 -0.6**
comp=Z,34nm,0.7s,mb0.5,baz=268,slow=3.2,SNR=12
ARUT Antelope Range 82.46 46 *eP* **P 15 36 17.1 +0.2**
ARUT *e*PP PP 15 39 36.2 -1.6
IPM Ipoh 82.47 277 P **P 15 36 18.3 +1.4**
PMR Palmer 82.74 14 P **P 15 36 16.3 -2.1**
comp=Z,86nm,1.1s,mb5.2
PMR Palmer 82.74 14 P **P 15 36 16.3 -2.0**
PMR pmax pmax
comp=Z,86nm,1.1s,mb5.2
ELK Elko 82.75 43 P **P 15 36 18.8 +0.4**
comp=Z,48nm,0.9s,mb5.0,baz=243,slow=4.8,SNR=157
ELK PP PP 15 39 35.6 -4.4
comp=Z,2.2nm,0.9s,baz=243,slow=8.1,SNR=5.0
ELK Elko 82.75 43 P **P 15 36 18.6 +0.3**
comp=Z,85nm,1.0s,mb5.2
ELK *e*pP pP 15 38 28.1 +0.7
ELK *e*PP PP 15 39 37.7 -2.3
ELK Elko 82.75 43 P **P 15 36 18.6 +0.2**
ELK *e**PP pP 15 38 28.1 +0.7
ELK *e* 15 39 37.7
ELK pmax pmax
comp=Z,85nm,1.0s
WUAZ Wupatki 82.82 49 P **P 15 36 19.5 +0.8**
WUAZ *e*PP PP 15 39 37.4 -3.3
SIT Sitka 83.01 22 P **P 15 36 19.3 -0.4**
comp=Z,202nm,1.6s,mb5.4
SIT Sitka 83.01 22 P **P 15 36 19.3 -0.4**
SIT pmax pmax
comp=Z,202nm,1.6s,mb5.4
KULM Kulim 83.08 278⇓ *iP* **P 15 36 20.9 +0.8**
SML Sawmill 83.11 14 *eP* **P 15 36 18.2 -2.0**
RSW Rattlesnake Hi 83.18 37 P **P 15 36 20.6 +0.1**
HAWA Hanford 83.21 37 P **P 15 36 20.6 0.0**
BMO Blue Mountains 83.64 39 P **P 15 36 22.5 -0.4**
comp=Z,114nm,1.5s,mb5.2
BMO *e*pP pP 15 38 33.5 +1.3
BMO *e*PP PP 15 39 44.5 -2.8
BMO Blue Mountains 83.64 39 P **P 15 36 22.5 -0.3**
BMO *e**PP pP 15 38 33.5 +1.3
BMO pmax pmax
comp=Z,114nm,1.5s,mb5.2
MVU Marysvale 83.65 46 P **P 15 36 30.6 +7.7**
comp=Z,74nm,1.2s,mb5.1
MVU *e*PP PP 15 39 52.0 +4.7
MSU Marysvale 83.68 46 *eP* **P 15 36 23.9 +0.9**
MSU *e*pP pP 15 38 34.5 +2.1
MSU *e*PP PP 15 39 45.6 -2.0
WTV Waterville 83.72 35 P **P 15 36 22.7 -0.5**
MAW Mawson 83.73 200 P **P 15 36 22.7 -0.5**
comp=Z,32nm,0.8s,mb4.9,baz=87,slow=6.5,SNR=4.4
NLW Nelson Butte 83.74 35 P **P 15 36 22.8 -0.5**
TNA Tin City 83.74 4 P **P 15 36 22.0 -1.3**
TNA *e*pP pP 15 38 34.0 +1.3
TNA *e*PP PP 15 39 43.8 -4.2
BJT Baijiatuau 83.91 315⇓ *iP* **P 15 36 24.0 -0.1**
comp=Z,104nm,1.5s,mb5.1
BJT Baijiatuau 83.91 315⇓ *iP* **P 15 36 24.0 -0.1**
BJT pmax pmax
comp=Z,105nm,1.5s
BJI Beijing 83.91 315 *eP* **P 15 36 24.2 +0.1**
BJI XP sP 15 39 41.5 +6.4
BJI S S 15 45 57.8 -0.3
BJI AMB AMB
comp=Z,41nm,1.4s,mb4.8
BJI AMB AMB
comp=Z,306nm,3.6s
PSI Prapat 83.92 275 P **P 15 36 24.2 0.0**
baz=167,slow=4.6
PSI PP PP 15 39 46.9 -2.6
comp=Z,12nm,1.0s,baz=136,slow=8.9,SNR=5.2
SEY Seymchan 83.93 347⇑ *eP* **P 15 36 22.8 -1.4**
DUG Dugway 84.07 45 P **P 15 36 24.9 0.0**
DUG *e*pP PP 15 39 48.4 -2.2
OD2 Odessa Site #2 84.24 36 P **P 15 36 25.5 -0.3**
BGU Big Grassy Mou 84.28 44 *eP* **P 15 36 29.1 +3.2**
BGU *e*PP PP 15 39 53.7 +1.4
ENH Enshi 84.38 304⇓ *iP* **P 15 36 26.9 +0.5**
comp=Z,161nm,1.1s,mb5.5
NLU North Lily Min 84.44 45 *eP* **P 15 36 24.8 -2.0**
MCK McKinley 84.68 13 P **P 15 36 25.9 -2.0**
comp=Z,44nm,1.0s,mb5.0
MCK McKinley 84.68 13 P **P 15 36 25.9 -2.0**
MCK pmax pmax
comp=Z,44nm,1.0s,mb5.0
TMUT Trail Mountain 84.72 46 P **P 15 36 28.9 +0.8**
HLID Hailey 84.72 41 P **P 15 36 28.5 +0.4**
comp=Z,61nm,0.8s,mb5.3
HLID *e*pP pP 15 38 39.4 +1.4
HLID *e*PP PP 15 39 52.9 -2.9
NOQ North Oquirrh 84.75 44 P **P 15 36 28.0 -0.2**
MPU Maple Canyon 84.77 45 P **P 15 36 28.8 +0.5**
MPU PP PP 15 39 55.6 -0.6
SPUT South Promonto 84.85 44⇑ *iP* **P 15 36 28.5 -0.2**
SPUT *e*PP PP 15 39 54.9 -2.0
HVU Hansel Valley 84.87 43 P **P 15 36 29.0 +0.1**
HVU *e*PP PP 15 39 55.0 -2.0
SRU San Rafael 85.10 46 P **P 15 36 30.3 +0.4**
GYA Guiyang 85.14 300⇓ *iP* **P 15 36 30.7 +0.6**
GYA AP pP 15 38 39.8 -0.3
GYA PP PP 15 40 02.4 +3.3
GYA SKS 15 45 56.4
GYA S 15 46 08.8
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,120nm,3.8s
DAU Daniels Canyon 85.22 45 P **P 15 36 31.4 +0.9**
DAU PP PP 15 39 51.1 -8.7
LAZ Ladron 85.43 52 *eP* **P 15 36 32.0 +0.5**
LAZ *e*pP pP 15 38 41.6 0.0
LAZ *e*PP PP 15 39 58.6 -2.8
TCUT Toone Canyon 85.45 44 P **P 15 36 32.1 +0.5**
TCUT PP PP 15 40 00.4 -1.2
LENM Lemitar 85.45 52 P **P 15 36 32.4 +0.8**
HWUT Hardware Ranch 85.58 44 P **P 15 36 32.1 -0.1**
HWUT *e*PP PP 15 40 00.4 -2.2
NEW Newport 85.61 36 P **P 15 36 31.8 -0.6**
comp=Z,27nm,0.8s,mb5.0,baz=234,slow=3.9,SNR=26
NEW PP PP 15 40 00.4 -2.6
comp=Z,4.6nm,0.7s,baz=257,slow=1.5,SNR=3.4
NEW Newport 85.61 36 P **P 15 36 31.6 -0.7**
comp=Z,44nm,0.9s,mb5.1
NEW Newport 85.61 36 P **P 15 36 31.6 -0.8**
NEW pmax pmax
comp=Z,45nm,0.9s
MNTX Cornudas Mount 85.64 55 P **P 15 36 33.2 +0.7**
comp=Z,58nm,1.1s,mb5.1
BNM Barren Site 85.70 52 P **P 15 36 33.5 +0.7**
LPM Los Pinos Moun 85.77 52 P **P 15 36 33.6 +0.5**
LPM pP pP 15 38 45.1 +1.7
PV10 Paradox Valley 85.80 48 *eP* **P 15 36 32.9 -0.3**
PV10 *e*PP PP 15 40 01.7 -2.6
PV10 *e* 15 40 08.9
COLA College 85.91 13 *eP* **P 15 36 31.4 -2.4**
comp=Z,88nm,1.0s,mb5.3
COLA *e*pP pP 15 38 42.4 -1.8
COLA College 85.91 13 *eP* **P 15 36 31.4 -2.4**
COLA *e**PP pP 15 38 42.4 -1.7
COLA pmax pmax
comp=Z,88nm,1.0s,mb5.3
PV01 Paradox Valley 86.02 48 P **P 15 36 34.5 +0.3**
PV01 PP PP 15 40 05.0 -1.1
ILAR Eielson Array 86.03 13 P **P 15 36 31.9 -2.4**
comp=Z,28nm,0.8s,mb4.9,baz=230,slow=5.5,SNR=196
ILAR pP pP 15 38 43.1 -1.6
comp=Z,2.1nm,1.0s,baz=233,slow=4.7,SNR=2.7
ILAR PP PP 15 39 57.4 -8.8
comp=Z,5.0nm,1.1s,baz=222,slow=7.3,SNR=4.5
ILAR PKKP PKKPbc 15 54 28.7 -0.7
comp=Z,0.4nm,0.6s,baz=335,slow=2.5,SNR=6.1
ILAR Eielson Array 86.03 13 P **P 15 36 31.9 -2.4**
ILAR *PP pP 15 38 43.1 -1.6
LTX Lajitas 86.05 58 P **P 15 36 36.0 +1.6**
ANMO Albuquerque 86.17 52 P **P 15 36 35.2 +0.2**
comp=Z,39nm,1.0s,mb5.0,baz=224,slow=4.6,SNR=40
ANMO pP pP 15 38 45.0 -0.5
comp=Z,1.5nm,0.6s,baz=166,slow=2.4,SNR=2.1
ANMO PP PP 15 40 04.2 -3.1
comp=Z,2.9nm,0.8s,baz=241,slow=11,SNR=3.1
ANMO Albuquerque 86.17 52 P **P 15 36 35.5 +0.5**
comp=Z,56nm,1.1s,mb5.1
ANMO pP pP 15 38 47.0 +1.5
ANMO Albuquerque 86.17 52⇑ *eP* **P 15 36 35.5 +0.5**
MCMT McKenzie Canyo 86.33 40 P **P 15 36 36.3 +0.5**
USHA Ushuaia 86.36 147 PP PP 15 40 05.7 -3.1
comp=Z,5.5nm,0.8s,baz=219,slow=4.8,SNR=3.5
XAN Xi'an 86.37 307 P **P 15 36 36.7 +0.7**
XAN AMB AMB
comp=Z,93nm,1.3s,mb5.2
AHID Auburn Hatcher 86.44 43 P **P 15 36 37.0 +0.7**
comp=Z,70nm,1.1s,mb5.2
BILL Bilibino 86.58 354 *eP* **P 15 36 35.3 -1.7**
comp=Z,14nm,0.8s,mb4.7
BILL Bilibino 86.58 354 *d iP* **P 15 36 35.6 -1.3**
BILL 15 40 07.0
BILL *e* 15 46 03.5
BILL *e* 15 46 20.6
BILL pmax pmax
comp=Z,21nm,1.0s,mb4.8
GDL2 Guadalupe Moun 86.63 55 P **P 15 36 38.3 +1.1**
GDL2 PP PP 15 40 09.9 -1.1
MSO Missoula 86.68 38 P **P 15 36 36.2 -1.2**
MSO *e*PP PP 15 40 07.9 -3.5
BSMT Bassoo Peak 86.72 37 P **P 15 36 37.1 -0.5**
BSMT PP PP 15 40 09.9 -1.8
DLMT Dillon 86.75 40⇑ *eP* **P 15 36 37.5 -0.3**
comp=Z,113nm,1.0s,mb5.5
DLMT *e*PP PP 15 40 09.6 -2.3
REDW Red Top Meadow 86.88 42 P **P 15 36 38.8 +0.4**
REDW *e*PP PP 15 40 09.4 -3.5
SNOW Snow King Moun 86.99 42 P **P 15 36 39.6 +0.7**
LRM Limekiln Ridge 87.07 40 P **P 15 36 39.2 0.0**
LRM PP PP 15 40 12.3 -2.1
CHMT Chamberlain Mo 87.14 39 P **P 15 36 39.0 -0.6**
CHMT PP PP 15 40 12.3 -2.6
LOHW Long Hollow 87.16 42 P **P 15 36 40.0 +0.4**
LOHW *e*PP PP 15 40 12.3 -2.8
QLMT Earthquake Lak 87.22 41 P **P 15 36 40.9 +1.0**
QLMT *e*PP PP 15 40 13.3 -2.3
DAWY Dawson 87.22 16 P **P 15 36 38.8 -1.2**
DAWY *e*PP PP 15 40 17.5 +1.8
FLWY Flagg Ranch 87.32 42⇑ *iP* **P 15 36 40.9 +0.5**
comp=Z,129nm,1.0s,mb5.6
FLWY *e*PP PP 15 40 14.2 -2.2
HHC Hu-ho-hao-te 87.40 314 *eP* **P 15 36 41.8 +1.0**
HHC AP pP 15 38 51.6 -0.1
HHC XP sP 15 39 51.1 -1.8
HHC PP PP 15 40 20.0 +3.0
HHC SKS 15 46 12.2
HHC S 15 46 31.0
HHC AMB AMB
comp=Z,35nm,0.9s,mb5.1
HHC AMB AMB
comp=Z,238nm,3.5s
YFT Old Faithful 87.41 41 P **P 15 36 42.5 +1.7**
LCCM Lewis and Clar 87.43 40 P **P 15 36 40.9 0.0**
YMR Madison River 87.43 41⇑ *iP* **P 15 36 41.6 +0.7**
comp=Z,101nm,1.0s,mb5.5
YMR *e*PP PP 15 40 15.1 -2.1
BW06 Boulder Array 87.44 43 P **P 15 36 40.6 -0.4**
comp=Z,64nm,0.9s,mb5.3
PDAR Pinedale Array 87.44 43 P **P 15 36 40.5 -0.5**
comp=Z,42nm,0.8s,mb5.2,baz=217,slow=3.1,SNR=333
PDAR pP pP 15 38 52.0 +0.1
comp=Z,1.9nm,0.9s,baz=224,slow=2.5,SNR=5.5
SMCO Snowmass 87.60 48 *eP* **P 15 36 41.8 +0.1**
comp=Z,55nm,1.3s,mb5.1
SMCO *e*pP pP 15 38 52.8 0.0
SMCO *e*PP PP 15 40 15.1 -3.5
LKWY Lake 87.74 42 P **P 15 36 43.5 +1.1**
HRY Holter Researc 87.88 39 P **P 15 36 43.0 0.0**
KMI Kunming 87.92 297 P **P 15 36 44.9 +1.7**
KMI AP pP 15 38 58.6 +4.2
KMI PP PP 15 40 22.1 +1.0
KMI AMB AMB
comp=Z,42nm,1.5s,mb5.0
PAYG Puerto Ayora 87.98 90 P **P 15 36 46.3 +2.8**
comp=Z,109nm,1.6s,mb5.3
SDCO Great Sand Dun 88.04 49 P **P 15 36 44.0 +0.2**
SDCO *e*PP PP 15 40 17.2 -4.8
RWWY Rawlins 88.52 45 P **P 15 36 46.0 +0.1**
RWWY *e*PP PP 15 40 22.8 -3.0
GCMT Greycliff 88.77 41 *eP* **P 15 36 47.4 +0.3**
GCMT *e*PP PP 15 40 22.9 -4.8
ISCO Idaho Springs 88.81 47 P **P 15 36 47.8 +0.4**
comp=Z,36nm,1.4s,mb5.0
ISCO Idaho Springs 88.81 47 P **P 15 36 47.8 +0.4**
ISCO pmax pmax
comp=Z,36nm,1.4s,mb5.0
SYO Syowa Base 89.02 193⇓ *ePcP* PcP 15 36 49.5 +0.3
SYO Syowa Base 89.02 193⇑ *eP* **P 15 36 47.4 -0.9**
SYO ⇓ *ePcP* PcP 15 36 49.5 +0.3
CD2 Chengdu 89.17 303 P **P 15 36 50.7 +1.7**
CD2 AP pP 15 39 01.0 +0.4
CD2 PP PP 15 40 34.1 +3.2
CD2 SKS 15 46 22.9
CD2 S 15 46 47.3
CD2 SS SS 15 53 03.3 +2.8
CD2 AMB AMB
comp=Z,30nm,0.9s,mb5.1
CD2 AMB AMB
comp=Z,100nm,9.2s
PHWY Pilot Hill 89.55 46 P **P 15 36 50.9 +0.1**
JCT Junction City 89.59 58⇑ *eP* **P 15 36 50.8 -0.1**
comp=Z,33nm,0.8s,mb5.2
JCT Junction City 89.59 58⇑ *eP* **P 15 36 50.8 -0.2**
JCT pmax pmax
comp=Z,33nm,0.8s,mb5.2
YAK Yakutsk 89.73 338⇑ *eP* **P 15 36 50.4 -1.2**
YAK pmax pmax
comp=Z,13nm,1.4s,mb4.6
EGMT Eagleton 89.75 39 *eP* **P 15 36 51.0 -0.7**
comp=Z,62nm,1.6s,mb5.2
EDM Edmonton 90.27 33 P **P 15 36 53.0 -1.1**
EDM *e*PP PP 15 40 33.3 -6.2
SNAA Sanae 90.45 179⇑ *iP* **P 15 36 54.7 -0.2**
SNAA *e* 15 36 57.8
VNA3 Neumayer Olymp 90.59 176⇑ *iP* **P 15 36 55.8 +0.2**
VNA3 *e* 15 36 59.4
LZH Lanzhou 91.00 308⇓ P **P 15 36 58.0 +0.5**
LZH AP pP 15 39 11.5 +2.1
LZH XP sP 15 40 12.1 +2.0
LZH PP PP 15 40 49.3 +4.1
LZH SKS 15 46 31.4
LZH S 15 47 02.1
LZH SS SS 15 53 29.0 +2.4
LZH AMB AMB
comp=Z,65nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,289nm,7.5s
VNA2 Neumayer--Watz 91.03 177⇑ *iP* **P 15 36 58.0 +0.4**
baz=202,slow=4.2
VNA2 *e* 15 37 00.9
PLCA Paso Flores 91.21 134 P **P 15 36 58.7 +0.3**
comp=Z,0.7nm,0.6s,baz=262,slow=9.5,SNR=3.2
PLCA PP PP 15 40 47.6 +0.8
comp=Z,0.3nm,0.3s,baz=204,slow=8.9,SNR=3.6
LAO LASA Array 91.31 41 P **P 15 36 59.5 +0.7**
LAO *e*PP PP 15 40 45.6 -1.9
RSSD Black Hills 91.65 44 P **P 15 37 00.0 -0.5**
comp=Z,38nm,0.9s,mb5.4
RSSD pmax pmax
comp=Z,39nm,0.9s,mb5.4
INK Inuvik 92.02 15 P **P 15 37 00.1 -2.1**
comp=Z,38nm,0.9s,mb5.4,baz=224,slow=5.0,SNR=80
INK PP PP 15 40 46.0 -7.0
comp=Z,3.4nm,0.9s,baz=269,slow=6.2,SNR=3.6
HKT Hockley 92.63 59 P **P 15 37 05.4 +0.5**
CBKS Cedar Bluff 92.64 50 P **P 15 37 04.8 -0.2**
ULN Ulaanbaatar 93.29 319 P **P 15 37 07.3 -0.6**
ULN Ulaanbaatar 93.29 319⇑ *eP* **P 15 37 07.1 -0.8**
DGMT Dagmar 93.29 40 P **P 15 37 08.0 0.0**
DGMT *e*PP PP 15 41 00.1 -2.6
SONM Songino Array 93.68 319 P **P 15 37 09.0 -0.7**
comp=Z,2.6nm,1.1s,mb4.3,baz=111,slow=3.0,SNR=16
SONM sP sP 15 40 21.8 -0.7
comp=Z,1.2nm,1.2s,baz=129,slow=4.0,SNR=2.6
SONM PP PP 15 40 56.9 -8.9
comp=Z,0.9nm,1.1s,baz=151,slow=6.9,SNR=2.7
SONM Songino Array 93.68 319 P **P 15 37 09.0 -0.7**
SONM *SP sP 15 40 21.8 -0.8
YKA Yellowknife Ar 94.46 25 P **P 15 37 11.6 -1.6**
comp=Z,9.4nm,0.8s,mb5.0,baz=242,slow=4.4,SNR=142
YKA PP PP 15 41 02.3 -9.3
comp=Z,1.3nm,1.0s,baz=235,slow=7.4,SNR=3.7
YKA PKKP PKKPbc 15 54 07.1 -1.5
comp=Z,0.1nm,0.5s,baz=44,slow=2.0,SNR=4.3
YKA Yellowknife Ar 94.46 25 P **P 15 37 11.7 -1.6**
YKA PP PP 15 41 02.3 -9.4
YKA PKKP PKKPbc 15 54 07.1 -1.5
YKW3 Yellowknife Ar 94.49 25 P **P 15 37 11.2 -2.2**
KSU1 Kansas State U 95.02 51 P **P 15 37 16.7 +0.9**
GTA Gaotai 95.15 310 *eP* **P 15 37 16.5 +0.1**
GTA AP pP 15 39 29.0 +0.3
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.8
TIXI Tiksi 96.31 345 P **P 15 37 19.1 -2.5**
TIXI Tiksi 96.31 345⇑ *eP* **P 15 37 19.0 -2.6**
ZAK Zakamensk 96.52 321 *eP* **P 15 37 19.8 -2.8**
ZAK *e* 15 41 23.3
ZAK *e* 15 46 56.2
ZAK pmax pmax
comp=Z,7.0nm,1.8s,mb4.6
ZAK pmax pmax
comp=Z,7.0nm,1.9s,mb4.6
ULM Lac du Bonnet 99.01 40 P Pdif 15 37 31.8 -1.9
comp=Z,1.8nm,0.7s,baz=208,slow=5.6,SNR=4.9
ULM PP PP 15 41 38.8 -7.2
comp=Z,1.6nm,0.6s,baz=264,slow=6.8,SNR=5.0
ULM PKKP PKKPbc 15 53 54.1 -2.3
comp=Z,0.4nm,0.3s,baz=310,slow=11,SNR=3.3
FCC Fort Churchill 102.34 32 Pdif Pdif 15 37 46.8 -1.6
JIRN Jiri 102.83 295 *eP* PP 15 42 13.0 -1.3
comp=Z,94nm,1.7s
GUN Gumba 103.16 295 *eP* PP 15 42 13.0 -3.7
comp=Z,154nm,1.7s
LPAZ La Paz 103.32 112 PKKP PKKPbc 15 53 43.5 -0.8
comp=Z,0.7nm,0.7s,baz=356,slow=12,SNR=3.5
KKN Kakani 103.65 295 *eP* PP 15 42 17.8 -2.5
comp=Z,129nm,1.8s
DMN Daman 103.76 295 *eP* PP 15 42 19.2 -1.9
comp=Z,129nm,1.8s
KOLN Koldanda 105.10 295 *eP* PP 15 42 28.5 -2.3
comp=Z,84nm,1.4s
MKAR Makanchi Array 109.26 314 Pdiff Pdif 15 38 20.9 +1.7
comp=Z,0.3nm,0.7s,baz=90,slow=6.1,SNR=3.9
MKAR PKiKP PKiKP 15 42 17.7 -1.2
comp=Z,1.6nm,0.5s,baz=199,slow=0.7,SNR=37
MKAR PP PP 15 42 53.8 -6.9
comp=Z,0.7nm,0.9s,baz=111,slow=5.3,SNR=4.5
MKAR PKKPbc PKKPbc 15 53 25.0 -1.3
comp=Z,0.4nm,0.8s,baz=270,slow=1.8,SNR=3.6
MKAR Makanchi Array 109.26 314 Pdif Pdif 15 38 20.9 +1.7
MKAR PKPdf PKiKP 15 42 17.7 -1.2
MKAR PP PP 15 42 53.8 -6.9
MKAR PKKPbc PKKPbc 15 53 25.0 -1.3
KURK Kurchatov 111.96 318 *e*PKPdf PKiKP 15 42 22.2 -1.9
KURK *e*PP PP 15 43 10.2 -10
KSH Kashi 113.19 306 PKP PKiKP 15 42 24.7 -1.7
KSH *e*XPKP 15 45 50.9
KSH *e*PKS 15 46 00.0
KSH *e*SKS SKSdf 15 48 34.4 -6.8
KSH PP PP
comp=Z,149nm,3.9s
AAK Ala-Archa 114.50 309⇑ *i*PKIKP PKPdf 15 42 26.7 -2.2
BVAR Borovoye Array 116.98 321 PKP PKPdf 15 42 32.2 -1.5
comp=Z,2.9nm,0.4s,baz=133,slow=1.0,SNR=31
BVAR SKP 15 45 12.1
comp=Z,2.3nm,0.9s,baz=90,slow=1.5,SNR=4.5
BRVK Borovoye 117.04 321 *e*PKPdf PKPdf 15 42 32.2 -1.6
BRVK *e*SKP 15 45 11.2
ZRNK Zerenda 117.82 321 *e*PKPdf PKPdf 15 42 33.7 -1.6
ZRNK *e*SKP 15 45 12.6
BDFB Brasilia 120.73 121 PKKPbc PKKPbc 15 52 49.9 +2.4
comp=Z,1.7nm,0.6s,baz=184,slow=2.5,SNR=3.7
SFJD Kangerlussuaq 120.82 21 PP PP 15 44 12.2 -8.2
comp=Z,16nm,1.1s,baz=293,slow=6.6,SNR=4.7
ARU Arti 122.99 326 *i* PKIKP PKPdf 15 42 44.3 -0.9
ARU *e* 15 44 32.8
AKTK Aktyubinsk 125.00 319 PKP PKPdf 15 42 47.9 -1.2
AKTO Aktyubinsk 125.00 319 PKP PKPdf 15 42 47.9 -1.1
comp=Z,4.4nm,0.8s,baz=75,slow=4.0,SNR=17
ARCES ARCESS Array B 126.47 350 PKP PKPdf 15 42 50.1 -1.8
comp=Z,4.8nm,0.8s,baz=205,slow=0.4,SNR=14
ARCES PP PP 15 45 11.2 +14
comp=Z,4.1nm,0.8s,baz=41,slow=11,SNR=4.6
APA Apatity 126.50 345⇑ *i*PKHKP 15 42 27.4
APA pmax pmax
comp=Z,27nm,0.6s
BOSA Boshof 128.28 207 PKP PKPdf 15 42 56.0 +0.7
comp=Z,7.3nm,0.9s,baz=132,slow=2.6,SNR=5.7
BOSA pPKP pPKPdf 15 45 19.0 +2.7
comp=Z,8.4nm,1.0s,baz=141,slow=3.1,SNR=5.2
KLMR Klimovskoe 129.51 337 *i* PKIKP PKPdf 15 42 55.5 -2.2
KLMR *e* 15 45 22.8
KLMR pmax pmax
comp=Z,30nm,2.4s
JOF Joensuu 130.71 343 *ep* PKPdf 15 42 58.1 -1.8
comp=Z,4.0nm,0.7s
JOF Joensuu 130.71 343 *e*PKIKP PKPdf 15 42 58.1 -1.8
JOF pmax pmax
comp=Z,4.0nm,0.7s
BORG Borgarnes 130.85 13 SKPbc SKPbc 15 45 27.4 -0.9
comp=Z,49nm,1.2s,baz=288,slow=2.4,SNR=3.9
FINES FINESS Array B 133.34 344 PKhKP 15 42 50.4
comp=Z,0.5nm,0.6s,baz=315,slow=0.3,SNR=3.6
FINES PKP PKPdf 15 43 03.0 -1.9
comp=Z,1.4nm,0.5s,baz=70,slow=2.2,SNR=6.9
FINES SKPbc SKPbc 15 45 35.8 -1.0
comp=Z,15nm,1.0s,baz=64,slow=4.4,SNR=19
FINES FINESS Array B 133.34 344 PKHKP 15 42 50.4
FINES 15 43 03.0
OBN Obninsk 134.44 333 *i* PKIKP PKPdf 15 43 07.0 0.0
OBN pmax pmax
comp=Z,11nm,1.1s
NOA NORSAR Array B 136.53 353 PKP PKPdf 15 43 08.6 -2.2
comp=Z,1.4nm,0.7s,baz=14,slow=4.1,SNR=5.3
NOA SKP 15 45 47.1
comp=Z,9.2nm,1.0s,baz=6,slow=4.0,SNR=15
GNI Garni 136.90 310 PKP PKPdf 15 43 10.9 -0.6
comp=Z,3.1nm,0.3s,baz=165,slow=13,SNR=3.3
GNI SKP 15 45 49.1
comp=Z,1.8nm,0.3s,baz=140,slow=16,SNR=4.0
KIV Kislovodsk 136.98 316 *e*PKIKP PKPdf 15 43 08.6 -3.1
KIV *e**PP 15 46 08.8
KIV *e*SS SS 16 03 20.6 -1.4
KIV pmax pmax
comp=Z,11nm,1.2s
HFS Hagfors 137.09 351 PKhKP 15 42 58.5
comp=Z,3.8nm,0.8s,baz=46,slow=4.3,SNR=8.6
HFS SKP 15 45 48.2
comp=Z,12nm,0.8s,baz=70,slow=1.7,SNR=12
LSZ Lusaka 137.78 220 SKP 15 45 53.0
comp=Z,6.8nm,1.1s,baz=132,slow=5.2,SNR=4.2
LSZ Lusaka 137.78 220 *e*PKPdf PKPdf 15 43 13.5 +0.4
LSZ *e*SKP 15 45 53.2
KMBO Kilima Mbogo 140.09 245 PKhKP 15 43 11.4
comp=Z,4.1nm,0.9s,baz=59,slow=6.7,SNR=8.3
KMBO PKP PKPdf 15 43 17.7 +0.4
comp=Z,7.3nm,0.9s,baz=17,slow=1.9,SNR=6.6
KMBO SKPbc SKPbc 15 45 58.0 +1.5
comp=Z,11nm,1.1s,baz=56,slow=1.9,SNR=9.0
KMBO Kilima Mbogo 140.09 245 PKHKP 15 43 11.4
KMBO 15 43 17.7

AKASG Malin Array Be 140.71 332 PKhKP 15 43 10.9
comp=Z,0.8nm,0.3s,baz=41,slow=4.1,SNR=15
AKASG PKP PKPdf 15 43 17.6 -0.9
comp=Z,0.8nm,0.3s,baz=37,slow=3.2,SNR=6.3
AKASG SKPbc SKPbc 15 45 57.2 -0.9
comp=Z,6.9nm,0.8s,baz=39,slow=3.3,SNR=15
AKASG Malin Array Be 140.71 332 PKP PKPdf 15 43 10.9 -7.5
AKASG PKP PKPdf 15 43 17.6 -0.9
AKASG SKPbc SKPbc 15 45 57.2 -0.9
AKASG Malin Array Be 140.71 332 PKHKP 15 43 11.0
AKASG 15 43 17.6
ELZG Elazig 141.66 310 *i* P PKPdf 15 43 17.0 -3.1
SIM Simferopol' 141.88 322 *e*PKHKP 15 43 17.0
SIM pmax pmax
comp=Z,19nm,0.9s
MALT Malatya 142.13 310 *e*PKPdf PKPdf 15 43 18.0 -3.0
MALT *e*SKP 15 46 03.1
EKA Eskdalemuir Ar 142.62 4 PKhKP 15 43 17.1
comp=Z,7.3nm,0.8s,baz=347,slow=3.2,SNR=12
EKA PKP PKPdf 15 43 20.3 -1.5
comp=Z,3.7nm,0.8s,baz=1.3,slow=3.2,SNR=6.5
EKA PP PP 15 46 32.7 -5.4
comp=Z,4.2nm,0.9s,baz=356,slow=6.0,SNR=3.5
GZT Gaziantep 143.12 309 *i* P PKPdf 15 43 21.4 -1.3
BOYT Boyabat 143.25 316 *i* P PKPdf 15 43 22.0 -0.9
GAZ Gaziantep 143.45 309 *e*P PKPdf 15 43 23.2 -0.1
KIS Kishinev 143.50 328 *e*PKIKP PKPdf 15 43 21.0 -2.4
BSEG Bad Segeberg 143.57 351 *e*PKPbc PKPdf 15 43 21.3 -2.2
DMUB Kingscourt 143.62 9⇑*i*P PKPdf 15 43 21.3 -2.3
CTKT Corum 143.71 315 *i* P PKPdf 15 43 22.8 -1.0
DCN Croghan 144.11 9⇑*i*P PKPdf 15 43 23.0 -1.4
KWP Kalwaria 144.22 336 *e*PKP PKPdf 15 43 24.4 -0.2
DLF Lyons Farm 144.27 8⇑*i*P PKPdf 15 43 23.5 -1.2
KOZT Kozan 144.35 310 *e*P PKPdf 15 43 23.5 -1.3
COBT Iskenderun 144.40 308 *i* P PKPdf 15 43 24.9 -0.1
LHO Holmfirth 144.48 4⇑*e*P PKPdf 15 43 24.2 -0.8
LHO Holmfirth 144.48 4⇑*e*P PKPdf 15 43 24.2 -0.8
CANT Cankiri 144.49 316 *e*P PKPdf 15 43 26.6 +1.5
AVNT Avonos 144.50 312 *i* P PKPdf 15 43 25.2 +0.1
ELDT Eldivan 144.68 316 *i* P PKPdf 15 43 25.5 +0.1
OJC Ojcow 144.76 340 *e*PKP PKPdf 15 43 25.6 0.0
SAFT Safranbolu 144.78 318 *e*P PKPdf 15 43 24.9 -0.7
BR131 Keskin Array S 144.91 315 *e*PKPdf PKPdf 15 43 26.2 +0.4
BR131 *e*SKP 15 46 06.2
BRTR Keskin Array B 144.91 315 PKP PKPdf 15 43 26.0 +0.2
comp=Z,28nm,1.0s,baz=136,slow=3.2,SNR=81
BRTR pPKP pPKPdf 15 45 46.4 -0.7
comp=Z,0.6nm,0.4s,baz=141,slow=1.9,SNR=1.6
STHS Stebnicka Huta 144.94 338 *e*PKP PKPdf 15 43 26.7 +0.8
STHS *e* 15 45 48.6
KOLS Kolonicke sedl 144.95 336 *e*PKP PKPdf 15 43 26.6 +0.7
KOLS *e* 15 43 32.2
KOLS *e*SKP 15 46 10.0
SBD1 Bryn Du 145.02 5⇑*e*P PKPdf 15 43 26.0 0.0
SBD1 Bryn Du 145.02 5⇑*e*P PKPdf 15 43 26.0 0.0
KAMT Kaman 145.03 314 *e*P PKPdf 15 43 23.6 -2.4
CFR Carcaliu 145.08 327 ⇑P PKPdf 15 43 27.1 +1.0
KSP Ksiaz 145.26 344 *e*PKP PKPdf 15 43 27.9 +1.5
KSP Ksiaz 145.26 344 *e*PKP2 PKPab 15 43 27.6 -1.5
NIE Niedzica 145.27 338 *e*PKP PKPdf 15 43 27.8 +1.4
CRVS Cervenica-Dubn 145.29 337 *e*PKP PKPdf 15 43 27.0 +0.6
VRI Vrincioaia 145.32 329 ⇑P PKPdf 15 43 28.1 +1.5
ANTO Ankara 145.41 315 *e*P PKPdf 15 43 25.6 -1.1
ANTO Ankara 145.41 315 *e*PKPdf PKPdf 15 43 26.5 -0.2
ANTO *ep*PKPdf pPKPdf 15 45 48.4 +0.4
TIRR Tirgusor 145.41 325 *e*PKPdf PKPdf 15 43 27.6 +0.9
TIRR Tirgusor 145.41 325 ⇑PKP2 PKPab 15 43 28.5 -1.1
HLM1 Long Mynd 145.43 5⇑*e*P PKPdf 15 43 27.1 +0.4
HLM1 AMb AMB 15 43 28.4
comp=Z,87nm,1.1s
HLM1 Long Mynd 145.43 5⇑*e*P PKPdf 15 43 27.1 +0.4
HLM1 AMb AMB 15 43 28.4
comp=Z,87nm,1.1s
HARR Harsova 145.51 326 ⇓P PKPdf 15 43 29.1 +2.2
SSP1 Stoney Pound 145.51 5⇑*e*P PKPdf 15 43 27.4 +0.6
SSP1 AMb AMB 15 43 28.7
comp=Z,103nm,1.0s
SSP1 Stoney Pound 145.51 5⇑*e*P PKPdf 15 43 27.4 +0.6
SSP1 AMb AMB 15 43 28.7
comp=Z,103nm,1.0s
SGKT Sivrigoynuk 145.53 317 *i* P PKPdf 15 43 28.1 +1.3
CLZ Clausthal 145.59 350 *e*PKPbc PKPbc 15 43 28.1 -0.5
CLL Collm 145.62 347 *e*PKPdf PKPdf 15 43 27.0 0.0
CLL *i* PKPbc PKPbc 15 43 28.1 -0.6
comp=Z,52nm,0.8s
CLL *e* 15 43 35.5
CLL *ep*PKPdf pPKPdf 15 45 54.0 +5.7
CLL *e*SKPdf SKPdf 15 46 02.8 -1.1
CLL *e*SKPbc SKPbc 15 46 08.8 -1.0
CLL Collm 145.62 347⇑*i*PKPbc PKPbc 15 43 28.1 -0.6
comp=Z,51nm,0.8s
CLL *i* (PKiKP) 15 43 32.8
CLL *e*(pPKiKP) 15 45 58.0
CLL *i* SKPbc SKPbc 15 46 11.1 +1.3
comp=Z,13nm,0.8s
CLL *e*PKSdf 15 47 03.0
CLL Collm 145.62 347⇑*i*PKP PKPdf 15 43 35.5 +8.5
comp=Z,26nm,0.8s
CLL *ex* x 15 44 17.0
CLL Collm 145.62 347⇑*i*PKP PKPdf 15 43 28.1 +1.1
CLL *i* 15 43 32.8
CLL ⇑*i*PKP PKPdf 15 43 35.5 +8.5
CLL *ep*PKP pPKPdf 15 45 58.0 +10
CLL Collm 145.62 347⇑*i*PKP2 PKPab 15 43 28.1 -2.4
CLL pmax pmax
comp=Z,51nm,0.8s
OKC Ostrava-Krasne 145.62 341 *e*PKP PKPdf 15 43 26.4 -0.6
OKC Ostrava-Krasne 145.62 341 *e*PKIKP PKPdf 15 43 25.4 -1.6
UPC Upice 145.64 344 *e*PKP PKPdf 15 43 28.5 +1.5
UPC *ep*PKP pPKPdf 15 45 53.1 +4.8
DPC Dobruska-Polom 145.70 343 *e*PKP PKPdf 15 43 28.9 +1.8
DPC *ep*PKP pPKPdf 15 45 49.3 +0.9
BRG Berggiesshubel 145.82 346 *e*PKPbc PKPbc 15 43 28.7 -0.6
BRG Berggiesshubel 145.82 346 *e*PKP PKPdf 15 43 28.9 +1.6
comp=Z,49nm,1.9s
BRG *i* 15 43 35.3
comp=Z,7.6nm,0.8s
BRG *ep*PKP pPKPdf 15 45 50.1 +1.4
comp=Z,6.2nm,1.2s
MORC Moravsky Berou 145.86 342 *e*PKPdf PKPdf 15 43 28.7 +1.3
MORC *ep*PKPdf pPKPdf 15 45 53.2 +4.5
HAE Alders End 145.94 5⇑*e*P PKPdf 15 43 28.6 +1.0
HAE AMb AMB 15 43 31.4
comp=Z,151nm,1.2s
HAE Alders End 145.94 5⇑*e*P PKPdf 15 43 28.6 +1.0
HAE AMb AMB 15 43 31.4
comp=Z,151nm,1.2s
MCH1 Michaelchurch 145.94 5⇑*e*P PKPdf 15 43 28.4 +0.8
MCH1 AMb AMB 15 43 29.1
comp=Z,64nm,0.8s
MCH1 Michaelchurch 145.94 5⇑*e*P PKPdf 15 43 28.4 +0.8
MCH1 AMb AMB 15 43 29.1
comp=Z,64nm,0.8s
MLR Muntele Rosu 145.98 329 PKPbc PKPbc 15 43 27.8 -1.9
comp=Z,10nm,0.7s,baz=8.0,slow=3.5,SNR=19
MLR pPKPbc 15 45 48.6
comp=Z,1.7nm,0.4s,baz=131,slow=8.1,SNR=1.4
PVCC Panska Ves 145.99 345 *e*PKP PKPdf 15 43 29.2 +1.6
KECS Kecovo 146.00 337 *e*PKP PKPdf 15 43 29.5 +1.9
KECS *e* 15 45 50.5
MDU Mudurnu 146.13 317 *e*P PKPdf 15 43 28.5 +0.6
HENT Hendek 146.14 318 *i* P PKPdf 15 43 29.1 +1.3
HGH Gray Hill 146.31 5⇑*e*P PKPdf 15 43 29.4 +1.2
HGH AMb AMB 15 43 31.4
comp=Z,75nm,1.1s
HGH Gray Hill 146.31 5⇑*e*P PKPdf 15 43 29.4 +1.2
HGH AMb AMB 15 43 31.4
comp=Z,75nm,1.1s
PRU Pruhonice 146.50 345 *e*PKP PKPdf 15 43 29.6 +1.1
PRU *ep*PKP pPKPdf 15 45 51.6 +1.8
KIZT Kizilcal 146.51 315 *e*P PKPdf 15 43 29.6 +1.1
MOX Moxa 146.52 348 *e*PKPbc PKPbc 15 43 30.8 -0.4
MOX Moxa 146.52 348 *e*PKP PKPdf 15 43 28.4 -0.1
comp=Z,22nm,1.6s
VRAC Vranov 146.56 342 PKPbc PKPbc 15 43 30.4 -0.9
comp=Z,7.2nm,0.8s,baz=117,slow=1.8,SNR=8.5
VRAC pPKPbc 15 45 51.0
comp=Z,1.7nm,0.5s,baz=14,slow=6.4,SNR=2.0
VYHS Vyhne 146.57 339 *e*PKP PKPdf 15 43 31.5 +2.9
VYHS *e* 15 45 52.9
TANN Tannenbergstha 146.57 347 *e*PKPbc PKPbc 15 43 31.0 -0.3
UBBA Unterbreizbach 146.64 350 *e*PKPbc PKPbc 15 43 30.6 -0.9
PSZ Piszkesteto 146.69 337 *e*PKPdf PKPdf 15 43 30.9 +2.1
PSZ *ep*PKPdf pPKPdf 15 45 53.5 +3.4
ERMK Ermenek 146.82 310 *i* P PKPdf 15 43 32.5 +3.5
ESKT Eskisehir 146.87 316 *i* P PKPdf 15 43 31.7 +2.6
TREC Trest 146.89 343 *e*PKP PKPdf 15 43 32.0 +2.9
SMOL Smolenice 147.01 341 *e*PKP PKPbc 15 43 33.0 +0.5
CSS Prodhromos 147.19 307 *e*PKPbc PKPbc 15 43 33.1 +0.1
ROTZ Rotzenmuhle 147.24 347 *e*PKPbc PKPbc 15 43 32.9 -0.2
SRO Srobarova 147.33 339 *e*PKP PKPbc 15 43 34.1 +0.8
MEM Membach 147.34 355 PKPbc PKPbc 15 43 33.0 -0.3
MEM PKPab PKPab 15 43 37.2 -0.2
ZST Bratislava 147.40 341 *e*PKP PKPdf 15 43 33.8 +3.8
TNS Taunus Mts 147.45 352 *e*PKPbc PKPbc 15 43 33.2 -0.4
ELBA Catalca 147.48 321 *i* P PKPbc 15 43 33.0 -0.7
GRF Grafenberg Arr 147.51 348 *e*PKPbc PKPbc 15 43 33.7 -0.1
GRF *ep*PKPbc pPKPbc 15 45 55.7 +2.9
EIL Elat 147.51 297 *e*PKPdf PKPdf 15 43 29.9 -0.2
EIL *e*PKPbc PKPbc 15 43 34.1 +0.4
KHC Kasperske Hory 147.53 345 *e*PKP PKPbc 15 43 33.7 -0.1
KHC *ep*PKP pPKPdf 15 45 56.3 +4.7
KHC Kasperske Hory 147.53 345 *e*PKP PKPbc 15 43 33.7 -0.1
KHC *e* 15 45 56.3
SNF Seneffe 147.56 357 PKPbc PKPbc 15 43 33.5 -0.4
SNF PKPab PKPab 15 43 37.0 -1.3
ULDT Uludag 147.63 319 *i* P PKPbc 15 43 33.6 -0.5
WET Wettzell 147.68 346 *e*PKPbc PKPbc 15 43 34.7 +0.5
GEC2 GERESS Array S 147.76 345 *e*PKPbc PKPbc 15 43 34.2 -0.2
GERES GERESS Array B 147.76 345 PKPbc PKPbc 15 43 33.5 -0.9
comp=Z,9.9nm,0.7s,baz=21,slow=3.0,SNR=58
GERES pPKPbc pPKPbc 15 45 53.6 +0.1
comp=Z,3.0nm,1.1s,baz=64,slow=3.1,SNR=3.8
GERES SKP 15 46 07.1
comp=Z,2.0nm,0.8s,baz=40,slow=2.3,SNR=4.2
GERES SKPbc SKPbc 15 46 15.4 +0.9
comp=Z,2.8nm,1.0s,baz=300,slow=2.6,SNR=3.5
GERES GERESS Array B 147.76 345 PKIKP PKPbc 15 43 33.5 -0.9
GERES 15 45 53.6
BZS Buzias 147.88 333 ⇑P PKPbc 15 43 34.8 0.0
ABH Alteburg 147.90 353 PKP PKPbc 15 43 34.5 -0.2
GIVF Givet 147.93 356⇑*i*PKP1 PKPbc 15 43 34.5 -0.3
comp=Z,65nm,0.9s
DOU Dourbes 147.95 356 PKPbc PKPbc 15 43 34.7 -0.2
TKTP Tekketepe 147.99 314 *i* P PKPbc 15 43 34.5 -0.4
TOD Tromm 148.00 351 PKP PKPbc 15 43 34.6 -0.4
BAIF Baives 148.01 357⇑*i*PKP1 PKPbc 15 43 34.8 -0.2
comp=Z,73nm,1.1s
RUP Ruppelstein 148.13 353 PKP PKPbc 15 43 35.2 -0.1
WLF Walferdange 148.26 354 PKPbc PKPbc 15 43 36.1 +0.5
WLF AP 17 28 28.8
MOA Molln 148.54 344⇑*i*PKPbc PKPbc 15 43 35.8 -0.6
comp=Z,15nm,1.1s
PKSM Moragy 148.59 337 PKP2 PKPbc 15 43 36.4 -0.1
ARSA Arzberg 148.72 342⇑*i*PKiKP PKiKP 15 43 36.9 -0.8
comp=Z,15nm,1.1s
LANF Langenberg 148.75 352 PKP PKPbc 15 43 36.7 -0.2
STU Stuttgart 148.75 350 *e*PKPdf PKPdf 15 43 29.6 -2.5
STU *e*PKPbc PKPbc 15 43 35.5 -1.4
FUR Furstenfeldbru 148.96 347 *e*PKPbc PKPbc 15 43 37.5 +0.2
BEO Belgrade 149.01 333 *e*PKP PKPbc 15 43 37.1 -0.4
BFO Black Forest 149.32 351 *e*PKPbc PKPbc 15 43 37.8 -0.4
BFO Black Forest 149.32 351 *e*PKPbc PKPbc 15 43 37.0 -1.2
BFO *e*PKPab PKPab 15 43 44.6 -1.0
BFO *ep*PKPdf pPKPdf 15 45 59.8 +5.2
BFO Black Forest 149.32 351 *e*PKHKP 15 43 37.0
BFO *e* 15 43 44.6
FLN La Foliniere 149.33 3⇑*i*PKP1 PKPbc 15 43 37.6 -0.6
comp=Z,110nm,1.0s
WLS Welschbruch 149.37 352 PKP PKPbc 15 43 37.8 -0.5
CDF Champ du Feu 149.38 353⇑*i*PKP1 PKPbc 15 43 38.1 -0.3
comp=Z,37nm,0.8s
PERS Pernice 149.40 342 *e*PKPbc PKPbc 15 43 37.6 -0.8
VTS Vitosha 149.43 328 ⇑P PKPbc 15 43 38.3 -0.2
KBA Koelnbreinsper 149.49 344⇑*i*PKPbc PKPbc 15 43 38.3 -0.3
comp=Z,13nm,0.9s
MEZF Maizieres J'vi 149.51 356 *e*PKP1 PKPbc 15 43 38.6 -0.1
LDF La Druitiere 149.51 2⇑*i*PKP1 PKPbc 15 43 37.9 -0.8
ROSF Rostrenen 149.54 6 *e*PKP1 PKPbc 15 43 37.7 -1.0
comp=Z,88nm,1.1s
ECH Echery 149.59 353 PKP PKPbc 15 43 38.1 -0.8
GRUS Gruza 149.64 332 *i* PKP PKPbc 15 43 38.6 -0.4
GRR Gorron 149.68 3⇑*i*PKP1 PKPbc 15 43 38.5 -0.6
comp=Z,76nm,1.0s
SGMF Saint Gilles 149.69 6⇑*i*PKP1 PKPbc 15 43 38.2 -0.9
comp=Z,103nm,1.0s
THEF They Montfort 149.70 354 PKP PKPbc 15 43 38.8 -0.3
MOTA Moosalm 149.77 347⇑*i*PKPbc PKPbc 15 43 38.8 -0.5
comp=Z,17nm,1.1s
DIVS Divcibare 149.79 333 *i* PKP PKPbc 15 43 39.2 -0.1
KDAG Bornova 149.82 317 *i* P PKPbc 15 43 37.8 -1.6
SQTA Sankt Quirin 149.87 347⇑*i*PKPbc PKPbc 15 43 39.1 -0.4
comp=Z,20nm,1.1s
HAU Haudompre 149.88 354⇑*i*PKP1 PKPbc 15 43 40.1 +0.5
comp=Z,40nm,0.9s
QUIF Quistinic 149.97 6 *e*PKP1 PKPbc 15 43 38.9 -0.8
comp=Z,82nm,1.2s
HINF Hinteralfeld 150.01 353⇑*i*PKP1 PKPbc 15 43 39.2 -0.7
comp=Z,20nm,0.8s
DAVA Damuels 150.07 349⇑*i*PKiKP PKiKP 15 43 39.7 -0.8
comp=Z,35nm,1.1s
LJU Ljubljana 150.11 342 *e*PKPdf PKPdf 15 43 33.2 -1.1
LJU *e*PKPbc PKPbc 15 43 39.8 -0.3
BBLS Bajina Basta - 150.22 334 *i* PKP PKPbc 15 43 41.3 +0.9
BOJS Bojanci 150.37 340 *e*PKPdf PKPdf 15 43 34.1 -0.6
BOJS *e*PKPbc PKPbc 15 43 40.6 -0.1
BOJS *i* PKPab PKPab 15 43 48.4 -1.6
BOJS *e* 15 46 00.8
LOMF Lomont 150.48 353 PKP PKPbc 15 43 40.1 -0.8
DAVOX Davos 150.56 348 PKPbc PKPbc 15 43 41.1 0.0
comp=Z,22nm,0.7s,baz=83,slow=1.4,SNR=22
DAVOX PKPab PKPab 15 43 48.5 -2.2
comp=Z,10nm,0.5s,baz=300,slow=14,SNR=6.6
DAVOX pPKPbc pPKPbc 15 45 58.3 -2.8
comp=Z,1.2nm,0.5s,baz=26,slow=21,SNR=1.4
STIP Stip 150.61 328 *e*PKP PKPbc 15 43 38.3 -2.9
VAY Valandovo 150.68 327 *e*PKP PKPbc 15 43 39.6 -1.8
SKO Skopje 150.77 329 *e*PKP PKPbc 15 43 39.7 -1.9
LOR Lormes 150.81 357⇑*i*PKP1 PKPbc 15 43 41.4 -0.3
comp=Z,64nm,1.0s
HYF Humbligny 150.86 359 *e*PKP1 PKPbc 15 43 41.9 +0.1
SSF Saint Saulge 151.04 357⇑*i*PKP1 PKPbc 15 43 41.9 -0.3
comp=Z,40nm,0.9s
CABF La Chapelle 151.29 354 *e*PKP1 PKPbc 15 43 43.0 +0.2
comp=Z,42nm,1.0s
AVF Avril sur Loir 151.31 358 *e*PKP1 PKPbc 15 43 42.1 -0.7
comp=Z,17nm,0.9s
SMF Signal de Mont 151.44 357 *e*PKP1 PKPbc 15 43 42.4 -0.7
comp=Z,40nm,1.2s
MFF Saint Martin d 151.50 3⇑*i*PKP1 PKPbc 15 43 42.7 -0.5
comp=Z,66nm,1.1s
BIA Bitola 151.54 328 *e*PKP PKPbc 15 43 41.8 -1.6
BGF Bois d'Agland 151.56 358⇑*i*PKP1 PKPbc 15 43 43.0 -0.4
comp=Z,38nm,0.9s
OHR Ohrid 151.74 328 *e*PKP PKPbc 15 43 42.3 -1.5
TCF Toulx Ste Croi 151.85 359⇑*i*PKP1 PKPbc 15 43 43.5 -0.5
comp=Z,29nm,1.0s
LPL La Plagne 152.29 352 *e*PKP1 PKPbc 15 43 45.4 +0.4
LPG La Plagne 152.31 352 *e*PKP1 PKPbc 15 43 45.5 +0.5
comp=Z,11nm,1.0s
RJF Les Rejaudoux 152.84 0 *e*PKP1 PKPbc 15 43 45.6 -0.6
comp=Z,16nm,0.8s
MBDF Montbardon 153.06 352 *e*PKP1 PKPbc 15 43 46.4 -0.3
comp=Z,15nm,0.8s
IDI Anoyia 153.15 314 PKPbc PKPbc 15 43 45.7 -1.2
comp=Z,4.6nm,0.3s,baz=0.9,slow=6.1,SNR=8.0
VIVF Saint-Julien-l 153.16 355 *e*PKP1 PKPbc 15 43 46.7 -0.2
comp=Z,9.9nm,0.9s
CAF Calviac 153.21 359 *e*PKP1 PKPbc 15 43 46.6 -0.4
ERUA La Rua 154.62 15 PKP PKPab 15 44 07.9 -0.2
ECAL Calabor 155.15 15 PKP PKPab 15 44 10.5 +0.2
PBRG Braganca 155.28 15 *e*PKPab PKPab 15 44 10.5 -0.4
PVRL Vila Real 155.51 17 *e*PKPab PKPab 15 44 11.5 -0.4
PVIS Viseu 155.98 18 *e*PKPab PKPab 15 44 13.4 -0.6
MTE Manteigas 156.37 18 *e*PKPab PKPab 15 44 15.0 -0.7
PTOM Tomar 156.82 20 *e*PKPab PKPab 15 44 16.9 -0.7
PCBR Castelo Branco 156.91 18 *e*PKPab PKPab 15 44 17.1 -0.9
ESDC Sonseca Array 157.92 12 PKPab PKPab 15 44 20.3 -2.1
comp=Z,7.3nm,0.9s,baz=347,slow=4.7,SNR=17
PBEJ Beja 158.44 21 *e*PKPab PKPab 15 44 24.0 -0.7
MDT Midelt 164.27 20 PKP PKPdf 15 43 49.5 -2.2
comp=Z,1.5nm,0.8s,baz=8.1,slow=14,SNR=2.4
MDT PKPab PKPab 15 44 50.2 0.0
comp=Z,19nm,0.9s,baz=345,slow=5.7,SNR=28
DBIC Dimbokro 167.04 150 PKP PKPdf 15 43 52.5 -1.4
comp=Z,1.6nm,0.7s,baz=161,slow=5.7,SNR=4.2
TORD Torodi Ar. Bea 175.12 181 PKP PKPdf 15 43 56.7 -1.2
comp=Z,3.9nm,1.0s,baz=323,slow=1.2,SNR=16
TORD PKPab PKPab 15 45 38.1 -0.3
comp=Z,1.2nm,0.6s,baz=183,slow=4.4,SNR=8.6
TORD pPKPab pPKPab 15 47 52.3 +1.1
comp=Z,2.4nm,1.1s,baz=155,slow=2.5,SNR=5.4
TORD PP PP 15 49 30.4 -1.0
comp=Z,3.1nm,0.9s,baz=162,slow=2.6,SNR=8.3

MAN 02 15:28:25.4, 1134N×12573E, h11km, mb3.1, ML4.4, MS1.6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.39**	**312**	*e*P	Pg	15 28 34.4	+1.3
BESP				*e*S	Sg	15 28 41.7	+3.4
PLP	**Palo**	**0.76**	**257**	*i* P	Pg	15 28 39.4	-0.7
PLP				*i* S	Sg	15 28 47.7	-2.3
OCLP	**Ormoc**	**1.14**	**256**	*e*P	Pb	15 28 46.3	-0.8
MSLP	**Maasin**	**1.47**	**216**	*e*P	Pn	15 28 51.7	-0.1
MSLP				*e*S	Sn	15 29 12.1	+1.0
CNP	**Catarman**	**1.57**	**318**	*e*P	Pn	15 28 52.4	-0.8
CNP				*e*S	Sn	15 29 13.6	+0.2
SCPH	**Surigao**	**1.57**	**189**	*e*P	Pn	15 28 52.1	-1.0
SCPH				*e*S	Sn	15 29 13.8	+0.4
TBP	**Tagbilaran**	**2.46**	**229**	*e*P	Pn	15 29 06.7	+1.3
TBP				*e*S	Sn	15 29 38.9	+3.4
PVCP	**Virac**	**2.72**	**326**	*e*P	Pn	15 29 07.5	-1.6
PVCP				*e*S	Sn	15 29 44.5	+2.6

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*IDC **02** 15:36:18.3±2.9, 1537N×12075E, h100km±23km, mb3.5/4, mb1 3.6/4, mb1mx3.3/19, mbtmp3.8/4, Error ellipse: s-maj=86.4km s-min=20.8km az=59.0*
*ISCJB **02** 15:36:23.0±1.2, 1350N±007×1200E±01, h30km±8km, mb3.9/3, Error ellipse: s-maj=19.1km s-min=8.3km az=54.4*
*MAN **02** 15:36:24.1, 1353N×120.15E, h22km, mb2.0, ML3.7, MS3.0*
ISC 02 15:36:23.8±1.2, 1349N±007×12007E±010, h24km±9km, n15, σ1§13/20, mb3.9/3, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**34**⇓*e*P		**Pb**	**15 36 30.7**	**-0.1**
LUBP	**Lubang**	**0.30**	**34**	*e*P	**Pb**	**15 36 30.8**	**0.0**
LUBP				*e*S	**Sb**	**15 36 35.3**	**-0.1**
PGP	**Puerto Galera**	**0.85**	**89**	*e*P	**Pb**	**15 36 38.5**	**-1.5**
TGY	**Tagaytay City**	**1.04**	**54**	P	**Pn**	**15 36 42.8**	**0.0**
TGY				S	**Sb**	**15 36 59.6**	**+3.3**
TGY	**Tagaytay City**	**1.04**	**54**⇓*i*P		**Pn**	**15 36 44.1**	**+1.3**
TGY				*e*S	**Sb**	**15 36 58.1**	**+1.8**
LBPH	**Los Banos**	**1.26**	**58**	*e*P	**Pn**	**15 36 47.8**	**+1.9**
BUSP	**Coron**	**1.48**	**175**	*e*P	**Pn**	**15 36 49.7**	**+0.8**
BUSP				*e*S	**Sn**	**15 37 07.0**	**-0.4**
ARP	**Angono**	**1.48**	**45**⇑*i*P		**Pn**	**15 36 46.7**	**-2.2**
QVPH	**Quezon City--P**	**1.50**	**39**	*e*P	**Pn**	**15 36 48.5**	**-0.7**
BOAC	**Boac**	**1.72**	**91**	*e*P	**Pn**	**15 36 52.0**	**-0.2**
BOAC				*e*S	**Sn**	**15 37 12.8**	**-0.6**
OTRP	**Odiongan**	**2.20**	**120**	*e*P	**Pn**	**15 37 01.9**	**+3.0**
CUYO	**Cuyo Island**	**2.78**	**160**	*e*P	**Pn**	**15 37 07.0**	**+0.3**
PMG	**Port Moresby**	**35.22**	**129**	P	**P**	**15 43 08.9**	**-7.2**
	10nm,1.0s,mb4.7,baz=280,slow=7.3,SNR=3.1						
WRA	**Warramunga Arr**	**36.06**	**157**	P	**P**	**15 43 22.7**	**-0.6**
	0.6nm,0.4s,mb3.8,baz=339,slow=9.3,SNR=6.6						
ASAR	**Alice Springs**	**39.32**	**160**	P	**P**	**15 43 51.0**	**+0.1**
	0.3nm,0.5s,mb3.2,baz=339,slow=6.4,SNR=8.5						

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*OMAN **02** 15:37:12.1, 3352N×5724E, h35km, Error ellipse: s-maj=179.3km s-min=55.8km az=21.0*
*ISCJB **02** 15:38:21.6±0.9, 2816N±004×5695E±010, h10km, Error ellipse: s-maj=12.7km s-min=5.3km az=24.6*
*THR **02** 15:38:24.8±0.5, 2815N×5682E, h36km±3km, ML3.3*
*CSEM **02** 15:38:24.8, 2815N×5682E, h36km, ML3.3, After THR*
ISC 02 15:38:22.9±0.8, 2814N±004×5695E±010, h10km, n10, σ1§00/14, 2C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.01**	**223**	*e*PG	**Pg**	**15 38 42.6**	**+0.4**
BNDS				*e*SG	**Sg**	**15 38 56.0**	**+0.7**
BNDS				AML	AML	15 38 59.5	
	comp=E,1μm,0.4s						
BNDS				AML	AML	15 39 02.1	
	comp=N,627nm,0.5s						
BNDS	**Bandar-Abbas**	**1.01**	**223**	*e*Pg	**Pg**	**15 38 42.6**	**+0.4**
	SNR=105						
BNDS				*e*Sg	**Sg**	**15 38 56.0**	**+0.7**
	comp=N,627nm,0.5s,SNR=105						
KRBR	**Kerman**	**1.84**	**355**	*e*PG	**Pg**	**15 38 57.7**	**-0.5**
KRBR				*e*SG	**Sg**	**15 39 22.2**	**0.0**
KRBR				AML	AML	15 39 27.0	
	comp=N,241nm,0.5s						
KRBR				AML	AML	15 39 28.3	
	comp=E,272nm,0.4s						
KRBR	**Kerman**	**1.84**	**355**	*e*Pg	**Pg**	**15 38 57.7**	**-0.6**
	SNR=96						
KRBR				*e*Sg	**Sg**	**15 39 22.2**	**0.0**
	comp=E,272nm,0.4s,SNR=96						
BANOM	**Banah**	**2.28**	**195**	⇑P	**Pn**	**15 39 00.8**	**+0.2**
	SNR=18						
GHIR	**Ghir-Karzin**	**3.50**	**273**	*e*PN	**Pn**	**15 39 17.4**	**+0.1**
ASHO	**Ashiyiah**	**3.53**	**193**	⇓P	**Pn**	**15 39 18.0**	**+0.3**
	SNR=7.2						
ZHSF	**Zahedan**	**3.67**	**65**	*e*PN	**Pn**	**15 39 22.7**	**+3.1**
BIDO	**Bidbid**	**4.72**	**167**	⇑P	**Pn**	**15 39 33.5**	**-0.5**
	SNR=8.8						
ABTO	**Aybut**	**11.25**	**198**	P	**Pn**	**15 41 01.3**	**-2.3**
	SNR=5.9						

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*ISCJB **02** 15:42:20.3±0.4, 6627N±003×14207W±009, h10km, mb3.6/3, Error ellipse: s-maj=5.2km s-min=4.8km az=78.5*
*NEIC **02** 15:42:22.6, 6628N×14229W, h17km, ML3.8(PGC), ML3.8(AEIC), After AEIC.*
*IDC **02** 15:42:22.1±1.0, 6630N×142.15W, h0km, mb3.8/3, mb1 4.0/6, mb1mx3.6/21, mbtmp3.8/6, ML3.6/3, Error ellipse: s-maj=19.8km s-min=9.2km az=158.0*
*PGC **02** 15:42:24.7, 6628N×14172W, h10km, ML3.8/2, Eastern Alaska.*
ISC 02 15:42:21.5±0.4, 6632N±004×14209W±008, h10km, n33, σ1§35/48, mb3.6/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.49**	**319**	P	**Pn**	**15 42 47.8**	**-0.4**
BM3				S	**Sn**	**15 43 08.0**	**+0.3**
IL1	**Eielson Array**	**2.53**	**234**	P	**Pn**	**15 43 01.9**	**-0.7**
ILAR	**Eielson Array**	**2.53**	**234**	Pn	**Pn**	**15 43 01.9**	**-0.7**
	4.3nm,0.3s,baz=46,slow=13,SNR=298						
ILAR				Pg	**Pg**	**15 43 08.4**	**-1.5**
	17nm,0.3s,baz=48,slow=16,SNR=57						
ILAR				Lg		15 43 38.6	
	90nm,0.3s,baz=48,slow=29,SNR=25						
DAWY	**Dawson**	**2.53**	**152**	Pn	**Pn**	**15 43 03.0**	**+0.4**
DAWY				Sn	**Sn**	**15 43 34.4**	**+0.9**
DAWY				Sg	**Sg**	**15 43 40.0**	**-2.9**
DAWY				Trac		15 43 46.5	
	comp=Z,187nm,0.5s						
DAWY	**Dawson**	**2.53**	**152**	P	**Pn

IM01	Indian Mountai	4.73	271	P	Pn	15 43 32.0	-0.9
SML	Sawmill	5.29	214	*e*Pn	Pn	15 43 41.5	+1.0
PMR	Palmer	5.67	216	*e*Pn	Pn	15 43 46.9	+1.2
	24nm,1.0s						
HYT	Haines Junctio	5.88	158	Pn	Pn	15 43 50.0	+1.3
HYT				Sg	Sg	15 45 24.7	-5.6
HYT				Trac		15 45 36.9	
	comp=Z,56nm,0.6s						
PCA	Pinnacle	6.30	172	P	Pn	15 43 57.0	+2.6
WHY	Whitehorse	6.53	147	Pn	Pn	15 43 58.0	+0.4
WHY				Sg	Sg	15 45 44.7	-6.3
WHY				Trac		15 46 08.9	
	comp=Z,28nm,0.8s						
WHY	Whitehorse	6.53	147	P	Pn	15 43 57.6	+0.1
YKW3	Yellowknife Ar	12.39	95	P	Pn	15 45 15.4	-2.4
YKW3				P		15 45 15.4	
YKW3				Sn	Sn	15 47 25.5	-10
YKW3				Sn	Sn	15 47 26.2	-10
YKW3				Trac		15 49 08.7	
	comp=Z,18nm,0.9s						
YKW3				Trac		15 49 08.9	
	comp=Z,11nm,0.9s						
YKW3	Yellowknife Ar	12.39	95	*e*Pn	Pn	15 45 14.8	-3.0
YKW3				*e*Sn	Sn	15 47 25.3	-11
YKA	Yellowknife Ar	12.42	95	Pn	Pn	15 45 16.0	-2.3
	baz=297,slow=13,SNR=30						
YKA				Sn	Sn	15 47 26.9	-10
	baz=295,slow=23,SNR=5.9						
YKA				Lg		15 48 53.5	
	baz=308,slow=28,SNR=3.3						
YKA	Yellowknife Ar	12.42	95	Pn	Pn	15 45 16.0	-2.3
YKA				Sn	Sn	15 47 26.9	-10
YKA				Lg		15 48 53.5	
RES	Resolute Bay	17.28	41	P	Pn	15 46 23.2	+0.3
RES	Resolute Bay	17.28	41	Pn	Pn	15 46 15.3	-7.5
FFC	Flin Flon	22.43	102	P	P	15 47 21.3	+1.0
ULM	Lac du Bonnet	28.26	102	P	P	15 48 15.2	+0.4
	0.5nm,0.3s,mb3.6,baz=338,slow=5.4,SNR=2.4						
PDAR	Pinedale Array	29.58	127	P	P	15 48 29.1	+2.6
	0.9nm,0.8s,mb3.6,baz=343,slow=4.6,SNR=7.3						
FINES	FINESS Array B	52.24	7	P	P	15 51 35.2	+2.4
	0.3nm,0.3s,mb3.6,baz=12,slow=9.8,SNR=5.9						
FINES	FINESS Array B	52.24	7	P	P	15 51 35.2	+2.4

IDC 02 15:44:57.8±1.4, 1368N×14246E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=32.9km s-min=28.1km az=74.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.34	92	Pn	Pn	15 45 37.3	-0.3
	24nm,0.3s,baz=148,slow=17,SNR=12						
GUMO				Sn	Sn	15 45 56.8	-10
	73nm,0.3s,baz=5.1,slow=23,SNR=18						
WB2	Warramunga Arr	34.35	194	*e*P	P	15 51 47.0	+0.8
WRA	Warramunga Arr	34.35	194	P	P	15 51 47.1	+0.9
	0.6nm,0.3s,baz=12,slow=8.8,SNR=29						
ASAR	Alice Springs	38.05	193	P	P	15 52 17.4	-0.4
	0.5nm,0.6s,baz=15,slow=6.9,SNR=14						
MKAR	Makanchi Array	59.80	316	P	P	15 55 05.0	+0.3
	0.1nm,0.4s,baz=90,slow=8.6,SNR=2.0						

NIED ***02*** *15:52:00, 3870N×14230E, h53km, Mw4.1 Best double couple: M0 1.75000×10^15 NP1:φs=222.00000°, δ89.00000°, λ-107.00000°. NP2:φs=131.00000°, δ17.00000°, λ-2.00000°.*
IDC ***02*** *15:52:27.8±0.9, 3864N×142.10E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.9/22, mbtmp3.9/14, ML3.8/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/25, Error ellipse: s-maj=26.3km s-min=18.9km az=80.0*
MOS ***02*** *15:52:30.8±1.3, 3870N×142.37E, h33km, mb4.3/14, Error ellipse: s-maj=11.7km s-min=7.9km az=100.2*
BJI ***02*** *15:52:30.6, 3902N×142.16E, h22km, mB4.6, mb4.4, Ms4.3, Msz4.0*
ISCJB ***02*** *15:52:33.0±0.8, 3872N×004×14224E±008, h51km±5km, mb4.2/34, MS3.8/2, Error ellipse: s-maj=10.9km s-min=5.5km az=48.0*
JMA ***02*** *15:52:33.1±0.1, 3870N×14226E, h39km±2km, M4.4*
JMA Felt I J1.
NEIC ***02*** *15:52:34.0±1.2, 3879N×142.17E, h38km±10km, mb4.5/14, MW4.1(NIED), Error ellipse: s-maj=14.2km s-min=8.8km az=110.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi Prefectures.

ISC 02 15:52:34.2±0.8, 3875N±004×14220E±008, h44km±6km, h41km±5.0km: pP-P, n80, σ1°07/94, mb4.2/34, MS3.8/2, 6C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.53	308	⇓P	Pn	15 52 45.2	-0.2
OFUJ				S	Sn	15 52 53.7	+0.3
JIO	Ouri	0.73	246	⇓P	Pn	15 52 47.1	-1.0
JIO				S	Sn	15 52 57.0	-1.2
JMK	Ichinoseki	0.79	285	⇓P	Pn	15 52 48.9	0.0
JMK				S	Sn	15 53 00.0	+0.4
JOM	Ohasama	1.01	316	⇓P	Pn	15 52 52.3	+0.4
JOM				S	Sn	15 53 06.1	+1.2
JTH	Tanohata	1.21	348	P	Pn	15 52 54.5	-0.2
JTH				S	Sn	15 53 11.0	+1.1
JOU	Okura	1.27	253	⇓P	Pn	15 52 55.3	-0.1
JOU				S	Sn	15 53 12.0	+0.8
JMM	Marumori	1.42	232	⇓P	Pn	15 52 56.5	-1.0
JYK	Kaneyama	1.45	277	⇓P	Pn	15 52 58.3	+0.4
MJAR	Matsushiro Arr	3.86	236	Pn	Pn	15 53 31.2	+0.2
	4.3nm,0.3s,baz=37,slow=13,SNR=31						
MJAR				Lg		15 54 22.6	
	2.9nm,0.3s,baz=23,slow=16,SNR=4.9						
MJAR				LR	LR	15 55 01.4	
	comp=Z,187nm,19.5s,baz=35,slow=41						
MAJO	Matsushiro	3.86	236	*e*Pn	Pn	15 53 32.4	+1.3
MAT	Matsushiro	3.86	236	P	Pn	15 53 32.2	+1.1
MAT				*e*S	Sn	15 54 16.6	+1.4
MAT	Matsushiro	3.86	236	*e*P	Pn	15 53 32.0	+0.9
MAT				*e*S	Sn	15 54 26.0	+11
ASAJ	Asahikawa	5.37	3	Pn	Pn	15 53 52.1	+0.4
	2.6nm,0.3s,baz=45,slow=17,SNR=23						
ASAJ				Sn	Sn	15 54 51.5	-0.8
	1.6nm,0.3s,baz=241,slow=19,SNR=2.5						
ASAJ				Lg		15 55 15.6	
	2.1nm,0.3s,baz=0.6,slow=32,SNR=5.3						
ASAJ				LR	LR	15 56 14.2	
	comp=Z,150nm,21.5s,baz=182,slow=41						
YSS	Yuzh-Sakhalins	8.21	3	*e*Pn	Pn	15 54 30.9	+0.2
VLA	Vladivostok	8.94	302	*e*P	Pn	15 54 44.7	+4.0
VLA				pmax	pmax		
	comp=Z,38nm,1.4s						
HABR	Khabarovsk	11.01	334	*e*P	Pn	15 55 05.5	-3.5
HABR				*e*S	Sn	15 57 08.8	-1.9
MDJ	Mudanjiang	11.09	306	P	Pn	15 55 07.5	-2.7
MDJ				S	Sn	15 57 08.0	-4.9
MDJ				PCP	PcP	16 01 07.1	+2.2
MDJ				SCP	ScP	16 04 35.8	+1.9
MDJ				PCS	PcS	16 04 40.9	+2.2
MDJ				SCS	ScS	16 08 11.9	+2.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,91nm,4.0s						
MDJ	Mudanjiang	11.09	306	*e*Pn	Pn	15 55 07.1	-3.1
	comp=Z,11nm,0.8s						
KS15	Wonju Array Si	11.36	268	*e*P	Pn	15 55 11.2	-2.6
CN2	Changchun	13.57	297	*e*P	Pn	15 55 44.7	+0.8
HIA	Hailar	19.20	310	P	Pn	15 56 59.4	+3.9
NJ2	Nanjing	20.14	258	*e*P	P	15 57 03.4	-1.2
NJ2				AP		15 57 12.1	
NJ2				XP	sP	15 57 16.5	-4.1
NJ2				PP		15 57 22.9	
NJ2				S	S	16 00 41.0	-7.4
NJ2				XS	sS	16 00 53.0	-12
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,120nm,4.1s						
NJ2				LR	LR		
	comp=N,140nm,16.6s,MS3.6						
NJ2				LR	LR		
	comp=E,210nm,17.2s,MS3.6						
NJ2				LR	LR		
	comp=Z,180nm,22.1s,MS3.4						
MA2	Magadan	21.55	12	*e*P	P	15 57 20.0	+0.3
	comp=Z,6.3nm,0.9s,mb4.0						
MA2	Magadan	21.55	12	*e*P	P	15 57 20.0	+0.3
MA2				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
HHC	Hu-ho-hao-te	23.57	285	*e*P	P	15 57 38.8	-2.1
HHC				AP		15 57 50.2	
HHC				XP	sP	15 57 55.7	-1.7
HHC				PP		15 58 11.2	
HHC				PCP	PcP	16 01 27.6	+2.7
HHC				S	S	16 01 44.1	-7.7
HHC				XS	sS	16 02 04.2	-6.9
HHC				SS		16 02 34.3	
HHC				AMB	AMB		
	comp=Z,2.0nm,0.3s,mb4.0						
HHC				AMB	AMB		
	comp=Z,67nm,5.0s						
HHC				LR	LR		
	comp=N,160nm,6.1s						
HHC				LR	LR		
	comp=E,154nm,4.9s						
HHC				LR	LR		
	comp=Z,124nm,4.9s						
YAK	Yakutsk	24.54	346	*e*P	P	15 57 47.7	-2.0
	comp=Z,6.7nm,0.6s,mb4.3						
YAK	Yakutsk	24.54	346⇑	*e*P	P	15 57 51.2	+1.5
YAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.1						
SEY	Seymchan	24.99	11⇑	*e*P	P	15 57 54.9	+1.2
BOD	Bodaibo	26.44	325	*e*P	P	15 58 05.4	-1.5
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
ULN	Ulaanbaatar	26.95	301	*e*P	P	15 58 12.1	+0.6
	comp=Z,1.2nm,0.7s,mb3.5						
ULN	Ulaanbaatar	26.95	301	*i* P	P	15 58 12.1	+0.6
SONM	Songino Array	27.39	301	P	P	15 58 15.5	+0.1
	comp=Z,0.6nm,0.4s,mb3.5,baz=97,slow=9.1,SNR=11						
SONM	Songino Array	27.39	301	P	P	15 58 15.5	+0.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ENH	Enshi	28.14	262	P	P	15 58 18.4	-3.7
	comp=Z,12nm,0.7s,mb4.6						
ENH				*e*	pP	15 58 26.7	-7.1
ZAK	Zakamensk	29.73	306	*e*P	P	15 58 35.2	-1.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
LZH	Lanzhou	30.43	277	*e*P	P	15 58 43.0	+0.5
LZH				AP	pP	15 58 54.9	+0.7
LZH				PP	PP	15 59 43.2	-8.4
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,57nm,5.7s						
LZH				LR	LR		
	comp=N,265nm,13.3s						
LZH				LR	LR		
	comp=Z,347nm,17.1s,MS4.1						
CD2	Chengdu	32.33	268	*e*P	P	15 59 05.0	+5.9
CD2				S	S	16 04 20.2	+10
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
CD2				LR	LR		
	comp=N,120nm,9.6s						
CD2				LR	LR		
	comp=Z,80nm,9.6s						
WMQ	Urumqi	40.65	295	*e*P	P	16 00 10.1	+0.1
WMQ				AP	pP	16 00 22.3	+0.3
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,58nm,4.6s						
WMQ				LR	LR		
	comp=N,448nm,22.0s						
ZAL	Zalesovo	41.25	311	P	P	16 00 14.6	-0.4
	comp=N,2.6nm,0.4s,mb4.2,baz=24,slow=7.9,SNR=12						
ZAL	Zalesovo	41.25	311	P	P	16 00 14.6	-0.4
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	Makanchi Array	43.76	301	P	P	16 00 35.5	+0.2
	comp=Z,2.1nm,0.8s,mb4.0,baz=83,slow=11,SNR=23						
MKAR	Makanchi Array	43.76	301	P	P	16 00 35.5	+0.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	Kurchatov	45.38	307	*e*P	P	16 00 47.7	-0.6
	comp=Z,9.0nm,0.8s,mb4.7						
KURK	Kurchatov	45.38	307⇑	*e*P	P	16 00 48.2	-0.1
JIRN	Jiri	47.50	274	*e*P	P	16 01 07.8	+2.9
	comp=Z,4.8nm,0.5s,mb4.8						
GUN	Gumba	47.62	275	*e*P	P	16 01 07.9	+2.0
	comp=Z,8.8nm,0.5s,mb5.0						
ILAR	Eielson Array	47.71	33	P	P	16 01 07.8	+1.2
	comp=Z,0.5nm,0.6s,mb3.7,baz=267,slow=6.1,SNR=8.0						
ILAR	Eielson Array	47.71	33	P	P	16 01 07.8	+1.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKN	Kakani	48.15	275	*e*P	P	16 01 12.0	+2.1
	comp=Z,6.6nm,0.6s,mb4.8						
KKN	Kakani	48.15	275	*e*P	P	16 01 12.0	+2.1
KKN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
GKN	Gorkha	48.55	275	*e*P	P	16 01 14.7	+1.7
	comp=Z,3.3nm,0.3s,mb4.8						
KOLN	Koldanda	49.47	276	*e*P	P	16 01 20.5	+0.5
	comp=Z,4.4nm,0.7s,mb4.6						
BRVK	Borovoye	49.95	311	P	P	16 01 23.7	0.0
	comp=Z,2.8nm,0.9s,mb4.3						
BRVK	Borovoye	49.95	311	P	P	16 01 23.7	0.0
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ZRNK	Zerenda	50.72	312	*e*P	P	16 01 29.3	-0.2
	comp=Z,1.5nm,0.8s,mb4.0						
ZRNK	Zerenda	50.72	312	*e*P	P	16 01 29.3	-0.2
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ARU	Arti	55.49	318	P	P	16 02 04.0	-0.7
	comp=Z,3.3nm,0.7s,mb4.5						
ARU	Arti	55.49	318	*e*P	P	16 02 02.9	-1.8
AKTK	Aktyubinsk	58.00	311	P	P	16 02 21.6	-0.9
AKTO	Aktyubinsk	58.00	311	P	P	16 02 21.6	-0.9
	comp=Z,0.7nm,0.5s,mb3.9,baz=81,slow=15,SNR=5.6						
AKTO	Aktyubinsk	58.00	311	P	P	16 02 21.6	-0.8
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
WRAB	Tennant Creek	58.84	189	P	P	16 02 27.7	-0.5
	comp=Z,17nm,1.5s,mb4.8						
WRAB	Tennant Creek	58.84	189	P	P	16 02 27.7	-0.6
WRAB				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
WRA	Warramunga Arr	58.85	189	P	P	16 02 27.4	-0.9
	comp=Z,0.5nm,0.5s,mb3.9,baz=7.2,slow=7.1,SNR=19						
WRA	Warramunga Arr	58.85	189⇑	*e*P	P	16 02 27.3	-1.0
ASAR	Alice Springs	62.58	189	P	P	16 02 53.1	-0.6
	comp=Z,0.3nm,0.7s,mb3.5,baz=14,slow=9.1,SNR=4.7						
FINES	FINESS Array B	67.59	332	P	P	16 03 25.8	-0.4
	comp=Z,1.9nm,0.9s,mb4.1,baz=39,slow=7.3,SNR=4.0						
FINES	FINESS Array B	67.59	332⇑	*e*P	P	16 03 27.2	+1.0
KIV	Kislovodsk	70.25	311	*e*P	P	16 03 44.1	+1.3
	comp=Z,12nm,1.0s,mb4.8						
KIV	Kislovodsk	70.25	311⇓	*e*P	P	16 03 43.7	+0.9
KIV				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
HFS	Hagfors	72.78	336	P	P	16 03 57.8	-0.3
	comp=Z,3.0nm,0.8s,mb4.3,baz=356,slow=7.9,SNR=5.6						
HFS	Hagfors	72.78	336	P	P	16 03 57.8	-0.2
HFS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NB2	NORSAR Subarra	72.84	337	P	P	16 03 58.0	-0.4
	comp=Z,1.1nm,0.6s,mb4.0,baz=42,slow=5.6						
NOA	NORSAR Array B	72.84	337	P	P	16 03 58.1	-0.3
	comp=Z,0.9nm,0.6s,mb3.9,baz=39,slow=6.0,SNR=3.9						
NOA	NORSAR Array B	72.84	337	P	P	16 03 58.1	-0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	73.32	322	P	P	16 04 00.3	-0.9
	comp=Z,2.2nm,0.7s,mb4.2,baz=48,slow=6.0,SNR=4.9						
AKASG	Malin Array Be	73.32	322	P	P	16 04 00.3	-0.9
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	Pinedale Array	76.02	46	P	P	16 04 17.6	+0.7
	comp=Z,0.3nm,0.6s,mb3.4,baz=332,slow=8.4,SNR=3.5						
BRTR	Keskin Array B	78.18	312	P	P	16 04 29.2	+0.3
	comp=Z,0.4nm,0.5s,mb3.6,baz=92,slow=3.3,SNR=3.5						
BRTR	Keskin Array B	78.18	312⇑	*e*P	P	16 04 29.6	+0.6

MAN 02 16:07:17.2, 1359N×12005E, h32km, mb2.0, ML3.7, MS2.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.24	54⇑	*i*P	Pb	16 07 25.8	+1.7
LUBP	Lubang	0.24	54	*e*P	Pb	16 07 25.8	+1.7
LUBP				*e*S	Sb	16 07 31.2	+2.5
PGP	Puerto Galera	0.89	96	*e*P	Pn	16 07 33.2	-0.2
BUSP	Coron	1.59	175	*e*P	Pn	16 07 43.1	+0.1
BUSP				*e*S	Sn	16 07 59.8	-2.7
BOAC	Boac	1.75	94	*e*P	Pn	16 07 46.4	+1.0
ENPP	El Nido	2.45	194	*e*P	Pn	16 07 55.7	+0.7
ENPP				*e*S	Sn	16 08 22.1	-1.7

IDC ***02*** *16:19:20.1±0.8, 4.19S×12963E, h0km, mb4.3/7, mb1 4.5/9, mb1mx4.4/16, mbtmp4.3/9, ML4.0/2, MS3.4/1, Ms1 3.3/1, ms1mx2.5/15, Error ellipse: s-maj=51.0km s-min=16.1km az=68.0*
ISCJB ***02*** *16:19:23.5±0.3, 428S±005×12962E±008, h35km, mb4.7/32, MS4.2/4, Error ellipse: s-maj=12.4km s-min=5.6km az=141.3*
MOS ***02*** *16:19:23.0±1.2, 424S×12952E, h33km, mb4.7/11, Error ellipse: s-maj=23.9km s-min=8.6km az=109.8*
NEIC ***02*** *16:19:25.1±0.3, 434S×12954E, mb4.6/17, Error ellipse: s-maj=14.5km s-min=5.9km az=59.0*
BJI ***02*** *16:19:25.1, 430S×12950E, h37km, mB5.1, mb4.8, Ms4.7, Msz4.5*

ISC 02 16:19:25.6±0.3, 430S±005×12967E±008, h37km, h37km±1.7km: pP-P, n69, σ1°34/75, mb4.7/32, MS4.2/4, 4C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	3.33	114	P	Pn	16 20 23.1	+7.9
	258nm,1.1s						
PCI	Palu	10.38	289	P	Pn	16 21 54.7	+2.7
	50nm,1.0s						
WRAB	Tennant Creek	16.20	164	*e*Pn	Pn	16 23 09.1	-1.3
	17nm,0.9s						
WRAB				*e*Sn	Sn	16 25 58.7	-10
WRAB	Tennant Creek	16.20	164	*e*P	Pn	16 23 09.1	-1.3
WRAB				pmax	pmax		
	comp=Z,17nm,0.9s						
WRA	Warramunga Arr	16.20	164	Pn	Pn	16 23 08.7	-1.7
	comp=Z,0.3nm,0.3s,baz=352,slow=12,SNR=24						
WRA				Sn	Sn	16 26 04.7	-4.4
	comp=Z,0.1nm,0.3s,baz=351,slow=23,SNR=3.3						
WB2	Warramunga Arr	16.20	164	*e*P	Pn	16 23 09.6	-0.9
KKM	Kota Kinabalu	16.91	307	Pn	Pn	16 23 19.1	-0.3
MBWA	Marble Bar	19.34	209	*e*P	Pn	16 23 50.1	+1.0
	comp=Z,35nm,0.8s						
AS31	Alice Springs	19.68	168	*e*P	Pn	16 23 54.1	+0.9
ASAR	Alice Springs	19.68	168	P	Pn	16 23 54.2	+1.0
	comp=Z,2.6nm,0.3s,baz=346,slow=9.9,SNR=206						
ASAR				S	S	16 27 43.4	+12
	baz=344,slow=18,SNR=4.3						
ASPA	Alice Springs	19.68	168	*e*P	Pn	16 23 54.1	+0.9
KSM	Kuching	20.18	286	*e*P	P	16 23 57.0	0.0
CTA	Charters Tower	22.52	136	*e*P	P	16 24 24.5	+2.4
	comp=Z,9.9nm,0.6s,mb4.4						
CTA	Charters Tower	22.52	136	P	P	16 24 24.4	+2.2
	comp=Z,12nm,0.6s,mb4.5,baz=325,slow=11,SNR=23						
CTA	Charters Tower	22.52	136	*e*P	P	16 24 24.5	+2.4
CTA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CTAO	Charters Tower	22.52	136	*e*P	P	16 24 24.6	+2.4
	comp=Z,12nm,0.6s,mb4.5						
CTAO	Charters Tower	22.52	136	*e*P	P	16 24 24.6	+2.5
CTAO				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.5						
GUMO	Guam	23.31	40	*e*P	P	16 24 35.2	+4.7
GUMO				*e*		16 24 49.7	
STKA	Stephens Creek	29.63	159	P	P	16 25 26.9	-0.6
	comp=Z,2.9nm,0.6s,mb4.2,baz=322,slow=7.6,SNR=10						
STKA				LR	LR	16 38 33.9	
	comp=Z,69nm,20.0s,MS3.3,baz=203,slow=39						
STKA	Stephens Creek	29.63	159	*e*P	P	16 25 26.8	-0.6
KULM	Kulim	30.51	288	P	P	16 25 32.7	-2.5
NWAO	Narrogin (SRO)	30.76	201	P	P	16 25 39.7	+2.2
NWAO				*e*pP	pP	16 25 51.7	+3.9
SSE	Sheshan	36.11	348	P	P	16 26 27.0	+3.0
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,70nm,4.5s						
NJ2	Nanjing	37.58	345	*e*P	P	16 26 39.1	+2.6
NJ2				AP	pP	16 26 49.0	+2.0
NJ2				XP	sP	16 26 52.8	+1.4
NJ2				PP	PP	16 28 08.1	+5.4
NJ2				S	S	16 32 26.0	+2.6
NJ2				XS	sS	16 32 42.0	+1.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,120nm,4.0s						
NJ2				LR	LR		
	comp=N,530nm,13.7s,MS4.6						
NJ2				LR	LR		
	comp=E,210nm,10.6s,MS4.6						
NJ2				LR	LR		
	comp=Z,290nm,31.8s						
MJAR	Matsushiro Arr	41.40	10	P	P	16 27 07.6	-0.7
	comp=Z,2.0nm,0.6s,mb3.9,baz=174,slow=9.7,SNR=4.6						
KS15	Wonju Array Si	41.56	358	P	P	16 27 11.6	+2.0
KS15				*e*pP	pP	16 27 30.7	+10
LZH	Lanzhou	46.89	331	*e*P	P	16 27 56.0	+3.7
LZH				AP	pP	16 28 06.7	+3.7
LZH				XP	sP	16 28 10.5	+3.2
LZH				PP	PP	16 29 46.6	+3.8
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,89nm,6.9s						
LZH				LR	LR		
	comp=N,439nm,14.5s						
LZH				LR	LR		
	comp=Z,598nm,18.0s,MS4.6						
HHC	Hu-ho-hao-te	47.89	341	*e*P	P	16 28 03.8	+3.7
HHC				AP	pP	16 28 13.7	+2.9
HHC				XP	sP	16 28 17.7	+2.5
HHC				PCP	PcP	16 29 32.0	+3.8
HHC				PP	PP	16 29 55.9	+3.8
HHC				S	S	16 34 59.1	+4.3
HHC				XS	sS	16 35 14.5	+1.9
HHC				SCS	ScS	16 37 51.5	+1.1
HHC				SS	SS	16 38 21.9	-1.8
HHC				AMB	AMB		
	comp=Z,9.0nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,147nm,4.8s						
HHC				LR	LR		
	comp=N,161nm,5.7s						
HHC				LR	LR		
	comp=E,197nm,5.3s						
HHC				LR	LR		
	comp=Z,141nm,5.6s						
CN2	Changchun	48.03	356	*e*P	P	16 28 05.6	+4.5
CN2				*e*AP	pP	16 28 15.6	+3.7
CN2				*e*S	S	16 34 55.5	-1.3
CN2

LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
GTA	**Gaotai**	**51.47**	**330**	*e*P	**P**	**16 28 27.3**	**0.0**
GTA				AP	pP	16 28 37.3	-0.8
GTA				XP	sP	16 28 41.1	-1.3
GTA				PP	PP	16 30 24.0	-0.7
GTA				S	**S**	**16 35 41.9**	**-2.9**
GTA				XS	sS	16 35 59.4	-3.3
GTA				SS	SS	16 39 16.0	-4.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,96nm,4.6s						
GTA				LR	LR		
	comp=N,131nm,13.7s,MS4.2						
GTA				LR	LR		
	comp=E,118nm,14.5s,MS4.2						
GTA				LR	LR		
	comp=Z,136nm,11.0s,MS4.2						
JIRN	**Jiri**	**52.59**	**310**	*e*P	**P**	**16 28 35.5**	**-0.2**
	comp=Z,8.4nm,0.6s,mb4.8						
GUN	**Gumba**	**52.96**	**310**	*e*P	**P**	**16 28 38.3**	**0.0**
	comp=Z,23nm,0.7s,mb5.2						
KKN	**Kakani**	**53.36**	**309**	*e*P	**P**	**16 28 40.9**	**-0.4**
GKN	**Gorkha**	**53.96**	**309**	*e*P	**P**	**16 28 45.2**	**-0.5**
	comp=Z,9.4nm,0.6s,mb4.9						
KOLN	**Koldanda**	**54.65**	**309**	*e*P	**P**	**16 28 50.6**	**-0.1**
	comp=Z,24nm,0.9s,mb5.2						
ULN	**Ulaanbaatar**	**55.61**	**342**	*e*P	**P**	**16 28 57.2**	**-0.5**
	comp=Z,5.0nm,0.8s,mb4.6						
ULN				*e*pP	pP	16 29 07.0	-1.6
ULN	**Ulaanbaatar**	**55.61**	**342**	*e*P	**P**	**16 28 57.2**	**-0.5**
ULN				*e**PP	pP	16 29 07.0	-1.6
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
SONM	**Songino Array**	**55.79**	**341**	P	**P**	**16 28 59.1**	**+0.1**
	comp=Z,1.5nm,1.0s,mb4.0,baz=154,slow=7.6,SNR=8.5						
ZAK	**Zakamensk**	**59.02**	**341**	*e*P	**P**	**16 29 28.7**	**+7.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
WMQ	**Urumqi**	**60.97**	**326**	*e*P	**P**	**16 29 36.0**	**+0.9**
WMQ				AP	pP	16 29 46.2	+0.1
WMQ				XP	sP	16 29 50.2	-0.2
WMQ				PCP	PcP	16 30 18.8	+0.6
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,58nm,4.2s						
WMQ				LR	LR		
	comp=N,221nm,18.0s						
BOD	**Bodaibo**	**63.19**	**351**	*e*P	**P**	**16 29 47.9**	**-2.1**
BOD				*e*	pP	16 29 58.9	-2.2
BOD				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.3						
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**65.80**	**326**	P	**P**	**16 30 06.7**	**-0.3**
	comp=Z,4.0nm,0.5s,mb4.7,baz=115,slow=7.9,SNR=86						
MKAR	**Makanchi Array**	**65.80**	**326**	P	**P**	**16 30 06.7**	**-0.3**
MKAR	**Makanchi Array**	**65.80**	**326⇑**	*e*P	**P**	**16 30 06.6**	**-0.5**
MA2	**Magadan**	**65.83**	**12**	P	**P**	**16 30 07.0**	**-0.2**
MA2				*e*pP	pP	16 30 18.5	+0.2
YAK	**Yakutsk**	**66.14**	**0**	*e*P	**P**	**16 30 09.0**	**-0.3**
	comp=Z,11nm,0.7s,mb5.0						
YAK				*e*pP	pP	16 30 20.2	-0.2
YAK	**Yakutsk**	**66.14**	**0**	*e*P	**P**	**16 30 09.0**	**-0.2**
YAK				*e**PP	pP	16 30 20.2	-0.2
YAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
AAK	**Ala-Archa**	**68.28**	**319**	*e*P	**P**	**16 30 22.0**	**-0.8**
	comp=Z,3.4nm,1.1s,mb4.3						
AAK				pP	pP	16 30 32.0	-2.0
AAK	**Ala-Archa**	**68.28**	**319**	*e*P	**P**	**16 30 22.0**	**-0.8**
AAK				*PP	pP	16 30 32.0	-2.0
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**69.03**	**333**	P	**P**	**16 30 26.3**	**-1.2**
	comp=Z,1.9nm,0.3s,mb4.6,baz=270,slow=2.3,SNR=8.7						
SEY	**Seymchan**	**69.23**	**11⇑**	*e*P	**P**	**16 30 28.8**	**+0.1**
KURK	**Kurchatov**	**70.06**	**328**	*e*P	**P**	**16 30 33.2**	**-0.6**
	comp=Z,14nm,0.9s,mb4.9						
KURK	**Kurchatov**	**70.06**	**328⇑**	*e*P	**P**	**16 30 32.9**	**-0.9**
BRVK	**Borovoye**	**75.69**	**328**	*e*P	**P**	**16 31 06.7**	**-0.5**
	comp=Z,5.2nm,1.0s,mb4.4						
BRVK	**Borovoye**	**75.69**	**328**	*e*P	**P**	**16 31 06.7**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
TIXI	**Tiksi**	**75.81**	**360⇑**	*e*P	**P**	**16 31 07.0**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,11nm,1.9s,mb4.5						
ZRNK	**Zerenda**	**76.33**	**327**	*e*P	**P**	**16 31 10.2**	**-0.6**
	comp=Z,6.0nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**76.33**	**327**	*e*P	**P**	**16 31 10.2**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ARU	**Arti**	**83.25**	**328**	*e*P	**P**	**16 31 47.0**	**-1.3**
	comp=Z,3.2nm,0.7s,mb4.5						
ARU	**Arti**	**83.25**	**328**	*e*P	**P**	**16 31 47.0**	**-1.3**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
QSPA	**South Pole Qui**	**85.66**	**180**	*e*P	**P**	**16 32 00.4**	**-0.1**
	comp=Z,4.9nm,0.9s,mb4.7						
SYO	**Syowa Base**	**86.05**	**201⇓**	*e*PcP	PcP	16 32 06.8	+1.8
ILAR	**Eielson Array**	**91.06**	**25**	P	**P**	**16 32 24.1**	**-2.1**
	comp=Z,0.4nm,0.9s,mb3.8,baz=227,slow=5.4,SNR=5.3						
SOC	**Sochi**	**92.90**	**313**	*e*P	**P**	**16 32 31.1**	**-3.6**
SOC				*e**PP	pP	16 32 47.7	+1.5
SOC				*e*		16 36 19.8	
SOC				*e*PPP		16 38 18.0	
SOC				*e*S		16 43 01.7	
SOC				*e**SS	sS	16 43 28.9	-28
SOC				*e*SS	SS	16 50 01.5	+10
SOC				*e*SSS		16 53 30.4	
SOC				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.6						
TORD	**Torodi Ar. Bea**	**127.92**	**283**	PKP	PKPdf	16 38 28.6	+1.2
	comp=Z,0.6nm,0.6s,baz=74,slow=1.7,SNR=6.2						

MAN 02 16:40:17.2, 1870N×12084E, h11km, mb1.9, ML3.7, MS0.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.42**	**210⇓**	*e*P	Pg	16 40 26.2	+0.6
PIP				*e*S	Sg	16 40 32.3	+1.0
APYP	**Conner**	**0.91**	**155**	*e*P	Pg	16 40 34.2	-0.6
APYP				*e*S	Sg	16 40 47.5	+0.8
ABRA	**Dolores**	**1.05**	**187**	*e*P	Pb	16 40 36.1	-1.2
ABRA				*e*S	Sg	16 40 52.3	+1.3

MAN 02 16:55:10.5, 1339N×12018E, h6km, mb2.4, ML4.0, MS1.4, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**11⇑**	*e*P	Pg	16 55 17.8	+0.5
LUBP	**Lubang**	**0.35**	**11**	*e*P	Pg	16 55 17.9	+0.5
LUBP				*e*S	Sg	16 55 22.5	+0.6
PGP	**Puerto Galera**	**0.77**	**81⇑**	*i*P	Pg	16 55 25.6	+0.4
TGY	**Tagaytay City**	**1.03**	**46⇓**	*e*P	Pg	16 55 30.4	+0.2
TGY				*e*S	Sg	16 55 45.6	+2.1
LBPH	**Los Banos**	**1.24**	**52**	*e*P	Pg	16 55 35.8	+1.5
BUSP	**Coron**	**1.38**	**179**	*e*P	Pn	16 55 36.3	+0.1
BUSP				*e*S	Sb	16 55 53.7	-0.7
ARP	**Angono**	**1.49**	**40⇑**	*e*P	Pn	16 55 34.3	-3.4
QVPH	**Quezon City--P**	**1.52**	**34**	*e*P	Pn	16 55 37.6	-0.7
BOAC	**Boac**	**1.63**	**87**	*e*P	Pn	16 55 39.1	-0.5
BOAC				*e*S	Sn	16 56 01.6	+0.7
OTRP	**Odiongan**	**2.07**	**119**	*e*P	Pn	16 55 48.6	+2.8
ENPP	**El Nido**	**2.29**	**199**	*e*P	Pn	16 55 49.0	+0.2
ENPP				*e*S	Sn	16 56 16.0	-1.3
CUYO	**Cuyo Island**	**2.65**	**162**	*e*P	Pn	16 55 53.8	0.0
CUYO				*e*S	Sn	16 56 24.1	-2.2

IDC 02 16:58:36.7±1.6, 111S×8066W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, ML3.8/1, MS3.2/2, Ms1 3.1/2, ms1mx2.8/14, Error ellipse: s-maj=87.7km s-min=25.9km az=63.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**12.11**	**339**	LR	LR	17 05 34.0	
	comp=Z,63nm,20.3s,baz=340,slow=34						
LPAZ	**La Paz**	**19.49**	**141**	P	Pn	17 03 07.5	+1.1
	0.1nm,0.3s,baz=325,slow=11,SNR=7.8						
SIV	**San Ignacio**	**24.32**	**128**	P	P	17 03 56.0	0.0
	1.1nm,0.6s,baz=316,slow=10,SNR=6.3						
BDFB	**Brasilia**	**35.29**	**116**	LR	LR	17 20 17.6	
	comp=Z,55nm,19.0s,baz=141,slow=37						
PLCA	**Paso Flores**	**40.49**	**168**	P	P	17 06 16.9	-0.2
	1.4nm,0.9s,baz=357,slow=8.4,SNR=4.2						
YKA	**Yellowknife Ar**	**68.41**	**344**	P	P	17 09 40.1	-0.1
	0.1nm,0.3s,baz=135,slow=6.2,SNR=6.3						

IDC ***02*** *17:15:41.8±2.3, 451N×94.13E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/22, mbtmp4.1/4, Error ellipse: s-maj=90.2km s-min=24.3km az=49.0*
NEIC ***02*** *17:15:45.8±0.6, 496N×9449E, h30km, mb5.2/21, Error ellipse: s-maj=39.4km s-min=10.2km az=208.0*
MOS ***02*** *17:15:45.7±2.6, 462N×9430E, h33km, mb5.4/24, Error ellipse: s-maj=37.4km s-min=7.5km az=44.7*
ISCJB ***02*** *17:15:55.4±2.3, 55N±0.1×953E±0.1, h111km±20km, mb4.4/11, Error ellipse: s-maj=29.5km s-min=13.7km az=84.2*

ISC 02 17:15:56.4±2.1, 56N±01×953E±01, h104km±19km, n40, σ1§48/42, mb4.4/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.57**	**127**	Pn	**Pn**	**17 17 01.8**	**-1.4**
	9.1nm,0.3s,baz=299,slow=11,SNR=24						
PSI				Sn	**Sn**	**17 17 58.6**	**+3.3**
	1.1nm,0.3s,baz=171,slow=19,SNR=2.4						
KULM	**Kulim**	**5.38**	**93**	*e*Pn	**Pn**	**17 17 15.5**	**+1.3**
KULM				*e*Sn	**Sn**	**17 18 14.5**	**-0.4**
PALK	**Pallekele**	**14.56**	**278**	Pn	**Pn**	**17 18 54.2**	**-23**
KSM	**Kuching**	**15.56**	**105**	Pn	**Pn**	**17 19 29.2**	**-0.6**
MKAR	**Makanchi Array**	**42.58**	**347**	P	**P**	**17 23 45.6**	**+3.7**
	4.6nm,0.9s,mb4.2,baz=169,slow=11,SNR=1.5						
WRA	**Warramunga Arr**	**46.03**	**125**	P	**P**	**17 24 09.8**	**+0.3**
	1.3nm,0.7s,mb3.8,baz=302,slow=9.2,SNR=11						
WRAB	**Tennant Creek**	**46.04**	**124**	*e*P	**P**	**17 24 09.9**	**+0.4**
	5.9nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**46.04**	**124**	*e*P	**P**	**17 24 09.9**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
ASPA	**Alice Springs**	**47.59**	**129**	*e*P	**P**	**17 24 21.4**	**-0.2**
AS31	**Alice Springs**	**47.59**	**129**	*e*P	**P**	**17 24 21.4**	**-0.2**
ASAR	**Alice Springs**	**47.59**	**129**	P	**P**	**17 24 21.6**	**0.0**
	comp=Z,0.9nm,0.4s,mb3.9,baz=301,slow=7.6,SNR=51						
SIM	**Simferopol'**	**65.86**	**317**	*e*P	**P**	**17 26 24.0**	**-6.8**
SIM				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8						
KIS	**Kishinev**	**69.97**	**318**	*e*P	**P**	**17 26 50.0**	**-6.5**
KIS				*e*		17 29 40.0	
KOLS	**Kolonicke sedl**	**74.67**	**319**	*e*P	**P**	**17 27 22.0**	**-2.4**
CRVS	**Cervenica-Dubn**	**75.19**	**319**	*e*P	**P**	**17 27 25.7**	**-1.8**
STHS	**Stebnicka Huta**	**75.41**	**320**	*e*P	**P**	**17 27 25.4**	**-3.3**
KECS	**Kecovo**	**75.77**	**319**	*e*P	**P**	**17 27 27.4**	**-3.4**
KECS				*e*		17 27 44.2	
PSZ	**Piszkesteto**	**76.09**	**318**	*e*P	**P**	**17 27 32.8**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.2						
PSZ	**Piszkesteto**	**76.09**	**318**	*e*P	**P**	**17 27 32.8**	**+0.2**
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
VYHS	**Vyhne**	**76.86**	**318**	*e*P	**P**	**17 27 36.1**	**-0.8**
SRO2	**Moca**	**77.08**	**318**	*e*	**P**	**17 27 40.5**	**+2.4**
SRO	**Srobarova**	**77.14**	**318**	*e*	**P**	**17 27 40.6**	**+2.1**
OKC	**Ostrava-Krasne**	**77.46**	**320**	*e*P	**P**	**17 27 38.5**	**-1.8**
OKC				*e*pP	PcP	17 27 48.4	-1.9
OKC	**Ostrava-Krasne**	**77.46**	**320**	*e*P	**P**	**17 27 37.5**	**-2.8**
OKC				*e**PP	PcP	17 27 47.4	-2.9
MORC	**Moravsky Berou**	**77.85**	**320**	P	**P**	**17 27 42.4**	**0.0**
	comp=Z,12nm,1.0s,mb4.6						
ZST	**Bratislava**	**77.98**	**318**	*e*	**P**	**17 27 45.1**	**+1.9**
DPC	**Dobruska-Polom**	**78.68**	**320**	*e*P	**P**	**17 27 46.3**	**-0.7**
DPC				*e*pP	PcP	17 27 55.8	+0.2
DPC	**Dobruska-Polom**	**78.68**	**320**	*e*P	**P**	**17 27 46.3**	**-0.7**
DPC				*e*pP	PcP	17 27 55.8	+0.2
UPC	**Upice**	**78.89**	**320**	*e*P	**P**	**17 27 48.4**	**+0.2**
TREC	**Trest**	**79.14**	**319**	*e*P	**P**	**17 27 51.7**	**+2.2**
TREC				*e*x	x	17 28 04.4	
PRU	**Pruhonice**	**79.80**	**320**	*e*P	**P**	**17 27 54.4**	**+1.3**
PVCC	**Panska Ves**	**79.81**	**320**	*e*P	**P**	**17 27 54.3**	**+1.1**
BRG	**Berggiesshubel**	**80.23**	**321**	*e*P	**P**	**17 27 56.2**	**+0.8**
	comp=Z,5.8nm,1.0s,mb4.4						
KHC	**Kasperske Hory**	**80.38**	**319**	*e*P	**P**	**17 27 59.5**	**+3.3**
KHC				*e*pP	PcP	17 28 12.0	+9.0
CLL	**Collm**	**80.85**	**321**	*i*pP	**P**	**17 27 59.2**	**+0.5**
	comp=Z,10.0nm,1.0s,mb4.6						
NKC	**Novy Kostel**	**81.16**	**320**	*e*P	**P**	**17 28 03.5**	**+3.2**
NKC				*e*pP	PcP	17 28 15.0	+8.6
CAF	**Calviac**	**88.38**	**315**	*e*P	**P**	**17 28 35.0**	**-1.5**
	comp=Z,12nm,0.9s,mb4.9						
CAF	**Calviac**	**88.38**	**315**	*e*P	**P**	**17 28 35.0**	**-1.5**
CAF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
SCO	**Scoresbysund**	**93.58**	**343**	*i* P	**P**	**17 28 57.8**	**-2.9**
	comp=Z,2.2nm,0.8s,mb4.5						
SCO	**Scoresbysund**	**93.58**	**343**	*i* P	**P**	**17 28 57.8**	**-2.9**
SCO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						

MOS ***02*** *17:16:53.2±1.0, 2417N×9460E, h33km, mb5.1/39, Error ellipse: s-maj=10.2km s-min=6.0km az=108.1*
BJI ***02*** *17:16:58.9, 2437N×9428E, h86km, mB4.8, mb4.8, Ms4.5, Msz4.1*
ISCJB ***02*** *17:16:58.3±0.2, 2422N±003×9444E±002, h74km, mb4.7/98, Error ellipse: s-maj=4.1km s-min=3.2km az=167.0*
NEIC ***02*** *17:16:60.0±0.2, 2427N×9453E, mb4.9/50, Error ellipse: s-maj=6.9km s-min=5.2km az=54.0*
IDC ***02*** *17:16:59.5±0.5, 2423N×9450E, h76km±3km, mb4.2/26, mb1 4.3/26, mb1mx4.3/27, mbtmp4.5/26, MS3.7/11, Ms1 3.7/11, ms1mx3.5/24, Error ellipse: s-maj=12.8km s-min=8.1km az=67.0*
HRVD ***02*** *17:17:00.0±0.6, 2422N×9442E, h69km±4km, MW4.9/52, Centroid moment Tensor Solution. LP body waves: s21,c23;Mantle waves: s52,c75; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.25±.15; Mθθ-1.55±.13; Mφφ1.80±.14; Mrθ-0.08±.09; Mθφ1.92±.12; Mφr-1.06±.08; Best double couple: M0=2.73600×10^16 NP1:φ=251.00000°, δ70.00000°, λ5.00000°. NP2: φ=159.00000°, δ85.00000°, λ160.00000°. Principal axes: T 2.9820, Plg17.0000°, Azm113.0000°; N -0.4970, Plg70.0000°, Azm326.0000°; P -2.4890, Plg10.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
LDG ***02*** *17:17:02.0±0.4, 2456N×9406E, h66km, Mb4.9/33, Ms3.5/5 Error ellipse: s-maj=19.0km s-min=16.3km az=5.0*
SZGRF ***02*** *17:17:21.2, 2486N×9356E, h33km, mb5.3, Myanmar-India border region*

ISC 02 17:17:00.5±0.2, 2427N±003×9447E±003, h76km, h76km±2.0km: pP-P, n291, σ1§37/291, mb4.7/98, 10C-11D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.68**	**299**	*e*P	**Pn**	**17 17 38.5**	**-2.9**
SHL				*e*S	**Sn**	**17 18 05.0**	**-7.8**
AGT	**Agartala**	**2.96**	**263**	*i* x	**Pn**	**17 17 47.0**	**+1.8**
AGT				*i* S	**Sn**	**17 18 17.0**	**-2.7**
LKP	**Lekhapani**	**3.38**	**25**	*e*P	**Pn**	**17 17 46.0**	**-4.9**
CAL	**Calcutta**	**5.89**	**254**	*e*x	x	17 18 43.9	
LSA	**Lhasa**	**6.17**	**332**	P	**Pn**	**17 18 28.1**	**-0.8**
LSA				S	**Sn**	**17 19 33.5**	**-4.5**
LSA				Smax			
	comp=N,3μm,0.4s						
LSA				Smax			
	comp=E,7μm,0.6s						
LSA	**Lhasa**	**6.17**	**332**	*e*Pn	**Pn**	**17 18 27.9**	**-1.0**
	comp=E,110nm,0.4s						
LSA				*e*Sn	**Sn**	**17 19 24.1**	**-14**
LSA	**Lhasa**	**6.17**	**332**	*e*P	**Pn**	**17 18 27.9**	**-1.0**
LSA				pmax	pmax		
	comp=Z,110nm,0.4s						
KMI	**Kunming**	**7.57**	**82**	P	**Pn**	**17 18 53.2**	**+5.1**
KMI				S	**Sn**	**17 20 16.3**	**+3.9**
KMI				AMB	AMB		
	comp=Z,153nm,1.1s						
KMI				AMB	AMB		
	comp=Z,676nm,3.9s						
KMI				Smax			
	comp=N,81nm,2.4s						
KMI				Smax			
	comp=E,76nm,1.7s						
KMI				LR	LR		
	comp=N,964nm,5.3s						
KMI				LR	LR		
	comp=E,1μm,7.5s						
KMI				LR	LR		
	comp=Z,1μm,9.5s						
BOK	**Bokaro**	**7.86**	**268**	*e*P	**Pn**	**17 18 47.9**	**-4.2**
BOK				⇑*i*P		17 18 48.1	
BOK				*e*S	**Sn**	**17 20 05.9**	**-13**
BOK				*i* S	**Sn**	**17 20 08.1**	**-11**
NST	**Nakhon Sawan**	**10.07**	**147**	P	**Pn**	**17 19 23.2**	**+1.0**
CD2	**Chengdu**	**10.57**	**49**	*e*P	**Pn**	**17 19 30.0**	**+1.0**
CD2				PP		17 19 40.3	
CD2				XP		17 19 51.6	
CD2				S	**Sn**	**17 21 27.8**	**+2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,90nm,5.9s						
CD2				LR	LR		
	comp=N,400nm,12.0s						
CD2				LR	LR		
	comp=Z,350nm,12.0s						
KKTK	**Khon Kaen**	**11.12**	**134**	P	**Pn**	**17 19 39.0**	**+2.5**
	comp=Z,247nm,0.9s						
GYA	**Guiyang**	**11.24**	**76⇑**	*i*P	**Pn**	**17 19 38.9**	**+0.7**
GYA				XP		17 20 01.4	
GYA				AMB	AMB		
	comp=Z,30nm,0.9s						
GYA				LR	LR		
	comp=E,1μm,12.8s						
GYA				LR	LR		
	comp=Z,1μm,13.0s						
BLSP	**Bilaspur**	**11.54**	**262**	*ex*	**Pn**	**17 19 51.0**	**+8.7**
VIS	**Vishakhapatnam**	**12.27**	**240**	*e*P	**Pn**	**17 19 47.5**	**-4.7**
VIS				*i* x	x	17 21 46.5	
VIS				*e*S	**Sn**	**17 21 49.5**	**-17**
JBP	**Jabalpur**	**13.31**	**268⇓**	*i*P	**Pn**	**17 20 01.5**	**-4.7**
JBP				*ex*	**Sn**	**17 22 21.8**	**-11**
LGTI	**Lohaghat**	**13.70**	**295**	*e*P	**Pn**	**17 20 06.3**	**-5.0**
LGTI				*ex*	x	17 22 36.3	
PTH	**Pithoragarh**	**13.76**	**296**	*e*P	**Pn**	**17 20 05.2**	**-6.8**
PTH				*e*S	**Sn**	**17 22 23.5**	**-20**
LZH	**Lanzhou**	**14.29**	**32**	*e*P	**Pn**	**17 20 17.5**	**-1.5**
LZH				AP		17 20 29.7	
LZH				PP		17 20 31.5	
LZH				XP		17 20 41.0	
LZH				*e*S	**Sn**	**17 22 55.6**	**-0.6**
LZH				XS		17 23 13.1	
LZH				SS		17 23 16.5	
LZH				AMB	AMB		
	comp=Z,31nm,1.1s						
LZH				AMB	AMB		
	comp=Z,187nm,4.3s						
LZH				LR	LR		
	comp=N,401nm,8.2s						
LZH				LR	LR		
	comp=Z,699nm,10.3s						
ENH	**Enshi**	**14.63**	**63**	*e*Pn	**Pn**	**17 20 21.0**	**-2.5**
	comp=Z,49nm,0.7s						
ENH				*e*Sn	**Sn**	**17 23 11.0**	**+6.6**
QIZ	**Qiongzhong**	**15.21**	**107**	⇑P	**Pn**	**17 20 35.9**	**+5.0**
QIZ				S	**S**	**17 23 25.8**	**-5.0**
QIZ				AMB	AMB		
	comp=Z,155nm,1.0s						
QIZ				LR	LR		
	comp=N,572nm,16.6s						
QIZ				LR	LR		
	comp=Z,321nm,12.2s						
QIZ	**Qiongzhong**	**15.21**	**107**	*e*Pn	**Pn**	**17 20 35.6**	**+4.7**
	comp=Z,84nm,0.8s						
BHPL	**Bhopal**	**15.64**	**270**	*e*P	**Pn**	**17 20 31.1**	**-5.2**
BHPL				AMb	AMB	17 20 39.6	
	comp=Z,33nm,0.3s						
BHPL				*ex*	x	17 23 09.1	
GTA	**Gaotai**	**15.76**	**15**	*e*P	**Pn**	**17 20 35.3**	**-2.6**
GTA				AP	pP	17 20 49.5	-5.9
GTA				XP	sP	17 20 59.5	-5.5
GTA				S	**S**	**17 23 26.0**	**-16**
GTA				SS		17 23 46.9	
GTA				PCP	PcP	17 25 35.0	+1.8
GTA				SCP	ScP	17 28 59.8	-0.9
GTA				SCS	ScS	17 32 37.7	-1.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s						
GTA				AMB	AMB		
	comp=Z,131nm,6.8s						
GTA				LR	LR		
	comp=N,246nm,12.6s						
GTA				LR	LR		
	comp=E,378nm,12.9s						
GTA				LR	LR		
	comp=Z,203nm,16.7s						
DDI	**Dehra Dun**	**15.78**	**296**	*e*P	**Pn**	**17 20 31.5**	**-6.6**
DDI				*ex*	x	17 23 18.5	
XAN	**Xi'an**	**15.93**	**49**	P	**Pn**	**17 20 41.1**	**+1.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s						
HYB	**Hyderabad**	**16.35**	**248⇓**	*i*P	**Pn**	**17 20 46.0**	**+0.7**
	comp=Z,150nm,1.0s						
HYB				*e*PP		17 21 04.0	
HYB				*e*		17 23 06.0	
HYB				*e*S	**S**	**17 23 40.0**	**-14**
HYB	**Hyderabad**	**16.35**	**248⇓**	*e*P	**Pn**	**17 20 46.0**	**+0.7**
	comp=Z,150nm,1.0s						
HYB				*e*		17 21 04.0	
HYB				*e*S	S	17 23 26.0	-28
HYB	**Hyderabad**	**16.35**	**248⇓**	*e*P	**Pn**	**17 20 46.0**	**+0.7**
HYB				pmax	pmax		
	comp=Z,150nm,1.0s						
GZH	**Guangzhou**	**17.34**	**90**	P	**Pn**	**17 21 00.3**	**+2.9**
GZH				S	**S**	**17 24 15.7**	**+1.6**
GZH				LR	LR		
	comp=N,1μm,5.6s						
GZH				LR	LR		
	comp=E,142nm,7.2s						
GZH				LR	LR		
	comp=Z,351nm,14.0s						
LATR	**Latur**	**17.66**	**254**	*e*P	**Pn**	**17 21 00.0**	**-1.4**
PONG	**Pong**	**18.03**	**299**	*e*P	**Pn**	**17 21 02.0**	**-3.8**
AJM	**Ajmer**	**18.05**	**281**	*i* P	**Pn**	**17 21 02.0**	**-4.1**
AJM				*e*P		17 21 02.5	
AJM				AMb	AMB	17 21 09.3	
	comp=Z,54nm,0.7s						
DLH	**Dalhousie**	**18.23**	**301**	*e*P	**Pn**	**17 21 06.0**	**-2.2**
**W

comp=Z,17nm,0.6s,mb4.5,baz=309,slow=8.0,SNR=9.6
PSI S **S** **17 25 42.9 +0.6**
comp=Z,1.8nm,0.4s,baz=342,slow=20,SNR=4.2
PSI LR LR 17 31 56.4
comp=Z,118nm,20.4s,baz=327,slow=41
PSI Prapat 21.77 168 P **P** **17 21 47.6 +1.7**
PSI S **S** **17 25 42.9 +0.6**
HHC Hu-ho-hao-te 21.87 37 *e*P **P** **17 21 47.2 +0.2**
HHC AP 17 22 03.8
HHC XP sP 17 22 13.4 +1.4
HHC PP 17 22 16.0
HHC S **S** **17 25 39.5 -4.7**
HHC PCP PcP 17 25 44.0 +0.3
HHC XS sS 17 26 07.5 -2.6
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb4.5
HHC AMB AMB
comp=Z,105nm,4.7s
HHC LR LR
comp=N,297nm,8.2s
HHC LR LR
comp=E,245nm,5.4s
HHC LR LR
comp=Z,247nm,7.8s
NJ2 Nanjing 22.82 65 *e*P **P** **17 21 56.2 -0.9**
NJ2 AP 17 22 13.2
NJ2 XP sP 17 22 22.5 +0.3
NJ2 PP 17 22 29.2
NJ2 S **S** **17 25 58.0 -2.6**
NJ2 XS sS 17 26 27.0 -1.9
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb4.7
NJ2 AMB AMB
comp=Z,160nm,3.5s
NJ2 LR LR
comp=N,910nm,13.4s
NJ2 LR LR
comp=E,340nm,11.2s
NJ2 LR LR
comp=Z,430nm,28.9s
TRD Trivandrum 22.92 230 *e*x **P** **17 21 54.7 -3.4**
TRD AMb AMB 17 21 59.5
comp=Z,57nm,1.2s,mb4.8
BJI Beijing 24.10 44 *e*P **P** **17 22 09.9 +1.0**
BJI AMB AMB
comp=Z,5.0nm,0.9s,mb3.8
BJI LR LR
comp=Z,128nm,34.7s
TKM2 Tokmak 2 24.26 325 P **P** **17 22 11.2 +0.8**
SNR=19
UCH Uchtor 24.38 322 P **P** **17 22 11.7 +0.2**
SNR=14
KBK Karagaybulak 24.43 323 P **P** **17 22 12.8 +0.9**
SNR=16
YHNB Yeheng 24.49 83 *e*P **P** **17 22 05.8 -6.7**
MKAR Makanchi Array 24.51 340 P **P** **17 22 12.7 0.0**
comp=Z,3.1nm,0.5s,mb4.0,baz=148,slow=11,SNR=57
MKAR ScP ScP 17 29 20.4 -0.8
comp=Z,3.3nm,0.9s,baz=145,slow=3.0,SNR=15
SSE Sheshan 24.59 68 P **P** **17 22 13.4 0.0**
SSE AP 17 22 31.4
SSE XP sP 17 22 41.2 +1.4
SSE S **S** **17 26 26.2 -2.8**
SSE XS sS 17 26 59.0 -0.1
SSE AMB AMB
comp=Z,45nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,124nm,4.3s
SSE LR LR
comp=N,108nm,20.7s
SSE LR LR
comp=E,69nm,20.8s
SSE LR LR
comp=Z,149nm,24.8s
AAK Ala-Archa 24.66 323 P **P** **17 22 14.9 +0.9**
SNR=14
AAK Ala-Archa 24.66 323 *e*P **P** **17 22 13.5 -0.5**
comp=Z,17nm,0.7s,mb4.6
AAK Ala-Archa 24.66 323 *d i*P **P** **17 22 13.8 -0.2**
AAK pmax pmax
comp=Z,16nm,1.2s,mb4.3
AAK MLR MLR
comp=Z,100nm,13.0s
FRU Bishkek 24.73 323 *e*P **P** **17 22 17.0 +2.4**
FRU *e* 17 22 32.5
FRU *e* 17 22 48.0
NACB Ninganchiao 24.73 85 *e*P **P** **17 22 14.9 +0.2**
AML Almayashu 24.78 321 P **P** **17 22 15.8 +0.6**
SNR=12
EKS2 Erkin-Say 25.08 322 P **P** **17 22 19.0 +1.2**
SNR=19
USP Ospenovka 25.08 324 P **P** **17 22 18.0 +0.1**
SNR=6.3
SONM Songino Array 25.36 19 P **P** **17 22 20.4 0.0**
comp=Z,18nm,0.8s,mb4.6,baz=196,slow=9.1,SNR=201
SONM ScP ScP 17 29 21.4 -2.2
comp=Z,1.6nm,0.9s,baz=196,slow=3.3,SNR=10.0
SONM LR LR 17 33 00.9
comp=Z,87nm,20.7s,baz=244,slow=38
ULN Ulaanbaatar 25.59 20 P **P** **17 22 22.7 +0.2**
comp=Z,11nm,0.6s,mb4.5
ULN Ulaanbaatar 25.59 20 ⇓*i*P **P** **17 22 22.2 -0.3**
ZAK Zakamensk 26.96 12 *e*P **P** **17 22 35.5 +0.7**
ZAK pmax pmax
comp=Z,17nm,1.8s,mb4.3
ZAK pmax pmax
comp=Z,20nm,1.8s,mb4.3
KSM Kuching 27.36 144 *e*P **P** **17 22 39.3 +0.9**
KKM Kota Kinabalu 27.65 127 *e*P **P** **17 22 40.9 -0.1**
MOY Mondy 27.81 9 *e*P **P** **17 22 46.1 +3.6**
KURK Kurchatov 29.12 339 *e*P **P** **17 22 53.0 -1.0**
KURK *e*pP pP 17 23 11.0 -0.8
ZAL Zalesovo 30.51 349 P **P** **17 23 05.6 -0.8**
comp=Z,3.3nm,0.4s,mb4.4,baz=317,slow=6.1,SNR=10
ZAL pP pP 17 23 23.4 -0.8
comp=Z,3.7nm,0.6s,baz=289,slow=8.2,SNR=7.4
ZAL ScP ScP 17 29 37.9 -1.6
comp=Z,0.9nm,0.7s,baz=303,slow=12,SNR=3.6
ZAL Zalesovo 30.51 349 P **P** **17 23 05.6 -0.8**
ZAL pP pP 17 23 23.4 -0.8
ZAL ScP ScP 17 29 37.9 -1.6
ZAL Zalesovo 30.51 349 P **P** **17 23 05.6 -0.8**
ZAL *PP pP 17 23 23.4 -0.8
KS15 Wonju Array Si 31.38 57 P **P** **17 23 14.2 +0.2**
NVS Novosibirsk 31.66 348 *i* P **P** **17 23 15.7 -0.8**
NVS *e*S **S** **17 28 13.5 -6.8**
NVS pmax pmax
comp=N,8.0nm,0.7s
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
NVS smax
comp=N,19nm,2.0s
NVS smax
comp=E,6.0nm,1.3s
HIA Hailar 31.85 32 P **P** **17 23 17.9 -0.2**
CN2 Changchun 31.96 45 *e*P **P** **17 23 21.5 +2.4**
BVAR Borovoye Array 34.00 334 P **P** **17 23 36.3 -0.6**
comp=E,1.2nm,0.6s,mb3.9,baz=140,slow=11,SNR=12
BVAR pP pP 17 23 54.6 -0.2
comp=E,2.8nm,0.5s,baz=134,slow=11,SNR=7.4
BVAR ScP ScP 17 29 50.3 -1.1
comp=E,6.8nm,0.8s,baz=152,slow=4.4,SNR=27
BVAR Borovoye Array 34.00 334 P **P** **17 23 36.3 -0.6**
BVAR *PP pP 17 23 54.6 -0.3
BRVK Borovoye 34.07 334 *e*P **P** **17 23 36.0 -1.5**
comp=E,7.0nm,1.0s,mb4.5
BRVK ScP ScP 17 29 50.6 -1.0
BRVK Borovoye 34.07 334 *e*P **P** **17 23 36.0 -1.5**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZRNK Zerenda 34.52 333 *e*P **P** **17 23 40.2 -1.2**
MDJ Mudanjiang 35.00 46 P **P** **17 23 45.5 0.0**
MDJ AP pP 17 24 02.1 -1.4
MDJ PCP PcP 17 26 13.5 -2.7
MDJ S **S** **17 29 15.9 +3.9**
MDJ SCP ScP 17 29 55.7 +0.7
MDJ PCS PcS 17 30 03.9 +0.9
MDJ AMB AMB
comp=Z,7.0nm,1.8s,mb4.2
MDJ AMB AMB
comp=Z,81nm,6.0s
MDJ LR LR
comp=Z,61nm,30.5s

BOD Bodaibo 36.34 18 ⇑*i*P **P** **17 23 57.5 +0.5**
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.8
AKTO Aktyubinsk 38.40 322 ScP ScP 17 30 06.0 -1.7
comp=Z,3.0nm,0.7s,baz=119,slow=3.1,SNR=9.4
AKTO LR LR 17 41 57.0
comp=Z,105nm,19.9s,baz=250,slow=39
CLNS Chul'man 39.29 26 *e*P **P** **17 24 20.2 -1.7**
CLNS pmax pmax
comp=Z,19nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.8s
MAJO Matsushiro 39.35 61 *e*P **P** **17 24 20.7 -1.7**
comp=E,18nm,1.1s,mb4.8
MAJO Matsushiro 39.35 61 *e*P **P** **17 24 20.7 -1.7**
MAJO pmax pmax
comp=Z,18nm,1.1s,mb4.8
MAT Matsushiro 39.35 61 P **P** **17 24 20.3 -2.1**
MAT Matsushiro 39.35 61 *e*P **P** **17 24 20.0 -2.4**
MJAR Matsushiro Arr 39.35 61 P **P** **17 24 20.5 -1.9**
comp=Z,3.7nm,0.7s,mb4.3,baz=271,slow=9.9,SNR=8.7
MJAR PcP PcP 17 26 28.8 -0.7
comp=Z,2.1nm,0.6s,baz=262,slow=1.4,SNR=5.1
MJAR ScP ScP 17 30 08.5 -2.8
comp=Z,1.9nm,0.7s,baz=258,slow=3.2,SNR=5.1
MJAR LR LR 17 42 01.3
comp=Z,130nm,19.3s,baz=265,slow=38
MJAR Matsushiro Arr 39.35 61 P **P** **17 24 20.5 -1.9**
MJAR PcP PcP 17 26 28.8 -0.7
MJAR ScP ScP 17 30 08.5 -2.8
MJAR LR LR 17 42 01.3
MJAR Matsushiro Arr 39.35 61 P **P** **17 24 20.5 -1.9**
MJAR 17 26 28.8
SVE Sverdlovsk 40.70 332 *e*P **P** **17 24 36.7 +3.2**
SVE *e* pP 17 24 51.3 -0.5
ARU Arti 41.37 330 P **P** **17 24 38.1 -0.9**
comp=Z,24nm,1.1s,mb4.9
ARU *e*pP pP 17 24 56.6 -0.8
ARU *e*ScP ScP 17 30 17.2 -1.9
ARU Arti 41.37 330 P **P** **17 24 38.1 -0.9**
ARU *e**PP pP 17 24 56.6 -0.8
ARU pmax pmax
comp=Z,24nm,1.1s,mb4.9
ASAJ Asahikawa 43.76 51 P **P** **17 24 58.3 -0.1**
comp=Z,5.1nm,0.7s,mb4.3,baz=123,slow=22,SNR=4.9
SOKR Solikamsk 43.99 333 ⇓*i*P **P** **17 25 09.0 +8.8**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb4.9
YSS Yuzh-Sakhalins 44.46 47 P **P** **17 25 02.4 -1.6**
comp=Z,5.9nm,0.6s,mb4.5
YSS Yuzh-Sakhalins 44.46 47 P **P** **17 25 02.4 -1.6**
YSS pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
YAK Yakutsk 44.61 23 *e*P **P** **17 25 03.4 -1.8**
comp=Z,37nm,0.8s,mb5.2
YAK Yakutsk 44.61 23 *e*P **P** **17 25 04.2 -1.0**
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.6
ZEI Tsey 45.30 307 *e*P **P** **17 25 10.7 0.0**
ZEI *i* pP 17 25 29.6 +0.3
KIV Kislovodsk 46.33 308 P **P** **17 25 21.9 +3.1**
comp=Z,81nm,1.3s,mb5.3
KIV *e*pP pP 17 25 37.5 0.0
KIV Kislovodsk 46.33 308 *e*P **P** **17 25 19.6 +0.8**
KIV *e* 17 27 09.8
KIV *e*PPP 17 27 53.0
KIV *e*S **S** **17 31 59.0 -1.4**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
KIV MLR MLR
comp=Z,57nm,18.0s
MALT Malatya 49.20 300 P **P** **17 25 45.0 +4.0**
comp=Z,8.6nm,1.1s,mb4.6
MALT *e*pP pP 17 26 00.4 +0.6
MALT Malatya 49.20 300 P **P** **17 25 45.0 +4.0**
MALT *e**PP pP 17 26 00.4 +0.6
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
TIXI Tiksi 51.23 13 P **P** **17 25 55.2 -1.2**
TIXI Tiksi 51.23 13 ⇓*i*P **P** **17 25 55.3 -1.0**
TIXI pmax pmax
comp=Z,38nm,1.7s,mb5.2
MBWA Marble Bar 51.41 149 P **P** **17 25 57.6 0.0**
comp=Z,16nm,0.7s,mb5.2
FITZ Fitzroy Crossi 51.94 141 *e*P **P** **17 26 01.2 -0.4**
comp=Z,21nm,1.1s,mb5.1
KNA Kununurra 51.99 136 *e*P **P** **17 25 59.5 -2.5**
comp=Z,16nm,0.7s,mb5.2
KNA *e* pP 17 26 21.0 0.0
OBN Obninsk 52.18 322 *e*pP pP 17 26 20.5 -1.9
OBN Obninsk 52.18 322 P **P** **17 26 05.0 +1.6**
OBN *i* pP 17 26 21.4 -1.0
OBN pmax pmax
comp=Z,15nm,1.5s,mb4.8
KLMR Klimovskoe 52.20 330 *e*P **P** **17 26 07.2 +3.7**
KLMR pmax pmax
comp=Z,40nm,1.5s,mb5.2
MA2 Magadan 52.45 32 *e*P **P** **17 26 03.9 -1.4**
comp=Z,6.6nm,0.8s,mb4.7
MA2 Magadan 52.45 32 *e*P **P** **17 26 03.9 -1.5**
MA2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
EIL Elat 52.83 290 P **P** **17 26 07.4 -0.8**
comp=Z,290nm,1.0s
EIL *e*pP pP 17 26 26.4 -0.8
BR131 Keskin Array S 52.90 302 *e*P **P** **17 26 06.0 -2.7**
comp=Z,3.2nm,0.6s,mb4.5
BR131 *e*pP pP 17 26 26.9 -0.8
BRTR Keskin Array B 52.90 302 P **P** **17 26 08.1 -0.6**
comp=Z,0.9nm,0.7s,mb3.9,baz=116,slow=7.1,SNR=5.1
BRTR pP pP 17 26 27.3 -0.4
comp=Z,3.4nm,0.6s,baz=119,slow=7.3,SNR=9.9
CSS Prodhromos 53.49 296 P **P** **17 26 10.6 -2.4**
comp=Z,17nm,1.0s,mb5.0
SEY Seymchan 54.19 29 ⇑*e*P **P** **17 26 16.9 -1.2**
AKASG Malin Array Be 56.05 316 P **P** **17 26 29.9 -1.6**
comp=Z,2.6nm,0.5s,mb4.5,baz=84,slow=6.3,SNR=27
AKASG pP pP 17 26 48.7 -2.0
comp=Z,6.7nm,0.4s,baz=82,slow=6.7,SNR=17
AKASG Malin Array Be 56.05 316 P **P** **17 26 29.9 -1.6**
AKASG pP pP 17 26 48.7 -2.0
JOF Joensuu 56.50 331 *e*p **P** **17 26 34.8 +0.1**
comp=Z,2.3nm,0.5s,mb4.5
JOF Joensuu 56.50 331 *e*P **P** **17 26 34.8 +0.1**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
CFR Carcaliu 56.77 309 ⇑P **P** **17 26 36.4 -0.2**
VRI Vrincioaia 57.73 310 ⇑P **P** **17 26 43.6 +0.2**
MLR Muntele Rosu 58.30 310 ⇓P **P** **17 26 48.1 +0.8**
WRA Warramunga Arr 58.64 135 P **P** **17 26 49.5 -0.3**
comp=Z,9.3nm,0.8s,mb4.9,baz=323,slow=7.4,SNR=56
WRA ScP ScP 17 31 30.1 -2.6
comp=Z,0.8nm,0.6s,baz=331,slow=4.2,SNR=6.1
WRAB Tennant Creek 58.64 135 P **P** **17 26 49.8 +0.1**
comp=Z,45nm,1.2s,mb5.4
WRAB pP pP 17 27 11.4 +2.3
WRAB Tennant Creek 58.64 135 P **P** **17 26 49.8 0.0**
WRAB pmax pmax
comp=Z,45nm,1.2s,mb5.4
WB2 Warramunga Arr 58.65 135 *e*P **P** **17 26 49.3 -0.5**
WB2 *e*pP pP 17 27 11.6 +2.5
FINES FINESS Array B 58.67 328 P **P** **17 26 49.0 -1.0**
comp=Z,1.7nm,0.5s,mb4.3,baz=104,slow=8.0,SNR=9.9
FINES pP pP 17 27 08.8 -0.5
comp=Z,6.6nm,0.5s,baz=101,slow=9.9,SNR=11
FINES FINESS Array B 58.67 328 P **P** **17 26 49.0 -1.0**
FINES pP pP 17 27 08.8 -0.5
BURAR Bucovina Array 58.69 312 ⇓P **P** **17 26 49.8 -0.3**
SANT Santorini 59.66 299 *e*P **P** **17 26 55.0 -1.8**
comp=Z,61nm,0.7s,mb5.7
SANT *e*pP pP 17 27 14.6 -1.6
MUN Mundaring 59.66 159 *e*P **P** **17 26 55.6 -1.2**
KEV Kevo 59.68 338 *e*P **P** **17 26 54.3 -2.6**
comp=Z,35nm,0.9s,mb5.4
KEV *e*pP pP 17 27 15.8 -0.5
KEV *e*sP sP 17 27 23.5 -1.2
KEV Kevo 59.68 338 *e*P **P** **17 26 54.3 -2.6**
KEV pmax pmax
comp=Z,35nm,0.9s,mb5.4
KLBR Kellerberrin 59.84 157 *e*P **P** **17 26 57.0 -1.1**
comp=Z,3.4nm,0.3s,mb4.8
ARCES ARCESS Array B 60.15 338 P **P** **17 26 59.8 -0.3**
comp=Z,4.7nm,0.9s,mb4.5,baz=103,slow=6.4,SNR=11

ARCES LR LR 17 56 30.8
comp=Z,69nm,18.6s,baz=16,slow=39
NWAO Narrogin (SRO) 60.88 158 P **P** **17 27 04.0 -1.1**
comp=Z,8.3nm,0.3s,mb5.2,baz=349,slow=3.4,SNR=31
NWAO Narrogin (SRO) 60.88 158 *e*P **P** **17 27 02.9 -2.2**
comp=Z,13nm,0.8s,mb5.0
NWAO Narrogin (SRO) 60.88 158 *e*P **P** **17 27 02.9 -2.2**
NWAO pmax pmax
comp=Z,13nm,0.8s
KMBO Kilima Mbogo 60.91 254 P **P** **17 27 04.2 -1.1**
comp=Z,6.1nm,1.0s,mb4.6,baz=52,slow=10,SNR=11
KMBO LR LR 17 52 47.0
comp=Z,45nm,18.4s,baz=279,slow=35
KMBO Kilima Mbogo 60.91 254 *e*P **P** **17 27 05.0 -0.4**
comp=Z,7.1nm,1.1s,mb4.6
KMBO *e*pP pP 17 27 25.2 +0.4
KMBO Kilima Mbogo 60.91 254 *e*P **P** **17 27 05.0 -0.3**
KMBO pmax pmax
comp=Z,7.0nm,1.1s
BILL Bilibino 60.93 24 *e*P **P** **17 27 04.3 -1.2**
comp=Z,17nm,0.8s,mb5.1
BILL Bilibino 60.93 24 ⇓*e*P **P** **17 27 04.8 -0.7**
BILL pmax pmax
comp=Z,21nm,1.2s,mb5.0
ASPA Alice Springs 61.11 138 *e*P **P** **17 27 06.2 -0.4**
ASPA *e*pP pP 17 27 29.2 +3.1
AS31 Alice Springs 61.11 138 *e*P **P** **17 27 06.2 -0.5**
AS31 *e*pP pP 17 27 29.2 +3.1
ASAR Alice Springs 61.11 138 P **P** **17 27 06.4 -0.3**
comp=Z,7.0nm,0.4s,mb5.0,baz=319,slow=6.6,SNR=198
PMG Port Moresby 61.35 117 P **P** **17 27 08.5 +0.3**
comp=Z,8.6nm,0.5s,mb5.0,baz=332,slow=5.2,SNR=8.8
PMG Port Moresby 61.35 117 *e*P **P** **17 27 07.1 -1.2**
comp=Z,14nm,0.8s,mb5.0
PMG *e*pP pP 17 27 30.7 +2.9
PMG Port Moresby 61.35 117 *e*P **P** **17 27 07.1 -1.2**
PMG pmax pmax
comp=Z,14nm,0.8s
GRUS Gruza 62.16 308 *i* P **P** **17 27 12.6 -1.1**
DIVS Divcibare 62.65 309 *i* P **P** **17 27 12.9 -4.1**
OPO Ambohidratompo 62.74 232 P **P** **17 27 17.7 +0.1**
comp=Z,8.3nm,0.8s,mb4.7,baz=38,slow=6.5,SNR=11
MORC Moravsky Berou 63.58 315 P **P** **17 27 28.5 +5.4**
comp=Z,21nm,1.2s,mb4.8
MORC *e*pP pP 17 27 42.1 -0.6
MORC Moravsky Berou 63.58 315 P **P** **17 27 28.5 +5.4**
MORC *e**PP pP 17 27 42.1 -0.6
MORC pmax pmax
comp=Z,21nm,1.2s,mb4.8
KSP Ksiaz 64.24 316 *e*P **P** **17 27 24.9 -2.6**
KSP *e*pP pP 17 27 45.4 -1.7
BRG Berggiesshubel 65.71 317 *e*P pP 17 27 56.3 -0.4
comp=Z,24nm,1.5s
NB2 NORSAR Subarra 65.84 328 P **P** **17 27 36.4 -1.5**
comp=Z,17nm,0.6s,mb5.0,baz=84,slow=6.5
NB2 NORSAR Subarra 65.84 328 P **P** **17 27 36.4 -1.5**
NB2 pmax pmax
comp=Z,17nm,0.6s,mb5.0
NOA NORSAR Array B 65.84 328 P **P** **17 27 36.7 -1.2**
comp=Z,3.6nm,0.6s,mb4.3,baz=85,slow=6.4,SNR=14
NOA pP pP 17 27 55.9 -1.7
comp=Z,16nm,0.7s,baz=84,slow=6.5,SNR=25
NOA LR LR 17 58 17.6
comp=Z,38nm,18.5s,baz=310,slow=38
MOA Molln 66.00 313 ⇑*i*P pP 17 27 58.0 -0.6
comp=Z,21nm,1.1s
NAO01 NORSAR Array S 66.03 328 pP pP 17 27 57.5 -1.3
GEC2 GERESS Array S 66.20 315 *e*P pP 17 27 59.4 -0.5
comp=Z,20nm,0.9s
GERES GERESS Array B 66.20 315 P **P** **17 27 39.6 -0.5**
comp=Z,1.2nm,0.7s,mb3.9,baz=82,slow=5.4,SNR=8.5
GERES pP pP 17 27 59.6 -0.3
comp=Z,8.1nm,0.6s,baz=74,slow=5.8,SNR=25
GERES LR LR 17 59 13.6
comp=Z,81nm,19.2s,baz=95,slow=38
GERES GERESS Array B 66.20 315 P **P** **17 27 39.6 -0.5**
GERES pP pP 17 27 59.6 -0.3
GERES LR LR 17 59 13.6
WET Wettzell 66.68 315 *e*P pP 17 28 02.5 -0.5
comp=Z,9.0nm,0.9s
TANN Tannenbergstha 66.72 316 *e*P pP 17 28 02.8 -0.4
comp=Z,11nm,1.1s
CTAO Charters Tower 66.98 127 *e*P **P** **17 27 44.4 -0.7**
comp=Z,9.5nm,0.9s,mb4.6
CTAO Charters Tower 66.98 127 *e*P **P** **17 27 44.4 -0.7**
CTAO pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
ROTZ Rotzenmuhle 66.99 316 *e*P pP 17 28 05.2 +0.2
comp=Z,24nm,0.9s
MOX Moxa 67.20 317 *e*P pP 17 28 05.8 -0.5
comp=Z,11nm,1.0s
BSEG Bad Segeberg 67.38 320 *e*P pP 17 28 07.3 -0.1
comp=Z,31nm,1.1s
GRF Grafenberg Arr 67.64 316 *e*P pP 17 28 08.9 -0.2
comp=Z,31nm,1.3s
CLZ Clausthal 67.74 318 *e*P pP 17 28 09.3 -0.4
comp=Z,14nm,0.7s
SQTA Sankt Quirin 68.16 313 ⇑*i*P pP 17 28 11.0 -1.3
comp=Z,9.0nm,1.0s
DAVA Damuels 69.03 313 ⇑*i*P pP 17 28 15.8 -2.0
comp=Z,14nm,0.9s
STU Stuttgart 69.13 315 *e*P pP 17 28 18.0 -0.4
comp=Z,27nm,1.0s
TNS Taunus Mts 69.27 317 *e*P pP 17 28 18.9 -0.4
comp=Z,18nm,1.2s
CDF Champ du Feu 70.45 315 *e*P **P** **17 28 07.8 +1.1**
comp=Z,37nm,1.1s,mb4.8
CDF *e*pP pP 17 28 25.2 -1.4
CDF Champ du Feu 70.45 315 *e*P **P** **17 28 07.8 +1.1**
comp=Z,19nm,1.1s,mb4.8
CDF *e*pP pP 17 28 25.2 -1.4
CDF Champ du Feu 70.45 315 *e*P **P** **17 28 07.8 +1.1**
CDF *e**PP pP 17 28 25.2 -1.4
CDF pmax pmax
comp=Z,19nm,1.1s,mb4.8
PGF Pioggiola 70.81 309 *e*P **P** **17 28 10.2 +1.3**
comp=Z,65nm,0.9s,mb5.2
PGF *e*pP pP 17 28 27.7 -1.1
WLF Walferdange 70.85 317 *e*P pP 17 28 29.1 +0.1
comp=Z,48nm,1.2s
WLF Walferdange 70.85 317 P **P** **17 28 06.8 -2.4**
comp=Z,27nm,0.9s,mb5.1
WLF *e*pP pP 17 28 28.6 -0.4
WLF Walferdange 70.85 317 P **P** **17 28 06.8 -2.3**
WLF *e**PP pP 17 28 28.6 -0.4
WLF pmax pmax
comp=Z,27nm,0.9s,mb5.1
HINF Hinteralfeld 70.88 315 *e*P **P** **17 28 10.6 +1.3**
HAU Haudompre 71.16 315 *e*P **P** **17 28 13.1 +2.1**
comp=Z,16nm,0.9s,mb4.6
HAU *e*R
comp=Z,94nm,23.0s
HAU Haudompre 71.16 315 *e*P **P** **17 28 13.1 +2.1**
comp=Z,8.1nm,0.9s,mb4.5
HAU LR LR
comp=Z,90nm,23.0s
HAU Haudompre 71.16 315 *e*P **P** **17 28 13.1 +2.1**
HAU pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
HAU MLR MLR
comp=Z,90nm,23.0s
TNA Tin City 71.26 26 P **P** **17 28 11.1 -0.5**
comp=Z,7.2nm,1.1s,mb4.4
SBF Sospel 71.56 310 *e*P **P** **17 28 14.6 +1.2**
GIVF Givet 71.56 317 *e*P **P** **17 28 14.7 +1.3**
LPG La Plagne 71.57 312 *e*P **P** **17 28 15.4 +1.9**
comp=Z,32nm,0.9s,mb4.9
LPG *e*pP pP 17 28 32.7 -0.7
LPG La Plagne 71.57 312 *e*P **P** **17 28 15.4 +1.9**
comp=Z,16nm,0.9s,mb4.8
LPG *e*pP pP 17 28 32.7 -0.7
LPG La Plagne 71.57 312 *e*P **P** **17 28 15.4 +1.9**
LPG *e**PP pP 17 28 32.7 -0.7
LPG pmax pmax
comp=Z,16nm,0.9s,mb4.8
LPL La Plagne 71.58 312 *e*P **P** **17 28 15.3 +1.8**
comp=Z,44nm,0.9s,mb5.0
LPL La Plagne 71.58 312 *e*P **P** **17 28 15.3 +1.8**
comp=Z,22nm,0.9s,mb5.0
LPL La Plagne 71.58 312 *e*P **P** **17 28 15.3 +1.8**
LPL pmax pmax
comp=Z,22nm,0.9s,mb5.0
DOU Dourbes 71.70 317 AP PcP 17 28 33.1 +0.2
CABF La Chapelle 71.71 313 *e*P **P** **17 28 15.7 +1.4**
comp=Z,13nm,0.7s,mb4.5
CABF La Chapelle 71.71 313 *e*P **P** **17 28 15.7 +1.4**

comp=Z,6.3nm,0.7s,mb4.5
CABF La Chapelle 71.71 313 *e*P **P 17 28 15.7 +1.4**
CABF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
STKA Stephens Creek 71.73 139 *e*P **P 17 28 11.3 -3.1**
comp=Z,5.8nm,1.6s,mb4.2
STKA Stephens Creek 71.73 139 P **P 17 28 11.8 -2.7**
comp=Z,2.2nm,0.3s,mb4.4,baz=329,slow=6.2,SNR=17
STKA pP pP 17 28 33.0 -1.3
comp=Z,3.8nm,0.7s,baz=319,slow=9.5,SNR=3.6
BNI Bardonecchia 71.75 312 P **P 17 28 22.0 +7.4**
MBDF Montbardon 71.77 311 *e*P **P 17 28 16.4 +1.7**
comp=Z,24nm,0.8s,mb4.8
MEZF Maizieres J'vi 71.86 316 *e*P **P 17 28 16.6 +1.4**
comp=Z,30nm,0.6s,mb5.0
MEZF Maizieres J'vi 71.86 316 *e*P **P 17 28 16.6 +1.4**
comp=Z,30nm,0.6s,mb5.3
FRF La Foret Royal 72.19 310 *e*P **P 17 28 18.4 +1.2**
comp=Z,71nm,1.2s,mb5.1
ORIF Oris-en-Rattie 72.33 312 *e*P **P 17 28 19.8 +1.8**
comp=Z,37nm,1.2s,mb4.8
ORIF *e*R
comp=Z,67nm,18.0s
ORIF Oris-en-Rattie 72.33 312 *e*P **P 17 28 19.8 +1.8**
comp=Z,18nm,1.2s,mb4.8
LMR La Mourre 72.35 310 *e*P **P 17 28 19.4 +1.2**
comp=Z,35nm,0.9s,mb4.9
SMRF Simiane la Rot 72.81 311 *e*P **P 17 28 22.5 +1.6**
comp=Z,80nm,1.3s,mb5.1
LOR Lormes 72.98 315 *e*P **P 17 28 22.8 +0.9**
comp=Z,24nm,1.1s,mb4.6
LOR *e*pP pP 17 28 40.2 -1.7
LOR *e*R
comp=Z,65nm,20.8s
LOR Lormes 72.98 315 *e*P **P 17 28 22.8 +0.9**
comp=Z,12nm,1.1s,mb4.6
LOR *e*pP pP 17 28 40.2 -1.7
LOR LR LR
comp=Z,70nm,20.8s
LOR Lormes 72.98 315 *e*P **P 17 28 22.8 +0.9**
LOR *e**PP pP 17 28 40.2 -1.7
LOR pmax pmax
comp=Z,12nm,1.1s,mb4.6
LOR MLR MLR
comp=Z,70nm,20.8s
VIVF Saint-Julien-l 73.17 312 *e*P **P 17 28 24.3 +1.3**
comp=Z,32nm,1.0s,mb4.8
VIVF Saint-Julien-l 73.17 312 *e*P **P 17 28 24.3 +1.3**
comp=Z,16nm,1.0s,mb4.8
SMF Signal de Mont 73.18 314 *e*P **P 17 28 24.2 +1.1**
comp=Z,26nm,0.8s,mb4.8
SMF *e*pP pP 17 28 41.5 -1.6
SMF Signal de Mont 73.18 314 *e*P **P 17 28 24.2 +1.1**
comp=Z,13nm,0.8s,mb4.8
SMF *e*pP pP 17 28 41.5 -1.6
SMF Signal de Mont 73.18 314 *e*P **P 17 28 24.2 +1.1**
SMF *e**PP pP 17 28 41.5 -1.6
SMF pmax pmax
comp=Z,13nm,0.8s,mb4.8
SSF Saint Saulge 73.27 314 *e*P **P 17 28 24.8 +1.2**
comp=Z,42nm,1.0s,mb4.9
SSF *e*pP pP 17 28 42.2 -1.4
SSF Saint Saulge 73.27 314 *e*P **P 17 28 24.8 +1.2**
comp=Z,21nm,1.0s,mb4.9
SSF *e*pP pP 17 28 42.2 -1.4
SSF Saint Saulge 73.27 314 *e*P **P 17 28 24.8 +1.2**
SSF *e**PP pP 17 28 42.2 -1.4
SSF pmax pmax
comp=Z,21nm,1.0s,mb4.9
AVF Avril sur Loir 73.46 314 *e*P **P 17 28 25.8 +1.1**
comp=Z,50nm,1.1s,mb5.0
AVF Avril sur Loir 73.46 314 *e*P **P 17 28 25.8 +1.1**
comp=Z,25nm,1.1s,mb5.0
AVF Avril sur Loir 73.46 314 *e*P **P 17 28 25.8 +1.1**
AVF pmax pmax
comp=Z,25nm,1.1s,mb5.0
HYF Humbligny 73.77 315 *e*P **P 17 28 28.4 +1.9**
BGF Bois d'Agland 73.86 314 *e*P **P 17 28 28.4 +1.3**
LASF Ste Croix 73.96 311 *e*P **P 17 28 29.3 +1.7**
comp=Z,50nm,1.1s,mb4.9
TCF Toulx Ste Croi 74.36 314 *e*P **P 17 28 31.6 +1.6**
comp=Z,43nm,1.0s,mb4.8
TCF Toulx Ste Croi 74.36 314 *e*P **P 17 28 31.6 +1.6**
comp=Z,21nm,1.0s,mb4.8
TCF Toulx Ste Croi 74.36 314 *e*P **P 17 28 31.6 +1.6**
TCF pmax pmax
comp=Z,21nm,1.0s,mb4.8
CAF Calviac 74.90 313 *e*P **P 17 28 35.0 +1.9**
comp=Z,23nm,0.9s,mb4.6
LDF La Druitiere 75.10 317 *e*P **P 17 28 35.4 +1.2**
comp=Z,12nm,0.8s,mb4.4
LDF La Druitiere 75.10 317 *e*P **P 17 28 35.4 +1.2**
comp=Z,6.1nm,0.8s,mb4.4
LDF La Druitiere 75.10 317 *e*P **P 17 28 35.4 +1.2**
LDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
RJF Les Rejaudoux 75.14 313 *e*P **P 17 28 36.6 +2.1**
comp=Z,63nm,1.2s,mb4.9
RJF *e*pP pP 17 28 53.9 -0.7
RJF Les Rejaudoux 75.14 313 *e*P **P 17 28 36.6 +2.1**
comp=Z,32nm,1.2s,mb4.9
RJF *e*pP pP 17 28 53.9 -0.7
RJF Les Rejaudoux 75.14 313 *e*P **P 17 28 36.6 +2.1**
RJF *e**PP pP 17 28 53.9 -0.7
RJF pmax pmax
comp=Z,32nm,1.2s,mb4.9
MTLF Montolieu 75.32 311 *e*P **P 17 28 37.1 +1.6**
comp=Z,33nm,1.1s,mb4.7
MTLF *e*pP pP 17 28 54.5 -1.1
MTLF Montolieu 75.32 311 *e*P **P 17 28 37.1 +1.6**
comp=Z,16nm,1.1s,mb4.7
MTLF *e*pP pP 17 28 54.5 -1.1
MTLF Montolieu 75.32 311 *e*P **P 17 28 37.1 +1.6**
MTLF *e**PP pP 17 28 54.5 -1.1
MTLF pmax pmax
comp=Z,16nm,1.1s,mb4.7
GRR Gorron 75.63 317 *e*P **P 17 28 38.5 +1.2**
comp=Z,84nm,1.3s,mb5.0
GRR Gorron 75.63 317 *e*P **P 17 28 38.5 +1.2**
comp=Z,42nm,1.3s,mb5.0
GRR Gorron 75.63 317 *e*P **P 17 28 38.5 +1.2**
GRR pmax pmax
comp=Z,42nm,1.3s,mb5.0
LFF La Frestale 75.78 313 *e*P **P 17 28 40.1 +1.9**
MFF Saint Martin d 75.80 315 *e*P **P 17 28 39.6 +1.4**
comp=Z,23nm,1.1s,mb4.5
MFF Saint Martin d 75.80 315 *e*P **P 17 28 39.6 +1.4**
comp=Z,11nm,1.1s,mb4.5
MFF Saint Martin d 75.80 315 *e*P **P 17 28 39.6 +1.4**
MFF pmax pmax
comp=Z,11nm,1.1s,mb4.5
SGMF Saint Gilles 76.74 317 *e*P **P 17 28 45.2 +1.6**
comp=Z,33nm,0.8s,mb4.8
SGMF *e*pP pP 17 29 04.1 +0.4
SGMF Saint Gilles 76.74 317 *e*P **P 17 28 45.2 +1.6**
comp=Z,16nm,0.8s,mb4.8
SGMF *e*pP pP 17 29 04.1 +0.4
SGMF Saint Gilles 76.74 317 *e*P **P 17 28 45.2 +1.6**
SGMF *e**PP pP 17 29 04.1 +0.4
SGMF pmax pmax
comp=Z,16nm,0.8s,mb4.8
ETSF Etsaut 77.38 311 *e*P **P 17 28 49.3 +2.1**
comp=Z,13nm,0.6s,mb4.5
ETSF *e*pP pP 17 29 06.6 -0.8
ETSF Etsaut 77.38 311 *e*P **P 17 28 49.3 +2.1**
comp=Z,6.3nm,0.6s,mb4.5
ETSF *e*pP pP 17 29 06.6 -0.8
ETSF Etsaut 77.38 311 *e*P **P 17 28 49.3 +2.1**
ETSF *e**PP pP 17 29 06.6 -0.8
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
SJPF Ste Jean 77.76 312 *e*P **P 17 28 51.6 +2.3**
comp=Z,20nm,0.9s,mb4.5
SJPF Ste Jean 77.76 312 *e*P **P 17 28 51.6 +2.3**
comp=Z,9.9nm,0.9s,mb4.5
SJPF Ste Jean 77.76 312 *e*P **P 17 28 51.6 +2.3**
SJPF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
SUMG Summit 78.32 347 *e*P **P 17 28 50.3 -2.1**
comp=Z,4.1nm,0.6s,mb4.3
SUMG *e*pP pP 17 29 11.8 -0.8
COLA College 79.14 23 *e*P **P 17 28 55.6 -1.2**
comp=Z,5.9nm,0.8s,mb4.5
COLA College 79.14 23 *i*P **P 17 28 55.0 -1.8**
MCK McKinley 79.39 24 P **P 17 28 57.5 -0.8**
comp=Z,4.7nm,0.7s,mb4.4
MCK *e*pP pP 17 29 19.2 +0.7
MCK McKinley 79.39 24 P **P 17 28 57.5 -0.7**
MCK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ILAR Eielson Array 79.53 22 P **P 17 28 57.4 -1.7**
comp=Z,5.9nm,0.8s,mb4.5,baz=295,slow=4.6,SNR=78
ILAR LR LR 18 05 18.3
comp=Z,50nm,19.7s,baz=180,slow=36
PMR Palmer 80.51 26 *e*P **P 17 28 59.4 -4.9**
comp=Z,9.6nm,0.8s,mb4.7
ESDC Sonseca Array 80.99 309 pP pP 17 29 25.4 -1.8
comp=Z,2.3nm,0.8s,baz=55,slow=6.0,SNR=3.5
RES Resolute Bay 81.10 3 P **P 17 29 07.1 -0.3**
DAWY Dawson 82.51 21 *e*P **P 17 29 14.3 -0.5**
LBTB Lobatse 82.72 239 P **P 17 29 16.4 +0.5**
comp=Z,28nm,0.6s,mb5.3,baz=81,slow=4.1,SNR=4.0
LBTB Lobatse 82.72 239 *e*P **P 17 29 15.4 -0.5**
comp=Z,33nm,0.7s,mb5.3
LBTB Lobatse 82.72 239 *e*P **P 17 29 15.4 -0.5**
LBTB pmax pmax
comp=Z,33nm,0.7s,mb5.3
BOSA Boshof 84.83 236 P **P 17 29 26.5 -0.2**
comp=Z,26nm,0.7s,mb5.3,baz=20,slow=3.4,SNR=12
BOSA LR LR 18 04 21.9
comp=Z,57nm,19.7s,baz=166,slow=34
BOSA Boshof 84.83 236 *e*P **P 17 29 25.9 -0.8**
comp=Z,28nm,0.7s,mb5.3
BOSA Boshof 84.83 236 *e*P **P 17 29 25.9 -0.8**
BOSA pmax pmax
comp=Z,28nm,0.7s,mb5.3
TSUM Tsumeb 86.44 247 P **P 17 29 35.4 +0.7**
comp=Z,2.5nm,0.6s,mb4.3,baz=296,slow=18,SNR=4.8
TORD Torodi Ar. Bea 87.17 283 P **P 17 29 38.7 +0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=66,slow=3.8,SNR=8.8
TORD pP pP 17 29 59.2 +0.5
comp=Z,13nm,0.8s,baz=53,slow=4.5,SNR=37
TORD PKKPbc PKKPbc 17 47 29.6 +0.6
comp=Z,0.2nm,0.4s,baz=269,slow=2.6,SNR=4.5
YKA Yellowknife Ar 90.48 13 P **P 17 29 52.7 -1.1**
comp=Z,0.6nm,0.5s,mb4.0,baz=329,slow=4.4,SNR=15
YKA PP PP 17 33 26.8 -2.4
comp=Z,0.5nm,0.7s,baz=332,slow=8.2,SNR=4.9
YKA Yellowknife Ar 90.48 13 P **P 17 29 52.7 -1.1**
YKA PP PP 17 33 26.8 -2.4
YKA Yellowknife Ar 90.48 13 *i*P **P 17 29 52.7 -1.1**
YKA pmax pmax
comp=Z,1.0nm,0.5s
DBIC Dimbokro 95.72 280 P **P 17 30 17.1 -0.8**
comp=Z,1.3nm,0.5s,mb4.6,baz=40,slow=10,SNR=3.5
DBIC LR LR 18 14 02.2
comp=Z,46nm,19.9s,baz=183,slow=36
DBIC Dimbokro 95.72 280 *e*P **P 17 30 17.1 -0.9**
DBIC *e*pP pP 17 30 38.5 -0.1
MTUM Tungsten Hills 111.28 28 Pdif Pdif 17 31 21.7 -5.6
MNTX Cornudas Mount 121.20 20 PKPdf PKPdf 17 35 45.2 +0.6
JCT Junction City 123.87 15 *e*PKPdf PKPdf 17 35 50.0 +0.3
SDV Santo Domingo 143.98 334 PKPdf PKPdf 17 36 25.7 -1.5
SDV *e*SKP 17 39 58.4
ROSC El Rosal 149.06 338 PKPbc PKPbc 17 36 41.8 +1.9
comp=Z,8.4nm,0.5s,baz=269,slow=23,SNR=4.4

JMA 02 17:42:59.3±0.1, 3871N×14224E, h38km±2km, M3.6, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.58**	**310**	⇓P	Pn	17 43 11.2	+0.2
OFUJ				S	Sn	17 43 19.4	+0.1
JIO	**Ouri**	**0.74**	**250**	⇓P	Pn	17 43 13.1	-0.2
JIO				S	Sn	17 43 22.8	-0.6
JMK	**Ichinoseki**	**0.83**	**287**	⇓P	Pn	17 43 14.8	+0.3
JMK				S	Sn	17 43 25.4	-0.2
JOM	**Ohasama**	**1.06**	**316**	⇓P	Pn	17 43 18.3	+0.7
JOM				S	Sn	17 43 31.9	+0.7
JTH	**Tanohata**	**1.26**	**347**	⇑P	Pn	17 43 20.4	0.0
JTH				*e*S	Sn	17 43 36.9	+0.8
JOU	**Okura**	**1.28**	**255**	P	Pn	17 43 21.5	+0.8
JMM	**Marumori**	**1.42**	**234**	⇑P	Pn	17 43 22.5	0.0

IDC ***02*** *18:05:08.3±2.7, 1449S×16744E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.9/14, mbtmp3.8/6, ML3.7/1, MS2.8/2, Ms1 2.9/2, ms1mx2.6/22, Error ellipse: s-maj=67.2km s-min=30.5km az=104.0*
ISCJB ***02*** *18:05:12.1±5.4, 147S±02×1676E±04, h41km±56km, mb3.7/5, MS3.4/1, Error ellipse: s-maj=62.4km s-min=30.1km az=30.4*

ISC 02 18:05:13.4±4.7, 146S±02×1677E±04, h40km±53km, n9, σ0°70/9, mb3.7/5, MS3.4/1, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.48**	**189**	Pn	**Pn**	**18 07 00.3**	**+0.3**
1.2nm,0.3s,baz=53,slow=13,SNR=13							
DZM				Sn	**Sn**	**18 08 23.1**	**-0.5**
0.2nm,0.3s,baz=120,slow=20,SNR=2.3							
STKA	**Stephens Creek**	**29.34**	**230**	*e*P	**P**	**18 11 12.5**	**+0.1**
STKA				*e*S	sP	18 11 26.0	-2.1
1.3nm,0.5s							
STKA	**Stephens Creek**	**29.34**	**230**	P	**P**	**18 11 12.3**	**-0.1**
2.6nm,0.5s,mb4.2,baz=53,slow=7.4,SNR=11							
STKA				LR	LR	18 22 47.4	
comp=Z,92nm,19.4s,MS3.4,baz=25,slow=36							
WRA	**Warramunga Arr**	**32.22**	**256**	P	**P**	**18 11 37.1**	**-0.7**
0.3nm,0.6s,mb3.3,baz=86,slow=9.3,SNR=5.6							
ASAR	**Alice Springs**	**33.06**	**249**	P	**P**	**18 11 44.9**	**-0.3**
0.6nm,0.5s,mb3.8,baz=78,slow=9.0,SNR=19							
BBOO	**Buckleboo**	**33.94**	**232**	*e*P	**P**	**18 11 54.4**	**+1.6**
TGY	**Tagaytay City**	**54.34**	**300**	LR	LR	18 35 01.3	
comp=Z,1.9nm,18.6s,baz=68,slow=33							
SONM	**Songino Array**	**82.65**	**323**	P	**P**	**18 17 32.9**	**+0.3**
0.2nm,0.7s,mb3.2,baz=119,slow=6.4,SNR=3.0							
MKAR	**Makanchi Array**	**97.40**	**316**	P	**P**	**18 18 42.0**	**-0.7**
0.5nm,0.9s,mb4.0,baz=96,slow=6.1,SNR=4.7							

IDC ***02*** *18:06:08.4±1.5, 243N×95.91E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/21, mbtmp3.9/7, ML3.3/1, Error ellipse: s-maj=44.6km s-min=19.3km az=46.0*
ISCJB ***02*** *18:06:11.8±3.5, 24N±02×959E±01, h34km±28km, mb4.2/11, Error ellipse: s-maj=33.6km s-min=14.2km az=82.6*
NEIC ***02*** *18:06:16.0±2.5, 252N×96.13E, h52km±19km, mb4.4/5, Error ellipse: s-maj=28.3km s-min=8.3km az=52.0*

ISC 02 18:06:10.8±5.4, 24N±01×9593E±007, h12km±34km, n18, σ0°74/19, mb4.2/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.02**	**82**	Pn	**Pn**	**18 06 58.5**	**+0.1**
4.1nm,0.3s,baz=301,slow=4.6,SNR=13							
PSI				Sn	**Sn**	**18 07 35.1**	**+0.6**
6.7nm,0.3s,baz=66,slow=7.1,SNR=5.1							
KULM	**Kulim**	**5.52**	**58**	*e*P	**Pn**	**18 07 32.2**	**-0.6**
JIRN	**Jiri**	**26.80**	**341**	*e*P	**P**	**18 11 51.5**	**+0.8**
23nm,0.7s,mb4.8							
DMN	**Daman**	**27.14**	**339**	*e*P	**P**	**18 11 55.0**	**+1.3**
GUN	**Gumba**	**27.14**	**340**	*e*P	**P**	**18 11 54.7**	**+0.9**
13nm,0.6s,mb4.7							
KKN	**Kakani**	**27.24**	**339**	*e*P	**P**	**18 11 54.8**	**+0.1**
LSA	**Lhasa**	**27.54**	**351**	*e*P	**P**	**18 11 57.8**	**+0.4**
4.4nm,0.7s,mb4.2							
GKN	**Gorkha**	**27.66**	**338**	*e*P	**P**	**18 11 58.9**	**+0.4**
KOLN	**Koldanda**	**27.86**	**336**	*e*P	**P**	**18 12 01.1**	**+0.9**
6.1nm,0.6s,mb4.4							
BJT	**Baijiatuau**	**41.72**	**24**	*e*P	**P**	**18 13 59.1**	**-0.4**
8.0nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**43.73**	**122**	P	**P**	**18 14 16.0**	**+0.1**
0.3nm,0.5s,mb3.3,baz=302,slow=9.1,SNR=6.7							
ASAR	**Alice Springs**	**45.12**	**127**	P	**P**	**18 14 27.1**	**+0.1**
0.2nm,0.6s,mb3.1,baz=300,slow=7.6,SNR=7.0							
MKAR	**Makanchi Array**	**45.80**	**347**	P	**P**	**18 14 31.7**	**-0.7**
2.4nm,0.5s,mb4.4,baz=159,slow=8.7,SNR=54							
MKAR	**Makanchi Array**	**45.80**	**347**	P	**P**	**18 14 31.7**	**-0.7**
SONM	**Songino Array**	**46.17**	**10**	P	**P**	**18 14 34.1**	**-1.2**
2.1nm,0.7s,mb4.2,baz=190,slow=9.3,SNR=22							
KURK	**Kurchatov**	**50.33**	**346**	*e*P	**P**	**18 15 06.2**	**-1.2**
ZAL	**Zalesovo**	**52.19**	**352**	P	**P**	**18 15 20.3**	**-1.1**
2.2nm,0.5s,mb4.4,baz=312,slow=7.2,SNR=9.2							
ARCES	**ARCESS Array B**	**81.00**	**340**	P	**P**	**18 18 24.6**	**-0.7**
1.9nm,1.0s,mb4.0,baz=90,slow=5.7,SNR=3.5							

MAN 02 18:26:54.0, 842N×12656E, h1km, mb2.3, ML3.9, MS3.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.31**	**220**	⇓*i*P	Pg	18 27 00.7	+0.9
BIPH				*i*S	Sg	18 27 06.3	+2.4
BUTP	**Butuan**	**1.07**	**300**	*e*P	Pg	18 27 15.3	+0.7
BUTP				*e*S	Sg	18 27 32.2	+3.7
BUKP	**Musuan**	**1.58**	**250**	*e*P	Pn	18 27 23.1	0.0
BUKP				*e*S	Sn	18 27 47.8	+3.7
SCPH	**Surigao**	**1.71**	**322**	*e*P	Pn	18 27 25.5	+0.6
SCPH				*e*S	Sn	18 27 51.8	+4.3

IDC 02 18:33:59.7±1.8, 3515S×7833E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/16, mbtmp3.9/7, Error ellipse: s-maj=75.3km s-min=28.4km az=19.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.19**	**92**	P	P	18 42 49.8	+0.2
1.3nm,1.0s,baz=248,slow=6.6,SNR=7.0							
WRA	**Warramunga Arr**	**51.29**	**88**	P	P	18 43 05.9	+0.4
1.6nm,0.9s,baz=240,slow=7.5,SNR=6.6							
MKAR	**Makanchi Array**	**81.65**	**3**	P	P	18 46 19.0	-0.7
0.6nm,0.8s,baz=163,slow=6.3,SNR=5.1							
BRTR	**Keskin Array B**	**85.16**	**327**	P	P	18 46 38.0	+0.2
1.2nm,0.8s,baz=152,slow=5.6,SNR=6.1							
SONM	**Songino Array**	**86.35**	**19**	P	P	18 46 43.7	0.0
0.3nm,0.8s,baz=219,slow=3.7,SNR=2.5							
TORD	**Torodi Ar. Bea**	**86.85**	**288**	P	P	18 46 46.7	+0.5
1.4nm,0.9s,baz=111,slow=3.7,SNR=5.4							
ZAL	**Zalesovo**	**88.90**	**4**	P	P	18 46 55.8	-0.2
0.5nm,0.5s,baz=176,slow=1.9,SNR=3.7							
YKA	**Yellowknife Ar**	**151.45**	**13**	PKPbc	PKPbc	18 53 53.9	-1.6
1.5nm,0.9s,baz=340,slow=2.8,SNR=17							

ISC 02 18:37:32.9±0.6, 3828N±003×2717E±004, h10km, n7, σ0°75/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.14**	**32**	PG	**Pg**	**18 37 36.4**	**+0.3**
IZM				SG	**Sg**	**18 37 38.4**	**+0.2**
KDAG	**Bornova**	**0.14**	**33**	*i*P	**Pg**	**18 37 36.4**	**+0.3**
KDAG				*i*S	**Sg**	**18 37 38.6**	**+0.2**
URLA	**Izmir**	**0.46**	**280**	*i*P	**Pg**	**18 37 41.2**	**-0.6**
URLA				*i*S	**Sg**	**18 37 47.2**	**-0.7**
AKS	**Akhisar**	**0.78**	**40**	*e*PG	**Pg**	**18 37 47.8**	**-0.1**
AKS				*e*SG	**Sg**	**18 37 59.0**	**+0.8**
AYDN	**Tasoluk**	**0.84**	**138**	*i*P	**Pg**	**18 37 48.9**	**-0.1**
AYDN				*i*S	**Sg**	**18 37 59.3**	**-0.6**
MANT	**Manisa**	**1.11**	**79**	*i*P	**Pb**	**18 37 54.5**	**+0.3**
MANT				*i*S	**Sg**	**18 38 06.7**	**-2.0**
BDRM	**Kayabasi**	**1.23**	**170**	*i*P	**Pn**	**18 37 57.5**	**+1.3**
BDRM				*i*S	**Sb**	**18 38 12.9**	**+0.6**

MAN 02 18:49:31.6, 1800N×12067E, h35km, mb1.9, ML3.6, MS3.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.33**	**352**	⇓*e*P	Pn	18 49 41.6	+1.8
PIP				*e*S	Sn	18 49 47.8	+2.3
ABRA	**Dolores**	**0.35**	**173**	*e*P	Pn	18 49 41.8	+1.6
ABRA				*e*S	Sn	18 49 47.8	+1.9
APYP	**Conner**	**0.57**	**104**	*e*P	Pn	18 49 44.7	+1.6
APYP				*e*S	Sn	18 49 52.9	+1.7

IDC 02 18:53:00.4±75.0, 2219S×17936E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=1330.0km s-min=152.9km az=84.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.84**	**246**	P	P	18 59 51.9	-1.2
1.2nm,0.6s,baz=84,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**41.75**	**259**	P	P	19 00 51.9	+0.7
1.3nm,0.8s,baz=98,slow=7.1,SNR=17							
WRA	**Warramunga Arr**	**41.95**	**264**	P	P	19 00 53.8	+0.9
1.2nm,0.4s,baz=95,slow=8.5,SNR=42							

BJI ***02*** *19:03:21.7, 1985S×17258W, h22km, mB5.4, mb5.1, Ms5.1, Msz4.7*
ISCJB ***02*** *19:03:22.7±0.3, 2066S±006×17330W±006, h33km, mb4.8/45, MS4.1/12, Error ellipse: s-maj=10.4km s-min=5.9km az=113.9*
HRVD ***02*** *19:03:23.0±0.4, 2074S×17270W, h12km, MW4.9/57, Centroid moment Tensor Solution. LP body waves: s25,c41;Mantle waves: s57,c92; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.86±.14; $M_{\theta\theta}$-0.89±.16; $M_{\phi\phi}$2.74±.10; $M_{r\theta}$-0.06±.41; $M_{\theta\phi}$0.68±.10; $M_{\phi r}$0.87±.30; Best double couple: $M_0$2.53000×10^{16} NP1:ϕ_s23.00000°, δ36.00000°, λ-71.00000°. NP2: ϕ_s180.00000°, δ56.00000°, λ-104.00000°. Principal axes: T 3.0110, Plg10.0000°, Azm280.0000°; N -0.9690, Plg11.0000°, Azm188.0000°; P -2.0490, Plg75.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *19:03:23.0±2.9, 2057S×17325W, h25km±19km, mb5.0/20 Error ellipse: s-maj=9.1km s-min=5.4km az=158.0*
SZGRF ***02*** *19:03:24.3, 2086S×173.16W, h33km, Tonga Islands*
IDC ***02*** *19:03:26.3±2.1, 2066S×17331W, h53km±18km, mb4.4/20, mb1 4.6/22, mb1mx4.6/23, mbtmp4.7/22, ML5.0/3, MS4.0/13, Ms1 4.0/13, ms1mx3.9/20, Error ellipse: s-maj=18.0km s-min=9.8km az=147.0*
MOS ***02*** *19:03:30.9±2.9, 1909S×17427W, h38km, mb5.1/16, Error ellipse: s-maj=12.8km s-min=11.2km az=79.4*

ISC 02 19:03:24.7±0.3, 2060S±006×17326W±006, h35km, n243, σ0°95/96, mb4.8/45, MS4.1/12, 27C-9D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.80**	**12**	P	**Pn**	**19 04 54.4**	**-7.6**
25nm,0.3s,baz=217,slow=0.1,SNR=26							
AFI				S	**Sn**	**19 06 06.2**	**-12**
34nm,0.3s,baz=76,slow=19,SNR=4.0							
RAO	**Raoul Island**	**9.59**	**205**	P	**Pn**	**19 05 38.9**	**-1.3**
45nm,0.3s,baz=81,slow=23,SNR=3.9							
RAO				S	**Sn**	**19 07 21.4**	**-5.3**
25nm,0.3s,baz=90,slow=20,SNR=5.8							
RAR	**Rarotonga**	**12.62**	**95**	P	**Pn**	**19 06 12.2**	**-9.4**
21nm,0.3s,baz=260,slow=9.7,SNR=42							
RAR				S	Sn	19 08 17.2	-24
3.5nm,0.3s,baz=126,slow=19,SNR=2.6							
RAR				LR	LR	19 09 35.3	
comp=Z,1μm,21.7s,baz=178,slow=29							
DZM	**Mont Dzumac**	**18.96**	**262**	P	**Pn**	**19 07 43.9**	**+0.2**
1.1nm,0.3s,baz=72,slow=15,SNR=13							
DZM				LR	LR	19 13 58.3	
comp=Z,728nm,18.1s,baz=302,slow=33							
URZ	**Urewera**	**19.47**	**203**	P	**Pn**	**19 07 49.1**	**-0.8**
4.9nm,0.3s,baz=8.7,slow=8.1,SNR=24							
URZ				S	**S**	**19 11 11.6**	**-15**
0.6nm,0.3s,baz=108,slow=20,SNR=3.4							
URZ				LR	LR	19 14 55.4	
comp=Z,160nm,19.0s,baz=207,slow=36							
TBI	**Tubuai**	**22.23**	**101**	*e*LQ		19 12 15.1	
646nm,26.8s							
TBI				*e*LR	LR	19 13 08.5	
1μm,31.0s,baz=277							
PPT	**Papeete**	**22.58**	**86**	*e*LQ		19 12 23.2	
628nm,25.2s							
PPT				*e*LR	LR	19 13 29.8	
1μm,27.2s,baz=259							
PPT	**Papeete**	**22.58**	**86**	P	**P**	**19 08 21.5**	**-0.4**
28nm,0.8s,mb4.8,baz=311,slow=3.3,SNR=5.0							
PPT				LR	LR	19 15 15.0	
comp=Z,357nm,19.2s,MS3.8,baz=243,slow=31							
RPZ	**Rata Peaks**	**26.51**	**206**	P	**P**	**19 08 59.7**	**+0.9**
13nm,0.8s,mb4.5,baz=0.0,slow=3.0,SNR=3.7							
HNR	**Honiara**	**28.11**	**289**	LR	LR	19 19 21.7	
comp=Z,128nm,18.6s,MS3.5,baz=176,slow=34							
TAOE	**Nuku Hiva Isla**	**34.01**	**75**	*e*LR	LR	19 18 30.5	
2μm,28.0s							
RKT	**Rikitea**	**35.56**	**101**	*e*S	**S**	**19 15 43.6**	**-8.3**

111nm,29.1s
RKT eLR LR 19 19 19.6
849nm,27.9s,baz=270
CNB Canberra Magne 35.89 238 eP **P 19 10 22.6 +1.3**
15nm,0.9s,mb4.9
CTA Charters Tower 37.90 263 eP **P 19 10 38.3 -0.1**
6.7nm,0.4s,mb4.7
CTA Charters Tower 37.90 263 eP **P 19 10 38.3 -0.1**
CTA pmax pmax
comp=Z,7.0nm,0.4s
CTAO Charters Tower 37.90 263 eP **P 19 10 38.0 -0.3**
comp=Z,11nm,0.6s,mb4.8
CTAO LR LR
comp=Z,381nm,19.0s,MS4.2
CTAO Charters Tower 37.90 263 eP **P 19 10 38.0 -0.4**
CTAO pmax pmax
comp=Z,11nm,0.6s,mb4.8
CTAO MLR MLR
comp=Z,381nm,19.0s,MS4.2
PMG Port Moresby 39.71 280 P **P 19 10 53.5 -0.1**
comp=Z,37nm,1.0s,mb5.1,baz=113,slow=5.4,SNR=11
PMG LR LR 19 24 38.6
comp=Z,151nm,18.2s,MS3.9,baz=200,slow=32
PMG Port Moresby 39.71 280⇑ eP **P 19 10 53.9 +0.3**
STKA Stephens Creek 41.76 245 eP **P 19 11 08.8 -1.7**
comp=Z,2.9nm,0.6s,mb4.1
STKA Stephens Creek 41.76 245 P **P 19 11 08.8 -1.6**
comp=Z,3.3nm,0.5s,mb4.2,baz=79,slow=9.0,SNR=14
STKA LR LR 19 26 49.7
comp=Z,196nm,20.2s,MS4.0,baz=35,slow=34
AS31 Alice Springs 48.81 256 eP **P 19 12 06.0 -0.4**
ASAR Alice Springs 48.81 256 P **P 19 12 06.0 -0.4**
comp=Z,9.3nm,0.7s,mb4.9,baz=99,slow=7.6,SNR=175
ASAR PcP PcP 19 13 32.1 +1.4
comp=Z,6.1nm,0.9s,baz=96,slow=4.3,SNR=8.3
ASAR S **S 19 19 05.0 -2.1**
comp=Z,1.6nm,0.8s,baz=95,slow=14,SNR=9.4
ASPA Alice Springs 48.82 256 eP **P 19 12 06.0 -0.4**
WB2 Warramunga Arr 48.97 261 eP **P 19 12 06.8 -0.8**
WB2 eS **S 19 19 08.4 -1.0**
WRAB Tennant Creek 48.97 261 P **P 19 12 07.0 -0.6**
comp=Z,113nm,1.3s,mb5.7,SNR=9.1
WRAB Tennant Creek 48.97 261 eP **P 19 12 06.8 -0.8**
comp=Z,38nm,1.1s,mb5.3
WRAB Tennant Creek 48.97 261⇑ eP **P 19 12 07.1 -0.5**
WRA Warramunga Arr 48.98 261 P **P 19 12 06.8 -0.9**
comp=Z,8.7nm,0.7s,mb4.9,baz=98,slow=7.1,SNR=158
WRA PcP PcP 19 13 32.9 +1.5
comp=Z,5.5nm,0.7s,baz=94,slow=3.6,SNR=8.8
WRA S **S 19 19 06.5 -3.0**
comp=Z,0.5nm,0.9s,baz=99,slow=15,SNR=2.7
FITZ Fitzroy Crossi 57.41 261 eP **P 19 13 09.5 -0.2**
comp=Z,5.4nm,0.5s,mb4.8
VNDA Vanda 58.24 186 P **P 19 13 15.9 +0.4**
comp=Z,1.9nm,0.8s,mb4.2,baz=23,slow=5.5,SNR=5.1
KLBR Kellerberrin 62.03 244 eP **P 19 13 42.5 +1.0**
comp=Z,38nm,0.9s,mb5.5
MBWA Marble Bar 62.16 256 eP **P 19 13 42.5 +0.1**
comp=Z,13nm,0.8s,mb5.1
MUN Mundaring 63.28 244 eP **P 19 13 51.3 +1.5**
QSPA South Pole Qui 69.47 180 eP **P 19 14 30.5 +1.1**
comp=Z,32nm,1.0s,mb5.2
MJAR Matsushiro Arr 73.01 321 P **P 19 14 51.0 +0.2**
comp=Z,10nm,1.0s,mb4.7,baz=156,slow=5.6,SNR=15
MJAR LR LR 19 44 55.2
comp=Z,56nm,18.7s,MS3.9,baz=175,slow=34
MAT Matsushiro 73.01 321 P **P 19 14 51.1 +0.3**
MAT Matsushiro 73.01 321 eP **P 19 14 51.0 +0.2**
comp=Z,9.7nm,0.8s,mb4.8
MAT Matsushiro 73.01 321 eP **P 19 14 51.0 +0.2**
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MTUM Tungsten Hills 77.28 42 eP **P 19 15 15.9 +0.5**
YBH Yreka Blue Hor 77.67 36 P **P 19 15 17.5 -0.1**
comp=Z,11nm,1.2s,mb4.7,baz=268,slow=1.3,SNR=4.3
KSM Kuching 77.83 276 eP **P 19 15 19.9 +1.4**
YSS Yuzh-Sakhalins 78.06 331 eP **P 19 15 20.8 +1.1**
comp=Z,23nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 78.06 331⇑ iP **P 19 15 20.2 +0.5**
YSS pmax pmax
comp=Z,32nm,1.1s,mb5.2
NVAR Mina Array Bea 78.11 41 P **P 19 15 20.0 0.0**
comp=Z,6.6nm,0.8s,mb4.6,baz=222,slow=9.4,SNR=37
NVAR LR LR 19 43 07.2
comp=Z,77nm,19.1s,MS4.0,baz=180,slow=30
NVAR Mina Array Bea 78.11 41 P **P 19 15 20.0 0.0**
NVAR LR LR 19 43 07.2
LDFC Landfair 78.15 45 eP **P 19 15 20.9 +0.6**
TUC Tucson 79.60 50 eP **P 19 15 28.8 +0.6**
comp=Z,6.0nm,0.9s,mb4.5
TUC Tucson 79.60 50 eP **P 19 15 28.8 +0.6**
TUC pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KDAK Kodiak Island 79.97 11 P **P 19 15 29.3 -0.9**
comp=Z,7.1nm,0.8s,mb4.7,baz=286,slow=6.0,SNR=4.0
ARUT Antelope Range 80.81 44 eP **P 19 15 35.5 +0.8**
SSE Sheshan 81.21 308 P **P 19 15 38.4 +1.5**
SSE AMB AMB
comp=Z,35nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,102nm,7.1s
MSU Marysvale 82.04 44 eP **P 19 15 41.5 +0.2**
BMO Blue Mountains 82.69 36 eP **P 19 15 44.4 -0.2**
comp=Z,11nm,1.4s,mb4.7
BMO Blue Mountains 82.69 36 eP **P 19 15 44.4 -0.3**
BMO pmax pmax
comp=Z,11nm,1.4s,mb4.7
HABR Khabarovsk 82.80 328 eP **P 19 15 46.6 +1.4**
HABR eS S 19 26 01.5 +0.6
MDJ Mudanjiang 83.22 323 eP **P 19 15 48.5 +1.2**
comp=Z,31nm,1.5s,mb5.1
LTX Lajitas 83.41 55 eP **P 19 15 48.1 -0.3**
comp=Z,4.7nm,0.9s,mb4.5
LTX Lajitas 83.41 55 eP **P 19 15 48.1 -0.3**
LTX pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
NJ2 Nanjing 83.41 308 eP **P 19 15 48.2 -0.2**
NJ2 AP pP 19 15 58.7 -0.7
NJ2 XP sP 19 16 02.6 -0.8
NJ2 PP PP 19 19 01.9 +1.4
NJ2 S S 19 26 05.0 -2.1
NJ2 XS sS 19 26 22.0 -3.4
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,60nm,5.3s
NJ2 LR LR
comp=N,330nm,14.9s,MS4.9
NJ2 LR LR
comp=E,160nm,16.6s,MS4.9
NJ2 LR LR
comp=Z,350nm,20.8s,MS4.7
SRU San Rafael 83.45 44 eP **P 19 15 49.3 +0.7**
comp=Z,13nm,0.9s,mb5.0
SRU San Rafael 83.45 44 eP **P 19 15 49.3 +0.7**
SRU pmax pmax
comp=Z,13nm,0.9s,mb5.0
TCUT Toone Canyon 83.99 42 eP **P 19 15 51.2 -0.1**
ANMO Albuquerque 84.05 49 P **P 19 15 51.0 -0.6**
comp=Z,4.0nm,0.9s,mb4.5,baz=211,slow=6.4,SNR=7.7
ANMO Albuquerque 84.05 49⇑ eP **P 19 15 51.3 -0.3**
PV01 Paradox Valley 84.22 46 eP **P 19 15 52.9 +0.4**
GDL2 Guadalupe Moun 84.23 53 eP **P 19 15 52.9 +0.3**
KLR Kul'dur 84.94 327 eP **P 19 15 53.8 -2.3**
MA2 Magadan 85.14 343⇑ eP **P 19 15 56.2 -0.9**
MA2 pmax pmax
comp=Z,17nm,1.4s,mb5.0
CN2 Changchun 85.15 320 eP **P 19 15 57.8 +0.6**
CN2 AMB AMB
comp=Z,10.0nm,1.5s,mb4.7
PLCA Paso Flores 85.94 132 P **P 19 16 00.6 -0.5**
comp=Z,6.8nm,1.1s,mb4.8,baz=250,slow=7.0,SNR=8.1
PLCA LR LR 19 47 29.4
comp=Z,102nm,18.4s,MS4.2,baz=94,slow=31
TNA Tin City 85.99 2 eP **P 19 16 00.7 -0.6**
comp=Z,4.5nm,0.8s,mb4.8
PDAR Pinedale Array 86.04 41 P **P 19 16 01.2 -0.5**
comp=Z,1.8nm,1.0s,mb4.3,baz=290,slow=2.7,SNR=4.8
PDAR LR LR 19 48 01.5
comp=Z,82nm,18.6s,MS4.2,baz=64,slow=31
QLMT Earthquake Lak 86.05 39 eP **P 19 16 01.6 0.0**
WHN Wuhan 86.12 304 eP **P 19 16 04.8 +2.8**
MCK McKinley 86.18 11 eP **P 19 16 00.9 -1.4**
comp=Z,13nm,1.0s,mb5.1
MCK McKinley 86.18 11 eP **P 19 16 00.9 -1.4**
MCK pmax pmax
comp=Z,13nm,1.0s,mb5.1
CHMT Chamberlain Mo 86.19 37 eP **P 19 16 01.8 -0.5**
COLA College 87.42 11 eP **P 19 16 06.7 -1.7**
comp=Z,16nm,0.9s,mb5.2
COLA College 87.42 11⇑ eP **P 19 16 08.0 -0.4**
ILAR Eielson Array 87.50 11 P **P 19 16 07.3 -1.4**
comp=Z,2.7nm,0.8s,mb4.5,baz=224,slow=5.6,SNR=44
ILAR LR LR 19 48 17.5
comp=Z,53nm,19.7s,MS4.0,baz=1.3,slow=31
SEY Seymchan 87.55 345 eP **P 19 16 08.8 -0.2**
SEY eS 19 26 43.1
SEY eSS SS 19 32 25.2 -8.5
SEY pmax pmax
comp=Z,12nm,0.9s,mb5.1
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY smax
comp=N,120nm,35.2s
SEY smax
comp=E,26nm,11.7s
DAWY Dawson 88.40 14 eP **P 19 16 12.5 -0.5**
PSI Prapat 88.93 273 P **P 19 16 16.4 +0.9**
comp=E,8.7nm,0.9s,mb5.1,baz=179,slow=5.3,SNR=5.8
BJI Beijing 89.13 314 eP **P 19 16 18.2 +1.7**
BJI AMB AMB
comp=Z,12nm,1.3s,mb5.1
ENH Enshi 89.81 302 eP **P 19 16 21.7 +2.1**
comp=Z,22nm,1.2s,mb5.4
EDM Edmonton 89.83 31 eP **P 19 16 19.1 -0.6**
YAK Yakutsk 93.92 337⇑ eP **P 19 16 37.7 -1.0**
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb5.3
YKA Yellowknife Ar 94.79 23 P **P 19 16 41.4 -1.2**
comp=Z,2.9nm,0.7s,mb4.8,baz=237,slow=4.3,SNR=66
YKA PKKPbc PKKPbc 19 33 38.4 -0.6
comp=Z,0.4nm,0.6s,baz=45,slow=2.4,SNR=8.4
YKA Yellowknife Ar 94.79 23 P **P 19 16 41.4 -1.2**
YKA PKKPbc PKKPbc 19 33 38.4 -0.6
ULM Lac du Bonnet 97.86 39 P **P 19 16 55.0 -1.7**
comp=Z,2.9nm,0.9s,mb4.8,baz=169,slow=8.1,SNR=4.4
LPAZ La Paz 97.89 111 P **P 19 16 58.2 +1.4**
comp=Z,0.6nm,0.6s,mb4.3,baz=2.3,slow=4.9,SNR=3.6
LPAZ LR LR 19 52 46.5
comp=Z,70nm,19.1s,MS4.2,baz=287,slow=30
ULN Ulaanbaatar 98.38 318⇑ eP **P 19 16 59.0 +0.1**
SONM Songino Array 98.78 318 P **P 19 17 01.4 +0.7**
comp=Z,0.4nm,0.8s,mb4.0,baz=118,slow=5.5,SNR=3.5
TIXI Tiksi 100.02 344⇓ iP Pdif 19 17 05.2 -1.0
TIXI pmax pmax
comp=Z,7.0nm,2.1s
MKAR Makanchi Array 114.50 313 PKP PKiKP 19 22 00.2 -0.7
comp=Z,1.9nm,0.7s,baz=83,slow=0.3,SNR=24
MKAR PKKPbc PKKPbc 19 32 39.1 -0.3
comp=Z,0.5nm,0.7s,baz=278,slow=3.4,SNR=9.4
MKAR Makanchi Array 114.50 313 PKP PKiKP 19 22 00.2 -0.7
MKAR PKKPbc PKKPbc 19 32 39.1 -0.3
KURK Kurchatov 117.08 317 ePKPdf PKPdf 19 22 04.9 -1.0
KURK Kurchatov 117.08 317⇑ iPKIKP PKPdf 19 22 05.1 -0.8
AAK Ala-Archa 119.85 308 ePKPdf PKPdf 19 22 10.0 -1.2
AAK Ala-Archa 119.85 308⇑ iPKIKP PKPdf 19 22 09.3 -1.9
BVAR Borovoye Array 122.00 320 PKP PKPdf 19 22 14.6 -0.8
comp=Z,3.7nm,0.7s,baz=104,slow=1.8,SNR=22
ZRNK Zerenda 122.84 320 ePKPdf PKPdf 19 22 16.1 -0.8
ARU Arti 127.77 326 ePKPdf PKPdf 19 22 26.2 -0.2
ARU Arti 127.77 326 iPKIKP PKPdf 19 22 25.7 -0.7
ARU e 19 24 27.7
ARU e 19 29 28.6
BOSA Boshof 127.91 201 PKP PKPdf 19 22 27.4 +0.7
comp=Z,6.3nm,1.0s,baz=239,slow=5.0,SNR=5.7
ARCES ARCESS Array B 129.75 352 PKP PKPdf 19 22 29.2 -1.0
comp=Z,5.6nm,0.7s,baz=6.2,slow=1.0,SNR=26
JOF Joensuu 134.50 345 ep PKPdf 19 22 31.6 -7.5
comp=Z,6.4nm,0.8s
JOF Joensuu 134.50 345 ePKHKP 19 22 31.6
JOF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 136.37 347 ep PKPdf 19 22 33.4 -9.2
comp=Z,4.8nm,0.8s
KAF Kangasniemi 136.37 347 ePKHKP 19 22 33.4
KAF pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 137.01 347 PKhKP 19 22 35.8
comp=Z,1.8nm,1.1s,baz=208,slow=24,SNR=3.3
FINES PKP PKPdf 19 22 43.6 -0.2
comp=Z,2.3nm,0.6s,baz=67,slow=3.5,SNR=10
OBN Obninsk 138.87 334 iPKIKP PKPdf 19 22 46.0 -1.2
NOA NORSAR Array B 139.48 357 PKP PKPdf 19 22 47.4 -1.0
comp=Z,2.6nm,0.9s,baz=14,slow=3.9,SNR=4.8
KIV Kislovodsk 142.16 316 iPKIKP PKPdf 19 22 52.5 -0.7
KIV e 19 25 55.2
KIV ePPP 19 29 03.7
KIV pmax pmax
comp=Z,7.0nm,1.2s
GNI Garni 142.23 310 iPKIKP PKPdf 19 22 54.1 +0.8
KMBO Kilima Mbogo 143.14 238 PKhKP 19 22 52.5
comp=Z,3.1nm,0.8s,baz=84,slow=3.2,SNR=7.7
SUW Suwalki 144.36 343 ePKP PKPdf 19 22 55.0 -2.0
SUW ePKPdf PKPdf 19 22 55.5 -1.5
ERZM Erzurum 144.74 311 iP PKPdf 19 22 58.8 +1.1
ANN Anapa 145.00 321 iPKHKP 19 22 57.6
ANN pmax pmax
comp=Z,81nm,1.0s
AKASG Malin Array Be 145.13 335 PKPbc PKPbc 19 22 57.4 -0.5
comp=Z,33nm,0.7s,baz=40,slow=4.1,SNR=167
AKASG Malin Array Be 145.13 335 PKPbc PKPbc 19 22 57.4 -0.5
DCN Croghan 145.58 15 eP PKPdf 19 22 57.4 -1.8
DLF Lyons Farm 145.80 14 eP PKPdf 19 22 58.0 -1.5
MARD Mardin 146.11 307 iP PKPdf 19 23 02.3 +2.3
KELT Kelkit 146.12 312 iP PKPdf 19 23 03.1 +3.1
GKP Gorka Klasztor 146.40 349 ePKP PKPdf 19 23 01.9 +1.4
GRSN GIRESUNGRSN 146.44 314 iP PKPdf 19 23 01.8 +1.1
BSEG Bad Segeberg 146.61 356 ePKPbc PKPbc 19 23 02.6 +0.1
SIM Simferopol' 146.83 323 diPKP2 PKPab 19 23 04.0 -0.4
SIM pmax pmax
comp=Z,34nm,0.8s
ELZG Elazig 146.99 310 iP PKPbc 19 23 05.9 +2.4
MALT Malatya 147.46 310 ePKPbc PKPbc 19 23 06.1 +1.2
RUE Ruedersdorf 147.72 352 ePKPbc PKPbc 19 23 05.6 0.0
KIS Kishinev 148.13 331 ePKIKP PKPdf 19 23 06.0 +2.6
IBBN Ibbenburen 148.34 359 ePKPbc PKPbc 19 23 07.3 +0.1
KWP Kalwaria 148.37 340 ePKP PKPdf 19 23 07.7 +3.9
BOYT Boyabat 148.40 317 iP PKPbc 19 23 09.0 +1.6
GZT Gaziantep 148.47 309 iP PKPbc 19 23 09.2 +1.6
OJC Ojcow 148.69 344 ePKP PKPdf 19 23 04.1 -0.2
CLZ Clausthal 148.69 356 ePKPbc PKPbc 19 23 08.4 +0.3
KSP Ksiaz 148.90 348 ePKP PKPbc 19 23 09.2 +0.5
KSP Ksiaz 148.90 348 ePKIKP PKPbc 19 23 09.1 +0.4
CLL Collm 148.96 352 ePKPbc PKPbc 19 23 08.9 +0.1
CLL Collm 148.96 352⇓ iPKPbc PKPbc 19 23 08.9 +0.1
comp=Z,33nm,0.7s
CLL i (PKPab) PKPab 19 23 11.3 -1.6
comp=Z,78nm,1.7s
CLL i x x 19 23 20.1
CLL Collm 148.96 352⇓ iPKIKP PKPbc 19 23 08.9 +0.1
CLL i 19 23 11.3
CLL i 19 23 20.1
CLL pmax pmax
comp=Z,33nm,0.7s
STHS Stebnicka Huta 149.01 341 ePKP PKPbc 19 23 10.0 +1.1
STHS e 19 23 43.1
KOLS Kolonicke sedl 149.11 340 ePKP PKPbc 19 23 10.2 +1.0
BURAR Bucovina Array 149.18 335 ⇓P PKPbc 19 23 10.5 +1.1
BUG Bochum--Univer 149.22 359 ePKPbc PKPbc 19 23 09.5 0.0
BRG Berggiesshubel 149.26 351 ePKPbc PKPbc 19 23 10.0 +0.4
BRG Berggiesshubel 149.26 351 iPKHKP 19 23 05.7
BRG i 19 23 10.1
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG pmax pmax
comp=Z,16nm,0.8s
BRG Berggiesshubel 149.26 351 iPKP PKPdf 19 23 05.7 +0.4
comp=Z,4.4nm,1.1s
BRG i 19 23 10.1
comp=Z,16nm,0.8s
NIE Niedzica 149.27 343 ePKP PKPbc 19 23 10.5 +0.9
DPC Dobruska-Polom 149.36 348⇑ ePKPB PKPbc 19 23 10.9 +1.1
DPC ePKPAB PKPab 19 23 13.1 -1.5
CRVS Cervenica-Dubn 149.40 341 ePKP PKPbc 19 23 11.2 +1.3
CRVS e 19 23 17.2
OKC Ostrava-Krasne 149.45 345⇑ ePKPB PKPbc 19 23 09.1 -0.9
OKC Ostrava-Krasne 149.45 345 ePKIKP PKPdf 19 23 08.1 +2.5
PVCC Panska Ves 149.50 350⇑ ePKPB PKPbc 19 23 11.2 +1.0
PVCC ePKPAB PKPab 19 23 13.8 -1.3
MORC Moravsky Berou 149.65 346 ePKPbc PKPbc 19 23 10.9 +0.4
MOX Moxa 149.77 354 ePKPbc PKPbc 19 23 11.0 +0.2
MOX Moxa 149.77 354 eP PKPbc 19 23 10.7 -0.1
comp=Z,38nm,1.4s
CFR Carcaliu 149.79 329 ⇓P PKPbc 19 23 11.8 +0.9
ELDT Eldivan 149.84 317 iP PKPbc 19 23 12.2 +1.2
WERD Werda 149.89 353 ePKPbc PKPbc 19 23 11.4 +0.3
VRI Vrincioaia 149.93 332 ⇑P PKPbc 19 23 11.8 +0.6
PRU Pruhonice 150.03 350⇑ ePKPB PKPbc 19 23 12.0 +0.5
PRU ePKPAB PKPab 19 23 14.2 -3.1
KECS Kecovo 150.06 342 iPKP PKPbc 19 23 12.2 +0.7
KECS e 19 23 18.0
KECS e 19 23 28.8
NKC Novy Kostel 150.09 353⇑ ePKPB PKPbc 19 23 12.2 +0.6
BR131 Keskin Array S 150.11 316 ePKPbc PKPbc 19 23 12.2 +0.5
BRTR Keskin Array B 150.11 316 PKP PKPdf 19 23 07.0 +0.4
comp=Z,0.4nm,0.5s,baz=339,slow=6.5,SNR=4.0
BRTR PKPbc PKPbc 19 23 12.0 +0.3
comp=Z,7.9nm,0.8s,baz=131,slow=3.0,SNR=22
TIRR Tirgusor 150.18 328 ⇓P PKPbc 19 23 12.3 +0.5
HARR Harsova 150.25 329 ⇑P PKPbc 19 23 13.1 +1.1
VRAC Vranov 150.29 347 ⇑PKIKP PKPbc 19 23 13.0 +0.9
MANZ Manzenberg 150.37 353 ePKPbc PKPbc 19 23 12.9 +0.6
TNS Taunus Mts 150.41 358 ePKPbc PKPbc 19 23 12.7 +0.3
VYHS Vyhne 150.52 344 iPKP PKPbc 19 23 13.1 +0.5
GIVF Givet 150.52 3 ePKP1 PKPbc 19 23 12.5 -0.1
comp=Z,160nm,1.2s
TREC Trest 150.53 348⇑ ePKPB PKPbc 19 23 13.1 +0.4
TREC ePKPAB PKPab 19 23 15.7 -3.7
MLR Muntele Rosu 150.57 332 ⇑P PKPbc 19 23 14.1 +1.4
ROTZ Rotzenmuhle 150.57 353 ePKPbc PKPbc 19 23 13.4 +0.6
ANTO Ankara 150.59 317 ePKPbc PKPbc 19 23 13.6 +0.8
SGKT Sivrigoynuk 150.66 318 iP PKPbc 19 23 13.5 +0.5
PSZ Piszkesteto 150.75 342 ePKPbc PKPbc 19 23 13.3 +0.1
GRF Grafenberg Arr 150.75 354 ePKPbc PKPbc 19 23 13.8 +0.6
ABH Alteburg 150.78 359 PKP PKPbc 19 23 13.7 +0.5
SMOL Smolenice 150.85 345 ePKP PKPbc 19 23 14.6 +1.2
SMOL e 19 23 21.5
RUP Ruppelstein 150.96 360 PKP PKPbc 19 23 14.2 +0.5
WLF Walferdange 151.00 1 ePKPbc PKPbc 19 23 14.7 +0.9
WLF Walferdange 151.00 1 ePKHKP 19 23 14.1
VOIR 151.00 333 ⇓P PKPbc 19 23 14.8 +1.0
KHC Kasperske Hory 151.01 351 ePKPDF PKPdf 19 23 08.4 +0.4
KHC ⇑ePKPB 19 23 14.3
TOD Tromm 151.01 357 PKP PKPbc 19 23 14.0 +0.2
ROSF Rostrenen 151.18 14 ePKP1 PKPbc 19 23 13.3 -0.9
comp=Z,34nm,1.0s
HENT Hendek 151.22 320 iP PKPbc 19 23 13.6 -0.7
ZST Bratislava 151.23 346 ePKP PKPbc 19 23 14.7 +0.4
ZST e 19 23 23.8
GEC2 GERESS Array S 151.27 350 ePKPbc PKPbc 19 23 14.7 +0.3
GERES GERESS Array B 151.27 350 PKP PKPdf 19 23 08.1 -0.4
comp=Z,0.5nm,0.6s,baz=116,slow=3.1,SNR=5.0
GERES PKPbc PKPbc 19 23 14.7 +0.3
comp=Z,9.2nm,0.8s,baz=27,slow=1.5,SNR=38
FLN La Foliniere 151.31 10 ePKP1 PKPbc 19 23 13.9 -0.6
comp=Z,86nm,0.9s
SRO1 Iza 151.35 344 ePKP PKPbc 19 23 15.0 +0.4
SGMF Saint Gilles 151.41 13 ePKP1 PKPbc 19 23 13.8 -0.9
comp=Z,178nm,1.4s
LDF La Druitiere 151.53 10 ePKP1 PKPbc 19 23 14.3 -0.7
comp=Z,158nm,1.3s
GRR Gorron 151.61 11 ePKP1 PKPbc 19 23 14.7 -0.5
comp=Z,57nm,0.6s
LANF Langenberg 151.67 359 PKP PKPbc 19 23 15.8 +0.5
STU Stuttgart 151.82 357 ePKPbc PKPbc 19 23 16.2 +0.5
MEZF Maizieres J'vi 152.13 2 ePKP1 PKPbc 19 23 16.4 0.0
comp=Z,64nm,1.1s
MOA Molln 152.14 349⇑ iPKiKP PKiKP 19 23 16.4 -0.3
comp=Z,18nm,1.4s
BZS Buzias 152.21 337 ⇑P PKPbc 19 23 17.0 +0.5
WLS Welschbruch 152.25 359 PKP PKPbc 19 23 16.7 +0.1
CDF Champ du Feu 152.25 359 ePKP1 PKPbc 19 23 16.5 -0.1
comp=Z,44nm,1.0s
FUR Furstenfeldbru 152.26 353 ePKPbc PKPbc 19 23 17.2 +0.5
BFO Black Forest 152.31 358 ePKPbc PKPbc 19 23 16.8 0.0
BFO Black Forest 152.31 358 ePKPbc PKPbc 19 23 16.9 +0.2
THEF They Montfort 152.43 1 PKP PKPbc 19 23 17.3 +0.3
LIBD Limburg 152.51 359 PKP PKPbc 19 23 22.0 +4.8
HAU Haudompre 152.66 1 ePKP1 PKPbc 19 23 18.3 +0.8
comp=Z,25nm,0.8s
FELD Feldberg 152.77 358 PKP PKPbc 19 23 17.7 -0.1
HINF Hinteralfeld 152.85 360 ePKP1 PKPbc 19 23 17.5 -0.5
comp=Z,20nm,0.9s
EIL Elat 152.97 295 ePKPbc PKPbc 19 23 19.1 +0.9
WATA Walderalm 153.04 353 ⇓iPKiKP PKiKP 19 23 18.3 -0.3
comp=Z,9.3nm,1.0s
KBA Koelnbreinsper 153.05 350⇑ iPKiKP PKiKP 19 23 18.2 -0.4
comp=Z,13nm,1.1s
MOTA Moosalm 153.09 353⇑ iP PKPbc 19 23 18.6 +0.1
comp=Z,14nm,1.0s,SNR=6.3
PERS Pernice 153.14 347 ePKPbc PKPbc 19 23 18.2 -0.4
HYF Humbligny 153.19 6 ePKP1 PKPbc 19 23 18.7 0.0
SQTA Sankt Quirin 153.20 353⇑ iPKiKP PKiKP 19 23 19.1 +0.2
comp=Z,8.9nm,1.0s
DAVA Damuels 153.26 355⇑ iPKiKP PKiKP 19 23 19.8 +0.8
comp=Z,21nm,1.1s
LOR Lormes 153.30 4 ePKP1 PKPbc 19 23 18.8 -0.2
comp=Z,94nm,1.5s
SSF Saint Saulge 153.47 5 ePKP1 PKPbc 19 23 19.2 -0.1
comp=Z,40nm,1.0s
AVF Avril sur Loir 153.73 5 ePKP1 PKPbc 19 23 19.3 -0.6
comp=Z,18nm,0.9s
SMF Signal de Mont 153.91 5 ePKP1 PKPbc 19 23 20.7 +0.4
comp=Z,30nm,1.1s
BGF Bois d'Agland 153.91 6 ePKP1 PKPbc 19 23 20.0 -0.3
comp=Z,23nm,0.7s
GRUS Gruza 154.02 337 iPKP PKPbc 19 23 16.6 -3.9
CABF La Chapelle 154.05 1 ePKP1 PKPbc 19 23 21.1 +0.5
comp=Z,26nm,0.9s
DIVS Divcibare 154.10 338 iPKP PKPbc 19 23 21.8 +1.1
TCF Toulx Ste Croi 154.11 7 ePKP1 PKPbc 19 23 20.1 -0.6
BOJS Bojanci 154.19 346 iPKPdf PKPdf 19 23 13.0 +0.3
BOJS ePKPbc PKPbc 19 23 21.3 +0.4
BBLS Bajina Basta - 154.51 338 iPKP PKPab 19 23 40.7 +4.6
PLDF La Plantade 154.57 5 PKP PKPbc 19 23 21.5 -0.2
SKO Skopje 155.34 333 ePKP PKPdf 19 23 15.2 +1.0
SKO ePKP PKPdf 19 23 22.5 +8.2
VAY Valandovo 155.36 330 ePKP PKPdf 19 23 15.1 +0.8
VAY ePKP PKPab 19 23 38.3 -1.4
BIA Bitola 156.17 332 ePKP PKPdf 19 23 16.1 +0.7
OHR Ohrid 156.32 333 ePKP PKPdf 19 23 15.7 +0.1
ESDC Sonseca Array 158.89 23 PKPab PKPab 19 23 54.7 -0.2
comp=Z,2.2nm,0.6s,baz=320,slow=5.0,SNR=9.1
TORD Torodi Ar. Bea 171.16 146 PKP PKPdf 19 23 28.6 -0.6
comp=Z,1.9nm,0.9s,baz=276,slow=0.9,SNR=8.9
TORD PKPab PKPab 19 24 48.3 -0.6
comp=Z,1.7nm,0.8s,baz=234,slow=3.2,SNR=6.0

MEX 02 19:08:59.3±0.5,1568N×9767W,h16km±12km,MD3.8,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.50**	**87**	*i* P	Pn	19 09 22.0	-3.5
HUIG				*i* S	Sn	19 09 39.5	-5.3
VHO	**Vista Hermosa**	**1.65**	**33**	*i* P	Pn	19 09 24.1	-3.5
VHO				*i* S	Sn	19 09 43.4	-5.0
OXX	**Oaxaca**	**1.66**	**33**	*i* P	Pn	19 09 25.0	-2.7
OXX				*i* S	Sn	19 09 43.0	-5.7
TPIG	**Tehuac#an**	**2.74**	**6**	*e* P	Pn	19 09 46.6	+4.1
TPIG				*i* S	Sn	19 10 12.3	-2.9
MEIG	**Mezcala**	**2.91**	**320**	*e* P	Pn	19 09 42.6	-2.3
MEIG				*i* S	Sn	19 10 15.3	-4.2
CMIG	**Matias Romero**	**3.02**	**62**	*i* P	Pn	19 09 43.6	-2.8
CMIG				*i* S	Sn	19 10 19.0	-3.1

MAN 02 19:23:32.0,1157N×12592E,h7km,mb3.0,ML4.4,MS0.5,
Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.47**	**274**	*e* P	Pg	19 23 41.7	+0.6
BESP				*e* S	Sg	19 23 50.3	+3.0
PLP	**Palo**	**1.00**	**247**	*e* P	Pg	19 23 49.0	-2.3
PLP				*e* S	Sg	19 24 25.2	+21
OCLP	**Ormoc**	**1.38**	**248**	*e* P	Pn	19 23 56.9	-0.9
MSLP	**Maasin**	**1.76**	**216**	*e* P	Pn	19 24 03.2	+0.3
PVCP	**Virac**	**2.65**	**320**	*e* P	Pn	19 24 15.7	+0.6
LUBP	**Lubang**	**5.94**	**292**	*e* P	Pn	19 24 56.0	-4.4

MEX 02 20:04:28.4±0.6, 1601N×9766W, h27km±40km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.39**	**40**	*i* P	Pn	20 04 48.9	-3.1
VHO				*i* S	Sn	20 05 06.9	-2.5
OXX	**Oaxaca**	**1.40**	**40**	*i* P	Pn	20 04 53.0	+0.8
OXX				*i* S	Sn	20 05 14.0	+4.2
TPIG	**Tehuac#an**	**2.42**	**7**	*i* S	Sn	20 05 32.4	-2.5
CMIG	**Matias Romero**	**2.88**	**68**	*i* P	Pn	20 05 12.0	-0.5
CMIG				*i* S	Sn	20 05 42.8	-3.4

IDC 02 20:18:38.5±7.2, 070N×9714E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=356.5km s-min=28.2km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.83**	**121**	P	P	20 26 32.2	+2.2
	0.7nm,1.1s,baz=300,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**43.15**	**127**	P	P	20 26 39.4	-1.4
	0.5nm,0.8s,baz=298,slow=7.9,SNR=5.2						
MKAR	**Makanchi Array**	**47.71**	**346**	P	P	20 27 16.9	0.0
	0.3nm,0.5s,baz=162,slow=9.0,SNR=8.8						

*MOS **02** 20:23:17.1±2.8, 5638N×11751E, h14km, mb4.4/1, Error ellipse: s-maj=14.4km s-min=10.3km az=137.4*

BYKL 02 20:23:17.6±0.4, 5639N×11753E, h16km±9km, 2C-8D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.65**	**38**	⇓*i*Pg	Pg	20 23 29.6	-0.8
	42nm,0.6s						
CRS				⇓*i*Pg	Pg	20 23 29.6	-0.8
	28nm,0.6s						
CRS				⇓*i*Pg	Pg	20 23 29.6	-0.8
	65nm,0.6s						
CRS				*e*Sg	Sg	20 23 38.2	-0.9
CRS				Pmax			
	187nm,0.8s						
CRS				Smax			
	896nm,1.2s						
CRS	**Chara**	**0.65**	**38**	*e*PG	Pg	20 23 29.6	-0.8
CRS				*e*		20 23 38.4	
CRS				pmax	pmax		
	comp=Z,180nm,0.7s						
CRS				smax			
	comp=E,890nm,0.8s						
SVKR	**Severomuysk**	**2.23**	**265**	*i* Pn	Pn	20 23 54.4	+0.5
SVKR				⇓*e*Pg	Pg	20 23 57.2	-3.2
SVKR				*e*Sg	Sg	20 24 25.9	-3.5
SVKR				Pmax			
	comp=E,286nm,0.7s						
SVKR				Smax			
	comp=E,1μm,0.5s						
SVKR	**Severomuysk**	**2.23**	**265**	*e*PN	Pn	20 23 54.4	+0.5
SVKR				*e*		20 23 57.2	
SVKR				*e*		20 24 26.2	
SVKR				pmax	pmax		
	comp=Z,281nm,0.5s						
SVKR				smax			
	comp=E,1μm,0.6s						
UKT	**Uakit**	**2.37**	**249**	⇓*i*Pn	Pn	20 23 56.4	+0.5
UKT				⇓*i*Pg	Pg	20 23 59.3	-3.8
UKT				*e*Sg	Sg	20 24 30.0	-3.9
UKT				Pmax			
	comp=E,116nm,0.6s						
UKT				Smax			
	comp=E,374nm,0.6s						
UKT	**Uakit**	**2.37**	**249**	*e*PN	Pn	20 23 59.3	+3.4
UKT				*e*		20 24 30.4	
UKT				pmax	pmax		
	comp=Z,101nm,0.4s						
UKT				smax			
	comp=N,343nm,0.3s						
BOD	**Bodaibo**	**2.40**	**308**	*e*Pg	Pg	20 23 59.8	-3.8
BOD				*e*Sg	Sg	20 24 30.4	-4.3
BOD				Pmax			
	comp=N,75nm,0.6s						
BOD				Smax			
	comp=N,1μm,0.7s						
BOD	**Bodaibo**	**2.40**	**308**	*e*PN	Pn	20 24 01.6	+5.4
BOD				*e*		20 24 30.4	
BOD				pmax	pmax		
	comp=Z,76nm,0.4s						
BOD				smax			
	comp=N,1μm,0.8s						
TUP	**Tupik**	**2.41**	**144**	⇑*i*Pn	Pn	20 23 57.2	+0.9
TUP				⇑*i*Pg	Pg	20 24 00.1	-3.6
TUP				*e*		20 24 03.7	
TUP				*e*Sg	Sg	20 24 31.9	-3.1
TUP				*e*		20 24 42.7	
TUP				max			
	comp=N,238nm,0.7s						
TUP				max			
	comp=N,620nm,0.8s						
TUP	**Tupik**	**2.41**	**144**	*e*PN	Pn	20 24 00.2	+3.9
TUP				*e*S	Sn	20 24 26.8	+1.4
TUP				*e*		20 24 31.9	
TUP				pmax	pmax		
	comp=Z,222nm,0.6s						
TUP				smax			
	comp=E,575nm,0.9s						
YOA	**Uoyan**	**3.25**	**268**	*e*Pg	Pg	20 24 15.7	-4.2
YOA				*e*Sg	Sg	20 24 58.0	-4.0
YOA				Pmax			
	comp=E,226nm,0.2s						
YOA				Smax			
	comp=E,614nm,1.1s						
YOA	**Uoyan**	**3.25**	**268**	*e*PN	Pn	20 24 15.2	+7.3
YOA				*e*		20 24 58.5	
YOA				pmax	pmax		
	comp=Z,194nm,0.3s						
YOA				smax			
	comp=E,590nm,1.1s						
KMO	**Kumora**	**3.58**	**265**	⇓*i*Pn	Pn	20 24 13.1	+0.7
KMO				*e*Pg	Pg	20 24 20.7	-5.4
KMO				*e*Sg	Sg	20 25 07.2	-5.3
KMO				Pmax			
	comp=E,73nm,0.3s						
KMO				Smax			
	comp=E,231nm,1.3s						
KMO	**Kumora**	**3.58**	**265**	*e*PN	Pn	20 24 13.1	+0.7
KMO				*e*		20 24 20.4	
KMO				*e*S	Sn	20 24 54.3	0.0
KMO				*e*		20 25 07.0	
KMO				pmax	pmax		
	comp=Z,73nm,0.4s						
KMO				smax			
	comp=N,229nm,1.4s						
YLYR	**Ulyunkhan**	**3.92**	**250**	⇓*i*Pn	Pn	20 24 17.6	+0.6
YLYR				*e*Pg	Pg	20 24 27.6	-5.0
YLYR				*e*Sg	Sg	20 25 18.9	-4.4
YLYR				Pmax			
	comp=N,31nm,0.6s						
YLYR				Smax			
	comp=N,112nm,1.0s						
YLYR	**Ulyunkhan**	**3.92**	**250**	*e*PN	Pn	20 24 17.8	+0.8
YLYR				*e*		20 24 26.5	
YLYR				*e*		20 25 16.4	
YLYR				pmax	pmax		
	comp=Z,29nm,0.6s						
YLYR				smax			
	comp=E,107nm,0.5s						
NRGR	**Nerungri**	**3.99**	**83**	*e*PN	Pn	20 24 24.0	+5.9
NRGR				pmax	pmax		
	comp=Z,5.0nm,0.2s						
CLNS	**Chul'man**	**4.09**	**81**	*e*PN	Pn	20 24 30.2	+11
CLNS				*e*		20 25 23.3	
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.4s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.0s						
CLNS				smax			
	comp=N,119nm,0.7s						
CLNS				smax			
	comp=Z,16nm,0.4s						
CLNS				smax			
	comp=E,67nm,0.6s						
CLNS				MLR	MLR		
	comp=Z,100nm,14.0s						
NIZ	**Nizh Angarsk**	**4.52**	**265**	*e*Pn	Pn	20 24 26.6	+1.3
NIZ				*e*Pg	Pg	20 24 39.2	-4.9
NIZ				*e*Sg	Sg	20 25 37.9	-4.8
NIZ				Pmax			
	comp=Z,8.0nm,0.8s						
NIZ				Smax			
	comp=Z,839nm,0.4s						
NIZ	**Nizh Angarsk**	**4.52**	**265**	*e*PN	Pn	20 24 26.3	+1.0
NIZ				*e*		20 24 37.3	
NIZ				*e*S	Sn	20 25 18.0	+0.5
NIZ				*e*		20 25 36.9	
NIZ				pmax	pmax		
	comp=Z,13nm,0.7s						
NIZ				smax			
	comp=N,58nm,0.4s						
CIT	**Chita**	**4.96**	**210**	*e*Pn	Pn	20 24 32.0	+0.6
CIT				*e*Pg	Pg	20 24 46.0	-6.6
CIT				*e*Sn	Sn	20 25 28.8	+0.4
CIT				*e*Sg	Sg	20 25 49.4	-7.4
CIT				Pmax			
	comp=N,12nm,0.7s						
CIT				Smax			
	comp=N,317nm,1.0s						
CIT	**Chita**	**4.96**	**210**	*e*PN	Pn	20 24 45.9	+14
CIT				*e*		20 25 50.9	
CIT				pmax	pmax		
	comp=Z,16nm,0.7s						
CIT				smax			
	comp=E,336nm,0.7s						
SYVR	**Suvo**	**5.12**	**241**	*e*Pn	Pn	20 24 34.2	+0.5
SYVR				*e*Pg	Pg	20 24 49.6	-6.1
SYVR				*e*Sg	Sg	20 25 56.6	-5.5
SYVR				Pmax			
	comp=E,17nm,0.8s						
SYVR				Smax			
	comp=E,146nm,0.8s						
SYVR	**Suvo**	**5.12**	**241**	*e*PN	Pn	20 24 34.2	+0.5
SYVR				*e*		20 24 49.3	
SYVR				*e*		20 25 56.3	
SYVR				pmax	pmax		
	comp=Z,14nm,0.6s						
SYVR				smax			
	comp=E,82nm,0.5s						
KROS	**Kirovskiy**	**5.72**	**106**	*e*	Pn	20 24 43.0	+1.1
KROS				*e*Sg	Sg	20 26 13.5	-7.8
OGRR	**Ongureny**	**6.34**	**248**	*e*Pn	Pn	20 24 50.8	+0.4
OGRR				*e*Pg	Pg	20 25 11.4	-7.6
OGRR				*e*Sg	Sg	20 26 33.2	-7.9
OGRR				Pmax			
	comp=E,3.0nm,0.8s						
OGRR				Smax			
	comp=E,32nm,1.5s						
OGRR	**Ongureny**	**6.34**	**248**	*e*PN	Pn	20 24 50.9	+0.5
OGRR				*e*		20 25 11.6	
OGRR				*e*		20 26 33.2	
OGRR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OGRR				smax			
	comp=N,32nm,1.9s						
KPC	**Khapcheranga**	**7.38**	**207**	*e*	Pn	20 25 03.5	-1.1
KPC				*e*Pg	Pn	20 25 30.3	+26
KPC				*e*		20 26 27.3	
KPC				*e*Sg	Sn	20 27 05.6	+38
KPC				Pmax			
	comp=N,2.0nm,0.4s						
KPC				Smax			
	comp=N,100nm,0.7s						
KPC	**Khapcheranga**	**7.38**	**207**	*e*PN	Pn	20 25 03.6	-1.0
KPC				*e*		20 25 28.6	
KPC				*e*		20 27 05.8	
KPC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KPC				smax			
	comp=E,71nm,1.0s						
TRG	**Tyrgan**	**7.45**	**245**	*e*	Pn	20 25 05.6	+0.1
TRG				*e*Sg	Sn	20 27 09.1	+39
TRG				Smax			
	comp=E,32nm,1.1s						
TLY	**Talaya**	**9.43**	**246**	*e*Pg	Pn	20 26 08.6	+36
TLY				*e*Sg	Sn	20 28 11.1	+53
TLY				Pmax			
	comp=E,2.0nm,0.8s						
TLY				Smax			
	comp=E,12nm,1.1s						
ARS	**Arshan**	**9.92**	**250**	*e*	Sn	20 27 09.6	-21
ARS				*e*Sg	Sn	20 28 26.2	+56
ARS				Smax			
	comp=E,38nm,0.8s						
MOY	**Mondy**	**10.81**	**251**	*e*	Sn	20 28 25.7	+33
MOY				*e*Sg	Sn	20 28 51.9	+60
MOY				Smax			
	comp=E,30nm,1.6s						
ORL	**Orlik**	**11.00**	**257**	*e*	Pn	20 25 54.1	-0.2
ORL				*e*		20 28 22.1	
ORL				*e*Sg	Sn	20 28 59.1	+62
ORL				Smax			
	comp=E,8.0nm,1.0s						

MEX 02 20:30:34.5±0.7, 1560N×9747W, h29km±13km, MD4.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.01**	**322**	*i* P	Pn	20 30 50.8	-1.8
PNIG				*i* S	Sn	20 31 02.2	-3.6
HUIG	**Huatulco**	**1.33**	**83**	*i* P	Pn	20 30 54.9	-2.1
HUIG				*i* S	Sn	20 31 09.9	-3.8
VHO	**Vista Hermosa**	**1.63**	**26**	*e*P	Pn	20 30 59.7	-1.5
VHO				*i* S	Sn	20 31 20.0	-1.1
OXX	**Oaxaca**	**1.64**	**26**	*i* P	Pn	20 30 59.0	-2.3
OXX				*i* S	Sn	20 31 22.5	+1.1
TPIG	**Tehuac#an**	**2.81**	**2**	*e*P	Pn	20 31 16.9	-0.5
TPIG				*i* S	Sn	20 31 49.6	-0.6
CMIG	**Matias Romero**	**2.90**	**59**	*e*P	Pn	20 31 16.5	-2.1
CMIG				*i* S	Sn	20 31 49.4	-3.0
CAIG	**El Cayaco**	**3.04**	**299**	*i* P	Pn	20 31 19.9	-0.7
CAIG				*i* S	Sn	20 31 53.1	-3.0
MEIG	**Mezcala**	**3.09**	**319**	*i* P	Pn	20 31 18.5	-2.8
MEIG				*i* S	Sn	20 31 56.0	-1.3
PLIG	**Platanillo**	**3.39**	**325**	*e*P	Pn	20 31 24.1	-1.3
EVV	**El Vigia**	**3.49**	**35**	*e*P	Pn	20 31 30.0	+3.2
YAIG	**Yautepec**	**3.58**	**335**	*e*P	Pn	20 31 27.9	-0.1
YAIG				*i* S	Sn	20 32 06.4	-3.0
PPM	**Popocatepetl**	**3.62**	**342**	*e*P	Pn	20 31 22.0	-6.5
PPM				*e*P		20 31 27.9	
PPM				*i* S	Sn	20 32 08.2	-2.1
UNM	**Universidad Na**	**4.05**	**337**	*i* S	Sn	20 32 19.6	-1.2
LVIG	**Laguna Verde**	**4.22**	**14**	*i* P	Pn	20 31 34.5	-2.4
LVIG				*i* S	Sn	20 32 22.0	-3.2
ZIIG	**Zihuatanejo**	**4.32**	**298**	*i* S	Sn	20 32 25.2	-2.2
CCIG	**Comitan**	**5.18**	**82**	*i* S	Sn	20 32 44.9	-3.8
MOIG	**Morelia**	**5.38**	**319**	*i* S	Sn	20 32 54.4	+0.6

*IDC **02** 20:42:50.7±3.0, 2795N×5684E, h0km, mb3.4/5, mb1 3.4/5, mb1mx3.2/22, mbtmp3.4/5, Error ellipse: s-maj=66.1km s-min=28.8km az=155.0*
*ISCJB **02** 20:42:53.6±0.8, 2823N±005×5690E±0.10, h10km, mb3.2/5, Error ellipse: s-maj=13.1km s-min=5.4km az=47.4*
*THR **02** 20:42:55.1±0.4, 28.18N×5694E, h14km±4km, ML3.1*
*CSEM **02** 20:42:55.1, 28.18N×5694E, h14km, ML3.1, After THR*

ISC 02 20:42:55.7±1.1, 2823N±005×568E±01, h18km±8km, n11, σ1§07/15, mb3.2/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.00**	**214**	*e*PG	**Pg**	**20 43 14.4**	**-0.7**
BNDS				*e*SG	**Sg**	**20 43 28.8**	**+0.6**
BNDS				AML	AML	20 43 34.1	
	comp=N,474nm,0.2s						
BNDS				AML	AML	20 43 36.2	
	comp=E,579nm,0.4s						
BNDS	**Bandar-Abbas**	**1.00**	**214**	*e*Pg	**Pg**	**20 43 14.4**	**-0.7**
	SNR=90						
BNDS				*e*Sg	**Sg**	**20 43 28.8**	**+0.6**
	comp=E,579nm,0.4s,SNR=90						
KRBR	**Kerman**	**1.74**	**359**	*e*PG	**Pg**	**20 43 28.1**	**-1.1**
KRBR				*e*SG	**Sg**	**20 43 52.4**	**+0.6**
KRBR				AML	AML	20 43 58.2	
	comp=N,196nm,0.4s						
KRBR	**Kerman**	**1.74**	**359**	*e*Pg	**Pg**	**20 43 28.1**	**-1.1**
	SNR=90						
KRBR				*e*Sg	**Sg**	**20 43 52.4**	**+0.6**
	comp=N,196nm,0.4s,SNR=90						
GHIR	**Ghir-Karzin**	**3.36**	**272**	*e*PN	**Pn**	**20 43 51.0**	**+3.8**
ZHSF	**Zahedan**	**3.75**	**68**	*e*PN	**Pn**	**20 43 53.5**	**+0.9**
BRTR	**Keskin Array B**	**22.30**	**307**	P	**P**	**20 47 53.2**	**+1.3**
	comp=N,0.4nm,0.6s,mb3.0,baz=110,slow=11,SNR=3.3						
BVAR	**Borovoye Array**	**26.73**	**18**	P	**P**	**20 48 33.6**	**-0.4**
	comp=N,0.2nm,0.3s,mb3.1,baz=188,slow=8.4,SNR=4.6						
MKAR	**Makanchi Array**	**27.23**	**40**	P	**P**	**20 48 38.8**	**+0.3**
	comp=N,0.2nm,0.8s,mb2.7,baz=233,slow=8.9,SNR=3.6						
FINES	**FINESS Array B**	**38.99**	**337**	P	**P**	**20 50 20.1**	**-0.7**
	comp=N,1.1nm,0.6s,mb3.7,baz=134,slow=9.4,SNR=7.8						
TORD	**Torodi Ar. Bea**	**53.27**	**266**	P	**P**	**20 52 11.4**	**-1.8**
	comp=N,0.2nm,0.5s,mb3.3,baz=64,slow=7.3,SNR=4.3						

*IDC **02** 20:46:15.0±1.2, 2448S×17484W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/15, mbtmp4.2/7, ML3.6/1, MS3.0/3, Ms1 3.0/3, ms1mx2.9/18, Error ellipse: s-maj=33.9km s-min=29.4km az=153.0*
*ISCJB **02** 20:46:19.1±1.3, 246S±02×1749W±02, h33km, mb4.1/6, Error ellipse: s-maj=31.6km s-min=23.9km az=12.5*
*NEIC **02** 20:46:22.5±7.3, 2447S×17494W, h52km±59km, mb4.2/2, Error ellipse: s-maj=37.5km s-min=31.9km az=96.0*

ISC 02 20:46:20.8±1.3, 245S±02×1748W±02, h35km, n21, σ1§08/13, mb4.1/6, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.96**	**16**	LR	LR	20 51 40.2	
	comp=Z,133nm,21.4s,baz=216,slow=30						
DZM	**Mont Dzumac**	**17.37**	**274**	P	**Pn**	**20 50 19.9**	**-0.4**
	0.2nm,0.3s,baz=57,slow=17,SNR=4.7						
DZM				LR	LR	20 55 15.6	
	comp=Z,109nm,20.6s,baz=179,slow=31						
TBI	**Tubuai**	**23.22**	**92**	*e*LR	LR	20 57 19.9	
	98nm,29.5s						
PPT	**Papeete**	**24.55**	**78**	*e*LR	LR	20 57 52.4	
	160nm,26.8s						
PPT	**Papeete**	**24.55**	**78**	LR	LR	20 58 27.6	
	comp=Z,14nm,20.3s,baz=183,slow=30						
CTA	**Charters Tower**	**36.18**	**269**	*e*P	**P**	**20 53 18.9**	**-1.1**
	5.2nm,1.1s,mb4.4						
CTA	**Charters Tower**	**36.18**	**269**	P	**P**	**20 53 18.1**	**-1.9**
	3.7nm,0.5s,mb4.6,baz=117,slow=12,SNR=7.7						
CTAO	**Charters Tower**	**36.18**	**269**	*e*P	**P**	**20 53 18.4**	**-1.5**
STKA	**Stephens Creek**	**38.88**	**249**	*e*P	**P**	**20 53 44.5**	**+1.8**
	1.4nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**38.88**	**249**	P	**P**	**20 53 44.1**	**+1.4**
	2.2nm,0.7s,mb4.0,baz=316,slow=19,SNR=11						
AS31	**Alice Springs**	**46.57**	**260**	*e*P	**P**	**20 54 46.5**	**+1.4**
ASAR	**Alice Springs**	**46.57**	**260**	P	**P**	**20 54 45.5**	**+0.4**
	1.4nm,0.5s,mb4.1,baz=98,slow=6.9,SNR=26						
ASPA	**Alice Springs**	**46.57**	**260**	*e*P	**P**	**20 54 46.5**	**+1.3**
WB2	**Warramunga Arr**	**47.04**	**265**	*e*P	**P**	**20 54 47.8**	**-1.0**
WRA	**Warramunga Arr**	**47.05**	**265**	P	**P**	**20 54 47.8**	**-1.1**
	1.5nm,0.5s,mb4.2,baz=90,slow=5.9,SNR=25						
VNDA	**Vanda**	**54.19**	**186**	P	**P**	**20 55 41.9**	**-0.8**
	1.2nm,0.3s,mb4.3,baz=353,slow=5.2,SNR=18						
CBIJ	**Chichi jima**	**65.99**	**318**	LR	LR	21 18 43.1	
	comp=Z,919nm,21.0s,baz=42,slow=30						
ILAR	**Eielson Array**	**91.63**	**12**	P	**P**	**20 59 24.5**	**+0.3**
	0.2nm,0.6s,mb3.6,baz=240,slow=7.2,SNR=4.0						
AKASG	**Malin Array Be**	**147.95**	**331**	PKPbc	PKPbc	21 06 00.2	-2.1
	1.0nm,0.7s,baz=39,slow=3.4,SNR=5.2						
AKASG	**Malin Array Be**	**147.95**	**331**	PKPbc	PKPbc	21 06 00.2	-2.1
BRTR	**Keskin Array B**	**151.68**	**309**	PKPbc	PKPbc	21 06 10.8	-0.6
	1.0nm,0.8s,baz=132,slow=3.6,SNR=6.3						
BRTR				PKPab	PKPab	21 06 20.6	+0.3
	0.4nm,0.7s,baz=131,slow=8.5,SNR=4.0						

IDC 02 20:54:51.6±5.6, 2128N×12141E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=324.1km s-min=32.7km az=90.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.88**	**162**	P	P	21 02 51.8	+0.2
	0.6nm,0.9s,baz=342,slow=8.8,SNR=7.4						
ILAR	**Eielson Array**	**71.70**	**27**	P	P	21 06 15.1	-0.3
	0.1nm,0.5s,baz=276,slow=5.6,SNR=4.7						
YKA	**Yellowknife Ar**	**85.56**	**23**	P	P	21 07 31.6	0.0
	0.2nm,0.6s,baz=304,slow=5.2,SNR=4.8						

*IDC **02** 21:05:49.0±1.8, 3894N×7194E, h0km, mb3.4/3, mb1 3.7/7, mb1mx3.4/23, mbtmp3.4/7, ML3.3/4, Error ellipse: s-maj=27.4km s-min=22.0km az=170.0*
*NEIC **02** 21:05:52.9±3.1, 3933N×7160E, h10km, Error ellipse: s-maj=42.5km s-min=23.8km az=183.0*
*MOS **02** 21:05:54.0±2.0, 3938N×7175E, h33km, mb4.0/1, Error ellipse: s-maj=40.2km s-min=14.2km az=84.0*
*ISCJB **02** 21:05:56.7±1.7, 393N±0.1×7171E±009, h66km±14km, mb3.3/4, Error ellipse: s-maj=18.3km s-min=9.1km az=50.2*
*NNC **02** 21:05:56.6±1.7, 3944N×7174E, h7km±6km, mb3.8, mpv3.5, Error ellipse: s-maj=13.3km s-min=7.5km az=9.0*

ISC 02 21:05:53.1±1.8, 3927N±008×7151E±007, h9km±11km, n26, σ1§36/33, mb3.5/4, 4C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.31**	**29**	P	**Pn**	**21 06 45.3**	**+0.2**
	SNR=57						
UCH	**Uchtor**	**3.73**	**37**	P	**Pn**	**21 06 51.8**	**+0.9**
	SNR=24						
EKS2	**Erkin-Say**	**3.80**	**26**	P	**Pn**	**21 06 52.7**	**+0.9**
	SNR=6.2						
KK31	**Karatay Array**	**3.91**	**349**	Pn	**Pn**	**21 06 55.5**	**+2.2**
	4.6nm,0.4s,baz=162,slow=12,SNR=125						
KK31				⇑Pg	**Pg**	**21 07 05.9**	**-2.1**
	13nm,0.7s						
KK31				⇑Sn	**Sn**	**21 07 40.9**	**+1.6**
	8.6nm,0.6s,baz=157,slow=23,SNR=4.3						
KK31				⇓Lg		21 07 55.6	
	44nm,1.0s,baz=152,slow=25,SNR=8.1						
KZA	**Kyzart**	**4.00**	**44**	P	**Pn**	**21 06 54.9**	**+0.4**
	SNR=18						
AAK	**Ala-Archa**	**4.05**	**33**	P	**Pn**	**21 06 56.0**	**+0.7**
	SNR=22						
AAK	**Ala-Archa**	**4.05**	**33**	*e*PN	**Pn**	**21 06 54.6**	**-0.7**
KBK	**Karagaybulak**	**4.27**	**36**	P	**Pn**	**21 06 59.3**	**+1.0**
	SNR=28						
CHMS	**Chumysh**	**4.46**	**32**	P	**Pn**	**21 07 01.5**	**+0.7**
	SNR=47						
USP	**Ospenovka**	**4.59**	**28**	P	**Pn**	**21 07 03.0**	**+0.4**
	SNR=10						
ULHL	**Ulahol**	**4.66**	**49**	P	**Pn**	**21 07 03.3**	**-0.4**
	SNR=9.1						
TKM2	**Tokmak 2**	**4.78**	**39**	P	**Pn**	**21 07 06.2**	**+1.0**
	SNR=6.3						
TKM2	**Tokmak 2**	**4.78**	**39**	⇑Pn	**Pn**	**21 07 05.3**	**0.0**
	3.3nm,0.4s						
TKM2				⇓Pg	**Pg**	**21 07 19.5**	**-5.2**
	3.3nm,0.5s						
TKM2				⇓Sn	**Sn**	**21 08 00.1**	**-0.7**
	9.5nm,0.6s						
TKM2				⇑Lg		21 08 21.3	
	11nm,0.7s						
MKAR	**Makanchi Array**	**10.89**	**43**	Pn	**Pn**	**21 08 29.0**	**-0.2**
	0.1nm,0.3s,baz=226,slow=14,SNR=7.4						
MKAR				Lg		21 11 23.6	
	0.0nm,0.3s,baz=269,slow=17,SNR=2.2						
AB31	**Akbulak array**	**12.96**	**324**	P	**Pn**	**21 09 00.4**	**+3.0**
	0.8nm,0.7s,baz=132,slow=12,SNR=13						
AB31				⇓S	**Sn**	**21 11 20.1**	**-1.7**
	1.4nm,0.6s,baz=135,slow=25,SNR=5.9						
BVAR	**Borovoye Array**	**13.78**	**357**	Pn	**Pn**	**21 09 05.8**	**-2.8**
	0.0nm,0.3s,baz=185,slow=15,SNR=3.1						
BVAR				Lg		21 13 00.8	
	0.1nm,0.3s,baz=225,slow=44,SNR=2.6						
BRVK	**Borovoye**	**13.82**	**357**	P	**Pn**	**21 09 06.4**	**-2.8**
	0.6nm,0.6s						
BRVK	**Borovoye**	**13.82**	**357**	P	**Pn**	**21 09 06.4**	**-2.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTK	**Aktyubinsk**	**14.68**	**324**	Pn	**Pn**	**21 09 22.8**	**+1.9**
AKTK				Sn	**Sn**	**21 12 03.6**	**-0.1**
AKTO	**Aktyubinsk**	**14.68**	**324**	Pn	**Pn**	**21 09 22.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=125,

ZAL	**Zalesovo**	**17.24**	**27**	P	**Pn**	**21 09 52.6**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=260,slow=7.7,SNR=14						
BOD	**Bodaibo**	**32.98**	**42**	*e*P	**P**	**21 12 23.3**	**-5.0**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
TORD	**Torodi Ar. Bea**	**66.21**	**268**	P	**P**	**21 16 41.2**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.5,baz=49,slow=4.5,SNR=4.4						
ILAR	**Eielson Array**	**72.01**	**16**	P	**P**	**21 17 14.7**	**-2.6**
	comp=Z,0.3nm,0.8s,mb3.3,baz=322,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**78.47**	**3**	P	**P**	**21 17 52.8**	**-1.6**
	comp=Z,0.1nm,0.3s,mb3.2,baz=356,slow=6.0,SNR=5.9						
YKA	**Yellowknife Ar**	**78.47**	**3**	P	**P**	**21 17 52.8**	**-1.6**

IDC 02 21:35:15.8±14.0, 435S×12719E, h650km±238km, mb2.6/3, mb1 2.9/4, mb1mx2.6/17, mbtmp3.8/4, Error ellipse: s-maj=214.3km s-min=69.7km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.00**	**156**	P	P	21 38 39.0	-1.2
	0.5nm,0.3s,baz=335,slow=9.8,SNR=52						
WB2	**Warramunga Arr**	**17.00**	**156**	*e*P	P	21 38 39.8	-0.4
ASAR	**Alice Springs**	**20.27**	**162**	P	P	21 39 10.2	+0.6
	1.1nm,0.4s,baz=346,slow=12,SNR=28						
STKA	**Stephens Creek**	**30.54**	**155**	P	P	21 40 40.1	+0.6
	2.0nm,0.6s,baz=328,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**64.49**	**327**	P	P	21 44 51.0	+0.2
	0.2nm,0.5s,baz=130,slow=7.3,SNR=3.9						

*ISCJB **02** 22:04:24.6±0.8, 3600N×007×14036E±007, h57km±7km, mb3.0/3, Error ellipse: s-maj=11.9km s-min=9.0km az=19.5*
*IDC **02** 22:04:24.6±6.7, 3614N×14057E, h52km±52km, mb2.9/3, mb1 3.1/3, mb1mx2.9/18, mbtmp3.2/3, Error ellipse: s-maj=53.8km s-min=27.3km az=61.0*
*JMA **02** 22:04:26.1±0.1, 3598N×14026E, h44km±1km, M2.8*
ISC 02 22:04:25.5±0.8, 3599N±007×14035E±007, h49km±8km, n11, σ0°75/18, mb3.0/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.27**	**332**	P	**Pn**	**22 04 34.4**	**+0.2**
JYT				S	**Sn**	**22 04 40.1**	**-0.3**
JHO	**Hitachi**	**0.64**	**16**	P	**Pn**	**22 04 38.9**	**+0.5**
JHO				S	**Sn**	**22 04 47.5**	**-0.3**
JAG	**Ashikaga**	**0.85**	**301**	P	**Pn**	**22 04 40.9**	**-0.2**
JAG				S	**Sn**	**22 04 51.6**	**-0.9**
JRY	**Ryogami san**	**1.18**	**272**	P	**Pn**	**22 04 45.2**	**-0.3**
JRY				S	**Sn**	**22 04 58.7**	**-1.7**
JKT	**Katashina**	**1.18**	**311**	P	**Pn**	**22 04 45.8**	**+0.2**
JKT				S	**Sn**	**22 05 00.5**	**0.0**
BSO3	**Boso 3**	**1.19**	**174**	P	**Pn**	**22 04 46.2**	**+0.4**
MJAR	**Matsushiro Arr**	**1.82**	**288**	P	**Pn**	**22 04 54.9**	**+0.6**
	2.9nm,0.3s,baz=93,slow=9.3,SNR=26						
MJAR				S	**Sn**	**22 05 18.4**	**+2.3**
	2.6nm,0.3s,baz=98,slow=16,SNR=7.6						
MAT	**Matsushiro**	**1.82**	**288**	P	**Pn**	**22 04 54.3**	**0.0**
MAT				S	**Sn**	**22 05 17.0**	**+0.9**
SONM	**Songino Array**	**27.68**	**306**	P	**P**	**22 10 08.3**	**-0.4**
	0.1nm,0.5s,mb2.7,baz=114,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**22 12 27.2**	**-0.4**
	0.2nm,0.8s,mb2.9,baz=92,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**55.92**	**187**	P	**P**	**22 13 58.2**	**-0.1**
	0.2nm,0.4s,mb3.5,baz=0.8,slow=7.5,SNR=6.2						

IDC 02 22:15:01.2±2.8, 1308N×14359E, h208km±56km, mb3.2/5, mb1 3.3/5, mb1mx3.1/21, mbtmp3.7/5, MS3.9/1, Ms1 3.9/1, ms1mx2.8/11, Error ellipse: s-maj=132.0km s-min=14.9km az=88.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.35**	**68**	P	Pn	22 15 35.2	+0.8
	11nm,0.3s,baz=334,slow=5.2,SNR=6.4						
GUMO				S	Sn	22 16 00.2	+0.1
	48nm,0.3s,baz=190,slow=23,SNR=15						
MJAR	**Matsushiro Arr**	**23.86**	**349**	P	P	22 19 55.5	0.0
	0.7nm,0.3s,baz=148,slow=7.4,SNR=9.5						
WRA	**Warramunga Arr**	**34.05**	**196**	P	P	22 21 25.5	-0.1
	1.9nm,0.5s,baz=18,slow=9.5,SNR=32						
ASAR	**Alice Springs**	**37.72**	**195**	P	P	22 21 57.4	+0.6
	0.4nm,0.7s,baz=8.2,slow=8.5,SNR=5.7						
DZM	**Mont Dzumac**	**41.51**	**147**	LR	LR	22 37 00.3	
	comp=Z,130nm,18.8s,baz=19,slow=32						
MKAR	**Makanchi Array**	**60.99**	**316**	P	P	22 24 53.0	+0.5
	0.5nm,1.0s,baz=99,slow=8.8,SNR=3.4						
BVAR	**Borovoye Array**	**69.56**	**322**	P	P	22 25 47.1	-0.3
	0.5nm,0.3s,baz=105,slow=8.8,SNR=7.5						

*BJI **02** 22:24:16.5, 4299N×7851E, h15km, mb4.5, ML4.3*
*MOS **02** 22:24:17.6±1.4, 4317N×7865E, h13km, mb4.1/11, Error ellipse: s-maj=9.2km s-min=6.7km az=114.8*
*ISCJB **02** 22:24:17.1±0.4, 4320N±004×7877E±004, h10km, mb3.8/13, Error ellipse: s-maj=6.3km s-min=3.6km az=155.2*
*IDC **02** 22:24:18.0±4.5, 4287N×7880E, h18km±29km, mb3.7/7, mb1 3.9/12, mb1mx3.7/24, mbtmp3.8/12, ML3.7/4, Error ellipse: s-maj=15.6km s-min=12.6km az=144.0*
*NNC **02** 22:24:18.6±0.8, 4308N×7863E, h0km, mb4.3, mpv4.3, Error ellipse: s-maj=10.4km s-min=3.4km az=164.0*
*NEIC **02** 22:24:22.3±0.5, 4309N×7860E, h35km, mb3.8/8, Error ellipse: s-maj=9.3km s-min=5.9km az=167.0*
ISC 02 22:24:18.9±0.4, 4312N±004×7868E±004, h10km, n81, σ1°32/98, mb3.8/13, 18C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**1.26**	**275**	⇑P	**Pn**	**22 24 40.9**	**-1.6**
	3μm,0.2s						
KNDC				⇑S	**Sb**	**22 24 58.8**	**-0.1**
	15μm,0.9s						
AAA	**Alma-Ata**	**1.27**	**277**	*i* PG	**Pg**	**22 24 41.9**	**-1.5**
AAA				*i* S	**Sb**	**22 25 00.3**	**+0.9**
AAA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAA				smax			
	comp=N,3.0nm,0.2s						
ULHL	**Ulahol**	**2.00**	**245**	P	**Pn**	**22 24 50.6**	**-2.1**
	SNR=794						
TKM2	**Tokmak 2**	**2.27**	**266**	⇑P	**Pn**	**22 24 57.4**	**+1.0**
	comp=N,500nm,0.5s						
TKM2				⇓S	**Sn**	**22 25 27.3**	**+2.9**
	comp=N,2μm,0.6s						
KZA	**Kyzart**	**2.74**	**249**	P	**Pn**	**22 25 02.5**	**-0.4**
	SNR=294						
KBK	**Karagaybulak**	**2.78**	**262**	P	**Pn**	**22 25 04.1**	**+0.7**
	SNR=895						
CHMS	**Chumysh**	**2.88**	**269**	P	**Pn**	**22 25 05.7**	**+0.9**
	SNR=306						
FRU	**Bishkek**	**2.99**	**266**	*e*PN	**Pn**	**22 25 08.0**	**+1.6**
FRU				*i*		22 25 11.2	
FRU				*i*		22 25 16.0	
FRU				*e*S	**Sn**	**22 25 50.4**	**+8.1**
FRU				pmax	pmax		
	comp=Z,648nm,1.5s						
FRU				smax			
	comp=E,980nm,1.5s						
USP	**Ospenovka**	**3.06**	**274**	P	**Pn**	**22 25 08.3**	**+1.0**
	SNR=68						
AAK	**Ala-Archa**	**3.11**	**262**	P	**Pn**	**22 25 08.4**	**+0.4**
	SNR=238						
AAK	**Ala-Archa**	**3.11**	**262**	*e*Pn	**Pn**	**22 25 07.0**	**-1.0**
AAK				*e*Sn	**Sn**	**22 25 53.1**	**+7.8**
UCH	**Uchtor**	**3.20**	**255**	P	**Pn**	**22 25 09.7**	**+0.5**
	SNR=108						
EKS2	**Erkin-Say**	**3.63**	**264**	P	**Pn**	**22 25 15.8**	**+0.7**
	SNR=18						
AML	**Almayashu**	**3.81**	**257**	P	**Pn**	**22 25 18.5**	**+0.9**
	SNR=47						
MK31	**Makanchi Array**	**4.48**	**34**	Pn	**Pn**	**22 25 29.3**	**+2.5**
	comp=E,3.9nm,0.2s,baz=212,slow=12,SNR=432						
MK31				⇑Pg	**Pg**	**22 25 41.4**	**-3.3**
	comp=E,38nm,0.7s,baz=218,slow=16,SNR=21						
MK31				⇑Lg		22 26 41.9	
	comp=E,77nm,0.5s,baz=209,slow=28,SNR=16						
MK31	**Makanchi Array**	**4.48**	**34**	Pn	**Pn**	**22 25 29.3**	**+2.5**
MK31				⇑Pg	**Pg**	**22 25 41.4**	**-3.3**
MK31				Lg		22 26 41.9	
MK31	**Makanchi Array**	**4.48**	**34**	PN	**Pn**	**22 25 29.3**	**+2.4**
MK31						22 25 41.4	
MKAR	**Makanchi Array**	**4.48**	**34**	P	**Pn**	**22 25 29.1**	**+2.2**
	comp=E,5.2nm,0.3s,baz=200,slow=13,SNR=283						
MKAR				Sn	**Sn**	**22 26 21.9**	**+2.8**
	comp=E,14nm,0.3s,baz=210,slow=14,SNR=6.4						
MKAR				Lg		22 26 42.7	
	comp=E,47nm,0.3s,baz=208,slow=17,SNR=14						
KK31	**Karatay Array**	**5.98**	**273**	Pn	**Pn**	**22 25 48.7**	**+1.3**
	comp=E,3.8nm,0.7s,baz=88,slow=13,SNR=16						
KK31				⇑Pg	**Pg**	**22 26 06.7**	**-6.7**
	comp=E,16nm,0.4s,baz=89,slow=13,SNR=99						
KK31				⇓Lg		22 27 23.8	
	comp=E,56nm,0.5s,baz=82,slow=24,SNR=14						
KK31	**Karatay Array**	**5.98**	**273**	Pn	**Pn**	**22 25 48.7**	**+1.3**
	comp=E,3.8nm,0.6s						
KK31				⇑Pg	**Pg**	**22 26 06.7**	**-6.7**
KK31				Lg		22 27 23.8	
KKAR	**Karatay Array**	**5.98**	**273**	PN	**Pb**	**22 26 00.8**	**-2.4**
KKAR						22 27 22.2	
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
WMQ	**Urumqi**	**6.60**	**81**	P	**Pn**	**22 25 56.0**	**0.0**
WMQ				S	**Sn**	**22 27 09.5**	**-1.8**
WMQ				Smax			
	comp=N,59nm,0.6s						
WMQ				Smax			
	comp=E,70nm,0.7s						
KURK	**Kurchatov**	**7.60**	**360**	⇑Pn	**Pn**	**22 26 11.0**	**+1.3**
	comp=E,2.2nm,0.7s						
KURK				⇑Pg	**Pg**	**22 26 38.2**	**-6.2**
	comp=E,6.1nm,0.6s						
KURK				⇑Lg		22 28 22.4	
	comp=E,80nm,1.0s						
KURK	**Kurchatov**	**7.60**	**360**	⇑Pn	**Pn**	**22 26 10.9**	**+1.3**
KURK				⇑Pg	**Pg**	**22 26 38.2**	**-6.2**
KURK				Lg		22 28 22.4	
VOSK	**Vostochnaya**	**10.90**	**334**	⇓Pn	**Pn**	**22 26 56.2**	**+1.2**
	comp=E,1.0nm,0.3s						
VOSK				⇓Lg		22 30 06.0	
	comp=E,50nm,1.2s						
BVA0	**Borovoye Array**	**11.35**	**334**	Pn	**Pn**	**22 27 02.3**	**+1.2**
	comp=E,0.7nm,0.8s,baz=143,slow=15,SNR=58						
BVA0				⇑Lg		22 30 19.5	
	comp=E,4.5nm,0.8s,baz=132,slow=25,SNR=3.5						
BVA0	**Borovoye Array**	**11.35**	**334**	*e*P	**Pn**	**22 27 01.0**	**-0.1**
BVAR	**Borovoye Array**	**11.35**	**334**	Pn	**Pn**	**22 27 01.0**	**-0.1**
	comp=E,0.5nm,0.3s,baz=146,slow=14,SNR=14						
BVAR				Sn	**Sn**	**22 29 07.8**	**-0.1**
	comp=E,0.6nm,0.3s,baz=151,slow=22,SNR=2.6						
BVAR				Lg		22 30 19.9	
	comp=E,1.6nm,0.3s,baz=127,slow=24,SNR=5.6						
BRVK	**Borovoye**	**11.41**	**334**	*e*Pn	**Pn**	**22 27 01.0**	**-1.0**
	comp=E,2.4nm,0.4s						
BRVK	**Borovoye**	**11.41**	**334**	*e*P	**Pn**	**22 27 01.0**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	**Zalesovo**	**11.55**	**18**	Pn	**Pn**	**22 27 05.5**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=254,slow=13,SNR=18						
ZAL				Sn	**Sn**	**22 29 07.0**	**-6.0**
	comp=Z,0.6nm,0.3s,baz=256,slow=12,SNR=2.1						
ZAL				Lg		22 30 27.7	
	comp=Z,0.6nm,0.3s,baz=150,slow=14,SNR=4.9						
ZRNK	**Zerenda**	**11.77**	**330**	⇓Pn	**Pn**	**22 27 08.4**	**+1.7**
	comp=Z,5.5nm,0.6s						
ZRNK				⇓Lg		22 30 32.3	
	comp=Z,18nm,0.8s						
ZRNK	**Zerenda**	**11.77**	**330**	*e*P	**Pn**	**22 27 05.7**	**-1.1**
	comp=Z,9.0nm,0.5s						
ZRNK	**Zerenda**	**11.77**	**330**	P	**Pn**	**22 27 06.1**	**-0.7**
ZRNK						22 29 19.4	
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NVS	**Novosibirsk**	**12.10**	**13**	*e*P	**Pn**	**22 27 11.1**	**-0.3**
NVS				*e*S	**Sn**	**22 29 18.6**	**-7.8**
NVS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AB31	**Akbulak array**	**14.34**	**302**	⇑Pn	**Pn**	**22 27 42.8**	**+0.9**
	comp=Z,0.4nm,0.2s,baz=103,slow=12,SNR=13						
AB31				⇓Lg		22 31 53.8	
	comp=Z,9.1nm,0.7s						
AB31	**Akbulak array**	**14.34**	**302**	⇑Pn	**Pn**	**22 27 42.8**	**+0.9**
	comp=Z,0.4nm,0.2s						
AB31				Lg		22 31 53.8	
AKTK	**Aktyubinsk**	**15.90**	**305**	⇑Pn	**Pn**	**22 28 03.5**	**+0.8**
AKTO	**Aktyubinsk**	**15.90**	**305**	⇑Pn	**Pn**	**22 28 03.5**	**+0.8**
	comp=Z,1.5nm,2.0s						
AKTO	**Aktyubinsk**	**15.90**	**305**	Pn	**Pn**	**22 28 02.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=100,slow=14,SNR=2.9						
AKTO				Lg		22 32 42.6	
	comp=Z,0.1nm,0.3s,baz=192,slow=24,SNR=3.4						
LSA	**Lhasa**	**16.71**	**139**	*e*P	**Pn**	**22 28 14.4**	**+1.3**
ARU	**Arti**	**18.51**	**323**	*e*P	**Pn**	**22 28 34.5**	**-0.9**
ARU	**Arti**	**18.51**	**323**	*e*P	**Pn**	**22 28 35.1**	**-0.3**
ARU				*e*S	**Sn**	**22 32 00.7**	**-1.6**
SONM	**Songino Array**	**19.95**	**67**	P	**Pn**	**22 28 50.0**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=252,slow=12,SNR=26						
ULN	**Ulaanbaatar**	**20.39**	**67**	*e*P	**P**	**22 28 57.7**	**+1.9**
	comp=Z,0.5nm,0.4s						
ULN	**Ulaanbaatar**	**20.39**	**67**	*e*P	**P**	**22 28 57.7**	**+1.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIV	**Kislovodsk**	**25.98**	**284**	*e*P	**P**	**22 29 51.3**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.4						
KIV	**Kislovodsk**	**25.98**	**284**	*e*P	**P**	**22 29 51.3**	**-0.4**
HIA	**Hailar**	**28.81**	**63**	P	**P**	**22 30 18.4**	**+1.3**
ANN	**Anapa**	**29.51**	**288**	*e*P	**P**	**22 30 21.0**	**-2.4**
OBN	**Obninsk**	**29.59**	**309**	P	**P**	**22 30 30.0**	**+5.9**
NJ2	**Nanjing**	**33.41**	**96**	*e*P	**P**	**22 31 01.5**	**+3.9**
BR131	**Keskin Array S**	**33.63**	**280**	*e*P	**P**	**22 30 59.7**	**+0.1**
	comp=Z,0.4nm,0.3s,mb3.8						
BRTR	**Keskin Array B**	**33.63**	**280**	P	**P**	**22 30 59.4**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=99,slow=8.7,SNR=9.0						
BRTR	**Keskin Array B**	**33.63**	**280**	P	**P**	**22 30 59.4**	**-0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	**Joensuu**	**33.64**	**323**	*e*p	**P**	**22 30 55.3**	**-4.4**
	comp=Z,2.4nm,0.7s,mb4.2						
JOF	**Joensuu**	**33.64**	**323**	*e*P	**P**	**22 30 55.3**	**-4.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**35.81**	**319**	P	**P**	**22 31 17.7**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=101,slow=8.0,SNR=7.5						
FINES	**FINESS Array B**	**35.81**	**319**	P	**P**	**22 31 17.7**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**37.63**	**333**	P	**P**	**22 31 33.5**	**-0.5**
	comp=Z,4.2nm,0.9s,mb4.2,baz=60,slow=5.8,SNR=4.4						
ARCES	**ARCESS Array B**	**37.63**	**333**	P	**P**	**22 31 33.5**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PSZ	**Piszkesteto**	**40.60**	**298**	*e*P	**P**	**22 31 58.1**	**-0.7**
	comp=Z,1.4nm,0.5s,mb3.9						
PSZ	**Piszkesteto**	**40.60**	**298**	*e*P	**P**	**22 31 58.1**	**-0.7**
PSZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
SANT	**Santorini**	**40.89**	**279**	*e*P	**P**	**22 32 00.9**	**-0.3**
MORC	**Moravsky Berou**	**41.61**	**301**	*e*P	**P**	**22 32 07.5**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.6						
MORC	**Moravsky Berou**	**41.61**	**301**	*e*P	**P**	**22 32 07.5**	**+0.5**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
GVD	**Gavdhos**	**42.58**	**278**	P	**P**	**22 32 14.0**	**-1.0**
NB2	**NORSAR Subarra**	**42.98**	**319**	P	**P**	**22 32 16.9**	**-1.4**
	comp=Z,1.5nm,0.5s,mb4.0,baz=83,slow=8.6						
NB2	**NORSAR Subarra**	**42.98**	**319**	P	**P**	**22 32 16.9**	**-1.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**42.98**	**319**	P	**P**	**22 32 17.6**	**-0.7**
	comp=Z,1.5nm,0.5s,mb4.0,baz=84,slow=8.1,SNR=8.0						
NOA	**NORSAR Array B**	**42.98**	**319**	P	**P**	**22 32 17.6**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NAO01	**NORSAR Array S**	**43.17**	**318**	*e*P	**P**	**22 32 18.9**	**-0.8**
	comp=Z,2.1nm,0.5s,mb4.1						
MAJO	**Matsushiro**	**45.35**	**77**	*e*P	**P**	**22 32 39.1**	**+1.8**
BNI	**Bardonecchia**	**50.15**	**299**	*e*P	**P**	**22 33 13.4**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.1						
BNI	**Bardonecchia**	**50.15**	**299**	*e*P	**P**	**22 33 13.5**	**-1.0**
BNI				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BORG	**Borgarnes**	**55.90**	**329**	*e*P	**P**	**22 33 57.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**71.66**	**271**	P	**P**	**22 35 38.1**	**-2.7**
	comp=Z,0.4nm,0.5s,mb3.6,baz=43,slow=5.5,SNR=11						
YKA	**Yellowknife Ar**	**74.20**	**6**	P	**P**	**22 35 54.4**	**-1.4**
	comp=Z,0.3nm,0.4s,mb3.5,baz=345,slow=6.0,SNR=6.7						
YKA	**Yellowknife Ar**	**74.20**	**6**	P	**P**	**22 35 54.4**	**-1.4**
YKA	**Yellowknife Ar**	**74.20**	**6**	*i* P	**P**	**22 35 54.7**	**-1.1**
WRA	**Warramunga Arr**	**80.93**	**128**	P	**P**	**22 36 31.0**	**-2.5**
	comp=Z,0.1nm,0.7s,mb2.9,baz=336,slow=5.3,SNR=3.6						

*IDC **02** 22:37:03.6±0.8, 076N×9732E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.3/21, mbtmp4.3/15, ML3.7/1, Error ellipse: s-maj=30.2km s-min=15.0km az=47.0*
*ISCJB **02** 22:37:05.8±1.8, 076N±005×9735E±007, h26km±12km, mb4.5/42, MS3.8/6, Error ellipse: s-maj=11.9km s-min=8.0km az=122.5*
*MOS **02** 22:37:06.4±0.8, 076N×9730E, h33km, mb4.6/11, Error ellipse: s-maj=16.2km s-min=9.7km az=98.8*
*BJI **02** 22:37:06.5, 052N×9731E, h45km, mB4.9, mb4.7, Ms4.3, Msz4.1*
*NEIC **02** 22:37:08.3±0.3, 079N×9741E, h30km, mb4.5/14, Error ellipse: s-maj=9.2km s-min=5.0km az=51.0*
ISC 02 22:37:08.1±2.0, 077N±006×9735E±007, h27km±14km, h34km±7km: pP-P, n71, σ0°92/76, mb4.5/43, MS3.8/6, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.55**	**38**	Pn	**Pn**	**22 37 46.0**	**-1.8**
	16nm,0.3s,baz=214,slow=6.1,SNR=37						
TSI	**Tuntungan**	**2.97**	**24**	P	**Pn**	**22 37 52.9**	**-0.5**
	558nm,0.8s						
IPM	**Ipoh**	**5.20**	**45**	P	**Pn**	**22 38 25.0**	**+0.9**
KULM	**Kulim**	**5.56**	**36**	*e*Pn	**Pn**	**22 38 28.3**	**-0.8**
KGM	**Kluang**	**6.09**	**78**	P	**Pn**	**22 38 37.1**	**+0.8**
KKM	**Kota Kinabalu**	**19.54**	**74**	P	**Pn**	**22 41 35.7**	**+0.7**
KKM	**Kota Kinabalu**	**19.54**	**74**	*e*P	**Pn**	**22 41 33.4**	**-1.6**
KMI	**Kunming**	**24.76**	**12**	P	**P**	**22 42 29.4**	**+2.0**
KMI				AP		22 42 34.7	
KMI				S	**S**	**22 46 43.8**	**-4.3**
KMI				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.6						
KMI				LR	LR		
	comp=N,202nm,13.0s,MS4.0						
KMI				LR	LR		
	comp=E,208nm,12.8s,MS4.0						
KMI				LR	LR		
	comp=Z,298nm,13.5s,MS4.0						
HYB	**Hyderabad**	**24.81**	**313**	*i* P	**P**	**22 42 40.0**	**+12**
JIRN	**Jiri**	**28.80**	**339**	*e*P	**P**	**22 43 05.2**	**+1.4**
	comp=Z,28nm,0.9s,mb5.0						
GUN	**Gumba**	**29.14**	**339**	*e*P	**P**	**22 43 07.5**	**+0.7**
	comp=Z,21nm,0.5s,mb5.2						
KKN	**Kakani**	**29.25**	**338**	*e*P	**P**	**22 43 08.7**	**+0.9**
LSA	**Lhasa**	**29.36**	**349**	P	**P**	**22 43 10.2**	**+1.4**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**29.36**	**349**	*e*P	**P**	**22 43 10.0**	**+1.2**
	comp=Z,9.7nm,0.8s,mb4.6						
GKN	**Gorkha**	**29.69**	**337**	*e*P	**P**	**22 43 12.7**	**+1.0**
KOLN	**Koldanda**	**29.90**	**335**	*e*P	**P**	**22 43 14.2**	**+0.6**
	comp=Z,17nm,0.7s,mb4.9						
CD2	**Chengdu**	**30.58**	**11**	*e*P	**P**	**22 43 20.9**	**+1.3**
CD2				AP	pP	22 43 29.6	+2.1
CD2				XP	sP	22 43 34.4	+3.6
CD2				PP	PP	22 44 22.1	-6.7
CD2				S	**S**	**22 48 20.1**	**+0.2**
CD2				XS	sS	22 48 36.2	+3.3
CD2				SS	SS	22 50 03.9	-27
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,5.3s						
CD2				LR	LR		
	comp=N,180nm,12.0s						
CD2				LR	LR		
	comp=Z,170nm,13.2s,MS3.9						
ENH	**Enshi**	**31.52**	**20**	*e*P	**P**	**22 43 26.1**	**-1.8**
	comp=Z,8.4nm,0.8s,mb4.6						
YHNB	**Yeheng**	**33.23**	**43**	*e*P	**P**	**22 43 42.9**	**0.0**
FITZ	**Fitzroy Crossi**	**33.56**	**125**	*e*P	**P**	**22 43 45.3**	**-0.4**
	comp=Z,9.3nm,1.4s,mb4.5						
XAN	**Xi'an**	**34.82**	**17**	P	**P**	**22 43 55.3**	**-1.4**
XAN				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.1						
LZH	**Lanzhou**	**35.65**	**9**	*e*P	**P**	**22 44 04.1**	**+0.3**
LZH				AP	pP	22 44 13.2	+1.5
LZH				XP	sP	22 44 17.3	+2.3
LZH				PP	PP	22 45 25.7	+0.8
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,67nm,6.2s						
LZH				LR	LR		
	comp=N,382nm,13.5s						
LZH				LR	LR		
	comp=Z,493nm,17.6s,MS4.3						
NJ2	**Nanjing**	**37.15**	**31**	*e*P	**P**	**22 44 17.2**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GTA	**Gaotai**	**38.52**	**3**	*e*P	**P**	**22 44 27.9**	**-0.2**
GTA				AP	pP	22 44 37.6	+1.4
GTA				XP	sP	22 44 41.1	+1.7
GTA				PP	PP	22 45 59.7	+3.2
GTA				S	**S**	**22 50 21.3**	**-0.9**
GTA				XS	sS	22 50 38.4	+3.1
GTA		

DL2	Dalian	43.98	28	P	P	22 45 13.2	+0.2
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
AAK	Ala-Archa	46.45	337	eP	P	22 45 32.8	+0.2
	comp=Z,1.4nm,0.8s,mb3.9						
SONM	Songino Array	47.53	8	P	P	22 45 41.1	+0.1
	comp=Z,2.5nm,0.5s,mb4.5,baz=189,slow=9.3,SNR=39						
SONM				PcP	PcP	22 47 11.1	+0.3
	comp=Z,0.4nm,0.4s,baz=194,slow=3.1,SNR=3.6						
ULN	Ulaanbaatar	47.66	9	eP	P	22 45 41.6	-0.4
	comp=Z,2.3nm,0.8s,mb4.3						
MKAR	Makanchi Array	47.69	346	P	P	22 45 42.5	+0.2
	comp=Z,9.1nm,0.7s,mb4.9,baz=159,slow=9.1,SNR=156						
CN2	Changchun	49.61	27	eP	P	22 45 59.6	+2.5
PMG	Port Moresby	50.61	103	P	P	22 46 05.1	+0.5
	comp=Z,3.7nm,0.3s,mb4.7,baz=247,slow=9.1,SNR=3.6						
MJAR	Matsushiro Arr	51.90	42	P	P	22 46 13.3	-1.0
	comp=Z,2.7nm,0.8s,mb4.2,baz=218,slow=5.7,SNR=7.7						
MDJ	Mudanjiang	52.16	29	P	P	22 46 16.4	+0.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,40nm,4.2s						
KURK	Kurchatov	52.24	345	eP	P	22 46 16.6	-0.2
	comp=Z,6.2nm,0.9s,mb4.5						
STKA	Stephens Creek	52.96	132	eP	P	22 46 21.7	-0.5
	comp=Z,2.8nm,0.6s,mb4.4						
STKA	Stephens Creek	52.96	132	P	P	22 46 21.6	-0.6
	comp=Z,2.1nm,0.7s,mb4.2,baz=320,slow=8.9,SNR=6.5						
ZAL	Zalesovo	53.99	351	P	P	22 46 29.3	-0.4
	comp=Z,5.4nm,0.7s,mb4.6,baz=311,slow=6.7,SNR=29						
KLR	Kul'dur	56.56	26	eP	P	22 46 44.6	-3.7
BRVK	Borovoye	56.76	341	eP	P	22 46 48.4	-1.3
	comp=Z,2.5nm,0.8s,mb4.3						
BRVK	Borovoye	56.76	341	eP	P	22 46 48.4	-1.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	Zerenda	57.10	340	eP	P	22 46 50.9	-1.2
	comp=Z,1.9nm,0.8s,mb4.2						
ZRNK	Zerenda	57.10	340	eP	P	22 46 50.9	-1.2
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BOD	Bodaibo	58.40	10	eP	P	22 47 01.1	-0.1
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
BRTR	Keskin Array B	69.51	312	P	P	22 48 13.9	-0.4
	comp=Z,0.7nm,0.8s,mb3.7,baz=126,slow=6.3,SNR=4.7						
TIXI	Tiksi	73.58	10	⇑iP	P	22 48 36.2	-2.6
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AKASG	Malin Array Be	75.69	322	P	P	22 48 50.0	-1.0
	comp=Z,1.7nm,0.6s,mb4.2,baz=90,slow=4.9,SNR=8.8						
JOF	Joensuu	78.59	335	ep	P	22 49 07.4	+0.1
	comp=Z,2.8nm,0.8s,mb4.2						
FINES	FINESS Array B	80.44	333	P	P	22 49 16.9	-0.5
	comp=Z,1.8nm,0.7s,mb4.1,baz=106,slow=5.0,SNR=11						
KAF	Kangasniemi	80.53	333	ep	P	22 49 15.3	-2.6
	comp=Z,3.3nm,0.8s,mb4.3						
ARCES	ARCESS Array B	82.98	340	P	P	22 49 30.5	-0.3
	comp=Z,1.9nm,0.7s,mb4.2,baz=104,slow=5.1,SNR=9.7						
GERES	GERESS Array B	85.23	319	P	P	22 49 43.1	+0.9
	comp=Z,1.1nm,0.8s,mb4.0,baz=111,slow=5.9,SNR=6.9						
NB2	NORSAR Subarra	87.45	331	P	P	22 49 53.0	-0.1
	comp=Z,0.2nm,0.7s,mb3.5,baz=95,slow=5.6						
NOA	NORSAR Array B	87.45	331	P	P	22 49 53.0	-0.1
	comp=Z,1.4nm,0.7s,mb4.3,baz=94,slow=4.9,SNR=6.1						

*GII **02** 22:44:04.4±0.6, 3459N×3365E, h0km, ML2.4/9*
*CSEM **02** 22:44:59.7±0.1, 3490N×3370E, h60km, Mw3.2, Error ellipse: s-maj=2.5km s-min=2.0km az=80.0*
*HLW **02** 22:45:00.6, 3459N×3190E, h33km, Mb3.3*
*ISCJB **02** 22:45:00.8±0.6, 3482N±004×3370E±005, h62km±8km, Error ellipse: s-maj=7.3km s-min=6.0km az=162.8*
*NIC **02** 22:45:02.8±0.4, 3488N×3369E, h35km, ML3.0, MW3.2*
*NEIC **02** 22:45:02.8, 3488N×3369E, h35km, ML3.0(NIC), After NIC.*

ISC 02 22:45:01.9±0.5, 3484N±003×3370E±005, h53km±9km, n29, σ0978/38, 3C-6D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	Paralimni	0.32	60	⇓eP	Pn	22 45 11.2	-0.3
PHNC				S	Sn	22 45 19.9	+1.6
CSS	Prodhromos	0.33	292	⇓eP	Pn	22 45 10.5	-1.0
	28nm,0.3s						
CSS				S	Sn	22 45 16.7	-1.7
MAMC	Mammari	0.51	310	⇓eP	Pn	22 45 13.4	-0.1
SZAC	Souni-Zanaja	0.68	263	⇓iP	Pn	22 45 15.6	+0.1
	20nm,0.2s						
SZAC				S	Sn	22 45 26.5	+1.2
PPCY	Paphos	1.11	273	P	Pn	22 45 21.9	+0.7
AKMC	Akamas	1.14	280	P	Pn	22 45 22.8	+1.3
IKL	Isikli	1.39	360	PN	Pn	22 45 25.7	+0.7
IKL				SN	Sn	22 45 41.4	-0.9
BHL	Bhannes	1.87	120	ePn	Pn	22 45 30.4	-1.0
MATL	Matirih	1.91	134	ePn	Pn	22 45 31.6	-0.5
HWQ	Hawqa	1.94	106	ePn	Pn	22 45 33.1	+0.7
MERS	Mersin	2.13	18	ePN	Pn	22 45 34.9	-0.1
HNTI	Hanita	2.14	145	Pn	Pn	22 45 34.8	-0.3
MMA0	Mount Meron ar	2.31	142	Pn	Pn	22 45 37.2	-0.3
FKH	Fakeheh	2.31	104	ePn	Pn	22 45 38.4	+0.9
KSDI	Kefar Szold	2.32	135	Pn	Pn	22 45 37.7	+0.1
HTY	Hatay	2.37	57	ePN	Pn	22 45 37.9	-0.3
OFRI	'Ofer	2.46	154	Pn	Pn	22 45 39.3	-0.2
MMLI	Mount Malkishu	2.80	149	Pn	Pn	22 45 43.9	-0.2
SLTI	Sal'it	2.83	156	Pn	Pn	22 45 44.2	-0.4
SLTI				Sn	Sn	22 46 17.5	+0.1
MZDA	Masada	3.79	158	Pn	Pn	22 45 57.9	+0.1
MZDA				Sn	Sn	22 46 41.9	+0.8
KZIT	Kziot	3.97	171	Pn	Pn	22 45 58.9	-1.3
KZIT				Sn	Sn	22 46 45.2	-0.2
SVTA	Shivta	3.98	169	Pn	Pn	22 46 00.6	+0.3
HNKL	Nakhl	4.91	177	⇑eP	Pn	22 46 13.6	+0.5
HRFI	Mount Harif	4.92	166	Pn	Pn	22 46 13.3	0.0
HRFI				Sn	Sn	22 47 09.0	0.0
SUZ		5.04	189	⇑P	Pn	22 46 10.8	-4.1
MBH	Mount Berech	5.14	168	Pn	Pn	22 46 17.0	+0.7
HDHB	Dhahab	6.15	172	⇓iP	Pn	22 46 31.2	+1.1
HKAT	Jabal Katrina	6.31	178	⇑eP	Pn	22 46 31.8	-0.5
HKAT				S	Sn	22 47 38.8	-4.1
TR2		6.44	180	⇓eP	Pn	22 46 32.4	-1.6

IDC 02 22:47:20.4±5.7, 1520S×17303W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.5/3, Error ellipse: s-maj=276.6km s-min=20.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.76	44	Pn	Pn	22 47 50.6	-1.5
	8.5nm,0.3s,baz=18,slow=4.1,SNR=6.2						
AFI				Sn	Sn	22 48 15.2	0.0
	8.8nm,0.3s,baz=206,slow=21,SNR=7.7						
WRA	Warramunga Arr	50.24	257	P	P	22 56 18.5	+0.2
	0.4nm,0.7s,baz=91,slow=7.4,SNR=6.8						
ASAR	Alice Springs	50.52	252	P	P	22 56 20.0	-0.3
	1.1nm,0.7s,baz=86,slow=8.5,SNR=9.3						
ILAR	Eielson Array	82.18	11	P	P	22 59 44.7	+1.5
	0.3nm,0.9s,baz=224,slow=6.2,SNR=4.4						

*NEIC **02** 23:12:14.5, 4174S×17463E, h24km, ML3.9(WEL), After WEL.*
NEIC Felt at Wellington.

WEL 02 23:12:15.0±0.1, 4172S×17465E, h28km, ML3.9/27, 10C-8D, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.33	264	P*	Pb	23 12 23.1	+0.4
CMWZ				S*	Sb	23 12 29.0	+1.1
CMWZ	Cape Campbell	0.33	264	P	Pb	23 12 22.1	-0.6
CMWZ				S	Sb	23 12 28.0	+0.1
BHW	Baring Head	0.35	29	P*	Pb	23 12 23.0	+0.1
BHW				S*	Sb	23 12 28.8	+0.4
BHW	Baring Head	0.35	29	P	Pb	23 12 22.0	-1.0
BHW				S	Sb	23 12 27.8	-0.6
SNZO	South Karori	0.41	6	P*	Pb	23 12 23.7	-0.1
SNZO				S*	Sb	23 12 30.1	+0.2
SNZO	South Karori	0.41	6	P	Pb	23 12 23.7	-0.1
WEL	Wellington	0.44	12	P*	Pb	23 12 24.3	0.0
WEL				S*	Sb	23 12 31.2	+0.5
WEL	Wellington	0.44	12	P	Pb	23 12 24.3	0.0
MRW	Makara Radio	0.49	4	⇓P*	Pb	23 12 25.0	-0.1
MRW				S*	Sb	23 12 32.0	0.0
MRW	Makara Radio	0.49	4	⇓P	Pb	23 12 25.0	-0.1
MSWZ	Moikau Station	0.54	57	⇓P*	Pb	23 12 26.3	+0.3
MSWZ				S*	Sb	23 12 34.8	+1.3
TCW	Tory Channel	0.57	331	⇑P*	Pb	23 12 26.2	-0.4
TCW				S*	Sb	23 12 34.0	-0.5
TCW	Tory Channel	0.57	331	⇑P	Pb	23 12 26.2	-0.4
BSWZ	Blackbirch Sta	0.58	270	P*	Pb	23 12 26.7	0.0
BSWZ				S*	Sb	23 12 35.4	+0.8
BSWZ	Blackbirch Sta	0.58	270	P	Pb	23 12 25.7	-1.0
TUWZ	Tuamarina	0.60	298	⇑P*	Pb	23 12 26.6	-0.5
TUWZ				S*	Sb	23 12 35.5	+0.3
PAWZ	Paruwai Farm	0.67	61	P*	Pb	23 12 27.9	-0.2
PAWZ				S*	Sb	23 12 37.5	+0.4
PAWZ	Paruwai Farm	0.67	61	P	Pb	23 12 27.9	-0.3
CAW	Cannon Point	0.68	28	⇓P*	Pb	23 12 28.3	-0.1
CAW				S*	Sb	23 12 37.8	+0.3
CAW	Cannon Point	0.68	28	⇓P	Pb	23 12 28.3	-0.1
TRWZ	Traveller	0.84	68	eP*	Pb	23 12 30.0	-1.0
MTW	Mount Morrison	0.85	49	⇑P*	Pb	23 12 30.3	-0.8
MTW	Mount Morrison	0.85	49	⇑P	Pn	23 12 30.3	-0.7
KIW	Kapiti Island	0.87	13	⇑P*	Pb	23 12 31.1	-0.5
KIW				S*	Sb	23 12 42.7	-0.1
KIW	Kapiti Island	0.87	13	⇑P	Pn	23 12 31.1	-0.3
DUWZ	D'Urville Isla	1.06	329	P*	Pb	23 12 33.6	-1.2
DUWZ				S*	Sb	23 12 48.1	-0.2
NNZ	Nelson	1.08	297	PN	Pn	23 12 33.7	-0.5
NNZ				SN	Sn	23 12 47.8	-0.4
NNZ	Nelson	1.08	297	P	Pn	23 12 33.7	-0.5
KHZ	Kahutara	1.08	229	⇓P*	Pb	23 12 33.5	-1.6
KHZ	Kahutara	1.08	229	⇑P	Pn	23 12 33.5	-0.8
MRZ	Mangatainoka R	1.26	34	⇑P*	Pb	23 12 36.2	-2.0
MRZ	Mangatainoka R	1.26	34	⇑P	Pn	23 12 36.2	-0.6
THZ	Tophouse	1.31	267	P*	Pb	23 12 36.6	-2.3
THZ	Tophouse	1.31	267	P	Pn	23 12 36.6	-0.8
QRZ	Quartz Range	1.83	298	ePN	Pn	23 12 44.9	+0.4
QRZ	Quartz Range	1.83	298	eP	Pn	23 12 44.9	+0.4
TSZ	Takapari Road	1.93	31	PN	Pn	23 12 45.0	-0.9
TSZ	Takapari Road	1.93	31	P	Pn	23 12 45.0	-0.9
LTZ	Lake Taylor	2.06	238	⇓PN	Pn	23 12 46.8	-1.0
LTZ	Lake Taylor	2.06	238	⇓P	Pn	23 12 46.8	-1.0
DSZ	Denniston Nort	2.13	268	ePN	Pn	23 12 48.4	-0.3
DSZ	Denniston Nort	2.13	268	eP	Pn	23 12 48.4	-0.3
MTVZ	Mangateitei	2.41	15	ePN	Pn	23 12 53.1	+0.6
MOVZ	Moawhango	2.45	20	ePN	Pn	23 12 52.6	-0.5
MQZ	McQueen's Vall	2.48	216	ePN	Pn	23 12 51.0	-2.4
MQZ	McQueen's Vall	2.48	216	eP	Pn	23 12 51.0	-2.4
PKVZ	Pokaka	2.48	13	ePN	Pn	23 12 53.8	+0.4
WNVZ	Wahianoa	2.49	17	ePN	Pn	23 12 53.8	+0.2
TUVZ	Tukino	2.56	18	ePN	Pn	23 12 55.1	+0.5
VRZ	Vera Road	2.59	2	ePN	Pn	23 12 56.0	+1.0

CASC 02 23:15:44.0±2.5, 1277N×9051W, h33km±46km, MD3.5, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.37	39	eP	Pn	23 16 08.5	+1.8
SBLS				eS	Sn	23 16 26.4	+2.6
IXG	Ixpaco	1.40	2	⇑eP	Pn	23 16 06.3	-0.9
IXG				eS	Sn	23 16 25.4	+0.9
RTR	El Retiro	1.40	37	eP	Pn	23 16 08.0	+0.8
RTR				eS	Sn	23 16 27.1	+2.6
LFRS	El Faro	1.64	59	eP	Pn	23 16 10.7	+0.1
LFRS				eS	Sn	23 16 30.7	+0.2
LFU	La Fuente	1.67	54	eP	Pn	23 16 12.7	+1.8
LBRS	Las Brisas	1.72	56	eP	Pn	23 16 12.3	+0.7
LCBS	La Ceiba	1.73	59	eP	Pn	23 16 11.8	+0.1
LCBS				eS	Sn	23 16 33.0	+0.4
SNVI	San Vicente	1.83	63	eP	Pn	23 16 13.2	+0.1
SNVI				eS	Sn	23 16 36.2	+1.1
TP2	Tecpan 2	2.06	346	eP	Pn	23 16 17.4	+1.0
TP2				eS	Sn	23 16 44.2	+3.3
VSM	San Miguel	2.27	73	eP	Pn	23 16 19.2	0.0
VSM				eS	Sn	23 16 47.4	+1.3
BLLM	Bellamira	2.31	73	⇑iP	Pn	23 16 19.6	-0.1

IDC 02 23:17:06.1±3.6, 667S×15519E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.7/13, mbtmp3.6/4, MS3.5/1, Ms1 3.5/1, ms1mx3.0/17, Error ellipse: s-maj=115.4km s-min=30.1km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.16	235	P	P	23 22 24.3	+0.5
	2.6nm,0.8s,baz=58,slow=9.8,SNR=14						
ASAR	Alice Springs	26.53	228	P	P	23 22 46.1	+0.8
	0.9nm,0.8s,baz=61,slow=8.7,SNR=8.5						
AFI	Afiamalu	33.26	105	LR	LR	23 33 16.9	
	comp=Z,86nm,20.5s,baz=65,slow=29						
SONM	Songino Array	69.16	327	P	P	23 28 14.8	+0.5
	0.3nm,0.8s,baz=117,slow=8.3,SNR=2.6						
MKAR	Makanchi Array	83.28	319	P	P	23 29 35.5	+0.9
	0.3nm,0.8s,baz=105,slow=4.8,SNR=4.0						
TORD	Torodi Ar. Bea	153.12	286	PKPbc	PKPbc	23 37 05.4	-0.2
	0.3nm,0.6s,baz=89,slow=1.7,SNR=5.1						

*LDG **02** 23:35:40.2±0.2, 1910N×6419W, h10km, Mb5.4/37, Ms5.1/8, Error ellipse: s-maj=11.5km s-min=7.7km az=80.0*
*TRN **02** 23:35:42.0, 1925N×6393W, h15km, MD5.3*
TRN Felt (IV) in USVI, BVI and eastern PR.FMAG=5.3 (PR).
*HRVD **02** 23:35:44.0±0.2, 1919N×6390W, h18km±1km, MW5.6/51, Centroid moment Tensor Solution. LP body waves: s51,c95;Mantle waves: s45,c83; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.54±.07; $M_{\theta\theta}$-1.37±.05; $M_{\phi\phi}$-0.16±.06; $M_{r\theta}$-2.65±.23; $M_{\phi\phi}$0.61±.04; $M_{\phi r}$1.13±.15; Best double couple: $M_0$3.28700×10^{17} NP1:ϕ_s112.00000°, δ14.00000°, λ89.00000°. NP2: ϕ_s293.00000°, δ76.00000°, λ90.00000°. Principal axes: T 3.2440, Plg59.0000°, Azm203.0000°; N 0.0900, Plg0.0000°, Azm113.0000°; P -3.3300, Plg31.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 23:35:44.0, 1936N×6379W, h25km, mb5.3/195, MS5.3/144, MD5.3(RSPR), After RSPR.*
NEIC Felt [III] on Saint Thomas, U.S. Virgin Islands. Also felt on Saint John, in the British Virgin Islands and in eastern Puerto Rico.
*RSPR **02** 23:35:44.4, 1936N×6379W, h25km±28km, MD5.3/19, MD5.3/19*
*BJI **02** 23:35:44.0, 1940N×6380W, h24km, mB5.5, Ms5.7, Msz5.4*
*ISCJB **02** 23:35:45.1±0.1, 1919N±001×6396W±001, h27km, mb5.2/222, MS5.3/178, Error ellipse: s-maj=1.9km s-min=1.7km az=155.6*
*MOS **02** 23:35:46.2±1.0, 1927N×6404W, h33km, mb5.4/107, MS5.2/72, Error ellipse: s-maj=4.9km s-min=3.4km az=48.6*
*IDC **02** 23:35:49.4±0.5, 1907N×6402W, h57km±5km, mb4.7/27, mb1 4.9/30, mb1mx4.9/32, mbtmp5.0/30, MS5.2/26, Ms1 5.2/26, ms1mx5.1/29, Error ellipse: s-maj=8.7km s-min=6.7km az=149.0*
*SZGRF **02** 23:35:51.2, 2005N×6375W, h33km, mb5.4, MS5.1, North Atlantic Ocean*

ISC 02 23:35:47.2±0.1, 1916N±001×6399W±001, h29km, h29km±1.0km: pP-P, n787, σ1901/739, mb5.2/222, MS5.3/178, 39C-21D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.54	218	⇑iP	Pb	23 35 57.2	-0.9
TBVI	Tortola	0.95	219	⇑iP	Pn	23 36 02.9	-1.6
STVI	Saint Thomas	1.22	229	eS	Sn	23 36 25.2	+1.4
STVI	Saint Thomas	1.22	229	⇓iP	Pn	23 36 07.0	-1.3
STVI				eS	Sn	23 36 25.2	+1.4
STMA	St. Maarten, A	1.38	143	⇓eP	Pn	23 36 11.0	+0.5
CDVI	St. Croix	1.58	208	eS	Sn	23 36 34.6	+1.9
CDVI	St. Croix	1.58	208	⇓iP	Pn	23 36 13.2	0.0
CDVI				eS	Sn	23 36 34.6	+1.9
SABT	Saba	1.68	155	eP	Pn	23 36 14.3	-0.3
MTP	Monte Pirata	1.82	235	eS	Sn	23 36 40.7	+2.0
MTP	Monte Pirata	1.82	235	⇓eP	Pn	23 36 15.9	-0.7
MTP				eS	Sn	23 36 40.7	+2.0
STAT	Sint Eustatius	1.91	150	eP	Pn	23 36 17.5	-0.3
CBYP	Canovanas	1.98	244	eS	Sn	23 36 44.0	+1.5
CBYP	Canovanas	1.98	244	⇑iP	Pn	23 36 18.0	-0.7
CBYP				eS	Sn	23 36 44.0	+1.5
HUMP	Col San Antoni	2.03	241	eS	Sn	23 36 45.7	+1.8
HUMP	Col San Antoni	2.03	241	eP	Pn	23 36 18.8	-0.7
HUMP				eS	Sn	23 36 45.7	+1.8
SKDB	Saint Kitts 2	2.08	147	eP	Pn	23 36 18.6	-1.4
BSK	Brimstone Hill	2.10	149	eP	Pn	23 36 19.8	-0.7
CPD	Cerro la Pandu	2.14	239	eS	Sn	23 36 49.2	+2.7
CPD	Cerro la Pandu	2.14	239	⇓eP	Pn	23 36 20.5	-0.4
CPD				eS	Sn	23 36 49.2	+2.7
SKI	Saint Kitts	2.17	147	eP	Pn	23 36 20.5	-0.7
SKI				eS	Sn	23 36 48.6	+1.4
SJG	San Juan	2.30	244	eS	Sn	23 36 52.4	+2.0
SJG	San Juan	2.30	244	⇓iP	Pn	23 36 22.7	-0.4
SJG	San Juan	2.30	244	⇑iP	Pn	23 36 22.6	-0.5
SJG				eS	Sn	23 36 52.4	+2.0
SJG	San Juan	2.30	244	P	Pn	23 36 22.7	-0.4
	428nm,0.3s,baz=74,slow=7.4,SNR=405						
SJG				S	Sn	23 36 52.1	+1.6
	1μm,0.3s,baz=27,slow=13,SNR=6.5						
SKTB	Turtle Beach	2.33	146	eP	Pn	23 36 23.2	-0.4
NVRH	Round Hill, Ne	2.36	146	eP	Pn	23 36 23.0	-1.0
NVBH	Bath Hotel, Ne	2.41	147	eP	Pn	23 36 24.0	-0.7
CPB	Codrington	2.54	126	eP	Pn	23 36 22.4	-4.1
CPB	Codrington	2.54	126	i	Pn	23 36 28.9	+2.4
CELP	Cerrillos	2.68	247	⇑iP	Pn	23 36 28.0	-0.4
ICM	Isla Caja Muer	2.71	243	eS	Sn	23 37 03.3	+2.6
ICM	Isla Caja Muer	2.71	243	i P	Pn	23 36 29.1	+0.3
ICM				eS	Sn	23 37 03.3	+2.6
OBIP	Obispado Ponce	2.72	246	eS	Sn	23 37 02.5	+1.7
OBIP	Obispado Ponce	2.72	246	⇑iP	Pn	23 36 28.6	-0.3
OBIP				eS	Sn	23 37 02.5	+1.7
AOPR	Arecibo Observ	2.74	253	eS	Sn	23 37 03.4	+2.1
AOPR	Arecibo Observ	2.74	253	⇑iP	Pn	23 36 28.2	-1.0
AOPR				eS	Sn	23 37 02.4	+1.1
AOPR	Arecibo Observ	2.74	253	⇑iP	Pn	23 36 28.2	-1.0
AOPR				eS	Sn	23 37 03.4	+2.1
LRS	Lares	2.84	253	⇑iP	Pn	23 36 29.5	-1.1
BPA	Boggy Peak	2.92	136	eP	Pn	23 36 29.5	-2.1
BPA				eS	Sn	23 37 06.1	+0.4
AGPR	Aguadilla, PR	3.04	257	eS	Sn	23 37 09.8	+1.1
AGPR	Aguadilla, PR	3.04	257	⇑iP	Pn	23 36 32.6	-0.7
AGPR				eS	Sn	23 37 09.8	+1.1
LSP	Las Mesas	3.10	252	eS	Sn	23 37 12.1	+2.0
LSP	Las Mesas	3.10	252	⇓eP	Pn	23 36 34.3	+0.2
LSP				eS	Sn	23 37 12.1	+2.0
MPR	Mayaguez	3.13	253	eS	Sn	23 37 11.9	+0.9
MPR	Mayaguez	3.13	253	⇑eP	Pn	23 36 34.7	+0.1
MPR				eS	Sn	23 37 11.9	+0.9
MGP	Maguayo	3.16	249	⇓iP	Pn	23 36 34.6	-0.3
CRPR	Cabo Rojo, PR	3.17	249	eS	Sn	23 37 14.0	+2.0
CRPR	Cabo Rojo, PR	3.17	249	⇑iP	Pn	23 36 34.8	-0.3
CRPR				eS	Sn	23 37 14.0	+2.0
SEG	Port Louis	3.62	139	⇑eP	Pn	23 36 39.5	-1.7
LZG	Guadaloupe-1	3.67	145	eP	Pn	23 36 40.9	-1.0
SCG	Saint Claude	3.81	144	eP	Pn	23 36 42.9	-0.9
DOG	Dongo Capester	3.84	144	eP	Pn	23 36 43.4	-0.9
PHG	Guadaloupe-2	3.84	144	eP	Pn	23 36 45.0	+0.6
SFG	Saint Francois	3.92	137	eP	Pn	23 36 44.0	-1.4
DEG	La Desirade	3.97	135	eP	Pn	23 36 44.1	-2.0
DEG				eS	Sn	23 37 33.5	+1.8
TBG	Guadaloupe-3	3.97	145	eP	Pn	23 36 45.2	-0.9
MGG	Marie-Galante	4.11	141	eP	Pn	23 36 46.8	-1.2
BBL	Barber's Block	4.34	146	⇑eP	Pn	23 36 50.5	-0.6
BBL				eS	Sn	23 37 36.2	-4.4
DWS	Wesley	4.39	144	eP	Pn	23 36 50.0	-1.8
DWS				eS	Sn	23 37 42.1	+0.1
FDF	Fort de France	5.17	148	⇑eP	Pn	23 37 01.6	-1.0
FDF				eS	Sn	23 38 05.3	+4.1
CRM	Caravelle	5.27	146	eP	Pn	23 37 03.5	-0.5
CRM				eS	Sn	23 38 03.1	-0.6
BIM	Bigot	5.39	148	⇑eP	Pn	23 37 05.0	-0.6
MVM	Montagne Vaucl	5.45	147	eP	Pn	23 37 05.6	-0.9
SSV	Crater Summit	6.38	155	eP	Pn	23 37 18.5	-0.8
SVB	Belmont	6.41	155	eP	Pn	23 37 20.6	+0.9
GRCU	Cariacou	7.08	159	eP	Pn	23 37 28.8	0.0
GRSS	Sisters	7.19	161	e	Pn	23 37 36.9	+6.6
GRHS	Sauteurs	7.25	162	eP	Pn	23 37 30.7	-0.4
GRW	Mount Saint Ca	7.31	162	eP	Pn	23 37 32.9	+1.0
TPR	Prospect	8.51	158	eP	Pn	23 37 50.6	+2.2
BOT	Bacolet	8.54	158	e	Pn	23 37 54.8	+5.9
TRN	Trinidad (W)	8.82	163	eP	Pn	23 37 55.1	+2.4
TRN				eS	Sn	23 39 37.6	+6.6
TBH	Brigand Hill	9.07	161	eP	Pn	23 38 01.2	+5.1
TPP	Pointe-a-Pierr	9.12

BRNJ eS S 23 45 03.1 0.0
MVL Millersville 23.34 335 eP P 23 40 53.4 +0.2
MVL eS S 23 45 04.3 +0.5
PAL Palisades 23.38 341 eP P 23 40 53.7 +0.2
comp=Z,120nm,0.6s,mb5.5
PAL e 23 41 10.9
PAL Palisades 23.38 341 eP P 23 40 53.7 +0.2
PAL e 23 41 10.9
PAL pmax pmax
comp=Z,120nm,0.6s,mb5.5
FWV Forest Hill 23.52 325 eP P 23 40 54.3 -0.6
FWV e 23 41 14.0
OTAV Otavalo 23.55 219⇑ iP P 23 40 54.2 -1.0
comp=Z,238nm,0.8s,mb5.7
OTAV eS S 23 45 09.3 +2.1
OTAV LR LR
comp=Z,7µm,22.0s,MS5.1
BRYW Bryant College 23.58 346 P P 23 40 55.5 -0.1
comp=Z,63nm,0.8s,mb5.1
BRYW e 23 41 13.7
BRYW eS S 23 45 08.1 +0.4
WES Weston 23.98 347 eP P 23 40 58.5 -0.6
comp=Z,130nm,0.9s,mb5.4
WES e 23 41 17.9
WES eS S 23 45 13.2 -0.9
WES LR LR
comp=Z,5µm,19.0s,MS5.0
WES Weston 23.98 347 eP P 23 40 58.5 -0.6
WES eS S 23 45 13.2 -0.9
WES pmax pmax
comp=Z,130nm,0.9s,mb5.4
WES MLR MLR
comp=Z,5µm,19.0s,MS5.0
QUA2 Belchertown 24.12 345 eP P 23 41 00.3 -0.1
comp=Z,54nm,0.6s,mb5.2
QUA2 eS S 23 45 18.1 +1.7
HRV Harvard--Oak R 24.15 346 eP P 23 41 00.5 -0.1
comp=Z,95nm,1.3s,mb5.1
HRV e 23 41 20.9
HRV LR LR
comp=Z,7µm,20.0s,MS5.2
HRV Harvard--Oak R 24.15 346 eP P 23 41 00.5 -0.2
HRV pmax pmax
comp=Z,95nm,1.3s,mb5.1
HRV MLR MLR
comp=Z,7µm,20.0s,MS5.2
CPCT Cooper Cave 24.34 316 eP P 23 41 02.2 -0.2
CPCT e 23 41 23.8
CPCT eS S 23 45 23.5 +3.5
TZTN Tazewell 24.40 319 eP P 23 41 01.9 -1.1
TZTN e 23 41 24.6
MCWV Mont Chateau 24.59 330 eP P 23 41 04.8 0.0
comp=Z,185nm,0.8s,mb5.7
MCWV eS S 23 45 25.1 +1.2
MCWV LR LR
comp=Z,6µm,20.0s,MS5.1
LRAL Lakeview Retre 24.79 308 eP P 23 41 06.5 -0.1
comp=Z,73nm,0.9s,mb5.2
LRAL eS S 23 45 33.2 +6.0
LRAL LR LR
comp=Z,4µm,19.0s,MS5.0
MRL Marmol 24.89 265 eP P 23 41 06.8 -0.7
FFD Franklin Falls 25.09 347 eP P 23 41 09.1 -0.1
comp=Z,48nm,0.9s,mb5.0
FFD e 23 41 33.4
BINY Binghamton 25.13 339 eP P 23 41 07.5 -2.1
comp=Z,106nm,0.8s,mb5.4
BINY eS S 23 45 37.3 +4.7
BINY LR LR
comp=Z,10µm,20.0s,MS5.3
SWET Sewanee 25.15 314 eP P 23 41 09.6 -0.2
HNH Hanover 25.45 346 eP P 23 41 12.1 -0.4
comp=Z,4.8nm,0.7s,mb4.1
HNH e 23 41 39.0
ACCN Adirondack Com 25.50 343 eP P 23 41 12.1 -0.8
ACCN e 23 41 40.2
ACCN eS S 23 45 51.9 +13
LBNH Lisbon 25.88 347 eP P 23 41 13.6 -2.9
comp=Z,53nm,0.8s,mb5.1
LBNH e 23 41 43.7
LBNH LR LR
comp=Z,9µm,21.0s,MS5.3
LBNH Lisbon 25.88 347 eP P 23 41 13.6 -2.8
LBNH pmax pmax
comp=Z,53nm,0.8s,mb5.1
LBNH MLR MLR
comp=Z,9µm,21.0s,MS5.3
MIV Mineville/With 26.10 344 eP P 23 41 18.4 0.0
MIV e 23 41 48.0
NCB Newcomb 26.19 343 eP P 23 41 18.2 -1.0
comp=Z,90nm,0.8s,mb5.3
NCB e 23 41 49.9
NCB LR LR
comp=Z,6µm,20.0s,MS5.1
TP2 Tecpan 2 26.21 265⇓ eP P 23 41 21.1 +1.8
PLAL Pickwick Lake 26.52 311 eP P 23 41 21.3 -0.9
comp=Z,65nm,0.7s,mb5.3
PLAL e 23 41 52.8
PLAL eS S 23 46 31.5 +37
PLAL LR LR
comp=Z,4µm,21.0s,MS5.0
ACSO Alum Creek Sta 26.60 326 eP P 23 41 22.6 -0.3
comp=Z,108nm,1.0s,mb5.3
ACSO LR LR
comp=Z,4µm,20.0s,MS4.9
ERPA Erie 26.62 333 P P 23 41 19.7 -3.4
comp=Z,96nm,0.8s,mb5.4
ERPA e 23 41 53.5
ERPA LR LR
comp=Z,6µm,21.0s,MS5.2
LONY Lake Ozonia 26.89 343 eP P 23 41 24.2 -1.4
LONY eS S 23 46 31.9 +32
WVT Waverly 26.95 314 eP P 23 41 24.8 -1.2
comp=Z,39nm,0.4s,mb5.3
WVT eS S 23 46 41.0 +40
WVT LR LR
comp=Z,4µm,20.0s,MS5.0
WVT Waverly 26.95 314 eP P 23 41 24.8 -1.2
WVT pmax pmax
comp=Z,39nm,0.4s,mb5.3
WVT MLR MLR
comp=Z,4µm,20.0s,MS5.0
WCI Wyandotte Cave 27.16 319 eP P 23 41 28.2 +0.3
comp=Z,59nm,0.8s,mb5.2
WCI eS S 23 46 44.6 +40
WCI LR LR
comp=Z,5µm,20.0s,MS5.1
WCI Wyandotte Cave 27.16 319 eP P 23 41 28.2 +0.3
WCI pmax pmax
comp=Z,59nm,0.8s,mb5.2
WCI MLR MLR
comp=Z,5µm,20.0s,MS5.1
OXF Oxford 27.25 309 eP P 23 41 26.5 -2.3
comp=Z,116nm,0.8s,mb5.5
OXF LR LR
comp=Z,4µm,22.0s,MS4.9
OXF Oxford 27.25 309 eP P 23 41 26.5 -2.3
OXF pmax pmax
comp=Z,116nm,0.8s,mb5.5
OXF MLR MLR
comp=Z,4µm,22.0s,MS4.9
BLO Bloomington 27.88 320 eP P 23 41 33.5 -0.9
comp=Z,16nm,0.8s,mb4.7
BLO Bloomington 27.88 320 eP P 23 41 33.5 -1.0
BLO pmax pmax
comp=Z,16nm,0.8s,mb4.7
AAM Ann Arbor 28.47 328 eP P 23 41 39.5 -0.2
comp=Z,53nm,1.0s,mb5.1
AAM e 23 42 19.8
AAM LR LR
comp=Z,5µm,20.0s,MS5.2
SADO Sadowa 28.50 337 P P 23 41 38.6 -1.2
comp=Z,7.9nm,0.7s,mb4.5,baz=178,slow=7.0,SNR=8.2
SADO LR LR 23 51 58.3
comp=Z,9µm,20.9s,MS5.4,baz=180,slow=34
PARMO Parma 28.55 313 eP P 23 41 39.9 -0.4
FVM French Village 29.69 315 eP P 23 41 49.6 -0.9
comp=Z,15nm,1.0s,mb4.7
FVM epP pP 23 41 58.1 -0.7
FVM e 23 42 35.5
CCM Cathedral Cave 30.28 314 eP P 23 41 54.8 -0.9
comp=Z,36nm,0.6s,mb5.3
CCM e 23 42 44.5
CCM LR LR
comp=Z,4µm,21.0s,MS5.0

CCM Cathedral Cave 30.28 314 eP P 23 41 54.8 -0.9
CCM pmax pmax
comp=Z,36nm,0.6s,mb5.3
CCM MLR MLR
comp=Z,4µm,21.0s,MS5.0
NATX Nacogdoches 30.30 301 eP P 23 41 56.4 +0.5
comp=Z,54nm,0.7s,mb5.4
NATX LR LR
comp=Z,4µm,20.0s,MS5.0
MIAR Mount Ida 30.38 306 eP P 23 41 57.2 +0.6
comp=Z,20nm,1.0s,mb4.8
MIAR LR LR
comp=Z,3µm,20.0s,MS5.0
HKT Hockley 30.80 297 eP P 23 41 58.9 -1.4
comp=Z,21nm,1.1s,mb4.9
HKT LR LR
comp=Z,2µm,20.0s,MS4.8
PAYG Puerto Ayora 32.48 236 P P 23 42 14.4 -0.7
PAYG LR LR
comp=Z,3µm,22.0s,MS5.0
NNA Nana 33.44 203 eP P 23 42 20.6 -2.9
comp=Z,87nm,0.6s,mb5.9
NNA LR LR
comp=Z,6µm,19.0s,MS5.4
JCT Junction City 34.27 296 eP P 23 42 29.4 -1.3
comp=Z,41nm,1.0s,mb5.3
JCT LR LR
comp=Z,2µm,22.0s,MS4.8
KSU1 Kansas State U 34.47 312 eP P 23 42 31.3 -1.2
WMOK Wichita Mounta 34.48 304 eP P 23 42 30.8 -1.7
comp=Z,11nm,0.8s,mb4.8
WMOK LR LR
comp=Z,3µm,19.0s,MS5.1
LPAZ La Paz 35.45 187 P P 23 42 38.9 -2.0
comp=Z,53nm,0.9s,mb5.5,baz=4.0,slow=8.6,SNR=106
LPAZ LR LR 23 58 18.6
comp=Z,5µm,18.3s,MS5.3,baz=352,slow=38
LPAZ La Paz 35.45 187⇑ eP P 23 42 38.8 -2.1
comp=Z,60nm,0.8s,mb5.6
LPAZ LR LR
comp=Z,5µm,19.0s,MS5.3
EYMN Ely 36.38 328 eP P 23 42 48.0 -0.8
comp=Z,46nm,1.3s,mb5.2
EYMN LR LR
comp=Z,5µm,20.0s,MS5.3
CBKS Cedar Bluff 36.59 310 eP P 23 42 50.4 -0.2
comp=Z,40nm,0.7s,mb5.4
CBKS LR LR
comp=Z,3µm,20.0s,MS5.0
RCBR Riachuelo 37.17 129 eP P 23 42 55.6 0.0
comp=Z,17nm,0.8s,mb4.9
RCBR LR LR
comp=Z,1µm,22.0s,MS4.7
LTX Lajitas 37.42 293 eP P 23 42 57.8 +0.2
comp=Z,22nm,0.9s,mb5.0
LTX LR LR
comp=Z,2µm,22.0s,MS4.9
LTX Lajitas 37.42 293 eP P 23 42 57.8 +0.1
LTX pmax pmax
comp=Z,22nm,0.9s,mb5.0
LTX MLR MLR
comp=Z,2µm,22.0s,MS4.9
BDFB Brasilia 37.98 154 P P 23 43 02.2 -0.2
comp=Z,215nm,0.7s,mb6.0,baz=325,slow=8.5,SNR=378
BDFB LR LR 23 59 57.7
comp=Z,4µm,18.6s,MS5.3,baz=191,slow=38
BAO Brasilia Array 37.98 154 P P 23 43 02.5 0.0
CLNB Carlsbad 38.02 298 eP P 23 43 01.9 -0.9
GDL2 Guadalupe Moun 38.42 298 eP P 23 43 05.7 -0.4
GDL2 epP pP 23 43 13.0 -1.6
MNTX Cornudas Mount 39.19 297 eP P 23 43 12.2 -0.4
comp=Z,25nm,1.0s,mb4.9
MNTX LR LR
comp=Z,2µm,21.0s,MS5.0
ULM Lac du Bonnet 40.06 328 P P 23 43 18.2 -1.7
comp=Z,10nm,0.5s,mb4.8,baz=130,slow=8.7,SNR=39
ULM LR LR 23 59 28.2
comp=Z,4µm,19.6s,MS5.2,baz=140,slow=35
ULM Lac du Bonnet 40.06 328 P P 23 43 18.2 -1.7
ULM LR LR 23 59 28.2
SDCO Great Sand Dun 40.54 306 eP P 23 43 24.3 +0.5
comp=Z,31nm,0.9s,mb4.9
SDCO LR LR
comp=Z,4µm,19.0s,MS5.3
BNM Barren Site 40.63 300 eP P 23 43 25.0 +0.5
ANMO Albuquerque 40.65 302 P P 23 43 25.4 +0.7
comp=Z,34nm,1.1s,mb4.9,baz=103,slow=8.4,SNR=26
ANMO LR LR 00 00 32.6
comp=Z,2µm,20.7s,MS5.0,baz=0.0,slow=36
ANMO Albuquerque 40.65 302 eP P 23 43 25.3 +0.7
comp=Z,30nm,1.0s,mb4.9
ANMO LR LR
comp=Z,2µm,21.0s,MS5.0
LPM Los Pinos Moun 40.66 301 eP P 23 43 25.4 +0.6
LENM Lemitar 40.91 300 eP P 23 43 27.5 +0.6
LAZ Ladron 41.09 301 eP P 23 43 29.1 +0.8
ISCO Idaho Springs 41.21 309 eP P 23 43 29.8 +0.5
comp=Z,27nm,1.1s,mb4.8
ISCO LR LR
comp=Z,3µm,21.0s,MS5.2
PHWY Pilot Hill 41.57 311 eP P 23 43 32.3 0.0
PHWY epP pP 23 43 40.2 -0.6
RSSD Black Hills 41.63 316 PFAKE 23 43 40.0 +7.2
RSSD LR LR
comp=Z,3µm,21.0s,MS5.1
SMCO Snowmass 42.04 308 eP P 23 43 36.3 +0.2
comp=Z,25nm,1.2s,mb4.7
RWWY Rawlins 42.94 311 eP P 23 43 43.8 +0.4
comp=Z,44nm,1.1s,mb5.1
PV01 Paradox Valley 42.99 306 eP P 23 43 44.4 +0.5
PV10 Paradox Valley 43.40 306 eP P 23 43 47.5 +0.3
PV10 eScP ScP 23 49 25.1 +0.5
DGMT Dagmar 43.62 321 eP P 23 43 48.0 -1.0
comp=Z,11nm,0.9s,mb4.6
DGMT LR LR
comp=Z,3µm,19.0s,MS5.3
TUC Tucson 43.82 297 eP P 23 43 51.5 +1.0
comp=Z,21nm,0.9s,mb4.9
TUC LR LR
comp=Z,2µm,21.0s,MS5.0
LAO LASA Array 44.08 318 eP P 23 43 53.0 +0.4
comp=Z,38nm,1.0s,mb5.1
LAO LR LR
comp=Z,5µm,20.0s,MS5.4
FRB Frobisher Bay 44.67 357 P P 23 43 56.1 -1.2
comp=Z,26nm,0.9s,mb5.0,baz=175,slow=8.7,SNR=13
SRU San Rafael 44.70 307 eP P 23 43 58.0 +0.5
comp=Z,16nm,0.7s,mb5.0
SRU San Rafael 44.70 307 eP P 23 43 58.0 +0.4
SRU pmax pmax
comp=Z,16nm,0.7s,mb5.0
WUAZ Wupatki 44.70 301 eP P 23 43 58.5 +0.9
comp=Z,47nm,1.1s,mb5.2
WUAZ LR LR
comp=Z,3µm,22.0s,MS5.2
PDAR Pinedale Array 44.93 312 P P 23 43 59.3 -0.1
comp=Z,8.8nm,0.8s,mb4.6,baz=116,slow=9.8,SNR=50
PDAR LR LR 00 01 31.8
comp=Z,2µm,21.0s,MS5.0,baz=119,slow=34
BW06 Boulder Array 44.93 312 PFAKE 23 44 10.0 +11
BW06 LR LR
comp=Z,2µm,21.0s,MS5.1
FCC Fort Churchill 45.20 338 eP P 23 43 59.9 -1.7
comp=Z,28nm,1.0s,mb5.0
TMUT Trail Mountain 45.26 307 eP P 23 44 02.4 +0.4
DAU Daniels Canyon 45.54 308 eP P 23 44 03.4 -0.9
DAU epP pP 23 44 12.1 -0.8
CPUP Villa Florida 45.67 172 eP P 23 44 01.5 -3.8
comp=Z,152nm,0.7s,mb6.0
CPUP LR LR
comp=Z,435nm,19.0s,MS4.4
CPUP Villa Florida 45.67 172 eP P 23 44 01.5 -3.8
CPUP pmax pmax
comp=Z,152nm,0.7s
CPUP MLR MLR
comp=Z,435nm,19.0s
MPU Maple Canyon 45.73 308 eP P 23 44 06.1 +0.3
comp=Z,32nm,1.2s,mb5.1
MPU LR LR
comp=Z,4µm,20.0s,MS5.3
FFC Flin Flon 45.75 330 P P 23 44 04.1 -1.8
comp=Z,45nm,0.9s,mb5.4,SNR=5.2
FFC Flin Flon 45.75 330 eP P 23 44 03.9 -2.0
comp=Z,11nm,0.9s,mb4.8
FFC LR LR
comp=Z,7µm,20.0s,MS5.6
FFC Flin Flon 45.75 330 eP P 23 44 03.9 -2.0

FFC pmax pmax
comp=Z,11nm,0.9s,mb4.8
FFC MLR MLR
comp=Z,7µm,20.0s,MS5.6
CAM3 Guarapari 45.82 149⇑ iP P 23 44 05.5 -0.9
CAM3 i 23 44 09.9
TCUT Toone Canyon 45.82 309 eP P 23 44 07.1 +0.6
MSU Marysvale 45.84 305 eP P 23 44 07.7 +1.1
MVU Marysvale 45.87 305 PFAKE 23 44 20.0 +13
MVU LR LR
comp=Z,2µm,22.0s,MS5.1
LOHW Long Hollow 45.91 313 eP P 23 44 06.9 -0.2
comp=Z,24nm,0.8s,mb5.2
GCMT Greycliff 45.96 316 eP P 23 44 07.6 +0.1
SNOW Snow King Moun 45.97 312 eP P 23 44 08.1 +0.4
comp=Z,55nm,1.2s,mb5.4
REDW Red Top Meadow 46.01 312 eP P 23 44 08.1 +0.1
comp=Z,116nm,1.4s,mb5.6
REDW epP pP 23 44 15.4 -1.2
AHID Auburn Hatcher 46.02 311 eP P 23 44 07.8 -0.2
comp=Z,64nm,1.2s,mb5.4
AHID LR LR
comp=Z,2µm,19.0s,MS5.1
NLU North Lily Min 46.05 307 eP P 23 44 07.1 -1.2
HWUT Hardware Ranch 46.05 310 eP P 23 44 08.0 -0.3
comp=Z,33nm,0.8s,mb5.3
HWUT epP pP 23 44 15.9 -1.0
HWUT LR LR
comp=Z,2µm,19.0s,MS5.2
LKWY Lake 46.05 314 eP P 23 44 09.5 +1.2
comp=Z,16nm,1.0s,mb4.9
LKWY LR LR
comp=Z,4µm,20.0s,MS5.4
FLWY Flagg Ranch 46.11 313 eP P 23 44 09.0 +0.3
comp=Z,18nm,0.8s,mb5.1
NOQ North Oquirrh 46.24 308 eP P 23 44 10.7 +1.0
comp=Z,80nm,1.1s,mb5.6
CAM4 Nova Friburgo 46.27 152⇑ iP P 23 44 09.1 -0.9
CAM4 i 23 44 12.7
CAM4 i 23 44 19.5
CAM4 i 23 44 26.7
CAM4 i 23 44 52.3
YFT Old Faithful 46.32 314 eP P 23 44 12.1 +1.7
YMR Madison River 46.47 314 eP P 23 44 11.5 -0.1
comp=Z,24nm,0.8s,mb5.2
YMR epP pP 23 44 20.6 +0.4
YMR LR LR
comp=Z,2µm,19.0s,MS5.1
SPUT South Promonto 46.63 309 eP P 23 44 12.9 +0.1
SPUT epP pP 23 44 20.8 -0.7
DUG Dugway 46.66 308 eP P 23 44 13.8 +0.7
comp=Z,27nm,1.0s,mb5.1
DUG epP pP 23 44 21.4 -0.3
DUG LR LR
comp=Z,3µm,20.0s,MS5.2
ARUT Antelope Range 46.70 304 eP P 23 44 14.1 +0.7
EGMT Eagleton 46.81 319 eP P 23 44 14.2 0.0
comp=Z,16nm,1.0s,mb4.9
EGMT LR LR
comp=Z,4µm,21.0s,MS5.4
QLMT Earthquake Lak 46.84 314 eP P 23 44 15.4 +1.0
BGU Big Grassy Mou 46.97 308 eP P 23 44 19.6 +4.1
HVU Hansel Valley 46.98 310 eP P 23 44 15.4 -0.1
comp=Z,26nm,0.8s,mb5.2
HVU Hansel Valley 46.98 310 eP P 23 44 15.4 -0.1
HVU pmax pmax
comp=Z,26nm,0.8s,mb5.2
BOZ Bozeman (W) 47.22 315 eP P 23 44 17.1 -0.3
comp=Z,18nm,0.9s,mb5.0
BOZ LR LR
comp=Z,5µm,22.0s,MS5.4
HRY Holter Researc 47.68 316 eP P 23 44 20.1 -1.0
DLMT Dillon 47.78 314 eP P 23 44 21.8 0.0
comp=Z,70nm,1.3s,mb5.5
DLMT epP pP 23 44 29.8 -0.6
MCMT McKenzie Canyo 47.80 314 eP P 23 44 22.3 +0.4
HLID Hailey 48.57 312 eP P 23 44 28.1 +0.2
comp=Z,19nm,0.9s,mb5.1
HLID LR LR
comp=Z,3µm,21.0s,MS5.2
ELK Elko 48.58 308 P P 23 44 27.4 -0.5
comp=Z,13nm,0.9s,mb4.9,baz=106,slow=6.0,SNR=9.1
SFJD Kangerlussuaq 48.59 7 P P 23 44 27.9 -0.2
comp=Z,13nm,0.8s,mb5.0,baz=180,slow=10,SNR=5.9
SFJD LR LR 00 02 03.9
comp=Z,2µm,22.0s,MS5.1,baz=177,slow=32
SFJD Kangerlussuaq 48.59 7 iP P 23 44 27.7 -0.4
comp=Z,15nm,1.0s,mb5.0
SFJD e 23 45 08.3
SFJD iS S 23 51 31.6 +3.6
SFJD
comp=Z,2µm,21.0s
CHMT Chamberlain Mo 48.67 316 eP P 23 44 27.8 -0.9
PFO Pinyon Flat Ob 48.68 298 eP P 23 44 29.4 +0.7
comp=Z,9.6nm,1.2s,mb4.7
PFO LR LR
comp=Z,2µm,21.0s,MS5.1
BAR Barrett 48.81 297 eP P 23 44 30.4 +0.6
MSO Missoula 49.10 316 eP P 23 44 31.7 -0.3
comp=Z,1.0nm,0.4s,mb4.2
MSO LR LR
comp=Z,3µm,22.0s,MS5.3
TPH Tonopah 49.70 304 eP P 23 44 36.5 0.0
comp=Z,17nm,0.9s,mb5.1
TPH LR LR
comp=Z,2µm,21.0s,MS5.0
DAC Darwin (Calif) 49.81 302 eP P 23 44 38.1 +0.7
comp=Z,23nm,1.0s,mb5.2
DAC LR LR
comp=Z,2µm,20.0s,MS5.1
BMN Battle Mountai 50.02 307 eP P 23 44 39.6 +0.6
comp=Z,33nm,1.0s,mb5.3
BMN epP pP 23 44 47.2 -0.4
BMN LR LR
comp=Z,2µm,21.0s,MS5.2
MWC Mount Wilson 50.04 299 eP P 23 44 38.7 -0.5
ISA Isabella 50.47 301 PFAKE 23 44 50.0 +7.6
ISA LR LR
comp=Z,487nm,20.0s,MS4.5
NVAR Mina Array Bea 50.58 304 P P 23 44 43.3 0.0
comp=Z,15nm,1.0s,mb4.9,baz=106,slow=6.7,SNR=19
CFAA Coronel Fontan 50.63 185 LR LR 00 08 30.4
comp=Z,452nm,21.7s,MS4.5,baz=112,slow=39
BMO Blue Mountains 50.88 313 eP P 23 44 44.2 -1.3
comp=Z,21nm,1.4s,mb4.9
BMO e pP 23 44 50.9 -3.3
BMO LR LR
comp=Z,3µm,20.0s,MS5.3
EDM Edmonton 50.89 324 eP P 23 44 43.8 -1.7
PTEO Sao Teotonio 51.24 57 eP P 23 44 49.4 +1.2
comp=Z,58nm,0.9s,mb5.5
WVOR Wild Horse Val 51.38 309 eP P 23 44 49.6 +0.3
comp=Z,26nm,1.2s,mb5.0
WVOR LR LR
comp=Z,3µm,21.0s,MS5.2
NEW Newport 51.57 317 P P 23 44 50.1 -0.5
comp=Z,15nm,0.6s,mb5.1,baz=111,slow=7.3,SNR=18
NEW LR LR 00 06 34.7
comp=Z,5µm,19.8s,MS5.5,baz=106,slow=36
NEW Newport 51.57 317 eP P 23 44 49.5 -1.1
comp=Z,22nm,0.8s,mb5.2
NEW LR LR
comp=Z,6µm,21.0s,MS5.6
PTOM Tomar 51.69 54 eP P 23 44 51.9 +0.4
comp=Z,87nm,1.4s,mb5.5
PBEJ Beja 51.96 56 eP P 23 44 53.9 +0.4
comp=Z,20nm,0.9s,mb5.0
STS Santiago 52.02 50 P P 23 44 53.8 -0.2
CMB Columbia Colle 52.18 304 eP P 23 44 55.2 0.0
comp=Z,8.1nm,1.0s,mb4.6
CMB LR LR
comp=Z,2µm,21.0s,MS5.1
CMB Columbia Colle 52.18 304 eP P 23 44 55.2 0.0
CMB pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CMB MLR MLR
comp=Z,2µm,21.0s,MS5.1
PVIS Viseu 52.21 53 eP P 23 44 55.8 +0.4
comp=Z,50nm,1.6s,mb5.2
EGRO El Granado 52.22 57 P P 23 44 56.4 +0.9
ELOB Lobios 52.23 52 P P 23 44 55.1 -0.5
PCAB Cabril 52.24 52 eP P 23 44 56.1 +0.5
comp=Z,62nm,1.1s,mb5.5
PEL Peldehue 52.40 187⇓ eP P 23 44 54.4 -2.4
PVRL Vila Real 52.41 52 eP P 23 44 57.3 +0.4
comp=Z,82nm,1.3s,mb5.5

PCBR Castelo Branco 52.43 54 *e*P **P 23 44 57.4 +0.4**
comp=Z,47nm,1.5s,mb5.2
MTE Manteigas 52.44 53 *e*P **P 23 44 57.7 +0.6**
comp=Z,72nm,1.0s,mb5.6
MTE *e*S **S 23 52 21.2 -0.2**
MTE *e*LR LR 23 59 55.6
MTE Manteigas 52.44 53 *e*P **P 23 44 57.1 0.0**
comp=Z,37nm,0.8s,mb5.4
MOD Modoc 52.53 308 *e*P **P 23 44 58.1 +0.4**
comp=Z,9.8nm,1.0s,mb4.7
MOD *e*pP pP 23 45 06.4 -0.1
MOD LR LR
comp=Z,2µm,20.0s,MS5.2
FCH Farellones 52.53 187⇑ *e*P **P 23 44 55.9 -1.9**
CLCH Cerro Calan 52.63 187⇑ *e*P **P 23 44 56.5 -2.0**
EBAD Badajoz 52.69 56 P **P 23 44 58.5 -0.5**
EMIN Mina Concepcio 52.88 57 P **P 23 45 00.8 +0.5**
SAO San Andreas Ge 52.94 302 PFAKE 23 45 10.0 +9.2
SAO LR LR
comp=Z,2µm,20.0s,MS5.2
ERUA La Rua 52.98 51 P **P 23 44 59.8 -1.3**
EPON Pontenova 53.10 50 P **P 23 45 01.4 -0.6**
ECAL Calabor 53.22 52 P **P 23 45 03.4 +0.5**
CACH El Canelo 53.35 187⇑ *e*P **P 23 45 02.1 -1.7**
ESPR Espera 53.48 58 P **P 23 45 05.3 +0.5**
BORG Borgarnes 53.64 21 LR LR 00 05 12.8
comp=Z,2µm,18.5s,MS5.2,baz=30,slow=33
BORG Borgarnes 53.64 21 P **P 23 45 06.0 0.0**
comp=Z,27nm,1.1s,mb5.1
EJIF Jimena Fronter 53.77 58 P **P 23 45 08.4 +1.5**
WDC Whiskeytown Da 54.06 307 *e*P **P 23 45 07.2 -1.9**
WDC LR LR
comp=Z,1µm,21.0s,MS5.0
YBH Yreka Blue Hor 54.29 308 P **P 23 45 09.8 -0.9**
comp=Z,31nm,1.2s,mb5.1,baz=120,slow=4.4,SNR=15
YBH LR LR 00 08 45.3
comp=Z,2µm,19.3s,MS5.1,baz=101,slow=36
YBH Yreka Blue Hor 54.29 308 *e*P **P 23 45 09.5 -1.2**
comp=Z,24nm,0.9s,mb5.1
YBH LR LR
comp=Z,2µm,20.0s,MS5.3
YBH Yreka Blue Hor 54.29 308 *e*P **P 23 45 09.5 -1.2**
YBH pmax pmax
comp=Z,24nm,0.9s
YBH MLR MLR
comp=Z,2µm,20.0s
EMIJ Mijas 54.34 58 P **P 23 45 11.8 +0.7**
HOPS Hopland 54.35 305 PFAKE 23 45 20.0 +8.9
HOPS LR LR
comp=Z,3µm,20.0s,MS5.3
MDT Midelt 54.45 63 LR LR 00 03 34.1
comp=Z,3µm,20.7s,MS5.4,baz=268,slow=30
EARI Arriondas 54.51 50 P **P 23 45 13.6 +1.4**
EADA Adamuz 54.56 56 P **P 23 45 13.5 +0.9**
HUMO Hull Mountain 54.57 309 *e*P **P 23 45 12.7 0.0**
comp=Z,18nm,1.0s,mb5.1
HUMO LR LR
comp=Z,2µm,22.0s,MS5.1
ELUQ Luque 54.78 57 P **P 23 45 14.9 +0.7**
ELOJ Sierra Loja 54.85 58 P **P 23 45 16.4 +1.6**
GUD Guadarrama 55.03 53 P **P 23 45 17.2 +1.1**
COR Corvallis 55.05 311 PFAKE 23 45 30.0 +14
COR LR LR
comp=Z,1µm,19.0s,MS5.0
DCN Croghan 55.10 38 *e*P **P 23 45 15.0 -1.6**
ESDC Sonseca Array 55.12 55 P **P 23 45 17.4 +0.7**
comp=Z,25nm,1.1s,mb5.2,baz=262,slow=6.4,SNR=41
ESDC Sonseca Array 55.12 55 P **P 23 45 16.9 +0.3**
ESLA Sonseca Array 55.12 55 *e*P **P 23 45 17.4 +0.7**
comp=Z,9.6nm,1.1s,mb4.7
ESLA LR LR
comp=Z,18µm,22.0s,MS6.1
ERON Agron 55.13 58 P **P 23 45 17.8 +1.0**
EBAN Banos Encina 55.18 56 P **P 23 45 18.0 +0.8**
ECOG Cogollos-Vega 55.32 58 P **P 23 45 19.2 +1.0**
SUMG Summit 55.39 9 *e*P **P 23 45 18.6 -0.1**
comp=Z,79nm,1.0s,mb5.7
SUMG *e* 23 45 37.7
YKA Yellowknife Ar 55.43 334 P **P 23 45 16.9 -2.1**
comp=Z,5.4nm,0.6s,mb4.8,baz=108,slow=7.4,SNR=84
YKA LR LR 00 08 20.6
comp=Z,5µm,19.6s,MS5.6,baz=105,slow=35
YKA PKP2bc 00 15 31.4
comp=Z,0.1nm,0.5s,baz=297,slow=1.6,SNR=4.2
YKA Yellowknife Ar 55.43 334 P **P 23 45 16.9 -2.1**
YKA LR LR 00 08 20.6
YKA ⇑*e* 00 15 31.4
YKA Yellowknife Ar 55.43 334⇑ *e*P **P 23 45 16.8 -2.2**
YKW3 Yellowknife Ar 55.47 334 *e*P **P 23 45 16.6 -2.6**
YKW3 *es*P sP 23 45 27.0 -4.4
DLF Lyons Farm 55.52 38 *e*P **P 23 45 16.0 -3.6**
EQES Quesada 55.73 57 P **P 23 45 21.6 +0.5**
ELAN Lanestosa 55.79 50 P **P 23 45 22.0 +0.5**
EBER Berja 55.86 58 P **P 23 45 23.1 +1.1**
OCWA Octopus Mounta 56.09 315 PFAKE 23 45 30.0 +6.3
OCWA LR LR
comp=Z,4µm,20.0s,MS5.5
EVIA Vianos 56.20 56 P **P 23 45 25.5 +1.0**
ENIJ Nijar 56.41 58 P **P 23 45 27.1 +1.1**
ROSF Rostrenen 56.53 44 *e*P **P 23 45 25.6 -1.2**
QUIF Quistinic 56.54 45 *e*P **P 23 45 25.7 -1.2**
TRQA Tornquist 56.94 178 *e*P **P 23 45 26.7 -3.0**
comp=Z,50nm,0.6s,mb5.7
ETOB Tobarra 56.95 56 P **P 23 45 31.3 +1.5**
SGMF Saint Gilles 56.99 44 *e*P **P 23 45 28.9 -1.2**
SCO Scoresbysund 57.10 16 *i* P **P 23 45 31.6 +0.7**
comp=Z,2.3nm,0.7s,mb4.3
SCO Scoresbysund 57.10 16 *e*P **P 23 45 31.6 +0.7**
comp=Z,2.3nm,0.7s,mb4.3
SCO Scoresbysund 57.10 16 *e*P **P 23 45 31.6 +0.7**
SCO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
EMUR La Murta 57.18 57 P **P 23 45 31.8 +0.4**
EALK Alkurruntz 57.19 50 P **P 23 45 33.2 +1.7**
SJPF Ste Jean 57.39 51 *e*P **P 23 45 33.1 +0.2**
comp=Z,100nm,0.8s,mb5.6
SJPF Ste Jean 57.39 51 *e*P **P 23 45 33.1 +0.2**
comp=Z,50nm,0.8s,mb5.6
SJPF Ste Jean 57.39 51 *e*P **P 23 45 33.1 +0.2**
SJPF pmax pmax
comp=Z,50nm,0.8s,mb5.6
ECHE Chera 57.42 55 P **P 23 45 34.6 +1.5**
EMOS Mosqueruela 57.82 54 P **P 23 45 37.4 +1.5**
ETSF Etsaut 57.86 51 *e*P **P 23 45 36.4 +0.2**
comp=Z,20nm,0.8s,mb4.9
ETSF Etsaut 57.86 51 *e*P **P 23 45 36.4 +0.2**
comp=Z,10.0nm,0.8s,mb4.9
ETSF Etsaut 57.86 51 *e*P **P 23 45 36.4 +0.2**
ETSF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ESAC San Caprasio 57.87 52 P **P 23 45 37.4 +1.1**
ESK Eskdalemuir 57.90 36 P **P 23 45 36.1 -0.4**
comp=Z,220nm,0.8s,mb6.2,SNR=6.3
ESK Eskdalemuir 57.90 36 *e*P **P 23 45 36.4 -0.1**
comp=Z,25nm,0.7s,mb5.3
ESK LR LR
comp=Z,3µm,20.0s,MS5.3
ESK Eskdalemuir 57.90 36 *e*P **P 23 45 36.4 -0.1**
ESK pmax pmax
comp=Z,25nm,0.7s,mb5.3
ESK MLR MLR
comp=Z,3µm,20.0s,MS5.3
EBEN Beniarda 57.99 56 P **P 23 45 39.2 +2.1**
RES Resolute Bay 58.00 351 *e*P **P 23 45 35.0 -2.1**
comp=Z,8.4nm,1.1s,mb4.7
GRR Gorron 58.13 44 *e*P **P 23 45 36.8 -1.3**
comp=Z,35nm,0.7s,mb5.2
GRR Gorron 58.13 44 *e*P **P 23 45 36.8 -1.3**
comp=Z,18nm,0.7s,mb5.2
EBIE Bielsa 58.37 51 P **P 23 45 40.9 +1.2**
FLN La Foliniere 58.43 44 *e*P **P 23 45 39.7 -0.5**
comp=Z,40nm,0.8s,mb5.2
FLN *e*R
comp=Z,2µm,20.0s
FLN La Foliniere 58.43 44 *e*P **P 23 45 39.7 -0.5**
comp=Z,20nm,0.8s,mb5.2
FLN LR LR
comp=Z,2µm,20.0s,MS5.2
FLN La Foliniere 58.43 44 *e*P **P 23 45 39.7 -0.5**
FLN pmax pmax
comp=Z,20nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,2µm,20.0s,MS5.2
MFF Saint Martin d 58.43 47 *e*P **P 23 45 39.9 -0.3**
comp=Z,108nm,1.2s,mb5.5
MFF Saint Martin d 58.43 47 *e*P **P 23 45 39.9 -0.3**
comp=Z,54nm,1.2s,mb5.5
MFF Saint Martin d 58.43 47 *e*P **P 23 45 39.9 -0.3**
MFF pmax pmax
comp=Z,54nm,1.2s,mb5.5
ERTA Horta de San J 58.45 53 P **P 23 45 41.1 +0.8**
EGRA Graus 58.48 52 P **P 23 45 42.3 +1.7**
EPF Esparros 58.53 51 *e*P **P 23 45 41.1 +0.2**
comp=Z,162nm,1.2s,mb5.6
EPF Esparros 58.53 51 *e*P **P 23 45 41.1 +0.2**
comp=Z,81nm,1.2s,mb5.6
EPF Esparros 58.53 51 *e*P **P 23 45 41.1 +0.2**
EPF pmax pmax
comp=Z,81nm,1.2s,mb5.6
EBR Ebro Roquetas 58.57 53 *e*Ts 23 45 44.0
LDF La Druitiere 58.64 44 *e*P **P 23 45 41.1 -0.6**
comp=Z,38nm,0.8s,mb5.2
LDF La Druitiere 58.64 44 *e*P **P 23 45 41.1 -0.6**
comp=Z,19nm,0.8s,mb5.2
DBIC Dimbokro 58.71 94 P **P 23 45 42.0 -0.1**
comp=Z,31nm,0.8s,mb5.4,baz=278,slow=7.5,SNR=68
DBIC LR LR 00 09 24.6
comp=Z,2µm,18.2s,MS5.3,baz=264,slow=34
DBIC Dimbokro 58.71 94 *e*P **P 23 45 42.0 -0.2**
comp=Z,29nm,0.8s,mb5.4
DBIC LR LR
comp=Z,2µm,19.0s,MS5.3
DBIC Dimbokro 58.71 94 *e*P **P 23 45 42.0 -0.1**
DBIC pmax pmax
comp=Z,29nm,0.8s
DBIC MLR MLR
comp=Z,2µm,19.0s
LFF La Frestale 58.92 49 *e*P **P 23 45 43.6 0.0**
EPOB Poblet 59.02 53 P **P 23 45 44.9 +0.6**
EIBI Ibiza 59.21 55 P **P 23 45 46.6 +1.0**
BBB Bella Bella 59.27 320 LR LR 00 10 31.0
comp=Z,2µm,19.2s,MS5.3,baz=0.0,slow=35
EMIR Miracle 59.37 52 P **P 23 45 47.8 +1.1**
RJF Les Rejaudoux 59.49 48 *e*P **P 23 45 47.0 -0.6**
comp=Z,102nm,1.1s,mb5.5
RJF *e*R
comp=Z,2µm,19.8s
RJF Les Rejaudoux 59.49 48 *e*P **P 23 45 47.0 -0.6**
comp=Z,51nm,1.1s,mb5.5
RJF LR LR
comp=Z,2µm,19.8s,MS5.3
CAF Calviac 59.86 49 *e*P **P 23 45 49.8 -0.3**
comp=Z,94nm,1.1s,mb5.4
CAF Calviac 59.86 49 *e*P **P 23 45 49.8 -0.3**
comp=Z,47nm,1.1s,mb5.4
PLCA Paso Flores 59.89 186 P **P 23 45 48.2 -2.1**
comp=Z,28nm,0.7s,mb5.4,baz=2.8,slow=7.5,SNR=113
PLCA LR LR 00 15 05.0
comp=Z,3µm,19.6s,MS5.4,baz=13,slow=39
PLCA Paso Flores 59.89 186 *e*P **P 23 45 48.0 -2.3**
comp=Z,29nm,0.7s,mb5.4
PLCA *e*PP PP 23 47 58.7 -3.8
PLCA LR LR
comp=Z,3µm,21.0s,MS5.4
MTLF Montolieu 59.91 50 *e*P **P 23 45 50.0 -0.5**
comp=Z,55nm,0.9s,mb5.3
MTLF Montolieu 59.91 50 *e*P **P 23 45 50.0 -0.5**
comp=Z,27nm,0.9s,mb5.3
TCF Toulx Ste Croi 60.03 47 *e*P **P 23 45 50.7 -0.6**
comp=Z,46nm,0.8s,mb5.2
TCF Toulx Ste Croi 60.03 47 *e*P **P 23 45 50.7 -0.6**
comp=Z,23nm,0.8s,mb5.3
ETOS Mallorca 60.34 55 P **P 23 45 55.9 +2.4**
EJON La Jonquera 60.39 52 P **P 23 45 54.8 +1.0**
BGF Bois d'Agland 60.48 47 *e*P **P 23 45 53.8 -0.6**
comp=Z,57nm,1.1s,mb5.2
BGF Bois d'Agland 60.48 47 *e*P **P 23 45 53.8 -0.6**
comp=Z,28nm,1.0s,mb5.2
BGF Bois d'Agland 60.48 47 *e*P **P 23 45 53.8 -0.6**
BGF pmax pmax
comp=Z,28nm,1.0s,mb5.2
LBL Lubilhac 60.71 48 *e*P **P 23 45 56.4 +0.5**
AVF Avril sur Loir 60.84 47 *e*P **P 23 45 55.9 -0.9**
comp=Z,39nm,0.7s,mb5.3
AVF Avril sur Loir 60.84 47 *e*P **P 23 45 55.9 -0.9**
comp=Z,19nm,0.7s,mb5.3
AVF Avril sur Loir 60.84 47 *e*P **P 23 45 55.9 -0.9**
AVF pmax pmax
comp=Z,19nm,0.7s,mb5.3
SSF Saint Saulge 60.96 46 *e*P **P 23 45 56.7 -0.9**
comp=Z,67nm,1.2s,mb5.4
SSF Saint Saulge 60.96 46 *e*P **P 23 45 56.7 -0.9**
comp=Z,34nm,1.2s,mb5.3
SSF Saint Saulge 60.96 46 *e*P **P 23 45 56.7 -0.9**
SSF pmax pmax
comp=Z,34nm,1.2s,mb5.3
PLDF La Plantade 60.99 48 *e*P **P 23 45 59.2 +1.3**
JMIC Jan Mayen 61.07 18 *e*S **S 23 54 14.0 -1.5**
JMIC AMS AMS 00 07 39.2
comp=Z,3µm,20.7s,MS5.4
JMIC Jan Mayen 61.07 18 LR LR 00 07 04.4
comp=Z,3µm,21.6s,MS5.4,baz=257,slow=31
LASF Ste Croix 61.12 50 *e*P **P 23 45 58.8 +0.1**
comp=Z,127nm,1.3s,mb5.6
SMF Signal de Mont 61.17 47 *e*P **P 23 45 58.3 -0.8**
comp=Z,128nm,1.3s,mb5.6
SMF Signal de Mont 61.17 47 *e*P **P 23 45 58.3 -0.8**
comp=Z,64nm,1.3s,mb5.6
SMF Signal de Mont 61.17 47 *e*P **P 23 45 58.3 -0.8**
SMF pmax pmax
comp=Z,64nm,1.3s,mb5.6
LOR Lormes 61.21 46 *e*P **P 23 45 58.3 -1.0**
comp=Z,39nm,0.7s,mb5.3
LOR *e*R
comp=Z,2µm,19.5s
LOR Lormes 61.21 46 *e*P **P 23 45 58.3 -1.0**
comp=Z,20nm,0.7s,mb5.3
LOR LR LR
comp=Z,2µm,19.5s,MS5.3
LOR Lormes 61.21 46 *e*P **P 23 45 58.3 -1.0**
LOR pmax pmax
comp=Z,20nm,0.7s,mb5.4
LOR MLR MLR
comp=Z,2µm,19.5s,MS5.3
VIVF Saint-Julien-l 61.71 49 *e*P **P 23 46 03.0 +0.3**
comp=Z,154nm,1.2s,mb5.7
VIVF Saint-Julien-l 61.71 49 *e*P **P 23 46 03.0 +0.3**
comp=Z,77nm,1.2s,mb5.7
VIVF Saint-Julien-l 61.71 49 *e*P **P 23 46 03.0 +0.3**
VIVF pmax pmax
comp=Z,77nm,1.2s,mb5.7
UCC Uccle 61.74 42 P **P 23 46 03.2 +0.2**
UCC E 23 46 17.2
DOU Dourbes 61.85 43 P **P 23 46 03.7 +0.1**
DOU AP pP 23 46 09.2 -3.3
DOU XP sP 23 46 17.2 +1.3
DAG Danmarks Havn 61.94 11⇑ *i*P **P 23 46 01.2 -3.0**
comp=Z,6.2nm,0.7s,mb4.8
DAG
comp=Z,6µm,21.0s
DAG Danmarks Havn 61.94 11⇑ *i*P **P 23 46 01.2 -3.0**
DAG pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
DAG MLR MLR
comp=Z,6µm,21.0s,MS5.7
GIVF Givet 61.99 43 *e*P **P 23 46 03.7 -0.9**
comp=Z,54nm,0.8s,mb5.4
GIVF Givet 61.99 43 *e*P **P 23 46 03.7 -0.9**
comp=Z,27nm,0.8s,mb5.4
GIVF Givet 61.99 43 *e*P **P 23 46 03.7 -0.9**
GIVF pmax pmax
comp=Z,27nm,0.8s,mb5.4
PRAF Pradon 62.06 50 *e*P **P 23 46 06.9 +1.8**
MEZF Maizieres J'vi 62.06 45 *e*P **P 23 46 04.5 -0.6**
comp=Z,155nm,0.8s,mb5.9
MEZF Maizieres J'vi 62.06 45 *e*P **P 23 46 04.5 -0.6**
comp=Z,155nm,0.8s,mb6.2
SMRF Simiane la Rot 62.35 50 *e*P **P 23 46 06.4 -0.6**
comp=Z,66nm,1.0s,mb5.4
SMRF Simiane la Rot 62.35 50 *e*P **P 23 46 06.4 -0.6**
comp=Z,66nm,1.0s,mb5.7
VILF Villemus 62.46 50 *e*P **P 23 46 09.5 +1.8**
ORIF Oris-en-Rattie 62.57 49 *e*P **P 23 46 09.0 +0.6**
comp=Z,41nm,0.8s,mb5.3
ORIF *e*R
comp=Z,1µm,20.8s
ORIF Oris-en-Rattie 62.57 49 *e*P **P 23 46 09.0 +0.6**
comp=Z,20nm,0.8s,mb5.3
ORIF Oris-en-Rattie 62.57 49 *e*P **P 23 46 09.0 +0.6**
ORIF pmax pmax
comp=Z,20nm,0.8s,mb5.3
THEF They Montfort 62.68 45 *e*P **P 23 46 08.7 -0.5**
TAVF Tavernes 62.71 50 *e*P **P 23 46 10.7 +1.3**
CABF La Chapelle 62.72 47 *e*P **P 23 46 08.8 -0.7**
comp=Z,39nm,0.9s,mb5.2
CABF La Chapelle 62.72 47 *e*P **P 23 46 08.8 -0.7**
comp=Z,19nm,0.9s,mb5.2
CABF La Chapelle 62.72 47 *e*P **P 23 46 08.8 -0.7**
CABF pmax pmax
comp=Z,19nm,0.9s,mb5.2
HGN Heimansgroeve 62.74 42 *e*P **P 23 46 07.8 -1.7**
comp=Z,30nm,1.1s,mb5.3
HGN *e*S **S 23 54 41.0 +4.5**
MEM Membach 62.78 42 P **P 23 46 10.1 +0.3**
MEM E 23 46 24.6
WLF Walferdange 62.83 43 *e*P **P 23 46 10.2 0.0**
comp=Z,90nm,1.6s,mb5.7
WLF Walferdange 62.83 43 *e*P **P 23 46 10.2 0.0**
comp=Z,37nm,0.9s,mb5.5
WLF Walferdange 62.83 43 *e*P **P 23 46 10.2 0.0**
WLF pmax pmax
comp=Z,37nm,0.9s,mb5.5
HAU Haudompre 62.92 45 *e*P **P 23 46 10.8 0.0**
comp=Z,39nm,0.9s,mb5.2
HAU *e*R
comp=Z,2µm,20.2s
HAU Haudompre 62.92 45 *e*P **P 23 46 10.8 0.0**
comp=Z,20nm,0.9s,mb5.2
HAU LR LR
comp=Z,2µm,20.3s,MS5.2
HAU Haudompre 62.92 45 *e*P **P 23 46 10.8 0.0**
HAU pmax pmax
comp=Z,20nm,0.9s,mb5.2
HAU MLR MLR
comp=Z,2µm,20.3s,MS5.2
LMR La Mourre 63.04 51 *e*P **P 23 46 11.1 -0.5**
comp=Z,42nm,0.8s,mb5.3
LMR La Mourre 63.04 51 *e*P **P 23 46 11.1 -0.5**
comp=Z,21nm,0.8s,mb5.3
LMR La Mourre 63.04 51 *e*P **P 23 46 11.1 -0.5**
LMR pmax pmax
comp=Z,21nm,0.8s,mb5.3
TORD Torodi Ar. Bea 63.07 85 P **P 23 46 11.5 -0.3**
comp=Z,15nm,0.7s,mb5.2,baz=292,slow=5.9,SNR=88
TORD S **S 23 54 39.5 -1.1**
comp=Z,0.7nm,1.2s,baz=265,slow=17,SNR=3.0
TORD PKP2bc 00 15 17.1
comp=Z,2.8nm,1.0s,baz=87,slow=2.4,SNR=8.2
RSL Roselend 63.09 48 *e*P **P 23 46 12.9 +1.0**
BNI Bardonecchia 63.13 49 *e*P **P 23 46 13.0 +0.7**
comp=Z,20nm,0.9s,mb5.2
BNI Bardonecchia 63.13 49 *e*P **P 23 46 13.0 +0.8**
BNI pmax pmax
comp=Z,20nm,0.9s,mb5.2
FRF La Foret Royal 63.14 50 *e*P **P 23 46 11.8 -0.4**
comp=Z,121nm,1.2s,mb5.6
FRF La Foret Royal 63.14 50 *e*P **P 23 46 11.8 -0.4**
comp=Z,61nm,1.2s,mb5.6
FRF La Foret Royal 63.14 50 *e*P **P 23 46 11.8 -0.4**
FRF pmax pmax
comp=Z,61nm,1.2s,mb5.6
LPL La Plagne 63.17 48 *e*P **P 23 46 12.8 +0.4**
comp=Z,50nm,0.9s,mb5.3
LPL La Plagne 63.17 48 *e*P **P 23 46 12.8 +0.4**
comp=Z,25nm,0.9s,mb5.3
LPL La Plagne 63.17 48 *e*P **P 23 46 12.8 +0.4**
LPL pmax pmax
comp=Z,25nm,0.9s,mb5.3
LPG La Plagne 63.18 48 *e*P **P 23 46 13.0 +0.5**
comp=Z,69nm,1.1s,mb5.4
LPG La Plagne 63.18 48 *e*P **P 23 46 13.0 +0.5**
comp=Z,34nm,1.1s,mb5.4
LPG La Plagne 63.18 48 *e*P **P 23 46 13.0 +0.5**
LPG pmax pmax
comp=Z,34nm,1.1s,mb5.4
MBDF Montbardon 63.20 49 *e*P **P 23 46 13.0 +0.3**
comp=Z,44nm,0.8s,mb5.3
MBDF Montbardon 63.20 49 *e*P **P 23 46 13.0 +0.3**
comp=Z,22nm,0.8s,mb5.3
MBDF Montbardon 63.20 49 *e*P **P 23 46 13.0 +0.3**
MBDF pmax pmax
comp=Z,22nm,0.8s,mb5.3
LOMF Lomont 63.23 46 *e*P **P 23 46 13.4 +0.5**
HINF Hinteralfeld 63.25 45 *e*P **P 23 46 11.8 -1.2**
comp=Z,23nm,0.8s,mb5.1
HINF Hinteralfeld 63.25 45 *e*P **P 23 46 11.8 -1.2**
comp=Z,12nm,0.8s,mb5.1
HINF Hinteralfeld 63.25 45 *e*P **P 23 46 11.8 -1.2**
HINF pmax pmax
comp=Z,12nm,0.8s,mb5.1
BER Bergen 63.33 31 AMS AMS 00 10 31.8
comp=Z,3µm,18.9s,MS5.5
WTSB Winterswijk 63.34 41 *e*P **P 23 46 13.8 +0.2**
comp=Z,40nm,1.8s,mb5.2
RUP Ruppelstein 63.42 43 *e*P **P 23 46 13.8 -0.3**
MOF Molkenrain 63.44 45 *e*P **P 23 46 14.8 +0.5**
ECH Echery 63.46 45 *e*P **P 23 46 14.8 +0.4**
MVIF Mont Vial 63.49 50 *e*P **P 23 46 16.2 +1.6**
CDF Champ du Feu 63.54 45 *e*P **P 23 46 14.0 -0.9**
comp=Z,28nm,0.9s,mb5.0
CDF Champ du Feu 63.54 45 *e*P **P 23 46 14.0 -0.9**
comp=Z,14nm,0.9s,mb5.0
CDF Champ du Feu 63.54 45 *e*P **P 23 46 14.0 -0.9**
CDF pmax pmax
comp=Z,14nm,0.9s,mb5.0
WLS Welschbruch 63.59 45 *e*P **P 23 46 15.4 +0.1**
BUG Bochum--Univer 63.61 41 *e*P **P 23 46 15.2 -0.2**
comp=Z,42nm,1.5s,mb5.2
RPN Rapa Nui 63.63 225 LR LR 00 06 39.9
comp=Z,416nm,20.6s,MS4.6,baz=224,slow=29
AUTN L'Aution 63.69 50 *e*P **P 23 46 17.2 +1.3**
BBS Basel-Blauen 63.70 46 *e*P **P 23 46 15.5 -0.4**
SBF Sospel 63.70 50 *e*P **P 23 46 15.7 -0.3**
comp=Z,143nm,1.0s,mb5.7
SBF Sospel 63.70 50 *e*P **P 23 46 15.7 -0.3**
comp=Z,72nm,1.0s,mb5.7
SBF Sospel 63.70 50 *e*P **P 23 46 15.7 -0.3**
SBF pmax pmax
comp=Z,72nm,1.0s,mb5.7
ABH Alteburg 63.74 43 *e*P **P 23 46 15.5 -0.7**
LIBD Limburg 63.76 45 *e*P **P 23 46 17.4 +1.1**
BLS5 Blasjo 63.76 32 *e*P **P 23 46 17.9 +1.5**
BLS5 AMb AMB 23 46 28.3
comp=Z,27nm,1.8s,mb5.0
SAOF Saorge 63.78 50 *e*P **P 23 46 17.3 +0.8**
LANF Langenberg 63.90 44 *e*P **P 23 46 17.7 +0.4**
SIT Sitka 64.00 325 *e*P **P 23 46 15.8 -2.1**
SIT LR LR
comp=Z,3µm,22.0s,MS5.5
FELD Feldberg 64.03 45 *e*P **P 23 46 17.8 -0.3**
TNS Taunus Mts 64.33 43 *e*P **P 23 46 21.0 +0.9**
comp=Z,41nm,1.3s,mb5.3
TNS Taunus Mts 64.33 43 *e*P **P 23 46 21.0 +0.9**
TNS pmax pmax
comp=Z,41nm,1.3s,mb5.3
INK Inuvik 64.81 337 *e*P **P 23 46 20.7 -2.5**
comp=Z,22nm,0.9s,mb5.2
INK Inuvik 64.81 337 *e*P **P 23 46 20.7 -2.5**
INK pmax pmax
comp=Z,22nm,0.9s
STU Stuttgart 64.82 44 *e*P **P 23 46 23.8 +0.5**
comp=Z,27nm,0.9s,mb5.3
STU Stuttgart 64.82 44 *e*P **P 23 46 24.1 +0.8**
comp=Z,12nm,0.8s,mb5.0
STU Stuttgart 64.82 44 *e*P **P 23 46 24.1 +0.8**
STU pmax pmax
comp=Z,12nm,0.8s,mb5.0
PGF Pioggiola 64.90 51 *e*P **P 23 46 23.1 -0.7**
comp=Z,76nm,0.8s,mb5.5
PGF Pioggiola 64.90 51 *e*P **P 23 46 23.1 -0.7**
comp=Z,38nm,0.8s,mb5.5
PGF Pioggiola 64.90 51 *e*P **P 23 46 23.1 -0.7**
PGF pmax pmax
comp=Z,38nm,0.8s,mb5.5
MUD Monsted U'grnd 64.96 36 *i* P **P 23 46 25.1 +0.9**
comp=Z,38nm,1.0s,mb5.4
MUD *i* S **S 23 55 14.5 +10**
MUD
comp=Z,2µm,19.0s
MUD Monsted U'grnd 64.96 36 *i* P **P 23 46 25.1 +0.9**
comp=Z,38nm,1.0s,mb5.4
MUD *i* S **S 23 55 14.5 +10**
TUE Stuetta 64.97 47 P **P 23 46 25.8 +1.5**
DAVA Damuels 65.31 46⇓ *i*P **P 23 46 26.7 +0.2**
comp=Z,38nm,1.0s,mb5.4
DAVA Damuels 65.31 46 P **P 23 46 25.6 -0.9**
KONO Kongsberg 65.38 32 *e*P **P 23 46 26.3 -0.6**
KONO *e*S S 23 55 03.4 -5.9

KONO Kongsberg 65.38 32 P **P 23 46 22.0 -4.9**
KONO LR LR
comp=Z,4μm,20.0s,MS5.6
KONO Kongsberg 65.38 32 *i* P **P 23 46 27.0 +0.1**
BSEG Bad Segeberg 65.53 39 *eP* **P 23 46 28.0 +0.1**
comp=Z,16nm,0.8s,mb5.1
BSEG Bad Segeberg 65.53 39 *eP* **P 23 46 28.0 +0.1**
BSEG pmax pmax
comp=Z,16nm,0.8s,mb5.1
CLZ Clausthal 65.55 41 *eP* **P 23 46 28.4 +0.4**
comp=Z,22nm,1.2s,mb5.1
CLZ Clausthal 65.55 41 *eP* **P 23 46 28.4 +0.4**
CLZ pmax pmax
comp=Z,22nm,1.2s,mb5.1
NAO01 NORSAR Array S 66.10 31 *eP* **P 23 46 31.1 -0.5**
comp=Z,27nm,0.9s,mb5.3
NAO01 LR LR
comp=Z,4μm,19.0s,MS5.6
GRF Grafenberg Arr 66.12 43 *eL* 00 09 53.2
comp=Z,1μm,21.6s
GRF Grafenberg Arr 66.12 43 *eP* **P 23 46 31.9 +0.2**
comp=Z,13nm,0.8s,mb5.0
GRF LR LR
comp=Z,1μm,21.6s,MS5.1
GRF Grafenberg Arr 66.12 43 *eP* **P 23 46 31.9 +0.2**
GRF pmax pmax
comp=Z,13nm,0.8s,mb5.0
GRF MLR MLR
comp=Z,1μm,21.6s,MS5.1
MOTA Moosalm 66.14 46⇑ *iP* **P 23 46 32.1 +0.3**
comp=Z,20nm,0.9s,mb5.1,SNR=17
MOTA Moosalm 66.14 46 P **P 23 46 32.4 +0.6**
SQTA Sankt Quirin 66.22 46⇓ *iP* **P 23 46 32.6 +0.3**
comp=Z,42nm,1.4s,mb5.3,SNR=15
SQTA Sankt Quirin 66.22 46 P **P 23 46 33.1 +0.8**
FUR Furstenfeldbru 66.22 45 *eP* **P 23 46 32.4 +0.1**
comp=Z,17nm,0.9s,mb5.1
FUR Furstenfeldbru 66.22 45 *eP* **P 23 46 32.4 +0.1**
FUR pmax pmax
comp=Z,17nm,0.9s,mb5.1
NB2 NORSAR Subarra 66.27 31 P **P 23 46 32.7 0.0**
comp=Z,1.1nm,0.7s,baz=267,slow=6.5
NOA NORSAR Array B 66.27 31 P **P 23 46 32.4 -0.2**
comp=Z,7.5nm,0.8s,mb4.8,baz=267,slow=6.5,SNR=24
NOA pP pP 23 46 47.5 +5.8
comp=Z,13nm,0.8s,baz=267,slow=6.5,SNR=9.7
NOA LR LR 00 13 40.3
comp=Z,3μm,18.7s,MS5.5,baz=285,slow=34
NOA NORSAR Array B 66.27 31 P **P 23 46 32.4 -0.2**
NOA pP pP 23 46 47.5 +5.8
NOA LR LR 00 13 40.3
NOA NORSAR Array B 66.27 31 P **P 23 46 32.4 -0.3**
NOA *PP pP 23 46 47.5 +5.9
MOX Moxa 66.35 42 *eP* **P 23 46 33.7 +0.5**
comp=Z,22nm,1.7s,mb4.9
WATA Walderalm 66.46 46⇑ *iP* **P 23 46 34.1 +0.2**
comp=Z,16nm,1.3s,mb4.9
ROTZ Rotzenmuhle 66.76 43 *eP* **P 23 46 36.8 +1.0**
comp=Z,28nm,1.3s,mb5.1
COP Copenhagen 66.76 37 *i* P **P 23 46 44.7 +8.9**
comp=Z,52nm,1.0s,mb5.5
COP *i* S S 23 55 33.0 +6.9
COP
comp=Z,1μm,19.0s
COP Copenhagen 66.76 37 *eP* **P 23 46 44.7 +8.9**
COP *i* S S 23 55 33.0 +6.9
COP MLR MLR
comp=Z,1μm,19.0s,MS5.1
NSS Namsos 66.84 27 AMS AMS 00 10 46.6
comp=Z,1μm,22.6s,MS5.1
NKC Novy Kostel 66.90 43 *eP* **P 23 46 37.3 +0.6**
NKC *epP* pP 23 46 45.4 -0.2
NKC *ex* x 23 46 51.8
NKC *eS* S 23 55 33.4 +5.7
TANN Tannenbergstha 66.90 43 *eP* **P 23 46 37.5 +0.8**
comp=Z,22nm,1.2s,mb5.1
CLL Collm 67.20 42 *eP* **P 23 46 38.3 -0.3**
comp=Z,18nm,0.9s,mb5.1
CLL *e*LR LR 00 07 01.4
CLL *eL* 00 10 04.3
comp=Z,2μm,22.0s
CLL *e* 23 46 50.8
CLL *e*PcP PcP 23 47 01.0 -5.4
CLL *eS* S 23 55 33.8 +2.4
CLL *e*PS 23 55 57.1
CLL *e*SS SS 23 59 52.7 +1.8
CLL Collm 67.20 42 *i* P **P 23 46 38.5 -0.1**
comp=Z,18nm,0.9s,mb5.1
CLL *i* (sP) sP 23 46 50.7 -0.3
CLL *i* PcP PcP 23 47 06.4 0.0
CLL *i* x x 23 47 12.7
CLL *eS* S 23 55 32.0 +0.6
CLL *e*PS 23 56 00.0
CLL *e*SS SS 23 59 45.0 -5.9
CLL Collm 67.20 42 *i* P **P 23 46 38.5 -0.1**
comp=Z,18nm,0.9s,mb5.1
CLL *i* 23 46 50.7
CLL *eS* S 23 55 32.0 +0.6
CLL LR LR
comp=Z,2μm,19.6s,MS5.4
CLL Collm 67.20 42 *i* P **P 23 46 38.5 -0.1**
CLL *i* 23 46 50.7
CLL *eS* S 23 55 32.0 +0.6
CLL pmax pmax
comp=Z,18nm,0.9s,mb5.1
CLL MLR MLR
comp=Z,2μm,19.6s,MS5.4
WET Wettzell 67.23 44 *eP* **P 23 46 38.9 +0.1**
comp=Z,47nm,1.6s,mb5.3
WET Wettzell 67.23 44 *eP* **P 23 46 38.9 +0.1**
WET pmax pmax
comp=Z,47nm,1.6s,mb5.3
HFA0 Hagfors New Ar 67.46 32 P **P 23 46 39.7 -0.5**
KBA Koelnbreinsper 67.68 46 *i* P **P 23 46 41.7 +0.1**
comp=Z,18nm,0.7s,mb5.2,SNR=22
KBA Koelnbreinsper 67.68 46 P **P 23 46 41.6 0.0**
KHC Kasperske Hory 67.69 44 *eP* **P 23 46 41.5 -0.2**
KHC *epP* pP 23 46 48.4 -2.3
KHC *ex* x 23 46 55.4
KHC *eS* S 23 55 45.9 +8.7
KHC AMS AMS 00 14 00.0
comp=Z,3μm,19.1s
KHC Kasperske Hory 67.69 44 *eP* **P 23 46 41.5 -0.2**
KHC *e*PP pP 23 46 48.4 -2.3
KHC *e* 23 46 55.4
KHC MLR MLR
comp=Z,3μm,19.1s,MS5.5
GERES GERESS Array B 67.79 44 P **P 23 46 41.9 -0.5**
comp=Z,7.9nm,0.6s,mb4.9,baz=271,slow=5.2,SNR=53
GERES pP pP 23 46 56.6 +5.3
comp=Z,7.0nm,0.8s,baz=270,slow=5.3,SNR=8.2
GERES LR LR 00 14 54.5
comp=Z,2μm,18.7s,MS5.4,baz=279,slow=35
GERES GERESS Array B 67.79 44 P **P 23 46 41.9 -0.4**
GERES *PP pP 23 46 56.6 +5.3
BRG Berggiesshubel 67.82 42 *eP* **P 23 46 42.9 +0.4**
comp=Z,17nm,0.8s,mb5.1
BRG Berggiesshubel 67.82 42 *i* P **P 23 46 42.8 +0.3**
BRG pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BRG MLR MLR
comp=E,1μm,28.5s
BRG MLR MLR
comp=Z,2μm,28.9s,MS5.1
BRG Berggiesshubel 67.82 42 *i* P **P 23 46 42.8 +0.3**
comp=Z,10nm,0.8s,mb4.9
BRG PCP PcP 23 46 47.0 -22
BRG *i* 23 46 57.0
comp=Z,14nm,1.0s
ROBS Robic 67.86 47 *eP* **P 23 46 42.7 -0.1**
VOY Vojsko 68.14 47 *eP* **P 23 46 45.4 +0.8**
AQU L'Aquila 68.17 51 *eP* **P 23 46 44.4 -0.3**
comp=Z,49nm,1.2s,mb5.4
AQU L'Aquila 68.17 51 *eP* **P 23 46 44.4 -0.3**
AQU pmax pmax
comp=Z,49nm,1.2s,mb5.4
BSD Bornholm Skovb 68.19 37 *i* P **P 23 46 44.7 -0.2**
comp=Z,38nm,0.9s,mb5.4
BSD *i* 23 55 51.3
BSD
comp=Z,1μm,21.0s
BSD Bornholm Skovb 68.19 37 *eP* **P 23 46 44.7 -0.2**
comp=Z,38nm,0.9s,mb5.4
BSD *i* 23 55 51.3
BSD Bornholm Skovb 68.19 37 *eP* **P 23 46 44.7 -0.2**
BSD pmax pmax
comp=Z,39nm,0.9s,mb5.4
PVCC Panska Ves 68.23 42 *eP* **P 23 46 44.6 -0.5**
PVCC *ex* x 23 46 59.8
PVCC AMS AMS 00 09 30.0
comp=Z,1μm,22.0s
MOA Molln 68.24 45 *i* P **P 23 46 44.9 -0.2**
comp=Z,26nm,1.4s,mb5.1,SNR=14
MOA Molln 68.24 45 P **P 23 46 45.3 +0.1**
PRU Pruhonice 68.26 43 *eP* **P 23 46 45.7 +0.4**
PRU *epP* pP 23 46 54.4 +0.2
PRU *ex* x 23 47 00.1
PRU *eS* S 23 55 47.7 +3.7
PRU AMS AMS 00 10 00.0
comp=Z,2μm,21.0s
KNDS Knezji Dol 68.53 48 *eP* **P 23 46 47.7 +0.8**
CEY Cerknica 68.54 47 P **P 23 46 47.6 +0.5**
OBKA Obir 68.55 47⇓ *iP* **P 23 46 46.8 -0.3**
comp=Z,24nm,0.9s,mb5.1,SNR=12
OBKA Obir 68.55 47 P **P 23 46 47.0 -0.1**
LJU Ljubljana 68.58 47 *eP* **P 23 46 48.5 +1.2**
LJU *i* pP 23 46 55.0 -1.2
LJU *e* 23 47 02.2
KBS Kingsbay 68.63 12 *eP* **P 23 46 40.6 -7.0**
KBS *eS* S 23 55 41.8 -6.6
KBS AMS AMS 00 14 42.7
comp=Z,1μm,23.9s,MS5.0
KBS Kingsbay 68.63 12 *eP* **P 23 46 38.6 -9.0**
TREC Trest 68.92 44 *eP* **P 23 46 49.7 +0.3**
TREC *epP* pP 23 46 58.2 -0.2
TREC *ex* x 23 47 04.1
TREC *eS* S 23 55 56.4 +4.5
PERS Pernice 68.93 46 *i* P **P 23 46 48.8 -0.7**
ARSA Arzberg 69.14 46 *i* P **P 23 46 50.2 -0.6**
comp=Z,28nm,1.4s,mb5.0,SNR=9.8
ARSA Arzberg 69.14 46 P **P 23 46 50.6 -0.2**
BOJS Bojanci 69.14 48 *eP* **P 23 46 50.9 +0.1**
CRES Cresnjev 69.25 47 P **P 23 46 52.6 +1.1**
KSP Ksiaz 69.30 42 *eP* **P 23 46 52.3 +0.5**
KSP Ksiaz 69.30 42 *eP* **P 23 46 52.1 +0.3**
KSP *eS* S 23 55 49.0 -7.4
KSP LR LR
comp=Z,4μm,25.0s,MS5.6
KSP Ksiaz 69.30 42 *eP* **P 23 46 52.1 +0.3**
KSP *eS* S 23 55 49.0 -7.4
DPC Dobruska-Polom 69.37 42 *eP* **P 23 46 52.3 +0.1**
DPC *epP* pP 23 47 01.3 +0.1
DPC *ex* x 23 47 06.9
DPC *eS* S 23 55 57.3 +0.1
DPC AMS AMS 00 10 40.0
comp=Z,2μm,19.7s
KRUC Moravsky 69.54 44 P **P 23 46 53.7 +0.5**
VRAC Vranov 69.64 44⇑ P **P 23 46 54.2 +0.3**
KOGS Kog 69.73 47 P **P 23 46 55.3 +0.9**
SOP Sopron 69.80 45 P **P 23 46 55.4 +0.6**
ILAR Eielson Array 69.83 333 P **P 23 46 53.2 -1.8**
comp=Z,5.0nm,0.5s,mb4.7,baz=102,slow=4.1,SNR=104
ILAR LR LR 00 17 09.9
comp=Z,2μm,20.3s,MS5.4,baz=108,slow=36
BJO Bjornoya 69.86 17 AMS AMS 00 11 04.9
comp=Z,2μm,20.0s,MS5.4
ZST Bratislava 70.10 45 *eP* **P 23 46 57.4 +0.7**
ZST *e* 23 47 10.8
MORC Moravsky Berou 70.21 43 *eP* **P 23 46 56.5 -0.8**
comp=Z,25nm,1.1s,mb5.0
MORC *epP* pP 23 47 06.7 +0.3
MORC *esP* sP 23 47 12.0 +2.3
MORC Moravsky Berou 70.21 43 *eP* **P 23 46 56.6 -0.7**
MORC *e*PP pP 23 47 06.7 +0.3
MORC *e*SP sP 23 47 12.0 +2.3
MORC pmax pmax
comp=Z,25nm,1.1s,mb5.1
COLA College 70.24 333 *eP* **P 23 46 55.6 -1.9**
comp=Z,27nm,1.2s,mb5.0
COLA LR LR
comp=Z,2μm,20.0s,MS5.3
COLA College 70.24 333 *i* P **P 23 46 55.9 -1.6**
SMOL Smolenice 70.28 44 *eP* **P 23 46 58.6 +0.8**
JAVC Velka Javorina 70.40 44 P **P 23 46 59.1 +0.6**
OKC Ostrava-Krasne 70.59 43 *eP* **P 23 46 58.4 -1.3**
OKC *epP* pP 23 47 08.7 0.0
OKC *ex* x 23 47 13.2
OKC *eS* S 23 56 16.9 +5.4
OKC AMS AMS 00 11 20.0
comp=Z,3μm,21.5s
OKC Ostrava-Krasne 70.59 43 *eP* **P 23 46 57.4 -2.3**
OKC *epP* pP 23 47 06.7 -2.0
OKC *e* 23 47 12.2
OKC *eS* S 23 56 15.9 +4.4
OKC Ostrava-Krasne 70.59 43 *eP* **P 23 46 57.4 -2.3**
OKC *e*PP pP 23 47 06.7 -2.0
OKC *e* 23 47 12.2
OKC *eS* S 23 56 15.9 +4.4
OKC MLR MLR
comp=Z,3μm,21.5s,MS5.5
RAC Raciborz 70.59 43 *eP* **P 23 47 01.3 +1.6**
RAC LR LR
comp=Z,2μm,24.9s,MS5.3
EFI East Falkland 70.71 176 *eP* **P 23 46 59.7 -0.7**
comp=Z,128nm,0.8s,mb5.9
EFI *epP* pP 23 47 07.8 -1.6
EFI LR LR
comp=Z,3μm,22.0s,MS5.5
EFI East Falkland 70.71 176 *eP* **P 23 46 59.7 -0.7**
EFI *e*PP pP 23 47 07.9 -1.6
EFI pmax pmax
comp=Z,128nm,0.8s,mb5.9
EFI MLR MLR
comp=Z,3μm,22.0s,MS5.5
MCK McKinley 70.78 332 *eP* **P 23 46 59.1 -1.7**
comp=Z,6.1nm,1.1s,mb4.4
MCK LR LR
comp=Z,2μm,20.0s,MS5.4
MCK McKinley 70.78 332 *eP* **P 23 46 59.1 -1.8**
MCK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
MCK MLR MLR
comp=Z,2μm,20.0s,MS5.4
SRO1 Iza 70.91 45 *eP* **P 23 47 01.6 0.0**
SRO1 *e* 23 47 17.0
PMR Palmer 71.05 330 *eP* **P 23 47 01.8 -0.7**
comp=Z,18nm,1.2s,mb4.9
PMR LR LR
comp=Z,4μm,20.0s,MS5.6
PMR Palmer 71.05 330 *eP* **P 23 47 01.8 -0.7**
PMR pmax pmax
comp=Z,17nm,1.2s,mb4.8
PMR MLR MLR
comp=Z,4μm,20.0s,MS5.6
TIP Timpagrande 71.13 54 *eP* **P 23 47 01.8 -1.1**
VYHS Vyhne 71.21 44 *eP* **P 23 47 03.9 +0.5**
VYHS *e* pP 23 47 12.8 +0.3
PKSM Moragy 71.40 47 P **P 23 47 05.0 +0.4**
FIB Fire Island 71.59 329 PFAKE 23 47 10.0 +4.2
FIB LR LR
comp=Z,2μm,21.0s,MS5.4
OJC Ojcow 71.60 42 *eP* **P 23 47 06.1 +0.3**
PSZ Piszkesteto 71.99 45⇑ *i* **P 23 47 09.4 +1.2**
PSZ Piszkesteto 71.99 45 *eP* **P 23 47 08.8 +0.7**
comp=Z,13nm,1.0s,mb4.8
PSZ Piszkesteto 71.99 45 P **P 23 47 10.2 +2.0**
NIE Niedzica 72.04 43 *eP* **P 23 47 09.9 +1.4**
ARCES ARCESS Array B 72.05 22 P **P 23 47 07.8 -0.6**
comp=Z,8.5nm,0.9s,mb4.7,baz=276,slow=4.5,SNR=20
ARCES pP pP 23 47 24.9 +7.4
comp=Z,24nm,0.8s,baz=295,slow=4.9,SNR=12
ARCES LR LR 00 12 42.7
comp=Z,1μm,21.7s,MS5.1,baz=263,slow=31
ARCES ARCESS Array B 72.05 22 P **P 23 47 07.8 -0.7**
ARCES pP pP 23 47 24.9 +7.4
ARCES LR LR 00 12 42.7
ARCES ARCESS Array B 72.05 22 P **P 23 47 07.8 -0.7**
ARCES *PP pP 23 47 25.0 +7.5
ARE0 ARCESS Array S 72.05 22 P **P 23 47 07.9 -0.5**
KECS Kecovo 72.30 44 *i* P **P 23 47 10.6 +0.6**
KEV Kevo 72.54 21 PFAKE 23 47 20.0 +8.6
KEV LR LR
comp=Z,1μm,20.0s,MS5.2
STHS Stebnicka Huta 72.64 43 *i* P **P 23 47 13.0 +1.0**
DIVS Divcibare 72.69 49 *i* P **P 23 47 13.4 +1.1**
DIVS Divcibare 72.69 49 *eP* **P 23 47 13.2 +1.0**
CRVS Cervenica-Dubn 72.87 43 *epP* pP 23 47 15.1 -7.3
CRVS *e* 23 47 21.5
SUW Suwalki 73.09 38 *eP* **P 23 47 14.7 0.0**
GRUS Gruza 73.24 49 *i* P **P 23 47 16.5 +1.0**
KOLS Kolonicke sedl 73.39 43 *eP* **P 23 47 17.5 +1.0**
KOLS *e* pP 23 47 26.2 +0.7
KAF Kangasniemi 73.41 29 *ep* **P 23 47 14.3 -2.3**
comp=Z,10nm,0.6s,mb4.9
KAF Kangasniemi 73.41 29 *eP* **P 23 47 14.3 -2.3**
KAF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
FINES FINESS Array B 73.41 30 P **P 23 47 15.8 -0.8**
comp=Z,8.9nm,0.7s,mb4.8,baz=278,slow=3.2,SNR=40
FINES LR LR 00 14 17.7
comp=Z,2μm,21.9s,MS5.4,baz=304,slow=31
FINES FINESS Array B 73.41 30 P **P 23 47 15.8 -0.8**
FINES LR LR 00 14 17.7
KWP Kalwaria 73.55 43 *eP* **P 23 47 18.5 +1.1**
BZS Buzias 73.55 47⇑ P **P 23 47 18.2 +0.8**
IGT Igoumenitsa 73.79 53 *eP* **P 23 47 20.2 +1.4**
OHR Ohrid 73.83 52 *i* P **P 23 47 19.4 +0.4**
comp=Z,95nm,1.5s,mb5.5
SKO Skopje 74.13 51 *i* P **P 23 47 22.1 +1.3**
comp=Z,12nm,0.6s,mb5.0
BIA Bitola 74.23 52 *i* P **P 23 47 21.7 +0.3**
comp=Z,13nm,0.7s,mb5.0
VSU Vasula 74.26 33 *i* P **P 23 47 21.4 -0.2**
FNA Florina 74.32 52 *eP* **P 23 47 22.5 +0.6**
GRG Griva 75.04 51 *eP* **P 23 47 27.1 +1.0**
VAY Valandovo 75.09 51 *eP* **P 23 47 26.9 +0.5**
VAY Valandovo 75.09 51 *i* P **P 23 47 26.4 +0.1**
comp=Z,17nm,0.9s,mb5.0
APA Apatity 75.26 23⇑ *eP* **P 23 47 28.0 +0.7**
APA *i* 23 47 41.0
APA *i* S S 23 57 06.0 +1.4
APA pmax pmax
comp=Z,29nm,1.0s,mb5.2
APA MLR MLR
comp=Z,1μm,16.0s,MS5.4
VTS Vitosha 75.28 50 *eP* **P 23 47 28.5 +1.0**
VTS Vitosha 75.28 50 *eP* **P 23 47 28.5 +1.1**
LIT Litokhoron 75.30 52 *eP* **P 23 47 28.3 +0.7**
KKB Krupnik 75.35 50 *eP* **P 23 47 29.0 +1.2**
KNT Kendrikon 75.37 51 *eP* **P 23 47 28.8 +0.8**
AGG Agios Georgios 75.42 53 *eP* **P 23 47 29.3 +1.0**
JOF Joensuu 75.52 28 *ep* **P 23 47 25.9 -2.9**
comp=Z,8.2nm,0.8s,mb4.7
JOF Joensuu 75.52 28 *eP* **P 23 47 25.9 -2.9**
JOF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
THE Thessaloniki 75.53 52 *eP* **P 23 47 28.5 -0.4**
LVZ Lovozero 75.63 23 PFAKE 23 47 40.0 +11
LVZ LR LR
comp=Z,1μm,22.0s,MS5.1
LVZ Lovozero 75.63 23 *i* P **P 23 47 24.8 -4.7**
LVZ *i* S S 23 57 02.9 -5.8
MNK Minsk 75.68 37 *eP* **P 23 47 28.0 -1.7**
PUL Pulkovo 75.79 31 *i* P **P 23 47 24.9 -5.5**
PUL *i* S S 23 57 07.0 -3.5
MMB Musomiste 75.88 51 *eP* **P 23 47 30.0 -0.9**
VOIR 75.95 47⇓ P **P 23 47 32.0 +0.7**
XOR Xorichti 75.99 53 *eP* **P 23 47 32.0 +0.5**
KMPD K-Podol'skiy 76.18 43 P **P 23 47 34.0 +1.4**
PAIG Paliouri 76.23 52 *eP* **P 23 47 34.1 +1.3**
OUR Ouranopolis 76.36 52 *eP* **P 23 47 34.4 +0.8**
MLR Muntele Rosu 76.55 46⇑ P **P 23 47 36.2 +1.5**
RZN Rozhen 76.58 50 *eP* **P 23 47 35.5 +0.6**
HOPE Hope Point 76.85 164 *eP* **P 23 47 34.7 -1.7**
comp=Z,22nm,0.6s,mb5.3
HOPE LR LR
comp=Z,3μm,20.0s,MS5.6
VRI Vrincioaia 76.99 46⇑ P **P 23 47 38.1 +0.9**
ISR Istrita 77.05 47⇓ P **P 23 47 38.0 +0.5**
SZH Strazhica 77.07 49 *eP* **P 23 47 39.0 +1.4**
KIEV Kiev 77.40 41 P **P 23 47 40.0 +0.5**
AKASG Malin Array Be 77.41 41 P **P 23 47 38.8 -0.7**
comp=Z,8.4nm,0.9s,mb4.7,baz=275,slow=5.1,SNR=37
AKASG Malin Array Be 77.41 41 *i* P **P 23 47 39.5 0.0**
AKASG pmax pmax
comp=Z,8.0nm,0.9s
JMB Yambol 77.73 49 *eP* **P 23 47 42.5 +1.1**
JMB Yambol 77.73 49 *eP* **P 23 47 42.3 +0.9**
GVD Gavdhos 77.78 57 *eP* **P 23 47 42.1 +0.5**
comp=Z,53nm,0.9s,mb5.5
PTCN Pitcairn Islan 77.89 238 PFAKE 23 47 50.0 +7.8
PTCN LR LR
comp=Z,2μm,22.0s,MS5.4
KIS Kishinev 78.11 44 *eP* **P 23 47 42.0 -1.4**
KIS *e* pP 23 47 52.0 -0.5
KIS *e* 23 50 40.0
KIS *eS* S 23 57 29.0 -6.7
KIS *e*PS 23 58 10.0
HARR Harsova 78.11 47⇑ P **P 23 47 43.3 -0.1**
CFR Carcaliu 78.12 46⇓ P **P 23 47 43.1 -0.4**
IDI Anoyia 78.30 57 P **P 23 47 44.8 +0.2**
comp=Z,24nm,0.7s,mb5.2,baz=297,slow=3.4,SNR=20
SIVA Sivas 78.31 57 *eP* **P 23 47 51.4 +6.8**
TNA Tin City 78.36 336 *eP* **P 23 47 44.1 -0.7**
comp=Z,11nm,1.0s,mb4.8
TNA LR LR
comp=Z,1μm,20.0s,MS5.2
TIRR Tirgusor 78.50 47⇑ P **P 23 47 44.4 -1.2**
TIRR Tirgusor 78.50 47 *eP* **P 23 47 44.7 -0.9**
PSN Preselentsi 78.55 48 *eP* **P 23 47 46.5 +0.6**
KLMR Klimovskoe 79.84 29 *eP* **P 23 47 51.9 -1.0**
KLMR *eS* S 23 57 44.7 -10
KLMR pmax pmax
comp=Z,30nm,1.5s,mb5.0
KLMR smax
comp=E,370nm,3.9s
KLMR MLR MLR
comp=Z,2μm,19.0s,MS5.4
TAOE Nuku Hiva Isla 80.00 257 *e*LR LR 00 13 00.0
comp=Z,3μm,23.1s
OBN Obninsk 80.36 35 *eP* **P 23 47 55.5 -0.3**
comp=Z,31nm,0.8s,mb5.3
OBN LR LR
comp=Z,3μm,20.0s,MS5.6
OBN Obninsk 80.36 35⇑ *eP* **P 23 47 55.9 +0.2**
OBN *e* 23 48 07.7
OBN *e* 23 48 14.6
OBN *e* 23 57 57.4
OBN pmax pmax
comp=Z,63nm,1.3s,mb5.4
MOS Moscow 80.71 34 *eP* **P 23 47 54.4 -3.2**
MOS pmax pmax
comp=Z,49nm,1.3s,mb5.3
RKT Rikitea 81.01 242 *e*LQ 00 09 58.2
comp=Z,1μm,33.0s
RKT Rikitea 81.01 242 *e*PP PP 23 51 01.7 -2.4
comp=Z,135nm,29.5s
RKT Rikitea 81.01 242 *eS* S 23 58 07.4 +0.9
comp=Z,884nm,28.2s
RKT *e*SS SS 00 03 32.5 +11
comp=Z,514nm,27.8s
RKT *e*LR LR 00 13 14.4
comp=Z,733nm,35.0s
TKTP Tekketepe 81.72 53 *i* P **P 23 48 03.0 0.0**
UNV Unalaska Valle 81.87 324 PFAKE 23 48 10.0 +6.2
UNV LR LR
comp=Z,4μm,19.0s,MS5.8
SGKT Sivrigoynuk 82.21 50 *i* P **P 23 48 05.2 -0.4**
SIM Simferopol' 82.24 45 *eP* **P 23 48 07.0 +1.3**
SIM *i* S S 23 58 25.0 +5.8
SIM pmax pmax
comp=Z,13nm,1.0s,mb4.8
SIM pmax pmax
comp=Z,70nm,7.7s
SIM MLR MLR
comp=Z,1μm,17.6s,MS5.2
KDHN Kadinhani 82.91 52 *i* P **P 23 48 09.6 +0.4**
ANTO Ankara 82.97 50 *eP* **P 23 48 10.3 +0.7**
comp=Z,25nm,0.6s,mb5.4
ANTO LR LR
comp=Z,619nm,19.0s,MS5.0
ANTO Ankara 82.97 50 *eP* **P 23 48 10.3 +0.8**
ANTO pmax pmax
comp=Z,25nm,0.6s,mb5.4
ANTO MLR MLR
comp=Z,619nm,19.0s,MS5.0
ELDT Eldivan 83.23 50 *i* P **P 23 48 11.6 +0.8**
VORD Divnogorie 83.38 38 *eP* **P 23 48 11.2 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VORD pmax pmax
comp=E,10.0nm,0.6s

BR131	**Keskin Array S**	**83.64**	**50**	*e*P	**P**	**23 48 13.0**	**+0.1**
	comp=E,7.9nm,0.6s,mb5.0						
BR131				LR	LR		
	comp=Z,690nm,20.0s,MS5.0						
BRTR	**Keskin Array B**	**83.64**	**50**	P	**P**	**23 48 13.4**	**+0.5**
	comp=Z,11nm,0.7s,mb5.1,baz=279,slow=4.7,SNR=70						
BRTR	**Keskin Array B**	**83.64**	**50⇑**	*e*P	**P**	**23 48 13.3**	**+0.4**
PMSA	**Palmer Station**	**83.66**	**180**	*e*P	**P**	**23 48 12.3**	**-0.8**
	comp=Z,227nm,1.3s,mb6.1						
PMSA				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
ANN	**Anapa**	**84.50**	**45**	*e*P	**P**	**23 48 16.5**	**-0.8**
ANN				*e*S		23 58 36.4	
ANN				pmax	pmax		
	comp=Z,94nm,1.0s,mb5.9						
ANN				MLR	MLR		
	comp=N,2μm,22.0s,MS5.5						
ANN				MLR	MLR		
	comp=E,431nm,22.0s,MS5.5						
ANN				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.3						
VRHR	**Novokhopersk**	**84.68**	**38**	*e*P	**P**	**23 48 18.1**	**-0.1**
VRHR				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.3						
VRHR				pmax	pmax		
	comp=N,10.0nm,1.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
CSS	**Prodhromos**	**85.00**	**55**	*e*P	**P**	**23 48 20.7**	**+0.9**
	comp=E,32nm,1.1s,mb5.4						
SOC	**Sochi**	**86.48**	**45**	*e*P	**P**	**23 48 25.2**	**-2.0**
SOC				*e*		23 48 41.7	
SOC				*e*S		23 58 51.2	
SOC				*e*SS	SS	00 04 39.9	-2.2
SOC				*e*SSS		00 08 18.6	
SOC				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.6						
SOC				pmax	pmax		
	comp=Z,151nm,2.1s,mb5.9						
GZT	**Gaziantep**	**87.35**	**51**	*i* P	**P**	**23 48 29.9**	**-1.5**
MALT	**Malatya**	**87.62**	**50**	*e*P	**P**	**23 48 33.7**	**+0.9**
	comp=Z,18nm,0.6s,mb5.5						
MALT	**Malatya**	**87.62**	**50**	⇑P	**P**	**23 48 34.4**	**+1.7**
ELZG	**Elazig**	**87.95**	**50**	*i* P	**P**	**23 48 34.6**	**+0.3**
GOF	**Gofitskoye**	**88.05**	**43**	*e*P	**P**	**23 48 32.0**	**-2.8**
GOF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
EIL	**Elat**	**88.12**	**59**	*e*P	**P**	**23 48 36.4**	**+1.2**
	comp=Z,323nm,1.3s						
ADK	**Adak**	**88.29**	**325**	PFAKE		23 48 40.0	+4.1
ADK				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
KIV	**Kislovodsk**	**88.30**	**44**	*e*P	**P**	**23 48 36.5**	**+0.6**
	comp=Z,9.1nm,0.8s,mb5.1						
KIV				LR	LR		
	comp=Z,826nm,22.0s,MS5.1						
KIV	**Kislovodsk**	**88.30**	**44**	*e*P	**P**	**23 48 36.6**	**+0.6**
KIV				*e*		23 52 00.6	
KIV				*e*		23 58 57.3	
KIV				*e*SS	SS	00 05 06.8	-1.7
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
KIV				MLR	MLR		
	comp=Z,848nm,19.0s,MS5.2						
TSUM	**Tsumeb**	**88.61**	**111**	*e*P	**P**	**23 48 36.1**	**-1.3**
	comp=Z,7.1nm,0.9s,mb5.0						
TSUM				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
TIXI	**Tiksi**	**89.00**	**356**	PFAKE		23 48 50.0	+11
TIXI				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
TIXI	**Tiksi**	**89.00**	**356**	*e*P	**P**	**23 48 36.6**	**-2.7**
TIXI				*e*S		23 58 56.4	
TIXI				*e*SP		00 00 25.5	
TIXI				*e*PS		00 00 28.1	
TIXI				*e*SS	SS	00 05 12.6	-6.2
TIXI				*e*SSS		00 08 47.8	
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.1						
TIXI				smax			
	comp=N,354nm,13.0s						
TIXI				smax			
	comp=E,129nm,14.5s						
TIXI				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.3						
VAH	**Vaihoa**	**89.09**	**254**	*e*P	**P**	**23 48 40.7**	**+1.0**
	comp=Z,94nm,0.9s,mb6.1						
ERZM	**Erzurum**	**89.09**	**48**	*i* P	**P**	**23 48 42.0**	**+2.3**
ZEI	**Tsey**	**89.61**	**44**	*e*P	**P**	**23 48 43.4**	**+1.3**
ZEI				*i* *PP	pP	23 48 55.1	+3.8
ZEI				*i*		23 52 13.5	
ZEI				*e*S		23 59 06.2	
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
ARU	**Arti**	**90.65**	**28**	*e*P	**P**	**23 48 46.6**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.6						
ARU				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
ARU	**Arti**	**90.65**	**28**	*e*P	**P**	**23 48 46.8**	**-0.2**
ARU				*e*		23 52 20.8	
ARU				*e*S		23 59 14.9	
ARU				*e*SP	SP	00 00 40.0	-7.9
ARU				*e*PS	PS	00 00 50.0	-1.6
ARU				*e*SS	SS	00 05 40.6	-2.1
ARU				MLR	MLR		
	comp=N,600nm,19.0s,MS5.4						
ARU				MLR	MLR		
	comp=E,1μm,19.0s,MS5.4						
ARU				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5						
GNI	**Garni**	**91.33**	**47**	P	**P**	**23 48 51.5**	**+1.4**
	comp=Z,4.5nm,0.7s,mb4.9,baz=224,slow=3.6,SNR=6.5						
GNI	**Garni**	**91.33**	**47**	*e*P	**P**	**23 48 51.4**	**+1.2**
	comp=Z,12nm,1.0s,mb5.2						
GNI				LR	LR		
	comp=Z,882nm,20.0s,MS5.2						
GNI	**Garni**	**91.33**	**47**	*d i*P	**P**	**23 48 51.4**	**+1.3**
GNI				pmax	pmax		
	comp=Z,20nm,1.6s						
GNI				MLR	MLR		
	comp=Z,1μm,21.0s						
PPT	**Papeete**	**91.63**	**252**	*e*PP	PP	23 52 26.1	-3.9
	comp=Z,129nm,23.2s						
PPT	**Papeete**	**91.63**	**252**	*e*S		23 59 49.0	
	comp=Z,774nm,27.8s						
PPT				*e*SS	SS	00 06 02.2	+5.3
	comp=Z,542nm,27.0s						
PPT				*e*LR	LR	00 18 32.4	
	comp=Z,608nm,20.8s,baz=63						
PPT	**Papeete**	**91.63**	**252**	LR	LR	00 23 38.9	
	comp=Z,758nm,18.3s,MS5.2,baz=64,slow=31						
MAK	**Makhachkala**	**91.88**	**43**	*d i*P	**P**	**23 48 50.1**	**-2.6**
MAK				*i* S		23 59 19.3	
MAK				*i*		23 59 49.1	
MAK				*i* PS	PS	00 00 57.2	-8.0
MAK				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.9						
MAK				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.6						
SMY	**Shemya**	**92.58**	**329**	PFAKE		23 49 00.0	+4.1
SMY				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
SEY	**Seymchan**	**93.34**	**344**	*e*P	**P**	**23 48 59.8**	**+0.4**
SEY						23 52 46.9	
SEY				*e*		23 59 30.8	
SEY				*e*S		00 00 07.9	
SEY				PS	PS	00 01 26.5	+5.2
SEY				SS	SS	00 06 31.5	+10
SEY				pmax	pmax		
	comp=E,6.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.5						
SEY				pmax	pmax		
	comp=N,10.0nm,1.5s						
SEY				smax			
	comp=N,990nm,24.8s						
SEY				smax			
	comp=E,700nm,36.8s						
SEY				MLR	MLR		
	comp=N,3μm,21.0s,MS5.8						
SEY				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.8						
SEY				MLR	MLR		
	comp=E,1μm,20.0s,MS5.8						
TBI	**Tubuai**	**93.44**	**247**	*e*PP	PP	23 52 40.0	-4.2
	comp=E,140nm,26.5s						
TBI	**Tubuai**	**93.44**	**247**	*e*SS	SS	00 06 23.2	+0.4
	comp=E,236nm,24.2s						
TBI				*e*LR	LR	00 19 00.1	
	comp=E,791nm,28.8s,baz=62						
AKTK	**Aktyubinsk**	**93.99**	**33**	P	**P**	**23 49 02.6**	**+0.2**
AKTO	**Aktyubinsk**	**93.99**	**33**	P	**P**	**23 49 02.6**	**+0.2**
	comp=E,5.7nm,0.6s,mb5.2,baz=305,slow=4.1,SNR=18						
MA2	**Magadan**	**96.58**	**343**	*e*P	**P**	**23 49 09.7**	**-4.5**
MA2				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
MA2	**Magadan**	**96.58**	**343**	*e*P	**P**	**23 49 09.6**	**-4.6**
MA2				*e*		23 53 07.5	
MA2				*e*		23 59 51.1	
MA2				*e*S		00 00 22.2	
MA2				*e*PS	PS	00 02 02.9	+6.0
MA2				MLR	MLR		
	comp=Z,7μm,21.0s,MS6.1						
LSZ	**Lusaka**	**96.89**	**104**	P	**P**	**23 49 13.5**	**-2.2**
LSZ				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
LBTB	**Lobatse**	**97.52**	**114**	PFAKE		23 49 30.0	+12
LBTB				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
BRVK	**Borovoye**	**97.95**	**26**	PFAKE		23 49 30.0	+10
BRVK				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
BOSA	**Boshof**	**98.30**	**117**	P	**P**	**23 49 19.2**	**-2.8**
BOSA				LR	LR		
	comp=Z,565nm,19.0s,MS5.1						
YAK	**Yakutsk**	**98.36**	**354**	PFAKE		23 49 30.0	+7.7
YAK				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
PET	**Petropavlovsk**	**99.22**	**336**	PFAKE		23 49 30.0	+3.9
PET				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
SNAA	**Sanae**	**99.50**	**164**	*e*P	**P**	**23 49 25.5**	**-1.9**
	comp=Z,14nm,1.0s,mb5.3						
SNAA	**Sanae**	**99.50**	**164**	*e*P	**P**	**23 49 25.5**	**-1.9**
SNAA				pmax	pmax		
	comp=Z,14nm,1.0s						
KMBO	**Kilima Mbogo**	**100.99**	**87**	PFAKE		23 49 40.0	+6.0
KMBO				LR	LR		
	comp=Z,736nm,19.0s,MS5.2						
KURK	**Kurchatov**	**103.04**	**23**	*e*Pdif	Pdif	23 49 39.5	-3.6
KURK				LR	LR		
	comp=Z,917nm,20.0s,MS5.3						
AAK	**Ala-Archa**	**107.59**	**31**	PFAKE		23 54 20.0	+8.7
AAK				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
MKAR	**Makanchi Array**	**107.65**	**24**	PKKPbc	PKKPbc	00 05 22.3	-3.0
	comp=Z,0.4nm,0.6s,baz=101,slow=6.3,SNR=6.6						
MKAR				PKKPab	PKKPab	00 05 37.3	-2.3
	comp=Z,1.4nm,0.7s,baz=114,slow=5.4,SNR=5.3						
QSPA	**South Pole Qui**	**109.10**	**180**	PFAKE		23 54 20.0	+5.9
QSPA				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
YSS	**Yuzh-Sakhalins**	**109.92**	**341**	PFAKE		23 54 20.0	+4.3
YSS				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
HIA	**Hailar**	**111.81**	**357**	PFAKE		23 54 30.0	+11
HIA				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
SYO	**Syowa Base**	**112.59**	**158⇓**	*e*PP	PP	23 55 07.9	+0.3
SONM	**Songino Array**	**112.77**	**7**	PKKPbc	PKKPbc	00 05 07.3	-1.5
	comp=Z,0.5nm,0.7s,baz=163,slow=2.6,SNR=4.1						
SONM				PKKPab	PKKPab	00 05 15.6	-1.4
	comp=Z,2.2nm,0.7s,baz=164,slow=4.2,SNR=19						
ULN	**Ulaanbaatar**	**112.81**	**7**	PFAKE		23 54 30.0	+8.9
ULN				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
MDJ	**Mudanjiang**	**115.34**	**349**	PKP	PKPdf	23 54 23.1	-2.9
MDJ				PKS		23 57 59.8	
MDJ				LR	LR		
	comp=N,873nm,25.9s,MS5.3						
MDJ				LR	LR		
	comp=E,221nm,24.2s,MS5.3						
MDJ				LR	LR		
	comp=Z,1μm,25.9s,MS5.3						
MDJ	**Mudanjiang**	**115.34**	**349**	PFAKE		23 54 30.0	+4.0
MDJ				LR	LR		
	comp=Z,812nm,19.0s,MS5.3						
VNDA	**Vanda**	**117.49**	**190**	*e*PKPdf	PKPdf	23 54 29.4	-0.7
VNDA				LR	LR		
	comp=Z,950nm,19.0s,MS5.4						
HHC	**Hu-ho-hao-te**	**120.16**	**4**	*e*PKP	PKPdf	23 54 35.1	-0.2
HHC				PP	PP	23 56 03.4	+2.9
HHC				PKS		23 58 10.4	
HHC				LR	LR		
	comp=N,1μm,20.6s,MS5.6						
HHC				LR	LR		
	comp=E,838nm,20.1s,MS5.6						
HHC				LR	LR		
	comp=Z,1μm,21.2s,MS5.6						
MAJO	**Matsushiro**	**120.77**	**339**	*e*PKPdf	PKPdf	23 54 36.2	-0.3
MAJO				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
BJT	**Baijiatuan**	**121.14**	**360**	*e*PKPdf	PKPdf	23 54 37.0	-0.1
BJT				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
INCN	**Inchon**	**122.79**	**350**	PFAKE		23 54 50.0	+10
INCN				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
LZH	**Lanzhou**	**123.87**	**12**	*e*PKP	PKPdf	23 54 40.5	-1.9
LZH				XPKP		23 54 51.5	
LZH				*e*PP	PP	23 56 26.2	+0.5
LZH				PP	PP		
	comp=Z,156nm,7.9s						
LZH				LR	LR		
	comp=E,362nm,18.3s						
LZH				LR	LR		
	comp=Z,598nm,20.2s,MS5.2						
LSA	**Lhasa**	**125.84**	**27**	*e*PKP	PKPdf	23 54 48.5	+2.4
LSA	**Lhasa**	**125.84**	**27**	*e*PKIKP	PKPdf	23 54 46.8	+0.7
LSA				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.6						
XAN	**Xi'an**	**126.67**	**7**	PKP	PKPdf	23 54 47.4	-0.3
HYB	**Hyderabad**	**128.27**	**48**	*i* PKP	PKPdf	23 54 51.0	+0.2
HYB	**Hyderabad**	**128.27**	**48**	*e*PKIKP	PKPdf	23 54 51.0	+0.2
CD2	**Chengdu**	**128.85**	**14**	*e*PKP	PKPdf	23 54 51.6	-0.3
CD2				PP	PP	23 57 02.6	+3.9
CD2				LR	LR		
	comp=N,520nm,18.0s						
CD2				LR	LR		
	comp=Z,720nm,20.4s,MS5.3						
NJ2	**Nanjing**	**129.01**	**357**	*e*PKP	PKPdf	23 54 48.3	-3.9
NJ2				XPKP		23 55 02.7	
NJ2				PP	PP	23 57 00.0	+0.2
NJ2				PKS		23 58 23.0	
NJ2				PP	PP		
	comp=Z,140nm,6.0s						
NJ2				LR	LR		
	comp=N,4μm,31.8s,MS5.9						
NJ2				LR	LR		
	comp=E,1μm,35.2s,MS5.9						
NJ2				LR	LR		
	comp=Z,2μm,28.6s						
SSE	**Sheshan**	**129.79**	**354**	PKP	PKPdf	23 54 51.0	-2.7
SSE				PP	PP	23 57 06.0	+1.1
SSE				LR	LR		
	comp=N,271nm,22.0s,MS5.3						
SSE				LR	LR		
	comp=E,572nm,22.0s,MS5.3						
SSE				LR	LR		
	comp=Z,896nm,23.8s,MS5.4						
ENH	**Enshi**	**130.46**	**7**	*e*PKPdf	PKPdf	23 54 55.0	0.0
ENH				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
CASY	**Casey**	**132.76**	**177**	PFAKE		23 55 10.0	+11
CASY				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
KMI	**Kunming**	**134.13**	**17**	PKP	PKPdf	23 55 00.4	-1.5
TATO	**Taipei**	**135.81**	**353**	PFAKE		23 55 10.0	+5.0
TATO				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
PALK	**Pallekele**	**136.41**	**56**	PFAKE		23 55 20.0	+14
PALK				LR	LR		
	comp=Z,902nm,20.0s,MS5.5						
HNR	**Honiara**	**136.45**	**276**	PFAKE		23 55 20.0	+14
HNR				LR	LR		
	comp=Z,574nm,19.0s,MS5.3						
GUMO	**Guam**	**136.80**	**317**	PFAKE		23 55 20.0	+13
GUMO				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
QIZ	**Qiongzhong**	**141.57**	**9**	PKP	PKPdf	23 55 16.5	+0.9
QIZ				PP	PP	23 58 24.2	+5.1
QIZ				LR	LR		
	comp=N,678nm,19.1s						
QIZ				LR	LR		
	comp=Z,1μm,21.6s,MS5.6						
QIZ	**Qiongzhong**	**141.57**	**9**	PKPdf	PKPdf	23 55 13.5	-2.0
QIZ				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
TAU	**Tasmania Unive**	**144.55**	**221**	*e*PKPdf	PKPdf	23 55 19.6	-1.2
TAU				LR	LR		
	comp=Z,520nm,19.0s,MS5.3						
ARMA	**Armidale**	**145.91**	**244**	*e*PKP	PKPdf	23 55 24.2	+1.0
CNB	**Canberra Magne**	**146.46**	**234**	*e*PKP	PKPdf	23 55 24.9	+0.8
	comp=Z,35nm,0.8s						
PMG	**Port Moresby**	**148.35**	**283**	PKPbc	PKPbc	23 55 31.6	+0.9
	comp=Z,20nm,0.7s,baz=19,slow=5.9,SNR=6.3						
PMG	**Port Moresby**	**148.35**	**283**	*e*PKPdf	PKPdf	23 55 27.6	+0.4
PMG				*e*PKPbc	PKPbc	23 55 31.3	+0.6
PMG				PKPbc	PKPbc	23 55 31.6	+0.9
PMG				LR	LR		
	comp=Z,477nm,20.0s,MS5.3						
PMG	**Port Moresby**	**148.35**	**283**	*e*PKIKP	PKPdf	23 55 27.6	+0.4
PMG						23 55 31.6	
PMG				MLR	MLR		
	comp=Z,477nm,20.0s						
TOO	**Toolangi**	**148.42**	**228**	*e*PKP	PKPdf	23 55 30.0	+2.6
	comp=Z,23nm,0.9s						
KULM	**Kulim**	**151.38**	**33**	*e*PKPdf	PKPdf	23 55 31.6	-0.4
KULM				*e*PKPbc	PKPbc	23 55 38.5	+0.4
CTA	**Charters Tower**	**151.52**	**263**	*e*PKP	PKPdf	23 55 32.5	+0.3
	comp=Z,6.3nm,0.8s						
CTA				*e*		23 55 38.3	
CTA	**Charters Tower**	**151.52**	**263**	PKPbc	PKPbc	23 55 38.5	+0.1
	baz=129,slow=2.9						
CTA	**Charters Tower**	**151.52**	**263**	*e*PKP	PKPdf	23 55 32.5	+0.3
CTA				*e*		23 55 38.3	
CTA				PKPbc	PKPbc	23 55 38.5	+0.1
CTA	**Charters Tower**	**151.52**	**263**	*e*PKIKP	PKPdf	23 55 32.5	+0.3
CTA						23 55 38.5	
CTAO	**Charters Tower**	**151.52**	**263**	*e*PKPdf	PKPdf	23 55 32.4	+0.2
CTAO				*e*PKPbc	PKPbc	23 55 38.0	-0.4
CTAO				LR	LR		
	comp=Z,621nm,21.0s,MS5.4						
DAV	**Davao City (W)**	**152.29**	**339**	PFAKE		23 55 40.0	+6.6
DAV				LR	LR		
	comp=Z,884nm,21.0s,MS5.5						
PSI	**Prapat**	**152.46**	**39**	PKPbc	PKPbc	23 55 40.2	-0.4
	comp=Z,12nm,0.8s,baz=239,slow=4.4,SNR=9.8						
STKA	**Stephens Creek**	**153.74**	**236**	*e*PKP	PKPdf	23 55 40.6	+5.1
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**153.74**	**236**	PKP	PKPdf	23 55 33.5	-2.0
	comp=Z,1.9nm,0.7s,baz=156,slow=2.3,SNR=3.8						
STKA				PKPbc	PKPbc	23 55 40.8	-2.6
	comp=Z,18nm,0.8s,baz=75,slow=2.6,SNR=17						
STKA	**Stephens Creek**	**153.74**	**236**	*e*PKPdf	PKPdf	23 55 33.5	-2.0
STKA				*e*PKP	PKPdf	23 55 40.6	+5.1
STKA				*e*PKPbc	PKPbc	23 55 40.8	-2.5
COCO	**West Island**	**160.29**	**72**	PFAKE		23 55 50.0	+6.2
COCO				LR	LR		
	comp=Z,732nm,19.0s						
WRAB	**Tennant Creek**	**162.70**	**264**	*e*PKPdf	PKPdf	23 55 45.5	-0.8
WRAB				*e*PKPab	PKPab	23 56 34.6	-0.3
WRAB				LR	LR		
	comp=Z,976nm,19.0s						
WRA	**Warramunga Arr**	**162.71**	**264**	PKP	PKPdf	23 55 45.8	-0.5
	comp=Z,9.1nm,0.9s,baz=61,slow=0.9,SNR=53						
WRA				PKPab	PKPab	23 56 33.7	-1.3
	comp=Z,9.7nm,0.7s,baz=85,slow=3.9,SNR=17						
ASAR	**Alice Springs**	**162.75**	**252**	PKP	PKPdf	23 55 45.0	-1.3
	comp=Z,5.7nm,0.9s,baz=111,slow=1.2,SNR=41						
ASAR				PKPab	PKPab	23 56 33.8	-1.4
	comp=Z,10nm,0.8s,baz=104,slow=4.3,SNR=16						
NWAO	**Narrogin (SRO)**	**166.24**	**184**	PKPdf	PKPdf	23 55 48.3	-1.2
NWAO				LR	LR		
	comp=Z,432nm,19.0s						
FITZ	**Fitzroy Crossi**	**170.81**	**275**	*e*PKP	PKPdf	23 55 51.8	-0.7
	comp=Z,8.9nm,0.9s						
MBWA	**Marble Bar**	**175.98**	**240**	*e*PKPab	PKPab	23 57 32.9	-0.8
MBWA				LR	LR		
	comp=Z,865nm,22.0s						

IDC ***02*** *23:41:58.0±1.1, 43.73N×84.49E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.6/24, mbtmp3.7/9, ML3.4/5, Error ellipse: s-maj=26.2km s-min=15.1km az=70.0*

ISCJB ***02*** *23:42:00.3±1.2, 43.97N±0.05×84.29E±0.06, h13km±8km, mb3.9/7, Error ellipse: s-maj=8.7km s-min=6.9km az=95.9*

BJI ***02*** *23:42:01.9, 43.74N×84.21E, h28km, mb4.4, ML4.1*

MOS ***02*** *23:42:02.7±1.0, 43.96N×84.30E, h33km, mb4.6/3, Error ellipse: s-maj=14.1km s-min=8.0km az=125.4*

NEIC ***02*** *23:42:03.9±0.9, 43.82N×84.41E, h35km, mb4.7/2, Error ellipse: s-maj=16.1km s-min=13.0km az=189.0*

NNC ***02*** *23:42:06.2±1.2, 43.91N×83.92E, h13km±5km, mb3.8, mpv4.1, Error ellipse: s-maj=9.1km s-min=5.3km az=115.0*

ISC 02 23:42:00.9±1.1, 43.88N±0.04×84.45E±0.05, h11km±8km, n50, σ1.9±02/59, mb3.9/7, 7C-11D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.35**	**90**	P	**Pn**	**23 42 44.0**	**+4.6**
WMQ				SG	**Sg**	**23 43 16.0**	**-0.5**
WMQ				Smax			
	comp=N,331nm,0.3s						
WMQ				Smax			
	comp=E,359nm,0.4s						
MK31	**Makanchi Array**	**3.29**	**333**	⇓Pn	**Pn**	**23 42 55.1**	**+2.8**
	comp=E,4.8nm,0.3s,baz=150,slow=14,SNR=1000						
MK31				⇑Pg	**Pg**	**23 43 02.7**	**-1.2**
	comp=E,8.5nm,0.3s,baz=152,slow=15,SNR=60						
MK31				⇓Lg		23 43 45.3	
	comp=E,93nm,0.4s,baz=157,slow=28,SNR=5.8						
MKAR	**Makanchi Array**	**3.29**	**333**	Pn	**Pn**	**23 42 55.2**	**+2.9**
	comp=E,4.8nm,0.3s,baz=146,slow=14,SNR=116						
MKAR				Lg		23 43 46.6	
	comp=E,73nm,0.3s,baz=176,slow=19,SNR=24						
MKAR	**Makanchi Array**	**3.29**	**333**	Pn	**Pn**	**23 42 55.2**	**+2.9**
MKAR				Lg		23 43 46.6	
KNDC	**Almaty**	**5.48**	**266**	⇓Pn	**Pn**	**23 43 22.9**	**+0.5**
	comp=E,280nm,0.7s						
KNDC				⇑Lg		23 44 47.9	
	comp=E,1μm,0.8s						
ULHL	**Ulahol**	**6.23**	**258**	P	**Pn**	**23 43 32.5**	**-0.2**
	SNR=24						
TKM2	**Tokmak 2**	**6.52**	**265**	P	**Pn**	**23 43 37.5**	**+0.8**
	SNR=18						
TKM2	**Tokmak 2**	**6.52**	**265**	⇑Pn	**Pn**	**23 43 37.4**	**+0.8**
	comp=E,11nm,0.6s						
TKM2				⇓Lg		23 45 20.5	
	comp=E,44nm,0.8s						
KZA	**Kyzart**	**6.98**	**258**	P	**Pn**	**23 43 43.4**	**+0.4**
	SNR=9.3						
KBK	**Karagaybulak**	**7.04**	**263**	P	**Pn**	**23 43 44.5**	**+0.6**
	SNR=8.3						
AAK	**Ala-Archa**	**7.37**	**264**	*e*Pn	**Pn**	**23 43 47.7**	**-0.7**
	comp=E,6.9nm,0.6s						
AAK				*e*Sn	**Sn**	**23 45 11.1**	**-0.9**
AAK	**Ala-Archa**	**7.37**	**264**	*e*P	**Pn**	**23 43 47.7**	**-0.7**
AAK				*e*		23 45 11.1	
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
UCH	**Uchtor**	**7.46**	**261**	P	**Pn**	**23 43 50.5**

BVA0	**Borovoye Array**	**13.05 319**	Pn	**Pn**	**23 45 06.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=221,slow=38,SNR=7.8					
BVA0		⇑Sn		**Sn**	**23 47 31.7**	**+0.4**
	comp=Z,0.2nm,0.6s					
BVA0		⇑Lg			23 48 52.2	
	comp=Z,2.4nm,1.1s					
BVA0	**Borovoye Array**	**13.05 319**	*e*P	**Pn**	**23 45 06.2**	**+0.1**
BVA0					23 47 23.6	
BVAR	**Borovoye Array**	**13.05 319**	Pn	**Pn**	**23 45 05.0**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=138,slow=13,SNR=6.0					
BVAR		Sn		**Sn**	**23 47 31.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=122,slow=19,SNR=3.4					
ZRNK	**Zerenda**	**13.67 317**	⇓Pn	**Pn**	**23 45 15.4**	**+0.7**
	comp=Z,1.1nm,0.5s					
ZRNK		⇑Sn		**Sn**	**23 47 45.3**	**-1.1**
	comp=Z,2.6nm,0.6s					
ZRNK		⇓Lg			23 49 12.3	
ZRNK	**Zerenda**	**13.67 317**	*e*Pn	**Pn**	**23 45 13.8**	**-0.8**
	comp=Z,1.7nm,0.4s					
ZRNK		*e*Sn		**Sn**	**23 47 42.5**	**-4.0**
ZRNK	**Zerenda**	**13.67 317**	*e*P	**Pn**	**23 45 13.8**	**-0.8**
ZRNK		*e*			23 47 42.5	
ZRNK		pmax		pmax		
	comp=Z,2.0nm,0.4s					
SONM	**Songino Array**	**15.78 68**	Pn	**Pn**	**23 45 44.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=268,slow=13,SNR=14					
ULN	**Ulaanbaatar**	**16.23 68**	P	**Pn**	**23 45 54.1**	**+5.3**
	comp=Z,3.1nm,1.1s					
ULN	**Ulaanbaatar**	**16.23 68**	P	**Pn**	**23 45 54.1**	**+5.3**
ULN		pmax		pmax		
	comp=Z,3.0nm,1.1s					
AB31	**Akbulak array**	**17.65 296**	P	**Pn**	**23 46 06.3**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=99,slow=12,SNR=15					
AB31	**Akbulak array**	**17.65 296**	*i* P	**Pn**	**23 46 06.2**	**-0.5**
AB31		*i*			23 49 10.0	
AB31		pmax		pmax		
	comp=Z,23μm,0.1s					
AKTK	**Aktyubinsk**	**19.07 299**	P	**Pn**	**23 46 23.4**	**-0.6**
AKTO	**Aktyubinsk**	**19.07 299**	⇓P	**Pn**	**23 46 24.5**	**+0.5**
	comp=Z,0.5nm,0.9s					
AKTO	**Aktyubinsk**	**19.07 299**	P	**Pn**	**23 46 23.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=97,slow=17,SNR=3.6					
BOD	**Bodaibo**	**23.06 42**	*e*P	**P**	**23 47 06.1**	**-0.2**
BOD		pmax		pmax		
	comp=Z,3.0nm,1.5s,mb3.5					
KELT	**Kelkit**	**33.46 280**	*i* P	**P**	**23 48 36.7**	**-3.2**
ARCES	**ARCESS Array B**	**38.94 331**	P	**P**	**23 49 27.6**	**+0.8**
	comp=Z,0.9nm,0.6s,mb3.7,baz=93,slow=7.6,SNR=4.6					
NOA	**NORSAR Array B**	**45.18 319**	P	**P**	**23 50 17.8**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.6,baz=82,slow=6.2,SNR=2.6					
LPG	**La Plagne**	**53.17 301**	*e*P	**P**	**23 51 19.7**	**+0.8**
	comp=Z,1.7nm,0.9s,mb4.7					
LPG	**La Plagne**	**53.17 301**	*e*P	**P**	**23 51 19.7**	**+0.8**
	comp=Z,8.4nm,0.9s,mb4.7					
LPG	**La Plagne**	**53.17 301**	*e*P	**P**	**23 51 19.7**	**+0.8**
LPG		pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.7					
LPL	**La Plagne**	**53.18 301**	*e*P	**P**	**23 51 19.6**	**+0.7**
	comp=Z,11nm,0.6s,mb4.7					
LPL	**La Plagne**	**53.18 301**	*e*P	**P**	**23 51 19.6**	**+0.7**
	comp=Z,5.3nm,0.6s,mb4.7					
LPL	**La Plagne**	**53.18 301**	*e*P	**P**	**23 51 19.6**	**+0.7**
LPL		pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6					
MBDF	**Montbardon**	**53.53 300**	*e*P	**P**	**23 51 21.9**	**+0.4**
ORIF	**Oris-en-Rattie**	**53.99 301**	*e*P	**P**	**23 51 24.6**	**-0.3**
AVF	**Avril sur Loir**	**54.64 304**	*e*P	**P**	**23 51 27.3**	**-2.3**
BGF	**Bois d'Agland**	**55.05 304**	*e*P	**P**	**23 51 33.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**75.82 275**	P	**P**	**23 53 45.5**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=40,slow=5.4,SNR=14					
WRA	**Warramunga Arr**	**78.22 133**	P	**P**	**23 53 58.6**	**-1.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=336,slow=5.4,SNR=6.8					

*ISCJB **02** 23:45:34.2±1.4, 192N±0.1×6398W±005, h12km±14km, Error ellipse: s-maj=18.2km s-min=5.4km az=33.3*
*TRN **02** 23:45:34.2, 1897N×6400W, h10km, MD3.6*
*NEIC **02** 23:45:36.0, 19.14N×6379W, h15km, MD3.8(RSPR), After RSPR.*
*RSPR **02** 23:45:36.0, 19.14N×6379W, h15km±23km, MD3.8/12, MD3.8/12*

ISC 02 23:45:34.8±1.3, 1914N±007×6399W±003, h5km±7km, n21, σ0°85/32, 8C-6D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.93 219**	⇓*i*P		**Pg**	**23 45 53.4**	**+0.7**
STVI	**Saint Thomas**	**1.21 230**	⇑*e*P		**Pg**	**23 45 57.5**	**-0.5**
STVI			*e*S		**Sg**	**23 46 13.8**	**+0.2**
STMA	**St. Maarten, A**	**1.37 142**	*e*P		**Pn**	**23 46 00.7**	**+0.1**
STMA			*e*S		**Sb**	**23 46 18.4**	**-0.4**
CDVI	**St. Croix**	**1.56 208**	⇑*e*P		**Pn**	**23 46 03.8**	**+0.5**
CDVI			*e*S		**Sn**	**23 46 21.7**	**-2.3**
SABT	**Saba**	**1.67 155**	*e*P		**Pn**	**23 46 05.4**	**+0.7**
SABT			*e*S		**Sn**	**23 46 28.3**	**+1.8**
MTP	**Monte Pirata**	**1.81 235**	⇓*e*P		**Pn**	**23 46 06.7**	**-0.1**
MTP			*e*S		**Sn**	**23 46 30.0**	**-0.1**
CBYP	**Canovanas**	**1.97 244**	⇑*e*P		**Pn**	**23 46 07.8**	**-1.0**
HUMP	**Col San Antoni**	**2.02 241**	*e*P		**Pn**	**23 46 09.2**	**-0.4**
HUMP			*e*S		**Sn**	**23 46 35.0**	**-0.3**
CPD	**Cerro la Pandu**	**2.13 239**	⇓*e*P		**Pn**	**23 46 11.5**	**+0.5**
CPD			*e*S		**Sn**	**23 46 37.8**	**-0.1**
SJG	**San Juan**	**2.29 244**	⇑*e*P		**Pn**	**23 46 13.4**	**+0.1**
SJG			*e*S		**Sn**	**23 46 41.6**	**-0.2**
SJG	**San Juan**	**2.29 244**	⇑*e*P		**Pn**	**23 46 13.1**	**-0.1**
SJG			*e*S		**Sn**	**23 46 42.0**	**+0.2**
CELP	**Cerrillos**	**2.67 247**	⇓*e*P		**Pn**	**23 46 18.6**	**0.0**
CELP			*e*S		**Sn**	**23 46 51.8**	**+0.4**
ICM	**Isla Caja Muer**	**2.70 243**	⇑*e*P		**Pn**	**23 46 20.3**	**+1.3**
AOPR	**Arecibo Observ**	**2.73 254**	⇑*e*P		**Pn**	**23 46 18.7**	**-0.7**
AOPR			*e*S		**Sn**	**23 46 53.8**	**+1.0**
LRS	**Lares**	**2.83 253**	⇓*e*P		**Pn**	**23 46 20.4**	**-0.4**
MGP	**Maguayo**	**3.15 250**	⇓*e*P		**Pn**	**23 46 25.3**	**+0.2**
CRPR	**Cabo Rojo, PR**	**3.17 250**	⇑*e*P		**Pn**	**23 46 25.5**	**+0.1**
SEG	**Port Louis**	**3.60 139**	*e*P		**Pn**	**23 46 29.8**	**-1.6**
LZG	**Guadaloupe-1**	**3.65 144**	*e*P		**Pn**	**23 46 31.0**	**-1.0**
SCG	**Saint Claude**	**3.79 144**	*e*P		**Pn**	**23 46 36.2**	**+2.2**
BBL	**Barber's Block**	**4.32 146**	*e*P		**Pn**	**23 46 40.6**	**-0.6**

*TRN **02** 23:51:34.4, 19.15N×6399W, h14km, MD4.0*
*NEIC **02** 23:51:35.7, 19.15N×6380W, h5km, mb4.4/4, MD3.9(RSPR), After RSPR.*
*RSPR **02** 23:51:35.7, 19.15N×6380W, h5km±31km, MD3.9/16, MD3.9/16*
*ISCJB **02** 23:51:37.1±0.7, 1922N±005×6395W±002, h46km±7km, mb4.2/18, Error ellipse: s-maj=8.6km s-min=3.4km az=16.7*
*IDC **02** 23:51:39.6±1.6, 1903N×6399W, h52km±16km, mb3.8/16, mb1 4.0/19, mb1mx3.9/26, mbtmp4.1/19, ML3.4/2, Error ellipse: s-maj=13.5km s-min=8.2km az=15.0*

ISC 02 23:51:35.1±0.9, 1924N±003×6396W±002, h9km±6km, n71, σ0°98/90, mb4.2/18, 8C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.61 215**	⇑*i*P		**Pg**	**23 51 48.0**	**+1.1**
TBVI	**Tortola**	**1.02 217**	⇑*i*P		**Pg**	**23 51 53.8**	**-0.9**
STVI	**Saint Thomas**	**1.29 227**	*e*S		**Sb**	**23 52 14.8**	**-1.3**
STVI	**Saint Thomas**	**1.29 227**	⇓*e*P		**Pn**	**23 51 58.0**	**-1.2**
STVI			*e*S		**Sb**	**23 52 14.8**	**-1.3**
STMA	**St. Maarten, A**	**1.44 146**	*e*P		**Pn**	**23 52 02.0**	**+0.8**
STMA			*e*S		**Sn**	**23 52 20.2**	**+0.1**
CDVI	**St. Croix**	**1.66 207**	*e*S		**Sn**	**23 52 24.1**	**-1.6**
CDVI	**St. Croix**	**1.66 207**	⇓*e*P		**Pn**	**23 52 04.2**	**-0.1**
CDVI			*e*S		**Sn**	**23 52 24.1**	**-1.6**
SABT	**Saba**	**1.75 157**	*e*P		**Pn**	**23 52 06.4**	**+0.9**
SABT			*e*S		**Sn**	**23 52 27.1**	**-0.7**
MTP	**Monte Pirata**	**1.89 233**	*e*S		**Sn**	**23 52 30.2**	**-1.1**
MTP	**Monte Pirata**	**1.89 233**	⇑*e*P		**Pn**	**23 52 06.9**	**-0.5**
MTP			*e*S		**Sn**	**23 52 30.2**	**-1.1**
CBYP	**Canovanas**	**2.03 242**	⇓*e*P		**Pn**	**23 52 09.3**	**-0.2**
HUMP	**Col San Antoni**	**2.09 239**	*e*S		**Sn**	**23 52 35.9**	**-0.4**
HUMP	**Col San Antoni**	**2.09 239**	⇑*e*P		**Pn**	**23 52 09.8**	**-0.4**
HUMP			*e*S		**Sn**	**23 52 35.9**	**-0.4**
CPD	**Cerro la Pandu**	**2.20 238**	*e*S		**Sn**	**23 52 39.2**	**+0.2**
CPD	**Cerro la Pandu**	**2.20 238**	⇑*e*P		**Pn**	**23 52 11.8**	**0.0**
CPD			*e*S		**Sn**	**23 52 39.2**	**+0.2**
SKI	**Saint Kitts**	**2.22 148**	*e*P		**Pn**	**23 52 13.0**	**+1.0**
SKI			*e*S		**Sn**	**23 52 41.1**	**+1.6**
SJG	**San Juan**	**2.35 242**	*e*S		**Sn**	**23 52 42.5**	**-0.4**
SJG	**San Juan**	**2.35 242**	⇑*e*P		**Pn**	**23 52 13.7**	**-0.1**
SJG			*e*S		**Sn**	**23 52 43.8**	**+0.9**
SJG	**San Juan**	**2.35 242**	⇑*e*P		**Pn**	**23 52 13.3**	**-0.5**
SJG			*e*S		**Sn**	**23 52 42.5**	**-0.4**
SJG	**San Juan**	**2.35 242**	P		**Pn**	**23 52 13.5**	**-0.3**
	45nm,0.3s,baz=69,slow=9.0,SNR=45						
SJG			S		**Sn**	**23 52 41.9**	**-0.9**
	82nm,0.3s,baz=126,slow=14,SNR=4.4						
CPB	**Codrington**	**2.58 128**	*e*P		**Pn**	**23 52 16.8**	**-0.1**
CPB			*e*S		**Sn**	**23 52 53.2**	**+4.9**
CELP	**Cerrillos**	**2.74 245**	⇑*i*P		**Pn**	**23 52 19.1**	**0.0**
CELP			*e*S		**Sn**	**23 52 53.1**	**+0.9**
ICM	**Isla Caja Muer**	**2.77 242**	*e*S		**Sn**	**23 52 53.6**	**+0.6**
ICM	**Isla Caja Muer**	**2.77 242**	⇑*e*P		**Pn**	**23 52 20.1**	**+0.5**
ICM			*e*S		**Sn**	**23 52 53.6**	**+0.6**
OBIP	**Obispado Ponce**	**2.77 245**	*e*S		**Sn**	**23 52 53.6**	**+0.4**
OBIP	**Obispado Ponce**	**2.77 245**	⇓*e*P		**Pn**	**23 52 19.6**	**+0.1**
OBIP			*e*S		**Sn**	**23 52 53.6**	**+0.4**
AOPR	**Arecibo Observ**	**2.78 252**	*e*S		**Sn**	**23 52 54.6**	**+1.2**
AOPR	**Arecibo Observ**	**2.78 252**	⇓*e*P		**Pn**	**23 52 19.4**	**-0.3**
AOPR			*e*S		**Sn**	**23 52 54.6**	**+1.2**
LRS	**Lares**	**2.89 252**	⇓*e*P		**Pn**	**23 52 20.8**	**-0.3**
BPA	**Boggy Peak**	**2.96 137**	*e*S		**Sn**	**23 52 58.0**	**+0.3**
LSP	**Las Mesas**	**3.14 251**	*e*S		**Sn**	**23 53 04.0**	**+1.7**
LSP	**Las Mesas**	**3.14 251**	⇑*e*P		**Pn**	**23 52 25.6**	**+0.9**
LSP			*e*S		**Sn**	**23 53 04.0**	**+1.7**
MGP	**Maguayo**	**3.21 248**	⇓*e*P		**Pn**	**23 52 25.8**	**+0.2**
MGP			*e*S		**Sn**	**23 53 05.4**	**+1.5**
CRPR	**Cabo Rojo, PR**	**3.22 248**	*e*S		**Sn**	**23 53 05.4**	**+1.1**
CRPR	**Cabo Rojo, PR**	**3.22 248**	⇓*e*P		**Pn**	**23 52 26.0**	**+0.2**
CRPR			*e*S		**Sn**	**23 53 05.4**	**+1.1**
SEG	**Port Louis**	**3.66 140**	*e*P		**Pn**	**23 52 31.2**	**-0.6**
SEG			*e*S		**Sn**	**23 53 15.8**	**+0.7**
LZG	**Guadaloupe-1**	**3.72 146**	*e*P		**Pn**	**23 52 32.5**	**-0.1**
SCG	**Saint Claude**	**3.86 145**	*e*P		**Pn**	**23 52 35.9**	**+1.4**
DOG	**Dongo Capester**	**3.89 145**	*e*P		**Pn**	**23 52 36.0**	**+1.0**
PHG	**Guadaloupe-2**	**3.89 145**	*e*P		**Pn**	**23 52 35.9**	**+0.9**
DEG	**La Desirade**	**4.01 136**	*e*P		**Pn**	**23 52 36.4**	**-0.3**
TBG	**Guadaloupe-3**	**4.03 146**	*e*P		**Pn**	**23 52 37.3**	**+0.5**
BBL	**Barber's Block**	**4.39 147**	*e*P		**Pn**	**23 52 42.0**	**+0.2**
CRM	**Caravelle**	**5.33 146**	*e*P		**Pn**	**23 52 55.0**	**+0.3**
BIM	**Bigot**	**5.45 149**	*e*P		**Pn**	**23 52 56.3**	**-0.1**
SDV	**Santo Domingo**	**12.15 213**	P		**Pn**	**23 54 28.2**	**0.0**
	0.3nm,0.3s,baz=55,slow=7.2,SNR=14						
SDV			S		**Sn**	**23 56 37.3**	**-6.5**
	0.3nm,0.3s,baz=26,slow=18,SNR=2.0						
ROSC	**El Rosal**	**17.51 217**	P		**Pn**	**23 55 39.7**	**+0.4**
	2.6nm,0.3s,baz=81,slow=12,SNR=12						
JTS	**JuntasAbangare**	**22.14 249**	P		**P**	**23 56 29.6**	**-1.3**
	17nm,0.9s,mb4.5,baz=47,slow=12,SNR=6.9						
OTAV	**Otavalo**	**23.63 219**	*e*P		**P**	**23 56 45.1**	**-1.5**
	14nm,0.8s,mb4.5						
OTAV			*e*			23 56 57.7	
SIV	**San Ignacio**	**35.12 175**	P		**P**	**23 58 26.0**	**-2.7**
	4.8nm,0.7s,mb4.5,baz=21,slow=11,SNR=17						
LPAZ	**La Paz**	**35.54 187**	P		**P**	**23 58 29.8**	**-2.5**
	2.0nm,0.7s,mb4.2,baz=13,slow=7.7,SNR=8.5						
LPAZ	**La Paz**	**35.54 187**	*e*P		**P**	**23 58 30.2**	**-2.1**
	2.8nm,0.6s,mb4.4						
BDFB	**Brasilia**	**38.05 155**	P		**P**	**23 58 53.1**	**-0.5**
	11nm,0.8s,mb4.6,baz=328,slow=10,SNR=18						
BNM	**Barren Site**	**40.61 300**	*e*P		**P**	**23 59 16.3**	**+1.3**
PDAR	**Pinedale Array**	**44.89 312**	P		**P**	**23 59 51.3**	**+1.5**
	1.3nm,0.8s,mb3.8,baz=101,slow=9.3,SNR=3.4						
CPUP	**Villa Florida**	**45.75 172**	*e*P		**P**	**23 59 52.9**	**-3.7**
	9.8nm,0.7s,mb4.8						
CFAA	**Coronel Fontan**	**50.71 185**	P		**P**	**00 00 32.3**	**-2.7**
	0.6nm,0.8s,mb3.6,baz=7.8,slow=6.4,SNR=10						
MDT	**Midelt**	**54.39 63**	P		**P**	**00 01 03.1**	**+0.9**
	1.4nm,0.8s,mb3.9,baz=277,slow=16,SNR=4.5						
YKA	**Yellowknife Ar**	**55.37 334**	P		**P**	**00 01 08.4**	**-0.9**
	0.9nm,0.7s,mb3.9,baz=106,slow=7.5,SNR=8.3						
TRQA	**Tornquist**	**57.02 178**	P		**P**	**00 01 20.4**	**-0.6**
DBIC	**Dimbokro**	**58.69 94**	P		**P**	**00 01 32.5**	**-0.3**
	3.6nm,0.9s,mb4.4,baz=301,slow=7.6,SNR=4.5						
PLCA	**Paso Flores**	**59.97 186**	P		**P**	**00 01 39.1**	**-2.6**
	2.2nm,0.8s,mb4.2,baz=4.5,slow=7.9,SNR=7.5						
TORD	**Torodi Ar. Bea**	**63.04 85**	P		**P**	**00 02 01.6**	**-0.8**
	1.5nm,0.8s,mb4.2,baz=293,slow=6.1,SNR=8.6						
NOA	**NORSAR Array B**	**66.19 31**	P		**P**	**00 02 23.7**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=270,slow=7.0,SNR=2.5						
NOA			pP		pP	00 02 36.8	+11
	1.3nm,0.8s,baz=251,slow=7.0,SNR=3.6						
GERES	**GERESS Array B**	**67.72 44**	P		**P**	**00 02 33.1**	**+0.3**
	1.1nm,0.6s,mb4.0,baz=251,slow=4.1,SNR=7.1						
ILAR	**Eielson Array**	**69.77 333**	P		**P**	**00 02 44.4**	**-1.1**
	0.4nm,0.7s,mb3.5,baz=114,slow=4.2,SNR=8.5						
AKASG	**Malin Array Be**	**77.33 41**	P		**P**	**00 03 28.2**	**-1.8**
	1.6nm,0.7s,mb4.0,baz=270,slow=5.0,SNR=6.0						
BR131	**Keskin Array S**	**83.57 50**	*e*P		**P**	**00 04 04.7**	**+1.2**
	1.0nm,0.7s,mb4.0						
BRTR	**Keskin Array B**	**83.57 50**	P		**P**	**00 04 04.8**	**+1.2**
	1.7nm,0.7s,mb4.3,baz=271,slow=3.8,SNR=13						
WRA	**Warramunga Arr**	**162.74 265**	PKP		PKPdf	00 11 36.2	-1.2
	0.4nm,0.9s,baz=284,slow=8.5,SNR=4.6						
WRA			PKPab		PKPab	00 12 25.1	-1.0
	1.0nm,1.1s,baz=84,slow=4.0,SNR=7.4						
ASAR	**Alice Springs**	**162.80 252**	PKPab		PKPab	00 12 25.6	-0.8
	0.6nm,0.7s,baz=101,slow=4.3,SNR=6.0						

*NEIC **02** 23:53:57.5, 1906N×6391W, h31km, MD3.6(RSPR), After RSPR.*

RSPR 02 23:53:57.5, 1906N×6391W, h31km±7km, MD3.6/6, MD3.6/6, 5C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.93 226**	*e*S		Sn	23 54 24.6	-2.0
TBVI	**Tortola**	**0.93 226**	⇑*e*P		Pn	23 54 12.8	-1.5
TBVI			*e*S		Sn	23 54 24.6	-2.0
STVI	**Saint Thomas**	**1.22 235**	*e*S		Sn	23 54 31.7	-2.1
STVI	**Saint Thomas**	**1.22 235**	⇑*e*P		Pn	23 54 16.8	-1.6
STVI			*e*S		Sn	23 54 31.7	-2.1
CDVI	**St. Croix**	**1.54 212**	⇑*e*P		Pn	23 54 21.3	-1.4
CDVI			*e*S		Sn	23 54 39.7	-1.8
MTP	**Monte Pirata**	**1.84 239**	*e*S		Sn	23 54 47.2	-1.8
MTP	**Monte Pirata**	**1.84 239**	⇓*e*P		Pn	23 54 25.2	-1.7
MTP			*e*S		Sn	23 54 47.2	-1.8
CBYP	**Canovanas**	**2.01 247**	*e*S		Sn	23 54 51.5	-1.7
CBYP	**Canovanas**	**2.01 247**	⇑*e*P		Pn	23 54 27.9	-1.2
CBYP			*e*S		Sn	23 54 51.5	-1.7
HUMP	**Col San Antoni**	**2.06 244**	*e*S		Sn	23 54 53.0	-1.4
HUMP	**Col San Antoni**	**2.06 244**	⇑*e*P		Pn	23 54 28.1	-1.7
HUMP			*e*S		Sn	23 54 53.0	-1.4

*NEIC **02** 23:57:11.8, 1929N×6369W, h30km, MD3.6(RSPR), After RSPR.*

RSPR 02 23:57:11.8, 1929N×6369W, h30km±17km, MD3.6/7, MD3.6/7, 6C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.24 225**	⇑*i*P		Pn	23 57 31.1	-1.9
TBVI			*e*S		Sn	23 57 46.1	-2.5
STVI	**Saint Thomas**	**1.53 233**	⇑*e*P		Pn	23 57 35.6	-1.4
STVI			*e*S		Sn	23 57 54.2	-1.6
CDVI	**St. Croix**	**1.84 214**	⇑*e*P		Pn	23 57 40.2	-1.1
CDVI			*e*S		Sn	23 58 01.8	-1.8
MTP	**Monte Pirata**	**2.13 236**	*e*S		Sn	23 58 09.0	-1.8
MTP	**Monte Pirata**	**2.13 236**	⇑*e*P		Pn	23 57 44.0	-1.4
MTP			*e*S		Sn	23 58 09.0	-1.8
CBYP	**Canovanas**	**2.29 244**	⇑*e*P		Pn	23 57 46.1	-1.4
CBYP			*e*S		Sn	23 58 12.8	-1.9
HUMP	**Col San Antoni**	**2.35 241**	*e*S		Sn	23 58 14.3	-1.7
HUMP	**Col San Antoni**	**2.35 241**	⇓*e*P		Pn	23 57 47.2	-1.1
HUMP			*e*S		Sn	23 58 14.3	-1.7
CPD	**Cerro la Pandu**	**2.45 240**	*e*S		Sn	23 58 17.1	-1.5
CPD	**Cerro la Pandu**	**2.45 240**	⇑*e*P		Pn	23 57 48.7	-1.0
CPD			*e*S		Sn	23 58 17.1	-1.5
AOPR	**Arecibo Observ**	**3.05 253**	⇑*e*P		Pn	23 57 56.7	-1.2

*NEIC **02** 23:59:12.8, 1928N×6358W, h50km, MD3.8(RSPR), After RSPR.*

RSPR 02 23:59:12.8, 1928N×6358W, h51km±12km, MD3.8/6, MD3.8/6, 6C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.30 228**	*e*S		Sn	23 59 50.2	-0.7
TBVI	**Tortola**	**1.30 228**	⇑*e*P		Pn	23 59 33.5	-1.1
TBVI			*e*S		Sn	23 59 50.2	-0.7
STVI	**Saint Thomas**	**1.60 235**	*e*S		Sn	23 59 56.9	-1.3
STVI	**Saint Thomas**	**1.60 235**	⇑*e*P		Pn	23 59 37.6	-1.0
STVI			*e*S		Sn	23 59 56.9	-1.3
MTP	**Monte Pirata**	**2.21 238**	*e*S		Sn	00 00 12.6	-0.6
MTP	**Monte Pirata**	**2.21 238**	⇑*e*P		Pn	23 59 46.4	-0.6
MTP			*e*S		Sn	00 00 12.6	-0.6
CBYP	**Canovanas**	**2.38 245**	*e*S		Sn	00 00 16.2	-0.9
CBYP	**Canovanas**	**2.38 245**	⇑*e*P		Pn	23 59 48.7	-0.6
CBYP			*e*S		Sn	00 00 16.2	-0.9
HUMP	**Col San Antoni**	**2.43 243**	*e*S		Sn	00 00 17.9	-0.5
HUMP	**Col San Antoni**	**2.43 243**	⇑*e*P		Pn	23 59 49.2	-0.8
HUMP			*e*S		Sn	00 00 17.9	-0.5
CPD	**Cerro la Pandu**	**2.53 241**	*e*S		Sn	00 00 20.4	-0.6
CPD	**Cerro la Pandu**	**2.53 241**	⇑*e*P		Pn	23 59 50.9	-0.5
CPD			*e*S		Sn	00 00 20.4	-0.6

*NEIC **03** 00:08:51.4, 1892N×6305W, h40km, MD3.7(RSPR), After RSPR.*

RSPR 03 00:08:51.4, 1892N×6305W, h40km±13km, MD3.7/4, MD3.7/4, 6C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.56 251**	*e*S		Sn	00 09 34.7	-1.1
TBVI	**Tortola**	**1.56 251**	⇑*e*P		Pn	00 09 15.8	-1.0
TBVI			*e*S		Sn	00 09 34.7	-1.1
STVI	**Saint Thomas**	**1.90 253**	⇑*e*P		Pn	00 09 20.5	-0.8
MTP	**Monte Pirata**	**2.52 251**	*e*S		Sn	00 09 57.9	-1.3
MTP	**Monte Pirata**	**2.52 251**	⇑*e*P		Pn	00 09 29.1	-0.7
MTP			*e*S		Sn	00 09 57.9	-1.3
CBYP	**Canovanas**	**2.74 257**	*e*S		Sn	00 10 04.0	-0.7
CBYP	**Canovanas**	**2.74 257**	⇑*e*P		Pn	00 09 31.8	-1.0
CBYP			*e*S		Sn	00 10 04.0	-0.7
HUMP	**Col San Antoni**	**2.77 254**	⇑*e*P		Pn	00 09 32.9	-0.4
CPD	**Cerro la Pandu**	**2.86 253**	*e*S		Sn	00 10 07.4	-0.3
CPD	**Cerro la Pandu**	**2.86 253**	⇑*e*P		Pn	00 09 33.6	-0.9
CPD			*e*S		Sn	00 10 07.4	-0.3

*NEIC **03** 00:18:12.9, 19.10N×6392W, h8km, MD3.6(RSPR), After RSPR.*

RSPR 03 00:18:12.9, 1910N×6392W, h8km±1km, MD3.6/9, MD3.6/9, 11C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.95 224**	*e*S		Sg	00 18 41.5	-2.1
TBVI	**Tortola**	**0.95 224**	⇓*i*P		Pg	00 18 29.0	-2.2
TBVI			*e*S		Sg	00 18 41.5	-2.1
STVI	**Saint Thomas**	**1.24 233**	*e*S		Sb	00 18 48.2	-4.4
STVI	**Saint Thomas**	**1.24 233**	⇑*e*P		Pn	00 18 33.4	-3.0
STVI			*e*S		Sb	00 18 48.2	-4.4
CDVI	**St. Croix**	**1.57 211**	*e*S		Sn	00 18 58.2	-3.3
CDVI	**St. Croix**	**1.57 211**	⇑*e*P		Pn	00 18 39.8	-1.2
CDVI			*e*S		Sn	00 18 58.2	-3.3
MTP	**Monte Pirata**	**1.85 237**	*e*S		Sn	00 19 05.0	-3.4
MTP	**Monte Pirata**	**1.85 237**	⇑*e*P		Pn	00 18 41.9	-3.0
MTP			*e*S		Sn	00 19 05.0	-3.4
CBYP	**Canovanas**	**2.02

MGP	**Maguayo**	**3.11 250**	⇓*e*P		**Pn**	**00 20 42.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**3.13 250**	⇑*e*P		**Pn**	**00 20 43.5**	**+1.0**
CRPR	**Cabo Rojo, PR**	**3.13 250**	⇑*e*P		**Pn**	**00 20 42.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**3.13 250**	*e*S		**Sn**	**00 21 20.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**3.13 250**	⇑*e*P		**Pn**	**00 20 42.7**	**+0.1**
CRPR			⇑*e*P			00 20 43.5	
CRPR			*e*S		**Sn**	**00 21 20.2**	**+0.3**
LZG	**Guadaloupe-1**	**3.62 144**	*e*P		**Pn**	**00 20 47.3**	**-2.0**
LZG			*e*S		**Sn**	**00 21 32.8**	**+0.9**

MAN 03 00:24:46.1, 1834N×12113E, h24km, mb2.7, ML4.2, MS4.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.49**	**167**	*e*P	Pb	00 24 56.4	+0.3
APYP				*e*S	Sb	00 25 06.8	+4.0
ABRA	**Dolores**	**0.80**	**210**	*e*P	Pb	00 25 01.2	-0.1
SGCP	**Mt. Cagua**	**0.88**	**96**	*e*P	Pb	00 25 02.3	-0.3
CVP	**Callao Caves**	**0.91**	**134**	⇑*i*P	Pb	00 25 04.2	+0.9
CVP				*e*S	Sb	00 25 19.0	+4.0

*ISCJB **03** 00:25:34.7±1.1, 1921N±007×6399W±003, h18km±8km, mb4.0/1, Error ellipse: s-maj=11.1km s-min=4.7km az=17.6*
*RSPR **03** 00:25:37.1, 19.14N×6397W, h5km±31km, MD3.8/17, MD3.8/17*
*NEIC **03** 00:25:37.1, 19.14N×6397W, h5km, mb4.1/1, MD3.8(RSPR), After RSPR.*
*TRN **03** 00:25:37.8, 1932N×6322W, h53km, MD3.7*

ISC 03 00:25:35.5±1.2, 1911N±007×6401W±003, h8km±6km, n37, σ0°85/55, mb4.0/1, 10C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.90**	**219**	⇓*i*P	**Pg**	**00 25 53.0**	**+0.3**
STVI	**Saint Thomas**	**1.17**	**230**	*e*S	**Sg**	**00 26 12.9**	**-0.3**
STVI	**Saint Thomas**	**1.17**	**230**	⇓*i*P	**Pb**	**00 25 58.0**	**0.0**
STVI				*e*S	**Sg**	**00 26 12.9**	**-0.3**
STMA	**St. Maarten, A**	**1.37**	**141**	*e*P	**Pn**	**00 26 00.1**	**-0.7**
STMA				*e*S	**Sb**	**00 26 18.2**	**-0.7**
CDVI	**St. Croix**	**1.53**	**208**	*e*S	**Sn**	**00 26 22.9**	**-0.2**
CDVI	**St. Croix**	**1.53**	**208**	⇓*e*P	**Pn**	**00 26 03.5**	**+0.4**
CDVI				*e*S	**Sn**	**00 26 22.9**	**-0.2**
SABT	**Saba**	**1.66**	**154**	*e*P	**Pn**	**00 26 07.4**	**+2.7**
SABT				*e*S	**Sn**	**00 26 27.2**	**+1.1**
MTP	**Monte Pirata**	**1.78**	**236**	*e*S	**Sn**	**00 26 28.1**	**-1.1**
MTP	**Monte Pirata**	**1.78**	**236**	⇑*e*P	**Pn**	**00 26 06.1**	**-0.3**
MTP				*e*S	**Sn**	**00 26 28.1**	**-1.1**
CBYP	**Canovanas**	**1.94**	**245**	*e*S	**Sn**	**00 26 32.2**	**-0.9**
CBYP	**Canovanas**	**1.94**	**245**	⇑*e*P	**Pn**	**00 26 08.4**	**-0.2**
CBYP				*e*S	**Sn**	**00 26 32.2**	**-0.9**
HUMP	**Col San Antoni**	**1.99**	**241**	*e*S	**Sn**	**00 26 33.9**	**-0.5**
HUMP	**Col San Antoni**	**1.99**	**241**	⇓*e*P	**Pn**	**00 26 08.9**	**-0.4**
HUMP				*e*S	**Sn**	**00 26 33.9**	**-0.5**
CPD	**Cerro la Pandu**	**2.10**	**240**	*e*S	**Sn**	**00 26 37.0**	**-0.1**
CPD	**Cerro la Pandu**	**2.10**	**240**	⇑*e*P	**Pn**	**00 26 10.8**	**0.0**
CPD				*e*S	**Sn**	**00 26 37.0**	**-0.1**
SJG	**San Juan**	**2.26**	**244**	*e*S	**Sn**	**00 26 41.8**	**+0.7**
SJG	**San Juan**	**2.26**	**244**	⇑*e*P	**Pn**	**00 26 13.2**	**+0.2**
SJG				*e*S	**Sn**	**00 26 41.3**	**+0.3**
SJG	**San Juan**	**2.26**	**244**	⇑*e*P	**Pn**	**00 26 13.1**	**0.0**
SJG				*e*S	**Sn**	**00 26 41.8**	**+0.7**
CELP	**Cerrillos**	**2.64**	**247**	⇓*i*P	**Pn**	**00 26 18.4**	**+0.1**
CELP				*e*S	**Sn**	**00 26 50.3**	**-0.3**
ICM	**Isla Caja Muer**	**2.67**	**243**	*e*S	**Sn**	**00 26 52.1**	**+0.8**
ICM	**Isla Caja Muer**	**2.67**	**243**	⇑*e*P	**Pn**	**00 26 19.8**	**+1.1**
ICM				*e*S	**Sn**	**00 26 52.1**	**+0.8**
OBIP	**Obispado Ponce**	**2.68**	**247**	*e*S	**Sn**	**00 26 51.1**	**-0.4**
OBIP	**Obispado Ponce**	**2.68**	**247**	⇑*e*P	**Pn**	**00 26 19.1**	**+0.2**
OBIP				*e*S	**Sn**	**00 26 51.1**	**-0.4**
AOPR	**Arecibo Observ**	**2.70**	**254**	*e*S	**Sn**	**00 26 52.1**	**0.0**
AOPR	**Arecibo Observ**	**2.70**	**254**	⇓*e*P	**Pn**	**00 26 18.6**	**-0.5**
AOPR				*e*S	**Sn**	**00 26 52.1**	**0.0**
LRS	**Lares**	**2.81**	**254**	⇑*e*P	**Pn**	**00 26 19.9**	**-0.6**
LRS				*e*S	**Sn**	**00 26 54.8**	**+0.2**
MGP	**Maguayo**	**3.12**	**250**	⇑*e*P	**Pn**	**00 26 25.1**	**+0.2**
MGP				*e*S	**Sn**	**00 27 02.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**3.14**	**250**	*e*S	**Sn**	**00 27 02.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**3.14**	**250**	⇑*e*P	**Pn**	**00 26 25.0**	**-0.1**
CRPR				*e*S	**Sn**	**00 27 02.7**	**0.0**
SEG	**Port Louis**	**3.60**	**138**	*e*P	**Pn**	**00 26 29.4**	**-2.2**
LZG	**Guadaloupe-1**	**3.65**	**144**	*e*P	**Pn**	**00 26 27.0**	**-5.1**
SCG	**Saint Claude**	**3.79**	**144**	*e*P	**Pn**	**00 26 35.0**	**+0.9**
TBG	**Guadaloupe-3**	**3.95**	**145**	*e*P	**Pn**	**00 26 35.4**	**-1.0**
DEG	**La Desirade**	**3.96**	**134**	*e*P	**Pn**	**00 26 36.8**	**+0.4**
BBL	**Barber's Block**	**4.32**	**145**	*e*P	**Pn**	**00 26 40.3**	**-1.1**
SDV	**Santo Domingo** 7.0nm,0.8s	**12.02**	**213**	*e*Pn	**Pn**	**00 28 29.7**	**+2.7**
SDV				*e*Sn	**Sn**	**00 30 45.8**	**+4.5**
OTAV	**Otavalo** 6.4nm,1.0s,mb4.0	**23.50**	**219**	*e*P	**P**	**00 30 48.8**	**+2.8**

IDC 03 00:30:07.5±3.0, 786S×14649E, h0km, mb1 4.0/2, mb1mx3.5/12, mbtmp3.7/2, ML3.2/1, Error ellipse: s-maj=60.0km s-min=17.0km az=56.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 17nm,0.3s,baz=359,slow=7.4,SNR=28	**1.67**	**157**	Pg	Pg	00 30 37.0	-2.5
PMG				Lg		00 31 00.8	
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=46,slow=11,SNR=4.1 14nm,0.3s,baz=343,slow=19,SNR=22	**16.81**	**223**	Pn	Pn	00 34 03.2	-1.1
ASAR	**Alice Springs** 0.3nm,0.3s,baz=45,slow=10,SNR=18	**19.81**	**216**	P	Pn	00 34 40.2	-0.8
TORD	**Torodi Ar. Bea** 0.8nm,0.7s,baz=71,slow=3.0,SNR=5.9	**145.01**	**282**	PKPbc	PKPbc	00 49 47.0	+1.0

*NEIC **03** 00:42:28.6, 1897N×6375W, h32km, MD3.5(RSPR), After RSPR.*

RSPR 03 00:42:28.6, 1897N×6375W, h32km±14km, MD3.5/6, MD3.5/6, 5C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.99**	**236**	*e*S	Sn	00 42 57.3	-1.8
TBVI	**Tortola**	**0.99**	**236**	⇑*i*P	Pn	00 42 44.7	-1.5
TBVI				*e*S	Sn	00 42 57.3	-1.8
STVI	**Saint Thomas**	**1.30**	**242**	*e*S	Sn	00 43 04.7	-2.2
STVI	**Saint Thomas**	**1.30**	**242**	⇑*e*P	Pn	00 42 48.9	-1.7
STVI				*e*S	Sn	00 43 04.7	-2.2
MTP	**Monte Pirata**	**1.92**	**243**	*e*S	Sn	00 43 20.8	-1.4
MTP	**Monte Pirata**	**1.92**	**243**	⇓*e*P	Pn	00 42 57.7	-1.4
MTP				*e*S	Sn	00 43 20.8	-1.4
CBYP	**Canovanas**	**2.11**	**251**	⇑*e*P	Pn	00 43 00.6	-1.1
CBYP				*e*S	Sn	00 43 25.3	-1.6
HUMP	**Col San Antoni**	**2.15**	**248**	⇓*e*P	Pn	00 43 00.7	-1.6
HUMP				*e*S	Sn	00 43 26.6	-1.3
CPD	**Cerro la Pandu**	**2.25**	**246**	⇑*e*P	Pn	00 43 02.7	-0.9
CPD				*e*S	Sn	00 43 28.5	-1.8
CRPR	**Cabo Rojo, PR**	**3.33**	**254**	⇑*e*P	Pn	00 43 17.6	-0.8

*ISCJB **03** 00:50:14.0±1.3, 1926N±009×6388W±004, h25km, Error ellipse: s-maj=13.3km s-min=5.9km az=7.0*
*RSPR **03** 00:50:13.0, 1909N×6354W, h25km±20km, MD3.2/5, MD3.2/5*
*NEIC **03** 00:50:13.0, 1909N×6354W, h25km, MD3.3(RSPR), After RSPR.*

ISC 03 00:50:15.6±1.3, 1920N±009×6390W±004, h25km, n18, σ1°31/27, 8C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.04**	**220**	*e*S	**Sb**	**00 50 46.9**	**-1.1**
TBVI	**Tortola**	**1.04**	**220**	⇑*e*P	**Pn**	**00 50 32.4**	**-2.1**
TBVI				*e*S	**Sb**	**00 50 46.9**	**-1.1**
STVI	**Saint Thomas**	**1.31**	**230**	*e*S	**Sn**	**00 50 54.8**	**-0.3**
STVI	**Saint Thomas**	**1.31**	**230**	⇑*e*P	**Pn**	**00 50 36.7**	**-1.6**
STVI				*e*S	**Sn**	**00 50 54.8**	**-0.3**
STMA	**St. Maarten, A**	**1.38**	**147**	*e*P	**Pn**	**00 50 41.5**	**+2.2**
STMA				*e*S	**Sn**	**00 50 57.4**	**+0.7**
CDVI	**St. Croix**	**1.66**	**210**	*e*S	**Sn**	**00 51 01.3**	**-2.3**
CDVI	**St. Croix**	**1.66**	**210**	⇑*e*P	**Pn**	**00 50 43.1**	**0.0**
CDVI				*e*S	**Sn**	**00 51 01.3**	**-2.3**
MTP	**Monte Pirata**	**1.92**	**235**	*e*S	**Sn**	**00 51 10.4**	**+0.4**
MTP	**Monte Pirata**	**1.92**	**235**	⇑*e*P	**Pn**	**00 50 45.5**	**-1.1**
MTP				*e*S	**Sn**	**00 51 10.4**	**+0.4**
CBYP	**Canovanas**	**2.07**	**244**	*e*S	**Sn**	**00 51 15.3**	**+1.6**
CBYP	**Canovanas**	**2.07**	**244**	⇑*e*P	**Pn**	**00 50 48.3**	**-0.4**
CBYP				*e*S	**Sn**	**00 51 15.3**	**+1.6**
HUMP	**Col San Antoni**	**2.13**	**241**	*e*S	**Sn**	**00 51 17.0**	**+1.9**
HUMP	**Col San Antoni**	**2.13**	**241**	⇑*e*P	**Pn**	**00 50 48.8**	**-0.7**
HUMP				*e*S	**Sn**	**00 51 17.0**	**+1.9**
CPD	**Cerro la Pandu**	**2.23**	**239**	*e*Pn	**Pn**	**00 50 51.0**	**0.0**
CPD				*e*Sn	**Sn**	**00 51 20.7**	**+2.9**
SJG	**San Juan**	**2.39**	**243**	⇑*e*P	**Pn**	**00 50 52.7**	**-0.5**
CELP	**Cerrillos**	**2.78**	**247**	⇑*e*P	**Pn**	**00 50 57.8**	**-0.6**
CELP				*e*S	**Sn**	**00 51 33.9**	**+2.7**
SEG	**Port Louis**	**3.60**	**140**	*e*P	**Pn**	**00 51 10.0**	**+0.1**
LZG	**Guadaloupe-1**	**3.66**	**146**	*e*P	**Pn**	**00 51 11.1**	**+0.5**

*ISCJB **03** 00:52:46.7±5.3, 212S±10×1760W±09, h33km, mb4.3/5, Error ellipse: s-maj=184.0km s-min=15.8km az=99.2*
*NEIC **03** 00:52:47.2±4.1, 21.55S×175.74W, h35km, mb4.6/2, Error ellipse: s-maj=139.0km s-min=14.2km az=139.0*
*IDC **03** 00:52:51.8±7.0, 1907S×17761W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.9/13, mbtmp4.1/3, Error ellipse: s-maj=305.6km s-min=37.9km az=144.0*

ISC 03 00:52:46.3±4.5, 217S±07×1755W±07, h35km, n7, σ0°73/7, mb4.3/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.56**	**25**	*e*Pn	**Pn**	**00 54 47.6**	**-0.1**
CTAO	**Charters Tower** 6.8nm,0.7s,mb4.7	**35.68**	**266**	*e*P	**P**	**00 59 42.4**	**+1.2**
ASAR	**Alice Springs** 3.8nm,0.8s,mb4.3,baz=89,slow=8.5,SNR=31	**46.50**	**258**	P	**P**	**01 01 10.8**	**+0.7**
WB2	**Warramunga Arr**	**46.72**	**263**	*e*P	**P**	**01 01 10.8**	**-0.9**
WRAB	**Tennant Creek** 2.5nm,0.4s,mb4.5	**46.72**	**263**	*e*P	**P**	**01 01 11.3**	**-0.4**
WRA	**Warramunga Arr** 2.7nm,0.5s,mb4.4,baz=97,slow=7.9,SNR=104	**46.73**	**263**	P	**P**	**01 01 11.1**	**-0.7**
ILAR	**Eielson Array** 0.4nm,0.9s,mb3.8,baz=220,slow=5.1,SNR=5.1	**89.02**	**12**	P	**P**	**01 05 37.8**	**+0.2**

*ISCJB **03** 01:02:10.8±0.8, 5178N±004×695E±004, h0km, Error ellipse: s-maj=5.7km s-min=3.9km az=163.6*
*BNS **03** 01:02:13.7±0.9, 5171N×705E, h1km, ML1.8*
*BGR **03** 01:02:13.2±1.0, 5158N×679E, h1km, ML2.2, Error ellipse: s-maj=12.2km s-min=6.7km az=138.0*
*BUG **03** 01:02:14.1, 5163N×699E, h1km, ML1.2*
*LDG **03** 01:02:14.4±0.1, 5167N×698E, h1km, Ml2.5/5, Error ellipse: s-maj=2.4km s-min=1.7km az=179.0, Suspected Mining induced.*

ISC 03 01:02:13.3±0.6, 5169N±003×694E±004, h0km, n29, σ1°25/46, 2C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTSB	**Winterswijk** 43nm,0.3s	**0.29**	**342**	*e*Pg	**Pg**	**01 02 21.3**	**+2.5**
BUG	**Bochum--Univer**	**0.32**	**141**	⇓*i*Pg	**Pg**	**01 02 20.0**	**+0.5**
BUG				Sg	**Sg**	**01 02 24.2**	**+0.5**
LAUG	**Laupendahl**	**0.34**	**180**	*e*Pg	**Pg**	**01 02 20.2**	**+0.4**
LAUG				*e*Sg	**Sg**	**01 02 25.7**	**+1.4**
RODG	**Roetgen-Dahlhe** 59nm,0.3s	**0.73**	**221**	*e*Pg	**Pg**	**01 02 29.4**	**+2.2**
RODG				*e*Sg	**Sg**	**01 02 39.8**	**+3.2**
BNS	**Bensberg** 101nm,0.5s	**0.74**	**169**	*e*Pg	**Pg**	**01 02 27.9**	**+0.4**
BNS				*e*Sg	**Sg**	**01 02 38.2**	**+1.1**
HOBG	**Hohbusch** 45nm,0.5s	**0.75**	**161**	*e*Pg	**Pg**	**01 02 27.9**	**+0.3**
HOBG				*e*Sg	**Sg**	**01 02 38.8**	**+1.4**
STB	**Steinbach** 36nm,0.4s	**1.10**	**183**	*e*Pg	**Pg**	**01 02 34.8**	**+0.4**
STB				*e*Sg	**Sg**	**01 02 50.1**	**+1.5**
KLL	**Kalltalsperre** 21nm,0.3s	**1.12**	**201**	*e*Pg	**Pg**	**01 02 34.9**	**+0.2**
KLL				*e*Sg	**Sg**	**01 02 51.1**	**+1.9**
HGN	**Heimansgroeve** 16nm,0.4s 15nm,0.1s,baz=30	**1.12**	**215**	*e*Pg	**Pg**	**01 02 35.1**	**+0.3**
HGN				*e*Sg	**Sg**	**01 02 50.4**	**+1.0**
BEBN	**Eben Emael**	**1.20**	**222**	⇑P	**Pg**	**01 02 36.7**	**+0.5**
BEBN				S	**Sg**	**01 02 54.1**	**+2.4**
MEM	**Membach**	**1.23**	**209**	⇓P	**Pg**	**01 02 36.7**	**-0.2**
MEM				S	**Sg**	**01 02 53.4**	**+0.5**
BGG	**Burgeitz** 2.6nm,0.4s	**1.51**	**170**	*e*Pg	**Pg**	**01 02 40.7**	**-1.5**
BGG				*e*Sg	**Sg**	**01 02 59.4**	**-2.3**
TNS	**Taunus Mts** 16nm,1.1s	**1.75**	**147**	*e*Pn	**Pn**	**01 02 44.4**	**-0.5**
TNS				*e*Sg	**Sg**	**01 03 08.5**	**-1.0**
GIVF	**Givet**	**2.08**	**221**	*e*Pn	**Pn**	**01 02 48.8**	**-0.6**
GIVF	**Givet** 12nm,0.3s	**2.08**	**221**	*e*Pg	**Pg**	**01 02 53.2**	**0.0**
GIVF				*e*Sn	**Sn**	**01 03 14.1**	**-1.9**
WLF	**Walferdange**	**2.09**	**194**	*e*Sg	**Sg**	**01 03 14.4**	**-6.1**
UBBA	**Unterbreizbach**	**2.11**	**113**	*e*Sg	**Sg**	**01 03 20.6**	**-0.5**
CLZ	**Clausthal**	**2.14**	**85**	*e*Pn	**Pn**	**01 02 51.6**	**+1.4**
CLZ				*e*Sg	**Sg**	**01 03 23.6**	**+1.7**
DOU	**Dourbes**	**2.18**	**224**	⇑P	**Pn**	**01 02 51.1**	**+0.3**
RFYF	**Reffroy**	**3.21**	**198**	*e*Pn	**Pn**	**01 03 03.9**	**-1.0**
CDF	**Champ du Feu** 2.6nm,0.4s	**3.29**	**176**	*e*Pn	**Pn**	**01 03 05.0**	**-1.0**
CDF				*e*Sg	**Sg**	**01 03 57.6**	**-1.4**
MEZF	**Maizieres J'vi**	**3.42**	**202**	*e*Pn	**Pn**	**01 03 06.7**	**-1.1**
SFTF	**Sexfontaines**	**3.70**	**200**	*e*Pn	**Pn**	**01 03 10.3**	**-1.4**
SFTF	**Sexfontaines**	**3.70**	**200**	*e*Pg	**Pg**	**01 03 22.7**	**-1.5**
HINF	**Hinteralfeld**	**3.88**	**181**	*e*Pn	**Pn**	**01 03 12.6**	**-1.5**
LOR	**Lormes** baz=35	**4.86**	**206**	*e*Pn	**Pn**	**01 03 26.4**	**-1.2**
LOR				*e*Sn	**Sn**	**01 04 20.3**	**-4.3**
SSF	**Saint Saulge** 0.7nm,0.3s	**5.15**	**207**	*e*Pn	**Pn**	**01 03 30.2**	**-1.4**
SSF				*e*Sn	**Sn**	**01 04 27.5**	**-4.2**
AVF	**Avril sur Loir**	**5.44**	**207**	*e*Pn	**Pn**	**01 03 33.9**	**-1.7**
FLN	**La Foliniere** baz=58	**5.59**	**241**	*e*Pn	**Pn**	**01 03 37.1**	**-0.6**

*MOS **03** 01:08:00.0±0.9, 36.16N×7081E, h219km, mb3.8/7, Error ellipse: s-maj=20.5km s-min=12.1km az=93.3*
*IDC **03** 01:08:01.6±7.5, 36.12N×7099E, h223km±72km, mb3.3/9, mb1 3.3/12, mb1mx3.1/23, mbtmp3.9/12, Error ellipse: s-maj=36.7km s-min=15.1km az=13.0*
*ISCJB **03** 01:08:04.2±0.8, 3644N±004×710E±0.1, h255km±9km, mb3.5/9, Error ellipse: s-maj=14.1km s-min=5.4km az=136.2*
*NEIC **03** 01:08:05.9±1.8, 3644N×7105E, h257km±18km, mb4.3/6, Error ellipse: s-maj=22.0km s-min=8.6km az=55.0*
*NNC **03** 01:08:10.8±3.3, 3690N×7112E, h254km±35km, mb2.7, mpv4.1, Error ellipse: s-maj=38.9km s-min=26.4km az=19.0*

ISC 03 01:08:05.2±0.8, 3643N±005×710E±01, h249km±9km, n49, σ0°99/56, mb3.5/9, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.57**	**134**	*e*P	**Pn**	**01 09 26.8**	**-1.1**
THN				*e*S	**S**	**01 10 29.3**	**-4.6**
DLH	**Dalhousie**	**5.63**	**132**	*e*P	**Pn**	**01 09 31.0**	**+2.2**
DLH				*e*S	**S**	**01 10 36.0**	**+0.5**
AML	**Almayashu** SNR=154	**6.06**	**19**	P	**Pn**	**01 09 33.8**	**-0.3**
UCH	**Uchtor** SNR=90	**6.39**	**24**	P	**Pn**	**01 09 38.6**	**+0.4**
KZA	**Kyzart** SNR=22	**6.53**	**29**	P	**Pn**	**01 09 39.4**	**-0.5**
EKS2	**Erkin-Say** SNR=11	**6.58**	**18**	P	**Pn**	**01 09 40.6**	**+0.1**
KK31	**Karatay Array** 5.9nm,0.4s,baz=171,slow=12,SNR=127	**6.68**	**357**	P	**Pn**	**01 09 41.7**	**-0.1**
KK31				⇑S	**S**	**01 10 54.2**	**-5.0**
AAK	**Ala-Archa** SNR=36	**6.75**	**22**	P	**Pn**	**01 09 42.7**	**0.0**
AAK	**Ala-Archa** 16nm,0.4s	**6.75**	**22**	*e*Pn	**Pn**	**01 09 41.5**	**-1.3**
AAK				*e*S	**S**	**01 10 58.1**	**-2.8**
AAK	**Ala-Archa**	**6.75**	**22**	*e*PN	**Pn**	**01 09 41.5**	**-1.2**
AAK				pmax	pmax		
KBK	**Karagaybulak** SNR=16	**6.92**	**25**	P	**Pn**	**01 09 45.3**	**+0.5**
SDNR	**Sundarnagar**	**6.97**	**133**	*e*P	**Pn**	**01 09 45.1**	**-0.4**
SDNR				*e*S	**S**	**01 11 00.5**	**-5.5**
ULHL	**Ulahol** SNR=22	**7.08**	**33**	P	**Pn**	**01 09 46.2**	**-0.6**
CHMS	**Chumysh** SNR=9.0	**7.16**	**23**	P	**Pn**	**01 09 48.5**	**+0.5**
TKM2	**Tokmak 2** SNR=19	**7.38**	**27**	P	**Pn**	**01 09 50.9**	**+0.2**
TKM2	**Tokmak 2** comp=Z,16nm,0.8s	**7.38**	**27**	⇑P	**Pn**	**01 09 50.7**	**0.0**
TKM2				⇑S	**S**	**01 11 11.6**	**-3.8**
MK31	**Makanchi Array** comp=Z,1.1nm,0.7s,baz=207,slow=10,SNR=2.6	**13.34**	**36**	⇑P	**Pn**	**01 11 05.5**	**+0.2**
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=211,slow=11,SNR=9.2	**13.34**	**36**	P	**Pn**	**01 11 05.0**	**-0.3**
KOLN	**Koldanda** comp=Z,8.0nm,0.5s	**13.71**	**125**	*e*P	**Pn**	**01 11 11.7**	**+1.9**
GKN	**Gorkha**	**14.26**	**122**	*e*P	**Pn**	**01 11 17.6**	**+1.2**
KKN	**Kakani** comp=Z,19nm,0.4s	**14.83**	**121**	*e*P	**Pn**	**01 11 22.0**	**-1.4**
KKN	**Kakani** comp=Z,10.0nm,0.4s	**14.83**	**121**	*e*P	**Pn**	**01 11 22.0**	**-1.4**
KKN				pmax	pmax		
PKI	**Pulchoki** comp=Z,18nm,0.5s	**15.06**	**122**	*e*P	**Pn**	**01 11 26.9**	**+0.8**
PKI	**Pulchoki** comp=Z,9.0nm,0.5s	**15.06**	**122**	*e*P	**Pn**	**01 11 26.9**	**+0.8**
PKI				pmax	pmax		
AB31	**Akbulak array** comp=Z,0.6nm,0.4s,baz=144,slow=12,SNR=28	**15.15**	**331**	⇓P	**Pn**	**01 11 26.6**	**-0.6**
AB31				⇑S	**S**	**01 14 18.9**	**+4.9**
GUN	**Gumba** comp=Z,14nm,0.5s	**15.17**	**120**	*e*P	**Pn**	**01 11 28.0**	**+0.5**
JIRN	**Jiri** comp=Z,18nm,0.4s	**15.54**	**120**	*e*P	**Pn**	**01 11 31.6**	**-0.3**
BVAR	**Borovoye Array** comp=Z,0.2nm,0.3s,baz=162,slow=8.5,SNR=3.5	**16.60**	**359**	P	**P**	**01 11 45.5**	**+2.9**
AKTK	**Aktyubinsk**	**16.85**	**330**	P	**P**	**01 11 45.8**	**+0.5**
AKTO	**Aktyubinsk** comp=Z,0.9nm,0.3s,baz=135,slow=11,SNR=22	**16.85**	**330**	P	**P**	**01 11 45.8**	**+0.5**
AKTO	**Aktyubinsk** comp=Z,1.0nm,0.3s	**16.85**	**330**	P	**P**	**01 11 45.8**	**+0.5**
AKTO				pmax	pmax		
ZAL	**Zalesovo** comp=Z,0.9nm,0.3s,baz=248,slow=8.5,SNR=3.8	**19.96**	**24**	P	**P**	**01 12 19.8**	**+1.0**
ZAL	**Zalesovo** comp=Z,1.0nm,0.3s	**19.96**	**24**	P	**P**	**01 12 19.8**	**+1.0**
ZAL				pmax	pmax		
SONM	**Songino Array** comp=Z,0.8nm,0.7s,mb3.5,baz=270,slow=9.6,SNR=8.5	**28.37**	**55**	P	**P**	**01 13 37.0**	**+0.6**
SONM	**Songino Array** comp=Z,1.0nm,0.7s	**28.37**	**55**	P	**P**	**01 13 37.0**	**+0.6**
SONM				pmax	pmax		
FINES	**FINES Array B** comp=Z,0.4nm,0.5s,mb3.2,baz=123,slow=11,SNR=7.9	**37.55**	**326**	P	**P**	**01 14 55.8**	**+0.2**
ARCES	**ARCESS Array B** comp=Z,4.9nm,1.0s,mb3.9,baz=112,slow=8.2,SNR=7.7	**41.22**	**338**	P	**P**	**01 15 25.9**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,5.0nm,1.0s	**41.22**	**338**	P	**P**	**01 15 25.9**	**+0.1**
ARCES				pmax	pmax		
NB2	**NORSAR Subarra** comp=Z,0.4nm,0.4s,mb3.1,baz=96,slow=7.4	**44.44**	**323**	P	**P**	**01 15 52.1**	**+0.4**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.5s,mb3.0,baz=95,slow=4.9,SNR=3.9	**44.44**	**323**	P	**P**	**01 15 52.0**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,1.5nm,0.5s,mb3.9,baz=48,slow=5.8,SNR=37	**65.73**	**269**	P	**P**	**01 18 22.5**	**-0.8**
DBIC	**Dimbokro** comp=Z,1.0nm,0.5s,mb3.7,baz=101,slow=22,SNR=4.9	**74.71**	**267**	P	**P**	**01 19 17.4**	**-0.3**
DBIC	**Dimbokro** comp=Z,1.0nm,0.5s	**74.71**	**267**	P	**P**	**01 19 17.4**	**-0.2**
DBIC				pmax	pmax		
WRA	**Warramunga Arr** comp=Z,1.2nm,0.8s,mb3.5,baz=324,slow=4.9,SNR=18	**81.94**	**122**	P	**P**	**01 19 55.6**	**-1.6**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.9s	**81.94**	**122**	P	**P**	**01 19 55.6**	**-1.5**
WRA				pmax	pmax		
WRAB	**Tennant Creek** comp=Z,0.8nm,0.5s,mb3.6	**81.94**	**122**	*e*P	**P**	**01 19 56.5**	**-0.7**
WRAB	**Tennant Creek** comp=Z,1.0nm,0.5s,mb3.7	**81.94**	**122**	*e*P	**P**	**01 19 56.5**	**-0.6**
WRAB				pmax	pmax		
ASAR	**Alice Springs** comp=Z,0.7nm,0.6s,mb3.6,baz=310,slow=5.1,SNR=8.1	**84.20**	**125**	P	**P**	**01 20 07.5**	**-1.1**
ASAR	**Alice Springs** comp=Z,1.0nm,0.6s	**84.20**	**125**	P	**P**	**01 20 07.6**	**-1.1**
ASAR				pmax	pmax		

*ISCJB **03** 01:20:43.9±1.3, 1925N±007×6396W±003, h20km±9km, mb3.8/1, Error ellipse: s-maj=12.0km s-min=4.3km az=19.6*
*TRN **03** 01:20:44.5, 1937N×6385W, h35km, MD3.8*
*NEIC **03** 01:20:45.5, 19.14N×6388W, h5km, mb3.9/1, MD3.8(RSPR), After RSPR.*
*RSPR **03** 01:20:45.5, 19.14N×6388W, h5km±31km, MD3.8/15, MD3.8/15*

ISC 03 01:20:44.4±1.3, 1917N±007×6398W±003, h9km±8km, n34, σ0°88/48, mb3.8/1, 10C-3D, Leeward Islands

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

s-maj=96.2km s-min=14.5km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.02**	**162**	P	Pn	01 33 04.3	+1.7
	7.5nm,0.3s,baz=270,slow=20,SNR=2.4						
CBIJ				S	Sn	01 33 37.5	-0.2
	26nm,0.3s,baz=260,slow=23,SNR=7.2						
MJAR	**Matsushiro Arr**	**6.99**	**340**	P	Pn	01 33 56.8	+0.2
	0.5nm,0.3s,baz=144,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**47.96**	**308**	P	P	01 40 46.4	-0.7
	0.2nm,0.7s,baz=84,slow=8.1,SNR=4.5						
WRA	**Warramunga Arr**	**50.06**	**188**	P	P	01 41 03.4	+0.3
	0.2nm,0.3s,baz=5.2,slow=7.6,SNR=21						
ASAR	**Alice Springs**	**53.79**	**188**	P	P	01 41 31.2	+0.4
	0.1nm,0.3s,baz=9.2,slow=7.2,SNR=3.5						
FINES	**FINESS Array B**	**74.97**	**333**	P	P	01 43 48.5	-0.4
	0.4nm,0.4s,baz=69,slow=6.0,SNR=10						

*NEIC **03** 01:32:46.5, 1909N×6372W, h24km, MD3.6(RSPR), After RSPR.*

RSPR 03 01:32:46.5, 1909N×6372W, h24km±21km, MD3.6/10, MD3.6/10, 14C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.08**	**231**	*e*S	Sb	01 33 17.0	-3.2
TBVI	**Tortola**	**1.08**	**231↑**	*e*P	Pn	01 33 03.8	-2.3
TBVI				*e*S	Sb	01 33 17.0	-3.2
STMA	**St. Maarten, A**	**1.19**	**151**	*e*P	Pn	01 33 12.4	+4.7
STMA				*e*S	Sn	01 33 29.1	+6.0
STVI	**Saint Thomas**	**1.38**	**238**	*e*S	Sn	01 33 24.8	-3.0
STVI	**Saint Thomas**	**1.38**	**238↑**	*e*P	Pn	01 33 08.2	-2.1
STVI				*e*S	Sn	01 33 24.8	-3.0
CDVI	**St. Croix**	**1.66**	**217↑**	*e*P	Pn	01 33 14.5	+0.4
MTP	**Monte Pirata**	**2.00**	**241**	*e*S	Sn	01 33 40.4	-2.7
MTP	**Monte Pirata**	**2.00**	**241↑**	*e*P	Pn	01 33 16.6	-2.2
MTP				*e*S	Sn	01 33 40.4	-2.7
CBYP	**Canovanas**	**2.18**	**248↑**	*e*P	Pn	01 33 19.8	-1.5
HUMP	**Col San Antoni**	**2.23**	**245**	*e*S	Sn	01 33 46.4	-2.2
HUMP	**Col San Antoni**	**2.23**	**245↑**	*e*P	Pn	01 33 20.1	-1.8
HUMP				*e*S	Sn	01 33 46.4	-2.2
CPD	**Cerro la Pandu**	**2.33**	**244**	*e*S	Sn	01 33 48.9	-2.3
CPD	**Cerro la Pandu**	**2.33**	**244↑**	*e*P	Pn	01 33 21.8	-1.5
CPD				*e*S	Sn	01 33 48.9	-2.3
SJG	**San Juan**	**2.50**	**247**	*e*S	Sn	01 33 52.6	-2.7
SJG	**San Juan**	**2.50**	**247↑**	*e*P	Pn	01 33 24.2	-1.4
SJG				*e*S	Sn	01 33 53.2	-2.1
SJG	**San Juan**	**2.50**	**247↑**	*e*P	Pn	01 33 23.6	-2.0
SJG				*e*S	Sn	01 33 52.6	-2.7
CELP	**Cerrillos**	**2.89**	**250↑**	*e*P	Pn	01 33 29.0	-2.0
CELP				*e*S	Sn	01 34 02.9	-2.1
AOPR	**Arecibo Observ**	**2.96**	**256**	*e*S	Sn	01 34 04.8	-2.0
AOPR	**Arecibo Observ**	**2.96**	**256↑**	*e*P	Pn	01 33 30.8	-1.2
AOPR				*e*S	Sn	01 34 04.8	-2.0
LRS	**Lares**	**3.06**	**256↑**	*e*P	Pn	01 33 31.7	-1.7
LRS				*e*S	Sn	01 34 06.6	-2.7
MGP	**Maguayo**	**3.37**	**252↑**	*e*P	Pn	01 33 35.8	-1.8
CRPR	**Cabo Rojo, PR**	**3.39**	**252**	*e*S	Sn	01 34 14.9	-2.4
CRPR	**Cabo Rojo, PR**	**3.39**	**252↑**	*e*P	Pn	01 33 36.0	-1.9
CRPR				*e*S	Sn	01 34 14.9	-2.4
SDV	**Santo Domingo**	**12.15**	**214**	*e*Pn	Pn	01 35 38.2	+0.1

*IDC **03** 01:36:03.3±14.0, 21.18N×9455E, h81km±126km, mb3.5/9, mb1 3.7/9, mb1mx3.4/21, mbtmp3.9/9, Error ellipse: s-maj=90.1km s-min=17.0km az=53.0*
*ISCJB **03** 01:36:06.0±1.9, 21.1N±02×945E±02, h128km±18km, mb3.7/11, Error ellipse: s-maj=36.0km s-min=16.1km az=105.2*
*NEIC **03** 01:36:06.5±1.3, 21.12N×9447E, h113km±12km, mb5.2/4, Error ellipse: s-maj=23.9km s-min=10.9km az=51.0*
*MOS **03** 01:36:06.7±0.8, 21.22N×9461E, h135km, mb4.0/2, Error ellipse: s-maj=41.5km s-min=10.4km az=123.0*

ISC 03 01:36:07.6±1.8, 212N±02×944E±02, h121km±17km, n28, σ0§93/36, mb3.8/11, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**9.02**	**341**	*e*Pn	**Pn**	**01 38 15.2**	**+0.4**
JIRN	**Jiri**	**9.92**	**312**	*e*Pn	**Pn**	**01 38 27.2**	**+0.2**
JIRN				*e*Sn	**Sn**	**01 40 09.7**	**-6.7**
	41nm,0.3s						
JIRN	**Jiri**	**9.92**	**312**	*e*Pn	**Pn**	**01 38 27.2**	**+0.2**
	20nm,0.3s						
JIRN				*e*Sn	**Sn**	**01 40 09.7**	**-6.7**
GUN	**Gumba**	**10.29**	**313**	*e*Pn	**Pn**	**01 38 31.0**	**-0.9**
GUN				*e*Sn	**Sn**	**01 40 18.8**	**-6.6**
	29nm,0.4s						
GUN	**Gumba**	**10.29**	**313**	*e*Pn	**Pn**	**01 38 31.0**	**-0.9**
	15nm,0.4s						
GUN				*e*Sn	**Sn**	**01 40 18.8**	**-6.6**
PKI	**Pulchoki**	**10.42**	**310**	*e*Pn	**Pn**	**01 38 34.1**	**+0.5**
PKI				*e*Sn	**Sn**	**01 40 23.0**	**-5.4**
	20nm,0.4s						
PKI	**Pulchoki**	**10.42**	**310**	*e*Pn	**Pn**	**01 38 34.1**	**+0.5**
	10nm,0.4s						
PKI				*e*Sn	**Sn**	**01 40 23.0**	**-5.4**
PKI	**Pulchoki**	**10.42**	**310**	*e*P	**Pn**	**01 38 34.1**	**+0.5**
PKI				*e*		01 40 23.0	
PKI				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KKN	**Kakani**	**10.64**	**310**	*e*Pn	**Pn**	**01 38 37.6**	**+1.0**
KKN				*e*Sn	**Sn**	**01 40 28.4**	**-5.4**
	comp=Z,14nm,0.2s						
KKN	**Kakani**	**10.64**	**310**	*e*Pn	**Pn**	**01 38 37.6**	**+1.0**
	comp=Z,6.9nm,0.2s						
KKN				*e*Sn	**Sn**	**01 40 28.4**	**-5.4**
KKN	**Kakani**	**10.64**	**310**	*e*P	**Pn**	**01 38 37.6**	**+1.0**
KKN				*e*		01 40 28.4	
KKN				pmax	pmax		
	comp=Z,7.0nm,0.2s						
DMN	**Daman**	**10.66**	**309**	*e*Pn	**Pn**	**01 38 37.7**	**+0.9**
GKN	**Gorkha**	**11.22**	**309**	*e*Pn	**Pn**	**01 38 42.7**	**-1.6**
KOLN	**Koldanda**	**11.87**	**306**	*e*Pn	**Pn**	**01 38 52.4**	**-0.4**
AAK	**Ala-Archa**	**27.18**	**327**	*e*P	**P**	**01 41 41.6**	**+1.9**
	comp=Z,0.7nm,0.4s,mb3.5						
AAK	**Ala-Archa**	**27.18**	**327**	*e*P	**P**	**01 41 41.6**	**+2.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
MKAR	**Makanchi Array**	**27.43**	**342**	P	**P**	**01 41 42.0**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.4,baz=162,slow=8.2,SNR=14						
MKAR				PcP	PcP	01 44 58.4	+0.8
	comp=Z,0.1nm,0.3s,baz=116,slow=2.8,SNR=5.7						
KURK	**Kurchatov**	**32.02**	**341**	*e*P	**P**	**01 42 22.4**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.8						
KURK	**Kurchatov**	**32.02**	**341**	*e*P	**P**	**01 42 22.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
ZAL	**Zalesovo**	**33.55**	**350**	P	**P**	**01 42 35.0**	**-0.8**
	comp=Z,2.8nm,0.3s,mb4.6,baz=315,slow=6.9,SNR=7.8						
WRA	**Warramunga Arr**	**56.49**	**134**	P	**P**	**01 45 36.9**	**-0.1**
	comp=Z,0.3nm,0.8s,mb3.4,baz=317,slow=7.9,SNR=8.5						
AKASG	**Malin Array Be**	**58.29**	**317**	P	**P**	**01 45 49.5**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.7,baz=84,slow=6.6,SNR=5.7						
ASAR	**Alice Springs**	**58.83**	**137**	P	**P**	**01 45 53.2**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.5,baz=312,slow=6.7,SNR=4.8						
FINES	**FINESS Array B**	**61.32**	**329**	P	**P**	**01 46 09.6**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.8,baz=107,slow=6.4,SNR=4.6						
ARCES	**ARCESS Array B**	**63.01**	**338**	P	**P**	**01 46 21.1**	**-0.5**
	comp=Z,4.9nm,1.1s,mb4.4,baz=101,slow=7.1,SNR=11						
CTAO	**Charters Tower**	**65.17**	**126**	P	**P**	**01 46 35.8**	**+0.1**
GERES	**GERESS Array B**	**68.37**	**315**	P	**P**	**01 46 57.3**	**+1.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=56,slow=7.1,SNR=8.1						
NOA	**NORSAR Array B**	**68.47**	**329**	P	**P**	**01 46 56.1**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.6,baz=86,slow=6.2,SNR=2.7						

*IDC **03** 01:43:27.6±2.4, 244N×9577E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.7/22, mbtmp3.9/6, ML3.2/1, Error ellipse: s-maj=67.0km s-min=24.2km az=46.0*
*ISCJB **03** 01:43:30.9±1.2, 25N±02×958E±01, h33km, mb4.0/7, Error ellipse: s-maj=27.6km s-min=14.2km az=54.8*
*NEIC **03** 01:43:32.1±0.9, 243N×9581E, h30km, mb4.0/2, Error ellipse: s-maj=20.3km s-min=10.3km az=209.0*

ISC 03 01:43:33.4±1.3, 25N±02×958E±01, h35km, n12, σ0§47/12, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.10**	**84**	Pn	**Pn**	**01 44 19.4**	**-0.3**
	2.9nm,0.3s,baz=311,slow=5.9,SNR=12						
KULM	**Kulim**	**5.54**	**60**	*e*Pn	**Pn**	**01 44 53.5**	**+0.2**
WRA	**Warramunga Arr**	**43.88**	**122**	P	**P**	**01 51 36.1**	**-0.2**
	0.9nm,1.0s,mb3.5,baz=303,slow=9.2,SNR=6.4						
MKAR	**Makanchi Array**	**45.67**	**347**	P	**P**	**01 51 51.0**	**+0.4**
	1.5nm,0.8s,mb4.0,baz=163,slow=8.2,SNR=21						
MKAR	**Makanchi Array**	**45.67**	**347**	P	**P**	**01 51 51.0**	**+0.4**
SONM	**Songino Array**	**46.07**	**10**	P	**P**	**01 51 53.9**	**+0.1**
	1.6nm,0.7s,mb4.0,baz=187,slow=8.9,SNR=14						
KURK	**Kurchatov**	**50.20**	**346**	*e*P	**P**	**01 52 26.4**	**+0.8**
	1.2nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**52.07**	**352**	P	**P**	**01 52 38.9**	**-0.8**
	2.0nm,0.3s,mb4.6,baz=354,slow=2.7,SNR=6.2						
ZAL	**Zalesovo**	**52.07**	**352**	P	**P**	**01 52 38.9**	**-0.8**
BVAR	**Borovoye Array**	**54.59**	**341**	P	**P**	**01 52 57.5**	**-0.7**
	1.0nm,0.7s,mb4.0,baz=127,slow=17,SNR=3.8						
ZRNK	**Zerenda**	**54.97**	**341**	*e*P	**P**	**01 53 00.9**	**-0.1**
	0.6nm,0.5s,mb3.9						
AFI	**Afiamalu**	**92.91**	**104**	*e*P	**P**	**01 56 43.2**	**+0.5**
	9.2nm,0.3s						

*IDC **03** 01:54:48.3±5.4, 1794S×17843W, h568km±60km, mb3.7/8, mb1 3.9/8, mb1mx3.7/14, mbtmp4.6/8, Error ellipse: s-maj=50.5km s-min=23.3km az=142.0*
*ISCJB **03** 01:54:50.0±0.7, 179S±02×1786W±01, h600km, mb4.2/15, Error ellipse: s-maj=23.9km s-min=12.4km az=114.2*
*NEIC **03** 01:54:50.9±3.5, 1789S×17852W, h598km±39km, mb4.4/9, Error ellipse: s-maj=23.0km s-min=15.2km az=118.0*

ISC 03 01:54:51.1±0.7, 179S±02×1785W±01, h600km, n28, σ0§85/24, mb4.2/15, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.40**	**261**	*e*P	**P**	**02 00 41.5**	**0.0**
	8.0nm,0.6s,mb4.5						
CTA	**Charters Tower**	**33.40**	**261**	P	**P**	**02 00 41.0**	**-0.6**
	10.0nm,0.6s,mb4.6,baz=83,slow=10,SNR=8.2						
CTAO	**Charters Tower**	**33.40**	**261**	*e*P	**P**	**02 00 41.2**	**-0.3**
	8.9nm,0.6s,mb4.6						
PMG	**Port Moresby**	**34.40**	**280**	*e*P	**P**	**02 00 51.5**	**+1.6**
	36nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**38.59**	**241**	*e*P	**P**	**02 01 22.7**	**-1.5**
	12nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**02 01 22.6**	**-1.5**
	8.7nm,0.5s,mb4.6,baz=86,slow=8.8,SNR=26						
WB2	**Warramunga Arr**	**44.57**	**260**	*e*P	**P**	**02 02 10.8**	**-0.3**
WRAB	**Tennant Creek**	**44.57**	**260**	*e*P	**P**	**02 02 10.9**	**-0.2**
	5.3nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**02 02 11.0**	**-0.2**
	8.5nm,0.7s,mb4.4,baz=92,slow=7.5,SNR=205						
AS31	**Alice Springs**	**44.74**	**254**	*i*P	**P**	**02 02 12.8**	**+0.4**
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**02 02 12.8**	**+0.4**
	40nm,0.7s,mb5.0,baz=88,slow=8.5,SNR=388						
ASAR				PcP	PcP	02 03 41.8	+0.4
	2.1nm,0.7s,baz=98,slow=4.6,SNR=5.4						
ASPA	**Alice Springs**	**44.75**	**254**	*i*P	**P**	**02 02 12.8**	**+0.4**
KAKA	**Kakadu**	**47.53**	**269**	*i*P	**P**	**02 02 34.0**	**+0.6**
	16nm,0.4s,mb4.9						
GUMO	**Guam**	**47.83**	**308**	*e*P	**P**	**02 02 34.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**52.98**	**261**	*e*P	**P**	**02 03 13.8**	**+0.8**
	7.4nm,1.4s,mb3.8						
MBWA	**Marble Bar**	**58.03**	**256**	*e*P	**P**	**02 03 48.1**	**+0.3**
	5.0nm,0.3s,mb4.1						
KLBR	**Kellerberrin**	**58.79**	**244**	*e*P	**P**	**02 03 52.4**	**-0.6**
	15nm,0.9s,mb4.1						
NWAO	**Narrogin (SRO)**	**59.17**	**242**	P	**P**	**02 03 55.7**	**+0.2**
MJAR	**Matsushiro Arr**	**67.86**	**323**	P	**P**	**02 04 51.1**	**+0.3**
	0.9nm,0.3s,mb3.6,baz=137,slow=6.5,SNR=4.6						
QSPA	**South Pole Qui**	**72.16**	**180**	*e*P	**P**	**02 05 16.0**	**-0.2**
	4.6nm,0.8s,mb4.1						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**02 05 57.4**	**+1.1**
	2.0nm,0.7s,mb3.6,baz=226,slow=9.3,SNR=17						
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**02 06 26.9**	**-1.6**
	0.8nm,0.5s,mb3.6,baz=224,slow=5.1,SNR=18						
MCMT	**McKenzie Canyo**	**86.26**	**41**	*e*P	**P**	**02 06 31.6**	**+1.3**
YKA	**Yellowknife Ar**	**94.34**	**25**	P	**P**	**02 07 06.7**	**-0.9**
	0.4nm,0.6s,mb3.7,baz=240,slow=4.3,SNR=9.1						
MKAR	**Makanchi Array**	**109.09**	**314**	PKiKP	PKiKP	02 12 12.9	-0.7
	0.2nm,0.5s,baz=146,slow=1.0,SNR=8.1						
BRTR	**Keskin Array B**	**144.74**	**315**	PKP	PKPdf	02 13 21.6	+1.2
	1.3nm,0.7s,baz=97,slow=2.3,SNR=9.4						
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	PKPbc	02 13 29.1	+0.2
	0.5nm,0.5s,baz=352,slow=2.7,SNR=4.0						
DAVOX	**Davos**	**150.38**	**348**	PKPbc	PKPbc	02 13 36.4	+0.7
	3.0nm,0.8s,baz=346,slow=8.3,SNR=3.8						

*CSEM **03** 01:56:15.4, 12.12N×4403E, h5km, ML3.6, After DHMR*

DHMR 03 01:56:15.4±1.4, 1212N×4403E, h5km±7km, ML3.6, 1C-4D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.11**	**4**	*e*P	Pg	01 56 35.8	-0.9
TRBA				*i* S	Sg	01 56 52.6	+1.5
TRBA				AML	AML	01 56 52.9	
	comp=N,958nm,0.2s						
ADEN	**Aden**	**1.14**	**55**	*e*P	Pg	01 56 36.0	-1.2
ADEN				*i* S	Sg	01 56 53.4	+1.3
ADEN				AML	AML	01 56 58.8	
	comp=E,3μm,0.4s						
ADEN	**Aden**	**1.14**	**55**	*e*P	Pg	01 56 36.0	-1.3
ADEN				*i* S	Sg	01 56 53.4	+1.3
	comp=E,1μm,0.4s						
UDYN	**Al 'Udayn**	**1.84**	**358**	*i*P	Pn	01 56 49.3	+1.7
UDYN				*i* S	Sn	01 57 13.6	+2.4
UDYN				AML	AML	01 57 24.8	
	comp=N,372nm,0.6s						
UDYN	**Al 'Udayn**	**1.84**	**358**	*i*P	Pn	01 56 49.3	+1.7
UDYN				*i* S	Sn	01 57 13.6	+2.4
	comp=N,186nm,0.6s						
BDHA	**Al Bayda'**	**2.38**	**39**	*i* S	Sn	01 57 29.8	+5.2
DHBB	**Dhamar BB**	**2.46**	**8**	*i* P	Pn	01 56 58.9	+2.7
DHBB				*i* S	Sn	01 57 32.5	+5.9

*ISCJB **03** 02:13:45.0±1.2, 1919N±008×6398W±004, h15km±10km, mb3.7/1, Error ellipse: s-maj=13.1km s-min=4.9km az=32.3*
*TRN **03** 02:13:44.2, 1896N×6405W, h5km, MD3.7*
*RSPR **03** 02:13:46.9, 1901N×6382W, h10km±31km, MD3.7/15, MD3.7/15(RSPR), After RSPR.*
*NEIC **03** 02:13:46.9, 1901N×6382W, h10km, mb3.9/1, MD3.7(RSPR), After RSPR.*

ISC 03 02:13:46.0±1.2, 1911N±006×6399W±003, h10km±5km, n36, σ0§74/53, mb3.7/1, 15C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.50**	**220**	*e*P	**Pg**	**02 13 57.3**	**+1.6**
TBVI	**Tortola**	**0.91**	**220**	*e*S	**Sg**	**02 14 15.7**	**+0.3**
TBVI	**Tortola**	**0.91**	**220**	*e*P	**Pg**	**02 14 03.0**	**-0.5**
TBVI				*e*S	**Sg**	**02 14 15.7**	**+0.3**
STVI	**Saint Thomas**	**1.19**	**231**	*e*S	**Sb**	**02 14 23.1**	**-1.0**
STVI	**Saint Thomas**	**1.19**	**231**	*e*P	**Pb**	**02 14 07.2**	**-1.4**
STVI				*e*S	**Sb**	**02 14 23.1**	**-1.0**
STMA	**St. Maarten, A**	**1.35**	**142**	*e*P	**Pn**	**02 14 11.2**	**+0.3**
STMA				*e*S	**Sb**	**02 14 28.3**	**-0.4**
CDVI	**St. Croix**	**1.54**	**209**	*e*S	**Sn**	**02 14 33.0**	**-0.4**
CDVI	**St. Croix**	**1.54**	**209**	*e*P	**Pn**	**02 14 13.8**	**+0.3**
CDVI				*e*S	**Sn**	**02 14 33.0**	**-0.4**
SABT	**Saba**	**1.64**	**154**	*e*P	**Pn**	**02 14 15.2**	**+0.4**
SABT				*e*S	**Sn**	**02 14 37.1**	**+1.0**
MTP	**Monte Pirata**	**1.80**	**236**	*e*S	**Sn**	**02 14 39.1**	**-0.7**
MTP	**Monte Pirata**	**1.80**	**236**	*e*P	**Pn**	**02 14 16.3**	**-0.7**
MTP				*e*S	**Sn**	**02 14 39.1**	**-0.7**
CBYP	**Canovanas**	**1.96**	**245**	*e*S	**Sn**	**02 14 43.9**	**+0.1**
CBYP	**Canovanas**	**1.96**	**245**	*e*P	**Pn**	**02 14 18.8**	**-0.4**
CBYP				*e*S	**Sn**	**02 14 43.9**	**+0.1**
HUMP	**Col San Antoni**	**2.01**	**242**	*e*S	**Sn**	**02 14 44.5**	**-0.6**
HUMP	**Col San Antoni**	**2.01**	**242**	*e*P	**Pn**	**02 14 19.3**	**-0.6**
HUMP				*e*S	**Sn**	**02 14 44.5**	**-0.6**
CPD	**Cerro la Pandu**	**2.11**	**240**	*e*S	**Sn**	**02 14 47.5**	**-0.2**
CPD	**Cerro la Pandu**	**2.11**	**240**	*e*P	**Pn**	**02 14 21.3**	**-0.1**
CPD				*e*S	**Sn**	**02 14 47.5**	**-0.2**
SJG	**San Juan**	**2.28**	**244**	*e*S	**Sn**	**02 14 51.1**	**-0.5**
SJG	**San Juan**	**2.28**	**244**	*e*P	**Pn**	**02 14 23.7**	**+0.1**
SJG				*e*S	**Sn**	**02 14 51.5**	**-0.2**
SJG	**San Juan**	**2.28**	**244**	*e*P	**Pn**	**02 14 22.8**	**-0.8**
SJG				*e*S	**Sn**	**02 14 51.1**	**-0.5**
CELP	**Cerrillos**	**2.66**	**248**	*e*P	**Pn**	**02 14 29.0**	**+0.1**
CELP				*e*S	**Sn**	**02 15 01.8**	**+0.6**
ICM	**Isla Caja Muer**	**2.69**	**244**	*e*S	**Sn**	**02 15 02.2**	**+0.4**
ICM	**Isla Caja Muer**	**2.69**	**244**	*e*P	**Pn**	**02 14 29.5**	**+0.2**
ICM				*e*S	**Sn**	**02 15 02.2**	**+0.4**
AOPR	**Arecibo Observ**	**2.72**	**254**	*e*S	**Sn**	**02 15 03.4**	**+0.7**
AOPR	**Arecibo Observ**	**2.72**	**254**	*e*P	**Pn**	**02 14 29.6**	**-0.1**
AOPR				*e*S	**Sn**	**02 15 03.4**	**+0.7**
LRS	**Lares**	**2.83**	**254**	*e*P	**Pn**	**02 14 31.5**	**+0.3**
LRS				*e*S	**Sn**	**02 15 06.0**	**+0.8**
MGP	**Maguayo**	**3.14**	**250**	*e*P	**Pn**	**02 14 35.8**	**+0.4**
MGP				*e*S	**Sn**	**02 15 13.9**	**+1.0**
CRPR	**Cabo Rojo, PR**	**3.16**	**250**	*e*S	**Sn**	**02 15 14.0**	**+0.7**
CRPR	**Cabo Rojo, PR**	**3.16**	**250**	*e*P	**Pn**	**02 14 35.5**	**-0.2**
CRPR				*e*S	**Sn**	**02 15 14.0**	**+0.7**
SEG	**Port Louis**	**3.59**	**138**	*e*P	**Pn**	**02 14 40.4**	**-1.2**
LZG	**Guadaloupe-1**	**3.63**	**144**	*e*P	**Pn**	**02 14 41.7**	**-0.5**
PHG	**Guadaloupe-2**	**3.81**	**144**	*e*P	**Pn**	**02 14 47.2**	**+2.5**
TBG	**Guadaloupe-3**	**3.94**	**145**	*e*P	**Pn**	**02 14 47.1**	**+0.7**
BBL	**Barber's Block**	**4.30**	**146**	*e*P	**Pn**	**02 14 51.1**	**-0.4**
SDV	**Santo Domingo**	**12.03**	**213**	*e*Pn	**Pn**	**02 16 37.2**	**-0.2**
	4.9nm,0.9s						
OTAV	**Otavalo**	**23.52**	**219**	*e*P	**P**	**02 18 54.7**	**-1.5**
	2.7nm,0.8s,mb3.7						

*ISCJB **03** 02:16:06.8±0.5, 4048N±005×11098E±004, h10km, mb3.6/5, Error ellipse: s-maj=6.9km s-min=4.5km az=155.7*
*IDC **03** 02:16:07.0±1.1, 4067N×11127E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/24, Error ellipse: s-maj=47.6km s-min=19.7km az=62.0*
*NEIC **03** 02:16:08.7±0.7, 4060N×11121E, h10km, mb4.0/1, Error ellipse: s-maj=25.3km s-min=10.7km az=61.0*
*MOS **03** 02:16:09.6±1.2, 4061N×11110E, h33km, mb3.9/3, Error ellipse: s-maj=68.0km s-min=21.1km az=112.8*
*BJI **03** 02:16:09.8, 4055N×11094E, h15km, ML3.8, Ms3.4, Msz3.4*

ISC 03 02:16:08.5±0.6, 4051N±005×11101E±005, h10km, n16, σ0§72/25, mb3.6/5, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**0.54**	**51**	*e*PG	**Pg**	**02 16 18.7**	**-0.3**
HHC				SG	**Sg**	**02 16 26.1**	**0.0**
HHC				Smax			
	comp=N,3μm,0.4s						
HHC				Smax			
	comp=E,4μm,0.4s						
BTO	**Baotou**	**0.76**	**277**	*e*PG	**Pg**	**02 16 22.7**	**-0.4**
BTO				SG	**Sg**	**02 16 32.8**	**-0.2**
BTO				Smax			
	comp=N,2μm,0.2s						
BTO				Smax			
	comp=E,730nm,0.1s						
BJI	**Beijing**	**3.98**	**95**	PG	**Pg**	**02 17 20.0**	**-4.8**
BJI				SG	**Sg**	**02 18 21.7**	**+5.3**
BJI				Smax			
	comp=N,191nm,0.7s						
BJI				Smax			
	comp=E,279nm,0.7s						
TIA	**Tai'an**	**6.45**	**130**	*e*P	**Pn**	**02 17 49.8**	**+6.4**
XAN	**Xi'an**	**6.67**	**195**	P	**Pn**	**02 17 50.8**	**+4.3**
XAN				PG	**Pg**	**02 18 06.7**	**-10**
XAN				S	**Sn**	**02 19 02.7**	**+0.1**
XAN				SG	**Sg**	**02 19 33.8**	**-8.9**
XAN				Smax			
	comp=N,54nm,1.3s						
XAN				Smax			
	comp=E,29nm,1.2s						
LZH	**Lanzhou**	**7.16**	**234**	*e*P	**Pn**	**02 17 52.2**	**-1.0**
LZH				PG	**Pg**	**02 18 16.2**	**-9.3**
LZH				SG	**Sg**	**02 19 50.5**	**-7.7**
LZH				Smax			
	comp=N,62nm,1.1s						
LZH				Smax			
	comp=E,195nm,1.2s						
LZH				LR	LR		
	comp=N,147nm,6.3s						
LZH				LR	LR		
	comp=Z,189nm,10.2s						
ULN	**Ulaanbaatar**	**7.88**	**340**	*e*P	**Pn**	**02 18 03.5**	**+0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SONM	**Songino Array**	**8.03**	**337**	Pn	**Pn**	**02 18 05.3**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=162,slow=14,SNR=12						
SONM				Sn	**Sn**	**02 19 31.7**	**-4.4**
	comp=Z,1.1nm,0.3s,baz=158,sl

GIB	Gibilmanna	1.60 212	Pg	Pn	02 17 06.2	+1.0
	459nm,1.4s					
CSLB	Castelbuono	1.63 210	Pg	Pn	02 17 06.1	+0.7
VAE	Valguarnera	1.95 196	P	Pn	02 17 09.2	+1.5
	3.0nm,0.3s,baz=40,slow=17,SNR=15					
VAE			S	S	02 17 51.9	+6.9
	1.2nm,0.3s,baz=277,slow=20,SNR=4.2					
VAE	Valguarnera	1.95 196	P	Pn	02 17 09.2	+1.5
VAE			S	S	02 17 51.9	+6.9
SGG	Gregorio Mates	2.11 345	Pg	Pn	02 17 10.4	+1.4
CLTB	Caltabellotta	2.31 220	Pg	Pn	02 17 11.7	+1.1
HAVL	Avola	2.39 180	Pg	Pn	02 17 11.3	0.0
LCI	Lecce	2.52 66	⇓iPg	Pn	02 17 11.6	-0.9
AQU	L'Aquila	3.27 337	ePn	Pn	02 17 20.0	+0.4
DAVOX	Davos	8.35 334	P	Pn	02 18 18.7	0.0
	0.8nm,0.3s,baz=162,slow=11,SNR=11					
BNI	Bardonecchia	8.45 315	ePn	Pn	02 18 22.3	+2.2
IDI	Anoyia	8.79 114	P	Pn	02 18 25.9	+1.7
	0.4nm,0.3s,baz=18,slow=19,SNR=2.9					
PSZ	Piszkesteto	9.24 20	ePn	Pn	02 18 26.2	-3.5
VOIR		9.54 47	⇑P	Pn	02 18 37.5	+4.1
GERES	GERESS Array B	9.54 354	P	Pn	02 18 30.9	-2.5
	baz=170,slow=12,SNR=2.3					
KHC	Kasperske Hory	9.84 354	eP	Pn	02 18 39.0	+2.0
MLR	Muntele Rosu	10.09 49	P	Pn	02 18 43.9	+3.8
	1.9nm,0.3s,baz=223,slow=2.4,SNR=5.9					
MLR	Muntele Rosu	10.09 49	⇑P	Pn	02 18 44.7	+4.6
MLR	Muntele Rosu	10.09 49	P	Pn	02 18 43.9	+3.8
MLR			pmax	pmax		
	comp=Z,2.0nm,0.3s					
MORC	Moravsky Berou	10.57 9	Pn	Pn	02 18 40.1	-5.8
VRI	Vrincioaia	10.76 49	⇓P	Pn	02 18 50.0	+1.8
HARR	Harsova	10.93 57	⇓P	Pn	02 18 53.4	+3.1
BURAR	Bucovina Array	11.05 38	⇑P	Pn	02 18 55.6	+3.8
CFR	Carcaliu	11.27 55	⇑P	Pn	02 18 56.6	+2.1
BR131	Keskin Array S	14.32 83	eP	P	02 19 31.3	+1.1
	comp=Z,2.8nm,0.9s					
BR131	Keskin Array S	14.32 83	eP	P	02 19 31.3	+1.2
	comp=Z,2.8nm,0.9s					
BRTR	Keskin Array B	14.32 83	P	P	02 19 31.9	+1.8
	comp=Z,0.1nm,0.3s,baz=267,slow=8.7,SNR=12					
ESDC	Sonseca Array	14.72 277	P	P	02 19 33.7	-0.9
	comp=Z,0.6nm,0.3s,baz=80,slow=11,SNR=10					
AKASG	Malin Array Be	15.09 37	P	P	02 19 37.4	-1.2
	comp=Z,1.7nm,0.3s,baz=228,slow=9.9,SNR=11					
AKASG	Malin Array Be	15.09 37	P	P	02 19 37.4	-1.2
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.3s					
CSS	Prodhromos	15.18 101	eP	P	02 19 43.5	+3.9
	comp=Z,5.0nm,0.5s					
CSS	Prodhromos	15.18 101	eP	P	02 19 43.5	+3.8
	comp=Z,5.0nm,0.5s					
EKA	Eskdalemuir Ar	20.12 329	P	P	02 20 28.2	-4.4
	comp=Z,0.4nm,0.3s,baz=135,slow=11,SNR=8.4					
HFS	Hagfors	20.82 358	P	P	02 20 35.4	-4.4
	comp=Z,1.1nm,0.4s,baz=176,slow=11,SNR=13					
HFS	Hagfors	20.82 358	P	P	02 20 35.4	-4.3
HFS			pmax	pmax		
	comp=Z,1.0nm,0.4s					
NB2	NORSAR Subarra	21.85 355	P	P	02 20 45.2	-3.9
	comp=Z,0.6nm,0.4s,mb3.3,baz=179,slow=11					
NOA	NORSAR Array B	21.85 355	P	P	02 20 46.0	-3.0
	comp=Z,0.5nm,0.7s,mb3.0,baz=192,slow=10,SNR=3.0					
NOA	NORSAR Array B	21.85 355	P	P	02 20 46.0	-3.1
NOA			pmax	pmax		
	comp=Z,1.0nm,0.7s					
GNI	Garni	22.76 78	eP	P	02 20 57.7	+0.3
	comp=Z,3.7nm,0.8s,mb3.8					
GNI	Garni	22.76 78	eP	P	02 20 57.7	+0.3
GNI			pmax	pmax		
	comp=Z,4.0nm,0.8s					
FINES	FINESS Array B	23.14 13	P	P	02 20 57.3	-3.4
	comp=Z,1.2nm,0.3s,mb3.7,baz=194,slow=8.5,SNR=30					
FINES	FINESS Array B	23.14 13	P	P	02 20 57.3	-3.5
FINES			pmax	pmax		
	comp=Z,1.0nm,0.3s					
ARCES	ARCESS Array B	30.75 7	P	P	02 22 04.5	-4.0
	comp=Z,6.7nm,1.2s,mb4.1,baz=196,slow=8.5,SNR=13					
ARCES	ARCESS Array B	30.75 7	P	P	02 22 04.5	-4.0
ARCES			pmax	pmax		
	comp=Z,7.0nm,1.2s					
MKAR	Makanchi Array	48.29 58	P	P	02 24 30.8	-1.2
	comp=Z,1.5nm,0.5s,mb3.6,baz=282,slow=7.0,SNR=46					
MKAR	Makanchi Array	48.29 58	P	P	02 24 30.8	-1.2
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.5s					
YKA	Yellowknife Ar	70.77 338	P	P	02 27 02.2	-2.3
	comp=Z,0.4nm,0.6s,mb3.2,baz=42,slow=5.6,SNR=9.4					

*NEIC **03** 02:21:29.7, 1945N×6395W, h60km, MD3.6(RSPR), After RSPR.*

RSPR 03 02:21:29.7, 1945N×6395W, h60km±3km, MD3.6/5, MD3.6/5, 6C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.21 211		eS	Sn	02 22 05.4	-0.7
TBVI	Tortola	1.21 211		⇑eP	Pn	02 21 49.9	-0.7
TBVI				eS	Sn	02 22 05.4	-0.7
STVI	Saint Thomas	1.46 222		eS	Sn	02 22 11.0	-0.9
STVI	Saint Thomas	1.46 222		⇑eP	Pn	02 21 52.5	-1.3
STVI				eS	Sn	02 22 11.0	-0.9
CDVI	St. Croix	1.86 205		eS	Sn	02 22 21.1	-0.6
CDVI	St. Croix	1.86 205		⇑eP	Pn	02 21 58.5	-0.8
CDVI				eS	Sn	02 22 21.1	-0.6
MTP	Monte Pirata	2.04 229		⇑eP	Pn	02 22 01.0	-0.6
MTP				eS	Sn	02 22 25.3	-0.7
HUMP	Col San Antoni	2.23 234		eS	Sn	02 22 30.1	-0.5
HUMP	Col San Antoni	2.23 234		⇑eP	Pn	02 22 03.6	-0.6
HUMP				eS	Sn	02 22 30.1	-0.5
CPD	Cerro la Pandu	2.34 233		⇑eP	Pn	02 22 05.0	-0.7
CPD				eS	Sn	02 22 32.8	-0.5

*ISCJB **03** 02:32:14.1±1.4, 1920N×008×6394W×004, h23km±10km, Error ellipse: s-maj=13.1km s-min=6.1km az=12.6*
*NEIC **03** 02:32:15.8, 1918N×6383W, h20km, MD3.7(RSPR), After RSPR.*
*RSPR **03** 02:32:15.8, 1918N×6383W, h20km±22km, MD3.7/11, MD3.7/11*

ISC 03 02:32:14.3±1.8, 1913N±009×6394W±005, h12km±15km, n26, σ0°51/40, 13C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.96 221		eS	Sb	02 32 46.0	+0.6
TBVI	Tortola	0.96 221		⇑eP	Pb	02 32 32.2	-0.5
TBVI				eS	Sb	02 32 46.0	+0.6
STVI	Saint Thomas	1.24 231		⇓eP	Pn	02 32 36.5	-0.8
STMA	St. Maarten, A	1.34 144		eP	Pn	02 32 39.9	+1.1
STMA				eS	Sb	02 32 57.0	+0.5
CDVI	St. Croix	1.58 210		eS	Sn	02 33 01.8	-0.6
CDVI	St. Croix	1.58 210		⇑eP	Pn	02 32 42.5	+0.4
CDVI				eS	Sn	02 33 01.8	-0.6
MTP	Monte Pirata	1.85 236		eS	Sn	02 33 08.8	-0.3
MTP	Monte Pirata	1.85 236		⇑eP	Pn	02 32 45.2	-0.5
MTP				eS	Sn	02 33 08.8	-0.3
CBYP	Canovanas	2.00 245		eS	Sn	02 33 12.4	-0.5
CBYP	Canovanas	2.00 245		⇑eP	Pn	02 32 48.0	+0.1
CBYP				eS	Sn	02 33 12.4	-0.5
HUMP	Col San Antoni	2.06 242		eS	Sn	02 33 14.0	-0.3
HUMP	Col San Antoni	2.06 242		⇑eP	Pn	02 32 48.5	-0.2
HUMP				eS	Sn	02 33 14.0	-0.3
CPD	Cerro la Pandu	2.16 240		eS	Sn	02 33 16.9	0.0
CPD	Cerro la Pandu	2.16 240		⇑eP	Pn	02 32 50.3	+0.2
CPD				eS	Sn	02 33 16.9	0.0
SJG	San Juan	2.33 244		⇑eP	Pn	02 32 52.2	-0.1
SJG				eS	Sn	02 33 20.6	-0.2
SJG	San Juan	2.33 244		⇑eP	Pn	02 32 52.1	-0.2
SJG				eS	Sn	02 33 20.4	-0.5
CELP	Cerrillos	2.71 248		⇑eP	Pn	02 32 57.7	0.0
CELP				eS	Sn	02 33 30.8	+0.4
ICM	Isla Caja Muer	2.74 244		eS	Sn	02 33 31.4	+0.3
ICM	Isla Caja Muer	2.74 244		⇑eP	Pn	02 32 58.2	+0.2
ICM				eS	Sn	02 33 31.4	+0.3
AOPR	Arecibo Observ	2.77 254		eS	Sn	02 33 31.8	-0.1
AOPR	Arecibo Observ	2.77 254		⇑eP	Pn	02 32 58.7	+0.3
AOPR				eS	Sn	02 33 31.8	-0.1
LRS	Lares	2.87 254		⇑eP	Pn	02 33 00.3	+0.4
LRS				eS	Sn	02 33 34.9	+0.6
CRPR	Cabo Rojo, PR	3.21 250		eS	Sn	02 33 42.8	+0.2
CRPR	Cabo Rojo, PR	3.21 250		⇑eP	Pn	02 33 04.6	+0.2
CRPR				eS	Sn	02 33 42.8	+0.2
SEG	Port Louis	3.57 139		eP	Pn	02 33 08.0	-1.5
LZG	Guadaloupe-1	3.62 145		eP	Pn	02 33 10.2	+0.1

*CSEM **03** 02:32:12.7±0.2, 3557N×28.17E, h60km, MD3.0, Error ellipse: s-maj=6.8km s-min=3.7km az=75.0*
*ISCJB **03** 02:32:13.4±1.1, 3551N±009×28.1E±01, h63km±20km, Error ellipse: s-maj=18.2km s-min=14.3km az=163.8*
*NEIC **03** 02:32:16.4, 3577N×2787E, h48km, MD3.0(ATH), After ATH.*
*ATH **03** 02:32:16.4, 3577N×2787E, h48km±3km, MD3.1/5*
*HLW **03** 02:32:29.5, 3433N×2784E, h15km, Mb3.0*

ISC 03 02:32:15.0±1.1, 3556N±008×281E±01, h44km±44km, n10, σ0°48/14, 5C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.66 2		eP	Pn	02 32 28.1	+0.2
KARP	Karpathos	0.76 270		eP	Pn	02 32 29.6	+0.2
KARP				eS	Sn	02 32 39.5	-0.3
NPS	Neapolis	2.05 262		eP	Pn	02 32 47.6	+0.6
APE	Apeiranthos	2.56 307		eP	Pn	02 32 53.1	-0.9
VLI	Veliai	4.33 287		eP	Pn	02 33 18.7	+0.4
SLUM		4.72 212		⇑P	Pn	02 33 24.0	+0.5
SLUM				S	Sn	02 34 04.4	-13
SWA1		6.59 198		⇑P	Pn	02 33 48.7	-0.5
SWA1				S	Sn	02 34 46.5	-17
SWA2		6.68 200		⇑P	Pn	02 33 50.0	-0.5
SWA2				S	Sn	02 34 49.1	-16
AWBH		7.25 174		⇑P	Pn	02 33 58.1	-0.2
HFRF	Wahat Farafira	8.38 179		⇑P	Pn	02 34 14.3	+0.4
CRPR				eS	Sn	02 33 42.8	+0.2

*IDC **03** 02:35:37.6±5.5, 668S×13007E, h103km±53km, mb4.2/6, mb1 4.3/9, mb1mx4.1/17, mbtmp4.6/9, Error ellipse: s-maj=42.9km s-min=18.3km az=58.0*
*NEIC **03** 02:35:39.3±1.8, 658S×13024E, h118km±18km, mb4.6/18, Error ellipse: s-maj=14.7km s-min=9.5km az=222.0*
*BJI **03** 02:35:39.3, 660S×13020E, h117km, mB4.5, mb4.6*
*ISCJB **03** 02:35:40.9±1.3, 671S±005×13032E±008, h155km±14km, mb4.5/18, Error ellipse: s-maj=13.2km s-min=7.2km az=159.0*

ISC 03 02:35:45.3±1.0, 692S±004×13038E±009, h188km±10km, n36, σ1°17/46, mb4.5/18, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.10 161		⇑iP	Pn	02 37 12.7	-1.0
	152nm,0.6s						
KAKA				eS	Sn	02 38 21.3	-2.1
FITZ	Fitzroy Crossi	12.04 202		eP	Pn	02 38 30.9	0.0
	7.0nm,0.2s						
FITZ				eS	Sn	02 40 39.7	-5.1
WRAB	Tennant Creek	13.50 164		ePn	Pn	02 38 49.9	+0.5
	30nm,0.6s						
WRAB				eSn	Sn	02 41 12.2	-7.5
WRA	Warramunga Arr	13.50 164		P	Pn	02 38 49.3	-0.1
	2.0nm,0.3s,baz=349,slow=13,SNR=87						
WRA				S	Sn	02 41 14.1	-5.7
	3.3nm,0.3s,baz=339,slow=21,SNR=58						
WB2	Warramunga Arr	13.51 164		eP	Pn	02 38 48.8	-0.7
WB2				eS	Sn	02 41 13.9	-6.0
PMG	Port Moresby	16.79 100		P	Pn	02 39 31.2	+1.6
	1.0nm,0.3s,baz=311,slow=6.7,SNR=5.3						
PMG				S	S	02 42 25.5	-8.7
	1.3nm,0.3s,baz=168,slow=13,SNR=3.0						
PMG	Port Moresby	16.79 100		eP	Pn	02 39 30.5	+0.9
	11nm,0.6s						
AS31	Alice Springs	16.99 169		eP	Pn	02 39 35.3	+3.3
AS31				eS	S	02 42 36.5	-1.7
ASAR	Alice Springs	16.99 169		P	Pn	02 39 34.1	+2.2
	3.5nm,0.3s,baz=351,slow=11,SNR=217						
ASAR				S	S	02 42 38.2	0.0
	2.2nm,0.3s,baz=356,slow=28,SNR=8.3						
ASPA	Alice Springs	16.99 169		eP	Pn	02 39 35.3	+3.3
ASPA				eS	S	02 42 36.5	-1.7
MBWA	Marble Bar	17.51 215		eP	Pn	02 39 40.1	+2.0
MBWA				eS	S	02 42 49.3	+0.7
CTA	Charters Tower	20.21 132		eP	P	02 40 10.3	+4.6
	11nm,0.9s						
CTA	Charters Tower	20.21 132		P	P	02 40 10.2	+4.5
	15nm,0.8s,baz=316,slow=12,SNR=10						
CTAO	Charters Tower	20.21 132		eP	P	02 40 09.8	+4.1
	20nm,0.9s						
STKA	Stephens Creek	26.95 159		⇓iP	P	02 41 11.6	+2.4
	3.9nm,0.6s,mb4.2						
STKA	Stephens Creek	26.95 159		P	P	02 41 11.3	+2.1
	4.6nm,0.5s,mb4.4,baz=331,slow=9.4,SNR=22						
DZM	Mont Dzumac	37.90 117		P	P	02 42 47.4	+3.2
	3.0nm,0.4s,mb4.2,baz=3.2,slow=23,SNR=6.9						
NJ2	Nanjing	40.28 345		eP	P	02 43 04.2	+0.2
NJ2				PP	PP	02 44 42.7	+2.0
NJ2				S	S	02 48 57.0	-0.1
NJ2				XS	sS	02 49 52.0	-16
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,60nm,6.2s						
NJ2				LR	LR		
	comp=N,640nm,34.0s						
NJ2				LR	LR		
	comp=E,160nm,22.0s						
NJ2				LR	LR		
	comp=Z,230nm,14.8s						
CD2	Chengdu	45.44 327		eP	P	02 43 45.7	+0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,5.9s						
JIRN	Jiri	54.82 311		eP	P	02 44 55.6	-0.2
	comp=Z,12nm,0.4s,mb4.9						
PKI	Pulchoki	55.36 310		eP	P	02 44 59.3	-0.4
	comp=Z,11nm,0.5s,mb4.8						
KKN	Kakani	55.57 310		eP	P	02 45 00.8	-0.4
	comp=Z,11nm,0.5s,mb5.0						
DMN	Daman	55.61 310		eP	P	02 45 01.2	-0.2
	comp=Z,9.9nm,0.4s,mb5.0						
GKN	Gorkha	56.17 310		eP	P	02 45 04.9	-0.5
	comp=Z,22nm,0.4s,mb5.4						
KOLN	Koldanda	56.84 310		eP	P	02 45 10.0	-0.1
	comp=Z,13nm,0.5s,mb5.0						
ULN	Ulaanbaatar	58.30 342		eP	P	02 45 19.9	-0.4
	comp=Z,7.1nm,0.8s,mb4.5						
SONM	Songino Array	58.48 341		P	P	02 45 21.2	-0.4
	comp=Z,2.5nm,0.6s,mb4.2,baz=162,slow=6.9,SNR=36						
MKAR	Makanchi Array	68.36 327		P	P	02 46 26.5	+0.1
	comp=Z,11nm,0.8s,mb4.7,baz=116,slow=8.0,SNR=132						
AAK	Ala-Archa	70.72 320		eP	P	02 46 40.7	-0.1
	comp=Z,1.9nm,0.5s,mb4.1						
ZAL	Zalesovo	71.68 334		P	P	02 46 44.7	-1.8
	comp=Z,2.2nm,0.5s,mb4.2,baz=19,slow=3.8,SNR=11						
ZAL	Zalesovo	71.68 334		P	P	02 46 44.7	-1.8
KURK	Kurchatov	72.64 328		eP	P	02 46 51.8	-0.5
	comp=Z,4.2nm,0.8s,mb4.2						
BRVK	Borovoye	78.27 328		eP	P	02 47 24.1	-0.2
	comp=Z,1.7nm,0.6s,mb3.9						
ZRNK	Zerenda	78.90 327		eP	P	02 47 26.9	-0.8
	comp=Z,3.4nm,0.7s,mb4.1						
SYO	Syowa Base	83.87 201		⇑eP	P	02 47 56.2	+2.4
LPAZ	La Paz	150.55 142		PKPbc	PKPbc	02 55 20.9	+6.2
	comp=Z,1.2nm,0.4s,baz=63,slow=2.3,SNR=7.4						

NNC 03 02:43:26.1±4.3, 3718N×7057E, h95km±46km, mb3.5, mpv3.7, 2C-1D, Error ellipse: s-maj=45.6km s-min=30.1km az=10.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.92 360		P	Pn	02 44 51.2	0.0
	3.0nm,0.4s,baz=179,slow=12,SNR=70						
KK31				⇑S	Sn	02 45 58.2	+0.6
	2.0nm,0.3s,baz=180,slow=22,SNR=11						
MK31	Makanchi Array	12.96 38		⇑P	Pn	02 46 26.5	0.0
	7.3nm,0.7s,baz=117,slow=8.0,SNR=113						
AB31	Akbulak array	14.33 331		⇓P	Pn	02 46 44.3	-0.1
	0.4nm,0.4s,baz=147,slow=11,SNR=29						

*ISCJB **03** 03:39:29.5±1.2, 1920N×006×6399W×003, h26km±6km, Error ellipse: s-maj=10.9km s-min=5.0km az=24.3*
*TRN **03** 03:39:29.4, 1905N×6398W, h25km, MD3.7*
*NEIC **03** 03:39:31.0, 19.12N×6393W, h8km, MD3.7(RSPR), After RSPR.*
*RSPR **03** 03:39:31.0, 19.12N×6393W, h8km±1km, MD3.7/13, MD3.7/13*

ISC 03 03:39:29.5±1.5, 1915N±007×6398W±004, h15km±10km, n19, σ0°65/37, 16C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.53 219		⇑eP	Pb	03 39 41.0	+0.4
ABV				eS	Sb	03 39 49.5	+1.5
TBVI	Tortola	0.94 219		⇑eP	Pb	03 39 46.7	-0.9
TBVI				eS	Sb	03 39 59.9	0.0
STVI	Saint Thomas	1.22 230		⇑eP	Pn	03 39 51.0	-1.0
STVI				eS	Sb	03 40 07.4	-0.4
STMA	St. Maarten, A	1.38 143		eP	Pn	03 39 54.2	+0.1
STMA				eS	Sn	03 40 11.2	-0.8
CDVI	St. Croix	1.58 208		⇑eP	Pn	03 39 56.4	-0.5
CDVI				eS	Sn	03 40 15.9	-1.1
SABT	Saba	1.67 155		eP	Pn	03 39 58.5	+0.3
SABT				eS	Sn	03 40 20.5	+1.1
MTP	Monte Pirata	1.82 235		eP	Pn	03 39 59.9	-0.4
MTP				eS	Sn	03 40 22.8	-0.4
CBYP	Canovanas	1.98 244		⇑eP	Pn	03 40 02.5	+0.1
CBYP				eS	Sn	03 40 26.2	-0.7
HUMP	Col San Antoni	2.03 241		⇑eP	Pn	03 40 02.7	-0.4
HUMP				eS	Sn	03 40 27.6	-0.6
CPD	Cerro la Pandu	2.14 239		⇑eP	Pn	03 40 04.9	+0.3
CPD				eS	Sn	03 40 31.1	+0.2
SJG	San Juan	2.30 244		⇑eP	Pn	03 40 07.3	+0.4
SJG				eS	Sn	03 40 35.2	+0.4
SJG	San Juan	2.30 244		⇑eP	Pn	03 40 07.0	+0.2
SJG				⇑eS	Sn	03 40 34.5	-0.3
CELP	Cerrillos	2.69 247		⇑eP	Pn	03 40 12.4	+0.2
CELP				eS	Sn	03 40 44.4	0.0
ICM	Isla Caja Muer	2.71 243		⇑eP	Pn	03 40 13.0	+0.5
ICM				eS	Sn	03 40 45.5	+0.5
AOPR	Arecibo Observ	2.74 254		⇑eP	Pn	03 40 12.8	-0.1
AOPR				eS	Sn	03 40 45.9	+0.2
LRS	Lares	2.84 253		⇑eP	Pn	03 40 14.7	+0.4
LRS				eS	Sn	03 40 48.3	+0.1
MGP	Maguayo	3.16 249		⇑eP	Pn	03 40 19.3	+0.6
CRPR	Cabo Rojo, PR	3.18 250		⇑eP	Pn	03 40 19.1	+0.2
CRPR				eS	Sn	03 40 56.9	+0.5
LZG	Guadaloupe-1	3.66 145		eP	Pn	03 40 24.5	-0.9
LZG				eS	Sn	03 41 11.5	+3.2

*NEIC **03** 03:47:28.2, 1891N×6379W, h6km, MD3.6(RSPR), After RSPR.*

RSPR 03 03:47:28.2, 1891N×6379W, h6km±1km, MD3.6/10, MD3.6/10, 8C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.92 238		eS	Sg	03 47 56.9	-0.9
TBVI	Tortola	0.92 238		⇑iP	Pg	03 47 44.4	-1.4
TBVI				eS	Sg	03 47 56.9	-0.9
STMA	St. Maarten, A	1.08 143		eP	Pg	03 47 50.4	+1.6
STMA				eS	Sg	03 48 06.6	+3.8
STVI	Saint Thomas	1.24 244		eS	Sg	03 48 04.8	-3.2
STVI	Saint Thomas	1.24 244		⇑eP	Pg	03 47 48.9	-3.0
STVI				eS	Sg	03 48 04.8	-3.2
CDVI	St. Croix	1.47 219		⇓eP	Pn	03 47 54.8	-0.5
MTP	Monte Pirata	1.86 245		eS	Sn	03 48 20.7	-3.7
MTP	Monte Pirata	1.86 245		⇑eP	Pn	03 47 57.8	-2.8
MTP				eS	Sn	03 48 20.7	-3.7
CBYP	Canovanas	2.06 252		eS	Sn	03 48 25.8	-3.5
CBYP	Canovanas	2.06 252		⇓eP	Pn	03 48 00.1	-3.1
CBYP				eS	Sn	03 48 25.8	-3.5
HUMP	Col San Antoni	2.09 249		eS	Sn	03 48 26.2	-4.0
HUMP	Col San Antoni	2.09 249		⇑eP	Pn	03 48 00.5	-3.3
HUMP				eS	Sn	03 48 26.2	-4.0
CPD	Cerro la Pandu	2.19 247		⇑eP	Pn	03 48 02.5	-2.6
SJG	San Juan	2.37 251		eS	Sn	03 48 33.4	-3.6
SJG	San Juan	2.37 251		⇑eP	Pn	03 48 05.1	-2.5
SJG				eS	Sn	03 48 33.4	-3.6
AOPR	Arecibo Observ	2.86 259		⇑eP	Pn	03 48 11.9	-2.4
CRPR	Cabo Rojo, PR	3.27 255		eS	Sn	03 48 55.8	-3.5
CRPR	Cabo Rojo, PR	3.27 255		⇑eP	Pn	03 48 17.4	-2.6
CRPR				eS	Sn	03 48 55.8	-3.5

*NEIC **03** 03:53:41.5, 19.18N×6355W, h6km, MD3.6(RSPR), After RSPR.*

RSPR 03 03:53:41.5, 1918N×6355W, h6km±31km, MD3.6/5, MD3.6/5, 6C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.26 233		eS	Sg	03 54 19.5	-2.6
TBVI	Tortola	1.26 233		⇑iP	Pn	03 54 02.4	-3.3
TBVI				eS	Sg	03 54 19.5	-2.6
STVI	Saint Thomas	1.57 239		⇑eP	Pn	03 54 06.6	-3.2
STVI				eS	Sn	03 54 27.1	-3.4
MTP	Monte Pirata	2.19 241		eS	Sn	03 54 41.2	-4.6
MTP	Monte Pirata	2.19 241		⇑eP	Pn	03 54 15.3	-3.0
MTP				eS	Sn	03 54 41.2	-4.6
CBYP	Canovanas	2.37 248		eS	Sn	03 54 47.2	-2.9
CBYP	Canovanas	2.37 248		⇑eP	Pn	03 54 18.6	-2.2
CBYP				eS	Sn	03 54 47.2	-2.9
HUMP	Col San Antoni	2.41 245		eS	Sn	03 54 46.9	-4.4
HUMP	Col San Antoni	2.41 245		⇑eP	Pn	03 54 18.5	-3.0
HUMP				eS	Sn	03 54 46.9	-4.4
SJG	San Juan	2.68 247		eS	Sn	03 54 54.5	-3.5
SJG	San Juan	2.68 247		⇑eP	Pn	03 54 23.1	-2.2
SJG				eS	Sn	03 54 54.5	-3.5

*NEIC **03** 03:54:25.1, 3286S×7302W, h29km, ML3.0(GUC), After GUC.*

GUC 03 03:54:25.1±0.6, 3286S×7302W, h29km±3km, MD3.9, ML3.0, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	1.36 117		eP	Pn	03 54 48.5	+0.4
LCCH				i S	Sn	03 55 06.7	+1.5
LNV	Longovilo	1.73 129		eP	Pn	03 54 54.2	+1.0
LNV				i S	Sn	03 55 16.0	+1.6
TAC

az=163.0
NEIC ***03*** *04:04:33.2±0.5, 5506S×13048W, h10km, mb4.3/2, Error ellipse: s-maj=65.2km s-min=14.7km az=175.0*
ISC 03 04:04:33.8±1.3, 56S±1×1304W±04, h10km, n17, σ0§58/5, mb4.0/5, MS3.9/2, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**31.83**	**202**	LR	LR	04 20 50.8	
	comp=Z,108nm,21.0s,MS3.5,baz=1.9,slow=30						
RKT	**Rikitea**	**32.54**	**352**	*e*LR	LR	04 18 54.2	
	86nm,26.5s						
RKT	**Rikitea**	**32.54**	**352**	*e*T		04 44 18.9	
	4.9nm,0.3s						
TBI	**Tubuai**	**35.11**	**328**	*e*LR	LR	04 20 09.9	
	49nm,27.5s						
TBI	**Tubuai**	**35.11**	**328**	*e*T		04 47 40.8	
	22nm,0.3s						
PPT	**Papeete**	**40.62**	**331**	*e*LR	LR	04 22 42.5	
	70nm,26.2s						
PLCA	**Paso Flores**	**41.24**	**95**	P	**P**	**04 12 19.4**	**+0.5**
	1.8nm,0.9s,mb3.7						
VAH	**Vaihoa**	**42.35**	**335**	*e*T		04 56 40.7	
	22nm,0.2s						
CPUP	**Villa Florida**	**59.22**	**92**	P	**P**	**04 14 34.5**	**-0.7**
	3.9nm,0.6s,mb4.6						
LPAZ	**La Paz**	**61.07**	**76**	P	**P**	**04 14 48.0**	**+0.2**
	2.0nm,1.1s,mb4.2,baz=270,slow=3.0,SNR=3.8						
ASAR	**Alice Springs**	**73.97**	**252**	P	**P**	**04 16 09.7**	**+0.3**
	1.7nm,1.0s,mb3.9,baz=152,slow=5.6,SNR=8.8						
WRA	**Warramunga Arr**	**76.73**	**254**	P	**P**	**04 16 25.0**	**-0.2**
	0.8nm,0.6s,mb3.8,baz=141,slow=5.4,SNR=12						
YBH	**Yreka Blue Hor**	**97.10**	**6**	LR	LR	04 50 51.8	
	comp=Z,91nm,18.5s,MS4.3,baz=26,slow=29						
ILAR	**Eielson Array**	**120.63**	**352**	PKP	PKPdf	04 23 23.0	-2.8
	0.7nm,0.7s,baz=200,slow=2.4,SNR=8.1						
ULN	**Ulaanbaatar**	**144.52**	**282**	*e*PKPdf	PKPdf	04 24 08.3	-2.1
SONM	**Songino Array**	**144.87**	**282**	PKP	PKPdf	04 24 08.9	-2.1
	1.6nm,0.9s,baz=136,slow=3.1,SNR=11						
MKAR	**Makanchi Array**	**157.92**	**260**	PKPab	PKPab	04 25 03.1	-0.6
	0.4nm,0.8s,baz=130,slow=3.8,SNR=5.5						

IDC ***03*** *04:18:47.6±2.8, 5414N×16166W, h0km, mb4.0/9, mb1 3.9/12, mb1mx3.8/23, mbtmp3.9/12, ML3.3/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/28, Error ellipse: s-maj=69.3km s-min=21.6km az=158.0*
ISCJB ***03*** *04:18:53.0±1.8, 543N±02×1614W±02, h47km±9km, mb4.0/11, MS3.4/1, Error ellipse: s-maj=35.1km s-min=10.7km az=125.3*
NEIC ***03*** *04:18:54.2±1.3, 5422N×16138W, h46km±7km, mb4.2/2, Error ellipse: s-maj=23.3km s-min=7.4km az=154.0*
MOS ***03*** *04:18:56.8±0.7, 5510N×16185W, h39km, mb4.5/2, Error ellipse: s-maj=41.8km s-min=15.2km az=83.3*
ISC 03 04:18:53.6±1.8, 542N±02×1613W±02, h44km±9km, n27, σ0§99/28, mb4.0/11, MS3.4/1, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.21**	**21**	*e*P	**Pn**	**04 19 14.2**	**+0.2**
AKUT	**Akutan**	**2.66**	**270**	*e*P	**Pn**	**04 19 33.7**	**-0.2**
UNV	**Unalaska Valle**	**3.12**	**265**	P	**Pn**	**04 19 39.7**	**-0.5**
KDAK	**Kodiak Island**	**6.03**	**50**	Pn	**Pn**	**04 20 20.8**	**+0.7**
	0.5nm,0.3s,baz=196,slow=9.5,SNR=9.7						
KDAK				Sn	**Sn**	**04 21 26.4**	**-1.3**
	baz=150,slow=20,SNR=1.6						
KDAK				Lg		04 21 52.9	
	1.4nm,0.3s,baz=8.6,slow=17,SNR=7.0						
KDAK	**Kodiak Island**	**6.03**	**50**	Pn	**Pn**	**04 20 20.8**	**+0.7**
KDAK				Sn	**Sn**	**04 21 26.4**	**-1.3**
KDAK				Lg		04 21 52.9	
SVW2	**Sparrevohn**	**7.53**	**22**	*e*P	**Pn**	**04 20 42.9**	**+2.2**
MCK	**McKinley**	**11.43**	**29**	*e*P	**Pn**	**04 21 40.6**	**+6.6**
	7.4nm,1.5s						
MCK	**McKinley**	**11.43**	**29**	*e*P	**Pn**	**04 21 40.6**	**+6.5**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
TNA	**Tin City**	**11.84**	**346**	*e*Pn	**Pn**	**04 21 40.6**	**+0.9**
	comp=Z,12nm,1.5s						
ILAR	**Eielson Array**	**12.80**	**29**	Pn	**Pn**	**04 21 50.2**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=224,slow=7.6,SNR=3.6						
ILAR				LR	LR	04 27 03.8	
	comp=Z,75nm,18.6s,baz=180,slow=38						
INK	**Inuvik**	**19.15**	**32**	P	**Pn**	**04 23 12.9**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=230,slow=14,SNR=8.9						
INK				LR	LR	04 30 47.9	
	comp=Z,44nm,18.6s,baz=258,slow=37						
YKA	**Yellowknife Ar**	**25.30**	**52**	P	**P**	**04 24 18.3**	**+2.5**
	comp=Z,0.2nm,0.5s,mb3.0,baz=272,slow=8.9,SNR=7.6						
YKA	**Yellowknife Ar**	**25.30**	**52**	P	**P**	**04 24 18.3**	**+2.4**
YBH	**Yreka Blue Hor**	**28.29**	**100**	LR	LR	04 33 09.0	
	comp=Z,90nm,18.6s,MS3.4,baz=110,slow=30						
SONM	**Songino Array**	**54.41**	**304**	P	**P**	**04 28 16.4**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=43,slow=6.9,SNR=14						
SONM				PcP	PcP	04 29 18.9	-0.5
	comp=Z,0.6nm,0.7s,baz=29,slow=3.3,SNR=2.9						
ARCES	**ARCESS Array B**	**56.45**	**357**	P	**P**	**04 28 30.3**	**-0.4**
	comp=Z,3.4nm,0.9s,mb4.4,baz=14,slow=8.4,SNR=3.0						
FINES	**FINESS Array B**	**64.53**	**356**	P	**P**	**04 29 25.8**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=30,slow=8.8,SNR=7.1						
ZRNK	**Zerenda**	**65.33**	**329**	*e*P	**P**	**04 29 31.0**	**-0.1**
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**65.33**	**329**	*e*P	**P**	**04 29 31.0**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**65.89**	**318**	P	**P**	**04 29 33.8**	**-0.9**
	comp=Z,0.3nm,0.5s,mb3.6,baz=46,slow=6.3,SNR=7.7						
AKTK	**Aktyubinsk**	**70.63**	**335**	P	**P**	**04 30 04.5**	**+0.1**
AKTO	**Aktyubinsk**	**70.63**	**335**	P	**P**	**04 30 04.5**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=36,slow=5.3,SNR=14						
AAK	**Ala-Archa**	**72.40**	**320**	*e*P	**P**	**04 30 14.5**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.0						
AAK	**Ala-Archa**	**72.40**	**320**	*e*P	**P**	**04 30 14.5**	**-0.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
AKASG	**Malin Array Be**	**75.07**	**353**	P	**P**	**04 30 30.4**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=9.7,slow=5.8,SNR=5.0						
GERES	**GERESS Array B**	**77.21**	**3**	P	**P**	**04 30 43.3**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=328,slow=4.9,SNR=5.2						
BRTR	**Keskin Array B**	**85.55**	**349**	P	**P**	**04 31 27.8**	**+0.8**
	comp=Z,1.2nm,0.8s,mb4.2,baz=38,slow=6.3,SNR=5.5						

IDC ***03*** *04:31:59.4±2.4, 1135S×16191E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.9/13, mbtmp3.8/5, MS3.4/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=102.8km s-min=26.4km az=138.0*
ISCJB ***03*** *04:32:02.4±6.5, 112S±0.1×1620E±02, h26km±45km, mb3.7/6, MS3.3/1, Error ellipse: s-maj=26.1km s-min=16.1km az=140.0*
NEIC ***03*** *04:32:05.8±1.3, 1109S×16186E, h35km, mb3.8/2, Error ellipse: s-maj=30.0km s-min=16.4km az=128.0*
ISC 03 04:32:01.6±6.9, 112S±01×1620E±01, h9km±43km, n10, σ1§12/10, mb3.7/6, MS3.3/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.65**	**310**	Pn	**Pn**	**04 32 44.0**	**-0.4**
HNR				*e*Sn	**Sn**	**04 33 16.9**	**+0.2**
CTA	**Charters Tower**	**17.57**	**238**	P	**Pn**	**04 36 07.8**	**+1.3**
	0.3nm,0.3s,baz=58,slow=14,SNR=3.5						
CTAO	**Charters Tower**	**17.57**	**238**	P	**Pn**	**04 36 07.9**	**+1.3**
	2.3nm,0.4s						
STKA	**Stephens Creek**	**27.94**	**219**	LR	LR	04 48 28.9	
	comp=Z,91nm,21.2s,MS3.3,baz=25,slow=36						
WRAB	**Tennant Creek**	**28.01**	**248**	P	**P**	**04 37 54.5**	**+1.9**
	1.5nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**28.02**	**248**	P	**P**	**04 37 51.1**	**-1.7**
	1.2nm,0.7s,mb3.6,baz=76,slow=10,SNR=11						
ASAR	**Alice Springs**	**29.50**	**241**	P	**P**	**04 38 04.0**	**-1.9**
	1.1nm,1.0s,mb3.6,baz=74,slow=9.0,SNR=8.7						
SONM	**Songino Array**	**76.62**	**325**	P	**P**	**04 43 52.6**	**+0.2**
	0.7nm,0.8s,mb3.6,baz=116,slow=3.4,SNR=5.0						
ILAR	**Eielson Array**	**84.81**	**20**	P	**P**	**04 44 36.4**	**0.0**
	0.3nm,0.8s,mb3.5,baz=250,slow=5.3,SNR=7.9						
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**04 45 32.8**	**+0.3**
	0.2nm,0.5s,mb3.8,baz=259,slow=4.5,SNR=7.0						

ISCJB ***03*** *04:48:25.4±0.4, 3699N±005×495W±003, h24km±8km, Error ellipse: s-maj=8.6km s-min=3.9km az=163.9*
CSEM ***03*** *04:48:25.5±0.1, 3698N×497W, h5km, ML2.7/6, Error ellipse: s-maj=2.0km s-min=1.3km az=170.0*
NEIC ***03*** *04:48:25.2, 3690N×494W, h11km, MN2.5(MDD), After MDD.*
INMG ***03*** *04:48:25.3±1.1, 3691N×490W, h11km±3km, ML2.4, Error ellipse: s-maj=2.3km s-min=2.1km az=77.0*
SFS ***03*** *04:48:25.0, 3687N×491W, h16km, ML2.2*
MDD ***03*** *04:48:25.4±0.2, 3690N×491W, h10km, mbLg2.3/25, Error ellipse: s-maj=2.4km s-min=1.9km az=170.0, PRXIMO*
ISC 03 04:48:24.7±0.3, 3697N±003×491W±002, h16km±3km, n57, σ1§05/87, 3C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.40**	**262**	⇑P	**Pg**	**04 48 32.0**	**-1.0**
LIJA				S	**Sg**	**04 48 40.0**	**+1.5**
LIJA	**Lijar**	**0.40**	**262**	*i* P	**Pg**	**04 48 32.0**	**-1.0**
EMIJ	**Mijas**	**0.41**	**165**	⇑Pg	**Pg**	**04 48 31.6**	**-1.5**
	8.9nm,0.2s,SNR=18						
EMIJ				Lg		04 48 37.0	
	321nm,0.3s,SNR=7.9						
MAL	**Malaga**	**0.46**	**121**	*i* P	**Pg**	**04 48 32.6**	**-1.4**
REAL	**Reales**	**0.54**	**207**	P	**Pg**	**04 48 34.0**	**-1.4**
REAL				S	**Sg**	**04 48 42.6**	**0.0**
REAL	**Reales**	**0.54**	**207**	*i* P	**Pg**	**04 48 34.0**	**-1.4**
ELOJ	**Sierra Loja**	**0.63**	**73**	Pg	**Pg**	**04 48 37.7**	**+0.6**
	5.8nm,0.3s,SNR=11						
ELOJ				Lg		04 48 47.8	
	66nm,0.5s,SNR=22						
EJIF	**Jimena Fronter**	**0.69**	**222**	Pg	**Pg**	**04 48 37.5**	**-0.6**
	12nm,0.4s,SNR=33						
EJIF				Lg		04 48 47.4	
	35nm,0.3s,SNR=5.0						
ESPR	**Espera**	**0.77**	**263**	Pg	**Pg**	**04 48 39.7**	**0.0**
	15nm,0.4s,SNR=35						
ESPR				Lg		04 48 51.1	
	99nm,0.5s,SNR=4.0						
ESPR	**Espera**	**0.77**	**263**	Pg	**Pg**	**04 48 39.7**	**0.0**
	15nm,0.4s,SNR=35						
ESPR				Lg		04 48 46.2	
	99nm,0.5s,SNR=4.0						
ESPR	**Espera**	**0.77**	**263**	Pg	**Pg**	**04 48 39.7**	**0.0**
ESPR				Lg		04 48 46.2	
ELUQ	**Luque**	**0.78**	**40**	Pg	**Pg**	**04 48 40.4**	**+0.4**
	11nm,0.3s,SNR=10						
ELUQ				Lg		04 48 52.8	
	28nm,0.2s,SNR=5.0						
GIBL	**Gibalbin**	**0.86**	**261**	⇑P	**Pb**	**04 48 41.8**	**+0.5**
GIBL	**Gibalbin**	**0.86**	**261**	*i* P	**Pb**	**04 48 41.8**	**+0.5**
GIBL				*e*S	**Sb**	**04 48 57.2**	**+4.6**
ERON	**Agron**	**0.88**	**86**	Pg	**Pg**	**04 48 42.6**	**+0.7**
	8.9nm,0.3s,SNR=4.0						
ERON				Lg		04 48 54.9	
	24nm,0.4s,SNR=12						
MOMI	**Momias**	**0.91**	**226**	*e*P	**Pb**	**04 48 43.9**	**+1.8**
SCRT	**Cerro San Cris**	**1.07**	**252**	*e*P	**Pb**	**04 48 46.2**	**+1.3**
SCRT				*e*S	**Sb**	**04 49 06.8**	**+8.2**
EGUA	**Guajares**	**1.08**	**97**	Pg	**Pg**	**04 48 46.1**	**+0.4**
	1.4nm,0.2s,SNR=7.9						
EGUA				Lg		04 49 01.1	
	9.5nm,0.6s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.11**	**73**	Pg	**Pg**	**04 48 47.6**	**+1.3**
	8.1nm,0.4s,SNR=19						
ECOG				Lg		04 49 05.8	
	19nm,0.2s,SNR=5.0						
ECOG	**Cogollos-Vega**	**1.11**	**73**	Pg	**Pg**	**04 48 47.6**	**+1.3**
ECOG				Lg		04 49 05.9	
EQUE	**Quentar**	**1.20**	**78**	Pg	**Pg**	**04 48 49.1**	**+1.3**
	13nm,0.3s,SNR=42						
EQUE				Lg		04 49 07.8	
	23nm,0.3s,SNR=8.3						
EADA	**Adamuz**	**1.23**	**12**	Pg	**Pg**	**04 48 47.8**	**-0.6**
	15nm,0.5s,SNR=95						
EADA				Lg		04 49 04.5	
	41nm,0.3s,SNR=5.0						
EADA	**Adamuz**	**1.23**	**12**	Pg	**Pg**	**04 48 47.8**	**-0.6**
	15nm,0.5s,SNR=95						
EBAN	**Banos Encina**	**1.49**	**36**	Pn	**Pn**	**04 48 51.1**	**+0.3**
	5.8nm,0.2s,SNR=17						
EBAN				Lg		04 49 12.8	
	54nm,0.2s,SNR=5.0						
EBER	**Berja**	**1.62**	**92**	Pg	**Pg**	**04 48 56.3**	**+0.5**
	17nm,0.4s,SNR=24						
EBER				Lg		04 49 17.2	
	19nm,0.4s,SNR=5.1						
EBER	**Berja**	**1.62**	**92**	Pg	**Pg**	**04 48 56.3**	**+0.5**
	17nm,0.4s,SNR=24						
EMIN	**Mina Concepcio**	**1.62**	**300**	Pn	**Pn**	**04 48 51.8**	**-0.8**
	0.6nm,0.1s,SNR=34						
EMIN				Pg	**Pg**	**04 48 54.2**	**-1.7**
	4.1nm,0.1s,SNR=7.9						
EMIN				Lg		04 49 14.9	
	30nm,0.5s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.62**	**300**	Pn	**Pn**	**04 48 51.8**	**-0.8**
	0.6nm,0.1s,SNR=34						
EMIN	**Mina Concepcio**	**1.62**	**300**	Pg	**Pg**	**04 48 54.2**	**-1.7**
	4.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.68**	**60**	Pn	**Pn**	**04 48 55.2**	**+1.7**
	1.4nm,0.4s,SNR=7.9						
EQES				Pg	**Pg**	**04 48 56.5**	**-0.5**
	5.5nm,0.3s,SNR=26						
EQES				Lg		04 49 19.9	
	45nm,0.3s,SNR=7.0						
EQES	**Quesada**	**1.68**	**60**	Pn	**Pn**	**04 48 55.2**	**+1.8**
	1.4nm,0.4s,SNR=7.9						
EQES	**Quesada**	**1.68**	**60**	Pg	**Pg**	**04 48 56.5**	**-0.6**
	5.5nm,0.3s,SNR=26						
EHUE	**Huescar**	**2.03**	**65**	Pn	**Pn**	**04 48 58.1**	**-0.1**
	0.8nm,0.3s,SNR=7.9						
EHUE				Pg	**Pg**	**04 49 04.0**	**+0.3**
	1.9nm,0.2s,SNR=7.9						
EHUE				Lg		04 49 31.7	
	10nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.03**	**65**	Pg	**Pg**	**04 49 04.0**	**+0.4**
	1.9nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.13**	**286**	Pn	**Pn**	**04 48 58.8**	**-0.9**
	1.5nm,0.2s,SNR=12						
EGRO				Sn	**Sn**	**04 49 25.1**	**-0.7**
	3.3nm,0.3s,SNR=4.0						
EGRO				Lg		04 49 32.4	
	27nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**2.13**	**286**	Pn	**Pn**	**04 48 58.8**	**-0.9**
	1.5nm,0.2s,SNR=12						
EGRO				Sn	**Sn**	**04 49 25.1**	**-0.7**
	3.3nm,0.3s,SNR=4.0						
EGRO	**El Granado**	**2.13**	**286**	Pn	**Pn**	**04 48 58.8**	**-0.9**
EGRO				Sn	**Sn**	**04 49 25.1**	**-0.7**
EGRO				Lg		04 49 31.3	
EBAD	**Badajoz**	**2.44**	**318**	Pn	**Pn**	**04 49 03.4**	**-0.5**
	1.6nm,0.1s,SNR=14						
EBAD				Sn	**Sn**	**04 49 32.9**	**-0.6**
	5.8nm,0.2s,SNR=7.9						
EBAD				Lg		04 49 40.7	
	11nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**2.44**	**318**	Pn	**Pn**	**04 49 03.4**	**-0.5**
	1.6nm,0.1s,SNR=14						
EBAD				Sn	**Sn**	**04 49 32.9**	**-0.6**
	5.8nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**2.53**	**48**	Lg		04 49 46.7	
	20nm,0.5s,SNR=4.6						
PBEJ	**Beja**	**2.58**	**295**	*e*Pn	**Pn**	**04 49 06.8**	**+1.0**
PBEJ				*e*Sg	**Sg**	**04 49 48.6**	**+0.9**
PBEJ							
	6.3nm,0.6s						
PBEJ	**Beja**	**2.58**	**295**	*e*Pn	**Pn**	**04 49 06.8**	**+1.0**
PBEJ				*e*Sg	**Sg**	**04 49 48.6**	**+0.9**
	6.3nm,0.6s						
ESDC	**Sonseca Array**	**2.80**	**15**	Pn	**Pn**	**04 49 10.3**	**+1.4**
	0.8nm,0.2s,baz=196,slow=12,SNR=5.6						
ESDC				Pg	**Pg**	**04 49 17.5**	**-1.0**
	2.3nm,0.3s,baz=197,slow=17,SNR=9.0						
ESDC				Sn	**Sn**	**04 49 42.0**	**-0.3**
	1.1nm,0.3s,baz=185,slow=16,SNR=7.9						
ESDC				Lg		04 49 51.7	
	7.1nm,0.4s,baz=199,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**2.80**	**15**	Pn	**Pn**	**04 49 10.3**	**+1.4**
	0.8nm,0.2s,SNR=5.6						
ESDC	**Sonseca Array**	**2.80**	**15**	Pg	**Pg**	**04 49 17.5**	**-1.0**
	2.3nm,0.3s,SNR=9.0						
ESDC				Sn	**Sn**	**04 49 42.0**	**-0.3**
	1.1nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.05**	**72**	Pg	**Pg**	**04 49 20.3**	**-2.8**
	2.2nm,0.5s,SNR=4.0						
EMUR				Lg		04 49 59.3	
	7.0nm,0.4s,SNR=4.0						
EMUR	**La Murta**	**3.05**	**72**	Pg	**Pg**	**04 49 20.3**	**-2.8**
	2.2nm,0.5s,SNR=4.0						
MOE	**Montemor**	**3.14**	**301**	*e*Sn	**Sn**	**04 49 50.6**	**-0.1**
MOE				*e*Sg	**Sg**	**04 50 07.0**	**+1.3**
ETOB	**Tobarra**	**3.14**	**57**	Pn	**Pn**	**04 49 13.8**	**+0.3**
	1.0nm,0.3s,SNR=7.9						
ETOB				Pg	**Pg**	**04 49 23.2**	**-1.8**
	2.0nm,0.3s,SNR=4.0						
ETOB				Sn	**Sn**	**04 49 50.8**	**+0.1**
	3.6nm,0.5s,SNR=7.9						
ETOB				Lg		04 50 06.2	
	20nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**3.14**	**57**	Pn	**Pn**	**04 49 13.8**	**+0.3**
ETOB	**Tobarra**	**3.14**	**57**	Pg	**Pg**	**04 49 23.2**	**-1.8**
ETOB	**Tobarra**	**3.14**	**57**	Pn	**Pn**	**04 49 13.8**	**+0.3**
ETOB				Pg	**Pg**	**04 49 23.2**	**-1.8**
ETOB				Sn	**Sn**	**04 49 50.8**	**+0.1**
ETOB				Lg		04 50 02.9	
PCBR	**Castelo Branco**	**3.51**	**326**	*e*Pn	**Pn**	**04 49 19.6**	**+1.0**
PCBR				*e*Sn	**Sn**	**04 49 57.5**	**-2.2**
PCBR				*e*Sg	**Sg**	**04 50 18.8**	**+1.3**
PCBR							
	7.4nm,0.8s						
PCBR	**Castelo Branco**	**3.51**	**326**	*e*Pn	**Pn**	**04 49 19.6**	**+1.0**
PCBR				*e*Sn	**Sn**	**04 49 57.5**	**-2.2**
PCBR				*e*Sg	**Sg**	**04 50 18.8**	**+1.3**
	7.4nm,0.8s						
PTOM	**Tomar**	**3.82**	**315**	*e*Pn	**Pn**	**04 49 23.5**	**+0.6**
PTOM				*e*Sn	**Sn**	**04 50 07.5**	**0.0**
PTOM				*e*Sg	**Sg**	**04 50 25.9**	**-1.6**
PTOM							
	11nm,0.5s						
PTOM	**Tomar**	**3.82**	**315**	*e*Pn	**Pn**	**04 49 23.5**	**+0.6**
PTOM				*e*Sn	**Sn**	**04 50 07.5**	**0.0**
PTOM				*e*Sg	**Sg**	**04 50 25.9**	**-1.6**
	11nm,0.5s						
MTE	**Manteigas**	**4.00**	**330**	*e*Sn	**Sn**	**04 50 10.9**	**-1.0**
MTE				*e*Sg	**Sg**	**04 50 33.9**	**+0.7**
MTE							
	11nm,0.6s						

IDC 03 05:01:32.1±10.0, 238S×14158E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/13, mbtmp3.4/3, Error ellipse: s-maj=413.5km s-min=30.9km az=90.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.83**	**202**	*e*P	Pn	05 05 53.5	-0.3
WRA	**Warramunga Arr**	**18.83**	**202**	P	Pn	05 05 53.4	-0.5
	0.2nm,0.3s,baz=25,slow=12,SNR=11						
ASAR	**Alice Springs**	**22.43**	**199**	P	P	05 06 32.9	+0.6
	0.8nm,0.6s,baz=27,slow=11,SNR=8.3						
MKAR	**Makanchi Array**	**71.30**	**321**	P	P	05 12 53.6	+0.2
	0.1nm,0.4s,baz=102,slow=6.9,SNR=4.8						

GUC 03 05:11:00.8±0.6, 3467S×7216W, h36km±3km, MD3.7, ML2.3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.94**	**41**	*i* P	Pn	05 11 17.8	+0.3
LNV				*i* S	Sn	05 11 30.5	+0.8
SFDO	**San Fernando**	**0.95**	**87**	*e*P	Pn	05 11 17.9	+0.3
SFDO				*i* S	Sn	05 11 30.9	+1.0
CACH	**El Canelo**	**1.40**	**67**	*e*P	Pn	05 11 25.5	+1.7
CACH				*i* S	Sn	05 11 44.8	+3.7
TACH	**Talagante**	**1.43**	**45**	⇓*i*P	Pn	05 11 25.5	+1.2
TACH				*i* S	Sn	05 11 44.6	+2.8
CHCH	**Chadas Angostu**	**1.45**	**60**	*i* P	Pn	05 11 25.8	+1.3
CHCH				*i* S	Sn	05 11 45.3	+3.1
CICH	**Cipreses**	**1.48**	**77**	*e*P	Pn	05 11 26.6	+1.7
CICH				*i* S	Sn	05 11 46.0	+3.1
RCDM	**Rinconada Maip**	**1.62**	**44**	⇑*i*P	Pn	05 11 28.4	+1.5
RCDM				*i* S	Sn	05 11 48.4	+1.8
RCDM				AMP		05 11 56.0	
	comp=E,67nm,0.7s						
PCH	**Pirque**	**1.72**	**53**	*e*P	Pn	05 11 30.1	+1.9
PCH				*i* S	Sn	05 11 52.0	+3.1

IDC 03 05:11:14.2±4.3, 110N×9768E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=166.1km s-min=29.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.57**	**122**	P	P	05 19 03.9	+0.3
	0.3nm,0.6s,baz=297,slow=11,SNR=7.6						
SONM	**Songino Array**	**47.16**	**8**	P	P	05 19 49.1	+0.8
	0.3nm,0.4s,baz=191,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**47.45**	**346**	P	P	05 19 50.2	-0.4
	1.1nm,0.5s,baz=161,slow=8.8,SNR=30						

MOS ***03*** *06:15:46.9±1.6, 4211N×4798E, h12km, mb3.8/1, Error ellipse: s-maj=60.4km s-min=15.6km az=35.5*
ISCJB ***03*** *06:15:47.6±0.8, 4221N±006×4796E±005, h12km, Error ellipse: s-maj=8.9km s-min=4.7km az=43.8*
ISC 03 06:15:48.0±0.8, 4225N±006×4800E±005, h12km, n7, σ0§96/13, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URKR	**Urkarakh**	**0.28**	**253**	*i* PG	**Pg**	**06 15 53.0**	**-0.8**
URKR				*i* S	**Sg**	**06 15

ASAR	**Alice Springs**	**21.11 212**	P	P	06 42 49.7	-0.3
	1.1nm,0.6s,baz=48,slow=8.6,SNR=17					
AFI	**Afiamalu**	**42.29 104**	LR	LR	07 00 19.7	
	comp=Z,132nm,20.7s,baz=45,slow=31					
MJAR	**Matsushiro Arr**	**42.89 351**	LR	LR	07 02 15.7	
	comp=Z,80nm,20.9s,baz=235,slow=34					
MKAR	**Makanchi Array**	**76.82 321**	P	P	06 49 54.4	+0.4
	0.4nm,0.9s,baz=118,slow=5.9,SNR=3.8					

GUC 03 06:41:46.6±0.5,2429S×6747W,h200km,MD3.6,ML3.3,
2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.65**	**289**	⇓*i*P	Pn	06 42 34.8	+2.6
CEN1				*i* S	Sn	06 43 10.7	+2.9
CEN1				AMP		06 43 15.7	
	comp=E,51nm,0.4s						
CPN1	**Cerro Paranal**	**2.69**	**262**	⇑*i*P	Pn	06 42 35.0	+2.3
CPN1				*i* S	Sn	06 43 11.4	+2.8
CPN1				AMP		06 43 15.5	
	comp=N,81nm,0.2s						
ANCH	**Antofagasta**	**2.75**	**282**	⇑*i*P	Pn	06 42 32.1	-1.3
ANCH				*i* S	Sn	06 43 09.0	-0.9
CRCH	**Chaqaral**	**3.51**	**234**	*e*P	Pn	06 42 44.2	+1.9
CRCH				*i* S	Sn	06 43 28.3	+2.3

*NEIC **03** 06:52:40.8,3581S×7150W,h91km,MD3.6(GUC),After GUC.*

GUC 03 06:52:40.8±0.6,3581S×7150W,h91km±3km,MD3.6,
ML3.4,7C-3D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.09**	**245**	⇑*i*P	Pn	06 52 53.7	+0.2
LNCH				*i* S	Sn	06 53 03.5	+0.4
LNCH				AMP		06 53 04.4	
	comp=E,2μm,0.4s						
LNCH	**Linares**	**0.09**	**245**	⇑*i*P	Pn	06 52 53.7	+0.2
LNCH				*i* S	Sn	06 53 03.5	+0.4
TALC	**Talca**	**0.43**	**345**	⇑*i*P	Pn	06 52 55.2	+0.2
TALC				*i* S	Sn	06 53 05.9	+0.2
TALC				AMP		06 53 08.0	
	comp=E,10μm,0.1s						
TALC	**Talca**	**0.43**	**345**	⇑*i*P	Pn	06 52 55.2	+0.2
TALC				*i* S	Sn	06 53 05.9	+0.2
CNCO	**Chanco**	**0.84**	**275**	⇓*i*P	Pn	06 52 59.2	+0.5
CNCO				*i* S	Sn	06 53 12.6	+0.4
CNCO				AMP		06 53 13.5	
	comp=E,1μm,0.4s						
CNCO	**Chanco**	**0.84**	**275**	⇓*i*P	Pn	06 52 59.2	+0.5
CNCO				*i* S	Sn	06 53 12.6	+0.4
CCHI	**Chillan**	**0.92**	**210**	⇑*i*P	Pn	06 52 59.6	0.0
CCHI				*i* S	Sn	06 53 13.8	+0.1
CCHI				AMP		06 53 14.7	
	comp=E,965nm,0.2s						
CCHI	**Chillan**	**0.92**	**210**	⇑*i*P	Pn	06 52 59.6	0.0
CCHI				*i* S	Sn	06 53 13.8	+0.1
SFDO	**San Fernando**	**1.26**	**19**	⇓*i*P	Pn	06 53 04.3	+0.7
SFDO				*i* S	Sn	06 53 21.6	+0.9
CICH	**Cipreses**	**1.73**	**31**	*e*P	Pn	06 53 11.1	+1.6
CACH	**El Canelo**	**1.85**	**24**	*e*P	Pn	06 53 11.8	+0.8
CACH				*i* S	Sn	06 53 34.9	+0.9
LNV	**Longovilo**	**1.85**	**2**	*e*P	Pn	06 53 11.6	+0.6
CHCH	**Chadas Angostu**	**2.00**	**21**	*e*P	Pn	06 53 13.4	+0.4
TACH	**Talagante**	**2.20**	**12**	⇑*i*P	Pn	06 53 15.9	+0.2
TACH				*i* S	Sn	06 53 42.7	+0.4
LMEL	**Las Melosas**	**2.23**	**29**	*e*P	Pn	06 53 17.1	+1.1
LMEL				AMP		06 53 49.4	
	comp=N,164nm,0.1s						
PCH	**Pirque**	**2.33**	**21**	*e*P	Pn	06 53 17.9	+0.5
PCH				*i* S	Sn	06 53 46.5	+1.2
ANTU	**Antumapu**	**2.35**	**18**	*e*P	Pn	06 53 18.3	+0.7
ANTU				*i* S	Sn	06 53 46.5	+0.7
ANTU				AMP		06 53 48.8	
	comp=N,122nm,0.3s						
ANTU	**Antumapu**	**2.35**	**18**	*e*P	Pn	06 53 18.3	+0.7
ANTU				*i* S	Sn	06 53 46.5	+0.7
RCDM	**Rinconada Maip**	**2.39**	**14**	*e*P	Pn	06 53 18.3	+0.2
RCDM				*i* S	Sn	06 53 47.1	+0.4
RCDM				AMP		06 53 50.3	
	comp=N,278nm,0.1s						
RCDM	**Rinconada Maip**	**2.39**	**14**	*e*P	Pn	06 53 18.3	+0.2
RCDM				*i* S	Sn	06 53 47.1	+0.4
CLCH	**Cerro Calan**	**2.54**	**19**	*e*P	Pn	06 53 20.8	+0.6
CLCH				*i* S	Sn	06 53 51.1	+0.8
CLCH				AMP		06 53 52.8	
	comp=E,83nm,0.4s						
PEL	**Peldehue**	**2.75**	**14**	*e*P	Pn	06 53 23.3	+0.4
PEL				*i* S	Sn	06 53 55.6	+0.3
PEL				AMP		06 53 58.6	
	comp=N,176nm,0.3s						
PEL	**Peldehue**	**2.75**	**14**	*e*P	Pn	06 53 23.3	+0.4
PEL				*i* S	Sn	06 53 55.6	+0.3
JACH	**Jahuel**	**3.21**	**14**	*i* P	Pn	06 53 29.4	+0.2

CASC 03 06:57:04.4±2.8,1241N×8757W,h20km±14km,MD3.8,
ML2.8,1C,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.58**	**60**	*e*P	Pb	06 57 15.9	0.0
LEON	**Leon**	**0.66**	**89**	*e*P	Pb	06 57 17.7	+0.4
TEL3	**Telica 3**	**0.73**	**77**	*e*P	Pb	06 57 19.1	+0.8
TEL3				*e*S	Sb	06 57 28.9	+1.1
MIRN	**Miramar**	**0.84**	**88**	*e*P	Pb	06 57 20.3	0.0
MIRN				*e*S	Sb	06 57 30.6	-0.5
COPN	**Copaltepe**	**0.98**	**103**	⇑*i*P	Pb	06 57 21.8	-1.0
MOMJ	**Momotombo**	**1.01**	**90**	*e*P	Pb	06 57 21.6	-1.5
APYN	**Apoyeque**	**1.21**	**98**	*e*P	Pn	06 57 25.5	-0.6
APYN				*e*S	Sb	06 57 40.9	-0.8
BLLM	**Bellamira**	**1.22**	**328**	*e*P	Pn	06 57 28.0	+1.8
BLLM				*e*S	Sb	06 57 43.9	+2.0
VSM	**San Miguel**	**1.22**	**326**	*e*P	Pn	06 57 28.5	+2.1
VSM				*e*S	Sb	06 57 46.4	+4.3
MGAN	**Managua**	**1.32**	**101**	*e*P	Pn	06 57 26.6	-1.0
MGAN				*e*S	Sn	06 57 46.5	+1.8
MGAN				*i*		06 57 51.1	
	comp=E,140nm,0.3s						
TICN	**Ticuantepe**	**1.36**	**106**	*e*P	Pn	06 57 27.9	-0.4
SNVI	**San Vicente**	**1.72**	**314**	*e*P	Pn	06 57 34.9	+1.7
SNVI				*e*S	Sn	06 57 58.4	+3.8
LCBS	**La Ceiba**	**1.85**	**312**	*e*P	Pn	06 57 35.0	+0.1
LCBS				*e*S	Sn	06 57 58.0	+0.3
LFRS	**El Faro**	**1.89**	**310**	*e*P	Pn	06 57 35.2	-0.3
LBRS	**Las Brisas**	**1.95**	**313**	*e*P	Pn	06 57 36.6	+0.3
LBRS				*e*S	Sn	06 58 00.1	-0.1

*TEH **03** 06:57:26.3,2790N×5181E,h11km,ML4.0*
*OMAN **03** 06:58:01.4,2824N×5149E,h35km,Error ellipse: s-maj=194.5km s-min=19.1km az=324.0*
*IDC **03** 06:58:02.4±0.9,2786N×5202E,h0km,mb4.0/16, mb1 4.1/17,mb1mx4.1/24,mbtmp4.0/17,ML3.9/1,Error ellipse: s-maj=22.9km s-min=18.6km az=165.0*
*KISR **03** 06:58:04.7±0.9,2795N×5194E,h34km,ML3.4*
*NEIC **03** 06:58:06.8,2790N×5176E,h8km,mb4.0/4,ML4.0(TEH), After TEH.*
*ISCJB **03** 06:58:06.5±0.5,2790N±004×5194E±003,h39km±5km, mb4.0/21,Error ellipse: s-maj=6.9km s-min=4.6km az=35.6*
*CSEM **03** 06:58:06.4±0.1,2784N×5190E,h45km,mb4.1/6,Error ellipse: s-maj=2.8km s-min=2.0km az=43.0*
*MOS **03** 06:58:07.2±1.0,2794N×5197E,h40km,mb4.4/6,Error ellipse: s-maj=22.4km s-min=11.9km az=82.6*
*THR **03** 06:58:14.1±0.5,2878N×5251E,h19km±5km,ML3.6*

ISC 03 06:58:08.6±0.5,2793N±004×5198E±003,h40km±5km,n85,
σ0°89/94,mb4.0/21,2C-4D,Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.96**	**68**	*e*PG	**Pn**	**06 58 26.4**	**+0.9**
GHIR				*e*SG	**Sn**	**06 58 36.0**	**-2.0**
GHIR				AML	AML	06 58 46.0	
	comp=E,4μm,0.4s						
GHIR	**Ghir-Karzin**	**0.96**	**68**	*e*Pg	**Pn**	**06 58 26.4**	**+0.9**
	SNR=92						
GHIR				*e*Sg	**Sn**	**06 58 36.0**	**-1.9**
	comp=E,4μm,0.4s,SNR=92						
IMOK	**Mook**	**1.28**	**30**	*e*Pn	**Pn**	**06 58 29.5**	**-0.5**
IMOK	**Mook**	**1.28**	**30**	Pn	**Pn**	**06 58 29.4**	**-0.6**
SHI	**Shiraz**	**1.77**	**15**	*e*Pn	**Pn**	**06 58 37.8**	**+1.2**
IPAR	**Pars**	**2.12**	**26**	*e*Pn	**Pn**	**06 58 42.3**	**+0.8**
IPAR				*e*Lg		06 59 15.5	
IPAR	**Pars**	**2.12**	**26**	Pn	**Pn**	**06 58 42.2**	**+0.7**
BNDS	**Bandar-Abbas**	**3.75**	**97**	*e*PN	**Pn**	**06 59 09.9**	**+5.9**
BNDS				SN	**Sn**	**06 59 50.9**	**+4.0**
BNDS				AML	AML	07 00 27.9	
	comp=N,71nm,0.5s						
UMR	**Umm Al-Rimmam**	**4.08**	**294**	*e*P	**Pn**	**06 59 08.3**	**0.0**
UMR				*e*S	**Sn**	**06 59 55.0**	**+0.2**
UMR				AML	AML	06 59 58.1	
	comp=Z,78nm,0.4s						
IMEH	**Mehriz**	**4.14**	**33**	*e*Pn	**Pn**	**06 59 10.8**	**+1.6**
ISAD	**Sadrabad**	**4.24**	**20**	*e*Pn	**Pn**	**06 59 11.0**	**+0.4**
IGAR	**Garneh**	**4.30**	**2**	*e*Pn	**Pn**	**06 59 14.4**	**+2.9**
BANOM	**Banah**	**4.34**	**116**	⇑P	**Pn**	**06 59 12.1**	**0.0**
	SNR=6.6						
NAY	**Al-Naaiem**	**4.37**	**289**	*e*P	**Pn**	**06 59 11.5**	**-0.8**
NAY				*e*S	**Sn**	**07 00 02.8**	**+0.8**
NAY				AML	AML	07 00 11.7	
	comp=Z,24nm,0.6s						
MIB	**Mutribah**	**4.48**	**296**	*e*P	**Pn**	**06 59 13.6**	**-0.3**
MIB				*e*S	**Sn**	**07 00 05.1**	**+0.4**
MIB				AML	AML	07 00 06.0	
	comp=Z,33nm,0.5s						
KRBR	**Kerman**	**4.66**	**63**	*e*PN	**Pn**	**06 59 15.6**	**-0.8**
KRBR				SN	**Sn**	**07 00 00.2**	**-9.1**
KRBR				AML	AML	07 00 15.8	
	comp=E,126nm,0.4s						
KRBR				AML	AML	07 00 16.9	
	comp=N,108nm,0.4s						
ICHK	**Chekchek**	**4.79**	**25**	*e*Pn	**Pn**	**06 59 19.0**	**+0.9**
ICHK	**Chekchek**	**4.79**	**25**	Pn	**Pn**	**06 59 18.9**	**+0.8**
IBAF	**Bafgh**	**4.80**	**40**	*e*Pn	**Pn**	**06 59 19.4**	**+1.1**
IPIR	**Pirpir**	**4.83**	**349**	*e*Pn	**Pn**	**06 59 17.0**	**-1.7**
IPIR	**Pirpir**	**4.83**	**349**	Pn	**Pn**	**06 59 16.9**	**-1.8**
ASHO	**Ashiyiah**	**4.88**	**131**	⇓P	**Pn**	**06 59 19.7**	**+0.2**
	SNR=5.9						
NASN	**Na'in**	**4.90**	**8**	*e*PN	**Pn**	**06 59 17.2**	**-2.6**
NASN				SN	**Sn**	**07 00 02.8**	**-12**
IZEF	**Zefreh**	**4.96**	**3**	*e*Pn	**Pn**	**06 59 20.5**	**0.0**
IZEF				*e*Sn	**Sn**	**07 00 15.7**	**-0.8**
SHGR	**Shooshtar-Gavs**	**4.99**	**327**	*e*PN	**Pn**	**06 59 25.0**	**+4.0**
IKLH	**Kalahroud**	**5.38**	**356**	*e*Pn	**Pn**	**06 59 25.9**	**-0.4**
ARQ	**Araqi**	**6.14**	**137**	⇑P	**Pn**	**06 59 36.6**	**-0.1**
	SNR=9.1						
HOQ	**Hoqain**	**6.47**	**131**	⇓P	**Pn**	**06 59 41.7**	**+0.4**
	SNR=8.9						
ASAO	**Ashtian**	**6.80**	**346**	*e*PN	**Pn**	**06 59 46.1**	**+0.3**
IGHG	**Ghaleghazi**	**7.88**	**325**	*e*Pn	**Pn**	**06 59 55.0**	**-5.6**
IDHR	**Dehrash**	**8.27**	**326**	*e*Pn	**Pn**	**07 00 04.6**	**-1.3**
WHFO	**Wadi Hawf**	**10.10**	**170**	⇓P	**Pn**	**07 00 29.9**	**-1.1**
	SNR=8.4						
MALT	**Malatya**	**15.35**	**316**	*e*P	**Pn**	**07 01 48.5**	**+6.3**
	comp=N,3.3nm,0.6s						
MALT				*e*S	S	07 04 25.6	-21
ZEI	**Tsey**	**16.19**	**338**	*e*P	**Pn**	**07 01 53.5**	**+0.4**
KIV	**Kislovodsk**	**17.65**	**337**	*e*P	**Pn**	**07 02 12.1**	**+0.8**
	comp=N,4.0nm,1.1s						
KIV	**Kislovodsk**	**17.65**	**337**	*e*P	**Pn**	**07 02 12.1**	**+0.8**
KIV				*e*S	**S**	**07 05 32.9**	**-0.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BR131	**Keskin Array S**	**19.21**	**312**	*e*P	**Pn**	**07 02 30.2**	**0.0**
	comp=Z,2.1nm,0.6s						
BR131	**Keskin Array S**	**19.21**	**312**	*e*P	**Pn**	**07 02 30.2**	**-0.1**
	comp=Z,2.1nm,0.6s						
BRTR	**Keskin Array B**	**19.21**	**312**	P	**Pn**	**07 02 29.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=136,slow=13,SNR=9.8						
KK31	**Karatay Array**	**21.30**	**40**	*i* P	**P**	**07 02 51.2**	**-0.5**
	comp=Z,5.0nm,0.5s,mb4.1						
KK31	**Karatay Array**	**21.30**	**40**	*i* P	**P**	**07 02 51.2**	**-0.5**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.1						
KKAR	**Karatay Array**	**21.30**	**40**	*i* P	**P**	**07 02 51.2**	**-0.5**
	comp=Z,3.0nm,0.6s,mb3.8						
KKAR	**Karatay Array**	**21.30**	**40**	*i* P	**P**	**07 02 51.2**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
AB31	**Akbulak array**	**22.16**	**14**	P	**P**	**07 03 00.0**	**-0.9**
AB31	**Akbulak array**	**22.16**	**14**	*e*P	**P**	**07 03 00.9**	**0.0**
AKTK	**Aktyubinsk**	**22.94**	**10**	P	**P**	**07 03 08.7**	**-0.5**
AKTK	**Aktyubinsk**	**22.94**	**10**	P	**P**	**07 03 08.7**	**-0.5**
AKTO	**Aktyubinsk**	**22.94**	**10**	P	**P**	**07 03 08.7**	**-0.5**
	comp=Z,1.0nm,0.5s,mb3.5,baz=192,slow=14,SNR=6.8						
AAK	**Ala-Archa**	**23.42**	**45**	*e*P	**P**	**07 03 14.7**	**+0.6**
	comp=Z,3.9nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**23.42**	**45**	*e*P	**P**	**07 03 14.7**	**+0.6**
	comp=Z,3.9nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**23.42**	**45**	⇓*e*P	**P**	**07 03 14.9**	**+0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
BRVK	**Borovoye**	**28.53**	**23**	P	**P**	**07 04 03.3**	**+3.0**
AKASG	**Malin Array Be**	**28.54**	**329**	P	**P**	**07 03 59.4**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.5,baz=130,slow=8.1,SNR=7.5						
AKASG	**Malin Array Be**	**28.54**	**329**	P	**P**	**07 03 59.3**	**-1.1**
BVAR	**Borovoye Array**	**28.54**	**24**	P	**P**	**07 04 00.8**	**+0.3**
	comp=Z,1.3nm,0.5s,mb3.9,baz=225,slow=9.2,SNR=8.5						
OBN	**Obninsk**	**29.37**	**342**	*e*P	**P**	**07 04 09.2**	**+1.4**
	comp=Z,4.0nm,0.8s,mb4.2						
OBN	**Obninsk**	**29.37**	**342**	*e*P	**P**	**07 04 09.2**	**+1.4**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**30.30**	**43**	*i* P	**P**	**07 04 16.4**	**+0.4**
	comp=Z,3.0nm,0.6s,mb4.2						
MK31	**Makanchi Array**	**30.30**	**43**	P	**P**	**07 04 16.5**	**+0.5**
MK31	**Makanchi Array**	**30.30**	**43**	*i* P	**P**	**07 04 16.4**	**+0.4**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**30.30**	**43**	P	**P**	**07 04 16.5**	**+0.5**
	comp=Z,2.0nm,0.7s,mb4.0,baz=227,slow=8.4,SNR=31						
MKAR				PcP	PcP	07 07 14.9	-0.8
	comp=Z,0.2nm,0.6s,baz=270,slow=2.0,SNR=5.5						
MKAR	**Makanchi Array**	**30.30**	**43**	*i* P	**P**	**07 04 16.4**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**30.30**	**43**	PcP	PcP	07 07 14.9	-0.7
MKAR	**Makanchi Array**	**30.30**	**43**	P	**P**	**07 04 16.5**	**+0.5**
MKAR				PcP	PcP	07 07 14.9	-0.8
MKAR	**Makanchi Array**	**30.30**	**43**	*i* P	**P**	**07 04 16.4**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**30.41**	**34**	*e*P	**P**	**07 04 18.0**	**+1.1**
ZAL	**Zaalyovo**	**35.37**	**34**	P	**P**	**07 04 59.8**	**-0.5**
	comp=Z,2.8nm,0.4s,mb4.6,baz=226,slow=5.2,SNR=9.0						
KHC	**Kasperske Hory**	**36.22**	**316**	*i* P	**P**	**07 05 06.7**	**-0.8**
KHC	**Kasperske Hory**	**36.22**	**316**	P	**P**	**07 05 06.8**	**-0.7**
FINES	**FINESS Array B**	**37.71**	**340**	P	**P**	**07 05 20.0**	**-0.3**
	comp=Z,2.3nm,0.5s,mb4.1,baz=149,slow=9.1,SNR=15						
FINES	**FINESS Array B**	**37.71**	**340**	*e*P	**P**	**07 05 19.9**	**-0.3**
NB2	**NORSAR Subarra**	**42.84**	**332**	P	**P**	**07 06 01.7**	**-1.0**
	comp=Z,3.5nm,0.6s,mb4.3,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**42.84**	**332**	P	**P**	**07 06 02.1**	**-0.6**
	comp=Z,3.3nm,0.5s,mb4.3,baz=122,slow=8.3,SNR=16						
ARCES	**ARCESS Array B**	**44.38**	**347**	P	**P**	**07 06 14.8**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.0,baz=133,slow=6.8,SNR=11						
ARCES	**ARCESS Array B**	**44.38**	**347**	P	**P**	**07 06 14.8**	**-0.2**
SONM	**Songino Array**	**46.27**	**49**	P	**P**	**07 06 30.5**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=270,slow=8.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**49.00**	**263**	P	**P**	**07 06 52.1**	**+0.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=55,slow=7.2,SNR=9.2						
DBIC	**Dimbokro**	**57.69**	**260**	P	**P**	**07 07 55.6**	**+0.7**
	comp=Z,2.2nm,0.7s,mb4.3,baz=42,slow=10.0,SNR=4.7						
INK	**Inuvik**	**83.97**	**2**	P	**P**	**07 10 34.0**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.8,baz=6.7,slow=7.3,SNR=7.6						
ILAR	**Eielson Array**	**86.44**	**8**	P	**P**	**07 10 46.3**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.9,baz=324,slow=3.2,SNR=7.9						
YKA	**Yellowknife Ar**	**89.25**	**354**	P	**P**	**07 11 00.3**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.4,baz=7.4,slow=5.0,SNR=33						
YKA	**Yellowknife Ar**	**89.25**	**354**	P	**P**	**07 11 00.3**	**0.0**
YKA	**Yellowknife Ar**	**89.25**	**354**	*i* P	**P**	**07 11 00.8**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**92.71**	**111**	P	**P**	**07 11 15.9**	**-0.5**
	comp=Z,0.2nm,0.7s,mb3.7,baz=313,slow=4.0,SNR=5.3						
ASAR	**Alice Springs**	**94.13**	**114**	P	**P**	**07 11 22.6**	**-0.3**
	comp=Z,0.3nm,0.5s,mb4.0,baz=302,slow=5.1,SNR=6.4						

IDC 03 07:11:52.6±4.9,2140N×12054E,h0km,mb3.4/3,
mb1 3.5/3,mb1mx3.3/19,mbtmp3.4/3,Error ellipse:
s-maj=412.8km s-min=28.8km az=60.0,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.97**	**319**	P	P	07 19 28.8	0.0
	0.4nm,0.6s,baz=119,slow=8.4,SNR=3.9						
WRA	**Warramunga Arr**	**43.25**	**161**	P	P	07 19 56.1	+0.4
	0.2nm,0.6s,baz=342,slow=8.9,SNR=3.8						
ASAR	**Alice Springs**	**46.65**	**163**	P	P	07 20 22.7	-0.1
	0.3nm,0.7s,baz=348,slow=6.6,SNR=2.2						

*IDC **03** 07:11:52.2±2.1,963N×12628E,h0km,mb3.6/4,mb1 3.8/4, mb1mx3.5/19,mbtmp3.6/4,Error ellipse: s-maj=196.9km s-min=25.1km az=65.0*
*ISCJB **03** 07:12:08.2±0.7,945N±006×12581E±009,h157km±6km, mb3.4/4,Error ellipse: s-maj=15.7km s-min=8.3km az=131.8*
*MAN **03** 07:12:08.6,948N×12583E,h157km,mb3.0,ML4.4,MS5.9*

ISC 03 07:12:09.4±0.7,948N±006×12583E±009,h147km±5km,
n14,σ1°01/18,mb3.4/4,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.45**	**312**	*i* P	**Pn**	**07 12 31.1**	**+1.0**
SCPH				*e*S	**Sn**	**07 12 43.6**	**-2.3**
BUTP	**Butuan**	**0.55**	**202**	*e*P	**Pn**	**07 12 29.9**	**-0.6**
MSLP	**Maasin**	**1.16**	**304**	*e*P	**Pn**	**07 12 36.6**	**+1.4**
BIPH	**Bislig**	**1.39**	**158**	⇑*i*P	**Pn**	**07 12 37.6**	**+0.1**
BIPH				*i* S	**Sn**	**07 12 59.8**	**+0.8**
CGP	**Cagayan de Oro**	**1.51**	**228**	⇑*i*P	**Pn**	**07 12 39.1**	**+0.3**
CGP				*i* S	**Sn**	**07 13 00.5**	**-0.8**
BUKP	**Musuan**	**1.76**	**206**	*e*P	**Pn**	**07 12 42.5**	**+1.0**
PLP	**Palo**	**1.87**	**334**	*e*P	**Pn**	**07 12 44.0**	**+1.3**
PLP				*e*S	**Sn**	**07 13 07.0**	**-1.4**
TBP	**Tagbilaran**	**1.95**	**276**	*e*P	**Pn**	**07 12 44.4**	**+0.7**
TBP				*e*S	**Sn**	**07 13 09.8**	**-0.2**
PVCP	**Virac**	**4.41**	**338**	*e*P	**Pn**	**07 13 14.6**	**-0.3**
WRA	**Warramunga Arr**	**30.41**	**164**	P	**P**	**07 18 06.8**	**-0.9**
	0.3nm,0.6s,mb3.2,baz=345,slow=8.5,SNR=8.8						
ASAR	**Alice Springs**	**33.88**	**167**	P	**P**	**07 18 37.9**	**-0.1**
	0.3nm,0.3s,mb3.5,baz=342,slow=7.5,SNR=11						
STKA	**Stephens Creek**	**43.80**	**160**	P	**P**	**07 19 58.8**	**-1.7**
	0.7nm,0.3s,mb3.7,baz=328,slow=13,SNR=5.9						
MKAR	**Makanchi Array**	**52.39**	**323**	P	**P**	**07 21 07.4**	**+1.0**
	0.6nm,0.7s,mb3.4,baz=125,slow=7.7,SNR=6.4						
PLCA	**Paso Flores**	**145.65**	**158**	PKPbc	PKPbc	07 31 32.6	+1.8
	1.8nm,0.9s,baz=250,slow=2.5,SNR=3.6						

*NEIC **03** 07:12:11.8,3106S×69.18W,h140km,MD3.7(GUC),After GUC.*

GUC 03 07:12:11.8±0.6,3106S×6918W,h140km,MD3.7,ML3.4,
1C-5D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**2.02**	**216**	*e*P	Pn	07 12 47.3	+0.9
JACH				*i* S	Sn	07 13 14.3	+1.2
CHNG	**Los Chungos**	**2.15**	**247**	*e*P	Pn	07 12 48.8	+0.7
CHNG				*i* S	Sn	07 13 16.0	+0.1
CHNG				AMP		07 13 26.7	
	comp=E,82nm,0.2s						
PEL	**Peldehue**	**2.44**	**211**	⇓*i*P	Pn	07 12 52.2	+0.5
PEL				*i* S	Sn	07 13 22.7	+0.4
PEL				AMP		07 13 24.4	
	comp=E,200nm,0.3s						
PEL	**Peldehue**	**2.44**	**211**	⇓*i*P	Pn	07 12 52.2	+0.5
PEL				*i* S	Sn	07 13 22.7	+0.4
FCH	**Farellones**	**2.45**	**202**	⇓*i*P	Pn	07 12 53.2	+1.4
FCH				*i* S	Sn	07 13 24.4	+1.9
FCH				AMP		07 13 32.4	
	comp=N,110nm,0.3s						
ROCH	**El Roble**	**2.46**	**219**	⇑*i*P	Pn	07 12 52.7	+0.7
CLCH	**Cerro Calan**	**2.60**	**206**	*e*P	Pn	07 12 54.1	+0.5
CLCH				*i* S	Sn	07 13 26.6	+0.8
CLCH				AMP		07 13 31.6	
	comp=N,134nm,0.3s						
DSCH	**Colegio Aleman**	**2.61**	**207**	⇓*i*P	Pn	07 12 54.3	+0.5
RCDM	**Rinconada Maip**	**2.79**	**209**	*e*P	Pn	07 12 56.5	+0.5
RCDM				*i* S	Sn	07 13 30.8	+0.7
RCDM				AMP		07 13 32.7	
	comp=E,286nm,0.3s						
RCDM	**Rinconada Maip**	**2.79**	**209**	*e*P	Pn	07 12 56.5	+0.5

AKTO	**Aktyubinsk**	35.15	318	LR	LR	07 46 42.1	
	comp=E,18nm,19.0s,MS2.8,baz=0.0,slow=40						
WRA	**Warramunga Arr**	61.65	138	P	**P**	07 33 14.2	-0.2
	comp=E,0.3nm,0.4s,mb3.8,baz=322,slow=8.4,SNR=12						
ASAR	**Alice Springs**	64.32	141	P	**P**	07 33 32.1	0.0
	comp=E,0.5nm,0.4s,mb3.9,baz=323,slow=6.4,SNR=12						

NIED ***03*** *07:26:00,4040N×14460E,h5km,Mw3.8 Best double couple: M0=5.24000×10^14 NP1:φ=201.00000°,δ=59.00000°, λ=-83.00000°. NP2:φ=6.00000°,δ=32.00000°,λ=-102.00000°.*
IDC ***03*** *07:26:26.8±0.8,4035N×14470E,h0km,mb3.7/9, mb1 3.9/11,mb1mx3.8/22,mbtmp3.7/11,ML3.4/2,Error ellipse: s-maj=25.4km s-min=16.8km az=105.0*
NEIC ***03*** *07:26:28.5±6.6,4034N×14470E,h12km±41km,mb4.2/5, Error ellipse: s-maj=15.8km s-min=11.5km az=100.0*
ISCJB ***03*** *07:26:29.2±1.5,4043N±003×14462E±004,h32km±11km, mb3.9/13,Error ellipse: s-maj=6.2km s-min=4.1km az=63.4*
JMA ***03*** *07:26:29.8±0.3,4041N×14461E,h48km,M4.0*
MOS ***03*** *07:26:29.0±1.3,4038N×14476E,h33km,mb4.3/9,Error ellipse: s-maj=18.7km s-min=9.6km az=78.7*
ISC 03 07:26:30.2±1.5,4045N±003×14461E±005,h26km±12km, n50,σ1§08/67,mb3.9/13,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	2.17	257	P	**Pn**	07 27 04.2	-0.4
JTH				*e*S	**Sn**	07 27 29.0	-1.6
JNBK	**Urakawa-nobuka**	2.30	323	P	**Pn**	07 27 07.5	+1.1
JNBK				S	**Sn**	07 27 34.7	+0.8
MIYJ	**Miyakonagasawa**	2.31	249	P	**Pn**	07 27 06.7	+0.1
MIYJ				S	**Sn**	07 27 32.7	-1.6
JCH	**Churui**	2.35	337	P	**Pn**	07 27 07.2	0.0
JCH				S	**Sn**	07 27 35.2	0.0
JANG	**Nango**	2.36	269	P	**Pn**	07 27 07.3	0.0
JANG				*e*S	**Sn**	07 27 34.4	-1.1
JAK	**Akkeshi**	2.54	1	P	**Pn**	07 27 08.9	-0.9
JAK				S	**Sn**	07 27 38.9	-1.0
JOM	**Ohasama**	2.73	250	P	**Pn**	07 27 12.9	+0.5
JOM				S	**Sn**	07 27 44.1	-0.4
JOT	**Ohata**	2.85	290	P	**Pn**	07 27 15.1	+1.0
JOT				*e*S	**Sn**	07 27 47.2	-0.4
JAR	**Ashorobuto**	2.91	348	P	**Pn**	07 27 14.4	-0.4
JAR				*e*S	**Sn**	07 27 48.2	-0.8
JMK	**Ichinoseki**	3.01	241	P	**Pn**	07 27 16.3	0.0
JMK				S	**Sn**	07 27 50.1	-1.4
NEM2	**Nemuro 2**	3.03	16	P	**Pn**	07 27 14.7	-1.8
NEM2				*e*S	**Sn**	07 27 48.8	-3.1
JKB	**Kayabe**	3.06	299	P	**Pn**	07 27 18.0	+1.2
JKB				*e*S	**Sn**	07 27 53.0	+0.4
JFR	**Furan**	3.10	332	P	**Pn**	07 27 17.4	0.0
JFR				*e*S	**Sn**	07 27 53.0	-0.6
JTKR	**Abashiri--Toko**	3.55	352	P	**Pn**	07 27 24.1	+0.4
JTKR				*e*S	**Sn**	07 28 04.7	-0.1
YUK	**Yuzh-Kuril'sk**	3.70	14	*e*P	**Pn**	07 27 24.0	-1.7
YUK				*i* S	**Sn**	07 28 05.5	-2.9
YUK				smax			
	comp=N,250nm,0.5s						
YUK				smax			
	comp=E,390nm,0.5s						
JHR	**Hokuryu**	3.93	328	P	**Pn**	07 27 30.8	+2.0
JHR				*e*S	**Sn**	07 28 15.9	+1.9
ASAJ	**Asahikawa**	3.95	338	Pn	**Pn**	07 27 29.9	+0.7
	comp=E,1.6nm,0.3s,baz=187,slow=9.0,SNR=8.2						
ASAJ				Sn	**Sn**	07 28 19.6	+4.8
	comp=E,2.1nm,0.3s,baz=188,slow=33,SNR=5.9						
ASAJ	**Asahikawa**	3.95	338	P	**Pn**	07 27 29.9	+0.7
ASAJ						07 28 19.6	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KUR	**Kuril'sk**	5.34	26	P	**Pn**	07 27 46.0	-2.3
KUR				S	**Sn**	07 28 43.0	-6.0
KUR				smax			
	comp=N,130nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
MJAR	**Matsushiro Arr**	6.36	234	Pn	**Pn**	07 28 02.9	+0.6
	comp=E,0.8nm,0.3s,baz=44,slow=11,SNR=6.8						
MJAR	**Matsushiro Arr**	6.36	234	P	**Pn**	07 28 02.9	+0.7
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	6.36	234	*e*Pn	**Pn**	07 28 02.4	+0.2
YSS	**Yuzh-Sakhalins**	6.64	349	P		07 28 17.0	
KS15	**Wonju Array Si**	13.36	262	*e*P	**Pn**	07 29 37.4	-0.7
SEY	**Seymchan**	22.99	9	*i* P	**P**	07 31 34.0	+1.1
ULN	**Ulaanbaatar**	27.73	298	P	**P**	07 32 17.5	+1.0
	comp=Z,1.8nm,0.6s,mb3.9						
ULN	**Ulaanbaatar**	27.73	298	P	**P**	07 32 17.5	+1.0
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	44.51	300	P	**P**	07 34 40.6	+1.2
	comp=Z,1.3nm,0.9s,mb3.7,baz=79,slow=8.3,SNR=5.3						
MKAR	**Makanchi Array**	44.51	300	P	**P**	07 34 40.7	+1.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	45.27	34	P	**P**	07 34 45.6	+0.1
	comp=Z,0.4nm,0.7s,mb3.4,baz=260,slow=6.6,SNR=6.2						
KURK	**Kurchatov**	45.87	306	*e*P	**P**	07 34 53.0	+2.7
	comp=Z,5.7nm,0.9s,mb4.5						
KURK				*e*pP	pP	07 35 01.7	+3.5
KURK	**Kurchatov**	45.87	306	*e*P	**P**	07 34 53.0	+2.7
KURK				*e*PP	pP	07 35 01.7	+3.6
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	50.18	311	P	**P**	07 35 25.5	+1.9
	comp=Z,0.3nm,0.3s,mb3.8,baz=54,slow=7.3,SNR=2.3						
INK	**Inuvik**	50.20	29	P	**P**	07 35 24.8	+1.0
	comp=Z,0.9nm,0.6s,mb4.0,baz=272,slow=2.8,SNR=11						
INK	**Inuvik**	50.20	29	*e*P	**P**	07 35 24.4	+0.7
	comp=Z,0.9nm,0.6s,mb4.0						
INK	**Inuvik**	50.20	29	*e*P	**P**	07 35 24.4	+0.6
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RES	**Resolute Bay**	58.66	16	*e*P	**P**	07 36 25.6	+0.3
	comp=Z,1.5nm,0.6s,mb4.2						
RES	**Resolute Bay**	58.66	16	*e*P	**P**	07 36 25.6	+0.4
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	59.60	32	P	**P**	07 36 32.1	+0.4
	comp=Z,0.2nm,0.7s,mb3.2,baz=304,slow=6.5,SNR=4.0						
YKA	**Yellowknife Ar**	59.60	32	P	**P**	07 36 32.1	+0.4
WRAB	**Tennant Creek**	60.83	191	*e*P	**P**	07 36 39.3	-0.8
	comp=Z,1.8nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	60.83	191	*e*P	**P**	07 36 39.3	-0.9
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	60.84	191	P	**P**	07 36 39.8	-0.5
	comp=Z,2.7nm,0.7s,mb4.5,baz=12,slow=7.1,SNR=18						
WRA	**Warramunga Arr**	60.84	191	P	**P**	07 36 39.8	-0.4
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	64.56	191	P	**P**	07 37 05.2	+0.2
	comp=Z,1.0nm,0.7s,mb3.9,baz=13,slow=5.8,SNR=11						
ASAR	**Alice Springs**	64.56	191	P	**P**	07 37 05.3	+0.2
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	66.94	333	P	**P**	07 37 20.2	-0.2
	comp=Z,1.2nm,0.7s,mb4.0,baz=40,slow=4.5,SNR=3.3						
FINES	**FINESS Array B**	66.94	333	P	**P**	07 37 20.2	-0.2
FINES	**FINESS Array B**	66.94	333	P	**P**	07 37 20.2	-0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	70.97	56	P	**P**	07 37 46.8	+1.4
	comp=Z,0.5nm,0.6s,mb3.6,baz=290,slow=6.0,SNR=3.6						

IDC ***03*** *07:44:03.5±0.9,1971N×9560E,h0km,mb3.7/10, mb1 3.9/10,mb1mx3.7/23,mbtmp3.7/10,MS3.6/4, Ms1 3.6/4,ms1mx3.1/25,Error ellipse: s-maj=43.6km s-min=18.1km az=55.0*
ISCJB ***03*** *07:44:06.0±0.7,196N±0.1×954E±0.2,h33km,mb3.8/14, MS3.7/3,Error ellipse: s-maj=27.0km s-min=10.2km az=98.0*
NEIC ***03*** *07:44:08.6±0.6,1963N×9543E,h35km,mb4.1/4,Error ellipse: s-maj=22.1km s-min=12.4km az=53.0*
ISC 03 07:44:08.5±0.7,196N±01×954E±02,h35km,n23,σ0§99/18, mb3.8/14,MS3.7/3,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	5.98	130	PN	**Pn**	07 45 34.2	-0.3
NST				PG	Pn	07 45 56.0	+22
NST				SG	Sn	07 47 09.2	+28
PSI	**Prapat**	17.07	168	LR	LR	07 55 06.3	
	comp=Z,73nm,18.2s,baz=41,slow=38						
PALP	**Palanan**	25.76	91	*e*P	**P**	07 49 32.3	-3.5
BJT	**Baijiatuau**	27.03	37	*e*P	**P**	07 49 48.8	+1.4
	8.4nm,0.3s,mb4.8						
AAK	**Ala-Archa**	28.95	327	*e*P	**P**	07 50 05.1	+0.6
	7.0nm,1.6s,mb4.1						
MKAR	**Makanchi Array**	29.15	341	P	**P**	07 50 06.7	+0.4
	1.1nm,0.8s,mb3.6,baz=138,slow=11,SNR=9.1						
SONM	**Songino Array**	29.52	15	P	**P**	07 50 09.5	0.0
	1.1nm,0.9s,mb3.6,baz=206,slow=13,SNR=6.8						
JOW	**Kunigami**	30.98	70	LR	LR	08 04 37.2	
	comp=Z,88nm,21.0s,MS3.4,baz=23,slow=40						
KURK	**Kurchatov**	33.76	341	*e*P	**P**	07 50 46.7	-0.1
	1.9nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	38.55	336	P	**P**	07 51 27.5	-0.3
	0.5nm,0.7s,mb3.4,baz=163,slow=11,SNR=3.6						
ZRNK	**Zerenda**	39.05	335	*e*P	**P**	07 51 31.8	-0.1
	1.1nm,0.5s,mb3.8						
AKTK	**Aktyubinsk**	42.64	325	P	**P**	07 51 59.9	-1.6
AKTO	**Aktyubinsk**	42.64	325	P	**P**	07 51 59.9	-1.6
	0.4nm,0.5s,mb3.5,baz=142,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	54.78	134	P	**P**	07 53 34.8	0.0
	1.5nm,0.9s,mb4.0,baz=322,slow=7.2,SNR=9.7						
ASAR	**Alice Springs**	57.10	137	P	**P**	07 53 51.8	+0.5
	0.9nm,0.8s,mb3.9,baz=320,slow=6.4,SNR=8.2						
AKASG	**Malin Array Be**	60.02	318	P	**P**	07 54 12.4	+0.7
	0.1nm,0.3s,mb3.4,baz=92,slow=5.6,SNR=4.2						
KMBO	**Kilima Mbogo**	60.61	257	LR	LR	08 18 31.0	
	comp=Z,52nm,18.1s,MS3.7,baz=265,slow=34						
GERES	**GERESS Array B**	70.10	316	P	**P**	07 55 19.1	+2.0
	0.9nm,0.4s,mb4.1,baz=94,slow=5.4,SNR=9.2						
NOA	**NORSAR Array B**	70.24	329	P	**P**	07 55 18.4	+0.4
	0.6nm,0.8s,mb3.6,baz=93,slow=5.8,SNR=2.7						
NOA	**NORSAR Array B**	70.24	329	P	**P**	07 55 18.4	+0.4
ILAR	**Eielson Array**	83.47	22	P	**P**	07 56 30.9	-1.5
	0.4nm,0.8s,mb3.5,baz=300,slow=5.4,SNR=6.0						
INK	**Inuvik**	85.43	16	LR	LR	08 36 37.6	
	comp=Z,62nm,18.0s,MS4.0,baz=274,slow=37						
BDFB	**Brasilia**	144.96	271	PKPbc	PKPdf	08 03 42.8	+0.9
	2.4nm,0.9s,baz=180,slow=2.0,SNR=3.2						

ISCJB ***03*** *07:44:13.4±0.8,2410S±005×6699W±0.10,h186km±12km, mb3.8/3,Error ellipse: s-maj=14.5km s-min=7.6km az=17.1*
IDC ***03*** *07:44:13.2±1.4,2415S×6696W,h171km±12km,mb3.8/3, mb1 3.8/7,mb1mx3.6/16,mbtmp4.1/7,Error ellipse: s-maj=23.9km s-min=12.9km az=99.0*
NEIC ***03*** *07:44:14.2±0.7,2405S×6704W,h179km±9km,mb4.2/3, Error ellipse: s-maj=13.1km s-min=7.4km az=101.0*
GUC ***03*** *07:44:17.0±0.7,2426S×6736W,h200km,ML4.6*
ISC 03 07:44:14.5±0.7,2409S±005×6703W±010,h183km±12km, n21,σ1§21/27,mb3.8/3,3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	2.99	283	⇓*i*P	**Pn**	07 45 06.2	+3.1
CEN1				*i* S	**Sn**	07 45 43.3	+2.2
CEN1				AMP		07 45 45.1	
	comp=N,652nm,0.4s						
ANCH	**Antofagasta**	3.12	277	*e*P	**Pn**	07 45 03.8	-1.0
ANCH				*i* S	**Sn**	07 45 41.1	-2.9
ANCH				AMP		07 45 43.7	
	comp=N,1μm,0.3s						
ANCH	**Antofagasta**	3.12	277	*e*P	**Pn**	07 45 03.8	-1.0
ANCH				*i* S	**Sn**	07 45 41.1	-2.9
CPN1	**Cerro Paranal**	3.13	259	*e*P	**Pn**	07 45 06.6	+1.7
CPN1				*i* S	**Sn**	07 45 44.3	+0.3
CPN1				AMP		07 45 45.4	
	comp=E,1μm,0.3s						
CRCH	**Chaqaral**	3.96	235	⇓*i*P	**Pn**	07 45 15.6	+0.4
CRCH				*i* S	**Sn**	07 46 01.1	-1.5
CRCH				AMP		07 46 02.4	
	comp=N,551nm,0.4s						
CRCH	**Chaqaral**	3.96	235	⇓*i*P	**Pn**	07 45 15.6	+0.4
CRCH				*i* S	**Sn**	07 46 01.1	-1.5
CFAA	**Coronel Fontan**	7.57	188	P	**Pn**	07 46 01.2	-0.8
	comp=N,0.2nm,0.3s,baz=19,slow=13,SNR=41						
CFAA				S	**Sn**	07 47 21.9	-5.3
	comp=N,1.0nm,0.3s,baz=226,slow=19,SNR=19						
LPAZ	**La Paz**	7.83	352	P	**Pn**	07 46 07.2	+1.8
	comp=N,2.2nm,0.3s,baz=150,slow=8.9,SNR=54						
LPAZ				S	**Sn**	07 47 32.5	-0.8
	comp=N,0.2nm,0.3s,baz=40,slow=18,SNR=3.6						
LPAZ	**La Paz**	7.83	352	*e*Pn	**Pn**	07 46 07.2	+1.7
	comp=N,6.9nm,0.4s						
LPAZ				*e*Sn	**Sn**	07 47 33.4	0.0
ARE	**Arequipa**	8.66	330	*e*P	**Pn**	07 46 15.0	-1.4
SIV	**San Ignacio**	9.80	36	P	**Pn**	07 46 30.1	-1.2
	comp=N,0.7nm,0.3s,baz=233,slow=11,SNR=26						
TRQA	**Tornquist**	14.58	164	*e*Pn	**Pn**	07 47 33.4	+1.2
	comp=N,10nm,0.8s						
SAML	**Samuel**	15.49	14	*e*Pn	**Pn**	07 47 43.1	-0.3
	comp=N,3.0nm,0.6s						
PLCA	**Paso Flores**	16.86	189	P	**Pn**	07 47 59.5	-0.4
	comp=N,0.1nm,0.3s,baz=5.7,slow=11,SNR=6.0						
BDFB	**Brasilia**	19.74	68	P	**P**	07 48 30.7	+0.5
	comp=N,1.4nm,0.3s,baz=250,slow=9.6,SNR=27						
TORD	**Torodi Ar. Bea**	76.62	69	P	**P**	07 55 44.7	-0.2
	comp=N,0.9nm,0.5s,mb3.6,baz=257,slow=5.9,SNR=17						
ULM	**Lac du Bonnet**	78.30	342	P	**P**	07 55 54.2	0.0
	comp=N,1.6nm,0.5s,mb3.9,baz=145,slow=6.1,SNR=7.1						
YKA	**Yellowknife Ar**	94.19	340	P	**P**	07 57 12.8	+0.3
	comp=N,0.6nm,0.5s,mb4.0,baz=132,slow=4.5,SNR=30						
ASAR	**Alice Springs**	128.37	205	PKP	PKPdf	08 03 00.3	+1.1
	comp=N,0.3nm,0.5s,baz=135,slow=2.2,SNR=6.4						
WRA	**Warramunga Arr**	131.54	207	PKP	PKPdf	08 03 06.5	+1.3
	comp=N,0.4nm,0.4s,baz=158,slow=1.8,SNR=15						
WRA				SKPbc	SKPbc	08 06 14.0	+0.6
	comp=N,0.4nm,1.0s,baz=157,slow=3.7,SNR=4.9						
MKAR	**Makanchi Array**	146.60	40	PKPbc	PKPbc	08 03 33.6	-0.8
	comp=N,2.7nm,0.7s,baz=303,slow=3.0,SNR=26						

IDC 03 08:10:47.6±1.2,047S×12379E,h0km,mb3.6/4,mb1 3.9/4, mb1mx3.7/17,mbtmp3.7/4,Error ellipse: s-maj=142.7km s-min=20.6km az=66.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	21.94	153	P	P	08 15 41.7	-1.0
	2.0nm,0.8s,baz=330,slow=12,SNR=14						
ASAR	**Alice Springs**	25.06	158	P	P	08 16 14.8	+1.2
	2.5nm,0.7s,baz=325,slow=6.6,SNR=27						
SONM	**Songino Array**	50.44	345	P	P	08 19 47.3	+0.4
	0.2nm,0.5s,baz=160,slow=4.6,SNR=2.8						
MKAR	**Makanchi Array**	59.43	328	P	P	08 20 51.9	-0.2
	0.3nm,0.5s,baz=122,slow=8.6,SNR=7.3						

ISCJB ***03*** *08:11:16.5±1.1,2262S±006×674W±0.2,h153km±14km, mb3.7/3,Error ellipse: s-maj=23.6km s-min=9.8km az=179.4*
IDC ***03*** *08:11:16.2±1.7,2265S×6745W,h138km±16km,mb3.6/3, mb1 3.6/7,mb1mx3.5/15,mbtmp4.0/7,Error ellipse: s-maj=25.6km s-min=13.4km az=92.0*
NEIC ***03*** *08:11:17.6±1.2,2259S×6738W,h146km±14km,mb3.6/2, Error ellipse: s-maj=22.2km s-min=10.4km az=97.0*
ISC 03 08:11:17.8±1.0,2260S±006×674W±02,h149km±13km,n12, σ1§02/15,mb3.7/3,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	6.32	354	P	**Pn**	08 12 50.2	+1.5
	1.4nm,0.3s,baz=154,slow=7.1,SNR=39						
LPAZ				S	**Sn**	08 13 59.9	0.0
	0.1nm,0.3s,baz=252,slow=13,SNR=2.4						
LPAZ	**La Paz**	6.32	354	P	**Pn**	08 12 50.2	+1.5
LPAZ				S	**Sn**	08 13 59.9	0.0
SIV	**San Ignacio**	8.89	43	P	**Pn**	08 13 21.5	-1.6
	3.8nm,0.3s,baz=228,slow=10,SNR=100						
SIV				S	**Sn**	08 14 54.1	-7.7
	2.1nm,0.3s,baz=160,slow=18,SNR=12						
CFAA	**Coronel Fontan**	9.00	184	P	**Pn**	08 13 23.1	-1.3
	0.1nm,0.3s,baz=358,slow=13,SNR=12						
CFAA				S	**Sn**	08 14 59.0	-5.2
	0.1nm,0.3s,baz=236,slow=21,SNR=12						
TRQA	**Tornquist**	16.10	164	P	**Pn**	08 14 56.9	+1.2
	1.8nm,0.4s						
PLCA	**Paso Flores**	18.27	188	P	**P**	08 15 19.8	-0.1
	0.2nm,0.3s,baz=355,slow=12,SNR=9.7						
PLCA	**Paso Flores**	18.27	188	*e*P	**P**	08 15 20.9	+0.9
	1.5nm,0.6s						
BDFB	**Brasilia**	19.59	73	P	**P**	08 15 34.8	+0.6
	0.4nm,0.3s,baz=260,slow=11,SNR=8.0						
TORD	**Torodi Ar. Bea**	76.43	69	P	**P**	08 22 51.5	+0.6
	1.6nm,0.6s,mb3.9,baz=253,slow=5.4,SNR=18						
ULM	**Lac du Bonnet**	76.79	342	P	**P**	08 22 51.8	-1.0
	0.9nm,0.5s,mb3.7,baz=193,slow=13,SNR=3.1						
YKA	**Yellowknife Ar**	92.69	340	P	**P**	08 24 12.3	-0.4
	0.2nm,0.6s,mb3.4,baz=130,slow=4.3,SNR=5.4						
WRA	**Warramunga Arr**	132.68	208	PKP	PKPdf	08 30 16.0	+1.3
	0.4nm,0.6s,baz=153,slow=1.9,SNR=12						

NIED ***03*** *08:29:00,4320N×14790E,h11km,Mw4.1 Best double couple: M0=1.39000×10^15 NP1:φ=143.00000°,δ=81.00000°, λ=34.00000°. NP2:φ=46.00000°,δ=56.00000°,λ=169.00000°.*
IDC ***03*** *08:29:51.6±1.0,4312N×14822E,h0km,mb4.1/13, mb1 4.2/15,mb1mx4.1/23,mbtmp4.1/15,ML3.9/2,MS2.9/2, Ms1 2.9/2,ms1mx2.6/28,Error ellipse: s-maj=24.5km s-min=16.1km az=153.0*
MOS ***03*** *08:29:54.9±1.6,4323N×14807E,h32km,mb4.4/13,Error ellipse: s-maj=13.7km s-min=8.2km az=102.3*
ISCJB ***03*** *08:29:54.4±1.3,4327N±005×14804E±005,h27km±9km, mb4.2/22,MS3.7/2,Error ellipse: s-maj=8.0km s-min=4.9km az=133.0*
SKHL ***03*** *08:29:54.9±2.2,4320N×14820E,h57km±18km,mb4.9/3*
JMA ***03*** *08:29:55.0±0.2,4318N×14787E,h16km,M4.4*
BJI ***03*** *08:29:56.0,4379N×148.13E,h28km,mB4.8,mb4.8,Ms4.3, Msz4.4*
NEIC ***03*** *08:29:57.5±0.7,4305N×14822E,h45km,mb4.3/6,Error ellipse: s-maj=19.7km s-min=10.5km az=145.0*
ISC 03 08:29:56.5±1.5,4325N±005×14801E±005,h30km±11km, n77,σ1§29/96,mb4.2/22,MS3.7/2,3C-2D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	1.66	275	P	**Pn**	08 30 22.5	-0.9
NEM2				*e*S	**Sn**	08 30 43.0	-0.7
YUK	**Yuzh-Kuril'sk**	1.75	297	*e*P	**Pn**	08 30 23.8	-0.8
YUK				AMB	AMB	08 30 24.7	
	180nm,0.4s						
YUK				AMB	AMB	08 30 24.7	
	350nm,0.4s						
YUK				*e*rx	rx	08 30 35.5	
YUK				*i* S	**Sn**	08 30 44.9	-1.0
YUK				A		08 30 48.8	
	12μm,1.0s						
YUK				A		08 30 48.8	
	3μm,1.0s						
YUK				A		08 30 49.5	
	6μm,0.5s						
YUK				A		08 30 49.5	
	2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	1.75	297	*e*PN	**Pn**	08 30 23.8	-0.8
YUK				*i* S	**Sn**	08 30 44.9	-1.0
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=N,180nm,0.3s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,12μm,1.0s						
YUK				smax			
	comp=E,3μm,1.0s						
YUK				smax			
	comp=N,6μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	1.99	357	*i* P	**Pn**	08 30 24.4	-3.6
KUR				AMB	AMB	08 30 24.8	
	comp=E,120nm,0.4s						
KUR				AMB	AMB	08 30 24.8	
	comp=E,90nm,0.4s						
KUR				AMB	AMB	08 30 24.8	
	comp=E,370nm,0.4s						
KUR				*e*S	**Sn**	08 30 48.4	-3.4
KUR				A		08 30 49.4	
	comp=E,160nm,0.4s						
KUR				A		08 30 49.4	
	comp=E,640nm,0.4s						
KUR	**Kuril'sk**	1.99	357	⇑*i*PN	**Pn**	08 30 24.4	-3.6
KUR				S	**Sn**	08 30 48.4	-3.4
KUR				pmax	pmax		
	comp=N,120nm,0.4s						
KUR				pmax	pmax		
	comp=E,90nm,0.4s						
KUR				pmax	pmax		
	comp=Z,370nm,0.4s						
KUR				smax			
	comp=N,160nm,0.4s						
KUR				smax			
	comp=E,640nm,0.4s						
JRA	**Rausu**	2.21	289	P	**Pn**	08 30 30.9	-0.1
JRA				*e*S	**Sn**	08 30 57.3	0.0
JNK	**Nakash**	2.42	279	P	**Pn**	08 30 33.3	-0.6
JNK				*e*S	**Sn**	08 31 01.3	-1.2
JAK	**Akkeshi**	2.44	265	P	**Pn**	08 30 33.6	-0.6
JAK				*e*S	**Sn**	08 31 01.5	-1.5
JTKR	**Abashiri--Toko**	3.06	285	P	**Pn**	08 30 43.6	+0.8
JAR	**Ashorobuto**	3.10	272	P	**Pn**	08 30 43.2	0.0
JAR				*e*S	**Sn**	08 31 18.6	-0.6
JCH	**Churui**	3.47	261	P	**Pn**	08 30 48.0	-0.4
JCH				*e*S	**Sn**	08 31 27.9	-0.5
JKK2	**Kamakawa 2**	3.87	281	P	**Pn**	08 30 55.0	+1.1
JFR	**Furan**	3.96	271	P	**Pn**	08 30 55.7	+0.6
JNBK	**Urakawa-nobuka**	3.99	258	P	**Pn**	08 30 55.1	-0.4
ASAJ	**Asahikawa**	4.02

SEY	Seymchan	19.88	6⇑	eP	Pn	08 34 24.4	-2.6
SSE	Sheshan	24.46	249	P	P	08 35 15.0	+2.4
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,56nm,4.7s						
NJ2	Nanjing	25.52	254	eP	P	08 35 26.1	+3.9
NJ2				AP	pP	08 35 37.6	+6.6
NJ2				XP	sP	08 35 43.2	+8.5
NJ2				PP		08 36 06.8	
NJ2				S	S	08 39 47.0	-0.8
NJ2				XS	sS	08 40 07.0	+4.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,150nm,4.3s						
NJ2				LR	LR		
	comp=N,260nm,15.0s,MS3.9						
NJ2				LR	LR		
	comp=E,190nm,16.8s,MS3.9						
NJ2				LR	LR		
	comp=Z,650nm,15.6s,MS4.3						
BILL	Bilibino	26.67	15	P	P	08 35 28.0	-4.6
BILL	Bilibino	26.67	15⇓	eP	P	08 35 33.0	+0.3
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,26.0s,MS3.2						
ULN	Ulaanbaatar	28.80	294	eP	P	08 35 52.9	+1.2
	comp=Z,3.0nm,0.8s,mb4.1						
ULN	Ulaanbaatar	28.80	294	eiP	P	08 35 52.9	+1.2
SONM	Songino Array	29.24	294	P	P	08 35 56.8	+1.2
	comp=Z,3.2nm,0.6s,mb4.2,baz=85,slow=8.3,SNR=22						
SONM	Songino Array	29.24	294	P	P	08 35 56.8	+1.2
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TNA	Tin City	32.94	32	eP	P	08 36 27.9	-0.3
	comp=Z,3.5nm,0.8s,mb4.3						
KDAK	Kodiak Island	39.13	47	P	P	08 37 20.0	-1.2
	comp=Z,7.5nm,0.8s,mb4.5,baz=270,slow=1.0,SNR=3.2						
COLA	College	41.11	36	P	P	08 37 37.0	-0.6
	comp=Z,2.7nm,0.6s,mb4.0						
COLA	College	41.11	36	iP	P	08 37 38.5	+0.9
ILAR	Eielson Array	41.52	36	P	P	08 37 40.1	-0.8
	comp=Z,0.8nm,0.8s,mb3.4,baz=268,slow=8.8,SNR=10						
ILAR	Eielson Array	41.52	36	P	P	08 37 40.2	-0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	45.37	298	P	P	08 38 12.7	+0.7
	comp=Z,2.0nm,0.6s,mb4.2,baz=81,slow=9.0,SNR=30						
MKAR	Makanchi Array	45.37	298	iP	P	08 38 12.6	+0.6
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	Kurchatov	46.33	305	iP	P	08 38 20.9	+1.4
INK	Inuvik	46.52	30	P	P	08 38 21.4	+0.4
	comp=Z,3.7nm,0.4s,mb4.7,baz=283,slow=4.9,SNR=49						
INK	Inuvik	46.52	30	eP	P	08 38 21.2	+0.1
	comp=Z,3.8nm,0.5s,mb4.6						
INK	Inuvik	46.52	30	eP	P	08 38 21.2	+0.2
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARU	Arti	55.14	317	eP	P	08 39 25.9	0.0
ARU				e		08 41 30.2	
ARU				eS	S	08 47 03.4	-3.5
ARU				eSS	SS	08 50 43.9	-7.1
RES	Resolute Bay	55.27	17	eP	P	08 39 25.5	-1.3
	comp=Z,3.6nm,0.5s,mb4.7						
RES	Resolute Bay	55.27	17	eP	P	08 39 25.5	-1.3
RES				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
YKA	Yellowknife Ar	55.87	34	P	P	08 39 30.8	-0.4
	comp=Z,1.4nm,0.6s,mb4.2,baz=303,slow=7.0,SNR=9.1						
YKA	Yellowknife Ar	55.87	34	iP	P	08 39 33.7	+2.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTK	Aktyubinsk	58.34	311	P	P	08 39 51.0	+2.4
AKTO	Aktyubinsk	58.34	311	P	P	08 39 51.0	+2.4
	comp=Z,0.7nm,0.4s,mb4.0,baz=85,slow=12,SNR=4.2						
AKTO	Aktyubinsk	58.34	311	P	P	08 39 51.0	+2.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARCES	ARCESS Array B	59.93	340	P	P	08 39 59.4	-0.2
	comp=Z,1.1nm,0.5s,mb4.2,baz=49,slow=6.8,SNR=14						
ARCES	ARCESS Array B	59.93	340	P	P	08 39 59.4	-0.2
ARCES	ARCESS Array B	59.93	340	P	P	08 39 59.4	-0.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	Joensuu	62.82	333	ep	P	08 40 19.5	+0.3
	comp=Z,1.3nm,0.4s,mb4.4						
JOF	Joensuu	62.82	333	eP	P	08 40 19.5	+0.3
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
WRA	Warramunga Arr	64.12	194	P	P	08 40 26.8	-1.0
	comp=Z,0.4nm,0.9s,mb3.5,baz=14,slow=7.0,SNR=3.8						
KAF	Kangasniemi	65.04	334	ep	P	08 40 32.9	-0.9
FINES	FINESS Array B	65.61	333	P	P	08 40 37.4	-0.1
	comp=Z,2.0nm,0.5s,mb4.4,baz=47,slow=7.5,SNR=21						
FINES	FINESS Array B	65.61	333	P	P	08 40 37.4	0.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
OBN	Obninsk	66.09	324	eP	P	08 40 40.2	-0.4
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
NB2	NORSAR Subarra	70.30	339	P	P	08 41 06.3	-0.6
	comp=Z,1.8nm,0.6s,mb4.2,baz=32,slow=6.5						
NOA	NORSAR Array B	70.30	339	P	P	08 41 06.6	-0.3
	comp=Z,1.0nm,0.4s,mb4.1,baz=32,slow=6.2,SNR=6.7						
NOA	NORSAR Array B	70.30	339	P	P	08 41 06.6	-0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	72.35	324	P	P	08 41 19.4	+0.1
	comp=Z,0.5nm,0.3s,mb3.9,baz=37,slow=6.1,SNR=5.5						
AKASG	Malin Array Be	72.35	324	P	P	08 41 19.4	+0.1
AKASG	Malin Array Be	72.35	324	P	P	08 41 19.4	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KHC	Kasperske Hory	79.70	332	eP	P	08 42 04.0	+2.8
GERES	GERESS Array B	79.90	331	P	P	08 42 05.0	+2.7
	comp=Z,0.8nm,0.5s,mb3.9,baz=29,slow=6.6,SNR=5.7						
GERES	GERESS Array B	79.90	331	P	P	08 42 05.0	+2.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						

MAN 03 08:41:09.7, 1298N×12090E, h24km, mb2.1, ML3.8, MS0.9, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.52	5	eP	Pb	08 41 21.0	+0.8
PGP				i S	Sb	08 41 31.0	+3.7
LUBP	Lubang	0.98	320	eP	Pn	08 41 29.9	+1.9
BOAC	Boac	1.03	63	eP	Pn	08 41 28.2	-0.5
BUSP	Coron	1.19	215	eP	Pn	08 41 30.5	-0.3
OTRP	Odiongan	1.25	119	eP	Pn	08 41 31.2	-0.5
ENPP	El Nido	2.28	219	eP	Pn	08 41 46.3	+0.5

*ISCJB **03** 08:57:08.1±1.0, 1086N±006×6154W±004, h64km±12km, Error ellipse: s-maj=11.2km s-min=5.8km az=127.0*
*TRN **03** 08:57:09.4, 1096N×6143W, h38km, MD3.1*
*FUNV **03** 08:57:10.3, 1085N×6156W, h31km, MW2.3*
ISC 03 08:57:08.7±1.0, 1086N±006×6154W±004, h61km±12km, n11, σ0°97/20, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.25	147	eP	Pn	08 57 19.5	+1.0
TRN				i S	Sn	08 57 25.7	+0.1
TBH	Brigand Hill	0.60	129	eP	Pn	08 57 22.6	+0.9
GUIV	Guiria	0.70	253	eP	Pn	08 57 23.1	+0.1
GUIV				eS	Sn	08 57 33.4	-0.1
TPR	Prospect	0.82	66	eP	Pn	08 57 24.0	-0.4
TPR				eS	Sn	08 57 34.6	-1.4
BOT	Bacolet	0.86	69	eP	Pn	08 57 24.9	-0.2
BOT				eS	Sn	08 57 36.0	-1.0
GRW	Mount Saint Ca	1.30	355	eP	Pn	08 57 31.3	+0.6
GRW				eS	Sn	08 57 47.7	+0.5
GUNV	Guanoco	1.54	243	eP	Pn	08 57 35.4	+1.4
GUNV				eS	Sn	08 57 53.2	+0.3
ITEV	Isla Los Testi	1.64	288	eP	Pn	08 57 35.9	+0.7
ITEV				eS	Sn	08 57 56.0	+0.7
CRUV	Carupano	1.68	264	eS	Sn	08 57 55.0	-1.2
PCRV	Puerto La Cruz	3.12	258	eP	Pn	08 57 56.0	+0.6
PCRV				eS	Sn	08 58 29.4	-2.0
CUPV	Cœpira	4.25	260	eP	Pn	08 58 11.6	+0.6
CUPV				eS	Sn	08 58 56.8	-2.4

*ISCJB **03** 09:12:57.9±1.0, 1941S±006×695W±0.1, h115km±11km, mb3.9/6, Error ellipse: s-maj=16.7km s-min=9.2km az=179.7*
*IDC **03** 09:12:59.7±2.3, 1939S×6932W, h114km±17km, mb3.9/5, mb1 3.9/7, mb1mx3.7/16, mbtmp4.3/7, MS3.3/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=23.9km s-min=17.0km az=82.0*
*NEIC **03** 09:13:03.6±1.3, 1906S×6920W, h138km±12km, mb4.0/4, Error ellipse: s-maj=16.4km s-min=10.9km az=74.0*
ISC 03 09:12:58.8±0.9, 1943S±005×695W±01, h108km±10km, n19, σ1°19/23, mb3.9/6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.38	23	P	Pn	09 13 50.9	+1.1
	5.1nm,0.3s,baz=211,slow=7.7,SNR=94						
LPAZ				S	Sn	09 14 29.9	+0.7
	2.7nm,0.3s,baz=28,slow=22,SNR=4.5						
LPAZ	La Paz	3.38	23	P	Pn	09 13 50.9	+1.1
LPAZ				S	Sn	09 14 29.9	+0.6
ARE	Arequipa	3.50	327	eP	Pn	09 13 50.0	-1.4
ARE				i S	Sn	09 14 16.7	-15
SIV	San Ignacio	8.73	68	P	Pn	09 15 00.6	-1.6
	1.7nm,0.3s,baz=266,slow=10.0,SNR=56						
SIV				S	Sn	09 16 31.9	-6.9
	0.1nm,0.3s,baz=308,slow=16,SNR=2.2						
SAML	Samuel	12.08	31	eP	Pn	09 15 42.0	-5.2
	5.6nm,0.8s						
SAML				e		09 15 54.2	
CFAA	Coronel Fontan	12.18	175	P	Pn	09 15 50.6	+2.1
	0.1nm,0.3s,baz=358,slow=16,SNR=6.3						
CFAA				S	Sn	09 18 01.7	-0.8
	0.1nm,0.3s,baz=249,slow=21,SNR=5.7						
CFAA	Coronel Fontan	12.18	175	P	Pn	09 15 50.6	+2.1
CFAA				S	Sn	09 18 01.7	-0.8
TRQA	Tornquist	19.69	162	eP	P	09 17 24.6	+5.2
	7.5nm,0.8s						
TRQA				e		09 18 00.2	
BDFB	Brasilia	20.83	83	P	P	09 17 31.7	-0.1
	4.6nm,0.6s,baz=274,slow=9.5,SNR=7.3						
BDFB				LR	LR	09 26 50.2	
	comp=Z,74nm,19.4s,baz=14,slow=40						
PLCA	Paso Flores	21.25	182	P	P	09 17 43.0	+6.8
	0.8nm,0.7s,mb3.2,baz=3.7,slow=7.1,SNR=3.5						
PLCA	Paso Flores	21.25	182	eP	P	09 17 43.1	+6.9
	2.3nm,1.0s,mb3.5						
PLCA				e		09 18 17.9	
OTAV	Otavalo	21.42	335	eP	P	09 17 39.2	+1.3
	2.4nm,0.6s,mb3.7						
DBIC	Dimbokro	68.70	74	P	P	09 23 51.1	+0.5
	2.2nm,0.5s,mb4.2,baz=212,slow=5.2,SNR=7.5						
ULM	Lac du Bonnet	73.18	343	P	P	09 24 16.5	-1.2
	1.0nm,0.5s,mb3.9,baz=141,slow=7.3,SNR=4.2						
TORD	Torodi Ar. Bea	77.20	71	P	P	09 24 40.7	-0.1
	2.5nm,0.7s,mb4.0,baz=253,slow=5.4,SNR=23						
YKA	Yellowknife Ar	89.05	341	P	P	09 25 41.5	-0.2
	2.4nm,0.7s,mb4.3,baz=134,slow=4.7,SNR=57						
YKA				pP	pP	09 26 10.7	+0.9
	1.1nm,0.5s,baz=133,slow=4.7,SNR=12						
YKA	Yellowknife Ar	89.05	341	P	P	09 25 41.5	-0.2
YKA				pP	pP	09 26 10.7	+0.9
MKAR	Makanchi Array	144.26	34	pPKP	pPKPdf	09 32 55.5	+4.1
	0.3nm,0.7s,baz=336,slow=2.7,SNR=3.6						
SONM	Songino Array	151.47	6	PKPbc	PKPbc	09 32 40.3	+0.3
	0.3nm,0.4s,baz=335,slow=0.9,SNR=3.9						
SONM				pPKPbc	pPKPbc	09 33 12.9	+3.6
	1.5nm,0.8s,baz=301,slow=2.0,SNR=9.6						

*ISCJB **03** 09:26:14.0±2.0, 167S±03×719W±0.1, h130km±7km, mb3.6/3, Error ellipse: s-maj=56.5km s-min=16.5km az=24.0*
*NEIC **03** 09:26:16.6±1.0, 1620S×7158W, h117km±10km, mb3.9/2, Error ellipse: s-maj=27.7km s-min=18.5km az=154.0*
*IDC **03** 09:26:21.6±4.4, 1595S×7147W, h156km±35km, mb3.4/2, mb1 3.6/3, mb1mx3.2/17, mbtmp3.8/3, Error ellipse: s-maj=86.2km s-min=42.1km az=15.0*
ISC 03 09:26:15.2±1.3, 159S±02×719W±01, h107km±15km, n12, σ1°21/12, mb3.7/3, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	0.70	144	⇓iP	Pn	09 26 33.5	+0.2
ARE				i S	Sn	09 26 46.5	-0.4
LPAZ	La Paz	3.66	97	P	Pn	09 27 11.8	+1.9
	1.7nm,0.3s,baz=275,slow=10,SNR=79						
LPAZ				S	Sn	09 27 53.0	+0.8
	0.5nm,0.3s,baz=12,slow=24,SNR=6.7						
LPAZ	La Paz	3.66	97	P	Pn	09 27 11.8	+1.9
LPAZ				S	Sn	09 27 53.0	+0.8
SIV	San Ignacio	10.43	92	P	Pn	09 28 39.3	-2.4
	0.2nm,0.3s,baz=243,slow=15,SNR=6.2						
SAML	Samuel	10.96	52	eP	Pn	09 28 48.3	-0.5
	1.1nm,0.4s						
SDV	Santo Domingo	24.65	3	P	P	09 31 31.1	+5.3
	3.3nm,0.8s,mb3.8						
TORD	Torodi Ar. Bea	78.29	73	P	P	09 38 02.2	-1.1
	0.4nm,0.5s,mb3.5,baz=266,slow=4.6,SNR=5.3						
YKA	Yellowknife Ar	84.38	342	P	P	09 38 39.8	+1.3
	0.6nm,0.5s,mb3.8,baz=135,slow=5.0,SNR=22						
YKA	Yellowknife Ar	84.98	342	P	P	09 38 39.8	+1.3
WRA	Warramunga Arr	136.03	217	PKP	PKPdf	09 45 25.0	+1.4
	0.3nm,0.5s,baz=150,slow=1.8,SNR=3.1						
MJAR	Matsushiro Arr	146.26	313	PKPbc	PKPbc	09 45 44.6	+1.4
	1.6nm,0.7s,baz=75,slow=1.4,SNR=4.4						
SONM	Songino Array	148.12	2	PKPbc	PKPbc	09 45 49.6	+1.3
	0.5nm,0.5s,baz=320,slow=1.9,SNR=4.3						

CASC 03 09:26:26.2±3.6, 1479N×8978W, h29km±16km, MD3.5, ML2.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	El Retiro	0.90	172	eP	Pn	09 26 45.3	+2.5
RTR				eS	Sb	09 26 59.6	+4.9
IXG	Ixpaco	0.90	227	eP	Pn	09 26 40.4	-2.4
IXG				eS	Sb	09 26 56.6	+1.8
SNJE	San Jose	0.93	170	eP	Pn	09 26 44.9	+1.7
SNJE				eS	Sn	09 26 57.3	+1.7
SBLS	San Blas	0.95	171	eP	Pn	09 26 44.5	+0.8
SBLS				eS	Sn	09 26 57.2	+0.9
BOQS	Boqueron	1.15	155	eP	Pn	09 26 46.8	+0.4
BOQS				eS	Sn	09 27 00.7	-0.4
LFU	La Fuente	1.22	148	eP	Pn	09 26 48.1	+0.9
LFU				eS	Sn	09 27 02.9	+0.2
LBRS	Las Brisas	1.26	146	eS	Sn	09 27 05.6	+1.8
LFRS	El Faro	1.35	149	eP	Pn	09 26 47.7	-1.4
LFRS				eS	Sn	09 27 03.6	-2.3
LCBS	La Ceiba	1.37	145	eP	Pn	09 26 49.0	-0.3
LCBS				eS	Sn	09 27 05.2	-1.2

*TRN **03** 09:53:29.5, 1933N×6392W, h7km, MD4.2*
*IDC **03** 09:53:30.9±0.7, 1920N×6392W, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.9/25, mbtmp3.8/15, ML3.7/1, MS3.7/11, Ms1 3.7/11, ms1mx3.5/23, Error ellipse: s-maj=18.3km s-min=14.5km az=57.0*
*ISCJB **03** 09:53:31.4±0.4, 1934N±003×6389W±002, h10km, mb3.9/18, MS3.6/9, Error ellipse: s-maj=4.7km s-min=2.8km az=19.8*
*NEIC **03** 09:53:32.3, 1926N×6360W, h22km, mb4.1/8, MD3.8(RSPR), After RSPR.*
*RSPR **03** 09:53:32.3, 1926N×6360W, h22km±19km, MD3.8/15, MD3.8/15*
ISC 03 09:53:33.3±0.4, 1926N±003×6391W±002, h10km, n66, σ1°14/86, mb3.9/18, MS3.6/9, 16C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.66	217	⇑eP	Pg	09 53 46.4	+0.3
TBVI	Tortola	1.08	218	⇑eP	Pg	09 53 52.0	-2.0
STVI	Saint Thomas	1.34	228	⇑eP	Pn	09 53 56.5	-1.6
STVI				eS	Sb	09 54 15.0	-0.8
STMA	St. Maarten, A	1.43	148	eP	Pn	09 54 00.2	+0.9
STMA				eS	Sn	09 54 18.4	+0.2
CDVI	St. Croix	1.71	208	⇓eP	Pn	09 54 02.3	-0.8
CDVI				eS	Sn	09 54 22.8	-2.2
SABT	Saba	1.75	159	eP	Pn	09 54 04.2	+0.5
SABT				eS	Sn	09 54 28.8	+2.7
MTP	Monte Pirata	1.94	234	⇑eP	Pn	09 54 05.3	-1.1
MTP				eS	Sn	09 54 31.0	+0.1
STAT	Sint Eustatius	1.97	153	eP	Pn	09 54 08.1	+1.4
STAT				eS	Sn	09 54 34.3	+2.9
CBYP	Canovanas	2.09	242	⇑eP	Pn	09 54 07.8	-0.5
CBYP				eS	Sn	09 54 35.0	+0.6
HUMP	Col San Antoni	2.15	239	⇑eP	Pn	09 54 08.0	-1.1
HUMP				eS	Sn	09 54 36.3	+0.4
SKI	Saint Kitts	2.22	150	eP	Pn	09 54 11.3	+1.2
SKI				eS	Sn	09 54 38.6	+1.0
CPD	Cerro la Pandu	2.26	238	⇑eP	Pn	09 54 10.1	-0.5
CPD				eS	Sn	09 54 39.1	+0.6
SJG	San Juan	2.41	242	eS	Sn	09 54 42.8	+0.4
SJG	San Juan	2.41	242	⇑eP	Pn	09 54 11.9	-0.8
SJG				eS	Sn	09 54 43.2	+0.8
SJG	San Juan	2.41	242	⇑eP	Pn	09 54 12.1	-0.7
SJG				eS	Sn	09 54 42.8	+0.4
SJG	San Juan	2.41	242	Pn	Pn	09 54 12.0	-0.8
	46nm,0.3s,baz=82,slow=12,SNR=22						
SJG				Sn	Sn	09 54 41.6	-0.7
	100nm,0.3s,baz=30,slow=15,SNR=9.0						
NVBH	Bath Hotel, Ne	2.46	150	eP	Pn	09 54 15.0	+1.5
CPB	Codrington	2.56	129	eP	Pn	09 54 13.8	-1.0
CELP	Cerrillos	2.79	245	⇑eP	Pn	09 54 17.4	-0.6
CELP				eS	Sn	09 54 52.8	+1.1
ICM	Isla Caja Muer	2.83	242	⇑eP	Pn	09 54 18.2	-0.3
ICM				eS	Sn	09 54 53.1	+0.5
OBIP	Obispado Ponce	2.83	245	⇑eP	Pn	09 54 18.1	-0.4
AOPR	Arecibo Observ	2.84	252	eS	Sn	09 54 54.6	+1.7
AOPR	Arecibo Observ	2.84	252	⇑eP	Pn	09 54 18.1	-0.6
AOPR				eS	Sn	09 54 54.6	+1.7
LRS	Lares	2.94	251	⇑eP	Pn	09 54 19.8	-0.3
LRS				eS	Sn	09 54 57.1	+1.7
BPA	Boggy Peak	2.95	138	eP	Pn	09 54 19.1	-1.0
BPA				eS	Sn	09 54 54.8	-0.8
MGP	Maguayo	3.26	248	⇑eP	Pn	09 54 24.0	-0.4
MGP				eS	Sn	09 55 04.6	+1.3
CRPR	Cabo Rojo, PR	3.28	248	eS	Sn	09 55 04.8	+1.1
CRPR	Cabo Rojo, PR	3.28	248	⇑eP	Pn	09 54 24.4	-0.3
CRPR				eS	Sn	09 55 04.8	+1.1
SEG	Port Louis	3.65	141	eP	Pn	09 54 29.2	-0.7
LZG	Guadaloupe-1	3.71	146	eP	Pn	09 54 30.3	-0.4
LZG				eS	Sn	09 55 14.9	+0.5
SCG	Saint Claude	3.86	146	eP	Pn	09 54 32.8	+0.1
DOG	Dongo Capester	3.89	145	eP	Pn	09 54 34.3	+1.2
DEG	La Desirade	4.00	137	eP	Pn	09 54 33.3	-1.3
TBG	Guadaloupe-3	4.02	147	eP	Pn	09 54 34.9	-0.1
BBL	Barber's Block	4.39	148	eP	Pn	09 54 39.9	-0.1
SDV	Santo Domingo	12.20	213	Pn	Pn	09 56 27.2	+0.1
	0.5nm,0.3s,baz=66,slow=9.5,SNR=5.0						
SDV				Sn	Sn	09 58 37.7	-5.5
	0.5nm,0.3s,baz=350,slow=20,SNR=3.7						
SDV				LR	LR	10 01 15.8	
	comp=Z,338nm,19.7s,baz=178,slow=38						
SDV	Santo Domingo	12.20	213	ePn	Pn	09 56 27.5	+0.4
	8.3nm,0.7s						
SDV				eSn	Sn	09 58 38.7	-4.4
ROSC	El Rosal	17.56	217	P	Pn	09 57 35.7	-2.4
	0.8nm,0.3s,baz=278,slow=16,SNR=2.2						
ROSC				LR	LR	10 04 47.9	
	comp=Z,379nm,20.5s,baz=14,slow=39						
JTS	JuntasAbangare	22.19	249	P	P	09 58 27.7	-2.0
	2.7nm,0.6s,mb3.8,baz=67,slow=13,SNR=2.9						
JTS				LR	LR	10 06 28.3	
	comp=Z,79nm,18.5s,MS3.2,baz=252,slow=35						
BLA	Blacksburg	22.99	324	eP	P	09 58 42.1	+4.1
	0.5nm,0.7s,mb3.0						
BLA				e		09 58 56.7	
ELN	Prospectdale	23.18	324	P	P	09 58 43.9	+3.8
ELN				e		09 59 00.5	
OTAV	Otavalo	23.68	219	eP	P	09 58 44.2	-0.9
	6.7nm,0.8s,mb4.1						
CPCT	Cooper Cave	24.31	316	eP	P	09 58 53.4	+2.5
CPCT				e		09 59 13.6	
SADO	Sadowa	28.42	337	LR	LR	10 09 45.0	
	comp=Z,232nm,18.6s,MS3.8,baz=106,slow=34						
SIV	San Ignacio	35.14	175	P	P	10 00 24.2	-2.9
	1.4nm,0.6s,mb4.0,baz=9.6,slow=7.7,SNR=7.2						
LPAZ	La Paz	35.57	187	P	P	10 00 31.6	+0.8
	1.4nm,0.5s,mb4.1,baz=0.0,slow=2.0,SNR=3.8						
LPAZ				LR	LR	10 15 40.4	
	comp=Z,53nm,20.6s,MS3.3,baz=23,slow=37						
LPAZ	La Paz	35.57	187	eP	P	10 00 31.6	+0.8
	2.8nm,1.0s,mb4.2						
BDFB	Brasilia	38.05	155	P	P	10 00 50.9	-1.0
	1.3nm,0.3s,mb4.1,baz=346,slow=6.7,SNR=6.0						
BDFB				LR	LR	10 15 42.4	
	comp=Z,99nm,20.4s,MS3.6,baz=68,slow=35						
MNTX	Cornudas Mount	39.21	297	eP	P	10 01 01.8	+0.3
	2.0nm,0.9s,mb3.9						
ULM	Lac du Bonnet	40.01	328	P	P	10 01 06.8	-1.4
	1.1nm,0.5s,mb3.9,baz=119,slow=13,SNR=3.5						
SDCO	Great Sand Dun	40.53	306	eP	P	10 01 14.8	+2.2
	8.0nm,1.4s,mb4.2						
ANMO	Albuquerque	40.65	301	P	P	10 01 13.7	+0.1
	0.8nm,0.7s,mb3.5,baz=78,slow=5.1,SNR=4.5						
ANMO				LR	LR	10 20 36.9	
	comp=Z,98nm,20.4s,MS3.6,baz=0.0,slow=40						
ANMO	Albuquerque	40.65	301	eP	P	10 01 13.8	+0.3
	0.6nm,0.6s,mb3.4						
PDAR	Pinedale Array	44.91	312	P	P	10 01 48.5	+0.4
	0.3nm,0.5s,mb3.4,baz=117,slow=7.3,SNR=3.9						
REDW	Red Top Meadow	45.99	312	eP	P	10 02 01.9	+5.2
	31nm,2.0s,mb4.9						
BGU	Big Grassy Mou	46.96	308	eP	P	10 02 10.7	+6.5
DLMT	Dillon	47.76	314	eP	P	10 02 13.4	+2.9
	30nm,2.0s,mb5.0						
SFJD	Kangerlussuaq	48.48	7	LR	LR	10 19 27.8	
	comp=Z,60nm,19.2s,MS3.6,baz=177,slow=

CDVI				eS	Sn	10 08 19.6	-1.0
SABT	Saba	1.74	156	eP	Pn	10 08 01.9	+0.4
SABT				eS	Sn	10 08 21.7	-1.1
MTP	Monte Pirata	1.88	233⇑	eP	Pn	10 08 03.2	-0.1
STAT	Sint Eustatius	1.96	151	eP	Pn	10 08 06.0	+1.5
STAT				eS	Sn	10 08 28.4	0.0
CBYP	Canovanas	2.02	242	eS	Sn	10 08 30.2	+0.4
CBYP	Canovanas	2.02	242⇑	eP	Pn	10 08 05.1	-0.1
CBYP				eS	Sn	10 08 30.2	+0.4
HUMP	Col San Antoni	2.08	239	eS	Sn	10 08 31.1	-0.1
HUMP	Col San Antoni	2.08	239⇑	eP	Pn	10 08 06.0	0.0
HUMP				eS	Sn	10 08 31.1	-0.1
CPD	Cerro la Pandu	2.19	238	eS	Sn	10 08 33.5	-0.3
CPD	Cerro la Pandu	2.19	238⇑	eP	Pn	10 08 08.0	+0.4
CPD				eS	Sn	10 08 33.5	-0.3
SKI	Saint Kitts	2.22	148	eS	Sn	10 08 36.4	+1.7
SJG	San Juan	2.34	242	eS	Sn	10 08 37.9	+0.2
SJG	San Juan	2.34	242⇑	eP	Pn	10 08 09.7	0.0
SJG				eS	Sn	10 08 37.8	+0.1
SJG	San Juan	2.34	242⇑	eP	Pn	10 08 10.2	+0.5
SJG				eS	Sn	10 08 37.9	+0.2
SJG	San Juan	2.34	242	Pn	Pn	10 08 09.2	-0.5
	17nm,0.3s,baz=328,slow=17,SNR=19						
SJG				Sn	Sn	10 08 36.8	-0.9
	62nm,0.3s,baz=53,slow=13,SNR=9.4						
SJG				LR	LR	10 09 04.5	
	comp=Z,386nm,18.7s,baz=91,slow=42						
NVBH	Bath Hotel, Ne	2.46	148	eP	Pn	10 08 12.7	+1.4
CELP	Cerrillos	2.72	246⇑	eP	Pn	10 08 15.4	+0.5
CELP				eS	Sn	10 08 47.2	+0.1
ICM	Isla Caja Muer	2.76	242	eS	Sn	10 08 47.9	0.0
ICM	Isla Caja Muer	2.76	242⇑	eP	Pn	10 08 16.1	+0.7
ICM				eS	Sn	10 08 47.9	0.0
OBIP	Obispado Ponce	2.76	245	eS	Sn	10 08 48.0	0.0
OBIP	Obispado Ponce	2.76	245⇑	eP	Pn	10 08 16.2	+0.8
OBIP				eS	Sn	10 08 48.0	0.0
AOPR	Arecibo Observ	2.77	252	eS	Sn	10 08 49.0	+0.7
AOPR	Arecibo Observ	2.77	252⇑	eP	Pn	10 08 16.0	+0.4
AOPR				eS	Sn	10 08 49.0	+0.7
LRS	Lares	2.87	252⇑	eP	Pn	10 08 17.5	+0.5
LRS				eS	Sn	10 08 51.4	+0.6
AGPR	Aguadilla, PR	3.07	256	eS	Sn	10 08 56.5	+0.9
AGPR	Aguadilla, PR	3.07	256⇑	eP	Pn	10 08 20.6	+1.0
AGPR				eS	Sn	10 08 56.5	+0.9
MGP	Maguayo	3.19	248⇑	eP	Pn	10 08 22.1	+0.7
CRPR	Cabo Rojo, PR	3.21	248	eS	Sn	10 08 59.7	+0.6
CRPR	Cabo Rojo, PR	3.21	248⇑	eP	Pn	10 08 21.9	+0.2
CRPR				eS	Sn	10 08 59.7	+0.6
LZG	Guadaloupe-1	3.72	145	eP	Pn	10 08 28.0	-0.5
DOG	Dongo Capester	3.89	144	eP	Pn	10 08 31.6	+0.6
PHG	Guadaloupe-2	3.89	145	eP	Pn	10 08 31.6	+0.6
PHG				eS	Sn	10 09 17.5	+1.6
DEG	La Desirade	4.01	136	eP	Pn	10 08 31.8	-0.9
BBL	Barber's Block	4.39	147	eP	Pn	10 08 37.6	-0.2
SDV	Santo Domingo	12.14	213	Pn	Pn	10 10 23.7	-0.4
	0.6nm,0.3s,baz=46,slow=9.2,SNR=9.3						
SDV				LR	LR	10 15 23.4	
	comp=Z,181nm,19.0s,baz=224,slow=39						
JTS	JuntasAbangare	22.12	249	LR	LR	10 20 03.3	
	comp=Z,31nm,20.8s,MS2.7,baz=160,slow=34						
OTAV	Otavalo	23.62	219	eP	P	10 12 41.1	-0.9
	6.5nm,0.8s,mb4.1						
SADO	Sadowa	28.43	337	LR	LR	10 23 10.1	
	comp=Z,151nm,18.6s,MS3.6,baz=151,slow=33						
SIV	San Ignacio	35.11	175	P	P	10 14 22.0	-2.1
	2.4nm,0.7s,mb4.2,baz=21,slow=11,SNR=13						
LPAZ	La Paz	35.53	187	P	P	10 14 26.4	-1.3
	1.3nm,0.8s,mb3.9,baz=353,slow=9.4,SNR=4.9						
LPAZ				LR	LR	10 29 33.7	
	comp=Z,56nm,18.1s,MS3.4,baz=140,slow=37						
LPAZ	La Paz	35.53	187	P	P	10 14 26.4	-1.3
LPAZ				LR	LR	10 29 33.7	
BDFB	Brasilia	38.04	155	P	P	10 14 48.9	-0.2
	6.1nm,0.7s,mb4.5,baz=331,slow=7.9,SNR=12						
BDFB				LR	LR	10 31 13.3	
	comp=Z,99nm,21.9s,MS3.6,baz=77,slow=38						
ULM	Lac du Bonnet	40.01	328	P	P	10 15 04.2	-1.3
	0.8nm,0.5s,mb3.7,baz=124,slow=9.9,SNR=2.5						
ULM	Lac du Bonnet	40.01	328	P	P	10 15 04.2	-1.3
PDAR	Pinedale Array	44.89	312	P	P	10 15 46.6	+1.3
	0.4nm,0.5s,mb3.5,baz=108,slow=9.0,SNR=5.5						
YKA	Yellowknife Ar	55.38	334	P	P	10 17 04.0	-0.7
	0.5nm,0.7s,mb3.6,baz=110,slow=7.6,SNR=8.2						
DBIC	Dimbokro	58.70	94	P	P	10 17 28.5	+0.2
	1.6nm,0.8s,mb4.1,baz=262,slow=13,SNR=2.9						
PLCA	Paso Flores	59.96	186	P	P	10 17 34.6	-2.4
	1.2nm,0.8s,mb4.0,baz=7.1,slow=3.3,SNR=4.7						
TORD	Torodi Ar. Bea	63.05	85	P	P	10 17 57.8	-0.1
	0.7nm,0.6s,mb4.0,baz=278,slow=7.2,SNR=4.5						
NOA	NORSAR Array B	66.20	31	LR	LR	10 43 24.5	
	comp=Z,33nm,20.1s,MS3.5,baz=270,slow=32						
GERES	GERESS Array B	67.73	44	P	P	10 18 28.4	+0.3
	0.3nm,0.4s,mb3.7,baz=276,slow=2.4,SNR=4.2						
ILAR	Eielson Array	69.78	333	P	P	10 18 39.6	-1.2
	0.4nm,0.6s,mb3.5,baz=105,slow=4.1,SNR=9.4						
WRA	Warramunga Arr	162.73	265	PKPab	PKPab	10 28 22.1	+0.8
	0.2nm,0.6s,baz=85,slow=4.0,SNR=5.2						

IDC 03 10:14:46.7±1.3, 078N×12627E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=134.5km s-min=19.5km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.07	159	P	P	10 19 41.7	-1.4
	1.9nm,0.6s,baz=338,slow=11,SNR=38						
WB2	Warramunga Arr	22.07	159	eP	P	10 19 42.3	-0.9
ASPA	Alice Springs	25.41	164	eP	P	10 20 17.3	+1.4
ASAR	Alice Springs	25.41	164	P	P	10 20 17.4	+1.6
	0.6nm,0.3s,baz=344,slow=11,SNR=23						
SONM	Songino Array	49.94	343	P	P	10 23 42.7	+0.5
	0.4nm,0.6s,baz=154,slow=8.7,SNR=4.6						
MKAR	Makanchi Array	59.72	326	P	P	10 24 52.8	-0.3
	0.3nm,0.4s,baz=113,slow=7.1,SNR=13						
BVAR	Borovoye Array	69.53	328	P	P	10 25 57.5	+0.3
	0.4nm,0.6s,baz=98,slow=10,SNR=3.3						

*NEIC **03** 10:36:53.7, 1903N×6389W, h12km, MD3.5(RSPR), After RSPR.*

RSPR 03 10:36:53.7, 1903N×6389W, h12km±16km, MD3.5/7, MD3.5/7, 6C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.92	228	eS	Sg	10 37 20.9	-2.4
TBVI	Tortola	0.92	228⇑	eP	Pg	10 37 08.7	-2.7
TBVI				eS	Sg	10 37 20.9	-2.4
STVI	Saint Thomas	1.22	237	eS	Sb	10 37 28.8	-3.3
STVI	Saint Thomas	1.22	237⇓	eP	Pn	10 37 13.2	-3.2
STVI				eS	Sb	10 37 28.8	-3.3
CDVI	St. Croix	1.52	213	eS	Sn	10 37 36.5	-3.6
CDVI	St. Croix	1.52	213⇑	eP	Pn	10 37 17.6	-3.0
CDVI				eS	Sn	10 37 36.5	-3.6
MTP	Monte Pirata	1.83	240⇑	eP	Pn	10 37 21.9	-3.0
MTP	Monte Pirata	1.83	240	eS	Sn	10 37 44.3	-3.7
MTP	Monte Pirata	1.83	240	eP	Pn	10 37 21.7	-3.2
CBYP	Canovanas	2.01	248	eS	Sn	10 37 48.5	-3.8
CBYP	Canovanas	2.01	248⇑	eP	Pn	10 37 24.8	-2.6
CBYP				eS	Sn	10 37 48.5	-3.8
HUMP	Col San Antoni	2.06	245	eS	Sn	10 37 49.9	-3.6
HUMP	Col San Antoni	2.06	245⇑	eP	Pn	10 37 24.9	-3.1
HUMP				eS	Sn	10 37 49.9	-3.6
CPD	Cerro la Pandu	2.16	243	eS	Sn	10 37 52.1	-3.9
CPD	Cerro la Pandu	2.16	243⇓	eP	Pn	10 37 26.8	-2.5
CPD				eS	Sn	10 37 52.1	-3.9
CRPR	Cabo Rojo, PR	3.22	252⇑	eP	Pn	10 37 42.1	-1.8

*IDC **03** 10:50:11.5±1.2, 630S×13059E, h0km, mb3.7/3, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, ML4.3/3, MS3.3/2, Ms1 3.3/2, ms1mx3.0/17, Error ellipse: s-maj=56.5km s-min=21.7km az=58.0*

*NEIC **03** 10:50:13.8±0.8, 608S×13078E, h10km, mb3.8/1, Error ellipse: s-maj=14.5km s-min=12.8km az=65.0*

*ISCJB **03** 10:50:23.0±1.5, 669S±006×1308E±0.1, h132km±17km, mb3.5/2, Error ellipse: s-maj=17.9km s-min=9.3km az=169.3*

ISC 03 10:50:27.3±1.2, 691S±006×1308E±01, h167km±11km, n17, σ1°08/24, mb3.5/2, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	5.98	165	⇓iP	Pn	10 51 54.6	+0.9
	59nm,0.4s						
KAKA				eS	Sn	10 53 03.3	+1.7
FITZ	Fitzroy Crossi	12.22	204	eP	Pn	10 53 16.9	+1.1
	43nm,0.3s						
FITZ				eS	Sn	10 55 29.8	-1.4
WRAB	Tennant Creek	13.39	166	eP	Pn	10 53 30.6	-0.1
	11nm,0.6s						
WRAB				eS	Sn	10 55 57.8	-1.4
WRA	Warramunga Arr	13.39	166	Pn	Pn	10 53 30.9	+0.1
	2.3nm,0.3s,baz=347,slow=14,SNR=76						
WRA				Sn	Sn	10 55 57.8	-1.5
	5.6nm,0.3s,baz=335,slow=23,SNR=11						
WB2	Warramunga Arr	13.39	166	eP	Pn	10 53 30.5	-0.3
WB2				eS	Sn	10 55 54.6	-4.8
PMG	Port Moresby	16.35	100	Pn	Pn	10 54 06.4	-0.9
	1.6nm,0.3s,baz=297,slow=4.5,SNR=5.3						
PMG	Port Moresby	16.35	100	eP	Pn	10 54 06.8	-0.5
AS31	Alice Springs	16.92	170	eP	Pn	10 54 18.0	+3.9
AS31				eS	S	10 57 21.8	+0.6
ASAR	Alice Springs	16.92	170	P	Pn	10 54 18.5	+4.4
	1.6nm,0.3s,baz=355,slow=14,SNR=77						
ASAR				S	S	10 57 21.1	-0.1
	1.1nm,0.3s,baz=343,slow=21,SNR=9.4						
ASPA	Alice Springs	16.92	170	eP	Pn	10 54 18.0	+3.9
ASPA				eS	S	10 57 21.8	+0.6
MBWA	Marble Bar	17.78	216	eP	Pn	10 54 30.3	+5.9
CTA	Charters Tower	19.88	133	eP	P	10 54 51.7	+6.1
	3.5nm,0.7s						
CTA	Charters Tower	19.88	133	P	P	10 54 51.4	+5.8
	4.2nm,0.7s,baz=318,slow=11,SNR=5.3						
CTAO	Charters Tower	19.88	133	eP	P	10 54 51.3	+5.7
HNR	Honiara	28.92	97	LR	LR	11 07 37.1	
	comp=Z,47nm,19.8s,baz=179,slow=36						
SONM	Songino Array	58.62	341	P	P	11 00 05.6	-1.1
	0.2nm,0.4s,mb3.3,baz=145,slow=3.5,SNR=3.2						
MKAR	Makanchi Array	68.61	326	P	P	11 01 12.6	+0.5
	0.6nm,0.3s,mb3.7,baz=114,slow=7.6,SNR=30						
MKAR				LR	LR	11 32 54.7	
	comp=Z,22nm,18.2s,baz=107,slow=38						

*ISCJB **03** 10:52:36.5±2.5, 157S±06×1739W±04, h36km±22km, mb4.2/8, MS3.5/1, Error ellipse: s-maj=123.3km s-min=14.8km az=112.0*

*IDC **03** 10:52:37.6±7.9, 1567S×17387W, h30km±57km, mb3.8/6, mb1 4.2/7, mb1mx4.0/14, mbtmp4.1/7, ML3.2/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/19, Error ellipse: s-maj=101.1km s-min=17.3km az=144.0*

*NEIC **03** 10:52:38.2±1.8, 1570S×17384W, h37km±14km, mb4.6/1, Error ellipse: s-maj=65.0km s-min=9.9km az=145.0*

ISC 03 10:52:38.7±2.3, 156S±06×1738W±05, h41km±21km, n31, σ0°94/19, mb4.2/8, MS3.5/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.56	50	Pn	Pn	10 53 18.9	+1.1
	250nm,0.3s,baz=174,slow=0.8,SNR=190						
AFI				Sn	Sn	10 53 46.1	-1.6
	437nm,0.3s,baz=33,slow=21,SNR=8.9						
AFI	Afiamalu	2.56	50	eP	Pn	10 53 18.8	+1.0
AFI				Pn	Pn	10 53 18.9	+1.1
AFI				eS	Sn	10 53 43.6	-4.1
AFI				Sn	Sn	10 53 46.1	-1.6
RAR	Rarotonga	14.42	115	LR	LR	10 59 43.0	
	comp=Z,94nm,22.0s,baz=113,slow=29						
PAE	Paea	23.28	98	eT		11 21 05.2	
	7.7nm,0.3s						
PPT	Papeete	23.28	98	eLR	LR	11 02 53.7	
	121nm,29.2s						
PPT	Papeete	23.28	98	eT		11 21 05.2	
	3.2nm,0.4s						
TVO	Taravao	23.60	99	eT		11 21 29.0	
	6.7nm,0.4s						
TBI	Tubuai	24.17	112	eLR	LR	11 03 18.5	
	90nm,30.5s						
TBI	Tubuai	24.17	112	eT		11 22 11.7	
	5.4nm,0.3s						
TAOE	Nuku Hiva Isla	33.52	82	eT		11 33 52.8	
	42nm,0.2s						
RKT	Rikitea	37.29	108	eT		11 38 34.6	
	3.3nm,0.4s						
CTA	Charters Tower	38.24	257	LR	LR	11 11 30.4	
	comp=Z,86nm,20.4s,MS3.5,baz=254,slow=30						
STKA	Stephens Creek	43.62	240	P	P	11 00 37.2	-1.8
	2.9nm,0.6s,mb4.2,baz=78,slow=9.0,SNR=6.0						
STKA	Stephens Creek	43.62	240	eP	P	11 00 37.1	-1.9
STKA				P		11 00 37.2	
WB2	Warramunga Arr	49.43	257	eP	P	11 01 25.0	+0.5
WRAB	Tennant Creek	49.43	257	P	P	11 01 23.9	-0.6
	5.5nm,0.9s,mb4.6						
WRA	Warramunga Arr	49.44	257	P	P	11 01 25.0	+0.4
	1.7nm,0.4s,mb4.5,baz=94,slow=6.8,SNR=11						
AS31	Alice Springs	49.70	252	eP	P	11 01 26.7	+0.1
ASAR	Alice Springs	49.70	252	P	P	11 01 26.9	+0.4
	33nm,0.6s,mb5.5,baz=86,slow=7.9,SNR=76						
ASPA	Alice Springs	49.70	252	eP	P	11 01 26.7	+0.1
NVAR	Mina Array Bea	74.72	42	P	P	11 04 17.3	+3.1
	0.7nm,0.7s,mb3.7,baz=234,slow=11,SNR=6.4						
NVAR	Mina Array Bea	74.72	42	P	P	11 04 17.3	+3.1
PDAR	Pinedale Array	82.66	42	P	P	11 04 58.0	+0.2
	0.6nm,0.8s,mb3.7,baz=197,slow=2.4,SNR=5.2						
ILAR	Eielson Array	82.70	11	P	P	11 04 57.9	-0.2
	0.7nm,0.6s,mb3.9,baz=222,slow=4.9,SNR=16						
YKA	Yellowknife Ar	90.42	24	P	P	11 05 35.3	-0.5
	0.4nm,0.8s,mb3.8,baz=233,slow=4.8,SNR=6.8						
KMBO	Kilima Mbogo	145.12	244	PKPbc	PKPbc	11 12 12.4	+1.2
	1.4nm,0.7s,baz=47,slow=18,SNR=5.0						
VRAC	Vranov	145.32	348	PKPbc	PKPbc	11 12 11.8	0.0
	3.9nm,0.6s,baz=270,slow=2.0,SNR=3.3						
BR131	Keskin Array S	146.07	320	ePKPdf	PKPdf	11 12 14.3	+1.0
BRTR	Keskin Array B	146.07	320	PKPbc	PKPbc	11 12 14.9	+0.7
	4.3nm,0.8s,baz=90,slow=2.9,SNR=20						
GERES	GERESS Array B	146.28	351	PKPbc	PKPbc	11 12 15.1	+0.3
	0.7nm,0.5s,baz=318,slow=1.8,SNR=4.8						
DAVOX	Davos	148.76	355	PKPbc	PKPbc	11 12 22.0	+0.4
	2.8nm,0.5s,baz=335,slow=8.3,SNR=4.3						

IDC 03 11:03:53.3±2.1, 246S×12609E, h0km, mb3.0/2, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, ML2.9/1, Error ellipse: s-maj=180.9km s-min=28.7km az=64.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.16	156	P	Pn	11 08 17.1	-1.8
	0.0nm,0.3s,baz=334,slow=11,SNR=2.4						
ASAR	Alice Springs	22.40	161	P	P	11 08 54.4	+1.1
	0.1nm,0.4s,baz=345,slow=11,SNR=3.9						
MKAR	Makanchi Array	62.32	328	P	P	11 14 17.6	+0.2
	0.2nm,0.4s,baz=138,slow=6.7,SNR=3.5						

MEX 03 11:12:45.9±1.5, 1560N×9586W, h11km±11km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.30	305	iP	Pg	11 12 51.1	-0.8
HUIG				iS	Sg	11 12 55.3	-0.6
VHO	Vista Hermosa	1.69	330	eP	Pn	11 13 13.7	-1.7
VHO				iS	Sn	11 13 33.2	-3.8
OXX	Oaxaca	1.69	331	iP	Pn	11 13 13.5	-1.9
OXX				iS	Sn	11 13 35.0	-2.1
CMIG	Matias Romero	1.76	32	eP	Pn	11 13 12.8	-3.5
CMIG				iS	Sn	11 13 33.0	-5.6
PNIG	Pinotepa	2.32	290	iP	Pn	11 13 20.2	-3.8
PNIG				iS	Sn	11 13 47.7	-4.9
TPIG	Tehuac#an	3.15	333	iP	Pn	11 13 33.5	-2.0
TPIG				iS	Sn	11 14 10.2	-2.9
CCIG	Comitan	3.64	79	iP	Pn	11 13 40.1	-2.1
CCIG				iS	Sn	11 14 20.1	-5.1
MEIG	Mezcala	4.29	303	eP	Pn	11 13 50.4	-0.7
MEIG				iS	Sn	11 14 36.6	-4.4
PPM	Popocatepetl	4.35	323	eP	Pn	11 13 49.9	-2.1
PPM				iS	Sn	11 14 41.9	-0.7
PPM				iS	Sn	11 14 44.0	+1.4
PLIG	Platanillo	4.46	309	iS	Sn	11 14 42.7	-2.6
CAIG	El Cayaco	4.47	289	iS	Sn	11 14 38.6	-7.1
UNM	Universidad Na	4.88	320	eP	Pn	11 14 03.0	+3.8
TEIG	Tepich	8.56	56	iP	Pn	11 14 45.5	-4.3

*NAO **03** 11:26:54.2±2.8, 6114N×2903E, ML2.3*

*IDC **03** 11:26:55.1±1.9, 6097N×2895E, h0km, mb1 3.3/3, mb1mx3.0/20, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=16.3km s-min=10.9km az=159.0*

*BER **03** 11:26:55.2±3.8, 6106N×2907E, h0km, ML2.3(NAO), Suspected explosion*

HEL 03 11:26:54.0±0.4, 6097N×2917E, h0km, ML1.7, ML2.3(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.90	242	eP	Pg	11 27 10.6	-0.7
VJF				eS	Sg	11 27 21.7	-1.3
FIA0	FINESS Array S	1.57	289	eP	Pn	11 27 20.8	-2.3
FIA0				eS	Sn	11 27 42.3	-1.9
FIA0	FINESS Array S	1.57	289	Pn	Pn	11 27 20.8	-2.3
	baz=109,slow=16						
FIA0				Lg		11 27 41.4	
	baz=99,slow=28						
FIA0				Rg		11 27 49.1	
	baz=113,slow=37						
FINES	FINESS Array B	1.57	289	Pg	Pg	11 27 20.8	-3.3
	2.4nm,0.3s,baz=112,slow=17,SNR=69						
FINES				Lg		11 27 41.1	
	5.1nm,0.3s,baz=104,slow=29,SNR=23						
FINES				Rg		11 27 47.5	
	35nm,0.8s,baz=91,slow=32,SNR=44						
PVF	Pernaja	1.68	257	eP	Pn	11 27 22.6	-2.0
PVF				eS	Sn	11 27 45.5	-1.4
KAF	Kangasniemi	1.79	311	eP	Pn	11 27 25.6	-0.5
KAF				eS	Sn	11 27 48.8	-0.7
KAF				MSG		11 27 51.3	
	comp=Z,3.2nm,0.1s						
KEF	Keuruu	2.38	302	eP	Pn	11 27 34.5	+0.2
KEF				MSG		11 28 06.8	
	comp=Z,4.5nm,0.2s						
MEF	Metsahovi	2.47	254	eP	Pn	11 27 35.1	-0.4
MEF				eS	Sn	11 28 06.5	+0.1
RAF	Rauma	3.61	274	eP	Pn	11 27 51.5	+0.3
HFS	Hagfors	7.67	271	Pn	Pn	11 28 45.4	-1.6
	baz=87,slow=16						
HFS				Sn	Sn	11 30 07.0	-7.6
	baz=78,slow=16						
HFS				Lg		11 30 53.5	
	baz=60,slow=28						
HFS	Hagfors	7.67	271	eP	Pn	11 28 45.4	-1.6
HFS				eS	Sn	11 30 07.0	-7.6
HFS				eSG	Sg	11 30 53.5	-6.9
HFS	Hagfors	7.67	271	Pn	Pn	11 28 44.7	-2.3
	comp=Z,0.2nm,0.3s,baz=81,slow=13,SNR=5.4						
HFS				Sn	Sn	11 30 09.0	-5.6
	comp=Z,0.2nm,0.3s,baz=75,slow=17,SNR=3.5						
HFS				Lg		11 30 52.2	
	comp=Z,0.3nm,0.3s,baz=79,slow=31,SNR=3.5						
NB2	NORSAR Subarra	8.72	278	eP	Pn	11 28 59.5	-1.9
NOA	NORSAR Array B	8.72	278	Pn	Pn	11 28 59.8	-1.6
	comp=Z,0.2nm,0.3s,baz=76,slow=14,SNR=2.5						
NOA				Sn	Sn	11 30 31.3	-9.1
	comp=Z,0.1nm,0.3s,baz=78,slow=10,SNR=2.8						
NOA				Lg		11 31 19.7	
	comp=Z,0.2nm,0.3s,baz=196,slow=17,SNR=2.8						
ARA0	ARCESS Array S	8.74	351	Pn	Pn	11 29 00.2	-1.4
	baz=170,slow=16						
ARA0				Sn	Sn	11 30 34.1	-6.7
ARA0				Lg		11 31 19.9	
	baz=158,slow=37						
ARA0	ARCESS Array S	8.74	351	eP	Pn	11 29 00.2	-1.4
ARA0				eS	Sn	11 30 34.1	-6.7
ARA0				eSG		11 31 19.9	
ARCES	ARCESS Array B	8.74	351	Pn	Pn	11 28 59.6	-2.0
	comp=Z,0.1nm,0.3s,baz=170,slow=13,SNR=5.4						
ARCES				Sn	Sn	11 30 35.7	-5.1
	comp=Z,0.2nm,0.3s,baz=166,slow=20,SNR=3.8						
ARCES				Lg		11 31 21.0	
	comp=Z,0.3nm,0.3s,baz=180,slow=32,SNR=4.4						

MEX 03 11:41:38.5±0.9, 1711N×10004W, h38km±13km, MD3.7, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.22	253	⇓iP	Pn	11 41 44.2	-1.6
CAIG				iS	Sn	11 41 49.4	-1.5
ACX	Acapulco	0.27	154	iP	Pn	11 41 44.5	-1.8
ACX				iS	Sn	11 41 50.5	-1.2
MEIG	Mezcala	0.91	26	eP	Pn	11 41 53.1	-1.6
MEIG				iS	Sn	11 42 04.1	-2.4
PLIG	Platanillo	1.37	22	iP	Pn	11 42 00.3	-0.9
PLIG				iS	Sn	11 42 16.0	-2.1
PPM	Popocatepetl	2.37	35	iP	Pn	11 42 14.1	-0.7
PPM				iS	Sn	11 42 39.9	-2.7

GUC 03 11:45:37.0±0.9, 2921S×6973W, h113km±23km, ML3.9, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	1.93	343	eP	Pn	11 46 09.7	+0.5
CPCH				iS	Sn	11 46 34.6	+0.8
CPCH				AMP		11 46 37.7	
	comp=E,5μm,0.1s						
CDCH	Caldera	2.34	335	⇓iP	Pn	11 46 14.7	+0.3
CDCH				iS	Sn	11 46 43.2	0.0
CDCH				AMP		11 46 48.1	
	comp=N,233nm,0.5s						
CRCH	Chaqaral	2.96	344	eP	Pn	11 46 23.4	+0.8
CRCH				iS	Sn	11 46 52.4	-5.3
CHNG	Los Chungos	3.07	209	eP	Pn	11 46 24.8	+0.8
CHNG				iS	Sn	11 47 00.5	+0.3
C

LAJ	Bijagual	2.18 104	*e*P	Pn	11 46 19.6	-5.5
TEL3	Telica 3	2.25 346	*e*P	Pn	11 46 26.2	+0.1
TELN	Telica	2.27 346	*e*P	Pn	11 46 23.9	-2.6
LCR2	La Lucha 2	2.32 106	*e*P	Pn	11 46 28.4	+1.3
CRIN	San Cristobal	2.43 342	*e*P	Pn	11 46 26.4	-2.1
URSC	Urasca	2.51 102	*e*P	Pn	11 46 30.5	+0.8
BUS	Buena Vista	2.61 108	⇓*e*P	Pn	11 46 31.1	0.0
ANMO	Albuquerque	30.61 326	P	P	11 52 03.5	+0.5
	comp=E,1.3nm,0.7s,mb3.9,baz=142,slow=6.3,SNR=5.2					
SADO	Sadowa	34.81 9	P	P	11 52 28.9	-11
	comp=E,1.6nm,0.5s,mb4.2,baz=230,slow=17,SNR=2.6					
SADO			LR	LR	12 05 36.9	
	comp=E,67nm,18.2s,MS3.4,baz=124,slow=35					
SIV	San Ignacio	36.18 136	P	P	11 52 52.9	+1.4
	comp=E,0.8nm,0.6s,mb3.8,baz=292,slow=16,SNR=2.6					
PDAR	Pinedale Array	38.13 332	P	P	11 53 07.3	-0.7
	comp=E,0.5nm,0.6s,mb3.4,baz=129,slow=11,SNR=6.2					
PDAR			PcP	PcP	11 55 23.9	+1.0
	comp=E,0.3nm,0.8s,baz=139,slow=4.3,SNR=3.6					
NVAR	Mina Array Bea	40.01 320	P	P	11 53 26.9	+3.1
	comp=E,2.3nm,0.7s,mb4.0,baz=134,slow=7.8,SNR=18					
NVAR			PcP	PcP	11 55 29.7	+0.9
	comp=E,0.7nm,0.7s,baz=159,slow=2.9,SNR=5.7					
ULM	Lac du Bonnet	40.53 351	P	P	11 53 23.0	-5.1
	comp=E,0.5nm,0.3s,mb3.6,baz=154,slow=7.6,SNR=4.1					
YKA	Yellowknife Ar	55.90 345	P	P	11 55 23.4	-3.4
	comp=E,0.4nm,0.7s,mb3.5,baz=141,slow=7.0,SNR=12					
YKA			PcP	PcP	11 56 24.3	-1.2
	comp=E,0.3nm,0.8s,baz=136,slow=3.6,SNR=3.8					

IDC 03 11:53:30.4±1.4, 2834N×13942E, h373km±25km, mb2.9/5, mb1 3.1/7, mb1mx2.9/19, mbtmp3.8/7, Error ellipse: s-maj=59.6km s-min=15.0km az=77.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.75	116	P	Pn	11 54 28.8	-0.6
	23nm,0.3s,baz=279,slow=21,SNR=6.1						
CBIJ				S	S	11 55 17.2	+0.3
	34nm,0.3s,baz=276,slow=22,SNR=7.2						
JHJ	Hachijo jima 2	4.78	4	P	Pn	11 54 50.2	+1.5
	15nm,0.3s,baz=43,slow=16,SNR=5.3						
MKAR	Makanchi Array	47.79	309	P	P	12 01 31.1	-0.6
	0.1nm,0.3s,baz=84,slow=8.1,SNR=2.6						
WRA	Warramunga Arr	48.24	186	P	P	12 01 35.4	+0.3
	0.3nm,0.4s,baz=5.3,slow=7.6,SNR=12						
ASAR	Alice Springs	51.97	186	P	P	12 02 03.0	+0.2
	0.1nm,0.3s,baz=359,slow=5.5,SNR=4.7						
ARCES	ARCESS Array B	71.56	340	P	P	12 04 11.7	-0.2
	3.6nm,0.9s,baz=54,slow=7.3,SNR=6.3						
FINES	FINESS Array B	75.74	333	P	P	12 04 35.5	-0.5
	0.4nm,0.3s,baz=78,slow=4.9,SNR=7.3						

*LDG **03** 12:09:26.8±0.6, 1326S×16763E, h10km, Error ellipse: s-maj=173.6km s-min=13.8km az=93.0*
*NEIC **03** 12:09:47.7±1.6, 1464S×16728E, h204km±14km, mb4.2/1, Error ellipse: s-maj=15.9km s-min=13.0km az=78.0*
*IDC **03** 12:09:48.0±2.7, 1464S×16724E, h208km±24km, mb3.6/9, mb1 3.8/11, mb1mx3.7/17, mbtmp4.2/11, Error ellipse: s-maj=21.9km s-min=19.0km az=87.0*
*ISCJB **03** 12:09:48.0±1.6, 1462S±007×1672E±01, h219km±13km, mb3.7/9, Error ellipse: s-maj=20.4km s-min=9.4km az=132.1*

ISC 03 12:09:47.1±1.6, 1456S±007×1673E±01, h198km±12km, n35, σ1°04/20, mb3.6/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.51	186	P	Pn	12 11 33.7	-0.3
	2.6nm,0.3s,baz=40,slow=19,SNR=26						
DZM				S	Sn	12 12 59.2	+0.3
	1.1nm,0.3s,baz=128,slow=23,SNR=4.1						
HNR	Honiara	8.78	305	P	Pn	12 11 52.3	+1.9
	8.1nm,0.3s,baz=90,slow=19,SNR=4.4						
HNR				S	Sn	12 13 27.6	-1.4
	4.1nm,0.3s,baz=266,slow=19,SNR=2.3						
CTA	Charters Tower	20.79	252	P	P	12 14 13.1	+0.2
	6.7nm,0.8s,baz=74,slow=8.8,SNR=6.4						
CTAO	Charters Tower	20.79	252	*e*P	P	12 14 13.5	+0.6
STKA	Stephens Creek	29.10	229	P	P	12 15 28.8	-0.3
	2.7nm,0.4s,mb4.2,baz=45,slow=9.1,SNR=14						
WB2	Warramunga Arr	31.85	256	*e*P	P	12 15 53.0	-0.3
WRA	Warramunga Arr	31.86	256	P	P	12 15 52.6	-0.8
	1.1nm,0.7s,mb3.5,baz=86,slow=9.3,SNR=15						
AS31	Alice Springs	32.72	249	*e*P	P	12 16 00.6	-0.4
ASAR	Alice Springs	32.73	249	P	P	12 16 00.6	-0.4
	1.9nm,0.7s,mb3.8,baz=75,slow=9.4,SNR=36						
ASPA	Alice Springs	32.73	249	*e*P	P	12 16 00.6	-0.4
MBWA	Marble Bar	45.58	255	*e*P	P	12 17 49.9	+2.6
VNDA	Vanda	63.03	181	P	P	12 19 52.1	-0.9
	2.2nm,1.1s,mb3.7,baz=22,slow=6.2,SNR=3.7						
QSPA	South Pole Qui	75.47	180	*e*P	P	12 21 09.7	+0.4
	6.4nm,1.2s,mb4.1						
SONM	Songino Array	82.35	324	P	P	12 21 48.6	+1.9
	0.2nm,0.6s,mb3.0,baz=159,slow=6.3,SNR=3.7						
ILAR	Eielson Array	86.37	18	P	P	12 22 05.2	-1.6
	1.0nm,0.7s,mb3.6,baz=239,slow=5.1,SNR=14						
MKAR	Makanchi Array	97.07	316	P	P	12 22 57.4	+0.9
	0.3nm,0.6s,mb3.7,baz=98,slow=5.8,SNR=3.9						
YKA	Yellowknife Ar	97.40	27	P	P	12 22 57.4	-0.5
	0.1nm,0.6s,mb3.2,baz=256,slow=5.0,SNR=3.7						
YKA	Yellowknife Ar	97.40	27	P	P	12 22 57.4	-0.5
ARCES	ARCESS Array B	120.08	345	PKP	PKPdf	12 28 13.8	-0.3
	1.1nm,0.5s,baz=78,slow=2.5,SNR=9.6						
ARCES	ARCESS Array B	120.08	345	PKP	PKPdf	12 28 13.8	-0.4
NOA	NORSAR Array B	130.46	345	SKPbc	SKPbc	12 31 43.2	+4.5
	0.9nm,0.7s,baz=33,slow=3.0,SNR=3.5						
AKASG	Malin Array Be	130.59	326	SKPbc	SKPbc	12 31 43.8	+4.6
	0.5nm,0.5s,baz=44,slow=4.4,SNR=7.5						
LOR	Lormes	144.57	340	*e*PKP1	PKPdf	12 29 00.9	+1.1
GRR	Gorron	144.87	346	*e*PKP1	PKPdf	12 29 01.0	+0.7
	20nm,0.8s						
SSF	Saint Saulge	144.87	341	*e*PKP1	PKPdf	12 29 01.5	+1.2
	12nm,0.7s						
LPL	La Plagne	145.03	336	*e*PKP1	PKPbc	12 29 01.9	+1.4
	11nm,0.7s						
LPG	La Plagne	145.04	336	*e*PKP1	PKPbc	12 29 02.4	+1.9
	9.1nm,0.8s						
SMF	Signal de Mont	145.13	340	*e*PKP1	PKPbc	12 29 02.1	+1.3
AVF	Avril sur Loir	145.16	341	*e*PKP1	PKPbc	12 29 02.2	+1.3
SGMF	Saint Gilles	145.36	348	*e*PKP1	PKPbc	12 29 02.0	+0.5
ORIF	Oris-en-Rattie	145.87	336	*e*PKP1	PKPbc	12 29 04.9	+1.9
	20nm,0.8s						
FRF	La Foret Royal	146.67	334	*e*PKP1	PKPbc	12 29 06.7	+1.3
LFF	La Frestale	147.63	342	*e*PKP1	PKPbc	12 29 09.0	+1.0
MTLF	Montolieu	148.58	339	*e*PKP1	PKPbc	12 29 11.6	+1.1
	15nm,0.8s						
ETSF	Etsaut	149.88	342	*e*PKP1	PKPbc	12 29 16.0	+2.3
	9.3nm,0.7s						

*NNC **03** 12:11:35.6±3.7, 4040N×7689E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=38.7km s-min=26.6km az=25.0*

ISC 03 12:11:38.5±6.1, 403N±05×768E±02, h35km, n12, σ0°54/13, 7C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	2.04	348	P	Pn	12 12 09.2	-1.0
	SNR=140						
KZA	Kyzart	2.17	327	P	Pn	12 12 11.6	-0.6
	SNR=130						
UCH	Uchtor	2.63	319	P	Pn	12 12 18.4	-0.1
	SNR=30						
KBK	Karagaybulak	2.78	330	P	Pn	12 12 21.1	+0.5
	SNR=17						
TKM2	Tokmak 2	2.82	341	P	Pn	12 12 21.6	+0.6
	SNR=39						
TKM2	Tokmak 2	2.82	341	⇑Pn	Pn	12 12 21.6	+0.6
	16nm,0.4s						
TKM2				⇑Lg		12 13 00.4	
	37nm,0.5s						
AAK	Ala-Archa	2.95	324	P	Pn	12 12 23.1	+0.3
	SNR=16						
AML	Almayashu	3.02	309	P	Pn	12 12 23.8	+0.1
	SNR=111						
CHMS	Chumysh	3.15	331	P	Pn	12 12 25.5	-0.1
	SNR=22						
EKS2	Erkin-Say	3.32	317	P	Pn	12 12 28.6	+0.7
	SNR=18						
KK31	Karatay Array	5.52	303	⇑Pn	Pn	12 12 57.0	-1.1
	3.7nm,0.7s,baz=136,slow=13,SNR=13						
KK31				⇑Pg	Pn	12 13 12.6	+14
	3.0nm,0.7s,baz=128,slow=16,SNR=10						
KK31				⇑Lg		12 14 22.9	
	2.7nm,0.4s,baz=125,slow=30,SNR=4.5						
MK31	Makanchi Array	7.64	29	⇑Pn	Pn	12 13 27.5	+0.1
	0.5nm,0.5s,baz=214,slow=15						
MK31				⇑Lg		12 15 31.5	
	2.6nm,0.6s,baz=211,slow=25						

*IDC **03** 12:12:23.7±1.4, 297N×9370E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/23, mbtmp3.9/9, ML3.6/1, Error ellipse: s-maj=54.1km s-min=17.2km az=53.0*
*ISCJB **03** 12:12:27.2±0.9, 30N±01×938E±02, h33km, mb4.0/9, Error ellipse: s-maj=30.6km s-min=11.3km az=101.9*
*NEIC **03** 12:12:28.5±0.7, 300N×9377E, h30km, mb4.3/1, Error ellipse: s-maj=24.9km s-min=9.1km az=50.0*

ISC 03 12:12:29.7±0.9, 30N±01×938E±02, h35km, n13, σ0°76/13, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.12	93	Pn	Pn	12 13 43.5	-0.4
	2.0nm,0.3s,baz=318,slow=20,SNR=5.7						
LSA	Lhasa	26.63	355	*e*P	P	12 18 06.8	+1.9
	2.5nm,0.3s,mb4.2						
LSA				*e*	pP	12 18 14.7	-0.2
MKAR	Makanchi Array	44.71	349	P	P	12 20 39.4	+0.1
	1.9nm,0.6s,mb4.1,baz=169,slow=9.0,SNR=24						
WRA	Warramunga Arr	45.89	122	P	P	12 20 49.0	+0.3
	2.6nm,0.7s,mb4.3,baz=300,slow=8.8,SNR=24						
WB2	Warramunga Arr	45.90	122	*e*P	P	12 20 49.2	+0.5
SONM	Songino Array	45.92	12	P	P	12 20 48.7	-0.3
	0.6nm,0.6s,mb3.7,baz=191,slow=9.0,SNR=6.0						
ASPA	Alice Springs	47.21	126	*e*P	P	12 20 59.4	+0.4
AS31	Alice Springs	47.21	126	*e*P	P	12 20 59.4	+0.3
ASAR	Alice Springs	47.21	126	P	P	12 20 59.5	+0.4
	1.5nm,1.0s,mb3.9,baz=295,slow=7.4,SNR=24						
ZAL	Zalesovo	51.26	353	P	P	12 21 29.3	-0.7
	1.5nm,0.4s,mb4.3,baz=316,slow=2.0,SNR=4.6						
BVAR	Borovoye Array	53.44	343	P	P	12 21 45.3	-0.9
	0.7nm,0.7s,mb3.7,baz=134,slow=8.4,SNR=6.0						
STKA	Stephens Creek	57.11	131	P	P	12 22 11.1	-1.5
	1.3nm,0.6s,mb4.1,baz=333,slow=9.0,SNR=4.1						
GERES	GERESS Array B	81.20	319	P	P	12 24 41.9	+0.1
	0.9nm,0.7s,mb3.8,baz=107,slow=4.6,SNR=5.0						

IDC 03 12:34:37.9±3.8, 128N×9722E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=157.4km s-min=23.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.06	122	P	P	12 42 31.7	+0.5
	0.3nm,0.7s,baz=302,slow=9.1,SNR=5.0						
ASAR	Alice Springs	43.43	127	P	P	12 42 42.6	+0.2
	0.3nm,0.8s,baz=299,slow=7.4,SNR=4.1						
SONM	Songino Array	47.05	8	P	P	12 43 11.9	+0.8
	0.3nm,0.6s,baz=174,slow=6.8,SNR=5.3						
MKAR	Makanchi Array	47.17	346	P	P	12 43 12.3	+0.2
	0.4nm,0.5s,baz=160,slow=9.4,SNR=6.3						
ZAL	Zalesovo	53.47	351	P	P	12 43 58.8	-1.0
	0.7nm,0.4s,baz=347,slow=11,SNR=3.8						

MAN 03 12:37:59.2, 1329N×12062E, h10km, MS3.7, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.39	58	*e*P	Pg	12 38 07.6	+0.8
LUBP	Lubang	0.57	321	*e*P	Pg	12 38 10.4	+0.3
BOAC	Boac	1.21	82	*e*P	Pn	12 38 20.8	-1.3
BUSP	Coron	1.34	198	*e*P	Pn	12 38 23.7	-0.3
OTRP	Odiongan	1.65	124	*e*P	Pn	12 38 28.4	+0.2
CUYO	Cuyo Island	2.46	171	*e*P	Pn	12 38 38.6	-0.7

*ISCJB **03** 12:49:50.6±0.8, 3898N±005×123.10W±009, h8km±5km, mb3.2/3, MS3.2/2, Error ellipse: s-maj=13.5km s-min=5.5km az=127.6*
*NEIC **03** 12:49:51.0, 3903N×123.11W, h7km, ML3.7(NCEDC), After NCEDC.*
NEIC Felt [IV] at Hopland and Lakeport; [III] at Boonville, Nice, Redwood Valley and Ukiah; [II] at Witter Springs. Felt at Cloverdale, Elk, Gualala, Kelseyville, Lucerne, San Francisco, The Sea Ranch, Upper Lake and Yorkville.
*IDC **03** 12:49:57.6±2.7, 3930N×122.71W, h34km±19km, mb3.1/3, mb1 3.4/6, mb1mx3.3/23, mbtmp3.2/6, ML3.1/3, MS3.2/5, Ms1 3.2/5, ms1mx2.7/21, Error ellipse: s-maj=28.9km s-min=7.6km az=50.0*

ISC 03 12:49:51.3±0.8, 3898N±005×12312W±010, h7km±5km, n26, σ1°20/29, mb3.2/3, MS3.2/2, 1C, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	Hopland	0.04	63	*e*Pg	Pg	12 49 52.5	-0.3
NSHM	Saint Helena R	0.60	138	*e*Pg	Pg	12 50 04.4	+1.5
KCPM	Cahto Peak	0.80	333	⇑*e*P	Pg	12 50 06.2	-0.4
KCPM				*e*S	Sg	12 50 18.6	+1.7
KIPM	Iron Peak	0.88	341	*e*Pg	Pg	12 50 07.3	-0.9
OHCM	Honcut	1.32	74	*e*Pn	Pn	12 50 14.4	-1.7
SAC	San Andreas	1.50	158	*e*Pn	Pn	12 50 17.2	-1.3
WDC	Whiskeytown Da	1.66	15	*e*Pn	Pn	12 50 19.1	-1.7
WDC				*e*S	Sn	12 50 42.5	+0.1
CMB	Columbia Colle	2.34	113	*e*Pn	Pn	12 50 29.6	-0.5
SAO	San Andreas Ge	2.57	149	*e*Pn	Pn	12 50 32.4	-0.9
YBH	Yreka Blue Hor	2.77	6	Pn	Pn	12 50 35.1	-0.9
	5.0nm,0.3s,baz=198,slow=8.0,SNR=62						
YBH				Pg	Pg	12 50 42.8	-1.6
	8.3nm,0.3s,baz=186,slow=11,SNR=29						
YBH				Lg		12 51 15.8	
	4.5nm,0.3s,baz=108,slow=15,SNR=3.5						
YBH				LR	LR	12 51 52.6	
	comp=Z,316nm,20.2s,baz=187,slow=47						
YBH	Yreka Blue Hor	2.77	6	*e*Pn	Pn	12 50 36.4	+0.3
LRV	Little Rabbit	3.04	146	*e*Pn	Pn	12 50 39.6	-0.1
MOD	Modoc	3.63	35	*e*Pn	Pn	12 50 49.0	+1.2
HUMO	Hull Mountain	3.63	2	*e*Pn	Pn	12 50 49.1	+1.2
NVAR	Mina Array Bea	3.81	97	Pn	Pn	12 50 50.4	+0.2
	1.1nm,0.3s,baz=272,slow=15,SNR=26						
NVAR				Pg	Pg	12 50 59.0	-5.2
	3.2nm,0.3s,baz=267,slow=18,SNR=32						
NVAR				Lg		12 51 51.2	
	1.8nm,0.3s,baz=281,slow=25,SNR=6.0						
NVAR	Mina Array Bea	3.81	97	Pn	Pn	12 50 50.4	+0.1
NVAR				Pg	Pg	12 50 59.0	-5.2
NVAR				Lg		12 51 51.2	
MTUM	Tungsten Hills	3.94	113	*e*Pn	Pn	12 50 55.1	+3.0
WVOR	Wild Horse Val	4.85	43	*e*Pn	Pn	12 51 06.5	+1.8
ISA	Isabella	4.96	130	*e*Pn	Pn	12 51 07.3	+1.2
ISA				*e*Sn	Sn	12 52 14.4	+11
ELK	Elko	6.32	71	Pn	Pn	12 51 25.3	+0.6
	0.1nm,0.3s,baz=182,slow=15,SNR=2.4						
ELK				Lg		12 53 00.3	
	0.1nm,0.3s,baz=150,slow=20,SNR=2.0						
NEW	Newport	10.25	23	LR	LR	12 56 23.3	
	comp=Z,90nm,21.0s,baz=32,slow=39						
ANMO	Albuquerque	13.91	102	LR	LR	12 58 17.7	
	comp=Z,108nm,19.3s,baz=0.0,slow=37						
ULM	Lac du Bonnet	22.30	51	P	P	12 54 46.6	-2.6
	1.4nm,0.6s,mb3.6,baz=250,slow=9.3,SNR=3.1						
YKA	Yellowknife Ar	24.11	10	P	P	12 55 07.5	0.0
	0.3nm,0.9s,mb2.7,baz=197,slow=10,SNR=5.2						
YKA				LR	LR	13 05 04.9	
	comp=Z,35nm,18.7s,MS2.9,baz=235,slow=38						
ILAR	Eielson Array	29.34	339	P	P	12 55 55.2	+0.6
	0.4nm,0.8s,mb3.2,baz=143,slow=7.7,SNR=5.6						
FRB	Frobisher Bay	40.36	34	LR	LR	13 13 05.8	
	comp=Z,72nm,18.1s,MS3.6,baz=136,slow=35						

*SZGRF **03** 12:53:07.5, 2280S×17798W, h33km, mb5.1, South of Fiji Islands*
*CSEM **03** 12:53:16.6, 2063S×17838W, h33km, mb5.8*
*ISCJB **03** 12:54:17.2±0.6, 2109S±005×17907W±004, h623km±8km, mb4.9/70, Error ellipse: s-maj=8.6km s-min=5.5km az=135.4*
*MOS **03** 12:54:17.3±1.5, 2098S×17906W, h620km, mb5.0/15, Error ellipse: s-maj=10.4km s-min=10.3km az=112.2*
*IDC **03** 12:54:18.5±0.8, 2116S×17901W, h629km±9km, mb4.3/24, mb1 4.3/29, mb1mx4.3/30, mbtmp5.3/29, Error ellipse: s-maj=9.9km s-min=8.5km az=154.0*
*NEIC **03** 12:54:18.6±0.6, 2110S×17903W, h628km±6km, mb4.8/30, Error ellipse: s-maj=8.0km s-min=5.4km az=149.0*
*BJI **03** 12:54:21.1, 2029S×17937W, h628km, mB4.8, mb5.0*

ISC 03 12:54:18.5±0.6, 2109S±006×17904W±004, h622km±8km, n302, σ0°92/142, mb4.9/69, 25C-37D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	8.19	173	P	P	12 56 20.1	-0.1
	108nm,0.3s,baz=100,slow=23,SNR=9.8						
RAO				S	S	12 57 58.1	-2.0
	100nm,0.3s,baz=100,slow=23,SNR=7.5						
RAO	Raoul Island	8.19	173	*e*P	P	12 56 20.0	-0.3
RAO				*e*S	S	12 57 56.1	-4.0
RAO				S	S	12 57 58.2	-1.9
AFI	Afiamalu	9.94	45	P	P	12 56 35.9	-1.1
	12nm,0.3s,baz=73,slow=5.6,SNR=21						
AFI				S	S	12 58 25.6	-5.1
	15nm,0.3s,baz=192,slow=23,SNR=10						
BKM	Butte a Klehm	12.47	284	⇓*i*P	P	12 57 03.5	+1.5
FUNA	Funafuti	12.60	352	*e*P	P	12 57 02.7	-0.6
DZM	Mont Dzumac	13.54	263	P	P	12 57 13.2	+1.0
	4.7nm,0.3s,baz=81,slow=15,SNR=64						
URZ	Urewera	17.44	190	P	P	12 57 45.5	-2.4
	10nm,0.3s,baz=338,slow=2.1,SNR=54						
URZ				S	S	13 00 30.9	-7.1
	1.8nm,0.3s,baz=164,slow=14,SNR=12						
RAR	Rarotonga	17.97	94	P	P	12 57 51.9	-1.0
	2.3nm,0.3s,baz=243,slow=6.7,SNR=4.9						
RPZ	Rata Peaks	24.03	198	P	P	12 58 46.5	-0.5
	7.9nm,0.5s,mb4.6,baz=44,slow=18,SNR=6.2						
TBI	Tubuai	27.45	100	*e*P	P	12 59 17.9	+0.9
	103nm,0.9s,mb5.5						
PAE	Paea	27.98	88	*e*P	P	12 59 21.8	+0.2
	38nm,0.8s,mb5.1						
PPT	Papeete	28.00	88	*e*P	P	12 59 22.3	+0.5
	50nm,1.0s,mb5.1						
PPT	Papeete	28.00	88	P	P	12 59 22.4	+0.6
	46nm,0.8s,mb5.2,baz=221,slow=2.9,SNR=7.7						
TVO	Taravao	28.26	89	*e*P	P	12 59 24.3	+0.3
	91nm,0.7s,mb5.5						
VAH	Vaihoa	30.37	84	*e*P	P	12 59 42.1	-0.1
	107nm,0.9s,mb5.5						
VAH				*e*pP		13 01 19.1	
	62nm,1.1s						
CNB	Canberra Magne	31.09	236	⇓*i*P	P	12 59 49.5	+1.2
	17nm,0.5s,mb4.9						
CTA	Charters Tower	32.47	265	*e*P	P	13 00 01.0	+1.1
	44nm,0.4s,mb5.4						
CTA	Charters Tower	32.47	265	*e*P	P	13 00 01.0	+1.1
CTA				pmax	pmax		
	comp=Z,44nm,0.4s						
CTAO	Charters Tower	32.47	265	*e*P	P	13 00 00.8	+0.8
	comp=Z,59nm,0.6s,mb5.4						
CTAO	Charters Tower	32.47	265	*e*P	P	13 00 00.8	+0.9
CTAO				pmax	pmax		
	comp=Z,59nm,0.6s,mb5.4						
PMG	Port Moresby	34.54	284	P	P	13 00 18.2	+1.0
	comp=Z,84nm,0.7s,mb5.5,baz=97,slow=5.0,SNR=32						
PMG	Port Moresby	34.54	284	*d*⇓*i*P	P	13 00 18.0	+0.8
TOO	Toolangi	34.77	234	⇓*i*P	P	13 00 19.9	+0.8
	comp=Z,22nm,0.6s,mb5.0						
TOO	Toolangi	34.77	234	⇓*i*P	P	13 00 19.9	+0.8
TOO				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.0						
STKA	Stephens Creek	36.66	245	⇓*i*P	P	13 00 33.6	-1.0
	comp=Z,20nm,0.6s,mb4.8						
STKA	Stephens Creek	36.66	245	P	P	13 00 33.7	-0.9
	comp=Z,24nm,0.6s,mb4.9,baz=91,slow=9.3,SNR=64						
STKA				PcP	PcP	13 02 37.5	-2.3
	comp=Z,4.0nm,0.4s,baz=84,slow=5.4,SNR=2.9						
STKA				ScP	ScP	13 05 27.2	-1.2
	comp=Z,4.1nm,0.9s,baz=44,slow=5.4,SNR=3.5						
TAOE	Nuku Hiva Isla	39.38	78	*e*P	P	13 00 56.7	+0.2
	comp=Z,533nm,1.0s						
RKT	Rikitea	40.76	101	*e*P	P	13 01 08.0	+0.5
	comp=Z,63nm,0.9s,mb5.2						
AS31	Alice Springs	43.44	257	⇓*i*P	P	13 01 28.9	+0.5
AS31				*e*PcP	PcP	13 03 02.0	-0.1
AS31				*e*S	S	13 07 10.8	-2.4
AS31				*e*ScS	ScS	13 10 19.0	+0.2
ASAR	Alice Springs	43.44	257	P	P	13 01 28.9	+0.5
	comp=Z,83nm,0.7s,mb5.4,baz=88,slow=6.7,SNR=1575						
ASAR				PcP	PcP	13 03 02.2	+0.1
	comp=Z,14nm,0.6s,baz=100,slow=3.6,SNR=14						
ASAR				ScP	ScP	13 05 56.2	+1.0
	comp=Z,3.9nm,0.7s,baz=102,slow=3.9,SNR=8.1						
ASAR				S	S	13 07 11.7	-1.5
	comp=Z,21nm,0.9s,baz=92,slow=15,SNR=47						
ASAR				PKiKP	PKiKP	13 10 00.3	-1.7
	comp=Z,0.4nm,0.5s,baz=98,slow=1.4,SNR=7.1						
ASAR	Alice Springs	43.44	257	P	P	13 01 28.9	+0.5
ASAR				PcP	PcP	13 03 02.2	+0.1
ASAR				ScP	ScP	13 05 56.2	+1.0
ASAR				S	S	13 07 11.7	-1.5
ASAR	Alice Springs	43.44	257	P	P	13 01 28.9	+0.5
ASAR						13 03 02.3	
ASAR				S	S	13 07 11.7	-1.5
ASPA	Alice Springs	43.44	257	⇓*i*P	P	13 01 28.9	+0.5
ASPA				*e*PCP	PcP	13 03 02.0	-0.1
ASPA				*e*S	S	13 07 10.8	-2.5
AS

JNU Nakatsue 72.04 317 P **P** **13 04 41.2 +0.2**
comp=Z,27nm,0.8s,mb4.8,baz=75,slow=6.4,SNR=6.3
YHNB Yeheng 73.64 305 *e*P **P** **13 04 50.0 -0.2**
ASAJ Asahikawa 73.78 332 P **P** **13 04 52.4 +1.4**
comp=Z,35nm,0.8s,mb5.0,baz=216,slow=6.9,SNR=32
FX1 Attu Island--F 73.96 355 P **P** **13 04 50.8 -1.2**
comp=Z,70nm,0.6s,mb5.4,baz=140,slow=7.9
FX1 Attu Island--F 73.96 355 *e*P **P** **13 04 50.8 -1.2**
YSS Yuzh-Sakhalins 75.99 334 *e*P **P** **13 05 03.6 +0.3**
comp=Z,21nm,0.7s,mb4.7
YSS Yuzh-Sakhalins 75.99 334⇓*i*P **P** **13 05 04.8 +1.5**
YSS *e* 13 05 07.0
SSE Sheshan 77.32 311 P **P** **13 05 09.6 -0.9**
SSE AMB AMB
comp=Z,32nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,99nm,6.8s
VLA Vladivostok 78.21 326 *i*P **P** **13 05 14.4 -0.9**
VLA pmax pmax
comp=Z,48nm,1.5s,mb4.7
GZH Guangzhou 79.16 300 P **P** **13 05 20.7 +0.4**
NJ2 Nanjing 79.51 310 *e*P **P** **13 05 22.8 +0.7**
NJ2 AMB AMB
comp=Z,70nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,180nm,8.4s
MDJ Mudanjiang 80.44 326 P **P** **13 05 27.3 +0.3**
MDJ AMB AMB
comp=Z,30nm,0.9s,mb4.6
MDJ AMB AMB
comp=Z,24nm,3.2s
HABR Khabarovsk 80.48 331⇓*e*P **P** **13 05 27.8 +0.6**
HABR *e*S S 13 14 46.5 +2.7
HABR pmax pmax
comp=Z,85nm,1.5s,mb4.8
MTUM Tungsten Hills 81.33 45 *e*P **P** **13 05 32.9 +1.4**
KDAK Kodiak Island 81.61 14 P **P** **13 05 32.4 -0.6**
comp=Z,9.7nm,0.7s,mb4.5,baz=168,slow=5.0,SNR=5.2
HUMO Hull Mountain 81.75 38 *e*P **P** **13 05 34.7 +1.0**
comp=Z,29nm,1.2s,mb4.7
NVAR Mina Array Bea 82.11 44 P **P** **13 05 36.1 +0.5**
comp=Z,4.4nm,0.5s,mb4.2,baz=227,slow=8.6,SNR=35
CN2 Changchun 82.17 323 *e*P **P** **13 05 35.6 -0.2**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb4.7
LDFC Landfair 82.41 48 *e*P **P** **13 05 37.9 +0.9**
KLR Kul'dur 82.54 330 *e*P **P** **13 05 35.0 -2.7**
KLR pmax pmax
comp=E,20nm,0.9s
KLR pmax pmax
comp=Z,36nm,0.9s,mb4.9
TPH Tonopah 82.62 45 *e*P **P** **13 05 39.1 +1.0**
comp=Z,8.9nm,1.1s,mb4.2
TPH Tonopah 82.62 45 *e*P **P** **13 05 39.1 +1.0**
TPH pmax pmax
comp=Z,9.0nm,1.1s,mb4.2
MOD Modoc 82.89 40 *e*P **P** **13 05 40.0 +0.6**
comp=Z,16nm,1.1s,mb4.5
KULM Kulim 82.89 278 *e*P **P** **13 05 40.3 +0.9**
SSOR Sweet Springs 83.43 37 P **P** **13 05 42.8 +0.7**
MA2 Magadan 84.09 345 *e*P **P** **13 05 43.6 -1.7**
comp=Z,11nm,0.8s,mb4.4
MA2 Magadan 84.09 345*d i*P **P** **13 05 43.9 -1.4**
MA2 pmax pmax
comp=Z,17nm,0.7s,mb4.7
SLKM Skilak Lake 84.60 14 *e*P **P** **13 05 47.0 -0.9**
BBB Bella Bella 85.38 29 P **P** **13 05 51.6 +0.1**
comp=Z,10nm,0.8s,mb4.5,baz=298,slow=18,SNR=6.1
ENH Enshi 85.57 305 *e*P **P** **13 05 53.0 +0.6**
comp=Z,54nm,0.8s,mb5.2
BJI Beijing 85.63 316 P **P** **13 05 52.9 +0.2**
BJI AMB AMB
comp=Z,24nm,0.8s,mb4.9
BJI AMB AMB
comp=Z,85nm,3.1s
PMR Palmer 85.81 14 *e*P **P** **13 05 52.1 -1.5**
comp=Z,9.1nm,0.5s,mb4.7
PMR Palmer 85.81 14 *e*P **P** **13 05 52.2 -1.4**
PMR pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
TBM Table Mountain 85.87 36 P **P** **13 05 54.6 +0.7**
GYA Guiyang 86.10 300 P **P** **13 05 56.0 +1.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
SML Sawmill 86.18 14 *e*P **P** **13 05 53.9 -1.4**
ETW Entiat 86.28 35 P **P** **13 05 56.2 +0.4**
WTV Waterville 86.54 35 P **P** **13 05 57.2 +0.2**
SEY Seymchan 86.72 347 *e*P **P** **13 05 57.2 -0.7**
SEY *e* 13 21 44.9
SEY pmax pmax
comp=E,10.0nm,0.0s
TNA Tin City 86.79 5 *e*P **P** **13 05 56.8 -1.4**
comp=E,4.1nm,0.6s,mb4.3
OD2 Odessa Site #2 87.04 36 P **P** **13 05 59.7 +0.3**
HLID Hailey 87.40 41 *e*P **P** **13 06 01.6 +0.5**
comp=E,8.4nm,0.9s,mb4.5
SRU San Rafael 87.63 46 *e*P **P** **13 06 02.5 +0.4**
comp=E,12nm,0.8s,mb4.7
SRU San Rafael 87.63 46 *e*P **P** **13 06 02.5 +0.4**
SRU pmax pmax
comp=Z,12nm,0.8s,mb4.7
MCK McKinley 87.75 13 *e*P **P** **13 06 01.1 -1.6**
comp=Z,14nm,0.8s,mb4.7
MCK McKinley 87.75 13 *e*P **P** **13 06 01.1 -1.6**
MCK pmax pmax
comp=Z,14nm,0.8s,mb4.7
HWUT Hardware Ranch 88.18 44 *e*P **P** **13 06 04.4 -0.3**
comp=Z,4.5nm,0.8s,mb4.2
ANMO Albuquerque 88.53 52 P **P** **13 06 06.7 +0.4**
comp=Z,3.6nm,1.0s,mb4.2,baz=212,slow=4.5,SNR=9.9
ANMO Albuquerque 88.53 52 *i*P **P** **13 06 06.9 +0.6**
HIA Hailar 88.61 325 *e*P **P** **13 06 06.5 -0.2**
comp=Z,11nm,0.8s,mb4.7
HIA Hailar 88.61 325 *e*P **P** **13 06 06.6 -0.1**
HIA pmax pmax
comp=Z,11nm,0.8s
KMI Kunming 88.75 297 P **P** **13 06 09.2 +1.8**
KMI AMB AMB
comp=Z,31nm,0.8s,mb5.2
COLA College 88.99 13*d i*P **P** **13 06 06.4 -2.1**
MCMT McKenzie Canyo 89.03 41 *e*P **P** **13 06 09.7 +1.0**
HHC Hu-ho-hao-te 89.07 315 *e*P **P** **13 06 09.4 +0.6**
HHC AMB AMB
comp=Z,18nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,84nm,4.2s
ILAR Eielson Array 89.10 13 P **P** **13 06 07.1 -1.9**
comp=Z,9.5nm,0.6s,mb4.8,baz=217,slow=5.1,SNR=264
ILAR PKiKP PKiKP 13 11 00.7 -2.4
comp=Z,0.3nm,0.5s,baz=268,slow=2.9,SNR=6.2
DLMT Dillon 89.46 40 *e*P **P** **13 06 11.2 +0.6**
comp=Z,9.1nm,1.2s,mb4.5
BILL Bilibino 89.52 355 *e*P **P** **13 06 09.8 -1.2**
comp=Z,15nm,0.8s,mb4.9
BILL Bilibino 89.52 355*d i*P **P** **13 06 09.8 -1.1**
BILL pmax pmax
comp=Z,12nm,0.6s,mb4.9
PLCA Paso Flores 89.57 134 P **P** **13 06 11.2 +0.1**
comp=Z,3.5nm,0.7s,mb4.3,baz=230,slow=5.1,SNR=11
SNOW Snow King Moun 89.63 43 *e*P **P** **13 06 12.4 +1.0**
comp=Z,11nm,0.8s,mb4.7
QLMT Earthquake Lak 89.89 41 *e*P **P** **13 06 14.0 +1.3**
PDAR Pinedale Array 90.05 44 P **P** **13 06 13.2 -0.1**
comp=Z,4.3nm,0.7s,mb4.4,baz=201,slow=2.7,SNR=42
DAWY Dawson 90.29 16 *e*P **P** **13 06 13.5 -0.9**
YAK Yakutsk 92.29 338⇑*e*P **P** **13 06 22.3 -1.4**
YAK pmax pmax
comp=Z,26nm,0.5s,mb5.5
LZH Lanzhou 92.36 308 *e*P **P** **13 06 24.5 +0.5**
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.2
INK Inuvik 95.09 15 P **P** **13 06 34.6 -1.8**
comp=Z,3.1nm,0.7s,mb4.6,baz=203,slow=4.8,SNR=27
INK PKiKP PKiKP 13 11 10.7 -2.7
comp=Z,2.1nm,1.3s,baz=166,slow=4.7,SNR=4.7
ULN Ulaanbaatar 95.17 319⇑*e*P **P** **13 06 36.3 -0.5**
SONM Songino Array 95.56 319 P **P** **13 06 37.8 -0.7**
comp=Z,0.9nm,0.4s,mb4.4,baz=122,slow=3.7,SNR=16
SONM PP PP 13 10 38.8 -1.7
comp=Z,0.4nm,0.7s,baz=127,slow=6.1,SNR=4.5
YKA Yellowknife Ar 97.45 25 P Pdif 13 06 45.6 -1.3
comp=Z,1.2nm,0.7s,baz=245,slow=4.5,SNR=29
YKA PP PP 13 10 50.3 -4.5
comp=Z,0.3nm,0.9s,baz=238,slow=7.6,SNR=3.8
YKA PKiKP PKiKP 13 11 15.5 -2.0
comp=Z,0.2nm,0.5s,baz=225,slow=0.9,SNR=4.6
YKA Yellowknife Ar 97.45 25 P Pdif 13 06 45.7 -1.3
YKA 13 10 50.4
TIXI Tiksi 99.06 345⇑*e*P Pdif 13 06 52.1 -2.1
ZAL Zalesovo 110.35 321 PKiKP PKiKP 13 11 38.6 -2.6
comp=Z,1.7nm,0.6s,baz=325,slow=3.4,SNR=7.5
MKAR Makanchi Array 110.89 313 PKiKP PKiKP 13 11 40.2 -2.0
comp=Z,1.3nm,0.4s,baz=189,slow=0.6,SNR=24
MKAR PP PP 13 12 32.0 -0.7
comp=Z,0.9nm,0.8s,baz=91,slow=8.5,SNR=3.7
NVS Novosibirsk 111.37 322 *e*PKiKP PKiKP 13 11 40.7 -2.4
KURK Kurchatov 113.76 317*d i*PKiKP PKiKP 13 11 45.4 -2.3
AAK Ala-Archa 115.89 308 *e*PKPdf PKPdf 13 11 49.6 -2.2
AAK Ala-Archa 115.89 308 *i*PKIKP PKPdf 13 11 49.6 -2.2
FRB Frobisher Bay 117.76 28 PKP PKPdf 13 11 52.5 -2.9
baz=18,slow=13
VOSK Vostochnaya 118.55 319 PKIKP PKPdf 13 11 54.6 -2.3
VOSK pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 118.85 308 *i*PKIKP PKPdf 13 11 55.7 -1.8
KKAR pmax pmax
comp=Z,2.0nm,0.5s
BVA0 Borovoye Array 118.90 320 *i*PKIKP PKPdf 13 11 55.6 -2.0
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 118.96 320 *e*PKPdf PKPdf 13 11 55.5 -2.2
ZRNK Zerenda 119.74 320 *e*PKPdf PKPdf 13 11 57.0 -2.2
OPO Ambohidratompo 119.97 232 PKP PKPdf 13 11 59.6 -0.1
comp=Z,2.0nm,0.6s,baz=285,slow=6.0,SNR=7.3
DAG Danmarks Havn 123.41 5⇑*i*P PKPdf 13 12 03.0 -3.2
comp=Z,3.5nm,0.5s
DAG Danmarks Havn 123.41 5⇑*e*PKIKP PKPdf 13 12 03.0 -3.2
SUR Sutherland 123.55 200 PKP PKPdf 13 12 06.0 -0.5
comp=Z,13nm,1.0s,baz=193,slow=6.3,SNR=8.0
SUMG Summit 123.94 13 *e*PKPdf PKPdf 13 12 05.7 -1.6
ARU Arti 125.12 325 *e*PKPdf PKPdf 13 12 08.2 -1.3
ARU Arti 125.12 325 *i*PKIKP PKPdf 13 12 08.3 -1.2
ARU *e* 13 14 07.2
BOSA Boshof 125.31 206 PKP PKPdf 13 12 10.1 +0.2
comp=Z,3.4nm,0.7s,baz=204,slow=18,SNR=3.3
AB31 Akbulak array 125.84 316 *i*PKIKP PKPdf 13 12 09.6 -1.3
AB31 pmax pmax
comp=Z,2.0nm,0.6s
SCO Scoresbysund 128.75 10 *i*P PKPdf 13 12 15.0 -1.4
comp=Z,7.8nm,0.7s
SCO Scoresbysund 128.75 10 *i*PKIKP PKPdf 13 12 15.0 -1.4
SCO pmax pmax
comp=Z,8.0nm,0.7s
KEV Kevo 128.85 349 *e*p PKPdf 13 12 14.0 -2.6
ARCES ARCESS Array B 129.31 349 PKhKP 13 12 04.7
comp=Z,2.6nm,0.9s,baz=191,slow=0.9,SNR=8.3
ARCES PKP PKPdf 13 12 15.6 -1.9
comp=Z,15nm,0.6s,baz=31,slow=1.1,SNR=54
KLMR Klimovskoe 132.02 336 *i*PKIKP PKPdf 13 12 20.6 -2.0
KLMR *e* 13 14 48.9
KLMR pmax pmax
comp=Z,20nm,1.4s
JOF Joensuu 133.38 341 *e*p 13 12 10.1
LSZ Lusaka 135.05 219 PKP PKPdf 13 12 29.1 +0.8
comp=Z,6.1nm,0.6s,baz=47,slow=1.8,SNR=6.0
KAF Kangasniemi 135.44 343 *e*p 13 12 17.5
comp=Z,7.3nm,0.5s
KAF Kangasniemi 135.44 343 *e*PKHKP 13 12 17.5
KAF pmax pmax
comp=Z,7.0nm,0.5s
FINES FINESS Array B 136.05 343 PKhKP 13 12 15.8
comp=Z,0.9nm,0.3s,baz=57,slow=8.8,SNR=8.0
FINES PKP PKPdf 13 12 27.4 -2.8
comp=Z,5.2nm,0.6s,baz=36,slow=0.5,SNR=13
FINES SKPbc SKPbc 13 15 02.7 -2.1
comp=Z,3.5nm,0.8s,baz=90,slow=2.3,SNR=8.4
FINES FINESS Array B 136.05 343 PKHKP 13 12 15.8
FINES 13 12 27.4
OBN Obninsk 136.80 331 *i*PKIKP PKPdf 13 12 29.5 -2.0
OBN pmax pmax
comp=Z,13nm,0.9s
KMBO Kilima Mbogo 138.21 243 PKhKP 13 12 27.1
comp=Z,0.8nm,0.6s,baz=246,slow=24,SNR=5.8
KMBO PKP PKPdf 13 12 36.0 +1.8
comp=Z,1.8nm,0.8s,baz=282,slow=3.5,SNR=4.2
KMBO SKPbc SKPbc 13 15 10.8 -0.1
comp=Z,1.6nm,0.6s,baz=21,slow=6.5,SNR=5.1
KMBO Kilima Mbogo 138.21 243 PKP 13 12 27.1
KMBO PKP PKPdf 13 12 36.0 +1.8
KMBO SKPbc SKPbc 13 15 10.8 -0.1
KMBO Kilima Mbogo 138.21 243 PKHKP 13 12 27.1
KMBO 13 12 36.0
GNI Garni 138.29 307 *i*PKIKP PKPdf 13 12 37.3 +3.0
KIV Kislovodsk 138.66 313 *i*PKIKP PKPdf 13 12 34.0 -0.9
NB2 NORSAR Subarra 139.44 352 PKPa 13 12 27.1
comp=Z,4.3nm,0.5s,baz=12,slow=3.3
NOA NORSAR Array B 139.44 352 PKhKP 13 12 27.4
comp=Z,3.6nm,0.5s,baz=10,slow=2.3,SNR=23
NOA PKP PKPdf 13 12 37.1 +0.8
comp=Z,4.6nm,0.6s,baz=14,slow=4.0,SNR=9.7
NOA SKPbc SKPbc 13 15 11.8 -2.4
comp=Z,2.9nm,0.9s,baz=15,slow=4.3,SNR=3.8
NOA NORSAR Array B 139.44 352 PKHKP 13 12 27.4
NOA 13 12 37.1
ANN Anapa 141.79 317 *i*PKHKP 13 12 30.1
ANN *e* 13 18 47.5
ANN pmax pmax
comp=Z,100nm,1.1s
SUW Suwalki 143.03 338 *e*PKPd PKPdf 13 12 39.8 -3.0
SUW *e* 13 12 41.8
AKASG Malin Array Be 143.04 330 PKhKP 13 12 39.4
comp=Z,58nm,0.4s,baz=43,slow=4.2,SNR=337
AKASG SKPbc SKPbc 13 15 21.1 -2.2
comp=Z,3.0nm,0.8s,baz=45,slow=3.3,SNR=5.4
MALT Malatya 143.50 306 *e*PKPdf PKPdf 13 12 42.8 -0.8
MALT Malatya 143.50 306 ⇑PKIKP PKPdf 13 12 43.5 -0.1
GKP Gorka Klasztor 145.53 343 *e*PKP PKPdf 13 12 48.0 +0.9
GKP *e* 13 12 50.0
BSEG Bad Segeberg 146.44 350 *e*PKPbc PKPbc 13 12 50.5 -0.7
BSEG *e*PP PP 13 16 28.1 +7.3
BRTR Keskin Array B 146.50 311 PKPbc PKPbc 13 12 50.6 -0.7
comp=Z,20nm,0.7s,baz=133,slow=4.3,SNR=52
DMUB Kingscourt 146.69 8⇓*i*P PKPdf 13 12 50.7 +1.7
KWP Kalwaria 146.69 334 *e*PKPd PKPdf 13 12 51.3 +2.3
KWP *e* 13 12 55.1
BHL Bhannes 146.84 300 *e*P PKPbc 13 12 52.4 +0.1
ANTO Ankara 147.03 312 *e*PKPbc PKPbc 13 12 52.1 -0.6
BURAR Bucovina Array 147.08 329 ⇓P PKPbc 13 12 52.9 0.0
RUE Ruedersdorf 147.13 346 *e*PKPbc PKPbc 13 12 52.3 -0.7
RUE Ruedersdorf 147.13 346 *e*PKPdf PKPdf 13 12 52.4 +2.6
DCN Croghan 147.18 9 *e*P PKPdf 13 12 50.8 +1.0
DCN Croghan 147.18 9⇓*i*P PKPdf 13 12 51.9 +2.1
DCN Croghan 147.18 9⇓*i*P PKPdf 13 12 51.9 +2.1
CFR Carcaliu 147.19 323 ⇑P PKPdf 13 12 52.6 +2.8
DLF Lyons Farm 147.33 8 *e*P PKPdf 13 12 51.6 +1.5
DLF Lyons Farm 147.33 8⇓*i*P PKPdf 13 12 52.7 +2.6
DLF Lyons Farm 147.33 8⇓*i*P PKPdf 13 12 52.7 +2.6
OJC Ojcow 147.34 337 *e*PKP PKPdf 13 12 52.4 +2.3
KOLS Kolonicke sedl 147.41 334 *i*PKP PKPbc 13 12 53.5 -0.3
KOLS *e* 13 12 57.3
KOLS Kolonicke sedl 147.41 334 *i*PKP PKPbc 13 12 53.5 -0.3
KOLS *e* 13 12 57.3
STHS Stebnicka Huta 147.45 335 *i*PKP PKPbc 13 12 53.8 0.0
STHS *e* 13 12 56.9
STHS Stebnicka Huta 147.45 335 *i*PKP PKPbc 13 12 53.8 0.0
STHS *e* 13 12 56.9
TIRR Tirgusor 147.47 322 ⇑P PKPbc 13 12 53.4 -0.5
VRI Vrincioaia 147.51 326 ⇑P PKPbc 13 12 53.4 -0.6
HARR Harsova 147.60 323 ⇓P PKPbc 13 12 54.0 -0.2
CRVS Cervenica-Dubn 147.77 334 *e*PKP PKPbc 13 12 54.2 -0.5
NIE Niedzica 147.81 336 *e*PKP PKPbc 13 12 54.6 -0.1
KSP Ksiaz 147.95 342 *e*PKPd PKPbc 13 12 54.8 -0.3
KSP *e* 13 13 00.4
KSP Ksiaz 147.95 342⇓*i*PKPdf PKPbc 13 12 54.7 -0.4
KSP *e*PKPab PKPab 13 12 59.7 -0.5
WIT Witteveen 148.02 353 *e*PKP PKPbc 13 12 55.3 0.0
MLR Muntele Rosu 148.17 326 ⇓P PKPbc 13 12 55.0 -0.7
EIL Elat 148.22 293 *e*PKPbc PKPbc 13 12 55.6 -0.1
OKC Ostrava-Krasne 148.24 339⇑*e*PKPB PKPbc 13 12 53.5 -2.3
OKC *e*PKPAB PKPab 13 12 59.6 -1.8
OKC Ostrava-Krasne 148.24 339 *e*PKHKP 13 12 52.5
OKC *e* 13 12 58.6
DPC Dobruska-Polom 148.38 341⇑*e*PKPB PKPbc 13 12 55.8 -0.4
DPC *e*PKPAB PKPab 13 13 02.0 0.0
IBBN Ibbenburen 148.39 352 *e*PKPdf PKPdf 13 12 50.8 -1.0
IBBN *e*PKPbc PKPbc 13 12 55.5 -0.7
CLL Collm 148.40 346 *e*PKPdf PKPdf 13 12 51.1 -0.7
CLL *e*PKPbc PKPbc 13 12 55.5 -0.7
CLL Collm 148.40 346⇓*i*PKPbc PKPbc 13 12 55.4 -0.8
comp=Z,87nm,1.1s
CLL *i* (PKiKP) 13 12 57.9
CLL *i* PKPab PKPab 13 13 01.0 -1.0
comp=Z,26nm,0.8s
CLL *e*pPKPbc pPKPbc 13 15 22.0 +4.8
CLL Collm 148.40 346⇓*i*PKP PKPdf 13 12 55.4 +3.6
CLL *i* 13 12 57.9
CLL *i* 13 13 01.0
CLL Collm 148.40 346⇓*i*PKHKP 13 12 55.4
CLL *i* 13 13 01.0
CLL pmax pmax
comp=Z,87nm,1.1s
CSS Prodhromos 148.41 303 *e*PKPbc PKPbc 13 12 55.5 -0.8
CLZ Clausthal 148.44 349 *e*PKPdf PKPdf 13 12 51.2 -0.7
CLZ *e*PKPbc PKPbc 13 12 55.9 -0.4
CLZ *e*PP PP 13 16 33.9 +1.6
MORC Moravsky Berou 148.49 339 *e*PKPbc PKPbc 13 12 55.6 -0.8
MORC Moravsky Berou 148.49 339 ⇓PKHKP 13 12 56.1
KECS Kecovo 148.50 335 *i*PKP PKPbc 13 12 56.0 -0.5
KECS *e* 13 13 02.0
BRG Berggiesshubel 148.57 344 *e*PKPdf PKPdf 13 12 51.7 -0.4
BRG *e*PKPbc PKPbc 13 12 56.0 -0.6
BRG *e*PKPab PKPab 13 13 02.3 -0.4
BRG Berggiesshubel 148.57 344⇓*i*PKHKP 13 12 55.8
BRG *i* 13 13 02.3
BRG pmax pmax
comp=Z,22nm,0.7s
BRG pmax pmax
comp=Z,19nm,1.2s
BRG Berggiesshubel 148.57 344⇓*i*PKP PKPbc 13 12 55.8 -0.8
comp=Z,22nm,0.7s
BRG *i* 13 13 02.3
comp=Z,19nm,1.2s
VOIR 148.68 326 ⇑P PKPbc 13 12 56.3 -0.6
PVCC Panska Ves 148.72 343⇑*e*PKPB PKPbc 13 12 56.7 -0.3
WTSB Winterswijk 148.84 353 *e*PKP PKPbc 13 12 56.1 -1.2
comp=Z,89nm,0.8s
WTSB *ex* x 13 13 02.8
comp=Z,18nm,7.2s
VYHS Vyhne 149.12 337 *i*PKP PKPbc 13 12 57.6 -0.4
VYHS *e* 13 13 05.3
PSZ Piszkesteto 149.19 335 *e*PKP/F PKPbc 13 12 57.1 -1.0
PSZ Piszkesteto 149.19 335 *e*PKHKP 13 12 57.0
VRAC Vranov 149.21 340 ⇑PKHKP 13 12 57.8
PRU Pruhonice 149.22 343⇑*e*PKPB PKPbc 13 12 57.6 -0.6
PRU *e*PKPAB PKPab 13 13 05.2 -0.2
BUG Bochum--Univer 149.31 352 *e*PKPbc PKPbc 13 12 57.5 -0.9
MOX Moxa 149.33 347 *e*PKPdf PKPdf 13 12 52.4 -0.9
MOX *e*PKPbc PKPbc 13 12 57.8 -0.7
MOX *e*PKPab PKPab 13 13 05.2 -0.7
MOX Moxa 149.33 347 *e*P PKPdf 13 12 52.3 -1.0
MOX *e* 13 12 57.6
comp=Z,51nm,1.3s
MOX *e* 13 13 05.0
MOX
comp=Z,200nm,20.0s
WERD Werda 149.36 346 *e*PKPbc PKPbc 13 12 58.1 -0.4
WERD *e*PKPab PKPab 13 13 05.6 -0.4
UBBA Unterbreizbach 149.49 349 *e*PKPbc PKPbc 13 12 57.9 -0.9
NKC Novy Kostel 149.53 345⇑*e*PKPB PKPbc 13 12 58.2 -0.7
TREC Trest 149.56 341⇑*e*PKPB PKPbc 13 12 58.4 -0.6
TREC *e*PKPAB PKPab 13 13 06.4 -0.5
SMOL Smolenice 149.61 338 *e*PKP PKPbc 13 12 58.7 -0.4
SMOL *e* 13 13 07.5
MANZ Manzenberg 149.84 346 *e*PKPbc PKPbc 13 12 59.4 -0.3
MANZ *e*PKPab PKPab 13 13 08.2 +0.2
SRO2 Moca 149.90 336 *e*PKP PKPbc 13 12 59.2 -0.6
SRO1 Iza 149.96 336 *e* PKPbc 13 12 57.7 -2.2
ZST Bratislava 150.00 338 *e*PKP PKPbc 13 12 59.9 -0.1
ZST *e* 13 13 08.9
ZST Bratislava 150.00 338 *e*PKHKP 13 12 59.9
ZST *e* 13 13 08.9
ROTZ Rotzenmuhle 150.02 345 *e*PKPbc PKPbc 13 12 59.7 -0.4
ROTZ *e*PKPab PKPab 13 13 08.4 -0.4
ROTZ *e*PP PP 13 16 40.5 -0.8
HGN Heimansgroeve 150.12 354 *e*PKP PKPbc 13 12 59.4 -0.9
comp=Z,46nm,0.9s
HGN *ex* x 13 13 08.3
BZS Buzias 150.24 330 ⇓PKIKP PKPbc 13 13 00.1 -0.5
KHC Kasperske Hory 150.26 343 *e*PKPDF PKPdf 13 12 54.0 -0.7
KHC ⇑*e*PKPB PKPbc 13 13 00.2 -0.5
KHC *e*PKPAB PKPab 13 13 09.5 -0.3
GRF Grafenberg Arr 150.31 346 *e*PKPdf PKPdf 13 12 54.0 -0.8
GRF *e*PKPbc PKPbc 13 12 59.8 -1.0
GRF *e*PKPab PKPab 13 13 09.8 -0.2
GRF *e*PP PP 13 16 41.8 -1.2
GRF *e*L 13 50 15.0
comp=Z,253nm,18.0s
TNS Taunus Mts 150.33 350 *e*PKPbc PKPbc 13 13 00.2 -0.6
TNS *e*PKPab PKPab 13 13 09.3 -0.8
TNS *e*PP PP 13 16 46.3 +3.2
WET Wettzell 150.43 344 *e*PKPbc PKPbc 13 12 59.6 -1.4
WET *e*PKPab PKPab 13 13 10.4 -0.1
GEC2 GERESS Array S 150.49 343 *e*PKPbc PKPbc 13 13 00.5 -0.7
GEC2 *e*PKPab PKPab 13 13 10.7 0.0
GEC2 *e*PP PP 13 16 43.5 -0.5
GERES GERESS Array B 150.49 343 PKP PKPdf 13 12 53.8 -1.3
comp=Z,1.0nm,0.7s,baz=122,slow=1.7,SNR=6.4
GERES PKPbc PKPbc 13 13 00.5 -0.7
comp=Z,20nm,0.7s,baz=31,slow=2.2,SNR=86
DJES Djerdap 150.52 328 *e*PKP PKPbc 13 12 59.1 -2.1
GIVF Givet 150.88 355 *e*PKP1 PKPbc 13 13 01.2 -0.9
comp=Z,98nm,0.7s
PKSM Moragy 151.07 334 PKIKP PKPbc 13 13 01.6 -0.9
WLF Walferdange 151.19 353 *e*PKPdf PKPdf 13 12 56.4 +0.3
WLF *e*PKPbc PKPbc 13 13 02.4 -0.4
WLF *e*PKPab PKPab 13 13 13.6 -0.1
WLF Walferdange 151.19 353 *e*PKIKP PKPbc 13 13 02.0 -0.8
MOA Molln 151.22 341⇑*i*PKPbc PKPbc 13 13 01.6 -1.2
comp=Z,14nm,0.6s
ARSA Arzberg 151.35 339⇑*i*PKPbc PKPbc 13 13 02.3 -0.8
comp=Z,8.6nm,0.9s
VTS Vitosha 151.58 324 *e*P PKPbc 13 13 03.0 -0.6
VTS Vitosha 151.58 324 ⇓PKIKP PKPbc 13 13 03.4 -0.2
STU Stuttgart 151.60 349 *e*PKPbc PKPbc 13 13 02.9 -0.8
STU *e*PKPab PKPab 13 13 15.1 -0.3
FUR Furstenfeldbru 151.74 345 *e*PKPbc PKPbc 13 13 03.2 -0.8
FUR *e*PKPab PKPab 13 13 16.0 0.0
FUR *e*PP PP 13 16 49.1 -1.9
MMB Musomiste 151.94 322 *e*P PKPbc 13 13 03.0 -1.4
PERS Pernice 152.02 339 *e*PKPbc PKPbc 13 13 03.2 -1.5
PERS *i* PKPab PKPab 13 13 16.8 -0.5
KKB Krupnik 152.13 323 *e*P PKPbc 13 13 03.0 -1.8
BFO Black Forest 152.18 349 *e*PKPdf PKPdf 13 12 57.2 -0.4
BFO *e*PKPbc PKPbc 13 13 04.1 -0.9
BFO *e*PKPab PKPab 13 13 17.0 -0.9
BFO Black Forest 152.18 349 *e*PKIKP PKPbc 13 13 03.8 -1.2
KBA Koelnbreinsper 152.19 342⇑*i*PKPbc PKPbc 13 13 03.8 -1.2
comp=Z,15nm,0.7s
CDF Champ du Feu 152.27 351 *e*PKP1 PKPbc 13 13 04.2 -1.0
comp=Z,42nm,0.8s
OBKA Obir 152.32 340⇓*i*PKPbc PKPbc 13 13 03.1 -2.2
comp=Z,13nm,0.9s
FLN La Foliniere 152.36 2 *e*PKP1 PKPbc 13 13 04.0 -1.4
comp=Z,33nm,0.6s
WATA Walderalm 152.44 344⇑*i*PKPbc PKPbc 13 13 04.7 -0.9
comp=Z,13nm,1.0s
MEZF Maizieres J'vi 152.45 354 *e*PKP1 PKPbc 13 13 04.8 -0.8
comp=Z,116nm,1.1s
WTTA Wattenberg 152.49 344⇓*i*PKPbc PKPbc 13 13 04.9 -0.7
comp=Z,22nm,0.6s
LDF La Druitiere 152.54 2 *e*PKP1 PKPbc 13 13 04.3 -1.5
comp=Z,18nm,0.6s
MOTA Moosalm 152.54 345⇑*i*PKPbc PKPbc 13 13 05.0 -0.8
comp=Z,18nm,1.0s
BBLS Bajina Basta - 152.59 330 *i* PKP PKPdf 13 12 58.0 -0.2
ROSF Rostrenen 152.60 6 *e*PKP1 PKPbc 13 13 04.3 -1.6
comp=Z,14nm,0.6s
SQTA Sankt Quirin 152.63 345⇑*i*PKPbc PKPbc 13 13 05.3 -0.6
comp=Z,13nm,0.9s
GRR Gorron 152.72 3 *e*PKP1 PKPbc 13 13 04.9 -1.2
comp=Z,44nm,0.7s
LJU Ljubljana 152.74 339 *e*PKPbc PKPbc 13 13 05.1 -1.1
LJU *e*PKPab PKPab 13 13 18.2 -2.1
SGMF Saint Gilles 152.75 5 *e*PKP1 PKPbc 13 13 04.6 -1.6
comp=Z,56nm,0.8s
VAY Valandovo 152.78 323 *i* PKP PKPdf 13 13 04.0 +5.6
VAY *i* PKP PKPbc 13 13 09.2 +2.9
VAY *i* 13 13 20.0
HAU Haudompre 152.79 352 *e*PKP1 PKPbc 13 13 05.1 -1.2
comp=Z,24nm,0.7s
DAVA Damuels 152.88 347⇑*i*PKiKP PKiKP 13 13 05.9 -0.6
comp=Z,20nm,1.1s

HINF	Hinteralfeld	152.91	351	*e*PKP1	PKPbc	13	13	05.2	-1.4
	comp=Z,18nm,0.8s								
BOJS	Bojanci	152.96	338	*e*PKPdf	PKPdf	13	12	55.4	-3.3
BOJS				*e*PKPbc	PKPbc	13	13	05.9	-0.8
BOJS				*i* PKPab	PKPab	13	13	20.7	-0.5
QUIF	Quistinic	153.03	6	*e*PKP1	PKPbc	13	13	05.3	-1.5
BIA	Bitola	153.68	324	*e*PKP	PKPbc	13	13	05.9	-2.3
LOR	Lormes	153.78	356	*e*PKP1	PKPbc	13	13	07.4	-1.0
	comp=Z,12nm,0.6s								
OHR	Ohrid	153.90	324	*e*PKP	PKPdf	13	13	05.8	+5.7
SSF	Saint Saulge	154.00	356	*e*PKP1	PKPbc	13	13	07.9	-1.0
	comp=Z,27nm,1.0s								
CABF	La Chapelle	154.20	352	*e*PKP1	PKPbc	13	13	08.8	-0.5
	comp=Z,45nm,1.0s								
MFF	Saint Martin d	154.53	2	*e*PKP1	PKPdf	13	13	08.7	+7.8
LPG	La Plagne	155.19	350	*e*PKP1	PKPdf	13	13	12.6	+11
	comp=Z,8.3nm,0.8s								
RJF	Les Rejaudoux	155.84	359	*e*PKP1	PKPdf	13	13	13.2	+11
MBDF	Montbardon	155.94	350	*e*PKP1	PKPdf	13	13	12.2	+9.4
	comp=Z,20nm,1.0s								
ESDC	Sonseca Array	161.00	12	PKPab	PKPab	13	13	55.6	-0.5
	comp=Z,3.9nm,0.8s,baz=348,slow=4.9,SNR=11								
DBIC	Dimbokro	164.60	158	PKP	PKPdf	13	13	11.7	-0.5
	comp=Z,3.8nm,0.7s,baz=78,slow=3.2,SNR=7.8								
DBIC				PKPab	PKPab	13	14	11.8	-0.2
	comp=Z,2.1nm,0.6s,baz=120,slow=9.0,SNR=3.5								
TORD	Torodi Ar. Bea	172.07	185	PKP	PKPdf	13	13	15.9	-1.1
	comp=Z,3.8nm,0.8s,baz=314,slow=0.7,SNR=20								
TORD				PKPab	PKPab	13	14	44.8	-0.3
	comp=Z,1.0nm,0.9s,baz=180,slow=4.6,SNR=3.8								

LDG ***03*** *13:09:26.6±0.2, 1906N×6428W, h10km, Mb5.2/23, Ms4.3/7, Error ellipse: s-maj=11.2km s-min=7.3km az=78.0*

TRN ***03*** *13:09:29.8, 19.19N×6396W, h21km, MD4.5*

TRN Felt (III) in British Virgin Islands. FMAG=4.5 (PR).

ISCJB ***03*** *13:09:30.9±0.8, 1921N±002×6394W±002, h22km±6km, mb4.8/56, MS4.5/28, Error ellipse: s-maj=4.1km s-min=2.9km az=26.9*

SZGRF ***03*** *13:09:30.0, 1778N×6343W, h33km, mb5.2, MS4.5, Leeward Islands*

HRVD ***03*** *13:09:31.2±0.3, 1915N×6391W, h16km±2km, MW5.1/64, Centroid moment Tensor Solution. LP body waves: s34,c51;Mantle waves: s64,c98; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr1.37±.15; Mθθ-1.39±.10; Mφφ0.02±.11; Mrθ-4.74±.89; Mθφ0.72±.08; Mφr2.61±.58; Best double couple: M0=5.62400×1016 NP1:φs104.00000°, δ8.00000°, λ75.00000°. NP2: φs299.00000°, δ82.00000°, λ92.00000°. Principal axes: T 5.4740, Plg53.0000°, Azm211.0000°; N 0.3020, Plg2.0000°, Azm118.0000°; P -5.7750, Plg37.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***03*** *13:09:31.6±0.8, 1892N×6382W, h33km, mb5.2/17, MS4.4/5 Error ellipse: s-maj=11.9km s-min=6.3km az=136.9*

RSPR ***03*** *13:09:31.2, 1906N×6368W, h39km±8km, MD4.5/18, MD4.5/18*

BJI ***03*** *13:09:31.1, 19.10N×6370W, h39km, mB5.0, Ms4.9, Msz4.4*

NEIC ***03*** *13:09:31.2, 1906N×6368W, h39km, mb5.0/30, MS4.5/5, ML4.5(RSPR), After RSPR.*

NEIC Felt in the British Virgin Islands.

IDC ***03*** *13:09:33.6±1.6, 1907N×6403W, h41km±16km, mb4.2/21, mb1 4.4/24, mb1mx4.4/26, mbtmp4.4/24, ML4.0/2, MS4.5/21, Ms1 4.5/21, ms1mx4.3/31, Error ellipse: s-maj=12.0km s-min=7.5km az=16.0*

ISC 03 13:09:32.0±0.9, 1917N±002×6398W±002, h17km±5km, **n231,σ1$07/249, mb4.8/56, MS4.5/28, 14C-9D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.55	218	⇑	*i*	*P*	Pg	13 09 43.3	+0.3
TBVI	Tortola	0.96	219	⇑	*i*	*P*	Pb	13 09 49.3	-1.0
STVI	Saint Thomas	1.24	229	*e*	S		Sb	13 10 10.7	+0.1
STVI	Saint Thomas	1.24	229	⇓	*e*	*P*	Pn	13 09 53.3	-1.3
STVI				*e*	S		Sb	13 10 10.7	+0.1
STMA	St. Maarten, A	1.39	144	*e*	*P*		Pn	13 09 55.7	-0.9
STMA				*e*	S		Sn	13 10 13.1	-1.5
CDVI	St. Croix	1.60	208	*e*	S		Sn	13 10 15.9	-3.8
CDVI	St. Croix	1.60	208	⇓	*e*	*P*	Pn	13 09 59.7	+0.3
CDVI				*e*	S		Sn	13 10 15.9	-3.8
MTP	Monte Pirata	1.84	235	*e*	S		Sn	13 10 25.9	+0.1
MTP	Monte Pirata	1.84	235	⇑	*e*	*P*	Pn	13 10 02.5	-0.4
MTP				*e*	S		Sn	13 10 25.9	+0.1
STAT	Sint Eustatius	1.92	150	*e*	*P*		Pn	13 10 04.2	+0.3
STAT				*e*	S		Sn	13 10 26.1	-1.5
CBYP	Canovanas	1.99	244	⇑	*e*	*P*	Pn	13 10 04.2	-0.7
HUMP	Col San Antoni	2.05	240	*e*	S		Sn	13 10 32.0	+1.1
HUMP	Col San Antoni	2.05	240	⇑	*e*	*P*	Pn	13 10 05.4	-0.3
HUMP				*e*	S		Sn	13 10 32.0	+1.1
SKDB	Saint Kitts 2	2.08	148	*e*	*P*		Pn	13 10 07.2	+1.1
BSK	Brimstone Hill	2.11	149	*e*	*P*		Pn	13 10 09.3	+2.8
CPD	Cerro la Pandu	2.15	239	*e*	S		Sn	13 10 33.3	-0.2
CPD	Cerro la Pandu	2.15	239	⇑	*e*	*P*	Pn	13 10 07.1	0.0
CPD				*e*	S		Sn	13 10 33.3	-0.2
SKI	Saint Kitts	2.17	147	*e*	*P*		Pn	13 10 09.0	+1.7
SKI				*e*	S		Sn	13 10 34.1	+0.2
SJG	San Juan	2.31	243	*e*	S		Sn	13 10 37.4	0.0
SJG	San Juan	2.31	243	⇓	*e*	*P*	Pn	13 10 09.0	-0.3
SJG	San Juan	2.31	243	⇑	*e*	*P*	Pn	13 10 08.9	-0.5
SJG				*e*	S		Sn	13 10 37.4	0.0
SJG	San Juan	2.31	243		P		Pn	13 10 09.0	-0.3
	119nm,0.3s,baz=73,slow=7.7,SNR=121								
SJG					S		Sn	13 10 34.4	-2.9
	246nm,0.3s,baz=43,slow=19,SNR=6.1								
SKTB	Turtle Beach	2.34	146	*e*	*P*		Pn	13 10 11.7	+2.0
SKTB				*e*	S		Sn	13 10 47.6	+10
NVRH	Round Hill, Ne	2.37	146	*e*	*P*		Pn	13 10 11.7	+1.6
CPB	Codrington	2.55	126	*e*	*P*		Pn	13 10 11.1	-1.4
CELP	Cerrillos	2.70	247	⇑	*i*	*P*	Pn	13 10 14.4	-0.2
ICM	Isla Caja Muer	2.73	243	*e*	S		Sn	13 10 48.7	+1.1
ICM	Isla Caja Muer	2.73	243	⇑	*e*	*P*	Pn	13 10 15.4	+0.4
ICM				*e*	S		Sn	13 10 48.7	+1.1
OBIP	Obispado Ponce	2.73	246	⇑	*e*	*P*	Pn	13 10 14.8	-0.3
AOPR	Arecibo Observ	2.75	253	*e*	S		Sn	13 10 51.0	+2.8
AOPR	Arecibo Observ	2.75	253	⇑	*e*	*P*	Pn	13 10 14.7	-0.7
AOPR				*e*	S		Sn	13 10 51.0	+2.8
LRS	Lares	2.85	253	⇑	*e*	*P*	Pn	13 10 16.0	-0.8
BPA	Boggy Peak	2.92	136	*e*	*P*		Pn	13 10 16.7	-0.9
BPA				*e*	S		Sn	13 10 53.5	+1.2
LSP	Las Mesas	3.11	252	⇓	*e*	*P*	Pn	13 10 20.6	+0.4
MGP	Maguayo	3.17	249	⇓	*i*	*P*	Pn	13 10 21.0	-0.1
CRPR	Cabo Rojo, PR	3.19	249	*e*	S		Sn	13 11 00.9	+1.9
CRPR	Cabo Rojo, PR	3.19	249	⇑	*e*	*P*	Pn	13 10 21.1	-0.3
CRPR				*e*	S		Sn	13 11 00.9	+1.9
SEG	Port Louis	3.62	139	⇓	*e*	*P*	Pn	13 10 26.4	-0.9
LZG	Guadaloupe-1	3.67	145	*e*	*P*		Pn	13 10 27.6	-0.4
SCG	Saint Claude	3.81	145	*e*	*P*		Pn	13 10 30.3	+0.4
SCG				*e*	S		Sn	13 11 16.8	+2.4
DOG	Dongo Capester	3.85	144	*e*	*P*		Pn	13 10 30.6	+0.2
PHG	Guadaloupe-2	3.85	144	*e*	*P*		Pn	13 10 30.8	+0.4
DEG	La Desirade	3.97	135	⇓	*e*	*P*	Pn	13 10 30.9	-1.3
DEG				*e*	S		Sn	13 11 16.5	-1.9
TBG	Guadaloupe-3	3.98	146	*e*	*P*		Pn	13 10 32.0	-0.2
BBL	Barber's Block	4.34	146	⇓	*e*	*P*	Pn	13 10 37.2	0.0
MDN	Morne-Daniel	4.56	147	*e*	*P*		Pn	13 10 41.0	+0.8
MDN				*e*	S		Sn	13 11 37.2	+4.5
DBCT	Belle View Cho	4.62	147	*e*	*P*		Pn	13 10 40.9	-0.1
DBCT				*e*	S		Sn	13 11 41.2	+6.9
DSHT	Scott's Head	4.65	147	*e*	*P*		Pn	13 10 43.0	+1.5
DSHT				*e*	S		Sb	13 11 45.1	-3.9
FDF	Fort de France	5.17	148	*e*	*P*		Pn	13 10 48.2	-0.5
CRM	Caravelle	5.28	146	*e*	*P*		Pn	13 10 50.2	+0.2
BIM	Bigot	5.40	149	*e*	*P*		Pn	13 10 51.5	-0.2
MVM	Montagne Vaucl	5.46	147	*e*	*P*		Pn	13 10 54.2	+1.7
SSV	Crater Summit	6.39	155	*e*	*P*		Pn	13 11 06.8	+1.4
MASC	Masc	9.71	278	*e*	PG		Pn	13 11 47.7	-3.3
	baz=130								
MASC				*e*	SG		Sn	13 13 30.4	-9.2
	comp=N,2.2nm,0.6s								
MASC				*e*					
	comp=E,1.6nm,0.2s								
MOAC	Moa	10.44	280	⇓	*i*	PG	Pn	13 11 57.1	-3.8
	baz=95								
MOAC				*i*	SG		Sn	13 13 44.2	-13
	comp=N,6.7nm,1.0s								
MOAC				*e*					
	comp=E,6.5nm,0.5s								
SDV	Santo Domingo	12.09	213		P		Pn	13 12 23.4	0.0
	comp=E,0.8nm,0.3s,baz=57,slow=8.9,SNR=23								
SDV					S		Sn	13 14 34.1	-3.7
	comp=E,1.4nm,0.3s,baz=351,slow=19,SNR=3.5								
SDV					LR		LR	13 17 23.3	
	comp=E,3μm,19.1s,baz=30,slow=39								
SDV	Santo Domingo	12.09	213	*e*	Pn		Pn	13 12 24.0	+0.5
	comp=E,80nm,0.8s								
SDV				*e*	Sn		Sn	13 14 32.4	-5.4
CCCC	Cccc	13.11	281	*e*	*P*		Pn	13 12 27.8	-10
BBSR	BB Station	13.16	357	*e*	Pn		Pn	13 12 33.2	-4.9
	comp=E,67nm,0.5s								
ROSC	El Rosal	17.45	217		P		Pn	13 13 34.2	-0.3
	comp=E,11nm,0.3s,baz=83,slow=10,SNR=20								
ROSC					S		Sn	13 16 47.9	-0.4
	comp=E,1.1nm,0.3s,baz=285,slow=20,SNR=3.6								
DWPF	Disney	18.29	302	*e*	*P*		Pn	13 13 48.9	+4.0
	comp=E,36nm,0.6s								
NHSC	New Hope	20.07	317	*e*	*P*		P	13 14 03.0	-1.5
	comp=E,64nm,0.6s								
NHSC				*e*				13 14 13.3	
COW	Cow Castle Cre	20.58	317	*e*	*P*		P	13 14 19.4	+9.4
COW				*e*				13 14 27.1	
COW				*e*				13 17 56.7	
JSC	Jenkinsville	21.51	318	*e*	*P*		P	13 14 23.9	+3.8
JSC				*e*				13 14 32.3	
JSC				*e*	S		S	13 18 12.4	-5.4
JTS	JuntasAbangare	22.10	249		P		P	13 14 25.2	-1.2
	comp=E,278nm,0.9s,mb5.7,SNR=7.3								
JTS	JuntasAbangare	22.10	249		P		P	13 14 24.4	-2.0
	comp=E,34nm,0.9s,mb4.8,baz=55,slow=6.7,SNR=15								
JTS					LR		LR	13 22 45.0	
	comp=E,587nm,18.4s,MS4.0,baz=66,slow=36								
CBN	Corbin	22.27	331	*e*	*P*		P	13 14 29.4	+1.3
	comp=E,54nm,1.3s,mb4.8								
CBN				*e*				13 14 41.9	
BLA	Blacksburg	23.03	325	*e*	*P*		P	13 14 37.7	+1.4
	comp=E,3.7nm,0.6s,mb4.0								
BLA				*e*				13 14 53.4	
BLA	Blacksburg	23.03	325	*e*	*P*		P	13 14 37.7	+1.5
BLA				*e*				13 14 53.4	
BLA					pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.0								
ELN	Prospectdale	23.22	324	*e*	*P*		P	13 14 39.9	+1.6
ELN				*e*				13 14 57.4	
ELN				*e*	S		S	13 18 48.2	-1.1
MVL	Millersville	23.34	335	*e*	*P*		P	13 14 39.2	-0.2
MVL				*e*				13 14 55.9	
MVL				*e*	S		S	13 18 59.1	+8.0
FWV	Forest Hill	23.51	325		P		P	13 14 41.0	-0.2
FWV				*e*				13 15 00.8	
FWV				*e*	S		S	13 18 42.5	-11
OTAV	Otavalo	23.57	219	⇑	*e*	*P*	P	13 14 40.5	-1.4
	comp=Z,140nm,1.4s,mb5.2								
CPCT	Cooper Cave	24.34	316	*e*	*P*		P	13 14 49.5	+0.7
CPCT				*e*				13 15 02.5	
CPCT				*e*	S		S	13 19 08.7	+1.3
TZTN	Tazewell	24.39	319		P		P	13 14 49.3	-0.1
TZTN				*e*				13 15 10.7	
MCWV	Mont Chateau	24.58	330	*e*	*P*		P	13 14 52.8	+1.7
MCWV				*e*				13 15 14.9	
ACCN	Adirondack Com	25.48	343		P		P	13 14 57.2	-2.0
ACCN				*e*				13 15 27.1	
MIV	Mineville/With	26.09	344	*e*	*P*		P	13 15 04.4	-0.4
MIV				*e*				13 15 34.9	
NCB	Newcomb	26.18	343		P		P	13 15 02.0	-3.6
	comp=Z,63nm,1.8s,mb4.8								
NCB				*e*				13 15 36.6	
LONY	Lake Ozonia	26.88	343		P		P	13 15 10.4	-1.5
LONY				*e*				13 15 47.6	
SADO	Sadowa	28.49	337		LR		LR	13 25 33.2	
	comp=Z,1μm,20.7s,MS4.5,baz=104,slow=34								
FVM	French Village	29.68	315	*e*	*P*		P	13 15 43.3	+6.3
	comp=Z,3.5nm,0.6s,mb4.3								
FVM				*e*				13 16 21.8	
FVM	French Village	29.68	315	*e*	*P*		P	13 15 43.3	+6.4
FVM					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.2								
LPAZ	La Paz	35.47	187		P		P	13 16 24.9	-2.6
	comp=Z,10nm,0.9s,mb4.8,baz=337,slow=2.2,SNR=14								
LPAZ					LR		LR	13 32 04.5	
	comp=Z,707nm,18.4s,MS4.5,baz=350,slow=38								
LPAZ	La Paz	35.47	187	*e*	*P*		P	13 16 24.5	-3.0
	comp=Z,14nm,0.8s,mb5.0								
LPAZ	La Paz	35.47	187	*e*	*P*		P	13 16 24.5	-3.0
LPAZ					pmax		pmax		
	comp=Z,15nm,0.8s								
BDFB	Brasilia	37.99	155		P		P	13 16 48.4	-0.6
	comp=Z,34nm,0.9s,mb5.1,baz=330,slow=9.5,SNR=42								
BDFB					LR		LR	13 33 35.0	
	comp=Z,571nm,21.0s,MS4.4,baz=173,slow=38								
ULM	Lac du Bonnet	40.05	328		P		P	13 17 04.3	-2.0
	comp=Z,2.7nm,0.5s,mb4.2,baz=127,slow=7.7,SNR=9.5								
ULM					LR		LR	13 33 24.2	
	comp=Z,441nm,19.5s,MS4.3,baz=323,slow=36								
SDCO	Great Sand Dun	40.54	306	*e*	*P*		P	13 17 10.7	+0.4
	comp=Z,14nm,1.0s,mb4.5								
BNM	Barren Site	40.63	300	*e*	*P*		P	13 17 12.0	+0.9
ANMO	Albuquerque	40.65	302		P		P	13 17 11.8	+0.7
	comp=Z,4.1nm,0.7s,mb4.2,baz=98,slow=7.7,SNR=17								
ANMO	Albuquerque	40.65	302	*e*	*P*		P	13 17 12.5	+1.4
	comp=Z,12nm,1.2s,mb4.4								
ANMO	Albuquerque	40.65	302	*i*	*P*		P	13 17 12.5	+1.3
PV01	Paradox Valley	42.99	306	*e*	*P*		P	13 17 32.5	+2.2
WUAZ	Wupatki	44.70	301	*e*	*P*		P	13 17 46.4	+2.3
	comp=Z,9.7nm,1.0s,mb4.6								
PDAR	Pinedale Array	44.93	312		P		P	13 17 45.9	-0.1
	comp=Z,1.7nm,0.6s,mb4.0,baz=116,slow=9.0,SNR=17								
PDAR					LR		LR	13 35 16.5	
	comp=Z,261nm,20.3s,MS4.2,baz=118,slow=34								
FCC	Fort Churchill	45.20	338	*e*	*P*		P	13 17 46.0	-2.0
	comp=Z,7.1nm,1.0s,mb4.5								
FCC	Fort Churchill	45.20	338	*e*	*P*		P	13 17 46.0	-2.0
FCC					pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5								
CPUP	Villa Florida	45.69	172		P		P	13 17 48.5	-3.4
	comp=Z,4.5nm,0.7s,mb4.5,baz=338,slow=12,SNR=15								
CPUP					LR		LR	13 37 07.6	
	comp=Z,398nm,20.8s,MS4.3,baz=334,slow=36								
CPUP	Villa Florida	45.69	172	*e*	*P*		P	13 17 47.8	-4.1
	comp=Z,24nm,0.8s,mb5.2								
CPUP	Villa Florida	45.69	172	*e*	*P*		P	13 17 47.8	-4.1
CPUP					pmax		pmax		
	comp=Z,24nm,0.8s								
GCMT	Greycliff	45.96	316	*e*	*P*		P	13 17 54.7	+0.6
REDW	Red Top Meadow	46.01	312	*e*	*P*		P	13 17 55.2	+0.8
	comp=Z,51nm,1.8s,mb5.2								
HWUT	Hardware Ranch	46.05	310	*e*	*P*		P	13 17 54.4	-0.4
	comp=Z,16nm,1.2s,mb4.8								
ARUT	Antelope Range	46.70	304	*e*	*P*		P	13 18 01.6	+1.8
QLMT	Earthquake Lak	46.83	314	*e*	*P*		P	13 18 02.0	+1.1
BGU	Big Grassy Mou	46.97	308	*e*	*P*		P	13 18 06.3	+4.3
LDFC	Landfair	47.68	300	*e*	*P*		P	13 18 10.7	+3.1
MCMT	McKenzie Canyo	47.80	314	*e*	*P*		P	13 18 09.4	+0.9
NVAR	Mina Array Bea	50.58	304		P		P	13 18 28.0	-1.7
	comp=Z,0.5nm,0.3s,mb3.9,baz=79,slow=3.8,SNR=4.5								
NVAR	Mina Array Bea	50.58	304		P		P	13 18 28.0	-1.7
FCH	Farellones	52.55	187	⇑	*e*	*P*	P	13 18 42.9	-1.6
ESDC	Sonseca Array	55.10	55		P		P	13 19 03.3	+0.2
	comp=Z,9.7nm,1.0s,mb4.8,baz=271,slow=7.0,SNR=19								
SUMG	Summit	55.38	9	*e*	*P*		P	13 19 04.7	-0.4
	comp=Z,17nm,1.2s,mb5.0								
SUMG				*e*				13 19 20.1	
YKA	Yellowknife Ar	55.43	334		P		P	13 19 03.1	-2.3
	comp=Z,1.7nm,0.7s,mb4.2,baz=108,slow=7.5,SNR=35								
YKA					LR		LR	13 41 35.7	
	comp=Z,717nm,20.9s,MS4.7,baz=110,slow=35								
YKA	Yellowknife Ar	55.43	334		P		P	13 19 03.1	-2.3
YKA					LR		LR	13 41 35.7	
YKA	Yellowknife Ar	55.43	334	*i*	*P*		P	13 19 03.4	-2.1
YKA					pmax		pmax		
	comp=Z,2.0nm,0.7s								
ROSF	Rostrenen	56.51	44	*e*	*P*		P	13 19 13.4	+0.1
QUIF	Quistinic	56.52	45	*e*	*P*		P	13 19 13.7	+0.4
	comp=Z,140nm,1.2s,mb5.5								
SGMF	Saint Gilles	56.98	44	*e*	*P*		P	13 19 16.8	+0.3
SJPF	Ste Jean	57.37	51	*e*	*P*		P	13 19 20.1	+0.8
	comp=Z,94nm,1.2s,mb5.4								
ETSF	Etsaut	57.85	51	*e*	*P*		P	13 19 23.5	+0.8
GRR	Gorron	58.12	44	*e*	*P*		P	13 19 24.6	0.0
	comp=Z,101nm,1.3s,mb5.4								
GRR	Gorron	58.12	44	*e*	*P*		P	13 19 24.6	0.0
	comp=Z,50nm,1.3s,mb5.4								
GRR	Gorron	58.12	44	*e*	*P*		P	13 19 24.6	0.0
GRR					pmax		pmax		
	comp=Z,50nm,1.3s,mb5.4								
FLN	La Foliniere	58.41	44	*e*	*P*		P	13 19 26.8	+0.2
FLN				*e*	R				
	comp=Z,346nm,18.0s								
FLN	La Foliniere	58.41	44	*e*	*P*		P	13 19 26.8	+0.2
FLN					MLR		MLR		
	comp=Z,350nm,18.0s,MS4.5								
MFF	Saint Martin d	58.41	47	*e*	*P*		P	13 19 27.0	+0.4
	comp=Z,67nm,1.2s,mb5.3								
EPF	Esparros	58.51	51	*e*	*P*		P	13 19 28.2	+0.9
	comp=Z,72nm,1.1s,mb5.3								
DBIC	Dimbokro	58.70	94		P		P	13 19 28.4	-0.3
	comp=Z,13nm,0.8s,mb5.0,baz=281,slow=8.0,SNR=19								
DBIC					LR		LR	13 43 19.5	
	comp=Z,310nm,18.1s,MS4.5,baz=263,slow=34								
DBIC	Dimbokro	58.70	94	*e*	*P*		P	13 19 28.7	+0.1
	comp=Z,17nm,0.9s,mb5.1								
DBIC	Dimbokro	58.70	94	*e*	*P*		P	13 19 28.7	+0.1
DBIC					pmax		pmax		
	comp=Z,17nm,0.9s								
LFF	La Frestale	58.90	49	*e*	*P*		P	13 19 30.4	+0.3
RJF	Les Rejaudoux	59.47	48	*e*	*P*		P	13 19 34.1	+0.1
RJF				*e*	R				
	comp=Z,336nm,18.5s								
RJF	Les Rejaudoux	59.47	48	*e*	*P*		P	13 19 34.1	+0.1
RJF					MLR		MLR		
	comp=Z,340nm,18.5s,MS4.5								
CAF	Calviac	59.84	49	*e*	*P*		P	13 19 36.7	+0.1
	comp=Z,52nm,1.0s,mb5.2								
CAF	Calviac	59.84	49	*e*	*P*		P	13 19 36.7	+0.1
	comp=Z,26nm,1.0s,mb5.2								
CAF	Calviac	59.84	49	*e*	*P*		P	13 19 36.7	+0.1
CAF					pmax		pmax		
	comp=Z,26nm,1.0s,mb5.2								
MTLF	Montolieu	59.90	50	*e*	*P*		P	13 19 37.2	+0.3
	comp=Z,32nm,1.1s,mb5.0								
PLCA	Paso Flores	59.91	186		P		P	13 19 34.6	-2.4
	comp=Z,6.3nm,1.1s,mb4.6,baz=4.6,slow=8.7,SNR=10								
PLCA					LR		LR	13 47 34.2	
	comp=Z,402nm,20.4s,MS4.5,baz=18,slow=38								
TCF	Toulx Ste Croi	60.01	47	*e*	*P*		P	13 19 37.6	-0.1
	comp=Z,77nm,1.3s,mb5.3								
TCF	Toulx Ste Croi	60.01	47	*e*	*P*		P	13 19 37.6	-0.1
	comp=Z,38nm,1.3s,mb5.3								
TCF	Toulx Ste Croi	60.01	47	*e*	*P*		P	13 19 37.6	-0.1
TCF					pmax		pmax		
	comp=Z,38nm,1.3s,mb5.3								
BGF	Bois d'Agland	60.47	47	*e*	*P*		P	13 19 40.5	-0.3
AVF	Avril sur Loir	60.83	47	*e*	*P*		P	13 19 42.9	-0.4
	comp=Z,46nm,1.1s,mb5.2								
AVF	Avril sur Loir	60.83	47	*e*	*P*		P	13 19 42.9	-0.4
	comp=Z,23nm,1.1s,mb5.2								
AVF	Avril sur Loir	60.83	47	*e*	*P*		P	13 19 42.9	-0.4
AVF					pmax		pmax		
	comp=Z,23nm,1.1s,mb5.2								
SSF	Saint Saulge	60.94	46	*e*	*P*		P	13 19 43.7	-0.4
LASF	Ste Croix	61.10	50	*e*	*P*		P	13 19 45.9	+0.8
	comp=Z,95nm,1.4s,mb5.4								
SMF	Signal de Mont	61.16	47	*e*	*P*		P	13 19 45.3	-0.2
	comp=Z,28nm,1.0s,mb5.0								
SMF	Signal de Mont	61.16	47	*e*	*P*		P	13 19 45.3	-0.2
	comp=Z,14nm,1.0s,mb5.0								
SMF	Signal de Mont	61.16	47	*e*	*P*		P	13 19 45.3	-0.2
SMF					pmax		pmax		
	comp=Z,

PRU				*ex*	x	13 20 44.7		
TREC	**Trest**	**68.91**	**44**	*e*P	**P**	**13 20 35.8**	**-0.1**	
DPC	**Dobruska-Polom**	**69.35**	**42**	*e*P	**P**	**13 20 38.2**	**-0.5**	
VRAC	**Vranov**	**69.63**	**44**	LR	LR	13 47 46.5		
comp=Z,232nm,19.4s,MS4.4,baz=133,slow=33								
ILAR	**Eielson Array**	**69.83**	**333**	P	**P**	**13 20 39.5**	**-2.1**	
comp=Z,1.2nm,0.8s,mb3.9,baz=105,slow=4.2,SNR=20								
ILAR				LR	LR	13 50 23.3		
comp=Z,319nm,22.0s,MS4.5,baz=268,slow=35								
ZST	**Bratislava**	**70.08**	**45**	*e*P	**P**	**13 20 43.9**	**+0.7**	
ZST	**Bratislava**	**70.08**	**45**	*e*	**P**	**13 20 43.9**	**+0.7**	
COLA	**College**	**70.23**	**333**	*i* P	**P**	**13 20 43.5**	**-0.6**	
OKC	**Ostrava-Krasne**	**70.57**	**43**	*e*P	**P**	**13 20 45.0**	**-1.2**	
OKC	**Ostrava-Krasne**	**70.57**	**43**	*e*P	**P**	**13 20 44.0**	**-2.2**	
VYHS	**Vyhne**	**71.19**	**44**	*e*P	**P**	**13 20 50.2**	**+0.3**	
VYHS				*ep*P	pP	13 21 00.0	+4.5	
ARCES	**ARCESS Array B**	**72.03**	**22**	P	**P**	**13 20 52.7**	**-2.3**	
comp=Z,1.6nm,0.8s,mb4.0,baz=268,slow=4.5,SNR=4.9								
ARCES				LR	LR	13 46 17.2		
comp=Z,191nm,21.2s,MS4.3,baz=192,slow=30								
ARCES	**ARCESS Array B**	**72.03**	**22**	P	**P**	**13 20 52.7**	**-2.3**	
ARCES				LR	LR	13 46 17.2		
KECS	**Kecovo**	**72.28**	**44**	*e*P	**P**	**13 20 55.8**	**-0.7**	
KECS				*es*P	sP	13 21 10.4	+6.3	
BBLS	**Bajina Basta -**	**72.29**	**49**	*i* P	**P**	**13 20 57.0**	**+0.4**	
STHS	**Stebnicka Huta**	**72.63**	**43**	*e*P	**P**	**13 20 59.6**	**+1.1**	
STHS				*e*		13 21 10.1		
STHS				*e*		13 21 10.1		
STHS	**Stebnicka Huta**	**72.63**	**43**	*e*	**P**	**13 20 59.6**	**+1.1**	
DIVS	**Divcibare**	**72.67**	**49**	*i* P	**P**	**13 20 59.1**	**+0.3**	
CRVS	**Cervenica-Dubn**	**72.85**	**44**	*e*P	**P**	**13 21 03.6**	**+3.7**	
CRVS	**Cervenica-Dubn**	**72.85**	**44**	*e*	**P**	**13 21 03.6**	**+3.7**	
GRUS	**Gruza**	**73.22**	**49**	*i* P	**P**	**13 21 02.5**	**+0.5**	
KDAK	**Kodiak Island**	**73.27**	**326**	LR	LR	13 52 27.1		
comp=Z,311nm,19.1s,MS4.6,baz=54,slow=35								
KOLS	**Kolonicke sedl**	**73.37**	**43**	*e*P	**P**	**13 21 03.7**	**+0.7**	
KOLS	**Kolonicke sedl**	**73.37**	**43**	*e*	**P**	**13 21 03.7**	**+0.7**	
FINES	**FINESS Array B**	**73.39**	**30**	P	**P**	**13 21 01.9**	**-1.2**	
comp=Z,1.6nm,0.7s,mb4.1,baz=238,slow=3.6,SNR=5.3								
FINES				LR	LR	13 48 03.4		
comp=Z,367nm,21.0s,MS4.6,baz=359,slow=31								
DJES	**Djerdap**	**74.35**	**48**	*i* P	**P**	**13 21 08.9**	**+0.2**	
AKASG	**Malin Array Be**	**77.39**	**41**	P	**P**	**13 21 25.5**	**-0.5**	
comp=Z,1.4nm,0.6s,mb4.1,baz=273,slow=5.0,SNR=8.1								
OBN	**Obninsk**	**80.34**	**35⇑**	*e*P	**P**	**13 21 42.5**	**+0.2**	
OBN				*es*	S	13 31 49.1	+1.8	
OBN				pmax	pmax			
comp=Z,42nm,1.5s,mb5.2								
BR131	**Keskin Array S**	**83.62**	**50**	*e*P	**P**	**13 21 59.9**	**+0.4**	
comp=Z,2.4nm,0.8s,mb4.4								
BRTR	**Keskin Array B**	**83.62**	**50**	P	**P**	**13 21 59.0**	**-0.5**	
comp=Z,4.4nm,0.8s,mb4.6,baz=256,slow=3.1,SNR=13								
BILL	**Bilibino**	**85.70**	**343**	*i* P	**P**	**13 22 13.0**	**+3.0**	
BILL				pmax	pmax			
comp=Z,11nm,2.0s,mb4.7								
KIV	**Kislovodsk**	**88.28**	**44**	*i* P	**P**	**13 22 24.4**	**+1.9**	
KIV				pmax	pmax			
comp=Z,20nm,1.7s,mb5.1								
GNI	**Garni**	**91.31**	**47**	LR	LR	14 00 23.6		
comp=Z,130nm,21.1s,MS4.3,baz=125,slow=33								
AKTO	**Aktyubinsk**	**93.98**	**33**	LR	LR	14 04 42.7		
comp=Z,297nm,18.6s,MS4.8,baz=0.0,slow=35								
CN2	**Changchun**	**116.75**	**352**	*e*PKP	PKPdf	13 28 09.1	-6.3	
NJ2	**Nanjing**	**129.00**	**357**	*e*PKP	PKPdf	13 28 35.8	-3.1	
NJ2				XPKP		13 28 50.2		
NJ2				PP	PP	13 30 48.0	+1.7	
NJ2				PKS		13 32 11.0		
NJ2				SKS	SKSdf	13 35 42.0	-7.8	
NJ2				SKKS	SKKSac	13 37 35.0	-7.9	
NJ2				PP	PP			
comp=Z,390nm,6.0s								
NJ2				LR	LR			
comp=N,2μm,29.2s,MS5.6								
NJ2				LR	LR			
comp=E,750nm,26.7s,MS5.6								
NJ2				LR	LR			
comp=Z,420nm,28.9s,MS5.0								
SSE	**Sheshan**	**129.78**	**354**	PKP	PKPdf	13 28 39.0	-1.4	
SSE				PP	PP	13 30 55.1	+3.7	
SSE				SS	SS	13 48 13.9	-0.5	
SSE				LR	LR			
comp=N,160nm,21.3s,MS4.7								
SSE				LR	LR			
comp=E,74nm,21.3s,MS4.7								
SSE				LR	LR			
comp=Z,68nm,19.8s,MS4.3								
STKA	**Stephens Creek**	**153.76**	**236**	PKPbc	PKPbc	13 29 26.6	-3.4	
comp=Z,5.2nm,1.0s,baz=21,slow=4.8,SNR=5.4								
WRA	**Warramunga Arr**	**162.72**	**264**	PKP	PKPdf	13 29 30.9	-2.2	
comp=Z,1.0nm,0.9s,baz=53,slow=0.7,SNR=6.9								
WRA				PKPab	PKPab	13 30 21.1	-0.6	
comp=Z,0.9nm,0.6s,baz=88,slow=3.9,SNR=13								
ASAR	**Alice Springs**	**162.76**	**252**	PKP	PKPdf	13 29 31.8	-1.3	
comp=Z,0.6nm,0.9s,baz=104,slow=1.2,SNR=5.4								
ASAR				PKPab	PKPab	13 30 20.6	-1.3	
comp=Z,1.1nm,0.8s,baz=105,slow=4.1,SNR=6.3								

ISCJB ***03*** *13:25:09.2±0.5, 2783S×008×176.17W±009, h33km, mb4.7/15, MS4.3/13, Error ellipse: s-maj=13.8km s-min=8.3km az=77.0*

MOS ***03*** *13:25:10.3±1.8, 2732S×17628W, h33km, mb5.2/3, Error ellipse: s-maj=19.9km s-min=17.7km az=160.3*

BJI ***03*** *13:25:14.5, 2750S×17620W, h61km, mB5.3, mb5.0, Ms4.9, Ms2.4*

IDC ***03*** *13:25:14.2±3.8, 2757S×17626W, h58km±33km, mb4.1/9, mb1 4.4/10, mb1mx4.3/14, mbtmp4.4/10, MS4.3/13, Ms1 4.3/13, ms1mx4.0/26, Error ellipse: s-maj=29.5km s-min=21.6km az=5.0*

NEIC ***03*** *13:25:14.6±1.7, 2755S×17625W, h62km±15km, mb5.0/7, Error ellipse: s-maj=15.9km s-min=10.9km az=180.0*

HRVD ***03*** *13:25:14.6±0.6, 2716S×17564W, h96km±7km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s5,c5;Mantle waves: s60,c80; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.14±.23; Mθθ2.81±.22; Mφφ0.32±.23; Mrθ-0.36±.23; Mθφ1.60±.29; Mφr0.69±.17; Best double couple: M0 3.47300×10^16 NP1:φs229.00000°, δ47.00000°, λ-111.00000°. NP2:φs79.00000°, δ47.00000°, λ-69.00000°. Principal axes: T 3.5930, Plg0.0000°, Azm154.0000°; N -0.2480, Plg15.0000°, Azm244.0000°; P -3.3520, Plg75.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 13:25:11.1±0.5, 2776S±008×17611W±009, h35km, n72, σ0§92/42, mb4.7/15, MS4.3/13, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.18**	**226**	P		**Pn**	**13 25 49.5**	**+4.7**
570nm,0.3s,baz=82,slow=5.1,SNR=72								
RAO				S		**Sn**	**13 26 19.2**	**+8.7**
488nm,0.3s,baz=34,slow=23,SNR=5.1								
RAO	**Raoul Island**	**2.18**	**226**	*e*P		**Pn**	**13 25 49.1**	**+4.3**
RAO				P			13 25 49.5	
RAO				S		**Sn**	**13 26 19.2**	**+8.7**
URZ	**Urewera**	**11.91**	**207**	P		**Pn**	**13 27 53.8**	**-4.6**
0.4nm,0.3s,baz=353,slow=17,SNR=5.3								
URZ				S		**Sn**	**13 30 10.6**	**+0.6**
3.6nm,0.3s,baz=129,slow=22,SNR=9.8								
AFI	**Afiamalu**	**14.36**	**17**	P		**Pn**	**13 28 20.3**	**-11**
3.8nm,0.3s,baz=221,slow=5.8,SNR=6.3								
AFI				S		Sn	13 30 44.7	-25
1.2nm,0.3s,baz=235,slow=16,SNR=2.7								
RAR	**Rarotonga**	**16.23**	**70**	P		**Pn**	**13 28 45.7**	**-11**
1.7nm,0.3s,baz=230,slow=7.9,SNR=9.5								
RAR				S		S	13 31 30.6	-37
0.9nm,0.3s,baz=76,slow=19,SNR=2.8								
DZM	**Mont Dzumac**	**16.80**	**286**	P		**Pn**	**13 29 04.6**	**+1.0**
0.2nm,0.3s,baz=62,slow=23,SNR=7.0								
DZM				LR		LR	13 33 38.0	
comp=Z,671nm,21.2s,baz=221,slow=30								
RPZ	**Rata Peaks**	**18.99**	**210**	P		**Pn**	**13 29 28.3**	**-2.2**
0.8nm,0.3s,baz=7.9,slow=3.6,SNR=3.9								
RPZ				S		**S**	**13 32 49.2**	**-14**
0.5nm,0.3s,baz=80,slow=17,SNR=3.0								
TBI	**Tubuai**	**24.42**	**86**	*e*LR		LR	13 35 42.3	
970nm,29.5s,baz=251								
TBI	**Tubuai**	**24.42**	**86**	*e*T			13 55 21.6	
11nm,0.3s								
PAE	**Paea**	**26.41**	**73**	*e*T			13 57 42.6	
60nm,0.3s								
PPT	**Papeete**	**26.45**	**73**	*e*LR		LR	13 36 36.6	
1μm,28.8s,baz=242								
PPT	**Papeete**	**26.45**	**73**	*e*T			13 57 46.2	
5.6nm,0.4s								
PPT	**Papeete**	**26.45**	**73**	LR		LR	13 39 16.2	
comp=Z,781nm,20.1s,MS4.2,baz=250,slow=32								
TVO	**Taravao**	**26.63**	**74**	*e*T			13 57 58.6	
5.9nm,0.3s								
HNR	**Honiara**	**29.00**	**304**	LR		LR	13 40 23.4	
comp=Z,270nm,19.9s,MS3.9,baz=176,slow=32								
VAH	**Vaihoa**	**29.20**	**71**	*e*T			14 01 13.2	
12nm,0.3s								
CTA	**Charters Tower**	**35.13**	**274**	*e*P		**P**	**13 32 02.1**	**+0.9**
8.0nm,0.6s,mb4.8								
CTA	**Charters Tower**	**35.13**	**274**	P		**P**	**13 32 01.8**	**+0.5**
16nm,0.9s,mb5.0,baz=82,slow=9.0,SNR=9.8								
CTA				LR		LR	13 44 10.3	
comp=Z,376nm,20.6s,MS4.1,baz=105,slow=32								
CTA	**Charters Tower**	**35.13**	**274**	*e*P		**P**	**13 32 02.1**	**+0.9**
CTA				pmax		pmax		
comp=Z,8.0nm,0.6s								
CTAO	**Charters Tower**	**35.13**	**274**	*e*P		**P**	**13 32 02.0**	**+0.8**
comp=Z,20nm,1.0s,mb5.0								
CTAO	**Charters Tower**	**35.13**	**274**	*e*P		**P**	**13 32 02.0**	**+0.8**
CTAO				pmax		pmax		
comp=Z,20nm,1.0s,mb5.0								
STKA	**Stephens Creek**	**36.76**	**253**	*e*P		**P**	**13 32 14.7**	**-0.4**
comp=Z,5.1nm,1.2s,mb4.2								
STKA	**Stephens Creek**	**36.76**	**253**	P		**P**	**13 32 14.4**	**-0.7**
comp=Z,2.0nm,0.5s,mb4.2,baz=92,slow=9.0,SNR=6.1								
STKA				LR		LR	13 44 54.7	
comp=Z,402nm,19.8s,MS4.2,baz=283,slow=32								
RKT	**Rikitea**	**37.31**	**92**	*e*LR		LR	13 41 43.0	
comp=Z,567nm,30.2s,baz=247								
AS31	**Alice Springs**	**44.98**	**263⇑**	*i* P		**P**	**13 33 23.2**	**+0.4**
ASAR	**Alice Springs**	**44.98**	**263**	P		**P**	**13 33 22.2**	**-0.6**
comp=Z,1.6nm,0.5s,mb4.1,baz=90,slow=6.5,SNR=43								
ASPA	**Alice Springs**	**44.98**	**263⇑**	*i* P		**P**	**13 33 23.2**	**+0.3**
WB2	**Warramunga Arr**	**45.72**	**269**	*e*P		**P**	**13 33 28.7**	**0.0**
WRA	**Warramunga Arr**	**45.73**	**269**	P		**P**	**13 33 27.9**	**-0.9**
comp=Z,1.9nm,0.6s,mb4.2,baz=110,slow=6.3,SNR=19								
KAKA	**Kakadu**	**50.19**	**277**	*e*P		**P**	**13 34 03.9**	**+0.6**
comp=Z,4.9nm,0.4s,mb4.9								
VNDA	**Vanda**	**50.89**	**186**	LR		LR	13 52 06.2	
comp=Z,170nm,19.4s,MS4.1,baz=4.3,slow=32								
NWAO	**Narrogin (SRO)**	**56.91**	**247**	LR		LR	13 59 32.2	
comp=Z,348nm,20.2s,MS4.5,baz=78,slow=36								
QSPA	**South Pole Qui**	**62.35**	**180**	*e*P		**P**	**13 35 34.5**	**+4.5**
comp=Z,28nm,1.1s,mb5.3								
MAW	**Mawson**	**75.35**	**200**	LR		LR	14 11 01.5	
comp=Z,385nm,18.2s,MS4.7,baz=332,slow=36								
MJAR	**Matsushiro Arr**	**77.05**	**324**	P		**P**	**13 37 00.8**	**+0.3**
comp=Z,5.3nm,1.0s,mb4.4,baz=154,slow=5.4,SNR=7.7								
MAT	**Matsushiro**	**77.06**	**324**	P		**P**	**13 36 56.4**	**-4.2**
MAT	**Matsushiro**	**77.06**	**324**	*e*P		**P**	**13 36 56.0**	**-4.6**
PLCA	**Paso Flores**	**83.08**	**132**	P		**P**	**13 37 34.0**	**+1.0**
comp=Z,4.0nm,1.1s,mb4.4,baz=223,slow=5.4,SNR=5.3								
PLCA				LR		LR	14 07 33.1	
comp=Z,276nm,20.8s,MS4.6,baz=202,slow=30								
YSS	**Yuzh-Sakhalins**	**83.12**	**333**	*e*P		**P**	**13 37 32.6**	**-0.7**
comp=Z,5.2nm,0.3s,mb5.0								
YSS	**Yuzh-Sakhalins**	**83.12**	**333⇑**	*e*P		**P**	**13 37 34.0**	**+0.7**
YSS				*e*		pP	13 37 42.0	-2.3
YSS				pmax		pmax		
comp=Z,20nm,1.0s,mb5.1								
YBH	**Yreka Blue Hor**	**84.94**	**37**	LR		LR	14 05 22.2	
comp=Z,190nm,21.2s,MS4.5,baz=305,slow=28								
LDFC	**Landfair**	**84.99**	**46**	*e*P		**P**	**13 37 43.8**	**+1.0**
NVAR	**Mina Array Bea**	**85.18**	**42**	P		**P**	**13 37 43.5**	**-0.3**
comp=Z,3.7nm,0.9s,mb4.5,baz=219,slow=8.4,SNR=13								
MDJ	**Mudanjiang**	**87.41**	**325**	P		**P**	**13 37 54.6**	**-0.1**
MDJ				S			13 48 31.8	
MDJ				PS			13 49 37.7	
MDJ				SS		SS	13 54 19.9	+1.8
MDJ				AMB		AMB		
comp=Z,9.0nm,1.1s,mb4.9								
MDJ				AMB		AMB		
comp=Z,98nm,3.7s								
MDJ				LR		LR		
comp=N,248nm,22.0s								
MDJ				LR		LR		
comp=Z,166nm,22.0s,MS4.4								
CN2	**Changchun**	**89.06**	**322**	*e*P		**P**	**13 38 02.6**	**+0.1**
CN2				AMB		AMB		
comp=Z,10.0nm,1.2s,mb5.0								
KLR	**Kul'dur**	**89.61**	**329**	*e*P		**P**	**13 38 02.7**	**-2.4**
BBB	**Bella Bella**	**90.00**	**27**	LR		LR	14 11 24.3	
comp=Z,131nm,20.2s,MS4.4,baz=286,slow=31								
TMUT	**Trail Mountain**	**90.03**	**45**	*e*P		**P**	**13 38 08.0**	**+0.9**
ENH	**Enshi**	**91.50**	**304**	*e*P		**P**	**13 38 14.5**	**+0.6**
comp=Z,56nm,1.3s,mb5.7								
NEW	**Newport**	**92.27**	**35**	LR		LR	14 17 23.8	
comp=Z,318nm,18.2s,MS4.8,baz=204,slow=34								
MCMT	**McKenzie Canyo**	**92.39**	**40**	*e*P		**P**	**13 38 17.6**	**-0.4**
PDAR	**Pinedale Array**	**93.08**	**43**	P		**P**	**13 38 20.8**	**-0.4**
comp=Z,1.0nm,0.9s,mb4.2,baz=188,slow=1.0,SNR=5.4								
QLMT	**Earthquake Lak**	**93.20**	**40**	*e*P		**P**	**13 38 22.7**	**+0.9**
ILAR	**Eielson Array**	**95.00**	**12**	P		**P**	**13 38 28.4**	**-1.6**
comp=Z,1.2nm,1.0s,mb4.3,baz=228,slow=5.1,SNR=7.2								
LPAZ	**La Paz**	**97.68**	**113**	LR		LR	14 13 59.5	
comp=Z,70nm,20.0s,MS4.2,baz=40,slow=30								
MKAR	**Makanchi Array**	**117.32**	**311**	PKP		PKPdf	13 43 52.2	-0.5
comp=Z,0.9nm,0.8s,baz=63,slow=2.7,SNR=6.7								
KURK	**Kurchatov**	**120.39**	**315**	*e*PKPdf		PKPdf	13 43 57.0	-1.7
BVAR	**Borovoye Array**	**125.64**	**317**	PKP		PKPdf	13 44 07.9	-0.8
comp=Z,2.1nm,0.9s,baz=116,slow=3.4,SNR=8.2								
BRVK	**Borovoye**	**125.70**	**317**	*e*PKPdf		PKPdf	13 44 07.7	-1.1
ZRNK	**Zerenda**	**126.47**	**317**	*e*PKPdf		PKPdf	13 44 10.1	-0.2
ARCES	**ARCESS Array B**	**136.34**	**349**	PKP		PKPdf	13 44 28.8	-0.2
comp=Z,4.3nm,0.9s,baz=341,slow=2.6,SNR=7.1								
FINES	**FINESS Array B**	**143.18**	**342**	PKhKP			13 44 36.7	
comp=Z,1.1nm,0.6s,baz=50,slow=6.1,SNR=6.2								
BHD	**Baghdad**	**144.84**	**289**	*ex*		x	13 44 42.0	
MSL	**Mosul**	**145.88**	**294**	*ex*		x	13 44 48.5	
NB2	**NORSAR Subarra**	**146.35**	**354**	PKPa		PKPbc	13 44 46.4	-1.7
comp=Z,24nm,1.4s,baz=10,slow=3.2								
NOA	**NORSAR Array B**	**146.35**	**354**	PKPbc		PKPbc	13 44 46.7	-1.4
comp=Z,5.1nm,0.9s,baz=15,slow=4.5,SNR=11								
HFS	**Hagfors**	**146.94**	**351**	PKPbc		PKPbc	13 44 48.6	-1.2
comp=Z,10nm,0.9s,baz=36,slow=2.8,SNR=8.9								
MALT	**Malatya**	**149.35**	**299**	*e*PKPbc		PKPbc	13 44 56.4	+0.2
AKASG	**Malin Array Be**	**150.10**	**327**	PKPbc		PKPbc	13 44 56.9	-1.2
comp=Z,5.8nm,0.8s,baz=48,slow=2.5,SNR=26								
BRTR	**Keskin Array B**	**152.66**	**304**	PKPbc		PKPbc	13 45 05.0	+1.1
comp=Z,1.9nm,1.0s,baz=48,slow=4.3,SNR=4.6								
TIRR	**Tirgusor**	**154.25**	**317**	⇑PKIKP		PKPdf	13 44 55.5	-3.7
TORD	**Torodi Ar. Bea**	**165.32**	**172**	PKP		PKPdf	13 45 12.7	+1.0
comp=Z,2.5nm,1.0s,baz=10,slow=1.3,SNR=7.0								
TORD				PKPab		PKPab	13 46 12.5	+3.0
comp=Z,4.8nm,0.9s,baz=185,slow=3.7,SNR=11								

CSEM ***03*** *13:30:37.6±0.1, 3814N×3018E, h2km, MD3.7, Error ellipse: s-maj=1.9km s-min=1.8km az=143.0*

ISK ***03*** *13:30:37.4, 3812N×3020E, h5km, MD3.7*

ISCJB ***03*** *13:30:39.2±0.4, 3814N±003×3018E±004, h10km, Error ellipse: s-maj=4.5km s-min=3.8km az=142.8*

ISC 03 13:30:40.1±0.4, 3811N±003×3016E±004, h10km, n31, σ1§20/41, 3C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TKTP	**Tekketepe**	**0.15**	**119**	*i* P		**Pg**	**13 30 41.0**	**-2.4**
TKTP				*i* S		**Sg**	**13 30 47.0**	**+1.3**
TKTP	**Tekketepe**	**0.15**	**119**	*i* P		**Pg**	**13 30 41.0**	**-2.4**
BCK	**Bucak**	**0.73**	**152**	PG		**Pg**	**13 30 51.7**	**-2.6**
ALT	**Altintas**	**0.94**	**358**	PG		**Pg**	**13 30 56.3**	**-2.0**
ALT				SG		**Sg**	**13 31 11.2**	**+0.7**
MANT	**Manisa**	**1.31**	**287**	*i* P		**Pn**	**13 31 03.3**	**-1.1**
MANT				*i* S		**Sb**	**13 31 23.1**	**+1.4**
ELL	**Elmali**	**1.37**	**188**	PN		**Pn**	**13 31 04.7**	**-0.6**
ESKT	**Eskisehir**	**1.51**	**21**	PN		**Pn**	**13 31 06.1**	**-1.0**
ESKT				SN		**Sn**	**13 31 27.9**	**+1.1**
ESKT	**Eskisehir**	**1.51**	**21**	*i* P		**Pn**	**13 31 05.9**	**-1.2**
ESKT				*i* S		**Sn**	**13 31 28.5**	**+1.7**
SEYT	**Eskypehyr**	**1.51**	**21**	*i* P		**Pn**	**13 31 05.9**	**-1.2**
SEYT				*i* S		**Sn**	**13 31 28.5**	**+1.7**
KDHN	**Kadinhani**	**1.60**	**75**	*i* P		**Pn**	**13 31 07.2**	**-1.2**
KDHN				*i* S		**Sn**	**13 31 31.6**	**+2.6**
FETY	**Fethiye**	**1.70**	**210**	PN		**Pn**	**13 31 09.8**	**0.0**
FETY				SN		**Sn**	**13 31 34.2**	**+2.6**
DALT	**Dalyan (Mudla)**	**1.80**	**223**	*e*PN		**Pn**	**13 31 11.4**	**+0.2**
AYDN	**Tasoluk**	**1.86**	**257**	*i* P		**Pn**	**13 31 11.0**	**-1.0**
AYDN				*i* S		**Sn**	**13 31 39.3**	**+3.8**
DST	**Dursunbey**	**1.91**	**322**	PN		**Pn**	**13 31 12.3**	**-0.4**
ULDT	**Uludag**	**2.18**	**339**	*i* P		**Pn**	**13 31 14.2**	**-2.2**
ULDT				*i* S		**Sn**	**13 31 46.9**	**+3.5**
BALB	**Balikesir**	**2.34**	**311**	PN		**Pn**	**13 31 18.5**	**-0.1**
DAT	**Datca**	**2.47**	**237**	*e*PN		**Pn**	**13 31 20.7**	**+0.3**
BODT	**Bodrum**	**2.49**	**246**	*e*PN		**Pn**	**13 31 21.1**	**+0.4**
ARMT	**Armutlu**	**2.65**	**338**	*e*PN		**Pn**	**13 31 22.3**	**-0.5**
ANTO	**Ankara**	**2.70**	**49**	*e*PN		**Pn**	**13 31 22.8**	**-0.8**
BNT	**Bandirma**	**2.84**	**323**	*e*PN		**Pn**	**13 31 25.0**	**-0.4**
IKL	**Isikli**	**3.38**	**122**	*e*PN		**Pn**	**13 31 33.5**	**+0.6**
MERS	**Mersin**	**3.69**	**108**	*e*PN		**Pn**	**13 31 37.9**	**+0.8**
KARA	**Karaisali**	**3.98**	**101**	*e*PN		**Pn**	**13 31 41.2**	**+0.1**
KOZT	**Kozan**	**4.54**	**96**	*e*PN		**Pn**	**13 31 49.7**	**+0.9**
TIRR	**Tirgusor**	**6.48**	**349**	⇑P		**Pn**	**13 32 15.2**	**-0.2**
CFR	**Carcaliu**	**7.22**	**349**	⇓P		**Pn**	**13 32 26.5**	**+0.8**
MLR	**Muntele Rosu**	**8.02**	**338**	⇓P		**Pn**	**13 32 41.4**	**+4.8**
VRI	**Vrincioaia**	**8.16**	**343**	⇓P		**Pn**	**13 32 38.9**	**+0.4**
VOIR		**8.25**	**334**	⇑P		**Pn**	**13 32 39.6**	**-0.2**
BURAR	**Bucovina Array**	**10.16**	**341**	⇑P		**Pn**	**13 33 07.3**	**+1.3**

MOS ***03*** *13:31:38.5±1.4, 3678N×7154E, h95km, mb4.0/11, Error ellipse: s-maj=12.0km s-min=6.0km az=93.4*

NEIC ***03*** *13:31:39.2±1.2, 3681N×7167E, h87km±12km, mb4.0/4, Error ellipse: s-maj=15.4km s-min=5.6km az=57.0*

BJI ***03*** *13:31:39.5, 3680N×7170E, h86km, mb4.3, Ms4.0*

IDC ***03*** *13:31:40.2±5.3, 3678N×7163E, h96km±46km, mb3.7/11, mb1 3.8/15, mb1mx3.7/24, mbtmp4.0/15, MS3.9/1, Ms1 3.9/1, ms1mx2.7/32, Error ellipse: s-maj=26.7km s-min=15.7km az=16.0*

ISCJB ***03*** *13:31:41.4±0.4, 3687N±002×7170E±006, h125km±6km, mb3.9/15, Error ellipse: s-maj=7.4km s-min=3.8km az=159.5*

NNC ***03*** *13:31:47.9±3.8, 3734N×7120E, h119km±36km, mb3.5, mpv4.5, Error ellipse: s-maj=38.7km s-min=25.1km az=27.0*

ISC 03 13:31:42.6±0.4, 3687N±002×7172E±006, h125km±5km, n104, σ1§46/118, mb3.9/15, 9C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.04**	**177**	⇓P		**Pn**	**13 32 31.3**	**+1.7**
CEP				S		**Sn**	**13 33 08.0**	**+2.1**
CHCP	**Chirah Chowk**	**3.45**	**158**	P		**Pn**	**13 32 37.4**	**+2.5**
THW	**Thamme Wali**	**4.07**	**180**	P		**Pn**	**13 32 43.9**	**+0.8**
KSH	**Kashi**	**4.27**	**50**	*e*P		**Pn**	**13 32 49.0**	**+3.2**
KSH				S		**Sn**	**13 33 36.3**	**+1.5**
KSH				Smax				
comp=N,365nm,0.8s								
KSH				Smax				
comp=E,435nm,0.7s								
SBDP	**Sheikh Budin**	**4.62**	**190**	P		**Pn**	**13 32 51.2**	**+0.7**
SARP	**Sargodha**	**5.00**	**171**	P		**Pn**	**13 32 56.0**	**+0.4**
DRP	**Derazinda**	**5.27**	**194**	P		**Pn**	**13 32 59.8**	**+0.6**
AML	**Almayashu**	**5.47**	**16**	P		**Pn**	**13 33 02.2**	**+0.3**
SNR=228								
DLH	**Dalhousie**	**5.56**	**140**	*e*P		**Pn**	**13 33 08.0**	**+4.9**
DLH				*es*		**Sn**	**13 34 10.0**	**+4.2**
UCH	**Uchtor**	**5.77**	**21**	P		**Pn**	**13 33 06.5**	**+0.6**
SNR=47								
KZA	**Kyzart**	**5.87**	**27**	P		**Pn**	**13

comp=Z,5.7nm,0.9s,baz=154,slow=22,SNR=7.5
JIRN Jiri 15.29 123 *e*P **Pn 13 35 09.9 -1.8**
comp=Z,60nm,0.6s
VOSK Vostochnaya 15.86 358 ⇑P **Pn 13 35 16.2 -2.5**
comp=Z,4.5nm,1.4s
VOSK Vostochnaya 15.86 358 P **Pn 13 35 16.0 -2.8**
VOSK pmax pmax
comp=Z,7.0nm,1.5s
BVA0 Borovoye Array 16.18 357 ⇓P **Pn 13 35 21.6 -1.1**
comp=Z,0.4nm,0.8s,baz=162,slow=13,SNR=11
BVA0 S **S 13 38 24.8 +1.6**
comp=Z,0.4nm,0.8s,baz=209,slow=38,SNR=5.1
BVAR Borovoye Array 16.18 357 P **Pn 13 35 21.7 -1.0**
comp=Z,0.4nm,0.3s,baz=162,slow=15,SNR=10
ZRNK Zerenda 16.19 354 ⇓P **Pn 13 35 20.6 -2.3**
comp=Z,2.0nm,0.7s
ZRNK Zerenda 16.19 354 *e*P **Pn 13 35 19.6 -3.3**
comp=Z,3.5nm,0.9s
ZRNK Zerenda 16.19 354 *i*P **Pn 13 35 20.6 -2.3**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 16.22 357 *e*P **Pn 13 35 21.5 -1.7**
AKTK Aktyubinsk 16.76 328 P **Pn 13 35 28.4 -1.4**
AKTO Aktyubinsk 16.76 328 ⇑P **Pn 13 35 28.1 -1.7**
comp=Z,1.2nm,0.8s
AKTO ⇓S **S 13 38 24.3 -12**
comp=Z,0.7nm,0.8s
AKTO Aktyubinsk 16.76 328 P **Pn 13 35 28.4 -1.4**
comp=Z,1.1nm,0.3s,baz=145,slow=12,SNR=27
AKTO Aktyubinsk 16.76 328 P **Pn 13 35 28.4 -1.4**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
LSA Lhasa 17.73 108 P **Pn 13 35 44.4 +2.8**
LSA AMB AMB
comp=Z,10.0nm,1.0s
LSA Lhasa 17.73 108 *e*P **Pn 13 35 44.2 +2.6**
comp=Z,8.2nm,0.8s
LSA Lhasa 17.73 108 *e*P **Pn 13 35 44.2 +2.6**
LSA pmax pmax
comp=Z,8.0nm,0.8s
ZAL Zalesovo 19.32 24 P **P 13 35 58.0 0.0**
comp=Z,2.0nm,0.3s,baz=248,slow=8.2,SNR=29
ZAL Zalesovo 19.32 24 *i*P **P 13 35 58.4 +0.4**
ZAL pmax pmax
comp=Z,4.0nm,0.4s
NVS Novosibirsk 19.63 20 *e*P **P 13 36 01.6 +0.3**
NVS pmax pmax
comp=Z,12nm,1.2s
NVS pmax pmax
comp=N,14nm,1.3s
GNI Garni 21.33 287 *i*P **P 13 36 26.9 +7.3**
GNI pmax pmax
comp=Z,27nm,1.0s
ARU Arti 21.48 340 *i*P **P 13 36 23.7 +2.6**
GTA Gaotai 22.21 75 P **P 13 36 33.1 +4.3**
GTA AP 13 36 47.7
GTA XP sP 13 36 57.2 -10
GTA AMB AMB
comp=Z,12nm,0.8s,mb4.3
MOY Mondy 25.43 45 *e*P **P 13 37 02.3 +3.6**
LZH Lanzhou 25.78 82 *e*P **P 13 37 05.2 +3.4**
LZH AMB AMB
comp=Z,22nm,1.3s,mb4.4
ZAK Zakamensk 26.31 49 *e*P **P 13 37 08.2 +1.6**
ZAK pmax pmax
comp=Z,5.0nm,2.0s,mb3.6
SONM Songino Array 27.65 56 P **P 13 37 21.0 +2.5**
comp=Z,2.7nm,0.8s,mb3.9,baz=266,slow=9.3,SNR=24
ULN Ulaanbaatar 28.09 56 *d*/*i*P **P 13 37 25.2 +2.8**
BRTR Keskin Array B 29.87 287 P **P 13 37 40.0 +1.8**
comp=Z,1.3nm,0.7s,mb3.7,baz=102,slow=10,SNR=5.0
BRTR Keskin Array B 29.87 287 P **P 13 37 40.1 +1.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 37.50 326 P **P 13 38 45.2 +1.0**
comp=Z,0.6nm,0.3s,mb3.9,baz=115,slow=8.8,SNR=14
FINES FINESS Array B 37.50 326 P **P 13 38 45.2 +1.0**
FINES FINESS Array B 37.50 326 P **P 13 38 45.2 +1.0**
FINES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 41.02 337 P **P 13 39 14.2 +0.7**
comp=Z,1.4nm,0.8s,mb3.8,baz=106,slow=8.4,SNR=3.7
ARCES ARCESS Array B 41.02 337 P **P 13 39 14.2 +0.7**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
HFS Hagfors 43.13 322 P **P 13 39 31.0 +0.4**
comp=Z,1.8nm,0.4s,mb4.1,baz=94,slow=12,SNR=12
HFS Hagfors 43.13 322 P **P 13 39 31.0 +0.4**
HFS pmax pmax
comp=Z,2.0nm,0.4s
YAK Yakutsk 43.33 36 *i*P **P 13 39 32.1 0.0**
NB2 NORSAR Subarra 44.43 323 P **P 13 39 41.4 +0.4**
comp=Z,1.1nm,0.6s,mb3.8,baz=98,slow=7.9
NB2 NORSAR Subarra 44.43 323 P **P 13 39 41.4 +0.4**
comp=Z,1.1nm,0.6s,mb3.8
NB2 NORSAR Subarra 44.43 323 P **P 13 39 41.4 +0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
NOA NORSAR Array B 44.43 323 P **P 13 39 41.3 +0.3**
comp=Z,2.1nm,0.8s,mb3.9,baz=96,slow=7.8,SNR=5.8
NOA NORSAR Array B 44.43 323 P **P 13 39 41.3 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 45.21 22 *i*P **P 13 39 48.0 +0.9**
TIXI pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
KMBO Kilima Mbogo 49.51 228 LR LR 14 04 09.1
comp=Z,124nm,21.0s,baz=276,slow=40
TORD Torodi Ar. Bea 66.30 269 P **P 13 42 17.1 -0.5**
comp=Z,1.4nm,0.8s,mb3.8,baz=50,slow=5.8,SNR=8.2
ILAR Eielson Array 74.26 16 P **P 13 43 06.0 -0.1**
comp=Z,0.3nm,0.7s,mb3.1,baz=354,slow=2.9,SNR=5.8
YKA Yellowknife Ar 80.85 3 P **P 13 43 43.5 +0.9**
comp=Z,0.7nm,0.7s,mb3.6,baz=347,slow=5.5,SNR=16
YKA Yellowknife Ar 80.85 3 P **P 13 43 43.5 +0.9**
YKA Yellowknife Ar 80.85 3 P **P 13 43 43.5 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 81.70 122 P **P 13 43 48.2 +1.1**
comp=Z,1.0nm,0.5s,mb3.9,baz=326,slow=5.0,SNR=37
WRA Warramunga Arr 81.70 122 P **P 13 43 48.2 +1.1**
WRA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 83.99 125 P **P 13 44 00.1 +1.2**
comp=Z,1.1nm,0.6s,mb3.9,baz=312,slow=4.9,SNR=28
ASAR Alice Springs 83.99 125 P **P 13 44 00.1 +1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.6s

NEIC 03 13:44:05.2,3512N×11756W,h2km,ML3.7(PAS),**After PAS.,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	**Isabella**	**0.93**	**306**	P	Pg	13 44 22.1	-0.8
MWC	**Mount Wilson**	**0.99**	**205**	*e*P	Pg	13 44 23.2	-0.9
MWC				*e*S	Sg	13 44 37.1	+0.2
DAC	**Darwin (Calif)**	**1.15**	**358**	*e*P	Pg	13 44 25.9	-1.4
DAC				*e*S	Sg	13 44 41.7	-0.6
PFO	**Pinyon Flat Ob**	**1.76**	**149**	*e*P	Pn	13 44 35.2	-1.5
PFO				*e*S	Sn	13 44 59.9	+0.2
LDFC	**Landfair**	**2.01**	**91**	*e*P	Pn	13 44 37.4	-2.6
LDFC				*e*S	Sn	13 45 07.5	+1.7
PTRM	**Twissleman Ran**	**2.23**	**285**	*e*P	Pn	13 44 44.8	+1.6
MTUM	**Tungsten Hills**	**2.37**	**340**	*e*P	Pn	13 44 46.2	+1.1
MTUM				*e*S	Sn	13 45 19.2	+4.4
BAR	**Barrett**	**2.54**	**163**	*e*P	Pn	13 44 47.0	-0.5
BAR				*e*S	Sn	13 45 21.5	+2.6
TPH	**Tonopah**	**2.96**	**5**	*e*Pn	Pn	13 44 53.1	-0.1
TPH				*e*Pg	Pg	13 44 59.7	-2.3
LRV	**Little Rabbit**	**3.10**	**296**	*e*P	Pn	13 44 56.9	+1.7
SAO	**San Andreas Ge**	**3.56**	**299**	*e*Pn	Pn	13 45 01.2	-0.2
CMB	**Columbia Colle**	**3.69**	**323**	*e*Pn	Pn	13 45 03.7	+0.5
CMB				*e*Pg	Pg	13 45 12.1	-3.9
CMB				*e*S	Sn	13 45 58.4	+11
ARUT	**Antelope Range**	**4.25**	**50**	Pn	Pn	13 45 12.1	+1.2
ARUT				*e*Pg	Pg	13 45 24.8	-1.9
WUAZ	**Wupatki**	**5.07**	**84**	*e*Pg	Pg	13 45 40.0	-2.3
ELK	**Elko**	**5.91**	**17**	*e*Pn	Pn	13 45 34.3	+0.7
ELK				*e*Pg	Pg	13 45 54.9	-3.5
ELK				*e*Sg	Sg	13 47 10.9	-4.0

IDC 03 13:47:13.9±3.6,2075S×7037W,h97km±28km,mb3.7/2,
mb1 3.6/4,**mb1mx3.4**/14,**mbtmp3.9**/4,**MS3.2**/1,**Ms1 3.3**/1,
ms1mx3.0/13,**Error ellipse: s-maj=50.8km**
s-min=23.6km az=103.0,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.92**	**26**	P	Pn	13 48 24.2	-1.2
	1.7nm,0.3s,baz=209,slow=5.9,SNR=25						
LPAZ				S	Sn	13 49 24.0	+2.9
	1.1nm,0.3s,baz=184,slow=13,SNR=1.8						
LPAZ				LR	LR	13 50 29.9	
	comp=Z,221nm,18.1s,baz=238,slow=40						
PLCA	**Paso Flores**	**19.92**	**180**	P	Pn	13 51 38.8	-1.6
	0.1nm,0.3s,baz=21,slow=13,SNR=3.6						
TORD	**Torodi Ar. Bea**	**78.39**	**71**	P	P	13 59 03.7	0.0
	1.8nm,0.5s,baz=250,slow=5.5,SNR=25						
YKA	**Yellowknife Ar**	**90.03**	**341**	P	P	14 00 01.3	-1.3
	0.1nm,0.5s,baz=139,slow=4.5,SNR=7.4						
MKAR	**Makanchi Array**	**145.80**	**34**	PKPbc	PKPbc	14 06 42.2	+0.5
	1.2nm,0.6s,baz=332,slow=3.4,SNR=15						
SONM	**Songino Array**	**152.85**	**5**	PKPbc	PKPbc	14 06 59.9	+0.4
	0.2nm,0.4s,baz=295,slow=2.7,SNR=4.1						

BJI ***03*** *13:52:22.2,3520N×8935E,h11km,mB4.8,mb4.5,Ms4.4,Msz4.0*
IDC ***03*** *13:52:23.2±0.7,3516N×8954E,h0km,mb4.0/12,mb1 4.1/15,mb1mx4.0/23,mbtmp3.9/15,ML3.2/3,MS4.0/5,Ms1 4.0/5,ms1mx3.5/25,Error ellipse: s-maj=26.0km s-min=16.1km az=51.0*
ISCJB ***03*** *13:52:24.9±2.0,3534N±004×8969E±005,h15km±13km,mb4.1/25,MS4.0/10,Error ellipse: s-maj=7.2km s-min=6.6km az=54.5*
NEIC ***03*** *13:52:26.4±0.5,3539N×8967E,h10km,mb4.0/5,Error ellipse: s-maj=13.8km s-min=8.1km az=96.0*
MOS ***03*** *13:52:26.4±1.6,3535N×8969E,h23km,mb4.3/21,Error ellipse: s-maj=10.8km s-min=6.1km az=105.9*
ISC 03 13:52:29.2±1.5,3543N±004×8958E±005,h30km±12km,n75,σ1.9±30/80,mb4.0/25,**MS4.0**/10,**3C-1D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.86**	**167**	*e*P	**Pn**	**13 53 55.6**	**+1.6**
	37nm,0.8s						
LSA	**Lhasa**	**5.86**	**167**	*e*P	**Pn**	**13 53 55.7**	**+1.7**
LSA				pmax	pmax		
	comp=Z,37nm,0.8s						
GUN	**Gumba**	**8.13**	**204**	*e*P	**Pn**	**13 54 23.9**	**-1.2**
	comp=Z,58nm,1.3s						
JIRN	**Jiri**	**8.27**	**201**	*e*P	**Pn**	**13 54 26.2**	**-0.8**
	comp=Z,22nm,0.9s						
KKN	**Kakani**	**8.45**	**207**	*e*P	**Pn**	**13 54 29.3**	**-0.2**
WMQ	**Urumqi**	**8.51**	**351**	*e*P	**Pn**	**13 54 29.0**	**-1.3**
WMQ				LR	LR		
	comp=N,787nm,16.0s						
WMQ				LR	LR		
	comp=E,792nm,14.6s						
WMQ				LR	LR		
	comp=Z,2μm,20.0s						
GKN	**Gorkha**	**8.51**	**211**	*e*P	**Pn**	**13 54 31.3**	**+0.9**
	comp=Z,35nm,1.0s						
PKI	**Pulchoki**	**8.60**	**206**	*e*P	**Pn**	**13 54 30.9**	**-0.7**
DMN	**Daman**	**8.68**	**207**	*e*P	**Pn**	**13 54 32.7**	**0.0**
	comp=Z,40nm,0.9s						
GTA	**Gaotai**	**9.06**	**61**	*e*P	**Pn**	**13 54 37.8**	**-0.1**
GTA				AP		13 54 45.4	
GTA				XP		13 54 48.5	
GTA				S	**Sn**	**13 56 19.2**	**+0.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,31nm,4.9s						
GTA				LR	LR		
	comp=N,2μm,12.5s						
GTA				LR	LR		
	comp=E,690nm,14.1s						
GTA				LR	LR		
	comp=Z,503nm,13.7s						
LZH	**Lanzhou**	**11.61**	**83**	*e*P	**Pn**	**13 55 18.5**	**+5.7**
LZH				PP		13 55 28.3	
LZH				*e*S	**Sn**	**13 57 29.0**	**+7.6**
LZH				SS		13 57 44.3	
LZH				AMB	AMB		
	comp=Z,21nm,1.0s						
LZH				AMB	AMB		
	comp=Z,97nm,4.2s						
LZH				LR	LR		
	comp=N,453nm,7.2s						
LZH				LR	LR		
	comp=Z,856nm,10.3s						
MKAR	**Makanchi Array**	**12.61**	**336**	Pn	**Pn**	**13 55 23.5**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=154,slow=14,SNR=11						
AAK	**Ala-Archa**	**13.75**	**306**	*e*P	**Pn**	**13 55 45.3**	**+3.3**
	comp=Z,16nm,1.1s						
AAK	**Ala-Archa**	**13.75**	**306**	⇑*e*P	**Pn**	**13 55 46.1**	**+4.1**
FRU	**Bishkek**	**13.76**	**307**	*e*P	**Pn**	**13 55 46.0**	**+3.9**
FRU				MLR	MLR		
	comp=Z,600nm,12.0s						
XAN	**Xi'an**	**15.96**	**89**	P	**Pn**	**13 56 12.6**	**+1.0**
XAN				AP	pP	13 56 16.1	-6.7
XAN				AMB	AMB		
	comp=Z,7.0nm,1.3s						
KK31	**Karatay Array**	**16.62**	**303**	*i*P	**Pn**	**13 56 22.4**	**+2.5**
KK31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KKAR	**Karatay Array**	**16.62**	**303**	*i*P	**Pn**	**13 56 22.4**	**+2.5**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**17.22**	**336**	*e*P	**Pn**	**13 56 24.2**	**-3.2**
	comp=Z,7.8nm,0.9s						
KURK	**Kurchatov**	**17.22**	**336**	*i*P	**Pn**	**13 56 24.6**	**-2.8**
SONM	**Songino Array**	**17.61**	**40**	P	**Pn**	**13 56 33.5**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=226,slow=10,SNR=16						
ZAK	**Zakamensk**	**17.96**	**29**	*e*P	**Pn**	**13 56 33.9**	**-2.6**
ZAK				pmax	pmax		
	comp=Z,16nm,1.9s						
ULN	**Ulaanbaatar**	**17.97**	**41**	*e*P	**Pn**	**13 56 37.1**	**+0.4**
	comp=Z,11nm,1.4s						
ULN	**Ulaanbaatar**	**17.97**	**41**	*i*P	**Pn**	**13 56 37.4**	**+0.7**
HHC	**Hu-ho-hao-te**	**18.10**	**66**	*e*P	**Pn**	**13 56 34.8**	**-3.5**
HHC				AP	pP	13 56 42.4	-4.1
HHC				XP	sP	13 56 47.1	-3.2
HHC				PP		13 56 48.4	
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s						
HHC				AMB	AMB		
	comp=Z,203nm,4.8s						
HHC				LR	LR		
	comp=N,1μm,20.1s						
HHC				LR	LR		
	comp=E,522nm,18.1s						
HHC				LR	LR		
	comp=Z,437nm,16.7s						
ZAL	**Zalesovo**	**18.81**	**351**	P	**Pn**	**13 56 46.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=304,slow=11,SNR=17						
NVS	**Novosibirsk**	**19.91**	**349**	*i*P	**Pn**	**13 56 57.7**	**-2.3**
NVS				*e*S	**Sn**	**14 00 41.9**	**-1.0**
NVS				pmax	pmax		
	comp=Z,16nm,1.6s						
NVS				pmax	pmax		
	comp=N,15nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
NVS				smax			
	comp=N,20nm,2.2s						
NVS				smax			
	comp=E,11nm,2.2s						
BJI	**Beijing**	**21.50**	**70**	P	**P**	**13 57 15.9**	**+0.4**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb3.9						
BJI				AMB	AMB		
	comp=Z,96nm,3.6s						
BJI				LR	LR		
	comp=N,147nm,13.5s,MS4.4						
BJI				LR	LR		
	comp=E,1μm,14.0s,MS4.4						
BJI				LR	LR		
	comp=Z,238nm,22.2s						
VOSK	**Vostochnaya**	**21.74**	**328**	P	**P**	**13 57 17.3**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,19nm,1.8s,mb4.2						
BVA0	**Borovoye Array**	**22.21**	**328**	*e*P	**P**	**13 57 22.9**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb3.6						
BVAR	**Borovoye Array**	**22.21**	**328**	P	**P**	**13 57 23.6**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**22.28**	**328**	*e*P	**P**	**13 57 24.1**	**+0.2**
	comp=Z,22nm,1.4s,mb4.4						
BRVK	**Borovoye**	**22.28**	**328**	*e*P	**P**	**13 57 24.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.4						
ZRNK	**Zerenda**	**22.77**	**327**	*e*P	**P**	**13 57 29.9**	**+0.9**
	comp=Z,8.9nm,1.2s,mb4.1						
ZRNK	**Zerenda**	**22.77**	**327**	*i*P	**P**	**13 57 29.7**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,13nm,1.8s,mb4.1						
GZH	**Guangzhou**	**24.04**	**114**	*e*P	**P**	**13 57 37.3**	**-4.2**
GZH				S	**S**	**14 01 57.7**	**+0.9**
GZH				LR	LR		
	comp=N,788nm,15.3s,MS4.4						
GZH				LR	LR		
	comp=E,406nm,12.7s,MS4.4						
GZH				LR	LR		
	comp=Z,721nm,8.4s						
AB31	**Akbulak array**	**25.70**	**312**	*i*P	**P**	**13 57 56.9**	**+0.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
SSE	**Sheshan**	**26.72**	**90**	P	**P**	**13 58 10.4**	**+4.6**
SSE				S	**S**	**14 02 38.5**	**-1.0**
SSE				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.5						
SSE				AMB	AMB		
	comp=Z,93nm,5.2s						
SSE				LR	LR		
	comp=N,160nm,21.3s,MS3.6						
SSE				LR	LR		
	comp=E,74nm,21.3s,MS3.6						
SSE				LR	LR		
	comp=Z,68nm,19.8s,MS3.2						
ARU	**Arti**	**29.70**	**325**	⇓*i*P	**P**	**13 58 32.3**	**-0.1**
ARU				*e*		13 59 24.2	
ARU				*e*		14 01 43.5	
ARU				*e*S	**S**	**14 03 19.4**	**-6.9**
ARU				*e*		14 09 08.9	
ARU				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.0						
ARU				MLR	MLR		
	comp=N,200nm,18.0s,MS4.1						
ARU				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.1						
ARU				MLR	MLR		
	comp=E,400nm,21.0s,MS4.1						
KIV	**Kislovodsk**	**36.66**	**298**	*e*P	**P**	**13 59 34.6**	**+1.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
KIV				MLR	MLR		
	comp=Z,100nm,13.0s,MS3.8						
SOC	**Sochi**	**38.83**	**298**	*e*P	**P**	**13 59 52.0**	**+0.6**
SOC				*e*S	**S**	**14 05 42.5**	**-4.7**
SOC				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.2						
OBN	**Obninsk**	**41.01**	**316**	*e*P	**P**	**14 00 12.9**	**+3.4**
OBN				*e*SS	SS	14 09 27.4	+5.0
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
TIXI	**Tiksi**	**41.62**	**18**	⇑*e*P	**P**	**14 00 16.2**	**+1.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
BRTR	**Keskin Array B**	**43.94**	**293**	P	**P**	**14 00 34.1**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.6,baz=88,slow=9.1,SNR=3.7						
BRTR	**Keskin Array B**	**43.94**	**293**	P	**P**	**14 00 34.1**	**+0.8**
BRTR	**Keskin Array B**	**43.94**	**293**	P	**P**	**14 00 34.1**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**45.39**	**309**	P	**P**	**14 00 43.5**	**-1.4**
	comp=Z,0.2nm,0.2s,mb3.5,baz=75,slow=6.9,SNR=4.2						
SEY	**Seymchan**	**46.85**	**34**	⇑*e*P	**P**	**14 00 56.7**	**+0.3**
FINES	**FINESS Array B**	**47.06**	**324**	P	**P**	**14 00 56.5**	**-1.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=72,slow=6.2,SNR=5.4						
FINES				LR	LR	14 20 25.4	
	comp=Z,115nm,19.6s,MS3.8,baz=159,slow=36						
FINES	**FINESS Array B**	**47.06**	**324**	P	**P**	**14 00 56.5**	**-1.6**
FINES				LR	LR	14 20 25.4	
FINES	**FINESS Array B**	**47.06**	**324**	P	**P**	**14 00 56.5**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,115nm,19.7s						
ARCES	**ARCESS Array B**	**48.26**	**335**	LR	LR	14 21 52.3	
	comp=Z,135nm,18.0s,MS4.0,baz=180,slow=36						
BILL	**Bilibino**	**52.74**	**27**	*e*P	**P**	**14 01 41.4**	**+0.2**
BILL				*e*		14 02 50.3	
BILL				*e*S	**S**	**14 09 11.2**	**+3.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
NB2	**NORSAR Subarra**	**54.25**	**324**	P	**P**	**14 01 53.4**	**+1.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=81,slow=7.4						
NB2	**NORSAR Subarra**	**54.25**	**324**	P	**P**	**14 01 53.4**	**+1.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**54.25**	**324**	P	**P**	**14 01 53.5**	**+1.3**
	comp=Z,1.8nm,0.8s,mb4.1,baz=82,slow=7.2,SNR=6.3						
NOA				LR	LR	14 24 37.8	
	comp=Z,86nm,19.9s,MS3.8,baz=40,slow=36						
GERES	**GERESS Array B**	**55.61**	**309**	P	**P**	**14 02 01.7**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=108,slow=6.3,SNR=4.7						
GERES	**GERESS Array B**	**55.61**	**309**	P	**P**	**14 02 01.7**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRAB	**Tennant Creek**	**69.52**	**135**	*i*P	**P**	**14 03 34.2**	**-0.7**
WRA	**Warramunga Arr**	**69.52**	**135**	P	**P**	**14 03 32.7**	**-2.3**
	comp=Z,3.5nm,0.9s,mb4.3,baz=331,slow=6.0,SNR=16						
WRA	**Warramunga Arr**	**69.52**	**135**	P	**P**	**14 03 32.7**	**-2.2**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
COLA	**College**	**70.48**	**22**	*i*P	**P**	**14 03 43.2**	**+2.4**
ILAR	**Eielson Array**	**70.85**	**22**	P	**P**	**14 03 42.2**	**-0.9**
	comp=Z,1.6nm,1.0s,mb3.9,baz=301,slow=4.5,SNR=8.6						
ILAR	**Eielson Array**	**70.85**	**22**	P	**P**	**14 03 42.2**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	**71.70**	**16**	P	**P**	**14 03 50.0**	**+1.8**
	comp=Z,1.7nm,0.9s,mb4.0,baz=329,slow=6.0,SNR=6.3						
INK	**Inuvik**	**71.70**	**16**	P	**P**	**14 03 50.0**	**+1.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**72.22**	**138**	P	**P**	**14 03 49.5**	**-1.8**
	comp=Z,1.9nm,0.8s,mb4.1,baz=333,slow=7.0,SNR=17						
ASAR	**Alice Springs**	**72.22**	**138**	P	**P**	**14 03 49.6**	**-1.8**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**80.49**	**11**	P	**P**	**14 04 37.5**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=333,slow=5.3,SNR=20						
YKA				LR	LR	14 41 48.9	
	comp=Z,73nm,18.9s,MS4.0,baz=55,slow=37						
YKA	**Yellowknife Ar**	**80.49**	**11**	P	**P**	**14 04 37.5**	**-0.8**
YKA				LR	LR	14 41 48.9	
YKA	**Yellowknife Ar**	**80.49**	**11**	*i*P	**P**	**14 04 40.0**	**+1.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.81**	**280**	P	**P**	**14 04 38.8**	**-1.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=57,slow=5.1,SNR=8.4						
DBIC	**Dimbokro**	**89.78**	**278**	LR	LR	14 52 06.8	
	comp=Z,133nm,18.1s,MS4.4,baz=231,slow=40						
CPUP	**Villa Florida**	**150.30**	**279**	PKPbc	PKPbc	14 12 16.1	-1.3
	baz=72,slow=4.2						

GUC 03 13:57:21.8±0.5,2429S×6994W,h36km±4km,MD4.2,ML3.5,1C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.53**	**232**	*e*P	Pn	13 57 33.1	+0.2
CPN1				*i*S	Sn	13 57 41.7	+1.0
CPN1				AMP		13 57 42.4	
	comp=E,3μm,0.6s						
ANCH	**Antofagasta**	**0.74**	**325**	⇓*i*P	Pn	13 57 32.2	-3.6
ANCH				*i*S	Sn	13 57 42.9	-2.9
ANCH				AMP		13 57 44.1	
	comp=N,2μm,0.1s						
CEN1	**Los Morros**	**0.93**	**345**	⇑*i*P	Pn	13 57 36.5	-1.8
CEN1				*i*S	Sn	13 57 47.4	-3.0
CRCH	**Chaqaral**	**2.13**	**197**	*i*P	Pn	13 57 56.8	+1.9
CRCH				*i*S	S

*ISCJB **03** 14:00:13.5±0.8, 352N±0.1×897E±0.1, h10km, mb3.7/9, MS3.8/1, Error ellipse: s-maj=17.4km s-min=14.4km az=107.1*
*IDC **03** 14:00:13.3±0.9, 3523N×8960E, h0km, mb3.8/7, mb1 3.9/10, mb1mx3.8/23, mbtmp3.7/10, ML3.1/3, MS3.9/1, Ms1 3.9/1, ms1mx3.1/24, Error ellipse: s-maj=33.5km s-min=19.9km az=66.0*
*MOS **03** 14:00:14.7±1.5, 3542N×8966E, h10km, mb4.1/7, Error ellipse: s-maj=24.8km s-min=10.7km az=96.0*
*BJI **03** 14:00:15.6, 3547N×8943E, h10km, mb3.9, Ms4.2, Msz3.9*
*NEIC **03** 14:00:16.2±0.8, 3542N×8959E, h10km, mb3.8/4, Error ellipse: s-maj=22.6km s-min=12.6km az=68.0*

ISC 03 14:00:15.3±0.8, 353N±01×896E±01, h10km, n32, σ1§09/29, mb3.7/9, MS3.8/1, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.74**	**166**	PG	**Pg**	**14 02 00.0**	**-5.2**
LSA	**Lhasa**	**5.74**	**166**	*e*Pn	**Pn**	**14 01 46.1**	**+5.5**
MKAR	**Makanchi Array**	**12.72**	**337**	Pn	**Pn**	**14 03 14.2**	**-1.9**
0.1nm,0.3s,baz=151,slow=15,SNR=5.9							
AAK	**Ala-Archa**	**13.82**	**306**	*e*P	**Pn**	**14 03 40.4**	**+9.3**
5.8nm,0.8s							
AAK	**Ala-Archa**	**13.82**	**306**	*e*P	**Pn**	**14 03 40.4**	**+9.3**
AAK				pmax	pmax		
comp=Z,6.0nm,0.8s							
KURK	**Kurchatov**	**17.33**	**336**	*e*P	**Pn**	**14 04 14.9**	**-2.3**
comp=Z,4.2nm,0.9s							
KURK	**Kurchatov**	**17.33**	**336**	*e*P	**Pn**	**14 04 14.9**	**-2.3**
KURK				pmax	pmax		
comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**17.70**	**40**	P	**Pn**	**14 04 22.7**	**+0.8**
comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=12							
ULN	**Ulaanbaatar**	**18.07**	**41**	*e*P	**Pn**	**14 04 27.1**	**+0.7**
comp=Z,10nm,1.6s							
ULN	**Ulaanbaatar**	**18.07**	**41**	*e*P	**Pn**	**14 04 27.1**	**+0.7**
ULN				pmax	pmax		
comp=Z,10.0nm,1.6s							
ZAL	**Zalesovo**	**18.93**	**351**	P	**Pn**	**14 04 36.2**	**-0.7**
comp=Z,0.2nm,0.3s,baz=310,slow=16,SNR=9.9							
BVAR	**Borovoye Array**	**22.31**	**328**	P	**P**	**14 05 13.8**	**+0.9**
comp=Z,0.9nm,0.8s,mb3.3,baz=140,slow=12,SNR=6.2							
BVAR	**Borovoye Array**	**22.31**	**328**	P	**P**	**14 05 13.8**	**+0.9**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
BRVK	**Borovoye**	**22.38**	**328**	*e*P	**P**	**14 05 15.6**	**+2.0**
comp=Z,4.8nm,1.3s,mb3.8							
BRVK	**Borovoye**	**22.38**	**328**	*e*P	**P**	**14 05 15.6**	**+2.0**
BRVK				pmax	pmax		
comp=Z,5.0nm,1.3s,mb3.8							
ZRNK	**Zerenda**	**22.87**	**327**	*e*P	**P**	**14 05 20.1**	**+1.4**
comp=Z,7.1nm,1.4s,mb3.9							
ZRNK	**Zerenda**	**22.87**	**327**	*e*P	**P**	**14 05 20.1**	**+1.3**
ZRNK				pmax	pmax		
comp=Z,7.0nm,1.4s,mb3.9							
ASAJ	**Asahikawa**	**41.11**	**61**	LR	LR	14 26 11.0	
comp=Z,130nm,18.5s,MS3.8,baz=355,slow=38							
WRA	**Warramunga Arr**	**69.43**	**135**	P	**P**	**14 11 23.0**	**-0.5**
comp=Z,1.5nm,0.8s,mb4.0,baz=334,slow=6.2,SNR=7.8							
WRA	**Warramunga Arr**	**69.43**	**135**	P	**P**	**14 11 23.0**	**-0.5**
WRA				pmax	pmax		
comp=Z,2.0nm,0.8s							
ILAR	**Eielson Array**	**70.97**	**22**	P	**P**	**14 11 32.2**	**-0.8**
comp=Z,0.8nm,1.0s,mb3.6,baz=271,slow=4.9,SNR=6.2							
ILAR	**Eielson Array**	**70.97**	**22**	P	**P**	**14 11 32.2**	**-0.8**
ILAR				pmax	pmax		
comp=Z,1.0nm,1.0s							
INK	**Inuvik**	**71.82**	**16**	P	**P**	**14 11 38.0**	**-0.1**
comp=Z,2.1nm,1.0s,mb4.0,baz=340,slow=3.4,SNR=3.7							
INK	**Inuvik**	**71.82**	**16**	P	**P**	**14 11 38.0**	**-0.1**
INK				pmax	pmax		
comp=Z,2.0nm,1.0s							
ASAR	**Alice Springs**	**72.13**	**138**	P	**P**	**14 11 39.9**	**-0.1**
comp=Z,1.1nm,0.9s,mb3.8,baz=330,slow=4.6,SNR=6.6							
ASAR	**Alice Springs**	**72.13**	**138**	P	**P**	**14 11 39.9**	**-0.1**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**80.61**	**11**	P	**P**	**14 12 27.5**	**-0.6**
comp=Z,0.9nm,0.9s,mb3.7,baz=336,slow=5.2,SNR=10							
YKA	**Yellowknife Ar**	**80.61**	**11**	P	**P**	**14 12 27.5**	**-0.6**
YKA				pmax	pmax		
comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**80.61**	**11**	P	**P**	**14 12 27.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**80.82**	**280**	P	**P**	**14 12 29.6**	**+0.3**
comp=Z,0.5nm,0.6s,mb3.6,baz=46,slow=4.7,SNR=4.9							
CPUP	**Villa Florida**	**150.31**	**278**	PKPbc	PKPbc	14 20 06.2	-0.5
comp=Z,1.2nm,0.6s,baz=161,slow=3.2,SNR=5.1							
CPUP	**Villa Florida**	**150.31**	**278**	PKIKP	PKPbc	14 20 06.3	-0.4
CPUP				pmax	pmax		
comp=Z,1.0nm,0.6s							

*NEIC **03** 14:12:44.3, 36.16S×73.15W, h10km, ML3.3(GUC), After GUC.*

GUC 03 14:12:44.3±0.9, 3616S×7315W, h10km±3km, MD4.1, ML3.3, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.29**	**84**	⇓*i*P	Pg	14 12 50.5	+0.3
COCH				*i* S	Sg	14 12 54.9	+0.8
COCH				AMP		14 12 55.4	
comp=N,386nm,0.1s							
COCH	**Cobquecura**	**0.29**	**84**	⇓*i*P	Pg	14 12 50.5	+0.3
COCH				*i* S	Sg	14 12 54.9	+0.8
CNCO	**Chanco**	**0.65**	**50**	⇓*i*P	Pg	14 12 56.7	-0.3
CNCO				*i* S	Sg	14 13 06.1	+0.5
CNCO				AMP		14 13 06.8	
comp=N,5μm,0.3s							
CCHI	**Chillan**	**0.97**	**117**	⇑*i*P	Pg	14 13 02.2	-0.7
CCHI				*i* S	Sg	14 13 14.8	-0.8
CCHI				AMP		14 13 18.9	
comp=E,2μm,0.6s							
CCHI				AMP		14 13 26.2	
comp=E,2μm,0.5s							
CCHI	**Chillan**	**0.97**	**117**	⇑*i*P	Pg	14 13 02.2	-0.7
CCHI				*i* S	Sg	14 13 14.8	-0.8
LNCH	**Linares**	**1.29**	**76**	⇑*i*P	Pn	14 13 07.4	-0.9
LNCH				*i* S	Sb	14 13 24.6	-0.7
LNCH				AMP		14 13 27.6	
comp=E,2μm,0.1s							
LNCH	**Linares**	**1.29**	**76**	⇑*i*P	Pn	14 13 07.4	-0.9
LNCH				*i* S	Sb	14 13 24.6	-0.7
TALC	**Talca**	**1.45**	**59**	*e*P	Pn	14 13 09.7	-0.7
TALC				*i* S	Sn	14 13 29.0	-0.4
TALC				AMP		14 13 32.6	
comp=E,3μm,0.3s							
TALC	**Talca**	**1.45**	**59**	*e*P	Pn	14 13 09.7	-0.7
TALC				*i* S	Sn	14 13 29.0	-0.4
CICH	**Cipreses**	**2.89**	**51**	*e*P	Pn	14 13 32.0	+1.7
CACH	**El Canelo**	**2.92**	**46**	*e*P	Pn	14 13 32.4	+1.7
CHCH	**Chadas Angostu**	**3.02**	**43**	*e*P	Pn	14 13 33.0	+0.8
PEL	**Peldehue**	**3.63**	**35**	*e*P	Pn	14 13 41.4	+0.9
FCH	**Farellones**	**3.68**	**41**	*e*P	Pn	14 13 42.3	+1.1
FCH				*e*S	Sn	14 14 27.0	+2.5

*ISCJB **03** 14:21:55.8±0.2, 1339N±002×12003E±002, h10km, mb4.7/58, MS4.2/22, Error ellipse: s-maj=3.3km s-min=3.0km az=11.8*
*MOS **03** 14:21:57.6±1.0, 1362N×12063E, h33km, mb4.9/27, MS4.3/4, Error ellipse: s-maj=14.4km s-min=6.5km az=113.1*
*MAN **03** 14:21:58.2, 1339N×120.18E, h8km, mb4.1, ML5.1, MS1.6*
*BJI **03** 14:22:00.4, 1364N×12065E, h44km, mB4.8, mb4.5, Ms4.4, Msz4.3*
*NEIC **03** 14:22:01.2±0.2, 1353N×12045E, mb4.8/33, Error ellipse: s-maj=9.2km s-min=4.9km az=65.0*
*IDC **03** 14:22:03.4±1.3, 1348N×12047E, h69km±11km, mb4.0/13, mb1 4.2/13, mb1mx4.1/19, mbtmp4.3/13, MS4.1/14, Ms1 4.1/14, ms1mx4.0/24, Error ellipse: s-maj=26.6km s-min=11.9km az=72.0*

ISC 03 14:21:57.6±0.2, 1342N±002×12010E±002, h10km, (h31km±6.1km: pP-P), n158, σ1§32/167, mb4.7/58, MS4.2/22, 12C-6D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**24**	*e*P	**Pg**	**14 22 05.0**	**+0.6**
LUBP				*e*S	**Sg**	**14 22 09.8**	**+0.9**
PGP	**Puerto Galera**	**0.83**	**84**	⇓*i*P	**Pg**	**14 22 13.5**	**-0.1**
PGP				*i* S	**Sg**	**14 22 23.9**	**-0.6**
PAZ	**Puerto Azul**	**0.97**	**35**	*e*P	**Sg**	**14 22 30.6**	**+1.5**
TGY	**Tagaytay City**	**1.06**	**50**	P	**Pg**	**14 22 17.9**	**0.0**
4μm,0.3s,baz=241,slow=3.0,SNR=247							
TGY				S	**Sg**	**14 22 31.9**	**+0.3**
8μm,0.3s,baz=136,slow=19,SNR=28							
TGY	**Tagaytay City**	**1.06**	**50**	⇑*i*P	**Pg**	**14 22 17.9**	**0.0**
TGY				*i* S	**Sg**	**14 22 31.1**	**-0.6**
LBPH	**Los Banos**	**1.28**	**55**	*e*P	**Pn**	**14 22 22.4**	**+0.9**
BUSP	**Coron**	**1.41**	**176**	*e*P	**Pn**	**14 22 24.1**	**+0.7**
ARP	**Angono**	**1.51**	**42**	*e*P	**Pn**	**14 22 21.1**	**-3.6**
QVPH	**Quezon City--P**	**1.54**	**37**	*e*P	**Pn**	**14 22 23.4**	**-1.6**
LQP	**Lukban**	**1.56**	**64**	⇑*i*P	**Pn**	**14 22 25.6**	**+0.2**
BOAC	**Boac**	**1.69**	**88**	*e*P	**Pn**	**14 22 26.1**	**-1.1**
NZB	**Bigte**	**1.73**	**34**	*e*P	**Pn**	**14 22 26.8**	**-0.9**
OTRP	**Odiongan**	**2.15**	**119**	*e*P	**Pn**	**14 22 33.3**	**-0.2**
POLP	**Polilio Island**	**2.21**	**54**	*e*P	**Pn**	**14 22 34.7**	**+0.4**
ENPP	**El Nido**	**2.30**	**197**	*e*P	**Pn**	**14 22 37.0**	**+1.4**
GQP	**Guinayangan**	**2.33**	**78**	⇑*i*P	**Pn**	**14 22 36.6**	**+0.6**
GQP				*i* S	**Sn**	**14 23 05.1**	**+0.5**
PCPH	**Palayan**	**2.34**	**24**	⇓*e*P	**Pn**	**14 22 35.9**	**-0.2**
PCPH				*e*S	**Sn**	**14 23 03.5**	**-1.3**
SCZP	**Santa Cruz**	**2.35**	**355**	*e*P	**Pn**	**14 22 36.9**	**+0.7**
AUQP	**San Andres**	**2.50**	**92**	*e*P	**Pn**	**14 22 40.3**	**+1.9**
CUYO	**Cuyo Island**	**2.71**	**161**	*e*P	**Pn**	**14 22 41.3**	**+0.1**
BALP	**Baler**	**2.71**	**32**	*e*P	**Pn**	**14 22 43.1**	**+1.9**
KALP	**Kalibo**	**2.79**	**128**	*e*P	**Pn**	**14 22 41.3**	**-0.9**
BOLP	**Bolinao**	**2.95**	**356**	*e*P	**Pn**	**14 22 45.8**	**+1.3**
BCPH	**Baguio City Da**	**2.98**	**9**	⇓*i*P	**Pn**	**14 22 50.0**	**+5.1**
9μm,1.0s							
RCP	**Roxas**	**3.17**	**125**	*e*P	**Pn**	**14 22 48.0**	**+0.4**
GUIM	**Jordan**	**3.69**	**139**	*e*P	**Pn**	**14 22 55.4**	**+0.7**
PPR	**Puerto Princes**	**3.86**	**201**	*e*P	**Pn**	**14 22 58.4**	**+1.3**
PPR				*e*S	**Sn**	**14 23 42.3**	**-0.2**
CAUP	**Cauayan**	**3.88**	**25**	*e*P	**Pn**	**14 22 59.5**	**+2.2**
PVCP	**Virac**	**3.94**	**87**	*e*P	**Pn**	**14 22 58.6**	**+0.4**
ABRA	**Dolores**	**4.25**	**8**	*e*P	**Pn**	**14 23 06.8**	**+4.5**
PALP	**Palanan**	**4.26**	**31**	*e*P	**Pn**	**14 23 04.6**	**+2.1**
APYP	**Conner**	**4.55**	**14**	*e*P	**Pn**	**14 23 10.2**	**+3.6**
CVP	**Calliao Caves**	**4.57**	**21**	*e*P	**Pn**	**14 23 08.0**	**+1.2**
LLP	**Lapu-Lapu**	**4.88**	**129**	*e*P	**Pn**	**14 23 11.7**	**+0.6**
LLP				*i* S	**Sn**	**14 24 10.5**	**+3.0**
BATP	**Bataraza**	**5.12**	**206**	*e*P	**Pn**	**14 23 23.8**	**+9.4**
TBP	**Tagbilaran**	**5.22**	**135**	*e*P	**Pn**	**14 23 18.1**	**+2.3**
MSLP	**Maasin**	**5.69**	**125**	*e*P	**Pn**	**14 23 24.1**	**+2.0**
IPIL	**Ipil**	**6.10**	**156**	*e*P	**Pn**	**14 23 28.4**	**+0.6**
PAGZ	**Pagadian**	**6.41**	**149**	*e*P	**Pn**	**14 23 34.5**	**+2.5**
QIZ	**Qiongzhong**	**11.32**	**301**	*e*Pn	**Pn**	**14 24 40.6**	**+1.3**
53nm,1.4s							
JOW	**Kunigami**	**15.38**	**29**	LR	LR	14 31 47.3	
comp=Z,250nm,19.6s,baz=110,slow=38							
SSE	**Sheshan**	**17.62**	**3**	P	**Pn**	**14 26 00.7**	**-2.5**
SSE				S	**Sn**	**14 29 12.2**	**-7.3**
SSE				AMB	AMB		
comp=Z,21nm,0.7s							
SSE				AMB	AMB		
comp=Z,98nm,9.4s							
SSE				LR	LR		
comp=N,233nm,23.9s							
SSE				LR	LR		
comp=E,292nm,23.9s							
SSE				LR	LR		
comp=Z,305nm,20.0s							
NJ2	**Nanjing**	**18.58**	**357**	*e*P	**Pn**	**14 26 11.6**	**-3.4**
NJ2				AP	pP	14 26 24.1	+6.5
NJ2				S	**Sn**	**14 29 32.0**	**-11**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s							
NJ2				AMB	AMB		
comp=Z,20nm,3.5s							
NJ2				LR	LR		
comp=N,480nm,14.0s							
NJ2				LR	LR		
comp=E,3μm,12.0s							
NJ2				LR	LR		
comp=Z,530nm,20.4s							
ENH	**Enshi**	**19.43**	**331**	P	**Pn**	**14 26 27.1**	**+1.9**
comp=Z,9.7nm,0.8s							
KMI	**Kunming**	**20.08**	**308**	P	**P**	**14 26 35.9**	**+4.8**
KMI				AP		14 26 48.7	
KMI				S	**S**	**14 30 18.7**	**+2.0**
KMI				AMB	AMB		
comp=Z,8.0nm,0.9s							
KMI				AMB	AMB		
comp=Z,72nm,4.3s							
KMI				LR	LR		
comp=N,320nm,14.3s							
KMI				LR	LR		
comp=E,341nm,19.7s							
KMI				LR	LR		
comp=Z,563nm,18.8s,MS3.9							
CD2	**Chengdu**	**23.02**	**322**	P	**P**	**14 27 04.4**	**+1.7**
CD2				AP		14 27 18.2	
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.4							
CD2				AMB	AMB		
comp=Z,100nm,5.7s							
CD2				LR	LR		
comp=N,290nm,17.4s							
CD2				LR	LR		
comp=Z,390nm,18.6s,MS3.9							
PSI	**Prapat**	**23.44**	**245**	P	**P**	**14 27 09.8**	**+2.6**
comp=Z,3.2nm,0.6s,mb3.9,baz=218,slow=3.3,SNR=3.9							
CBIJ	**Chichi jima**	**24.73**	**53**	LR	LR	14 36 00.4	
comp=Z,388nm,19.0s,MS3.9,baz=256,slow=34							
BJT	**Baijiatuau**	**26.72**	**353**	P	**P**	**14 27 32.5**	**-4.6**
comp=Z,17nm,0.9s,mb4.6							
BJT	**Baijiatuau**	**26.72**	**353**	P	**P**	**14 27 32.5**	**-4.6**
BJT				pmax	pmax		
comp=Z,17nm,0.9s							
MJAR	**Matsushiro Arr**	**28.17**	**32**	LR	LR	14 39 42.3	
comp=Z,163nm,19.5s,MS3.6,baz=205,slow=38							
HHC	**Hu-ho-hao-te**	**28.33**	**346**	*e*P	**P**	**14 27 51.3**	**-0.3**
HHC				AP	pP	14 27 58.3	+3.7
HHC				PP	PP	14 28 42.4	-13
HHC				PCP	PcP	14 31 04.4	+0.1
HHC				S	**S**	**14 32 35.6**	**-2.4**
HHC				SS		14 33 59.4	
HHC				AMB	AMB		
comp=Z,9.0nm,0.3s,mb4.9							
HHC				AMB	AMB		
comp=Z,176nm,5.5s							
HHC				LR	LR		
comp=N,534nm,19.4s,MS4.2							
HHC				LR	LR		
comp=E,343nm,18.8s,MS4.2							
HHC				LR	LR		
comp=Z,502nm,21.4s,MS4.1							
KAKA	**Kakadu**	**28.70**	**154**	⇑*i*P	**P**	**14 27 53.0**	**-1.8**
comp=Z,49nm,0.6s,mb5.4							
CN2	**Changchun**	**30.62**	**8**	*e*P	**P**	**14 28 11.0**	**-0.9**
LSA	**Lhasa**	**31.30**	**306**	*e*P	**P**	**14 28 24.6**	**+6.8**
LSA	**Lhasa**	**31.30**	**306**	P	**P**	**14 28 20.7**	**+2.8**
comp=Z,8.2nm,1.4s,mb4.4							
LSA	**Lhasa**	**31.30**	**306**	P	**P**	**14 28 20.7**	**+2.9**
LSA				pmax	pmax		
comp=Z,8.0nm,1.4s,mb4.4							
GTA	**Gaotai**	**31.47**	**329**	*e*P	**P**	**14 28 22.3**	**+2.9**
GTA				AP	pP	14 28 29.1	+6.7
GTA				PP	PP	14 29 28.2	-2.2
GTA				S	**S**	**14 33 33.1**	**+5.8**
GTA				AMB	AMB		
comp=Z,3.0nm,0.9s,mb4.1							
GTA				AMB	AMB		
comp=Z,88nm,5.3s							
GTA				LR	LR		
comp=N,445nm,18.3s,MS4.3							
GTA				LR	LR		
comp=E,473nm,20.5s,MS4.3							
GTA				LR	LR		
comp=Z,694nm,20.9s,MS4.3							
FITZ	**Fitzroy Crossi**	**31.79**	**170**	*e*P	**P**	**14 28 21.8**	**-0.4**
comp=Z,25nm,1.0s,mb5.0							
MBWA	**Marble Bar**	**34.36**	**181**	*e*P	**P**	**14 28 44.9**	**+0.3**
comp=Z,17nm,0.5s,mb5.2							
JIRN	**Jiri**	**34.64**	**299**	*e*P	**P**	**14 28 47.9**	**+0.9**
comp=Z,25nm,0.5s,mb5.4							
GUN	**Gumba**	**34.98**	**300**	*e*P	**P**	**14 28 51.4**	**+1.5**
comp=Z,22nm,0.5s,mb5.4							
PMG	**Port Moresby**	**35.15**	**129**	P	**P**	**14 28 46.6**	**-4.8**
comp=Z,7.6nm,0.6s,mb4.8							
PMG	**Port Moresby**	**35.15**	**129**	P	**P**	**14 28 46.6**	**-4.9**
PMG				pmax	pmax		
comp=Z,8.0nm,0.6s							
PKI	**Pulchoki**	**35.28**	**299**	*e*P	**P**	**14 28 53.6**	**+1.1**
KKN	**Kakani**	**35.45**	**299**	*e*P	**P**	**14 28 55.2**	**+1.2**
comp=Z,30nm,0.9s,mb5.2							
KKN	**Kakani**	**35.45**	**299**	*e*P	**P**	**14 28 55.2**	**+1.2**
KKN				pmax	pmax		
comp=Z,15nm,0.9s,mb4.9							
DMN	**Daman**	**35.54**	**299**	*e*P	**P**	**14 28 55.8**	**+1.0**
comp=Z,24nm,0.8s,mb5.2							
HIA	**Hailar**	**35.74**	**360**	P	**P**	**14 28 53.6**	**-2.9**
WRAB	**Tennant Creek**	**35.99**	**157**	*e*P	**P**	**14 28 57.4**	**-1.2**
comp=Z,204nm,0.6s							
WRAB	**Tennant Creek**	**35.99**	**157**	*c i*P	**P**	**14 28 57.5**	**-1.1**
WRA	**Warramunga Arr**	**35.99**	**157**	P	**P**	**14 28 57.2**	**-1.4**
comp=Z,150nm,0.7s,baz=335,slow=9.6,SNR=432							
WRA	**Warramunga Arr**	**35.99**	**157**	*i* P	**P**	**14 28 56.2**	**-2.5**
WRA				pmax	pmax		
comp=Z,150nm,0.7s							
WB2	**Warramunga Arr**	**36.00**	**157**	⇑*i*P	**P**	**14 28 57.5**	**-1.2**
ULN	**Ulaanbaatar**	**36.02**	**345**	*e*P	**P**	**14 28 58.4**	**-0.6**
comp=Z,8.9nm,0.9s,mb4.7							
ULN	**Ulaanbaatar**	**36.02**	**345**	*c i*P	**P**	**14 28 58.6**	**-0.3**
GKN	**Gorkha**	**36.05**	**299**	*e*P	**P**	**14 29 00.0**	**+0.8**
comp=Z,5.9nm,0.3s,mb4.9							
SONM	**Songino Array**	**36.16**	**344**	P	**P**	**14 28 59.8**	**-0.3**
comp=Z,5.7nm,0.6s,mb4.7,baz=163,slow=9.3,SNR=68							
SONM				LR	LR	14 44 44.7	
comp=Z,410nm,20.2s,MS4.2,baz=28,slow=38							
KOLN	**Koldanda**	**36.87**	**299**	*e*P	**P**	**14 29 07.2**	**+1.0**
comp=Z,11nm,0.7s,mb4.8							
KLR	**Kul'dur**	**36.98**	**13**	*e*P	**P**	**14 28 58.0**	**-9.1**
HABR	**Khabarovsk**	**37.08**	**17**	*e*P	**P**	**14 29 01.4**	**-6.6**
HABR				*e*S	**S**	**14 34 43.6**	**-10**
AS31	**Alice Springs**	**39.25**	**160**	⇑*i*P	**P**	**14 29 25.9**	**-0.4**
ASAR	**Alice Springs**	**39.25**	**160**	P	**P**	**14 29 25.9**	**-0.4**
comp=Z,62nm,0.7s,mb5.5,baz=340,slow=7.2,SNR=1261							
ASPA	**Alice Springs**	**39.25**	**160**	⇑*i*P	**P**	**14 29 25.9**	**-0.4**
ZAK	**Zakamensk**	**39.33**	**343**	*e*P	**P**	**14 29 25.7**	**-1.3**
ZAK				pmax	pmax		
comp=Z,10.0nm,1.6s,mb4.3							
WMQ	**Urumqi**	**41.08**	**324**	*e*P	**P**	**14 29 40.8**	**-0.7**
WMQ				PP	PP	14 31 19.3	+3.1
WMQ				PCP	PcP	14 31 40.4	-0.6
WMQ				PPP		14 31 48.8	
WMQ				*e*S	**S**	**14 35 53.7**	**-0.5**
WMQ				SS	SS	14 38 51.9	-4.6
WMQ				AMB	AMB		
comp=Z,9.0nm,1.0s,mb4.3							
WMQ				AMB	AMB		
comp=Z,76nm,4.6s							
WMQ				LR	LR		
comp=N,466nm,20.0s,MS4.4							
WMQ				LR	LR		
comp=E,336nm,22.0s,MS4.4							
WMQ				LR	LR		
comp=Z,425nm,21.8s,MS4.3							
MOY	**Mondy**	**41.15**	**342**	*e*P	**P**	**14 29 41.7**	**-0.3**
BHPL	**Bhopal**	**41.54**	**290**	*e*P	**P**	**14 29 53.5**	**+8.3**
CTA	**Charters Tower**	**42.08**	**142**	*e*P	**P**	**14 29 48.8**	**-0.8**
comp=Z,10nm,0.6s,mb4.6							
CTA	**Charters Tower**	**42.08**	**142**	LR	LR	14 47 26.1	
comp=Z,61nm,18.1s,MS3.5,baz=325,slow=36							
CTA	**Charters Tower**	**42.08**	**142**	*e*P	**P**	**14 29 48.8**	**-0.8**
CTA				pmax	pmax		
comp=Z,11nm,0.6s							
CTAO	**Charters Tower**	**42.08**	**142**	*e*P	**P**	**14 29 48.7**	**-0.9**
comp=Z,20nm,0.7s,mb4.8							
CTAO	**Charters Tower**	**42.08**	**142**	*e*P	**P**	**14 29 48.7**	**-0.9**
CTAO				pmax	pmax		
comp=Z,20nm,0.7s,mb4.9							
KLBR	**Kellerberrin**	**44.81**	**183**	*e*P	**P**	**14 30 10.7**	**-1.0**
comp=Z,13nm,0.6s,mb4.9							
MUN	**Mundaring**	**45.29**	**185**	*e*P	**P**	**14 30 17.2**	**+1.7**
MK31	**Makanchi Array**	**45.91**	**324**	*i* P	**P**	**14 30 21.2**	**+0.8**
MK31				pmax	pmax		
comp=Z,12nm,1.2s,mb4.7							
MKAR	**Makanchi Array**	**45.91**	**324**	P	**P**	**14 30 21.3**	**+0.9**
comp=Z,1.4nm,0.5s,mb4.1,baz=130,slow=9.0,SNR=27							
MKAR				PcP	PcP	14 31 56.8	-0.5
comp=Z,2.8nm,0.8s,baz=151,slow=2.8,SNR=5.1							
MKAR				ScP	ScP	14 35 44.5	-5.9
comp=Z,1.6nm,1.1s,baz=106,slow=4.0,SNR=5.1							
MKAR				LR	LR	14 51 11.0	
comp=Z,384nm,18.8s,MS4.4,baz=50,slow=38							
MKAR	**Makanchi Array**	**45.91**	**324**	P	**P**	**14 30 21.3**	**+0.9**
MKAR						14 31 56.8	
NWAO	**Narrogin (SRO)**	**46.17**	**183**	*e*P	**P**	**14 30 21.9**	**-0.5**
comp=Z,17nm,0.9s,mb5.0							
NWAO	**Narrogin (SRO)**	**46.17**	**183**	*e*P	**P**	**14 30 21.9**	**-0.5**
NWAO				pmax	pmax		
comp=Z,17nm,0.9s							
AAK	**Ala-Archa**	**48.85**	**316**	*e*P	**P**	**14 30 43.5**	**+0.2**
comp=Z,8.6nm,1.1s,mb4.7							
AAK	**Ala-Archa**	**48.85**	**316**	⇓*e*P	**P**	**14 30 44.7**	**+1.4**
AAK				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.4							
AAK				MLR	MLR		
comp=Z,500nm,23.0s,MS4.4							
ZAL	**Zalesovo**	**49.04**	**333**	P	**P**	**14 30 43.7**	**-1.0**
comp=Z,1.2nm,0.4s,mb4.2,baz=360,slow=5.8,SNR=6.6							
ZAL				LR	LR	14 53 10.0	
comp=Z,390nm,18.9s,MS4.4,baz=332,slow=38							
ZAL	**Zalesovo**	**49.04**	**333**	P	**P**	**14 30 43.7**	**-1.0**
ZAL				LR	LR	14 53 10.0	
STKA	**Stephens Creek**	**49.53**	**156

comp=Z,9.2nm,0.6s,mb4.9,baz=120,slow=22,SNR=4.7
KLMR Klimovskoe 73.80 330 *eP* **P 14 33 29.7 -2.5**
KLMR *eSS* SS 14 47 49.8 +2.6
KLMR pmax pmax
comp=Z,30nm,2.1s,mb4.8
KLMR MLR MLR
comp=Z,330nm,20.0s,MS4.6
OBN Obninsk 75.42 324 *eP* **P 14 33 40.6 -1.0**
OBN pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
JOF Joensuu 77.62 332 *ep* **P 14 33 52.6 -1.5**
comp=Z,5.1nm,0.4s,mb4.8
JOF Joensuu 77.62 332 *eP* **P 14 33 52.6 -1.5**
JOF pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
MCK McKinley 78.51 27 *eP* **P 14 33 55.1 -3.9**
comp=Z,5.7nm,0.9s,mb4.5
MCK *e*pP pP 14 34 10.3 +8.0
MCK McKinley 78.51 27 *eP* **P 14 33 55.1 -3.9**
MCK *e*PP pP 14 34 10.3 +8.0
MCK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KEV Kevo 78.59 339 *ep* **P 14 33 56.8 -2.6**
comp=Z,38nm,1.4s,mb5.1
KEV Kevo 78.59 339 *eP* **P 14 33 56.8 -2.6**
KEV pmax pmax
comp=Z,38nm,1.4s,mb5.1
COLA College 78.83 26 *eP* **P 14 33 56.4 -4.4**
comp=Z,4.0nm,1.0s,mb4.3
COLA College 78.83 26 *eP* **P 14 33 56.4 -4.4**
COLA pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ARCES ARCESS Array B 79.14 339 P **P 14 34 00.6 -1.9**
comp=Z,3.4nm,0.6s,mb4.5,baz=76,slow=6.7,SNR=32
ARCES LR LR 15 12 48.2
comp=Z,148nm,18.2s,MS4.4,baz=11,slow=38
ILAR Eielson Array 79.25 26 P **P 14 33 58.4 -4.8**
comp=Z,0.5nm,0.6s,baz=271,slow=4.0,SNR=9.5
KAF Kangasniemi 80.02 332 *ep* **P 14 34 03.9 -3.4**
comp=Z,6.7nm,0.8s,mb4.6,baz=78,slow=4.7
KAF Kangasniemi 80.02 332 *eP* **P 14 34 03.9 -3.4**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FINES FINESS Array B 80.25 331 P **P 14 34 06.9 -1.6**
comp=Z,2.8nm,0.5s,mb4.4,baz=54,slow=6.1,SNR=26
FINES LR LR 15 13 04.1
comp=Z,184nm,19.9s,MS4.4,baz=5.0,slow=38
AKASG Malin Array Be 80.30 320 P **P 14 34 08.4 -0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=72,slow=4.4,SNR=5.3
KMBO Kilima Mbogo 83.31 267 LR LR 15 11 47.8
comp=Z,104nm,19.3s,MS4.2,baz=91,slow=36
INK Inuvik 83.56 21 *eP* **P 14 34 22.2 -3.7**
comp=Z,5.0nm,0.9s,mb4.6
INK Inuvik 83.56 21 *eP* **P 14 34 22.3 -3.7**
INK pmax pmax
comp=Z,5.0nm,0.9s
RAR Rarotonga 85.83 113 LR LR 15 04 38.0
comp=Z,81nm,21.8s,MS4.1,baz=165,slow=30
OJC Ojcow 86.28 321 *eP* **P 14 34 39.3 -0.3**
NB2 NORSAR Subarra 87.24 333 P **P 14 34 41.3 -3.0**
comp=Z,7.5nm,0.8s,mb5.0,baz=70,slow=4.6
NB2 NORSAR Subarra 87.24 333 P **P 14 34 41.3 -3.0**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
NOA NORSAR Array B 87.24 333 P **P 14 34 42.0 -2.3**
comp=Z,7.5nm,0.8s,mb5.0,baz=68,slow=4.6,SNR=20
NOA LR LR 15 15 47.2
comp=Z,100nm,21.1s,MS4.2,baz=315,slow=37
NOA NORSAR Array B 87.24 333 P **P 14 34 42.0 -2.3**
NOA LR LR 15 15 47.2
RES Resolute Bay 89.40 9 *eP* **P 14 34 50.8 -3.8**
comp=Z,2.1nm,0.8s,mb4.5
RES Resolute Bay 89.40 9 *eP* **P 14 34 50.8 -3.7**
RES pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
BRG Berggiesshubel 89.61 323 *eP* **P 14 34 54.1 -1.4**
comp=Z,1.5nm,0.3s,mb4.8
GERES GERESS Array B 90.48 321 P **P 14 34 58.7 -0.9**
comp=Z,1.0nm,0.8s,mb4.2,baz=55,slow=5.1,SNR=6.1
GERES LR LR 15 18 02.3
comp=Z,156nm,18.2s,MS4.5,baz=253,slow=37
YKA Yellowknife Ar 93.25 22 P **P 14 35 08.2 -4.2**
comp=Z,0.3nm,0.6s,mb3.9,baz=307,slow=4.5,SNR=8.5
YKA Yellowknife Ar 93.25 22 P **P 14 35 08.2 -4.2**
YKA Yellowknife Ar 93.25 22⇑ *eP* **P 14 35 09.3 -3.1**
VNDA Vanda 93.85 172 LR LR 15 21 52.2
comp=Z,161nm,18.9s,MS4.5,baz=77,slow=38

*IDC **03** 14:28:26.6±1.6, 1333N×12006E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=33.5km s-min=13.3km az=122.0*
*ISCJB **03** 14:28:29.7±1.2, 1334N±009×1204E±02, h33km, mb3.8/3, Error ellipse: s-maj=24.6km s-min=10.3km az=38.4*
*MAN **03** 14:28:32.0, 1354N×12058E, h1km, mb2.1, ML3.8, MS3.0*
ISC 03 14:28:32.0±1.2, 1338N±008×1206E±02, h35km, n9, σ1§44/10, mb3.8/3, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.41**	**73**	*eP*	**Pn**	**14 28 39.3**	**-2.0**
TGY	**Tagaytay City**	**0.81**	**27**	Pg	**Pn**	**14 28 50.0**	**+3.0**
	baz=207,slow=6.8						
TGY				Lg		14 29 03.2	
	baz=142,slow=19						
TGY	**Tagaytay City**	**0.81**	**27**	⇓*iP*	**Pn**	**14 28 45.4**	**-1.5**
TGY				*i* S	**Sn**	**14 28 59.6**	**+2.0**
LBPH	**Los Banos**	**0.98**	**38**	*eP*	**Pn**	**14 28 48.1**	**-1.2**
ARP	**Angono**	**1.29**	**27**	*eP*	**Pn**	**14 28 47.4**	**-6.1**
QVPH	**Quezon City--P**	**1.35**	**21**	*eP*	**Pn**	**14 28 55.0**	**+0.5**
WRA	**Warramunga Arr**	**35.78**	**157**	P	**P**	**14 35 28.4**	**+0.6**
	1.4nm,0.5s,mb4.1,baz=338,slow=9.5,SNR=15						
SONM	**Songino Array**	**36.32**	**344**	P	**P**	**14 35 31.1**	**-1.3**
	0.3nm,0.6s,mb3.4,baz=166,slow=7.9,SNR=2.7						
ASAR	**Alice Springs**	**39.06**	**160**	P	**P**	**14 35 56.8**	**+1.2**
	0.8nm,0.5s,mb3.7,baz=335,slow=6.5,SNR=12						

*NEIC **03** 14:36:36.0, 1911N×6399W, h5km, MD3.7(RSPR), After RSPR.*
RSPR 03 14:36:36.0, 1911N×6399W, h5km±31km, MD3.7/9, MD3.7/9, 21C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.91**	**220⇑**	*eP*	Pg	14 36 51.4	-2.1
TBVI	**Tortola**	**0.91**	**220**	*eS*	Sg	14 37 03.4	-1.9
TBVI	**Tortola**	**0.91**	**220⇓**	*eP*	Pg	14 36 51.3	-2.2
TBVI				*eS*	Sg	14 37 03.4	-1.9
STVI	**Saint Thomas**	**1.19**	**231⇑**	*eP*	Pg	14 36 55.7	-3.1
STVI	**Saint Thomas**	**1.19**	**231**	*eS*	Sg	14 37 11.4	-2.8
STVI	**Saint Thomas**	**1.19**	**231⇓**	*eP*	Pg	14 36 55.6	-3.3
STVI				*eS*	Sg	14 37 11.3	-2.9
STMA	**St. Maarten, A**	**1.35**	**142**	*eP*	Pn	14 37 06.7	+5.2
STMA				*eS*	Sb	14 37 16.2	-3.2
CDVI	**St. Croix**	**1.54**	**209⇑**	*eP*	Pn	14 37 02.0	-2.1
CDVI	**St. Croix**	**1.54**	**209**	*eS*	Sn	14 37 21.6	-2.9
CDVI	**St. Croix**	**1.54**	**209⇓**	*eP*	Pn	14 37 02.3	-1.8
MTP	**Monte Pirata**	**1.80**	**236**	*eS*	Sn	14 37 26.1	-4.7
MTP	**Monte Pirata**	**1.80**	**236⇑**	*eP*	Pn	14 37 04.3	-3.4
MTP	**Monte Pirata**	**1.80**	**236⇓**	*eP*	Pn	14 37 04.4	-3.3
MTP				*eS*	Sn	14 37 26.0	-4.8
CBYP	**Canovanas**	**1.96**	**245**	*eS*	Sn	14 37 31.4	-3.4
CBYP	**Canovanas**	**1.96**	**245⇑**	*eP*	Pn	14 37 07.0	-2.8
CBYP				*eS*	Sn	14 37 31.1	-3.6
HUMP	**Col San Antoni**	**2.01**	**242**	*eS*	Sn	14 37 32.4	-3.7
HUMP	**Col San Antoni**	**2.01**	**242⇓**	*eP*	Pn	14 37 07.4	-3.2
HUMP	**Col San Antoni**	**2.01**	**242⇑**	*eP*	Pn	14 37 07.2	-3.3
HUMP				*eS*	Sn	14 37 32.2	-3.8
CPD	**Cerro la Pandu**	**2.12**	**240**	*eS*	Sn	14 37 36.0	-2.7
CPD	**Cerro la Pandu**	**2.12**	**240⇑**	*eP*	Pn	14 37 09.8	-2.2
CPD	**Cerro la Pandu**	**2.12**	**240⇓**	*eP*	Pn	14 37 09.7	-2.4
SJG	**San Juan**	**2.28**	**244⇑**	*eP*	Pn	14 37 11.9	-2.4
SJG				*eS*	Sn	14 37 38.4	-4.3
CELP	**Cerrillos**	**2.66**	**248⇑**	*eP*	Pn	14 37 16.7	-2.9
CELP				*eS*	Sn	14 37 49.5	-2.7
CELP	**Cerrillos**	**2.66**	**248⇓**	*eP*	Pn	14 37 16.7	-2.9
ICM	**Isla Caja Muer**	**2.69**	**244⇑**	*eP*	Pn	14 37 18.2	-1.7
ICM	**Isla Caja Muer**	**2.69**	**244**	*eS*	Sn	14 37 50.4	-2.5
ICM	**Isla Caja Muer**	**2.69**	**244⇓**	*eP*	Pn	14 37 18.5	-1.4
ICM				*eS*	Sn	14 37 50.9	-2.0
AOPR	**Arecibo Observ**	**2.72**	**254⇑**	*eP*	Pn	14 37 18.6	-1.8
AOPR	**Arecibo Observ**	**2.72**	**254**	*eS*	Sn	14 37 51.1	-2.6
AOPR	**Arecibo Observ**	**2.72**	**254⇓**	*eP*	Pn	14 37 18.9	-1.5
AOPR				*eS*	Sn	14 37 50.7	-3.0
LRS	**Lares**	**2.83**	**254⇑**	*eP*	Pn	14 37 19.4	-2.4
CRPR	**Cabo Rojo, PR**	**3.16**	**250⇑**	*eP*	Pn	14 37 23.9	-2.4
CRPR	**Cabo Rojo, PR**	**3.16**	**250⇓**	*eP*	Pn	14 37 24.1	-2.2
CRPR				*eS*	Sn	14 38 00.7	-3.7

MAN 03 14:41:57.2, 1364N×12015E, h36km, MS7.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.13**	**46**	*eP*	Pn	14 42 05.0	+1.4
LUBP				*eS*	Sn	14 42 09.5	+1.6
PGP	**Puerto Galera**	**0.80**	**100**	*eP*	Pn	14 42 13.4	+1.6
BUSP	**Coron**	**1.63**	**178**	*eP*	Pn	14 42 24.0	+0.7
ENPP	**El Nido**	**2.52**	**196**	*eP*	Pn	14 42 36.8	+1.1
CUYO	**Cuyo Island**	**2.90**	**163**	*eP*	Pn	14 42 41.5	+0.6

IDC 03 15:01:03.8±2.2, 383S×13021E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.6/16, mbtmp3.6/4, ML3.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/26, Error ellipse: s-maj=166.1km s-min=26.2km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.52**	**166**	Pn	Pn	15 04 55.4	-1.5
	0.2nm,0.3s,baz=349,slow=13,SNR=16						
WB2	**Warramunga Arr**	**16.52**	**166**	*eP*	Pn	15 04 55.7	-1.2
ASAR	**Alice Springs**	**20.05**	**170**	P	P	15 05 39.5	+1.0
	1.1nm,0.5s,baz=350,slow=11,SNR=26						
ASPA	**Alice Springs**	**20.05**	**170**	*eP*	P	15 05 39.1	+0.7
JHJ	**Hachijo jima 2**	**37.85**	**13**	LR	LR	15 22 38.9	
	comp=Z,114nm,20.7s,baz=359,slow=34						
MKAR	**Makanchi Array**	**65.71**	**326**	P	P	15 11 50.2	0.0
	0.5nm,0.4s,baz=112,slow=7.8,SNR=14						
BVAR	**Borovoye Array**	**75.51**	**327**	P	P	15 12 50.4	+0.4
	1.0nm,0.9s,baz=150,slow=6.1,SNR=3.6						

MEX 03 15:17:57.6±1.0, 1695N×10093W, h23km±23km, MD4.5, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.64**	**81**	*i P*	Pb	15 18 07.4	-2.8
CAIG				*i* S	Sb	15 18 15.8	-2.9
ZIIG	**Zihuatanejo**	**0.83**	**322⇑**	*iP*	Pb	15 18 10.6	-2.7
ZIIG				*i* S	Sb	15 18 21.6	-2.4
ACX	**Acapulco**	**0.98**	**95**	*i P*	Pb	15 18 13.2	-2.7
ACX				*i* S	Sb	15 18 26.4	-1.9
MEIG	**Mezcala**	**1.58**	**52**	*eP*	Pn	15 18 21.3	-2.9
MEIG				*i* S	Sn	15 18 41.5	-2.5
PLIG	**Platanillo**	**1.98**	**43**	*eP*	Pn	15 18 27.7	-2.0
PLIG				*i* S	Sn	15 18 50.1	-3.6
YAIG	**Yautepec**	**2.60**	**43**	*eP*	Pn	15 18 35.9	-2.3
YAIG				*i* S	Sn	15 19 08.7	-0.4
CHVM	**Chichinautzin**	**2.72**	**38**	*eP*	Pn	15 18 42.4	+2.5
MOIG	**Morelia**	**2.72**	**355**	*i P*	Pn	15 18 39.9	0.0
MOIG				*i* S	Sn	15 19 10.9	-1.2
MRX	**Morelia**	**2.75**	**355**	*i P*	Pn	15 18 42.0	+1.7
MRX				*i* S	Sn	15 19 08.5	-4.2
SZVM	**Salazar**	**2.78**	**32**	*eP*	Pn	15 18 43.1	+2.4
CIVM	**Cilcuayo**	**2.83**	**41**	*eP*	Pn	15 18 42.4	+1.0
UNM	**Universidad Na**	**2.89**	**35**	*eP*	Pn	15 18 43.4	+1.1
UNM				*i P*		15 18 43.6	
UNM				*i* S	Sn	15 19 15.2	-1.1
UNM				*i* S	Sn	15 19 15.3	-1.0
PPM	**Popocatepetl**	**3.04**	**46**	*eP*	Pn	15 18 40.5	-3.8
PPM				*eP*		15 18 42.4	
PPM				*eP*		15 18 43.1	
PPM				*i* S	Sn	15 19 17.2	-2.7
RFVM	**Rio Frio**	**3.14**	**41**	*eP*	Pn	15 18 48.0	+2.4
PTVM	**Pico Tres Padr**	**3.15**	**33**	*eP*	Pn	15 18 46.0	+0.3
TPIG	**Tehuac#an**	**3.70**	**66**	*eP*	Pn	15 18 50.8	-2.6
TPIG				*i* S	Sn	15 19 33.5	-2.8
VHO	**Vista Hermosa**	**4.02**	**88**	*eP*	Pn	15 18 54.4	-3.4
VHO				*i* S	Sn	15 19 41.8	-2.3
OXX	**Oaxaca**	**4.03**	**88**	*eP*	Pn	15 18 54.3	-3.6
SFJM	**Santa Fe**	**4.04**	**331**	*eP*	Pn	15 19 00.8	+2.8
CJM	**Chamela**	**4.66**	**304**	*eP*	Pn	15 19 05.2	-1.3
CJM				*i* S	Sn	15 19 58.3	-1.5
HUIG	**Huatulco**	**4.78**	**104**	*i* S	Sn	15 20 00.5	-2.3
LVIG	**Laguna Verde**	**5.10**	**57**	*i* S	Sn	15 20 08.4	-2.2
CMIG	**Matias Romero**	**5.79**	**88**	*eP*	Pn	15 19 19.8	-2.3
CMIG				*i* S	Sn	15 20 23.9	-3.8
ZAIG	**Zacatecas**	**5.99**	**345**	*eP*	Pn	15 19 26.4	+1.6
ZAIG				*i* S	Sn	15 20 30.3	-2.3

*JMA **03** 15:27:14.6±0.3, 4736N×14191E, h16km, M3.0*
*ISCJB **03** 15:27:16.5±0.6, 4715N±002×14219E±009, h10km, Error ellipse: s-maj=9.4km s-min=3.3km az=164.0*
*SKHL **03** 15:27:17.8±0.6, 4720N×14230E, h10km, mb4.0/3*
ISC 03 15:27:17.6±0.6, 4714N±003×14221E±010, h10km, n9, σ1§25/17, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.42**	**117⇑**	*iPg*	**Pg**	**15 27 25.9**	**+0.1**
YSS				AMB	AMB	15 27 26.3	
	90nm,0.4s						
YSS				AMB	AMB	15 27 26.3	
	160nm,0.4s						
YSS				AMB	AMB	15 27 26.3	
	220nm,0.4s						
YSS				*i* Sg	**Sg**	**15 27 32.0**	**+0.6**
YSS				A		15 27 33.2	
	3μm,0.2s						
YSS				A		15 27 33.2	
	3μm,0.2s						
YSS				A		15 27 34.0	
	3μm,1.0s						
YSS				A		15 27 34.0	
	2μm,1.0s						
YSS				AMS	AMS	15 27 38.0	
	600nm,5.0s						
JWK2	**Keihoku**	**1.84**	**187**	P	**Pn**	**15 27 48.9**	**-0.4**
JWK2				*eS*	**Sn**	**15 28 14.0**	**+1.4**
UGL	**Uglegorsk**	**1.94**	**357**	*ePn*	**Pn**	**15 27 48.0**	**-2.6**
UGL				*ePg*	**Pg**	**15 27 55.5**	**+0.7**
UGL				AMB	AMB	15 27 57.0	
	145nm,0.8s						
UGL				*eSb*	**Sb**	**15 28 16.5**	**-0.8**
UGL				*eSg*	**Sg**	**15 28 21.0**	**+1.1**
UGL				A		15 28 28.0	
	121nm,0.8s						
UGL				A		15 28 28.0	
	133nm,0.8s						
JSE	**Soyaes**	**2.20**	**173**	*eS*	**Sn**	**15 28 25.4**	**+3.9**
ASAJ	**Asahikawa**	**3.04**	**175**	P	**Pn**	**15 28 06.3**	**+0.5**
ASAJ				*eS*	**Sn**	**15 28 42.3**	**+0.1**
JKK2	**Kamakawa 2**	**3.29**	**173**	P	**Pn**	**15 28 10.0**	**+0.8**
JTKR	**Abashiri--Toko**	**3.39**	**159**	P	**Pn**	**15 28 08.7**	**-1.9**
JTKR				*eS*	**Sn**	**15 28 49.7**	**-1.1**
TYV	**Tymovskoe**	**3.73**	**4**	*ePb*	**Pb**	**15 28 21.0**	**-2.7**
TYV				*ePg*	**Pg**	**15 28 30.3**	**+1.1**
TYV				AMB	AMB	15 28 34.0	
	22nm,1.0s						
TYV				*eSg*	**Sg**	**15 29 21.2**	**+3.6**
TYV				A		15 29 39.2	
	60nm,1.0s						
EKMR	**Ekimchan**	**8.40**	**318**	*erx*	rx	15 31 23.2	

*ISCJB **03** 15:35:53.7±1.4, 1918N±007×6400W±003, h20km±9km, Error ellipse: s-maj=12.3km s-min=4.9km az=21.5*
*NEIC **03** 15:35:55.6, 1909N×6385W, h20km, MD3.6(RSPR), After RSPR.*
*RSPR **03** 15:35:55.6, 1909N×6385W, h20km±29km, MD3.6/16, MD3.6/16*
ISC 03 15:35:53.9±1.4, 1912N±007×6401W±003, h11km±6km, n29, σ0§63/42, 10C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.91**	**219**	*eS*	**Sg**	**15 36 23.4**	**+0.1**
TBVI	**Tortola**	**0.91**	**219⇓**	*eP*	**Pg**	**15 36 11.3**	**-0.1**
TBVI				*eS*	**Sg**	**15 36 23.4**	**+0.1**
STVI	**Saint Thomas**	**1.18**	**230**	*eS*	**Sb**	**15 36 31.6**	**-0.1**
STVI	**Saint Thomas**	**1.18**	**230⇑**	*eP*	**Pb**	**15 36 15.8**	**-0.7**
STVI				*eS*	**Sb**	**15 36 31.6**	**-0.1**
STMA	**St. Maarten, A**	**1.37**	**141**	*eP*	**Pn**	**15 36 19.4**	**+0.3**
STMA				*eS*	**Sb**	**15 36 37.0**	**-0.2**
CDVI	**St. Croix**	**1.54**	**208⇑**	*eP*	**Pn**	**15 36 23.0**	**+1.6**
SABT	**Saba**	**1.66**	**154**	*eP*	**Pn**	**15 36 23.3**	**+0.2**
SABT				*eS*	**Sn**	**15 36 45.7**	**+1.3**
MTP	**Monte Pirata**	**1.79**	**235**	*eS*	**Sn**	**15 36 46.7**	**-0.8**
MTP	**Monte Pirata**	**1.79**	**235⇓**	*eP*	**Pn**	**15 36 24.5**	**-0.3**
MTP				*eS*	**Sn**	**15 36 46.7**	**-0.8**
CBYP	**Canovanas**	**1.94**	**244**	*eS*	**Sn**	**15 36 50.6**	**-0.7**
CBYP	**Canovanas**	**1.94**	**244⇓**	*eP*	**Pn**	**15 36 26.6**	**-0.4**
CBYP				*eS*	**Sn**	**15 36 50.6**	**-0.7**
HUMP	**Col San Antoni**	**2.00**	**241**	*eS*	**Sn**	**15 36 52.0**	**-0.7**
HUMP	**Col San Antoni**	**2.00**	**241⇓**	*eP*	**Pn**	**15 36 27.4**	**-0.2**
HUMP				*eS*	**Sn**	**15 36 52.0**	**-0.7**
CPD	**Cerro la Pandu**	**2.10**	**239**	*eS*	**Sn**	**15 36 55.4**	**+0.1**
CPD	**Cerro la Pandu**	**2.10**	**239⇑**	*eP*	**Pn**	**15 36 29.5**	**+0.4**
CPD				*eS*	**Sn**	**15 36 55.4**	**+0.1**
SJG	**San Juan**	**2.27**	**244**	*eS*	**Sn**	**15 36 59.3**	**0.0**
SJG	**San Juan**	**2.27**	**244⇓**	*eP*	**Pn**	**15 36 31.3**	**0.0**
SJG	**San Juan**	**2.27**	**244⇑**	*eP*	**Pn**	**15 36 31.2**	**-0.1**
SJG				*eS*	**Sn**	**15 36 59.3**	**0.0**
CELP	**Cerrillos**	**2.65**	**247⇑**	*eP*	**Pn**	**15 36 36.5**	**-0.1**
ICM	**Isla Caja Muer**	**2.68**	**243**	*eS*	**Sn**	**15 37 10.0**	**+0.5**
ICM	**Isla Caja Muer**	**2.68**	**243⇑**	*eP*	**Pn**	**15 36 37.7**	**+0.7**
ICM				*eS*	**Sn**	**15 37 10.0**	**+0.5**
AOPR	**Arecibo Observ**	**2.71**	**254**	*eS*	**Sn**	**15 37 10.8**	**+0.5**
AOPR	**Arecibo Observ**	**2.71**	**254⇑**	*eP*	**Pn**	**15 36 37.4**	**0.0**
AOPR				*eS*	**Sn**	**15 37 10.8**	**+0.5**
LRS	**Lares**	**2.81**	**253⇑**	*eP*	**Pn**	**15 36 38.7**	**-0.2**
MGP	**Maguayo**	**3.12**	**250⇑**	*eP*	**Pn**	**15 36 44.3**	**+1.1**
CRPR	**Cabo Rojo, PR**	**3.14**	**250**	*eS*	**Sn**	**15 37 21.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**3.14**	**250⇑**	*eP*	**Pn**	**15 36 43.0**	**-0.4**
CRPR				*eS*	**Sn**	**15 37 21.2**	**+0.3**
SEG	**Port Louis**	**3.61**	**138**	*eP*	**Pn**	**15 36 48.1**	**-1.7**
LZG	**Guadaloupe-1**	**3.65**	**144**	*eP*	**Pn**	**15 36 50.6**	**+0.2**
LZG				*eS*	**Sn**	**15 37 32.9**	**-0.7**

MAN 03 15:39:32.7, 1335N×12009E, h1km, mb2.2, ML3.8, MS2.7, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.41**	**22**	*eP*	Pg	15 39 40.5	-0.1
LUBP				*eS*	Sg	15 39 44.9	-1.0
PGP	**Puerto Galera**	**0.86**	**80⇑**	*eP*	Pg	15 39 49.3	+0.1
PAZ	**Puerto Azul**	**1.04**	**33**	*eP*	Sg	15 40 06.5	+0.3
TGY	**Tagaytay City**	**1.11**	**48**	⇓*iP*	Pg	15 39 54.3	+0.2
TGY				*i* S	Sg	15 40 07.0	-1.5
LBPH	**Los Banos**	**1.33**	**53**	*eP*	Pg	15 39 58.2	0.0
ARP	**Angono**	**1.57**	**41**	*eP*	Pn	15 39 57.4	-4.4
ARP	**Angono**	**1.57**	**41**	*eP*	Pn	15 40 12.7	+11
QVPH	**Quezon City--P**	**1.60**	**36**	*eP*	Pn	15 40 17.8	+16
ENPP	**El Nido**	**2.23**	**197**	*eP*	Pn	15 40 12.8	+2.0
CUYO	**Cuyo Island**	**2.65**	**160**	*eP*	Pn	15 40 17.6	+1.0

*BJI **03** 15:39:33.6, 4470N×13550E, h351km, mB4.5, mb4.4*
*MOS **03** 15:39:35.8±1.0, 4469N×13550E, h360km, mb4.3/32, Error ellipse: s-maj=10.0km s-min=5.4km az=110.4*
*NEIC **03** 15:39:36.6±0.2, 4471N×13553E, mb4.4/34, Error ellipse: s-maj=6.2km s-min=5.1km az=105.0*
*ISCJB **03** 15:39:36.1±0.3, 4473N±003×13550E±005, h358km±2km, mb4.1/55, Error ellipse: s-maj=5.2km s-min=4.6km az=54.7*
*SKHL **03** 15:39:36.4±0.9, 4481N×13541E, h347km±6km, mb4.5/11, msh4.6/4*
*IDC **03** 15:39:36.2±1.1, 4463N×13544E, h346km±11km, mb3.8/20, mb1 3.9/23, mb1mx3.9/27, mbtmp4.5/23, Error ellipse: s-maj=10.1km s-min=9.3km az=12.0*
ISC 03 15:39:36.6±0.3, 4473N±003×13550E±004, h353km±2km, h357km±4.8km: pP-P, n175, σ1§08/191, mb4.1/55, 15C-9D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	**Ternei**	**0.84**	**68**	*i P*	**Pn**	**15 40 21.3**	**-0.7**
TEY				AMB	AMB	15 40 22.0	
	310nm,0.5s						
TEY				*i* S	**S**	**15 40 57.0**	**-1.5**
TEY				A		15 40 58.0	
	900nm,2.0s						
TEY				A		15 40 58.0	
	1μm,2.0s						
TEY				A		15 40 58.0	
	840nm,1.0s						
TEY				A		15 40 58.0	
	470nm,1.0s						
VLA	**Vladivostok**	**3.06**	**240⇑**	*iP*	**Pn**	**15 40 37.9**	**+1.2**
VLA				AMB	AMB	15 40 40.6	
	16nm,0.6s						
VLA				*i* S	**S**	**15 41 25.1**	**0.0**
VLA	**Vladivostok**	**3.06**	**240***c*	*iP*	**Pn**	**15 40 37.9**	**+1.2**
VLA				*i* S	**S**	**15 41 25.1**	**0.0**
VLA				pmax	pmax		
	comp=Z,16nm,0.6s						
HABR	**Khabarovsk**	**3.75**	**355⇑**	*iP*	**Pn**	**15 40 45.8**	**+2.5**
HABR				AMB	AMB	15 40 46.0	
	comp=Z,203nm,0.6s						
HABR				*e*S	**S**	**15 41 38.9**	**+1.9**
HABR				A		15 41 39.8	
	comp=Z,74nm,1.2s						
HABR	**Khabarovsk**	**3.75**	**355⇑**	*iP*	**Pn**	**15 40 45.8**	**+2.5**
HABR				*e*S	**S**	**15 41 38.9**	**+1.9**
HABR				pmax	pmax		
	comp=Z,203nm,0.6s						
HABR				smax			
	comp=N,74nm,1.2s						
MDJ	**Mudanjiang**	**4.22**	**271**	P	**Pn**	**15 40 48.8**	**+0.8**
ASAJ	**Asahikawa**	**5.12**	**94**	P	**Pn**	**15 40 58.0**	**+0.3**
	comp=N,2.9nm,0.3s,baz=281,slow=11,SNR=27						
ASAJ				S	**S**	**15 42 03.0**	**-0.1**
	comp=N,0.6nm,0.3s,baz=92,slow=25,SNR=8.1						
ASAJ	**Asahikawa**	**5.12**	**94**	P	**Pn**	**15 40 58.0**	**+0.4**
ASAJ				S	**S**	**15 42 03.1**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KLR	**Kul'dur**	**5.18**	**332**	*eP*	**Pn**	**15 40 56.7**	**-1.6**
KLR				*e*S	**S**	**15 42 02

MJAR Matsushiro Arr 8.44 165 P **Pn** **15 41 35.6 -0.3**
comp=Z,2.9nm,0.3s,baz=357,slow=11,SNR=20
MJAR Matsushiro Arr 8.44 165 P **Pn** **15 41 35.6 -0.3**
MJAR pmax pmax
comp=Z,3.0nm,0.3s
EKMR Ekimchan 8.51 350 *e*P **Pn** **15 41 33.4 -3.4**
EKMR AMB AMB 15 41 35.8
comp=Z,5.0nm,0.5s
NKL Nikolayevsk 9.09 20 *e*P **Pn** **15 41 42.0 -1.6**
NKL AMB AMB 15 41 42.5
comp=Z,10.0nm,0.8s
KS15 Wonju Array Si 9.28 221 *e*Pn **Pn** **15 41 47.2 +1.4**
INCN Inchon 9.86 226 *e*Pn **Pn** **15 41 54.3 +1.6**
comp=Z,45nm,0.9s
YASR Yasnyy 9.88 333 ⇓*i*P **Pn** **15 41 51.9 -1.2**
YASR AMB AMB 15 41 54.8
comp=Z,12nm,0.6s
OKH Okha 10.07 26 *e*P **Pn** **15 41 55.2 -0.2**
ZEA Zeya 10.50 332 ⇓*e*P **Pn** **15 41 59.4 -1.0**
ZEA AMB AMB 15 42 01.4
comp=Z,54nm,0.8s
BMKR Bomnak 10.87 339 *e*P **Pn** **15 42 04.0 -0.9**
KROS Kirovskiy 11.17 333 ⇓*e*P **Pn** **15 42 07.3 -1.1**
KROS AMB AMB 15 42 08.5
comp=Z,15nm,0.5s
HIA Hailar 11.67 298 *e*Pn **Pn** **15 42 15.8 +1.4**
comp=Z,11nm,0.6s
HIA Hailar 11.67 298 ⇑*e*P **Pn** **15 42 16.2 +1.8**
JHJ Hachijo jima 2 12.06 163 P **P** **15 42 15.9 -2.8**
comp=Z,20nm,0.3s,baz=223,slow=12,SNR=8.3
JHJ S **S** **15 44 21.2 -12**
comp=Z,14nm,0.3s,baz=62,slow=23,SNR=6.3
JNU Nakatsue 12.14 199 P **P** **15 42 20.4 +0.8**
comp=Z,2.2nm,0.3s,baz=46,slow=12,SNR=14
NRGR Nerungri 13.73 334 *e*P **P** **15 42 39.8 +2.6**
NRGR S **S** **15 44 58.2 -8.6**
NRGR smax
comp=E,6.0nm,0.2s
CLNS Chul'man 13.83 335 *e*P **P** **15 42 40.6 +2.4**
CLNS pmax pmax
comp=Z,54nm,0.7s
CLNS pmax pmax
comp=N,32nm,0.9s
CLNS pmax pmax
comp=E,24nm,0.8s
BJT Baijiatuau 15.04 258 *e*Pn **P** **15 42 52.1 +0.7**
comp=E,14nm,0.6s
BJT Baijiatuau 15.04 258 *e*P **P** **15 42 52.1 +0.7**
BJT pmax pmax
comp=Z,14nm,0.6s
PET Petropavlovsk 17.28 53 ⇑*e*P **P** **15 43 14.1 -1.6**
PET Petropavlovsk 17.28 53 *e*Pn **P** **15 43 13.2 -2.5**
comp=Z,55nm,1.1s
MA2 Magadan 17.50 26 ⇑*i*P **P** **15 43 17.6 -0.4**
MA2 Magadan 17.50 26 *e*P **P** **15 43 17.7 -0.3**
comp=Z,16nm,0.6s
MA2 Magadan 17.50 26*c i*P **P** **15 43 17.6 -0.4**
MA2 pmax pmax
comp=Z,13nm,0.7s
YAK Yakutsk 17.66 351 *e*Pn **P** **15 43 17.6 -2.2**
comp=Z,13nm,0.7s
YAK Yakutsk 17.66 351 *i*P **P** **15 43 18.4 -1.4**
YAK pmax pmax
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 17.97 266 *e*P **P** **15 43 24.2 +1.1**
HHC XP sP 15 44 56.2 -2.8
HHC S **S** **15 46 28.6 -2.2**
HHC PCP PcP 15 47 42.3 +2.5
HHC SCP ScP 15 50 42.6 +1.6
HHC PCS PcS 15 51 17.3 +0.8
HHC AMB AMB
comp=Z,10.0nm,0.4s
HHC AMB AMB
comp=Z,170nm,4.9s
HHC LR LR
comp=N,65nm,4.8s
HHC LR LR
comp=E,95nm,5.3s
HHC LR LR
comp=Z,109nm,6.3s
BOD Bodaibo 18.66 322 *e*P **P** **15 43 26.9 -3.5**
BOD pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 19.86 289 *e*Pn **P** **15 43 41.4 -1.5**
comp=Z,4.8nm,1.1s
ULN Ulaanbaatar 19.86 289 ⇓*e*P **P** **15 43 42.2 -0.7**
SONM Songino Array 20.30 289 P **P** **15 43 46.7 -0.3**
comp=Z,1.2nm,0.3s,baz=83,slow=9.0,SNR=33
SONM Songino Array 20.30 289 P **P** **15 43 46.7 -0.3**
SONM pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 20.66 22 ⇑*e*P **P** **15 43 50.2 -0.1**
ZAK Zakamensk 22.35 296 *e*P **P** **15 44 03.8 -2.0**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.4
YHNB Yeheng 23.07 215 *e*P **P** **15 44 12.2 -0.1**
ENH Enshi 25.05 244 *e*P **P** **15 44 31.9 +1.9**
comp=Z,7.7nm,0.4s,mb4.3
LZH Lanzhou 25.48 261 *e*P **P** **15 44 33.5 -0.4**
LZH XP sP 15 46 20.3 +0.5
LZH AMB AMB
comp=Z,22nm,1.3s,mb4.2
LZH AMB AMB
comp=Z,59nm,4.6s
TIXI Tiksi 27.18 355 ⇓*e*P **P** **15 44 47.2 -1.8**
TIXI pmax pmax
comp=Z,13nm,0.9s,mb4.2
BILL Bilibino 28.33 24 *e*P **P** **15 44 58.0 -1.1**
comp=Z,2.8nm,0.4s,mb3.9
BILL Bilibino 28.33 24 ⇓*e*P **P** **15 44 58.4 -0.7**
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb3.8
CD2 Chengdu 28.42 252 *e*P **P** **15 45 01.2 +1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.2
CD2 AMB AMB
comp=Z,50nm,5.3s
ZAL Zalesovo 33.64 304 P **P** **15 45 44.8 -0.4**
comp=Z,4.6nm,0.5s,mb4.0,baz=18,slow=8.0,SNR=17
ZAL ScP ScP 15 51 26.0 -0.4
comp=Z,1.7nm,0.4s,baz=354,slow=3.8,SNR=4.3
ZAL Zalesovo 33.64 304 P **P** **15 45 44.8 -0.5**
ZAL pmax pmax
comp=Z,5.0nm,0.5s
ZAL pmax pmax
comp=N,2.0nm,0.4s
WMQ Urumqi 33.85 286 *e*P **P** **15 45 48.5 +1.4**
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb3.9
MKAR Makanchi Array 36.59 293 P **P** **15 46 10.0 -0.3**
comp=Z,1.8nm,0.5s,mb3.5,baz=83,slow=10,SNR=22
MKAR Makanchi Array 36.59 293 P **P** **15 46 10.0 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 37.91 300 *e*P **P** **15 46 20.5 -0.7**
comp=Z,6.2nm,0.6s,mb4.0
KURK Kurchatov 37.91 300*d i*P **P** **15 46 20.8 -0.4**
VOSK Vostochnaya 41.99 305 P **P** **15 46 54.3 -0.1**
VOSK pmax pmax
comp=Z,4.0nm,0.8s,mb3.6
BVA0 Borovoye Array 42.26 305 *i*P **P** **15 46 56.9 +0.4**
BVAR Borovoye Array 42.26 305 P **P** **15 46 56.9 +0.4**
comp=Z,7.8nm,0.5s,mb4.1,baz=74,slow=9.5,SNR=60
BVAR PcP PcP 15 48 43.4 +0.4
comp=Z,1.1nm,0.6s,baz=75,slow=1.7,SNR=4.8
BVAR ScP ScP 15 51 58.7 -0.5
comp=Z,0.9nm,0.5s,baz=82,slow=3.1,SNR=4.0
BVAR Borovoye Array 42.26 305 P **P** **15 46 56.9 +0.4**
BVAR 15 48 43.4
BVAR pmax pmax
comp=Z,8.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=N,1.0nm,0.5s
BRVK Borovoye 42.31 305 *e*P **P** **15 46 57.0 +0.1**
comp=N,3.4nm,0.6s,mb3.6
BRVK Borovoye 42.31 305 *e*P **P** **15 46 57.0 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb3.6
ZRNK Zerenda 43.08 306 *e*P **P** **15 47 03.2 +0.2**
comp=Z,14nm,0.6s,mb4.3
ZRNK Zerenda 43.08 306 *i*P **P** **15 47 03.4 +0.3**
ZRNK pmax pmax
comp=Z,11nm,0.7s,mb4.1
AAK Ala-Archa 43.26 290 *e*P **P** **15 47 03.2 -1.3**
comp=Z,1.1nm,0.5s,mb3.2
AAK Ala-Archa 43.26 290 *e*P **P** **15 47 03.2 -1.3**
AAK pmax pmax
comp=Z,1.0nm,0.5s,mb3.2
KDAK Kodiak Island 44.70 46 P **P** **15 47 16.0 +0.1**
comp=Z,9.4nm,1.0s,mb3.9,baz=308,slow=17,SNR=5.1
MCK McKinley 44.99 38 *e*P **P** **15 47 18.0 -0.1**
COLA College 45.21 36 *e*P **P** **15 47 19.9 +0.1**
comp=Z,4.3nm,0.7s,mb3.7
COLA College 45.21 36 *i*P **P** **15 47 20.2 +0.4**
ILAR Eielson Array 45.63 36 P **P** **15 47 23.0 -0.1**
comp=Z,1.7nm,0.4s,mb3.5,baz=281,slow=5.9,SNR=76
ILAR Eielson Array 45.63 36 P **P** **15 47 23.0 -0.1**
ILAR pmax pmax
comp=Z,2.0nm,0.4s
KK31 Karatay Array 45.71 292 *i*P **P** **15 47 23.5 -0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb3.5
KKAR Karatay Array 45.71 292 *i*P **P** **15 47 23.5 -0.2**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb3.2
ARU Arti 47.73 313 *e*P **P** **15 47 39.2 0.0**
comp=Z,11nm,0.7s,mb4.2
ARU Arti 47.73 313 ⇓*i*P **P** **15 47 39.6 +0.5**
ARU *e* 15 49 02.4
ARU *e* 15 49 33.5
ARU *e*S **S** **15 54 08.4 +0.5**
ARU *e*SS SS 15 57 42.1 +0.8
ARU pmax pmax
comp=Z,16nm,0.9s,mb4.2
INK Inuvik 49.72 29 P **P** **15 47 54.7 +0.6**
comp=Z,6.2nm,0.3s,mb4.3,baz=289,slow=6.6,SNR=65
INK PcP PcP 15 49 08.7 -0.6
comp=Z,1.8nm,0.9s,baz=294,slow=3.4,SNR=3.0
INK Inuvik 49.72 29 *e*P **P** **15 47 54.6 +0.5**
INK *e*pP pP 15 49 06.3 -0.1
INK Inuvik 49.72 29 *e*P **P** **15 47 54.6 +0.5**
INK *e**PP pP 15 49 06.3 -0.1
INK pmax pmax
comp=Z,10.0nm,0.8s
AB31 Akbulak array 49.73 304 *i*P **P** **15 47 54.7 +0.5**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb3.7
PSI Prapat 52.72 228 P **P** **15 48 16.8 +0.6**
comp=Z,3.8nm,0.6s,mb3.9,baz=19,slow=8.1,SNR=4.5
PSI Prapat 52.72 228 P **P** **15 48 16.8 +0.6**
PSI pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
KEV Kevo 54.63 336 *e*p **P** **15 48 28.5 -1.4**
comp=Z,7.2nm,0.5s,mb4.3
KEV Kevo 54.63 336 *e*P **P** **15 48 28.5 -1.4**
KEV pmax pmax
comp=Z,7.0nm,0.5s,mb4.2
KLMR Klimovskoe 54.88 323 *e*P **P** **15 48 29.7 -2.0**
KLMR pmax pmax
comp=Z,50nm,2.8s,mb4.3
ARCES ARCESS Array B 55.19 336 P **P** **15 48 33.7 -0.2**
comp=Z,4.4nm,0.4s,mb4.1,baz=54,slow=8.0,SNR=62
ARCES ARCESS Array B 55.19 336 P **P** **15 48 33.7 -0.2**
ARCES ARCESS Array B 55.19 336 P **P** **15 48 33.7 -0.2**
ARCES pmax pmax
comp=Z,4.0nm,0.4s
ARE0 ARCESS Array S 55.19 336 *e*P **P** **15 48 33.7 -0.2**
RES Resolute Bay 56.26 14 *e*P **P** **15 48 41.1 -0.2**
comp=Z,2.3nm,0.5s,mb3.8
RES Resolute Bay 56.26 14 *e*P **P** **15 48 41.2 -0.2**
RES pmax pmax
comp=Z,2.0nm,0.5s,mb3.7
JOF Joensuu 57.07 328 *e*p **P** **15 48 46.5 -0.5**
comp=Z,7.5nm,0.5s,mb4.3
JOF Joensuu 57.07 328 *e*P **P** **15 48 46.5 -0.5**
JOF pmax pmax
comp=Z,8.0nm,0.5s,mb4.3
OBN Obninsk 59.30 319 *i*P **P** **15 49 02.7 +0.3**
OBN *e*SS SS 16 00 41.8 -1.9
OBN pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
KAF Kangasniemi 59.41 329 *e*p **P** **15 49 02.1 -1.0**
comp=Z,6.7nm,0.4s,mb4.4,baz=48,slow=6.5
KAF Kangasniemi 59.41 329 *e*P **P** **15 49 02.1 -1.0**
KAF pmax pmax
comp=Z,7.0nm,0.4s,mb4.4
YKA Yellowknife Ar 59.43 30 P **P** **15 49 03.5 +0.3**
comp=Z,2.3nm,0.6s,mb3.8,baz=310,slow=6.5,SNR=74
YKA pP pP 15 50 20.7 +2.2
comp=Z,0.5nm,0.7s,baz=307,slow=6.3,SNR=5.9
YKA Yellowknife Ar 59.43 30 P **P** **15 49 03.5 +0.3**
YKA pP pP 15 50 20.8 +2.2
YKA Yellowknife Ar 59.43 30 P **P** **15 49 03.5 +0.3**
YKA *PP pP 15 50 20.7 +2.1
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 59.92 328 P **P** **15 49 06.3 -0.2**
comp=Z,7.0nm,0.5s,mb4.4,baz=44,slow=9.2,SNR=79
FINES FINESS Array B 59.92 328 *i*P **P** **15 49 06.4 -0.1**
FINES pmax pmax
comp=Z,7.0nm,0.5s
GOF Gofitskoye 61.77 307 *e*P **P** **15 49 18.3 -0.5**
KIV Kislovodsk 62.62 306 *e*P **P** **15 49 23.4 -1.1**
comp=Z,11nm,0.8s,mb4.4
KIV Kislovodsk 62.62 306*c i*P **P** **15 49 26.2 +1.7**
KIV pmax pmax
comp=Z,10.0nm,0.5s,mb4.6
WRA Warramunga Arr 64.37 181 P **P** **15 49 35.3 -0.5**
comp=Z,4.5nm,0.4s,mb4.5,baz=359,slow=6.9,SNR=7.3
WRA Warramunga Arr 64.37 181 *i*P **P** **15 49 35.2 -0.6**
WRA pmax pmax
comp=Z,5.0nm,0.4s
SOC Sochi 64.56 307 *e*P **P** **15 49 36.5 -0.5**
SOC *e* 15 50 05.1
SOC *e**PP pP 15 50 57.2 +3.4
SOC *e*S **S** **15 57 49.4 +1.8**
SOC *e*SS SS 16 02 10.7 +5.2
SOC pmax pmax
comp=Z,55nm,1.0s,mb5.1
NB2 NORSAR Subarra 65.34 334 P **P** **15 49 41.7 -0.3**
comp=Z,3.9nm,0.5s,mb4.3,baz=36,slow=6.5
NB2 NORSAR Subarra 65.34 334 P **P** **15 49 41.7 -0.3**
NB2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
NOA NORSAR Array B 65.34 334 P **P** **15 49 41.7 -0.3**
comp=Z,4.0nm,0.5s,mb4.3,baz=39,slow=6.3,SNR=25
NOA NORSAR Array B 65.34 334 P **P** **15 49 41.7 -0.3**
NOA pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 65.53 318 P **P** **15 49 43.2 0.0**
comp=Z,3.0nm,0.3s,mb4.5,baz=47,slow=6.4,SNR=37
AKASG Malin Array Be 65.53 318 *i*P **P** **15 49 43.2 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
MBWA Marble Bar 67.13 196 P **P** **15 49 51.4 -1.8**
comp=Z,6.5nm,0.6s,mb4.5
ASAR Alice Springs 68.08 182 P **P** **15 49 59.3 +0.2**
comp=Z,4.1nm,0.7s,mb4.3,baz=353,slow=6.0,SNR=6.0
ASAR Alice Springs 68.08 182 P **P** **15 49 59.3 +0.2**
ASAR pmax pmax
comp=Z,4.0nm,0.7s
FCC Fort Churchill 69.03 25 *e*P **P** **15 50 04.8 -0.2**
comp=Z,6.1nm,0.9s,mb4.3
FCC Fort Churchill 69.03 25 *e*P **P** **15 50 04.8 -0.2**
FCC pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
KOLS Kolonicke sedl 70.01 320 *e*P **P** **15 50 11.5 +0.6**
STHS Stebnicka Huta 70.13 321 *e*P **P** **15 50 12.7 +1.1**
BRTR Keskin Array B 70.52 307 P **P** **15 50 14.9 +1.0**
comp=Z,1.7nm,0.7s,mb3.9,baz=79,slow=4.0,SNR=5.8
BRTR Keskin Array B 70.52 307 ⇑*e*P **P** **15 50 15.0 +1.0**
NIE Niedzica 70.55 321 *e*P **P** **15 50 15.8 +1.7**
CLL Collm 72.20 326 *i*P **P** **15 50 24.2 +0.3**
comp=Z,7.0nm,0.5s,mb4.7
CLL Collm 72.20 326 *i*P **P** **15 50 24.2 +0.3**
CLL pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
KHC Kasperske Hory 73.66 324 *i*P **P** **15 50 33.1 +0.7**
GERES GERESS Array B 73.83 324 P **P** **15 50 34.3 +0.9**
comp=Z,1.0nm,0.5s,mb3.9,baz=48,slow=6.3,SNR=21
GERES GERESS Array B 73.83 324 P **P** **15 50 34.3 +0.9**
GERES pmax pmax
comp=Z,1.0nm,0.5s
NVAR Mina Array Bea 73.86 52 P **P** **15 50 35.5 +2.0**
comp=Z,1.0nm,0.6s,mb3.7,baz=294,slow=5.5,SNR=9.9
PDAR Pinedale Array 75.33 44 P **P** **15 50 43.0 +1.0**
comp=Z,1.2nm,0.5s,mb3.9,baz=38,slow=2.0,SNR=19
PDAR pP pP 15 52 02.6 +1.2
comp=Z,0.5nm,0.7s,baz=259,slow=0.9,SNR=3.7
DOU Dourbes 76.35 330 P **P** **15 50 46.6 -1.0**
STKA Stephens Creek 76.44 175 P **P** **15 50 46.9 -1.3**
comp=Z,4.1nm,0.4s,mb4.5,baz=357,slow=7.2,SNR=13
STKA Stephens Creek 76.44 175 *e*P **P** **15 50 46.7 -1.5**
HAU Haudompre 77.44 328 *e*P **P** **15 50 54.2 +0.5**
comp=Z,8.0nm,0.6s,mb4.3
HAU Haudompre 77.44 328 *e*P **P** **15 50 54.2 +0.5**
comp=Z,4.0nm,0.6s,mb4.3
HAU Haudompre 77.44 328 *e*P **P** **15 50 54.2 +0.5**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
LOR Lormes 78.99 329 *e*P **P** **15 51 01.4 -0.7**
comp=Z,12nm,0.7s,mb4.5
LOR Lormes 78.99 329 *e*P **P** **15 51 01.4 -0.7**
comp=Z,6.3nm,0.7s,mb4.5
LOR Lormes 78.99 329 *e*P **P** **15 51 01.4 -0.7**
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
SSF Saint Saulge 79.29 329 *e*P **P** **15 51 03.7 0.0**
LPL La Plagne 79.34 326 *e*P **P** **15 51 04.8 +0.8**
comp=Z,13nm,0.7s,mb4.5
LPL La Plagne 79.34 326 *e*P **P** **15 51 04.8 +0.8**
comp=Z,6.6nm,0.7s,mb4.5
LPL La Plagne 79.34 326 *e*P **P** **15 51 04.8 +0.8**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
LPG La Plagne 79.35 326 *e*P **P** **15 51 04.9 +0.9**
comp=Z,16nm,0.6s,mb4.6
LPG La Plagne 79.35 326 *e*P **P** **15 51 04.9 +0.9**
comp=Z,8.3nm,0.6s,mb4.6
LPG La Plagne 79.35 326 *e*P **P** **15 51 04.9 +0.9**
LPG pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
SMF Signal de Mont 79.52 328 *e*P **P** **15 51 05.0 +0.1**
comp=Z,7.2nm,0.5s,mb4.4
SMF Signal de Mont 79.52 328 *e*P **P** **15 51 05.0 +0.1**
comp=Z,3.6nm,0.5s,mb4.4
SMF Signal de Mont 79.52 328 *e*P **P** **15 51 05.0 +0.1**
SMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
AVF Avril sur Loir 79.58 329 *e*P **P** **15 51 05.4 +0.2**
comp=Z,21nm,0.7s,mb4.7
AVF Avril sur Loir 79.58 329 *e*P **P** **15 51 05.4 +0.2**
comp=Z,10nm,0.7s,mb4.7
AVF Avril sur Loir 79.58 329 *e*P **P** **15 51 05.4 +0.2**
AVF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
MBDF Montbardon 79.98 326 *e*P **P** **15 51 07.4 0.0**
ORIF Oris-en-Rattie 80.18 326 *e*P **P** **15 51 09.0 +0.6**
comp=Z,13nm,0.8s,mb4.4
ORIF Oris-en-Rattie 80.18 326 *e*P **P** **15 51 09.0 +0.6**
comp=Z,6.4nm,0.8s,mb4.4
ORIF Oris-en-Rattie 80.18 326 *e*P **P** **15 51 09.0 +0.6**
ORIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
VIVF Saint-Julien-l 80.70 327 *e*P **P** **15 51 11.6 +0.4**
comp=Z,21nm,1.1s,mb4.5
VIVF Saint-Julien-l 80.70 327 *e*P **P** **15 51 11.6 +0.4**
comp=Z,11nm,1.1s,mb4.5
VIVF Saint-Julien-l 80.70 327 *e*P **P** **15 51 11.6 +0.4**
VIVF pmax pmax
comp=Z,11nm,1.1s,mb4.5
RJF Les Rejaudoux 81.51 329 *e*P **P** **15 51 15.2 -0.2**
SYO Syowa Base 132.90 209 ⇓*e*X 15 58 02.9
SYO Syowa Base 132.90 209 ⇑*e*Pdif Pdif 15 55 06.2 -2.2
SYO *e* 15 58 02.9
VNA2 Neumayer--Watz 148.13 202 *e*PKPdf PKPdf 15 58 38.1 +0.7
VNA2 *e* 15 58 42.7
VNA2 *e* 15 58 47.1

MOS ***03*** *15:39:34.4±0.9, 7.18S×128.44E, h95km, mb4.5/12, Error ellipse: s-maj=16.9km s-min=8.4km az=125.4*
ISCJB ***03*** *15:39:37.7±1.2, 7.38S±005×12856E±007, h134km±12km, mb4.4/38, Error ellipse: s-maj=12.5km s-min=6.1km az=133.1*
BJI ***03*** *15:39:38.1, 7.40S×128.50E, h129km, mB5.0, mb4.9*
NEIC ***03*** *15:39:39.1±1.2, 7.36S×128.49E, h130km±12km, mb4.5/24, Error ellipse: s-maj=10.6km s-min=7.0km az=46.0*
IDC ***03*** *15:39:41.2±2.7, 7.28S×128.49E, h145km±22km, mb4.1/6, mb1 4.2/8, mb1mx4.0/15, mbtmp4.5/8, MS3.9/1, Ms1 3.9/1, ms1mx2.9/26, Error ellipse: s-maj=30.2km s-min=15.2km az=53.0*

ISC 03 15:39:38.6±1.3, 7.35S±006×128.55E±007, h122km±14km, n87, σ1 ±24/87, mb4.5/38, 5C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.56**	**145**	*e*P	**Pn**	**15 41 14.3**	**+1.8**
	50nm,0.3s						
KAKA				*e*S	**Sn**	**15 42 23.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**11.05**	**195**	*e*P	**Pn**	**15 42 11.7**	**-1.3**
	20nm,0.3s						
FITZ				*e*S	**Sn**	**15 44 07.1**	**-7.7**
WRAB	**Tennant Creek**	**13.71**	**156**	*e*Pn	**Pn**	**15 42 46.6**	**-1.3**
	13nm,0.6s						
WRAB				*e*Sn	**Sn**	**15 45 04.4**	**-15**
WRAB	**Tennant Creek**	**13.71**	**156**	*e*P	**Pn**	**15 42 46.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**13.72**	**156**	P	**Pn**	**15 42 45.9**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=343,slow=13,SNR=77						
WRA				S	**Sn**	**15 45 11.1**	**-8.0**
	comp=Z,3.6nm,0.3s,baz=328,slow=24,SNR=9.3						
WB2	**Warramunga Arr**	**13.72**	**156**	⇓*i*P	**Pn**	**15 42 47.2**	**-0.7**
WB2				*e*S	**Sn**	**15 45 11.8**	**-7.5**
MBWA	**Marble Bar**	**16.16**	**211**	*e*Pn	**Pn**	**15 43 18.8**	**+0.3**
MBWA				*e*Sn	**Sn**	**15 46 05.0**	**-13**
BUTP	**Butuan**	**16.48**	**350**	*e*P	**Pn**	**15 43 21.8**	**-0.7**
AS31	**Alice Springs**	**17.01**	**163**	*e*P	**Pn**	**15 43 30.6**	**+1.6**
AS31				*e*S	**S**	**15 46 30.4**	**-8.2**
ASPA	**Alice Springs**	**17.01**	**163**	*e*P	**Pn**	**15 43 30.6**	**+1.6**
ASPA				*e*S	**S**	**15 46 30.4**	**-8.2**
ASAR	**Alice Springs**	**17.02**	**163**	P	**Pn**	**15 43 29.8**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=338,slow=9.5,SNR=136						
ASAR				S	**S**	**15 46 31.0**	**-7.7**
	comp=Z,1.4nm,0.3s,baz=349,slow=26,SNR=7.7						
PMG	**Port Moresby**	**18.52**	**98**	P	**P**	**15 43 46.9**	**+1.5**
	comp=Z,1.5nm,0.3s,baz=269,slow=4.9,SNR=13						
PMG	**Port Moresby**	**18.52**	**98**	P	**P**	**15 43 46.9**	**+1.5**
PMG				*e*Pn	**Pn**	**15 43 49.1**	**+2.0**
KSM	**Kuching**	**20.20**	**295**	*e*Pn	**P**	**15 44 04.9**	**+1.2**
CTA	**Charters Tower**	**21.32**	**128**	*e*P	**P**	**15 44 19.0**	**+3.3**
	comp=Z,3.0nm,0.9s,mb3.6						
CTA	**Charters Tower**	**21.32**	**128**	*e*P	**P**	**15 44 19.0**	**+3.3**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CTAO	**Charters Tower**	**21.32**	**128**	P	**P**	**15 44 18.2**	**+2.6**
KLBR	**Kellerberrin**	**26.14**	**201**	*e*P	**P**	**15 45 02.2**	**+1.0**
	comp=Z,32nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**27.26**	**155**	*e*P	**P**	**15 45 10.0**	**-1.3**
	comp=Z,2.3nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.26**	**155**	P	**P**	**15 45 10.1**	**-1.2**
	comp=Z,2.4nm,0.5s,mb4.0,baz=313,slow=8.7,SNR=12						
NWAO	**Narrogin (SRO)**	**27.53**	**201**	*e*P	**P**	**15 45 14.4**	**+0.7**
HNR	**Honiara**	**31.12**	**96**	P	**P**	**15 45 46.8**	**+1.3**
	comp=Z,69nm,1.0s,mb5.3						
HNR	**Honiara**	**31.12**	**96**	P	**P**	**15 45 46.8**	**+1.3**
HNR				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.3						
PSI	**Prapat**	**31.24**	**288**	P	**P**	**15 45 45.9**	**-0.6**
	comp=Z,5.3nm,0.5s,mb4.5,baz=58,slow=2.8,SNR=8.2						
QIZ	**Qiongzhong**	**32.05**	**325**	*e*P	**P**	**15 45 57.0**	**+3.3**
	comp=Z,24nm,1.2s,mb4.8						
SSE	**Sheshan**	**38.88**	**350**	P	**P**	**15 46 50.3**	**-1.6**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,78nm,5.1s						
DZM	**Mont Dzumac**	**39.32**	**116**	LR	LR	16 01 46.9	
	comp=Z,173nm,18.9s,baz=203,slow=34						
ENH	**Enshi**	**41.65**	**335**	P	**P**	**15 47 11.5**	**-3.3**
	comp=Z,3.9nm,0.6s,mb4.3						
LZH	**Lanzhou**	**49.05**	**333**	⇑P	**P**	**15 48 13.6**	**+0.4**
LZH				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.1						
LSA	**Lhasa**	**51.47**	**318**	*e*P	**P**	**15 48 32.5**	**+1.1**
	comp=Z,3.6nm,0.6s,mb4.6						
LSA	**Lhasa**	**51.47**	**318**	*e*P	**P**	**15 48 32.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
GTA	**Gaotai**	**53.60**	**332**	P	**P**	**15 48 47.9**	**+0.8**

GTA				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.2						
JIRN	**Jiri**	**53.74**	**312**	*e*P	**P**	**15 48 48.5**	**+0.4**
	comp=Z,12nm,0.8s,mb5.0						
GUN	**Gumba**	**54.11**	**312**	*e*P	**P**	**15 48 51.1**	**+0.3**
	comp=Z,16nm,0.7s,mb5.2						
PKI	**Pulchoki**	**54.27**	**312**	*e*P	**P**	**15 48 52.0**	**+0.1**
	comp=Z,5.4nm,0.5s,mb4.8						
PKI	**Pulchoki**	**54.27**	**312**	*e*P	**P**	**15 48 52.0**	**+0.1**
PKI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
KKN	**Kakani**	**54.49**	**312**	*e*P	**P**	**15 48 53.1**	**-0.4**
	comp=Z,8.1nm,0.8s,mb4.8						
KKN	**Kakani**	**54.49**	**312**	*e*P	**P**	**15 48 53.1**	**-0.4**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
DMN	**Daman**	**54.52**	**311**	*e*P	**P**	**15 48 53.8**	**+0.1**
RAO	**Raoul Island**	**54.76**	**121**	P	**P**	**15 48 58.4**	**+2.9**
	comp=Z,572nm,1.1s						
RAO	**Raoul Island**	**54.76**	**121**	P	**P**	**15 48 58.4**	**+2.9**
RAO				pmax	pmax		
	comp=Z,572nm,1.1s						
GKN	**Gorkha**	**55.08**	**312**	*e*P	**P**	**15 48 57.7**	**-0.1**
	comp=Z,10nm,0.4s,mb5.2						
KOLN	**Koldanda**	**55.73**	**311**	*e*P	**P**	**15 49 02.5**	**+0.1**
	comp=Z,17nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**58.17**	**343**	*e*P	**P**	**15 49 19.5**	**-0.1**
	comp=Z,7.2nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**58.17**	**343**	*e*P	**P**	**15 49 19.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
SONM	**Songino Array**	**58.33**	**343**	P	**P**	**15 49 21.6**	**+0.9**
	comp=Z,4.9nm,0.9s,mb4.5,baz=159,slow=7.4,SNR=40						
ZAK	**Zakamensk**	**61.54**	**342**	*e*P	**P**	**15 49 36.7**	**-5.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.9s,mb4.2						
MKAR	**Makanchi Array**	**67.74**	**328**	P	**P**	**15 50 23.0**	**+0.1**
	comp=Z,4.6nm,0.5s,mb4.6,baz=122,slow=8.2,SNR=60						
MA2	**Magadan**	**69.03**	**12**	*e*P	**P**	**15 50 30.6**	**-0.4**
	comp=Z,5.7nm,0.9s,mb4.4						
MA2	**Magadan**	**69.03**	**12**	*e*P	**P**	**15 50 30.6**	**-0.3**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
KZA	**Kyzart**	**69.12**	**320**	P	**P**	**15 50 33.3**	**+1.8**
SNR=5.3							
YAK	**Yakutsk**	**69.18**	**1**	*e*P	**P**	**15 50 27.8**	**-4.1**
	comp=Z,14nm,0.8s,mb4.8						
YAK	**Yakutsk**	**69.18**	**1⇑**	*e*P	**P**	**15 50 30.7**	**-1.2**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
UCH	**Uchtor**	**69.67**	**320**	P	**P**	**15 50 36.5**	**+1.7**
SNR=6.7							
AAK	**Ala-Archa**	**69.89**	**320**	P	**P**	**15 50 37.5**	**+1.3**
SNR=6.8							
AAK	**Ala-Archa**	**69.89**	**320**	*e*P	**P**	**15 50 35.6**	**-0.6**
	comp=Z,6.2nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**69.89**	**320***c*	*i*P	**P**	**15 50 36.0**	**-0.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.4						
AML	**Almayashu**	**70.14**	**320**	P	**P**	**15 50 39.3**	**+1.5**
SNR=10							
EKS2	**Erkin-Say**	**70.36**	**320**	P	**P**	**15 50 40.5**	**+1.4**
SNR=5.9							
ZAL	**Zalesovo**	**71.27**	**334**	P	**P**	**15 50 43.5**	**-1.2**
	comp=Z,3.2nm,0.5s,mb4.4,baz=341,slow=4.4,SNR=15						
KURK	**Kurchatov**	**72.08**	**329**	*e*P	**P**	**15 50 48.9**	**-0.5**
	comp=Z,8.9nm,0.8s,mb4.7						
KURK	**Kurchatov**	**72.08**	**329***c*	*i*P	**P**	**15 50 49.1**	**-0.3**
NVS	**Novosibirsk**	**72.56**	**334**	*i*P	**P**	**15 50 50.8**	**-1.5**
NVS				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.2						
NVS				pmax	pmax		
	comp=N,4.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
BVAR	**Borovoye Array**	**77.60**	**328**	P	**P**	**15 51 20.6**	**-0.6**
	comp=E,2.0nm,0.5s,mb4.1,baz=122,slow=9.4,SNR=18						
BRVK	**Borovoye**	**77.67**	**328**	*e*P	**P**	**15 51 18.2**	**-3.4**
	comp=E,1.9nm,0.6s,mb4.0						
BRVK	**Borovoye**	**77.67**	**328**	*e*P	**P**	**15 51 18.3**	**-3.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**78.29**	**328**	*e*P	**P**	**15 51 24.0**	**-1.0**
	comp=Z,6.8nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**78.29**	**328**	*e*P	**P**	**15 51 24.0**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
TIXI	**Tiksi**	**78.84**	**0⇑**	*e*P	**P**	**15 51 26.3**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
BILL	**Bilibino**	**79.79**	**14**	*e*P	**P**	**15 51 33.0**	**-0.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
AB31	**Akbulak array**	**81.89**	**322**	*i*P	**P**	**15 51 43.6**	**-0.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
QSPA	**South Pole Qui**	**82.62**	**180**	*e*P	**P**	**15 51 47.6**	**-0.6**
	comp=Z,5.0nm,0.6s,mb4.5						
ARU	**Arti**	**85.25**	**328**	*e*P	**P**	**15 51 59.9**	**-1.6**
	comp=Z,4.7nm,0.7s,mb4.5						
ARU	**Arti**	**85.25**	**328⇓**	*i*P	**P**	**15 52 00.0**	**-1.5**
ARU				*e*		15 55 16.1	
ARU				*e*PPP		15 57 10.7	
ARU				*e*S		16 02 20.9	
ARU				*e*SS	SS	16 07 58.5	+0.1
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KMBO	**Kilima Mbogo**	**91.14**	**269**	P	**P**	**15 52 33.6**	**+4.1**
KIV	**Kislovodsk**	**92.08**	**314**	*e*P	**P**	**15 52 34.1**	**+0.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9						
ILAR	**Eielson Array**	**94.28**	**25**	P	**P**	**15 52 41.5**	**-2.5**
	comp=Z,0.4nm,0.7s,mb3.9,baz=279,slow=5.0,SNR=5.5						
OBN	**Obninsk**	**97.11**	**325**	*e*P	**P**	**15 52 56.0**	**-0.9**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**108.70**	**26**	PKiKP	PKiKP	15 57 51.6	-1.4
	comp=Z,0.4nm,0.6s,baz=307,slow=1.9,SNR=8.4						
GERES	**GERESS Array B**	**111.77**	**320**	PKiKP	PKiKP	15 57 58.1	-0.8
	comp=Z,0.6nm,0.5s,baz=54,slow=2.3,SNR=4.2						
PDAR	**Pinedale Array**	**118.16**	**45**	PKP	PKPdf	15 58 11.2	0.0
	comp=Z,0.4nm,0.7s,baz=236,slow=1.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**127.47**	**281**	PKP	PKPdf	15 58 29.5	+0.5
	comp=Z,2.0nm,0.7s,baz=57,slow=2.3,SNR=10						
PLCA	**Paso Flores**	**129.02**	**161**	PKP	PKPdf	15 58 33.1	+1.2
	comp=Z,0.8nm,0.9s,baz=226,slow=8.0,SNR=2.9						
DBIC	**Dimbokro**	**133.76**	**272**	PKP	PKPdf	15 58 42.5	+1.5
	comp=Z,1.8nm,0.4s,baz=121,slow=5.6,SNR=5.4						
DBIC				SKPbc	SKPbc	16 01 55.8	-2.7
	comp=Z,2.2nm,0.7s,baz=39,slow=2.2,SNR=5.0						
CPUP	**Villa Florida**	**146.03**	**171**	PKPbc	PKPbc	15 59 04.6	+0.5
	comp=Z,1.4nm,0.5s,baz=160,slow=3.6,SNR=7.0						
LPAZ	**La Paz**	**151.29**	**145**	PKPbc	PKPbc	15 59 19.9	+2.2
LPAZ				PKPab	PKPab	15 59 28.9	+2.8
	comp=Z,1.1nm,0.4s,baz=57,slow=3.9,SNR=4.8						
	comp=Z,2.2nm,0.7s,baz=230,slow=5.9,SNR=7.9						
SIV	**San Ignacio**	**154.93**	**158**	PKPab	PKPab	15 59 42.4	+0.9

*ISCJB **03** 15:58:22.9±0.7, 3258N±004×631W±004, h11km±6km, Error ellipse: s-maj=7.4km s-min=6.3km az=21.0*
*CSEM **03** 15:58:22.2±0.1, 3252N×624W, h2km, MD3.9, Error ellipse: s-maj=3.5km s-min=2.8km az=52.0*
*MDD **03** 15:58:24.3±0.5, 3248N×621W, h0km, mb3.7/3, Error ellipse: s-maj=6.8km s-min=3.3km az=135.0, PRXIMO*
*CNRM **03** 15:58:24.1, 3251N×624W, h0km, MD3.9*
ISC 03 15:58:24.0±0.7, 3254N±004×625W±005, h9km±6km, n21, σ1§15/34, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIB	**El Ksiba**	**0.18**	**78**	P	**Pg**	**15 58 26.5**	**-1.3**
KIB				S	**Sg**	**15 58 31.0**	**+0.7**
KIB	**El Ksiba**	**0.18**	**78**	*i*P	**Pg**	**15 58 26.5**	**-1.3**
TZC	**Tazercounte**	**0.44**	**208**	P	**Pg**	**15 58 31.5**	**-1.1**
TZC				S	**Sg**	**15 58 38.0**	**-0.4**
TZC	**Tazercounte**	**0.44**	**208**	*i*P	**Pg**	**15 58 31.5**	**-1.1**
CZD	**Col de Zad**	**1.13**	**64**	*i*P	**Pg**	**15 58 45.0**	**-0.7**
CZD				*i*S	**Sg**	**15 59 01.0**	**+0.7**
RTC	**Rabat Centre**	**1.53**	**341**	*e*P	**Pn**	**15 58 52.0**	**+0.4**
RTC				*i*S	**Sn**	**15 59 13.0**	**+1.4**
ZFT	**Errachidia**	**1.68**	**107**	*i*P	**Pn**	**15 58 53.0**	**-0.7**
ZFT				*i*S	**Sn**	**15 59 16.0**	**+0.6**
EGRO	**El Granado**	**5.08**	**349**	P	**Pn**	**15 59 41.7**	**+1.2**
	2.2nm,0.2s,SNR=8.1						
EGRO				S	**Sn**	**16 00 39.0**	**-0.3**
	4.2nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.08**	**349**	P	**Pn**	**15 59 41.7**	**+1.3**
	2.2nm,0.2s,SNR=8.1						
EGRO				S	**Sn**	**16 00 39.0**	**-0.3**
	4.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.23**	**356**	P	**Pn**	**15 59 43.0**	**+0.7**
	0.4nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**16 00 41.5**	**-1.3**
	1.3nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.23**	**356**	P	**Pn**	**15 59 43.0**	**+0.6**
	0.4nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**16 00 41.5**	**-1.3**
	1.3nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.39**	**339**	*e*Pn	**Pn**	**15 59 46.8**	**+2.2**
PTEO				*e*Sn	**Sn**	**16 00 40.7**	**-6.1**
PTEO							
	6.0nm,0.2s						
PTEO	**Sao Teotonio**	**5.39**	**339**	*e*Sn	**Sn**	**16 00 40.7**	**-6.1**
ECAB	**El Cabril**	**5.56**	**7**	P	**Pn**	**15 59 48.5**	**+1.5**
	0.9nm,0.2s,SNR=5.9						
ECAB				S	**Sn**	**16 00 49.2**	**-1.9**
	0.2nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**5.56**	**7**	P	**Pn**	**15 59 48.5**	**+1.5**
	0.9nm,0.2s,SNR=5.9						
PBEJ	**Beja**	**5.63**	**347**	*e*Sn	**Sn**	**16 00 52.8**	**0.0**
EADA	**Adamuz**	**5.78**	**13**	P	**Pn**	**15 59 50.7**	**+0.7**
	0.7nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**16 00 53.8**	**-2.6**
	0.2nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**5.78**	**13**	P	**Pn**	**15 59 50.7**	**+0.7**
	0.7nm,0.3s,SNR=7.9						
MOE	**Montemor**	**6.21**	**345**	*e*Sn	**Sn**	**16 01 06.6**	**-0.4**
EBAD	**Badajoz**	**6.23**	**354**	P	**Pn**	**15 59 57.7**	**+1.5**
	1.3nm,0.2s,SNR=5.3						
EBAD				S	**Sn**	**16 01 06.2**	**-1.4**
	0.8nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**6.23**	**354**	P	**Pn**	**15 59 57.7**	**+1.5**
	1.3nm,0.2s,SNR=5.3						

*ISCJB **03** 16:15:43.3±1.2, 1347N±006×120.1E±0.1, h27km±8km, mb3.8/3, Error ellipse: s-maj=17.8km s-min=8.8km az=42.7*
*MAN **03** 16:15:43.9, 1351N×120.13E, h21km, mb2.2, ML3.8, MS3.5*
*IDC **03** 16:15:44.1±5.8, 1342N×120.17E, h21km±39km, mb3.6/3, mb1 3.9/3, mb1mx3.4/19, mbtmp3.7/3, Error ellipse: s-maj=36.2km s-min=21.5km az=89.0*
ISC 03 16:15:44.2±1.2, 1346N±006×12011E±010, h21km±10km, n17, σ0§94/19, mb3.8/3, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**25**	*e*P	**Pb**	**16 15 50.1**	**-0.8**
LUBP				*e*S	**Sb**	**16 15 54.7**	**-0.7**
PGP	**Puerto Galera**	**0.82**	**87**	*e*P	**Pb**	**16 15 58.9**	**-0.7**
PAZ	**Puerto Azul**	**0.93**	**36**	*e*P	**Sb**	**16 16 14.9**	**+1.3**
TGY	**Tagaytay City**	**1.02**	**51**	Pg	**Pb**	**16 16 02.9**	**-0.2**
	204nm,0.3s,baz=232,slow=3.5,SNR=17						
TGY				Lg		16 16 16.5	
	219nm,0.3s,baz=150,slow=23,SNR=27						
TGY	**Tagaytay City**	**1.02**	**51⇓**	*i*P	**Pb**	**16 16 05.0**	**+1.8**
TGY				*i*S	**Sb**	**16 16 17.1**	**+1.0**
LBPH	**Los Banos**	**1.24**	**56**	*e*P	**Pn**	**16 16 07.6**	**+1.3**
BUSP	**Coron**	**1.46**	**177**	*e*P	**Pn**	**16 16 09.8**	**+0.5**
ARP	**Angono**	**1.47**	**43**	*e*P	**Pn**	**16 16 06.7**	**-2.7**
QVPH	**Quezon City--P**	**1.49**	**38**	*e*P	**Pn**	**16 16 09.1**	**-0.7**
BOAC	**Boac**	**1.68**	**90**	*e*P	**Pn**	**16 16 11.5**	**-0.8**
ENPP	**El Nido**	**2.34**	**197**	*e*P	**Pn**	**16 16 22.5**	**+1.1**
CUYO	**Cuyo Island**	**2.74**	**161**	*e*P	**Pn**	**16 16 27.2**	**+0.2**
WRA	**Warramunga Arr**	**36.03**	**157**	P	**P**	**16 22 43.2**	**-0.6**
	2.0nm,0.5s,mb4.3,baz=334,slow=9.8,SNR=28						
WB2	**Warramunga Arr**	**36.03**	**157**	*e*P	**P**	**16 22 43.3**	**-0.6**
SONM	**Songino Array**	**36.12**	**344**	P	**P**	**16 22 45.2**	**+0.5**
	0.2nm,0.5s,mb3.3,baz=152,slow=9.5,SNR=3.1						
ASAR	**Alice Springs**	**39.29**	**160**	P	**P**	**16 23 11.4**	**0.0**
	1.0nm,0.6s,mb3.8,baz=336,slow=6.8,SNR=36						
ASPA	**Alice Springs**	**39.29**	**160**	*e*P	**P**	**16 23 11.5**	**+0.1**

*BJI **03** 16:51:40.2, 3532N×8954E, h9km, mB4.9, mb4.5, ML4.3, Ms4.5, Msz4.2*
*IDC **03** 16:51:40.8±0.7, 3524N×8967E, h0km, mb4.1/12, mb1 4.3/15, mb1mx4.1/23, mbtmp4.1/15, ML3.3/3, MS3.9/14, Ms1 4.0/14, ms1mx3.8/25, Error ellipse: s-maj=24.9km s-min=15.3km az=52.0*
*NEIC **03** 16:51:42.9±0.4, 3541N×8967E, h10km, mb4.6/19, Error ellipse: s-maj=10.1km s-min=7.3km az=48.0*
*ISCJB **03** 16:51:45.3±0.7, 3539N±003×8969E±004, h39km±7km, mb4.4/37, MS4.1/26, Error ellipse: s-maj=5.4km s-min=4.9km az=21.3*
*MOS **03** 16:51:45.1±1.3, 3542N×8974E, h33km, mb4.6/23, MS4.0/14, Error ellipse: s-maj=10.0km s-min=5.7km az=95.7*
*SZGRF **03** 16:51:46.5, 3600N×9069E, h33km, mb4.3, Qinghai, China*
ISC 03 16:51:48.2±0.5, 3540N±003×8969E±004, h51km±6km, n126, σ1§17/128, mb4.4/37, MS4.1/26, 9C-5D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.81**	**167⇓**	*e*Pn	**Pn**	**16 53 12.8**	**+1.0**
	57nm,1.0s						
LSA				*e*		16 53 24.9	
LSA	**Lhasa**	**5.81**	**167⇓**	*e*P	**Pn**	**16 53 12.8**	**+1.0**
LSA				pmax	pmax		
	comp=Z,57nm,1.0s						
GUN	**Gumba**	**8.14**	**205**	*e*P	**Pn**	**16 53 45.3**	**+1.6**
JIRN	**Jiri**	**8.27**	**202**	*e*P	**Pn**	**16 53 44.7**	**-0.8**
	comp=Z,28nm,1.1s						
KKN	**Kakani**	**8.46**	**208**	*e*P	**Pn**	**16 53 49.4**	**+1.3**
	comp=Z,11nm,0.7s						
KKN	**Kakani**	**8.46**	**208**	*e*P	**Pn**	**16 53 49.4**	**+1.3**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ	**Urumqi**	**8.55**	**350**	*e*P	**Pn**	**16 53 49.1**	**-0.2**
WMQ				S	**Sn**	**16 55 24.7**	**+0.3**
WMQ				PCP	PcP	17 00 17.1	+1.5
WMQ				SCP	ScP	17 03 44.1	+1.0
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s						
WMQ				AMB	AMB		
	comp=Z,35nm,4.0s						
WMQ				LR	LR		
	comp=N,3μm,10.0s						
WMQ				LR	LR		
	comp=E,3μm,10.8s						
WMQ				LR	LR		
	comp=Z,2μm,11.0s						
DMN	**Daman**	**8.69**	**208**	*e*P	**Pn**	**16 53 50.9**	**-0.3**
	comp=Z,38nm,1.1s						
GTA	**Gaotai**	**9.00**	**61**	*e*P	**Pn**	**16 53 54.8**	**-0.6**
GTA				AP		16 54 02.0	
GTA				XP		16 54 05.0	
GTA				S	**Sn**	**16 55 36.2**	**+0.9**
GTA				XS		16 55 46.1	
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s						
GTA				AMB	AMB		
	comp=Z,140nm,5.3s						
GTA				LR	LR		
	comp=N,1μm,14.1s						
GTA				LR	LR		
	comp=E,978nm,13.3s						
GTA				LR	LR		
	comp=Z,1μm,14.8s						
KOLN	**Koldanda**	**9.20**	**216**	*e*P	**Pn**	**16 53 57.1**	**-1.2**
LZH	**Lanzhou**	**11.53**	**82**	*e*P	**Pn**	**16 54 27.2**	**-2.8**
LZH				AP		16 54 34.5	
LZH				PP		16 54 37.4	
LZH				XP		16 54 39.6	
LZH				*e*S	**Sn**	**16 56 35.7**	**-1.6**
LZH				XS		16 56 47.3	
LZH				SS		16 56 50.2	
LZH				AMB	AMB		
	comp=Z,27nm,1.2s						
LZH				AMB	AMB		
	comp=Z,138nm,4.3s						
LZH				LR	LR		
	comp=N,634nm,7.5s						
LZH				LR	LR		
	comp=Z,959nm,10.2s						

CD2	**Chengdu**	**12.61**	**107**	*e*P	**Pn**	**16 54 46.8**	**+2.0**
CD2				PP		16 54 57.8	
CD2				S	**Sn**	**16 57 08.7**	**+5.0**
CD2				SS		16 57 24.4	
CD2				AMB	AMB		
	comp=Z,70nm,0.7s						
CD2				AMB	AMB		
	comp=Z,150nm,5.2s						
CD2				LR	LR		
	comp=E,1μm,9.6s						
CD2				LR	LR		
	comp=Z,820nm,12.0s						
MKAR	**Makanchi Array**	**12.67**	**336**	Pn	**Pn**	**16 54 41.5**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=149,slow=14,SNR=23						
MKAR				LR	LR	16 59 43.0	
	comp=Z,260nm,20.0s,baz=305,slow=38						
MKAR	**Makanchi Array**	**12.67**	**336**	*i*P	**Pn**	**16 54 41.1**	**-4.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**13.84**	**306**	*e*Pn	**Pn**	**16 54 56.7**	**-4.8**
	comp=Z,27nm,1.1s						
AAK				*e*		16 55 09.1	
AAK	**Ala-Archa**	**13.84**	**306**	*e*P	**Pn**	**16 54 56.7**	**-4.8**
AAK				pmax	pmax		
	comp=Z,27nm,1.1s						
FRU	**Bishkek**	**13.85**	**307**	*e*P	**Pn**	**16 55 10.0**	**+8.4**
FRU				pmax	pmax		
	comp=Z,60nm,1.6s						
FRU				MLR	MLR		
	comp=Z,1μm,12.0s						
KMI	**Kunming**	**15.22**	**129**	P	**Pn**	**16 55 19.3**	**-0.4**
KMI				AP	pP	16 55 24.5	-11
KMI				XP	sP	16 55 27.9	-14
KMI				PP		16 55 32.4	
KMI				AMB	AMB		
	comp=Z,13nm,0.9s						
KMI				AMB	AMB		
	comp=Z,140nm,5.1s						
KMI				LR	LR		
	comp=N,650nm,8.0s						
KMI				LR	LR		
	comp=E,692nm,10.8s						
KMI				LR	LR		
	comp=Z,966nm,11.1s						
XAN	**Xi'an**	**15.88**	**89**	P	**Pn**	**16 55 30.0**	**+1.8**
XAN				AMB	AMB		
	comp=Z,25nm,1.3s						
KK31	**Karatay Array**	**16.70**	**303**	*i*P	**Pn**	**16 55 40.4**	**+1.8**
KK31				pmax	pmax		
	comp=Z,21nm,0.9s						
KKAR	**Karatay Array**	**16.70**	**303**	*i*P	**Pn**	**16 55 40.4**	**+1.8**
KKAR				pmax	pmax		
	comp=Z,20nm,1.0s						
BTO	**Baotou**	**16.84**	**66**	*e*P	**Pn**	**16 55 43.4**	**+3.1**
BTO				LR	LR		
	comp=N,346nm,6.9s						
BTO				LR	LR		
	comp=E,852nm,10.6s						
GYA	**Guiyang**	**17.06**	**117**	P	**Pn**	**16 55 40.2**	**-2.8**
GYA				AP	pP	16 55 49.3	-6.4
GYA				S	**S**	**16 58 44.3**	**-15**
GYA				XS	sS	16 58 58.5	-19
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,80nm,2.8s						
GYA				LR	LR		
	comp=E,670nm,11.4s						
GYA				LR	LR		
	comp=E,540nm,12.0s						
KURK	**Kurchatov**	**17.28**	**336**	*e*P	**Pn**	**16 55 41.8**	**-4.0**
	comp=E,22nm,1.0s						
KURK	**Kurchatov**	**17.28**	**336⇑**	*e*P	**Pn**	**16 55 42.4**	**-3.4**
ENH	**Enshi**	**17.40**	**101**	*e*P	**Pn**	**16 55 44.0**	**-3.3**
	comp=E,19nm,1.1s						
SONM	**Songino Array**	**17.57**	**40**	P	**Pn**	**16 55 48.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=230,slow=12,SNR=46						
SONM				PcP	PcP	17 00 27.1	+0.4
	comp=E,0.0nm,0.3s,baz=207,slow=0.6,SNR=3.5						
SONM				Lg		17 01 03.4	
	comp=E,0.2nm,0.3s,baz=245,slow=27,SNR=5.1						
SONM				LR	LR	17 03 05.5	
	comp=E,422nm,18.1s,baz=242,slow=39						
ULN	**Ulaanbaatar**	**17.94**	**41**	*e*P	**Pn**	**16 55 54.6**	**+0.7**
	comp=E,66nm,2.0s						
ULN	**Ulaanbaatar**	**17.94**	**41***d*	*i*P	**Pn**	**16 55 54.9**	**+1.0**
ZAK	**Zakamensk**	**17.94**	**29**	*e*P	**Pn**	**16 55 53.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,19nm,1.9s						
HHC	**Hu-ho-hao-te**	**18.04**	**66**	*e*P	**Pn**	**16 55 55.8**	**+0.7**
HHC				AP	pP	16 56 05.2	-1.4
HHC				PP		16 56 11.9	
HHC				S	**S**	**16 59 13.9**	**-5.2**
HHC				XS	sS	16 59 28.6	-9.1
HHC				SS		16 59 39.4	
HHC				AMB	AMB		
	comp=Z,20nm,0.8s						
HHC				AMB	AMB		
	comp=Z,141nm,2.6s						
HHC				LR	LR		
	comp=N,1μm,18.6s						
HHC				LR	LR		
	comp=E,538nm,14.3s						
HHC				LR	LR		
	comp=Z,803nm,16.7s						
MOY	**Mondy**	**18.18**	**23**	*e*P	**Pn**	**16 55 56.6**	**-0.1**
ZAL	**Zalesovo**	**18.85**	**351**	P	**Pn**	**16 56 03.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=300,slow=12,SNR=17						
ZAL				LR	LR	17 04 33.9	
	comp=Z,609nm,18.2s,baz=304,slow=41						
ZAL	**Zalesovo**	**18.85**	**351**	*i*P	**Pn**	**16 56 03.9**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVS	**Novosibirsk**	**19.95**	**349⇑**	*i*P	**Pn**	**16 56 15.5**	**-2.5**
NVS				pmax	pmax		
	comp=Z,35nm,1.7s						
NVS				pmax	pmax		
	comp=N,25nm,1.6s						
NVS				pmax	pmax		
	comp=E,14nm,1.5s						
KRAR	**Krasnoyarsk**	**20.73**	**5**	*i*P	**P**	**16 56 27.6**	**+3.2**
KRAR				pmax	pmax		
	comp=Z,28nm,1.1s						
KRAR				MLR	MLR		
	comp=Z,400nm,25.0s,MS3.7						
WHN	**Wuhan**	**21.23**	**96**	*e*P	**P**	**16 56 29.0**	**-0.7**
BJT	**Baijiatuau**	**21.42**	**70**	*e*P	**P**	**16 56 32.8**	**+1.0**
	comp=Z,28nm,1.1s,mb4.5				

ZRNK pmax pmax
comp=Z,15nm,1.5s,mb4.2
GZH Guangzhou 23.95 114 P **P 16 56 58.1 +0.6**
GZH S **S 17 01 10.2 -0.3**
GZH LR LR
comp=N,729nm,12.8s,MS4.4
GZH LR LR
comp=E,375nm,12.1s,MS4.4
NJ2 Nanjing 24.45 89 *e*P **P 16 57 05.1 +3.0**
NJ2 AP 16 57 06.6
NJ2 PP 16 57 42.7
NJ2 S **S 17 01 21.0 +2.4**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
NJ2 AMB AMB
comp=Z,20nm,3.5s
NJ2 LR LR
comp=N,360nm,20.0s,MS4.3
NJ2 LR LR
comp=E,780nm,17.0s,MS4.3
AB31 Akbulak array 25.79 312 *i* P **P 16 57 14.6 +0.3**
AB31 pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
HIA Hailar 25.98 48 *e*P **P 16 57 15.7 -0.4**
comp=Z,14nm,1.3s,mb4.3
HIA Hailar 25.98 48 *e*P **P 16 57 15.7 -0.3**
HIA pmax pmax
comp=Z,14nm,1.3s
SSE Sheshan 26.63 90 P **P 16 57 21.2 -0.7**
SSE S **S 17 01 48.6 -4.6**
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,36nm,6.0s
SSE LR LR
comp=N,190nm,21.4s,MS3.6
SSE LR LR
comp=E,78nm,21.4s,MS3.6
SSE LR LR
comp=Z,108nm,17.7s,MS3.5
SNY Shenyang 27.13 66 ⇑P **P 16 57 25.6 -0.8**
SNY LR LR
comp=N,1μm,18.3s
AKTK Aktyubinsk 27.38 313 P **P 16 57 28.6 0.0**
AKTK LR LR 17 09 04.6
AKTO Aktyubinsk 27.38 313 P **P 16 57 28.6 0.0**
comp=N,0.8nm,0.4s,mb3.6,baz=148,slow=2.9,SNR=3.5
AKTO LR LR 17 09 04.6
comp=N,97nm,20.8s,MS3.4,baz=0.0,slow=38
AKTO Aktyubinsk 27.38 313 P **P 16 57 28.6 0.0**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
AKTO MLR MLR
comp=Z,97nm,20.8s,MS3.4
BOD Bodaibo 27.68 28 *e*P **P 16 57 29.7 -1.6**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
CN2 Changchun 28.63 62 *e*P **P 16 57 40.5 +0.8**
CN2 *e*AP pP 16 57 51.8 -1.1
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CN2 LR LR
comp=N,400nm,12.0s,MS4.6
CN2 LR LR
comp=E,800nm,12.0s,MS4.6
CN2 LR LR
comp=Z,800nm,13.0s,MS4.5
ARU Arti 29.77 325 *e*P **P 16 57 48.3 -1.6**
comp=Z,9.9nm,1.3s,mb4.4
ARU Arti 29.77 325 ⇓*i*P **P 16 57 49.5 -0.4**
ARU *e* 16 58 46.2
ARU *e* 17 00 50.7
ARU *e*S **S 17 02 42.3 -0.3**
ARU *e*SS SS 17 04 19.3 -31
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
ARU MLR MLR
comp=N,200nm,17.0s,MS4.1
ARU MLR MLR
comp=E,300nm,17.0s,MS4.1
ARU MLR MLR
comp=Z,600nm,17.0s,MS4.3
KS15 Wonju Array Si 30.67 75 P **P 16 57 57.4 -0.4**
KULM Kulim 31.62 159 *e*P **P 16 58 04.8 -1.4**
MDJ Mudanjiang 31.66 61 P **P 16 58 06.8 +0.3**
MDJ AP pP 16 58 18.3 -1.4
MDJ S **S 17 03 14.4 +2.3**
MDJ AMB AMB
comp=Z,7.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,68nm,3.5s
MDJ LR LR
comp=N,199nm,16.7s
MDJ LR LR
comp=Z,122nm,18.0s,MS3.6
MDJ Mudanjiang 31.66 61 P **P 16 58 06.2 -0.3**
comp=Z,8.0nm,0.9s,mb4.5
KLR Kul'dur 33.59 53 *e*P **P 16 58 20.8 -2.6**
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s,MS4.7
YAK Yakutsk 36.52 31 *e*P **P 16 58 44.5 -4.1**
comp=Z,10nm,0.9s,mb4.7
YAK Yakutsk 36.52 31⇑*e*P **P 16 58 47.6 -1.0**
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
YAK MLR MLR
comp=Z,100nm,14.0s,MS3.8
MJAR Matsushiro Arr 38.96 74 LR LR 17 16 34.9
comp=Z,170nm,19.4s,MS3.9,baz=345,slow=38
KLMR Klimovskoe 40.62 325 *e*P **P 16 59 21.2 -1.8**
KLMR MLR MLR
comp=Z,570nm,20.0s,MS4.4
YSS Yuzh-Sakhalins 40.85 57 P **P 16 59 26.0 +1.1**
YSS MLR MLR
comp=Z,300nm,10.0s,MS4.5
OBN Obninsk 41.09 316⇑*e*P **P 16 59 27.8 +0.9**
OBN pmax pmax
comp=Z,14nm,1.1s,mb4.5
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.1
TIXI Tiksi 41.62 18⇑*e*P **P 16 59 31.2 0.0**
TIXI pmax pmax
comp=Z,9.0nm,1.4s,mb4.2
TIXI MLR MLR
comp=Z,300nm,26.0s,MS4.0
AKASG Malin Array Be 45.48 309 P **P 17 00 02.2 -0.1**
comp=Z,0.6nm,0.6s,mb3.6,baz=77,slow=5.8,SNR=8.8
AKASG Malin Array Be 45.48 309 P **P 17 00 02.2 -0.1**
AKASG Malin Array Be 45.48 309 *i* P **P 17 00 03.5 +1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
CSS Prodhromos 45.52 287 P **P 17 00 03.0 +0.4**
comp=Z,18nm,1.0s,mb5.0
MA2 Magadan 45.78 38 *e*P **P 17 00 04.5 -0.1**
comp=Z,22nm,1.4s,mb4.9
MA2 Magadan 45.78 38⇑*e*P **P 17 00 05.6 +1.0**
MA2 pmax pmax
comp=Z,18nm,1.4s,mb4.8
MA2 MLR MLR
comp=Z,200nm,18.0s,MS4.1
SEY Seymchan 46.83 34⇑*e*P **P 17 00 13.9 +1.1**
FINES FINESS Array B 47.14 324 P **P 17 00 14.9 -0.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=97,slow=9.8,SNR=5.1
FINES LR LR 17 22 02.1
comp=Z,232nm,19.5s,MS4.2,baz=167,slow=38
FINES FINESS Array B 47.14 324 *i* P **P 17 00 18.0 +2.7**
FINES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 48.32 335 P **P 17 00 25.6 +1.1**
comp=Z,3.0nm,0.9s,mb4.3,baz=77,slow=5.4,SNR=4.8
ARCES LR LR 17 22 35.4
comp=Z,174nm,18.2s,MS4.1,baz=162,slow=38
ARCES ARCESS Array B 48.32 335 P **P 17 00 25.6 +1.2**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES MLR MLR
comp=Z,175nm,18.2s
BILL Bilibino 52.73 27 *e*P **P 17 00 58.6 +0.9**
comp=Z,7.8nm,1.1s,mb4.5
BILL Bilibino 52.73 27*d i*P **P 17 00 58.7 +1.0**
BILL pmax pmax
comp=Z,12nm,1.4s,mb4.6
MORC Moravsky Berou 53.02 309 P **P 17 00 57.3 -2.5**
comp=Z,9.0nm,1.3s,mb4.5
MORC Moravsky Berou 53.02 309 P **P 17 00 57.3 -2.6**
MORC pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
NB2 NORSAR Subarra 54.32 324 P **P 17 01 10.1 +0.7**
comp=Z,10nm,1.2s,mb4.6,baz=81,slow=7.4
NB2 NORSAR Subarra 54.32 324 P **P 17 01 10.1 +0.7**
comp=Z,10nm,1.2s,mb4.6
NB2 NORSAR Subarra 54.32 324 P **P 17 01 10.1 +0.7**
NB2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
NOA NORSAR Array B 54.32 324 P **P 17 01 10.4 +1.0**
comp=Z,3.1nm,0.9s,mb4.2,baz=81,slow=7.3,SNR=7.8
NOA LR LR 17 26 14.4
comp=Z,221nm,20.9s,MS4.2,baz=70,slow=38
NOA NORSAR Array B 54.32 324 P **P 17 01 10.4 +1.0**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA MLR MLR
comp=Z,221nm,20.9s
GERES GERESS Array B 55.69 309 P **P 17 01 19.4 +0.1**
comp=Z,1.4nm,0.9s,mb4.0,baz=69,slow=7.3,SNR=5.8
GERES LR LR 17 30 15.2
comp=Z,147nm,19.2s,MS4.1,baz=65,slow=42
GERES GERESS Array B 55.69 309 P **P 17 01 19.4 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES MLR MLR
comp=Z,147nm,19.2s
TIP Timpagrande 56.69 297 P **P 17 01 23.1 -3.2**
GRF Grafenberg Arr 57.00 311 *e*P **P 17 01 29.6 +1.0**
comp=Z,2.0nm,0.8s,mb4.2
GRF Grafenberg Arr 57.00 311 *e*P **P 17 01 29.6 +1.0**
GRF pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
WRAB Tennant Creek 69.44 135 *e*P **P 17 02 49.7 -1.2**
comp=Z,26nm,1.2s,mb5.0
WRAB Tennant Creek 69.44 135 *i* P **P 17 02 51.1 +0.2**
WRA Warramunga Arr 69.44 135 P **P 17 02 50.3 -0.6**
comp=Z,7.0nm,1.0s,mb4.5,baz=328,slow=6.6,SNR=33
WRA Warramunga Arr 69.44 135 P **P 17 02 50.3 -0.6**
WRA pmax pmax
comp=Z,7.0nm,1.0s
WB2 Warramunga Arr 69.44 135 *e*P **P 17 02 50.7 -0.2**
COLA College 70.47 22 *e*P **P 17 02 57.9 +0.6**
comp=Z,7.9nm,1.0s,mb4.6
COLA College 70.47 22*c i*P **P 17 02 58.1 +0.8**
ILAR Eielson Array 70.85 22 P **P 17 02 59.5 0.0**
comp=Z,2.5nm,0.9s,mb4.1,baz=306,slow=5.2,SNR=24
ILAR PP PP 17 05 38.9 +2.0
comp=Z,0.7nm,1.0s,baz=306,slow=9.2,SNR=5.3
ILAR Eielson Array 70.85 22 P **P 17 02 59.6 +0.1**
ILAR 17 05 38.9
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 71.70 16 *e*P **P 17 03 04.8 +0.1**
comp=Z,7.5nm,1.1s,mb4.5
INK Inuvik 71.70 16 *e*P **P 17 03 04.8 +0.1**
INK pmax pmax
comp=Z,7.0nm,1.1s
ASAR Alice Springs 72.14 138 P **P 17 03 07.2 -0.1**
comp=Z,3.0nm,0.9s,mb4.2,baz=328,slow=6.5,SNR=23
ASAR Alice Springs 72.14 138 P **P 17 03 07.2 -0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.9s
NWAO Narrogin (SRO) 72.71 156 LR LR 17 40 18.6
comp=Z,70nm,18.6s,MS4.0,baz=205,slow=40
DAWY Dawson 73.59 20 P **P 17 03 15.4 -0.4**
HNR Honiara 79.72 109 LR LR 17 36 56.9
comp=Z,68nm,18.2s,MS4.0,baz=358,slow=34
YKA Yellowknife Ar 80.50 11 P **P 17 03 54.8 +0.1**
comp=Z,2.0nm,0.9s,mb4.0,baz=339,slow=4.9,SNR=24
YKA LR LR 17 41 16.6
comp=Z,38nm,18.3s,MS3.8,baz=55,slow=37
YKA Yellowknife Ar 80.50 11 P **P 17 03 54.8 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA MLR MLR
comp=Z,38nm,18.3s
TORD Torodi Ar. Bea 80.90 280 P **P 17 03 56.9 +0.1**
comp=Z,2.9nm,1.1s,mb4.1,baz=54,slow=3.3,SNR=9.4
STKA Stephens Creek 82.78 138 P **P 17 04 03.0 -3.7**
DBIC Dimbokro 89.87 278 LR LR 17 49 12.0
comp=Z,104nm,18.4s,MS4.3,baz=70,slow=38
ULM Lac du Bonnet 94.58 4 LR LR 17 50 54.1
comp=Z,62nm,18.9s,MS4.1,baz=40,slow=38
CPUP Villa Florida 150.39 279 PKPbc PKPbc 17 11 33.5 -0.3
comp=Z,2.7nm,0.7s,baz=38,slow=4.4,SNR=9.6
CPUP Villa Florida 150.39 279 *e*PKIKP PKPbc 17 11 33.2 -0.6
LPAZ La Paz 152.53 308 PKPbc PKPbc 17 11 40.3 +1.5
comp=Z,1.7nm,0.9s,baz=8.1,slow=7.1,SNR=4.4
LPAZ La Paz 152.53 308 PKIKP PKPbc 17 11 40.3 +1.5
LPAZ pmax pmax
comp=Z,2.0nm,0.9s

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*ISCJB **03** 17:11:56.5±1.0, 3474S×17971W, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.2/14, mbtmp4.3/7, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/21, Error ellipse: s-maj=32.7km s-min=24.3km az=13.0*
*NEIC **03** 17:12:02.2±0.7, 3501S×17984W, h35km, mb4.7/5, Error ellipse: s-maj=16.3km s-min=9.9km az=110.0*
*ISCJB **03** 17:12:08.9±1.4, 3547S×008×1797E±0.1, h86km±12km, mb4.3/8, Error ellipse: s-maj=19.0km s-min=12.2km az=34.0*
*MOS **03** 17:12:09.2±3.0, 3570S×17929E, h68km, mb4.8/3, Error ellipse: s-maj=54.6km s-min=22.4km az=26.9*
ISC 03 17:12:08.8±1.6, 3539S±009×1798E±01, h71km±13km, n49, σ1§04/48, mb4.3/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.48**	**208**	PN	**Pn**	**17 12 47.4**	**+0.6**
MXZ				SN	**Sn**	**17 13 22.8**	**+6.7**
MXZ	**Matakaoa Point**	**2.48**	**208**	*e*P	**Pn**	**17 12 47.4**	**+0.6**
MWZ	**Matawai**	**3.45**	**211**	PN	**Pn**	**17 13 00.6**	**+0.5**
MWZ				SN	**Sn**	**17 13 47.0**	**+7.2**
MWZ	**Matawai**	**3.45**	**211**	*e*P	**Pn**	**17 13 00.6**	**+0.5**
MWZ				S	**Sn**	**17 13 47.0**	**+7.2**
KUZ	**Kuaotunu**	**3.56**	**246**	PN	**Pn**	**17 13 03.2**	**+1.6**
KUZ	**Kuaotunu**	**3.56**	**246**	*e*P	**Pn**	**17 13 03.2**	**+1.7**
URZ	**Urewera**	**3.58**	**216**	Pn	**Pn**	**17 13 03.2**	**+1.4**
URZ	6.7nm,0.3s,baz=356,slow=5.9,SNR=60			Sn	**Sn**	**17 13 49.0**	**+6.1**
URZ	7.0nm,0.3s,baz=265,slow=23,SNR=3.1			LR	LR	17 14 14.2	
URZ	comp=Z,103nm,21.2s,baz=118,slow=32						
URZ	**Urewera**	**3.58**	**216**	PN	**Pn**	**17 13 02.5**	**+0.7**
URZ				SN	**Sn**	**17 13 48.9**	**+6.0**
URZ	**Urewera**	**3.58**	**216**	*e*P	**Pn**	**17 13 02.5**	**+0.7**
KNZ	**Kokohu**	**4.00**	**204**	PN	**Pn**	**17 13 07.1**	**-0.5**
KNZ	**Kokohu**	**4.00**	**204**	*e*P	**Pn**	**17 13 07.1**	**-0.5**
BKZ	**Black Stump Fm**	**4.59**	**214**	PN	**Pn**	**17 13 15.2**	**-0.5**
BKZ	**Black Stump Fm**	**4.59**	**214**	*e*P	**Pn**	**17 13 15.1**	**-0.6**
MRZ	**Mangatainoka R**	**6.22**	**211**	SN	**Sn**	**17 14 48.7**	**+1.0**
MRZ	**Mangatainoka R**	**6.22**	**211**	*e*P	**Pn**	**17 13 36.9**	**-1.1**
MRZ				S	**Sn**	**17 14 48.7**	**+1.0**
SNZO	**South Karori**	**7.13**	**212**	*e*Pn	**Pn**	**17 14 02.0**	**+12**
SNZO				*e*Sn	**Sn**	**17 15 10.5**	**+0.6**
THZ	**Tophouse**	**8.34**	**218**	PN	**Pn**	**17 14 04.8**	**-2.1**
THZ				*e*SN	**Sn**	**17 15 40.3**	**+0.9**
THZ	**Tophouse**	**8.34**	**218**	*e*P	**Pn**	**17 14 04.8**	**-2.0**
THZ				*e*S	**Sn**	**17 15 39.4**	**0.0**
LTZ	**Lake Taylor**	**9.41**	**216**	PN	**Pn**	**17 14 20.2**	**-1.3**
RPZ	**Rata Peaks**	**10.70**	**216**	Pn	**Pn**	**17 14 39.6**	**+0.5**
RPZ	0.7nm,0.3s,baz=191,slow=18,SNR=3.1			Sn	**Sn**	**17 16 34.6**	**-2.5**
	1.0nm,0.3s,baz=53,slow=13,SNR=5.2						
DZM	**Mont Dzumac**	**17.66**	**315**	LR	LR	17 21 35.4	
	comp=Z,101nm,19.2s,baz=195,slow=33						
TBI	**Tubuai**	**29.25**	**74**	*e*LR	LR	17 25 08.6	
	68nm,26.5s						
STKA	**Stephens Creek**	**31.85**	**265**	P	**P**	**17 18 28.2**	**+1.3**
	0.9nm,0.5s,mb3.8,baz=72,slow=6.4,SNR=4.8						
STKA	**Stephens Creek**	**31.85**	**265**	*e*P	**P**	**17 18 30.2**	**+3.3**
PPT	**Papeete**	**32.48**	**65**	*e*LR	LR	17 26 36.3	
	70nm,25.5s						
CTA	**Charters Tower**	**33.16**	**288**	P	**P**	**17 18 37.8**	**-0.7**
	1.3nm,0.3s,mb4.3,baz=72,slow=12,SNR=3.3						
AS31	**Alice Springs**	**41.26**	**274**	*e*P	**P**	**17 19 46.9**	**0.0**
ASAR	**Alice Springs**	**41.26**	**274**	P	**P**	**17 19 46.9**	**0.0**
	2.5nm,0.4s,mb4.4,baz=115,slow=7.4,SNR=54						
ASPA	**Alice Springs**	**41.26**	**274**	*e*P	**P**	**17 19 46.9**	**0.0**
WB2	**Warramunga Arr**	**42.70**	**279**	*e*P	**P**	**17 19 58.1**	**-0.5**
WRAB	**Tennant Creek**	**42.70**	**279**	*e*P	**P**	**17 19 57.8**	**-0.9**
	6.0nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**42.70**	**279**	*e*P	**P**	**17 19 57.8**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**42.70**	**279**	P	**P**	**17 19 58.0**	**-0.7**
	comp=Z,2.1nm,0.5s,mb4.1,baz=118,slow=7.7,SNR=53						
QSPA	**South Pole Qui**	**54.74**	**180**	*e*P	**P**	**17 21 32.5**	**+1.6**
	comp=Z,5.7nm,0.8s,mb4.7						
GUMO	**Guam**	**58.87**	**319**	P	**P**	**17 22 01.6**	**+1.4**
	comp=Z,116nm,1.0s						
PLCA	**Paso Flores**	**80.47**	**133**	P	**P**	**17 24 12.8**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.7,baz=214,slow=4.6,SNR=3.9						
PLCA	**Paso Flores**	**80.47**	**133**	*e*P	**P**	**17 24 11.9**	**-0.9**
	comp=Z,1.4nm,0.8s,mb3.8						
PLCA	**Paso Flores**	**80.47**	**133**	*e*P	**P**	**17 24 12.0**	**-0.9**
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**88.45**	**336**	*e*P	**P**	**17 24 58.5**	**+5.2**
	comp=Z,14nm,1.3s,mb4.8						
YSS	**Yuzh-Sakhalins**	**88.45**	**336**	*e*P	**P**	**17 24 58.5**	**+5.3**
YSS				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
NNA	**Nana**	**93.79**	**107**	*e*P	**P**	**17 25 23.9**	**+5.9**
	comp=Z,177nm,0.8s						
ARCES	**ARCESS Array B**	**142.99**	**345**	PKhKP		17 31 25.8	
	comp=Z,3.9nm,0.9s,baz=34,slow=4.5,SNR=5.8						
JOF	**Joensuu**	**146.23**	**334**	*e*p	PKPdf	17 31 36.0	-3.9
	comp=Z,4.0nm,0.5s						
KAF	**Kangasniemi**	**148.49**	**336**	*e*p	PKPdf	17 31 41.8	-1.9
	comp=Z,6.2nm,1.3s						
FINES	**FINESS Array B**	**149.04**	**336**	PKPbc	PKPbc	17 31 43.9	-4.9
	comp=Z,1.0nm,0.5s,baz=48,slow=4.6,SNR=12						
DBIC	**Dimbokro**	**151.11**	**170**	PKPbc	PKPbc	17 31 53.3	-0.4
	comp=Z,2.6nm,0.7s,baz=169,slow=3.6,SNR=6.6						
BRTR	**Keskin Array B**	**152.90**	**289**	PKPbc	PKPbc	17 31 54.1	-3.7
	comp=Z,0.6nm,0.4s,baz=139,slow=3.5,SNR=4.2						
NOA	**NORSAR Array B**	**153.30**	**348**	PKPbc	PKPbc	17 31 53.8	-4.8
	comp=Z,0.8nm,0.9s,baz=15,slow=4.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**157.79**	**185**	PKPab	PKPab	17 32 30.1	+0.1
	comp=Z,0.4nm,0.5s,baz=168,slow=5.3,SNR=5.1						

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*ISCJB **03** 17:18:43.9±3.0, 373N±02×717E±02, h33km, Error ellipse: s-maj=30.0km s-min=18.1km az=64.6*
*NNC **03** 17:18:55.1±3.0, 3805N×7078E, h0km, mb3.4, mpv2.7, Error ellipse: s-maj=44.5km s-min=19.1km az=109.0*
ISC 03 17:18:43.9±3.0, 371N±02×716E±02, h35km, n11, σ1§09/12, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.24**	**17**	P	**Pn**	**17 20 01.5**	**+1.7**
	SNR=48						
UCH	**Uchtor**	**5.56**	**23**	P	**Pn**	**17 20 04.5**	**+0.5**
	SNR=11						
KZA	**Kyzart**	**5.68**	**29**	P	**Pn**	**17 20 05.0**	**-0.8**
	SNR=8.6						
EKS2	**Erkin-Say**	**5.77**	**16**	P	**Pn**	**17 20 08.7**	**+1.7**
	SNR=7.6						
AAK	**Ala-Archa**	**5.92**	**21**	P	**Pn**	**17 20 09.7**	**+0.6**
	SNR=7.3						
KK31	**Karatay Array**	**6.02**	**352**	⇑Pn	**Pn**	**17 20 14.9**	**+4.5**
	0.3nm,0.2s,baz=168,slow=15,SNR=39						
KK31				⇑Sn	**Sn**	**17 21 17.7**	**-0.4**
	17nm,0.7s,baz=172,slow=23,SNR=45						
KBK	**Karagaybulak**	**6.08**	**24**	P	**Pn**	**17 20 12.0**	**+0.7**
	SNR=7.7						
ULHL	**Ulahol**	**6.23**	**34**	P	**Pn**	**17 20 11.3**	**-2.0**
	SNR=9.5						
CHMS	**Chumysh**	**6.33**	**21**	P	**Pn**	**17 20 14.1**	**-0.6**
	SNR=6.8						
TKM2	**Tokmak 2**	**6.54**	**27**	P	**Pn**	**17 20 16.5**	**-1.0**
	SNR=14						
AB31	**Akbulak array**	**14.78**	**329**	⇑Pn	**Pn**	**17 22 09.8**	**-0.5**
	0.4nm,0.4s,baz=130,slow=13,SNR=8.3						

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*ISCJB **03** 17:26:05.0±5.8, 23N±02×957E±01, h17km±40km, mb3.8/8, Error ellipse: s-maj=33.7km s-min=14.5km az=33.7*
*NEIC **03** 17:26:09.1±0.9, 237N×9578E, h30km, mb4.0/3, Error ellipse: s-maj=19.6km s-min=10.0km az=214.0*
*IDC **03** 17:26:10.8±7.7, 234N×9579E, h47km±67km, mb3.5/5, mb1 3.6/6, mb1mx3.3/22, mbtmp3.7/6, ML2.9/1, Error ellipse: s-maj=66.1km s-min=29.2km az=52.0*
ISC 03 17:26:06.7±5.6, 23N±02×9572E±009, h14km±35km, n12, σ0§53/13, mb3.8/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.23**	**82**	P	**Pn**	**17 26 57.7**	**+0.7**
	1.5nm,0.3s,baz=311,slow=7.4,SNR=5.6						
PSI				S	**Sn**	**17 27 35.3**	**0.0**
	2.2nm,0.3s,baz=230,slow=21,SNR=5.9						
KULM	**Kulim**	**5.72**	**59**	*e*Pn	**Pn**	**17 27 30.4**	**-0.8**
LSA	**Lhasa**	**27.56**	**351**	P	**P**	**17 31 53.8**	**+0.6**
	2.7nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**43.88**	**122**	P	**P**	**17 34 12.6**	**-0.2**
	0.4nm,0.8s,mb3.2,baz=300,slow=9.2,SNR=3.0						
MKAR	**Makanchi Array**	**45.80**	**347**	P	**P**	**17 34 28.3**	**+0.3**
	1.1nm,0.8s,mb3.9,baz=161,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**45.80**	**347**	P	**P**	**17 34 28.3**	**+0.3**
SONM	**Songino Array**	**46.25**	**10**	P	**P**	**17 34 31.2**	**-0.4**
	0.7nm,0.7s,mb3.7,baz=192,slow=8.0,SNR=6.7						
ULN	**Ulaanbaatar**	**46.40**	**11**	P	**P**	**17 34 33.6**	**+0.9**
	2.0nm,1.2s,mb3.9						
ZAL	**Zalesovo**	**52.21**	**352**	P	**P**	**17 35 16.7**	**-0.5**
	0.8nm,0.3s,mb4.1,baz=321,slow=6.5,SNR=3.6						
ZAL	**Zalesovo**	**52.21**	**352**	P	**P**	**17 35 16.7**	**-0.5**
BVAR	**Borovoye Array**	**54.70**	**342**	P	**P**	**17 35 35.3**	**-0.2**
	1.0nm,0.8s,mb3.9,baz=128,slow=9.6,SNR=5.7						
ZRNK	**Zerenda**	**55.09**	**341**	*e*P	**P**	**17 35 37.8**	**-0.5**
	1.3nm,0.9s,mb4.0						

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*IDC **03** 17:31:05.9±5.5, 1495S×16736E, h176km±56km, mb3.7/7, mb1 3.8/8, mb1mx3.7/16, mbtmp4.1/8, Error ellipse: s-maj=49.0km s-min=25.3km az=159.0*
*ISCJB **03** 17:31:06.5±3.1, 150S±02×1672E±0.1, h194km±28km, mb4.0/11, Error ellipse: s-maj=25.7km s-min=23.0km az=26.6*
*NEIC **03** 17:31:06.0±2.4, 1496S×16732E, h178km±21km, mb4.4/5, Error ellipse: s-maj=20.2km s-min=15.7km az=171.0*
ISC 03 17:31:06.4±3.1, 150S±02×1674E±01, h183km±27km, n33, σ0§64/20, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.14**	**187**	P	**Pn**	**17 32 48.1**	**-0.2**
	1.0nm,0.3s,baz=36,slow=10,SNR=13						
DZM				S	**Sn**	**17 34 09.2**	**+0.4**
	0.6nm,0.3s,baz=146,slow=22,SNR=5.8						
CTA	**Charters Tower**	**20.78**	**253**	P	**P**	**17 35 33.4**	**+0.2**
	4.1nm,0.7s,baz=66,slow=9.4,SNR=5.3						
STKA	**Stephens Creek**	**28.93**	**230**	*e*P	**P**	**17 36 48.4**	**0.0**
	5.3nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**28.93**	**230**	P	**P**	**17 36 48.6**	**+0.2**
	6.4nm,0.4s,mb4.7,baz=53,slow=8.8,SNR=39						
STKA	**Stephens Creek**	**28.93**	**230**	*e*P	**P**	**17 36 48.2**	**-0.2**
WB2	**Warramunga Arr**	**31.87**	**256**	*e*P	**P**	**17 37 13.5**	**-0.7**
WRAB	**Tennant Creek**	**31.87**	**256**	*e*P	**P**	**17 37 13.2**	**-1.0**
	8.0nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**31.88**	**256**	P	**P**	**17 37 14.1**	**-0.2**
	1.2nm,0.5s,mb3.9,baz=84,slow=8.2,SNR=36						
AS31	**Alice Springs**	**32.70**	**249**	*e*P	**P**	**17 37 21.2**	**-0.2**
ASAR	**Alice Springs**	**32.70**	**249**	P	**P**	**17 37 21.2**	**-0.2**
	3.2nm,0.3s,mb4.5,baz=79,slow=9.2,SNR=147						
ASPA	**Alice Springs**	**32.70**	**249**	*e*P	**P**	**17 37 21.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.08**	**260**	*e*P	**P**	**17 38 24.4**	**+0.5**
	8.2nm,0.4s,mb4.7						
MBWA	**Marble Bar**	**45.59**	**255**	*e*P	**P**	**17 39 08.8**	**+0.7**
	7.6nm,0.8s,mb4.4						
CASY	**Casey**	**63.37**	**202**	P	**P**	**17 41 16.4**	**+0.3**
	20nm,0.9s,mb5.0						
QSPA	**South Pole Qui**	**75.08**	**180**	*e*P	**P**	**17 42 27.8**	**-0.3**
	4.3nm,1.1s,mb4.0						
SONM	**Songino Array**	**82.74**	**324**	P	**P**	**17 43 10.9**	**+1.2**
	0.4nm,0.7s,mb3.3,baz=122,slow=7.3,SNR=3.8						
ILAR	**Eielson Array**	**86.70**	**18**	P	**P**	**17 43 28.2**	**-1.3**
	0.4nm,0.7s,mb3.4,baz=242,slow=5.1,SNR=5.4						
MKAR	**Makanchi Array**	**97.44**	**316**	P	**P**	**17 44 20.3**	**+1.1**
	0.2nm,0.6s,mb3.6,baz=94,slow=5.8,SNR=3.7						
MKAR	**Makanchi Array**	**97.44**	**316**	P	**P**	**17 44 20.3**	**+1.1**
ARCES	**ARCESS Array B**	**120.49**	**345**	PKP	PKPdf	17 49 35.8	-0.3

1.0nm,0.7s,baz=28,slow=2.4,SNR=7.2
GIVF Givet 142.18 342 *e*PKP1 PKPdf 17 50 18.9 +2.1
FLN La Foliniere 144.83 346 *e*PKP1 PKPdf 17 50 21.7 +0.3
LDF La Druitiere 144.91 346 *e*PKP1 PKPdf 17 50 21.9 +0.3
LOR Lormes 144.98 340 *e*PKP1 PKPdf 17 50 22.9 +1.2
4.3nm,0.5s
GRR Gorron 145.27 346 *e*PKP1 PKPbc 17 50 23.5 +1.2
SSF Saint Saulge 145.28 341 *e*PKP1 PKPbc 17 50 24.0 +1.6
12nm,0.6s
LPL La Plagne 145.44 336 *e*PKP1 PKPbc 17 50 25.1 +2.2
6.4nm,0.6s
LPG La Plagne 145.44 336 *e*PKP1 PKPbc 17 50 25.2 +2.3
15nm,0.8s
AVF Avril sur Loir 145.56 340 *e*PKP1 PKPbc 17 50 25.0 +1.8
ORIF Oris-en-Rattie 146.27 336 *e*PKP1 PKPbc 17 50 26.1 +0.8
14nm,0.8s
SBF Sospel 146.49 333 *e*PKP1 PKPbc 17 50 27.6 +1.6
36nm,0.8s
FRF La Foret Royal 147.07 334 *e*PKP1 PKPbc 17 50 29.0 +1.4
8.1nm,0.6s
LMR La Mourre 147.31 334 *e*PKP1 PKPbc 17 50 29.7 +1.4

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*NEIC **03** 17:43:18.6, 19.10N×6386W, h20km, MD3.5(RSPR), After RSPR.*
RSPR 03 17:43:18.6, 1910N×6386W, h20km±29km, MD3.5/11, MD3.5/11, 8C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.98**	**226**	*e*S	Sb	17 43 46.6	-2.8
TBVI	**Tortola**	**0.98**	**226⇑**	*e*P	Pb	17 43 34.4	-2.5
TBVI				*e*S	Sb	17 43 46.6	-2.8
STVI	**Saint Thomas**	**1.28**	**235**	*e*S	Sn	17 43 54.3	-3.4
STVI	**Saint Thomas**	**1.28**	**235⇓**	*e*P	Pn	17 43 38.3	-2.9
STVI				*e*S	Sn	17 43 54.3	-3.4
CDVI	**St. Croix**	**1.59**	**213⇑**	*e*P	Pn	17 43 46.2	+0.7
MTP	**Monte Pirata**	**1.89**	**238**	*e*S	Sn	17 44 10.2	-2.6
MTP	**Monte Pirata**	**1.89**	**238⇑**	*e*P	Pn	17 43 47.3	-2.3
MTP				*e*S	Sn	17 44 10.2	-2.6
CBYP	**Canovanas**	**2.06**	**247**	*e*S	Sn	17 44 13.7	-3.4
CBYP	**Canovanas**	**2.06**	**247⇑**	*e*P	Pn	17 43 50.1	-1.9
CBYP				*e*S	Sn	17 44 13.7	-3.4
HUMP	**Col San Antoni**	**2.11**	**244**	*e*S	Sn	17 44 14.8	-3.5
HUMP	**Col San Antoni**	**2.11**	**244⇑**	*e*P	Pn	17 43 50.5	-2.1
HUMP				*e*S	Sn	17 44 14.8	-3.5
CPD	**Cerro la Pandu**	**2.21**	**242**	*e*S	Sn	17 44 18.3	-2.5
CPD	**Cerro la Pandu**	**2.21**	**242⇑**	*e*P	Pn	17 43 52.3	-1.8
CPD				*e*S	Sn	17 44 18.3	-2.5
SJG	**San Juan**	**2.38**	**246**	*e*S	Sn	17 44 21.4	-3.5
SJG	**San Juan**	**2.38**	**246⇑**	*e*P	Pn	17 43 53.9	-2.5
SJG				*e*S	Sn	17 44 21.4	-3.5
CELP	**Cerrillos**	**2.77**	**249⇓**	*i*P	Pn	17 43 59.6	-2.1
MGP	**Maguayo**	**3.25**	**251⇑**	*e*P	Pn	17 44 06.1	-2.2

IDC 03 17:51:53.5±5.6, 334S×13165E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=392.3km s-min=27.5km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.71**	**171**	Pn	Pn	17 55 47.8	-1.1
	0.1nm,0.3s,baz=351,slow=13,SNR=7.6						
WRA				Sn	Sn	17 58 47.2	-8.0
	0.1nm,0.3s,baz=336,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**20.33**	**174**	P	P	17 56 32.0	+0.9
	1.4nm,0.5s,baz=351,slow=11,SNR=30						
MKAR	**Makanchi Array**	**66.12**	**325**	P	P	18 02 42.6	+0.2
	0.4nm,0.4s,baz=112,slow=7.7,SNR=15						

IDC 03 17:57:10.7±7.7, 2191N×14342E, h301km±78km, mb3.0/5, mb1 3.2/6, mb1mx2.9/19, mbtmp3.7/6, Error ellipse: s-maj=106.1km s-min=17.4km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.27**	**344**	P	P	18 00 30.4	-0.2
	0.4nm,0.3s,baz=167,slow=10,SNR=4.5						
SONM	**Songino Array**	**39.32**	**320**	P	P	18 04 11.4	+0.2
	0.3nm,0.4s,baz=122,slow=6.7,SNR=7.8						
WRA	**Warramunga Arr**	**42.53**	**193**	P	P	18 04 37.3	+0.1
	0.3nm,0.3s,baz=16,slow=9.2,SNR=18						
ZAL	**Zalesovo**	**54.20**	**322**	P	P	18 06 04.8	-0.9
	0.7nm,0.3s,baz=1.0,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**54.72**	**313**	P	P	18 06 09.6	+0.2
	0.2nm,0.5s,baz=90,slow=8.8,SNR=4.6						
FINES	**FINESS Array B**	**83.09**	**335**	P	P	18 09 02.9	0.0
	0.7nm,0.6s,baz=79,slow=7.2,SNR=6.6						

IDC 03 18:28:06.2±1.7, 3525N×8981E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.3/21, mbtmp3.2/5, ML2.5/2, Error ellipse: s-maj=62.4km s-min=25.8km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.85**	**336**	Pn	Pn	18 31 06.9	-3.1
	0.0nm,0.3s,baz=164,slow=13,SNR=2.8						
SONM	**Songino Array**	**17.62**	**39**	P	Pn	18 32 14.0	+0.9
	0.0nm,0.3s,baz=233,slow=12,SNR=3.2						
BVAR	**Borovoye Array**	**22.46**	**328**	P	P	18 33 07.4	+0.6
	0.3nm,0.5s,baz=134,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**69.26**	**135**	P	P	18 39 15.4	+0.3
	0.5nm,0.9s,baz=326,slow=6.1,SNR=3.1						
YKA	**Yellowknife Ar**	**80.63**	**11**	P	P	18 40 19.8	-1.0
	0.2nm,0.8s,baz=335,slow=5.4,SNR=4.5						

IDC 03 18:31:18.1±1.9, 1321S×16788E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=60.1km s-min=30.6km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.92**	**189**	Pn	Pn	18 33 27.9	-0.3
	0.7nm,0.3s,baz=338,slow=19,SNR=7.3						
DZM				Sn	Sn	18 35 04.9	-4.5
	0.1nm,0.3s,baz=342,slow=20,SNR=2.0						
STKA	**Stephens Creek**	**30.43**	**228**	P	P	18 37 32.9	+0.6
	1.7nm,0.7s,baz=68,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**32.79**	**254**	P	P	18 37 53.1	+0.1
	0.3nm,0.7s,baz=85,slow=9.7,SNR=4.0						
ASAR	**Alice Springs**	**33.78**	**247**	P	P	18 38 02.2	+0.5
	0.4nm,0.6s,baz=75,slow=9.1,SNR=13						
ILAR	**Eielson Array**	**84.91**	**18**	P	P	18 43 54.5	-0.4
	0.6nm,0.8s,baz=240,slow=5.3,SNR=5.3						

IDC 03 18:53:00.0±2.4, 585S×13003E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/13, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=146.4km s-min=31.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.62**	**164**	Pn	Pn	18 56 26.4	-1.7
	0.1nm,0.3s,baz=346,slow=13,SNR=20						
WRA				Sn	Sn	18 59 01.8	-9.0
	0.1nm,0.3s,baz=347,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**18.10**	**169**	P	Pn	18 57 14.1	+1.2
	0.1nm,0.3s,baz=350,slow=10,SNR=12						
MKAR	**Makanchi Array**	**67.29**	**327**	P	P	19 03 56.7	+0.2
	0.3nm,0.6s,baz=110,slow=7.5,SNR=4.9						

IDC 03 18:53:54.0±6.9, 4029N×11328E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=160.9km s-min=37.5km az=42.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.02**	**329**	Pn	Pn	18 56 05.6	+0.1
	0.1nm,0.3s,baz=149,slow=14,SNR=6.2						
SONM				Lg		18 58 40.6	
	0.1nm,0.3s,baz=141,slow=29,SNR=3.6						
ILAR	**Eielson Array**	**58.27**	**30**	P	P	19 03 50.2	-0.1
	0.2nm,0.6s,baz=284,slow=4.9,SNR=4.4						
YKA	**Yellowknife Ar**	**70.60**	**21**	P	P	19 05 10.3	-0.7
	0.4nm,0.7s,baz=326,slow=6.0,SNR=9.2						

*IDC **03** 18:55:21.6±0.6, 096S×12338E, h0km, mb4.6/16, mb1 4.6/16, mb1mx4.6/20, mbtmp4.6/16, MS3.8/7, Ms1 3.8/7, ms1mx3.4/25, Error ellipse: s-maj=23.6km s-min=14.0km az=61.0*
*BJI **03** 18:55:22.8, 181S×12384E, h70km, mB5.0, mb5.0, Ms4.8, Msz4.4*
*MOS **03** 18:55:25.1±1.0, 094S×12342E, h33km, mb5.0/24, Error ellipse: s-maj=13.8km s-min=7.4km az=110.9*
*ISCJB **03** 18:55:31.2±1.0, 105S±004×12354E±006, h90km±9km, mb4.8/65, Error ellipse: s-maj=10.2km s-min=5.7km az=147.9*
*NEIC **03** 18:55:32.6±1.8, 1.11S×12348E, h91km±18km, mb4.9/22, Error ellipse: s-maj=11.3km s-min=7.0km az=67.0*
ISC 03 18:55:33.0±0.9, 107S±004×12357E±006, h91km±8km, n129, σ1$17/134, mb4.8/65, 5C, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**8.26**	**5**	*e*P	**Pn**	**18 57 29.2**	**-0.8**
CTBH				*i* S	**Sn**	**18 59 00.5**	**-1.2**
PAGZ	**Pagadian**	**8.86**	**359**	*e*P	**Pn**	**18 57 37.6**	**-0.6**
BUKP	**Musuan**	**9.01**	**10**	*e*P	**Pn**	**18 57 41.3**	**+1.1**
KAKA	**Kakadu**	**14.53**	**143**	*e*P	**Pn**	**18 58 53.0**	**-1.0**
20nm,0.8s							
BJII	**Banjamegara**	**15.15**	**245**	P	**Pn**	**18 59 07.8**	**+5.9**
37nm,1.7s							
TGY	**Tagaytay City**	**15.30**	**350**	Pn	**Pn**	**18 59 05.8**	**+2.0**
9.1nm,0.3s,baz=162,slow=20,SNR=2.0							
FITZ	**Fitzroy Crossi**	**17.05**	**173**	*e*P	**Pn**	**18 59 25.3**	**-0.3**
14nm,1.5s							
APYP	**Conner**	**18.95**	**353**	*e*P	**Pn**	**18 59 47.0**	**-1.5**
MBWA	**Marble Bar**	**20.32**	**190**	*e*P	**P**	**18 59 58.5**	**-3.2**
MBWA				*e*		19 00 08.0	
WRAB	**Tennant Creek**	**21.51**	**151**	*e*P	**P**	**19 00 14.1**	**-0.4**
42nm,1.1s,mb4.7							
WRAB	**Tennant Creek**	**21.51**	**151**	*e*P	**P**	**19 00 14.1**	**-0.4**
WRAB				pmax	pmax		
comp=Z,42nm,1.1s,mb4.7							
WRA	**Warramunga Arr**	**21.52**	**151**	P	**P**	**19 00 14.1**	**-0.5**
comp=Z,12nm,0.8s,mb4.3,baz=330,slow=11,SNR=54							
WRA	**Warramunga Arr**	**21.52**	**151**	*i* P	**P**	**19 00 14.3**	**-0.2**
WRA				pmax	pmax		
comp=Z,12nm,0.8s							
WB2	**Warramunga Arr**	**21.52**	**151**	*e*P	**P**	**19 00 14.2**	**-0.4**
PPI	**Padang Panjang**	**23.18**	**271**	P	**P**	**19 00 31.8**	**+0.2**
comp=Z,42nm,1.2s,mb4.6							
KULM	**Kulim**	**23.75**	**286**	*e*P	**P**	**19 00 36.5**	**-0.3**
KULM				*e*		19 00 46.3	
QIZ	**Qiongzhong**	**24.10**	**327**	*e*P	**P**	**19 00 40.4**	**+0.4**
QIZ				AMB	AMB		
comp=Z,28nm,1.3s,mb4.4							
QIZ				AMB	AMB		
comp=Z,159nm,2.6s,mb4.9							
QIZ				LR	LR		
comp=Z,203nm,30.2s							
AS31	**Alice Springs**	**24.60**	**157**	*e*P	**P**	**19 00 45.7**	**+1.1**
ASPA	**Alice Springs**	**24.60**	**157**	*e*P	**P**	**19 00 45.7**	**+1.1**
ASAR	**Alice Springs**	**24.60**	**157**	P	**P**	**19 00 45.1**	**+0.6**
comp=Z,7.8nm,0.8s,mb4.2,baz=335,slow=7.5,SNR=69							
ASAR				PcP	PcP	19 04 23.4	+3.3
comp=Z,1.8nm,0.7s,baz=342,slow=2.2,SNR=6.7							
PMG	**Port Moresby**	**24.89**	**110**	P	**P**	**19 00 49.8**	**+2.6**
comp=Z,24nm,0.9s,mb4.6,baz=265,slow=4.4,SNR=7.6							
PMG	**Port Moresby**	**24.89**	**110**	P	**P**	**19 00 49.8**	**+2.6**
PMG				*e*		19 00 50.2	
PSI	**Prapat**	**24.93**	**279**	P	**P**	**19 00 46.8**	**-0.8**
comp=Z,9.8nm,0.5s,mb4.5,baz=95,slow=2.3,SNR=12							
JOW	**Kunigami**	**28.11**	**9**	P	**P**	**19 01 18.8**	**+2.6**
comp=Z,16nm,0.6s,mb4.7,baz=135,slow=13,SNR=5.2							
CTA	**Charters Tower**	**29.15**	**132**	LR	LR	19 12 56.3	
comp=Z,168nm,18.5s,baz=303,slow=36							
GYA	**Guiyang**	**31.86**	**330**	P	**P**	**19 01 50.8**	**+1.5**
GYA				PP	PP	19 02 57.6	-5.2
GYA				S	**S**	**19 06 59.8**	**+6.6**
GYA				AMB	AMB		
comp=Z,20nm,1.0s,mb4.8							
GYA				AMB	AMB		
comp=Z,120nm,3.4s							
GYA				LR	LR		
comp=E,760nm,17.5s							
GYA				LR	LR		
comp=E,1μm,17.4s							
SSE	**Sheshan**	**32.07**	**356**	P	**P**	**19 01 54.1**	**+3.0**
SSE				AP	pP	19 02 06.7	-5.2
SSE				PP	PP	19 03 07.0	+1.9
SSE				S	**S**	**19 07 05.7**	**+9.2**
SSE				AMB	AMB		
comp=Z,41nm,0.7s,mb5.3							
SSE				AMB	AMB		
comp=Z,58nm,4.5s							
NWAO	**Narrogin (SRO)**	**32.24**	**190**	LR	LR	19 14 20.0	
comp=Z,131nm,20.7s,baz=168,slow=35							
WHN	**Wuhan**	**32.64**	**345**	*e*P	**P**	**19 01 57.0**	**+0.9**
KMI	**Kunming**	**32.94**	**324**	P	**P**	**19 02 00.9**	**+2.2**
KMI				PP	PP	19 03 12.1	-2.6
KMI				S	**S**	**19 07 18.5**	**+8.5**
KMI				AMB	AMB		
comp=Z,11nm,0.6s,mb4.9							
KMI				LR	LR		
comp=Z,130nm,24.8s							
NJ2	**Nanjing**	**33.24**	**353**	*e*P	**P**	**19 02 02.1**	**+0.7**
NJ2				PP	PP	19 03 13.9	-4.2
NJ2				S	**S**	**19 07 20.0**	**+5.3**
NJ2				AMB	AMB		
comp=Z,70nm,1.2s,mb5.4							
NJ2				AMB	AMB		
comp=Z,440nm,5.4s							
NJ2				LR	LR		
comp=N,110nm,16.1s							
NJ2				LR	LR		
comp=E,280nm,16.2s							
ENH	**Enshi**	**33.93**	**338**	*e*P	**P**	**19 02 07.8**	**+0.4**
comp=E,24nm,0.8s,mb5.1							
STKA	**Stephens Creek**	**35.05**	**153**	*e*P	**P**	**19 02 16.5**	**-0.5**
comp=E,6.1nm,1.1s,mb4.3							
STKA	**Stephens Creek**	**35.05**	**153**	P	**P**	**19 02 16.3**	**-0.7**
comp=E,6.4nm,0.9s,mb4.5,baz=335,slow=9.3,SNR=8.0							
STKA				LR	LR	19 16 54.3	
comp=E,160nm,19.1s,baz=219,slow=37							
STKA	**Stephens Creek**	**35.05**	**153**	*e*P	**P**	**19 02 16.5**	**-0.6**
CD2	**Chengdu**	**36.96**	**331**	*e*P	**P**	**19 02 33.6**	**+0.3**
CD2				PP	PP	19 04 00.9	+1.7
CD2				S	**S**	**19 08 18.5**	**+6.7**
CD2				AMB	AMB		
comp=Z,40nm,0.7s,mb5.5							
CD2				AMB	AMB		
comp=Z,100nm,5.2s							
CD2				LR	LR		
comp=E,80nm,12.0s							
CD2				LR	LR		
comp=Z,80nm,19.2s							
JHJ	**Hachijo jima 2**	**37.29**	**23**	LR	LR	19 16 19.4	
comp=Z,110nm,20.3s,baz=26,slow=34							
XAN	**Xi'an**	**37.54**	**340**	P	**P**	**19 02 37.7**	**-0.5**
MJAR	**Matsushiro Arr**	**39.82**	**19**	P	**P**	**19 02 56.5**	**-0.7**
comp=Z,16nm,0.8s,mb4.9,baz=193,slow=8.9,SNR=35							
MAJO	**Matsushiro**	**39.82**	**19**	*e*P	**P**	**19 02 55.9**	**-1.4**
comp=Z,11nm,0.8s,mb4.7							
MAJO	**Matsushiro**	**39.82**	**19**	*e*P	**P**	**19 02 55.9**	**-1.4**
MAJO				pmax	pmax		
comp=Z,11nm,0.8s,mb4.7							
MAT	**Matsushiro**	**39.82**	**19**	P	**P**	**19 02 56.2**	**-1.1**
MAT	**Matsushiro**	**39.82**	**19**	*e*P	**P**	**19 02 56.0**	**-1.3**
LZH	**Lanzhou**	**41.28**	**336**	*e*P	**P**	**19 03 10.0**	**+0.7**
LZH				PP	PP	19 04 49.6	+3.4
LZH				*e*S	**S**	**19 09 24.2**	**+7.6**
LZH				SS	SS	19 12 23.9	+0.6
LZH				AMB	AMB		
comp=Z,41nm,1.4s,mb5.1							
LZH				AMB	AMB		
comp=Z,206nm,6.5s							
LZH				LR	LR		
comp=N,669nm,14.1s							
LZH				LR	LR		
comp=Z,935nm,17.7s							
BJT	**Baijiatuau**	**41.45**	**351**	P	**P**	**19 03 09.4**	**-1.3**
comp=Z,9.2nm,0.6s,mb4.8							
BJT	**Baijiatuau**	**41.45**	**351**	P	**P**	**19 03 09.4**	**-1.3**
BJT				pmax	pmax		
comp=Z,9.0nm,0.6s							
BJI	**Beijing**	**41.47**	**351**	P	**P**	**19 03 10.8**	**0.0**
BJI				AMB	AMB		
comp=Z,15nm,0.7s,mb4.9							
HHC	**Hu-ho-hao-te**	**43.13**	**347**	*e*P	**P**	**19 03 27.3**	**+3.0**
HHC				AP	pP	19 03 38.0	-7.9
HHC				PP	PP	19 05 10.4	+4.3
HHC				S	**S**	**19 09 53.6**	**+10**
HHC				SS	SS	19 13 00.7	+1.1
HHC				AMB	AMB		
comp=Z,8.0nm,0.3s,mb4.9							
HHC				AMB	AMB		
comp=Z,88nm,4.5s							
HHC				LR	LR		
comp=N,118nm,6.3s							
HHC				LR	LR		
comp=E,167nm,6.0s							
HHC				LR	LR		
comp=Z,95nm,5.7s							
LSA	**Lhasa**	**43.51**	**317**	P	**P**	**19 03 30.2**	**+2.8**
LSA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.9							
LSA	**Lhasa**	**43.51**	**317**	*e*P	**P**	**19 03 28.9**	**+1.5**
comp=Z,12nm,0.6s,mb4.8							
LSA	**Lhasa**	**43.51**	**317**	*e*P	**P**	**19 03 28.9**	**+1.5**
LSA				pmax	pmax		
comp=Z,13nm,0.6s,mb4.8							
VLA	**Vladivostok**	**44.62**	**9**	*e*P	**P**	**19 03 30.1**	**-6.2**
VLA				pmax	pmax		
comp=Z,45nm,1.6s,mb5.0							
CN2	**Changchun**	**44.70**	**2**	*e*P	**P**	**19 03 39.4**	**+2.5**
GTA	**Gaotai**	**45.79**	**334**	P	**P**	**19 03 46.1**	**+0.6**
GTA				PCP	PcP	19 05 23.0	+1.4
GTA				PP	PP	19 05 34.7	+0.3
GTA				S	**S**	**19 10 29.3**	**+6.9**
GTA				SS	SS	19 13 45.9	-2.0
GTA				AMB	AMB		
comp=Z,39nm,0.8s,mb5.2							
GTA				AMB	AMB		
comp=Z,69nm,4.6s							
GTA				LR	LR		
comp=N,117nm,13.7s							
GTA				LR	LR		
comp=E,113nm,13.3s							
GTA				LR	LR		
comp=Z,125nm,16.0s							
MDJ	**Mudanjiang**	**45.80**	**6**	P	**P**	**19 03 45.2**	**-0.4**
MDJ				PP	PP	19 05 35.2	+0.7
MDJ				S	**S**	**19 10 33.5**	**+11**
MDJ				AMB	AMB		
comp=Z,14nm,0.9s,mb4.7							
MDJ				AMB	AMB		
comp=Z,81nm,3.6s							
MDJ				LR	LR		
comp=Z,57nm,20.7s							
MDJ	**Mudanjiang**	**45.80**	**6**	*e*P	**P**	**19 03 45.2**	**-0.4**
comp=Z,13nm,0.9s,mb4.7							
JIRN	**Jiri**	**45.88**	**311**	*e*P	**P**	**19 03 46.7**	**+0.5**
comp=Z,36nm,0.7s,mb5.2							
GUN	**Gumba**	**46.24**	**311**	*e*P	**P**	**19 03 49.5**	**+0.4**
comp=Z,53nm,0.7s,mb5.4							
PKI	**Pulchoki**	**46.42**	**311**	*e*P	**P**	**19 03 50.3**	**-0.1**
comp=Z,8.1nm,0.5s,mb4.8							
PKI	**Pulchoki**	**46.42**	**311**	*e*P	**P**	**19 03 50.3**	**-0.1**
PKI				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.4							
KKN	**Kakani**	**46.63**	**311**	*e*P	**P**	**19 03 52.0**	**-0.1**
comp=Z,18nm,0.8s,mb4.9							
KKN	**Kakani**	**46.63**	**311**	*e*P	**P**	**19 03 52.0**	**-0.1**
KKN				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.5							
DMN	**Daman**	**46.67**	**311**	*e*P	**P**	**19 03 52.6**	**+0.2**
comp=Z,24nm,0.8s,mb5.0							
GKN	**Gorkha**	**47.23**	**311**	*e*P	**P**	**19 03 56.6**	**-0.1**
comp=Z,31nm,0.7s,mb5.2							
KOLN	**Koldanda**	**47.90**	**310**	*e*P	**P**	**19 04 02.1**	**+0.2**
comp=Z,39nm,0.8s,mb5.3							
HYB	**Hyderabad**	**47.99**	**295**	*i* P	**P**	**19 04 02.0**	**-0.6**
HYB	**Hyderabad**	**47.99**	**295**	*e*P	**P**	**19 04 02.0**	**-0.6**
ASAJ	**Asahikawa**	**48.09**	**18**	P	**P**	**19 04 03.9**	**+0.4**
comp=Z,26nm,0.7s,mb5.2,baz=236,slow=12,SNR=26							
HABR	**Khabarovsk**	**50.34**	**10**	*e*P	**P**	**19 04 21.0**	**+0.4**
HABR				*e*S	**S**	**19 11 32.7**	**+6.1**
KLR	**Kul'dur**	**50.60**	**7**	*e*P	**P**	**19 04 19.0**	**-3.5**
YSS	**Yuzh-Sakhalins**	**50.70**	**17**	*e*P	**P**	**19 04 22.9**	**-0.4**
comp=Z,12nm,0.8s,mb5.0							
YSS	**Yuzh-Sakhalins**	**50.70**	**17**	*c i*P	**P**	**19 04 23.4**	**+0.1**
YSS				pmax	pmax		
comp=Z,22nm,1.2s,mb5.1							
YSS				MLR	MLR		
comp=Z,100nm,20.0s							
SONM	**Songino Array**	**50.96**	**345**	P	**P**	**19 04 24.5**	**-0.6**
comp=Z,14nm,0.6s,mb5.1,baz=162,slow=7.7,SNR=74							
ZAK	**Zakamensk**	**54.12**	**344**	*e*P	**P**	**19 04 44.3**	**-4.2**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.8s,mb4.2							
WMQ	**Urumqi**	**54.99**	**329**	P	**P**	**19 04 56.5**	**+1.7**
WMQ				PCP	PcP	19 05 57.5	+2.0
WMQ				AMB	AMB		
comp=Z,17nm,0.8s,mb5.1							
WMQ				AMB	AMB		
comp=Z,85nm,4.2s							
WMQ				LR	LR		
comp=N,679nm,22.0s							
WMQ				LR	LR		
comp=Z,663nm,20.0s							
MOY	**Mondy**	**55.91**	**343**	*e*P	**P**	**19 05 01.4**	**0.0**
CLNS	**Chul'man**	**57.73**	**1**	*e*P	**P**	**19 05 13.4**	**-0.9**
CLNS				pmax	pmax		
comp=Z,22nm,0.7s,mb5.3							
CLNS				pmax	pmax		
comp=N,11nm,0.8s							
CLNS				pmax	pmax		
comp=E,7.0nm,0.7s							
BOD	**Bodaibo**	**59.20**	**354**	*e*P	**P**	**19 05 23.6**	**-0.9**
BOD				pmax	pmax		
comp=Z,13nm,0.7s,mb5.1							
MK31	**Makanchi Array**	**59.81**	**328**	*i* P	**P**	**19 05 28.0**	**-0.7**
MK31				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.3							
MKAR	**Makanchi Array**	**59.81**	**328**	P	**P**	**19 05 27.8**	**-1.0**
comp=Z,3.3nm,0.5s,mb4.7,baz=122,slow=7.9,SNR=44							
MKAR				PcP	PcP	19 06 14.6	+0.2
comp=Z,3.5nm,0.7s,baz=129,slow=5.0,SNR=6.4							
MKAR				ScP	ScP	19 10 15.2	+8.2
comp=Z,0.3nm,0.8s,baz=131,slow=3.7,SNR=4.4							
MKAR	**Makanchi Array**	**59.81**	**328**	P	**P**	**19 05 27.8**	**-0.9**
MKAR						19 06 14.6	
ULHL	**Ulahol**	**60.61**	**321**	P	**P**	**19 05 34.9**	**+0.8**
SNR=6.9							
KZA	**Kyzart**	**61.14**	**321**	P	**P**	**19 05 38.6**	**+0.9**
SNR=7.4							
PET	**Petropavlovsk**	**61.35**	**23⇑**	*e*P	**P**	**19 05 41.4**	**+2.2**
PET				pmax	pmax		
comp=Z,92nm,1.5s,mb5.6							
KBK	**Karagaybulak**	**61.64**	**321**	P	**P**	**19 05 38.2**	**-2.9**
SNR=11							
UCH	**Uchtor**	**61.69**	**320**	P	**P**	**19 05 43.2**	**+1.8**
SNR=11							
AAK	**

NVS	Novosibirsk	64.80	336	eP	P	19 06 00.1	-1.9
NVS				e		19 06 34.9	
NVS				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.5							
NVS				pmax	pmax		
comp=N,2.0nm,0.8s							
NVS				pmax	pmax		
comp=E,4.0nm,1.0s							
ZRNK	Zerenda	70.36	328	eP	P	19 06 35.5	-1.4
comp=E,6.7nm,0.6s,mb4.7							
ZRNK	Zerenda	70.36	328	eP	P	19 06 35.5	-1.5
ZRNK				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.7							
TIXI	Tiksi	72.68	2⇑	eP	P	19 06 49.7	-1.2
TIXI				pmax	pmax		
comp=Z,38nm,1.3s,mb5.1							
TIXI				MLR	MLR		
comp=Z,100nm,21.0s							
AB31	Akbulak array	73.92	322	i P	P	19 06 57.3	-0.9
BILL	Biiibino	74.98	15	i P	P	19 07 05.1	+0.8
BILL				pmax	pmax		
comp=Z,10.0nm,1.9s,mb4.2							
ARU	Arti	77.33	329⇑	iP	P	19 07 17.1	-0.6
ARU				e		19 07 26.0	
ARU				e		19 10 11.2	
ARU				ePPP		19 12 00.8	
ARU				eS	S	19 17 05.2	+4.7
ARU				eSS	SS	19 22 01.0	+0.5
ARU				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.5							
KMBO	Kilima Mbogo	86.29	269	P	P	19 08 06.5	+1.8
comp=Z,8.1nm,1.0s,mb4.6,baz=41,slow=8.3,SNR=7.7							
KMBO	Kilima Mbogo	86.29	269	eP	P	19 08 07.7	+3.0
comp=Z,7.0nm,1.1s,mb4.5							
KMBO	Kilima Mbogo	86.29	269	i P	P	19 08 06.5	+1.8
KMBO				pmax	pmax		
comp=Z,8.0nm,1.0s							
VORD	Divnogorie	87.21	321	eP	P	19 08 07.8	-1.3
VORD				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.8							
VORD				pmax	pmax		
comp=E,20nm,0.8s							
KLMR	Klimovskoe	88.02	331	eP	P	19 08 11.1	-1.9
KLMR				pmax	pmax		
comp=Z,30nm,1.6s,mb5.1							
OBN	Obninsk	89.14	325	eP	P	19 08 17.5	-0.8
OBN				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
BRTR	Keskin Array B	90.62	310	P	P	19 08 24.3	-0.9
comp=Z,2.2nm,0.8s,mb4.3,baz=141,slow=8.0,SNR=6.9							
ILAR	Eielson Array	90.77	25	P	P	19 08 25.4	-0.4
comp=Z,0.7nm,0.6s,mb4.0,baz=240,slow=5.7,SNR=17							
JOF	Joensuu	91.98	333	ep	P	19 08 30.3	-1.2
comp=Z,4.7nm,0.6s,mb4.9							
JOF	Joensuu	91.98	333	eP	P	19 08 30.3	-1.2
JOF				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.9							
AKASG	Malin Array Be	93.58	321	P	P	19 08 37.1	-1.7
comp=Z,1.6nm,0.6s,mb4.5,baz=75,slow=4.7,SNR=7.3							
ARCES	ARCESS Array B	93.82	340	P	P	19 08 38.1	-1.9
comp=Z,1.4nm,0.8s,mb4.3,baz=78,slow=6.5,SNR=3.6							
ARCES				LR	LR	19 51 22.6	
comp=Z,43nm,20.7s,baz=176,slow=36							
DAWY	Dawson	94.05	26	eP	P	19 08 42.9	+1.9
KAF	Kangasniemi	94.35	332	ep	P	19 08 41.6	-0.8
comp=Z,1.5nm,0.6s,mb4.5							
KAF	Kangasniemi	94.35	332	eP	P	19 08 41.6	-0.8
KAF				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.6							
FINES	FINESS Array B	94.52	331	P	P	19 08 42.5	-0.7
comp=Z,1.4nm,0.7s,mb4.5,baz=61,slow=4.8,SNR=7.6							
FINES	FINESS Array B	94.52	331	i P	P	19 08 44.5	+1.3
FINES				pmax	pmax		
comp=Z,1.0nm,0.7s							
LSZ	Lusaka	94.91	255	eP	P	19 08 47.0	+2.1
comp=Z,11nm,0.8s,mb5.3							
LSZ	Lusaka	94.91	255	eP	P	19 08 47.0	+2.1
LSZ				pmax	pmax		
comp=Z,11nm,0.8s,mb5.3							
INK	Inuvik	95.76	21	eP	P	19 08 49.6	+0.8
comp=Z,2.0nm,0.6s,mb4.7							
INK	Inuvik	95.76	21	eP	P	19 08 49.6	+0.8
INK				pmax	pmax		
comp=Z,2.0nm,0.6s							
BOSA	Boshof	96.79	241	LR	LR	19 47 02.7	
comp=Z,104nm,18.3s,baz=166,slow=32							
NOA	NORSAR Array B	101.61	333	P	Pdif	19 09 13.1	-1.9
comp=Z,1.1nm,0.8s,baz=74,slow=4.5,SNR=4.5							
TORD	Torodi Ar. Bea	121.23	285	PKP	PKPdf	19 14 17.6	+2.4
comp=Z,2.1nm,0.8s,baz=70,slow=1.6,SNR=13							
PLCA	Paso Flores	136.45	164	PKP	PKPdf	19 14 47.9	+3.7
comp=Z,1.3nm,1.0s,baz=252,slow=4.7,SNR=3.1							

WEL 03 18:56:27.1±0.7, 3822S×17582E, h220km±6km, ML3.5/4, Error ellipse: s-maj=14.3km s-min=8.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	1.09	151	PN	Pn	18 56 59.6	+0.1
BKZ				SN	S	18 57 23.9	-0.9
MOVZ	Moawhango	1.19	182	PN	Pn	18 57 00.8	+0.5
MOVZ				SN	S	18 57 26.0	0.0
MRZ	Mangatainoka R	2.45	184	PN	Pn	18 57 11.8	+0.1
MRZ				SN	S	18 57 46.8	+0.1
KIW	Kapiti Island	2.73	195	PN	Pn	18 57 14.9	+0.1
TCW	Tory Channel	3.22	201	PN	Pn	18 57 20.3	0.0
TCW				SN	S	18 58 02.0	-0.3
TUWZ	Tuamarina	3.52	204	PN	Pn	18 57 23.7	-0.2

JMA 03 19:20:02.4±0.6, 3307N×14203E, h0km, M3.4
IDC 03 19:20:05.1±1.8, 3312N×14188E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.5/19, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=39.7km s-min=20.2km az=54.0
ISCJB 03 19:20:07.0±0.9, 3311N±006×14198E±009, h33km, mb3.5/4, Error ellipse: s-maj=11.7km s-min=7.6km az=143.2

ISC 03 19:20:09.0±1.0, 3310N±006×14193E±010, h35km, n17, σ1§34/24, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.74	333	P	Pn	19 20 35.5	-1.2
JHJ2	Mitsune	1.77	271	P	Pn	19 20 36.1	-1.0
JHJ	Hachijo jima 2	1.80	271	Pn	Pn	19 20 36.2	-1.2
17nm,0.3s,baz=234,slow=23,SNR=10							
JHJ				Sn	Sn	19 20 59.0	-0.1
23nm,0.3s,baz=41,slow=21,SNR=5.1							
BSO3	Boso 3	2.07	326	P	Pn	19 20 40.4	-0.8
BSO3				eS	Sn	19 21 08.2	+2.4
BSO4	Boso 4	2.30	326	P	Pn	19 20 44.5	+0.1
BSO4				eS	Sn	19 21 14.8	+3.2
JIM2	Oshima 3	2.63	309	P	Pn	19 20 47.6	-1.3
JIZS	Izushimoda	3.01	303	P	Pn	19 20 53.1	-1.0
JYN	Shimoji	3.69	311	P	Pn	19 21 03.3	-0.1
JRY	Ryogami san	3.84	320	P	Pn	19 21 05.5	0.0
JAG	Ashikaga	3.90	329	P	Pn	19 21 05.4	-0.9
JAG				eS	Sn	19 21 49.5	-1.3
MJAR	Matsushiro Arr	4.60	319	Pn	Pn	19 21 14.8	-1.2
1.1nm,0.3s,baz=156,slow=12,SNR=14							
MJAR				Sn	Sn	19 22 10.4	+2.2
0.4nm,0.3s,baz=131,slow=28,SNR=3.2							
MAT	Matsushiro	4.60	319	P	Pn	19 21 17.0	+1.0
MAT				eS	Sn	19 22 11.0	+2.8
JMM	Marumori	4.85	349	P	Pn	19 21 18.2	-1.2
JMM				eS	Sn	19 22 09.3	-5.0
SONM	Songino Array	30.48	309	P	P	19 26 20.6	+2.2
0.3nm,0.6s,mb3.2,baz=102,slow=7.9,SNR=3.4							
MKAR	Makanchi Array	46.65	305	P	P	19 28 34.0	0.0
0.3nm,0.5s,mb3.5,baz=83,slow=9.2,SNR=5.4							
WRA	Warramunga Arr	53.23	189	P	P	19 29 24.9	+1.0
0.7nm,0.4s,mb3.9,baz=5.7,slow=7.5,SNR=31							
ASAR	Alice Springs	56.96	189	P	P	19 29 53.1	+2.3
0.2nm,0.6s,mb3.4,baz=3.8,slow=5.6,SNR=3.7							

ATH 03 19:34:29.5, 3822N×2707E, h28km±3km, MD3.6/7, ML3.9
ISCJB 03 19:34:30.8±0.5, 3816N±002×2666E±003, h10km±4km, Error ellipse: s-maj=3.9km s-min=2.9km az=105.2
CSEM 03 19:34:30.4±0.1, 3818N×2670E, h10km, MD3.4, Error ellipse: s-maj=1.5km s-min=1.3km az=45.0

NEIC 03 19:34:30.0, 38.13N×2674E, h9km, MD3.3(ISK), ML3.9(ATH), After ISK.
ISK 03 19:34:30.7, 38.14N×2674E, h9km, MD3.4, ML3.6

ISC 03 19:34:31.5±0.5, 3816N±002×2669E±003, h10km±3km, n72, σ0§81/103, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.21	340	i P	Pg	19 34 35.7	-0.2
URLA				i S	Sg	19 34 39.1	+0.2
BLCB	Balcova	0.36	51	i PG	Pg	19 34 37.9	-0.7
BLCB				i SG	Sg	19 34 42.5	-0.8
SMG	Samos	0.47	165	ePN	Pg	19 34 41.2	+0.5
SMG				eSN	Sg	19 34 48.7	+1.8
IZM	Izmir	0.51	62	i PG	Pg	19 34 41.0	-0.5
IZM				i SG	Sg	19 34 48.1	-0.1
KDAG	Bornova	0.52	62	i P	Pg	19 34 41.1	-0.5
KDAG				i S	Sg	19 34 47.7	-0.6
AYDN	Tasoluk	1.07	118	i P	Pg	19 34 51.6	-0.4
AYDN				i S	Sg	19 35 05.5	-0.4
PRK	Paraskevi	1.13	343	ePN	Pn	19 34 51.9	-1.5
PRK				eSN	Sn	19 35 08.6	-0.4
AKS	Akhisar	1.14	51	i PN	Pn	19 34 52.7	-0.8
BODT	Bodrum	1.21	156	PN	Pn	19 34 53.3	-1.2
MLSB	Milas	1.22	135	PN	Pn	19 34 53.8	-0.9
BDRM	Kayabasi	1.25	151	i P	Pn	19 34 54.5	-0.6
BDRM				i S	Sb	19 35 12.2	+0.8
APE	Apeiranthos	1.43	220	PN	Pn	19 34 57.1	-0.4
APE	Apeiranthos	1.43	220	ePB	Pb	19 34 58.5	+0.2
APE				eSN	Sn	19 35 20.5	+4.1
APE	Apeiranthos	1.43	220	eP	Pn	19 34 57.1	-0.4
APE	Apeiranthos	1.43	220	ePn	Pn	19 34 56.3	-1.2
APE				eSn	Sn	19 35 20.5	+4.1
MANT	Manisa	1.51	77	i P	Pn	19 34 59.2	+0.6
MANT				i S	Sn	19 35 18.4	+0.1
MANT	Manisa	1.51	77	i P	Pn	19 34 59.2	+0.6
MANT				i S	Sn	19 35 18.4	+0.1
DAT	Datca	1.60	153	ePN	Pn	19 34 58.9	-1.0
YER	Yerkesik	1.63	129	PN	Pn	19 34 59.7	-0.6
EZN	Ezine	1.69	350	PN	Pn	19 35 01.6	+0.5
BALB	Balikesir	1.74	32	PN	Pn	19 35 01.9	0.0
DENT	Denizli	1.90	102	ePN	Pn	19 35 03.3	-0.7
SANT	Santorini	2.04	209	eP	Pn	19 35 06.8	+0.9
SANT	Santorini	2.04	209	P	Pn	19 35 06.8	+0.8
SANT				S	Sn	19 35 30.0	-1.5
SANT	Santorini	2.04	209	P	Pn	19 35 06.8	+0.9
SANT				S	Sn	19 35 30.0	-1.5
DALT	Dalyan (Mudla)	2.08	131	ePN	Pn	19 35 06.6	0.0
DST	Dursunbey	2.09	46	ePN	Pn	19 35 06.6	-0.1
LOS	Limnos	2.17	325	eP	Pn	19 35 08.1	+0.4
LOS	Limnos	2.17	325	P	Pn	19 35 08.1	+0.4
LOS				S	Sn	19 35 34.3	-0.3
LOS	Limnos	2.17	325	P	Pn	19 35 08.1	+0.4
LOS				S	Sn	19 35 34.3	-0.3
MPAR	Parnis Oros	2.33	271	ePB	Pb	19 35 13.4	-0.2
KVR	Kavouri	2.33	263	ePN	Pn	19 35 13.3	+3.4
ATH	Athens Observa	2.35	266	ePN	Pn	19 35 13.3	+3.0
EDC	Edincik	2.36	22	ePN	Pn	19 35 11.3	+0.9
BNT	Bandirma	2.39	23	ePN	Pn	19 35 11.4	+0.6
FETY	Fethiye	2.44	128	ePN	Pn	19 35 11.4	-0.1
MRMT	Marmara Adasi	2.54	16	ePN	Pn	19 35 13.9	+1.1
SART	Tekirdag	2.55	8	i P	Pn	19 35 13.4	+0.4
SART				i S	Sn	19 35 52.2	+8.1
MFT	Murefte	2.66	10	ePN	Pn	19 35 15.0	+0.5
ALN	Alexandroupoli	2.78	350	eP	Pn	19 35 15.7	-0.4
ALN	Alexandroupoli	2.78	350	P	Pn	19 35 15.7	-0.4
ALN				S	Sn	19 35 52.1	+2.4
ALN	Alexandroupoli	2.78	350	P	Pn	19 35 15.7	-0.4
ALN				S	Sn	19 35 52.1	+2.5
ELL	Elmali	2.93	118	ePN	Pn	19 35 17.8	-0.3
XOR	Xorichti	2.98	295	eP	Pn	19 35 18.2	-0.8
XOR	Xorichti	2.98	295	P	Pn	19 35 18.2	-0.8
XOR				S	Sn	19 35 54.2	-0.6
XOR	Xorichti	2.98	295	P	Pn	19 35 18.2	-0.8
XOR				S	Sn	19 35 54.2	-0.6
OUR	Ouranopolis	3.02	317	eP	Pn	19 35 19.2	-0.2
OUR	Ouranopolis	3.02	317	P	Pn	19 35 19.2	-0.2
OUR				S	Sn	19 35 55.8	+0.1
OUR	Ouranopolis	3.02	317	P	Pn	19 35 19.2	-0.2
OUR				S	Sn	19 35 55.8	+0.1
IZI	Iznik	3.06	44	ePN	Pn	19 35 20.6	+0.6
ZKR	Zakros	3.06	187	eP	Pn	19 35 20.6	+0.5
RDO	Rodhopi	3.11	344	ePN	Pn	19 35 20.0	-0.7
LAST	Lasithi	3.15	198	eP	Pn	19 35 21.6	+0.4
YLV	Yalova	3.18	40	ePN	Pn	19 35 22.8	+1.2
CTT	Catalca	3.27	24	ePN	Pn	19 35 24.0	+1.1
AGG	Agios Georgios	3.52	285	eP	Pn	19 35 25.9	-0.4
AGG	Agios Georgios	3.52	285	P	Pn	19 35 25.9	-0.4
AGG				S	Sn	19 36 07.0	-1.0
AGG	Agios Georgios	3.52	285	P	Pn	19 35 25.9	-0.4
AGG				S	Sn	19 36 07.0	-1.0
ESKT	Eskisehir	3.52	66	ePN	Pn	19 35 26.8	+0.5
KARN	Karanos	3.54	220	eP	Pn	19 35 27.1	+0.5
EDRB	Edirne	3.68	1	ePN	Pn	19 35 30.1	+1.6
LIT	Litokhoron	3.79	302	eP	Pn	19 35 29.9	-0.2
SRS	Serrai	3.80	322	eP	Pn	19 35 29.9	-0.2
SRS	Serrai	3.80	322	P	Pn	19 35 29.9	-0.2
SRS				S	Sn	19 36 14.2	-0.7
SRS	Serrai	3.80	322	P	Pn	19 35 29.9	-0.2
SRS				S	Sn	19 36 14.2	-0.7
KNT	Kendrikon	4.19	317	eP	Pn	19 35 36.2	+0.7
KNT	Kendrikon	4.19	317	P	Pn	19 35 36.2	+0.7
KNT				S	Sn	19 36 23.7	-0.8
KNT	Kendrikon	4.19	317	P	Pn	19 35 36.2	+0.7
KNT				S	Sn	19 36 23.7	-0.7
GRG	Griva	4.33	311	eP	Pn	19 35 38.1	+0.7
GRG	Griva	4.33	311	P	Pn	19 35 38.1	+0.6
GRG				S	Sn	19 36 27.3	-0.7
GRG	Griva	4.33	311	P	Pn	19 35 38.1	+0.7
GRG				S	Sn	19 36 27.3	-0.8
VTS	Vitosha	5.16	330	eP	Pn	19 35 49.5	+0.6

ISC 03 19:40:20.2±1.0, 3821N±007×2669E±007, h16km±8km, n8, σ0§67/14, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.17	335	i P	Pg	19 40 24.4	-0.1
URLA				i S	Sg	19 40 28.0	+0.7
BLCB	Balcova	0.33	57	PG	Pg	19 40 26.7	-0.5
BLCB				SG	Sg	19 40 31.3	-0.5
IZM	Izmir	0.49	67	PG	Pg	19 40 30.1	+0.1
KDAG	Bornova	0.50	66	i P	Pg	19 40 29.9	-0.2
KDAG				i S	Sg	19 40 36.7	-0.1
AYDN	Tasoluk	1.09	120	i P	Pb	19 40 41.7	+1.0
AYDN				i S	Sb	19 40 55.0	+0.4
AKS	Akhisar	1.11	52	ePG	Pg	19 40 42.2	+0.5
BDRM	Kayabasi	1.29	152	i P	Pn	19 40 41.6	-1.9
BDRM				i S	Sb	19 41 00.9	+0.5
MANT	Manisa	1.50	78	i P	Pn	19 40 46.0	-0.5
MANT				i S	Sn	19 41 06.1	+0.4

ISCJB 03 19:44:06.7±0.4, 5138N±002×16.15E±002, h0km, Error ellipse: s-maj=3.5km s-min=2.0km az=32.0
IPEC 03 19:44:06.8±0.3, 5151N×1630E, h0km, ML2.3/3, Error ellipse: s-maj=1.9km s-min=1.5km az=40.0
NEIC 03 19:44:07.8±0.6, 5149N×16.14E, h5km, ML2.7(CLL), Error ellipse: s-maj=8.6km s-min=5.8km az=46.0
BGR 03 19:44:07.7±0.6, 5146N×1620E, h1km, ML3.0/13, Error ellipse: s-maj=8.9km s-min=5.6km az=167.0
WAR 03 19:44:08.8, 5145N×1619E, ML2.7, Mining Induced
CSEM 03 19:44:08.9±0.1, 5143N×1614E, h1km, ML3.4/8, Error ellipse: s-maj=2.2km s-min=1.4km az=26.0
PRU 03 19:44:09.1, 5140N×1613E, h0km
VIE 03 19:44:10.6±0.5, 5120N×1627E, h0km, mb2.4/5, ML2.8/5, Error ellipse: s-maj=3.6km s-min=3.2km az=102.0 53 km WNW of Breslau Suspected Mining induced.

ISC 03 19:44:07.2±0.4, 5146N±002×1619E±002, h0km, n60, σ1§03/113, 7C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	174	i Pgd	Pg	19 44 19.9	+0.9
KSP				eSg	Sg	19 44 28.1	+1.1
KSP	Ksiaz	0.62	174	⇓iPg	Pg	19 44 19.9	+0.9
KSP				eSg	Sg	19 44 27.9	+0.9
KSP	Ksiaz	0.62	174	⇓iPg	Pg	19 44 19.9	+0.9
KSP				eSg	Sg	19 44 28.1	+1.1
DPC	Dobruska-Polom	1.11	176	ePG	Pg	19 44 28.8	+0.3
DPC				eSG	Sg	19 44 43.0	+0.1
45nm,0.6s							
DPC	Dobruska-Polom	1.11	176	ePg	Pg	19 44 28.8	+0.3
DPC				eSg	Sg	19 44 43.2	+0.3
PVCC	Panska Ves	1.38	228	ePg	Pg	19 44 34.2	+0.5
PVCC				eSg	Sg	19 44 53.0	+1.4
BRG	Berggiesshubel	1.53	248	ePn	Pn	19 44 34.4	-1.4
BRG				eSg	Sg	19 44 57.6	+1.3
BRG	Berggiesshubel	1.53	248	Pg	Pg	19 44 36.8	+0.3
BRG				Sg	Sg	19 44 57.6	+1.2
BRG	Berggiesshubel	1.53	248	PN	Pn	19 44 34.9	-0.8
BRG				PG	Pg	19 44 36.8	+0.2
BRG				SG	Sg	19 44 57.5	+1.2
21nm,0.5s							
PRU	Pruhonice	1.81	216	ePN	Pn	19 44 40.3	+0.8
PRU				ePG	Pg	19 44 41.4	-0.4
PRU				eSG	Sg	19 45 04.9	-0.3
65nm,0.6s							
PRU	Pruhonice	1.81	216	ePg	Pg	19 44 41.4	-0.4
PRU				eSg	Sg	19 45 04.9	-0.3
65nm,0.6s							
RUE	Ruedersdorf	1.81	305	eS	Sn	19 45 05.3	+2.1
RUE	Ruedersdorf	1.81	305	eP	Pn	19 44 38.7	-0.9
RUE				eS	Sn	19 45 05.3	+2.1
FBE	Freiberg	1.86	254	ePn	Pn	19 44 41.0	+0.7
FBE				eSg	Sg	19 45 07.4	+0.3
MORC	Moravsky Berou	1.89	152	ePn	Pn	19 44 40.5	-0.2
MORC				eS	Sn	19 45 05.2	0.0
MORC				eSg	Sg	19 45 06.7	-1.2
25nm,0.3s							
MORC	Moravsky Berou	1.89	152	eP	Pn	19 44 40.5	-0.2
MORC				eS	Sn	19 45 05.2	+0.1
CLL	Collm	2.00	267	ePn	Pn	19 44 42.2	0.0
CLL				eSg	Sg	19 45 11.5	0.0
CLL	Collm	2.00	267	ePg	Pg	19 44 45.0	-0.6
CLL				i Sg	Sg	19 45 12.1	+0.6
comp=Z,32nm,0.5s							
CLL	Collm	2.00	267	Pn	Pn	19 44 42.2	0.0
CLL	Collm	2.00	267	ePg	Pg	19 44 45.0	-0.6
CLL				Sg	Sg	19 45 11.5	0.0
OKC	Ostrava-Krasne	2.04	142	ePG	Pg	19 44 45.3	-1.0
OKC	Ostrava-Krasne	2.04	142	ePg	Pg	19 44 44.3	-2.0
VRAC	Vranov	2.17	173	ePn	Pn	19 44 44.9	+0.4
VRAC				eSg	Sg	19 45 16.3	-0.5
comp=Z,12nm,0.2s							
TREC	Trest	2.21	192	ePN	Pn	19 44 46.9	+1.8
TREC				ePG	Pg	19 44 48.7	-0.8
TREC	Trest	2.21	192	ePg	Pg	19 44 48.7	-0.8
KRUC	Moravsky	2.40	177	ePn	Pn	19 44 48.3	+0.6
KRUC				eSg	Sg	19 45 23.7	-0.6
comp=Z,17nm,0.4s							
TANN	Tannenbergstha	2.58	248	ePn	Pn	19 44 50.6	+0.4
TANN				eSg	Sg	19 45 29.3	-0.8
OJC	Ojcow	2.60	117	ePn	Pn	19 44 49.2	-1.2
OJC				ePg	Pg	19 44 56.7	-0.3
OJC				eSg	Sg	19 45 31.6	+0.9
OJC	Ojcow	2.60	117	ePg	Pg	19 44 56.7	-0.3
OJC				eSg	Sg	19 45 31.6	+0.9
WERD	Werda	2.66	249	ePn	Pn	19 44 51.5	+0.3
WERD				eSg	Sg	19 45 32.4	-0.1
NKC	Novy Kostel	2.67	244	eSG	Sg	19 45 33.2	+0.2
comp=Z,30nm,0.3s							
WERN	Wernitzgruen	2.69	246	ePn	Pn	19 44 52.3	+0.7
WERN				eSg	Sg	19 45 33.7	+0.2
NEUB	Neuenburg	2.78	267	ePg	Pg	19 44 58.5	-2.0
NEUB				eSg	Sg	19 45 35.3	-1.2
KHC	Kasperske Hory	2.87	217	ePN	Pn	19 44 54.7	+0.6
KHC				ePG	Pg	19 44 59.7	-2.4
KHC				eSN	Sn	19 45 28.5	-0.8
KHC				eSG	Sg	19 45 37.8	-1.5
comp=Z,26nm,0.6s							
KHC	Kasperske Hory	2.87	217	ePg	Pg	19 44 59.7	-2.4
KHC				eSn	Sn	19 45 28.5	-0.8
KHC				eSg	Sg	19 45 37.8	-1.5
comp=Z,26nm,0.6s							
MANZ	Manzenberg	2.98	242	ePn	Pn	19 44 56.5	+0.8
MANZ				eSg	Sg	19 45 43.3	+0.3
MOX	Moxa	3.00	256	ePn	Pn	19 44 56.0	+0.1
MOX				eSg	Sg	19 45 41.3	-2.3
MOX	Moxa	3.00	256	ePN	Pn	19 44 56.9	+1.0
MOX				ePG	Pg	19 45 04.4	-0.3
MOX				eSG	Sg	19 45 44.3	+0.7
MOX	Moxa	3.00	256	ePg	Pg	19 45 04.4	-0.3
MOX				Sg	Sg	19 45 41.3	-2.3
ROTZ	Rotzenmuhle	3.05	238	ePn	Pn	19 44 57.2	+0.6
SMOL	Smolenice	3.05	164	eSG	Sg	19 45 48.2	+3.0
GEC2	GERESS Array S	3.07	212	ePn	Pn	19 44 58.3	+1.5
GEC2				eSg	Sg	19 45 43.6	-2.1
WET	Wettzell	3.14	224	ePn	Pn	19 44 58.4	+0.5
ZST	Bratislava	3.32	169	eSG	Sg	19 45 52.7	-1.0
NIE	Niedzica	3.33	126	eP	Pg	19 45 08.3	-2.7
NIE				eS	Sg	19 45 53.5	-0.7
GRA1	Grafenberg Arr	3.63	243	Sg	Sg	19 46 04.4	+0.7
GRF	Grafenberg Arr	3.63	243	eSg	Sg	19 46 04.4	+0.7
BSD	Bornholm Skovb	3.74	349	i P	Pn	19 45 04.8	-1.4
BSD				i S	Sn	19 45 46.2	-4.7
BSD				i S	Sn	19 45 49.0	-1.9
MOA	Molln	3.82	200	⇑Sg	Sg	19 46 10.6	+0.6
comp=Z,11nm,0.3s							
MOA	Molln	3.82	200	⇑iPn	Pn	19 45 08.0	+0.8
MOA				⇑iSg	Sg	19 46 10.6	+0.6
comp=Z,11nm,0.3s							
MOA	Molln	3.82	200	⇑Pn	Pn	19 45 08.0	+0.7
MOA				Sg	Sg	19 46 10.6	+0.6
STHS	Stebnicka Huta	3.82	120	ePN	Pn	19 45 09.0	+1.8
STHS				ePG	Pg	19 45 20.3	-0.1
STHS				eSG	Sg	19 46 15.2	+5.3
STHS	Stebnicka Huta	3.82	120	ePg	Pg	19 45 20.3	-0.1
KECS	Kecovo

PAZ	**Puerto Azul**	**1.03**	**36**	⇓*eP*		**Sg**	**20 20 12.4**	**+0.3**
TGY	**Tagaytay City**	**1.11**	**50**	Pg		**Pg**	**20 19 59.9**	**-0.5**
	1μm,0.3s,baz=210,slow=2.2,SNR=44							
TGY				Lg			20 20 14.2	
	2μm,0.3s,baz=105,slow=19,SNR=33							
TGY	**Tagaytay City**	**1.11**	**50**	⇓*i*P		**Pb**	**20 20 00.4**	**+0.1**
TGY				*i* S			20 20 13.6	
LBPH	**Los Banos**	**1.33**	**55**	*eP*		**Pn**	**20 20 04.1**	**+0.4**
BUSP	**Coron**	**1.39**	**174**	*eP*		**Pn**	**20 20 05.3**	**+0.9**
ARP	**Angono**	**1.56**	**43**	*eP*		**Pn**	**20 20 03.3**	**-3.5**
QVPH	**Quezon City--P**	**1.59**	**38**	*eP*		**Pn**	**20 20 05.5**	**-1.7**
BOAC	**Boac**	**1.74**	**88**	*eP*		**Pn**	**20 20 07.7**	**-1.6**
NZB	**Bigte**	**1.78**	**35**	⇓*eP*		**Pn**	**20 20 09.3**	**-0.6**
OTRP	**Odiongan**	**2.17**	**118**	*eP*		**Pn**	**20 20 17.9**	**+2.7**
ENPP	**El Nido**	**2.26**	**196**	*eP*		**Pn**	**20 20 18.0**	**+1.6**
POLP	**Polilio Island**	**2.26**	**54**	*eP*		**Pn**	**20 20 16.1**	**-0.3**
SCZP	**Santa Cruz**	**2.37**	**357**	*eP*		**Pn**	**20 20 19.4**	**+1.4**
GQP	**Guinayangan**	**2.38**	**77**	⇑*i*P		**Pn**	**20 20 18.2**	**+0.1**
GQP				*i* S		**Sn**	**20 20 48.1**	**+0.8**
AUQP	**San Andres**	**2.55**	**91**	*eP*		**Pn**	**20 20 22.1**	**+1.6**
CUYO	**Cuyo Island**	**2.70**	**159**	*eP*		**Pn**	**20 20 22.9**	**+0.5**
BALP	**Baler**	**2.76**	**32**	*eP*		**Pn**	**20 20 24.4**	**+1.1**
CAUP	**Cauayan**	**3.92**	**26**	*eP*		**Pn**	**20 20 41.5**	**+2.2**
APYP	**Conner**	**4.59**	**14**	*eP*		**Pn**	**20 20 48.6**	**+0.2**
WRAB	**Tennant Creek**	**35.98**	**157**	*eP*		**P**	**20 26 38.7**	**-1.2**
	5.4nm,0.6s,mb4.7							
WRA	**Warramunga Arr**	**35.98**	**157**	P		**P**	**20 26 38.9**	**-1.1**
	4.7nm,0.7s,mb4.5,baz=336,slow=9.5,SNR=51							
WB2	**Warramunga Arr**	**35.99**	**157**	*eP*		**P**	**20 26 38.8**	**-1.2**
SONM	**Songino Array**	**36.18**	**344**	P		**P**	**20 26 41.4**	**-0.3**
	1.1nm,0.6s,mb3.9,baz=164,slow=9.4,SNR=12							
ASAR	**Alice Springs**	**39.24**	**160**	P		**P**	**20 27 07.3**	**-0.2**
	2.1nm,0.6s,mb4.1,baz=340,slow=7.5,SNR=53							
MKAR	**Makanchi Array**	**45.91**	**324**	P		**P**	**20 28 02.1**	**+0.4**
	0.4nm,0.7s,mb3.4,baz=123,slow=8.8,SNR=4.5							
BVAR	**Borovoye Array**	**55.67**	**326**	P		**P**	**20 29 17.2**	**+1.8**
	0.6nm,0.6s,mb3.8,baz=139,slow=7.8,SNR=3.4							
ZRNK	**Zerenda**	**56.40**	**326**	P		**P**	**20 29 20.6**	**+0.1**
	1.0nm,0.7s,mb4.0							
ARCES	**ARCESS Array B**	**79.15**	**339**	P		**P**	**20 31 42.5**	**-1.4**
	1.7nm,0.8s,mb4.0,baz=76,slow=6.6,SNR=5.4							
ARCES	**ARCESS Array B**	**79.15**	**339**	P		**P**	**20 31 42.5**	**-1.4**
FINES	**FINESS Array B**	**80.25**	**331**	P		**P**	**20 31 48.4**	**-1.5**
	0.5nm,0.7s,mb3.6,baz=54,slow=3.3,SNR=4.9							
NB2	**NORSAR Subarra**	**87.24**	**333**	P		**P**	**20 32 22.5**	**-3.2**
	comp=Z,0.9nm,0.7s,mb4.1,baz=66,slow=4.8							
NOA	**NORSAR Array B**	**87.24**	**333**	P		**P**	**20 32 23.5**	**-2.2**
	comp=Z,1.0nm,0.8s,mb4.1,baz=68,slow=4.7,SNR=4.0							

IDC 03 20:25:42.9±3.0, 1017S×11973E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=253.3km s-min=28.2km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.12**	**126**	P	Pn	20 29 43.2	-0.3
	0.1nm,0.3s,baz=299,slow=13,SNR=6.6						
WRA				S	Sn	20 32 40.2	-14
	0.1nm,0.3s,baz=300,slow=25,SNR=3.3						
ASAR	**Alice Springs**	**19.06**	**137**	P	Pn	20 30 07.4	+0.1
	0.1nm,0.3s,baz=314,slow=11,SNR=8.2						
ASAR				S	Sn	20 33 31.9	-9.4
	0.1nm,0.3s,baz=309,slow=22,SNR=6.0						
MKAR	**Makanchi Array**	**65.82**	**333**	P		P	20 36 30.0	+0.1
	0.5nm,0.6s,baz=142,slow=7.3,SNR=10						

*ISCJB **03** 20:30:14.6±0.6, 3942N±003×2044E±004, h10km, Error ellipse: s-maj=4.6km s-min=3.9km az=82.9*
*CSEM **03** 20:30:14.5±0.3, 3940N×2038E, h1km±2km, ML2.9, Error ellipse: s-maj=5.5km s-min=3.8km az=34.0*
*ATH **03** 20:30:14.0, 3946N×2041E, h24km±9km, MD3.3/4*
*NEIC **03** 20:30:15.2, 3940N×2047E, h0km, MD3.3(ATH), After THE.*
*THE **03** 20:30:15.2, 3940N×2047E, h10km, ML2.9*

ISC 03 20:30:14.3±0.7, 3938N±003×2043E±004, h1km±6km, n16, σ0°81/26, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.17**	**335**	*e*Pg	**Pg**	**20 30 17.7**	**+0.2**
IGT				*e*Sg	**Sg**	**20 30 20.7**	**+0.9**
JAN	**Janina**	**0.43**	**49**	*e*PB	**Pg**	**20 30 21.9**	**-0.6**
JAN				*e*SB	**Sg**	**20 30 28.5**	**+0.4**
KEK	**Kerkira**	**0.59**	**305**	*e*Pn	**Pn**	**20 30 25.0**	**-0.6**
SRN	**Sarande**	**0.60**	**327**	*e*Pg	**Pg**	**20 30 24.7**	**-1.1**
SRN				*i* Sg	**Sg**	**20 30 34.5**	**+0.9**
MEV	**Metsovon**	**0.74**	**56**	*e*Pg	**Pg**	**20 30 27.9**	**-0.6**
MEV				*e*Sg	**Sg**	**20 30 39.1**	**+0.9**
EVR	**Evrytania**	**1.17**	**113**	*e*PN	**Pn**	**20 30 37.4**	**-0.4**
VLS	**Valsamata**	**1.20**	**174**	*e*PN	**Pn**	**20 30 38.0**	**-0.2**
VLS				*e*SN	**Sn**	**20 30 57.0**	**+1.8**
VLS	**Valsamata**	**1.20**	**174**	*e*Pb	**Pb**	**20 30 37.7**	**-0.1**
AGG	**Agios Georgios**	**1.52**	**103**	*e*Pg	**Pg**	**20 30 43.2**	**-0.2**
AGG				*e*Sg	**Sg**	**20 31 04.6**	**+1.4**
FNA	**Florina**	**1.58**	**27**	*e*Pg	**Pg**	**20 30 44.2**	**-0.4**
FNA				*e*Sg	**Sg**	**20 31 05.9**	**+0.7**
LIT	**Litokhoron**	**1.75**	**65**	*e*Pb	**Pb**	**20 30 44.8**	**-2.3**
LIT				*e*Sb	**Sb**	**20 31 09.3**	**-0.3**
BIA	**Bitola**	**1.78**	**22**	*e*Pb	**Pb**	**20 30 46.9**	**-0.8**
TIR	**Tirane**	**2.02**	**348**	*e*Pn	**Pn**	**20 30 50.2**	**+0.8**
XOR	**Xorichti**	**2.14**	**89**	*e*Pn	**Pn**	**20 30 50.5**	**-0.7**
GRG	**Griva**	**2.19**	**43**	*e*Pn	**Pn**	**20 30 51.8**	**0.0**
GRG				*e*Sn	**Sn**	**20 31 19.8**	**+0.3**
PAIG	**Paliouri**	**2.57**	**77**	*e*Pn	**Pn**	**20 30 56.7**	**-0.4**
PAIG				*e*Sn	**Sn**	**20 31 29.0**	**+0.1**

MAN 03 20:32:33.2, 1340N×12024E, h2km, mb2.3, ML3.9, MS6.4, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**2**	*e*P	Pg	20 32 40.6	+0.9
LUBP				*e*S	Sg	20 32 45.5	+1.4
BUSP	**Coron**	**1.38**	**181**	*e*P	Pn	20 32 59.6	+0.1
BOAC	**Boac**	**1.57**	**87**	*e*P	Pn	20 33 01.6	-0.4
ENPP	**El Nido**	**2.31**	**200**	*e*P	Pn	20 33 12.4	0.0
CUYO	**Cuyo Island**	**2.64**	**163**	*e*P	Pn	20 33 17.0	+0.2

IDC 03 20:35:44.1±1.9, 683S×12849E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=115.1km s-min=30.8km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.22**	**157**	Pn	Pn	20 39 05.3	-1.3
	0.2nm,0.3s,baz=335,slow=14,SNR=26						
WRA				Sn	Sn	20 41 30.7	-14
	0.5nm,0.3s,baz=350,slow=23,SNR=8.4						
ASAR	**Alice Springs**	**17.53**	**163**	P	Pn	20 39 51.1	+1.3
	0.2nm,0.3s,baz=352,slow=12,SNR=15						
ASAR				S	Sn	20 42 57.5	-8.1
	0.1nm,0.3s,baz=357,slow=28,SNR=4.7						
MKAR	**Makanchi Array**	**67.27**	**327**	P		P	20 46 40.6	+0.2
	0.2nm,0.4s,baz=111,slow=7.8,SNR=7.9						

IDC 03 20:48:46.6±2.4, 299S×12876E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=173.7km s-min=28.5km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.70**	**163**	P	Pn	20 52 54.2	-0.4
	0.2nm,0.3s,baz=344,slow=12,SNR=15						
ASAR	**Alice Springs**	**21.14**	**167**	P		P	20 53 33.8	+0.6
	1.7nm,0.6s,baz=350,slow=13,SNR=20						
MKAR	**Makanchi Array**	**64.22**	**326**	P		P	20 59 23.5	+0.2
	0.2nm,0.7s,baz=115,slow=9.6,SNR=3.6						

GUC 03 20:56:34.4±0.7, 3315S×7026W, h2km±2km, MD3.5, ML1.7, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.18**	**188**	⇑*i*P	Pg	20 56 38.8	+1.0
FCH				*i* S	Sg	20 56 41.6	+1.5
FCH				AMP		20 56 42.6	
	comp=E,359nm,0.2s						
CLCH	**Cerro Calan**	**0.34**	**223**	⇓*i*P	Pg	20 56 42.1	+1.3
CLCH				*i* S	Sg	20 56 47.8	+2.6
CLCH				AMP		20 56 49.5	
	comp=E,292nm,0.4s						
PEL	**Peldehue**	**0.35**	**271**	*e*P	Pg	20 56 41.9	+0.7
PEL				*i* S	Sg	20 56 47.0	+1.2
PEL				AMP		20 56 48.6	
	comp=E,106nm,0.2s						
RCDM	**Rinconada Maip**	**0.57**	**233**	*e*P	Pg	20 56 46.0	+0.7
RCDM				AMP		20 57 00.5	
	comp=E,54nm,0.2s						
CHCH	**Chadas Angostu**	**0.84**	**203**	*e*P	Pg	20 56 51.2	+0.6
CHCH				*i* S	Sg	20 57 03.7	+2.2
CACH	**El Canelo**	**1.00**	**196**	*e*P	Pg	20 56 54.0	+0.3
CACH				*i* S	Sg	20 57 09.2	+2.6
CICH	**Cipreses**	**1.17**	**186**	*e*P	Pg	20 56 56.9	+0.1
CICH				*i* S	Sg	20 57 13.2	+1.1
LNV	**Longovilo**	**1.25**	**230**	*e*P	Pg	20 56 57.9	-0.5
LNV				*i* S	Sg	20 57 14.8	+0.2

CASC 03 20:59:30.4±3.6, 1366N×9084W, h20km±17km, MD3.9, ML4.5, 4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.64**	**36**	*e*P	Pb	20 59 43.6	+0.8
IXG				*e*S	Sb	20 59 53.5	+2.3
IXG				AML	AML	21 00 00.5	
	comp=N,40μm,0.4s						
TP2	**Tecpan 2**	**1.13**	**351**	⇓*e*P	Pn	20 59 50.8	-0.3
TP2				*e*S	Sb	21 00 06.0	+0.5
TP2				AML	AML	21 00 07.8	
	comp=E,10μm,0.4s						
RTR	**El Retiro**	**1.19**	**78**	⇓*e*P	Pn	21 00 04.1	+12
RTR				*e*S	Sb	21 00 20.0	+13
SBLS	**San Blas**	**1.20**	**81**	*e*P	Pn	21 00 04.1	+12
SBLS				*e*S	Sb	21 00 19.2	+12
SNJE	**San Jose**	**1.22**	**80**	*e*P	Pn	21 00 04.5	+12
SNJE				*e*S	Sb	21 00 21.2	+13
BOQS	**Boqueron**	**1.52**	**87**	*e*P	Pn	21 00 08.5	+12
BOQS				*e*S	Sn	21 00 28.5	+13
MTO2	**Montecristo 2**	**1.61**	**63**	⇓*i*P	Pn	21 00 09.1	+11
MTO2				*e*S	Sn	21 00 32.4	+14
LFRS	**El Faro**	**1.73**	**91**	*e*P	Pn	21 00 11.2	+12
LFRS				*e*S	Sn	21 00 32.5	+12
LBRS	**Las Brisas**	**1.75**	**87**	*e*P	Pn	21 00 11.5	+12
LBRS				*e*S	Sn	21 00 33.1	+12
MRL	**Marmol**	**1.79**	**38**	⇓*i*P	Pn	20 59 59.2	-0.9
MRL				*e*S	Sn	21 00 24.9	+2.7
LCBS	**La Ceiba**	**1.81**	**90**	*e*P	Pn	21 00 12.0	+12
LCBS				*e*S	Sn	21 00 34.3	+11
SNVI	**San Vicente**	**1.95**	**91**	*e*P	Pn	21 00 14.4	+12
SNVI				*e*S	Sn	21 00 39.1	+13
VSM	**San Miguel**	**2.51**	**95**	*e*P	Pn	21 00 21.9	+12
VSM				*e*S	Sn	21 00 53.3	+13
CNCH	**Conchagua**	**2.95**	**97**	*e*P	Pn	21 00 28.1	+12
CNCH				*e*S	Sn	21 01 03.2	+12

*IDC **03** 21:00:10.2±1.0, 1571S×75.11W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/16, mbtmp4.1/6, ML3.7/1, Error ellipse: s-maj=36.4km s-min=26.9km az=51.0*
*MOS **03** 21:00:14.5±2.3, 1566S×7521W, h33km, mb4.6/1, Error ellipse: s-maj=28.3km s-min=16.7km az=17.8*
*ISCJB **03** 21:00:17.3±1.7, 159S±01×752W±01, h73km±14km, mb3.9/6, Error ellipse: s-maj=30.0km s-min=10.0km az=96.8*
*NEIC **03** 21:00:18.4±1.8, 1573S×7494W, h61km±15km, mb3.7/2, Error ellipse: s-maj=26.4km s-min=13.0km az=48.0*

ISC 03 21:00:18.8±1.7, 159S±01×752W±02, h73km±13km, n18, σ1°17/15, mb3.9/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**3.59**	**100**	*e*P	**Pn**	**21 01 11.0**	**-1.0**
NNA	**Nana**	**4.20**	**337**	*e*Pn	**Pn**	**21 01 19.4**	**-0.9**
NNA				*e*S	**Sn**	**21 02 09.2**	**+1.1**
LPAZ	**La Paz**	**6.78**	**94**	Pn	**Pn**	**21 01 56.6**	**+0.9**
	3.0nm,0.3s,baz=272,slow=9.2,SNR=58						
LPAZ				Sn	**Sn**	**21 03 22.8**	**+11**
	baz=187,slow=19,SNR=2.3						
SIV	**San Ignacio**	**13.57**	**92**	Pn	**Pn**	**21 03 23.3**	**-4.6**
	0.2nm,0.3s,baz=255,slow=16,SNR=3.7						
SAML	**Samuel**	**13.58**	**61**	*e*P	**Pn**	**21 03 22.1**	**-6.1**
	3.8nm,0.8s						
OTAV	**Otavalo**	**16.34**	**348**	*e*P	**Pn**	**21 04 10.9**	**+7.3**
	4.4nm,0.9s						
SDV	**Santo Domingo**	**25.02**	**11**	P	**P**	**21 05 36.9**	**+1.1**
	2.6nm,0.6s,mb3.8						
PLCA	**Paso Flores**	**25.09**	**172**	P	**P**	**21 05 37.3**	**+0.8**
	0.8nm,0.5s,mb3.4,baz=332,slow=13,SNR=4.0						
BDFB	**Brasilia**	**26.14**	**93**	P	**P**	**21 05 45.1**	**-0.9**
	1.3nm,0.4s,mb3.7,baz=252,slow=6.4,SNR=3.0						
JSC	**Jenkinsville**	**50.22**	**353**	*e*P	**P**	**21 09 05.3**	**-2.0**
ULM	**Lac du Bonnet**	**68.32**	**346**	P	**P**	**21 11 11.2**	**-0.9**
	1.8nm,0.6s,mb4.1,baz=127,slow=4.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**81.29**	**74**	P	**P**	**21 12 29.1**	**+2.1**
	7.8nm,0.9s,mb4.5,baz=263,slow=5.8,SNR=54						
YKA	**Yellowknife Ar**	**84.02**	**343**	P	**P**	**21 12 41.1**	**-0.1**
	0.9nm,0.9s,mb3.6,baz=138,slow=5.4,SNR=12						
ASAR	**Alice Springs**	**131.50**	**217**	PKP	PKPdf	21 19 26.6	+3.6
	0.1nm,0.3s,baz=114,slow=2.2,SNR=4.1						
WRA	**Warramunga Arr**	**134.08**	**220**	PKP	PKPdf	21 19 31.0	+3.2
	0.5nm,0.8s,baz=144,slow=2.0,SNR=5.3						
ZAL	**Zalesovo**	**138.93**	**18**	PKP	PKPdf	21 19 37.5	+0.8
	1.9nm,1.1s,baz=314,slow=1.7,SNR=7.0						
ZAK	**Zakamensk**	**145.57**	**2**	*e*PKP2	PKPab	21 19 48.0	-1.2
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
SONM	**Songino Array**	**148.11**	**358**	PKPbc	PKPbc	21 19 57.8	+1.6
	comp=Z,1.2nm,0.7s,baz=347,slow=2.0,SNR=12						

*IDC **03** 21:02:00.5±1.1, 283S×12871E, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.0/17, mbtmp4.1/6, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/19, Error ellipse: s-maj=92.8km s-min=19.4km az=65.0*
*ISCJB **03** 21:02:04.9±3.6, 30S±01×1286E±02, h45km±34km, mb4.0/7, Error ellipse: s-maj=39.6km s-min=12.2km az=132.9*
*NEIC **03** 21:02:07.6±0.5, 299S×12868E, h55km, mb4.2/4, Error ellipse: s-maj=24.5km s-min=8.0km az=66.0*

ISC 03 21:02:06.4±3.1, 30S±01×1287E±02, h40km±31km, n16, σ0°80/17, mb4.0/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.35**	**191**	*e*P	**Pn**	**21 05 45.7**	**+5.6**
	8.4nm,1.0s						
WRAB	**Tennant Creek**	**17.75**	**162**	*e*P	**Pn**	**21 06 10.0**	**-0.3**
	29nm,1.1s						
WRA	**Warramunga Arr**	**17.75**	**162**	P	**Pn**	**21 06 09.5**	**-0.9**
	1.0nm,0.3s,baz=334,slow=13,SNR=83						
WRA				S	**S**	**21 09 22.5**	**-10**
	0.1nm,0.3s,baz=344,slow=20,SNR=2.9						
WB2	**Warramunga Arr**	**17.76**	**162**	*e*P	**Pn**	**21 06 10.4**	**-0.1**
MBWA	**Marble Bar**	**20.10**	**205**	*e*P	**P**	**21 06 36.4**	**-0.2**
ASAR	**Alice Springs**	**21.19**	**167**	P	**P**	**21 06 49.8**	**+1.3**
	20nm,0.6s,mb4.6,baz=350,slow=12,SNR=244						
ASAR				S	**S**	**21 10 40.7**	**-1.1**
	2.2nm,1.1s,baz=349,slow=22,SNR=6.3						
CTA	**Charters Tower**	**24.15**	**136**	P	**P**	**21 07 19.3**	**+0.7**
	2.7nm,0.8s,mb3.7,baz=318,slow=8.3,SNR=4.1						
CTAO	**Charters Tower**	**24.15**	**136**	*e*P	**P**	**21 07 19.1**	**+0.5**
JOW	**Kunigami**	**29.61**	**359**	LR	LR	21 17 24.6	
	comp=Z,51nm,21.7s,baz=158,slow=31						
STKA	**Stephens Creek**	**31.22**	**159**	P	**P**	**21 08 22.8**	**+0.9**
	1.2nm,0.7s,mb3.9,baz=338,slow=5.4,SNR=3.0						
STKA	**Stephens Creek**	**31.22**	**159**	P	**P**	**21 08 22.4**	**+0.5**
LSA	**Lhasa**	**48.43**	**315**	*e*P	**P**	**21 10 46.0**	**+1.4**
SONM	**Songino Array**	**54.22**	**342**	P	**P**	**21 11 26.6**	**-1.4**
	0.5nm,0.9s,mb3.4,baz=156,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**64.16**	**326**	P	**P**	**21 12 36.6**	**-0.2**
	0.4nm,0.6s,mb3.6,baz=126,slow=7.8,SNR=7.5						
KURK	**Kurchatov**	**68.42**	**328**	*e*P	**P**	**21 13 04.1**	**0.0**
	3.0nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**74.69**	**327**	*e*P	**P**	**21 13 41.5**	**-0.3**
	2.7nm,0.8s,mb4.2						

NNC 03 21:35:20.6±5.2, 4314N×8099E, h0km, mb3.6, mpv3.2, 8C, Error ellipse: s-maj=56.6km s-min=12.1km az=146.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.95**	**273**	⇑S	Sn	21 36 49.7	+5.1
MK31	**Makanchi Array**	**3.77**	**14**	⇑Pn	Pn	21 36 20.8	+0.8
	0.8nm,0.2s,baz=191,slow=12,SNR=41						
MK31				⇑Pg	Pg	21 36 30.1	-2.7
	2.1nm,0.3s,baz=194,slow=14,SNR=16						
MK31				⇑Lg		21 37 18.4	
	12nm,0.5s,baz=194,slow=30,SNR=12						
TKM2	**Tokmak 2**	**3.96**	**269**	⇑Pg	Pg	21 36 32.6	-3.9
	9.0nm,0.7s						
TKM2				⇑Lg		21 37 22.1	
	28nm,0.6s						
KK31	**Karatay Array**	**7.67**	**273**	⇑Pg	Pg	21 37 41.3	-6.2
	1.1nm,0.7s,baz=79,slow=15,SNR=11						
KK31				⇑Lg		21 39 20.1	
	1.6nm,0.5s,baz=75,slow=28,SNR=6.0						

*ISCJB **03** 22:19:28.0±0.8, 3818N±004×2669E±004, h7km±6km, Error ellipse: s-maj=6.4km s-min=5.4km az=90.5*
*CSEM **03** 22:19:27.4±0.2, 3817N×2672E, h11km±2km, MD2.8, Error ellipse: s-maj=4.5km s-min=3.5km az=136.0*
*ISK **03** 22:19:28.3, 3820N×2678E, h15km, MD2.8*
*ATH **03** 22:19:28.1, 3815N×2669E, h34km±2km, MD3.1/3*

ISC 03 22:19:28.4±0.6, 3819N±003×2669E±005, h12km±4km, n13, σ0°81/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**336**	*i* P	**Pg**	**22 19 32.8**	**+0.3**
URLA				*i* S	**Sg**	**22 19 36.2**	**+0.8**
BLCB	**Balcova**	**0.34**	**55**	*i* PG	**Pg**	**22 19 35.0**	**-0.2**
BLCB				*i* SG	**Sg**	**22 19 39.0**	**-0.8**
IZM	**Izmir**	**0.49**	**65**	*i* PG	**Pg**	**22 19 37.4**	**-0.7**
IZM				*i* SG	**Sg**	**22 19 44.4**	**-0.3**
SMG	**Samos**	**0.49**	**166**	*e*PB	**Pb**	**22 19 38.3**	**-0.7**
SMG				*e*SB	**Sg**	**22 19 45.7**	**+1.0**
KDAG	**Bornova**	**0.50**	**65**	*i* P	**Pg**	**22 19 38.0**	**-0.2**
KDAG				*i* S	**Sg**	**22 19 45.0**	**+0.1**
AYDN	**Tasoluk**	**1.08**	**119**	*i* P	**Pb**	**22 19 49.6**	**+0.7**
AYDN				*i* S	**Sb**	**22 20 02.9**	**0.0**
PRK	**Paraskevi**	**1.10**	**343**	*e*PN	**Pn**	**22 19 49.5**	**-0.1**
PRK				*e*SN	**Sn**	**22 20 05.0**	**+0.3**
AKS	**Akhisar**	**1.12**	**52**	PG	**Pg**	**22 19 49.4**	**-0.5**
BODT	**Bodrum**	**1.23**	**156**	*e*PN	**Pn**	**22 19 50.7**	**-0.6**
BDRM	**Kayabasi**	**1.27**	**152**	*i* P	**Pn**	**22 19 49.5**	**-2.4**
BDRM				*i* S	**Sb**	**22 20 09.4**	**+0.9**
APE	**Apeiranthos**	**1.45**	**220**	*e*PN	**Pn**	**22 19 53.4**	**-0.9**
MANT	**Manisa**	**1.50**	**78**	*i* P	**Pn**	**22 19 56.6**	**+1.6**
MANT				*i* S	**Sn**	**22 20 15.2**	**+0.8**
MANT	**Manisa**	**1.50**	**78**	*i* S	**Sn**	**22 20 15.2**	**+0.8**

*NIED **03** 22:33:00, 3830N×14190E, h26km, Mw3.5 Best double couple: M0 1.91000×10^14 NP1:φs37.00000°, δ80.00000°, λ56.00000°. NP2:φs292.00000°, δ35.00000°, λ163.00000°.*
*ISCJB **03** 22:33:40.4±1.4, 3825N±007×1419E±01, h45km±28km, Error ellipse: s-maj=20.8km s-min=8.4km az=48.0*
*JMA **03** 22:33:40.9±0.1, 3827N×14185E, h46km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs209.00000°, δ11.00000°, λ100.00000°. NP2: φs19.00000°, δ79.00000°, λ88.00000°. Principal axes: T Plg56.0000°, Azm287.0000°; N Plg2.0000°, Azm20.0000°; P Plg34.0000°, Azm111.0000°;*

ISC 03 22:33:40.6±1.5, 3825N±007×1419E±01, h38km±34km, n10, σ0°27/15, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.48**	**296**	⇓P	**Pn**	**22 33 51.2**	**+0.2**
JIO				*e*S	**Sn**	**22 33 58.4**	**+0.1**
OFUJ	**Ofunato**	**0.85**	**348**	⇓P	**Pn**	**22 33 56.0**	**-0.1**
OFUJ				*e*S	**Sn**	**22 34 06.8**	**-0.5**
JMK	**Ichinoseki**	**0.88**	**323**	⇓P	**Pn**	**22 33 56.7**	**+0.2**
JMK				*e*S	**Sn**	**22 34 08.1**	**0.0**
JMM	**Marumori**	**0.95**	**247**	⇓P	**Pn**	**22 33 57.1**	**-0.4**
JMM				*e*S	**Sn**	**22 34 09.8**	**-0.1**
JOU	**Okura**	**0.98**	**277**	⇓P	**Pn**	**22 33 58.1**	**+0.2**
JOU				*e*S	**Sn**	**22 34 10.3**	**-0.2**
JFK	**Kawauchi**	**1.20**	**223**	⇓P	**Pn**	**22 34 00.5**	**-0.4**
JOM	**Ohasama**	**1.31**	**339**	⇓P	**Pn**	**22 34 02.8**	**+0.4**
JYK	**Kaneyama**	**1.38**	**299**	P	**Pn**	**22 34 03.6**	**+0.2**
JFT	**Otama**	**1.44**	**240**	⇓P	**Pn**	**22 34 04.5**	**+0.4**
JYS	**Shirataka**	**1.45**	**269**	P	**Pn**	**22 34 04.3**	**0.0**

*NEIC **03** 22:48:43.0±1.8, 3757N×7404E, h100km, mb4.5/5, Error ellipse: s-maj=33.2km s-min=17.3km az=154.0*
*MOS **03** 22:48:44.3±1.6, 3763

comp=Z,0.6nm,0.6s,baz=57,slow=64,SNR=5.6
ZRNK Zerenda 15.20 348 *e*P **Pn 22 52 20.8 +2.5**
comp=Z,0.7nm,0.6s
ZRNK Zerenda 15.20 348 *e*P **Pn 22 52 20.8 +2.5**
ZRNK pmax pmax
comp=Z,1.0nm,0.6s
ZAL Zalesovo 17.46 22 P **Pn 22 52 44.5 -1.1**
comp=Z,0.9nm,0.3s,baz=260,slow=4.9,SNR=8.4
ZAL Zalesovo 17.46 22 P **Pn 22 52 44.5 -1.1**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 22.71 284 *e*P **P 22 53 39.2 -0.9**
comp=Z,74nm,1.8s,mb4.8
GNI Garni 22.71 284 *e*P **P 22 53 39.2 -0.9**
GNI pmax pmax
comp=Z,74nm,1.8s
SONM Songino Array 25.46 57 P **P 22 54 06.0 +1.0**
comp=Z,0.3nm,0.5s,mb3.1,baz=251,slow=11,SNR=6.1
ARCES ARCESS Array B 40.56 336 P **P 22 56 16.7 +1.0**
comp=Z,1.4nm,0.8s,mb3.6,baz=108,slow=7.8,SNR=4.7
ARCES ARCESS Array B 40.56 336 P **P 22 56 16.7 +1.0**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
NAO01 NORSAR Array S 44.67 322 P **P 22 56 47.8 -1.0**
comp=Z,6.6nm,1.0s,mb4.2
AQU L'Aquila 45.57 295 P **P 22 56 55.1 -0.7**
comp=Z,19nm,1.1s,mb4.7
AQU L'Aquila 45.57 295 P **P 22 56 55.1 -0.7**
AQU pmax pmax
comp=Z,19nm,1.1s,mb4.6
TORD Torodi Ar. Bea 68.11 270 P **P 22 59 34.9 +0.3**
comp=Z,0.4nm,0.5s,mb3.4,baz=47,slow=5.9,SNR=9.0
YKA Yellowknife Ar 79.47 4 P **P 23 00 40.4 -0.2**
comp=Z,0.2nm,0.5s,mb3.0,baz=347,slow=5.2,SNR=6.6
YKA Yellowknife Ar 79.47 4 P **P 23 00 40.4 -0.3**

ISCJB ***03*** *23:08:23.5±2.1, 157S±02×1678E±02, h148km±24km, mb3.8/3, Error ellipse: s-maj=38.5km s-min=22.2km az=74.9*
IDC ***03*** *23:08:27.9±8.3, 1592S×16784E, h182km±86km, mb3.5/4, mb1 3.8/5, mb1mx3.5/16, mbtmp4.1/5, Error ellipse: s-maj=82.6km s-min=27.3km az=171.0*
ISC 03 23:08:24.7±2.3, 157S±02×1679E±02, h145km±26km, n6, σ0§94/8, mb3.8/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.97**	**169**	*i* P		**Pn**	**23 08 59.1**	**-0.1**
BKM				S		**Sn**	**23 09 25.2**	**-0.4**
DZM	**Mont Dzumac**	**6.46**	**192**	P		**Pn**	**23 09 58.3**	**+0.8**
	7.9nm,0.3s,baz=49,slow=16,SNR=47							
DZM				S		**Sn**	**23 11 10.0**	**0.0**
	baz=312,slow=21,SNR=3.2							
CTA	**Charters Tower**	**21.01**	**255**	P		**P**	**23 12 57.7**	**+1.1**
	2.4nm,0.5s,mb3.8,baz=81,slow=12,SNR=5.1							
WRA	**Warramunga Arr**	**32.15**	**257**	P		**P**	**23 14 37.4**	**-1.0**
	0.8nm,0.9s,mb3.5,baz=85,slow=8.7,SNR=5.9							
ASAR	**Alice Springs**	**32.87**	**251**	P		**P**	**23 14 44.0**	**-0.7**
	2.6nm,0.5s,mb4.2,baz=79,slow=8.8,SNR=35							
NVAR	**Mina Array Bea**	**87.48**	**49**	P		**P**	**23 20 56.1**	**+0.3**
	0.7nm,0.5s,mb3.8,baz=232,slow=6.6,SNR=4.7							

NEIC ***03*** *23:11:04.1±0.8, 439S×127.15E, h250km, mb4.7/4, Error ellipse: s-maj=117.0km s-min=13.5km az=68.0*
ISCJB ***03*** *23:11:12.7±2.4, 44S±03×1276E±07, h372km±28km, mb4.1/4, Error ellipse: s-maj=123.3km s-min=13.3km az=137.1*
IDC ***03*** *23:11:12.1±3.0, 482S×12665E, h344km±34km, mb3.2/3, mb1 3.5/4, mb1mx3.2/17, mbtmp4.1/4, Error ellipse: s-maj=125.5km s-min=14.2km az=65.0*
ISC 03 23:11:14.7±2.1, 45S±03×1276E±07, h375km±25km, n11, σ0§77/14, mb4.1/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.45**	**150**	*e*P		**Pn**	**23 13 26.6**	**+0.4**
	3.9nm,0.4s							
WRAB	**Tennant Creek**	**16.69**	**157**	*e*P		**P**	**23 14 46.5**	**+0.2**
	7.5nm,0.3s							
WRA	**Warramunga Arr**	**16.69**	**157**	P		**P**	**23 14 46.2**	**-0.2**
	1.4nm,0.3s,baz=331,slow=11,SNR=91							
WRA				S		**S**	**23 17 41.0**	**-0.8**
	0.2nm,0.3s,baz=329,slow=21,SNR=7.3							
WRA	**Warramunga Arr**	**16.69**	**157**	P		**P**	**23 14 46.2**	**-0.2**
WRA				S		**S**	**23 17 41.0**	**-0.8**
WB2	**Warramunga Arr**	**16.70**	**157**	*e*P		**P**	**23 14 46.5**	**+0.1**
ASAR	**Alice Springs**	**20.00**	**163**	P		**P**	**23 15 20.9**	**+0.2**
	2.1nm,0.3s,baz=347,slow=12,SNR=45							
ASAR				S		**S**	**23 18 45.3**	**+3.3**
	1.7nm,0.8s,baz=342,slow=18,SNR=11							
STKA	**Stephens Creek**	**30.23**	**156**	P		**P**	**23 16 51.7**	**-0.5**
	1.4nm,0.5s,mb3.5,baz=333,slow=9.5,SNR=5.6							
STKA	**Stephens Creek**	**30.23**	**156**	P		**P**	**23 16 51.7**	**-0.5**
HIA	**Hailar**	**53.98**	**354**	*e*P		**P**	**23 20 01.5**	**+0.2**
	28nm,0.9s,mb4.6							
MKAR	**Makanchi Array**	**64.85**	**327**	P		**P**	**23 21 13.6**	**-1.2**
	0.3nm,0.4s,mb3.3,baz=116,slow=8.0,SNR=8.6							
KURK	**Kurchatov**	**69.16**	**329**	*e*P		**P**	**23 21 42.5**	**+0.9**
	43nm,0.8s,mb5.2							

MOS ***03*** *23:11:29.8±1.0, 5994N×15332W, h86km, mb4.8/25, Error ellipse: s-maj=12.6km s-min=6.2km az=91.0*
BJI ***03*** *23:11:29.3, 5987N×15343W, h86km, mB5.1, mb5.4, Ms5.2, Msz5.0*
ISCJB ***03*** *23:11:31.1±0.2, 5986N±003×1518W±004, h99km, mb4.9/85, Error ellipse: s-maj=4.1km s-min=2.9km az=152.3*
IDC ***03*** *23:11:32.9±1.2, 5992N×15325W, h100km±10km, mb4.4/19, mb1 4.5/24, mb1mx4.5/26, mbtmp4.8/24, MS3.4/5, Ms1 3.3/5, ms1mx2.9/37, Error ellipse: s-maj=12.8km s-min=10.4km az=8.0*
NEIC ***03*** *23:11:34.0, 5978N×15304W, h99km, mb4.8/31, After AEIC.*
NEIC Felt [III] at Anchorage, Chugiak, Eagle River, Homer and Palmer; [II] at Kenai and Kodiak. Also felt at Elmendorf AFB, Kasilof, Pedro Bay, Soldotna, Sterling, Valdez and Wasilla.
ISC 03 23:11:32.7±0.2, 5987N±003×15312W±004, h101km, h101km±3.0km; pP-P, n210, σ1§07/221, mb4.9/85, 4C-4D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.58**	**65**	P		**Pn**	**23 12 00.5**	**+0.6**
SVW2	**Sparrevohn**	**1.73**	**316**	*e*P		**Pn**	**23 12 03.2**	**+1.4**
FIB	**Fire Island**	**1.95**	**47**	P		**Pn**	**23 12 06.9**	**+2.3**
RC01	**Rabbit Creek A**	**2.08**	**52**	P		**Pn**	**23 12 07.4**	**+1.2**
RC01				S		**Sn**	**23 12 32.2**	**+0.4**
KDAK	**Kodiak Island**	**2.11**	**172**	P		**Pn**	**23 12 05.7**	**-1.0**
KDAK				S		**Sn**	**23 12 30.2**	**-2.5**
	1μm,0.3s,baz=163,slow=23,SNR=45							
KDAK	**Kodiak Island**	**2.11**	**172**	P		**Pn**	**23 12 05.7**	**-1.0**
KDAK				S		**Sn**	**23 12 29.9**	**-2.8**
PMR	**Palmer**	**2.61**	**47**	*e*P		**Pn**	**23 12 13.7**	**+0.5**
GHO	**Glory Hole Cre**	**2.81**	**45**	P		**Pn**	**23 12 16.5**	**+0.7**
SML	**Sawmill**	**3.05**	**48**	P		**Pn**	**23 12 19.5**	**+0.5**
TT01	**Tatalina**	**3.35**	**337**	P		**Pn**	**23 12 24.8**	**+1.7**
MID	**Middleton Isla**	**3.47**	**94**	*e*P		**Pn**	**23 12 24.4**	**-0.3**
EYAK	**Cordova Ski Ar**	**3.74**	**76**	P		**Pn**	**23 12 27.5**	**-0.8**
TRF	**Thorofare Moun**	**3.84**	**19**	P		**Pn**	**23 12 30.9**	**+1.3**
KTH	**Kantishna Hill**	**3.84**	**15**	P		**Pn**	**23 12 31.1**	**+1.4**
MCK	**McKinley**	**4.36**	**25**	P		**Pn**	**23 12 38.3**	**+1.7**
BMRM	**Bremner River**	**4.37**	**72**	P		**Pn**	**23 12 36.0**	**-0.8**
BMRM				S		**Sn**	**23 13 24.5**	**-2.0**
PAX	**Paxson**	**4.81**	**46**	P		**Pn**	**23 12 43.6**	**+0.8**
PAX				S		**Sn**	**23 13 36.4**	**-0.9**
MENT	**Mentasta**	**5.46**	**52**	*e*P		**Pn**	**23 12 51.5**	**-0.1**
COLA	**College**	**5.59**	**24**	P		**Pn**	**23 12 53.7**	**+0.4**
COLA				S		**Sn**	**23 13 56.4**	**+0.2**
COLA	**College**	**5.59**	**24**	P		**Pn**	**23 12 53.6**	**+0.3**
COLA				S		**Sn**	**23 13 56.3**	**+0.2**
ILAR	**Eielson Array**	**5.71**	**28**	P		**Pn**	**23 12 55.0**	**0.0**
	125nm,0.3s,baz=217,slow=13,SNR=3690							
ILAR				S		**Sn**	**23 13 56.3**	**-2.9**
	148nm,0.3s,baz=335,slow=27,SNR=8.0							
ILAR				ScP		ScP	23 23 12.4	-1.7
	0.0nm,0.3s,baz=264,slow=2.1,SNR=4.6							
ILAR	**Eielson Array**	**5.71**	**28**	P		**Pn**	**23 12 55.0**	**0.0**
ILAR				S		**Sn**	**23 13 56.3**	**-2.9**
DOT	**Dot Lake**	**5.73**	**45**	P		**Pn**	**23 12 55.5**	**+0.2**
SDPT	**Sand Point**	**6.01**	**224**	*e*P		**Pn**	**23 12 58.5**	**-0.6**
IM05	**Indian Mountai**	**6.13**	**358**	P		**Pn**	**23 13 02.7**	**+2.0**
YKU2	**Yakutat**	**6.82**	**87**	*e*P		**Pn**	**23 13 10.4**	**+0.3**
PNL	**Peninsula**	**6.94**	**86**	P		**Pn**	**23 13 11.6**	**0.0**
COLD	**Coldfoot**	**7.50**	**9**	P		**Pn**	**23 13 20.6**	**+1.4**
DAWY	**Dawson**	**7.71**	**51**	P		**Pn**	**23 13 22.5**	**+0.4**
BM3	**Burnt Mountain**	**8.46**	**23**	P		**Pn**	**23 13 31.6**	**-0.7**
TNA	**Tin City**	**8.86**	**316**	P		**Pn**	**23 13 40.1**	**+2.3**
WHY	**Whitehorse**	**9.10**	**77**	P		**Pn**	**23 13 41.0**	**-0.1**
BESE	**Bessie Mountai**	**9.45**	**90**	P		**Pn**	**23 13 45.0**	**-0.8**
UNV	**Unalaska Valle**	**9.48**	**236**	P		**Pn**	**23 13 45.8**	**-0.5**
SIT	**Sitka**	**9.74**	**99**	*e*P		**Pn**	**23 13 47.8**	**-1.9**
	96nm,0.4s							
SIT	**Sitka**	**9.74**	**99**	*e*P		**Pn**	**23 13 47.8**	**-1.9**
SIT				pmax		pmax		
	comp=Z,96nm,0.4s							
CRAG	**Craig**	**11.56**	**104**	*e*P		**Pn**	**23 14 13.1**	**-1.3**
	comp=Z,91nm,0.4s							
INK	**Inuvik**	**11.98**	**37**	P		**Pn**	**23 14 19.1**	**-0.9**
	comp=Z,4.4nm,0.3s,baz=241,slow=18,SNR=114							
INK				S		**Sn**	**23 16 28.9**	**-2.7**
	comp=Z,1.2nm,0.3s,baz=351,slow=29,SNR=2.1							
INK				ScP		ScP	23 23 19.9	-1.0
	comp=Z,0.3nm,0.3s,baz=165,slow=2.9,SNR=3.8							
INK	**Inuvik**	**11.98**	**37**	*e*Pn		**Pn**	**23 14 18.3**	**-1.6**
	comp=Z,69nm,0.8s							
INK	**Inuvik**	**11.98**	**37**	*e*P		**Pn**	**23 14 18.3**	**-1.7**
INK				pmax		pmax		
	comp=Z,69nm,0.8s							
BBB	**Bella Bella**	**15.88**	**108**	P		**Pn**	**23 15 12.7**	**+2.4**
	comp=Z,1.2nm,0.3s,baz=250,slow=7.5,SNR=13							
BBB				S		**S**	**23 17 59.5**	**-14**
	comp=Z,0.2nm,0.3s,baz=139,slow=12,SNR=4.5							
BBB	**Bella Bella**	**15.88**	**108**	P		**Pn**	**23 15 12.7**	**+2.4**
BBB				S		**S**	**23 17 59.5**	**-14**
YKA	**Yellowknife Ar**	**18.56**	**65**	P		**P**	**23 15 42.4**	**+0.9**
	baz=277,slow=10.0,SNR=211							
YKA				S		**S**	**23 19 04.8**	**-3.2**
	baz=280,slow=19,SNR=3.9							
YKA				PcP		PcP	23 20 05.7	-1.0
	baz=286,slow=1.5,SNR=5.7							
YKA				LR		LR	23 22 56.6	
	comp=Z,86nm,19.1s,baz=255,slow=37							
YKA				ScP		ScP	23 23 31.6	-1.4
	baz=288,slow=2.2,SNR=12							
YKA	**Yellowknife Ar**	**18.56**	**65**	P		**P**	**23 15 42.4**	**+0.9**
YKA				S		**S**	**23 19 04.8**	**-3.2**
YKA				PcP		PcP	23 20 05.7	-1.0
YKA				LR		LR	23 22 56.5	
YKA				ScP		ScP	23 23 31.6	-1.4
YKA	**Yellowknife Ar**	**18.56**	**65**	*i* P		**P**	**23 15 42.4**	**+0.9**
YKA				pmax		pmax		
	comp=Z,10.0nm,0.3s							
FX1	**Attu Island--F**	**19.76**	**264**	P		**P**	**23 15 54.6**	**0.0**
	comp=Z,26nm,0.3s,baz=316,slow=3.0,SNR=22							
FX1	**Attu Island--F**	**19.76**	**264**	*e*P		**P**	**23 15 54.8**	**+0.3**
EDM	**Edmonton**	**22.63**	**89**	*e*P		**P**	**23 16 25.9**	**+0.8**
NEW	**Newport**	**23.78**	**103**	P		**P**	**23 16 37.6**	**+1.7**
	comp=Z,2.6nm,0.6s,mb3.8,baz=333,slow=7.7,SNR=6.4							
NEW				pP			23 16 58.9	
	comp=Z,8.6nm,0.7s,baz=307,slow=8.6,SNR=5.7							
NEW				LR		LR	23 25 12.3	
	comp=Z,54nm,18.8s,baz=104,slow=34							
NEW	**Newport**	**23.78**	**103**	*e*P		**P**	**23 16 38.0**	**+2.0**
	comp=Z,23nm,1.1s,mb4.4							
NEW	**Newport**	**23.78**	**103**	*e*P		**P**	**23 16 38.0**	**+2.1**
NEW				pmax		pmax		
	comp=Z,23nm,1.1s							
HUMO	**Hull Mountain**	**25.26**	**120**	*e*P		**P**	**23 16 51.2**	**+1.8**
	comp=Z,14nm,1.0s,mb4.4							
RES	**Resolute Bay**	**25.45**	**32**	*e*P		**P**	**23 16 51.0**	**-0.1**
	comp=Z,10nm,0.6s,mb4.4							
RES	**Resolute Bay**	**25.45**	**32**	*e*P		**P**	**23 16 51.0**	**-0.1**
RES				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.4							
SEY	**Seymchan**	**25.60**	**300**	*i* P		**P**	**23 16 52.1**	**-0.4**
YBH	**Yreka Blue Hor**	**26.08**	**120**	P		**P**	**23 16 58.8**	**+2.0**
	comp=Z,5.5nm,0.7s,mb4.1,baz=346,slow=3.8,SNR=9.4							
YBH				LR		LR	23 25 43.1	
	comp=Z,75nm,21.3s,baz=346,slow=32							
CHMT	**Chamberlain Mo**	**26.62**	**101**	*e*P		**P**	**23 17 03.0**	**+1.4**
MA2	**Magadan**	**27.57**	**294**	*e*P		**P**	**23 17 10.6**	**+0.4**
MA2				*e*			23 23 11.9	
MA2				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.4							
FCC	**Fort Churchill**	**29.29**	**66**	*e*P		**P**	**23 17 25.6**	**+0.2**
	comp=Z,9.6nm,0.5s,mb4.7							
FCC				*e*pP		pP	23 17 37.0	-11
FCC	**Fort Churchill**	**29.29**	**66**	*e*P		**P**	**23 17 25.6**	**+0.2**
FCC				pmax		pmax		
	comp=Z,10.0nm,0.5s,mb4.7							
LOHW	**Long Hollow**	**30.28**	**103**	*e*P		**P**	**23 17 37.3**	**+3.1**
	comp=Z,74nm,0.5s,mb5.6							
LOHW				*e*			23 17 54.0	
NVAR	**Mina Array Bea**	**30.71**	**119**	P		**P**	**23 17 39.8**	**+1.8**
	comp=Z,3.3nm,0.8s,mb4.1,baz=313,slow=8.5,SNR=12							
NVAR				ScP		ScP	23 24 06.9	+0.1
	comp=Z,1.0nm,0.6s,baz=313,slow=3.8,SNR=3.9							
MTUM	**Tungsten Hills**	**31.49**	**120**	*e*P		**P**	**23 17 46.8**	**+2.0**
ULM	**Lac du Bonnet**	**33.15**	**81**	P		**P**	**23 17 59.5**	**+0.1**
	comp=Z,2.4nm,0.5s,mb4.3,baz=306,slow=8.1,SNR=7.5							
ULM				pP		pP	23 18 23.6	+1.7
	comp=Z,12nm,0.8s,baz=314,slow=9.0,SNR=10							
ULM				LR		LR	23 31 58.0	
	comp=Z,56nm,19.9s,baz=24,slow=37							
ULM	**Lac du Bonnet**	**33.15**	**81**	P		**P**	**23 17 59.5**	**+0.1**
ULM				pP		pP	23 18 23.6	+1.7
ULM				LR		LR	23 31 58.0	
SRU	**San Rafael**	**33.76**	**109**	*e*Pg		**P**	**23 18 07.3**	**+2.7**
	comp=Z,66nm,0.8s,mb5.5							
SRU	**San Rafael**	**33.76**	**109**	*e*P		**P**	**23 18 07.3**	**+2.7**
SRU				pmax		pmax		
	comp=Z,65nm,0.8s,mb5.5							
YSS	**Yuzh-Sakhalins**	**38.75**	**280**	*e*P		**P**	**23 18 47.9**	**+0.8**
	comp=Z,21nm,0.6s,mb5.2							
YSS	**Yuzh-Sakhalins**	**38.75**	**280**	*e*P		**P**	**23 18 48.0**	**+0.9**
CLNS	**Chul'man**	**40.54**	**303**	*e*P		**P**	**23 19 01.6**	**-0.3**
CLNS				pmax		pmax		
	comp=N,8.0nm,0.8s							
CLNS				pmax		pmax		
	comp=E,11nm,0.8s							
CLNS				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.8							
SUMG	**Summit**	**40.55**	**25**	*e*P		**P**	**23 19 02.1**	**+0.1**
	comp=Z,10.0nm,0.8s,mb4.7							
DAG	**Danmarks Havn**	**40.64**	**15**	*i* P		**P**	**23 19 02.0**	**-0.7**
	comp=Z,7.6nm,0.3s,mb5.0							
ASAJ	**Asahikawa**	**40.83**	**277**	P		**P**	**23 19 04.2**	**-0.2**
	comp=Z,34nm,0.6s,mb5.3,baz=20,slow=3.8,SNR=24							
SFJD	**Kangerlussuaq**	**41.32**	**36**	*i* P		**P**	**23 19 12.0**	**+3.7**
SFJD	**Kangerlussuaq**	**41.32**	**36**	*e*P		**P**	**23 19 12.0**	**+3.7**
KLR	**Kul'dur**	**42.53**	**290**	*e*P		**P**	**23 19 14.8**	**-3.4**
KLR				pmax		pmax		
	comp=E,20nm,1.2s							
KLR				pmax		pmax		
	comp=Z,40nm,1.2s,mb5.0							
BOD	**Bodaibo**	**44.29**	**310**	*e*P		**P**	**23 19 31.4**	**-0.9**
BOD				pmax		pmax		
	comp=Z,30nm,0.7s,mb5.1							
MDJ	**Mudanjiang**	**46.87**	**287**	P		**P**	**23 19 51.8**	**-0.8**
MDJ				S		**S**	**23 26 31.8**	**-3.9**
MDJ				AMB		AMB		
	comp=Z,14nm,0.9s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,73nm,4.0s							
OXF	**Oxford**	**47.82**	**92**	*e*P		**P**	**23 20 01.0**	**+1.0**
	comp=Z,49nm,1.1s,mb5.2							
OXF				*e*pP		pP	23 20 23.3	-0.6
OXF	**Oxford**	**47.82**	**92**	*e*P		**P**	**23 20 01.0**	**+1.0**
OXF				*e*PP		pP	23 20 23.3	-0.5
OXF				pmax		pmax		
	comp=Z,49nm,1.1s,mb5.2							
MAJO	**Matsushiro**	**48.73**	**274**	*e*P		**P**	**23 20 07.0**	**0.0**
	comp=Z,51nm,0.9s,mb5.5							
MAJO	**Matsushiro**	**48.73**	**274**	*e*P		**P**	**23 20 07.0**	**0.0**
MAJO				pmax		pmax		
	comp=Z,51nm,0.9s,mb5.5							
MAT	**Matsushiro**	**48.73**	**274**	P		**P**	**23 20 07.1**	**+0.1**
MAT	**Matsushiro**	**48.73**	**274**	*e*P		**P**	**23 20 07.0**	**0.0**
	comp=Z,33nm,0.6s,mb5.4							
MAT	**Matsushiro**	**48.73**	**274**	*e*P		**P**	**23 20 07.0**	**0.0**
MAT				pmax		pmax		
	comp=Z,33nm,0.6s,mb5.4							
MJAR	**Matsushiro Arr**	**48.73**	**274**	P		**P**	**23 20 07.2**	**+0.2**
	comp=Z,22nm,1.0s,mb5.0,baz=10,slow=7.7,SNR=37							
CN2	**Changchun**	**49.46**	**290**	*e*P		**P**	**23 20 12.6**	**0.0**
CN2				*e*AP		pP	23 20 35.6	-0.9
CN2				*e*PP		PP	23 22 08.3	+0.8
CN2				*e*S		**S**	**23 27 10.2**	**-2.0**
CN2				SCS		ScS	23 29 51.1	-3.2
CN2				*e*SS		SS	23 30 39.0	-6.2
CN2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.2							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
ARCES	**ARCESS Array B**	**50.88**	**1**	P		**P**	**23 20 22.8**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.3,baz=7.7,slow=6.3,SNR=10							
SNY	**Shenyang**	**51.85**	**289**	⇑P		**P**	**23 20 30.5**	**0.0**
SNY				AMB		AMB		
	comp=Z,72nm,0.7s,mb5.8							
KS15	**Wonju Array Si**	**53.18**	**283**	*e*P		**P**	**23 20 41.1**	**+0.8**
INCN	**Inchon**	**53.76**	**284**	*e*P		**P**	**23 20 44.6**	**0.0**
	comp=Z,53nm,0.8s,mb5.6							
MOY	**Mondy**	**53.88**	**312**	*e*P		**P**	**23 20 45.1**	**-0.3**
MOY				pmax		pmax		
	comp=Z,37nm,2.0s,mb5.1							
ZAK	**Zakamensk**	**54.03**	**310**	*e*P		**P**	**23 20 45.8**	**-0.7**
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.8							
ULN	**Ulaanbaatar**	**54.52**	**305**	*e*P		**P**	**23 20 50.8**	**+0.7**
	comp=Z,18nm,0.6s,mb5.3							
ULN				*e*			23 21 21.2	
ULN				PcP		PcP	23 21 52.6	+0.4
ULN	**Ulaanbaatar**	**54.52**	**305**	*e*P		**P**	**23 20 50.8**	**+0.7**
ULN				*e*			23 21 21.2	
ULN							23 21 52.6	
ULN				pmax		pmax		
	comp=Z,18nm,0.6s,mb5.3							
SONM	**Songino Array**	**54.82**	**306**	P		**P**	**23 20 53.4**	**+1.2**
	comp=Z,32nm,0.6s,mb5.5,baz=43,slow=6.4,SNR=354							
SONM				ScP		ScP	23 25 41.2	-1.4
	comp=Z,0.6nm,0.8s,baz=52,slow=2.9,SNR=4.0							
SONM				LR		LR	23 46 07.0	
	comp=Z,67nm,19.4s,baz=24,slow=38							
BJI	**Beijing**	**56.73**	**293**	P		**P**	**23 21 06.3**	**+0.4**
BJI				AMB		AMB		
	comp=Z,81nm,0.7s,mb5.9							
NVS	**Novosibirsk**	**57.14**	**325**	⇓*i* P		**P**	**23 21 08.1**	**-0.6**
NVS				pmax		pmax		
	comp=N,20nm,0.6s							
NVS				pmax		pmax		
	comp=E,27nm,0.6s							
NVS				pmax		pmax		
	comp=Z,53nm,0.6s,mb5.8							
ZAL	**Zalesovo**	**57.46**	**324**	P		**P**	**23 21 10.8**	**-0.3**
	comp=Z,75nm,0.5s,baz=79,slow=5.8,SNR=365							
JOF	**Joensuu**	**57.49**	**358**	*ep*		**P**	**23 21 11.8**	**+0.6**
HHC	**Hu-ho-hao-te**	**58.19**	**297**	*e*P		**P**	**23 21 16.7**	**+0.6**
HHC				AP		pP	23 21 40.7	0.0
HHC				XP		sP	23 21 51.8	-0.1
HHC				PCP		PcP	23 22 07.4	+0.9
HHC				PP		PP	23 23 28.7	+2.8
HHC				S		**S**	**23 29 07.8**	**-2.1**
HHC				SCS		ScS	23 30 53.0	-3.1
HHC				SS		SS	23 33 01.8	-1.2
HHC				AMB		AMB		
	comp=Z,53nm,0.8s,mb5.6							
HHC				AMB		AMB		
	comp=Z,78nm,3.1s							
HHC				LR		LR		
	comp=N,99nm,6.3s							
HHC				LR		LR		
	comp=E,91nm,5.5s							
HHC				LR		LR		
	comp=Z,116nm,4.9s							
KAF	**Kangasniemi**	**58.34**	**0**	*ep*		**P**	**23 21 15.8**	**-1.4**
	comp=Z,1.8nm,0.3s,mb4.6							
KAF	**Kangasniemi**	**58.34**	**0**	*e*P		**P**	**23 21 15.8**	**-1.4**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.3s,mb4.6							
NB2	**NORSAR Subarra**	**58.81**	**9**	P		**P**	**23 21 19.1**	**-1.3**
	comp=Z,2.3nm,1.0s,mb4.2,baz=350,slow=7.4							
NB2	**NORSAR Subarra**	**58.81**	**9**	P		**P**	**23 21 19.1**	**-1.3**
NB2				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
NOA	**NORSAR Array B**	**58.81**	**9**	P		**P**	**23 21 19.2**	**-1.3**
	comp=Z,1.4nm,0.9s,mb4.0,baz=352,slow=7.1,SNR=4.1							
FINES	**FINESS Array B**	**59.02**	**0**	P		**P**	**23 21 20.8**	**-1.0**
	comp=Z,1.8nm,0.6s,mb4.3,baz=10,slow=8.2,SNR=17							
KLMR	**Klimovskoe**	**59.21**	**353**	*e*P		**P**	**23 21 22.4**	**-0.8**
KLMR				pmax		pmax		
	comp=Z,40nm,2.3s,mb5.0							
ARU	**Arti**	**61.35**	**341**	⇓*i*P		**P**	**23 21 36.6**	**-1.2**
ARU				*e*			23 23 50.2	
ARU				*e*S		**S**	**23 29 50.7**	**+0.2**
ARU				*e*			23 31 11.1	
ARU				*e*SS		SS	23 33 56.1	+3.5
ARU				pmax		pmax		
	comp=Z,11nm,0.6s,mb5.1							
JOW	**Kunigami**	**61.53**	**275**	P		**P**	**23 21 39.1**	**+0.2**
	comp=Z,82nm,0.7s,mb5.9,baz=16,slow=3.8,SNR=16							
SSE	**Sheshan**	**61.

OBN e pP 23 22 31.1 +3.5
OBN pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
WMQ Urumqi 65.31 316 ⇓*i*P **P 23 22 05.2 +1.3**
WMQ AP pP 23 22 29.6 +0.6
WMQ PCP PcP 23 22 36.2 +0.8
WMQ XP sP 23 22 40.6 +0.6
WMQ AMB AMB
comp=Z,34nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,195nm,4.8s
WMQ LR LR
comp=Z,382nm,18.4s
WHN Wuhan 65.33 288 P **P 23 22 04.0 0.0**
LZH Lanzhou 65.53 300 ⇓P **P 23 22 05.5 +0.2**
LZH AP pP 23 22 30.1 -0.3
LZH XP sP 23 22 40.5 -0.9
LZH PP PP 23 24 32.4 +1.8
LZH *e*S S 23 30 40.7 -1.8
LZH PS 23 31 15.6
LZH SS SS 23 34 56.5 -1.3
LZH AMB AMB
comp=Z,66nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,274nm,7.2s
LZH LR LR
comp=N,705nm,15.0s
LZH LR LR
comp=Z,987nm,17.8s
AB31 Akbulak array 67.96 337 *i*P **P 23 22 20.1 -0.6**
AB31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
CLL Collm 68.61 9 *e*pP pP 23 22 52.0 +1.9
CLL *e*sP sP 23 23 03.0 +1.9
BRG Berggiesshubel 69.12 9 *e*P pP 23 22 55.1 +1.8
comp=Z,2.2nm,0.7s
FLN La Foliniere 69.46 19 *e*P **P 23 22 29.0 -1.0**
LDF La Druitiere 69.68 19 *e*P **P 23 22 30.3 -1.1**
GRR Gorron 69.76 19 *e*P **P 23 22 31.1 -0.8**
AKASG Malin Array Be 69.77 358 P **P 23 22 30.0 -1.9**
comp=Z,1.5nm,0.4s,mb4.2,baz=1.5,slow=6.1,SNR=15
AKASG Malin Array Be 69.77 358 P **P 23 22 30.0 -1.9**
CD2 Chengdu 69.94 297 *e*P **P 23 22 35.9 +2.9**
CD2 AP pP 23 23 00.7 +2.3
CD2 PP PP 23 25 13.4 +4.5
CD2 S S 23 31 36.4 +1.3
CD2 XS sS 23 32 18.9 +0.3
CD2 SS SS 23 36 08.0 +2.0
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,90nm,5.9s
TKM2 Tokmak 2 70.04 324 P **P 23 22 34.9 +1.3**
SNR=7.2
USP Ospenovka 70.05 325 P **P 23 22 33.9 +0.3**
SNR=12
CHMS Chumysh 70.22 325 P **P 23 22 35.1 +0.4**
SNR=9.8
ULHL Ulahol 70.46 323 P **P 23 22 36.9 +0.7**
SNR=5.5
KBK Karagaybulak 70.47 324 P **P 23 22 36.8 +0.6**
SNR=12
AAK Ala-Archa 70.63 325 P **P 23 22 37.7 +0.5**
SNR=11
AAK Ala-Archa 70.63 325 *c i*P **P 23 22 36.4 -0.8**
AAK pmax pmax
comp=Z,13nm,1.1s,mb4.7
EKS2 Erkin-Say 70.81 325 P **P 23 22 38.9 +0.6**
SNR=22
KHC Kasperske Hory 70.82 9 *e*P **P 23 22 47.5 +9.2**
KZA Kyzart 70.92 324 P **P 23 22 40.0 +1.1**
SNR=6.3
GERES GERESS Array B 71.11 9 P **P 23 22 39.8 -0.3**
comp=Z,0.4nm,0.6s,baz=358,slow=3.1,SNR=4.0
KK31 Karatay Array 71.31 328 *i*P **P 23 22 40.8 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
KKAR Karatay Array 71.31 328 *i*P **P 23 22 40.8 -0.5**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
AML Almayashu 71.32 325 P **P 23 22 42.4 +1.0**
SNR=15
LOR Lormes 71.58 16 *e*P **P 23 22 42.3 -0.6**
comp=Z,31nm,1.1s,mb4.7
LOR Lormes 71.58 16 *e*P **P 23 22 42.3 -0.6**
comp=Z,15nm,1.1s,mb4.8
LOR Lormes 71.58 16 *e*P **P 23 22 42.3 -0.6**
LOR pmax pmax
comp=Z,15nm,1.1s,mb4.7
MFF Saint Martin d 71.61 19 *e*P **P 23 22 42.4 -0.7**
SSF Saint Saulge 71.73 17 *e*P **P 23 22 42.7 -1.1**
comp=Z,8.0nm,0.7s,mb4.4
SSF Saint Saulge 71.73 17 *e*P **P 23 22 42.7 -1.1**
comp=Z,4.0nm,0.7s,mb4.4
SSF Saint Saulge 71.73 17 *e*P **P 23 22 42.7 -1.1**
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
AVF Avril sur Loir 71.97 17 *e*P **P 23 22 44.5 -0.8**
comp=Z,9.6nm,0.5s,mb4.5
AVF Avril sur Loir 71.97 17 *e*P **P 23 22 44.5 -0.8**
comp=Z,4.8nm,0.5s,mb4.6
AVF Avril sur Loir 71.97 17 *e*P **P 23 22 44.5 -0.8**
AVF pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
BGF Bois d'Agland 72.12 17 *e*P **P 23 22 45.4 -0.8**
SMF Signal de Mont 72.19 16 *e*P **P 23 22 45.5 -1.0**
TCF Toulx Ste Croi 72.29 18 *e*P **P 23 22 45.8 -1.4**
GYA Guiyang 72.40 292 ⇑*i*P **P 23 22 48.6 +0.8**
GYA AP pP 23 23 13.5 +0.2
GYA XP sP 23 23 23.4 -0.8
GYA PP PP 23 25 31.5 +1.6
GYA S S 23 32 00.9 -2.5
GYA SKS 23 32 39.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,140nm,4.0s
GYA LR LR
comp=E,760nm,18.6s
GYA LR LR
comp=Z,840nm,19.0s
LFF La Frestale 73.37 19 *e*P **P 23 22 53.1 -0.5**
comp=Z,11nm,0.6s,mb4.5
LFF La Frestale 73.37 19 *e*P **P 23 22 53.1 -0.5**
comp=Z,5.3nm,0.6s,mb4.5
LFF La Frestale 73.37 19 *e*P **P 23 22 53.1 -0.5**
LFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
VIVF Saint-Julien-l 74.06 16 *e*P **P 23 22 57.1 -0.5**
comp=Z,15nm,1.0s,mb4.4
VIVF Saint-Julien-l 74.06 16 *e*P **P 23 22 57.1 -0.5**
comp=Z,7.5nm,1.0s,mb4.4
VIVF Saint-Julien-l 74.06 16 *e*P **P 23 22 57.1 -0.5**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
MBDF Montbardon 74.46 15 *e*P **P 23 22 59.9 0.0**
comp=Z,20nm,1.2s,mb4.4
MBDF Montbardon 74.46 15 *e*P **P 23 22 59.9 0.0**
comp=Z,9.8nm,1.2s,mb4.4
MBDF Montbardon 74.46 15 *e*P **P 23 22 59.9 0.0**
MBDF pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
ETSF Etsaut 75.13 21 *e*P **P 23 23 03.3 -0.5**
comp=Z,11nm,0.9s,mb4.3
ETSF Etsaut 75.13 21 *e*P **P 23 23 03.3 -0.5**
comp=Z,5.5nm,0.9s,mb4.3
ETSF Etsaut 75.13 21 *e*P **P 23 23 03.3 -0.5**
ETSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
MTLF Montolieu 75.17 18 *e*P **P 23 23 03.5 -0.5**
comp=Z,8.2nm,0.7s,mb4.3
MTLF Montolieu 75.17 18 *e*P **P 23 23 03.5 -0.5**
comp=Z,4.1nm,0.7s,mb4.3
MTLF Montolieu 75.17 18 *e*P **P 23 23 03.5 -0.5**
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
KMI Kunming 75.35 295 P **P 23 23 05.2 +0.2**
KMI AMB AMB
comp=Z,14nm,0.7s,mb4.8
KIV Kislovodsk 75.72 348 *e*P **P 23 23 08.2 +1.0**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
SOC Sochi 76.37 350 *e*P **P 23 23 09.1 -1.7**
SOC *e**PP pP 23 23 40.4 +3.8
SOC *e* 23 25 58.2
SOC *e*S S 23 32 47.6 -0.1
SOC *e**SS sS 23 33 38.4 +6.5
SOC *e*SS SS 23 37 42.2 -1.7
SOC pmax pmax
comp=Z,106nm,0.7s,mb5.7
LSA Lhasa 76.40 306 P **P 23 23 12.9 +1.9**
LSA AMB AMB
comp=Z,30nm,0.8s,mb5.1
QIZ Qiongzhong 77.21 286 *e*P **P 23 23 14.1 -1.4**
ESDC Sonseca Array 77.60 24 P **P 23 23 18.0 +0.3**
comp=Z,0.8nm,0.4s,mb3.8,baz=346,slow=5.8,SNR=7.8
SDV Santo Domingo 78.60 92 pP pP 23 23 50.9 +1.8
comp=Z,6.1nm,0.7s,baz=322,slow=7.3,SNR=5.5
PAGZ Pagadian 79.99 268 *e*P **P 23 23 27.1 -3.8**
GUN Gumba 80.09 310 *e*P **P 23 23 32.2 +0.9**
comp=Z,4.1nm,0.8s,mb5.3
JIRN Jiri 80.19 309 *e*P **P 23 23 32.4 +0.5**
comp=Z,91nm,0.5s,mb5.8
ROSC El Rosal 80.19 97 pP pP 23 23 58.9 +1.0
comp=Z,2.4nm,0.3s,baz=98,slow=21,SNR=1.8
KKN Kakani 80.43 310 *e*P **P 23 23 33.7 +0.5**
comp=Z,24nm,0.5s,mb5.3
KKN Kakani 80.43 310 *e*P **P 23 23 33.7 +0.5**
KKN pmax pmax
comp=Z,12nm,0.5s,mb5.0
GKN Gorkha 80.49 311 *e*P **P 23 23 34.0 +0.5**
comp=Z,36nm,0.7s,mb5.3
PKI Pulchoki 80.58 310 *e*P **P 23 23 34.6 +0.7**
comp=Z,22nm,0.7s,mb5.1
PKI Pulchoki 80.58 310 *e*P **P 23 23 34.6 +0.7**
PKI pmax pmax
comp=Z,11nm,0.7s,mb4.8
BRTR Keskin Array B 80.61 355 P **P 23 23 32.9 -1.2**
comp=Z,1.2nm,0.6s,mb3.9,baz=22,slow=1.8,SNR=7.9
BRTR Keskin Array B 80.61 355 *i*P **P 23 23 34.7 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
DMN Daman 80.66 310 *e*P **P 23 23 35.3 +0.9**
comp=Z,36nm,0.6s,mb5.4
KOLN Koldanda 81.09 311 *e*P **P 23 23 37.1 +0.4**
comp=Z,28nm,0.6s,mb5.3
OTAV Otavalo 82.13 103 *e*P **P 23 23 43.2 +1.0**
comp=Z,2.4nm,0.8s,mb4.1
OTAV PcP PcP 23 23 46.9 -0.4
CTA Charters Tower 93.56 235 P **P 23 24 36.5 -0.8**
comp=Z,5.9nm,0.6s,mb5.1,baz=23,slow=6.9,SNR=10
PSI Prapat 96.51 287 P **P 23 24 49.5 -1.3**
comp=Z,8.1nm,0.8s,mb5.2,baz=344,slow=2.5,SNR=8.6
WRA Warramunga Arr 98.65 245 P **P 23 24 58.3 -2.0**
comp=Z,0.7nm,0.7s,mb4.3,baz=34,slow=5.3,SNR=5.0
WRA PKiKP PKiKP 23 29 30.2 -1.2
comp=Z,0.3nm,0.6s,baz=7.2,slow=1.6,SNR=5.6
WRA Warramunga Arr 98.65 245 *i*P **P 23 24 57.9 -2.5**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 102.07 244 P Pdif 23 25 15.7 +0.1
comp=Z,0.2nm,0.5s,baz=33,slow=4.4,SNR=3.7
TORD Torodi Ar. Bea 104.45 25 PKKPbc PKKPbc 23 41 09.6 -2.1
comp=Z,0.4nm,0.3s,baz=152,slow=2.1,SNR=10.0
NWAO Narrogin (SRO) 117.67 252 PKP PKPdf 23 30 04.7 -2.3
comp=Z,2.9nm,0.5s,baz=75,slow=2.2,SNR=5.7
LBTB Lobatse 145.15 2 PKPbc PKPbc 23 30 58.0 -0.1
comp=Z,12nm,0.6s,baz=357,slow=1.3,SNR=18
BOSA Boshof 148.73 3 PKPbc PKPbc 23 31 07.1 -1.1
comp=Z,11nm,0.5s,baz=17,slow=2.9,SNR=36

IDC ***03*** *23:25:32.4±1.5, 6.18S×147.92E, h0km, mb3.6/3, mb1 4.1/5, mb1mx3.9/13, mbtmp3.8/5, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/24, Error ellipse: s-maj=48.8km s-min=13.0km az=120.0*
ISCJB ***03*** *23:25:35.4±1.4, 6.17S±008×147.9E±02, h35km, mb4.1/6, Error ellipse: s-maj=34.7km s-min=11.0km az=16.7*
NEIC ***03*** *23:25:37.0±1.1, 6.25S×148.08E, h35km, mb4.6/3, Error ellipse: s-maj=32.4km s-min=14.1km az=106.0*
ISC 03 23:25:32.5±3.6, 618S±009×1481E±02, h5km±23km, n15, σ0§87/15, mb4.1/6, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.34**	**196**	Pn	**Pn**	**23 26 26.4**	**+1.1**
	19nm,0.3s,baz=65,slow=3.9,SNR=25						
PMG				Sn	**Sn**	**23 27 05.5**	**+0.2**
	31nm,0.3s,baz=68,slow=15,SNR=9.3						
HNR	**Honiara**	**12.18**	**106**	LR	LR	23 32 07.6	
	comp=Z,68nm,20.2s,baz=357,slow=32						
CTA	**Charters Tower**	**13.94**	**187**	LR	LR	23 33 12.7	
	comp=Z,105nm,19.8s,baz=202,slow=33						
WRAB	**Tennant Creek**	**19.11**	**223**	*e*P	**Pn**	**23 29 57.4**	**+0.4**
	9.4nm,0.8s						
WB2	**Warramunga Arr**	**19.12**	**223**	*e*P	**Pn**	**23 29 56.2**	**-0.8**
WRA	**Warramunga Arr**	**19.12**	**223**	P	**Pn**	**23 29 56.2**	**-0.9**
	0.6nm,0.3s,baz=49,slow=11,SNR=20						
WRA				S	**Sn**	**23 33 32.2**	**+0.5**
	0.1nm,0.3s,baz=47,slow=21,SNR=5.0						
ASAR	**Alice Springs**	**22.11**	**217**	P	**P**	**23 30 28.8**	**+0.1**
	6.7nm,0.6s,mb4.2,baz=52,slow=9.3,SNR=68						
ASAR				S	**S**	**23 34 32.2**	**-0.5**
	1.6nm,0.8s,baz=30,slow=22,SNR=7.7						
FITZ	**Fitzroy Crossi**	**24.91**	**240**	⇓*i*P	**P**	**23 30 57.5**	**+1.2**
	16nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**26.28**	**193**	P	**P**	**23 31 06.4**	**-2.4**
	1.9nm,0.5s,mb3.9,baz=2.9,slow=10,SNR=8.5						
STKA	**Stephens Creek**	**26.28**	**193**	*e*P	**P**	**23 31 06.9**	**-1.9**
POLP	**Polilio Island**	**33.23**	**309**	*e*P	**P**	**23 32 04.0**	**-6.5**
PALK	**Pallekele**	**68.55**	**280**	*e*P	**P**	**23 36 35.7**	**-0.4**
	14nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**78.33**	**320**	P	**P**	**23 37 33.5**	**-0.2**
	0.1nm,0.3s,mb3.2,baz=96,slow=9.3,SNR=4.5						
ILAR	**Eielson Array**	**85.22**	**23**	P	**P**	**23 38 11.1**	**+1.0**
	0.7nm,0.7s,mb3.9,baz=252,slow=4.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**146.19**	**284**	PKPbc	PKPbc	23 45 14.7	+0.8
	0.6nm,0.5s,baz=64,slow=3.1,SNR=10						

CASC 03 23:29:18.4±1.9, 1155N×8627W, h76km±9km, MD3.5, ML3.1, 2C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.41**	**29**	*e*P	Pn	23 29 31.8	+0.8
APON				*e*S	Sn	23 29 42.0	+1.8
TICN	**Ticuantepe**	**0.48**	**5**	*e*P	Pn	23 29 32.2	+0.7
SSNN	**San Juan del S**	**0.49**	**122**	⇓*e*P	Pn	23 29 32.2	+0.5
SSNN				*e*S	Sn	23 29 42.7	+1.3
XAVN	**Gruta Xavier**	**0.59**	**355**	*e*P	Pn	23 29 33.3	+0.7
XAVN				*e*S	Sn	23 29 43.3	+0.1
CONN	**Concepcion**	**0.63**	**89**	⇓*i*P	Pn	23 29 33.0	0.0
CONN				*e*S	Sn	23 29 44.7	+0.9
APYN	**Apoyeque**	**0.68**	**353**	*e*P	Pn	23 29 34.3	+0.8
APYN				*e*S	Sn	23 29 46.0	+1.3
COPN	**Copaltepe**	**0.70**	**333**	⇑*e*P	Pn	23 29 34.0	+0.3
COPN				*e*S	Sn	23 29 46.4	+1.3
MADN	**Villa Maderas**	**0.74**	**101**	⇓*i*P	Pn	23 29 34.1	0.0
MADN				*e*S	Sn	23 29 45.3	-0.4
MOMJ	**Momotombo**	**0.89**	**343**	⇑*e*P	Pn	23 29 35.7	-0.2
MOMJ				*e*S	Sn	23 29 48.9	+0.1
MIRN	**Miramar**	**0.98**	**334**	*e*P	Pn	23 29 37.9	+0.9
MIRN				*e*S	Sn	23 29 50.9	+0.1
CNGN	**Cerro Negro**	**1.03**	**336**	*e*P	Pn	23 29 38.2	+0.7
CNGN				*e*S	Sn	23 29 52.6	+0.8
LEON	**Leon**	**1.05**	**325**	*e*P	Pn	23 29 38.2	+0.4
LEON				*e*S	Sn	23 29 52.6	+0.3
	comp=Z,310nm,0.4s						
TEL3	**Telica 3**	**1.16**	**331**	*e*P	Pn	23 29 39.9	+0.7
TEL3				*e*S	Sn	23 29 55.5	+0.8
TELN	**Telica**	**1.18**	**332**	*e*P	Pn	23 29 40.2	+0.7
TELN				*e*S	Sn	23 29 55.1	-0.1
CRIN	**San Cristobal**	**1.37**	**326**	*e*P	Pn	23 29 42.8	+0.9
CRIN				*e*S	Sn	23 30 04.4	+0.8
CGA2	**Cerro Gallo 2**	**2.34**	**131**	*e*S	Sn	23 30 24.9	+2.4
LAJ	**Bijagual**	**2.70**	**128**	*e*P	Pn	23 29 59.0	-0.6
LAJ				*e*S	Sn	23 30 27.6	-3.6
LCR2	**La Lucha 2**	**2.86**	**129**	*e*P	Pn	23 30 01.4	-0.4
BUS	**Buena Vista**	**3.17**	**129**	*e*P	Pn	23 30 07.8	+1.8
BUS				*e*S	Sn	23 30 44.7	+2.1

ISCJB ***03*** *23:36:26.1±0.4, 5571S±007×43W±0.1, h10km, mb4.7/20, MS5.4/150, Error ellipse: s-maj=10.8km s-min=9.4km az=125.3*

IDC ***03*** *23:36:26.3±0.6, 5577S×438W, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.5/20, mbtmp4.4/16, ML5.0/1, MS5.3/19, Ms1 5.2/19, ms1mx5.2/20, Error ellipse: s-maj=19.7km s-min=15.5km az=159.0*
BJI ***03*** *23:36:27.9, 5570S×420W, h10km, mB5.6, Ms5.7, Msz5.5*
MOS ***03*** *23:36:27.9±2.4, 5567S×426W, h10km, mb5.3/10, MS5.4/4, Error ellipse: s-maj=29.5km s-min=14.3km az=88.3*
NEIC ***03*** *23:36:28.0±0.4, 5570S×423W, h10km, mb5.2/14, MS5.4/134, MW5.9, Error ellipse: s-maj=13.5km s-min=12.2km az=89.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}0.10; $M_{\theta\theta}$-4.34; $M_{\phi\phi}$4.24; $M_{r\theta}$-0.75; $M_{\theta\phi}$6.14; $M_{\phi r}$2.40; Best double couple: $M_0$7.90000×10^{17} NP1:ϕ_s342.00000°, δ90.00000°, λ161.00000°. NP2:ϕ_s73.00000°, δ71.00000°, λ0.00000°. Principal axes: T 7.8600, Plg13.0000°, Azm296.0000°; N 0.0800, Plg71.0000°, Azm161.0000°; P -7.9400, Plg13.0000°, Azm29.0000°;*
HRVD ***03*** *23:36:28.0±0.2, 5592S×394W, h16km±1km, MW6.0/54, Centroid moment Tensor Solution. LP body waves: s54,c84;Mantle waves: s50,c79; Half duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.01±.02; $M_{\theta\theta}$-0.26±.03; $M_{\phi\phi}$0.27±.02; $M_{r\theta}$0.21±.07; $M_{\theta\phi}$1.01±.02; $M_{\phi r}$0.04±.06; Best double couple: $M_0$1.06700×10^{18} NP1:ϕ_s353.00000°, δ78.00000°, λ180.00000°. NP2: ϕ_s83.00000°, δ90.00000°, λ12.00000°. Principal axes: T 1.0750, Plg8.0000°, Azm308.0000°; N -0.0160, Plg78.0000°, Azm84.0000°; P -1.0580, Plg8.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 23:36:27.7±0.4, 5577S±007×42W±01, h10km, n231, σ1§08/46, mb4.7/20, MS5.4/150, 4C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.98**	**178**	Pn	**Pn**	**23 40 12.9**	**+0.4**
	5.2nm,0.3s,baz=350,slow=14,SNR=56						
SNAA				Sn	**Sn**	**23 42 51.5**	**-18**
	0.4nm,0.3s,baz=305,slow=22,SNR=2.2						
SNAA				LR	LR	23 44 54.8	
	comp=Z,6μm,20.1s,baz=2.4,slow=32						
SNAA				T		23 55 45.8	
	0.8nm,0.3s,baz=19,slow=20,SNR=3.5						
SNAA	**Sanae**	**15.98**	**178**	*e*Pn	**Pn**	**23 40 13.4**	**+0.9**
	301nm,1.1s						
SNAA				*e*Sn	**Sn**	**23 42 55.0**	**-15**
SNAA	**Sanae**	**15.98**	**178**	*e*P	**Pn**	**23 40 13.4**	**+0.9**
SNAA				pmax	pmax		
	comp=Z,300nm,1.1s						
SYO	**Syowa Base**	**23.58**	**141**	⇑*e*pP	pP	23 41 42.1	+0.5
SYO	**Syowa Base**	**23.58**	**141**	⇓*e*P	**P**	**23 41 37.6**	**-1.0**
SYO				⇑*e*pP		23 41 42.1	
SUR	**Sutherland**	**29.20**	**47**	LR	LR	23 51 19.4	
	comp=Z,12μm,20.4s,MS5.5,baz=206,slow=30						
SUR	**Sutherland**	**29.20**	**47**	PFAKE		23 42 40.0	+11
SUR				LR	LR		
	comp=Z,13μm,20.0s,MS5.5						
EFI	**East Falkland**	**31.44**	**255**	PFAKE		23 43 00.0	+11
EFI				LR	LR		
	comp=Z,4μm,22.0s,MS5.0						
MAW	**Mawson**	**32.19**	**138**	LR	LR	23 54 05.6	
	comp=Z,6μm,18.1s,MS5.3,baz=270,slow=33						
BOSA	**Boshof**	**34.35**	**50**	P	**P**	**23 43 14.9**	**+0.3**
	comp=Z,4.8nm,0.9s,mb4.4,baz=180,slow=14,SNR=3.6						
BOSA				LR	LR	23 55 10.5	
	comp=Z,4μm,19.2s,MS5.2,baz=210,slow=33						
BOSA	**Boshof**	**34.35**	**50**	*e*P	**P**	**23 43 15.1**	**+0.5**
	comp=Z,40nm,1.3s,mb5.2						
BOSA				*e*		23 43 26.8	
BOSA				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
BOSA	**Boshof**	**34.35**	**50**	*e*P	**P**	**23 43 15.1**	**+0.5**
BOSA				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.2						
BOSA				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.3						
QSPA	**South Pole Qui**	**34.48**	**180**	*e*P	**P**	**23 43 16.6**	**+0.9**
	comp=Z,28nm,0.9s,mb5.2						
USHA	**Ushuaia**	**35.40**	**244**	LR	LR	23 53 51.1	
	comp=Z,6μm,21.9s,MS5.3,baz=95,slow=30						
LBTB	**Lobatse**	**37.65**	**48**	P	**P**	**23 43 41.8**	**-1.1**
	comp=Z,5.7nm,1.0s,mb4.2,baz=177,slow=15,SNR=3.0						
LBTB	**Lobatse**	**37.65**	**48**	*e*P	**P**	**23 43 42.1**	**-0.8**
	comp=Z,71nm,1.7s,mb5.1						
LBTB				*e*		23 43 54.2	
LBTB				LR	LR		
	comp=Z,11μm,19.0s,MS5.7						
LBTB	**Lobatse**	**37.65**	**48**	*e*P	**P**	**23 43 42.1**	**-0.7**
LBTB				pmax	pmax		
	comp=Z,71nm,1.6s,mb5.2						
LBTB				MLR	MLR		
	comp=Z,11μm,19.0s,MS5.7						
SHEL	**Horse Pasture**	**39.75**	**358**	PFAKE		23 44 10.0	+10
SHEL				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
TSUM	**Tsumeb**	**40.04**	**33**	P	**P**	**23 44 04.3**	**+1.4**
	comp=Z,8.3nm,0.9s,mb4.5,baz=198,slow=12,SNR=6.1						
TSUM	**Tsumeb**	**40.04**	**33**	*e*P	**P**	**23 44 03.8**	**+0.9**
	comp=Z,37nm,1.3s,mb5.0						
TSUM				LR	LR		
	comp=Z,8μm,20.0s,MS5.5						
CAM4	**Nova Friburgo**	**43.75**	**304**	⇑*i*P	**P**	**23 44 33.0**	**-0.2**
CAM4				*i*		23 44 40.2	
CAM4				*i*		23 44 55.1	
CAM3	**Guarapari**	**44.22**	**307**	⇑*i*P	**P**	**23 44 36.8**	**-0.2**
CAM3				*i*	pP	23 44 38.7	-1.4
CAM3				*i*		23 44 46.8	
PLCA	**Paso Flores**	**44.87**	**261**	P	**P**	**23 44 41.5**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.8,baz=170,slow=23,SNR=2.4						
PLCA				LR	LR	00 00 06.9	
	comp=Z,952nm,21.4s,MS4.7,baz=306,slow=32						
PLCA	**Paso Flores**	**44.87**	**261**	*e*P	**P**	**23 44 44.4**	**+2.2**
	comp=Z,21nm,1.4s,mb4.8						
PLCA				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
SBA	**Scott Base**	**46.52**	**177**	PFAKE		23 45 10.0	+15
SBA				LR	LR		
	comp=Z,7μm,20.0s,MS5.6						
VNDA	**Vanda**	**46.69**	**176**	P	**P**	**23 44 56.8**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.5,baz=222,slow=7.5,SNR=5.6						
VNDA				LR	LR	00 03 26.2	
	comp=Z,7μm,18.2s,MS5.7,baz=195,slow=35						
VNDA	**Vanda**	**46.69**	**176**	*e*P	**P**	**23 44 56.8**	**+0.2**
	comp=Z,19nm,0.9s,mb5.0						
VNDA				LR	LR		
	comp=Z,6μm,20.0s,MS5.6						
LSZ	**Lusaka**	**47.43**	**45**	P	**P**	**23 45 03.1**	**+0.7**
	comp=Z,1.5nm,0.5s,mb4.2,baz=196,slow=12,SNR=5.7						
LSZ	**Lusaka**	**47.43**	**45**	*e*P	**P**	**23 45 02.0**	**-0.4**
	comp=Z,108nm,2.3s,mb5.4						
LSZ				LR	LR		
	comp=Z,13μm,20.0s,MS5.9						
LSZ	**Lusaka**	**47.43**	**45**	*e*P	**P**	**23 45 02.0**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,110nm,2.3s,mb5.4						
LSZ				MLR	MLR		
	comp=Z,13μm,20.0s,MS5.9						
ASCN	**Ascension**	**48.38**	**347**	PFAKE		23 45 20.0	+10
ASCN				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
CASY	**Casey**	**48.80**	**151**	*e*P	**P**	**23 45 13.0**	**+0.1**
	comp=Z,67nm,1.4s,mb5.5						
CASY				LR	LR		
	comp=Z,9μm,19.0s,MS5.8						
FCH	**Farellones**	**49.98**	**268**	*e*P	**P**	**23 45 23.2**	**+1.3**
CFAA	**Coronel Fontan**	**50.09**	**271**	P	**P**	**23 45 21.8**	**-1.0**
	comp=Z,1.4nm,0.9s,mb4.0,baz=139,slow=7.4,SNR=12						
BDFB	**Brasilia**	**52.11**	**302**	P	**P**	**23 45 37.5**	**-0.5**
	comp=Z,18nm,1.0s,mb4.9,baz=145,slow=4.5,SNR=15						
BDFB				LR	LR	00 03 34.8	
	comp=Z,2μm,21.5s,MS5.2,baz=347,slow=31						
DRV	**Dumont d'Urvil**	**54.97**	**163**	S	**S**	**23 53 47.0**	**+6.2**
DRV				SS	SS	23 57 25.0	+0.7
DRV				R		00 03 00.0	
RCBR	**Riachuelo**	**55.83**	**321**	PFAKE		23 46 20.0	+15
RCBR				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
SIV	**San Ignacio**	**58.46**	**289**	P	**P**	**23 46 22.5**	**-1.2**
	comp=Z,3.5nm,0.8s,mb4.4,baz=146,slow=6.9,SNR=9.2						
LPAZ	**La Paz**	**62.05**	**282**	P	**P**	**23 46 48.9**	**+0.6**
	comp=Z,9.6nm,0.9s,mb4.9,baz=126,slow=7.6,SNR=24						
LPAZ				LR	LR	00 12 31.0	

comp=Z,669nm,18.8s,MS4.8,baz=133,slow=35
LPAZ La Paz 62.05 282 *e*P **P 23 46 48.2 -0.2**
comp=Z,43nm,1.4s,mb5.4
LPAZ LR LR
comp=Z,1μm,21.0s,MS5.0
DBIC Dimbokro 62.22 359 P **P 23 46 49.5 0.0**
comp=Z,10nm,1.1s,mb4.9,baz=161,slow=5.3,SNR=4.3
DBIC LR 00 08 40.5
comp=Z,2μm,18.6s,MS5.2,baz=161,slow=31
DBIC Dimbokro 62.22 359 P **P 23 46 47.2 -2.3**
comp=Z,40nm,1.3s,mb5.4
DBIC LR LR
comp=Z,2μm,21.0s,MS5.2
KMBO Kilima Mbogo 63.93 47 P **P 23 47 02.7 +1.9**
comp=Z,0.5nm,0.3s,mb4.0,baz=223,slow=18,SNR=4.7
KMBO LR LR 00 11 47.6
comp=Z,7μm,19.6s,MS5.9,baz=185,slow=33
KMBO Kilima Mbogo 63.93 47 *e*P **P 23 47 04.5 +3.6**
comp=Z,28nm,1.8s,mb5.0
KMBO LR LR
comp=Z,5μm,19.0s,MS5.7
SAML Samuel 65.45 291 *e*P **P 23 47 10.2 -0.6**
comp=Z,11nm,1.0s,mb4.9
SAML LR LR
comp=Z,2μm,21.0s,MS5.3
TORD Torodi Ar. Bea 68.83 6 P **P 23 47 32.5 +0.2**
comp=Z,2.0nm,0.9s,mb4.1,baz=195,slow=4.5,SNR=12
NNA Nana 70.40 278 PFAKE 23 47 50.0 +8.1
NNA LR LR
comp=Z,1μm,22.0s,MS5.1
DGAR Diego Garcia 76.42 83 PFAKE 23 48 30.0 +13
DGAR LR LR
comp=Z,4μm,22.0s,MS5.7
NWAO Narrogin (SRO) 78.56 133 P **P 23 48 29.2 -0.2**
comp=Z,9.9nm,1.0s,mb4.7,baz=178,slow=7.9,SNR=2.5
NWAO Narrogin (SRO) 78.56 133 P **P 23 48 29.2 -0.2**
NWAO LR LR
comp=Z,3μm,22.0s,MS5.5
NWAO Narrogin (SRO) 78.56 133 P **P 23 48 33.5 +4.1**
NWAO pmax pmax
comp=Z,20nm,1.0s
TAU Tasmania Unive 78.78 159 PFAKE 23 48 40.0 +9.4
TAU LR LR
comp=Z,4μm,20.0s,MS5.8
RPZ Rata Peaks 80.81 177 LR LR 00 21 53.0
comp=Z,3μm,18.2s,MS5.6,baz=349,slow=34
OTAV Otavalo 81.36 283 *e*P **P 23 48 47.0 +2.5**
comp=Z,28nm,1.4s,mb5.0
OTAV LR LR
comp=Z,806nm,20.0s,MS5.1
ROSC El Rosal 82.98 289 LR LR 00 25 13.1
comp=Z,2μm,19.4s,MS5.4,baz=180,slow=35
SNZO South Karori 83.29 179 PFAKE 23 49 10.0 +15
SNZO LR LR
comp=Z,2μm,19.0s,MS5.6
SDV Santo Domingo 84.44 295 LR LR 00 24 07.1
comp=Z,2μm,20.1s,MS5.4,baz=165,slow=34
SDV Santo Domingo 84.44 295 PFAKE 23 49 10.0 +10
SDV LR LR
comp=Z,1μm,20.0s,MS5.3
COCO West Island 86.15 106 PFAKE 23 49 20.0 +11
COCO LR LR
comp=Z,2μm,20.0s,MS5.4
PAYG Puerto Ayora 87.22 273 PFAKE 23 49 30.0 +16
PAYG LR LR
comp=Z,1μm,21.0s,MS5.3
PTCN Pitcairn Islan 87.29 227 PFAKE 23 49 30.0 +15
PTCN LR LR
comp=Z,3μm,22.0s,MS5.6
STKA Stephens Creek 87.95 151 P **P 23 49 15.7 -2.1**
comp=Z,4.1nm,0.9s,mb4.7,baz=159,slow=6.7,SNR=3.0
STKA LR LR 00 26 47.0
comp=Z,2μm,20.5s,MS5.5,baz=192,slow=34
STKA Stephens Creek 87.95 151 *e*P **P 23 49 15.8 -2.0**
MBWA Marble Bar 89.92 129 PFAKE 23 49 40.0 +13
MBWA LR LR
comp=Z,3μm,19.0s,MS5.7
SJG San Juan 90.11 303 LR LR 00 27 09.1
comp=Z,1μm,19.9s,MS5.4,baz=172,slow=34
SJG San Juan 90.11 303 PFAKE 23 49 40.0 +12
SJG LR LR
comp=Z,1μm,20.0s,MS5.4
RKT Rikitea 91.00 224 *e*PP PP 23 52 57.8 -10
comp=Z,122nm,30.0s
RKT Rikitea 91.00 224 *e*PS PS 00 01 33.7 -4.7
comp=Z,920nm,27.2s
RKT Rikitea 91.00 224 *e*SS SS 00 06 36.0 +3.2
comp=Z,1μm,29.2s
RKT *e*LR LR 00 18 35.3
comp=Z,3μm,35.8s
EIL Elat 91.43 33 *e*P **P 23 49 37.5 +3.5**
comp=Z,300nm,1.5s
PALK Pallekele 93.11 82 PFAKE 23 49 50.0 +8.2
PALK LR LR
comp=Z,2μm,22.0s,MS5.6
ASAR Alice Springs 93.24 142 P **P 23 49 41.6 -0.8**
comp=Z,0.9nm,0.8s,mb4.2,baz=202,slow=5.8,SNR=5.7
JTS JuntasAbangare 93.26 283 LR LR 00 31 29.6
comp=Z,549nm,20.8s,MS5.0,baz=334,slow=36
JTS JuntasAbangare 93.26 283 PFAKE 23 49 50.0 +7.5
JTS LR LR
comp=Z,562nm,20.0s,MS5.0
ESLA Sonseca Array 95.07 0 PFAKE 23 50 00.0 +9.2
ESLA LR LR
comp=Z,10μm,21.0s,MS6.3
RAO Raoul Island 95.15 186 LR LR 00 32 25.4
comp=Z,954nm,18.1s,MS5.3,baz=216,slow=35
TBI Tubuai 95.83 212 *e*LQ 00 16 09.6
comp=Z,1μm,30.2s
TBI Tubuai 95.83 212 *e*PP PP 23 53 48.6 +2.5
comp=Z,90nm,30.5s
TBI Tubuai 95.83 212 *e*PS PS 00 02 23.0 -8.7
comp=Z,817nm,29.8s
TBI Tubuai 95.83 212 *e*PS PS 00 02 24.8 -6.9
comp=Z,2μm,29.5s
TBI Tubuai 95.83 212 *e*SS SS 00 07 36.1 -5.8
comp=Z,1μm,29.5s
TBI *e*LR LR 00 20 32.6
comp=Z,2μm,38.5s
WRAB Tennant Creek 96.84 141 PFAKE 23 50 10.0 +11
WRAB LR LR
comp=Z,3μm,21.0s,MS5.7
PSI Prapat 99.70 99 LR LR 00 25 39.0
comp=Z,987nm,20.8s,MS5.3,baz=273,slow=30
ANTO Ankara 100.34 28 PFAKE 23 50 30.0 +15
ANTO LR LR
comp=Z,1μm,21.0s,MS5.4
CTAO Charters Tower 100.40 152 PFAKE 23 50 30.0 +15
CTAO LR LR
comp=Z,1815μm,21.0s
BR131 Keskin Array S 100.43 29 PFAKE 23 50 30.0 +15
BR131 LR LR
comp=Z,1μm,20.0s,MS5.4
RAR Rarotonga 100.56 203 PFAKE 23 50 30.0 +14
RAR LR LR
comp=Z,1.0nm,22.0s
BBSR BB Station 101.76 311 PFAKE 23 50 30.0 +9.1
BBSR LR LR
comp=Z,1μm,22.0s,MS5.4
TEIG Tepich 103.21 286 PFAKE 23 50 40.0 +13
TEIG LR LR
comp=Z,113nm,22.0s
GNI Garni 104.21 37 PFAKE 23 50 40.0 +8.2
GNI LR LR
comp=Z,3μm,19.0s,MS5.8
DWPF Disney 106.03 296 PFAKE 23 55 00.0 +8.0
DWPF LR LR
comp=Z,1μm,22.0s,MS5.4
KIV Kislovodsk 106.97 33 PFAKE 23 55 00.0 +6.3
KIV LR LR
comp=Z,2μm,20.0s,MS5.6
CLL Collm 107.66 11 *e*PP PP 23 55 17.4 +2.2
CLL *e*Sdiff Sdif 00 02 54.9 +3.3
CLL *e*PS PS 00 04 48.4 +11
CLL *e*SS SS 00 10 36.6 +11
CLL *e*SSS 00 14 33.9
CLL *e*LR LR 00 28 06.5
CLL *e*L 00 36 40.3
comp=Z,818nm,22.0s
CLL Collm 107.66 11 *e*PP PP 23 55 18.0 +2.8
CLL *e*PS PS 00 04 43.0 +5.7
CLL *e*SS SS 00 10 37.0 +11
CLL *e*PSPS 00 11 24.0
CLL *e*SSS 00 14 24.0
CLL LmV 00 41 00.0
comp=Z,1μm,18.8s

NHSC New Hope 109.47 300 PFAKE 23 55 10.0 +12
NHSC LR LR
comp=Z,1μm,21.0s,MS5.4
ESK Eskdalemuir 110.73 1 PFAKE 23 55 10.0 +9.3
ESK LR LR
comp=Z,933nm,20.0s,MS5.4
PMG Port Moresby 110.83 150 PFAKE 23 55 10.0 +9.1
PMG LR LR
comp=Z,2μm,20.0s,MS5.6
CBN Corbin 112.27 305 PFAKE 23 55 10.0 +6.3
CBN LR LR
comp=Z,1μm,20.0s,MS5.4
LRAL Lakeview Retre 112.82 295 PFAKE 23 55 20.0 +15
LRAL LR LR
comp=Z,1μm,21.0s,MS5.4
BLA Blacksburg 112.90 303 PFAKE 23 55 20.0 +15
BLA LR LR
comp=Z,80nm,20.0s
WES Weston 113.03 312 PFAKE 23 55 20.0 +15
WES LR LR
comp=Z,1μm,21.0s,MS5.4
HRV Harvard--Oak R 113.22 312 PFAKE 23 55 20.0 +15
HRV LR LR
comp=Z,1μm,21.0s,MS5.4
HNR Honiara 113.71 163 PFAKE 23 55 20.0 +14
HNR LR LR
comp=Z,1μm,21.0s,MS5.6
MCWV Mont Chateau 114.59 305 PFAKE 23 55 20.0 +12
MCWV LR LR
comp=Z,1μm,21.0s,MS5.6
LBNH Lisbon 114.80 313 PFAKE 23 55 20.0 +12
LBNH LR LR
comp=Z,1μm,21.0s,MS5.5
BINY Binghamton 114.88 309 PFAKE 23 55 20.0 +11
BINY LR LR
comp=Z,1μm,19.0s,MS5.6
PLAL Pickwick Lake 114.91 296 PFAKE 23 55 20.0 +11
PLAL LR LR
comp=Z,829nm,20.0s,MS5.3
HKT Hockley 115.06 287 PFAKE 23 55 20.0 +11
HKT LR LR
comp=Z,621nm,22.0s,MS5.2
OXF Oxford 115.22 295 PFAKE 23 55 20.0 +11
OXF LR LR
comp=Z,1μm,20.0s,MS5.5
OBN Obninsk 115.43 25 PFAKE 23 55 20.0 +10
OBN LR LR
comp=Z,811nm,20.0s,MS5.3
NCB Newcomb 115.54 311 PFAKE 23 55 20.0 +10
NCB LR LR
comp=Z,767nm,20.0s,MS5.3
KONO Kongsberg 115.59 8 *e*SS SS 00 12 09.1 -2.5
KONO Kongsberg 115.59 8 PFAKE 23 55 20.0 +10
KONO LR LR
comp=Z,1μm,21.0s,MS5.5
WVT Waverly 115.68 297 PFAKE 23 55 20.0 +10
WVT LR LR
comp=Z,821nm,19.0s,MS5.4
NATX Nacogdoches 115.83 289 PFAKE 23 55 20.0 +10
NATX LR LR
comp=Z,791nm,21.0s,MS5.3
FUNA Funafuti 115.88 184 PFAKE 23 55 20.0 +9.4
FUNA LR LR
comp=Z,4μm,19.0s,MS6.0
ACSO Alum Creek Sta 116.51 303 PFAKE 23 55 20.0 +8.2
ACSO LR LR
comp=Z,799nm,22.0s,MS5.3
WCI Wyandotte Cave 116.55 299 PFAKE 23 55 20.0 +8.1
WCI LR LR
comp=Z,774nm,20.0s,MS5.3
ERPA Erie 116.60 306 PFAKE 23 55 20.0 +8.0
ERPA LR LR
comp=Z,1μm,21.0s,MS5.6
NAO01 NORSAR Array S 116.88 8 PFAKE 23 55 20.0 +7.5
NAO01 LR LR
comp=Z,1μm,19.0s,MS5.5
LSA Lhasa 116.92 76 PFAKE 23 55 20.0 +7.4
LSA LR LR
comp=Z,1μm,20.0s,MS5.6
DAV Davao City (W) 117.38 121 PFAKE 23 55 30.0 +17
DAV LR LR
comp=Z,1μm,20.0s,MS5.6
MIAR Mount Ida 117.41 292 PFAKE 23 55 20.0 +6.5
MIAR LR LR
comp=Z,924nm,22.0s,MS5.4
JCT Junction City 117.63 284 PFAKE 23 55 30.0 +16
JCT LR LR
comp=Z,468nm,22.0s,MS5.1
AAK Ala-Archa 118.37 55 PFAKE 23 55 30.0 +15
AAK LR LR
comp=Z,1μm,20.0s,MS5.6
AAM Ann Arbor 118.44 304 PFAKE 23 55 30.0 +14
AAM LR LR
comp=Z,1μm,22.0s,MS5.5
LTX Lajitas 118.88 280 PFAKE 23 55 30.0 +14
LTX LR LR
comp=Z,467nm,20.0s,MS5.1
CCM Cathedral Cave 118.90 296 PFAKE 23 55 30.0 +14
CCM LR LR
comp=Z,697nm,22.0s,MS5.2
QIZ Qiongzhong 119.04 99 PKP PKPdf 23 55 12.2 -4.5
QIZ PP PP 23 56 42.6 +6.5
QIZ LR LR
comp=N,634nm,14.1s,MS5.6
QIZ LR LR
comp=E,705nm,14.4s,MS5.6
QIZ LR LR
comp=Z,1μm,21.5s
QIZ Qiongzhong 119.04 99 PFAKE 23 55 30.0 +13
QIZ LR LR
comp=Z,1μm,22.0s,MS5.5
FINES FINESS Array B 119.28 16 PKP PKPdf 23 55 16.1 -1.0
comp=Z,0.6nm,0.7s,baz=238,slow=2.6,SNR=3.0
KMI Kunming 119.86 89 PKP PKPdf 23 55 17.6 -0.6
WMOK Wichita Mounta 120.33 288 PFAKE 23 55 30.0 +11
WMOK LR LR
comp=Z,505nm,21.0s,MS5.1
BORG Borgarnes 120.90 352 PFAKE 23 55 30.0 +10
BORG LR LR
comp=Z,925nm,19.0s,MS5.4
MNTX Cornudas Mount 121.64 281 PFAKE 23 55 30.0 +8.3
MNTX LR LR
comp=Z,741nm,21.0s,MS5.3
CBKS Cedar Bluff 123.88 291 PFAKE 23 55 40.0 +14
CBKS LR LR
comp=Z,766nm,21.0s,MS5.3
BRVK Borovoye 124.52 45 PFAKE 23 55 40.0 +13
BRVK LR LR
comp=Z,804nm,20.0s,MS5.4
ANMO Albuquerque 124.67 283 PFAKE 23 55 40.0 +13
ANMO LR LR
comp=Z,448nm,20.0s,MS5.1
TUC Tucson 125.11 277 PFAKE 23 55 40.0 +12
TUC LR LR
comp=Z,761nm,19.0s,MS5.4
MKAR Makanchi Array 125.16 57 PKP PKPdf 23 55 28.1 -0.2
comp=Z,0.5nm,0.8s,baz=242,slow=2.1,SNR=5.5
WMQ Urumqi 125.66 63 *e*PKP PKPdf 23 55 28.8 -0.6
WMQ PP PP 23 57 24.9 +3.9
WMQ PKS 23 59 04.1
WMQ PP PP
comp=Z,636nm,10.0s
WMQ LR LR
comp=N,1μm,21.8s,MS5.6
WMQ LR LR
comp=E,1μm,22.0s,MS5.6
WMQ LR LR
comp=Z,1μm,21.8s,MS5.5
SDCO Great Sand Dun 126.19 286 PFAKE 23 55 40.0 +10
SDCO LR LR
comp=Z,763nm,19.0s,MS5.4
KURK Kurchatov 126.30 52 PFAKE 23 55 40.0 +9.4
KURK LR LR
comp=Z,1μm,20.0s,MS5.6
EYMN Ely 126.34 304 PFAKE 23 55 40.0 +9.3
EYMN LR LR
comp=Z,977nm,22.0s,MS5.4
LVZ Lovozero 126.67 17 PFAKE 23 55 40.0 +8.7
LVZ LR LR
comp=Z,2μm,22.0s,MS5.7
KEV Kevo 127.24 13 PFAKE 23 55 40.0 +7.6
KEV LR LR
comp=Z,1μm,20.0s,MS5.7
ENH Enshi 127.62 90 PFAKE 23 55 40.0 +6.9
ENH LR LR

comp=Z,964nm,21.0s,MS5.5
ISCO Idaho Springs 127.73 287 PFAKE 23 55 40.0 +6.7
ISCO LR LR
comp=Z,789nm,20.0s,MS5.4
WUAZ Wupatki 127.81 279 PFAKE 23 55 40.0 +6.5
WUAZ LR LR
comp=Z,629nm,21.0s,MS5.3
LZH Lanzhou 128.74 81 *e*PKP PKPdf 23 55 31.5 -3.7
LZH XPKP 23 55 36.1
LZH *e*PP PP 23 57 42.5 +1.1
LZH PP PP
comp=Z,175nm,7.7s
LZH LR LR
comp=E,725nm,18.5s
LZH LR LR
comp=Z,997nm,20.0s,MS5.5
PFO Pinyon Flat Ob 129.27 274 PFAKE 23 55 50.0 +14
PFO LR LR
comp=Z,482nm,21.0s,MS5.2
RSSD Black Hills 129.92 292 PKPdf PKPdf 23 55 39.1 +1.6
RSSD LR LR
comp=Z,1μm,22.0s,MS5.6
TATO Taipei 130.23 105 PFAKE 23 55 50.0 +12
TATO LR LR
comp=Z,1μm,21.0s,MS5.6
SUMG Summit 130.23 347 *e*PKPdf PKPdf 23 55 40.2 +2.1
MVU Marysvale 130.42 281 PFAKE 23 55 50.0 +12
MVU LR LR
comp=Z,794nm,20.0s,MS5.4
MPU Maple Canyon 131.16 283 PFAKE 23 55 50.0 +10
MPU LR LR
comp=Z,1μm,22.0s,MS5.5
DAC Darwin (Calif) 131.85 275 PFAKE 23 55 50.0 +8.9
DAC LR LR
comp=Z,692nm,22.0s,MS5.3
ISA Isabella 131.90 274 PFAKE 23 55 50.0 +8.8
ISA LR LR
comp=Z,173nm,22.0s,MS4.7
PDAR Pinedale Array 131.93 287 PKP PKPdf 23 55 42.1 +0.8
comp=Z,0.3nm,0.7s,baz=170,slow=7.1,SNR=2.8
BW06 Boulder Array 131.93 287 PFAKE 23 55 50.0 +8.7
BW06 LR LR
comp=Z,948nm,22.0s,MS5.5
DUG Dugway 131.94 283 PFAKE 23 55 50.0 +8.7
DUG LR LR
comp=Z,785nm,22.0s,MS5.4
HWUT Hardware Ranch 132.23 285 PFAKE 23 55 50.0 +8.2
HWUT LR LR
comp=Z,736nm,20.0s,MS5.4
KWAJ Kwajalein Atol 132.71 169 PFAKE 23 55 50.0 +7.2
KWAJ LR LR
comp=Z,2μm,20.0s,MS5.8
AHID Auburn Hatcher 132.76 286 PFAKE 23 55 50.0 +7.1
AHID LR LR
comp=Z,766nm,22.0s,MS5.4
LAO LASA Array 132.79 293 PFAKE 23 55 50.0 +7.1
LAO LR LR
comp=Z,952nm,19.0s,MS5.5
DGMT Dagmar 132.91 296 PFAKE 23 55 50.0 +6.9
DGMT LR LR
comp=Z,904nm,22.0s,MS5.4
TPH Tonopah 132.91 277 PFAKE 23 55 50.0 +6.9
TPH LR LR
comp=Z,550nm,20.0s,MS5.3
LKWY Lake 133.59 289 PFAKE 23 56 00.0 +16
LKWY LR LR
comp=Z,2μm,22.0s,MS5.7
ELK Elko 133.66 281 PFAKE 23 56 00.0 +15
ELK LR LR
comp=Z,919nm,22.0s,MS5.5
MNV Mina 133.69 277 PFAKE 23 56 00.0 +15
MNV LR LR
comp=Z,48nm,22.0s
YMR Madison River 133.96 288 PFAKE 23 56 00.0 +15
YMR LR LR
comp=Z,910nm,21.0s,MS5.5
NJ2 Nanjing 134.24 97 *e*PKP PKPdf 23 55 42.6 -3.0
NJ2 PP PP 23 58 18.0 +1.1
NJ2 PKS 23 59 17.0
NJ2 PP PP
comp=Z,350nm,6.5s
NJ2 LR LR
comp=N,2μm,25.2s,MS6.1
NJ2 LR LR
comp=E,5μm,26.7s,MS6.1
NJ2 LR LR
comp=Z,2μm,22.9s,MS5.9
BMN Battle Mountai 134.55 280 PFAKE 23 56 00.0 +14
BMN LR LR
comp=Z,688nm,21.0s,MS5.3
CMB Columbia Colle 134.66 275 PFAKE 23 56 00.0 +14
CMB LR LR
comp=Z,634nm,20.0s,MS5.3
FCC Fort Churchill 134.70 313 PKPdf PKPdf 23 55 48.2 +1.7
KBS Kingsbay 134.79 4 PFAKE 23 56 00.0 +13
KBS LR LR
comp=Z,796nm,21.0s,MS5.4
SSE Sheshan 134.82 100 *e*PKP PKPdf 23 55 48.4 +1.7
SSE PP PP 23 58 26.1 +5.5
SSE PP PP
comp=Z,62nm,5.1s
SSE LR LR
comp=N,814nm,35.6s,MS5.3
SSE LR LR
comp=E,741nm,35.6s,MS5.3
SSE LR LR
comp=Z,588nm,28.3s
BOZ Bozeman (W) 134.95 289 PFAKE 23 56 00.0 +13
BOZ LR LR
comp=Z,977nm,21.0s,MS5.5
HLID Hailey 135.10 285 PFAKE 23 56 00.0 +13
HLID LR LR
comp=Z,665nm,22.0s,MS5.3
EGMT Eagleton 135.48 293 PFAKE 23 56 00.0 +12
EGMT LR LR
comp=Z,709nm,22.0s,MS5.3
FFC Flin Flon 135.74 305 PFAKE 23 56 00.0 +12
FFC LR LR
comp=Z,1μm,22.0s,MS5.5
HHC Hu-ho-hao-te 136.39 82 *e*PKP PKPdf 23 55 48.0 -1.6
HHC PP PP 23 58 32.4 +2.0
HHC PKS 23 59 23.1
HHC LR LR
comp=N,579nm,21.6s,MS5.4
HHC LR LR
comp=E,390nm,16.7s,MS5.4
HHC LR LR
comp=Z,708nm,22.1s
WVOR Wild Horse Val 136.68 281 PFAKE 23 56 00.0 +10
WVOR LR LR
comp=Z,1μm,21.0s,MS5.6
HOPS Hopland 136.84 274 PFAKE 23 56 00.0 +10
HOPS LR LR
comp=Z,925nm,19.0s,MS5.5
MSO Missoula 136.94 289 PFAKE 23 56 00.0 +9.3
MSO LR LR
comp=Z,614nm,22.0s,MS5.3
MOD Modoc 137.25 279 PFAKE 23 56 00.0 +8.7
MOD LR LR
comp=Z,655nm,19.0s,MS5.4
BMO Blue Mountains 137.52 284 PFAKE 23 56 00.0 +8.3
BMO LR LR
comp=Z,1μm,20.0s,MS5.6
WDC Whiskeytown Da 137.62 276 PFAKE 23 56 00.0 +8.1
WDC LR LR
comp=Z,836nm,22.0s,MS5.4
ZAK Zakamensk 137.95 66 *e*PKIKP PKPdf 23 55 55.2 +2.7
ZAK pmax pmax
comp=Z,11nm,1.8s
SONM Songino Array 138.05 71 PKP PKPdf 23 55 51.6 -1.1
comp=Z,0.4nm,0.7s,baz=243,slow=1.7,SNR=3.8
BJT Baijiatuau 138.41 86 PFAKE 23 56 00.0 +6.6
BJT LR LR
comp=Z,1μm,20.0s,MS5.6
ULN Ulaanbaatar 138.42 71 PFAKE 23 56 00.0 +6.6
ULN LR LR
comp=Z,709nm,21.0s,MS5.4
BJI Beijing 138.43 86 PKP PKPdf 23 55 56.0 +2.6
BJI PP PP 23 58 50.6 +7.4
BJI LR LR
comp=N,458nm,21.7s,MS5.4
BJI LR LR
comp=E,533nm,21.7s,MS5.4
BJI LR LR
comp=Z,989nm,23.1s,MS5.5

YBH	**Yreka Blue Hor**	**138.49**	**277**	PFAKE		23 56 00.0	+6.5
YBH				LR	LR		
comp=Z,787nm,20.0s,MS5.5							
HUMO	**Hull Mountain**	**139.20**	**278**	PFAKE		23 56 10.0	+15
HUMO				LR	LR		
comp=Z,540nm,22.0s,MS5.2							
NEW	**Newport**	**139.53**	**289**	PFAKE		23 56 10.0	+15
NEW				LR	LR		
comp=Z,901nm,21.0s,MS5.5							
HAWA	**Hanford**	**139.70**	**285**	PFAKE		23 56 10.0	+14
HAWA				LR	LR		
comp=Z,65nm,19.0s,MS4.4							
COR	**Corvallis**	**140.66**	**280**	PFAKE		23 56 10.0	+13
COR				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
INCN	**Inchon**	**142.56**	**98**	PFAKE		23 56 10.0	+9.1
INCN				LR	LR		
comp=Z,679nm,21.0s,MS5.4							
RES	**Resolute Bay**	**142.85**	**334**	*e*PKPdf	PKPdf	23 56 03.1	+1.7
WAKE	**Wake Island**	**142.93**	**166**	PFAKE		23 56 10.0	+8.5
WAKE				LR	LR		
comp=Z,914nm,19.0s,MS5.6							
OCWA	**Octopus Mounta**	**143.06**	**283**	PFAKE		23 56 10.0	+8.2
OCWA				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
YKA	**Yellowknife Ar**	**145.29**	**310**	PKPbc	PKPbc	23 56 03.3	-2.1
comp=Z,3.7nm,0.6s,baz=106,slow=3.5,SNR=49							
YKW3	**Yellowknife Ar**	**145.32**	**310**	*e*PKPdf	PKPdf	23 56 03.2	-2.5
HIA	**Hailar**	**146.12**	**77**	*e*PKPdf	PKPdf	23 56 07.7	+0.7
HIA				LR	LR		
comp=Z,1μm,20.0s,MS5.7							
CN2	**Changchun**	**146.12**	**89**	*e*PKP	PKPdf	23 56 03.8	-3.3
CN2				PKP2	PKPab	23 56 07.6	-1.0
CN2				*e*APKP		23 56 13.5	
CN2				*e*PP	PP	23 59 30.7	+0.9
CN2				PP	PP		
comp=Z,200nm,6.0s							
CN2				LR	LR		
comp=N,700nm,20.0s,MS5.5							
CN2				LR	LR		
comp=E,500nm,20.0s,MS5.5							
CN2				LR	LR		
comp=Z,900nm,21.0s,MS5.5							
BOD	**Bodaibo**	**147.14**	**60**	*e*PKP2	PKPab	23 56 09.3	-3.3
BOD				pmax	pmax		
comp=Z,10.0nm,1.0s							
BOD				pmax	pmax		
comp=Z,21nm,1.0s							
MAJO	**Matsushiro**	**148.19**	**111**	*e*PKPbc	PKPbc	23 56 13.5	-0.3
MAJO				LR	LR		
comp=Z,590nm,22.0s,MS5.3							
MAT	**Matsushiro**	**148.19**	**111**	PKP	PKPdf	23 56 12.2	+1.7
MAT	**Matsushiro**	**148.19**	**111**	*e*PKP2	PKPab	23 56 13.0	-3.8
MJAR	**Matsushiro Arr**	**148.19**	**111**	PKPbc	PKPbc	23 56 12.0	-1.8
comp=Z,2.1nm,0.9s,baz=197,slow=1.9,SNR=5.7							
MDJ	**Mudanjiang**	**148.97**	**91**	PKP	PKPdf	23 56 11.5	-0.3
MDJ				PP	PP	23 59 45.7	-0.8
MDJ				PP	PP		
comp=Z,136nm,3.8s							
MDJ				LR	LR		
comp=N,744nm,34.4s,MS5.3							
MDJ				LR	LR		
comp=E,490nm,39.3s,MS5.3							
MDJ				LR	LR		
comp=Z,509nm,29.5s							
MDJ	**Mudanjiang**	**148.97**	**91**	PFAKE		23 56 20.0	+8.2
MDJ				LR	LR		
comp=Z,713nm,20.0s,MS5.5							
KLR	**Kul'dur**	**152.80**	**85**	*e*PKIKP	PKPdf	23 56 22.8	+5.1
SIT	**Sitka**	**153.37**	**293**	PFAKE		23 56 30.0	+11
SIT				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
INK	**Inuvik**	**154.02**	**319**	PKPbc	PKPbc	23 56 27.4	-0.2
comp=Z,5.3nm,1.0s,baz=127,slow=3.5,SNR=12							
INK	**Inuvik**	**154.02**	**319**	*e*PKIKP	PKPdf	23 56 25.7	+6.2
YAK	**Yakutsk**	**155.83**	**56**	PFAKE		23 56 30.0	+8.1
YAK				LR	LR		
comp=Z,366nm,19.0s,MS5.2							
YSS	**Yuzh-Sakhalins**	**157.76**	**99**	PFAKE		23 56 30.0	+5.6
YSS				LR	LR		
comp=Z,496nm,20.0s,MS5.3							
DIV	**Divide**	**159.41**	**301**	PFAKE		23 56 40.0	+14
DIV				LR	LR		
comp=Z,3μm,22.0s,MS6.1							
ILAR	**Eielson Array**	**159.71**	**311**	PKPab	PKPab	23 57 02.7	-2.7
comp=Z,1.4nm,1.0s,baz=121,slow=2.6,SNR=4.8							
COLA	**College**	**160.10**	**312**	PFAKE		23 56 40.0	+13
COLA				LR	LR		
comp=Z,966nm,20.0s							
MCK	**McKinley**	**160.75**	**309**	PFAKE		23 56 40.0	+12
MCK				LR	LR		
comp=Z,604nm,22.0s							
PMR	**Palmer**	**161.03**	**302**	PFAKE		23 56 40.0	+12
PMR				LR	LR		
comp=Z,1μm,21.0s							
FIB	**Fire Island**	**161.54**	**301**	PFAKE		23 56 40.0	+11
FIB				LR	LR		
comp=Z,1μm,19.0s							
MA2	**Magadan**	**166.12**	**64**	PFAKE		23 56 40.0	+7.0
MA2				LR	LR		
comp=Z,956nm,22.0s							
BILL	**Bilibino**	**166.92**	**16**	PFAKE		23 56 40.0	+6.4
BILL				LR	LR		
comp=Z,333nm,19.0s							
TNA	**Tin City**	**167.39**	**328**	PFAKE		23 56 40.0	+6.1
TNA				LR	LR		
comp=Z,479nm,20.0s							
UNV	**Unalaska Valle**	**169.59**	**267**	PFAKE		23 56 50.0	+15
UNV				LR	LR		
comp=Z,3μm,20.0s							
PET	**Petropavlovsk**	**169.65**	**98**	PFAKE		23 56 50.0	+15
PET				LR	LR		
comp=Z,2μm,22.0s							
ADK	**Adak**	**174.08**	**232**	PFAKE		23 56 50.0	+13
ADK				LR	LR		
comp=Z,1μm,19.0s							

CSEM ***03*** *23:44:22.1±0.2, 3260N×625W, h2km, MD3.8, Error ellipse: s-maj=5.8km s-min=4.0km az=115.0*
CNRM ***03*** *23:44:23.9, 3251N×625W, h0km, MD3.8*
ISCJB ***03*** *23:44:24.0±0.7, 3259N±002×628W±004, h15km±5km, Error ellipse: s-maj=5.6km s-min=3.6km az=48.7*
MDD ***03*** *23:44:24.4±0.4, 3246N×6.19W, h0km, mb4.2/5, Error ellipse: s-maj=6.4km s-min=2.9km az=132.0, PRXIMO*
IGIL ***03*** *23:44:25.3, 3250N×630W, h0km, ML2.8*
INMG ***03*** *23:44:26.1±1.1, 3240N×623W, h20km±8km, ML2.8, Error ellipse: s-maj=9.4km s-min=7.7km az=78.0*

ISC 03 23:44:24.5±0.6, 3254N±003×624W±004, h10km±4km, n40, σ1§29/71, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIB	**El Ksiba**	**0.18**	**77**	P	**Pg**	**23 44 26.5**	**-1.8**
KIB				S	**Sg**	**23 44 31.0**	**+0.1**
KIB	**El Ksiba**	**0.18**	**77**	*i* P	**Pg**	**23 44 26.5**	**-1.8**
TZC	**Tazercounte**	**0.44**	**208**	P	**Pg**	**23 44 31.5**	**-1.6**
TZC				S	**Sg**	**23 44 38.0**	**-0.9**
TZC	**Tazercounte**	**0.44**	**208**	*i* P	**Pg**	**23 44 31.5**	**-1.6**
CZD	**Col de Zad**	**1.13**	**64**	*i* P	**Pb**	**23 44 44.0**	**-2.1**
CZD				*i* S	**Sb**	**23 45 01.0**	**+0.2**
RTC	**Rabat Centre**	**1.54**	**341**	P	**Pn**	**23 44 52.5**	**+0.5**
RTC				S	**Sn**	**23 45 13.5**	**+1.5**
ZFT	**Errachidia**	**1.68**	**107**	*i* P	**Pn**	**23 44 53.0**	**-0.9**
ZFT				*i* S	**Sn**	**23 45 16.0**	**+0.5**
TIO	**Tiouine**	**1.82**	**209**	P	**Pn**	**23 44 56.5**	**+0.6**
TIO				S	**Sn**	**23 45 22.0**	**+2.9**
OUK	**Oukaimeden**	**1.91**	**227**	*i* P	**Pn**	**23 44 57.0**	**-0.1**
OUK				*i* S	**Sn**	**23 45 21.0**	**-0.3**
CIA	**Chichaoua**	**2.34**	**246**	P	**Pn**	**23 45 02.0**	**-1.1**
CIA				S	**Sn**	**23 45 29.0**	**-2.9**
CIA	**Chichaoua**	**2.34**	**246**	*i* P	**Pn**	**23 45 02.0**	**-1.1**
EJIF	**Jimena Fronter**	**3.96**	**9**	P	**Pn**	**23 45 27.2**	**+2.0**
0.8nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**4.20**	**16**	P	**Pn**	**23 45 29.6**	**+1.0**
0.8nm,0.2s,SNR=7.9							
EMIJ				S	**Sn**	**23 46 18.4**	**+0.8**
5.0nm,0.5s,SNR=7.9							
ESPR	**Espera**	**4.33**	**4**	P	**Pn**	**23 45 32.2**	**+1.8**
0.8nm,0.1s,SNR=7.9							
ESPR				S	**Sn**	**23 46 20.8**	**-0.2**
3.1nm,0.2s,SNR=7.9							
ESPR	**Espera**	**4.33**	**4**	S	**Sn**	**23 46 20.8**	**-0.2**
3.1nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**5.09**	**349**	P	**Pn**	**23 45 41.7**	**+0.9**
7.0nm,0.3s,SNR=14							
EGRO				S	**Sn**	**23 46 37.9**	**-1.7**
6.8nm,0.3s							
EGRO	**El Granado**	**5.09**	**349**	P	**Pn**	**23 45 41.7**	**+0.9**
7.0nm,0.3s,SNR=14							
EGRO				S	**Sn**	**23 46 37.9**	**-1.7**
6.8nm,0.3s							
MORF	**Marmelete**	**5.15**	**338**	*e*P	**Pn**	**23 45 41.4**	**-0.3**
MORF				*e*S	**Sn**	**23 46 37.9**	**-3.3**
MORF				*e*S	**Sn**	**23 46 37.9**	**-3.3**
MORF				AML	AML	23 46 43.3	
comp=N,14nm,0.5s							
MORF	**Marmelete**	**5.15**	**338**	P	**Pn**	**23 45 41.4**	**-0.3**
MORF				S	**Sn**	**23 46 37.9**	**-3.3**
MORF	**Marmelete**	**5.15**	**338**	*e*P	**Pn**	**23 45 41.4**	**-0.3**
MORF				*e*S	**Sn**	**23 46 37.9**	**-3.3**
EBER	**Berja**	**5.15**	**31**	P	**Pn**	**23 45 42.8**	**+1.1**
comp=N,4.2nm,0.4s,SNR=4.0							
EBER				S	**Sn**	**23 46 40.7**	**-0.5**
comp=N,12nm,0.8s,SNR=7.9							
EBER	**Berja**	**5.15**	**31**	S	**Sn**	**23 46 40.7**	**-0.5**
comp=N,12nm,0.8s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.23**	**356**	P	**Pn**	**23 45 43.4**	**+0.6**
comp=N,0.9nm,0.3s,SNR=14							
EMIN				S	**Sn**	**23 46 41.5**	**-1.6**
comp=N,3.1nm,0.5s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.23**	**356**	P	**Pn**	**23 45 43.4**	**+0.6**
comp=N,0.9nm,0.3s,SNR=14							
EMIN				S	**Sn**	**23 46 41.5**	**-1.6**
comp=N,3.1nm,0.5s,SNR=7.9							
ELUQ	**Luque**	**5.27**	**17**	P	**Pn**	**23 45 43.9**	**+0.7**
comp=N,0.8nm,0.2s,SNR=4.0							
ELUQ				S	**Sn**	**23 46 44.4**	**+0.3**
comp=N,1.6nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**5.27**	**17**	S	**Sn**	**23 46 44.4**	**+0.3**
comp=N,1.6nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**5.40**	**339**	*e*Pn	**Pn**	**23 45 46.9**	**+1.9**
PTEO				*e*Sn	**Sn**	**23 46 47.1**	**-0.1**
PTEO							
comp=N,10.0nm,0.6s							
PBEJ	**Beja**	**5.64**	**347**	*e*Pn	**Pn**	**23 45 50.6**	**+2.3**
PBEJ				*e*Sn	**Sn**	**23 46 53.2**	**+0.1**
PBEJ							
comp=N,3.6nm,0.3s							
EADA	**Adamuz**	**5.78**	**13**	P	**Pn**	**23 45 50.7**	**+0.4**
comp=N,0.4nm,0.1s,SNR=5.0							
EADA				S	**Sn**	**23 46 54.0**	**-2.6**
comp=N,3.1nm,0.4s							
EQES	**Quesada**	**5.86**	**25**	P	**Pn**	**23 45 52.0**	**+0.6**
comp=N,1.2nm,0.3s,SNR=7.9							
EQES				S	**Sn**	**23 46 57.2**	**-1.4**
comp=N,4.9nm,0.7s,SNR=5.0							
EQES	**Quesada**	**5.86**	**25**	P	**Pn**	**23 45 52.0**	**+0.6**
comp=N,1.2nm,0.3s,SNR=7.9							
EQES				S	**Sn**	**23 46 57.2**	**-1.5**
comp=N,4.9nm,0.7s,SNR=5.0							
EBAN	**Banos Encina**	**5.96**	**19**	P	**Pn**	**23 45 53.6**	**+0.8**
comp=N,1.2nm,0.2s,SNR=4.0							
EBAN				S	**Sn**	**23 46 58.7**	**-2.5**
comp=N,3.1nm,0.5s,SNR=5.0							
MOE	**Montemor**	**6.21**	**345**	*e*Pn	**Pn**	**23 45 58.4**	**+2.1**
MOE				*e*Sn	**Sn**	**23 47 06.7**	**-0.7**
EBAD	**Badajoz**	**6.24**	**354**	P	**Pn**	**23 45 57.5**	**+0.9**
comp=N,2.0nm,0.1s,SNR=18							
EBAD				S	**Sn**	**23 47 06.0**	**-1.9**
comp=N,4.3nm,0.2s							
EBAD	**Badajoz**	**6.24**	**354**	P	**Pn**	**23 45 57.5**	**+0.9**
comp=N,2.0nm,0.1s,SNR=18							
ETOB	**Tobarra**	**7.20**	**31**	P	**Pn**	**23 46 09.9**	**+0.2**
comp=N,0.8nm,0.3s,SNR=7.9							
PTOM	**Tomar**	**7.28**	**347**	*e*Pn	**Pn**	**23 46 12.5**	**+1.6**
PTOM				*e*Sn	**Sn**	**23 47 32.8**	**-0.8**
PCBR	**Castelo Branco**	**7.36**	**353**	*e*Pn	**Pn**	**23 46 13.8**	**+1.8**
PCBR				*e*Sn	**Sn**	**23 47 34.0**	**-1.5**
PCBR							
comp=N,2.8nm,0.6s							
ESDC	**Sonseca Array**	**7.36**	**14**	P	**Pn**	**23 46 11.9**	**0.0**
comp=N,0.5nm,0.1s,baz=195,slow=13,SNR=8.3							
ESDC				S	**Sn**	**23 47 31.2**	**-4.3**
comp=N,1.6nm,0.3s,baz=197,slow=23,SNR=4.0							
ESDC	**Sonseca Array**	**7.36**	**14**	P	**Pn**	**23 46 11.9**	**-0.1**
comp=N,0.5nm,0.1s,SNR=8.3							

IDC ***04*** *00:12:45.6±1.3, 2726S×17620W, h0km, mb3.9/5, mb1 4.2/6, mb1mx4.1/13, mbtmp4.0/6, ML4.7/1, MS3.8/2, Ms1 3.8/2, ms1mx3.4/25, Error ellipse: s-maj=39.8km s-min=24.1km az=129.0*
ISCJB ***04*** *00:12:50.9±1.8, 272S±02×1764W±04, h44km±26km, mb4.0/6, MS4.7/1, Error ellipse: s-maj=63.1km s-min=13.4km az=68.2*
NEIC ***04*** *00:12:51.2±1.1, 2728S×17628W, h35km, mb4.2/1, Error ellipse: s-maj=33.8km s-min=11.6km az=126.0*

ISC 04 00:12:51.8±1.8, 274S±03×1760W±04, h54km±20km, n13, σ0§77/9, mb4.0/6, MS4.7/1, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.50**	**221**	Pn	**Pn**	**00 13 29.3**	**-0.7**
164nm,0.3s,baz=112,slow=18,SNR=7.7							
RAO				Sn	**Sn**	**00 14 00.1**	**+0.8**
104nm,0.3s,baz=90,slow=20,SNR=3.4							
RAO				LR	LR	00 14 15.6	
comp=Z,295nm,18.1s,baz=198,slow=36							
AFI	**Afiamalu**	**13.98**	**17**	Pn	**Pn**	**00 16 07.0**	**0.0**
17nm,0.6s							
CTA	**Charters Tower**	**35.18**	**274**	P	**P**	**00 19 41.3**	**+0.8**
2.4nm,0.6s,mb4.3,baz=91,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**45.09**	**263**	P	**P**	**00 21 01.9**	**-0.6**
0.5nm,0.5s,mb3.6,baz=88,slow=6.4,SNR=8.5							
WRAB	**Tennant Creek**	**45.81**	**268**	*e*P	**P**	**00 21 07.7**	**-0.5**
3.0nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**45.82**	**268**	P	**P**	**00 21 07.1**	**-1.1**
1.1nm,0.6s,mb4.0,baz=107,slow=7.5,SNR=7.2							
MJAR	**Matsushiro Arr**	**76.80**	**324**	P	**P**	**00 24 38.9**	**+1.3**
0.9nm,0.6s,mb3.9,baz=171,slow=6.0,SNR=4.1							
ASAJ	**Asahikawa**	**80.60**	**331**	LR	LR	00 55 15.0	
comp=Z,364nm,21.5s,MS4.7,baz=158,slow=32							
ILAR	**Eielson Array**	**94.61**	**12**	P	**P**	**00 26 06.8**	**+0.1**
0.4nm,0.8s,mb3.9,baz=245,slow=5.6,SNR=3.8							
MKAR	**Makanchi Array**	**117.13**	**311**	PKP	PKPdf	00 31 31.1	+0.4
0.3nm,0.7s,baz=72,slow=2.7,SNR=3.9							
NB2	**NORSAR Subarra**	**145.99**	**354**	PKPa	PKPbc	00 32 26.4	+1.0
comp=Z,0.8nm,0.6s,baz=10,slow=3.0							
NOA	**NORSAR Array B**	**145.99**	**354**	PKPbc	PKPbc	00 32 26.6	+1.1
comp=Z,0.9nm,0.7s,baz=16,slow=4.7,SNR=7.7							
TORD	**Torodi Ar. Bea**	**165.68**	**171**	PKPab	PKPab	00 33 51.5	+2.0
comp=Z,0.5nm,0.8s,baz=222,slow=1.7,SNR=5.6							

IDC ***04*** *00:16:56.3±1.8, 1589S×7543W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, ML3.4/2, Error ellipse: s-maj=54.7km s-min=30.2km az=47.0*
ISCJB ***04*** *00:17:00.7±1.7, 1608S±009×755W±0.1, h51km±16km, mb3.8/5, Error ellipse: s-maj=22.2km s-min=9.0km az=99.9*
NEIC ***04*** *00:17:01.4±0.7, 1601S×7545W, h35km, mb3.5/2, Error ellipse: s-maj=18.5km s-min=8.9km az=57.0*

ISC 04 00:17:01.9±1.6, 161S±01×756W±01, h47km±16km, n14, σ0§89/15, mb3.8/5, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**3.93**	**96**	*e*P	**Pn**	**00 17 58.0**	**-1.7**
ARE				*e*S	**Sn**	**00 18 46.0**	**+1.5**
NNA	**Nana**	**4.24**	**343**	*e*Pn	**Pn**	**00 18 04.6**	**+0.7**
NNA				*e*Sn	**Sn**	**00 18 56.2**	**+4.1**
LPAZ	**La Paz**	**7.14**	**93**	Pn	**Pn**	**00 18 43.1**	**-0.6**
1.3nm,0.3s,baz=273,slow=9.4,SNR=27							
LPAZ				Sn	**Sn**	**00 20 09.4**	**+5.8**
baz=172,slow=21,SNR=1.9							
SIV	**San Ignacio**	**13.93**	**92**	Pn	**Pn**	**00 20 09.3**	**-7.3**
0.1nm,0.3s,baz=295,slow=18,SNR=3.2							
OTAV	**Otavalo**	**16.45**	**350**	Pn	**Pn**	**00 20 49.0**	**-0.3**
4.4nm,1.1s							
CFAA	**Coronel Fontan**	**16.85**	**158**	Pn	**Pn**	**00 20 54.5**	**+0.1**
0.0nm,0.3s,baz=17,slow=14,SNR=1.7							
TRQA	**Tornquist**	**24.97**	**154**	*e*P	**P**	**00 22 21.6**	**+0.6**
1.1nm,0.8s,mb3.4							
SDV	**Santo Domingo**	**25.26**	**11**	P	**P**	**00 22 22.6**	**-1.0**
2.2nm,0.8s,mb3.7,baz=284,slow=12,SNR=2.9							
ULM	**Lac du Bonnet**	**68.41**	**346**	P	**P**	**00 27 58.8**	**0.0**
0.6nm,0.3s,mb4.1,baz=146,slow=8.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**81.70**	**74**	P	**P**	**00 29 15.5**	**+0.2**
2.0nm,0.7s,mb4.2,baz=262,slow=5.6,SNR=19							
YKA	**Yellowknife Ar**	**84.08**	**343**	P	**P**	**00 29 27.8**	**+0.2**
0.5nm,1.1s,mb3.6,baz=139,slow=5.9,SNR=4.6							
YKA	**Yellowknife Ar**	**84.08**	**343**	P	**P**	**00 29 27.8**	**+0.2**
SONM	**Songino Array**	**148.28**	**357**	PKPbc	PKPbc	00 36 45.1	+2.2
0.5nm,0.6s,baz=334,slow=1.8,SNR=4.8							
SONM	**Songino Array**	**148.28**	**357**	PKPbc	PKPbc	00 36 45.1	+2.2

BJI ***04*** *00:19:29.6, 3523N×8946E, h10km, mB4.9, mb4.4, Ms4.5, Msz4.3*
IDC ***04*** *00:19:29.9±0.7, 3521N×8958E, h0km, mb4.0/14, mb1 4.2/17, mb1mx4.1/24, mbtmp4.0/17, ML3.3/3, MS4.2/1, Ms1 4.2/1, ms1mx3.2/31, Error ellipse: s-maj=26.5km s-min=13.8km az=48.0*
NEIC ***04*** *00:19:32.5±0.6, 3538N×8956E, h10km, mb4.2/6, Error ellipse: s-maj=14.6km s-min=9.2km az=223.0*
MOS ***04*** *00:19:33.1±1.1, 3524N×8958E, h33km, mb4.3/17, Error ellipse: s-maj=13.4km s-min=7.8km az=103.5*
ISCJB ***04*** *00:19:34.1±1.2, 3529N±006×8955E±005, h39km±11km, mb4.1/25, MS4.4/4, Error ellipse: s-maj=10.0km s-min=6.7km az=30.2*

ISC 04 00:19:37.1±0.8, 3538N±005×8958E±005, h48km±8km, n68, σ1§19/73, mb4.1/25, MS4.4/4, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.81**	**166**	*e*Pn	**Pn**	**00 21 03.0**	**+2.2**
17nm,0.7s							
LSA	**Lhasa**	**5.81**	**166**	*e*P	**Pn**	**00 21 03.0**	**+2.3**
LSA				pmax	pmax		
comp=Z,17nm,0.7s							
WMQ	**Urumqi**	**8.56**	**351**	*e*P	**Pn**	**00 21 41.0**	**+2.6**
WMQ				LR	LR		
comp=N,3μm,10.2s							
WMQ				LR	LR		
comp=E,3μm,10.2s							
WMQ				LR	LR		
comp=Z,4μm,11.2s							
GTA	**Gaotai**	**9.08**	**61**	*e*P	**Pn**	**00 21 45.0**	**-0.6**
GTA				AP		00 21 51.4	
GTA				XP		00 21 54.0	
GTA				S	**Sn**	**00 23 25.3**	**-1.1**
GTA				XS		00 23 36.7	
GTA				AMB	AMB		
comp=Z,5.0nm,1.1s							
GTA				AMB	AMB		
comp=Z,150nm,5.7s							
GTA				LR	LR		
comp=N,2μm,17.5s							
GTA				LR	LR		
comp=E,1μm,13.3s							
GTA				LR	LR		
comp=Z,1μm,14.1s							
SHL	**Shillong**	**9.97**	**168**	*e*P	**Pn**	**00 21 57.1**	**-0.6**
LZH	**Lanzhou**	**11.62**	**82**	*e*P	**Pn**	**00 22 24.5**	**+4.3**
LZH				XP		00 22 32.2	
MKAR	**Makanchi Array**	**12.66**	**337**	Pn	**Pn**	**00 22 29.8**	**-4.6**
comp=Z,0.2nm,0.3s,baz=152,slow=14,SNR=20							
MKAR				Sn	**Sn**	**00 24 45.9**	**-7.9**
comp=Z,0.1nm,0.3s,baz=156,slow=18,SNR=3.3							
AAK	**Ala-Archa**	**13.78**	**306**	*e*Pn	**Pn**	**00 22 47.9**	**-1.8**
comp=Z,24nm,1.1s							
AAK	**Ala-Archa**	**13.78**	**306**	*e*P	**Pn**	**00 22 47.9**	**-1.8**
AAK				pmax	pmax		
comp=Z,24nm,1.1s							
FRU	**Bishkek**	**13.79**	**307**	*e*P	**Pn**	**00 23 00.0**	**+10**
FRU				MLR	MLR		
comp=Z,2μm,12.0s							
XAN	**Xi'an**	**15.96**	**89**	P	**Pn**	**00 23 20.2**	**+1.8**
XAN				AP	pP	00 23 26.1	-6.2
XAN				AMB	AMB		
comp=Z,14nm,1.3s							
KKAR	**Karatay Array**	**16.65**	**303**	*i* P	**Pn**	**00 23 30.1**	**+3.1**
KKAR				pmax	pmax		
comp=Z,52nm,1.3s							
KURK	**Kurchatov**	**17.27**	**336**	*e*Pn	**Pn**	**00 23 32.7**	**-2.0**
comp=Z,11nm,0.9s							
KURK	**Kurchatov**	**17.27**	**336**	*e*P	**Pn**	**00 23 32.7**	**-2.0**
KURK				pmax	pmax		
comp=Z,11nm,0.9s							
ENH	**Enshi**	**17.48**	**101**	*e*Pn	**Pn**	**00 23 35.4**	**-2.0**
comp=Z,14nm,1.1s							
SONM	**Songino Array**	**17.65**	**40**	P	**Pn**	**00 23 39.6**	**+0.2**
comp=Z,0.1nm,0.3s,baz=230,slow=12,SNR=40							
ZAK	**Zakamensk**	**18.00**	**29**	*e*P	**Pn**	**00 23 38.9**	**-4.9**
ZAK				pmax	pmax		
comp=Z,11nm,1.5s							
ZAK				pmax	pmax		
comp=Z,9.0nm,1.8s							
ULN	**Ulaanbaatar**	**18.01**	**41**	*e*Pn	**Pn**	**00 23 44.2**	**+0.3**
comp=Z,18nm,1.4s							
ULN	**Ulaanbaatar**	**18.01**	**41**	*e*P	**Pn**	**00 23 44.2**	**+0.3**
ULN				pmax	pmax		
comp=Z,18nm,1.4s							
HHC	**Hu-ho-hao-te**	**18.12**	**66**	*e*P	**Pn**	**00 23 46.7**	**+1.4**
HHC				AP	pP	00 23 54.3	-1.9
HHC				PP		00 24 01.9	
HHC				S	**S**	**00 27 04.1**	**-6.1**
HHC				XS	sS	00 27 15.7	-12
HHC				SS		00 27 26.8	
HHC				AMB	AMB		
comp=Z,17nm,0.5s							
HHC				AMB	AMB		
comp=Z,91nm,3.2s							
HHC				LR	LR		
comp=N,1μm,16.5s							
HHC				LR	LR		
comp=E,904nm,15.9s							
HHC				LR	LR		
comp=Z,970nm,18.8s							
MOY	**Mondy**	**18.23**	**23**	*e*P	**Pn**	**00 23 46.7**	**+0.2**
ZAL	**Zalesovo**	**18.86**	**351**	P	**Pn**	**00 23 53.6**	**-0.5**
comp=Z,0.2nm,0.3s,baz=309,slow=12,SNR=15							
ZAL				LR	LR	00 32 24.1	
comp=Z,662nm,18.5s,baz=69,slow=41							
NVS	**Novosibirsk**	**19.96**	**349**	*i* P	**Pn**	**00 24 06.0**	**-1.2**
NVS				pmax	pmax		
comp=Z,18nm,1.9s					

comp=Z,560nm,13.8s,MS4.2
AB31 Akbulak array 25.74 312 *i* P **P 00 25 04.0 +0.9**
AB31 pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
SNY Shenyang 27.22 66 ⇑P **P 00 25 17.3 +0.9**
SNY AMB AMB
comp=Z,19nm,2.0s,mb4.3
SNY LR LR
comp=E,606nm,17.3s
SNY LR LR
comp=Z,846nm,19.6s,MS4.3
AKTK Aktyubinsk 27.33 313 P **P 00 25 16.6 -0.8**
AKTO Aktyubinsk 27.33 313 P **P 00 25 16.6 -0.8**
comp=Z,1.8nm,0.7s,mb3.7,baz=105,slow=16,SNR=4.3
AKTO Aktyubinsk 27.33 313 P **P 00 25 16.6 -0.8**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
BOD Bodaibo 27.74 28 *e*P **P 00 25 20.1 -1.0**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
CN2 Changchun 28.71 62 *e*P **P 00 25 29.7 -0.1**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
KLR Kul'dur 33.67 53 *e*P **P 00 26 11.3 -2.0**
KLR MLR MLR
comp=N,2μm,14.0s,MS5.0
KLR MLR MLR
comp=E,600nm,14.0s,MS5.0
KLR MLR MLR
comp=E,700nm,11.0s
KLR MLR MLR
comp=Z,1μm,11.0s,MS4.9
BRTR Keskin Array B 43.96 293 P **P 00 27 38.8 -0.6**
comp=Z,0.7nm,0.8s,mb3.5,baz=109,slow=7.9,SNR=2.8
BRTR Keskin Array B 43.96 293 P **P 00 27 38.8 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
JOF Joensuu 44.84 326 *e*p **P 00 27 46.8 +0.4**
comp=Z,4.1nm,1.0s,mb4.2
JOF Joensuu 44.84 326 *e*P **P 00 27 46.8 +0.4**
JOF pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
AKASG Malin Array Be 45.43 309 P **P 00 27 50.7 -0.5**
comp=Z,0.2nm,0.3s,mb3.5,baz=81,slow=5.0,SNR=3.9
AKASG Malin Array Be 45.43 309 P **P 00 27 50.7 -0.5**
FINES FINESS Array B 47.11 324 P **P 00 28 04.2 -0.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=101,slow=8.7,SNR=5.7
FINES FINESS Array B 47.11 324 P **P 00 28 04.3 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 48.30 335 P **P 00 28 15.3 +1.7**
comp=Z,2.0nm,0.8s,mb4.2,baz=97,slow=7.7,SNR=5.0
ARCES ARCESS Array B 48.30 335 P **P 00 28 15.3 +1.7**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
BILL Bilibino 52.79 27 *e*P **P 00 28 48.9 +1.5**
comp=Z,10.0nm,1.2s,mb4.6
BILL Bilibino 52.79 27 *e*P **P 00 28 48.9 +1.5**
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
NB2 NORSAR Subarra 54.29 324 P **P 00 28 58.5 +0.1**
comp=Z,2.6nm,0.9s,mb4.2,baz=80,slow=7.9
NOA NORSAR Array B 54.29 324 P **P 00 28 58.5 +0.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=81,slow=7.3,SNR=6.9
NOA NORSAR Array B 54.29 324 P **P 00 28 58.5 +0.1**
NOA pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 55.64 309 P **P 00 29 08.9 +0.7**
comp=Z,1.3nm,0.9s,mb4.0,baz=60,slow=5.3,SNR=7.8
GERES GERESS Array B 55.64 309 P **P 00 29 08.9 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 69.48 135 P **P 00 30 39.4 -1.1**
comp=Z,4.2nm,0.9s,mb4.4,baz=332,slow=6.2,SNR=17
WRA Warramunga Arr 69.48 135 P **P 00 30 39.4 -1.1**
WRA pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 70.90 22 P **P 00 30 48.8 -0.4**
comp=Z,2.7nm,1.0s,mb4.1,baz=301,slow=5.3,SNR=18
ILAR Eielson Array 70.90 22 P **P 00 30 48.8 -0.4**
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ASAR Alice Springs 72.18 138 P **P 00 30 56.4 -0.5**
comp=Z,2.6nm,0.9s,mb4.1,baz=324,slow=6.1,SNR=16
ASAR Alice Springs 72.18 138 P **P 00 30 56.4 -0.5**
ASAR pmax pmax
comp=Z,3.0nm,0.9s
CTA Charters Tower 76.98 126 P **P 00 31 23.9 -0.8**
comp=Z,7.7nm,1.1s,mb4.6,baz=292,slow=4.9,SNR=4.4
CTA Charters Tower 76.98 126 P **P 00 31 24.0 -0.7**
CTA pmax pmax
comp=Z,8.0nm,1.1s
YKA Yellowknife Ar 80.54 11 P **P 00 31 44.1 -0.1**
comp=Z,1.0nm,0.7s,mb3.8,baz=335,slow=5.2,SNR=15
YKA Yellowknife Ar 80.54 11 P **P 00 31 44.1 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 80.81 280 P **P 00 31 45.9 +0.2**
comp=Z,1.7nm,0.9s,mb4.0,baz=50,slow=4.5,SNR=9.6

ISCJB ***04*** *00:37:40.8±0.5,3958N±002×2368E±004,h11km±4km, Error ellipse: s-maj=5.1km s-min=3.9km az=42.7*
NEIC ***04*** *00:37:41.6,3957N×2367E,h6km,MD2.8(ATH), ML3.0(THE),After THE.*
THE ***04*** *00:37:41.6,3957N×2367E,h5km,ML1.9*
CSEM ***04*** *00:37:41.8±0.1,3957N×2367E,h2km,ML1.9,Error ellipse: s-maj=2.8km s-min=2.2km az=111.0*
ATH ***04*** *00:37:42.2,3958N×2351E,h29km±11km,MD2.8/3*
ISC 04 00:37:41.4±0.5,3958N±003×2367E±004,h17km±4km**,n14,** σ**0§98**/26**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.35**	**1**	*e*Pg	**Pg**	**00 37 48.8**	**+0.1**
PAIG				*e*Sg	**Sg**	**00 37 54.2**	**+0.7**
XOR	**Xorichti**	**0.43**	**240**	*e*Pg	**Pg**	**00 37 50.2**	**0.0**
XOR				*e*Sg	**Sg**	**00 37 55.9**	**-0.1**
AOS	**Alonnisos**	**0.44**	**159**	*e*Sg	**Sg**	**00 37 55.9**	**-0.4**
AOS				*e*Sg	**Sg**	**00 38 07.8**	**+11**
NEO	**Neokhori**	**0.44**	**232**	*e*PB	**Pb**	**00 37 50.5**	**-0.2**
NEO				*e*SB	**Sb**	**00 37 56.5**	**-0.5**
PLG	**Polygyros**	**0.81**	**348**	*e*PN	**Pn**	**00 37 56.7**	**-1.2**
PLG				*e*SN	**Sn**	**00 38 09.3**	**-0.2**
LIT	**Litokhoron**	**1.05**	**300**	*e*Pg	**Pg**	**00 38 01.1**	**-0.6**
LIT				*e*Sg	**Sg**	**00 38 15.8**	**+0.3**
LKR	**Lokris**	**1.07**	**210**	*e*PN	**Pn**	**00 38 01.8**	**+0.3**
LOS	**Limnos**	**1.14**	**72**	*e*Pg	**Pg**	**00 38 03.3**	**-0.2**
LOS				*e*Sg	**Sg**	**00 38 19.1**	**+0.7**
AGG	**Agios Georgios**	**1.18**	**242**	*e*Pg	**Pg**	**00 38 03.1**	**-1.1**
AGG				*e*Sg	**Sg**	**00 38 21.0**	**+1.3**
THE	**Thessaloniki**	**1.18**	**333**	*e*Pg	**Pg**	**00 38 03.9**	**-0.4**
THE				*e*Sg	**Sg**	**00 38 21.9**	**+2.2**
SRS	**Serrai**	**1.54**	**358**	*e*Pg	**Pg**	**00 38 08.3**	**-2.7**
SRS				*e*Sg	**Sg**	**00 38 29.9**	**-1.0**
GRG	**Griva**	**1.68**	**325**	*e*Pb	**Pb**	**00 38 10.9**	**-0.9**
GRG				*e*Sb	**Sb**	**00 38 33.1**	**+0.4**
KNT	**Kendrikon**	**1.69**	**340**	*e*Pb	**Pb**	**00 38 11.3**	**-0.6**
KNT				*e*Sb	**Sb**	**00 38 34.5**	**+1.7**
APE	**Apeiranthos**	**2.90**	**149**	*e*Pn	**Pn**	**00 38 28.6**	**+1.9**

IDC ***04*** *00:40:19.8±0.8,5355N×16435W,h0km,mb4.5/18, mb1 4.5/21,mb1mx4.5/26,mbtmp4.4/21,ML3.9/3,MS2.6/1, Ms1 2.6/1,ms1mx2.4/34,Error ellipse: s-maj=23.5km s-min=12.0km az=161.0*
NEIC ***04*** *00:40:22.4,5329N×16421W,h30km,mb4.8/29, ML4.2(AEIC),After AEIC.*
BJI ***04*** *00:40:22.4,5330N×16420W,h29km,mB5.3,mb4.8,Ms4.9, Msz4.6*
ISCJB ***04*** *00:40:24.0±0.4,5337N±006×16429W±005,h44km, mb4.7/74,MS4.6/7,Error ellipse: s-maj=9.4km s-min=4.2km az=166.8*
MOS ***04*** *00:40:23.0±1.0,5346N×16433W,h33km,mb5.0/44,Error ellipse: s-maj=13.2km s-min=5.5km az=90.1*
SZGRF ***04*** *00:40:31.7,5409N×15967W,h33km,mb4.8,South of Alaska*
ISC 04 00:40:25.8±0.4**,5345N**±006×**16429W**±005**,h46**km**,h46**km±2.1km**:pP-P,n202,**σ**1§05**/207**,mb4.7**/74**,MS4.6**/7**, 13C-9D,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.12**	**309**	*e*P	**Pn**	**00 40 43.8**	**-1.2**
AKLV	**Akutan Long Va**	**1.22**	**306**	P	**Pn**	**00 40 45.1**	**-1.3**
AKLV				S	**Sn**	**00 41 03.5**	**+1.8**
UNV	**Unalaska Valle**	**1.38**	**288**	P	**Pn**	**00 40 47.1**	**-1.4**
UNV				S	**Sn**	**00 41 05.8**	**+0.3**
OKCD	**Okmok Cone D**	**2.29**	**271**	P	**Pn**	**00 40 59.7**	**-1.3**
OKCE	**Okmok Cone E**	**2.32**	**271**	P	**Pn**	**00 41 00.4**	**-1.0**
NIKO	**Nikolski**	**2.79**	**262**	P	**Pn**	**00 41 05.8**	**-2.0**
SDPT	**Sand Point**	**2.93**	**48**	*e*P	**Pn**	**00 41 08.6**	**-1.2**
ATKA	**Atka Island**	**6.14**	**262**	P	**Pn**	**00 41 52.9**	**-0.9**
ADK	**Adak**	**7.70**	**263**	P	**Pn**	**00 42 13.6**	**-1.6**
KDAK	**Kodiak Island**	**7.92**	**52**	Pn	**Pn**	**00 42 14.9**	**-3.3**
	2.4nm,0.3s,baz=267,slow=7.6,SNR=21						
KDAK				Sn	**Sn**	**00 43 38.7**	**-7.8**
	2.4nm,0.3s,baz=160,slow=22,SNR=5.0						
KDAK	**Kodiak Island**	**7.92**	**52**	P	**Pn**	**00 42 15.3**	**-2.9**
SLKM	**Skilak Lake**	**10.42**	**42**	*e*Pn	**Pn**	**00 42 51.3**	**-1.2**
SML	**Sawmill**	**11.94**	**39**	*e*Pn	**Pn**	**00 43 10.4**	**-2.8**
SML				*e*Sn	**Sn**	**00 45 33.9**	**+9.0**
TNA	**Tin City**	**12.29**	**353**	*e*Pn	**Pn**	**00 43 19.2**	**+1.2**
	7.9nm,1.0s						
MCK	**McKinley**	**13.01**	**32**	*e*Pn	**Pn**	**00 43 25.4**	**-2.4**
	4.9nm,0.8s						
MCK	**McKinley**	**13.01**	**32**	*e*P	**Pn**	**00 43 25.4**	**-2.4**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FX1	**Attu Island--F**	**13.53**	**277**	Pn	**Pn**	**00 43 36.2**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=85,slow=18,SNR=8.8						
FX1				LR	LR	00 48 00.3	
	comp=Z,25nm,20.7s,baz=308,slow=34						
ILAR	**Eielson Array**	**14.38**	**31**	Pn	**Pn**	**00 43 41.7**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=229,slow=12,SNR=14						
DAWY	**Dawson**	**16.60**	**40**	*e*Pn	**Pn**	**00 44 12.3**	**-2.8**
INK	**Inuvik**	**20.77**	**32**	P	**P**	**00 44 59.9**	**-2.9**
	comp=Z,4.5nm,0.5s,baz=239,slow=10,SNR=47						
INK	**Inuvik**	**20.77**	**32**	*e*Pn	**P**	**00 45 00.0**	**-2.7**
	comp=Z,23nm,0.5s						
INK	**Inuvik**	**20.77**	**32**	*e*P	**P**	**00 45 00.0**	**-2.7**
INK				pmax	pmax		
	comp=Z,23nm,0.5s						
SEY	**Seymchan**	**24.26**	**310**	⇑*e*P	**P**	**00 45 37.9**	**-0.6**
MA2	**Magadan**	**25.14**	**302**	*e*P	**P**	**00 45 45.7**	**-0.7**
MA2				*e*		00 51 19.1	
MA2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
YKW3	**Yellowknife Ar**	**27.18**	**51**	*e*P	**P**	**00 46 05.2**	**+0.3**
YKA	**Yellowknife Ar**	**27.19**	**51**	P	**P**	**00 46 04.6**	**-0.4**
	comp=Z,3.9nm,0.8s,mb4.0,baz=274,slow=9.8,SNR=47						
YKA				PcP	PcP	00 49 22.4	-1.9
	comp=Z,0.4nm,0.7s,baz=298,slow=3.4,SNR=4.2						
YKA	**Yellowknife Ar**	**27.19**	**51**	P	**P**	**00 46 04.6**	**-0.4**
YKA						00 49 22.4	
EDM	**Edmonton**	**29.89**	**70**	*e*P	**P**	**00 46 28.2**	**-0.8**
RES	**Resolute Bay**	**34.05**	**26**	*e*P	**P**	**00 47 04.4**	**-1.1**
	comp=Z,4.0nm,0.9s,mb4.3						
RES	**Resolute Bay**	**34.05**	**26**	*e*P	**P**	**00 47 04.4**	**-1.1**
RES				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
NVAR	**Mina Array Bea**	**34.67**	**97**	P	**P**	**00 47 12.5**	**+1.7**
	comp=Z,1.9nm,0.8s,mb4.1,baz=295,slow=8.6,SNR=10						
ASAJ	**Asahikawa**	**35.46**	**277**	P	**P**	**00 47 14.1**	**-3.6**
	comp=Z,20nm,0.8s,mb5.1,baz=12,slow=4.3,SNR=8.8						
FCC	**Fort Churchill**	**37.86**	**53**	*e*P	**P**	**00 47 37.9**	**-0.2**
	comp=Z,18nm,1.2s,mb4.7						
FCC				*e*pP	pP	00 47 50.0	-0.3
FCC	**Fort Churchill**	**37.86**	**53**	*e*P	**P**	**00 47 37.9**	**-0.1**
FCC				*e**PP	pP	00 47 50.0	-0.4
FCC				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.7						
ULM	**Lac du Bonnet**	**40.91**	**66**	P	**P**	**00 48 01.9**	**-1.6**
	comp=Z,3.5nm,0.9s,mb4.0,baz=301,slow=7.8,SNR=6.5						
ULM	**Lac du Bonnet**	**40.91**	**66**	P	**P**	**00 48 01.9**	**-1.6**
MAJO	**Matsushiro**	**42.79**	**271**	*e*P	**P**	**00 48 18.6**	**-0.3**
	comp=Z,9.0nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**42.79**	**271**	*e*P	**P**	**00 48 18.6**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
MAT	**Matsushiro**	**42.79**	**271**	P	**P**	**00 48 18.6**	**-0.2**
MAT	**Matsushiro**	**42.79**	**271**	*e*P	**P**	**00 48 19.0**	**+0.2**
	comp=Z,7.3nm,0.6s,mb4.6						
MAT	**Matsushiro**	**42.79**	**271**	*e*P	**P**	**00 48 19.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
MDJ	**Mudanjiang**	**42.79**	**286**	P	**P**	**00 48 17.6**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,102nm,6.5s						
MDJ				LR	LR		
	comp=N,318nm,30.5s,MS4.3						
MDJ				LR	LR		
	comp=E,494nm,29.0s,MS4.3						
MDJ				LR	LR		
	comp=Z,448nm,24.7s,MS4.3						
MJAR	**Matsushiro Arr**	**42.79**	**271**	P	**P**	**00 48 18.2**	**-0.7**
	comp=Z,3.1nm,0.9s,mb4.0,baz=348,slow=12,SNR=5.2						
BOD	**Bodaibo**	**43.69**	**310**	*e*P	**P**	**00 48 24.2**	**-1.9**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
CN2	**Changchun**	**45.66**	**288**	*e*P	**P**	**00 48 40.7**	**-1.1**
CN2				*e*AP	pP	00 48 52.6	-1.7
CN2				*e*S	**S**	**00 55 18.7**	**-2.6**
CN2				SCS	ScS	00 58 32.5	-1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=E,400nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=Z,900nm,19.0s,MS4.7						
FRB	**Frobisher Bay**	**46.28**	**38**	P	**P**	**00 48 46.3**	**-0.4**
	comp=Z,15nm,0.6s,mb5.1,baz=308,slow=10,SNR=17						
DAG	**Danmarks Havn**	**48.23**	**10**	⇑*i*P	**P**	**00 49 01.3**	**-0.6**
	comp=Z,4.0nm,0.6s,mb4.6						
DAG	**Danmarks Havn**	**48.23**	**10**	⇑*e*P	**P**	**00 49 01.3**	**-0.6**
	comp=Z,4.0nm,0.6s,mb4.6						
DAG	**Danmarks Havn**	**48.23**	**10**	⇑*e*P	**P**	**00 49 01.3**	**-0.6**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
WMOK	**Wichita Mounta**	**48.79**	**85**	*e*P	**P**	**00 49 05.4**	**-0.8**
	comp=Z,4.7nm,0.8s,mb4.6						
WMOK				*e*pP	pP	00 49 19.0	+0.1
WMOK	**Wichita Mounta**	**48.79**	**85**	*e*P	**P**	**00 49 05.4**	**-0.8**
WMOK				*e**PP	pP	00 49 19.0	+0.2
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
SUMG	**Summit**	**48.80**	**19**	*e*P	**P**	**00 49 06.9**	**+0.6**
	comp=Z,26nm,0.8s,mb5.3						
SUMG				*e*pP	pP	00 49 18.5	-0.5
SFJD	**Kangerlussuaq**	**50.02**	**28**	P	**P**	**00 49 15.5**	**0.0**
	comp=Z,12nm,0.9s,mb4.9,baz=309,slow=5.0,SNR=6.7						
SFJD	**Kangerlussuaq**	**50.02**	**28**	*i* P	**P**	**00 49 16.1**	**+0.6**
	comp=Z,19nm,0.9s,mb5.1						
SFJD	**Kangerlussuaq**	**50.02**	**28**	*i* P	**P**	**00 49 16.1**	**+0.6**
SFJD				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
ULN	**Ulaanbaatar**	**52.99**	**303**	*e*P	**P**	**00 49 37.3**	**-0.4**
	comp=Z,16nm,0.9s,mb5.0						
ULN				*e*pP	pP	00 49 49.7	-0.9
ULN	**Ulaanbaatar**	**52.99**	**303**	*e*P	**P**	**00 49 37.3**	**-0.5**
ULN				*e**PP	pP	00 49 49.7	-0.9
ULN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SONM	**Songino Array**	**53.34**	**303**	P	**P**	**00 49 40.4**	**+0.1**
	comp=Z,8.5nm,0.9s,mb4.7,baz=37,slow=8.4,SNR=64						
SONM				PcP	PcP	00 50 48.4	+1.0
	comp=Z,1.7nm,0.8s,baz=58,slow=1.9,SNR=3.0						
MOY	**Mondy**	**53.39**	**309**	*e*P	**P**	**00 49 40.6**	**-0.1**
SCO	**Scoresbysund**	**53.44**	**15**	*i* P	**P**	**00 49 41.8**	**+0.7**
	comp=Z,4.5nm,0.7s,mb4.5						
SCO	**Scoresbysund**	**53.44**	**15**	*i* P	**P**	**00 49 41.8**	**+0.7**
SCO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
WVT	**Waverly**	**54.28**	**76**	*e*P	**P**	**00 49 46.0**	**-1.2**
	comp=Z,4.5nm,0.6s,mb4.6						
WVT				*e*pP	pP	00 49 57.6	-2.4
WVT	**Waverly**	**54.28**	**76**	*e*P	**P**	**00 49 46.0**	**-1.2**
WVT				*e**PP	pP	00 49 57.6	-2.4
WVT				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
HHC	**Hu-ho-hao-te**	**55.36**	**293**	*e*P	**P**	**00 49 54.6**	**-0.4**
HHC				AP	pP	00 50 07.3	-0.6
HHC				XP	sP	00 50 12.6	-0.6
HHC				PCP	PcP	00 50 55.1	0.0
HHC				PP	PP	00 51 59.3	+0.3
HHC				PCS	PcS	00 54 54.1	-1.0
HHC				S	**S**	**00 57 32.7**	**-3.3**
HHC				XS	sS	00 57 55.0	-2.5
HHC				SCS	ScS	00 59 37.3	-3.0
HHC				SS	SS	01 01 18.2	-2.7
HHC				AMB	AMB		
	comp=Z,9.0nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,249nm,7.6s						
HHC				LR	LR		
	comp=N,296nm,16.7s						
HHC				LR	LR		
	comp=E,605nm,22.1s						
HHC				LR	LR		
	comp=Z,768nm,20.2s,MS4.8						
GUMO	**Guam**	**56.34**	**245**	P	**P**	**00 50 02.5**	**+0.5**
	comp=Z,139nm,1.1s,mb5.9,baz=200,slow=8.4,SNR=4.6						
KEV	**Kevo**	**56.83**	**355**	*ep*	**P**	**00 50 03.8**	**-1.7**
	comp=Z,10nm,0.7s,mb5.0						
KEV	**Kevo**	**56.83**	**355**	*e*P	**P**	**00 50 03.8**	**-1.7**
KEV				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	**57.12**	**356**	P	**P**	**00 50 06.7**	**-0.9**
	comp=Z,8.4nm,0.8s,mb4.8,baz=13,slow=7.7,SNR=26						
ARCES				PcP	PcP	00 51 01.8	-0.1
	comp=Z,3.6nm,0.7s,baz=18,slow=4.6,SNR=8.1						
NJ2	**Nanjing**	**57.41**	**281**	*e*P	**P**	**00 50 11.9**	**+2.3**
NJ2				AP	pP	00 50 24.6	+2.1
NJ2				XP	sP	00 50 29.8	+2.0
NJ2				PP	PP	00 52 21.3	+4.1
NJ2				S	**S**	**00 58 03.0**	**-0.1**
NJ2				XS	sS	00 58 25.0	+0.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,60nm,8.2s						
NJ2				LR	LR		
	comp=N,260nm,24.1s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,24.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,480nm,20.1s,MS4.6						
ZAL	**Zalesovo**	**58.66**	**320**	P	**P**	**00 50 17.4**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.2,baz=70,slow=6.3,SNR=11						
ZAL	**Zalesovo**	**58.66**	**320**	*i* P	**P**	**00 50 18.1**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SOKR	**Solikamsk**	**62.59**	**338**	*d i* P	**P**	**00 50 44.6**	**-0.5**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
SOKR				MLR	MLR		
	comp=Z,390nm,18.0s,MS4.6						
GTA	**Gaotai**	**62.67**	**300**	P	**P**	**00 50 45.3**	**-0.3**
GTA				AP	pP	00 50 57.9	-0.8
GTA				XP	sP	00 51 03.5	-0.4
GTA				PP	PP	00 53 05.5	+1.7
GTA				S	**S**	**00 59 09.0**	**-1.7**
GTA				XS	sS	00 59 30.0	-2.5
GTA				PS		00 59 31.5	
GTA				SS	SS	01 03 15.4	-0.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,422nm,4.6s						
GTA				LR	LR		
	comp=N,225nm,17.9s,MS4.6						
GTA				LR	LR		
	comp=E,271nm,18.2s,MS4.6						
GTA				LR	LR		
	comp=Z,352nm,19.8s,MS4.5						
LZH	**Lanzhou**	**62.99**	**295**	*e*P	**P**	**00 50 48.2**	**+0.4**
LZH				AP	pP	00 51 03.0	+2.2
LZH				XP	sP	00 51 06.9	+0.8
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,160nm,4.5s						
JOF	**Joensuu**	**63.33**	**352**	*ep*	**P**	**00 50 50.0**	**0.0**
	comp=Z,3.1nm,0.4s,mb4.8						
JOF	**Joensuu**	**63.33**	**352**	*e*P	**P**	**00 50 50.0**	**0.0**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.8						
KURK	**Kurchatov**	**63.55**	**321**	*e*P	**P**	**00 50 50.6**	**-0.9**
	comp=Z,6.8nm,0.9s,mb4.7						
KURK				*e*pP	pP	00 51 00.1	-4.4
KURK	**Kurchatov**	**63.55**	**321**	*e*P	**P**	**00 50 50.6**	**-0.9**
KURK				*e**PP	pP	00 51 00.2	-4.4
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KLMR	**Klimovskoe**	**64.47**	**347**	*e*P	**P**	**00 50 56.8**	**-0.8**
KLMR				pmax	pmax		
	comp=Z,20nm,2.0s,mb4.8						
KAF	**Kangasniemi**	**64.48**	**355**	*ep*	**P**	**00 50 55.6**	**-2.0**
	comp=Z,5.0nm,0.5s,mb4.8,baz=3.3,slow=6.2						
KAF	**Kangasniemi**	**64.48**	**355**	*e*P	**P**	**00 50 55.6**	**-2.0**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
BVA0	**Borovoye Array**	**64.55**	**327**	*i* P	**P**	**00 50 58.0**	**0.0**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ARU	**Arti**	**64.99**	**335**	⇓*i* P	**P**	**00 51 00.2**	**-0.7**
ARU				*e*		00 53 30.7	
ARU				*e*PPP		00 54 56.9	
ARU				*e*S	**S**	**00 59 41.8**	**+2.3**
ARU				*e*SS	SS	01 03 54.8	+2.9
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
ZRNK	**Zerenda**	**65.06**	**328**	*i* P	**P**	**00 51 01.3**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
FINES	**FINESS Array B**	**65.16**	**355**	P	**P**	**00 51 01.2**	**-0.8**
	comp=Z,5.2nm,0.7s,mb4.7,baz=29,slow=7.4,SNR=48						
FINES	**FINESS Array B**	**65.16**	**355**	*i* P	**P**	**00 51 01.2**	**-0.8**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ	**Urumqi**	**65.23**	**311**	*e*P	**P**	**00 51 03.0**	**+0.6**
WMQ				AP	pP	00 51 16.0	+0.4
WMQ				XP	sP	00 51 21.2	+0.4
WMQ				PCP	PcP	00 51 34.9	+0.3
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,85nm,4.6s						
WMQ				LR	LR		
	comp=N,419nm,24.0s,MS4.7						
WMQ				LR	LR		
	comp=E,325nm,22.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,212nm,22.0s,MS4.3						
MK31	**Makanchi Array**	**65.23**	**316**	*i* P	**P**	**00 51 01.3**	**-1.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**65.23**	**316**	P	**P**	**00 51

ULHL Ulahol 71.44 317 P **P 00 51 42.2 +0.9**
SNR=12
FRU Bishkek 71.60 318 *e*P **P 00 51 44.0 +1.7**
FRU pmax pmax
comp=Z,40nm,1.8s,mb5.0
KBK Karagaybulak 71.62 318 P **P 00 51 43.4 +1.0**
SNR=13
AAK Ala-Archa 71.82 318 P **P 00 51 44.5 +1.0**
SNR=13
AAK Ala-Archa 71.82 318*c i*P **P 00 51 43.3 -0.3**
AAK pmax pmax
comp=Z,11nm,0.7s,mb4.9
KMI Kunming 71.93 288 P **P 00 51 47.4 +3.2**
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
KZA Kyzart 71.98 318 P **P 00 51 46.0 +1.5**
SNR=5.8
EKS2 Erkin-Say 72.08 319 P **P 00 51 46.2 +1.1**
SNR=20
UCH Uchtor 72.15 318 P **P 00 51 47.0 +1.4**
SNR=5.9
AML Almayashu 72.56 319 P **P 00 51 49.7 +1.7**
SNR=22
KK31 Karatay Array 72.96 321 *i* P **P 00 51 50.2 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KKAR Karatay Array 72.96 321 *i* P **P 00 51 50.2 -0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LSA Lhasa 74.68 299 P **P 00 52 02.1 +1.6**
LSA AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
CLL Collm 75.59 2⇑*i*P **P 00 52 05.2 -0.5**
comp=Z,5.0nm,0.8s,mb4.5
CLL Collm 75.59 2⇑*i*P **P 00 52 05.2 -0.5**
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AKASG Malin Array Be 75.60 351 P **P 00 52 05.1 -0.6**
comp=Z,6.7nm,0.5s,mb4.8,baz=9.7,slow=5.6,SNR=33
AKASG Malin Array Be 75.60 351 *i* P **P 00 52 05.0 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
PVCC Panska Ves 76.39 1 *e*P **P 00 52 10.6 +0.3**
GIVF Givet 76.42 7 *e*P **P 00 52 10.0 -0.4**
DPC Dobruska-Polom 76.57 360 *e*P **P 00 52 11.6 +0.3**
NKC Novy Kostel 76.66 2 *e*P **P 00 52 10.7 -1.0**
NKC *e*S S 01 01 55.6 +0.7
PRU Pruhonice 76.93 1 *e*P **P 00 52 13.3 0.0**
OKC Ostrava-Krasne 77.07 358 *e*P **P 00 52 03.5 -11**
MORC Moravsky Berou 77.14 359⇑P **P 00 52 15.0 +0.6**
GRF Grafenberg Arr 77.17 3 *e*P **P 00 52 15.6 +1.0**
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 77.17 3 *e*P **P 00 52 15.6 +1.0**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 77.40 356 *i* P **P 00 52 17.4 +1.5**
LDF La Druitiere 77.45 11 *e*P **P 00 52 16.2 0.0**
SGMF Saint Gilles 77.49 12 *e*P **P 00 52 16.9 +0.5**
VRAC Vranov 77.62 359⇑P **P 00 52 18.0 +0.8**
KHC Kasperske Hory 77.78 1 *e*P **P 00 52 18.9 +0.9**
LIKS Likavka 77.84 358 *e*pP pP 00 52 26.6 -5.2
KOLS Kolonicke sedl 77.84 356 *e*P **P 00 52 17.5 -0.9**
KOLS *e* 00 52 23.4
CRVS Cervenica-Dubn 77.91 356 *e*P **P 00 52 21.5 +2.7**
GERES GERESS Array B 78.07 1 P **P 00 52 20.1 +0.5**
comp=Z,1.9nm,0.6s,mb4.2,baz=360,slow=4.4,SNR=21
CDF Champ du Feu 78.26 6 *e*P **P 00 52 21.1 +0.4**
KECS Kecovo 78.36 357 *i* P **P 00 52 22.0 +0.7**
VYHS Vyhne 78.40 358 *e*P **P 00 52 22.0 +0.5**
SMOL Smolenice 78.40 359 *e*P **P 00 52 22.5 +1.0**
HAU Haudompre 78.61 6 *e*P **P 00 52 23.0 +0.4**
comp=Z,7.8nm,0.7s,mb4.5
HAU Haudompre 78.61 6 *e*P **P 00 52 23.0 +0.4**
comp=Z,3.9nm,0.6s,mb4.5
HAU Haudompre 78.61 6 *e*P **P 00 52 23.0 +0.4**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ZST Bratislava 78.72 359 *e*P **P 00 52 24.8 +1.5**
HINF Hinteralfeld 78.83 6 *e*P **P 00 52 24.1 +0.3**
comp=Z,12nm,0.9s,mb4.5
HINF Hinteralfeld 78.83 6 *e*P **P 00 52 24.1 +0.3**
comp=Z,6.3nm,0.9s,mb4.5
HINF Hinteralfeld 78.83 6 *e*P **P 00 52 24.1 +0.3**
HINF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BURAR Bucovina Array 78.99 353⇑P **P 00 52 24.9 +0.2**
BURAR Bucovina Array 78.99 353⇑P **P 00 52 24.9 +0.2**
GOF Gofitskoye 79.12 341 *e*P **P 00 52 24.5 -0.9**
LOR Lormes 79.15 8 *e*P **P 00 52 26.0 +0.4**
comp=Z,25nm,1.0s,mb4.8
LOR Lormes 79.15 8 *e*P **P 00 52 26.0 +0.4**
comp=Z,12nm,1.0s,mb4.8
LOR Lormes 79.15 8 *e*P **P 00 52 26.0 +0.4**
LOR pmax pmax
comp=Z,12nm,1.0s,mb4.8
SSF Saint Saulge 79.33 8 *e*P **P 00 52 27.1 +0.5**
comp=Z,17nm,0.8s,mb4.7
SSF Saint Saulge 79.33 8 *e*P **P 00 52 27.1 +0.5**
comp=Z,8.6nm,0.8s,mb4.7
SSF Saint Saulge 79.33 8 *e*P **P 00 52 27.1 +0.5**
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MFF Saint Martin d 79.41 11 *e*P **P 00 52 27.7 +0.7**
comp=Z,36nm,1.1s,mb4.9
MFF Saint Martin d 79.41 11 *e*P **P 00 52 27.7 +0.7**
comp=Z,18nm,1.1s,mb4.9
MFF Saint Martin d 79.41 11 *e*P **P 00 52 27.7 +0.7**
MFF pmax pmax
comp=Z,18nm,1.1s,mb4.9
AVF Avril sur Loir 79.58 9 *e*P **P 00 52 28.3 +0.3**
comp=Z,20nm,0.8s,mb4.8
AVF Avril sur Loir 79.58 9 *e*P **P 00 52 28.3 +0.3**
comp=Z,9.9nm,0.8s,mb4.8
AVF Avril sur Loir 79.58 9 *e*P **P 00 52 28.3 +0.3**
AVF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BGF Bois d'Agland 79.77 9 *e*P **P 00 52 29.4 +0.4**
comp=Z,44nm,1.2s,mb5.0
BGF Bois d'Agland 79.77 9 *e*P **P 00 52 29.4 +0.4**
comp=Z,22nm,1.2s,mb5.0
BGF Bois d'Agland 79.77 9 *e*P **P 00 52 29.4 +0.4**
BGF pmax pmax
comp=Z,22nm,1.2s,mb5.0
SMF Signal de Mont 79.77 8 *e*P **P 00 52 29.3 +0.3**
comp=Z,27nm,1.0s,mb4.8
SMF Signal de Mont 79.77 8 *e*P **P 00 52 29.3 +0.3**
comp=Z,14nm,1.0s,mb4.8
SMF Signal de Mont 79.77 8 *e*P **P 00 52 29.3 +0.3**
SMF pmax pmax
comp=Z,14nm,1.0s,mb4.8
TCF Toulx Ste Croi 79.97 9 *e*P **P 00 52 30.5 +0.4**
CABF La Chapelle 79.98 7 *e*P **P 00 52 31.1 +1.0**
KIV Kislovodsk 80.25 341⇓*e*P **P 00 52 30.5 -1.1**
KIV *e* 00 55 31.4
KIV *e*S S 01 02 45.0 +12
KIV pmax pmax
comp=Z,16nm,1.3s,mb4.8
ANN Anapa 80.38 345 *e*P **P 00 52 28.3 -3.9**
ANN *e*S S 01 02 38.1 +3.4
ANN pmax pmax
comp=Z,334nm,1.5s,mb6.0
RJF Les Rejaudoux 80.88 10 *e*P **P 00 52 35.3 +0.4**
MLR Muntele Rosu 81.05 353⇓P **P 00 52 37.9 +2.1**
LPG La Plagne 81.13 6 *e*P **P 00 52 37.0 +0.7**
LFF La Frestale 81.15 11 *e*P **P 00 52 37.1 +0.7**
comp=Z,18nm,0.6s,mb4.9
LFF La Frestale 81.15 11 *e*P **P 00 52 37.1 +0.7**
comp=Z,8.8nm,0.6s,mb4.9
LFF La Frestale 81.15 11 *e*P **P 00 52 37.1 +0.7**
LFF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
VOIR 81.17 353⇓P **P 00 52 38.0 +1.5**
CFR Carcaliu 81.18 351⇓P **P 00 52 36.4 -0.1**
BZS Buzias 81.18 356⇑P **P 00 52 37.2 +0.7**
CAF Calviac 81.31 10 *e*P **P 00 52 37.9 +0.7**
VIVF Saint-Julien-l 81.62 8 *e*P **P 00 52 39.7 +0.9**
comp=Z,20nm,1.0s,mb4.7
VIVF Saint-Julien-l 81.62 8 *e*P **P 00 52 39.7 +0.9**
comp=Z,9.9nm,1.0s,mb4.7
VIVF Saint-Julien-l 81.62 8 *e*P **P 00 52 39.7 +0.9**
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TIRR Tirgusor 81.86 351⇓P **P 00 52 40.4 +0.3**
MBDF Montbardon 81.90 6 *e*P **P 00 52 40.9 +0.6**
comp=Z,38nm,1.0s,mb5.0
MBDF Montbardon 81.90 6 *e*P **P 00 52 40.9 +0.6**
comp=Z,19nm,1.0s,mb5.0
MBDF Montbardon 81.90 6 *e*P **P 00 52 40.9 +0.6**
MBDF pmax pmax
comp=Z,19nm,1.0s,mb5.0
DIVS Divcibare 82.76 357 *i* P **P 00 52 45.5 +0.7**
MTLF Montolieu 82.89 10 *e*P **P 00 52 46.0 +0.5**
comp=Z,5.6nm,0.6s,mb4.5
MTLF Montolieu 82.89 10 *e*P **P 00 52 46.0 +0.5**
comp=Z,2.8nm,0.6s,mb4.5
MTLF Montolieu 82.89 10 *e*P **P 00 52 46.0 +0.5**
MTLF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
GRUS Gruza 82.94 356 *i* P **P 00 52 46.3 +0.5**
VTS Vitosha 84.12 354⇑P **P 00 52 51.9 +0.1**
ESDC Sonseca Array 85.70 15 P **P 00 52 59.5 -0.2**
comp=Z,1.4nm,0.7s,mb4.3,baz=343,slow=4.7,SNR=8.4
BRTR Keskin Array B 85.92 346 P **P 00 53 01.9 +1.0**
comp=Z,9.4nm,0.8s,mb5.1,baz=46,slow=2.8,SNR=32
BRTR Keskin Array B 85.92 346 *i* P **P 00 53 01.9 +1.1**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
MALT Malatya 86.52 342⇓P **P 00 53 06.1 +2.3**
HYB Hyderabad 91.28 302 *i* P **P 00 53 27.0 +0.7**
HYB Hyderabad 91.28 302 *e*P **P 00 53 27.0 +0.7**
ASAR Alice Springs 93.49 234 P **P 00 53 35.6 -0.8**
comp=Z,0.2nm,0.4s,mb3.9,baz=29,slow=2.8,SNR=4.4
TSUM Tsumeb 145.79 357 PKPbc PKPbc 01 00 00.5 +0.7
comp=Z,5.3nm,0.8s,baz=322,slow=5.0,SNR=15
LBTB Lobatse 150.65 341 PKPbc PKPbc 01 00 13.5 +0.8
comp=Z,9.2nm,0.9s,baz=46,slow=2.2,SNR=6.9
BOSA Boshof 154.21 340 PKPab PKPab 01 00 34.8 +0.2
comp=Z,11nm,0.8s,baz=331,slow=4.0,SNR=9.8

NEIC ***04*** *00:41:44.7, 53.35N×164.27W, h8km, ML3.5(AEIC), After AEIC.*
ISCJB ***04*** *00:41:46.1±2.5, 53.3N±0.2×164.3W±0.2, h49km±19km, mb3.9/5, Error ellipse: s-maj=28.0km s-min=19.3km az=163.1*
IDC ***04*** *00:41:53.5±6.6, 53.41N×164.51W, h93km±57km, mb3.6/6, mb1 3.8/7, mb1mx3.5/22, mbtmp4.1/7, ML3.8/1, Error ellipse: s-maj=105.8km s-min=23.4km az=166.0*
ISC 04 00:41:45.7±3.8,**532**N±0.2×**1643W**±0.1,**h34**km±29km,**n11**, σ1§**15**/**14**,**mb3.9/6**,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUT	**Akutan**	**1.30**	**319**	P	**Pn**	**00 42 06.4**	**-1.1**
AKUT				S	**Sn**	**00 42 23.9**	**+0.2**
AKLV	**Akutan Long Va**	**1.39**	**316**	P	**Pn**	**00 42 07.9**	**-0.9**
AKLV				S	**Sn**	**00 42 26.1**	**+0.1**
UNV	**Unalaska Valle**	**1.47**	**299**	P	**Pn**	**00 42 09.6**	**-0.2**
UNV				S	**Sn**	**00 42 28.9**	**+1.0**
FX1	**Attu Island--F**	**13.55**	**278**	P	**Pn**	**00 44 58.8**	**+3.4**
	1.9nm,0.3s,baz=97,slow=19,SNR=5.8						
INK	**Inuvik**	**21.02**	**32**	P	**P**	**00 46 28.0**	**+1.7**
	3.8nm,0.4s,mb4.0,baz=254,slow=7.9,SNR=4.4						
INK	**Inuvik**	**21.02**	**32**	P	**P**	**00 46 28.0**	**+1.7**
YKA	**Yellowknife Ar**	**27.39**	**50**	P	**P**	**00 47 29.4**	**+1.5**
	1.0nm,0.8s,mb3.4,baz=270,slow=8.2,SNR=2.3						
SONM	**Songino Array**	**53.48**	**303**	P	**P**	**00 51 03.1**	**+0.4**
	1.1nm,0.6s,mb4.0,baz=57,slow=5.4,SNR=4.4						
ARCES	**ARCESS Array B**	**57.40**	**356**	P	**P**	**00 51 29.2**	**-1.6**
	3.0nm,0.9s,mb4.3,baz=15,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**65.42**	**316**	P	**P**	**00 52 24.5**	**-0.6**
	0.7nm,0.7s,mb3.8,baz=37,slow=7.8,SNR=2.8						
FINES	**FINESS Array B**	**65.44**	**355**	P	**P**	**00 52 23.5**	**-1.6**
	0.5nm,0.5s,mb3.8,baz=25,slow=7.6,SNR=3.0						

SZGRF ***04*** *00:53:23.8, 0.28S×28.10W, h33km, mb4.9, MS4.8, Central Mid-Atlantic Ridge*
IDC ***04*** *00:53:28.9±0.4, 1.00N×27.93W, h0km, mb4.7/28, mb1 4.7/28, mb1mx4.7/29, mbtmp4.7/28, MS5.0/16, Ms1 5.0/16, ms1mx4.9/18, Error ellipse: s-maj=13.2km s-min=10.2km az=161.0*
ISCJB ***04*** *00:53:30.0±0.3, 1.12N±0.05×27.83W±0.03, h10km, mb5.0/114, MS5.0/37, Error ellipse: s-maj=7.7km s-min=4.4km az=138.3*
MOS ***04*** *00:53:30.7±1.1, 1.31N×27.87W, h10km, mb5.2/59, MS4.9/15, Error ellipse: s-maj=8.6km s-min=4.5km az=62.9*
CSEM ***04*** *00:53:30.1, 1.02N×27.90W, h10km, ML5.6*
HRVD ***04*** *00:53:31.8±0.2, 1.09N×28.01W, h20km±1km, MW5.6/95, Centroid moment Tensor Solution. LP body waves: s79,c136;Mantle waves: s95,c198; Half duration: 1§6 Moment tensor: Scale 10^17^Nm; M_{rr}=0.20±.07; $M_{\theta\theta}$=0.68±.07; $M_{\phi\phi}$=-0.48±.07; $M_{r\theta}$=-0.43±.14; $M_{\theta\phi}$=-3.13±.07; $M_{\phi r}$=0.33±.15; Best double couple: M_0=3.22500×10^17^ NP1:ϕ_s=355.00000°, δ=84.00000°, λ=6.00000°. NP2: ϕ_s=264.00000°, δ=84.00000°, λ=174.00000°. Principal axes: T 3.3650, Plg9.0000°, Azm220.0000°; N -0.2800, Plg81.0000°, Azm43.0000°; P -3.0850, Plg0.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *00:53:31.8±0.3, 1.13N×27.88W, h10km, mb5.1/79, MS5.0/6 Error ellipse: s-maj=8.2km s-min=5.0km az=162.0*
BJI ***04*** *00:53:31.7, 1.10N×27.90W, h10km, mB5.9, Ms5.4, Msz5.1*
ISC 04 00:53:31.9±0.2,**109**N±0.05×**27.87W**±0.03,**h10**km, (**h8**km±1.5km:**pP-P**),**n345**,σ1§**21**/341,**mb5.0**/114,**MS5.0**/37, **12C-10D**,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.56**	**229**	*e*Pn	**Pn**	**00 55 55.1**	**-8.2**
	445nm,0.5s						
DBIC	**Dimbokro**	**23.61**	**76**	P	**P**	**00 58 41.5**	**-1.7**
	26nm,0.8s,mb4.7,baz=240,slow=12,SNR=20						
DBIC				S	**S**	**01 02 58.4**	**+1.1**
	5.5nm,1.1s,baz=150,slow=20,SNR=2.2						
DBIC				LR	LR	01 05 25.5	
	comp=Z,2μm,20.3s,MS4.7,baz=56,slow=30						
DBIC	**Dimbokro**	**23.61**	**76**	*e*P	**P**	**00 58 41.9**	**-1.3**
	33nm,0.7s,mb4.9						
DBIC	**Dimbokro**	**23.61**	**76**	*e*P	**P**	**00 58 41.9**	**-1.3**
DBIC				pmax	pmax		
	comp=Z,33nm,0.7s						
CAM3	**Guarapari**	**24.97**	**209**⇓	*i*P	**P**	**00 58 54.2**	**-1.4**
CAM3				*i*		00 59 03.4	
CAM3				*i*		00 59 12.4	
CAM3				*i*		00 59 25.9	
BAO	**Brasilia Array**	**25.92**	**229**	P	**P**	**00 59 01.5**	**-2.7**
BDFB	**Brasilia**	**25.94**	**229**	P	**P**	**00 59 01.0**	**-3.4**
	comp=Z,69nm,1.1s,mb5.1,baz=49,slow=11,SNR=48						
BDFB				LR	LR	01 08 10.6	
	comp=Z,9μm,19.4s,MS5.3,baz=61,slow=34						
CAM4	**Nova Friburgo**	**27.36**	**211**⇓	*i*P	**P**	**00 59 15.8**	**-1.4**
CAM4				*i*		00 59 20.9	
CAM4				*i*		00 59 28.0	
CAM4				*i*		00 59 40.6	
CAM4				*i*		00 59 51.8	
TORD	**Torodi Ar. Bea**	**31.63**	**66**	P	**P**	**00 59 54.0**	**-1.1**
	comp=Z,15nm,0.8s,mb4.9,baz=255,slow=8.8,SNR=86						
SAML	**Samuel**	**36.57**	**253**	P	**P**	**01 00 34.4**	**-3.5**
	comp=Z,34nm,1.0s,mb5.1						
SAML				PP	PP	01 01 58.0	-3.1
MDT	**Midelt**	**38.40**	**32**	P	**P**	**01 00 53.6**	**+0.2**
	comp=Z,7.1nm,0.8s,mb4.5,baz=234,slow=6.6,SNR=14						
MDT				LR	LR	01 15 12.9	
	comp=Z,1μm,18.1s,MS4.8,baz=239,slow=34						
MTP	**Monte Pirata**	**40.68**	**297**	*e*P	**P**	**01 01 11.3**	**-1.1**
MTP				*e*		01 01 20.1	
EGRO	**El Granado**	**40.84**	**25**	P	**P**	**01 01 11.7**	**-2.0**
	comp=Z,83nm,1.7s,mb5.1						
HUMP	**Col San Antoni**	**40.95**	**297**	P	**P**	**01 01 13.2**	**-1.5**
CPD	**Cerro la Pandu**	**40.98**	**297**	P	**P**	**01 01 13.6**	**-1.3**
CPD				*e*		01 01 22.6	
CBYP	**Canovanas**	**41.00**	**297**	P	**P**	**01 01 13.0**	**-2.1**
SJG	**San Juan**	**41.21**	**297**	P	**P**	**01 01 14.5**	**-2.3**
	comp=Z,13nm,0.6s,mb4.8,baz=74,slow=7.7,SNR=6.7						
SJG				LR	LR	01 14 55.7	
	comp=Z,2μm,20.0s,MS4.9,baz=122,slow=31						
SJG	**San Juan**	**41.21**	**297**	P	**P**	**01 01 14.9**	**-1.9**
	comp=Z,18nm,0.7s,mb4.8						
SJG				*e*		01 01 24.6	
SJG	**San Juan**	**41.21**	**297**	P	**P**	**01 01 14.9**	**-1.9**
SJG				pmax	pmax		
	comp=Z,18nm,0.7s						
EMIJ	**Mijas**	**41.27**	**29**	P	**P**	**01 01 14.0**	**-3.3**
	comp=Z,60nm,1.6s,mb5.0						
EMIN	**Mina Concepcio**	**41.39**	**26**	P	**P**	**01 01 16.5**	**-1.8**
	comp=Z,73nm,1.4s,mb5.1						
EBAD	**Badajoz**	**42.07**	**25**	P	**P**	**01 01 23.2**	**-0.7**
	comp=Z,90nm,1.5s,mb5.2						
ERON	**Agron**	**42.09**	**29**	P	**P**	**01 01 22.0**	**-2.1**
MPR	**Mayaguez**	**42.13**	**296**	P	**P**	**01 01 24.2**	**-0.1**
ECOG	**Cogollos-Vega**	**42.42**	**29**	P	**P**	**01 01 23.3**	**-3.3**
	comp=Z,4.4nm,1.1s,mb4.0						
ECOG	**Cogollos-Vega**	**42.42**	**29**	P	**P**	**01 01 23.3**	**-3.4**
ECOG				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
EBER	**Berja**	**42.45**	**30**	P	**P**	**01 01 22.7**	**-4.2**
EADA	**Adamuz**	**42.65**	**27**	P	**P**	**01 01 24.6**	**-4.0**
	comp=Z,86nm,1.8s,mb5.2						
EBAN	**Banos Encina**	**43.02**	**28**	P	**P**	**01 01 28.9**	**-2.7**
	comp=Z,8.9nm,0.9s,mb4.5						
EBAN	**Banos Encina**	**43.02**	**28**	P	**P**	**01 01 28.9**	**-2.6**
EBAN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
EQES	**Quesada**	**43.07**	**29**	P	**P**	**01 01 29.8**	**-2.2**
	comp=Z,304nm,2.4s,mb5.6						
SDV	**Santo Domingo**	**43.26**	**282**	P	**P**	**01 01 32.4**	**-1.1**
	comp=Z,23nm,0.8s,mb4.9,baz=97,slow=5.0,SNR=22						
SDV	**Santo Domingo**	**43.26**	**282**	P	**P**	**01 01 32.5**	**-1.0**
	comp=Z,27nm,0.9s,mb5.0						
EHUE	**Huescar**	**43.32**	**30**	P	**P**	**01 01 29.3**	**-4.7**
LPAZ	**La Paz**	**43.33**	**245**	P	**P**	**01 01 32.5**	**-1.6**
	comp=Z,32nm,0.9s,mb5.0,baz=53,slow=8.5,SNR=61						
LPAZ				PP	PP	01 03 15.6	+0.9
	comp=Z,6.4nm,1.1s,baz=82,slow=14,SNR=2.0						
LPAZ				LR	LR	01 18 43.9	
	comp=Z,3μm,21.1s,MS5.1,baz=69,slow=35						
ESDC	**Sonseca Array**	**44.15**	**27**	P	**P**	**01 01 40.5**	**-0.2**
	comp=Z,8.3nm,0.8s,mb4.5,baz=223,slow=8.9,SNR=17						
ESLA	**Sonseca Array**	**44.15**	**27**	P	**P**	**01 01 41.8**	**+1.1**
ETOB	**Tobarra**	**44.48**	**30**	P	**P**	**01 01 38.7**	**-4.6**
GUD	**Guadarrama**	**44.86**	**26**	P	**P**	**01 01 46.1**	**-0.2**
	comp=Z,11nm,0.7s,mb4.8						
GUD	**Guadarrama**	**44.86**	**26**	P	**P**	**01 01 46.1**	**-0.2**
GUD				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
ECHE	**Chera**	**45.49**	**29**	P	**P**	**01 01 49.1**	**-2.3**
	comp=Z,3.0nm,0.6s,mb4.3						
ECHE	**Chera**	**45.49**	**29**	P	**P**	**01 01 49.1**	**-2.3**
ECHE				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
ARE	**Arequipa**	**46.44**	**246**	*e*P	**P**	**01 01 55.0**	**-3.8**
ROSC	**El Rosal**	**46.54**	**276**	P	**P**	**01 01 58.7**	**-1.0**
	comp=Z,13nm,0.7s,mb5.0,baz=106,slow=20,SNR=10						
ROSC				LR	LR	01 19 54.8	
	comp=Z,μm,18.7s,MS5.2,baz=298,slow=34						
EARI	**Arriondas**	**46.65**	**23**	P	**P**	**01 02 00.2**	**-0.3**
	comp=Z,599nm,2.1s,mb6.2						
EBR	**Ebro Roquetas**	**47.16**	**29**	*e*Ts		01 02 09.0	
ERTA	**Horta de San J**	**47.18**	**29**	P	**P**	**01 02 03.0**	**-1.6**
	comp=Z,58nm,1.3s,mb5.3						
ELAN	**Lanestosa**	**47.30**	**24**	P	**P**	**01 02 05.7**	**+0.2**
	comp=Z,70nm,0.9s,mb5.6						
EPOB	**Poblet**	**47.85**	**29**	P	**P**	**01 02 08.3**	**-1.5**
	comp=Z,35nm,0.9s,mb5.4						
ELIZ	**Elizondo**	**48.05**	**26**	P	**P**	**01 02 11.7**	**+0.3**
	comp=Z,65nm,1.2s,mb5.5						
ELIZ	**Elizondo**	**48.05**	**26**	P	**P**	**01 02 11.7**	**+0.3**
ELIZ				pmax	pmax		
	comp=Z,65nm,1.2s,mb5.5						
EGRA	**Graus**	**48.12**	**28**	P	**P**	**01 02 10.7**	**-1.3**
	comp=Z,34nm,1.2s,mb5.3						
SJPF	**Ste Jean**	**48.14**	**26**	*e*P	**P**	**01 02 12.4**	**+0.3**
	comp=Z,38nm,0.8s,mb5.2						
SJPF	**Ste Jean**	**48.14**	**26**	*e*P	**P**	**01 02 12.4**	**+0.3**
	comp=Z,19nm,0.8s,mb5.2						
SJPF	**Ste Jean**	**48.14**	**26**	*e*P	**P**	**01 02 12.4**	**+0.3**
SJPF				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
ETSF	**Etsaut**	**48.27**	**27**	*e*P	**P**	**01 02 13.5**	**+0.4**
	comp=Z,97nm,1.2s,mb5.4						
ETSF	**Etsaut**	**48.27**	**27**	*e*P	**P**	**01 02 13.5**	**+0.4**
	comp=Z,49nm,1.2s,mb5.4						
ETSF	**Etsaut**	**48.27**	**27**	*e*P	**P**	**01 02 13.5**	**+0.4**
ETSF				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.4						
EBIE	**Bielsa**	**48.42**	**28**	P	**P**	**01 02 14.2**	**-0.1**
	comp=Z,77nm,1.6s,mb5.5						
EPF	**Esparros**	**48.78**	**27**	*e*P	**P**	**01 02 16.7**	**-0.3**
	comp=Z,93nm,1.4s,mb5.3						
EPF	**Esparros**	**48.78**	**27**	*e*P	**P**	**01 02 16.7**	**-0.3**
	comp=Z,47nm,1.4s,mb5.3						
EPF	**Esparros**	**48.78**	**27**	*e*P	**P**	**01 02 16.7**	**-0.3**
EPF				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.3						
TSUM	**Tsumeb**	**48.95**	**117**	P	**P**	**01 02 17.6**	**-0.8**
	comp=Z,4.8nm,0.8s,mb4.6,baz=263,slow=7.3,SNR=4.7						
MTLF	**Montolieu**	**49.90**	**29**	*e*P	**P**	**01 02 24.6**	**-1.0**
	comp=Z,34nm,1.1s,mb5.0						
MTLF	**Montolieu**	**49.90**	**29**	*e*P	**P**	**01 02 24.6**	**-1.0**
	comp=Z,17nm,1.1s,mb5.0						
MTLF	**Montolieu**	**49.90**	**29**	*e*P	**P**	**01 02 24.6**	**-1.0**
MTLF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
MOAC	**Moa**	**49.90**	**296**	*e*P	**P**	**01 02 24.4**	**-1.2**
TRQA	**Tornquist**	**50.07**	**215**	*e*P	**P**	**01 02 24.3**	**-2.6**
	comp=Z,19nm,0.8s,mb5.2						
LFF	**La Frestale**	**50.45**	**26**	*e*P	**P**	**01 02 29.7**	**-0.1**
	comp=Z,64nm,1.0s,mb5.3						
LFF	**La Frestale**	**50.45**	**26**	*e*P	**P**	**01 02 29.7**	**-0.1**
	comp=Z,32nm,1.0s,mb5.3						
LFF	**La Frestale**	**50.45**	**26**	*e*P	**P**	**01 02 29.7**	**-0.1**
LFF				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
OTAV	**Otavalo**	**50.59**	**269**	P	**P**	**01 02 29.4**	**-1.3**
CAF	**Calviac**	**51.04**	**27**	*e*P	**P**	**01 02 33.7**	**-0.5**
LASF	**Ste Croix**	**51.24**	**29**	*e*P	**P**	**01 02 35.4**	**-0.3**
	comp=Z,34nm,1.0s,mb4.9						
MFF	**Saint Martin d**	**51.40**	**24**	*e*P	**P**	**01 02 36.1**	**-0.8**
	comp=Z,176nm,1.6s,mb5.4						
MFF	**Saint Martin d**	**51.40**	**24**	*e*P	**P**	**01 02 36.1**	**-0.8**
	comp=Z,88nm,1.6s,mb5.4						
MFF	**Saint Martin d**	**51.40**	**24**	*e*P	**P**	**01 02 36.1**	**-0.8**
MFF				pmax	pmax		
	comp=Z,88nm,1.6s,mb5.4						
ROSF	**Rostrenen**	**51.63**	**21**	*e*P	**P**	**01 02 37.8**	**-0.9**
	comp=Z,279nm,1.9s,mb5.6						
ROSF	**Rostrenen**	**51.63**	**21**	*e*P	**P**	**01 02 37.8**	**-0.9**
	comp=Z,139nm,1.8s,mb5.6						
ROSF	**Rostrenen**	**51.63**	**21**	*e*P	**P**	**01 02 37.8**	**-0.9**
ROSF				pmax	pmax		
	comp=Z,139nm,1.8s,mb5.6						
SGMF	**Saint Gilles**	**51.82**	**21**	*e*P	**P**	**01 02 39.1**	**-1.0**
	comp=Z,85nm,1.2s,mb5.2						
SGMF	**Saint Gilles**	**51.82**	**21**	*e*P	**P**	**01 02 39.1**	**-1.0**
	comp=Z,43nm,1.2s,mb5.2						
SGMF	**Saint Gilles**	**

comp=Z,12nm,1.0s,mb4.8
FLN La Foliniere 53.02 22 *e*P **P 01 02 48.1 -0.8**
comp=Z,59nm,1.0s,mb5.2
FLN *e*R
comp=Z,2µm,23.0s
FLN La Foliniere 53.02 22 *e*P **P 01 02 48.1 -0.8**
comp=Z,29nm,1.0s,mb5.2
FLN LR LR
comp=Z,2µm,23.0s,MS5.0
FLN La Foliniere 53.02 22 *e*P **P 01 02 48.1 -0.8**
FLN pmax pmax
comp=Z,29nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,2µm,23.0s,MS5.0
LDF La Druitiere 53.02 23 *e*P **P 01 02 48.1 -0.8**
comp=Z,32nm,0.9s,mb5.0
LDF La Druitiere 53.02 23 *e*P **P 01 02 48.1 -0.8**
comp=Z,16nm,0.9s,mb5.0
LDF La Druitiere 53.02 23 *e*P **P 01 02 48.1 -0.8**
LDF pmax pmax
comp=Z,16nm,0.9s,mb5.0
AVF Avril sur Loir 53.04 26 *e*P **P 01 02 48.6 -0.5**
SMF Signal de Mont 53.15 27 *e*P **P 01 02 49.6 -0.3**
comp=Z,30nm,1.2s,mb4.8
SMF Signal de Mont 53.15 27 *e*P **P 01 02 49.6 -0.3**
comp=Z,15nm,1.2s,mb4.8
SMF Signal de Mont 53.15 27 *e*P **P 01 02 49.6 -0.3**
SMF pmax pmax
comp=Z,15nm,1.2s,mb4.8
MBDF Montbardon 53.16 30 *e*P **P 01 02 50.3 +0.3**
comp=Z,64nm,1.2s,mb5.1
MBDF Montbardon 53.16 30 *e*P **P 01 02 50.3 +0.3**
comp=Z,32nm,1.2s,mb5.1
MBDF Montbardon 53.16 30 *e*P **P 01 02 50.3 +0.3**
MBDF pmax pmax
comp=Z,32nm,1.2s,mb5.1
BNI Bardonecchia 53.34 30 P **P 01 02 55.0 +3.7**
comp=Z,24nm,1.0s,mb5.1
BNI Bardonecchia 53.34 30 P **P 01 02 55.1 +3.8**
BNI pmax pmax
comp=Z,24nm,1.0s,mb5.1
LOR Lormes 53.63 26 *e*P **P 01 02 52.8 -0.6**
LOR *e*R
comp=Z,2µm,19.2s
LOR Lormes 53.63 26 *e*P **P 01 02 52.8 -0.6**
LOR MLR MLR
comp=Z,2µm,19.3s,MS5.1
LPG La Plagne 53.69 30 *e*P **P 01 02 53.6 -0.3**
comp=Z,25nm,0.9s,mb4.8
LPG La Plagne 53.69 30 *e*P **P 01 02 53.6 -0.3**
comp=Z,13nm,0.9s,mb4.8
LPG La Plagne 53.69 30 *e*P **P 01 02 53.6 -0.3**
LPG pmax pmax
comp=Z,13nm,0.9s,mb4.9
LPL La Plagne 53.70 30 *e*P **P 01 02 53.6 -0.3**
comp=Z,41nm,1.1s,mb5.0
LPL La Plagne 53.70 30 *e*P **P 01 02 53.6 -0.3**
comp=Z,20nm,1.0s,mb5.0
LPL La Plagne 53.70 30 *e*P **P 01 02 53.6 -0.3**
LPL pmax pmax
comp=Z,20nm,1.0s,mb5.0
CABF La Chapelle 54.17 28 *e*P **P 01 02 56.9 -0.5**
comp=Z,66nm,1.1s,mb5.2
CABF La Chapelle 54.17 28 *e*P **P 01 02 56.9 -0.5**
comp=Z,33nm,1.1s,mb5.2
CABF La Chapelle 54.17 28 *e*P **P 01 02 56.9 -0.5**
CABF pmax pmax
comp=Z,33nm,1.1s,mb5.2
AQU L'Aquila 55.27 37 P **P 01 03 13.1 +7.7**
HAU Haudompre 55.30 27 *e*P **P 01 03 04.3 -1.3**
comp=Z,46nm,1.1s,mb5.1
HAU *e*R
comp=Z,2µm,21.0s
HAU Haudompre 55.30 27 *e*P **P 01 03 04.3 -1.3**
comp=Z,23nm,1.1s,mb5.1
HAU LR LR
comp=Z,2µm,21.0s,MS5.1
HAU Haudompre 55.30 27 *e*P **P 01 03 04.3 -1.3**
HAU pmax pmax
comp=Z,23nm,1.1s,mb5.1
HAU MLR MLR
comp=Z,2µm,21.0s,MS5.1
HINF Hinteralfeld 55.40 28 *e*P **P 01 03 05.3 -1.0**
comp=Z,35nm,1.2s,mb5.0
HINF Hinteralfeld 55.40 28 *e*P **P 01 03 05.3 -1.0**
comp=Z,18nm,1.2s,mb5.0
HINF Hinteralfeld 55.40 28 *e*P **P 01 03 05.3 -1.0**
HINF pmax pmax
comp=Z,18nm,1.2s,mb5.0
TIP Timpagrande 55.60 41 P **P 01 03 08.5 +0.7**
CDF Champ du Feu 56.03 28 *e*P **P 01 03 10.0 -0.8**
comp=Z,62nm,1.4s,mb5.2
CDF Champ du Feu 56.03 28 *e*P **P 01 03 10.0 -0.8**
comp=Z,31nm,1.4s,mb5.2
CDF Champ du Feu 56.03 28 *e*P **P 01 03 10.0 -0.8**
CDF pmax pmax
comp=Z,31nm,1.4s,mb5.2
DAVOX Davos 56.15 30 P **P 01 03 10.8 -0.9**
comp=Z,7.1nm,0.8s,mb4.7,baz=215,slow=16,SNR=3.1
SUR Sutherland 56.74 131 P **P 01 03 16.1 +0.2**
comp=Z,12nm,0.9s,mb4.9,baz=317,slow=13,SNR=3.0
PLCA Paso Flores 56.89 218 P **P 01 03 14.7 -2.3**
comp=Z,4.4nm,0.7s,mb4.6,baz=39,slow=6.0,SNR=17
PLCA LR LR 01 27 35.7
comp=Z,2µm,19.0s,MS5.2,baz=55,slow=36
LSZ Lusaka 57.73 109 P **P 01 03 26.7 +3.8**
comp=Z,24nm,1.3s,mb5.1
LSZ Lusaka 57.73 109 P **P 01 03 26.7 +3.8**
LSZ pmax pmax
comp=Z,24nm,1.3s,mb5.1
DWPF Disney 57.76 303 P **P 01 03 24.1 +1.0**
VOY Vojsko 57.78 33 *e*P **P 01 03 24.2 +0.9**
VOY *e* 01 03 31.6
LBTB Lobatse 57.85 121 P **P 01 03 22.2 -1.5**
comp=Z,8.4nm,0.9s,mb4.8,baz=305,slow=10.0,SNR=6.1
LBTB Lobatse 57.85 121 P **P 01 03 25.5 +1.8**
comp=Z,17nm,0.9s,mb5.1
LBTB Lobatse 57.85 121 P **P 01 03 25.5 +1.7**
LBTB pmax pmax
comp=Z,17nm,0.9s,mb5.1
BOSA Boshof 58.77 125 P **P 01 03 28.4 -1.7**
comp=Z,13nm,1.1s,mb4.9,baz=289,slow=9.9,SNR=8.2
BOSA LR LR 01 24 00.2
comp=Z,1µm,21.2s,MS5.0,baz=290,slow=31
BOSA Boshof 58.77 125 P **P 01 03 31.5 +1.4**
BOSA LR LR 01 24 00.2
GRF Grafenberg Arr 58.78 29 *e*P **P 01 03 29.0 -1.2**
comp=Z,16nm,1.4s,mb4.9
GRF *e*S **S 01 11 43.9 +8.5**
GRF *e*L 01 26 16.9
comp=Z,755nm,20.9s
GRF Grafenberg Arr 58.78 29 *e*P **P 01 03 29.0 -1.2**
GRF *e*S **S 01 11 43.9 +8.5**
GRF pmax pmax
comp=Z,16nm,1.4s,mb4.9
GRF MLR MLR
comp=Z,800nm,20.9s,MS4.8
COW Cow Castle Cre 58.95 309 P **P 01 03 29.1 -2.3**
MOA Molln 59.11 32⇑*i*P **P 01 03 31.5 -1.1**
comp=Z,21nm,1.8s,mb4.9
BINY Binghamton 59.43 320 P **P 01 03 43.8 +9.1**
GERES GERESS Array B 59.45 31 P **P 01 03 33.8 -1.1**
comp=Z,4.1nm,0.8s,mb4.5,baz=224,slow=5.6,SNR=22
GERES LR LR 01 26 26.9
comp=Z,823nm,19.8s,MS4.9,baz=230,slow=33
KHC Kasperske Hory 59.57 30 *e*P **P 01 03 34.7 -1.0**
KHC x x 01 03 45.0
KHC *e*S **S 01 11 48.3 +2.7**
KHC AMS AMS 01 24 50.0
comp=Z,2µm,20.2s
KHC Kasperske Hory 59.57 30 *e*P **P 01 03 34.7 -1.0**
KHC *e* 01 03 45.0
KHC *e*S **S 01 11 48.3 +2.7**
KHC LR LR
comp=Z,2µm,20.2s,MS5.2
MOX Moxa 59.61 28 *e*P **P 01 03 36.9 +0.9**
comp=Z,26nm,1.7s,mb5.0
MOX
comp=Z,600nm,21.0s
MOX Moxa 59.61 28 *e*P **P 01 03 36.9 +0.9**
MOX pmax pmax
comp=Z,26nm,1.7s,mb5.0
MOX MLR MLR
comp=Z,600nm,21.0s,MS4.7
JSC Jenkinsville 59.72 310 *e*P **P 01 03 36.0 -0.7**
NKC Novy Kostel 59.73 29 *e*S **S 01 11 55.6 +7.9**

SKO Skopje 60.09 41 *e*P **P 01 03 46.3 +7.1**
DIVS Divcibare 60.24 38⇓*i*P **P 01 03 41.7 +1.5**
VAY Valandovo 60.52 42 *e*P **P 01 03 51.8 +10**
GRUS Gruza 60.58 38 *i*P **P 01 03 38.3 -4.3**
PRU Pruhonice 60.60 30 *e*P **P 01 03 42.2 -0.6**
PRU *ex* x 01 03 51.9
PRU *e*S **S 01 12 03.3 +4.5**
PRU AMS AMS 01 27 30.0
comp=Z,1µm,17.5s
TREC Trest 60.64 31 *e*P **P 01 03 42.4 -0.7**
FWV Forest Hill 60.65 313 *e*P **P 01 03 43.5 +0.4**
CLL Collm 60.71 28 *i*P **P 01 03 45.3 +1.8**
comp=Z,18nm,1.5s,mb5.0
CLL *i*x x 01 03 54.3
CLL *ex* x 01 03 59.0
CLL *e*S **S 01 12 10.0 +10**
comp=N,1µm,25.4s
CLL *e*S **S 01 12 10.0 +10**
comp=E,1µm,19.7s
CLL *e*SS SS 01 15 48.0 -11
CLL *e*SSS 01 18 48.0
CLL Collm 60.71 28 *i*P **P 01 03 45.3 +1.8**
comp=E,18nm,1.5s,mb5.0
CLL *i* 01 03 54.3
CLL *e*S **S 01 12 10.0 +10**
CLL LR LR
comp=Z,900nm,17.8s,MS5.0
CLL Collm 60.71 28 *i*P **P 01 03 45.3 +1.8**
CLL *i* 01 03 54.3
CLL *e*S **S 01 12 10.0 +10**
CLL pmax pmax
comp=Z,18nm,1.5s,mb5.0
CLL MLR MLR
comp=Z,900nm,17.8s,MS5.0
APE Apeiranthos 60.78 47⇓P **P 01 03 42.8 -1.2**
ZST Bratislava 60.84 33 *e*P **P 01 03 43.9 -0.5**
ZST *e* 01 03 54.3
BRG Berggiesshubel 60.87 29 *e*P **P 01 03 45.5 +0.9**
comp=Z,14nm,1.6s,mb4.8
BRG *e* 01 03 54.4
BRG S **S 01 12 14.0 +12**
BRG LR LR
comp=Z,520nm,16.8s,MS4.8
BRG Berggiesshubel 60.87 29 *e*P **P 01 03 45.5 +0.9**
BRG *e* 01 03 54.4
BRG S **S 01 12 14.0 +12**
BRG pmax pmax
comp=Z,14nm,1.7s,mb4.8
BRG pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
BRG MLR MLR
comp=N,295nm,13.5s,MS4.8
BRG MLR MLR
comp=E,428nm,17.4s,MS4.8
BRG MLR MLR
comp=Z,518nm,16.8s,MS4.8
BRG Berggiesshubel 60.87 29 *e*P **P 01 03 45.5 +0.9**
comp=Z,14nm,1.6s,mb4.8
BRG *e* 01 03 54.4
comp=Z,7.6nm,1.2s
BRG S **S 01 12 14.0 +12**
BRG
comp=N,295nm,13.5s
BRG
comp=E,428nm,17.4s
BRG
comp=Z,518nm,16.8s
BEO Belgrade 60.90 37 *e*P **P 01 03 46.0 +1.2**
PVCC Panska Ves 60.95 30 *e*P **P 01 03 46.0 +0.8**
PVCC *ex* x 01 03 54.7
SMOL Smolenice 61.20 33 *e*P **P 01 03 46.8 0.0**
SMOL *e* 01 03 57.2
SMOL *e* 01 04 28.9
SRO1 Iza 61.20 34 *e*P **P 01 03 48.4 +1.5**
VRAC Vranov 61.23 32⇓P **P 01 03 46.7 -0.3**
DPC Dobruska-Polom 61.72 30 *e*P **P 01 03 49.7 -0.7**
DPC *ex* x 01 03 59.9
DPC *e*S **S 01 12 15.3 +2.2**
DPC AMS AMS 01 26 00.0
comp=Z,800nm,19.8s
VYHS Vyhne 61.95 33 *e*P **P 01 03 52.0 +0.1**
MORC Moravsky Berou 62.00 32⇑P **P 01 03 52.9 +0.6**
KSP Ksiaz 62.01 30 *e*P **P 01 03 53.5 +1.2**
KSP Ksiaz 62.01 30 *e*P **P 01 03 54.2 +1.9**
KSP *e*S **S 01 12 28.4 +12**
KSP LR LR
comp=Z,3µm,42.5s,MS5.1
KSP Ksiaz 62.01 30 *e*P **P 01 03 54.2 +1.9**
KSP *e*S **S 01 12 28.4 +12**
BZS Buzias 62.01 37⇑P **P 01 03 53.9 +1.6**
PSZ Piszkesteto 62.22 34⇑*e*P **P 01 03 53.7 0.0**
PSZ Piszkesteto 62.22 34 *e*P **P 01 03 53.9 +0.2**
comp=Z,45nm,1.0s,mb5.6
PSZ Piszkesteto 62.22 34 *e*P **P 01 03 53.9 +0.2**
PSZ pmax pmax
comp=Z,45nm,1.0s,mb5.5
OKC Ostrava-Krasne 62.36 32 *e*P **P 01 03 53.9 -0.7**
OKC *ex* x 01 04 02.8
OKC Ostrava-Krasne 62.36 32 *e*P **P 01 03 52.9 -1.7**
OKC *e* 01 04 01.8
CPCT Cooper Cave 62.63 310 P **P 01 03 57.3 +0.8**
KECS Kecovo 62.86 34 *e*P **P 01 03 58.1 +0.1**
ACSO Alum Creek Sta 63.26 315 P **P 01 04 01.3 +0.7**
NIE Niedzica 63.28 33 *e*P **P 01 04 00.9 +0.1**
OJC Ojcow 63.45 32 *e*P **P 01 04 02.7 +0.8**
SWET Sewanee 63.65 309 *e*P **P 01 04 03.2 -0.1**
STHS Stebnicka Huta 63.79 33 *e*P **P 01 04 04.3 +0.2**
LRAL Lakeview Retre 63.82 307 P **P 01 04 04.3 -0.1**
comp=Z,12nm,1.0s,mb4.9
UZH Uzhgorod 63.96 35 *e*P **P 01 04 05.5 +0.2**
GKP Gorka Klasztor 63.96 28 *e*P **P 01 04 06.6 +1.3**
VOIR 64.03 39⇓P **P 01 04 07.1 +1.4**
KOLS Kolonicke sedl 64.10 34 *e*P **P 01 04 06.8 +0.6**
AAM Ann Arbor 64.55 317 P **P 01 04 12.5 +3.4**
MLR Muntele Rosu 64.62 39⇓P **P 01 04 10.2 +0.6**
USHA Ushuaia 64.91 205 LR LR 01 26 52.4
comp=Z,2µm,20.7s,MS5.2,baz=120,slow=31
WCI Wyandotte Cave 64.92 312 P **P 01 04 13.8 +2.2**
comp=Z,20nm,1.0s,mb5.1
WCI Wyandotte Cave 64.92 312 P **P 01 04 13.8 +2.3**
WCI pmax pmax
comp=Z,20nm,1.0s,mb5.1
BURAR Bucovina Array 65.15 37⇓P **P 01 04 15.6 +2.5**
BURAR Bucovina Array 65.15 37⇓P **P 01 04 15.6 +2.5**
KMBO Kilima Mbogo 65.15 92 P **P 01 04 13.9 +0.8**
comp=Z,2.6nm,0.9s,mb4.3,baz=242,slow=14,SNR=4.4
KMBO LR LR 01 28 32.7
comp=Z,697nm,19.1s,MS4.9,baz=255,slow=32
PLAL Pickwick Lake 65.25 308 *e*P **P 01 04 13.5 -0.1**
comp=Z,19nm,1.0s,mb5.1
VRI Vrincioaia 65.28 39⇑P **P 01 04 17.2 +3.3**
WVT Waverly 65.40 310 *e*P **P 01 04 13.7 -0.9**
comp=Z,14nm,0.8s,mb5.0
WVT Waverly 65.40 310 *e*P **P 01 04 13.7 -1.0**
WVT pmax pmax
comp=Z,13nm,0.8s,mb5.0
BLO Bloomington 65.41 313 P **P 01 04 16.5 +1.8**
LVV L'vov 65.54 34 *e*P **P 01 04 17.2 +1.6**
CFR Carcaliu 65.87 40⇑P **P 01 04 18.7 +1.0**
EIL Elat 66.00 58 P **P 01 04 20.3 +1.7**
NB2 NORSAR Subarra 66.78 20 P **P 01 04 23.4 -0.2**
comp=Z,11nm,0.9s,mb4.9,baz=225,slow=6.5
NOA NORSAR Array B 66.78 20 P **P 01 04 24.1 +0.6**
comp=Z,3.6nm,0.9s,mb4.4,baz=222,slow=6.4,SNR=6.5
NOA LR LR 01 32 04.3
comp=Z,589nm,18.8s,MS4.8,baz=220,slow=35
SIUC Southern Illin 66.94 311 P **P 01 04 25.8 +1.2**
ANTO Ankara 67.10 47 *e*P **P 01 04 25.2 -0.4**
comp=Z,46nm,1.4s,mb5.3
ANTO Ankara 67.10 47 *e*P **P 01 04 25.2 -0.4**
ANTO pmax pmax
comp=Z,46nm,1.4s,mb5.3
SUW Suwalki 67.28 30 *e*P **P 01 04 26.7 0.0**
BR131 Keskin Array S 67.67 47 P **P 01 04 29.0 -0.3**
BRTR Keskin Array B 67.67 47 P **P 01 04 28.9 -0.4**
comp=Z,5.2nm,0.8s,mb4.6,baz=232,slow=4.8,SNR=21
SFJD Kangerlussuaq 67.68 351 P **P 01 04 26.8 -2.5**
comp=Z,5.9nm,0.7s,mb4.7,baz=214,slow=12,SNR=2.2
FVM French Village 67.93 311 P **P 01 04 30.8 0.0**
comp=Z,11nm,1.1s,mb4.8
FVM French Village 67.93 311 P **P 01 04 30.8 -0.1**
FVM pmax pmax
comp=Z,11nm,1.1s,mb4.8
UALR University of 68.57 307 P **P 01 04 36.3 +1.5**

CCM Cathedral Cave 68.57 311 P **P 01 04 33.6 -1.3**
AKASG Malin Array Be 68.90 35 P **P 01 04 35.9 -1.0**
comp=Z,8.5nm,0.7s,mb4.8,baz=243,slow=7.0,SNR=31
AKASG Malin Array Be 68.90 35 P **P 01 04 35.9 -1.0**
FRB Frobisher Bay 69.26 342 P **P 01 04 38.4 -0.7**
comp=Z,16nm,1.1s,mb4.9,baz=139,slow=9.0,SNR=3.1
SCO Scoresbysund 69.39 2 *i*P **P 01 04 40.6 +0.7**
SCO Scoresbysund 69.39 2 *e*P **P 01 04 40.6 +0.7**
NATX Nacogdoches 69.79 303 P **P 01 04 44.0 +1.6**
comp=Z,13nm,0.6s,mb5.0
HKT Hockley 70.43 301 P **P 01 04 54.6 +8.2**
MALT Malatya 70.86 50⇑P **P 01 04 49.5 +0.5**
SUMG Summit 71.69 357 P **P 01 04 56.7 +2.7**
comp=Z,14nm,1.2s,mb4.8
EYMN Ely 71.78 321 P **P 01 04 55.6 +1.1**
comp=Z,22nm,1.4s,mb4.9
FINES FINESS Array B 72.58 24 P **P 01 04 60.0 +0.6**
comp=Z,3.8nm,0.8s,mb4.4,baz=241,slow=2.0,SNR=14
FINES LR LR 01 34 01.7
comp=Z,1µm,19.5s,MS5.1,baz=189,slow=34
VNA1 Neumayer--Stat 72.78 173 *e*P **P 01 05 03.7 +3.2**
VNA1 *e* pP 01 05 05.8 +2.1
VNA1 *e* 01 05 16.0
VNA1 *e* 01 05 26.2
VNA1 *e* 01 06 05.0
KSU1 Kansas State U 72.91 311 P **P 01 05 01.9 +0.7**
KAF Kangasniemi 73.03 23 *e*p **P 01 04 57.0 -5.0**
comp=Z,9.4nm,0.9s,mb4.7,baz=241,slow=5.8
KAF Kangasniemi 73.03 23 *e*P **P 01 04 57.0 -5.0**
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VNA2 Neumayer--Watz 73.14 173 *e*P **P 01 05 05.1 +2.5**
baz=325,slow=5.5
VNA2 *e* pP 01 05 06.8 +0.9
VNA2 *e* 01 05 18.3
VNA2 *e* 01 05 27.9
VNA2 *e* 01 06 09.6
VNA3 Neumayer Olymp 73.18 174 *e*P **P 01 05 05.6 +2.7**
VNA3 *e* pP 01 05 07.7 +1.6
VNA3 *e* 01 05 19.0
VNA3 *e* 01 05 31.3
VNA3 *e* 01 06 10.9
WMOK Wichita Mounta 73.74 306 P **P 01 05 06.9 +0.7**
JCT Junction City 73.91 301 *e*P **P 01 05 05.4 -1.7**
comp=Z,18nm,0.9s,mb5.0
JCT Junction City 73.91 301 *e*P **P 01 05 05.4 -1.7**
JCT pmax pmax
comp=Z,18nm,0.9s,mb5.0
SNAA Sanae 74.41 172 P **P 01 05 09.6 -0.5**
comp=Z,3.6nm,0.9s,mb4.3,baz=238,slow=19,SNR=5.5
SNAA Sanae 74.41 172 *e*P **P 01 05 13.7 +3.6**
SNAA *e* pP 01 05 16.5 +3.1
SNAA *e* 01 05 27.6
SNAA *e* 01 05 36.2
SNAA *e* 01 06 17.3
SNAA Sanae 74.41 172 *e*P **P 01 05 10.4 +0.3**
comp=Z,11nm,1.0s,mb4.8
SNAA *e*P pP 01 05 13.7 +0.3
SNAA *e* 01 05 16.5
SNAA *e* 01 05 27.6
SNAA *e* 01 05 36.2
SNAA *e* 01 06 17.3
SNAA Sanae 74.41 172 *e*P **P 01 05 10.4 +0.3**
SNAA *e* pP 01 05 13.7 +0.3
SNAA *e* 01 05 16.5
SNAA *e* 01 05 27.6
SNAA pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 74.73 32⇓*e*P **P 01 05 12.0 +0.1**
OBN *e* 01 07 58.1
OBN *i*S S 01 14 47.6 -0.7
OBN pmax pmax
comp=Z,22nm,1.9s,mb4.8
OBN MLR MLR
comp=Z,600nm,20.0s,MS4.9
VOR Voronezh 75.10 36 P **P 01 05 15.0 +0.9**
VOR pmax pmax
comp=Z,40nm,1.9s,mb5.0
ULM Lac du Bonnet 75.23 322 P **P 01 05 12.9 -1.9**
comp=Z,13nm,1.2s,mb4.7,baz=138,slow=8.4,SNR=8.7
ULM LR LR 01 32 49.7
comp=Z,674nm,21.1s,MS4.9,baz=250,slow=31
KIV Kislovodsk 75.32 45⇑*e*P **P 01 05 17.3 +2.0**
KIV pmax pmax
comp=Z,18nm,1.2s,mb4.9
KIV MLR MLR
comp=Z,500nm,21.0s,MS4.8
JOF Joensuu 75.45 24 *e*p **P 01 05 14.7 -1.4**
comp=Z,11nm,1.0s,mb4.7
JOF Joensuu 75.45 24 *e*P **P 01 05 14.7 -1.4**
JOF pmax pmax
comp=Z,11nm,1.0s,mb4.7
MOS Moscow 75.51 32 *e*P **P 01 05 16.3 -0.2**
MOS pmax pmax
comp=Z,45nm,1.1s,mb5.3
MOS MLR MLR
comp=Z,900nm,18.0s,MS5.1
DAG Danmarks Havn 75.78 2⇑*i*P **P 01 05 17.8 -0.2**
comp=Z,7.7nm,1.3s,mb4.5
DAG Danmarks Havn 75.78 2⇑*e*P **P 01 05 17.8 -0.2**
comp=Z,7.7nm,1.3s,mb4.5
DAG Danmarks Havn 75.78 2⇑*e*P **P 01 05 17.8 -0.2**
DAG pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
GOF Gofitskoye 75.81 44 *e*P **P 01 05 18.7 +0.6**
GOF pmax pmax
comp=Z,54nm,1.0s,mb5.4
VRHR Novokhopersk 76.38 37 *e*P **P 01 05 21.3 -0.1**
VRHR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.6s
ARCES ARCESS Array B 76.85 17 P **P 01 05 23.9 -0.2**
comp=E,2.3nm,0.7s,mb4.2,baz=242,slow=2.3,SNR=5.5
ARCES LR LR 01 35 04.6
comp=E,834nm,18.7s,MS5.1,baz=210,slow=32
FCC Fort Churchill 76.92 331 *e*P **P 01 05 22.8 -1.7**
comp=E,65nm,1.3s,mb5.4
FCC Fort Churchill 76.92 331 *e*P **P 01 05 22.8 -1.7**
FCC pmax pmax
comp=E,65nm,1.3s,mb5.4
GDL2 Guadalupe Moun 78.00 303 P **P 01 05 32.3 +1.8**
KLMR Klimovskoe 78.19 27 *e*P **P 01 05 30.0 -1.5**
KLMR pmax pmax
comp=Z,50nm,1.5s,mb5.2
APA Apatity 78.35 20⇑*e*P **P 01 05 33.0 +0.5**
APA pmax pmax
comp=Z,74nm,1.7s,mb5.3
MNTX Cornudas Mount 78.81 302 *e*P **P 01 05 36.0 +1.0**
comp=Z,4.2nm,0.8s,mb4.4
LVZ Lovozero 78.92 20 *i*P **P 01 05 38.0 +2.4**
LVZ MLR MLR
comp=Z,1µm,24.0s,MS5.1
RSSD Black Hills 79.32 315 *e*P **P 01 05 36.7 -1.1**
comp=Z,8.0nm,0.9s,mb4.7
RSSD *e*PcP PcP 01 05 46.5 +0.5
RSSD Black Hills 79.32 315 *e*P **P 01 05 36.7 -1.1**
RSSD *e* 01 05 46.5
RSSD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SDCO Great Sand Dun 79.56 308 P **P 01 05 41.2 +2.1**
ISCO Idaho Springs 79.89 310 P **P 01 05 42.9 +2.0**
PHWY Pilot Hill 79.96 312 P **P 01 05 43.1 +1.8**
FFC Flin Flon 79.97 325 P **P 01 05 39.8 -1.5**
ANMO Albuquerque 80.02 305 P **P 01 05 43.1 +1.5**
ANMO Albuquerque 80.02 305 *e*P **P 01 05 43.0 +1.4**
LENM Lemitar 80.37 304 P **P 01 05 47.3 +3.8**
SMCO Snowmass 80.86 309 *e*P **P 01 05 47.8 +1.7**
comp=Z,25nm,1.3s,mb5.0
SMCO *e*PcP PcP 01 05 54.7 +2.0
RWWY Rawlins 81.31 312 P **P 01 05 51.5 +3.0**
PV01 Paradox Valley 82.01 308 P **P 01 05 51.9 -0.3**
PV10 Paradox Valley 82.40 308 *e*P **P 01 05 55.8 +1.6**
RES Resolute Bay 83.00 346 P **P 01 05 57.8 +0.5**
comp=Z,14nm,1.1s,mb4.9
RES Resolute Bay 83.00 346 P **P 01 05 57.8 +0.5**
RES pmax pmax
comp=Z,14nm,1.1s,mb4.9
GCMT Greycliff 83.49 316 *e*P **P 01 05 58.8 -1.1**
SRU San Rafael 83.61 309 P **P 01 06 01.5 +1.0**
LKWY Lake 83.91 315 P **P 01 06 03.2 +1.2**
comp=Z,6.2nm,0.7s,mb4.8

LKWY	**Lake**	**83.91**	**315**	P	**P**	**01 06 03.2 +1.2**
LKWY				pmax	pmax	
	comp=Z,6.0nm,0.7s,mb4.8					
FLWY	**Flagg Ranch**	**84.09**	**314**	*e*P	**P**	**01 06 03.1 +0.1**
	comp=Z,12nm,1.0s,mb5.0					
REDW	**Red Top Meadow**	**84.14**	**313**	P	**P**	**01 06 03.7 +0.5**
YFT	**Old Faithful**	**84.21**	**314**	P	**P**	**01 06 04.2 +0.7**
YMR	**Madison River**	**84.32**	**315**	*e*P	**P**	**01 06 06.3 +2.2**
	comp=Z,20nm,0.9s,mb5.2					
HWUT	**Hardware Ranch**	**84.56**	**312**	P	**P**	**01 06 05.1 -0.2**
	comp=Z,8.1nm,0.9s,mb4.8					
QLMT	**Earthquake Lak**	**84.66**	**315**	P	**P**	**01 06 07.6 +1.8**
HRY	**Holter Researc**	**85.06**	**317**	*e*P	**P**	**01 06 08.9 +1.1**
DUG	**Dugway**	**85.43**	**310**	P	**P**	**01 06 10.6 +0.9**
	comp=Z,21nm,1.5s,mb5.0					
DUG	**Dugway**	**85.43**	**310**	P	**P**	**01 06 10.6 +0.9**
DUG				pmax	pmax	
	comp=Z,21nm,1.5s,mb5.0					
LRM	**Limekiln Ridge**	**85.44**	**316**	P	**P**	**01 06 10.8 +1.0**
DLMT	**Dillon**	**85.52**	**315**	*e*P	**P**	**01 06 10.0 -0.2**
	comp=Z,29nm,1.3s,mb5.3					
MCMT	**McKenzie Canyo**	**85.67**	**315**	*e*P	**P**	**01 06 11.9 +1.0**
CHMT	**Chamberlain Mo**	**86.05**	**317**	P	**P**	**01 06 13.6 +0.9**
EDM	**Edmonton**	**86.42**	**323**	P	**P**	**01 06 13.5 -1.1**
MSO	**Missoula**	**86.52**	**317**	P	**P**	**01 06 16.0 +0.9**
HLID	**Hailey**	**86.75**	**313**	P	**P**	**01 06 16.6 +0.4**
ARU	**Arti**	**87.12**	**34**	*e*P	**P**	**01 06 21.3 +3.3**
ARU				*e*		01 09 45.7
ARU				*e*PPP		01 11 39.0
ARU				*e*S		01 16 48.4
ARU				MLR	MLR	
	comp=Z,500nm,19.0s,MS4.9					
ARU				MLR	MLR	
	comp=N,200nm,18.0s,MS5.0					
ARU				MLR	MLR	
	comp=E,500nm,18.0s,MS5.0					
BSMT	**Bassoo Peak**	**87.12**	**318**	P	**P**	**01 06 18.7 +0.6**
ELK	**Elko**	**87.30**	**311**	*e*P	**P**	**01 06 19.6 +0.7**
	comp=E,6.9nm,0.8s,mb4.9					
ELK	**Elko**	**87.30**	**311**	*e*P	**P**	**01 06 19.6 +0.7**
ELK				pmax	pmax	
	comp=Z,7.0nm,0.8s					
YKA	**Yellowknife Ar**	**87.53**	**332**	P	**P**	**01 06 19.6 -0.4**
	comp=Z,1.2nm,0.8s,mb4.2,baz=88,slow=5.2,SNR=16					
YKA				LR	LR	01 38 56.2
	comp=Z,1μm,21.9s,MS5.2,baz=85,slow=31					
YKA	**Yellowknife Ar**	**87.53**	**332**	P	**P**	**01 06 19.6 -0.4**
YKA				LR	LR	01 38 56.2
YKA	**Yellowknife Ar**	**87.53**	**332**	*i* P	**P**	**01 06 20.7 +0.7**
YKA				pmax	pmax	
	comp=Z,1.0nm,0.8s					
YKW3	**Yellowknife Ar**	**87.53**	**332**	*e*P	**P**	**01 06 20.7 +0.6**
TPH	**Tonopah**	**88.83**	**308**	P	**P**	**01 06 27.5 +1.4**
	comp=Z,11nm,0.9s,mb5.2					
TPH	**Tonopah**	**88.83**	**308**	P	**P**	**01 06 27.5 +1.4**
TPH				pmax	pmax	
	comp=Z,11nm,0.9s,mb5.2					
BMO	**Blue Mountains**	**88.84**	**315**	P	**P**	**01 06 26.7 +0.5**
	comp=Z,6.8nm,1.0s,mb4.9					
BMO	**Blue Mountains**	**88.84**	**315**	P	**P**	**01 06 26.7 +0.5**
BMO				pmax	pmax	
	comp=Z,7.0nm,1.0s,mb5.0					
NVAR	**Mina Array Bea**	**89.67**	**308**	P	**P**	**01 06 29.6 -0.5**
	comp=Z,3.4nm,1.0s,mb4.6,baz=104,slow=5.3,SNR=12					
ISA	**Isabella**	**89.86**	**305**	P	**P**	**01 06 31.0 0.0**
QSPA	**South Pole Qui**	**91.16**	**180**	P	**P**	**01 06 36.0 -1.0**
	comp=Z,3.3nm,0.9s,mb4.7					
KURK	**Kurchatov**	**99.55**	**38**	*i* P	**P**	**01 07 17.3 +2.0**
ILAR	**Eielson Array**	**101.00**	**338**	P	Pdif	01 07 19.9 -1.9
	comp=Z,1.1nm,1.3s,baz=28,slow=4.1,SNR=3.4					
ILAR				PP	PP	01 11 29.2 -0.8
	comp=Z,0.6nm,1.0s,baz=82,slow=6.5,SNR=3.6					
MKAR	**Makanchi Array**	**102.89**	**41**	PP	PP	01 11 47.8 +3.7
	comp=Z,1.0nm,0.9s,baz=286,slow=6.1,SNR=5.2					
RKT	**Rikitea**	**106.15**	**246**	*e*LR	LR	01 43 16.7
	comp=Z,465nm,24.0s					
SONM	**Songino Array**	**117.14**	**33**	PKP	PKPdf	01 12 16.1 -1.1
	comp=Z,0.3nm,0.7s,baz=108,slow=4.7,SNR=2.5					
TBI	**Tubuai**	**119.26**	**244**	*e*SS	SS	01 30 12.5 +8.9
	comp=Z,294nm,28.5s					
TBI				*e*LQ		01 43 34.4
	comp=Z,664nm,40.2s					
TBI				*e*LR	LR	01 48 51.0
	comp=Z,651nm,25.5s					
PPT	**Papeete**	**120.46**	**250**	*e*SS	SS	01 30 27.3 +8.3
	comp=Z,239nm,25.0s					
PPT				*e*LQ		01 43 38.0
	comp=Z,2μm,36.0s					
PPT				*e*LR	LR	01 49 03.1
	comp=Z,766nm,28.0s					
LZH	**Lanzhou**	**121.86**	**45**	*e*PKP	PKPdf	01 12 24.7 -1.6
LZH				XPKP		01 12 29.6
LZH				PP	PP	01 14 03.9 +4.2
LZH				*e*SKS	SKSdf	01 19 31.5 -6.9
LZH				SKKS	SKKSac	01 20 51.5 -7.8
LZH				SS	SS	01 30 37.0 +0.2
LZH				PP	PP	
	comp=Z,210nm,6.0s					
LZH				LR	LR	
	comp=E,985nm,19.7s					
LZH				LR	LR	
	comp=Z,2μm,21.0s,MS5.7					
HHC	**Hu-ho-hao-te**	**124.32**	**37**	*e*PKP	PKPdf	01 12 29.6 -1.4
HHC				PP	PP	01 14 19.9 +3.6
HHC				PKS		01 16 04.9
HHC				SKS	SKSdf	01 19 40.1 -2.9
HHC				SKKS	SKKSac	01 21 12.1 -3.1
HHC				SS	SS	01 31 10.0 +1.9
HHC				LR	LR	
	comp=N,439nm,18.6s,MS5.2					
HHC				LR	LR	
	comp=E,350nm,19.1s,MS5.2					
HHC				LR	LR	
	comp=Z,803nm,21.1s,MS5.4					
KMI	**Kunming**	**125.59**	**58**	PKP	PKPdf	01 12 34.3 +0.8
KMI				PP	PP	01 14 33.0 +8.2
KMI				SS	SS	01 31 26.9 +2.9
KMI				LR	LR	
	comp=N,206nm,23.5s,MS4.9					
KMI				LR	LR	
	comp=E,209nm,19.1s,MS4.9					
KMI				LR	LR	
	comp=Z,201nm,16.1s,MS4.9					
CN2	**Changchun**	**129.33**	**25**	*e*PKP	PKPdf	01 12 44.5 +3.9
CN2				*e*PP	PP	01 14 58.3 +8.8
CN2				SKS	SKSdf	01 19 55.2 +2.9
CN2				LR	LR	
	comp=N,400nm,18.0s,MS5.2					
CN2				LR	LR	
	comp=E,300nm,18.0s,MS5.2					
CN2				LR	LR	
	comp=Z,500nm,21.0s,MS5.2					
MDJ	**Mudanjiang**	**130.26**	**21**	PKP	PKPdf	01 12 42.3 -0.1
MDJ				LR	LR	
	comp=N,442nm,31.0s,MS5.0					
MDJ				LR	LR	
	comp=E,259nm,29.8s,MS5.0					
MDJ				LR	LR	
	comp=Z,443nm,27.3s,MS5.0					
NJ2	**Nanjing**	**134.41**	**41**	*e*PKP	PKPdf	01 12 47.3 -2.9
NJ2				PP	PP	01 15 25.0 +2.8
NJ2				PKS		01 16 22.0
NJ2				SKKS	SKKSac	01 22 12.0 -6.0
NJ2				PP	PP	
	comp=Z,230nm,10.1s					
NJ2				LR	LR	
	comp=N,360nm,26.1s,MS5.2					
NJ2				LR	LR	
	comp=E,490nm,26.1s,MS5.2					
NJ2				LR	LR	
	comp=Z,510nm,20.2s					
SSE	**Sheshan**	**136.54**	**40**	*e*PKP	PKPdf	01 12 55.0 +0.8
SSE				LR	LR	
	comp=N,294nm,18.0s,MS5.1					
SSE				LR	LR	
	comp=E,146nm,18.0s,MS5.1					
SSE				LR	LR	
	comp=Z,426nm,19.3s,MS5.2					
AFI	**Afiamalu**	**142.10**	**249**	*e*PKPdf	PKPdf	01 13 06.4 +2.1
STKA	**Stephens Creek**	**147.80**	**163**	PKPbc	PKPbc	01 13 17.2 +0.2
	comp=Z,4.3nm,0.7s,baz=245,slow=1.9,SNR=8.7					
STKA	**Stephens Creek**	**147.80**	**163**	*e*PKPab	PKPab	01 13 19.1 -0.3
ASAR	**Alice Springs**	**151.44**	**143**	PKPbc	PKPbc	01 13 25.1 -0.9
	comp=Z,2.8nm,0.8s,baz=209,slow=2.0,SNR=9.4					
WRA	**Warramunga Arr**	**154.43**	**138**	PKPbc	PKPbc	01 13 32.7 +0.1
	comp=Z,0.9nm,1.0s,baz=240,slow=1.8,SNR=3.7					

*ISCJB **04** 00:54:34.8±0.6, 4063N±003×3468E±004, h10km±4km, Error ellipse: s-maj=5.1km s-min=4.3km az=35.6*
*CSEM **04** 00:54:34.0±0.1, 4061N×3472E, h15km, MD3.5, Error ellipse: s-maj=2.6km s-min=2.2km az=100.0*
*NEIC **04** 00:54:34.0, 4061N×3475E, h10km, MD3.3(ISK), After ISK.*
*ISK **04** 00:54:34.5, 4061N×3474E, h14km, MD3.5*
ISC 04 00:54:35.4±0.5, 4062N±003×3470E±004, h11km±4km, n31, σ0°94/40, 2C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.07**	**88**	*i* P	**Pg**	**00 54 37.9**	**+0.2**
CORM	**Corum**	**0.44**	**187**	*i* PG	**Pg**	**00 54 43.6**	**-0.5**
CORM				*i* SG	**Sg**	**00 54 50.6**	**+0.6**
TOS	**Tosya**	**0.66**	**309**	*i* PG	**Pg**	**00 54 48.1**	**0.0**
BOYT	**Boyabat**	**0.81**	**11**	*i* P	**Pg**	**00 54 50.7**	**-0.4**
BOYT				*i* S	**Sg**	**00 55 02.9**	**+1.2**
CANT	**Cankiri**	**0.82**	**269**	*i* PG	**Pg**	**00 54 51.1**	**-0.1**
BYBT	**Boyabat**	**0.85**	**4**	*i* PG	**Pg**	**00 54 51.5**	**-0.3**
ELDT	**Eldivan**	**0.98**	**263**	*i* P	**Pg**	**00 54 53.3**	**-0.9**
ELDT				*i* S	**Sg**	**00 55 07.1**	**+0.1**
KVT	**Kavak**	**1.12**	**65**	*i* PN	**Pn**	**00 54 55.3**	**-1.8**
KVT				*i* SN	**Sn**	**00 55 11.8**	**-0.7**
BR131	**Keskin Array S**	**1.21**	**223⇑**	*e*Pn	**Pn**	**00 54 56.7**	**-1.5**
BR131				*e*Sn	**Sn**	**00 55 12.6**	**-2.0**
BR131	**Keskin Array S**	**1.21**	**223⇑**	*e*Pn	**Pn**	**00 54 56.7**	**-1.5**
BR131				*e*Sn	**Sn**	**00 55 12.6**	**-2.1**
BZK	**Bozkurt**	**1.44**	**339**	PN	**Pn**	**00 55 01.5**	**+0.1**
TOKT	**Tokat**	**1.44**	**101**	*i* PN	**Pn**	**00 55 01.2**	**-0.3**
KAMT	**Kaman**	**1.46**	**211**	*i* PN	**Pn**	**00 55 00.9**	**-0.8**
ANTO	**Ankara**	**1.64**	**243**	PN	**Pn**	**00 55 04.2**	**0.0**
ANTO	**Ankara**	**1.64**	**243**	*e*Pn	**Pn**	**00 55 04.7**	**+0.5**
ANTO				*e*Sn	**Sn**	**00 55 27.6**	**+2.4**
SAFT	**Safranbolu**	**1.64**	**293**	PN	**Pn**	**00 55 05.1**	**+0.8**
AVNT	**Avonos**	**1.84**	**176**	*i* P	**Pn**	**00 55 07.5**	**+0.5**
AVNT				*i* S	**Sn**	**00 55 31.9**	**+1.6**
SVST	**Sivas**	**1.92**	**115**	*i* P	**Pn**	**00 55 10.0**	**+1.9**
SVST				*i* S	**Sn**	**00 55 36.7**	**+4.4**
NIG	**Nigde**	**2.51**	**182**	*e*PN	**Pn**	**00 55 15.0**	**-1.1**
MDU	**Mudurnu**	**2.66**	**268**	*e*PN	**Pn**	**00 55 18.7**	**+0.5**
KIZT	**Kizilcal**	**2.78**	**232**	*e*PN	**Pn**	**00 55 20.0**	**+0.1**
KONT	**Konya--Tatoy**	**3.23**	**215**	*e*PN	**Pn**	**00 55 26.4**	**+0.4**
KOZT	**Kozan**	**3.26**	**164**	*e*PN	**Pn**	**00 55 26.1**	**-0.3**
KARA	**Karaisali**	**3.37**	**175**	*e*PN	**Pn**	**00 55 27.4**	**-0.5**
MALT	**Malatya**	**3.69**	**127**	⇓P	**Pn**	**00 55 35.9**	**+3.5**
GAZ	**Gaziantep**	**3.96**	**150**	*e*PN	**Pn**	**00 55 36.4**	**+0.3**
TIRR	**Tirgusor**	**6.02**	**312**	⇓P	**Pn**	**00 56 04.2**	**-0.2**
TIRR	**Tirgusor**	**6.02**	**312**	⇓P	**Pn**	**00 56 04.2**	**-0.2**
CFR	**Carcaliu**	**6.63**	**316**	⇓P	**Pn**	**00 56 13.3**	**+0.5**
BURAR	**Bucovina Array**	**9.76**	**319**	⇓P	**Pn**	**00 56 55.4**	**-0.3**
BURAR	**Bucovina Array**	**9.76**	**319**	⇓P	**Pn**	**00 56 55.4**	**-0.4**

*IDC **04** 01:12:45.0±1.9, 2297S×17543W, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.1/16, mbtmp4.2/6, ML5.0/1, Error ellipse: s-maj=104.6km s-min=23.5km az=160.0*
*ISCJB **04** 01:12:48.0±0.7, 227S±01×1755W±0.1, h33km, mb4.2/6, Error ellipse: s-maj=21.5km s-min=12.8km az=143.7*
*NEIC **04** 01:12:49.1±0.6, 2262S×17548W, h25km, mb4.6/1, Error ellipse: s-maj=20.1km s-min=11.9km az=160.0*
ISC 04 01:12:50.2±0.7, 226S±01×1754W±01, h35km, n15, σ0°77/13, mb4.2/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.97**	**198**	*e*Pn	**Pn**	**01 14 30.6**	**+0.8**
	226nm,0.3s						
RAR	**Rarotonga**	**14.61**	**87**	Pn	**Pn**	**01 16 13.0**	**-1.2**
	7.0nm,0.3s,baz=288,slow=3.8,SNR=7.5						
RAR				Sn	**Sn**	**01 18 43.7**	**-11**
	1.4nm,0.3s,baz=68,slow=9.9,SNR=3.6						
CTA	**Charters Tower**	**35.70**	**267**	P	**P**	**01 19 45.6**	**+0.3**
	2.9nm,0.5s,mb4.5,baz=88,slow=11,SNR=10						
STKA	**Stephens Creek**	**39.09**	**247**	P	**P**	**01 20 08.2**	**-5.7**
AS31	**Alice Springs**	**46.39**	**258**	*e*P	**P**	**01 21 13.1**	**-0.1**
ASAR	**Alice Springs**	**46.39**	**258**	P	**P**	**01 21 12.8**	**-0.4**
	1.2nm,0.4s,mb4.2,baz=97,slow=7.3,SNR=10						
ASPA	**Alice Springs**	**46.40**	**258**	*e*P	**P**	**01 21 13.1**	**-0.1**
WB2	**Warramunga Arr**	**46.69**	**263**	*e*P	**P**	**01 21 15.0**	**-0.5**
WRAB	**Tennant Creek**	**46.69**	**263**	*e*P	**P**	**01 21 15.2**	**-0.3**
	5.7nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**46.70**	**263**	P	**P**	**01 21 14.8**	**-0.8**
	1.3nm,0.4s,mb4.2,baz=96,slow=8.2,SNR=7.0						
NVAR	**Mina Array Bea**	**80.96**	**42**	P	**P**	**01 25 02.7**	**+1.6**
	0.6nm,0.7s,mb3.6,baz=224,slow=9.0,SNR=4.8						
ILAR	**Eielson Array**	**89.86**	**12**	P	**P**	**01 25 46.2**	**+0.7**
	0.7nm,0.9s,mb4.0,baz=214,slow=6.6,SNR=4.5						
MKAR	**Makanchi Array**	**114.38**	**313**	PKP	PKiKP	01 31 27.5	+1.3
	0.2nm,0.5s,baz=143,slow=2.9,SNR=4.1						
AKASG	**Malin Array Be**	**146.01**	**332**	PKPbc	PKPbc	01 32 27.5	+1.3
	0.4nm,0.2s,baz=43,slow=3.9,SNR=6.3						
BRTR	**Keskin Array B**	**150.02**	**311**	PKPbc	PKPbc	01 32 39.1	+2.1
	0.4nm,0.5s,baz=154,slow=4.1,SNR=6.2						

*ISCJB **04** 01:39:29.5±0.6, 287N±0.1×1399E±03, h462km±12km, mb3.4/8, Error ellipse: s-maj=45.6km s-min=10.3km az=149.2*
*NEIC **04** 01:39:30.2, 2882N×14029E, h469km, MG3.5(JMA), After JMA.*
*JMA **04** 01:39:30.1±0.1, 2882N×14029E, h469km, M3.5*
*IDC **04** 01:39:30.2±0.8, 2865N×13969E, h445km±18km, mb3.0/6, mb1 3.1/8, mb1mx2.9/19, mbtmp3.8/8, Error ellipse: s-maj=49.1km s-min=13.3km az=74.0*
ISC 04 01:39:30.5±0.6, 287N±01×1400E±03, h462km±12km, n19, σ0°76/22, mb3.4/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.50**	**130**	P	**P**	**01 40 35.3**	**+0.3**
	47nm,0.3s,baz=320,slow=19,SNR=14						
CBIJ				S	**S**	**01 41 27.1**	**-0.4**
	31nm,0.3s,baz=281,slow=22,SNR=9.8						
CBIJ	**Chichi jima**	**2.50**	**130**	P	**P**	**01 40 35.1**	**+0.1**
CBIJ				*e*S	**S**	**01 41 26.3**	**-1.2**
JHHJ	**Haha-jima-NKT**	**2.83**	**137**	P	**P**	**01 40 37.4**	**+0.2**
BSO3	**Boso 3**	**6.08**	**4**	P	**P**	**01 41 06.6**	**+0.6**
JIE	**Ise**	**6.33**	**334**	P	**P**	**01 41 09.7**	**+1.2**
JNY	**Yasuok**	**6.87**	**345**	P	**P**	**01 41 14.8**	**+0.7**
JHU	**Hanno**	**7.14**	**355**	P	**P**	**01 41 16.4**	**-0.6**
JRY	**Ryogami san**	**7.34**	**353**	P	**P**	**01 41 18.3**	**-0.7**
JAG	**Ashikaga**	**7.70**	**357**	P	**P**	**01 41 22.5**	**-0.4**
JAG				*e*S	**S**	**01 42 49.0**	**-6.0**
JHO	**Hitachi**	**7.88**	**3**	P	**P**	**01 41 26.0**	**+1.2**
MJAR	**Matsushiro Arr**	**7.95**	**349**	P	**P**	**01 41 24.5**	**-1.1**
	0.9nm,0.3s,baz=169,slow=11,SNR=5.6						
SONM	**Songino Array**	**32.22**	**316**	P	**P**	**01 45 19.1**	**-0.1**
	0.7nm,0.4s,mb3.4,baz=124,slow=7.8,SNR=17						
MKAR	**Makanchi Array**	**47.97**	**309**	P	**P**	**01 47 25.0**	**-1.0**
	0.5nm,0.5s,mb3.1,baz=87,slow=10.0,SNR=11						
WRA	**Warramunga Arr**	**48.69**	**187**	P	**P**	**01 47 31.4**	**0.0**
	0.5nm,0.4s,mb3.2,baz=4.9,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**52.41**	**187**	P	**P**	**01 47 59.4**	**+0.7**
	0.2nm,0.4s,mb2.8,baz=22,slow=12,SNR=5.8						
ARCES	**ARCESS Array B**	**71.38**	**340**	P	**P**	**01 50 03.8**	**+1.0**
	1.9nm,0.9s,mb3.6,baz=67,slow=9.3,SNR=5.6						
JOF	**Joensuu**	**72.78**	**333**	*e*p	**P**	**01 50 11.0**	**+0.1**
	1.4nm,0.6s,mb3.7						
KAF	**Kangasniemi**	**75.18**	**334**	*e*p	**P**	**01 50 23.2**	**-1.4**
	1.9nm,0.9s,mb3.6						
FINES	**FINESS Array B**	**75.65**	**333**	P	**P**	**01 50 27.4**	**+0.2**
	0.6nm,0.3s,mb3.6,baz=68,slow=5.2,SNR=20						

IDC 04 01:50:49.3±6.4, 1845S×6899W, h146km±40km, mb3.3/2, mb1 3.5/4, mb1mx3.2/17, mbtmp3.7/4, Error ellipse: s-maj=74.3km s-min=34.3km az=35.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.30**	**21**	P	Pn	01 51 28.5	+0.8
	4.0nm,0.3s,baz=210,slow=7.1,SNR=162						
LPAZ				S	Sn	01 51 59.0	+1.7
	0.6nm,0.3s,baz=331,slow=13,SNR=4.4						
SIV	**San Ignacio**	**7.95**	**73**	P	Pn	01 52 41.9	-0.1
	1.5nm,0.3s,baz=258,slow=12,SNR=34						
TORD	**Torodi Ar. Bea**	**76.42**	**71**	P	P	02 02 23.4	+0.7
	1.0nm,1.1s,baz=251,slow=5.1,SNR=14						
YKA	**Yellowknife Ar**	**88.30**	**341**	P	P	02 03 23.7	-0.5
	0.3nm,0.5s,baz=135,slow=4.6,SNR=8.8						

MAN 04 02:06:35.7, 1187N×12531E, h46km, mb1.4, ML3.4, MS6.1, Samar

IDC 04 02:07:03.9±3.2, 3733S×5167E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=290.2km s-min=30.1km az=26.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**68.72**	**307**	P	P	02 18 09.7	+0.4
	0.5nm,1.0s,baz=149,slow=5.9,SNR=2.3						
ASAR	**Alice Springs**	**70.14**	**105**	P	P	02 18 18.4	+0.3
	0.4nm,0.5s,baz=231,slow=6.3,SNR=6.9						
WRA	**Warramunga Arr**	**72.52**	**102**	P	P	02 18 33.2	+0.7
	0.3nm,0.7s,baz=231,slow=5.1,SNR=5.3						
ILAR	**Eielson Array**	**150.39**	**16**	PKPbc	PKPbc	02 26 55.5	-1.8
	0.3nm,0.7s,baz=343,slow=2.8,SNR=3.6						

*NEIC **04** 02:13:10.7, 4952N×8158W, h18km, MN3.4(OTT), After OTT.*
NEIC Felt at Smooth Rock Falls, Moonbeam and Fauquier.
OTT 04 02:13:10.5±0.1, 4951N×8154W, h12km, MN3.4/20, 1C-3D, Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPO	**Kapuskasing**	**0.64**	**265**	⇓PG	Pg	02 13 22.1	-0.8
KAPO				SG	Sg	02 13 30.1	-1.1
KAPO				Trac		02 13 33.5	
	comp=Z,337nm,0.1s						
KAPO	**Kapuskasing**	**0.64**	**265**	⇓Pg	Pg	02 13 22.1	-0.8
KAPO				Sg	Sg	02 13 30.2	-1.1
OTRO	**Otter Rapids**	**0.67**	**355**	PG	Pg	02 13 23.1	-0.6
OTRO				SG	Sg	02 13 31.6	-0.9
OTRO				Trac		02 13 38.6	
	comp=Z,940nm,0.1s						
OTRO	**Otter Rapids**	**0.67**	**355**	Pg	Pg	02 13 23.1	-0.6
OTRO				Sg	Sg	02 13 32.0	-0.5
TIMO	**Timmins Ontari**	**1.06**	**171**	⇑PG	Pg	02 13 29.9	-1.0
TIMO				SG	Sg	02 13 43.2	-1.5
TIMO				Trac		02 13 47.0	
	comp=Z,124nm,0.1s						
MALO	**McAlpine Lake**	**1.26**	**65**	⇓PG	Pg	02 13 33.3	-1.5
MALO				SG	Sg	02 13 49.4	-1.8
MALO				Trac		02 13 50.3	
	comp=Z,168nm,0.1s						
MALO	**McAlpine Lake**	**1.26**	**65**	Pg	Pg	02 13 33.3	-1.4
MALO				Sg	Sg	02 13 49.7	-1.5
KILO	**Kirkland Lake**	**1.57**	**130**	PG	Pg	02 13 38.3	-2.4
KILO				SG	Sg	02 13 57.9	-3.1
KILO				Trac		02 14 01.0	
	comp=Z,65nm,0.1s						
KILO	**Kirkland Lake**	**1.57**	**130**	Pn	Pn	02 13 38.3	+0.1
KILO				Sn	Sn	02 13 58.2	-0.1
HSMO	**Haileybury Sch**	**2.48**	**149**	PN	Pn	02 13 50.4	-0.2
HSMO				SN	Sn	02 14 19.8	-1.0
HSMO				SG	Sg	02 14 25.2	-4.9
HSMO				Trac		02 14 26.6	
	comp=Z,49nm,0.1s						
SUNO	**Sudbury Onapin**	**2.87**	**177**	PN	Pn	02 13 55.7	-0.4
SUNO				SN	Sn	02 14 32.3	+1.8
SUNO				SG	Sg	02 14 38.0	-4.9
SUNO				Trac		02 14 43.2	
	comp=Z,61nm,0.2s						
SUNO	**Sudbury Onapin**	**2.87**	**177**	Pn	Pn	02 13 55.7	-0.4
SUNO				Sn	Sn	02 14 28.9	-1.6
VLDQ	**Val d'Or**	**3.04**	**116**	PN	Pn	02 13 55.4	-3.0
VLDQ				SN	Sn	02 14 27.8	-6.8
VLDQ				SG	Sg	02 14 35.7	-13
VLDQ				Trac		02 14 39.6	
	comp=Z,64nm,0.2s						
VLDQ	**Val d'Or**	**3.04**	**116**	Pn	Pn	02 13 54.8	-3.6
VLDQ				Sn	Sn	02 14 27.8	-6.8
PNPO	**Pukaskwa Natio**	**3.25**	**255**	PN	Pn	02 14 01.0	-0.3
PNPO				SN	Sn	02 14 37.0	-2.9
PNPO				SG	Sg	02 14 48.4	-6.7
PNPO				Trac		02 14 53.3	
	comp=Z,40nm,0.1s						
PNPO	**Pukaskwa Natio**	**3.25**	**255**	Pn	Pn	02 14 01.0	-0.3
PNPO				Sn	Sn	02 14 37.0	-2.9
EEO	**Eldee**	**3.31**	**149**	PN	Pn	02 14 02.0	-0.2
EEO				SN	Sn	02 14 39.0	-2.4
EEO				SG	Sg	02 14 50.7	-6.2
EEO				Trac		02 14 54.8	
	comp=Z,30nm,0.3s						
EEO	**Eldee**	**3.31**	**149**	Pn	Pn	02 14 01.9	-0.2
EEO				Sn	Sn	02 14 39.1	-2.3
GTO	**Geraldton**	**3.53**	**276**	PN	Pn	02 14 05.0	-0.2
GTO				SN	Sn	02 14 44.0	-2.8
GTO				SG	Sg	02 14 58.1	-6.0
GTO				Trac		02 15 03.4	
	comp=Z,49nm,0.1s						
GTO	**Geraldton**	**3.53**	**276**	Pn	Pn	02 14 04.6	-0.5
GTO				Sn	Sn	02 14 44.0	-2.8
VIMO	**Victor Mine**	**3.59**	**338**	PN	Pn	02 14 05.4	-0.5
VIMO				SN	Sn	02 14 47.3	-0.9
VIMO				SG	Sg	02 14 59.7	-6.2
VIMO				Trac		02 15 02.0	
	comp=Z,26nm,0.1s						
VIMO	**Victor Mine**	**3.59**	**338**	Pn	Pn	02 14 05.2	-0.7
VIMO				Sn	Sn	02 14 47.3	-0.9
NANO	**Nakina Ontario**	**3.61**	**286**

SADO			Sn	Sn	02 15 20.2	-3.2
BANO	**Bancroft**	**5.12 150**	PN	Pn	02 14 27.0	0.0
BANO			SN	Sn	02 15 24.4	-1.6
BANO			SG	Sg	02 15 47.8	-7.1
BANO			Trac		02 15 56.0	
comp=Z,6.5nm,0.1s						
CLWO	**Collingwood**	**5.13 170**	PN	Pn	02 14 27.1	-0.1
CLWO			SN	Sn	02 15 23.2	-3.1
CLWO			SG	Sg	02 15 48.4	-6.9
CLWO			Trac		02 15 53.1	
comp=Z,22nm,0.3s						
TBO	**Thunder Bay**	**5.24 264**	PN	Pn	02 14 27.7	-1.0
TBO			SN	Sn	02 15 25.0	-4.0
TBO			SG	Sg	02 15 50.5	-8.4
TBO			Trac		02 15 55.9	
comp=Z,25nm,0.3s						
BRCO	**Bruce Peninsul**	**5.27 179**	PN	Pn	02 14 29.5	+0.5
BRCO			SN	Sn	02 15 26.4	-3.3
BRCO			SG	Sg	02 15 54.5	-5.2
BRCO			Trac		02 16 14.5	
comp=Z,35nm,0.2s						
LDIO	**Lac des Isle M**	**5.28 269**	SN	Sn	02 15 25.3	-4.6
LDIO			SG	Sg	02 15 51.0	-8.9
LDIO			Trac		02 15 57.7	
comp=Z,448nm,0.3s						
SILO	**Sutton Inlier**	**5.39 339**	PN	Pn	02 14 29.8	-1.0
SILO			SN	Sn	02 15 30.6	-2.1
SILO			SG	Sg	02 15 53.3	-10
SILO			Trac		02 15 56.9	
comp=Z,4.4nm,0.3s						
PLVO	**Plevna**	**5.41 144**	PN	Pn	02 14 30.2	-0.7
PLVO			SN	Sn	02 15 28.9	-4.1
PLVO			SG	Sg	02 15 55.0	-9.1
PLVO			Trac		02 15 59.6	
comp=Z,13nm,0.2s						
LINO	**Lindsay**	**5.49 159**	PN	Pn	02 14 30.9	-1.2
LINO			SN	Sn	02 15 31.2	-3.9
LINO			SG	Sg	02 16 02.6	-4.3
LINO			Trac		02 16 06.3	
comp=Z,6.1nm,0.1s						
GAC	**Glen Almond**	**5.59 131**	PN	Pn	02 14 32.3	-1.2
GAC			PN	Pn	02 14 32.4	-1.1
GAC			SN	Sn	02 15 32.5	-5.2
GAC			SN	Sn	02 15 33.6	-4.0
GAC			SG	Sg	02 15 59.7	-10
GAC			SG	Sg	02 16 00.8	-9.4
GAC			Trac		02 16 05.8	
comp=Z,22nm,0.3s						
GAC			Trac		02 16 05.9	
comp=Z,28nm,0.4s						
DELO	**Deloro Mine**	**5.67 150**	PN	Pn	02 14 33.1	-1.4
DELO			SN	Sn	02 15 35.3	-4.2
DELO			SG	Sg	02 15 58.9	-14
DELO			Trac		02 16 11.6	
comp=Z,19nm,0.1s						
TRQ	**Mont Tremblant**	**5.74 122**	PN	Pn	02 14 34.3	-1.1
TRQ			SN	Sn	02 15 36.3	-4.8
TRQ			SG	Sg	02 16 07.8	-6.8
TRQ			Trac		02 16 16.3	
comp=Z,14nm,0.2s						
PKRO	**Pickering**	**5.80 162**	SN	Sn	02 15 37.7	-5.1
PKRO			SG	Sg	02 16 11.6	-5.1
PKRO			Trac		02 16 16.1	
comp=Z,62nm,0.3s						
ELGO	**Elora Gorge**	**5.89 172**	PN	Pn	02 14 37.2	-0.3
ELGO			SN	Sn	02 15 42.4	-2.5
ALFO	**Alfred**	**5.95 128**	PN	Pn	02 14 36.9	-1.4
ALFO			SN	Sn	02 15 41.2	-5.1
ALFO			SG	Sg	02 16 11.8	-10
ALFO			Trac		02 16 26.9	
comp=Z,5.9nm,0.2s						
MPPO	**Murphy's Point**	**5.95 141**	PN	Pn	02 14 37.7	-0.7
MPPO			SN	Sn	02 15 42.2	-4.2
MPPO			Trac		02 16 18.9	
comp=Z,10nm,0.2s						
PKLO	**Pickle Lake**	**5.96 293**	PN	Pn	02 14 37.0	-1.6
PKLO			SN	Sn	02 15 41.3	-5.5
PKLO			SG	Sg	02 16 09.7	-12
PKLO			Trac		02 16 15.4	
comp=Z,29nm,0.2s						
KASO	**Kasabonika Lak**	**5.99 315**	SN	Sn	02 15 42.9	-4.4
KASO			SG	Sg	02 16 10.1	-13
ACTO	**Acton**	**5.99 170**	PN	Pn	02 14 38.0	-0.9
ACTO			SN	Sn	02 15 45.0	-2.5
ACTO			SG	Sg	02 16 13.6	-9.3
ACTO			Trac		02 16 18.9	
comp=Z,8.6nm,0.1s						
WLVO	**Wesleyville**	**5.99 158**	PN	Pn	02 14 38.3	-0.7
WLVO			SN	Sn	02 15 42.1	-5.3
WLVO			SG	Sg	02 16 15.9	-7.0
WLVO			Trac		02 16 19.7	
comp=Z,11nm,0.3s						
LG4Q	**La Grande 4**	**6.20 46**	PN	Pn	02 14 40.4	-1.5
LG4Q			SN	Sn	02 15 45.8	-6.9
LG4Q			SG	Sg	02 16 19.6	-10
LG4Q			Trac		02 16 24.9	
comp=Z,22nm,0.3s						
LG4Q	**La Grande 4**	**6.20 46**	Pn	Pn	02 14 40.5	-1.4
LG4Q			Sn	Sn	02 15 47.8	-4.9
LG4Q			Lg		02 16 22.4	
WBO	**Williamsburg**	**6.21 134**	PN	Pn	02 14 40.1	-1.8
WBO			SN	Sn	02 15 46.3	-6.4
WBO			SG	Sg	02 16 19.9	-10
WBO			Trac		02 16 21.2	
comp=Z,12nm,0.3s						
KGNO	**Kingston**	**6.32 145**	SN	Sn	02 15 49.8	-5.6
ELFO	**Elginfield**	**6.32 179**	PN	Pn	02 14 43.4	-0.1
ELFO			SN	Sn	02 15 53.8	-1.7
ELFO			SG	Sg	02 16 26.2	-7.2
ELFO			Trac		02 16 44.1	
comp=Z,12nm,0.3s						
MUMO	**Musselwhite Mi**	**6.39 302**	PN	Pn	02 14 42.2	-2.1
MUMO			SN	Sn	02 15 50.6	-6.5
MUMO			Trac		02 15 53.2	
comp=Z,3.8nm,0.2s						
MUMO			SG	Sg	02 16 25.4	-10
DPQ	**Saint Jean**	**6.51 112**	PN	Pn	02 14 45.3	-0.9
DPQ			SN	Sn	02 15 53.3	-7.1
DPQ			SG	Sg	02 16 29.9	-10
DPQ			Trac		02 16 33.8	
comp=Z,11nm,0.3s						
DPQ	**Saint Jean**	**6.51 112**	Pn	Pn	02 14 45.3	-0.9
DPQ			Sn	Sn	02 15 55.5	-4.9
EFO	**Effingham**	**6.60 166**	PN	Pn	02 14 46.6	-0.7
EFO			Trac		02 16 35.4	
comp=Z,17nm,0.4s						
ATKO	**Atikokan Iron**	**6.63 268**	PN	Pn	02 14 45.3	-2.5
ATKO			SN	Sn	02 15 57.0	-6.3
ATKO			SG	Sg	02 16 32.2	-11
ATKO			Trac		02 16 37.5	
comp=Z,241nm,0.2s						
PTN	**Potsdam (NY)**	**6.67 135**	PN	Pn	02 14 48.0	-0.2
PTN			SN	Sn	02 15 58.5	-5.6
PTN			SG	Sg	02 16 34.9	-10
MEDO	**Medina**	**6.70 160**	PN	Pn	02 14 48.2	-0.5
MEDO			SN	Sn	02 15 59.1	-5.7
MEDO			SG	Sg	02 16 32.2	-13
YOSQ	**Ashton Mining**	**6.76 57**	PN	Pn	02 14 47.5	-2.0
YOSQ			SN	Sn	02 15 59.9	-6.6
YOSQ			SG	Sg	02 16 37.7	-10
YOSQ			Trac		02 16 43.5	
comp=Z,24nm,0.4s						
EYMN	**Ely**	**6.77 260**	PN	Pn	02 14 46.9	-2.7
EYMN			SN	Sn	02 16 00.3	-6.3
EYMN			SG	Sg	02 16 40.1	-7.7
EYMN			Trac		02 16 47.6	
comp=Z,11nm,0.4s						
EYMN	**Ely**	**6.77 260**	*e*Pn	Pn	02 14 47.4	-2.2
EYMN			*e*Sn	Sn	02 16 00.3	-6.4
PTCO	**Port Colborne**	**6.80 166**	PN	Pn	02 14 48.5	-1.6
PTCO			SN	Sn	02 16 01.2	-6.3
PTCO			SG	Sg	02 16 41.6	-7.3
SOLO	**Sioux Lookout**	**6.85 278**	PN	Pn	02 14 49.0	-1.7
SOLO			SN	Sn	02 16 02.3	-6.2
SOLO			SG	Sg	02 16 39.2	-11
SOLO			Trac		02 16 47.8	
comp=Z,9.3nm,0.2s						
DAQ	**Lac Daran**	**6.98 99**	PN	Pn	02 14 48.4	-4.1
DAQ			SN	Sn	02 16 04.5	-7.4
DAQ			SG	Sg	02 16 42.7	-12
DAQ			Trac		02 16 51.5	
comp=Z,9.8nm,0.2s						
NCB	**Newcomb**	**7.48 135**	Pn	Pn	02 14 56.8	-2.5
NCB			*e*Sn	Sn	02 16 19.0	-5.0
MOQ	**Mont Orford**	**7.57 120**	PN	Pn	02 15 00.6	0.0
MOQ			SN	Sn	02 16 20.1	-6.1
MOQ			SG	Sn	02 17 01.3	+35
MOQ			Trac		02 17 14.1	
comp=Z,7.0nm,0.2s						
A54	**Misere**	**7.67 101**	PN	Pn	02 14 58.9	-3.1
A54			SN	Sn	02 16 20.0	-8.8
A54			SG	Sn	02 17 06.3	+37
A54			Trac		02 17 10.8	
comp=Z,24nm,0.4s						
LMQ	**La Malbaie**	**7.70 101**	PN	Pn	02 14 59.5	-2.9
LMQ			SN	Sn	02 16 22.1	-7.4
LMQ			Trac		02 16 25.9	
comp=Z,8.7nm,0.2s						
LMQ			SG	Sn	02 17 04.2	+35
MIV	**Mineville/With**	**7.73 132**	PN	Pn	02 15 02.3	-0.5
MIV			SN	Sn	02 16 25.4	-4.8
MIV			SG	Sn	02 17 05.2	+35
PLIO	**Pelee Island,**	**7.80 186**	PN	Pn	02 15 04.5	+0.7
PLIO			SN	Sn	02 16 28.6	-3.3
A61	**Sainte Mathild**	**7.81 99**	PN	Pn	02 15 00.9	-3.0
A61			SN	Sn	02 16 23.8	-8.3
A61			SG	Sn	02 17 08.1	+36
A61			Trac		02 17 11.0	
comp=Z,7.1nm,0.5s						
A64	**Saint Simeon**	**7.89 98**	PN	Pn	02 15 02.4	-2.7
A64			SN	Sn	02 16 26.0	-8.2
A64			LG		02 17 13.1	
A64			Trac		02 17 29.1	
comp=Z,7.9nm,0.3s						
EPLO	**Experimental L**	**7.92 276**	PN	Pn	02 15 03.1	-2.4
EPLO			SN	Sn	02 16 27.0	-8.0
EPLO			SG	Sn	02 17 11.9	+37
EPLO			Trac		02 17 15.7	
comp=Z,194nm,0.4s						
A16	**Riviere Ouelle**	**7.93 101**	PN	Pn	02 15 02.9	-2.7
A16			SN	Sn	02 16 27.3	-7.9
A16			LG		02 17 13.2	
RLKO	**Red Lake**	**7.98 286**	PN	Pn	02 15 04.4	-1.9
RLKO			SN	Sn	02 16 28.2	-8.3
RLKO			SG	Sn	02 17 14.6	+38
RLKO			Trac		02 17 17.9	
comp=Z,8.9nm,0.2s						
A21	**Saint Andre**	**8.06 98**	PN	Pn	02 15 04.2	-3.1
A21			SN	Sn	02 16 30.6	-7.8
A21			SG	Sn	02 17 15.2	+37
A21			Trac		02 17 24.6	
comp=Z,24nm,1.0s						
BINY	**Binghamton**	**8.27 150**	SN	Sn	02 16 37.4	-6.2
BINY			LG		02 17 23.4	
MNQ	**Manicouagan**	**8.29 78**	PN	Pn	02 15 07.9	-2.6
MNQ			SN	Sn	02 16 36.2	-7.7
MNQ			SG	Sn	02 17 27.2	+43
MNQ			Trac		02 17 47.6	
comp=Z,10nm,0.3s						
MNQ	**Manicouagan**	**8.29 78**	Pn	Pn	02 15 09.3	-1.2
MNQ			Sn	Sn	02 16 36.2	-7.7
LBNH	**Lisbon**	**8.43 125**	PN	Pn	02 15 10.2	-2.3
LBNH			SN	Sn	02 16 40.5	-7.0
LBNH			LG		02 17 26.7	
LBNH	**Lisbon**	**8.43 125**	Pn	Pn	02 15 12.8	+0.4
LBNH			*e*Sn	Sn	02 16 37.8	-10
CNQ	**Baie Comeau**	**8.79 86**	PN	Pn	02 15 13.7	-3.6
CNQ			SN	Sn	02 16 46.2	-10
CNQ			SG	Sn	02 17 40.3	+44
CNQ			Trac		02 17 47.7	
comp=Z,12nm,0.3s						
ICQ	**Pointe Anglais**	**9.28 85**	PN	Pn	02 15 19.4	-4.8
ICQ			SN	Sn	02 16 57.6	-11
ICQ			LG		02 17 58.6	
ICQ			Trac		02 18 09.9	
comp=Z,20nm,1.9s						
ULM	**Lac du Bonnet**	**9.29 280**	PN	Pn	02 15 21.4	-2.8
ULM			SN	Sn	02 16 59.5	-9.0
ULM			SG	Sn	02 17 56.8	+48
ULM			Trac		02 18 12.8	
comp=Z,12nm,1.1s						
GSQ	**Grosses Roches**	**9.47 88**	PN	Pn	02 15 22.4	-4.2
GSQ			SN	Sn	02 17 03.1	-10
GSQ			LG		02 18 05.0	
GSQ			Trac		02 18 17.3	
comp=Z,14nm,0.5s						
SMQ	**Clarke City**	**9.61 80**	PN	Pn	02 15 24.8	-3.8
SMQ			SN	Sn	02 17 06.6	-10
SMQ			LG		02 18 04.8	
SMQ			Trac		02 18 17.4	
comp=Z,6.7nm,0.3s						
BATG	**Bathurst New B**	**10.54 96**	PN	Pn	02 15 38.7	-2.6
BATG			SN	Sn	02 17 28.5	-11
BATG			LG		02 18 30.3	
BATG			Trac		02 18 35.2	
comp=Z,9.7nm,0.6s						
GGN	**Saint George**	**10.90 108**	SN	Sn	02 17 31.5	-17
FCC	**Fort Churchill**	**11.81 326**	PN	Pn	02 15 53.6	-5.1
FCC			SN	Sn	02 17 57.5	-13
FCC			LG		02 19 13.7	
FCC			Trac		02 19 20.4	
comp=Z,1.4nm,0.9s						
FCC	**Fort Churchill**	**11.81 326**	*e*Pn	Pn	02 15 52.8	-5.9
LMN	**Caledonia Moun**	**11.86 102**	PN	Pn	02 15 57.2	-2.2
LMN			SN	Sn	02 17 53.4	-18
NATG	**Natashquan Que**	**12.10 79**	PN	Pn	02 15 59.9	-2.8
NATG			SN	Sn	02 18 04.6	-13
NATG			LG		02 19 20.9	
FFC	**Flin Flon**	**13.58 300**	SN	Sn	02 18 38.6	-15
FFC			LG		02 19 59.5	
FFC			Trac		02 20 11.4	
comp=Z,8.4nm,0.6s						
CHEG	**Cheticamp, Nov**	**14.18 93**	PN	Pn	02 16 24.4	-6.7
CHEG			SN	Sn	02 18 54.9	-13
YRTN	**Rankin Inlet**	**14.54 340**	PN	Pn	02 16 30.4	-5.6
YRTN			SN	Sn	02 19 01.5	-16
YRTN			LG		02 20 34.2	
DRLN	**Deer Lake**	**15.64 82**	PN	Pn	02 16 45.2	-5.5
DRLN			SN	Sn	02 19 27.9	-16
FRB	**Frobisher Bay**	**15.91 21**	SN	Sn	02 19 28.1	-22
FRB			LG		02 21 11.1	

IDC 04 02:34:24.2±7.2,3059S×17818W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.7/11,mbtmp3.5/2,Error ellipse: s-maj=302.3km s-min=56.7km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.95**	**267**	P	P	02 42 24.6	-0.3
0.5nm,0.6s,baz=105,slow=7.0,SNR=7.9							
WRA	**Warramunga Arr**	**43.95**	**272**	P	P	02 42 33.6	+0.7
0.4nm,0.5s,baz=113,slow=7.8,SNR=4.1							
FINES	**FINESS Array B**	**145.27**	**340**	PKPbc	PKPbc	02 54 02.0	-1.6
0.4nm,0.4s,baz=42,slow=6.4,SNR=7.4							

IDC 04 02:47:18.4±6.8,759S×15086E,h45km±58km,mb3.2/3, mb1 3.6/4,mb1mx3.4/14,mbtmp3.5/4,ML2.8/1,MS2.8/1, Ms1 2.8/1,ms1mx2.6/9,Error ellipse: s-maj=81.9km s-min=38.6km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.08**	**243**	P	Pn	02 48 20.3	+2.0
4.4nm,0.3s,baz=55,slow=2.0,SNR=10							
PMG				S	Sn	02 49 04.9	+0.1
8.4nm,0.3s,baz=331,slow=18,SNR=5.6							
PMG				LR	LR	02 49 59.4	
comp=Z,132nm,21.7s,baz=71,slow=39							
WRA	**Warramunga Arr**	**20.18**	**231**	P	P	02 51 49.3	+0.1
0.6nm,0.2s,baz=56,slow=9.5,SNR=14							
ASAR	**Alice Springs**	**22.81**	**224**	P	P	02 52 17.5	+0.2
0.3nm,0.3s,baz=61,slow=9.6,SNR=8.5							
ILAR	**Eielson Array**	**85.45**	**22**	P	P	02 59 50.5	-0.8
0.6nm,0.7s,baz=253,slow=5.3,SNR=6.9							
TORD	**Torodi Ar. Bea**	**149.19**	**283**	PKPbc	PKPbc	03 07 03.2	+1.3
0.4nm,0.5s,baz=53,slow=3.0,SNR=7.0							

*LDG **04** 02:50:01.4±0.2, 1906N×6426W, h10km, Mb4.7/19, Error ellipse: s-maj=10.1km s-min=6.0km az=94.0*
*IDC **04** 02:50:02.9±0.5, 19.10N×64.00W, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.3/22, mbtmp4.2/18, ML5.5/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/18, Error ellipse: s-maj=14.0km s-min=13.4km az=121.0*
*BJI **04** 02:50:05.2, 19.10N×64.10W, h7km, mB4.7, Ms4.3, Msz4.0*
*MOS **04** 02:50:05.2±0.8, 19.11N×6393W, h23km, mb4.6/27, Error ellipse: s-maj=9.3km s-min=6.7km az=143.8*
*TRN **04** 02:50:06.9, 1909N×6399W, h32km, MD4.5*
*ISCJB **04** 02:50:08.1±0.6, 19.10N±004×6400W±002, h47km±6km, mb4.4/59, MS3.6/7, Error ellipse: s-maj=7.5km s-min=2.9km az=19.6*
*SZGRF **04** 02:50:10.0, 1966N×6448W, h33km, mb4.8, Virgin Islands*
*NEIC **04** 02:50:10.3, 19.11N×64.10W, h7km, mb4.5/43, MD4.2(RSPR), After RSPR.*
*RSPR **04** 02:50:10.3, 19.11N×64.10W, h7km±31km, MD4.2/18, MD4.2/18*

ISC 04 02:50:07.2±0.9,1915N±002×6401W±002,h21km±7km, n191,σ0°87/212,mb4.4/59,MS3.6/7,15C-3D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.52**	**216**	*e*P	Pb	02 50 18.2	+0.7
TBVI	**Tortola**	**0.93**	**218**	*e*P	Pb	02 50 24.1	-0.5
STVI	**Saint Thomas**	**1.20**	**229**	*e*S	Sb	02 50 43.2	-1.1
STVI	**Saint Thomas**	**1.20**	**229**	*e*P	Pn	02 50 28.4	-0.3
STVI				*e*S	Sb	02 50 43.2	-1.1
STMA	**St. Maarten, A**	**1.39**	**142**	*e*P	Pn	02 50 31.8	+0.4
STMA				*e*S	Sn	02 50 50.2	+1.1
CDVI	**St. Croix**	**1.56**	**207**	*e*S	Sn	02 50 54.1	+0.7
CDVI	**St. Croix**	**1.56**	**207**	*e*P	Pn	02 50 34.4	+0.6
CDVI				*e*S	Sn	02 50 54.1	+0.7
MTP	**Monte Pirata**	**1.80**	**235**	*e*S	Sn	02 50 58.7	-0.5
MTP	**Monte Pirata**	**1.80**	**235**	*e*P	Pn	02 50 37.2	+0.1
MTP				*e*S	Sn	02 50 58.7	-0.5
STAT	**Sint Eustatius**	**1.91**	**149**	*e*P	Pn	02 50 40.3	+1.7
STAT				*e*S	Sn	02 51 00.3	-1.7
CBYP	**Canovanas**	**1.95**	**244**	*e*S	Sn	02 51 02.6	-0.5
CBYP	**Canovanas**	**1.95**	**244**	*e*P	Pn	02 50 39.2	+0.1
CBYP				*e*S	Sn	02 51 02.6	-0.5
HUMP	**Col San Antoni**	**2.01**	**241**	*e*S	Sn	02 51 03.1	-1.3
HUMP	**Col San Antoni**	**2.01**	**241**	*e*P	Pn	02 50 40.3	+0.4
HUMP				*e*S	Sn	02 51 03.1	-1.3
CPD	**Cerro la Pandu**	**2.12**	**239**	*e*S	Sn	02 51 06.5	-0.5
CPD	**Cerro la Pandu**	**2.12**	**239**	*e*P	Pn	02 50 42.5	+1.1
CPD				*e*S	Sn	02 51 06.5	-0.5
SKI	**Saint Kitts**	**2.17**	**146**	*e*P	Pn	02 50 42.2	+0.1
SKI				*e*S	Sn	02 51 09.3	+0.9
SJG	**San Juan**	**2.27**	**243**	*e*S	Sn	02 51 10.1	-0.9
SJG	**San Juan**	**2.27**	**243**	*e*P	Pn	02 50 44.4	+0.8
SJG	**San Juan**	**2.27**	**243**	*e*P	Pn	02 50 43.8	+0.3
SJG				*e*S	Sn	02 51 10.1	-0.9
SJG	**San Juan**	**2.27**	**243**	Pn	Pn	02 50 43.7	+0.2
26nm,0.3s,baz=68,slow=9.6,SNR=32							
SJG				Sn	Sn	02 51 10.8	-0.1
116nm,0.3s,baz=72,slow=18,SNR=9.4							
CPB	**Codrington**	**2.56**	**126**	*e*P	Pn	02 50 46.4	-1.1
CPB				*e*S	Sn	02 51 19.4	+1.5
CELP	**Cerrillos**	**2.66**	**247**	*e*P	Pn	02 50 49.6	+0.8
CELP				*e*S	Sn	02 51 20.1	-0.4
ICM	**Isla Caja Muer**	**2.69**	**243**	*e*S	Sn	02 51 21.9	+0.8
ICM	**Isla Caja Muer**	**2.69**	**243**	*e*P	Pn	02 50 50.8	+1.5
ICM				*e*S	Sn	02 51 21.9	+0.8
OBIP	**Obispado Ponce**	**2.70**	**246**	*e*S	Sn	02 51 21.1	-0.3
OBIP	**Obispado Ponce**	**2.70**	**246**	*e*P	Pn	02 50 50.3	+1.0
OBIP				*e*S	Sn	02 51 21.1	-0.3
AOPR	**Arecibo Observ**	**2.72**	**253**	*e*S	Sn	02 51 21.0	-0.8
AOPR	**Arecibo Observ**	**2.72**	**253**	*e*P	Pn	02 50 49.8	+0.2
AOPR				*e*S	Sn	02 51 21.0	-0.8
LRS	**Lares**	**2.82**	**253**	*e*P	Pn	02 50 51.5	+0.5
BPA	**Boggy Peak**	**2.92**	**135**	*e*P	Pn	02 50 52.0	-0.5
BPA				*e*S	Sn	02 51 28.6	+1.6
AGPR	**Aguadilla, PR**	**3.01**	**258**	*e*S	Sn	02 51 29.5	+0.3
AGPR	**Aguadilla, PR**	**3.01**	**258**	*e*P	Pn	02 50 54.5	+0.8
AGPR				*e*S	Sn	02 51 29.5	+0.3
MGP	**Maguayo**	**3.13**	**249**	*i*P	Pn	02 50 56.5	+1.2
CRPR	**Cabo Rojo, PR**	**3.15**	**249**	*e*S	Sn	02 51 33.4	+0.8
CRPR	**Cabo Rojo, PR**	**3.15**	**249**	*e*P	Pn	02 50 56.5	+0.9
CRPR				*e*S	Sn	02 51 33.4	+0.8
SEG	**Port Louis**	**3.62**	**138**	*e*P	Pn	02 51 01.0	-1.1
SEG				*e*S	Sn	02 51 46.5	+2.3
LZG	**Guadaloupe-1**	**3.67**	**144**	*e*P	Pn	02 51 02.3	-0.4
SCG	**Saint Claude**	**3.81**	**144**	*e*P	Pn	02 51 04.4	-0.3
SCG				*e*S	Sn	02 51 53.5	+4.5
DOG	**Dongo Capester**	**3.85**	**143**	*e*P	Pn	02 51 04.8	-0.3
PHG	**Guadaloupe-2**	**3.85**	**144**	*e*P	Pn	02 51 05.4	+0.2
PHG	**Guadaloupe-2**	**3.85**	**144**	*e*P	Pn	02 51 08.2	+3.1
TBG	**Guadaloupe-3**	**3.98**	**145**	*e*P	Pn	02 51 06.5	-0.5
DEG	**La Desirade**	**3.98**	**135**	*e*P	Pn	02 51 05.2	-1.8
BBL	**Barber's Block**	**4.34**	**146**	*e*P	Pn	02 51 11.9	0.0
FDF	**Fort de France**	**5.17**	**148**	*e*P	Pn	02 51 23.0	-0.4
CRM	**Caravelle**	**5.28**	**145**	*e*P	Pn	02 51 23.6	-1.3
BIM	**Bigot**	**5.40**	**148**	*e*P	Pn	02 51 26.5	0.0
MASC	**Masc**	**9.69**	**278**	*e*P	Pn	02 52 23.7	-1.6
MASC				*e*S	Sn	02 54 06.2	-7.3
comp=N,0.8nm,0.2s							
MASC				*e*			
comp=E,0.6nm,0.4s							
MOAC	**Moa**	**10.41**	**280**	*e*P	Pn	02 52 31.4	-3.9
MOAC				*e*S	Sn	02 54 19.8	-11
comp=N,1.6nm,0.5s							
MOAC				*e*			
comp=E,1.7nm,0.3s							
HLGC	**Holguin**	**11.46**	**281**	*e*P	Pn	02 52 48.0	-1.6
HLGC				*e*S	Sn	02 54 50.2	-6.7
comp=N,1.7nm,0.1s							
HLGC				*e*			
comp=E,1.8nm,0.1s							
SDV	**Santo Domingo**	**12.05**	**213**	Pn	Pn	02 52 58.3	+0.6
comp=E,0.4nm,0.3s,baz=59,slow=8.4,SNR=9.9							
SDV				Sn	Sn	02 55 07.1	-4.4
comp=E,1.2nm,0.3s,baz=351,slow=21,SNR=3.2							
SDV	**Santo Domingo**	**12.05**	**213**	*e*Pn	Pn	02 52 59.2	+1.5
comp=E,31nm,1.0s							
SDV				*e*Sn	Sn	02 55 03.6	-7.8
BBSR	**BB Station**	**13.18**	**357**	Pn	Pn	02 53 09.7	-3.5
ROSC	**El Rosal**	**17.41**	**217**	S	Sn	02 57 28.3	+6.4
comp=E,0.6nm,0.3s,baz=264,slow=19,SNR=6.7							
COW	**Cow Castle Cre**	**20.57**	**317**	P	P	02 54 45.5	+0.9
JSC	**Jenkinsville**	**21.51**	**318**	P	P	02 54 55.4	+0.7
JSC				*e*		02 55 08.2	
JSC				*e*S	S	02 58 52.8	+0.6
JTS	**JuntasAbangare**	**22.07**	**249**	P	P	02 54 60.0	-0.7
comp=E,3.2nm,0.5s,mb4.0,baz=264,slow=11,SNR=4.1							
JTS				LR	LR	03 02 04.0	
comp=E,82nm,19.6s,MS3.1,baz=128,slow=33							
JTS	**JuntasAbangare**	**22.07**	**249**	*e*P	P	02 54 59.6	-1.1
comp=E,8.1nm,0.8s,mb4.2							
JTS	**JuntasAbangare**	**22.07**	**249**	*e

LTX pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
BDFB Brasilia 37.98 154 P **P** **02 57 23.2 -0.4**
comp=Z,12nm,0.8s,mb4.7,baz=327,slow=7.7,SNR=22
BDFB LR 03 12 34.4
comp=Z,125nm,18.7s,MS3.8,baz=201,slow=36
MNTX Cornudas Mount 39.18 297 *eP* **P** **02 57 33.9 +0.3**
comp=Z,1.3nm,0.6s,mb3.8
ULM Lac du Bonnet 40.06 328 P **P** **02 57 39.2 -1.7**
comp=Z,1.7nm,0.6s,mb4.0,baz=121,slow=9.5,SNR=4.9
ULM LR LR 03 14 21.6
comp=Z,86nm,18.5s,MS3.6,baz=327,slow=36
ULM Lac du Bonnet 40.06 328 P **P** **02 57 39.2 -1.7**
ULM LR LR 03 14 21.6
SDCO Great Sand Dun 40.53 306 *eP* **P** **02 57 45.1 +0.3**
comp=Z,5.7nm,0.9s,mb4.2
BNM Barren Site 40.61 300 *eP* **P** **02 57 46.5 +1.0**
ANMO Albuquerque 40.63 302 *eP* **P** **02 57 46.4 +0.8**
comp=Z,3.6nm,0.9s,mb4.0
ANMO Albuquerque 40.63 302 *eP* **P** **02 57 46.4 +0.8**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 41.62 316 *eP* **P** **02 57 53.3 -0.5**
comp=Z,1.0nm,0.5s,mb3.7
RSSD Black Hills 41.62 316 *eP* **P** **02 57 53.3 -0.5**
RSSD pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
SMCO Snowmass 42.03 308 *eP* **P** **02 57 56.6 -0.5**
comp=Z,7.9nm,1.3s,mb4.2
TUC Tucson 43.81 297 *eP* **P** **02 58 12.6 +1.1**
comp=Z,5.2nm,1.4s,mb4.1
TUC Tucson 43.81 297 *eP* **P** **02 58 12.6 +1.1**
TUC pmax pmax
comp=Z,5.0nm,1.4s,mb4.0
PDAR Pinedale Array 44.92 312 P **P** **02 58 20.4 0.0**
comp=Z,1.5nm,0.7s,mb3.9,baz=112,slow=9.8,SNR=14
PDAR Pinedale Array 44.92 312 P **P** **02 58 20.4 0.0**
BW06 Boulder Array 44.92 312 *eP* **P** **02 58 20.8 +0.3**
comp=Z,2.5nm,0.8s,mb4.1
LOHW Long Hollow 45.90 313 *eP* **P** **02 58 28.3 +0.1**
comp=Z,2.7nm,0.8s,mb4.2
HWUT Hardware Ranch 46.04 310 *eP* **P** **02 58 29.2 -0.1**
comp=Z,4.8nm,0.9s,mb4.4
DUG Dugway 46.64 308 *eP* **P** **02 58 34.7 +0.6**
comp=Z,6.7nm,1.2s,mb4.5
DUG Dugway 46.64 308 *eP* **P** **02 58 34.7 +0.6**
DUG pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
QLMT Earthquake Lak 46.83 314 *eP* **P** **02 58 36.8 +1.4**
BOZ Bozeman (W) 47.21 315 *eP* **P** **02 58 38.5 +0.1**
comp=Z,1.8nm,0.9s,mb4.0
BOZ Bozeman (W) 47.21 315 *eP* **P** **02 58 38.5 0.0**
BOZ pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
HLID Hailey 48.56 312 *eP* **P** **02 58 49.6 +0.7**
comp=Z,0.8nm,0.5s,mb4.0
ELK Elko 48.57 308 *eP* **P** **02 58 49.2 +0.2**
comp=Z,3.8nm,1.1s,mb4.3
ELK Elko 48.57 308 *eP* **P** **02 58 49.2 +0.2**
ELK pmax pmax
comp=Z,4.0nm,1.1s
BMN Battle Mountai 50.00 307 *eP* **P** **02 58 59.9 0.0**
comp=Z,4.9nm,0.8s,mb4.6
BMN Battle Mountai 50.00 307 *eP* **P** **02 58 59.9 -0.1**
BMN pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
NVAR Mina Array Bea 50.57 304 P **P** **02 59 05.2 +0.9**
comp=Z,2.7nm,1.0s,mb4.1,baz=98,slow=6.2,SNR=9.8
NEW Newport 51.56 317 *eP* **P** **02 59 10.8 -0.9**
comp=Z,4.1nm,0.8s,mb4.4
NEW Newport 51.56 317 *eP* **P** **02 59 10.8 -0.9**
NEW pmax pmax
comp=Z,4.0nm,0.8s
ESDC Sonseca Array 55.14 55 P **P** **02 59 37.9 -0.1**
comp=Z,1.9nm,0.9s,mb4.1,baz=265,slow=5.7,SNR=5.1
SUMG Summit 55.40 9 *eP* **P** **02 59 40.1 +0.2**
comp=Z,4.5nm,0.8s,mb4.5
YKA Yellowknife Ar 55.43 334 P **P** **02 59 38.2 -1.9**
comp=Z,1.3nm,0.7s,mb4.1,baz=109,slow=7.5,SNR=20
YKA PcP PcP 03 00 38.8 -1.4
comp=Z,0.7nm,0.8s,baz=104,slow=6.0,SNR=7.3
YKA LR LR 03 22 53.8
comp=Z,89nm,18.1s,MS3.9,baz=80,slow=36
YKA Yellowknife Ar 55.43 334 P **P** **02 59 38.2 -1.9**
YKA PcP PcP 03 00 38.8 -1.4
YKA LR LR 03 22 53.8
YKA Yellowknife Ar 55.43 334 P **P** **02 59 38.2 -1.9**
YKA 03 00 38.8
MFF Saint Martin d 58.45 47 *eP* **P** **03 00 01.8 +0.3**
comp=Z,110nm,1.4s,mb5.4
MFF Saint Martin d 58.45 47 *eP* **P** **03 00 01.8 +0.3**
comp=Z,55nm,1.4s,mb5.4
MFF Saint Martin d 58.45 47 *eP* **P** **03 00 01.8 +0.3**
MFF pmax pmax
comp=Z,55nm,1.4s,mb5.4
EPF Esparros 58.55 51 *eP* **P** **03 00 02.9 +0.7**
comp=Z,14nm,0.8s,mb4.7
EPF Esparros 58.55 51 *eP* **P** **03 00 02.9 +0.7**
comp=Z,6.8nm,0.8s,mb4.7
EPF Esparros 58.55 51 *eP* **P** **03 00 02.9 +0.7**
EPF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
DBIC Dimbokro 58.73 94 P **P** **03 00 03.5 0.0**
comp=Z,11nm,0.8s,mb5.0,baz=275,slow=6.5,SNR=14
DBIC Dimbokro 58.73 94 *eP* **P** **03 00 03.3 -0.2**
comp=Z,14nm,0.8s,mb5.0
DBIC Dimbokro 58.73 94 *eP* **P** **03 00 03.3 -0.1**
DBIC pmax pmax
comp=Z,14nm,0.8s
RJF Les Rejaudoux 59.51 48 *eP* **P** **03 00 08.8 -0.1**
comp=Z,23nm,1.0s,mb4.9
RJF Les Rejaudoux 59.51 48 *eP* **P** **03 00 08.8 -0.1**
comp=Z,11nm,1.0s,mb4.9
RJF Les Rejaudoux 59.51 48 *eP* **P** **03 00 08.8 -0.1**
RJF pmax pmax
comp=Z,11nm,1.0s,mb4.8
PLCA Paso Flores 59.88 186 P **P** **03 00 09.3 -2.1**
comp=Z,2.0nm,0.8s,mb4.2,baz=4.6,slow=4.4,SNR=7.7
PLCA Paso Flores 59.88 186 *eP* **P** **03 00 09.2 -2.3**
comp=Z,2.7nm,0.8s,mb4.3
PLCA Paso Flores 59.88 186 *eP* **P** **03 00 09.2 -2.2**
PLCA pmax pmax
comp=Z,3.0nm,0.8s
CAF Calviac 59.88 49 *eP* **P** **03 00 11.5 +0.1**
MTLF Montolieu 59.93 50 *eP* **P** **03 00 11.8 0.0**
comp=Z,9.8nm,0.8s,mb4.6
MTLF Montolieu 59.93 50 *eP* **P** **03 00 11.8 0.0**
comp=Z,4.9nm,0.8s,mb4.6
MTLF Montolieu 59.93 50 *eP* **P** **03 00 11.8 0.0**
MTLF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TCF Toulx Ste Croi 60.05 47 *eP* **P** **03 00 12.4 -0.2**
comp=Z,24nm,1.0s,mb4.9
TCF Toulx Ste Croi 60.05 47 *eP* **P** **03 00 12.4 -0.2**
comp=Z,12nm,1.0s,mb4.9
TCF Toulx Ste Croi 60.05 47 *eP* **P** **03 00 12.4 -0.2**
TCF pmax pmax
comp=Z,12nm,1.0s,mb4.9
BGF Bois d'Agland 60.50 47 *eP* **P** **03 00 15.5 -0.2**
AVF Avril sur Loir 60.86 47 *eP* **P** **03 00 17.8 -0.3**
comp=Z,17nm,1.1s,mb4.8
AVF Avril sur Loir 60.86 47 *eP* **P** **03 00 17.8 -0.3**
comp=Z,8.6nm,1.0s,mb4.8
AVF Avril sur Loir 60.86 47 *eP* **P** **03 00 17.8 -0.3**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SSF Saint Saulge 60.98 46 *eP* **P** **03 00 18.4 -0.5**
LASF Ste Croix 61.14 50 *eP* **P** **03 00 20.8 +0.8**
comp=Z,6.6nm,0.7s,mb4.5
SMF Signal de Mont 61.19 47 *eP* **P** **03 00 20.0 -0.4**
comp=Z,15nm,1.1s,mb4.7
SMF Signal de Mont 61.19 47 *eP* **P** **03 00 20.0 -0.4**
comp=Z,7.5nm,1.1s,mb4.7
SMF Signal de Mont 61.19 47 *eP* **P** **03 00 20.0 -0.4**
SMF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
LOR Lormes 61.23 46 *eP* **P** **03 00 20.1 -0.5**
comp=Z,6.4nm,0.6s,mb4.6
LOR Lormes 61.23 46 *eP* **P** **03 00 20.1 -0.5**
comp=Z,3.2nm,0.6s,mb4.6
LOR Lormes 61.23 46 *eP* **P** **03 00 20.1 -0.5**
LOR pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
VIVF Saint-Julien-l 61.73 49 *eP* **P** **03 00 24.7 +0.7**
comp=Z,41nm,1.3s,mb5.1
VIVF Saint-Julien-l 61.73 49 *eP* **P** **03 00 24.7 +0.7**
comp=Z,20nm,1.3s,mb5.1
VIVF Saint-Julien-l 61.73 49 *eP* **P** **03 00 24.7 +0.7**
VIVF pmax pmax
comp=Z,20nm,1.3s,mb5.1
MEZF Maizieres J'vi 62.09 45 *eP* **P** **03 00 26.2 -0.2**
comp=Z,55nm,1.1s,mb5.3
MEZF Maizieres J'vi 62.09 45 *eP* **P** **03 00 26.2 -0.2**
comp=Z,55nm,1.1s,mb5.6
ORIF Oris-en-Rattie 62.59 49 *eP* **P** **03 00 30.9 +1.1**
comp=Z,4.8nm,0.6s,mb4.5
ORIF Oris-en-Rattie 62.59 49 *eP* **P** **03 00 30.9 +1.1**
comp=Z,2.4nm,0.6s,mb4.5
ORIF Oris-en-Rattie 62.59 49 *eP* **P** **03 00 30.9 +1.1**
ORIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
CABF La Chapelle 62.74 47 *eP* **P** **03 00 30.7 -0.1**
HAU Haudompre 62.94 45 *eP* **P** **03 00 31.5 -0.6**
comp=Z,9.9nm,0.9s,mb4.7
HAU Haudompre 62.94 45 *eP* **P** **03 00 31.5 -0.6**
comp=Z,4.9nm,0.9s,mb4.6
HAU Haudompre 62.94 45 *eP* **P** **03 00 31.5 -0.6**
HAU pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
TORD Torodi Ar. Bea 63.09 85 P **P** **03 00 32.7 -0.4**
comp=Z,2.9nm,0.6s,mb4.6,baz=290,slow=7.2,SNR=32
FRF La Foret Royal 63.16 50 *eP* **P** **03 00 33.5 -0.1**
comp=Z,37nm,1.1s,mb5.1
FRF La Foret Royal 63.16 50 *eP* **P** **03 00 33.5 -0.1**
comp=Z,18nm,1.1s,mb5.1
FRF La Foret Royal 63.16 50 *eP* **P** **03 00 33.5 -0.1**
FRF pmax pmax
comp=Z,18nm,1.1s,mb5.1
LPL La Plagne 63.19 48 *eP* **P** **03 00 34.4 +0.7**
MBDF Montbardon 63.23 49 *eP* **P** **03 00 34.8 +0.8**
comp=Z,6.5nm,0.8s,mb4.5
MBDF Montbardon 63.23 49 *eP* **P** **03 00 34.8 +0.8**
comp=Z,3.3nm,0.8s,mb4.5
MBDF Montbardon 63.23 49 *eP* **P** **03 00 34.8 +0.8**
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
HINF Hinteralfeld 63.27 45 *eP* **P** **03 00 33.5 -0.8**
CDF Champ du Feu 63.56 45 *eP* **P** **03 00 35.7 -0.5**
GRF Grafenberg Arr 66.15 43 *eP* **P** **03 00 53.5 +0.5**
comp=Z,8.0nm,1.3s,mb4.6
GRF Grafenberg Arr 66.15 43 *eP* **P** **03 00 53.5 +0.5**
GRF pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
CLL Collm 67.22 42 *i P* **P** **03 00 59.7 -0.2**
comp=Z,5.0nm,0.9s,mb4.5
CLL Collm 67.22 42 *i P* **P** **03 00 59.7 -0.2**
CLL pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
GERES GERESS Array B 67.81 44 P **P** **03 01 03.3 -0.3**
comp=Z,1.7nm,0.6s,mb4.3,baz=268,slow=5.2,SNR=17
ILAR Eielson Array 69.83 333 P **P** **03 01 14.8 -1.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=104,slow=4.0,SNR=20
ILAR LR LR 03 31 52.6
comp=Z,70nm,18.1s,MS4.0,baz=180,slow=36
MORC Moravsky Berou 70.23 43 *eP* **P** **03 01 18.1 -0.5**
comp=Z,2.8nm,0.8s,mb4.2
MORC Moravsky Berou 70.23 43 *eP* **P** **03 01 18.1 -0.6**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SMOL Smolenice 70.30 44 *eP* **P** **03 01 19.4 +0.3**
TIP Timpagrande 71.16 54 *eP* **P** **03 01 23.9 -0.4**
VYHS Vyhne 71.23 44 *eP* **P** **03 01 24.2 -0.6**
KECS Kecovo 72.32 44 *eP* **P** **03 01 31.2 -0.1**
STHS Stebnicka Huta 72.66 43 *eP* **P** **03 01 34.4 +1.1**
FINES FINESS Array B 73.43 30 P **P** **03 01 37.3 -0.6**
comp=Z,1.1nm,0.8s,mb3.9,baz=266,slow=2.9,SNR=5.6
AKASG Malin Array Be 77.43 41 P **P** **03 01 59.8 -1.1**
comp=Z,0.8nm,0.5s,mb3.9,baz=274,slow=5.1,SNR=8.9
OBN Obninsk 80.38 35 *i P* **P** **03 02 17.4 +0.4**
OBN pmax pmax
comp=Z,11nm,1.1s,mb4.7
BR131 Keskin Array S 83.66 50 *eP* **P** **03 02 34.2 -0.1**
comp=Z,1.6nm,0.8s,mb4.2
BRTR Keskin Array B 83.66 50 P **P** **03 02 34.4 +0.2**
comp=Z,2.9nm,0.8s,mb4.5,baz=263,slow=3.7,SNR=12
MALT Malatya 87.64 50 *eP* **P** **03 02 54.2 +0.2**
comp=Z,6.5nm,1.3s,mb4.7
MALT Malatya 87.64 50 *eP* **P** **03 02 54.2 +0.1**
MALT pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
KIV Kislovodsk 88.32 44 *eP* **P** **03 02 47.6 -10**
KIV pmax pmax
comp=Z,20nm,1.2s,mb5.2
CD2 Chengdu 128.86 14 *e*PKP PKPdf 03 09 13.3 +0.1
NJ2 Nanjing 129.02 357 *e*PKP PKPdf 03 09 14.7 +1.2
SSE Sheshan 129.80 354 *e*PKP PKPdf 03 09 14.9 -0.1
WRA Warramunga Arr 162.69 264 PKP PKPdf 03 10 06.7 -0.9
comp=Z,0.7nm,0.9s,baz=79,slow=0.8,SNR=6.7
WRA PKPab PKPab 03 10 55.5 -0.7
comp=Z,0.7nm,0.7s,baz=86,slow=3.9,SNR=9.1
ASAR Alice Springs 162.73 252 PKP PKPdf 03 10 06.5 -1.1
comp=Z,1.0nm,1.0s,baz=121,slow=1.4,SNR=6.3
ASAR PKPab PKPab 03 10 56.2 -0.1
comp=Z,1.0nm,0.8s,baz=125,slow=3.9,SNR=7.2

TRN 04 03:04:27.8, 1398N×6025W, h7km, MD4.9, M4.1(FDF), 4D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.84**	**312**	↓*e*P		Pg	03 04 47.0	+3.1
BIM	**Bigot**	**0.95**	**304**	↓*e*P		Pg	03 04 49.1	+3.0
BIM				*e*S		Sg	03 05 05.1	+6.6
CRM	**Caravelle**	**1.00**	**320**	↓*e*P		Pg	03 04 49.2	+2.3
CRM				*e*S		Sg	03 05 04.7	+4.7
SSV	**Crater Summit**	**1.12**	**235**	*e*P		Pg	03 04 50.6	+1.3
SSV				*e*S		Sg	03 05 07.7	+3.9
FDF	**Fort de France**	**1.15**	**311**	↓*e*P		Pg	03 04 51.6	+1.8
FDF				*e*S		Sg	03 05 09.6	+5.0
SVV	**Soufriere Volc**	**1.15**	**235**	*e*P		Pg	03 04 51.6	+1.8
SVV				*e*S		Sg	03 05 06.5	+1.9
SVB	**Belmont**	**1.20**	**234**	*e*P		Pg	03 04 51.9	+1.1
SVB				*e*S		Sg	03 05 10.0	+3.6
FCV	**Fort Charlotte**	**1.27**	**230**	*e*P		Pn	03 04 52.9	+1.1
FCV				*e*S		Sb	03 05 10.5	+2.1
GRCU	**Cariacou**	**1.90**	**218**	*e*P		Pn	03 05 01.7	+1.1
GRCU				*e*S		Sn	03 05 24.4	-0.4
BBL	**Barber's Block**	**1.93**	**323**	*e*P		Pn	03 05 03.4	+2.3
BBL				*e*S		Sn	03 05 29.8	+4.2
GRIC	**Isle de Caille**	**2.13**	**218**	*e*P		Pn	03 05 05.9	+2.2
GRIC				*e*S		Sn	03 05 35.1	+4.8
GRSS	**Sisters**	**2.13**	**218**	*e*P		Pn	03 05 05.9	+2.1
GRSS				*e*S		Sn	03 05 35.4	+4.8
GRHS	**Sauteurs**	**2.21**	**218**	*e*P		Pn	03 05 07.0	+2.2
GRHS				*e*S		Sn	03 05 36.0	+3.6
GRW	**Mount Saint Ca**	**2.27**	**217**	*e*P		Pn	03 05 07.7	+2.0
GRW				*e*S		Sn	03 05 36.5	+2.5
TBG	**Guadaloupe-3**	**2.29**	**324**	*e*P		Pn	03 05 08.5	+2.5
PHG	**Guadaloupe-2**	**2.42**	**327**	*e*P		Pn	03 05 09.4	+1.6
DOG	**Dongo Capester**	**2.43**	**327**	*e*P		Pn	03 05 09.2	+1.4
DEG	**La Desirade**	**2.44**	**342**	*e*P		Pn	03 05 08.0	-0.1
DEG				*e*S		Sn	03 05 40.2	+2.1
SCG	**Saint Claude**	**2.46**	**326**	*e*P		Pn	03 05 10.0	+1.7
SCG				*e*S		Sn	03 05 42.6	+4.1
LZG	**Guadaloupe-1**	**2.60**	**326**	*e*P		Pn	03 05 12.3	+2.1
SEG	**Port Louis**	**2.69**	**333**	*e*P		Pn	03 05 12.9	+1.4
TPR	**Prospect**	**2.83**	**190**	*e*P		Pn	03 05 15.7	+2.3
TRN	**Trinidad (W)**	**3.50**	**199**	*e*P		Pn	03 05 23.7	+1.2
TRN				*e*S		Sn	03 06 01.5	-2.7

*NEIC **04** 03:09:28.2, 19.13N×6392W, h16km, MD3.5(RSPR), After RSPR.*

RSPR 04 03:09:28.2, 1913N×6392W, h16km±17km, MD3.5/12, MD3.5/12, 11C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.97**	**222**	*e*S		Sb	03 09 56.4	-2.9
TBVI	**Tortola**	**0.97**	**222**	↑*e*P		Pb	03 09 44.0	-2.7
TBVI				*e*S		Sb	03 09 56.4	-2.9
STVI	**Saint Thomas**	**1.26**	**232**	*e*S		Sb	03 10 04.1	-3.4
STVI	**Saint Thomas**	**1.26**	**232**	↑*e*P		Pn	03 09 48.2	-2.9
STVI				*e*S		Sb	03 10 04.1	-3.4
CDVI	**St. Croix**	**1.59**	**210**	*e*S		Sn	03 10 12.4	-3.5
CDVI	**St. Croix**	**1.59**	**210**	↑*e*P		Pn	03 09 54.1	-1.6
CDVI				*e*S		Sn	03 10 12.4	-3.5
MTP	**Monte Pirata**	**1.87**	**237**	*e*S		Sn	03 10 18.7	-4.0
MTP	**Monte Pirata**	**1.87**	**237**	↑*e*P		Pn	03 09 57.0	-2.5
MTP				*e*S		Sn	03 10 18.7	-4.0
CBYP	**Canovanas**	**2.03**	**245**	*e*S		Sn	03 10 23.3	-3.3
CBYP	**Canovanas**	**2.03**	**245**	↑*e*P		Pn	03 09 59.3	-2.4
CBYP				*e*S		Sn	03 10 23.3	-3.3
HUMP	**Col San Antoni**	**2.08**	**242**	*e*S		Sn	03 10 24.7	-3.2
HUMP	**Col San Antoni**	**2.08**	**242**	↑*e*P		Pn	03 09 59.7	-2.8
HUMP				*e*S		Sn	03 10 24.7	-3.2
CPD	**Cerro la Pandu**	**2.19**	**240**	*e*S		Sn	03 10 26.8	-3.8
CPD	**Cerro la Pandu**	**2.19**	**240**	↑*e*P		Pn	03 10 01.5	-2.4
CPD				*e*S		Sn	03 10 26.8	-3.8
SJG	**San Juan**	**2.35**	**245**	*e*S		Sn	03 10 31.1	-3.5
SJG	**San Juan**	**2.35**	**245**	↑*e*P		Pn	03 10 03.3	-2.8
SJG	**San Juan**	**2.35**	**245**	↑*e*P		Pn	03 10 03.6	-2.4
SJG				*e*S		Sn	03 10 31.1	-3.5
CELP	**Cerrillos**	**2.73**	**248**	↑*e*P		Pn	03 10 09.5	-1.9
AOPR	**Arecibo Observ**	**2.80**	**254**	*e*S		Sn	03 10 42.2	-3.4
CRPR	**Cabo Rojo, PR**	**3.23**	**250**	↑*e*P		Pn	03 10 16.3	-1.9

*NEIC **04** 03:11:39.9, 19.13N×6387W, h15km, MD3.5(RSPR), After RSPR.*

RSPR 04 03:11:39.9, 1913N×6387W, h15km±19km, MD3.5/13, MD3.5/13, 11C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.00**	**225**	*e*S		Sb	03 12 09.0	-2.9
TBVI	**Tortola**	**1.00**	**225**	↑*e*P		Pb	03 11 56.2	-2.7
TBVI				*e*S		Sb	03 12 09.0	-2.9
STVI	**Saint Thomas**	**1.29**	**234**	*e*S		Sb	03 12 16.9	-3.4
STVI	**Saint Thomas**	**1.29**	**234**	↑*e*P		Pn	03 12 00.4	-3.0
STVI				*e*S		Sb	03 12 16.9	-3.4
CDVI	**St. Croix**	**1.61**	**212**	*e*S		Sn	03 12 26.2	-2.1
CDVI	**St. Croix**	**1.61**	**212**	↑*e*P		Pn	03 12 06.1	-1.7
CDVI				*e*S		Sn	03 12 26.2	-2.1
MTP	**Monte Pirata**	**1.90**	**238**	*e*S		Sn	03 12 31.9	-3.6
MTP	**Monte Pirata**	**1.90**	**238**	↑*e*P		Pn	03 12 09.2	-2.6
MTP				*e*S		Sn	03 12 31.9	-3.6
CBYP	**Canovanas**	**2.07**	**246**	*e*S		Sn	03 12 36.3	-3.2
CBYP	**Canovanas**	**2.07**	**246**	↑*e*P		Pn	03 12 11.4	-2.6
CBYP				*e*S		Sn	03 12 36.3	-3.2
HUMP	**Col San Antoni**	**2.12**	**243**	*e*S		Sn	03 12 37.2	-3.6
HUMP	**Col San Antoni**	**2.12**	**243**	↑*e*P		Pn	03 12 12.2	-2.6
HUMP				*e*S		Sn	03 12 37.2	-3.6
CPD	**Cerro la Pandu**	**2.22**	**241**	*e*S		Sn	03 12 39.6	-3.7
CPD	**Cerro la Pandu**	**2.22**	**241**	↑*e*P		Pn	03 12 13.9	-2.3
CPD				*e*S		Sn	03 12 39.6	-3.7
SJG	**San Juan**	**2.39**	**245**	*e*S		Sn	03 12 43.9	-3.6
SJG	**San Juan**	**2.39**	**245**	↑*e*P		Pn	03 12 16.1	-2.4
SJG	**San Juan**	**2.39**	**245**	↑*e*P		Pn	03 12 15.8	-2.7
SJG				*e*S		Sn	03 12 43.9	-3.6
CELP	**Cerrillos**	**2.77**	**248**	↓*e*P		Pn	03 12 21.6	-2.2
AOPR	**Arecibo Observ**	**2.84**	**255**	*e*S		Sn	03 12 55.0	-3.6
AOPR	**Arecibo Observ**	**2.84**	**255**	↑*e*P		Pn	03 12 21.9	-2.8
AOPR				*e*S		Sn	03 12 55.0	-3.6
CRPR	**Cabo Rojo, PR**	**3.27**	**251**	*e*S		Sn	03 13 06.0	-3.2
CRPR	**Cabo Rojo, PR**	**3.27**	**251**	↑*e*P		Pn	03 12 28.4	-2.2
CRPR				*e*S		Sn	03 13 06.0	-3.2

*ISCJB **04** 04:00:05.2±1.4, 1924N±009×6398W±005, h11km±12km, Error ellipse: s-maj=15.5km s-min=7.0km az=30.9*
*NEIC **04** 04:00:07.5, 1908N×6376W, h20km, MD3.9(RSPR), After RSPR.*
*RSPR **04** 04:00:07.5, 1908N×6376W, h20km±31km, MD3.9/13, MD3.9/13*

ISC 04 04:00:05.6±1.4, 1918N±007×6398W±004, h5km±6km, n30, σ0§65/43, 12C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.97**	**218**	*e*S		**Sg**	**04 00 37.2**	**+0.5**
TBVI	**Tortola**	**0.97**	**218**	↑*e*P		**Pg**	**04 00 24.4**	**+0.3**
TBVI				*e*S		**Sg**	**04 00 37.2**	**+0.5**
STVI	**Saint Thomas**	**1.24**	**229**	*e*S		**Sg**	**04 00 45.2**	**-0.2**
STVI	**Saint Thomas**	**1.24**	**229**	↑*e*P		**Pg**	**04 00 28.7**	**-0.6**
STVI				*e*S		**Sg**	**04 00 45.2**	**-0.2**
CDVI	**St. Croix**	**1.60**	**208**	*e*S		**Sn**	**04 00 51.9**	**-3.8**
CDVI	**St. Croix**	**1.60**	**208**	↑*e*P		**Pn**	**04 00 34.9**	**+0.3**
CDVI				*e*S		**Sn**	**04 00 51.9**	**-3.8**
SABT	**Saba**	**1.70**	**156**	*e*P		**Pn**	**04 00 36.5**	**+0.6**
SABT				*e*S		**Sn**	**04 00 59.5**	**+1.4**
MTP	**Monte Pirata**	**1.84**	**234**	*e*S		**Sn**	**04 01 00.3**	**-1.3**
MTP	**Monte Pirata**	**1.84**	**234**	↑*e*P		**Pn**	**04 00 37.4**	**-0.4**
MTP				*e*S		**Sn**	**04 01 00.3**	**-1.3**
CBYP	**Canovanas**	**1.99**	**243**	*e*S		**Sn**	**04 01 04.9**	**-0.3**
CBYP	**Canovanas**	**1.99**	**243**	↑*e*P		**Pn**	**04 00 39.6**	**-0.3**
CBYP				*e*S		**Sn**	**04 01 04.9**	**-0.3**
HUMP	**Col San Antoni**	**2.05**	**240**	*e*S		**Sn**	**04 01 06.3**	**-0.3**
HUMP	**Col San Antoni**	**2.05**	**240**	↑*e*P		**Pn**	**04 00 40.4**	**-0.3**
HUMP				*e*S		**Sn**	**04 01 06.3**	**-0.3**
CPD	**Cerro la Pandu**	**2.16**	**239**	*e*S		**Sn**	**04 01 08.9**	**-0.4**
CPD	**Cerro la Pandu**	**2.16**	**239**	↑*e*P		**Pn**	**04 00 42.2**	**+0.1**
CPD				*e*S		**Sn**	**04 01 08.9**	**-0.4**
SJG	**San Juan**	**2.31**	**243**	*e*S		**Sn**	**04 01 13.7**	**+0.5**
SJG	**San Juan**	**2.31**	**243**	↓*e*P		**Pn**	**04 00 44.4**	**+0.1**
SJG	**San Juan**	**2.31**	**243**	↑*e*P		**Pn**	**04 00 44.6**	**+0.3**
SJG				*e*S		**Sn**	**04 01 13.7**	**+0.5**
CELP	**Cerrillos**	**2.70**	**246**	↓*i P*		**Pn**	**04 00 49.8**	**+0.2**
ICM	**Isla Caja Muer**	**2.73**	**242**	*e*S		**Sn**	**04 01 23.0**	**-0.4**
ICM	**Isla Caja Muer**	**2.73**	**242**	↑*e*P		**Pn**	**04 00 50.8**	**+0.8**
ICM				*e*S		**Sn**	**04 01 23.0**	**-0.4**
OBIP	**Obispado Ponce**	**2.73**	**246**	*e*S		**Sn**	**04 01 23.5**	**0.0**
OBIP	**Obispado Ponce**	**2.73**	**246**	↓*e*P		**Pn**	**04 00 50.2**	**+0.1**
OBIP				*e*S		**Sn**	**04 01 23.5**	**0.0**
AOPR	**Arecibo Observ**	**2.75**	**253**	↑*e*P		**Pn**	**04 00 50.5**	**+0.2**
LRS	**Lares**	**2.85**	**252**	↑*e*P		**Pn**	**04 00 52.4**	**+0.6**
MGP	**Maguayo**	**3.17**	**249**	↑*e*P		**Pn**	**04 00 56.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**3.19**	**249**	*e*S		**Sn**	**04 01 35.9**	**+1.1**
CRPR	**Cabo Rojo, PR**	**3.19**	**249**	↓*e*P		**Pn**	**04 00 56.5**	**+0.1**
CRPR				*e*S		**Sn**	**04 01 35.9**	**+1.1**
SEG	**Port Louis**	**3.63**	**139**	*e*P		**Pn**	**04 01 01.1**	**-1.4**
LZG	**Guadaloupe-1**	**3.68**	**145**	*e*P		**Pn**	**04 01 02.2**	**-0.9**
LZG				*e*S		**Sn**	**04 01 52.4**	**+5.5**

*IDC **04** 04:06:54.8±0.9, 368S×149.94E, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.2/14, mbtmp4.1/7, MS3.9/9, Ms1 3.9/9, ms1mx3.7/17, Error ellipse: s-maj=34.1km s-min=21.9km az=109.0*
*MOS **04** 04:06:59.0±0.9, 357S×149.60E, h33km, mb4.6/4, Error ellipse: s-maj=31.0km s-min=13.1km az=72.6*
*ISCJB **04** 04:07:07.2±2.9, 39S±01×1498E±01, h115km±27km, mb4.2/12, Error ellipse: s-maj

DZM				LR	LR	04 20 46.4	
	comp=Z,364nm,18.1s,baz=205,slow=34						
ASAR	**Alice Springs**	**24.87**	**217**	P	**P**	**04 12 22.4**	**+1.9**
	comp=Z,8.1nm,1.0s,mb4.1,baz=54,slow=8.6,SNR=35						
FITZ	**Fitzroy Crossi**	**27.50**	**237**	*eP*	**P**	**04 12 47.2**	**+3.1**
	comp=Z,16nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**28.80**	**195**	LR	LR	04 25 23.2	
	comp=Z,217nm,18.9s,baz=22,slow=38						
MJAR	**Matsushiro Arr**	**41.74**	**346**	LR	LR	04 29 15.0	
	comp=Z,120nm,21.9s,baz=165,slow=32						
LZH	**Lanzhou**	**58.57**	**317**	*eP*	**P**	**04 16 54.2**	**+1.1**
LZH				AMB	AMB		
	comp=Z,822nm,1.5s						
SONM	**Songino Array**	**64.06**	**329**	P	**P**	**04 17 29.1**	**-0.9**
	comp=Z,0.7nm,0.9s,mb3.5,baz=155,slow=4.8,SNR=3.5						
LSA	**Lhasa**	**65.31**	**305**	*eP*	**P**	**04 17 41.2**	**+3.1**
ZAK	**Zakamensk**	**67.26**	**330**	*eP*	**P**	**04 17 50.4**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb4.0						
BILL	**Bilibino**	**72.78**	**6**	P	**P**	**04 18 23.3**	**-1.0**
	comp=Z,2.7nm,0.7s,mb4.2						
BILL	**Bilibino**	**72.78**	**6**	P	**P**	**04 18 23.3**	**-1.0**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**77.75**	**319**	P	**P**	**04 18 53.7**	**+1.0**
	comp=Z,0.2nm,0.8s,baz=114,slow=5.9,SNR=3.9						
MKAR				LR	LR	04 52 08.0	
	comp=Z,32nm,18.9s,baz=0.0,slow=35						
MCK	**McKinley**	**81.27**	**23**	*eP*	**P**	**04 19 11.9**	**+0.1**
	comp=Z,5.9nm,1.3s,mb4.3						
MCK	**McKinley**	**81.27**	**23**	*eP*	**P**	**04 19 11.9**	**+0.1**
MCK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.3						
ILAR	**Eielson Array**	**82.54**	**23**	P	**P**	**04 19 16.7**	**-1.7**
	comp=Z,2.2nm,0.7s,mb4.1,baz=246,slow=5.4,SNR=16						
MAW	**Mawson**	**85.17**	**203**	LR	LR	04 56 11.8	
	comp=Z,374nm,18.5s,baz=115,slow=35						
DAWY	**Dawson**	**85.28**	**25**	*eP*	**P**	**04 19 33.8**	**+1.5**
ZRNK	**Zerenda**	**87.61**	**323**	P	**P**	**04 19 43.1**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**87.61**	**323**	P	**P**	**04 19 43.1**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
SYO	**Syowa Base**	**93.44**	**200⇓**	*eP*	**P**	**04 20 09.0**	**-1.8**
AKTO	**Aktyubinsk**	**94.17**	**320**	LR	LR	05 02 22.4	
	comp=Z,46nm,19.8s,baz=74,slow=35						
YKA	**Yellowknife Ar**	**96.09**	**28**	P	**P**	**04 20 23.1**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.5,baz=273,slow=4.8,SNR=19						
TORD	**Torodi Ar. Bea**	**147.21**	**288**	PKPbc	PKPbc	04 26 41.3	+3.2
	comp=Z,2.7nm,0.7s,baz=68,slow=1.9,SNR=15						

MEX 04 04:25:32.9±0.5, 1737N×9465W, h132km±5km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.36**	**219**	*i* P		Pn	04 25 50.2	-1.4
CMIG				*i* S		Sn	04 26 03.8	-1.9
OXX	**Oaxaca**	**2.01**	**262**	*i* P		Pn	04 26 06.5	-0.6
OXX				*i* S		Sn	04 26 32.5	-0.7
VHO	**Vista Hermosa**	**2.02**	**262**	*i* P		Pn	04 26 05.9	-1.3
VHO				*i* S		Sn	04 26 32.1	-1.3
CCIG	**Comitan**	**2.64**	**114**	*i* P		Pn	04 26 14.1	-0.8
CCIG				*i* S		Sn	04 26 45.5	-1.7

*IDC **04** 04:28:50.1±1.8, 771S×12635E, h0km, mb3.9/1, mb1 4.5/3, mb1mx4.0/13, mbtmp4.2/3, ML4.6/2, Error ellipse: s-maj=223.4km s-min=30.6km az=62.0*
*NEIC **04** 04:28:55.1±3.2, 7.14S×12770E, h44km±35km, mb4.1/1, Error ellipse: s-maj=27.9km s-min=19.0km az=184.0*
*ISCJB **04** 04:29:03.0±3.9, 75S±02×1276E±02, h149km±42km, mb3.7/1, Error ellipse: s-maj=33.8km s-min=26.2km az=4.9*

ISC 04 04:28:55.1±5.6, 71S±03×1278E±01, h41km±59km, n10, σ0°42/12, mb3.9/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.22**	**141**	*eP*		**Pn**	**04 30 45.9**	**+7.9**
	33nm,0.2s							
KAKA				*e*S		**Sn**	**04 31 57.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.11**	**191**	*eP*		**Pn**	**04 31 31.4**	**+0.2**
	10nm,0.2s							
FITZ				*e*S		**Sn**	**04 33 21.9**	**-12**
WRAB	**Tennant Creek**	**14.25**	**154**	*e*Pn		**Pn**	**04 32 14.9**	**+0.7**
	2.4nm,0.6s							
WRAB				*e*Sn		Sx	04 34 41.5	
WRA	**Warramunga Arr**	**14.25**	**154**	Pn		**Pn**	**04 32 14.4**	**+0.2**
	2.4nm,0.3s,baz=321,slow=14,SNR=60							
WRA				Sn		Sx	04 34 39.7	
	3.2nm,0.3s,baz=320,slow=25,SNR=13							
WB2	**Warramunga Arr**	**14.26**	**154**	*eP*		**Pn**	**04 32 14.4**	**+0.1**
WB2				*e*S		Sx	04 34 39.6	
MBWA	**Marble Bar**	**15.97**	**208**	*eP*		**Pn**	**04 32 36.0**	**-0.6**
	20nm,1.3s							
AS31	**Alice Springs**	**17.48**	**161**	*eP*		**Pn**	**04 32 55.9**	**+0.3**
AS31				*e*S		Sx	04 35 53.3	
ASPA	**Alice Springs**	**17.48**	**161**	*eP*		**Pn**	**04 32 55.9**	**+0.3**
ASPA				*e*S		Sx	04 35 53.3	
ASAR	**Alice Springs**	**17.48**	**161**	P		**Pn**	**04 32 55.9**	**+0.3**
	2.1nm,0.3s,baz=338,slow=11,SNR=133							
ASAR				S		Sx	04 36 00.3	
	0.8nm,0.3s,baz=317,slow=20,SNR=10							
MKAR	**Makanchi Array**	**67.13**	**328**	P		**P**	**04 39 44.1**	**-0.3**
	0.6nm,0.5s,mb3.9,baz=129,slow=7.9,SNR=10							

*ISCJB **04** 04:36:49.2±1.4, 1920N±007×6393W±004, h16km±9km, mb3.4/2, Error ellipse: s-maj=12.1km s-min=5.8km az=1.5*
*NEIC **04** 04:36:50.2, 19.14N×6377W, h12km, mb3.6/2, MD3.8(RSPR), After RSPR.*
*RSPR **04** 04:36:50.2, 19.14N×6377W, h12km±22km, MD3.8/13, MD3.8/13*

ISC 04 04:36:49.2±1.3, 1913N±007×6394W±003, h5km±6km, n37, σ0°73/55, mb3.4/2, 16C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.96**	**222**	*e*S		**Sg**	**04 37 20.5**	**+0.6**
TBVI	**Tortola**	**0.96**	**222**	⇑*i*P		**Pg**	**04 37 08.0**	**+0.5**
TBVI				*e*S		**Sg**	**04 37 20.5**	**+0.6**
STVI	**Saint Thomas**	**1.24**	**232**	*e*S		**Sg**	**04 37 28.6**	**-0.3**
STVI	**Saint Thomas**	**1.24**	**232**	⇑*e*P		**Pg**	**04 37 12.1**	**-0.9**
STVI				*e*S		**Sg**	**04 37 28.6**	**-0.3**
STMA	**St. Maarten, A**	**1.34**	**144**	*e*P		**Pn**	**04 37 14.7**	**+0.1**
STMA	**St. Maarten, A**	**1.34**	**144**	*e*P		**Pn**	**04 37 14.8**	**+0.2**
STMA				*e*S		**Sb**	**04 37 32.5**	**+0.2**
STMA				*e*S		**Sb**	**04 37 32.5**	**+0.3**
CDVI	**St. Croix**	**1.58**	**210**	*e*S		**Sn**	**04 37 37.6**	**-1.0**
CDVI	**St. Croix**	**1.58**	**210**	⇑*e*P		**Pn**	**04 37 18.6**	**+0.8**
CDVI				*e*S		**Sn**	**04 37 37.6**	**-1.0**
SABT	**Saba**	**1.64**	**156**	*e*P		**Pn**	**04 37 21.3**	**+2.6**
MTP	**Monte Pirata**	**1.85**	**236**	*e*S		**Sn**	**04 37 44.1**	**-1.2**
MTP	**Monte Pirata**	**1.85**	**236**	⇑*e*P		**Pn**	**04 37 21.0**	**-0.5**
MTP				*e*S		**Sn**	**04 37 44.1**	**-1.2**
CBYP	**Canovanas**	**2.00**	**245**	*e*S		**Sn**	**04 37 49.1**	**-0.1**
CBYP	**Canovanas**	**2.00**	**245**	⇑*e*P		**Pn**	**04 37 23.0**	**-0.7**
CBYP				*e*S		**Sn**	**04 37 49.1**	**-0.1**
HUMP	**Col San Antoni**	**2.06**	**242**	*e*S		**Sn**	**04 37 49.8**	**-0.7**
HUMP	**Col San Antoni**	**2.06**	**242**	⇑*e*P		**Pn**	**04 37 23.9**	**-0.5**
HUMP				*e*S		**Sn**	**04 37 49.8**	**-0.7**
CPD	**Cerro la Pandu**	**2.16**	**240**	*e*S		**Sn**	**04 37 53.3**	**+0.2**
CPD	**Cerro la Pandu**	**2.16**	**240**	⇑*e*P		**Pn**	**04 37 26.1**	**+0.2**
CPD				*e*S		**Sn**	**04 37 53.3**	**+0.2**
SJG	**San Juan**	**2.33**	**245**	*e*S		**Sn**	**04 37 57.7**	**+0.6**
SJG	**San Juan**	**2.33**	**245**	⇑*e*P		**Pn**	**04 37 28.1**	**0.0**
SJG				*e*S		**Sn**	**04 37 56.7**	**-0.4**
SJG	**San Juan**	**2.33**	**245**	⇑*e*P		**Pn**	**04 37 27.9**	**-0.2**
SJG				*e*S		**Sn**	**04 37 57.7**	**+0.6**
CELP	**Cerrillos**	**2.71**	**248**	⇑*e*P		**Pn**	**04 37 33.1**	**-0.3**
CELP				*e*S		**Sn**	**04 38 07.3**	**+0.7**
ICM	**Isla Caja Muer**	**2.74**	**244**	*e*S		**Sn**	**04 38 07.9**	**+0.6**
ICM	**Isla Caja Muer**	**2.74**	**244**	⇑*e*P		**Pn**	**04 37 34.3**	**+0.5**
ICM				*e*S		**Sn**	**04 38 07.9**	**+0.6**
OBIP	**Obispado Ponce**	**2.75**	**247**	*e*S		**Sn**	**04 38 07.3**	**-0.2**
OBIP	**Obispado Ponce**	**2.75**	**247**	⇑*e*P		**Pn**	**04 37 34.8**	**+0.8**
OBIP				*e*S		**Sn**	**04 38 07.3**	**-0.2**
AOPR	**Arecibo Observ**	**2.77**	**254**	*e*S		**Sn**	**04 38 08.5**	**+0.3**
AOPR	**Arecibo Observ**	**2.77**	**254**	⇑*e*P		**Pn**	**04 37 34.4**	**+0.1**
AOPR				*e*S		**Sn**	**04 38 08.5**	**+0.3**
LRS	**Lares**	**2.88**	**254**	⇑*e*P		**Pn**	**04 37 35.5**	**-0.2**
LRS				*e*S		**Sn**	**04 38 11.6**	**+1.0**
MGP	**Maguayo**	**3.19**	**250**	⇑*e*P		**Pn**	**04 37 39.9**	**0.0**
MGP				*e*S		**Sn**	**04 38 19.3**	**+0.9**
CRPR	**Cabo Rojo, PR**	**3.21**	**250**	*e*S		**Sn**	**04 38 18.6**	**-0.2**
CRPR	**Cabo Rojo, PR**	**3.21**	**250**	⇑*e*P		**Pn**	**04 37 39.9**	**-0.3**
CRPR				*e*S		**Sn**	**04 38 18.6**	**-0.2**
SEG	**Port Louis**	**3.57**	**139**	*e*P		**Pn**	**04 37 44.9**	**-0.4**
LZG	**Guadaloupe-1**	**3.62**	**145**	*e*P		**Pn**	**04 37 46.1**	**+0.2**
SDV	**Santo Domingo**	**12.07**	**213**	Pn		**Pn**	**04 39 48.3**	**+6.4**
OTAV	**Otavalo**	**23.56**	**219**	P		**P**	**04 41 59.7**	**-1.1**
	1.1nm,0.9s,mb3.3							
SAML	**Samuel**	**27.91**	**178**	P		**P**	**04 42 37.0**	**-3.2**
	0.8nm,0.6s,mb3.5							
LPAZ	**La Paz**	**35.44**	**187**	P		**P**	**04 43 34.8**	**-11**

IDC 04 04:44:38.7±1.8, 685S×12595E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.5/15, mbtmp3.4/3, Error ellipse: s-maj=307.3km s-min=29.3km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.35**	**149**	Pn		Pn	04 48 18.5	+1.9
	0.1nm,0.3s,baz=330,slow=13,SNR=8.7							
WRA				Sn		Sn	04 50 59.8	-7.5
	0.1nm,0.3s,baz=328,slow=24,SNR=3.5							
ASAR	**Alice Springs**	**18.38**	**156**	P		Pn	04 48 54.2	-0.7
	0.2nm,0.3s,baz=329,slow=9.7,SNR=11							
MKAR	**Makanchi Array**	**65.96**	**329**	P		P	04 55 26.9	+0.2
	0.3nm,0.4s,baz=128,slow=7.6,SNR=14							

*MOS **04** 04:53:14.8±0.9, 3689N×7118E, h33km, mb4.2/8, Error ellipse: s-maj=21.1km s-min=10.9km az=104.6*
*NEIC **04** 04:53:23.5±1.2, 37.16N×7189E, h108km±14km, mb4.4/10, Error ellipse: s-maj=12.6km s-min=5.4km az=58.0*
*ISCJB **04** 04:53:23.7±0.7, 37.13N±003×7183E±009, h130km±10km, mb3.8/12, Error ellipse: s-maj=12.0km s-min=4.1km az=146.4*
*IDC **04** 04:53:23.0±5.6, 3707N×7189E, h108km±43km, mb3.7/12, mb1 3.8/16, mb1mx3.6/27, mbtmp4.0/16, MS3.7/2, Ms1 3.7/2, ms1mx2.7/26, Error ellipse: s-maj=46.5km s-min=21.8km az=151.0*
*BJI **04** 04:53:26.1, 3731N×7185E, h109km*
*NNC **04** 04:53:32.2±4.2, 3782N×7131E, h172km±41km, mb3.3, mpv4.4, Error ellipse: s-maj=36.6km s-min=23.4km az=22.0*

ISC 04 04:53:25.1±0.6, 3714N±003×7187E±009, h130km±9km, n72, σ1°06/90, mb3.8/12, 8C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.00**	**52**	*eP*		**Pn**	**04 54 29.1**	**+4.3**
KSH				S		**Sn**	**04 55 18.9**	**+7.7**
KSH				Smax				
	comp=N,140nm,0.2s							
KSH				Smax				
	comp=E,345nm,0.1s							
AML	**Almayashu**	**5.18**	**15**	P		**Pn**	**04 54 40.9**	**+0.3**
	SNR=112							
UCH	**Uchtor**	**5.48**	**21**	P		**Pn**	**04 54 45.2**	**+0.7**
	SNR=24							
KZA	**Kyzart**	**5.58**	**27**	P		**Pn**	**04 54 46.5**	**+0.6**
	SNR=21							
THN	**Thein Dam**	**5.66**	**145**	*eP*		**Pn**	**04 54 48.3**	**+1.4**
THN				*e*S		**Sn**	**04 55 51.6**	**+0.9**
EKS2	**Erkin-Say**	**5.71**	**14**	P		**Pn**	**04 54 47.7**	**+0.1**
	SNR=27							
AAK	**Ala-Archa**	**5.85**	**19**	P		**Pn**	**04 54 50.4**	**+0.9**
	SNR=30							
AAK	**Ala-Archa**	**5.85**	**19**	*e*Pn		**Pn**	**04 54 48.8**	**-0.7**
	comp=E,14nm,0.4s							
AAK				*e*Sn		**Sn**	**04 55 51.4**	**-3.9**
AAK	**Ala-Archa**	**5.85**	**19**	*e*PN		**Pn**	**04 54 48.8**	**-0.7**
AAK				pmax	pmax			
	comp=Z,14nm,0.4s							
KBK	**Karagaybulak**	**6.00**	**22**	P		**Pn**	**04 54 52.9**	**+1.4**
	SNR=6.2							
KK31	**Karatay Array**	**6.05**	**350**	⇑P		**Pn**	**04 54 50.6**	**-1.6**
	comp=Z,32nm,0.3s,baz=176,slow=12,SNR=1113							
KK31				⇑S		**Sn**	**04 55 52.0**	**-8.2**
	comp=Z,34nm,0.6s,baz=169,slow=20,SNR=13							
ULHL	**Ulahol**	**6.11**	**32**	P		**Pn**	**04 54 53.9**	**+0.8**
	SNR=12							
CHMS	**Chumysh**	**6.26**	**20**	P		**Pn**	**04 54 55.6**	**+0.6**
	SNR=11							
TKM2	**Tokmak 2**	**6.45**	**25**	P		**Pn**	**04 54 58.2**	**+0.7**
	SNR=17							
TKM2	**Tokmak 2**	**6.45**	**25**	⇑P		**Pn**	**04 54 58.3**	**+0.8**
	comp=Z,14nm,0.7s							
TKM2				⇑S		**Sn**	**04 56 10.4**	**+0.7**
	comp=Z,11nm,0.6s							
USP	**Ospenovka**	**6.45**	**17**	P		**Pn**	**04 54 57.6**	**0.0**
	SNR=23							
SDNR	**Sundarnagar**	**7.03**	**142**	*eP*		**Pn**	**04 55 08.0**	**+2.6**
SDNR				*e*S		**Sn**	**04 56 22.5**	**-1.3**
KLP	**Kalpa**	**7.68**	**135**	*eP*		**Pn**	**04 55 14.8**	**+0.6**
KLP				*e*S		**Sn**	**04 56 36.7**	**-2.9**
KLP				AML	AML		04 56 43.5	
	comp=E,176nm,0.9s							
KLP				AML	AML		04 56 48.3	
	comp=N,228nm,0.6s							
KALG	**Kalgarh**	**9.54**	**141**	*eP*		**Pn**	**04 55 33.5**	**-5.6**
KALG				*e*S		**Sn**	**04 57 15.2**	**-9.3**
NDI	**New Delhi**	**9.55**	**150**	*eP*		**Pn**	**04 55 40.0**	**+0.7**
NDI				*eP*			04 55 40.0	
NDI				*e*S		**Sn**	**04 57 20.0**	**-4.8**
NDI				*e*S		**Sn**	**04 57 20.0**	**-4.8**
KHET	**Khetri**	**9.62**	**159**	*eP*		**Pn**	**04 55 38.6**	**-1.7**
KHET				*e*S		**Sn**	**04 57 21.2**	**-5.4**
AYAN	**Aya Nagar**	**9.69**	**151**	*eP*		**Pn**	**04 55 41.4**	**+0.2**
BISR	**Bishrakh**	**9.74**	**150**	*eP*		**Pn**	**04 55 42.3**	**+0.5**
KUDL	**Kundal**	**9.77**	**155**	*eP*		**Pn**	**04 55 41.8**	**-0.5**
KUDL				*e*S		**Sn**	**04 57 24.1**	**-6.1**
AGRA	**Agra**	**11.13**	**151**	*eP*		**Pn**	**04 56 00.2**	**-0.2**
MK31	**Makanchi Array**	**12.37**	**35**	P		**Pn**	**04 56 17.0**	**+0.4**
	comp=N,1.2nm,0.6s,baz=225,slow=14,SNR=13							
MKAR	**Makanchi Array**	**12.37**	**35**	P		**Pn**	**04 56 16.6**	**0.0**
	comp=N,0.1nm,0.3s,baz=224,slow=14,SNR=17							
KOLN	**Koldanda**	**13.60**	**130**	*eP*		**Pn**	**04 56 31.7**	**-0.9**
	comp=N,39nm,0.8s							
GKN	**Gorkha**	**14.09**	**127**	*eP*		**Pn**	**04 56 38.8**	**0.0**
	comp=N,46nm,0.5s							
KKN	**Kakani**	**14.64**	**126**	*eP*		**Pn**	**04 56 45.7**	**-0.2**
BHPL	**Bhopal**	**14.65**	**159**	*eP*		**Pn**	**04 56 51.2**	**+5.3**
DMN	**Daman**	**14.66**	**127**	*eP*		**Pn**	**04 56 45.7**	**-0.3**
	comp=N,49nm,0.8s							
PKI	**Pulchoki**	**14.88**	**126**	*eP*		**Pn**	**04 56 48.2**	**-0.6**
	comp=N,21nm,0.6s							
PKI	**Pulchoki**	**14.88**	**126**	*eP*		**Pn**	**04 56 48.2**	**-0.6**
PKI				pmax	pmax			
	comp=Z,10.0nm,0.6s							
AB31	**Akbulak array**	**14.89**	**328**	⇓P		**Pn**	**04 56 44.9**	**-4.0**
	comp=Z,5.3nm,0.5s							
AB31				⇑S		**Sn**	**04 59 14.9**	**-19**
	comp=Z,26nm,0.8s							
GUN	**Gumba**	**14.96**	**124**	*eP*		**Pn**	**04 56 49.3**	**-0.5**
	comp=Z,117nm,0.9s							
JIRN	**Jiri**	**15.33**	**124**	*eP*		**Pn**	**04 56 54.2**	**-0.2**
	comp=Z,70nm,0.7s							
VOSK	**Vostochnaya**	**15.60**	**358**	⇑P		**Pn**	**04 56 55.5**	**-2.2**
	comp=Z,3.9nm,1.6s							
VOSK				⇑S		**S**	**04 59 39.0**	**-18**
	comp=Z,3.4nm,1.1s							
BVAR	**Borovoye Array**	**15.92**	**357**	P		**Pn**	**04 56 59.7**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=159,slow=13,SNR=8.2							
BVAR				S		**S**	**04 59 47.7**	**-16**
	comp=Z,0.3nm,0.3s,baz=169,slow=24,SNR=6.7							
ZRNK	**Zerenda**	**15.94**	**354**	⇓P		**Pn**	**04 56 59.9**	**-2.1**
	comp=Z,6.3nm,1.6s							
ZRNK				S		**S**	**04 59 49.0**	**-15**
ZRNK	**Zerenda**	**15.94**	**354**	*eP*		**Pn**	**04 56 59.5**	**-2.5**
	comp=Z,2.6nm,0.5s							
ZRNK	**Zerenda**	**15.94**	**354**	*eP*		**Pn**	**04 56 59.5**	**-2.5**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.5s							
AKTK	**Aktyubinsk**	**16.60**	**328**	P		**Pn**	**04 57 08.2**	**-1.8**
AKTK				S		**S**	**05 00 01.0**	**-14**
AKTO	**Aktyubinsk**	**16.60**	**328**	⇓P		**Pn**	**04 57 08.2**	**-1.8**
	comp=Z,2.0nm,0.8s							
AKTO				⇑S		**S**	**04 59 59.6**	**-15**
	comp=Z,2.1nm,0.8s							
AKTO	**Aktyubinsk**	**16.60**	**328**	P		**Pn**	**04 57 08.2**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=138,slow=15,SNR=18							
AKTO				S		**S**	**05 00 01.0**	**-14**
	comp=Z,0.3nm,0.3s,baz=323,slow=21,SNR=5.1							
AKTO	**Aktyubinsk**	**16.60**	**328**	P		**Pn**	**04 57 08.3**	**-1.8**
AKTO				S		**S**	**05 00 01.0**	**-14**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**19.03**	**24**	P		**P**	**04 57 37.1**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=256,slow=6.5,SNR=6.2							
ZAL	**Zalesovo**	**19.03**	**24**	P		**P**	**04 57 37.2**	**+0.3**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
GNI	**Garni**	**21.37**	**286**	P		**P**	**04 58 03.1**	**+1.0**
	comp=Z,6.5nm,0.6s,mb4.2,baz=8.7,slow=5.4,SNR=6.2							
GNI	**Garni**	**21.37**	**286**	P		**P**	**04 58 03.1**	**+1.0**
GNI				pmax	pmax			
	comp=Z,7.0nm,0.6s							
BR131	**Keskin Array S**	**29.91**	**287**	P		**P**	**04 59 22.5**	**+1.9**
	comp=Z,0.8nm,0.5s,mb3.7							
BRTR	**Keskin Array B**	**29.91**	**287**	P		**P**	**04 59 21.9**	**+1.4**
	comp=Z,1.1nm,0.6s,mb3.8,baz=103,slow=10.0,SNR=5.5							
BRTR	**Keskin Array B**	**29.91**	**287**	P		**P**	**04 59 22.0**	**+1.4**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**33.10**	**308**	P		**P**	**04 59 48.1**	**-0.4**
	comp=Z,0.3nm,0.2s,mb3.6,baz=85,slow=7.2,SNR=4.3							
MLR	**Muntele Rosu**	**35.09**	**298**	P		**P**	**05 00 07.0**	**+1.3**
	comp=Z,3.0nm,0.8s,mb4.0,baz=148,slow=10.0,SNR=3.8							
MLR	**Muntele Rosu**	**35.09**	**298**	P		**P**	**05 00 07.0**	**+1.3**
MLR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**37.35**	**325**	P		**P**	**05 00 25.1**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.5,baz=114,slow=8.7,SNR=7.2							
FINES	**FINESS Array B**	**37.35**	**325**	P		**P**	**05 00 25.1**	**+0.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ARCES	**ARCESS Array B**	**40.83**	**337**	P		**P**	**05 00 54.5**	**+0.7**
	comp=Z,2.1nm,0.6s,mb4.0,baz=113,slow=8.2,SNR=12							
ARCES	**ARCESS Array B**	**40.83**	**337**	P		**P**	**05 00 54.5**	**+0.7**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
HFS	**Hagfors**	**43.01**	**321**	P		**P**	**05 01 11.8**	**+0.4**
	comp=Z,6.0nm,0.5s,mb4.5,baz=97,slow=11,SNR=38							
NB2	**NORSAR Subarra**	**44.30**	**323**	P		**P**	**05 01 22.0**	**+0.2**
	comp=Z,1.6nm,0.6s,mb3.8,baz=93,slow=7.9							
NB2	**NORSAR Subarra**	**44.30**	**323**	P		**P**	**05 01 22.0**	**+0.2**
NB2				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.9							
NOA	**NORSAR Array B**	**44.30**	**323**	P		**P**	**05 01 21.2**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.0,baz=94,slow=7.7,SNR=13							
NOA	**NORSAR Array B**	**44.30**	**323**	P		**P**	**05 01 21.3**	**-0.5**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**52.32**	**316**	P		**P**	**05 02 23.9**	**+0.6**
	comp=Z,1.7nm,0.9s,mb3.6,baz=88,slow=9.3,SNR=3.9							
EKA	**Eskdalemuir Ar**	**52.32**	**316**	P		**P**	**05 02 23.9**	**+0.6**
EKA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ASAJ	**Asahikawa**	**52.63**	**59**	LR	LR	05 27 30.9		
	comp=Z,52nm,21.1s,baz=156,slow=39							
ESDC	**Sonseca Array**	**57.78**	**298**	P		**P**	**05 03 03.6**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=64,slow=7.4,SNR=5.0							
CBIJ	**Chichi jima**	**59.18**	**78**	LR	LR	05 28 25.5		
	comp=Z,77nm,19.4s,baz=1.0,slow=36							
TORD	**Torodi Ar. Bea**	**66.43**	**269**	P		**P**	**05 04 00.3**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.6,baz=49,slow=6.1,SNR=14							
YKA	**Yellowknife Ar**	**80.58**	**3**	P		**P**	**05 05 23.6**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.1,baz=351,slow=5.4,SNR=8.4							

*ISCJB **04** 05:15:21.4±5.1, 59S±03×1503E±03, h63km±34km, mb3.8/2, Error ellipse: s-maj=56.6km s-min=37.6km az=119.4*
*NEIC **04** 05:15:21.0±4.4, 590S×15051E, h61km±27km, mb4.2/2, Error ellipse: s-maj=45.6km s-min=27.5km az=181.0*
*IDC **04** 05:15

CD2 ePG Pg 05 23 01.9 -3.5
CD2 Smax
comp=N,20nm,1.3s
CD2 Smax
comp=E,20nm,1.4s
CD2 LR LR
comp=E,210nm,7.2s
CD2 LR LR
comp=Z,100nm,12.0s
SHL Shillong 7.14 257 eS Sn 05 24 34.0 -0.3
LSA Lhasa 7.76 289 P Pn 05 23 24.2 +2.5
LSA Lhasa 7.76 289 ePn Pn 05 23 23.4 +1.8
comp=Z,7.3nm,0.7s
JIRN Jiri 11.89 274 eP Pn 05 24 18.3 +0.1
comp=Z,27nm,0.3s
GUN Gumba 12.16 276 eP Pn 05 24 21.9 0.0
comp=Z,20nm,0.3s
PKI Pulchoki 12.59 274 eP Pn 05 24 27.4 -0.4
comp=Z,26nm,0.4s
KKN Kakani 12.69 275 eP Pn 05 24 29.2 0.0
comp=Z,38nm,0.5s
GKN Gorkha 13.26 276 eP Pn 05 24 36.2 -0.7
comp=Z,10nm,0.3s
KOLN Koldanda 14.18 275 eP Pn 05 24 47.1 -2.4
comp=Z,7.1nm,0.3s
SONM Songino Array 21.08 13 P P 05 26 14.2 +1.2
comp=Z,0.4nm,0.4s,mb3.1,baz=194,slow=10,SNR=2.1
SONM Songino Array 21.08 13 P P 05 26 14.2 +1.2
MKAR Makanchi Array 23.67 329 P P 05 26 40.1 -0.3
comp=Z,1.0nm,0.6s,mb3.4,baz=141,slow=9.4,SNR=14
AAK Ala-Archa 25.43 313 eP P 05 26 57.0 +0.5
comp=Z,5.3nm,0.8s,mb4.1
KURK Kurchatov 28.21 331 P P 05 27 22.9 +1.3
comp=Z,0.7nm,0.5s,mb3.5
BRVK Borovoye 33.59 328 P P 05 28 09.7 +0.7
comp=Z,1.0nm,0.8s,mb3.8
AKASG Malin Array Be 57.09 314 P P 05 31 14.1 -1.0
comp=Z,0.9nm,0.5s,mb4.0,baz=74,slow=6.7,SNR=4.0
WRA Warramunga Arr 57.87 141 P P 05 31 21.2 +0.7
comp=Z,1.8nm,0.6s,mb4.3,baz=329,slow=7.6,SNR=21
ASAR Alice Springs 60.63 144 P P 05 31 41.2 +1.5
comp=Z,0.6nm,0.4s,mb4.0,baz=326,slow=6.6,SNR=17
NOA NORSAR Array B 65.65 328 P P 05 32 11.3 -1.8
comp=Z,0.7nm,0.8s,mb3.8,baz=78,slow=6.4,SNR=3.5
NOA NORSAR Array B 65.65 328 P P 05 32 11.3 -1.8
GERES GERESS Array B 67.30 314 P P 05 32 24.4 +0.8
comp=Z,0.3nm,0.5s,mb3.6,baz=55,slow=8.5,SNR=3.5

*ATH **04** 05:50:00.8, 39.13N×2423E, h33km±1km, MD3.4/11*
*NEIC **04** 05:50:00.8, 39.13N×2423E, h33km, MD3.4(ATH), After ATH.*
*ISCJB **04** 05:50:01.3±0.5, 39.12N±002×2425E±003, h18km±5km, Error ellipse: s-maj=4.0km s-min=3.4km az=18.1*
*CSEM **04** 05:50:01.0±0.1, 3907N×2423E, h12km, ML3.0, Error ellipse: s-maj=1.4km s-min=1.2km az=85.0*
*THE **04** 05:50:01.9, 39.16N×2425E, h11km, ML3.0*
ISC 04 05:50:01.1±0.5, 3912N±002×2424E±003, h13km±3km, n37, σ1°00/57, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.29	280	ePg		Pg		05 50 06.6	-0.4
AOS				eSg		Sg		05 50 13.2	+2.2
NEO	Neokhori	0.81	284	ePN		Pg		05 50 16.5	-0.3
NEO				eSN		Sg		05 50 28.3	+0.8
XOR	Xorichti	0.85	287	ePg		Pg		05 50 17.5	0.0
XOR				eSg		Sg		05 50 30.3	+1.6
PAIG	Paliouri	0.92	332	ePg		Pg		05 50 18.6	-0.2
PAIG				eSg		Sg		05 50 31.5	+0.8
LOS	Limnos	1.04	38	ePg		Pg		05 50 20.9	-0.2
LOS				eSg		Sg		05 50 35.6	+0.9
MPAR	Parnis Oros	1.04	202	ePN		Pn		05 50 20.8	-0.6
LIA	Limnos Island	1.06	43	ePN		Pn		05 50 20.9	-0.8
LIA				eSN		Sn		05 50 35.7	-0.7
LKR	Lokris	1.08	245	ePB		Pb		05 50 20.5	-1.1
LKR				eSN		Sn		05 50 36.1	-0.6
PTL	Penteli	1.11	196	ePN		Pn		05 50 21.4	-0.9
ATH	Athens Observa	1.22	200	ePN		Pn		05 50 23.0	-0.8
ATH				eSN		Sn		05 50 39.9	-0.2
OUR	Ouranopolis	1.23	351	ePg		Pg		05 50 23.4	-1.3
OUR				eSg		Sg		05 50 39.9	-0.8
KVR	Kavouri	1.34	196	ePN		Pn		05 50 25.0	-0.5
MGER	Gerania Oros	1.37	215	ePN		Pn		05 50 25.5	-0.4
PLG	Polygyros	1.40	334	ePN		Pn		05 50 25.4	-0.8
AGG	Agios Georgios	1.49	267	ePg		Pg		05 50 27.4	-2.3
AGG				eSg		Sg		05 50 48.0	-1.1
PRK	Paraskevi	1.58	85	⇓PN		Pn		05 50 28.9	+0.1
LIT	Litokhoron	1.67	306	ePb		Pb		05 50 29.8	-1.9
THE	Thessaloniki	1.80	327	ePb		Pb		05 50 31.6	-2.3
THE				eSb		Sb		05 50 54.4	-2.0
EVR	Evrytania	1.91	265	ePN		Pn		05 50 33.2	-0.1
SRS	Serrai	2.06	346	ePn		Pn		05 50 35.3	-0.1
SRS				eSn		Sn		05 51 00.6	-0.3
NVR	Nevrokopi	2.25	353	ePN		Pn		05 50 37.8	-0.2
ALN	Alexandroupoli	2.25	37	ePn		Pn		05 50 38.1	+0.1
ALN				eSn		Sn		05 51 06.4	+0.7
RDO	Rodhopi	2.25	26	ePN		Pn		05 50 37.4	-0.7
APE	Apeiranthos	2.29	153	ePn		Pn		05 50 39.2	+0.7
APE				eSn		Sn		05 51 08.7	+2.2
APE	Apeiranthos	2.29	153	ePn		Pn		05 50 38.5	0.0
KNT	Kendrikon	2.29	334	ePn		Pn		05 50 38.8	+0.3
KNT				eSn		Sn		05 51 06.0	-0.5
GRG	Griva	2.32	323	ePn		Pn		05 50 39.4	+0.5
GRG				eSn		Sn		05 51 07.7	+0.4
MEV	Metsovon	2.43	287	ePn		Pn		05 50 41.1	+0.7
MEV				eSn		Sn		05 51 11.7	+1.7
SMG	Samos	2.48	124	ePN		Pn		05 50 41.2	+0.1
MMB	Musomiste	2.50	351	P		Pn		05 50 41.0	-0.4
VAY	Valandovo	2.54	330	*i* Pn		Pg		05 50 50.9	+1.0
VAY				*e*1		Sg		05 51 24.7	+1.9
RZN	Rozhen	2.59	8	eP		Pn		05 50 43.0	+0.3
VLI	Veliai	2.61	204	ePN		Pn		05 50 42.5	-0.4
FNA	Florina	2.76	308	ePn		Pn		05 50 45.7	+0.7
FNA				eSn		Sn		05 51 19.7	+1.5
KKB	Krupnik	2.88	343	P		Pn		05 50 47.0	+0.3
SANT	Santorini	2.91	160	ePn		Pn		05 50 47.7	+0.7
SANT				eSn		Sn		05 51 24.0	+2.1
VTS	Vitosha	3.56	348	P		Pn		05 50 57.0	+1.0

WEL 04 06:23:10.9±0.3, 3709S×17739E, h129km±2km, ML3.5/9, Error ellipse: s-maj=3.7km s-min=3.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.88	123	PN		Pn		06 23 32.6	0.0
MXZ				SN		Sn		06 23 48.9	0.0
URZ	Urewera	1.19	190	PN		Pn		06 23 35.7	+0.1
URZ				SN		Sn		06 23 54.7	+0.4
PUZ	Puketiti	1.20	145	PN		Pn		06 23 35.9	+0.2
MWZ	Matawai	1.25	175	PN		Pn		06 23 36.3	+0.1
MWZ				SN		Sn		06 23 55.6	+0.1
KNZ	Kokohu	1.94	173	PN		Pn		06 23 43.9	-0.2
BKZ	Black Stump Fm	2.19	198	PN		Pn		06 23 47.1	-0.1
PXZ	Pawanui	2.97	188	PN		Pn		06 23 55.2	-1.8
MRZ	Mangatainoka R	3.84	201	PN		Pn		06 24 06.3	-2.2
MRZ				SN		Sn		06 24 49.0	-4.0
KIW	Kapiti Island	4.24	206	PN		Pn		06 24 11.0	-2.7
CAW	Cannon Point	4.40	203	PN		Pn		06 24 12.8	-3.1
QRZ	Quartz Range	5.32	224	PN		Pn		06 24 25.9	-2.3

*IDC **04** 06:58:30.4±1.8, 686N×9261E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=83.6km s-min=19.7km az=54.0*
*ISCJB **04** 06:58:34.7±4.8, 69N±03×927E±04, h44km±38km, mb3.7/7, Error ellipse: s-maj=86.3km s-min=18.9km az=113.2*
*NEIC **04** 06:58:34.9±1.2, 687N×9261E, h30km, mb3.8/1, Error ellipse: s-maj=54.4km s-min=11.0km az=52.0*
ISC 04 06:58:36.6±4.1, 69N±03×926E±04, h43km±32km, n12, σ0°66/12, mb3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	Prapat	7.49	123	Pn		Pn		07 00 23.4	+0.2
PSI									
AAK	Ala-Archa	39.03	339	P		P		07 05 58.6	-0.5
MKAR	Makanchi Array	40.73	349	P		P		07 06 12.0	-1.2

0.6nm,0.8s,mb3.3,baz=168,slow=8.0,SNR=6.3
MKAR Makanchi Array 40.73 349 P P 07 06 12.0 -1.2
SONM Songino Array 42.46 14 P P 07 06 28.0 +0.6
0.8nm,0.8s,mb3.4,baz=201,slow=7.9,SNR=3.8
WRA Warramunga Arr 48.95 124 P P 07 07 17.8 -0.8
0.9nm,0.5s,mb4.0,baz=306,slow=8.7,SNR=12
WB2 Warramunga Arr 48.96 124 eP P 07 07 18.6 -0.1
ASAR Alice Springs 50.48 128 P P 07 07 30.6 +0.4
0.5nm,0.6s,mb3.7,baz=303,slow=7.9,SNR=8.6
FINES FINESS Array B 72.87 333 P P 07 10 01.6 +0.5
0.6nm,0.6s,mb3.7,baz=153,slow=1.3,SNR=3.7
ARCES ARCESS Array B 75.67 340 P P 07 10 18.3 +0.9
0.9nm,0.5s,mb3.9,baz=108,slow=6.8,SNR=6.1
ARCES ARCESS Array B 75.67 340 P P 07 10 18.3 +0.9

*ISCJB **04** 06:59:14.7±5.2, 153S±01×1668E±02, h10km±32km, mb3.8/3, MS3.2/1, Error ellipse: s-maj=28.3km s-min=12.9km az=113.8*
*IDC **04** 06:59:14.5±1.5, 1531S×16694E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.9/15, mbtmp3.8/5, ML4.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/21, Error ellipse: s-maj=50.4km s-min=27.9km az=134.0*
ISC 04 06:59:15.5±6.2, 153S±01×1669E±02, h6km±38km, n8, σ0°97/8, mb3.8/3, MS3.2/1, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	2.70	152	*i* P		Pn		07 00 00.2	+0.8
BKM				S		Sn		07 00 32.3	0.0
DZM	Mont Dzumac	6.79	184	Pn		Pn		07 00 54.5	-1.0
DZM				Sn		Sn		07 02 04.1	-8.9
HNR	Honiara	8.95	310	LR		LR		07 04 09.7	
PMG	Port Moresby	20.17	284	LR		LR		07 10 15.1	
WRA	Warramunga Arr	31.38	257	P		P		07 05 37.0	0.0
ASAR	Alice Springs	32.18	250	P		P		07 05 44.6	+0.6
ILAR	Eielson Array	87.13	18	P		P		07 12 02.8	+0.5
YKA	Yellowknife Ar	98.17	27	P		P		07 12 52.3	-1.0

*SSNC **04** 07:11:03.8, 1841N×7161W, h0km, MD3.4, ML1.5*
*ISCJB **04** 07:11:07.8±0.9, 200N±01×6952W±006, h92km, Error ellipse: s-maj=21.8km s-min=4.7km az=39.3*
*RSPR **04** 07:11:11.0, 2006N×6936W, h92km±44km, MD4.1/10, MD4.1/10*
*NEIC **04** 07:11:11.0, 2006N×6936W, h92km, MD4.1(RSPR), After RSPR.*
ISC 04 07:11:09.4±0.9, 200N±02×6953W±007, h92km, n23, σ0°86/34, 9C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSP	Las Mesas	2.92	127	eS		Sn		07 12 28.7	+0.6
CRPR	Cabo Rojo, PR	3.01	130	eS		Sn		07 12 30.5	+0.2
CRPR	Cabo Rojo, PR	3.01	130	⇓eP		Pn		07 11 54.5	-0.6
CRPR				eS		Sn		07 12 30.5	+0.2
MGP	Maguayo	3.03	130	⇓eP		Pn		07 11 56.0	+0.6
MGP				eS		Sn		07 12 31.3	+0.6
LRS	Lares	3.04	123	⇓*i* P		Pn		07 11 54.6	-0.9
LRS				eS		Sn		07 12 30.0	-1.0
AOPR	Arecibo Observ	3.09	121	eS		Sn		07 12 32.2	+0.1
AOPR	Arecibo Observ	3.09	121	⇓eP		Pn		07 11 56.9	+0.7
AOPR				eS		Sn		07 12 32.2	+0.1
OBIP	Obispado Ponce	3.37	124	eS		Sn		07 12 38.8	-0.1
OBIP	Obispado Ponce	3.37	124	⇓eP		Pn		07 12 01.1	+1.2
OBIP				eS		Sn		07 12 38.8	-0.1
CELP	Cerrillos	3.37	123	⇓eP		Pn		07 12 01.3	+1.3
CELP				eS		Sn		07 12 39.9	+0.9
ICM	Isla Caja Muer	3.52	125	eS		Sn		07 12 42.3	-0.3
SJG	San Juan	3.70	119	⇓eP		Pn		07 12 05.0	+0.7
SJG	San Juan	3.70	119	⇓eP		Pn		07 12 05.2	+0.8
SJG				eS		Sn		07 12 45.5	-1.3
CBYP	Canovanas	3.87	115	⇓eP		Pn		07 12 07.8	+1.1
CPD	Cerro la Pandu	3.92	119	eS		Sn		07 12 50.9	-1.5
CPD	Cerro la Pandu	3.92	119	⇓eP		Pn		07 12 08.3	+0.8
CPD				eS		Sn		07 12 50.9	-1.5
HUMP	Col San Antoni	3.93	117	eS		Sn		07 12 51.4	-1.2
HUMP	Col San Antoni	3.93	117	⇓eP		Pn		07 12 08.4	+0.9
HUMP				eS		Sn		07 12 51.4	-1.2
MTP	Monte Pirata	4.20	116	eS		Sn		07 12 58.5	-0.5
MTP	Monte Pirata	4.20	116	⇓eP		Pn		07 12 11.3	+0.1
MTP				eS		Sn		07 12 58.5	-0.5
MASC	Masc	4.42	273	*e*PG		Pn		07 12 12.9	-1.3
MASC	baz=125								
MASC				*e*SG		Sn		07 13 04.0	-0.4
MASC	comp=N,0.6nm,0.0s			*e*					
MASC	comp=E,1.9nm,0.7s								
STVI	Saint Thomas	4.61	110	eS		Sn		07 13 09.3	+0.2
TBVI	Tortola	4.91	108	eS		Sn		07 13 15.1	-1.1

*IDC **04** 07:26:37.5±1.4, 4492S×168.16E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/9, mbtmp3.4/2, Error ellipse: s-maj=100.4km s-min=40.0km az=31.0*
*ISCJB **04** 07:26:53.2±0.6, 4500S±006×16756E±008, h132km±5km, mb3.2/2, Error ellipse: s-maj=10.9km s-min=7.7km az=88.0*
*NEIC **04** 07:26:54.8, 4503S×16735E, h120km, MG4.7(WEL), After WEL.*
*WEL **04** 07:26:55.8±0.4, 4503S×16742E, h113km±3km, ML4.7/17, Error ellipse: s-maj=3.7km s-min=2.0km az=90.0*
ISC 04 07:26:54.1±0.6, 4501S±006×16754E±008, h126km±5km, n64, σ1°03/71, mb3.4/2, 2C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.43	39	⇓PN		Pn		07 27 13.1	+0.7
MSZ				SN		Sn		07 27 25.9	-0.3
MSZ	Milford Sound	0.43	39	P		Pn		07 27 13.1	+0.7
DCZ	Deep Cove	0.55	210	⇑PN		Pn		07 27 12.2	-0.9
DCZ				SN		Sn		07 27 24.5	-2.8
DCZ	Deep Cove	0.55	210	P		Pn		07 27 12.2	-0.8
DCZ				S		Sn		07 27 24.8	-2.5
MLZ	Mavora Lakes	0.56	128	⇑PN		Pn		07 27 13.6	+0.5
MLZ				SN		Sn		07 27 27.4	-0.1
MLZ	Mavora Lakes	0.56	128	P		Pn		07 27 13.6	+0.5
MLZ				S		Sn		07 27 27.5	0.0
WHZ	Wether Hill Ro	0.93	162	PN		Pn		07 27 16.4	+0.4
WHZ				SN		Sn		07 27 32.1	-0.6
WHZ	Wether Hill Ro	0.93	162	P		Pn		07 27 16.4	+0.3
WHZ				S		Sn		07 27 32.1	-0.6
WKZ	Wanaka	1.06	81	⇓PN		Pn		07 27 18.9	+1.6
WKZ				SN		Sn		07 27 36.0	+1.1
WKZ	Wanaka	1.06	81	P		Pn		07 27 18.9	+1.6
EAZ	Earnscleugh	1.27	101	PN		Pn		07 27 20.9	+1.4
EAZ				SN		Sn		07 27 38.8	+0.2
EAZ	Earnscleugh	1.27	101	P		Pn		07 27 20.9	+1.5
JCZ	Jackson Bay	1.27	43	⇓PN		Pn		07 27 20.4	+1.0
JCZ				SN		Sn		07 27 38.8	+0.1
JCZ	Jackson Bay	1.27	43	P		Pn		07 27 20.4	+0.9
TUZ	Tuapeka	1.75	124	PN		Pn		07 27 26.3	+1.5
TUZ				SN		Sn		07 27 47.7	-0.6
TUZ	Tuapeka	1.75	124	P		Pn		07 27 26.3	+1.4
LBZ	Lake Benmore	1.98	73	PN		Pn		07 27 28.2	+0.5
LBZ				SN		Sn		07 27 52.7	-0.6
LBZ	Lake Benmore	1.98	73	P		Pn		07 27 28.2	+0.5
FOZ	Fox Glacier	2.11	48	PN		Pn		07 27 30.5	+1.2
FOZ	Fox Glacier	2.11	48	P		Pn		07 27 30.5	+1.3
ODZ	Otahua Downs	2.20	92	PN		Pn		07 27 31.3	+1.0
ODZ	Otahua Downs	2.20	92	P		Pn		07 27 31.3	+1.0
RPZ	Rata Peaks	2.83	64	PN		Pn		07 27 38.3	-0.1
RPZ	Rata Peaks	2.83	64	P		Pn		07 27 38.4	0.0
WVZ	Waitaha Valley	3.00	51	PN		Pn		07 27 40.1	-0.6
WVZ	Waitaha Valley	3.00	51	P		Pn		07 27 40.2	-0.4
MQZ	McQueen's Vall	3.89	72	PN		Pn		07 27 52.3	0.0
MQZ	McQueen's Vall	3.89	72	eP		Pn		07 27 52.3	0.0
CRLZ	Canterbury Las	3.92	70	eP		Pn		07 27 52.9	+0.2
LTZ	Lake Taylor	4.07	59	PN		Pn		07 27 54.0	-0.7
LTZ	Lake Taylor	4.07	59	P		Pn		07 27 54.0	-0.8
DSZ	Denniston Nort	4.50	45	PN		Pn		07 28 00.0	-0.4
DSZ	Denniston Nort	4.50	45	P		Pn		07 28 00.0	-0.4
KHZ	Kahutara	5.06	61	PN		Pn		07 28 07.3	-0.6
KHZ	Kahutara	5.06	61	eP		Pn		07 28 07.4	-0.5
THZ	Tophouse	5.08	52	PN		Pn		07 28 07.1	-1.1
THZ	Tophouse	5.08	52	P		Pn		07 28 07.2	-1.0
QRZ	Quartz Range	5.55	43	PN		Pn		07 28 14.3	-0.3
QRZ	Quartz Range	5.55	43	eP		Pn		07 28 14.3	-0.3
NNZ	Nelson	5.71	50	PN		Pn		07 28 15.8	-0.9
NNZ	Nelson	5.71	50	eP		Pn		07 28 16.0	-0.6
TCW	Tory Channel	6.22	55	PN		Pn		07 28 23.1	-0.4
TCW	Tory Channel	6.22	55	P		Pn		07 28 23.1	-0.4
DUWZ	D'Urville Isla	6.29	50	ePN		Pn		07 28 24.5	0.0
MRW	Makara Radio	6.45	57	P		Pn		07 28 25.3	-1.4
CAW	Cannon Point	6.75	57	PN		Pn		07 28 28.4	-2.3
CAW	Cannon Point	6.75	57	P		Pn		07 28 28.4	-2.3
KIW	Kapiti Island	6.81	55	PN		Pn		07 28 29.6	-1.9
KIW	Kapiti Island	6.81	55	P		Pn		07 28 29.6	-1.9
MTW	Mount Morrison	6.98	59	PN		Pn		07 28 31.3	-2.5
MTW	Mount Morrison	6.98	59	P		Pn		07 28 31.5	-2.3
NEZ	North Egmont	7.52	43	PN		Pn		07 28 42.3	+1.3
NEZ	North Egmont	7.52	43	P		Pn		07 28 42.8	+1.7
PKE	Pukeiti	7.53	42	PN		Pn		07 28 41.9	+0.7
PKE	Pukeiti	7.53	42	P		Pn		07 28 42.4	+1.2
RAEZ	Rainy Point	7.65	44	PN		Pn		07 28 45.0	+2.2
RAEZ	Rainy Point	7.65	44	P		Pn		07 28 45.0	+2.1
ASAR	Alice Springs	34.63	297	P		P		07 33 31.3	+0.2
	0.3nm,0.6s,mb3.3,baz=132,slow=7.4,SNR=4.4								
WRA	Warramunga Arr	37.12	301	P		P		07 33 53.0	+0.6
	0.3nm,0.4s,mb3.5,baz=136,slow=7.9,SNR=8.5								
WRA				PcP		PcP		07 36 10.0	-0.1
	0.5nm,0.8s,baz=140,slow=2.9,SNR=5.3								
YKA	Yellowknife Ar	123.70	33	PKP		PKPdf		07 45 35.8	-1.0
	0.0nm,0.5s,baz=263,slow=1.9,SNR=4.6								
TORD	Torodi Ar. Bea	146.03	205	PKPbc		PKPbc		07 46 19.9	+0.7
	0.3nm,0.5s,baz=165,slow=2.7,SNR=5.3								
AKASG	Malin Array Be	151.75	297	PKPbc		PKPbc		07 46 33.5	-0.3
	0.1nm,0.3s,baz=96,slow=1.2,SNR=5.1								
AKASG	Malin Array Be	151.75	297	PKPbc		PKPbc		07 46 33.5	-0.3
FINES	FINESS Array B	152.22	320	PKPbc		PKPbc		07 46 33.8	-1.1
	0.5nm,0.5s,baz=40,slow=3.2,SNR=4.9								

IDC 04 07:31:27.6±2.8, 415N×12605E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=276.6km s-min=26.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.29	161	P		P		07 36 55.1	-0.6
	0.3nm,0.8s,baz=339,slow=10,SNR=3.1								
ASAR	Alice Springs	28.69	165	P		P		07 37 27.4	+1.2
	0.2nm,0.8s,baz=6.2,slow=9.4,SNR=2.7								
MKAR	Makanchi Array	56.82	325	P		P		07 41 13.9	+0.1
	0.4nm,0.7s,baz=123,slow=7.9,SNR=6.4								

*TRN **04** 08:02:26.6, 1971N×6379W, h35km, MD3.9*
*IDC **04** 08:02:28.4±0.7, 1911N×6398W, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.8/21, mbtmp3.8/13, ML5.1/1, Error ellipse: s-maj=18.3km s-min=15.6km az=75.0*
*ISCJB **04** 08:02:30.1±1.1, 1931N±004×6391W±002, h20km±9km, mb3.8/14, Error ellipse: s-maj=6.0km s-min=3.1km az=15.7*
*NEIC **04** 08:02:32.8, 1927N×6384W, h16km, mb4.0/2, MD3.9(RSPR), After RSPR.*
*RSPR **04** 08:02:32.8, 1927N×6384W, h16km±30km, MD3.9/17, MD3.9/17*
ISC 04 08:02:30.3±1.1, 1926N±004×6394W±002, h8km±7km, n65, σ0°97/90, mb3.8/14, 14C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TBVI	Tortola	1.06	217	⇑*i* P		Pg		08 02 50.1	-0.4
STVI	Saint Thomas	1.32	227	eS		Sb		08 03 11.8	-0.7
STVI	Saint Thomas	1.32	227	⇓*i* P		Pn		08 02 54.4	-0.7
STVI				eS		Sb		08 03 11.8	-0.7
STMA	St. Maarten, A	1.44	147	eP		Pn		08 02 57.0	+0.4
STMA				eS		Sn		08 03 15.2	-0.5
CDVI	St. Croix	1.69	208	eS		Sn		08 03 21.1	-0.8
CDVI	St. Croix	1.69	208	⇑*i* P		Pn		08 03 00.7	+0.6
CDVI				eS		Sn		08 03 21.1	-0.8
MTP	Monte Pirata	1.92	233	eS		Sn		08 03 27.4	-0.2
MTP	Monte Pirata	1.92	233	⇑eP		Pn		08 03 03.3	0.0
MTP				eS		Sn		08 03 27.4	-0.2
STAT	Sint Eustatius	1.97	152	eP		Pn		08 03 05.0	+1.0
STAT				eS		Sn		08 03 33.1	+4.2
CBYP	Canovanas	2.07	242	eS		Sn		08 03 30.9	-0.3
CBYP	Canovanas	2.07	242	⇑eP		Pn		08 03 05.3	0.0
CBYP				eS		Sn		08 03 30.9	-0.3
HUMP	Col San Antoni	2.12	239	eS		Sn		08 03 31.3	-1.4
HUMP	Col San Antoni	2.12	239	⇑*i* P		Pn		08 03 06.2	+0.2
HUMP				eS		Sn		08 03 31.3	-1.4
SKDB	Saint Kitts 2	2.14	150	eS		Sn		08 03 34.5	+1.6
BSK	Brimstone Hill	2.16	151	eS		Sn		08 03 39.2	+5.5
SKI	Saint Kitts	2.22	149	eP		Pn		08 03 15.6	+8.2
SKI				eS		Sn		08 03 36.5	+1.4
CPD	Cerro la Pandu	2.23	238	⇑eP		Pn		08 03 08.4	+0.9
CPD				eS		Sn		08 03 35.6	+0.3
SJG	San Juan	2.39	242	eS		Sn		08 03 39.2	0.0
SJG	San Juan	2.39	242	⇑eP		Pn		08 03 09.4	-0.3
SJG	San Juan	2.39	242	⇑eP		Pn		08 03 10.0	+0.3
SJG				eS		Sn		08 03 39.1	0.0
SJG	San Juan	2.39	242	Pn		Pn		08 03 09.7	0.0
	10nm,0.3s,baz=71,slow=9.2,SNR=20								
SJG				Sn		Sn		08 03 39.3	+0.1
	49nm,0.3s,baz=290,slow=20,SNR=9.1								
SJG	San Juan	2.39	242	⇑eP		Pn		08 03 09.4	-0.3
SJG				eS		Sn		08 03 39.2	0.0
NVRH	Round Hill, Ne	2.42	148	eP		Pn		08 03 15.7	+5.5
NVRH				eS		Sn		08 03 42.1	+2.2
CPB	Codrington	2.57	128	eP		Pn		08 03 09.9	-2.3
CPB				eS		Sn		08 03 42.6	-1.0

ULM Lac du Bonnet 40.00 328 P P 08 10 05.2 -0.3
0.8nm,0.5s,mb3.7,baz=139,slow=7.5,SNR=4.2
PDAR Pinedale Array 44.90 312 P P 08 10 46.1 +0.7
0.2nm,0.4s,mb3.3,baz=134,slow=7.7,SNR=3.1
YKA Yellowknife Ar 55.37 334 P P 08 12 03.7 -1.0
0.2nm,0.4s,mb3.5,baz=101,slow=7.4,SNR=6.7
DBIC Dimbokro 58.66 94 P P 08 12 28.3 +0.1
2.6nm,0.6s,mb4.4,baz=333,slow=4.6,SNR=7.2
DBIC Dimbokro 58.66 94 P P 08 12 28.3 +0.1
PLCA Paso Flores 59.99 186 P P 08 12 35.1 -2.2
0.7nm,0.7s,mb3.8,baz=48,slow=8.1,SNR=4.6
TORD Torodi Ar. Bea 63.01 85 P P 08 12 58.3 +0.6
0.8nm,0.6s,mb4.1,baz=289,slow=7.5,SNR=11
GERES GERESS Array B 67.68 44 P P 08 13 28.9 +0.9
0.4nm,0.5s,mb3.7,baz=289,slow=4.1,SNR=4.0
ILAR Eielson Array 69.77 333 P P 08 13 40.4 -0.6
0.2nm,0.5s,mb3.3,baz=100,slow=4.1,SNR=8.0
FINES FINESS Array B 73.30 30 P P 08 14 03.4 +1.1
0.6nm,0.7s,mb3.6,baz=270,slow=5.5,SNR=3.9
FINES FINESS Array B 73.30 30 P P 08 14 03.4 +1.1

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*SZGRF **04** 08:11:34.4, 1286N×9034W, h33km, mb5.2, MS5.3, Off coast of central America*
*ISCJB **04** 08:11:34.8±0.2, 1251N±003×8947W±002, h27km, mb5.3/100, MS4.9/54, Error ellipse: s-maj=4.5km s-min=2.0km az=60.0*
*CASC **04** 08:11:35.9±2.2, 1246N×8946W, h19km±14km, MD4.8, ML4.8, mb5.4(NEIC)*
*IDC **04** 08:11:35.0±2.4, 1265N×8927W, h18km±14km, mb4.6/22, mb1 4.7/24, mb1mx4.7/26, mbtmp4.7/24, ML4.5/2, MS4.8/26, Ms1 4.8/26, ms1mx4.7/33, Error ellipse: s-maj=18.6km s-min=10.1km az=64.0*
*MOS **04** 08:11:36.1±1.1, 1264N×8927W, h34km, mb5.5/42, MS5.0/10, Error ellipse: s-maj=11.3km s-min=4.8km az=110.4*
*BJI **04** 08:11:37.0, 1260N×8940W, h27km, mB5.7, Ms5.5, Msz5.2*
*NEIC **04** 08:11:37.0±0.2, 1260N×8936W, mb5.4/86, MS4.8/17, MW5.7, MD5.5(SNET), Error ellipse: s-maj=6.0km s-min=3.0km az=51.0, Moment Tensor Solution. s21 Moment tensor: Scale 1017Nm; Mrr2.86; Mθθ-1.01; Mφφ-1.84; Mθφ2.35; Mθη1.33; Mφη-3.26; Best double couple: M0=4.90000×1017 NP1:φs=144.00000°, δ72.00000°, λ90.00000°. NP2:φs=323.00000°, δ18.00000°, λ89.00000°. Principal axes: T 4.9400, Plg63.0000°, Azm55.0000°; N -0.0300, Plg0.0000°, Azm324.0000°; P -4.9100, Plg27.0000°, Azm234.0000°;*
NEIC Felt [II] at San Salvador. Also felt at Antiguo Cuscatlan, La Libertad and Texistepeque.
*HRVD **04** 08:11:37.0±0.2, 1229N×8971W, h12km, MW5.4/99, Centroid moment Tensor Solution. LP body waves: s82,c146; Mantle waves: s99,c206; Half duration: 1s2 Moment tensor: Scale 1017Nm; Mrr0.87±.02; Mθθ-0.69±.01; Mφφ-0.18±.02; Mθη1.05±.04; Mφη0.32±.01; Mφγ-0.66±.05; Best double couple: M0=1.50700×1017 NP1:φs=291.00000°, δ18.00000°, λ81.00000°. NP2: φs=121.00000°, δ73.00000°, λ93.00000°. Principal axes: T 1.5240, Plg62.0000°, Azm35.0000°; N -0.0330, Plg3.0000°, Azm300.0000°; P -1.4910, Plg28.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 04 08:11:37.2±0.2, 1256N±003×8943W±002, h28km, h28km±1.4km: pP-P, n366, σ1s16/310, mb5.3/100, MS4.9/54, 15C-11D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**1.14**	**10**	ePP	Px	08 12 05.4	
SNET				eS	Sx	08 12 24.1	
SNVI	**San Vicente**	**1.20**	**29**	ePP	Px	08 12 02.4	
SNVI				eS	Sx	08 12 19.9	
LFU	**La Fuente**	**1.22**	**15**	ePP	Px	08 12 03.7	
LFU				eS	Sx	08 12 23.0	
MTO2	**Montecristo 2**	**1.83**	**2**	ePP	Px	08 12 12.6	
MTO2				eS	Sx	08 12 37.8	
IXG	**Ixpaco**	**1.89**	**328**	ePP	**Pn**	**08 12 07.1**	**-0.5**
IXG				eS	**Sn**	**08 12 34.7**	**+4.3**
FUG	**Fuego 3**	**2.33**	**324**	ePP	**Pn**	**08 12 13.5**	**0.0**
CRIN	**San Cristobal**	**2.33**	**86**	ePP	**Pn**	**08 12 14.2**	**+0.6**
LEON	**Leon**	**2.48**	**93**	ePP	**Pn**	**08 12 14.8**	**-0.9**
LEON				eS	**Sn**	**08 12 46.7**	**+1.7**
TEL3	**Telica 3**	**2.52**	**89**	ePP	**Pn**	**08 12 16.0**	**-0.3**
TELN	**Telica**	**2.54**	**89**	ePP	**Pn**	**08 12 16.1**	**-0.4**
TELN				eS	**Sn**	**08 12 47.7**	**+1.3**
MIRN	**Miramar**	**2.66**	**92**	ePP	**Pn**	**08 12 17.6**	**-0.5**
MIRN				eS	**Sn**	**08 12 49.8**	**+0.4**
CNGN	**Cerro Negro**	**2.67**	**91**	ePP	**Pn**	**08 12 18.0**	**-0.3**
CNGN				eS	**Sn**	**08 12 53.3**	**+3.7**
TP2	**Tecpan 2**	**2.70**	**325**	ePP	**Pn**	**08 12 19.2**	**+0.6**
JAT	**Jato**	**2.77**	**309**	ePP	**Pn**	**08 12 19.6**	**0.0**
COPN	**Copaltepe**	**2.80**	**97**	ePP	**Pn**	**08 12 19.6**	**-0.4**
COPN				eS	**Sn**	**08 12 54.0**	**+1.2**
MOMJ	**Momotombo**	**2.83**	**93**	ePP	**Pn**	**08 12 19.8**	**-0.6**
APYN	**Apoyeque**	**3.03**	**96**	ePP	**Pn**	**08 12 23.0**	**-0.1**
XAVN	**Gruta Xavier**	**3.06**	**97**	ePP	**Pn**	**08 12 23.7**	**+0.1**
MGAN	**Managua**	**3.14**	**97**	ePP	**Pn**	**08 12 23.6**	**-1.1**
MGAN				eS	**Sn**	**08 13 01.7**	**+0.5**
	comp=E,2μm,0.6s						
TICN	**Ticuantepe**	**3.17**	**99**	ePP	**Pn**	**08 12 25.6**	**+0.4**
WILN	**Americas 2**	**3.19**	**97**	ePP	**Pn**	**08 12 25.7**	**+0.3**
WILN				eS	**Sn**	**08 13 04.0**	**+1.4**
	comp=E,9μm,0.5s						
MASN	**Masaya**	**3.25**	**100**	ePP	**Pn**	**08 12 27.2**	**+0.9**
APON	**Apoyo**	**3.35**	**101**	ePP	**Pn**	**08 12 27.6**	**0.0**
APON				eS	**Sn**	**08 13 06.5**	**+0.1**
CONN	**Concepcion**	**3.85**	**104**	ePP	**Pn**	**08 12 34.5**	**0.0**
MADN	**Villa Maderas**	**3.98**	**106**	ePP	**Pn**	**08 12 36.8**	**+0.5**
VCR	**Vista de Mar**	**4.44**	**123**	ePP	**Pn**	**08 12 42.4**	**-0.2**
VCR	**Vista de Mar**	**4.44**	**123**	ePP	**Pn**	**08 12 42.4**	**-0.2**
LIM1	**Limonal**	**4.49**	**114**	ePP	**Pn**	**08 12 43.4**	**+0.1**
LIM1				eS	**Sn**	**08 13 33.8**	**-0.8**
JTS	**JuntasAbangare**	**4.94**	**117**	Pn	**Pn**	**08 12 49.6**	**+0.2**
	comp=E,3μm,0.9s						
JTS	**JuntasAbangare**	**4.94**	**117**	Pn	**Pn**	**08 12 48.7**	**-0.7**
	comp=E,28nm,0.3s,baz=303,slow=8.6,SNR=137						
JTS				Sn	**Sn**	**08 13 43.7**	**-1.8**
	comp=E,21nm,0.3s,baz=239,slow=23,SNR=5.5						
JTS				Lg		08 14 22.1	
	comp=E,8.0nm,0.3s,baz=126,slow=15,SNR=5.1						
JTS				LR	LR	08 15 10.5	
	comp=E,11μm,18.5s,baz=316,slow=44						
JTS	**JuntasAbangare**	**4.94**	**117**	ePn	**Pn**	**08 12 48.8**	**-0.6**
JTS	**JuntasAbangare**	**4.94**	**117**	ciP	**Pn**	**08 12 48.5**	**-0.9**
CGA2	**Cerro Gallo 2**	**5.49**	**117**	ePP	**Pn**	**08 12 58.9**	**+1.9**
CGA2	**Cerro Gallo 2**	**5.49**	**117**	ePP	**Pn**	**08 12 58.4**	**+1.4**
VPS2	**Volcan Poas 2**	**5.61**	**114**	ePP	**Pn**	**08 13 00.1**	**+1.4**
VPS2	**Volcan Poas 2**	**5.61**	**114**	ePP	**Pn**	**08 12 58.3**	**-0.4**
PRS1	**Puriscal**	**5.64**	**116**	ePP	**Pn**	**08 13 00.0**	**+1.0**
PRS1	**Puriscal**	**5.64**	**116**	ePP	**Pn**	**08 13 00.1**	**+1.1**
LAJ	**Bijagual**	**5.86**	**117**	ePP	**Pn**	**08 12 57.9**	**-4.2**
LAJ	**Bijagual**	**5.86**	**117**	ePP	**Pn**	**08 12 57.8**	**-4.3**
SJS	**Escuela Geolog**	**5.88**	**116**	ePP	**Pn**	**08 13 03.1**	**+0.6**
SJS	**Escuela Geolog**	**5.88**	**116**	ePP	**Pn**	**08 13 05.3**	**+2.9**
LCR2	**La Lucha 2**	**6.02**	**117**	ePP	**Pn**	**08 13 04.8**	**+0.5**
LCR2	**La Lucha 2**	**6.02**	**117**	ePP	**Pn**	**08 13 05.1**	**+0.8**
URSC	**Urasca**	**6.17**	**115**	ePP	**Pn**	**08 13 07.4**	**+1.0**
URSC	**Urasca**	**6.17**	**115**	ePP	**Pn**	**08 13 07.7**	**+1.3**
BUS	**Buena Vista**	**6.32**	**118**	ePP	**Pn**	**08 13 09.4**	**+1.0**
BUS	**Buena Vista**	**6.32**	**118**	ePP	**Pn**	**08 13 09.4**	**+1.0**
LIO	**Limon**	**6.77**	**111**	ePP	**Pn**	**08 13 14.3**	**-0.3**
LIO	**Limon**	**6.77**	**111**	ePP	**Pn**	**08 13 16.0**	**+1.4**
TEIG	**Tepich**	**7.70**	**8**	ePn	**Pn**	**08 13 29.9**	**+2.4**
	comp=E,26nm,0.8s						
SOR	**Soroa**	**11.87**	**30**	ePP	**Pn**	**08 14 26.8**	**+2.3**
SOR				eS	**Sn**	**08 16 19.3**	**-17**
	comp=N,8.0nm,5.8s						
SOR				e			
	comp=E,7.0nm,5.6s						
MGV	**Manicaragua**	**13.09**	**42**	ePP	**Pn**	**08 14 42.4**	**+1.2**
MGV				eS	**Sn**	**08 17 14.3**	**+8.4**
	comp=N,5.5nm,5.6s						
MGV				e			
	comp=E,4.2nm,0.5s						
PAYG	**Puerto Ayora**	**13.18**	**184**	ePn	**Pn**	**08 14 42.7**	**+0.3**
	comp=E,210nm,1.0s						
RCC	**Rio Carpintero**	**15.11**	**59**	eP	**Pn**	**08 15 08.6**	**0.0**
RCC				eS	**Sn**	**08 17 59.1**	**+4.1**
	comp=N,368nm,6.1s						
RCC				e			
	comp=E,208nm,9.5s						
HLGC	**Holguin**	**15.24**	**55**	eP	**Pn**	**08 15 07.8**	**-2.6**
MOAC	**Moa**	**16.03**	**58**	eP	**Pn**	**08 15 21.5**	**+1.0**
MOAC				eS	Sn	08 17 54.5	-23
	comp=N,3.0nm,5.5s						
MOAC				e			
	comp=E,4.9nm,5.4s						
OTAV	**Otavalo**	**16.39**	**138**	eP	**Pn**	**08 15 25.6**	**+0.5**
	comp=E,68nm,1.1s						
MASC	**Masc**	**16.42**	**61**	eP	**Pn**	**08 15 27.6**	**+2.0**
ROSC	**El Rosal**	**16.77**	**116**	Pn	**Pn**	**08 15 32.4**	**+2.5**
	comp=E,1.3nm,0.3s,baz=85,slow=1.8,SNR=40						
DWPF	**Disney**	**17.18**	**25**	eP	**Pn**	**08 15 36.2**	**+1.1**
	comp=E,444nm,1.5s						
HKT	**Hockley**	**18.30**	**342**	eP	**Pn**	**08 15 49.1**	**+0.3**
	comp=E,628nm,2.1s						
HKT	**Hockley**	**18.30**	**342**	eP	**Pn**	**08 15 49.1**	**+0.2**
HKT				pmax	pmax		
	comp=Z,630nm,2.1s						
SDV	**Santo Domingo**	**18.82**	**99**	P	**Pn**	**08 15 52.8**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=288,slow=5.9,SNR=20						
SDV				S	**Sn**	**08 19 26.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=315,slow=13,SNR=2.7						
SDV				LR	LR	08 22 49.2	
	comp=Z,2μm,21.9s,baz=312,slow=36						
SDV				ScP	ScP	08 23 58.6	+4.2
	baz=300,slow=8.1,SNR=5.2						
SDV	**Santo Domingo**	**18.82**	**99**	eP	**Pn**	**08 15 54.6**	**-0.7**
	comp=Z,138nm,1.3s						
NATX	**Nacogdoches**	**19.71**	**347**	eP	**Pn**	**08 16 05.0**	**-0.8**
	comp=Z,322nm,1.1s						
JCT	**Junction City**	**20.25**	**333**	eP	**P**	**08 16 10.0**	**-0.2**
	comp=Z,150nm,1.1s						
JCT	**Junction City**	**20.25**	**333**	eP	**P**	**08 16 10.0**	**-0.2**
JCT				pmax	pmax		
	comp=Z,150nm,1.1s						
LRAL	**Lakeview Retre**	**20.50**	**6**	eP	**P**	**08 16 14.5**	**+1.6**
	comp=Z,179nm,1.3s						
LRAL				LR	LR		
	comp=Z,5μm,20.0s,MS4.9						
LTX	**Lajitas**	**21.30**	**324**	eP	**P**	**08 16 22.9**	**+1.4**
	comp=Z,848nm,1.9s,mb5.8						
LTX	**Lajitas**	**21.30**	**324**	eP	**P**	**08 16 22.9**	**+1.4**
LTX				pmax	pmax		
	comp=Z,847nm,1.9s,mb5.8						
OXF	**Oxford**	**21.85**	**0**	eP	**P**	**08 16 28.0**	**+0.6**
	comp=Z,727nm,1.1s,mb6.0						
OXF	**Oxford**	**21.85**	**0**	eP	**P**	**08 16 28.0**	**+0.5**
OXF				pmax	pmax		
	comp=Z,727nm,1.1s,mb6.0						
NHSC	**New Hope**	**22.14**	**21**	eP	**P**	**08 16 32.3**	**+1.8**
	comp=Z,547nm,1.3s,mb5.8						
COW	**Cow Castle Cre**	**22.21**	**20**	P	**P**	**08 16 40.8**	**+10**
COW				epP		08 16 46.7	
MIAR	**Mount Ida**	**22.21**	**351**	eP	**P**	**08 16 30.7**	**-0.5**
	comp=Z,268nm,1.3s,mb5.5						
MIAR	**Mount Ida**	**22.21**	**351**	eP	**P**	**08 16 30.7**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,268nm,1.3s,mb5.5						
UALR	**University of**	**22.27**	**354**	eP	**P**	**08 16 31.9**	**0.0**
	comp=Z,1μm,1.7s,mb6.0						
PLAL	**Pickwick Lake**	**22.36**	**3**	eP	**P**	**08 16 32.6**	**-0.2**
	comp=Z,189nm,1.5s,mb5.3						
PLAL				LR	LR		
	comp=Z,5μm,22.0s,MS4.9						
MET	**Memphis--Engin**	**22.47**	**359**	eP	**P**	**08 16 34.1**	**+0.1**
MET				epP		08 16 43.7	
SWET	**Sewanee**	**22.78**	**7**	eP	**P**	**08 16 36.6**	**-0.7**
JSC	**Jenkinsville**	**22.87**	**18**	eP	**P**	**08 16 38.3**	**+0.1**
HBAR	**Harrisburg**	**22.92**	**357**	eP	**P**	**08 16 39.1**	**+0.3**
SJG	**San Juan**	**23.11**	**73**	eP	**P**	**08 16 33.7**	**-7.1**
	comp=Z,22nm,0.3s,mb5.1						
SJG	**San Juan**	**23.11**	**73**	eP	**P**	**08 16 33.7**	**-7.1**
SJG				pmax	pmax		
	comp=Z,22nm,0.3s						
CPCT	**Cooper Cave**	**23.22**	**10**	eP	**P**	**08 16 41.4**	**-0.6**
CPCT				epP		08 16 49.6	
HALT	**Halls**	**23.25**	**0**	eP	**P**	**08 16 41.8**	**-0.5**
GNAR	**Gosnell**	**23.31**	**359**	eP	**P**	**08 16 42.9**	**-0.1**
	comp=Z,3μm,1.3s						
CPD	**Cerro la Pandu**	**23.32**	**74**	eP	**P**	**08 16 39.4**	**-3.5**
WVT	**Waverly**	**23.51**	**3**	eP	**P**	**08 16 43.4**	**-1.6**
	comp=Z,211nm,1.6s,mb5.3						
WVT				epP		08 16 51.4	
WVT	**Waverly**	**23.51**	**3**	P	**P**	**08 16 43.4**	**-1.5**
WVT				pmax	pmax		
	comp=Z,210nm,1.6s,mb5.3						
GLAT	**Glass**	**23.61**	**0**	eP	**P**	**08 16 45.2**	**-0.6**
WMOK	**Wichita Mounta**	**23.66**	**341**	eP	**P**	**08 16 44.4**	**-1.9**
	comp=Z,176nm,1.2s,mb5.4						
WMOK				epP		08 16 53.3	
WMOK				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
MTP	**Monte Pirata**	**23.66**	**74**	eP	**P**	**08 16 44.1**	**-2.2**
UTMT	**University of**	**23.69**	**1**	eP	**P**	**08 16 46.5**	**0.0**
	comp=Z,998nm,1.4s,mb6.0						
GDL2	**Guadalupe Moun**	**23.88**	**327**	eP	**P**	**08 16 48.5**	**+0.2**
PARMO	**Parma**	**24.00**	**359**	eP	**P**	**08 16 49.2**	**-0.2**
MNTX	**Cornudas Mount**	**24.05**	**325**	eP	**P**	**08 16 49.4**	**-0.4**
	comp=Z,338nm,1.7s,mb5.5						
MNTX				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
CPRX	**Cap Rock**	**24.28**	**329**	eP	**P**	**08 16 51.7**	**-0.2**
TZTN	**Tazewell**	**24.46**	**11**	eP	**P**	**08 16 52.7**	**-0.8**
FVM	**French Village**	**25.34**	**358**	eP	**P**	**08 17 01.3**	**-0.3**
	comp=Z,185nm,1.4s,mb5.4						
FVM	**French Village**	**25.34**	**358**	eP	**P**	**08 17 01.3**	**-0.2**
FVM				pmax	pmax		
	comp=Z,185nm,1.4s,mb5.4						
CCM	**Cathedral Cave**	**25.44**	**357**	eP	**P**	**08 17 01.5**	**-1.0**
	comp=Z,391nm,1.4s,mb5.8						
CCM	**Cathedral Cave**	**25.44**	**357**	eP	**P**	**08 17 01.5**	**-1.0**
CCM				pmax	pmax		
	comp=Z,391nm,1.4s,mb5.8						
WCI	**Wyandotte Cave**	**25.72**	**6**	eP	**P**	**08 17 03.7**	**-1.3**
	comp=Z,71nm,0.8s,mb5.2						
WCI	**Wyandotte Cave**	**25.72**	**6**	eP	**P**	**08 17 03.7**	**-1.3**
WCI				pmax	pmax		
	comp=Z,71nm,0.8s,mb5.2						
ELN	**Prospectdale**	**25.77**	**16**	eP	**P**	**08 17 05.3**	**-0.1**
BLA	**Blacksburg**	**25.84**	**17**	eP	**P**	**08 17 05.6**	**-0.5**
	comp=Z,6.9nm,1.0s						
BLA	**Blacksburg**	**25.84**	**17**	P	**P**	**08 17 05.6**	**-0.5**
BLA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
SLM	**Saint Louis**	**25.98**	**359**	eP	**P**	**08 17 06.3**	**-1.1**
	comp=Z,255nm,1.2s,mb5.6						
SLM	**Saint Louis**	**25.98**	**359**	eP	**P**	**08 17 06.3**	**-1.1**
SLM				pmax	pmax		
	comp=Z,255nm,1.2s,mb5.6						
FWV	**Forest Hill**	**26.08**	**16**	eP	**P**	**08 17 08.1**	**-0.3**
BNM	**Barren Site**	**26.59**	**327**	eP	**P**	**08 17 13.9**	**+1.0**
BLO	**Bloomington**	**26.63**	**5**	eP	**P**	**08 17 12.0**	**-1.3**
	comp=Z,34nm,1.0s,mb4.8						
BLO	**Bloomington**	**26.63**	**5**	P	**P**	**08 17 12.0**	**-1.3**
BLO				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.8						
LPM	**Los Pinos Moun**	**26.71**	**327**	eP	**P**	**08 17 14.9**	**+0.9**
LENM	**Lemitar**	**26.78**	**326**	eP	**P**	**08 17 15.9**	**+1.3**
ANMO	**Albuquerque**	**27.11**	**328**	P	**P**	**08 17 18.2**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=144,slow=11,SNR=11						
ANMO	**Albuquerque**	**27.11**	**328**	eP	**P**	**08 17 18.4**	**+0.8**
	comp=Z,15nm,1.9s,mb4.2						
ANMO				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
ANMO	**Albuquerque**	**27.11**	**328**	eP	**P**	**08 17 18.4**	**+0.8**
ANMO				pmax	pmax		
	comp=Z,15nm,1.9s						
ANMO				MLR	MLR		
	comp=Z,1μm,19.0s						
KSU1	**Kansas State U**	**27.19**	**348**	eP	**P**	**08 17 17.4**	**-0.9**
NNA	**Nana**	**27.40**	**152**	eP	**P**	**08 17 19.6**	**-0.6**
	comp=Z,92nm,1.9s,mb5.0						
CBKS	**Cedar Bluff**	**27.70**	**343**	eP	**P**	**08 17 22.5**	**-0.4**
	comp=Z,151nm,1.4s,mb5.4						
CBKS	**Cedar Bluff**	**27.70**	**343**	eP	**P**	**08 17 22.5**	**-0.4**
CBKS				pmax	pmax		
	comp=Z,151nm,1.4s,mb5.4						
TUC	**Tucson**	**27.75**	**319**	eP	**P**	**08 17 24.1**	**+0.7**
	comp=Z,80nm,1.4s,mb5.2						
TUC	**Tucson**	**27.75**	**319**	eP	**P**	**08 17 24.1**	**+0.8**
TUC				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.2						
ACSO	**Alum Creek Sta**	**28.14**	**11**	eP	**P**	**08 17 25.7**	**-1.1**
	comp=Z,52nm,1.4s,mb5.0						
MCWV	**Mont Chateau**	**28.29**	**16**	eP	**P**	**08 17 27.6**	**-0.6**
	comp=Z,73nm,1.3s,mb5.2						
SDCO	**Great Sand Dun**	**28.90**	**333**	eP	**P**	**08 17 34.1**	**+0.6**
	comp=Z,232nm,2.1s,mb5.5						
SDCO				LR	LR		
	comp=Z,1μm,22.0s,MS4.4						
WUAZ	**Wupatki**	**30.26**	**323**	eP	**P**	**08 17 47.7**	**+2.1**
	comp=Z,46nm,1.3s,mb5.0						
WUAZ				epP	pP	08 17 54.3	+0.4
WUAZ				LR	LR		
	comp=Z,4μm,19.0s,MS5.1						
ERPA	**Erie**	**30.57**	**14**	eP	**P**	**08 17 47.3**	**-1.1**
	comp=Z,36nm,0.8s,mb5.2						
ERPA				epP	pP	08 17 54.3	-2.4
PV01	**Paradox Valley**	**30.66**	**330**	eP	**P**	**08 17 46.5**	**-2.6**
PV01				epP	pP	08 17 58.0	+0.6
ISCO	**Idaho Springs**	**30.67**	**335**	eP	**P**	**08 17 50.0**	**+0.8**
	comp=Z,215nm,1.9s,mb5.7						
ISCO	**Idaho Springs**	**30.67**	**335**	eP	**P**	**08 17 50.0**	**+0.8**
ISCO				pmax	pmax		
	comp=Z,215nm,1.9s,mb5.7						
SMCO	**Snowmass**	**30.73**	**333**	eP	**P**	**08 17 50.9**	**+1.1**
	comp=Z,48nm,1.1s,mb5.2						
PV10	**Paradox Valley**	**31.07**	**329**	eP	**P**	**08 17 53.7**	**+0.9**
PV10				epP	pP	08 18 02.4	+1.2
PV10				esP	sP	08 18 06.0	+1.4
BINY	**Binghamton**	**31.76**	**19**	eP	**P**	**08 17 58.2**	**-0.6**
	comp=Z,51nm,1.2s,mb5.2						
PHWY	**Pilot Hill**	**31.88**	**337**	eP	**P**	**08 18 00.2**	**+0.3**
LDFC	**Landfair**	**32.29**	**318**	eP	**P**	**08 18 06.4**	**+2.9**
PFO	**Pinyon Flat Ob**	**32.34**	**315**	eP	**P**	**08 18 05.9**	**+2.0**
	comp=Z,184nm,1.9s,mb5.6						
PFO				ePcP	PcP	08 20 53.0	+1.7
PFO				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
PFO	**Pinyon Flat Ob**	**32.34**	**315**	eP	**P**	**08 18 05.9**	**+2.0**
PFO				e		08 20 53.0	
PFO				pmax	pmax		
	comp=Z,184nm,1.9s,mb5.6						
PFO				MLR	MLR		
	comp=Z,3μm,19.0s,MS4.9						
SRU	**San Rafael**	**32.38**	**328**	eP	**P**	**08 18 05.3**	**+1.0**
	comp=Z,124nm,1.9s,mb5.4						
SRU				epP	pP	08 18 13.9	+1.3
SRU	**San Rafael**	**32.38**	**328**	eP	**P**	**08 18 05.3**	**+1.0**
SRU				e*PP	pP	08 18 13.9	+1.2
SRU				pmax	pmax		
	comp=Z,123nm,1.9s,mb5.4						
NEN	**Nelson**	**32.47**	**319**	eP	**P**	**08 18 06.8**	**+1.8**
NEN				epP	pP	08 18 13.8	+0.4
MSU	**Marysvale**	**32.82**	**326**	eP	**P**	**08 18 09.5**	**+1.4**
MSU				epP	pP	08 18 17.5	+1.0
MVU	**Marysvale**	**32.83**	**326**	eP	**P**	**08 18 16.6**	**+8.3**
TMUT	**Trail Mountain**	**32.88**	**328**	eP	**P**	**08 18 09.8**	**+1.2**
RWWY	**Rawlins**	**32.91**	**335**	eP	**P**	**08 18 10.0**	**+1.1**
	comp=Z,88nm,1.1s,mb5.6						
ARUT	**Antelope Range**	**33.02**	**324**	eP	**P**	**08 18 07.1**	**-2.8**
SADO	**Sadowa**	**33.28**	**13**	P	**P**	**08 18 10.1**	**-2.1**
	comp=Z,24nm,0.9s,mb5.1,baz=204,slow=10,SNR=11						
SADO				PcP	PcP	08 20 54.0	+0.1
	comp=Z,15nm,1.1s,baz=236,slow=3.6,SNR=3.4						
MPU	**Maple Canyon**	**33.63**	**328**	eP	**P**	**08 18 16.4**	**+1.3**
	comp=Z,169nm,1.9s,mb5.7						
MPU				ePcP	PcP	08 20 56.2	+1.3
SAML	**Samuel**	**33.72**	**128**	eP	**P**	**08 18 14.4**	**-1.6**
	comp=Z,83nm,1.1s,mb5.6						
SAML				LR	LR		
	comp=Z,1μm,22.0s,MS4.6						
DAU	**Daniels Canyon**	**33.74**	**329**	eP	**P**	**08 18 17.0**	**+0.9**
MWC	**Mount Wilson**	**33.79**	**314**	eP	**P**	**08 18 18.5**	**+2.0**
MWC				epP	pP	08 18 26.2	+1.2
NLU	**North Lily Min**	**33.81**	**328**	P	**P**	**08 18 20.6**	**+3.8**
NLU				ePcP	PcP	08 20 54.4	-1.0
ARE	**Arequipa**	**33.85**	**148**	eP	**P**	**08 18 18.0**	**+0.9**
RSSD	**Black Hills**	**33.86**	**341**	eP	**P**	**08 18 17.5**	**+0.3**
	comp=Z,65nm,1.4s,mb5.4						
RSSD				epP	pP	08 18 25.8	+0.2
RSSD				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
NCB	**Newcomb**	**33.92**	**20**	eP	**P**	**08 18 16.4**	**-1.3**
	comp=Z,30nm,1.3s,mb5.1						
MIV	**Mineville/With**	**34.25**	**21**	P	**P**	**08 18 19.9**	**-0.7**
TCUT	**Toone Canyon**	**34.35**	**330**	eP	**P**	**08 18 21.8**	**+0.4**
DUG	**Dugway**	**34.37**	**327**	eP	**P**	**08 18 22.4**	**+0.8**
	comp=Z,89nm,2.1s,mb5.3						
DUG	**Dugway**	**34.37**	**327**	eP	**P**	**08 18 22.5**	**+0.9**
DUG				pmax	pmax		
	comp=Z,89nm,2.1s,mb5.3						
LONY	**Lake Ozonia**	**34.39**	**19**	eP	**P**	**08 18 19.9**	**-1.9**
DAC	**Darwin (Calif)**	**34.63**	**318**	eP	**P**	**08 18 25.4**	**+1.6**
	comp=Z,82nm,1.7s,mb5.4						
DAC				epP	pP	08 18 32.7	+0.5
DAC	**Darwin (Calif)**	**34.63**	**318**	eP	**P**	**08 18 25.5**	**+1.6**
DAC				e*PP	p

LKWY Lake 36.60 335 *e*P **P 08 18 42.3 +1.5**
LKWY pmax pmax
comp=Z,212nm,1.9s,mb5.7
YFT Old Faithful 36.69 334 *e*P **P 08 18 43.8 +2.2**
LAO LASA Array 36.85 341 *e*P **P 08 18 43.0 +0.1**
comp=Z,447nm,1.8s,mb6.0
YMR Madison River 36.92 334 *e*P **P 08 18 43.9 +0.4**
comp=Z,130nm,1.4s,mb5.6
BMN Battle Mountai 36.97 324 *e*P **P 08 18 44.6 +0.6**
comp=Z,47nm,1.4s,mb5.1
BMN Battle Mountai 36.97 324 *e*P **P 08 18 44.6 +0.6**
BMN pmax pmax
comp=Z,47nm,1.4s,mb5.1
QLMT Earthquake Lak 37.25 334 *e*P **P 08 18 47.4 +1.1**
GCMT Greycliff 37.31 336 *e*P **P 08 18 46.7 -0.1**
CMB Columbia Colle 37.46 318 *e*P **P 08 18 49.4 +1.3**
comp=Z,85nm,1.5s,mb5.3
CMB Columbia Colle 37.46 318 *e*P **P 08 18 49.4 +1.3**
CMB pmax pmax
comp=Z,85nm,1.5s,mb5.3
HLID Hailey 37.65 330 *e*P **P 08 18 49.9 +0.2**
comp=Z,65nm,1.8s,mb5.1
HLID *e*PcP PcP 08 21 08.4 +1.6
DGMT Dagmar 37.85 344 *e*P **P 08 18 50.9 -0.5**
comp=Z,136nm,0.8s,mb5.7
MCMT McKenzie Canyo 37.87 333 *e*P **P 08 18 53.1 +1.5**
ULM Lac du Bonnet 37.95 353 P **P 08 18 49.9 -2.4**
comp=Z,18nm,1.0s,mb4.8,baz=169,slow=8.5,SNR=18
ULM PcP PcP 08 21 06.3 -1.4
comp=Z,8.6nm,0.9s,baz=171,slow=4.1,SNR=3.0
ULM LR LR 08 36 52.5
comp=Z,2μm,19.9s,MS4.9,baz=170,slow=40
BOZ Bozeman (W) 37.99 334 *e*P **P 08 18 52.3 -0.2**
comp=Z,22nm,0.9s,mb4.9
BOZ Bozeman (W) 37.99 334 *e*P **P 08 18 52.3 -0.2**
BOZ pmax pmax
comp=Z,22nm,0.9s,mb4.9
DLMT Dillon 38.18 333 *e*P **P 08 18 54.5 +0.3**
comp=Z,319nm,2.1s,mb5.7
OHCM Honcut 38.91 319 *e*P **P 08 18 59.5 -0.8**
HRY Holter Researc 38.93 335 *e*P **P 08 19 00.3 -0.1**
WVOR Wild Horse Val 39.09 325 *e*P **P 08 19 01.9 +0.2**
comp=Z,29nm,0.7s,mb5.1
WVOR Wild Horse Val 39.09 325 *e*P **P 08 19 01.9 +0.1**
WVOR pmax pmax
comp=Z,29nm,0.7s,mb5.1
CHMT Chamberlain Mo 39.68 334 *e*P **P 08 19 06.6 -0.1**
MOD Modoc 39.70 323 *e*P **P 08 19 07.3 +0.4**
comp=Z,11nm,0.9s,mb4.6
SIV San Ignacio 39.89 135 P **P 08 19 07.8 -0.7**
comp=Z,74nm,1.1s,mb5.3,baz=313,slow=9.6,SNR=146
MSO Missoula 39.91 334 *e*P **P 08 19 08.6 0.0**
comp=Z,20nm,1.2s,mb4.7
MSO *e*pP pP 08 19 17.8 +0.7
MSO LR LR
comp=Z,1μm,19.0s,MS4.8
BMO Blue Mountains 40.02 329 *e*P **P 08 19 08.8 -0.8**
comp=Z,21nm,1.4s,mb4.7
YBH Yreka Blue Hor 41.04 321 LR LR 08 37 35.4
comp=Z,1μm,20.4s,MS4.8,baz=144,slow=38
NEW Newport 42.40 333 *e*P **P 08 19 28.2 -1.0**
comp=Z,16nm,1.4s,mb4.4
NEW Newport 42.40 333 *e*P **P 08 19 28.2 -0.9**
NEW pmax pmax
comp=Z,15nm,1.4s
FFC Flin Flon 43.21 349 P **P 08 19 34.3 -1.4**
comp=Z,140nm,1.4s,mb5.5,SNR=8.8
FFC Flin Flon 43.21 349 *e*P **P 08 19 34.5 -1.1**
comp=Z,72nm,1.4s,mb5.2
FFC *e*PcP PcP 08 21 25.9 +1.2
FFC Flin Flon 43.21 349 *e*P **P 08 19 34.5 -1.2**
FFC pmax pmax
comp=Z,72nm,1.4s,mb5.2
RPN Rapa Nui 43.93 206 P **P 08 19 41.4 0.0**
comp=Z,105nm,1.0s,mb5.5,baz=353,slow=4.2,SNR=5.4
RPN LR LR 08 32 59.9
comp=Z,2μm,21.5s,MS4.9,baz=71,slow=29
EDM Edmonton 44.82 340 *e*P **P 08 19 47.7 -0.9**
EDM *e*PcP PcP 08 21 30.4 +0.3
PGC Sidney 45.70 329 *e*P **P 08 19 55.1 -0.5**
comp=Z,47nm,0.9s,mb5.4
FCC Fort Churchill 46.25 357 *e*P **P 08 19 57.8 -2.1**
comp=Z,101nm,1.5s,mb5.5
FCC *e*ScP ScP 08 25 32.5 +6.2
FCC Fort Churchill 46.25 357 *e*P **P 08 19 57.8 -2.1**
FCC pmax pmax
comp=Z,101nm,1.5s,mb5.5
CFAA Coronel Fontan 48.39 156 P **P 08 20 16.4 -0.1**
comp=Z,4.3nm,1.0s,mb4.5,baz=327,slow=7.2,SNR=50
CFAA LR LR 08 37 23.8
comp=Z,40nm,19.9s,baz=350,slow=32
FCH Farallones 49.15 159 *e*P **P 08 20 21.9 -0.4**
BDFB Brasilia 49.64 123 P **P 08 20 25.0 -1.1**
comp=Z,12nm,1.1s,mb4.8,baz=302,slow=12,SNR=7.7
BDFB LR LR 08 43 03.9
comp=Z,1μm,19.8s,MS5.0,baz=307,slow=38
YKA Yellowknife Ar 53.01 346 P **P 08 20 49.7 -1.7**
comp=Z,20nm,1.0s,mb5.0,baz=142,slow=7.6,SNR=129
YKA ScP ScP 08 25 59.6 +4.4
comp=Z,0.9nm,1.0s,baz=131,slow=4.7,SNR=4.2
YKA S **S** **08 28 18.8 -0.5**
comp=Z,0.9nm,1.1s,baz=142,slow=14,SNR=3.9
YKA LR LR 08 46 45.6
comp=Z,2μm,20.8s,MS5.0,baz=180,slow=40
YKA Yellowknife Ar 53.01 346 P **P 08 20 49.7 -1.7**
YKA ScP ScP 08 25 59.6 +4.4
YKA S **S** **08 28 18.8 -0.5**
YKA LR LR 08 46 45.6
YKA Yellowknife Ar 53.01 346 P **P 08 20 49.7 -1.7**
YKA S **S** **08 28 18.8 -0.5**
YKW3 Yellowknife Ar 53.07 346 *e*P **P 08 20 50.1 -1.7**
TAOE Nuku Hiva Isla 54.70 250 *e*S **S 08 28 44.7 +2.6**
comp=Z,2μm,24.9s
TAOE *e*LR LR 08 36 31.5
comp=Z,4μm,24.8s
PLCA Paso Flores 55.83 163 P **P 08 21 11.1 -0.8**
comp=Z,34nm,1.1s,mb5.3,baz=337,slow=8.6,SNR=64
PLCA LR LR 08 39 42.3
comp=Z,750nm,21.1s,MS4.8,baz=353,slow=30
PLCA Paso Flores 55.83 163 *e*P **P 08 21 11.2 -0.7**
comp=Z,48nm,1.1s,mb5.4
PLCA LR LR
comp=Z,700nm,19.0s,MS4.8
RCBR Riachuelo 56.25 106 *e*P **P 08 21 15.3 +0.5**
comp=Z,150nm,1.1s,mb5.9
RKT Rikitea 56.96 232 *e*P **P 08 21 19.2 -0.7**
comp=Z,131nm,1.2s,mb5.8
RKT Rikitea 56.96 232 *e*S **S 08 29 09.6 -2.7**
comp=Z,1μm,25.8s
RKT *e*LQ 08 35 36.4
comp=Z,336nm,30.8s
RKT *e*LR LR 08 38 06.8
comp=Z,1μm,26.2s,baz=46
CAM4 Nova Friburgo 57.57 127 (P) **P 08 21 21.5 -2.8**
CAM4 *i* 08 21 23.8
CAM4 *i* 08 21 36.4
CAM4 *i* 08 21 44.6
SFJD Kangerlussuaq 60.15 16 P **P 08 21 39.0 -3.2**
comp=Z,5.4nm,0.9s,mb4.6,baz=174,slow=13,SNR=2.2
SFJD Kangerlussuaq 60.15 16 *i* P **P 08 21 43.9 +1.7**
comp=Z,26nm,1.1s,mb5.2
SFJD *i* 08 25 28.3
SFJD *e*S **S** **08 29 54.5 +0.7**
SFJD
comp=Z,1μm,17.0s
SFJD Kangerlussuaq 60.15 16 *e*P **P 08 21 42.5 +0.3**
DAWY Dawson 61.95 338 *e*P **P 08 21 52.8 -1.6**
RES Resolute Bay 62.19 358 *e*P **P 08 21 53.4 -2.6**
comp=Z,30nm,1.2s,mb5.3
RES Resolute Bay 62.19 358 *e*P **P 08 21 53.4 -2.6**
RES pmax pmax
comp=Z,30nm,1.2s,mb5.3
INK Inuvik 62.53 343 *e*P **P 08 21 56.8 -1.5**
comp=Z,32nm,1.0s,mb5.4
INK Inuvik 62.53 343 *e*P **P 08 21 56.8 -1.4**
INK pmax pmax
comp=Z,32nm,1.0s
VAH Vaihoa 63.88 246 *e*P **P 08 22 06.5 -0.7**
comp=Z,113nm,1.2s,mb5.8
SML Sawmill 64.56 333 *e*P **P 08 22 10.5 -1.2**
PMR Palmer 64.83 333 *e*P **P 08 22 13.9 +0.5**
comp=Z,37nm,1.6s,mb5.2
PMR Palmer 64.83 333 *e*P **P 08 22 13.9 +0.5**
PMR pmax pmax
comp=Z,37nm,1.6s,mb5.2
ILAR Eielson Array 65.14 337 P **P 08 22 13.6 -1.9**
comp=Z,8.4nm,1.0s,mb4.7,baz=123,slow=4.5,SNR=45
ILAR LR LR 08 57 15.8
comp=Z,714nm,18.3s,MS4.9,baz=132,slow=42
MCK McKinley 65.55 335 *e*P **P 08 22 17.1 -1.0**
comp=Z,10nm,1.1s,mb4.8
MCK McKinley 65.55 335 *e*P **P 08 22 17.1 -1.0**
MCK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
COLA College 65.56 336 *e*P **P 08 22 14.9 -3.3**
comp=Z,15nm,1.0s,mb5.0
COLA LR LR
comp=Z,939nm,19.0s,MS5.0
COLA College 65.56 336 *e*P **P 08 22 16.6 -1.6**
PPT Papeete 66.50 244 *e*S S 08 31 09.8 -3.1
comp=Z,867nm,27.2s
PPT *e*LR LR 08 42 03.6
comp=Z,1μm,25.2s,baz=55
PPT Papeete 66.50 244 LR LR 08 44 24.8
comp=Z,764nm,18.1s,MS5.0,baz=68,slow=30
SUMG Summit 66.97 15 *e*P **P 08 22 25.9 -1.3**
comp=Z,88nm,1.4s,mb5.6
TBI Tubuai 68.71 239 *e*S S 08 31 36.9 -2.6
comp=Z,625nm,28.5s
TBI *e*LR LR 08 43 17.8
comp=Z,1μm,25.5s,baz=59
BORG Borgarnes 69.43 25 LR LR 08 54 49.1
comp=Z,501nm,19.1s,MS4.8,baz=178,slow=37
JMIC Jan Mayen 75.25 20 AMS AMS 08 55 08.3
comp=Z,364nm,24.4s,MS4.6
JMIC Jan Mayen 75.25 20 LR LR 08 55 04.9
comp=Z,464nm,18.9s,MS4.8,baz=93,slow=35
RAR Rarotonga 76.78 245 P **P 08 23 26.0 0.0**
comp=Z,9.7nm,0.8s,mb4.8,baz=102,slow=9.3,SNR=2.6
ESDC Sonseca Array 78.64 52 P **P 08 23 35.1 -1.3**
comp=Z,0.4nm,0.4s,baz=287,slow=6.0,SNR=4.5
MDT Midelt 79.00 59 LR LR 08 56 28.2
comp=Z,780nm,18.3s,MS5.1,baz=288,slow=34
KBS Kingsbay 79.94 11 *e*P **P 08 23 39.3 -4.2**
KBS *e*S S 08 33 44.4 -0.9
KBS AMS AMS 09 02 13.3
comp=Z,618nm,18.5s,MS5.0
BER Bergen 81.53 30 *e*P **P 08 23 55.5 +3.5**
BER AMS AMS 08 56 06.7
comp=Z,644nm,23.5s,MS4.9
BJO Bjornoya 82.86 15 AMS AMS 09 03 16.7
comp=Z,1μm,17.2s,MS5.3
DBIC Dimbokro 83.30 85 P **P 08 24 01.4 +0.1**
comp=Z,28nm,1.2s,mb5.2,baz=268,slow=6.9,SNR=5.6
DBIC LR LR 08 58 55.2
comp=Z,216nm,18.5s,MS4.6,baz=264,slow=34
DBIC Dimbokro 83.30 85 *e*P **P 08 24 02.9 +1.6**
comp=Z,101nm,1.5s,mb5.6
DBIC LR LR
comp=Z,542nm,21.0s,MS4.9
BILL Bilibino 83.71 338 *e*P **P 08 24 02.7 -0.7**
comp=Z,40nm,1.3s,mb5.4
BILL Bilibino 83.71 338 *e*P **P 08 24 03.0 -0.4**
BILL *i* S S 08 34 22.0 -2.2
BILL pmax pmax
comp=Z,31nm,1.2s,mb5.3
BILL MLR MLR
comp=Z,700nm,18.0s,MS5.1
KONO Kongsberg 83.78 30 *e*P **P 08 24 08.1 +4.3**
KONO *e*S S 08 34 31.6 +6.7
KONO *e*SS SS 08 39 55.5 +3.1
NB2 NORSAR Subarra 84.21 29 P **P 08 24 04.1 -1.8**
comp=Z,28nm,1.7s,mb5.1,baz=285,slow=5.3
NB2 NORSAR Subarra 84.21 29 P **P 08 24 04.1 -1.8**
NB2 pmax pmax
comp=Z,28nm,1.7s,mb5.1
NOA NORSAR Array B 84.21 29 P **P 08 24 04.3 -1.6**
comp=Z,1.1nm,0.9s,baz=285,slow=5.3,SNR=3.1
NOA LR LR 08 57 49.2
comp=Z,521nm,20.9s,MS4.9,baz=280,slow=33
NOA NORSAR Array B 84.21 29 P **P 08 24 04.3 -1.6**
NOA LR LR 08 57 49.2
FX1 Attu Island--F 84.52 323 *e*P **P 08 24 07.8 +0.3**
BSEG Bad Segeberg 85.61 36 *e*P **P 08 24 13.1 +0.1**
HFS Hagfors 85.64 29 LR LR 08 57 46.7
comp=Z,671nm,21.9s,MS5.0,baz=272,slow=32
AFI Afiamalu 85.72 255 LR LR 08 56 56.6
comp=Z,354nm,18.2s,MS4.8,baz=85,slow=32
ARCES ARCESS Array B 86.70 19 P **P 08 24 18.0 -0.4**
comp=Z,15nm,1.3s,mb5.1,baz=248,slow=5.1,SNR=3.8
ARCES LR LR 09 03 11.2
comp=Z,299nm,19.6s,MS4.7,baz=360,slow=36
DAVOX Davos 87.23 43 LR LR 09 04 10.1
comp=Z,466nm,18.7s,MS4.9,baz=281,slow=36
GRF Grafenberg Arr 87.30 40 *e*P **P 08 24 19.2 -2.1**
comp=Z,19nm,1.4s,mb5.1
GRF *e*PP PP 08 27 36.9 -8.6
GRF *e*SKSac SKSac 08 34 51.9 +5.1
GRF *e*L 08 58 29.8
comp=Z,1μm,21.9s
GRF Grafenberg Arr 87.30 40 *e*P **P 08 24 19.2 -2.1**
GRF *e*S 08 34 51.9
GRF pmax pmax
comp=Z,19nm,1.4s,mb5.1
GRF MLR MLR
comp=Z,1μm,21.9s,MS5.3
WERD Werda 87.76 39 *e*P **P 08 24 22.4 -1.0**
NKC Novy Kostel 87.91 39 *e*P **P 08 24 23.6 -0.6**
CLL Collm 87.92 38 *e*P **P 08 24 24.6 +0.4**
comp=Z,39nm,1.8s,mb5.3
CLL *e*pP pP 08 24 30.0 -3.4
CLL *e*PP PP 08 27 43.4 -7.1
CLL *e*SKSac SKSac 08 34 52.6 +2.0
CLL *e*PS 08 36 17.3
CLL *e*SS SS 08 40 59.4 +6.2
CLL *e*LR LR 08 53 28.7
CLL *e*L 09 03 03.6
comp=Z,651nm,18.0s
CLL Collm 87.92 38 *i* P **P 08 24 24.2 0.0**
comp=Z,38nm,1.8s,mb5.3
CLL *e*PP PP 08 27 55.0 +4.5
CLL *e*SKSac SKSac 08 34 52.0 +1.4
CLL *e*PS 08 36 16.0
CLL Lm 09 02 00.0
comp=N,500nm,21.4s
CLL Lm 09 02 00.0
comp=E,500nm,18.8s
CLL Collm 87.92 38 *i* P **P 08 24 24.2 0.0**
comp=E,38nm,1.8s,mb5.3
CLL *e*SKKS SKKSac 08 34 52.0 -8.6
CLL LR LR
comp=Z,600nm,14.1s,MS5.2
CLL Collm 87.92 38 *i* P **P 08 24 24.2 0.0**
CLL *e* 08 34 52.0
CLL pmax pmax
comp=Z,38nm,1.8s,mb5.3
CLL MLR MLR
comp=Z,600nm,14.1s,MS5.2
TORD Torodi Ar. Bea 88.27 77 P **P 08 24 23.8 -2.1**
comp=Z,1.0nm,0.7s,mb4.2,baz=302,slow=4.8,SNR=6.7
WET Wettzell 88.50 40 *e*P **P 08 24 26.1 -0.8**
BRG Berggiesshubel 88.62 38 *e*P **P 08 24 33.4 +5.9**
comp=Z,22nm,1.8s,mb5.2
BRG *e* 08 28 03.2
BRG S 08 35 00.0
BRG LR LR
comp=Z,320nm,24.7s,MS4.7
BRG Berggiesshubel 88.62 38 *e*P **P 08 24 33.4 +5.9**
BRG *e* 08 28 03.2
BRG S 08 35 00.0
BRG pmax pmax
comp=Z,22nm,1.8s,mb5.2
BRG pmax pmax
comp=Z,10.0nm,1.7s,mb4.9
BRG MLR MLR
comp=N,217nm,23.7s
BRG MLR MLR
comp=E,146nm,15.3s
BRG MLR MLR
comp=Z,323nm,24.7s,MS4.7
BRG Berggiesshubel 88.62 38 *e*P **P 08 24 33.4 +5.9**
comp=Z,22nm,1.8s,mb5.2
BRG *e* 08 28 03.2
comp=Z,10nm,1.7s
BRG S 08 35 00.0
BRG
comp=N,217nm,23.7s
BRG
comp=E,146nm,15.3s
BRG
comp=Z,323nm,24.7s
KHC Kasperske Hory 88.94 40 *e*P **P 08 24 31.4 +2.4**
KHC AMS AMS 09 01 20.0
comp=Z,1μm,20.6s
GERES GERESS Array B 89.10 40 P **P 08 24 28.3 -1.5**
comp=Z,1.5nm,0.9s,mb4.3,baz=275,slow=4.7,SNR=5.9
GERES LR LR 08 59 43.0
comp=Z,792nm,21.8s,MS5.1,baz=286,slow=32
PVCC Panska Ves 89.11 38 *e*P **P 08 24 32.2 +2.4**
PRU Pruhonice 89.26 39 AMS AMS 09 02 20.0
comp=Z,900nm,18.0s
DPC Dobruska-Polom 90.22 38 *e*P **P 08 24 31.5 -3.5**
DPC AMS AMS 09 03 40.0
comp=Z,800nm,17.6s
LVZ Lovozero 90.41 18 *i* P **P 08 24 26.8 -9.1**
LVZ *i* S 08 35 00.7
LVZ *i* SS SS 08 41 22.4 -6.8
FINES FINESS Array B 90.72 26 P **P 08 24 37.5 +0.2**
comp=Z,2.0nm,1.0s,mb4.4,baz=288,slow=0.6,SNR=4.6
FINES LR LR 09 08 08.8
comp=Z,456nm,18.1s,MS5.0,baz=190,slow=38
VRAC Vranov 90.75 39 LR LR 09 00 47.4
comp=Z,750nm,21.5s,MS5.1,baz=276,slow=33
OKC Ostrava-Krasne 91.50 38 AMS AMS 09 03 30.0
comp=Z,2μm,20.3s
TIXI Tiksi 92.17 349 *e*P **P 08 24 41.5 -2.6**
TIXI *e* 08 28 21.0
TIXI *e*PPP 08 30 24.4
TIXI *e*S 08 35 07.3
TIXI pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
TIXI MLR MLR
comp=Z,926nm,20.0s,MS5.2
PET Petropavlovsk 92.75 326 *e*P pP 08 24 59.9 +4.0
PET pmax pmax
comp=Z,100nm,18.2s
PET pmax pmax
comp=E,300nm,13.7s
VAE Valguarnera 93.15 51 LR LR 09 02 18.2
comp=E,1μm,18.1s,MS5.4,baz=124,slow=33
MA2 Magadan 93.50 334 P **P 08 24 50.0 -0.2**
comp=E,9.8nm,1.3s,mb5.1
MA2 Magadan 93.50 334 *e*P **P 08 24 47.7 -2.5**
MA2 *e* 08 28 34.0
MA2 *e* 08 35 22.4
MA2 *e*S 08 35 46.4
MA2 *e*PS PS 08 37 17.7 +4.6
MA2 pmax pmax
comp=Z,8.0nm,1.7s,mb4.9
MA2 MLR MLR
comp=Z,600nm,28.0s,MS4.9
RAO Raoul Island 94.73 241 LR LR 08 57 36.0
comp=Z,339nm,19.4s,MS4.8,baz=63,slow=29
MLR Muntele Rosu 98.09 40 LR LR 09 06 36.7
comp=Z,580nm,20.3s,MS5.1,baz=296,slow=34
OBN Obninsk 98.79 28 *e*P **P 08 25 13.5 -0.8**
OBN *i* 08 29 14.3
OBN *i* S 08 35 50.1
OBN *i* PS PS 08 38 15.0 +4.0
OBN pmax pmax
comp=Z,25nm,1.6s,mb5.5
SNAA Sanae 100.75 161 *e*P Pdif 08 25 21.2 -1.8
KIV Kislovodsk 108.87 34 *e*P Pdif 08 25 59.5 +0.4
KIV *e*S SKSac 08 36 32.0 -4.9
KIV pmax pmax
comp=Z,5.0nm,0.5s
MAT Matsushiro 113.69 319 PP PP 08 31 17.0 +12
SYO Syowa Base 115.03 162 *e*pPdiff 08 26 31.2
CN2 Changchun 115.53 333 *e*PKP PKPdf 08 30 15.5 -0.9
CN2 *e*PP PP 08 31 21.8 +3.4
CN2 LR LR
comp=N,400nm,20.0s,MS5.2
CN2 LR LR
comp=E,400nm,20.0s,MS5.2
CN2 LR LR
comp=Z,500nm,22.0s,MS5.1
ZAK Zakamensk 116.35 351 *e*PKIKP PKPdf 08 30 17.5 -0.5
ZAK pmax pmax
comp=Z,9.0nm,1.8s
BOSA Boshof 117.48 116 PKP PKPdf 08 30 20.3 +0.1
comp=Z,5.6nm,1.0s,baz=264,slow=10,SNR=3.5
SONM Songino Array 118.25 348 PKP PKPdf 08 30 21.7 +0.1
comp=Z,3.3nm,1.1s,baz=357,slow=1.0,SNR=12
SONM PKKPbc PKKPbc 08 40 39.0 -0.8
comp=Z,1.5nm,1.0s,baz=213,slow=3.5,SNR=8.1
MKAR Makanchi Array 120.46 7 PKP PKPdf 08 30 25.5 -0.4
comp=Z,0.3nm,0.5s,baz=296,slow=4.1,SNR=4.5
BJI Beijing 122.52 337 PKP PKPdf 08 30 32.3 +2.5
BJI PP PP 08 32 11.8 +5.2
BJI LR LR
comp=N,294nm,19.8s,MS5.2
BJI LR LR
comp=E,444nm,22.7s,MS5.2
BJI LR LR
comp=Z,558nm,22.8s,MS5.2
HHC Hu-ho-hao-te 123.42 341 *e*PKP PKPdf 08 30 30.1 -1.5
HHC PP PP 08 32 15.3 +2.6
HHC PKS 08 34 05.2
HHC SKS SKSdf 08 37 36.6 -4.9
HHC SKKS SKKSac 08 39 03.3 -6.4
HHC SS SS 08 48 55.2 -2.1
HHC LR LR
comp=N,443nm,21.6s,MS5.2
HHC LR LR
comp=E,308nm,22.1s,MS5.2
HHC LR LR
comp=Z,704nm,24.5s,MS5.2
WMQ Urumqi 123.83 3 *e*PKP PKPdf 08 30 32.0 -0.4
WMQ XPKP 08 30 48.0
WMQ PP PP 08 32 19.9 +4.4
WMQ PPP 08 34 57.7
WMQ SKKS SKKSac 08 39 07.8 -4.5
WMQ SS SS 08 49 02.9 +0.3
WMQ PP PP
comp=Z,45nm,6.4s
WMQ LR LR
comp=N,977nm,25.2s,MS5.4
WMQ LR LR
comp=E,405nm,22.0s,MS5.4
WMQ LR LR
comp=Z,933nm,24.0s,MS5.4
CTAO Charters Tower 126.24 254 *e*PKPdf PKPdf 08 30 37.3 +0.4
SSE Sheshan 127.57 327 *e*PKP PKPdf 08 30 37.9 -1.6
SSE PP PP 08 32 41.8 +1.4
SSE SS SS 08 49 45.9 -3.6
SSE PP PP
comp=Z,98nm,7.0s
SSE LR LR
comp=N,132nm,22.2s,MS4.8
SSE LR LR
comp=E,216nm,22.2s,MS4.8
SSE LR LR
comp=Z,326nm,21.3s,MS5.0
GTA Gaotai 127.59 351 *e*PKP PKPdf 08 30 40.2 +0.7
GTA PP PP 08 32 45.4 +4.9
GTA PKS 08 34 15.1
GTA PPP 08 35 42.2
GTA SKS SKSdf 08 37 45.4 -3.9
GTA SKKS SKKSac 08 39 36.0 -0.2
GTA SS SS 08 49 52.0 +2.3
GTA PP PP
comp=Z,125nm,8.0s
GTA LR LR
comp=N,399nm,20.5s,MS5.2
GTA LR LR
comp=E,402nm,21.7s,MS5.2
GTA LR LR
comp=Z,529nm,24.3s,MS5.1
NJ2 Nanjing 128.03 329 *e*PKP PKPdf 08 30 40.1 -0.3
NJ2 XPKP 08 30 54.5
NJ2 PP PP 08 32 49.0 +5.6
NJ2 PKS 08 34 15.0
NJ2 SKS SKSdf 08 37 46.0 -4.1
NJ2 SKKS SKKSac 08 39 36.0 -2.9
NJ2 PP PP
comp=Z,230nm,11.2s
NJ2 LR LR
comp=E,170nm,26.4s
NJ2 LR LR
comp=Z,170nm,28.3s,MS4.6
STKA Stephens Creek 129.50 239 *e*P PKPdf 08 30 41.7 -1.5
comp=Z,6.5nm,1.1s
STKA Stephens Creek 129.50 239 PKP PKPdf 08 30 41.7 -1.5
comp=Z,11nm,1.1s,baz=27,slow=5.7,SNR=7.4
LZH Lanzhou 130.02 346 *e*PKP PKPdf 08 30 45.5 +1.3
LZH PP PP 08 33 01.2 +4.8
LZH *e*SKKS SKKSac 08 39 50.0 -1.3

LZH				SS	SS	08 50 20.0	+0.3
LZH				PP	PP		
	comp=Z,420nm,9.1s						
LZH				LR	LR		
	comp=N,789nm,18.3s						
LZH				LR	LR		
	comp=Z,1μm,19.2s,MS5.6						
XAN	**Xi'an**	**130.48**	**340**	PKP	PKPdf	08 30 46.6	+1.6
CD2	**Chengdu**	**134.96**	**344**	*e*PKP	PKPdf	08 30 49.3	-4.2
CD2				XPKP		08 31 09.3	
CD2				PKS		08 34 26.4	
CD2				SKS	SKSdf	08 37 55.0	-7.6
CD2				LR	LR		
	comp=N,210nm,21.6s						
CD2				LR	LR		
	comp=Z,320nm,20.4s,MS5.0						
NDI	**New Delhi**	**137.01**	**17**	*e*x	PKPdf	08 31 01.0	+3.7
KHET	**Khetri**	**137.15**	**19**	*e*P	PKPdf	08 30 56.4	-1.2
AYAN	**Aya Nagar**	**137.18**	**18**	*e*P	PKPdf	08 30 57.4	-0.2
KUDL	**Kundal**	**137.30**	**18**	*e*P	PKPdf	08 30 58.1	+0.2
WB2	**Warramunga Arr**	**137.43**	**254**	*e*P	PKPdf	08 30 56.2	-1.9
WRA	**Warramunga Arr**	**137.44**	**254**	PKhKP		08 30 47.4	
	comp=Z,2.5nm,1.2s,baz=109,slow=2.3,SNR=5.4						
WRA				PKP	PKPdf	08 30 59.4	+1.3
	comp=Z,5.2nm,1.0s,baz=86,slow=1.5,SNR=15						
WRA				SKP		08 34 32.7	
	comp=Z,1.8nm,1.2s,baz=81,slow=4.0,SNR=6.1						
WRA				SKPab		08 34 43.9	
	comp=Z,2.9nm,1.1s,baz=83,slow=2.4,SNR=9.1						
WRA	**Warramunga Arr**	**137.44**	**254**	PKHKP		08 30 47.4	
WRA						08 30 59.4	
ASAR	**Alice Springs**	**137.51**	**249**	PKhKP		08 30 47.3	
	comp=Z,0.9nm,0.9s,baz=123,slow=3.1,SNR=5.5						
ASAR				PKP	PKPdf	08 30 58.5	+0.3
	comp=Z,3.8nm,1.0s,baz=125,slow=2.1,SNR=11						
ASAR				SKPab		08 34 45.1	
	comp=Z,0.9nm,0.8s,baz=94,slow=2.8,SNR=4.7						
ASAR	**Alice Springs**	**137.51**	**249**	PKHKP		08 30 47.3	
ASAR						08 30 58.5	
LSA	**Lhasa**	**137.99**	**359**	*e*PKP	PKPdf	08 31 01.4	+2.3
LSA	**Lhasa**	**137.99**	**359**	*e*PKIKP	PKPdf	08 31 00.4	+1.3
BHJ	**Bhuj**	**138.94**	**30**	*e*P	PKPdf	08 30 60.0	-0.9
KMI	**Kunming**	**140.71**	**342**	PKP	PKPdf	08 31 03.6	-0.5
BHPL	**Bhopal**	**142.16**	**20**	*e*P	PKPdf	08 31 06.8	+0.1
BOK	**Bokaro**	**143.58**	**7**	*e*P	PKPdf	08 31 08.0	-1.1
POO	**Poona**	**144.98**	**28**	*e*P	PKPdf	08 31 11.0	-0.6
CAL	**Calcutta**	**145.05**	**4**	*e*x	PKPdf	08 31 19.1	+7.3
FITZ	**Fitzroy Crossi**	**145.77**	**256**	*e*P	PKPdf	08 31 13.9	+0.9
	comp=Z,72nm,1.2s						
KAD	**Karad**	**146.20**	**29**	*e*P	PKPdf	08 31 11.7	-2.0
HYB	**Hyderabad**	**147.94**	**22**⇑	*i*PKP	PKPdf	08 31 19.0	+2.4
	comp=Z,90nm,1.0s						
HYB				*e*		08 31 28.5	
HYB	**Hyderabad**	**147.94**	**22**⇑	*e*PKP2	PKPdf	08 31 19.0	+2.4
NWAO	**Narrogin (SRO)**	**148.29**	**226**	PKPbc	PKPbc	08 31 20.6	+0.1
	comp=Z,66nm,1.2s,baz=114,slow=3.0,SNR=7.6						
NWAO	**Narrogin (SRO)**	**148.29**	**226**	*e*PKP2	PKPbc	08 31 20.7	+0.1
KLBR	**Kellerberrin**	**148.63**	**228**	*e*P	PKPdf	08 31 18.1	+0.4
	comp=Z,36nm,1.1s						
KKTK	**Khon Kaen**	**148.84**	**337**	P	PKPdf	08 31 21.0	+2.9
VIS	**Vishakhapatnam**	**149.07**	**14**	*e*P	PKPdf	08 31 18.6	+0.1
VIS				*e*x	x	08 32 58.1	
MUN	**Mundaring**	**149.54**	**226**	*e*P	PKPdf	08 31 20.3	+1.1
NST	**Nakhon Sawan**	**150.40**	**341**	P	PKPbc	08 31 27.1	+1.3
MBWA	**Marble Bar**	**150.85**	**249**	*e*PKPdf	PKPdf	08 31 22.8	+1.5
MBWA				*e*PKPab	PKPab	08 31 34.7	+0.5
KSM	**Kuching**	**155.95**	**304**	*e*PKPab	PKPab	08 31 58.2	+2.5
PSI	**Prapat**	**162.63**	**331**	PKP	PKPdf	08 31 37.0	+0.6
	comp=Z,10nm,1.0s,baz=218,slow=5.6,SNR=8.7						

IDC 04 08:22:52.2±7.5, 2086S×6681W, h218km±51km, mb3.3/2, mb1 3.3/4, mb1mx3.1/17, mbtmp3.7/4, Error ellipse: s-maj=97.9km s-min=28.0km az=4.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.71**	**344**	P	Pn	08 24 04.0	+0.6
	0.3nm,0.3s,baz=158,slow=11,SNR=7.9						
SIV	**San Ignacio**	**7.29**	**49**	P	Pn	08 24 36.4	+0.2
	4.4nm,0.3s,baz=239,slow=10,SNR=138						
SIV				S	S	08 26 00.0	+0.8
	0.3nm,0.3s,baz=132,slow=23,SNR=5.7						
TORD	**Torodi Ar. Bea**	**75.30**	**70**	P	P	08 34 11.8	+0.6
	0.6nm,0.5s,baz=258,slow=5.6,SNR=12						
YKA	**Yellowknife Ar**	**91.25**	**340**	P	P	08 35 32.3	-0.3
	0.2nm,0.6s,baz=128,slow=4.6,SNR=8.8						
MKAR	**Makanchi Array**	**143.96**	**37**	PKP	PKPdf	08 42 00.8	-0.6
	0.2nm,0.4s,baz=340,slow=3.4,SNR=5.7						

*IDC **04** 08:30:57.4±1.2, 1261N×8930W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.7/20, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=53.8km s-min=18.2km az=48.0*
*NEIC **04** 08:30:58.9±0.7, 1256N×8936W, h10km, mb4.0/4, Error ellipse: s-maj=28.4km s-min=8.9km az=48.0*
*ISCJB **04** 08:30:59.6±1.0, 1202N±006×8952W±006, h63km±10km, mb3.7/8, Error ellipse: s-maj=13.0km s-min=4.4km az=87.3*
*CASC **04** 08:31:00.6±2.6, 1209N×8951W, h64km±226km, MD4.3, ML3.3, mb4.0(NEIC)*

ISC 04 08:31:00.6±1.0, 1203N±006×8953W±006, h55km±11km, n36, σ0°97/52, mb3.7/8, 3C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.65**	**16**	*e*P	**Pn**	**08 31 26.6**	**-0.6**
LFRS				*e*S	**Sn**	**08 31 45.8**	**-1.5**
SNET	**Serv Nac Est T**	**1.67**	**10**	*e*P	**Pn**	**08 31 30.3**	**+2.8**
SNET				*e*S	**Sn**	**08 31 50.1**	**+2.3**
LCBS	**La Ceiba**	**1.70**	**18**	*e*P	**Pn**	**08 31 27.3**	**-0.6**
LCBS				*e*S	**Sn**	**08 31 48.6**	**0.0**
SNVI	**San Vicente**	**1.71**	**23**	*e*P	**Pn**	**08 31 28.3**	**+0.3**
SNVI				*e*S	**Sn**	**08 31 49.5**	**+0.7**
BOQS	**Boqueron**	**1.71**	**8**	*e*P	**Pn**	**08 31 28.1**	**0.0**
BOQS				*e*S	**Sn**	**08 31 48.8**	**0.0**
LBRS	**Las Brisas**	**1.76**	**16**	*e*P	**Pn**	**08 31 28.7**	**0.0**
LBRS				*e*S	**Sn**	**08 31 50.0**	**-0.1**
SBLS	**San Blas**	**1.80**	**357**	*e*P	**Pn**	**08 31 29.3**	**0.0**
SBLS				*e*S	**Sn**	**08 31 49.5**	**-1.4**
SNJE	**San Jose**	**1.83**	**358**	*e*P	**Pn**	**08 31 30.9**	**+1.2**
SNJE				*e*S	**Sn**	**08 31 51.5**	**-0.2**
RTR	**El Retiro**	**1.86**	**357**	*e*P	**Pn**	**08 31 30.0**	**-0.1**
RTR				*e*S	**Sn**	**08 31 53.1**	**+0.7**
IXG	**Ixpaco**	**2.31**	**337**⇑	*e*P	**Pn**	**08 31 31.6**	**-4.7**
IXG				*e*S	**Sn**	**08 32 04.0**	**+0.5**
MTO2	**Montecristo 2**	**2.36**	**4**⇑	*e*P	**Pn**	**08 31 37.3**	**+0.4**
CRIN	**San Cristobal**	**2.51**	**74**	*e*P	**Pn**	**08 31 38.5**	**-0.5**
LEON	**Leon**	**2.61**	**81**	*e*P	**Pn**	**08 31 39.3**	**-1.0**
TEL3	**Telica 3**	**2.68**	**78**⇓	*e*P	**Pn**	**08 31 40.3**	**-1.0**
TEL3				*e*S	**Sn**	**08 32 11.7**	**-0.9**
MIRN	**Miramar**	**2.79**	**81**	*e*P	**Pn**	**08 31 42.0**	**-0.7**
MIRN				*e*S	**Sn**	**08 32 16.2**	**+1.1**
	comp=Z,186nm,0.3s						
MIRN				*i*		08 32 17.7	
	comp=Z,198nm,0.3s						
CNGN	**Cerro Negro**	**2.81**	**80**	*e*P	**Pn**	**08 31 42.3**	**-0.7**
COPN	**Copaltepe**	**2.88**	**87**	*e*P	**Pn**	**08 31 43.8**	**-0.2**
COPN				*e*S	**Sn**	**08 32 17.9**	**+0.5**
MOMJ	**Momotombo**	**2.95**	**82**	*e*P	**Pn**	**08 31 44.3**	**-0.6**
TP2	**Tecpan 2**	**3.10**	**332**⇑	*e*P	**Pn**	**08 31 44.4**	**-2.6**
TP2				*e*S	**Sn**	**08 32 23.2**	**+0.5**
APYN	**Apoyeque**	**3.12**	**86**	*e*P	**Pn**	**08 31 47.0**	**-0.3**
XAVN	**Gruta Xavier**	**3.14**	**88**	*e*P	**Pn**	**08 31 47.6**	**0.0**
MGAN	**Managua**	**3.21**	**88**	*e*P	**Pn**	**08 31 48.9**	**+0.3**
TICN	**Ticuantepe**	**3.23**	**90**	*e*P	**Pn**	**08 31 49.5**	**+0.8**
JTS	**JuntasAbangare**	**4.81**	**111**	Pn	**Pn**	**08 32 13.5**	**+3.0**
	comp=Z,3.5nm,0.3s,baz=301,slow=18,SNR=18						
JTS				Sn	**Sn**	**08 33 09.6**	**+4.6**
	comp=Z,0.9nm,0.3s,baz=311,slow=20,SNR=2.1						
JTS				Lg		08 33 40.6	
	comp=Z,0.2nm,0.3s,baz=111,slow=19,SNR=2.4						
JTS	**JuntasAbangare**	**4.81**	**111**	Pn	**Pn**	**08 32 13.5**	**+3.0**
JTS				Sn	**Sn**	**08 33 09.6**	**+4.6**
JTS				Lg		08 33 40.6	
SDV	**Santo Domingo**	**18.84**	**98**	P	**Pn**	**08 35 17.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=327,slow=17,SNR=3.2						
SDV	**Santo Domingo**	**18.84**	**98**	P	**Pn**	**08 35 17.9**	**+0.9**
JCT	**Junction City**	**20.68**	**334**	P	**P**	**08 35 34.6**	**-1.3**
	comp=Z,2.5nm,0.5s						
MIAR	**Mount Ida**	**22.71**	**351**	*e*P	**P**	**08 35 56.4**	**-1.3**
	comp=Z,9.6nm,1.1s,mb4.1						
WMOK	**Wichita Mounta**	**24.12**	**341**	*e*P	**P**	**08 36 10.7**	**-0.4**
	comp=Z,7.0nm,1.1s,mb4.0						
MNTX	**Cornudas Mount**	**24.43**	**326**	*e*P	**P**	**08 36 15.0**	**+1.1**
	comp=Z,1.8nm,1.0s,mb3.5						
NVAR	**Mina Array Bea**	**36.71**	**321**	P	**P**	**08 38 05.8**	**+3.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=129,slow=7.1,SNR=3.8						
SIV	**San Ignacio**	**39.60**	**134**	P	**P**	**08 38 32.6**	**+6.0**
	comp=Z,1.1nm,0.9s,mb3.6,baz=298,slow=13,SNR=4.3						
YKA	**Yellowknife Ar**	**53.50**	**346**	P	**P**	**08 40 14.8**	**-0.5**
	comp=Z,0.7nm,0.9s,mb3.6,baz=143,slow=7.5,SNR=10						
PLCA	**Paso Flores**	**55.36**	**163**	P	**P**	**08 40 36.1**	**+7.3**
	comp=Z,1.1nm,0.9s,mb3.9,baz=336,slow=12,SNR=3.0						
ILAR	**Eielson Array**	**65.59**	**337**	P	**P**	**08 41 39.2**	**+0.7**
	comp=Z,0.2nm,0.6s,mb3.3,baz=154,slow=3.4,SNR=4.1						

*ISCJB **04** 08:56:01.5±0.9, 1919N±006×6397W±003, h10km, Error ellipse: s-maj=9.2km s-min=3.8km az=19.1*
*TRN **04** 08:56:02.5, 1941N×6362W, h35km, MD4.1, M4.4(FDF)*
*NEIC **04** 08:56:05.3, 1912N×6400W, h3km, MD3.5(RSPR), After RSPR.*
*RSPR **04** 08:56:05.3, 1912N×6400W, h3km±3km, MD3.5/9, MD3.5/9*

ISC 04 08:56:03.4±1.5, 1914N±008×6397W±003, h15km±12km, n31, σ0°62/44, 13C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.95**	**220**	*e*S	**Sb**	**08 56 34.7**	**+0.8**
TBVI	**Tortola**	**0.95**	**220**⇓	*e*P	**Pb**	**08 56 21.2**	**-0.3**
TBVI				*e*S	**Sb**	**08 56 34.7**	**+0.8**
STVI	**Saint Thomas**	**1.23**	**231**	*e*S	**Sb**	**08 56 41.2**	**-0.7**
STVI	**Saint Thomas**	**1.23**	**231**⇑	*e*P	**Pn**	**08 56 25.4**	**-0.6**
STVI				*e*S	**Sb**	**08 56 41.2**	**-0.7**
STMA	**St. Maarten, A**	**1.36**	**143**	*e*P	**Pn**	**08 56 27.9**	**+0.1**
STMA				*e*S	**Sn**	**08 56 45.7**	**+0.1**
CDVI	**St. Croix**	**1.57**	**209**	*e*S	**Sn**	**08 56 50.4**	**-0.5**
CDVI	**St. Croix**	**1.57**	**209**⇑	*e*P	**Pn**	**08 56 30.9**	**+0.1**
CDVI				*e*S	**Sn**	**08 56 50.4**	**-0.5**
SABT	**Saba**	**1.66**	**155**	*e*P	**Pn**	**08 56 32.9**	**+0.9**
SABT				*e*S	**Sn**	**08 56 55.4**	**+2.4**
MTP	**Monte Pirata**	**1.83**	**236**	*e*S	**Sn**	**08 56 56.7**	**-0.5**
MTP	**Monte Pirata**	**1.83**	**236**⇑	*e*P	**Pn**	**08 56 34.1**	**-0.2**
MTP				*e*S	**Sn**	**08 56 56.7**	**-0.5**
CBYP	**Canovanas**	**1.99**	**245**⇑	*e*P	**Pn**	**08 56 36.1**	**-0.3**
HUMP	**Col San Antoni**	**2.04**	**241**	*e*S	**Sn**	**08 57 02.4**	**0.0**
HUMP	**Col San Antoni**	**2.04**	**241**⇑	*e*P	**Pn**	**08 56 37.1**	**-0.1**
HUMP				*e*S	**Sn**	**08 57 02.4**	**0.0**
CPD	**Cerro la Pandu**	**2.15**	**240**	*e*S	**Sn**	**08 57 05.1**	**+0.1**
CPD	**Cerro la Pandu**	**2.15**	**240**⇑	*e*P	**Pn**	**08 56 38.9**	**+0.2**
CPD				*e*S	**Sn**	**08 57 05.1**	**+0.1**
SJG	**San Juan**	**2.31**	**244**	*e*S	**Sn**	**08 57 08.6**	**-0.4**
CELP	**Cerrillos**	**2.69**	**247**⇑	*e*P	**Pn**	**08 56 46.5**	**+0.3**
CELP				*e*S	**Sn**	**08 57 18.3**	**-0.2**
ICM	**Isla Caja Muer**	**2.72**	**243**	*e*S	**Sn**	**08 57 19.4**	**+0.2**
ICM	**Isla Caja Muer**	**2.72**	**243**⇑	*e*P	**Pn**	**08 56 47.3**	**+0.7**
ICM				*e*S	**Sn**	**08 57 19.4**	**+0.2**
OBIP	**Obispado Ponce**	**2.73**	**247**⇑	*e*P	**Pn**	**08 56 47.0**	**+0.3**
AOPR	**Arecibo Observ**	**2.75**	**254**	*e*S	**Sn**	**08 57 19.9**	**-0.1**
AOPR	**Arecibo Observ**	**2.75**	**254**⇑	*e*P	**Pn**	**08 56 47.5**	**+0.5**
AOPR				*e*S	**Sn**	**08 57 19.9**	**-0.1**
LRS	**Lares**	**2.85**	**253**⇑	*e*P	**Pn**	**08 56 48.5**	**+0.1**
MGP	**Maguayo**	**3.17**	**250**⇑	*e*P	**Pn**	**08 56 53.1**	**+0.4**
CRPR	**Cabo Rojo, PR**	**3.19**	**250**	*e*S	**Sn**	**08 57 30.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**3.19**	**250**⇑	*e*P	**Pn**	**08 56 53.1**	**+0.2**
CRPR				*e*S	**Sn**	**08 57 30.9**	**+0.3**
SEG	**Port Louis**	**3.59**	**139**	*e*P	**Pn**	**08 56 57.5**	**-1.0**
LZG	**Guadaloupe-1**	**3.64**	**145**	*e*P	**Pn**	**08 56 58.8**	**-0.4**
LZG				*e*S	**Sn**	**08 57 41.0**	**-0.8**
SCG	**Saint Claude**	**3.78**	**144**	*e*P	**Pn**	**08 57 01.5**	**+0.4**
PHG	**Guadaloupe-2**	**3.82**	**144**	*e*P	**Pn**	**08 57 02.0**	**+0.4**
BBL	**Barber's Block**	**4.31**	**146**	*e*P	**Pn**	**08 57 06.9**	**-1.5**

IDC 04 08:57:08.4±37.0, 1877S×17753W, h429km±356km, mb3.2/5, mb1 3.4/5, mb1mx3.1/15, mbtmp4.0/5, Error ellipse: s-maj=205.4km s-min=54.7km az=93.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.14**	**262**	P	P	09 03 16.6	+1.0
	1.2nm,0.4s,baz=101,slow=14,SNR=2.5						
STKA	**Stephens Creek**	**38.96**	**242**	P	P	09 03 55.4	-0.3
	0.6nm,0.3s,baz=70,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**45.30**	**260**	P	P	09 04 46.1	+0.1
	0.4nm,0.3s,baz=98,slow=6.6,SNR=30						
ASAR	**Alice Springs**	**45.37**	**255**	P	P	09 04 47.0	+0.4
	3.3nm,0.6s,baz=89,slow=8.7,SNR=76						
MJAR	**Matsushiro Arr**	**69.09**	**323**	P	P	09 07 29.7	-0.2
	1.2nm,0.7s,baz=148,slow=5.9,SNR=4.3						
ARCES	**ARCESS Array B**	**127.31**	**350**	PKP	PKPdf	09 15 22.0	-1.1
	4.2nm,0.9s,baz=40,slow=4.8,SNR=4.0						
GERES	**GERESS Array B**	**148.66**	**346**	PKPbc	PKPbc	09 16 06.0	0.0
	0.4nm,0.5s,baz=44,slow=4.1,SNR=4.2						

MAN 04 09:11:01.6, 1744N×11971E, h23km, mb2.9, ML4.3, MS2.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.07**	**170**	*e*P	Pn	09 11 20.6	-0.7
APYP	**Conner**	**1.52**	**74**	*e*P	Pn	09 11 25.4	-1.9
APYP				*e*S	Sn	09 11 40.8	-5.6
CVP	**Callao Caves**	**2.03**	**82**	*e*P	Pn	09 11 34.0	-0.4
	37μm,0.5s						
CAUP	**Cauayan**	**2.08**	**104**	*e*P	Pn	09 11 37.8	+2.8

GUC 04 09:12:15.6±1.0, 2542S×7076W, h50km±73km, MD3.9, ML2.5, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.85**	**22**⇓	*i*P	Pn	09 12 33.1	+1.8
CPN1				*i* S	Sn	09 12 44.9	+2.1
CPN1				AMP		09 12 46.7	
	comp=E,417nm,0.4s						
CDCH	**Caldera**	**1.65**	**182**	*e*P	Pn	09 12 42.4	+0.2
CDCH				*i* S	Sn	09 13 01.4	-0.7
ANCH	**Antofagasta**	**1.76**	**10**	*e*P	Pn	09 12 43.8	+0.2
ANCH				*i* S	Sn	09 13 05.6	+0.8
CPCH	**Copiapo**	**1.96**	**169**	*e*P	Pn	09 12 47.0	+0.5
CPCH				*i* S	Sn	09 13 10.9	+1.0
CEN1	**Los Morros**	**2.08**	**14**	*e*P	Pn	09 12 46.2	-1.8
CEN1				*i* S	Sn	09 13 08.5	-4.3
CEN1				AMP		09 13 25.5	
	comp=N,45nm,0.4s						

GUC 04 09:32:20.6±1.0, 3179S×6846W, h18km±7km, MD4.1, ML3.8, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**2.02**	**243**	*e*P	Pn	09 32 54.4	+0.6
JACH				*i* S	Sn	09 33 20.6	+2.1
FCH	**Farellones**	**2.18**	**225**	*e*P	Pn	09 32 58.0	+2.0
FCH				*i* S	Sn	09 33 24.3	+1.7
CMCH	**Combarbala**	**2.26**	**285**⇓	*i*P	Pn	09 32 57.8	+0.8
CMCH				*i* S	Sn	09 33 27.2	+2.8
CMCH				AMP		09 33 33.3	
	comp=E,2μm,0.7s						
PEL	**Peldehue**	**2.32**	**234**	*e*P	Pn	09 32 59.0	+1.1
PEL				*i* S	Sn	09 33 28.0	+2.1
PEL				AMP		09 33 35.0	
	comp=E,504nm,0.4s						
CLCH	**Cerro Calan**	**2.38**	**227**	*e*P	Pn	09 33 01.2	+2.5
CLCH				*i* S	Sn	09 33 30.1	+2.7
CLCH				AMP		09 33 39.4	
	comp=E,308nm,0.3s						
ROCH	**El Roble**	**2.46**	**241**	*e*P	Pn	09 33 03.0	+3.1
PCH	**Pirque**	**2.52**	**223**	*e*P	Pn	09 33 03.6	+3.0
PCH				*i* S	Sn	09 33 34.8	+3.9
CHNG	**Los Chungos**	**2.59**	**267**	*e*P	Pn	09 33 02.9	+1.2
CHNG				*i* S	Sn	09 33 34.4	+1.7
RCDM	**Rinconada Maip**	**2.61**	**229**	*e*P	Pn	09 33 05.8	+3.9
TACH	**Talagante**	**2.80**	**228**	*e*P	Pn	09 33 07.3	+2.8
CHCH	**Chadas Angostu**	**2.83**	**220**	*e*P	Pn	09 33 08.9	+4.1
CACH	**El Canelo**	**2.94**	**217**	*e*P	Pn	09 33 12.7	+6.3

*IDC **04** 09:56:25.5±2.1, 3255S×12867E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, ML4.3/1, Error ellipse: s-maj=139.2km s-min=27.1km az=68.0*
*ISCJB **04** 09:56:37.4±1.5, 4445S±04×1265E±05, h100km, mb3.5/1, Error ellipse: s-maj=90.6km s-min=13.6km az=111.5*

ISC 04 09:56:39.5±1.5, 44S±04×1265E±05, h100km, n6, σ0°83/7, mb3.5/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.13**	**145**	*e*P	**Pn**	**09 59 01.4**	**-0.5**
	6.2nm,0.3s						
KAKA				*e*S	**Sn**	**10 00 54.2**	**+0.7**
WRA	**Warramunga Arr**	**17.23**	**154**	P	**Pn**	**10 00 32.4**	**-1.4**
	1.1nm,0.3s,baz=341,slow=12,SNR=43						
WB2	**Warramunga Arr**	**17.23**	**154**	*e*P	**Pn**	**10 00 33.2**	**-0.6**
ASAR	**Alice Springs**	**20.44**	**160**	P	**P**	**10 01 08.8**	**+0.1**
	0.6nm,0.3s,baz=345,slow=12,SNR=19						
ASPA	**Alice Springs**	**20.44**	**160**	*e*P	**P**	**10 01 10.1**	**+1.4**
MKAR	**Makanchi Array**	**64.17**	**328**	P	**P**	**10 07 03.7**	**+0.3**
	0.5nm,0.7s,mb3.5,baz=120,slow=7.9,SNR=6.1						

*ISCJB **04** 09:59:15.7±0.6, 2903N±005×1413E±02, h73km±7km, mb3.8/8, Error ellipse: s-maj=25.3km s-min=4.4km az=150.1*
*IDC **04** 09:59:17.8±1.5, 2891N×14135E, h74km±15km, mb3.5/7, mb1 3.7/9, mb1mx3.4/21, mbtmp3.8/9, Error ellipse: s-maj=29.4km s-min=11.7km az=80.0*
*NEIC **04** 09:59:18.1±2.5, 2894N×14127E, h78km±24km, mb4.1/1, Error ellipse: s-maj=35.9km s-min=11.2km az=105.0*

ISC 04 09:59:17.3±0.5, 2902N±005×1414E±02, h69km±7km, n25, σ1°04/33, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.05**	**159**	P	**Pn**	**09 59 50.0**	**+0.4**
	36nm,0.3s,baz=288,slow=23,SNR=17						
CBIJ				S	**Sn**	**10 00 12.7**	**-1.5**
	125nm,0.3s,baz=284,slow=22,SNR=10						
CBIJ	**Chichi jima**	**2.05**	**159**	P	**Pn**	**09 59 49.7**	**+0.1**
CBIJ				*e*S	**Sn**	**10 00 13.5**	**-0.7**
JHHJ	**Haha-jima-NKT**	**2.49**	**163**	P	**Pn**	**09 59 55.8**	**+0.3**
JHHJ				S	**Sn**	**10 00 24.4**	**-0.4**
JHJ2	**Mitsune**	**4.29**	**342**	*e*S	**Sn**	**10 01 08.1**	**-0.7**
JHJ	**Hachijo jima 2**	**4.31**	**342**	P	**Pn**	**10 00 22.2**	**+1.9**
	5.7nm,0.3s,baz=71,slow=15,SNR=4.8						
JHJ				S	**Sn**	**10 01 08.1**	**-1.2**
	26nm,0.3s,baz=81,slow=23,SNR=5.1						
BSO1	**Boso 1**	**5.62**	**357**	P	**Pn**	**10 00 38.4**	**+0.1**
BSO1				*e*S	**Sn**	**10 01 39.1**	**-2.4**
BSO3	**Boso 3**	**5.81**	**353**	P	**Pn**	**10 00 40.8**	**0.0**
BSO4	**Boso 4**	**6.01**	**352**	P	**Pn**	**10 00 45.4**	**+1.7**
BSO4				*e*S	**Sn**	**10 01 50.4**	**-0.7**
JOD2	**Odawara 2**	**6.52**	**343**	P	**Pn**	**10 00 53.1**	**+2.6**
JHU	**Hanno**	**7.04**	**346**	P	**Pn**	**10 00 59.1**	**+1.5**
JHU				*e*S	**Sn**	**10 02 15.4**	**-0.7**
JYT	**Yasato**	**7.25**	**352**	P	**Pn**	**10 01 00.9**	**+0.3**
JRY	**Ryogami san**	**7.28**	**344**	P	**Pn**	**10 01 02.3**	**+1.3**
JRY				*e*S	**Sn**	**10 02 21.3**	**-0.8**
JAG	**Ashikaga**	**7.56**	**348**	P	**Pn**	**10 01 03.9**	**-0.8**
JHO	**Hitachi**	**7.60**	**355**	P	**Pn**	**10 01 04.5**	**-0.8**
MJAR	**Matsushiro Arr**	**7.96**	**341**	P	**Pn**	**10 01 11.7**	**+1.5**
	0.4nm,0.3s,baz=268,slow=4.9,SNR=15						
ASAJ	**Asahikawa**	**15.10**	**3**	P	**Pn**	**10 02 45.7**	**-0.8**
	0.5nm,0.3s,baz=164,slow=7.4,SNR=4.9						
WRAB	**Tennant Creek**	**49.14**	**189**	*e*P	**P**	**10 07 57.4**	**-0.7**
	1.2nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**49.15**	**189**	P	**P**	**10 07 57.3**	**-0.8**
	1.0nm,0.3s,mb4.3,baz=6.4,slow=7.9,SNR=26						
ASAR	**Alice Springs**	**52.88**	**189**	P	**P**	**10 08 25.6**	**-0.5**
	0.2nm,0.5s,mb3.4,baz=1.7,slow=5.3,SNR=5.3						
KDAK	**Kodiak Island**	**53.27**	**38**	P	**P**	**10 08 29.3**	**+0.4**
	8.6nm,1.1s,mb4.7,baz=312,slow=12,SNR=5.1						
**ILA

KBTR Krutoberegovo 3.46 25 P **Pn 10 01 35.3 0.0**
KBTR S **Sn 10 02 13.9 -1.1**
KBTR Krutoberegovo 3.46 25 *eP* **Pn 10 01 34.9 -0.4**
BDR Baidarnaya 3.52 9 *eP* **Pn 10 01 37.9 +1.7**
BDR *eS* **Sn 10 02 17.7 +1.1**
SMKR Semkarok 3.56 11 *eP* **Pn 10 01 37.5 +0.8**
SMKR *eS* **Sn 10 02 16.9 -0.7**
SRKR Sorokina 3.60 8 *eP* **Pn 10 01 38.0 +0.7**
BKI Bering 3.97 56 *iP* **Pn 10 01 41.5 -0.9**
BKI *eS* **Sn 10 02 21.9 -5.8**
BKI Smax
150nm,0.8s
FX1 Attu Island--F 7.80 86 Pn **Pn 10 02 27.5 -7.4**
4.0nm,0.3s,baz=100,slow=22,SNR=18
FX1 Sn **Sn 10 03 56.0 -6.0**
3.2nm,0.3s,baz=133,slow=19,SNR=4.2
KAMR Kamenskoye 9.90 16 P **Pn 10 03 06.0 +2.3**
MAJO Matsushiro 22.62 232 *eP* **P 10 05 40.5 -0.3**
4.5nm,0.7s,mb4.0
MAJO Matsushiro 22.62 232 *eP* **P 10 05 40.5 -0.3**
MAJO pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
MAT Matsushiro 22.62 232 P **P 10 05 40.4 -0.4**
MAT Matsushiro 22.62 232 *eP* **P 10 05 40.0 -0.8**
MJAR Matsushiro Arr 22.62 232 P **P 10 05 40.6 -0.2**
comp=Z,2.2nm,0.5s,mb3.8,baz=20,slow=11,SNR=9.7
MJAR Matsushiro Arr 22.62 232 P **P 10 05 40.6 -0.2**
MJAR pmax pmax
comp=Z,2.0nm,0.5s
ILAR Eielson Array 28.75 45 P **P 10 06 31.1 -6.1**
comp=Z,0.5nm,1.1s,mb3.1,baz=242,slow=9.1,SNR=2.5
ILAR Eielson Array 28.75 45 P **P 10 06 31.1 -6.1**
ILAR pmax pmax
comp=Z,1.0nm,1.1s
MKAR Makanchi Array 48.23 296 P **P 10 09 15.9 -4.3**
comp=Z,0.2nm,0.5s,mb3.4,baz=51,slow=6.0,SNR=6.2
FINES FINESS Array B 60.15 337 P **P 10 10 43.6 -3.3**
comp=Z,0.6nm,0.8s,mb3.7,baz=32,slow=7.6,SNR=2.8
FINES FINESS Array B 60.15 337 P **P 10 10 43.6 -3.4**
FINES pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 76.12 205 P **P 10 12 25.8 -1.2**
comp=Z,0.2nm,0.4s,mb3.4,baz=19,slow=6.2,SNR=8.1
ASAR Alice Springs 79.80 204 P **P 10 12 47.2 -0.2**
comp=Z,0.3nm,0.6s,mb3.4,baz=19,slow=5.2,SNR=5.2

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*NEIC **04** 10:17:47.4, 3849S×17585E, h151km, MG3.8(WEL), After WEL.*
WEL 04 10:17:47.4±0.4, 3851S×17588E, h151km±3km, ML3.8/15, Error ellipse: s-maj=3.6km s-min=3.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPVZ	**Whakapapa**	**0.74**	**200**	PN	Pn	10 18 10.6	+0.3
WPVZ	**Whakapapa**	**0.74**	**200**	P	Pn	10 18 10.5	+0.2
BKZ	**Black Stump Fm**	**0.82**	**144**	PN	Pn	10 18 11.3	+0.5
BKZ				SN	Sn	10 18 27.8	-0.8
BKZ	**Black Stump Fm**	**0.82**	**144**	*eP*	Pn	10 18 11.3	+0.5
WNVZ	**Wahianoa**	**0.85**	**195**	PN	Pn	10 18 11.4	+0.4
WNVZ				SN	Sn	10 18 29.4	+0.3
PKVZ	**Pokaka**	**0.89**	**208**	PN	Pn	10 18 11.5	+0.2
PKVZ				SN	Sn	10 18 30.3	+0.7
MOVZ	**Moawhango**	**0.91**	**186**	PN	Pn	10 18 11.5	0.0
MOVZ				SN	Sn	10 18 29.8	-0.1
MOVZ	**Moawhango**	**0.91**	**186**	P	Pn	10 18 11.5	0.0
MTVZ	**Mangateitei**	**0.93**	**200**	PN	Pn	10 18 11.9	+0.2
URZ	**Urewera**	**1.00**	**76**	PN	Pn	10 18 12.3	0.0
URZ				SN	Sn	10 18 30.9	-0.3
URZ	**Urewera**	**1.00**	**76**	P	Pn	10 18 12.3	+0.1
VRZ	**Vera Road**	**1.07**	**234**	PN	Pn	10 18 12.5	-0.3
VRZ	**Vera Road**	**1.07**	**234**	*eP*	Pn	10 18 12.5	-0.3
MWZ	**Matawai**	**1.31**	**83**	PN	Pn	10 18 15.3	+0.3
MWZ				SN	Sn	10 18 35.8	-0.4
MWZ	**Matawai**	**1.31**	**83**	*eP*	Pn	10 18 15.3	+0.2
WAZ	**Wanganui**	**1.43**	**209**	PN	Pn	10 18 15.9	-0.4
WAZ				SN	Sn	10 18 38.5	+0.1
TSZ	**Takapari Road**	**1.55**	**178**	PN	Pn	10 18 17.2	-0.3
TSZ	**Takapari Road**	**1.55**	**178**	P	Pn	10 18 17.2	-0.4
MXZ	**Matakaoa Point**	**2.14**	**65**	PN	Pn	10 18 24.2	0.0
MXZ	**Matakaoa Point**	**2.14**	**65**	*eP*	Pn	10 18 24.2	0.0
MRZ	**Mangatainoka R**	**2.17**	**186**	PN	Pn	10 18 22.6	-1.9
MRZ	**Mangatainoka R**	**2.17**	**186**	P	Pn	10 18 22.6	-1.9
BFZ	**Birch Farm**	**2.19**	**173**	PN	Pn	10 18 23.6	-1.2
BFZ	**Birch Farm**	**2.19**	**173**	P	Pn	10 18 23.6	-1.2
KIW	**Kapiti Island**	**2.47**	**197**	PN	Pn	10 18 25.9	-2.2
KIW	**Kapiti Island**	**2.47**	**197**	P	Pn	10 18 25.9	-2.2
KIW				S	Sn	10 18 54.7	-4.9
MTW	**Mount Morrison**	**2.67**	**186**	PN	Pn	10 18 28.0	-2.5
MTW	**Mount Morrison**	**2.67**	**186**	P	Pn	10 18 28.1	-2.5
CAW	**Cannon Point**	**2.67**	**193**	PN	Pn	10 18 28.2	-2.4
CAW	**Cannon Point**	**2.67**	**193**	P	Pn	10 18 28.4	-2.2
DUWZ	**D'Urville Isla**	**2.75**	**213**	PN	Pn	10 18 28.8	-2.7
MRW	**Makara Radio**	**2.87**	**198**	PN	Pn	10 18 30.3	-2.7
MRW				SN	Sn	10 19 03.1	-5.2
MRW	**Makara Radio**	**2.87**	**198**	P	Pn	10 18 30.4	-2.7
PAWZ	**Paruwai Farm**	**2.89**	**187**	PN	Pn	10 18 30.7	-2.7
PAWZ	**Paruwai Farm**	**2.89**	**187**	P	Pn	10 18 30.7	-2.7
SNZO	**South Karori**	**2.94**	**197**	PN	Pn	10 18 31.1	-2.9
SNZO	**South Karori**	**2.94**	**197**	*eP*	Pn	10 18 31.1	-2.9
MSWZ	**Moikau Station**	**2.95**	**189**	PN	Pn	10 18 31.2	-2.8
MSWZ	**Moikau Station**	**2.95**	**189**	P	Pn	10 18 31.2	-2.9
TCW	**Tory Channel**	**2.97**	**204**	PN	Pn	10 18 31.6	-2.8
TCW	**Tory Channel**	**2.97**	**204**	P	Pn	10 18 31.6	-2.8
TUWZ	**Tuamarina**	**3.28**	**206**	PN	Pn	10 18 34.9	-3.4
QRZ	**Quartz Range**	**3.47**	**227**	PN	Pn	10 18 36.7	-4.1
QRZ	**Quartz Range**	**3.47**	**227**	*eP*	Pn	10 18 36.7	-4.0
KHZ	**Kahutara**	**4.29**	**204**	PN	Pn	10 18 47.8	-3.6
KHZ	**Kahutara**	**4.29**	**204**	*eP*	Pn	10 18 47.8	-3.7
DSZ	**Denniston Nort**	**4.50**	**223**	PN	Pn	10 18 49.1	-5.0
LTZ	**Lake Taylor**	**5.08**	**212**	PN	Pn	10 18 56.7	-5.1
MQZ	**McQueen's Vall**	**5.74**	**204**	PN	Pn	10 19 04.7	-5.9
RPZ	**Rata Peaks**	**6.35**	**213**	PN	Pn	10 19 13.5	-5.2
RPZ	**Rata Peaks**	**6.35**	**213**	*eP*	Pn	10 19 13.5	-5.2
JCZ	**Jackson Bay**	**7.72**	**222**	PN	Pn	10 19 31.8	-5.2
JCZ	**Jackson Bay**	**7.72**	**222**	*eP*	Pn	10 19 31.8	-5.2

NEIC 04 10:19:59.0, 1944N×15532W, h5km, MD3.6(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.37**	**328**	*eP*	Pg	10 20 06.3	+0.1
HPO	**Honuapo**	**0.41**	**212**	*eP*	Pg	10 20 07.4	+0.5
HON	**Honolulu**	**3.14**	**307**	P	Pn	10 20 49.0	-0.1
HON				*eS*	Sn	10 21 19.8	-7.0
KIP	**Kipapa**	**3.21**	**308**	*eP*	Pn	10 20 45.9	-4.1
KIP				*eS*	Sn	10 21 25.0	-3.6

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*ISCJB **04** 10:28:11.7±0.9, 80S±02×1162E±03, h200km, mb3.8/6, Error ellipse: s-maj=42.1km s-min=13.4km az=117.6*
*IDC **04** 10:28:13.4±3.1, 808S×11632E, h200km±28km, mb3.5/5, mb1 3.6/5, mb1mx3.4/17, mbtmp4.0/5, Error ellipse: s-maj=40.2km s-min=15.7km az=64.0*
*NEIC **04** 10:28:15.2±4.0, 806S×11637E, h220km±41km, mb3.9/2, Error ellipse: s-maj=38.9km s-min=19.2km az=67.0*
ISC 04 10:28:13.5±0.9, 80S±02×1163E±03, h200km, n9, σ0°67/7, mb3.8/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.52**	**139**	*eP*	**Pn**	**10 31 17.9**	**+0.5**
5.3nm,0.6s							
WRA	**Warramunga Arr**	**21.11**	**126**	P	**P**	**10 32 41.4**	**-1.1**
0.9nm,0.4s,mb3.7,baz=298,slow=12,SNR=11							
WRA				ScP	ScP	10 39 57.0	-0.8
0.7nm,0.6s,baz=306,slow=1.9,SNR=5.6							
ASAR	**Alice Springs**	**22.95**	**135**	P	**P**	**10 33 00.9**	**+0.7**
4.5nm,0.3s,mb4.4,baz=308,slow=9.0,SNR=70							
NWAO	**Narrogin (SRO)**	**24.78**	**178**	P	**P**	**10 33 16.9**	**0.0**
3.2nm,0.4s,mb4.3,baz=5.8,slow=5.8,SNR=7.8							
SONM	**Songino Array**	**56.31**	**352**	P	**P**	**10 37 34.2**	**+0.7**
0.7nm,0.6s,mb3.4,baz=169,slow=8.6,SNR=8.0							
MKAR	**Makanchi Array**	**62.41**	**334**	P	**P**	**10 38 15.2**	**+0.1**
0.5nm,0.6s,mb3.3,baz=144,slow=6.7,SNR=7.4							
ZRNK	**Zerenda**	**72.79**	**332**	*eP*	**P**	**10 39 19.2**	**-0.8**
0.7nm,0.4s,mb3.6							
YKA	**Yellowknife Ar**	**114.40**	**23**	PKP	PKiKP	10 46 28.3	-1.1
0.1nm,0.4s,baz=298,slow=1.9,SNR=5.5							
TORD	**Torodi Ar. Bea**	**115.65**	**281**	PKP	PKPdf	10 46 32.1	+0.3
0.3nm,0.5s,baz=48,slow=2.1,SNR=4.8							

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*IDC **04** 10:28:34.8±2.8, 705S×12853E, h0km, mb3.6/1, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=310.9km s-min=31.4km az=66.0*
*ISCJB **04** 10:28:38.7±1.5, 75S±03×1276E±04, h33km, mb3.6/1, Error ellipse: s-maj=72.1km s-min=17.5km az=120.4*
ISC 04 10:28:41.1±1.4, 76S±03×1275E±04, h35km, n6, σ2°24/6, mb3.6/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.04**	**137**	*eP*	**Pn**	**10 30 22.8**	**+1.1**
8.9nm,0.5s							
WRA	**Warramunga Arr**	**13.95**	**152**	Pn	**Pn**	**10 31 53.6**	**-2.6**
0.2nm,0.3s,baz=335,slow=13,SNR=20							
WRA				Sn	Sx	10 34 16.5	
0.8nm,0.3s,baz=329,slow=23,SNR=9.3							
WB2	**Warramunga Arr**	**13.96**	**152**	*eP*	**Pn**	**10 31 54.2**	**-2.1**
ASPA	**Alice Springs**	**17.12**	**160**	*eP*	**Pn**	**10 32 39.0**	**+1.4**
ASAR	**Alice Springs**	**17.12**	**160**	P	**Pn**	**10 32 39.0**	**+1.4**
0.5nm,0.3s,baz=336,slow=9.9,SNR=62							
ASAR				S	Sx	10 35 38.4	
0.2nm,0.3s,baz=319,slow=14,SNR=4.0							
MKAR	**Makanchi Array**	**67.39**	**328**	P	**P**	**10 39 32.6**	**-0.2**
0.3nm,0.4s,mb3.6,baz=116,slow=7.1,SNR=6.5							

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*ISCJB **04** 10:44:50.1±0.3, 405S±006×10455E±007, h253km, mb4.5/45, Error ellipse: s-maj=11.3km s-min=4.3km az=100.7*
*MOS **04** 10:44:50.7±1.1, 390S×10475E, h260km, mb4.4/9, Error ellipse: s-maj=22.6km s-min=8.9km az=119.3*
*NEIC **04** 10:44:51.5±0.3, 395S×10466E, mb4.5/17, Error ellipse: s-maj=15.8km s-min=5.2km az=54.0*
*BJI **04** 10:44:51.4, 400S×10470E, h251km, mB4.4, mb4.4*
*IDC **04** 10:44:51.8±0.6, 397S×10468E, h254km±5km, mb4.1/14, mb1 4.3/15, mb1mx4.1/19, mbtmp4.8/15, Error ellipse: s-maj=17.7km s-min=7.7km az=55.0*
ISC 04 10:44:52.0±0.3, 404S±006×10455E±007, h255km, h255km±2.0km: pP-P, n109, σ1°10/109, mb4.5/45, 8C-6D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi**	**4.43**	**123**	P	**Pn**	**10 46 01.5**	**+0.5**
5μm,0.9s							
BJII	**Banjamegara**	**6.09**	**123**	P	**Pn**	**10 46 20.2**	**-1.0**
558nm,0.8s							
KGM	**Kluang**	**6.14**	**348**	P	**Pn**	**10 46 24.0**	**+2.0**
PSI	**Prapat**	**8.82**	**320**	P	**Pn**	**10 46 54.5**	**-1.1**
25nm,0.3s,baz=154,slow=10,SNR=64							
PSI				S	**S**	**10 48 32.9**	**-2.7**
3.2nm,0.3s,baz=226,slow=22,SNR=4.4							
IPM	**Ipoh**	**9.17**	**337**	P	**Pn**	**10 47 02.9**	**+2.9**
IPM	**Ipoh**	**9.17**	**337**	P	**Pn**	**10 47 02.9**	**+2.9**
KULM	**Kulim**	**10.06**	**337**	*eP*	**Pn**	**10 47 12.1**	**+0.9**
BSI	**Banda Aceh**	**13.24**	**316**	P	**Pn**	**10 47 48.3**	**-2.3**
78nm,0.8s							
MBWA	**Marble Bar**	**22.52**	**140**	*eP*	**P**	**10 49 29.9**	**-0.4**
QIZ	**Qiongzhong**	**23.51**	**13**	*eP*	**P**	**10 49 43.6**	**+4.3**
FITZ	**Fitzroy Crossi**	**24.92**	**126**	⇑*iP*	**P**	**10 49 51.7**	**-0.3**
16nm,0.6s,mb4.8							
FITZ				*e*PCP	PcP	10 53 21.4	+1.3
PALK	**Pallekele**	**26.32**	**295**	*eP*	**P**	**10 50 05.1**	**+0.5**
MUN	**Mundaring**	**29.87**	**160**	*eP*	**P**	**10 50 37.1**	**+1.2**
KLBR	**Kellerberrin**	**30.08**	**157**	*eP*	**P**	**10 50 38.4**	**+0.6**
5.8nm,0.6s,mb4.4							
NWAO	**Narrogin (SRO)**	**31.09**	**159**	P	**P**	**10 50 47.1**	**+0.6**
16nm,0.6s,mb4.8,baz=335,slow=9.6,SNR=19							
NWAO	**Narrogin (SRO)**	**31.09**	**159**	*eP*	**P**	**10 50 46.6**	**0.0**
20nm,0.8s,mb4.8							
NWAO	**Narrogin (SRO)**	**31.09**	**159**	*eP*	**P**	**10 50 46.6**	**0.0**
NWAO				pmax	pmax		
comp=Z,20nm,0.8s							
SHL	**Shillong**	**31.90**	**338**	*eP*	**P**	**10 50 54.0**	**+0.3**
WRA	**Warramunga Arr**	**33.05**	**121**	P	**P**	**10 51 02.9**	**-0.8**
comp=Z,2.7nm,0.4s,mb4.1,baz=302,slow=9.1,SNR=36							
WRA				pP	pP	10 51 52.7	-1.7
comp=Z,3.4nm,0.8s,baz=295,slow=10.0,SNR=4.0							
WRA				PcP	PcP	10 53 41.6	+0.9
comp=Z,5.7nm,0.3s,baz=317,slow=2.3,SNR=34							
WRA				S	**S**	**10 55 56.8**	**-6.3**
comp=Z,2.2nm,1.0s,baz=291,slow=16,SNR=4.8							
WRA				ScP	ScP	10 57 00.7	+0.4
comp=Z,1.8nm,0.6s,baz=308,slow=2.8,SNR=10							
WRA	**Warramunga Arr**	**33.05**	**121**	P	**P**	**10 51 02.9**	**-0.8**
WRA				*PP	pP	10 51 52.7	-1.6
WRA						10 53 41.6	
WRA				S	**S**	**10 55 56.8**	**-6.3**
WRAB	**Tennant Creek**	**33.05**	**121**	*eP*	**P**	**10 51 02.3**	**-1.4**
comp=Z,13nm,0.9s,mb4.5							
WRAB				*e*pP	pP	10 51 51.6	-2.8
WRAB				*e*PcP	PcP	10 53 41.2	+0.4
WRAB	**Tennant Creek**	**33.05**	**121**	*eP*	**P**	**10 51 02.3**	**-1.4**
WRAB				*e*PP	pP	10 51 51.6	-2.8
WRAB				*e*		10 53 41.2	
WRAB				pmax	pmax		
comp=Z,13nm,0.9s,mb4.5							
WB2	**Warramunga Arr**	**33.06**	**121**	*eP*	**P**	**10 51 03.1**	**-0.6**
WB2				*i* PCP	PcP	10 53 41.6	+0.8
WB2				*e*S	**S**	**10 55 57.5**	**-5.8**
ASPA	**Alice Springs**	**34.39**	**127**	*eP*	**P**	**10 51 15.3**	**+0.1**
ASPA				*i* PCP	PcP	10 53 45.7	+1.1
ASAR	**Alice Springs**	**34.40**	**127**	P	**P**	**10 51 15.4**	**+0.2**
comp=Z,28nm,0.4s,mb5.2,baz=301,slow=8.1,SNR=346							
ASAR				pP	pP	10 52 05.3	-0.8
comp=Z,5.5nm,0.9s,baz=304,slow=8.3,SNR=2.4							
ASAR				PcP	PcP	10 53 45.8	+1.2
comp=Z,8.4nm,0.4s,baz=311,slow=2.3,SNR=27							
ASAR				S	**S**	**10 56 19.1**	**-4.6**
comp=Z,1.9nm,0.5s,baz=295,slow=15,SNR=9.8							
ASAR				ScP	ScP	10 57 05.9	+0.8
comp=Z,5.1nm,0.8s,baz=300,slow=3.0,SNR=16							
ASAR				PKiKP	PKiKP	11 01 06.7	-0.5
comp=Z,0.3nm,0.5s,baz=0.0,slow=0.9,SNR=4.1							
ASAR	**Alice Springs**	**34.40**	**127**	P	**P**	**10 51 15.4**	**+0.2**
ASAR				pP	pP	10 52 05.3	-0.8
ASAR				PcP	PcP	10 53 45.8	+1.2
ASAR				S	**S**	**10 56 19.1**	**-4.6**
ASAR				ScP	ScP	10 57 05.9	+0.8
ASAR	**Alice Springs**	**34.40**	**127**	P	**P**	**10 51 15.4**	**+0.2**
ASAR				*PP	pP	10 52 05.3	-0.9
ASAR						10 53 45.8	
ASAR				S	**S**	**10 56 19.2**	**-4.6**
AS31	**Alice Springs**	**34.40**	**127**	*eP*	**P**	**10 51 15.3**	**+0.1**
AS31				*i* PcP	PcP	10 53 45.7	+1.1
CD2	**Chengdu**	**34.77**	**359**	*eP*	**P**	**10 51 20.3**	**+1.9**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
CD2				AMB	AMB		
comp=Z,50nm,5.9s							
NGP	**Nagpur**	**35.38**	**316**	*eP*	**P**	**10 51 21.6**	**-2.0**
NGP				AMb	AMB	10 51 24.5	
comp=Z,7.0nm,0.4s,mb4.6							
LSA	**Lhasa**	**35.93**	**340**	P	**P**	**10 51 29.8**	**+1.6**
LSA				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**35.93**	**340**	*eP*	**P**	**10 51 29.8**	**+1.5**
comp=Z,22nm,0.5s,mb5.0							
LSA	**Lhasa**	**35.93**	**340**	*eP*	**P**	**10 51 29.8**	**+1.6**
LSA				pmax	pmax		
comp=Z,22nm,0.5s,mb4.9							
JIRN	**Jiri**	**36.15**	**332**	*eP*	**P**	**10 51 30.9**	**+0.7**
comp=Z,40nm,0.6s,mb5.2							
PKI	**Pulchoki**	**36.45**	**331**	*eP*	**P**	**10 51 32.4**	**-0.3**
comp=Z,5.6nm,0.3s,mb4.6							
DMN	**Daman**	**36.63**	**330**	*eP*	**P**	**10 51 34.0**	**-0.2**
KKN	**Kakani**	**36.70**	**331**	*eP*	**P**	**10 51 34.6**	**-0.2**
comp=Z,35nm,0.8s,mb5.0							
KKN	**Kakani**	**36.70**	**331**	*eP*	**P**	**10 51 34.6**	**-0.2**
KKN				pmax	pmax		
comp=Z,18nm,0.8s,mb4.7							
KAD	**Karad**	**36.73**	**306**	*eP*	**P**	**10 51 35.2**	**+0.2**
KAD				AMb	AMB	10 51 36.0	
comp=Z,16nm,0.5s,mb4.8							
GKN	**Gorkha**	**37.19**	**330**	*eP*	**P**	**10 51 38.9**	**0.0**
comp=Z,19nm,0.3s,mb5.2							
KOLN	**Koldanda**	**37.53**	**329**	*eP*	**P**	**10 51 41.9**	**+0.2**
comp=Z,36nm,0.6s,mb5.1							
BHPL	**Bhopal**	**37.89**	**317**	*eP*	**P**	**10 51 44.3**	**-0.4**
BHPL				AMb	AMB	10 51 44.6	
comp=Z,7.1nm,0.3s,mb4.7							
SSE	**Sheshan**	**38.38**	**23**	*eP*	**P**	**10 51 48.9**	**+0.1**
SSE				AMB	AMB		
comp=Z,19nm,0.8s,mb4.7							
SSE				AMB	AMB		
comp=Z,66nm,5.9s							
LZH	**Lanzhou**	**39.93**	**359**	*eP*	**P**	**10 52 02.5**	**+1.0**
LZH				AP	pP	10 52 54.5	+0.7
LZH				XP	sP	10 53 20.5	-2.2
LZH				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.2							
AYAN	**Aya Nagar**	**41.73**	**322**	*eP*	**P**	**10 52 15.2**	**-1.1**
AYAN				AMb	AMB	10 52 16.2	
comp=Z,17nm,0.3s,mb4.9							
NDI	**New Delhi**	**41.83**	**323**	*eP*	**P**	**10 52 16.1**	**-0.9**
NDI				AMb	AMB	10 52 16.5	
comp=Z,35nm,0.6s,mb5.0							
KUDL	**Kundal**	**41.88**	**322**	*eP*	**P**	**10 52 16.5**	**-1.0**
KUDL				AMb	AMB	10 52 18.2	
comp=Z,40nm,0.7s,mb5.0							
GTA	**Gaotai**	**43.46**	**355**	*eP*	**P**	**10 52 31.9**	**+1.8**
GTA				AP	pP	10 53 26.4	+3.3
GTA				XP	sP	10 53 54.4	+2.5
GTA				AMB	AMB		
comp=Z,5.0nm,1.1s,mb3.9							
CTA	**Charters Tower**	**43.62**	**115**	*eP*	**P**	**10 52 30.2**	**-1.2**
comp=Z,7.5nm,0.8s,mb4.1							
CTA	**Charters Tower**	**43.62**	**115**	P	**P**	**10 52 30.4**	**-1.0**
comp=Z,8.9nm,0.8s,mb4.2,baz=280,slow=8.9,SNR=11							
CTA	**Charters Tower**	**43.62**	**115**	*eP*	**P**	**10 52 30.2**	**-1.2**
CTA				pmax	pmax		
comp=Z,8.0nm,0.8s							
SMLA	**Simla**	**43.65**	**325**	*eP*	**P**	**10 52 30.0**	**-1.6**
SMLA				AMb	AMB	10 52 30.8	
comp=Z,19nm,0.3s,mb4.9							
STKA	**Stephens Creek**	**44.42**	**133**	⇑*iP*	**P**	**10 52 36.2**	**-1.5**
comp=Z,14nm,0.5s,mb4.6							
STKA				*e*pP	pP	10 53 29.6	-1.4
STKA				*e*PCP	PcP	10 54 15.2	-1.4
STKA				*e*SCP	ScP	10 57 41.9	-2.1
STKA				*e*S	**S**	**10 58 45.9**	**-6.8**
STKA	**Stephens Creek**	**44.42**	**133**	P	**P**	**10 52 36.2**	**-1.5**
comp=Z,20nm,0.6s,mb4.6,baz=308,slow=8.2,SNR=38							
STKA				pP	pP	10 53 29.6	-1.5
comp=Z,5.7nm,0.6s,baz=308,slow=8.7,SNR=3.5							
STKA				PcP	PcP	10 54 15.3	-1.3
comp=Z,8.8nm,0.6s,baz=297,slow=4.6,SNR=5.4							
STKA				ScP	ScP	10 57 41.0	-3.0
comp=Z,5.6nm,1.0s,baz=290,slow=6.1,SNR=4.7							
STKA				S	**S**	**10 58 48.8**	**-3.9**
comp=Z,5.1nm,0.8s,baz=69,slow=19,SNR=8.9							
HHC	**Hu-ho-hao-te**	**45.13**	**8**	*eP*	**P**	**10 52 45.0**	**+1.7**
HHC				AP	pP	10 53 38.6	+1.8
HHC				XP	sP	10 54 07.2	+1.8
HHC				PCP	PcP	10 54 20.1	+1.0
HHC				PP	PP	10 54 35.1	+1.2
HHC				S	**S**	**10 59 05.0**	**+2.0**
HHC				SCS	ScS	11 02 10.4	-1.8
HHC				AMB	AMB		
comp=Z,9.0nm,0.3s,mb4.6							
HHC				AMB	AMB		
comp=Z,118nm,6.3s							
HHC				LR	LR		
comp=N,185nm,4.3s							
HHC				LR	LR		
comp=E,158nm,6.6s							
HHC				LR	LR		
comp=Z,129nm,6.1s							
WMQ	**Urumqi**	**50.01**	**344**	*eP*	**P**	**10 53 20.4**	**-0.2**
MJAR	**Matsushiro Arr**	**51.16**	**35**	pP	pP	10 54 24.3	+0.2
comp=Z,3.2nm,0.7s,baz=217,slow=7.8,SNR=10							
ARMA	**Armidale**	**51.53**	**126**	*eP*	**P**	**10 53 34.1**	**+2.2**
SONM	**Songino Array**	**51.69**	**2**	P	**P**	**10 53 34.3**	**+1.3**
comp=Z,3.9nm,0.9s,mb3.8,baz=188,slow=8.2,SNR=28							
SONM				pP	pP	10 54 29.2	+1.1
comp=Z,4.1nm,0.8s,baz=179,slow=7.3,SNR=5.1							
SONM				ScP	ScP	10 58 12.4	-2.3
comp=Z,1.6nm,0.8s,baz=172,slow=3.5,SNR=9.0							
SONM	**Songino Array**	**51.69**	**2**	P	**P**	**10 53 34.3**	**+1.2**
SONM				*PP	pP	10 54 29.2	+1.1
VLA	**Vladivostok**	**53.05**	**25**	*eP*	**P**	**10 53 40.5**	**-2.6**
VLA				pmax	pmax		
comp=Z,17nm,0.6s,mb4.7							
KZA	**Kyzart**	**53.07**	**333**	P	**P**	**10 53 43.5**	**+0.3**
SNR=8.9							
BSY	**Bisya**	**53.34**	**302**	⇑P	**P**	**10 53 46.3**	**+1.0**
SNR=7.9							
MDJ	**Mudanjiang**	**53.39**	**22**	P	**P**	**10 53 46.7**	**+1.2**
MDJ				AMB	AMB		
comp=Z,6.0nm,2.2s,mb3.6							
MDJ				AMB	AMB		
comp=Z,69nm,5.4s							
TKM2	**Tokmak 2**	**53.58**	**334**	P	**P**	**10 53 47.0**	**+0.1**
SNR=7.5							
HOQ	**Hoqain**	**53.59**	**303**	⇓P	**P**	**10 53 48.3**	**+1.3**
KBK	**Karagaybulak**	**53.66**	**333**	P	**P**	**10 53 47.8**	**+0.3**
SNR=7.2							
AML	**Almayashu**	**53.83**	**332**	P	**P**	**10 53 48.7**	**-0.1**
SNR=14							
AAK	**Ala-Archa**

KAF	Kangasniemi	88.07	333	ep	P	10 57 12.5	-1.1
	comp=Z,2.8nm,0.8s,mb4.1						
KAF	Kangasniemi	88.07	333	eP	P	10 57 12.5	-1.1
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ARCES	ARCESS Array B	89.94	340	P	P	10 57 20.9	-1.4
	comp=Z,1.8nm,1.0s,mb3.9,baz=86,slow=5.3,SNR=6.5						
ILAR	Eielson Array	101.50	24	PKKPbc	PKKPbc	11 14 21.6	+0.2
	comp=Z,0.3nm,0.6s,baz=118,slow=1.7,SNR=8.8						
YKA	Yellowknife Ar	114.91	19	PKKPbc	PKKPbc	11 13 39.5	+0.2
	comp=Z,0.2nm,0.4s,baz=124,slow=3.5,SNR=12						
YKA				PKKPab	PKKPab	11 13 46.7	+0.8
	comp=Z,0.3nm,0.6s,baz=127,slow=4.4,SNR=8.4						
ULM	Lac du Bonnet	130.83	17	SKPbc	SKPbc	11 06 29.4	-3.3
	comp=Z,0.9nm,0.5s,baz=292,slow=1.5,SNR=4.1						
PLCA	Paso Flores	135.22	185	PKP	PKPdf	11 03 43.4	+2.3
	comp=Z,0.7nm,0.5s,baz=262,slow=4.8,SNR=6.0						
PLCA				SKPbc	SKPbc	11 06 47.5	-0.1
	comp=Z,2.0nm,0.9s,baz=207,slow=4.5,SNR=4.8						
JCT	Junction City	145.08	38	ePKPbc	PKPbc	11 04 00.1	+1.1
BDFB	Brasilia	146.53	234	PKPbc	PKPbc	11 04 05.3	+2.1
	comp=Z,10nm,0.5s,baz=117,slow=2.9,SNR=16						
LPAZ	La Paz	158.54	200	PKPab	PKPab	11 04 58.1	+2.8
	comp=Z,1.6nm,0.8s,baz=169,slow=5.2,SNR=5.1						

CASC 04 10:57:15.3±3.6, 1391N×9053W, h20km±32km, MD4.1, 3C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.27	17⇑	eP	Pb	10 57 21.1	-0.5
RTR	El Retiro	0.86	91	eP	Pb	10 57 19.4	-12
RTR				eS	Sb	10 57 32.8	-10
SNJE	San Jose	0.90	93	eP	Pb	10 57 19.9	-12
SNJE				eS	Sb	10 57 33.5	-10
TP2	Tecpan 2	0.98	331	eP	Pb	10 57 34.5	+0.8
BOQS	Boqueron	1.23	98	eP	Pn	10 57 18.8	-19
BOQS				eS	Sb	10 57 37.1	-16
MTO2	Montecristo 2	1.24	67⇓	eP	Pn	10 57 29.5	-7.9
MTO2				eS	Sb	10 57 46.2	-7.2
SNET	Serv Nac Est T	1.28	100	eP	Pn	10 57 20.8	-17
SNET				eS	Sn	10 57 39.2	-16
LFRS	El Faro	1.46	101⇑	eP	Pn	10 57 17.5	-23
LFRS				eS	Sn	10 57 36.6	-22
LCBS	La Ceiba	1.53	99⇑	eP	Pn	10 57 18.0	-24
LCBS				eS	Sn	10 57 36.4	-24
SNVI	San Vicente	1.67	100	eP	Pn	10 57 20.9	-22
SNVI				eS	Sn	10 57 42.5	-22
VSM	San Miguel	2.25	102	eP	Pn	10 57 11.2	-40
VSM				eS	Sn	10 57 39.5	-39

*ISCJB **04** 11:11:53.8±2.0, 364S±006×140.12E±0.10, h34km±18km, mb4.0/11, MS3.9/2, Error ellipse: s-maj=16.8km s-min=8.9km az=42.9*
*NEIC **04** 11:11:55.4±1.5, 362S×140.28E, h37km±14km, mb4.2/7, Error ellipse: s-maj=10.5km s-min=10.4km az=172.0*
*IDC **04** 11:11:58.5±3.3, 370S×140.22E, h66km±30km, mb3.8/8, mb1 4.1/11, mb1mx4.0/15, mbtmp4.2/11, ML4.2/3, MS3.8/3, Ms1 3.8/3, ms1mx3.2/20, Error ellipse: s-maj=27.1km s-min=12.9km az=96.0*

ISC 04 11:11:57.7±1.7, 368S±008×140.20E±009, h56km±16km, n26, σ0§95/28, mb4.0/11, MS3.9/2, 1C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.95	130	P	Pn	11 14 04.9	+0.8
	2.2nm,0.3s,baz=309,slow=10.0,SNR=9.6						
PMG	Port Moresby	8.95	130	ePn	Pn	11 14 01.6	-2.6
	23nm,0.8s						
KAKA	Kakadu	11.81	220	⇑iP	Pn	11 14 43.4	+0.1
	38nm,0.4s						
KAKA				eS	Sn	11 16 52.5	-0.9
WRAB	Tennant Creek	17.13	199	eP	Pn	11 15 53.1	-0.1
	46nm,0.7s						
WB2	Warramunga Arr	17.14	199	eP	Pn	11 15 52.1	-1.2
WB2				eS	S	11 18 59.1	-11
WRA	Warramunga Arr	17.14	199	P	Pn	11 15 52.4	-0.9
	4.3nm,0.3s,baz=22,slow=12,SNR=48						
WRA				S	S	11 19 03.4	-6.5
	0.3nm,0.3s,baz=20,slow=22,SNR=5.1						
CTA	Charters Tower	17.34	161	P	Pn	11 15 56.1	+0.3
	0.2nm,0.3s,baz=315,slow=7.1,SNR=2.7						
CTA				LR	LR	11 23 01.7	
	comp=Z,190nm,18.4s,baz=232,slow=38						
CTAO	Charters Tower	17.34	161	P	Pn	11 15 55.8	+0.1
	11nm,1.2s						
FITZ	Fitzroy Crossi	20.22	224	eP	P	11 16 28.8	+0.9
	12nm,0.7s						
FITZ				eS	S	11 20 07.2	-4.5
AS31	Alice Springs	20.78	196	eP	P	11 16 35.8	+1.8
ASAR	Alice Springs	20.78	196	P	P	11 16 34.7	+0.7
	26nm,0.8s,baz=27,slow=8.6,SNR=78						
ASAR				S	S	11 20 22.5	-0.2
	1.7nm,0.9s,baz=21,slow=23,SNR=4.7						
ASPA	Alice Springs	20.78	196	eP	P	11 16 35.8	+1.8
MBWA	Marble Bar	26.42	227	eP	P	11 17 28.3	-0.7
	6.0nm,0.8s,mb4.2						
STKA	Stephens Creek	28.08	177	LR	LR	11 30 26.7	
	comp=Z,224nm,18.0s,MS3.8,baz=26,slow=40						
PSI	Prapat	41.76	278	P	P	11 19 42.8	+1.4
	3.9nm,0.5s,mb4.3,baz=122,slow=9.5,SNR=3.7						
SONM	Songino Array	59.23	334	P	P	11 21 52.6	-0.6
	0.5nm,1.0s,mb3.5,baz=115,slow=6.3,SNR=2.3						
MKAR	Makanchi Array	71.47	322	P	P	11 23 12.2	0.0
	0.5nm,0.6s,mb3.6,baz=105,slow=7.3,SNR=5.9						
ZAL	Zalesovo	73.53	329	P	P	11 23 24.5	0.0
	0.6nm,0.4s,mb3.9,baz=55,slow=8.3,SNR=3.3						
VNDA	Vanda	74.69	175	P	P	11 23 30.8	-0.5
	1.4nm,0.8s,mb4.0,baz=318,slow=7.7,SNR=4.6						
BVAR	Borovoye Array	80.96	325	P	P	11 24 06.4	+0.3
	1.5nm,0.8s,mb4.0,baz=98,slow=7.6,SNR=6.4						
BRVK	Borovoye	81.03	325	eP	P	11 24 06.3	-0.2
	1.5nm,0.9s,mb3.9						
ZRNK	Zerenda	81.73	325	eP	P	11 24 10.6	+0.5
	1.4nm,0.8s,mb3.9						
ILAR	Eielson Array	86.10	24	P	P	11 24 30.7	-1.7
	0.7nm,0.6s,mb4.1,baz=260,slow=4.5,SNR=23						
QSPA	South Pole Qui	86.27	180	eP	P	11 24 33.1	-0.2
	12nm,1.2s,mb5.0						
YBH	Yreka Blue Hor	97.73	49	LR	LR	12 01 54.0	
	comp=Z,57nm,20.4s,MS4.0,baz=352,slow=31						
LPAZ	La Paz	145.67	126	PKPbc	PKPbc	11 31 32.5	+2.4
	1.1nm,0.6s,baz=251,slow=1.1,SNR=5.0						

*ISCJB **04** 11:15:52.5±1.8, 19.15N×010.6W×6402W×006, h15km±14km, Error ellipse: s-maj=17.2km s-min=8.7km az=36.9*
*NEIC **04** 11:15:53.6, 1899N×6381W, h10km, MD3.5(RSPR), After RSPR.*
*RSPR **04** 11:15:53.6, 1899N×6381W, h10km±31km, MD3.5/8, MD3.5/8*

ISC 04 11:15:53.0±1.8, 1909N±009×6402W±005, h10km±7km, n17, σ0§58/25, 9C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.88	220	eS	Sg	11 16 22.3	+0.8
TBVI	Tortola	0.88	220⇑	eP	Pg	11 16 09.8	-0.2
TBVI				eS	Sg	11 16 22.3	+0.8
STVI	Saint Thomas	1.16	231	eS	Sb	11 16 29.6	-0.5
STVI	Saint Thomas	1.16	231⇑	eP	Pb	11 16 13.8	-1.4
STVI				eS	Sb	11 16 29.6	-0.5
SABT	Saba	1.64	153	eP	Pn	11 16 22.8	+0.9
SABT				eS	Sn	11 16 42.9	-0.1
MTP	Monte Pirata	1.77	236	eS	Sn	11 16 45.7	-0.4
MTP	Monte Pirata	1.77	236⇑	eP	Pn	11 16 22.9	-0.7
MTP				eS	Sn	11 16 45.7	-0.4
CBYP	Canovanas	1.92	245	eS	Sn	11 16 50.2	+0.2
CBYP	Canovanas	1.92	245⇑	eP	Pn	11 16 26.0	+0.2
CBYP				eS	Sn	11 16 50.2	+0.2
HUMP	Col San Antoni	1.98	242	eS	Sn	11 16 51.4	0.0
HUMP	Col San Antoni	1.98	242⇑	eP	Pn	11 16 26.0	-0.6
HUMP				eS	Sn	11 16 51.4	0.0
CPD	Cerro la Pandu	2.08	240⇑	eP	Pn	11 16 27.5	-0.5
CELP	Cerrillos	2.63	248⇑	eP	Pn	11 16 35.5	0.0
AOPR	Arecibo Observ	2.69	254	eS	Sn	11 17 09.6	+0.5
AOPR	Arecibo Observ	2.69	254⇑	eP	Pn	11 16 36.8	+0.4
AOPR				eS	Sn	11 17 09.6	+0.5
CRPR	Cabo Rojo, PR	3.12	250	eS	Sn	11 17 20.3	+0.6
CRPR	Cabo Rojo, PR	3.12	250⇑	eP	Pn	11 16 42.9	+0.6
CRPR				eS	Sn	11 17 20.3	+0.6

MAN 04 11:42:11.2, 981N×12548E, h28km, mb2.7, ML4.1, MS1.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.03	162⇑	iP	Pb	11 42 14.0	-1.9
SCPH				eS	Sb	11 42 16.5	-2.6
MSLP	Maasin	0.69	298	eP	Pb	11 42 24.8	+0.1
BUTP	Butuan	0.85	171	eP	Pn	11 42 27.1	-0.1
CGP	Cagayan de Oro	1.55	210	⇓iP	Sn	11 42 57.1	+0.9
TBP	Tagbilaran	1.60	266	eP	Pn	11 42 37.8	+0.2
TBP				iS	Sn	11 42 57.7	+0.4
BUKP	Musuan	1.96	192	eP	Pn	11 42 43.2	+0.6

*IDC **04** 11:53:01.3±1.0, 1229N×124.16E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, ML4.5/1, MS3.7/10, Ms1 3.7/10, ms1mx3.5/33, Error ellipse: s-maj=60.2km s-min=18.0km az=65.0*
*MAN **04** 11:53:01.9, 1225N×12383E, h3km, mb3.6, ML4.8, MS1.9*
MAN F DIMASALANG MASBATE - INTENSITY III.
*ISCJB **04** 11:53:02.2±0.8, 1228N±003×12384E±004, h12km±6km, mb3.9/8, MS3.6/9, Error ellipse: s-maj=6.0km s-min=4.6km az=161.4*
*NEIC **04** 11:53:06.8±4.7, 1223N×124.05E, h38km±45km, mb4.1/2, Error ellipse: s-maj=74.6km s-min=11.8km az=67.0*

ISC 04 11:53:02.5±0.8, 1229N±003×12384E±004, h8km±6km, n43, σ0§80/42, mb3.9/8, MS3.6/9, 4C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.23	288	⇓iP	Pg	11 53 06.8	-0.3
MMPH				iS	Sg	11 53 10.4	+0.3
CNP	Catarman	0.83	75	eP	Pg	11 53 18.8	+0.3
RCP	Roxas	1.30	236	⇓eP	Pn	11 53 25.9	-1.0
RCP				eS	Sb	11 53 44.2	+0.3
PVCP	Virac	1.33	13	eP	Pn	11 53 26.6	-0.8
PVCP				eS	Sb	11 53 44.7	-0.3
OCLP	Ormoc	1.44	149	eP	Pn	11 53 28.6	-0.3
AUQP	San Andres	1.53	312	eP	Pn	11 53 30.9	+0.7
PLP	Palo	1.58	135	iP	Pn	11 53 30.1	-0.6
PLP				iS	Sn	11 53 51.1	-0.3
KALP	Kalibo	1.59	248	⇑eP	Pn	11 53 31.7	+0.7
OTRP	Odiongan	1.78	273	eP	Pn	11 53 32.8	-0.8
LLP	Lapu-Lapu	1.96	176	⇑iP	Pn	11 53 35.3	-0.8
LLP				iS	Sn	11 54 01.9	+1.0
GUIM	Jordan	2.06	217	eP	Pn	11 53 37.6	+0.2
GQP	Guinayangan	2.10	320	⇑eP	Pn	11 53 38.9	+0.8
GQP				eS	Sn	11 54 11.3	+6.9
BOAC	Boac	2.27	301	eP	Pn	11 53 38.4	-1.9
MSLP	Maasin	2.36	155	eP	Pn	11 53 41.7	+0.2
TBP	Tagbilaran	2.58	180	eP	Pn	11 53 44.4	-0.2
TBP				iS	Sn	11 54 16.2	0.0
LQP	Lukban	2.88	309	iP	Pn	11 53 56.8	+8.1
SNPH	Sibulan	2.99	192	eP	Pn	11 53 50.0	-0.2
POLP	Polilio Island	3.05	323	eP	Pn	11 53 58.2	+7.2
CUYO	Cuyo Island	3.12	243	eP	Pn	11 53 52.4	+0.5
TGY	Tagaytay City	3.35	303	Pn	Pn	11 53 59.9	+4.7
	43nm,0.3s,baz=128,slow=12,SNR=2.8						
BUSP	Coron	3.58	266	eP	Pn	11 53 57.8	-0.5
DCPH	Dipolog City	3.71	188	⇑eP	Pn	11 54 00.0	-0.2
DCPH				iS	Sn	11 54 43.2	-0.9
LUBP	Lubang	3.79	293	eP	Pn	11 54 00.6	-0.6
CGP	Cagayan de Oro	3.90	168	⇓eP	Pn	11 54 03.6	+0.9
PAGZ	Pagadian	4.44	186	eP	Pn	11 54 10.6	+0.5
BUKP	Musuan	4.54	165	eP	Pn	11 54 13.7	+2.1
JOW	Kunigami	15.05	15	LR	LR	12 01 27.2	
	comp=Z,281nm,19.4s,baz=174,slow=34						
GUMO	Guam	20.53	84	LR	LR	12 04 39.0	
	comp=Z,84nm,21.5s,MS3.1,baz=3.0,slow=34						
PSI	Prapat	26.41	251	LR	LR	12 08 37.0	
	comp=Z,142nm,18.6s,MS3.5,baz=244,slow=35						
MJAR	Matsushiro Arr	27.39	26	LR	LR	12 08 10.0	
	comp=Z,126nm,20.6s,MS3.5,baz=230,slow=33						
WRAB	Tennant Creek	33.65	162	P	P	11 59 43.3	-0.3
	1.6nm,0.6s,mb4.1						
WRA	Warramunga Arr	33.65	162	P	P	11 59 42.8	-0.9
	1.7nm,0.6s,mb4.1,baz=343,slow=9.4,SNR=15						
ASAR	Alice Springs	37.06	165	P	P	12 00 12.9	-0.1
	3.8nm,0.8s,mb4.3,baz=345,slow=7.3,SNR=15						
SONM	Songino Array	38.33	341	P	P	12 00 23.5	-0.2
	0.3nm,0.7s,mb3.1,baz=164,slow=5.7,SNR=4.7						
SONM				LR	LR	12 16 49.1	
	comp=Z,103nm,19.8s,MS3.6,baz=151,slow=37						
NWAO	Narrogin (SRO)	45.40	188	LR	LR	12 19 45.0	
	comp=Z,97nm,20.5s,MS3.7,baz=39,slow=35						
STKA	Stephens Creek	47.09	159	P	P	12 01 33.8	-1.1
	1.7nm,0.7s,mb4.1,baz=33,slow=1.9,SNR=3.5						
MKAR	Makanchi Array	48.99	323	P	P	12 01 50.9	+1.3
	0.4nm,0.7s,mb3.5,baz=108,slow=7.8,SNR=5.7						
ZAL	Zalesovo	51.73	332	LR	LR	12 27 03.8	
	comp=Z,82nm,18.5s,MS3.8,baz=144,slow=39						
BRVK	Borovoye	58.73	325	eP	P	12 03 02.8	+1.9
	0.8nm,0.6s,mb3.9						
AFI	Afiamalu	68.91	110	LR	LR	12 30 56.5	
	comp=Z,34nm,19.6s,MS3.6,baz=89,slow=33						
KMBO	Kilima Mbogo	86.91	268	LR	LR	12 42 22.8	
	comp=Z,51nm,18.8s,MS4.0,baz=89,slow=34						
YKA	Yellowknife Ar	92.88	23	P	P	12 06 16.6	+0.7
	0.4nm,0.9s,mb3.8,baz=290,slow=4.0,SNR=4.0						
GERES	GERESS Array B	93.64	322	LR	LR	12 48 21.4	
	comp=Z,54nm,21.0s,MS4.0,baz=67,slow=35						

MEX 04 12:02:04.4±0.4, 1575N×9702W, h18km±28km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.88	89	iP	Pb	12 02 18.3	-2.9
HUIG				iS	Sb	12 02 29.0	-3.6
PNIG	Pinotepa	1.24	301	iP	Pn	12 02 22.3	-4.5
PNIG				iS	Sb	12 02 38.5	-4.3
VHO	Vista Hermosa	1.34	12	iP	Pn	12 02 25.0	-3.3
VHO				iS	Sn	12 02 40.9	-4.8
OXX	Oaxaca	1.35	12	iP	Pn	12 02 25.5	-2.9
OXX				iS	Sn	12 02 41.5	-4.4
CMIG	Matias Romero	2.45	57	iP	Pn	12 02 40.9	-2.5
CMIG				iS	Sn	12 03 09.4	-3.5
MEIG	Mezcala	3.29	311	iP	Pn	12 02 52.6	-2.5
MEIG				iS	Sn	12 03 30.6	-3.2
PPM	Popocatepetl	3.64	335	iP	Pn	12 02 57.6	-2.2
PPM				iS	Sn	12 03 40.0	-2.2

CASC 04 12:07:27.0±4.3, 1479N×9028W, h20km±161km, MD4.2, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.64	196⇑	eP	Pb	12 07 39.3	-0.2
SNJE	San Jose	1.13	144	eP	Pn	12 07 40.2	-7.4
SNJE				eS	Sb	12 07 58.0	-3.9
BOQS	Boqueron	1.43	137	eP	Pn	12 07 37.2	-15
BOQS				eS	Sn	12 07 55.9	-14
LCBS	La Ceiba	1.69	132	eP	Pn	12 07 36.9	-19
LCBS				eS	Sn	12 08 00.9	-16
SNVI	San Vicente	1.82	130	eP	Pn	12 07 37.4	-20
SNVI				eS	Sn	12 07 59.5	-20

*ISCJB **04** 12:09:40.4±1.1, 1910N±010×6405W±004, h53km±25km, Error ellipse: s-maj=16.3km s-min=5.5km az=12.1*
*NEIC **04** 12:09:41.5, 19.15N×64.14W, h5km, MD3.7(RSPR), After RSPR.*
*RSPR **04** 12:09:41.5, 19.15N×64.14W, h5km±31km, MD3.7/13, MD3.7/13*

ISC 04 12:09:41.4±1.4, 1908N±007×6405W±004, h33km±10km, n25, σ0§69/39, 9C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.85	219	eS	Sb	12 10 08.5	-0.4
TBVI	Tortola	0.85	219	⇓eP	Pn	12 09 56.2	-0.9
TBVI				eS	Sb	12 10 08.5	-0.4
STVI	Saint Thomas	1.12	230	eS	Sn	12 10 15.0	-0.2
STVI	Saint Thomas	1.12	230	⇑eP	Pn	12 10 00.3	-0.6
STVI				eS	Sn	12 10 15.0	-0.2
STMA	St. Maarten, A	1.36	139	eP	Pn	12 10 04.5	+0.4
STMA				eS	Sn	12 10 18.3	-2.7
CDVI	St. Croix	1.48	207	eS	Sn	12 10 25.8	+1.8
CDVI	St. Croix	1.48	207	⇑eP	Pn	12 10 06.5	+0.7
CDVI				eS	Sn	12 10 25.8	+1.8
SABT	Saba	1.64	152	eP	Pn	12 10 07.7	-0.2
SABT				eS	Sn	12 10 27.0	-0.8
MTP	Monte Pirata	1.73	236	eS	Sn	12 10 30.5	+0.3
MTP	Monte Pirata	1.73	236	⇑eP	Pn	12 10 09.2	0.0
MTP				eS	Sn	12 10 30.5	+0.3
CBYP	Canovanas	1.89	245	⇑eP	Pn	12 10 11.4	0.0
HUMP	Col San Antoni	1.94	242	eS	Sn	12 10 34.8	-0.6
HUMP	Col San Antoni	1.94	242	⇑eP	Pn	12 10 12.4	+0.3
HUMP				eS	Sn	12 10 34.8	-0.6
CPD	Cerro la Pandu	2.05	240	ePn	Pn	12 10 13.6	0.0
SJG	San Juan	2.21	245	⇑eP	Pn	12 10 14.6	-1.2
SJG				eS	Sn	12 10 42.3	+0.3
CELP	Cerrillos	2.60	248	⇓eP	Pn	12 10 21.5	+0.3
CELP				eS	Sn	12 10 52.0	+0.5
OBIP	Obispado Ponce	2.63	247	⇓eP	Pn	12 10 21.9	+0.3
AOPR	Arecibo Observ	2.66	255	eS	Sn	12 10 52.4	-0.7
AOPR	Arecibo Observ	2.66	255	⇑eP	Pn	12 10 22.1	+0.1
AOPR				eS	Sn	12 10 52.4	-0.7
LRS	Lares	2.76	254	⇑eP	Pn	12 10 23.4	0.0
LRS				eS	Sn	12 10 54.8	-0.8
MGP	Maguayo	3.07	250	⇑eP	Pn	12 10 28.1	+0.4
MGP				eS	Sn	12 11 03.6	+0.4
CRPR	Cabo Rojo, PR	3.09	250	eS	Sn	12 11 03.6	-0.1
CRPR	Cabo Rojo, PR	3.09	250	⇓eP	Pn	12 10 28.2	+0.3
CRPR				eS	Sn	12 11 03.6	-0.1
SEG	Port Louis	3.60	137	eP	Pn	12 10 36.0	+1.1
LZG	Guadaloupe-1	3.64	143	eP	Pn	12 10 35.7	+0.3
LZG				eS	Sn	12 11 22.6	+5.5

MAN 04 12:36:54.0, 1288N×12278E, h18km, mb2.9, ML4.3, MS2.0, 5C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	San Andres	0.45	347	eP	Pg	12 37 03.2	+0.1
OTRP	Odiongan	0.90	235	eP	Pb	12 37 11.5	+0.4
OTRP				eS	Sb	12 37 25.2	+2.4
MMPH	Masbate	0.98	122	⇑iP	Pb	12 37 10.8	-1.5
MMPH				iS	Sb	12 37 23.3	-1.6
GQP	Guinayangan	1.07	342	⇑eP	Pb	12 37 13.1	-0.8
GQP				eS	Sb	12 37 28.7	+1.3
BOAC	Boac	1.08	302	eP	Pb	12 37 12.4	-1.6
BOAC				eS	Sb	12 37 28.3	+0.5
KALP	Kalibo	1.27	200	eP	Pn	12 37 24.9	+8.1
RCP	Roxas	1.31	181	eP	Pn	12 37 16.6	-0.8
RCP				eS	Sn	12 37 35.3	+0.8
PVCP	Virac	1.52	62	eP	Pn	12 37 19.8	-0.4
LQP	Lukban	1.72	316	eP	Pn	12 37 25.3	+2.3
LBPH	Los Banos	2.00	309	⇑eP	Pn	12 37 47.2	-4.3
POLP	Polilio Island	2.01	336	eP	Pn	12 37 28.1	+1.1
GUIM	Jordan	2.25	185	eP	Pn	12 37 33.9	+3.6
ARP	Angono	2.28	316	⇑eP	Pn	12 37 27.0	-3.7
QVPH	Quezon City--P	2.43	317	⇑eP	Pn	12 37 33.7	+1.0
LUBP	Lubang	2.61	289	eP	Pn	12 37 34.8	-0.4
CUYO	Cuyo Island	2.66	221	eP	Pn	12 37 36.5	+0.7
BUSP	Coron	2.67	251	eP	Pn	12 37 36.9	+0.9
BALP	Baler	3.07	338	eP	Pn	12 37 43.5	+2.0
CAUP	Cauayan	4.14	347	eP	Pn	12 37 57.2	+0.9

MEX 04 12:41:54.8±0.5, 1700N×9998W, h43km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.15	155	iP	Pn	12 42 00.5	-1.5
ACX				iS	Sn	12 42 05.5	-1.6
CAIG	El Cayaco	0.28	279	iP	Pn	12 42 01.7	-1.4
CAIG				iS	Sn	12 42 07.1	-1.7
MEIG	Mezcala	0.98	21	iP	Pn	12 42 10.8	-1.3
MEIG				iS	Sn	12 42 22.6	-2.2

*ISCJB **04** 13:01:00.0±0.3, 6700N±002×21.19E±007, h0km, Error ellipse: s-maj=3.9km s-min=3.0km az=61.3*
*NAO **04** 13:01:01.5±1.2, 6709N×2092E, ML1.9*
*HEL **04** 13:01:01.9±0.1, 6705N×2103E, h0km, ML1.8, ML1.8(UPP), ML1.5(BER), Explosion*
*IDC **04** 13:01:01.7±0.9, 6709N×2104E, h0km, mb1 2.9/4, mb1mx2.7/21, mbtmp2.8/4, ML2.4/4, Error ellipse: s-maj=17.4km s-min=7.9km az=116.0*
*BER **04** 13:01:03.5±3.4, 67.12N×2087E, h0km, ML1.5, ML1.9(NAO), Suspected explosion*

ISC 04 13:01:01.4±0.3, 6703N±002×2116E±006, h0km, n32, σ1§17/58, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.99	356	eP	Pn	13 01 37.5	+1.2
KIF				eS	Sn	13 02 03.4	+1.5
SGF	Sodankyl	2.13	76	eP	Pn	13 01 40.2	+2.0
SGF				eSB	Sb	13 02 07.3	-0.5
SGF				eSG	Sg	13 02 08.1	-1.8
SGF				MSG		13 02 11.9	
	comp=Z,3.4nm,0.1s						
KTK1	Kautokeino	2.14	20	eP	Pn	13 01 38.9	+0.5
KTK1				eSB	Sb	13 02 06.4	-1.7
KTK1				AML	AML	13 02 11.8	
	comp=Z,8.1nm,0.2s						
OUL	Oulu	2.75	133	eP	Pn	13 01 48.7	+2.0
OUL				eS	Sn	13 02 22.5	+1.9
OUL				eSG	Sg	13 02 27.4	-2.3
OUL				MSG		13 02 29.9	
	comp=Z,3.4nm,0.1s						
MOR8	Moi Rana	2.81	255	eP	Pn	13 01 46.4	-1.2
MOR8				eSG	Sn	13 02 21.8	-0.5
MOR8				AML	AML	13 02 25.8	
	comp=Z,4.9nm,0.2s						
ARA0	ARCESS Array S	2.99	31	Pn	Pn	13 01

NOA	**NORSAR Array B**	**7.42**	**221**	Pn	**Pn**	**13 02 49.2**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=24,slow=12,SNR=2.4						
NOA				Sn	**Sn**	**13 04 12.2**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=104,slow=19,SNR=2.6						
HFS	**Hagfors**	**7.67**	**209**	Pn	**Pn**	**13 02 53.5**	**-0.8**
	baz=20,slow=14						
HFS				Sn	**Sn**	**13 04 18.3**	**-3.6**
	baz=30,slow=28						
HFS	**Hagfors**	**7.67**	**209**	*e*P	**Pn**	**13 02 53.5**	**-0.8**
HFS				*e*S	**Sn**	**13 04 18.3**	**-3.6**
HFS	**Hagfors**	**7.67**	**209**	Pn	**Pn**	**13 02 53.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=11						
HFS				Sn	**Sn**	**13 04 17.5**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=28,slow=25,SNR=3.3						

*MOS **04** 13:10:37.5±2.5, 5270N×10680E, h35km, mb4.3/1, Error ellipse: s-maj=20.2km s-min=18.3km az=53.8*

BYKL 04 13:10:38.6±0.2, 5266N×10686E, h11km±4km, 8C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.21**	**121**	⇑*i*Pg	Pg	13 10 42.6	-0.4
ZRHB				*e*Sg	Sg	13 10 45.9	-0.1
ZRHB				Pmax			
	715nm,0.2s						
ZRHB				Smax			
	2μm,0.5s						
TRG	**Tyrgan**	**0.33**	**288**	⇓*i*Pg	Pg	13 10 45.0	-0.1
TRG				*e*		13 10 47.6	
TRG				*e*Sg	Sg	13 10 50.8	+1.2
TRG				*e*		13 10 54.2	
TRG				max			
	173nm,0.2s						
TRG				max			
	603nm,0.3s						
TRG	**Tyrgan**	**0.33**	**288**	*e*PG	Pg	13 10 44.9	-0.2
TRG				*e*		13 10 49.9	
TRG				pmax	pmax		
	comp=Z,147nm,0.2s						
TRG				smax			
	comp=N,596nm,0.2s						
FFNB	**Fofonovo**	**0.62**	**186**	*i* Pg	Pg	13 10 49.8	-0.8
FFNB				*i* Sg	Sg	13 10 57.8	-0.9
FFNB				Pmax			
	comp=N,795nm,0.1s						
FFNB				Smax			
	comp=N,3μm,0.3s						
KAB	**Kabansk**	**0.62**	**192**	⇑*i*Pg	Pg	13 10 50.1	-0.6
KAB				*e*Sg	Sg	13 10 58.6	-0.3
KAB				Pmax			
	comp=N,383nm,0.1s						
KAB				Smax			
	comp=N,2μm,0.3s						
KAB	**Kabansk**	**0.62**	**192**	⇑*i*PG	Pg	13 10 50.1	-0.6
KAB				*e*		13 10 58.8	
KAB				pmax	pmax		
	comp=Z,368nm,0.1s						
KAB				smax			
	comp=E,2μm,0.4s						
TRTB	**Turuntaevo**	**0.64**	**132**	⇓*i*Pg	Pg	13 10 50.1	-0.9
	comp=E,363nm,0.2s						
TRTB				⇑*i*Pg	Pg	13 10 50.1	-0.9
	comp=E,289nm,0.2s						
TRTB				⇑*i*Pg	Pg	13 10 50.1	-0.9
	comp=E,456nm,0.2s						
TRTB				*e*Sg	Sg	13 10 58.2	-1.2
TRTB				Pmax			
	comp=E,228nm,0.2s						
TRTB				Smax			
	comp=E,570nm,0.4s						
KELR	**Kotokel**	**0.75**	**82**	⇑*i*Pg	Pg	13 10 51.5	-1.6
KELR				*e*Pb	Pb	13 10 53.7	+0.1
KELR				*e*Sg	Sg	13 11 01.2	-1.7
KELR				max			
	comp=E,147nm,0.1s						
KELR				Smax			
	comp=E,1μm,0.3s						
HRMR	**Khuramsha**	**1.03**	**177**	⇑*i*Pg	Pg	13 10 57.1	-1.4
HRMR				*e*Sg	Sg	13 11 10.9	-1.1
HRMR				*e*Sb	Sb	13 11 14.3	+2.2
HRMR				Pmax			
	comp=E,166nm,0.3s						
HRMR				max			
	comp=E,1μm,0.2s						
OGRR	**Ongureny**	**1.08**	**24**	*e*Pg	Pg	13 10 58.1	-1.3
OGRR				*e*Pb	Pb	13 10 59.7	+0.4
OGRR				*e*Sg	Sg	13 11 13.0	-0.4
OGRR				*e*Sb	Sb	13 11 16.4	+3.0
OGRR				max			
	comp=E,82nm,0.2s						
OGRR				max			
	comp=E,198nm,0.4s						
OGRR	**Ongureny**	**1.08**	**24**	*e*PN	Pn	13 11 00.4	+0.7
BTMB	**Babushkin**	**1.15**	**214**	*e*Pg	Pg	13 10 59.2	-1.5
BTMB				*e*		13 11 04.4	
BTMB				*e*Sg	Sg	13 11 15.1	-0.6
BTMB				*e*Sb	Sb	13 11 17.8	+2.4
BTMB				max			
	comp=E,59nm,0.6s						
BTMB				max			
	comp=E,317nm,0.4s						
MXMB	**Maximikha**	**1.29**	**61**	⇑*i*Pg	Pg	13 11 02.1	-1.3
MXMB				*e*Sg	Sg	13 11 19.5	-0.7
MXMB				Pmax			
	comp=E,67nm,0.6s						
MXMB				Smax			
	comp=E,369nm,0.6s						
LSTR	**Listvyanka**	**1.48**	**238**	*e*Pg	Pg	13 11 05.6	-1.4
LSTR				*e*		13 11 08.3	
LSTR				*e*Sg	Sg	13 11 24.9	-1.2
LSTR				max			
	comp=E,27nm,0.2s						
LSTR				Smax			
	comp=E,197nm,0.4s						
IRK	**Irkutsk**	**1.64**	**256**	*e*Pg	Pg	13 11 08.4	-1.6
IRK				*e*Sg	Sg	13 11 29.7	-1.6
IRK				Pmax			
	comp=E,151nm,0.1s						
IRK				Smax			
	comp=E,798nm,0.4s						
IRK	**Irkutsk**	**1.64**	**256**	*e*PN	Pn	13 11 07.3	0.0
IRK				*e*		13 11 26.1	
IRK				pmax	pmax		
	comp=Z,94nm,0.1s						
IRK				smax			
	comp=N,798nm,0.3s						
SYVR	**Suvo**	**2.14**	**61**	⇓*i*Pn	Pn	13 11 14.2	0.0
SYVR				*e*Pg	Pg	13 11 16.7	-2.9
SYVR				*e*Sg	Sg	13 11 45.0	-2.3
SYVR				Pmax			
	comp=N,11nm,0.3s						
SYVR				Smax			
	comp=N,72nm,0.5s						
TLY	**Talaya**	**2.21**	**245**	*e*	Pn	13 11 16.2	+1.0
TLY				*e*Pg	Pg	13 11 17.7	-3.3
TLY				*e*		13 11 44.4	
TLY				*e*Sg	Sg	13 11 46.4	-3.2
TLY				Pmax			
	comp=N,12nm,0.1s						
TLY				Smax			
	comp=N,133nm,0.4s						
ARS	**Arshan**	**2.82**	**257**	*e*	Pn	13 11 24.5	+0.9
ARS				*e*Pg	Pg	13 11 28.0	-4.7
ARS				*e*		13 12 01.1	
ARS				*e*Sg	Sg	13 12 04.3	-5.0
ARS				Pmax			
	comp=N,30nm,0.2s						
ARS				Smax			
	comp=N,140nm,0.4s						
ZAK	**Zakamensk**	**3.19**	**226**	*e*Pn	Pn	13 11 29.3	+0.6
ZAK				*e*Pg	Pg	13 11 36.3	-3.5
ZAK				*e*Sg	Sg	13 12 18.7	-2.5
ZAK				Pmax			
	comp=N,5.0nm,0.7s						
ZAK				Smax			
	comp=N,20nm,0.2s						
YLYR	**Ulyunkhan**	**3.38**	**47**	*e*Pn	Pn	13 11 31.2	-0.1
YLYR				*e*Pg	Pg	13 11 37.7	-5.7
YLYR				*e*Sg	Sg	13 12 22.1	-5.2
YLYR				Pmax			
	comp=N,5.0nm,0.8s						
YLYR				Smax			
	comp=N,50nm,1.3s						
NIZ	**Nizh Angarsk**	**3.50**	**26**	*e*Pn	Pn	13 11 33.3	+0.4
NIZ				*e*Pg	Pg	13 11 41.3	-4.3
NIZ				*e*Sn	Sn	13 12 15.3	+1.1
NIZ				*e*Sg	Sg	13 12 26.3	-4.6
NIZ				Pmax			
	comp=N,14nm,0.6s						
NIZ				Smax			
	comp=N,51nm,1.0s						
KMO	**Kumora**	**4.11**	**36**	*e*Pn	Pn	13 11 42.5	+1.1
KMO				*e*Pg	Pg	13 11 53.1	-4.3
KMO				*e*Sg	Sg	13 12 45.9	-4.8
KMO				Pmax			
	comp=N,6.0nm,0.3s						
KMO				Smax			
	comp=N,49nm,0.9s						
CIT	**Chita**	**4.15**	**96**	*e*Pg	Pg	13 11 53.8	-4.4
CIT				*e*Sg	Sg	13 12 48.5	-3.5
CIT				Pmax			
	comp=N,7.0nm,0.3s						
CIT				Smax			
	comp=N,94nm,0.6s						
ORL	**Orlik**	**4.30**	**271**	*e*Pn	Pn	13 11 45.7	+1.8
ORL				*e*		13 12 37.2	
ORL				*e*Sg	Sg	13 12 50.9	-5.8
ORL				Smax			
	comp=N,23nm,0.9s						
KPC	**Khapcheranga**	**4.56**	**128**	*e*Pg	Pg	13 12 00.2	-5.8
KPC				*e*Sn	Sn	13 12 39.4	-1.1
KPC				*e*Sg	Sg	13 12 59.9	-5.2
KPC				Pmax			
	comp=N,4.0nm,0.3s						
KPC				Smax			
	comp=N,52nm,0.7s						
UKT	**Uakit**	**4.89**	**52**	*e*	Pg	13 12 04.8	-7.4
UKT				*e*Sg	Sg	13 13 11.5	-4.1
UKT				Smax			
	comp=N,18nm,1.6s						
NLYR	**Nelyaty**	**6.42**	**50**	*e*PG	Pg	13 12 32.7	-8.7
NLYR				*e*		13 13 56.8	
NLYR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NLYR				smax			
	comp=N,46nm,0.7s						
TUP	**Tupik**	**8.00**	**72**	*e*	Sb	13 14 26.8	-5.7
TUP				*e*Sg	Sn	13 14 46.3	+41
TUP				Smax			
	comp=N,22nm,1.4s						

IDC 04 13:31:02.7±3.8, 4929S×11318E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.8/3, Error ellipse: s-maj=292.4km s-min=36.0km az=116.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**30.32**	**40**	P	P	13 37 16.0	+0.1
	0.3nm,0.8s,baz=197,slow=6.8,SNR=3.9						
WRA	**Warramunga Arr**	**33.83**	**38**	P	P	13 37 46.7	+0.1
	0.9nm,0.7s,baz=202,slow=11,SNR=9.0						
PLCA	**Paso Flores**	**90.30**	**177**	P	P	13 44 05.6	+0.1
	0.7nm,0.9s,baz=189,slow=6.1,SNR=3.2						
YKA	**Yellowknife Ar**	**150.89**	**45**	PKPbc	PKPbc	13 50 55.2	-2.0
	0.3nm,0.7s,baz=270,slow=1.9,SNR=5.7						

*NEIC **04** 13:57:31.1, 3488S×7152W, h52km, MD3.7(GUC), After GUC.*

GUC 04 13:57:31.1±0.6, 3488S×7152W, h52km±6km, MD3.7, ML2.8, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.50**	**58**	⇑*i*P	Pn	13 57 43.0	+0.6
SFDO				*i* S	Sn	13 57 51.5	+0.9
TALC	**Talca**	**0.53**	**190**	⇑*i*P	Pn	13 57 43.0	+0.3
TALC				*i* S	Sn	13 57 52.1	+0.9
TALC				AMP		13 57 53.0	
	comp=E,3μm,0.1s						
TALC	**Talca**	**0.53**	**190**	⇑*i*P	Pn	13 57 43.0	+0.3
TALC				*i* S	Sn	13 57 52.1	+0.9
LNV	**Longovilo**	**0.93**	**6**	⇑*i*P	Pn	13 57 48.2	+0.3
LNV				*i* S	Sn	13 58 01.5	+1.3
CICH	**Cipreses**	**1.07**	**59**	⇑*i*P	Pn	13 57 50.4	+0.6
CICH				*i* S	Sn	13 58 05.2	+1.7
CACH	**El Canelo**	**1.08**	**45**	*e*P	Pn	13 57 50.4	+0.5
CHCH	**Chadas Angostu**	**1.19**	**38**	⇑*i*P	Pn	13 57 52.0	+0.6
CHCH				*i* S	Sn	13 58 07.7	+1.2
TACH	**Talagante**	**1.32**	**22**	⇓*i*P	Pn	13 57 53.7	+0.6
LCCH	**Las Cruces**	**1.40**	**358**	*e*P	Pn	13 57 54.6	+0.3
LMEL	**Las Melosas**	**1.50**	**47**	*e*P	Pn	13 57 57.0	+1.4
LMEL				*i* S	Sn	13 58 16.4	+2.3
LMEL				AMP		13 58 22.9	
	comp=N,145nm,0.2s						
LMEL	**Las Melosas**	**1.50**	**47**	*e*P	Pn	13 57 57.0	+1.4
LMEL				*i* S	Sn	13 58 16.4	+2.3
PCH	**Pirque**	**1.51**	**34**	*e*S	Sn	13 58 15.6	+1.3
RCDM	**Rinconada Maip**	**1.51**	**23**	*e*P	Pn	13 57 56.1	+0.4
RCDM				*i* S	Sn	13 58 15.0	+0.8
RCDM				AMP		13 58 18.7	
	comp=N,178nm,0.1s						
RCDM	**Rinconada Maip**	**1.51**	**23**	*e*P	Pn	13 57 56.1	+0.4
RCDM				*i* S	Sn	13 58 15.0	+0.8
FCH	**Farellones**	**1.86**	**34**	⇓*i*P	Pn	13 58 01.6	+1.1
FCH				*i* S	Sn	13 58 24.8	+2.1
FCH				AMP		13 58 28.6	
	comp=N,96nm,0.2s						
PEL	**Peldehue**	**1.87**	**22**	*e*P	Pn	13 58 01.6	+1.0
PEL				*i* S	Sn	13 58 24.4	+1.4
PEL				AMP		13 58 31.3	
	comp=E,113nm,0.4s						
PEL	**Peldehue**	**1.87**	**22**	*e*P	Pn	13 58 01.6	+1.0
PEL				*i* S	Sn	13 58 24.4	+1.4

IDC 04 14:05:03.1±2.0, 162N×12660E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.3/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/12, Error ellipse: s-maj=175.0km s-min=24.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.73**	**161**	P	P	14 10 05.9	-0.7
	1.2nm,0.4s,baz=339,slow=11,SNR=24						
WB2	**Warramunga Arr**	**22.74**	**161**	*e*P	P	14 10 06.2	-0.5
JOW	**Kunigami**	**25.12**	**4**	LR	LR	14 19 30.1	
	comp=Z,47nm,18.1s,baz=239,slow=34						
ASAR	**Alice Springs**	**26.12**	**165**	P	P	14 10 40.0	+1.3
	0.2nm,0.4s,baz=344,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**59.21**	**326**	P	P	14 15 06.2	+0.1
	0.1nm,0.5s,baz=141,slow=7.1,SNR=2.9						

ISC 04 14:10:56.9±0.9, 4098N±006×3905E±005, h10km, n8, σ1§24/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACK	**Trabzon**	**0.54**	**94**	*i* P	**Pg**	**14 11 06.4**	**-1.1**
MACK				*i* S	**Sg**	**14 11 14.9**	**+0.3**
GRSN	**GIRESUNGRSN**	**0.60**	**265**	*i* P	**Pg**	**14 11 07.2**	**-1.3**
GRSN				*i* S	**Sg**	**14 11 16.0**	**-0.4**
GUMT	**Gumushane**	**0.61**	**148**	*i* PG	**Pg**	**14 11 07.5**	**-1.3**
GUMT				*i* SG	**Sg**	**14 11 16.4**	**-0.5**
KELT	**Kelkit**	**0.85**	**169**	*i* P	**Pg**	**14 11 12.2**	**-1.0**
KELT				*i* S	**Sg**	**14 11 24.6**	**+0.3**
SVST	**Sivas**	**2.01**	**234**	*i* P	**Pn**	**14 11 33.2**	**+2.3**
SVST				*i* S	**Sn**	**14 12 03.1**	**+7.0**
EZM	**Erzurum**	**2.06**	**121**	*e*PG	**Pg**	**14 11 32.4**	**-4.1**
EZM				*e*SG	**Sg**	**14 11 55.4**	**-7.9**
ERZM	**Erzurum**	**2.07**	**121**	*i* P	**Pn**	**14 11 33.6**	**+1.9**
ERZM				*i* S	**Sn**	**14 12 05.0**	**+7.5**
ELZG	**Elazig**	**2.48**	**181**	*i* P	**Pn**	**14 11 39.0**	**+1.6**
ELZG				*i* S	**Sn**	**14 12 16.0**	**+8.2**

*ISCJB **04** 15:03:00.1±0.4, 5030N±003×1883E±003, h0km, Error ellipse: s-maj=4.8km s-min=2.4km az=29.1*
*MOS **04** 15:03:00.8±1.4, 5040N×1892E, h10km, mb3.6/1, Error ellipse: s-maj=9.8km s-min=6.9km az=98.4*
*IPEC **04** 15:03:01.8±0.1, 5021N×1890E, h3km±1km, ML2.3/3, Error ellipse: s-maj=1.5km s-min=0.8km az=174.0*
*NEIC **04** 15:03:01.9±0.5, 5028N×1883E, h5km, MG2.8(WAR), Error ellipse: s-maj=8.5km s-min=4.3km az=191.0*
*CSEM **04** 15:03:02.5±0.2, 5025N×1885E, h1km, ML3.2/3, Error ellipse: s-maj=5.2km s-min=2.0km az=16.0*
*WAR **04** 15:03:02.3, 5024N×1893E, ML2.8, Mining Induced*
*IDC **04** 15:03:03.1±1.9, 5020N×1878E, h0km, mb1 3.2/3, mb1mx3.0/18, mbtmp3.0/3, ML2.7/3, Error ellipse: s-maj=31.8km s-min=8.7km az=128.0*
*VIE **04** 15:03:05.0±0.8, 5008N×1863E, h0km, mb1.7/2, ML2.8/3, Error ellipse: s-maj=7.5km s-min=4.7km az=143.0 31 km SW of Kattowitz Suspected Mining induced.*

ISC 04 15:03:01.2±0.4, 5026N±003×1884E±003, h0km, n43, σ1§27/74, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.45**	**247**	*e*Pg	**Pg**	**15 03 12.4**	**+2.6**
RAC				*e*Sg	**Sg**	**15 03 20.0**	**+4.4**
OKC	**Ostrava-Krasne**	**0.61**	**227**	*e*PG	**Pg**	**15 03 13.2**	**+0.3**
OKC				*e*SG	**Sg**	**15 03 21.9**	**+1.1**
	161nm,0.7s						
OKC	**Ostrava-Krasne**	**0.61**	**227**	*e*Pg	**Pg**	**15 03 12.2**	**-0.7**
OKC				*e*Sg	**Sg**	**15 03 20.9**	**+0.1**
OKC	**Ostrava-Krasne**	**0.61**	**227**	*e*P	**Pg**	**15 03 12.2**	**-0.7**
OKC				*e*		15 03 20.9	
OKC				smax			
	comp=N,161nm,0.7s						
OJC	**Ojcow**	**0.62**	**93**	*e*Pg	**Pg**	**15 03 13.1**	**+0.1**
OJC				*e*Sg	**Sg**	**15 03 21.1**	**0.0**
MORC	**Moravsky Berou**	**0.96**	**241**	*e*Pg	**Pg**	**15 03 20.6**	**+1.0**
MORC				*e*Sg	**Sg**	**15 03 32.5**	**+0.4**
	comp=N,50nm,0.3s						
MORC	**Moravsky Berou**	**0.96**	**241**	⇑P	**Pg**	**15 03 20.8**	**+1.2**
NIE	**Niedzica**	**1.27**	**131**	*e*Pg	**Pg**	**15 03 25.9**	**+0.3**
NIE				*e*Sg	**Sg**	**15 03 43.0**	**+1.0**
DPC	**Dobruska-Polom**	**1.61**	**274**	*e*PG	**Pg**	**15 03 31.6**	**-0.5**
DPC				*e*SG	**Sg**	**15 03 54.0**	**+0.9**
	comp=N,58nm,0.6s						
DPC	**Dobruska-Polom**	**1.61**	**274**	*e*Pn	**Pg**	**15 03 31.6**	**-0.5**
DPC				*e*Sg	**Sg**	**15 03 53.9**	**+0.8**
DPC	**Dobruska-Polom**	**1.61**	**274**	*e*P	**Pg**	**15 03 31.6**	**-0.5**
DPC				*e*		15 03 54.0	
DPC				smax			
	comp=N,58nm,0.6s						
KSP	**Ksiaz**	**1.73**	**291**	*e*Pn	**Pn**	**15 03 32.6**	**+0.2**
KSP				*e*Pg	**Pg**	**15 03 35.3**	**+1.1**
KSP				*e*Sg	**Sg**	**15 03 58.8**	**+2.2**
KSP	**Ksiaz**	**1.73**	**291**	*i* Pg	**Pg**	**15 03 35.3**	**+1.1**
KSP				*e*Sg	**Sg**	**15 03 58.8**	**+2.2**
KSP	**Ksiaz**	**1.73**	**291**	*e*Pn	**Pn**	**15 03 32.6**	**+0.2**
KSP				*i* Pg	**Pg**	**15 03 35.3**	**+1.1**
KSP				*e*Sg	**Sg**	**15 03 58.8**	**+2.2**
VRAC	**Vranov**	**1.74**	**238**	Pn	**Pn**	**15 03 33.3**	**+0.7**
	comp=N,2.2nm,0.3s,baz=51,slow=14,SNR=24						
VRAC				Lg		15 03 56.6	
	comp=N,13nm,0.3s,baz=146,slow=20,SNR=23						
VRAC	**Vranov**	**1.74**	**238**	*e*Pn	**Pn**	**15 03 33.3**	**+0.7**
VRAC	**Vranov**	**1.74**	**238**	P	**Pn**	**15 03 34.3**	**+1.7**
VRAC				*e*Sg	**Sg**	**15 03 56.4**	**-0.6**
	comp=N,36nm,0.5s						
VYHS	**Vyhne**	**1.76**	**180**	*e*PN	**Pn**	**15 03 33.1**	**+0.1**
VYHS				*e*SN	**Sn**	**15 03 56.1**	**0.0**
VYHS	**Vyhne**	**1.76**	**180**	*e*Pn	**Pn**	**15 03 33.0**	**0.0**
VYHS				*e*Sg	**Sg**	**15 03 55.6**	**-2.3**
STHS	**Stebnicka Huta**	**1.77**	**117**	*e*PN	**Pn**	**15 03 34.5**	**+1.5**
STHS				*e*SN	**Sn**	**15 04 00.9**	**+4.6**
UPC	**Upice**	**1.82**	**279**	*e*PG	**Pg**	**15 03 36.2**	**0.0**
UPC				*e*SG	**Sg**	**15 04 00.6**	**+0.8**
SMOL	**Smolenice**	**1.97**	**208**	*e*SN	**Sn**	**15 04 01.5**	**+0.3**
SMOL	**Smolenice**	**1.97**	**208**	*e*P	**Pn**	**15 03 42.9**	**+7.1**
SMOL				*e*		15 04 01.5	
KRUC	**Moravsky**	**1.99**	**234**	*e*Pn	**Pn**	**15 03 36.0**	**0.0**
KRUC				*e*Sn	**Sn**	**15 04 02.9**	**+1.3**
	comp=N,11nm,0.2s						
KECS	**Kecovo**	**2.08**	**148**	*e*PN	**Pn**	**15 03 36.5**	**-0.8**
KECS				*e*PG	**Pg**	**15 03 40.3**	**-0.7**
KECS				*e*		15 04 01.6	
CRVS	**Cervenica-Dubn**	**2.18**	**127**	*e*PN	**Pn**	**15 03 40.2**	**+1.5**
CRVS				*e*SN	**Sn**	**15 04 09.4**	**+3.0**
PSZ	**Piszkesteto**	**2.44**	**163**	*e*Pn	**Pn**	**15 03 47.4**	**+5.1**
KOLS	**Kolonicke sedl**	**2.60**	**119**	*e*PN	**Pn**	**15 03 45.0**	**+0.6**
KOLS				*e*PG	**Pg**	**15 03 49.9**	**-1.1**
KOLS				*e*		15 04 15.3	
KOLS	**Kolonicke sedl**	**2.60**	**119**	*e*Pg	**Pg**	**15 03 49.9**	**-1.1**
KOLS				*e*S	**Sn**	**15 04 15.3**	**-1.4**
PRU	**Pruhonice**	**2.78**	**266**	*e*SG	**Sg**	**15 04 28.6**	**-1.8**
	comp=N,16nm,0.7s						
BRG	**Berggiesshubel**	**3.18**	**283**	P	**Pg**	**15 03 59.9**	**-2.2**
BRG	**Berggiesshubel**	**3.18**	**283**	SG	**Sg**	**15 04 44.5**	**+1.2**
	comp=N,3.7nm,0.6s						
BRG				*i*		15 04 03.5	
BRG	**Berggiesshubel**	**3.18**	**283**	PG	**Pg**	**15 03 59.9**	**-2.2**
KHC	**Kasperske Hory**	**3.59**	**254**	*e*PN	**Pn**	**15 03 58.0**	**-0.1**
KHC				*e*PG	**Pg**	**15 04 07.5**	**-2.6**
KHC				*e*SG	**Sg**	**15 04 54.9**	**-1.8**
KHC	**Kasperske Hory**	**3.59**	**254**	*e*Pg	**Pg**	**15 04 07.5**	**-2.6**
KHC				*e*Sg	**Sg**	**15 04 54.9**	**-1.8**
GERES	**GERESS Array B**	**3.63**	**249**	Pn	**Pn**	**15 03 59.5**	**+0.9**
	comp=N,0.1nm,0.3s,baz=70,slow=15,SNR=3.4						
GERES				Pg	**Pg**	**15 04 07.7**	**-3.1**
	comp=N,0.5nm,0.3s,baz=64,slow=16,SNR=9.7						
GERES				Lg		15 04 55.0	
	comp=N,3.0nm,0.3s,baz=67,slow=25,SNR=13						
CLL	**Collm**	**3.85**	**288**	*e*Pg	**Pg**	**15 04 13.0**	**-1.9**
CLL				*i* Sg	**Sg**	**15 05 06.8**	**+2.0**
MOA	**Molln**	**3.85**	**233**	⇑*i*Pn	**Pn**	**15 04 02.5**	**+0.8**
MOA				⇓*i*Sg	**Sg**	**15 05 03.7**	**-1.3**
	comp=N,8.0nm,0.6s						
NKC	**Novy Kostel**	**4.10**	**272**	*e*SG	**Sg**	**15 05 12.2**	**-0.7**
BZS	**Buzias**	**5.00**	**157**	⇑P	**Pn**	**15 04 18.3**	**+0.8**
BSD	**Bornholm Skovb**	**5.42**	**335**	*i* P	**Pn**	**15 04 22.9**	**-0.3**
BSD				*i* S	**Sn**	**15 05 21.9**	**-4.3**
NOA	**NORSAR Array B**	**11.62**	**341**	Pn	**Pn**	**15 05 46.0**	**-2.3**
	comp=N,0.1nm,0.3s,baz=152,slow=12,SNR=2.5						
FINES	**FINESS Array B**	**11.92**	**17**	Pn	**Pn**	**15 05 49.6**	**-2.7**
	comp=N,0.1nm,0.3s,baz=198,slow=8.7,SNR=7.3						
FINES				Sn	**Sn**	**15 07 55.3**	**-11**
	comp=N,0.2nm,0.3s,baz=199,slow=21,SNR=5.9						

*IDC **04** 15:14:25.8±1.2, 3939S×17582E, h62km±13km, mb3.9/3, mb1 4.0/4, mb1mx3.8/11, mbtmp4.1/4, MS2.9/1, Ms1 2.9/1, ms1mx2.8/11, Error ellipse: s-maj=29.0km s-min=9.9km az=133.0*
*ISCJB **04** 15:14:26.5±0.3, 3931S±002×17585E±003, h81km±2km, mb4.3/8, Error ellipse: s-maj=4.7km s-min=3.2km az=50.6*
*WEL **04** 15:14:28.5±0.1, 3924S×17587E, h68km, ML4.9/22, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, reported intensity MM 4.*
WEL Felt from King Country to Manawatu, and from Wanganui to Hawke's Bay, maximum.
*NEIC **04** 15:14:28.5, 3924S×17587E, h68km, mb4.6/5, ML4.8(WEL), After WEL.*
NEIC Felt in the Waiouru-Taihape area.

ISC 04 15:14:27.3±0.3, 3931S±002×17586E±003, h76km±2km, n166, σ0§87/186, mb4.3/8, 1C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.13**	**220**	P*	**Pn**	**15 14 38.4**	**+0.1**
MOVZ				S*	**Sn**	**15 14 45.7**	**-0.8**
MOVZ	**Moawhango**	**0.13**	**220**	P	**Pn**	**15 14 38.4**	**0.0**

WPVZ	Whakapapa	0.27 293	P*	Pn	15 14 39.1 +0.2
WPVZ			S*	Sn	15 14 47.2 -0.2
WPVZ	Whakapapa	0.27 293	P	Pn	15 14 39.1 +0.2
KRVZ	Karewarewa	0.27 321	P*	Pn	15 14 38.8 -0.2
WTVZ	West Tongariro	0.29 312	P	Pn	15 14 38.8 -0.3
WTVZ	West Tongariro	0.29 312	P	Pn	15 14 38.8 -0.2
MTVZ	Mangateitei	0.31 256	P*	Pn	15 14 39.6 +0.4
MTVZ			S*	Sn	15 14 47.9 -0.1
RITZ	Rihia Road	0.33 360	P*	Pn	15 14 39.3 0.0
RITZ	Rihia Road	0.33 360	P	Pn	15 14 39.3 0.0
KATZ	Kakaramea	0.36 339	P*	Pn	15 14 39.4 -0.1
KATZ	Kakaramea	0.36 339	P	Pn	15 14 39.4 -0.1
PKVZ	Pokaka	0.40 273	P*	Pn	15 14 40.0 +0.2
TWVZ	Taurewa	0.41 306	P*	Pn	15 14 39.7 -0.2
TWVZ			S*	Sn	15 14 47.7 -1.4
TWVZ	Taurewa	0.41 306	P	Pn	15 14 39.7 -0.2
RATZ	Rangitukua	0.45 351	P*	Pn	15 14 39.8 -0.4
RATZ	Rangitukua	0.45 351	P	Pn	15 14 39.8 -0.4
HATZ	Hinemaiaia	0.45 23	P*	Pn	15 14 39.9 -0.4
HATZ	Hinemaiaia	0.45 23	P	Pn	15 14 39.9 -0.4
BKZ	Black Stump Fm	0.51 74	P*	Pn	15 14 41.0 +0.3
BKZ			S*	Sn	15 14 50.4 -0.3
BKZ	Black Stump Fm	0.51 74	eP	Pn	15 14 41.0 +0.2
WATZ	Wairara	0.61 351	P*	Pn	15 14 41.3 -0.4
WATZ	Wairara	0.61 351	P	Pn	15 14 41.3 -0.4
WHTZ	Whakaora	0.65 7	P*	Pn	15 14 42.0 0.0
WHTZ	Whakaora	0.65 7	P	Pn	15 14 42.1 0.0
TSZ	Takapari Road	0.75 174	PN	Pn	15 14 44.8 +1.5
TSZ			SN	Sn	15 14 56.9 +1.9
TSZ	Takapari Road	0.75 174	P	Pn	15 14 44.8 +1.6
WAZ	Wanganui	0.81 236	PN	Pn	15 14 45.2 +1.3
WAZ			SN	Sn	15 14 57.7 +1.5
VRZ	Vera Road	0.88 282	P*	Pn	15 14 45.0 +0.4
VRZ			S*	Sn	15 14 57.7 +0.2
VRZ	Vera Road	0.88 282	P	Pn	15 14 45.0 +0.4
PATZ	Paeroa	0.98 19	P*	Pn	15 14 45.9 0.0
PATZ	Paeroa	0.98 19	P	Pn	15 14 46.0 +0.2
PXZ	Pawanui	1.06 133	PN	Pn	15 14 48.1 +1.3
HIZ	Hauiti	1.12 315	PN	Pn	15 14 47.5 -0.1
HIZ			SN	Sn	15 15 01.9 -0.7
HIZ	Hauiti	1.12 315	P	Pn	15 14 47.5 0.0
RAEZ	Rainy Point	1.14 271	PN	Pn	15 14 49.1 +1.2
RAEZ	Rainy Point	1.14 271	P	Pn	15 14 49.1 +1.3
UTU	Utuhina	1.16 13	P*	Pn	15 14 48.3 +0.2
UTU	Utuhina	1.16 13	P	Pn	15 14 48.3 +0.2
TAZ	Tarawera	1.19 25	P*	Pn	15 14 48.5 +0.1
TAZ	Tarawera	1.19 25	P	Pn	15 14 48.6 +0.2
LIRZ	Lichensteins R	1.37 18	P*	Pn	15 14 51.0 +0.3
LIRZ	Lichensteins R	1.37 18	P	Pn	15 14 50.9 +0.2
MRZ	Mangatainoka R	1.37 189	PN	Pn	15 14 51.6 +0.8
MRZ	Mangatainoka R	1.37 189	P	Pn	15 14 51.6 +0.9
NEZ	North Egmont	1.37 271	PN	Pn	15 14 52.4 +1.7
NEZ	North Egmont	1.37 271	P	Pn	15 14 52.5 +1.7
BFZ	Birch Farm	1.40 168	PN	Pn	15 14 52.0 +0.8
BFZ	Birch Farm	1.40 168	P	Pn	15 14 52.0 +0.8
URZ	Urewera	1.43 43	P	Pn	15 14 51.5 -0.1
	374nm,0.3s,baz=243,slow=7.4,SNR=1416				
URZ			S	Sn	15 15 09.2 -0.6
	1μm,0.3s,baz=51,slow=14,SNR=84				
URZ	Urewera	1.43 43	P*	Pn	15 14 51.3 -0.3
URZ			S*	Sn	15 15 09.1 -0.8
URZ	Urewera	1.43 43	P	Pn	15 14 51.3 -0.3
KNZ	Kokohu	1.44 79	PN	Pn	15 14 51.8 +0.1
KNZ	Kokohu	1.44 79	P	Pn	15 14 51.8 +0.1
PKE	Pukeiti	1.46 274	PN	Pn	15 14 53.1 +1.1
PKE			SN	Sn	15 15 11.4 +0.9
PKE	Pukeiti	1.46 274	P	Pn	15 14 53.1 +1.2
MARZ	Manawahe	1.47 26	P*	Pn	15 14 52.2 +0.2
NRZ	Ngariki Road	1.50 268	PN	Pn	15 14 53.7 +1.3
NRZ	Ngariki Road	1.50 268	P	Pn	15 14 53.7 +1.3
NWEZ	Newall Road	1.55 271	PN	Pn	15 14 54.2 +1.1
NWEZ	Newall Road	1.55 271	P	Pn	15 14 54.2 +1.1
TOZ	Tahuroa Road	1.60 350	P*	Pn	15 14 53.8 0.0
TOZ			S*	Sn	15 15 12.7 -1.1
TOZ	Tahuroa Road	1.60 350	P	Pn	15 14 53.8 0.0
TGRZ	Tauranga	1.61 11	P*	Pn	15 14 54.1 +0.3
TGRZ	Tauranga	1.61 11	P	Pn	15 14 54.1 +0.2
MWZ	Matawai	1.62 54	P*	Pn	15 14 54.3 +0.3
MWZ			S*	Sn	15 15 14.3 -0.1
MWZ	Matawai	1.62 54	P	Pn	15 14 54.4 +0.3
KIW	Kapiti Island	1.71 205	⇑PN	Pn	15 14 55.9 +0.6
KIW	Kapiti Island	1.71 205	P	Pn	15 14 55.9 +0.6
MTW	Mount Morrison	1.87 188	PN	Pn	15 14 57.4 +0.1
MTW	Mount Morrison	1.87 188	P	Pn	15 14 57.4 +0.1
CAW	Cannon Point	1.90 198	PN	Pn	15 14 57.9 +0.2
CAW	Cannon Point	1.90 198	P	Pn	15 14 57.9 +0.2
TRWZ	Traveller	2.09 184	PN	Pn	15 15 00.1 -0.2
PAWZ	Paruwai Farm	2.10 189	PN	Pn	15 15 00.1 -0.2
PAWZ	Paruwai Farm	2.10 189	P	Pn	15 15 00.1 -0.3
DUWZ	D'Urville Isla	2.11 224	PN	Pn	15 15 01.0 +0.4
MRW	Makara Radio	2.11 204	PN	Pn	15 15 00.5 -0.1
MRW	Makara Radio	2.11 204	P	Pn	15 15 00.5 -0.1
WEL	Wellington	2.14 203	PN	Pn	15 15 00.8 -0.2
WEL	Wellington	2.14 203	P	Pn	15 15 00.8 -0.2
MSWZ	Moikau Station	2.15 192	PN	Pn	15 15 00.8 -0.4
SNZO	South Karori	2.19 203	PN	Pn	15 15 01.3 -0.3
SNZO	South Karori	2.19 203	P	Pn	15 15 01.4 -0.2
SNZO			eSn	Sn	15 15 30.1 +2.4
BHW	Baring Head	2.23 200	PN	Pn	15 15 01.7 -0.4
BHW	Baring Head	2.23 200	P	Pn	15 15 00.7 -1.5
PUZ	Puketiti	2.25 57	PN	Pn	15 15 02.3 -0.1
PUZ	Puketiti	2.25 57	P	Pn	15 15 02.3 -0.1
TCW	Tory Channel	2.25 212	PN	Pn	15 15 02.3 -0.2
TCW	Tory Channel	2.25 212	P	Pn	15 15 02.3 -0.2
OTAZ	Otara	2.47 342	PN	Pn	15 15 05.6 +0.3
OTAZ	Otara	2.47 342	P	Pn	15 15 05.6 +0.2
KUZ	Kuaotunu	2.56 357	PN	Pn	15 15 06.6 0.0
KUZ	Kuaotunu	2.56 357	P	Pn	15 15 06.6 0.0
TUWZ	Tuamarina	2.58 214	PN	Pn	15 15 06.5 -0.3
WTAZ	Waiatarua	2.58 336	PN	Pn	15 15 07.5 +0.6
WTAZ	Waiatarua	2.58 336	P	Pn	15 15 07.5 +0.6
MXZ	Matakaoa Point	2.59 49	PN	Pn	15 15 07.4 +0.3
MXZ	Matakaoa Point	2.59 49	P	Pn	15 15 07.4 +0.3
MTAZ	Motutapu	2.63 343	PN	Pn	15 15 07.7 +0.2
MTAZ	Motutapu	2.63 343	P	Pn	15 15 07.7 +0.2
KAAZ	Kauri Point	2.64 339	PN	Pn	15 15 08.1 +0.3
KAAZ	Kauri Point	2.64 339	P	Pn	15 15 08.1 +0.4
NNZ	Nelson	2.69 224	PN	Pn	15 15 07.9 -0.5
NNZ	Nelson	2.69 224	P	Pn	15 15 07.9 -0.5
CMWZ	Cape Campbell	2.74 207	PN	Pn	15 15 09.1 +0.1
CMWZ	Cape Campbell	2.74 207	P	Pn	15 15 08.1 -1.0
QRZ	Quartz Range	2.97 238	PN	Pn	15 15 11.7 -0.5
QRZ	Quartz Range	2.97 238	P	Pn	15 15 11.7 -0.5
THZ	Tophouse	3.33 222	PN	Pn	15 15 16.5 -0.5
THZ	Tophouse	3.33 222	P	Pn	15 15 16.5 -0.5
KHZ	Kahutara	3.57 209	PN	Pn	15 15 19.0 -1.3
KHZ	Kahutara	3.57 209	P	Pn	15 15 19.0 -1.3
WCZ	Waipu Caves	3.57 340	PN	Pn	15 15 20.6 +0.3
WCZ	Waipu Caves	3.57 340	eP	Pn	15 15 20.6 +0.3
DSZ	Denniston Nort	3.94 230	PN	Pn	15 15 23.9 -1.4
DSZ	Denniston Nort	3.94 230	P	Pn	15 15 23.9 -1.4
LTZ	Lake Taylor	4.41 217	PN	Pn	15 15 29.7 -2.0
LTZ	Lake Taylor	4.41 217	P	Pn	15 15 29.7 -2.0
CRLZ	Canterbury Las	4.91 209	PN	Pn	15 15 35.7 -2.8
CRLZ	Canterbury Las	4.91 209	eP	Pn	15 15 35.7 -2.9
MQZ	McQueen's Vall	5.01 208	PN	Pn	15 15 36.4 -3.6
MQZ	McQueen's Vall	5.01 208	eP	Pn	15 15 36.4 -3.6
WVZ	Waitaha Valley	5.39 224	PN	Pn	15 15 45.7 +0.5
WVZ	Waitaha Valley	5.39 224	eP	Pn	15 15 45.7 +0.5
RPZ	Rata Peaks	5.69 218	P	Pn	15 15 48.1 -1.2
	1.9nm,0.3s,baz=332,slow=8.5,SNR=19				
RPZ			S	Sn	15 16 48.7 -4.5
	60nm,0.3s,baz=349,slow=7.8,SNR=29				
RPZ			LR	LR	15 17 39.2
	comp=Z,110nm,18.3s,baz=12,slow=34				
RPZ	Rata Peaks	5.69 218	PN	Pn	15 15 47.7 -1.6
RPZ	Rata Peaks	5.69 218	eP	Pn	15 15 47.7 -1.6
FOZ	Fox Glacier	6.29 226	eP	Pn	15 15 55.7 -1.7
LBZ	Lake Benmore	6.61 218	PN	Pn	15 15 60.0 -1.8
LBZ	Lake Benmore	6.61 218	eP	Pn	15 16 00.0 -1.8
ODZ	Otahua Downs	6.92 212	PN	Pn	15 16 02.6 -3.4
ODZ	Otahua Downs	6.92 212	P	Pn	15 16 02.6 -3.4
JCZ	Jackson Bay	7.13 226	PN	Pn	15 16 05.3 -3.7
JCZ	Jackson Bay	7.13 226	eP	Pn	15 16 03.8 -5.2
WKZ	Wanaka	7.50 220	eP	Pn	15 16 25.2 +11
EAZ	Earnscleugh	7.66 217	PN	Pn	15 16 13.2 -2.8
EAZ	Earnscleugh	7.66 217	eP	Pn	15 16 13.2 -2.9
MSZ	Milford Sound	7.97 225	eP	Pn	15 16 22.5 +2.1
TUZ	Tuapeka	8.07 213	PN	Pn	15 16 19.2 -2.6
TUZ	Tuapeka	8.07 213	eP	Pn	15 16 19.2 -2.6

STKA	Stephens Creek	28.71 274	P	P	15 20 15.7 -1.5
	1.2nm,0.6s,mb3.7,baz=114,slow=9.4,SNR=4.1				
STKA	Stephens Creek	28.71 274	P	P	15 20 15.2 -2.1
ASAR	Alice Springs	38.66 281	P	P	15 21 43.8 +0.3
	0.8nm,0.3s,mb4.0,baz=114,slow=5.6,SNR=52				
WB2	Warramunga Arr	40.49 286	⇓iP	P	15 21 59.3 +0.7
WRAB	Tennant Creek	40.50 286	eP	P	15 21 58.8 +0.1
	5.1nm,0.5s,mb4.6				
WRA	Warramunga Arr	40.50 286	P	P	15 21 59.3 +0.6
	2.6nm,0.4s,mb4.4,baz=125,slow=8.2,SNR=110				
CASY	Casey	44.92 211	eP	P	15 22 34.8 +0.3
	3.5nm,0.5s,mb4.3				
KLBR	Kellerberrin	47.26 261	eP	P	15 22 52.3 -0.5
	18nm,1.0s,mb4.8				
FITZ	Fitzroy Crossi	48.17 281	eP	P	15 23 00.7 +0.9
	13nm,1.8s,mb4.5				
QSPA	South Pole Qui	50.82 180	eP	P	15 23 27.5 +7.5
	1.4nm,0.5s,mb4.2				
ARCES	ARCESS Array B	145.87 342	PKPbc	PKPbc	15 33 55.9 -2.0
	2.0nm,0.7s,baz=70,slow=2.3,SNR=8.8				
ARCES	ARCESS Array B	145.87 342	PKPbc	PKPbc	15 33 55.9 -2.0
FINES	FINESS Array B	151.10 330	PKPbc	PKPbc	15 34 09.1 -2.5
	0.5nm,0.5s,baz=42,slow=3.1,SNR=7.0				
TORD	Torodi Ar. Bea	153.44 193	PKPbc	PKPbc	15 34 17.4 +0.6
	0.6nm,0.3s,baz=173,slow=3.3,SNR=19				
TORD			PKPab	PKPab	15 34 30.1 +0.8
	0.8nm,0.5s,baz=166,slow=4.1,SNR=7.5				

*NEIC **04** 15:29:56.8±2.2, 1922N×6381W, h6km±13km, mb4.2/8, MD3.9(RSPR), Error ellipse: s-maj=9.4km s-min=7.3km az=95.0*
*IDC **04** 15:29:56.3±0.6, 1911N×6394W, h0km, mb3.9/15, mb1 4.1/16, mb1mx4.0/23, mbtmp4.0/16, ML5.4/1, MS3.5/8, Ms1 3.6/8, ms1mx3.4/18, Error ellipse: s-maj=17.0km s-min=14.0km az=56.0*
*TRN **04** 15:29:59.0, 1949N×6348W, h50km, MD4.4*
*ISCJB **04** 15:30:00.9±0.7, 1914N±005×6395W±002, h50km±7km, mb4.0/21, MS3.5/7, Error ellipse: s-maj=9.0km s-min=3.3km az=23.5*
*RSPR **04** 15:30:03.0, 1909N×6405W, h3km±5km, MD3.9/15, MD3.9/15*

ISC 04 15:30:01.2±1.4, 1920N±003×6396W±002, h31km±10km, n77, σ1°09/94, mb4.0/21, MS3.5/7, 9C-10D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.00	218	eP		Pn	15 30 17.8	-1.3
STVI	Saint Thomas	1.27	229	eS		Sn	15 30 37.2	-1.5
STVI	Saint Thomas	1.27	229	⇓eP		Pn	15 30 22.0	-0.7
STVI				eS		Sn	15 30 37.2	-1.5
STMA	St. Maarten, A	1.41	145	eP		Pn	15 30 25.1	+0.5
STMA				eS		Sn	15 30 42.9	+0.7
CDVI	St. Croix	1.63	208	⇓eP		Pn	15 30 28.2	+0.4
MTP	Monte Pirata	1.87	234	eS		Sn	15 30 52.2	-1.4
MTP	Monte Pirata	1.87	234	⇓eP		Pn	15 30 31.1	0.0
MTP				eS		Sn	15 30 52.2	-1.4
STAT	Sint Eustatius	1.94	151	eP		Pn	15 30 33.2	+1.3
STAT				eS		Sn	15 30 57.6	+2.4
CBYP	Canovanas	2.02	243	eS		Sn	15 30 56.5	-0.8
CBYP	Canovanas	2.02	243	⇓eP		Pn	15 30 33.2	+0.2
CBYP				eS		Sn	15 30 56.5	-0.8
HUMP	Col San Antoni	2.08	240	eS		Sn	15 30 58.3	-0.4
HUMP	Col San Antoni	2.08	240	⇓eP		Pn	15 30 33.9	0.0
HUMP				eS		Sn	15 30 58.3	-0.4
CPD	Cerro la Pandu	2.18	238	eS		Sn	15 31 01.3	0.0
CPD	Cerro la Pandu	2.18	238	⇓eP		Pn	15 30 36.4	+1.0
CPD				eS		Sn	15 31 01.3	0.0
SKI	Saint Kitts	2.19	148	eP		Pn	15 30 37.4	+2.0
SKI				eS		Sn	15 31 02.5	+1.0
SJG	San Juan	2.34	243	⇓eP		Pn	15 30 38.0	+0.5
SJG	San Juan	2.34	243	eS		Sn	15 31 05.8	+0.6
SJG	San Juan	2.34	243	⇓eP		Pn	15 30 37.8	+0.3
SJG	San Juan	2.34	243	Pn		Pn	15 30 37.7	+0.2
	20nm,0.3s,baz=76,slow=9.2,SNR=26							
SJG				Sn		Sn	15 31 06.1	+0.9
	92nm,0.3s,baz=296,slow=19,SNR=6.8							
SJG	San Juan	2.34	243	⇓eP		Pn	15 30 38.0	+0.5
SJG				eS		Sn	15 31 05.8	+0.6
CPB	Codrington	2.55	127	eP		Pn	15 30 37.6	-2.8
CPB				eS		Sn	15 31 20.1	+10
CELP	Cerrillos	2.72	246	⇑eP		Pn	15 30 43.1	+0.4
ICM	Isla Caja Muer	2.75	242	eS		Sn	15 31 15.9	+0.5
ICM	Isla Caja Muer	2.75	242	⇑eP		Pn	15 30 44.7	+1.5
ICM				eS		Sn	15 31 15.9	+0.5
OBIP	Obispado Ponce	2.76	246	eS		Sn	15 31 15.1	-0.5
OBIP	Obispado Ponce	2.76	246	⇑eP		Pn	15 30 43.5	+0.3
OBIP				eS		Sn	15 31 15.1	-0.5
AOPR	Arecibo Observ	2.77	253	eS		Sn	15 31 15.3	-0.6
AOPR	Arecibo Observ	2.77	253	⇑eP		Pn	15 30 44.4	+1.0
AOPR				eS		Sn	15 31 15.3	-0.6
LRS	Lares	2.88	252	⇓eP		Pn	15 30 45.0	+0.1
BPA	Boggy Peak	2.93	137	eP		Pn	15 30 44.0	-1.6
BPA				eS		Sn	15 31 17.7	-2.1
MGP	Maguayo	3.19	249	⇑eP		Pn	15 30 49.9	+0.6
CRPR	Cabo Rojo, PR	3.21	249	eS		Sn	15 31 27.6	+0.9
CRPR	Cabo Rojo, PR	3.21	249	⇑eP		Pn	15 30 49.9	+0.4
CRPR				eS		Sn	15 31 27.6	+0.9
SEG	Port Louis	3.63	140	eP		Pn	15 30 54.4	-1.0
SEG				eS		Sn	15 31 37.0	-0.1
LZG	Guadaloupe-1	3.69	145	eP		Pn	15 30 55.6	-0.5
LZG				eS		Sn	15 31 42.0	+3.6
DOG	Dongo Capester	3.86	144	⇓eP		Pn	15 30 58.4	-0.1
DEG	La Desirade	3.98	136	⇓eP		Pn	15 30 58.5	-1.6
DEG				eS		Sn	15 31 47.5	+1.7
TBG	Guadaloupe-3	4.00	146	eP		Pn	15 30 59.8	-0.5
MGG	Marie-Galante	4.12	142	eP		Pn	15 31 01.7	-0.3
BBL	Barber's Block	4.36	147	eP		Pn	15 31 05.1	-0.2
FDF	Fort de France	5.19	148	eP		Pn	15 31 16.3	-0.4
FDF				eS		Sn	15 32 21.0	+5.5
CRM	Caravelle	5.29	146	eP		Pn	15 31 17.4	-0.7
BIM	Bigot	5.42	149	eP		Pn	15 31 19.5	-0.3
MVM	Montagne Vaucl	5.47	147	eP		Pn	15 31 21.0	+0.4
SDV	Santo Domingo	12.12	213	Pn		Pn	15 32 53.0	+1.3
	0.2nm,0.3s,baz=72,slow=8.0,SNR=8.8							
SDV				Sn		Sn	15 34 56.5	-9.2
	0.2nm,0.3s,baz=34,slow=15,SNR=2.0							
SDV				LR		LR	15 37 51.6	
	comp=Z,262nm,18.3s,baz=242,slow=39							
BBSR	BB Station	13.13	357	Pn		Pn	15 33 01.9	-3.6
ROSC	El Rosal	17.48	217	P		Pn	15 34 04.0	+1.4
	1.1nm,0.3s,baz=97,slow=18,SNR=5.4							
JTS	JuntasAbangare	22.12	249	LR		LR	15 42 07.1	
	comp=Z,90nm,21.0s,MS3.2,baz=106,slow=33							
JTS	JuntasAbangare	22.12	249	P		P	15 34 50.7	-3.4
	13nm,1.0s,mb4.3							
BLA	Blacksburg	23.01	325	P		P	15 35 09.8	+6.3
	1.3nm,0.8s,mb3.4							
FWV	Forest Hill	23.49	325	eP		P	15 35 11.4	+2.9
OTAV	Otavalo	23.60	219	eP		P	15 35 09.1	-0.4
	7.3nm,0.8s,mb4.2							
CPCT	Cooper Cave	24.33	316	P		P	15 35 15.3	-0.7
SAML	Samuel	27.98	178	eP		P	15 35 47.0	-2.0
	4.2nm,0.9s,mb4.1							
SADO	Sadowa	28.46	337	LR		LR	15 45 57.4	
	comp=Z,83nm,19.2s,MS3.4,baz=200,slow=34							
WMOK	Wichita Mounta	34.47	304	P		P	15 36 44.6	-1.6
	2.0nm,0.7s,mb4.2							
SIV	San Ignacio	35.08	175	P		P	15 36 49.4	-2.0
	2.4nm,0.5s,mb4.4,baz=6.2,slow=9.1,SNR=14							
LPAZ	La Paz	35.50	187	P		P	15 36 53.9	-1.2
	3.1nm,0.9s,mb4.2,baz=27,slow=4.5,SNR=7.0							
LPAZ				LR		LR	15 52 34.0	
	comp=Z,59nm,18.0s,MS3.4,baz=358,slow=38							
LPAZ	La Paz	35.50	187	eP		P	15 36 53.3	-1.7
	3.8nm,0.8s,mb4.4							
BDFB	Brasilia	38.01	155	P		P	15 37 16.5	+0.1
	9.4nm,0.7s,mb4.6,baz=337,slow=9.7,SNR=19							
ULM	Lac du Bonnet	40.04	328	P		P	15 37 32.7	-0.6
	0.9nm,0.5s,mb3.8,baz=127,slow=7.7,SNR=3.3							
ULM	Lac du Bonnet	40.04	328	P		P	15 37 32.7	-0.6
ANMO	Albuquerque	40.64	302	P		P	15 37 39.5	+1.1
	1.0nm,0.6s,mb3.6,baz=79,slow=5.7,SNR=4.0							
ANMO	Albuquerque	40.64	302	eP		P	15 37 39.7	+1.3
	2.3nm,0.8s,mb3.9							
PDAR	Pinedale Array	44.92	312	P		P	15 38 14.1	+1.1
	0.5nm,0.6s,mb3.5,baz=120,slow=9.5,SNR=6.8							
FCC	Fort Churchill	45.17	338	eP		P	15 38 14.7	-0.4
	1.1nm,0.6s,mb3.9							
NVAR	Mina Array Bea	50.58	304	P		P	15 38 58.4	+1.5
	0.3nm,0.5s,mb3.4,baz=96,slow=5.5,SNR=4.3							

NEW	Newport	51.55 317	P	P	15 39 04.7 +0.4
	1.0nm,0.5s,mb4.0,baz=101,slow=10,SNR=2.4				
YKA	Yellowknife Ar	55.41 334	P	P	15 39 31.5 -1.0
	0.3nm,0.5s,mb3.6,baz=108,slow=7.5,SNR=8.1				
DBIC	Dimbokro	58.69 94	P	P	15 39 56.6 +0.9
	2.4nm,0.6s,mb4.4,baz=277,slow=8.8,SNR=8.8				
DBIC			LR	LR	16 01 42.3
	comp=Z,44nm,18.5s,MS3.6,baz=249,slow=32				
PLCA	Paso Flores	59.94 186	P	P	15 40 03.3 -1.1
	1.3nm,0.7s,mb4.1,baz=2.7,slow=8.2,SNR=6.5				
TORD	Torodi Ar. Bea	63.04 85	P	P	15 40 25.7 +0.4
	0.9nm,0.6s,mb4.1,baz=283,slow=6.2,SNR=12				
NOA	NORSAR Array B	66.22 31	LR	LR	16 07 25.4
	comp=Z,38nm,18.8s,MS3.6,baz=150,slow=34				
GERES	GERESS Array B	67.74 44	P	P	15 40 56.5 +0.8
	0.8nm,0.6s,mb4.0,baz=270,slow=5.2,SNR=8.3				
GERES			LR	LR	16 07 33.5
	comp=Z,44nm,18.4s,MS3.7,baz=204,slow=33				
ILAR	Eielson Array	69.81 333	P	P	15 41 08.3 -0.2
	0.4nm,0.5s,mb3.6,baz=99,slow=3.7,SNR=5.7				
FINES	FINESS Array B	73.36 30	LR	LR	16 08 18.6
	comp=Z,40nm,20.2s,MS3.7,baz=25,slow=31				
BRTR	Keskin Array B	83.59 50	P	P	15 42 27.1 +0.7
	0.7nm,0.7s,mb3.9,baz=274,slow=3.2,SNR=4.2				

*ISCJB **04** 15:38:26.5±2.5, 389N±02×712E±02, h162km±49km, Error ellipse: s-maj=35.7km s-min=17.9km az=45.5*
*NNC **04** 15:38:27.0±2.1, 3922N×7103E, h8km±3km, mb3.5, mpv3.1, Error ellipse: s-maj=14.9km s-min=12.7km az=13.0*

ISC 04 15:38:27.3±2.7, 389N±02×712E±02, h162km±49km, n9, σ0°30/11, 3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.73	30	P		Pn	15 39 24.0	-0.2
	SNR=9.0							
UCH	Uchtor	4.16	37	P		Pn	15 39 29.4	-0.4
	SNR=7.2							
KK31	Karatay Array	4.19	353	⇓Pn		Pn	15 39 29.9	-0.4
	0.9nm,0.2s,baz=175,slow=13,SNR=241							
KK31				⇓Sn		Sn	15 40 19.7	+0.2
	1.5nm,0.2s,baz=171,slow=22,SNR=8.6							
KK31				⇓Lg			15 40 30.6	
	3.0nm,0.4s,baz=158,slow=29,SNR=5.5							
EKS2	Erkin-Say	4.21	27	P		Pn	15 39 31.0	+0.4
	SNR=7.5							
KZA	Kyzart	4.42	43	P		Pn	15 39 33.5	+0.3
	SNR=11							
AAK	Ala-Archa	4.47	33	P		Pn	15 39 33.8	-0.2
	SNR=7.0							
KBK	Karagaybulak	4.69	36	P		Pn	15 39 37.2	+0.4
	SNR=6.5							
TKM2	Tokmak 2	5.20	39	Pn		Pn	15 39 43.7	+0.2
TKM2				Sn		Sn	15 40 42.9	-0.3
AB31	Akbulak array	13.08	326	P		Pn	15 41 26.9	0.0
	0.1nm,0.2s,baz=146,slow=12,SNR=3.6							

*ISCJB **04** 16:07:08.2±1.4, 1915N±007×6402W±004, h16km±9km, Error ellipse: s-maj=12.4km s-min=6.8km az=13.9*
*NEIC **04** 16:07:10.5, 1908N×6396W, h8km, MD3.7(RSPR), After RSPR.*
*RSPR **04** 16:07:10.5, 1908N×6396W, h8km±1km, MD3.7/10, MD3.7/10*

ISC 04 16:07:08.9±1.4, 1909N±007×6404W±004, h11km±7km, n24, σ0°65/33, 10C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.86	219	eS		Sg	16 07 37.6	+0.7
TBVI	Tortola	0.86	219	⇓eP		Pg	16 07 25.4	-0.2
TBVI				eS		Sg	16 07 37.6	+0.7
STVI	Saint Thomas	1.14	230	eS		Sb	16 07 44.7	-0.7
STVI	Saint Thomas	1.14	230	⇑eP		Pb	16 07 29.6	-1.1
STVI

OTT 04 17:11:33.0±0.2, 6706N×6565W, h18km, MN3.0/5, 89km southwest from Qikiqtarjuaq, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**5.89**	**84**	PN	Pn	17 12 58.8	-0.5
SFJD				SN	Sn	17 14 02.4	-3.8
SFJD				Trac		17 14 11.5	
	comp=Z,2.3nm,0.2s						
PINU	**Pond Inlet**	**7.07**	**329**	PN	Pn	17 13 12.1	-3.4
PINU				SN	Sn	17 14 29.2	-6.1
PINU				LG		17 15 07.1	
PINU				Trac		17 15 12.9	
	comp=Z,5.8nm,0.2s						
QILN	**Qililugaq Expl**	**8.16**	**277**	PN	Pn	17 13 29.4	-1.1
QILN				SN	Sn	17 14 57.3	-5.0
QILN				LG		17 15 46.0	
QILN				Trac		17 15 54.2	
	comp=Z,23nm,0.6s						
KUQ	**Kuujjuuaa**	**9.07**	**189**	PN	Pn	17 13 42.4	-0.6
KUQ				SN	Sn	17 15 17.5	-7.1
KUQ				LG		17 16 17.5	
KUQ				Trac		17 16 25.1	
	comp=Z,1.5nm,0.2s						
YRTN	**Rankin Inlet**	**11.94**	**262**	PN	Pn	17 14 20.8	-1.5
YRTN				SN	Sn	17 16 25.1	-10
YRTN				LG		17 17 42.3	
YRTN				Trac		17 18 01.1	
	comp=Z,1.1nm,0.2s						
RES	**Resolute Bay**	**12.10**	**322**	PN	Pn	17 14 22.0	-2.5
RES				SN	Sn	17 16 29.2	-10
RES				LG		17 17 46.5	
RES				Trac		17 18 02.9	
	comp=Z,0.5nm,0.3s						
LG4Q	**La Grande 4**	**14.08**	**201**	PN	Pn	17 14 48.7	-2.8
LG4Q				SN	Sn	17 17 15.7	-12
LG4Q				LG		17 18 49.0	
FCC	**Fort Churchill**	**15.24**	**251**	PN	Pn	17 15 05.7	-1.5
FCC				SN	Sn	17 17 44.6	-11
FCC				LG		17 19 22.9	

*NEIC **04** 17:17:14.4, 45.11S×167.15E, h17km, ML3.7(WEL), After WEL.*

WEL 04 17:17:13.8±0.3, 4508S×16713E, h12km, ML3.8/8, 2D, Error ellipse: s-maj=3.2km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**177**	P*	Pg	17 17 21.8	0.0
DCZ				S*	Sg	17 17 27.2	0.0
DCZ	**Deep Cove**	**0.40**	**177**	P	Pg	17 17 21.8	0.0
DCZ				S	Sg	17 17 27.2	0.0
MSZ	**Milford Sound**	**0.70**	**55**	P*	Pb	17 17 26.2	-1.7
MSZ				S*	Sb	17 17 36.8	-0.7
MSZ	**Milford Sound**	**0.70**	**55**	P	Pg	17 17 26.2	-1.2
MLZ	**Mavora Lakes**	**0.79**	**110**	P*	Pb	17 17 28.1	-1.3
MLZ				S*	Sb	17 17 38.2	-1.9
MLZ	**Mavora Lakes**	**0.79**	**110**	P	Pg	17 17 28.1	-1.0
MLZ				S	Sg	17 17 38.2	-1.2
WHZ	**Wether Hill Ro**	**1.00**	**145**	⇓P*	Pb	17 17 31.7	-1.4
WHZ				S*	Sb	17 17 44.7	-1.5
WHZ	**Wether Hill Ro**	**1.00**	**145**	⇓P	Pb	17 17 31.7	-1.4
WHZ				S	Sg	17 17 44.7	-1.5
WKZ	**Wanaka**	**1.37**	**80**	PN	Pn	17 17 38.4	-0.3
WKZ	**Wanaka**	**1.37**	**80**	P	Pn	17 17 38.4	-0.3
JCZ	**Jackson Bay**	**1.54**	**50**	*e*PN	Pn	17 17 39.8	-1.2
JCZ	**Jackson Bay**	**1.54**	**50**	*e*P	Pn	17 17 39.8	-1.3
EAZ	**Earnscleugh**	**1.55**	**97**	PN	Pn	17 17 40.7	-0.5
EAZ	**Earnscleugh**	**1.55**	**97**	P	Pn	17 17 40.7	-0.6
TUZ	**Tuapeka**	**1.97**	**117**	*e*PN	Pn	17 17 45.9	-1.1
TUZ	**Tuapeka**	**1.97**	**117**	*e*P	Pn	17 17 45.9	-1.1
LBZ	**Lake Benmore**	**2.29**	**74**	PN	Pn	17 17 50.9	-0.4
LBZ	**Lake Benmore**	**2.29**	**74**	P	Pn	17 17 50.9	-0.5
FOZ	**Fox Glacier**	**2.38**	**51**	*e*PN	Pn	17 17 51.5	-1.2
FOZ	**Fox Glacier**	**2.38**	**51**	*e*P	Pn	17 17 51.5	-1.2
ODZ	**Otahua Downs**	**2.49**	**91**	PN	Pn	17 17 52.7	-1.5
RPZ	**Rata Peaks**	**3.13**	**66**	PN	Pn	17 18 01.9	-1.0
RPZ	**Rata Peaks**	**3.13**	**66**	P	Pn	17 18 01.9	-1.0
WVZ	**Waitaha Valley**	**3.28**	**54**	PN	Pn	17 18 02.8	-2.3
WVZ	**Waitaha Valley**	**3.28**	**54**	P	Pn	17 18 02.8	-2.2
CRLZ	**Canterbury Las**	**4.22**	**71**	*e*PN	Pn	17 18 16.0	-1.9
LTZ	**Lake Taylor**	**4.37**	**60**	*e*PN	Pn	17 18 17.4	-2.5
DSZ	**Denniston Nort**	**4.76**	**47**	*e*PN	Pn	17 18 23.0	-2.4
DSZ	**Denniston Nort**	**4.76**	**47**	*e*P	Pn	17 18 22.9	-2.5
THZ	**Tophouse**	**5.35**	**54**	*e*PN	Pn	17 18 32.0	-1.6
QRZ	**Quartz Range**	**5.81**	**45**	*e*PN	Pn	17 18 37.4	-2.3
NNZ	**Nelson**	**5.98**	**52**	*e*PN	Pn	17 18 40.7	-1.5

*ISCJB **04** 17:34:28.7±1.3, 240N±005×12862E±009, h237km±13km, mb4.1/25, Error ellipse: s-maj=15.9km s-min=7.0km az=147.2*

*NEIC **04** 17:34:29.5±1.0, 240N×12863E, h230km±10km, mb4.1/16, Error ellipse: s-maj=10.8km s-min=4.8km az=76.0*

*MOS **04** 17:34:29.0±1.4, 249N×12841E, h234km, mb4.0/10, Error ellipse: s-maj=24.7km s-min=10.0km az=103.6*

*IDC **04** 17:34:29.8±2.2, 239N×12866E, h230km±20km, mb3.8/10, mb1 3.9/10, mb1mx3.8/18, mbtmp4.3/10, Error ellipse: s-maj=37.8km s-min=10.1km az=81.0*

ISC 04 17:34:29.6±1.3, 240N±005×12865E±009, h229km±13km, n55, σ0°78/55, mb4.1/25, 3C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.55**	**327**	Pn	**Pn**	**17 35 51.0**	**-0.6**
KKM	**Kota Kinabalu**	**12.92**	**287**	Pn	**Pn**	**17 37 26.4**	**+1.3**
KAKA	**Kakadu**	**15.48**	**166**	*e*P	**Pn**	**17 37 56.1**	**-0.2**
	14nm,0.3s						
KSM	**Kuching**	**18.35**	**267**	Pn	**P**	**17 38 25.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**20.59**	**188**	⇑*i*P	**P**	**17 38 50.7**	**-0.5**
	4.0nm,0.3s						
WRAB	**Tennant Creek**	**22.89**	**166**	*e*P	**P**	**17 39 13.4**	**0.0**
	24nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**22.89**	**166**	*e*P	**P**	**17 39 13.4**	**0.0**
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**22.90**	**166**	P	**P**	**17 39 14.0**	**+0.5**
	comp=Z,7.5nm,0.5s,mb4.5,baz=343,slow=10,SNR=156						
WRA				ScP	ScP	17 46 12.3	+0.1
	comp=Z,0.6nm,0.7s,baz=345,slow=2.9,SNR=6.2						
WB2	**Warramunga Arr**	**22.90**	**166**	⇓*i*P	**P**	**17 39 14.1**	**+0.6**
YHNB	**Yeheng**	**23.22**	**343**	*e*P	**P**	**17 39 16.0**	**-0.4**
AS31	**Alice Springs**	**26.41**	**169**	⇑*i*P	**P**	**17 39 45.7**	**+0.6**
ASAR	**Alice Springs**	**26.41**	**169**	P	**P**	**17 39 45.8**	**+0.6**
	comp=Z,6.9nm,0.7s,mb4.4,baz=353,slow=7.7,SNR=286						
ASAR				ScP	ScP	17 46 22.1	0.0
	comp=Z,1.0nm,0.8s,baz=349,slow=2.7,SNR=8.4						
ASPA	**Alice Springs**	**26.41**	**169**	⇑*i*P	**P**	**17 39 45.7**	**+0.5**
CTA	**Charters Tower**	**28.25**	**143**	*e*P	**P**	**17 40 07.7**	**+6.2**
	comp=Z,1.3nm,0.5s,mb3.8						
CTA	**Charters Tower**	**28.25**	**143**	*e*P	**P**	**17 40 07.7**	**+6.2**
CTA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CTAO	**Charters Tower**	**28.25**	**143**	P	**P**	**17 40 07.6**	**+6.1**
	comp=Z,1.8nm,0.6s,mb3.9						
CTAO	**Charters Tower**	**28.25**	**143**	P	**P**	**17 40 07.6**	**+6.1**
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
ENH	**Enshi**	**33.14**	**329**	P	**P**	**17 40 45.1**	**+0.8**
	comp=Z,3.1nm,0.5s,mb4.1						
KS15	**Wonju Array Si**	**34.88**	**359**	P	**P**	**17 40 52.9**	**-6.4**
MAJO	**Matsushiro**	**35.10**	**13**	*e*P	**P**	**17 41 00.6**	**-0.6**
	comp=Z,6.8nm,0.7s,mb4.3						
MAJO	**Matsushiro**	**35.10**	**13**	*e*P	**P**	**17 41 00.6**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
MAT	**Matsushiro**	**35.10**	**13**	P	**P**	**17 41 00.8**	**-0.4**
MAT	**Matsushiro**	**35.10**	**13**	*e*P	**P**	**17 41 01.0**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.0						
MAT	**Matsushiro**	**35.10**	**13**	*e*P	**P**	**17 41 01.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
MJAR	**Matsushiro Arr**	**35.10**	**13**	P	**P**	**17 41 00.7**	**-0.4**
	comp=Z,4.4nm,0.8s,mb4.0,baz=185,slow=9.4,SNR=18						
KLBR	**Kellerberrin**	**35.36**	**196**	*e*P	**P**	**17 41 03.0**	**-0.3**
	comp=Z,1.7nm,1.0s,mb4.5						
MUN	**Mundaring**	**36.17**	**198**	*e*P	**P**	**17 41 10.0**	**-0.3**
STKA	**Stephens Creek**	**36.24**	**161**	P	**P**	**17 41 09.8**	**-1.0**
	comp=Z,5.3nm,0.5s,mb4.3,baz=338,slow=8.3,SNR=14						
STKA	**Stephens Creek**	**36.24**	**161**	*e*P	**P**	**17 41 09.3**	**-1.5**
ASAJ	**Asahikawa**	**43.34**	**15**	P	**P**	**17 42 10.6**	**+1.4**
	comp=Z,5.9nm,0.9s,mb4.0,baz=219,slow=6.5,SNR=5.8						
LSA	**Lhasa**	**44.75**	**311**	P	**P**	**17 42 21.5**	**+1.1**
	comp=Z,2.1nm,0.6s,mb3.6						
LSA	**Lhasa**	**44.75**	**311**	P	**P**	**17 42 21.5**	**+1.2**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
JIRN	**Jiri**	**47.70**	**306**	*e*P	**P**	**17 42 44.4**	**+1.2**
	comp=Z,6.3nm,0.4s,mb4.3						
GUN	**Gumba**	**48.05**	**306**	*e*P	**P**	**17 42 46.8**	**+0.9**
KKN	**Kakani**	**48.49**	**306**	*e*P	**P**	**17 42 49.4**	**+0.1**
DMN	**Daman**	**48.56**	**305**	*e*P	**P**	**17 42 50.4**	**+0.6**
ULN	**Ulaanbaatar**	**48.98**	**341**	*e*P	**P**	**17 42 53.4**	**+0.4**
	comp=Z,4.6nm,1.0s,mb3.8						
ULN	**Ulaanbaatar**	**48.98**	**341**	*e*P	**P**	**17 42 53.4**	**+0.4**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
GKN	**Gorkha**	**49.09**	**306**	*e*P	**P**	**17 42 53.0**	**-0.9**
	comp=Z,1.6nm,0.2s,mb3.9						
SONM	**Songino Array**	**49.17**	**340**	P	**P**	**17 42 54.8**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.3,baz=148,slow=8.2,SNR=13						
SONM				PcP	PcP	17 44 14.6	+0.6
	comp=Z,0.5nm,0.8s,baz=163,slow=6.5,SNR=3.6						
KOLN	**Koldanda**	**49.85**	**305**	*e*P	**P**	**17 42 59.1**	**-0.5**
	comp=Z,8.3nm,0.4s,mb4.4						
YAK	**Yakutsk**	**59.49**	**1**	P	**P**	**17 44 08.4**	**-0.3**
	comp=Z,20nm,0.7s,mb4.8						
YAK	**Yakutsk**	**59.49**	**1**	P	**P**	**17 44 08.4**	**-0.2**
YAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.9						
MA2	**Magadan**	**59.54**	**13**	*e*P	**P**	**17 44 09.9**	**+0.9**
	comp=Z,5.8nm,0.9s,mb4.2						
MA2	**Magadan**	**59.54**	**13**	*e*P	**P**	**17 44 09.9**	**+0.9**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**69.47**	**327**	P	**P**	**17 45 13.0**	**-0.2**
	comp=Z,1.2nm,0.6s,mb3.7,baz=120,slow=6.0,SNR=10.0						
BRVK	**Borovoye**	**69.54**	**327**	*e*P	**P**	**17 45 12.0**	**-1.7**
	comp=Z,1.5nm,0.6s,mb3.8						
BRVK	**Borovoye**	**69.54**	**327**	*e*P	**P**	**17 45 12.0**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ZRNK	**Zerenda**	**70.20**	**326**	*e*P	**P**	**17 45 16.8**	**-0.9**
	comp=Z,6.5nm,1.4s,mb4.1						
ZRNK	**Zerenda**	**70.20**	**326**	*e*P	**P**	**17 45 16.8**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.1						
VNDA	**Vanda**	**81.88**	**173**	P	**P**	**17 46 23.7**	**+0.3**
	comp=Z,1.0nm,0.4s,mb3.8,baz=341,slow=2.6,SNR=6.6						
VNDA	**Vanda**	**81.88**	**173**	P	**P**	**17 46 23.3**	**-0.1**
	comp=Z,2.1nm,0.8s,mb3.8						
VNDA	**Vanda**	**81.88**	**173**	P	**P**	**17 46 23.3**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**85.47**	**25**	P	**P**	**17 46 41.1**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.5,baz=248,slow=4.9,SNR=16						
ARCES	**ARCESS Array B**	**92.35**	**340**	P	**P**	**17 47 12.8**	**-1.2**
	comp=Z,2.9nm,0.9s,mb4.2,baz=75,slow=6.1,SNR=5.6						

*IDC **04** 17:38:45.4±1.8, 4494N×12332W, h0km, mb2.8/1, mb1 3.5/4, mb1mx3.3/19, mbtmp3.1/4, ML3.4/3, Error ellipse: s-maj=35.1km s-min=18.3km az=64.0*

*ISCJB **04** 17:38:47.2±0.5, 4475N±003×12378W±008, h48km±7km, mb2.7/1, Error ellipse: s-maj=9.4km s-min=4.3km az=9.8*

*PNSN **04** 17:38:47.1, 4475N×12373W, h43km, MD3.3, Fault plane solution: NP1:φ$_S$40.00000°, δ85.00000°, NP2: φ$_S$220.00000°, δ5.00000°, Principal axes: T Plg50.0000°, Azm310.0000°; P Plg40.0000°, Azm130.0000°;*

*NEIC **04** 17:38:47.1, 4475N×12373W, h44km, MD3.2(SEA), After SEA.*

NEIC Felt [III] at Corvallis, Dallas, Falls City, Grand Ronde, Otis, Philomath, Siletz and Toledo; [II] at Albany, Lincoln City, Newport and Salem. Also felt at Alsea, Blodgett, Cloverdale, Eddyville, Florence, Junction City, Logsden, Portland and Silverton.

ISC 04 17:38:47.7±0.7, 4474N±003×12380W±007, h32km±5km, n65, σ0°68/67, mb2.7/1, 6C-20D, Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPOR	**Mary's Peak**	**0.30**	**142**	⇑P	**Pb**	**17 38 55.9**	**+0.5**
COR	**Corvallis**	**0.39**	**113**	*e*Pn	**Pb**	**17 38 55.7**	**-0.9**
COR				*e*Sn	**Sb**	**17 39 03.0**	**+0.3**
HEBO	**Mount Hebo**	**0.47**	**4**	⇓P	**Pb**	**17 38 57.9**	**+0.1**
RNO	**Roman Nose**	**0.83**	**177**	⇓P	**Pn**	**17 39 03.1**	**0.0**
EUO	**Eugene**	**0.89**	**143**	⇓P	**Pn**	**17 39 03.5**	**-0.4**
ALVY	**Alvey**	**0.93**	**142**	⇓P	**Pn**	**17 39 04.2**	**-0.3**
SSOR	**Sweet Springs**	**0.96**	**83**	⇓P	**Pn**	**17 39 04.3**	**-0.7**
BROR	**Big Rock Looko**	**1.08**	**116**	⇓P	**Pn**	**17 39 06.0**	**-0.5**
WPO	**West Portland**	**1.10**	**40**	⇓P	**Pn**	**17 39 07.4**	**+0.5**
GT2	**Goat Mountain**	**1.17**	**69**	⇓P	**Pn**	**17 39 07.4**	**-0.3**
PGO	**Gresham**	**1.20**	**52**	P	**Pn**	**17 39 08.0**	**-0.2**
HSO	**Harness Mounta**	**1.32**	**157**	P	**Pn**	**17 39 10.1**	**+0.3**
FRIS	**Frissel Point**	**1.33**	**113**	⇓P	**Pn**	**17 39 09.9**	**-0.1**
IRO	**Indian Ridge**	**1.33**	**123**	⇓P	**Pn**	**17 39 09.6**	**-0.4**
NLO	**Nicolai Mounta**	**1.37**	**13**	⇓P	**Pn**	**17 39 10.3**	**-0.3**
HBO	**Huckleberry Mo**	**1.39**	**130**	⇓P	**Pn**	**17 39 10.5**	**-0.4**
VLMM	**Larch Mountain**	**1.48**	**57**	⇑P	**Pn**	**17 39 11.9**	**-0.2**
TDH	**Tom, Dick, Har**	**1.53**	**68**	⇓P	**Pn**	**17 39 12.6**	**-0.1**
HUOR	**Husband**	**1.53**	**113**	⇓P	**Pn**	**17 39 12.9**	**+0.1**
BKCOR	**Black Crater**	**1.57**	**106**	⇓P	**Pn**	**17 39 13.2**	**-0.2**
WIFE	**Three Sisters-**	**1.58**	**115**	⇓P	**Pn**	**17 39 13.3**	**-0.1**
VBEM	**Beaver Butte**	**1.61**	**78**	P	**Pn**	**17 39 14.1**	**+0.3**
LVP	**Lakeview Peak**	**1.65**	**36**	P	**Pn**	**17 39 14.2**	**-0.2**
VLL	**Laurance Lake**	**1.67**	**64**	P	**Pn**	**17 39 14.8**	**+0.1**
DBO	**Dodson Butte**	**1.67**	**166**	⇓P	**Pn**	**17 39 15.0**	**+0.3**
MTMW	**Mount Mitchell**	**1.71**	**41**	P	**Pn**	**17 39 14.7**	**-0.5**
VFP	**Flag Point**	**1.76**	**70**	⇓P	**Pn**	**17 39 15.9**	**+0.1**
FL2	**Flat Top 2**	**1.78**	**35**	⇓P	**Pn**	**17 39 16.2**	**0.0**
APM	**Augspurger Mou**	**1.80**	**56**	P	**Pn**	**17 39 16.6**	**+0.1**
CDFW	**Cedar Flats**	**1.85**	**41**	P	**Pn**	**17 39 17.1**	**0.0**
ERK	**Elk Rock**	**1.87**	**33**	P	**Pn**	**17 39 17.4**	**0.0**
KEBM	**Edson Butte**	**1.91**	**192**	*e*Pn	**Pn**	**17 39 17.4**	**-0.5**
BBOR	**Butler Butte**	**2.02**	**156**	P	**Pn**	**17 39 20.2**	**+0.7**
ASR	**Mount Adams--S**	**2.10**	**47**	⇑P	**Pn**	**17 39 21.0**	**+0.4**
HUMO	**Hull Mountain**	**2.22**	**164**	*e*Pn	**Pn**	**17 39 22.8**	**+0.5**
GLK	**Glacier Lake**	**2.39**	**39**	⇑P	**Pn**	**17 39 25.1**	**+0.5**
REMR	**Mount Rainier-**	**2.49**	**33**	⇓P	**Pn**	**17 39 27.0**	**+1.0**
WPW	**White Pass**	**2.52**	**38**	⇑P	**Pn**	**17 39 26.7**	**+0.3**
KBO	**Bosley Butte**	**2.55**	**187**	*e*Pn	**Pn**	**17 39 24.6**	**-2.1**
RVC	**Mount Rainier-**	**2.55**	**30**	P	**Pn**	**17 39 27.6**	**+0.8**
FMW	**Mount Fremont**	**2.65**	**33**	⇑P	**Pn**	**17 39 29.1**	**+1.0**
YBH	**Yreka Blue Hor**	**3.11**	**165**	*e*Pn	**Pn**	**17 39 35.8**	**+1.3**
HTW	**Haystack Looko**	**3.37**	**24**	P	**Pn**	**17 39 38.3**	**+0.2**
RSW	**Rattlesnake Hi**	**3.39**	**59**	P	**Pn**	**17 39 38.5**	**+0.1**
STW	**Striped Peak**	**3.41**	**2**	P	**Pn**	**17 39 38.3**	**-0.3**
HAWA	**Hanford**	**3.42**	**60**	*e*Pn	**Pn**	**17 39 38.4**	**-0.5**
GBB	**Gable Butte**	**3.47**	**56**	P	**Pn**	**17 39 39.8**	**+0.3**
H2OWA	**Water**	**3.49**	**60**	P	**Pn**	**17 39 39.8**	**+0.1**
GBL	**Gable Mountain**	**3.57**	**57**	P	**Pn**	**17 39 41.1**	**+0.3**
MJ2	**May Junction 2**	**3.61**	**58**	P	**Pn**	**17 39 41.5**	**+0.2**
LOCW	**Locke Island**	**3.65**	**56**	P	**Pn**	**17 39 42.3**	**+0.4**
JCW	**Jim Creek**	**3.69**	**20**	P	**Pn**	**17 39 42.6**	**+0.1**
OT3	**Othello 3**	**3.74**	**57**	P	**Pn**	**17 39 43.5**	**+0.4**
MOD	**Modoc**	**3.82**	**137**	*e*Pn	**Pn**	**17 39 43.5**	**-0.7**
PGC	**Sidney**	**3.92**	**3**	*e*Pn	**Pn**	**17 39 43.3**	**-2.3**
PGC				*e*Sn	**Sn**	**17 40 25.5**	**-5.0**
MBW	**Mount Baker**	**4.25**	**17**	P	**Pn**	**17 39 50.5**	**+0.4**
WDC	**Whiskeytown Da**	**4.26**	**167**	*e*Pn	**Pn**	**17 39 51.7**	**+1.4**
WVOR	**Wild Horse Val**	**4.41**	**120**	*e*Pn	**Pn**	**17 39 51.7**	**-0.6**
NEW	**Newport**	**5.80**	**50**	*e*Pn	**Pn**	**17 40 10.1**	**-1.4**
	3.6nm,0.6s						
NVAR	**Mina Array Bea**	**7.53**	**145**	Pn	**Pn**	**17 40 39.4**	**+4.1**
	0.5nm,0.3s,baz=326,slow=14,SNR=12						
CHMT	**Chamberlain Mo**	**7.69**	**70**	*e*Pn	**Pn**	**17 40 36.8**	**-0.5**
MCMT	**McKenzie Canyo**	**7.80**	**86**	*e*Pn	**Pn**	**17 40 38.6**	**-0.3**
PDAR	**Pinedale Array**	**10.50**	**96**	Pn	**Pn**	**17 41 17.2**	**+1.3**
	0.1nm,0.3s,baz=291,slow=12,SNR=5.2						
YKA	**Yellowknife Ar**	**18.57**	**13**	P	**Pn**	**17 43 00.6**	**-1.7**
	baz=198,slow=12,SNR=4.5						
ILAR	**Eielson Array**	**23.82**	**335**	P	**P**	**17 43 59.2**	**+1.5**
	0.3nm,0.9s,mb2.7,baz=155,slow=12,SNR=4.7						

*ISCJB **04** 17:48:51.8±0.4, 2223N±005×1427E±02, h25km, mb4.1/22, MS3.3/2, Error ellipse: s-maj=20.8km s-min=6.6km az=176.1*

*NEIC **04** 17:48:53.7±0.5, 2224N×14277E, mb4.4/10, Error ellipse: s-maj=22.7km s-min=8.5km az=86.0*

*IDC **04** 17:48:53.6±0.5, 2229N×14278E, h26km±3km, mb3.7/11, mb1 3.9/13, mb1mx3.8/20, mbtmp3.9/13, ML3.5/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/29, Error ellipse: s-maj=22.6km s-min=13.8km az=86.0*

ISC 04 17:48:53.8±0.4, 2224N±005×1427E±02, h27km, h27km±.5km: pP-P, n33, σ1°06/30, mb4.1/22, MS3.3/2, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.86**	**354**	Pn	**Pn**	**17 50 05.8**	**+0.6**
	5.1nm,0.3s,baz=87,slow=20,SNR=3.9						
CBIJ				Sn	**Sn**	**17 51 02.3**	**+1.7**
	7.8nm,0.3s,baz=296,slow=22,SNR=4.2						
JOW	**Kunigami**	**13.93**	**292**	LR	LR	17 56 35.6	
	comp=Z,128nm,21.9s,baz=226,slow=33						
MJAR	**Matsushiro Arr**	**14.78**	**346**	Pn	**Pn**	**17 52 20.1**	**-0.9**
	0.1nm,0.3s,baz=158,slow=11,SNR=3.3						
ASAJ	**Asahikawa**	**21.82**	**360**	LR	LR	18 01 29.6	
	comp=Z,58nm,20.0s,MS3.0,baz=164,slow=35						
SONM	**Songino Array**	**38.66**	**320**	P	**P**	**17 56 15.6**	**+0.5**
	0.7nm,0.6s,mb3.5,baz=129,slow=6.3,SNR=8.2						
CTAO	**Charters Tower**	**42.21**	**175**	*e*P	**P**	**17 56 43.6**	**-0.8**
	3.6nm,0.9s,mb4.0						
WRAB	**Tennant Creek**	**42.71**	**192**	*e*P	**P**	**17 56 48.9**	**+0.3**
	17nm,1.2s,mb4.7						
WB2	**Warramunga Arr**	**42.72**	**192**	*e*P	**P**	**17 56 49.0**	**+0.4**
WRA	**Warramunga Arr**	**42.72**	**192**	P	**P**	**17 56 49.2**	**+0.6**
	3.5nm,0.9s,mb4.1,baz=13,slow=8.5,SNR=16						
AS31	**Alice Springs**	**46.43**	**191**	*e*P	**P**	**17 57 19.7**	**+1.5**
ASAR	**Alice Springs**	**46.43**	**191**	P	**P**	**17 57 18.6**	**+0.4**
	1.1nm,0.7s,mb3.9,baz=15,slow=10,SNR=17						
ASAR				pP	pP	17 57 26.3	0.0
	1.1nm,0.6s,baz=16,slow=9.3,SNR=7.5						
ASPA	**Alice Springs**	**46.43**	**191**	*e*P	**P**	**17 57 19.7**	**+1.5**
BILL	**Bilibino**	**48.07**	**12**	P	**P**	**17 57 32.7**	**+1.7**
	2.1nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**53.82**	**181**	P	**P**	**17 58 13.2**	**-1.1**
MKAR	**Makanchi Array**	**54.02**	**312**	P	**P**	**17 58 16.8**	**+1.1**
	1.3nm,0.8s,mb3.9,baz=92,slow=9.0,SNR=18						
MKAR				pP	pP	17 58 24.5	+0.6
	1.2nm,0.6s,baz=91,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**54.02**	**312**	P	**P**	**17 58 16.8**	**+1.1**
MKAR				pP	pP	17 58 24.5	+0.6
KURK	**Kurchatov**	**56.79**	**317**	*e*P	**P**	**17 58 34.8**	**-0.8**
	6.2nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**59.51**	**307**	P	**P**	**17 58 48.6**	**-6.0**
	1.5nm,0.9s,mb4.0						
PALK	**Pallekele**	**61.42**	**266**	*e*P	**P**	**17 58 59.9**	**-7.8**
	8.1nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**61.75**	**27**	P	**P**	**17 59 08.6**	**-1.3**
	0.5nm,0.8s,mb3.7,baz=272,slow=4.6,SNR=7.3						
ILAR				pP	pP	17 59 16.9	-1.3
	0.9nm,0.7s,baz=268,slow=5.0,SNR=6.8						
BRVK	**Borovoye**	**62.05**	**319**	*e*P	**P**	**17 59 12.2**	**+0.3**
	6.1nm,0.8s,mb4.8						
BRVK				*e*	pP	17 59 20.2	-0.1
ZRNK	**Zerenda**	**62.83**	**319**	*e*P	**P**	**17 59 17.4**	**+0.2**
	6.7nm,1.0s,mb4.7						
ZRNK				*e*	pP	17 59 25.2	-0.3
INK	**Inuvik**	**67.24**	**24**	*e*P	**P**	**17 59 46.6**	**+0.8**
	1.0nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**76.17**	**28**	P	**P**	**18 00 39.1**	**-0.4**
	0.4n

ARCES	**ARCESS Array B**	**129.49**	**350**	PKP	PKPdf	18 38 04.0	-1.1
	0.6nm,0.4s,baz=45,slow=1.9,SNR=6.7						
FINES	**FINESS Array B**	**136.41**	**344**	PKP	PKPdf	18 38 18.3	+0.1
	7.7nm,1.3s,baz=126,slow=3.3,SNR=6.1						
AKASG	**Malin Array Be**	**143.78**	**331**	PKP	PKPdf	18 38 28.0	-3.5
	5.8nm,0.4s,baz=44,slow=4.2,SNR=37						
BR131	**Keskin Array S**	**147.72**	**312**	*e*P	PKPdf	18 38 39.9	+1.7
BRTR	**Keskin Array B**	**147.72**	**312**	PKPbc	PKPbc	18 38 40.4	-1.0
	1.5nm,0.6s,baz=142,slow=5.8,SNR=9.4						
CLL	**Collm**	**148.66**	**348**	⇑*i*PKPbc	PKPbc	18 38 44.2	+0.4
	comp=Z,7.0nm,0.8s						
CLL				*e*PKPab	PKPab	18 38 49.0	+0.6
GERES	**GERESS Array B**	**150.83**	**345**	PKPbc	PKPbc	18 38 49.0	0.0
	comp=Z,0.8nm,0.6s,baz=30,slow=2.5,SNR=8.8						
GERES				PKPab	PKPab	18 38 57.6	+0.3
	comp=Z,0.4nm,0.6s,baz=32,slow=3.3,SNR=3.6						

OMAN ***04*** *18:21:52.7, 11.18N×48.28E, h35km*
ISCJB ***04*** *18:22:36.4±1.4, 139N±0.1×5057E±005, h10km, Error ellipse: s-maj=21.3km s-min=6.3km az=159.2*
DHMR ***04*** *18:22:40.5±1.9, 1341N×5016E, h3km±399km, ML3.8*

ISC 04 18:22:38.6±1.4, 139N±02×5057E±005, h10km, n7, σ0§59/11, 1C-4D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.60**	**292**	*i* P	**Pg**	**18 23 08.1**	**-1.2**
MUKL				*i* S	**Sg**	**18 23 30.7**	**+0.7**
MUKL				AML	AML	18 23 32.0	
	comp=N,2μm,0.5s						
ABTO	**Aybut**	**4.33**	**37**	⇓P	**Pn**	**18 23 44.5**	**0.0**
	SNR=15						
BDHA	**Al Bayda'**	**4.86**	**272**	*e*	**Pn**	**18 23 52.5**	**+0.8**
	baz=112,slow=14						
BDHA				⇓*i*P		18 23 52.6	
BDHA				*i* S	**Sn**	**18 24 47.9**	**-0.1**
BDHA	**Al Bayda'**	**4.86**	**272**	⇓*i*P	**Pn**	**18 23 52.6**	**+0.9**
BDHA				*i* S	**Sn**	**18 24 47.9**	**-0.1**
RBK	**Rabkut**	**5.02**	**44**	P	**Pn**	**18 23 53.8**	**-0.1**
	SNR=28						
WHFO	**Wadi Hawf**	**5.06**	**37**	⇓P	**Pn**	**18 23 54.4**	**0.0**
	SNR=14						
LBOS		**5.17**	**270**	⇑*i*P	**Pn**	**18 23 56.3**	**+0.3**
LBOS				*i* S	**Sn**	**18 24 55.0**	**-0.6**

ISCJB ***04*** *18:32:21.0±0.7, 1521S±009×7297W±007, h105km±8km, mb3.8/7, Error ellipse: s-maj=16.4km s-min=7.5km az=70.0*
NEIC ***04*** *18:32:22.1±1.1, 1521S×7289W, h100km±12km, Error ellipse: s-maj=17.1km s-min=12.1km az=47.0*
IDC ***04*** *18:32:26.1±3.3, 1532S×7276W, h136km±30km, mb3.7/7, mb1 3.9/8, mb1mx3.7/18, mbtmp4.1/8, Error ellipse: s-maj=27.3km s-min=20.8km az=73.0*

ISC 04 18:32:22.3±0.7, 1523S±009×7297W±007, h100km±8km, n16, σ1§17/18, mb3.8/7, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.88**	**131**	⇑*i*P	**Pn**	**18 32 53.3**	**0.0**
ARE				*i* S	**Sn**	**18 33 16.8**	**-0.1**
LPAZ	**La Paz**	**4.78**	**103**	P	**Pn**	**18 33 34.3**	**+2.3**
	11nm,0.3s,baz=304,slow=10,SNR=142						
LPAZ				S	**Sn**	**18 34 27.1**	**+0.9**
	1.2nm,0.3s,baz=159,slow=24,SNR=2.2						
NNA	**Nana**	**4.95**	**310**	*e*Pn	**Pn**	**18 33 34.2**	**-0.1**
	79nm,0.6s						
NNA				*e*Sn	**Sn**	**18 34 30.1**	**-0.3**
SAML	**Samuel**	**11.43**	**58**	*e*Pn	**Pn**	**18 34 59.8**	**-2.4**
	9.8nm,0.4s						
SIV	**San Ignacio**	**11.49**	**95**	P	**Pn**	**18 35 00.2**	**-2.9**
	3.4nm,0.3s,baz=283,slow=11,SNR=87						
CFAA	**Coronel Fontan**	**16.86**	**166**	P	**Pn**	**18 36 11.7**	**-0.4**
	0.0nm,0.3s,baz=330,slow=11,SNR=5.5						
BDFB	**Brasilia**	**24.06**	**94**	P	**P**	**18 37 27.4**	**-0.7**
	2.5nm,0.4s,mb3.9,baz=255,slow=3.3,SNR=3.2						
SDV	**Santo Domingo**	**24.07**	**6**	P	**P**	**18 37 29.9**	**+1.6**
	1.7nm,0.4s,mb3.7,baz=266,slow=9.3,SNR=4.5						
PLCA	**Paso Flores**	**25.50**	**176**	P	**P**	**18 37 40.9**	**-0.3**
	2.5nm,0.9s,mb3.6,baz=354,slow=11,SNR=5.0						
NVAR	**Mina Array Bea**	**68.20**	**323**	P	**P**	**18 43 13.8**	**+2.0**
	0.1nm,0.3s,mb3.2,baz=141,slow=4.7,SNR=3.6						
NVAR	**Mina Array Bea**	**68.20**	**323**	P	**P**	**18 43 13.8**	**+1.9**
ULM	**Lac du Bonnet**	**68.24**	**344**	P	**P**	**18 43 11.6**	**-0.6**
	1.0nm,0.4s,mb4.0,baz=149,slow=8.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**79.07**	**73**	P	**P**	**18 44 14.9**	**-0.5**
	2.8nm,0.7s,mb4.2,baz=252,slow=4.7,SNR=19						
YKA	**Yellowknife Ar**	**84.04**	**342**	P	**P**	**18 44 41.7**	**+0.1**
	0.9nm,0.8s,mb3.7,baz=135,slow=5.2,SNR=18						
YKA	**Yellowknife Ar**	**84.04**	**342**	P	**P**	**18 44 41.7**	**+0.1**
MJAR	**Matsushiro Arr**	**145.07**	**313**	PKPbc	PKPbc	18 51 47.7	+0.2
	1.2nm,0.9s,baz=60,slow=2.4,SNR=4.4						

ORF ***04*** *18:37:26.2, 3080N×1395E, h30km, mb5.7*
NIED ***04*** *18:38:00, 3380N×1376OE, h340km, Mw5.2 Best double couple: M0:6.18000×10¹⁶ NP1:φs=201.00000°, δ82.00000°, λ106.00000°. NP2:φs=317.00000°, δ17.00000°, λ27.00000°.*
BGS ***04*** *18:38:11.7±1.9, 3241N×1357ZE, h340km, mb5.2*
BJI ***04*** *18:38:12.8, 3370N×1373ΘE, h333km, mB4.8, mb5.7*
JMA ***04*** *18:38:13.5±0.2, 3377N×1376IE, h353km±3km, M5.3 Broadband fault plane solution: P waves. NP1: φs=304.00000°, δ27.00000°, λ5.00000°. NP2:φs=210.00000°, δ88.00000°, λ117.00000°. Principal axes: T Plg41.0000°, Azm145.0000°; N Plg27.0000°, Azm29.0000°; P Plg37.0000°, Azm276.0000°;*
JMA Felt II J1.
ISCJB ***04*** *18:38:13.9±0.1, 3375N±002×1374ZE±002, h338km, mb5.1/259 Error ellipse: s-maj=2.8km s-min=1.9km az=127.8*
MOS ***04*** *18:38:13.0±0.8, 3370N×1373ZE, h332km, mb5.2/126, Error ellipse: s-maj=6.8km s-min=3.7km az=106.5*
SZGRF ***04*** *18:38:13.5, 3368N×1378ΘE, h338km, mb5.7, Near south coast of eastern Honshu, Japan*
IDC ***04*** *18:38:13.9±0.5, 3367N×1374OE, h330km±4km, mb4.8/28, mb1 4.9/30, mb1mx4.9/31, mbtmp5.4/30, Error ellipse: s-maj=9.3km s-min=5.6km az=72.0*
NEIC ***04*** *18:38:14.8±0.1, 3369N×1373ZE, mb5.1/163, MW5.1(NIED), Error ellipse: s-maj=3.3km s-min=2.7km az=164.0*
NEIC Recorded [2 JMA] in Fukushima and Ibaraki; [1 JMA] in Chiba, Miyagi, Saitama, Tochigi and Tokyo Prefectures.
HRVD ***04*** *18:38:14.8±0.6, 3357N×1375ZE, h337km±3km, MW5.2/36, Centroid moment Tensor Solution. LP body waves: s36,c51; Half duration: 0 Moment tensor: Scale 10¹⁶ Nm; Mrr1.43±.48; Mθθ1.52±.56; Mφφ-2.95±.61; Mrθ-2.76±.60; Mθφ0.10±.49; Mφr-6.58±.42; Best double couple: M0:7.54700×10¹⁶ NP1:φs=321.00000°, δ15.00000°, λ29.00000°. NP2:φs=203.00000°, δ83.00000°, λ103.00000°. Principal axes: T 7.1400, Plg50.0000°, Azm127.0000°; N 0.8140, Plg13.0000°, Azm22.0000°; P -7.9540, Plg37.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s.*

ISC 04 18:38:15.3±0.1, 3382N±002×13747E±002, h340km, h340km±1.0km: pP-P, n828, σ0§98/877, mb5.2/257, 80C-101D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.11**	**117**	P	**Pn**	**18 38 57.7**	**-0.1**
TK01				S	**S**	**18 39 31.8**	**-0.1**
TK02	**Tokai 2**	**0.27**	**61**	⇑P	**Pn**	**18 38 58.0**	**+0.1**
TK02				S	**S**	**18 39 33.2**	**+1.1**
TK03	**Tokai 3**	**0.54**	**50**	⇑P	**Pn**	**18 38 58.9**	**+0.5**
TK03				S	**S**	**18 39 34.6**	**+1.7**
TK04	**Tokai 4**	**0.66**	**31**	⇑P	**Pn**	**18 38 59.2**	**+0.5**
TK04				S	**S**	**18 39 34.6**	**+1.1**
JIE	**Ise**	**0.85**	**312**	⇑P	**Pn**	**18 38 59.7**	**+0.4**
JIE				S	**S**	**18 39 34.7**	**+0.1**
JAA	**Atsumi**	**0.86**	**342**	⇑P	**Pn**	**18 38 59.7**	**+0.4**
JAA				S	**S**	**18 39 34.8**	**+0.2**
HMMJ	**Hamamatsu 2**	**1.06**	**11**	⇑P	**Pn**	**18 39 00.3**	**+0.2**
JKN2	**Miekihoku**	**1.08**	**293**	⇑P	**Pn**	**18 39 00.4**	**+0.2**
JKO	**Kozu shima**	**1.43**	**75**	⇓P	**Pn**	**18 39 01.6**	**-0.4**
JAO	**Obara**	**1.46**	**353**	⇑P	**Pn**	**18 39 02.6**	**+0.5**
JIZS	**Izushimoda**	**1.47**	**52**	⇓P	**Pn**	**18 39 01.8**	**-0.4**
JWZ	**Kozaga**	**1.49**	**259**	⇑P	**Pn**	**18 39 02.1**	**-0.2**
JWZ				S	**S**	**18 39 39.7**	**-0.2**
JNY	**Yasuok**	**1.57**	**12**	⇑P	**Pn**	**18 39 03.0**	**+0.2**
JWY	**Kouya**	**1.61**	**285**	⇑P	**Pn**	**18 39 03.7**	**+0.7**
JIM2	**Oshima 3**	**1.86**	**61**	P	**Pn**	**18 39 03.7**	**-0.9**
JIM2				S	**S**	**18 39 42.7**	**-1.4**
JYN	**Shimob**	**1.90**	**28**	⇑P	**Pn**	**18 39 04.6**	**-0.2**
JOD2	**Odawara 2**	**1.97**	**42**	⇓P	**Pn**	**18 39 04.9**	**-0.4**
JOD2				S	**S**	**18 39 44.4**	**-1.1**
JGM	**Miyama**	**1.98**	**342**	⇑P	**Pn**	**18 39 06.1**	**+0.7**
JGM				S	**S**	**18 39 46.2**	**+0.6**
JHJ	**Hachijo jima 2**	**2.06**	**109**	P	**Pn**	**18 39 04.5**	**-1.5**
	697nm,0.3s,baz=215,slow=4.4,SNR=150						
JHJ				S	**S**	**18 39 44.1**	**-2.5**
	238nm,0.3s,baz=248,slow=22,SNR=2.3						
JHJ2	**Mitsune**	**2.08**	**109**	⇓P	**Pn**	**18 39 04.3**	**-1.9**
JFM	**Mihama**	**2.10**	**325**	⇑P	**Pn**	**18 39 07.1**	**+0.8**
JWT	**Wachi**	**2.25**	**311**	⇑P	**Pn**	**18 39 08.1**	**+0.7**
JGN	**Niukaw**	**2.40**	**357**	⇑P	**Pn**	**18 39 09.0**	**+0.3**
JRY	**Ryogami san**	**2.49**	**28**	⇑P	**Pn**	**18 39 09.4**	**0.0**
JRY				S	**S**	**18 39 50.7**	**-2.1**
JAI	**Aioi**	**2.51**	**270**	⇑P	**Pn**	**18 39 09.8**	**+0.3**
JAI				S	**S**	**18 39 53.3**	**+0.2**
JKG	**Kaga**	**2.63**	**340**	⇑P	**Pn**	**18 39 10.9**	**+0.4**
JNG	**Nsakai**	**2.63**	**11**	⇑P	**Pn**	**18 39 10.5**	**-0.1**
BSO3	**Boso 3**	**2.70**	**68**	⇓P	**Pn**	**18 39 08.5**	**-2.7**
JTT	**Ttatey**	**2.78**	**358**	⇑P	**Pn**	**18 39 12.3**	**+0.4**
MAJO	**Matsushiro**	**2.79**	**12**	*e*Pn	**Pn**	**18 39 11.4**	**-0.5**
MAJO				Sn	**S**	**18 39 56.2**	**-1.2**
MAT	**Matsushiro**	**2.79**	**12**	P	**Pn**	**18 39 11.6**	**-0.3**
MAT				S	**S**	**18 39 55.9**	**-1.5**
MAT	**Matsushiro**	**2.79**	**12**	P	**Pn**	**18 39 11.7**	**-0.2**
MAT				S	**S**	**18 39 56.4**	**-1.0**
MAT	**Matsushiro**	**2.79**	**12**	*e*P	**Pn**	**18 39 12.0**	**+0.1**
MAT				*e*S	**S**	**18 39 56.0**	**-1.4**
MJAR	**Matsushiro Arr**	**2.79**	**12**	P	**Pn**	**18 39 11.7**	**-0.2**
	331nm,0.3s,baz=190,slow=9.7						
MJAR				S	**S**	**18 39 56.0**	**-1.3**
	61nm,0.3s,baz=188,slow=15,SNR=22						
MJAR	**Matsushiro Arr**	**2.79**	**12**	P	**Pn**	**18 39 11.7**	**-0.2**
MJAR				S	**S**	**18 39 56.0**	**-1.4**
MJAR				pmax	pmax		
	comp=Z,331nm,0.3s						
BSO1	**Boso 1**	**3.02**	**73**	⇓P	**Pn**	**18 39 10.6**	**-3.4**
JAG	**Ashikaga**	**3.07**	**31**	⇓P	**Pn**	**18 39 12.8**	**-1.6**
JAG				S	**S**	**18 39 57.5**	**-4.5**
JJN	**Nakama**	**3.33**	**10**	⇑P	**Pn**	**18 39 17.1**	**+0.2**
JHO	**Hitachi**	**3.77**	**41**	⇓P	**Pn**	**18 39 18.9**	**-2.4**
JHS	**Saijyo**	**3.79**	**289**	⇑P	**Pn**	**18 39 22.4**	**+1.0**
JHS				S	**S**	**18 40 16.6**	**+1.9**
JFY	**Yanaizu**	**4.02**	**26**	⇑P	**Pn**	**18 39 22.7**	**-1.1**
JTO	**Tosashimizu**	**4.02**	**258**	⇑P	**Pn**	**18 39 24.1**	**+0.3**
JTO				S	**S**	**18 40 19.4**	**+0.3**
ONAJ	**Iwakimizuishiy**	**4.26**	**39**	⇓P	**Pn**	**18 39 24.4**	**-1.9**
JSD	**Sado**	**4.26**	**8**	⇑P	**Pn**	**18 39 25.6**	**-0.7**
JFT	**Otama**	**4.37**	**31**	⇓P	**Pn**	**18 39 26.4**	**-1.1**
JFK	**Kawauchi**	**4.50**	**37**	⇓P	**Pn**	**18 39 27.0**	**-1.9**
JKD	**Kudamatsu**	**4.66**	**274**	⇑P	**Pn**	**18 39 31.6**	**+1.0**
JUS	**Usuki**	**4.84**	**263**	⇑P	**Pn**	**18 39 33.5**	**+0.9**
JAW	**Awa shima**	**4.85**	**17**	⇑P	**Pn**	**18 39 31.8**	**-0.9**
JMM	**Marumori**	**4.86**	**33**	⇓P	**Pn**	**18 39 31.2**	**-1.6**
JMM				S	**S**	**18 40 30.1**	**-5.3**
JYS	**Shiratake**	**4.87**	**25**	⇑P	**Pn**	**18 39 32.2**	**-0.8**
JKI	**Kunimi**	**4.92**	**269**	⇑P	**Pn**	**18 39 34.6**	**+1.1**
OIT2	**Oita 2**	**5.05**	**266**	⇑P	**Pn**	**18 39 36.3**	**+1.3**
JYA	**Atsumi**	**5.10**	**20**	S	**S**	**18 40 37.6**	**-2.7**
JKIT	**Kitakata**	**5.18**	**258**	⇑P	**Pn**	**18 39 37.6**	**+1.2**
JOU	**Okura**	**5.22**	**29**	⇑P	**Pn**	**18 39 35.8**	**-1.1**
JOU				S	**S**	**18 40 40.1**	**-2.7**
JTSN	**Tsuno**	**5.25**	**254**	P	**Pn**	**18 39 37.9**	**+0.8**
JTSN				S	**S**	**18 40 44.4**	**+1.1**
JTY	**Toyota**	**5.34**	**277**	⇑P	**Pn**	**18 39 39.2**	**+1.1**
JNU	**Nakatsue**	**5.55**	**265**	P	**Pn**	**18 39 41.8**	**+1.2**
	comp=Z,16nm,0.3s,baz=90,slow=13,SNR=60						
JNU				S	**S**	**18 40 48.9**	**-0.7**
	baz=282,slow=32,SNR=1.5						
JFA	**Akaike**	**5.56**	**271**	P	**Pn**	**18 39 41.4**	**+0.8**
JIO	**Ouri**	**5.59**	**33**	⇓P	**Pn**	**18 39 38.9**	**-2.1**
JYK	**Kaneyama**	**5.60**	**24**	⇑P	**Pn**	**18 39 40.0**	**-1.1**
JYK				S	**S**	**18 40 46.7**	**-3.8**
JTZ	**Takazaki**	**5.70**	**252**	P	**Pn**	**18 39 43.1**	**+0.9**
JIU2	**Izumi 2**	**5.72**	**259**	P	**Pn**	**18 39 43.4**	**+0.9**
JFI	**Itaya**	**5.92**	**268**	P	**Pn**	**18 39 45.8**	**+1.0**
JZO	**Okuchi**	**6.01**	**256**	⇓P	**Pn**	**18 39 46.6**	**+0.8**
JRG	**Rokugo**	**6.12**	**24**	⇑P	**Pn**	**18 39 46.1**	**-1.0**
JYW	**Yuwa**	**6.12**	**20**	⇑P	**Pn**	**18 39 46.5**	**-0.6**
OFUJ	**Ofunato**	**6.25**	**32**	S	**S**	**18 40 58.4**	**-5.8**
JHD	**Hondo**	**6.30**	**260**	⇓P	**Pn**	**18 39 49.9**	**+0.8**
JUR	**Ureshino**	**6.33**	**266**	⇓P	**Pn**	**18 39 50.4**	**+0.9**
JSU	**Suzuyama**	**6.35**	**251**	⇓P	**Pn**	**18 39 50.2**	**+0.5**
JOM	**Ohasama**	**6.43**	**27**	⇑P	**Pn**	**18 39 49.2**	**-1.4**
NGSJ	**Nagasakinomoza**	**6.54**	**262**	⇓P	**Pn**	**18 39 52.8**	**+0.9**
JTU	**Tsushima**	**6.73**	**278**	⇓P	**Pn**	**18 39 55.0**	**+0.9**
JAH	**Hinai**	**6.85**	**21**	⇑P	**Pn**	**18 39 54.8**	**-0.7**
JSJ	**Shimokoshiki**	**6.87**	**254**	⇓P	**Pn**	**18 39 56.4**	**+0.6**
JKZ	**Kuzumaki**	**6.89**	**26**	⇑P	**Pn**	**18 39 54.9**	**-1.1**
JTH	**Tanohata**	**7.05**	**29**	⇑P	**Pn**	**18 39 56.1**	**-1.9**
JIW	**Iwasaki**	**7.06**	**16**	P	**Pn**	**18 39 57.4**	**-0.7**
JANG	**Nango**	**7.30**	**25**	P	**Pn**	**18 39 59.3**	**-1.6**
JFU	**Fukue jima 2**	**7.40**	**263**	P	**Pn**	**18 40 03.1**	**+1.1**
CBIJ	**Chichi jima**	**7.84**	**147**	P	**Pn**	**18 39 59.9**	**-7.4**
	comp=Z,64nm,0.3s,baz=274,slow=21,SNR=17						
JOSM	**Okushiri--Mats**	**8.40**	**10**	P	**Pn**	**18 40 13.1**	**-0.9**
KS15	**Wonju Array Si**	**8.60**	**298**	Pn	**Pn**	**18 40 17.8**	**+1.4**
KS15				Sn	**S**	**18 41 57.8**	**+2.6**
ERM	**Erimo**	**9.33**	**27**	Pn	**Pn**	**18 40 23.3**	**-1.9**
	comp=Z,3μm,0.5s,SNR=17						
INCN	**Inchon**	**9.55**	**296**	Pn	**Pn**	**18 40 29.3**	**+1.6**
INCN				Sn	**S**	**18 42 18.3**	**+2.2**
VLA	**Vladivostok**	**10.26**	**336**	*d*iP	**Pn**	**18 40 36.8**	**+0.5**
VLA				*i* S	**S**	**18 42 32.0**	**0.0**
VLA				pmax	pmax		
	comp=Z,754nm,0.8s						
VLA				MLR	MLR		
	comp=Z,500nm,13.5s						
JOW	**Kunigami**	**10.56**	**231**	P	**Pn**	**18 40 38.6**	**-1.3**
	comp=Z,6.7nm,0.3s,baz=54,slow=8.4,SNR=28						
ASAJ	**Asahikawa**	**11.03**	**20**	P	**Pn**	**18 40 43.6**	**-1.9**
	comp=Z,38nm,0.3s,baz=222,slow=12,SNR=144						
ASAJ	**Asahikawa**	**11.03**	**20**	P	**Pn**	**18 40 43.6**	**-1.9**
ASAJ				pmax	pmax		
	comp=Z,38nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**12.11**	**30**	*e*P	**Pn**	**18 40 58.0**	**-0.4**
YUK				*i* S	**S**	**18 43 05.5**	**-7.4**
YUK				pmax	pmax		
	comp=Z,570nm,0.5s						
YUK				pmax	pmax		
	comp=N,420nm,0.6s						
YUK				pmax	pmax		
	comp=E,210nm,0.6s						
YUK				pmax	pmax		
	comp=N,2μm,1.5s						
YUK				pmax	pmax		
	comp=E,2μm,1.5s						
YUK				pmax	pmax		
	comp=Z,2μm,1.5s						
YUK				smax			
	comp=N,10μm,1.0s						
YUK				smax			
	comp=E,5μm,1.0s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
MDJ	**Mudanjiang**	**12.39**	**333**	P	**Pn**	**18 41 02.6**	**+0.9**
MDJ				S	**S**	**18 43 18.1**	**-0.9**
MDJ				PCP	PcP	18 46 12.4	+0.5
MDJ				SCP	ScP	18 49 11.0	-1.0
MDJ				SCS	ScS	18 52 48.2	-0.1
MDJ				AMB	AMB		
	comp=Z,479nm,1.0s						
MDJ	**Mudanjiang**	**12.39**	**333**	*e*Pn	**Pn**	**18 41 02.1**	**+0.4**
	comp=Z,341nm,0.8s						
SNY	**Shenyang**	**13.57**	**310**	⇓P	**Pn**	**18 41 15.5**	**-0.2**
SNY				S	**S**	**18 43 38.6**	**-4.7**
SNY				AMB	AMB		
	comp=Z,490nm,0.9s						
SNY				LR	LR		
	comp=N,379nm,8.1s						
SNY				LR	LR		
	comp=E,676nm,10.0s						
SNY				LR	LR		
	comp=Z,554nm,9.0s						
CN2	**Changchun**	**13.67**	**320**	*e*P	**Pn**	**18 41 16.3**	**-0.5**
CN2				*e*XP		18 42 34.8	
CN2				*e*S	**S**	**18 43 42.8**	**-2.4**
CN2				LR	LR		
	comp=N,600nm,13.0s						
CN2				LR	LR		
	comp=E,600nm,13.0s						
CN2				LR	LR		
	comp=Z,700nm,12.0s						
YSS	**Yuzh-Sakhalins**	**13.72**	**15**	P	**Pn**	**18 41 17.2**	**-0.2**
YSS				*e*S	**S**	**18 43 44.8**	**-1.5**
YSS				*e*ScP	ScP	18 49 13.8	-0.4
YSS	**Yuzh-Sakhalins**	**13.72**	**15**	α*i*P	**Pn**	**18 41 17.8**	**+0.4**
YSS				*e*S	**S**	**18 43 41.8**	**-4.5**
YSS				pmax	pmax		
	comp=Z,500nm,0.8s						
YSS				pmax	pmax		
	comp=Z,800nm,2.0s						
YSS				smax			
	comp=N,160nm,0.9s						
YSS				smax			
	comp=E,500nm,5.0s						
YSS				MLR	MLR		
	comp=Z,300nm,12.0s						
YSS				MLR	MLR		
	comp=E,400nm,14.0s						
DL2	**Dalian**	**13.73**	**296**	*i* PR		18 41 16.4	
DL2				XP		18 42 28.8	
DL2				S	**S**	**18 43 43.9**	**-2.7**
DL2				AMB	AMB		
	comp=Z,260nm,1.0s						
DL2				AMB	AMB		
	comp=Z,190nm,5.2s						
KUR	**Kuril'sk**	**13.93**	**32**	⇑*i*P	**Pn**	**18 41 17.3**	**-2.5**
KUR				*i* S	**S**	**18 43 50.0**	**-0.5**
KUR				pmax	pmax		
	comp=Z,950nm,1.2s						
KUR				pmax	pmax		
	comp=Z,3μm,2.0s						
KUR				smax			
	comp=N,650nm,0.8s						
KUR				smax			
	comp=E,320nm,0.8s						
SSE	**Sheshan**	**14.01**	**263**	⇓P	**P**	**18 41 18.2**	**-1.3**
SSE				XP		18 42 39.6	
SSE				S	**S**	**18 43 50.2**	**-2.0**
SSE				AMB	AMB		
	comp=Z,97nm,1.0s						
SSE				AMB	AMB		
	comp=Z,304nm,6.1s						
SSE				LR	LR		
	comp=N,135nm,12.3s						
SSE				LR	LR		
	comp=E,306nm,12.3s						
SSE				LR	LR		
	comp=Z,398nm,11.3s						
HABR	**Khabarovsk**	**14.75**	**354**	⇓*i*P	**P**	**18 41 28.4**	**+0.8**
HABR				*i* S	**S**	**18 44 09.2**	**+2.1**
HABR				pmax	pmax		
	comp=Z,55nm,0.7s						
UGL	**Uglegorsk**	**15.63**	**11**	⇑*e*P	**P**	**18 41 39.0**	**+1.9**
UGL				*i* S	**S**	**18 44 32.0**	**+7.4**
UGL				pmax	pmax		
	comp=Z,160nm,0.8s						
UGL				pmax	pmax		
	comp=Z,800nm,2.0s						
UGL				smax			
	comp=E,2μm,8.0s						
UGL				smax			
	comp=N,1μm,6.0s						
UGL				smax			
	comp=Z,1μm,8.0s						
NJ2	**Nanjing**	**15.73**	**269**	*e*P	**P**	**18 41 38.0**	**-0.2**
NJ2				XP	sP	18 43 03.5	-6.9
NJ2				S	**S**	**18 44 18.0**	**-8.7**
NJ2				AMB	AMB		
	comp=Z,320nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,230nm,5.6s						
NJ2				LR	LR		
	comp=N,590nm,27.0s						
NJ2				LR	LR		
	comp=E,650nm,27.0s						
NJ2				LR	LR		
	comp=Z,130nm,28.0s						
KLR	**Kul'dur**	**15.98**	**346**	⇑*i*P	**P**	**18 41 37.2**	**-3.7**
KLR				*i* S	**S**	**18 44 26.5**	**-5.0**
KLR				pmax	pmax		
	comp=E,100nm,0.8s						
KLR				pmax	pmax		
	comp=Z,230nm,0.8s						
KLR				smax			
	comp=N,900nm,3.0s						
KLR				smax			
	comp=E,1μm,3.0s						
TATO	**Taipei**	**16.46**	**242**	P	**P**	**18 41 45.7**	**-0.5**
	comp=E,72nm,0.6s						
YHNB	**Yeheng**	**16.73**	**241**	*e*P	**P**	**18 41 46.8**	**-2.2**
TIA	**Tai'an**	**16.84**	**284**	⇓P	**P**	**18 41 50.1**	**-0.1**
TIA				AMB	AMB		
	comp=Z,290nm,0.8s						
NACB	**Ninganchiao**	**16.87**	**239**	*e*P	**P**	**18 41 47.7**	**-2.8**
NACB				*e*S	**S**	**18 44 46.7**	**-2.4**
BJI	**Beijing**	**18.10**	**296**	P	**P**	**18 42 02.9**	**-0.9**
BJI				S	**S**	**18 45 10.6**	**-2.7**
BJI				SCP	ScP	18 49 21.8	-0.8
BJI				SCS	ScS	18 52 58.3	-5.3
BJI				AMB	AMB		
	comp=Z,369nm,0.9s						
BJI				AMB	AMB		
	comp=Z,623μm,3.0s						
BJT	**Baijiatuau**	**18.10**	**296**	*e*Pn	**P**	**18 42 02.8**	**-1.0**
	comp=Z,384nm,0.5s						
BJT	**Baijiatuau**	**18.10**	**296**	*e*P	**P**	**18 42 02.8**	**-1.0**
BJT				pmax	pmax		
	comp=Z,384nm,0.5s						
QZH	**Quanzhou**	**18.65**	**247**	⇓*i*

PET	**Petropavlovsk**	**24.44 32**	*e*P	**P**	**18 43 04.6 +0.4**
PET			pmax	pmax	
	comp=Z,39nm,0.7s,mb4.8				
PET			MLR	MLR	
	comp=Z,200nm,16.0s				
NRGR	**Nerungri**	**24.46 343**	*e*P	**P**	**18 43 03.0 -1.4**
NRGR			S	**S**	**18 46 59.6 +0.6**
NRGR			smax		
	comp=E,6.0nm,0.2s				
CLNS	**Chul'man**	**24.58 343**	*e*P	**P**	**18 43 03.7 -1.8**
CLNS			*e*		18 46 37.4
CLNS			pmax	pmax	
	comp=N,49nm,1.0s				
CLNS			pmax	pmax	
	comp=E,19nm,1.0s				
CLNS			pmax	pmax	
	comp=Z,84nm,1.0s,mb4.9				
CLNS			pmax	pmax	
	comp=Z,32nm,1.0s,mb4.5				
CLNS			pmax	pmax	
	comp=N,15nm,0.7s				
CLNS			pmax	pmax	
	comp=E,25nm,0.9s				
ULN	**Ulaanbaatar**	**26.75 311**	P	**P**	**18 43 26.3 +1.5**
ULN			ScP	ScP	18 49 44.7 -0.4
SONM	**Songino Array**	**27.15 310**	P	**P**	**18 43 29.8 +1.4**
	comp=E,92nm,0.5s,mb5.3,baz=115,slow=8.9,SNR=301				
SONM			ScP	ScP	18 49 45.6 -0.7
	comp=E,13nm,0.9s,baz=139,slow=2.8,SNR=18				
SONM	**Songino Array**	**27.15 310**	P	**P**	**18 43 29.8 +1.4**
SONM			pmax	pmax	
	comp=Z,92nm,0.5s				
SONM			pmax	pmax	
	comp=N,13nm,0.9s				
MA2	**Magadan**	**27.23 15**	P	**P**	**18 43 29.5 +0.5**
MA2			ScP	ScP	18 49 45.4 -1.1
MA2	**Magadan**	**27.23 15**	*c i*P	**P**	**18 43 29.6 +0.6**
MA2			*e**PP		18 44 34.3
MA2			*e*S	**S**	**18 47 41.8 -0.7**
MA2			*e**SS	sS	18 49 35.1 -3.5
MA2			pmax	pmax	
	comp=Z,20nm,0.7s,mb4.5				
MA2			pmax	pmax	
	comp=E,3.0nm,0.6s				
MA2			pmax	pmax	
	comp=N,9.0nm,0.7s				
GYA	**Guiyang**	**27.56 263**	P	**P**	**18 43 31.2 -0.8**
GYA			AP		18 44 30.8
GYA			XP	sP	18 45 08.4 -6.5
GYA			PCP	PcP	18 46 43.8 +3.9
GYA			S	**S**	**18 47 44.2 -3.6**
GYA			SCP	ScP	18 49 52.5 +4.9
GYA			SCS	ScS	18 53 42.6 +2.6
GYA			AMB	AMB	
	comp=Z,120nm,3.4s				
LZH	**Lanzhou**	**27.58 284**	⇓P	**P**	**18 43 31.8 -0.3**
LZH			AP		18 44 35.4
LZH			XP	sP	18 45 16.1 +1.0
LZH			PCP	PcP	18 46 40.5 +0.5
LZH			*e*S	**S**	**18 47 44.0 -4.0**
LZH			XS	sS	18 49 38.0 -6.3
LZH			SCP	ScP	18 49 48.0 +0.4
LZH			PCS	PcS	18 50 20.2 -2.0
LZH			AMB	AMB	
	comp=Z,117nm,1.0s,mb5.1				
LZH			AMB	AMB	
	comp=Z,660nm,4.0s				
CD2	**Chengdu**	**28.55 274**	⇓*i*P	**P**	**18 43 39.6 -1.1**
CD2			AP		18 44 46.8
CD2			XP	sP	18 45 25.2 +1.4
CD2			S	**S**	**18 48 01.1 -2.2**
CD2			XS	sS	18 49 58.4 -1.4
CD2			AMB	AMB	
	comp=Z,280nm,0.6s,mb5.7				
CD2			AMB	AMB	
	comp=Z,120nm,5.9s				
CD2			LR	LR	
	comp=E,250nm,11.3s				
CD2			LR	LR	
	comp=Z,300nm,12.7s				
YAK	**Yakutsk**	**28.67 352**	P	**P**	**18 43 41.6 -0.1**
	comp=Z,72nm,0.7s,mb5.0				
YAK			*e*S	**S**	**18 48 03.1 -2.0**
YAK			ScP	ScP	18 49 50.1 -0.9
YAK	**Yakutsk**	**28.67 352**	*d i*P	**P**	**18 43 41.4 -0.4**
YAK			pmax	pmax	
	comp=Z,75nm,0.8s,mb5.0				
YAK	**Yakutsk**	**28.67 352**	P	**P**	**18 43 41.6 -0.2**
YAK			*e*S	**S**	**18 48 03.1 -2.0**
YAK					18 49 50.1
YAK			pmax	pmax	
	comp=Z,72nm,0.7s,mb5.0				
YAK	**Yakutsk**	**28.67 352**	*d i*P	**P**	**18 43 42.4 +0.6**
YAK			*e*		18 46 37.3
YAK			*i* S	**S**	**18 48 03.3 -1.8**
YAK			*i*		18 53 40.4
YAK			pmax	pmax	
	comp=Z,44nm,1.0s,mb4.6				
YAK			pmax	pmax	
	comp=N,14nm,1.1s				
YAK			pmax	pmax	
	comp=E,4.0nm,0.9s				
YAK			smax		
	comp=N,47nm,1.2s				
YAK			smax		
	comp=Z,10.0nm,0.7s				
YAK			smax		
	comp=E,19nm,0.9s				
QIZ	**Qiongzhong**	**28.68 246**	P	**P**	**18 43 42.4 +0.6**
QIZ			S	**S**	**18 48 04.6 -0.6**
QIZ			AMB	AMB	
	comp=Z,55nm,1.2s,mb4.7				
QIZ			AMB	AMB	
	comp=Z,118nm,5.2s				
QIZ	**Qiongzhong**	**28.68 246**	*e*P	**P**	**18 43 42.1 +0.3**
	comp=Z,75nm,1.3s,mb4.8				
BOD	**Bodaibo**	**28.76 334**	⇑*i*P	**P**	**18 43 42.3 -0.3**
BOD			pmax	pmax	
	comp=Z,52nm,0.8s,mb4.8				
WAKE	**Wake Island**	**29.72 112**	*e*P	**P**	**18 43 50.3 -0.7**
	comp=Z,186nm,1.1s,mb5.2				
ZAK	**Zakamensk**	**29.95 314**	*i* P	**P**	**18 43 53.7 +0.7**
ZAK			*e*		18 44 54.7
ZAK			pmax	pmax	
	comp=Z,95nm,1.7s,mb4.8				
ZAK			pmax	pmax	
	comp=Z,42nm,1.8s,mb4.4				
IRK	**Irkutsk**	**30.09 318**	*e*P	**P**	**18 43 54.4 +0.1**
IRK			*e*	pP	18 45 01.1 +2.9
IRK			*e*		18 53 50.5
IRK			pmax	pmax	
	comp=Z,69nm,1.8s,mb4.6				
TLY	**Talaya**	**30.22 316**	P	**P**	**18 43 56.8 +1.4**
	comp=Z,131nm,0.7s,mb5.3,SNR=11				
GTA	**Gaotai**	**30.58 292**	⇓*i*P	**P**	**18 43 58.5 0.0**
GTA			AP	pP	18 45 04.5 +2.0
GTA			PP	PP	18 45 16.9 +1.1
GTA			XP	sP	18 45 44.0 +2.0
GTA			PCP	PcP	18 46 48.5 +0.8
GTA			S	**S**	**18 48 32.3 -2.6**
GTA			SCP	ScP	18 49 56.9 -0.4
GTA			XS	sS	18 50 30.9 -0.9
GTA			SS	SS	18 50 52.6 -10
GTA			SCS	ScS	18 53 51.6 -2.8
GTA			AMB	AMB	
	comp=Z,170nm,1.1s,mb5.2				
GTA			AMB	AMB	
	comp=Z,447nm,4.2s				
GTA			LR	LR	
	comp=N,208nm,16.3s				
GTA			LR	LR	
	comp=E,196nm,17.5s				
GTA			LR	LR	
	comp=Z,272nm,19.0s				
SEY	**Seymchan**	**30.61 13**	*i* P	**P**	**18 43 58.4 -0.4**
KMI	**Kunming**	**31.33 263**	P	**P**	**18 44 04.4 -0.7**
KMI			AP	pP	18 45 08.2 -1.1
KMI			PP	PP	18 45 22.9 -1.3
KMI			S	**S**	**18 48 43.6 -3.0**
KMI			SCP	ScP	18 50 01.2 +1.4
KMI			SS	SS	18 51 06.9 -11
KMI			AMB	AMB	
	comp=Z,54nm,1.1s,mb4.7				
KMI			AMB	AMB	
	comp=Z,180nm,5.8s				
KMI			LR	LR	
	comp=N,245nm,12.8s				
KMI			LR	LR	
	comp=E,209nm,11.8s				
KMI			LR	LR	
	comp=Z,184nm,13.8s				
FX1	**Attu Island--F**	**31.75 42**	P	**P**	**18 44 10.7 +2.0**
	comp=Z,74nm,0.5s,mb5.2,baz=261,slow=4.1,SNR=90				
FX1	**Attu Island--F**	**31.75 42**	P	**P**	**18 44 10.5 +1.8**
FX1	**Attu Island--F**	**31.75 42**	P	**P**	**18 44 10.7 +2.0**
FX1			pmax	pmax	
	comp=Z,74nm,0.5s				
MOY	**Mondy**	**31.75 315**	*e*P	**P**	**18 44 09.7 +1.0**
MOY			pmax	pmax	
	comp=Z,42nm,1.4s,mb4.5				
KKTK	**Khon Kaen**	**35.66 249**	⇓P	**P**	**18 44 42.0 -0.1**
	comp=Z,864nm,0.4s				
ADK	**Adak**	**37.42 47**	*e*P	**P**	**18 44 56.8 -0.1**
	comp=Z,52nm,0.6s,mb4.9				
ADK	**Adak**	**37.42 47**	*e*P	**P**	**18 44 56.8 -0.1**
ADK			pmax	pmax	
	comp=Z,52nm,0.6s,mb4.9				
KRAR	**Krasnoyarsk**	**37.69 320**	*d i*P	**P**	**18 44 59.5 +0.4**
KRAR			pmax	pmax	
	comp=Z,122nm,1.0s,mb5.1				
BILL	**Bilibino**	**38.03 17**	*e*P	**P**	**18 45 02.3 +0.4**
	comp=Z,24nm,0.5s,mb4.7				
BILL			*e*ScP	ScP	18 50 23.1 -0.8
BILL	**Bilibino**	**38.03 17**	⇓*i*P	**P**	**18 45 02.5 +0.6**
BILL			*e*S	**S**	**18 50 30.7 +2.2**
BILL			pmax	pmax	
	comp=Z,57nm,1.2s,mb4.7				
BILL			MLR	MLR	
	comp=Z,100nm,19.0s				
NST	**Nakhon Sawan**	**38.15 251**	⇑P	**P**	**18 45 01.4 -1.5**
	comp=Z,98nm,0.9s,mb5.0				
TIXI	**Tiksi**	**38.17 356**	P	**P**	**18 45 02.6 -0.5**
TIXI			ScP	ScP	18 50 25.0 +0.5
TIXI	**Tiksi**	**38.17 356**	*e*P	**P**	**18 45 00.1 -3.0**
TIXI			*e*S	**S**	**18 50 29.9 -0.7**
TIXI			*e*		18 54 30.3
TIXI			pmax	pmax	
	comp=Z,36nm,0.8s,mb4.7				
LSA	**Lhasa**	**39.34 277**	P	**P**	**18 45 14.1 +1.4**
LSA			AMB	AMB	
	comp=Z,60nm,0.9s,mb4.8				
LSA	**Lhasa**	**39.34 277**	*e*P	**P**	**18 45 13.4 +0.7**
	comp=Z,56nm,0.6s,mb5.0				
LSA			*e*PP	PP	18 46 51.7 +0.3
LSA			*e*ScP	ScP	18 50 29.1 +0.1
LSA	**Lhasa**	**39.34 277**	*e*P	**P**	**18 45 13.4 +0.7**
LSA			*e*		18 46 51.7
LSA			pmax	pmax	
	comp=Z,56nm,0.6s,mb5.0				
WMQ	**Urumqi**	**39.52 300**	⇓*i*P	**P**	**18 45 15.0 +0.8**
WMQ			AP	pP	18 46 21.8 +1.0
WMQ			PP	PP	18 46 57.1 +3.8
WMQ			XP	sP	18 46 59.0 -0.5
WMQ			PCP	PcP	18 47 15.8 +1.8
WMQ			*e*S	**S**	**18 50 53.1 +2.5**
WMQ			SS	SS	18 53 55.7 -5.5
WMQ			SCS	ScS	18 54 41.3 -1.9
WMQ			AMB	AMB	
	comp=Z,161nm,1.0s,mb5.2				
WMQ			AMB	AMB	
	comp=Z,821nm,4.5s				
SHL	**Shillong**	**40.18 271**	*i* P	**P**	**18 45 18.5 -1.0**
SHL			*ex*	x	18 46 57.0
NNT	**Nongplab**	**40.29 248**	P	**P**	**18 45 21.3 +0.9**
KSM	**Kuching**	**41.01 224**	*e*P	**P**	**18 45 26.2 0.0**
NIKO	**Nikolski**	**42.32 46**	*e*P	**P**	**18 45 35.6 -1.2**
NVS	**Novosibirsk**	**42.83 316**	⇓*i*P	**P**	**18 45 40.7 -0.2**
NVS			*e**PP	pP	18 46 47.8 -0.8
NVS			*i* S	**S**	**18 51 39.3 +0.2**
NVS			*i* SS	SS	18 54 59.3 -3.4
NVS			pmax	pmax	
	comp=E,162nm,1.1s				
NVS			pmax	pmax	
	comp=Z,211nm,1.1s,mb5.2				
NVS			smax		
	comp=E,62nm,1.7s				
NVS			smax		
	comp=N,48nm,1.9s				
MKAR	**Makanchi Array**	**43.19 304**	P	**P**	**18 45 44.2 +0.6**
	comp=N,138nm,0.7s,mb5.2,baz=90,slow=9.9,SNR=1029				
MKAR			ScP	ScP	18 50 43.1 -1.2
	comp=N,9.3nm,0.7s,baz=81,slow=3.3,SNR=7.7				
MKAR			S	**S**	**18 51 45.5 +1.3**
	comp=N,3.0nm,1.0s,baz=75,slow=23,SNR=3.0				
MKAR			ScS	ScS	18 55 03.4 -2.2
	comp=N,1.9nm,0.9s,baz=96,slow=11,SNR=6.2				
MKAR	**Makanchi Array**	**43.19 304**	P	**P**	**18 45 44.2 +0.6**
MKAR			ScP	ScP	18 50 43.1 -1.2
MKAR			S	**S**	**18 51 45.5 +1.3**
MKAR			ScS	ScS	18 55 03.4 -2.2
MKAR	**Makanchi Array**	**43.19 304**	P	**P**	**18 45 44.3 +0.6**
MKAR			S	**S**	**18 51 45.5 +1.3**
MKAR					18 55 03.4
MKAR			pmax	pmax	
	comp=Z,138nm,0.7s				
MKAR			pmax	pmax	
	comp=N,9.0nm,0.7s				
MKAR			pmax	pmax	
	comp=N,2.0nm,0.9s				
UNV	**Unalaska Valle**	**43.79 45**	*e*P	**P**	**18 45 47.7 -0.7**
	comp=N,43nm,0.6s,mb4.8				
PMG	**Port Moresby**	**43.96 166**	P	**P**	**18 45 48.3 -1.5**
	comp=N,33nm,0.5s,mb4.7,baz=38,slow=4.5,SNR=44				
PMG	**Port Moresby**	**43.96 166**	P	**P**	**18 45 48.3 -1.5**
PMG			*e*PcP	PcP	18 47 27.7 -1.1
PMG	**Port Moresby**	**43.96 166**	*c* P	**P**	**18 45 48.2 -1.6**
JIRN	**Jiri**	**44.13 276**	*e*P	**P**	**18 45 51.9 +0.8**
	comp=N,654nm,0.6s,mb5.9				
GUN	**Gumba**	**44.30 277**	*e*P	**P**	**18 45 53.0 +0.6**
	comp=N,352nm,0.6s,mb5.6				
KULM	**Kulim**	**44.40 239**	*e*P	**P**	**18 45 52.8 -0.4**
IPM	**Ipoh**	**44.71 237**	P	**P**	**18 45 54.7 -0.9**
PKI	**Pulchoki**	**44.81 277**	*e*P	**P**	**18 45 56.4 0.0**
	comp=N,343nm,1.1s,mb5.4				
PKI	**Pulchoki**	**44.81 277**	*e*P	**P**	**18 45 56.4 0.0**
PKI			pmax	pmax	
	comp=Z,171nm,1.1s,mb5.1				
KKN	**Kakani**	**44.84 277**	*e*P	**P**	**18 45 56.6 -0.1**
	comp=Z,366nm,0.8s,mb5.6				
KKN	**Kakani**	**44.84 277**	*e*P	**P**	**18 45 56.6 -0.1**
KKN			pmax	pmax	
	comp=Z,183nm,0.8s,mb5.3				
KGM	**Kluang**	**44.93 233**	P	**P**	**18 45 57.5 +0.1**
DMN	**Daman**	**45.05 277**	*e*P	**P**	**18 45 58.3 0.0**
	comp=Z,277nm,1.1s,mb5.3				
TNA	**Tin City**	**45.22 29**	P	**P**	**18 46 01.0 +1.3**
GKN	**Gorkha**	**45.29 278**	*e*P	**P**	**18 46 00.2 0.0**
	comp=Z,382nm,0.7s,mb5.6				
KURK	**Kurchatov**	**45.46 310**	P	**P**	**18 46 01.7 +0.2**
	comp=Z,3μm,0.5s				
KURK	**Kurchatov**	**45.46 310**	P	**P**	**18 46 01.4 -0.1**
	comp=Z,436nm,0.8s,mb5.6				
KURK			*e*pP	pP	18 47 07.7 -2.5
KURK			*e*ScP	ScP	18 50 52.2 -1.4
KURK			*e*S	**S**	**18 52 15.0 -1.8**
KURK	**Kurchatov**	**45.46 310**	*d i*P	**P**	**18 46 01.4 -0.1**
BOK	**Bokaro**	**45.88 271**	*e*P	**P**	**18 46 04.9 +0.1**
BOK			AMb	AMB	18 46 05.9
	comp=Z,223nm,0.9s,mb5.3				
KOLN	**Koldanda**	**46.23 278**	*e*P	**P**	**18 46 07.7 +0.2**
	comp=Z,261nm,0.9s,mb5.4				
KAKA	**Kakadu**	**46.51 187**	⇑*i*P	**P**	**18 46 07.8 -1.8**
	comp=Z,111nm,0.6s,mb5.3				
SDPT	**Sand Point**	**47.35 43**	P	**P**	**18 46 14.4 -1.6**
PSI	**Prapat**	**47.37 238**	P	**P**	**18 46 15.6 -0.6**
	comp=Z,33nm,0.8s,mb4.6,baz=15,slow=6.5,SNR=32				
PSI			ScP	ScP	18 51 02.5 +0.8
	comp=Z,15nm,0.9s,baz=308,slow=3.1,SNR=11				
PSI	**Prapat**	**47.37 238**	P	**P**	**18 46 15.6 -0.6**
PSI			ScP	ScP	18 51 02.5 +0.8
PSI	**Prapat**	**47.37 238**	P	**P**	**18 46 15.6 -0.6**
PSI			pmax	pmax	
	comp=Z,33nm,0.8s,mb4.6				
PSI			pmax	pmax	
	comp=N,15nm,0.9s				
HNR	**Honiara**	**48.02 150**	P	**P**	**18 46 19.7 -1.4**
	comp=N,50nm,0.6s,mb4.9,baz=261,slow=5.4,SNR=6.4				
HNR	**Honiara**	**48.02 150**	*e*P	**P**	**18 46 19.4 -1.7**
	comp=N,80nm,0.8s,mb5.0				
HNR	**Honiara**	**48.02 150**	*e*P	**P**	**18 46 19.4 -1.8**
HNR			pmax	pmax	
	comp=Z,80nm,0.8s,mb5.0				
ULHL	**Ulahol**	**48.04 299**	P	**P**	**18 46 21.9 +0.6**
	SNR=19				
ULHL	**Ulahol**	**48.04 299**	P	ScP	18 51 04.1 -0.4
	SNR=5.6				
TKM2	**Tokmak 2**	**48.38 300**	P	**P**	**18 46 24.9 +1.0**
	SNR=11				
TKM2	**Tokmak 2**	**48.38 300**	P	**P**	**18 46 24.8 +0.9**
TKM2			pmax	pmax	
	comp=Z,49nm,0.8s,mb4.8				
LGTI	**Lohaghat**	**48.39 281**	*e*P	**P**	**18 46 25.0 +1.1**
KZA	**Kyzart**	**48.80 299**	P	**P**	**18 46 28.8 +1.8**
	SNR=56				
KBK	**Karagaybulak**	**48.90 300**	P	**P**	**18 46 28.6 +0.8**
	SNR=76				
CHMS	**Chumysh**	**48.97 300**	P	**P**	**18 46 28.7 +0.3**
	SNR=21				
USP	**Ospenovka**	**49.10 301**	P	**P**	**18 46 29.5 +0.2**
	SNR=25				
FRU	**Bishkek**	**49.10 300**	⇓*e*P	**P**	**18 46 30.3 +1.0**
FRU			*e*	pP	18 47 39.0 -0.2
FRU			pmax	pmax	
	comp=Z,140nm,1.8s,mb4.9				
AAK	**Ala-Archa**	**49.23 300**	P	**P**	**18 46 30.8 +0.5**
	SNR=5.2				
AAK	**Ala-Archa**	**49.23 300**	P	ScP	18 51 08.7 -0.9
	SNR=5.4				
AAK	**Ala-Archa**	**49.23 300**	P	**P**	**18 46 29.5 -0.8**
	comp=Z,235nm,0.6s,mb5.6,SNR=35				
AAK	**Ala-Archa**	**49.23 300**	P	**P**	**18 46 29.6 -0.6**
AAK			*e*pP	pP	18 47 39.7 -0.5
AAK			*e*PcP	PcP	18 47 46.5 -1.1
AAK			*e*ScP	ScP	18 51 06.5 -3.1
AAK	**Ala-Archa**	**49.23 300**	P	**P**	**18 46 29.7 -0.6**
AAK			*e**PP	pP	18 47 39.7 -0.5
AAK			*e*		18 47 46.5
UCH	**Uchtor**	**49.30 299**	P	**P**	**18 46 32.0 +1.2**
	SNR=38				
UCH	**Uchtor**	**49.30 299**	P	ScP	18 51 10.2 +0.4
	SNR=7.4				
EKS2	**Erkin-Say**	**49.74 300**	P	**P**	**18 46 34.4 +0.3**
	SNR=9.8				
EKS2	**Erkin-Say**	**49.74 300**	P	ScP	18 51 10.9 -0.9
	SNR=7.7				
AML	**Almayashu**	**49.92 299**	P	**P**	**18 46 36.6 +1.2**
	SNR=64				
AML	**Almayashu**	**49.92 299**	P	ScP	18 51 12.4 -0.2
	SNR=6.4				
VOSK	**Vostochnaya**	**50.08 313**	P	**P**	**18 46 36.3 -0.3**
VOSK			pmax	pmax	
	comp=Z,88nm,0.8s,mb5.0				
SMLA	**Simla**	**50.31 285**	*e*P	**P**	**18 46 37.5 -0.8**
SDNR	**Sundarnagar**	**50.34 285**	*e*P	**P**	**18 46 38.1 -0.5**
BVA0	**Borovoye Array**	**50.41 314**	*i* P	**P**	**18 46 39.0 -0.1**
BVA0			pmax	pmax	
	comp=Z,8.0nm,0.7s,mb4.1				
BVAR	**Borovoye Array**	**50.41 314**	P	**P**	**18 46 39.0 0.0**
	comp=Z,94nm,0.7s,mb5.2,baz=97,slow=8.0,SNR=673				
BVAR			PcP	PcP	18 47 49.2 -2.7
	comp=Z,17nm,0.6s,baz=78,slow=3.0,SNR=5.0				
BVAR			ScP	ScP	18 51 13.5 -1.1
	comp=Z,12nm,0.6s,baz=93,slow=5.4,SNR=16				
BVAR			S	**S**	**18 53 25.0 -0.7**
	comp=Z,3.8nm,0.9s,baz=92,slow=12,SNR=5.5				
BVAR			ScS	ScS	18 55 50.4 -3.0
	comp=Z,1.5nm,0.8s,baz=140,slow=7.0,SNR=4.2				
BVAR	**Borovoye Array**	**50.41 314**	P	**P**	**18 46 39.0 -0.1**
BVAR				pP	18 47 49.2 -0.1
BVAR			S	**S**	**18 53 25.0 -0.7**
BVAR					18 55 50.4
BVAR			pmax	pmax	
	comp=Z,94nm,0.7s				
BVAR			pmax	pmax	
	comp=Z,17nm,0.6s				
BVAR			pmax	pmax	
	comp=N,12nm,0.6s				
BVAR			pmax	pmax	
	comp=N,2.0nm,0.8s				
BRVK	**Borovoye**	**50.47 314**	P	**P**	**18 46 39.6 +0.1**
	comp=N,903nm,0.8s,mb6.0,SNR=93				
BRVK	**Borovoye**	**50.47 314**	P	**P**	**18 46 39.3 -0.2**
BRVK			*e*pP	pP	18 47 49.7 -0.1
BRVK			*e*PcP	PcP	18 47 51.6 -0.5
BRVK			*e*ScP	ScP	18 51 13.5 -1.4
BRVK			*e*S	**S**	**18 53 19.5 -7.1**
BRVK	**Borovoye**	**50.47 314**	P	**P**	**18 46 39.3 -0.2**
BRVK			*e**PP	pP	18 47 49.7 -0.1
BRVK			*e*	PcP	18 47 51.7 -0.4
BRVK			*e*S	**S**	**18 53 19.5 -7.0**
VIS	**Vishakhapatnam**	**50.77 266**	*e*P	**P**	**18 46 41.5 -0.2**
VIS			AMb	AMB	18 46 43.4
	comp=Z,125nm,0.6s,mb5.3				
VIS			*i* x	x	18 48 39.6
DLH	**Dalhousie**	**50.80 287**	*e*P	**P**	**18 46 43.0 +1.1**
DLH			*ex*	x	18 46 48.0
BHK	**Bhakra**	**50.81 285**	*ex*	x	18 46 46.5
PONG	**Pong**	**51.01 286**	*e*P	**P**	**18 46 43.0 -0.5**
ZRNK	**Zerenda**	**51.25 314**	P	**P**	**18 46 45.5 +0.2**
	comp=Z,111nm,0.7s,mb5.2				
ZRNK			*e*PcP	PcP	18 47 54.5 -0.6
ZRNK			*e*pP	pP	18 47 56.2 +0.4
ZRNK			*e*sP	sP	18 48 32.9 -0.6
ZRNK			*e*ScP	ScP	18 51 16.9 -1.4
ZRNK			*e*S	**S**	**18 53 36.3 -0.9**
ZRNK	**Zerenda**	**51.25 314**	P	**P**	**18 46 45.5 +0.2**
ZRNK			*e*	pP	18 47 54.5 -1.3
ZRNK			*e**PP	pP	18 47 56.2 +0.4
ZRNK			*e**SP	sP	18 48 32.9 -0.6
ZRNK			pmax	pmax	
	comp=Z,111nm,0.7s,mb5.2				
KDAK	**Kodiak Island**	**51.63 40**	P	**P**	**18 46 48.0 -0.1**
	comp=Z,1μm,0.5s				
KKAR	**Karatay Array**	**51.99 301**	*i* P	**P**	**18 46 50.8 +0.1**
KKAR			pmax	pmax	
	comp=Z,34nm,0.5s,mb4.9				
FIB	**Fire Island**	**52.64 36**	P	**P**	**18 46 56.2 +0.7**
	comp=Z,54nm,0.7s,mb5.0				
FIB	**Fire Island**	**52.64 36**	P	**P**	**18 46 56.2 +0.8**
FIB			pmax	pmax	
	comp=Z,54nm,0.7s,mb5.0				
SLKM	**Skilak Lake**	**52.66 36**	*e*P	**P**	**18 46 55.5 0.0**
SLKM			*e*PcP	PcP	18 48 00.1 -0.3
FITZ	**Fitzroy Crossi**	**52.84 194**	⇑*i*P	**P**	**18 46 55.9 -1.0**
	comp=Z,60nm,0.4s,mb5.3				
FITZ			*e*sP	sP	18 48 45.7 +0.2
FITZ			*e*S	**S**	**18 53 53.2 -5.5**
MCK	**McKinley**	**53.08 32**	P	**P**	**18 46 59.0 +0.4**
	comp=Z,21nm,0.6s,mb4.7				
MCK	**McKinley**	**53.08 32**	P	**P**	**18 46 59.0 +0.4**
MCK			pmax	pmax	
	comp=Z,21nm,0.6s,mb4.6				
PMR	**Palmer**	**53.11 35**	P	**P**	**18 46 58.8 0.0**
	comp=Z,77nm,0.9s,mb5.0				
PMR			*e*PcP	PcP	18 48 01.7 -0.4
PMR	**Palmer**	**53.11 35**	P	**P**	**18 46 58.8 -0.1**
PMR			*e*		18 48 01.7
PMR			pmax	pmax	
	comp=Z,77nm,0.9s,mb5.0				
BHPL	**Bhopal**	**53.15 275**	*e*P	**P**	**18 46 58.3 -0.8**
BHPL			AMb	AMB	18 47 00.9
	comp=Z,112nm,1.3s,mb5.0				
SML	**Sawmill**	**53.48 35**	*e*P	**P**	**18 47 01.6 +0.1**
SML			*e*ScP	ScP	18 51 26.5 -1.4
COLA	**College**	**53.50 31**	*e*P	**P**	**18 47 02.0 +0.4**
	comp=Z,32nm,0.5s,mb4.9				
COLA	**College**	**53.50 31**	*e*P	**P**	**18 47 02.0 +0.4**
COLA			pmax	pmax	
	comp=Z,32nm,0.5s,mb4.9				
WRAB	**Tennant Creek**	**53.53 184**	P	**P**	**18 47 00.0 -1.9**
	comp=Z,708nm,0.4s				
WRAB	**Tennant Creek**	**53.53 184**	P	**P**	**18 47 00.2 -1.7**
	comp=Z,99nm,0.4s,mb5.5				
WRAB	**Tennant Creek**	**53.53 184**	*c i*P	**P**	**18 47 00.1 -1.8**
WB2	**Warramunga Arr**	**53.54 184**	⇑*i*P	**P**	**18 47 00.3 -1.6**
WB2			*e*S	**S**	**18 54 03.2 -4.8**
WRA	**Warramunga Arr**	**53.54 184**	P	**P**	**18 47 00.3 -1.6**
	comp=Z,68nm,0.4s,mb5.3,baz=360,slow=7.7,SNR=1505				
WRA			PcP	PcP	18 48 03.3 -0.4
	comp=Z,11nm,0.7s,baz=353,slow=4.0,SNR=6.3				
WRA			ScP	ScP	18 51 27.8 -0.4
	comp=Z,7.1nm,1.0s,baz=1.1,slow=4.8,SNR=6.1				
WRA			S	**S**	**18 54 05.5 -2.5**
	comp=Z,3.8nm,0.8s,baz=359,slow=13,SNR=8.0				

WRA	**Warramunga Arr**	**53.54**	**184**	P	**P**	**18 47 00.3**	**-1.6**
WRA						18 48 03.3	
WRA				S	**S**	**18 54 05.5**	**-2.5**
WRA				pmax	pmax		
	comp=Z,68nm,0.4s						
WRA				pmax	pmax		
	comp=Z,11nm,0.7s						
WRA				pmax	pmax		
	comp=N,7.0nm,1.0s						
ILAR	**Eielson Array**	**53.92**	**31**	P	**P**	**18 47 04.4**	**-0.2**
	comp=N,15nm,0.6s,mb4.5,baz=259,slow=5.1,SNR=382						
ILAR	**Eielson Array**	**53.92**	**31**	P	**P**	**18 47 04.4**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,15nm,0.6s						
AJM	**Ajmer**	**54.09**	**280**	*i* P	**P**	**18 47 05.0**	**-0.9**
AJM				*e*P		18 47 05.5	
AJM				AMb	AMB	18 47 06.7	
	comp=Z,196nm,0.9s,mb5.5						
CTA	**Charters Tower**	**54.25**	**170**⇑	*i*P	**P**	**18 47 05.7**	**-1.3**
	comp=Z,25nm,0.8s,mb4.6						
CTA	**Charters Tower**	**54.25**	**170**	P	**P**	**18 47 05.5**	**-1.5**
	comp=Z,27nm,0.7s,mb4.7,baz=349,slow=7.9,SNR=39						
CTA	**Charters Tower**	**54.25**	**170**⇑	*i*P	**P**	**18 47 05.7**	**-1.3**
CTA				pmax	pmax		
	comp=Z,25nm,0.8s						
CTAO	**Charters Tower**	**54.25**	**170**	P	**P**	**18 47 05.8**	**-1.3**
	comp=Z,35nm,0.8s,mb4.7						
CTAO				*e*pP	pP	18 48 19.6	+1.1
CTAO	**Charters Tower**	**54.25**	**170**	P	**P**	**18 47 05.8**	**-1.2**
CTAO				*e**PP	pP	18 48 19.6	+1.1
CTAO				pmax	pmax		
	comp=Z,35nm,0.8s,mb4.7						
HYB	**Hyderabad**	**54.89**	**268**⇓	*i*P	**P**	**18 47 11.5**	**-0.1**
	comp=Z,260nm,1.0s,mb5.5						
HYB				*e*PcP	PcP	18 48 09.0	+0.1
HYB				*e*ScP	ScP	18 51 33.5	-0.6
HYB	**Hyderabad**	**54.89**	**268**⇓	*e*P	**P**	**18 47 11.5**	**-0.1**
	comp=Z,260nm,1.0s,mb5.5						
HYB	**Hyderabad**	**54.89**	**268**⇓	*e*P	**P**	**18 47 11.5**	**-0.1**
HYB				pmax	pmax		
	comp=Z,260nm,1.0s,mb5.5						
SVE	**Sverdlovsk**	**55.46**	**319**⇓	*i*P	**P**	**18 47 15.8**	**+0.2**
SVE				*e*	pP	18 48 27.3	-0.1
SVE				*e*		18 50 43.0	
SVE				*e*S	**S**	**18 54 35.0**	**+1.5**
SVE				pmax	pmax		
	comp=Z,336nm,1.1s,mb5.6						
SVE				pmax	pmax		
	comp=Z,164nm,1.7s,mb5.1						
SVE				MLR	MLR		
	comp=N,100nm,16.0s						
SVE				MLR	MLR		
	comp=E,100nm,16.0s						
SVE				MLR	MLR		
	comp=Z,100nm,16.0s						
ARU	**Arti**	**56.66**	**319**	P	**P**	**18 47 24.2**	**+0.2**
	comp=Z,2μm,0.6s,SNR=87						
ARU	**Arti**	**56.66**	**319**⇓	*i*P	**P**	**18 47 23.8**	**-0.2**
ARU				*e*		18 48 14.0	
ARU				*i*	pP	18 48 35.6	-0.6
ARU				*e*SP		18 49 12.5	
ARU				*e*		18 49 33.8	
ARU				*e*S	**S**	**18 54 50.6**	**+1.4**
ARU				*e*		18 56 37.3	
ARU				*e*SS	SS	18 58 45.3	+2.5
ARU				pmax	pmax		
	comp=Z,171nm,0.7s,mb5.5						
SOKR	**Solikamsk**	**56.94**	**323**	*d* *i*P	**P**	**18 47 25.5**	**-0.5**
SOKR				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.0						
MBWA	**Marble Bar**	**57.22**	**200**	P	**P**	**18 47 26.4**	**-1.5**
	comp=Z,44nm,0.6s,mb5.0						
DAWY	**Dawson**	**57.23**	**31**	P	**P**	**18 47 28.7**	**+0.7**
ASAR	**Alice Springs**	**57.26**	**184**	P	**P**	**18 47 26.9**	**-1.4**
	comp=Z,31nm,0.4s,mb5.0,baz=354,slow=4.2,SNR=734						
ASAR				ScP	ScP	18 51 44.8	+0.1
	comp=Z,4.3nm,0.9s,baz=0.5,slow=4.0,SNR=7.5						
ASAR				S	**S**	**18 54 55.1**	**-1.9**
	comp=Z,1.7nm,0.7s,baz=15,slow=21,SNR=7.5						
ASAR				PKP2bc		19 17 24.3	
	comp=Z,0.5nm,0.8s,baz=185,slow=2.7,SNR=4.6						
ASAR	**Alice Springs**	**57.26**	**184**	P	**P**	**18 47 26.9**	**-1.4**
ASAR				ScP	ScP	18 51 44.8	+0.1
ASAR				S	**S**	**18 54 55.1**	**-1.9**
ASAR				⇑*e*		19 17 24.3	
ASAR	**Alice Springs**	**57.26**	**184**	P	**P**	**18 47 26.9**	**-1.3**
ASAR				S	**S**	**18 54 55.1**	**-1.9**
ASAR				pmax	pmax		
	comp=Z,31nm,0.4s						
ASAR				pmax	pmax		
	comp=N,4.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AB31	**Akbulak array**	**57.57**	**311**	P	**P**	**18 47 30.2**	**-0.1**
AB31				pmax	pmax		
	comp=Z,28nm,0.5s,mb4.8						
KIP	**Kipapa**	**57.66**	**85**	P	**P**	**18 47 32.1**	**+1.1**
	comp=Z,88nm,0.8s,mb5.1						
KIP	**Kipapa**	**57.66**	**85**	P	**P**	**18 47 32.1**	**+1.1**
KIP				pmax	pmax		
	comp=Z,88nm,0.8s,mb5.1						
FUNA	**Funafuti**	**57.79**	**129**	*e*P	**P**	**18 47 30.4**	**-1.5**
POO	**Poona**	**58.27**	**272**	*ex*	x	18 47 46.0	
POO				AMb	AMB	18 47 47.5	
	comp=Z,117nm,0.6s,mb5.4						
AKTK	**Aktyubinsk**	**58.44**	**312**	P	**P**	**18 47 35.8**	**-0.6**
AKTK				ScP	ScP	18 51 48.3	-1.5
AKTO	**Aktyubinsk**	**58.44**	**312**	P	**P**	**18 47 35.8**	**-0.6**
	comp=Z,26nm,0.6s,mb4.7,baz=82,slow=7.5,SNR=114						
AKTO				ScP	ScP	18 51 48.3	-1.5
	comp=Z,6.4nm,0.8s,baz=65,slow=6.4,SNR=3.8						
AKTO	**Aktyubinsk**	**58.44**	**312**	P	**P**	**18 47 35.8**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,26nm,0.6s,mb4.7						
AKTO				pmax	pmax		
	comp=N,6.0nm,0.8s						
PALK	**Pallekele**	**58.51**	**257**	P	**P**	**18 47 37.7**	**+0.9**
	comp=N,273nm,0.7s,mb5.8,SNR=14						
PALK	**Pallekele**	**58.51**	**257**	P	**P**	**18 47 37.0**	**+0.2**
	comp=N,42nm,0.9s,mb4.9						
KAD	**Karad**	**58.58**	**271**	⇓*i*P	**P**	**18 47 37.0**	**-0.3**
INK	**Inuvik**	**58.70**	**26**	P	**P**	**18 47 38.6**	**+0.5**
	comp=N,27nm,0.6s,mb4.8						
INK	**Inuvik**	**58.70**	**26**	P	**P**	**18 47 38.6**	**+0.5**
INK				pmax	pmax		
	comp=Z,27nm,0.6s						
BOM	**Bombay**	**58.95**	**273**	*ex*	x	18 46 42.2	
BOM				*ex*	x	18 47 31.5	
BHJ	**Bhuj**	**59.56**	**279**	*e*P	**P**	**18 47 44.3**	**+0.3**
BHJ				AMb	AMB	18 47 45.4	
	comp=Z,134nm,0.7s,mb5.5						
POHA	**Pohakuloa**	**60.49**	**85**	*e*P	**P**	**18 47 51.3**	**+1.1**
	comp=Z,2μm,0.7s						
TRD	**Trivandrum**	**60.87**	**260**	*e*P	**P**	**18 47 52.7**	**-0.1**
TRD				AMb	AMB	18 47 53.7	
	comp=Z,74nm,0.8s,mb5.2						
SIT	**Sitka**	**60.91**	**39**	*e*P	**P**	**18 47 53.9**	**+0.8**
	comp=Z,43nm,1.2s,mb4.8						
SIT	**Sitka**	**60.91**	**39**	*e*P	**P**	**18 47 53.9**	**+0.9**
SIT				pmax	pmax		
	comp=Z,43nm,1.2s,mb4.8						
DZM	**Mont Dzumac**	**62.05**	**149**	P	**P**	**18 48 01.1**	**+0.5**
	comp=Z,59nm,1.0s,mb5.1,baz=14,slow=6.9,SNR=26						
ABKT	**Ailbek**	**62.56**	**299**	P	**P**	**18 48 04.5**	**+0.5**
	comp=Z,342nm,0.7s,mb6.0,SNR=25						
APA	**Apatity**	**64.29**	**336**⇑	*i*P	**P**	**18 48 15.0**	**-0.1**
APA				*i*		18 48 44.0	
APA				*i*	pP	18 49 32.0	+2.6
APA				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.2						
KLMR	**Klimovskoe**	**64.74**	**328**	*d* *i*P	**P**	**18 48 17.7**	**-0.4**
KLMR				*e**PP	pP	18 49 33.2	+0.8
KLMR				*e*		18 50 45.6	
KLMR				pmax	pmax		
	comp=Z,120nm,1.6s,mb5.3						
KEV	**Kevo**	**65.29**	**339**	*ep*	**P**	**18 48 20.5**	**-1.1**
STKA	**Stephens Creek**	**65.46**	**176**⇑	*i*P	**P**	**18 48 19.6**	**-3.0**
	comp=Z,23nm,0.5s,mb5.1						
STKA				*e*PP	PP	18 50 40.5	-11
STKA	**Stephens Creek**	**65.46**	**176**	P	**P**	**18 48 19.7**	**-2.9**
	comp=Z,25nm,0.5s,mb5.1,baz=344,slow=6.5,SNR=114						
ARCES	**ARCESS Array B**	**65.86**	**339**	P	**P**	**18 48 25.2**	**0.0**
	comp=Z,27nm,0.6s,mb5.1,baz=61,slow=7.9,SNR=153						
ARCES	**ARCESS Array B**	**65.86**	**339**	P	**P**	**18 48 25.2**	**0.0**
ARCES	**ARCESS Array B**	**65.86**	**339**	P	**P**	**18 48 25.2**	**0.0**
ARCES				pmax	pmax		
	comp=Z,27nm,0.6s						
ARE0	**ARCESS Array S**	**65.86**	**339**	P	**P**	**18 48 25.3**	**+0.1**
RES	**Resolute Bay**	**66.49**	**13**	P	**P**	**18 48 29.4**	**+0.2**
	comp=Z,12nm,0.7s,mb4.7						
RES				*e*pP	pP	18 49 46.0	+2.1
RES	**Resolute Bay**	**66.49**	**13**	P	**P**	**18 48 29.4**	**+0.3**
RES				*e**PP	pP	18 49 46.0	+2.1
RES				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
KTK1	**Kautokeino**	**66.82**	**339**⇓	*i*P	**P**	**18 48 31.1**	**-0.1**
KTK1				AMb	AMB	18 48 32.2	
	comp=Z,47nm,1.7s,mb5.0						
KTK1	**Kautokeino**	**66.82**	**339**⇓	*i*P	**P**	**18 48 31.1**	**-0.1**
	comp=Z,47nm,1.7s,mb4.9						
JOF	**Joensuu**	**67.26**	**332**	*ep*	**P**	**18 48 33.1**	**-0.9**
KLBR	**Kellerberrin**	**67.66**	**198**⇑	*i*P	**P**	**18 48 34.4**	**-2.1**
	comp=Z,23nm,1.1s,mb4.8						
VRHR	**Novokhopersk**	**67.89**	**317**	*e*P	**P**	**18 48 37.4**	**-0.4**
VRHR				pmax	pmax		
	comp=Z,80nm,0.6s,mb5.6						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,8.0nm,0.4s						
MOS	**Moscow**	**67.89**	**323**	*e*P	**P**	**18 48 37.6**	**-0.3**
MOS				*e*	pP	18 49 51.3	-1.7
MOS				pmax	pmax		
	comp=Z,300nm,1.2s,mb5.9						
MOS				pmax	pmax		
	comp=Z,217nm,1.0s,mb5.8						
YKW3	**Yellowknife Ar**	**68.14**	**28**	P	**P**	**18 48 39.5**	**+0.1**
YKA	**Yellowknife Ar**	**68.18**	**28**	P	**P**	**18 48 39.7**	**0.0**
	comp=Z,13nm,0.7s,mb4.8,baz=297,slow=6.1,SNR=214						
YKA	**Yellowknife Ar**	**68.18**	**28**	P	**P**	**18 48 39.7**	**0.0**
YKA	**Yellowknife Ar**	**68.18**	**28**	P	**P**	**18 48 39.7**	**0.0**
YKA				pmax	pmax		
	comp=Z,13nm,0.7s						
RIV	**Riverview**	**68.51**	**168**	*e*P	**P**	**18 48 41.2**	**-0.5**
WBK	**Wadi Bani Khal**	**68.58**	**283**	⇓P	**P**	**18 48 42.8**	**+0.6**
SNR=14							
DAG	**Danmarks Havn**	**68.67**	**354**⇑	*i*P	**P**	**18 48 42.5**	**-0.2**
	comp=Z,18nm,0.8s,mb4.8						
DAG	**Danmarks Havn**	**68.67**	**354**⇑	*i*P	**P**	**18 48 42.5**	**-0.2**
DAG				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
OBN	**Obninsk**	**68.72**	**323**	P	**P**	**18 48 42.7**	**-0.3**
	comp=Z,1μm,0.6s,SNR=13						
OBN	**Obninsk**	**68.72**	**323**	P	**P**	**18 48 42.7**	**-0.3**
	comp=Z,158nm,0.8s,mb5.8						
OBN	**Obninsk**	**68.72**	**323**	*d* *i*P	**P**	**18 48 42.5**	**-0.5**
OBN				*i*	pP	18 49 57.7	-0.6
OBN				*e*S	S	18 57 23.9	+5.8
OBN				pmax	pmax		
	comp=Z,205nm,1.2s,mb5.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
BIDO	**Bidbid**	**68.83**	**285**	⇓P	**P**	**18 48 44.6**	**+1.0**
SNR=21							
SMDO	**Samad**	**69.11**	**284**	⇑P	**P**	**18 48 45.6**	**+0.3**
SNR=15							
HOQ	**Hoqain**	**69.46**	**285**	⇑P	**P**	**18 48 47.8**	**+0.3**
SNR=23							
KAF	**Kangasniemi**	**69.66**	**332**	*ep*	**P**	**18 48 46.6**	**-2.1**
	comp=Z,60nm,0.5s,mb5.6,baz=55,slow=5.7						
KAF	**Kangasniemi**	**69.66**	**332**	*e*P	**P**	**18 48 46.6**	**-2.1**
KAF				pmax	pmax		
	comp=Z,61nm,0.5s,mb5.6						
CNB	**Canberra Magne**	**69.67**	**170**⇑	*i*P	**P**	**18 48 48.1**	**-0.6**
	comp=Z,25nm,0.7s,mb5.0						
GOF	**Gofitskoye**	**69.81**	**311**	*e*P	**P**	**18 48 48.7**	**-0.9**
GOF				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.5						
ASHO	**Ashiyiah**	**69.93**	**287**	⇑P	**P**	**18 48 50.6**	**+0.3**
SNR=12							
FINES	**FINESS Array B**	**70.13**	**332**	P	**P**	**18 48 51.3**	**-0.2**
	comp=Z,69nm,0.5s,mb5.6,baz=67,slow=5.8,SNR=1136						
FINES				S	S	18 57 33.7	-0.7
	comp=Z,3.4nm,0.9s,baz=55,slow=12,SNR=6.6						
FINES	**FINESS Array B**	**70.13**	**332**	P	**P**	**18 48 51.3**	**-0.2**
FINES				S	S	18 57 33.7	-0.8
FINES				pmax	pmax		
	comp=Z,69nm,0.5s						
LOF	**Lofoten**	**70.15**	**341**	*e*P	**P**	**18 48 52.9**	**+1.2**
LOF				AMb	AMB	18 48 55.5	
	comp=Z,131nm,1.4s,mb5.5						
LOF	**Lofoten**	**70.15**	**341**	*e*P	**P**	**18 48 52.9**	**+1.2**
	comp=Z,131nm,1.4s,mb5.5						
ARQ	**Araqi**	**70.21**	**285**	⇑P	**P**	**18 48 52.6**	**+0.6**
SNR=45							
ZEI	**Tsey**	**70.33**	**309**	*e*P	**P**	**18 48 51.0**	**-1.7**
ZEI				*i* *PP	pP	18 50 08.0	-0.5
ZEI				*i*		18 51 33.8	
ZEI				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.9						
KIV	**Kislovodsk**	**70.55**	**310**	P	**P**	**18 48 54.5**	**+0.5**
	comp=Z,601nm,0.6s,SNR=8.0						
KIV	**Kislovodsk**	**70.55**	**310**	P	**P**	**18 48 54.3**	**+0.3**
	comp=Z,58nm,0.6s,mb5.5						
KIV				*e*pP	pP	18 50 10.7	+0.8
KIV	**Kislovodsk**	**70.55**	**310**	*d* *i*P	**P**	**18 48 54.7**	**+0.7**
KIV				*i*	pP	18 50 11.5	+1.7
KIV				*e*		18 51 36.2	
KIV				*i* S	S	18 57 41.8	+2.5
KIV				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.5						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
STW	**Striped Peak**	**71.00**	**44**	P	**P**	**18 48 58.1**	**+1.4**
GNI	**Garni**	**71.01**	**306**	*e*P	**P**	**18 48 55.5**	**-1.3**
GNI	**Garni**	**71.01**	**306**	P	**P**	**18 48 58.2**	**+1.4**
	comp=Z,24nm,0.9s,mb4.9,baz=237,slow=3.6,SNR=11						
GNI	**Garni**	**71.01**	**306**	P	**P**	**18 48 58.1**	**+1.3**
	comp=Z,64nm,1.1s,mb5.3						
GNI	**Garni**	**71.01**	**306**	P	**P**	**18 48 58.2**	**+1.4**
GNI				pmax	pmax		
	comp=Z,24nm,0.9s						
MOR8	**Moi Rana**	**71.23**	**339**⇓	*i*P	**P**	**18 48 56.8**	**-1.4**
TOO	**Toolangi**	**71.42**	**173**⇑	*i*P	**P**	**18 48 58.9**	**-0.3**
	comp=Z,19nm,0.9s,mb4.8						
TOO	**Toolangi**	**71.42**	**173**⇑	*i*P	**P**	**18 48 58.9**	**-0.3**
TOO				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8						
VSU	**Vasula**	**71.56**	**329**	*d* *i*P	**P**	**18 48 59.9**	**-0.2**
GNW	**Green Mountain**	**71.79**	**45**	P	**P**	**18 49 03.2**	**+1.8**
CLDR	**Caldiran**	**72.05**	**305**	*e*P	**P**	**18 48 56.1**	**-6.8**
RPW	**Rockport**	**72.10**	**43**	P	**P**	**18 49 04.0**	**+0.8**
SOC	**Sochi**	**72.61**	**311**	*e*P	**P**	**18 49 05.6**	**-0.6**
SOC				*e*		18 51 57.3	
SOC				*e*S	S	18 58 02.7	+0.1
SOC				pmax	pmax		
	comp=Z,72nm,0.7s,mb5.5						
VANB	**Van**	**72.68**	**305**	*e*P	**P**	**18 49 02.0**	**-4.6**
HKR	**Hakkari**	**72.94**	**304**	*e*P	**P**	**18 49 06.9**	**-1.3**
COR	**Corvallis**	**73.02**	**48**	*e*P	**P**	**18 49 10.1**	**+1.5**
	comp=Z,34nm,0.6s,mb5.3						
COR	**Corvallis**	**73.02**	**48**	*e*P	**P**	**18 49 10.1**	**+1.5**
COR				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.2						
NSS	**Namsos**	**73.12**	**338**	*e*P	**P**	**18 49 07.7**	**-1.5**
CUKT	**Cukurca**	**73.19**	**304**	P	**P**	**18 49 09.7**	**+0.1**
KEBM	**Edson Butte**	**73.25**	**49**	*e*P	**P**	**18 49 11.6**	**+1.6**
KEBM				*ep*P	pP	18 50 28.5	+2.1
TBM	**Table Mountain**	**73.29**	**44**	P	**P**	**18 49 11.1**	**+0.9**
MNK	**Minsk**	**73.34**	**325**⇓	*e*P	**P**	**18 49 06.0**	**-4.5**
IZAR	**Zarasai**	**73.35**	**327**	*i* P	**P**	**18 49 10.8**	**+0.2**
IZAR				AMb	AMB	18 49 12.0	
	comp=Z,35nm,0.9s,mb5.1						
IDID	**Didziasalis**	**73.38**	**326**	*i* P	**P**	**18 49 11.0**	**+0.2**
IDID				AMb	AMB	18 49 11.7	
	comp=Z,35nm,0.8s,mb5.2						
EZM	**Erzurum**	**73.39**	**307**	P	**P**	**18 49 11.9**	**+1.1**
ANN	**Anapa**	**73.40**	**313**	*e*P	**P**	**18 49 10.9**	**+0.1**
ANN				pmax	pmax		
	comp=Z,210nm,1.6s,mb5.6						
ISAL	**Salakas**	**73.51**	**327**	*i* P	**P**	**18 49 11.9**	**+0.4**
ISAL				AMb	AMB	18 49 12.8	
	comp=Z,48nm,0.5s,mb5.5						
SHAO	**Shalim**	**73.58**	**281**	⇑P	**P**	**18 49 11.9**	**+0.1**
SNR=6.6							
IIGN	**Ignalina**	**73.60**	**326**	*i* P	**P**	**18 49 12.3**	**+0.3**
IIGN				AMb	AMB	18 49 13.3	
	comp=Z,34nm,0.6s,mb5.3						
BROR	**Big Rock Looko**	**73.70**	**47**	P	**P**	**18 49 13.8**	**+1.2**
VFP	**Flag Point**	**73.75**	**46**	P	**P**	**18 49 14.2**	**+1.3**
EDM	**Edmonton**	**73.85**	**36**	P	**P**	**18 49 13.8**	**+0.3**
EDM				*e*PP	PP	18 52 10.5	+7.1
SUMG	**Summit**	**73.86**	**359**	P	**P**	**18 49 14.9**	**+1.5**
	comp=Z,19nm,0.6s,mb5.0						
SUMG				pP	pP	18 50 31.3	+1.3
DGAR	**Diego Garcia**	**73.87**	**249**	P	**P**	**18 49 12.2**	**-1.4**
	comp=Z,42nm,0.7s,mb5.3						
DGAR	**Diego Garcia**	**73.87**	**249**	P	**P**	**18 49 12.2**	**-1.4**
DGAR				pmax	pmax		
	comp=Z,42nm,0.7s,mb5.3						
SIRT	**Sirnak**	**73.87**	**304**	P	**P**	**18 49 15.4**	**+1.8**
HBO	**Huckleberry Mo**	**74.00**	**48**	P	**P**	**18 49 15.7**	**+1.4**
MSL	**Mosul**	**74.03**	**303**	*ex*	x	18 49 15.5	
UMR	**Umm Al-Rimmam**	**74.04**	**295**	*e*P	**P**	**18 49 14.3**	**-0.2**
UMR				AMb	AMB	18 49 14.9	
	comp=Z,216nm,0.6s,mb6.1						
MIB	**Mutribah**	**74.20**	**295**	*e*P	**P**	**18 49 15.1**	**-0.3**
MIB				AMb	AMB	18 49 15.8	
	comp=Z,337nm,0.6s,mb6.2						
KBD	**Kabd**	**74.25**	**295**	*e*P	**P**	**18 49 15.7**	**0.0**
KBD				AMb	AMB	18 49 16.3	
	comp=Z,956nm,0.4s						
HUMO	**Hull Mountain**	**74.25**	**49**	P	**P**	**18 49 17.2**	**+1.5**
	comp=Z,12nm,0.6s,mb4.8						
OD2	**Odessa Site #2**	**74.26**	**43**	P	**P**	**18 49 16.3**	**+0.5**
QRN	**Al-Qurain**	**74.29**	**294**	*e*P	**P**	**18 49 15.7**	**-0.3**
QRN				AMb	AMB	18 49 16.4	
	comp=Z,294nm,0.5s,mb6.2						
HAWA	**Hanford**	**74.32**	**44**	P	**P**	**18 49 17.0**	**+0.9**
	comp=Z,2.5nm,1.1s						
GUMT	**Gumushane**	**74.35**	**308**	P	**P**	**18 49 16.4**	**+0.1**
RDF	**Al-Radifah**	**74.48**	**295**	*e*P	**P**	**18 49 16.9**	**-0.1**
RDF				AMb	AMB	18 49 17.6	
	comp=Z,487nm,0.6s						
NAY	**Al-Naaiem**	**74.55**	**295**	*e*P	**P**	**18 49 17.2**	**-0.2**
NAY				AMb	AMB	18 49 17.9	
	comp=Z,237nm,0.5s,mb6.2						
BHD	**Baghdad**	**74.64**	**300**	*ex*	x	18 49 14.0	
NEW	**Newport**	**74.67**	**42**	P	**P**	**18 49 18.8**	**+0.7**
	comp=Z,34nm,1.1s,mb5.0						
NEW				*e*		18 50 50.1	
NEW	**Newport**	**74.67**	**42**	P	**P**	**18 49 18.8**	**+0.7**
NEW				pmax	pmax		
	comp=Z,34nm,1.1s						
AKASG	**Malin Array Be**	**74.83**	**321**	P	**P**	**18 49 18.6**	**-0.4**
	comp=Z,24nm,0.4s,mb5.3,baz=51,slow=5.9,SNR=235						
AKASG	**Malin Array Be**	**74.83**	**321**	P	**P**	**18 49 18.6**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,24nm,0.4s						
YBH	**Yreka Blue Hor**	**74.87**	**50**	P	**P**	**18 49 20.9**	**+1.6**
	comp=Z,25nm,0.8s,mb5.0						
YBH	**Yreka Blue Hor**	**74.87**	**50**	P	**P**	**18 49 20.9**	**+1.7**
YBH				pmax	pmax		
	comp=Z,25nm,0.8s						
BUOR	**Burton Butte**	**74.87**	**49**	P	**P**	**18 49 20.9**	**+1.6**
SCO	**Scoresbysund**	**74.94**	**353**	*i* P	**P**	**18 49 20.4**	**+0.7**
	comp=Z,14nm,0.9s,mb4.7						
SCO	**Scoresbysund**	**74.94**	**353**	*i* P	**P**	**18 49 20.4**	**+0.7**
SCO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
SIM	**Simferopol'**	**75.32**	**314**	*c* *i*P	**P**	**18 49 22.2**	**+0.4**
SIM				*e**PP	pP	18 50 39.7	+1.0
SIM				*e*S	S	18 58 34.2	+1.6
SIM				pmax	pmax		
	comp=Z,73nm,0.8s,mb5.5						
WDC	**Whiskeytown Da**	**75.59**	**51**	*e*P	**P**	**18 49 24.0**	**+0.7**
	comp=Z,35nm,1.2s,mb5.0						
WDC	**Whiskeytown Da**	**75.59**	**51**	*e*P	**P**	**18 49 24.0**	**+0.7**
WDC				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.0						
SUW	**Suwalki**	**75.81**	**326**	*e*P	**P**	**18 49 24.4**	**-0.2**
ABTO	**Aybut**	**75.82**	**281**	⇓P	**P**	**18 49 24.3**	**-0.3**
SNR=32							
DOMB	**Dombas**	**75.83**	**338**	⇓*i*P	**P**	**18 49 24.6**	**-0.1**
DOMB				AMb	AMB	18 49 25.9	
	comp=Z,70nm,1.0s,mb5.4						
DOMB	**Dombas**	**75.83**	**338**	⇓*i*P	**P**	**18 49 24.6**	**-0.1**
	comp=Z,70nm,1.0s,mb5.3						
NB2	**NORSAR Subarra**	**75.86**	**336**	P	**P**	**18 49 24.5**	**-0.3**
	comp=Z,93nm,0.8s,mb5.6,baz=43,slow=5.6						
NB2	**NORSAR Subarra**	**75.86**	**336**	P	**P**	**18 49 24.5**	**-0.3**
NB2				pmax	pmax		
	comp=Z,93nm,0.8s,mb5.6						
NOA	**NORSAR Array B**	**75.86**	**336**	P	**P**	**18 49 24.5**	**-0.3**
	comp=Z,70nm,0.8s,mb5.5,baz=44,slow=5.6,SNR=330						
NOA				PP	PP	18 52 17.7	-2.6
	comp=Z,8.5nm,0.9s,baz=46,slow=8.6,SNR=6.2						
NOA	**NORSAR Array B**	**75.86**	**336**	P	**P**	**18 49 24.5**	**-0.3**
NOA				PP	PP	18 52 17.7	-2.6
NOA	**NORSAR Array B**	**75.86**	**336**	P	**P**	**18 49 24.5**	**-0.3**
NOA						18 52 17.7	
NOA				pmax	pmax		
	comp=Z,70nm,0.8s						
NOA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MOL	**Molde**	**75.91**	**339**⇓	*i*P	**P**	**18 49 25.6**	**+0.5**
MOL				AMb	AMB	18 49 28.3	
	comp=Z,67nm,0.8s,mb5.4						

CMB Columbia Colle 78.37 52 P **P 18 49 39.6 +0.9**
comp=Z,33nm,0.7s,mb5.2
CMB Columbia Colle 78.37 52 P **P 18 49 39.6 +0.9**
CMB pmax pmax
comp=Z,33nm,0.7s,mb5.2
SAO San Andreas Ge 78.37 54 P **P 18 49 39.5 +0.8**
comp=Z,25nm,0.9s,mb4.9
SAO San Andreas Ge 78.37 54 P **P 18 49 39.5 +0.8**
SAO pmax pmax
comp=Z,25nm,0.9s,mb4.9
EGD Espegrend 78.39 338 *e*P **P 18 49 39.0 +0.2**
EGD AMb AMB 18 49 40.4
comp=Z,71nm,1.2s,mb5.3
EGD Espegrend 78.39 338 *e*P **P 18 49 39.0 +0.2**
comp=Z,71nm,1.2s,mb5.3
HRY Holter Researc 78.50 41 P **P 18 49 40.5 +1.1**
BR131 Keskin Array S 78.51 310 P **P 18 49 40.0 +0.5**
comp=Z,34nm,0.7s,mb5.2
BRTR Keskin Array B 78.51 310 P **P 18 49 39.9 +0.4**
comp=Z,41nm,0.8s,mb5.2,baz=115,slow=4.4,SNR=145
BRTR Keskin Array B 78.51 310 P **P 18 49 39.9 +0.4**
BRTR pmax pmax
comp=Z,41nm,0.8s
BLS5 Blasjo 78.65 337⇓*i*P **P 18 49 41.9 +1.7**
BLS5 AMb AMB 18 49 43.3
comp=Z,36nm,0.7s,mb5.2
BLS5 Blasjo 78.65 337⇓*i*P **P 18 49 41.9 +1.7**
comp=Z,36nm,0.7s,mb5.2
CFR Carcaliu 78.66 317⇑P **P 18 49 40.4 +0.1**
LRM Limekiln Ridge 78.69 42 P **P 18 49 41.6 +1.2**
LRM pP pP 18 50 59.2 +1.1
BSD Bornholm Skovb 78.70 330⇓*i*P **P 18 49 40.0 -0.5**
comp=Z,73nm,0.8s,mb5.5
BSD Bornholm Skovb 78.70 330⇓*i*P **P 18 49 40.0 -0.5**
BSD pmax pmax
comp=Z,73nm,0.8s,mb5.5
EGMT Eagleton 78.80 39 *e*P **P 18 49 41.6 +0.6**
comp=Z,46nm,0.9s,mb5.2
EGMT *e*pP pP 18 50 58.3 -0.3
KWP Kalwaria 78.81 323 *e*Pd 18 49 41.7
DLMT Dillon 78.89 42 *e*P **P 18 49 42.4 +0.9**
comp=Z,36nm,0.8s,mb5.2
HLID Hailey 78.92 45 P **P 18 49 43.1 +1.4**
comp=Z,18nm,0.9s,mb4.8
TIRR Tirgusor 78.93 316⇑P **P 18 49 41.3 -0.4**
ANTO Ankara 78.97 311 *e*P **P 18 49 42.3 +0.4**
comp=Z,40nm,0.6s,mb5.3
ANTO Ankara 78.97 311 *e*P **P 18 49 42.3 +0.4**
ANTO pmax pmax
comp=Z,40nm,0.6s,mb5.3
GKP Gorka Klasztor 78.98 328 *i*Pd 18 49 42.3
VRI Vrincioaia 79.03 318⇓P **P 18 49 43.1 +0.8**
VRI Vrincioaia 79.03 318 P **P 18 49 43.0 +0.7**
BMN Battle Mountai 79.04 49 P **P 18 49 44.0 +1.6**
comp=Z,32nm,0.8s,mb5.1
BMN Battle Mountai 79.04 49 P **P 18 49 44.0 +1.7**
BMN pmax pmax
comp=Z,32nm,0.8s,mb5.1
HARR Harsova 79.07 317⇓P **P 18 49 43.0 +0.5**
MCMT McKenzie Canyo 79.07 43 *e*P **P 18 49 42.7 +0.3**
SNART Snartemo 79.23 336⇓*i*P **P 18 49 43.3 0.0**
BOZ Bozeman (W) 79.26 42 P **P 18 49 44.7 +1.3**
comp=Z,16nm,0.8s,mb4.8
BOZ Bozeman (W) 79.26 42 P **P 18 49 44.7 +1.2**
BOZ pmax pmax
comp=Z,16nm,0.8s,mb4.8
COP Copenhagen 79.29 332⇓*i*P **P 18 49 43.7 +0.1**
comp=Z,58nm,0.6s,mb5.5
COP Copenhagen 79.29 332⇓*i*P **P 18 49 43.7 +0.1**
COP pmax pmax
comp=Z,58nm,0.6s,mb5.5
KOLS Kolonicke sedl 79.47 323 *i*P **P 18 49 45.0 +0.4**
NVAR Mina Array Bea 79.50 51 P **P 18 49 46.1 +1.3**
comp=Z,22nm,0.6s,mb5.1,baz=287,slow=5.7,SNR=197
PSN Preselentsi 79.53 316 P **P 18 49 46.0 +1.1**
STHS Stebnicka Huta 79.67 323 *i*P **P 18 49 46.5 +0.8**
MLR Muntele Rosu 79.70 318⇑P **P 18 49 46.0 +0.2**
MLR Muntele Rosu 79.70 318 P **P 18 49 46.3 +0.4**
MLR Muntele Rosu 79.70 318⇑P **P 18 49 46.1 +0.3**
PTRM Twissleman Ran 79.82 54 P **P 18 49 47.6 +1.1**
OJC Ojcow 79.85 325 *e*P **P 18 49 47.0 +0.3**
QLMT Earthquake Lak 79.87 42 *e*P **P 18 49 48.1 +1.3**
CRVS Cervenica-Dubn 79.90 323 *i*P **P 18 49 47.5 +0.6**
MTUM Tungsten Hills 79.95 52 P **P 18 49 48.4 +1.2**
MUD Monsted U'grnd 79.96 334 *i*P **P 18 49 47.1 -0.1**
comp=Z,51nm,1.0s,mb5.2
MUD Monsted U'grnd 79.96 334 *i*P **P 18 49 47.1 -0.1**
MUD pmax pmax
comp=Z,51nm,1.0s,mb5.2
ELK Elko 80.09 47 *e*P **P 18 49 49.2 +1.3**
comp=Z,27nm,0.9s,mb5.0
ELK Elko 80.09 47 *e*P **P 18 49 49.2 +1.3**
ELK pmax pmax
comp=Z,27nm,0.9s
NIE Niedzica 80.13 324 *e*P **P 18 49 49.2 +1.1**
VOIR 80.22 319⇓P **P 18 49 49.2 +0.6**
YMR Madison River 80.23 42 *e*P **P 18 49 49.9 +1.2**
comp=Z,25nm,0.9s,mb4.9
GCMT Greycliff 80.25 41 *e*P **P 18 49 49.6 +0.8**
TPH Tonopah 80.40 51 P **P 18 49 50.8 +1.2**
comp=Z,66nm,0.9s,mb5.4
TPH Tonopah 80.40 51 P **P 18 49 50.8 +1.2**
TPH pmax pmax
comp=Z,66nm,0.9s,mb5.4
YFT Old Faithful 80.44 42 P **P 18 49 51.9 +2.2**
KECS Kecovo 80.67 323 *i*P **P 18 49 51.0 0.0**
RAC Raciborz 80.71 325 *e*P **P 18 49 52.1 +0.9**
FLWY Flagg Ranch 80.74 43 *e*P **P 18 49 53.1 +1.8**
comp=Z,83nm,1.3s,mb5.3
FLWY *e*pP pP 18 51 10.1 +0.7
OKC Ostrava-Krasne 80.90 325⇓*i*P **P 18 49 51.1 -1.1**
OKC Ostrava-Krasne 80.90 325⇓*i*P **P 18 49 50.1 -2.1**
HVU Hansel Valley 80.95 45 P **P 18 49 54.1 +1.7**
comp=Z,33nm,0.7s,mb5.2
HVU Hansel Valley 80.95 45 P **P 18 49 54.1 +1.6**
HVU pmax pmax
comp=Z,33nm,0.7s,mb5.2
LIKS Likavka 80.97 324 *e*P **P 18 49 53.1 +0.5**
ISA Isabella 80.98 53 *e*P **P 18 49 52.1 -0.5**
comp=Z,15nm,0.8s,mb4.8
ISA Isabella 80.98 53 *e*P **P 18 49 52.1 -0.5**
ISA pmax pmax
comp=Z,15nm,0.8s,mb4.8
RUE Ruedersdorf 81.04 329 *e*P **P 18 49 53.1 +0.2**
comp=Z,96nm,1.2s,mb5.4
RUE *e*PP PP 18 53 04.4 +1.3
RUE Ruedersdorf 81.04 329 *e*P **P 18 49 52.4 -0.5**
comp=Z,93nm,1.2s,mb5.4
KSP Ksiaz 81.08 327 *i*Pd 18 49 53.7
KSP Ksiaz 81.08 327⇓*i*P **P 18 49 53.6 +0.5**
KSP *e**PP pP 18 51 11.4 +0.2
SZH Strazhica 81.08 317 P **P 18 49 54.8 +1.7**
LOHW Long Hollow 81.09 43 *e*P **P 18 49 54.3 +1.1**
comp=Z,34nm,1.1s,mb5.0
SNOW Snow King Moun 81.09 43 *e*P **P 18 49 54.9 +1.7**
comp=Z,53nm,1.0s,mb5.2
REDW Red Top Meadow 81.10 43 P **P 18 49 54.7 +1.5**
comp=Z,40nm,1.2s,mb5.0
JMB Yambol 81.20 316 *e*P **P 18 49 54.5 +0.8**
DAC Darwin (Calif) 81.20 52 P **P 18 49 54.5 +0.7**
comp=Z,25nm,0.7s,mb5.1
DAC Darwin (Calif) 81.20 52 P **P 18 49 54.5 +0.7**
DAC pmax pmax
comp=Z,25nm,0.7s,mb5.0
MORC Moravsky Berou 81.23 325 P **P 18 49 54.3 +0.4**
comp=Z,46nm,0.8s,mb5.3
MORC *e*pP pP 18 51 13.3 +1.3
MORC Moravsky Berou 81.23 325 P **P 18 49 54.3 +0.4**
MORC *e**PP pP 18 51 13.3 +1.3
MORC pmax pmax
comp=Z,46nm,0.8s,mb5.3
BGU Big Grassy Mou 81.32 46 *e*P **P 18 49 59.4 +5.0**
AHID Auburn Hatcher 81.33 44 P **P 18 49 55.7 +1.2**
comp=Z,10nm,0.6s,mb4.7
PSZ Piszkesteto 81.34 323⇓*i*P **P 18 49 55.0 +0.5**
PSZ Piszkesteto 81.34 323 *e*P **P 18 49 54.8 +0.4**
comp=Z,61nm,1.0s,mb5.3
PSZ *e*pP pP 18 51 14.1 +1.5
PSZ Piszkesteto 81.34 323 *e*P **P 18 49 54.8 +0.3**
PSZ *e**PP pP 18 51 14.1 +1.5
PSZ pmax pmax
comp=Z,61nm,1.0s,mb5.3
DGMT Dagmar 81.35 36 *e*P **P 18 49 54.5 0.0**
comp=Z,30nm,0.8s,mb5.1
DPC Dobruska-Polom 81.40 326⇓*i*P **P 18 49 55.6 +0.8**
DPC *e*pP pP 18 51 10.7 -2.3
BSEG Bad Segeberg 81.41 332 *e*P **P 18 49 54.7 -0.1**
comp=Z,87nm,1.2s,mb5.4
CSS Prodhromos 81.43 306 *e*P **P 18 49 54.5 -0.4**
comp=Z,34nm,0.8s,mb5.1
UPC Upice 81.44 327⇓*i*P **P 18 49 55.6 +0.6**
VYHS Vyhne 81.48 324 *i*P **P 18 49 55.9 +0.7**
VYHS *e*pP pP 18 51 12.5 -0.9
LAO LASA Array 81.50 39 P **P 18 49 56.2 +0.9**
comp=Z,35nm,0.9s,mb5.2
HWUT Hardware Ranch 81.78 45 P **P 18 49 58.2 +1.5**
comp=Z,42nm,0.9s,mb5.3
DUG Dugway 81.90 47 P **P 18 49 58.8 +1.4**
comp=Z,41nm,0.9s,mb5.3
DUG Dugway 81.90 47 P **P 18 49 58.8 +1.4**
DUG pmax pmax
comp=Z,41nm,0.9s,mb5.3
BZS Buzias 81.97 320⇓P **P 18 49 57.6 -0.1**
BZS Buzias 81.97 320 P **P 18 49 57.8 +0.1**
VRAC Vranov 82.00 325 P **P 18 49 58.7 +0.8**
VRAC Vranov 82.00 325⇑P **P 18 49 58.6 +0.7**
NOQ North Oquirrh 82.04 46 P **P 18 49 60.0 +1.9**
comp=Z,66nm,0.7s,mb5.6
PVCC Panska Ves 82.08 327⇓*i*P **P 18 49 59.0 +0.7**
MWC Mount Wilson 82.08 54 P **P 18 49 58.9 +0.6**
BRG Berggiesshubel 82.11 328 *e*P **P 18 49 58.5 0.0**
comp=Z,52nm,1.1s,mb5.3
BRG *e*PP PP 18 53 10.7 -1.2
BRG Berggiesshubel 82.11 328⇓*i*P **P 18 49 58.7 +0.2**
BRG *e**PP pP 18 51 17.5 +0.7
BRG *e* 18 53 13.2
BRG S S 18 59 45.0 +0.9
BRG pmax pmax
comp=Z,31nm,1.2s,mb5.0
BRG pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
BRG Berggiesshubel 82.11 328⇓*i*P **P 18 49 58.7 +0.2**
comp=Z,31nm,1.1s,mb5.0
BRG *i* 18 50 14.4
comp=Z,8.4nm,0.7s
BRG *e*pP pP 18 51 17.6 +0.8
comp=Z,6.9nm,1.2s
BRG *e*PP PP 18 53 13.2 +1.4
comp=Z,4.9nm,0.9s
BRG S S 18 59 45.0 +0.9
BRG *e* 19 01 19.2
comp=Z,24nm,2.1s
SMOL Smolenice 82.15 324 *i*P **P 18 49 59.7 +1.0**
SRO2 Moca 82.19 323 *e*P **P 18 49 59.6 +0.7**
SRO Srobarova 82.19 324 *i*P **P 18 49 59.8 +0.9**
BW06 Boulder Array 82.21 43 P **P 18 49 58.5 -0.5**
comp=Z,21nm,0.8s,mb5.0
CLL Collm 82.21 329 *e*P **P 18 49 58.9 -0.1**
comp=Z,118nm,0.9s,mb5.7
CLL *e*pP pP 18 51 16.7 -0.6
CLL *e*PP PP 18 53 12.4 -0.3
CLL *e*S S 18 59 44.9 -0.2
CLL *e*SS SS 19 05 15.0 +1.5
CLL Collm 82.21 329⇓*i*P **P 18 49 59.0 0.0**
comp=Z,117nm,0.9s,mb5.7
CLL *i*pP pP 18 51 16.9 -0.4
CLL *i*PP PP 18 53 13.2 +0.5
CLL *e*S S 18 59 45.0 -0.1
CLL Collm 82.21 329⇓*i*P **P 18 49 59.0 0.0**
comp=Z,117nm,0.9s,mb5.7
CLL *i*pP pP 18 51 16.9 -0.4
CLL *e*S S 18 59 45.0 -0.1
CLL Collm 82.21 329⇓*i*P **P 18 49 59.0 0.0**
CLL *i* *PP pP 18 51 16.9 -0.4
CLL *e*S S 18 59 45.0 -0.1
CLL pmax pmax
comp=Z,117nm,0.9s,mb5.7
PDAR Pinedale Array 82.21 43 P **P 18 49 59.6 +0.6**
comp=Z,14nm,0.8s,mb4.9,baz=293,slow=2.7,SNR=123
SRO1 Iza 82.27 324 *e*P **P 18 49 59.9 +0.6**
GSC Goldstone 82.29 53 P **P 18 50 00.2 +0.8**
PRU Pruhonice 82.47 327⇓*i*P **P 18 50 00.7 +0.4**
PRU *e*pP pP 18 51 19.0 +0.3
ALN Alexandroupoli 82.49 315 *e*P **P 18 49 59.8 -0.6**
NLU North Lily Min 82.49 47 *e*P **P 18 49 59.1 -1.4**
ZST Bratislava 82.53 324 *e*P **P 18 50 01.4 +0.8**
ZST *e*pP pP 18 51 20.8 +1.8
TREC Trest 82.53 326⇓*i*P **P 18 50 01.1 +0.5**
SHPR Sheep Range 82.66 51 P **P 18 50 02.6 +1.4**
DAU Daniels Canyon 82.70 46 *e*P **P 18 50 02.9 +1.4**
MPU Maple Canyon 82.72 46 P **P 18 50 03.1 +1.5**
comp=Z,55nm,0.9s,mb5.4
RZN Rozhen 82.77 316 P **P 18 50 03.0 +1.1**
CLZ Clausthal 82.94 330 *e*P **P 18 50 02.9 +0.2**
comp=Z,136nm,1.0s,mb5.7
ARUT Antelope Range 82.98 49 *e*P **P 18 50 03.5 +0.6**
VTS Vitosha 83.06 317 P **P 18 50 04.4 +1.1**
PKSM Moragy 83.12 322 P **P 18 50 03.3 -0.3**
WERD Werda 83.14 328 *e*P **P 18 50 03.7 0.0**
comp=Z,48nm,1.1s,mb5.2
WERD *e*PP PP 18 53 19.9 -0.4
NKC Novy Kostel 83.24 328⇓*i*P **P 18 50 04.3 +0.1**
MOX Moxa 83.30 329 *e*P **P 18 50 04.4 -0.1**
comp=Z,40nm,0.9s,mb5.2
MOX *e*PP PP 18 53 22.2 +0.7
MOX Moxa 83.30 329 *e*P **P 18 50 04.5 0.0**
comp=Z,64nm,1.3s,mb5.3
MOX Moxa 83.30 329 *e*P **P 18 50 04.5 0.0**
MOX pmax pmax
comp=Z,64nm,1.3s,mb5.3
MVU Marysvale 83.30 48 P **P 18 50 13.4 +8.8**
comp=Z,46nm,0.8s,mb5.4
MSU Marysvale 83.32 48 P **P 18 50 06.5 +1.8**
EIL Elat 83.35 301 P **P 18 50 04.8 0.0**
comp=Z,827nm,0.8s
NEN Nelson 83.37 51 *e*P **P 18 50 05.8 +0.9**
MMB Musomiste 83.40 316 P **P 18 50 05.0 -0.1**
PFO Pinyon Flat Ob 83.52 54 P **P 18 50 06.0 +0.3**
comp=Z,489nm,0.8s,SNR=18
PFO Pinyon Flat Ob 83.52 54 P **P 18 50 06.4 +0.7**
comp=Z,74nm,0.8s,mb5.6
PFO Pinyon Flat Ob 83.52 54 P **P 18 50 06.4 +0.7**
PFO pmax pmax
comp=Z,74nm,0.8s,mb5.6
KHC Kasperske Hory 83.53 327⇓*i*P **P 18 50 05.8 +0.1**
KHC *e*pP pP 18 51 24.4 +0.1
LDFC Landfair 83.54 52 *e*P **P 18 50 06.2 +0.4**
MANZ Manzenberg 83.57 328 *e*P **P 18 50 06.0 +0.1**
comp=Z,46nm,1.0s,mb5.3
MANZ *e*PP PP 18 53 24.5 +0.8
KKB Krupnik 83.59 317 P **P 18 50 06.2 +0.2**
IBBN Ibbenburen 83.65 332 *e*P **P 18 50 05.9 -0.4**
comp=Z,125nm,0.6s,mb5.9
IBBN *e*pP pP 18 51 24.4 -0.5
GEC2 GERESS Array S 83.67 326 *e*P **P 18 50 06.2 -0.2**
comp=Z,32nm,0.7s,mb5.3
GEC2 *e*PP PP 18 53 21.7 -2.9
GERES GERESS Array B 83.67 326 P **P 18 50 06.3 -0.1**
comp=Z,22nm,0.6s,mb5.2,baz=39,slow=5.3,SNR=284
GERES PP PP 18 53 21.8 -2.8
comp=Z,2.2nm,0.8s,baz=46,slow=8.4,SNR=4.2
GERES PKKPbc PKKPbc 19 08 21.1 +0.2
comp=Z,0.1nm,0.3s,baz=241,slow=1.4,SNR=3.8
GERES GERESS Array B 83.67 326 P **P 18 50 06.3 -0.1**
GERES 18 53 21.8
GERES pmax pmax
comp=Z,22nm,0.6s
GERES pmax pmax
comp=Z,2.0nm,0.8s
ROTZ Rotzenmuhle 83.68 328 *e*P **P 18 50 06.9 +0.4**
comp=Z,131nm,1.6s,mb5.5
ROTZ *e*pP pP 18 51 26.7 +1.6
WIT Witteveen 83.68 332 *e*P **P 18 50 06.9 +0.4**
SRS Serrai 83.78 316 *e*P **P 18 50 06.7 -0.3**
WET Wettzell 83.83 327 *e*P **P 18 50 07.4 +0.2**
comp=Z,21nm,1.0s,mb4.9
DIVS Divcibare 83.84 320 *e*P **P 18 50 07.2 -0.1**
UBBA Unterbreizbach 83.86 330 *e*P **P 18 50 07.0 -0.4**
comp=Z,16nm,0.9s,mb4.8
BAR Barrett 83.93 55 P **P 18 50 08.4 +0.7**
ULM Lac du Bonnet 83.94 31 P **P 18 50 07.7 -0.1**
comp=Z,10nm,0.8s,mb4.7,baz=296,slow=5.4,SNR=22
ARSA Arzberg 83.95 324⇓*i*P **P 18 50 08.1 +0.3**
comp=Z,12nm,0.6s,mb4.9,SNR=11
ARSA Arzberg 83.95 324⇓*i*P **P 18 50 08.1 +0.3**
comp=Z,12nm,0.6s,mb4.9
SRU San Rafael 83.96 46 P **P 18 50 09.1 +1.3**
comp=Z,81nm,0.7s,mb5.7
SRU San Rafael 83.96 46 P **P 18 50 09.1 +1.3**
SRU pmax pmax
comp=Z,81nm,0.7s,mb5.7
OUR Ouranopolis 84.06 315 *e*P **P 18 50 07.7 -0.6**
MOA Molln 84.12 325 *i*P **P 18 50 08.8 +0.1**
comp=Z,16nm,0.9s,mb4.8,SNR=8.0
KNT Kendrikon 84.16 316 *e*P **P 18 50 08.6 -0.2**
GRF Grafenberg Arr 84.17 328 *e*P **P 18 50 09.3 +0.4**
comp=Z,96nm,1.0s,mb5.6
GRF *e*pP pP 18 51 28.3 +0.6
GRF *e*PP PP 18 53 29.8 +1.2
GRF Grafenberg Arr 84.17 328 *e*P **P 18 50 09.3 +0.4**
GRF *e**PP pP 18 51 28.3 +0.6
GRF *e* 18 53 29.8
GRF pmax pmax
comp=Z,96nm,1.0s,mb5.6
LBOS 84.22 283⇓*e*P **P 18 50 10.2 +1.0**
RWWY Rawlins 84.24 43 P **P 18 50 10.2 +1.0**
comp=Z,56nm,0.9s,mb5.4
VAY Valandovo 84.24 317 *i*P **P 18 50 08.6 -0.7**
WTSB Winterswijk 84.29 332 *e*P **P 18 50 09.1 -0.5**
comp=Z,62nm,0.9s,mb5.4
RSSD Black Hills 84.36 39 P **P 18 50 10.5 +0.6**
comp=Z,11nm,0.6s,mb4.8
RSSD Black Hills 84.36 39 P **P 18 50 10.5 +0.6**
RSSD pmax pmax
comp=Z,11nm,0.6s,mb4.9
SKO Skopje 84.45 318 *i*P **P 18 50 11.9 +1.5**
THE Thessaloniki 84.46 316 *e*P **P 18 50 10.1 -0.2**
PAIG Paliouri 84.50 315 *e*P **P 18 50 09.8 -0.7**
BUG Bochum--Univer 84.51 331 *e*P **P 18 50 10.0 -0.6**
comp=Z,79nm,0.9s,mb5.5
GRG Griva 84.58 316 *e*P **P 18 50 10.7 -0.2**
PERS Pernice 84.58 324 *e*P **P 18 50 10.8 -0.2**
PERS *i* 18 50 14.9
PERS *i* 18 50 18.2
PERS *e*pP pP 18 51 30.6 +0.8
PERS *i* 18 51 35.0
DOBS Dobrina 84.75 324 *e*P **P 18 50 12.0 +0.2**
GLA Glamis 84.95 53 P **P 18 50 13.8 +1.0**
TNS Taunus Mts 84.96 330 *e*P **P 18 50 12.8 0.0**
comp=Z,28nm,1.2s,mb5.0
PDKS Podkum 85.05 324 *i*P **P 18 50 12.8 -0.5**
LWH Whinny Nab 85.08 337 *e*P **P 18 50 12.8 -0.6**
LWH Whinny Nab 85.08 337 *e*P **P 18 50 12.8 -0.6**
LIT Litokhoron 85.08 316 *e*P **P 18 50 12.4 -1.0**
XOR Xorichti 85.15 315 *e*P **P 18 50 13.1 -0.7**
APE Apeiranthos 85.20 312 *e*P **P 18 50 13.2 -0.8**
BHH Howats Hill 85.24 339 *e*P **P 18 50 14.2 0.0**
BHH Howats Hill 85.24 339 *e*P **P 18 50 14.2 0.0**
FNA Florina 85.27 317 *e*P **P 18 50 13.6 -0.7**
FUR Furstenfeldbru 85.28 327 *e*P **P 18 50 14.4 0.0**
comp=Z,37nm,0.9s,mb5.2
FUR *e*PP PP 18 53 37.0 -0.5
VISS Visnje 85.31 324 *e*P **P 18 50 13.5 -1.1**
BOJS Bojanci 85.31 323 *e*P **P 18 50 14.2 -0.4**
PV10 Paradox Valley 85.32 46 *e*P **P 18 50 16.2 +1.6**
OHR Ohrid 85.39 317 *i*P **P 18 50 15.0 +0.1**
BDL Dobcross Hall 85.40 338 *e*P **P 18 50 15.0 0.0**
BDL Dobcross Hall 85.40 338 *e*P **P 18 50 15.0 0.0**
BBO1 Bothel 85.55 338 *e*P **P 18 50 15.6 -0.2**
BBO1 Bothel 85.55 338 *e*P **P 18 50 15.6 -0.2**
HGN Heimansgroeve 85.57 332 *e*P **P 18 50 15.2 -0.6**
comp=Z,64nm,1.2s,mb5.3
ROBS Robic 85.64 325 *e*P **P 18 50 15.5 -0.7**
BEBN Eben Emael 85.64 332 P **P 18 50 16.2 0.0**
comp=Z,18nm,0.8s,mb5.0
MEM Membach 85.66 331 P **P 18 50 15.8 -0.5**
MEM AP pP 18 51 35.1 -0.2
WUAZ Wupatki 85.69 50 P **P 18 50 18.0 +1.6**
comp=Z,36nm,0.9s,mb5.2
GMK Mull of Kintyr 85.72 340 *e*P **P 18 50 16.6 0.0**
GMK Mull of Kintyr 85.72 340 *e*P **P 18 50 16.6 0.0**
STU Stuttgart 85.74 329 *e*P **P 18 50 16.3 -0.4**
comp=Z,26nm,0.9s,mb5.1
STU Stuttgart 85.74 329 P **P 18 50 16.8 +0.1**
comp=Z,23nm,0.8s,mb5.0
STU Stuttgart 85.74 329 P **P 18 50 16.8 +0.1**
STU pmax pmax
comp=Z,23nm,0.8s,mb5.1
WATA Walderalm 85.75 326⇓*i*P **P 18 50 15.8 -0.9**
comp=Z,7.4nm,1.0s,mb4.5
WATA Walderalm 85.75 326 ⇓P **P 18 50 15.8 -0.9**
WATA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PV01 Paradox Valley 85.76 46 *e*P **P 18 50 17.8 +1.0**
PV01 *e*pP pP 18 51 35.7 0.0
WTTA Wattenberg 85.78 326⇑*i*P **P 18 50 16.4 -0.5**
comp=Z,8.5nm,0.5s,mb4.8
WTTA Wattenberg 85.78 326 ⇑P **P 18 50 16.4 -0.4**
WTTA pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
AGG Agios Georgios 85.88 315 *e*P **P 18 50 15.4 -1.9**
GAL1 Galloway 85.88 339 *e*P **P 18 50 16.9 -0.4**
GAL1 Galloway 85.88 339 *e*P **P 18 50 16.9 -0.4**
MOTA Moosalm 85.96 327⇓*i*P **P 18 50 17.2 -0.5**
comp=Z,6.4nm,0.8s,mb4.5
MOTA Moosalm 85.96 327 ⇓P **P 18 50 17.2 -0.5**
comp=Z,6.4nm,0.8s,mb4.5
MOTA Moosalm 85.96 327 ⇓P **P 18 50 17.2 -0.5**
MOTA pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SQTA Sankt Quirin 86.00 327 *i*P **P 18 50 17.5 -0.4**
comp=Z,6.8nm,0.8s,mb4.5,SNR=9.5
SQTA Sankt Quirin 86.00 327 *i*P **P 18 50 17.5 -0.4**
comp=Z,6.8nm,0.8s,mb4.5
SQTA Sankt Quirin 86.00 327 *i*P **P 18 50 17.5 -0.5**
SQTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
LHO Holmfirth 86.12 337 *e*P **P 18 50 18.1 -0.4**
LHO Holmfirth 86.12 337 *e*P **P 18 50 18.1 -0.4**
UCC Uccle 86.16 332⇑P **P 18 50 18.5 -0.2**
WLF Walferdange 86.34 331 *e*P **P 18 50 20.9 +1.3**
comp=Z,23nm,0.8s,mb5.1
WLF *e*pP pP 18 51 39.3 +0.6
WLF Walferdange 86.34 331 P **P 18 50 20.4 +0.8**
WLF AP pP 18 51 38.8 +0.1
ISCO Idaho Springs 86.40 43 P **P 18 50 21.4 +1.6**
comp=Z,16nm,0.8s,mb4.9
ISCO Idaho Springs 86.40 43 P **P 18 50 21.4 +1.5**
ISCO pmax pmax
comp=Z,16nm,0.8s,mb4.9
SNF Seneffe 86.42 332 P **P 18 50 19.6 -0.3**
comp=Z,13nm,0.5s,mb5.0
BFO Black Forest 86.45 329 *e*P **P 18 50 19.4 -0.7**
comp=Z,12nm,0.8s,mb4.8
BFO *e*pP pP 18 51 39.4 +0.1
BFO Black Forest 86.45 329 P **P 18 50 19.1 -1.0**
comp=Z,106nm,0.5s,mb5.9,SNR=7.6
BFO Black Forest 86.45 329 *e*P **P 18 50 18.9 -1.2**
GIVF Givet 86.53 332 *e*P **P 18 50 19.4 -1.1**
comp=Z,20nm,0.7s,mb4.8
GIVF Givet 86.53 332 *e*P **P 18 50 19.4 -1.1**
comp=Z,10.0nm,0.7s,mb4.8
GIVF Givet 86.53 332 *e*P **P 18 50 19.4 -1.1**
GIVF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
DAVA Damuels 86.56 327⇓*i*P **P 18 50 20.6 -0.1**
comp=Z,31nm,0.6s,mb5.3,SNR=17
DOU Dourbes 86.62 332 P **P 18 50 20.2 -0.7**
IGT Igoumenitsa 86.70 316 *e*P **P 18 50 20.2 -1.1**
GMM Mts of Mourne 86.79 339 *e*P **P 18 50 21.2 -0.5**
GMM Mts of Mourne 86.79 339 *e*P **P 18 50 21.2 -0.5**
BAIF Baives 86.80 332 *e*P **P 18 50 20.7 -1.1**
CDF Champ du Feu 86.84 329 *e*P **P 18 50 20.7 -1.3**
comp=Z,28nm,0.8s,mb4.8
CDF *e*pP pP 18 51 41.0 -0.2
CDF Champ du Feu 86.84 329 *e*P **P 18 50 20.7 -1.3**
comp=Z,14nm,0.8s,mb4.8
CDF *e*pP pP 18 51 41.0 -0.2
CDF Champ du Feu 86.84 329 *e*P **P 18 50 20.7 -1.3**
CDF *e**PP pP 18 51 41.0 -0.2
CDF pmax pmax
comp=Z,14nm,0.8s,mb4.8
WCB1 Church Bay 87.11 338 *e*P **P 18 50 22.9 -0.3**
WCB1 AMb AMB 18 50 24.7
comp=Z,111nm,1.6s,mb5.5
WCB1 Church Bay 87.11 338 *e*P **P 18 50 22.9 -0.3**
WCB1 AMb AMB 18 50 24.7
comp=Z,111nm,1.6s,mb5.5
YRE Yr Eifl 87.42 338 *e*P **P 18 50 24.7 0.0**

YRE AMb AMB 18 50 25.3
comp=Z,64nm,1.0s,mb5.4
YRE Yr Eifl 87.42 338 *e*P **P 18 50 24.7 0.0**
YRE AMb AMB 18 50 25.3
comp=Z,64nm,1.0s,mb5.4
HINF Hinteralfeld 87.48 329 *e*P **P 18 50 23.4 -1.6**
comp=Z,12nm,0.7s,mb4.6
HINF Hinteralfeld 87.48 329 *e*P **P 18 50 23.4 -1.6**
comp=Z,6.2nm,0.7s,mb4.5
HINF Hinteralfeld 87.48 329 *e*P **P 18 50 23.4 -1.6**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
HAU Haudompre 87.55 330 *e*P **P 18 50 23.7 -1.6**
EYMN Ely 87.56 31 P **P 18 50 25.5 +0.1**
comp=Z,16nm,0.8s,mb4.9
MEZF Maizieres J'vi 87.70 331 *e*P **P 18 50 24.8 -1.2**
comp=Z,30nm,0.9s,mb4.8
MEZF Maizieres J'vi 87.70 331 *e*P **P 18 50 24.8 -1.2**
comp=Z,30nm,0.9s,mb5.1
DLF Lyons Farm 87.78 339 ‖ *i*P **P 18 50 26.3 -0.1**
SDCO Great Sand Dun 87.84 45 P **P 18 50 27.9 +1.2**
comp=Z,28nm,1.3s,mb4.9
DCN Croghan 87.95 340 ‖ *i*P **P 18 50 27.1 -0.1**
AQU L'Aquila 88.50 322 *e*P **P 18 50 30.0 +0.2**
comp=Z,27nm,0.8s,mb5.1
AQU L'Aquila 88.50 322 *e*P **P 18 50 30.0 +0.2**
AQU pmax pmax
comp=Z,27nm,0.8s,mb5.1
CABF La Chapelle 88.75 329 *e*P **P 18 50 29.7 -1.2**
comp=Z,15nm,0.7s,mb4.6
CABF La Chapelle 88.75 329 *e*P **P 18 50 29.7 -1.2**
comp=Z,7.4nm,0.7s,mb4.6
CABF La Chapelle 88.75 329 *e*P **P 18 50 29.7 -1.2**
CABF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
LAZ Ladron 89.06 48 *e*P **P 18 50 33.5 +1.1**
ANMO Albuquerque 89.12 48 P **P 18 50 34.4 +1.7**
comp=Z,9.0nm,0.8s,mb4.7,baz=301,slow=4.1,SNR=25
ANMO Albuquerque 89.12 48 P **P 18 50 34.0 +1.3**
LOR Lormes 89.17 330 *e*P **P 18 50 31.4 -1.5**
comp=Z,26nm,0.8s,mb4.8
LOR Lormes 89.17 330 *e*P **P 18 50 31.4 -1.5**
comp=Z,13nm,0.8s,mb4.8
LOR Lormes 89.17 330 *e*P **P 18 50 31.4 -1.5**
LOR pmax pmax
comp=Z,13nm,0.8s,mb4.8
LPL La Plagne 89.32 328 *e*P **P 18 50 32.6 -1.0**
comp=Z,26nm,0.6s,mb4.9
LPL *e*pP pP 18 51 53.3 0.0
LPL La Plagne 89.32 328 *e*P **P 18 50 32.6 -1.0**
comp=Z,13nm,0.6s,mb4.9
LPL *e*pP pP 18 51 53.3 0.0
LPL La Plagne 89.32 328 *e*P **P 18 50 32.6 -1.0**
LPL *e**PP pP 18 51 53.3 0.0
LPL pmax pmax
comp=Z,13nm,0.6s,mb4.9
LPM Los Pinos Moun 89.44 48 *e*P **P 18 50 35.4 +1.2**
SSF Saint Saulge 89.48 331 *e*P **P 18 50 33.0 -1.3**
comp=Z,24nm,0.9s,mb4.7
SSF *e*pP pP 18 51 53.5 -0.6
SSF Saint Saulge 89.48 331 *e*P **P 18 50 33.0 -1.3**
comp=Z,12nm,0.9s,mb4.7
SSF *e*pP pP 18 51 53.5 -0.6
SSF Saint Saulge 89.48 331 *e*P **P 18 50 33.0 -1.3**
SSF *e**PP pP 18 51 53.5 -0.6
SSF pmax pmax
comp=Z,12nm,0.9s,mb4.7
BNM Barren Site 89.55 48 *e*P **P 18 50 35.6 +0.9**
FLN La Foliniere 89.64 334 *e*P **P 18 50 33.9 -1.2**
comp=Z,20nm,0.5s,mb5.0
FLN La Foliniere 89.64 334 *e*P **P 18 50 33.9 -1.2**
comp=Z,10nm,0.5s,mb5.0
FLN La Foliniere 89.64 334 *e*P **P 18 50 33.9 -1.2**
FLN pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
LDF La Druitiere 89.65 333 *e*P **P 18 50 33.8 -1.3**
comp=Z,17nm,0.5s,mb4.9
LDF La Druitiere 89.65 333 *e*P **P 18 50 33.8 -1.3**
comp=Z,8.4nm,0.5s,mb4.9
LDF La Druitiere 89.65 333 *e*P **P 18 50 33.8 -1.3**
LDF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
SMF Signal de Mont 89.67 330 *e*P **P 18 50 33.9 -1.3**
comp=Z,34nm,1.0s,mb4.9
SMF Signal de Mont 89.67 330 *e*P **P 18 50 33.9 -1.3**
comp=Z,17nm,1.0s,mb4.9
SMF Signal de Mont 89.67 330 *e*P **P 18 50 33.9 -1.3**
SMF pmax pmax
comp=Z,17nm,1.0s,mb4.9
AVF Avril sur Loir 89.76 330 *e*P **P 18 50 34.3 -1.3**
comp=Z,88nm,1.2s,mb5.3
AVF *e*pP pP 18 51 53.9 -1.5
AVF Avril sur Loir 89.76 330 *e*P **P 18 50 34.3 -1.3**
comp=Z,44nm,1.2s,mb5.3
AVF *e*pP pP 18 51 53.9 -1.5
AVF Avril sur Loir 89.76 330 *e*P **P 18 50 34.3 -1.3**
AVF *e**PP pP 18 51 53.9 -1.5
AVF pmax pmax
comp=Z,44nm,1.2s,mb5.3
JLP Les Platons 89.83 335 *e*P **P 18 50 34.7 -1.2**
JLP AMb AMB 18 50 36.4
comp=Z,88nm,0.9s,mb5.7
JLP Les Platons 89.83 335 *e*P **P 18 50 34.7 -1.2**
JLP AMb AMB 18 50 36.4
comp=Z,88nm,0.9s,mb5.7
JVM Valle D.L. Mar 89.88 335 *e*P **P 18 50 35.6 -0.6**
JVM AMb AMB 18 50 40.5
comp=Z,54nm,1.1s,mb5.4
JVM Valle D.L. Mar 89.88 335 *e*P **P 18 50 35.6 -0.6**
JVM AMb AMB 18 50 40.5
comp=Z,54nm,1.1s,mb5.4
MBDF Montbardon 89.91 327 *e*P **P 18 50 34.6 -1.8**
comp=Z,30nm,0.9s,mb4.9
MBDF Montbardon 89.91 327 *e*P **P 18 50 34.6 -1.8**
comp=Z,15nm,0.9s,mb4.9
MBDF Montbardon 89.91 327 *e*P **P 18 50 34.6 -1.8**
MBDF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRR Gorron 90.09 334 *e*P **P 18 50 36.1 -1.1**
comp=Z,62nm,0.8s,mb5.3
GRR Gorron 90.09 334 *e*P **P 18 50 36.1 -1.1**
comp=Z,31nm,0.8s,mb5.3
GRR Gorron 90.09 334 *e*P **P 18 50 36.1 -1.1**
GRR pmax pmax
comp=Z,31nm,0.8s,mb5.3
BGF Bois d'Agland 90.15 331 *e*P **P 18 50 36.2 -1.3**
comp=Z,27nm,0.9s,mb4.8
BGF Bois d'Agland 90.15 331 *e*P **P 18 50 36.2 -1.3**
comp=Z,13nm,0.9s,mb4.9
BGF Bois d'Agland 90.15 331 *e*P **P 18 50 36.2 -1.3**
BGF pmax pmax
comp=Z,13nm,0.9s,mb4.9
ORIF Oris-en-Rattie 90.16 328 *e*P **P 18 50 36.1 -1.4**
TCF Toulx Ste Croi 90.63 331 *e*P **P 18 50 38.7 -1.0**
comp=Z,36nm,0.9s,mb5.0
TCF Toulx Ste Croi 90.63 331 *e*P **P 18 50 38.7 -1.0**
comp=Z,18nm,0.9s,mb5.0
TCF Toulx Ste Croi 90.63 331 *e*P **P 18 50 38.7 -1.0**
TCF pmax pmax
comp=Z,18nm,0.9s,mb5.0
VIVF Saint-Julien-l 90.74 329 *e*P **P 18 50 38.9 -1.3**
comp=Z,35nm,0.9s,mb5.0
VIVF *e*pP pP 18 51 59.8 -0.2
VIVF Saint-Julien-l 90.74 329 *e*P **P 18 50 38.9 -1.3**
comp=Z,17nm,0.9s,mb5.0
VIVF *e*pP pP 18 51 59.8 -0.2
VIVF Saint-Julien-l 90.74 329 *e*P **P 18 50 38.9 -1.3**
VIVF *e**PP pP 18 51 59.8 -0.2
VIVF pmax pmax
comp=Z,17nm,0.9s,mb5.0
SGMF Saint Gilles 90.82 335 *e*P **P 18 50 39.8 -0.8**
comp=Z,56nm,0.7s,mb5.3
SGMF Saint Gilles 90.82 335 *e*P **P 18 50 39.8 -0.8**
comp=Z,28nm,0.7s,mb5.3
SGMF Saint Gilles 90.82 335 *e*P **P 18 50 39.8 -0.8**
SGMF pmax pmax
comp=Z,28nm,0.7s,mb5.3
FRF La Foret Royal 90.88 327 *e*P **P 18 50 39.8 -1.0**
comp=Z,28nm,0.8s,mb4.9
FRF La Foret Royal 90.88 327 *e*P **P 18 50 39.8 -1.0**
comp=Z,14nm,0.8s,mb4.9
FRF La Foret Royal 90.88 327 *e*P **P 18 50 39.8 -1.0**
FRF pmax pmax
comp=Z,14nm,0.8s,mb4.9
ROSF Rostrenen 91.01 335 *e*P **P 18 50 40.6 -0.8**
comp=Z,85nm,0.9s,mb5.4
ROSF Rostrenen 91.01 335 *e*P **P 18 50 40.6 -0.8**
comp=Z,43nm,0.9s,mb5.4
ROSF Rostrenen 91.01 335 *e*P **P 18 50 40.6 -0.8**
ROSF pmax pmax
comp=Z,43nm,0.9s,mb5.4
SMRF Simiane la Rot 91.04 327 *e*P **P 18 50 40.0 -1.6**
LMR La Mourre 91.11 327 *e*P **P 18 50 40.1 -1.8**
comp=Z,87nm,1.3s,mb5.2
LMR La Mourre 91.11 327 *e*P **P 18 50 40.1 -1.8**
comp=Z,44nm,1.3s,mb5.2
LMR La Mourre 91.11 327 *e*P **P 18 50 40.1 -1.8**
LMR pmax pmax
comp=Z,44nm,1.3s,mb5.2
MFF Saint Martin d 91.31 332 *e*P **P 18 50 42.0 -0.8**
comp=Z,116nm,1.0s,mb5.4
MFF Saint Martin d 91.31 332 *e*P **P 18 50 42.0 -0.8**
comp=Z,58nm,1.0s,mb5.5
MFF Saint Martin d 91.31 332 *e*P **P 18 50 42.0 -0.8**
MFF pmax pmax
comp=Z,58nm,1.0s,mb5.5
QUIF Quistinic 91.32 335 *e*P **P 18 50 41.6 -1.3**
comp=Z,72nm,1.1s,mb5.2
QUIF Quistinic 91.32 335 *e*P **P 18 50 41.6 -1.3**
comp=Z,36nm,1.1s,mb5.2
QUIF Quistinic 91.32 335 *e*P **P 18 50 41.6 -1.3**
QUIF pmax pmax
comp=Z,36nm,1.1s,mb5.2
RJF Les Rejaudoux 91.71 331 *e*P **P 18 50 43.9 -0.8**
comp=Z,90nm,1.1s,mb5.3
RJF Les Rejaudoux 91.71 331 *e*P **P 18 50 43.9 -0.8**
comp=Z,45nm,1.1s,mb5.3
RJF Les Rejaudoux 91.71 331 *e*P **P 18 50 43.9 -0.8**
RJF pmax pmax
comp=Z,45nm,1.1s,mb5.3
LASF Ste Croix 91.72 329 *e*P **P 18 50 43.5 -1.2**
comp=Z,19nm,0.8s,mb4.8
CAF Calviac 91.79 330 *e*P **P 18 50 44.6 -0.5**
comp=Z,23nm,0.8s,mb4.9
CAF *e*pP pP 18 52 05.4 +0.5
CAF Calviac 91.79 330 *e*P **P 18 50 44.6 -0.5**
comp=Z,12nm,0.8s,mb4.9
CAF *e*pP pP 18 52 05.4 +0.5
CAF Calviac 91.79 330 *e*P **P 18 50 44.6 -0.5**
CAF *e**PP pP 18 52 05.4 +0.5
CAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
KSU1 Kansas State U 91.84 39 *e*P **P 18 50 45.2 0.0**
MNTX Cornudas Mount 91.96 49 P **P 18 50 46.7 +0.9**
comp=Z,9.6nm,0.8s,mb4.8
GDL2 Guadalupe Moun 92.26 48 *e*P **P 18 50 48.3 +1.1**
LFF La Frestale 92.33 331 *e*P **P 18 50 47.0 -0.5**
comp=Z,66nm,0.7s,mb5.4
LFF La Frestale 92.33 331 *e*P **P 18 50 47.0 -0.5**
comp=Z,33nm,0.7s,mb5.4
LFF La Frestale 92.33 331 *e*P **P 18 50 47.0 -0.5**
LFF pmax pmax
comp=Z,33nm,0.7s,mb5.4
CLNB Carlsbad 92.52 48 *e*P **P 18 50 49.3 +0.9**
MTLF Montolieu 93.01 329 *e*P **P 18 50 49.5 -1.2**
comp=Z,24nm,1.1s,mb4.8
MTLF Montolieu 93.01 329 *e*P **P 18 50 49.5 -1.2**
comp=Z,12nm,1.1s,mb4.8
MTLF Montolieu 93.01 329 *e*P **P 18 50 49.5 -1.2**
MTLF pmax pmax
comp=Z,12nm,1.1s,mb4.8
EPF Esparros 94.06 330 *e*P **P 18 50 54.1 -1.4**
ETSF Etsaut 94.54 330 *e*P **P 18 50 57.7 0.0**
comp=Z,14nm,0.7s,mb4.8
ETSF *e*pP pP 18 52 18.3 +0.7
ETSF Etsaut 94.54 330 *e*P **P 18 50 57.7 0.0**
comp=Z,7.1nm,0.7s,mb4.8
ETSF *e*pP pP 18 52 18.3 +0.7
ETSF Etsaut 94.54 330 *e*P **P 18 50 57.7 0.0**
ETSF *e**PP pP 18 52 18.3 +0.7
ETSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
SJPF Ste Jean 94.63 331 *e*P **P 18 50 56.8 -1.3**
LTX Lajitas 94.64 50 P **P 18 50 59.4 +1.3**
comp=Z,19nm,0.7s,mb5.2
LTX Lajitas 94.64 50 P **P 18 50 59.4 +1.3**
LTX pmax pmax
comp=Z,19nm,0.7s,mb5.2
CCM Cathedral Cave 95.37 37 P **P 18 51 01.4 0.0**
comp=Z,17nm,0.9s,mb5.1
CCM Cathedral Cave 95.37 37 P **P 18 51 01.4 0.0**
CCM pmax pmax
comp=Z,17nm,0.9s,mb5.1
FVM French Village 95.83 36 P **P 18 51 03.8 +0.2**
comp=Z,9.9nm,0.8s,mb5.0
FVM French Village 95.83 36 P **P 18 51 03.8 +0.3**
FVM pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
JCT Junction City 96.26 47 *e*P **P 18 51 05.3 -0.1**
comp=Z,7.2nm,0.6s,mb5.0
JCT Junction City 96.26 47 *e*P **P 18 51 05.3 -0.2**
JCT pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
MIAR Mount Ida 96.86 40 *e*P **P 18 51 08.2 +0.1**
comp=Z,6.2nm,0.8s,mb4.8
MIAR Mount Ida 96.86 40 *e*P **P 18 51 08.2 0.0**
MIAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ESDC Sonseca Array 98.64 331 P Pdif 18 51 15.7 -0.4
comp=Z,0.6nm,0.6s,baz=27,slow=5.7,SNR=3.1
KMBO Kilima Mbogo 99.12 275 P Pdif 18 51 17.6 -0.7
comp=Z,2.7nm,0.8s,baz=42,slow=9.7,SNR=6.0
KMBO Kilima Mbogo 99.12 275 *i* P Pdif 18 51 16.2 -2.0
KMBO pmax pmax
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 117.13 310 PKP PKPdf 18 56 19.5 -0.7
comp=Z,1.0nm,0.5s,baz=32,slow=1.3,SNR=26
TORD PP PP 18 57 33.4 -2.2
comp=Z,7.7nm,0.9s,baz=20,slow=5.6,SNR=10
TORD SKP 18 59 21.4
comp=Z,1.8nm,0.7s,baz=27,slow=1.5,SNR=5.7
TORD PKKPbc PKKPbc 19 06 42.8 -2.7
comp=Z,0.4nm,0.4s,baz=242,slow=1.9,SNR=5.4
QSPA South Pole Qui 123.57 180 *e*P PKPdf 18 56 30.9 -1.6
SYO Syowa Base 123.91 205 ‖ *e*Pdiff Pdif 18 53 08.7 +0.2
DBIC Dimbokro 126.20 311 PKP PKPdf 18 56 37.5 -0.1
comp=Z,2.0nm,0.5s,baz=338,slow=1.7,SNR=5.2
DBIC PP PP 18 58 36.3 -0.5
comp=Z,2.9nm,0.7s,baz=348,slow=4.2,SNR=4.4
DBIC Dimbokro 126.20 311 PKIKP PKPdf 18 56 37.5 -0.1
DBIC 18 58 36.3
DBIC pmax pmax
comp=Z,2.0nm,0.5s
DBIC pmax pmax
comp=Z,3.0nm,0.7s
SDV Santo Domingo 129.84 37 PKP PKPdf 18 56 44.8 +0.3
comp=Z,3.9nm,0.4s,baz=48,slow=3.0,SNR=12
SDV SKPbc SKPbc 18 59 34.8 +0.4
comp=Z,10nm,0.8s,baz=349,slow=2.8,SNR=12
SDV Santo Domingo 129.84 37 *e*PKPdf PKPdf 18 56 44.6 +0.1
SDV *e*SKP 18 59 35.0
VNA2 Neumayer--Watz 138.33 197 *e* PKPdf 18 57 01.5 +1.1
VNA2 *e* 19 00 02.0
VNA2 *e* 19 00 04.6
VNA3 Neumayer Olymp 138.62 195 *e* PKPdf 18 57 01.4 +0.5
VNA3 *e* 19 00 02.6
ARE Arequipa 148.76 64 *e*P PKPbc 18 57 24.0 +1.2
SAML Samuel 148.79 42 *e*PKPdf PKPdf 18 57 18.7 +0.1
SAML *e*PKPbc PKPbc 18 57 23.0 +0.2
SAML *e*PKPab PKPab 18 57 27.6 -0.3
SAML *e*pPKPbc pPKPbc 18 58 47.7 +1.3
LPAZ La Paz 151.10 59 PKP PKPdf 18 57 24.1 +1.9
comp=Z,7.2nm,0.7s,baz=18,slow=3.2,SNR=5.3
LPAZ PKPbc PKPbc 18 57 29.7 +1.3
comp=Z,12nm,0.7s,baz=15,slow=4.9,SNR=9.9
LPAZ La Paz 151.10 59 *e*PKPdf PKPdf 18 57 23.6 +1.4
LPAZ *e*PKPbc PKPbc 18 57 29.6 +1.2
LPAZ *e*pPKPdf pPKPdf 18 58 47.8 +1.1
PLCA Paso Flores 156.72 115 PKPab PKPab 18 58 02.0 +0.6
comp=Z,13nm,0.8s,baz=245,slow=4.7,SNR=20
PLCA Paso Flores 156.72 115 PKP2 PKPab 18 58 02.1 +0.7
PLCA pmax pmax
comp=Z,13nm,0.8s
BDFB Brasilia 161.24 17 PKP PKPdf 18 57 36.1 +0.8
comp=Z,1.9nm,0.8s,baz=19,slow=4.6,SNR=3.2
BDFB PKPab PKPab 18 58 22.3 +1.1
comp=Z,4.1nm,0.8s,baz=272,slow=0.7,SNR=5.0
BDFB Brasilia 161.24 17 PKIKP PKPdf 18 57 36.1 +0.8
BDFB 18 58 22.3
BDFB pmax pmax
comp=Z,2.0nm,0.8s
BDFB pmax pmax
comp=Z,4.0nm,0.8s

GUC 04 18:42:15.1±0.7, 3075S×7144W, h42km±3km, MD3.7, ML3.0, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.57**	**138** ⇑	*i*P	Pn	18 42 26.9	+0.1
CMCH				*i* S	Sn	18 42 36.3	+1.3
CMCH				AMP		18 42 37.0	
	comp=E,5μm,0.4s						
CHNG	**Los Chungos**	**1.13**	**183** ⇓	*i*P	Pn	18 42 35.6	+1.1
CHNG				*i* S	Sn	18 42 50.4	+1.6
CHNG				AMP		18 42 56.0	
	comp=E,177nm,0.6s						
PEL	**Peldehue**	**2.47**	**165**	*e*P	Pn	18 42 53.5	+0.6
PEL				*i* S	Sn	18 43 23.6	+1.8
PEL				AMP		18 43 40.7	
	comp=E,122nm,0.3s						
FCH	**Farellones**	**2.75**	**160**	*e*P	Pn	18 42 58.7	+2.0
FCH				*i* S	Sn	18 43 31.3	+2.7
FCH				AMP		18 43 36.7	
	comp=E,44nm,0.1s						

MAN 04 18:42:22.9, 1727N×12133E, h1km, mb2.2, ML3.9, MS0.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.59**	**352**	*e*P	Pg	18 42 34.8	+0.4
APYP				*e*S	Sg	18 43 03.6	+22
ABRA	**Dolores**	**0.70**	**303**	*e*P	Pg	18 42 37.0	+0.6
ABRA				*e*S	Sg	18 43 08.7	+23

ISCJB ***04*** *18:51:16.5±0.8, 454N±0.1×1512E±0.1, h33km, mb3.8/10, Error ellipse: s-maj=17.8km s-min=4.5km az=112.9*
JMA ***04*** *18:51:17.8±0.7, 4557N×15126E, h30km, M4.3*
MOS ***04*** *18:51:19.7±1.1, 4567N×15103E, h56km, mb4.1/7, Error ellipse: s-maj=16.9km s-min=14.1km az=59.6*
IDC ***04*** *18:51:21.0±1.7, 4678N×15057E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/20, mbtmp3.6/7, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/33, Error ellipse: s-maj=45.8km s-min=25.8km az=153.0*
NEIC ***04*** *18:51:24.3±2.6, 4640N×15082E, h43km±21km, mb4.1/7, Error ellipse: s-maj=27.7km s-min=14.3km az=146.0*

ISC 04 18:51:18.7±0.8, 455N±01×1512E±01, h35km, n50, σ1§51/56, mb3.8/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.35**	**265**	*e*PN	**Pn**	**18 51 54.0**	**-0.8**
KUR				*e*S	**Sn**	**18 52 21.5**	**-1.0**
KUR				pmax	pmax		
	comp=Z,130nm,0.4s						
KUR				smax			
	comp=N,530nm,0.5s						
KUR				smax			
	comp=E,190nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.06**	**251**	*e*PN	**Pn**	**18 52 21.0**	**+2.7**
YUK				S	**Sn**	**18 53 08.5**	**+3.9**
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,200nm,0.5s						
NEM2	**Nemuro 2**	**4.43**	**243**	P	**Pn**	**18 52 23.4**	**-0.1**
NEM2				*e*S	**Sn**	**18 53 12.0**	**-1.8**
JRA	**Rausu**	**4.59**	**253**	P	**Pn**	**18 52 27.8**	**+2.2**
JRA				*e*S	**Sn**	**18 53 20.4**	**+2.7**
JNK	**Nakash**	**5.00**	**250**	P	**Pn**	**18 52 32.8**	**+1.6**
JNK				*e*S	**Sn**	**18 53 27.1**	**-0.6**
JAK	**Akkeshi**	**5.28**	**244**	P	**Pn**	**18 52 34.6**	**-0.5**
JAK				*e*S	**Sn**	**18 53 31.8**	**-2.9**
JTKR	**Abashiri--Toko**	**5.40**	**256**	P	**Pn**	**18 52 38.9**	**+2.2**
JAR	**Ashorobuto**	**5.75**	**250**	P	**Pn**	**18 52 43.3**	**+1.8**
JAR				*e*S	**Sn**	**18 53 48.1**	**+2.0**
JMP	**Maruseppu**	**5.77**	**258**	P	**Pn**	**18 52 45.0**	**+3.3**
JOB	**Onbets**	**5.88**	**247**	*e*S	**Sn**	**18 53 47.9**	**-1.5**
YSS	**Yuzh-Sakhalins**	**6.04**	**287**	Pn	**Pn**	**18 52 44.7**	**-0.8**
JKK2	**Kamakawa 2**	**6.23**	**258**	P	**Pn**	**18 52 51.3**	**+3.2**
ASAJ	**Asahikawa**	**6.26**	**260**	Pn	**Pn**	**18 52 52.4**	**+3.8**
	comp=E,1.2nm,0.3s,baz=203,slow=32,SNR=4.9						
ASAJ				LR	LR	18 55 27.3	
	comp=E,62nm,19.4s,baz=344,slow=40						
ASAJ	**Asahikawa**	**6.26**	**260**	PN	**Pn**	**18 52 52.4**	**+3.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,63nm,19.4s						
JCH	**Churui**	**6.32**	**246**	P	**Pn**	**18 52 49.7**	**+0.3**
JCH				*e*S	**Sn**	**18 53 59.2**	**-1.2**
JNBK	**Urakawa-nobuka**	**6.88**	**245**	P	**Pn**	**18 52 58.0**	**+0.9**
JNBK				*e*S	**Sn**	**18 54 12.1**	**-2.0**
JBT2	**Biratori 2**	**6.90**	**250**	P	**Pn**	**18 52 58.5**	**+1.2**
JNB	**Noboribetsu**	**7.91**	**251**	P	**Pn**	**18 53 13.2**	**+2.0**
JNB				*e*S	**Sn**	**18 54 38.9**	**-0.6**
JKB	**Kayabe**	**8.19**	**248**	P	**Pn**	**18 53 15.0**	**0.0**
JKB				*e*S	**Sn**	**18 54 40.5**	**-5.7**
JYM2	**Yakumo 2**	**8.51**	**251**	P	**Pn**	**18 53 20.7**	**+1.2**
JANG	**Nango**	**8.74**	**238**	P	**Pn**	**18 53 19.8**	**-2.7**
JANG				*e*S	**Sn**	**18 54 50.1**	**-10**
JTM	**Tenmabayashi**	**8.76**	**241**	*e*S	**Sn**	**18 54 52.5**	**-7.7**
JTH	**Tanohata**	**8.81**	**234**	*e*S	**Sn**	**18 54 52.1**	**-10**
MA2	**Magadan**	**14.12**	**359**	*e*Pn	**Pn**	**18 54 37.6**	**+1.4**
	comp=Z,5.5nm,0.5s						
MA2	**Magadan**	**14.12**	**359**	*e*P	**Pn**	**18 54 37.6**	**+1.4**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ILAR	**Eielson Array**	**38.38**	**38**	P	**P**	**18 58 36.0**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.2,baz=263,slow=8.0,SNR=7.4						
INK	**Inuvik**	**43.44**	**32**	P	**P**	**18 59 18.6**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=242,slow=3.3,SNR=4.7						
INK	**Inuvik**	**43.44**	**32**	P	**P**	**18 59 17.9**	**-0.3**
	comp=Z,2.6nm,1.1s,mb3.9						
INK	**Inuvik**	**43.44**	**32**	P	**P**	**18 59 17.9**	**-0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MKAR	**Makanchi Array**	**46.34**	**298**	P	**P**	**18 59 41.4**	**+0.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=80,slow=8.6,SNR=3.8						
LSA	**Lhasa**	**49.00**	**273**	*e*P	**P**	**19 00 03.8**	**+1.9**
	comp=Z,1.6nm,0.7s,mb4.2						
LSA	**Lhasa**	**49.00**	**273**	*e*P	**P**	**19 00 03.8**	**+1.9**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
RES	**Resolute Bay**	**52.46**	**18**	P	**P**	**19 00 26.3**	**-1.7**
	comp=Z,0.8nm,0.8s,mb3.7						
RES	**Resolute Bay**	**52.46**	**18**	P	**P**	**19 00 26.3**	**-1.6**
RES				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
FCC	**Fort Churchill**	**63.06**	**32**	P	**P**	**19 01 41.1**	**-1.2**
	comp=Z,0.7nm,0.5s,mb4.0						
FCC	**Fort Churchill**	**63.06**	**32**	P	**P**	**19 01 41.2**	**-1.1**
FCC				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**64.61**	**334**	P	**P**	**19 01 51.3**	**-1.3**
	comp=Z,0.3nm,0.4s,mb3.7,baz=32,slow=5.5,SNR=11						
WRAB	**Tennant Creek**	**66.88**	**197**	P	sP	19 02 24.3	+2.3
	comp=Z,7.5nm,1.2s						
WRAB	**Tennant Creek**	**66.88**	**197**	P	sP	19 02 24.3	+2.3
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
NB2	**NORSAR Subarra**	**68.99**	**340**	P	**P**	**19 02 18.9**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=30,slow=6.5						
NB2	**NORSAR Subarra**	**68.99**	**340**	P	**P**	**19 02 18.9**	**-1.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**68.99**	**340**	P	**P**	**19 02 19.5**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.9,baz=30,slow=6.4,SNR=4.4						
NOA	**NORSAR Array B**	**68.99**	**340**	P	**P**	**19 02 19.5**	**-0.9**
NOA	**NORSAR Array B**	**68.99**	**340**	P	**P**	**19 02 19.5**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MBWA	**Marble Bar**	**72.23**	**211**	P	pP	19 02 49.4	-1.7
	comp=Z,12nm,1.1s						
GERES	**GERESS Array B**	**79.00**	**333**	P	**P**	**19 03 17.4**	**-1.5**
	comp=Z,0.5nm,0.7s,mb3.6,baz=56,slow=5.0,SNR=4.1						
GERES	**GERESS Array B**	**79.00**	**333**	P	**P**	**19 03 17.4**	**-1.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**122.90**	**177**	PKP	PKPdf	19 10 20.4	+9.3
	comp=Z,0.8nm,0.6s,baz=27,slow=4.5,SNR=6.0						
VNDA	**Vanda**	**122.90**	**177**	PKP	PKPdf	19 10 20.4	+9.3

VNDA	**Vanda**	**122.90 177**	PKIKP	PKPdf	19 10 20.4	+9.3
VNDA			pmax	pmax		
	comp=Z,1.0nm,0.6s					

IDC 04 18:54:48.3±5.9,365S×14952E,h0km,mb3.7/3,mb1 4.0/3, mb1mx3.7/12,mbtmp3.8/3,MS3.9/12,Ms1 3.9/12, ms1mx3.6/23,Error ellipse: s-maj=208.2km s-min=31.1km az=103.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.74**	**345**	LR	LR	19 04 39.3	
	comp=Z,273nm,19.4s,baz=76,slow=33						
WB2	**Warramunga Arr**	**21.93**	**221**	*eP*	P	18 59 43.2	-0.1
WRA	**Warramunga Arr**	**21.94**	**221**	P	P	18 59 43.7	+0.3
	2.9nm,0.6s,baz=45,slow=9.9,SNR=23						
DZM	**Mont Dzumac**	**24.59**	**140**	LR	LR	19 06 41.0	
	comp=Z,222nm,19.1s,baz=184,slow=29						
ASAR	**Alice Springs**	**24.97**	**216**	P	P	19 00 13.8	+0.4
	2.1nm,0.8s,baz=47,slow=7.7,SNR=12						
FITZ	**Fitzroy Crossi**	**27.44**	**237**	*eP*	P	19 00 38.6	+2.8
	8.6nm,0.6s						
CBIJ	**Chichi jima**	**31.38**	**347**	LR	LR	19 12 26.0	
	comp=Z,172nm,19.1s,baz=138,slow=34						
JOW	**Kunigami**	**36.61**	**327**	LR	LR	19 13 54.6	
	comp=Z,132nm,21.5s,baz=151,slow=31						
JHJ	**Hachijo jima 2**	**37.71**	**347**	LR	LR	19 16 51.5	
	comp=Z,99nm,19.7s,baz=333,slow=35						
AFI	**Afiamalu**	**39.52**	**107**	LR	LR	19 15 38.8	
	comp=Z,132nm,18.4s,baz=15,slow=32						
MJAR	**Matsushiro Arr**	**41.36**	**346**	LR	LR	19 20 08.6	
	comp=Z,97nm,18.2s,baz=140,slow=37						
NWAO	**Narrogin (SRO)**	**41.94**	**222**	LR	LR	19 20 42.2	
	comp=Z,247nm,18.0s,baz=46,slow=37						
URZ	**Urewera**	**42.67**	**147**	LR	LR	19 17 58.4	
	comp=Z,243nm,18.5s,baz=250,slow=33						
SONM	**Songino Array**	**63.64**	**329**	P	P	19 05 21.5	+0.3
	0.3nm,0.6s,baz=146,slow=5.0,SNR=3.6						
SONM				LR	LR	19 29 49.7	
	comp=Z,84nm,19.4s,baz=187,slow=33						
ILAR	**Eielson Array**	**82.35**	**23**	LR	LR	19 38 33.7	
	comp=Z,53nm,19.9s,baz=359,slow=32						
AKTO	**Aktyubinsk**	**93.75**	**320**	LR	LR	19 54 19.8	
	comp=Z,48nm,18.5s,baz=15,slow=38						
TORD	**Torodi Ar. Bea**	**146.84**	**288**	PKPbc	PKPbc	19 14 32.8	+0.3
	0.6nm,0.7s,baz=57,slow=3.6,SNR=4.4						

*NEIC **04** 18:57:10.5±1.4, 1286N×8904W, h10km, mb4.4/10, Error ellipse: s-maj=45.6km s-min=14.1km az=51.0*
*CASC **04** 18:57:11.9±3.4, 1245N×8936W, h86km±93km, MD4.2, ML4.1, mb4.4(NEIC)*
*IDC **04** 18:57:11.3±1.9, 1347N×8849W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML3.9/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/28, Error ellipse: s-maj=81.9km s-min=30.3km az=52.0*
*ISCJB **04** 18:57:12.2±0.9, 1242N±007×8936W±005, h67km±8km, mb4.1/15, Error ellipse: s-maj=14.2km s-min=5.2km az=62.0*

ISC 04 18:57:13.4±0.8,1239N±008×8935W±006,h66km±8km,n45, σ1§18/46,mb4.1/15,3C-1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBS	**La Ceiba**	**1.31**	**16**	*eP*	Px	18 57 41.4	
LCBS				*eS*	Sx	18 58 00.0	
SNVI	**San Vicente**	**1.31**	**22**	*eP*	Px	18 57 42.4	
SNVI				*eS*	Sx	18 58 01.2	
BOQS	**Boqueron**	**1.34**	**3**	*eP*	Px	18 57 42.1	
BOQS				*eS*	Sx	18 58 02.3	
LFU	**La Fuente**	**1.37**	**10**	*eP*	Px	18 57 42.9	
LFU				*eS*	Sx	18 58 01.9	
SBLS	**San Blas**	**1.46**	**350**	*eP*	Px	18 57 44.0	
SBLS				*eS*	Sx	18 58 01.7	
BLLM	**Bellamira**	**1.51**	**46**	*eP*	Px	18 57 46.1	
BLLM				*eS*	Sx	18 58 07.3	
RTR	**El Retiro**	**1.52**	**349⇑**	*eP*	Px	18 57 54.1	
RTR				*eS*	Sx	18 58 12.2	
IXG	**Ixpaco**	**2.07**	**329**	*eP*	**Pn**	**18 57 42.9**	**-3.1**
CRIN	**San Cristobal**	**2.27**	**82**	*eP*	**Pn**	**18 57 48.3**	**-0.3**
CRIN				*eS*	**Sn**	**18 58 17.1**	**+1.6**
TEL3	**Telica 3**	**2.46**	**86**	*eP*	**Pn**	**18 57 50.0**	**-1.1**
TEL3				*eS*	**Sn**	**18 58 21.2**	**+1.1**
TELN	**Telica**	**2.47**	**85**	*eP*	**Pn**	**18 57 50.2**	**-1.1**
TELN				*eS*	**Sn**	**18 58 21.0**	**+0.5**
MIRN	**Miramar**	**2.58**	**89**	*eP*	**Pn**	**18 57 51.6**	**-1.2**
MIRN				*eS*	**Sn**	**18 58 22.9**	**-0.1**
CNGN	**Cerro Negro**	**2.60**	**87**	*eP*	**Pn**	**18 57 53.4**	**+0.3**
CNGN				*eS*	**Sn**	**18 58 23.4**	**0.0**
MRL	**Marmol**	**2.68**	**353**	*eP*	**Pn**	**18 57 54.8**	**+0.6**
COPN	**Copaltepe**	**2.71**	**94**	*eP*	**Pn**	**18 57 54.0**	**-0.6**
COPN				*eS*	**Sn**	**18 58 25.3**	**-0.8**
TP2	**Tecpan 2**	**2.88**	**326⇑**	*eP*	**Pn**	**18 57 56.5**	**-0.3**
TP2				*eS*	**Sn**	**18 58 30.4**	**0.0**
APYN	**Apoyeque**	**2.94**	**93**	*eP*	**Pn**	**18 57 56.7**	**-1.0**
APYN				*eS*	**Sn**	**18 58 32.0**	**+0.2**
TICN	**Ticuantepe**	**3.07**	**96**	*eP*	**Pn**	**18 57 59.4**	**-0.2**
TICN				*eS*	**Sn**	**18 58 34.6**	**-0.4**
JTS	**JuntasAbangare**	**4.79**	**115**	Pn	**Pn**	**18 58 23.3**	**+0.3**
	5.7nm,0.3s,baz=313,slow=20,SNR=18						
JTS				Sn	**Sn**	**18 59 14.8**	**-2.5**
	4.9nm,0.3s,baz=271,slow=21,SNR=4.4						
JTS				LR	LR	19 00 01.2	
	comp=Z,95nm,20.6s,baz=64,slow=36						
JTS	**JuntasAbangare**	**4.79**	**115**	*e*Pn	**Pn**	**18 58 23.3**	**+0.2**
PRS1	**Puriscal**	**5.50**	**115**	*eP*	**Pn**	**18 58 33.9**	**+1.2**
LAJ	**Bijagual**	**5.72**	**116**	*eP*	**Pn**	**18 58 33.0**	**-2.6**
LCR2	**La Lucha 2**	**5.87**	**116⇑**	*eP*	**Pn**	**18 58 39.8**	**+2.0**
URSC	**Urasca**	**6.03**	**114**	*eP*	**Pn**	**18 58 42.8**	**+2.9**
BUS	**Buena Vista**	**6.17**	**117⇓**	*eP*	**Pn**	**18 58 44.2**	**+2.3**
TEIG	**Tepich**	**7.86**	**7**	Pn	**Pn**	**18 59 06.0**	**+1.0**
LTX	**Lajitas**	**21.48**	**324**	*eP*	**P**	**19 01 59.4**	**+2.9**
OXF	**Oxford**	**22.02**	**360**	*eP*	**P**	**19 02 02.8**	**+0.5**
	27nm,0.8s,mb4.6						
MIAR	**Mount Ida**	**22.39**	**351**	*eP*	**P**	**19 02 06.8**	**+0.7**
	31nm,1.2s,mb4.5						
WMOK	**Wichita Mounta**	**23.84**	**341**	*eP*	**P**	**19 02 19.3**	**-1.0**
	12nm,1.1s,mb4.1						
FVM	**French Village**	**25.50**	**358**	P	**P**	**19 02 32.7**	**-2.8**
	12nm,0.9s,mb4.3						
CCM	**Cathedral Cave**	**25.61**	**357**	*eP*	**P**	**19 02 37.0**	**+0.5**
	11nm,0.8s,mb4.3						
WCI	**Wyandotte Cave**	**25.88**	**6**	*eP*	**P**	**19 02 39.0**	**+0.1**
	5.2nm,0.6s,mb4.1						
KSU1	**Kansas State U**	**27.37**	**348**	P	**P**	**19 02 52.0**	**-0.4**
SADO	**Sadowa**	**33.43**	**13**	LR	LR	19 17 48.0	
	comp=Z,93nm,18.8s,baz=182,slow=38						
SAML	**Samuel**	**33.55**	**128**	*eP*	**P**	**19 03 51.2**	**+4.4**
	3.8nm,1.0s,mb4.2						
NVAR	**Mina Array Bea**	**36.54**	**320**	P	**P**	**19 04 16.9**	**+4.4**
	0.4nm,0.6s,mb3.5,baz=140,slow=9.8,SNR=4.7						
NVAR	**Mina Array Bea**	**36.54**	**320**	P	**P**	**19 04 16.9**	**+4.3**
ULM	**Lac du Bonnet**	**38.13**	**353**	P	**P**	**19 04 24.9**	**-1.1**
	2.3nm,0.8s,mb4.1,baz=186,slow=9.2,SNR=3.4						
ULM				LR	LR	19 22 07.7	
	comp=Z,98nm,19.3s,baz=171,slow=40						
FCC	**Fort Churchill**	**46.42**	**357**	P	**P**	**19 05 32.1**	**-1.2**
	2.1nm,0.7s,mb4.0						
YKA	**Yellowknife Ar**	**53.19**	**346**	P	**P**	**19 06 25.2**	**+0.5**
	1.1nm,0.8s,mb3.9,baz=143,slow=7.6,SNR=16						
RES	**Resolute Bay**	**62.36**	**358**	*eP*	**P**	**19 07 28.4**	**-0.6**
	1.8nm,0.9s,mb4.1						
INK	**Inuvik**	**62.71**	**343**	P	**P**	**19 07 32.4**	**+1.0**
	0.6nm,0.8s,mb3.6,baz=148,slow=3.9,SNR=4.6						
ILAR	**Eielson Array**	**65.33**	**337**	P	**P**	**19 07 49.4**	**+0.8**
	0.8nm,1.0s,mb3.5,baz=153,slow=3.7,SNR=5.6						
WRA	**Warramunga Arr**	**137.47**	**254**	PKP	PKPdf	19 16 41.5	+12
	0.7nm,1.0s,baz=90,slow=2.5,SNR=8.1						

IDC 04 18:59:48.7±3.0,1135S×12270E,h0km,mb3.2/1, mb1 3.3/3,mb1mx3.2/12,mbtmp3.2/3,ML2.6/2,Error ellipse: s-maj=260.7km s-min=33.7km az=50.0,South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.08**	**129**	Pn	Pn	19 03 09.5	+0.1
	0.1nm,0.3s,baz=304,slow=13,SNR=4.7						
WRA				Sn	Sn	19 05 37.6	-8.8
	0.2nm,0.3s,baz=5.9,slow=21,SNR=9.0						
ASAR	**Alice Springs**	**16.24**	**140**	Pn	Pn	19 03 38.5	+0.4
	0.0nm,0.3s,baz=320,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**68.22**	**331**	P	P	19 10 51.1	+0.1
	0.1nm,0.5s,baz=133,slow=7.7,SNR=5.3						

*MOS **04** 19:01:01.9±1.7, 426S×15172E, h33km, mb4.8/1, Error ellipse: s-maj=42.8km s-min=15.9km az=57.1*
*IDC **04** 19:01:09.6±4.9, 453S×15167E, h90km±43km, mb3.9/4, mb1 4.0/5, mb1mx3.7/15, mbtmp4.2/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/19, Error ellipse: s-maj=32.4km s-min=25.5km az=169.0*
*NEIC **04** 19:01:10.6±2.3, 466S×15162E, h94km±19km, mb4.7/6, Error ellipse: s-maj=17.9km s-min=13.6km az=220.0*
*ISCJB **04** 19:01:13.8±2.5, 47S±0.1×1516E±0.1, h137km±20km, mb4.2/8, Error ellipse: s-maj=20.5km s-min=17.9km az=84.1*

ISC 04 19:01:19.4±2.4,48S±01×1515E±01,h172km±19km,n22, σ0§60/24,mb4.2/8,2C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.30**	**223**	P	**Pn**	**19 02 44.8**	**-5.4**
	0.8nm,0.3s,baz=307,slow=20,SNR=4.0						
PMG				S	**Sn**	**19 04 01.2**	**-0.5**
	8.8nm,0.3s,baz=332,slow=20,SNR=15						
PMG	**Port Moresby**	**6.30**	**223**	P	**Pn**	**19 02 44.9**	**-5.4**
PMG				S	**Sn**	**19 04 01.2**	**-0.5**
PMG				*e*Sn		19 03 35.6	
PMG	**Port Moresby**	**6.30**	**223**	*e*Pn	**Pn**	**19 02 43.2**	**-7.0**
HNR	**Honiara**	**9.53**	**119**	LR	LR	19 06 35.0	
	comp=Z,134nm,18.5s,baz=178,slow=34						
CTAO	**Charters Tower**	**16.04**	**198**	P	**Pn**	**19 04 56.5**	**+1.2**
	26nm,1.5s						
CTAO	**Charters Tower**	**16.04**	**198**	P	**Pn**	**19 04 56.6**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,26nm,1.5s						
KAKA	**Kakadu**	**20.43**	**246⇑**	*iP*	**P**	**19 05 43.3**	**+0.1**
	comp=Z,25nm,0.5s						
DZM	**Mont Dzumac**	**22.43**	**141**	P	**P**	**19 06 02.5**	**-1.3**
	comp=Z,5.0nm,0.5s,mb4.2,baz=284,slow=5.9,SNR=11						
WRAB	**Tennant Creek**	**22.50**	**227**	*eP*	**P**	**19 06 04.3**	**-0.2**
	comp=Z,47nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**22.50**	**227**	*eP*	**P**	**19 06 04.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,47nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**22.50**	**227⇑**	*iP*	**P**	**19 06 04.4**	**-0.1**
WB2				*eS*	**S**	**19 09 57.9**	**-0.4**
WRA	**Warramunga Arr**	**22.51**	**227**	P	**P**	**19 06 04.5**	**-0.1**
	comp=Z,17nm,0.4s,mb4.8,baz=50,slow=10,SNR=87						
AS31	**Alice Springs**	**25.31**	**221**	*eP*	**P**	**19 06 30.3**	**+0.3**
ASAR	**Alice Springs**	**25.31**	**221**	P	**P**	**19 06 29.9**	**-0.1**
	comp=Z,4.2nm,0.6s,mb4.1,baz=52,slow=8.9,SNR=48						
ASPA	**Alice Springs**	**25.31**	**221**	*eP*	**P**	**19 06 30.3**	**+0.3**
MBWA	**Marble Bar**	**34.88**	**239**	P	**P**	**19 07 53.5**	**-0.7**
	comp=Z,13nm,1.0s,mb4.5						
TAU	**Tasmania Unive**	**38.13**	**185**	P	**P**	**19 08 22.9**	**+1.1**
NACB	**Ninganchiao**	**40.99**	**316**	P	**P**	**19 08 50.9**	**+5.5**
QIZ	**Qiongzhong**	**47.39**	**301**	P	**P**	**19 09 36.5**	**+0.3**
	comp=Z,22nm,1.3s,mb4.6						
MKAR	**Makanchi Array**	**79.50**	**319**	P	**P**	**19 13 06.8**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.1,baz=117,slow=4.2,SNR=4.2						
AAK	**Ala-Archa**	**83.76**	**314**	P	**P**	**19 13 29.0**	**-0.1**
	comp=Z,1.3nm,1.0s,mb3.6						
AAK	**Ala-Archa**	**83.76**	**314**	P	**P**	**19 13 29.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						

CASC 04 19:18:13.1±2.7,1516N×8830W,h20km±28km,MD3.9, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBRS	**Las Brisas**	**1.59**	**207**	*eP*	Pn	19 18 41.7	+1.7
LFU	**La Fuente**	**1.61**	**209**	*eP*	Pn	19 18 41.8	+1.4
SNVI	**San Vicente**	**1.63**	**199**	*eS*	Sn	19 19 02.6	+1.7
LCBS	**La Ceiba**	**1.64**	**204**	*eP*	Pn	19 18 40.1	-0.6
LFRS	**El Faro**	**1.70**	**206**	*eP*	Pn	19 18 39.4	-2.2
BOQS	**Boqueron**	**1.71**	**214**	*eP*	Pn	19 18 40.9	-0.8
VSM	**San Miguel**	**1.72**	**179**	*eP*	Pn	19 18 42.8	+0.9
SNJE	**San Jose**	**1.80**	**225**	*eP*	Pn	19 18 43.4	+0.3
SNJE				*eS*	Sn	19 19 07.2	+1.9
RTR	**El Retiro**	**1.81**	**226**	*eP*	Pn	19 18 44.0	+0.8
RTR				*eS*	Sn	19 19 06.5	+1.0
SBLS	**San Blas**	**1.84**	**224**	*eP*	Pn	19 18 43.3	-0.2
IXG	**Ixpaco**	**2.31**	**245**	*eP*	Pn	19 18 41.9	-8.1
TP2	**Tecpan 2**	**2.66**	**262**	*eP*	Pn	19 18 56.2	+1.4
TP2				*eS*	Sn	19 19 28.7	+2.3

IDC 04 19:36:27.6±5.2,1972N×12296E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.2/19,mbtmp3.3/3,Error ellipse: s-maj=394.2km s-min=27.5km az=62.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.96**	**164**	P	P	19 44 12.3	+0.4
	0.4nm,1.0s,baz=345,slow=8.8,SNR=2.8						
MKAR	**Makanchi Array**	**42.73**	**319**	P	P	19 44 26.4	0.0
	0.4nm,0.8s,baz=111,slow=9.2,SNR=4.6						
ASAR	**Alice Springs**	**44.42**	**166**	P	P	19 44 40.0	0.0
	0.3nm,0.4s,baz=338,slow=6.8,SNR=12						

*MOS **04** 19:54:29.6±0.9, 663N×12691E, h38km, mb4.4/5, Error ellipse: s-maj=38.9km s-min=12.9km az=102.5*
*MAN **04** 19:54:32.8, 640N×12658E, h1km, mb3.6, ML4.7, MS6.4*
*NEIC **04** 19:54:33.9±2.2, 664N×12699E, h61km±20km, mb4.3/9, Error ellipse: s-maj=28.0km s-min=7.6km az=74.0*
*IDC **04** 19:54:34.6±10.0, 659N×12698E, h64km±96km, mb3.5/7, mb1 3.7/7, mb1mx3.5/17, mbtmp3.8/7, MS3.4/8, Ms1 3.4/8, ms1mx3.3/21, Error ellipse: s-maj=63.0km s-min=20.0km az=69.0*
*ISCJB **04** 19:54:35.0±0.9, 651N±005×12679E±009, h85km±9km, mb4.0/16, Error ellipse: s-maj=15.4km s-min=8.1km az=160.1*

ISC 04 19:54:36.3±0.9,654N±005×1268E±01,h78km±9km,n47, σ1§20/45,mb4.0/16,1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.36**	**293**	*e*Pn	**Pn**	**19 54 57.7**	**-2.0**
BIPH	**Bislig**	**1.70**	**344⇓**	*iP*	**Pn**	**19 55 02.2**	**-1.9**
BIPH				*i* S	**Sn**	**19 55 23.6**	**-1.6**
KCP	**Kidapawan**	**1.80**	**285⇑**	*eP*	**Pn**	**19 55 02.5**	**-3.0**
KCP				*i* S	**Sn**	**19 55 23.9**	**-3.7**
BUKP	**Musuan**	**2.21**	**307**	*eP*	**Pn**	**19 55 09.6**	**-1.4**
BUTP	**Butuan**	**2.70**	**333**	*eP*	**Pn**	**19 55 19.8**	**+2.3**
BUTP				*e*S	**Sn**	**19 55 53.0**	**+3.8**
CGP	**Cagayan de Oro**	**2.85**	**312⇓**	*iP*	**Pn**	**19 55 20.1**	**+0.4**
CGP				*i* S	**Sn**	**19 55 53.6**	**+0.6**
SCPH	**Surigao**	**3.49**	**337**	*eP*	**Pn**	**19 55 30.0**	**+1.8**
SCPH				*e*S	**Sn**	**19 56 13.9**	**+5.6**
PAGZ	**Pagadian**	**3.67**	**291**	*eP*	**Pn**	**19 55 30.9**	**+0.2**
MSLP	**Maasin**	**4.07**	**331**	*eP*	**Pn**	**19 55 36.4**	**+0.3**
TBP	**Tagbilaran**	**4.30**	**317**	*eP*	**Pn**	**19 55 39.2**	**0.0**
LLP	**Lapu-Lapu**	**4.71**	**323⇓**	*eP*	**Pn**	**19 55 45.5**	**+0.7**
LLP				*i* S	**Sn**	**19 56 39.5**	**+1.4**
OCLP	**Ormoc**	**4.99**	**334**	*eP*	**Pn**	**19 55 51.2**	**+2.5**
GUMO	**Guam**	**19.07**	**67**	LR	LR	20 03 59.6	
	comp=Z,73nm,21.2s,baz=264,slow=30						
JOW	**Kunigami**	**20.22**	**4**	LR	LR	20 05 35.4	
	comp=Z,119nm,20.3s,baz=174,slow=33						
FITZ	**Fitzroy Crossi**	**24.52**	**183**	*eP*	**P**	**19 59 50.1**	**+1.8**
	8.6nm,1.0s,mb4.1						
CBIJ	**Chichi jima**	**25.11**	**34**	LR	LR	20 08 54.6	
	comp=Z,45nm,18.6s,baz=350,slow=34						
WRAB	**Tennant Creek**	**27.33**	**164**	*eP*	**P**	**20 00 14.1**	**+0.5**
WRA	**Warramunga Arr**	**27.33**	**164**	P	**P**	**20 00 14.0**	**+0.2**
	2.1nm,0.5s,mb3.9,baz=346,slow=11,SNR=21						
WB2	**Warramunga Arr**	**27.34**	**164**	*eP*	**P**	**20 00 14.6**	**+0.9**
PSI	**Prapat**	**28.07**	**264**	LR	LR	20 12 14.9	
	comp=Z,81nm,18.9s,baz=248,slow=38						
JHJ	**Hachijo jima 2**	**29.05**	**23**	LR	LR	20 11 06.2	
	comp=Z,90nm,20.2s,baz=141,slow=34						
ASAR	**Alice Springs**	**30.80**	**167**	P	**P**	**20 00 45.1**	**+0.6**
	0.8nm,0.5s,mb3.7,baz=349,slow=7.3,SNR=28						
MJAR	**Matsushiro Arr**	**31.62**	**18**	LR	LR	20 13 44.2	
	comp=Z,49nm,18.9s,baz=85,slow=36						
KLBR	**Kellerberrin**	**38.90**	**192**	*eP*	**P**	**20 01 54.2**	**+0.1**
	5.1nm,0.5s,mb4.6						
MUN	**Mundaring**	**39.62**	**194**	*eP*	**P**	**20 02 00.2**	**0.0**
NWAO	**Narrogin (SRO)**	**40.30**	**193**	*eP*	**P**	**20 02 05.6**	**-0.1**
	26nm,1.2s,mb4.9						
NWAO	**Narrogin (SRO)**	**40.30**	**193**	*eP*	**P**	**20 02 05.6**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,26nm,1.2s						
STKA	**Stephens Creek**	**40.72**	**161**	P	**P**	**20 02 08.4**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.1,baz=343,slow=14,SNR=8.6						
STKA	**Stephens Creek**	**40.72**	**161**	*eP*	**P**	**20 02 08.0**	**-1.2**
ULN	**Ulaanbaatar**	**44.51**	**341**	P	**P**	**20 02 40.3**	**+0.4**
	comp=Z,3.9nm,1.1s,mb4.0						
ULN	**Ulaanbaatar**	**44.51**	**341**	P	**P**	**20 02 40.3**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
SONM	**Songino Array**	**44.69**	**340**	P	**P**	**20 02 40.7**	**-0.7**
	comp=Z,0.4nm,1.0s,mb3.1,baz=152,slow=6.5,SNR=3.0						
MKAR	**Makanchi Array**	**55.34**	**324**	P	**P**	**20 04 02.5**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.7,baz=118,slow=7.6,SNR=16						
MKAR				LR	LR	20 30 54.5	
	comp=Z,31nm,18.6s,baz=39,slow=39						
KURK	**Kurchatov**	**59.46**	**327**	*eP*	**P**	**20 04 31.0**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.1						
KURK	**Kurchatov**	**59.46**	**327**	*eP*	**P**	**20 04 31.0**	**+0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**65.12**	**326**	*eP*	**P**	**20 05 07.8**	**-0.9**
	comp=Z,1.7nm,1.0s,mb3.8						
BRVK	**Borovoye**	**65.12**	**326**	*eP*	**P**	**20 05 07.9**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**65.79**	**326**	*eP*	**P**	**20 05 12.6**	**-0.4**
	comp=Z,4.1nm,1.1s,mb4.2						
ZRNK	**Zerenda**	**65.79**	**326**	*eP*	**P**	**20 05 12.6**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
MCK	**McKinley**	**81.61**	**27**	*eP*	**P**	**20 06 43.7**	**-1.9**
	comp=Z,2.4nm,1.1s,mb3.9						
MCK	**McKinley**	**81.61**	**27**	*eP*	**P**	**20 06 43.7**	**-1.9**
MCK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
ILAR	**Eielson Array**	**82.53**	**26**	P	**P**	**20 06 50.0**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.3,baz=245,slow=5.4,SNR=8.1						
FINES	**FINESS Array B**	**89.42**	**332**	P	**P**	**20 07 23.8**	**-0.6**
	comp=Z,1.0nm,0.9s,mb3.8,baz=90,slow=6.1,SNR=3.8						
RES	**Resolute Bay**	**95.04**	**10**	P	**P**	**20 07 46.8**	**-3.5**
	comp=Z,8.3nm,1.6s,mb4.9						
RES	**Resolute Bay**	**95.04**	**10**	P	**P**	**20 07 46.8**	**-3.5**
RES				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.9						
NOA	**NORSAR Array B**	**96.33**	**334**	LR	LR	20 55 56.7	
	comp=Z,21nm,19.4s,baz=240,slow=38						
TORD	**Torodi Ar. Bea**	**122.11**	**290**	PKP	PKPdf	20 13 23.1	+1.3
	comp=Z,0.3nm,0.4s,baz=53,slow=1.6,SNR=13						

IDC 04 19:55:12.5±2.1,5524S×2879W,h0km,mb3.9/1, mb1 3.9/1,mb1mx3.6/13,mbtmp3.9/1,Error ellipse: s-maj=109.2km s-min=70.9km az=139.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**72.81**	**31**	P	P	20 06 42.8	-0.1
	0.6nm,0.6s,baz=204,slow=5.8,SNR=10						
ILAR	**Eielson Array**	**148.90**	**313**	PKPbc	PKPbc	20 15 00.1	-2.2
	0.8nm,0.8s,baz=110,slow=1.6,SNR=8.8						
SONM	**Songino Array**	**151.58**	**86**	PKPbc	PKPbc	20 15 07.6	-1.0
	0.4nm,0.7s,baz=222,slow=4.0,SNR=4.9						

IDC 04 20:17:23.0±16.0,522S×15317E,h181km±87km,mb2.7/3, mb1 3.0/4,mb1mx2.9/15,mbtmp3.3/4,Error ellipse: s-maj=240.1km s-min=39.2km az=101.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.27**	**235**	P	Pn	20 19 06.8	+0.2
	2.0nm,0.3s,baz=1.6,slow=13,SNR=8.2						
WRA	**Warramunga Arr**	**23.45**	**230**	P	P	20 22 17.0	+1.0
	0.4nm,0.7s,baz=54,slow=9.9,SNR=7.5						
ASAR	**Alice Springs**	**26.10**	**223**	P	P	20 22 39.5	-0.5
	0.2nm,0.5s,baz=51,slow=8.2,SNR=4.7						
MKAR	**Makanchi Array**	**80.88**	**319**	P	P	20 29 17.1	+0.3
	0.1nm,0.3s,baz=127,slow=7.8,SNR=5.5						

MAN 04 20:31:47.4,1334N×12016E,h3km,mb2.1,ML3.8,MS2.5, 2C-2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**12**	*eP*	Pg	20 31 55.3	+0.1
PGP	**Puerto Galera**	**0.79**	**

baz=293,slow=9.9,SNR=17
SONM Songino Array 54.09 306 P **P** **20 51 43.1 +0.9**
0.3nm,0.5s,mb3.6,baz=17,slow=5.4,SNR=5.6
FINES FINESS Array B 55.40 3 P **P** **20 51 51.3 -0.4**
1.7nm,0.9s,mb4.1,baz=353,slow=8.8,SNR=3.3
MKAR Makanchi Array 62.73 323 P **P** **20 52 40.9 -1.3**
0.2nm,0.4s,mb3.4,baz=34,slow=7.4,SNR=11

IDC 04 20:57:16.5±2.6, 3516N×8942E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, ML2.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/22, Error ellipse: s-maj=77.8km s-min=35.3km az=73.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.80**	**337**	Pn	Pn	21 00 17.2	-2.6
	0.0nm,0.3s,baz=152,slow=14,SNR=4.8						
SONM	**Songino Array**	**17.89**	**40**	P	Pn	21 01 27.1	+0.3
	0.1nm,0.3s,baz=229,slow=12,SNR=4.8						
ZAL	**Zalesovo**	**19.05**	**352**	LR	LR	21 10 37.5	
	comp=Z,47nm,19.1s,baz=302,slow=42						
NOA	**NORSAR Array B**	**54.39**	**324**	LR	LR	21 31 01.4	
	comp=Z,19nm,18.9s,baz=80,slow=37						
WRA	**Warramunga Arr**	**69.42**	**135**	P	P	21 08 26.5	+0.2
	0.2nm,0.4s,baz=330,slow=6.3,SNR=6.2						

*ISCJB **04** 21:03:09.2±0.7, 4368N±004×10503W±006, h0km, mb4.3/1, Error ellipse: s-maj=6.6km s-min=5.3km az=53.2*
*IDC **04** 21:03:10.4±1.8, 4365N×10545W, h0km, mb4.2/1, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=44.5km s-min=7.8km az=150.0*
*NEIC **04** 21:03:12.3±0.7, 4371N×10520W, h0km, ML3.2, Error ellipse: s-maj=10.7km s-min=7.3km az=144.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 04 21:03:10.7±0.7, 4370N±004×10499W±006, h0km, n24, σ1§39/41, mb4.3/1, 1C, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.81**	**58**	*e*P	**Pg**	**21 03 31.0**	**+4.7**
RWWY	**Rawlins**	**2.59**	**220**	⇑*i*Pn	**Pn**	**21 03 54.6**	**+0.8**
RWWY				*e*Sn	**Sn**	**21 04 28.4**	**+2.4**
PDAR	**Pinedale Array**	**3.46**	**256**	Pn	**Pn**	**21 04 04.6**	**-1.3**
	3.5nm,0.3s,baz=71,slow=15,SNR=90						
PDAR				Pg	**Pg**	**21 04 10.0**	**-7.1**
	7.5nm,0.3s,baz=76,slow=20,SNR=54						
PDAR				Lg		21 04 48.1	
	9.9nm,0.3s,baz=75,slow=30,SNR=10						
ISCO	**Idaho Springs**	**3.92**	**187**	*e*Pn	**Pn**	**21 04 14.4**	**+2.2**
ISCO				*e*Sn	**Sn**	**21 04 58.9**	**0.0**
GCMT	**Greycliff**	**3.93**	**304**	*e*Pn	**Pn**	**21 04 11.6**	**-0.7**
GCMT				*e*Sn	**Sn**	**21 05 00.1**	**+0.9**
LOHW	**Long Hollow**	**4.07**	**271**	*e*Pn	**Pn**	**21 04 15.1**	**+0.8**
LOHW				*e*Sn	**Sn**	**21 05 03.4**	**+0.8**
FLWY	**Flagg Ranch**	**4.14**	**277**	*e*Pn	**Pn**	**21 04 15.0**	**-0.2**
FLWY				*e*Sn	**Sb**	**21 05 18.5**	**+3.4**
SNOW	**Snow King Moun**	**4.19**	**269**	*e*Pn	**Pn**	**21 04 17.3**	**+1.4**
SNOW				Sn	**Sn**	**21 05 06.0**	**+0.4**
REDW	**Red Top Meadow**	**4.27**	**268**	*e*Pn	**Pn**	**21 04 18.7**	**+1.7**
REDW				*e*Sn	**Sn**	**21 05 08.8**	**+1.2**
YFT	**Old Faithful**	**4.28**	**282**	*e*Pn	**Pn**	**21 04 26.2**	**+9.2**
QLMT	**Earthquake Lak**	**4.76**	**286**	Pn	**Pn**	**21 04 22.4**	**-1.3**
QLMT				*e*Pg	**Pg**	**21 04 34.3**	**-7.7**
DGMT	**Dagmar**	**4.81**	**6**	*e*Pn	**Pn**	**21 04 27.3**	**+2.9**
DGMT				*e*Sn	**Sn**	**21 05 17.2**	**-3.5**
HWUT	**Hardware Ranch**	**5.28**	**249**	*e*Pn	**Pn**	**21 04 29.7**	**-1.1**
	8.6nm,0.4s						
HWUT				*e*Sn	**Sb**	**21 05 44.0**	**-3.7**
EGMT	**Eagleton**	**5.46**	**324**	*e*Pn	**Pn**	**21 04 27.6**	**-5.7**
	12nm,0.4s						
EGMT				*e*Sn	**Sb**	**21 05 57.2**	**+4.3**
HRY	**Holter Researc**	**5.69**	**304**	*e*Pn	**Pn**	**21 04 35.8**	**-0.7**
HRY				*e*Sn	**Sb**	**21 06 06.7**	**+7.0**
HRY				*e*		21 10 56.3	
DAU	**Daniels Canyon**	**5.70**	**237**	*e*Pn	**Pn**	**21 04 36.9**	**+0.2**
DAU				*e*Sn	**Sn**	**21 05 39.0**	**-3.8**
MCMT	**McKenzie Canyo**	**5.75**	**284**	*e*Pn	**Pb**	**21 04 50.3**	**-1.7**
MCMT				*e*Sn	**Sb**	**21 06 10.4**	**+9.0**
SRU	**San Rafael**	**6.18**	**224**	*e*Pn	**Pn**	**21 04 42.3**	**-1.0**
	9.9nm,0.4s						
SRU				*e*Sn	**Sb**	**21 06 10.9**	**-3.0**
CHMT	**Chamberlain Mo**	**6.65**	**302**	*e*Pn	**Pn**	**21 04 48.5**	**-1.2**
MVU	**Marysvale**	**7.52**	**229**	*e*Pn	**Pn**	**21 05 09.0**	**+7.3**
	3.3nm,0.7s						
MVU				*e*Pg	**Pg**	**21 05 32.8**	**-2.1**
ULM	**Lac du Bonnet**	**9.04**	**40**	Pn	**Pn**	**21 05 23.0**	**+0.5**
	1.7nm,0.3s,baz=232,slow=12,SNR=12						
ULM				Lg		21 07 57.2	
	0.3nm,0.3s,baz=327,slow=19,SNR=1.9						
ULM	**Lac du Bonnet**	**9.04**	**40**	Pn	**Pn**	**21 05 23.0**	**+0.5**
ULM				Lg		21 07 57.2	
YKA	**Yellowknife Ar**	**19.65**	**347**	P	**Pn**	**21 07 41.0**	**-1.4**
	baz=159,slow=11,SNR=7.3						
ARCES	**ARCESS Array B**	**61.40**	**18**	P	**P**	**21 13 28.6**	**0.0**
	1.9nm,0.7s,mb4.3,baz=345,slow=6.5,SNR=7.1						

*BJI **04** 21:16:53.4, 490N×13728E, h10km, mB4.9, mb4.6*
*IDC **04** 21:16:59.5±0.7, 571N×13695E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.2/18, mbtmp4.1/11, MS3.4/4, Ms1 3.4/4, ms1mx2.9/23, Error ellipse: s-maj=42.4km s-min=16.1km az=82.0*
*NEIC **04** 21:17:01.2±0.4, 574N×13699E, h10km, mb4.6/14, Error ellipse: s-maj=14.3km s-min=7.8km az=77.0*
*ISCJB **04** 21:17:02.6±0.5, 569N±007×1370E±0.1, h33km, mb4.4/27, MS3.2/3, Error ellipse: s-maj=20.8km s-min=9.7km az=153.8*
*MOS **04** 21:17:03.1±0.6, 573N×13692E, h36km, mb4.5/1, Error ellipse: s-maj=28.5km s-min=11.7km az=103.6*
ISC 04 21:17:04.6±0.5, 571N±007×1372E±01, h35km, (h36km±2.2km:pP-P), n36, σ0§67/32, mb4.4/27, MS3.2/3, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**18.02**	**146**	LR	LR	21 27 51.6	
	comp=Z,103nm,19.3s,baz=45,slow=36						
CBIJ	**Chichi jima**	**21.80**	**12**	LR	LR	21 28 13.8	
	comp=Z,65nm,18.6s,MS3.1,baz=33,slow=31						
WRAB	**Tennant Creek**	**25.63**	**186**	*e*P	**P**	**21 22 31.4**	**+0.6**
	5.3nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**25.64**	**186**	P	**P**	**21 22 31.0**	**+0.1**
	2.3nm,0.8s,mb3.8,baz=359,slow=9.9,SNR=19						
HNR	**Honiara**	**27.24**	**123**	LR	LR	21 32 24.1	
	comp=Z,67nm,18.2s,MS3.2,baz=183,slow=34						
ASAR	**Alice Springs**	**29.37**	**186**	P	**P**	**21 23 05.0**	**+0.7**
	0.9nm,0.5s,mb3.8,baz=17,slow=12,SNR=27						
ASAR	**Alice Springs**	**29.37**	**186**	P	**P**	**21 23 04.9**	**+0.6**
STKA	**Stephens Creek**	**37.61**	**174**	P	**P**	**21 24 14.7**	**-1.2**
	1.7nm,0.7s,mb3.9,baz=348,slow=9.3,SNR=3.8						
LZH	**Lanzhou**	**42.99**	**319**	*e*P	**P**	**21 25 01.1**	**+0.7**
LZH				AP	pP	21 25 10.8	+0.1
LZH				XP	sP	21 25 13.6	-1.3
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.7						
GTA	**Gaotai**	**47.52**	**320**	*e*P	**P**	**21 25 36.9**	**+0.6**
GTA				AP	pP	21 25 48.2	+1.5
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**49.25**	**334**	*e*P	**P**	**21 25 49.8**	**+0.1**
	comp=Z,2.2nm,0.9s,mb4.2						
LSA	**Lhasa**	**49.45**	**305**	*e*P	**P**	**21 25 51.2**	**0.0**
	comp=Z,3.7nm,1.1s,mb4.3						
SONM	**Songino Array**	**49.52**	**333**	P	**P**	**21 25 52.1**	**+0.3**
	comp=Z,2.5nm,0.9s,mb4.2,baz=146,slow=6.8,SNR=21						
SONM				LR	LR	21 48 18.8	
	comp=Z,43nm,20.0s,MS3.5,baz=2.5,slow=38						
ZAK	**Zakamensk**	**52.78**	**333**	*e*P	**P**	**21 26 15.9**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
JIRN	**Jiri**	**53.02**	**300**	*e*P	**P**	**21 26 18.4**	**+0.4**
	comp=Z,9.7nm,1.0s,mb4.7						
GUN	**Gumba**	**53.35**	**301**	*e*P	**P**	**21 26 20.8**	**+0.4**
	comp=Z,20nm,1.0s,mb5.0						
KKN	**Kakani**	**53.84**	**300**	*e*P	**P**	**21 26 23.8**	**-0.2**
	comp=Z,11nm,0.9s,mb4.8						
KKN	**Kakani**	**53.84**	**300**	*e*P	**P**	**21 26 28.2**	**+4.2**
GKN	**Gorkha**	**54.44**	**300**	*e*P	**P**	**21 26 28.2**	**-0.2**
	comp=Z,21nm,1.4s,mb4.9						
MA2	**Magadan**	**54.74**	**8**	P	**P**	**21 26 30.7**	**+0.2**
	comp=Z,11nm,1.6s,mb4.6						
KOLN	**Koldanda**	**55.28**	**300**	*e*P	**P**	**21 26 34.8**	**+0.4**
	comp=Z,11nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**62.27**	**321**	P	**P**	**21 27 23.3**	**+0.3**
	comp=Z,4.2nm,0.8s,mb4.6,baz=111,slow=8.3,SNR=53						
MKAR				PcP	PcP	21 28 02.4	-0.3
	comp=Z,1.0nm,0.6s,baz=105,slow=6.3,SNR=8.3						
BILL	**Bilibino**	**65.25**	**12**	P	**P**	**21 27 42.8**	**+0.1**
	comp=Z,2.1nm,0.3s,mb4.7						
BILL	**Bilibino**	**65.25**	**12**	P	**P**	**21 27 42.8**	**+0.1**
KURK	**Kurchatov**	**66.02**	**324**	*e*P	**P**	**21 27 47.2**	**-0.4**
	comp=Z,10nm,1.0s,mb4.8						
BRVK	**Borovoye**	**71.66**	**324**	*e*P	**P**	**21 28 22.6**	**-0.1**
	comp=Z,2.5nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**72.38**	**324**	*e*P	**P**	**21 28 26.7**	**-0.3**
	comp=Z,12nm,1.1s,mb4.7						
ZRNK				*e*	pP	21 28 36.6	-1.2
AKTK	**Aktyubinsk**	**78.71**	**320**	P	**P**	**21 29 02.6**	**-0.6**
AKTO	**Aktyubinsk**	**78.71**	**320**	P	**P**	**21 29 02.6**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=66,slow=20,SNR=2.7						
ILAR	**Eielson Array**	**78.88**	**25**	P	**P**	**21 29 04.7**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.7,baz=255,slow=5.9,SNR=9.3						
VNDA	**Vanda**	**84.25**	**175**	P	**P**	**21 29 32.6**	**+0.1**
	comp=Z,3.4nm,1.2s,mb4.4,baz=309,slow=6.5,SNR=3.5						
VNDA	**Vanda**	**84.25**	**175**	*e*P	**P**	**21 29 32.4**	**-0.1**
	comp=Z,5.1nm,1.3s,mb4.5						
ARCES	**ARCESS Array B**	**92.10**	**341**	P	**P**	**21 30 08.7**	**-1.5**
	comp=Z,2.3nm,0.6s,mb4.7,baz=72,slow=7.8,SNR=9.8						
YKA	**Yellowknife Ar**	**93.27**	**26**	P	**P**	**21 30 17.0**	**+1.5**
	comp=Z,1.5nm,0.8s,mb4.5,baz=293,slow=4.9,SNR=18						
FINES	**FINESS Array B**	**94.90**	**333**	P	**P**	**21 30 21.2**	**-1.9**
	comp=Z,1.5nm,1.1s,mb4.3,baz=71,slow=9.0,SNR=3.5						
LPAZ	**La Paz**	**153.08**	**115**	PKPbc	PKPbc	21 37 02.7	+4.3
	comp=Z,1.4nm,0.5s,baz=245,slow=1.2,SNR=8.4						

*CSEM **04** 21:20:17.0, 3646N×2315E, h12km, MD3.5/14, After ATH*
*NEIC **04** 21:20:17.0, 3646N×2315E, h12km, ML3.3(ATH), After ATH.*
ATH 04 21:20:17.0, 3646N×2315E, h12km, MD3.5/14, ML3.3, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.20**	**207**	*e*PG	Pg	21 20 21.5	+0.1
VLI	**Veliai**	**0.31**	**326**	⇓*i*PB	Pg	21 20 23.4	+0.1
VLI				*e*SB	Sg	21 20 27.6	+0.1
NAIG	**Nisos Aigina**	**1.32**	**12**	*e*PB	Pb	21 20 42.3	+0.5
VAM	**Vamos**	**1.35**	**141**	*e*PB	Pb	21 20 43.0	+0.7
VAM				*e*SB	Sb	21 21 01.2	+1.7
KVR	**Kavouri**	**1.45**	**20**	*e*PG	Pg	21 20 44.0	-0.9
MGER	**Gerania Oros**	**1.53**	**3**	*e*PB	Pb	21 20 45.5	+0.3
ATH	**Athens Observa**	**1.58**	**17**	*e*PG	Pg	21 20 46.0	-1.3
PTL	**Penteli**	**1.69**	**20**	*e*PB	Pb	21 20 47.8	-0.1
MPAR	**Parnis Oros**	**1.75**	**15**	*e*PN	Pn	21 20 49.0	+1.8
APE	**Apeiranthos**	**2.01**	**72**	*e*PN	Pn	21 20 53.0	+2.3
NPS	**Neapolis**	**2.33**	**120**	*e*PN	Pn	21 20 57.1	+2.0
NPS				*e*SN	Sn	21 21 26.2	+2.5
VLS	**Valsamata**	**2.67**	**311**	*e*PN	Pn	21 21 02.5	+2.8
EVR	**Evrytania**	**2.67**	**337**	*e*PB	Pb	21 21 01.7	-3.1
KARP	**Karpathos**	**3.38**	**104**	*e*PN	Pn	21 21 12.2	+2.7
NB2	**NORSAR Subarra**	**25.74**	**347**	P	P	21 25 45.8	-1.6
	comp=Z,1.7nm,1.0s,baz=148,slow=10						

*NEIC **04** 21:36:04.8, 2002N×6932W, h95km, MD3.8(RSPR), After RSPR.*
RSPR 04 21:36:04.8, 2002N×6932W, h95km±49km, MD3.8/4, MD3.8/4, 4C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**2.89**	**133**	⇑*i*P	Pn	21 36 47.9	-1.0
CRPR				*e*S	Sn	21 37 23.4	+0.5
LRS	**Lares**	**2.90**	**126**	⇑*e*P	Pn	21 36 49.5	+0.5
LRS				*e*S	Sn	21 37 23.2	+0.1
AOPR	**Arecibo Observ**	**2.94**	**124**	⇓*e*P	Pn	21 36 50.0	+0.4
AOPR				*e*S	Sn	21 37 25.1	+1.1
CELP	**Cerrillos**	**3.23**	**126**	⇑*e*P	Pn	21 36 55.1	+1.6
CELP				*e*S	Sn	21 37 32.0	+0.9
SJG	**San Juan**	**3.54**	**122**	*e*Pn	Pn	21 36 58.7	+1.0
CBYP	**Canovanas**	**3.70**	**117**	*e*S	Sn	21 37 42.7	+0.3
CBYP	**Canovanas**	**3.70**	**117**	⇑*e*P	Pn	21 37 01.1	+1.3
CBYP				*e*S	Sn	21 37 42.7	+0.3
CPD	**Cerro la Pandu**	**3.77**	**121**	*e*Pn	Pn	21 37 00.2	-0.5
CPD				*e*Sn	Sn	21 37 44.9	+0.8
HUMP	**Col San Antoni**	**3.77**	**119**	*e*S	Sn	21 37 43.9	-0.2
HUMP	**Col San Antoni**	**3.77**	**119**	⇑*e*P	Pn	21 37 00.6	-0.2
HUMP				*e*S	Sn	21 37 43.9	-0.2
MTP	**Monte Pirata**	**4.04**	**118**	*e*S	Sn	21 37 50.4	-0.1
MTP	**Monte Pirata**	**4.04**	**118**	⇓*e*P	Pn	21 37 04.3	0.0
MTP				*e*S	Sn	21 37 50.4	-0.1
SDV	**Santo Domingo**	**11.14**	**187**	Pn	Pn	21 38 40.4	-0.5
	0.9nm,0.5s						

*NEIC **04** 22:15:21.6±1.3, 324S×152.19E, h350km, mb3.6/2, Error ellipse: s-maj=48.3km s-min=19.0km az=103.0*
*IDC **04** 22:15:23.2±8.1, 3.13S×15150E, h333km±77km, mb2.9/4, mb1 3.2/5, mb1mx3.0/14, mbtmp3.7/5, Error ellipse: s-maj=84.0km s-min=31.6km az=95.0*
*ISCJB **04** 22:15:24.9±1.1, 34S±01×152.1E±03, h400km, mb3.4/6, Error ellipse: s-maj=40.2km s-min=16.7km az=36.4*
ISC 04 22:15:26.3±1.1, 34S±01×1522E±03, h400km, n10, σ1§01/9, mb3.4/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.54**	**199**	P	**P**	**22 19 07.2**	**+1.3**
	0.2nm,0.3s,baz=351,slow=6.2,SNR=3.5						
CTAO	**Charters Tower**	**17.54**	**199**	P	**P**	**22 19 07.8**	**+2.0**
	1.1nm,0.4s						
WRAB	**Tennant Creek**	**23.92**	**225**	*e*P	**P**	**22 20 05.9**	**-0.2**
	2.3nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**23.93**	**225**	P	**P**	**22 20 06.2**	**-0.1**
	1.2nm,0.5s,mb3.6,baz=48,slow=9.1,SNR=36						
ASAR	**Alice Springs**	**26.78**	**220**	P	**P**	**22 20 31.6**	**0.0**
	0.9nm,0.4s,mb3.5,baz=50,slow=8.2,SNR=21						
STKA	**Stephens Creek**	**30.00**	**198**	P	**P**	**22 20 58.3**	**-1.7**
	1.4nm,0.6s,mb3.5,baz=34,slow=15,SNR=4.0						
SONM	**Songino Array**	**64.84**	**328**	P	**P**	**22 25 23.0**	**-1.0**
	0.1nm,0.5s,mb2.7,baz=90,slow=4.5,SNR=2.8						
MKAR	**Makanchi Array**	**78.90**	**319**	P	**P**	**22 26 47.9**	**+1.4**
	0.7nm,1.1s,mb3.2,baz=91,slow=7.2,SNR=3.6						
MCMT	**McKenzie Canyo**	**95.92**	**45**	P	**P**	**22 28 08.7**	**0.0**
TORD	**Torodi Ar. Bea**	**149.28**	**290**	PKPbc	PKPbc	22 34 31.3	+2.9
	0.3nm,0.4s,baz=70,slow=2.5,SNR=10						

*IDC **04** 22:27:14.9±1.2, 1135N×12599E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=164.9km s-min=18.4km az=69.0*
*NEIC **04** 22:27:21.0±0.7, 1105N×125.13E, h35km, mb3.7/1, Error ellipse: s-maj=95.0km s-min=13.1km az=67.0*
*ISCJB **04** 22:27:26.3±0.5, 11.15N±004×125.43E±007, h99km±4km, mb3.7/7, Error ellipse: s-maj=11.9km s-min=6.3km az=15.4*
*MAN **04** 22:27:28.0, 11.16N×125.37E, h70km, mb3.4, ML4.6, MS1.4*
ISC 04 22:27:27.4±0.5, 1116N±004×12541E±007, h94km±4km, n19, σ0§77/26, mb3.7/7, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.42**	**271**	*i*P	**Pn**	**22 27 41.5**	**-0.4**
PLP				*i*S	**Sn**	**22 27 51.7**	**-1.1**
BESP	**Borongan**	**0.44**	**4**	*e*P	**Pn**	**22 27 42.1**	**0.0**
BESP				*e*S	**Sn**	**22 27 52.6**	**-0.4**
OCLP	**Ormoc**	**0.79**	**262**	*e*P	**Pn**	**22 27 45.7**	**+0.6**
MSLP	**Maasin**	**1.15**	**208**	*e*P	**Pn**	**22 27 49.9**	**+0.8**
SCPH	**Surigao**	**1.37**	**177**	*e*P	**Pn**	**22 27 52.6**	**+0.9**
SCPH				*e*S	**Sn**	**22 28 09.5**	**-0.6**
CNP	**Cataman**	**1.53**	**332**	*e*P	**Pn**	**22 27 54.1**	**+0.5**
CNP				*e*S	**Sn**	**22 28 13.5**	**0.0**
LLP	**Lapu-Lapu**	**1.64**	**240**	⇓*i*P	**Pn**	**22 27 55.5**	**+0.3**
LLP				*e*S	**Sn**	**22 28 15.2**	**-0.9**
TBP	**Tagbilaran**	**2.11**	**226**	*e*P	**Pn**	**22 28 02.4**	**+1.3**
TBP				*e*S	**Sn**	**22 28 26.1**	**-0.8**
PVCP	**Virac**	**2.71**	**333**	*e*P	**Pn**	**22 28 09.7**	**+0.6**
DCPH	**Dipolog City**	**3.26**	**219**	⇓*e*P	**Pn**	**22 28 17.4**	**+0.9**
DCPH				*i*S	**Sn**	**22 28 54.8**	**+0.3**
WRA	**Warramunga Arr**	**32.13**	**164**	P	**P**	**22 33 44.2**	**-1.6**
	0.6nm,0.9s,mb3.3,baz=344,slow=9.2,SNR=5.8						
WRA				PcP	PcP	22 36 33.0	+0.2
	0.4nm,0.6s,baz=336,slow=2.7,SNR=7.3						
ASAR	**Alice Springs**	**35.59**	**167**	P	**P**	**22 34 15.8**	**0.0**
	0.3nm,0.3s,mb3.7,baz=344,slow=7.2,SNR=13						
ASAR				PcP	PcP	22 36 43.0	+0.3
	0.2nm,0.4s,baz=340,slow=2.8,SNR=6.1						
CTAO	**Charters Tower**	**37.22**	**146**	P	**P**	**22 34 30.7**	**+1.1**
	0.5nm,0.4s,mb3.8						
SONM	**Songino Array**	**39.90**	**340**	P	**P**	**22 34 52.4**	**+0.4**
	0.1nm,0.3s,mb3.1,baz=165,slow=9.6,SNR=3.6						
STKA	**Stephens Creek**	**45.51**	**161**	P	**P**	**22 35 36.6**	**-0.8**
MKAR	**Makanchi Array**	**50.81**	**323**	P	**P**	**22 36 18.6**	**+0.5**
	1.1nm,0.6s,mb4.1,baz=120,slow=7.5,SNR=29						
ARCES	**ARCESS Array B**	**83.07**	**340**	P	**P**	**22 39 41.9**	**-0.7**
	2.3nm,0.9s,mb4.0,baz=35,slow=6.5,SNR=3.8						
FINES	**FINESS Array B**	**84.71**	**332**	P	**P**	**22 39 49.7**	**-1.2**
	0.2nm,0.3s,mb3.5,baz=67,slow=3.2,SNR=6.6						
FINES	**FINESS Array B**	**84.71**	**332**	P	**P**	**22 39 49.7**	**-1.2**

*IDC **04** 22:38:23.3±2.4, 937S×11993E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=155.4km s-min=25.0km az=54.0*
NEIC 04 22:38:30.0±0.9, 872S×12083E, h30km, mb3.6/1, Error ellipse: s-maj=36.6km s-min=14.7km az=56.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.43**	**154**	*e*P	Pn	22 40 52.4	-5.0
	8.3nm,1.0s						
FITZ				*e*S	Sn	22 42 34.3	-19
WRA	**Warramunga Arr**	**17.18**	**132**	P	Pn	22 42 27.4	-0.3
	0.2nm,0.3s,baz=299,slow=14,SNR=15						
WRA				S	Sn	22 45 28.1	-10
	0.2nm,0.3s,baz=291,slow=22,SNR=7.0						
WRAB	**Tennant Creek**	**17.18**	**132**	*e*Pn	Pn	22 42 29.3	+1.5
	2.3nm,0.5s						
ASAR	**Alice Springs**	**19.43**	**141**	P	Pn	22 42 53.0	-2.1
	0.2nm,0.3s,baz=316,slow=11,SNR=16						
ASAR				S	Sn	22 46 20.0	-12
	0.1nm,0.3s,baz=314,slow=24,SNR=4.9						
MUN	**Mundaring**	**23.53**	**190**	*e*P	P	22 43 38.4	+0.7
MUN				*e*S	S	22 47 26.4	-23
SONM	**Songino Array**	**57.74**	**349**	P	P	22 48 19.2	+1.2
	0.4nm,0.5s,baz=164,slow=8.5,SNR=7.9						
MKAR	**Makanchi Array**	**65.05**	**332**	P	P	22 49 06.5	-0.9
	0.3nm,0.4s,baz=150,slow=7.4,SNR=19						

*ISCJB **04** 22:44:12.8±2.0, 407N±01×739E±01, h33km, Error ellipse: s-maj=16.4km s-min=12.4km az=79.2*
*KNET **04** 22:44:13.2±1.0, 4096N×74.14E, h19km±7km, ml1.9, Error ellipse: s-maj=8.7km s-min=4.6km az=48.0*
*NNC **04** 22:44:15.1±5.8, 4105N×7406E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=41.6km s-min=12.7km az=173.0*
ISC 04 22:44:13.4±2.0, 407N±01×739E±01, h35km, n10, σ1§26/15, 7C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.42**	**354**	⇓P	**Pn**	**22 44 35.2**	**-1.4**
	22nm,0.2s,SNR=39						
AML				⇑S	**Sn**	**22 44 53.1**	**-1.0**
	13nm,0.2s						
UCH	**Uchtor**	**1.58**	**17**	⇓P	**Pn**	**22 44 37.3**	**-1.6**
	3.6nm,0.1s,SNR=22						
UCH				⇓S	**Sn**	**22 44 56.4**	**-1.7**
	8.4nm,0.2s						
KZA	**Kyzart**	**1.71**	**37**	⇑P	**Pn**	**22 44 38.7**	**-1.8**
	3.4nm,0.1s,SNR=11						
EKS2	**Erkin-Say**	**1.95**	**358**	⇓P	**Pn**	**22 44 44.5**	**+0.6**
	4.2nm,0.2s,SNR=22						
EKS2				⇑S	**Sn**	**22 45 09.6**	**+2.5**
	3.2nm,0.2s						
AAK	**Ala-Archa**	**1.97**	**13**	⇑P	**Pn**	**22 44 45.0**	**+0.8**
	2.7nm,0.2s,SNR=6.7						
AAK				⇑S	**Sn**	**22 45 08.2**	**+0.5**
	6.2nm,0.2s						
KBK	**Karagaybulak**	**2.10**	**22**	⇓P	**Pn**	**22 44 46.7**	**+0.8**
	8.2nm,0.1s,SNR=9.4						
ULHL	**Ulahol**	**2.34**	**48**	⇑P	**Pn**	**22 44 49.6**	**+0.3**
	4.4nm,0.1s,SNR=40						
ULHL				⇓S	**Sn**	**22 45 17.4**	**+0.6**
	9.5nm,0.3s						
TKM2	**Tokmak 2**	**2.55**	**30**	⇓Pn	**Pn**	**22 44 52.4**	**+0.2**
	0.6nm,0.2s						
TKM2				⇓Lg		22 45 25.2	
	5.4nm,0.6s						

ASAR Alice Springs 20.86 170 P **P 23 01 33.2 +2.3**
12nm,0.7s,baz=351,slow=10.0,SNR=121
ASAR S **S 23 05 18.4 -2.1**
0.2nm,0.8s,baz=321,slow=48,SNR=2.3
ASPA Alice Springs 20.86 170 *eP* **P 23 01 33.2 +2.3**
CTA Charters Tower 23.13 138 P **P 23 01 57.8 +2.7**
2.1nm,0.7s,mb3.7,baz=0.8,slow=11,SNR=4.0
STKA Stephens Creek 30.68 161 *eP* **P 23 03 03.7 +0.8**
3.1nm,0.9s,mb4.1
STKA Stephens Creek 30.68 161 P **P 23 03 03.6 +0.7**
1.2nm,0.4s,mb4.1,baz=319,slow=11,SNR=4.7
STKA Stephens Creek 30.68 161 *eP* **P 23 03 03.6 +0.7**
ULN Ulaanbaatar 54.54 341 *eP* **P 23 06 15.9 0.0**
2.2nm,1.0s,mb4.1
SONM Songino Array 54.73 341 P **P 23 06 16.9 -0.4**
0.4nm,0.9s,mb3.4,baz=154,slow=8.2,SNR=4.2
MKAR Makanchi Array 65.01 326 P **P 23 07 27.6 -0.2**
0.3nm,0.3s,mb3.7,baz=110,slow=8.0,SNR=9.0
ZAL Zalesovo 68.10 333 P **P 23 07 47.0 -0.6**
0.5nm,0.3s,mb4.0,baz=320,slow=23,SNR=3.7
KURK Kurchatov 69.22 328 *eP* **P 23 07 54.5 -0.1**
4.0nm,0.9s,mb4.3
POHA Pohakuloa 76.29 69 P **P 23 08 35.1 -1.3**
569nm,0.9s

CASC 04 22:59:39.1±2.4, 1212N×8788W, h16km±12km, MD4.0, 7C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.00**	**55⇑**	*eP*	Pb	22 59 57.5	-0.4
LEON	**Leon**	**1.01**	**73⇑**	*eP*	Pb	22 59 57.5	-0.7
TEL3	**Telica 3**	**1.11**	**66⇑**	*eP*	Pb	22 59 58.9	-1.0
TELN	**Telica**	**1.13**	**65**	*eP*	Pn	22 59 58.9	-1.4
MIRN	**Miramar**	**1.19**	**74⇑**	*eP*	Pn	23 00 00.2	-0.8
COPN	**Copaltepe**	**1.26**	**87⇓**	*eP*	Pn	23 00 01.6	-0.5
MOMJ	**Momotombo**	**1.34**	**77**	*iP*	Pn	23 00 02.4	-0.8
MOMJ				*eS*	Sn	23 00 20.1	-0.6
BLLM	**Bellamira**	**1.36**	**345**	*eP*	Pn	23 00 07.2	+3.8
BLLM				*eS*	Sn	23 00 26.3	+5.2
APYN	**Apoyeque**	**1.50**	**85**	*eP*	Pn	23 00 04.7	-0.7
MGAN	**Managua**	**1.60**	**89**	*eP*	Pn	23 00 06.2	-0.5
TICN	**Ticuantepe**	**1.62**	**93**	*eP*	Pn	23 00 06.9	0.0
WILN	**Americas 2**	**1.66**	**88**	*eS*	Sn	23 00 30.3	+1.9
LCBS	**La Ceiba**	**1.86**	**325⇑**	*eP*	Pn	23 00 12.8	+2.5
LCBS				*eS*	Sn	23 00 36.2	+2.7
CONN	**Concepcion**	**2.28**	**104⇓**	*iP*	Pn	23 00 15.2	-0.8
MADN	**Villa Maderas**	**2.41**	**107**	*eP*	Pn	23 00 16.4	-1.4
SNJE	**San Jose**	**2.42**	**316⇓**	*eP*	Pn	23 00 20.4	+2.5
SNJE				*eS*	Sn	23 00 52.1	+4.9
RTR	**El Retiro**	**2.46**	**316⇑**	*eP*	Pn	23 00 21.1	+2.5
RTR				*eS*	Sn	23 00 47.7	-0.7
PRS1	**Puriscal**	**4.10**	**121**	*eP*	Pn	23 00 41.0	0.0
LAJ	**Bijagual**	**4.32**	**121**	*eP*	Pn	23 00 40.4	-3.6
LC2	**La Lucha 2**	**4.48**	**121⇑**	*eP*	Pn	23 00 46.8	+0.5
URSC	**Urasca**	**4.62**	**119⇓**	*eP*	Pn	23 00 50.0	+1.7
BUS	**Buena Vista**	**4.79**	**122⇓**	*eP*	Pn	23 00 51.2	+0.7

CASC 04 23:09:15.9±3.1, 1231N×8979W, h8km±47km, MD4.0, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.52**	**6**	*eP*	Pn	23 09 50.4	+6.9
SBLS				*eS*	Sn	23 10 10.1	+6.6
SNJE	**San Jose**	**1.56**	**7**	*eP*	Pn	23 09 50.9	+7.0
SNJE				*eS*	Sn	23 10 11.4	+7.2
RTR	**El Retiro**	**1.58**	**5**	*eP*	Pn	23 09 52.3	+8.1
RTR				*eS*	Sn	23 10 14.4	+10
SNVI	**San Vicente**	**1.59**	**36**	*eP*	Pn	23 09 47.6	+3.2
SNVI				*eS*	Sn	23 10 09.9	+4.7
LBRS	**Las Brisas**	**1.59**	**27**	*eP*	Pn	23 09 49.7	+5.3
LBRS				*eS*	Sn	23 10 11.2	+6.0
IXG	**Ixpaco**	**1.96**	**341**	*eP*	Pn	23 09 48.1	-1.3
IXG				*eS*	Sn	23 10 15.7	+1.5
MTO2	**Montecristo 2**	**2.12**	**11⇑**	*eP*	Pn	23 09 58.8	+7.2
MTO2				*eS*	Sn	23 10 27.9	+10
TP2	**Tecpan 2**	**2.73**	**334**	*eP*	Pn	23 10 01.9	+1.9
TP2				*eS*	Sn	23 10 34.6	+1.4

IDC 04 23:16:44.1±3.4, 474N×9394E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/23, mbtmp3.5/5, Error ellipse: s-maj=131.7km s-min=29.6km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.09**	**348**	P	P	23 24 46.5	+0.7
	0.7nm,0.5s,baz=166,slow=9.3,SNR=15						
MKAR				pP		23 24 55.8	
	0.6nm,0.6s,baz=167,slow=8.3,SNR=7.4						
SONM	**Songino Array**	**44.25**	**12**	P	P	23 24 54.9	-0.2
	0.4nm,0.7s,baz=190,slow=7.0,SNR=4.8						
SONM				pP		23 25 04.0	
	0.4nm,0.7s,baz=188,slow=8.2,SNR=3.6						
WRA	**Warramunga Arr**	**46.67**	**123**	P	P	23 25 14.9	+0.5
	0.3nm,0.6s,baz=298,slow=9.1,SNR=3.9						
ZAL	**Zalesovo**	**49.61**	**353**	P	P	23 25 36.9	-0.2
	1.0nm,0.4s,baz=283,slow=4.4,SNR=3.3						
BVAR	**Borovoye Array**	**51.88**	**342**	P	P	23 25 53.5	-0.8
	0.3nm,0.5s,baz=140,slow=7.0,SNR=3.4						

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*ISCJB **04** 23:29:57.7±0.9, 99S±01×1066E±01, h10km, mb4.3/11, Error ellipse: s-maj=19.7km s-min=16.6km az=6.7*
*IDC **04** 23:29:58.6±3.7, 993S×1068E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.6/18, mbtmp3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx3.0/16, Error ellipse: s-maj=175.9km s-min=29.1km az=49.0*
*NEIC **04** 23:30:00.0±0.9, 989S×1066E, h10km, mb4.6/2, Error ellipse: s-maj=20.8km s-min=16.4km az=172.0*
ISC 04 23:30:00.2±0.9, 99S±01×1067E±01, h10km, n17, σ0°70/16, mb4.3/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**9.92**	**256**	*eP*	**Pn**	**23 32 23.1**	**+0.3**
	58nm,0.5s						
PSI	**Prapat**	**14.74**	**328**	LR	LR	23 39 49.7	
	comp=Z,87nm,19.7s,baz=324,slow=40						
ASAR	**Alice Springs**	**29.41**	**121**	P	**P**	**23 36 03.5**	**-0.2**
	0.3nm,0.5s,mb3.2,baz=302,slow=8.4,SNR=5.0						
PALK	**Pallekele**	**30.94**	**302**	P	**P**	**23 36 16.4**	**-0.9**
	17nm,1.4s,mb4.7						
LSA	**Lhasa**	**42.06**	**340**	*eP*	**P**	**23 37 52.7**	**+0.7**
	7.0nm,0.7s,mb4.4						
LSA				*e*		23 38 01.8	
JIRN	**Jiri**	**42.23**	**333**	*eP*	**P**	**23 37 53.2**	**-0.2**
	31nm,0.7s,mb5.0						
GUN	**Gumba**	**42.58**	**332**	*eP*	**P**	**23 37 56.2**	**-0.1**
	26nm,0.7s,mb5.1						
KKN	**Kakani**	**42.76**	**332**	*eP*	**P**	**23 37 56.9**	**-0.8**
	19nm,0.8s,mb4.9						
GKN	**Gorkha**	**43.24**	**331**	*eP*	**P**	**23 38 01.2**	**-0.4**
KOLN	**Koldanda**	**43.55**	**330**	*eP*	**P**	**23 38 03.9**	**-0.3**
	14nm,0.8s,mb4.8						
KS15	**Wonju Array Si**	**51.08**	**22**	P	**P**	**23 39 02.0**	**-0.8**
SONM	**Songino Array**	**57.42**	**360**	P	**P**	**23 39 49.7**	**+0.7**
	0.4nm,0.8s,mb3.5,baz=176,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**60.44**	**341**	P	**P**	**23 40 09.8**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=143,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**60.44**	**341**	P	**P**	**23 40 09.8**	**-0.2**
ZAL	**Zalesovo**	**66.19**	**346**	P	**P**	**23 40 49.9**	**+1.9**
	0.6nm,0.4s,mb4.0,baz=229,slow=3.1,SNR=3.1						
ZAL	**Zalesovo**	**66.19**	**346**	P	**P**	**23 40 49.9**	**+1.9**
BVAR	**Borovoye Array**	**69.85**	**338**	P	**P**	**23 41 11.6**	**+0.5**
	0.4nm,0.6s,mb3.5,baz=142,slow=9.5,SNR=4.6						

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*NEIC **04** 23:32:29.8, 3195S×6856W, h145km, mb4.1/1, MD3.7(GUC), After GUC.*
GUC 04 23:32:29.8±0.8, 3195S×6856W, h145km±18km, MD3.7, ML3.8, 3C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.87**	**247**	*eP*	Pn	23 33 03.9	+0.8
JACH				*i S*	Sn	23 33 29.5	+0.9
FCH	**Farellones**	**2.00**	**226**	*iP*	Pn	23 33 05.6	+1.0
FCH				*i S*	Sn	23 33 33.1	+1.7
FCH				AMP		23 33 36.3	
	comp=E,175nm,0.3s						
PEL	**Peldehue**	**2.15**	**236⇑**	*iP*	Pn	23 33 06.8	+0.4
PEL				*i S*	Sn	23 33 34.6	+0.1
PEL				AMP		23 33 38.7	
	comp=N,541nm,0.3s						
PEL	**Peldehue**	**2.15**	**236⇑**	*iP*	Pn	23 33 06.8	+0.4
PEL				*i S*	Sn	23 33 34.6	+0.1
CLCH	**Cerro Calan**	**2.20**	**229⇓**	*iP*	Pn	23 33 07.9	+0.9
CLCH				*i S*	Sn	23 33 36.6	+1.0
CLCH				AMP		23 33 38.8	
	comp=E,298nm,0.8s						
CMCH	**Combarbala**	**2.22**	**290**	*eP*	Pn	23 33 07.8	+0.5
CMCH				*eS*	Sn	23 33 36.7	+0.6
CMCH				AMP		23 33 39.4	
	comp=E,2μm,1.0s						
CMCH	**Combarbala**	**2.22**	**290**	*eP*	Pn	23 33 07.8	+0.5
CMCH				*eS*	Sn	23 33 36.7	+0.6
ROCH	**El Roble**	**2.31**	**243⇓**	*iP*	Pn	23 33 08.6	+0.3
ROCH				*i S*	Sn	23 33 38.9	+0.9
PCH	**Pirque**	**2.34**	**224⇓**	*iP*	Pn	23 33 09.6	+0.9
RCDM	**Rinconada Maip**	**2.44**	**230**	*eP*	Pn	23 33 10.7	+0.8
RCDM				*i S*	Sn	23 33 41.8	+1.1
RCDM				AMP		23 33 44.7	
	comp=E,416nm,0.4s						
RCDM	**Rinconada Maip**	**2.44**	**230**	*eP*	Pn	23 33 10.7	+0.8
RCDM				*i S*	Sn	23 33 41.8	+1.1
CHNG	**Los Chungos**	**2.50**	**271⇑**	*iP*	Pn	23 33 11.2	+0.5
CHNG				*i S*	Sn	23 33 42.5	+0.4
CHNG				AMP		23 33 46.1	
	comp=E,232nm,0.5s						
TACH	**Talagante**	**2.62**	**229⇓**	*iP*	Pn	23 33 12.7	+0.5
TACH				*i S*	Sn	23 33 45.1	+0.2
CHCH	**Chadas Angostu**	**2.65**	**221**	*eP*	Pn	23 33 13.4	+0.9
CACH	**El Canelo**	**2.76**	**218**	*eP*	Pn	23 33 15.1	+1.2
SFDO	**San Fernando**	**3.36**	**217⇓**	*iP*	Pn	23 33 21.8	+0.3
TRQA	**Tornquist**	**8.14**	**140**	*ePn*	Pn	23 34 24.6	-0.4
	comp=E,3.0nm,0.6s						
TRQA				*eSn*	Sn	23 35 52.4	-3.1

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*IDC **05** 00:04:20.2±0.6, 5258N×3203W, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.3/29, mbtmp4.3/23, ML4.1/2, MS3.9/21, Ms1 3.9/21, ms1mx3.8/30, Error ellipse: s-maj=17.3km s-min=11.3km az=9.0*
*ISCJB **05** 00:04:20.2±0.3, 5262N±006×3200W±005, h10km, mb4.5/82, MS3.9/30, Error ellipse: s-maj=9.1km s-min=4.0km az=24.4*
*MOS **05** 00:04:20.6±0.8, 5261N×3197W, h13km, mb4.8/42, Error ellipse: s-maj=9.5km s-min=6.0km az=153.2*
*BJI **05** 00:04:21.8, 5260N×3200W, h10km, mB5.1, mb5.1, Ms4.3, Msz4.3*
*NEIC **05** 00:04:21.8±0.2, 5259N×3199W, h10km, mb4.7/47, MS3.8/5, Error ellipse: s-maj=6.7km s-min=2.9km az=192.0*
*SZGRF **05** 00:04:22.1, 5281N×3253W, h33km, mb4.7, MS3.7, Reykjanes Ridge*
*CSEM **05** 00:04:22.8±0.1, 5262N×3201W, h33km, mb4.7/41, Ms3.6, Error ellipse: s-maj=5.0km s-min=1.9km az=15.0*
ISC 05 00:04:21.8±0.3, 5262N±006×3197W±005, h10km, (h29km±4.3km:pP-P), n240, σ0°75/231, mb4.5/82, MS3.9/30, 4C-3D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAL	**Valentia**	**13.31**	**84**	*eP*	**Pn**	**00 07 26.4**	**-4.4**
BORG	**Borgarnes**	**13.33**	**20**	LR	LR	00 11 02.9	
	comp=Z,405nm,18.1s,baz=317,slow=30						
BORG	**Borgarnes**	**13.33**	**20**	Pn	**Pn**	**00 07 31.0**	**0.0**
	61nm,1.5s						
SFJD	**Kangerlussuaq**	**17.08**	**335**	P	**Pn**	**00 08 21.6**	**+1.0**
	0.3nm,0.3s,baz=135,slow=11,SNR=5.3						
SFJD				LR	LR	00 13 37.6	
	comp=Z,724nm,21.9s,baz=120,slow=33						
ESK	**Eskdalemuir**	**17.08**	**69**	*eP*	**Pn**	**00 08 21.4**	**+0.8**
	38nm,1.0s						
ESK	**Eskdalemuir**	**17.08**	**69**	*eP*	**Pn**	**00 08 21.4**	**+0.8**
ESK				pmax	pmax		
	comp=Z,38nm,1.0s						
EKA	**Eskdalemuir Ar**	**17.11**	**69**	P	**Pn**	**00 08 20.0**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=270,slow=10,SNR=21						
ROSF	**Rostrenen**	**18.70**	**92**	*eP*	**Pn**	**00 08 40.6**	**+0.1**
	comp=Z,164nm,1.4s						
ROSF	**Rostrenen**	**18.70**	**92**	*eP*	**Pn**	**00 08 40.6**	**+0.1**
	comp=Z,82nm,1.4s						
ROSF	**Rostrenen**	**18.70**	**92**	*eP*	**Pn**	**00 08 40.6**	**+0.1**
ROSF				pmax	pmax		
	comp=Z,82nm,1.4s						
QUIF	**Quistinic**	**18.94**	**93**	*eP*	**Pn**	**00 08 43.5**	**+0.1**
SGMF	**Saint Gilles**	**19.17**	**91**	*eP*	**Pn**	**00 08 45.6**	**-0.6**
	comp=Z,78nm,1.3s						
SGMF	**Saint Gilles**	**19.17**	**91**	*eP*	**Pn**	**00 08 45.6**	**-0.6**
	comp=Z,39nm,1.3s						
SGMF	**Saint Gilles**	**19.17**	**91**	*eP*	**Pn**	**00 08 45.6**	**-0.6**
SGMF				pmax	pmax		
	comp=Z,39nm,1.3s						
GRR	**Gorron**	**20.15**	**90**	*eP*	**P**	**00 08 55.5**	**-0.6**
	comp=Z,301nm,1.9s						
GRR	**Gorron**	**20.15**	**90**	*eP*	**P**	**00 08 55.5**	**-0.6**
	comp=Z,150nm,1.9s						
GRR	**Gorron**	**20.15**	**90**	*eP*	**P**	**00 08 55.5**	**-0.6**
GRR				pmax	pmax		
	comp=Z,150nm,1.9s						
SUMG	**Summit**	**20.23**	**354**	*eP*	**P**	**00 08 57.3**	**+0.4**
	comp=Z,25nm,1.1s						
SUMG				*eS*	**S**	**00 12 51.7**	**+7.9**
FLN	**La Foliniere**	**20.23**	**88**	*eP*	**P**	**00 08 57.6**	**+0.7**
	comp=Z,38nm,0.8s						
FLN				*eR*			
	comp=Z,373nm,19.8s						
FLN	**La Foliniere**	**20.23**	**88**	*eP*	**P**	**00 08 57.6**	**+0.7**
	comp=Z,19nm,0.8s						
FLN				LR	LR		
	comp=Z,370nm,19.8s,MS3.7						
FLN	**La Foliniere**	**20.23**	**88**	*eP*	**P**	**00 08 57.6**	**+0.7**
FLN				pmax	pmax		
	comp=Z,19nm,0.8s						
FLN				MLR	MLR		
	comp=Z,370nm,19.8s,MS3.7						
LDF	**La Druitiere**	**20.51**	**89**	*eP*	**P**	**00 08 59.7**	**-0.3**
	comp=Z,98nm,1.3s						
LDF	**La Druitiere**	**20.51**	**89**	*eP*	**P**	**00 08 59.7**	**-0.3**
	comp=Z,49nm,1.3s						
LDF	**La Druitiere**	**20.51**	**89**	*eP*	**P**	**00 08 59.7**	**-0.3**
LDF				pmax	pmax		
	comp=Z,49nm,1.3s						
JMIC	**Jan Mayen**	**21.22**	**21**	LR	LR	00 14 45.4	
	comp=Z,232nm,19.5s,MS3.6,baz=98,slow=29						
MFF	**Saint Martin d**	**21.36**	**94**	*eP*	**P**	**00 09 08.4**	**-0.8**
	comp=Z,70nm,1.1s,mb4.6						
MFF	**Saint Martin d**	**21.36**	**94**	*eP*	**P**	**00 09 08.4**	**-0.8**
	comp=Z,35nm,1.1s,mb4.6						
MFF	**Saint Martin d**	**21.36**	**94**	*eP*	**P**	**00 09 08.4**	**-0.8**
MFF				pmax	pmax		
	comp=Z,35nm,1.1s,mb4.6						
HYF	**Humbligny**	**22.76**	**90**	*eP*	**P**	**00 09 23.2**	**-0.9**
TCF	**Toulx Ste Croi**	**22.95**	**92**	*eP*	**P**	**00 09 25.7**	**-0.4**
	comp=Z,88nm,1.5s,mb4.7						
TCF	**Toulx Ste Croi**	**22.95**	**92**	*eP*	**P**	**00 09 25.7**	**-0.4**
	comp=Z,44nm,1.5s,mb4.7						
TCF	**Toulx Ste Croi**	**22.95**	**92**	*eP*	**P**	**00 09 25.7**	**-0.4**
TCF				pmax	pmax		
	comp=Z,44nm,1.5s,mb4.7						
GIVF	**Givet**	**22.95**	**81**	*eP*	**P**	**00 09 24.9**	**-1.3**
ESDC	**Sonseca Array**	**23.15**	**113**	P	**P**	**00 09 27.0**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.4,baz=314,slow=8.9,SNR=9.0						
ESLA	**Sonseca Array**	**23.15**	**113**	*eP*	**P**	**00 09 29.2**	**+0.9**
	comp=Z,49nm,2.0s,mb4.6						
BGF	**Bois d'Agland**	**23.21**	**91**	*eP*	**P**	**00 09 28.1**	**-0.8**
	comp=Z,44nm,0.8s,mb4.6						
BGF	**Bois d'Agland**	**23.21**	**91**	*eP*	**P**	**00 09 28.1**	**-0.8**
	comp=Z,22nm,0.8s,mb4.6						
BGF	**Bois d'Agland**	**23.21**	**91**	*eP*	**P**	**00 09 28.1**	**-0.8**
BGF				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**23.38**	**89**	*eP*	**P**	**00 09 29.8**	**-0.9**
	comp=Z,108nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**23.38**	**89**	*eP*	**P**	**00 09 29.8**	**-0.9**
	comp=Z,54nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**23.38**	**89**	*eP*	**P**	**00 09 29.8**	**-0.9**
SSF				pmax	pmax		
	comp=Z,54nm,1.4s,mb4.8						
AVF	**Avril sur Loir**	**23.41**	**90**	*eP*	**P**	**00 09 30.1**	**-0.9**
	comp=Z,83nm,1.3s,mb4.7						
AVF	**Avril sur Loir**	**23.41**	**90**	*eP*	**P**	**00 09 30.1**	**-0.9**
	comp=Z,42nm,1.3s,mb4.7						
AVF	**Avril sur Loir**	**23.41**	**90**	*eP*	**P**	**00 09 30.1**	**-0.9**
AVF				pmax	pmax		
	comp=Z,42nm,1.3s,mb4.7						
LOR	**Lormes**	**23.50**	**89**	*eP*	**P**	**00 09 30.9**	**-1.0**
LOR				*eR*			
	comp=Z,430nm,22.0s						
LOR	**Lormes**	**23.50**	**89**	*eP*	**P**	**00 09 30.9**	**-1.0**
LOR				MLR	MLR		
	comp=Z,430nm,22.0s,MS3.9						
MEZF	**Maizieres J'vi**	**23.70**	**85**	*eP*	**P**	**00 09 32.6**	**-1.2**
	comp=Z,83nm,0.9s,mb4.8						
MEZF	**Maizieres J'vi**	**23.70**	**85**	*eP*	**P**	**00 09 32.6**	**-1.2**
	comp=Z,42nm,0.9s,mb4.8						
SMF	**Signal de Mont**	**23.77**	**90**	*eP*	**P**	**00 09 33.1**	**-1.4**
	comp=Z,53nm,1.2s,mb4.5						
SMF	**Signal de Mont**	**23.77**	**90**	*eP*	**P**	**00 09 33.1**	**-1.4**
	comp=Z,26nm,1.2s,mb4.5						
SMF	**Signal de Mont**	**23.77**	**90**	*eP*	**P**	**00 09 33.1**	**-1.4**
SMF				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.5						
MUD	**Monsted U'grnd**	**23.91**	**64**	*iP*	**P**	**00 09 35.4**	**-0.4**
	comp=Z,37nm,1.2s,mb4.7						
MUD							
	comp=Z,400nm,18.0s						
WLF	**Walferdange**	**23.91**	**82**	*eP*	**P**	**00 09 35.3**	**-0.5**
	comp=Z,16nm,1.1s,mb4.4						
BUG	**Bochum--Univer**	**23.97**	**77**	*eP*	**P**	**00 09 35.9**	**-0.4**
	comp=Z,33nm,1.2s,mb4.6						
IBBN	**Ibbenburen**	**24.00**	**75**	*eP*	**P**	**00 09 36.6**	**0.0**
	comp=Z,48nm,1.0s,mb4.9						
RUP	**Ruppelstein**	**24.45**	**81**	*eP*	**P**	**00 09 41.4**	**+0.8**
NAO01	**NORSAR Array S**	**24.50**	**53**	*eP*	**P**	**00 09 41.5**	**+0.4**
	comp=Z,20nm,1.2s,mb4.4						
NB2	**NORSAR Subarra**	**24.66**	**53**	P	**P**	**00 09 42.0**	**-0.6**
	comp=Z,37nm,1.7s,mb4.6,baz=270,slow=9.3						
NB2	**NORSAR Subarra**	**24.66**	**53**	P	**P**	**00 09 42.0**	**-0.6**
NB2				pmax	pmax		
	comp=Z,37nm,1.7s,mb4.6						
NOA	**NORSAR Array B**	**24.66**	**53**	P	**P**	**00 09 42.9**	**+0.3**
	comp=Z,9.1nm,1.1s,mb4.2,baz=274,slow=11,SNR=8.2						
NOA				LR	LR	00 18 43.4	
	comp=Z,236nm,18.4s,MS3.7,baz=280,slow=35						
NOA	**NORSAR Array B**	**24.66**	**53**	P	**P**	**00 09 42.9**	**+0.3**
NOA				LR	LR	00 18 43.4	
ABH	**Alteburg**	**24.67**	**80**	*eP*	**P**	**00 09 44.4**	**+1.7**
HAU	**Haudompre**	**24.69**	**85**	*eP*	**P**	**00 09 41.8**	**-1.1**
	comp=Z,44nm,0.9s,mb4.7						
HAU				*eR*			
	comp=Z,241nm,19.0s						
HAU	**Haudompre**	**24.69**	**85**	*eP*	**P**	**00 09 41.8**	**-1.1**
	comp=Z,22nm,0.9s,mb4.7						
HAU				LR	LR		
	comp=Z,240nm,19.0s,MS3.7						
HAU	**Haudompre**	**24.69**	**85**	*eP*	**P**	**00 09 41.8**	**-1.1**
HAU				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.7						
HAU				MLR	MLR		
	comp=Z,240nm,19.0s,MS3.7						
BSEG	**Bad Segeberg**	**25.05**	**70**	*eP*	**P**	**00 09 46.0**	**-0.1**
	comp=Z,54nm,1.3s,mb4.9						
CDF	**Champ du Feu**	**25.09**	**84**	*eP*	**P**	**00 09 45.8**	**-0.7**
	comp=Z,30nm,1.1s,mb4.4						
CDF	**Champ du Feu**	**25.09**	**84**	*eP*	**P**	**00 09 45.8**	**-0.7**
	comp=Z,15nm,1.1s,mb4.4						
CDF	**Champ du Feu**	**25.09**	**84**	*eP*	**P**	**00 09 45.8**	**-0.7**
CDF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.4						
TNS	**Taunus Mts**	**25.09**	**79**	*eP*	**P**	**00 09 47.4**	**+0.9**
	comp=Z,42nm,1.1s,mb4.9						
ECH	**Echery**	**25.10**	**84**	*eP*	**P**	**00 09 47.5**	**+0.9**
WLS	**Welschbruch**	**25.13**	**84**	*eP*	**P**	**00 09 48.1**	**+1.2**
CABF	**La Chapelle**	**25.16**	**88**	*eP*	**P**	**00 09 47.6**	**+0.5**
	comp=Z,312nm,1.8s,mb5.2						
CABF	**La Chapelle**	**25.16**	**88**	*eP*	**P**	**00 09 47.6**	**+0.5**
	comp=Z,156nm,1.8s,mb5.2						
CABF	**La Chapelle**	**25.16**	**88**	*eP*	**P**	**00 09 47.6**	**+0.5**
CABF				pmax	pmax		
	comp=Z,156nm,1.8s,mb5.2						
LANF	**Langenberg**	**25.18**	**82**	*eP*	**P**	**00 09 48.5**	**+1.2**
MOF	**Molkenrain**	**25.24**	**85**	*eP*	**P**	**00 09 48.7**	**+0.9**
LOMF	**Lomont**	**25.27**	**86**	*eP*	**P**	**00 09 49.2**	**+1.1**
TOD	**Tromm**	**25.53**	**80**	*eP*	**P**	**00 09 50.7**	**+0.2**
CLZ	**Clausthal**	**25.68**	**75**	*eP*	**P**	**00 09 52.3**	**+0.5**
	comp=Z,51nm,1.4s,mb4.9						
FELD	**Feldberg**	**25.75**	**84**	*eP*	**P**	**00 09 52.4**	**-0.1**
BFO	**Black Forest**	**25.76**	**83**	*eP*	**P**	**00 09 52.5**	**-0.1**
	comp=Z,12nm,1.0s,mb4.4						
UBBA	**Unterbreizbach**	**25.80**	**77**	*eP*	**P**	**00 09 53.3**	**+0.3**
	comp=Z,15nm,1.5s,mb4.3						
HFS	**Hagfors**	**25.91**	**55**	P	**P**	**00 09 54.1**	**+0.2**
	comp=Z,4.2nm,0.9s,mb4.0,baz=206,slow=6.3,SNR=5.1						
HFS				LR	LR	00 18 44.7	
	comp=Z,344nm,20.4s,MS3.9,baz=271,slow=33						
STU	**Stuttgart**	**26.10**	**82**	*eP*	**P**	**00 09 55.9**	**+0.3**
	comp=Z,20nm,0.9s,mb4.7						
STU	**Stuttgart**	**26.10**	**82**	*eP*	**P**	**00 09 55.9**	**+0.3**
	comp=Z,19nm,1.0s,mb4.6						
STU	**Stuttgart**	**26.10**	**82**	*eP*	**P**	**00 09 55.9**	**+0.3**
STU				pmax	pmax		
	comp=Z,19nm,1

GERES LR LR 00 20 04.3
comp=Z,194nm,20.6s,MS3.7,baz=292,slow=33
PRU Pruhonice 28.81 76 *eP* **P 00 10 20.1 +0.2**
PRU AMS AMS 00 21 40.0
comp=Z,400nm,16.5s
PRU Pruhonice 28.81 76 *eP* **P 00 10 20.1 +0.2**
comp=Z,400nm,16.5s
UPC Upice 29.47 75 *eP* **P 00 10 26.0 +0.2**
TREC Trest 29.65 77 *eP* **P 00 10 27.5 +0.1**
DPC Dobruska-Polom 29.71 75 *eP* **P 00 10 27.9 -0.1**
DPC AMS AMS 00 22 00.0
comp=Z,500nm,15.8s
DPC Dobruska-Polom 29.71 75 *eP* **P 00 10 27.9 -0.1**
comp=Z,500nm,15.8s
MORC Moravsky Berou 30.67 75 *eP* **P 00 10 36.5 +0.1**
comp=Z,21nm,1.7s,mb4.7
MORC Moravsky Berou 30.67 75 *eP* **P 00 10 36.5 +0.1**
comp=Z,21nm,1.7s,mb4.7
MORC Moravsky Berou 30.67 75 *eP* **P 00 10 36.5 +0.1**
MORC pmax pmax
comp=Z,21nm,1.7s,mb4.7
ARCES ARCESS Array B 30.98 35 P **P 00 10 39.0 -0.2**
comp=Z,3.3nm,0.9s,mb4.2,baz=267,slow=6.1,SNR=5.5
ARCES LR LR 00 20 16.3
comp=Z,240nm,19.0s,MS3.9,baz=24,slow=31
ARCES ARCESS Array B 30.98 35 P **P 00 10 39.0 -0.2**
ARCES LR LR 00 20 16.3
OKC Ostrava-Krasne 31.00 75 *eP* **P 00 10 38.2 -1.1**
OKC Ostrava-Krasne 31.00 75 *eP* **P 00 10 37.2 -2.1**
BRNJ Basking Ridge 31.13 265 *eP* **P 00 10 40.4 -0.1**
KAF Kangasniemi 31.75 49 *ep* **P 00 10 44.6 -1.4**
comp=Z,6.0nm,0.8s,mb4.5
KAF Kangasniemi 31.75 49 *ep* **P 00 10 44.8 -1.2**
comp=Z,5.9nm,0.8s,mb4.5,baz=278,slow=9.2
KAF Kangasniemi 31.75 49 *eP* **P 00 10 44.8 -1.2**
comp=Z,6.0nm,0.8s,mb4.5
KAF Kangasniemi 31.75 49 *eP* **P 00 10 44.8 -1.2**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
FINES FINESS Array B 31.77 51 P **P 00 10 45.8 -0.3**
comp=Z,2.4nm,0.6s,mb4.2,baz=289,slow=8.3,SNR=16
FINES LR LR 00 22 07.7
comp=Z,235nm,21.9s,MS3.8,baz=174,slow=34
OJC Ojcow 31.81 73 *eP* **P 00 10 46.3 -0.1**
SRO1 Iza 31.97 78 *eP* **P 00 10 48.6 +0.7**
VYHS Vyhne 31.99 77 *eP* **P 00 10 47.8 -0.3**
SRO Srobarova 31.99 78 *eP* **P 00 10 49.0 +0.9**
SRO *e* 00 11 48.4
SRO2 Moca 32.06 78 *eP* **P 00 10 49.4 +0.7**
NIE Niedzica 32.45 74 *eP* **P 00 10 52.5 +0.4**
PSZ Piszkesteto 32.88 77 *eP* **P 00 10 56.8 +0.9**
comp=Z,4.0nm,0.9s,mb4.3
PSZ Piszkesteto 32.88 77 *eP* **P 00 10 56.8 +0.9**
comp=Z,4.1nm,0.9s,mb4.4
PSZ Piszkesteto 32.88 77 *eP* **P 00 10 56.8 +0.9**
PSZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 32.97 76 *eP* **P 00 10 57.2 +0.5**
STHS Stebnicka Huta 33.00 74 *eP* **P 00 10 57.3 +0.4**
RES Resolute Bay 33.08 334 *eP* **P 00 10 57.6 0.0**
comp=Z,3.0nm,0.8s,mb4.3
RES Resolute Bay 33.08 334 *eP* **P 00 10 57.6 0.0**
comp=Z,3.4nm,0.8s,mb4.3
RES Resolute Bay 33.08 334 *eP* **P 00 10 57.6 0.0**
RES pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CRVS Cervenica-Dubn 33.35 75 *eP* **P 00 10 59.2 -0.8**
KWP Kalwaria 33.76 73 *eP* **P 00 11 03.9 +0.4**
comp=Z,8.0nm,1.0s,mb4.6
KWP Kalwaria 33.76 73 *eP* **P 00 11 03.9 +0.4**
comp=Z,8.4nm,1.0s,mb4.6
KWP Kalwaria 33.76 73 *eP* **P 00 11 03.9 +0.4**
KWP pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KOLS Kolonicke sedl 33.82 74 *eP* **P 00 11 04.8 +0.8**
JOF Joensuu 33.88 47 *ep* **P 00 11 03.4 -1.2**
comp=Z,5.3nm,0.7s,mb4.6
JOF Joensuu 33.88 47 *ep* **P 00 11 03.5 -1.1**
comp=Z,2.2nm,0.6s,mb4.3
JOF Joensuu 33.88 47 *eP* **P 00 11 03.5 -1.1**
FCC Fort Churchill 34.40 305 *eP* **P 00 11 09.0 -0.1**
comp=Z,13nm,1.2s,mb4.7
FCC Fort Churchill 34.40 305 *eP* **P 00 11 09.0 -0.1**
FCC pmax pmax
comp=Z,13nm,1.2s,mb4.7
AKASG Malin Array Be 37.01 68 P **P 00 11 30.6 -0.9**
comp=Z,4.4nm,0.8s,mb4.3,baz=300,slow=8.6,SNR=20
EYMN Ely 37.38 287 *eP* **P 00 11 33.5 -1.1**
KLMR Klimovskoe 38.19 49 *eP* **P 00 11 40.3 -1.2**
comp=Z,60nm,2.4s,mb4.9
KLMR Klimovskoe 38.19 49 *eP* **P 00 11 40.3 -1.2**
KLMR pmax pmax
comp=Z,60nm,2.4s,mb4.9
ULM Lac du Bonnet 38.75 293 P **P 00 11 44.9 -1.3**
comp=Z,2.0nm,0.6s,mb4.0,baz=58,slow=9.2,SNR=8.5
ULM LR LR 00 26 12.3
comp=Z,128nm,19.0s,MS3.8,baz=348,slow=34
OBN Obninsk 39.02 58 *i* P **P 00 11 48.5 0.0**
comp=Z,200nm,19.0s
OBN Obninsk 39.02 58 *eP* **P 00 11 47.9 -0.5**
comp=Z,55nm,1.4s,mb5.1
OBN Obninsk 39.02 58 *d iP* **P 00 11 48.5 0.0**
OBN pmax pmax
comp=Z,46nm,1.3s,mb5.0
OBN MLR MLR 00 11 48.5
comp=Z,200nm,19.0s,MS4.0
YKW3 Yellowknife Ar 42.38 317 *eP* **P 00 12 15.4 -0.8**
YKA Yellowknife Ar 42.41 317 P **P 00 12 15.7 -0.7**
comp=Z,3.4nm,1.0s,mb3.9,baz=61,slow=8.6,SNR=33
YKA PcP PcP 00 14 08.5 -1.0
comp=Z,0.3nm,0.7s,baz=69,slow=3.6,SNR=4.6
YKA LR LR 00 27 42.5
comp=Z,133nm,20.2s,MS3.8,baz=90,slow=33
YKA Yellowknife Ar 42.41 317 PcP PcP 00 14 08.5 -1.0
YKA Yellowknife Ar 42.41 317 P **P 00 12 15.7 -0.7**
YKA PcP PcP 00 14 08.5 -1.1
YKA LR LR 00 27 42.5
YKA Yellowknife Ar 42.41 317 P **P 00 12 15.7 -0.8**
YKA 00 14 08.5
BR131 Keskin Array S 45.67 79 *eP* **P 00 12 43.8 +1.1**
comp=Z,8.9nm,0.8s,mb4.8
BRTR Keskin Array B 45.67 79 P **P 00 12 43.9 +1.3**
comp=Z,9.5nm,0.8s,mb4.8,baz=305,slow=6.1,SNR=50
INK Inuvik 46.33 330 P **P 00 12 46.8 -1.1**
comp=Z,1.7nm,1.0s,mb3.9,baz=46,slow=13,SNR=4.8
INK Inuvik 46.33 330 *eP* **P 00 12 47.2 -0.7**
comp=Z,3.0nm,1.1s,mb4.1
INK Inuvik 46.33 330 *eP* **P 00 12 47.2 -0.7**
INK pmax pmax
comp=Z,3.0nm,1.1s
LAO LASA Array 46.46 294 *eP* **P 00 12 49.7 +0.9**
comp=Z,12nm,0.8s,mb4.9
EGMT Eagleton 47.62 297 *eP* **P 00 12 57.8 -0.1**
comp=Z,3.6nm,0.6s,mb4.6
TORD Torodi Ar. Bea 47.67 133 P **P 00 12 57.9 -0.3**
comp=Z,5.3nm,0.6s,mb4.7,baz=336,slow=7.5,SNR=117
GOF Gofitskoye 47.86 67 *eP* **P 00 13 00.2 +0.5**
comp=Z,40nm,0.8s,mb5.5
GOF Gofitskoye 47.86 67 *eP* **P 00 13 00.2 +0.5**
GOF pmax pmax
comp=Z,40nm,0.8s,mb5.5
KIV Kislovodsk 48.34 69 *eP* **P 00 13 04.9 +1.5**
comp=Z,200nm,24.0s
KIV Kislovodsk 48.34 69 *eP* **P 00 13 04.7 +1.3**
KIV Kislovodsk 48.34 69 *eP* **P 00 13 04.9 +1.5**
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KIV MLR MLR 00 13 04.9
comp=Z,200nm,24.0s,MS4.0
ARU Arti 49.01 47 *i* P **P 00 13 08.7 +0.1**
comp=Z,17nm,1.1s,mb5.0
ARU *eS* **S 00 20 09.9 -3.1**
ARU Arti 49.01 47⇑ *iP* **P 00 13 08.7 +0.1**
ARU *e* 00 15 01.2
ARU *e*PPP 00 15 52.2
ARU *eS* **S 00 20 09.9 -3.1**
ARU pmax pmax
comp=Z,17nm,1.1s,mb5.0
MALT Malatya 49.44 77 *eP* **P 00 13 12.8 +0.9**
comp=Z,18nm,1.4s,mb4.9
MALT Malatya 49.44 77 *eP* **P 00 13 12.8 +0.9**
comp=Z,18nm,1.4s,mb4.9
MALT Malatya 49.44 77 *eP* **P 00 13 12.8 +0.9**
MALT pmax pmax
comp=Z,18nm,1.4s,mb4.9
PDAR Pinedale Array 50.74 292 P **P 00 13 21.0 -0.8**
comp=Z,2.7nm,0.5s,mb4.4,baz=62,slow=6.7,SNR=40
PDAR LR LR 00 33 27.3
comp=Z,129nm,19.6s,MS4.0,baz=59,slow=34
DAWY Dawson 50.83 327 *eP* **P 00 13 22.3 -0.1**
DBIC Dimbokro 50.91 144 P **P 00 13 22.9 -0.1**
comp=Z,4.0nm,0.7s,mb4.5,baz=334,slow=8.6,SNR=14
DBIC LR LR 00 32 03.7
comp=Z,203nm,21.0s,MS4.1,baz=327,slow=33
NEW Newport 51.38 302 *eP* **P 00 13 26.2 -0.4**
comp=Z,2.0nm,0.7s,mb4.2
NEW Newport 51.38 302 *eP* **P 00 13 26.2 -0.4**
comp=Z,2.2nm,0.7s,mb4.2
NEW Newport 51.38 302 *eP* **P 00 13 26.2 -0.4**
NEW pmax pmax
comp=Z,2.0nm,0.7s
GNI Garni 51.94 71 *eP* **P 00 13 32.7 +1.9**
comp=Z,15nm,1.7s,mb4.7
GNI Garni 51.94 71 *eP* **P 00 13 31.0 +0.2**
GNI Garni 51.94 71 *eP* **P 00 13 32.7 +1.9**
GNI pmax pmax
comp=Z,15nm,1.7s
ILAR Eielson Array 52.69 331 P **P 00 13 36.5 +0.2**
comp=Z,3.1nm,1.2s,mb4.1,baz=36,slow=5.6,SNR=14
ILAR PcP PcP 00 14 45.4 -0.8
comp=Z,0.9nm,1.0s,baz=348,slow=2.4,SNR=5.0
ILAR LR LR 00 35 15.1
comp=Z,192nm,20.8s,MS4.1,baz=354,slow=35
ILAR Eielson Array 52.69 331 PcP PcP 00 14 45.4 -0.7
ILAR Eielson Array 52.69 331 P **P 00 13 36.6 +0.2**
ILAR 00 14 45.4
HLID Hailey 52.94 295 *eP* **P 00 13 38.9 +0.6**
comp=Z,12nm,1.8s,mb4.5
PV10 Paradox Valley 53.32 287 *eP* **P 00 13 42.0 +1.0**
MCK McKinley 54.07 331 *eP* **P 00 13 46.4 -0.1**
comp=Z,7.0nm,1.4s,mb4.4
MCK McKinley 54.07 331 *eP* **P 00 13 46.4 -0.1**
comp=Z,7.4nm,1.4s,mb4.4
MCK McKinley 54.07 331 *eP* **P 00 13 46.4 -0.1**
MCK pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
ANMO Albuquerque 54.13 282⇑ *eP* **P 00 13 52.4 +5.5**
DUG Dugway 54.28 291 *eP* **P 00 13 47.6 -0.4**
comp=Z,3.0nm,0.6s,mb4.4
DUG Dugway 54.28 291 *eP* **P 00 13 47.6 -0.4**
comp=Z,2.5nm,0.6s,mb4.3
DUG Dugway 54.28 291 *eP* **P 00 13 47.6 -0.4**
DUG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
TIXI Tiksi 55.29 7 *eP* **P 00 13 57.4 +2.1**
comp=Z,100nm,22.0s
TIXI Tiksi 55.29 7 *eP* **P 00 13 57.4 +2.1**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
TIXI MLR MLR 00 13 57.4
comp=Z,100nm,22.0s,MS3.9
ZRNK Zerenda 55.88 46 *eP* **P 00 13 59.3 -0.3**
comp=Z,6.0nm,1.0s,mb4.6
ZRNK Zerenda 55.88 46 *eP* **P 00 13 59.3 -0.3**
comp=Z,6.2nm,1.0s,mb4.6
ZRNK Zerenda 55.88 46 *eP* **P 00 13 59.3 -0.3**
ZRNK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BRVK Borovoye 56.37 45 *eP* **P 00 14 02.2 -0.9**
comp=Z,7.0nm,0.9s,mb4.7
BRVK Borovoye 56.37 45 *eP* **P 00 14 02.2 -0.9**
comp=Z,6.9nm,0.9s,mb4.7
BRVK *e* 00 15 33.5
BRVK Borovoye 56.37 45 *eP* **P 00 14 02.2 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LTX Lajitas 56.39 275 P **P 00 14 03.5 +0.3**
comp=Z,1.0nm,0.3s,mb4.3
LTX Lajitas 56.39 275 P **P 00 14 03.5 +0.2**
comp=Z,1.1nm,0.3s,mb4.4
LTX Lajitas 56.39 275 P **P 00 14 03.5 +0.3**
LTX pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
NVAR Mina Array Bea 58.58 293 P **P 00 14 18.7 0.0**
comp=Z,0.6nm,0.6s,mb3.8,baz=58,slow=5.4,SNR=7.3
NVAR Mina Array Bea 58.58 293 P **P 00 14 18.7 0.0**
BILL Bilibino 58.89 352 *eP* **P 00 14 20.6 -0.2**
comp=Z,1.0nm,0.3s,mb4.3
BILL Bilibino 58.89 352 *eP* **P 00 14 20.6 -0.2**
comp=Z,1.3nm,0.3s,mb4.4
BILL Bilibino 58.89 352 *eP* **P 00 14 20.6 -0.2**
BILL pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ROSC El Rosal 58.97 232 P **P 00 14 22.3 +1.0**
comp=Z,11nm,0.6s,mb5.0,baz=102,slow=12,SNR=9.8
NVS Novosibirsk 60.24 37 *i* P **P 00 14 30.0 -0.1**
NVS *e* 00 23 00.7
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=Z,29nm,1.4s,mb5.1
ZAL Zalesovo 61.52 37 P **P 00 14 39.0 +0.1**
comp=Z,1.5nm,0.6s,mb4.3,baz=163,slow=11,SNR=11
ZAL LR LR 00 41 49.3
comp=Z,68nm,18.5s,MS3.8,baz=257,slow=36
KURK Kurchatov 61.60 43 *eP* **P 00 14 39.2 -0.2**
comp=Z,16nm,1.6s,mb4.9
KURK Kurchatov 61.60 43 *eP* **P 00 14 39.2 -0.2**
KURK pmax pmax
comp=Z,16nm,1.6s,mb4.9
AAK Ala-Archa 65.96 51 *eP* **P 00 15 08.5 +0.4**
comp=Z,3.9nm,1.3s,mb4.3
AAK Ala-Archa 65.96 51⇑ *eP* **P 00 15 08.4 +0.3**
AAK pmax pmax
comp=Z,5.0nm,1.8s,mb4.2
MKAR Makanchi Array 66.18 43 P **P 00 15 09.8 +0.3**
comp=Z,5.0nm,0.8s,mb4.6,baz=330,slow=5.9,SNR=67
BDFB Brasilia 69.38 197 LR LR 00 40 31.7
comp=Z,66nm,21.3s,MS3.9,baz=193,slow=31
SONM Songino Array 73.81 28 P **P 00 15 57.0 +0.5**
comp=Z,2.9nm,0.9s,mb4.2,baz=330,slow=7.0,SNR=25
SONM LR LR 00 47 16.5
comp=Z,63nm,21.5s,MS3.9,baz=342,slow=35
ULN Ulaanbaatar 73.97 27 *eP* **P 00 15 57.9 +0.5**
comp=Z,6.6nm,1.3s,mb4.4
ULN *e*PcP PcP 00 16 11.8 -0.9
ULN Ulaanbaatar 73.97 27 *eP* **P 00 15 57.9 +0.5**
ULN *e* 00 16 11.8
ULN pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
KMBO Kilima Mbogo 78.42 107 LR LR 00 49 32.3
comp=Z,82nm,20.3s,MS4.0,baz=104,slow=35
GTA Gaotai 79.25 36 *eP* **P 00 16 28.0 +0.8**
GTA AP pP 00 16 33.5 +3.0
GTA XP sP 00 16 35.9 +4.2
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
NJ2 Nanjing 91.91 24 *eP* **P 00 17 31.6 +1.2**
NJ2 AP pP 00 17 42.2 +8.5
NJ2 XP sP 00 17 46.1 +11
NJ2 PP PP 00 21 12.5 +2.9
NJ2 S 00 28 26.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.4
NJ2 LR LR
comp=Z,330nm,30.4s,MS4.6
SSE Sheshan 93.40 23 *eP* **P 00 17 35.8 -1.4**
SSE AP pP 00 17 45.2 +4.6
SSE XP sP 00 17 49.2 +7.4
SSE S 00 28 35.0
SSE XS sS 00 28 51.6 +0.9
SSE AMB AMB
comp=Z,13nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,30nm,3.5s
SSE LR LR
comp=N,13nm,25.6s,MS4.0
SSE LR LR
comp=E,72nm,25.7s,MS4.0
SSE LR LR
comp=Z,52nm,20.2s
BOSA Boshof 95.02 132 LR LR 00 57 36.1
comp=Z,122nm,18.1s,MS4.4,baz=170,slow=34
PLCA Paso Flores 98.80 209 LR LR 00 59 37.4
comp=Z,112nm,21.1s,MS4.3,baz=338,slow=34
HNR Honiara 135.86 343 PKP PKPdf 00 23 41.5 -1.2
comp=Z,64nm,0.3s,baz=275,slow=9.8,SNR=4.9
WRA Warramunga Arr 145.69 23 PKPbc PKPbc 00 24 00.6 -0.2
comp=Z,1.8nm,0.9s,baz=343,slow=3.8,SNR=9.4
ASAR Alice Springs 149.15 26 PKPbc PKPbc 00 24 09.6 -0.8
comp=Z,0.6nm,0.8s,baz=348,slow=2.8,SNR=6.7

IDC 05 00:29:09.3±19.0, 198S×14556E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/13, mbtmp3.9/3, Error ellipse: s-maj=323.6km s-min=123.9km az=177.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.81**	**230**	*eP*	Pn	00 33 23.2	+17
	10.0nm,0.4s						
WB2	**Warramunga Arr**	**20.95**	**211**	*eP*	P	00 33 55.0	+1.3
WRA	**Warramunga Arr**	**20.96**	**211**	P	P	00 33 55.1	+1.3
	2.6nm,0.3s,baz=36,slow=12,SNR=22						
ASAR	**Alice Springs**	**24.34**	**207**	P	P	00 34 28.0	-0.7
	1.9nm,0.5s,baz=46,slow=8.3,SNR=33						
ASPA	**Alice Springs**	**24.34**	**207**	*eP*	P	00 34 27.9	-0.8
STKA	**Stephens Creek**	**29.98**	**187**	P	P	00 35 20.1	+0.8
	1.1nm,0.7s,baz=17,slow=11,SNR=3.6						

*IDC **05** 00:35:06.8±0.9, 1269N×89.14W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML3.7/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/19, Error ellipse: s-maj=47.1km s-min=15.7km az=62.0*

*ISCJB **05** 00:35:09.9±0.4, 1238N±005×8955W±003, h36km, mb4.4/23, MS3.7/3, Error ellipse: s-maj=7.5km s-min=3.2km az=64.3*

*CASC **05** 00:35:09.9±2.4, 1226N×8960W, h34km±34km, MD4.3, mb4.5(NEIC)*

*NEIC **05** 00:35:12.6±0.5, 1254N×8927W, mb4.5/18, Error ellipse: s-maj=15.8km s-min=6.8km az=66.0*

ISC 05 00:35:12.0±0.4, 1243N±005×8953W±004, h38km, h38km±3.6km: pP-P, n71, σ1°28/65, mb4.4/23, MS3.7/3, 3C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	**Boqueron**	**1.32**	**10**	*eP*	Px	00 35 45.0	
BOQS				*eS*	Sx	00 36 04.5	
LCBS	**La Ceiba**	**1.33**	**24**⇑	*eP*	Px	00 35 44.2	
LCBS				*eS*	Sx	00 36 03.9	
SNVI	**San Vicente**	**1.35**	**30**	*eP*	Px	00 35 45.1	
SNVI				*eS*	Sx	00 36 04.8	
LFU	**La Fuente**	**1.37**	**17**	*eP*	Px	00 35 45.6	
LFU				*eS*	Sx	00 36 05.2	
SBLS	**San Blas**	**1.40**	**356**	*eP*	Px	00 35 45.5	
SBLS				*eS*	Sx	00 36 05.9	
RTR	**El Retiro**	**1.46**	**355**	*eP*	Px	00 35 47.2	
RTR				*eS*	Sx	00 36 06.9	
VSM	**San Miguel**	**1.57**	**51**	*eP*	Px	00 35 48.6	
VSM				*eS*	Sx	00 36 10.0	
BLLM	**Bellamira**	**1.61**	**51**	*eP*	Px	00 35 52.4	
BLLM				*eS*	Sx	00 36 15.3	
IXG	**Ixpaco**	**1.96**	**333**⇑	*eP*	**Pn**	**00 35 41.8**	**-0.9**
IXG				*eS*	**Sn**	**00 36 06.5**	**+0.5**
FUG	**Fuego 3**	**2.38**	**328**⇓	*eP*	**Pn**	**00 35 49.0**	**+0.5**
TEL3	**Telica 3**	**2.62**	**87**	*eP*	**Pn**	**00 35 50.7**	**-1.1**
TEL3				*eS*	**Sn**	**00 36 24.3**	**+1.9**
MRL	**Marmol**	**2.62**	**356**	*eP*	**Pn**	**00 35 53.5**	**+1.6**
MRL				*eS*	**Sn**	**00 36 26.5**	**+4.0**
MIRN	**Miramar**	**2.75**	**90**	*eP*	**Pn**	**00 35 52.5**	**-1.1**
TP2	**Tecpan 2**	**2.75**	**328**⇑	*eP*	**Pn**	**00 35 54.6**	**+1.0**
CNGN	**Cerro Negro**	**2.76**	**88**	*eP*	**Pn**	**00 35 52.6**	**-1.1**
CNGN				*eS*	**Sn**	**00 36 28.3**	**+2.4**
COPN	**Copaltepe**	**2.88**	**95**	*eP*	**Pn**	**00 35 54.1**	**-1.2**
COPN				*eS*	**Sn**	**00 36 28.1**	**-0.6**
MOMJ	**Momotombo**	**2.92**	**90**	*eP*	**Pn**	**00 35 54.5**	**-1.3**
MOMJ				*eS*	**Sn**	**00 36 31.8**	**+2.1**
APYN	**Apoyeque**	**3.11**	**93**	*eP*	**Pn**	**00 35 58.4**	**-0.1**
APYN				*eS*	**Sn**	**00 36 35.9**	**+1.5**
TICN	**Ticuantepe**	**3.24**	**97**	*eP*	**Pn**	**00 36 00.1**	**-0.3**
WILN	**Americas 2**	**3.27**	**94**	*eP*	**Pn**	**00 36 00.4**	**-0.3**
WILN				*eS*	**Sn**	**00 36 37.4**	**-1.1**
JTS	**JuntasAbangare**	**4.96**	**115**	Pn	**Pn**	**00 36 23.8**	**-0.2**
	5.7nm,0.3s,baz=312,slow=21,SNR=10						
JTS				Sn	**Sn**	**00 37 21.0**	**+0.9**
	1.4nm,0.3s,baz=306,slow=19,SNR=2.7						
JTS	**JuntasAbangare**	**4.96**	**115**	*e*Pn	**Pn**	**00 36 23.9**	**-0.1**
TEIG	**Tepich**	**7.84**	**9**	*eP*	**Pn**	**00 37 05.7**	**+2.2**
	1.8nm,0.7s						
PAYG	**Puerto Ayora**	**13.04**	**183**	Pn	**Pn**	**00 38 17.4**	**+2.7**
OTAV	**Otavalo**	**16.35**	**137**	*e*Pn	**Pn**	**00 38 56.7**	**-1.9**
	5.1nm,1.1s						
ROSC	**El Rosal**	**16.79**	**115**	Pn	**Pn**	**00 39 08.8**	**+4.6**
	baz=264,slow=18,SNR=10.0						
SDV	**Santo Domingo**	**18.90**	**99**	P	**Pn**	**00 39 25.7**	**-4.3**
	0.2nm,0.3s,baz=354,slow=9.2,SNR=1.9						
SDV	**Santo Domingo**	**18.90**	**99**	*eP*	**Pn**	**00 39 27.0**	**-3.0**
	3.5nm,0.7s						
NATX	**Nacogdoches**	**19.81**	**347**	*eP*	**Pn**	**00 39 39.8**	**-1.2**
	22nm,0.7s						
JCT	**Junction City**	**20.32**	**334**	*eP*	**P**	**00 39 45.8**	**+1.1**
	15nm,0.7s						
LRAL	**Lakeview Retre**	**20.64**	**6**	*eP*	**P**	**00 39 49.4**	**+1.2**
	15nm,0.9s						
LTX	**Lajitas**	**21.35**	**324**	*eP*	**P**	**00 39 58.6**	**+2.7**
	11nm,0.8s,mb4.2						
OXF	**Oxford**	**21.98**	**0**	*eP*	**P**	**00 40 02.9**	**+0.3**
	87nm,0.9s,mb5.2						
MIAR	**Mount Ida**	**22.32**	**351**	*eP*	**P**	**00 40 07.1**	**+0.9**
	18nm,0.8s,mb4.5						
MIAR				*ep*P		00 40 15.8	
MIAR				*es*P	sP	00 40 19.1	-1.7
COW	**Cow Castle Cre**	**22.36**	**20**	P	**P**	**00 40 05.2**	**-1.4**
UALR	**University of**	**22.39**	**354**	*eP*	**P**	**00 40 06.5**	**-0.4**
	22nm,0.9s,mb4.6						
JSC	**Jenkinsville**	**23.02**	**18**	*eP*	**P**	**00 40 11.2**	**-2.3**
GNAR	**Gosnell**	**23.44**	**359**	*eP*	**P**	**00 40 18.0**	**+0.1**
	195nm,1.1s,mb5.5						
WVT	**Waverly**	**23.65**	**3**	*eP*	**P**	**00 40 19.4**	**-0.3**
	4.5nm,0.8s,mb4.0						
WMOK	**Wichita Mounta**	**23.75**	**341**	*eP*	**P**	**00 40 19.6**	**-1.1**
	9.9nm,0.8s,mb4.3						
MNTX	**Cornudas Mount**	**24.10**	**325**	*eP*	**P**	**00 40 24.6**	**+0.6**
	6.6nm,1.1s,mb4.0						
PARMO	**Parma**	**24.13**	**360**	*eP*	**P**	**00 40 24.9**	**+0.6**
PARMO				*ep*P		00 40 34.5	
CCM	**Cathedral Cave**	**25.57**	**357**	*eP*	**P**	**00 40 36.5**	**-0.8**
	19nm,0.9s,mb4.6						
CCM				*ep*P	pP	00 40 46.1	-1.8
CCM				*es*P	sP	00 40 50.6	-1.8
WCI	**Wyandotte Cave**	**25.85**	**6**	*eP*	**P**	**00 40 38.8**	**-1.1**
	14nm,0.8s,mb4.6						
WCI				pP	pP	00 40 49.5	-0.9
KSU1	**Kansas State U**	**27.30**	**348**	*eP*	**P**	**00 40 52.2**	**-0.7**
NNA	**Nana**	**27.33**	**152**	P	**P**	**00 40 55.5**	**+2.3**
	75nm,1.9s,mb4.9						
NEN	**Nelson**	**32.51**	**320**	*eP*	**P**	**00 41 41.8**	**+2.7**
SADO	**Sadowa**	**33.43**	**13**	P	**P**	**00 41 44.1**	**-3.0**
	4.0nm,0.6s,mb4.6,baz=200,slow=10,SNR=4.1						
SAML	**Samuel**	**33.71**	**128**	*eP*	**P**	**00 41 48.9**	**-0.7**
	5.2nm,0.9s,mb4.5						
SAML				*ep*P	pP	00 42 00.0	-0.2
PDAR	**Pinedale Array**	**34.86**	**334**	P	**P**	**00 41 59.1**	**-0.3**
	0.4nm,0.8s,mb3.4,baz=123,slow=11,SNR=3.5						
PDAR				PcP	PcP	00 44 33.5	+1.6
	0.4nm,0.8s,baz=132,slow=2.2,SNR=3.5						
LPAZ	**La Paz**	**35.52**	**143**	P	**P**	**00 42 06.0**	**+0.8**
	1.4nm,1.0s,mb3.9,baz=336,slow=9.0,SNR=5.8						
LPAZ	**La Paz**	**35.52**	**143**	P	**P**	**00 42 06.0**	**+0.8**
NVAR	**Mina Array Bea**	**36.40**	**320**	P	**P**	**00 42 16.6**	**+3.9**
	1.9nm,0.8s,mb4.1,baz=139,slow=6.6,SNR=12						
NVAR				PcP	PcP	00 44 38.7	+2.3
	1.6nm,0.8s,baz=149,slow=3.9,SNR=5.9						
MCMT	**McKenzie Canyo**	**37.95**	**333**	*eP*	**P**	**00 42 27.4**	**+1.6**
DGMT	**Dagmar**	**37.95**	**344**	*eP*	**P**	**00 42 26.3**	**+0.5**
	13nm,0.8s,mb4.7						
DGMT				*ep*P	pP	00 42 38.1	+1.5
DGMT				sP	sP	00 42 44.1	+2.9
BOZ	**Bozeman (W)**	**38.06**	**335**	*eP*	**P**	**00 42 25.6**	**-1.2**
	15nm,0.9s,mb4.7						
BOZ				*ep*P	pP	00 42 32.9	-4.7
ULM	**Lac du Bonnet**	**38.07**	**353**	P	**P**	**00 42 24.4**	**-2.4**
	3.5nm,0.8s,mb4.2,baz=168,slow=9.4,SNR=9.0						
ULM				PcP	PcP	00 44 42.0	+0.5
	1.7nm,0.7s,baz=81,slow=4.4,SNR=4.1						
ULM	**Lac du Bonnet**	**38.07**	**353**	P	**P**	**00 42 24.4**	**-2.4**
ULM				PcP	PcP	00 44 42.0	+0.5
SIV	**San Ignacio**	**39.87**	**134**	P	**P**	**00 42 41.9**	**0.0**
	4.7nm,0.9s,mb4.2,baz=312,slow=11,SNR=19						
BDFB	**Brasilia**	**49.65**	**123**	LR	LR	01 07 35.0	
	comp=Z,67nm,20.4s,MS3.6,baz=268,slow=39						
YKA	**Yellowknife Ar**	**53.11**	**346**	P	**P**	**00 44 24.7**	**-1.0**

3.3nm,0.8s,mb4.3,baz=144,slow=7.6,SNR=59
YKA PcP PcP 00 45 34.5 +0.9
0.8nm,0.9s,baz=139,slow=3.4,SNR=4.7
YKA LR LR 01 09 37.8
comp=Z,69nm,18.9s,MS3.7,baz=105,slow=39
YKA Yellowknife Ar 53.11 346 P **P 00 44 24.7 -1.0**
YKA PcP PcP 00 45 34.5 +0.9
YKA LR LR 01 09 37.8
YKW3 Yellowknife Ar 53.17 346 *eP* **P 00 44 25.1 -1.1**
PLCA Paso Flores 55.74 163 P **P 00 44 45.3 +0.5**
1.3nm,0.8s,mb4.0,baz=341,slow=10.0,SNR=3.7
ILAR Eielson Array 65.23 337 P **P 00 45 49.1 -0.4**
1.3nm,1.0s,mb3.9,baz=112,slow=4.4,SNR=13
ARCES ARCESS Array B 86.86 19 LR LR 01 26 16.3
comp=Z,42nm,19.6s,MS3.9,baz=16,slow=36
LSZ Lusaka 119.63 101 PKPdf PKPdf 00 54 01.3 +3.6
MKAR Makanchi Array 120.59 7 PKP PKPdf 00 54 00.1 +0.5
0.3nm,0.7s,baz=69,slow=4.0,SNR=3.9
ASAR Alice Springs 137.38 249 PKP PKPdf 00 54 34.4 +3.0
0.8nm,1.0s,baz=93,slow=2.0,SNR=5.4
HYB Hyderabad 148.09 22 *i* PKP PKPdf 00 54 54.5 +4.2
HYB Hyderabad 148.09 22 *eP* PKPdf 00 54 54.5 +4.2

NEIC ***05*** *00:56:34.8±1.2,3756N×7113E,h10km,mb4.1/1,Error ellipse: s-maj=26.1km s-min=10.7km az=57.0*
ISCJB ***05*** *00:56:45.0±1.4,3768N±007×717E±0.1,h135km±18km, mb3.6/2,Error ellipse: s-maj=18.8km s-min=8.6km az=124.2*
IDC ***05*** *00:56:48.6±33.0,3835N×7130E,h83km±130km,mb3.4/2, mb1 3.4/4,mb1mx3.0/22,mbtmp3.6/4,ML3.2/2,MS3.2/1, Ms1 3.2/1,ms1mx2.6/16,Error ellipse: s-maj=643.2km s-min=95.1km az=162.0*
NNC ***05*** *00:56:50.4±7.2,3819N×7173E,h258km±87km,mb2.4, mpv3.7,Error ellipse: s-maj=80.4km s-min=40.1km az=14.0*
ISC 05 00:56:45.6±1.4,3765N±008×717E±01,h128km±17km,n22, σ0°67/26,mb3.8/2,4C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.75**	**19**	P	**Pn**	**00 57 55.4**	**+0.2**
	SNR=26						
UCH	**Uchtor**	**5.08**	**25**	P	**Pn**	**00 57 59.8**	**+0.2**
	SNR=7.2						
EKS2	**Erkin-Say**	**5.27**	**17**	P	**Pn**	**00 58 03.2**	**+1.0**
	SNR=12						
AAK	**Ala-Archa**	**5.43**	**23**	P	**Pn**	**00 58 05.2**	**+0.7**
	SNR=15						
AAK	**Ala-Archa**	**5.43**	**23**	*eP*	**Pn**	**00 58 04.0**	**-0.5**
	11nm,0.4s						
AAK				*e*Sn	**Sn**	**00 59 06.0**	**+0.1**
KK31	**Karatay Array**	**5.52**	**351**	⇑P	**Pn**	**00 58 05.8**	**+0.1**
	5.1nm,0.3s,baz=180,slow=13,SNR=104						
KK31				⇑S	**Sn**	**00 59 07.9**	**-0.1**
	4.5nm,0.4s,baz=167,slow=21,SNR=7.3						
CHMS	**Chumysh**	**5.84**	**23**	P	**Pn**	**00 58 10.5**	**+0.5**
	SNR=5.5						
USP	**Ospenovka**	**6.02**	**20**	P	**Pn**	**00 58 12.3**	**0.0**
	SNR=8.5						
TKM2	**Tokmak 2**	**6.07**	**29**	P	**Pn**	**00 58 13.5**	**+0.5**
	SNR=6.7						
TKM2	**Tokmak 2**	**6.07**	**29**	⇓P	**Pn**	**00 58 13.1**	**+0.1**
	3.5nm,0.6s						
TKM2				⇑S	**Sn**	**00 59 20.5**	**-0.7**
	7.4nm,1.2s						
THN	**Thein Dam**	**6.17**	**146**	*eP*	**Pn**	**00 58 08.1**	**-6.4**
THN				*e*S	**Sn**	**00 59 09.4**	**-14**
MKAR	**Makanchi Array**	**12.06**	**37**	P	**Pn**	**00 59 32.4**	**-0.9**
	0.1nm,0.3s,baz=228,slow=14,SNR=6.1						
AB31	**Akbulak array**	**14.37**	**328**	P	**Pn**	**01 00 00.9**	**-2.1**
	0.6nm,0.5s,baz=143,slow=11,SNR=24						
AB31				⇑S	**Sn**	**01 02 28.6**	**-13**
	0.9nm,0.5s,baz=141,slow=22,SNR=9.3						
GKN	**Gorkha**	**14.53**	**128**	*eP*	**Pn**	**01 00 05.6**	**+0.5**
DMN	**Daman**	**15.10**	**128**	*eP*	**Pn**	**01 00 12.5**	**+0.2**
PKI	**Pulchoki**	**15.32**	**127**	*eP*	**Pn**	**01 00 14.8**	**-0.2**
GUN	**Gumba**	**15.39**	**125**	*eP*	**Pn**	**01 00 14.9**	**-0.9**
	19nm,0.8s						
ZAL	**Zalesovo**	**18.64**	**25**	P	**P**	**01 00 53.6**	**+0.2**
	0.4nm,0.3s,baz=300,slow=8.7,SNR=3.1						
FINES	**FINESS Array B**	**36.84**	**325**	P	**P**	**01 03 41.8**	**+0.5**
	0.5nm,0.7s,mb3.5,baz=126,slow=9.8,SNR=3.4						
ARCES	**ARCESS Array B**	**40.29**	**337**	P	**P**	**01 04 11.0**	**+0.8**
	2.7nm,0.9s,mb4.1,baz=126,slow=9.2,SNR=3.6						
ARCES	**ARCESS Array B**	**40.29**	**337**	P	**P**	**01 04 11.0**	**+0.8**
GERES	**GERESS Array B**	**42.71**	**304**	LR	LR	01 24 08.1	
	comp=Z,33nm,21.9s,baz=48,slow=39						

ISCJB ***05*** *01:20:02.9±0.4,3658N±003×2763E±005,h97km±4km, Error ellipse: s-maj=6.9km s-min=5.1km az=34.6*
CSEM ***05*** *01:20:02.7±0.1,3656N×2769E,h80km,MD3.2,Error ellipse: s-maj=4.1km s-min=2.1km az=83.0*
ISK ***05*** *01:20:04.4,3668N×2764E,h87km,MD3.2*
ATH ***05*** *01:20:04.8,3670N×2743E,h40km±8km,MD3.3/4*
HLW ***05*** *01:20:04.9,3641N×2764E,h21km,Mb3.8*
NEIC ***05*** *01:20:04.0,3669N×2765E,h25km,MD3.2(ISK),After ISK.*
ISC 05 01:20:04.1±0.5,3661N±003×2762E±005,h91km±5km,n50, σ0°69/64,23C-6D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.12**	**343**	*i* PG	**Pn**	**01 20 17.3**	**+0.4**
DAT				*i* SG	**Sn**	**01 20 26.5**	**+0.1**
BDRM	**Kayabasi**	**0.48**	**342**	*i* P	**Pn**	**01 20 19.0**	**+0.3**
BDRM				*i* S	**Sn**	**01 20 28.6**	**-0.9**
BDRM	**Kayabasi**	**0.48**	**342**	*i* P	**Pn**	**01 20 19.0**	**+0.3**
BDRM				*i* S	**Sn**	**01 20 28.6**	**-1.0**
BODT	**Bodrum**	**0.52**	**331**	*i* PG	**Pn**	**01 20 19.5**	**+0.5**
BODT				*i* SG	**Sn**	**01 20 29.1**	**-1.0**
ARG	**Arkhangelos**	**0.56**	**134**	*eP*	**Pn**	**01 20 20.0**	**+0.6**
ARG				*e*S	**Sn**	**01 20 31.0**	**+0.2**
MLSB	**Milas**	**0.69**	**10**	*i* PG	**Pn**	**01 20 20.7**	**+0.1**
MLSB				*i* SG	**Sn**	**01 20 32.7**	**-0.2**
YER	**Yerkesik**	**0.74**	**45**	*i* PG	**Pn**	**01 20 21.8**	**+0.8**
DALT	**Dalyan (Mudla)**	**0.83**	**79**	PG	**Pn**	**01 20 23.0**	**+1.1**
DALT				SG	**Sn**	**01 20 35.3**	**0.0**
AYDN	**Tasoluk**	**1.07**	**11**	*i* P	**Pn**	**01 20 25.2**	**+0.6**
AYDN				*i* S	**Sn**	**01 20 38.7**	**-1.2**
KARP	**Karpathos**	**1.12**	**200**	*eP*	**Pn**	**01 20 26.0**	**+0.8**
KARP				*e*S	**Sn**	**01 20 41.9**	**+0.8**
FETY	**Fethiye**	**1.17**	**88**	PN	**Pn**	**01 20 25.7**	**-0.1**
DENT	**Denizli**	**1.60**	**44**	PN	**Pn**	**01 20 31.0**	**-0.1**
GOLH	**Golhisar**	**1.67**	**67**	*i* P	**Pn**	**01 20 32.7**	**+0.7**
GOLH				*i* S	**Sn**	**01 20 51.5**	**-1.7**
IZM	**Izmir**	**1.81**	**351**	PN	**Pn**	**01 20 34.3**	**+0.5**
ELL	**Elmali**	**1.84**	**85**	PN	**Pn**	**01 20 35.3**	**+1.1**
MANT	**Manisa**	**2.02**	**21**	*i* P	**Pn**	**01 20 37.0**	**+0.5**
MANT				*i* S	**Sn**	**01 21 00.1**	**-1.2**
NPS	**Neapolis**	**2.12**	**231**	*eP*	**Pn**	**01 20 38.2**	**+0.4**
AKS	**Akhisar**	**2.27**	**4**	PN	**Pn**	**01 20 40.1**	**+0.3**
BCK	**Bucak**	**2.52**	**69**	PN	**Pn**	**01 20 44.5**	**+1.4**
VAM	**Vamos**	**3.02**	**248**	*eP*	**Pn**	**01 20 51.0**	**+1.1**
SLUM		**5.48**	**202**	⇑P	**Pn**	**01 21 22.7**	**-0.6**
SLUM				S	**Sn**	**01 22 18.7**	**-6.2**
HMAT	**Matruh**	**5.52**	**185**	⇑P	**Pn**	**01 21 22.7**	**-1.0**
DABA	**Dabaa**	**5.61**	**174**	⇓P	**Pn**	**01 21 24.5**	**-0.5**
HBRG	**Burj al 'Arab**	**6.30**	**162**	⇓P	**Pn**	**01 21 34.1**	**-0.2**
HMYD	**Mayadein**	**7.30**	**158**	⇑P	**Pn**	**01 21 47.9**	**-0.1**
HMYD	**Mayadein**	**7.30**	**158**	P	**Pn**	**01 21 47.8**	**-0.1**
SQR		**7.35**	**155**	⇑P	**Pn**	**01 21 48.0**	**-0.6**
HNAT	**Natroun**	**7.40**	**159**	⇑P	**Pn**	**01 21 49.0**	**-0.3**
FYM	**Al Fayyum**	**7.47**	**156**	⇑P	**Pn**	**01 21 49.9**	**-0.4**
SWA1		**7.50**	**193**	⇑P	**Pn**	**01 21 50.0**	**-0.6**
SWA1				S	**Sn**	**01 23 07.0**	**-7.1**
KOT	**Kottamia**	**7.54**	**151**	⇓P	**Pn**	**01 21 50.4**	**-0.7**
KOT				S	**Sn**	**01 23 08.6**	**-6.4**
AMAG	**Maghara**	**7.55**	**140**	⇓P	**Pn**	**01 21 51.4**	**0.0**
SWA2		**7.57**	**195**	⇑P	**Pn**	**01 21 50.9**	**-0.7**
HHAG	**Hagoal**	**7.62**	**149**	⇑P	**Pn**	**01 21 52.0**	**-0.3**
HSAF	**As Saff**	**7.71**	**154**	⇑P	**Pn**	**01 21 53.3**	**-0.3**
GLL	**Jalalah**	**7.80**	**153**	⇑P	**Pn**	**01 21 53.8**	**-1.0**
SUZ		**8.04**	**146**	⇑P	**Pn**	**01 21 58.5**	**+0.5**
AWBH		**8.34**	**172**	⇓P	**Pn**	**01 22 00.5**	**-1.5**
ZAF		**8.40**	**149**	⇑P	**Pn**	**01 22 02.7**	**-0.2**
ZNM		**8.45**	**147**	⇑P	**Pn**	**01 22 03.5**	**-0.2**
HNKL	**Nakhl**	**8.52**	**140**	⇑P	**Pn**	**01 22 04.5**	**-0.2**
GRB	**Gharib**	**9.39**	**151**	⇑P	**Pn**	**01 22 16.4**	**0.0**
HFRF	**Wahat Farafira**	**9.45**	**176**	⇑P	**Pn**	**01 22 16.5**	**-0.7**
TR2		**9.68**	**146**	⇑P	**Pn**	**01 22 20.6**	**+0.3**
HKAT	**Jabal Katrina**	**9.69**	**145**	⇑P	**Pn**	**01 22 21.1**	**+0.7**
HDHB	**Dhahab**	**9.82**	**141**	⇑P	**Pn**	**01 22 23.1**	**+0.7**
TR1		**10.11**	**146**	⇑P	**Pn**	**01 22 26.8**	**+0.6**
HHRG	**Al Ghardaqah**	**10.63**	**150**	⇑P	**Pn**	**01 22 33.9**	**+0.6**
HDK1	**Dakhla**	**11.14**	**172**	⇓P	**Pn**	**01 22 40.8**	**+0.6**
HSFG		**11.36**	**150**	⇑P	**Pn**	**01 22 43.3**	**+0.1**

IDC ***05*** *01:44:57.3±2.0,579S×131O4E,h0km,mb4.2/3,mb1 4.1/5, mb1mx3.9/14,mbtmp4.1/5,ML4.0/2,MS3.7/2,Ms1 3.7/2, ms1mx2.9/27,Error ellipse: s-maj=94.8km s-min=27.2km az=78.0*
NEIC ***05*** *01:45:01.8±1.1,586S×13098E,h30km,mb4.2/2,Error ellipse: s-maj=45.1km s-min=11.4km az=67.0*
ISCJB ***05*** *01:45:04.5±3.1,6.1S±0.1×1308E±0.3,h85km±32km, mb4.0/5,Error ellipse: s-maj=48.7km s-min=12.1km az=138.5*
ISC 05 01:45:05.0±4.2,61S±02×1309E±03,h68km±45km,n14, σ0°74/16,mb4.0/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**14.18**	**166**	*eP*n	**Pn**	**01 48 21.9**	**-0.4**
	15nm,0.5s						
WRAB				*e*Sn	**Sn**	**01 50 50.8**	**-7.2**
WRA	**Warramunga Arr**	**14.18**	**166**	Pn	**Pn**	**01 48 21.9**	**-0.5**
	0.8nm,0.3s,baz=348,slow=11,SNR=7.5						
WRA				Sn	**Sn**	**01 50 51.6**	**-6.7**
	1.5nm,0.3s,baz=346,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.72**	**171**	P	**Pn**	**01 49 09.5**	**+2.4**
	0.4nm,0.3s,baz=353,slow=14,SNR=18						
ASAR				S	**S**	**01 52 18.9**	**-8.4**
	0.4nm,0.3s,baz=352,slow=27,SNR=7.1						
KKM	**Kota Kinabalu**	**18.94**	**309**	P	**Pn**	**01 49 22.1**	**+0.4**
STKA	**Stephens Creek**	**27.55**	**160**	P	**P**	**01 50 49.8**	**+4.4**
KULM	**Kulim**	**32.20**	**290**	P	**P**	**01 51 25.9**	**-0.5**
AFI	**Afiamalu**	**56.92**	**103**	LR	LR	02 15 17.6	
	comp=Z,101nm,18.3s,baz=71,slow=32						
ULN	**Ulaanbaatar**	**57.67**	**341**	P	**P**	**01 54 47.9**	**-0.4**
	1.5nm,0.8s,mb4.1						
SONM	**Songino Array**	**57.86**	**341**	P	**P**	**01 54 50.0**	**+0.4**
	0.6nm,0.7s,mb3.8,baz=168,slow=7.0,SNR=5.4						
MKAR	**Makanchi Array**	**67.93**	**326**	P	**P**	**01 55 56.7**	**+0.2**
	1.7nm,0.4s,mb4.2,baz=124,slow=7.8,SNR=49						
MKAR				LR	LR	02 26 02.0	
	comp=Z,35nm,19.3s,baz=43,slow=36						
MKAR	**Makanchi Array**	**67.93**	**326**	P	**P**	**01 55 56.7**	**+0.2**
MKAR				LR	LR	02 26 02.0	
AAK	**Ala-Archa**	**70.40**	**319**	*eP*	**P**	**01 56 11.5**	**-0.2**
	1.0nm,0.4s,mb4.0						
MAW	**Mawson**	**76.10**	**201**	P	**P**	**01 56 49.3**	**+4.0**
	234nm,1.5s						
OPO	**Ambohidratompo**	**82.09**	**252**	P	**P**	**01 57 22.3**	**+4.3**
	2.8nm,0.9s,mb4.1,baz=94,slow=7.4,SNR=3.8						

ISCJB ***05*** *01:58:20.9±0.7,2145S±008×3322E±007,h10km,mb4.1/5, MS2.9/1,Error ellipse: s-maj=12.9km s-min=7.5km az=108.6*
IDC ***05*** *01:58:21.8±1.3,2147S×3325E,h0km,mb3.8/2,mb1 4.2/8, mb1mx3.8/27,mbtmp4.1/8,ML3.7/6,MS3.4/6,Ms1 3.4/6, ms1mx3.3/26,Error ellipse: s-maj=28.9km s-min=19.9km az=160.0*
NEIC ***05*** *01:58:23.8±0.7,2140S×3326E,h10km,mb4.4/3,Error ellipse: s-maj=16.8km s-min=11.4km az=146.0*
PRE ***05*** *01:58:24.4±0.5,2243S×3368E,h5km,ML4.4*
ISC 05 01:58:23.8±3.1,2149S±007×3322E±007,h14km±21km, n22,σ1°46/34,mb4.1/5,MS2.9/1,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.09**	**253**	*eP*	Px	01 51 27.1	
MSNA				*e*S	Sx	01 52 06.8	
MSNA				AML	AML	01 52 20.2	
	comp=Z,574nm,0.5s						
SLR	**Silverton**	**6.20**	**226**	*eP*	**Pn**	**01 59 53.8**	**-1.0**
SLR				*e*S	**Sn**	**02 00 58.9**	**-6.5**
SLR				AML	AML	02 01 44.9	
	comp=Z,187nm,0.7s						
LSZ	**Lusaka**	**7.81**	**321**	Pn	**Pn**	**02 00 16.4**	**-0.6**
	comp=Z,5.4nm,0.3s,baz=146,slow=14,SNR=31						
LSZ				Sn	**Sn**	**02 01 40.5**	**-4.6**
	comp=Z,10nm,0.3s,baz=230,slow=23,SNR=13						
LSZ				Lg		02 02 26.1	
	comp=Z,28nm,0.3s,baz=35,slow=19,SNR=14						
LSZ				LR	LR	02 03 39.1	
	comp=Z,149nm,21.7s,baz=139,slow=41						
LSZ	**Lusaka**	**7.81**	**321**	Pn	**Pn**	**02 00 16.4**	**-0.6**
LSZ				Sn	**Sn**	**02 01 40.5**	**-4.6**
LSZ				Lg		02 02 26.1	
LSZ				LR	LR	02 03 39.0	
LBTB	**Lobatse**	**7.84**	**242**	Pn	**Pn**	**02 00 18.9**	**+1.6**
	comp=Z,3.4nm,0.3s,baz=70,slow=14,SNR=42						
LBTB				Sn	**Sn**	**02 01 47.5**	**+1.6**
	comp=Z,6.4nm,0.3s,baz=320,slow=22,SNR=7.5						
LBTB				Lg		02 02 30.6	
	comp=Z,9.2nm,0.3s,baz=336,slow=19,SNR=11						
LBTB				LR	LR	02 03 42.1	
	comp=Z,471nm,20.2s,baz=221,slow=41						
LBTB	**Lobatse**	**7.84**	**242**	*eP*n	**Pn**	**02 00 19.8**	**+2.4**
	comp=Z,45nm,1.0s						
LBTB				Sn	**Sn**	**02 01 47.5**	**+1.6**
LBTB				*e*Sn	**Sn**	**02 01 47.9**	**+1.9**
LBTB				Lg		02 02 30.6	
LBTB				LR	LR	02 03 42.1	
BOSA	**Boshof**	**10.12**	**224**	Pn	**Pn**	**02 00 49.4**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=52,slow=15,SNR=28						
BOSA				Sn	**Sn**	**02 02 39.4**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=354,slow=11,SNR=11						
BOSA				Lg		02 03 41.3	
	comp=Z,4.8nm,0.3s,baz=309,slow=22,SNR=5.6						
BOSA				LR	LR	02 05 05.4	
	comp=Z,364nm,20.7s,baz=2.9,slow=40						
BOSA	**Boshof**	**10.12**	**224**	*eP*n	**Pn**	**02 00 49.6**	**+1.0**
BOSA				Sn	**Sn**	**02 02 39.4**	**-2.5**
BOSA				*e*Sn	**Sn**	**02 02 39.5**	**-2.4**
BOSA				Lg		02 03 41.3	
BOSA				LR	LR	02 05 05.4	
OPO	**Ambohidratompo**	**13.44**	**80**	Pn	**Pn**	**02 01 32.8**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=266,slow=15,SNR=5.7						
OPO				Sn	**Sn**	**02 03 49.6**	**-14**
	comp=Z,0.9nm,0.3s,baz=264,slow=19,SNR=4.7						
TSUM	**Tsumeb**	**14.84**	**276**	Pn	**Pn**	**02 01 52.1**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=87,slow=14,SNR=34						
TSUM				Sn	**Sn**	**02 04 32.7**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=152,slow=17,SNR=3.6						
TSUM				Lg		02 06 15.2	
	comp=Z,1.0nm,0.3s,baz=192,slow=19,SNR=5.8						
TSUM				LR	LR	02 07 42.2	
	comp=Z,353nm,18.2s,baz=145,slow=38						
TSUM	**Tsumeb**	**14.84**	**276**	*eP*n	**Pn**	**02 01 52.4**	**-0.8**
	comp=Z,78nm,1.3s						
TSUM				Sn	**Sn**	**02 04 32.7**	**-4.7**
TSUM				*e*Sn	**Sn**	**02 04 37.2**	**-0.2**
TSUM				Lg		02 06 15.2	
TSUM				LR	LR	02 07 42.2	
SUR	**Sutherland**	**15.48**	**223**	*eP*	**Pn**	**02 02 01.1**	**-0.5**
SUR				*e*S	**Sn**	**02 04 39.1**	**-14**
SUR	**Sutherland**	**15.48**	**223**	Pn	**Pn**	**02 02 03.0**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=51,slow=12,SNR=12						
SUR				Sn	**Sn**	**02 04 47.3**	**-5.6**
	comp=Z,0.8nm,0.3s,baz=133,slow=20,SNR=6.3						
SUR				LR	LR	02 07 45.7	
	comp=Z,139nm,21.6s,baz=129,slow=36						
SUR	**Sutherland**	**15.48**	**223**	Pn	**Pn**	**02 02 03.0**	**+1.4**
SUR				Sn	**Sn**	**02 04 47.3**	**-5.6**
SUR				LR	LR	02 07 45.7	
KMBO	**Kilima Mbogo**	**20.61**	**12**	LR	LR	02 10 14.6	
	comp=Z,49nm,18.1s,MS2.9,baz=118,slow=35						
TORD	**Torodi Ar. Bea**	**46.29**	**315**	P	**P**	**02 06 50.1**	**+1.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=121,slow=6.6,SNR=12						
CSS	**Prodhromos**	**56.14**	**0**	P	**P**	**02 08 04.0**	**+1.2**
	comp=Z,3.2nm,0.3s,mb4.8						
BR131	**Keskin Array S**	**60.89**	**0**	P	**P**	**02 08 34.1**	**-1.8**
	comp=Z,0.2nm,0.3s,mb3.7						
ANTO	**Ankara**	**61.04**	**360**	P	**P**	**02 08 37.4**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**90.74**	**116**	P	**P**	**02 11 27.7**	**+1.4**
	comp=Z,0.5nm,0.8s,mb3.9,baz=243,slow=3.7,SNR=4.2						
MSU	**Marysvale**	**145.82**	**308**	*e*PKPab	PKPab	02 18 05.5	+2.7
NVAR	**Mina Array Bea**	**150.27**	**311**	PKPbc	PKPbc	02 18 14.0	-0.4
	comp=Z,0.1nm,0.3s,baz=134,slow=2.6,SNR=2.7						

PRE ***05*** *02:08:25.2±1.3,2247S×3438E,h5km,ML4.7*
ISCJB ***05*** *02:08:32.4±0.7,2145S±008×3332E±008,h10km,mb4.4/4, MS3.7/1,Error ellipse: s-maj=13.2km s-min=7.9km az=104.1*
IDC ***05*** *02:08:33.8±1.1,2142S×3330E,h0km,mb3.9/4, mb1 4.2/10,mb1mx4.0/27,mbtmp4.2/10,ML3.8/6,MS3.6/5, Ms1 3.6/5,ms1mx3.4/19,Error ellipse: s-maj=25.8km s-min=18.3km az=142.0*
NEIC ***05*** *02:08:34.9±0.6,2144S×3329E,h10km,mb4.6/2,Error ellipse: s-maj=13.6km s-min=9.8km az=139.0*
ISC 05 02:08:35.5±0.7,2154S±006×3302E±007,h10km,n25, σ1°47/30,mb4.4/4,MS3.6/1,1C,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.89**	**253**	*eP*	Px	02 05 23.0	
MSNA				*e*S	Sx	02 06 09.5	
MSNA				AML	AML	02 06 18.5	
	comp=Z,1μm,0.5s						
SLR	**Silverton**	**6.03**	**225**	*e*S	**Sn**	**02 11 11.7**	**-2.0**
SLR				AML	AML	02 15 40.7	
	comp=Z,174nm,0.5s						
LBTB	**Lobatse**	**7.65**	**242**	Pn	**Pn**	**02 10 31.6**	**+4.6**
	comp=Z,3.9nm,0.3s,baz=70,slow=13,SNR=34						
LBTB				Sn	**Sn**	**02 12 01.7**	**+8.0**
	comp=Z,7.9nm,0.3s,baz=311,slow=14,SNR=6.5						
LBTB				Lg		02 12 42.8	
	comp=Z,11nm,0.3s,baz=354,slow=22,SNR=5.7						
LBTB				LR	LR	02 13 53.9	
	comp=Z,593nm,20.2s,baz=89,slow=40						
LBTB	**Lobatse**	**7.65**	**242**	*eP*n	**Pn**	**02 10 30.2**	**+3.2**
	comp=Z,0.4nm,1.4s						
LSZ	**Lusaka**	**7.73**	**323**	Pn	**Pn**	**02 10 28.5**	**+0.3**
	comp=Z,4.5nm,0.3s,baz=152,slow=14,SNR=44						
LSZ				Sn	**Sn**	**02 11 51.8**	**-3.9**
	comp=Z,18nm,0.3s,baz=233,slow=22,SNR=11						
LSZ				Lg		02 12 37.6	
	comp=Z,30nm,0.3s,baz=59,slow=20,SNR=22						
LSZ				LR	LR	02 13 49.9	
	comp=Z,169nm,19.9s,baz=120,slow=40						
LSZ	**Lusaka**	**7.73**	**323**	*eP*n	**Pn**	**02 10 28.2**	**+0.1**
	comp=Z,79nm,0.9s						
LSZ				*e*Sn	**Sn**	**02 11 50.6**	**-5.1**
LSZ				*e*Sg		02 12 38.5	
BOSA	**Boshof**	**9.95**	**223**	Pn	**Pn**	**02 11 00.8**	**+2.2**
	comp=Z,2.5nm,0.3s,baz=48,slow=12,SNR=20						
BOSA				Sn	**Sn**	**02 12 50.8**	**+0.5**
	comp=Z,2.6nm,0.3s,baz=343,slow=13,SNR=7.7						
BOSA				Lg		02 13 56.4	
	comp=Z,4.3nm,0.3s,baz=325,slow=18,SNR=4.1						
BOSA				LR	LR	02 15 17.3	
	comp=Z,466nm,19.8s,baz=55,slow=40						
BOSA	**Boshof**	**9.95**	**223**	*eP*n	**Pn**	**02 11 01.5**	**+2.9**
	comp=Z,7.3nm,0.6s						
OPO	**Ambohidratompo**	**13.64**	**80**	Pn	**Pn**	**02 11 42.8**	**-6.2**
	comp=Z,0.4nm,0.3s,baz=264,slow=14,SNR=5.4						
OPO				Sn	**Sn**	**02 14 04.4**	**-16**
	comp=Z,2.2nm,0.3s,baz=161,slow=23,SNR=7.1						
TSUM	**Tsumeb**	**14.66**	**276**	Pn	**Pn**	**02 12 04.4**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=87,slow=13,SNR=14						
TSUM				Sn	**Sn**	**02 14 44.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=200,slow=18,SNR=3.7						
TSUM				Lg		02 16 25.7	
	comp=Z,1.7nm,0.3s,baz=210,slow=19,SNR=5.0						
TSUM				LR	LR	02 17 53.9	
	comp=Z,387nm,18.0s,baz=326,slow=38						
TSUM	**Tsumeb**	**14.66**	**276**	*eP*n	**Pn**	**02 12 03.8**	**+0.9**
	comp=Z,7.8nm,0.8s						
TSUM				*e*Sn	**Sn**	**02 14 44.5**	**-0.9**
SUR	**Sutherland**	**15.32**	**223**	*eP*	**Pn**	**02 12 08.3**	**-3.4**
SUR				*e*S	**Sn**	**02 14 50.9**	**-11**
SUR	**Sutherland**	**15.32**	**223**	Pn	**Pn**	**02 12 15.0**	**+3.3**
	comp=Z,1.8nm,0.3s,baz=58,slow=17,SNR=14						
SUR				Sn	**Sn**	**02 14 58.5**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=353,slow=9.2,SNR=4.8						
SUR				Lg		02 16 43.2	
	comp=Z,1.0nm,0.3s,baz=320,slow=21,SNR=4.6						
SUR	**Sutherland**	**15.32**	**223**	*eP*n	**Pn**	**02 12 15.3**	**+3.6**
SUR				Sn	**Sn**	**02 14 58.6**	**-2.8**
KMBO	**Kilima Mbogo**	**20.70**	**12**	P	**P**	**02 13 13.0**	**-2.9**
	comp=Z,3.4nm,1.1s,baz=194,slow=9.9,SNR=3.7						
KMBO				Lg		02 19 12.2	
	comp=Z,7.8nm,1.0s,baz=91,slow=23,SNR=4.1						
KMBO	**Kilima Mbogo**	**20.70**	**12**	*eP*	**P**	**02 13 14.5**	**-1.3**
	comp=Z,6.0nm,1.3s						
TORD	**Torodi Ar. Bea**	**46.19**	**315**	P	**P**	**

comp=Z,2.5nm,0.7s,mb4.1,baz=300,slow=7.7,SNR=40
ASAR PcP PcP 02 19 29.9 +2.3
comp=Z,1.2nm,0.8s,baz=295,slow=3.6,SNR=5.7
WMQ Urumqi 46.72 348 *e*P **P 02 18 20.6 +2.4**
WMQ AP pP 02 18 34.6 +6.0
WMQ AMB AMB
comp=Z,22nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,125nm,5.2s
CTA Charters Tower 49.08 115 P **P 02 18 37.1 +0.7**
comp=Z,1.9nm,0.6s,mb4.3,baz=268,slow=11,SNR=3.7
CTAO Charters Tower 49.08 115 *e*P **P 02 18 37.0 +0.6**
comp=Z,3.5nm,0.7s,mb4.5
CTAO *e*pP pP 02 18 47.3 +0.5
CTAO Charters Tower 49.08 115 *e*P **P 02 18 37.0 +0.6**
CTAO *e**PP pP 02 18 47.3 +0.4
CTAO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
STKA Stephens Creek 49.59 132 P **P 02 18 40.3 +0.1**
comp=Z,4.4nm,0.7s,mb4.6,baz=315,slow=6.7,SNR=13
STKA Stephens Creek 49.59 132 *e*P **P 02 18 39.9 -0.4**
SONM Songino Array 49.88 6 P **P 02 18 42.4 -0.1**
comp=Z,1.8nm,0.6s,mb4.3,baz=189,slow=9.8,SNR=18
ULN Ulaanbaatar 49.98 7 *e*P **P 02 18 42.3 -1.0**
comp=Z,3.6nm,1.1s,mb4.3
ULN *e*pP pP 02 18 52.8 -1.0
ULN Ulaanbaatar 49.98 7 *e*P **P 02 18 42.3 -1.0**
ULN *e**PP pP 02 18 52.8 -1.0
ULN pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
MKAR Makanchi Array 50.79 345 P **P 02 18 49.9 +0.5**
comp=Z,1.8nm,0.4s,mb4.4,baz=156,slow=7.6,SNR=67
KURK Kurchatov 55.37 344 *e*P **P 02 19 23.1 +0.1**
comp=Z,4.5nm,0.8s,mb4.5
KURK Kurchatov 55.37 344 *e*P **P 02 19 23.2 +0.1**
KURK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ZAL Zalesovo 56.96 350 P **P 02 19 33.0 -1.5**
comp=Z,1.9nm,0.5s,mb4.4,baz=295,slow=7.1,SNR=14
KLR Kul'dur 58.03 24 *e*P **P 02 19 38.0 -4.0**
BVAR Borovoye Array 59.91 340 P **P 02 19 53.3 -1.7**
comp=Z,1.1nm,0.7s,mb4.0,baz=140,slow=14,SNR=4.7
BOD Bodaibo 60.65 9 *e*P **P 02 20 09.2 +9.1**
BOD pmax pmax
comp=Z,3.0nm,2.1s,mb4.0
BRTR Keskin Array B 72.89 313 P **P 02 21 17.9 -0.2**
comp=Z,0.4nm,0.7s,mb3.5,baz=119,slow=6.9,SNR=3.5
FINES FINESS Array B 83.79 332 P **P 02 22 18.4 +0.2**
comp=Z,2.3nm,1.0s,mb4.3,baz=98,slow=3.9,SNR=6.8
ARCES ARCESS Array B 86.20 340 P **P 02 22 30.8 +0.4**
comp=Z,2.7nm,0.9s,mb4.5,baz=102,slow=12,SNR=3.6

IDC 05 02:10:31.5±8.1,1707S×17493W,h0km,mb3.7/2, mb1 3.9/3,mb1mx3.6/15,mbtmp3.7/3,ML1.6/1,Error ellipse: s-maj=416.6km s-min=25.2km az=144.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.37**	**45**	Pn	Pn	02 11 39.5	+0.4
	1.7nm,0.3s,baz=247,slow=15,SNR=2.4						
AFI				Sn	Sn	02 12 29.3	-1.4
	29nm,0.3s,baz=270,slow=20,SNR=11						
WRA	**Warramunga Arr**	**48.05**	**258**	P	P	02 19 12.8	+0.3
	0.3nm,0.3s,baz=97,slow=8.3,SNR=5.3						
ASAR	**Alice Springs**	**48.21**	**253**	P	P	02 19 13.9	+0.1
	0.6nm,0.4s,baz=90,slow=7.4,SNR=6.9						
GERES	**GERESS Array B**	**147.53**	**349**	PKPbc	PKPbc	02 30 17.7	+0.1
	0.2nm,0.4s,baz=20,slow=2.0,SNR=4.6						

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*ISCJB **05** 02:12:18.5±0.7,2141S±009×3344E±008,h10km,mb3.9/5, Error ellipse: s-maj=14.3km s-min=9.7km az=110.5*
*IDC **05** 02:12:19.6±0.9,2138S×3352E,h0km,mb3.9/6, mb1 4.3/12,mb1mx4.1/26,mbtmp4.3/12,ML4.0/6,Error ellipse: s-maj=26.7km s-min=20.0km az=142.0*
*NEIC **05** 02:12:20.9±0.6,2140S×3346E,h10km,mb4.5/1,Error ellipse: s-maj=15.8km s-min=10.2km az=145.0*
ISC 05 02:12:20.9±0.7,2142S±009×3344E±008,h10km,n18, σ1°23/26,mb3.9/5,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.88**	**320**	Pn	Pn	02 14 16.5	+0.9
	7.2nm,0.3s,baz=129,slow=14,SNR=2.9						
LSZ				Sn	Sn	02 15 36.5	-8.4
	19nm,0.3s,baz=233,slow=23,SNR=6.6						
LSZ				Lg		02 16 22.4	
	42nm,0.3s,baz=22,slow=16,SNR=11						
LBTB	**Lobatse**	**8.05**	**242**	Pn	Pn	02 14 17.0	-0.8
	5.6nm,0.3s,baz=69,slow=16,SNR=2.7						
LBTB				Sn	Sn	02 15 43.5	-5.5
	15nm,0.3s,baz=11,slow=11,SNR=5.5						
LBTB				Lg		02 16 26.2	
	32nm,0.3s,baz=169,slow=24,SNR=6.3						
LBTB	**Lobatse**	**8.05**	**242**	Pn	Pn	02 14 17.0	-0.9
LBTB				Sn	Sn	02 15 43.5	-5.5
LBTB				Lg		02 16 26.2	
BOSA	**Boshof**	**10.31**	**224**	Pn	Pn	02 14 49.6	+0.8
	4.0nm,0.3s,baz=116,slow=20,SNR=2.9						
BOSA				Sn	Sn	02 16 36.5	-8.0
	3.3nm,0.3s,baz=343,slow=11,SNR=3.7						
BOSA				Lg		02 17 37.6	
	3.8nm,0.3s,baz=130,slow=20,SNR=2.8						
BOSA	**Boshof**	**10.31**	**224**	Pn	Pn	02 14 49.6	+0.8
BOSA				Sn	Sn	02 16 36.5	-8.0
BOSA				Lg		02 17 37.6	
OPO	**Ambohidratompo**	**13.23**	**80**	Pn	Pn	02 15 28.8	+0.1
	0.6nm,0.3s,baz=258,slow=23,SNR=2.1						
OPO				Sn	Sn	02 17 45.1	-11
	1.0nm,0.3s,baz=305,slow=20,SNR=4.2						
TSUM	**Tsumeb**	**15.04**	**276**	Pn	Pn	02 15 53.2	-0.2
	1.1nm,0.3s,baz=85,slow=20,SNR=3.7						
TSUM				Sn	Sn	02 18 30.5	-9.5
	1.2nm,0.3s,baz=300,slow=19,SNR=2.8						
TSUM				Lg		02 20 09.2	
	2.4nm,0.3s,baz=317,slow=16,SNR=4.4						
TSUM	**Tsumeb**	**15.04**	**276**	Pn	Pn	02 15 53.2	-0.2
TSUM				Sn	Sn	02 18 30.5	-9.5
TSUM				Lg		02 20 09.2	
SUR	**Sutherland**	**15.67**	**223**	Pn	Pn	02 16 01.0	-0.7
	2.6nm,0.3s,baz=57,slow=15,SNR=3.6						
SUR				Sn	Sn	02 18 46.4	-9.1
	2.2nm,0.3s,baz=126,slow=18,SNR=3.3						
SUR				Lg		02 20 31.6	
	0.3nm,0.3s,baz=314,slow=20,SNR=3.1						
SUR	**Sutherland**	**15.67**	**223**	*e*P	Pn	02 16 02.1	+0.4
	19nm,0.6s						
SUR				Sn	Sn	02 18 46.4	-9.1
SUR				Lg		02 20 31.6	
KMBO	**Kilima Mbogo**	**20.51**	**11**	P	P	02 16 57.3	-1.8
	1.6nm,1.0s,baz=196,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**46.38**	**315**	P	P	02 20 47.8	+0.4
	3.7nm,0.9s,mb4.3,baz=126,slow=6.7,SNR=10						
BRTR	**Keskin Array B**	**60.82**	**0**	P	P	02 22 34.5	+1.3
	0.5nm,0.7s,mb3.8,baz=160,slow=9.5,SNR=3.2						
BDFB	**Brasilia**	**76.66**	**258**	P	P	02 24 14.9	+3.0
	3.4nm,0.7s,mb4.4,baz=131,slow=7.2,SNR=6.1						
MKAR	**Makanchi Array**	**80.94**	**32**	P	P	02 24 34.3	-1.2
	0.2nm,0.7s,mb3.2,baz=217,slow=6.3,SNR=3.4						
ASAR	**Alice Springs**	**90.59**	**116**	P	P	02 25 23.9	+0.6
	0.5nm,0.6s,mb4.1,baz=246,slow=3.7,SNR=8.9						
YKA	**Yellowknife Ar**	**133.52**	**340**	PKP	PKPdf	02 31 36.9	-0.6
	0.4nm,0.6s,baz=40,slow=2.1,SNR=9.1						
NVAR	**Mina Array Bea**	**150.38**	**311**	PKPbc	PKPbc	02 32 14.9	+2.4
	0.7nm,0.7s,baz=126,slow=2.3,SNR=4.2						

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*ISCJB **05** 02:23:06.8±3.2,395N±02×752E±03,h100km, Error ellipse: s-maj=36.8km s-min=19.9km az=88.9*
*NNC **05** 02:23:06.0±6.1,3965N×7488E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=65.5km s-min=27.3km az=136.0*
ISC 05 02:23:07.7±3.1,394N±02×753E±03,h100km,n12, σ0°38/13,1C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**2.64**	**360**	P	Pn	02 23 48.1	-0.5
	SNR=22						
UCH	**Uchtor**	**2.85**	**349**	P	Pn	02 23 51.2	-0.1
	SNR=50						
ULHL	**Ulahol**	**2.91**	**14**	P	Pn	02 23 51.6	-0.5
	SNR=52						
AML	**Almayashu**	**2.95**	**337**	P	Pn	02 23 52.5	-0.1
	SNR=25						
KBK	**Karagaybulak**	**3.23**	**356**	P	Pn	02 23 56.8	+0.3
	SNR=36						
AAK	**Ala-Archa**	**3.25**	**350**	P	Pn	02 23 57.2	+0.5
	SNR=50						
EKS2	**Erkin-Say**	**3.42**	**341**	P	Pn	02 23 59.4	+0.4
	SNR=19						
TKM2	**Tokmak 2**	**3.49**	**4**	P	Pn	02 24 00.3	+0.3
	SNR=35						
TKM2	**Tokmak 2**	**3.49**	**4**	⇓Pn	Pn	02 24 00.2	+0.2
	26nm,0.4s						
TKM2				⇑Sn	Sn	02 24 40.3	-0.2
	17nm,0.5s						
CHMS	**Chumysh**	**3.58**	**354**	P	Pn	02 24 01.4	+0.2
	SNR=18						
USP	**Ospenovka**	**3.87**	**352**	P	Pn	02 24 05.5	+0.4
	SNR=7.1						
KK31	**Karatay Array**	**5.12**	**317**	⇓Pn	Pn	02 24 21.5	-0.6
	0.3nm,0.4s,baz=127,slow=13,SNR=18						
KK31				⇓Lg		02 25 39.4	
	2.9nm,0.6s,baz=133,slow=30,SNR=3.9						

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*ISCJB **05** 02:34:42.1±1.1,524N±02×322W±02,h10km,mb3.5/9, Error ellipse: s-maj=28.7km s-min=15.8km az=13.2*
*IDC **05** 02:34:42.4±1.2,5242N×3225W,h0km,mb3.5/9, mb1 3.7/10,mb1mx3.6/24,mbtmp3.6/10,ML3.8/1,Error ellipse: s-maj=34.6km s-min=21.4km az=12.0*
ISC 05 02:34:43.8±1.1,525N±02×322W±02,h10km,n11,σ0°42/10, mb3.5/9,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.32**	**69**	P	Pn	02 38 45.1	-0.5
	0.2nm,0.3s,baz=272,slow=9.1,SNR=5.7						
NOA	**NORSAR Array B**	**24.89**	**53**	P	P	02 40 06.9	+0.2
	1.1nm,0.8s,mb3.4,baz=273,slow=9.8,SNR=2.4						
GERES	**GERESS Array B**	**28.96**	**79**	P	P	02 40 42.7	-0.6
	0.6nm,0.8s,mb3.4,baz=294,slow=9.6,SNR=3.6						
FINES	**FINESS Array B**	**32.00**	**51**	P	P	02 41 10.7	+0.6
	0.9nm,0.8s,mb3.7,baz=256,slow=5.6,SNR=7.2						
YKA	**Yellowknife Ar**	**42.42**	**317**	P	P	02 42 38.4	-0.2
	0.1nm,0.3s,mb2.9,baz=61,slow=8.7,SNR=4.6						
BRTR	**Keskin Array B**	**45.86**	**79**	P	P	02 43 06.9	+0.7
	1.1nm,0.9s,mb3.8,baz=304,slow=6.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**47.67**	**133**	P	P	02 43 20.4	0.0
	0.5nm,0.7s,mb3.7,baz=337,slow=7.3,SNR=8.2						
PDAR	**Pinedale Array**	**50.66**	**292**	P	P	02 43 43.1	-0.1
	0.5nm,0.8s,mb3.5,baz=79,slow=9.2,SNR=3.5						
MKAR	**Makanchi Array**	**66.41**	**43**	P	P	02 45 32.7	-0.4
	0.3nm,0.7s,mb3.4,baz=332,slow=6.0,SNR=7.2						
SONM	**Songino Array**	**74.03**	**28**	P	P	02 46 20.0	+0.2
	0.4nm,0.9s,mb3.4,baz=344,slow=4.7,SNR=3.8						
ASAR	**Alice Springs**	**149.36**	**26**	PKPbc	PKPbc	02 54 32.4	-0.5
	0.4nm,0.8s,baz=344,slow=3.1,SNR=3.8						

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*SZGRF **05** 02:40:25.7,5238N×3385W,h33km,mb4.9,MS4.0, Reykjanes Ridge*
*BJI **05** 02:40:28.7,5246N×3292W,h11km,mB5.1,mb4.8,Ms4.6, Msz4.3*
*CSEM **05** 02:40:30.6±0.1,5258N×3220W,h6km,mb4.7/65,Ms3.6, Error ellipse: s-maj=3.6km s-min=1.1km az=9.0*
*ISCJB **05** 02:40:31.8±0.2,5255N±005×32.16W±004,h10km, mb4.6/127,MS4.0/37,Error ellipse: s-maj=7.7km s-min=3.1km az=15.0*
*MOS **05** 02:40:31.7±0.8,5256N×3214W,h10km,mb4.8/56,Error ellipse: s-maj=8.0km s-min=5.1km az=150.8*
*IDC **05** 02:40:32.0±0.6,5257N×3207W,h0km,mb4.3/23, mb1 4.5/25,mb1mx4.4/31,mbtmp4.4/25,ML4.3/2,MS4.0/25, Ms1 4.0/25,ms1mx3.9/31,Error ellipse: s-maj=17.6km s-min=10.3km az=6.0*
*NEIC **05** 02:40:33.4±0.2,5250N×3215W,h10km,mb4.7/76,Error ellipse: s-maj=5.9km s-min=2.3km az=187.0*
ISC 05 02:40:33.4±0.2,5258N±005×3212W±004,h10km, (h16km±3.0km:pP-P),n360,σ0°81/350,mb4.6/127, MS4.0/37,26C-4D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.40**	**20**	Pn	Pn	02 43 46.8	+3.2
	0.9nm,0.3s,baz=213,slow=1.1,SNR=3.7						
BORG				LR	LR	02 47 00.7	
	comp=Z,335nm,18.8s,baz=221,slow=29						
VAL	**Valentia**	**13.41**	**84**	⇑*i*S	Sn	02 46 02.0	-11
VAL	**Valentia**	**13.41**	**84**	⇑*e*P	Pn	02 43 37.9	-5.8
VAL				*i* S	Sn	02 46 02.0	-11
SFJD	**Kangerlussuaq**	**17.08**	**335**	P	Pn	02 44 33.8	+1.6
	0.7nm,0.3s,baz=132,slow=11,SNR=7.3						
SFJD				LR	LR	02 49 60.0	
	comp=Z,705nm,18.3s,baz=121,slow=33						
SFJD	**Kangerlussuaq**	**17.08**	**335**	⇓*i*P	Pn	02 44 33.8	+1.6
	22nm,1.0s						
SFJD							
	comp=Z,550nm,18.0s						
ESK	**Eskdalemuir**	**17.18**	**69**	*e*P	Pn	02 44 35.0	+1.5
	comp=Z,55nm,1.1s						
ESK	**Eskdalemuir**	**17.18**	**69**	*e*P	Pn	02 44 35.0	+1.5
	comp=Z,55nm,1.1s						
ESK	**Eskdalemuir**	**17.18**	**69**	*e*P	Pn	02 44 35.0	+1.5
ESK				pmax	pmax		
	comp=Z,55nm,1.1s						
EKA	**Eskdalemuir Ar**	**17.21**	**69**	P	Pn	02 44 33.1	-0.7
	comp=Z,0.8nm,0.3s,baz=275,slow=9.8,SNR=31						
ROSF	**Rostrenen**	**18.79**	**92**	*e*P	Pn	02 44 53.7	+0.4
	comp=Z,96nm,1.3s						
ROSF	**Rostrenen**	**18.79**	**92**	*e*P	Pn	02 44 53.7	+0.4
	comp=Z,48nm,1.3s						
ROSF	**Rostrenen**	**18.79**	**92**	*e*P	Pn	02 44 53.7	+0.4
ROSF				pmax	pmax		
	comp=Z,48nm,1.3s						
QUIF	**Quistinic**	**19.02**	**93**	*e*P	Pn	02 44 56.4	+0.2
	comp=Z,82nm,1.2s						
QUIF	**Quistinic**	**19.02**	**93**	*e*P	Pn	02 44 56.4	+0.2
	comp=Z,41nm,1.2s						
QUIF	**Quistinic**	**19.02**	**93**	*e*P	Pn	02 44 56.4	+0.2
QUIF				pmax	pmax		
	comp=Z,41nm,1.2s						
GRR	**Gorron**	**20.24**	**89**	*e*P	P	02 45 08.6	-0.1
	comp=Z,43nm,0.9s						
GRR	**Gorron**	**20.24**	**89**	*e*P	P	02 45 08.6	-0.1
	comp=Z,21nm,0.9s						
GRR	**Gorron**	**20.24**	**89**	*e*P	P	02 45 08.6	-0.1
GRR				pmax	pmax		
	comp=Z,21nm,0.9s						
SUMG	**Summit**	**20.26**	**354**	*e*P	P	02 45 09.8	+0.9
	comp=Z,31nm,1.1s						
SUMG	**Summit**	**20.26**	**354**	*e*P	P	02 45 09.8	+0.8
	comp=Z,31nm,1.1s						
FLN	**La Foliniere**	**20.32**	**88**	*e*P	P	02 45 10.5	+0.9
	comp=Z,84nm,0.9s						
FLN				*e*R			
	comp=Z,369nm,19.5s						
FLN	**La Foliniere**	**20.32**	**88**	*e*P	P	02 45 10.5	+0.9
	comp=Z,42nm,0.9s						
FLN				LR	LR		
	comp=Z,370nm,19.5s,MS3.8						
FLN	**La Foliniere**	**20.32**	**88**	*e*P	P	02 45 10.5	+0.9
FLN				pmax	pmax		
	comp=Z,42nm,0.9s						
FLN				MLR	MLR		
	comp=Z,370nm,19.5s,MS3.8						
LDF	**La Druitiere**	**20.61**	**88**	*e*P	P	02 45 12.6	-0.1
	comp=Z,63nm,0.9s						
LDF	**La Druitiere**	**20.61**	**88**	*e*P	P	02 45 12.6	-0.1
	comp=Z,32nm,0.9s						
LDF	**La Druitiere**	**20.61**	**88**	*e*P	P	02 45 12.6	-0.1
LDF				pmax	pmax		
	comp=Z,32nm,0.9s						
MENF	**Mencas**	**21.29**	**82**	*e*P	P	02 45 22.3	+2.3
MFF	**Saint Martin d**	**21.45**	**93**	*e*P	P	02 45 20.9	-0.9
	comp=Z,33nm,1.0s,mb4.3						
MFF	**Saint Martin d**	**21.45**	**93**	*e*P	P	02 45 20.9	-0.9
	comp=Z,16nm,1.0s,mb4.3						
MFF	**Saint Martin d**	**21.45**	**93**	*e*P	P	02 45 20.9	-0.9
MFF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.3						
UCC	**Uccle**	**22.54**	**80**	P	P	02 45 33.4	0.0
SNF	**Seneffe**	**22.59**	**81**	P	P	02 45 32.5	-1.4
	comp=Z,17nm,1.0s,mb4.4						
SNF				AP		02 45 43.9	
HYF	**Humbligny**	**22.85**	**89**	*e*P	P	02 45 36.2	-0.5
DOU	**Dourbes**	**22.91**	**81**	P	P	02 45 36.8	-0.6
	comp=Z,13nm,1.0s,mb4.3						
TCF	**Toulx Ste Croi**	**23.04**	**92**	*e*P	P	02 45 38.1	-0.6
	comp=Z,83nm,1.3s,mb4.7						
TCF	**Toulx Ste Croi**	**23.04**	**92**	*e*P	P	02 45 38.1	-0.6
	comp=Z,42nm,1.3s,mb4.7						
TCF	**Toulx Ste Croi**	**23.04**	**92**	*e*P	P	02 45 38.1	-0.6
TCF				pmax	pmax		
	comp=Z,42nm,1.3s,mb4.7						
GIVF	**Givet**	**23.05**	**81**	*e*P	P	02 45 37.9	-0.9
	comp=Z,34nm,0.9s,mb4.5						
GIVF	**Givet**	**23.05**	**81**	*e*P	P	02 45 37.9	-0.9
	comp=Z,17nm,0.9s,mb4.5						
GIVF	**Givet**	**23.05**	**81**	*e*P	P	02 45 37.9	-0.9
GIVF				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.5						
ESDC	**Sonseca Array**	**23.22**	**113**	P	P	02 45 39.7	-0.9
	comp=Z,2.3nm,0.9s,mb3.6,baz=316,slow=9.4,SNR=5.0						
BGF	**Bois d'Agland**	**23.30**	**91**	*e*P	P	02 45 40.8	-0.7
	comp=Z,98nm,1.2s,mb4.8						
BGF	**Bois d'Agland**	**23.30**	**91**	*e*P	P	02 45 40.8	-0.7
	comp=Z,49nm,1.2s,mb4.8						
BGF	**Bois d'Agland**	**23.30**	**91**	*e*P	P	02 45 40.8	-0.7
BGF				pmax	pmax		
	comp=Z,49nm,1.2s,mb4.8						
SSF	**Saint Saulge**	**23.47**	**89**	*e*P	P	02 45 42.7	-0.6
	comp=Z,109nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**23.47**	**89**	*e*P	P	02 45 42.7	-0.6
	comp=Z,54nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**23.47**	**89**	*e*P	P	02 45 42.7	-0.6
SSF				pmax	pmax		
	comp=Z,55nm,1.4s,mb4.8						
AVF	**Avril sur Loir**	**23.50**	**90**	*e*P	P	02 45 42.8	-0.8
	comp=Z,158nm,1.5s,mb4.9						
AVF	**Avril sur Loir**	**23.50**	**90**	*e*P	P	02 45 42.8	-0.8
	comp=Z,79nm,1.5s,mb4.9						
AVF	**Avril sur Loir**	**23.50**	**90**	*e*P	P	02 45 42.8	-0.8
AVF				pmax	pmax		
	comp=Z,79nm,1.5s,mb4.9						
MEM	**Membach**	**23.59**	**79**	P	P	02 45 43.4	-1.1
	comp=Z,7.2nm,0.8s,mb4.2						
LOR	**Lormes**	**23.59**	**89**	*e*P	P	02 45 43.6	-0.9
	comp=Z,74nm,1.1s,mb4.7						
LOR				*e*R			
	comp=Z,527nm,21.0s						
LOR	**Lormes**	**23.59**	**89**	*e*P	P	02 45 43.6	-0.9
	comp=Z,37nm,1.1s,mb4.7						
LOR				LR	LR		
	comp=Z,530nm,21.0s,MS4.0						
LOR	**Lormes**	**23.59**	**89**	*e*P	P	02 45 43.6	-0.9
LOR				pmax	pmax		
	comp=Z,37nm,1.1s,mb4.7						
LOR				MLR	MLR		
	comp=Z,530nm,21.0s,MS4.0						
CAF	**Calviac**	**23.63**	**95**	*e*P	P	02 45 43.4	-1.4
	comp=Z,87nm,1.6s,mb4.6						
CAF	**Calviac**	**23.63**	**95**	*e*P	P	02 45 43.4	-1.4
	comp=Z,43nm,1.6s,mb4.6						
CAF	**Calviac**	**23.63**	**95**	*e*P	P	02 45 43.4	-1.4
CAF				pmax	pmax		
	comp=Z,43nm,1.6s,mb4.6						
MEZF	**Maizieres J'vi**	**23.79**	**85**	*e*P	P	02 45 45.4	-0.9
	comp=Z,119nm,0.8s,mb5.1						
MEZF	**Maizieres J'vi**	**23.79**	**85**	*e*P	P	02 45 45.4	-0.9
	comp=Z,60nm,0.8s,mb5.1						
SMF	**Signal de Mont**	**23.86**	**90**	*e*P	P	02 45 46.0	-1.0
	comp=Z,29nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**23.86**	**90**	*e*P	P	02 45 46.0	-1.0
	comp=Z,15nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**23.86**	**90**	*e*P	P	02 45 46.0	-1.0
SMF				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.5						
KONO	**Kongsberg**	**23.97**	**56**	*e*P	P	02 45 47.6	-0.3
	comp=Z,16nm,0.9s,mb4.5						
KONO	**Kongsberg**	**23.97**	**56**	*e*P	P	02 45 47.6	-0.3
	comp=Z,16nm,0.9s,mb4.5						
KONO	**Kongsberg**	**23.97**	**56**	*d i*P	P	02 45 48.8	+0.9
WLF	**Walferdange**	**24.01**	**82**	*e*P	P	02 45 47.9	-0.4
	comp=Z,26nm,1.1s,mb4.6						
WLF	**Walferdange**	**24.01**	**82**	P	P	02 45 48.3	0.0
	comp=Z,9.6nm,1.1s,mb4.1						
WLF	**Walferdange**	**24.01**	**82**	*e*P	P	02 45 47.7	-0.6
	comp=Z,23nm,1.0s,mb4.6						
WLF	**Walferdange**	**24.01**	**82**	*e*P	P	02 45 47.7	-0.6
	comp=Z,23nm,1.0s,mb4.6						
WLF	**Walferdange**	**24.01**	**82**	*e*P	P	02 45 47.7	-0.6
WLF				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.6						
MUD	**Monsted U'grnd**	**24.01**	**64**	⇑*i*P	P	02 45 48.3	0.0
	comp=Z,38nm,1.0s,mb4.8						
MUD				*e*S	S	02 50 09.2	+3.9
MUD				*i*		02 50 12.5	
MUD							
	comp=Z,420nm,19.0s						
MUD	**Monsted U'grnd**	**24.01**	**64**	⇑*i*P	P	02 45 48.3	0.0
	comp=Z,38nm,1.0s,mb4.8						
MUD				*e*S	S	02 50 09.2	+3.9
MUD				*i*		02 50 12.5	
PLDF	**La Plantade**	**24.05**	**92**	*e*P	P	02 45 48.4	-0.3
BUG	**Bochum-Univer**	**24.07**	**77**	*e*P	P	02 45 49.1	+0.2
	comp=Z,29nm,0.9s,mb4.7						
IBBN	**Ibbenburen**	**24.10**	**75**	*e*P	P	02 45 49.2	+0.1
	comp=Z,69nm,0.9s,mb5.1						
THEF	**They Montfort**	**24.48**	**85**	*e*P	P	02 45 53.2	+0.7
RUP	**Ruppelstein**	**24.54**	**81**	*e*P	P	02 45 53.9	+0.7
NAO01	**NORSAR Array S**	**24.60**	**53**	*e*P	P	02 45 53.3	-0.4
	comp=Z,15nm,1.0s,mb4.5						
NAO01	**NORSAR Array S**	**24.60**	**53**	*e*P	P	02 45 53.3	-0.3
	comp=Z,15nm,1.0s,mb4.5						
NB2	**NORSAR Subarra**	**24.76**	**53**	P	P	02 45 54.2	-0.9
	comp=Z,26nm,1.0s,mb4.7,baz=273,slow=10						
NB2	**NORSAR Subarra**	**24.76**	**53**	P	P	02 45 54.2	-0.9
NB2				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.7						
NOA	**NORSAR Array B**	**24.76**	**53**	P	P	02 45 54.7	-0.4
	comp=Z,13nm,0.9s,mb4.5,baz=272,slow=9.6,SNR=14						
NOA				LR	LR	02 54 47.8	
	comp=Z,229nm,18.3s,MS3.7,baz=285,slow=35						
ABH	**Alteburg**	**24.77**	**80**	*e*P	P	02 45 55.3	+0.1
HAU	**Haudompre**	**24.79**	**85**	*e*P	P	02 45 54.7	-0.7
	comp=Z,62nm,0.8s,mb4.9

comp=Z,57nm,2.1s,mb4.7
ORIF Oris-en-Rattie 25.95 92 *e*P **P 02 46 06.0 0.0**
comp=Z,44nm,1.2s,mb4.6
ORIF *e*R
comp=Z,330nm,23.0s
ORIF Oris-en-Rattie 25.95 92 *e*P **P 02 46 06.0 0.0**
comp=Z,22nm,1.2s,mb4.6
ORIF Oris-en-Rattie 25.95 92 *e*P **P 02 46 06.0 0.0**
ORIF pmax pmax
comp=Z,22nm,1.2s,mb4.6
HFS Hagfors 26.01 55 P **P 02 46 06.5 0.0**
comp=Z,5.1nm,0.8s,mb4.1,baz=263,slow=7.3,SNR=6.5
HFS LR LR 02 54 59.3
comp=Z,338nm,21.1s,MS3.9,baz=271,slow=33
STU Stuttgart 26.20 82 *e*P **P 02 46 08.4 +0.2**
comp=Z,28nm,0.8s,mb4.8
STU Stuttgart 26.20 82 *e*P **P 02 46 08.0 -0.2**
comp=Z,28nm,0.9s,mb4.8
STU Stuttgart 26.20 82 *e*P **P 02 46 08.0 -0.2**
STU pmax pmax
comp=Z,28nm,0.9s,mb4.8
MOX Moxa 26.92 76 *e*P **P 02 46 14.6 -0.1**
comp=Z,16nm,1.1s,mb4.5
MOX
comp=Z,400nm,17.0s
MOX Moxa 26.92 76 *e*P **P 02 46 14.6 -0.1**
MOX pmax pmax
comp=Z,16nm,1.1s,mb4.5
MOX MLR MLR
comp=Z,400nm,17.0s,MS4.0
GRF Grafenberg Arr 27.05 79 *e*P **P 02 46 16.0 +0.2**
comp=Z,54nm,1.6s,mb4.8
GRF *e*L 02 56 01.0
comp=Z,342nm,18.1s
GRF Grafenberg Arr 27.05 79 *e*P **P 02 46 16.0 +0.2**
GRF pmax pmax
comp=Z,54nm,1.6s,mb4.8
GRF MLR MLR
comp=Z,300nm,18.1s,MS3.9
WERD Werda 27.40 76 *e*P **P 02 46 19.0 -0.1**
comp=Z,15nm,1.1s,mb4.4
MANZ Manzenberg 27.46 78 *e*P **P 02 46 19.0 -0.6**
comp=Z,9.0nm,1.1s,mb4.2
DAVOX Davos 27.48 85 P **P 02 46 19.8 +0.1**
comp=Z,11nm,0.8s,mb4.4,baz=311,slow=13,SNR=14
DAVOX LR LR 02 55 45.0
comp=Z,207nm,19.1s,MS3.7,baz=180,slow=33
CLL Collm 27.50 74⇑ *e*P **P 02 46 19.9 -0.1**
comp=Z,14nm,0.8s,mb4.6
CLL *i* pP pP 02 46 21.6 -1.4
CLL *i* x x 02 46 23.3
CLL Collm 27.50 74 *e*P **P 02 46 20.0 0.0**
comp=Z,14nm,0.8s,mb4.6
CLL *i* pP pP 02 46 21.6 -1.4
CLL Collm 27.50 74⇑ *e*P **P 02 46 20.0 0.0**
comp=Z,14nm,0.8s,mb4.6
CLL *i* pP pP 02 46 21.6 -1.4
CLL *i* 02 46 31.0
CLL Collm 27.50 74⇑ *e*P **P 02 46 20.0 0.0**
CLL *i* *PP pP 02 46 21.6 -1.4
CLL pmax pmax
comp=Z,14nm,0.8s,mb4.6
RUE Ruedersdorf 27.56 72 *e*P **P 02 46 20.5 0.0**
comp=Z,11nm,0.6s,mb4.7
NKC Novy Kostel 27.57 77 *e*P **P 02 46 21.0 +0.5**
NKC AMS AMS 02 56 30.0
comp=Z,400nm,18.0s
ROTZ Rotzenmuhle 27.61 78 *e*P **P 02 46 20.9 0.0**
comp=Z,14nm,1.5s,mb4.4
FUR Furstenfeldbru 27.71 82 *e*P **P 02 46 22.3 +0.5**
comp=Z,32nm,0.9s,mb5.0
MDT Midelt 27.98 124 LR LR 02 55 04.2
comp=Z,188nm,21.0s,MS3.6,baz=344,slow=31
SQTA Sankt Quirin 28.09 83⇑ *i*P **P 02 46 26.0 +0.8**
comp=Z,11nm,1.0s,mb4.5
SQTA Sankt Quirin 28.09 83 ⇑P **P 02 46 26.0 +0.8**
comp=Z,11nm,1.0s,mb4.5
SQTA Sankt Quirin 28.09 83 ⇑P **P 02 46 26.0 +0.8**
SQTA pmax pmax
comp=Z,11nm,1.0s,mb4.4
BRG Berggiesshubel 28.21 75 *e*P **P 02 46 25.9 -0.4**
comp=Z,5.9nm,1.0s,mb4.2
BRG *e* pP 02 46 30.1 +0.7
BRG LR LR
comp=Z,280nm,13.2s,MS4.0
BRG Berggiesshubel 28.21 75 *e*P **P 02 46 25.9 -0.4**
BRG *e* pP 02 46 30.1 +0.8
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
BRG MLR MLR
comp=Z,280nm,13.2s,MS4.0
BRG Berggiesshubel 28.21 75 *e*P **P 02 46 25.9 -0.4**
comp=Z,5.9nm,1.0s,mb4.2
BRG *e* pP 02 46 30.1 +0.7
comp=Z,5.2nm,0.9s
BRG
comp=N,101nm,14.6s
BRG
comp=E,239nm,13.0s
BRG
comp=Z,281nm,13.2s
WATA Walderalm 28.26 83⇑ *i*P **P 02 46 27.2 +0.5**
comp=Z,9.2nm,1.0s,mb4.4
WATA Walderalm 28.26 83 ⇑P **P 02 46 27.2 +0.5**
comp=Z,9.2nm,1.0s,mb4.4
WATA Walderalm 28.26 83 ⇑P **P 02 46 27.2 +0.5**
WATA pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
WET Wettzell 28.26 79 *e*P **P 02 46 26.7 0.0**
comp=Z,8.0nm,1.3s,mb4.2
WTTA Wattenberg 28.33 83⇑ *i*P **P 02 46 28.2 +0.9**
comp=Z,13nm,0.8s,mb4.6
WTTA Wattenberg 28.33 83 ⇑P **P 02 46 28.2 +0.9**
WTTA pmax pmax
comp=Z,13nm,0.8s,mb4.6
KHC Kasperske Hory 28.68 78 *e*P **P 02 46 30.5 0.0**
PVCC Panska Ves 28.71 75 *e*P **P 02 46 30.9 +0.2**
GEC2 GERESS Array S 28.87 79 *e*P **P 02 46 31.5 -0.7**
comp=Z,17nm,1.2s,mb4.7
GERES GERESS Array B 28.87 79 P **P 02 46 31.7 -0.5**
comp=Z,5.5nm,0.8s,mb4.3,baz=297,slow=8.8,SNR=32
GERES LR LR 02 57 36.6
comp=Z,198nm,18.5s,MS3.8,baz=290,slow=36
PRU Pruhonice 28.91 76 *e*P **P 02 46 36.8 +4.3**
GKP Gorka Klasztor 29.29 69 *e*P **P 02 46 37.2 +1.3**
UPC Upice 29.57 74 *e*P **P 02 46 38.2 -0.2**
TREC Trest 29.75 77 *e*P **P 02 46 39.7 -0.2**
DPC Dobruska-Polom 29.82 75 *e*P **P 02 46 40.5 0.0**
DPC AMS AMS 02 58 00.0
comp=Z,400nm,16.9s
VRAC Vranov 30.40 76 LR LR 02 57 29.2
comp=Z,182nm,18.2s,MS3.8,baz=301,slow=34
ARSA Arzberg 30.68 81⇑ *i*P **P 02 46 48.4 +0.2**
comp=Z,13nm,1.2s,mb4.6
ARSA Arzberg 30.68 81 ⇑P **P 02 46 48.4 +0.2**
comp=Z,13nm,1.2s,mb4.6
MORC Moravsky Berou 30.77 75 *e*P **P 02 46 48.6 -0.3**
comp=Z,27nm,1.8s,mb4.8
MORC Moravsky Berou 30.77 75 *e*P **P 02 46 48.6 -0.3**
comp=Z,27nm,1.8s,mb4.8
ARCES ARCESS Array B 31.07 35 P **P 02 46 51.2 -0.5**
comp=Z,2.5nm,0.7s,mb4.2,baz=254,slow=7.9,SNR=5.6
ARCES LR LR 02 56 29.9
comp=Z,205nm,19.4s,MS3.8,baz=190,slow=31
OKC Ostrava-Krasne 31.10 75 *e*P **P 02 46 49.6 -2.2**
OKC AMS AMS 03 01 40.0
comp=Z,300nm,13.2s
OKC Ostrava-Krasne 31.10 75 *e*P **P 02 46 48.6 -3.2**
ZST Bratislava 31.19 78 *e*P **P 02 46 53.3 +0.6**
SADO Sadowa 31.53 275 LR LR 02 58 05.3
comp=Z,239nm,18.4s,MS3.9,baz=267,slow=33
KAF Kangasniemi 31.85 49 *e*p **P 02 46 56.7 -1.8**
comp=Z,12nm,0.8s,mb4.8,baz=279,slow=9.2
KAF Kangasniemi 31.85 49 *e*P **P 02 46 56.7 -1.8**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.8
FINES FINESS Array B 31.87 51 P **P 02 46 58.2 -0.4**
comp=Z,5.3nm,0.8s,mb4.4,baz=290,slow=7.3,SNR=18
FINES FINESS Array B 31.87 51 P **P 02 46 58.2 -0.4**
OJC Ojcow 31.91 73 *e*P **P 02 46 58.5 -0.5**
VYHS Vyhne 32.09 77 *e*P **P 02 47 01.6 +1.0**
SRO Srobarova 32.09 78 *e*P **P 02 47 01.2 +0.6**
SUW Suwalki 32.38 65 *e*P **P 02 47 02.5 -0.6**
NIE Niedzica 32.55 74 *e*P **P 02 47 05.1 +0.5**
VSU Vasula 32.88 56 *e*P **P 02 47 07.1 -0.4**
PSZ Piszkesteto 32.98 77 *e*P **P 02 47 08.5 +0.1**
comp=Z,10nm,1.1s,mb4.7
PSZ Piszkesteto 32.98 77 *e*P **P 02 47 08.5 +0.1**
comp=Z,10nm,1.1s,mb4.7
PSZ Piszkesteto 32.98 77 *e*P **P 02 47 08.5 +0.1**
PSZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KECS Kecovo 33.07 76 *i*P **P 02 47 09.2 0.0**
KECS *e* 02 47 16.4
RES Resolute Bay 33.08 334 *e*P **P 02 47 09.1 -0.2**
comp=Z,27nm,1.7s,mb4.9
RES Resolute Bay 33.08 334 *e*P **P 02 47 09.1 -0.2**
comp=Z,27nm,1.7s,mb4.9
RES Resolute Bay 33.08 334 *e*P **P 02 47 09.1 -0.2**
RES pmax pmax
comp=Z,27nm,1.7s,mb4.9
STHS Stebnicka Huta 33.10 74 *i*P **P 02 47 09.9 +0.5**
KOLS Kolonicke sedl 33.92 74 *e*P **P 02 47 16.7 +0.1**
JOF Joensuu 33.98 47 *ep* **P 02 47 16.4 -0.7**
comp=Z,7.6nm,0.8s,mb4.7
APA Apatity 34.05 39⇑ *i*P **P 02 47 18.0 +0.3**
APA pmax pmax
comp=Z,23nm,1.0s,mb5.1
FCC Fort Churchill 34.35 305 *e*P **P 02 47 19.7 -0.6**
comp=Z,7.1nm,0.7s,mb4.7
FCC Fort Churchill 34.35 305 *e*P **P 02 47 19.7 -0.6**
comp=Z,7.1nm,0.7s,mb4.7
FCC Fort Churchill 34.35 305 *e*P **P 02 47 19.7 -0.6**
FCC pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BZS Buzias 35.15 79 ⇑P **P 02 47 27.6 +0.4**
BURAR Bucovina Array 36.27 74 ⇑P **P 02 47 37.4 +0.5**
BURAR Bucovina Array 36.27 74 ⇑P **P 02 47 37.4 +0.6**
AKASG Malin Array Be 37.11 68 P **P 02 47 43.2 -0.7**
comp=Z,5.0nm,0.7s,mb4.5,baz=299,slow=8.6,SNR=26
AKASG Malin Array Be 37.11 68 P **P 02 47 43.2 -0.8**
KLMR Klimovskoe 38.29 49 *e*P **P 02 47 53.2 -0.8**
KLMR pmax pmax
comp=Z,40nm,1.5s,mb4.9
KLMR MLR MLR
comp=Z,450nm,19.0s,MS4.3
ULM Lac du Bonnet 38.68 293 P **P 02 47 56.5 -0.8**
comp=Z,3.7nm,0.7s,mb4.2,baz=72,slow=9.2,SNR=12
ULM LR LR 03 02 33.2
comp=Z,230nm,18.0s,MS4.0,baz=20,slow=34
ULM Lac du Bonnet 38.68 293 P **P 02 47 56.5 -0.8**
ULM LR LR 03 02 33.2
OBN Obninsk 39.12 58 *e*P **P 02 48 00.2 -0.7**
comp=Z,72nm,1.3s,mb5.2
OBN Obninsk 39.12 58 *e*P **P 02 48 00.2 -0.8**
comp=Z,72nm,1.3s,mb5.2
OBN Obninsk 39.12 58*c i*P **P 02 48 00.7 -0.2**
OBN pmax pmax
comp=Z,51nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,200nm,22.0s,MS3.9
CFR Carcaliu 39.27 76 ⇓P **P 02 48 01.9 -0.3**
FFC Flin Flon 39.90 302 *e*P **P 02 48 06.9 -0.5**
comp=Z,2.8nm,0.7s,mb4.1
FFC Flin Flon 39.90 302 *e*P **P 02 48 06.9 -0.6**
comp=Z,2.8nm,0.7s,mb4.1
FFC Flin Flon 39.90 302 *e*P **P 02 48 06.9 -0.5**
FFC pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
YKW3 Yellowknife Ar 42.35 317 *e*P **P 02 48 26.8 -0.9**
YKW3 Yellowknife Ar 42.35 317 *e*P **P 02 48 26.8 -0.8**
YKA Yellowknife Ar 42.38 317 P **P 02 48 27.0 -0.8**
comp=Z,3.2nm,0.9s,mb4.0,baz=61,slow=8.8,SNR=32
YKA PcP PcP 02 50 19.5 -1.5
comp=Z,0.3nm,0.6s,baz=64,slow=3.9,SNR=4.0
YKA LR LR 03 04 42.1
comp=Z,100nm,19.4s,MS3.7,baz=70,slow=34
YKA Yellowknife Ar 42.38 317 P **P 02 48 27.0 -0.9**
YKA Yellowknife Ar 42.38 317 PcP PcP 02 50 19.5 -1.6
YKA Yellowknife Ar 42.38 317 P **P 02 48 27.1 -0.8**
YKA 02 50 19.6
SANT Santorini 42.96 89 *e*P **P 02 48 29.3 -3.3**
comp=Z,53nm,0.5s,mb5.5
MANT Manisa 43.48 84 *i*P **P 02 48 37.0 +0.2**
VRHR Novokhopersk 43.73 61 *e*P **P 02 48 38.5 -0.3**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
VRHR pmax pmax
comp=N,5.0nm,0.8s
VRHR pmax pmax
comp=E,7.0nm,1.3s
ESKT Eskisehir 44.22 81 *i*P **P 02 48 43.5 +0.7**
SGKT Sivrigoynuk 44.30 79 *i*P **P 02 48 45.0 +1.6**
ANN Anapa 44.92 71 *e*P **P 02 48 48.2 -0.1**
ANN pmax pmax
comp=Z,167nm,1.0s
ANTO Ankara 45.17 79 *e*P **P 02 48 51.4 +1.1**
comp=Z,5.7nm,0.9s,mb4.4
ANTO Ankara 45.17 79 *e*P **P 02 48 51.4 +1.0**
comp=Z,5.7nm,0.9s,mb4.4
ANTO Ankara 45.17 79 *e*P **P 02 48 51.4 +1.1**
ANTO pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
BR131 Keskin Array S 45.77 79 *e*P **P 02 48 55.8 +0.7**
comp=Z,14nm,0.8s,mb4.9
BR131 Keskin Array S 45.77 79 *e*P **P 02 48 55.8 +0.8**
comp=Z,14nm,0.8s,mb4.9
BRTR Keskin Array B 45.77 79 P **P 02 48 56.4 +1.3**
comp=Z,13nm,0.7s,mb5.0,baz=306,slow=6.0,SNR=79
BRTR Keskin Array B 45.77 79 P **P 02 48 56.3 +1.2**
INK Inuvik 46.33 330 P **P 02 48 58.8 -0.6**
comp=Z,1.6nm,0.9s,mb4.0,baz=71,slow=10,SNR=10
LAO LASA Array 46.40 294 *e*P **P 02 49 00.4 +0.4**
comp=Z,16nm,0.6s,mb5.1
SOKR Solikamsk 46.55 45⇓ *i*P **P 02 49 01.7 +0.5**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.2
EGMT Eagleton 47.55 297 *e*P **P 02 49 08.8 -0.2**
comp=Z,4.6nm,0.6s,mb4.7
EGMT Eagleton 47.55 297 *e*P **P 02 49 08.8 -0.3**
comp=Z,4.6nm,0.6s,mb4.7
TORD Torodi Ar. Bea 47.70 133 P **P 02 49 09.5 -0.7**
comp=Z,5.2nm,0.8s,mb4.6,baz=330,slow=8.0,SNR=26
GOF Gofitskoye 47.96 67 *e*P **P 02 49 12.1 -0.1**
GOF pmax pmax
comp=Z,50nm,1.0s,mb5.5
KIV Kislovodsk 48.44 69 *e*P **P 02 49 13.6 -2.3**
KIV *e* 02 51 03.4
KIV *e*S **S 02 56 12.7 -3.9**
KIV pmax pmax
comp=Z,15nm,1.2s,mb4.9
KIV MLR MLR
comp=Z,174nm,18.0s,MS4.1
ARU Arti 49.10 47⇑ *i*P **P 02 49 21.0 0.0**
ARU *e* 02 51 13.1
ARU *e*S **S 02 56 25.0 -1.0**
ARU *e*SS SS 02 59 56.9 -0.2
ARU pmax pmax
comp=Z,29nm,0.9s,mb5.3
PHWY Pilot Hill 49.25 288 *e*P **P 02 49 21.9 -0.2**
PHWY Pilot Hill 49.25 288 *e*P **P 02 49 21.9 -0.2**
COBT Iskenderun 49.42 80 *i*P **P 02 49 23.7 +0.3**
HRY Holter Researc 49.47 297 *e*P **P 02 49 23.4 -0.4**
HRY Holter Researc 49.47 297 *e*P **P 02 49 23.4 -0.4**
MALT Malatya 49.54 77 *e*P **P 02 49 25.1 +0.8**
comp=Z,10nm,1.2s,mb4.7
MALT Malatya 49.54 77 *e*P **P 02 49 25.1 +0.8**
comp=Z,10nm,1.2s,mb4.7
MALT Malatya 49.54 77 ⇑P **P 02 49 25.5 +1.2**
GZT Gaziantep 49.65 79 *i*P **P 02 49 25.8 +0.6**
BOZ Bozeman (W) 50.02 296 *e*P **P 02 49 27.8 -0.2**
comp=Z,4.5nm,0.6s,mb4.7
BOZ Bozeman (W) 50.02 296 *e*P **P 02 49 27.8 -0.2**
BOZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
RWWY Rawlins 50.02 289 *e*P **P 02 49 28.0 0.0**
comp=Z,12nm,0.9s,mb4.9
RWWY Rawlins 50.02 289 *e*P **P 02 49 27.9 0.0**
comp=Z,12nm,0.9s,mb4.9
ERZM Erzurum 50.23 74 *i*P **P 02 49 31.9 +2.3**
BW06 Boulder Array 50.68 292 *e*P **P 02 49 31.6 -1.4**
comp=Z,4.7nm,0.6s,mb4.6
BW06 Boulder Array 50.68 292 *e*P **P 02 49 31.6 -1.3**
comp=Z,4.7nm,0.6s,mb4.6
PDAR Pinedale Array 50.68 292 P **P 02 49 31.9 -1.0**
comp=Z,4.6nm,0.5s,mb4.6,baz=64,slow=6.8,SNR=51
PDAR LR LR 03 09 17.0
comp=Z,230nm,18.4s,MS4.2,baz=59,slow=34
LOHW Long Hollow 50.73 293 *e*P **P 02 49 33.1 -0.2**
comp=Z,5.1nm,1.0s,mb4.4
LOHW Long Hollow 50.73 293 *e*P **P 02 49 33.1 -0.2**
comp=Z,5.1nm,1.0s,mb4.4
DAWY Dawson 50.81 327 *e*P **P 02 49 34.6 +0.6**
DAWY Dawson 50.81 327 *e*P **P 02 49 34.6 +0.6**
SNOW Snow King Moun 50.91 293 *e*P **P 02 49 35.0 +0.3**
comp=Z,3.2nm,0.5s,mb4.5
SNOW Snow King Moun 50.91 293 *e*P **P 02 49 35.0 +0.3**
comp=Z,3.2nm,0.5s,mb4.5
DBIC Dimbokro 50.93 144 P **P 02 49 34.0 -0.9**
comp=Z,1.7nm,0.7s,mb4.1,baz=309,slow=10,SNR=5.7
DBIC LR LR 03 09 13.9
comp=Z,129nm,18.4s,MS4.0,baz=329,slow=34
DBIC Dimbokro 50.93 144 P **P 02 49 34.0 -0.9**
DBIC LR LR 03 09 13.9
NEW Newport 51.33 302 P **P 02 49 38.5 +0.6**
comp=Z,1.2nm,0.6s,mb4.0,baz=48,slow=5.4,SNR=4.0
NEW Newport 51.33 302 *e*P **P 02 49 37.5 -0.3**
comp=Z,1.5nm,0.5s,mb4.2
NEW Newport 51.33 302 *e*P **P 02 49 37.5 -0.4**
comp=Z,1.5nm,0.5s,mb4.2
NEW Newport 51.33 302 *e*P **P 02 49 37.5 -0.3**
NEW pmax pmax
comp=Z,1.0nm,0.5s
SDCO Great Sand Dun 51.59 284 *e*P **P 02 49 41.1 +1.3**
comp=Z,2.2nm,0.9s,mb4.1
SDCO Great Sand Dun 51.59 284 *e*P **P 02 49 41.1 +1.2**
comp=Z,2.2nm,0.9s,mb4.1
GNI Garni 52.04 71 *e*P **P 02 49 43.9 +0.7**
comp=Z,7.1nm,0.9s,mb4.6
GNI Garni 52.04 71 *e*P **P 02 49 43.9 +0.7**
comp=Z,7.1nm,0.9s,mb4.6
GNI Garni 52.04 71 *e*P **P 02 49 43.9 +0.7**
GNI pmax pmax
comp=Z,7.0nm,0.9s
AKTO Aktyubinsk 52.55 54 *i*P **P 02 49 46.3 -0.6**
AKTO pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
HWUT Hardware Ranch 52.56 292 *e*P **P 02 49 46.5 -0.6**
comp=Z,13nm,0.6s,mb5.0
HWUT Hardware Ranch 52.56 292 *e*P **P 02 49 46.5 -0.5**
comp=Z,13nm,0.6s,mb5.0
ILAR Eielson Array 52.69 331 P **P 02 49 48.4 +0.4**
comp=Z,1.3nm,0.8s,mb3.9,baz=39,slow=5.8,SNR=15
ILAR LR LR 03 11 26.8
comp=Z,174nm,19.7s,MS4.1,baz=1.4,slow=35
HLID Hailey 52.88 295 *e*P **P 02 49 50.0 +0.6**
comp=Z,3.2nm,1.0s,mb4.2
HLID Hailey 52.88 295 *e*P **P 02 49 50.0 +0.6**
comp=Z,3.2nm,1.0s,mb4.2
PV10 Paradox Valley 53.25 287 *e*P **P 02 49 53.4 +1.3**
PV10 Paradox Valley 53.25 287 *e*P **P 02 49 53.4 +1.3**
EIL Elat 53.34 88 *e*P **P 02 49 52.5 -0.3**
comp=Z,65nm,1.0s,mb5.5
EIL Elat 53.34 88 *e*P **P 02 49 52.5 -0.3**
comp=Z,65nm,1.0s,mb5.5
SDV Santo Domingo 53.60 230 LR LR 03 08 48.1
comp=Z,127nm,19.4s,MS4.0,baz=170,slow=32
SRU San Rafael 53.62 289 *e*P **P 02 49 54.3 -0.6**
comp=Z,4.6nm,0.8s,mb4.5
SRU San Rafael 53.62 289 *e*P **P 02 49 54.3 -0.5**
comp=Z,4.6nm,0.8s,mb4.5
SRU San Rafael 53.62 289 *e*P **P 02 49 54.3 -0.6**
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ANMO Albuquerque 54.05 282 P **P 02 49 59.5 +1.5**
comp=Z,0.4nm,0.3s,mb3.9,baz=78,slow=7.3,SNR=3.8
ANMO Albuquerque 54.05 282 *e*P **P 02 49 59.2 +1.2**
comp=Z,3.7nm,1.1s,mb4.2
ANMO Albuquerque 54.05 282 *e*P **P 02 49 59.2 +1.2**
comp=Z,3.7nm,1.1s,mb4.2
ANMO Albuquerque 54.05 282 *e*P **P 02 49 59.2 +1.2**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
MCK McKinley 54.06 331 *e*P **P 02 49 58.0 -0.1**
comp=Z,7.6nm,1.3s,mb4.5
MCK McKinley 54.06 331 *e*P **P 02 49 58.0 0.0**
comp=Z,7.6nm,1.3s,mb4.5
MCK McKinley 54.06 331 *e*P **P 02 49 58.1 0.0**
MCK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
DUG Dugway 54.21 291 *e*P **P 02 49 59.3 +0.2**
comp=Z,4.7nm,0.6s,mb4.6
DUG Dugway 54.21 291 *e*P **P 02 49 59.3 +0.2**
comp=Z,4.7nm,0.6s,mb4.6
DUG Dugway 54.21 291 *e*P **P 02 49 59.3 +0.2**
DUG pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AB31 Akbulak array 54.26 54 *i*P **P 02 49 58.9 -0.6**
AB31 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MSU Marysvale 54.98 289 *e*P **P 02 50 05.1 +0.4**
ELK Elko 55.21 293 P **P 02 50 06.8 +0.4**
comp=Z,1.3nm,0.6s,mb4.1,baz=48,slow=4.3,SNR=8.6
ELK Elko 55.21 293 *e*P **P 02 50 06.9 +0.5**
comp=Z,4.4nm,1.1s,mb4.4
ELK Elko 55.21 293 *e*P **P 02 50 07.0 +0.6**
comp=Z,4.4nm,1.1s,mb4.4
ELK Elko 55.21 293 *e*P **P 02 50 07.0 +0.6**
ELK pmax pmax
comp=Z,4.0nm,1.1s
SML Sawmill 55.31 329 *e*P **P 02 50 07.8 +0.7**
TIXI Tiksi 55.34 7 *e*P **P 02 50 05.5 -1.9**
TIXI pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
MNTX Cornudas Mount 55.66 279 *e*P **P 02 50 09.4 -0.3**
comp=Z,1.5nm,0.8s,mb4.1
MNTX Cornudas Mount 55.66 279 *e*P **P 02 50 09.4 -0.3**
comp=Z,1.5nm,0.8s,mb4.1
WVOR Wild Horse Val 55.94 297 *e*P **P 02 50 11.6 -0.1**
comp=Z,7.5nm,1.0s,mb4.7
WVOR Wild Horse Val 55.94 297 *e*P **P 02 50 11.6 -0.1**
comp=Z,7.5nm,1.0s,mb4.7
WVOR Wild Horse Val 55.94 297 *e*P **P 02 50 11.6 -0.1**
WVOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BRVK Borovoye 56.46 45 *e*P **P 02 50 15.2 -0.2**
comp=Z,11nm,1.0s,mb4.8
BRVK Borovoye 56.46 45 *e*P **P 02 50 15.2 -0.1**
comp=Z,11nm,1.0s,mb4.8
BRVK Borovoye 56.46 45 *e*P **P 02 50 15.3 -0.1**
BRVK pmax pmax
comp=Z,11nm,1.0s,mb4.8
BVA0 Borovoye Array 56.53 45 *i*P **P 02 50 15.8 -0.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
VOSK Vostochnaya 57.00 45 P **P 02 50 18.9 -0.3**
VOSK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TPH Tonopah 58.16 292 *e*P **P 02 50 27.9 +0.5**
comp=Z,16nm,1.1s,mb5.0
TPH Tonopah 58.16 292 *e*P **P 02 50 27.9 +0.6**
comp=Z,16nm,1.1s,mb5.0
TPH Tonopah 58.16 292 *e*P **P 02 50 27.9 +0.5**
TPH pmax pmax
comp=Z,16nm,1.1s,mb5.0
NVAR Mina Array Bea 58.52 293 P **P 02 50 30.1 +0.2**
comp=Z,1.1nm,0.6s,mb4.1,baz=58,slow=5.8,SNR=13
YBH Yreka Blue Hor 58.63 299 LR LR 03 17 51.2
comp=Z,95nm,18.2s,MS4.0,baz=41,slow=38
ROSC El Rosal 58.87 231 P **P 02 50 34.6 +2.3**
comp=Z,11nm,0.4s,mb5.2,baz=96,slow=5.3,SNR=17
ROSC LR LR 03 12 37.1
comp=Z,95nm,18.7s,MS4.0,baz=12,slow=33
BILL Bilibino 58.92 352 *e*P **P 02 50 31.3 -1.4**
BILL MLR MLR
comp=Z,100nm,22.0s,MS3.9
JTS JuntasAbangare 59.77 245 LR LR 03 12 05.7
comp=Z,117nm,19.9s,MS4.0,baz=4.1,slow=32
NVS Novosibirsk 60.33 37 *e*P **P 02 50 42.6 +0.2**
NVS pmax pmax
comp=Z,36nm,1.3s,mb5.2
KURK Kurchatov 61.70 42 *e*P **P 02 50 51.0 -0.7**
comp=Z,9.5nm,1.1s,mb4.8
KURK Kurchatov 61.70 42 *e*P **P 02 50 51.0 -0.7**
comp=Z,9.5nm,1.1s,mb4.8
KURK Kurchatov 61.70 42 *e*P **P 02 50 51.0 -0.7**
KURK pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
KK31 Karatay Array 63.79 53 *i*P **P 02 51 06.0 +0.3**
KKAR Karatay Array 63.79 53 *i*P **P 02 51 06.0 +0.3**
SEY Seymchan 64.78 358 *e*P **P 02 51 20.0 +7.9**
OTAV Otavalo 64.87 233 P **P 02 51 13.4 +0.7**
comp=Z,2.2nm,0.7s,mb4.3
OTAV Otavalo 64.87 233 P **P 02 51 13.4 +0.6**
comp=Z,2.3nm,0.7s,mb4.3
AAK Ala-Archa 66.06 51 *e*P **P 02 51 20.2 -0.2**
comp=Z,8.8nm,1.7s,mb4.5
AAK Ala-Archa 66.06 51 *e*P **P 02 51 20.2 -0.2**
comp=Z,8.8nm,1.7s,mb4.5

AAK	**Ala-Archa**	**66.06**	**51**	*i* P		**P**	**02 51 21.1**	**+0.7**
AAK				pmax		pmax		
comp=Z,6.0nm,1.7s,mb4.3								
MK31	**Makanchi Array**	**66.28**	**43**	*i* P		**P**	**02 51 21.7**	**-0.1**
MK31				pmax		pmax		
comp=Z,5.0nm,0.6s,mb4.7								
MKAR	**Makanchi Array**	**66.28**	**43**	P		**P**	**02 51 21.9**	**0.0**
comp=Z,7.4nm,0.8s,mb4.8,baz=328,slow=5.8,SNR=87								
MKAR	**Makanchi Array**	**66.28**	**43⇑**	*e*P		**P**	**02 51 21.8**	**0.0**
SAML	**Samuel**	**66.79**	**214**	*e*P		**P**	**02 51 23.8**	**-1.3**
comp=Z,3.6nm,1.1s,mb4.3								
BDFB	**Brasilia**	**69.32**	**196**	LR		LR	03 15 42.2	
comp=Z,135nm,21.3s,MS4.2,baz=85,slow=30								
WMQ	**Urumqi**	**70.92**	**42**	*e*P		**P**	**02 51 52.0**	**+1.2**
WMQ				AP		pP	02 51 56.7	+2.7
WMQ				XP		sP	02 51 59.0	+3.8
WMQ				PCP		PcP	02 52 12.5	+1.2
WMQ				AMB		AMB		
comp=Z,11nm,0.7s,mb4.9								
WMQ				AMB		AMB		
comp=Z,79nm,4.5s								
WMQ				LR		LR		
comp=N,111nm,21.0s,MS4.3								
WMQ				LR		LR		
comp=E,146nm,21.0s,MS4.3								
WMQ				LR		LR		
comp=Z,109nm,19.8s,MS4.1								
SONM	**Songino Array**	**73.90**	**28**	P		**P**	**02 52 08.6**	**0.0**
comp=Z,4.0nm,0.9s,mb4.3,baz=332,slow=6.4,SNR=31								
SONM				LR		LR	03 24 49.0	
comp=Z,84nm,19.6s,MS4.0,baz=355,slow=36								
ULN	**Ulaanbaatar**	**74.05**	**27**	*e*P		**P**	**02 52 09.8**	**+0.3**
comp=Z,10nm,1.3s,mb4.6								
ULN	**Ulaanbaatar**	**74.05**	**27**	*e*P		**P**	**02 52 09.8**	**+0.3**
comp=Z,10nm,1.3s,mb4.6								
ULN	**Ulaanbaatar**	**74.05**	**27⇑**	*e*P		**P**	**02 52 10.8**	**+1.3**
LPAZ	**La Paz**	**75.33**	**216**	LR		LR	03 19 18.4	
comp=Z,59nm,20.9s,MS3.9,baz=175,slow=31								
LPAZ	**La Paz**	**75.33**	**216**	*e*P		**P**	**02 52 16.9**	**0.0**
comp=Z,2.4nm,1.0s,mb4.1								
LPAZ	**La Paz**	**75.33**	**216**	*e*P		**P**	**02 52 16.9**	**0.0**
comp=Z,2.4nm,1.0s,mb4.1								
LPAZ	**La Paz**	**75.33**	**216**	*e*P		**P**	**02 52 16.9**	**0.0**
LPAZ				pmax		pmax		
comp=Z,2.0nm,1.0s								
HIA	**Hailar**	**75.76**	**19**	*e*P		**P**	**02 52 21.4**	**+2.1**
KMBO	**Kilima Mbogo**	**78.49**	**107**	LR		LR	03 25 05.7	
comp=Z,65nm,18.8s,MS4.0,baz=113,slow=34								
GTA	**Gaotai**	**79.34**	**36**	*e*P		**P**	**02 52 39.8**	**+0.4**
GTA				AP		pP	02 52 46.9	+4.2
GTA				XP		sP	02 52 49.2	+5.3
GTA				AMB		AMB		
comp=Z,7.0nm,1.1s,mb4.5								
HHC	**Hu-ho-hao-te**	**81.77**	**27**	*e*P		**P**	**02 52 51.6**	**-0.8**
HHC				AP		pP	02 52 56.3	+0.6
HHC				XP		sP	02 52 58.7	+1.8
HHC				PP		PP	02 55 59.7	+0.3
HHC				S		S	03 03 01.1	-4.3
HHC				SKS			03 03 05.4	
HHC				AMB		AMB		
comp=Z,5.0nm,0.4s,mb4.8								
HHC				AMB		AMB		
comp=Z,73nm,5.4s								
HHC				LR		LR		
comp=N,125nm,5.5s								
HHC				LR		LR		
comp=E,106nm,4.7s								
HHC				LR		LR		
comp=Z,101nm,6.9s								
MDJ	**Mudanjiang**	**81.91**	**13**	P		**P**	**02 52 51.3**	**-1.9**
MDJ				AMB		AMB		
comp=Z,6.0nm,1.2s,mb4.4								
MDJ				AMB		AMB		
comp=Z,58nm,4.2s								
CN2	**Changchun**	**82.07**	**16**	*e*P		**P**	**02 52 52.8**	**-1.2**
GKN	**Gorkha**	**82.70**	**53**	*e*P		**P**	**02 52 57.8**	**+0.5**
comp=Z,12nm,0.7s,mb5.0								
KKN	**Kakani**	**83.19**	**52**	*e*P		**P**	**02 53 01.1**	**+1.3**
DMN	**Daman**	**83.26**	**53**	*e*P		**P**	**02 53 01.4**	**+1.2**
GUN	**Gumba**	**83.38**	**52**	*e*P		**P**	**02 53 01.3**	**+0.5**
PKI	**Pulchoki**	**83.43**	**52**	*e*P		**P**	**02 53 02.3**	**+1.2**
LZH	**Lanzhou**	**83.73**	**35**	*e*P		**P**	**02 53 02.4**	**-0.2**
LZH				AP		pP	02 53 07.6	+1.7
LZH				AMB		AMB		
comp=Z,10.0nm,1.0s,mb4.9								
JIRN	**Jiri**	**83.74**	**52**	*e*P		**P**	**02 53 03.2**	**+0.6**
comp=Z,17nm,0.8s,mb5.2								
BJI	**Beijing**	**83.74**	**24**	P		**P**	**02 53 03.0**	**+0.4**
BJI				AMB		AMB		
comp=Z,6.0nm,0.8s,mb4.8								
BJI				AMB		AMB		
comp=Z,101nm,4.1s								
BJI				LR		LR		
comp=N,103nm,20.7s,MS4.4								
BJI				LR		LR		
comp=E,142nm,19.9s,MS4.4								
BJI				LR		LR		
comp=Z,103nm,20.5s,MS4.2								
CD2	**Chengdu**	**88.37**	**37**	*e*P		**P**	**02 53 23.8**	**-1.7**
CD2				AP		pP	02 53 28.6	-0.2
CD2				SKS			03 03 49.4	
CD2				S			03 04 05.0	
CD2				AMB		AMB		
comp=Z,10.0nm,0.8s,mb5.1								
CD2				AMB		AMB		
comp=Z,60nm,5.8s								
CD2				LR		LR		
comp=E,90nm,14.4s								
CD2				LR		LR		
comp=Z,100nm,13.2s,MS4.4								
KMI	**Kunming**	**93.19**	**40**	P		**P**	**02 53 47.9**	**0.0**
KMI				AMB		AMB		
comp=Z,10.0nm,0.7s,mb5.3								
KMI				LR		LR		
comp=Z,55nm,21.7s,MS4.0								
SSE	**Sheshan**	**93.47**	**23**	*e*P		**P**	**02 53 47.5**	**-1.7**
SSE				S			03 04 51.6	
SSE				AMB		AMB		
comp=Z,28nm,0.6s								
SSE				AMB		AMB		
comp=Z,32nm,3.5s								
SSE				LR		LR		
comp=E,103nm,25.8s								
SSE				LR		LR		
comp=Z,63nm,22.7s								
BOSA	**Boshof**	**95.06**	**132**	LR		LR	03 35 20.3	
comp=Z,136nm,18.8s,MS4.4,baz=174,slow=35								
PLCA	**Paso Flores**	**98.72**	**209**	LR		LR	03 32 54.8	
comp=Z,119nm,21.5s,MS4.3,baz=333,slow=32								
WRAB	**Tennant Creek**	**145.76**	**23**	*e*PKPdf		PKPdf	03 00 12.0	-0.2
WRA	**Warramunga Arr**	**145.77**	**23**	PKPbc		PKPbc	03 00 11.2	-1.5
comp=Z,4.3nm,0.9s,baz=340,slow=3.9,SNR=18								
ASAR	**Alice Springs**	**149.22**	**26**	PKPbc		PKPbc	03 00 21.8	-0.4
comp=Z,1.3nm,0.8s,baz=356,slow=2.2,SNR=11								

*ISCJB **05** 03:06:56.0±0.4, 3232S±003×6985W±008, h134km±6km, mb3.8/5, Error ellipse: s-maj=11.2km s-min=5.1km az=163.8*
*IDC **05** 03:06:55.7±2.0, 3235S×6975W, h114km±16km, mb3.7/4, mb1 3.5/7, mb1mx3.4/17, mbtmp3.8/7, Error ellipse: s-maj=34.9km s-min=15.2km az=110.0*
*NEIC **05** 03:06:56.7, 3232S×6989W, h130km, mb3.9/3, MD3.8(GUC), After GUC.*
*GUC **05** 03:06:56.7±0.9, 3232S×6989W, h130km±5km, MD3.8, ML3.8*

ISC 05 03:06:56.8±0.4, 3231S±003×6977W±006, h123km±5km, n43, σ0°80/73, mb3.8/5, 20C-9D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.79**	**242⇓**	*i*P		**Pn**	**03 07 17.4**	**+0.1**
JACH				*i* S		**Sn**	**03 07 32.9**	**+0.2**
FCH	**Farellones**	**1.11**	**203⇓**	*i*P		**Pn**	**03 07 21.0**	**+0.8**
FCH				*i* S		**Sn**	**03 07 39.4**	**+1.5**
FCH				AMP			03 07 40.0	
comp=E,2μm,0.1s								
PEL	**Peldehue**	**1.14**	**223⇑**	*i*P		**Pn**	**03 07 20.4**	**-0.1**
PEL				*i* S		**Sn**	**03 07 38.6**	**+0.2**
PEL				AMP			03 07 39.6	
comp=N,4μm,0.2s								
PEL	**Peldehue**	**1.14**	**223⇑**	*i*P		**Pn**	**03 07 20.4**	**-0.1**
PEL				*i* S		**Sn**	**03 07 38.6**	**+0.2**
ROCH	**El Roble**	**1.24**	**237⇓**	*i*P		**Pn**	**03 07 21.7**	**+0.1**
ROCH				*i* S		**Sn**	**03 07 40.6**	**+0.2**
CLCH	**Cerro Calan**	**1.26**	**211⇓**	*i*P		**Pn**	**03 07 22.1**	**+0.3**
CLCH				*i* S		**Sn**	**03 07 41.7**	**+0.9**
CLCH				AMP			03 07 44.7	
comp=E,2μm,0.5s								
CLCH				AMP			03 07 45.3	
comp=E,2μm,0.4s								
DSCH	**Colegio Aleman**	**1.28**	**212⇑**	*i*P		**Pn**	**03 07 21.6**	**-0.4**
DSCH				*i* S		**Sn**	**03 07 41.2**	**+0.1**
STL	**Santa Lucia**	**1.34**	**213**	*i* P		**Pn**	**03 07 22.2**	**-0.5**
STL				*i* S		**Sn**	**03 07 42.3**	**0.0**
STL				AMP			03 07 43.1	
comp=N,1μm,0.3s								
SAN	**Santiago**	**1.37**	**213⇑**	*i*P		**Pn**	**03 07 23.1**	**+0.1**
SAN				*i* S		**Sn**	**03 07 43.4**	**+0.5**
SAN				AMP			03 07 45.0	
comp=E,2μm,0.2s								
SAN	**Santiago**	**1.37**	**213⇑**	*i*P		**Pn**	**03 07 23.1**	**+0.1**
SAN				*i* S		**Sn**	**03 07 43.4**	**+0.5**
ILCH	**Illapel**	**1.37**	**299⇑**	*i*P		**Pn**	**03 07 22.9**	**-0.1**
ILCH				*i* S		**Sn**	**03 07 42.7**	**-0.1**
SJCH	**San Jose de Ma**	**1.42**	**200⇑**	*i*P		**Pn**	**03 07 23.3**	**-0.2**
SJCH				*i* S		**Sn**	**03 07 44.6**	**+0.8**
SJCH				AMP			03 07 48.3	
comp=N,584nm,0.3s								
SJCH	**San Jose de Ma**	**1.42**	**200⇑**	*i*P		**Pn**	**03 07 23.3**	**-0.2**
SJCH				*i* S		**Sn**	**03 07 44.6**	**+0.8**
PACH	**Papudo**	**1.43**	**260⇑**	*i*P		**Pn**	**03 07 23.3**	**-0.4**
PACH				*i* S		**Sn**	**03 07 43.2**	**-0.9**
PCH	**Pirque**	**1.45**	**205⇑**	*i*P		**Pn**	**03 07 24.3**	**+0.4**
PCH				*i* S		**Sn**	**03 07 45.7**	**+1.2**
ANTU	**Antumapu**	**1.45**	**210⇑**	*i*P		**Pn**	**03 07 24.1**	**+0.2**
ANTU				*i* S		**Sn**	**03 07 45.1**	**+0.6**
ANTU				AMP			03 07 47.0	
comp=N,2μm,0.2s								
ANTU	**Antumapu**	**1.45**	**210⇑**	*i*P		**Pn**	**03 07 24.1**	**+0.2**
ANTU				*i* S		**Sn**	**03 07 45.1**	**+0.6**
RCDM	**Rinconada Maip**	**1.47**	**216⇑**	*i*P		**Pn**	**03 07 24.2**	**+0.1**
RCDM				*i* S		**Sn**	**03 07 45.1**	**+0.3**
RCDM				AMP			03 07 46.2	
comp=E,3μm,0.1s								
RCDM	**Rinconada Maip**	**1.47**	**216⇑**	*i*P		**Pn**	**03 07 24.2**	**+0.1**
RCDM				*i* S		**Sn**	**03 07 45.1**	**+0.3**
CFAA	**Coronel Fontan**	**1.48**	**62**	P		**Pn**	**03 07 23.1**	**-1.1**
comp=E,3.6nm,0.3s,baz=233,slow=13,SNR=2.2								
CFAA				S		**Sn**	**03 07 42.9**	**-2.2**
comp=E,23nm,0.3s,baz=288,slow=19,SNR=12								
CHNG	**Los Chungos**	**1.53**	**286**	*e*P		**Pn**	**03 07 24.4**	**-0.4**
CHNG				*i* S		**Sn**	**03 07 44.6**	**-1.5**
CHNG				AMP			03 07 52.1	
comp=N,745nm,0.4s								
CMCH	**Combarbala**	**1.54**	**317⇓**	*i*P		**Pn**	**03 07 25.2**	**+0.2**
CMCH				*i* S		**Sn**	**03 07 46.9**	**+0.5**
CMCH				AMP			03 07 48.2	
comp=N,3μm,0.5s								
CMCH	**Combarbala**	**1.54**	**317⇓**	*i*P		**Pn**	**03 07 25.2**	**+0.2**
CMCH				*i* S		**Sn**	**03 07 46.9**	**+0.5**
LMEL	**Las Melosas**	**1.58**	**193⇓**	*i*P		**Pn**	**03 07 25.8**	**+0.5**
LMEL				AMP			03 07 56.0	
comp=N,875nm,0.4s								
TACH	**Talagante**	**1.66**	**216⇑**	*i*P		**Pn**	**03 07 26.2**	**-0.2**
TACH				*i* S		**Sn**	**03 07 48.5**	**-0.4**
IHA	**Instituto Hidr**	**1.73**	**245⇑**	*i*P		**Pn**	**03 07 26.9**	**-0.3**
IHA				*i* S		**Sn**	**03 07 49.0**	**-1.4**
CHCH	**Chadas Angostu**	**1.78**	**204⇑**	*i*P		**Pn**	**03 07 28.1**	**+0.3**
CHCH				*i* S		**Sn**	**03 07 51.7**	**+0.3**
LCCH	**Las Cruces**	**1.91**	**232⇑**	*i*P		**Pn**	**03 07 29.3**	**0.0**
CACH	**El Canelo**	**1.93**	**201⇓**	*i*P		**Pn**	**03 07 30.4**	**+0.8**
CICH	**Cipreses**	**2.08**	**195⇑**	*i*P		**Pn**	**03 07 31.8**	**+0.4**
LNV	**Longovilo**	**2.14**	**220⇑**	*i*P		**Pn**	**03 07 31.2**	**-1.0**
LNV				*i* S		**Sn**	**03 07 58.5**	**-0.8**
SFDO	**San Fernando**	**2.52**	**204⇓**	*i*P		**Pn**	**03 07 36.8**	**-0.3**
SFDO				*i* S		**Sn**	**03 08 08.0**	**0.0**
PLCA	**Paso Flores**	**8.43**	**184**	P		**Pn**	**03 08 54.6**	**-1.6**
comp=N,0.2nm,0.3s,baz=359,slow=11,SNR=7.4								
PLCA				S		**Sn**	**03 10 27.6**	**-1.9**
comp=N,0.1nm,0.3s,baz=150,slow=20,SNR=2.2								
PLCA	**Paso Flores**	**8.43**	**184**	*e*Pn		**Pn**	**03 08 54.5**	**-1.7**
PLCA				S		**Sn**	**03 10 27.6**	**-1.9**
TRQA	**Tornquist**	**8.57**	**134**	*e*Pn		**Pn**	**03 08 55.6**	**-2.4**
comp=N,4.0nm,0.6s								
LPAZ	**La Paz**	**16.02**	**6**	P		**Pn**	**03 10 37.1**	**+2.0**
comp=N,0.3nm,0.3s,baz=177,slow=7.5,SNR=8.3								
LPAZ	**La Paz**	**16.02**	**6**	*e*P		**Pn**	**03 10 36.7**	**+1.7**
comp=N,1.1nm,0.4s								
SIV	**San Ignacio**	**18.06**	**28**	P		**P**	**03 10 58.7**	**+0.1**
comp=N,0.2nm,0.3s,baz=216,slow=12,SNR=9.0								
SAML	**Samuel**	**24.03**	**16**	*e*P		**P**	**03 12 01.7**	**+1.4**
comp=N,3.1nm,0.7s,mb3.8								
BDFB	**Brasilia**	**25.81**	**55**	P		**P**	**03 12 16.1**	**-0.2**
comp=N,1.3nm,0.6s,mb3.5,baz=262,slow=7.1,SNR=2.6								
SDV	**Santo Domingo**	**40.97**	**359**	P		**P**	**03 14 27.7**	**+0.3**
comp=N,0.9nm,0.3s,mb4.0,baz=199,slow=8.9,SNR=3.2								
SJG	**San Juan**	**50.25**	**4**	P		**P**	**03 15 39.9**	**-0.5**
comp=N,3.7nm,0.5s,mb4.6,baz=300,slow=7.4,SNR=2.6								
TORD	**Torodi Ar. Bea**	**81.83**	**69**	P		**P**	**03 19 03.3**	**+1.1**
comp=N,0.3nm,0.8s,mb3.2,baz=212,slow=4.5,SNR=4.3								

*NEIC **05** 03:06:57.1, 19.10N×6371W, h24km, MD3.5(RSPR), After RSPR.*

RSPR 05 03:06:57.1, 1910N×6371W, h24km±12km, MD3.5/8, MD3.5/8, 3C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.09**	**231**	*e*S		Sb	03 07 28.0	-3.0
TBVI	**Tortola**	**1.09**	**231⇑**	*i*P		Pn	03 07 14.5	-2.3
TBVI				*e*S		Sb	03 07 28.0	-3.0
STVI	**Saint Thomas**	**1.40**	**238**	*e*S		Sn	03 07 35.7	-3.0
STVI	**Saint Thomas**	**1.40**	**238⇓**	*e*P		Pn	03 07 18.6	-2.4
STVI				*e*S		Sn	03 07 35.7	-3.0
MTP	**Monte Pirata**	**2.01**	**241**	*e*S		Sn	03 07 51.5	-2.4
MTP	**Monte Pirata**	**2.01**	**241⇓**	*e*P		Pn	03 07 27.4	-2.1
MTP				*e*S		Sn	03 07 51.5	-2.4
CBYP	**Canovanas**	**2.19**	**248**	*e*S		Sn	03 07 55.7	-2.6
CBYP	**Canovanas**	**2.19**	**248⇑**	*e*P		Pn	03 07 30.2	-1.8
CBYP				*e*S		Sn	03 07 55.7	-2.6
HUMP	**Col San Antoni**	**2.24**	**245**	*e*S		Sn	03 07 57.0	-2.4
HUMP	**Col San Antoni**	**2.24**	**245⇓**	*e*P		Pn	03 07 30.6	-2.0
HUMP				*e*S		Sn	03 07 57.0	-2.4
CPD	**Cerro la Pandu**	**2.34**	**244**	*e*Pn		Pn	03 07 32.3	-1.7
SJG	**San Juan**	**2.51**	**247**	*e*S		Sn	03 08 03.6	-2.6
SJG	**San Juan**	**2.51**	**247⇓**	*e*P		Pn	03 07 34.7	-1.6
SJG				*e*S		Sn	03 08 03.6	-2.6
CRPR	**Cabo Rojo, PR**	**3.40**	**252**	*e*S		Sn	03 08 25.9	-2.2
CRPR	**Cabo Rojo, PR**	**3.40**	**252⇑**	*e*P		Pn	03 07 47.1	-1.5
CRPR				*e*S		Sn	03 08 25.9	-2.2

PRE 05 03:08:27.5±1.1, 2260S×3374E, h5km, ML4.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.45**	**274**	*e*P			03 01 30.2
MSNA				*e*S			03 02 10.4
MSNA				AML	AML		03 02 26.4
comp=Z,372nm,0.5s							
SLR	**Silverton**	**5.88**	**237**	*e*P		Pn	03 09 55.7	+0.4
SLR				*e*S		Sn	03 11 01.1	-2.0
SLR				AML	AML		03 11 48.7	
comp=Z,101nm,0.6s							
SUR	**Sutherland**	**15.04**	**227**	*e*P		Pn	03 12 03.6	+3.0
SUR				*e*S		Sn	03 14 40.1	-7.5

IDC 05 03:11:38.0±4.0, 1956S×6865E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=151.4km s-min=32.8km az=47.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**60.35**	**107**	P		P	03 21 49.4	+0.7
0.5nm,0.8s,baz=264,slow=6.9,SNR=3.1							
WRA	**Warramunga Arr**	**61.44**	**103**	P		P	03 21 56.6	+0.4
0.6nm,1.0s,baz=255,slow=6.1,SNR=2.8							
MKAR	**Makanchi Array**	**67.18**	**10**	P		P	03 22 33.6	-0.1
0.4nm,0.8s,baz=190,slow=5.3,SNR=5.0							
FINES	**FINESS Array B**	**87.60**	**341**	P		P	03 24 27.8	-0.3
0.2nm,0.4s,baz=114,slow=8.5,SNR=4.8							

*ISCJB **05** 03:13:42.9±0.4, 5270N±008×3197W±007, h10km, mb4.0/34, MS3.5/16, Error ellipse: s-maj=11.0km s-min=5.8km az=15.7*
*IDC **05** 03:13:42.7±0.8, 5260N×3200W, h0km, mb3.9/17, mb1 4.1/18, mb1mx4.0/26, mbtmp3.9/18, ML4.2/1, MS3.6/13, Ms1 3.6/13, ms1mx3.5/28, Error ellipse: s-maj=24.2km s-min=13.1km az=180.0*
*NEIC **05** 03:13:44.3±0.3, 5258N×3197W, h10km, mb4.2/21, MS3.4/3, Error ellipse: s-maj=11.9km s-min=4.3km az=7.0*
*CSEM **05** 03:13:45.9±0.1, 5270N×3196W, h33km, mb4.2/16, Ms3.3, Error ellipse: s-maj=5.6km s-min=2.7km az=13.0*

ISC 05 03:13:44.5±0.4, 5268N±007×3193W±007, h10km, n80, σ0°86/78, mb4.0/34, MS3.5/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.27**	**20**	Pn		**Pn**	**03 16 58.4**	**+5.5**
0.9nm,0.3s,baz=202,slow=10,SNR=4.1							
BORG				Sn		**Sn**	**03 19 19.9**	**-0.6**
0.3nm,0.3s,baz=237,slow=20,SNR=2.5							
BORG	**Borgarnes**	**13.27**	**20**	Pn		**Pn**	**03 16 58.4**	**+5.5**
SFJD	**Kangerlussuaq**	**17.04**	**335**	LR		LR	03 23 01.2	
comp=Z,329nm,18.1s,baz=121,slow=33							
ESK	**Eskdalemuir**	**17.04**	**70**	*e*P		**Pn**	**03 17 44.7**	**+1.9**
7.7nm,0.6s							
ESK	**Eskdalemuir**	**17.04**	**70**	*e*P		**Pn**	**03 17 44.6**	**+1.9**
7.7nm,0.6s							
EKA	**Eskdalemuir Ar**	**17.06**	**70**	P		**Pn**	**03 17 43.4**	**+0.2**
0.5nm,0.3s,baz=273,slow=10.0,SNR=16							
EKA	**Eskdalemuir Ar**	**17.06**	**70**	P		**Pn**	**03 17 43.3**	**+0.2**
QUIF	**Quistinic**	**18.91**	**93**	*e*P		**Pn**	**03 18 06.4**	**+0.5**
30nm,1.0s							
QUIF	**Quistinic**	**18.91**	**93**	*e*P		**Pn**	**03 18 06.4**	**+0.5**
15nm,1.0s							
GRR	**Gorron**	**20.12**	**90**	*e*P		**P**	**03 18 18.7**	**+0.2**
SUMG	**Summit**	**20.17**	**354**	*e*P		**P**	**03 18 20.7**	**+1.7**
16nm,1.1s							
SUMG	**Summit**	**20.17**	**354**	*e*P		**P**	**03 18 20.7**	**+1.7**
16nm,1.1s							
FLN	**La Foliniere**	**20.20**	**89**	*e*P		**P**	**03 18 21.0**	**+1.6**
20nm,0.8s							
FLN				*e*R				
125nm,18.8s							
FLN	**La Foliniere**	**20.20**	**89**	*e*P		**P**	**03 18 21.0**	**+1.6**
9.9nm,0.8s							
FLN				LR		LR		
comp=Z,120nm,18.8s,MS3.3							
LDF	**La Druitiere**	**20.49**	**89**	*e*P		**P**	**03 18 22.7**	**+0.2**
MFF	**Saint Martin d**	**21.34**	**94**	*e*P		**P**	**03 18 31.1**	**-0.6**
comp=Z,26nm,1.0s,mb4.2							
MFF	**Saint Martin d**	**21.34**	**94**	*e*P		**P**	**03 18 31.1**	**-0.6**
comp=Z,13nm,1.0s,mb4.2							
BGF	**Bois d'Agland**	**23.18**	**91**	*e*P		**P**	**03 18 50.9**	**-0.4**
comp=Z,18nm,0.7s,mb4.3							
BGF	**Bois d'Agland**	**23.18**	**91**	*e*P		**P**	**03 18 50.9**	**-0.4**
comp=Z,8.8nm,0.7s,mb4.3							
SSF	**Saint Saulge**	**23.35**	**90**	*e*P		**P**	**03 18 52.7**	**-0.4**
AVF	**Avril sur Loir**	**23.38**	**90**	*e*P		**P**	**03 18 52.9**	**-0.5**
LOR	**Lormes**	**23.47**	**89**	*e*P		**P**	**03 18 54.0**	**-0.4**
comp=Z,6.3nm,0.7s,mb3.9							
LOR				*e*R				
comp=Z,169nm,21.6s							
LOR	**Lormes**	**23.47**	**89**	*e*P		**P**	**03 18 54.0**	**-0.4**
comp=Z,3.2nm,0.7s,mb3.9							
LOR				LR		LR		
comp=Z,170nm,21.6s,MS3.5							
MEZF	**Maizieres J'vi**	**23.67**	**85**	*e*P		**P**	**03 18 55.5**	**-0.8**
comp=Z,23nm,0.8s,mb4.4							
MEZF	**Maizieres J'vi**	**23.67**	**85**	*e*P		**P**	**03 18 55.5**	**-0.8**
comp=Z,12nm,0.8s,mb4.4							
SMF	**Signal de Mont**	**23.75**	**90**	*e*P		**P**	**03 18 56.1**	**-0.9**
comp=Z,15nm,0.8s,mb4.1							
SMF	**Signal de Mont**	**23.75**	**90**	*e*P		**P**	**03 18 56.1**	**-0.9**
comp=Z,7.3nm,0.8s,mb4.1							
NB2	**NORSAR Subarra**	**24.60**	**53**	P		**P**	**03 19 05.0**	**+0.2**
comp=Z,14nm,1.7s,mb4.2,baz=272,slow=11							
NOA	**NORSAR Array B**	**24.60**	**53**	P		**P**	**03 19 04.3**	**-0.5**
comp=Z,1.0nm,0.7s,mb3.5,baz=272,slow=10,SNR=5.3							
NOA				LR		LR	03 27 17.1	
comp=Z,85nm,19.1s,MS3.3,baz=280,slow=33							
NOA	**NORSAR Array B**	**24.60**	**53**	P		**P**	**03 19 04.3**	**-0.5**
NOA				LR		LR	03 27 17.1	
HAU	**Haudompre**	**24.66**	**85**	*e*P		**P**	**03 19 04.0**	**-1.3**
comp=Z,13nm,0.8s,mb4.2							
HAU				*e*R				
comp=Z,116nm,18.8s							
HAU	**Haudompre**	**24.66**	**85**	*e*P		**P**	**03 19 04.0**	**-1.3**
comp=Z,6.6nm,0.8s,mb4.2							
HAU				LR		LR		
comp=Z,120nm,18.8s,MS3.4							
CDF	**Champ du Feu**	**25.05**	**84**	*e*P		**P**	**03 19 08.9**	**0.0**
comp=Z,7.8nm,0.9s,mb3.9							
CDF	**Champ du Feu**	**25.05**	**84**	*e*P		**P**	**03 19 08.9**	**0.0**
comp=Z,3.9nm,0.9s,mb3.9							
ORIF	**Oris-en-Rattie**	**25.84**	**92**	*e*P		**P**	**03 19 16.1**	**+0.1**
comp=Z,29nm,1.1s,mb4.4							
ORIF				*e*R				
comp=Z,128nm,21

PDAR LR LR 03 42 59.4
comp=Z,86nm,18.2s,MS3.8,baz=60,slow=35
DBIC Dimbokro 50.95 144 P P 03 22 48.8 +2.7
comp=Z,1.1nm,0.8s,mb3.9,baz=338,slow=5.4,SNR=2.5
DBIC LR LR 03 43 05.2
comp=Z,53nm,18.3s,MS3.6,baz=159,slow=35
NEW Newport 51.37 302 P **P 03 22 49.1 -0.2**
comp=Z,2.6nm,0.9s,mb4.2
NEW Newport 51.37 302 P P 03 22 49.1 -0.2
comp=Z,2.6nm,0.9s,mb4.2
HWUT Hardware Ranch 52.63 292 *eP* **P 03 22 58.2 -0.5**
comp=Z,4.9nm,0.8s,mb4.5
HWUT Hardware Ranch 52.63 292 *eP* **P 03 22 58.2 -0.4**
comp=Z,4.9nm,0.8s,mb4.5
ILAR Eielson Array 52.65 331 P **P 03 22 59.0 +0.2**
comp=Z,0.8nm,1.0s,mb3.6,baz=31,slow=5.3,SNR=7.9
ILAR LR LR 03 44 27.7
comp=Z,70nm,19.7s,MS3.7,baz=0.8,slow=35
HLID Hailey 52.94 295 P **P 03 23 02.3 +1.4**
comp=Z,2.0nm,0.9s,mb4.0
PV10 Paradox Valley 53.33 287 P **P 03 23 05.2 +1.4**
PV10 Paradox Valley 53.33 287 P **P 03 23 05.2 +1.4**
DUG Dugway 54.28 291 *eP* **P 03 23 11.2 +0.4**
comp=Z,2.0nm,0.7s,mb4.2
DUG Dugway 54.28 291 *eP* **P 03 23 11.2 +0.5**
comp=Z,2.1nm,0.7s,mb4.2
BRVK Borovoye 56.30 45 *eP* **P 03 23 25.3 -0.1**
comp=Z,1.3nm,0.8s,mb4.0
BRVK Borovoye 56.30 45 *eP* **P 03 23 25.3 -0.1**
comp=Z,1.3nm,0.8s,mb4.0
NVAR Mina Array Bea 58.58 293 P **P 03 23 40.8 -0.6**
comp=Z,0.1nm,0.3s,mb3.3,baz=42,slow=11,SNR=1.6
NVAR LR LR 03 48 45.8
comp=Z,34nm,20.7s,MS3.5,baz=180,slow=36
ROSC El Rosal 59.02 232 P **P 03 23 45.1 +0.6**
comp=Z,6.5nm,0.8s,mb4.7,baz=67,slow=7.7,SNR=4.7
MKAR Makanchi Array 66.12 43 P **P 03 24 32.2 +0.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=319,slow=5.0,SNR=12
MKAR Makanchi Array 66.12 43 P **P 03 24 32.2 +0.3**
SONM Songino Array 73.75 28 P **P 03 25 19.7 +0.9**
comp=Z,0.5nm,0.8s,mb3.5,baz=312,slow=7.5,SNR=4.9
WRA Warramunga Arr 145.63 23 PKPbc PKPbc 03 33 23.0 -0.3
comp=Z,1.1nm,0.9s,baz=346,slow=3.3,SNR=5.0
ASAR Alice Springs 149.08 26 PKPbc PKPbc 03 33 32.4 -0.5
comp=Z,0.2nm,0.3s,baz=357,slow=2.2,SNR=2.6

IDC 05 03:42:50.9±1.7, 981S×15187E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/11, mbtmp3.3/5, MS2.8/1, Ms1 2.8/1, ms1mx2.5/11, Error ellipse: s-maj=64.1km s-min=24.7km az=114.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.66**	**275**	LR	LR	03 45 56.5	
	comp=Z,98nm,19.0s,baz=246,slow=40						
WRA	**Warramunga Arr**	**19.69**	**237**	P	Pn	03 47 22.3	-0.6
	0.0nm,0.3s,baz=61,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**22.00**	**229**	P	P	03 47 47.0	+0.5
	0.3nm,0.8s,baz=68,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**23.93**	**202**	P	P	03 48 06.8	+0.3
	1.6nm,0.9s,baz=24,slow=12,SNR=1.9						
SONM	**Songino Array**	**70.09**	**329**	P	P	03 54 05.5	+0.7
	0.3nm,0.7s,baz=145,slow=5.3,SNR=2.9						
ILAR	**Eielson Array**	**87.12**	**22**	P	P	03 55 38.4	-0.2
	0.5nm,0.7s,baz=247,slow=5.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**150.59**	**279**	PKPbc	PKPbc	04 02 45.9	+1.1
	0.8nm,0.7s,baz=70,slow=2.9,SNR=6.2						
TORD				PKPab	PKPab	04 02 50.7	-0.7
	0.7nm,0.7s,baz=67,slow=2.8,SNR=6.0						

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*IDC **05** 04:18:05.1±1.2, 2373N×12558E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/20, mbtmp3.6/5, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/20, Error ellipse: s-maj=46.8km s-min=23.1km az=76.0*
*ISCJB **05** 04:18:08.3±1.1, 2375N±006×12562E±005, h36km±13km, mb3.5/4, Error ellipse: s-maj=11.5km s-min=5.9km az=135.3*
*JMA **05** 04:18:09.7±0.2, 2380N×12554E, h63km, M3.1*
ISC 05 04:18:09.3±2.2, 2378N±005×12559E±004, h31km±18km, n16, σ0°55/27, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.99**	**350**	P	**Pn**	**04 18 27.6**	**+0.5**
JOGS				S	**Sn**	**04 18 40.8**	**+0.8**
JMJ	**Miyako jima 2**	**1.06**	**345**	P	**Pn**	**04 18 28.5**	**+0.4**
JMJ				S	**Sn**	**04 18 41.6**	**-0.2**
JTJ	**Tarama**	**1.18**	**317**	P	**Pn**	**04 18 29.8**	**+0.1**
JTJ				S	**Sn**	**04 18 45.0**	**+0.3**
JIJ	**Ishigaki jima**	**1.44**	**294**	P	**Pn**	**04 18 33.4**	**+0.1**
JIJ				S	**Sn**	**04 18 50.8**	**-0.4**
JKRS	**Kuro-shima**	**1.51**	**288**	P	**Pn**	**04 18 34.5**	**+0.2**
JKRS				S	**Sn**	**04 18 53.3**	**+0.3**
HATJ	**Hateruma jima**	**1.65**	**280**	P	**Pn**	**04 18 36.1**	**-0.1**
HATJ				S	**Sn**	**04 18 55.5**	**-0.9**
IRIF	**Iriomote-Funau**	**1.79**	**288**	P	**Pn**	**04 18 38.0**	**0.0**
IRIF				S	**Sn**	**04 18 59.7**	**0.0**
YOJ	**Yonaguni jima**	**2.45**	**287**	P	**Pn**	**04 18 47.1**	**-0.1**
YOJ				*eS*	**Sn**	**04 19 15.4**	**-0.7**
JKE	**Kume jima 2**	**2.76**	**23**	P	**Pn**	**04 18 51.0**	**-0.4**
JKE				S	**Sn**	**04 19 23.8**	**+0.2**
JIH	**Iheya**	**3.89**	**33**	P	**Pn**	**04 19 06.3**	**-0.7**
JOW	**Kunigami**	**3.89**	**38**	Pn	**Pn**	**04 19 06.9**	**-0.1**
	5.1nm,0.3s,baz=220,slow=14,SNR=15						
JOW				Sn	**Sn**	**04 19 49.2**	**-2.4**
	1.6nm,0.3s,baz=136,slow=26,SNR=2.9						
JOW				LR	LR	04 21 02.3	
	comp=Z,99nm,18.5s,baz=140,slow=45						
JOW	**Kunigami**	**3.89**	**38**	P	**Pn**	**04 19 07.2**	**+0.2**
JOW				*eS*	**Sn**	**04 19 51.3**	**-0.3**
MKAR	**Makanchi Array**	**41.46**	**315**	P	**P**	**04 25 54.5**	**+1.3**
	0.2nm,0.5s,mb3.0,baz=100,slow=9.6,SNR=4.6						
WRA	**Warramunga Arr**	**44.29**	**168**	P	**P**	**04 26 16.1**	**-0.1**
	1.1nm,0.7s,mb3.7,baz=348,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**47.85**	**170**	P	**P**	**04 26 44.7**	**+0.5**
	0.2nm,0.5s,mb3.4,baz=356,slow=12,SNR=4.8						
FINES	**FINESS Array B**	**73.80**	**330**	P	**P**	**04 29 40.6**	**-0.1**
	1.5nm,1.0s,mb3.9,baz=90,slow=7.6,SNR=3.7						

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*IDC **05** 04:37:39.7±4.1, 460S×10202E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=168.7km s-min=23.3km az=55.0*
*ISCJB **05** 04:37:41.7±3.0, 47S±05×1019E±07, h33km, mb4.0/6, Error ellipse: s-maj=120.3km s-min=19.2km az=109.8*
*NEIC **05** 04:37:43.8±2.5, 463S×10198E, h30km, mb4.3/2, Error ellipse: s-maj=104.0km s-min=16.1km az=55.0*
ISC 05 04:37:44.5±3.1, 47S±05×1019E±07, h35km, n6, σ0°99/6, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.04**	**119**	P	**P**	**04 44 32.7**	**-1.1**
	0.3nm,0.8s,mb3.3,baz=292,slow=9.5,SNR=4.4						
ASAR	**Alice Springs**	**36.17**	**125**	P	**P**	**04 44 44.6**	**+1.1**
	0.6nm,0.6s,mb3.7,baz=296,slow=7.6,SNR=6.9						
SONM	**Songino Array**	**52.41**	**4**	P	**P**	**04 46 53.8**	**+0.5**
	2.4nm,0.7s,mb4.2,baz=182,slow=8.6,SNR=28						
ULN	**Ulaanbaatar**	**52.48**	**4**	*eP*	**P**	**04 46 53.8**	**-0.1**
	2.1nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**54.08**	**343**	P	**P**	**04 47 05.8**	**+0.1**
	1.2nm,0.6s,mb4.0,baz=149,slow=8.2,SNR=21						
KURK	**Kurchatov**	**58.67**	**343**	*eP*	**P**	**04 47 37.9**	**-0.5**
	1.6nm,0.6s,mb4.2						

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*ISCJB **05** 04:44:56.0±0.2, 2407S±004×6697W±006, h191km, mb4.7/71, Error ellipse: s-maj=7.8km s-min=5.0km az=124.0*
*NEIC **05** 04:44:57.6±0.2, 2404S×6688W, mb4.7/66, Error ellipse: s-maj=7.6km s-min=4.3km az=67.0*
*MOS **05** 04:44:57.6±1.2, 2384S×6696W, h195km, mb4.7/29, Error ellipse: s-maj=18.5km s-min=7.8km az=112.7*
*GUC **05** 04:44:57.3±0.9, 2423S×6740W, h170km, ML5.5*
*IDC **05** 04:44:57.1±0.8, 2402S×6696W, h186km±6km, mb4.3/17, mb1 4.5/20, mb1mx4.5/21, mbtmp4.9/20, Error ellipse: s-maj=14.5km s-min=9.0km az=71.0*
*BJI **05** 04:44:59.6, 2400S×6690W, h191km, mB5.2*
ISC 05 04:44:57.8±0.2, 2413S±004×6699W±006, h193km, h193km±1.4km; pP-P, n220, σ1°03/175, mb4.6/71, 17C-11D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEN1	**Los Morros**	**3.03**	**283**	⇓*iP*	**Pn**	**04 45 44.3**	**-3.1**
CEN1				*i* S	**Sn**	**04 46 19.5**	**-6.7**
CEN1				AMP		04 46 22.7	
	comp=E,14μm,0.7s						
CPN1	**Cerro Paranal**	**3.15**	**260**	⇑*iP*	**Pn**	**04 45 44.4**	**-4.4**
CPN1				*i* S	**Sn**	**04 46 20.8**	**-7.9**
CPN1				AMP		04 46 22.9	
	comp=E,7μm,0.6s						
ANCH	**Antofagasta**	**3.16**	**277**	⇑*iP*	**Pn**	**04 45 41.7**	**-7.2**
ANCH				*i* S	**Sn**	**04 46 17.4**	**-12**
ANCH				AMP		04 46 20.3	
	comp=N,14μm,0.6s						
ANCH	**Antofagasta**	**3.16**	**277**	⇑*iP*	**Pn**	**04 45 41.7**	**-7.2**
ANCH				*i* S	**Sn**	**04 46 17.4**	**-12**
CPCH	**Copiapo**	**4.42**	**223**	⇑*iP*	**Pn**	**04 45 58.5**	**-6.0**
CPCH				*i* S	**Sn**	**04 46 48.0**	**-9.0**
CDCH	**Caldera**	**4.54**	**229**	⇑*iP*	**Pn**	**04 45 59.6**	**-6.5**
CDCH				*i* S	**Sn**	**04 46 49.0**	**-11**
CFAA	**Coronel Fontan**	**7.52**	**188**	P	**Pn**	**04 46 41.2**	**-3.6**
	comp=N,0.9nm,0.3s,baz=354,slow=12,SNR=84						
CFAA				S	**Sn**	**04 48 00.5**	**-9.2**
	comp=N,3.1nm,0.3s,baz=120,slow=22,SNR=10.0						
CFAA	**Coronel Fontan**	**7.52**	**188**	P	**Pn**	**04 46 41.2**	**-3.6**
CFAA				S	**Sn**	**04 48 00.5**	**-9.2**
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**04 46 47.8**	**-1.6**
	comp=N,13nm,0.3s,baz=156,slow=6.9,SNR=180						
LPAZ				S	**Sn**	**04 48 11.6**	**-6.6**
	comp=N,5.6nm,0.3s,baz=340,slow=22,SNR=9.2						
LPAZ	**La Paz**	**7.88**	**352**	⇑*iPn*	**Pn**	**04 46 47.7**	**-1.7**
	comp=N,41nm,0.5s						
LPAZ				*eS*	**Sn**	**04 48 12.8**	**-5.3**
LPAZ	**La Paz**	**7.88**	**352**	⇑*iP*	**Pn**	**04 46 47.7**	**-1.7**
LPAZ				*eS*	**Sn**	**04 48 12.8**	**-5.3**
LPAZ				pmax	pmax		
	comp=Z,41nm,0.5s						
ARE	**Arequipa**	**8.72**	**330**	*eP*	**Pn**	**04 46 56.0**	**-4.4**
ARE				*eS*	**Sn**	**04 48 29.0**	**-9.2**
SIV	**San Ignacio**	**9.82**	**36**	P	**Pn**	**04 47 11.6**	**-3.1**
	comp=Z,18nm,0.3s,baz=221,slow=12,SNR=477						
SIV				S	**Sn**	**04 48 51.5**	**-13**
	baz=237,slow=16,SNR=8.1						
TRQA	**Tornquist**	**14.52**	**164**	*e*Pn	**Pn**	**04 48 14.1**	**-0.3**
	comp=Z,59nm,0.7s						
TRQA				*eS*	**Sn**	**04 50 55.9**	**-0.7**
NNA	**Nana**	**15.28**	**321**	*eP*	**Pn**	**04 48 22.9**	**-0.7**
	comp=Z,22nm,1.1s						
SAML	**Samuel**	**15.53**	**14**	*eP*	**Pn**	**04 48 23.8**	**-3.0**
	comp=Z,40nm,0.8s						
PLCA	**Paso Flores**	**16.82**	**189**	P	**Pn**	**04 48 40.2**	**-2.0**
	comp=Z,2.0nm,0.3s,baz=9.3,slow=13,SNR=57						
PLCA				PcP	PcP	04 53 18.6	+0.9
	comp=Z,0.3nm,0.3s,baz=316,slow=1.3,SNR=6.7						
PLCA	**Paso Flores**	**16.82**	**189**	*eP*	**Pn**	**04 48 40.0**	**-2.3**
	comp=Z,41nm,0.8s						
PLCA				*eS*	**S**	**04 52 01.4**	**+15**
PLCA	**Paso Flores**	**16.82**	**189**	*eP*	**Pn**	**04 48 40.0**	**-2.2**
PLCA				pmax	pmax		
	comp=Z,41nm,0.8s						
BDFB	**Brasilia**	**19.73**	**68**	P	**P**	**04 49 12.4**	**-0.2**
	comp=Z,16nm,0.3s,baz=249,slow=9.1,SNR=280						
BAO	**Brasilia Array**	**19.75**	**68**	P	**P**	**04 49 13.0**	**+0.1**
CAM4	**Nova Friburgo**	**22.51**	**90**	*eP*	**P**	**04 49 38.5**	**-2.7**
CAM4				*i*		04 49 40.5	
CAM4				*i*		04 49 41.7	
CAM4				*i*		04 49 53.7	
CAM4				*i*		04 50 11.4	
CAM3	**Guarapari**	**24.68**	**87**	⇑*iP*	**P**	**04 50 00.1**	**-0.8**
CAM3				*i*		04 50 01.9	
OTAV	**Otavalo**	**26.66**	**334**	*eP*	**P**	**04 50 18.8**	**+0.1**
	comp=Z,4.5nm,0.9s,mb4.1						
OTAV				*e*PcP	PcP	04 53 39.1	+1.8
ROSC	**El Rosal**	**29.69**	**345**	P	**P**	**04 50 44.9**	**-0.7**
	comp=Z,3.7nm,0.5s,mb4.3,baz=96,slow=22,SNR=6.7						
USHA	**Ushuaia**	**30.68**	**182**	P	**P**	**04 50 53.6**	**-0.7**
	comp=Z,13nm,0.8s,mb4.6,baz=351,slow=1.9,SNR=9.0						
SDV	**Santo Domingo**	**33.01**	**353**	P	**P**	**04 51 13.2**	**-1.4**
	comp=Z,4.4nm,0.6s,mb4.1,baz=215,slow=3.5,SNR=7.0						
SDV	**Santo Domingo**	**33.01**	**353**	*eP*	**P**	**04 51 12.3**	**-2.3**
	comp=Z,8.0nm,0.3s,mb4.7						
RCBR	**Riachuelo**	**34.97**	**64**	*eP*	**P**	**04 51 31.4**	**-0.2**
	comp=Z,21nm,0.5s,mb4.9						
JTS	**JuntasAbangare**	**38.45**	**331**	P	**P**	**04 52 00.7**	**-0.2**
	comp=Z,9.1nm,0.7s,mb4.4,baz=150,slow=21,SNR=4.1						
JTS	**JuntasAbangare**	**38.45**	**331**	*eP*	**P**	**04 52 01.8**	**+0.9**
	comp=Z,25nm,1.1s,mb4.7						
JTS	**JuntasAbangare**	**38.45**	**331**	*i* P	**P**	**04 52 01.3**	**+0.4**
SJG	**San Juan**	**42.00**	**1**	P	**P**	**04 52 27.4**	**-2.5**
	comp=Z,8.4nm,0.6s,mb4.3,baz=135,slow=7.7,SNR=6.3						
SJG	**San Juan**	**42.00**	**1**	*eP*	**P**	**04 52 27.0**	**-3.0**
	comp=Z,11nm,0.8s,mb4.3						
SJG	**San Juan**	**42.00**	**1**	*eP*	**P**	**04 52 27.0**	**-3.0**
SJG				pmax	pmax		
	comp=Z,11nm,0.8s						
TEIG	**Tepich**	**48.72**	**333**	*eP*	**P**	**04 53 21.7**	**-1.1**
	comp=Z,1.4nm,0.4s,mb3.6						
VNA3	**Neumayer Olymp**	**57.02**	**161**	⇓*iP*	**P**	**04 54 23.6**	**+0.1**
VNA3				*e*		04 54 26.1	
VNA2	**Neumayer-Watz**	**57.59**	**160**	⇓*iP*	**P**	**04 54 27.7**	**+0.3**
	baz=290,slow=7.1						
VNA2				*e*		04 54 30.5	
NHSC	**New Hope**	**58.29**	**347**	*eP*	**P**	**04 54 32.3**	**0.0**
	comp=Z,88nm,1.2s,mb5.3						
COW	**Cow Castle Cre**	**58.67**	**347**	*eP*	**P**	**04 54 34.7**	**-0.2**
SNAA	**Sanae**	**59.22**	**161**	P	**P**	**04 54 38.3**	**-0.4**
	comp=Z,6.4nm,0.7s,mb4.3,baz=288,slow=6.7,SNR=31						
SNAA				pP	pP	04 55 23.9	+1.1
	comp=Z,2.2nm,0.4s,baz=262,slow=7.5,SNR=3.4						
SNAA	**Sanae**	**59.22**	**161**	⇓*iP*	**P**	**04 54 38.4**	**-0.3**
SNAA				*e*		04 54 41.2	
SNAA	**Sanae**	**59.22**	**161**	⇓*iP*	**P**	**04 54 38.4**	**-0.3**
SNAA				*e*		04 54 41.2	
SNAA	**Sanae**	**59.22**	**161**	*d iP*	**P**	**04 54 37.0**	**-1.7**
SNAA				*e*PP	pP	04 55 24.5	+1.7
HKT	**Hockley**	**60.49**	**331**	*eP*	**P**	**04 54 46.9**	**-0.4**
	comp=Z,19nm,1.5s,mb4.5						
HKT	**Hockley**	**60.49**	**331**	*eP*	**P**	**04 54 46.9**	**-0.4**
HKT				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.5						
NATX	**Nacogdoches**	**61.56**	**333**	*eP*	**P**	**04 54 54.7**	**+0.2**
	comp=Z,44nm,1.2s,mb5.0						
SWET	**Sewanee**	**61.70**	**342**	*eP*	**P**	**04 54 54.3**	**-1.1**
PLAL	**Pickwick Lake**	**62.10**	**340**	*eP*	**P**	**04 54 56.2**	**-1.9**
	comp=Z,39nm,1.9s,mb4.7						
JCT	**Junction City**	**62.76**	**328**	*eP*	**P**	**04 55 01.9**	**-0.7**
	comp=Z,21nm,0.8s,mb4.8						
JCT	**Junction City**	**62.76**	**328**	*eP*	**P**	**04 55 01.9**	**-0.6**
JCT				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.8						
WVT	**Waverly**	**63.09**	**341**	*eP*	**P**	**04 55 02.8**	**-1.9**
	comp=Z,37nm,1.1s,mb4.9						
WVT	**Waverly**	**63.09**	**341**	*eP*	**P**	**04 55 02.8**	**-1.9**
WVT				pmax	pmax		
	comp=Z,37nm,1.1s,mb4.9						
MIAR	**Mount Ida**	**63.58**	**336**	*eP*	**P**	**04 55 06.8**	**-1.2**
	comp=Z,15nm,1.0s,mb4.6						
MIAR	**Mount Ida**	**63.58**	**336**	*eP*	**P**	**04 55 06.8**	**-1.1**
MIAR				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
LTX	**Lajitas**	**63.79**	**324**	*eP*	**P**	**04 55 08.9**	**-0.3**
	comp=Z,2.8nm,0.7s,mb4.0						
LTX	**Lajitas**	**63.79**	**324**	*eP*	**P**	**04 55 08.9**	**-0.4**
LTX				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
PARMO	**Parma**	**64.17**	**340**	*eP*	**P**	**04 55 10.8**	**-1.0**
WCI	**Wyandotte Cave**	**64.63**	**343**	*eP*	**P**	**04 55 12.8**	**-1.9**
	comp=Z,15nm,0.5s,mb4.9						
WCI	**Wyandotte Cave**	**64.63**	**343**	*eP*	**P**	**04 55 12.8**	**-1.9**
WCI				pmax	pmax		
	comp=Z,15nm,0.5s,mb4.9						
ACSO	**Alum Creek Sta**	**65.75**	**347**	*eP*	**P**	**04 55 20.6**	**-1.3**
	comp=Z,12nm,1.0s,mb4.5						
WMOK	**Wichita Mounta**	**65.86**	**332**	*eP*	**P**	**04 55 21.4**	**-1.2**
	comp=Z,5.2nm,1.1s,mb4.1						
WMOK	**Wichita Mounta**	**65.86**	**332**	*eP*	**P**	**04 55 21.4**	**-1.3**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
CCM	**Cathedral Cave**	**65.92**	**339**	*eP*	**P**	**04 55 21.6**	**-1.5**
	comp=Z,30nm,1.1s,mb4.8						
CCM	**Cathedral Cave**	**65.92**	**339**	*eP*	**P**	**04 55 21.6**	**-1.4**
CCM				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	**66.07**	**180**	*eP*	**P**	**04 55 24.4**	**+0.4**
	comp=Z,38nm,0.8s,mb5.1						
GDL2	**Guadalupe Moun**	**66.43**	**326**	*eP*	**P**	**04 55 26.6**	**+0.3**
MNTX	**Cornudas Mount**	**66.56**	**325**	*eP*	**P**	**04 55 26.1**	**-0.9**
	comp=Z,12nm,0.9s,mb4.5						
MNTX				*e*pP	pP	04 56 11.6	-0.5
DBIC	**Dimbokro**	**67.83**	**71**	P	**P**	**04 55 34.7**	**-0.4**
	comp=Z,2.4nm,0.3s,mb4.2,baz=215,slow=6.9,SNR=23						
DBIC				pP	pP	04 56 20.7	+0.3
	comp=Z,5.4nm,0.9s,baz=219,slow=7.8,SNR=4.0						
DBIC	**Dimbokro**	**67.83**	**71**	*eP*	**P**	**04 55 34.5**	**-0.6**
	comp=Z,6.6nm,0.8s,mb4.3						
DBIC				*e*pP	pP	04 56 19.8	-0.6
DBIC	**Dimbokro**	**67.83**	**71**	*eP*	**P**	**04 55 34.5**	**-0.6**
DBIC				*e**PP	pP	04 56 19.8	-0.5
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BNM	**Barren Site**	**69.13**	**326**	*eP*	**P**	**04 55 44.0**	**+0.9**
LPM	**Los Pinos Moun**	**69.25**	**326**	*eP*	**P**	**04 55 44.5**	**+0.6**
ANMO	**Albuquerque**	**69.67**	**326**	P	**P**	**04 55 47.3**	**+0.9**
	comp=Z,12nm,0.8s,mb4.6,baz=144,slow=7.2,SNR=50						
ANMO	**Albuquerque**	**69.67**	**326**	*eP*	**P**	**04 55 47.0**	**+0.6**
	comp=Z,17nm,0.9s,mb4.7						
ANMO				*e*pP	pP	04 56 31.6	-0.2
ANMO	**Albuquerque**	**69.67**	**326**	*eP*	**P**	**04 55 47.0**	**+0.6**
ANMO				*e**PP	pP	04 56 31.6	-0.3
ANMO				pmax	pmax		
	comp=Z,17nm,0.9s						
CBKS	**Cedar Bluff**	**69.73**	**333**	*eP*	**P**	**04 55 46.0**	**-0.7**
	comp=Z,49nm,0.9s,mb5.1						
CBKS	**Cedar Bluff**	**69.73**	**333**	*eP*	**P**	**04 55 46.0**	**-0.8**
CBKS				pmax	pmax		
	comp=Z,49nm,0.9s,mb5.1						
TUC	**Tucson**	**69.99**	**321**	*eP*	**P**	**04 55 48.5**	**+0.1**
	comp=Z,18nm,1.3s,mb4.5						
TUC				*e*pP	pP	04 56 34.1	+0.2
TUC	**Tucson**	**69.99**	**321**	*eP*	**P**	**04 55 48.5**	**+0.1**
TUC				*e**PP	pP	04 56 34.1	+0.2
TUC				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.5						
SDCO	**Great Sand Dun**	**71.41**	**329**	⇓*iP*	**P**	**04 55 57.7**	**+0.8**
	comp=Z,19nm,1.0s,mb4.7						
SDCO				*e*pP	pP	04 56 43.5	+0.9
WUAZ	**Wupatki**	**72.69**	**323**	*eP*	**P**	**04 56 05.7**	**+1.1**
	comp=Z,16nm,0.6s,mb4.8						
ISCO	**Idaho Springs**	**73.10**	**330**	*eP*	**P**	**04 56 07.7**	**+0.7**
	comp=Z,15nm,1.1s,mb4.5						
ISCO	**Idaho Springs**	**73.10**	**330**	*eP*	**P**	**04 56 07.7**	**+0.7**
ISCO				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5						
PV01	**Paradox Valley**	**73.21**	**327**	*eP*	**P**	**04 56 08.6**	**+1.0**
PV01				*e*pP	pP	04 56 54.0	+0.5
SMCO	**Snowmass**	**73.24**	**329**	*eP*	**P**	**04 56 08.8**	**+1.0**
	comp=Z,24nm,1.0s,mb4.8						
SMCO				*e*pP	pP	04 56 54.8	+1.1
SYO	**Syowa Base**	**73.42**	**159**	⇓*e*PcP	PcP	04 56 23.1	-0.9
SYO	**Syowa Base**	**73.42**	**159**	⇑*e*P	**P**	**04 56 08.8**	**0.0**
SYO				⇓*e*PcP	PcP	04 56 23.1	-0.9
PV10	**Paradox Valley**	**73.63**	**327**	*eP*	**P**	**04 56 10.3**	**+0.3**
BAR	**Barrett**	**73.74**	**318**	*eP*	**P**	**04 56 11.1**	**+0.4**
PHWY	**Pilot Hill**	**74.24**	**331**	*eP*	**P**	**04 56 13.8**	**+0.3**
LDFC	**Landfair**	**74.48**	**321**	*eP*	**P**	**04 56 16.4**	**+1.5**
VNDA	**Vanda**	**74.57**	**190**	P	**P**	**04 56 16.4**	**+0.9**
	comp=Z,9.7nm,0.9s,mb4.4,baz=128,slow=5.5,SNR=15						
VNDA	**Vanda**	**74.57**	**190**	*eP*	**P**	**04 56 15.8**	**+0.3**
	comp=Z,17nm,1.1s,mb4.6						
VNDA	**Vanda**	**74.57**	**190**	*eP*	**P**	**04 56 15.8**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,17nm,1.1s						
NEN	**Nelson**	**74.73**	**321**	*eP*	**P**	**04 56 17.0**	**+0.6**
SRU	**San Rafael**	**74.94**	**326**	*eP*	**P**	**04 56 18.1**	**+0.6**
	comp=Z,20nm,0.8s,mb4.8						
SRU				*e*pP	pP	04 57 04.6	+0.9
SRU	**San Rafael**	**74.94**	**326**	*eP*	**P**	**04 56 18.2**	**+0.6**
SRU				*e**PP	pP	04 57 04.6	+0.9
SRU				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
RWWY	**Rawlins**	**75.34**	**330**	*eP*	**P**	**04 56 20.5**	**+0.6**
	comp=Z,21nm,1.0s,mb4.7						
MSU	**Marysvale**	**75.34**	**325**	*eP*	**P**	**04 56 21.2**	**+1.3**
MSU				*e*PcP	PcP	04 56 33.4	+1.1
MSU				*e*pP	pP	04 57 06.5	+0.4
ARUT	**Antelope Range**	**75.48**	**324**	*eP*	**P**	**04 56 22.4**	**+1.7**
SUR	**Sutherland**	**75.74**	**119**	*eP*	**P**	**04 56 23.2**	**+1.1**
	comp=Z,11nm,

comp=Z,7.9nm,0.4s,mb4.7,baz=241,slow=3.5,SNR=45
BOSA Boshof 80.66 117 *eP* **P 04 56 49.6 +0.4**
comp=Z,8.0nm,0.5s,mb4.6
BOSA **Boshof 80.66 117** *eP* **P 04 56 49.6 +0.4**
BOSA pmax pmax
comp=Z,8.0nm,0.5s,mb4.6
MAW Mawson 81.31 163 P **P 04 56 53.1 +0.5**
comp=Z,20nm,0.6s,mb5.0,baz=216,slow=19,SNR=5.4
HRY Holter Researc 81.33 331 *eP* **P 04 56 53.1 +0.4**
EGMT Eagleton 81.44 333 *eP* **P 04 56 52.8 -0.5**
comp=Z,19nm,1.1s,mb4.6
WVOR Wild Horse Val 81.58 324 *eP* **P 04 56 53.9 -0.2**
comp=Z,11nm,1.4s,mb4.3
WVOR Wild Horse Val 81.58 324 *eP* **P 04 56 53.9 -0.1**
WVOR pmax pmax
comp=Z,11nm,1.4s,mb4.3
LBTB Lobatse 82.32 114 *eP* **P 04 56 58.8 +0.9**
comp=Z,10nm,0.6s,mb4.6
LBTB Lobatse 82.32 114 *eP* **P 04 56 58.8 +0.9**
LBTB pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
BMO Blue Mountains 82.58 326 *eP* **P 04 56 59.5 +0.3**
comp=Z,18nm,1.4s,mb4.6
BMO Blue Mountains 82.58 326 *eP* **P 04 56 59.5 +0.3**
BMO pmax pmax
comp=Z,18nm,1.4s,mb4.6
FFC Flin Flon 84.09 340 *eP* **P 04 57 05.8 -1.1**
comp=Z,9.3nm,1.2s,mb4.4
FFC Flin Flon 84.09 340 *eP* **P 04 57 05.8 -1.1**
FFC pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
NEW Newport 84.90 329 *eP* **P 04 57 10.0 -1.0**
comp=Z,3.7nm,0.8s,mb4.2
NEW Newport 84.90 329 *eP* **P 04 57 10.0 -1.0**
NEW pmax pmax
comp=Z,4.0nm,0.8s
FCC Fort Churchill 85.59 346 ⇓*iP* **P 04 57 13.8 -0.6**
comp=Z,34nm,0.9s,mb5.1
FCC Fort Churchill 85.59 346 ⇓*iP* **P 04 57 13.8 -0.6**
FCC pmax pmax
comp=Z,34nm,0.9s,mb5.1
ESDC Sonseca Array 86.48 44 P **P 04 57 19.9 +1.1**
comp=Z,2.2nm,0.8s,mb3.9,baz=275,slow=5.4,SNR=5.3
ESDC pP pP 04 58 04.5 -1.6
comp=Z,3.2nm,1.0s,baz=244,slow=2.8,SNR=4.0
LSZ Lusaka 88.46 106 *eP* **P 04 57 30.6 +2.4**
comp=Z,10nm,1.0s,mb4.6
LSZ Lusaka 88.46 106 *eP* **P 04 57 30.6 +2.4**
LSZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
CASY Casey 89.85 179 *eP* **P 04 57 35.0 +0.3**
comp=Z,21nm,0.6s,mb5.2
YKA Yellowknife Ar 94.25 340 P **P 04 57 54.1 -0.8**
comp=Z,5.3nm,0.7s,mb4.7,baz=130,slow=4.6,SNR=119
YKA pP pP 04 58 41.1 -1.7
comp=Z,2.9nm,0.9s,baz=132,slow=4.6,SNR=6.1
YKW3 Yellowknife Ar 94.31 340 *eP* **P 04 57 54.3 -0.9**
CRAG Craig 97.11 328 *eP* **P 04 58 04.9 -3.1**
comp=Z,64nm,1.7s,mb5.6
AKASG Malin Array Be 112.13 43 PKiKP PKiKP 05 03 09.1 -1.1
comp=Z,0.3nm,0.2s,baz=260,slow=2.9,SNR=5.8
AKASG PKKPab PKKPab 05 14 10.4 -0.7
comp=Z,0.3nm,0.4s,baz=66,slow=3.1,SNR=5.0
AKASG Malin Array Be 112.13 43 PKPdf PKiKP 05 03 09.1 -1.2
AKASG PKKPab PKKPab 05 14 10.4 -0.7
FINES FINESS Array B 112.34 31 PKKPbc PKKPbc 05 13 59.4 -1.6
comp=Z,0.4nm,0.4s,baz=89,slow=5.5,SNR=9.5
BRTR Keskin Array B 112.88 55 PKiKP PKiKP 05 03 11.8 +0.1
comp=Z,0.9nm,0.8s,baz=204,slow=2.7,SNR=4.5
BRTR PKKPab PKKPab 05 14 07.5 -0.3
comp=Z,0.7nm,0.7s,baz=103,slow=5.3,SNR=4.8
ARCES ARCESS Array B 113.24 22 PKKPbc PKKPbc 05 13 58.1 +0.2
comp=Z,3.6nm,1.0s,baz=85,slow=4.2,SNR=15
OBN Obninsk 117.12 39 *i* PKiKP PKPdf 05 03 16.5 -3.3
OBN pmax pmax
comp=Z,19nm,1.4s
NWAO Narrogin (SRO) 123.12 184 PKP PKPdf 05 03 31.5 +0.2
comp=Z,7.2nm,1.0s,baz=136,slow=12,SNR=4.6
MUN Mundaring 124.12 183 *eP* PKPdf 05 03 33.5 +0.2
KLBR Kellerberrin 124.41 185 *eP* PKPdf 05 03 33.7 -0.1
comp=Z,6.4nm,0.4s
CTA Charters Tower 125.41 219 PKP PKPdf 05 03 36.7 +1.0
comp=Z,6.2nm,0.8s,baz=314,slow=3.2,SNR=7.5
CTAO Charters Tower 125.41 219 *e*PKPdf PKPdf 05 03 36.5 +0.8
BILL Bilibino 125.61 338 ⇑*i*PKIKP PKPdf 05 03 35.6 -0.5
MTSU Mount Surprise 128.05 219 *eP* PKPdf 05 03 42.3 +1.5
comp=Z,18nm,0.7s
ASAR Alice Springs 128.34 205 PKP PKPdf 05 03 41.8 +0.4
comp=Z,9.4nm,0.7s,baz=145,slow=1.9,SNR=71
AKTK Aktyubinsk 130.37 43 PKP PKPdf 05 03 44.6 -0.5
AKTO Aktyubinsk 130.37 43 PKP PKPdf 05 03 44.6 -0.5
comp=Z,3.7nm,0.9s,baz=230,slow=1.2,SNR=13
WB2 Warramunga Arr 131.51 207 *eP* PKPdf 05 03 48.0 +0.7
WRA Warramunga Arr 131.51 207 PKP PKPdf 05 03 48.1 +0.7
comp=Z,9.1nm,0.5s,baz=157,slow=1.8,SNR=52
WRAB Tennant Creek 131.52 207 *e*PKPdf PKPdf 05 03 47.6 +0.2
WRAB Tennant Creek 131.52 207 ⇑*i*PKIKP PKPdf 05 03 48.4 +1.1
TIXI Tiksi 131.61 353 ⇑*i*PKIKP PKPdf 05 03 46.3 -1.2
AB31 Akbulak array 131.82 45 *i* PKIKP PKPdf 05 03 48.1 +0.2
AB31 pmax pmax
comp=Z,6.0nm,0.9s
SEY Seymchan 133.21 337 ⇑*i*PKIKP PKPdf 05 03 49.9 -0.6
BRVK Borovoye 136.82 37 *e*PKPdf PKPdf 05 03 57.9 +0.7
BVA0 Borovoye Array 136.90 37 *i* PKIKP PKPdf 05 03 58.1 +0.7
BVA0 pmax pmax
comp=Z,1.0nm,1.2s
BVAR Borovoye Array 136.90 37 PKP PKPdf 05 03 58.2 +0.8
comp=Z,1.7nm,0.6s,baz=277,slow=2.3,SNR=14
KK31 Karatay Array 140.37 51 *i* PKIKP PKPdf 05 04 04.4 +0.6
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 140.37 51 *i* PKIKP PKPdf 05 04 04.4 +0.6
YAK Yakutsk 140.46 348 ⇑*i*PKIKP PKPdf 05 04 02.1 -1.8
NVS Novosibirsk 142.22 28 *e*PKIKP PKPdf 05 04 06.4 -0.7
KURK Kurchatov 142.48 36 *e*PKPpre 05 04 04.0
KURK *e*PKPdf PKPdf 05 04 08.0 +0.4
AAK Ala-Archa 143.31 50 *e*PKPdf PKPdf 05 04 08.3 -0.8
AAK Ala-Archa 143.31 50 ⇑*i*PKIKP PKPdf 05 04 06.7 -2.3
ZAL Zalesovo 143.51 28 PKP PKPdf 05 04 07.2 -2.2
comp=Z,6.8nm,0.5s,baz=168,slow=3.2,SNR=42
KRAR Krasnoyarsk 144.90 20 *i* PKIKP PKPdf 05 04 10.9 -0.9
BOD Bodaibo 146.34 359 *e*PKIKP PKPdf 05 04 13.6 -0.6
BOD pmax pmax
comp=Z,21nm,0.8s
MK31 Makanchi Array 146.62 40 *i* PKIKP PKPdf 05 04 15.2 +0.5
MKAR Makanchi Array 146.62 40 PKPbc PKPbc 05 04 15.3 -1.3
comp=Z,21nm,0.8s,baz=296,slow=1.4,SNR=99
MKAR pPKPbc pPKPbc 05 05 05.8 -0.2
comp=Z,5.1nm,0.8s,baz=336,slow=2.7,SNR=4.5
YSS Yuzh-Sakhalins 147.10 321 *e*PKPbc PKPbc 05 04 16.6 -1.3
YSS Yuzh-Sakhalins 147.10 321 ⇑*i*PKIKP PKPdf 05 04 16.1 +0.6
KLR Kul'dur 150.95 334 *e*PKIKP PKPdf 05 04 23.7 +2.0
KLR pmax pmax
comp=Z,36nm,1.0s
MOY Mondy 151.00 16 *e*PKIKP PKPdf 05 04 28.4 +6.6
MOY pmax pmax
comp=Z,33nm,1.4s
WMQ Urumqi 151.44 40 *e*PKP PKPdf 05 04 25.0 +2.6
WMQ LR LR
comp=Z,156nm,24.0s
ZAK Zakamensk 152.73 14 *e*PKIKP PKPdf 05 04 25.2 +0.9
ZAK pmax pmax
comp=Z,8.0nm,1.6s
HIA Hailar 154.36 350 *i* PKIKP PKPdf 05 04 26.6 -0.1
MJAR Matsushiro Arr 155.06 306 PKP PKPdf 05 04 26.7 -1.0
comp=Z,0.7nm,0.5s,baz=225,slow=0.4,SNR=4.8
MJAR *e*PKPbc PKPdf 05 04 36.3 +8.7
comp=Z,2.1nm,0.4s,baz=86,slow=1.6,SNR=8.3
MJAR PKPab PKPab 05 04 53.6 +0.5
comp=Z,9.7nm,0.9s,baz=70,slow=2.1,SNR=17
MAJO Matsushiro 155.06 306 *e*PKPbc PKPdf 05 04 36.7 +9.1
MAJO *e*PKPab PKPab 05 04 53.4 +0.3
MAT Matsushiro 155.06 306 PKP PKPdf 05 04 36.7 +9.1
MAT Matsushiro 155.06 306 *e*PKIKP PKPdf 05 04 37.0 +9.4
SONM Songino Array 155.77 11 PKP PKPdf 05 04 29.5 +0.9
comp=Z,1.1nm,0.6s,baz=290,slow=1.7,SNR=12
SONM PKPbc PKPdf 05 04 38.4 +10
comp=Z,0.6nm,0.6s,baz=314,slow=1.2,SNR=9.0
SONM PKPab PKPab 05 04 56.7 +0.6
comp=Z,1.4nm,0.5s,baz=321,slow=3.9,SNR=7.3
ULN Ulaanbaatar 155.85 10 ⇑*i*PKIKP PKPdf 05 04 29.3 +0.6
CN2 Changchun 157.88 336 *e*PKP PKPdf 05 04 33.9 +2.6
GTA Gaotai 161.12 33 *e*PKP PKPdf 05 04 36.2 +1.2
GTA APKP 05 05 27.1
GTA XPKP 05 05 46.9
GTA PP PP 05 09 08.3 +5.5
GTA PP PP
comp=Z,143nm,6.1s
HHC Hu-ho-hao-te 163.29 4 *e*PKP PKPdf 05 04 35.0 -2.2
HHC APKP 05 05 24.0
HHC PKP2 PKPab 05 05 28.1 -0.7
HHC XPKP 05 05 45.5
HHC PKS 05 08 07.1
HHC PP PP 05 09 14.9 +0.6
HHC SKKS SKKSac 05 15 40.5 -2.9
HHC LR LR
comp=N,150nm,8.3s
HHC LR LR
comp=E,169nm,8.8s
HHC LR LR
comp=Z,84nm,5.9s
LZH Lanzhou 165.70 31 *e*PKP PKPdf 05 04 40.6 +1.3
LZH APKP 05 05 29.8
LZH XPKP 05 05 53.0
CD2 Chengdu 169.37 49 *e*PKP PKPdf 05 04 44.4 +2.5
SSE Sheshan 169.97 316 *e*PKP PKPdf 05 04 45.0 +2.8
NJ2 Nanjing 170.58 328 *e*PKP PKPdf 05 04 38.4 -4.2
NJ2 APKP 05 05 36.4
NJ2 PKP2 PKPab 05 05 59.0 -2.1
NJ2 PP PP
comp=Z,140nm,5.6s
NJ2 LR LR
comp=N,910nm,31.2s
NJ2 LR LR
comp=E,860nm,33.0s
NJ2 LR LR
comp=Z,510nm,24.8s
GYA Guiyang 173.81 67 *e*PKP PKPdf 05 04 44.9 +0.9
GYA PP PP
comp=Z,100nm,8.0s

IDC 05 04:59:57.3±3.7, 2995S×13895E, h0km, mb1 2.8/3, mb1mx2.8/12, mbtmp2.6/3, ML2.4/3, Error ellipse: s-maj=179.5km s-min=20.3km az=49.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.98**	**131**	Pn	Pn	Pn		05 00 45.8	0.0
0.2nm,0.3s,baz=304,slow=13,SNR=3.7									
STKA				Pg	Pg	Pg		05 00 51.5	-2.9
0.4nm,0.3s,baz=292,slow=17,SNR=6.0									
STKA				Sn	Sn	Sn		05 01 23.4	+1.3
1.0nm,0.3s,baz=0.0,slow=8.1,SNR=6.5									
ASAR	**Alice Springs**	**7.71**	**323**	Pn	Pn	Pn		05 01 49.9	-0.9
0.0nm,0.3s,baz=145,slow=12,SNR=3.0									
WRA	**Warramunga Arr**	**10.81**	**336**	Pn	Pn	Pn		05 02 34.5	+1.3
0.1nm,0.3s,baz=155,slow=14,SNR=3.1									

MOS ***05*** *05:05:56.9±1.2, 2409S×6993W, h33km, mb4.8/13, Error ellipse: s-maj=22.3km s-min=10.6km az=103.8*
ISCJB ***05*** *05:05:58.2±0.6, 2401S±003×6974W±005, h44km±5km, mb4.5/34, MS3.9/2, Error ellipse: s-maj=7.5km s-min=4.7km az=164.8*
NEIC ***05*** *05:06:01.3±0.3, 2401S×6976W, mb4.5/29, Error ellipse: s-maj=9.6km s-min=6.0km az=69.0*
GUC ***05*** *05:06:01.3±1.0, 2413S×7000W, h57km±134km, ML4.6*
IDC ***05*** *05:06:01.4±0.6, 2403S×6974W, h54km±4km, mb4.0/10, mb1 4.1/12, mb1mx4.0/16, mbtmp4.2/12, MS3.3/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=18.8km s-min=13.7km az=81.0*
BJI ***05*** *05:06:09.2, 2400S×6980W, h58km, mB5.2, Ms5.4, Msz4.7*
ISC 05 05:05:59.8±0.5, 2400S±003×6982W±005, h39km±5km, h59km±1.1km: pP-P, n101, σ0.99/90, mb4.5/34, MS3.9/2, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.63**	**300**	⇑*iP*		**Pn**		**05 06 11.1**	**-1.1**
ANCH				*i* S		**Sn**		**05 06 20.6**	**-0.5**
ANCH				AMP				05 06 22.3	
comp=N,68μm,0.3s									
ANCH	**Antofagasta**	**0.63**	**300**	⇑*iP*		**Pn**		**05 06 11.1**	**-1.1**
ANCH				*i* S		**Sn**		**05 06 20.6**	**-0.5**
CEN1	**Los Morros**	**0.71**	**330**	*eP*		**Pn**		**05 06 14.5**	**+1.3**
CEN1				*i* S		**Sn**		**05 06 24.9**	**+1.9**
CEN1				AMP				05 06 26.4	
comp=N,23μm,0.6s									
CPN1	**Cerro Paranal**	**0.82**	**221**	*eP*		**Pn**		**05 06 15.4**	**+0.6**
CPN1				*i* S		**Sn**		**05 06 25.8**	**0.0**
CPN1				AMP				05 06 28.7	
comp=E,60μm,0.2s									
CDCH	**Caldera**	**3.19**	**196**	*i* P		**Pn**		**05 06 45.6**	**-1.8**
CDCH				*i* S		**Sn**		**05 07 26.3**	**+2.1**
CPCH	**Copiapo**	**3.38**	**188**	*eP*		**Pn**		**05 06 49.1**	**-0.8**
CPCH				*i* S		**Sn**		**05 07 26.2**	**-2.5**
ARE	**Arequipa**	**7.67**	**348**	*eP*		**Pn**		**05 07 49.0**	**+0.1**
ARE				*e*S		**Sn**		**05 09 13.0**	**-1.4**
CFAA	**Coronel Fontan**	**7.70**	**170**	P		**Pn**		**05 07 50.0**	**+0.6**
comp=E,0.4nm,0.3s,baz=353,slow=12,SNR=18									
CFAA				S		**Sn**		**05 09 16.9**	**+1.7**
comp=E,0.6nm,0.3s,baz=16,slow=12,SNR=2.7									
CFAA	**Coronel Fontan**	**7.70**	**170**	P		**Pn**		**05 07 50.0**	**+0.6**
CFAA				S		**Sn**		**05 09 16.9**	**+1.7**
LPAZ	**La Paz**	**7.84**	**12**	P		**Pn**		**05 07 55.5**	**+4.2**
comp=E,2.3nm,0.3s,baz=198,slow=7.0,SNR=70									
LPAZ				LR		LR		05 11 16.3	
comp=E,168nm,20.2s,baz=352,slow=40									
LPAZ	**La Paz**	**7.84**	**12**	*e*Pn		**Pn**		**05 07 56.2**	**+5.0**
comp=E,42nm,0.9s									
LPAZ	**La Paz**	**7.84**	**12**	*eP*		**Pn**		**05 07 56.2**	**+5.0**
LPAZ				pmax		pmax			
comp=Z,42nm,0.9s									
SIV	**San Ignacio**	**11.45**	**47**	P		**Pn**		**05 08 41.3**	**+0.6**
comp=Z,4.2nm,0.3s,baz=233,slow=12,SNR=84									
SIV				S		**Sn**		**05 10 47.4**	**+0.2**
comp=Z,0.8nm,0.3s,baz=215,slow=16,SNR=3.4									
NNA	**Nana**	**13.69**	**330**	*e*Pn		**Pn**		**05 09 10.8**	**-0.5**
comp=Z,52nm,1.6s									
TRQA	**Tornquist**	**15.52**	**156**	*e*Pn		**Pn**		**05 09 35.4**	**-0.3**
comp=Z,15nm,0.7s									
SAML	**Samuel**	**16.26**	**24**	*eP*		**Pn**		**05 09 44.2**	**-1.0**
comp=Z,8.0nm,1.0s									
PLCA	**Paso Flores**	**16.69**	**182**	LR		LR		05 16 33.1	
comp=Z,149nm,19.2s,baz=330,slow=38									
BDFB	**Brasilia**	**22.11**	**72**	P		**P**		**05 10 50.9**	**-0.8**
comp=Z,13nm,0.6s,mb4.5,baz=251,slow=9.6,SNR=17									
BDFB				LR		LR		05 20 02.9	
comp=Z,75nm,21.8s,MS3.1,baz=190,slow=38									
BAO	**Brasilia Array**	**22.13**	**72**	P		**P**		**05 10 51.0**	**-0.9**
OTAV	**Otavalo**	**25.51**	**340**	P		**P**		**05 11 26.2**	**+1.7**
comp=Z,5.5nm,0.8s,mb4.1									
OTAV				*e*				05 11 48.3	
RCBR	**Riachuelo**	**37.26**	**66**	*eP*		**P**		**05 13 08.2**	**+0.5**
comp=Z,24nm,0.9s,mb5.0									
VNA3	**Neumayer Olymp**	**57.99**	**161**	*eP*		**P**		**05 15 47.7**	**-0.7**
VNA2	**Neumayer--Watz**	**58.59**	**160**	*eP*		**P**		**05 15 52.2**	**-0.3**
baz=293,slow=8.6									
SNAA	**Sanae**	**60.20**	**160**	P		**P**		**05 16 02.9**	**-0.8**
comp=Z,1.2nm,0.8s,mb4.0,baz=274,slow=14,SNR=6.2									
SWET	**Sewanee**	**60.84**	**345**	*eP**		**P**		**05 16 07.5**	**-0.6**
SWET				*e*pP		pP		05 16 23.2	+3.5
SWET				*e*sP		sP		05 16 29.6	+5.3
JCT	**Junction City**	**61.34**	**331**	P		**P**		**05 16 10.8**	**-0.6**
comp=Z,5.8nm,0.8s,mb4.8									
JCT				*e*pP		pP		05 16 27.1	+4.0
JCT				*e*sP		sP		05 16 33.6	+6.0
JCT	**Junction City**	**61.34**	**331**	P		**P**		**05 16 10.8**	**-0.6**
JCT				*e*PP		pP		05 16 27.1	+4.0
JCT				pmax		pmax			
comp=Z,6.0nm,0.8s,mb4.8									
WVT	**Waverly**	**62.19**	**344**	*eP*		**P**		**05 16 16.2**	**-1.0**
comp=Z,4.0nm,0.6s,mb4.7									
WVT				*e*pP		pP		05 16 31.6	+2.8
WVT				*e*sP		sP		05 16 38.2	+4.9
WVT	**Waverly**	**62.19**	**344**	*eP*		**P**		**05 16 16.2**	**-0.9**
WVT				*e*PP		pP		05 16 31.6	+2.8
WVT				pmax		pmax			
comp=Z,4.0nm,0.6s,mb4.7									
WCI	**Wyandotte Cave**	**63.81**	**346**	*eP*		**P**		**05 16 26.5**	**-1.4**
comp=Z,7.0nm,0.6s,mb4.9									
WCI				*e*pP		pP		05 16 42.0	+2.4
WCI				*e*sP		sP		05 16 49.0	+4.8
WCI	**Wyandotte Cave**	**63.81**	**346**	*eP*		**P**		**05 16 26.5**	**-1.4**
WCI				*e*PP		pP		05 16 42.0	+2.4
WCI				pmax		pmax			
comp=Z,7.0nm,0.6s,mb4.9									

FVM French Village 64.63 342 *eP* **P 05 16 33.1 -0.2**
comp=Z,11nm,0.6s,mb5.1
FVM *e*pP pP 05 16 48.0 +3.0
FVM *e*sP sP 05 16 54.8 +5.2
FVM French Village 64.63 342 *eP* **P 05 16 33.1 -0.2**
FVM *e*PP pP 05 16 48.0 +3.0
FVM pmax pmax
comp=Z,11nm,0.6s,mb5.1
MNTX Cornudas Mount 65.00 327 *eP* **P 05 16 35.4 -0.3**
comp=Z,2.3nm,0.8s,mb4.3
MNTX *e*pP pP 05 16 50.7 +3.3
QSPA South Pole Qui 66.20 180 *eP* **P 05 16 43.5 +0.1**
comp=Z,5.0nm,0.5s,mb4.8
ANMO Albuquerque 68.16 328 pP pP 05 17 12.0 +4.4
comp=Z,3.0nm,0.9s,baz=150,slow=6.6,SNR=7.7
ANMO Albuquerque 68.16 328 *eP* **P 05 16 57.3 +1.5**
comp=Z,3.9nm,0.8s,mb4.5
ANMO *e*pP pP 05 17 11.4 +3.8
ANMO *e*sP sP 05 17 18.8 +6.6
ANMO Albuquerque 68.16 328 *eP* **P 05 16 57.3 +1.5**
ANMO *e*PP pP 05 17 11.4 +3.8
ANMO *e*SP sP 05 17 18.8 +6.6
ANMO pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 68.31 323 P **P 05 16 58.1 +1.3**
comp=Z,3.6nm,1.1s,mb4.3
TUC *e*pP pP 05 17 13.8 +5.2
TUC *e*sP sP 05 17 20.4 +7.3
TUC Tucson 68.31 323 P **P 05 16 58.2 +1.4**
TUC *e*PP pP 05 17 13.8 +5.2
TUC *e*SP sP 05 17 20.5 +7.3
TUC pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
SDCO Great Sand Dun 69.98 331 P **P 05 17 07.8 +0.6**
comp=Z,11nm,1.0s,mb4.7
SDCO *e*pP pP 05 17 23.4 +4.4
SDCO *e*sP sP 05 17 30.3 +6.7
DBIC Dimbokro 70.26 73 P **P 05 17 09.0 +0.1**
comp=Z,6.3nm,0.5s,mb4.8,baz=212,slow=5.7,SNR=36
DBIC Dimbokro 70.26 73 *eP* **P 05 17 09.2 +0.4**
comp=Z,7.5nm,0.6s,mb4.8
DBIC Dimbokro 70.26 73 *eP* **P 05 17 09.2 +0.3**
DBIC pmax pmax
comp=Z,7.0nm,0.6s
PV01 Paradox Valley 71.72 329 P **P 05 17 17.8 +0.1**
PV01 *e*PcP PcP 05 17 35.2 -1.4
SMCO Snowmass 71.82 330 *eP* **P 05 17 19.4 +1.1**
comp=Z,8.2nm,1.0s,mb4.6
SMCO *e*PcP PcP 05 17 35.9 -1.1
PV10 Paradox Valley 72.14 329 P **P 05 17 20.7 +0.5**
PV10 *e*PcP PcP 05 17 37.5 -0.9
NEN Nelson 73.04 323 *eP* **P 05 17 23.0 -2.6**
NEN *e*PcP PcP 05 17 42.7 +0.4
SRU San Rafael 73.43 328 *eP* **P 05 17 28.6 +0.7**
comp=Z,6.3nm,0.7s,mb4.7
SRU *e*pP pP 05 17 44.8 +5.0
SRU *e*sP sP 05 17 50.7 +6.4
SRU San Rafael 73.43 328 *eP* **P 05 17 28.6 +0.7**
SRU *e*PP pP 05 17 44.8 +5.0
SRU pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MSU Marysvale 73.78 327 *eP* **P 05 17 30.8 +0.9**
MSU *e*pP pP 05 17 46.7 +4.9
MSU *e*sP sP 05 17 53.5 +7.1
MSU Marysvale 73.78 327 *eP* **P 05 17 30.8 +0.8**
MSU *e*PP pP 05 17 46.7 +4.8
ARUT Antelope Range 73.88 325 *eP* **P 05 17 29.7 -0.8**
ARUT *e*pP pP 05 17 47.8 +5.3
ARUT *e*sP sP 05 17 53.9 +6.9
ARUT Antelope Range 73.88 325 *eP* **P 05 17 29.7 -0.8**
ARUT *e*PP pP 05 17 47.8 +5.4
SYO Syowa Base 74.46 159 ⇑*eX* 05 17 36.3
SYO Syowa Base 74.46 159 ⇓*eX* 05 17 52.5
RSSD Black Hills 74.69 335 *eP* **P 05 17 36.3 +1.1**
comp=Z,4.4nm,1.1s,mb4.3
RSSD *e*pP pP 05 17 51.2 +4.0
RSSD *e*sP sP 05 17 58.8 +7.1
RSSD Black Hills 74.69 335 *eP* **P 05 17 36.3 +1.0**
RSSD *e*PP pP 05 17 51.2 +4.0
RSSD pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
DUG Dugway 75.39 327 *eP* **P 05 17 37.0 -2.2**
comp=Z,6.8nm,1.2s,mb4.5
DUG *e*pP pP 05 17 55.5 +4.3
DUG Dugway 75.39 327 *eP* **P 05 17 37.1 -2.2**
DUG *e*PP pP 05 17 55.5 +4.3
DUG pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BW06 Boulder Array 75.87 331 *eP* **P 05 17 42.8 +0.8**
comp=Z,3.7nm,1.1s,mb4.2
BW06 *e*pP pP 05 17 57.3 +3.3
PDAR Pinedale Array 75.87 331 P **P 05 17 42.5 +0.5**
comp=Z,0.2nm,0.4s,mb3.4,baz=135,slow=7.1,SNR=5.1
PDAR pP pP 05 17 58.6 +4.6
comp=Z,0.8nm,0.5s,baz=135,slow=6.5,SNR=7.2
HWUT Hardware Ranch 75.87 329 *eP* **P 05 17 42.0 -0.1**
comp=Z,5.3nm,0.6s,mb4.7
HWUT *e*pP pP 05 17 58.5 +4.5
HWUT *e*sP sP 05 18 04.6 +6.1
SNOW Snow King Moun 76.95 331 P **P 05 17 47.5 -0.7**
comp=Z,3.8nm,0.6s,mb4.5
SNOW *e*pP pP 05 18 05.2 +5.0
NVAR Mina Array Bea 76.96 323 pP pP 05 18 04.8 +4.6
comp=Z,1.0nm,0.8s,baz=156,slow=5.8,SNR=5.2
NVAR sP sP 05 18 12.3 +7.7
comp=Z,1.2nm,0.8s,baz=160,slow=7.1,SNR=4.1
LOHW Long Hollow 77.00 331 *eP* **P 05 17 48.7 +0.3**
comp=Z,8.5nm,1.1s,mb4.6
LOHW *e*pP pP 05 18 04.5 +4.1
ELK Elko 77.02 326 P **P 05 17 48.2 -0.3**
comp=Z,4.6nm,1.1s,mb4.3
ELK *e*pP pP 05 18 05.3 +4.8
ELK Elko 77.02 326 P **P 05 17 48.2 -0.3**
ELK *e*PP pP 05 18 05.3 +4.8
ELK pmax pmax
comp=Z,5.0nm,1.1s
FLWY Flagg Ranch 77.42 331 P **P 05 17 51.5 +0.8**
comp=Z,16nm,0.9s,mb4.9
FLWY *e*pP pP 05 18 08.1 +5.3
ULM Lac du Bonnet 77.45 343 P **P 05 17 50.7 -0.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=345,slow=18,SNR=2.6
ULM pP pP 05 18 06.3 +3.3
comp=Z,1.2nm,0.4s,baz=148,slow=4.9,SNR=2.1
ULM sP sP 05 18 12.1 +4.7
comp=Z,1.7nm,0.5s,baz=162,slow=4.8,SNR=3.2
ULM Lac du Bonnet 77.45 343 P **P 05 17 50.7 -0.3**
ULM pP pP 05 18 06.3 +3.4
ULM sP sP 05 18 12.1 +4.7
HLID Hailey 78.72 329 *eP* **P 05 17 59.6 +1.6**
comp=Z,1.1nm,0.6s,mb4.0
HLID *e*pP pP 05 18 15.3 +5.3
MCMT McKenzie Canyo 78.96 330 *eP* **P 05 17 58.3 -1.0**
MCMT *e*pP pP 05 18 16.5 +5.2
TORD Torodi Ar. Bea 78.98 70 P **P 05 17 59.9 +0.5**
comp=Z,15nm,0.6s,mb5.1,baz=258,slow=5.2,SNR=359
TORD pP pP 05 18 16.1 +4.6
comp=Z,5.1nm,0.5s,baz=266,slow=6.3,SNR=7.7
DLMT Dillon 79.26 331 *eP* **P 05 18 00.4 -0.6**
comp=Z,6.1nm,1.0s,mb4.5
DLMT *e*pP pP 05 18 18.1 +5.2
HRY Holter Researc 79.98 332 *eP* **P 05 18 05.4 +0.5**
HRY *e*pP pP 05 18 20.4 +3.5
WVOR Wild Horse Val 79.99 326 *eP* **P 05 18 04.2 -0.8**
comp=Z,3.4nm,1.0s,mb4.2
WVOR Wild Horse Val 79.99 326 *eP* **P 05 18 04.2 -0.7**
WVOR pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TSUM Tsumeb 80.13 107 P **P 05 18 06.6 +0.9**
comp=Z,3.1nm,0.6s,mb4.4,baz=235,slow=22,SNR=7.6
TSUM Tsumeb 80.13 107 *eP* **P 05 18 06.9 +1.2**
comp=Z,3.0nm,0.7s,mb4.3
BOSA Boshof 83.01 118 P **P 05 18 21.1 +0.1**
comp=Z,5.5nm,1.0s,mb4.6,baz=207,slow=4.5,SNR=6.0
BOSA pP pP 05 18 37.0 +4.0
comp=Z,2.5nm,0.6s,baz=201,slow=16,SNR=2.1
BOSA Boshof 83.01 118 *eP* **P 05 18 20.7 -0.2**
comp=Z,4.8nm,0.9s,mb4.5
BOSA Boshof 83.01 118 *eP* **P 05 18 20.7 -0.2**
BOSA pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ESDC Sonseca Array 88.19 45 P **P 05 18 47.4 +0.7**
comp=Z,0.6nm,0.8s,mb3.9,baz=268,slow=5.3,SNR=4.0
YKA Yellowknife Ar 93.26 341 P **P 05 19 09.7 -0.5**
comp=Z,0.3nm,0.6s,mb3.9,baz=138,slow=4.3,SNR=9.4

YKA pP pP 05 19 25.8 +3.4
comp=Z,0.3nm,0.4s,baz=136,slow=4.5,SNR=7.6
ASAR Alice Springs 127.32 208 PKP PKPdf 05 24 59.8 -0.3
comp=Z,0.2nm,0.4s,baz=128,slow=2.0,SNR=6.0
ASAR pPKP pPKPdf 05 25 16.8 +4.2
comp=Z,1.3nm,0.9s,baz=142,slow=2.0,SNR=9.0
WRA Warramunga Arr 130.38 210 PKP PKPdf 05 25 06.1 +0.2
comp=Z,0.3nm,0.4s,baz=155,slow=1.8,SNR=17
WRA pPKP pPKPdf 05 25 23.4 +4.9
comp=Z,1.5nm,0.8s,baz=154,slow=1.6,SNR=7.1
KURK Kurchatov 143.87 34 *e*PKPdf PKPdf 05 25 28.5 -2.2
ZAL Zalesovo 144.56 26 PKP PKPdf 05 25 30.7 -1.2
comp=Z,2.9nm,0.7s,baz=152,slow=5.6,SNR=22
ZAL pPKP pPKPdf 05 25 47.0 +2.5
comp=Z,2.4nm,0.8s,baz=170,slow=3.1,SNR=4.6
AAK Ala-Archa 145.20 49 *e*PKPdf PKPdf 05 25 33.3 +0.3
BOD Bodaibo 146.10 356 *e*PKP2 PKPab 05 25 33.5 -2.7
BOD pmax pmax
comp=Z,3.0nm,1.6s
BOD pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 148.13 38 PKPbc PKPbc 05 25 41.4 +0.1
comp=Z,4.7nm,0.8s,baz=318,slow=2.4,SNR=52
MKAR pPKPbc pPKPbc 05 25 54.6 +0.9
comp=Z,2.8nm,0.7s,baz=321,slow=1.7,SNR=7.4
WMQ Urumqi 152.97 38 *e*PKP PKPdf 05 25 55.0 +10
WMQ LR LR
comp=Z,160nm,24.0s,MS4.8
ZAK Zakamensk 153.13 10 *e*PKP2 PKPab 05 26 17.9 +13
ZAK pmax pmax
comp=Z,5.0nm,1.9s
SONM Songino Array 156.03 6 PKPab PKPab 05 26 15.0 -2.2
comp=Z,0.4nm,0.7s,baz=313,slow=3.3,SNR=4.1
SONM pPKPab pPKPab 05 26 33.0 +3.6
comp=Z,0.6nm,0.9s,baz=315,slow=3.9,SNR=3.6
CN2 Changchun 156.61 331 *e*PKP PKPdf 05 26 01.2 +11
HHC Hu-ho-hao-te 163.16 356 *e*PKP PKPdf 05 26 07.4 +10
HHC LR LR
comp=N,108nm,5.1s
HHC LR LR
comp=E,184nm,5.7s
HHC LR LR
comp=Z,88nm,5.1s
LZH Lanzhou 166.77 23 *e*PKP PKPdf 05 26 09.9 +8.9
SSE Sheshan 167.96 308 *e*PKP PKPdf 05 26 12.7 +11
NJ2 Nanjing 168.92 318 *e*PKP PKPdf 05 26 12.6 +10
NJ2 APKP 05 26 23.4
NJ2 PP PP
comp=Z,140nm,7.6s
NJ2 LR LR
comp=N,150nm,30.8s
NJ2 LR LR
comp=E,280nm,33.8s
NJ2 LR LR
comp=Z,100nm,35.7s
CD2 Chengdu 171.06 38 *e*P PKPdf 05 26 12.6 +8.9

JMA 05 05:18:26.8±0.1, 2805N×12902E, h15km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.27**	**193**	P	Pg	05 18 32.6	0.0
JTK				S	Sg	05 18 36.4	-0.1
JAM	**Amami Oshima**	**0.63**	**55**	P	Pg	05 18 38.7	-0.4
JAM				S	Sg	05 18 47.1	-0.4
JZK	**Kikaishima**	**0.88**	**72**	P	Pb	05 18 43.5	-0.3
JZK				S	Sb	05 18 55.5	+0.2
JIH	**Iheya**	**1.38**	**223**	P	Pn	05 18 51.6	+0.1
JIH				*e*S	Sn	05 19 09.4	0.0
JOW	**Kunigami**	**1.38**	**209**	P	Pn	05 18 51.3	-0.2
JOW				*e*S	Sn	05 19 07.5	-2.0
JNN	**Nakanoshima**	**1.94**	**23**	P	Pn	05 18 59.9	+0.8
JNN				*e*S	Sn	05 19 24.5	+1.3
JAGN	**Aguni-jima**	**2.15**	**228**	P	Pn	05 19 02.7	+0.6
JAGN				*e*S	Sn	05 19 29.1	+0.6
JKC	**Kuchinoerabu**	**2.61**	**23**	*e*S	Sn	05 19 41.3	+1.4
JKE	**Kume jima 2**	**2.63**	**230**	P	Pn	05 19 09.7	+1.0

ISCJB ***05*** *05:25:31.3±0.7, 832N±007×12650E±006, h77km±5km, mb4.2/15, Error ellipse: s-maj=11.8km s-min=8.3km az=59.2*
IDC ***05*** *05:25:37.4±19.0, 829N×12638E, h119km±180km, mb3.5/7, mb1 3.7/7, mb1mx3.5/18, mbtmp3.8/7, Error ellipse: s-maj=77.4km s-min=26.6km az=56.0*
NEIC ***05*** *05:25:38.8±1.2, 785N×12622E, h150km±13km, mb4.0/2, Error ellipse: s-maj=35.5km s-min=16.1km az=63.0*
ISC 05 05:25:32.1±0.7, 833N±007×12654E±006, h69km±5km, n28, σ0°82/36, mb4.2/15, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.23**	**230**	⇓*e*P	**Pn**	**05 25 42.2**	**-0.5**
BIPH				*i* S	**Sn**	**05 25 49.6**	**-0.8**
BUTP	**Butuan**	**1.10**	**305**	*e*P	**Pn**	**05 25 51.4**	**-0.5**
BUTP				*e*S	**Sn**	**05 26 07.5**	**+0.9**
BUKP	**Musuan**	**1.53**	**253**	*e*P	**Pn**	**05 25 57.5**	**+0.2**
BUKP				*e*S	**Sn**	**05 26 16.5**	**+0.1**
DAV	**Davao City (W)**	**1.57**	**217**	*e*Pn	**Pn**	**05 26 03.8**	**+5.8**
CGP	**Cagayan de Oro**	**1.82**	**274**	⇑*e*P	**Pn**	**05 25 60.0**	**-1.4**
CGP				*i* S	**Sn**	**05 26 20.1**	**-3.5**
MSLP	**Maasin**	**2.44**	**317**	*e*P	**Pn**	**05 26 09.3**	**-0.4**
TBP	**Tagbilaran**	**2.97**	**297**	*e*P	**Pn**	**05 26 17.7**	**+0.8**
TBP				*e*S	**Sn**	**05 26 49.5**	**-1.8**
DCPH	**Dipolog City**	**3.16**	**275**	*e*P	**Pn**	**05 26 20.7**	**+1.3**
DCPH				*e*S	**Sn**	**05 26 55.4**	**-0.5**
PAGZ	**Pagadian**	**3.16**	**261**	*e*P	**Pn**	**05 26 20.7**	**+1.2**
PLP	**Palo**	**3.21**	**332**	*e*P	**Pn**	**05 26 21.5**	**+1.4**
LLP	**Lapu-Lapu**	**3.21**	**308**	*e*P	**Pn**	**05 26 21.1**	**+0.9**
LLP				*e*S	**Sn**	**05 26 56.9**	**-0.4**
SNPH	**Sibulan**	**3.41**	**287**	*e*P	**Pn**	**05 26 24.0**	**+1.1**
SNPH				*e*S	**Sn**	**05 27 02.5**	**+0.4**
WRA	**Warramunga Arr**	**29.13**	**165**	P	**P**	**05 31 22.3**	**-4.1**
	0.4nm,0.6s,mb3.2,baz=346,slow=9.1,SNR=8.8						
ASAR	**Alice Springs**	**32.61**	**167**	P	**P**	**05 31 57.8**	**+0.7**
	0.3nm,0.4s,mb3.5,baz=352,slow=6.8,SNR=6.0						
JIRN	**Jiri**	**42.65**	**302**	*e*P	**P**	**05 33 22.3**	**+0.5**
	27nm,0.5s,mb5.3						
GUN	**Gumba**	**42.99**	**302**	*e*P	**P**	**05 33 25.2**	**+0.7**
	24nm,0.5s,mb5.2						
PKI	**Pulchoki**	**43.28**	**302**	*e*P	**P**	**05 33 26.9**	**0.0**
DMN	**Daman**	**43.55**	**302**	*e*P	**P**	**05 33 28.9**	**-0.1**
	8.4nm,0.5s,mb4.7						
GKN	**Gorkha**	**44.07**	**302**	*e*P	**P**	**05 33 33.1**	**-0.1**
	10nm,0.4s,mb4.9						
KOLN	**Koldanda**	**44.87**	**301**	*e*P	**P**	**05 33 39.8**	**+0.2**
	24nm,0.6s,mb5.1						
MKAR	**Makanchi Array**	**53.73**	**324**	P	**P**	**05 34 46.8**	**-0.2**
	0.8nm,0.5s,mb4.0,baz=117,slow=8.7,SNR=16						
ZAL	**Zalesovo**	**56.45**	**332**	P	**P**	**05 35 06.3**	**-0.4**
	0.8nm,0.4s,mb4.2,baz=342,slow=10,SNR=3.9						
KURK	**Kurchatov**	**57.81**	**326**	*e*P	**P**	**05 35 15.4**	**-0.9**
	1.7nm,0.4s,mb4.4						
MCK	**McKinley**	**80.16**	**27**	*e*P	**P**	**05 37 35.0**	**+0.2**
	0.8nm,0.5s,mb3.8						
ILAR	**Eielson Array**	**81.06**	**26**	P	**P**	**05 37 39.3**	**-0.3**
	0.2nm,0.5s,mb3.2,baz=240,slow=5.1,SNR=5.6						
ARCES	**ARCESS Array B**	**86.09**	**340**	P	**P**	**05 38 04.2**	**-1.2**
	1.8nm,0.8s,mb4.0,baz=82,slow=6.7,SNR=3.1						
FINES	**FINESS Array B**	**87.71**	**332**	P	**P**	**05 38 12.3**	**-0.9**
	0.5nm,0.4s,mb3.9,baz=69,slow=5.5,SNR=13						
YKA	**Yellowknife Ar**	**95.41**	**24**	P	**P**	**05 38 49.1**	**+0.2**
	0.2nm,0.5s,mb3.8,baz=302,slow=4.3,SNR=7.6						

IGQ ***05*** *05:28:04.7, 486S×7603W, h12km, Mb5.4, Ms5.4, Error ellipse: s-maj=10.1km s-min=7.6km az=61.0*
MOS ***05*** *05:28:30.4±0.8, 323S×7692W, h107km, mb5.2/72, MS4.2/4, Error ellipse: s-maj=7.9km s-min=4.8km az=98.2*
IDC ***05*** *05:28:30.3±0.5, 332S×7689W, h100km±4km, mb4.8/23, mb1 4.9/26, mb1mx4.9/27, mbtmp5.0/26, MS4.0/11, Ms1 4.0/11, ms1mx3.7/22, Error ellipse: s-maj=16.5km s-min=9.3km az=56.0*
NEIC ***05*** *05:28:31.7±0.1, 338S×7691W, mb5.2/131, Error ellipse: s-maj=4.4km s-min=2.8km az=50.0*
ISCJB ***05*** *05:28:31.6±0.5, 335S±004×7698W±004, h124km±3km, mb5.1/164, Error ellipse: s-maj=6.9km s-min=4.6km az=92.3*
BJI ***05*** *05:28:31.7, 340S×7690W, h113km, mB5.2*
HRVD ***05*** *05:28:31.7±0.2, 350S×7692W, h116km±2km, MW5.2/80, Centroid moment Tensor Solution. LP body waves: s58,c83;Mantle waves: s80,c139; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-5.93±.15; Mθθ-0.70±.18; Mφφ6.63±.21; Mrθ-1.48±.13; Mφφ-1.45±.17; Mφr0.79±.19; Best double couple: M0:6.66300×10^16 NP1:φs3.00000°,δ42.00000°,λ-70.00000°. NP2: φs156.00000°,δ51.00000°,λ-107.00000°. Principal axes: T 6.9930, Plg5.0000°, Azm258.0000°; N -0.6580, Plg14.0000°, Azm167.0000°; P -6.3320, Plg76.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***05*** *05:28:48.5, 105S×7484W, h123km, mb5.0, Northern Peru*
ISC 05 05:28:32.4±0.4, 335S±003×7690W±004, h116km±3km, h117km±2.2km: pP-P, n534, σ0°83/430, mb5.1/164, 23C-79D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**2.40**	**320**	⇑P	**Pn**	**05 29 09.7**	**-1.1**
ULBA	**Ulba**	**2.42**	**321**	⇓P	**Pn**	**05 29 10.1**	**-0.9**
CUSU	**Cusua**	**2.47**	**320**	⇑P	**Pn**	**05 29 11.0**	**-0.7**
JUIV	**Juive**	**2.47**	**321**	⇑P	**Pn**	**05 29 10.9**	**-0.8**
IGUA	**Igualata**	**2.54**	**317**	⇓P	**Pn**	**05 29 12.6**	**+0.1**
PISA	**Pisayambo**	**2.72**	**327**	⇑P	**Pn**	**05 29 14.5**	**-0.4**
TAMB	**Tambo**	**3.02**	**331**	⇓P	**Pn**	**05 29 18.9**	**0.0**
VC1	**Cotopaxi 1**	**3.08**	**331**	⇓P	**Pn**	**05 29 20.0**	**+0.4**
CAMI	**Rancho Maria**	**3.10**	**329**	⇓P	**Pn**	**05 29 20.5**	**+0.6**
ANTI	**Antisana**	**3.15**	**336**	⇓P	**Pn**	**05 29 19.9**	**-0.6**
LAV3	**Lava3-Reventad**	**3.31**	**347**	⇑P	**Pn**	**05 29 22.0**	**-0.7**
CAYR	**Refugio Cayamb**	**3.52**	**342**	P	**Pn**	**05 29 26.0**	**+0.5**
CAYR				S	Sn	05 29 45.9	-21
ANGU	**Angureal**	**3.55**	**342**	⇓P	**Pn**	**05 29 26.4**	**+0.5**
CAYA	**Cayambe**	**3.57**	**342**	P	**Pn**	**05 29 26.8**	**+0.6**
GGP	**Refugio Guagua**	**3.58**	**332**	⇑P	**Pn**	**05 29 27.4**	**+1.1**
TERV	**Terraza Guagua**	**3.59**	**332**	P	**Pn**	**05 29 27.6**	**+1.2**
PINO	**Pino**	**3.60**	**332**	P	**Pn**	**05 29 27.2**	**+0.6**
YANA	**Yana**	**3.62**	**333**	⇑P	**Pn**	**05 29 27.8**	**+1.0**
OTAV	**Otavalo**	**3.89**	**336**	*e*Pn	**Pn**	**05 29 30.0**	**-0.3**
OTAV				*e*Sn	**Sn**	**05 30 00.3**	**-15**
MAG1	**Magdalena**	**4.34**	**319**	⇑P	**Pn**	**05 29 35.7**	**-0.8**
ROSC	**El Rosal**	**8.55**	**18**	P	**Pn**	**05 30 34.3**	**+0.9**
	2.7nm,0.3s,baz=173,slow=1.8,SNR=30						
NNA	**Nana**	**8.58**	**180**	*e*Pn	**Pn**	**05 30 31.2**	**-2.6**
	108nm,0.5s						
NNA				*e*Sn	**Sn**	**05 31 57.2**	**-12**
PAYG	**Puerto Ayora**	**13.64**	**281**	*e*Pn	**Pn**	**05 31 39.1**	**-1.9**
	248nm,1.2s						
SDV	**Santo Domingo**	**13.67**	**27**	P	**Pn**	**05 31 41.1**	**-0.3**
	16nm,0.3s,baz=212,slow=12,SNR=57						
SDV	**Santo Domingo**	**13.67**	**27**	*e*Pn	**Pn**	**05 31 40.9**	**-0.5**
	77nm,0.7s						
ARE	**Arequipa**	**14.07**	**158**	*e*P	**Pn**	**05 31 49.0**	**+2.5**
SAML	**Samuel**	**14.72**	**113**	*e*Pn	**Pn**	**05 31 49.0**	**-5.8**
	3.5nm,0.9s						
LPAZ	**La Paz**	**15.48**	**147**	P	**Pn**	**05 32 03.4**	**-1.0**
	1.9nm,0.3s,baz=346,slow=13,SNR=29						
LPAZ	**La Paz**	**15.48**	**147**	*e*Pn	**Pn**	**05 32 00.9**	**-3.4**
	61nm,0.8s						
LPAZ	**La Paz**	**15.48**	**147**	*e*P	**Pn**	**05 32 00.9**	**-3.4**
LPAZ				pmax	pmax		
	comp=Z,61nm,0.8s						
JTS	**JuntasAbangare**	**15.75**	**329**	P	**Pn**	**05 32 09.4**	**+1.8**
	comp=Z,283nm,1.2s,SNR=6.5						
JTS	**JuntasAbangare**	**15.75**	**329**	P	**Pn**	**05 32 07.7**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=140,slow=7.4,SNR=12						
JTS				LR	LR	05 37 54.4	
	comp=Z,306nm,19.3s,baz=11,slow=36						
JTS	**JuntasAbangare**	**15.75**	**329**	*e*P	**Pn**	**05 32 09.1**	**+1.4**
	comp=Z,87nm,1.3s						
JTS	**JuntasAbangare**	**15.75**	**329**	*e*P	**Pn**	**05 32 09.1**	**+1.5**
JTS				pmax	pmax		
	comp=Z,87nm,1.3s						
SIV	**San Ignacio**	**20.01**	**130**	P	**P**	**05 32 55.8**	**0.0**
	comp=Z,40nm,0.6s,baz=303,slow=10,SNR=109						
SIV				pP		05 33 14.0	
	comp=Z,52nm,0.6s,baz=326,slow=12,SNR=9.5						
TPP	**Pointe-a-Pierr**	**20.52**	**48**	*e*P	**P**	**05 33 07.2**	**+5.8**
TRN	**Trinidad (W)**	**20.77**	**48**	*e*P	**P**	**05 33 05.8**	**+1.7**
TRN	**Trinidad (W)**	**20.77**	**48**	*e*	**P**	**05 33 09.1**	**+5.0**
TBH	**Brigand Hill**	**20.92**	**49**	*e*P	**P**	**05 33 07.3**	**+1.7**
TPR	**Prospect**	**21.59**	**48**	*e*	**P**	**05 33 13.9**	**+1.1**
GRW	**Mount Saint Ca**	**21.61**	**44**	*e*P	**P**	**05 33 14.3**	**+1.3**
SJG	**San Juan**	**23.82**	**26**	P	**P**	**05 33 33.9**	**-0.7**
	comp=Z,234nm,0.6s,mb5.7,baz=189,slow=5.9,SNR=142						
SJG	**San Juan**	**23.82**	**26**	*e*P	**P**	**05 33 33.4**	**-1.2**
	comp=Z,181nm,0.6s,mb5.6						
SJG	**San Juan**	**23.82**	**26**	*e*P	**P**	**05 33 33.4**	**-1.2**
SJG				pmax	pmax		
	comp=Z,181nm,0.6s						
CPD	**Cerro la Pandu**	**23.86**	**27**	*e*P	**P**	**05 33 33.3**	**-1.6**
MTP	**Monte Pirata**	**24.07**	**27**	*e*P	**P**	**05 33 36.0**	**-0.8**
MTP				*e*pP		05 34 00.7	
SCG	**Saint Claude**	**24.44**	**38**	*e*P	**P**	**05 33 39.9**	**-0.4**
LZG	**Guadaloupe-1**	**24.47**	**37**	*e*P	**P**	**05 33 35.4**	**-5.1**
SEG	**Port Louis**	**24.84**	**37**	*e*P	**P**	**05 33 43.7**	**-0.1**
DEG	**La Desirade**	**25.04**	**38**	*e*P	**P**	**05 33 43.6**	**-2.2**
DEG				*e*S	sP	05 34 20.1	-4.1
TEIG	**Tepich**	**25.96**	**335**	*e*P	**P**	**05 33 53.8**	**-0.2**
	comp=Z,3.0nm,0.5s,mb4.0						
CFAA	**Coronel Fontan**	**29.26**	**165**	P	**P**	**05 34 23.9**	**+0.4**
	comp=Z,2.4nm,0.7s,mb4.0,baz=338,slow=9.2,SNR=18						
CFAA				PcP	PcP	05 37 27.1	-0.4
	comp=Z,0.8nm,0.5s,baz=273,slow=4.3,SNR=4.0						
CFAA	**Coronel Fontan**	**29.26**	**165**	P	**P**	**05 34 23.9**	**+0.4**
CFAA				PcP	PcP	05 37 27.1	-0.4
FCH	**Farellones**	**30.45**	**169**	⇓*i*P	**P**	**05 34 35.5**	**+1.5**
BDFB	**Brasilia**	**30.94**	**115**	P	**P**	**05 34 38.4**	**+0.1**
	comp=Z,16nm,0.6s,mb4.9,baz=284,slow=11,SNR=19						
BDFB				LR	LR	05 48 03.4	
	comp=Z,199nm,19.4s,baz=321,slow=38						
NHSC	**New Hope**	**36.39**	**355**	*e*P	**P**	**05 35 26.2**	**+0.8**
	comp=Z,267nm,1.3s,mb6.0						
COW	**Cow Castle Cre**	**36.71**	**355**	*e*P	**P**	**05 35 28.4**	**+0.2**
COW				*e*PcP	PcP	05 37 48.6	+0.3
TRQA	**Tornquist**	**37.14**	**160**	*e*P	**P**	**05 35 30.6**	**-1.2**
	comp=Z,17nm,0.8s,mb5.0						
TRQA				*e*PcP	PcP	05 37 49.5	-0.1
LRAL	**Lakeview Retre**	**37.43**	**346**	*e*P	**P**	**05 35 33.5**	**-0.8**
	comp=Z,46nm,0.9s,mb5.4						
LRAL				*e*PcP	PcP	05 37 50.2	-0.3
PLCA	**Paso Flores**	**37.65**	**172**	P	**P**	**05 35 36.2**	**+0.1**
	comp=Z,21nm,0.7s,mb5.1,baz=345,slow=9.9,SNR=92						
PLCA				PcP	PcP	05 37 51.5	+0.3
	comp=Z,6.2nm,0.6s,baz=357,slow=3.9,SNR=5.5						
PLCA	**Paso Flores**	**37.65**	**172**	*e*P	**P**	**05 35 35.9**	**-0.2**
	comp=Z,23nm,0.7s,mb5.1						
PLCA				*e*PcP	PcP	05 37 51.1	-0.1
PLCA	**Paso Flores**	**37.65**	**172**	*e*P	**P**	**05 35 35.9**	**-0.2**
PLCA				*e*		05 37 51.1	
PLCA				pmax	pmax		
	comp=Z,23nm,0.7s						
JSC	**Jenkinsville**	**37.66**	**354**	*e*P	**P**	**05 35 36.3**	**+0.1**
JSC				*e*PcP	PcP	05 37 51.4	+0.1
HKT	**Hockley**	**37.75**	**333**	*e*P	**P**	**05 35 37.0**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.2						
HKT	**Hockley**	**37.75**	**333**	*e*P	**P**	**05 35 37.0**	**+0.1**
HKT				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
CAM4	**Nova Friburgo**	**38.27**	**123**	*e*P	**P**	**05 35 42.6**	**+1.2**
CAM4				*i*		05 35 42.5	
CAM4				*i*		05 35 44.1	
CAM4				*i*		05 35 47.3	
CAM4				*i*		05 36 17.2	
NATX	**Nacogdoches**	**38.79**	**335**	*e*P	**P**	**05 35 45.1**	**-0.5**
	comp=Z,44nm,0.7s,mb5.4						
RPN	**Rapa Nui**	**38.99**	**229**	LR	LR	05 48 03.8	
	comp=Z,287nm,21.8s,baz=311,slow=30						
CPCT	**Cooper Cave**	**39.25**	**350**	⇓*i*P	**P**	**05 35 49.5**	**-0.1**
CPCT				*e*PcP	PcP	05 37 56.0	-0.2
SWET	**Sewanee**	**39.29**	**348**	⇓*i*P	**P**	**05 35 48.9**	**-0.9**
SWET				*e*PcP	PcP	05 37 55.8	-0.6
OXF	**Oxford**	**39.46**	**344**	*e*P	**P**	**05 35 50.0**	**-1.3**
	comp=Z,44nm,0.8s,mb5.3						
OXF	**Oxford**	**39.46**	**344**	*e*P	**P**	**05 35 50.0**	**-1.2**
OXF				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.3						
PLAL	**Pickwick Lake**	**39.55**	**346**	*e*P	**P**	**05 35 50.4**	**-1.6**
	comp=Z,22nm,0.7s,mb5.1						
PLAL				*e*PcP	PcP	05 37 56.3	-0.9
JCT	**Junction City**	**40.13**	**329**	*e*P	**P**	**05 35 56.9**	**+0.1**
	comp=Z,26nm,0.7s,mb5.2						
JCT				*e*PcP	PcP	05 37 59.1	+0.1
JCT	**Junction City**	**40.13**	**329**	*e*P	**P**	**05 35 56.9**	**+0.1**
JCT				*e*		05 37 59.1	
JCT				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.2						
TZTN	**Tazewell**	**40.17**	**352**	⇓*i*P	**P**	**05 35 56.7**	**-0.4**
TZTN				*e*PcP	PcP	05 37 59.0	-0.1
BLA	**Blacksburg**	**40.49**	**356**	⇓*i*P	**P**	**05 36 00.3**	**+0.6**
	comp=Z,3.4nm,0.6s,mb4.3						
BLA				*e*PcP	PcP	05 38 00.5	+0.4
BLA	**Blacksburg**	**40.49**	**356**	⇓*i*P	**P**	**05 36 00.3**	**+0.6**
BLA				*e*		05 38 00.5	
BLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
ELN	**Prospectdale**	**40.53**	**355**	*e*P	**P**	**05 36 00.8**	**+0.7**
ELN				*e*PcP	PcP	05 38 00.1	-0.2
WVT	**Waverly**	**40.58**	**346**	⇓*i*P	**P**	**05 35 58.5**	**-2.0**
	comp=Z,44nm,0.6s,mb5.5						
WVT				*e*PcP	PcP	05 37 59.7	-0.7
WVT	**Waverly**	**40.58**	**346**	⇓*i*P	**P**	**05 35 58.5**	**-2.0**
WVT				*e*		05 37 59.7	
WVT				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.5						
UALR	**University of**	**40.61**	**340**	⇓*i*P	**P**	**05 35 59.7**	**-1.1**
	comp=Z,56nm,0.8s,mb5.4						
HALT	**Halls**	**40.76**	**344**	*e*P	**P**	**05 36 00.2**	**-1.7**
HBAR	**Harrisburg**	**40.79**	**343**	*e*P	**P**	**05 36 01.7**	**-0.6**
MIAR	**Mount Ida**	**40.83**	**339**	*e*P	**P**	**05 36 01.2**	**-1.3**
	comp=Z,11nm,0.8s,mb4.7						
MIAR				*e*PcP	PcP	05 38 01.2	0.0
MIAR	**Mount Ida**	**40.83**	**339**	*e*P	**P**	**05 36 01.3**	**-1.3**
MIAR				*e*		05 38 01.2	
MIAR				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
FWV	**Forest Hill**	**40.89**	**355**	*e*P	**P**	**05 36 03.2**	**+0.2**
FWV				*e*PcP	PcP	05 38 01.2	-0.2
RCBR	**Riachuelo**	**40.94**	**95**	*e*P	**P**	**05 36 04.6**	**+1.2**
	comp=Z,38nm,0.8s,mb5.3						
LTX	**Lajitas**	**41.41**	**324**	*e*P	**P**	**05 36 08.1**	**+0.8**
	comp=Z,7.1nm,0.8s,mb4.5						
LTX				*e*PcP	PcP	05 38 03.8	+0.6
LTX	**Lajitas**	**41.41**	**324**	*e*P	**P**	**05 36 08.1**	**+0.8**
LTX				*e*		05 38 03.8	
LTX				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
WCI	**Wyandotte Cave**	**42.28**	**349**	*e*P	**P**	**05 36 12.6**	**-1.8**
	comp=Z,25nm,0.8s,mb5.0						
WCI				*e*PcP	PcP	05 38 05.7	-0.3
WCI	**Wyandotte Cave**	**42.28**	**349**	*e*P	**P**	**05 36 12.6**	**-1.7**
WCI				*e*		05 38 05.7	
WCI				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
USIN	**University of**	**42.30**	**347**	*e*P	**P**	**05 36 12.9**	**-1.7**
	comp=Z,65nm,0.7s,mb5.5						
USIN				*e*PcP	PcP	05 38 05.4	-0.7
SIUC	**Southern Illin**	**42.43**	**345**	*e*P	**P**	**05 36 13.8**	**-1.8**
	comp=Z,129nm,0.6s,mb5.8						
SIUC				*e*PcP	PcP	05 38 06.6	0.0
MCWV	**Mont Chateau**	**42.88**	**357**	*e*P	**P**	**05 36 19.2**	**0.0**
	comp=Z,31nm,0.8s,mb5.1						
MCWV				*e*PcP	PcP	05 38 07.4	-0.7
FVM	**French Village**	**43.00**	**344**	*e*P	**P**	**05 36 18.8**	**-1.4**
	comp=Z,78nm,0.6s,mb5.6						
FVM				*e*PcP	PcP	05 38 08.1	-0.3
FVM	**French Village**	**43.00**	**344**	*e*P	**P**	**05 36 18.8**	**-1.4**
FVM				*e*		05 38 08.1	
FVM				pmax	pmax		
	comp=Z,78nm,0.6s,mb5.6						
WMOK	**Wichita Mounta**	**43.11**	**333**	⇓*i*P	**P**	**05 36 21.2**	**+0.1**
	comp=Z,72nm,0.8s,mb5.5						
WMOK				*e*PcP	PcP	05 38 08.9	+0.1
WMOK	**Wichita Mounta**	**43.11**	**333**	⇓*i*P	**P**	**05 36 21.2**	**+0.1**
WMOK				*e*		05 38 08.9	
WMOK				pmax	pmax		
	comp=Z,72nm,0.8s,mb5.5						
MVL	**Millersville**	**43.14**	**1**	*e*P	**P**	**05 36 22.0**	**+0.7**
MVL				*e*PcP	PcP	05 38 08.9	0.0
BLO	**Bloomington**	**43.23**	**349**	⇓*i*P	**P**	**05 36 20.5**	**-1.6**
	comp=Z,66nm,0.6s,mb5.5						
BLO				*e*PcP	PcP	05 38 08.9	-0.4
BLO	**Bloomington**	**43.23**	**349**	⇓*i*P	**P**	**05 36 20.5**	**-1.6**
BLO				*e*		05 38 08.9	
BLO				pmax	pmax		
	comp=Z,66nm,0.6s,mb5.5						
CCM	**Cathedral Cave**	**43.29**	**343**	*e*P	**P**	**05 36 20.5**	**-2.0**
	comp=Z,36nm,0.6s,mb5.3						
CCM				*e*PcP	PcP	05 38 08.8	-0.6
CCM	**Cathedral Cave**	**43.29**	**343**	*e*P	**P**	**05 36 20.5**	**-2.0**
CCM				*e*		05 38 08.8	
CCM				pmax	pmax		
	comp=Z,36nm,0.6s,mb5.3						
ACSO	**Alum Creek Sta**	**43.73**	**353**	*e*P	**P**	**05 36 24.8**	**-1.2**
	comp=Z,32nm,0.9s,mb5.0						
ACSO				*e*PcP	PcP	05 38 10.3	-0.6
GDL2	**Guadalupe Moun**	**43.93**	**326**	*e*P	**P**	**05 36 28.6**	**+1.

comp=Z,68nm,0.9s,mb5.6
WUAZ *e*pP pP 05 37 45.1 +0.3
WUAZ *e*PcP PcP 05 38 35.4 +0.9
ISCO Idaho Springs 50.39 331⇓*i*P P 05 37 18.6 +0.8
comp=Z,21nm,0.8s,mb5.1
ISCO *e*PcP PcP 05 38 35.4 +0.8
ISCO Idaho Springs 50.39 331⇓*i*P P 05 37 18.6 +0.8
ISCO *e* 05 38 35.4
ISCO pmax pmax
comp=Z,21nm,0.8s,mb5.1
SMCO Snowmass 50.58 330⇓*i*P P 05 37 20.2 +1.0
comp=Z,14nm,0.8s,mb5.0
SMCO *e*PcP PcP 05 38 36.2 +0.9
PV01 Paradox Valley 50.63 328 *e*P P 05 37 20.3 +0.8
EFI East Falkland 50.67 165 P P 05 37 20.6 +0.7
comp=Z,381nm,0.8s,SNR=6.8
GLA Glamis 50.96 318 *e*P P 05 37 22.6 +0.6
GLA *e*PcP PcP 05 38 36.8 +0.1
PV10 Paradox Valley 51.06 327 *e*P P 05 37 22.9 +0.1
PHWY Pilot Hill 51.50 333⇓*i*P P 05 37 26.5 +0.4
PHWY *e*PcP PcP 05 38 39.1 +0.4
PFO Pinyon Flat Ob 52.38 318 P P 05 37 33.9 +1.3
comp=Z,108nm,0.9s,mb5.9,SNR=6.9
PFO Pinyon Flat Ob 52.38 318 *e*P P 05 37 32.8 +0.2
comp=Z,10nm,0.8s,mb4.9
PFO *e*pP pP 05 38 00.4 +0.3
PFO *e*PcP PcP 05 38 42.6 +0.6
PFO Pinyon Flat Ob 52.38 318 *e*P P 05 37 32.8 +0.2
PFO *e**PP pP 05 38 00.4 +0.4
PFO *e* 05 38 42.6
PFO pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SRU San Rafael 52.39 327⇓*e*P P 05 37 33.3 +0.6
comp=Z,18nm,0.8s,mb5.1
SRU *e*PcP PcP 05 38 41.9 -0.1
SRU San Rafael 52.39 327⇓*e*P P 05 37 33.3 +0.6
SRU *e* 05 38 41.9
SRU pmax pmax
comp=Z,18nm,0.8s,mb5.2
LDFC Landfair 52.40 320 *e*P P 05 37 33.6 +0.9
LDFC *e*pP pP 05 38 00.8 +0.6
NEN Nelson 52.59 321 *e*P P 05 37 34.7 +0.5
NEN *e*pP pP 05 38 01.7 +0.1
RWWY Rawlins 52.62 332⇓*i*P P 05 37 35.0 +0.7
comp=Z,30nm,0.8s,mb5.4
RWWY *e*PcP PcP 05 38 42.9 0.0
EYMN Ely 52.66 348⇓*i*P P 05 37 32.9 -1.8
comp=Z,40nm,0.6s,mb5.6
EYMN *e*PcP PcP 05 38 42.6 -0.4
MSU Marysvale 52.89 325 *e*P P 05 37 37.4 +1.1
MSU *e*PcP PcP 05 38 45.0 +1.1
TMUT Trail Mountain 52.90 327 *e*P P 05 37 37.0 +0.6
TMUT *e*PcP PcP 05 38 44.1 +0.1
ARUT Antelope Range 53.13 324 *e*P P 05 37 39.2 +1.1
RSSD Black Hills 53.16 336⇓*i*P P 05 37 38.9 +0.6
comp=Z,41nm,0.9s,mb5.5
RSSD *e*PcP PcP 05 38 44.4 -0.5
RSSD Black Hills 53.16 336⇓*i*P P 05 37 38.9 +0.6
RSSD *e* 05 38 44.4
RSSD pmax pmax
comp=Z,41nm,0.9s,mb5.5
MPU Maple Canyon 53.64 327⇓*i*P P 05 37 42.4 +0.6
comp=Z,20nm,0.8s,mb5.2
MPU *e*pP pP 05 38 08.8 -0.5
MPU *e*PcP PcP 05 38 47.3 +0.6
DAU Daniels Canyon 53.72 328 *e*P P 05 37 43.4 +1.1
DAU *e*PcP PcP 05 38 47.5 +0.4
NLU North Lily Min 53.84 327 *e*P P 05 37 41.5 -1.8
NLU *e*pP pP 05 38 09.7 -1.1
NLU *e*PcP PcP 05 38 45.5 -2.0
NOQ North Oquirrh 54.35 327 *e*P P 05 37 47.5 +0.5
comp=Z,24nm,0.7s,mb5.3
NOQ *e*PcP PcP 05 38 48.5 -0.9
DUG Dugway 54.41 326⇓*i*P P 05 37 48.3 +0.9
comp=Z,32nm,0.8s,mb5.4
DUG Dugway 54.41 326⇓*i*P P 05 37 48.3 +0.9
DUG pmax pmax
comp=Z,32nm,0.8s,mb5.4
BW06 Boulder Array 54.57 331⇓*i*P P 05 37 48.6 0.0
comp=Z,53nm,1.3s,mb5.4
BW06 *e*PcP PcP 05 38 49.4 -0.9
PDAR Pinedale Array 54.57 331 P P 05 37 48.7 +0.1
comp=Z,17nm,0.7s,mb5.2,baz=125,slow=8.8,SNR=159
PDAR PcP PcP 05 38 50.2 -0.1
comp=Z,6.5nm,0.6s,baz=132,slow=6.7,SNR=15
PDAR LR LR 06 01 00.8
comp=Z,105nm,21.4s,baz=312,slow=36
DAC Darwin (Calif) 54.73 320 *e*P P 05 37 50.2 +0.5
comp=Z,7.6nm,0.7s,mb4.8
DAC Darwin (Calif) 54.73 320 *e*P P 05 37 50.2 +0.5
DAC pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
HWUT Hardware Ranch 54.73 329⇓*i*P P 05 37 50.0 +0.2
comp=Z,49nm,0.7s,mb5.7
HWUT *e*PcP PcP 05 38 51.1 +0.1
SPUT South Promonto 54.99 328⇓*i*P P 05 37 52.2 +0.6
SPUT *e*pP pP 05 38 18.7 -0.6
SPUT *e*PcP PcP 05 38 52.5 +0.6
BGU Big Grassy Mou 55.03 327 *e*P P 05 37 56.6 +4.6
AHID Auburn Hatcher 55.34 330 *e*P P 05 37 54.4 +0.3
comp=Z,25nm,0.7s,mb5.4
HVU Hansel Valley 55.49 328 *e*P P 05 37 55.4 +0.2
comp=Z,25nm,1.2s,mb5.1
HVU Hansel Valley 55.49 328 *e*P P 05 37 55.4 +0.2
HVU pmax pmax
comp=Z,25nm,1.2s,mb5.1
REDW Red Top Meadow 55.65 330⇓*i*P P 05 37 56.6 +0.3
comp=Z,97nm,1.5s,mb5.6
SNOW Snow King Moun 55.68 331 *e*P P 05 37 56.8 +0.3
comp=Z,34nm,0.8s,mb5.4
LOHW Long Hollow 55.71 331⇓*i*P P 05 37 57.0 +0.2
comp=Z,29nm,0.9s,mb5.3
LOHW *e*PcP PcP 05 38 54.8 0.0
ULM Lac du Bonnet 55.84 345 P P 05 37 56.1 -1.6
comp=Z,24nm,0.6s,mb5.4,baz=157,slow=7.6,SNR=72
MTUM Tungsten Hills 56.00 320 *e*P P 05 37 59.1 +0.3
MTUM *e*pP pP 05 38 27.5 +1.0
PTRM Twissleman Ran 56.09 318 *e*P P 05 37 60.0 +0.5
FLWY Flagg Ranch 56.11 331⇓*i*P P 05 38 00.4 +0.8
comp=Z,67nm,0.9s,mb5.7
ELK Elko 56.14 325⇓*i*P P 05 38 00.3 +0.5
comp=Z,12nm,1.0s,mb4.9
ELK *e*PcP PcP 05 38 56.5 +0.1
ELK Elko 56.14 325⇓*i*P P 05 38 00.3 +0.5
ELK *e* 05 38 56.5
ELK pmax pmax
comp=Z,12nm,1.0s
LAO LASA Array 56.15 336⇓*i*P P 05 37 59.6 -0.3
comp=Z,16nm,0.8s,mb5.1
YFT Old Faithful 56.45 331 *e*P P 05 38 03.7 +1.7
NVAR Mina Array Bea 56.48 321 P P 05 38 03.5 +1.3
comp=Z,14nm,0.7s,mb5.1,baz=138,slow=6.7,SNR=75
NVAR pP pP 05 38 25.7 -4.3
comp=Z,1.9nm,0.6s,baz=128,slow=7.1,SNR=2.2
NVAR PcP PcP 05 38 58.5 +0.8
comp=Z,4.1nm,0.6s,baz=141,slow=4.0,SNR=5.5
YMR Madison River 56.67 331 *e*P P 05 38 04.7 +1.1
comp=Z,29nm,0.8s,mb5.3
YMR *e*PcP PcP 05 38 58.0 -0.5
DGMT Dagmar 56.83 339⇓*i*P P 05 38 05.0 +0.3
comp=Z,26nm,0.7s,mb5.4
GCMT Greycliff 56.91 333 *e*P P 05 38 05.8 +0.5
QLMT Earthquake Lak 57.02 331 *e*P P 05 38 07.4 +1.4
LRV Little Rabbit 57.06 318 *e*P P 05 38 07.1 +0.8
BMN Battle Mountai 57.08 324 *e*P P 05 38 06.9 +0.4
comp=Z,33nm,0.7s,mb5.5
BMN *e*pP pP 05 38 33.5 -0.8
BMN Battle Mountai 57.08 324 *e*P P 05 38 06.9 +0.4
BMN *e**PP pP 05 38 33.5 -0.8
BMN pmax pmax
comp=Z,33nm,0.7s,mb5.5
CMB Columbia Colle 57.57 320 *e*P P 05 38 10.2 +0.3
comp=Z,5.9nm,0.7s,mb4.7
CMB Columbia Colle 57.57 320 *e*P P 05 38 10.2 +0.3
CMB pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
HLID Hailey 57.60 328 *e*P P 05 38 10.8 +0.6
comp=Z,26nm,0.9s,mb5.3
MCMT McKenzie Canyo 57.70 330 *e*P P 05 38 11.7 +0.8
BOZ Bozeman (W) 57.71 332 *e*P P 05 38 11.1 +0.2
comp=Z,50nm,0.9s,mb5.5
BOZ Bozeman (W) 57.71 332 *e*P P 05 38 11.1 +0.2
BOZ pmax pmax
comp=Z,50nm,0.9s,mb5.5
DLMT Dillon 57.97 331 *e*P P 05 38 12.8 +0.1
comp=Z,32nm,1.0s,mb5.3
HRY Holter Researc 58.60 333 *e*P P 05 38 17.4 +0.3
EGMT Eagleton 58.67 335⇓*i*P P 05 38 17.6 0.0
comp=Z,114nm,1.7s,mb5.6
WVOR Wild Horse Val 59.17 325⇓*i*P P 05 38 20.9 -0.1
comp=Z,34nm,0.9s,mb5.4
WVOR *e*pP pP 05 38 48.1 -0.9
WVOR Wild Horse Val 59.17 325⇓*i*P P 05 38 20.9 -0.1
WVOR *e**PP pP 05 38 48.1 -1.0
WVOR pmax pmax
comp=Z,34nm,0.9s,mb5.4
CHMT Chamberlain Mo 59.41 332 *e*P P 05 38 22.7 0.0
RKT Rikitea 59.42 245 *e*S S 05 46 05.9 -17
comp=Z,290nm,25.8s
RKT *e*LR LR 05 55 14.8
comp=Z,227nm,37.0s
MSO Missoula 59.67 331⇓*i*P P 05 38 24.9 +0.4
comp=Z,36nm,1.0s,mb5.3
BMO Blue Mountains 60.01 328⇓*i*P P 05 38 26.1 -0.6
comp=Z,7.4nm,0.8s,mb4.8
BMO *e*PcP PcP 05 39 11.6 -0.1
BMO Blue Mountains 60.01 328⇓*i*P P 05 38 26.2 -0.6
BMO pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
WDC Whiskeytown Da 60.40 321 *e*P P 05 38 26.6 -2.9
comp=Z,8.1nm,0.7s,mb4.9
WDC Whiskeytown Da 60.40 321 *e*P P 05 38 26.6 -2.8
WDC pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
HOPE Hope Point 60.48 154 P P 05 38 30.6 +0.6
comp=Z,642nm,0.7s,SNR=8.7
YBH Yreka Blue Hor 61.16 322 P P 05 38 33.3 -1.3
comp=Z,18nm,0.8s,mb5.2,baz=114,slow=4.1,SNR=25
BUOR Burton Butte 61.20 323 P P 05 38 35.6 +0.7
FFC Flin Flon 61.50 344 P P 05 38 36.5 -0.4
comp=Z,208nm,0.8s,SNR=15
FFC Flin Flon 61.50 344⇓*i*P P 05 38 35.8 -1.0
comp=Z,32nm,0.9s,mb5.4
FFC Flin Flon 61.50 344⇓*i*P P 05 38 35.8 -1.1
FFC pmax pmax
comp=Z,33nm,0.9s,mb5.4
HAWA Hanford 62.20 328 *e*P P 05 38 41.7 +0.1
comp=Z,1.1nm,0.6s,mb4.1
NEW Newport 62.22 331 P P 05 38 41.8 +0.1
comp=Z,34nm,0.7s,mb5.5,baz=133,slow=6.6,SNR=68
NEW Newport 62.22 331⇓*i*P P 05 38 41.7 0.0
comp=Z,40nm,0.8s,mb5.5
NEW *e*pP pP 05 39 08.4 -1.5
OD2 Odessa Site #2 62.42 329 P P 05 38 43.6 +0.5
BROR Big Rock Looko 62.49 325 P P 05 38 43.5 0.0
MXC Moxie City 62.72 328 P P 05 38 46.4 +1.4
WTV Waterville 63.26 329 P P 05 38 49.4 +0.8
FCC Fort Churchill 63.42 350 *e*P P 05 38 47.8 -1.8
comp=Z,32nm,0.8s,mb5.3
FCC *e*PcP PcP 05 39 24.8 -0.7
FCC Fort Churchill 63.42 350 *e*P P 05 38 47.8 -1.8
FCC *e* 05 39 24.8
FCC pmax pmax
comp=Z,32nm,0.8s,mb5.3
EDM Edmonton 64.12 337⇓*i*P P 05 38 53.4 -0.8
PNT Penticton 64.15 330 P P 05 38 55.5 +1.0
JCW Jim Creek 64.60 328 P P 05 38 57.2 -0.2
PGC Sidney 65.68 328 *e*P P 05 39 04.7 +0.4
comp=Z,54nm,0.8s,mb5.4
YKA Yellowknife Ar 71.62 343 P P 05 39 39.4 -1.8
comp=Z,3.4nm,0.7s,mb4.3,baz=138,slow=5.8,SNR=14
YKA Yellowknife Ar 71.62 343 P P 05 39 39.4 -1.8
YKW3 Yellowknife Ar 71.68 343⇓*i*P P 05 39 40.4 -1.2
PPT Papeete 72.48 253 *e*S S 05 48 47.0 -14
comp=Z,188nm,24.8s
PPT *e*LR LR 06 01 13.9
comp=Z,408nm,33.0s
PPT Papeete 72.48 253 LR LR 06 03 47.0
comp=Z,207nm,21.2s,baz=95,slow=29
DBIC Dimbokro 72.60 82 P P 05 39 47.5 +0.5
comp=Z,18nm,0.7s,mb5.0,baz=245,slow=5.1,SNR=60
DBIC LR LR 06 08 21.6
comp=Z,104nm,18.0s,baz=219,slow=33
DBIC Dimbokro 72.60 82⇓*i*P P 05 39 47.4 +0.3
comp=Z,60nm,0.8s,mb5.5
DBIC Dimbokro 72.60 82⇓*i*P P 05 39 47.4 +0.3
DBIC pmax pmax
comp=Z,60nm,0.8s
TBI Tubuai 72.67 247 *e*S S 05 48 50.4 -13
comp=Z,150nm,27.5s
TBI *e*LR LR 06 01 22.4
comp=Z,188nm,40.2s
EVO Evora 75.76 49 *e*P P 05 40 03.9 -1.5
comp=Z,44nm,0.8s,mb4.9
EVO *e*pP pP 05 40 39.1 +4.5
EVO *e*R
comp=Z,125nm,20.8s
PTOM Tomar 75.77 48 *e*P P 05 40 05.7 +0.3
comp=Z,37nm,1.0s,mb5.1
PVIS Viseu 76.46 47 *e*P P 05 40 09.5 +0.1
comp=Z,62nm,1.4s,mb5.2
PCBR Castelo Branco 76.52 48 *e*P P 05 40 09.5 -0.2
comp=Z,30nm,1.5s,mb4.8
MTE Manteigas 76.63 47 *e*P P 05 40 10.6 +0.3
comp=Z,51nm,1.0s,mb5.2
PVRL Vila Real 76.75 46 *e*P P 05 40 11.2 +0.2
comp=Z,19nm,1.3s,mb4.7
PBRG Braganca 77.60 46 *e*P P 05 40 16.2 +0.5
comp=Z,48nm,1.6s,mb5.0
RES Resolute Bay 78.68 355⇓*i*P P 05 40 20.4 -1.2
comp=Z,27nm,1.2s,mb5.0
RES Resolute Bay 78.68 355⇓*i*P P 05 40 20.4 -1.3
RES pmax pmax
comp=Z,27nm,1.2s,mb5.0
BORG Borgarnes 79.07 21 *e*P P 05 40 24.0 +0.2
comp=Z,24nm,0.8s,mb5.1
ESDC Sonseca Array 79.10 49 P P 05 40 24.4 +0.5
comp=Z,6.2nm,0.8s,mb4.5,baz=260,slow=6.8,SNR=25
SUMG Summit 79.62 11 *e*P P 05 40 26.7 -0.1
comp=Z,35nm,0.8s,mb5.2
SUMG *e*pP pP 05 40 54.8 -1.6
VNA3 Neumayer Olymp 79.63 162 *e*P P 05 40 26.6 -0.3
VNA3 *e* 05 40 33.4
VNA3 *e* pP 05 40 55.9 -0.5
VNA3 *e* 05 41 07.5
VNA3 Neumayer Olymp 79.63 162 *e*P P 05 40 26.6 -0.3
VNA3 *e* 05 40 33.4
VNA3 *e* pP 05 40 55.9 -0.5
VNA3 *e* 05 41 07.5
VNA3 *e* 05 59 21.9
TORD Torodi Ar. Bea 79.68 76 P P 05 40 27.1 -0.1
comp=Z,9.9nm,0.4s,mb5.0,baz=278,slow=5.9,SNR=235
TORD pP pP 05 40 53.9 -2.7
comp=Z,12nm,0.8s,baz=289,slow=6.1,SNR=4.3
VNA2 Neumayer--Watz 80.23 162 *e*P P 05 40 29.6 -0.5
baz=296,slow=5.0
VNA2 *e* 05 40 36.5
VNA2 *e* pP 05 40 58.8 -0.8
VNA2 *e* 05 41 09.5
VNA2 *e* 05 41 18.3
VNA2 Neumayer--Watz 80.23 162 *e*P P 05 40 29.6 -0.5
VNA2 *e* 05 40 36.5
VNA2 *e* pP 05 40 58.8 -0.8
VNA2 *e* 05 41 09.5
VNA2 *e* 05 41 18.3
VNA2 *e* 05 59 11.6
DCN Croghan 80.68 35⇑*i*P P 05 40 31.5 -1.0
DLF Lyons Farm 81.09 35⇑*i*P P 05 40 34.4 -0.3
DAWY Dawson 81.34 337⇓*i*P P 05 40 35.5 -0.5
INK Inuvik 81.36 342⇓*i*P P 05 40 35.7 -0.3
comp=Z,55nm,0.9s,mb5.4
INK Inuvik 81.36 342⇓*i*P P 05 40 35.7 -0.4
INK pmax pmax
comp=Z,55nm,0.9s
QUIF Quistinic 81.66 41 *e*P P 05 40 37.6 -0.1
ROSF Rostrenen 81.69 40 *e*P P 05 40 37.8 -0.1
comp=Z,43nm,0.8s,mb5.0
ROSF Rostrenen 81.69 40 *e*P P 05 40 37.8 -0.1
comp=Z,22nm,0.8s,mb5.0
ROSF Rostrenen 81.69 40 *e*P P 05 40 37.8 -0.1
ROSF pmax pmax
comp=Z,22nm,0.8s,mb5.0
SNAA Sanae 81.85 162 *e*P P 05 40 37.9 -0.8
SNAA *e* 05 40 44.5
SNAA *e* pP 05 41 07.1 -1.2
SNAA *e* 05 41 17.3
SJPF Ste Jean 81.88 46 *e*P P 05 40 39.3 +0.5
comp=Z,40nm,0.7s,mb5.0
SJPF *e*pP pP 05 41 15.7 +7.2
SJPF Ste Jean 81.88 46 *e*P P 05 40 39.3 +0.5
comp=Z,20nm,0.7s,mb5.1
SJPF *e*pP pP 05 41 15.7 +7.2
SJPF Ste Jean 81.88 46 *e*P P 05 40 39.3 +0.5
SJPF *e**PP pP 05 41 15.7 +7.2
SJPF pmax pmax
comp=Z,20nm,0.7s,mb5.1
SCO Scoresbysund 82.07 16 *i*P P 05 40 39.8 0.0
comp=Z,8.5nm,0.6s,mb4.8
SCO Scoresbysund 82.07 16 *i*P P 05 40 39.8 0.0
SCO pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
SGMF Saint Gilles 82.14 41 *e*P P 05 40 40.0 -0.2
comp=Z,63nm,0.8s,mb5.2
SGMF Saint Gilles 82.14 41 *e*P P 05 40 40.0 -0.2
comp=Z,31nm,0.8s,mb5.2
SGMF Saint Gilles 82.14 41 *e*P P 05 40 40.0 -0.2
SGMF pmax pmax
comp=Z,31nm,0.8s,mb5.2
ETSF Etsaut 82.31 46 *e*P P 05 40 41.7 +0.6
comp=Z,16nm,0.7s,mb4.7
ETSF Etsaut 82.31 46 *e*P P 05 40 41.7 +0.6
comp=Z,8.2nm,0.7s,mb4.7
ETSF Etsaut 82.31 46 *e*P P 05 40 41.7 +0.6
ETSF pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
MENT Mentasta 82.64 335 *e*P P 05 40 42.8 0.0
LCHF La Chataignera 82.97 42 *e*P P 05 40 45.6 +1.1
EPF Esparros 82.98 46 *e*P P 05 40 45.2 +0.6
comp=Z,37nm,1.0s,mb4.9
EPF Esparros 82.98 46 *e*P P 05 40 45.2 +0.6
comp=Z,19nm,1.0s,mb4.9
EPF Esparros 82.98 46 *e*P P 05 40 45.2 +0.6
EPF pmax pmax
comp=Z,19nm,1.0s,mb4.9
GRR Gorron 83.27 41 *e*P P 05 40 45.9 -0.1
comp=Z,70nm,0.8s,mb5.3
GRR Gorron 83.27 41 *e*P P 05 40 45.9 -0.1
comp=Z,35nm,0.8s,mb5.2
GRR Gorron 83.27 41 *e*P P 05 40 45.9 -0.1
GRR pmax pmax
comp=Z,35nm,0.8s,mb5.2
MFF Saint Martin d 83.36 43 *e*P P 05 40 46.5 0.0
comp=Z,64nm,0.7s,mb5.3
MFF Saint Martin d 83.36 43 *e*P P 05 40 46.5 0.0
comp=Z,32nm,0.7s,mb5.3
MFF Saint Martin d 83.36 43 *e*P P 05 40 46.5 0.0
MFF pmax pmax
comp=Z,32nm,0.7s,mb5.3
ESK Eskdalemuir 83.54 34 *e*P P 05 40 46.6 -0.9
comp=Z,13nm,0.7s,mb4.9
ESK Eskdalemuir 83.54 34 *e*P P 05 40 46.6 -0.8
ESK pmax pmax
comp=Z,13nm,0.7s,mb4.9
FLN La Foliniere 83.59 40 *e*P P 05 40 47.8 +0.1
comp=Z,84nm,0.7s,mb5.4
FLN *e*R
comp=Z,66nm,17.2s
FLN La Foliniere 83.59 40 *e*P P 05 40 47.8 +0.1
comp=Z,42nm,0.7s,mb5.4
FLN LR LR
comp=Z,70nm,17.3s
FLN La Foliniere 83.59 40 *e*P P 05 40 47.8 +0.1
FLN pmax pmax
comp=Z,42nm,0.7s,mb5.4
FLN MLR MLR
comp=Z,70nm,17.3s
LDF La Druitiere 83.79 41 *e*P P 05 40 48.6 -0.1
comp=Z,84nm,0.8s,mb5.3
LDF La Druitiere 83.79 41 *e*P P 05 40 48.6 -0.1
comp=Z,42nm,0.8s,mb5.3
LDF La Druitiere 83.79 41 *e*P P 05 40 48.6 -0.1
LDF pmax pmax
comp=Z,42nm,0.8s,mb5.3
RJF Les Rejaudoux 84.24 44 *e*P P 05 40 50.9 -0.1
comp=Z,46nm,0.8s,mb5.0
RJF *e*R
comp=Z,128nm,17.8s
RJF Les Rejaudoux 84.24 44 *e*P P 05 40 50.9 -0.1
comp=Z,23nm,0.8s,mb5.0
RJF LR LR
comp=Z,130nm,17.8s
RJF Les Rejaudoux 84.24 44 *e*P P 05 40 50.9 -0.1
RJF pmax pmax
comp=Z,23nm,0.8s,mb5.1
RJF MLR MLR
comp=Z,130nm,17.8s
SML Sawmill 84.27 333 *e*P P 05 40 50.5 -0.6
MTLF Montolieu 84.39 46 *e*P P 05 40 51.7 0.0
comp=Z,53nm,0.9s,mb5.0
MTLF Montolieu 84.39 46 *e*P P 05 40 51.7 0.0
comp=Z,27nm,0.9s,mb5.1
MTLF Montolieu 84.39 46 *e*P P 05 40 51.7 0.0
MTLF pmax pmax
comp=Z,27nm,0.9s,mb5.1
CAF Calviac 84.56 44 *e*P P 05 40 52.6 0.0
comp=Z,28nm,0.8s,mb5.0
CAF Calviac 84.56 44 *e*P P 05 40 52.6 0.0
comp=Z,14nm,0.8s,mb5.0
CAF Calviac 84.56 44 *e*P P 05 40 52.6 0.0
CAF pmax pmax
comp=Z,14nm,0.8s,mb4.9
PMR Palmer 84.57 333 *e*P P 05 40 51.9 -0.7
comp=Z,59nm,0.4s,mb5.9
PMR Palmer 84.57 333 *e*P P 05 40 51.9 -0.7
PMR pmax pmax
comp=Z,59nm,0.4s,mb5.9
ILAR Eielson Array 84.61 336 P P 05 40 51.9 -0.9
comp=Z,12nm,0.8s,mb4.9,baz=124,slow=3.5,SNR=119
ILAR PP PP 05 44 09.2 -0.7
comp=Z,3.5nm,0.8s,baz=108,slow=7.1,SNR=15
ILAR PKKP PKKPbc 05 59 00.8 -1.4
comp=Z,0.5nm,0.7s,baz=300,slow=3.0,SNR=5.3
ILAR LR LR 06 23 39.7
comp=Z,75nm,18.3s,baz=359,slow=39
ILAR Eielson Array 84.61 336 P P 05 40 51.9 -0.9
ILAR 05 44 09.3
TCF Toulx Ste Croi 84.90 43 *e*P P 05 40 54.0 -0.3
comp=Z,24nm,0.8s,mb4.8
TCF *e*pP pP 05 41 29.5 +5.4
TCF Toulx Ste Croi 84.90 43 *e*P P 05 40 54.0 -0.3
comp=Z,12nm,0.8s,mb4.9
TCF *e*pP pP 05 41 29.5 +5.4
TCF Toulx Ste Croi 84.90 43 *e*P P 05 40 54.0 -0.3
TCF *e**PP pP 05 41 29.5 +5.4
TCF pmax pmax
comp=Z,12nm,0.8s,mb4.9
COLA College 85.03 336 *e*P P 05 40 53.4 -1.6
comp=Z,13nm,0.8s,mb4.9
COLA College 85.03 336 *d*iP P 05 40 54.1 -0.9
KDAK Kodiak Island 85.23 329 P P 05 40 55.0 -0.9
comp=Z,7.2nm,0.6s,mb4.8,baz=131,slow=6.4,SNR=8.1
HYF Humbligny 85.36 42 *e*P P 05 40 56.7 +0.1
BGF Bois d'Agland 85.38 43 *e*P P 05 40 56.5 -0.2
comp=Z,15nm,0.6s,mb4.8
BGF *e*pP pP 05 41 32.0 +5.5
BGF Bois d'Agland 85.38 43 *e*P P 05 40 56.5 -0.2
comp=Z,7.7nm,0.6s,mb4.8
BGF *e*pP pP 05 41 32.0 +5.5
BGF Bois d'Agland 85.38 43 *e*P P 05 40 56.5 -0.2
BGF *e**PP pP 05 41 32.0 +5.5
BGF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LASF Ste Croix 85.68 46 *e*P P 05 40 58.7 +0.5
comp=Z,17nm,0.8s,mb4.7
LASF *e*pP pP 05 41 34.2 +6.1
AVF Avril sur Loir 85.76 43 *e*P P 05 40 57.8 -0.8
comp=Z,8.6nm,0.7s,mb4.5
AVF Avril sur Loir 85.76 43 *e*P P 05 40 57.8 -0.8
comp=Z,4.3nm,0.7s,mb4.5
AVF Avril sur Loir 85.76 43 *e*P P 05 40 57.8 -0.8
AVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PLDF La Plantade 85.81 44 *e*P P 05 41 00.7 +1.9
SSF Saint Saulge 85.91 43 *e*P P 05 40 58.8 -0.5
ALE Alert 86.02 2 P P 05 40 59.0 -0.9
comp=Z,118nm,0.9s,mb5.8,SNR=16
SMF Signal de Mont 86.07 43 *e*P P 05 40 59.9 -0.2
comp=Z,15nm,0.8s,mb4.7
SMF *e*pP pP 05 41 35.4 +5.4
SMF Signal de Mont 86.07 43 *e*P P 05 40 59.9 -0.2
comp=Z,7.3nm,0.8s,mb4.7
SMF *e*pP pP 05 41 35.4 +5.4
SMF Signal de Mont 86.07 43 *e*P P 05 40 59.9 -0.2
SMF *e**PP pP 05 41 35.4 +5.4
SMF pmax pmax

comp=Z,7.0nm,0.8s,mb4.6
LOR Lormes 86.18 42 *e*P **P 05 40 59.7 -0.9**
comp=Z,9.5nm,0.7s,mb4.5
LOR *e*R
comp=Z,77nm,18.5s
LOR Lormes 86.18 42 *e*P **P 05 40 59.7 -0.9**
comp=Z,4.8nm,0.7s,mb4.5
LOR LR LR
comp=Z,80nm,18.5s
LOR Lormes 86.18 42 *e*P **P 05 40 59.7 -0.9**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LOR MLR MLR
comp=Z,80nm,18.5s
DAG Danmarks Havn 86.30 11⇑*i*P **P 05 41 00.6 -0.6**
comp=Z,11nm,0.5s,mb5.0
DAG Danmarks Havn 86.30 11⇑*i*P **P 05 41 00.6 -0.6**
DAG pmax pmax
comp=Z,11nm,0.5s,mb5.0
VIVF Saint-Julien-l 86.38 45 *e*P **P 05 41 02.2 +0.6**
comp=Z,12nm,0.9s,mb4.5
VIVF Saint-Julien-l 86.38 45 *e*P **P 05 41 02.2 +0.6**
comp=Z,5.9nm,0.9s,mb4.5
VIVF Saint-Julien-l 86.38 45 *e*P **P 05 41 02.2 +0.6**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
QSPA South Pole Qui 86.72 180⇓*i*P **P 05 41 03.3 0.0**
comp=Z,40nm,0.9s,mb5.3
SMRF Simiane la Rot 86.89 46 *e*P **P 05 41 04.4 +0.3**
DOU Dourbes 87.10 40⇑P **P 05 41 04.9 -0.2**
comp=Z,8.2nm,0.8s,mb4.7
DOU XP sP 05 41 43.8 -3.6
MEZF Maizieres J'vi 87.16 41 *e*P **P 05 41 04.9 -0.5**
comp=Z,11nm,0.7s,mb4.6
MEZF *e*pP pP 05 41 40.8 +5.4
MEZF Maizieres J'vi 87.16 41 *e*P **P 05 41 04.9 -0.5**
comp=Z,11nm,0.6s,mb5.0
MEZF *e*pP pP 05 41 40.8 +5.4
ORIF Oris-en-Rattie 87.23 45 *e*P **P 05 41 06.1 +0.3**
comp=Z,30nm,1.0s,mb4.9
ORIF *e*R
comp=Z,110nm,21.8s
ORIF Oris-en-Rattie 87.23 45 *e*P **P 05 41 06.1 +0.3**
comp=Z,15nm,1.0s,mb4.9
ORIF Oris-en-Rattie 87.23 45 *e*P **P 05 41 06.1 +0.3**
ORIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GIVF Givet 87.24 40 *e*P **P 05 41 05.8 0.0**
comp=Z,32nm,0.7s,mb5.0
GIVF Givet 87.24 40 *e*P **P 05 41 05.8 0.0**
comp=Z,16nm,0.7s,mb5.1
GIVF Givet 87.24 40 *e*P **P 05 41 05.8 0.0**
GIVF pmax pmax
comp=Z,16nm,0.7s,mb5.1
SVW2 Sparrevohn 87.45 332 *e*P **P 05 41 05.9 -0.9**
CABF La Chapelle 87.60 43 *e*P **P 05 41 07.2 -0.3**
comp=Z,18nm,0.7s,mb4.9
CABF La Chapelle 87.60 43 *e*P **P 05 41 07.2 -0.3**
comp=Z,9.1nm,0.7s,mb4.9
CABF La Chapelle 87.60 43 *e*P **P 05 41 07.2 -0.3**
CABF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
FRF La Foret Royal 87.61 46 *e*P **P 05 41 07.2 -0.4**
comp=Z,32nm,0.9s,mb5.1
FRF La Foret Royal 87.61 46 *e*P **P 05 41 07.2 -0.4**
comp=Z,16nm,0.9s,mb5.0
FRF La Foret Royal 87.61 46 *e*P **P 05 41 07.2 -0.4**
FRF pmax pmax
comp=Z,16nm,0.9s,mb5.0
BNI Bardonecchia 87.81 45 *e*P **P 05 41 08.8 +0.3**
comp=Z,10nm,0.8s,mb4.9
BNI Bardonecchia 87.81 45 *e*P **P 05 41 08.8 +0.3**
BNI pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MBDF Montbardon 87.84 45 *e*P **P 05 41 08.7 0.0**
comp=Z,22nm,0.9s,mb4.9
MBDF Montbardon 87.84 45 *e*P **P 05 41 08.7 0.0**
comp=Z,11nm,0.9s,mb4.9
MBDF Montbardon 87.84 45 *e*P **P 05 41 08.7 0.0**
MBDF pmax pmax
comp=Z,11nm,0.9s,mb4.9
LPL La Plagne 87.91 44 *e*P **P 05 41 09.4 +0.4**
comp=Z,20nm,0.9s,mb4.8
LPL La Plagne 87.91 44 *e*P **P 05 41 09.4 +0.4**
comp=Z,10nm,0.9s,mb4.8
LPL La Plagne 87.91 44 *e*P **P 05 41 09.4 +0.4**
LPL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
HAU Haudompre 87.95 42 *e*P **P 05 41 08.4 -0.8**
HAU *e*R
comp=Z,99nm,18.8s
HAU Haudompre 87.95 42 *e*P **P 05 41 08.4 -0.8**
HAU MLR MLR
comp=Z,100nm,18.8s
WLF Walferdange 88.03 40 *e*P **P 05 41 09.9 +0.3**
comp=Z,26nm,1.0s,mb5.2
WLF *e*pP pP 05 41 42.6 +3.0
WLF Walferdange 88.03 40⇑P **P 05 41 09.8 +0.3**
comp=Z,10.0nm,1.0s,mb4.8
WLF XP sP 05 41 45.8 -6.1
WLF Walferdange 88.03 40 *e*P **P 05 41 09.4 -0.1**
comp=Z,16nm,0.8s,mb5.1
WLF Walferdange 88.03 40 *e*P **P 05 41 09.4 -0.2**
WLF pmax pmax
comp=Z,16nm,0.8s,mb5.1
CDF Champ du Feu 88.61 42 *e*P **P 05 41 11.8 -0.5**
comp=Z,22nm,0.8s,mb4.9
CDF Champ du Feu 88.61 42 *e*P **P 05 41 11.8 -0.5**
comp=Z,11nm,0.8s,mb4.9
CDF Champ du Feu 88.61 42 *e*P **P 05 41 11.8 -0.5**
CDF pmax pmax
comp=Z,11nm,0.8s,mb4.9
BUG Bochum--Univer 88.96 39 *e*P **P 05 41 13.1 -0.8**
comp=Z,14nm,0.8s,mb5.0
IBBN Ibbenburen 89.36 38 *e*P **P 05 41 16.0 +0.2**
comp=Z,10.0nm,0.8s,mb4.9
IBBN *e*pP pP 05 41 47.9 +2.0
TNS Taunus Mts 89.57 40 *e*P **P 05 41 16.9 +0.1**
comp=Z,13nm,1.0s,mb5.0
TNS *e*pP pP 05 41 48.2 +1.3
STU Stuttgart 89.92 41 *e*P **P 05 41 18.3 -0.1**
comp=Z,42nm,2.1s,mb5.2
STU *e*pP pP 05 41 50.3 +1.8
STU Stuttgart 89.92 41 *e*P **P 05 41 18.1 -0.3**
DAVA Damuels 90.25 43⇑*i*P **P 05 41 20.6 +0.6**
comp=Z,14nm,0.7s,mb5.2
CLZ Clausthal 90.92 38 *e*P **P 05 41 23.4 +0.3**
comp=Z,5.0nm,0.8s,mb4.7
BSEG Bad Segeberg 91.04 36 *e*P **P 05 41 24.2 +0.6**
comp=Z,8.0nm,0.7s,mb5.0
MOTA Moosalm 91.09 43⇑*i*P **P 05 41 24.1 +0.3**
comp=Z,15nm,1.1s,mb5.0
MOTA Moosalm 91.09 43⇑P **P 05 41 24.1 +0.2**
comp=Z,15nm,1.1s,mb5.0
MOTA Moosalm 91.09 43⇑P **P 05 41 24.1 +0.3**
MOTA pmax pmax
comp=Z,15nm,1.1s,mb5.0
SQTA Sankt Quirin 91.15 43⇓*i*P **P 05 41 24.3 +0.2**
comp=Z,6.4nm,0.8s,mb4.8
SQTA Sankt Quirin 91.15 43⇓P **P 05 41 24.3 +0.1**
comp=Z,6.4nm,0.8s,mb4.8
SQTA Sankt Quirin 91.15 43⇓P **P 05 41 24.3 +0.2**
SQTA pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
GRF Grafenberg Arr 91.31 40 *e*P **P 05 41 25.7 +0.8**
comp=Z,5.0nm,1.0s,mb4.6
GRF *e*pP pP 05 41 57.3 +2.3
GRF Grafenberg Arr 91.31 40 *e*P **P 05 41 25.7 +0.8**
GRF *e**PP pP 05 41 57.3 +2.3
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
WTTA Wattenberg 91.44 43⇑*i*P **P 05 41 24.7 -0.8**
comp=Z,16nm,1.0s,mb5.1
WTTA Wattenberg 91.44 43⇑P **P 05 41 24.7 -0.8**
WTTA pmax pmax
comp=Z,16nm,1.0s,mb5.1
MOX Moxa 91.62 40 *e*P **P 05 41 26.5 +0.2**
comp=Z,12nm,1.5s,mb4.9
MANZ Manzenberg 91.90 40 *e*P **P 05 41 28.4 +0.8**
comp=Z,6.0nm,0.9s,mb4.8
MANZ *e*sP sP 05 42 13.1 +3.1
ROTZ Rotzenmuhle 91.96 40 *e*P **P 05 41 28.3 +0.4**
comp=Z,9.0nm,1.0s,mb5.0
NB2 NORSAR Subarra 91.99 29 P **P 05 41 27.9 -0.1**
comp=Z,6.5nm,1.1s,mb4.8,baz=264,slow=5.3
NB2 NORSAR Subarra 91.99 29 P **P 05 41 27.9 -0.1**
NB2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
NOA NORSAR Array B 91.99 29 P **P 05 41 28.4 +0.4**
comp=Z,3.1nm,0.9s,mb4.5,baz=268,slow=4.8,SNR=9.4
NOA pP pP 05 41 53.4 -4.8
comp=Z,0.9nm,0.7s,baz=270,slow=4.8,SNR=1.7
NOA LR LR 06 17 06.4
comp=Z,42nm,19.0s,baz=315,slow=32
NOA NORSAR Array B 91.99 29 P **P 05 41 28.5 +0.5**
NOA *PP pP 05 41 53.4 -4.7
WERD Werda 92.05 40 *e*P **P 05 41 28.6 +0.3**
comp=Z,14nm,1.4s,mb5.0
NKC Novy Kostel 92.13 40 *e*P **P 05 41 29.3 +0.6**
WET Wettzell 92.37 41 *e*P **P 05 41 29.9 +0.1**
comp=Z,46nm,2.0s,mb5.4
WET *e*sP sP 05 42 14.9 +2.8
CLL Collm 92.53 39 *e*P **P 05 41 30.9 +0.4**
comp=Z,7.0nm,0.9s,mb5.0
CLL *e*sP sP 05 42 16.1 +3.2
CLL Collm 92.53 39 *i*P **P 05 41 30.9 +0.4**
comp=Z,7.0nm,0.9s,mb5.0
CLL Collm 92.53 39 *i*P **P 05 41 30.9 +0.4**
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
KHC Kasperske Hory 92.83 41 *e*P **P 05 41 31.1 -0.8**
GEC2 GERESS Array S 92.90 41 *e*P **P 05 41 31.5 -0.7**
GEC2 *e*sP sP 05 42 19.1 +4.5
GERES GERESS Array B 92.90 41 P **P 05 41 32.4 +0.2**
comp=Z,1.4nm,0.6s,mb4.5,baz=260,slow=2.5,SNR=16
GERES pP pP 05 41 56.8 -5.5
comp=Z,0.5nm,0.7s,baz=248,slow=5.2,SNR=1.8
BRG Berggiesshubel 93.11 39 *e*P **P 05 41 33.6 +0.4**
comp=Z,10.0nm,1.1s,mb5.1
BRG *e*pP pP 05 42 02.8 -0.5
BRG Berggiesshubel 93.11 39 *i*P **P 05 41 33.5 +0.3**
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
BRG Berggiesshubel 93.11 39 *i*P **P 05 41 33.5 +0.3**
comp=Z,6.1nm,1.1s,mb4.8
TSUM Tsumeb 93.14 109 *e*P **P 05 41 34.5 +1.2**
comp=Z,13nm,1.3s,mb5.1
VNDA Vanda 93.21 191 P **P 05 41 33.0 -0.6**
comp=Z,5.1nm,0.7s,mb5.0,baz=120,slow=3.5,SNR=25
VNDA Vanda 93.21 191 *e*P **P 05 41 33.0 -0.6**
comp=Z,3.5nm,0.6s,mb4.9
VNDA Vanda 93.21 191 *e*P **P 05 41 33.0 -0.6**
VNDA pmax pmax
comp=Z,4.0nm,0.6s
PRU Pruhonice 93.47 40 *e*P **P 05 41 35.0 +0.1**
PVCC Panska Ves 93.50 40 *e*P **P 05 41 35.4 +0.4**
TREC Trest 94.08 41 *e*P **P 05 41 37.8 +0.2**
UPC Upice 94.42 40 *e*P **P 05 41 39.8 +0.6**
DPC Dobruska-Polom 94.62 40 *e*P **P 05 41 39.9 -0.2**
TIP Timpagrande 94.94 51 *e*P **P 05 41 41.7 +0.2**
ZST Bratislava 95.15 42 *e*P **P 05 41 42.6 0.0**
SMOL Smolenice 95.36 42 *e*P **P 05 41 43.5 0.0**
MORC Moravsky Berou 95.42 40 *e*P **P 05 41 43.9 +0.2**
comp=Z,3.1nm,0.6s,mb4.9
MORC Moravsky Berou 95.42 40 *e*P **P 05 41 43.9 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
SYO Syowa Base 96.10 161⇓*e*P **P 05 41 44.9 -2.0**
VYHS Vyhne 96.30 42 *e*P **P 05 41 47.9 +0.1**
OJC Ojcow 96.85 40 *e*P **P 05 41 51.6 +1.3**
KECS Kecovo 97.40 42 *e*P **P 05 41 53.7 +1.0**
ARCES ARCESS Array B 97.46 20 P **P 05 41 51.6 -1.4**
comp=Z,4.5nm,0.7s,mb5.0,baz=272,slow=3.5,SNR=22
ARCES PKKP PKKPbc 05 58 28.6 -1.1
comp=Z,2.6nm,0.8s,baz=90,slow=3.6,SNR=6.8
ARCES LR LR 06 23 11.7
comp=Z,44nm,18.6s,baz=5.9,slow=34
STHS Stebnicka Huta 97.84 41 *e*P **P 05 41 53.8 -0.9**
BOSA Boshof 99.04 120 P **P 05 41 60.0 -0.2**
comp=Z,2.3nm,0.8s,mb4.7,baz=56,slow=15,SNR=2.4
BOSA LR LR 06 26 01.5
comp=Z,116nm,19.4s,baz=96,slow=35
KAF Kangasniemi 99.12 28 *e*p **P 05 41 58.3 -2.2**
FINES FINESS Array B 99.13 28 P **P 05 41 59.9 -0.6**
comp=Z,2.0nm,0.8s,mb4.7,baz=259,slow=1.9,SNR=9.4
FINES PKKP PKKPbc 05 58 24.1 -1.0
comp=Z,1.0nm,0.6s,baz=118,slow=3.7,SNR=11
FINES LR LR 06 23 12.2
comp=Z,31nm,19.5s,baz=278,slow=33
LBTB Lobatse 99.88 116 *e*Pdif Pdif 05 42 04.7 +0.8
BILL Bilibino 102.90 340 *e*P Pdif 05 42 16.0 -1.3
BILL pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 107.89 49 PKiKP PKiKP 05 46 46.8 +0.6
comp=Z,0.8nm,0.7s,baz=139,slow=2.6,SNR=4.8
MALT Malatya 111.83 50 *e*PKP PKiKP 05 46 53.8 +0.2
MA2 Magadan 113.09 336⇑*i*PKIKP PKiKP 05 46 50.6 -5.4
GNI Garni 116.03 47 *i*PKIKP PKPdf 05 46 58.5 -3.1
YAK Yakutsk 118.17 346 *i*PKIKP PKPdf 05 47 04.4 -1.3
AKTK Aktyubinsk 119.70 31 PKP PKPdf 05 47 09.3 +0.6
AKTK PKKPbc PKKPbc 05 57 19.0 0.0
AKTO Aktyubinsk 119.70 31 PKP PKPdf 05 47 09.3 +0.6
comp=Z,3.3nm,0.7s,baz=311,slow=1.6,SNR=14
AKTO PKKPbc PKKPbc 05 57 19.0 0.0
comp=Z,2.9nm,0.6s,baz=114,slow=6.5,SNR=12
MIB Mutribah 121.13 57 *e*P PKPdf 05 47 12.1 +0.7
MIB AMb AMB 05 47 13.5
comp=Z,41nm,0.7s
NAY Al-Naaiem 121.19 58 *e*P PKPdf 05 47 12.1 +0.5
NAY AMb AMB 05 47 13.4
comp=Z,12nm,0.7s
AB31 Akbulak array 121.40 32 *i*PKIKP PKPdf 05 47 12.2 +0.2
AB31 pmax pmax
comp=Z,11nm,0.8s
UMR Umm Al-Rimmam 121.51 57 *e*P PKPdf 05 47 13.0 +0.9
UMR AMb AMB 05 47 14.3
comp=Z,56nm,0.7s
RDF Al-Radifah 121.53 58 *e*P PKPdf 05 47 12.7 +0.5
CNB Canberra Magne 122.07 224 *e*P PKPdf 05 47 13.8 +0.6
comp=Z,9.1nm,0.7s
TOO Toolangi 123.41 220 *e*P PKPdf 05 47 16.1 +0.3
comp=Z,7.3nm,0.6s
BRVK Borovoye 123.55 23 *e*PKPdf PKPdf 05 47 15.7 -0.4
BVA0 Borovoye Array 123.62 23 *i*PKIKP PKPdf 05 47 15.9 -0.3
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 123.62 23 PKP PKPdf 05 47 16.6 +0.4
comp=Z,4.8nm,0.6s,baz=271,slow=1.9,SNR=32
BVAR pPKP pPKPdf 05 47 43.7 -3.9
comp=Z,2.7nm,0.7s,baz=52,slow=9.9,SNR=7.2
BVAR PKKPbc PKKPbc 05 57 03.3 -0.9
comp=Z,0.9nm,0.6s,baz=150,slow=6.8,SNR=5.2
BVAR Borovoye Array 123.62 23 PKIKP PKPdf 05 47 16.6 +0.4
BVAR 05 47 43.7
YSS Yuzh-Sakhalins 124.67 328 *e*PKPdf PKPdf 05 47 17.8 -0.4
BOD Bodaibo 125.01 353 *e*PKIKP PKPdf 05 47 16.5 -2.4
BOD *e* 05 47 47.0
BOD pmax pmax
comp=Z,3.0nm,0.7s
ASAJ Asahikawa 126.52 325 PKP PKPdf 05 47 22.5 +0.7
comp=Z,7.4nm,0.7s,baz=294,slow=7.4,SNR=8.8
KRAR Krasnoyarsk 126.86 7⇑*i*PKIKP PKPdf 05 47 21.9 -0.5
ZAL Zalesovo 127.39 14 PKP PKPdf 05 47 22.9 -0.5
comp=Z,11nm,0.6s,baz=199,slow=2.0,SNR=66
ZAL pPKP pPKPdf 05 47 50.1 -4.7
comp=Z,9.5nm,0.8s,baz=201,slow=3.0,SNR=8.3
KLR Kul'dur 128.18 336 *e*PKIKP PKPdf 05 47 21.0 -3.9
KURK Kurchatov 128.50 20 *e*PKPdf PKPdf 05 47 25.3 -0.3
KURK *e*pPKPdf pPKPdf 05 47 55.8 -1.1
ABTO Aybut 129.24 70⇑P PKPdf 05 47 27.9 +1.0
SNR=8.7
STKA Stephens Creek 129.36 223 *e*P PKPdf 05 47 25.3 -1.9
comp=Z,13nm,0.7s
STKA Stephens Creek 129.36 223 PKP PKPdf 05 47 25.8 -1.4
comp=Z,15nm,0.7s,baz=97,slow=1.2,SNR=36
WHFO Wadi Hawf 129.59 70⇓P PKPdf 05 47 28.7 +1.1
SNR=6.2
KKAR Karatay Array 130.97 31 *i*PKIKP PKPdf 05 47 30.6 +0.4
CTA Charters Tower 131.66 239 *e*P PKPdf 05 47 31.8 +0.3
comp=Z,5.7nm,0.6s
CTAO Charters Tower 131.66 239 *e*PKPdf PKPdf 05 47 32.0 +0.5
HIA Hailar 132.10 345 *i*PKIKP PKPdf 05 47 31.9 -0.5
SMDO Samad 132.24 62⇓P PKPdf 05 47 33.0 +0.4
SNR=6.6
MDJ Mudanjiang 132.75 334 PKP PKPdf 05 47 32.5 -1.1
MDJ SS SS 06 07 31.1 +0.1
USP Ospenovka 132.84 28 P PKPdf 05 47 35.3 +1.5
SNR=7.8
EKS2 Erkin-Say 132.94 30 P PKPdf 05 47 35.4 +1.5
SNR=12
MKAR Makanchi Array 133.11 20 PKP PKPdf 05 47 34.3 0.0
comp=Z,4.5nm,0.6s,baz=27,slow=0.3,SNR=10
MKAR pPKP pPKPdf 05 48 01.8 -3.9
comp=Z,2.6nm,0.6s,baz=12,slow=2.6,SNR=5.4
MKAR PP PP 05 50 00.4 -1.3
comp=Z,1.0nm,0.9s,baz=322,slow=7.7,SNR=4.1
ZAK Zakamensk 133.14 360 *e*PKIKP PKPdf 05 47 34.4 +0.1
ZAK *e* 05 48 04.9
ZAK pmax pmax
comp=Z,7.0nm,1.6s
ZAK pmax pmax
comp=Z,7.0nm,1.8s
ZAK pmax pmax
comp=Z,8.0nm,1.7s
AML Almayashu 133.29 30 P PKPdf 05 47 37.1 +2.5
SNR=14
AAK Ala-Archa 133.31 29 P PKPdf 05 47 36.9 +2.2
SNR=10.0
AAK Ala-Archa 133.31 29 *e*PKIKP PKPdf 05 47 34.9 +0.2
AAK *e* 05 48 05.0
TKM2 Tokmak 2 133.62 28 P PKPdf 05 47 36.8 +1.5
SNR=6.4
UCH Uchtor 133.63 29 P PKPdf 05 47 37.8 +2.6
SNR=17
MJAR Matsushiro Arr 133.80 320 PKP PKPdf 05 47 35.6 0.0
comp=Z,3.9nm,0.6s,baz=102,slow=1.2,SNR=19
MJAR pPKP pPKPdf 05 48 03.0 -4.0
comp=Z,2.9nm,0.6s,baz=101,slow=1.1,SNR=3.8
MAJO Matsushiro 133.80 320 *e*PKPdf PKPdf 05 47 35.0 -0.6
MAT Matsushiro 133.80 320 PKP PKPdf 05 47 35.2 -0.4
MAT Matsushiro 133.80 320 *e*PKIKP PKPdf 05 47 35.0 -0.6
KZA Kyzart 134.10 29 P PKPdf 05 47 38.9 +2.8
SNR=11
PMG Port Moresby 134.30 253 *i*PKIKP PKPdf 05 47 36.8 +0.3
ULHL Ulahol 134.44 28 P PKPdf 05 47 39.0 +2.2
SNR=8.0
CN2 Changchun 135.12 337 *e*PKP PKPdf 05 47 40.2 +2.2
ULN Ulaanbaatar 135.53 356 *e*PKPdf PKPdf 05 47 39.1 +0.3
SONM Songino Array 135.60 357 PKhKP 05 47 27.7
comp=Z,0.6nm,0.5s,baz=342,slow=2.7,SNR=6.4
SONM PKP PKPdf 05 47 38.2 -0.7
comp=Z,4.5nm,0.8s,baz=336,slow=2.5,SNR=7.0
SONM pPKP pPKPdf 05 48 07.2 -3.2
comp=Z,3.1nm,0.7s,baz=332,slow=1.4,SNR=5.3
SONM PP PP 05 50 17.1 -0.3
comp=Z,0.8nm,0.7s,baz=347,slow=7.7,SNR=3.8
WMQ Urumqi 137.45 17 *e*PKP PKPdf 05 47 41.5 -0.9
WMQ LR LR
comp=Z,268nm,25.0s
KS15 Wonju Array Si 139.16 329 *e*PKPdf PKPdf 05 47 45.7 +0.2
ASAR Alice Springs 139.73 227 PKhKP 05 47 38.8
comp=Z,1.0nm,0.4s,baz=123,slow=3.6,SNR=21
ASAR PKP PKPdf 05 47 46.8 +0.2
comp=Z,8.7nm,0.7s,baz=126,slow=2.0,SNR=35
ASAR pPKP pPKPdf 05 48 14.7 -3.3
comp=Z,2.8nm,0.7s,baz=128,slow=2.0,SNR=2.7
WB2 Warramunga Arr 141.55 232 *e*P PKPdf 05 47 43.6 -6.2
WRAB Tennant Creek 141.56 232 *e*PKPpre 05 47 44.3
WRAB *e*PKPdf PKPdf 05 47 50.2 +0.4
WRA Warramunga Arr 141.56 232 PKhKP 05 47 44.0
comp=Z,5.2nm,0.7s,baz=120,slow=2.6,SNR=78
WRA PKP PKPdf 05 47 50.3 +0.5
comp=Z,19nm,0.6s,baz=119,slow=2.0,SNR=37
WRA pPKP pPKPdf 05 48 18.6 -2.7
comp=Z,6.3nm,0.6s,baz=126,slow=1.9,SNR=3.8
BJI Beijing 141.61 344 PKP PKPdf 05 47 49.6 -0.3
BJT Baijiatuau 141.63 344 *e*PKPpre 05 47 44.1
BJT *e*PKPdf PKPdf 05 47 48.7 -1.2
HHC Hu-ho-hao-te 141.90 350 *e*PKP PKPdf 05 47 51.2 +0.8
HHC PP PP 05 51 00.2 +3.8
HHC PKS 05 51 25.0
HHC SKS SKSdf 05 54 49.6 -0.1
HHC SKKS SKKSac 05 57 39.4 +0.9
HHC SS SS 06 09 22.9 +3.4
HHC LR LR
comp=N,104nm,4.9s
HHC LR LR
comp=E,121nm,4.9s
HHC LR LR
comp=Z,105nm,5.7s
KLBR Kellerberrin 142.56 201 *e*P PKPdf 05 47 47.0 -4.6
comp=Z,6.0nm,0.5s
MUN Mundaring 142.72 199 *e*P PKPdf 05 47 48.4 -3.5
KLP Kalpa 143.49 37 *e*P PKPdf 05 47 51.8 -1.4
KLP *i*x x 05 52 14.6
GTA Gaotai 143.99 4 PKP PKPdf 05 47 52.5 -1.6
GTA PP PP 05 51 12.8 +3.9
GTA PKS 05 51 26.7
GTA PKP 05 54 27.7
GTA SKS SKSdf 05 54 50.5 -2.4
GTA SKKS SKKSac 05 57 52.2 +1.7
GTA SS SS 06 09 49.6 +6.0
GTA PP PP
comp=Z,93nm,6.8s
GTA LR LR
comp=N,96nm,17.5s
GTA LR LR
comp=E,133nm,15.6s
GTA LR LR
comp=Z,100nm,17.5s
KHET Khetri 144.21 44 *i*P PKPdf 05 47 54.0 -0.5
AJM Ajmer 144.34 47 *e*P PKPdf 05 47 52.8 -1.9
KUDL Kundal 144.63 43 *i*P PKPdf 05 47 55.6 +0.3
KUDL *i*pPKP pPKPdf 05 48 23.0 -3.8
NDI New Delhi 144.78 42 *e*P PKPdf 05 47 55.5 0.0
AYAN Aya Nagar 144.85 42 *e*P PKPdf 05 47 56.1 +0.4
AYAN *i*pPKP pPKPdf 05 48 22.9 -4.2
KALG Kalgarh 145.22 39 *e*x x 05 47 48.5
AGRA Agra 146.21 43 *e*P PKPdf 05 47 58.7 +0.7
AGRA *i*pPKP pPKPdf 05 48 26.0 -3.4
KAKA Kakadu 146.77 241 *e*P PKPdf 05 47 59.3 +0.4
comp=Z,27nm,0.6s
LZH Lanzhou 147.42 359 *e*PKP PKPdf 05 48 03.7 +3.7
LZH APKP 05 48 33.6
LZH XPKP 05 48 46.0
LZH PP PP 05 51 37.0 +7.7
LZH *e*SKKS SKKSac 05 58 15.0 +5.1
LZH *e*SS SS 06 10 28.0 +5.4
LZH PP PP
comp=Z,250nm,6.0s
SSE Sheshan 147.56 330⇓PKP PKPdf 05 48 03.0 +2.8
NJ2 Nanjing 147.84 334 *e*PKP PKPdf 05 48 03.4 +2.7
NJ2 PKP2 PKPab 05 48 11.6 +5.1
NJ2 APKP 05 48 30.0
NJ2 XPKP 05 48 40.8
NJ2 PP PP 05 51 30.0 -1.7
NJ2 PKS 05 51 37.0
NJ2 SKS SKSdf 05 55 00.0 +1.5
NJ2 SKKS SKKSac 05 58 16.0 +3.7
NJ2 PP PP
comp=Z,100nm,5.4s
NJ2 LR LR
comp=N,570nm,34.7s
NJ2 LR LR
comp=E,280nm,33.8s
NJ2 LR LR
comp=Z,110nm,25.4s
KAD Karad 148.43 62 *e*P PKPdf 05 48 02.5 +0.8
XAN Xi'an 148.99 351 PKP PKPdf 05 48 03.0 +0.4
FITZ Fitzroy Crossi 149.21 225⇓*i*P PKPdf 05 48 03.3 +0.4
comp=Z,71nm,0.8s
KOLN Koldanda 149.41 36 *e*P PKPdf 05 48 04.2 +1.0
comp=Z,106nm,0.8s
GKN Gorkha 149.82 34 *e*P PKPdf 05 48 05.0 +1.1
comp=Z,259nm,0.8s
KKN Kakani 150.34 33 *e*P PKPdf 05 48 06.0 +1.3
comp=Z,242nm,0.7s
DMN Daman 150.38 34 *e*P PKPdf 05 48 06.0 +1.2
comp=Z,136nm,0.7s
GUN Gumba 150.57 32 *e*P PKPdf 05 48 06.5 +1.4
comp=Z,232nm,1.0s
PKI Pulchoki 150.58 33 *e*P PKPdf 05 48 06.3 +1.2
comp=Z,163nm,0.8s
MBWA Marble Bar 150.69 213 *e*PKPbc PKPbc 05 48 10.6 -0.2
MBWA *e*PKPab PKPab 05 48 18.0 -0.2
JIRN Jiri 150.93 32 *e*P PKPdf 05 48 06.5 +0.9
comp=Z,74nm,0.6s
LSA Lhasa 151.45 22 PKP PKPdf 05 48 08.4 +2.0
LSA Lhasa 151.45 22 *e*PKPdf PKPdf 05 48 08.4 +2.0
LSA *e*PKPbc PKPbc 05 48 14.7 +2.1
ENH Enshi 152.55 348 *e*PKPdf PKPdf 05 48 08.6 +0.6
ENH *e*PKPbc PKPbc 05 48 15.1 0.0
ENH *e*PKPab PKPab 05 48 25.3 -0.6
CD2 Chengdu 152.58 359 *e*PKP PKPdf 05 48 08.6 +0.5
CD2 *e*PKP2 PKPab 05 48 28.3 +2.2
CD2 APKP 05 48 35.4

CD2				XPKP		05 48 46.0	
CD2				PP	PP	05 52 02.4	+3.4
CD2				SKS	SKSdf	05 55 04.3	-0.3
CD2				SKKS	SKKSac	05 58 40.3	+1.9
CD2				SS	SS	06 11 23.1	+3.1
CD2				PP	PP		
	comp=Z,80nm,9.5s						
CD2				LR	LR		
	comp=E,60nm,12.5s						
CD2				LR	LR		
	comp=Z,70nm,15.6s						
TRD	**Trivandrum**	**153.51**	**78**	*e*P	PKPdf	05 48 09.2	-0.2
BOK	**Bokaro**	**153.74**	**38**	*e*P	PKPdf	05 48 07.7	-2.1
SHL	**Shillong**	**155.42**	**25**	*e*P	PKPdf	05 48 13.0	+0.9
VIS	**Vishakhapatnam**	**155.93**	**52**	*e*P	PKPdf	05 48 12.3	-0.5
GYA	**Guiyang**	**156.77**	**352**	PKP	PKPdf	05 48 14.6	+0.7
GYA				APKP		05 48 41.2	
GYA				XPKP		05 48 52.1	
GYA				PKS		05 51 47.2	
GYA				PP	PP	05 52 26.9	+4.5
GYA				SKKS	SKKSac	05 59 04.8	+3.9
GYA				PP	PP		
	comp=Z,140nm,8.4s						
GYA				LR	LR		
	comp=E,530nm,21.6s						
GYA				LR	LR		
	comp=Z,420nm,21.0s						
KMI	**Kunming**	**158.35**	**1**	PKP	PKPdf	05 48 14.0	-1.8
KMI				PP	PP	05 52 31.8	+0.7
KMI				PP	PP		
	comp=Z,81nm,4.2s						
PSI	**Prapat**	**175.80**	**97**	PKP	PKPdf	05 48 28.3	-0.3
	comp=Z,3.5nm,0.7s,baz=345,slow=10,SNR=3.5						

ATH ***05*** *05:46:36.5, 37.21N×28.45E, h13km±4km, MD3.3/3*
CSEM ***05*** *05:46:37.5±0.1, 37.04N×28.61E, h2km, MD3.2, Error ellipse: s-maj=2.8km s-min=2.2km az=46.0*
ISK ***05*** *05:46:38.4, 37.02N×28.60E, h13km, MD3.2*
ISCJB ***05*** *05:46:39.4±0.4, 37.00N±0.003×28.58E±0.003, h10km, Error ellipse: s-maj=3.8km s-min=3.5km az=96.3*

ISC 05 05:46:39.3±0.5, 37.03N±0.002×28.56E±0.003, h1km±5km, n22, σ1§07/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.24**	**296**	*i* PG	**Pg**	**05 46 44.5**	**+0.5**
DALT	**Dalyan (Mudla)**	**0.27**	**166**	*i* PG	**Pg**	**05 46 44.0**	**-0.5**
DALT				*i* SG	**Sg**	**05 46 48.4**	**+0.5**
FETY	**Fethiye**	**0.57**	**133**	*i* PG	**Pg**	**05 46 49.7**	**-0.7**
FETY				*i* SG	**Sg**	**05 46 57.5**	**-0.3**
MLSB	**Milas**	**0.68**	**293**	*i* PG	**Pg**	**05 46 52.7**	**+0.3**
DENT	**Denizli**	**0.82**	**27**	*i* PG	**Pg**	**05 46 54.1**	**-0.9**
GOLH	**Golhisar**	**0.83**	**75**	*i* P	**Pg**	**05 46 55.4**	**+0.2**
GOLH				*i* S	**Sg**	**05 47 07.4**	**+1.5**
AYDN	**Tasoluk**	**0.83**	**320**	*i* P	**Pg**	**05 46 55.2**	**-0.1**
AYDN				*i* S	**Sg**	**05 47 03.7**	**-2.4**
DAT	**Datca**	**0.84**	**249**	PG	**Pg**	**05 46 55.1**	**-0.4**
ARG	**Arkhangelos**	**0.88**	**203**	*e*PB	**Pb**	**05 46 56.0**	**-1.4**
BDRM	**Kayabasi**	**0.89**	**273**	*i* P	**Pg**	**05 46 57.1**	**+0.7**
BDRM				*i* S	**Sg**	**05 47 10.3**	**+2.2**
BODT	**Bodrum**	**1.00**	**272**	PG	**Pg**	**05 46 59.2**	**+0.7**
KSL	**Kastellorizon**	**1.20**	**136**	*e*PG	**Pg**	**05 47 02.5**	**+0.1**
KSL				*e*SB	**Sb**	**05 47 22.0**	**+3.1**
MANT	**Manisa**	**1.46**	**360**	*i* P	**Pn**	**05 47 06.2**	**-0.5**
MANT				*i* S	**Sg**	**05 47 27.0**	**+0.8**
KHL	**Karahalli**	**1.50**	**30**	PN	**Pn**	**05 47 06.1**	**-1.2**
IZM	**Izmir**	**1.71**	**323**	PN	**Pn**	**05 47 08.8**	**-1.4**
KDAG	**Bornova**	**1.71**	**324**	*i* P	**Pn**	**05 47 12.0**	**+1.8**
KDAG				*i* S	**Sn**	**05 47 34.5**	**+1.8**
KDAG	**Bornova**	**1.71**	**324**	*i* S	**Sn**	**05 47 34.5**	**+1.8**
TKTP	**Tekketepe**	**1.73**	**54**	*i* P	**Pn**	**05 47 10.6**	**+0.2**
TKTP				*i* S	**Sn**	**05 47 33.6**	**+0.6**
BLCB	**Balcova**	**1.81**	**319**	PN	**Pn**	**05 47 10.6**	**-1.0**
KARP	**Karpathos**	**1.86**	**218**	*e*PN	**Pn**	**05 47 12.0**	**-0.3**
KARP				*e*SN	**Sn**	**05 47 37.0**	**+0.6**
KARP	**Karpathos**	**1.86**	**218**	*e*Pb	**Pb**	**05 47 13.0**	**-1.1**
AKS	**Akhisar**	**1.94**	**343**	*e*PN	**Pn**	**05 47 12.0**	**-1.4**

ISCJB ***05*** *06:11:25.5±3.9, 65S±02×148.1E±0.3, h61km±30km, mb4.3/5, Error ellipse: s-maj=53.9km s-min=29.6km az=24.3*
IDC ***05*** *06:11:26.8±6.4, 660S×148.45E, h60km±49km, mb4.0/2, mb1 4.2/4, mb1mx3.7/13, mbtmp4.2/4, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.3/26, Error ellipse: s-maj=71.8km s-min=35.0km az=92.0*
NEIC ***05*** *06:11:27.0±2.8, 657S×148.20E, h58km±22km, mb4.7/4, Error ellipse: s-maj=35.4km s-min=23.0km az=103.0*

ISC 05 06:11:25.6±4.1, 64S±02×148.1E±0.3, h42km±34km, n14, σ0§88/13, mb4.3/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**196**	P	**Pn**	**06 12 12.2**	**0.0**
	39nm,0.3s,baz=33,slow=7.8,SNR=67						
PMG				S	**Sn**	**06 12 49.5**	**+1.3**
	45nm,0.3s,baz=44,slow=15,SNR=11						
WRAB	**Tennant Creek**	**18.92**	**223**	*e*P	**Pn**	**06 15 42.9**	**-0.8**
	5.0nm,0.6s						
WB2	**Warramunga Arr**	**18.93**	**223**	*e*P	**Pn**	**06 15 42.7**	**-1.1**
WRA	**Warramunga Arr**	**18.93**	**223**	P	**Pn**	**06 15 42.8**	**-1.2**
	0.6nm,0.3s,baz=53,slow=10,SNR=22						
AS31	**Alice Springs**	**21.90**	**217**	*e*P	**P**	**06 16 15.3**	**+0.2**
ASAR	**Alice Springs**	**21.90**	**217**	P	**P**	**06 16 15.3**	**+0.2**
	10nm,0.8s,mb4.3,baz=54,slow=9.5,SNR=163						
ASPA	**Alice Springs**	**21.91**	**217**	*e*P	**P**	**06 16 15.3**	**+0.2**
DZM	**Mont Dzumac**	**23.63**	**133**	LR	LR	06 23 26.9	
	comp=Z,83nm,18.3s,baz=22,slow=31						
FITZ	**Fitzroy Crossi**	**24.76**	**240**	*e*P	**P**	**06 16 44.6**	**+1.4**
	11nm,0.3s,mb4.9						
STKA	**Stephens Creek**	**26.06**	**193**	*e*P	**P**	**06 16 53.8**	**-1.2**
	1.3nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**26.06**	**193**	P	**P**	**06 16 53.7**	**-1.3**
	1.8nm,0.4s,mb4.0,baz=5.1,slow=8.8,SNR=8.1						
MBWA	**Marble Bar**	**31.09**	**239**	P	**P**	**06 17 40.1**	**+0.3**
	32nm,1.2s,mb5.0						
MKAR	**Makanchi Array**	**78.47**	**320**	P	**P**	**06 23 23.1**	**+0.9**
	0.1nm,0.3s,mb3.2,baz=103,slow=8.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**146.20**	**284**	PKPbc	PKPbc	06 31 04.0	+2.7
	0.3nm,0.4s,baz=95,slow=4.0,SNR=4.6						

IDC 05 06:13:13.5±1.6, 2413S×6716W, h164km±20km, mb3.5/1, mb1 3.6/4, mb1mx3.3/15, mbtmp4.1/4, MS2.6/1, Ms1 2.7/1, ms1mx2.6/13, Error ellipse: s-maj=37.4km s-min=14.5km az=96.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.51**	**187**	P	Pn	06 15 01.5	+1.2
	0.1nm,0.3s,baz=303,slow=3.0,SNR=9.5						
CFAA				S	Sn	06 16 23.4	-1.0
	0.0nm,0.3s,baz=117,slow=22,SNR=5.3						
LPAZ	**La Paz**	**7.85**	**353**	P	Pn	06 15 06.8	+2.0
	1.0nm,0.3s,baz=180,slow=11,SNR=23						
LPAZ				S	Sn	06 16 32.9	+0.4
	0.0nm,0.3s,baz=351,slow=21,SNR=3.0						
LPAZ				LR	LR	06 18 38.8	
	comp=Z,43nm,20.0s,baz=81,slow=41						
SIV	**San Ignacio**	**9.91**	**36**	P	Pn	06 15 31.1	-0.9
	0.9nm,0.3s,baz=234,slow=11,SNR=26						
BDFB	**Brasilia**	**19.87**	**68**	P	P	06 17 33.0	+1.1
	0.9nm,0.3s,baz=247,slow=11,SNR=24						
TORD	**Torodi Ar. Bea**	**76.75**	**69**	P	P	06 24 46.9	+0.2
	0.6nm,0.5s,baz=254,slow=5.7,SNR=7.6						
MKAR	**Makanchi Array**	**146.72**	**40**	PKPbc	PKPbc	06 32 35.4	-0.6
	0.5nm,0.8s,baz=293,slow=3.4,SNR=5.7						

ISK ***05*** *06:30:44.8, 34.84N×33.94E, h32km, MD3.2*
ISCJB ***05*** *06:30:45.2±0.8, 34.84N±0.005×34.05E±0.005, h52km±19km, Error ellipse: s-maj=8.9km s-min=6.2km az=32.5*
CSEM ***05*** *06:30:45.2±0.2, 34.87N×34.02E, h40km, Mw2.7, Error ellipse: s-maj=7.2km s-min=3.5km az=176.0*
GRAL ***05*** *06:30:46.2±1.8, 34.81N×33.98E, h34km±9.99km, MD3.4*
NIC ***05*** *06:30:47.5±0.3, 34.87N×33.89E, h46km, ML3.0, MW2.7*

ISC 05 06:30:45.9±0.7, 34.83N±0.005×34.04E±0.004, h45km±19km, n17, σ0§94/29, 10D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.18**	**357**	⇓P	**Pn**	**06 30 55.5**	**+2.0**
CSS	**Prodhromos**	**0.60**	**283**	*i* PG	**Pn**	**06 30 56.1**	**-2.0**
CSS				*i* SG	**Sn**	**06 31 04.3**	**-2.6**
CSS	**Prodhromos**	**0.60**	**283**	*i* Pg	**Pn**	**06 30 56.8**	**-1.4**
CSS				*i* Sg	**Sn**	**06 31 05.0**	**-1.9**
CSS	**Prodhromos**	**0.60**	**283**	⇓P	**Pn**	**06 30 57.8**	**-0.3**
	5.6nm,0.1s						
CSS				*i* Sg	**Sn**	**06 31 05.0**	**-1.9**
CSS				S	**Sn**	**06 31 06.0**	**-0.9**
MAMC	**Mammari**	**0.76**	**297**	⇓P	**Pn**	**06 31 00.6**	**+0.4**
SZAC	**Souni-Zanaja**	**0.96**	**266**	⇓*e*P	**Pn**	**06 31 02.9**	**0.0**
SZAC				S	**Sn**	**06 31 15.7**	**+0.3**
PPCY	**Paphos**	**1.40**	**273**	P	**Pn**	**06 31 09.0**	**+0.1**
IKL	**Isikli**	**1.44**	**348**	PN	**Pn**	**06 31 09.2**	**-0.3**
IKL				SN	**Sn**	**06 31 26.2**	**-1.0**
BHL	**Bhannes**	**1.62**	**124**	*e*P	**Pn**	**06 31 11.8**	**-0.1**
BHL				*e*S	**Sn**	**06 31 30.1**	**-1.5**
HWQ	**Hawqa**	**1.66**	**109**	*e*P	**Pn**	**06 31 13.9**	**+1.3**
HWQ				*e*S	**Sn**	**06 31 32.6**	**-0.1**
BIDA	**Albida**	**1.88**	**84**	⇑*i*P	**Pn**	**06 31 15.8**	**+0.2**
BIDA				⇑*i*S	**Sn**	**06 31 37.5**	**-0.6**
SLNF	**Slenfeh**	**1.94**	**66**	⇓*i*P	**Pn**	**06 31 17.1**	**+0.7**
SLNF				⇓*i*S	**Sn**	**06 31 39.3**	**-0.3**
WRDH	**Warideh**	**2.06**	**70**	⇓*i*P	**Pn**	**06 31 18.9**	**+0.9**
WRDH				⇓*i*S	**Sn**	**06 31 41.0**	**-1.4**
HTY	**Hatay**	**2.14**	**52**	PN	**Pn**	**06 31 20.0**	**+0.8**
BTCH	**Batrach**	**2.31**	**58**	⇓*i*P	**Pn**	**06 31 22.6**	**+1.1**
BTCH				⇓*i*S	**Sn**	**06 31 47.7**	**-1.1**
KARA	**Karaisali**	**2.56**	**18**	*e*PN	**Pn**	**06 31 25.5**	**+0.5**
KOZT	**Kozan**	**3.02**	**28**	*e*PN	**Pn**	**06 31 32.0**	**+0.8**

PGC 05 06:34:22.0, 6620N×14178W, h1km, ML2.7/2, Eastern Alaska., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.37**	**154**	Pn	Pn	06 35 01.2	-0.8
DAWY				Sg	Sg	06 35 34.7	-3.6
DAWY				Trac		06 35 42.4	
	comp=Z,27nm,0.5s						
INK	**Inuvik**	**3.84**	**53**	Pn	Pn	06 35 20.8	-1.5
INK				Sn	Sn	06 36 05.4	-2.6
INK				Sg	Sg	06 36 22.1	-3.4
INK				Trac		06 36 25.8	
	comp=Z,6.0nm,0.3s						
HYT	**Haines Junctio**	**5.73**	**159**	Pn	Pn	06 35 47.7	-0.5
HYT				Sg	Sg	06 37 21.5	-4.5
HYT				Trac		06 37 28.1	
	comp=Z,4.0nm,0.4s						
WHY	**Whitehorse**	**6.36**	**148**	Trac		06 38 06.8	
	comp=Z,2.0nm,0.8s						
WHY	**Whitehorse**	**6.36**	**148**	Sg	Sg	06 37 44.7	-1.8
YKW3	**Yellowknife Ar**	**12.25**	**95**	Pn	Pn	06 37 14.5	-3.1
YKW3				Sn	Sn	06 39 23.2	-12
YKW3				Trac		06 40 07.0	
	comp=Z,1.0nm,0.6s						

ISCJB ***05*** *06:48:22.7±0.8, 2166S±0.006×654W±0.1, h315km±11km, mb3.9/5, Error ellipse: s-maj=15.1km s-min=9.3km az=169.2*
IDC ***05*** *06:48:24.0±1.4, 2154S×6533W, h309km±14km, mb3.6/5, mb1 3.5/10, mb1mx3.4/19, mbtmp4.1/10, Error ellipse: s-maj=17.8km s-min=14.0km az=81.0*
NEIC ***05*** *06:48:24.2±0.8, 2159S×6544W, h319km±17km, mb3.9/1, Error ellipse: s-maj=16.1km s-min=11.3km az=103.0*

ISC 05 06:48:24.2±0.9, 2157S±0.008×655W±0.1, h311km±12km, n13, σ0§96/17, mb3.9/5, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.83**	**334**	P	**Pn**	**06 49 54.0**	**+2.3**
	3.5nm,0.3s,baz=146,slow=7.9,SNR=140						
LPAZ				S	**S**	**06 51 02.2**	**-0.1**
	0.4nm,0.3s,baz=46,slow=22,SNR=3.9						
LPAZ	**La Paz**	**5.83**	**334**	P	**Pn**	**06 49 54.0**	**+2.3**
LPAZ				S	**S**	**06 51 02.2**	**-0.1**
SIV	**San Ignacio**	**6.94**	**38**	P	**Pn**	**06 50 04.8**	**-0.2**
	3.4nm,0.3s,baz=222,slow=11,SNR=136						
ARE	**Arequipa**	**7.63**	**311**	*e*P	**Pn**	**06 50 14.0**	**+0.7**
ARE				*e*S	**S**	**06 51 40.0**	**-1.9**
CFAA	**Coronel Fontan**	**10.29**	**193**	P	**Pn**	**06 50 45.1**	**-0.6**
	0.2nm,0.3s,baz=15,slow=14,SNR=30						
CFAA				S	**S**	**06 52 34.2**	**-7.4**
	0.3nm,0.3s,baz=182,slow=15,SNR=13						
BDFB	**Brasilia**	**17.56**	**73**	P	**P**	**06 52 08.5**	**0.0**
	0.5nm,0.3s,baz=245,slow=2.4,SNR=7.6						
PLCA	**Paso Flores**	**19.58**	**192**	P	**P**	**06 52 30.9**	**+0.9**
	0.1nm,0.3s,baz=357,slow=14,SNR=5.2						
PLCA	**Paso Flores**	**19.58**	**192**	*e*P	**P**	**06 52 30.1**	**+0.1**
	8.4nm,1.5s						
SDV	**Santo Domingo**	**30.69**	**350**	P	**P**	**06 54 10.3**	**-0.4**
	1.3nm,0.6s,mb3.6,baz=90,slow=8.1,SNR=4.7						
DBIC	**Dimbokro**	**65.70**	**72**	P	**P**	**06 58 35.2**	**-0.7**
	1.8nm,0.3s,mb4.2,baz=235,slow=6.4,SNR=9.7						
TORD	**Torodi Ar. Bea**	**74.38**	**69**	P	**P**	**06 59 27.5**	**-0.8**
	4.7nm,0.6s,mb4.3,baz=254,slow=5.8,SNR=58						
PDAR	**Pinedale Array**	**75.81**	**328**	P	**P**	**06 59 37.9**	**+1.4**
	0.5nm,0.5s,mb3.4,baz=125,slow=9.3,SNR=9.2						
YKA	**Yellowknife Ar**	**92.35**	**339**	P	**P**	**07 00 59.8**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=124,slow=4.5,SNR=18						

IDC 05 06:58:28.6±5.0, 880S×12151E, h227km±50km, mb2.8/1, mb1 3.1/3, mb1mx2.9/15, mbtmp3.6/3, Error ellipse: s-maj=136.1km s-min=14.4km az=54.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.63**	**133**	P	P	07 02 07.0	-0.6
	0.5nm,0.3s,baz=315,slow=11,SNR=22						
WRA				S	S	07 05 06.2	-3.5
	0.5nm,0.3s,baz=300,slow=23,SNR=7.4						
WB2	**Warramunga Arr**	**16.64**	**133**	*e*P	P	07 02 06.6	-1.1
WB2				*e*S	S	07 05 02.6	-7.2
ASAR	**Alice Springs**	**18.95**	**143**	P	P	07 02 34.0	+1.1
	0.5nm,0.3s,baz=335,slow=13,SNR=24						
ASAR				S	S	07 05 57.3	+1.6
	0.1nm,0.3s,baz=326,slow=23,SNR=4.3						
MKAR	**Makanchi Array**	**65.44**	**331**	P	P	07 08 47.1	0.0
	0.1nm,0.4s,baz=137,slow=7.3,SNR=7.5						

ATH ***05*** *07:06:43.0, 40.13N×29.94E, h26km±6km, MD3.2/4*
ISCJB ***05*** *07:06:44.6±0.5, 4009N±0.003×2101E±0.005, h24km±7km, Error ellipse: s-maj=7.2km s-min=4.6km az=60.7*
CSEM ***05*** *07:06:44.0±0.2, 40.12N×29.95E, h20km, ML2.7, Error ellipse: s-maj=5.7km s-min=3.8km az=124.0*
NEIC ***05*** *07:06:44.4, 40.13N×29.96E, h2km, MD3.2(ATH), ML3.1(THE), After THE.*
THE ***05*** *07:06:44.4, 40.13N×29.96E, h2km, ML2.7*

ISC 05 07:06:44.7±0.5, 4010N±0.003×2099E±0.005, h23km±10km, n13, σ1§22/22, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.36**	**149**	*e*Pg	**Pb**	**07 06 51.3**	**-1.2**
MEV				*e*Sg	**Sb**	**07 06 58.6**	**+0.8**
JAN	**Janina**	**0.45**	**193**	*e*PB	**Pb**	**07 06 52.0**	**-2.0**
JAN				*e*SB	**Sb**	**07 07 00.5**	**+0.2**
KZN	**Kozani**	**0.64**	**70**	⇑*i*PB	**Pb**	**07 06 55.5**	**-1.6**
KZN				*e*SN	**Sb**	**07 07 07.0**	**+1.4**
FNA	**Florina**	**0.75**	**23**	*e*Pg	**Pb**	**07 06 57.6**	**-1.4**
FNA				*e*Sg	**Sb**	**07 07 09.7**	**+0.9**
IGT	**Igoumenitsa**	**0.76**	**222**	*e*Pg	**Pb**	**07 06 58.8**	**-0.4**
IGT				*e*Sg	**Sb**	**07 07 10.3**	**+1.3**
SRN	**Sarande**	**0.79**	**254**	*e*Pg	**Pb**	**07 06 58.7**	**-1.0**
SRN				*i* Sg	**Sb**	**07 07 12.2**	**+2.3**
BIA	**Bitola**	**0.96**	**15**	*e*Pg	**Pb**	**07 07 01.3**	**-1.3**
BIA				*e*Sg	**Sb**	**07 07 15.8**	**+1.0**
BIA	**Bitola**	**0.96**	**15**	*e*Pg	**Pb**	**07 07 00.6**	**-2.0**
BIA				*e*Sg	**Sb**	**07 07 16.7**	**+1.9**
KEK	**Kerkira**	**0.99**	**248**	*e*PN	**Pn**	**07 07 02.3**	**-0.9**
OHR	**Ohrid**	**1.02**	**352**	*e*Pg	**Pb**	**07 07 03.5**	**-0.2**
LIT	**Litokhoron**	**1.15**	**89**	*e*Pg	**Pn**	**07 07 05.3**	**-0.2**
LIT				*e*Sg	**Sb**	**07 07 24.2**	**+3.7**
EVR	**Evrytania**	**1.34**	**151**	*e*PN	**Pn**	**07 07 08.9**	**+0.9**
GRG	**Griva**	**1.38**	**51**	*e*Pg	**Pn**	**07 07 09.4**	**+0.9**

NEIC ***05*** *07:27:41.4, 32.40N×115.11W, h6km, ML3.5(PAS), ML3.9(ECX), After ECX.*

ECX 05 07:27:41.4±0.6, 3240N×11511W, h5km, MD3.6, ML3.9, 3C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**0.69**	**20**	⇓*e*P	Pg	07 27 53.6	-1.0
YUH	**Yuha Desert**	**0.73**	**290**	⇑*e*P	Pg	07 27 54.1	-1.3
RMX	**La Rumorosa**	**0.84**	**284**	⇑*e*P	Pg	07 27 56.1	-1.5
RMX				*e*S	Sg	07 28 07.7	-0.9
RMX				⇓*e*		07 28 08.8	
	comp=N,4μm,0.2s						
RDX	**Rancho Dowling**	**0.85**	**237**	*e*P	Pg	07 27 56.8	-1.0
RDX				*e*S	Sg	07 28 08.3	-0.5
RDX				⇓*e*		07 28 10.8	
	comp=E,4μm,0.6s						
CBX	**Cerro Bola**	**1.32**	**267**	*e*P	Pn	07 28 04.0	-2.4
CBX				*e*S	Sg	07 28 22.0	-1.8
SPX	**San Pedro Mart**	**1.39**	**193**	⇓*e*P	Pn	07 28 05.2	-2.2
SPX				*e*S	Sb	07 28 26.0	+0.3
ENX	**Ensenada**	**1.42**	**249**	⇑*e*P	Pn	07 28 05.8	-2.0
ENX				*e*S	Sb	07 28 26.3	-0.3
ECNX	**Esteban Cantu**	**1.47**	**240**	⇓*i*P	Pn	07 28 06.5	-2.0
ECNX				*e*P		07 28 05.9	
ECNX				*e*P		07 28 06.5	
ECNX				*e*S	Sn	07 28 26.3	-1.8
ECNX				*e*S	Sn	07 28 28.2	+0.2
PBX	**Punta Banda**	**1.52**	**245**	*e*P	Pn	07 28 07.3	-1.9
PBX				*e*S	Sn	07 28 30.0	+0.6
LDFC	**Landfair**	**2.67**	**360**	*e*Pn	Pn	07 28 23.3	-1.7
LDFC				*e*Sg	Sg	07 29 06.4	-0.8
MWC	**Mount Wilson**	**3.07**	**307**	Pn	Pn	07 28 32.7	+2.2
NEN	**Nelson**	**3.25**	**4**	*e*Pn	Pn	07 28 30.5	-2.5
NEN				*e*Sg	Sg	07 29 22.4	-3.4
ISA	**Isabella**	**4.29**	**320**	*e*Pn	Pn	07 28 47.1	-0.2
DAC	**Darwin (Calif)**	**4.38**	**333**	*e*Pn	Pn	07 28 49.5	+1.0
WUAZ	**Wupatki**	**4.39**	**44**	*e*Pn	Pn	07 28 48.3	-0.4
MTUM	**Tungsten Hills**	**5.70**	**331**	Pn	Pn	07 29 07.9	+1.2
BNM	**Barren Site**	**7.31**	**74**	*e*Pn	Pn	07 29 28.5	-0.3
PV10	**Paradox Valley**	**7.75**	**38**	*e*Pn	Pn	07 29 33.6	-1.3
PV01	**Paradox Valley**	**7.83**	**41**	*e*Pn	Pn	07 29 35.6	-0.3
PV01				*e*Sg	Sg	07 31 48.0	-4.7

IDC ***05*** *07:35:24.7±1.4, 3860N×2191E, h0km, mb3.5/8, mb1 3.6/10, mb1mx3.5/22, mbtmp3.5/10, ML3.3/2, Error ellipse: s-maj=25.8km s-min=22.7km az=130.0*
CSEM ***05*** *07:35:24.9±0.1, 3842N×2200E, h5km, mb3.6/3, Error ellipse: s-maj=1.7km s-min=1.3km az=78.0*
NEIC ***05*** *07:35:24.4, 3840N×2199E, h17km, MD3.0(SOF), ML3.3(CSEM), ML3.3(THE), ML3.4(ATH), After ATH.*
ATH ***05*** *07:35:24.3, 3839N×2200E, h18km±1km, MD3.6/16, ML3.4*
ISCJB ***05*** *07:35:24.1±0.7, 3838N±0.002×2205E±0.003, h6km±4km, mb3.5/8, Error ellipse: s-maj=4.4km s-min=3.1km az=148.8*
THE ***05*** *07:35:26.4, 3841N×2221E, h5km, ML3.4*
MOS ***05*** *07:35:27.1±1.3, 3841N×2206E, h33km, mb3.7/5, Error ellipse: s-maj=10.1km s-min=4.7km az=84.9*
SOF ***05*** *07:35:36.7, 3922N×2264E, h10km, MD3.0*

ISC 05 07:35:24.7±0.6, 3838N±0.002×2205E±0.003, h2km±4km, n74, σ1§12/96, mb3.5/8, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.56**	**236**	*e*PN	**Pg**	**07 35 34.9**	**-0.5**
RLS				*e*SN	**Sg**	**07 35 43.2**	**+0.5**
EVR	**Evrytania**	**0.57**	**340**	⇑*i*PN	**Pg**	**07 35 34.4**	**-1.2**
EVR				*e*SN	**Sg**	**07 35 43.2**	**+0.1**
AGG	**Agios Georgios**	**0.68**	**18**	*e*Pg	**Pg**	**07 35 36.9**	**-0.8**
AGG				*e*Sg	**Sg**	**07 35 48.0**	**+1.5**
LKR	**Lokris**	**0.79**	**69**	*e*PN	**Pn**	**07 35 40.0**	**-2.8**
MGER	**Gerania Oros**	**1.03**	**112**	*e*PN	**Pn**	**07 35 45.0**	**-1.0**
MGER	**Gerania Oros**	**1.03**	**112**	*e*Pn	**Pn**	**07 35 45.9**	**-0.1**
VLS	**Valsamata**	**1.17**	**261**	*e*PB	**Pb**	**07 35 44.9**	**-2.6**
VLS				*e*SN	**Sn**	**07 36 02.1**	**-2.4**
VLS	**Valsamata**	**1.17**	**261**	*e*Pb	**Pb**	**07 35 44.8**	**-2.7**
VLS				*e*Sn	**Sn**	**07 36 02.1**	**-2.4**
ITM	**Ithomi**	**1.20**	**185**	*e*PN	**Pn**	**07 35 46.9**	**-1.5**
NAIG	**Nisos Aigina**	**1.29**	**118**	*e*PN	**Pn**	**07 35 50.0**	**+0.4**
NEO	**Neokhori**	**1.30**	**44**	*e*PN	**Pn**	**07 35 49.3**	**-0.5**
NEO				*e*SN	**Sn**	**07 36 07.7**	**-0.1**
XOR	**Xorichti**	**1.33**	**42**	*e*Pg	**Pg**	**07 35 49.5**	**-0.6**
XOR				*e*Sg	**Sg**	**07 36 07.9**	**+0.5**
MPAR	**Parnis Oros**	**1.34**	**99**	*e*PN	**Pn**	**07 35 50.2**	**-0.1**
ATH	**Athens Observa**	**1.37**	**107**	*e*PN	**Pn**	**07 35 51.7**	**+1.0**
KVR	**Kavouri**	**1.46**	**111**	*e*PN	**Pn**	**07 35 52.0**	**0.0**
KVR	**Kavouri**	**1.46**	**111**	*e*Pn	**Pn**	**07 35 54.0**	**+2.0**
PTL	**Penteli**	**1.46**	**102**	*e*PN	**Pn**	**07 35 52.8**	**+0.8**
MEV	**Metsovon**	**1.55**	**336**	*e*Pg	**P

comp=Z,2.9nm,1.0s,mb3.7,baz=153,slow=9.3
NOA NORSAR Array B 23.68 347 P **P 07 40 35.7 -2.0**
comp=Z,1.2nm,0.8s,mb3.4,baz=153,slow=9.2,SNR=4.1
NOA NORSAR Array B 23.68 347 P **P 07 40 35.7 -2.0**
NOA pmax pmax
comp=Z,1.0nm,0.8s
EKA Eskdalemuir Ar 23.98 323 P **P 07 40 38.5 -1.9**
comp=Z,2.4nm,0.9s,mb3.6,baz=122,slow=9.5,SNR=3.3
EKA Eskdalemuir Ar 23.98 323 P **P 07 40 38.5 -1.9**
EKA pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 30.96 221 P **P 07 41 44.6 +1.6**
comp=Z,0.4nm,0.5s,mb3.5,baz=30,slow=7.6,SNR=3.5
ARCES ARCESS Array B 31.28 2 P **P 07 41 43.7 -2.1**
comp=Z,1.3nm,0.7s,mb3.9,baz=202,slow=8.7,SNR=4.4
ARCES ARCESS Array B 31.28 2 P **P 07 41 43.7 -2.1**
comp=Z,1.0nm,0.7s,mb3.8
ARCES ARCESS Array B 31.28 2 P **P 07 41 43.7 -2.1**
ARCES pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 44.17 59 P **P 07 43 33.8 -1.0**
comp=Z,0.3nm,0.3s,mb3.5,baz=276,slow=7.7,SNR=16
SONM Songino Array 59.40 51 P **P 07 45 29.4 +1.0**
comp=Z,0.3nm,0.8s,mb3.4,baz=251,slow=4.4,SNR=2.9

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*NEIC **05** 07:38:38.9, 6621N×14245W, h28km, ML2.5(AEIC), After AEIC.*

PGC 05 07:38:37.1, 6620N×14192W, h1km, ML2.3/2, Eastern Alaska., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BM3	**Burnt Mountain**	**1.62**	**320**	P	Pn	07 39 02.2	-4.7
BM3				S	Sn	07 39 23.1	-5.3
DAWY	**Dawson**	**2.39**	**152**	Pn	Pn	07 39 16.9	-0.5
DAWY				Sg	Sg	07 39 50.3	-3.7
DAWY				Trac		07 39 58.1	
	comp=Z,7.0nm,0.2s						
DAWY	**Dawson**	**2.39**	**152**	P	Pn	07 39 16.9	-0.5
IL1	**Eielson Array**	**2.52**	**238**	P	Pn	07 39 15.9	-3.2
DOT	**Dot Lake**	**2.72**	**201**	P	Pn	07 39 21.8	-0.1
COLA	**College**	**2.80**	**244**	P	Pn	07 39 19.8	-3.3
COLD	**Coldfoot**	**3.45**	**291**	P	Pn	07 39 29.0	-2.9
INK	**Inuvik**	**3.89**	**53**	Pn	Pn	07 39 36.7	-1.3
INK				Sn	Sn	07 40 21.9	-2.3
INK				Trac		07 40 42.7	
	comp=Z,3.0nm,0.3s						
IM3	**Indian Mountai**	**4.82**	**273**	P	Pn	07 39 46.7	-4.0
HYT	**Haines Junctio**	**5.74**	**158**	Pn	Pn	07 40 01.0	-2.5
HYT				Sg	Sg	07 41 37.2	-4.3
HYT				Trac		07 41 43.7	
	comp=Z,2.0nm,0.4s						
WHY	**Whitehorse**	**6.39**	**147**	Pn	Pn	07 40 12.2	-0.2
YKW3	**Yellowknife Ar**	**12.31**	**94**	Pn	Pn	07 41 31.5	-1.9

IDC 05 07:53:44.5±62.0, 2123S×17667W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.1/3, Error ellipse: s-maj=1146.0km s-min=169.1km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.60**	**245**	P	P	08 01 07.4	-1.8
	1.3nm,0.6s,baz=112,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**45.56**	**257**	P	P	08 02 07.2	+1.1
	2.0nm,0.7s,baz=100,slow=7.6,SNR=36						
WRA	**Warramunga Arr**	**45.73**	**262**	P	P	08 02 08.3	+0.9
	1.9nm,0.7s,baz=93,slow=8.0,SNR=32						

IDC 05 08:04:52.8±6.9, 527S×14715E, h195km±62km, mb2.8/1, mb1 3.1/3, mb1mx2.8/14, mbtmp3.5/3, Error ellipse: s-maj=92.2km s-min=31.2km az=151.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.11**	**180**	P	Pn	08 05 56.0	+0.2
	2.5nm,0.3s,baz=1.4,slow=23,SNR=7.5						
PMG				S	Sn	08 06 39.9	-5.3
	5.6nm,0.3s,baz=350,slow=12,SNR=8.5						
HNR	**Honiara**	**13.35**	**109**	P	Pn	08 07 54.7	0.0
	11nm,0.3s,baz=260,slow=6.5,SNR=3.7						
WB2	**Warramunga Arr**	**19.18**	**219**	*e*P	P	08 09 01.9	+0.3
WRA	**Warramunga Arr**	**19.19**	**219**	P	P	08 09 01.6	-0.1
	0.2nm,0.3s,baz=41,slow=11,SNR=17						
ASAR	**Alice Springs**	**22.30**	**214**	P	P	08 09 34.9	+0.8
	0.8nm,0.8s,baz=50,slow=8.9,SNR=7.0						
TORD	**Torodi Ar. Bea**	**145.05**	**285**	PKPbc	PKPbc	08 24 06.8	+0.2
	0.3nm,0.4s,baz=72,slow=2.9,SNR=6.2						

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*MOS **05** 08:07:49.8±1.1, 1995S×17567W, h150km, mb6.1/71, Error ellipse: s-maj=7.3km s-min=5.8km az=61.9*
*CRAAG **05** 08:07:53.3, 2007S×17566W, Mb6.1*
*ISCJB **05** 08:07:55.5±0.1, 2017S±002×17565W±003, h208km, mb5.8/172, Error ellipse: s-maj=3.9km s-min=2.4km az=61.4*
*IDC **05** 08:07:55.3±0.9, 2014S×17572W, h196km±8km, mb5.6/36, mb1 5.7/38, mb1mx5.7/38, mbtmp6.1/38, MS4.9/8, Ms1 4.9/8, ms1mx4.5/25, Error ellipse: s-maj=7.8km s-min=6.2km az=142.0*
*BJI **05** 08:07:56.3, 1944S×17545W, h196km, mB5.4, mb5.7*
*HRVD **05** 08:07:56.6±0.1, 2009S×17522W, h214km, MW6.1/108, Centroid moment Tensor Solution. LP body waves: s105,c238;Mantle waves: s108,c394; Half duration: 2±7 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.35±.01; $M_{\theta\theta}$1.52±.01; $M_{\phi\phi}$-1.17±.01; $M_{r\theta}$-0.47±.01; $M_{\theta\phi}$-0.18±.01; $M_{r\phi}$0.66±.01; Best double couple: $M_0$1.60400×10^{18} NP1:ϕ_s231.00000°, δ58.00000°, λ-169.00000°. NP2: ϕ_s135.00000°, δ81.00000°, λ-33.00000°. Principal axes: T 1.6700, Plg15.0000°, Azm187.0000°; N -0.1350, Plg56.0000°, Azm301.0000°; P -1.5380, Plg30.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **05** 08:07:56.6±0.1, 2012S×17566W, mb6.0/121, MW6.0 Error ellipse: s-maj=4.7km s-min=2.9km az=126.0, Moment Tensor Solution. s50 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.30000×10^{18} NP1: ϕ_s134.00000°, δ79.00000°, λ-54.00000°. NP2: ϕ_s238.00000°, δ37.00000°, λ-162.00000°. Principal axes: T 1.2800, Plg25.0000°, Azm196.0000°; N -0.0200, Plg35.0000°, Azm306.0000°; P -1.2600, Plg44.0000°, Azm79.0000°;*
NEIC Felt at Neiafu and Nuku'alofa.
*BGS **05** 08:07:57.0, 2011S×17567W, h206km*

ISC 05 08:07:57.1±0.1, 2021S±002×17560W±003, h210km, h210km±1.8km; pP-P, n1189, σ1§08/478, mb5.8/172, 83C-34D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.25**	**31**	P	**Pn**	**08 09 31.4**	**-9.1**
	400nm,0.3s,baz=191,slow=2.0,SNR=285						
AFI				S	**Sn**	**08 10 44.7**	**-18**
	1μm,0.3s,baz=44,slow=21,SNR=11						
AFI				LR	LR	08 12 16.0	
	comp=Z,4μm,19.7s,baz=184,slow=36						
AFI	**Afiamalu**	**7.25**	**31**	*e*Pn	**Pn**	**08 09 31.4**	**-9.1**
	14μm,1.2s						
AFI	**Afiamalu**	**7.25**	**31**	*e*P	**Pn**	**08 09 31.4**	**-9.1**
AFI				pmax	pmax		
	comp=Z,10μm,1.2s						
RAO	**Raoul Island**	**9.25**	**193**	P	**Pn**	**08 10 05.0**	**-1.5**
	comp=Z,316nm,0.3s,baz=226,slow=23,SNR=4.4						
RAO				S	**Sn**	**08 11 47.9**	**-2.4**
	comp=Z,2μm,0.3s,baz=254,slow=22,SNR=20						
RAO	**Raoul Island**	**9.25**	**193**	*e*Pn	**Pn**	**08 10 05.2**	**-1.2**
	comp=Z,6μm,0.6s						
RAO				*e*Sn	**Sn**	**08 11 46.8**	**-3.5**
RAO	**Raoul Island**	**9.25**	**193**	*e*P	**Pn**	**08 10 05.2**	**-1.2**
RAO				*e*		08 11 46.8	
RAO				pmax	pmax		
	comp=Z,6μm,0.6s						
FUNA	**Funafuti**	**12.66**	**336⇑**	*e*Pn	**Pn**	**08 10 49.5**	**-0.4**
RAR	**Rarotonga**	**14.84**	**97**	P	**Pn**	**08 11 13.3**	**-3.6**
	comp=Z,5.2nm,0.3s,baz=252,slow=7.9,SNR=55						
DZM	**Mont Dzumac**	**16.86**	**260**	P	**P**	**08 11 42.5**	**+2.8**
	comp=Z,54nm,0.3s,baz=84,slow=14,SNR=162						
DZM				S	**S**	**08 14 50.4**	**+5.6**
	baz=182,slow=15,SNR=4.1						
DZM				ScP	ScP	08 19 34.8	+5.1
	comp=Z,0.3nm,0.3s,baz=44,slow=18,SNR=5.6						
OUZ	**Omahuta**	**17.74**	**210**	PN	**Pn**	**08 11 51.4**	**0.0**
WCZ	**Waipu Caves**	**18.00**	**207**	PN	**Pn**	**08 11 54.5**	**+0.1**
WCZ	**Waipu Caves**	**18.00**	**207**	*e*P	**P**	**08 11 54.5**	**+2.4**
WCZ				S	**S**	**08 15 16.0**	**+8.6**
MXZ	**Matakaoa Point**	**18.09**	**196**	SN	**S**	**08 15 01.2**	**-8.1**
MXZ	**Matakaoa Point**	**18.09**	**196**	*e*P	**P**	**08 11 53.1**	**0.0**
KUZ	**Kuaotunu**	**18.15**	**203**	PN	**Pn**	**08 11 56.1**	**-0.1**
KUZ	**Kuaotunu**	**18.15**	**203**	*e*P	**P**	**08 11 56.1**	**+2.4**
WIZ	**White Island**	**18.37**	**198**	*e*P	**P**	**08 11 58.0**	**+1.9**
MTAZ	**Motutapu**	**18.49**	**205**	PN	**P**	**08 12 00.2**	**+2.7**
MTAZ	**Motutapu**	**18.49**	**205**	*e*P	**P**	**08 12 00.0**	**+2.6**
PUZ	**Puketiti**	**18.59**	**195**	SN	**S**	**08 15 12.7**	**-6.5**
PUZ	**Puketiti**	**18.59**	**195**	*e*P	**P**	**08 11 57.0**	**-1.5**
KAAZ	**Kauri Point**	**18.60**	**205**	PN	**P**	**08 12 01.6**	**+2.9**
OTAZ	**Otara**	**18.63**	**204**	*e*P	**P**	**08 12 01.7**	**+2.8**
MKAZ	**Moumakai**	**18.67**	**204**	PN	**P**	**08 12 01.9**	**+2.4**
MWZ	**Matawai**	**19.02**	**197**	SN	**S**	**08 15 21.6**	**-6.2**
MWZ	**Matawai**	**19.02**	**197**	*e*P	**P**	**08 12 02.1**	**-1.1**
URZ	**Urewera**	**19.07**	**198**	P	**P**	**08 12 03.0**	**-0.8**
	comp=Z,241nm,0.3s,baz=9.9,slow=3.3,SNR=246						
URZ				S	**S**	**08 15 27.3**	**-1.4**
	comp=Z,65nm,0.3s,baz=141,slow=23,SNR=12						
URZ	**Urewera**	**19.07**	**198**	PN	**P**	**08 12 02.1**	**-1.6**
URZ				SN	**S**	**08 15 23.8**	**-4.9**
URZ	**Urewera**	**19.07**	**198**	*e*P	**P**	**08 12 02.0**	**-1.7**
TOZ	**Tahuroa Road**	**19.10**	**202**	PN	**P**	**08 12 06.2**	**+2.1**
TOZ	**Tahuroa Road**	**19.10**	**202**	*e*P	**P**	**08 12 06.3**	**+2.2**
KNZ	**Kokohu**	**19.63**	**196**	SN	**S**	**08 15 35.2**	**-4.5**
HIZ	**Hauiti**	**20.03**	**202**	PN	**P**	**08 12 16.2**	**+2.2**
BKZ	**Black Stump Fm**	**20.09**	**198**	PN	**P**	**08 12 13.2**	**-1.4**
BKZ				SN	**S**	**08 15 46.0**	**-2.5**
OTVZ	**Oturere**	**20.34**	**200**	PN	**P**	**08 12 17.4**	**+0.1**
FWVZ	**Far West T-bar**	**20.46**	**200**	PN	**P**	**08 12 18.5**	**-0.1**
FWVZ				SN	**S**	**08 15 56.2**	**+0.4**
FWVZ	**Far West T-bar**	**20.46**	**200**	*e*P	**P**	**08 12 18.6**	**0.0**
FWVZ				S	**S**	**08 15 57.9**	**+2.2**
TRVZ	**Turoa**	**20.50**	**200**	PN	**P**	**08 12 18.9**	**-0.1**
MOVZ	**Moawhango**	**20.54**	**199**	PN	**P**	**08 12 18.0**	**-1.4**
MOVZ				SN	**S**	**08 15 54.8**	**-2.3**
PKVZ	**Pokaka**	**20.56**	**200**	PN	**P**	**08 12 18.7**	**-0.9**
PKVZ				SN	**S**	**08 15 59.2**	**+1.6**
VRZ	**Vera Road**	**20.61**	**202**	PN	**P**	**08 12 20.4**	**+0.3**
RAEZ	**Rainy Point**	**20.88**	**202**	PN	**P**	**08 12 25.2**	**+2.2**
TSZ	**Takapari Road**	**21.07**	**198**	SN	**S**	**08 16 06.6**	**0.0**
WAZ	**Wanganui**	**21.10**	**201**	PN	**P**	**08 12 24.3**	**-1.0**
WAZ				SN	**S**	**08 16 05.5**	**-1.5**
MRZ	**Mangatainoka R**	**21.74**	**198**	PN	**P**	**08 12 31.3**	**-0.7**
MTW	**Mount Morrison**	**22.22**	**198**	PN	**P**	**08 12 35.1**	**-1.2**
MTW				SN	**S**	**08 16 26.7**	**+1.4**
CAW	**Cannon Point**	**22.30**	**199**	PN	**P**	**08 12 35.7**	**-1.4**
TRWZ	**Traveller**	**22.39**	**197**	PN	**P**	**08 12 38.3**	**+0.4**
TRWZ				SN	**S**	**08 16 32.2**	**+4.2**
PAWZ	**Paruwai Farm**	**22.45**	**198**	PN	**P**	**08 12 37.9**	**-0.5**
PAWZ				SN	**S**	**08 16 29.6**	**+0.7**
MRW	**Makara Radio**	**22.53**	**199**	PN	**P**	**08 12 38.0**	**-1.1**
SNZO	**South Karori**	**22.60**	**199**	PN	**P**	**08 12 39.0**	**-0.7**
SNZO	**South Karori**	**22.60**	**199**	*e*P	**P**	**08 12 40.1**	**+0.3**
	comp=Z,2μm,1.0s,mb6.6						
QRZ	**Quartz Range**	**22.92**	**204**	*e*P	**P**	**08 12 42.7**	**0.0**
NNZ	**Nelson**	**22.95**	**202**	PN	**P**	**08 12 40.7**	**-2.3**
NNZ				SN	**S**	**08 16 37.4**	**+0.4**
NNZ	**Nelson**	**22.95**	**202**	*e*P	**P**	**08 12 41.0**	**-2.0**
NNZ				S	**S**	**08 16 37.4**	**+0.3**
BSWZ	**Blackbirch Sta**	**23.23**	**200**	PN	**P**	**08 12 46.6**	**+1.1**
BSWZ	**Blackbirch Sta**	**23.23**	**200**	*e*P	**P**	**08 12 45.7**	**+0.2**
THZ	**Tophouse**	**23.60**	**202**	*e*PN	**P**	**08 12 45.1**	**-3.8**
THZ				SN	**S**	**08 16 45.6**	**-1.9**
THZ	**Tophouse**	**23.60**	**202**	*e*P	**P**	**08 12 47.6**	**-1.3**
THZ				S	**S**	**08 16 51.2**	**+3.7**
KHZ	**Kahutara**	**23.97**	**200**	PN	**P**	**08 12 51.6**	**-0.7**
KHZ	**Kahutara**	**23.97**	**200**	*e*P	**P**	**08 12 52.4**	**+0.1**
DSZ	**Denniston Nort**	**23.98**	**204**	PN	**P**	**08 12 50.9**	**-1.5**
DSZ	**Denniston Nort**	**23.98**	**204**	*e*P	**P**	**08 12 50.9**	**-1.5**
TBI	**Tubuai**	**24.46**	**102**	*e*P	**P**	**08 12 56.6**	**-0.1**
	comp=Z,910nm,1.1s,mb6.3						
TBI				*e*LR	LR	08 19 21.7	
LTZ	**Lake Taylor**	**24.72**	**202**	PN	**P**	**08 12 57.4**	**-1.7**
LTZ	**Lake Taylor**	**24.72**	**202**	*e*P	**P**	**08 12 58.1**	**-1.0**
PAE	**Paea**	**24.73**	**88**	*e*P	**P**	**08 12 58.0**	**-1.1**
	comp=Z,2μm,1.3s,mb6.6						
PPT	**Papeete**	**24.75**	**88**	*e*P	**P**	**08 12 58.5**	**-0.8**
	comp=Z,1μm,1.3s,mb6.3						
PPT	**Papeete**	**24.75**	**88**	*e*LR	LR	08 19 24.8	
PPT	**Papeete**	**24.75**	**88**	P	**P**	**08 12 58.5**	**-0.8**
	comp=Z,522nm,1.0s,mb6.1,baz=240,slow=4.1,SNR=34						
TVO	**Taravao**	**25.02**	**89**	*e*P	**P**	**08 13 00.8**	**-0.9**
	comp=Z,1μm,1.1s,mb6.4						
WVZ	**Waitaha Valley**	**25.53**	**204**	PN	**P**	**08 13 05.4**	**-1.0**
HNR	**Honiara**	**25.92**	**291**	P	**P**	**08 13 07.4**	**-2.5**
	comp=Z,132nm,0.5s,mb5.8,baz=244,slow=1.0,SNR=5.0						
HNR				pP	pP	08 13 54.9	+3.2
	comp=Z,176nm,0.8s,baz=92,slow=5.9,SNR=1.5						
HNR				LR	LR	08 21 11.8	
	comp=Z,3μm,18.1s,baz=170,slow=31						
HNR	**Honiara**	**25.92**	**291**	*e*P	**P**	**08 13 09.5**	**-0.4**
	comp=Z,120nm,0.6s,mb5.7						
HNR	**Honiara**	**25.92**	**291**	P	**P**	**08 13 07.4**	**-2.4**
HNR				*PP	pP	08 13 54.9	+3.2
HNR				pmax	pmax		
	comp=Z,132nm,0.5s,mb5.8						
HNR				pmax	pmax		
	comp=Z,176nm,0.8s,mb5.7						
RPZ	**Rata Peaks**	**25.97**	**202**	P	**P**	**08 13 10.4**	**+0.1**
	comp=Z,807nm,0.9s,mb6.4,baz=290,slow=1.0,SNR=59						
RPZ				S	**S**	**08 17 36.0**	**+11**
	comp=Z,146nm,1.0s,baz=114,slow=20,SNR=3.5						
RPZ				LR	LR	08 23 05.8	
	comp=Z,2μm,19.9s,baz=195,slow=35						
RPZ	**Rata Peaks**	**25.97**	**202**	PN	**P**	**08 13 09.2**	**-1.1**
MEH	**Mehetia**	**26.11**	**90**	*e*P	**P**	**08 13 10.9**	**-0.7**
MEH				*e*pP	pP	08 13 49.7	-3.8
LBZ	**Lake Benmore**	**26.86**	**203**	PN	**P**	**08 13 17.1**	**-1.1**
VAH	**Vaihoa**	**27.08**	**84**	*e*P	**P**	**08 13 18.6**	**-1.6**
	comp=Z,1μm,1.3s,mb6.3						
ODZ	**Otahua Downs**	**27.27**	**202**	PN	**P**	**08 13 20.7**	**-1.2**
WKZ	**Wanaka**	**27.67**	**204**	PN	**P**	**08 13 24.1**	**-1.4**
MLZ	**Mavora Lakes**	**28.43**	**204**	PN	**P**	**08 13 32.1**	**-0.1**
MLZ	**Mavora Lakes**	**28.43**	**204**	*e*P	**P**	**08 13 32.6**	**+0.4**
DCZ	**Deep Cove**	**28.95**	**206**	*e*P	**P**	**08 13 36.8**	**0.0**
RIV	**Riverview**	**32.42**	**238**	*e*P	**P**	**08 14 07.6**	**+0.3**
CNB	**Canberra Magne**	**34.26**	**237⇑**	*i*P	**P**	**08 14 23.1**	**-0.1**
	comp=Z,598nm,0.8s,mb6.2						
CNB				*e*S	**S**	**08 19 35.4**	**+1.1**
CNB				*e*SCP	ScP	08 20 25.4	+6.0
CTA	**Charters Tower**	**35.76**	**263⇑**	*i*P	**P**	**08 14 35.9**	**-0.1**
	comp=Z,569nm,0.5s,mb6.4						
CTA				*e*S	**S**	**08 19 56.3**	**-0.9**
CTA				*e*SCP	ScP	08 20 31.4	+6.5
CTA				*e*SS	SS	08 22 45.5	+3.0
CTA				*e*SCS	ScS	08 24 35.8	+5.3
CTA	**Charters Tower**	**35.76**	**263**	P	**P**	**08 14 36.0**	**0.0**
	comp=Z,700nm,0.5s,mb6.4,baz=99,slow=10,SNR=233						
CTA				pP	pP	08 15 22.1	+2.8
	comp=Z,94nm,0.9s,baz=206,slow=9.2,SNR=1.0						
CTA				S	**S**	**08 19 56.6**	**-0.6**
	comp=Z,31nm,1.1s,baz=209,slow=18,SNR=6.8						
CTA				ScP	ScP	08 20 30.3	+5.5
	comp=Z,34nm,1.0s,baz=165,slow=5.0,SNR=5.0						
CTA				PKPPKP		08 47 38.7	
	comp=Z,4.6nm,1.0s,baz=249,slow=2.1,SNR=3.2						
CTA	**Charters Tower**	**35.76**	**263⇑**	*i*P	**P**	**08 14 35.9**	**-0.1**
CTA				*e*S	**S**	**08 19 56.3**	**-0.9**
CTA				*e*		08 24 35.8	
CTA				pmax	pmax		
	comp=Z,569nm,0.5s						
CTAO	**Charters Tower**	**35.76**	**263**	*e*P	**P**	**08 14 36.0**	**0.0**
	comp=Z,672nm,0.6s,mb6.3						
CTAO	**Charters Tower**	**35.76**	**263**	*e*P	**P**	**08 14 36.0**	**0.0**
CTAO				pmax	pmax		
	comp=Z,672nm,0.6s,mb6.3						
TAOE	**Nuku Hiva Isla**	**36.04**	**77**	*e*P	**P**	**08 14 36.2**	**-2.1**
	comp=Z,4μm,1.1s,mb6.8						
PMG	**Port Moresby**	**37.49**	**281**	P	**P**	**08 14 50.4**	**-0.1**
PMG				PcP	PcP	08 17 06.5	+2.3
PMG				S	**S**	**08 20 22.0**	**-1.3**
PMG	**Port Moresby**	**37.49**	**281**	P	**P**	**08 14 50.1**	**-0.4**
	comp=Z,872nm,0.9s,mb6.3,baz=87,slow=5.7,SNR=54						
PMG				PcP	PcP	08 17 06.6	+2.5
	comp=Z,101nm,1.0s,baz=74,slow=4.6,SNR=4.0						
PMG				S	**S**	**08 20 22.4**	**-0.9**
	comp=Z,8.2nm,0.9s,baz=3.7,slow=23,SNR=6.5						
PMG	**Port Moresby**	**37.49**	**281**	*e*P	**P**	**08 14 50.1**	**-0.4**
	comp=Z,959nm,0.9s,mb6.3						
PMG	**Port Moresby**	**37.49**	**281**	*e*P	**P**	**08 14 50.1**	**-0.4**
PMG				pmax	pmax		
	comp=Z,959nm,0.9s						
RKT	**Rikitea**	**37.78**	**102**	*e*P	**P**	**08 14 52.9**	**-0.1**
	comp=Z,708nm,1.1s,mb6.1						
RKT	**Rikitea**	**37.78**	**102**	*e*LR	LR	08 25 06.7	
	comp=Z,8μm,60.2s						
TOO	**Toolangi**	**37.90**	**234**	*e*P	**P**	**08 14 53.7**	**-0.2**
	comp=Z,249nm,0.9s,mb5.7						
TOO				*e*S	**S**	**08 20 29.0**	**-0.5**
TOO	**Toolangi**	**37.90**	**234**	*e*P	**P**	**08 14 53.7**	**-0.2**
TOO				*e*S	**S**	**08 20 29.0**	**-0.5**
TOO				pmax	pmax		
	comp=Z,249nm,0.9s,mb5.7						
TAU	**Tasmania Unive**	**38.43**	**225**	P	**P**	**08 14 59.1**	**+0.7**
	comp=Z,1μm,1.0s,mb6.3,SNR=13						
TAU	**Tasmania Unive**	**38.43**	**225**	*e*P	**P**	**08 14 59.0**	**+0.6**
	comp=Z,189nm,0.9s,mb5.6						
TAU	**Tasmania Unive**	**38.43**	**225**	*e*P	**P**	**08 14 59.0**	**+0.6**
TAU				pmax	pmax		
	comp=Z,189nm,0.9s,mb5.6						
STKA	**Stephens Creek**	**39.95**	**244⇑**	*i*P	**P**	**08 15 08.7**	**-2.2**
	comp=Z,217nm,0.7s,mb5.7						
STKA				*e*SCP	ScP	08 20 44.2	+3.5
STKA				*e*S	**S**	**08 20 57.0**	**-3.1**
STKA				*e*sS	sS	08 22 15.2	-2.9
STKA				*e*SCS	ScS	08 24 57.0	+2.5
STKA	**Stephens Creek**	**39.95**	**244**	P	**P**	**08 15 08.8**	**-2.2**
	comp=Z,224nm,0.7s,mb5.7,baz=87,slow=9.1,SNR=95						
STKA				pP	pP	08 15 56.9	+1.9
	comp=Z,28nm,0.8s,baz=32,slow=9.3,SNR=1.0						
STKA				ScP	ScP	08 20 43.7	+3.0
	comp=Z,20nm,0.9s,baz=62,slow=6.1,SNR=4.3						
STKA				LR	LR	08 30 56.7	
	comp=Z,5μm,19.1s,baz=80,slow=35						
STKA				P3KPbc		08 44 54.2	
	comp=Z,6.6nm,1.0s,baz=269,slow=6.2,SNR=6.9						
STKA				PKPPKP		08 47 23.6	
	comp=Z,2.3nm,0.8s,baz=208,slow=3.7,SNR=3.5						
PTCN	**Pitcairn Islan**	**42.12**	**105**	*e*P	**P**	**08 15 29.7**	**+1.0**
	comp=Z,263nm,0.8s,mb5.7						
ADE	**Adelaide**	**42.72**	**240**	*e*P	**P**	**08 15 32.9**	**-0.6**
WAKE	**Wake Island**	**42.93**	**335⇑**	*e*P	**P**	**08 15 34.6**	**-0.5**
	comp=Z,928nm,1.3s,mb6.0						
KIP	**Kipapa**	**44.80**	**24**	*e*P	**P**	**08 15 49.5**	**-0.5**
	comp=Z,792nm,1.2s,mb5.9						
KIP	**Kipapa**	**44.80**	**24**	*e*P	**P**	**08 15 49.5**	**-0.5**
KIP				pmax	pmax		
	comp=Z,792nm,1.2s,mb5.9						
AS31	**Alice Springs**	**46.78**	**256**	*e*P	**P**	**08 16 04.6**	**-0.8**
AS31				*e*PcS	PcS	08 21 30.0	-0.3
AS31				*e*ScS	ScS	08 25 38.0	+0.5
ASAR	**Alice Springs**	**46.78**	**256**	P	**P**	**08 16 04.5**	**-1.0**
	comp=Z,826nm,0.9s,mb6.1,baz=94,slow=7.9,SNR=413						
ASAR				pP	pP	08 16 53.0	+2.1
	comp=Z,68nm,0.9s,baz=92,slow=8.0,SNR=1.1						
ASAR				PcP	PcP	08 17 36.0	+0.9
	comp=Z,73nm,0.7s,baz=106,slow=4.2,SNR=8.0						
ASAR				S	**S**	**08 22 36.3**	**-3.0**
	comp=Z,22nm,0.9s,baz=95,slow=15,SNR=13						
ASAR				PKiKP	PKiKP	08 24 25.9	-2.6
	comp=Z,1.7nm,0.6s,baz=93,slow=1.4,SNR=4.7						
ASAR				ScS	ScS	08 25 36.9	-0.6
	comp=Z,2.5nm,1.0s,baz=90,slow=5.6,SNR=3.1						
ASAR				P3KPbc		08 44 18.1	
	comp=Z,0.4nm,0.7s,baz=301,slow=2.0,SNR=4.4						
ASAR				P3KP		08 46 16.4	
	comp=Z,0.9nm,1.0s,baz=237,slow=3.0,SNR=4.3						
ASAR				PKPPKP		08 47 02.1	
	comp=Z,2.3nm,1.0s,baz=315,slow=1.5,SNR=6.4						
ASAR				PKP2ab		08 48 23.7	
	comp=Z,3.3nm,0.9s,baz=278,slow=3.4,SNR=7.2						
ASAR				P4KPbc		08 53 51.0	
	comp=Z,0.7nm,0.9s,baz=120,slow=4.3,SNR=5.0						
ASAR				P4KP		08 55 58.4	
	comp=Z,0.2nm,0.3s,baz=111,slow=6.4,SNR=6.0						
ASAR	**Alice Springs**	**46.78**	**256**	P	**P**	**08 16 04.5**	**-1.0**
ASAR				*PP	pP	08 16 53.0	+2.1
ASAR						08 17 36.0	
ASAR				S	**S**	**08 22 36.3**	**-3.0**
ASPA	**

comp=Z,22nm,1.3s
MBWA Marble Bar 60.12 257 *e*P **P 08 17 41.8 -0.5**
comp=Z,481nm,1.1s,mb6.0
KLBR Kellerberrin 60.22 245⇑ *i*P **P 08 17 42.2 -0.8**
comp=Z,575nm,1.0s,mb6.2
KLBR *e*pP pP 08 18 34.5 +3.7
KLBR *e*S **S 08 25 37.4 -2.6**
RPN Rapa Nui 60.48 110 P **P 08 17 45.7 +0.9**
NWAO Narrogin (SRO) 60.51 243 P **P 08 17 45.3 +0.3**
comp=Z,154nm,0.9s,mb5.6,baz=102,slow=7.0,SNR=48
NWAO pP pP 08 18 36.4 +3.5
comp=Z,31nm,0.9s,baz=192,slow=6.2,SNR=2.0
NWAO Narrogin (SRO) 60.51 243 *e*P **P 08 17 44.7 -0.3**
comp=Z,170nm,1.0s,mb5.6
NWAO Narrogin (SRO) 60.51 243 P **P 08 17 45.3 +0.3**
NWAO *PP pP 08 18 36.4 +3.6
NWAO pmax pmax
comp=Z,154nm,0.9s
NWAO pmax pmax
comp=Z,31nm,0.9s
MUN Mundaring 61.48 244 *e*P **P 08 17 51.2 -0.3**
DAV Davao City (W) 63.86 289 *e*P **P 08 18 06.7 -0.4**
BUKP Musuan 64.68 289 *e*P **P 08 18 13.3 +0.8**
CASY Casey 65.19 205 *e*P **P 08 18 17.3 +1.5**
CASY *e*S S 08 26 46.1 +4.3
PCI Palu 65.88 278 P **P 08 18 21.7 +1.5**
PAGZ Pagadian 66.16 289 *e*P **P 08 18 22.7 +0.7**
TBP Tagbilaran 66.55 291 *e*P **P 08 18 19.9 -4.6**
LLP Lapu-Lapu 66.74 291⇑ *e*P **P 08 18 26.6 +0.9**
JHJ Hachijo jima 2 68.02 321 P **P 08 18 33.6 0.0**
comp=Z,230nm,0.7s,mb5.9,baz=208,slow=13,SNR=8.5
RCP Roxas 68.37 292⇑ *e*P **P 08 18 36.2 +0.4**
TSM Tawau 69.67 283 P **P 08 18 44.4 +0.6**
QSPA South Pole Qui 69.86 180 P **P 08 18 46.4 +1.4**
QSPA S S 08 27 41.7 +4.3
QSPA South Pole Qui 69.86 180 *e*P **P 08 18 46.5 +1.5**
comp=Z,317nm,0.9s,mb6.0
BUSP Coron 70.80 291 *e*P **P 08 18 51.0 +0.3**
TGY Tagaytay City 71.10 293 P **P 08 18 53.4 +0.9**
comp=Z,92nm,0.4s,baz=235,slow=16,SNR=6.5
MJAR Matsushiro Arr 71.33 322 P **P 08 18 52.8 -1.1**
comp=Z,81nm,0.6s,mb5.5,baz=153,slow=5.9,SNR=128
MJAR LR LR 08 44 55.9
comp=Z,673nm,21.6s,baz=185,slow=31
MJAR PKPPKP 08 46 41.1
comp=Z,6.6nm,1.2s,baz=302,slow=2.5,SNR=12
MAJO Matsushiro 71.34 322 *e*P **P 08 18 53.0 -0.9**
comp=Z,91nm,0.6s,mb5.6
MAJO Matsushiro 71.34 322 *e*P **P 08 18 53.0 -0.9**
MAJO pmax pmax
comp=Z,91nm,0.6s,mb5.6
MAT Matsushiro 71.34 322 P **P 08 18 52.8 -1.1**
MAT S S 08 27 55.0 +0.6
MAT Matsushiro 71.34 322 *e*P **P 08 18 53.0 -0.9**
comp=Z,148nm,1.0s,mb5.6
MAT *e*S S 08 27 56.0 +1.6
MAT Matsushiro 71.34 322 *e*P **P 08 18 53.0 -0.9**
MAT *e*S S 08 27 56.0 +1.6
MAT pmax pmax
comp=Z,148nm,1.0s,mb5.6
LUBP Lubang 71.53 293 *e*P **P 08 18 53.7 -1.4**
BATP Bataraza 71.55 287 *e*P **P 08 18 55.7 +0.5**
JOW Kunigami 71.73 309 P **P 08 18 55.7 -0.5**
comp=Z,101nm,0.9s,mb5.4,baz=135,slow=7.1,SNR=14
ADK Adak 71.78 359 *e*P **P 08 18 54.4 -2.2**
comp=Z,524nm,1.2s,mb6.0
ADK Adak 71.78 359 *e*P **P 08 18 54.4 -2.2**
ADK pmax pmax
comp=Z,524nm,1.2s,mb6.0
KKM Kota Kinabalu 71.87 284 P **P 08 18 58.0 +0.9**
KKM Kota Kinabalu 71.87 284 *e*P **P 08 18 57.7 +0.6**
ERM Erimo 72.70 329 P **P 08 19 04.5 +2.5**
comp=Z,918nm,1.0s,mb6.4,SNR=7.1
BOLP Bolinao 73.02 295 *e*P **P 08 19 04.4 +0.5**
YUK Yuzh-Kuril'sk 73.02 332 *e*P **P 08 19 04.8 +0.9**
YUK *e*S S 08 28 15.0 +1.5
YUK *e*PS 08 28 45.0
YUK *e* 08 29 06.5
YUK pmax pmax
comp=Z,500μm,1.0s
YUK smax
comp=E,3μm,4.0s
YUK smax
comp=N,2μm,7.0s
SMY Shemya 73.18 353 *e*P **P 08 19 03.6 -1.2**
comp=N,417nm,0.9s,mb6.1
SMY Shemya 73.18 353 *e*P **P 08 19 03.6 -1.2**
SMY pmax pmax
comp=Z,417nm,0.9s,mb6.1
FX1 Attu Island--F 73.43 353 P **P 08 19 04.4 -1.8**
comp=Z,168nm,0.7s,mb5.8,baz=219,slow=4.7,SNR=20
FX1 Attu Island--F 73.43 353 *e*P **P 08 19 04.5 -1.8**
FX1 Attu Island--F 73.43 353 P **P 08 19 04.4 -1.9**
FX1 pmax pmax
comp=Z,168nm,0.7s
JNU Nakatsue 73.63 315 P **P 08 19 07.5 +0.1**
comp=Z,34nm,0.7s,mb5.1,baz=79,slow=7.5,SNR=12
UNV Unalaska Valle 74.16 6 *e*P **P 08 19 09.0 -1.5**
comp=Z,835nm,1.1s,mb6.3
ASAJ Asahikawa 74.57 330 P **P 08 19 13.4 +0.6**
comp=Z,94nm,0.7s,mb5.5,baz=213,slow=8.2,SNR=54
ASAJ Asahikawa 74.57 330 P **P 08 19 13.5 +0.6**
ASAJ pmax pmax
comp=Z,94nm,0.7s
NACB Ninganchiao 75.39 303 *e*P **P 08 19 17.1 -0.5**
KSM Kuching 75.61 277 *e*P **P 08 19 19.5 +0.7**
KSM *e*pP pP 08 20 08.1 -0.6
YHNB Yeheng 75.82 303 *e*P **P 08 19 20.4 +0.4**
TATO Taipei 75.88 304 *e*P **P 08 19 19.6 -0.7**
comp=Z,194nm,1.1s,mb5.7
TATO *e*pP pP 08 20 09.6 -0.7
PET Petropavlovsk 76.27 344 *e*P **P 08 19 21.2 -1.3**
PET *e*PcP PcP 08 19 31.7 -1.8
PET Petropavlovsk 76.27 344 *e*P **P 08 19 23.0 +0.5**
PET *e*PP pP 08 20 12.2 -0.3
PET *e*S S 08 28 45.9 -3.5
PET *e*PS 08 29 53.7
PET *e*SS SS 08 33 55.6 +7.7
PET pmax pmax
comp=Z,106nm,1.0s,mb5.4
PET pmax pmax
comp=Z,100nm,10.3s
PET pmax pmax
comp=Z,200nm,13.1s
PET pmax pmax
comp=Z,500nm,12.5s
PET pmax pmax
comp=Z,300nm,15.7s
PET pmax pmax
comp=Z,200nm,18.7s
PET smax
comp=N,1μm,15.5s
PET MLR MLR
comp=Z,500nm,17.0s
SAO San Andreas Ge 76.28 42 *e*P **P 08 19 22.8 +0.2**
comp=Z,431nm,1.0s,mb6.0
SAO *e*pP pP 08 20 13.6 +1.0
SAO San Andreas Ge 76.28 42 *e*P **P 08 19 22.8 +0.2**
SAO *e*PP pP 08 20 13.6 +1.0
SAO pmax pmax
comp=Z,431nm,1.0s,mb6.0
LRV Little Rabbit 76.34 43 *e*P **P 08 19 22.9 0.0**
SDPT Sand Point 76.35 9 *e*P **P 08 19 22.5 -0.5**
PTRM Twissleman Ran 76.39 44 *e*P **P 08 19 23.5 +0.3**
YSS Yuzh-Sakhalins 76.67 332 *e*P **P 08 19 24.9 +0.2**
comp=Z,382nm,1.1s,mb5.9
YSS Yuzh-Sakhalins 76.67 332⇑ *e*P **P 08 19 25.8 +1.1**
YSS *e*PP pP 08 20 20.8 +6.0
YSS *e*S S 08 28 56.0 +2.2
YSS *e* 08 29 22.0
YSS *e*PS 08 29 58.0
YSS pmax pmax
comp=Z,310nm,1.0s,mb5.9
YSS pmax pmax
comp=N,130nm,1.2s
YSS pmax pmax
comp=E,260nm,1.2s
YSS pmax pmax
comp=Z,50μm,1.5s
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.2
YSS smax
comp=E,2μm,6.0s
NSHM Saint Helena R 76.67 40 *e*P **P 08 19 25.4 +0.6**
NSHM *e*PcP PcP 08 19 36.6 +1.3

HOPS Hopland 76.69 39 *e*P **P 08 19 24.8 -0.1**
comp=E,483nm,1.2s,mb6.0
MWC Mount Wilson 76.97 46 *e*P **P 08 19 26.5 0.0**
KIPM Iron Peak 76.98 39 *e*P **P 08 19 26.6 +0.1**
BAR Barrett 77.03 48 *e*P **P 08 19 26.8 0.0**
KHMM Horse Mountain 77.53 38 *e*P **P 08 19 30.2 +0.7**
PFO Pinyon Flat Ob 77.71 47 P **P 08 19 30.3 -0.2**
comp=E,1μm,1.2s,mb6.4,SNR=21
PFO Pinyon Flat Ob 77.71 47 *e*P **P 08 19 30.6 +0.1**
comp=E,354nm,1.2s,mb5.9
PFO Pinyon Flat Ob 77.71 47 *e*P **P 08 19 30.6 +0.1**
PFO pmax pmax
comp=Z,354nm,1.2s,mb5.9
CMB Columbia Colle 77.73 42 *e*P **P 08 19 30.1 -0.6**
comp=Z,286nm,1.0s,mb5.9
CMB Columbia Colle 77.73 42 *e*P **P 08 19 30.1 -0.6**
CMB pmax pmax
comp=Z,286nm,1.0s,mb5.9
OHCM Honcut 77.86 40 *e*P **P 08 19 30.7 -0.7**
WDC Whiskeytown Da 78.02 38 *e*P **P 08 19 32.3 0.0**
comp=Z,466nm,1.2s,mb6.0
WDC *e*pP pP 08 20 20.3 -2.2
WDC *e*PP PP 08 22 30.2 -1.2
WDC Whiskeytown Da 78.02 38 *e*P **P 08 19 32.3 0.0**
WDC *e* 08 22 30.3
WDC pmax pmax
comp=Z,466nm,1.2s,mb6.0
QZH Quanzhou 78.15 302⇑ *i*P **P 08 19 34.6 +1.6**
QZH S S 08 29 10.5 +0.8
QZH AMB AMB
comp=Z,200nm,0.8s,mb5.8
QZH LR LR
comp=N,2μm,17.0s
QZH LR LR
comp=E,2μm,17.2s
KS15 Wonju Array Si 78.20 317 *e*P **P 08 19 33.9 +0.6**
DAC Darwin (Calif) 78.47 44 *e*P **P 08 19 34.8 +0.1**
comp=E,358nm,1.4s,mb5.8
DAC *e*PP PP 08 22 34.7 -0.5
DAC Darwin (Calif) 78.47 44 *e*P **P 08 19 34.8 +0.1**
DAC *e* 08 22 34.7
DAC pmax pmax
comp=Z,357nm,1.4s,mb5.8
MTUM Tungsten Hills 78.47 43 *e*P **P 08 19 35.2 +0.4**
MTUM *e*pP pP 08 20 25.8 +0.7
YBH Yreka Blue Hor 78.67 37 P **P 08 19 35.8 0.0**
comp=Z,250nm,0.9s,mb5.8,baz=156,slow=2.0,SNR=76
YBH Yreka Blue Hor 78.67 37 *e*P **P 08 19 35.9 +0.1**
comp=Z,335nm,1.0s,mb5.9
YBH *e*pP pP 08 20 24.6 -1.5
YBH Yreka Blue Hor 78.67 37 *e*P **P 08 19 35.9 +0.1**
YBH *e**PP pP 08 20 24.6 -1.5
YBH pmax pmax
comp=Z,335nm,1.0s
LHEM Herd Peak 78.88 38 P **P 08 19 37.3 +0.3**
INCN Inchon 79.02 317 *e*P **P 08 19 39.1 +1.4**
comp=Z,236nm,1.3s,mb5.7
HUMO Hull Mountain 79.09 37 *e*P **P 08 19 38.6 +0.5**
comp=Z,275nm,1.2s,mb5.8
SSE Sheshan 79.25 309 *e*P **P 08 19 39.8 +0.9**
SSE PCP PcP 08 19 47.1 +0.6
SSE AP pP 08 20 31.1 +1.8
SSE XP sP 08 20 52.8 +1.2
SSE S S 08 29 22.2 +0.9
SSE SCS ScS 08 29 41.9 -0.3
SSE AMB AMB
comp=Z,47nm,1.0s,mb5.1
SSE AMB AMB
comp=Z,45nm,3.5s
SSE LR LR
comp=N,2μm,31.8s
SSE LR LR
comp=E,2μm,31.7s
SSE LR LR
comp=Z,819nm,25.9s
NVAR Mina Array Bea 79.28 42 P **P 08 19 39.2 +0.1**
comp=Z,234nm,0.8s,mb5.9,baz=227,slow=10,SNR=189
NVAR pP pP 08 20 29.5 0.0
comp=Z,44nm,1.1s,baz=210,slow=4.1,SNR=1.8
NVAR PKPPKP 08 46 32.0
comp=Z,0.5nm,0.6s,baz=54,slow=2.8,SNR=6.1
VLA Vladivostok 79.36 324 *i* Pr **P 08 19 37.0 -2.5**
VLA Vladivostok 79.36 324 *i* P **P 08 19 39.3 -0.2**
VLA *i* S S 08 29 20.8 -1.7
VLA *i* *SS 08 30 29.7
VLA pmax pmax
comp=Z,164nm,1.2s,mb5.5
VLA MLR MLR
comp=Z,500nm,17.7s
LDFC Landfair 79.45 47 *e*P **P 08 19 40.9 +0.8**
TPH Tonopah 79.76 43 *e*P **P 08 19 41.9 +0.2**
comp=Z,530nm,1.2s,mb6.0
TPH Tonopah 79.76 43 *e*P **P 08 19 41.9 +0.2**
TPH pmax pmax
comp=Z,530nm,1.2s,mb6.0
NEN Nelson 79.95 46 *e*P **P 08 19 43.0 +0.3**
KDAK Kodiak Island 80.03 12 P **P 08 19 42.8 -0.3**
comp=Z,2μm,1.0s,mb6.7,SNR=12
KDAK Kodiak Island 80.03 12 P **P 08 19 41.8 -1.3**
comp=Z,378nm,1.0s,mb6.0,baz=199,slow=3.6,SNR=72
MOD Modoc 80.17 39 *e*P **P 08 19 43.8 -0.1**
comp=Z,407nm,0.9s,mb6.1
MOD *e*PP PP 08 22 49.0 -0.2
COR Corvallis 80.19 35 P **P 08 19 44.8 +0.8**
comp=Z,296nm,1.3s,mb5.8
COR Corvallis 80.19 35 P **P 08 19 44.8 +0.8**
COR pmax pmax
comp=Z,296nm,1.3s,mb5.8
HBO Huckleberry Mo 80.25 36 P **P 08 19 44.4 0.0**
TUC Tucson 81.03 51 *e*P **P 08 19 49.3 +0.8**
comp=Z,407nm,1.0s,mb6.0
TUC *e*pP pP 08 20 38.7 -0.4
TUC *e*PP PP 08 22 54.8 -1.6
TUC Tucson 81.03 51 *e*P **P 08 19 49.3 +0.8**
TUC *e**PP pP 08 20 38.7 -0.4
TUC *e* 08 22 54.8
TUC pmax pmax
comp=Z,407nm,1.0s,mb6.0
KSI Kapahiang 81.07 269 P **P 08 19 48.1 -0.6**
BMN Battle Mountai 81.13 41 *e*P **P 08 19 49.0 0.0**
comp=Z,379nm,1.1s,mb5.9
BMN *e*PP PP 08 22 54.3 -2.8
BMN Battle Mountai 81.13 41 *e*P **P 08 19 49.0 0.0**
BMN *e* 08 22 54.3
BMN pmax pmax
comp=Z,379nm,1.1s,mb5.9
HABR Khabarovsk 81.32 329⇓ *i*P **P 08 19 51.7 +1.7**
HABR *e* pP 08 20 46.7 +6.0
HABR *i* S S 08 29 45.9 +3.0
HABR pmax pmax
comp=Z,506nm,1.3s,mb6.0
NJ2 Nanjing 81.44 309 *e*P **P 08 19 51.9 +1.3**
NJ2 AP pP 08 20 41.8 +0.5
NJ2 XP sP 08 21 03.4 -0.1
NJ2 PP PP 08 23 02.4 +2.7
NJ2 S S 08 29 40.5 -3.7
NJ2 XS sS 08 31 11.0 -1.7
NJ2 AMB AMB
comp=Z,100nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,220nm,4.4s
NJ2 LR LR
comp=N,14μm,20.2s
NJ2 LR LR
comp=E,5μm,27.0s
NJ2 LR LR
comp=Z,580nm,21.8s
WVOR Wild Horse Val 81.47 39 *e*P **P 08 19 50.7 0.0**
comp=Z,498nm,1.0s,mb6.1
WVOR Wild Horse Val 81.47 39 *e*P **P 08 19 50.7 -0.1**
WVOR pmax pmax
comp=Z,498nm,1.0s,mb6.1
GZH Guangzhou 81.56 298 P **P 08 19 52.6 +1.4**
GZH S S 08 29 51.7 +6.4
GZH LR LR
comp=N,373nm,12.7s
GZH LR LR
comp=E,505nm,17.1s
GZH LR LR
comp=Z,942nm,32.0s
MDJ Mudanjiang 81.59 324 P **P 08 19 52.5 +1.1**
MDJ AP pP 08 20 41.3 -0.8
MDJ XP sP 08 21 01.8 -2.5
MDJ PP PP 08 23 01.8 +0.9
MDJ S S 08 29 50.3 +4.6

MDJ AMB AMB
comp=Z,284nm,1.2s,mb5.8
MDJ AMB AMB
comp=Z,202nm,2.6s,mb5.3
MDJ Mudanjiang 81.59 324 *e*P **P 08 19 52.1 +0.6**
comp=Z,325nm,1.0s,mb5.9
VLL Laurance Lake 81.64 35 P **P 08 19 51.8 +0.1**
OCWA Octopus Mounta 81.84 32 *e*P **P 08 19 53.4 +0.7**
comp=Z,567nm,0.9s,mb6.2
ARUT Antelope Range 82.06 45 *e*P **P 08 19 54.1 +0.2**
ARUT Antelope Range 82.06 45 P **P 08 19 54.5 +0.6**
WUAZ Wupatki 82.26 48 *e*P **P 08 19 55.6 +0.7**
comp=Z,899nm,1.2s,mb6.3
KGM Kluang 82.33 275 P **P 08 19 56.8 +1.5**
ELK Elko 82.55 42 P **P 08 19 56.4 0.0**
comp=Z,178nm,1.0s,mb5.8,baz=230,slow=5.2,SNR=128
ELK PKPPKP 08 46 22.8
comp=Z,0.4nm,0.2s,baz=192,slow=4.1,SNR=3.2
ELK Elko 82.55 42 *e*P **P 08 19 56.2 -0.1**
comp=Z,332nm,1.0s,mb6.0
MAW Mawson 82.59 199 *e*P **P 08 19 58.0 +1.4**
comp=Z,59nm,1.1s,mb5.2
MAW Mawson 82.59 199 P **P 08 19 57.3 +0.7**
comp=Z,48nm,0.5s,mb5.5,baz=142,slow=6.6,SNR=21
MAW Mawson 82.59 199 P **P 08 19 59.1 +2.5**
MAW pmax pmax
comp=Z,200nm,1.1s
SVW2 Sparrevohn 82.61 10 *e*P **P 08 19 54.9 -1.8**
SQM Sequim 82.62 32 P **P 08 19 59.2 +2.5**
QIZ Qiongzhong 82.81 293 P **P 08 19 59.3 +1.6**
QIZ AP pP 08 20 48.7 +0.2
QIZ XP sP 08 21 13.5 +2.9
QIZ S S 08 30 00.4 +2.4
QIZ XS sS 08 31 28.7 +1.9
QIZ AMB AMB
comp=Z,52nm,1.3s,mb5.1
QIZ Qiongzhong 82.81 293 *e*P **P 08 19 57.6 -0.1**
comp=Z,50nm,1.3s,mb5.1
MID Middleton Isla 82.89 15 *e*P **P 08 19 58.6 +0.5**
SLKM Skilak Lake 83.02 12 *e*P **P 08 19 57.1 -1.7**
DL2 Dalian 83.08 316 PR 08 19 58.2
DL2 AP pP 08 20 44.8 -5.2
DL2 S S 08 30 03.8 +3.0
DL2 AMB AMB
comp=Z,100nm,1.3s,mb5.4
DL2 AMB AMB
comp=Z,210nm,4.1s
BBB Bella Bella 83.09 27 P **P 08 19 58.5 -0.7**
comp=Z,192nm,0.9s,mb5.8,baz=232,slow=5.3,SNR=32
MXC Moxie City 83.09 35 P **P 08 19 59.1 -0.1**
USHA Ushuaia 83.12 146 P **P 08 19 59.5 +0.2**
comp=Z,69nm,1.1s,mb5.3,baz=231,slow=5.6,SNR=12
EBG Ellensburg 83.16 34 P **P 08 19 59.5 0.0**
MVU Marysvale 83.27 45 *e*P **P 08 20 08.0 +8.0**
comp=Z,421nm,1.0s,mb6.1
MSU Marysvale 83.29 45 *e*P **P 08 20 01.3 +1.1**
MSU *e*PP PP 08 23 13.4 -1.4
HAWA Hanford 83.39 35 *e*P **P 08 20 00.3 -0.4**
comp=Z,58nm,1.0s,mb5.3
HAWA *e*PP PP 08 23 15.0 -0.6
KLR Kul'dur 83.44 328 *e*P **P 08 19 58.0 -3.0**
KLR *e* pP 08 20 47.5 -4.4
KLR *e*S S 08 30 03.0 -1.4
KLR *e* 08 31 25.5
KLR smax
comp=N,2μm,10.0s
KLR smax
comp=E,1μm,10.0s
SNY Shenyang 83.45 319⇓ P **P 08 20 01.7 +0.7**
SNY AP pP 08 20 49.5 -2.4
SNY XP sP 08 21 08.4 -5.6
SNY PP PP 08 23 11.0 -5.1
SNY AMB AMB
comp=Z,100nm,1.5s,mb5.3
SNY AMB AMB
comp=Z,295nm,10.8s
SNY LR LR
comp=N,952nm,32.4s
SNY LR LR
comp=E,848nm,34.2s
SNY LR LR
comp=Z,527nm,22.2s
CN2 Changchun 83.46 321 *e*P **P 08 20 01.4 +0.3**
CN2 *e*AP pP 08 20 50.1 -1.9
CN2 *e*XP sP 08 21 13.3 -0.8
CN2 *e*S S 08 30 03.8 -0.8
CN2 AMB AMB
comp=Z,30nm,1.2s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,600nm,21.0s
WIW Wooded Island 83.55 35 P **P 08 20 01.6 +0.1**
CRAG Craig 83.56 23 *e*P **P 08 20 01.9 +0.4**
comp=Z,434nm,1.9s,mb5.9
FIB Fire Island 83.63 12 *e*P **P 08 20 01.3 -0.6**
comp=Z,251nm,0.8s,mb6.0
FIB Fire Island 83.63 12 *e*P **P 08 20 01.3 -0.6**
FIB pmax pmax
comp=Z,251nm,0.8s,mb6.0
BMO Blue Mountains 83.69 38 *e*P **P 08 20 01.6 -0.6**
comp=Z,235nm,0.9s,mb5.9
BMO *e*pP pP 08 20 52.4 -0.7
BMO Blue Mountains 83.69 38 *e*P **P 08 20 01.6 -0.6**
BMO *e**PP pP 08 20 52.4 -0.8
BMO pmax pmax
comp=Z,235nm,0.9s,mb5.9
DUG Dugway 83.78 43 *e*P **P 08 20 02.4 -0.3**
comp=Z,220nm,1.0s,mb5.8
DUG *e*PP PP 08 23 18.0 -0.8
DUG Dugway 83.78 43 *e*P **P 08 20 02.4 -0.3**
DUG *e* 08 23 18.0
DUG pmax pmax
comp=Z,220nm,1.0s,mb5.8
SIT Sitka 84.03 21 *e*P **P 08 20 03.8 -0.1**
comp=Z,305nm,1.2s,mb5.9
SIT Sitka 84.03 21 *e*P **P 08 20 03.8 -0.1**
SIT pmax pmax
comp=Z,305nm,1.2s,mb5.9
BGU Big Grassy Mou 84.04 43 *e*P **P 08 20 07.7 +3.7**
BGU *e*PP PP 08 23 21.5 +0.6
WHN Wuhan 84.10 305⇓ P **P 08 20 05.5 +1.2**
WHN AP pP 08 20 58.0 +2.7
WHN AMB AMB
comp=Z,290nm,1.3s,mb5.8
WHN LR LR
comp=Z,2μm,22.0s
MA2 Magadan 84.12 344 *e*P **P 08 20 02.3 -2.1**
comp=Z,171nm,1.2s,mb5.7
MA2 *e*pP pP 08 20 52.0 -3.3
MA2 Magadan 84.12 344 *e*P **P 08 20 02.2 -2.2**
MA2 *e**PP pP 08 20 55.0 -0.4
MA2 *e*S 08 30 07.5
MA2 *e*SP 08 31 02.9
MA2 *e*SS SS 08 35 44.4 -0.5
MA2 *e*SSS 08 39 10.5
MA2 pmax pmax
comp=Z,100nm,1.3s,mb5.4
MA2 pmax pmax
comp=N,30nm,1.4s
MA2 pmax pmax
comp=E,20nm,1.4s
NLU North Lily Min 84.13 44 *e*P **P 08 20 01.8 -2.6**
PMR Palmer 84.23 12 *e*P **P 08 20 02.8 -2.1**
comp=E,360nm,1.1s,mb6.0
PMR Palmer 84.23 12 *e*P **P 08 20 02.8 -2.1**
PMR pmax pmax
comp=Z,361nm,1.1s,mb6.0
TMUT Trail Mountain 84.35 45 *e*P **P 08 20 06.4 +0.8**
MPU Maple Canyon 84.45 44 *e*P **P 08 20 06.2 +0.2**
comp=Z,320nm,1.0s,mb6.0
MPU *e*PP PP 08 23 23.4 -0.8
OD2 Odessa Site #2 84.45 35 P **P 08 20 05.6 -0.4**
NOQ North Oquirrh 84.47 43 *e*P **P 08 20 06.0 -0.2**
comp=Z,431nm,1.0s,mb6.1
NOQ *e*PP PP 08 23 22.7 -1.7
SML Sawmill 84.59 13 *e*P **P 08 20 05.0 -1.7**
SPUT South Promonto 84.61 42 *e*P **P 08 20 06.6 -0.3**
HLID Hailey 84.64 40 *e*P **P 08 20 07.0 0.0**
comp=Z,354nm,0.9s,mb6.1
HLID *e*PP PP 08 23 25.1 -0.7
HVU Hansel Valley 84.67 42 *e*P **P 08 20 07.1 0.0**
comp=Z,327nm,0.9s,mb6.1
HVU *e*PP PP 08 23 25.6 -0.4
HVU Hansel Valley 84.67 42 *e*P **P 08 20 07.1 0.0**

HVU e 08 23 25.6
HVU pmax pmax
comp=Z,327nm,0.9s,mb6.1
SRU San Rafael 84.70 45 *e*P **P 08 20 07.5 +0.2**
comp=Z,772nm,1.0s,mb6.4
SRU *e*pP pP 08 20 54.3 -4.1
SRU San Rafael 84.70 45 *e*P **P 08 20 07.5 +0.2**
SRU pmax pmax
comp=Z,772nm,1.0s,mb6.4
LAZ Ladron 84.72 51 *e*P **P 08 20 08.7 +1.3**
LENM Lemitar 84.72 51 *e*P **P 08 20 08.4 +1.0**
CTU Camp Tracy 84.73 43 *e*P **P 08 20 07.6 +0.1**
comp=Z,326nm,1.0s,mb6.0
MNTX Cornudas Mount 84.75 54 *e*P **P 08 20 08.2 +0.6**
comp=Z,681nm,1.3s,mb6.2
TIA Tai'an 84.75 311 ⇓*i*P **P 08 20 08.7 +1.1**
TIA AMB AMB
comp=Z,158nm,1.3s,mb5.6
DAU Daniels Canyon 84.90 44 *e*P **P 08 20 08.7 +0.3**
BNM Barren Site 84.97 51 *e*P **P 08 20 09.5 +0.9**
LTX Lajitas 85.00 56 *e*P **P 08 20 09.5 +0.6**
comp=Z,480nm,1.2s,mb6.1
LTX Lajitas 85.00 56 *e*P **P 08 20 09.5 +0.7**
LTX pmax pmax
comp=Z,480nm,1.2s,mb6.1
LPM Los Pinos Moun 85.04 51 *e*P **P 08 20 09.7 +0.7**
PV10 Paradox Valley 85.33 46 *e*P **P 08 20 09.9 -0.6**
IPM Ipoh 85.33 276 P **P 08 20 11.5 +1.0**
HWUT Hardware Ranch 85.34 43 *e*P **P 08 20 09.7 -0.8**
comp=Z,82nm,0.9s,mb5.5
HWUT *e*PP PP 08 23 29.2 -2.2
PAYG Puerto Ayora 85.36 89 *e*P **P 08 20 11.8 +1.2**
comp=Z,110nm,1.2s,mb5.5
ANMO Albuquerque 85.47 50 P **P 08 20 11.2 +0.1**
comp=Z,211nm,0.9s,mb5.9,baz=232,slow=4.7,SNR=163
ANMO pP pP 08 21 03.5 +1.2
comp=Z,30nm,1.0s,baz=215,slow=4.2,SNR=1.9
ANMO Albuquerque 85.47 50 *e*P **P 08 20 11.5 +0.4**
comp=Z,352nm,1.0s,mb6.0
ANMO *e*pP pP 08 21 02.4 +0.2
ANMO Albuquerque 85.47 50 *e*P **P 08 20 11.5 +0.4**
ANMO *e**PP pP 08 21 02.4 +0.1
ANMO pmax pmax
comp=Z,352nm,1.0s
PV01 Paradox Valley 85.53 47 *e*P **P 08 20 11.4 0.0**
TNA Tin City 85.70 3 *e*P **P 08 20 11.1 -1.1**
comp=Z,166nm,0.9s,mb5.8
GDL2 Guadalupe Moun 85.75 54 *e*P **P 08 20 13.3 +0.8**
NEW Newport 85.83 35 P **P 08 20 11.6 -1.3**
comp=Z,109nm,0.8s,mb5.7,baz=234,slow=4.2,SNR=120
NEW Newport 85.83 35 *e*P **P 08 20 11.9 -1.0**
comp=Z,160nm,0.9s,mb5.8
NEW *e*PP PP 08 23 34.4 -1.0
NEW Newport 85.83 35 *e*P **P 08 20 11.9 -1.0**
NEW *e* 08 23 34.4
NEW pmax pmax
comp=Z,160nm,0.9s
KULM Kulim 85.97 277 *e*P **P 08 20 15.1 +1.5**
KULM *e*PP PP 08 23 37.8 +1.3
CLNB Carlsbad 86.14 54 *e*P **P 08 20 14.7 +0.2**
MCK McKinley 86.22 12 *e*P **P 08 20 12.9 -1.8**
comp=Z,322nm,0.9s,mb6.0
MCK McKinley 86.22 12 *e*P **P 08 20 12.9 -1.9**
MCK pmax pmax
comp=Z,322nm,0.9s,mb6.0
AHID Auburn Hatcher 86.24 42 *e*P **P 08 20 14.6 -0.3**
comp=Z,185nm,1.3s,mb5.7
MCMT McKenzie Canyo 86.28 39 *e*P **P 08 20 15.1 0.0**
CPRX Cap Rock 86.50 53 *e*P **P 08 20 17.1 +0.9**
MENT Mentasta 86.59 14 *e*P **P 08 20 15.5 -1.1**
SEY Seymchan 86.62 346 ⇑*e*P **P 08 20 15.6 -1.1**
SEY Seymchan 86.62 346 *e*P **P 08 20 15.3 -1.4**
SEY 08 23 37.4
SEY *e*S 08 30 30.9
SEY *e*SS SS 08 36 19.9 -1.6
SEY pmax pmax
comp=E,60nm,0.9s
SEY pmax pmax
comp=Z,110nm,0.9s,mb5.6
SEY pmax pmax
comp=N,150nm,1.2s
SEY smax
comp=N,2μm,21.7s
SEY smax
comp=E,750nm,27.7s
REDW Red Top Meadow 86.71 41 *e*P **P 08 20 16.7 -0.5**
comp=E,185nm,1.1s,mb5.7
PSI Prapat 86.72 274 P **P 08 20 17.3 +0.1**
comp=E,78nm,0.9s,mb5.4,baz=182,slow=2.5,SNR=36
PSI pP pP 08 21 09.5 +1.0
comp=E,22nm,1.0s,baz=180,slow=2.9,SNR=2.4
DLMT Dillon 86.72 39 *e*P **P 08 20 17.0 -0.3**
comp=E,145nm,1.0s,mb5.7
SNOW Snow King Moun 86.82 41 *e*P **P 08 20 17.6 -0.1**
comp=E,159nm,0.9s,mb5.8
LOHW Long Hollow 87.00 41 *e*P **P 08 20 18.7 +0.1**
comp=E,96nm,1.2s,mb5.4
SMCO Snowmass 87.13 46 *e*P **P 08 20 19.3 +0.1**
comp=E,303nm,1.0s,mb6.0
QLMT Earthquake Lak 87.13 40 *e*P **P 08 20 19.7 +0.5**
FLWY Flagg Ranch 87.18 41 *e*P **P 08 20 19.5 0.0**
comp=E,155nm,0.9s,mb5.7
CHMT Chamberlain Mo 87.20 37 *e*P **P 08 20 18.6 -0.9**
BW06 Boulder Array 87.21 42 *e*P **P 08 20 19.2 -0.4**
comp=E,108nm,1.1s,mb5.5
PDAR Pinedale Array 87.21 42 P **P 08 20 18.8 -0.8**
comp=E,63nm,0.8s,mb5.4,baz=205,slow=3.1,SNR=133
PDAR PKKPbc PKKPbc 08 38 09.9 +0.6
comp=E,3.5nm,1.0s,baz=106,slow=3.2,SNR=12
PDAR PKPPKP 08 46 16.8
comp=E,2.0nm,1.1s,baz=72,slow=4.8,SNR=6.2
BJT Baijiatuau 87.28 314 *e*P **P 08 20 20.2 +0.3**
comp=E,265nm,1.3s,mb5.8
BJT Baijiatuau 87.28 314 *e*P **P 08 20 20.2 +0.3**
BJT pmax pmax
comp=Z,265nm,1.3s
BJI Beijing 87.28 314 P **P 08 20 20.1 +0.2**
BJI AP pP 08 21 12.3 +1.0
BJI XP sP 08 21 33.4 +0.1
BJI AMB AMB
comp=Z,145nm,1.3s,mb5.5
BJI AMB AMB
comp=Z,834nm,4.2s
YFT Old Faithful 87.29 40 *e*P **P 08 20 21.6 +1.6**
YMR Madison River 87.33 40 *e*P **P 08 20 20.5 +0.3**
comp=Z,149nm,0.9s,mb5.7
BOZ Bozeman (W) 87.45 39 *e*P **P 08 20 20.2 -0.5**
comp=Z,323nm,1.3s,mb5.9
BOZ *e*pP pP 08 21 06.4 -5.7
BOZ *e*sP sP 08 21 26.6 -7.5
BOZ Bozeman (W) 87.45 39 *e*P **P 08 20 20.2 -0.5**
BOZ pmax pmax
comp=Z,323nm,1.3s,mb5.9
COLA College 87.45 11 *e*P **P 08 20 18.6 -2.1**
comp=Z,356nm,0.9s,mb6.1
COLA College 87.45 11 *e*P **P 08 20 18.6 -2.1**
COLA pmax pmax
comp=Z,357nm,0.9s,mb6.1
SDCO Great Sand Dun 87.47 48 *e*P **P 08 20 21.1 +0.3**
comp=Z,186nm,1.1s,mb5.7
SYO Syowa Base 87.50 192 ⇑*i*PcP PcP 08 20 22.4 -0.3
SYO Syowa Base 87.50 192 ⇑*e*pP pP 08 21 08.1 -4.2
SYO Syowa Base 87.50 192 ⇑*e*P **P 08 20 19.9 -1.0**
SYO ⇑*i*PcP PcP 08 20 22.4 -0.3
SYO ⇑*e*pP pP 08 21 08.1 -4.2
ILAR Eielson Array 87.55 12 P **P 08 20 19.0 -2.2**
comp=Z,226nm,1.1s,mb5.9,baz=218,slow=5.7,SNR=184
ILAR pP pP 08 21 12.8 +0.2
comp=Z,39nm,1.2s,baz=216,slow=7.9,SNR=2.1
ILAR PKiKP PKiKP 08 25 22.8 -0.7
comp=Z,3.6nm,0.9s,baz=298,slow=2.8,SNR=5.3
ILAR S 08 30 41.1
comp=Z,1.6nm,1.0s,baz=203,slow=8.5,SNR=6.2
ILAR PKKPbc PKKPbc 08 38 08.3 -0.2
comp=Z,1.1nm,0.6s,baz=331,slow=1.9,SNR=10
ILAR SSS 08 40 12.4
comp=Z,1.0nm,0.9s,baz=13,slow=2.1,SNR=4.0
ILAR PKPPKP 08 46 15.3
comp=Z,0.1nm,0.5s,baz=342,slow=22,SNR=4.4
ILAR Eielson Array 87.55 12 P **P 08 20 19.0 -2.2**
ILAR *PP pP 08 21 12.8 +0.2
LKWY Lake 87.62 40 *e*P **P 08 20 23.0 +1.5**
comp=Z,266nm,1.4s,mb5.9
LKWY Lake 87.62 40 *e*P **P 08 20 23.0 +1.5**
LKWY pmax pmax
comp=Z,266nm,1.4s,mb5.9
ENH Enshi 87.75 303 *e*P **P 08 20 23.6 +1.4**
comp=Z,632nm,1.4s,mb6.2
PLCA Paso Flores 87.83 133 P **P 08 20 23.5 +1.0**
comp=Z,70nm,1.1s,mb5.4,baz=244,slow=4.9,SNR=49
PLCA PKKP PKKPbc 08 38 09.7 +1.9
comp=Z,2.0nm,0.8s,baz=291,slow=1.0,SNR=7.4
PLCA PKPPKP 08 46 18.0
comp=Z,4.6nm,1.1s,baz=337,slow=3.7,SNR=4.5
PLCA LR LR 08 49 16.2
comp=Z,596nm,20.0s,baz=62,slow=28
PLCA Paso Flores 87.83 133 *e*P **P 08 20 23.3 +0.8**
comp=Z,132nm,1.3s,mb5.6
HRY Holter Researc 87.90 38 *e*P **P 08 20 22.4 -0.5**
KKTK Khon Kaen 87.94 288 P **P 08 20 25.0 +2.0**
comp=Z,679nm,0.9s,mb6.5
RWWY Rawlins 88.19 44 *e*P **P 08 20 23.6 -0.6**
comp=Z,280nm,1.1s,mb6.0
SNAA Sanae 88.23 178 PKKPbc PKKPbc 08 38 05.4 -1.5
comp=Z,6.8nm,1.2s,baz=20,slow=6.5,SNR=8.4
SNAA Sanae 88.23 178 ⇑*i*P **P 08 20 24.2 -0.2**
SNAA *e* 08 20 25.9
SNAA *e* 08 20 29.2
SNAA *e* 08 20 33.0
SNAA *e* 08 21 44.4
VNA3 Neumayer Olymp 88.27 175 ⇑*i*P **P 08 20 24.8 +0.2**
VNA3 *e* 08 20 26.3
VNA3 *e* 08 20 30.8
VNA3 *e* 08 20 33.5
VNA3 *e* 08 21 43.1
ISCO Idaho Springs 88.35 46 *e*P **P 08 20 25.1 +0.2**
comp=Z,63nm,0.9s,mb5.4
ISCO *e*PP PP 08 23 53.2 -2.3
ISCO Idaho Springs 88.35 46 *e*P **P 08 20 25.2 +0.2**
ISCO *e* 08 23 53.3
ISCO pmax pmax
comp=Z,63nm,0.9s,mb5.5
GYA Guiyang 88.47 299 ⇑*i*P **P 08 20 26.8 +1.3**
GYA AP pP 08 21 19.2 +2.1
GYA XP sP 08 21 38.6 -0.4
GYA SKS 08 30 28.5
GYA AMB AMB
comp=Z,70nm,1.2s,mb5.4
GYA AMB AMB
comp=Z,510nm,4.5s
GYA LR LR
comp=N,670nm,19.8s
GYA LR LR
comp=Z,660nm,19.5s
JCT Junction City 88.53 57 *e*P **P 08 20 25.2 -0.5**
comp=Z,101nm,1.0s,mb5.6
JCT Junction City 88.53 57 *e*P **P 08 20 25.3 -0.5**
JCT pmax pmax
comp=Z,101nm,1.0s,mb5.6
DAWY Dawson 88.57 15 *e*P **P 08 20 25.0 -1.0**
GCMT Greycliff 88.70 40 *e*P **P 08 20 26.9 +0.3**
VNA2 Neumayer--Watz 88.74 176 ⇑*i*P **P 08 20 27.3 +0.5**
baz=184,slow=3.5
VNA2 *e* 08 20 28.8
VNA2 *e* 08 20 33.3
VNA2 *e* 08 20 36.6
VNA2 *e* 08 21 46.3
VNA1 Neumayer--Stat 88.95 176 ⇑*i*P **P 08 20 29.6 +1.8**
VNA1 *e* 08 20 31.0
VNA1 *e* 08 20 35.2
VNA1 *e* 08 20 38.2
BILL Bilibino 88.99 353 *e*P **P 08 20 26.4 -1.6**
comp=Z,147nm,1.4s,mb5.6
BILL Bilibino 88.99 353 ⇑*i*P **P 08 20 26.6 -1.4**
BILL *e**PP pP 08 21 04.9 -15
BILL *i* S 08 30 56.5
BILL *e*PS PS 08 32 05.6 -25
BILL *e*SS SS 08 36 53.2 -2.8
BILL pmax pmax
comp=Z,89nm,1.2s,mb5.5
PHWY Pilot Hill 89.16 45 *e*P **P 08 20 28.5 -0.2**
NNT Nongplab 89.38 284 P **P 08 20 33.0 +3.2**
XAN Xi'an 89.76 306 P **P 08 20 32.7 +1.1**
XAN AP pP 08 21 21.9 -1.2
XAN SKS 08 30 40.8
XAN S 08 31 08.2
XAN AMB AMB
comp=Z,266nm,1.3s,mb5.9
XAN AMB AMB
comp=Z,207nm,2.7s,mb5.5
XAN LR LR
comp=Z,513nm,31.2s
HIA Hailar 89.78 324 *e*P **P 08 20 31.8 +0.2**
comp=Z,131nm,1.3s,mb5.6
HIA Hailar 89.78 324 *e*P **P 08 20 31.8 +0.2**
HIA pmax pmax
comp=Z,131nm,1.3s
EGMT Eagleton 89.80 38 *e*P **P 08 20 30.9 -0.9**
comp=Z,239nm,1.4s,mb5.8
EFI East Falkland 90.10 146 *e*P **P 08 20 33.5 +0.3**
comp=Z,236nm,1.3s,mb5.9
EFI East Falkland 90.10 146 *e*P **P 08 20 33.5 +0.4**
EFI pmax pmax
comp=Z,237nm,1.3s,mb5.9
NST Nakhon Sawan 90.11 287 P **P 08 20 35.5 +2.3**
comp=Z,67nm,1.4s,mb5.3
HHC Hu-ho-hao-te 90.77 314 *e*P **P 08 20 37.4 +1.1**
HHC AP pP 08 21 28.1 +0.2
HHC XP sP 08 21 49.4 -0.4
HHC PP PP 08 24 18.7 +3.9
HHC SKS 08 30 47.6
HHC S 08 31 13.7
HHC AMB AMB
comp=Z,158nm,1.2s,mb5.8
HHC LR LR
comp=N,1μm,33.3s
HHC LR LR
comp=E,824nm,32.4s
HHC LR LR
comp=Z,651nm,34.7s
CLCH Cerro Calan 90.92 126 *i*P **P 08 20 38.5 +1.5**
WMOK Wichita Mounta 91.05 53 *e*P **P 08 20 36.8 -0.8**
comp=Z,120nm,1.1s,mb5.7
WMOK Wichita Mounta 91.05 53 *e*P **P 08 20 36.8 -0.7**
WMOK pmax pmax
comp=Z,119nm,1.1s,mb5.7
FCH Farellones 91.14 126 ⇓*i*P **P 08 20 39.4 +1.5**
LAO LASA Array 91.22 40 *e*P **P 08 20 38.6 +0.3**
comp=Z,705nm,1.0s,mb6.5
KMI Kunming 91.23 296 ⇑P **P 08 20 40.6 +2.2**
KMI AP pP 08 21 33.0 +3.0
KMI XP sP 08 21 53.1 +1.1
KMI PP PP 08 24 24.0 +5.6
KMI PPP 08 26 26.9
KMI SKS 08 30 53.3
KMI S 08 31 20.0
KMI SP SP 08 32 33.3 +5.1
KMI AMB AMB
comp=Z,118nm,1.1s,mb5.7
KMI AMB AMB
comp=Z,451nm,3.1s
KMI LR LR
comp=E,556nm,19.5s
KMI LR LR
comp=Z,840nm,32.4s
RSSD Black Hills 91.39 43 *e*P **P 08 20 38.8 -0.3**
comp=Z,572nm,1.1s,mb6.4
RSSD Black Hills 91.39 43 *e*P **P 08 20 38.8 -0.3**
RSSD pmax pmax
comp=Z,573nm,1.1s,mb6.4
CLNS Chul'man 91.43 332 *e*P **P 08 20 40.0 +0.7**
CLNS *e*S 08 31 22.3
CLNS pmax pmax
comp=N,68nm,1.5s
CLNS pmax pmax
comp=Z,122nm,1.5s,mb5.6
CLNS pmax pmax
comp=E,36nm,1.3s
CLNS pmax pmax
comp=Z,20nm,1.5s,mb4.8
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS smax
comp=N,26nm,1.6s
CLNS smax
comp=Z,7.0nm,0.8s
CLNS smax
comp=E,12nm,0.9s
CLNS MLR MLR
comp=Z,200nm,18.0s
CLNS MLR MLR
comp=N,100nm,14.0s
CLNS MLR MLR
comp=E,300nm,15.0s
HKT Hockley 91.47 59 *e*P **P 08 20 39.7 +0.2**
comp=E,297nm,1.4s,mb6.0
HKT Hockley 91.47 59 *e*P **P 08 20 39.7 +0.2**
HKT pmax pmax
comp=Z,297nm,1.4s,mb6.0
CMCH Combarbala 91.49 124 ⇓⇓*i*P **P 08 20 40.7 +1.1**
BTO Baotou 91.72 313 *e*P **P 08 20 42.5 +1.8**
BTO AMB AMB
comp=Z,53nm,1.2s,mb5.3
CBKS Cedar Bluff 92.01 49 *e*P **P 08 20 41.7 -0.3**
comp=Z,244nm,1.1s,mb6.0
CBKS Cedar Bluff 92.01 49 *e*P **P 08 20 41.7 -0.3**
CBKS pmax pmax
comp=Z,244nm,1.1s,mb6.0
CD2 Chengdu 92.54 302 ⇑*i*P **P 08 20 46.6 +2.2**
CD2 AP pP 08 21 39.3 +3.2
CD2 XP sP 08 21 57.2 -0.8
CD2 PP PP 08 24 34.3 +5.6
CD2 S 08 31 30.0
CD2 XS sS 08 32 53.8 -7.2
CD2 SS SS 08 37 47.0 0.0
CD2 AMB AMB
comp=Z,30nm,1.3s,mb5.2
CD2 AMB AMB
comp=Z,80nm,5.7s
CD2 LR LR
comp=N,440nm,20.4s
CD2 LR LR
comp=Z,340nm,20.4s
YAK Yakutsk 92.70 337 *e*P **P 08 20 42.9 -2.2**
comp=Z,100nm,0.7s,mb6.0
YAK Yakutsk 92.70 337 *de*P **P 08 20 45.4 +0.2**
YAK *e*S 08 30 55.5
YAK pmax pmax
comp=Z,52nm,0.9s,mb5.6
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=Z,11nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK smax
comp=N,23nm,2.2s
YAK smax
comp=E,13nm,1.0s
NATX Nacogdoches 93.08 57 *e*P **P 08 20 47.1 +0.1**
comp=E,270nm,1.1s,mb6.2
DGMT Dagmar 93.26 39 *e*P **P 08 20 47.7 -0.1**
comp=E,607nm,1.0s,mb6.6
INK Inuvik 93.41 14 P **P 08 20 46.0 -2.4**
comp=E,183nm,1.0s,mb6.1,baz=212,slow=5.7,SNR=143
INK PKiKP PKiKP 08 25 33.7 +0.3
comp=E,7.4nm,0.9s,baz=149,slow=3.5,SNR=3.4
INK Inuvik 93.41 14 *e*P **P 08 20 46.4 -2.0**
comp=E,294nm,1.1s,mb6.2
INK Inuvik 93.41 14 P **P 08 20 46.0 -2.5**
INK pmax pmax
comp=Z,183nm,1.0s
INK pmax pmax
comp=Z,7.0nm,0.9s
CFAA Coronel Fontan 93.44 125 P **P 08 20 49.2 +0.6**
comp=Z,17nm,1.0s,mb5.0,baz=241,slow=3.5,SNR=70
CFAA PP PP 08 24 34.8 -0.9
comp=Z,1.3nm,1.0s,baz=234,slow=7.2,SNR=4.5
CFAA Coronel Fontan 93.44 125 P **P 08 20 49.2 +0.6**
CFAA PP PP 08 24 34.8 -0.9
NNA Nana 93.96 104 *e*P **P 08 20 52.3 +1.3**
comp=Z,60nm,1.3s,mb5.5
JTS JuntasAbangare 94.09 81 P **P 08 20 52.0 +0.4**
comp=Z,728nm,1.0s,mb6.7,SNR=5.9
JTS JuntasAbangare 94.09 81 PP PP 08 24 41.5 +0.8
comp=Z,17nm,1.1s,baz=303,slow=12,SNR=4.1
JTS JuntasAbangare 94.09 81 *e*P **P 08 20 52.3 +0.8**
comp=Z,130nm,1.0s,mb5.9
JTS JuntasAbangare 94.09 81 *e*P **P 08 20 52.3 +0.7**
JTS pmax pmax
comp=Z,131nm,1.0s
KSU1 Kansas State U 94.36 50 *e*P **P 08 20 52.5 -0.2**
LZH Lanzhou 94.39 307 *e*P **P 08 20 54.9 +2.0**
LZH AP pP 08 21 45.1 +0.5
LZH XP sP 08 22 06.5 0.0
LZH PP PP 08 24 48.0 +4.9
LZH SKS 08 31 09.1
LZH *e*S 08 31 45.0
LZH *e*XS sS 08 33 14.2 -3.3
LZH AMB AMB
comp=Z,247nm,1.5s,mb6.0
LZH AMB AMB
comp=Z,625nm,4.5s
TEIG Tepich 94.40 70 *e*P **P 08 20 53.1 +0.1**
comp=Z,19nm,1.2s,mb5.0
MIAR Mount Ida 94.94 55 *e*P **P 08 20 55.3 -0.2**
comp=Z,44nm,0.9s,mb5.6
MIAR Mount Ida 94.94 55 *e*P **P 08 20 55.3 -0.2**
MIAR pmax pmax
comp=Z,44nm,0.9s,mb5.6
TRQA Tornquist 94.95 133 *e*P **P 08 20 57.6 +2.1**
comp=Z,21nm,1.3s,mb5.1
YKA Yellowknife Ar 95.31 24 P **P 08 20 55.1 -2.0**
comp=Z,52nm,0.8s,mb5.7,baz=243,slow=4.6,SNR=152
YKA pP pP 08 21 48.7 -0.2
comp=Z,4.4nm,0.8s,baz=240,slow=5.5,SNR=1.6
YKA PP PP 08 24 44.9 -5.3
comp=Z,3.0nm,0.9s,baz=240,slow=7.3,SNR=4.2
YKA PKiKP PKiKP 08 25 34.7 -1.9
comp=Z,2.6nm,0.8s,baz=258,slow=1.4,SNR=9.1
YKA PKKPbc PKKPbc 08 37 47.7 -1.1
comp=Z,0.5nm,0.4s,baz=39,slow=2.5,SNR=5.6
YKA PKPPKP 08 45 59.7
comp=Z,0.9nm,1.1s,baz=53,slow=3.4,SNR=5.3
YKA LR LR 08 58 33.8
comp=Z,748nm,18.6s,baz=245,slow=32
YKA Yellowknife Ar 95.31 24 P **P 08 20 55.1 -2.0**
YKA *PP pP 08 21 48.7 -0.2
YKA 08 24 44.9
YKW3 Yellowknife Ar 95.35 24 *e*P **P 08 20 55.5 -1.8**
UALR University of 95.97 55 *e*P **P 08 21 00.2 0.0**
comp=Z,38nm,0.9s,mb5.6
ULN Ulaanbaatar 96.62 319 *e*P **P 08 21 03.3 +0.3**
ULN Ulaanbaatar 96.62 319 *i*P **P 08 21 03.1 0.0**
OTAV Otavalo 96.79 92 *e*P **P 08 21 07.2 +3.3**
comp=Z,10nm,1.0s,mb5.0
BOD Bodaibo 96.97 329 *e*P **P 08 21 02.6 -2.1**
BOD *e* 08 24 59.4
BOD pmax pmax
comp=Z,11nm,1.6s,mb4.8
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
SONM Songino Array 97.02 318 P **P 08 21 04.5 -0.4**
comp=Z,58nm,1.3s,mb5.7,baz=124,slow=2.2,SNR=76
SONM PKiKP PKiKP 08 25 40.0 +0.3
comp=Z,1.1nm,0.7s,baz=159,slow=3.8,SNR=7.7
SONM PKKPbc PKKPbc 08 37 41.9 -2.4
comp=Z,2.3nm,0.8s,baz=254,slow=2.9,SNR=7.3
SONM SS SS 08 38 16.7 -34
comp=Z,3.5nm,1.2s,baz=270,slow=4.4,SNR=5.3
SONM SSS 08 42 12.2
comp=Z,3.7nm,1.3s,baz=264,slow=4.8,SNR=7.0
SONM PKPPKP 08 45 50.7
comp=Z,0.9nm,1.0s,baz=303,slow=2.2,SNR=4.3
ARE Arequipa 97.06 110 *e*P **P 08 21 07.0 +1.9**
FFC Flin Flon 97.24 34 P **P 08 21 06.0 +0.1**
comp=Z,91nm,1.8s,mb5.7,SNR=7.0
FFC Flin Flon 97.24 34 *e*P **P 08 21 05.3 -0.5**
comp=Z,43nm,1.5s,mb5.5
FFC Flin Flon 97.24 34 *e*P **P 08 21 05.4 -0.5**
FFC pmax pmax
comp=Z,43nm,1.5s,mb5.5
CCM Cathedral Cave 97.92 52 *e*P **P 08 21 08.5 -0.4**
comp=Z,29nm,0.9s,mb5.6
OXF Oxford 98.17 56 *e*P **P 08 21 08.6 -1.5**
comp=Z,60nm,1.2s,mb5.8
OXF Oxford 98.17 56 P **P 08 21 10.6 +0.6**
OXF pmax pmax
comp=Z,60nm,1.2s,mb5.8
FVM French Village 98.51 53 *e*P **P 08 21 11.9 +0.4**

comp=Z,46nm,1.0s,mb5.8
FVM *e*pP pP 08 22 02.7 -0.7
FVM *e*PP PP 08 25 12.7 -2.0
FVM French Village 98.51 53 *e*P **P** **08 21 12.0 +0.5**
FVM *e**PP pP 08 22 02.7 -0.7
FVM *e* 08 25 12.7
FVM pmax pmax
comp=Z,46nm,1.0s,mb5.8
GTA Gaotai 98.54 309 P **P** **08 21 13.0 +1.3**
GTA AP pP 08 22 00.0 -3.5
GTA PP PP 08 25 17.1 +2.1
GTA SKS 08 31 31.6
GTA S 08 32 19.9
GTA SS SS 08 39 11.7 -0.1
GTA AMB AMB
comp=Z,23nm,1.5s,mb5.3
GTA AMB AMB
comp=Z,100nm,6.1s
GTA LR LR
comp=N,1µm,28.9s
GTA LR LR
comp=E,542nm,24.3s
GTA LR LR
comp=Z,746nm,22.8s
ULM Lac du Bonnet 98.95 40 P **P** **08 21 12.1 -1.5**
comp=Z,20nm,1.0s,mb5.4,baz=249,slow=5.1,SNR=34
ULM PP PP 08 25 15.0 -3.1
comp=Z,15nm,1.3s,baz=253,slow=9.8,SNR=6.5
ULM LR LR 09 03 16.5
comp=Z,521nm,18.3s,baz=67,slow=34
TIXI Tiksi 99.05 345⇓ *e*P Pdif 08 21 11.8 -2.2
TIXI Tiksi 99.05 345 *e*P Pdif 08 21 11.0 -3.0
TIXI *e* 08 22 04.5
TIXI *e* 08 32 18.3
TIXI pmax pmax
comp=Z,24nm,1.2s,mb5.4
TIXI MLR MLR
comp=Z,300nm,21.0s
ZAK Zakamensk 99.84 320 *e*P Pdif 08 21 16.7 -0.8
ZAK pmax pmax
comp=Z,24nm,1.5s,mb5.4
IRK Irkutsk 99.89 322 *e*P Pdif 08 21 16.6 -1.1
IRK *e* 08 21 53.5
IRK pmax pmax
comp=Z,18nm,1.6s,mb5.2
WVT Waverly 99.90 55 *e*Pdif Pdif 08 21 17.9 +0.1
comp=Z,17nm,1.1s
WVT Waverly 99.90 55 *e*P Pdif 08 21 17.9 +0.2
WVT pmax pmax
comp=Z,17nm,1.1s,mb5.4
LPAZ La Paz 100.08 111 P Pdif 08 21 22.3 +3.8
comp=Z,15nm,1.1s,baz=278,slow=3.1,SNR=27
LPAZ PP PP 08 25 26.8 +0.2
comp=Z,9.8nm,1.1s,baz=259,slow=6.6,SNR=7.4
LPAZ PKKPbc PKKPbc 08 37 36.2 +0.4
comp=Z,1.5nm,0.4s,baz=24,slow=6.7,SNR=15
LPAZ La Paz 100.08 111 *e*Pdif Pdif 08 21 22.5 +4.0
comp=Z,32nm,1.3s
LPAZ La Paz 100.08 111 P Pdif 08 21 22.3 +3.8
LPAZ 08 25 26.8
LPAZ pmax pmax
comp=Z,15nm,1.1s
LPAZ pmax pmax
comp=Z,10.0nm,1.1s
LPAZ pmax pmax
comp=Z,2.0nm,0.4s
SHL Shillong 100.64 293 *e*P Pdif 08 21 22.0 +1.0
EYMN Ely 100.91 43 *e*Pdif Pdif 08 21 19.5 -2.7
comp=Z,30nm,1.1s
SWET Sewanee 101.10 57 *e*Pdif Pdif 08 21 22.5 -0.6
MOY Mondy 101.62 321 *e*P Pdif 08 21 26.2 +0.8
ROSC El Rosal 102.22 89 P Pdif 08 21 31.0 +3.0
comp=Z,2.4nm,0.5s,baz=268,slow=14,SNR=3.2
ROSC PP PP 08 25 44.7 +1.9
comp=Z,8.1nm,1.1s,baz=99,slow=19,SNR=6.9
LSA Lhasa 102.45 297 *e*P Pdif 08 21 31.8 +2.7
FCC Fort Churchill 102.75 32 *e*Pdif Pdif 08 21 28.7 -1.7
comp=Z,36nm,1.0s
FCC Fort Churchill 102.75 32 *e*P Pdif 08 21 28.7 -1.7
FCC pmax pmax
comp=Z,36nm,1.0s
BOK Bokaro 105.38 290 *e*x x 08 25 56.9
VIS Vishakhapatnam 106.01 283 *e*x x 08 24 29.7
VIS *e*x x 08 24 57.4
JIRN Jiri 106.12 294 *e*P PKiKP 08 25 55.0 -1.1
SIV San Ignacio 106.32 114 Pdiff Pdif 08 21 48.3 +2.0
comp=Z,3.1nm,0.9s,baz=266,slow=3.7,SNR=13
SIV PKiKP PKiKP 08 25 58.0 +1.5
comp=Z,1.3nm,0.8s,baz=85,slow=5.4,SNR=3.7
SIV PP PP 08 26 11.4 -1.6
comp=Z,5.1nm,1.0s,baz=254,slow=13,SNR=6.7
SIV PKKPbc PKKPbc 08 37 17.1 -0.4
comp=Z,5.5nm,0.9s,baz=97,slow=4.0,SNR=13
GUN Gumba 106.44 294 *e*P PKiKP 08 25 57.5 +0.8
PKI Pulchoki 106.77 294 *e*P PKiKP 08 25 56.8 -0.5
comp=Z,55nm,0.9s
RES Resolute Bay 106.90 16 *e*Pdif Pdif 08 21 48.0 -0.9
comp=Z,21nm,1.3s
RES *e*PKPdf PKiKP 08 25 57.2 -0.3
RES Resolute Bay 106.90 16 *e*P Pdif 08 21 48.0 -0.8
RES pmax pmax
comp=Z,21nm,1.3s
KKN Kakani 106.93 294 *e*P PKiKP 08 25 57.9 +0.3
comp=Z,48nm,0.9s
SDV Santo Domingo 107.00 87 PKiKP PKiKP 08 25 58.4 +0.6
comp=Z,6.2nm,0.9s,baz=13,slow=4.1,SNR=3.2
SDV Santo Domingo 107.00 87 *e*PKPdf PKiKP 08 25 58.3 +0.5
DMN Daman 107.03 294 *e*P PKiKP 08 25 57.5 -0.3
comp=Z,49nm,1.0s
GKN Gorkha 107.53 294 *e*P PKiKP 08 25 59.2 +0.4
KOLN Koldanda 108.37 293 *e*P PKiKP 08 26 00.3 0.0
comp=Z,35nm,0.9s
WMQ Urumqi 108.44 311 *e*PDIF Pdif 08 21 55.2 -0.5
WMQ PP PP 08 26 30.0 +1.5
WMQ SS SS 08 41 29.2 +1.8
WMQ PP PP
comp=Z,867nm,11.0s
WMQ LR LR
comp=N,269nm,20.0s
WMQ LR LR
comp=E,272nm,20.8s
WMQ LR LR
comp=Z,493nm,22.0s
NGP Nagpur 110.81 286 *e*x x 08 25 27.2
ZAL Zalesovo 111.69 321 Pdiff Pdif 08 22 09.0 -1.1
comp=Z,0.8nm,0.3s,baz=357,slow=5.3,SNR=7.0
ZAL PKiKP PKiKP 08 26 04.5 -2.1
comp=Z,8.3nm,0.7s,baz=320,slow=2.0,SNR=29
MK31 Makanchi Array 112.64 313 *i* PKP PKiKP 08 26 07.2 -1.2
MKAR Makanchi Array 112.64 313 Pdiff Pdif 08 22 14.8 +0.4
comp=Z,2.6nm,0.7s,baz=90,slow=4.7,SNR=11
MKAR PKiKP PKiKP 08 26 06.1 -2.3
comp=Z,10.0nm,0.4s,baz=150,slow=0.8,SNR=181
MKAR PKKPbc PKKPbc 08 36 57.8 +0.6
comp=Z,5.2nm,0.7s,baz=274,slow=3.5,SNR=21
MKAR PKKS 08 40 57.7
comp=Z,2.2nm,1.0s,baz=272,slow=5.9,SNR=4.3
MKAR PKPPKP 08 45 27.2
comp=Z,1.1nm,1.1s,baz=318,slow=1.6,SNR=3.8
MKAR Makanchi Array 112.64 313 Pdif Pdif 08 22 14.8 +0.4
MKAR PKPdf PKiKP 08 26 06.1 -2.3
MKAR PKKPbc PKKPbc 08 36 57.8 +0.6
MKAR PKKS 08 40 57.7
MKAR P'P' 08 45 27.2
MKAR Makanchi Array 112.64 313 P Pdif 08 22 14.8 +0.4
MKAR 08 26 06.1
NVS Novosibirsk 112.66 322⇓ *i* PKIKP PKiKP 08 26 06.7 -1.7
NVS *i* S SKSac 08 32 33.0 +0.7
NVS pmax pmax
comp=Z,42nm,1.1s
NVS pmax pmax
comp=E,20nm,1.2s
NVS smax
comp=E,64nm,1.8s
BHPL Bhopal 112.77 287 *e*P PKiKP 08 26 09.5 +0.9
AGRA Agra 113.16 292 *e*P PKiKP 08 26 09.2 -0.2
KLP Kalpa 113.69 296 *e*P PKiKP 08 26 10.6 +0.2
SJG San Juan 113.79 79 PKiKP PKiKP 08 26 10.2 -0.4
comp=E,34nm,0.7s,baz=71,slow=23,SNR=6.3
NDI New Delhi 114.07 293 *e*P PKiKP 08 26 10.5 -0.6
AYAN Aya Nagar 114.11 293 *e*P PKiKP 08 26 10.4 -0.8
KAD Karad 114.31 280 *e*P PKiKP 08 26 10.9 -0.7
SMLA Simla 114.54 296 *e*P PKiKP 08 26 11.8 -0.3
SMLA AMb AMB 08 26 13.5
comp=Z,66nm,0.9s

KUDL Kundal 114.60 292 *e*P PKiKP 08 26 11.8 -0.3
POO Poona 114.92 282 *e*x x 08 26 24.2
KHET Khetri 115.18 292 *e*P PKPdf 08 26 11.4 -1.9
KURK Kurchatov 115.31 317 *e*PKPdf PKPdf 08 26 11.9 -1.6
KURK Kurchatov 115.31 317 PKIKP PKPdf 08 26 11.5 -2.0
KURK pmax pmax
comp=Z,29nm,1.0s
KSH Kashi 116.57 305 *e*PKP PKPdf 08 26 18.1 +2.2
KSH PKS 08 29 53.6
KSH *e*PPP 08 30 22.5
KSH SKS SKSdf 08 33 07.8 -0.1
KSH PP PP
comp=Z,175nm,5.4s
KSH LR LR
comp=N,202nm,5.7s
KSH LR LR
comp=E,238nm,4.9s
KSH LR LR
comp=Z,280nm,7.8s
ULHL Ulahol 116.58 308 P PKPdf 08 26 15.9 0.0
SNR=32
TKM2 Tokmak 2 117.09 309 P PKPdf 08 26 16.3 -0.6
SNR=45
TKM2 Tokmak 2 117.09 309 *i* PKIKP PKPdf 08 26 15.5 -1.4
KZA Kyzart 117.30 308 P PKPdf 08 26 17.7 +0.4
SNR=30
BDFB Brasilia 117.38 121 PKP PKPdf 08 26 17.1 -0.3
comp=Z,23nm,1.0s,baz=348,slow=1.0,SNR=18
BDFB PKKPbc PKKPbc 08 36 42.4 +1.4
comp=Z,14nm,0.9s,baz=93,slow=4.3,SNR=14
KBK Karagaybulak 117.55 308 P PKPdf 08 26 19.4 +1.6
SNR=39
CHMS Chumysh 117.71 309 P PKPdf 08 26 17.0 -1.1
SNR=21
FRU Bishkek 117.81 309⇓ *e*PKIKP PKPdf 08 26 19.0 +0.7
FRU pmax pmax
comp=Z,100nm,1.2s
UCH Uchtor 117.86 308 P PKPdf 08 26 18.9 +0.5
SNR=62
AAK Ala-Archa 117.89 308 P PKPdf 08 26 19.9 +1.4
SNR=28
AAK Ala-Archa 117.89 308 *e*PKIKP PKPdf 08 26 16.8 -1.7
USP Ospenovka 117.91 309 P PKPdf 08 26 17.8 -0.7
SNR=38
EKS2 Erkin-Say 118.42 308 P PKPdf 08 26 19.1 -0.4
SNR=53
AML Almayashu 118.46 308 P PKPdf 08 26 19.5 -0.1
SNR=67
VOSK Vostochnaya 119.98 320 PKIKP PKPdf 08 26 20.4 -2.1
VOSK pmax pmax
comp=Z,69nm,1.0s
BVA0 Borovoye Array 120.30 320 *i* PKIKP PKPdf 08 26 21.9 -1.2
BVA0 pmax pmax
comp=Z,19nm,1.1s
BVAR Borovoye Array 120.30 320 PKP PKPdf 08 26 21.5 -1.6
comp=Z,22nm,0.4s,baz=108,slow=2.1,SNR=105
BVAR PKKPbc PKKPbc 08 36 30.8 +0.3
comp=Z,3.8nm,0.7s,baz=252,slow=3.8,SNR=12
BRVK Borovoye 120.36 320 *e*PKPdf PKPdf 08 26 21.9 -1.3
KK31 Karatay Array 120.82 309 *i* PKP PKPdf 08 26 23.4 -0.7
KKAR Karatay Array 120.82 309 *i* PKIKP PKPdf 08 26 23.4 -0.7
KKAR pmax pmax
comp=Z,31nm,0.8s
KBS Kingsbay 121.12 358 *e*PKPdf PKPdf 08 26 15.3 -9.3
SFJD Kangerlussuaq 121.82 22 PKP PKPdf 08 26 24.2 -1.8
comp=Z,46nm,0.8s,baz=253,slow=1.6,SNR=16
SFJD PP PP 08 27 58.5 -3.7
comp=Z,19nm,1.1s,baz=274,slow=14,SNR=4.5
SFJD Kangerlussuaq 121.82 22 *i* P PKPdf 08 26 23.6 -2.4
comp=Z,62nm,0.9s
SFJD Kangerlussuaq 121.82 22 *i* P PKPdf 08 26 23.6 -2.4
SFJD *i* S SS 08 44 21.4 -0.9
SFJD Kangerlussuaq 121.82 22 PKIKP PKPdf 08 26 24.2 -1.8
SFJD 08 27 58.5
SFJD pmax pmax
comp=Z,46nm,0.8s
SFJD pmax pmax
comp=Z,19nm,1.1s
DAG Danmarks Havn 122.22 6⇓ *i* P PKPdf 08 26 24.2 -2.6
comp=Z,38nm,0.7s
SUMG Summit 122.33 14 *e*PKPdf PKPdf 08 26 26.2 -0.8
SVE Sverdlovsk 125.02 326 *i* PKIKP PKPdf 08 26 31.0 -1.2
SVE *e* 08 27 07.6
SVE *e* 08 38 04.0
SVE *e* 08 39 36.0
SVE pmax pmax
comp=Z,180nm,1.5s
SUR Sutherland 125.41 197 PKP PKPdf 08 26 34.1 +1.2
comp=Z,54nm,0.9s,baz=214,slow=0.9,SNR=22
SUR Sutherland 125.41 197 *e*PKPdf PKPdf 08 26 33.7 +0.8
SOKR Solikamsk 125.97 330 *c* *i* PKIKP PKPdf 08 26 33.7 -0.3
SOKR pmax pmax
comp=Z,180nm,0.9s
ARU Arti 126.23 326 *i* PKIKP PKPdf 08 26 33.6 -0.9
ARU *e* 08 28 27.9
ARU *e*SS SS 08 45 16.4 -1.3
SCO Scoresbysund 127.32 11 *i* P PKPdf 08 26 35.7 -0.9
comp=Z,83nm,0.9s
AB31 Akbulak array 127.42 317⇑ *e*PKP PKPdf 08 26 35.8 -0.9
AB31 Akbulak array 127.42 317 *i* PKIKP PKPdf 08 26 35.7 -1.0
AB31 pmax pmax
comp=Z,93nm,1.1s
AKTK Aktyubinsk 128.34 319 PKP PKPdf 08 26 38.3 -0.2
AKTO Aktyubinsk 128.34 319 PKP PKPdf 08 26 38.3 -0.2
comp=Z,42nm,1.0s,baz=74,slow=3.3,SNR=45
AKTO Aktyubinsk 128.34 319 PKIKP PKPdf 08 26 38.4 -0.1
AKTO pmax pmax
comp=Z,18nm,1.1s
KEV Kevo 128.59 350 *e*pkp PKPdf 08 26 37.2 -1.8
LVZ Lovozero 128.67 346⇓ *e*PKIKP PKPdf 08 26 36.6 -2.5
ARCES ARCESS Array B 129.02 351 PKhKP 08 26 24.0
comp=Z,4.8nm,0.9s,baz=342,slow=2.8,SNR=11
ARCES PKP PKPdf 08 26 38.3 -1.5
comp=Z,121nm,0.9s,baz=40,slow=1.5,SNR=62
ARCES SKP 08 29 43.0
comp=Z,24nm,1.1s,baz=14,slow=5.4,SNR=6.2
ARCES ARCESS Array B 129.02 351 PKP PKPdf 08 26 38.3 -1.5
ARCES SKP 08 29 43.0
ARCES ARCESS Array B 129.02 351 PKHKP 08 26 24.0
ARCES 08 26 38.3
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES pmax pmax
comp=Z,121nm,0.9s
ARCES pmax pmax
comp=N,24nm,1.1s
ARE0 ARCESS Array S 129.02 351 *e*PKPdf PKPdf 08 26 39.0 -0.8
APA Apatity 129.22 346⇓ *i* PKIKP PKPdf 08 26 38.7 -1.5
APA *e* 08 40 35.0
APA pmax pmax
comp=Z,130nm,1.3s
KTK1 Kautokeino 129.83 351 *e*P PKPdf 08 26 37.7 -3.7
JMDO Jabal Madar 130.14 283 ⇑P PKPdf 08 26 44.2 +2.3
SNR=10
BIDO Bidbid 130.27 284 ⇑P PKPdf 08 26 44.3 +2.2
SNR=9.9
LBTB Lobatse 130.55 206 *e*PKPdf PKPdf 08 26 44.0 +1.3
LOF Lofoten 131.74 355 *e*P PKPdf 08 26 46.8 +1.8
BORG Borgarnes 132.31 15 PKP PKPdf 08 26 45.5 -0.5
comp=Z,39nm,0.9s,baz=168,slow=2.6,SNR=10.0
BORG Borgarnes 132.31 15 *e*PKPdf PKPdf 08 26 45.6 -0.5
KLMR Klimovskoe 132.49 338 *i* PKIKP PKPdf 08 26 39.4 -7.0
KLMR pmax pmax
comp=Z,120nm,1.4s
RCBR Riachuelo 132.68 119 *e*PKPdf PKPdf 08 26 48.4 +1.7
RBK Rabkut 132.93 275 ⇑P PKPdf 08 26 49.5 +2.3
SNR=6.9
WHFO Wadi Hawf 133.42 276 ⇑P PKPdf 08 26 50.1 +2.0
SNR=5.9
JOF Joensuu 133.52 343 *e*pkp 08 26 36.1
STOK Stokkvaagen 133.55 355 *e* PKPdf 08 26 48.3 -0.1
STOK AMb AMB 08 26 52.1
comp=Z,164nm,1.4s
MOR8 Moi Rana 133.59 354 *e*P PKPdf 08 26 47.8 -0.6
MOR8 AMb AMB 08 26 51.5
comp=Z,69nm,1.6s
MOR8 Moi Rana 133.59 354 *e*P PKPdf 08 26 47.8 -0.6
ABTO Aybut 133.75 275 ⇑P PKPdf 08 26 51.5 +2.8
SNR=11
NSS Namsos 135.41 355 *e* 08 26 40.9
KAF Kangasniemi 135.46 346 *e*pkp 08 26 38.5
FINES FINESS Array B 136.10 345 PKhKP 08 26 40.4
comp=Z,5.5nm,0.7s,baz=48,slow=4.6,SNR=15
FINES PKP PKPdf 08 26 52.6 -0.5
comp=Z,35nm,0.7s,baz=56,slow=2.5,SNR=25

FINES PP PP 08 29 32.3 -2.9
comp=Z,5.3nm,0.9s,baz=52,slow=9.0,SNR=4.5
FINES SKP 08 30 09.0
comp=Z,7.5nm,1.0s,baz=34,slow=3.5,SNR=3.5
FINES FINESS Array B 136.10 345 PKP PKPdf 08 26 52.6 -0.5
FINES PP PP 08 29 32.3 -2.9
FINES SKP 08 30 09.0
FINES FINESS Array B 136.10 345 PKHKP 08 26 40.4
FINES 08 26 52.6
FINES 08 29 32.3
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES pmax pmax
comp=Z,35nm,0.7s
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES pmax pmax
comp=N,8.0nm,1.0s
PUL Pulkovo 136.36 341⇓ *e*PKIKP PKPdf 08 26 53.1 -0.5
MOS Moscow 136.68 333 *e*PKHKP 08 26 43.3
MOS *i* 08 26 54.1
OBN Obninsk 137.55 333 *e*PKPdf PKPdf 08 26 56.2 +0.4
OBN Obninsk 137.55 333⇓ *e*PKHKP 08 26 47.0
OBN *i* 08 26 56.2
OBN *i* 08 29 40.3
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN pmax pmax
comp=Z,115nm,1.0s
OBN MLR MLR
comp=Z,300nm,19.0s
MOL Molde 137.61 358 *e*P PKPdf 08 26 49.9 -6.1
MOL AMb AMB 08 27 01.1
comp=Z,140nm,1.4s
LSZ Lusaka 137.69 215 *e*PKPdf PKPdf 08 26 58.1 +2.1
DOMB Dombas 138.07 357 *e*P PKPdf 08 26 48.9 -7.8
DOMB AMb AMB 08 27 00.5
comp=Z,109nm,1.3s
VOR Voronezh 138.46 328 *e*PKIKP PKPdf 08 26 55.5 -2.0
VOR pmax pmax
comp=Z,200nm,1.7s
TSUM Tsumeb 138.76 199 PKhKP 08 26 51.9
comp=Z,2.9nm,0.6s,baz=222,slow=16,SNR=7.6
TSUM PKP PKPdf 08 27 00.7 +2.7
comp=Z,12nm,0.5s,baz=168,slow=4.3,SNR=15
TSUM SKPbc SKPbc 08 30 16.1 +3.3
comp=Z,19nm,1.1s,baz=162,slow=6.7,SNR=4.4
TSUM Tsumeb 138.76 199 *e*PKPdf PKPdf 08 27 00.7 +2.7
NB2 NORSAR Subarra138.92 355 PKPa 08 26 48.2
comp=Z,29nm,0.9s,baz=17,slow=2.6
NB2 NORSAR Subarra138.92 355 PKPa 08 26 48.2
baz=17,slow=2.6
NOA NORSAR Array B 138.92 355 PKhKP 08 26 47.0
comp=Z,18nm,0.8s,baz=3.9,slow=3.9,SNR=31
NOA PKP PKPdf 08 26 58.5 +0.2
comp=Z,45nm,0.8s,baz=13,slow=4.1,SNR=32
NOA PP PP 08 29 49.7 -2.9
comp=Z,4.5nm,0.9s,baz=5.3,slow=6.4,SNR=3.2
NOA SKPbc SKPbc 08 30 15.4 +2.1
comp=Z,15nm,1.0s,baz=16,slow=4.5,SNR=3.5
NOA NORSAR Array B 138.92 355 PKP PKPdf 08 26 58.5 +0.2
NOA PP PP 08 29 49.7 -2.9
NOA SKPbc SKPbc 08 30 15.4 +2.1
NOA NORSAR Array B 138.92 355 PKHKP 08 26 47.0
NOA 08 26 58.5
NOA 08 29 49.7
NOA pmax pmax
comp=Z,18nm,0.8s
NOA pmax pmax
comp=Z,45nm,0.8s
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA pmax pmax
comp=N,15nm,1.0s
NAO01 NORSAR Array S 139.14 355 *e*PKPdf PKPdf 08 26 49.8 -8.9
DGRG David-gareji 139.42 311 P PKPdf 08 26 54.7 -4.5
DGRG S PP 08 29 51.6 -4.1
HFS Hagfors 139.57 353 PKhKP 08 26 50.0
comp=N,10nm,0.4s,baz=50,slow=2.3,SNR=31
HFS PKP PKPdf 08 26 59.3 -0.2
comp=N,60nm,0.8s,baz=48,slow=2.3,SNR=21
HFS SKP 08 30 15.1
comp=N,12nm,0.9s,baz=90,slow=3.0,SNR=5.2
HFS Hagfors 139.57 353 PKP PKPdf 08 26 59.3 -0.2
HFS SKP 08 30 15.1
HFS Hagfors 139.57 353 PKHKP 08 26 50.0
HFS 08 26 59.3
HFS pmax pmax
comp=Z,10.0nm,0.4s
HFS pmax pmax
comp=Z,60nm,0.8s
HFS pmax pmax
comp=N,12nm,1.0s
GOF Gofitskoye 139.66 317 *e*PKHKP 08 26 52.7
GOF pmax pmax
comp=Z,50nm,1.3s
MTA Mtatsminda 139.75 311 P PKPdf 08 27 01.0 +1.2
MTA S PP 08 29 51.6 -6.1
ASK Askoy 139.76 359 *e*P PKPdf 08 26 53.2 -6.7
RUND Rundenannen 139.83 359 *e*P PKPdf 08 26 52.7 -7.3
RUND AMb AMB 08 26 56.8
comp=Z,196nm,1.1s
BER Bergen 139.86 359 *e*P PKPdf 08 26 53.6 -6.5
BER AMb AMB 08 27 04.9
comp=Z,127nm,1.5s
EGD Espegrend 139.97 359 *e*P PKPdf 08 26 55.4 -4.8
ZEI Tsey 140.00 313 *e*PKIKP PKPdf 08 26 56.7 -3.6
GNI Garni 140.29 309 PKP PKPdf 08 27 01.2 +0.4
comp=Z,24nm,0.8s,baz=347,slow=16,SNR=12
GNI SKPbc SKPbc 08 30 19.7 +2.7
comp=Z,3.8nm,0.5s,baz=42,slow=5.6,SNR=4.0
GNI Garni 140.29 309 *e*PKPdf PKPdf 08 27 00.9 +0.1
GNI Garni 140.29 309 PKIKP PKPdf 08 27 01.2 +0.4
GNI pmax pmax
comp=Z,24nm,0.8s
GNI pmax pmax
comp=N,4.0nm,0.5s
ODD1 Odda 140.31 358 *e*P PKPdf 08 26 52.1 -8.8
ODD1 AMb AMB 08 27 06.0
comp=Z,88nm,2.1s
KIV Kislovodsk 140.35 315 *e*PKPdf PKPdf 08 27 02.0 +1.1
KIV Kislovodsk 140.35 315 *e*PKIKP PKPdf 08 26 59.3 -1.6
KIV *e* 08 30 02.7
KIV *e*SS SS 08 48 03.7 -4.2
KIV pmax pmax
comp=Z,65nm,1.2s
KONO Kongsberg 140.42 356 *e*PKPdf PKPdf 08 26 54.2 -6.8
BLS5 Blasjo 140.80 358 *e*P PKPdf 08 26 55.6 -6.1
CLDR Caldiran 141.20 308 *e*P PKPdf 08 26 57.5 -5.0
KARS Kars 141.33 310 *e*P PKPdf 08 26 59.2 -3.4
MNK Minsk 141.40 338 *e*PKHKP 08 26 56.0
KMBO Kilima Mbogo 141.46 241 PKhKP 08 26 58.7
comp=Z,7.6nm,0.7s,baz=63,slow=4.6,SNR=11
KMBO PKP PKPdf 08 27 04.4 +1.5
comp=Z,46nm,1.0s,baz=51,slow=3.7,SNR=22
KMBO SKP 08 30 22.9
comp=Z,18nm,1.2s,baz=33,slow=2.1,SNR=5.4
KMBO Kilima Mbogo 141.46 241 PKP PKPdf 08 26 58.7 -4.2
KMBO *e*PKPdf PKPdf 08 27 03.6 +0.7
KMBO PKP PKPdf 08 27 04.4 +1.5
KMBO SKP 08 30 22.9
KMBO Kilima Mbogo 141.46 241 PKHKP 08 26 58.7
KMBO 08 27 04.4
VANB Van 141.76 307 *e*P PKPdf 08 27 10.8 +7.4
ARTV Artvin 141.95 312 *i* P PKPdf 08 26 59.7 -4.1
CUKT Cukurca 141.97 305 *e*P PKPdf 08 26 59.3 -4.5
SOC Sochi 142.45 316 *i* PKIKP PKPdf 08 27 06.4 +1.7
SOC *e* 08 30 16.9
SOC *e*SSS 08 53 55.3
SOC pmax pmax
comp=Z,69nm,1.1s
MSL Mosul 142.62 304 *e*x x 08 27 03.0
SHEL Horse Pasture 142.70 164 *e*PKPdf PKPdf 08 27 02.8 -2.4
ERZM Erzurum 142.81 310 *i* P PKPdf 08 27 03.1 -2.3
EZM Erzurum 142.82 310 *e*P PKPdf 08 27 03.5 -1.8
ANN Anapa 143.29 320 *i* PKIKP PKPdf 08 27 04.6 -1.6
ANN pmax pmax
comp=Z,321nm,1.4s
BTMT Batman 143.30 307 *e*P PKPdf 08 27 03.9 -2.3
BNGL BINGOL 143.30 309 *i* P PKPdf 08 27 05.0 -1.2
SUW Suwalki 143.32 341 *e*PKP PKPdf 08 27 03.8 -2.4
EAB Aberfoyle 143.48 8 *e*P PKPdf 08 27 02.5 -4.0
EAB AMb AMB 08 27 06.8
comp=Z,609nm,1.2s

EAB	Aberfoyle	143.48	8	eP	PKPdf	08 27 02.5	-4.0
EAB				AMb	AMB	08 27 06.8	
comp=Z,609nm,1.2s							
MUD	Monsted U'grnd	143.63	356⇑	iP	PKPdf	08 27 03.5	-3.3
comp=Z,362nm,1.0s							
MUD							
comp=Z,260nm,20.0s							
MUD	Monsted U'grnd	143.63	356⇑	iP	PKPdf	08 27 03.5	-3.3
AKASG	Malin Array Be	143.81	333	PKhKP		08 27 03.3	
comp=Z,52nm,0.4s,baz=39,slow=4.1,SNR=137							
AKASG				SKP		08 30 25.9	
comp=Z,5.5nm,0.8s,baz=41,slow=2.9,SNR=5.1							
AKASG	Malin Array Be	143.81	333	PKP	PKPdf	08 27 03.3	-3.7
AKASG				SKP		08 30 25.9	
EDI	Edinburgh	143.88	7	eP	PKPdf	08 27 03.7	-3.5
EDI				AMb	AMB	08 27 08.1	
comp=Z,620nm,1.7s							
EDI	Edinburgh	143.88	7	eP	PKPdf	08 27 03.7	-3.5
EDI				AMb	AMB	08 27 08.1	
comp=Z,620nm,1.7s							
EAU	Auchinoon	143.93	8	eP	PKPdf	08 27 02.8	-4.5
EAU				AMb	AMB	08 27 09.4	
comp=Z,2μm,1.4s							
EAU	Auchinoon	143.93	8	eP	PKPdf	08 27 02.8	-4.5
EAU				AMb	AMB	08 27 09.4	
comp=Z,2μm,1.4s							
GUMT	Gumushane	143.94	312	eP	PKPdf	08 27 06.9	-0.4
ESY	Stoneypath	143.96	7	eP	PKPdf	08 27 04.2	-3.2
ESY				AMb	AMB	08 27 08.4	
comp=Z,683nm,1.5s							
ESY	Stoneypath	143.96	7	eP	PKPdf	08 27 04.2	-3.2
ESY				AMb	AMB	08 27 08.4	
comp=Z,683nm,1.5s							
EBL	Broad Law	144.05	7	eP	PKPdf	08 27 03.9	-3.6
EBL				AMb	AMB	08 27 08.1	
comp=Z,682nm,1.2s							
EBL	Broad Law	144.05	7	eP	PKPdf	08 27 03.9	-3.6
EBL				AMb	AMB	08 27 08.1	
comp=Z,682nm,1.2s							
COP	Copenhagen	144.06	352	iP	PKPdf	08 27 05.8	-1.7
comp=Z,200nm,0.9s							
COP				i		08 31 44.8	
COP							
comp=Z,150nm,19.0s							
COP	Copenhagen	144.06	352	iP	PKPdf	08 27 05.8	-1.7
COP				i		08 31 44.8	
GMK	Mull of Kintyr	144.11	10	eP	PKPdf	08 27 04.3	-3.3
GMK	Mull of Kintyr	144.11	10	eP	PKPdf	08 27 04.3	-3.3
MARD	Mardin	144.11	306	iP	PKPdf	08 27 06.3	-1.3
KELT	Kelkit	144.22	311	iP	PKPdf	08 27 07.2	-0.6
BSD	Bornholm Skovb	144.25	350	iP	PKPdf	08 27 05.9	-1.9
comp=Z,304nm,0.9s							
BSD				i		08 28 06.0	
BSD				i		08 41 52.0	
GCL	Cushendall	144.28	10	eP	PKPdf	08 27 05.4	-2.5
GCL	Cushendall	144.28	10	eP	PKPdf	08 27 05.4	-2.5
DIY	Diyarbakir	144.34	307	eP	PKPdf	08 27 08.1	+0.1
EKA	Eskdalemuir Ar	144.47	7	PKhKP		08 27 05.5	
comp=Z,268nm,0.9s,baz=335,slow=2.5,SNR=102							
EKA				SKKPbc		08 38 34.5	
comp=Z,2.4nm,0.8s,baz=202,slow=6.3,SNR=4.0							
ESK	Eskdalemuir	144.48	7	eP	PKPdf	08 27 05.7	-2.5
ESK				AMb	AMB	08 27 09.2	
comp=Z,438nm,1.4s							
ESK	Eskdalemuir	144.48	7	eP	PKPdf	08 27 05.7	-2.5
ESK				AMb	AMB	08 27 09.2	
comp=Z,438nm,1.4s							
ESK	Eskdalemuir	144.48	7	ePKIKP	PKPdf	08 27 05.9	-2.3
GRSN	GIRESUNGRSN	144.59	313	iP	PKPdf	08 27 06.7	-1.8
GAL1	Galloway	144.71	9	eP	PKPdf	08 27 06.3	-2.3
GAL1	Galloway	144.71	9	eP	PKPdf	08 27 06.3	-2.3
ELZG	Elazig	145.05	309	iP	PKPbc	08 27 10.2	+1.1
FURI	Furi	145.05	256	iP	PKPbc	08 27 13.7	+4.5
GMM	Mts of Mourne	145.12	11	eP	PKPbc	08 27 07.0	-2.4
GMM	Mts of Mourne	145.12	11	eP	PKPbc	08 27 07.0	-2.4
SIM	Simferopol'	145.19	322	cePKIKP	PKPdf	08 27 09.2	-0.3
SIM				pmax	pmax		
comp=Z,525nm,0.9s							
CKE	Keswick	145.20	8	eP	PKPdf	08 27 07.6	-1.9
CKE	Keswick	145.20	8	eP	PKPdf	08 27 07.6	-1.9
DMUB	Kingscourt	145.26	12	eP	PKPdf	08 27 10.0	+0.4
WIM	Isle of Man	145.41	9⇑	eP	PKPdf	08 27 08.2	-1.6
WIM				AMb	AMB	08 27 12.7	
comp=Z,1μm,1.5s							
WIM	Isle of Man	145.41	9⇑	eP	PKPdf	08 27 08.2	-1.6
WIM				AMb	AMB	08 27 12.7	
comp=Z,1μm,1.5s							
CDU1	Dunnerdale	145.44	8	eP	PKPdf	08 27 08.9	-1.0
CDU1	Dunnerdale	145.44	8	eP	PKPdf	08 27 08.9	-1.0
WAR	Warsaw	145.50	342	ePKP	PKPdf	08 27 12.0	+2.0
MYA	Malataya	145.52	309	eP	PKPdf	08 27 11.7	+1.6
MALT	Malatya	145.52	309	ePKPdf	PKPdf	08 27 11.7	+1.7
MALT	Malatya	145.52	309	⇑PKP2	PKPab	08 27 12.0	+0.9
GKP	Gorka Klasztor	145.54	346	ePKP	PKPdf	08 27 10.6	+0.5
URFA	Urfa	145.54	307	eP	PKPdf	08 27 11.5	+1.4
LWH	Whinny Nab	145.71	5	eP	PKPdf	08 27 10.5	+0.1
LWH	Whinny Nab	145.71	5	eP	PKPdf	08 27 10.5	+0.1
PLUZ	Luz	145.71	50	ePKP	PKPdf	08 27 14.2	+3.8
DCN	Croghan	145.72	12⇑	iP	PKPdf	08 27 10.4	0.0
DLF	Lyons Farm	145.91	12⇑	iP	PKPdf	08 27 11.1	+0.4
ATAB	Bozova	145.93	308	iP	PKPdf	08 27 13.3	+2.5
PTCA	Ponta do Capel	146.01	50	ePKP	PKPdf	08 27 13.7	+2.8
KVT	Kavak	146.02	315	eP	PKPdf	08 27 12.5	+1.6
BSEG	Bad Segeberg	146.03	354	ePKPdf	PKPdf	08 27 11.1	+0.2
PCED	Cedros	146.06	50	ePKP	PKPdf	08 27 12.0	+1.0
CALA	Caldeira	146.08	50	ePKP	PKPdf	08 27 14.4	+3.4
HOR	Horta	146.16	50	ePKP	PKPdf	08 27 14.8	+3.7
WCB1	Church Bay	146.18	10	eP	PKPdf	08 27 10.5	-0.6
WCB1				AMb	AMB	08 27 14.3	
comp=Z,1μm,0.9s							
WCB1	Church Bay	146.18	10	eP	PKPdf	08 27 10.5	-0.6
WCB1				AMb	AMB	08 27 14.3	
comp=Z,1μm,0.9s							
WME	Myndd Eilian	146.20	9⇑	eP	PKPdf	08 27 11.6	+0.4
WME				AMb	AMB	08 27 14.5	
comp=Z,1μm,1.0s							
WME	Myndd Eilian	146.20	9⇑	eP	PKPdf	08 27 11.6	+0.4
WME				AMb	AMB	08 27 14.5	
comp=Z,1μm,1.0s							
WLF1	Llynfaes	146.28	10	eP	PKPdf	08 27 11.4	0.0
WLF1				AMb	AMB	08 27 14.7	
comp=Z,1μm,0.9s							
WLF1	Llynfaes	146.28	10	eP	PKPdf	08 27 11.4	0.0
WLF1				AMb	AMB	08 27 14.7	
comp=Z,1μm,0.9s							
YRC	Rhoscolyn	146.29	10	eP	PKPdf	08 27 11.7	+0.4
YRC				AMb	AMB	08 27 14.6	
comp=Z,1μm,1.0s							
YRC	Rhoscolyn	146.29	10	eP	PKPdf	08 27 11.7	+0.4
YRC				AMb	AMB	08 27 14.6	
comp=Z,1μm,1.0s							
PCND	Candelaria	146.30	50	ePKP	PKPdf	08 27 13.4	+2.0
PICO	Pico	146.31	50	ePKP	PKPdf	08 27 13.4	+2.0
VAL	Valentia	146.32	16	eP	PKPdf	08 27 10.1	-1.3
PVIA	Vitoria	146.35	49	ePKP	PKPdf	08 27 14.2	+2.8
ROSA	Rosais	146.36	50	ePKP	PKPdf	08 27 13.1	+1.6
LHO	Holmfirth	146.37	7	eP	PKPdf	08 27 11.2	-0.3
LHO	Holmfirth	146.37	7	eP	PKPdf	08 27 11.2	-0.3
PBOI	Pico dos Bois	146.38	50	ePKP	PKPdf	08 27 13.8	+2.3
STGR	Santa Cruz	146.38	49	ePKP	PKPdf	08 27 13.7	+2.2
PGRA	Graciosa	146.42	49	ePKP	PKPdf	08 27 14.2	+2.6
PAMA	Santo Amaro	146.42	50	ePKP	PKPdf	08 27 15.2	+3.6
PPNO	Prainha do Nor	146.44	50	ePKP	PKPdf	08 27 13.6	+2.0
YLL	Llanberis	146.46	9	eP	PKPdf	08 27 12.3	+0.7
YLL	Llanberis	146.46	9	eP	PKPdf	08 27 12.3	+0.7
ASCN	Ascension	146.49	145	ePKPbc	PKPbc	08 27 14.3	+0.8
PMAN	Manadas	146.50	50	ePKP	PKPdf	08 27 13.5	+1.8
GZT	Gaziantep	146.51	308	iP	PKPdf	08 27 12.6	+0.9
YRE	Yr Eifl	146.58	10	eP	PKPdf	08 27 11.9	0.0
YRE				AMb	AMB	08 27 15.9	
comp=Z,457nm,1.4s							
YRE	Yr Eifl	146.58	10	eP	PKPdf	08 27 11.9	0.0
YRE				AMb	AMB	08 27 15.9	
comp=Z,457nm,1.4s							
BOYT	Boyabat	146.61	316	iP	PKPdf	08 27 12.8	+1.0
LMK	Market Rasen	146.61	5	eP	PKPdf	08 27 12.6	+0.7
LMK	Market Rasen	146.61	5	eP	PKPdf	08 27 12.6	+0.7
KIS	Kishinev	146.69	329	ePKIKP	PKPdf	08 27 11.0	-1.0
KIS				i		08 27 14.0	
KIS				e		08 28 07.0	
KIS				pmax	pmax		
comp=Z,1μm,1.2s							
KIS				pmax	pmax		
comp=Z,1μm,1.4s							
KBI1	Birley Grange	146.69	6	eP	PKPdf	08 27 11.9	-0.1
KBI1	Birley Grange	146.69	6	eP	PKPdf	08 27 11.9	-0.1
SBD1	Bryn Du	146.82	8⇑	eP	PKPdf	08 27 12.6	+0.3
SBD1	Bryn Du	146.82	8⇑	eP	PKPdf	08 27 12.6	+0.3
GAZ	Gaziantep	146.84	308	eP	PKPdf	08 27 13.1	+0.9
KWE	Weaver Farm	146.90	7	eP	PKPdf	08 27 12.3	-0.1
KWE	Weaver Farm	146.90	7	eP	PKPdf	08 27 12.3	-0.1
RUE	Ruedersdorf	146.97	349	ePKPdf	PKPdf	08 27 13.3	+0.8
RUE				epPKPbc	pPKPbc	08 28 13.2	+4.9
RUE	Ruedersdorf	146.97	349	ePKPbc	PKPbc	08 27 14.3	-0.5
RUE				ePKPab	PKPab	08 27 16.6	-0.2
PSBA	Serra de Santa	146.99	49	ePKP	PKPdf	08 27 14.8	+2.3
ASBA	Santa Barbara	147.01	49	ePKP	PKPdf	08 27 15.2	+2.7
PBIS	Biscoitos	147.05	49	ePKP	PKPdf	08 27 16.6	+4.0
PPAD	Pico dos Padre	147.05	49	ePKP	PKPdf	08 27 16.7	+4.1
CTKT	Corum	147.07	315	iP	PKPdf	08 27 14.2	+1.6
ADH	Angra Heroismo	147.10	49	ePKP	PKPdf	08 27 14.0	+1.3
PVNV	Vila Nova	147.11	49	ePKP	PKPdf	08 27 15.8	+3.1
RIB2	Ribeirinha	147.14	49	ePKP	PKPdf	08 27 15.8	+3.0
IAS	Iasi	147.14	330	P	PKPdf	08 27 15.9	+3.1
PFAV	Pico das Favas	147.19	49	ePKP	PKPdf	08 27 15.7	+2.9
KWP	Kalwaria	147.21	338	ePKP	PKPdf	08 27 13.7	+0.8
KWP				e		08 27 19.8	
HLM1	Long Mynd	147.25	8⇑	eP	PKPdf	08 27 13.0	0.0
HLM1				AMb	AMB	08 27 17.6	
comp=Z,960nm,1.0s							
HLM1	Long Mynd	147.25	8⇑	eP	PKPdf	08 27 13.0	0.0
HLM1				AMb	AMB	08 27 17.6	
comp=Z,960nm,1.0s							
SSP1	Stoney Pound	147.32	9⇑	eP	PKPdf	08 27 13.2	+0.1
SSP1				AMb	AMB	08 27 17.8	
comp=Z,1μm,1.0s							
SSP1	Stoney Pound	147.32	9⇑	eP	PKPdf	08 27 13.2	+0.1
SSP1				AMb	AMB	08 27 17.8	
comp=Z,1μm,1.0s							
AWI1	Witton	147.35	3	eP	PKPdf	08 27 14.6	+1.4
AWI1	Witton	147.35	3	eP	PKPdf	08 27 14.6	+1.4
TOS	Tosya	147.38	316	eP	PKPdf	08 27 14.3	+1.2
CORM	Corum	147.40	314	eP	PKPdf	08 27 14.3	+1.1
AWH	Whinburgh	147.53	4	eP	PKPdf	08 27 13.5	+0.1
AWH	Whinburgh	147.53	4	eP	PKPdf	08 27 13.5	+0.1
AEU	East Anglia Un	147.55	4	eP	PKPdf	08 27 14.0	+0.5
AEU	East Anglia Un	147.55	4	eP	PKPdf	08 27 14.0	+0.5
OJC	Ojcow	147.65	341	ePKPdf	PKPdf	08 27 13.2	-0.4
OJC				epPKPdf	pPKPdf	08 28 10.8	+2.9
OJC				ePP	PP	08 30 41.6	-3.4
KOZT	Kozan	147.74	309	eP	PKPdf	08 27 13.6	-0.1
MCH1	Michaelchurch	147.75	9⇑	eP	PKPdf	08 27 13.5	-0.2
MCH1				AMb	AMB	08 27 18.6	
comp=Z,680nm,0.9s							
MCH1	Michaelchurch	147.75	9⇑	eP	PKPdf	08 27 13.5	-0.2
MCH1				AMb	AMB	08 27 18.6	
comp=Z,680nm,0.9s							
HAE	Alders End	147.77	8⇑	eP	PKPdf	08 27 13.7	-0.1
HAE				AMb	AMB	08 27 19.6	
comp=Z,1μm,1.3s							
HAE	Alders End	147.77	8⇑	eP	PKPdf	08 27 13.7	-0.1
HAE				AMb	AMB	08 27 19.6	
comp=Z,1μm,1.3s							
COBT	Iskenderun	147.79	307	iP	PKPdf	08 27 15.7	+1.9
HSA	Swansea	147.81	10	eP	PKPdf	08 27 14.0	+0.1
HSA	Swansea	147.81	10	eP	PKPdf	08 27 14.0	+0.1
IBBN	Ibbenburen	147.85	356	ePKPdf	PKPdf	08 27 14.5	+0.6
IBBN				epPKPbc	pPKPbc	08 28 14.6	+3.8
CANT	Cankiri	147.86	316	eP	PKPdf	08 27 14.9	+1.0
BURAR	Bucovina Array	147.87	333	⇓P	PKPdf	08 27 16.0	+2.0
BURAR	Bucovina Array	147.87	333	⇓P	PKPdf	08 27 16.0	+2.0
APAE	Packway	147.89	3	eP	PKPdf	08 27 15.3	+1.3
APAE	Packway	147.89	3	eP	PKPdf	08 27 15.3	+1.3
AVNT	Avonos	147.89	312	iP	PKPdf	08 27 14.4	+0.4
STHS	Stebnicka Huta	147.90	339	ePKP	PKPdf	08 27 14.8	+0.8
STHS				e		08 27 18.8	
SSW	Stow on the Wo	147.93	7	eP	PKPdf	08 27 14.5	+0.4
SSW	Stow on the Wo	147.93	7	eP	PKPdf	08 27 14.5	+0.4
KOLS	Kolonicke sedl	147.95	338	ePKP	PKPdf	08 27 13.5	-0.6
KOLS				e		08 27 22.7	
CEYT	Ceyhan	147.98	308	eP	PKPdf	08 27 14.9	+0.8
KSP	Ksiaz	148.02	346	ePKP	PKPdf	08 27 15.5	+1.3
KSP				e		08 27 19.4	
KSP	Ksiaz	148.02	346	ePKIKP	PKPdf	08 27 14.0	-0.2
HTY	Hatay	148.02	306	eP	PKPdf	08 27 15.8	+1.6
ELDT	Eldivan	148.04	316	iP	PKPdf	08 27 15.1	+0.8
CLZ	Clausthal	148.08	353	ePKPdf	PKPdf	08 27 15.2	+0.9
CLZ				epPKPbc	pPKPbc	08 28 15.3	+3.8
HGH	Gray Hill	148.12	9⇑	eP	PKPdf	08 27 13.3	-1.1
HGH				AMb	AMB	08 27 19.7	
comp=Z,882nm,1.1s							
HGH	Gray Hill	148.12	9⇑	eP	PKPdf	08 27 13.3	-1.1
HGH				AMb	AMB	08 27 19.7	
comp=Z,882nm,1.1s							
SAFT	Safranbolu	148.13	317	eP	PKPdf	08 27 14.1	-0.3
UZH	Uzhgorod	148.20	337	eP	PKPdf	08 27 14.8	+0.3
NIE	Niedzica	148.20	340	ePKPdf	PKPdf	08 27 14.7	+0.2
CLL	Collm	148.23	350	ePKPdf	PKPdf	08 27 15.1	+0.5
CLL				iPKPbc	PKPbc	08 27 19.3	+1.1
comp=Z,756nm,1.1s							
CLL				ePKPab	PKPab	08 27 22.3	+0.5
CLL				epPKPbc	pPKPbc	08 28 09.6	-2.3
CLL				esPKPbc		08 28 33.0	
CLL				esPP		08 31 55.7	
CLL				eSKSP		08 40 52.6	
CLL				ePPS		08 43 37.9	
CLL				esSS		08 51 03.5	
CLL				eSSS		08 55 18.3	
CLL	Collm	148.23	350	ePKPdf	PKPdf	08 27 16.0	+1.4
comp=Z,110nm,1.2s							
CLL				⇓iPKPbc	PKPbc	08 27 19.8	+1.6
comp=Z,746nm,1.1s							
CLL				⇓iPKPab	PKPab	08 27 22.7	+0.9
comp=Z,399nm,0.8s							
CLL				ex	x	08 27 37.0	
CLL				epPKPbc	pPKPbc	08 28 10.0	-1.9
CLL				esPKPbc		08 28 28.0	
CLL				esPP		08 31 54.0	
CLL				eSKSP		08 40 52.0	
CLL				e(sSKSP)		08 42 12.0	
CLL				e(SKKSdf)		08 42 28.0	
CLL				epPPS		08 44 21.0	
CLL				ex	x	08 47 27.0	
CLL				eSS	SS	08 49 36.0	-2.0
CLL				ex	x	08 50 33.0	
CLL				esSS		08 51 01.0	
CLL				ex	x	09 10 13.0	
RAC	Raciborz	148.24	343	ePKPdf	PKPdf	08 27 15.4	+0.8
WTSB	Winterswijk	148.25	357	ePKP	PKPdf	08 27 15.0	+0.4
comp=Z,101nm,1.1s							
WTSB				ex	x	08 27 18.7	
comp=Z,832nm,1.2s							
CRVS	Cervenica-Dubn	148.26	338	ePKP	PKPdf	08 27 17.1	+2.5
CRVS				e		08 27 23.4	
CRVS				e		08 50 11.8	
BR131	Keskin Array S	148.28	314	ePKPdf	PKPdf	08 27 14.6	0.0
BR131				ePKPbc	PKPbc	08 27 20.2	+1.9
BR131				ePKPab	PKPab	08 27 25.1	+3.1
BRTR	Keskin Array B	148.28	314	PKP	PKPdf	08 27 13.6	-1.1
comp=Z,23nm,0.8s,baz=107,slow=1.3,SNR=51							
BRTR				PKPbc	PKPbc	08 27 18.2	0.0
comp=Z,93nm,0.8s,baz=138,slow=2.4,SNR=90							
SKP1	Kophill	148.28	6	eP	PKPdf	08 27 14.9	+0.3
SKP1	Kophill	148.28	6	eP	PKPdf	08 27 14.9	+0.3
CFR	Carcaliu	148.30	327	⇓P	PKPdf	08 27 16.8	+2.1
SWN1	Swindon	148.38	7	eP	PKPdf	08 27 15.0	+0.2
SWN1	Swindon	148.38	7	eP	PKPdf	08 27 15.0	+0.2
KARA	Karaisali	148.39	309	eP	PKPdf	08 27 14.7	-0.1
UPC	Upice	148.40	346	ePKPDF	PKPdf	08 27 14.2	-0.6
UPC				⇑ePKPB		08 27 20.1	
KAMT	Kaman	148.40	314	eP	PKPdf	08 27 14.9	+0.1
KRTS	Karatas	148.43	308	eP	PKPbc	08 27 19.3	+0.6
DPC	Dobruska-Polom	148.47	345	ePKPDF	PKPdf	08 27 14.5	-0.5
DPC				⇑ePKPB		08 27 20.1	
DPC				ePKPAB	PKPab	08 27 24.4	+1.6
DPC	Dobruska-Polom	148.47	345	ePKIKP	PKPdf	08 27 14.5	-0.5
DPC				e		08 27 20.1	
OKC	Ostrava-Krasne	148.47	343	ePKPDF	PKPdf	08 27 14.1	-0.9
OKC				⇑ePKPB		08 27 18.9	
OKC	Ostrava-Krasne	148.47	343	ePKP	PKPdf	08 27 13.1	-1.9
OKC				e		08 27 17.9	
BRG	Berggiesshubel	148.48	348	ePKPdf	PKPdf	08 27 15.8	+0.8
BRG	Berggiesshubel	148.48	348	iPKIKP	PKPdf	08 27 15.6	+0.6
BRG				i		08 27 19.8	
BRG				e		08 30 58.4	
BRG				SS	SS	08 49 44.0	+3.2
BRG	Berggiesshubel	148.48	348	iPKP	PKPdf	08 27 15.6	+0.7
comp=Z,78nm,1.2s							
BRG				i		08 27 19.8	
comp=Z,267nm,1.2s							
BRG				ipPKP	pPKPdf	08 28 02.6	-6.6
comp=Z,24nm,1.1s							
BRG				ePP	PP	08 30 58.4	+8.6
comp=Z,18nm,1.5s							
BRG				e		08 42 12.0	
BRG				SS	SS	08 49 44.0	+3.2
HTL	Hartland	148.49	11	eP	PKPdf	08 27 15.0	0.0
HTL	Hartland	148.49	11	eP	PKPdf	08 27 15.0	0.0
PFET	Feteiras	148.49	50	ePKP	PKPbc	08 27 20.0	+1.2
HEX	Exmoor	148.53	10	eP	PKPdf	08 27 15.4	+0.4
HEX	Exmoor	148.53	10	eP	PKPdf	08 27 15.4	+0.4
FAC	Faja de Cima	148.61	50	ePKP	PKPbc	08 27 19.6	+0.5
PDA	Ponta Delgada	148.61	50	ePKP	PKPbc	08 27 21.1	+2.0
TIRR	Tirgusor	148.66	326	ePKPdf	PKPdf	08 27 16.1	+0.9
TIRR				ePKPbc	PKPbc	08 27 20.8	+1.5
TIRR				ePKPab	PKPab	08 27 25.5	+2.0
TIRR	Tirgusor	148.66	326	ePKIKP	PKPdf	08 27 16.1	+0.8
TIRR				e		08 27 20.8	
SWK	Warminster	148.68	8	eP	PKPdf	08 27 15.3	0.0
SWK	Warminster	148.68	8	eP	PKPdf	08 27 15.3	0.0
CML	Cha da Macela	148.68	50	ePKP	PKPdf	08 27 19.2	+3.9
PVCC	Panska Ves	148.69	347	ePKPDF	PKPdf	08 27 15.2	-0.1
PVCC				⇑ePKPB		08 27 19.9	
MORC	Moravsky Berou	148.69	344	ePKPdf	PKPdf	08 27 15.1	-0.2
MORC				ePKPbc	PKPbc	08 27 20.7	+1.4
MORC	Moravsky Berou	148.69	344	⇓PKIKP	PKPdf	08 27 16.3	+1.0
PVER	Pico Vermelho	148.69	50	ePKP	PKPdf	08 27 19.7	+4.4
PMAT	Coroa da Mata	148.72	49	ePKP	PKPbc	08 27 23.8	+4.4
LFA	Lagoa do Fogo	148.73	50	ePKP	PKPdf	08 27 18.7	+3.3
MESC	Monte Escuro	148.75	49	ePKP	PKPbc	08 27 21.7	+2.2
BUG	Bochum--Univer	148.75	357	ePKPdf	PKPdf	08 27 15.6	+0.2
BUG				epPKPbc	pPKPbc	08 28 15.6	+2.4
HARR	Harsova	148.75	327	⇑P	PKPdf	08 27 20.4	+5.0
PRCH	Ribeira Ch	148.75	50	ePKP	PKPbc	08 27 21.7	+2.2
VIF	Vila Franca	148.77	50	ePKP	PKPbc	08 27 19.7	+0.2
ANTO	Ankara	148.78	315	ePKPdf	PKPdf	08 27 15.2	-0.2
ANTO				ePKPbc	PKPbc	08 27 21.8	+2.2
ANTO				ePKPab	PKPab	08 27 27.1	+3.1
ANTO	Ankara	148.78	315	ePKIKP	PKPdf	08 27 15.3	-0.1
ANTO				e		08 27 21.8	
BSTP	Nigde	148.78	311	iP	PKPbc	08 27 20.7	+1.2
LOD	Lodumlu	148.78	315	eP	PKPdf	08 27 16.2	+0.8
PCNG	Congro	148.79	49	ePKP	PKPdf	08 27 18.5	+3.0
PFAD	Fenais da Ajud	148.81	49	ePKP	PKPdf	08 27 18.7	+3.2
MIRA	Miradouro	148.87	49	ePKP	PKPdf	08 27 18.7	+3.1
SGKT	Sivrigoynuk	148.89	317	iP	PKPdf	08 27 15.2	-0.4
LIKS	Likavka	148.90	341	ePKP	PKPdf	08 27 19.5	+3.9
LIKS				e		08 27 22.7	
LIKS				e		08 27 26.7	
MERS	Mersin	148.94	309	eP	PKPbc	08 27 20.2	+0.2
KECS	Kecovo	148.96	339	ePKP	PKPdf	08 27 16.7	+1.0
KECS				e		08 27 22.1	
KECS				e		08 27 26.9	
KECS				e		08 27 38.5	
KECS				e		08 28 15.4	
KECS	Kecovo	148.96	339	ePKIKP	PKPdf	08 27 16.7	+1.0
KECS				e		08 27 22.1	
KECS				e		08 28 15.4	
CSA1	St Austell	149.03	12	eP	PKPdf	08 27 15.5	-0.4
CSA1	St Austell	149.03	12	eP	PKPdf	08 27 15.5	-0.4
CPZ	Penzance	149.08	13	eP	PKPdf	08 27 18.3	+2.4
CPZ				AMb	AMB	08 27 22.8	
comp=Z,430nm,1.6s							
CPZ	Penzance	149.08	13	eP	PKPdf	08 27 18.3	+2.4
CPZ				AMb	AMB	08 27 22.8	
comp=Z,430nm,1.6s							
MOX	Moxa	149.09	351	ePKPdf	PKPdf	08 27 16.5	+0.5
MOX				ePKPbc	PKPbc	08 27 21.6	+1.3
MOX	Moxa	149.09	351	ePKP	PKPdf	08 27 15.6	-0.4
MOX				e		08 27 21.5	
comp=Z

ROTZ *e*PKPab PKPab 08 27 29.5 +1.1
SMOL Smolenice 149.87 343 *e*PKP PKPdf 08 27 18.2 +1.0
SMOL *e* 08 27 24.8
TNS Taunus Mts 149.88 355 *e*PKPdf PKPdf 08 27 17.9 +0.7
TNS *e*PKPbc PKPbc 08 27 23.3 +1.0
TNS *e*PKPab PKPab 08 27 30.0 +1.5
KIZT Kizilcal 149.89 314 *e*P PKPdf 08 27 18.0 +0.8
KDHN Kadinhani 149.90 313 *i*P PKPdf 08 27 18.1 +0.9
KONT Konya--Tatoy 150.01 312 *e*P PKPbc 08 27 23.0 +0.4
PHNC Paralimni 150.03 306 P PKPdf 08 27 18.8 +1.4
comp=Z,6.1nm,0.8s
PRD Provadia 150.05 325 *i*P PKPdf 08 27 20.0 +2.5
GRF Grafenberg Arr 150.08 351 *e*PKPdf PKPdf 08 27 18.3 +0.8
GRF *e*PKPbc PKPbc 08 27 24.3 +1.6
GRF *e*PKPab PKPab 08 27 30.0 +0.6
GIVF Givet 150.17 359 *e*PKIKP PKPdf 08 27 16.6 -1.1
DOU Dourbes 150.18 360 PKP PKPdf 08 27 18.8 +1.1
DOU PKPbc PKPbc 08 27 22.7 -0.3
ERMK Ermenek 150.21 309 *i*P PKPdf 08 27 14.8 -2.9
KHC Kasperske Hory 150.22 348 *e*PKPDF PKPdf 08 27 17.4 -0.3
KHC ⇑*e*PKPB 08 27 23.2
KHC *e*x x 08 27 41.0
ESKT Eskisehir 150.24 316 *e*P PKPbc 08 27 23.4 +0.3
ESKT Eskisehir 150.24 316 *i*P PKPdf 08 27 17.7 0.0
SRO Srobarova 150.24 341 *e*PKP PKPdf 08 27 18.4 +0.6
SRO *e* 08 27 24.9
SRO *e* 08 27 32.1
SRO *e* 08 28 18.3
ZST Bratislava 150.25 343⇑*e*PKKPB 08 27 25.2
ZST *e* 08 27 32.0
ZST *e* 08 28 18.3
ZST Bratislava 150.25 343 *e*PKP PKPdf 08 27 18.4 +0.6
ZST *e* 08 27 25.2
ZST *e* 08 27 32.0
ZST *e* 08 28 18.3
ZST Bratislava 150.25 343 *e*PKHKP 08 27 18.4
ZST *e* 08 27 25.2
SRO2 Moca 150.26 341 *e*PKP PKPdf 08 27 18.3 +0.5
SRO2 Moca 150.26 341⇑*e*PKKPB PKPbc 08 27 25.1 +1.9
ABH Alteburg 150.28 356 PKP PKPdf 08 27 18.5 +0.7
BORA Eskisehir 150.29 317 *i*P PKPbc 08 27 24.5 +1.3
BUD Budapest 150.31 340⇑*e*PKP/F PKPdf 08 27 18.4 +0.5
BUD *i*PKP/p PKPbc 08 27 24.9 +1.6
WET Wettzell 150.34 349 *e*PKPdf PKPdf 08 27 18.5 +0.6
WET *e*PKPbc PKPbc 08 27 24.5 +1.1
TOD Tromm 150.46 354 PKP PKPdf 08 27 18.9 +0.8
GEC2 GERESS Array S 150.47 347 *e*PKPdf PKPdf 08 27 18.7 +0.6
GEC2 *e*PKPbc PKPbc 08 27 24.6 +0.9
GEC2 *e*PKPab PKPab 08 27 31.5 +0.5
GERES GERESS Array B 150.47 347 PKP PKPdf 08 27 17.4 -0.7
comp=Z,16nm,0.8s,baz=112,slow=1.4,SNR=69
GERES PKPbc PKPbc 08 27 23.5 -0.1
comp=Z,236nm,0.8s,baz=48,slow=2.0,SNR=142
RUP Ruppelstein 150.49 356 PKP PKPdf 08 27 18.9 +0.7
WLF Walferdange 150.57 358 *e*PKPdf PKPdf 08 27 19.3 +1.0
WLF *e*PKPbc PKPbc 08 27 25.3 +1.4
WLF *e*PKPab PKPab 08 27 33.0 +1.6
WLF Walferdange 150.57 358 PKP PKPdf 08 27 19.9 +1.6
WLF PKPbc PKPbc 08 27 24.3 +0.4
WLF Walferdange 150.57 358 *e*PKIKP PKPbc 08 27 24.1 +0.2
CSS Prodhromos 150.58 306 P PKPdf 08 27 19.5 +1.2
comp=Z,5.6nm,1.1s
MAMC Mammari 150.58 306 P PKPdf 08 27 19.2 +0.9
SIND Sindeldorf 150.63 353 P PKPdf 08 27 18.5 +0.1
SZH Strazhica 150.77 327 *i*P PKPbc 08 27 23.7 -0.7
KTD Kalmit 150.80 355 PKP PKPdf 08 27 18.9 +0.3
EIL Elat 150.82 295 *e*PKPdf PKPdf 08 27 20.2 +1.5
EIL *e*PKPbc PKPbc 08 27 25.6 +1.1
SOP Sopron 150.87 343⇓*e*PKP/F PKPdf 08 27 20.3 +1.6
SOP *i*PKP/p PKPbc 08 27 26.1 +1.5
BZS Buzias 150.96 335 P PKPdf 08 27 18.7 -0.2
ALT Altintas 150.97 316 *e*P PKPbc 08 27 25.0 +0.2
ULDT Uludag 150.98 319 *i*P PKPdf 08 27 18.6 -0.3
JMB Yambol 150.99 325 *i*P PKPdf 08 27 20.7 +1.8
JMB Yambol 150.99 325 *e*P PKPdf 08 27 20.7 +1.8
SZAC Souni-Zanaja 151.00 306 P PKPdf 08 27 19.6 +0.7
comp=Z,6.9nm,0.9s
ALFC Alevga 151.06 307 P PKPdf 08 27 18.8 -0.2
comp=Z,9.1nm,0.9s
LANF Langenberg 151.16 355 PKP PKPdf 08 27 20.8 +1.6
ORLT Orhaneli 151.18 319 *e*P PKPbc 08 27 24.7 -0.6
FLN La Foliniere 151.24 7 *e*PKIKP PKPdf 08 27 18.1 -1.2
comp=Z,390nm,1.1s
FLN *e*R
comp=Z,341nm,21.2s
STU Stuttgart 151.24 353 *e*PKPdf PKPdf 08 27 20.0 +0.7
STU *e*PKPbc PKPbc 08 27 26.5 +1.0
STU Stuttgart 151.24 353 *e*PKPdf PKPdf 08 27 18.9 -0.4
STU *e*PKPbc PKPbc 08 27 25.4 0.0
ROSF Rostrenen 151.26 11 *e*PKIKP PKPdf 08 27 17.9 -1.4
comp=Z,136nm,1.1s
MOA Molln 151.29 346⇑*i*P PKPdf 08 27 19.6 +0.2
comp=Z,244nm,1.1s,SNR=13
EDRB Edirne 151.31 324 *e*P PKPbc 08 27 24.0 -1.7
PPCY Paphos 151.35 307 P PKPdf 08 27 18.0 -1.5
TKTP Tekketepe 151.37 314 *i*P PKPdf 08 27 19.8 +0.3
DJES Djerdap 151.37 332 *e*PKP PKPdf 08 27 31.1 +12
LBG Lerchenberg 151.39 354 P PKPdf 08 27 19.5 0.0
LDF La Druitiere 151.44 6 *e*PKIKP PKPdf 08 27 18.3 -1.3
comp=Z,315nm,1.2s
SGMF Saint Gilles 151.46 10 *e*PKIKP PKPdf 08 27 18.3 -1.3
comp=Z,129nm,1.1s
ARSA Arzberg 151.54 344 *i*P PKPdf 08 27 20.1 +0.3
comp=Z,213nm,1.3s,SNR=8.3
PKSM Moragy 151.55 339 P PKPdf 08 27 19.7 -0.1
FUR Furstenfeldbru 151.56 350 *e*PKPdf PKPdf 08 27 20.5 +0.7
FUR *e*PKPbc PKPbc 08 27 27.0 +0.8
FUR *e*PKPab PKPab 08 27 37.1 +1.6
STR Strasbourg 151.56 355 PKP PKPdf 08 27 21.9 +2.1
GRR Gorron 151.56 7 *e*PKIKP PKPdf 08 27 18.8 -1.0
comp=Z,247nm,1.3s
BNT Bandirma 151.59 320 *e*P PKPbc 08 27 24.0 -2.3
MRMT Marmara Adasi 151.63 321 *e*P PKPbc 08 27 25.2 -1.1
QUIF Quistinic 151.68 11 *e*PKIKP PKPdf 08 27 18.6 -1.4
comp=Z,364nm,1.6s
MFT Murefte 151.70 321 *e*P PKPdf 08 27 26.4 +6.4
WLS Welschbruch 151.76 356 PKP PKPdf 08 27 21.5 +1.4
BFO Black Forest 151.76 354 *e*PKPdf PKPdf 08 27 20.4 +0.3
BFO *e*PKPbc PKPbc 08 27 27.3 +0.6
BFO *e*PKPab PKPab 08 27 37.5 +1.1
BFO Black Forest 151.76 354 *e*PKPdf PKPdf 08 27 20.1 0.0
BFO *e*PKPbc PKPbc 08 27 26.4 -0.3
BFO *e*PKPab PKPab 08 27 37.4 +1.0
CDF Champ du Feu 151.76 356 *e*PKIKP PKPdf 08 27 18.8 -1.3
MEZF Maizieres J'vi 151.77 359 *e*PKIKP PKPdf 08 27 19.2 -0.9
comp=Z,236nm,1.2s
DIM Dimitrovgrad 151.84 325 *i*P PKPdf 08 27 21.3 +1.1
GUT Gutenstein 151.94 353 P PKPdf 08 27 21.3 +0.9
ECH Echery 151.97 356 PKP PKPdf 08 27 20.2 -0.2
LIBD Limburg 152.00 355 PKP PKPdf 08 27 21.1 +0.6
THEF They Montfort 152.02 358 PKP PKPdf 08 27 21.1 +0.6
BEO Belgrade 152.07 335 *e*PKP PKPdf 08 27 21.0 +0.4
KDZ Kurdzhali 152.18 325 *i*P PKPdf 08 27 21.5 +0.8
PGB Panagyurishte 152.19 328 *i*P PKPdf 08 27 21.3 +0.6
SVIS Svilajnac 152.19 334⇓*i*PKP PKPdf 08 27 21.8 +1.1
UBR Uberruh 152.20 352 P PKPdf 08 27 21.0 +0.2
PERS Pernice 152.22 344 *e*PKPdf PKPdf 08 27 20.5 -0.3
PERS *e*PKPbc PKPbc 08 27 27.5 -0.2
KBA Koelnbreinsper 152.22 347⇑*i*P PKPdf 08 27 20.8 0.0
comp=Z,232nm,1.2s,SNR=13
HAU Haudompre 152.22 357 *e*PKIKP PKPdf 08 27 19.6 -1.2
HAU *e*R
comp=Z,435nm,22.0s
FELD Feldberg 152.24 355 PKP PKPdf 08 27 21.3 +0.5
BOLS Boljevac 152.25 332 *i*P PKPdf 08 27 21.8 +1.0
GROS Grobnik 152.28 343 *e*PKPdf PKPdf 08 27 21.6 +0.7
GOLH Golhisar 152.30 313 *i*P PKPdf 08 27 24.0 +3.1
WATA Walderalm 152.31 349⇑*i*P PKPdf 08 27 21.4 +0.4
comp=Z,187nm,1.0s,SNR=17
MOF Molkenrain 152.33 356 PKP PKPdf 08 27 21.1 +0.2
ALN Alexandroupoli 152.34 323 *e*P PKPbc 08 27 28.9 +0.9
WTTA Wattenberg 152.37 349⇓*i*P PKPdf 08 27 21.7 +0.6
comp=Z,411nm,1.0s,SNR=18
DENT Denizli 152.38 315 *e*P PKPbc 08 27 25.6 -2.4
MOTA Moosalm 152.38 350⇓*i*P PKPdf 08 27 21.0 0.0
comp=Z,288nm,1.0s,SNR=28
RDO Rodhopi 152.46 324 *e*P PKPdf 08 27 20.0 -1.1
OBKA Obir 152.48 345⇑*i*P PKPdf 08 27 21.6 +0.5
comp=Z,201nm,1.2s,SNR=5.9
OBKA Obir 152.48 345⇑*i*P PKPdf 08 27 21.6 +0.4
SQTA Sankt Quirin 152.49 350⇓*i*P PKPdf 08 27 21.3 +0.1
comp=Z,194nm,0.9s,SNR=21

RZN Rozhen 152.53 326 *i*P PKPdf 08 27 21.5 +0.3
DAVA Damuels 152.62 352⇑*i*P PKPdf 08 27 22.7 +1.3
comp=Z,609nm,1.2s,SNR=14
VTS Vitosha 152.63 329 *i*P PKPdf 08 27 22.0 +0.6
VTS Vitosha 152.63 329 *e*P PKPdf 08 27 23.7 +2.3
BBS Basel-Blauen 152.69 355 PKP PKPdf 08 27 22.6 +1.1
GRUS Gruza 152.74 334 *i*P PKPdf 08 27 22.4 +0.8
SEST Monte Rota 152.76 348 PKP PKPdf 08 27 22.5 +0.9
FVI Forni Avoltri 152.80 347 P PKPdf 08 27 22.7 +1.1
KSL Kastellorizon 152.82 311 *e*P PKPbc 08 27 30.0 +1.0
LOMF Lomont 152.85 356 PKP PKPdf 08 27 22.1 +0.4
PTCC Patocco-Chiusa 152.86 346 PKP PKPdf 08 27 21.6 -0.1
DIVS Divcibare 152.86 335 *i*P PKP PKPdf 08 27 22.8 +1.1
DIVS Divcibare 152.86 335 *e*P PKPdf 08 27 23.4 +1.7
BRES Bressanone 152.90 349 P PKPdf 08 27 22.8 +1.0
LJU Ljubljana 152.92 344 *e*PKPdf PKPdf 08 27 22.0 +0.2
LJU *e*PKPbc PKPbc 08 27 29.9 +0.7
LJU *e*PKPab PKPab 08 27 41.9 +0.7
LJU *e* 08 28 26.0
FETY Fethiye 152.93 312 *e*P PKPdf 08 27 24.7 +2.9
SISC Sisak 152.93 341 *i*PKP PKPdf 08 27 24.6 +2.8
HYF Humbligny 152.97 3 *e*PKIKP PKPdf 08 27 21.1 -0.8
LOR Lormes 153.00 1 *e*PKIKP PKPdf 08 27 21.0 -0.9
comp=Z,249nm,1.2s
LOR *e*R
comp=Z,529nm,22.5s
GMNA Gemona 153.01 346 PKP PKPdf 08 27 21.6 -0.3
DRE Drenchia 153.01 346⇓*e*P PKPdf 08 27 22.0 +0.1
BAD Bednadia 153.04 346⇓*e*P PKPdf 08 27 22.0 0.0
BUA Buia 153.09 347⇓*e*P PKPdf 08 27 23.0 +1.0
VOY Vojsko 153.09 345 *e*PKPdf PKPdf 08 27 21.3 -0.7
VOY *e*PKPbc PKPbc 08 27 29.2 -0.4
VOY *e*PKPab PKPab 08 27 41.8 -0.2
MPRI Monte Prat 153.09 347⇓*i*P PKPdf 08 27 23.0 +0.9
COLI Coloredo 153.11 346⇓*e*P PKPdf 08 27 21.0 -1.1
MMB Musomiste 153.11 327 *i*P PKPdf 08 27 21.7 -0.4
DAVOX Davos 153.12 352 PKP PKPdf 08 27 22.3 +0.2
comp=Z,25nm,0.9s,baz=217,slow=4.4,SNR=17
DAVOX PKPbc PKPbc 08 27 29.5 -0.2
comp=Z,193nm,0.7s,baz=312,slow=5.5,SNR=65
DALT Dalyan (Mudla) 153.17 313 *e*P PKPbc 08 27 29.7 0.0
KDAG Bornova 153.17 317 *i*P PKPbc 08 27 29.5 -0.2
IZM Izmir 153.18 317 *e*P PKPdf 08 27 23.9 +1.7
SSF Saint Saulge 153.20 1 *e*PKIKP PKPdf 08 27 21.3 -0.9
comp=Z,253nm,1.1s
APPI Appiano 153.21 350 P PKPdf 08 27 20.7 -1.5
YER Yerkesik 153.22 314 *e*P PKPbc 08 27 30.0 +0.1
BOJS Bojanci 153.23 343 *i*PKPdf PKPdf 08 27 21.9 -0.3
BOJS *e*PKPbc PKPbc 08 27 29.9 0.0
BOJS *e*PKPab PKPab 08 27 43.0 +0.4
BOJS *ep*PKPbc pPKPbc 08 28 26.9 +3.0
BOJS *e* 08 28 46.3
KKB Krupnik 153.24 328 *i*P PKPdf 08 27 23.0 +0.7
LRYF La Roche-sur-Y 153.25 9 PKP PKPdf 08 27 22.9 +0.6
LCHF La Chataignera 153.27 8 PKP PKPdf 08 27 24.7 +2.4
PRK Paraskevi 153.28 320 *e*P PKPdf 08 27 23.0 +0.7
BRMO Bormio 153.34 351 PKP PKPdf 08 27 23.5 +1.1
MFF Saint Martin d 153.41 7 *e*PKIKP PKPdf 08 27 21.3 -1.2
comp=Z,121nm,1.1s
AVF Avril sur Loir 153.47 2 *e*PKIKP PKPdf 08 27 21.4 -1.2
comp=Z,102nm,1.1s
MLSB Milas 153.47 315 *e*P PKPbc 08 27 29.4 -1.0
SRS Serrai 153.52 326 *e*P PKPdf 08 27 21.6 -1.1
LOS Limnos 153.53 322 *e*P PKPdf 08 27 23.8 +1.1
CTI Castel Tesino 153.55 349 PKP PKPdf 08 27 23.1 +0.4
SMF Signal de Mont 153.62 1 *e*PKIKP PKPdf 08 27 21.6 -1.2
comp=Z,180nm,1.2s
CABF La Chapelle 153.63 357 *e*PKIKP PKPdf 08 27 22.4 -0.4
comp=Z,176nm,1.2s
BGF Bois d'Agland 153.69 2 *e*PKIKP PKPdf 08 27 21.9 -1.0
comp=Z,180nm,1.1s
ARG Arkhangelos 153.81 313 *e*P PKPbc 08 27 32.0 +0.9
KNT Kendrikon 153.85 327 *e*P PKPdf 08 27 23.0 -0.1
SMG Samos 153.85 317 *e*P PKPdf 08 27 23.5 +0.4
OUR Ouranopolis 153.87 324 *e*P PKPdf 08 27 22.6 -0.6
VAY Valandovo 153.90 328 *e*P PKPdf 08 27 23.5 +0.3
VAY Valandovo 153.90 328⇑*i*PKP PKPdf 08 27 22.3 -0.9
VAY *i*PKP PKPbc 08 27 31.2 -0.1
VAY *i*PKP PKPab 08 27 44.5 -0.9
BODT Bodrum 153.91 315 *e*P PKPdf 08 27 23.2 0.0
DAT Datca 153.91 314 *e*P PKPdf 08 27 23.2 0.0
TCF Toulx Ste Croi 153.92 3 *e*PKIKP PKPdf 08 27 22.1 -1.1
comp=Z,230nm,1.3s
SKO Skopje 153.95 330 *e*P PKPdf 08 27 25.0 +1.8
SKO Skopje 153.95 330⇑*i*PKP PKPdf 08 27 24.4 +1.1
SKO *i*PKP PKPbc 08 27 31.3 -0.2
SKO *i*PKP PKPab 08 27 46.7 +1.1
PLG Polygyros 154.13 325 *e*P PKPdf 08 27 24.0 +0.5
VAI Varese 154.16 353 PKP PKPdf 08 27 19.9 -3.7
AGO Saint Agoulin 154.20 2 PKP PKPdf 08 27 25.2 +1.6
THE Thessaloniki 154.20 326 *e*P PKPdf 08 27 23.6 0.0
OG05 Jujurieux 154.22 358 PKP PKPdf 08 27 25.8 +2.1
GRG Griva 154.25 327 *e*P PKPdf 08 27 24.0 +0.3
PLDF La Plantade 154.30 1 PKP PKPdf 08 27 26.0 +2.2
PAIG Paliouri 154.32 324 *e*P PKPdf 08 27 23.4 -0.4
RSL Roselend 154.52 356 PKP PKPdf 08 27 27.7 +3.6
LPL La Plagne 154.68 356 *e*PKIKP PKPdf 08 27 24.0 -0.3
comp=Z,80nm,1.3s
EMAZ Mazaricos 154.69 23 PKP PKPdf 08 27 24.9 +0.6
BIA Bitola 154.74 329 *e*P PKPdf 08 27 24.4 0.0
BIA Bitola 154.74 329⇓*i*PKP PKPdf 08 27 24.6 +0.2
BIA *e*PKP PKPbc 08 27 31.7 -1.4
KARP Karpathos 154.82 312 *e*P PKPdf 08 27 26.4 +1.9
LIT Litokhoron 154.84 326 *e*P PKPdf 08 27 24.2 -0.3
FRNF Fournols 154.84 3 PKP PKPdf 08 27 27.2 +2.7
RJF Les Rejaudoux 154.86 5 *e*PKIKP PKPdf 08 27 23.5 -1.0
comp=Z,60nm,1.0s
RJF *e*R
comp=Z,589nm,19.8s
FNA Florina 154.90 329 *e*P PKPdf 08 27 24.2 -0.4
STS Santiago 154.90 23⇓PKP PKPdf 08 27 26.5 +1.9
OHR Ohrid 154.92 330 *e*P PKPbc 08 27 32.0 -1.5
OHR Ohrid 154.92 330⇑*i*PKP PKPdf 08 27 24.7 0.0
OHR *i*PKP PKPbc 08 27 33.1 -0.4
OHR *e*PKP PKPab 08 27 47.7 -2.1
XOR Xorichti 154.98 324 *e*P PKPdf 08 27 25.1 +0.4
GRN Grenoble 155.01 358 PKP PKPdf 08 27 27.5 +2.8
LBL Lubilhac 155.02 2 PKP PKPdf 08 27 26.7 +1.9
APE Apeiranthos 155.07 317 *e*P PKPdf 08 27 36.0 +11
APE Apeiranthos 155.07 317 *e*P PKPdf 08 27 33.5 +8.7
BNI Bardonecchia 155.15 356 *e*PKPdf PKPdf 08 27 25.7 +0.7
BNI *e*PKPbc PKPdf 08 27 36.2 +11
BNI *e*PKPab PKPab 08 27 52.8 +2.0
CAF Calviac 155.27 4 *e*PKIKP PKPdf 08 27 24.4 -0.7
comp=Z,70nm,1.2s
ZCCA Zocca 155.31 349 PKP PKPdf 08 27 27.1 +1.9
ORIF Oris-en-Rattie 155.32 357 *e*PKIKP PKPdf 08 27 24.5 -0.7
comp=Z,168nm,1.4s
ORIF *e*R
comp=Z,650nm,23.0s
ERBM Eremo 155.34 350 PKP PKPdf 08 27 24.1 -1.1
VIVF Saint-Julien-l 155.42 360 *e*PKIKP PKPdf 08 27 24.7 -0.6
comp=Z,192nm,1.5s
MBDF Montbardon 155.47 356 *e*PKIKP PKPdf 08 27 24.8 -0.6
comp=Z,120nm,1.3s
PTL Penteli 155.49 321 *e*P PKPdf 08 27 25.5 +0.1
MPAR Parnis Oros 155.50 321 *e*P PKPdf 08 27 25.0 -0.4
SEI Scarperia 155.52 348 PKP PKPdf 08 27 26.6 +1.2
SANT Santorini 155.53 316 *e*P PKPab 08 27 52.2 -0.2
SFI Santa Sofia 155.56 347 PKP PKPdf 08 27 25.9 +0.4
VMG Vicchio 155.57 347 PKP PKPdf 08 27 26.2 +0.7
EARI Arriondas 155.60 17 PKP PKPdf 08 27 26.5 +0.9
ATH Athens Observa 155.63 321 *e*P PKPdf 08 27 29.0 +3.4
KVR Kavouri 155.69 320 *e*P PKPdf 08 27 26.0 +0.3
ARV Arcevia 155.70 345 PKP PKPdf 08 27 25.6 -0.1
ZKR Zakros 155.71 312 *e*P PKPdf 08 27 40.8 +15
SURF Saint Ours 155.71 356 PKP PKPdf 08 27 27.5 +1.8
MEV Metsovon 155.72 327 *e*P PKPdf 08 27 26.8 +1.1
CING Cingoli 155.75 344 PKP PKPdf 08 27 26.6 +0.9
PIEI Pieia 155.76 345 PKP PKPdf 08 27 26.9 +1.1
ERUA La Rua 155.83 21⇓PKP PKPdf 08 27 26.5 +0.6
MGER Gerania Oros 155.89 321 *e*P PKPdf 08 27 26.0 +0.1
SNTG Esanatoglia 155.93 345 PKP PKPdf 08 27 25.7 -0.3
ELOB Lobios 155.96 23 PKP PKPdf 08 27 26.9 +0.9
JAN Janina 156.01 327 *e*P PKPdf 08 27 26.5 +0.4
NPS Neapolis 156.05 313 *e*P PKPdf 08 27 30.0 +3.9
EVR Evrytania 156.06 325 *e*P PKPdf 08 27 27.0 +0.9
CSNT Castellina Chi 156.09 348 PKP PKPdf 08 27 25.7 -0.5
PCAB Cabril 156.11 23 *e*PKPdf PKPdf 08 27 28.1 +1.9
PCAB Cabril 156.11 23 *e*PKPab PKPab 08 27 56.2 +1.3
LASF Ste Croix 156.19 1 *e*PKIKP PKPdf 08 27 25.8 -0.5
comp=Z,196nm,1.3s
LAST Lasithi 156.19 313 *e*P PKPab 08 27 56.7 +1.5
XRY Khrisi 156.20 312 *e*P PKPdf 08 27 27.0 +0.7
SBF Sospel 156.28 355 *e*PKIKP PKPdf 08 27 25.2 -1.2
comp=Z,198nm,1.1s
SMRF Simiane la Rot 156.28 358 *e*PKIKP PKPdf 08 27 26.2 -0.2
comp=Z,216nm,1.2s
VILF Villemus 156.40 358 PKP PKPdf 08 27 29.3 +2.7
PRAF Pradon 156.46 359 PKP PKPdf 08 27 31.7 +5.0
PBRG Braganca 156.49 21 *e*PKPdf PKPdf 08 27 28.8 +2.1
PBRG Braganca 156.49 21 *e*PKPab PKPab 08 27 56.9 +0.4
KEK Kerkira 156.49 329 *e*P PKPdf 08 27 26.1 -0.6
IDI Anoyia 156.52 314 PKP PKPdf 08 27 28.3 +1.6
comp=Z,16nm,1.0s,baz=160,slow=5.4,SNR=3.2
PVRL Vila Real 156.60 23 *e*PKPdf PKPdf 08 27 29.0 +2.1
PVRL Vila Real 156.60 23 *e*PKPab PKPab 08 27 58.1 +1.1
FRF La Foret Royal 156.64 356 *e*PKIKP PKPdf 08 27 25.8 -1.1
comp=Z,122nm,1.2s
AQU L'Aquila 156.65 343 PKIKP PKPdf 08 27 32.4 +5.5
SJPF Ste Jean 156.68 10 *e*PKIKP PKPdf 08 27 26.3 -0.6
comp=Z,240nm,1.5s
SIVA Sivas 156.73 314 *e*P PKPab 08 27 58.6 +1.1
MTLF Montolieu 156.86 4 *e*PKIKP PKPdf 08 27 26.4 -0.8
comp=Z,136nm,1.3s
LMR La Mourre 156.87 356 *e*PKIKP PKPdf 08 27 26.0 -1.2
comp=Z,339nm,1.7s
VAM Vamos 156.92 315 *e*P PKPdf 08 27 29.0 +1.7
BERF Bertagne 156.94 358 PKP PKPdf 08 27 28.4 +1.1
PTQR Pietraquaria 156.96 343 PKP PKPdf 08 27 28.1 +0.8
EPF Esparros 156.99 8 *e*PKIKP PKPdf 08 27 26.8 -0.5
comp=Z,70nm,1.1s
ETSF Etsaut 156.99 9 *e*PKIKP PKPdf 08 27 27.1 -0.3
comp=Z,122nm,1.1s
PVIS Viseu 157.02 25 *e*PKPdf PKPdf 08 27 29.3 +1.9
PVIS Viseu 157.02 25 *e*PKPab PKPab 08 27 59.9 +1.1
KARN Karanos 157.11 315 *e*P PKPab 08 27 59.9 +0.7
VLS Valsamata 157.25 325 *e*P PKPdf 08 27 26.5 -1.2
EBIE Bielsa 157.30 8 PKP PKPdf 08 27 26.7 -1.0
GVD Gavdhos 157.32 314 *e*P PKPdf 08 27 46.7 +19
MTE Manteigas 157.43 24 *e*PKPdf PKPdf 08 27 30.1 +2.2
MTE Manteigas 157.43 24 *e*PKPab PKPab 08 28 01.4 +0.8
MTE Manteigas 157.43 24 *e*PKPdf PKPdf 08 27 28.0 +0.1
MTE *e*PKPab PKPab 08 28 01.9 +1.3
CORF Corte 157.61 351 PKP PKPdf 08 27 29.9 +1.8
PTOM Tomar 157.74 27 *e*PKPdf PKPdf 08 27 30.5 +2.2
PTOM Tomar 157.74 27 *e*PKPab PKPab 08 28 02.8 +0.9
EGRA Graus 157.81 8 PKP PKPdf 08 27 28.6 +0.3
PCBR Castelo Branco 157.93 25 *e*PKPdf PKPdf 08 27 30.7 +2.2
PCBR Castelo Branco 157.93 25 *e*PKPab PKPab 08 28 03.8 +1.1
PLOU Loures 158.01 29 *e*PKPdf PKPdf 08 27 31.7 +3.1
PLOU Loures 158.01 29 *e*PKPab PKPab 08 28 05.0 +1.9
TDS Terranova Siba 158.07 335 PKP PKPdf 08 27 28.6 -0.1
TIP Timpagrande 158.30 333 *e*PKPdf PKPdf 08 27 29.3 +0.4
TIP *e*PKPab PKPab 08 28 06.1 +1.7
GUD Guadarrama 158.36 18 PKP PKPdf 08 27 30.5 +1.5
MOE Montemor 158.67 28 *e*PKPdf PKPdf 08 27 31.9 +2.5
MOE Montemor 158.67 28 *e*PKPab PKPab 08 28 07.3 +1.4
EPOB Poblet 158.73 7 PKP PKPdf 08 27 29.8 +0.3
GRI Girifalco 158.74 333 PKP PKPdf 08 27 30.6 +1.1
EGOM La Gomera 158.77 64 PKP PKPdf 08 27 28.8 -0.8
EVO Evora 158.81 28 *e*PKIKP PKPdf 08 27 29.1 -0.5
comp=Z,279nm,1.3s
EVO *e*R
comp=Z,414nm,22.0s
ERTA Horta de San J 159.03 9 PKP PKPdf 08 27 30.9 +1.1
EBAD Badajoz 159.05 26 PKP PKPdf 08 27 30.0 +0.1
EBR Ebro Roquetas 159.18 8 *e*PKPpB 08 28 09.0
CCAN Las Canadas 159.26 63 PKP PKPdf 08 27 32.6 +2.5
PTEO Sao Teotonio 159.29 31 *e*PKPdf PKPdf 08 27 33.7 +3.6
PTEO Sao Teotonio 159.29 31 *e*PKPab PKPab 08 28 09.6 +1.0
PBEJ Beja 159.29 28 *e*PKPdf PKPdf 08 27 32.8 +2.7
PBEJ Beja 159.29 28 *e*PKPab PKPab 08 28 09.9 +1.2
ESDC Sonseca Array 159.31 19 PKP PKPdf 08 27 30.5 +0.4
comp=Z,21nm,0.9s,baz=339,slow=2.2,SNR=42
ESDC PKPab PKPab 08 28 08.3 -0.4
comp=Z,80nm,0.9s,baz=331,slow=3.3,SNR=42
ESDC PPP 08 35 32.1
comp=Z,0.4nm,0.6s,baz=330,slow=5.6,SNR=4.2
ESDC Sonseca Array 159.31 19 PKP PKPdf 08 27 31.4 +1.3
ESLA Sonseca Array 159.31 19 *e*PKPdf PKPdf 08 27 30.4 +0.2
ESLA *e*PKPab PKPab 08 28 10.2 +1.5
EMOS Mosqueruela 159.48 11 PKP PKPdf 08 27 29.4 -1.0
EGRO El Granado 159.87 28 PKP PKPdf 08 27 30.5 -0.3
EMIN Mina Concepcio 160.03 26 PKP PKPdf 08 27 31.4 +0.4
ECHE Chera 160.13 12 PKP PKPdf 08 27 33.1 +2.1
ECAB El Cabril 160.26 23 PKP PKPdf 08 27 31.1 -0.1
EADA Adamuz 160.48 22 PKP PKPdf 08 27 32.3 +0.8
AGST Augusta-Monte 160.57 333 PKP PKPdf 08 27 33.2 +1.6
EBAN Banos Encina 160.75 20 PKP PKPdf 08 27 32.8 +1.0
ETOB Tobarra 160.92 14 PKP PKPdf 08 27 32.4 +0.5
ELUQ Luque 161.13 22 PKP PKPdf 08 27 32.2 +0.1
ESPR Espera 161.13 26 PKP PKPdf 08 27 32.4 +0.3
EBEN Beniarda 161.14 11 PKP PKPdf 08 27 32.2 0.0
CFTV Fuerteventura 161.29 61 PKP PKPdf 08 27 34.3 +1.9
EQES Quesada 161.30 19 PKP PKPdf 08 27 34.2 +1.8
EHUE Huescar 161.43 18 PKP PKPdf 08 27 33.5 +1.0
EFAM Famara 161.46 58 PKP PKPdf 08 27 33.2 +0.7
ELOJ Sierra Loja 161.54 22 PKP PKPdf 08 27 32.9 +0.3
ECOG Cogollos-Vega 161.62 21 PKP PKPdf 08 27 32.3 -0.4
EJIF Jimena Fronter 161.65 26 PKP PKPdf 08 27 34.7 +1.9
EMUR La Murta 161.75 14 PKP PKPdf 08 27 34.6 +1.8
ERON Agron 161.78 21 PKP PKPdf 08 27 33.5 +0.7
EGUA Guajares 162.03 21 PKP PKPdf 08 27 34.2 +1.1
EBER Berja 162.19 19 PKP PKPdf 08 27 32.8 -0.4
ENIJ Nijar 162.32 18 PKP PKPdf 08 27 32.2 -1.1
CAEH 'Ain El Ouahch 163.35 353 P PKPdf 08 27 36.0 +1.6
CMAH Djebel Manchou 163.43 351 P PKPdf 08 27 36.5 +2.0
DFRA Djebel Bou Aff 163.67 356 P PKPdf 08 27 37.5 +2.8
CKFL Kef-Lekhel 163.74 353 P PKPdf 08 27 36.0 +1.3
DBIC Dimbokro 163.82 145 PKP PKPdf 08 27 34.8 -0.1
comp=Z,66nm,1.0s,baz=154,slow=1.1,SNR=50
DBIC PKPab PKPab 08 28 29.8 +1.3
comp=Z,21nm,0.8s,baz=189,slow=6.3,SNR=6.1
DBIC Dimbokro 163.82 145 *e*PKPdf PKPdf 08 27 35.0 +0.2
DBIC Dimbokro 163.82 145 PKIKP PKPdf 08 27 34.8 0.0
DBIC 08 28 29.8
DBIC pmax pmax
comp=Z,66nm,1.0s
DBIC pmax pmax
comp=Z,21nm,0.8s
CASM Ain Smara 163.90 354 P PKPdf 08 27 36.5 +1.6
SET Setif 164.04 357 P PKPdf 08 27 37.0 +2.0
CTEI Djebel Teioual 164.10 354 P PKPdf 08 27 37.0 +1.9
CKHR Kef el Ahmar 164.22 357 P PKPdf 08 27 37.5 +2.3
CMER Merouana 164.59 355 P PKPdf 08 27 38.0 +2.5
MDT Midelt 165.08 31 PKP PKPdf 08 27 36.3 +0.4
comp=Z,54nm,0.9s,baz=294,slow=0.3,SNR=45
MDT PKPab PKPab 08 28 34.7 +0.7
comp=Z,100nm,1.0s,baz=333,slow=4.8,SNR=16
MDT PP PP 08 32 22.4 +1.4
comp=Z,19nm,0.8s,baz=245,slow=9.8,SNR=6.5
MDT Midelt 165.08 31 PKP PKPdf 08 27 36.3 +0.4
MDT PKPab PKPab 08 28 34.7 +0.7
MDT PKPab PKPab 08 29 08.7 +35
MDT PP PP 08 32 22.4 +1.4
MDT PP PP 08 32 59.0 +38
MDT PPP 08 36 31.1
**TORD Torodi Ar. Bea 172.52 159

CDVI			*e*S	Sn	08 25 36.0	-2.9
MTP	**Monte Pirata**	**1.92 239**	*e*S	Sn	08 25 43.2	-3.3
MTP	**Monte Pirata**	**1.92 239**⇓	*e*P	Pn	08 25 19.1	-3.1
MTP			*e*S	Sn	08 25 43.2	-3.3
CBYP	**Canovanas**	**2.09 247**	*e*S	Sn	08 25 46.7	-4.1
CBYP	**Canovanas**	**2.09 247**⇑	*e*P	Pn	08 25 21.8	-2.7
CBYP			*e*S	Sn	08 25 46.7	-4.1
HUMP	**Col San Antoni**	**2.14 244**	*e*S	Sn	08 25 47.4	-4.5
HUMP	**Col San Antoni**	**2.14 244**⇑	*e*P	Pn	08 25 22.1	-3.1
HUMP			*e*S	Sn	08 25 47.4	-4.5
CPD	**Cerro la Pandu**	**2.24 242**	*e*S	Sn	08 25 51.5	-3.0
CPD	**Cerro la Pandu**	**2.24 242**⇑	*e*P	Pn	08 25 23.7	-2.9
CPD			*e*S	Sn	08 25 41.5	-13
AOPR	**Arecibo Observ**	**2.86 255**⇑	*e*P	Pn	08 25 33.5	-1.7
CRPR	**Cabo Rojo, PR**	**3.29 251**	*e*S	Sn	08 26 17.7	-2.8
CRPR	**Cabo Rojo, PR**	**3.29 251**⇑	*e*P	Pn	08 25 38.9	-2.2
CRPR			*e*S	Sn	08 26 17.7	-2.8

MAN 05 08:46:58.8, 1391N×12011E, h108km, mb1.5, ML3.4, MS5.7, 4C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.22**	**144**	*e*P	Pn	08 47 16.5	+2.6
LUBP				*e*S	Sn	08 47 27.3	+2.0
PAZ	**Puerto Azul**	**0.63**	**60**	*e*P	Sn	08 47 29.2	-0.3
TGY	**Tagaytay City**	**0.82**	**76**⇓	*i*P	Pn	08 47 20.4	+2.4
TGY				*i* S	Sn	08 47 32.5	0.0
NBP	**Mount Natib**	**0.88**	**19**⇑	*e*P	Pn	08 47 19.1	+0.5
PGP	**Puerto Galera**	**0.91**	**116**⇑	*i*P	Pn	08 47 17.4	-1.5
LBPH	**Los Banos**	**1.06**	**77**	*e*P	Pn	08 47 23.3	+2.8
QVPH	**Quezon City--P**	**1.18**	**51**⇑	*e*P	Pn	08 47 22.5	+0.8
ARP	**Angono**	**1.19**	**58**⇑	*e*P	Pn	08 47 20.9	-0.9
BUSP	**Coron**	**1.90**	**177**	*e*P	Pn	08 47 30.7	+0.4
BUSP				*e*S	Sn	08 47 51.7	-2.8

*NEIC **05** 08:48:51.8, 3873S×17585E, h128km, MG4.0(WEL), After WEL.*

WEL 05 08:48:52.0±0.2, 3873S×17586E, h125km±2km, ML4.0/16, 14C-1D, Error ellipse: s-maj=1.4km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.10**	**282**	⇑PN	Pn	08 49 09.2	+0.1
WATZ				SN	Sn	08 49 22.2	+0.3
WATZ	**Wairara**	**0.10**	**282**	⇑P	Pn	08 49 09.2	+0.1
WATZ				S	Sn	08 49 22.2	+0.2
RATZ	**Rangitukua**	**0.15**	**207**	PN	Pn	08 49 09.2	0.0
RATZ	**Rangitukua**	**0.15**	**207**	P	Pn	08 49 09.2	0.0
KRVZ	**Karewarewa**	**0.40**	**205**	PN	Pn	08 49 10.0	0.0
KRVZ				SN	Sn	08 49 22.5	-1.1
WTVZ	**West Tongariro**	**0.44**	**209**	PN	Pn	08 49 10.3	0.0
WTVZ				SN	Sn	08 49 24.5	+0.5
WTVZ	**West Tongariro**	**0.44**	**209**	P	Pn	08 49 10.3	+0.1
TWVZ	**Taurewa**	**0.48**	**224**	PN	Pn	08 49 10.5	0.0
TWVZ				SN	Sn	08 49 24.2	-0.1
TWVZ	**Taurewa**	**0.48**	**224**	P	Pn	08 49 10.5	+0.1
TWVZ				S	Sn	08 49 24.2	-0.1
NGZ	**Ngauruhoe**	**0.49**	**204**	PN	Pn	08 49 10.9	+0.4
NGZ	**Ngauruhoe**	**0.49**	**204**	P	Pn	08 49 10.4	-0.1
WPVZ	**Whakapapa**	**0.54**	**207**	PN	Pn	08 49 10.7	-0.1
WPVZ	**Whakapapa**	**0.54**	**207**	P	Pn	08 49 10.7	-0.1
TUVZ	**Tukino**	**0.56**	**197**	PN	Pn	08 49 11.3	+0.4
TUVZ	**Tukino**	**0.56**	**197**	P	Pn	08 49 11.3	+0.4
FWVZ	**Far West T-bar**	**0.58**	**205**	PN	Pn	08 49 11.1	0.0
TRVZ	**Turoa**	**0.62**	**203**	PN	Pn	08 49 11.6	+0.3
WNVZ	**Wahianoa**	**0.63**	**199**	PN	Pn	08 49 11.7	+0.3
BKZ	**Black Stump Fm**	**0.66**	**132**	PN	Pn	08 49 11.8	+0.2
BKZ	**Black Stump Fm**	**0.66**	**132**	P	Pn	08 49 11.8	+0.2
MOVZ	**Moawhango**	**0.68**	**187**	PN	Pn	08 49 11.7	-0.1
MOVZ				SN	Sn	08 49 25.8	-0.9
MOVZ	**Moawhango**	**0.68**	**187**	P	Pn	08 49 11.7	-0.1
MOVZ				S	Sn	08 49 25.8	-0.9
PKVZ	**Pokaka**	**0.69**	**216**	⇑PN	Pn	08 49 11.8	-0.1
MTVZ	**Mangateitei**	**0.72**	**205**	PN	Pn	08 49 12.1	+0.1
HIZ	**Hauiti**	**0.82**	**285**	⇓PN	Pn	08 49 12.6	-0.3
HIZ	**Hauiti**	**0.82**	**285**	⇑P	Pn	08 49 12.6	-0.3
VRZ	**Vera Road**	**0.95**	**245**	⇑PN	Pn	08 49 13.8	-0.2
VRZ	**Vera Road**	**0.95**	**245**	⇑P	Pn	08 49 13.8	-0.2
TOZ	**Tahuroa Road**	**1.04**	**344**	⇑PN	Pn	08 49 15.0	+0.1
TOZ	**Tahuroa Road**	**1.04**	**344**	⇑P	Pn	08 49 15.0	+0.1
URZ	**Urewera**	**1.09**	**65**	PN	Pn	08 49 15.0	-0.3
URZ	**Urewera**	**1.09**	**65**	P	Pn	08 49 15.0	-0.4
WAZ	**Wanganui**	**1.23**	**213**	⇑PN	Pn	08 49 16.6	-0.2
RAEZ	**Rainy Point**	**1.27**	**244**	PN	Pn	08 49 17.4	+0.2
RAEZ	**Rainy Point**	**1.27**	**244**	P	Pn	08 49 17.4	+0.1
TSZ	**Takapari Road**	**1.33**	**177**	PN	Pn	08 49 17.7	-0.2
TSZ	**Takapari Road**	**1.33**	**177**	P	Pn	08 49 17.7	-0.2
MWZ	**Matawai**	**1.36**	**74**	PN	Pn	08 49 18.3	0.0
MWZ	**Matawai**	**1.36**	**74**	P	Pn	08 49 18.3	0.0
KNZ	**Kokohu**	**1.44**	**102**	*e*PN	Pn	08 49 19.5	+0.4
KNZ	**Kokohu**	**1.44**	**102**	*e*P	Pn	08 49 19.5	+0.3
PXZ	**Pawanui**	**1.51**	**150**	⇑PN	Pn	08 49 19.8	-0.1
NRZ	**Ngariki Road**	**1.62**	**247**	P	Pn	08 49 20.5	-0.7
MRZ	**Mangatainoka R**	**1.94**	**186**	⇑PN	Pn	08 49 23.6	-1.4
MRZ	**Mangatainoka R**	**1.94**	**186**	⇑P	Pn	08 49 23.6	-1.4
BFZ	**Birch Farm**	**1.97**	**171**	PN	Pn	08 49 24.2	-1.2
BFZ	**Birch Farm**	**1.97**	**171**	P	Pn	08 49 24.2	-1.2
KIW	**Kapiti Island**	**2.25**	**199**	⇑PN	Pn	08 49 26.8	-2.1
KIW	**Kapiti Island**	**2.25**	**199**	⇑P	Pn	08 49 26.8	-2.1
MXZ	**Matakaoa Point**	**2.25**	**60**	P	Pn	08 49 28.9	0.0
MTW	**Mount Morrison**	**2.44**	**186**	P	Pn	08 49 29.0	-2.3
CAW	**Cannon Point**	**2.45**	**194**	P	Pn	08 49 29.2	-2.2
MRW	**Makara Radio**	**2.65**	**199**	P	Pn	08 49 31.4	-2.6
PAWZ	**Paruwai Farm**	**2.67**	**187**	P	Pn	08 49 31.7	-2.5
WEL	**Wellington**	**2.69**	**198**	P	Pn	08 49 31.8	-2.6
MSWZ	**Moikau Station**	**2.72**	**190**	P	Pn	08 49 32.2	-2.7
SNZO	**South Karori**	**2.73**	**199**	P	Pn	08 49 32.1	-2.8
TCW	**Tory Channel**	**2.76**	**206**	P	Pn	08 49 32.7	-2.7
BHW	**Baring Head**	**2.78**	**196**	P	Pn	08 49 31.8	-3.8
NNZ	**Nelson**	**3.13**	**217**	P	Pn	08 49 37.1	-3.1
QRZ	**Quartz Range**	**3.31**	**230**	*e*P	Pn	08 49 39.4	-3.2
BSWZ	**Blackbirch Sta**	**3.35**	**206**	P	Pn	08 49 38.8	-4.2
THZ	**Tophouse**	**3.78**	**216**	*e*P	Pn	08 49 45.4	-3.4
KHZ	**Kahutara**	**4.09**	**205**	*e*P	Pn	08 49 49.1	-3.7
DSZ	**Denniston Nort**	**4.33**	**225**	*e*P	Pn	08 49 51.9	-4.1
LTZ	**Lake Taylor**	**4.88**	**213**	*e*P	Pn	08 49 58.7	-4.7
MQZ	**McQueen's Vall**	**5.53**	**205**	P	Pn	08 50 06.5	-5.7
RPZ	**Rata Peaks**	**6.16**	**215**	*e*P	Pn	08 50 16.3	-4.3

IDC 05 08:53:43.3±8.0, 1797S×7219W, h68km±54km, mb3.6/3, mb1 3.9/5, mb1mx3.5/17, mbtmp4.0/5, ML3.8/2, MS3.0/2, Ms1 3.1/2, ms1mx2.9/23, Error ellipse: s-maj=87.2km s-min=36.5km az=31.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.22**	**67**	P	Pn	08 54 45.5	+0.3
	1.0nm,0.3s,baz=270,slow=6.6,SNR=26						
LPAZ				LR	LR	08 56 06.7	
	comp=Z,393nm,21.5s,baz=319,slow=34						
SIV	**San Ignacio**	**10.82**	**81**	P	Pn	08 56 15.1	-0.1
	1.9nm,0.3s,baz=272,slow=12,SNR=38						
SIV				S	Sn	08 58 18.8	+4.2
	0.0nm,0.3s,baz=210,slow=20,SNR=2.9						
CFAA	**Coronel Fontan**	**14.04**	**166**	LR	LR	09 02 28.3	
	comp=Z,38nm,20.0s,baz=194,slow=37						
SDV	**Santo Domingo**	**26.73**	**3**	P	P	08 59 17.1	+0.7
	1.2nm,0.7s,baz=198,slow=3.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**79.16**	**72**	P	P	09 05 40.5	-0.2
	1.1nm,0.6s,baz=254,slow=4.7,SNR=11						
YKA	**Yellowknife Ar**	**86.87**	**342**	P	P	09 06 19.6	-0.9
	0.6nm,0.7s,baz=138,slow=5.2,SNR=18						
MKAR	**Makanchi Array**	**144.39**	**31**	PKP	PKPdf	09 13 11.2	-0.5
	0.2nm,0.5s,baz=306,slow=4.6,SNR=3.8						
SONM	**Songino Array**	**150.19**	**2**	PKPbc	PKPbc	09 13 28.0	+1.5
	0.4nm,0.8s,baz=282,slow=1.3,SNR=3.4						

*MOS **05** 08:57:59.3±1.1, 536S×14728E, h124km, mb4.5/12, Error ellipse: s-maj=14.2km s-min=8.2km az=87.2*
*BJI **05** 08:58:02.1, 545S×147.10E, h143km, mB4.9, mb4.2*
*ISCJB **05** 08:58:03.3±0.3, 553S±004×14739E±006, h166km, mb4.4/35, Error ellipse: s-maj=8.4km s-min=5.0km az=42.1*
*NEIC **05** 08:58:04.5±0.2, 557S×147.40E, mb4.6/15, Error ellipse: s-maj=7.4km s-min=5.2km az=100.0*
*IDC **05** 08:58:04.2±0.5, 564S×14736E, h161km±4km, mb4.2/16, mb1 4.4/20, mb1mx4.3/23, mbtmp4.7/20, MS3.8/1, Ms1 3.8/1, ms1mx2.9/25, Error ellipse: s-maj=11.8km s-min=7.1km az=96.0*

ISC 05 08:58:04.9±0.3, 560S±004×14736E±006, h167km, h167km±1.8km; pP-P, n83, σ1§00/79, mb4.4/35, 4C-12D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**183**	P	Pn	08 59 02.1	-0.8
	440nm,0.3s,baz=329,slow=5.2,SNR=1365						
PMG				S	Sn	08 59 43.9	-4.1
	226nm,0.3s,baz=70,slow=18,SNR=8.8						
PMG	**Port Moresby**	**3.79**	**183**	*e*Pn	Pn	08 59 01.5	-1.4
PMG				*e*Sn	Sn	08 59 38.2	-10
HNR	**Honiara**	**13.04**	**108**	P	Pn	09 01 03.8	-0.1
	13nm,0.3s,baz=129,slow=0.8,SNR=4.6						
HNR	**Honiara**	**13.04**	**108**	*e*Pn	Pn	09 01 03.6	-0.4
	191nm,0.7s						
HNR	**Honiara**	**13.04**	**108**	*e*P	Pn	09 01 03.6	-0.4
HNR				pmax	pmax		
	comp=Z,191nm,0.7s						
CTA	**Charters Tower**	**14.44**	**184**⇓	*i*P	Pn	09 01 22.8	+1.2
	comp=Z,19nm,0.5s						
CTA	**Charters Tower**	**14.44**	**184**	P	Pn	09 01 22.3	+0.8
	comp=Z,0.8nm,0.3s,baz=10,slow=12,SNR=14						
CTA	**Charters Tower**	**14.44**	**184**⇓	*i*P	Pn	09 01 22.8	+1.2
CTA				pmax	pmax		
	comp=Z,19nm,0.5s						
CTAO	**Charters Tower**	**14.44**	**184**	*e*P	Pn	09 01 22.9	+1.4
	comp=Z,25nm,0.6s						
CTAO	**Charters Tower**	**14.44**	**184**	*e*P	Pn	09 01 22.9	+1.3
CTAO				pmax	pmax		
	comp=Z,25nm,0.6s						
KAKA	**Kakadu**	**16.33**	**243**⇑	*i*P	Pn	09 01 44.5	-0.2
	comp=Z,20nm,0.5s						
WRAB	**Tennant Creek**	**19.06**	**220**	*e*P	P	09 02 15.3	+0.9
	comp=Z,182nm,0.8s						
WRAB				*e*S	S	09 05 40.8	-0.8
WRAB	**Tennant Creek**	**19.06**	**220**	*e*P	P	09 02 15.3	+1.0
WRAB				*e*S	S	09 05 40.8	-0.8
WRAB				pmax	pmax		
	comp=Z,182nm,0.8s						
WB2	**Warramunga Arr**	**19.06**	**220**⇓	*i*P	P	09 02 15.3	+0.9
WB2				*e*S	S	09 05 40.3	-1.4
WRA	**Warramunga Arr**	**19.07**	**220**	P	P	09 02 14.9	+0.4
	comp=Z,5.0nm,0.3s,baz=44,slow=11,SNR=194						
WRA				S	S	09 05 40.5	-1.3
	baz=40,slow=18,SNR=9.4						
WRA				ScP	ScP	09 09 52.0	+0.3
	comp=Z,0.1nm,0.3s,baz=43,slow=2.5,SNR=5.0						
WRA	**Warramunga Arr**	**19.07**	**220**	P	P	09 02 14.9	+0.4
WRA				S	S	09 05 40.5	-1.4
AS31	**Alice Springs**	**22.15**	**214**⇓	*i*P	P	09 02 48.1	+0.9
ASAR	**Alice Springs**	**22.15**	**214**	P	P	09 02 48.1	+0.9
	comp=Z,74nm,0.9s,mb5.1,baz=50,slow=8.5,SNR=827						
ASAR				S	S	09 06 42.0	+3.1
	comp=Z,18nm,0.8s,baz=31,slow=23,SNR=18						
ASAR				ScP	ScP	09 09 59.3	+0.2
	comp=Z,1.4nm,0.8s,baz=16,slow=2.5,SNR=3.9						
ASAR	**Alice Springs**	**22.15**	**214**	P	P	09 02 48.1	+0.9
ASAR				S	S	09 06 42.0	+3.1
ASPA	**Alice Springs**	**22.15**	**214**⇓	*i*P	P	09 02 48.1	+0.8
FITZ	**Fitzroy Crossi**	**24.59**	**238**	*e*P	P	09 03 10.2	+0.8
	comp=Z,40nm,0.6s,mb5.1						
FITZ				*e*pP		09 03 49.9	
DZM	**Mont Dzumac**	**24.67**	**133**	P	P	09 03 09.0	-1.2
	comp=Z,14nm,0.5s,mb4.7,baz=132,slow=23,SNR=13						
STKA	**Stephens Creek**	**26.69**	**191**	*e*P	P	09 03 27.1	-1.3
	comp=Z,8.3nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**30.93**	**237**	*e*P	P	09 04 06.4	+0.5
KLBR	**Kellerberrin**	**37.91**	**223**	*e*P	P	09 05 05.9	0.0
	comp=Z,12nm,0.4s,mb4.9						
NWAO	**Narrogin (SRO)**	**39.07**	**222**	P	P	09 05 16.8	+1.3
	comp=Z,4.2nm,0.8s,mb4.1,baz=131,slow=9.3,SNR=2.8						
MUN	**Mundaring**	**39.20**	**224**	*e*P	P	09 05 24.1	+7.5
AFI	**Afiamalu**	**41.05**	**105**	P	P	09 05 32.9	+1.0
	comp=Z,22nm,0.6s,mb4.9,baz=112,slow=20,SNR=4.1						
AFI				LR	LR	09 20 42.3	
	comp=Z,119nm,18.2s,baz=240,slow=33						
URZ	**Urewera**	**42.27**	**144**	P	P	09 05 41.8	+0.1
	comp=Z,9.4nm,0.4s,mb4.7,baz=209,slow=18,SNR=14						
MJAR	**Matsushiro Arr**	**42.79**	**349**	P	P	09 05 47.2	+1.3
	comp=Z,4.2nm,1.0s,mb4.0,baz=170,slow=8.2,SNR=9.3						
MJAR				PcP	PcP	09 07 34.4	+0.2
	comp=Z,3.1nm,0.9s,baz=176,slow=2.9,SNR=6.4						
MAJO	**Matsushiro**	**42.79**	**349**	*e*P	P	09 05 46.5	+0.6
	comp=Z,2.2nm,0.5s,mb4.0						
MAJO	**Matsushiro**	**42.79**	**349**	*e*P	P	09 05 46.5	+0.6
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
RPZ	**Rata Peaks**	**43.31**	**155**	P	P	09 05 50.9	+0.8
	comp=Z,15nm,0.7s,mb4.7,baz=267,slow=5.1,SNR=4.8						
SSE	**Sheshan**	**44.24**	**327**	*e*P	P	09 05 56.8	-0.7
SSE				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,34nm,3.5s						
KS15	**Wonju Array Si**	**46.51**	**339**	*e*P	P	09 06 14.3	-1.1
ASAJ	**Asahikawa**	**49.67**	**355**	P	P	09 06 41.0	+1.4
	comp=Z,5.8nm,0.9s,mb4.2,baz=295,slow=24,SNR=5.4						
YSS	**Yuzh-Sakhalins**	**52.48**	**356**	*e*P	P	09 06 57.7	-2.9
YSS				pmax	pmax		
	comp=Z,35nm,2.5s,mb4.5						
HIA	**Hailar**	**59.71**	**339**	*e*P	P	09 07 51.7	0.0
	comp=Z,3.5nm,0.5s,mb4.5						
HIA	**Hailar**	**59.71**	**339**⇓	*i*P	P	09 07 52.7	+0.9
GTA	**Gaotai**	**62.67**	**320**	P	P	09 08 13.0	+1.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.2						
ULN	**Ulaanbaatar**	**63.94**	**331**	*e*P	P	09 08 20.9	+0.9
	comp=Z,6.2nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**63.94**	**331**⇑	*e*P	P	09 08 21.3	+1.3
SONM	**Songino Array**	**64.23**	**331**	P	P	09 08 22.6	+0.7
	comp=Z,4.5nm,1.0s,mb4.2,baz=154,slow=4.6,SNR=24						
MA2	**Magadan**	**65.03**	**2**	*e*P	P	09 08 26.8	-0.3
	comp=Z,8.1nm,1.0s,mb4.5						
MA2	**Magadan**	**65.03**	**2**⇓	*e*P	P	09 08 28.0	+0.9
MA2				pmax	pmax		
	comp=Z,29nm,2.5s,mb4.7						
ZAK	**Zakamensk**	**67.46**	**331**	*e*P	P	09 08 43.0	+0.4
ZAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
SEY	**Seymchan**	**68.45**	**2**⇓	*i*P	P	09 08 49.2	+0.5
BOD	**Bodaibo**	**68.72**	**342**	*i* P	P	09 08 50.4	0.0
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
YAK	**Yakutsk**	**68.80**	**351**	*de*P	P	09 08 48.8	-2.1
YAK				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.8						
VNDA	**Vanda**	**72.29**	**177**	P	P	09 09 12.2	+0.1
	comp=Z,7.6nm,0.6s,mb4.6,baz=323,slow=7.4,SNR=35						
VNDA	**Vanda**	**72.29**	**177**	*e*P	P	09 09 11.8	-0.3
	comp=Z,13nm,1.0s,mb4.6						
VNDA	**Vanda**	**72.29**	**177**	*e*P	P	09 09 11.8	-0.2
VNDA				pmax	pmax		
	comp=Z,13nm,1.0s						
BILL	**Bilibino**	**74.67**	**7**⇓	*e*P	P	09 09 26.3	+0.4
BILL				*e*PP	pP	09 10 08.9	+2.4
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.1						
MKAR	**Makanchi Array**	**77.42**	**320**	P	P	09 09 41.6	+0.1
	comp=Z,3.1nm,0.8s,mb4.0,baz=104,slow=6.6,SNR=35						
MKAR				pP	pP	09 10 22.1	-0.2
	comp=Z,1.5nm,0.8s,baz=111,slow=6.8,SNR=4.7						
TIXI	**Tiksi**	**78.05**	**354**⇓	*e*P	P	09 09 43.7	-1.3
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**78.87**	**328**	P	P	09 09 47.9	-1.6
	comp=Z,1.9nm,0.6s,mb3.9,baz=3.5,slow=5.0,SNR=10						
ZAL				pP	pP	09 10 28.6	-1.9
	comp=Z,0.8nm,0.7s,baz=9.2,slow=4.1,SNR=2.6						
KURK	**Kurchatov**	**81.11**	**323**	*e*P	P	09 10 00.8	-0.6
	comp=Z,6.7nm,1.3s,mb4.1						
KURK				*e*pP	pP	09 10 40.5	-2.1
KURK	**Kurchatov**	**81.11**	**323**	*e*P	P	09 10 00.8	-0.7
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.1						
AAK	**Ala-Archa**	**81.32**	**314**	*e*P	P	09 10 02.4	-0.2
	comp=Z,1.2nm,0.6s,mb3.7						
AAK	**Ala-Archa**	**81.32**	**314**⇑	*e*P	P	09 10 02.7	+0.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
SML	**Sawmill**	**83.13**	**26**	*e*P	P	09 10 12.9	+0.9
MCK	**McKinley**	**83.72**	**24**	*e*P	P	09 10 14.2	-0.8
	comp=Z,7.6nm,0.8s,mb4.5						
MCK	**McKinley**	**83.72**	**24**	*e*P	P	09 10 14.2	-0.8
MCK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**84.36**	**180**	*e*P	P	09 10 17.8	-0.5
	comp=Z,10nm,0.9s,mb4.5						
COLA	**College**	**84.64**	**23**⇓	*i*P	P	09 10 18.5	-1.1
ILAR	**Eielson Array**	**84.97**	**23**	P	P	09 10 19.6	-1.7
	comp=Z,13nm,0.8s,mb4.7,baz=252,slow=4.7,SNR=89						
ILAR				pP	pP	09 11 00.5	-2.4
	comp=Z,1.5nm,0.8s,baz=257,slow=5.6,SNR=2.2						
BVAR	**Borovoye Array**	**86.66**	**324**	P	P	09 10 28.2	-1.4
	comp=Z,0.8nm,0.5s,mb3.8,baz=104,slow=6.3,SNR=8.6						
BVAR				pP	pP	09 11 10.3	-1.0
	comp=Z,1.5nm,0.7s,baz=104,slow=6.1,SNR=5.4						
DAWY	**Dawson**	**87.76**	**25**	*e*P	P	09 10 35.0	+0.2
NVAR	**Mina Array Bea**	**96.84**	**52**	P	P	09 11 18.3	+1.6
	comp=Z,0.1nm,0.3s,mb3.6,baz=267,slow=4.5,SNR=3.1						
YKA	**Yellowknife Ar**	**98.65**	**28**	P	P	09 11 24.5	-0.4
	comp=Z,0.8nm,0.7s,mb4.2,baz=272,slow=4.7,SNR=18						
YKA				pP	pP	09 12 06.1	-0.9
	comp=Z,0.7nm,1.0s,baz=273,slow=4.8,SNR=3.8						
SNAA	**Sanae**	**100.45**	**189**⇑	*e*P	Pdif	09 11 33.8	+0.9
PDAR	**Pinedale Array**	**103.38**	**48**	Pdiff	Pdif	09 11 45.2	-0.7
	comp=Z,0.7nm,0.8s,baz=222,slow=2.0,SNR=5.7						
GERES	**GERESS Array B**	**121.78**	**326**	PKP	PKPdf	09 16 38.7	-0.3
	comp=Z,1.6nm,0.6s,baz=60,slow=1.8,SNR=17						
PLCA	**Paso Flores**	**122.26**	**146**	PKP	PKPdf	09 16 39.7	-0.1
	comp=Z,1.4nm,0.6s,baz=191,slow=1.8,SNR=7.4						
GRF	**Grafenberg Arr**	**122.67**	**328**	*e*PKP	PKPdf	09 16 40.9	+0.3
LPAZ	**La Paz**	**138.70**	**122**	PKhKP		09 17 08.3	
	comp=Z,1.3nm,0.6s,baz=258,slow=1.4,SNR=5.3						
SDV	**Santo Domingo**	**142.18**	**83**	PKhKP		09 17 13.7	
	comp=Z,4.7nm,0.6s,baz=312,slow=8.4,SNR=9.1						
SDV	**Santo Domingo**	**142.18**	**83**	*e*PKPdf		09 17 12.2	
SJG	**San Juan**	**145.00**	**66**	*e*PKPbc	PKPbc	09 17 22.0	+0.1
CPD	**Cerro la Pandu**	**145.24**	**66**	*e*PKPbc	PKPbc	09 17 22.7	+0.1
TORD	**Torodi Ar. Bea**	**145.34**	**285**	PKPbc	PKPbc	09 17 22.5	-0.4
	comp=Z,7.4nm,0.6s,baz=68,slow=3.0,SNR=61						
TORD				pPKPbc		09 18 06.2	
	comp=Z,1.4nm,0.7s,baz=73,slow=3.6,SNR=2.0						
MTP	**Monte Pirata**	**145.55**	**66**	*e*PKPbc	PKPbc	09 17 24.0	+0.4
BDFB	**Brasilia**	**153.97**	**144**	PKPbc	PKPbc	09 17 45.3	+0.8
	comp=Z,8.8nm,0.8s,baz=205,slow=2.5,SNR=12						

*ISCJB **05** 09:22:50.6±1.2, 256S±04×1792W±05, h494km±54km, mb3.9/8, Error ellipse: s-maj=101.0km s-min=19.7km az=85.3*
*NEIC **05** 09:22:51.4±0.9, 2551S×17923W, h481km±45km, mb4.2/4, Error ellipse: s-maj=76.4km s-min=15.8km az=128.0*
*IDC **05** 09:22:51.8±3.9, 2535S×17956W, h458km±28km, mb3.5/5, mb1 3.6/6, mb1mx3.4/14, mbtmp4.4/6, Error ellipse: s-maj=74.4km s-min=23.1km az=144.0*

ISC 05 09:22:51.6±1.1, 2555S±04×1792W±05, h481km±53km, n18, σ0§80/16, mb3.9/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.89**	**163**	*e*P	P	09 24 07.8	0.0
AFI	**Afiamalu**	**13.50**	**33**	P	P	09 25 46.1	0.0
	2.3nm,0.3s,baz=48,slow=18,SNR=4.3						
CTA	**Charters Tower**	**32.24**	**273**	*e*P	P

BSO4	Boso 4	1.42 229	P	Pn	09 35 24.7	0.0
BSO3	Boso 3	1.46 219	P	Pn	09 35 24.8	-0.4
JFK	Kawauchi	1.55 337	P	Pn	09 35 26.8	+0.3
JAG	Ashikaga	1.83 286	P	Pn	09 35 29.3	-1.1
MJAR	Matsushiro Arr	2.84 283	Pg	Pn	09 35 44.0	-0.2
	2.9nm,0.3s,baz=91,slow=9.4,SNR=31					
MAJO	Matsushiro	2.84 283	ePn	Pn	09 35 45.3	+1.1
MAT	Matsushiro	2.84 283	P	Pn	09 35 45.2	+1.0
MAT			S	Sn	09 36 17.1	-0.9
MAT	Matsushiro	2.84 283	eP	Pn	09 35 45.0	+0.8
MAT			S	Sn	09 36 21.0	+3.0
MKAR	Makanchi Array	44.86 303	P	P	09 43 13.1	0.0
	0.3nm,0.6s,mb3.3,baz=93,slow=8.7,SNR=3.6					

IDC 05 09:59:08.0±1.7, 365S×14148E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/13, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=68.9km s-min=26.4km az=99.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.63	203	P	Pn	10 03 15.0	0.0
	0.1nm,0.3s,baz=16,slow=12,SNR=18						
ASAR	Alice Springs	21.20	200	P	P	10 03 54.9	-0.2
	0.4nm,0.6s,baz=31,slow=10,SNR=12						
MKAR	Makanchi Array	72.23	322	P	P	10 10 35.9	+0.9
	0.7nm,0.6s,baz=111,slow=7.9,SNR=15						
BVAR	Borovoye Array	81.67	325	P	P	10 11 28.2	+0.1
	0.5nm,0.5s,baz=110,slow=7.8,SNR=5.6						
ILAR	Eielson Array	85.55	24	P	P	10 11 47.2	-0.8
	0.4nm,0.8s,baz=267,slow=4.4,SNR=5.5						

*ISCJB **05** 10:01:05.2±0.3, 67.14N±002×2074E±006, h0km, Error ellipse: s-maj=3.6km s-min=3.3km az=80.9*
*NAO **05** 10:01:06.7±1.1, 67.11N×2097E, ML2.3*
*HEL **05** 10:01:06.8±0.0, 67.18N×2066E, h0km, ML2.1, ML2.4(UPP), ML2.1(BER), Explosion*
*IDC **05** 10:01:06.8±0.9, 67.14N×2087E, h0km, mb1 2.9/4, mb1mx2.8/21, mbtmp2.9/4, ML2.5/4, Error ellipse: s-maj=15.0km s-min=7.7km az=115.0*
*BER **05** 10:01:08.2±3.9, 67.15N×2082E, h0km, MD3.1, ML2.1, ML2.3(NAO), Suspected explosion*

ISC 05 10:01:06.3±0.3, 6716N±002×2077E±006, h0km, n40, σ1§04/60, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.09	247	iP	Pg	10 01 08.0	0.0
MASU	Masugnsbyn	0.56	57	iP	Pg	10 01 17.4	+0.3
KUA	Kurravaara	0.82	348	iP	Pg	10 01 20.8	-1.2
ERTU	Ertsjaerv	0.82	137	iP	Pg	10 01 22.2	0.0
SALU	Saltoluokta	0.91	285	iP	Pg	10 01 22.4	-1.4
NIKU	Nikkaluokta	0.98	318	eP	Pg	10 01 23.5	-1.6
SJUU	Sjulsmark	1.69	168	eP	Pn	10 01 37.4	+0.3
KIF	Kilpisjarvi	1.86	0	eP	Pn	10 01 40.6	+1.2
KIF				eS	Sn	10 02 03.5	0.0
LILU	Lilltraesk	1.92	192	eP	Pn	10 01 40.7	+0.5
KTK1	Kautokeino	2.08	25	eP	Pn	10 01 43.4	+0.9
KTK1				eSG	Sg	10 02 11.0	-2.2
KTK1				AML	AML	10 02 12.0	
	comp=Z,39nm,0.4s						
SGF	Sodankyl	2.25	80	eP	Pn	10 01 46.0	+1.2
SGF				eSG	Sg	10 02 17.4	-1.3
BURU	Burvik	2.60	174	eP	Pn	10 01 50.7	+1.1
MOR8	Moi Rana	2.71	252	eP	Pn	10 01 50.2	-0.9
MOR8				eSG	Sg	10 02 26.4	-6.9
MOR8				AML	AML	10 02 28.2	
	comp=Z,15nm,0.4s						
LOF	Lofoten	2.93	293	e	Sg	10 02 41.8	+1.2
LOF	Lofoten	2.93	293	eSg	Sg	10 02 41.8	+1.2
OUL	Oulu	2.94	133	eSG	Sg	10 02 37.6	-3.3
ARA0	ARCESS Array S	2.96	34	Pn	Pn	10 01 54.8	+0.2
	baz=209,slow=14						
ARA0				Sn	Sn	10 02 31.1	+0.2
	baz=214,slow=28						
ARA0	ARCESS Array S	2.96	34	eP	Pn	10 01 54.8	+0.2
ARA0				eS	Sn	10 02 31.1	+0.2
ARCES	ARCESS Array B	2.96	34	Pn	Pn	10 01 55.0	+0.4
	comp=Z,0.3nm,0.3s,baz=210,slow=14,SNR=47						
ARCES				Sn	Sn	10 02 31.9	+1.0
	comp=Z,1.7nm,0.3s,baz=218,slow=20,SNR=11						
STOK	Stokkvaagen	3.19	259	eP	Pn	10 01 57.6	0.0
STOK				AML	AML	10 02 55.3	
	comp=N,16nm,0.4s						
UMAU	Umeaa	3.29	181	eP	Pn	10 01 59.9	+0.8
BREU	Bredtraesk	3.41	197	eP	Pn	10 02 01.1	+0.4
KEV	Kevo	3.48	39	eP	Pn	10 02 01.8	+0.1
KEV				eS	Sn	10 02 43.5	0.0
KU4	Liikasenvaara	3.58	99	eP	Pn	10 02 04.8	+1.7
KU4				eS	Sn	10 02 45.8	-0.3
HUSU	Husum	3.89	190	eP	Pn	10 02 08.4	+1.1
KJN	Kajaani	4.21	134	eS	Sn	10 03 01.4	-0.4
KJN				MSG		10 03 21.2	
	comp=Z,3.5nm,0.2s						
NSS	Namsos	4.48	238	eP	Pn	10 02 14.9	-0.5
NOD	Norderasen	4.48	216	eP	Pn	10 02 15.4	0.0
APA0	Apatity Array	4.74	79	eS	Sn	10 03 12.8	-1.9
APA0				eSB	Sb	10 03 29.6	+1.7
APA0	Apatity Array	4.74	79	Sn	Sn	10 03 12.8	-1.9
	baz=271,slow=28						
APA0				Lg		10 03 29.6	
	baz=266,slow=28						
SUF	Sumiainen	5.01	150	eP	Pn	10 02 24.1	+1.4
SUF				eS	Sn	10 03 20.3	-0.9
SUF				MSG		10 03 48.0	
	comp=Z,2.0nm,0.3s						
FIA0	FINESS Array S	6.18	156	Pn	Pn	10 02 39.5	+0.7
	baz=348,slow=14						
FIA0				Sn	Sn	10 03 48.3	-1.9
	baz=348,slow=22						
FIA0				Lg		10 04 19.4	
	baz=346,slow=28						
FIA0	FINESS Array S	6.18	156	eP	Pn	10 02 39.5	+0.7
FIA0				eS	Sn	10 03 48.3	-1.9
FIA0				eSG	Sg	10 04 19.4	-5.5
FINES	FINESS Array B	6.18	156	Pn	Pn	10 02 39.7	+0.9
	comp=Z,0.1nm,0.3s,baz=339,slow=15,SNR=5.3						
FINES				Sn	Sn	10 03 47.8	-2.4
	comp=Z,0.4nm,0.3s,baz=345,slow=23,SNR=9.8						
FINES				Lg		10 04 19.5	
	comp=Z,0.9nm,0.3s,baz=345,slow=27,SNR=7.9						
NB2	NORSAR Subarra	7.42	219	eP	Pn	10 02 55.1	-0.8
NB2				eSG	Sg	10 04 56.6	-8.1
NB2	NORSAR Subarra	7.42	219	Pn	Pn	10 02 55.1	-0.8
	baz=29,slow=14						
NB2				Lg		10 04 56.6	
	baz=29,slow=37						
NOA	NORSAR Array B	7.42	219	Pn	Pn	10 02 55.4	-0.5
	comp=Z,0.2nm,0.3s,baz=27,slow=11,SNR=2.5						
NOA				Sn	Sn	10 04 15.4	-5.4
	comp=Z,0.2nm,0.3s,baz=26,slow=21,SNR=3.5						
NOA				Lg		10 04 54.3	
	comp=Z,0.3nm,0.3s,baz=6.6,slow=15,SNR=4.8						
HFS	Hagfors	7.72	207	Pn	Pn	10 02 58.7	-1.2
	baz=29,slow=14						
HFS				Sn	Sn	10 04 20.9	-7.1
	baz=22,slow=28						
HFS	Hagfors	7.72	207	eP	Pn	10 02 58.7	-1.2
HFS				eS	Sn	10 04 20.9	-7.1
HFS	Hagfors	7.72	207	Pn	Pn	10 02 58.9	-1.0
	comp=Z,0.2nm,0.3s,baz=15,slow=14,SNR=9.7						
HFS				Sn	Sn	10 04 23.5	-4.5
	comp=Z,0.2nm,0.3s,baz=45,slow=22,SNR=5.4						
HFS				Lg		10 05 04.8	
	comp=Z,0.2nm,0.3s,baz=26,slow=27,SNR=3.7						

*NEIC **05** 10:01:56.2, 1900N×6389W, h13km, MD3.6(RSPR), After RSPR.*

RSPR 05 10:01:56.2, 1900N×6389W, h13km±26km, MD3.7/9, MD3.7/9, 13C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.90	229	eS	Sg	10 02 23.1	-2.3
TBVI	Tortola	0.90	229	⇑iP	Pg	10 02 11.5	-2.1
TBVI				eS	Sg	10 02 23.1	-2.3
STVI	Saint Thomas	1.20	238	eS	Sb	10 02 30.8	-3.5
STVI	Saint Thomas	1.20	238	⇑eP	Pn	10 02 15.5	-3.7
STVI				eS	Sb	10 02 30.8	-3.5
MTP	Monte Pirata	1.82	241	eS	Sn	10 02 45.8	-4.3
MTP	Monte Pirata	1.82	241	⇑eP	Pn	10 02 24.4	-2.8
MTP				eS	Sn	10 02 45.8	-4.3
CBYP	Canovanas	2.00	249	eS	Sn	10 02 51.5	-3.1
CBYP	Canovanas	2.00	249	⇑eP	Pn	10 02 27.1	-2.6
CBYP				eS	Sn	10 02 51.5	-3.1
HUMP	Col San Antoni	2.05	246	eS	Sn	10 02 52.5	-3.2
HUMP	Col San Antoni	2.05	246	⇑eP	Pn	10 02 27.4	-2.9
HUMP				eS	Sn	10 02 52.5	-3.2
CPD	Cerro la Pandu	2.15	244	eS	Sn	10 02 54.2	-4.0
CPD	Cerro la Pandu	2.15	244	⇑eP	Pn	10 02 29.6	-2.1
CPD				eS	Sn	10 02 54.2	-4.0
SJG	San Juan	2.32	248	eP	Pn	10 02 30.9	-3.1
SJG	San Juan	2.32	248	eP	Pn	10 02 32.0	-2.1
CELP	Cerrillos	2.71	251	eP	Pn	10 02 36.6	-2.9
ICM	Isla Caja Muer	2.73	247	eP	Pn	10 02 37.9	-1.8
AOPR	Arecibo Observ	2.79	257	eS	Sn	10 03 10.5	-3.9
AOPR	Arecibo Observ	2.79	257	⇑eP	Pn	10 02 37.5	-3.0
AOPR				eS	Sn	10 03 10.5	-3.5
LRS	Lares	2.89	256	⇑eP	Pn	10 02 38.3	-3.6
LRS				eS	Sn	10 03 13.6	-2.9
CRPR	Cabo Rojo, PR	3.21	253	eS	Sn	10 03 20.9	-3.6
CRPR	Cabo Rojo, PR	3.21	253	⇑eP	Pn	10 02 43.4	-3.0
CRPR				eS	Sn	10 03 20.9	-3.6

*CSEM **05** 10:04:08.0±0.3, 3863N×2847W, h10km, ML1.0, Error ellipse: s-maj=1.9km s-min=0.9km az=106.0, After PDA*
*PDA **05** 10:04:08.0±0.3, 3863N×2847W, h10km, MD2.6, ML1.0, Error ellipse: s-maj=1.9km s-min=0.9km az=106.0*

SVSA 05 10:04:08.0±0.3, 3863N×2847W, h10km, MD2.6, ML1.0, Error ellipse: s-maj=1.9km s-min=0.9km az=106.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	Pico	0.14	166	eP	Pg	10 04 11.1	0.0
PICO				eS	Sg	10 04 13.1	-0.2
PCND	Candelaria	0.16	178	eS	Sg	10 04 13.9	-0.1
PCND							
	18nm,0.1s						
CALA	Caldeira	0.19	255	eP	Pg	10 04 11.8	-0.2
ROSA	Rosais	0.20	64	eP	Pg	10 04 11.9	-0.3
ROSA				eS	Sg	10 04 14.5	-0.5

CASC 05 10:10:32.8±2.2, 1270N×8824W, h60km±194km, MD3.5, ML3.1, 2C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.72	357	eP	Pn	10 11 03.7	+16
VSM				eS	Sn	10 11 16.0	+18
BLLM	Bellamira	0.74	0	eP	Pn	10 11 03.5	+16
BLLM				eS	Sn	10 11 15.1	+17
SNVI	San Vicente	1.08	327	eP	Pn	10 11 08.4	+17
SNVI				eS	Sn	10 11 22.0	+16
CRIN	San Cristobal	1.16	90	eP	Pn	10 10 53.8	+0.9
LCBS	La Ceiba	1.19	323	eP	Pn	10 11 09.0	+16
LCBS				eS	Sn	10 11 24.1	+16
LFRS	El Faro	1.22	319	eP	Pn	10 11 09.4	+16
LFRS				eS	Sn	10 11 25.0	+16
LBRS	Las Brisas	1.29	323	eP	Pn	10 11 10.9	+16
LBRS				eS	Sn	10 11 26.3	+15
LFU	La Fuente	1.34	321	eP	Pn	10 11 11.4	+16
LFU				eS	Sn	10 11 28.8	+16
LEON	Leon	1.35	102	eP	Pn	10 10 55.9	+0.5
TEL3	Telica 3	1.37	95	⇓eP	Pn	10 10 56.0	+0.3
TEL3				eS	Sn	10 11 13.9	+1.0
TELN	Telica	1.38	94	eP	Pn	10 10 56.4	+0.6
TELN				eS	Sn	10 11 13.2	+0.1
BOQS	Boqueron	1.44	316	eP	Pn	10 11 12.3	+16
BOQS				eS	Sn	10 11 31.2	+17
MIRN	Miramar	1.52	100	⇑eP	Pn	10 10 57.7	0.0
MIRN				eS	Sn	10 11 17.3	+0.9
CNGN	Cerro Negro	1.52	97	eP	Pn	10 10 58.7	+0.9
MOMJ	Momotombo	1.69	100	⇓eP	Pn	10 10 59.9	-0.1
MOMJ				eS	Sn	10 11 22.3	+1.8
COPN	Copaltepe	1.69	108	⇑eP	Pn	10 11 00.3	+0.3
COPN				eS	Sn	10 11 21.2	+0.5
SBLS	San Blas	1.76	310	eP	Pn	10 11 17.1	+16
SBLS				eS	Sn	10 11 39.7	+17
RTR	El Retiro	1.81	311	eP	Pn	10 11 18.4	+17
RTR				eS	Sn	10 11 39.2	+16
APYN	Apoyeque	1.90	104	eP	Pn	10 11 02.4	-0.6
MGAN	Managua	2.02	106	eP	Pn	10 11 04.8	+0.2
MGAN				eS	Sn	10 11 28.3	-0.5
	comp=E,154nm,0.4s						

*NEIC **05** 10:15:13.4, 1937N×6835W, h13km, MD3.5(RSPR), After RSPR.*

RSPR 05 10:15:13.4, 1937N×6835W, h13km±22km, MD3.5/6, MD3.5/6, 7C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRS	Lares	1.78	127	eS	Sn	10 16 02.7	-3.7
CRPR	Cabo Rojo, PR	1.79	139	⇑eP	Pn	10 15 40.0	-4.1
CRPR				eS	Sn	10 16 02.6	-4.1
MGP	Maguayo	1.81	139	⇑eP	Pn	10 15 41.7	-2.6
MGP				eS	Sn	10 16 03.0	-4.0
AOPR	Arecibo Observ	1.82	124	eS	Sn	10 16 03.5	-3.9
AOPR	Arecibo Observ	1.82	124	⇑eP	Pn	10 15 42.0	-2.4
AOPR				eS	Sn	10 16 03.5	-3.9
CELP	Cerrillos	2.12	127	⇑eP	Pn	10 15 45.9	-2.6
CELP				eS	Sn	10 16 11.3	-3.3
SJG	San Juan	2.43	121	eS	Sn	10 16 19.5	-2.9
CBYP	Canovanas	2.60	115	eS	Sn	10 16 23.1	-3.5
CBYP	Canovanas	2.60	115	⇑eP	Pn	10 15 52.7	-2.4
CBYP				eS	Sn	10 16 23.1	-3.5
HUMP	Col San Antoni	2.66	117	eS	Sn	10 16 24.2	-3.9
HUMP	Col San Antoni	2.66	117	⇑eP	Pn	10 15 53.0	-3.0
HUMP				eS	Sn	10 16 24.2	-3.9
MTP	Monte Pirata	2.93	115	eS	Sn	10 16 31.6	-3.2
MTP	Monte Pirata	2.93	115	⇑eP	Pn	10 15 56.8	-2.9
MTP				eS	Sn	10 16 31.6	-3.2

*ISCJB **05** 10:19:40.6±0.5, 2389N±005×10842W±005, h10km, mb4.4/16, MS3.9/5, Error ellipse: s-maj=9.2km s-min=3.7km az=83.3*
*MEX **05** 10:19:40.1±0.6, 2399N×10875W, h14km±13km, MD4.7*
*IDC **05** 10:19:40.0±1.0, 2399N×10842W, h0km, mb4.3/9, mb1 4.4/12, mb1mx4.3/22, mbtmp4.3/12, ML3.9/3, MS4.0/8, Ms1 3.9/8, ms1mx3.7/27, Error ellipse: s-maj=36.8km s-min=14.4km az=55.0*
*NEIC **05** 10:19:42.0±0.5, 2384N×10846W, h10km, mb4.4/21, Error ellipse: s-maj=9.1km s-min=5.3km az=53.0*

ISC 05 10:19:42.5±0.5, 2387N±005×10844W±005, h10km, n78, σ1§16/74, mb4.4/16, MS3.9/5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	1.72	278	iP	Pn	10 20 01.9	-11
LPIG				iS	Sn	10 20 19.3	-15
MAIG	Mazatlaan	1.97	110	eP	Pn	10 20 14.3	-1.7
MAIG				iS	Sn	10 20 38.9	-1.9
ZAIG	Zacatecas	5.51	100	iP	Pn	10 21 04.9	+0.3
ZAIG				iS	Sn	10 22 09.9	+1.9
SFJM	Santa Fe	6.03	123	iP	Pn	10 21 13.0	+1.2
LTX	Lajitas	6.92	37	Pn	Pn	10 21 22.7	-1.3
	42nm,0.8s						
LNIG	Linares	8.25	81	eP	Pn	10 21 41.1	-1.1
LNIG				iS	Sn	10 23 15.0	-0.4
MNTX	Cornudas Mount	8.26	18	ePn	Pn	10 21 40.5	-1.8
	29nm,1.1s						
TUC	Tucson	8.66	347	ePn	Pn	10 21 45.9	-1.9
	15nm,1.1s						
JCT	Junction City	10.12	48	ePn	Pn	10 22 08.7	+0.9
	20nm,1.1s						
PPM	Popocatepetl	10.31	116	iP	Pn	10 22 11.0	+0.5
LENM	Lemitar	10.34	7	ePn	Pn	10 22 12.6	+1.7
BNM	Barren Site	10.37	8	ePn	Pn	10 22 13.3	+2.0
ANMO	Albuquerque	11.18	8	Pn	Pn	10 22 23.9	+1.6
	0.0nm,0.3s,baz=201,slow=11,SNR=7.7						
ANMO				LR	LR	10 26 53.5	
	comp=Z,997nm,19.8s,baz=64,slow=39						
TPIG	Tehuac#an	11.67	116	iP	Pn	10 22 31.3	+2.2
WUAZ	Wupatki	11.88	348	ePn	Pn	10 22 32.9	+0.9
	34nm,1.4s						
LDFC	Landfair	12.58	334	ePn	Pn	10 22 42.2	+0.7
NEN	Nelson	12.98	336	ePn	Pn	10 22 46.9	-0.2
SDCO	Great Sand Dun	14.06	10	ePn	Pn	10 23 07.0	+5.3
	27nm,1.4s						
PV01	Paradox Valley	14.22	360	ePn	Pn	10 23 04.7	+0.7
PV10	Paradox Valley	14.47	358	eP	Pn	10 23 07.2	-0.2
ARUT	Antelope Range	14.52	344	eP	Pn	10 23 09.4	+1.4
MVU	Marysvale	14.94	348	eP	Pn	10 23 21.4	+7.7
	12nm,1.1s						
MSU	Marysvale	14.94	349	eP	Pn	10 23 14.6	+0.8
SRU	San Rafael	15.30	354	eP	Pn	10 23 18.9	+0.4
	24nm,1.2s						
SMCO	Snowmass	15.31	4	eP	Pn	10 23 22.4	+3.7
	30nm,1.1s						
TMUT	Trail Mountain	15.56	352	eP	Pn	10 23 22.7	+0.8
MTUM	Tungsten Hills	16.00	329	eP	Pn	10 23 28.5	+0.9
TPH	Tonopah	16.02	334	eP	Pn	10 23 27.8	-0.2
	36nm,1.4s						
ISCO	Idaho Springs	16.06	8	eP	Pn	10 23 30.6	+2.2
	27nm,1.3s						
NLU	North Lily Min	16.33	350	eP	Pn	10 23 28.9	-3.0
DAU	Daniels Canyon	16.66	352	eP	Pn	10 23 36.7	+0.6
DUG	Dugway	16.69	348	eP	Pn	10 23 36.8	+0.3
	58nm,1.6s						
NVAR	Mina Array Bea	16.77	332	Pn	Pn	10 23 38.2	+0.7
	0.1nm,0.3s,baz=145,slow=9.1,SNR=17						
NOQ	North Oquirrh	17.02	350	eP	Pn	10 23 40.4	-0.2
	142nm,1.9s						
UALR	University of	17.73	49	eP	Pn	10 23 48.6	-0.8
	54nm,1.8s						
ELK	Elko	17.77	343	P	Pn	10 23 49.6	-0.3
	0.0nm,0.3s,baz=140,slow=7.3,SNR=7.6						
ELK				LR	LR	10 29 48.9	
	comp=Z,304nm,20.9s,baz=167,slow=34						
RWWY	Rawlins	17.80	3	ePn	Pn	10 23 50.4	0.0
	116nm,1.9s						
HWUT	Hardware Ranch	17.88	352	eP	Pn	10 23 51.3	0.0
	43nm,1.3s						
KSU1	Kansas State U	18.20	31	eP	Pn	10 23 55.7	+0.4
PDAR	Pinedale Array	18.87	357	P	Pn	10 24 01.6	-1.8
	0.2nm,0.3s,baz=170,slow=10,SNR=61						
PDAR				LR	LR	10 31 33.2	
	comp=Z,352nm,21.1s,baz=174,slow=38						
HBAR	Harrisburg	19.31	49	P	Pn	10 24 08.3	-0.4
REDW	Red Top Meadow	19.55	355	eP	Pn	10 24 10.5	-1.0
	27nm,1.3s						
LOHW	Long Hollow	19.77	355	eP	Pn	10 24 12.0	-2.2
	21nm,1.1s						
FLWY	Flagg Ranch	20.25	355	eP	P	10 24 17.7	-0.2
	75nm,1.2s						
YFT	Old Faithful	20.63	355	eP	P	10 24 22.5	+0.5
LKWY	Lake	20.71	356	eP	P	10 24 23.8	+0.9
	33nm,1.1s						
PLAL	Pickwick Lake	20.87	53	eP	P	10 24 24.5	-0.2
	12nm,1.0s						
LRAL	Lakeview Retre	20.92	59	P	P	10 24 25.2	+0.1
	15nm,0.9s						
QLMT	Earthquake Lak	21.05	354	eP	P	10 24 27.0	+0.4
MCMT	McKenzie Canyo	21.22	351	eP	P	10 24 28.9	+0.5
YBH	Yreka Blue Hor	21.42	330	LR	LR	10 32 02.3	
	comp=Z,255nm,21.2s,MS3.6,baz=328,slow=35						
SIUC	Southern Illin	21.47	46	eP	P	10 24 31.9	+0.8
	15nm,0.8s,mb4.4						
DLMT	Dillon	21.71	352	eP	P	10 24 33.5	-0.2
	24nm,1.4s,mb4.4						
BMO	Blue Mountains	22.15	343	P	P	10 24 30.0	-8.4
	22nm,1.7s,mb4.3						
HRY	Holter Researc	22.95	354	eP	P	10 24 45.9	-1.1
CHMT	Chamberlain Mo	23.32	352	eP	P	10 24 49.3	-1.5
CPCT	Cooper Cave	23.71	55	P	P	10 24 53.9	-0.7
NEW	Newport	25.30	346	P	P	10 25 07.6	-1.6
	3.7nm,1.1s,mb3.9,baz=181,slow=15,SNR=4.0						
NEW				LR	LR	10 35 56.2	
	comp=Z,297nm,18.5s,MS3.8,baz=174,slow=39						
JSC	Jenkinsville	25.85	60	eP	P	10 25 14.6	+0.5
ULM	Lac du Bonnet	28.10	17	P	P	10 25 31.8	-2.6
	1.8nm,0.6s,mb3.9,baz=190,slow=8.5,SNR=5.3						
BINY	Binghamton	32.51	48	P	P	10 26 13.1	-0.3
	16nm,0.9s,mb5.0						
OTAV	Otavalo	37.39	125	eP	P	10 26 55.5	0.0
	8.3nm,1.0s,mb4.5						
ROSC	El Rosal	37.90	115	P	P	10 27 02.4	+2.7
	2.8nm,0.5s,mb4.3,baz=106,slow=20,SNR=4.5						
ROSC				LR	LR	10 45 23.3	
	comp=Z,122nm,19.0s,MS3.7,baz=19,slow=41						
YKA	Yellowknife Ar	38.83	355	P	P	10 27 04.3	-3.4
	2.2nm,0.9s,mb3.9,baz=170,slow=7.9,SNR=43						
SDV	Santo Domingo	39.06	106	P	P	10 27 10.7	+1.1
	18nm,0.9s,mb4.8,baz=310,slow=3.7,SNR=20						
SJG	San Juan	39.79	90	P	P	10 27 15.6	0.0
	12nm,0.7s,mb4.7,baz=276,slow=6.9,SNR=7.7						
ILAR	Eielson Array	47.87	339	P	P	10 28 17.7	-2.9
	1.7nm,0.7s,mb4.2,baz=152,slow=6.8,SNR=27						
RKT	Rikitea	53.35	211	eLR	LR	10 44 00.2	
	148nm,27.2s						
RKT	Rikitea	53.35	211	eT		11 25 54.8	
	5.9nm,0.3s						
LPAZ	La Paz	56.06	132	P	P	10 29 21.1	-0.6
	0.8nm,0.7s,mb3.9,baz=1.5,slow=12,SNR=4.2						
PPT	Papeete	57.52	228	eLR	LR	10 45 57.5	
	359nm,25.2s						
PPT				eLR	LR	10 45 57.5	
	359nm,25.2s						
PPT	Papeete	57.52	228	LR	LR	10 49 27.2	
	comp=Z,232nm,18.2s,MS4.3,baz=274,slow=31						
SIV	San Ignacio	60.91	126	P	P	10 29 54.0	-1.5
	9.0nm,0.9s,mb4.9,baz=314,slow=6.9,SNR=33						
BDFB	Brasilia	70.88	118	P	P	10 30 59.8	+0.1
	5.0nm,0.9s,mb4.5,baz=340,slow=7.1,SNR=6.5						
BDFB				LR	LR	11 01 41.0	
	comp=Z,128nm,19.0s,MS4.2,baz=149,slow=36						
KWAJ	Kwajalein Atol	80.99	276	eP	P	10 31 57.9	+0.5
	26nm,1.0s,mb5.1						
EIL	Elat	116.20	35	ePKPdf	PKPdf	10 38 27.6	+1.6
WRA	Warramunga Arr	122.03	261	PKP	PKPdf	10 38 37.4	+0.1
	0.3nm,0.7s,baz=79,slow=2.3,SNR=4.8						
ASAR	Alice Springs	123.38	257	PKP	PKPdf	10

IASB	**`sbjarnarst**	**2.40 214**	P	**Pn**	**10 22 14.3**	**-1.1**
BORG	**Borgarnes**	**2.41 214**	Pn	**Pn**	**10 22 14.4**	**-1.0**
	38nm,0.3s,baz=28,slow=6.6,SNR=88					
BORG			Sn	**Sn**	**10 22 46.0**	**+1.1**
	30nm,0.3s,baz=10,slow=23,SNR=8.8					
BORG	**Borgarnes**	**2.41 214**	Pn	**Pn**	**10 22 14.4**	**-1.0**
BORG	**Borgarnes**	**2.41 214**	Pn	**Pn**	**10 22 14.4**	**-1.0**
BORG			Sn	**Sn**	**10 22 46.0**	**+1.1**
IVAT	**Vatnsfell**	**2.61 187**	P	**Pn**	**10 22 18.4**	**+0.1**
IGYG	**Gygjarholskot**	**2.64 199**	P	**Pn**	**10 22 18.5**	**-0.1**
IHEI	**Heioarbar**	**2.87 207**	P	**Pn**	**10 22 21.4**	**-0.5**
IKUD	**Kuludalsa**	**2.89 213**	P	**Pn**	**10 22 21.8**	**-0.3**
IHAU	**Haukadalur**	**2.91 195**	P	**Pn**	**10 22 22.7**	**+0.4**
ISAU	**Saurbar**	**2.94 199**	P	**Pn**	**10 22 22.8**	**0.0**
IKRO	**Krokur**	**2.95 206**	P	**Pn**	**10 22 24.0**	**+1.1**
IFAG	**Fagurholsmyri**	**2.98 167**	P	**Pn**	**10 22 24.4**	**+1.1**
ISAN	**Sandskeio**	**3.07 209**	P	**Pn**	**10 22 24.3**	**-0.2**
ISOL	**Solvholt**	**3.08 203**	P	**Pn**	**10 22 24.8**	**+0.2**
IASM	**Asmuli**	**3.12 200**	P	**Pn**	**10 22 25.6**	**+0.4**
IBJA	**Bjarnastaoir**	**3.12 206**	P	**Pn**	**10 22 27.1**	**+1.9**
IVOG	**Vogar**	**3.31 214**	P	**Pn**	**10 22 27.6**	**-0.3**
SUMG	**Summit**	**9.09 319**	*e*Pn	**Pn**	**10 23 45.7**	**-1.6**
	14nm,1.0s					
SUMG	**Summit**	**9.09 319**	*e*Pn	**Pn**	**10 23 45.7**	**-1.6**
	14nm,1.0s					
SFJD	**Kangerlussuaq**	**12.65 286**	LR	LR	10 28 50.5	
	comp=Z,450nm,19.4s,baz=136,slow=34					
NOA	**NORSAR Array B**	**14.06 100**	Pn	**Pn**	**10 24 56.0**	**+0.9**
	0.1nm,0.3s,baz=272,slow=3.7,SNR=3.5					
NOA			LR	LR	10 29 35.6	
	comp=Z,164nm,21.0s,baz=320,slow=34					
HFS	**Hagfors**	**15.58 100**	Pn	**Pn**	**10 25 22.0**	**+6.3**
	0.5nm,0.3s,baz=316,slow=6.2,SNR=15					
HFS			LR	LR	10 29 57.7	
	comp=Z,241nm,21.6s,baz=136,slow=32					
ARCES	**ARCESS Array B**	**16.23 60**	Pn	**Pn**	**10 25 24.0**	**0.0**
	0.3nm,0.3s,baz=276,slow=8.1,SNR=9.8					
ARCES			LR	LR	10 30 33.0	
	comp=Z,111nm,18.7s,baz=3.1,slow=33					
ARCES	**ARCESS Array B**	**16.23 60**	Pn	**Pn**	**10 25 24.0**	**-0.1**
ARCES			LR	LR	10 30 33.0	
KAF	**Kangasniemi**	**19.41 83**	*e*p	**Pn**	**10 26 02.3**	**-1.1**
	4.3nm,0.7s					
KAF	**Kangasniemi**	**19.41 83**	*e*P	**Pn**	**10 26 02.3**	**-1.1**
KAF			pmax	pmax		
	comp=Z,4.0nm,0.7s					
FINES	**FINESS Array B**	**19.70 85**	P	**Pn**	**10 26 06.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=303,slow=11,SNR=14					
FINES			LR	LR	10 33 20.3	
	comp=Z,195nm,18.5s,baz=325,slow=36					
FLN	**La Foliniere**	**20.24 144**	*e*P	**P**	**10 26 08.7**	**-2.6**
GIVF	**Givet**	**20.39 134**	*e*P	**P**	**10 26 14.4**	**+1.5**
LDF	**La Druitiere**	**20.48 144**	*e*P	**P**	**10 26 09.6**	**-4.3**
	comp=Z,203nm,1.9s					
LDF	**La Druitiere**	**20.48 144**	*e*P	**P**	**10 26 09.6**	**-4.3**
	comp=Z,102nm,1.9s					
LDF	**La Druitiere**	**20.48 144**	*e*P	**P**	**10 26 09.6**	**-4.3**
LDF			pmax	pmax		
	comp=Z,102nm,1.9s					
GRR	**Gorron**	**20.50 145**	*e*P	**P**	**10 26 10.3**	**-3.9**
JOF	**Joensuu**	**20.93 77**	*e*p	**P**	**10 26 19.2**	**+0.4**
	comp=Z,6.5nm,0.6s					
SSF	**Saint Saulge**	**22.80 139**	*e*P	**P**	**10 26 43.2**	**+4.4**
	comp=Z,15nm,1.0s,mb4.1					
SSF	**Saint Saulge**	**22.80 139**	*e*P	**P**	**10 26 43.2**	**+4.4**
	comp=Z,7.7nm,1.0s,mb4.1					
SSF	**Saint Saulge**	**22.80 139**	*e*P	**P**	**10 26 43.2**	**+4.4**
SSF			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1					
BGF	**Bois d'Agland**	**23.10 141**	*e*P	**P**	**10 26 46.5**	**+4.5**
TCF	**Toulx Ste Croi**	**23.20 142**	*e*P	**P**	**10 26 45.4**	**+2.4**
SMF	**Signal de Mont**	**23.27 139**	*e*P	**P**	**10 26 47.8**	**+4.0**
	comp=Z,26nm,1.1s,mb4.3					
SMF	**Signal de Mont**	**23.27 139**	*e*P	**P**	**10 26 47.8**	**+4.0**
	comp=Z,13nm,1.1s,mb4.3					
SMF	**Signal de Mont**	**23.27 139**	*e*P	**P**	**10 26 47.8**	**+4.0**
SMF			pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3					
GERES	**GERESS Array B**	**24.28 122**	P	**P**	**10 26 55.0**	**+1.7**
	comp=Z,1.4nm,0.9s,mb3.4,baz=322,slow=8.5,SNR=5.7					
DAVOX	**Davos**	**24.86 130**	LR	LR	10 36 33.6	
	comp=Z,156nm,19.6s,MS3.5,baz=81,slow=36					
KLMR	**Klimovskoe**	**25.29 76**	*e*P	**P**	**10 27 01.5**	**-1.1**
	comp=Z,20nm,2.0s,mb4.3					
KLMR	**Klimovskoe**	**25.29 76**	*e*P	**P**	**10 27 01.5**	**-1.1**
KLMR			pmax	pmax		
	comp=Z,20nm,2.0s,mb4.3					
MLR	**Muntele Rosu**	**31.50 110**	LR	LR	10 42 16.8	
	comp=Z,149nm,19.2s,MS3.7,baz=291,slow=39					
YKA	**Yellowknife Ar**	**37.58 311**	P	**P**	**10 28 50.8**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.6,baz=41,slow=9.0,SNR=16					
YKA			PcP	PcP	10 31 08.0	-0.4
	comp=Z,0.3nm,0.8s,baz=38,slow=3.4,SNR=7.0					
YKA	**Yellowknife Ar**	**37.58 311**	PcP	PcP	10 31 08.0	-0.4
AKTK	**Aktyubinsk**	**39.99 75**	P	**P**	**10 29 11.1**	**+0.3**
AKTK	**Aktyubinsk**	**39.99 75**	P	**P**	**10 29 11.1**	**+0.2**
AKTO	**Aktyubinsk**	**39.99 75**	P	**P**	**10 29 11.1**	**+0.2**
	comp=Z,1.3nm,0.7s,mb3.8,baz=301,slow=7.3,SNR=5.3					
ULM	**Lac du Bonnet**	**40.69 286**	P	**P**	**10 29 17.0**	**+0.4**
	comp=Z,1.8nm,0.6s,mb3.9,baz=20,slow=8.2,SNR=5.2					
BVAR	**Borovoye Array**	**42.49 63**	P	**P**	**10 29 32.0**	**+0.6**
	comp=Z,1.4nm,0.6s,mb3.8,baz=336,slow=6.8,SNR=9.8					
ILAR	**Eielson Array**	**43.69 331**	P	**P**	**10 29 42.4**	**+1.3**
	comp=Z,0.7nm,0.8s,mb3.4,baz=20,slow=6.6,SNR=4.7					
ILAR			PcP	PcP	10 31 27.8	-0.3
	comp=Z,0.7nm,0.8s,baz=358,slow=2.7,SNR=4.8					
ILAR	**Eielson Array**	**43.69 331**	P	**P**	**10 29 42.3**	**+1.3**
ILAR	**Eielson Array**	**43.69 331**	PcP	PcP	10 31 27.8	-0.3
NVS	**Novosibirsk**	**45.31 53**	*e*P	**P**	**10 29 54.9**	**+0.9**
ZAL	**Zalesovo**	**46.57 52**	P	**P**	**10 30 03.5**	**-0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=0.2,slow=2.6,SNR=4.7					
MKAR	**Makanchi Array**	**51.88 59**	P	**P**	**10 30 45.0**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=348,slow=6.1,SNR=10					
PDAR	**Pinedale Array**	**52.11 291**	P	**P**	**10 30 47.0**	**+0.8**
	comp=Z,1.5nm,0.7s,mb4.1,baz=45,slow=6.2,SNR=14					
AAK	**Ala-Archa**	**52.72 68**	*e*P	**P**	**10 30 50.6**	**-0.3**
	comp=Z,3.0nm,1.0s,mb4.2					
AAK	**Ala-Archa**	**52.72 68**	*e*P	**P**	**10 30 50.6**	**-0.3**
	comp=Z,3.1nm,1.0s,mb4.2					
AAK	**Ala-Archa**	**52.72 68**	*e*P	**P**	**10 30 50.6**	**-0.3**
AAK			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2					
TORD	**Torodi Ar. Bea**	**55.20 156**	P	**P**	**10 31 09.9**	**+1.0**
	comp=Z,1.1nm,1.0s,mb3.8,baz=346,slow=5.8,SNR=4.4					
SONM	**Songino Array**	**58.23 41**	P	**P**	**10 31 30.8**	**+0.3**
	comp=Z,0.2nm,0.6s,mb3.4,baz=336,slow=7.1,SNR=4.7					
ASAR	**Alice Springs**	**133.46 36**	PKP	PKPdf	10 40 52.4	-0.2
	comp=Z,0.3nm,0.8s,baz=6.0,slow=1.9,SNR=5.6					

ISCJB ***05*** *10:32:44.0±0.3, 49.36N×002×677E±003, h0km, Error ellipse: s-maj=2.8km s-min=2.2km az=99.3*
NEIC ***05*** *10:32:45.8, 49.37N×6.88E, h1km, ML2.4(STR), ML2.7(LDG), After STR.*
CSEM ***05*** *10:32:46.0±0.1, 49.39N×6.85E, h1km, ML2.6/13, Error ellipse: s-maj=1.1km s-min=0.8km az=134.0*
LDG ***05*** *10:32:46.0±0.1, 49.39N×6.86E, h1km, Md2.7/3, Ml2.7/13, Error ellipse: s-maj=1.4km s-min=1.0km az=147.0, Suspected Mining induced.*
BGR ***05*** *10:32:46.6±0.4, 49.37N×6.86E, h1km, ML2.1/2, Error ellipse: s-maj=6.7km s-min=4.4km az=33.0*

ISC 05 10:32:45.2±0.3, 49.37N±002×681E±003, h0km, n47, σ1§00/101, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.37**	**26**	Pg	**Pg**	**10 32 52.8**	**+0.5**
RUP				*e*Sg	**Sg**	**10 32 57.5**	**+0.4**
WLF	**Walferdange**	**0.52**	**305**	*e*Pg	**Pg**	**10 32 57.4**	**+2.2**
	SNR=3.8						
WLF				*e*Sg	**Sg**	**10 33 03.4**	**+1.5**
WLF	**Walferdange**	**0.52**	**305**	*e*Pg	**Pg**	**10 32 56.6**	**+1.5**
WLF				*e*Sg	**Sg**	**10 33 03.7**	**+1.8**
WLF	**Walferdange**	**0.52**	**305**	*e*Pg	**Pg**	**10 32 56.6**	**+1.5**
WLF				*e*Sg	**Sg**	**10 33 03.7**	**+1.9**
ABH	**Alteburg**	**0.70**	**43**	Pg	**Pg**	**10 32 58.4**	**-0.3**
LANF	**Langenberg**	**0.76**	**120**	*e*Pg	**Pg**	**10 32 59.6**	**-0.2**
LANF				*e*Sg	**Sg**	**10 33 10.7**	**+1.0**
	18nm,0.3s						
LANF	**Langenberg**	**0.76**	**120**	Pg	**Pg**	**10 32 59.5**	**-0.3**
CDF	**Champ du Feu**	**1.01**	**162**	*e*Pn	**Pn**	**10 33 05.5**	**-1.0**
CDF				*e*Sg	**Sg**	**10 33 18.5**	**+1.0**
	18nm,0.2s						
CDF	**Champ du Feu**	**1.01**	**162**	*e*Pn	**Pn**	**10 33 05.5**	**-1.0**
CDF				*e*Sg	**Sg**	**10 33 18.5**	**+1.0**
	8.9nm,0.2s						
CDF	**Champ du Feu**	**1.01**	**162**	*e*Pg	**Pg**	**10 33 04.5**	**0.0**
CDF				*e*Pn	**Pn**	**10 33 05.5**	**-1.0**
CDF				*e*Sg	**Sg**	**10 33 18.5**	**+1.0**
WLS	**Welschbruch**	**1.02**	**159**	Pg	**Pg**	**10 33 05.7**	**+0.9**
WLS				Sg	**Sg**	**10 33 19.7**	**+1.7**
RFYF	**Reffroy**	**1.15**	**230**	*e*Pg	**Pg**	**10 33 09.0**	**+1.8**
	baz=48						
RFYF				*e*Sg	**Sg**	**10 33 24.0**	**+1.9**
	26nm,0.3s						
RFYF	**Reffroy**	**1.15**	**230**	*e*Pg	**Pg**	**10 33 09.0**	**+1.8**
RFYF				*e*Sg	**Sg**	**10 33 24.0**	**+1.9**
	13nm,0.3s						
ECH	**Echery**	**1.18**	**168**	Pg	**Pg**	**10 33 08.1**	**+0.3**
ECH				Sg	**Sg**	**10 33 23.5**	**+0.5**
THEF	**They Montfort**	**1.27**	**206**	*e*Pg	**Pg**	**10 33 10.1**	**+0.7**
THEF				Sg	**Sg**	**10 33 26.9**	**+1.0**
THEF	**They Montfort**	**1.27**	**206**	Pg	**Pg**	**10 33 10.0**	**+0.6**
THEF				Sg	**Sg**	**10 33 26.9**	**+1.0**
TOD	**Tromm**	**1.32**	**79**	Pg	**Pg**	**10 33 09.6**	**-1.0**
TOD				Sg	**Sg**	**10 33 26.9**	**-0.8**
TNS	**Taunus Mts**	**1.36**	**51**	*e*Pg	**Pg**	**10 33 11.1**	**-0.3**
	SNR=4.5						
TNS				*e*Sg	**Sg**	**10 33 29.1**	**+0.1**
HAU	**Haudompre**	**1.40**	**193**	*e*Pg	**Pg**	**10 33 12.5**	**+0.5**
HAU				*e*Sg	**Sg**	**10 33 31.1**	**+1.0**
	14nm,0.2s						
HAU	**Haudompre**	**1.40**	**193**	*e*Pg	**Pg**	**10 33 12.5**	**+0.5**
HAU				*e*Sg	**Sg**	**10 33 31.1**	**+1.0**
	7.2nm,0.2s						
BFO	**Black Forest**	**1.45**	**135**	*e*Pg	**Pg**	**10 33 13.2**	**+0.3**
	SNR=6.9						
BFO				*e*Sg	**Sg**	**10 33 31.5**	**-0.2**
BFO	**Black Forest**	**1.45**	**135**	*e*Pn	**Pn**	**10 33 12.9**	**+0.3**
BFO	**Black Forest**	**1.45**	**135**	Pg	**Pg**	**10 33 13.2**	**+0.3**
	SNR=6.9						
BFO				*e*Sg	**Sg**	**10 33 31.6**	**-0.1**
BFO	**Black Forest**	**1.45**	**135**	*e*Pn	**Pn**	**10 33 12.9**	**+0.3**
BFO				*e*Sg	**Sg**	**10 33 31.6**	**-0.1**
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pg	**Pg**	**10 33 13.7**	**+0.8**
	baz=49						
MEZF				*e*Sg	**Sg**	**10 33 32.9**	**+1.2**
	18nm,0.4s						
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pg	**Pg**	**10 33 13.7**	**+0.8**
MEZF				*e*Sg	**Sg**	**10 33 32.9**	**+1.2**
	9.2nm,0.4s						
GIVF	**Givet**	**1.48**	**300**	*e*Pg	**Pg**	**10 33 13.9**	**+0.3**
GIVF				*e*Sg	**Sg**	**10 33 33.0**	**+0.2**
	22nm,0.5s						
GIVF	**Givet**	**1.48**	**300**	*e*Pg	**Pg**	**10 33 13.9**	**+0.3**
GIVF				*e*Sg	**Sg**	**10 33 33.0**	**+0.2**
	11nm,0.5s						
MOF	**Molkenrain**	**1.53**	**172**	Pg	**Pg**	**10 33 15.0**	**+0.4**
MOF				Sg	**Sg**	**10 33 35.0**	**+0.5**
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Pn	**Pn**	**10 33 15.0**	**-0.4**
SFTF				*e*Sg	**Sg**	**10 33 38.9**	**+0.7**
	17nm,0.4s						
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Pn	**Pn**	**10 33 15.0**	**-0.4**
SFTF				*e*Sg	**Sg**	**10 33 38.9**	**+0.7**
	8.6nm,0.4s						
CABF	**La Chapelle**	**2.80**	**190**	*e*Pn	**Pn**	**10 33 30.5**	**-0.7**
CABF				*e*Sg	**Sg**	**10 34 14.3**	**-0.9**
	3.4nm,0.4s						
CABF	**La Chapelle**	**2.80**	**190**	*e*Pn	**Pn**	**10 33 30.5**	**-0.7**
CABF				*e*Sg	**Sg**	**10 34 14.3**	**-0.9**
	1.7nm,0.4s						
LOR	**Lormes**	**2.88**	**224**	*e*Pn	**Pn**	**10 33 31.2**	**-1.1**
	baz=54						
LOR				*e*Sn	**Sn**	**10 34 05.6**	**-2.0**
LOR				*e*Sg	**Sg**	**10 34 17.6**	**-0.1**
	5.6nm,0.3s						
LOR	**Lormes**	**2.88**	**224**	*e*Pn	**Pn**	**10 33 31.2**	**-1.1**
LOR				*e*Sn	**Sn**	**10 34 05.6**	**-2.0**
LOR				*e*Sg	**Sg**	**10 34 17.6**	**-0.1**
	2.8nm,0.3s						
SSF	**Saint Saulge**	**3.19**	**225**	*e*Pn	**Pn**	**10 33 35.9**	**-0.7**
SSF				*e*Sn	**Sn**	**10 34 12.4**	**-3.0**
SSF				*e*Sg	**Sg**	**10 34 27.5**	**-0.3**
	2.6nm,0.3s						
SSF	**Saint Saulge**	**3.19**	**225**	*e*Pn	**Pn**	**10 33 35.9**	**-0.7**
SSF				*e*Sn	**Sn**	**10 34 12.4**	**-3.0**
SSF				*e*Sg	**Sg**	**10 34 27.5**	**-0.3**
	1.3nm,0.3s						
SMF	**Signal de Mont**	**3.38**	**217**	*e*Pn	**Pn**	**10 33 38.2**	**-0.9**
SMF				*e*Sn	**Sn**	**10 34 17.3**	**-2.6**
SMF				*e*Sg	**Sg**	**10 34 33.2**	**-0.4**
	3.6nm,0.3s						
SMF	**Signal de Mont**	**3.38**	**217**	*e*Pn	**Pn**	**10 33 38.2**	**-0.9**
SMF				*e*Sn	**Sn**	**10 34 17.3**	**-2.6**
SMF				*e*Sg	**Sg**	**10 34 33.2**	**-0.4**
	1.8nm,0.3s						
AVF	**Avril sur Loir**	**3.47**	**223**	*e*Pn	**Pn**	**10 33 39.6**	**-0.8**
AVF				*e*Sn	**Sn**	**10 34 19.4**	**-2.7**
AVF				*e*Sg	**Sg**	**10 34 35.7**	**-0.9**
	1.5nm,0.4s						
AVF	**Avril sur Loir**	**3.47**	**223**	*e*Pn	**Pn**	**10 33 39.6**	**-0.8**
AVF				*e*Sn	**Sn**	**10 34 19.4**	**-2.7**
AVF				*e*Sg	**Sg**	**10 34 35.7**	**-0.9**
	0.8nm,0.4s						
BGF	**Bois d'Agland**	**3.87**	**225**	*e*Pg	**Pg**	**10 33 58.2**	**-1.2**
BGF				*e*Sn	**Sn**	**10 34 28.8**	**-3.3**
BGF				*e*Sg	**Sg**	**10 34 49.7**	**+0.1**
	12nm,0.5s						
BGF	**Bois d'Agland**	**3.87**	**225**	*e*Pg	**Pg**	**10 33 58.2**	**-1.2**
BGF				*e*Sn	**Sn**	**10 34 28.8**	**-3.3**
BGF				*e*Sg	**Sg**	**10 34 49.7**	**+0.1**
	5.9nm,0.5s						
BGF	**Bois d'Agland**	**3.87**	**225**	*e*Pn	**Pn**	**10 33 45.5**	**-0.4**
BGF				*e*Pg	**Pg**	**10 33 58.2**	**-1.2**
BGF				*e*Sn	**Sn**	**10 34 28.8**	**-3.3**
BGF				*e*Sg	**Sg**	**10 34 49.7**	**+0.1**
WET	**Wettzell**	**3.98**	**91**	*e*Pn	**Pn**	**10 33 47.5**	**0.0**
	SNR=1.1						
KHC	**Kasperske Hory**	**4.44**	**91**	*e*PN	**Pn**	**10 33 53.0**	**-0.8**
GEC2	**GERESS Array S**	**4.56**	**94**	*e*Pn	**Pn**	**10 33 55.3**	**-0.1**
	SNR=5.7						

IDC 05 10:41:45.5±9.0, 69.96N×93.67E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/21, mbtmp3.1/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/6, Error ellipse: s-maj=489.3km s-min=27.2km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.61**	**142**	LR	LR	10 47 12.5	
	comp=Z,82nm,20.4s,baz=222,slow=38						
MKAR	**Makanchi Array**	**38.23**	**347**	P	P	10 49 07.2	0.0
	0.1nm,0.5s,baz=147,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**49.70**	**126**	P	P	10 50 39.3	0.0
	0.3nm,0.6s,baz=304,slow=8.8,SNR=4.1						
ASAR	**Alice Springs**	**51.44**	**131**	P	P	10 50 53.1	+0.8
	0.2nm,0.6s,baz=316,slow=6.6,SNR=5.2						

ISCJB ***05*** *10:42:14.6±0.1, 64.94N±001×129.20W±005, h10km, mb5.3/236, MS5.2/103, Error ellipse: s-maj=3.0km s-min=1.8km az=153.1*
PGC ***05*** *10:42:14.5, 64.94N×129.07W, h5km, ML5.8/3, Mw5.7, Mackenzie Mountains, Northwest Territories*
BJI ***05*** *10:42:14.5, 64.90N×129.20W, h5km, mB5.5, mb5.2, Ms5.5, Msz5.1*
IDC ***05*** *10:42:14.0±0.4, 64.96N×129.15W, h0km, mb4.8/21, mb1 4.9/27, mb1mx4.9/29, mbtmp4.8/27, ML4.3/6, MS5.1/30, Ms1 5.1/30, ms1mx5.1/34, Error ellipse: s-maj=10.4km s-min=8.1km az=29.0*
NEIC ***05*** *10:42:15.5±0.1, 64.91N×129.18W, mb5.4/153, MS5.3/39, MW5.6, MW5.7(PGC), Error ellipse: s-maj=3.3km s-min=2.2km az=71.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.40; $M_{\theta\theta}$-3.09; $M_{\phi\phi}$3.49; $M_{r\theta}$-0.64; $M_{\theta\phi}$1.44; $M_{\phi r}$-0.21; Best double couple: $M_0$3.70000×10^{17} NP1:ϕ_s56.00000°, δ86.00000°, λ-11.00000°. NP2:ϕ_s147.00000°, δ79.00000°, λ-176.00000°. Principal axes: T 3.8200, Plg5.0000°, Azm102.0000°; N -0.3200, Plg78.0000°, Azm215.0000°; P -3.5100, Plg11.0000°, Azm11.0000°;*
LDG ***05*** *10:42:15.3±0.9, 65.31N×129.11W, h10km, Mb5.5/34, Ms5.3/9 Error ellipse: s-maj=48.7km s-min=6.9km az=178.0*
HRVD ***05*** *10:42:15.5±0.1, 65.03N×129.25W, h12km, MW5.5/100, Centroid moment Tensor Solution. LP body waves: s71,c137; Mantle waves: s100,c224; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.91±.02; $M_{\theta\theta}$-1.71±.02; $M_{\phi\phi}$-0.20±.02; $M_{r\theta}$0.22±.06; $M_{\theta\phi}$0.67±.02; $M_{\phi r}$-0.35±.06; Best double couple: $M_0$1.98300×10^{17} NP1:ϕ_s284.00000°, δ41.00000°, λ79.00000°. NP2: ϕ_s118.00000°, δ50.00000°, λ100.00000°. Principal axes: T 1.9700, Plg81.0000°, Azm78.0000°; N 0.0190, Plg7.0000°, Azm292.0000°; P -1.9960, Plg5.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***05*** *10:42:16.6±1.2, 64.89N×129.32W, h27km, mb5.6/115, MS5.3/43 Error ellipse: s-maj=10.4km s-min=3.3km az=90.0*
BGS ***05*** *10:42:16.1, 64.92N×129.18W, h10km, mb5.6*
SZGRF ***05*** *10:42:35.6, 68.78N×134.32W, h33km, mb5.3, MS5.3, Northwest Territories, Canada*

ISC 05 10:42:16.1±0.1, 64.95N±001×129.19W±005, h10km, (h14km±1.8km:pP-P), n732, σ1§19/758, mb5.3/236, MS5.2/103, 37C-25D, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**3.78**	**335**	Pn	**Pn**	**10 43 13.0**	**-1.4**
	40nm,0.3s,baz=153,slow=12,SNR=1017						
INK				Pg	**Pg**	**10 43 26.9**	**-1.7**
	289nm,0.3s,baz=156,slow=14,SNR=75						
INK				Lg		10 44 14.0	
	938nm,0.3s,baz=240,slow=32,SNR=18						
INK	**Inuvik**	**3.78**	**335**	Pn	**Pn**	**10 43 14.2**	**-0.2**
INK				Pg	**Pg**	**10 43 25.6**	**-3.0**
INK				Sg	**Sg**	**10 44 13.0**	**-4.6**
INK				Trac		10 44 20.9	
	comp=Z,16μm,1.1s						
INK				Trac		10 44 20.9	
	comp=Z,16μm,1.1s						
INK	**Inuvik**	**3.78**	**335**	*e*Pn	**Pn**	**10 43 13.1**	**-1.4**
INK				*e*Sg	**Sg**	**10 44 13.8**	**-3.8**
DAWY	**Dawson**	**4.50**	**263**	Pn	**Pn**	**10 43 23.4**	**-0.9**
DAWY				Sn	**Sn**	**10 44 13.7**	**-3.0**
DAWY				Sg	**Sg**	**10 44 35.9**	**-4.7**
DAWY				Trac		10 44 46.5	
	comp=Z,7μm,0.8s						
DAWY	**Dawson**	**4.50**	**263**	*e*Pn	**Pn**	**10 43 23.0**	**-1.3**
WHY	**Whitehorse**	**5.04**	**214**	Pn	**Pn**	**10 43 29.0**	**-2.7**
WHY				Pn	**Pn**	**10 43 30.9**	**-0.9**
WHY				Pg	**Pg**	**10 43 44.0**	**-8.6**
WHY				Sg	**Sg**	**10 44 54.0**	**-3.9**
WHY				Trac		10 45 04.5	
	comp=Z,6μm,0.9s						
HYT	**Haines Junctio**	**5.62**	**226**	Pn	**Pn**	**10 43 37.8**	**-1.9**
HYT				Sg	**Sg**	**10 45 09.6**	**-7.0**
HYT				Trac		10 45 21.3	
	comp=Z,8μm,1.1s						
MENT	**Mentasta**	**6.71**	**259**	*e*P	**Pn**	**10 43 52.5**	**-2.2**
FNBB	**Fort Nelson**	**6.74**	**152**	Pn	**Pn**	**10 43 51.4**	**-3.7**
FNBB				Sn	**Sn**	**10 45 04.6**	**-7.4**
FNBB				Trac		10 46 22.0	
	comp=Z,1μm,1.1s						
FNBB				Trac		10 46 22.0	
	comp=Z,1μm,1.1s						
YKW3	**Yellowknife Ar**	**6.89**	**104**	Pn	**Pn**	**10 43 53.2**	**-4.0**
YKW3				Pn	**Pn**	**10 43 53.6**	**-3.5**
YKW3				Sn	**Sn**	**10 45 08.0**	**-7.6**
YKW3				Sn	**Sn**	**10 45 08.2**	**-7.4**
YKW3				Sg	**Sg**	**10 45 49.8**	**-7.4**
YKW3				Trac		10 45 58.2	
	comp=Z,2μm,0.8s						
YKW3				Trac		10 45 58.2	
	comp=Z,2μm,0.8s						
YKW3				Trac		10 45 58.5	
	comp=Z,1μm,0.6s						
YKW3				Trac		10 45 58.5	
	comp=Z,1μm,0.6s						
YKW3	**Yellowknife Ar**	**6.89**	**104**	*e*Pn	**Pn**	**10 43 52.5**	**-4.6**
YKA	**Yellowknife Ar**	**6.92**	**104**	Pn	**Pn**	**10 43 53.2**	**-4.4**
	baz=291,slow=13,SNR=57						
YKA				Sn	**Sn**	**10 45 06.7**	**-10**
	baz=294,slow=22,SNR=6.0						
YKA				Lg		10 45 52.3	
	baz=297,slow=30,SNR=5.7						
YKA				LR	LR	10 47 01.4	
	comp=Z,12μm,19.1s,baz=285,slow=42						
YKA	**Yellowknife Ar**	**6.92**	**104**	Pn	**Pn**	**10 43 53.2**	**-4.4**
YKA				Sn	**Sn**	**10 45 06.7**	**-10**
YKA				Lg		10 45 52.3	
YKA				LR	LR	10 47 01.4	
ILAR	**Eielson Array**	**7.54**	**277**	Pn	**Pn**	**10 44 03.8**	**-2.2**
	4.4nm,0.3s,baz=81,sl

BBB Lg 10 48 56.7
BBB LR LR 10 50 53.9
KDAK Kodiak Island 13.25 248 Pn **Pn 10 45 24.1 -0.2**
comp=Z,0.9nm,0.3s,baz=62,slow=9.9,SNR=7.9
KDAK Lg 10 49 15.1
baz=307,slow=20,SNR=3.3
KDAK LR LR 10 51 15.8
comp=Z,11µm,19.3s,baz=43,slow=41
KDAK Kodiak Island 13.25 248 Pn **Pn 10 45 24.1 -0.2**
KDAK Lg 10 49 15.1
KDAK LR LR 10 51 15.8
MNB Mounoet Dainar 13.95 151 Pn **Pn 10 45 29.3 -4.4**
EDM Edmonton 14.24 138 Trac 10 48 35.3
comp=Z,154nm,0.9s
EDM Trac 10 48 35.3
comp=Z,154nm,0.9s
EDM Edmonton 14.24 138 Pn **Pn 10 45 32.9 -4.9**
EDM Sn **Sn 10 48 03.2 -13**
PHC Port Hardy 14.32 175 Pn **Pn 10 45 39.3 +0.5**
PHC S 10 49 33.5
PHC Trac 10 50 03.2
comp=Z,89nm,1.2s
HOLB Holberg 14.37 177 Pn **Pn 10 45 40.9 +1.5**
HOLB S 10 49 48.1
HOLB Trac 10 49 58.7
comp=Z,2µm,1.8s
DOWB Downie Slide 14.56 153 Pn **Pn 10 45 38.9 -3.2**
DOWB S 10 49 50.8
DOWB Trac 10 50 18.5
comp=Z,2µm,1.2s
MAYB Maynard 14.63 175 Pn **Pn 10 45 46.3 +3.2**
MAYB S 10 49 59.1
MAYB Trac 10 50 12.2
comp=Z,2µm,2.1s
NCRB Newcastle Ridg 14.68 172 Pn **Pn 10 45 53.0 +9.2**
NCRB S 10 50 02.2
NCRB Trac 10 50 25.6
comp=Z,2µm,2.1s
LLLB Lilloet 14.88 162 Pn **Pn 10 45 45.2 -1.4**
LLLB S 10 50 10.2
LLLB Trac 10 50 30.9
comp=Z,75nm,1.4s
WOSB Woss 14.90 173 Pn **Pn 10 45 49.4 +2.6**
WOSB S 10 50 02.5
WOSB Trac 10 50 26.7
comp=Z,1µm,1.9s
SLEB Sale Mountain 14.97 152 Pn **Pn 10 45 42.6 -5.2**
SLEB S 10 50 14.0
SLEB Trac 10 50 50.5
comp=Z,166nm,1.1s
RES Resolute Bay 15.03 35 ⇑Pn **Pn 10 45 43.6 -4.9**
RES Sn **Sn 10 48 22.7 -12**
RES S 10 50 04.9
RES Trac 10 50 31.8
comp=Z,567nm,1.1s
RES Trac 10 50 31.8
comp=Z,567nm,1.1s
RES Resolute Bay 15.03 35 *e*Pn **Pn 10 45 43.0 -5.5**
comp=Z,0.6nm,0.6s
RES Resolute Bay 15.03 35 *e*P **Pn 10 45 43.0 -5.5**
RES pmax pmax
comp=Z,1.0nm,0.6s
CBB Campbell River 15.10 171 Pn **Pn 10 45 50.0 +0.6**
CBB S 10 50 10.0
CBB Trac 10 51 14.6
comp=Z,72nm,1.9s
EDB Eliza Dome 15.16 175 Pn **Pn 10 45 54.9 +4.6**
WSLR Whistler 15.23 164 Trac 10 51 09.4
comp=Z,37nm,1.4s
WSLR Whistler 15.23 164 Pn **Pn 10 45 51.8 +0.6**
GDR Gold River 15.31 172 Pn **Pn 10 45 55.2 +3.1**
GDR S 10 50 15.6
GDR Trac 10 51 02.5
comp=Z,3µm,2.5s
TXB Texada 15.50 168 Pn **Pn 10 45 54.1 -0.7**
TXB S 10 50 28.4
TXB Trac 10 50 35.2
comp=Z,2µm,2.2s
BTB Buttle Lake 15.65 171 Pn **Pn 10 46 02.2 +5.5**
SHB Sechelt 15.65 167 Pn **Pn 10 45 57.6 +0.9**
SHB S 10 50 35.4
SHB Trac 10 50 41.2
comp=Z,132nm,1.9s
WPB Watts Point 15.66 165 Pn **Pn 10 45 56.4 -0.4**
WPB S 10 50 34.2
WPB Trac 10 51 09.5
comp=Z,2µm,2.4s
ALB Alberni 15.89 170 Pn **Pn 10 46 02.4 +2.6**
ALB Trac 10 51 04.2
comp=Z,472nm,1.7s
BIB Bowen Island 15.90 166 Pn **Pn 10 46 02.7 +2.8**
BIB Trac 10 51 23.5
comp=Z,692nm,1.9s
NLLB Nanaimo Lost L 16.01 168 Pn **Pn 10 46 01.8 +0.4**
NLLB S 10 50 40.2
NLLB Trac 10 50 54.0
comp=Z,40nm,1.4s
TNA Tin City 16.06 290 *e*Pn **Pn 10 46 00.6 -1.4**
comp=Z,532nm,1.5s
HNB Haney 16.11 164 Pn **Pn 10 46 05.4 +2.8**
HNB Trac 10 51 22.9
comp=Z,39nm,1.2s
HOPB Hope 16.14 161 Pn **Pn 10 46 02.8 -0.2**
HOPB Trac 10 51 07.3
comp=Z,45nm,1.1s
OZB Mount Ozzard 16.16 171 ⇑Pn **Pn 10 46 09.9 +6.7**
MGB Mount Grey 16.18 169 Pn **Pn 10 46 06.7 +3.2**
MGB Trac 10 51 14.8
comp=Z,42nm,1.3s
GOBB Galiano Island 16.33 167 Pn **Pn 10 46 06.9 +1.4**
GOBB S 10 50 48.0
GOBB Trac 10 51 06.6
comp=Z,2µm,2.4s
VDB Vedder Mountai 16.41 163 Pn **Pn 10 46 09.2 +2.7**
VDB Trac 10 51 11.5
comp=Z,325nm,1.7s
PNT Penticton 16.48 157 Pn **Pn 10 46 08.0 +0.6**
PNT Trac 10 51 28.4
comp=Z,84nm,1.6s
SNB Saturna Island 16.54 166 Pn **Pn 10 46 12.2 +4.2**
SNB S 10 50 58.8
SNB Trac 10 51 48.1
comp=Z,58nm,1.4s
PFB Port Renfrew 16.62 169 Pn **Pn 10 46 10.6 +1.4**
PFB S 10 50 50.4
PFB Trac 10 51 15.7
comp=Z,30nm,1.5s
PGC Sidney 16.63 167 Pn **Pn 10 46 10.2 +0.9**
PGC S 10 51 01.6
PGC Trac 10 51 45.5
comp=Z,53nm,1.4s
PGC Sidney 16.63 167 *e*Pn **Pn 10 46 09.3 +0.1**
comp=Z,360nm,1.0s
LZB Mount Lazard 16.64 167 Pn **Pn 10 46 09.3 -0.1**
LZB S 10 50 49.6
LZB Trac 10 51 24.6
comp=Z,19nm,1.9s
VGZ Gonzales 16.88 166 Pn **Pn 10 46 14.2 +1.8**
VGZ Trac 10 51 56.4
comp=Z,26nm,0.9s
FFC Flin Flon 16.93 114 Pn **Pn 10 46 04.5 -8.5**
comp=Z,682nm,0.8s,SNR=16
FCC Fort Churchill 17.49 94 Pn **Pn 10 46 12.9 -7.1**
FCC Sn Sn 10 49 14.2 -21
FCC Trac 10 51 51.6
comp=Z,280nm,1.0s
FCC Trac 10 51 51.6
comp=Z,280nm,1.0s
FCC Fort Churchill 17.49 94 *e*Pn **Pn 10 46 12.7 -7.3**
comp=Z,0.1nm,0.6s
FCC *e*Sn **Sn 10 49 15.3 -19**
NEW Newport 17.94 153 P **Pn 10 46 25.1 -0.5**
comp=Z,0.6nm,0.3s,baz=346,slow=11,SNR=20
NEW LR LR 10 54 04.5
comp=Z,9µm,19.0s,baz=342,slow=40
NEW Newport 17.94 153 *e*Pn **Pn 10 46 23.0 -2.6**
comp=Z,237nm,0.8s
NEW Newport 17.94 153 *e*P **Pn 10 46 23.0 -2.6**
NEW pmax pmax
comp=Z,237nm,0.8s
WTV Waterville 18.00 159 P **Pn 10 46 28.8 +2.4**
SDPT Sand Point 18.10 253 *e*P **Pn 10 46 28.4 +0.8**
comp=Z,712nm,2.0s
EPH Ephrata 18.39 159 P **Pn 10 46 32.2 +1.0**

TBM Table Mountain 18.43 161 P **Pn 10 46 33.7 +2.1**
OD2 Odessa Site #2 18.50 157 P **Pn 10 46 32.8 +0.4**
HAWA Hanford 19.34 159 *e*P **Pn 10 46 41.7 -1.0**
comp=Z,7.3nm,1.1s
EGMT Eagleton 19.92 139 *e*P **Pn 10 46 45.5 -4.0**
comp=Z,43nm,0.8s
EGMT *e*S Sn 10 50 07.2 -26
MSO Missoula 19.97 148 *e*P **Pn 10 46 47.6 -2.6**
comp=Z,107nm,0.9s
CHMT Chamberlain Mo 20.05 147 *e*P **P 10 46 48.4 -0.9**
VFP Flag Point 20.14 164 P **P 10 46 52.5 +2.2**
HRY Holter Researc 20.58 144 *e*P **P 10 46 53.9 -1.2**
COR Corvallis 20.68 168 *e*P **P 10 46 54.6 -1.5**
comp=Z,285nm,1.1s
COR LR LR
comp=Z,23µm,19.0s,MS5.6
COR Corvallis 20.68 168 *e*P **P 10 46 54.6 -1.5**
COR pmax pmax
comp=Z,285nm,1.1s
COR MLR MLR
comp=Z,23µm,19.0s,MS5.6
BROR Big Rock Looko 21.07 166 P **P 10 47 03.2 +2.8**
BKCOR Black Crater 21.12 165 P **P 10 47 03.9 +3.0**
BMO Blue Mountains 21.20 156 *e*P **P 10 47 00.5 -1.3**
comp=Z,102nm,1.4s,mb5.0
DGMT Dagmar 21.23 129 *e*P **P 10 47 00.9 -1.2**
comp=Z,43nm,0.8s,mb4.8
BOZ Bozeman (W) 21.63 145 *e*P **P 10 47 05.7 -0.7**
comp=Z,592nm,1.9s,mb5.7
BOZ Bozeman (W) 21.63 145 *e*P **P 10 47 05.8 -0.6**
BOZ pmax pmax
comp=Z,340nm,1.4s,mb5.6
UNV Unalaska Valle 21.64 257 P **P 10 47 07.9 +1.4**
comp=Z,224nm,1.0s,mb5.5
DLMT Dillon 21.67 147 *e*P **P 10 47 05.6 -1.2**
comp=Z,38nm,1.7s,mb4.5
GCMT Greycliff 22.00 141 *e*P **P 10 47 10.6 +0.2**
MCMT McKenzie Canyo 22.11 148 *e*P **P 10 47 11.1 -0.5**
LAO LASA Array 22.16 135 *e*P **P 10 47 11.1 -1.0**
comp=Z,79nm,0.5s,mb5.4
QLMT Earthquake Lak 22.44 145 *e*P **P 10 47 14.6 -0.5**
HUMO Hull Mountain 22.67 168 *e*P **P 10 47 18.8 +1.3**
comp=Z,111nm,1.1s,mb5.2
YMR Madison River 22.71 145 *e*P **P 10 47 17.9 0.0**
comp=Z,18nm,0.3s,mb5.0
ULM Lac du Bonnet 22.75 114 P **P 10 47 16.9 -1.5**
comp=Z,23nm,0.8s,mb4.7,baz=322,slow=11,SNR=28
ULM S **S 10 51 19.0 -8.5**
comp=Z,27nm,0.8s,baz=128,slow=7.6,SNR=5.2
ULM LR LR 10 56 43.6
comp=Z,3µm,19.4s,MS4.7,baz=318,slow=38
ULM Lac du Bonnet 22.75 114 Pn **P 10 47 15.7 -2.7**
ULM Sn **S 10 51 10.9 -17**
ULM Trac 10 54 28.1
comp=Z,115nm,1.1s
ULM Trac 10 54 28.1
comp=Z,115nm,1.1s
YFT Old Faithful 22.95 145 P **P 10 47 23.6 +3.1**
LKWY Lake 22.95 144 *e*P **P 10 47 21.0 +0.6**
comp=Z,288nm,1.6s,mb5.5
LKWY Lake 22.95 144 *e*P **P 10 47 21.0 +0.6**
LKWY pmax pmax
comp=Z,288nm,1.6s,mb5.5
HLID Hailey 22.99 152 *e*P **P 10 47 19.4 -1.5**
comp=Z,135nm,2.0s,mb5.0
ALE Alert 23.22 18 P **P 10 47 23.3 0.0**
comp=Z,418nm,1.0s,mb5.8,SNR=29
FLWY Flagg Ranch 23.32 145 *e*P **P 10 47 24.7 +0.3**
comp=Z,804nm,1.0s,mb6.1
WVOR Wild Horse Val 23.35 160 *e*P **P 10 47 25.2 +0.5**
comp=Z,123nm,1.3s,mb5.2
WVOR Wild Horse Val 23.35 160 *e*P **P 10 47 25.2 +0.5**
WVOR pmax pmax
comp=Z,123nm,1.3s,mb5.2
YBH Yreka Blue Hor 23.56 168 P **P 10 47 26.5 -0.3**
comp=Z,18nm,1.2s,mb4.4,baz=37,slow=5.1,SNR=6.0
YBH LR LR 10 57 00.5
comp=Z,23µm,18.9s,MS5.7,baz=341,slow=38
MOD Modoc 23.65 163 *e*P **P 10 47 27.2 -0.4**
comp=Z,76nm,1.1s,mb5.0
LOHW Long Hollow 23.79 145 *e*P **P 10 47 28.9 -0.1**
comp=Z,174nm,0.7s,mb5.6
SNOW Snow King Moun 23.89 145 *e*P **P 10 47 29.7 -0.2**
comp=Z,39nm,0.5s,mb5.1
REDW Red Top Meadow 23.97 146 *e*P **P 10 47 30.2 -0.4**
comp=Z,16nm,0.5s,mb4.7
AHID Auburn Hatcher 24.47 147 *e*P **P 10 47 35.8 +0.6**
comp=Z,128nm,1.5s,mb5.1
WDC Whiskeytown Da 24.72 168 *e*P **P 10 47 39.8 +2.3**
comp=Z,52nm,1.1s,mb5.0
WDC Whiskeytown Da 24.72 168 *e*P **P 10 47 39.8 +2.4**
WDC pmax pmax
comp=Z,52nm,1.1s,mb5.0
BW06 Boulder Array 24.84 144 *e*P **P 10 47 38.2 -0.3**
comp=Z,8.5nm,0.4s,mb4.6
PDAR Pinedale Array 24.84 144 P **P 10 47 37.8 -0.8**
comp=Z,44nm,1.1s,mb4.9,baz=350,slow=3.8,SNR=32
PDAR LR LR 10 58 40.6
comp=Z,2µm,18.5s,MS4.7,baz=348,slow=40
BILL Bilibino 24.87 306 *e*P **P 10 47 38.5 -0.4**
comp=Z,282nm,1.6s,mb5.5
BILL LR LR
comp=Z,3µm,20.0s,MS4.8
BILL Bilibino 24.87 306 ⇑*i*P **P 10 47 38.2 -0.7**
BILL *e* 10 48 14.2
BILL *e*SS 10 52 51.8
BILL pmax pmax
comp=Z,113nm,1.3s,mb5.2
BILL MLR MLR
comp=Z,3µm,16.0s,MS4.9
HVU Hansel Valley 25.04 150 *e*P **P 10 47 43.1 +2.8**
comp=Z,34nm,1.0s,mb4.8
HVU Hansel Valley 25.04 150 *e*P **P 10 47 43.2 +2.9**
HVU pmax pmax
comp=Z,34nm,1.0s,mb4.8
RSSD Black Hills 25.14 134 *e*P **P 10 47 39.9 -1.3**
comp=Z,214nm,1.4s,mb5.5
RSSD Black Hills 25.14 134 *e*P **P 10 47 39.9 -1.4**
RSSD pmax pmax
comp=Z,214nm,1.4s,mb5.5
HWUT Hardware Ranch 25.47 148 *e*P **P 10 47 44.0 -0.3**
comp=Z,142nm,1.5s,mb5.3
BMN Battle Mountai 25.52 158 *e*P **P 10 47 45.3 +0.6**
comp=Z,93nm,1.3s,mb5.2
BMN Battle Mountai 25.52 158 *e*P **P 10 47 45.3 +0.6**
BMN pmax pmax
comp=Z,93nm,1.3s,mb5.2
ELK Elko 25.55 155 P **P 10 47 45.6 +0.6**
comp=Z,21nm,1.0s,mb4.6,baz=348,slow=7.8,SNR=13
ELK LR LR 10 58 36.5
comp=Z,9µm,18.3s,MS5.3,baz=342,slow=38
ELK Elko 25.55 155 *e*P **P 10 47 45.2 +0.2**
comp=Z,71nm,1.4s,mb5.0
ELK Elko 25.55 155 *e*P **P 10 47 45.2 +0.2**
ELK pmax pmax
comp=Z,71nm,1.4s
SPUT South Promonto 25.56 150 *e*P **P 10 47 46.2 +1.1**
BGU Big Grassy Mou 25.80 151 P **P 10 47 52.5 +5.2**
OHCM Honcut 26.05 166 *e*P **P 10 47 50.1 +0.5**
NOQ North Oquirrh 26.26 150 *e*P **P 10 47 51.6 +0.2**
comp=Z,132nm,1.4s,mb5.3
EYMN Ely 26.32 112 *e*P **P 10 47 49.9 -2.1**
comp=Z,23nm,2.2s,mb4.3
RWWY Rawlins 26.46 141 *e*P **P 10 47 52.5 -0.8**
comp=Z,191nm,1.4s,mb5.4
DUG Dugway 26.55 151 *e*P **P 10 47 54.3 +0.3**
comp=Z,102nm,1.5s,mb5.1
DUG LR LR
comp=Z,11µm,21.0s,MS5.4
DUG Dugway 26.55 151 *e*P **P 10 47 54.3 +0.2**
DUG pmax pmax
comp=Z,103nm,1.5s,mb5.1
DUG MLR MLR
comp=Z,11µm,21.0s,MS5.4
DAU Daniels Canyon 26.68 148 P **P 10 47 55.6 +0.4**
NLU North Lily Min 26.93 150 *e*P **P 10 47 57.6 +0.1**
MPU Maple Canyon 26.97 149 *e*P **P 10 47 57.7 -0.2**
comp=Z,81nm,1.5s,mb5.0
MPU LR LR
comp=Z,11µm,20.0s,MS5.4
PHWY Pilot Hill 27.30 139 *e*P **P 10 48 00.2 -0.7**
NVAR Mina Array Bea 27.32 161 P **P 10 48 00.8 -0.2**
comp=Z,14nm,0.6s,mb4.7,baz=349,slow=6.3,SNR=31
ADK Adak 27.33 264 PFAKE 10 48 10.0 +8.9
ADK LR LR
comp=Z,9µm,19.0s,MS5.3

CMB Columbia Colle 27.45 165 *e*P **P 10 48 01.8 -0.4**
comp=Z,18nm,1.1s,mb4.5
CMB LR LR
comp=Z,13µm,19.0s,MS5.5
CMB Columbia Colle 27.45 165 *e*P **P 10 48 02.9 +0.7**
CMB pmax pmax
comp=Z,18nm,1.1s,mb4.5
TMUT Trail Mountain 27.75 149 *e*P **P 10 48 06.3 +1.4**
TPH Tonopah 27.83 159 *e*P **P 10 48 05.2 -0.3**
comp=Z,107nm,1.2s,mb5.3
TPH Tonopah 27.83 159 *e*P **P 10 48 05.5 0.0**
TPH pmax pmax
comp=Z,110nm,1.2s,mb5.4
SRU San Rafael 28.08 148 *e*P **P 10 48 08.1 +0.2**
comp=Z,162nm,1.3s,mb5.5
SRU San Rafael 28.08 148 *e*P **P 10 48 08.8 +1.0**
SRU pmax pmax
comp=Z,160nm,1.2s,mb5.5
MSU Marysvale 28.30 151 *e*P **P 10 48 10.4 +0.7**
MSU Marysvale 28.30 151 *e*P **P 10 48 10.9 +1.1**
MVU Marysvale 28.30 151 *e*P **P 10 48 15.9 +6.2**
comp=Z,49nm,1.9s,mb4.8
MVU LR LR
comp=Z,12µm,19.0s,MS5.5
MTUM Tungsten Hills 28.35 162 *e*P **P 10 48 10.5 +0.3**
ISCO Idaho Springs 28.66 140 *e*P **P 10 48 10.9 -2.0**
comp=Z,48nm,1.3s,mb5.1
ISCO Idaho Springs 28.66 140 *e*P **P 10 48 10.9 -2.0**
ISCO pmax pmax
comp=Z,49nm,1.3s,mb5.1
ARUT Antelope Range 28.75 153 *e*P **P 10 48 13.8 +0.1**
SMCO Snowmass 28.88 143 *e*P **P 10 48 15.1 +0.2**
comp=Z,47nm,1.2s,mb5.1
LRV Little Rabbit 28.98 166 P **P 10 48 15.3 -0.5**
PV10 Paradox Valley 29.13 146 *e*P **P 10 48 17.5 +0.4**
PV01 Paradox Valley 29.47 146 *e*P **P 10 48 19.3 -0.9**
DAC Darwin (Calif) 29.54 161 *e*P **P 10 48 21.4 +0.7**
comp=Z,198nm,1.5s,mb5.6
DAC Darwin (Calif) 29.54 161 *e*P **P 10 48 21.5 +0.7**
DAC pmax pmax
comp=Z,200nm,1.5s,mb5.6
PTRM Twissleman Ran 29.83 165 *e*P **P 10 48 23.6 +0.3**
SFJD Kangerlussuaq 30.09 50 P **P 10 48 25.9 +0.2**
comp=Z,13nm,1.0s,mb4.6,baz=296,slow=9.9,SNR=6.8
SFJD Kangerlussuaq 30.09 50 *i*P **P 10 48 27.8 +2.1**
comp=Z,80nm,1.6s,mb5.2
SFJD *i*S **S 10 53 27.6 +3.4**
SFJD
comp=Z,10µm,19.0s
SFJD Kangerlussuaq 30.09 50 *e*P **P 10 48 27.8 +2.1**
comp=Z,80nm,1.6s,mb5.2
SFJD *i*S **S 10 53 27.6 +3.4**
SFJD LR LR
comp=Z,10µm,19.0s,MS5.5
SFJD Kangerlussuaq 30.09 50 *e*P **P 10 48 27.8 +2.1**
SFJD *i*S **S 10 53 27.6 +3.4**
SFJD pmax pmax
comp=Z,80nm,1.6s,mb5.2
SFJD MLR MLR
comp=Z,10µm,19.0s,MS5.5
SUMG Summit 30.55 36 *e*P **P 10 48 29.7 0.0**
comp=Z,56nm,1.0s,mb5.3
NEN Nelson 30.58 157 *e*P **P 10 48 29.7 -0.3**
LDFC Landfair 31.09 157 *e*P **P 10 48 34.4 -0.1**
CBKS Cedar Bluff 31.30 132 *e*P **P 10 48 35.1 -1.2**
comp=Z,14nm,0.7s,mb4.9
CBKS Cedar Bluff 31.30 132 *e*P **P 10 48 35.1 -1.2**
CBKS pmax pmax
comp=Z,14nm,0.7s,mb4.9
CBKS Cedar Bluff 31.30 132 P **P 10 48 38.8 +2.5**
CBKS pmax pmax
comp=Z,14nm,0.7s,mb4.9
WUAZ Wupatki 31.36 151 *e*P **P 10 48 37.1 +0.3**
comp=Z,44nm,1.3s,mb5.1
MWC Mount Wilson 31.50 162 *e*P **P 10 48 38.6 +0.5**
KSU1 Kansas State U 32.06 128 *e*P **P 10 48 41.3 -1.7**
DAG Danmarks Havn 32.20 24⇓*i*P **P 10 48 53.6 +9.3**
comp=Z,70nm,1.0s,mb5.5
DAG
comp=Z,12µm,17.0s
DAG Danmarks Havn 32.20 24⇓*e*P **P 10 48 53.6 +9.3**
comp=Z,70nm,1.0s,mb5.5
DAG LR LR
comp=Z,13µm,17.0s,MS5.7
DAG Danmarks Havn 32.20 24⇓*e*P **P 10 48 53.6 +9.3**
DAG pmax pmax
comp=Z,70nm,1.0s,mb5.5
DAG MLR MLR
comp=Z,13µm,17.0s,MS5.7
PFO Pinyon Flat Ob 32.32 160 P **P 10 48 45.3 0.0**
comp=Z,105nm,0.9s,mb5.7,SNR=5.7
PFO Pinyon Flat Ob 32.32 160 *e*P **P 10 48 45.2 -0.1**
PFO LR LR
comp=Z,1µm,19.0s,MS4.7
PFO Pinyon Flat Ob 32.32 160 *e*P **P 10 48 45.5 +0.2**
SEY Seymchan 32.47 303⇓*i*P **P 10 48 46.6 0.0**
SEY Seymchan 32.47 303 *e*P **P 10 48 46.3 -0.3**
SEY *e* 10 49 56.2
SEY *e*S **S 10 54 01.5 +0.2**
SEY SS SS 10 56 17.8 -3.0
SEY pmax pmax
comp=N,20nm,0.9s
SEY pmax pmax
comp=Z,50nm,0.9s,mb5.3
SEY pmax pmax
comp=E,20nm,1.0s
SEY smax
comp=N,1µm,29.0s
SEY smax
comp=E,1µm,27.6s
SEY MLR MLR
comp=E,2µm,18.0s,MS4.9
SEY MLR MLR
comp=Z,4µm,18.0s,MS5.1
SEY MLR MLR
comp=N,1µm,22.0s,MS4.9
ANMO Albuquerque 33.01 144 *e*P **P 10 48 51.7 +0.3**
comp=N,101nm,1.6s,mb5.5
ANMO LR LR
comp=Z,2µm,22.0s,MS4.7
ANMO Albuquerque 33.01 144 *e*P **P 10 48 51.7 +0.3**
ANMO pmax pmax
comp=Z,101nm,1.6s
ANMO MLR MLR
comp=Z,2µm,22.0s
GLA Glamis 33.12 158 *e*P **P 10 48 52.2 0.0**
BAR Barrett 33.20 161 P **P 10 48 53.0 0.0**
LPM Los Pinos Moun 33.58 145 *e*P **P 10 48 56.6 +0.3**
LENM Lemitar 33.63 146 *e*P **P 10 48 57.8 +1.1**
BNM Barren Site 33.73 145 *e*P **P 10 48 57.3 -0.4**
TIXI Tiksi 33.86 326⇑*i*P **P 10 48 58.4 -0.4**
TIXI Tiksi 33.86 326 *e*P **P 10 48 53.6 -5.2**
TIXI *e* 10 50 10.5
TIXI *e*S **S 10 54 20.3 -2.7**
TIXI pmax pmax
comp=Z,85nm,1.7s,mb5.4
AAM Ann Arbor 34.11 109 *e*P **P 10 48 59.7 -1.2**
comp=Z,129nm,1.6s,mb5.6
AAM LR LR
comp=Z,597nm,19.0s,MS4.3
AAM Ann Arbor 34.11 109 *e*P **P 10 48 59.7 -1.2**
AAM pmax pmax
comp=Z,129nm,1.6s,mb5.6
AAM MLR MLR
comp=Z,597nm,19.0s,MS4.3
KBS Kingsbay 34.54 12 *e*P **P 10 48 59.0 -5.6**
KBS *e*PP PP 10 50 17.2 -5.7
KBS *e*S **S 10 54 33.6 +0.2**
KBS AMS AMS 11 05 37.8
comp=Z,3µm,15.9s,MS5.1
KBS Kingsbay 34.54 12 *e*P **P 10 48 59.0 -5.7**
KBS *e* 10 54 30.4
KBS MLR MLR
comp=Z,2565µm,15.9s
CCM Cathedral Cave 34.87 122 *e*P **P 10 49 05.1 -2.4**
comp=Z,2µm,3.1s
CCM LR LR
comp=Z,4µm,20.0s,MS5.1
CCM Cathedral Cave 34.87 122 *e*P **P 10 49 05.1 -2.4**
CCM pmax pmax
comp=Z,2µm,3.1s
CCM MLR MLR
comp=Z,4µm,20.0s,MS5.1
FVM French Village 35.23 121 *e*P **P 10 49 09.6 -0.9**
comp=Z,110nm,1.8s,mb5.5
FVM French Village 35.23 121 P **P 10 49 10.0 -0.6**

FVM pmax pmax
comp=Z,110nm,1.7s,mb5.5
MA2 Magadan 35.28 300 *e*P **P 10 49 10.7 -0.3**
comp=Z,22nm,0.8s,mb5.2
MA2 Magadan 35.28 300 *e*P **P 10 49 10.3 -0.7**
MA2 *e* 10 50 28.2
MA2 *i* S **S 10 54 46.0 +1.2**
MA2 pmax pmax
comp=Z,30nm,1.6s,mb5.0
MA2 pmax pmax
comp=N,20nm,1.7s
MA2 MLR MLR
comp=Z,6μm,21.0s,MS5.3
WMOK Wichita Mounta 35.35 134 *e*P **P 10 49 10.2 -1.4**
comp=Z,34nm,1.3s,mb5.1
WMOK Wichita Mounta 35.35 134 *e*P **P 10 49 10.2 -1.4**
WMOK pmax pmax
comp=Z,34nm,1.3s,mb5.1
BLO Bloomington 35.65 115 P **P 10 49 13.6 -0.6**
comp=Z,31nm,0.9s,mb5.2
BLO Bloomington 35.65 115 P **P 10 49 13.6 -0.6**
BLO pmax pmax
comp=Z,31nm,0.9s,mb5.2
LONY Lake Ozonia 35.95 97 *e*P **P 10 49 16.5 -0.3**
ACSO Alum Creek Sta 36.13 110 *e*P **P 10 49 17.2 -1.1**
comp=Z,34nm,1.0s,mb5.2
ACSO LR LR
comp=Z,708nm,20.0s,MS4.4
GDL2 Guadalupe Moun 36.16 143 *e*P **P 10 49 18.1 -0.5**
CLNB Carlsbad 36.22 142 *e*P **P 10 49 19.2 +0.1**
MNTX Cornudas Mount 36.38 145 *e*P **P 10 49 19.4 -1.0**
comp=Z,63nm,1.2s,mb5.4
NCB Newcomb 36.63 98 *e*P **P 10 49 21.4 -1.1**
comp=Z,137nm,1.7s,mb5.5
MIV Mineville/With 36.84 97 *e*P **P 10 49 23.5 -0.8**
PET Petropavlovsk 36.88 287 *e*P **P 10 49 26.6 +1.9**
PET *e* 10 50 54.6
PET *e*S **S 10 55 06.4 -2.9**
PET pmax pmax
comp=Z,100nm,10.7s
PET pmax pmax
comp=Z,100nm,16.3s
PET MLR MLR
comp=Z,2μm,17.0s,MS5.1
GNAR Gosnell 37.17 122 P **P 10 49 26.7 -0.5**
comp=Z,82nm,1.1s,mb5.5
MIAR Mount Ida 37.21 127 *e*P **P 10 49 25.3 -2.2**
comp=Z,39nm,1.1s,mb5.2
MIAR Mount Ida 37.21 127 *e*P **P 10 49 25.3 -2.2**
MIAR pmax pmax
comp=Z,39nm,1.1s,mb5.2
UALR University of 37.42 126 *e*P **P 10 49 28.4 -0.9**
comp=Z,25nm,1.3s,mb4.9
HNH Hanover 37.66 96 P **P 10 49 31.1 -0.3**
comp=Z,18nm,1.7s,mb4.5
WVT Waverly 37.83 119 *e*P **P 10 49 30.9 -1.9**
comp=Z,24nm,0.8s,mb5.0
WVT Waverly 37.83 119 *e*P **P 10 49 30.9 -1.9**
WVT pmax pmax
comp=Z,24nm,0.8s,mb5.0
MCWV Mont Chateau 37.88 107 *e*P **P 10 49 32.9 -0.4**
comp=Z,37nm,0.9s,mb5.1
OXF Oxford 38.69 122 *e*P **P 10 49 38.6 -1.5**
comp=Z,125nm,0.9s,mb5.6
OXF Oxford 38.69 122 *e*P **P 10 49 38.6 -1.5**
OXF pmax pmax
comp=Z,125nm,0.9s,mb5.6
PLAL Pickwick Lake 38.76 120 *e*P **P 10 49 38.4 -2.2**
comp=Z,21nm,0.7s,mb5.0
JCT Junction City 39.02 138 *e*P **P 10 49 41.2 -1.6**
comp=Z,64nm,1.2s,mb5.2
JCT Junction City 39.02 138 *e*P **P 10 49 41.2 -1.6**
JCT pmax pmax
comp=Z,64nm,1.2s,mb5.2
MVL Millersville 39.02 104 *e*P **P 10 49 42.7 -0.1**
LTX Lajitas 39.06 143 *e*P **P 10 49 42.4 -0.7**
comp=Z,88nm,1.6s,mb5.2
LTX Lajitas 39.06 143 *e*P **P 10 49 42.4 -0.7**
LTX pmax pmax
comp=Z,88nm,1.6s,mb5.2
TZTN Tazewell 39.09 114 *e*P **P 10 49 42.9 -0.5**
FWV Forest Hill 39.27 110 P **P 10 49 44.5 -0.3**
BJO Bjornoya 39.27 13 AMS AMS 11 07 20.7
comp=Z,4μm,18.0s,MS5.3
SWET Sewanee 39.35 118 *e*P **P 10 49 44.1 -1.5**
NATX Nacogdoches 39.40 130 *e*P **P 10 49 45.4 -0.6**
comp=Z,107nm,1.3s,mb5.4
ELN Prospectdale 39.60 110 *e*P **P 10 49 44.7 -3.0**
BLA Blacksburg 39.74 110 *e*P **P 10 49 50.2 +1.4**
comp=Z,3.0nm,1.0s
BLA Blacksburg 39.74 110 *e*P **P 10 49 50.2 +1.4**
BLA pmax pmax
comp=Z,3.0nm,1.0s
CBN Corbin 40.12 106 *e*P **P 10 49 53.0 +1.0**
comp=Z,42nm,0.8s,mb5.2
YAK Yakutsk 40.60 315 *e*P **P 10 49 55.4 -0.5**
comp=Z,78nm,0.8s,mb5.4
YAK Yakutsk 40.60 315 *e*P **P 10 49 55.5 -0.5**
YAK pmax pmax
comp=Z,47nm,1.0s,mb5.1
YAK pmax pmax
comp=N,26nm,1.3s
YAK pmax pmax
comp=E,24nm,1.3s
YAK MLR MLR
comp=Z,1μm,23.0s,MS4.8
YAK MLR MLR
comp=N,944nm,21.0s,MS4.8
YAK MLR MLR
comp=E,1μm,25.0s,MS4.8
HKT Hockley 40.70 133 *e*P **P 10 49 55.3 -1.5**
comp=E,81nm,1.5s,mb5.1
HKT LR LR
comp=Z,2μm,19.0s,MS4.9
HKT Hockley 40.70 133 *e*P **P 10 49 55.3 -1.5**
HKT pmax pmax
comp=Z,81nm,1.5s,mb5.1
HKT MLR MLR
comp=Z,2μm,19.0s,MS4.9
LRAL Lakeview Retre 40.90 120 *e*P **P 10 49 56.1 -2.2**
comp=Z,25nm,0.8s,mb4.9
JSC Jenkinsville 41.97 113 *e*P **P 10 50 05.5 -1.7**
KEV Kevo 44.54 12 *e*p **P 10 50 26.4 -1.6**
comp=Z,26nm,0.7s,mb5.2
KEV Kevo 44.54 12 *e*P **P 10 50 26.4 -1.6**
KEV pmax pmax
comp=Z,26nm,0.7s,mb5.2
LOF Lofoten 44.60 19 *e*P **P 10 50 30.5 +2.1**
ARCES ARCESS Array B 44.63 12 P **P 10 50 28.1 -0.6**
comp=Z,11nm,0.6s,mb4.8,baz=356,slow=6.9,SNR=26
ARE0 ARCESS Array S 44.63 12 P **P 10 50 27.1 -1.5**
KTK1 Kautokeino 44.91 14 *e*P **P 10 50 30.1 -0.8**
CLNS Chul'man 46.23 313 *e*P **P 10 50 41.4 0.0**
CLNS *e* 10 52 13.2
CLNS *e* 10 52 23.8
CLNS *e*PPP 10 53 13.3
CLNS *e*S **S 10 57 30.0 +2.1**
CLNS pmax pmax
comp=Z,100nm,1.1s,mb5.7
CLNS pmax pmax
comp=N,24nm,0.8s
CLNS pmax pmax
comp=E,47nm,1.0s
CLNS pmax pmax
comp=Z,21nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,16nm,0.7s
CLNS pmax pmax
comp=E,23nm,1.0s
CLNS smax
comp=N,89nm,2.5s
CLNS smax
comp=Z,5.0nm,0.7s
CLNS smax
comp=E,10.0nm,1.3s
CLNS MLR MLR
comp=N,300nm,14.0s,MS4.8
CLNS MLR MLR
comp=Z,1μm,14.0s,MS4.9
CLNS MLR MLR
comp=E,700nm,13.0s,MS4.8
MOR8 Moi Rana 46.56 19 *e*P **P 10 50 43.7 -0.3**
LVZ Lovozero 46.93 8 *i*Pr **P 10 50 47.7 +0.8**
LVZ Lovozero 46.93 8 *i*P **P 10 50 47.4 +0.5**
LVZ *i*S **S 10 57 27.7 -10**
LVZ pmax pmax
comp=N,26nm,1.0s
LVZ pmax pmax
comp=Z,49nm,1.0s,mb5.4
LVZ pmax pmax
comp=Z,260nm,1.8s,mb5.9
LVZ pmax pmax
comp=N,82nm,1.6s
LVZ MLR MLR
comp=Z,3μm,17.0s,MS5.4
LVZ MLR MLR
comp=N,2μm,16.0s,MS5.2
LVZ MLR MLR
comp=E,1μm,16.0s,MS5.2
APA Apatity 47.18 9⇓*i*P **P 10 50 50.2 +1.4**
APA *e*S **S 10 57 32.0 -9.5**
APA pmax pmax
comp=Z,43nm,1.3s,mb5.2
APA MLR MLR
comp=Z,4μm,17.0s,MS5.5
DWPF Disney 47.40 117 PFAKE 10 51 00.0 +10
DWPF LR LR
comp=Z,3μm,19.0s,MS5.3
NSS Namsos 47.74 22 *e*SS SS 11 01 22.2 +4.5
NSS AMS AMS 11 11 27.1
comp=Z,3μm,22.7s,MS5.2
YSS Yuzh-Sakhalins 48.00 293 *e*P **P 10 50 54.6 -0.6**
comp=Z,83nm,0.8s,mb5.8
YSS Yuzh-Sakhalins 48.00 293⇑*e*P **P 10 50 55.1 -0.1**
YSS *e*S **S 10 57 50.0 -3.2**
YSS pmax pmax
comp=N,60nm,0.9s
YSS pmax pmax
comp=Z,110nm,0.9s,mb5.9
YSS pmax pmax
comp=E,60nm,1.0s
YSS MLR MLR
comp=Z,1μm,18.0s,MS5.0
YSS MLR MLR
comp=N,1μm,15.0s,MS5.2
YSS MLR MLR
comp=E,1μm,15.0s,MS5.2
POHA Pohakuloa 48.44 214 PFAKE 10 51 10.0 +11
POHA LR LR
comp=Z,3μm,19.0s,MS5.4
BOD Bodaibo 48.58 320 *e*P **P 10 50 57.1 -2.5**
BOD *e* 10 57 59.2
BOD pmax pmax
comp=Z,104nm,1.1s,mb5.8
HABR Khabarovsk 49.69 300 *e*P **P 10 51 08.7 +0.6**
KLR Kul'dur 50.26 303 *e*P **P 10 51 08.0 -4.5**
KLR MLR MLR
comp=N,1μm,13.0s
KLR MLR MLR
comp=Z,6μm,13.0s,MS5.8
BBSR BB Station 50.41 98 PFAKE 10 51 30.0 +16
BBSR LR LR
comp=Z,2μm,20.0s,MS5.1
BER Bergen 50.42 27 AMS AMS 11 13 14.1
comp=Z,3μm,19.1s,MS5.4
NB2 NORSAR Subarra 50.89 24 P **P 10 51 16.0 -1.2**
comp=Z,71nm,1.1s,mb5.5,baz=340,slow=7.9
NB2 NORSAR Subarra 50.89 24 P **P 10 51 16.0 -1.2**
NB2 pmax pmax
comp=Z,71nm,1.1s,mb5.5
NOA NORSAR Array B 50.89 24 P **P 10 51 14.2 -3.1**
comp=Z,0.5nm,0.6s,baz=164,slow=9.6,SNR=11
NOA LR LR 11 12 48.2
comp=Z,4μm,21.7s,baz=335,slow=36
NAO01 NORSAR Array S 51.02 24 *e*P **P 10 51 16.7 -1.5**
comp=Z,52nm,1.1s,mb5.4
NAO01 LR LR
comp=Z,4μm,20.0s,MS5.4
JOF Joensuu 51.62 11 *e*p **P 10 51 21.8 -0.9**
comp=Z,15nm,0.6s,mb5.1
KONO Kongsberg 51.91 25 *e*S **S 10 58 50.0 +2.3**
KONO Kongsberg 51.91 25 *i*P **P 10 51 25.9 +1.0**
KAF Kangasniemi 51.94 14 *e*p **P 10 51 23.8 -1.3**
comp=Z,3.9nm,0.6s,mb4.5
KAF Kangasniemi 51.94 14 *e*P **P 10 51 23.8 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EAB Aberfoyle 52.10 36 *e*P **P 10 51 26.9 +0.6**
EAB Aberfoyle 52.10 36 *e*P **P 10 51 26.9 +0.6**
TEIG Tepich 52.19 129 *e*P **P 10 51 24.7 -2.2**
comp=Z,30nm,1.6s,mb5.0
FINES FINESS Array B 52.57 15 P **P 10 51 28.4 -1.4**
comp=Z,19nm,0.9s,mb5.0,baz=355,slow=6.3,SNR=33
FINES LR LR 11 14 59.7
comp=Z,3μm,18.4s,MS5.3,baz=346,slow=37
EAU Auchinoon 52.63 35 *e*P **P 10 51 30.6 +0.4**
EAU AMb AMB 10 51 35.1
comp=Z,154nm,1.5s,mb5.7
EAU Auchinoon 52.63 35 *e*P **P 10 51 30.6 +0.4**
EAU AMb AMB 10 51 35.1
comp=Z,154nm,1.5s,mb5.7
ESY Stoneypath 52.77 35 *e*P **P 10 51 32.9 +1.6**
ESY AMb AMB 10 51 37.3
comp=Z,149nm,1.7s,mb5.7
ESY Stoneypath 52.77 35 *e*P **P 10 51 32.9 +1.6**
ESY AMb AMB 10 51 37.3
comp=Z,149nm,1.7s,mb5.7
EBL Broad Law 52.79 35 *e*P **P 10 51 31.0 -0.5**
EBL AMb AMB 10 51 36.1
comp=Z,54nm,1.5s,mb5.3
EBL Broad Law 52.79 35 *e*P **P 10 51 31.0 -0.5**
EBL AMb AMB 10 51 36.1
comp=Z,54nm,1.5s,mb5.3
ESK Eskdalemuir 53.17 35 *e*P **P 10 51 35.1 +0.9**
comp=Z,175nm,1.6s,mb5.7
ESK LR LR
comp=Z,7μm,19.0s,MS5.8
ESK Eskdalemuir 53.17 35 *e*P **P 10 51 35.2 +1.0**
ESK pmax pmax
comp=Z,175nm,1.6s,mb5.7
ESK MLR MLR
comp=Z,7μm,19.0s,MS5.8
BBO1 Bothel 53.68 36 *e*P **P 10 51 35.7 -2.3**
BBO1 Bothel 53.68 36 *e*P **P 10 51 35.7 -2.3**
KLMR Klimovskoe 54.22 7 *d*P **P 10 51 41.2 -0.7**
KLMR *e*S **S 10 59 06.8 -12**
KLMR pmax pmax
comp=Z,170nm,1.4s,mb5.8
KLMR pmax pmax
comp=Z,110nm,5.2s
KLMR smax
comp=E,670nm,4.0s
KLMR MLR MLR
comp=Z,2μm,19.0s,MS5.2
HIA Hailar 54.31 311 *e*P **P 10 51 42.1 -0.5**
comp=Z,54nm,0.7s,mb5.6
HIA Hailar 54.31 311 *e*P **P 10 51 42.1 -0.5**
HIA pmax pmax
comp=Z,54nm,0.7s
PUL Pulkovo 54.64 13⇓*e*P **P 10 51 41.7 -3.3**
MUD Monsted U'grnd 54.83 27⇓*i*P **P 10 51 48.6 +2.2**
comp=Z,46nm,1.0s,mb5.5
MUD *i* 10 58 44.3
MUD *i* 10 59 30.0
MUD *e* 11 03 19.9
MUD
comp=Z,3μm,19.0s
MUD Monsted U'grnd 54.83 27⇓*e*P **P 10 51 48.6 +2.2**
comp=Z,46nm,1.0s,mb5.5
MUD *i* 10 58 44.3
MUD *i* 10 59 30.0
MUD *e* 11 03 19.9
MUD Monsted U'grnd 54.83 27⇓*e*P **P 10 51 48.6 +2.2**
MUD *i* 10 59 30.0
MUD pmax pmax
comp=Z,46nm,1.0s,mb5.5
MDJ Mudanjiang 54.96 301 *e*P **P 10 51 48.5 +1.3**
comp=Z,21nm,1.1s,mb5.1
SBD1 Bryn Du 55.34 37 *e*P **P 10 51 48.6 -1.5**
SBD1 Bryn Du 55.34 37 *e*P **P 10 51 48.6 -1.5**
VLA Vladivostok 55.39 298 *e*P **P 10 51 50.5 +0.1**
VLA pmax pmax
comp=Z,93nm,1.9s,mb5.5
VLA MLR MLR
comp=Z,2μm,24.0s,MS5.1
VLA MLR MLR
comp=Z,1μm,20.4s
VSU Vasula 55.56 15⇓*i*P **P 10 51 52.2 +0.6**
KWE Weaver Farm 55.59 36 *e*P **P 10 51 50.2 -1.6**
KWE Weaver Farm 55.59 36 *e*P **P 10 51 50.2 -1.6**
SOKR Solikamsk 55.71 356 *d*P **P 10 51 53.5 +0.8**
SOKR S **S 10 59 41.6 +2.4**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,3μm,27.0s,MS5.3
HLM1 Long Mynd 55.79 37 *e*P **P 10 51 52.4 -0.8**
HLM1 AMb AMB 10 52 00.4
comp=Z,135nm,1.7s,mb5.7
HLM1 Long Mynd 55.79 37 *e*P **P 10 51 52.4 -0.8**
HLM1 AMb AMB 10 52 00.4
comp=Z,135nm,1.7s,mb5.7
IRK Irkutsk 56.10 323 *e*P **P 10 51 52.4 -3.1**
IRK *e* 10 52 55.6
IRK pmax pmax
comp=Z,100nm,2.0s,mb5.5
COP Copenhagen 56.17 25 *i*P **P 10 51 57.5 +1.5**
comp=Z,74nm,1.2s,mb5.6
COP *i*S **S 10 59 50.2 +5.0**
COP
comp=Z,1μm,21.0s
COP Copenhagen 56.17 25 *i*P **P 10 51 57.5 +1.5**
COP *i*S **S 10 59 50.2 +5.0**
COP pmax pmax
comp=Z,74nm,1.2s,mb5.6
COP MLR MLR
comp=Z,1μm,21.0s,MS4.9
MCH1 Michaelchurch 56.23 37 *e*P **P 10 51 55.7 -0.7**
MCH1 AMb AMB 10 52 01.9
comp=Z,128nm,1.4s,mb5.8
MCH1 Michaelchurch 56.23 37 *e*P **P 10 51 55.7 -0.7**
MCH1 AMb AMB 10 52 01.9
comp=Z,128nm,1.4s,mb5.8
HAE Alders End 56.31 37 *e*P **P 10 51 56.9 -0.1**
HAE AMb AMB 10 52 02.6
comp=Z,217nm,1.4s,mb6.0
HAE Alders End 56.31 37 *e*P **P 10 51 56.9 -0.1**
HAE AMb AMB 10 52 02.6
comp=Z,217nm,1.4s,mb6.0
BSD Bornholm Skovb 57.15 24 *i*P **P 10 52 10.0 +7.1**
comp=Z,34nm,0.8s,mb5.4
BSD *i* 11 00 01.8
BSD *i* 11 09 12.5
BSD
comp=Z,2μm,18.0s
CN2 Changchun 57.15 304 *e*P **P 10 52 01.6 -1.4**
CN2 *e*S **S 10 59 53.7 -4.5**
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,19.0s,MS5.3
CN2 LR LR
comp=E,2μm,19.0s,MS5.3
CN2 LR LR
comp=Z,2μm,19.0s,MS5.1
BSEG Bad Segeberg 57.43 27 *e*P **P 10 52 06.2 +1.3**
comp=Z,122nm,1.8s,mb5.6
MOY Mondy 57.44 325 *e*P **P 10 52 05.4 +0.4**
MOY pmax pmax
comp=Z,119nm,2.0s,mb5.6
NVS Novosibirsk 57.98 339 *e*P **P 10 52 07.1 -1.7**
NVS *e*S **S 11 00 09.3 +0.2**
NVS pmax pmax
comp=N,162nm,2.3s
NVS pmax pmax
comp=Z,243nm,2.3s,mb5.8
NVS pmax pmax
comp=E,52nm,1.4s
NVS smax
comp=N,80nm,2.2s
ZAK Zakamensk 58.06 323 *e*P **P 10 52 08.9 -0.5**
ZAK *e* 10 54 19.8
ZAK pmax pmax
comp=Z,34nm,1.6s,mb5.1
ZAK pmax pmax
comp=Z,47nm,1.7s,mb5.2
ZAK pmax pmax
comp=Z,22nm,2.0s,mb4.8
SVE Sverdlovsk 58.31 354 *e*P **P 10 52 10.0 -1.2**
SVE *e* 10 53 00.0
SVE *e*S **S 11 00 13.0 -0.5**
SVE *e* 11 00 28.0
SVE pmax pmax
comp=Z,176nm,1.8s,mb5.8
SVE MLR MLR
comp=N,1μm,20.0s,MS5.0
SVE MLR MLR
comp=E,400nm,20.0s,MS5.0
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.1
IBBN Ibbenburen 58.45 29 *e*P **P 10 52 11.5 -0.6**
comp=Z,55nm,1.4s,mb5.4
ZAL Zalesovo 58.60 337 P **P 10 52 11.6 -1.5**
comp=Z,16nm,0.7s,mb5.2,baz=105,slow=7.6,SNR=57
ZAL LR LR 11 19 10.1
comp=Z,2μm,21.7s,MS5.1,baz=95,slow=38
MAJO Matsushiro 58.61 290 *e*P **P 10 52 13.9 +0.7**
comp=Z,34nm,0.9s,mb5.4
MAJO LR LR
comp=Z,1μm,22.0s,MS4.9
MAJO Matsushiro 58.61 290 *e*P **P 10 52 13.9 +0.7**
MAJO pmax pmax
comp=Z,34nm,0.9s,mb5.4
MAJO MLR MLR
comp=Z,1μm,22.0s,MS4.9
MAT Matsushiro 58.61 290 P **P 10 52 14.9 +1.7**
MAT S **S 11 00 19.2 +1.8**
MAT Matsushiro 58.61 290 *e*P **P 10 52 15.0 +1.8**
comp=Z,15nm,0.8s,mb5.1
MAT *e*S **S 11 00 19.0 +1.6**
MAT LR LR
comp=Z,710nm,20.0s,MS4.8
MAT Matsushiro 58.61 290 *e*P **P 10 52 15.0 +1.8**
MAT *e*S **S 11 00 19.0 +1.6**
MAT pmax pmax
comp=Z,15nm,0.8s,mb5.1
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.8
MJAR Matsushiro Arr 58.61 290 P **P 10 52 12.7 -0.5**
comp=Z,11nm,0.9s,mb4.9,baz=26,slow=6.4,SNR=22
MJAR LR LR 11 20 22.5
comp=Z,678nm,18.0s,MS4.8,baz=70,slow=39
ARU Arti 58.80 355 P **P 10 52 13.0 -1.5**
comp=Z,537nm,1.2s,mb6.5,SNR=7.6
ARU Arti 58.80 355⇑*i*P **P 10 52 14.0 -0.5**
ARU *e* 10 53 04.0
ARU *e* 10 54 24.8
ARU *e*S **S 11 00 18.8 -1.0**
ARU *e*SS SS 11 04 15.6 +2.6
ARU pmax pmax
comp=Z,102nm,1.1s,mb5.8
ARU MLR MLR
comp=N,2μm,23.0s,MS5.2
ARU MLR MLR
comp=Z,2μm,23.0s,MS5.3
ARU MLR MLR
comp=E,800nm,22.0s,MS5.2
UCC Uccle 59.12 32 ⇓P **P 10 52 16.3 -0.5**
UCC AP pP 10 52 18.8 -1.2
BUG Bochum--Univer 59.16 30 *e*P **P 10 52 17.7 +0.6**
comp=Z,25nm,1.2s,mb5.1
BUG *e*PP PP 10 54 21.3 -6.4
MOS Moscow 59.21 9 *e*P **P 10 52 16.8 -0.6**
MOS pmax pmax
comp=Z,200nm,1.8s,mb5.8
MOS pmax pmax
comp=Z,102nm,1.1s,mb5.8
MOS MLR MLR
comp=Z,2μm,15.6s,MS5.2
MOS MLR MLR
comp=N,1μm,16.6s
GKP Gorka Klasztor 59.31 23 *e*P **P 10 52 18.7 +0.6**
GKP *e*pP pP 10 52 20.7 -0.6
GKP L 11 15 52.2
comp=Z,5.0nm,25.6s
ULN Ulaanbaatar 59.36 319 *e*P **P 10 52 17.6 -0.8**
comp=Z,25nm,1.1s,mb5.2
ULN Ulaanbaatar 59.36 319⇑*i*P **P 10 52 18.1 -0.3**
CLZ Clausthal 59.42 28 *e*P **P 10 52 18.6 -0.3**
comp=Z,65nm,1.2s,mb5.5
RUE Ruedersdorf 59.47 25 *e*P **P 10 52 20.7 +1.5**
comp=Z,89nm,1.2s,mb5.7
SUW Suwalki 59.48 19 *e*P **P 10 52 19.3 +0.1**
SUW *e*pP pP 10 52 20.8 -1.7
SUW L 11 18 04.6
comp=Z,3.3nm,20.7s

SUW	**Suwalki**	**59.48**	**19**	*e*P	**P**	**10 52 19.3**	**+0.1**
SUW				*e*pP	pP	10 52 20.8	-1.7
HGN	**Heimansgroeve**	**59.51**	**31**	*e*P	**P**	**10 52 19.1**	**-0.3**
	comp=Z,61nm,1.2s,mb5.5						
HGN				*e*S	**S**	**11 00 29.8**	**+0.8**
ROSF	**Rostrenen**	**59.51**	**39**	*e*P	**P**	**10 52 18.6**	**-0.9**
	comp=Z,372nm,1.7s,mb5.8						
ROSF	**Rostrenen**	**59.51**	**39**	*e*P	**P**	**10 52 18.6**	**-0.9**
	comp=Z,186nm,1.7s,mb5.8						
ROSF	**Rostrenen**	**59.51**	**39**	*e*P	**P**	**10 52 18.6**	**-0.9**
ROSF				pmax	pmax		
	comp=Z,186nm,1.7s,mb5.8						
SNY	**Shenyang**	**59.54**	**304**	⇑P	**P**	**10 52 21.0**	**+1.3**
SNY				S	**S**	**11 00 29.8**	**+0.4**
SNY				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
SNY				AMB	AMB		
	comp=Z,121nm,6.0s						
SNY				LR	LR		
	comp=N,650nm,13.2s,MS5.2						
SNY				LR	LR		
	comp=E,1μm,18.0s,MS5.2						
SNY				LR	LR		
	comp=Z,1μm,16.2s,MS5.1						
SONM	**Songino Array**	**59.57**	**320**	P	**P**	**10 52 20.0**	**+0.1**
	comp=Z,17nm,0.9s,mb5.0,baz=6.2,slow=5.0,SNR=42						
SONM				LR	LR	11 20 17.6	
	comp=Z,2μm,21.8s,MS5.3,baz=17,slow=38						
MNK	**Minsk**	**59.58**	**15⇑**	*e*P	**P**	**10 52 18.0**	**-1.9**
MNK				pmax	pmax		
	comp=Z,390nm,1.4s,mb6.2						
MNK				MLR	MLR		
	comp=Z,11μm,18.0s,MS6.0						
MEM	**Membach**	**59.67**	**31**	P	**P**	**10 52 20.9**	**+0.3**
	comp=Z,35nm,0.9s,mb5.4						
MEM				AP	pP	10 52 21.9	-1.9
MEM				XP	sP	10 52 25.0	0.0
OBN	**Obninsk**	**59.77**	**9**	P	**P**	**10 52 21.2**	**0.0**
	comp=Z,554nm,0.9s,SNR=5.7						
OBN	**Obninsk**	**59.77**	**9**	*e*P	**P**	**10 52 21.2**	**-0.1**
	comp=Z,218nm,1.4s,mb6.0						
OBN	**Obninsk**	**59.77**	**9**	*d i*P	**P**	**10 52 20.8**	**-0.4**
OBN				*i*		10 53 04.7	
OBN				*e*		10 54 33.2	
OBN				*i* S	**S**	**11 00 36.7**	**+4.4**
OBN				pmax	pmax		
	comp=Z,136nm,1.1s,mb5.9						
OBN				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.3						
SGMF	**Saint Gilles**	**59.78**	**38**	*e*P	**P**	**10 52 20.6**	**-0.7**
DOU	**Dourbes**	**59.83**	**33**	P	**P**	**10 52 21.8**	**+0.1**
	comp=Z,8.5nm,0.9s,mb4.8						
DOU				AP	pP	10 52 23.6	-1.3
DOU				XP	sP	10 52 26.4	+0.3
FLN	**La Foliniere**	**59.85**	**37**	*e*P	**P**	**10 52 21.0**	**-0.8**
	comp=Z,164nm,1.2s,mb5.6						
FLN				*e*R			
	comp=Z,4μm,20.5s						
FLN	**La Foliniere**	**59.85**	**37**	*e*P	**P**	**10 52 21.0**	**-0.8**
	comp=Z,82nm,1.2s,mb5.6						
FLN				LR	LR		
	comp=Z,4μm,20.5s,MS5.6						
FLN	**La Foliniere**	**59.85**	**37**	*e*P	**P**	**10 52 21.0**	**-0.8**
FLN				pmax	pmax		
	comp=Z,82nm,1.2s,mb5.6						
FLN				MLR	MLR		
	comp=Z,4μm,20.5s,MS5.6						
GIVF	**Givet**	**59.88**	**32**	*e*P	**P**	**10 52 21.5**	**-0.5**
	comp=Z,114nm,1.1s,mb5.5						
GIVF	**Givet**	**59.88**	**32**	*e*P	**P**	**10 52 21.5**	**-0.5**
	comp=Z,57nm,1.1s,mb5.5						
GIVF	**Givet**	**59.88**	**32**	*e*P	**P**	**10 52 21.5**	**-0.5**
GIVF				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.5						
QUIF	**Quistinic**	**59.92**	**39**	*e*P	**P**	**10 52 21.7**	**-0.6**
	comp=Z,145nm,1.3s,mb5.5						
QUIF	**Quistinic**	**59.92**	**39**	*e*P	**P**	**10 52 21.7**	**-0.6**
	comp=Z,72nm,1.3s,mb5.5						
QUIF	**Quistinic**	**59.92**	**39**	*e*P	**P**	**10 52 21.7**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,72nm,1.3s,mb5.5						
LDF	**La Druitiere**	**60.09**	**36**	*e*P	**P**	**10 52 22.7**	**-0.8**
	comp=Z,76nm,1.0s,mb5.4						
LDF	**La Druitiere**	**60.09**	**36**	*e*P	**P**	**10 52 22.7**	**-0.8**
	comp=Z,38nm,1.0s,mb5.4						
LDF	**La Druitiere**	**60.09**	**36**	*e*P	**P**	**10 52 22.7**	**-0.8**
LDF				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4						
GRR	**Gorron**	**60.10**	**37**	*e*P	**P**	**10 52 22.9**	**-0.6**
	comp=Z,81nm,1.0s,mb5.4						
GRR	**Gorron**	**60.10**	**37**	*e*P	**P**	**10 52 22.9**	**-0.6**
	comp=Z,41nm,1.0s,mb5.4						
GRR	**Gorron**	**60.10**	**37**	*e*P	**P**	**10 52 22.9**	**-0.6**
GRR				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.4						
CLL	**Collm**	**60.44**	**26**	*e*P	**P**	**10 52 24.9**	**-1.0**
	comp=Z,42nm,1.1s,mb5.4						
CLL				*e*PcP	PcP	10 53 11.1	+0.4
CLL				*e*PcS	PcS	10 57 18.9	+5.8
CLL				*e*S	**S**	**11 00 40.6**	**-0.4**
CLL				*e*PS		11 00 56.1	
CLL				*e*SS	SS	11 04 37.3	-1.5
CLL				*e*LR	LR	11 11 04.4	
CLL				*e*L		11 18 47.3	
	comp=Z,3μm,22.0s						
CLL	**Collm**	**60.44**	**26**	*i* P	**P**	**10 52 24.9**	**-1.0**
	comp=Z,37nm,1.3s,mb5.2						
CLL				⇓*i*(sP)	sP	10 52 30.2	-0.1
	comp=Z,41nm,1.1s						
CLL				*i* x	x	10 52 38.6	
CLL				*e*x	x	10 52 46.0	
CLL				*i* (PcP)	PcP	10 53 10.3	-0.4
CLL				*e*PcS	PcS	10 57 18.0	+4.9
CLL				*e*x	x	10 59 22.0	
CLL				*e*S	**S**	**11 00 35.0**	**-6.0**
CLL				*e*SS	SS	11 04 30.0	-8.8
CLL				Lm		11 18 00.0	
	comp=N,2μm,20.0s						
CLL				Lm		11 18 00.0	
	comp=E,2μm,18.0s						
CLL				Lm		11 18 00.0	
	comp=Z,3μm,18.1s						
CLL	**Collm**	**60.44**	**26**	*i* P	**P**	**10 52 24.9**	**-1.0**
	comp=Z,37nm,1.3s,mb5.2						
CLL				*i*		10 52 30.2	
CLL				*i*		10 52 38.6	
CLL				*e*S	**S**	**11 00 25.0**	**-16**
CLL				LR	LR		
	comp=Z,3μm,18.1s,MS5.5						
CLL	**Collm**	**60.44**	**26**	*i* P	**P**	**10 52 24.9**	**-1.0**
CLL				*i*		10 52 30.2	
CLL				*i*		10 52 38.6	
CLL				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
CLL				MLR	MLR		
	comp=Z,3μm,18.1s,MS5.5						
TNS	**Taunus Mts**	**60.56**	**30**	*e*P	**P**	**10 52 27.4**	**+0.7**
	comp=Z,14nm,1.0s,mb5.0						
TNS				*e*PP	PP	10 54 30.2	-10
WLF	**Walferdange**	**60.59**	**32**	*e*P	**P**	**10 52 29.3**	**+2.4**
	comp=Z,34nm,1.0s,mb5.4						
WLF				*e*PP	PP	10 54 34.6	-5.7
WLF	**Walferdange**	**60.59**	**32**	⇑P	**P**	**10 52 25.9**	**-1.0**
WLF				AP	pP	10 52 28.3	-1.8
WLF				XP	sP	10 52 31.2	-0.1
	comp=Z,13nm,1.0s						
WLF	**Walferdange**	**60.59**	**32**	*e*P	**P**	**10 52 25.0**	**-1.8**
	comp=Z,29nm,1.0s,mb5.4						
WLF	**Walferdange**	**60.59**	**32**	*e*P	**P**	**10 52 25.0**	**-1.9**
WLF				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.4						
ABH	**Alteburg**	**60.69**	**31**	*e*P	**P**	**10 52 28.5**	**+0.9**
RUP	**Ruppelstein**	**60.76**	**31**	*e*P	**P**	**10 52 29.1**	**+1.1**
MOX	**Moxa**	**60.81**	**27**	*e*P	**P**	**10 52 27.8**	**-0.6**
	comp=Z,51nm,1.2s,mb5.5						
MOX				*e*PP	PP	10 54 30.2	-12
MOX	**Moxa**	**60.81**	**27**	*e*P	**P**	**10 52 29.0**	**+0.6**
	comp=Z,77nm,1.5s,mb5.6						
MOX							
	comp=Z,2μm,21.0s						
MOX	**Moxa**	**60.81**	**27**	*e*P	**P**	**10 52 29.0**	**+0.6**
MOX				pmax	pmax		
	comp=Z,77nm,1.5s,mb5.6						
MOX				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.3						
BRG	**Berggiesshubel**	**61.03**	**26**	*e*P	**P**	**10 52 28.8**	**-1.1**
	comp=Z,73nm,1.6s,mb5.6						
BRG	**Berggiesshubel**	**61.03**	**26**	*i* P	**P**	**10 52 30.6**	**+0.7**
	comp=Z,27nm,1.2s,mb5.2						
BRG				*i*		11 00 41.0	
BRG				S	**S**	**11 00 48.0**	**-0.6**
BRG				SS	SS	11 04 41.0	-7.1
BRG				LR	LR		
	comp=Z,2μm,19.7s,MS5.3						
BRG	**Berggiesshubel**	**61.03**	**26**	*i* P	**P**	**10 52 30.6**	**+0.7**
BRG				S	**S**	**11 00 48.0**	**-0.6**
BRG				SS	SS	11 04 41.0	-7.1
BRG				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
BRG				MLR	MLR		
	comp=Z,2μm,19.7s,MS5.3						
BRG	**Berggiesshubel**	**61.03**	**26**	*i* P	**P**	**10 52 30.6**	**+0.7**
	comp=Z,27nm,1.2s,mb5.2						
BRG				*i*		11 00 41.0	
BRG				S	**S**	**11 00 48.0**	**-0.6**
BRG				SS	SS	11 04 41.0	-7.1
BRG							
	comp=N,1μm,18.3s						
BRG							
	comp=E,631nm,13.9s						
BRG							
	comp=Z,2μm,19.7s						
WERD	**Werda**	**61.13**	**27**	*e*P	**P**	**10 52 31.5**	**+0.9**
	comp=Z,28nm,1.3s,mb5.2						
TOD	**Tromm**	**61.22**	**30**	*e*P	**P**	**10 52 30.7**	**-0.5**
NKC	**Novy Kostel**	**61.36**	**27**	*e*P	**P**	**10 52 31.6**	**-0.5**
NKC				AMS	AMS	11 20 40.0	
	comp=Z,3μm,17.9s						
BRVK	**Borovoye**	**61.37**	**347**	P	**P**	**10 52 31.3**	**-0.9**
	comp=Z,405nm,0.8s,SNR=63						
BRVK	**Borovoye**	**61.37**	**347**	*e*P	**P**	**10 52 31.8**	**-0.4**
	comp=Z,76nm,1.2s,mb5.7						
BRVK	**Borovoye**	**61.37**	**347**	*e*P	**P**	**10 52 31.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,76nm,1.2s,mb5.7						
BVA0	**Borovoye Array**	**61.39**	**347**	*i* P	**P**	**10 52 31.5**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,39nm,1.8s,mb5.2						
PVCC	**Panska Ves**	**61.48**	**25**	*e*P	**P**	**10 52 33.8**	**+0.9**
PVCC				AMS	AMS	11 19 30.0	
	comp=Z,3μm,19.1s						
KSP	**Ksiaz**	**61.48**	**24**	*e*P	**P**	**10 52 32.5**	**-0.4**
KSP				L		11 17 19.0	
	comp=Z,4.0nm,25.1s						
KSP	**Ksiaz**	**61.48**	**24**	*e*P	**P**	**10 52 32.8**	**-0.1**
KSP				*e*		10 53 17.7	
KSP				*e*		10 54 48.8	
KSP				*e*S	**S**	**11 00 50.4**	**-3.9**
KSP				*e*SS	SS	11 04 49.4	-5.7
KSP				MLR	MLR		
	comp=Z,5μm,25.1s,MS5.5						
MANZ	**Manzenberg**	**61.53**	**27**	*e*P	**P**	**10 52 32.8**	**-0.5**
	comp=Z,45nm,1.7s,mb5.3						
LANF	**Langenberg**	**61.60**	**31**	*e*P	**P**	**10 52 34.8**	**+1.1**
VOSK	**Vostochnaya**	**61.63**	**346**	P	**P**	**10 52 32.7**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.6						
GRF	**Grafenberg Arr**	**61.64**	**28**	*e*P	**P**	**10 52 34.1**	**+0.1**
	comp=Z,28nm,1.0s,mb5.3						
GRF				*e*PP	PP	10 54 41.2	-8.4
GRF				*e*S	**S**	**11 00 53.8**	**-2.5**
GRF				*e*L		11 21 17.5	
	comp=Z,3μm,20.1s						
UPC	**Upice**	**61.76**	**24**	*e*P	**P**	**10 52 36.1**	**+1.3**
ROTZ	**Rotzenmuhle**	**61.76**	**27**	*e*P	**P**	**10 52 34.8**	**0.0**
	comp=Z,74nm,1.9s,mb5.5						
THEF	**They Montfort**	**61.91**	**32**	*e*P	**P**	**10 52 38.0**	**+2.2**
MFF	**Saint Martin d**	**61.93**	**37**	*e*P	**P**	**10 52 35.5**	**-0.5**
DPC	**Dobruska-Polom**	**61.97**	**24**	*e*P	**P**	**10 52 36.0**	**-0.2**
DPC				*e*S	**S**	**11 00 54.1**	**-6.3**
DPC				AMS	AMS	11 21 30.0	
	comp=Z,2μm,16.5s						
PRU	**Pruhonice**	**61.99**	**26**	*e*P	**P**	**10 52 36.8**	**+0.4**
PRU				*e*S	**S**	**11 00 56.5**	**-4.2**
PRU				AMS	AMS	11 19 40.0	
	comp=Z,3μm,19.2s						
HYF	**Humbligny**	**62.01**	**35**	*e*P	**P**	**10 52 36.3**	**-0.2**
CDF	**Champ du Feu**	**62.02**	**31**	*e*P	**P**	**10 52 36.5**	**-0.1**
	comp=Z,90nm,1.3s,mb5.4						
CDF	**Champ du Feu**	**62.02**	**31**	*e*P	**P**	**10 52 36.5**	**-0.1**
	comp=Z,45nm,1.3s,mb5.4						
CDF	**Champ du Feu**	**62.02**	**31**	*e*P	**P**	**10 52 36.5**	**-0.1**
CDF				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.4						
WLS	**Welschbruch**	**62.04**	**31**	*e*P	**P**	**10 52 37.8**	**+1.1**
STU	**Stuttgart**	**62.09**	**30**	*e*P	**P**	**10 52 38.3**	**+1.2**
STU	**Stuttgart**	**62.09**	**30**	*e*P	**P**	**10 52 35.9**	**-1.2**
	comp=Z,26nm,0.8s,mb5.4						
STU	**Stuttgart**	**62.09**	**30**	*e*P	**P**	**10 52 35.9**	**-1.2**
STU				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.4						
ECH	**Echery**	**62.18**	**31**	*e*P	**P**	**10 52 38.7**	**+1.1**
HAU	**Haudompre**	**62.20**	**32**	*e*P	**P**	**10 52 37.2**	**-0.5**
	comp=Z,23nm,0.8s,mb5.0						
HAU				*e*R			
	comp=Z,4μm,22.2s						
HAU	**Haudompre**	**62.20**	**32**	*e*P	**P**	**10 52 37.2**	**-0.5**
	comp=Z,12nm,0.8s,mb5.1						
HAU				LR	LR		
	comp=Z,4μm,22.3s,MS5.5						
HAU	**Haudompre**	**62.20**	**32**	*e*P	**P**	**10 52 37.2**	**-0.5**
HAU				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
HAU				MLR	MLR		
	comp=Z,4μm,22.3s,MS5.5						
LOR	**Lormes**	**62.31**	**34**	*e*P	**P**	**10 52 38.1**	**-0.4**
	comp=Z,137nm,1.1s,mb5.7						
LOR				*e*R			
	comp=Z,5μm,23.0s						
LOR	**Lormes**	**62.31**	**34**	*e*P	**P**	**10 52 38.1**	**-0.4**
	comp=Z,69nm,1.1s,mb5.7						
LOR				LR	LR		
	comp=Z,5μm,23.0s,MS5.6						
LOR	**Lormes**	**62.31**	**34**	*e*P	**P**	**10 52 38.1**	**-0.4**
LOR				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.7						
LOR				MLR	MLR		
	comp=Z,5μm,23.0s,MS5.6						
BFO	**Black Forest**	**62.33**	**31**	*e*P	**P**	**10 52 40.7**	**+2.1**
	comp=Z,36nm,1.2s,mb5.4						
BFO				*e*PP	PP	10 54 50.2	-5.5
BFO	**Black Forest**	**62.33**	**31**	*e*P	**P**	**10 52 38.5**	**-0.1**
LIBD	**Limburg**	**62.34**	**31**	*e*P	**P**	**10 52 39.7**	**+1.0**
SJG	**San Juan**	**62.41**	**107**	LR	LR	11 20 48.2	
	comp=Z,2μm,19.1s,MS5.3,baz=165,slow=37						
SJG	**San Juan**	**62.41**	**107**	*e*P	**P**	**10 52 38.5**	**-0.7**
	comp=Z,47nm,1.1s,mb5.5						
SJG	**San Juan**	**62.41**	**107**	*e*P	**P**	**10 52 38.5**	**-0.7**
SJG				pmax	pmax		
	comp=Z,47nm,1.1s						
SSF	**Saint Saulge**	**62.42**	**35**	*e*P	**P**	**10 52 38.9**	**-0.3**
	comp=Z,93nm,0.9s,mb5.6						
SSF	**Saint Saulge**	**62.42**	**35**	*e*P	**P**	**10 52 38.9**	**-0.3**
	comp=Z,47nm,0.9s,mb5.6						
SSF	**Saint Saulge**	**62.42**	**35**	*e*P	**P**	**10 52 38.9**	**-0.3**
SSF				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.6						
WET	**Wettzell**	**62.49**	**27**	*e*P	**P**	**10 52 40.8**	**+1.1**
	comp=Z,49nm,1.2s,mb5.5						
WET				*e*PP	PP	10 54 46.8	-10
MOF	**Molkenrain**	**62.52**	**32**	*e*P	**P**	**10 52 41.0**	**+1.1**
RAC	**Raciborz**	**62.54**	**23**	*e*P	**P**	**10 52 42.0**	**+2.0**
RAC				LR	LR		
	comp=Z,3μm,17.8s,MS5.5						
JTS	**JuntasAbangare**	**62.56**	**129**	LR	LR	11 25 34.6	
	comp=Z,1μm,18.9s,MS5.0,baz=331,slow=42						
JTS	**JuntasAbangare**	**62.56**	**129**	PFAKE		10 52 50.0	+10
JTS				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
CPD	**Cerro la Pandu**	**62.57**	**107**	*e*P	**P**	**10 52 39.3**	**-0.9**
AVF	**Avril sur Loir**	**62.63**	**35**	*e*P	**P**	**10 52 40.1**	**-0.6**
	comp=Z,81nm,1.1s,mb5.5						
AVF	**Avril sur Loir**	**62.63**	**35**	*e*P	**P**	**10 52 40.1**	**-0.6**
	comp=Z,40nm,1.1s,mb5.5						
AVF	**Avril sur Loir**	**62.63**	**35**	*e*P	**P**	**10 52 40.1**	**-0.6**
AVF				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.5						
KHC	**Kasperske Hory**	**62.63**	**27**	*e*P	**P**	**10 52 40.5**	**-0.2**
KHC				*e*S	**S**	**11 01 10.4**	**+1.6**
MTP	**Monte Pirata**	**62.67**	**106**	*e*P	**P**	**10 52 39.5**	**-1.4**
KURK	**Kurchatov**	**62.67**	**340**	P	**P**	**10 52 40.5**	**-0.4**
	comp=Z,487nm,1.2s,mb6.5,SNR=50						
KURK	**Kurchatov**	**62.67**	**340**	*e*P	**P**	**10 52 40.1**	**-0.8**
	comp=Z,126nm,1.1s,mb6.0						
KURK	**Kurchatov**	**62.67**	**340**	*e*P	**P**	**10 52 40.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,126nm,1.1s,mb6.0						
OJC	**Ojcow**	**62.67**	**22**	*e*P	**P**	**10 52 42.1**	**+1.2**
OJC				*e*S	**S**	**11 01 07.3**	**-2.0**
OJC				L		11 21 30.3	
	comp=Z,24nm,18.2s						
FELD	**Feldberg**	**62.69**	**31**	*e*P	**P**	**10 52 41.9**	**+0.9**
BGF	**Bois d'Agland**	**62.73**	**35**	*e*P	**P**	**10 52 40.6**	**-0.7**
	comp=Z,124nm,1.0s,mb5.7						
BGF	**Bois d'Agland**	**62.73**	**35**	*e*P	**P**	**10 52 40.6**	**-0.7**
	comp=Z,62nm,1.0s,mb5.7						
BGF	**Bois d'Agland**	**62.73**	**35**	*e*P	**P**	**10 52 40.6**	**-0.7**
BGF				pmax	pmax		
	comp=Z,62nm,1.0s,mb5.7						
MORC	**Moravsky Berou**	**62.73**	**24**	*e*P	**P**	**10 52 41.1**	**-0.2**
	comp=Z,31nm,1.1s,mb5.3						
MORC	**Moravsky Berou**	**62.73**	**24**	⇓P	**P**	**10 52 41.9**	**+0.6**
OKC	**Ostrava-Krasne**	**62.77**	**23**	*e*P	**P**	**10 52 41.4**	**-0.2**
OKC				*e*S	**S**	**11 01 10.0**	**-0.6**
OKC				AMS	AMS	11 21 20.0	
	comp=Z,2μm,17.6s						
OKC	**Ostrava-Krasne**	**62.77**	**23**	*e*P	**P**	**10 52 40.4**	**-1.2**
OKC				*e*S	**S**	**11 01 09.0**	**-1.6**
DL2	**Dalian**	**62.82**	**304**	P	**P**	**10 52 42.2**	**+0.3**
DL2				S	**S**	**11 01 11.0**	**-0.1**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.4						
DL2				AMB	AMB		
	comp=Z,190nm,5.2s						
DL2				LR	LR		
	comp=N,670nm,17.3s,MS5.0						
DL2				LR	LR		
	comp=E,640nm,17.3s,MS5.0						
DL2				LR	LR		
	comp=Z,680nm,19.1s,MS4.8						
TCF	**Toulx Ste Croi**	**62.82**	**36**	*e*P	**P**	**10 52 41.3**	**-0.6**
	comp=Z,118nm,1.1s,mb5.6						
TCF	**Toulx Ste Croi**	**62.82**	**36**	*e*P	**P**	**10 52 41.3**	**-0.6**
	comp=Z,59nm,1.1s,mb5.6						
TCF	**Toulx Ste Croi**	**62.82**	**36**	*e*P	**P**	**10 52 41.3**	**-0.6**
TCF				pmax	pmax		
	comp=Z,59nm,1.1s,mb5.6						
TREC	**Trest**	**62.83**	**25**	*e*P	**P**	**10 52 41.8**	**-0.2**
SMF	**Signal de Mont**	**62.89**	**34**	*e*P	**P**	**10 52 41.6**	**-0.8**
	comp=Z,72nm,1.1s,mb5.4						
SMF	**Signal de Mont**	**62.89**	**34**	*e*P	**P**	**10 52 41.6**	**-0.8**
	comp=Z,36nm,1.1s,mb5.4						
SMF	**Signal de Mont**	**62.89**	**34**	*e*P	**P**	**10 52 41.6**	**-0.8**
SMF				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.4						
LOMF	**Lomont**	**62.92**	**32**	*e*P	**P**	**10 52 43.6**	**+1.0**
GEC2	**GERESS Array S**	**62.93**	**27**	*e*P	**P**	**10 52 42.6**	**0.0**
	comp=Z,50nm,1.2s,mb5.5						
GERES	**GERESS Array B**	**62.93**	**27**	P	**P**	**10 52 42.4**	**-0.2**
	comp=Z,19nm,1.0s,mb5.2,baz=345,slow=4.7,SNR=19						
GERES				LR	LR	11 22 00.3	
	comp=Z,2μm,18.6s,MS5.4,baz=337,slow=38						
BBS	**Basel-Blauen**	**62.97**	**31**	*e*P	**P**	**10 52 43.7**	**+0.8**
VRAC	**Vranov**	**63.02**	**24**	P	**P**	**10 52 45.8**	**+2.6**
VRAC	**Vranov**	**63.02**	**24**	⇑P	**P**	**10 52 45.3**	**+2.1**
FUR	**Furstenfeldbru**	**63.10**	**29**	*e*P	**P**	**10 52 45.5**	**+1.7**
	comp=Z,37nm,0.9s,mb5.5						
AGO	**Saint Agoulin**	**63.27**	**35**	*e*P	**P**	**10 52 47.4**	**+2.5**
VERF	**Verneugheol**	**63.39**	**36**	*e*P	**P**	**10 52 46.8**	**+1.1**
CABF	**La Chapelle**	**63.45**	**33**	*e*P	**P**	**10 52 46.0**	**-0.1**
	comp=Z,116nm,1.1s,mb5.6						
CABF	**La Chapelle**	**63.45**	**33**	*e*P	**P**	**10 52 46.0**	**-0.1**
	comp=Z,58nm,1.1s,mb5.6						
CABF	**La Chapelle**	**63.45**	**33**	*e*P	**P**	**10 52 46.0**	**-0.1**
CABF				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.6						
PLDF	**La Plantade**	**63.47**	**35**	*e*P	**P**	**10 52 46.9**	**+0.7**
AKASG	**Malin Array Be**	**63.47**	**15**	P	**P**	**10 52 44.4**	**-1.8**
	comp=Z,28nm,0.8s,mb5.5,baz=347,slow=6.4,SNR=43						
AKASG	**Malin Array Be**	**63.47**	**15**	P	**P**	**10 52 44.4**	**-1.8**
NIE	**Niedzica**	**63.53**	**22**	*e*P	**P**	**10 52 46.4**	**-0.2**
RJF	**Les Rejaudoux**	**63.57**	**37**	*e*P	**P**	**10 52 46.2**	**-0.7**
RJF				*e*R			
	comp=Z,6μm,18.2s						
RJF	**Les Rejaudoux**	**63.57**	**37**	*e*P	**P**	**10 52 46.2**	**-0.7**
RJF				MLR	MLR		
	comp=Z,6μm,18.3s,MS5.8						
DAVA	**Damuels**	**63.65**	**30⇑**	*i* P	**P**	**10 52 48.8**	**+1.4**
	comp=Z,27nm,1.1s,mb5.2						
BJI	**Beijing**	**63.67**	**309**	P	**P**	**10 52 46.3**	**-1.2**
BJI				PP	PP	10 55 10.1	+2.6
BJI				S	**S**	**11 01 20.5**	**-1.3**
BJI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
BJI				AMB	AMB		
	comp=Z,256nm,3.5s						
BJI				LR	LR		
	comp=N,2μm,21.8s,MS5.3						
BJI				LR	LR		
	comp=E,1μm,22.6s,MS5.3						
BJI				LR	LR		
	comp=Z,1μm,25.6s,MS5.0						
STHS	**Stebnicka Huta**	**63.68**	**21**	*e*P	**P**	**10 52 48.8**	**+1.2**
KWP	**Kalwaria**	**63.69**	**20**	*e*P	**P**	**10 52 47.9**	**+0.3**
KWP				L		11 20 18.8	
	comp=Z,3.0nm,21.4s						
BJT	**Baijiatuau**	**63.69**	**309**	*e*P	**P**	**10 52 47.0**	**-0.6**
	comp=Z,47nm,1.1s,mb5.4						
BJT				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
BJT	**Baijiatuau**	**63.69**	**309**	*e*P	**P**	**10 52 47.0**	**-0.7**
BJT				pmax	pmax		
	comp=Z,47nm,1.1s						
BJT				MLR	MLR		
	comp=Z,2μm,20.0s

HHC S **S** **11 01 25.6 -5.5**
HHC SCS ScS 11 02 41.8 -5.0
HHC AMB AMB
comp=Z,9.0nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,129nm,2.6s,mb5.5
HHC LR LR
comp=N,2μm,19.0s,MS5.4
HHC LR LR
comp=E,2μm,20.4s,MS5.4
HHC LR LR
comp=Z,2μm,19.1s,MS5.3
KECS Kecovo 64.47 22 *e*P **P** **10 52 52.5 -0.3**
KBA Koelnbreinsper 64.56 27⇑*i*P **P** **10 52 54.5 +1.2**
comp=Z,73nm,1.1s,mb5.6,SNR=9.2
KBA Koelnbreinsper 64.56 27⇑*i*P **P** **10 52 54.5 +1.2**
comp=Z,73nm,1.1s,mb5.6
KBA Koelnbreinsper 64.56 27⇑*i*P **P** **10 52 54.5 +1.1**
KBA pmax pmax
comp=Z,73nm,1.1s,mb5.6
SOP Sopron 64.58 25⇑*i*P **P** **10 52 56.4 +2.9**
UZH Uzhgorod 64.60 21 *i* P **P** **10 52 56.2 +2.6**
UZH *e*S **S** **11 01 37.0 +3.7**
LPL La Plagne 64.63 33 *e*P **P** **10 52 54.3 +0.4**
comp=Z,56nm,1.1s,mb5.2
LPL La Plagne 64.63 33 *e*P **P** **10 52 54.3 +0.4**
comp=Z,28nm,1.1s,mb5.2
LPL La Plagne 64.63 33 *e*P **P** **10 52 54.3 +0.4**
LPL pmax pmax
comp=Z,28nm,1.1s,mb5.2
LPG La Plagne 64.65 33 *e*P **P** **10 52 54.6 +0.6**
comp=Z,50nm,1.0s,mb5.2
LPG La Plagne 64.65 33 *e*P **P** **10 52 54.6 +0.6**
comp=Z,25nm,1.0s,mb5.2
LPG La Plagne 64.65 33 *e*P **P** **10 52 54.6 +0.6**
LPG pmax pmax
comp=Z,25nm,1.0s,mb5.2
VIVF Saint-Julien-l 64.77 35 *e*P **P** **10 52 54.3 -0.4**
comp=Z,59nm,1.2s,mb5.2
VIVF Saint-Julien-l 64.77 35 *e*P **P** **10 52 54.3 -0.4**
comp=Z,30nm,1.3s,mb5.2
VIVF Saint-Julien-l 64.77 35 *e*P **P** **10 52 54.3 -0.4**
VIVF pmax pmax
comp=Z,30nm,1.3s,mb5.2
ARSA Arzberg 64.81 26⇑*i*P **P** **10 52 56.3 +1.4**
comp=Z,45nm,1.3s,mb5.3,SNR=9.8
AKTK Aktyubinsk 64.81 355 *i* P **P** **10 52 52.7 -2.3**
AKTO Aktyubinsk 64.81 355 *i* P **P** **10 52 52.7 -2.3**
SJPF Ste Jean 64.88 40 *e*P **P** **10 52 54.9 -0.6**
comp=Z,99nm,1.3s,mb5.4
SJPF Ste Jean 64.88 40 *e*P **P** **10 52 54.9 -0.6**
comp=Z,50nm,1.3s,mb5.4
SJPF Ste Jean 64.88 40 *e*P **P** **10 52 54.9 -0.6**
SJPF pmax pmax
comp=Z,50nm,1.3s,mb5.4
PSZ Piszkesteto 64.92 22 *e*P **P** **10 52 56.2 +0.5**
comp=Z,75nm,1.1s,mb5.6
PSZ Piszkesteto 64.92 22 *e*P **P** **10 52 56.2 +0.5**
PSZ pmax pmax
comp=Z,75nm,1.1s,mb5.6
ORIF Oris-en-Rattie 65.00 34 *e*P **P** **10 52 55.9 -0.3**
comp=Z,29nm,0.8s,mb5.0
ORIF *e*R
comp=Z,5μm,21.5s
ORIF Oris-en-Rattie 65.00 34 *e*P **P** **10 52 55.9 -0.3**
comp=Z,15nm,0.8s,mb5.1
ORIF Oris-en-Rattie 65.00 34 *e*P **P** **10 52 55.9 -0.3**
ORIF pmax pmax
comp=Z,15nm,0.8s,mb5.1
ETSF Etsaut 65.26 39 *e*P **P** **10 52 58.4 +0.4**
comp=Z,74nm,1.0s,mb5.4
ETSF Etsaut 65.26 39 *e*P **P** **10 52 58.4 +0.4**
comp=Z,37nm,1.0s,mb5.4
ETSF Etsaut 65.26 39 *e*P **P** **10 52 58.4 +0.4**
ETSF pmax pmax
comp=Z,37nm,1.0s,mb5.4
OBKA Obir 65.33 27⇑*i*P **P** **10 52 59.7 +1.2**
comp=Z,83nm,1.1s,mb5.7,SNR=12
OBKA Obir 65.33 27⇑*i*P **P** **10 52 59.7 +1.2**
comp=Z,83nm,1.0s,mb5.7
EPF Esparros 65.38 38 *e*P **P** **10 52 58.6 -0.1**
comp=Z,52nm,1.2s,mb5.2
EPF Esparros 65.38 38 *e*P **P** **10 52 58.6 -0.1**
comp=Z,26nm,1.2s,mb5.1
EPF Esparros 65.38 38 *e*P **P** **10 52 58.6 -0.1**
EPF pmax pmax
comp=Z,26nm,1.2s,mb5.1
MBDF Montbardon 65.39 33 *e*P **P** **10 52 58.9 +0.1**
comp=Z,56nm,1.1s,mb5.2
MBDF Montbardon 65.39 33 *e*P **P** **10 52 58.9 +0.1**
comp=Z,28nm,1.1s,mb5.2
MBDF Montbardon 65.39 33 *e*P **P** **10 52 58.9 +0.1**
MBDF pmax pmax
comp=Z,28nm,1.1s,mb5.2
MTLF Montolieu 65.58 37 *e*P **P** **10 52 59.5 -0.5**
comp=Z,82nm,1.3s,mb5.3
MTLF Montolieu 65.58 37 *e*P **P** **10 52 59.5 -0.5**
comp=Z,41nm,1.3s,mb5.3
MTLF Montolieu 65.58 37 *e*P **P** **10 52 59.5 -0.5**
MTLF pmax pmax
comp=Z,41nm,1.3s,mb5.3
AB31 Akbulak array 65.91 353⇑*e*P **P** **10 53 00.0 -2.1**
MK31 Makanchi Array 65.92 337 *i* P **P** **10 53 00.7 -1.5**
MKAR Makanchi Array 65.92 337 P **P** **10 53 01.0 -1.2**
comp=Z,9.3nm,0.7s,mb5.0,baz=26,slow=5.1,SNR=72
MKAR LR LR 11 24 18.5
comp=Z,1μm,20.4s,MS5.0,baz=9.7,slow=38
MKAR Makanchi Array 65.92 337 *i* P **P** **10 53 00.6 -1.6**
MKAR pmax pmax
comp=Z,37nm,1.1s
BURAR Bucovina Array 66.01 19⇑P **P** **10 53 03.0 +0.2**
BURAR Bucovina Array 66.01 19⇑P **P** **10 53 03.0 +0.2**
SBF Sospel 66.36 33 *e*P **P** **10 53 04.8 -0.2**
comp=Z,141nm,1.1s,mb5.6
SBF Sospel 66.36 33 *e*P **P** **10 53 04.8 -0.2**
comp=Z,71nm,1.1s,mb5.6
SBF Sospel 66.36 33 *e*P **P** **10 53 04.8 -0.2**
SBF pmax pmax
comp=Z,71nm,1.1s,mb5.6
PKSM Moragy 66.37 24 P **P** **10 53 07.2 +2.2**
FRF La Foret Royal 66.46 34 *e*P **P** **10 53 05.3 -0.4**
comp=Z,95nm,1.1s,mb5.4
FRF La Foret Royal 66.46 34 *e*P **P** **10 53 05.3 -0.4**
comp=Z,47nm,1.1s,mb5.4
FRF La Foret Royal 66.46 34 *e*P **P** **10 53 05.3 -0.4**
FRF pmax pmax
comp=Z,47nm,1.1s,mb5.4
KIS Kishinev 67.08 16 *e*P **P** **10 53 07.0 -2.6**
KIS *e* 10 53 22.0
KIS *e* 10 53 35.0
KIS *e*S S 11 01 58.0 -5.5
KIS MLR MLR
comp=Z,3μm,20.0s,MS5.5
KIS MLR MLR
comp=N,2μm,19.0s,MS5.5
KIS MLR MLR
comp=E,2μm,19.0s,MS5.5
KIS MLR MLR
comp=Z,3μm,20.0s
EVO Evora 67.14 47 *e*P **P** **10 53 08.9 -1.1**
comp=Z,111nm,1.1s,mb5.5
EVO *e*R
comp=Z,6μm,21.5s
ESDC Sonseca Array 67.30 43 P **P** **10 53 10.7 -0.3**
comp=Z,29nm,1.1s,mb5.2,baz=336,slow=7.8,SNR=15
ESLA Sonseca Array 67.30 43 *e*P **P** **10 53 11.2 +0.1**
comp=Z,26nm,1.4s,mb5.1
ESLA LR LR
comp=Z,12μm,19.0s,MS6.1
BZS Buzias 67.44 22⇓P **P** **10 53 12.5 +0.6**
BZS Buzias 67.44 22⇓P **P** **10 53 12.5 +0.7**
BZS Buzias 67.44 22 P **P** **10 53 12.2 +0.3**
WMQ Urumqi 67.80 332 P **P** **10 53 14.0 -0.2**
WMQ AP pP 10 53 18.7 +1.3
WMQ XP sP 10 53 21.0 +2.4
WMQ PCP PcP 10 53 40.7 -0.1
WMQ PP PP 10 55 45.5 +1.9
WMQ PPP 10 57 22.6
WMQ S S 11 02 10.1 -2.1
WMQ SCS ScS 11 03 08.5 -4.5
WMQ SS SS 11 06 32.9 -0.6
WMQ AMB AMB
comp=Z,47nm,1.1s,mb5.4
WMQ AMB AMB
comp=Z,312nm,5.0s
WMQ LR LR
comp=N,2μm,28.0s
WMQ LR LR
comp=E,1μm,21.6s
WMQ LR LR
comp=Z,2μm,26.0s,MS5.1
VOIR 68.12 19⇑P **P** **10 53 18.0 +1.8**
MLR Muntele Rosu 68.19 19 P **P** **10 53 17.4 +0.7**
comp=Z,9.5nm,0.9s,mb4.8,baz=309,slow=4.1
MLR Muntele Rosu 68.19 19⇑P **P** **10 53 18.1 +1.4**
MLR Muntele Rosu 68.19 19⇑P **P** **10 53 18.2 +1.5**
SNX Sinaia 68.27 19⇓P **P** **10 53 17.7 +0.6**
MTUR Matau 68.33 19⇓P **P** **10 53 20.0 +2.5**
DIVS Divcibare 68.65 23 *i* P **P** **10 53 21.3 +1.8**
CFR Carcaliu 68.79 17⇑P **P** **10 53 20.6 +0.2**
CFR Carcaliu 68.79 17⇑P **P** **10 53 20.7 +0.3**
GRUS Gruza 68.97 23 *i* P **P** **10 53 22.2 +0.7**
SDV Santo Domingo 69.00 115 LR LR 11 26 03.2
comp=Z,1μm,18.1s,MS5.1,baz=116,slow=38
SDV Santo Domingo 69.00 115 *e*P **P** **10 53 20.9 -0.8**
comp=Z,61nm,1.3s,mb5.4
GTA Gaotai 69.16 321 P **P** **10 53 22.4 -0.3**
GTA AP pP 10 53 26.9 +1.0
GTA XP sP 10 53 29.6 +2.5
GTA PCP PcP 10 53 48.6 +2.1
GTA PP PP 10 55 57.3 +1.9
GTA S S 11 02 28.6 +0.2
GTA XS sS 11 02 36.9 +3.2
GTA AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,242nm,4.2s
GTA LR LR
comp=N,939nm,19.8s,MS5.2
GTA LR LR
comp=E,871nm,18.3s,MS5.2
GTA LR LR
comp=Z,1μm,19.0s,MS5.1
BOLS Boljevac 69.23 22⇓*i*P **P** **10 53 24.2 +1.1**
HARR Harsova 69.24 17⇑P **P** **10 53 20.2 -3.0**
TIRR Tirgusor 69.53 17 *e*P **P** **10 53 24.8 -0.2**
SIM Simferopol' 69.66 13 *e*P **P** **10 53 31.0 +5.2**
SIM *i*S S 11 02 39.1 +4.8
SIM pmax pmax
comp=Z,23nm,1.3s,mb5.0
SIM MLR MLR
comp=Z,6μm,18.1s,MS5.8
NJ2 Nanjing 69.96 303 *e*P **P** **10 53 33.9 +6.3**
NJ2 AP pP 10 53 38.6 +7.7
NJ2 XP sP 10 53 40.9 +8.8
NJ2 PP PP 10 56 10.6 +8.3
NJ2 S S 11 02 42.0 +4.2
NJ2 XS sS 11 02 50.0 +6.8
NJ2 AMB AMB
comp=Z,120nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,620nm,3.5s
NJ2 LR LR
comp=N,2μm,21.9s,MS5.6
NJ2 LR LR
comp=E,3μm,19.2s,MS5.6
NJ2 LR LR
comp=Z,930nm,30.0s
SSE Sheshan 69.98 301 *e*P **P** **10 53 26.3 -1.4**
SSE AP pP 10 53 30.9 -0.1
SSE PCP PcP 10 53 49.6 -0.4
SSE S S 11 02 34.3 -3.8
SSE SCS ScS 11 03 30.9 +0.8
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,50nm,3.5s
SSE LR LR
comp=N,649nm,20.7s,MS5.1
SSE LR LR
comp=E,962nm,20.7s,MS5.1
SSE LR LR
comp=Z,913nm,15.8s,MS5.1
GOF Gofitskoye 70.16 6⇑*i*P **P** **10 53 27.8 -1.1**
GOF pmax pmax
comp=Z,240nm,1.0s,mb6.1
USP Ospenovka 70.54 342 P **P** **10 53 31.4 +0.2**
SNR=40
VTS Vitosha 70.64 21⇓P **P** **10 53 31.2 -0.6**
TKM2 Tokmak 2 70.73 341 P **P** **10 53 32.8 +0.5**
SNR=54
TKM2 Tokmak 2 70.73 341 *i* P **P** **10 53 32.7 +0.4**
CHMS Chumysh 70.77 342 P **P** **10 53 35.4 +2.8**
SNR=22
KWAJ Kwajalein Atol 70.90 249 PFAKE 10 53 50.0 +17
KWAJ LR LR
comp=Z,765nm,21.0s,MS4.9
FRU Bishkek 70.95 342 *e*P **P** **10 53 35.0 +1.3**
FRU *e* 11 02 50.0
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.6
KBK Karagaybulak 71.08 341 P **P** **10 53 34.9 +0.5**
SNR=33
LZH Lanzhou 71.14 317 *e*P **P** **10 53 34.7 -0.1**
LZH AP pP 10 53 39.4 +1.3
LZH PP PP 10 56 14.3 +1.8
LZH *e*S S 11 02 49.0 -2.6
LZH SKS 11 03 33.0
LZH AMB AMB
comp=Z,72nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,410nm,6.3s
LZH LR LR
comp=N,3μm,16.4s
LZH LR LR
comp=Z,5μm,18.7s,MS5.8
AAK Ala-Archa 71.16 342 P **P** **10 53 35.3 +0.3**
SNR=39
AAK Ala-Archa 71.16 342 P **P** **10 53 34.6 -0.4**
comp=Z,258nm,1.0s,mb6.1,SNR=38
AAK Ala-Archa 71.16 342 *e*P **P** **10 53 34.1 -0.9**
comp=Z,72nm,1.2s,mb5.5
AAK Ala-Archa 71.16 342 *e*P **P** **10 53 34.1 -0.9**
AAK pmax pmax
comp=Z,72nm,1.2s,mb5.5
KK31 Karatay Array 71.18 345 *i* P **P** **10 53 34.7 -0.4**
KKAR Karatay Array 71.18 345 *i* P **P** **10 53 34.7 -0.4**
KKAR pmax pmax
comp=Z,78nm,1.3s,mb5.5
EKS2 Erkin-Say 71.23 342 P **P** **10 53 36.0 +0.7**
SNR=58
KIV Kislovodsk 71.25 6 P **P** **10 53 36.5 +1.0**
comp=Z,472nm,1.0s,SNR=8.5
KIV Kislovodsk 71.25 6 *e*P **P** **10 53 35.6 +0.1**
comp=Z,88nm,1.0s,mb5.6
KIV LR LR
comp=Z,1μm,21.0s,MS5.1
KIV Kislovodsk 71.25 6 *e*P **P** **10 53 35.8 +0.3**
KIV *e* 10 53 53.9
KIV *e*S S 11 02 46.0 -6.8
KIV *e*SS SS 11 07 27.6 +1.0
KIV pmax pmax
comp=Z,104nm,1.1s,mb5.7
KIV pmax pmax
comp=Z,259nm,2.6s,mb5.7
KIV MLR MLR
comp=Z,963nm,18.0s,MS5.1
ULHL Ulahol 71.30 340 P **P** **10 53 38.5 +2.7**
SNR=8.2
ROSC El Rosal 71.32 121 P **P** **10 53 36.7 +0.8**
comp=Z,12nm,0.9s,mb4.8,baz=100,slow=22,SNR=12
ROSC LR LR 11 26 31.4
comp=Z,493nm,19.8s,MS4.8,baz=101,slow=37
SOC Sochi 71.45 8 *e*P **P** **10 53 37.7 +1.0**
SOC *e* 10 56 17.2
SOC *e*PPP 10 58 04.8
SOC *e*S S 11 02 55.9 +0.7
SOC pmax pmax
comp=Z,110nm,1.0s,mb5.7
SOC MLR MLR
comp=Z,2μm,17.0s,MS5.4
XAN Xi'an 71.49 312 P **P** **10 53 37.2 +0.2**
XAN AP pP 10 53 46.7 +6.5
XAN S S 11 02 48.2 -7.5
XAN AMB AMB
comp=Z,7.0nm,1.7s,mb4.3
XAN LR LR
comp=N,1μm,16.5s
XAN LR LR
comp=Z,1μm,15.8s,MS5.3
UCH Uchtor 71.56 342 P **P** **10 53 38.5 +1.2**
SNR=21
KZA Kyzart 71.60 341 P **P** **10 53 38.4 +0.8**
SNR=25
OHR Ohrid 71.69 23 *e*P **P** **10 53 39.4 +1.2**
AML Almayashu 71.76 342 P **P** **10 53 39.8 +1.2**
SNR=92
VAY Valandovo 71.78 22 *i* P **P** **10 53 40.3 +1.6**
BIA Bitola 71.87 23 *e*P **P** **10 53 39.8 +0.6**
ZEI Tsey 72.48 5 *e*P **P** **10 53 42.9 0.0**
ZEI *i* 10 54 02.2
ZEI pmax pmax
comp=Z,40nm,0.8s,mb5.4
TIP Timpagrande 72.83 27 *e*P **P** **10 53 44.7 -0.2**
WHN Wuhan 72.91 306 *e*P **P** **10 53 44.5 -0.9**
WHN AP pP 10 53 52.8 +4.1
WHN S S 11 03 10.0 -1.9
WHN LR LR
comp=Z,3μm,17.7s,MS5.6
SAFT Safranbolu 73.19 14 *e*P **P** **10 53 48.5 +1.3**
BOYT Boyabat 73.23 12 *i* P **P** **10 53 50.8 +3.5**
HENT Hendek 73.41 16 *i* P **P** **10 53 50.9 +2.5**
MDT Midelt 73.46 46 LR LR 11 25 17.8
comp=Z,2μm,19.4s,MS5.3,baz=234,slow=35
TOS Tosya 73.53 13 *e*P **P** **10 53 49.2 0.0**
SGKT Sivrigoynuk 73.79 15 *i* P **P** **10 53 51.5 +0.9**
GRSN GIRESUNGRSN 74.00 10 *i* P **P** **10 53 54.5 +2.6**
CTKT Corum 74.01 13 *i* P **P** **10 53 53.0 +1.0**
ELDT Eldivan 74.01 14 *i* P **P** **10 53 53.0 +1.1**
KSH Kashi 74.01 340 *e*P **P** **10 53 52.2 +0.3**
KSH AP pP 10 53 56.9 +1.7
KSH XP sP 10 54 00.4 +4.0
KSH PCP PcP 10 54 08.5 +1.3
KSH *e*PP PP 10 56 39.1 +2.0
KSH *e*PPP 10 58 24.7
KSH S S 11 03 24.4 0.0
KSH XS sS 11 03 32.7 +2.9
KSH SKS 11 03 55.7
KSH SCS ScS 11 03 58.8 -3.3
KSH SS SS 11 08 08.8 -0.2
KSH AMB AMB
comp=Z,27nm,1.0s,mb5.1
KSH LR LR
comp=N,2μm,16.9s,MS5.5
KSH LR LR
comp=E,1μm,15.0s,MS5.5
KSH LR LR
comp=Z,920nm,16.6s,MS5.2
TAOE Nuku Hiva Isla 74.06 191 *e*SS SS 11 08 02.9 -6.8
comp=Z,1μm,31.7s
TAOE *e*LR LR 11 16 22.2
comp=Z,7μm,23.3s,baz=16
OTAV Otavalo 74.15 126 *e*P **P** **10 53 53.1 +0.4**
comp=Z,68nm,1.7s,mb5.3
GUMT Gumushane 74.55 9 *e*P **P** **10 53 54.7 -0.4**
ANTO Ankara 74.56 14 *e*P **P** **10 53 56.1 +0.9**
comp=Z,97nm,1.2s,mb5.6
ANTO LR LR
comp=Z,2μm,21.0s,MS5.4
ANTO Ankara 74.56 14 *e*P **P** **10 53 56.1 +1.0**
ANTO pmax pmax
comp=Z,97nm,1.2s,mb5.6
ANTO MLR MLR
comp=Z,2μm,21.0s,MS5.4
ESKT Eskisehir 74.69 16 *e*P **P** **10 53 58.8 +2.9**
ESKT Eskisehir 74.69 16 *i* P **P** **10 53 56.0 +0.1**
ENH Enshi 74.79 310 *e*P **P** **10 53 57.1 +0.6**
comp=Z,62nm,1.3s,mb5.4
BR131 Keskin Array S 74.79 14 *e*P **P** **10 53 56.9 +0.4**
comp=Z,28nm,1.0s,mb5.2
BR131 LR LR
comp=Z,2μm,22.0s,MS5.3
BRTR Keskin Array B 74.79 14 P **P** **10 53 56.2 -0.3**
comp=Z,15nm,0.9s,mb4.9,baz=356,slow=3.2,SNR=22
KELT Kelkit 74.84 9 *i* P **P** **10 53 59.8 +3.0**
GNI Garni 75.13 5 *e*P **P** **10 53 57.9 -0.6**
comp=Z,58nm,1.1s,mb5.4
GNI Garni 75.13 5 *e*P **P** **10 53 57.9 -0.5**
GNI pmax pmax
comp=Z,58nm,1.1s
KAMT Kaman 75.15 14 *e*P **P** **10 54 00.2 +1.7**
ERZM Erzurum 75.22 8 *i* P **P** **10 54 01.1 +2.1**
KDAG Bornova 75.34 19 *i* P **P** **10 53 59.1 -0.5**
AVNT Avonos 75.85 13 *i* P **P** **10 54 02.0 -0.6**
CD2 Chengdu 75.99 315 P **P** **10 54 05.0 +1.6**
CD2 XP sP 10 54 11.1 +3.2
CD2 PPP 10 58 41.5
CD2 S S 11 03 46.0 -0.5
CD2 XS sS 11 03 53.2 +1.3
CD2 SKS 11 04 09.4
CD2 SS SS 11 08 41.0 +1.9
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,141nm,5.7s
CD2 LR LR
comp=N,810nm,20.4s
CD2 LR LR
comp=Z,1μm,21.0s,MS5.2
TKTP Tekketepe 76.09 17 *i* P **P** **10 54 03.9 0.0**
CLDR Caldiran 76.10 6 *e*P **P** **10 54 05.8 +1.8**
MALT Malatya 76.61 10 *e*P **P** **10 54 07.8 +0.9**
MALT Malatya 76.61 10 *e*P **P** **10 54 07.4 +0.5**
comp=Z,39nm,1.1s,mb5.2
MALT Malatya 76.61 10 *e*P **P** **10 54 07.4 +0.5**
MALT pmax pmax
comp=Z,39nm,1.1s,mb5.2
VANB Van 76.62 6 *e*P PcP 10 54 20.2 +1.8
TVAN Van 76.69 6 *i* P **P** **10 54 09.9 +2.6**
YER Yerkesik 76.72 18 *e*P **P** **10 54 07.8 +0.3**
GOLH Golhisar 76.79 17 *i* P PcP 10 54 23.3 +4.2
KOZT Kozan 77.22 12 *e*P **P** **10 54 06.4 -3.9**
ABKT Ailbek 77.29 354 P **P** **10 54 11.0 +0.3**
comp=Z,163nm,1.1s,mb5.9,SNR=8.8
FETY Fethiye 77.32 18 *e*P **P** **10 54 07.8 -3.0**
KARA Karaisali 77.37 13 *e*P **P** **10 54 10.8 -0.4**
ATAB Bozova 77.44 10 *i* P **P** **10 54 14.6 +3.0**
GZT Gaziantep 77.50 11 *i* P **P** **10 54 13.3 +1.5**
URFA Urfa 77.51 10 *e*P **P** **10 54 12.0 0.0**
SIRT Sirnak 77.67 7 *e*P **P** **10 54 16.1 +3.3**
CEYT Ceyhan 77.68 12 *e*P **P** **10 54 14.0 +1.1**
MARD Mardin 77.76 8 *i* P **P** **10 54 16.0 +2.6**
CUKT Cukurca 77.98 6 *e*P **P** **10 54 14.0 -0.5**
MSL Mosul 78.91 6 *ex* x 10 54 20.5
GYA Guiyang 79.24 311⇑*i*P **P** **10 54 22.8 +1.3**
GYA AP pP 10 54 27.8 +3.0
GYA XP sP 10 54 29.9 +3.9
GYA PP PP 10 57 23.0 +2.0
GYA S S 11 04 19.9 -1.7
GYA SKS 11 04 34.8
GYA SS SS 11 09 28.2 +0.2
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,420nm,4.0s
GYA LR LR
comp=E,670nm,17.9s
GYA LR LR
comp=Z,540nm,18.0s,MS4.9
LSA Lhasa 80.58 325 P **P** **10 54 30.3 +1.6**
LSA Lhasa 80.58 325 *e*P **P** **10 54 30.3 +1.5**
comp=Z,33nm,0.9s,mb5.3
LSA Lhasa 80.58 325 *e*P **P** **10 54 30.3 +1.6**
LSA pmax pmax
comp=Z,33nm,0.9s,mb5.3
BHL Bhannes 80.75 13 *e*P **P** **10 54 26.9 -2.8**
KMI Kunming 81.72 314 P **P** **10 54 32.6 -2.2**
KMI AP pP 10 54 39.0 +0.9
KMI PP PP 10 57 44.2 +2.6
KMI S S 11 04 44.1 -3.5
KMI SKS 11 04 50.2
KMI SS SS 11 10 05.1 +0.1
KMI SSS 11 13 27.5
KMI AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
KMI AMB AMB
comp=Z,148nm,3.9s
KMI LR LR
comp=N,664nm,21.3s,MS5.1
KMI LR LR
comp=E,665nm,24.7s,MS5.1
KMI LR LR
comp=Z,2μm,17.3s
BHD Baghdad 81.97 5 *ex* x 10 54 35.0
GUN Gumba 83.51 329 *e*P **P** **10 54 44.0 -0.2**

comp=Z,121nm,1.1s,mb5.9
JIRN Jiri 83.69 329 *e*P **P 10 54 45.1 0.0**
comp=Z,163nm,1.1s,mb6.1
GKN Gorkha 83.69 330 *e*P **P 10 54 44.5 -0.6**
comp=Z,93nm,1.1s,mb5.8
PPT Papeete 83.73 200 *e*S S 11 04 48.9 -19
comp=Z,181nm,28.0s
PPT *e*SS SS 11 10 23.1 -12
comp=Z,380nm,33.2s
PPT *e*LR LR 11 21 01.4
comp=Z,2μm,24.0s,baz=5.3
PPT Papeete 83.73 200 LR LR 11 26 50.5
comp=Z,1μm,18.1s,MS5.3,baz=34,slow=32
KKN Kakani 83.76 330 *e*P **P 10 54 45.1 -0.3**
comp=Z,155nm,1.1s,mb6.0
KKN Kakani 83.76 330 *e*P **P 10 54 45.1 -0.3**
KKN pmax pmax
comp=Z,77nm,1.1s,mb5.8
PKI Pulchoki 83.94 330 *e*P **P 10 54 45.8 -0.6**
comp=Z,61nm,1.1s,mb5.7
PKI Pulchoki 83.94 330 *e*P **P 10 54 45.8 -0.6**
PKI pmax pmax
comp=Z,31nm,1.1s,mb5.3
DMN Daman 83.97 330 *e*P **P 10 54 46.4 -0.1**
comp=Z,170nm,1.1s,mb6.1
KOLN Koldanda 84.13 331 *e*P **P 10 54 46.4 -0.9**
comp=Z,55nm,0.8s,mb5.7
NDI New Delhi 84.43 337 *e*P **P 10 54 46.8 -2.1**
EIL Elat 84.88 14 *e*P **P 10 54 50.9 -0.2**
comp=Z,1μm,1.5s
AFI Afiamalu 84.94 221 LR LR 11 25 53.0
comp=Z,1μm,20.2s,MS5.3,baz=13,slow=31
AFI Afiamalu 84.94 221 PFAKE 10 55 00.0 +8.6
AFI LR LR
comp=Z,2μm,19.0s,MS5.4
MIB Mutribah 85.52 3 *e*P **P 10 54 54.1 -0.2**
MIB AMb AMB 10 55 01.0
comp=Z,98nm,1.3s,mb5.9
UMR Umm Al-Rimmam 85.78 3 *e*P **P 10 54 54.3 -1.3**
UMR AMb AMB 10 55 01.0
comp=Z,104nm,1.3s,mb5.9
NAY Al-Naaiem 86.07 3 *e*P **P 10 54 56.5 -0.5**
NAY AMb AMB 10 55 03.7
comp=Z,31nm,1.5s,mb5.3
KBD Kabd 86.15 3 *e*P **P 10 54 56.0 -1.5**
KBD AMb AMB 10 55 04.4
comp=Z,357nm,1.4s,mb6.4
RDF Al-Radifah 86.40 3 *e*P **P 10 54 58.5 -0.2**
RDF AMb AMB 10 55 05.5
comp=Z,162nm,1.3s,mb6.1
RKT Rikitea 87.90 185 *e*S 11 05 29.0
comp=Z,228nm,29.2s
RKT *e*SS SS 11 11 24.9 -11
comp=Z,184nm,34.5s
RKT *e*LR LR 11 22 50.4
comp=Z,2μm,33.0s,baz=1.0
RAR Rarotonga 89.06 208 LR LR 11 27 56.6
comp=Z,1μm,19.4s,MS5.3,baz=224,slow=31
TBI Tubuai 89.40 199 *e*LR LR 11 23 25.9
comp=Z,2μm,24.0s,baz=12
KKTK Khon Kaen 89.92 311 P **P 10 55 12.3 -3.2**
comp=Z,432nm,0.6s
HNR Honiara 90.55 249 LR LR 11 33 38.1
comp=Z,699nm,19.1s,MS5.1,baz=357,slow=34
RPN Rapa Nui 93.07 162 LR LR 11 28 55.2
comp=Z,684nm,20.8s,MS5.1,baz=105,slow=30
LPAZ La Paz 93.12 123 P **P 10 55 29.4 -0.8**
comp=Z,0.9nm,0.6s,mb4.4,baz=1.7,slow=4.6,SNR=4.4
LPAZ PP PP 10 59 14.0 +0.6
comp=Z,1.9nm,1.0s,baz=349,slow=7.4,SNR=5.2
LPAZ LR LR 11 42 09.9
comp=Z,386nm,18.1s,MS4.9,baz=177,slow=39
LPAZ La Paz 93.12 123 P **P 10 55 29.4 -0.8**
LPAZ PP PP 10 59 14.0 +0.6
LPAZ LR LR 11 42 09.8
LPAZ La Paz 93.12 123 P **P 10 55 29.4 -0.9**
LPAZ 10 59 14.0
TORD Torodi Ar. Bea 93.83 48 P **P 10 55 32.2 -1.4**
comp=Z,4.2nm,1.1s,mb4.8,baz=327,slow=3.9,SNR=12
TORD PP PP 10 59 13.7 -5.3
comp=Z,1.5nm,1.0s,baz=347,slow=6.8,SNR=3.1
PMG Port Moresby 95.77 260 LR LR 11 33 18.6
comp=Z,942nm,21.5s,MS5.2,baz=28,slow=32
DBIC Dimbokro 97.70 56 LR LR 11 38 48.9
comp=Z,2μm,18.1s,MS5.7,baz=326,slow=35
DBIC Dimbokro 97.70 56 PFAKE 10 56 00.0 +8.8
DBIC LR LR
comp=Z,2μm,21.0s,MS5.6
WRA Warramunga Arr 110.61 267 PKiKP PKiKP 11 00 47.5 -1.4
comp=Z,0.8nm,0.9s,baz=7.7,slow=1.7,SNR=7.9
ASAR Alice Springs 114.09 266 PKP PKiKP 11 00 54.3 -1.2
comp=Z,0.7nm,0.7s,baz=14,slow=2.2,SNR=8.4
ASAR PP PP 11 01 48.9 -1.1
comp=Z,1.5nm,0.9s,baz=31,slow=6.0,SNR=6.8
STKA Stephens Creek 118.07 255 PKP PKPdf 11 00 59.0 -4.2
comp=Z,5.9nm,0.9s,baz=16,slow=3.0,SNR=8.1
LBTB Lobatse 136.88 34 PFAKE 11 01 50.0 +11
LBTB LR LR
comp=Z,915nm,20.0s,MS5.5
BOSA Boshof 140.24 36 PKhKP 11 01 39.8
comp=Z,6.5nm,0.9s,baz=14,slow=6.3,SNR=4.2
BOSA PKP PKPdf 11 01 44.2 -1.0
comp=Z,5.7nm,0.8s,baz=333,slow=4.2,SNR=7.2
VNDA Vanda 148.21 203 PKPbc PKPbc 11 01 58.6 -3.6
comp=Z,5.0nm,1.1s,baz=40,slow=3.1,SNR=3.6
QSPA South Pole Qui 154.80 180 *e*P PKPdf 11 02 07.9 -1.1
SYO Syowa Base 174.01 138⇓*e*PKPab PKPab 11 03 54.6 -2.3
SYO Syowa Base 174.01 138⇓*e*PKPdf PKPdf 11 02 28.5 +2.6
SYO ⇓*e*PKPab PKPab 11 03 54.6 -2.3

MEX 05 10:43:08.9±0.7, 1661N×10062W, h37km±14km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.55**	**38**	*i* P			Pn	10 43 18.6	-1.6
CAIG				*i* S			Sn	10 43 25.6	-2.6
ACX	**Acapulco**	**0.72**	**69**	*i* P			Pn	10 43 21.0	-1.5
ACX				*i* S			Sn	10 43 30.0	-2.3
MEIG	**Mezcala**	**1.62**	**36**	*e*P			Pn	10 43 32.4	-2.5
MEIG				*i* S			Sn	10 43 54.2	-0.3
PLIG	**Platanillo**	**2.06**	**31**	*i* P			Pn	10 43 38.8	-2.2
PPM	**Popocatepetl**	**3.09**	**38**	*i* P			Pn	10 43 54.0	-1.1
MOIG	**Morelia**	**3.10**	**350**	*i* P			Pn	10 43 53.5	-1.7
MOIG				*i* S			Sn	10 44 31.0	0.0
VHO	**Vista Hermosa**	**3.75**	**82**	*i* P			Pn	10 44 01.4	-2.8
VHO				*i* S			Sn	10 44 46.1	-1.0

IDC 05 10:45:27.6±8.2, 1353S×16692E, h216km±91km, mb3.4/4, mb1 3.7/5, mb1mx3.4/16, mbtmp4.0/5, Error ellipse: s-maj=73.9km s-min=26.8km az=164.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.50**	**183**	P			Pn	10 47 27.9	+0.5
	2.8nm,0.3s,baz=195,slow=19,SNR=69								
DZM				S			S	10 49 03.1	-0.2
	0.6nm,0.3s,baz=139,slow=19,SNR=4.6								
CTA	**Charters Tower**	**20.82**	**249**	P			P	10 49 52.8	+0.3
	3.9nm,0.8s,baz=77,slow=12,SNR=4.6								
WRA	**Warramunga Arr**	**31.80**	**254**	P			P	10 51 32.0	0.0
	1.4nm,0.8s,baz=85,slow=9.1,SNR=13								
ASAR	**Alice Springs**	**32.80**	**247**	P			P	10 51 41.2	+0.6
	2.2nm,0.7s,baz=68,slow=10,SNR=34								
ILAR	**Eielson Array**	**85.50**	**18**	P			P	10 57 40.8	-0.4
	0.7nm,0.6s,baz=239,slow=5.2,SNR=11								

IDC 05 11:14:35.4±1.3, 5253N×3219W, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/25, mbtmp3.8/11, ML4.0/1, Error ellipse: s-maj=37.0km s-min=20.2km az=11.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.27**	**69**	P			Pn	11 18 38.6	+0.7
	0.3nm,0.3s,baz=269,slow=10.0,SNR=12								
NOA	**NORSAR Array B**	**24.82**	**53**	P			P	11 19 59.1	-0.2
	2.9nm,1.0s,baz=273,slow=11,SNR=3.3								
GERES	**GERESS Array B**	**28.93**	**79**	P			P	11 20 36.2	0.0
	0.9nm,0.8s,baz=300,slow=9.1,SNR=6.7								
FINES	**FINESS Array B**	**31.93**	**51**	P			P	11 21 01.8	-1.0
	1.7nm,1.0s,baz=316,slow=8.0,SNR=4.2								
AKASG	**Malin Array Be**	**37.17**	**68**	P			P	11 21 46.4	-1.7
	1.0nm,0.6s,baz=298,slow=8.8,SNR=5.6								
YKA	**Yellowknife Ar**	**42.39**	**317**	P			P	11 22 31.1	-0.4
	0.6nm,0.9s,baz=64,slow=8.2,SNR=6.2								
BRTR	**Keskin Array B**	**45.82**	**79**	P			P	11 22 59.8	+0.7
	2.8nm,0.7s,baz=307,slow=5.7,SNR=13								
TORD	**Torodi Ar. Bea**	**47.70**	**133**	P			P	11 23 13.5	-0.3
	0.8nm,0.7s,baz=341,slow=7.3,SNR=5.1								
PDAR	**Pinedale Array**	**50.66**	**292**	P			P	11 23 36.1	-0.3
	0.3nm,0.7s,baz=58,slow=5.4,SNR=5.0								
MKAR	**Makanchi Array**	**66.34**	**43**	P			P	11 25 25.4	-0.4
	1.2nm,0.7s,baz=325,slow=5.6,SNR=13								
SONM	**Songino Array**	**73.96**	**28**	P			P	11 26 12.9	+0.3
	0.5nm,0.9s,baz=324,slow=4.0,SNR=4.4								

MEX 05 11:14:52.4±1.3, 1656N×9526W, h75km±19km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.64**	**34**	*i* P			Pn	11 15 05.6	-1.4
CMIG				*i* S			Sn	11 15 16.0	-1.8
HUIG	**Huatulco**	**1.13**	**226**	*i* P			Pn	11 15 11.0	-1.8
HUIG				*i* S			Sn	11 15 26.6	-1.5
OXX	**Oaxaca**	**1.50**	**291**	*i* P			Pn	11 15 17.0	-0.5
OXX				*i* S			Sn	11 15 35.0	-1.5
VHO	**Vista Hermosa**	**1.51**	**290**	*i* P			Pn	11 15 16.6	-1.0
VHO				*i* S			Sn	11 15 34.2	-2.3
EVV	**El Vigia**	**1.89**	**357**	*e*P			Pn	11 15 20.0	-2.7
TPIG	**Tehuac#an**	**2.73**	**313**	*i* S			Sn	11 16 06.9	+0.9
PNIG	**Pinotepa**	**2.76**	**267**	*i* S			Sn	11 16 02.1	-4.6
CCIG	**Comitan**	**3.00**	**95**	*e*P			Pn	11 15 36.0	-1.7
CCIG				*i* S			Sn	11 16 08.8	-3.8
PPM	**Popocatepetl**	**4.07**	**308**	*i* P			Pn	11 15 50.6	-1.6
PPM				*i* S			Sn	11 16 40.8	+2.3
TEIG	**Tepich**	**7.56**	**60**	*i* S			Sn	11 17 59.1	-5.0

ISCJB ***05*** *11:19:18.4±2.0, 742N±009×752W±0.1, h91km±18km, mb3.3/7, Error ellipse: s-maj=23.0km s-min=12.6km az=42.0*
IDC ***05*** *11:19:18.6±2.8, 738N×75.19W, h75km±26km, mb3.2/7, mb1 3.5/10, mb1mx3.4/24, mbtmp3.7/10, Error ellipse: s-maj=23.8km s-min=14.6km az=97.0*
ISC 05 11:19:19.1±1.9, 743N±009×752W±01, h80km±18km, n14, σ0§83/11, mb3.3/7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.71**	**161**	P			**Pn**	**11 20 00.9**	**+0.4**
	16nm,0.3s,baz=276,slow=3.5,SNR=26								
SDV	**Santo Domingo**	**4.76**	**72**	P			**Pn**	**11 20 29.3**	**+1.0**
	6.4nm,0.3s,baz=297,slow=5.7,SNR=26								
SDV				S			**Sn**	**11 21 21.9**	**-0.3**
	48nm,0.3s,baz=16,slow=18,SNR=12								
SJG	**San Juan**	**13.80**	**39**	P			**Pn**	**11 22 29.7**	**-1.4**
	1.4nm,0.3s,baz=243,slow=14,SNR=3.3								
LPAZ	**La Paz**	**24.59**	**163**	P			**P**	**11 24 30.4**	**-1.2**
	0.5nm,0.4s,mb3.3,baz=292,slow=5.4,SNR=2.6								
SIV	**San Ignacio**	**27.16**	**149**	P			**P**	**11 24 54.4**	**-0.5**
	0.8nm,0.3s,mb3.7,baz=325,slow=13,SNR=7.7								
CFAA	**Coronel Fontan**	**39.39**	**171**	P			**P**	**11 26 40.8**	**-0.1**
	0.2nm,0.7s,mb3.1,baz=349,slow=7.6,SNR=4.6								
YKA	**Yellowknife Ar**	**61.99**	**341**	P			**P**	**11 29 30.5**	**-0.2**
	0.4nm,0.6s,mb3.6,baz=132,slow=6.8,SNR=22								
INK	**Inuvik**	**71.76**	**341**	P			**P**	**11 30 33.0**	**+0.3**
	0.2nm,0.5s,mb3.2,baz=161,slow=4.6,SNR=6.7								
ILAR	**Eielson Array**	**75.54**	**335**	P			**P**	**11 30 55.0**	**+0.2**
	0.3nm,0.9s,mb3.0,baz=102,slow=5.5,SNR=4.4								
TORD	**Torodi Ar. Bea**	**75.65**	**78**	P			**P**	**11 30 57.2**	**+1.7**
	0.4nm,0.6s,mb3.3,baz=283,slow=6.9,SNR=3.2								
ASAR	**Alice Springs**	**147.74**	**237**	PKPbc			PKPbc	11 38 55.0	+0.5
	0.6nm,0.4s,baz=120,slow=3.4,SNR=26								
ASPA	**Alice Springs**	**147.75**	**237**	*e*P			PKPdf	11 38 54.8	+3.2
WB2	**Warramunga Arr**	**148.77**	**244**	*e*P			PKPdf	11 38 57.6	+4.3
WRA	**Warramunga Arr**	**148.78**	**244**	PKPbc			PKPbc	11 38 58.0	+0.7
	0.5nm,0.4s,baz=257,slow=0.2,SNR=29								

IDC 05 11:25:06.7±7.4, 1536S×16831E, h48km±79km, mb3.6/8, mb1 3.8/9, mb1mx3.7/15, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=64.6km s-min=27.1km az=158.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.91**	**195**	P			Pn	11 26 45.5	+0.1
	2.2nm,0.3s,baz=45,slow=16,SNR=25								
DZM				S			Sn	11 28 03.9	+1.3
	0.1nm,0.3s,baz=120,slow=20,SNR=1.6								
STKA	**Stephens Creek**	**29.37**	**231**	P			P	11 31 05.0	-0.2
	1.3nm,0.5s,baz=37,slow=5.1,SNR=3.7								
WRA	**Warramunga Arr**	**32.66**	**257**	P			P	11 31 34.0	-0.1
	0.5nm,0.6s,baz=84,slow=8.5,SNR=9.2								
ASAR	**Alice Springs**	**33.40**	**250**	P			P	11 31 41.0	+0.5
	1.9nm,0.9s,baz=80,slow=8.8,SNR=20								
SONM	**Songino Array**	**83.60**	**323**	P			P	11 37 30.1	+0.2
	0.5nm,0.8s,baz=90,slow=2.9,SNR=3.2								
ILAR	**Eielson Array**	**86.81**	**18**	P			P	11 37 44.8	-1.1
	0.5nm,0.8s,baz=234,slow=5.6,SNR=5.3								
NVAR	**Mina Array Bea**	**86.92**	**49**	P			P	11 37 46.5	+0.1
	0.7nm,0.7s,baz=234,slow=9.8,SNR=4.9								
YKA	**Yellowknife Ar**	**97.64**	**27**	P			P	11 38 36.4	+0.3
	0.4nm,1.0s,baz=266,slow=3.7,SNR=4.6								
MKAR	**Makanchi Array**	**98.35**	**316**	P			P	11 38 40.5	+1.2
	0.2nm,0.6s,baz=105,slow=3.1,SNR=2.5								

IDC 05 11:54:35.1±4.4, 1197S×1497W, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, mbtmp4.0/6, MS3.8/3, Ms1 3.8/3, ms1mx3.5/17, Error ellipse: s-maj=196.7km s-min=83.0km az=130.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**21.07**	**29**	P			P	11 59 20.9	+0.1
	12nm,1.1s,baz=206,slow=11,SNR=8.6								
DBIC				LR			LR	12 05 46.7	
	comp=Z,200nm,19.9s,baz=234,slow=32								
TORD	**Torodi Ar. Bea**	**29.93**	**34**	P			P	12 00 45.0	+0.3
	2.0nm,0.8s,baz=219,slow=8.5,SNR=8.5								
BDFB	**Brasilia**	**32.28**	**260**	LR			LR	12 11 43.6	
	comp=Z,265nm,19.5s,baz=81,slow=32								
LPAZ	**La Paz**	**51.62**	**259**	LR			LR	12 23 56.1	
	comp=Z,104nm,21.5s,baz=102,slow=34								
GERES	**GERESS Array B**	**65.64**	**20**	P			P	12 05 22.5	+1.5
	0.6nm,0.9s,baz=261,slow=4.6,SNR=3.3								
BRG	**Berggiesshubel**	**67.46**	**19**	*e*P			P	12 05 37.2	+4.6
	4.1nm,1.3s								
BRTR	**Keskin Array B**	**68.42**	**38**	P			P	12 05 39.9	+1.2
	0.9nm,0.9s,baz=205,slow=6.4,SNR=5.2								
AKASG	**Malin Array Be**	**73.31**	**28**	P			P	12 06 07.2	-1.3
	3.5nm,1.0s,baz=226,slow=6.3,SNR=10								
FINES	**FINESS Array B**	**79.99**	**19**	P			P	12 06 45.9	-0.3
	1.9nm,0.9s,baz=202,slow=7.2,SNR=3.8								

ISCJB ***05*** *12:06:38.6±0.5, 653N±006×12566E±009, h207km±4km, mb3.8/16, Error ellipse: s-maj=14.3km s-min=9.0km az=171.6*
NEIC ***05*** *12:06:39.9±0.6, 655N×12557E, h204km±6km, mb4.1/5, Error ellipse: s-maj=13.6km s-min=6.4km az=84.0*
MAN ***05*** *12:06:39.8, 708N×12567E, h235km, mb3.8, ML4.9, MS4.3*
IDC ***05*** *12:06:40.3±3.0, 652N×12556E, h208km±28km, mb3.5/10, mb1 3.7/10, mb1mx3.6/19, mbtmp4.0/10, Error ellipse: s-maj=36.3km s-min=11.3km az=73.0*
ISC 05 12:06:39.9±0.5, 658N±006×12567E±009, h203km±4km, n31, σ0§76/35, mb3.8/16, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.50**	**350**	*e*Pn			**Pn**	**12 07 07.5**	**+0.3**
DAV				*e*Sn			**Sn**	**12 07 25.3**	**-3.3**
BUKP	**Musuan**	**1.43**	**335**	*e*P			**Pn**	**12 07 13.6**	**+0.5**
BUKP				*e*S			**Sn**	**12 07 39.9**	**+13**
CTBH	**Cotabato--PC H**	**1.55**	**294**	⇓*i*P			**Pn**	**12 07 14.1**	**-0.2**
CTBH				*i* S			**Sn**	**12 07 54.2**	**+2.5**
BIPH	**Bislig**	**1.74**	**23**⇑	*e*P			**Pn**	**12 07 15.7**	**-0.2**
BIPH				*e*S			**Sn**	**12 07 43.1**	**+9.3**
CGP	**Cagayan de Oro**	**2.10**	**333**⇓	*e*P			**Pn**	**12 07 01.0**	**-19**
CGP				*i* S			**Sn**	**12 07 50.8**	**+8.3**
PAGZ	**Pagadian**	**2.60**	**299**	*e*P			**Pn**	**12 07 25.8**	**+0.8**
KSM	**Kuching**	**16.14**	**252**	P			**P**	**12 10 14.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**24.52**	**180**	*e*P			**P**	**12 11 41.3**	**+0.7**
	9.5nm,1.0s,mb4.4								
WRAB	**Tennant Creek**	**27.69**	**162**	*e*P			**P**	**12 12 09.1**	**0.0**
	2.9nm,0.6s,mb4.1								
WRA	**Warramunga Arr**	**27.70**	**162**	P			**P**	**12 12 09.2**	**+0.1**
	1.9nm,1.0s,mb3.7,baz=333,slow=10,SNR=15								
WB2	**Warramunga Arr**	**27.70**	**162**	*e*P			**P**	**12 12 09.0**	**-0.1**
MBWA	**Marble Bar**	**28.17**	**192**	*e*P			**P**	**12 12 13.0**	**-0.3**
ASAR	**Alice Springs**	**31.12**	**165**	P			**P**	**12 12 39.9**	**+0.7**
	1.3nm,0.5s,mb3.8,baz=345,slow=7.4,SNR=37								
ASAR				ScP			ScP	12 18 52.7	-0.1
	0.4nm,0.7s,baz=348,slow=2.8,SNR=5.1								
MJAR	**Matsushiro Arr**	**31.95**	**19**	P			**P**	**12 12 47.1**	**+0.6**
	1.2nm,0.8s,mb3.5,baz=197,slow=8.8,SNR=5.9								
KLBR	**Kellerberrin**	**38.70**	**191**	*e*P			**P**	**12 13 44.0**	**0.0**
	4.7nm,0.5s,mb4.3								
MUN	**Mundaring**	**39.39**	**193**	*e*P			**P**	**12 13 50.1**	**+0.4**
STKA	**Stephens Creek**	**41.15**	**159**	P			**P**	**12 14 03.5**	**-0.7**
	4.0nm,0.6s,mb4.0,baz=346,slow=7.9,SNR=13								
STKA	**Stephens Creek**	**41.15**	**159**	*e*P			**P**	**12 14 03.0**	**-1.1**
SONM	**Songino Array**	**44.28**	**341**	P			**P**	**12 14 30.0**	**+0.7**
	0.3nm,0.6s,mb2.8,baz=156,slow=9.3,SNR=3.9								
SONM				PcP			PcP	12 16 10.1	+0.2
	0.6nm,0.7s,baz=154,slow=3.7,SNR=4.7								
MKAR	**Makanchi Array**	**54.63**	**325**	P			**P**	**12 15 47.4**	**-0.1**
	0.7nm,0.5s,mb3.5,baz=117,slow=7.7,SNR=28								
MKAR				PcP			PcP	12 16 47.6	-0.1
	1.5nm,0.6s,baz=128,slow=3.4,SNR=14								
MKAR	**Makanchi Array**	**54.63**	**325**	P			**P**	**12 15 47.4**	**-0.1**
MKAR				PcP			PcP	12 16 47.6	-0.1
KURK	**Kurchatov**	**58.79**	**327**	*e*P			**P**	**12 16 16.2**	**-0.5**
MCK	**McKinley**	**82.10**	**27**	P			**P**	**12 18 38.4**	**+0.7**
	1.7nm,0.8s,mb3.7								
COLA	**College**	**82.59**	**25**	*e*P			**P**	**12 18 41.4**	**+1.3**
ILAR	**Eielson Array**	**83.00**	**26**	P			**P**	**12 18 42.8**	**+0.5**
	1.0nm,0.6s,mb3.7,baz=243,slow=5.0,SNR=25								
JOF	**Joensuu**	**86.18**	**333**	*e*p			**P**	**12 18 57.6**	**-0.5**
	2.2nm,0.6s,mb4.1								
ARCES	**ARCESS Array B**	**87.43**	**340**	P			**P**	**12 19 02.9**	**-1.3**
	2.6nm,0.9s,mb3.9,baz=74,slow=6.7,SNR=5.0								
KAF	**Kangasniemi**	**88.60**	**332**	*e*p			**P**	**12 19 07.9**	**-1.8**
	1.0nm,0.7s,mb3.8								
FINES	**FINESS Array B**	**88.84**	**332**	P			**P**	**12 19 09.8**	**-1.0**
	0.9nm,0.5s,mb3.9,baz=66,slow=5.1,SNR=16								
YKA	**Yellowknife Ar**	**97.35**	**24**	P			**P**	**12 19 50.6**	**+0.7**
	0.4nm,0.8s,mb3.7,baz=300,slow=4.5,SNR=8.9								
TORD	**Torodi Ar. Bea**	**121.00**	**290**	PKP			PKPdf	12 25 08.6	+0.5
	0.8nm,0.7s,baz=52,slow=1.9,SNR=4.8								

IDC 05 12:11:10.2±5.1, 1780S×17525W, h80km±42km, mb3.0/3, mb1 3.3/4, mb1mx3.2/15, mbtmp3.4/4, ML1.5/1, Error ellipse: s-maj=148.2km s-min=25.5km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.11**	**41**	P			Pn	12 12 25.8	+1.6
	1.1nm,0.3s,baz=241,slow=10,SNR=3.7								
AFI				S			Sn	12 13 21.9	0.0
	5.0nm,0.3s,baz=220,slow=23,SNR=6.2								
WRA	**Warramunga Arr**	**47.61**	**259**	P			P	12 19 38.4	+0.5
	0.4nm,0.7s,baz=97,slow=7.4,SNR=13								
ASAR	**Alice Springs**	**47.72**	**254**	P			P	12 19 38.8	0.0
	0.2nm,0.5s,baz=91,slow=7.7,SNR=9.1								
ILAR	**Eielson Array**	**85.13**	**12**	P			P	12 23 37.2	-0.1
	0.2nm,0.5s,baz=218,slow=6.9,SNR=5.5								

NEIC ***05*** *12:24:24.3±1.9, 2224S×17926W, h585km±21km, mb3.8/1, Error ellipse: s-maj=19.0km s-min=17.2km az=176.0*
ISCJB ***05*** *12:24:25.4±1.8, 222S±0.1×1794W±0.1, h611km±24km, mb3.6/7, Error ellipse: s-maj=17.6km s-min=16.1km az=52.8*
IDC ***05*** *12:24:26.6±2.2, 2224S×17939W, h606km±25km, mb2.9/6, mb1 3.1/8, mb1mx3.1/16, mbtmp4.0/8, Error ellipse: s-maj=31.6km s-min=15.4km az=157.0*
ISC 05 12:24:25.2±1.8, 223S±01×1793W±01, h598km±21km, n25, σ0§86/17, mb3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.24**	**268**	P			**P**	**12 27 15.5**	**-0.9**
	0.3nm,0.3s,baz=106,slow=20,SNR=3.8								
URZ	**Urewera**	**16.21**	**190**	P			**P**	**12 27 44.1**	**-0.4**
	1.7nm,0.3s,baz=338,slow=5.4,SNR=13								
URZ				S			**S**	**12 30 26.6**	**-0.3**
	0.2nm,0.3s,baz=140,slow=16,SNR=2.6								
CTA	**Charters Tower**	**32.18**	**267**	P			**P**	**12 30 06.1**	**+0.6**
	1.4nm,0.4s,mb4.0,baz=56,slow=13,SNR=4.9								
CTAO	**Charters Tower**	**32.18**	**267**	*e*P			**P**	**12 30 06.9**	**+1.4**
STKA	**Stephens Creek**	**35.97**	**246**	P			**P**	**12 30 37.1**	**+0.1**
	1.7nm,0.5s,mb3.8,baz=115,slow=11,SNR=5.9								
STKA	**Stephens Creek**	**35.97**	**246**	*e*P			**P**	**12 30 36.9**	**-0.2**
ASAR	**Alice Springs**	**42.99**	**259**	P			**P**	**12 31 34.4**	**+1.2**
	0.8nm,0.7s,mb3.4,baz=89,slow=8.5,SNR=18								
ASAR				PcP			PcP	12 33 11.3	+1.9
	0.7nm,0.7s,baz=110,slow=3.6,SNR=9.2								
ASAR				S			**S**	**12 37 16.4**	**+0.1**
	1.2nm,1.1s,baz=98,slow=14,SNR=5.9								
WB2	**Warramunga Arr**	**43.20**	**264**	*e*P			**P**	**12 31 35.1**	**+0.3**
WRAB	**Tennant Creek**	**43.21**	**264**	*e*P			**P**	**12 31 35.1**	**+0.3**
WRA	**Warramunga Arr**	**43.22**	**264**	P			**P**	**12 31 35.3**	**+0.4**
	0.4nm,0.3s,mb3.5,baz=95,slow=7.9,

MA2	Magadan	17.69	309⇓	eP		Pn	12 33 35.5	+16
BILL	Bilibino	17.85	345	eP		Pn	12 33 22.5	+1.1
	comp=Z,3.5nm,1.0s							
BILL	Bilibino	17.85	345⇑	eP		Pn	12 33 22.8	+1.4
KDAK	Kodiak Island	17.90	57	P		Pn	12 33 19.6	-2.3
	comp=Z,0.8nm,0.3s,baz=291,slow=8.6,SNR=12							
SLKM	Skilak Lake	19.64	50	P		Pn	12 33 42.3	-0.5
MCK	McKinley	21.19	41	eP		P	12 33 57.5	-0.2
COLA	College	22.04	39	P		P	12 34 08.2	+1.4
	comp=Z,3.0nm,1.0s,mb3.7							
COLA	College	22.04	39	P		P	12 34 08.3	+1.4
COLA			pmax	pmax				
	comp=Z,3.0nm,1.0s,mb3.7							
ILAR	Eielson Array	22.39	40	P		P	12 34 08.6	-2.0
	comp=Z,0.9nm,0.6s,mb3.4,baz=233,slow=8.1,SNR=25							
YSS	Yuzh-Sakhalins	23.65	274⇑	eP		P	12 34 19.1	-4.0
YSS			pmax	pmax				
	comp=Z,17nm,1.7s,mb4.2							
DAWY	Dawson	25.34	44	eP		P	12 34 40.6	+2.1
YAK	Yakutsk	28.22	311⇑	eP		P	12 35 12.1	+7.7
YAK			pmax	pmax				
	comp=Z,12nm,0.7s,mb4.6							
INK	Inuvik	28.52	35	P		P	12 35 06.9	-0.2
	comp=Z,0.6nm,0.3s,mb3.7,baz=260,slow=7.4,SNR=17							
INK	Inuvik	28.52	35	eP		P	12 35 06.5	-0.6
	comp=Z,0.8nm,0.4s,mb3.8							
INK	Inuvik	28.52	35	eP		P	12 35 06.5	-0.5
INK			pmax	pmax				
	comp=Z,1.0nm,0.4s							
TIXI	Tiksi	29.91	331	eP		P	12 35 28.5	+9.1
TIXI			pmax	pmax				
	comp=Z,2.0nm,1.3s,mb3.7							
VLA	Vladivostok	32.24	274	i P		P	12 35 34.1	-5.8
MDJ	Mudanjiang	32.92	278	P		P	12 35 47.7	+1.8
MDJ			PP	PP			12 37 01.4	+0.2
MDJ			S	S			12 41 05.2	+5.7
MDJ			AMB	AMB				
	comp=Z,6.0nm,1.6s,mb4.3							
MDJ			AMB	AMB				
	comp=Z,12nm,2.8s,mb4.3							
MDJ			LR	LR				
	comp=N,47nm,9.7s							
MDJ			LR	LR				
	comp=E,63nm,10.8s							
MDJ			LR	LR				
	comp=Z,75nm,7.8s							
CN2	Changchun	35.91	279	eP		P	12 36 15.7	+4.0
YKA	Yellowknife Ar	36.52	46	P		P	12 36 16.7	-0.2
	comp=Z,0.4nm,0.5s,mb3.5,baz=283,slow=8.0,SNR=14							
YKA			ScP	ScP			12 42 22.6	+1.8
	comp=Z,0.2nm,0.5s,baz=287,slow=3.5,SNR=6.7							
YKA	Yellowknife Ar	36.52	46	P		P	12 36 16.7	-0.2
YKA			ScP	ScP			12 42 22.6	+1.8
BOD	Bodaibo	36.68	306	eP		P	12 36 17.1	-1.2
BOD			pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.3							
ULN	Ulaanbaatar	44.79	295	eP		P	12 37 25.5	+0.5
	comp=Z,1.2nm,0.6s,mb3.9							
ULN	Ulaanbaatar	44.79	295⇓	i P		P	12 37 26.0	+1.0
SONM	Songino Array	45.18	295	P		P	12 37 28.4	+0.2
	comp=Z,1.2nm,0.6s,mb3.9,baz=62,slow=8.0,SNR=13							
NVAR	Mina Array Bea	45.23	81	P		P	12 37 32.9	+4.3
	comp=Z,0.4nm,0.5s,mb3.5,baz=287,slow=8.6,SNR=4.5							
NJ2	Nanjing	47.13	270	eP		P	12 37 49.1	+5.7
NJ2			AMB	AMB				
	comp=Z,20nm,0.7s							
BW06	Boulder Array	47.94	71	P		P	12 37 50.3	+0.5
	comp=Z,0.7nm,0.6s,mb3.9							
PDAR	Pinedale Array	47.94	71	P		P	12 37 51.1	+1.4
	comp=Z,0.6nm,0.4s,mb3.9,baz=345,slow=4.5,SNR=14							
ZAL	Zalesovo	52.88	312	P		P	12 38 25.0	-2.0
	comp=Z,0.9nm,0.5s,mb4.0,baz=36,slow=8.2,SNR=5.1							
ZAL	Zalesovo	52.88	312	P		P	12 38 25.0	-2.0
ZAL	Zalesovo	52.88	312	i P		P	12 38 25.8	-1.3
ZAL			pmax	pmax				
	comp=Z,1.0nm,0.5s							
KURK	Kurchatov	57.86	312	eP		P	12 39 02.7	-0.1
	comp=Z,2.1nm,0.6s,mb4.3							
KURK	Kurchatov	57.86	312⇑	eP		P	12 39 02.5	-0.3
ARCES	ARCESS Array B	57.89	349	P		P	12 39 02.6	-0.4
	comp=Z,2.6nm,0.9s,mb4.3,baz=26,slow=8.9,SNR=7.0							
ARCES	ARCESS Array B	57.89	349	P		P	12 39 02.6	-0.5
ARCES			pmax	pmax				
	comp=Z,3.0nm,0.9s							
ARCES	ARCESS Array B	57.89	349	P		P	12 39 02.6	-0.4
MK31	Makanchi Array	58.77	307	i P		P	12 39 08.6	-0.5
MKAR	Makanchi Array	58.77	307	P		P	12 39 08.6	-0.5
	comp=Z,0.6nm,0.5s,mb3.9,baz=50,slow=6.0,SNR=24							
VOSK	Vostochnaya	59.84	318	P		P	12 39 16.2	-0.3
VOSK			pmax	pmax				
	comp=Z,1.0nm,0.7s,mb4.0							
BVA0	Borovoye Array	59.87	318	i P		P	12 39 16.9	+0.2
BVAR	Borovoye Array	59.87	318	P		P	12 39 17.0	+0.3
	comp=Z,4.3nm,0.5s,mb4.7,baz=53,slow=6.5,SNR=32							
BRVK	Borovoye	59.89	318	eP		P	12 39 16.8	-0.1
	comp=Z,2.1nm,0.5s,mb4.4							
BRVK	Borovoye	59.89	318	eP		P	12 39 16.8	-0.1
BRVK			pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.4							
FINES	FINESS Array B	65.50	346	P		P	12 39 53.5	-0.7
	comp=Z,0.5nm,0.6s,mb3.7,baz=12,slow=5.9,SNR=5.6							
FINES	FINESS Array B	65.50	346	i P		P	12 39 54.5	+0.3
FINES			pmax	pmax				
	comp=Z,1.0nm,0.6s							
FINES	FINESS Array B	65.50	346	P		P	12 39 53.5	-0.7
AAK	Ala-Archa	65.62	308⇓	eP		P	12 39 54.1	-0.9
AAK			pmax	pmax				
	comp=Z,5.0nm,2.5s,mb4.1							
AKTK	Aktyubinsk	66.78	323	P		P	12 40 03.0	+0.6
AKTO	Aktyubinsk	66.78	323	P		P	12 40 03.0	+0.6
	comp=Z,3.5nm,0.6s,mb4.6,baz=68,slow=7.0,SNR=15							
AB31	Akbulak array	66.99	321	i P		P	12 40 04.3	+0.6
KK31	Karatay Array	67.20	311	i P		P	12 40 05.3	+0.2
KKAR	Karatay Array	67.20	311	P		P	12 40 05.3	+0.2
NOA	NORSAR Array B	67.58	353	P		P	12 40 06.8	-0.7
	comp=Z,0.8nm,0.9s,mb3.8,baz=5.4,slow=9.4,SNR=2.5							
NOA	NORSAR Array B	67.58	353	P		P	12 40 06.8	-0.7
NOA			pmax	pmax				
	comp=Z,1.0nm,0.9s							
AKASG	Malin Array Be	75.11	340	P		P	12 40 52.1	-0.7
	comp=Z,1.1nm,0.4s,mb4.2,baz=19,slow=6.0,SNR=5.9							
AKASG	Malin Array Be	75.11	340	i P		P	12 40 53.5	+0.6
AKASG			pmax	pmax				
	comp=Z,1.0nm,0.4s							
WRAB	Tennant Creek	80.78	222	i P		P	12 41 31.7	+7.4

BJI ***05*** *12:43:17.4, 1387N×14622E, h90km, mB4.9, mb4.8, Ms4.6, Msz4.0*
ISCJB ***05*** *12:43:21.7±0.8, 1419N±006×14572E±006, h92km±7km, mb4.5/59, Error ellipse: s-maj=10.6km s-min=10.0km az=96.6*
IDC ***05*** *12:43:23.2±1.1, 1423N×14560E, h84km±10km, mb4.1/18, mb1 4.2/18, mb1mx4.2/24, mbtmp4.5/18, MS3.1/3, Ms1 3.1/3, ms1mx2.7/29, Error ellipse: s-maj=20.4km s-min=12.3km az=92.0*
NEIC ***05*** *12:43:23.8±1.2, 1422N×14560E, h90km±11km, mb4.7/15, Error ellipse: s-maj=12.0km s-min=9.5km az=84.0*
NEIC Felt on Saipan and at Santa Rita, Guam.
MOS ***05*** *12:43:24.8±0.9, 1425N×14566E, h120km, mb4.4/20, Error ellipse: s-maj=15.5km s-min=7.3km az=106.8*

ISC 05 12:43:22.7±0.8, 1423N±006×14573E±006, h82km±8km, n95, σ1§15/99, mb4.5/59, **5C-8D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.05	233	P	Pn	12 43 42.8	+0.3
	1μm,0.3s,baz=88,slow=2.2,SNR=409						
GUMO				S	Sn	12 43 56.3	-1.0
	3μm,0.3s,baz=6.0,slow=19,SNR=109						
GUMO	Guam	1.05	233	⇓iPn	Pn	12 43 42.6	+0.2
GUMO				eSn	Sn	12 43 55.8	-1.5
CBIJ	Chichi jima	13.23	346	LR	LR	12 49 51.3	
	comp=Z,21nm,21.8s,baz=146,slow=29						
JOW	Kunigami	20.57	310	P	P	12 47 56.1	+1.3
	14nm,0.4s,baz=128,slow=15,SNR=18						
JOW				LR	LR	12 55 03.8	
	comp=Z,35nm,18.4s,baz=54,slow=34						
JNU	Nakatsue	23.16	327	P	P	12 48 22.6	+0.5
	9.6nm,0.5s,mb4.4,baz=49,slow=10,SNR=7.8						
MJAR	Matsushiro Arr	23.22	344	P	P	12 48 21.3	-1.2
	3.1nm,0.5s,mb3.9,baz=166,slow=10.0,SNR=15						
MAJO	Matsushiro	23.22	344	eP	P	12 48 22.5	0.0
	7.4nm,0.5s,mb4.3						
MAJO	Matsushiro	23.22	344	eP	P	12 48 22.5	0.0
MAJO			pmax	pmax			
	comp=Z,7.0nm,0.5s,mb4.2						
MAT	Matsushiro	23.22	344	P	P	12 48 21.2	-1.3
MAT	Matsushiro	23.22	344	eP	P	12 48 21.0	-1.5
	comp=Z,3.7nm,0.8s,mb3.8						
MAT	Matsushiro	23.22	344	eP	P	12 48 21.0	-1.5
MAT			pmax	pmax			
	comp=Z,4.0nm,0.8s,mb3.8						
YHNB	Yeheng	25.16	298	eP	P	12 48 41.7	+1.4
SSE	Sheshan	28.09	311	eP	P	12 49 06.9	+0.3
SSE			AMB	AMB			
	comp=Z,33nm,0.7s,mb5.0						
SSE			AMB	AMB			
	comp=Z,71nm,5.3s						
ASAJ	Asahikawa	29.91	355	P	P	12 49 23.1	+0.4
	comp=Z,3.0nm,0.6s,mb4.1,baz=175,slow=12,SNR=3.9						
NJ2	Nanjing	30.29	310	eP	P	12 49 29.4	+3.4
NJ2			PP	PP		12 50 30.6	-5.2
NJ2			S	S		12 54 24.0	+4.0
NJ2			AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2			AMB	AMB			
	comp=Z,60nm,3.9s						
NJ2			LR	LR			
	comp=N,240nm,13.6s						
NJ2			LR	LR			
	comp=E,640nm,16.2s						
NJ2			LR	LR			
	comp=Z,230nm,15.6s						
MDJ	Mudanjiang	33.26	339	P	P	12 49 53.6	+1.5
MDJ			PP	PP		12 51 10.1	+1.4
MDJ			PCP	PcP		12 52 33.9	+1.3
MDJ			S	S		12 55 06.4	+0.2
MDJ			PCS	PcS		12 56 18.6	+0.3
MDJ			AMB	AMB			
	comp=Z,6.0nm,1.4s,mb4.2						
MDJ			AMB	AMB			
	comp=Z,53nm,5.0s						
CN2	Changchun	34.20	333	eP	P	12 50 03.0	+2.7
HABR	Khabarovsk	35.27	348	eP	P	12 50 05.9	-3.6
HABR				eS	S	12 55 32.7	-4.6
WRAB	Tennant Creek	35.74	199	eP	P	12 50 13.6	0.0
	comp=Z,4.0nm,0.6s,mb4.5						
WRAB	Tennant Creek	35.74	199	⇓eP	P	12 50 13.1	-0.4
WRA	Warramunga Arr	35.76	199	P	P	12 50 13.8	+0.2
	comp=Z,2.5nm,0.5s,mb4.4,baz=23,slow=9.3,SNR=25						
WRA			ScP	ScP		12 56 18.3	-0.2
	comp=Z,1.2nm,0.7s,baz=18,slow=4.1,SNR=9.8						
ENH	Enshi	36.96	302	eP	P	12 50 24.7	+0.8
	comp=Z,5.0nm,0.5s,mb4.7						
GYA	Guiyang	38.45	295	P	P	12 50 37.9	+1.5
GYA			PP	PP		12 52 12.4	+6.6
GYA			S	S		12 56 26.7	+1.1
GYA			AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.7						
GYA			AMB	AMB			
	comp=Z,70nm,2.9s,mb5.0						
XAN	Xi'an	38.67	307	P	P	12 50 38.7	+0.4
XAN			AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8						
ASAR	Alice Springs	39.40	197	P	P	12 50 44.8	+0.4
	comp=Z,0.6nm,0.5s,mb3.7,baz=22,slow=11,SNR=11						
HHC	Hu-ho-hao-te	39.85	318	eP	P	12 50 49.0	+0.9
HHC			PP	PP		12 52 26.1	+5.0
HHC			PCP	PcP		12 52 54.0	+1.6
HHC			S	S		12 56 46.7	+0.2
HHC			AMB	AMB			
	comp=Z,7.0nm,0.3s,mb5.0						
HHC			AMB	AMB			
	comp=Z,65nm,4.2s						
HHC			LR	LR			
	comp=N,136nm,5.4s						
HHC			LR	LR			
	comp=E,266nm,5.0s						
HHC			LR	LR			
	comp=Z,66nm,5.9s						
PET	Petropavlovsk	40.04	12⇑	eP	P	12 50 48.3	-1.4
PET			pmax	pmax			
	comp=Z,74nm,2.5s,mb5.1						
DZM	Mont Dzumac	41.40	150	LR	LR	13 06 45.8	
	comp=Z,188nm,18.4s,baz=21,slow=34						
KMI	Kunming	41.75	292	P	P	12 51 04.4	+0.7
KMI			AMB	AMB			
	comp=Z,5.0nm,0.8s,mb4.3						
KMI			LR	LR			
	comp=Z,71nm,24.2s						
CD2	Chengdu	41.89	301	eP	P	12 51 04.5	-0.3
CD2			PP	PP		12 52 45.8	+2.7
CD2			S	S		12 57 14.5	-2.3
CD2			AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.7						
CD2			AMB	AMB			
	comp=Z,60nm,5.3s						
CD2			LR	LR			
	comp=E,90nm,14.4s						
CD2			LR	LR			
	comp=Z,100nm,9.6s						
LZH	Lanzhou	43.28	308	eP	P	12 51 17.5	+1.4
LZH			PP	PP		12 53 02.4	+4.3
LZH			PCP	PcP		12 53 05.5	+1.7
LZH			AMB	AMB			
	comp=Z,23nm,1.2s,mb4.8						
MA2	Magadan	45.42	4	eP	P	12 51 32.8	-0.4
	comp=Z,9.0nm,0.8s,mb4.5						
MA2	Magadan	45.42	4	deP	P	12 51 32.9	-0.3
MA2			pmax	pmax			
	comp=Z,15nm,1.3s,mb4.6						
STKA	Stephens Creek	46.01	185	P	P	12 51 37.1	-0.7
	comp=Z,1.3nm,0.7s,mb3.8,baz=333,slow=6.8,SNR=3.3						
ULN	Ulaanbaatar	46.35	324	i P	P	12 51 39.4	-1.1
SONM	Songino Array	46.70	324	P	P	12 51 43.8	+0.6
	comp=Z,4.6nm,0.5s,mb4.5,baz=141,slow=9.7,SNR=56						
GTA	Gaotai	47.39	311	eP	P	12 51 49.5	+0.9
GTA				AP	pP	12 52 12.8	+4.1
GTA				PCP	PcP	12 53 20.0	+2.0
GTA				PP	PP	12 53 40.9	+0.5
GTA				S	S	12 58 34.0	-2.4
GTA				SCS	ScS	13 01 30.9	-3.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,104nm,4.9s						
GTA				LR	LR		
	comp=N,81nm,13.7s						
GTA				LR	LR		
	comp=E,71nm,12.6s						
GTA				LR	LR		
	comp=Z,119nm,13.3s						
SEY	Seymchan	48.87	4	⇓eP	P	12 52 00.1	+0.1
YAK	Yakutsk	49.10	350⇑	eP	P	12 52 00.2	-1.6
YAK			pmax	pmax			
	comp=Z,17nm,1.0s,mb4.9						
BOD	Bodaibo	49.63	338	eP	P	12 52 04.8	-1.0
BOD			pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.2						
ZAK	Zakamensk	49.78	326⇑	eP	P	12 52 07.2	+0.3
ZAK			pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.6						
LSA	Lhasa	52.46	297	P	P	12 52 29.2	+2.2
LSA			AMB	AMB			
	comp=Z,10.0nm,0.7s,mb5.0						
LSA	Lhasa	52.46	297	eP	P	12 52 29.1	+2.1
	comp=Z,10nm,0.4s,mb5.2						
LSA	Lhasa	52.46	297	eP	P	12 52 29.1	+2.1
LSA			pmax	pmax			
	comp=Z,10.0nm,0.4s,mb5.2						
BILL	Bilibino	55.40	9	d i P	P	12 52 48.2	-0.2
BILL			pmax	pmax			
	comp=Z,12nm,1.0s,mb4.9						
JIRN	Jiri	56.72	294	eP	P	12 52 58.4	+0.6
	comp=Z,11nm,0.3s,mb5.3						
GUN	Gumba	56.99	294	eP	P	12 53 00.3	+0.6
	comp=Z,21nm,0.5s,mb5.4						
WMQ	Urumqi	57.31	313	eP	P	12 53 02.7	+0.7
WMQ			PCP	PcP		12 53 55.9	+0.6
WMQ			AMB	AMB			
	comp=Z,9.0nm,0.8s,mb4.8						
WMQ			AMB	AMB			
	comp=Z,69nm,4.4s						
WMQ			LR	LR			
	comp=N,454nm,18.8s						
WMQ			LR	LR			
	comp=E,495nm,18.8s						
WMQ			LR	LR			
	comp=Z,549nm,21.8s						
PKI	Pulchoki	57.41	294	eP	P	12 53 02.9	+0.2
	comp=Z,12nm,0.4s,mb5.3						
PKI	Pulchoki	57.41	294	eP	P	12 53 02.9	+0.2
PKI			pmax	pmax			
	comp=Z,6.0nm,0.4s,mb5.0						
GKN	Gorkha	58.09	294	eP	P	12 53 07.5	0.0
	comp=Z,21nm,0.4s,mb5.5						
TIXI	Tiksi	58.29	354⇓	i P	P	12 53 06.3	-2.5
TIXI			pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4						
KOLN	Koldanda	59.01	294	eP	P	12 53 12.1	-1.7
ZAL	Zalesovo	61.61	324	P	P	12 53 31.0	-0.5
	comp=Z,4.1nm,0.5s,mb4.7,baz=9.7,slow=7.5,SNR=20						
MK31	Makanchi Array	61.62	316	i P	P	12 53 31.9	+0.3
MK31			pmax	pmax			
	comp=Z,7.0nm,0.3s,mb5.2						
MKAR	Makanchi Array	61.62	316	P	P	12 53 32.0	+0.4
	comp=Z,8.5nm,0.4s,mb5.1,baz=91,slow=8.6,SNR=277						
MKAR	Makanchi Array	61.62	316	eP	P	12 53 31.9	+0.3
MKAR			pmax	pmax			
	comp=Z,2.0nm,0.4s						
NVS	Novosibirsk	62.73	325	eP	P	12 53 38.5	-0.5
NVS			pmax	pmax			
	comp=N,4.0nm,0.8s						
NVS			pmax	pmax			
	comp=E,12nm,0.8s						
NVS			pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8						
KDAK	Kodiak Island	63.09	32	P	P	12 53 42.5	+1.1
	comp=Z,9.5nm,0.6s,mb4.9,baz=32,slow=8.4,SNR=11						
KURK	Kurchatov	64.64	320	eP	P	12 53 50.7	-0.9
	comp=Z,14nm,0.6s,mb5.0						
KURK	Kurchatov	64.64	320	c i P	P	12 53 51.4	-0.2
SLKM	Skilak Lake	65.03	29	eP	P	12 53 55.2	+1.1
PMR	Palmer	65.83	28	eP	P	12 53 59.9	+0.6
	comp=Z,5.2nm,0.5s,mb4.6						
PMR	Palmer	65.83	28	eP	P	12 53 59.9	+0.6
PMR			pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.6						
TKM2	Tokmak 2	65.94	311	i P	P	12 54 00.7	+0.7
TKM2			pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1						
AAK	Ala-Archa	66.74	310⇓	eP	P	12 54 03.8	-1.3
AAK			pmax	pmax			
	comp=Z,3.0nm,1.7s,mb3.9						
COLA	College	67.27	25⇑	eP	P	12 54 08.5	+0.1
ILAR	Eielson Array	67.64	25	P	P	12 54 10.1	-0.7
	comp=Z,3.0nm,0.4s,mb4.5,baz=253,slow=5.3,SNR=70						
VOSK	Vostochnaya	69.58	321	P	P	12 54 22.2	-0.6
VOSK			pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.9						
KK31	Karatay Array	69.67	311	i P	P	12 54 23.6	+0.2
KK31			pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.0						
KKAR	Karatay Array	69.67	311	i P	P	12 54 23.6	+0.2
KKAR			pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.0						
BVA0	Borovoye Array	69.95	322	i P	P	12 54 24.4	-0.7
BVA0			pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.8						
BRVK	Borovoye	70.02	322	eP	P	12 54 25.4	-0.2
	comp=Z,4.1nm,0.6s,mb4.4						
BRVK	Borovoye	70.02	322	eP	P	12 54 25.4	-0.1
BRVK			pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.4						
DAWY	Dawson	70.70	27	eP	P	12 54 30.8	+1.1
INK	Inuvik	73.46	23	P	P	12 54 46.0	-0.2
	comp=Z,4.5nm,0.8s,mb4.3,baz=256,slow=7.4,SNR=21						
INK	Inuvik	73.46	23	eP	P	12 54 46.7	+0.5
	comp=Z,4.8nm,0.9s,mb4.3						
INK	Inuvik	73.46	23	eP	P	12 54 46.7	+0.5
INK			pmax	pmax			
	comp=Z,5.0nm,0.9s						
AB31	Akbulak array	76.64	318	i P	P	12 55 03.5	-1.0
ARU	Arti	76.72	325⇓	i P	P	12 55 04.3	-0.6
ARU			e			12 57 58.5	
ARU				ePPP		12 59 43.2	
ARU				eS	S	13 04 45.0	-0.3
ARU				eSS	SS	13 09 43.3	+0.8
ARU			pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.1						
YKA	Yellowknife Ar	81.91	28	P	P	12 55 33.5	+0.4
	comp=Z,3.7nm,0.7s,mb4.3,baz=287,slow=5.3,SNR=76						
YKA	Yellowknife Ar	81.91	28	P	P	12 55 33.5	+0.3
NVAR	Mina Array Bea	85.87	52	P	P	12 55 56.1	+2.8
	comp=Z,0.7nm,0.5s,mb3.8,baz=260,slow=7.0,SNR=4.2						
KEV	Kevo	86.18	342	ep	P	12 55 52.7	-2.1
ARCES	ARCESS Array B	86.74	342	P	P	12 55 56.3	-1.2
	comp=Z,2.4nm,0.6s,mb4.3,baz=33,slow=7.2,SNR=18						
JOF	Joensuu	88.07	335	ep	P	12 56 01.0	-3.0
	comp=Z,5.1nm,0.7s,mb4.7						
OBN	Obninsk	89.03	327	eP	P	12 56 06.5	-2.0
OBN			pmax	pmax			
	comp=Z,9.0nm,0.6s,mb5.0						
LDFC	Landfair	89.25	54	eP	P	12 56 12.3	+2.8
KAF	Kangasniemi	90.49	336	ep	P	12 56 12.1	-3.2
	comp=Z,2.2nm,0.6s,mb4.5,baz=56,slow=4.4						
KAF	Kangasniemi	90.49	336	eP	P	12 56 12.1	-3.2
KAF			pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.4						
PDAR	Pinedale Array	90.92	45	P	P	12 56 18.9	+1.5
	comp=Z,0.4nm,0.6s,mb3.7,baz=249,slow=1.7,SNR=4.5						
FINES	FINESS Array B	90.94	335	P	P	12 56 15.3	-2.1
	comp=Z,3.8nm,0.5s,mb4.8,baz=72,slow=5.2,SNR=70						
DBIC	Dimbokro	144.19	304	PKP	PKPdf	13 02 48.9	0.0
	comp=Z,2.1nm,0.5s,baz=25,slow=4.4,SNR=12						
DBIC	Dimbokro	144.19	304	ePKIKP	PKPdf	13 02 48.6	-0.3
LPAZ	La Paz	147.29	98	PKPbc	PKPbc	13 03 00.5	+3.8
	comp=Z,1.1nm,0.5s,baz=355,slow=5.1,SNR=6.9						

ISCJB ***05*** *13:36:52.6±0.4, 1336N±003×120.12E±004, h10km, mb4.0/10, Error ellipse: s-maj=5.7km s-min=4.1km az=74.5*
MAN ***05*** *13:36:55.2, 1340N×12024E, h8km, mb3.3, ML4.5, MS1.6*
NEIC ***05*** *13:36:57.0±1.3, 1343N×120.31E, h36km±13km, mb3.9/3, Error ellipse: s-maj=16.8km s-min=8.5km az=85.0*
IDC ***05*** *13:36:57.9±4.5, 1341N×12030E, h42km±45km, mb3.9/8, mb1 4.1/8, mb1mx3.7/20, mbtmp4.1/8, MS2.9/1, Ms1 2.9/1, ms1mx2.6/28, Error ellipse: s-maj=48.2km s-min=15.5km az=73.0*

ISC 05 13:36:55.5±0.9, 1342N±003×12020E±004, h18km±5km, n44, σ1§19/51, mb4.0/10, **5C-2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.31	8	eP	Pg	13 37 01

MBWA Marble Bar 34.37 181 *eP* **P 13 43 42.8 +1.4**
WRAB Tennant Creek 35.95 157 *eP* **P 13 43 53.9 -1.1**
20nm,0.7s
WRA Warrramunga Arr 35.95 157 P **P 13 43 54.1 -0.9**
14nm,0.7s,mb5.0,baz=336,slow=9.6,SNR=176
WB2 Warramunga Arr 35.96 157 *eP* **P 13 43 54.2 -0.9**
ULN Ulaanbaatar 36.05 345 *eP* **P 13 43 55.6 -0.2**
0.7nm,0.5s,mb3.9
SONM Songino Array 36.19 344 P **P 13 43 56.8 -0.3**
1.6nm,0.6s,mb4.1,baz=161,slow=9.4,SNR=16
AS31 Alice Springs 39.22 160 *eP* **P 13 44 22.4 -0.3**
ASPA Alice Springs 39.22 160 *eP* **P 13 44 22.4 -0.3**
ASAR Alice Springs 39.22 160 P **P 13 44 22.4 -0.3**
6.6nm,0.6s,baz=336,slow=6.6,SNR=163
MKAR Makanchi Array 45.97 324 P **P 13 45 18.3 +0.8**
0.7nm,0.7s,mb3.7,baz=134,slow=8.1,SNR=11
KURK Kurchatov 50.15 327 *eP* **P 13 45 49.7 -0.2**
3.3nm,0.9s,mb4.4
BVAR Borovoye Array 55.73 326 P **P 13 46 31.5 +0.5**
0.5nm,0.6s,mb3.7,baz=120,slow=7.4,SNR=4.7
MCK McKinley 78.46 27 *eP* **P 13 48 52.1 -3.3**
0.6nm,0.7s,mb3.6
ARCES ARCESS Array B 79.17 339 P **P 13 48 57.7 -1.6**
4.2nm,0.9s,mb4.3,baz=66,slow=9.0,SNR=3.6
FINES FINESS Array B 80.29 331 P **P 13 49 03.2 -2.1**
0.6nm,0.7s,mb3.7,baz=64,slow=4.4,SNR=5.0
FINES FINESS Array B 80.29 331 P **P 13 49 03.2 -2.1**
INK Inuvik 83.53 21 *eP* **P 13 49 19.3 -3.0**
NOA NORSAR Array B 87.28 333 P **P 13 49 39.4 -1.7**
0.9nm,0.8s,mb4.0,baz=38,slow=6.6,SNR=3.6

NEIC ***05*** *13:40:14.1, 37.18S×176.79E, h199km, MG3.7(WEL), After WEL.*
WEL 05 13:40:14.0±0.6, 37.16S×176.82E, h199km±5km, ML3.6/15, Error ellipse: s-maj=8.9km s-min=6.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.12**	**168**	*e*PN	Pn	13 40 44.6	+0.1
URZ				SN	Sn	13 41 08.1	0.0
MXZ	**Matakaoa Point**	**1.25**	**109**	*e*PN	Pn	13 40 45.3	-0.1
MXZ				SN	Sn	13 41 09.1	-0.8
MXZ	**Matakaoa Point**	**1.25**	**109**	*e*P	Pn	13 40 45.3	-0.2
MWZ	**Matawai**	**1.30**	**155**	*e*PN	Pn	13 40 46.3	+0.5
MWZ				SN	Sn	13 41 11.2	+0.5
MWZ	**Matawai**	**1.30**	**155**	*e*P	Pn	13 40 46.3	+0.4
PUZ	**Puketiti**	**1.46**	**129**	*e*PN	Pn	13 40 47.4	+0.1
PUZ				SN	Sn	13 41 11.6	-1.5
PUZ	**Puketiti**	**1.46**	**129**	*e*P	Pn	13 40 47.4	+0.2
PUZ				S	Sn	13 41 11.6	-1.5
KNZ	**Kokohu**	**1.98**	**160**	PN	Pn	13 40 52.5	+0.4
KNZ	**Kokohu**	**1.98**	**160**	P	Pn	13 40 52.5	+0.3
BKZ	**Black Stump Fm**	**2.02**	**187**	PN	Pn	13 40 52.6	0.0
BKZ				SN	Sn	13 41 22.9	+0.2
BKZ	**Black Stump Fm**	**2.02**	**187**	P	Pn	13 40 52.6	0.0
PXZ	**Pawanui**	**2.87**	**179**	*e*PN	Pn	13 41 01.4	-0.6
TSZ	**Takapari Road**	**2.98**	**193**	PN	Pn	13 41 02.7	-0.5
TSZ	**Takapari Road**	**2.98**	**193**	P	Pn	13 41 02.7	-0.6
BFZ	**Birch Farm**	**3.55**	**187**	PN	Pn	13 41 08.9	-1.3
MRZ	**Mangatainoka R**	**3.63**	**195**	PN	Pn	13 41 09.6	-1.6
MRZ				SN	Sn	13 41 53.6	-2.4
MRZ	**Mangatainoka R**	**3.63**	**195**	P	Pn	13 41 09.6	-1.5
MRZ				S	Sn	13 41 53.6	-2.4
KIW	**Kapiti Island**	**3.99**	**201**	PN	Pn	13 41 13.8	-1.8
KIW	**Kapiti Island**	**3.99**	**201**	P	Pn	13 41 13.8	-1.7
MTW	**Mount Morrison**	**4.12**	**194**	P	Pn	13 41 15.1	-2.2
CAW	**Cannon Point**	**4.17**	**199**	P	Pn	13 41 15.9	-2.0
WEL	**Wellington**	**4.42**	**201**	P	Pn	13 41 18.8	-2.2
MSWZ	**Moikau Station**	**4.42**	**196**	P	Pn	13 41 18.7	-2.3
SNZO	**South Karori**	**4.46**	**201**	P	Pn	13 41 19.0	-2.5
TCW	**Tory Channel**	**4.51**	**205**	P	Pn	13 41 19.8	-2.3
KHZ	**Kahutara**	**5.83**	**205**	*e*P	Pn	13 41 35.9	-3.1

ISCJB ***05*** *13:43:55.6±2.4, 220S±0.1×176.6W±0.2, h120km±33km, mb4.2/8, Error ellipse: s-maj=39.3km s-min=16.3km az=47.1*
IDC ***05*** *13:43:56.4±3.4, 2201S×176.62W, h114km±33km, mb3.8/5, mb1 4.0/7, mb1mx3.8/16, mbtmp4.3/7, Error ellipse: s-maj=40.4km s-min=19.7km az=127.0*
NEIC ***05*** *13:43:57.3±1.7, 2206S×176.50W, h127km±18km, mb4.4/3, Error ellipse: s-maj=22.3km s-min=11.2km az=120.0*
ISC 05 13:43:57.4±2.2, 221S±01×176.4W±02, h130km±30km, n15, σ0§69/15, mb4.1/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.26**	**29**	P	**Pn**	**13 46 07.5**	**-0.2**
1.0nm,0.3s,baz=77,slow=22,SNR=3.3
AFI | | | | S | **Sn** | **13 47 40.6** | **-9.4**
1.1nm,0.3s,baz=67,slow=22,SNR=3.1
AFI Afiamalu 9.26 29 P **Pn 13 46 08.0 +0.2**
AFI | | | | S | **Sn** | **13 47 40.6** | **-9.4**
URZ Urewera 17.05 198 P **Pn 13 47 47.6 -0.3**
1.1nm,0.3s,baz=56,slow=16,SNR=8.5
RPZ Rata Peaks 23.94 203 P **P 13 49 00.2 +0.8**
7.6nm,0.6s,mb4.4,baz=55,slow=16,SNR=7.3
CTAO Charters Tower 34.83 266 *eP* **P 13 50 37.2 +1.4**
3.5nm,0.5s,mb4.2
STKA Stephens Creek 38.46 246 P **P 13 51 05.4 -1.2**
4.2nm,0.6s,mb4.2,baz=76,slow=8.3,SNR=11
STKA Stephens Creek 38.46 246 *eP* **P 13 51 05.3 -1.2**
ASAR Alice Springs 45.61 258 P **P 13 52 04.5 0.0**
3.2nm,0.6s,mb4.2,baz=96,slow=7.8,SNR=42
ASAR | | | | PcP | PcP | 13 53 41.5 | +0.8
0.6nm,0.7s,baz=113,slow=3.8,SNR=5.8
WB2 Warramunga Arr 45.85 263 *eP* **P 13 52 06.0 -0.4**
WRAB Tennant Creek 45.85 263 *eP* **P 13 52 06.2 -0.2**
2.1nm,0.6s,mb3.9
WRA Warramunga Arr 45.86 263 P **P 13 52 06.0 -0.5**
1.0nm,0.3s,mb3.9,baz=96,slow=7.8,SNR=56
FITZ Fitzroy Crossi 54.29 263 *eP* **P 13 53 10.8 +0.7**
12nm,1.4s,mb4.4
ILAR Eielson Array 89.54 12 P **P 13 56 39.9 -0.2**
0.2nm,0.6s,mb3.2,baz=230,slow=6.3,SNR=6.9
AKASG Malin Array Be 145.11 331 PKP PKPdf 14 03 18.6 -0.8
0.9nm,0.5s,baz=42,slow=3.9,SNR=6.2
BRTR Keskin Array B 149.00 311 PKPbc PKPbc 14 03 30.7 +0.6
1.1nm,0.7s,baz=136,slow=3.6,SNR=6.4

NIED ***05*** *13:56:00, 37.00N×141.70E, h20km, Mw3.7 Best double couple: M0=4.03000×10^14 NP1:φs=33.00000°, δ=73.00000°, λ=92.00000°. NP2:φs=205.00000°, δ=17.00000°, λ=83.00000°.*
MOS ***05*** *13:56:15.5±0.8, 36.98N×142.03E, h33km, mb4.5/1, Error ellipse: s-maj=18.6km s-min=15.8km az=23.2*
JMA ***05*** *13:56:17.9±0.2, 36.97N×141.70E, h48km±3km, M3.5*
ISCJB ***05*** *13:56:17.1±1.1, 36.96N±0.05×141.78E±0.09, h38km±9km, mb3.7/7, Error ellipse: s-maj=12.0km s-min=7.1km az=32.2*
IDC ***05*** *13:56:19.0±3.9, 36.96N×141.80E, h38km±31km, mb3.6/6, mb1 3.7/9, mb1mx3.5/22, mbtmp3.8/9, ML3.4/3, Error ellipse: s-maj=40.8km s-min=20.1km az=86.0*
NEIC ***05*** *13:56:21.6±5.3, 36.93N×141.63E, h58km±38km, mb4.2/1, Error ellipse: s-maj=60.2km s-min=17.2km az=70.0*
ISC 05 13:56:17.2±1.5, 36.98N±004×141.75E±009, h23km±9km, n23, σ0§87/32, mb3.7/7, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.77**	**279**	⇓P	**Pb**	**13 56 32.0**	**+0.1**
ONAJ | | | | *e*S | **Sb** | **13 56 41.4** | **-0.6**
JFK Kawauchi 0.80 299 ⇓P **Pb 13 56 32.3 -0.1**
JFK | | | | *e*S | **Sb** | **13 56 42.7** | **-0.1**
JHO Hitachi 1.02 249 ⇓P **Pn 13 56 35.1 -0.9**
JHO | | | | *e*S | **Sb** | **13 56 48.2** | **-0.8**
JMM Marumori 1.17 320 ⇓P **Pn 13 56 37.8 -0.3**
JFT Otama 1.25 296 ⇓P **Pn 13 56 39.8 +0.6**
JFT | | | | *e*S | **Sn** | **13 56 55.1** | **-0.2**
JIO Ouri 1.51 348 ⇓P **Pn 13 56 42.5 -0.3**
JIO | | | | *e*S | **Sn** | **13 57 00.2** | **-1.5**
JOU Okura 1.63 328 P **Pn 13 56 45.0 +0.5**
MJAR Matsushiro Arr 2.88 262 Pn **Pn 13 57 03.1 +1.5**
7.6nm,0.3s,baz=87,slow=16,SNR=68
MJAR | | | | Sn | **Sn** | **13 57 40.3** | **+4.9**
4.1nm,0.3s,baz=69,slow=21,SNR=6.5
MAJO Matsushiro 2.88 262 *eP* **Pn 13 57 03.5 +1.9**
MAT Matsushiro 2.88 262 P **Pn 13 57 03.6 +2.0**
MAT | | | | S | **Sn** | **13 57 36.1** | **+0.6**
MAT Matsushiro 2.88 262 *eP* **Pn 13 57 04.0 +2.4**
MAT | | | | S | **Sn** | **13 57 40.0** | **+4.5**
JHJ Hachijo jima 2 4.17 203 Pn **Pn 13 57 20.1 +0.6**
7.5nm,0.3s,baz=240,slow=20,SNR=3.8
JHJ | | | | Sn | **Sn** | **13 58 05.5** | **-2.0**
22nm,0.3s,baz=251,slow=24,SNR=5.6
ASAJ Asahikawa 7.16 5 Pn **Pn 13 58 00.9 +0.5**
0.6nm,0.3s,baz=305,slow=19,SNR=8.1
ASAJ Asahikawa 7.16 5 P **Pn 13 58 01.0 +0.5**
ASAJ | | | | pmax | pmax
comp=Z,1.0nm,0.3s
SONM Songino Array 28.04 304 P **P 14 02 06.5 -0.1**
comp=Z,0.7nm,0.4s,mb3.6,baz=106,slow=8.8,SNR=11
ZAL Zalesovo 42.16 312 P **P 14 04 08.2 +0.3**
comp=Z,0.8nm,0.4s,mb3.7,baz=27,slow=11,SNR=4.6
MKAR Makanchi Array 44.38 302 P **P 14 04 25.9 +0.1**
comp=Z,1.1nm,0.8s,mb3.7,baz=89,slow=10.0,SNR=13
KURK Kurchatov 46.18 308 *eP* **P 14 04 39.8 -0.3**
comp=Z,2.2nm,0.6s,mb4.3
KURK Kurchatov 46.18 308 *eP* **P 14 04 39.8 -0.3**
KURK | | | | pmax | pmax
comp=Z,2.0nm,0.6s,mb4.2
WRA Warramunga Arr 57.04 188 P **P 14 06 01.2 -0.1**
comp=Z,0.2nm,0.5s,mb3.4,baz=6.0,slow=7.2,SNR=6.7
FINES FINESS Array B 68.99 332 P **P 14 07 20.1 -0.5**
comp=Z,0.5nm,0.5s,mb3.7,baz=32,slow=11,SNR=4.6
NB2 NORSAR Subarra 74.34 337 P **P 14 07 52.3 -0.6**
comp=Z,0.7nm,0.6s,mb3.8,baz=40,slow=6.2
NOA NORSAR Array B 74.34 337 P **P 14 07 52.8 -0.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=39,slow=5.9,SNR=4.1

CASC 05 14:01:21.5±3.2, 1306N×8914W, h46km±37km, MD3.9, ML4.4, 2C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.63**	**28**⇑	*e*P	Pn	14 01 50.6	+16
SNVI | | | | *e*S | Sn | 14 02 00.5 | +17
SNET Serv Nac Est T 0.63 352 *eP* Pn 14 01 34.3 +0.1
SNET | | | | *e*S | Sn | 14 01 43.8 | +0.5
SNET | | | | *i* | | 14 01 47.0
comp=Z,12μm,0.2s
BOQS Boqueron 0.69 349⇑ *iP* Pn 14 01 51.7 +17
BOQS | | | | *e*S | Sn | 14 02 05.0 | +20
VSM San Miguel 0.93 66 *eP* Pn 14 01 54.9 +17
VSM | | | | *e*S | Sn | 14 02 09.4 | +19
BLLM Bellamira 0.96 66 *eP* Pn 14 01 55.2 +17
BLLM | | | | *e*S | Sn | 14 02 08.7 | +18
CNCH Conchagua 1.29 80 *eP* Pn 14 01 59.5 +16
CNCH | | | | *e*S | Sn | 14 02 13.6 | +14
MTO2 Montecristo 2 1.35 351⇓ *eP* Pn 14 02 00.2 +16
MTO2 | | | | *e*S | Sn | 14 02 17.7 | +17
IXG Ixpaco 1.69 311⇓ *eP* Pn 14 01 48.1 -0.5
IXG | | | | *e*S | Sn | 14 02 08.6 | -0.5
IXG | | | | AML | AML | 14 02 09.9
comp=E,31μm,0.3s
MRL Marmol 2.07 345⇓ *eP* Pn 14 01 54.2 +0.5
CRIN San Cristobal 2.07 100 *eP* Pn 14 01 54.7 +0.9
LEON Leon 2.29 106 *eP* Pn 14 01 56.3 -0.4
TEL3 Telica 3 2.29 102 *eP* Pn 14 01 57.3 +0.5
CNGN Cerro Negro 2.45 103 *eP* Pn 14 01 59.1 +0.2
MIRN Miramar 2.45 104 *eP* Pn 14 01 59.0 +0.1
TP2 Tecpan 2 2.50 314 *eP* Pn 14 02 01.4 +1.7
MOMJ Momotombo 2.62 104 *eP* Pn 14 02 01.6 +0.3
COPN Copaltepe 2.64 109 *eP* Pn 14 02 02.6 +1.1
JAT Jato 2.73 298 *eP* Pn 14 02 04.0 +1.2
APYN Apoyeque 2.85 106 *eP* Pn 14 02 05.5 +1.1
MGAN Managua 2.97 107 *eP* Pn 14 02 07.5 +1.5
MGAN | | | | *e*S | Sn | 14 02 39.7 | -0.7

IDC ***05*** *14:25:16.6±1.6, 3251N×620W, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/23, mbtmp3.5/5, ML4.5/1, Error ellipse: s-maj=27.2km s-min=17.4km az=139.0*
CNRM ***05*** *14:25:17.5, 3255N×620W, h0km, MD4.0*
ISCJB ***05*** *14:25:17.7±0.5, 3257N±002×621W±003, h17km±5km, mb3.5/3, Error ellipse: s-maj=4.9km s-min=3.4km az=54.8*
CSEM ***05*** *14:25:17.1±0.1, 3255N×621W, h10km, MD4.0, Error ellipse: s-maj=2.6km s-min=2.1km az=121.0*
NEIC ***05*** *14:25:17.3±0.7, 3239N×620W, h10km, MG4.4(MDD), Error ellipse: s-maj=10.5km s-min=8.3km az=117.0*
SFS ***05*** *14:25:18.0, 3248N×632W, h0km, ML4.4*
MDD ***05*** *14:25:18.1±0.4, 3247N×615W, h0km, mb4.5/19, Error ellipse: s-maj=6.3km s-min=2.8km az=131.0, PRXIMO*
INMG ***05*** *14:25:19.3±2.0, 3239N×622W, h22km±11km, Mb4.5, ML3.1, Error ellipse: s-maj=9.4km s-min=8.9km az=50.0*
IGIL ***05*** *14:25:21.4, 3270N×600W, h2km, ML3.1*
ISC 05 14:25:18.6±0.5, 3253N±002×618W±003, h12km±3km, n84, σ1§34/142, mb3.5/3, 1C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIB	**El Ksiba**	**0.12**	**67**	P	**Pg**	**14 25 20.0**	**-1.8**
KIB | | | | S | **Sg** | **14 25 23.0** | **-1.1**
KIB El Ksiba 0.12 67 *i P* **Pg 14 25 20.0 -1.8**
TZC Tazercounte 0.46 215 P **Pg 14 25 25.5 -2.2**
TZC | | | | S | **Sg** | **14 25 33.0** | **-0.9**
TZC Tazercounte 0.46 215 *i P* **Pg 14 25 25.5 -2.2**
CZD Col de Zad 1.08 62 *i P* **Pb 14 25 36.5 -2.7**
CZD | | | | *i S* | **Sb** | **14 25 52.0** | **-1.2**
MDT Midelt 1.35 77 Pg **Pg 14 25 42.6 -1.9**
48nm,0.3s,baz=260,slow=15,SNR=249
MDT | | | | Lg | | 14 26 00.7
132nm,0.3s,baz=163,slow=19,SNR=24
RTC Rabat Centre 1.56 339 *i P* **Pn 14 25 46.0 -0.1**
RTC | | | | *i S* | **Sn** | **14 26 05.0** | **-1.3**
ZFT Errachidia 1.62 107 *i P* **Pn 14 25 47.0 +0.1**
ZFT | | | | *i S* | **Sn** | **14 26 08.0** | **+0.3**
OUK Oukaimeden 1.95 228 *i P* **Pn 14 25 51.0 -0.4**
OUK | | | | *i S* | **Sn** | **14 26 15.0** | **-0.8**
CIA Chichaoua 2.39 247 *i P* **Pn 14 25 57.0 -0.5**
CIA | | | | *e*S | **Sn** | **14 26 25.0** | **-1.8**
EMIJ Mijas 4.19 16 P **Pn 14 26 23.8 +1.6**
6.5nm,0.3s,SNR=9.9
EMIJ | | | | S | **Sn** | **14 27 11.6** | **+0.5**
5.7nm,0.3s,SNR=5.0
EMIJ Mijas 4.19 16 P **Pn 14 26 23.4 +1.2**
EMIJ | | | | S | **Sn** | **14 27 11.6** | **+0.5**
5.7nm,0.3s,SNR=5.0
EMIJ Mijas 4.19 16 P **Pn 14 26 23.4 +1.1**
EMIJ | | | | S | **Sn** | **14 27 11.6** | **+0.5**
ESPR Espera 4.34 3 P **Pn 14 26 25.5 +1.3**
2.1nm,0.2s,SNR=6.9
ESPR | | | | S | **Sn** | **14 27 14.9** | **+0.1**
4.8nm,0.2s,SNR=5.5
ESPR Espera 4.34 3 P **Pn 14 26 25.5 +1.2**
2.1nm,0.2s,SNR=6.9
ESPR | | | | S | **Sn** | **14 27 14.9** | **+0.1**
4.8nm,0.2s,SNR=5.5
ESPR Espera 4.34 3 P **Pn 14 26 26.4 +2.1**
ESPR | | | | S | **Sn** | **14 27 14.9** | **+0.1**
LIJA Lijar 4.41 8 P **Pn 14 26 26.8 +1.4**
LIJA Lijar 4.41 8 *i P* **Pn 14 26 26.8 +1.5**
MAL Malaga 4.43 19 *eP* **Pn 14 26 26.2 +0.6**
MAL | | | | *e*S | **Sn** | **14 27 17.0** | **-0.1**
EGRO El Granado 5.11 348 P **Pn 14 26 35.8 +0.9**
22nm,0.4s,SNR=27
EGRO | | | | S | **Sn** | **14 27 31.8** | **-1.9**
18nm,0.3s
EGRO El Granado 5.11 348 P **Pn 14 26 35.8 +0.9**
22nm,0.4s,SNR=27
EGRO | | | | S | **Sn** | **14 27 31.8** | **-1.9**
18nm,0.3s
EGRO El Granado 5.11 348 P **Pn 14 26 35.8 +0.9**
EGRO | | | | S | **Sn** | **14 27 31.8** | **-1.9**
EBER Berja 5.13 31 P **Pn 14 26 36.4 +1.2**
8.2nm,0.4s,SNR=4.0
EBER | | | | S | **Sn** | **14 27 34.4** | **+0.1**
3.7nm,0.4s,SNR=7.9
EBER Berja 5.13 31 P **Pn 14 26 36.4 +1.2**
8.2nm,0.4s,SNR=4.0
EBER | | | | S | **Sn** | **14 27 34.4** | **+0.1**
3.7nm,0.4s,SNR=7.9
EBER Berja 5.13 31 P **Pn 14 26 35.3 +0.1**
EBER | | | | S | **Sn** | **14 27 34.4** | **+0.1**
EQUE Quentar 5.18 25 P **Pn 14 26 38.1 +2.3**
4.6nm,0.4s,SNR=12
EQUE | | | | S | **Sn** | **14 27 33.4** | **-2.1**
2.7nm,0.4s,SNR=7.9
MORF Marmelete 5.18 338 *eP* **Pn 14 26 36.7 +0.8**
MORF | | | | *e*S | **Sn** | **14 27 31.2** | **-4.3**
MORF | | | | *e*S | **Sn** | **14 27 31.2** | **-4.3**
MORF | | | | AML | AML | 14 27 37.1
comp=N,29nm,0.3s
MORF Marmelete 5.18 338 *eP* **Pn 14 26 36.7 +0.8**
MORF | | | | *e*S | **Sn** | **14 27 31.2** | **-4.4**
ECOG Cogollos-Vega 5.20 24 P **Pn 14 26 36.9 +0.8**
comp=N,6.6nm,0.4s,SNR=7.7
ECOG Cogollos-Vega 5.20 24 P **Pn 14 26 38.9 +2.8**
comp=N,6.6nm,0.4s,SNR=7.7
ECOG | | | | S | **Sn** | **14 27 36.8** | **+0.8**
ECOG Cogollos-Vega 5.20 24 P **Pn 14 26 38.9 +2.7**
ECOG | | | | S | **Sn** | **14 27 36.8** | **+0.8**
EMIN Mina Concepcio 5.24 356 P **Pn 14 26 37.2 +0.4**
comp=N,18nm,0.5s,SNR=43
EMIN | | | | S | **Sn** | **14 27 35.6** | **-1.5**
comp=N,9.3nm,0.6s
EMIN Mina Concepcio 5.24 356 P **Pn 14 26 37.2 +0.5**
comp=N,18nm,0.5s,SNR=43
EMIN | | | | S | **Sn** | **14 27 35.6** | **-1.5**
comp=N,9.3nm,0.6s
EMIN Mina Concepcio 5.24 356 P **Pn 14 26 37.2 +0.5**
EMIN | | | | S | **Sn** | **14 27 35.6** | **-1.5**
ELUQ Luque 5.26 17 P **Pn 14 26 38.1 +1.1**
comp=N,3.3nm,0.2s,SNR=6.3
ELUQ | | | | S | **Sn** | **14 27 36.9** | **-0.6**
comp=N,2.4nm,0.2s
PTEO Sao Teotonio 5.42 338 *e*Pn **Pn 14 26 40.3 +1.1**
PTEO | | | | *e*Sn | **Sn** | **14 27 40.7** | **-0.8**
PTEO
comp=N,25nm,0.5s
ECAB El Cabril 5.57 6 P **Pn 14 26 42.0 +0.7**
comp=N,18nm,0.5s,SNR=39
ECAB | | | | S | **Sn** | **14 27 42.9** | **-2.2**
comp=N,3.5nm,0.2s,SNR=5.7
ECAB El Cabril 5.57 6 P **Pn 14 26 42.0 +0.8**
comp=N,18nm,0.5s,SNR=39
ECAB El Cabril 5.57 6 P **Pn 14 26 42.0 +0.8**
ECAB | | | | S | **Sn** | **14 27 42.9** | **-2.2**
PBEJ Beja 5.66 346 *e*Pn **Pn 14 26 43.3 +0.9**
PBEJ | | | | *e*Sn | **Sn** | **14 27 46.4** | **-0.9**
PBEJ
comp=N,11nm,0.3s
EADA Adamuz 5.78 13 P **Pn 14 26 44.6 +0.6**
comp=N,9.6nm,0.4s,SNR=7.9
EADA | | | | S | **Sn** | **14 27 48.3** | **-1.9**
comp=N,2.8nm,0.3s,SNR=7.9
EADA Adamuz 5.78 13 P **Pn 14 26 44.7 +0.7**
EADA Adamuz 5.78 13 P **Pn 14 26 44.7 +0.6**
EADA | | | | S | **Sn** | **14 27 48.7** | **-1.5**
EQES Quesada 5.84 25 P **Pn 14 26 47.5 +2.5**
comp=N,2.8nm,0.2s,SNR=7.9
EQES | | | | S | **Sn** | **14 27 51.1** | **-0.8**
comp=N,5.0nm,0.4s,SNR=7.9
EQES Quesada 5.84 25 P **Pn 14 26 47.0 +2.0**
EQES | | | | S | **Sn** | **14 27 52.0** | **+0.1**
comp=N,5.0nm,0.4s,SNR=7.9
EQES Quesada 5.84 25 P **Pn 14 26 47.0 +2.0**
EQES | | | | S | **Sn** | **14 27 52.0** | **+0.1**
EBAN Banos Encina 5.95 18 P **Pn 14 26 47.5 +1.0**
comp=N,2.6nm,0.2s,SNR=7.9
EBAN | | | | S | **Sn** | **14 27 52.0** | **-2.6**
comp=N,2.1nm,0.2s,SNR=7.9
EBAN Banos Encina 5.95 18 P **Pn 14 26 46.7 +0.2**
EBAN | | | | S | **Sn** | **14 27 52.0** | **-2.6**
MOE Montemor 6.24 344 *e*Pn **Pn 14 26 52.1 +1.7**
MOE | | | | *e*Sn | **Sn** | **14 28 00.4** | **-1.2**
EBAD Badajoz 6.25 354 P **Pn 14 26 51.2 +0.6**
comp=N,24nm,0.3s,SNR=68
EBAD | | | | S | **Sn** | **14 27 58.9** | **-3.0**
comp=N,6.4nm,0.2s
PLOU Loures 6.79 340 *e*Pn **Pn 14 26 59.5 +1.5**
ETOB Tobarra 7.17 30 P **Pn 14 27 05.3 +2.1**
comp=N,1.7nm,0.2s,SNR=4.0
ETOB | | | | S | **Sn** | **14 28 22.0** | **-2.6**
comp=N,1.3nm,0.2s,SNR=4.0
ETOB Tobarra 7.17 30 P **Pn 14 27 05.3 +2.1**
comp=N,1.7nm,0.2s,SNR=4.0
EFAM Famara 7.17 244 P **Pn 14 27 03.5 +0.3**
comp=N,4.3nm,0.1s,SNR=4.0
EFAM | | | | S | **Sn** | **14 28 18.3** | **-6.3**
comp=N,3.0nm,0.2s,SNR=4.0
EFAM Famara 7.17 244 P **Pn 14 26 59.7 -3.5**
EFAM | | | | S | **Sn** | **14 28 18.3** | **-6.3**
PTOM Tomar 7.30 346 *e*Pn **Pn 14 27 06.3 +1.3**
PTOM
comp=N,13nm,0.5s
ESDC Sonseca Array 7.35 13 Pn **Pn 14 27 05.8 +0.1**
comp=N,2.9nm,0.3s,baz=196,slow=13,SNR=26
ESDC | | | | Sn | **Sn** | **14 28 23.9** | **-5.1**
comp=N,1.4nm,0.3s,baz=200,slow=22,SNR=7.2
ESDC Sonseca Array 7.35 13⇑P **Pn 14 27 05.7 +0.1**
comp=N,6.6nm,0.3s,baz=197,slow=13,SNR=18
ESDC | | | | S | **Sn** | **14 28 24.8** | **-4.2**
comp=N,1.0nm,0.3s,baz=197,slow=23,SNR=4.9
ESDC Sonseca Array 7.35 13 P **Pn 14 27 05.7 0.0**
comp=N,6.6nm,0.3s,SNR=18
ESLA Sonseca Array 7.35 13 *e*Pn **Pn 14 27 05.8 +0.1**
ESLA | | | | *e*Sn | **Sn** | **14 28 24.4** | **-4.6**
ESLA Sonseca Array 7.35 13 *e*Pn **Pn 14 27 05.8 +0.1**
ESLA | | | | *e*Sn | **Sn** | **14 28 24.4** | **-4.7**
PCBR Castelo Branco 7.37 352 *e*Pn **Pn 14 27 06.9 +0.9**
PCBR | | | | *e*Sn | **Sn** | **14 28 26.1** | **-3.4**
PCBR
comp=N,5.5nm,0.5s
MTE Manteigas 7.93 352 *e*Pn **Pn 14 27 15.2 +1.5**
MTE | | | | *e*Sn | **Sn** | **14 28 40.5** | **-2.8**
MTE
comp=N,6.8nm,0.5s
MTE Manteigas 7.93 352 *e*Pn **Pn 14 27 14.3 +0.6**
MTE | | | | *e*Sn | **Sn** | **14 28 42.0** | **-1.3**
PVRL Vila Real 8.82 352 *e*Pn **Pn 14 27 27.5 +1.7**
PVRL | | | | *e*Sn | **Sn** | **14 29 01.2** | **-3.9**
PVRL
comp=N,3.6nm,0.3s
PBRG Braganca 9.27 357 *e*Pn **Pn 14 27 33.7 +1.7**
ECAL Calabor 9.41 357 P **Pn 14 27 34.9 +1.0**
comp=N,12nm,0.3s,SNR=5.9
ECAL | | | | S | **Sn** | **14 29 15.2** | **-4.4**
comp=N,5.1nm,0.3s
ECAL Calabor 9.41 357 P **Pn 14 27 34.9 +1.0**
comp=N,12nm,0.3s,SNR=5.9
ECAL Calabor 9.41 357 P **Pn 14 27 34.9 +1.0**
ECAL | | | | S | **Sn** | **14 29 15.7** | **-3.8**
ELOB Lobios 9.44 351 P **Pn 14 27 35.1 +0.8**
comp=N,3.8nm,0.3s,SNR=6.5
ELOB | | | | S | **Sn** | **14 29 15.3** | **-5.1**
comp=N,3.1nm,0.4s,SNR=7.9
ELOB Lobios 9.44 351 P **Pn 14 27 35.1 +0.7**
comp=N,3.8nm,0.3s,SNR=6.5
ELOB Lobios 9.44 351 P **Pn 14 27 35.1 +0.8**
ELOB | | | | S | **Sn** | **14 29 14.6** | **-5.8**
ESAC San Caprasio 10.24 25 P **Pn 14 27 41.5 -3.9**
comp=N,12nm,0.3s
EARI Arriondas 10.78 4 P **Pn 14 27 54.0 +1.3**
comp=N,1.0nm,0.3s,SNR=4.0
EARI Arriondas 10.78 4 P **Pn 14 27 54.0 +1.3**
comp=N,1.0nm,0.3s
ELAN Lanestosa 10.90 11 P **Pn 14 27 55.0 +0.7**
comp=N,1.5nm,0.2s,SNR=4.0
ELAN Lanestosa 10.90 11 P **Pn 14 27 56.8 +2.4**
ELAN Lanestosa 10.90 11 P **Pn 14 27 56.8 +2.5**
TORD Torodi Ar. Bea 20.59 158 P **P 14 29 57.1 -0.2**
comp=N,1.2nm,0.7s,baz=338,slow=11,SNR=8.6
GERES GERESS Array B 22.10 37 P **P 14 30 12.7 -0.9**
comp=N,0.3nm,0.5s,mb3.0,baz=221,slow=10.0,SNR=6.2
DBIC Dimbokro 25.76 177 P **P 14 30 48.7 -0.3**
comp=N,2.6nm,0.7s,mb3.9,baz=324,slow=10,SNR=6.1
DBIC Dimbokro 25.76 177 P **P 14 30 48.7 -0.3**
MKAR Makanchi Array 66.15 49 P **P 14 36 06.7 +0.9**
comp=N,0.3nm,0.6s,mb3.5,baz=281,slow=5.5,SNR=4.5
MKAR Makanchi Array 66.15 49 P **P 14 36 06.7 +0.9**

NEIC ***05*** *15:03:11.6±0.6, 180S×99.52E, h30km, mb4.3/7, Error ellipse: s-maj=21.3km s-min=7.1km az=54.0*
ISCJB ***05*** *15:03:16.4±3.8, 15S±03×99.9E±03, h80km±27km, mb4.2/14, Error ellipse: s-maj=66.7km s-min=13.9km az=100.3*
IDC ***05*** *15:03:17.2±5.9, 165S×99.67E, h73km±42km, mb3.5/7, mb1 3.6/8, mb1mx3.4/20, mbtmp3.8/8, ML3.2/1, MS2.8/1, Ms1 2.8/1, ms1mx1.7/25, Error ellipse: s-maj=104.5km s-min=16.1km az=54.0*

ISC 05 15:03:17.4±3.8, 15S±03×998E±03, h71km±27km, n20, σ0°51/19, mb4.2/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.40**	**348**	P	**Pn**	**15 04 22.2**	**+0.6**
	1.3nm,0.3s,baz=133,slow=8.7,SNR=15						
PSI				LR	LR	15 06 05.1	
	comp=Z,107nm,18.1s,baz=343,slow=38						
KULM	**Kulim**	**6.83**	**7**	*e*P	**Pn**	**15 04 54.2**	**-0.7**
JIRN	**Jiri**	**31.85**	**337**	*e*P	**P**	**15 09 36.0**	**+0.5**
	8.8nm,0.7s,mb4.6						
GUN	**Gumba**	**32.20**	**336**	*e*P	**P**	**15 09 38.8**	**+0.3**
	11nm,0.5s,mb4.8						
KKN	**Kakani**	**32.34**	**335**	*e*P	**P**	**15 09 39.6**	**-0.1**
	7.5nm,0.9s,mb4.4						
GKN	**Gorkha**	**32.79**	**335**	*e*P	**P**	**15 09 43.0**	**-0.7**
	4.2nm,0.6s,mb4.5						
KOLN	**Koldanda**	**33.05**	**333**	*e*P	**P**	**15 09 46.0**	**0.0**
	6.5nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**38.38**	**121**	P	**P**	**15 10 31.4**	**-0.2**
	0.7nm,0.6s,mb3.7,baz=305,slow=8.6,SNR=10						
WRA				PcP	PcP	15 12 45.3	+1.5
	0.3nm,0.7s,baz=314,slow=2.5,SNR=6.3						
WRAB	**Tennant Creek**	**38.39**	**121**	*e*P	**P**	**15 10 31.4**	**-0.2**
ASAR	**Alice Springs**	**39.67**	**126**	P	**P**	**15 10 42.8**	**+0.5**
	0.8nm,0.7s,mb3.7,baz=310,slow=8.2,SNR=10						
SONM	**Songino Array**	**49.50**	**6**	P	**P**	**15 12 01.6**	**+1.0**
	0.7nm,1.1s,mb3.5,baz=202,slow=5.8,SNR=4.5						
SONM				PcP	PcP	15 13 22.5	+0.9
	0.5nm,0.5s,baz=198,slow=4.9,SNR=5.1						
AAK	**Ala-Archa**	**49.55**	**335**	*e*P	**P**	**15 12 01.6**	**+0.6**
	1.2nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**50.54**	**344**	P	**P**	**15 12 08.6**	**+0.1**
	1.7nm,0.7s,mb4.2,baz=150,slow=8.0,SNR=23						
MKAR	**Makanchi Array**	**50.54**	**344**	P	**P**	**15 12 08.6**	**+0.1**
KURK	**Kurchatov**	**55.12**	**344**	*e*P	**P**	**15 12 42.0**	**-0.1**
	2.1nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**56.68**	**349**	P	**P**	**15 12 53.1**	**-0.2**
	2.5nm,0.4s,mb4.5,baz=320,slow=4.9,SNR=13						
BVAR	**Borovoye Array**	**59.69**	**340**	P	**P**	**15 13 13.5**	**-0.8**
	1.0nm,0.6s,mb4.0,baz=153,slow=9.7,SNR=6.7						
FINES	**FINESS Array B**	**83.62**	**332**	P	**P**	**15 15 37.4**	**-0.5**
	0.4nm,0.5s,mb3.5,baz=98,slow=5.8,SNR=4.4						
FINES	**FINESS Array B**	**83.62**	**332**	P	**P**	**15 15 37.4**	**-0.5**
JCT	**Junction City**	**145.72**	**31**	*e*PKPab	PKPab	15 22 49.7	+1.2

IDC 05 15:07:17.7±1.2, 2246N×14465E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/20, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=48.8km s-min=19.7km az=84.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.13**	**335**	Pn	Pn	15 08 36.8	+1.0
	5.1nm,0.3s,baz=282,slow=19,SNR=5.1						
CBIJ				Sn	Sn	15 09 35.5	-0.1
	1.8nm,0.3s,baz=288,slow=19,SNR=3.3						
SONM	**Songino Array**	**39.64**	**319**	P	P	15 14 51.3	+0.2
	0.3nm,0.6s,baz=134,slow=8.2,SNR=4.6						
WRA	**Warramunga Arr**	**43.33**	**194**	P	P	15 15 21.1	-0.3
	0.5nm,0.4s,baz=15,slow=8.5,SNR=19						
ASAR	**Alice Springs**	**47.03**	**194**	P	P	15 15 51.7	+0.9
	0.1nm,0.4s,baz=20,slow=11,SNR=4.0						
ILAR	**Eielson Array**	**60.74**	**27**	P	P	15 17 30.9	-0.2
	0.4nm,0.8s,baz=252,slow=5.9,SNR=4.5						
BVAR	**Borovoye Array**	**62.98**	**319**	P	P	15 17 46.5	+0.3
	0.8nm,0.4s,baz=96,slow=9.4,SNR=2.7						
FINES	**FINESS Array B**	**83.08**	**335**	P	P	15 19 44.4	-0.8
	0.3nm,0.5s,baz=64,slow=3.2,SNR=4.9						

*IDC **05** 15:11:03.5±0.7, 3176N×9515E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.2/28, mbtmp4.2/22, ML3.6/2, MS3.8/12, Ms1 3.8/12, ms1mx3.5/30, Error ellipse: s-maj=21.3km s-min=13.3km az=34.0*

*LDG **05** 15:11:03.0±0.5, 3168N×9494E, h10km, Mb4.7/9, Ms3.7/5, Error ellipse: s-maj=24.3km s-min=4.5km az=140.0*

*NEIC **05** 15:11:04.9±0.3, 3169N×9508E, h10km, mb4.8/19, Error ellipse: s-maj=6.7km s-min=4.9km az=160.0*

*ISCJB **05** 15:11:04.7±1.2, 3164N±003×9509E±003, h20km±9km, mb4.5/51, MS3.9/21, Error ellipse: s-maj=5.1km s-min=4.0km az=170.1*

*BJI **05** 15:11:06.3, 3177N×9509E, h11km, mB4.7, mb4.5, ML4.5, Ms4.5, Msz4.2*

*MOS **05** 15:11:07.1±1.2, 3177N×9520E, h33km, mb4.9/26, Error ellipse: s-maj=8.4km s-min=5.7km az=101.2*

*SZGRF **05** 15:11:19.7, 32.11N×9365E, h33km, mb4.8, Xizang*

ISC 05 15:11:08.4±1.1, 3170N±003×9510E±003, h31km±8km, n152, σ1°14/163, mb4.5/51, MS3.9/21, 11C-4D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.94**	**241**	P	**Pn**	**15 12 09.6**	**+2.9**
LSA				S	**Sn**	**15 12 56.2**	**+4.3**
LSA	**Lhasa**	**3.94**	**241**	⇑*e*Pn	**Pn**	**15 12 09.6**	**+2.9**
LSA				*e*Sn	**Sn**	**15 12 58.4**	**+6.5**
SHL	**Shillong**	**6.73**	**206**	*i* P	**Pn**	**15 12 46.0**	**+0.9**
SHL				*e*S	**Sn**	**15 14 00.0**	**-0.6**
LZH	**Lanzhou**	**8.48**	**57**	*e*P	**Pn**	**15 13 10.7**	**+1.6**
LZH				AP		15 13 13.2	
LZH				XP		15 13 15.0	
LZH				PP		15 13 18.6	
LZH				*e*S	**Sn**	**15 14 50.0**	**+6.2**
LZH				XS		15 14 54.3	
LZH				LG		15 15 30.1	
LZH				LG		15 15 45.1	
LZH				AMB	AMB		
	comp=Z,25nm,1.0s						
LZH				AMB	AMB		
	comp=Z,158nm,4.1s						
LZH				LR	LR		
	comp=E,3μm,7.6s						
LZH				LR	LR		
	comp=Z,5μm,8.5s						
GTA	**Gaotai**	**8.60**	**25**	*e*P	**Pn**	**15 13 11.4**	**+0.7**
GTA				AP		15 13 15.8	
GTA				XP		15 13 18.4	
GTA				S	**Sn**	**15 14 51.5**	**+4.9**
GTA				XS		15 14 58.3	
GTA				LG1		15 15 36.7	
GTA				LG2		15 15 51.9	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s						
GTA				AMB	AMB		
	comp=Z,80nm,4.9s						
GTA				LR	LR		
	comp=N,669nm,9.9s						
GTA				LR	LR		
	comp=E,1μm,12.2s						
GTA				LR	LR		
	comp=Z,581nm,10.3s						
JIRN	**Jiri**	**8.73**	**245**	*e*P	**Pn**	**15 13 12.5**	**0.0**
	comp=Z,22nm,0.5s						
GUN	**Gumba**	**8.85**	**247**	*e*P	**Pn**	**15 13 12.8**	**-1.4**
	comp=Z,43nm,0.5s						
KKN	**Kakani**	**9.38**	**248**	*e*P	**Pn**	**15 13 19.6**	**-1.8**
	comp=Z,27nm,0.5s						
KKN	**Kakani**	**9.38**	**248**	*e*P	**Pn**	**15 13 19.6**	**-1.8**
KKN				pmax	pmax		
	comp=Z,14nm,0.5s						
PKI	**Pulchoki**	**9.38**	**246**	*e*P	**Pn**	**15 13 19.8**	**-1.6**
	comp=Z,25nm,0.5s						
PKI	**Pulchoki**	**9.38**	**246**	*e*P	**Pn**	**15 13 19.8**	**-1.6**
PKI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI	**Kunming**	**9.39**	**132**	P	**Pn**	**15 13 24.2**	**+2.7**
KMI				PP		15 13 34.7	
KMI				S	**Sn**	**15 15 12.6**	**+6.6**
KMI				SS		15 15 26.4	
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s						
KMI				LR	LR		
	comp=N,2μm,6.2s						
KMI				LR	LR		
	comp=E,1μm,10.0s						
KMI				LR	LR		
	comp=Z,2μm,9.3s						
DMN	**Daman**	**9.60**	**247**	*e*P	**Pn**	**15 13 23.3**	**-1.1**
	comp=Z,73nm,1.2s						
GKN	**Gorkha**	**9.80**	**251**	*e*P	**Pn**	**15 13 23.6**	**-3.6**
	comp=Z,15nm,0.5s						
KOLN	**Koldanda**	**10.73**	**252**	*e*P	**Pn**	**15 13 37.2**	**-2.7**
	comp=Z,22nm,0.7s						
GYA	**Guiyang**	**11.38**	**114**	⇑*i*P	**Pn**	**15 13 48.8**	**0.0**
GYA				AP		15 13 52.4	
GYA				S	**Sn**	**15 15 55.0**	**+0.1**
GYA				AMB	AMB		
	comp=Z,60nm,0.9s						
GYA				AMB	AMB		
	comp=Z,90nm,3.9s						
GYA				LR	LR		
	comp=E,2μm,9.9s						
GYA				LR	LR		
	comp=Z,2μm,10.2s						
ENH	**Enshi**	**12.43**	**93**	P	**Pn**	**15 14 00.4**	**-2.7**
	comp=Z,20nm,1.1s						
WMQ	**Urumqi**	**13.43**	**336**	*e*P	**Pn**	**15 14 17.6**	**+0.8**
WMQ				AP		15 14 20.9	
WMQ				XP		15 14 24.3	
WMQ				PP		15 14 28.4	
WMQ				PPP		15 14 35.4	
WMQ				S	**Sn**	**15 16 46.3**	**+1.3**
WMQ				SS		15 17 02.6	
WMQ				PCP	PcP	15 19 47.6	+4.1
WMQ				AMB	AMB		
	comp=Z,16nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,146nm,6.0s						
WMQ				LR	LR		
	comp=N,1μm,11.2s						
WMQ				LR	LR		
	comp=E,604nm,11.2s						
WMQ				LR	LR		
	comp=Z,906nm,10.0s						
HHC	**Hu-ho-hao-te**	**16.09**	**51**	*e*P	**Pn**	**15 14 52.2**	**-0.1**
HHC				AP	pP	15 14 55.7	-7.9
HHC				XP	sP	15 14 59.2	-8.4
HHC				PP		15 15 05.3	
HHC				S	**Sn**	**15 17 49.6**	**-0.2**
HHC				XS	sS	15 17 55.2	-20
HHC				SS		15 18 08.6	
HHC				PCP	PcP	15 19 50.3	+3.1
HHC				AMB	AMB		
	comp=Z,16nm,0.4s						
HHC				AMB	AMB		
	comp=Z,139nm,3.6s						
HHC				LR	LR		
	comp=N,958nm,12.1s						
HHC				LR	LR		
	comp=E,938nm,12.1s						
HHC				LR	LR		
	comp=Z,1μm,11.0s						
WHN	**Wuhan**	**16.53**	**89**	P	**Pn**	**15 14 59.5**	**+1.6**
WHN				LR	LR		
	comp=Z,2μm,10.0s						
KSH	**Kashi**	**17.38**	**302**	*e*P	**Pn**	**15 15 11.1**	**+2.6**
KSH				*e*AP	pP	15 15 13.3	-4.6
KSH				*e*XP	sP	15 15 17.0	-4.9
KSH				*e*PP		15 15 24.2	
KSH				S	**Sn**	**15 18 21.3**	**+0.4**
KSH				SS		15 18 39.8	
KSH				PCP	PcP	15 19 53.9	+4.7
KSH				AMB	AMB		
	comp=Z,34nm,1.1s						
KSH				LR	LR		
	comp=N,1μm,7.7s						
KSH				LR	LR		
	comp=E,881nm,8.0s						
KSH				LR	LR		
	comp=Z,314nm,8.0s						
MKAR	**Makanchi Array**	**18.01**	**330**	P	**Pn**	**15 15 14.7**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=145,slow=14,SNR=19						
MKAR	**Makanchi Array**	**18.01**	**330**	*i* P	**Pn**	**15 15 14.6**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**18.27**	**25**	P	**Pn**	**15 15 17.7**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=209,slow=13,SNR=15						
ULHL	**Ulahol**	**18.34**	**310**	P	**Pn**	**15 15 21.6**	**+1.3**
	SNR=17						
ULN	**Ulaanbaatar**	**18.54**	**26**	*e*P	**Pn**	**15 15 21.7**	**-1.0**
	comp=Z,4.1nm,0.8s						
ULN	**Ulaanbaatar**	**18.54**	**26**	⇑*i*P	**Pn**	**15 15 22.2**	**-0.5**
KZA	**Kyzart**	**18.91**	**309**	P	**Pn**	**15 15 28.2**	**+0.9**
	SNR=22						
BJT	**Baijiatuau**	**18.96**	**58**	P	**Pn**	**15 15 27.5**	**-0.3**
	comp=Z,81nm,2.1s						
BJT	**Baijiatuau**	**18.96**	**58**	P	**Pn**	**15 15 27.5**	**-0.3**
BJT				pmax	pmax		
	comp=Z,81nm,2.1s						
BJI	**Beijing**	**18.97**	**58**	P	**Pn**	**15 15 29.0**	**+1.0**
BJI				AMB	AMB		
	comp=Z,19nm,1.6s						
BJI				AMB	AMB		
	comp=Z,324nm,4.8s						
BJI				LR	LR		
	comp=N,877nm,12.4s						
BJI				LR	LR		
	comp=E,523nm,12.5s						
BJI				LR	LR		
	comp=Z,500nm,18.8s						
KBK	**Karagaybulak**	**19.38**	**310**	P	**Pn**	**15 15 33.1**	**+0.3**
	SNR=9.5						
UCH	**Uchtor**	**19.47**	**308**	P	**Pn**	**15 15 34.0**	**0.0**
	SNR=14						
ZAK	**Zakamensk**	**19.64**	**16**	*e*P	**Pn**	**15 15 34.2**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,16nm,1.4s						
AAK	**Ala-Archa**	**19.66**	**309**	P	**Pn**	**15 15 36.2**	**-0.1**
	SNR=20						
AAK	**Ala-Archa**	**19.66**	**309**	*e*P	**Pn**	**15 15 34.7**	**-1.5**
	comp=Z,31nm,1.1s						
AAK	**Ala-Archa**	**19.66**	**309**	*ce*P	**Pn**	**15 15 34.9**	**-1.4**
AAK				pmax	pmax		
	comp=Z,38nm,1.7s						
FRU	**Bishkek**	**19.68**	**310**	*e*P	**Pn**	**15 15 36.0**	**-0.4**
FRU				pmax	pmax		
	comp=Z,90nm,2.0s						
FRU				MLR	MLR		
	comp=Z,500nm,12.0s						
USP	**Ospenovka**	**19.96**	**311**	P	**Pn**	**15 15 38.3**	**-1.4**
	SNR=7.3						
AML	**Almayashu**	**19.98**	**307**	P	**Pn**	**15 15 41.1**	**+1.1**
	SNR=21						
EKS2	**Erkin-Say**	**20.15**	**309**	P	**P**	**15 15 41.2**	**+1.2**
	SNR=28						
NJ2	**Nanjing**	**20.17**	**83**	*e*P	**P**	**15 15 42.1**	**+1.9**
NJ2				AP		15 15 46.0	
NJ2				XP	sP	15 15 49.0	-3.6
NJ2				PP		15 16 01.6	
NJ2				S	**S**	**15 19 22.0**	**-3.0**
NJ2				XS	sS	15 19 28.0	-10
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,20nm,3.5s						
NJ2				LR	LR		
	comp=N,1μm,19.4s,MS4.4						
NJ2				LR	LR		
	comp=E,1μm,22.9s,MS4.4						
NJ2				LR	LR		
	comp=Z,480nm,26.3s,MS3.7						
MOY	**Mondy**	**20.42**	**11**	*e*P	**P**	**15 15 44.1**	**+1.2**
MOY				pmax	pmax		
	comp=Z,23nm,1.8s						
HYB	**Hyderabad**	**20.66**	**230**	*i* P	**P**	**15 15 47.5**	**+1.9**
HYB	**Hyderabad**	**20.66**	**230**	*e*P	**P**	**15 15 50.0**	**+4.4**
IRK	**Irkutsk**	**21.60**	**15**	*e*P	**P**	**15 15 56.0**	**+0.4**
IRK				*e*		15 16 20.0	
IRK				pmax	pmax		
	comp=Z,35nm,1.6s,mb4.5						
SSE	**Sheshan**	**22.26**	**85**	*e*P	**P**	**15 16 02.0**	**-0.7**
SSE				S	**S**	**15 20 06.0**	**-0.1**
SSE				XS	sS	15 20 11.8	-7.9
SSE				SCS	ScS	15 27 21.8	+3.7
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,96nm,7.6s						
SSE				LR	LR		
	comp=N,349nm,24.3s,MS3.7						
SSE				LR	LR		
	comp=E,123nm,24.2s,MS3.7						
SSE				LR	LR		
	comp=Z,193nm,18.3s						
KURK	**Kurchatov**	**22.59**	**332**	*e*P	**P**	**15 16 04.2**	**-2.0**
	comp=Z,14nm,0.9s,mb4.4						
KURK	**Kurchatov**	**22.59**	**332**	*de*P	**P**	**15 16 05.3**	**-0.9**
KURK				*i* *PP		15 16 20.8	
ZAL	**Zalesovo**	**23.43**	**345**	P	**P**	**15 16 13.9**	**-1.1**
	comp=Z,29nm,1.4s,mb4.5,baz=313,slow=12,SNR=8.7						
ZAL	**Zalesovo**	**23.43**	**345**	*i* P	**P**	**15 16 15.5**	**+0.5**
ZAL				pmax	pmax		
	comp=Z,29nm,1.5s						
KRAR	**Krasnoyarsk**	**24.36**	**357**	*i* P	**P**	**15 16 23.3**	**-0.2**
NVS	**Novosibirsk**	**24.62**	**343**	*e*P	**P**	**15 16 24.8**	**-1.1**
NVS				*e*S	**S**	**15 20 46.2**	**+1.0**
NVS				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.3						
NVS				pmax	pmax		
	comp=N,22nm,1.8s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
NVS				smax			
	comp=N,20nm,2.0s						
NVS				smax			
	comp=E,8.0nm,1.8s						
SNY	**Shenyang**	**24.85**	**58**	⇑P	**P**	**15 16 28.6**	**+0.6**
SNY				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
SNY				AMB	AMB		
	comp=Z,127nm,6.5s						
SNY				LR	LR		
	comp=N,316nm,11.4s						
SNY				LR	LR		
	comp=E,392nm,8.6s						
SNY				LR	LR		
	comp=Z,420nm,11.0s,MS4.2						
HIA	**Hailar**	**25.50**	**39**	*e*P	**P**	**15 16 34.4**	**+0.6**
	comp=Z,31nm,1.4s,mb4.7						
HIA	**Hailar**	**25.50**	**39**	*e*P	**P**	**15 16 34.4**	**+0.5**
HIA				pmax	pmax		
	comp=Z,31nm,1.4s						
CN2	**Changchun**	**26.71**	**54**	*e*P	**P**	**15 16 45.0**	**+0.1**
CN2				*e*XP	sP	15 16 53.2	-4.5
CN2				*e*S	**S**	**15 21 16.9**	**-1.4**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s,MS4.3						
CN2				LR	LR		
	comp=E,500nm,12.0s,MS4.3						
CN2				LR	LR		
	comp=Z,500nm,12.0s,MS4.3						
BVAR	**Borovoye Array**	**27.81**	**327**	P	**P**	**15 16 55.6**	**+0.8**
	comp=Z,2.6nm,0.8s,mb3.9,baz=134,slow=11,SNR=9.1						
BRVK	**Borovoye**	**27.88**	**327**	P	**P**	**15 16 54.8**	**-0.5**
	comp=Z,1.6nm,0.6s,mb3.8						
BRVK	**Borovoye**	**27.88**	**327**	P	**P**	**15 16 54.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
PSI	**Prapat**	**28.97**	**172**	LR	LR	15 29 21.3	
	comp=Z,149nm,18.3s,MS3.6,baz=181,slow=38						
BOD	**Bodaibo**	**29.16**	**21**	*e*P	**P**	**15 17 06.1**	**-0.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.0						
MDJ	**Mudanjiang**	**29.80**	**54**	P	**P**	**15 17 11.4**	**-1.0**
MDJ				S	**S**	**15 22 07.7**	**+0.7**
MDJ				SCP	ScP	15 23 57.4	+2.3
MDJ				PCS	PcS	15 23 58.8	+0.2
MDJ				AMB	AMB		
	comp=Z,11nm,2.2s,mb4.2						
MDJ				LR	LR		
	comp=N,132nm,9.1s						
MDJ				LR	LR		
	comp=E,276nm,10.9s						
MDJ				LR	LR		
	comp=Z,343nm,11.8s,MS4.2						
KLR	**Kul'dur**	**32.52**	**47**	*e*P	**P**	**15 17 33.3**	**-3.1**
KLR				pmax	pmax		
	comp=E,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
KLR				MLR	MLR		
	comp=N,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,2μm,12.0s,MS5.0						
AKTK	**Aktyubinsk**	**33.19**	**315**	P	**P**	**15 17 42.0**	**-0.2**
AKTO	**Aktyubinsk**	**33.19**	**315**	P	**P**	**15 17 42.0**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=110,slow=9.0,SNR=9.0						
HABR	**Khabarovsk**	**34.40**	**49**	*e*P	**P**	**15 17 52.2**	**-0.5**
HABR				*e*S	**S**	**15 23 12.9**	**-5.7**
SVE	**Sverdlovsk**	**34.60**	**327**	*e*P	**P**	**15 17 57.0**	**+2.6**
ARU	**Arti**	**35.39**	**325**	⇑*i*P	**P**	**15 18 03.4**	**+2.2**
ARU				*e*		15 19 24.9	
ARU				*e*S	**S**	**15 23 33.6**	**-0.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
ARU				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.0						
ARU				MLR	MLR		
	comp=N,80nm,15.0s,MS3.8						
ARU				MLR	MLR		
	comp=E,90nm,15.0s,MS3.8						
MJAR	**Matsushiro Arr**	**35.79**	**70**	P	**P**	**15 18 03.0**	**-1.8**
	comp=E,3.0nm,1.1s,mb4.1,baz=279,slow=10.0,SNR=6.6						
MJAR				LR	LR	15 34 43.2	
	comp=E,112nm,18.1s,MS3.7,baz=315,slow=40						
MJAR	**Matsushiro Arr**	**35.79**	**70**	P	**P**	**15 18 03.0**	**-1.8**
MJAR				LR	LR	15 34 43.2	
JHJ	**Hachijo jima 2**	**37.54**	**76**	LR	LR	15 35 34.9	
	comp=E,129nm,18.7s,MS3.8,baz=18,slow=39						
YAK	**Yakutsk**	**37.63**	**26**	⇓*e*P	**P**	**15 18 19.6**	**-0.7**
YAK				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.5						
ASAJ	**Asahikawa**	**38.97**	**58**	P	**P**	**15 18 31.8**	**+0.1**
	comp=Z,24nm,1.0s,mb4.9,baz=270,slow=13,SNR=12						
ASAJ				LR	LR	15 35 13.1	
	comp=Z,114nm,19.4s,MS3.7,baz=334,slow=37						
ASAJ	**Asahikawa**	**38.97**	**58**	P	**P**	**15 18 31.8**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,24nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,114nm,19.5s						
YSS	**Yuzh-Sakhalins**	**39.26**	**53**	*c i*P	**P**	**15 18 34.7**	**+0.6**
YSS				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.8						
GNI	**Garni**	**41.18**	**296**	P	**P**	**15 18 51.3**	**+1.4**
	comp=Z,2.1nm,0.5s,mb4.0,baz=68,slow=7.3,SNR=3.9						
GNI				LR	LR	15 38 37.1	
	comp=Z,45nm,19.2s,MS3.4,baz=163,slow=40						
GNI	**Garni**	**41.18**	**296**	*de*P	**P**	**15 18 53.7**	**+3.8**
GNI				pmax	pmax		
	comp=Z,18nm,1.3s						
GOF	**Gofitskoye**	**42.24**	**304**	*e*P	**P**	**15 19 01.2**	**+2.5**
KIV	**Kislovodsk**	**42.51**	**302**	⇑*e*P	**P**	**15 19 03.4**	**+2.6**
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
TIXI	**Tiksi**	**43.91**	**15**	⇓*e*P	**P**	**15 19 10.4**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.2						
KLMR	**Klimovskoe**	**46.22**	**326**	*e*P	**P**	**15 19 31.5**	**+1.0**
KLMR				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
OBN	**Obninsk**	**46.87**	**318**	⇑*e*P	**P**	**15 19 37.2**	**+1.6**
OBN				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
SEY	**Seymchan**	**47.49**	**31**	⇑*i*P	**P**	**15 19 41.3**	**+0.9**
GUMO	**Guam**	**48.90**	**100**	LR	LR	15 39 25.4	
	comp=Z,44nm,19.1s,MS3.5,baz=80,slow=35						
BR131	**Keskin Array S**	**49.69**	**297**	*e*P	**P**	**15 19 57.1**	**-0.2**
	comp=Z,1.7nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**49.69**	**297**	P	**P**	**15 19 57.4**	**0.0**
	comp=Z,2.5nm,0.9s,mb4.2,baz=113,slow=7.2,SNR=11						
EIL	**Elat**	**51.19**	**284**	*e*P	**P**	**15 20 10.0**	**+1.4**
	comp=Z,169nm,1.1s,mb5.9						
AKASG	**Malin Array Be**	**51.31**	**312**	P	**P**	**15 20 08.4**	**-1.2**
	comp=Z,5.6nm,0.8s,mb4.5,baz=75,slow=6.7,SNR=18						
AKASG	**Malin Array Be**	**51.31**	**312**	*i* P	**P**	**15 20 08.8**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.8s

comp=Z,5.0nm,1.0s,mb4.4,baz=95,slow=9.9,SNR=6.9
ARCES LR LR 15 45 48.8
comp=Z,108nm,18.0s,MS4.0,baz=17,slow=39
BILL Bilibino 53.99 26 *eP* **P 15 20 28.5 -0.9**
comp=Z,11nm,1.3s,mb4.6
BILL Bilibino 53.99 26⇑ *iP* **P 15 20 28.8 -0.6**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.5
KWP Kalwaria 55.60 311 *eP* **P 15 20 41.1 +0.1**
comp=Z,16nm,1.0s,mb5.0
KWP Kalwaria 55.60 311 *eP* **P 15 20 41.2 +0.1**
KWP pmax pmax
comp=Z,16nm,1.0s,mb5.0
OJC Ojcow 57.34 312 *eP* **P 15 20 56.8 +3.4**
HFS Hagfors 58.91 325 P **P 15 21 03.7 -0.7**
comp=Z,2.9nm,1.0s,mb4.3,baz=98,slow=11,SNR=4.5
NB2 NORSAR Subarra 59.93 326 P **P 15 21 09.5 -2.0**
comp=Z,0.8nm,0.7s,mb3.9,baz=80,slow=6.9
NB2 NORSAR Subarra 59.93 326 P **P 15 21 09.5 -2.0**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
NOA NORSAR Array B 59.93 326 P **P 15 21 10.4 -1.1**
comp=Z,0.9nm,0.7s,mb3.9,baz=77,slow=6.9,SNR=4.2
NOA LR LR 15 49 41.6
comp=Z,49nm,19.9s,MS3.6,baz=70,slow=39
NOA NORSAR Array B 59.93 326 P **P 15 21 10.4 -1.1**
NOA LR LR 15 49 41.6
BRG Berggiesshubel 60.82 314 P **P 15 21 17.6 +0.1**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.3
BRG Berggiesshubel 60.82 314 *e*(P) **P 15 21 17.6 +0.1**
comp=Z,3.2nm,1.1s,mb4.4
CLL Collm 61.27 315 *eP* **P 15 21 22.0 +1.4**
GERES GERESS Array B 61.52 312 P **P 15 21 22.3 0.0**
comp=Z,1.3nm,0.7s,mb4.2,baz=72,slow=5.7,SNR=12
GERES LR LR 15 51 52.9
comp=Z,122nm,18.6s,MS4.1,baz=301,slow=40
GRF Grafenberg Arr 62.83 313 *eP* **P 15 21 33.4 +2.3**
comp=Z,8.0nm,1.1s,mb4.8
GRF Grafenberg Arr 62.83 313 *eP* **P 15 21 33.4 +2.3**
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
WRAB Tennant Creek 63.65 138 *eP* **P 15 21 37.1 +0.6**
comp=Z,11nm,1.1s,mb4.8
WRAB Tennant Creek 63.65 138 *eP* **P 15 21 37.1 +0.6**
WRAB pmax pmax
comp=Z,11nm,1.1s,mb4.8
WRA Warramunga Arr 63.66 138 P **P 15 21 36.9 +0.3**
comp=Z,3.3nm,0.9s,mb4.4,baz=331,slow=7.3,SNR=17
WB2 Warramunga Arr 63.66 138 *eP* **P 15 21 37.1 +0.5**
DAVOX Davos 64.62 311 P **P 15 21 42.5 -0.3**
comp=Z,4.4nm,0.7s,mb4.6,baz=98,slow=8.3,SNR=5.8
CDF Champ du Feu 65.70 313 *eP* **P 15 21 49.4 -0.5**
ASPA Alice Springs 66.40 141 *eP* **P 15 21 55.0 +0.6**
AS31 Alice Springs 66.40 141 *eP* **P 15 21 55.0 +0.6**
ASAR Alice Springs 66.40 141 P **P 15 21 55.0 +0.6**
comp=Z,3.3nm,1.0s,mb4.3,baz=330,slow=6.2,SNR=21
LPG La Plagne 67.11 310 *eP* **P 15 21 59.2 +0.3**
comp=Z,20nm,0.9s,mb4.8
LPG La Plagne 67.11 310 *eP* **P 15 21 59.2 +0.3**
comp=Z,10nm,0.9s,mb4.9
LPG La Plagne 67.11 310 *eP* **P 15 21 59.2 +0.3**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LPL La Plagne 67.11 310 *eP* **P 15 21 59.3 +0.4**
comp=Z,23nm,1.0s,mb4.9
LPL La Plagne 67.11 310 *eP* **P 15 21 59.3 +0.4**
comp=Z,11nm,1.0s,mb4.9
LPL La Plagne 67.11 310 *eP* **P 15 21 59.3 +0.4**
LPL pmax pmax
comp=Z,11nm,1.0s,mb4.8
SBF Sospel 67.28 308 *eP* **P 15 21 59.7 -0.3**
MBDF Montbardon 67.39 309 *eP* **P 15 22 00.3 -0.4**
NWAO Narrogin (SRO) 67.59 160 LR LR 15 51 46.0
comp=Z,86nm,18.1s,MS4.0,baz=48,slow=36
ORIF Oris-en-Rattie 67.90 310 *eP* **P 15 22 03.3 -0.6**
ORIF *eR*
comp=Z,173nm,21.5s
FRF La Foret Royal 67.92 308 *eP* **P 15 22 03.5 -0.6**
LMR La Mourre 68.11 308 *eP* **P 15 22 04.8 -0.4**
SSF Saint Saulge 68.57 313 *eP* **P 15 22 07.3 -0.8**
comp=Z,14nm,0.9s,mb4.6
SSF Saint Saulge 68.57 313 *eP* **P 15 22 07.3 -0.8**
comp=Z,6.8nm,0.9s,mb4.6
SSF Saint Saulge 68.57 313 *eP* **P 15 22 07.3 -0.8**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AVF Avril sur Loir 68.77 313 *eP* **P 15 22 08.6 -0.8**
comp=Z,22nm,1.1s,mb4.7
AVF Avril sur Loir 68.77 313 *eP* **P 15 22 08.6 -0.8**
comp=Z,11nm,1.1s,mb4.7
AVF Avril sur Loir 68.77 313 *eP* **P 15 22 08.6 -0.8**
AVF pmax pmax
comp=Z,11nm,1.1s,mb4.7
TCF Toulx Ste Croi 69.70 312 *eP* **P 15 22 14.8 -0.3**
comp=Z,24nm,1.1s,mb4.8
TCF Toulx Ste Croi 69.70 312 *eP* **P 15 22 14.8 -0.3**
comp=Z,12nm,1.1s,mb4.7
TCF Toulx Ste Croi 69.70 312 *eP* **P 15 22 14.8 -0.3**
TCF pmax pmax
comp=Z,12nm,1.1s,mb4.7
GRR Gorron 70.68 315 *eP* **P 15 22 20.4 -0.7**
comp=Z,20nm,0.9s,mb4.7
GRR Gorron 70.68 315 *eP* **P 15 22 20.4 -0.7**
comp=Z,9.9nm,0.9s,mb4.7
GRR Gorron 70.68 315 *eP* **P 15 22 20.4 -0.7**
GRR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
COLA College 72.10 24 *eP* **P 15 22 29.2 -0.5**
comp=Z,10nm,1.0s,mb4.7
COLA College 72.10 24 *eP* **P 15 22 29.2 -0.5**
COLA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ILAR Eielson Array 72.49 23 P **P 15 22 31.0 -1.0**
comp=Z,2.9nm,0.9s,mb4.2,baz=293,slow=5.4,SNR=35
INK Inuvik 73.98 17 P **P 15 22 40.4 -0.4**
comp=Z,4.1nm,0.9s,mb4.4,baz=324,slow=8.0,SNR=16
YKA Yellowknife Ar 83.14 13 P **P 15 23 30.3 -0.9**
comp=Z,1.1nm,0.9s,mb3.9,baz=333,slow=5.0,SNR=13
YKA Yellowknife Ar 83.14 13 P **P 15 23 30.3 -0.9**
YKA Yellowknife Ar 83.14 13 *iP* **P 15 23 30.7 -0.6**
YKA pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 86.05 283 P **P 15 23 46.1 +0.2**
comp=Z,2.9nm,0.9s,mb4.5,baz=45,slow=4.6,SNR=15
DBIC Dimbokro 94.94 281 LR LR 16 08 45.5
comp=Z,66nm,19.1s,MS4.1,baz=161,slow=36
OTAV Otavalo 147.65 348 *e*PKPdf PKPdf 15 30 49.5 +2.5

CSEM ***05*** *15:36:01.6±0.7,3944N×2967W,h5km,ML2.8,Error ellipse: s-maj=28.3km s-min=5.8km az=60.0,After PDA*
PDA ***05*** *15:36:01.6±0.7,3944N×2967W,h5km,MD3.5,ML2.8, Error ellipse: s-maj=28.3km s-min=5.8km az=60.0*
SVSA 05 15:36:01.6±0.7,3944N×2967W,h5km,MD3.5,ML2.8, Error ellipse: s-maj=28.3km s-min=5.8km az=60.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.10**	**141**	*erx*		15 36 20.7	
PCED	**Cedros**	**1.11**	**137**	*eS*	Sg	15 36 31.5	-5.8
PCED	60nm,0.2s						
CALA	**Caldeira**	**1.15**	**138**	*eP*	Pg	15 36 19.6	-4.0
CALA				*eS*	Sg	15 36 32.9	-5.5
HOR	**Horta**	**1.22**	**138**	*eS*	Sg	15 36 34.7	-6.3
ROSA	**Rosais**	**1.33**	**123**	*eP*	Pn	15 36 21.9	-4.9
PICO	**Pico**	**1.35**	**134**	*iP*	Pn	15 36 22.2	-4.9
PICO				*eS*	Sb	15 36 37.9	-7.1
PICO	**Pico**	**1.35**	**134**	*eS*	Sb	15 36 37.9	-7.1
PCND	**Candelaria**	**1.35**	**136**	*eS*	Sb	15 36 38.4	-6.7
PCND	56nm,0.3s						
PBOI	**Pico dos Bois**	**1.43**	**134**	*eS*	Sb	15 36 39.8	-7.3
PBOI	30nm,0.3s						

ISCJB ***05*** *15:49:57.2±2.9,4440N±005×14867E±007,h15km±19km, mb4.0/15,Error ellipse: s-maj=8.7km s-min=7.7km az=118.3*
IDC ***05*** *15:49:57.3±0.9,4465N×148.17E,h0km,mb3.6/8, mb1 3.8/9,mb1mx3.7/20,mbtmp3.6/9,ML3.3/1,Error ellipse: s-maj=23.6km s-min=17.1km az=140.0*
NIED ***05*** *15:50:00,44.10N×148.20E,h50km,Mw3.8 Best double couple: M0:5.41000×10^14 NP1:φ=351.00000°,δ71.00000°, λ65.00000°; NP2:φ=226.00000°,δ31.00000°,λ141.00000°.*
MOS ***05*** *15:50:02.0±1.9,4450N×14846E,h53km,mb4.0/3,Error ellipse: s-maj=17.9km s-min=13.7km az=92.7*
SKHL ***05*** *15:50:02.6±1.7,4460N×14870E,h52km±15km,mb5.1/3*
NEIC ***05*** *15:50:03.4±1.8,4445N×14846E,h45km±15km,mb4.3/8, Error ellipse: s-maj=16.9km s-min=12.0km az=124.0*
JMA ***05*** *15:50:04.6±0.3,4413N×14823E,h0km,M4.6*
ISC 05 15:49:58.1±2.2,4444N±006×14861E±006,h7km±12km, n41,σ1°914/50,mb4.0/15,6D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.96**	**327**	⇓ *iP*	**Pn**	**15 50 17.3**	**-0.6**
KUR				⇓ *iP*		15 50 17.3	
KUR				A		15 50 18.0	
	4μm,1.5s						
KUR				AMB	AMB	15 50 18.0	
	500nm,0.4s						
KUR				AMB	AMB	15 50 18.0	
	730nm,0.4s						
KUR				AMB	AMB	15 50 18.0	
	1μm,0.4s						
KUR				*i* S	**Sg**	**15 50 28.3**	**-0.6**
KUR				A		15 50 29.3	
	7μm,0.5s						
KUR				A		15 50 29.3	
	910nm,0.5s						
KUR				A		15 50 29.6	
	10μm,2.0s						
KUR				A		15 50 29.6	
	13μm,2.0s						
KUR	**Kuril'sk**	**0.96**	**327**K	*iP*N	**Pn**	**15 50 17.3**	**-0.6**
KUR				*i* S	**Sg**	**15 50 28.3**	**-0.6**
KUR				pmax	pmax		
	comp=N,500nm,0.4s						
KUR				pmax	pmax		
	comp=E,730nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=Z,4μm,1.5s						
KUR				smax			
	comp=N,7μm,0.5s						
KUR				smax			
	comp=E,910nm,0.5s						
KUR				smax			
	comp=N,10μm,2.0s						
KUR				smax			
	comp=E,13μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**2.02**	**259**	⇓ *iP*	**Pn**	**15 50 36.2**	**+3.7**
YUK				AMB	AMB	15 50 36.5	
	comp=E,170nm,0.2s						
YUK				AMB	AMB	15 50 36.5	
	comp=E,110nm,0.2s						
YUK				AMB	AMB	15 50 36.5	
	comp=E,860nm,0.2s						
YUK				*i* S	**Sn**	**15 50 57.0**	**-0.9**
YUK				A		15 51 01.6	
	comp=E,1μm,0.3s						
YUK				A		15 51 01.6	
	comp=E,2μm,0.3s						
YUK				A		15 51 03.0	
	comp=E,4μm,1.0s						
YUK				A		15 51 03.0	
	comp=E,3μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**2.02**	**259**	⇓ *iP*N	**Pn**	**15 50 36.2**	**+3.7**
YUK				*i* S	**Sn**	**15 50 57.0**	**-0.9**
YUK				pmax	pmax		
	comp=N,170nm,0.2s						
YUK				pmax	pmax		
	comp=E,110nm,0.2s						
YUK				pmax	pmax		
	comp=Z,860nm,0.2s						
YUK				smax			
	comp=E,2μm,0.4s						
YUK				smax			
	comp=N,1μm,0.2s						
YUK				smax			
	comp=N,4μm,0.8s						
YUK				smax			
	comp=E,3μm,0.6s						
NEM2	**Nemuro 2**	**2.34**	**244**	P	**Pn**	**15 50 39.5**	**+2.7**
NEM2				*eS*	**Sn**	**15 51 04.8**	**-0.9**
JRA	**Rausu**	**2.56**	**260**	P	**Pn**	**15 50 43.6**	**+3.7**
JRA				*eS*	**Sn**	**15 51 12.5**	**+1.2**
JNK	**Nakash**	**2.94**	**254**	P	**Pn**	**15 50 48.8**	**+3.7**
JNK				*eS*	**Sn**	**15 51 21.2**	**+0.7**
JAK	**Akkeshi**	**3.19**	**244**	*eS*	**Sn**	**15 51 26.2**	**-0.5**
JAR	**Ashorobuto**	**3.68**	**254**	*eS*	**Sn**	**15 51 40.0**	**+1.0**
JCH	**Churui**	**4.23**	**246**	*eS*	**Sn**	**15 51 52.3**	**-0.2**
ASAJ	**Asahikawa**	**4.33**	**268**	Pn	**Pn**	**15 50 56.7**	**-7.6**
	comp=E,0.6nm,0.3s,baz=189,slow=9.2,SNR=7.6						
ASAJ				Pg	**Pg**	**15 51 09.2**	**-12**
	comp=E,4.5nm,0.3s,baz=58,slow=20,SNR=30						
ASAJ				Lg		15 52 07.3	
	comp=E,2.1nm,0.3s,baz=342,slow=19,SNR=2.2						
JFR	**Furan**	**4.54**	**256**	*eS*	**Sn**	**15 52 02.5**	**+2.4**
JNBK	**Urakawa-nobuka**	**4.79**	**245**	*eS*	**Sn**	**15 52 06.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.81**	**304**	*eP*	**Pn**	**15 51 14.2**	**+3.3**
YSS				*eS*	**Sn**	**15 52 08.0**	**+1.1**
YSS				A		15 52 09.6	
	comp=E,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.81**	**304**	*e*PN	**Pn**	**15 51 13.5**	**+2.6**
JKB	**Kayabe**	**6.10**	**248**	*eS*	**Sn**	**15 52 36.8**	**-1.8**
JOT	**Ohata**	**6.34**	**244**	*eS*	**Sn**	**15 52 42.2**	**-2.2**
UGL	**Uglegorsk**	**6.46**	**318**	*eP*	**Pn**	**15 51 37.4**	**+3.9**
UGL				AMB	AMB	15 51 40.0	
	comp=E,42nm,0.8s						
JANG	**Nango**	**6.64**	**235**	*eS*	**Sn**	**15 52 47.2**	**-4.6**
NKL	**Nikolayevsk**	**10.16**	**332**	*eP*	**Pn**	**15 52 24.0**	**-0.3**
MJAR	**Matsushiro Arr**	**11.17**	**229**	Pn	**Pn**	**15 52 37.6**	**-0.5**
	comp=E,0.2nm,0.3s,baz=26,slow=14,SNR=5.7						
ILAR	**Eielson Array**	**40.31**	**37**	P	**P**	**15 57 36.7**	**+0.8**
	comp=E,0.3nm,0.7s,mb3.1,baz=268,slow=8.5,SNR=9.0						
MKAR	**Makanchi Array**	**45.20**	**298**	P	**P**	**15 58 14.2**	**-1.4**
	comp=E,0.1nm,0.4s,mb3.0,baz=75,slow=8.7,SNR=7.6						
MKAR				PcP	PcP	15 59 55.0	-0.8
	comp=E,0.4nm,0.6s,baz=70,slow=4.6,SNR=5.0						
INK	**Inuvik**	**45.28**	**31**	*eP*	**P**	**15 58 16.2**	**0.0**
	comp=E,0.6nm,0.6s,mb3.6						
INK	**Inuvik**	**45.28**	**31**	*eP*	**P**	**15 58 16.2**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**46.02**	**304**	*eP*	**P**	**15 58 22.1**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.9						
KURK	**Kurchatov**	**46.02**	**304**	*eP*	**P**	**15 58 22.2**	**+0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
JIRN	**Jiri**	**51.95**	**273**	*eP*	**P**	**15 59 07.8**	**+0.2**
	comp=Z,5.7nm,0.4s,mb4.8						
GUN	**Gumba**	**52.03**	**274**	*eP*	**P**	**15 59 07.9**	**-0.2**
	comp=Z,8.0nm,0.4s,mb5.0						
KKN	**Kakani**	**52.52**	**274**	*eP*	**P**	**15 59 12.1**	**+0.3**
DMN	**Daman**	**52.76**	**274**	*eP*	**P**	**15 59 13.6**	**+0.1**
	comp=Z,5.1nm,0.5s,mb4.7						
GKN	**Gorkha**	**52.86**	**275**	*eP*	**P**	**15 59 14.0**	**-0.3**
	comp=Z,3.2nm,0.4s,mb4.7						
KOLN	**Koldanda**	**53.74**	**275**	*eP*	**P**	**15 59 20.7**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**54.64**	**34**	P	**P**	**15 59 27.9**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=300,slow=6.6,SNR=6.7						
FINES	**FINESS Array B**	**64.74**	**333**	P	**P**	**16 00 33.0**	**-4.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=46,slow=5.5,SNR=9.9						
WRA	**Warramunga Arr**	**65.38**	**195**	P	**P**	**16 00 41.5**	**+0.4**
	comp=Z,0.8nm,0.9s,mb3.7,baz=9.1,slow=6.8,SNR=6.0						
ASAR	**Alice Springs**	**69.09**	**194**	P	**P**	**16 01 06.1**	**+1.4**
	comp=Z,0.3nm,0.4s,mb3.5,baz=8.4,slow=6.1,SNR=5.7						
NB2	**NORSAR Subarra**	**69.34**	**339**	P	**P**	**16 01 04.3**	**-1.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=29,slow=6.5						
NB2	**NORSAR Subarra**	**69.34**	**339**	P	**P**	**16 01 04.3**	**-1.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**69.34**	**339**	P	**P**	**16 01 03.9**	**-2.3**
	comp=Z,1.1nm,0.4s,mb4.2,baz=31,slow=6.4,SNR=5.1						
GERES	**GERESS Array B**	**79.07**	**332**	P	**P**	**16 02 01.4**	**-1.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=35,slow=4.9,SNR=4.2						

MOS ***05*** *16:02:22.5±1.0,5057N×15708E,h5km,mb4.3/1,Error ellipse: s-maj=99.9km s-min=19.7km az=71.8*
KRSC 05 16:02:21.1±1.3,5038N×15661E,h30km±13km,ML4.0,

Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.44**	**314**	*i* P	Pb	16 02 30.4	-0.1
SKR				*i* S	Sb	16 02 39.0	+2.0
PAU	**Pauzhetka**	**1.10**	**7**	*i* P	Pn	16 02 41.8	+1.4
PAU				*i* S	Sn	16 02 56.3	+1.8
MIPR	**Malaya Ipel'ka**	**1.90**	**3**	*i* P	Pn	16 02 53.1	+1.6
MIPR				*e*S	Sn	16 03 15.8	+1.4
GRL	**Gorelyy**	**2.36**	**22**	*e*P	Pn	16 02 59.8	+2.0
GRL				*e*S	Sn	16 03 27.3	+1.6
RUS	**Russkaya**	**2.38**	**29**	*i* P	Pn	16 02 58.1	+0.1
RUS				*e*S	Sn	16 03 24.6	-1.5
APC	**Apacha**	**2.57**	**7**	*e*P	Pn	16 03 03.3	+2.6
APC				Smax			
	30nm,1.0s						
KRMR	**Karymshinskiy**	**2.63**	**21**	*e*P	Pn	16 03 03.9	+2.4
KRMR				*e*S	Sn	16 03 34.5	+2.1
PET	**Petropavlovsk**	**2.94**	**25**	P	Pn	16 03 07.3	+1.6
PET				S	Sn	16 03 40.6	+0.7
PET	**Petropavlovsk**	**2.94**	**25**	*e*P	Pn	16 03 07.4	+1.7
PET				*e*S	Sn	16 03 40.9	+1.0
PET	**Petropavlovsk**	**2.94**	**25**	*e*PN	Pn	16 03 07.7	+2.0
PET				*e*S	Sn	16 03 40.8	+0.9
PET				smax			
	comp=E,124nm,0.6s						
PET				smax			
	comp=N,113nm,0.4s						
UGLR	**Uglovaya**	**3.15**	**25**	*e*P	Pn	16 03 11.6	+3.0
UGLR				*e*S	Sn	16 03 48.0	+2.8
KOK	**Koryaka**	**3.18**	**23**	*i* P	Pn	16 03 12.1	+3.1
AVH	**Avacha**	**3.18**	**24**	P	Pn	16 03 11.7	+2.7
AVH				*e*S	Sn	16 03 47.7	+1.8
SMAR	**Somma**	**3.19**	**24**	*e*P	Pn	16 03 11.8	+2.6
NLC	**Nalytchevo**	**3.27**	**30**	P	Pn	16 03 10.8	+0.5
NLC				S	Sn	16 03 45.1	-3.1
NLC	**Nalytchevo**	**3.27**	**30**	*e*P	Pn	16 03 10.8	+0.5
NLC				*e*S	Sn	16 03 46.7	-1.5
GNL	**Ganaly**	**3.42**	**13**	*e*P	Pn	16 03 15.2	+2.8
SPN	**Mys Shipunski**	**3.45**	**37**	P	Pn	16 03 13.6	+0.8
SPN				S	Sn	16 03 50.5	-2.1
SPN	**Mys Shipunski**	**3.45**	**37**	*e*P	Pn	16 03 13.7	+0.9
SPN				*e*S	Sn	16 03 51.1	-1.5
MKZ	**Mys Kozlova**	**5.22**	**35**	*e*S	Sn	16 04 34.0	-2.3
KBTR	**Krutoberegovo**	**6.92**	**30**	P	Pn	16 04 01.2	+0.7
KBTR	**Krutoberegovo**	**6.92**	**30**	*e*P	Pn	16 04 01.5	+1.0
BKI	**Bering**	**7.45**	**46**	S	Sn	16 05 22.4	-8.8

FUNV ***05*** *16:03:36.9,734N×7326W,h146km,MW3.7*
ISCJB ***05*** *16:03:37.5±0.8,756N±007×7309W±009,h155km±11km, mb3.5/1,Error ellipse: s-maj=17.2km s-min=7.1km az=65.8*
IDC ***05*** *16:03:38.3±7.9,736N×7606W,h93km±87km,mb3.4/1, mb1 3.6/2,mb1mx3.1/18,mbtmp3.7/2,ML2.3/1,Error ellipse: s-maj=164.7km s-min=35.9km az=77.0*
ISC 05 16:03:38.6±0.8,755N±007×7309W±009,h148km±11km, n13,σ0°58/17,mb3.5/1,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.83**	**68**	*e*P	**Pn**	**16 04 02.0**	**+0.2**
VIGV	**El Vigia**	**2.13**	**53**	*e*P	**Pn**	**16 04 16.0**	**+0.8**
SOCV	**Socops**	**2.33**	**72**	*e*P	**Pn**	**16 04 17.6**	**+0.1**
SOCV				*e*S	**Sn**	**16 04 47.3**	**-0.2**
ROSC	**El Rosal**	**2.95**	**205**	P	**Pn**	**16 04 24.5**	**-0.7**
	8.2nm,0.3s,baz=224,slow=5.1,SNR=10						
ROSC				S	**Sn**	**16 05 01.4**	**+0.1**
	13nm,0.3s,baz=276,slow=22,SNR=12						
VIRV	**Villa del Rosa**	**3.01**	**13**	*e*P	**Pn**	**16 04 25.5**	**-0.5**
VIRV				*e*S	**Sn**	**16 05 02.1**	**-0.5**
QARV	**Quebrada Arrib**	**3.66**	**44**	*e*P	**Pn**	**16 04 35.3**	**+1.0**
CURV	**Curarigua**	**3.94**	**51**	*e*P	**Pn**	**16 04 38.4**	**+0.3**
SANV	**Sanarito**	**4.01**	**61**	*e*P	**Pn**	**16 04 39.3**	**+0.4**
DABV	**Dabajuro**	**4.13**	**36**	*e*P	**Pn**	**16 04 41.2**	**+0.7**
DABV				*e*S	**Sn**	**16 05 28.9**	**+0.3**
SIQV	**Siquisique**	**4.47**	**46**	*e*P	**Pn**	**16 04 45.0**	**+0.1**
SIQV				*e*S	**Sn**	**16 05 35.5**	**-1.0**
BAUV	**El Baul**	**5.18**	**74**	*e*P	**Pn**	**16 04 53.2**	**-1.2**
YKA	**Yellowknife Ar**	**62.59**	**340**	P	**P**	**16 13 46.9**	**0.0**
	0.4nm,0.5s,mb3.5,baz=130,slow=6.9,SNR=14						
WRA	**Warramunga Arr**	**150.71**	**242**	PKPbc	PKPbc	16 23 13.1	0.0
	0.1nm,0.5s,baz=106,slow=2.9,SNR=8.3						

ISCJB ***05*** *16:33:41.4±0.4,4304N±003×190W±002,h11km±3km, Error ellipse: s-maj=4.6km s-min=2.6km az=146.2*
NEIC ***05*** *16:33:43.4,4293N×180W,h5km,ML2.5(STR), ML2.8(LDG),MN2.4(MDD),After STR.*
STR ***05*** *16:33:43.4±0.2,4293N×180W,h5km±1km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***05*** *16:33:43.0±0.2,4292N×185W,h2km,Md2.7/3,Ml2.8/13, Error ellipse: s-maj=2.9km s-min=1.4km az=32.0*
CSEM ***05*** *16:33:44.2±0.1,4297N×181W,h5km,ML2.7/14,Error ellipse: s-maj=1.3km s-min=1.0km az=158.0*
MDD ***05*** *16:33:44.4±0.2,4297N×181W,h0km,mbLg2.4/23,Error ellipse: s-maj=2.1km s-min=1.2km az=91.0,PRXIMO*
ISC 05 16:33:42.9±0.3,4302N±002×184W±002,h12km±2km,n86, σ1°20/135,4C-1D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.22**	**108**	⇑Pg	**Pg**	**16 33 48.0**	**+0.4**
	SNR=18						
IUSE				Lg		16 33 50.1	
	159nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.22**	**108**	Pg	**Pg**	**16 33 48.0**	**+0.3**
	51nm,0.1s,SNR=18						
IUSE				Lg		16 33 50.1	
	159nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.27**	**57**	⇑Pg	**Pg**	**16 33 49.6**	**+1.1**
	117nm,0.2s,SNR=18						
ELIZ				Lg		16 33 53.7	
	67nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.31**	**142**	⇓Pg	**Pg**	**16 33 48.7**	**-0.5**
	85nm,0.1s,SNR=18						
EARA				Lg		16 33 52.8	
	348nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.31**	**142**	Pg	**Pg**	**16 33 48.8**	**-0.4**
	85nm,0.1s,SNR=65						
EARA				Lg		16 33 52.8	
	348nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.32**	**50**	⇑Pg	**Pg**	**16 33 50.4**	**+1.2**
	38nm,0.1s,SNR=18						
EALK				Lg		16 33 55.4	
	169nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.36**	**136**	⇑Pg	**Pg**	**16 33 50.1**	**0.0**
	33nm,0.1s,SNR=18						
IUNC				Lg		16 33 55.0	
	236nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.36**	**136**	Pg	**Pg**	**16 33 50.1**	**0.0**
	33nm,0.1s,SNR=18						
IPRE	**Itoiz**	**0.41**	**121**	Pg	**Pg**	**16 33 51.1**	**0.0**
	22nm,0.3s,SNR=7.9						
IPRE				Lg		16 33 56.4	
	52nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**0.41**	**121**	Pg	**Pg**	**16 33 51.1**	**0.0**
	22nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**0.46**	**78**	*e*Pg	**Pg**	**16 33 52.4**	**+0.5**
SJPF				*e*Sg	**Sg**	**16 33 58.8**	**+0.8**
	160nm,0.2s						
SJPF	**Ste Jean**	**0.46**	**78**	*e*Pg	**Pg**	**16 33 52.4**	**+0.5**
SJPF				*e*Sg	**Sg**	**16 33 58.8**	**+0.8**
	80nm,0.

ETSF	**Etsaut**	**0.94**	**97**	*e*Pg	**Pg**	**16 34 00.3**	**-0.8**
ETSF				*e*Sg	**Sg**	**16 34 13.0**	**-0.5**
	38nm,0.5s						
ELAN	**Lanestosa**	**1.19**	**281**	Pg	**Pg**	**16 34 07.6**	**+1.8**
	4.3nm,0.1s,SNR=21						
ELAN				Lg		16 34 25.2	
	31nm,0.2s,SNR=9.6						
ELAN	**Lanestosa**	**1.19**	**281**	Pg	**Pg**	**16 34 07.6**	**+1.8**
	4.3nm,0.1s,SNR=21						
VIEF	**Viey**	**1.37**	**95**	S	**Sn**	**16 34 27.4**	**+1.4**
LABF	**Labassere**	**1.40**	**88**	P	**Pn**	**16 34 10.1**	**+1.8**
LABF				S	**Sn**	**16 34 28.1**	**+1.4**
EBIE	**Bielsa**	**1.49**	**102**	Pg	**Pg**	**16 34 11.7**	**+0.1**
	8.5nm,0.2s,SNR=20						
EBIE				Lg		16 34 31.2	
	21nm,0.2s,SNR=10						
EBIE	**Bielsa**	**1.49**	**102**	Pg	**Pg**	**16 34 11.7**	**+0.1**
	8.5nm,0.2s,SNR=20						
EPF	**Esparros**	**1.60**	**89**	*e*Pg	**Pg**	**16 34 12.8**	**-0.8**
EPF				*e*Sg	**Sg**	**16 34 33.5**	**-0.8**
	33nm,0.3s						
EPF	**Esparros**	**1.60**	**89**	*e*Pg	**Pg**	**16 34 12.8**	**-0.8**
EPF				*e*Sg	**Sg**	**16 34 33.5**	**-0.8**
	16nm,0.3s						
RESF	**Ens**	**1.61**	**97**	S	**Sn**	**16 34 34.8**	**+2.9**
ESAC	**San Caprasio**	**1.64**	**142**	Pg	**Pg**	**16 34 13.8**	**-0.7**
	6.3nm,0.1s,SNR=7.9						
ESAC				Lg		16 34 34.6	
	254nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.64**	**142**	Pg	**Pg**	**16 34 13.8**	**-0.7**
	SNR=7.9						
EGRA	**Graus**	**1.79**	**117**	Pn	**Pn**	**16 34 14.7**	**+1.0**
	1.1nm,0.2s,SNR=7.9						
EGRA				Pg	**Pg**	**16 34 17.6**	**+0.4**
	3.9nm,0.3s,SNR=17						
EGRA				Lg		16 34 40.5	
	18nm,0.4s,SNR=5.2						
EGRA	**Graus**	**1.79**	**117**	Pg	**Pg**	**16 34 17.6**	**+0.4**
	3.9nm,0.3s,SNR=17						
EARI	**Arriondas**	**2.48**	**278**	Pn	**Pn**	**16 34 26.2**	**+2.9**
	1.3nm,0.1s,SNR=8.3						
EARI				Pg	**Pg**	**16 34 30.6**	**+0.1**
	1.0nm,0.2s,SNR=4.0						
EARI				Sn	**Sn**	**16 34 56.1**	**+2.6**
	1.4nm,0.3s,SNR=5.1						
EARI				Lg		16 35 03.9	
	6.7nm,0.3s,SNR=5.0						
EARI	**Arriondas**	**2.48**	**278**	Pn	**Pn**	**16 34 26.2**	**+3.0**
	1.3nm,0.1s,SNR=8.3						
EARI	**Arriondas**	**2.48**	**278**	Pg	**Pg**	**16 34 30.6**	**0.0**
	1.0nm,0.2s,SNR=4.0						
EARI				Sn	**Sn**	**16 34 56.1**	**+2.6**
	1.4nm,0.3s,SNR=5.1						
EMIR	**Miracle**	**2.72**	**113**	Pg	**Pg**	**16 34 33.6**	**-1.5**
	2.3nm,0.3s,SNR=4.0						
EMIR				Lg		16 35 07.4	
	9.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.72**	**113**	Pg	**Pg**	**16 34 33.6**	**-1.5**
	2.3nm,0.3s,SNR=4.0						
EPOB	**Poblet**	**2.73**	**127**	Pn	**Pn**	**16 34 27.1**	**+0.4**
	0.5nm,0.2s,SNR=7.9						
EPOB				Pg	**Pg**	**16 34 33.4**	**-1.9**
	1.1nm,0.2s,SNR=7.9						
EPOB				Lg		16 35 07.1	
	3.4nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.73**	**127**	Pn	**Pn**	**16 34 27.0**	**+0.4**
EPOB	**Poblet**	**2.73**	**127**	Pg	**Pg**	**16 34 33.4**	**-1.9**
	1.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.84**	**158**	Pg	**Pg**	**16 34 36.2**	**-1.2**
	1.7nm,0.1s,SNR=7.9						
EMOS				Lg		16 35 09.1	
	3.7nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.84**	**158**	Pg	**Pg**	**16 34 36.2**	**-1.2**
	1.7nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**2.94**	**217**	Pg	**Pg**	**16 34 37.9**	**-1.3**
	SNR=4.0						
GUD				Lg		16 35 15.1	
	4.6nm,0.3s,SNR=4.0						
MTLF	**Montolieu**	**2.98**	**82**	*e*Pn	**Pn**	**16 34 31.1**	**+1.0**
MTLF				*e*Sn	**Sn**	**16 35 04.2**	**-1.6**
	7.1nm,0.3s						
MTLF	**Montolieu**	**2.98**	**82**	*e*Pn	**Pn**	**16 34 31.1**	**+1.0**
MTLF				*e*Sn	**Sn**	**16 35 04.2**	**-1.6**
	3.5nm,0.3s						
RJF	**Les Rejaudoux**	**3.32**	**45**	*e*Pn	**Pn**	**16 34 35.4**	**+0.6**
RJF				*e*Sn	**Sn**	**16 35 14.1**	**-0.1**
	5.0nm,0.2s						
RJF	**Les Rejaudoux**	**3.32**	**45**	*e*Pn	**Pn**	**16 34 35.4**	**+0.6**
RJF				*e*Sn	**Sn**	**16 35 14.1**	**-0.1**
	2.5nm,0.2s						
CAF	**Calviac**	**3.40**	**55**	*e*Sn	**Sn**	**16 35 15.7**	**-0.4**
	7.0nm,0.2s						
CAF	**Calviac**	**3.40**	**55**	*e*Sn	**Sn**	**16 35 15.7**	**-0.4**
	3.5nm,0.2s						
ECHE	**Chera**	**3.48**	**169**	Pg	**Pg**	**16 34 48.3**	**-1.4**
	3.1nm,0.4s,SNR=7.9						
ECHE				Lg		16 35 35.2	
	3.1nm,0.3s,SNR=7.6						
ECHE	**Chera**	**3.48**	**169**	Pg	**Pg**	**16 34 48.3**	**-1.4**
ECHE				Lg		16 35 31.8	
ESDC	**Sonseca Array**	**3.70**	**206**	Pn	**Pn**	**16 34 40.4**	**+0.4**
	1.0nm,0.1s,baz=32,slow=13,SNR=7.9						
ESDC				Pg	**Pg**	**16 34 51.8**	**-2.1**
	3.6nm,0.5s,baz=26,slow=18,SNR=7.9						
ESDC				Sn	**Sn**	**16 35 22.3**	**-1.3**
	2.0nm,0.4s,baz=30,slow=23,SNR=7.1						
ESDC				Lg		16 35 38.7	
	2.1nm,0.3s,baz=29,slow=29,SNR=7.1						
ESDC	**Sonseca Array**	**3.70**	**206**	Pn	**Pn**	**16 34 40.4**	**+0.4**
	1.0nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**3.70**	**206**	Pg	**Pg**	**16 34 51.8**	**-2.1**
	3.6nm,0.5s,SNR=7.9						
ESDC				Sn	**Sn**	**16 35 22.3**	**-1.3**
	2.0nm,0.4s,SNR=7.1						
ESDC	**Sonseca Array**	**3.70**	**206**	Pn	**Pn**	**16 34 40.4**	**+0.4**
ESDC				Pg	**Pg**	**16 34 51.8**	**-2.1**
ESDC				Sn	**Sn**	**16 35 22.3**	**-1.3**
ESDC				Lg		16 35 38.7	
ESLA	**Sonseca Array**	**3.70**	**206**	*e*Pn	**Pn**	**16 34 40.2**	**+0.2**
ECAL	**Calabor**	**3.78**	**255**	Pn	**Pn**	**16 34 42.5**	**+1.5**
	SNR=7.9						
ECAL				Pg	**Pg**	**16 34 54.3**	**-1.0**
	SNR=7.9						
ECAL				Sn	**Sn**	**16 35 25.0**	**-0.4**
	SNR=7.9						
ECAL				Lg		16 35 40.4	
	11nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.78**	**255**	Pn	**Pn**	**16 34 42.5**	**+1.5**
	SNR=7.9						
ECAL	**Calabor**	**3.78**	**255**	Pg	**Pg**	**16 34 55.7**	**+0.3**
	SNR=7.9						
ECAL				Sn	**Sn**	**16 35 25.0**	**-0.5**
	SNR=7.9						
ECAL	**Calabor**	**3.78**	**255**	Pn	**Pn**	**16 34 42.5**	**+1.5**
ECAL				Pg	**Pg**	**16 34 55.7**	**+0.3**
ECAL				Sn	**Sn**	**16 35 25.0**	**-0.4**
ECAL				Lg		16 35 40.4	
MFF	**Saint Martin d**	**3.78**	**18**	*e*Pg	**Pg**	**16 34 54.0**	**-1.4**
MFF				*e*Sg	**Sg**	**16 35 44.1**	**-0.3**
	5.1nm,0.3s						
MFF	**Saint Martin d**	**3.78**	**18**	*e*Pg	**Pg**	**16 34 54.0**	**-1.4**
MFF				*e*Sg	**Sg**	**16 35 44.1**	**-0.3**
	2.5nm,0.3s						
EPON	**Pontenova**	**3.90**	**276**	Pn	**Pn**	**16 34 45.4**	**+2.7**
	SNR=7.9						
EPON				Sn	**Sn**	**16 35 29.7**	**+1.3**
	SNR=7.9						
EPON				Lg		16 35 49.1	
	1.9nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**3.90**	**276**	Pn	**Pn**	**16 34 45.4**	**+2.7**
	SNR=7.9						
EPON				Sn	**Sn**	**16 35 29.7**	**+1.3**
	SNR=7.9						
EBEN	**Beniarda**	**4.48**	**164**	Pn	**Pn**	**16 34 51.6**	**+1.0**
	SNR=4.0						
EBEN	**Beniarda**	**4.48**	**164**	Pn	**Pn**	**16 34 51.6**	**+1.0**
	SNR=4.0						
EBEN	**Beniarda**	**4.48**	**164**	Pn	**Pn**	**16 34 51.6**	**+1.0**
EBEN				Lg		16 36 08.3	
ELOB	**Lobios**	**4.75**	**258**	Pn	**Pn**	**16 34 55.5**	**+1.2**
	SNR=7.9						
ELOB				Sn	**Sn**	**16 35 48.3**	**-1.0**
	0.9nm,0.2s,SNR=7.9						
ELOB				Lg		16 36 13.6	
	0.5nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**4.75**	**258**	Pn	**Pn**	**16 34 55.5**	**+1.2**
ELOB				Sn	**Sn**	**16 35 48.3**	**-1.0**
BGF	**Bois d'Agland**	**4.86**	**42**	*e*Sn	**Sn**	**16 35 50.4**	**-1.7**
	4.3nm,0.3s						
BGF	**Bois d'Agland**	**4.86**	**42**	*e*Sn	**Sn**	**16 35 50.4**	**-1.7**
	2.2nm,0.3s						
QUIF	**Quistinic**	**4.99**	**350**	*e*Pn	**Pn**	**16 34 58.1**	**+0.5**
QUIF				*e*Sn	**Sn**	**16 35 53.2**	**-2.0**
	1.9nm,0.3s						
QUIF	**Quistinic**	**4.99**	**350**	*e*Pn	**Pn**	**16 34 58.1**	**+0.5**
QUIF				*e*Sn	**Sn**	**16 35 53.2**	**-2.0**
	0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**5.05**	**66**	*e*Pn	**Pn**	**16 34 59.3**	**+0.9**
VIVF				*e*Sn	**Sn**	**16 35 54.2**	**-2.5**
	5.1nm,0.5s						
VIVF	**Saint-Julien-l**	**5.05**	**66**	*e*Pn	**Pn**	**16 34 59.3**	**+0.9**
VIVF				*e*Sn	**Sn**	**16 35 54.2**	**-2.5**
	2.5nm,0.5s						
EMAZ	**Mazaricos**	**5.24**	**272**	Pn	**Pn**	**16 35 02.5**	**+1.4**
	1.5nm,0.2s,SNR=7.9						
EMAZ				Sn	**Sn**	**16 36 00.6**	**-0.9**
	1.3nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**5.24**	**272**	Pn	**Pn**	**16 35 02.5**	**+1.4**
EMAZ				Sn	**Sn**	**16 36 00.6**	**-0.8**
SGMF	**Saint Gilles**	**5.26**	**355**	*e*Sn	**Sn**	**16 35 59.8**	**-2.2**
	0.7nm,0.2s						
SGMF				*e*Sg	**Sg**	**16 36 30.4**	**-1.5**
	0.7nm,0.2s						
SGMF	**Saint Gilles**	**5.26**	**355**	*e*Sn	**Sn**	**16 35 59.8**	**-2.2**
	0.3nm,0.2s						
SGMF				*e*Sg	**Sg**	**16 36 30.4**	**-1.5**
	0.3nm,0.2s						
ROSF	**Rostrenen**	**5.41**	**350**	*e*Sn	**Sn**	**16 36 03.4**	**-2.3**
	1.3nm,0.2s						
ROSF	**Rostrenen**	**5.41**	**350**	*e*Sn	**Sn**	**16 36 03.4**	**-2.3**
	0.6nm,0.2s						
ECAB	**El Cabril**	**5.64**	**210**	Pn	**Pn**	**16 35 06.3**	**-0.3**
	0.2nm,0.3s,SNR=7.9						
ECAB				Sn	**Sn**	**16 36 07.9**	**-3.4**
	0.4nm,0.2s,SNR=7.9						
ECAB				Lg		16 36 42.1	
	0.8nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**5.64**	**210**	Pn	**Pn**	**16 35 06.3**	**-0.3**
ECAB				Sn	**Sn**	**16 36 07.9**	**-3.4**
BRG	**Berggiesshubel**	**13.32**	**48**	SG	**Sn**	**16 39 13.6**	**-6.3**
	1.0nm,0.5s						

CSEM ***05*** *16:46:26.0±0.8, 3864N×2854W, h15km, ML1.9, Error ellipse: s-maj=3.0km s-min=2.1km az=170.0, After PDA*
PDA ***05*** *16:46:26.0±0.8, 3864N×2854W, h15km, MD2.8, ML1.9, Error ellipse: s-maj=3.0km s-min=2.1km az=170.0*

SVSA 05 16:46:26.0±0.8, 3864N×2854W, h15km, MD2.8, ML1.9, Error ellipse: s-maj=3.0km s-min=2.1km az=170.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.13**	**267**	*i* P	Pg	16 46 28.8	-0.8
PCED				*i* S	Sg	16 46 31.6	-0.4
PCED							
	110nm,0.3s						
PCED	**Cedros**	**0.13**	**267**	*i* S	Sg	16 46 31.6	-0.4
HOR	**Horta**	**0.13**	**214**	*e*P	Pg	16 46 28.9	-0.7
HOR				*e*S	Sg	16 46 31.5	-0.5
CALA	**Caldeira**	**0.14**	**247**	*i* P	Pg	16 46 29.6	-0.2
CALA				*e*S	Sg	16 46 32.3	0.0
CALA	**Caldeira**	**0.14**	**247**	*e*S	Sg	16 46 32.3	0.0
PICO	**Pico**	**0.16**	**147**	*i* P	Pg	16 46 29.4	-0.6
PICO				*e*S	Sg	16 46 32.3	-0.5
PICO	**Pico**	**0.16**	**147**	*e*S	Sg	16 46 32.3	-0.5
PCND	**Candelaria**	**0.18**	**161**	*i* P	Pg	16 46 30.2	-0.1
PCND				*e*S	Sg	16 46 33.1	-0.1
PCND							
	83nm,0.1s						
PBOI	**Pico dos Bois**	**0.24**	**148**	*e*P	Pg	16 46 30.8	-0.4
PBOI				*e*S	Sg	16 46 34.1	-0.7
PBOI							
	52nm,0.1s						
ROSA	**Rosais**	**0.25**	**70**	*i* P	Pg	16 46 30.9	-0.5
ROSA				*e*S	Sg	16 46 34.1	-0.9
ROSA	**Rosais**	**0.25**	**70**	*e*S	Sg	16 46 34.1	-0.9
PPNO	**Prainha do Nor**	**0.27**	**127**	*e*P	Pg	16 46 31.0	-0.8
PPNO				*e*S	Sg	16 46 35.1	-0.6
PPNO							
	160nm,0.2s						
PPNO	**Prainha do Nor**	**0.27**	**127**	*e*P	Pg	16 46 31.0	-0.8
PPNO				*e*S	Sg	16 46 35.1	-0.6
PAMA	**Santo Amaro**	**0.28**	**81**	*i* P	Pg	16 46 31.9	-0.1
PAMA				*i* S	Sg	16 46 36.0	-0.1
PAMA							
	56nm,0.2s						
PMAN	**Manadas**	**0.35**	**90**	*i* P	Pg	16 46 32.1	-1.1
PMAN				*e*S	Sg	16 46 36.7	-1.3
PMAN							
	91nm,0.1s						
PMAN	**Manadas**	**0.35**	**90**	*e*S	Sg	16 46 36.7	-1.3
PIED	**Piedade**	**0.44**	**120**	*e*rx	Pg	16 46 34.1	-0.7

CASC 05 17:04:58.4±2.2, 1348N×9027W, h30km±7km, MD3.6, ML4.0, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.71**	**345⇑**	*e*P	Pb	17 05 12.1	-0.3
IXG				*e*S	Sb	17 05 23.3	+1.4
IXG				AML	AML	17 05 28.1	
	comp=E,16μm,0.4s						
IXG				AML	AML	17 05 28.3	
	comp=N,17μm,0.4s						
SBLS	**San Blas**	**0.72**	**60**	*e*P	Pb	17 05 30.0	+18
SNJE	**San Jose**	**0.75**	**59**	*e*P	Pn	17 05 30.3	+17
BOQS	**Boqueron**	**0.99**	**75**	*e*P	Pn	17 05 33.3	+17
BOQS				*e*S	Sn	17 05 48.3	+19
FUG	**Fuego 3**	**1.11**	**330**	*e*P	Pn	17 05 18.5	+0.6
LFRS	**El Faro**	**1.18**	**83**	*e*P	Pn	17 05 35.8	+17
LFRS				*e*S	Sn	17 05 52.4	+19
LCBS	**La Ceiba**	**1.26**	**82**	*e*P	Pn	17 05 37.0	+17
LCBS				*e*S	Sn	17 05 54.3	+18
SNVI	**San Vicente**	**1.39**	**84**	*e*P	Pn	17 05 39.1	+17
SNVI				*e*S	Sn	17 05 57.3	+18
TP2	**Tecpan 2**	**1.49**	**331**	*e*P	Pn	17 05 23.9	+0.8
TP2				*e*S	Sn	17 05 43.8	+2.3
TP2				AML	AML	17 05 45.4	
	comp=E,1μm,0.3s						
TP2				AML	AML	17 05 47.2	
	comp=N,1μm,0.5s						
JAT	**Jato**	**1.57**	**302**	*e*P	Pn	17 05 25.4	+1.1
MRL	**Marmol**	**1.67**	**19⇓**	*e*P	Pn	17 05 24.3	-1.3

IDC 05 17:06:13.0±0.8, 673N×7296W, h162km±15km, mb3.1/1, mb1 3.4/3, mb1mx3.1/20, mbtmp3.7/3, Error ellipse: s-maj=64.3km s-min=7.6km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.31**	**216**	P	Pn	17 06 54.7	+2.3
	13nm,0.3s,baz=99,slow=23,SNR=30						
ROSC				S	Sn	17 07 23.7	+0.9
	13nm,0.3s,baz=93,slow=22,SNR=14						
SDV	**Santo Domingo**	**3.15**	**47**	P	Pn	17 07 04.3	+1.7
	16nm,0.3s,baz=255,slow=4.4,SNR=91						
SDV				S	Sn	17 07 41.5	+0.3
	8.1nm,0.3s,baz=45,slow=21,SNR=16						
YKA	**Yellowknife Ar**	**63.40**	**340**	P	P	17 16 24.8	-0.3
	0.3nm,0.6s,baz=132,slow=6.8,SNR=9.1						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	PKPbc	17 25 45.7	+0.5
	0.3nm,0.5s,baz=109,slow=2.5,SNR=8.0						

SZGRF ***05*** *17:12:47.5, 18.16S×17442W, h10km, Tonga Islands*
IDC ***05*** *17:12:50.5±0.6, 1554S×17466W, h0km, mb4.6/12, mb1 4.8/13, mb1mx4.7/17, mbtmp4.6/13, MS5.0/27, Ms1 5.0/27, ms1mx4.9/31, Error ellipse: s-maj=25.5km s-min=15.4km az=132.0*
HRVD ***05*** *17:12:52.1±0.2, 1543S×17442W, h18km, MW5.6/105, Centroid moment Tensor Solution. LP body waves: s84, c165; Mantle waves: s105, c215; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.40±.04; $M_{\theta\theta}$-1.24±.04; $M_{\phi\phi}$1.64±.05; $M_{r\theta}$-0.40±.10; $M_{\theta\phi}$2.48±.04; $M_{\phi r}$0.44±.11; Best double couple: $M_0$2.93900×10^{17} NP1:ϕ_s74.00000°, δ78.00000°, λ-7.00000°. NP2: ϕ_s166.00000°, δ83.00000°, λ-168.00000°. Principal axes: T 3.0770, Plg3.0000°, Azm300.0000°; N -0.2800, Plg76.0000°, Azm197.0000°; P -2.8000, Plg13.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***05*** *17:12:52.7, 1550S×17408W, h27km, mB5.5, mb5.0, Ms5.4, Msz5.1*
NEIC ***05*** *17:12:52.1±0.2, 1561S×17455W, h10km, mb5.1/23, MS5.4/16, MW5.6, Error ellipse: s-maj=10.4km s-min=5.8km az=146.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07; $M_{\theta\theta}$-1.99; $M_{\phi\phi}$2.07; $M_{r\theta}$0.26; $M_{\theta\phi}$2.67; $M_{\phi r}$0.28; Best double couple: $M_0$3.40000×10^{17} NP1:ϕ_s72.00000°, δ87.00000°, λ6.00000°. NP2:ϕ_s341.00000°, δ84.00000°, λ177.00000°. Principal axes: T 3.4300, Plg6.0000°, Azm296.0000°; N -0.1100, Plg84.0000°, Azm98.0000°; P -3.3200, Plg2.0000°, Azm206.0000°;*
CSEM ***05*** *17:12:54.8, 1554S×17478W, h33km, ML5.6*
ISCJB ***05*** *17:12:54.2±0.3, 1562S±006×17459W±005, h33km, mb4.9/49, MS5.2/57, Error ellipse: s-maj=10.1km s-min=6.2km az=118.4*
MOS ***05*** *17:12:56.5±1.9, 1538S×17499W, h36km, mb5.1/15, MS5.2/23, Error ellipse: s-maj=12.6km s-min=10.6km az=74.5*

ISC 05 17:12:56.2±0.3, 1564S±006×17453W±005, h35km, (h20km±4.0km:pP-P), n262, σ1§13/106, mb4.9/49, MS5.2/57, 18C-11D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.17**	**57**	Pn	**Pn**	**17 13 37.6**	**-5.9**
	105nm,0.3s,baz=149,slow=2.1,SNR=140						
AFI	**Afiamalu**	**3.17**	**57**	*e*Pn	**Pn**	**17 13 36.8**	**-6.8**
RAO	**Raoul Island**	**13.90**	**192**	LR	LR	17 20 47.8	
	comp=Z,11μm,18.0s,baz=220,slow=34						
RAR	**Rarotonga**	**15.05**	**114**	Pn	**Pn**	**17 16 24.5**	**-1.7**
	baz=287,slow=4.1,SNR=3.9						
RAR				LR	LR	17 20 44.3	
	comp=Z,12μm,21.6s,baz=247,slow=31						
DZM	**Mont Dzumac**	**19.10**	**248**	P	**Pn**	**17 17 16.6**	**-0.2**
	0.6nm,0.3s,baz=70,slow=18,SNR=27						
DZM				LR	LR	17 21 53.1	
	comp=Z,2μm,19.8s,baz=78,slow=28						
URZ	**Urewera**	**23.71**	**197**	P	**P**	**17 18 05.4**	**+0.6**
	86nm,1.2s,mb5.0,baz=6.3,slow=2.0,SNR=15						
URZ				LR	LR	17 26 00.5	
	comp=Z,7μm,21.8s,MS5.1,baz=143,slow=33						
PPT	**Papeete**	**23.98**	**98**	*e*LQ		17 22 41.2	
	21μm,25.2s						
PPT				*e*LR	LR	17 23 40.4	
	10μm,27.0s,baz=274						
PPT	**Papeete**	**23.98**	**98**	LR	LR	17 25 07.3	
	comp=Z,3μm,19.5s,MS4.8,baz=272,slow=30						
TBI	**Tubuai**	**24.82**	**112**	*e*LQ		17 23 05.5	
	9μm,28.0s						
TBI				*e*LR	LR	17 24 08.9	
	16μm,27.0s,baz=290						
HNR	**Honiara**	**25.66**	**281**	LR	LR	17 26 56.9	
	comp=Z,10μm,20.7s,MS5.3,baz=174,slow=33						
RPZ	**Rata Peaks**	**30.56**	**201**	LR	LR	17 30 10.3	
	comp=Z,4μm,19.3s,MS5.1,baz=25,slow=34						
TAOE	**Nuku Hiva Isla**	**34.23**	**83**	*e*LR	LR	17 28 18.1	
	7μm,28.1s						
ARMA	**Armidale**	**34.29**	**239**	*e*P	**P**	**17 19 40.2**	**+1.2**
CTA	**Charters Tower**	**37.53**	**257**	*e*P	**P**	**17 20 03.5**	**-3.3**
	7.4nm,0.9s,mb4.4						
CTA	**Charters Tower**	**37.53**	**257**	*e*P	**P**	**17 20 03.5**	**-3.3**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTAO	**Charters Tower**	**37.53**	**257**	*e*P	**P**	**17 20 03.4**	**-3.4**
	comp=Z,12nm,0.9s,mb4.6						
CTAO				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
CTAO	**Charters Tower**	**37.53**	**257**	*e*P	**P**	**17 20 03.4**	**-3.4**
CTAO				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
CTAO				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.8						
CNB	**Canberra Magne**	**37.74**	**232**	*e*P	**P**	**17 20 09.7**	**+1.1**
	comp=Z,40nm,1.0s,mb5.1						
PMG	**Port Moresby**	**37.87**	**275**	LR	LR	17 31 27.0	
	comp=Z,2μm,21.4s,MS4.9,baz=106,slow=30						
PMG	**Port Moresby**	**37.87**	**275⇑**	*e*P	**P**	**17 20 09.0**	**-0.6**
RKT	**Rikitea**	**37.95**	**108**	*e*S	**S**	**17 26 03.7**	**+3.8**
	comp=Z,310nm,29.8s						
RKT				*e*LQ		17 28 42.9	
	comp=Z,2μm,28.0s						
RKT				*e*LR	LR	17 30 11.7	
	comp=Z,7μm,27.5s,baz=278						
TOO	**Toolangi**	**41.47**	**230**	*e*P	**P**	**17 20 39.4**	**-0.2**
	comp=Z,26nm,1.0s,mb4.8						
TOO	**Toolangi**	**41.47**	**230**	*e*P	**P**	**17 20 39.4**	**-0.2**
TOO				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**42.98**	**240**	*e*P	**P**	**17 20 49.2**	**-2.7**
	comp=Z,30nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**42.98**	**240**	P	**P**	**17 20 49.8**	**-2.1**
	comp=Z,24nm,0.9s,mb4.9,baz=68,slow=6.2,SNR=12						
STKA				LR	LR	17 37 42.1	
	comp=Z,2μm,18.8s,MS5.1,baz=70,slow=35						
WB2	**Warramunga Arr**	**48.72**	**257**	*e*P	**P**	**17 21 36.5**	**-0.7**
WRAB	**Tennant Creek**	**48.72**	**257**	P	**P**	**17 21 36.9**	**-0.3**
	comp=Z,118nm,0.8s,mb6.0,SNR=7.2						
WRAB	**Tennant Creek**	**48.72**	**257**	*e*P	**P**	**17 21 36.3**	**-0.9**
	comp=Z,24nm,0.9s,mb5.2						
WRAB				LR	LR		
	comp=Z,4μm,22.0s,MS5.3						
WRAB	**Tennant Creek**	**48.72**	**257**	*e*P	**P**	**17 21 36.3**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
WRAB				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.3						
WRA	**Warramunga Arr**	**48.73**	**257**	P	**P**	**17 21 35.9**	**-1.4**
	comp=Z,16nm

PET eSSS 17 41 25.9
PET smax
comp=E,500nm,12.7s
PET smax
comp=N,300nm,12.9s
PET MLR MLR
comp=Z,800nm,15.0s,MS5.1
YSS Yuzh-Sakhalins 73.16 331 eP **P 17 24 23.4 +0.2**
comp=Z,30nm,0.8s,mb5.3
YSS LR LR
comp=Z,662nm,19.0s,MS4.9
YSS Yuzh-Sakhalins 73.16 331 eP **P 17 24 24.5 +1.3**
YSS e 17 24 44.0
YSS ePS 17 34 24.0
YSS ePPS 17 34 36.0
YSS eSS SS 17 38 30.0 -0.2
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.2
YSS MLR MLR
comp=E,700nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.8
QSPA South Pole Qui 74.40 180 eP **P 17 24 31.3 +0.8**
comp=Z,24nm,1.1s,mb5.0
YBH Yreka Blue Hor 74.45 38 P **P 17 24 31.1 +0.3**
comp=Z,15nm,1.2s,mb4.8,baz=148,slow=7.0,SNR=4.4
MTUM Tungsten Hills 74.46 43 eP **P 17 24 32.0 +1.2**
NVAR Mina Array Bea 75.24 42 P **P 17 24 35.4 +0.1**
comp=Z,4.7nm,0.8s,mb4.5,baz=228,slow=9.8,SNR=15
NVAR Mina Array Bea 75.24 42 P **P 17 24 35.4 +0.1**
LDFC Landfair 75.60 47 eP **P 17 24 38.0 +0.6**
KSM Kuching 76.13 276 eP **P 17 24 41.8 +1.4**
QZH Quanzhou 76.64 301 eP **P 17 24 44.4 +1.1**
QZH S S 17 34 35.0 +7.7
QZH LR LR
comp=N,3μm,23.7s
QZH LR LR
comp=E,870nm,12.7s
QZH LR LR
comp=Z,4μm,36.8s
SSE Sheshan 77.24 308 eP **P 17 24 46.2 -0.5**
SSE PCP PcP 17 24 57.1 -0.1
SSE S S 17 34 34.7 +0.9
SSE SCS ScS 17 35 03.4 +1.8
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,99nm,3.5s
SSE LR LR
comp=N,629nm,36.6s,MS4.9
SSE LR LR
comp=E,861nm,36.7s,MS4.9
SSE LR LR
comp=Z,1μm,34.3s,MS5.0
WVOR Wild Horse Val 77.30 39 eP **P 17 24 46.3 -0.7**
WVOR LR LR
comp=Z,3μm,19.0s,MS5.6
HABR Khabarovsk 77.97 328⇓eP **P 17 24 51.0 +0.3**
HABR eS S 17 34 42.9 +1.2
HABR MLR MLR
comp=Z,435nm,19.0s,MS4.8
WUAZ Wupatki 78.46 48 eP **P 17 24 53.9 +0.4**
comp=Z,40nm,1.5s,mb5.1
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.5
MDJ Mudanjiang 78.56 323 P **P 17 24 54.8 +0.8**
MDJ AP pP 17 24 59.3 -5.7
MDJ PCP PcP 17 25 03.3 +0.3
MDJ PP PP 17 27 52.8 +0.9
MDJ S S 17 34 54.3 +6.3
MDJ SS SS 17 39 58.4 +6.5
MDJ AMB AMB
comp=Z,10.0nm,1.9s,mb4.4
MDJ AMB AMB
comp=Z,151nm,5.0s
MDJ LR LR
comp=N,946nm,34.0s,MS5.0
MDJ LR LR
comp=E,813nm,30.6s,MS5.0
MDJ LR LR
comp=Z,1μm,29.2s,MS5.1
MSU Marysvale 79.36 45 eP **P 17 24 58.8 +0.4**
NJ2 Nanjing 79.45 308 eP **P 17 24 59.4 +0.5**
NJ2 AP pP 17 25 06.4 -3.4
NJ2 PP PP 17 28 00.9 +1.6
NJ2 S S 17 34 59.0 +1.5
NJ2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
NJ2 AMB AMB
comp=Z,470nm,4.4s
NJ2 LR LR
comp=N,2μm,39.7s,MS5.5
NJ2 LR LR
comp=E,3μm,35.0s,MS5.5
NJ2 LR LR
comp=Z,1μm,29.6s
DUG Dugway 79.78 43 eP **P 17 25 00.7 0.0**
comp=Z,30nm,1.8s,mb4.9
DUG LR LR
comp=Z,2μm,20.0s,MS5.3
DUG Dugway 79.78 43 eP **P 17 25 00.7 0.0**
DUG pmax pmax
comp=Z,30nm,1.8s,mb4.9
DUG MLR MLR
comp=Z,2μm,20.0s,MS5.3
MA2 Magadan 80.07 343 eP **P 17 24 59.7 -2.5**
MA2 e pP 17 25 12.0 -1.2
MA2 i S S 17 35 05.4 +1.3
MA2 ePS 17 36 08.0
MA2 eSS SS 17 40 18.7 +4.1
MA2 pmax pmax
comp=Z,30nm,2.3s,mb4.8
MA2 MLR MLR
comp=Z,800nm,22.0s,MS5.0
KLR Kul'dur 80.13 328 eP **P 17 25 00.0 -2.6**
KLR eS S 17 35 06.5 +1.7
KLR eSS SS 17 40 12.5 -3.1
KLR smax
comp=N,900nm,8.0s
KLR smax
comp=E,500nm,8.0s
TMUT Trail Mountain 80.41 45 eP **P 17 25 04.4 +0.4**
DL2 Dalian 80.58 315 PR 17 25 08.6
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
DL2 AMB AMB
comp=Z,220nm,5.1s
DL2 LR LR
comp=N,360nm,17.3s,MS5.0
DL2 LR LR
comp=E,430nm,17.2s,MS5.0
DL2 LR LR
comp=Z,550nm,19.8s,MS4.9
CN2 Changchun 80.58 321 eP **P 17 25 06.0 +1.0**
CN2 ePP PP 17 28 14.2 +5.5
CN2 eS S 17 35 12.0 +2.6
CN2 eSS SS 17 40 24.5 +2.3
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,22.0s,MS5.1
CN2 LR LR
comp=E,700nm,22.0s,MS5.1
CN2 LR LR
comp=Z,1μm,24.0s,MS5.1
SNY Shenyang 80.72 318⇑P **P 17 25 06.3 +0.5**
SNY AP pP 17 25 17.5 +0.7
SNY XP sP 17 25 20.2 -0.6
SNY AMB AMB
comp=Z,146nm,6.0s
SNY LR LR
comp=N,446nm,16.8s,MS4.9
SNY LR LR
comp=E,276nm,20.4s,MS4.9
SNY LR LR
comp=Z,574nm,21.0s,MS4.9
LAZ Ladron 81.05 51 eP **P 17 25 09.0 +1.5**
TNA Tin City 81.11 3 eP **P 17 25 07.4 -0.4**
comp=Z,6.4nm,0.9s,mb4.5
BNM Barren Site 81.32 51 eP **P 17 25 10.2 +1.2**
LPM Los Pinos Moun 81.39 51 eP **P 17 25 10.3 +1.0**
MCK McKinley 81.57 11 eP **P 17 25 09.0 -1.2**
comp=Z,17nm,1.1s,mb4.9
MCK McKinley 81.57 11 eP **P 17 25 09.0 -1.2**
MCK pmax pmax
comp=Z,17nm,1.1s,mb4.9
PV01 Paradox Valley 81.68 47 eP **P 17 25 10.4 -0.4**
ANMO Albuquerque 81.79 50 P **P 17 25 11.9 +0.5**
baz=254,slow=7.4
ANMO Albuquerque 81.79 50⇓iP **P 17 25 12.1 +0.7**
MCMT McKenzie Canyo 82.13 39 eP **P 17 25 13.9 +0.7**
WHN Wuhan 82.33 305 eP **P 17 25 17.0 +2.8**
SEY Seymchan 82.47 345 eP **P 17 25 13.6 -1.4**
SEY 17 28 29.1
SEY ePPP 17 30 17.1
SEY eS S 17 35 31.5 +2.5
SEY PS 17 36 23.4
SEY SS SS 17 40 50.4 -0.1
SEY pmax pmax
comp=Z,19nm,1.0s,mb5.0
SEY pmax pmax
comp=N,10.0nm,1.5s
SEY smax
comp=N,280nm,8.4s
SEY smax
comp=E,460nm,8.8s
SEY MLR MLR
comp=Z,650nm,26.0s,MS4.9
SEY MLR MLR
comp=N,280nm,24.0s
SEY MLR MLR
comp=E,190nm,18.0s
COLA College 82.80 11 eP **P 17 25 15.2 -1.5**
comp=E,15nm,0.9s,mb5.0
COLA College 82.80 11 ceP **P 17 25 14.5 -2.2**
ILAR Eielson Array 82.89 12 P **P 17 25 15.3 -1.9**
comp=E,1.4nm,0.9s,mb4.0,baz=228,slow=5.9,SNR=20
ILAR LR LR 17 55 53.3
comp=E,585nm,19.4s,MS5.0,baz=44,slow=31
CHMT Chamberlain Mo 82.97 37 eP **P 17 25 16.7 -0.9**
QLMT Earthquake Lak 83.00 40 eP **P 17 25 18.7 +1.0**
PDAR Pinedale Array 83.17 42 P **P 17 25 18.3 -0.3**
comp=E,2.9nm,0.7s,mb4.4,baz=210,slow=2.9,SNR=27
PDAR LR LR 17 57 41.6
comp=E,931nm,18.4s,MS5.2,baz=255,slow=32
SMCO Snowmass 83.26 46 eP **P 17 25 19.6 +0.5**
comp=E,29nm,1.4s,mb5.1
BOZ Bozeman (W) 83.28 39 eP **P 17 25 18.5 -0.7**
comp=E,39nm,1.5s,mb5.2
BOZ LR LR
comp=Z,2μm,22.0s,MS5.4
BOZ Bozeman (W) 83.28 39 eP **P 17 25 18.5 -0.7**
BOZ pmax pmax
comp=Z,39nm,1.5s,mb5.2
BOZ MLR MLR
comp=Z,2μm,22.0s,MS5.4
HRY Holter Researc 83.70 38 eP **P 17 25 20.1 -1.3**
DAWY Dawson 83.93 15 eP **P 17 25 21.8 -0.6**
RWWY Rawlins 84.22 44 eP **P 17 25 24.1 +0.1**
comp=Z,54nm,1.5s,mb5.5
GCMT Greycliff 84.55 40 P **P 17 25 26.1 +0.4**
BILL Bilibino 84.61 353 eP **P 17 25 24.4 -1.6**
comp=Z,4.9nm,0.8s,mb4.7
BILL Bilibino 84.61 353 d iP **P 17 25 24.8 -1.1**
BILL pmax pmax
comp=Z,25nm,2.5s,mb4.9
BJI Beijing 84.85 314 P **P 17 25 28.8 +1.6**
BJI S 17 35 55.8
BJI SS SS 17 41 35.1 +9.5
BJI AMB AMB
comp=Z,13nm,1.2s,mb4.9
BJI AMB AMB
comp=Z,168nm,4.4s
BJI LR LR
comp=N,796nm,18.8s,MS5.2
BJI LR LR
comp=E,518nm,18.8s,MS5.2
BJI LR LR
comp=Z,923nm,25.1s
ENH Enshi 86.13 303 eP **P 17 25 35.1 +1.6**
comp=Z,51nm,1.6s,mb5.5
EDM Edmonton 86.26 32 eP **P 17 25 33.5 -0.7**
USHA Ushuaia 86.33 146 LR LR 17 54 36.2
comp=Z,1μm,21.3s,MS5.3,baz=228,slow=29
GYA Guiyang 87.20 298⇑iP **P 17 25 41.2 +2.4**
GYA AP pP 17 25 49.4 -0.5
GYA XP sP 17 25 52.3 -1.6
GYA PP PP 17 29 10.9 +8.1
GYA SKS 17 36 05.7
GYA S 17 36 25.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,430nm,4.2s
GYA LR LR
comp=E,570nm,19.2s
GYA LR LR
comp=Z,480nm,19.0s,MS4.9
MAW Mawson 87.22 199 LR LR 18 03 13.2
comp=Z,2μm,18.7s,MS5.6,baz=118,slow=35
XAN Xi'an 87.89 306 P **P 17 25 42.5 +0.4**
XAN AP pP 17 25 51.5 -1.7
XAN AMB AMB
comp=Z,11nm,1.3s,mb4.9
HHC Hu-ho-hao-te 88.40 313⇑P **P 17 25 44.6 +0.1**
HHC PP PP 17 29 15.7 +3.3
HHC SKS 17 36 10.8
HHC SS SS 17 42 20.5 +2.9
HHC AMB AMB
comp=Z,12nm,0.3s,mb5.6
HHC AMB AMB
comp=Z,191nm,5.6s
HHC LR LR
comp=N,324nm,15.7s,MS5.0
HHC LR LR
comp=E,397nm,18.4s,MS5.0
HHC LR LR
comp=Z,680nm,22.0s,MS5.0
YAK Yakutsk 88.91 337 eP **P 17 25 48.6 +1.7**
comp=Z,14nm,0.6s,mb5.5
YAK Yakutsk 88.91 337⇑iP **P 17 25 44.4 -2.5**
YAK pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
YAK MLR MLR
comp=Z,400nm,20.0s,MS4.8
KMI Kunming 90.15 296 P **P 17 25 54.8 +2.1**
KMI AP pP 17 25 58.9 -4.9
KMI PP PP 17 29 29.9 +3.5
KMI SKS 17 36 23.4
KMI S 17 36 47.1
KMI SS SS 17 42 48.2 +5.1
KMI AMB AMB
comp=Z,12nm,1.2s,mb5.1
KMI AMB AMB
comp=Z,139nm,5.0s
KMI LR LR
comp=N,428nm,23.3s
KMI LR LR
comp=E,694nm,17.3s
KMI LR LR
comp=Z,1μm,24.8s,MS5.2
PLCA Paso Flores 90.15 132 LR LR 17 57 35.3
comp=Z,2μm,20.6s,MS5.4,baz=185,slow=30
YKA Yellowknife Ar 90.75 24 P **P 17 25 55.2 -0.3**
comp=Z,0.5nm,0.7s,mb4.0,baz=242,slow=4.9,SNR=8.7
YKA PP PP 17 29 32.3 +1.1
comp=Z,0.2nm,0.6s,baz=234,slow=9.0,SNR=4.4
YKA LR LR 18 03 43.7
comp=Z,974nm,18.4s,MS5.3,baz=245,slow=34
YKA Yellowknife Ar 90.75 24 P **P 17 25 55.2 -0.3**
YKA PP PP 17 29 32.3 +1.1
YKA LR LR 18 03 43.7
YKA Yellowknife Ar 90.75 24 P **P 17 25 55.2 -0.3**
YKA 17 29 32.3
CD2 Chengdu 91.01 302 P **P 17 26 01.6 +4.9**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.6
CD2 AMB AMB
comp=Z,120nm,6.0s
CD2 LR LR
comp=N,270nm,21.6s
CD2 LR LR
comp=Z,460nm,29.4s
SYO Syowa Base 92.15 192⇑eP **P 17 26 00.3 -1.7**
SYO e 17 29 45.1
JTS JuntasAbangare 92.32 80 LR LR 18 00 27.9
comp=Z,421nm,18.3s,MS4.9,baz=93,slow=31
LZH Lanzhou 92.49 307 eP **P 17 26 05.1 +1.5**
LZH AP pP 17 26 10.5 -4.2
LZH PP PP 17 29 49.7 +4.8
LZH SKS 17 36 36.0
LZH eS 17 37 05.9
LZH SS SS 17 43 20.0 +3.2
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,160nm,5.8s
LZH LR LR
comp=E,2μm,19.0s
LZH LR LR
comp=Z,2μm,20.0s,MS5.6
SNAA Sanae 92.72 177 LR LR 18 01 33.6
comp=Z,292nm,20.3s,MS4.7,baz=201,slow=32
SNAA Sanae 92.72 177⇓eP **P 17 26 04.9 +0.3**
ULN Ulaanbaatar 93.89 319 eP **P 17 26 09.4 -0.6**
SONM Songino Array 94.30 318 P **P 17 26 12.3 +0.4**
comp=Z,0.7nm,0.7s,mb4.2,baz=117,slow=4.2,SNR=5.9
SONM LR LR 18 06 59.2
comp=Z,687nm,19.5s,MS5.1,baz=135,slow=34
ULM Lac du Bonnet 94.80 39 LR LR 18 02 54.1
comp=Z,1μm,20.1s,MS5.4,baz=240,slow=32
TIXI Tiksi 94.94 345⇓eP **P 17 26 12.3 -2.5**
TIXI pmax pmax
comp=Z,9.0nm,2.5s,mb4.8
GTA Gaotai 96.48 309 eP **P 17 26 25.6 +3.7**
GTA AP pP 17 26 30.4 -2.6
GTA XP sP 17 26 32.5 -4.5
GTA S 17 37 45.6
GTA XS sS 17 37 54.0 -4.5
GTA AMB AMB
comp=Z,2.0nm,1.3s,mb4.4
GTA AMB AMB
comp=Z,75nm,4.6s
GTA LR LR
comp=N,548nm,21.3s,MS5.2
GTA LR LR
comp=E,851nm,23.6s,MS5.2
GTA LR LR
comp=Z,1μm,22.8s,MS5.4
WMQ Urumqi 106.22 312 ePDIF Pdif 17 27 05.9 +0.6
WMQ PP PP 17 31 32.6 +3.2
WMQ SS SS 17 46 28.9 +0.2
WMQ PP PP
comp=Z,24nm,11.0s
WMQ LR LR
comp=N,333nm,20.4s,MS5.1
WMQ LR LR
comp=E,439nm,20.4s,MS5.1
WMQ LR LR
comp=Z,531nm,20.4s,MS5.1
MKAR Makanchi Array 110.22 315 PKiKP PKiKP 17 31 23.1 -1.1
comp=Z,1.2nm,0.7s,baz=64,slow=0.7,SNR=9.2
KURK Kurchatov 112.61 319⇑iPKIKP PKiKP 17 31 28.0 -0.8
BRVK Borovoye 117.46 322 ePKPdf PKPdf 17 31 37.0 -1.1
ARU Arti 122.97 328 i PKIKP PKPdf 17 31 49.8 +1.1
ARU e 17 33 25.7
ARU e 17 38 48.4
ARU eSS SS 17 50 17.6 +8.5
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.5
ARU MLR MLR
comp=N,200nm,19.0s,MS5.4
ARU MLR MLR
comp=E,800nm,20.0s,MS5.4
ARCES ARCESS Array B 124.69 352 PKP PKPdf 17 31 51.2 -0.8
comp=E,5.6nm,0.7s,baz=30,slow=5.6,SNR=8.6
FINES FINESS Array B 131.94 347 PKP PKPdf 17 32 04.2 -1.6
comp=E,1.6nm,0.8s,baz=337,slow=4.4,SNR=3.4
BOSA Boshof 132.02 204 PKP PKPdf 17 32 06.9 +0.9
comp=E,3.0nm,0.9s,baz=298,slow=3.6,SNR=3.9
OBN Obninsk 133.89 336⇑iPKIKP PKPdf 17 32 10.0 +0.5
OBN pmax pmax
comp=Z,8.0nm,1.3s
OBN MLR MLR
comp=Z,300nm,22.0s,MS5.0
KIV Kislovodsk 137.69 320 i PKIKP PKPdf 17 32 15.8 -0.7
KIV e 17 34 58.4
KIV eSS SS 17 53 04.4 -5.3
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,552nm,21.0s,MS5.3
AKASG Malin Array Be 140.14 336 PKP PKPdf 17 32 19.1 -1.9
comp=Z,1.0nm,0.7s,baz=31,slow=3.2,SNR=8.0
BSEG Bad Segeberg 141.60 355 ePKPdf PKPdf 17 32 24.1 +0.5
MALT Malatya 143.26 314⇑PKIKP PKPdf 17 32 34.6 +8.0
OJC Ojcow 143.61 344 ePKP PKPdf 17 32 29.2 +2.0
CLZ Clausthal 143.68 355 ePKPdf PKPdf 17 32 28.9 +1.6
CLL Collm 143.91 352 ePKPdf PKPdf 17 32 28.8 +1.1
CLL Collm 143.91 352 i PKPdf PKPdf 17 32 28.7 +1.0
comp=Z,7.0nm,0.9s
CLL i (pPKPdf) 17 32 38.1
CLL Collm 143.91 352 i PKIKP PKPdf 17 32 28.7 +1.0
CLL i 17 32 38.1
CLL MLR MLR
comp=Z,600nm,16.9s,MS5.4
STHS Stebnicka Huta 143.94 342 ePKP PKPdf 17 32 29.6 +1.8
STHS e 17 32 40.3
KOLS Kolonicke sedl 144.06 341 ePKP PKPdf 17 32 26.4 -1.6
KOLS e 17 32 35.7
BURAR Bucovina Array 144.18 337⇓P PKPdf 17 32 26.5 -1.7
BURAR Bucovina Array 144.18 337⇓P PKPdf 17 32 26.5 -1.7
UPC Upice 144.19 348 ePKP PKPdf 17 32 31.3 +3.1
BRG Berggiesshubel 144.20 351 ePKPdf PKPdf 17 32 28.2 0.0
BRG Berggiesshubel 144.20 351 ePKP PKPdf 17 32 28.7 +0.4
comp=Z,3.4nm,1.0s
NIE Niedzica 144.20 343 ePKP PKPdf 17 32 26.6 -1.6
DPC Dobruska-Polom 144.28 348 ePKP PKPdf 17 32 26.9 -1.5
DPC AMS AMS 18 43 20.0
comp=Z,700nm,20.7s
GZT Gaziantep 144.32 313 i P PKPdf 17 32 27.0 -1.4
CRVS Cervenica-Dubn 144.34 342 e PKPdf 17 32 38.5 +10
OKC Ostrava-Krasne 144.37 346 ePKP PKPdf 17 32 25.2 -3.3
OKC AMS AMS 18 38 40.0
comp=Z,500nm,20.0s
OKC Ostrava-Krasne 144.37 346 ePKHKP 17 32 24.2
CTKT Corum 144.41 320 i P PKPdf 17 32 27.3 -1.3
PVCC Panska Ves 144.44 350 ePKP PKPdf 17 32 28.5 -0.1
KMBO Kilima Mbogo 144.45 245 PKP PKPdf 17 32 29.4 +0.8
comp=Z,11nm,1.0s,baz=49,slow=7.3,SNR=10
KMBO Kilima Mbogo 144.45 245 ePKIKP PKPdf 17 32 29.8 +1.1
MORC Moravsky Berou 144.57 346 ePKPdf PKPdf 17 32 27.6 -1.3
MORC Moravsky Berou 144.57 346⇑PKIKP PKPdf 17 32 27.3 -1.6
MOX Moxa 144.74 353 e(PKP) PKPdf 17 32 23.6 -5.6
MOX
comp=Z,400nm,22.0s
WERD Werda 144.85 352 ePKPdf PKPdf 17 32 30.2 +0.8
CFR Carcaliu 144.91 332⇑P PKPdf 17 32 30.0 +0.5
PRU Pruhonice 144.96 350 ePKP PKPdf 17 32 28.0 -1.6
PRU AMS AMS 18 35 50.0
comp=Z,600nm,21.8s
VRI Vrincioaia 144.99 334⇓P PKPdf 17 32 30.5 +0.9
KECS Kecovo 145.00 343 i PKP PKPdf 17 32 28.4 -1.2
KECS e 17 32 33.1
KECS e 17 32 42.6
NKC Novy Kostel 145.04 352 ePKP PKPdf 17 32 28.5 -1.2
MEM Membach 145.12 359 PKP PKPdf 17 32 29.3 -0.5
MEM APKP 17 32 33.8
SNF Seneffe 145.21 1 APKP 17 32 33.7
VRAC Vranov 145.22 347⇑P PKPbc 17 32 30.3 +0.6
ELDT Eldivan 145.32 321 i P PKPbc 17 32 29.8 -0.2
MANZ Manzenberg 145.32 352 ePKPdf PKPdf 17 32 29.7 -0.5
TIRR Tirgusor 145.32 331⇓P PKPbc 17 32 30.2 +0.2
TIRR Tirgusor 145.32 331 ePKP PKPdf 17 32 30.1 -0.1
HARR Harsova 145.38 331⇑P PKPbc 17 32 30.8 +0.6
AVNT Avonos 145.42 317 i P PKPbc 17 32 30.4 0.0
TNS Taunus Mts 145.43 357 ePKPdf PKPdf 17 32 30.2 -0.2
VYHS Vyhne 145.45 344 ePKP PKPdf 17 32 29.5 -0.9
VYHS e 17 32 34.9
TREC Trest 145.46 348 ePKP PKPdf 17 32 30.1 -0.3
ROTZ Rotzenmuhle 145.53 352 ePKPdf PKPdf 17 32 30.5 0.0
MLR Muntele Rosu 145.62 334 PKPbc PKPbc 17 32 31.6 +0.6
comp=Z,20nm,0.8s,baz=203,slow=7.4,SNR=21
MLR Muntele Rosu 145.62 334⇓P PKPdf 17 32 31.9 +1.2
GIVF Givet 145.63 1 ePKP1 PKPbc 17 32 30.6 -0.4
comp=Z,59nm,1.0s
DOU Dourbes 145.63 1 PKP PKPdf 17 32 30.8 0.0
DOU APKP 17 32 33.2
COBT Iskenderun 145.64 313 i P PKPdf 17 32 31.6 +0.9
BR131 Keskin Array S 145.65 320 ePKP PKPdf 17 32 31.4 +0.6
BRTR Keskin Array B 145.65 320 PKPbc PKPbc 17 32 31.2 +0.2
comp=Z,7.0nm,0.8s,baz=102,slow=2.1,SNR=23

BAIF	**Baives**	**145.66**	**1**	*e*PKP1	PKPbc	17 32 30.8	-0.3
	comp=Z,63nm,0.9s						
PSZ	**Piszkesteto**	**145.68 343**		*e*	PKPdf	17 32 30.9	+0.1
PSZ	**Piszkesteto**	**145.68 343**		*e*PKP2	PKPab	17 32 29.9	-1.6
GRF	**Grafenberg Arr**	**145.72 353**		*e*PKPdf	PKPdf	17 32 30.9	0.0
SMOL	**Smolenice**	**145.78 346**		*i* PKP	PKPdf	17 32 32.0	+1.0
SMOL				*e*		17 32 36.5	
ABH	**Alteburg**	**145.81 358**		*e*P	PKPdf	17 32 30.6	-0.4
KHC	**Kasperske Hory**	**145.95 350**		*e*PKP	PKPdf	17 32 32.0	+0.7
KHC				AMS	AMS	18 36 10.0	
	comp=Z,600nm,19.8s						
KHC	**Kasperske Hory**	**145.95 350**		||*i*PKHKP		17 32 29.0	
RUP	**Ruppelstein**	**146.01 358**		*e*P	PKPdf	17 32 31.1	-0.2
TOD	**Tromm**	**146.02 356**		*e*P	PKPdf	17 32 31.1	-0.3
VOIR		**146.04 335**		⇑P	PKPdf	17 32 33.1	+1.7
WET	**Wettzell**	**146.04 351**		*e*PKPdf	PKPdf	17 32 32.1	+0.7
WLF	**Walferdange**	**146.06 359**		*e*PKPdf	PKPdf	17 32 32.1	+0.7
WLF	**Walferdange**	**146.06 359**		APKP		17 32 33.2	
ANTO	**Ankara**	**146.08 321**		*e*PKP	PKPdf	17 32 33.3	+1.8
SGKT	**Sivrigoynuk**	**146.09 322**		*i* P	PKPdf	17 32 32.9	+1.4
ZST	**Bratislava**	**146.15 346**		*e*PKP	PKPdf	17 32 32.2	+0.6
GEC2	**GERESS Array S**	**146.21 350**		*e*PKPdf	PKPdf	17 32 32.4	+0.7
GERES	**GERESS Array B**	**146.21 350**		PKPbc	PKPbc	17 32 32.5	-0.2
	comp=Z,6.7nm,0.9s,baz=8.1,slow=1.9,SNR=11						
SRO	**Srobarova**	**146.21 344**		*e*PKP	PKPdf	17 32 34.3	+2.6
HENT	**Hendek**	**146.60 324**		*i* P	PKPdf	17 32 33.5	+1.1
ROSF	**Rostrenen**	**146.61**	**11**	*e*PKP1	PKPbc	17 32 33.6	-0.4
	comp=Z,254nm,1.8s						
FLN	**La Foliniere**	**146.61**	**7**	*e*PKP1	PKPbc	17 32 33.8	-0.2
	comp=Z,36nm,0.9s						
FLN				*e*R			
	comp=Z,988nm,20.2s						
FLN	**La Foliniere**	**146.61**	**7**	*e*PKP2	PKPab	17 32 33.8	-1.3
FLN				MLR	MLR		
	comp=Z,990nm,20.3s,MS5.6						
LANF	**Langenberg**	**146.70 357**		PKP	PKPdf	17 32 34.4	+1.9
LANF	**Langenberg**	**146.70 357**		*e*PKP2	PKPab	17 32 34.4	-1.0
SGMF	**Saint Gilles**	**146.81**	**10**	*e*PKP1	PKPbc	17 32 34.5	0.0
	comp=Z,53nm,0.9s						
LDF	**La Druitiere**	**146.82**	**7**	*e*PKP1	PKPbc	17 32 34.3	-0.3
	comp=Z,39nm,1.0s						
GRR	**Gorron**	**146.93**	**8**	*e*PKP1	PKPbc	17 32 35.2	+0.3
	comp=Z,38nm,0.7s						
QUIF	**Quistinic**	**147.04**	**11**	*e*PKP1	PKPbc	17 32 35.0	-0.2
	comp=Z,68nm,1.2s						
BZS	**Buzias**	**147.18 339**		⇑P	PKPdf	17 32 35.7	+2.4
WLS	**Welschbruch**	**147.28 358**		PKP	PKPdf	17 32 35.9	+2.4
WLS	**Welschbruch**	**147.28 358**		*e*PKP2	PKPab	17 32 35.9	-1.8
CDF	**Champ du Feu**	**147.29 358**		*e*PKP1	PKPbc	17 32 35.4	-0.5
	comp=Z,42nm,0.9s						
KDHN	**Kadinhani**	**147.32 319**		*i* P	PKPdf	17 32 37.3	+3.8
BFO	**Black Forest**	**147.32 356**		*e*PKPdf	PKPdf	17 32 34.5	+0.9
BFO	**Black Forest**	**147.32 356**		*e*PKP2	PKPab	17 32 35.5	-2.3
ESKT	**Eskisehir**	**147.47 322**		*i* P	PKPab	17 32 41.0	+2.6
HAU	**Haudompre**	**147.72 359**		*e*PKP1	PKPbc	17 32 37.7	+0.6
	comp=Z,25nm,0.8s						
HAU				*e*R			
	comp=Z,572nm,21.0s						
HAU	**Haudompre**	**147.72 359**		*e*PKP2	PKPab	17 32 37.7	-1.7
HAU				MLR	MLR		
	comp=Z,570nm,21.0s,MS5.3						
ERMK	**Ermenek**	**147.88 316**		*i* P	PKPdf	17 32 35.0	+0.6
HINF	**Hinteralfeld**	**147.90 358**		*e*PKP1	PKPbc	17 32 36.9	-0.6
PERS	**Pernice**	**148.07 347**		*i* PKPdf	PKPdf	17 32 37.3	+2.5
PERS				*e*PKPbc	PKPbc	17 32 41.7	+3.8
PERS				*e*PKPab	PKPab	17 32 48.4	+7.5
DAVA	**Damuels**	**148.24 354**		⇑*i*PKiKP	PKiKP	17 32 39.0	-1.1
	comp=Z,20nm,0.9s						
DAVA	**Damuels**	**148.24 354**		⇑P	PKPdf	17 32 39.0	+3.9
LOR	**Lormes**	**148.44**	**2**	*e*PKP1	PKPbc	17 32 38.7	-0.3
	comp=Z,15nm,0.7s						
LOR				*e*R			
	comp=Z,1μm,19.8s						
LOR	**Lormes**	**148.44**	**2**	*e*PKP2	PKPab	17 32 38.7	-3.6
LOR				MLR	MLR		
	comp=Z,1μm,19.8s,MS5.7						
SSF	**Saint Saulge**	**148.63**	**3**	*e*PKP1	PKPbc	17 32 39.3	-0.2
	comp=Z,92nm,1.3s						
TKTP	**Tekketepe**	**148.73 320**		*i* P	PKPdf	17 32 37.8	+1.9
MFF	**Saint Martin d**	**148.78**	**7**	*e*PKP1	PKPbc	17 32 39.4	-0.4
	comp=Z,70nm,1.4s						
AVF	**Avril sur Loir**	**148.89**	**3**	*e*PKP1	PKPbc	17 32 39.7	-0.4
	comp=Z,19nm,0.8s						
SMF	**Signal de Mont**	**149.06**	**2**	*e*PKP1	PKPbc	17 32 40.2	-0.3
	comp=Z,55nm,1.3s						
BGF	**Bois d'Agland**	**149.10**	**4**	*e*PKP1	PKPbc	17 32 40.0	-0.6
	comp=Z,42nm,0.9s						
BOJS	**Bojanci**	**149.11 347**		*e*PKPbc	PKPbc	17 32 40.6	-0.1
BOJS				*e*PKPab	PKPab	17 32 45.8	+0.7
CABF	**La Chapelle**	**149.12 359**		*e*PKP1	PKPbc	17 32 41.1	+0.4
	comp=Z,48nm,1.0s						
VTS	**Vitosha**	**149.13 334**		⇑P	PKPdf	17 32 39.9	+3.4
TCF	**Toulx Ste Croi**	**149.32**	**4**	*e*PKP1	PKPbc	17 32 40.8	-0.4
EIL	**Elat**	**149.53 302**		*e*PKPbc	PKPbc	17 32 42.6	+0.9
AGO	**Saint Agoulin**	**149.62**	**3**	PKP	PKPab	17 32 46.3	-0.8
AGO	**Saint Agoulin**	**149.62**	**3**	*e*P	PKPab	17 32 46.3	-0.8
PYM	**Petit Puy Mans**	**149.91**	**3**	PKP	PKPab	17 32 46.5	-1.8
PYM	**Petit Puy Mans**	**149.91**	**3**	*e*PKP2	PKPab	17 32 46.5	-1.8
LPL	**La Plagne**	**150.20 358**		*e*PKP1	PKPbc	17 32 43.7	+0.4
	comp=Z,37nm,0.9s						
LPG	**La Plagne**	**150.22 358**		*e*PKP1	PKPbc	17 32 44.4	+1.0
	comp=Z,33nm,0.8s						
RJF	**Les Rejaudoux**	**150.24**	**6**	*e*PKP1	PKPbc	17 32 43.3	-0.1
RJF				*e*R			
	comp=Z,1μm,20.2s						
RJF	**Les Rejaudoux**	**150.24**	**6**	*e*PKIKP	PKPbc	17 32 43.3	-0.1
RJF				MLR	MLR		
	comp=Z,1μm,20.3s,MS5.7						
BNI	**Bardonecchia**	**150.67 358**		*e*PKPbc	PKPbc	17 32 45.5	+1.1
CAF	**Calviac**	**150.67**	**5**	*e*PKP1	PKPbc	17 32 44.4	-0.1
ORIF	**Oris-en-Rattie**	**150.81 359**		*e*PKP1	PKPbc	17 32 44.7	-0.1
	comp=Z,29nm,1.0s						
ORIF				*e*R			
	comp=Z,800nm,20.5s						
VIVF	**Saint-Julien-l**	**150.87**	**1**	*e*PKP1	PKPbc	17 32 45.2	+0.3
	comp=Z,27nm,1.0s						
MBDF	**Montbardon**	**150.99 358**		*e*PKP1	PKPbc	17 32 45.6	+0.4
	comp=Z,44nm,1.1s						

*ISCJB **05** 17:32:14.5±1.7,5673S±0.10×272W±.02,h173km±20km, mb4.0/10,Error ellipse: s-maj=20.3km s-min=11.6km az=94.7*
*NEIC **05** 17:32:16.2±1.0,5676S×2721W,h177km±9km,mb3.9/5, Error ellipse: s-maj=10.2km s-min=7.0km az=213.0*
*IDC **05** 17:32:17.0±5.0,5674S×2709W,h182km±44km,mb3.8/8, mb1 3.9/9,mb1mx3.7/17,mbtmp4.3/9,MS4.1/1,Ms1 3.9/1, ms1mx3.2/17,Error ellipse: s-maj=19.5km s-min=12.1km az=60.0*

ISC 05 17:32:15.4±1.6,**5676S**±008×**271W**±02,**h167**km±18km,**n29**, σ0**±40**/22,**mb4.0**/10,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.86**	**291**	Pn	**Pn**	**17 33 40.2**	**-0.2**
HOPE				Sn	Sn	17 34 21.4	-26
VNA3	**Neumayer Olymp**	**16.31**	**160**	*e*	**Pn**	**17 35 55.3**	**+0.3**
VNA3				*e*		17 36 02.5	
VNA2	**Neumayer--Watz**	**16.52**	**157**	*e*	**Pn**	**17 35 57.6**	**0.0**
VNA2				*e*		17 36 05.3	
SNAA	**Sanae**	**18.08**	**155**	P	**P**	**17 36 14.5**	**+0.2**
	1.2nm,0.3s,baz=303,slow=11,SNR=101						
SNAA				S	**S**	**17 39 33.1**	**+0.2**
	0.0nm,0.3s,baz=322,slow=19,SNR=3.3						
SNAA	**Sanae**	**18.08**	**155**	*e*	**P**	**17 36 13.6**	**-0.7**
SNAA				*e*		17 36 20.7	
SNAA	**Sanae**	**18.08**	**155**	*e*P	**P**	**17 36 14.2**	**-0.1**
SNAA				*e*		17 36 20.7	
EFI	**East Falkland**	**18.68**	**273**	*e*P	**P**	**17 36 20.8**	**-0.1**
SUR	**Sutherland**	**40.80**	**74**	*e*P	**P**	**17 39 41.2**	**+0.8**
	1.1nm,0.6s,mb3.7						
BDFB	**Brasilia**	**43.99**	**330**	P	**P**	**17 40 06.6**	**+0.4**
	0.7nm,0.3s,mb3.8,baz=249,slow=5.2,SNR=3.4						
BOSA	**Boshof**	**46.12**	**75**	P	**P**	**17 40 22.9**	**0.0**
	1.9nm,0.5s,mb4.0,baz=204,slow=7.6,SNR=5.4						
BOSA				LR	LR	17 56 20.1	
	comp=Z,177nm,18.3s,baz=346,slow=31						
BOSA	**Boshof**	**46.12**	**75**	*e*P	**P**	**17 40 23.3**	**+0.3**
BOSA				LR	LR	17 56 20.1	
LBTB	**Lobatse**	**49.19**	**73**	P	**P**	**17 40 46.1**	**-0.5**
	3.4nm,0.6s,mb4.2,baz=230,slow=11,SNR=8.5						
LBTB	**Lobatse**	**49.19**	**73**	*e*P	**P**	**17 40 46.2**	**-0.4**
	3.5nm,0.6s,mb4.2						
TSUM	**Tsumeb**	**50.01**	**60**	P	**P**	**17 40 52.5**	**-0.2**
	1.2nm,0.6s,mb3.7,baz=234,slow=19,SNR=4.4						
TSUM	**Tsumeb**	**50.01**	**60**	*e*P	**P**	**17 40 53.0**	**+0.3**
	1.0nm,0.6s,mb3.6						
LPAZ	**La Paz**	**50.81**	**306**	P	**P**	**17 40 59.5**	**+0.7**
	3.1nm,0.4s,mb4.3,baz=125,slow=4.1,SNR=11						
LPAZ	**La Paz**	**50.81**	**306**	*e*P	**P**	**17 40 59.2**	**+0.5**
	3.0nm,0.4s,mb4.3						
DRV	**Dumont d'Urvil**	**56.52**	**174**	R		17 41 00.0	
LSZ	**Lusaka**	**58.61**	**68**	*e*P	**P**	**17 41 54.5**	**-0.3**
	1.5nm,0.6s,mb4.0						
DBIC	**Dimbokro**	**65.80**	**24**	P	**P**	**17 42 42.3**	**-0.3**
	1.2nm,0.4s,mb4.1,baz=180,slow=11,SNR=9.5						
TORD	**Torodi Ar. Bea**	**73.66**	**29**	P	**P**	**17 43 30.5**	**-0.2**
	1.9nm,0.4s,mb4.2,baz=200,slow=6.2,SNR=18						
ASAR	**Alice Springs**	**98.30**	**162**	P	**P**	**17 45 33.2**	**-0.7**
	0.2nm,0.3s,mb4.0,baz=186,slow=3.9,SNR=13						
FINES	**FINESS Array B**	**125.00**	**28**	PKP	PKPdf	17 50 53.4	-2.3
	0.7nm,0.5s,baz=132,slow=2.8,SNR=8.6						
ARCES	**ARCESS Array B**	**131.59**	**22**	PKP	PKPdf	17 51 06.2	-2.1
	3.0nm,0.9s,baz=224,slow=3.3,SNR=5.7						
YKA	**Yellowknife Ar**	**136.72**	**317**	PKP	PKPdf	17 51 15.7	-2.2
	0.3nm,0.5s,baz=127,slow=2.5,SNR=8.3						
YKA	**Yellowknife Ar**	**136.72**	**317**	PKP	PKPdf	17 51 15.7	-2.2
INK	**Inuvik**	**146.37**	**320**	PKPbc	PKPbc	17 51 34.0	-2.6
	1.3nm,0.6s,baz=113,slow=3.9,SNR=10.0						
ILAR	**Eielson Array**	**150.60**	**311**	PKPbc	PKPbc	17 51 45.2	-2.3
	1.0nm,0.8s,baz=128,slow=4.4,SNR=14						
SONM	**Songino Array**	**150.74**	**88**	PKPbc	PKPbc	17 51 46.3	-1.5
	1.5nm,0.5s,baz=218,slow=3.9,SNR=16						

*IDC **05** 17:40:35.4±2.2,003S×12320E,h148km±20km,mb3.9/16, mb1 4.0/16,mb1mx4.0/21,mbtmp4.3/16,Error ellipse: s-maj=20.8km s-min=10.7km az=73.0*
*ISCJB **05** 17:40:37.9±1.3,0.12S±005×12328E±007,h185km±13km, mb4.4/51,Error ellipse: s-maj=12.7km s-min=6.4km az=128.0*
*BJI **05** 17:40:38.6,0.12S×12326E,h184km,mB4.9,mb4.7*
*NEIC **05** 17:40:39.1±1.3,009S×12327E,h184km±13km,mb4.6/20, Error ellipse: s-maj=11.9km s-min=5.2km az=60.0*
*MOS **05** 17:40:39.6±1.1,004S×12322E,h204km,mb4.2/14,Error ellipse: s-maj=17.4km s-min=8.2km az=109.9*

ISC 05 17:40:39.6±1.2,**013S**±005×**12329E**±007,**h186**km±12km, **h174**km±5.0km:**pP-P,n92**,σ1§**19**/96,**mb4.4**/51,**9C-5D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**3.53**	**257**	P	**Pn**	**17 41 28.4**	**-6.6**
	313nm,0.8s						
KKM	**Kota Kinabalu**	**9.35**	**311**	*e*Pn	**Pn**	**17 42 48.7**	**-1.8**
KKM				*e*Sn	**Sn**	**17 44 26.0**	**-8.8**
KSM	**Kuching**	**13.07**	**277**	*e*P	**Pn**	**17 43 42.2**	**+3.8**
KAKA	**Kakadu**	**15.45**	**144**	*e*P	**Pn**	**17 44 07.8**	**0.0**
	40nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.01**	**173**	*e*P	**P**	**17 44 36.9**	**+0.5**
	28nm,0.4s						
MBWA	**Marble Bar**	**21.18**	**189**	*e*P	**P**	**17 45 09.8**	**-0.7**
	3.2nm,0.6s,mb3.8						
WRAB	**Tennant Creek**	**22.47**	**152**	*e*P	**P**	**17 45 23.9**	**+0.7**
	25nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**22.47**	**152**	*e*P	**P**	**17 45 23.9**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,25nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**22.47**	**152**	P	**P**	**17 45 23.6**	**+0.3**
	comp=Z,17nm,0.5s,mb4.8,baz=331,slow=10,SNR=411						
WRA				ScP	ScP	17 52 36.0	+5.4
	comp=Z,0.7nm,0.5s,baz=325,slow=2.5,SNR=16						
WB2	**Warramunga Arr**	**22.48**	**152**	*e*P	**P**	**17 45 23.4**	**+0.1**
QIZ	**Qiongzhong**	**23.17**	**326**	P	**P**	**17 45 29.0**	**-0.6**
QIZ				*e*S	**S**	**17 49 26.5**	**-0.6**
QIZ				SS		17 50 34.3	
QIZ				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,271nm,13.0s						
QIZ				LR	LR		
	comp=E,898nm,23.4s						
QIZ				LR	LR		
	comp=Z,2μm,24.4s						
QIZ	**Qiongzhong**	**23.17**	**326**	*e*P	**P**	**17 45 30.1**	**+0.5**
	comp=Z,29nm,1.0s,mb4.7						
KULM	**Kulim**	**23.24**	**284**	*e*P	**P**	**17 45 30.3**	**+0.1**
PSI	**Prapat**	**24.52**	**277**	P	**P**	**17 45 41.2**	**-0.8**
	comp=Z,2.0nm,0.6s,mb3.8,baz=87,slow=6.1,SNR=3.7						
AS31	**Alice Springs**	**25.56**	**157**	*e*P	**P**	**17 45 52.6**	**+1.3**
ASPA	**Alice Springs**	**25.56**	**157**	*e*P	**P**	**17 45 52.6**	**+1.3**
ASAR	**Alice Springs**	**25.57**	**157**	P	**P**	**17 45 52.6**	**+1.3**
	comp=Z,3.1nm,0.7s,mb4.0,baz=334,slow=8.9,SNR=36						
ASAR				PcP	PcP	17 49 19.4	+2.0
	comp=Z,1.0nm,0.5s,baz=340,slow=1.9,SNR=11						
ASAR				ScP	ScP	17 52 44.0	+5.0
	comp=Z,0.6nm,0.6s,baz=339,slow=2.0,SNR=7.4						
ASAR	**Alice Springs**	**25.57**	**157**	P	**P**	**17 45 52.6**	**+1.3**
ASAR						17 49 19.4	
GYA	**Guiyang**	**30.91**	**330**	⇑*i*P	**P**	**17 46 39.9**	**+1.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
SSE	**Sheshan**	**31.12**	**357**	*e*P	**P**	**17 46 42.2**	**+1.6**
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,103nm,8.0s						
WHN	**Wuhan**	**31.67**	**345**	*e*P	**P**	**17 46 44.7**	**-0.7**
KMI	**Kunming**	**32.02**	**323**	P	**P**	**17 46 50.8**	**+2.3**
KMI				AP	pP	17 47 28.4	+1.5
KMI				XP	sP	17 47 49.0	+0.8
KMI				S	**S**	**17 51 49.1**	**+2.8**
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
KMI				AMB	AMB		
	comp=Z,143nm,4.6s						
KMI				LR	LR		
	comp=N,363nm,18.0s						
KMI				LR	LR		
	comp=E,482nm,24.4s						
KMI				LR	LR		
	comp=Z,1μm,30.9s						
NJ2	**Nanjing**	**32.28**	**353**	*e*P	**P**	**17 46 53.4**	**+2.6**
NJ2				AP	pP	17 47 30.1	+0.9
NJ2				XP	sP	17 47 50.4	-0.1
NJ2				PP	PP	17 48 05.1	-2.5
NJ2				S	**S**	**17 51 51.0**	**+0.6**
NJ2				XS	sS	17 52 56.0	-2.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,2μm,5.6s						
NJ2				LR	LR		
	comp=N,2μm,19.6s						
NJ2				LR	LR		
	comp=E,3μm,23.8s						
NJ2				LR	LR		
	comp=Z,630nm,21.6s						
CBIJ	**Chichi jima**	**32.61**	**32**	P	**P**	**17 46 53.3**	**-0.3**
	comp=Z,69nm,0.5s,baz=234,slow=19,SNR=8.2						
ENH	**Enshi**	**32.97**	**338**	*e*P	**P**	**17 46 58.5**	**+1.8**
	comp=Z,30nm,0.8s,mb5.1						
NWAO	**Narrogin (SRO)**	**33.12**	**189**	P	**P**	**17 46 58.0**	**+0.1**
	comp=Z,6.7nm,0.9s,mb4.4,baz=0.0,slow=7.1,SNR=3.6						
NWAO	**Narrogin (SRO)**	**33.12**	**189**	*e*P	**P**	**17 46 58.6**	**+0.6**
STKA	**Stephens Creek**	**36.01**	**153**	*e*P	**P**	**17 47 22.5**	**-0.3**
	comp=Z,4.5nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**36.01**	**153**	P	**P**	**17 47 22.6**	**-0.3**
	comp=Z,2.2nm,0.3s,mb4.3,baz=322,slow=9.9,SNR=10.0						
CD2	**Chengdu**	**36.01**	**331**	P	**P**	**17 47 24.5**	**+1.7**
CD2				XP	sP	17 48 22.1	-0.9
CD2				PP	PP	17 48 53.1	+4.4
CD2				S	**S**	**17 52 49.6**	**+1.9**
CD2				XS	sS	17 53 55.1	-1.3
CD2				SS	SS	17 55 24.5	-8.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
XAN	**Xi'an**	**36.57**	**340**	P	**P**	**17 47 28.1**	**+0.6**
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.4						
MAT	**Matsushiro**	**39.03**	**19**	P	**P**	**17 47 47.1**	**-1.1**
MAT	**Matsushiro**	**39.03**	**19**	*e*P	**P**	**17 47 47.0**	**-1.2**
	comp=Z,6.0nm,0.8s,mb4.3						
MAT	**Matsushiro**	**39.03**	**19**	*e*P	**P**	**17 47 47.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
MJAR	**Matsushiro Arr**	**39.03**	**19**	P	**P**	**17 47 46.9**	**-1.3**
	comp=Z,8.8nm,0.7s,mb4.5,baz=192,slow=9.1,SNR=38						
LZH	**Lanzhou**	**40.32**	**335**	*e*P	**P**	**17 48 00.9**	**+2.1**
LZH				AP	pP	17 48 35.6	-2.8
LZH				XP	sP	17 48 55.6	-3.8
LZH				PP	PP	17 49 39.5	+4.0
LZH				PCP	PcP	17 50 00.2	+1.7
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.8						
HHC	**Hu-ho-hao-te**	**42.16**	**347**	*e*P	**P**	**17 48 14.5**	**+0.7**
HHC				AP	pP	17 48 55.9	+2.2
HHC				XP	sP	17 49 16.5	+1.8
HHC				PP	PP	17 49 58.6	+3.3
HHC				PCP	PcP	17 50 04.6	+0.1
HHC				S	**S**	**17 54 19.3**	**-0.2**
HHC				XS	sS	17 55 32.3	+2.7
HHC				SCS	ScS	17 57 53.2	-2.5
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,193nm,3.9s						
HHC				LR	LR		
	comp=N,318nm,20.6s						
HHC				LR	LR		
	comp=E,388nm,19.1s						
HHC				LR	LR		
	comp=Z,425nm,21.1s						
LSA	**Lhasa**	**42.64**	**317**	*e*P	**P**	**17 48 19.4**	**+1.8**
LSA	**Lhasa**	**42.64**	**317**	*e*P	**P**	**17 48 18.9**	**+1.2**
	comp=Z,6.6nm,0.8s,mb4.3						
LSA	**Lhasa**	**42.64**	**317**	*e*P	**P**	**17 48 18.9**	**+1.3**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
CN2	**Changchun**	**43.78**	**2**	*e*P	**P**	**17 48 30.5**	**+3.7**
GTA	**Gaotai**	**44.83**	**334**	P	**P**	**17 48 36.0**	**+0.9**
GTA				PCP	PcP	17 50 15.5	+1.9
GTA				SCP	ScP	17 53 51.3	+3.1
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.4						
MDJ	**Mudanjiang**	**44.91**	**6**	P	**P**	**17 48 36.6**	**+0.9**
MDJ				AP	pP	17 49 12.0	-4.1
MDJ				XP	sP	17 49 33.3	-3.6
MDJ				PCP	PcP	17 50 14.8	+0.9
MDJ				PP	PP	17 50 24.9	+0.5
MDJ				SCP	ScP	17 53 50.6	+2.0
MDJ				PCS	PcS	17 54 08.9	+1.1
MDJ				S	**S**	**17 55 01.9**	**+2.5**
MDJ				SCS	ScS	17 58 15.3	+2.3
MDJ				AMB	AMB		
	comp=Z,12nm,2.2s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,54nm,4.1s						
MDJ				LR	LR		
	comp=N,419nm,18.5s						
MDJ				LR	LR		
	comp=E,529nm,18.3s						
MDJ				LR	LR		
	comp=Z,707nm,16.8s						
JIRN	**Jiri**	**45.05**	**311**	*e*P	**P**	**17 48 37.5**	**+0.6**
	comp=Z,34nm,0.8s,mb5.0						
GUN	**Gumba**	**45.42**	**311**	*e*P	**P**	**17 48 39.9**	**+0.2**
	comp=Z,54nm,0.8s,mb5.2						
PKI	**Pulchoki**	**45.60**	**310**	*e*P	**P**	**17 48 41.8**	**+0.6**
KKN	**Kakani**	**45.81**	**310**	*e*P	**P**	**17 48 43.2**	**+0.4**
	comp=Z,29nm,0.9s,mb4.9						
KKN	**Kakani**	**45.81**	**310**	*e*P	**P**	**17 48 43.2**	**+0.4**
KKN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.6						
DMN	**Daman**	**45.85**	**310**	*e*P	**P**	**17 48 43.2**	**+0.1**
	comp=Z,64nm,1.0s,mb5.2						
GKN	**Gorkha**	**46.41**	**310**	*e*P	**P**	**17 48 47.9**	**+0.4**
	comp=Z,45nm,0.8s,mb5.2						
KOLN	**Koldanda**	**47.09**	**309**	*e*P	**P**	**17 48 53.7**	**+1.0**
	comp=Z,71nm,0.9s,mb5.3						
HABR	**Khabarovsk**	**49.48**	**10**	*e*P	**P**	**17 49 07.0**	**-4.0**
ULN	**Ulaanbaatar**	**49.85**	**346**	*e*P	**P**	**17 49 13.6**	**-0.2**
	comp=Z,9.5nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**49.85**	**346**	*e*P	**P**	**17 49 13.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
YSS	**Yuzh-Sakhalins**	**49.89**	**17**	⇑*e*P	**P**	**17 49 12.1**	**-2.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
SONM	**Songino Array**	**49.98**	**345**	P	**P**	**17 49 14.5**	**-0.3**
	comp=Z,6.4nm,0.7s,mb4.3,baz=161,slow=7.8,SNR=55						
SONM				PcP	PcP	17 50 31.9	-0.1
	comp=Z,1.7nm,0.9s,baz=172,slow=3.7,SNR=10						
ZAK	**Zakamensk**	**53.14**	**344**

comp=Z,0.3nm,0.5s,mb3.5,baz=248,slow=4.4,SNR=8.7
AKASG Malin Array Be 92.68 321 P **P 17 53 28.3 -2.1**
comp=Z,0.1nm,0.4s,baz=70,slow=5.0,SNR=4.1
AKASG Malin Array Be 92.68 321 P **P 17 53 28.3 -2.1**
ARCES ARCESS Array B 92.85 340 P **P 17 53 28.8 -2.3**
comp=Z,2.7nm,0.8s,mb4.4,baz=52,slow=4.8,SNR=8.0
FINES FINESS Array B 93.57 331 P **P 17 53 33.0 -1.4**
comp=Z,0.4nm,0.6s,mb3.8,baz=57,slow=7.0,SNR=5.3
FINES FINESS Array B 93.57 331 *i* P **P 17 53 33.7 -0.8**
INK Inuvik 94.99 21 P **P 17 53 40.8 -0.2**
comp=Z,0.6nm,0.7s,mb4.0,baz=313,slow=3.0,SNR=3.7
TORD Torodi Ar. Bea 120.72 285 PKP PKPdf 17 59 09.9 +0.6
comp=Z,1.0nm,0.9s,baz=79,slow=2.2,SNR=6.7

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*ISCJB **05** 17:45:15.6±0.4,5155N±002×695E±004,h0km,Error ellipse: s-maj=3.7km s-min=3.2km az=15.0*
*BUG **05** 17:45:16.7,5159N×705E,h1km,ML1.1*
*BNS **05** 17:45:16.2±0.6,5167N×696E,h1km,ML1.3*
*CSEM **05** 17:45:17.7±0.2,5158N×704E,h1km,ML2.4/4,Error ellipse: s-maj=3.5km s-min=1.7km az=46.0*
*BGR **05** 17:45:17.9±0.5,5160N×701E,h1km,ML2.1/3,Error ellipse: s-maj=6.7km s-min=4.4km az=106.0*
*NEIC **05** 17:45:17.5±5.1,5155N×695E,h10km,ML2.5(LDG),Error ellipse: s-maj=57.6km s-min=11.1km az=214.0*
*LDG **05** 17:45:17.6±0.2,5159N×705E,h1km,Md2.5/2,Ml2.5/4,Error ellipse: s-maj=3.9km s-min=2.3km az=40.0,Suspected Mining induced.*
ISC 05 17:45:16.6±0.4,**5159N**±002×**698E**±004,**h0**km,**n36,**
σ**1**9**12/57,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.08**	**295**	Pg	**Pg**	**17 45 19.1**	**+1.0**
BZER				Sg	**Sg**	**17 45 21.2**	**+2.1**
BUG	**Bochum–Univer**	**0.23**	**129**	*e*Pg	**Pg**	**17 45 22.5**	**+1.4**
BUG	SNR=12			*e*Sg	**Sg**	**17 45 24.7**	**+0.6**
LAUG	**Laupendahl**	**0.24**	**186**	*e*Pg	**Pg**	**17 45 22.4**	**+1.2**
WTSB	**Winterswijk**	**0.39**	**343**	*e*Pg	**Pg**	**17 45 24.0**	**-0.2**
HOBG	**Hohbusch**	**0.65**	**160**	*e*Pg	**Pg**	**17 45 29.6**	**+0.7**
HOBG	26nm,0.3s			*e*Sg	**Sg**	**17 45 40.5**	**+3.2**
IBBN	**Ibbenburen**	**0.86**	**33**	*e*Pg	**Pg**	**17 45 34.2**	**+1.0**
IBBN	SNR=6.2			*e*Sg	**Sg**	**17 45 45.5**	**+1.1**
STB	**Steinbach**	**1.00**	**185**	*e*Pg	**Pg**	**17 45 36.9**	**+1.1**
STB				*e*Sg	**Sg**	**17 45 51.6**	**+2.8**
KLL	**Kalltalsperre**	**1.03**	**204**	*e*Pg	**Pg**	**17 45 37.0**	**+0.5**
KLL				*e*Sg	**Sg**	**17 45 51.9**	**+2.1**
HGN	**Heimansgroeve**	**1.06**	**219**	*e*Pg	**Pg**	**17 45 37.8**	**+0.9**
HGN	13nm,0.2s,baz=35			*e*Sg	**Sg**	**17 45 52.8**	**+2.2**
BGG	**Burgeitz**	**1.40**	**171**	*e*Pg	**Pg**	**17 45 43.0**	**-0.5**
BGG				*e*Sg	**Sg**	**17 46 01.9**	**+0.1**
TNS	**Taunus Mts**	**1.65**	**145**	*e*Pg	**Pg**	**17 45 47.9**	**-0.4**
TNS	SNR=3.2			*e*Sg	**Sg**	**17 46 11.1**	**+1.3**
RUP	**Ruppelstein**	**1.89**	**178**	*e*Pn	**Pn**	**17 45 49.2**	**-0.9**
RUP				*e*Sg	**Sg**	**17 46 16.7**	**-0.7**
WLF	**Walferdange**	**2.00**	**196**	*e*Pg	**Pg**	**17 45 55.9**	**+1.0**
WLF	SNR=1.4			*e*Sg	**Sg**	**17 46 21.8**	**+1.0**
GIVF	**Givet**	**2.02**	**223**	*e*Pg	**Pg**	**17 45 55.9**	**+0.5**
GIVF				*e*Sg	**Sg**	**17 46 21.7**	**+0.1**
GIVF	**Givet**	**2.02**	**223**	*e*Pg	**Pg**	**17 45 55.9**	**+0.5**
GIVF	8.3nm,0.2s			*e*Sg	**Sg**	**17 46 21.7**	**+0.1**
GIVF	**Givet**	**2.02**	**223**	*e*Pn	**Pn**	**17 45 51.6**	**-0.3**
GIVF	4.2nm,0.2s			*e*Pg	**Pg**	**17 45 55.9**	**+0.5**
GIVF				*e*Sg	**Sg**	**17 46 21.7**	**+0.1**
UBBA	**Unterbreizbach**	**2.05**	**111**	*e*Sg	**Sg**	**17 46 23.3**	**+0.8**
CLZ	**Clausthal**	**2.12**	**82**	*e*Pg	**Pg**	**17 45 55.8**	**-1.5**
LANF	**Langenberg**	**2.67**	**168**	*e*Pn	**Pn**	**17 45 59.9**	**-0.9**
LANF	**Langenberg**	**2.67**	**168**	*e*Pg	**Pg**	**17 46 06.0**	**-1.7**
LANF	SNR=2.7			*e*Sg	**Sg**	**17 46 41.2**	**-1.0**
CDF	**Champ du Feu**	**3.19**	**176**	*e*Pn	**Pn**	**17 46 07.4**	**-0.5**
CDF	2.8nm,0.3s			*e*Sg	**Sg**	**17 46 57.6**	**-1.4**
CDF	**Champ du Feu**	**3.19**	**176**	*e*Pn	**Pn**	**17 46 07.4**	**-0.5**
CDF	1.0nm,0.4s			*e*Sg	**Sg**	**17 46 57.6**	**-1.4**
MEZF	**Maizieres J'vi**	**3.33**	**203**	*e*Pn	**Pn**	**17 46 09.0**	**-0.9**
BFO	**Black Forest**	**3.38**	**165**	*e*Pn	**Pn**	**17 46 10.3**	**-0.2**
SFTF	**Sexfontaines**	**3.61**	**201**	*e*Pg	**Pg**	**17 46 24.8**	**-1.1**
SFTF	**Sexfontaines**	**3.61**	**201**	*e*Pn	**Pn**	**17 46 13.4**	**-0.4**
SFTF	0.5nm,0.4s			*e*Pg	**Pg**	**17 46 24.8**	**-1.1**
LOR	**Lormes**	**4.78**	**206**	*e*Pn	**Pn**	**17 46 28.9**	**-1.0**
CABF	**La Chapelle**	**5.02**	**187**	*e*Pn	**Pn**	**17 46 31.9**	**-1.2**
SSF	**Saint Saulge**	**5.07**	**208**	*e*Pn	**Pn**	**17 46 32.7**	**-1.1**
AVF	**Avril sur Loir**	**5.36**	**208**	*e*Pn	**Pn**	**17 46 36.6**	**-1.2**
SMF	**Signal de Mont**	**5.36**	**204**	*e*Pn	**Pn**	**17 46 36.8**	**-1.0**
LDF	**La Druitiere**	**5.47**	**240**	*e*Pn	**Pn**	**17 46 38.4**	**-0.9**
FLN	**La Foliniere**	**5.57**	**242**	*e*Pn	**Pn**	**17 46 39.9**	**-0.8**
BGF	**Bois d'Agland**	**5.72**	**210**	*e*Pn	**Pn**	**17 46 41.7**	**-1.1**
GRR	**Gorron**	**5.99**	**241**	*e*Pn	**Pn**	**17 46 45.3**	**-1.1**
GRR	0.8nm,0.2s			*e*Sn	**Sn**	**17 47 51.5**	**-4.1**
GRR	**Gorron**	**5.99**	**241**	*e*Pn	**Pn**	**17 46 45.3**	**-1.1**
GRR	0.4nm,0.2s			*e*Sn	**Sn**	**17 47 51.5**	**-4.1**

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*ISCJB **05** 17:46:39.0±1.1,2346S±007×667W±0.1,h204km±16km, mb3.4/2,Error ellipse: s-maj=20.3km s-min=10.2km az=19.6*
*NEIC **05** 17:46:39.4±1.0,2344S×6666W,h186km±13km,mb3.7/1, Error ellipse: s-maj=21.4km s-min=10.3km az=97.0*
*IDC **05** 17:46:39.5±1.9,2341S×6663W,h188km±18km,mb3.4/2, mb1 3.3/6,mb1mx3.2/16,mbtmp3.7/6,MS3.7/1,Ms1 3.7/1, ms1mx2.9/6, Error ellipse: s-maj=26.4km s-min=18.1km az=98.0*
ISC 05 17:46:39.7±1.0,**2343S**±007×**667W**±01,**h195**km±15km,**n9,**
σ**0**9**71/12,mb3.4/2,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.24**	**349**	P	**Pn**	**17 48 24.1**	**+1.2**
LPAZ	1.4nm,0.3s,baz=162,slow=8.1,SNR=22			S	**Sn**	**17 49 44.5**	**-0.4**
LPAZ	**La Paz**	**7.24**	**349**	*e*Pn	**Pn**	**17 48 23.9**	**+1.0**
LPAZ	baz=241,slow=19,SNR=2.7			*e*Sn	**Sn**	**17 49 40.7**	**-4.1**
LPAZ				S	**Sn**	**17 49 44.5**	**-0.4**
CFAA	**Coronel Fontan**	**8.26**	**189**	P	**Pn**	**17 48 36.3**	**-0.1**
SIV	0.1nm,0.3s,baz=15,slow=12,SNR=29 **San Ignacio**	**9.08**	**36**	P	**Pn**	**17 48 46.2**	**-0.7**
SIV	0.2nm,0.3s,baz=231,slow=13,SNR=5.6 baz=131,slow=20,SNR=2.3			S	**Sn**	**17 50 28.2**	**-0.3**
TRQA	**Tornquist**	**15.12**	**166**	*e*Pn	**Pn**	**17 50 03.3**	**-0.3**
BDFB	**Brasilia**	**19.19**	**70**	P	**P**	**17 50 50.0**	**+1.4**
BDFB	1.4nm,0.4s 0.3nm,0.3s,baz=247,slow=10,SNR=8.8 comp=Z,234nm,18.6s,baz=124,slow=39			LR	LR	17 59 14.8	
TORD	**Torodi Ar. Bea**	**76.07**	**69**	P	**P**	**17 58 05.3**	**-0.3**
YKA	0.6nm,0.5s,mb3.5,baz=257,slow=6.1,SNR=6.7 **Yellowknife Ar**	**93.70**	**340**	P	**P**	**17 59 33.6**	**-0.4**
MKAR	0.1nm,0.4s,mb3.2,baz=129,slow=4.5,SNR=5.5 **Makanchi Array**	**145.89**	**39**	PKPbc	PKPbc	18 05 57.4	+1.3
	0.2nm,0.4s,baz=299,slow=3.0,SNR=3.5						

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*IDC **05** 18:31:26.4±0.7,761N×9452E,h0km,mb4.1/14, mb1 4.2/15,mb1mx4.1/24,mbtmp4.1/15,ML3.7/1,MS3.8/2, Ms1 3.8/2,ms1mx3.4/30,Error ellipse: s-maj=29.9km s-min=16.0km az=56.0*
*MOS **05** 18:31:29.8±1.2,761N×9452E,h36km,mb4.5/16,Error ellipse: s-maj=17.4km s-min=7.2km az=113.0*
*ISCJB **05** 18:31:30.1±1.3,757N±007×9446E±007,h39km±12km, mb4.4/39,MS4.0/8,Error ellipse: s-maj=14.4km s-min=9.1km az=88.6*
*NEIC **05** 18:31:30.9±3.8,759N×9443E,h31km±27km,mb4.4/11, Error ellipse: s-maj=23.9km s-min=7.6km az=56.0*
*BJI **05** 18:31:30.8,760N×9440E,h30km,mB4.9,mb4.4,Ms4.4, Msz4.0*
ISC 05 18:31:32.2±1.1,**760N**±007×**9445E**±007,**h38**km±10km, **h29**km±6.9km:**pP-P,n72,**σ**1**9**19/72,mb4.4/39,MS4.0/8, 5C-7D,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.52**	**137**	Pn	**Pn**	**18 33 06.2**	**+0.5**
PSI	1.6nm,0.3s,baz=322,slow=13,SNR=15 comp=Z,579nm,19.6s,baz=303,slow=42			LR	LR	18 36 01.6	
KULM	**Kulim**	**6.58**	**110**	*e*P	**Pn**	**18 33 05.8**	**-0.5**
SHL	**Shillong**	**18.04**	**353**	*e*P	**Pn**	**18 35 40.0**	**+0.2**
KMI	**Kunming**	**19.15**	**23**	P	**Pn**	**18 35 57.9**	**+4.6**
KMI	comp=Z,119nm,27.2s			LR	LR		
JIRN	**Jiri**	**21.43**	**340**	*e*P	**P**	**18 36 16.4**	**-0.6**
PKI	**Pulchoki**	**21.64**	**338**	*e*P	**P**	**18 36 18.5**	**-0.6**
GUN	**Gumba**	**21.77**	**339**	*e*P	**P**	**18 36 20.4**	**-0.2**
DMN	**Daman**	**21.79**	**337**	*e*P	**P**	**18 36 20.5**	**-0.2**
KKN	**Kakani**	**21.88**	**338**	*e*P	**P**	**18 36 21.2**	**-0.5**
KKN	**Kakani**	**21.88**	**338**	*e*P	**P**	**18 36 21.2**	**-0.5**
LSA	**Lhasa**	**22.21**	**352**	*e*P	**P**	**18 36 26.3**	**+1.1**
LSA	**Lhasa**	**22.21**	**352**	*e*P	**P**	**18 36 27.9**	**+2.7**
LSA	**Lhasa**	**22.21**	**352**	*e*P	**P**	**18 36 27.9**	**+2.7**
GKN	**Gorkha**	**22.32**	**337**	*e*P	**P**	**18 36 25.4**	**-1.0**
KOLN	**Koldanda**	**22.54**	**334**	*e*P	**P**	**18 36 28.4**	**-0.4**
CD2	**Chengdu**	**24.78**	**19**	*e*P	**P**	**18 36 53.1**	**+2.8**
CD2				AP		18 37 02.4	
CD2				XP	sP	18 37 06.4	+0.8
CD2				PP		18 37 30.9	
CD2				S	**S**	**18 41 12.1**	**+2.0**
CD2				XS	sS	18 41 27.5	-0.2
CD2				SS		18 42 11.9	
CD2	comp=Z,20nm,0.9s,mb4.7			AMB	AMB		
CD2	comp=Z,60nm,5.2s			AMB	AMB		
CD2				LR	LR		
CD2	comp=E,160nm,12.0s			LR	LR		
WHN	**Wuhan**	**29.47**	**37**	*e*P	**P**	**18 37 33.5**	**+1.0**
GTA	**Gaotai**	**32.04**	**8**	*e*P	**P**	**18 37 56.7**	**+1.6**
GTA				AP	pP	18 38 01.7	-4.2
GTA	comp=Z,4.0nm,0.9s,mb4.2			AMB	AMB		
NJ2	**Nanjing**	**33.29**	**40**	*e*P	**P**	**18 38 06.2**	**+0.2**
NJ2				AP	pP	18 38 15.9	-0.9
NJ2				XP	sP	18 38 19.9	-1.5
NJ2				PP	PP	18 39 18.5	-3.2
NJ2				S	**S**	**18 43 23.0**	**-0.8**
NJ2	comp=Z,10.0nm,0.5s,mb5.0			AMB	AMB		
NJ2	comp=Z,200nm,4.3s			AMB	AMB		
NJ2	comp=N,280nm,15.0s,MS4.4			LR	LR		
NJ2				LR	LR		
NJ2	comp=E,370nm,12.2s,MS4.4			LR	LR		
NJ2	comp=Z,260nm,24.8s			LR	LR		
SSE	**Sheshan**	**34.21**	**43**	*e*P	**P**	**18 38 12.5**	**-1.6**
SSE				AMB	AMB		
SSE	comp=Z,22nm,0.8s,mb5.1			AMB	AMB		
SSE	comp=Z,112nm,3.5s			LR	LR		
SSE	comp=N,77nm,19.2s,MS3.6			LR	LR		
SSE	comp=E,84nm,19.2s,MS3.6			LR	LR		
WMQ	**Urumqi**	**36.56**	**352**	*e*P	**P**	**18 38 35.4**	**+1.1**
WMQ				AP	pP	18 38 45.4	+0.3
WMQ				XP	sP	18 38 49.4	-0.3
WMQ				AMB	AMB		
WMQ	comp=Z,5.0nm,1.0s,mb4.3			AMB	AMB		
WMQ	comp=Z,36nm,4.2s			LR	LR		
AAK	**Ala-Archa**	**39.08**	**336**	*e*P	**P**	**18 38 55.4**	**-0.1**
AAK	comp=Z,4.3nm,1.0s,mb4.1 **Ala-Archa**	**39.08**	**336**	⇓*e*P	**P**	**18 38 55.5**	**0.0**
AAK				pmax	pmax		
MKAR	comp=Z,3.0nm,1.7s,mb3.8 **Makanchi Array**	**40.42**	**347**	P	**P**	**18 39 05.6**	**-1.1**
SONM	comp=Z,4.1nm,0.8s,mb4.2,baz=165,slow=8.1,SNR=44 **Songino Array**	**41.37**	**12**	P	**P**	**18 39 15.1**	**+0.6**
ULN	comp=Z,1.5nm,0.9s,mb3.6,baz=192,slow=5.5,SNR=12 **Ulaanbaatar**	**41.54**	**13**	⇓*e*P	**P**	**18 39 17.3**	**+1.4**
KURK	**Kurchatov**	**44.95**	**346**	*e*P	**P**	**18 39 43.1**	**-0.4**
KURK	comp=Z,12nm,1.1s,mb4.6 **Kurchatov**	**44.95**	**346**	*e*P	**P**	**18 39 43.4**	**0.0**
ZAL	**Zalesovo**	**46.86**	**352**	P	**P**	**18 39 58.4**	**-0.1**
ZAL	comp=Z,2.3nm,0.7s,mb4.2,baz=290,slow=6.4,SNR=16 **Zalesovo**	**46.86**	**352**	*i* P	**P**	**18 39 58.7**	**+0.2**
ZAL				pmax	pmax		
WRA	comp=Z,2.0nm,0.7s **Warramunga Arr**	**47.85**	**126**	P	**P**	**18 40 05.7**	**-0.5**
WRAB	comp=Z,0.9nm,0.7s,mb3.9,baz=305,slow=8.5,SNR=15 **Tennant Creek**	**47.86**	**126**	*e*P	**P**	**18 40 06.9**	**+0.7**
NVS	**Novosibirsk**	**47.96**	**351**	*e*P	**P**	**18 40 06.1**	**-0.9**
NVS				pmax	pmax		
NVS	comp=N,5.0nm,1.0s			pmax	pmax		
NVS	comp=E,2.0nm,1.0s			pmax	pmax		
VLA	comp=Z,5.0nm,1.0s,mb4.5 **Vladivostok**	**48.26**	**37**	⇑*e*P	pP	18 40 22.1	+1.6
BVAR	**Borovoye Array**	**49.35**	**341**	P	**P**	**18 40 16.6**	**-1.1**
BRVK	comp=Z,2.9nm,0.8s,mb4.4,baz=141,slow=5.7,SNR=12 **Borovoye**	**49.41**	**341**	*e*P	**P**	**18 40 17.6**	**-0.5**
BRVK	comp=Z,2.8nm,0.8s,mb4.3 **Borovoye**	**49.41**	**341**	*e*P	**P**	**18 40 17.7**	**-0.5**
BRVK				pmax	pmax		
ASAR	comp=Z,3.0nm,0.8s,mb4.4 **Alice Springs**	**49.50**	**130**	P	**P**	**18 40 18.7**	**-0.2**
BOD	comp=Z,0.6nm,0.7s,mb3.7,baz=306,slow=7.6,SNR=5.9 **Bodaibo**	**52.35**	**13**	*e*P	**P**	**18 40 41.4**	**+1.1**
BOD	comp=Z,4.0nm,1.7s,mb4.1			pmax	pmax		
HABR	**Khabarovsk**	**53.21**	**33**	*e*P	**P**	**18 40 43.9**	**-2.7**
HABR				*e*S	**S**	**18 48 13.6**	**-1.3**
SVE	**Sverdlovsk**	**55.77**	**338**	*e*P	**P**	**18 41 07.0**	**+1.8**
ARU	**Arti**	**56.26**	**337**	⇑*i*P	**P**	**18 41 08.2**	**-0.5**
ARU				*e*		18 43 09.6	
ARU				*e*S	**S**	**18 48 59.1**	**+3.2**
ARU				*e*SS	SS	18 52 47.8	+4.9
ARU	comp=Z,7.0nm,1.0s,mb4.7			pmax	pmax		
KMBO	**Kilima Mbogo**	**57.70**	**264**	P	**P**	**18 41 20.7**	**+1.8**
KIV	comp=Z,0.8nm,0.5s,mb4.0,baz=51,slow=7.2,SNR=4.0 **Kislovodsk**	**57.73**	**318**	⇓*e*P	**P**	**18 41 20.5**	**+1.4**
KIV				pmax	pmax		
KIV	comp=Z,8.0nm,1.3s,mb4.6			MLR	MLR		
STKA	comp=Z,200nm,16.0s,MS4.3 **Stephens Creek**	**59.69**	**134**	LR	LR	19 11 50.2	
YAK	comp=Z,105nm,18.3s,MS4.0,baz=202,slow=41 **Yakutsk**	**60.16**	**18**	⇓*e*P	**P**	**18 41 35.7**	**-0.3**
YAK				pmax	pmax		
ANN	comp=Z,9.0nm,0.8s,mb4.8 **Anapa**	**61.55**	**317**	*e*P	**P**	**18 41 42.9**	**-2.5**
ANN				*e*S	**S**	**18 49 59.6**	**-4.8**
ANN				pmax	pmax		
BRTR	comp=Z,139nm,1.5s **Keskin Array B**	**62.84**	**311**	P	**P**	**18 41 51.6**	**-2.5**
BRTR	comp=Z,1.5nm,0.7s,mb4.2,baz=127,slow=9.2,SNR=9.0 **Keskin Array B**	**62.84**	**311**	*i* P	**P**	**18 41 54.7**	**+0.6**
BRTR				pmax	pmax		
MOS	comp=Z,2.0nm,0.7s **Moscow**	**65.47**	**329**	*e*P	**P**	**18 42 13.2**	**+1.9**
MOS				pmax	pmax		
OBN	comp=Z,50nm,0.7s **Obninsk**	**65.78**	**328**	⇓*e*P	**P**	**18 42 12.7**	**-0.6**
OBN				pmax	pmax		
OBN	comp=Z,20nm,1.6s,mb4.9			MLR	MLR		
TIXI	comp=Z,100nm,16.0s,MS4.1 **Tiksi**	**67.44**	**11**	⇓*e*P	**P**	**18 42 23.8**	**-0.1**
TIXI				pmax	pmax		
AKASG	comp=Z,8.0nm,1.3s,mb4.6 **Malin Array Be**	**68.56**	**322**	P	**P**	**18 42 32.0**	**+1.1**
AKASG	comp=Z,1.5nm,0.8s,mb4.0,baz=95,slow=5.1,SNR=6.1 **Malin Array Be**	**68.56**	**322**	*i* P	**P**	**18 42 34.5**	**+3.6**
AKASG				pmax	pmax		
MLR	comp=Z,2.0nm,0.8s **Muntele Rosu**	**69.58**	**316**	P	**P**	**18 42 39.3**	**+2.0**
JOF	comp=Z,4.4nm,1.0s,mb4.3,baz=143,slow=5.1,SNR=3.7 **Joensuu**	**71.23**	**344**	*e*p	**P**	**18 42 46.5**	**-0.8**
FINES	comp=Z,1.5nm,0.6s,mb4.1 **FINESS Array B**	**73.10**	**332**	P	**P**	**18 42 57.7**	**-0.8**
FINES	comp=Z,1.5nm,0.7s,mb4.1,baz=96,slow=9.6,SNR=6.6 **FINESS Array B**	**73.10**	**332**	P	**P**	**18 42 57.7**	**-0.8**
FINES	**FINESS Array B**	**73.10**	**332**	*i* P	**P**	**18 42 58.7**	**+0.2**
FINES				pmax	pmax		
KAF	comp=Z,2.0nm,0.7s **Kangasniemi**	**73.18**	**333**	*e*p	**P**	**18 42 58.0**	**-1.0**
KAF	**Kangasniemi**	**73.18**	**333**	*e*P	**P**	**18 42 58.0**	**-1.0**
KAF				pmax	pmax		
ARCES	comp=Z,1.0nm,0.6s,mb3.9 **ARCESS Array B**	**75.63**	**340**	P	**P**	**18 43 14.1**	**+0.9**
BILL	comp=Z,4.4nm,0.9s,mb4.4,baz=49,slow=33,SNR=2.4 **Bilibino**	**76.23**	**22**	⇑*e*P	**P**	**18 43 16.0**	**-0.7**
BILL				pmax	pmax		
BILL	comp=Z,6.0nm,1.7s,mb4.2			MLR	MLR		
GERES	comp=Z,100nm,17.0s,MS4.2 **GERESS Array B**	**78.24**	**318**	P	**P**	**18 43 30.1**	**+2.3**
KHC	comp=Z,1.4nm,0.8s,mb4.0,baz=124,slow=6.9,SNR=4.2 **Kasperske Hory**	**78.33**	**319**	⇑*e*P	**P**	**18 43 26.6**	**-1.8**
HFS	**Hagfors**	**78.85**	**330**	P	**P**	**18 43 29.6**	**-1.7**
NB2	comp=Z,2.3nm,0.8s,mb4.2,baz=97,slow=10,SNR=5.3 **NORSAR Subarra**	**80.12**	**331**	P	**P**	**18 43 36.6**	**-1.6**
NB2	comp=Z,2.8nm,0.9s,mb4.2,baz=92,slow=5.9 **NORSAR Subarra**	**80.12**	**331**	P	**P**	**18 43 36.6**	**-1.6**
NB2				pmax	pmax		
NOA	comp=Z,3.0nm,0.9s,mb4.2 **NORSAR Array B**	**80.12**	**331**	P	**P**	**18 43 37.1**	**-1.1**
SYO	comp=Z,0.7nm,0.7s,mb3.7,baz=91,slow=5.6,SNR=3.8 **Syowa Base**	**85.23**	**197**	⇓*e*PP	PP	18 47 18.7	-3.9
CFAA	**Coronel Fontan**	**151.16**	**212**	PKPbc	PKPbc	18 51 21.2	-0.1
CFAA	comp=Z,0.4nm,0.7s,baz=213,slow=4.4,SNR=9.1 **Coronel Fontan**	**151.16**	**212**	PKPbc	PKPbc	18 51 21.2	-0.1

IDC 05 18:32:47.2±5.8,**1722S**×**6983W,h162**km±34km,**mb3.3/2, mb1 3.4/3,mb1mx3.1/16,mbtmp3.7/3,Error ellipse: s-maj=88.5km s-min=40.4km az=21.0,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.87**	**61**	P	Pn	18 33 22.2	+0.5
LPAZ	1.5nm,0.3s,baz=253,slow=6.2,SNR=28			S	Sn	18 33 49.7	+1.5
SIV	1.2nm,0.3s,baz=358,slow=9.0,SNR=9.1 **San Ignacio**	**8.48**	**83**	P	Pn	18 34 46.7	-0.2
TORD	0.8nm,0.3s,baz=278,slow=11,SNR=17 **Torodi Ar. Bea**	**76.79**	**72**	P	P	18 44 21.6	+0.8
YKA	0.2nm,0.3s,baz=259,slow=5.3,SNR=8.6 **Yellowknife Ar**	**86.88**	**341**	P	P	18 45 13.1	-0.4
	0.4nm,0.7s,baz=135,slow=4.9,SNR=9.6						

IDC 05 18:35:17.5±1.2,**270N**×**12689E,h0**km,**mb3.6/5,mb1 3.8/5, mb1mx3.6/17,mbtmp3.6/5,Error ellipse: s-maj=142.0km s-min=18.6km az=69.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.66**	**162**	P	P	18 40 31.7	+1.0
ASAR	2.4nm,0.7s,baz=342,slow=10,SNR=19 **Alice Springs**	**27.09**	**166**	P	P	18 41 03.4	+1.6
STKA	0.4nm,0.4s,baz=347,slow=13,SNR=7.8 **Stephens Creek**	**37.12**	**159**	*e*P	P	18 42 27.9	-1.8
STKA	2.8nm,1.2s **Stephens Creek**	**37.12**	**159**	P	P	18 42 28.0	-1.7
SONM	1.9nm,0.4s,baz=331,slow=8.9,SNR=8.6 **Songino Array**	**48.31**	**342**	P	P	18 44 02.0	+1.4
MKAR	0.6nm,1.1s,baz=120,slow=5.2,SNR=3.3 **Makanchi Array**	**58.48**	**326**	P	P	18 45 14.4	-0.9
	0.2nm,0.5s,baz=124,slow=7.8,SNR=3.9						

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*NEIC **05** 18:39:49.1,3200S×7144W,h35km,ML3.1(GUC),After GUC.*
GUC 05 18:39:49.1±0.9,**3200S**×**7144W,h35**km±2km,**MD3.6, ML3.1,8C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.13**	**336**	⇑*i*P	Pb	18 39 55.1	-0.1
CHNG				*i* S	Sb	18 39 59.6	+0.1
CHNG				AMP		18 40 00.0	
CMCH	comp=E,4μm,0.2s **Combarbala**	**0.91**	**25**	⇑*i*P	Pn	18 40 05.6	+0.3
CMCH				*i* S	Sn	18 40 18.1	+1.0
CMCH				AMP		18 40 19.7	
CMCH	comp=N,1μm,0.6s **Combarbala**	**0.91**	**25**	⇑*i*P	Pn	18 40 05.6	+0.3
CMCH				*i* S	Sn	18 40 18.1	+1.0
JACH	**Jahuel**	**0.99**	**134**	⇓*i*P	Pn	18 40 07.6	+1.2
JACH				*i* S	Sn	18 40 21.1	+1.9
ROCH	**El Roble**	**1.03**	**160**	*i* P	Pn	18 40 07.9	+0.8
PEL	**Peldehue**	**1.31**	**151**	⇑*i*P	Pn	18 40 11.9	+1.1
PEL				*i* S	Sn	18 40 29.1	+2.0
PEL				AMP		18 40 30.0	
PEL	comp=E,1μm,0.3s **Peldehue**	**1.31**	**151**	⇑*i*P	Pn	18 40 11.9	+1.1
PEL				*i* S	Sn	18 40 29.1	+2.0
LCCH	**Las Cruces**	**1.48**	**184**	⇓*i*P	Pn	18 40 13.8	+0.7
CLCH	**Cerro Calan**	**1.59**	**152**	⇑*i*P	Pn	18 40 16.4	+1.7
CLCH				*i* S	Sn	18 40 37.0	+3.0
CLCH				AMP		18 40 38.9	
FCH	comp=N,364nm,0.3s **Farellones**	**1.64**	**144**	⇑*i*P	Pn	18 40 16.8	+1.4
FCH				*i* S	Sn	18 40 38.2	+2.9
FCH				AMP		18 40 38.6	
TACH	comp=E,156nm,0.2s **Talagante**	**1.70**	**166**	⇑*i*P	Pn	18 40 17.6	+1.4
TACH				*i* S	Sn	18 40 39.7	+2.9
PCH	**Pirque**	**1.79**	**154**	*i* P	Pn	18 40 19.3	+1.8
PCH				*i* S	Sn	18 40 41.9	+2.8
CHCH	**Chadas Angostu**	**2.04**	**161**	*e*P	Pn	18 40 22.6	+1.7
LMEL	**Las Melosas**	**2.12**	**151**	*i* P	Pn	18 40 24.0	+2.0
LMEL				*i* S	Sn	18 40 49.7	+2.6
LMEL				AMP		18 40 55.2	
LMEL	comp=N,246nm,0.1s **Las Melosas**	**2.12**	**151**	*i* P	Pn	18 40 24.0	+2.0
LMEL				*i* S	Sn	18 40 49.7	+2.6
CACH	**El Canelo**	**2.23**	**162**	⇓*i*P	Pn	18 40 26.0	+2.5
CICH	**Cipreses**	**2.47**	**160**	*e*P	Pn	18 40 29.0	+2.2

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4.1nm,0.1s,SNR=5.4
TKM2 Tokmak 2 0.56 68 ⇑P **Pg 18 42 47.2 -0.4**
0.2nm,0.1s
TKM2 ⇑S **Sg 18 42 54.6 -0.4**
3.2nm,0.2s
UCH Uchtor 0.56 210 P **Pg 18 42 47.6 -0.1**
3.8nm,0.1s,SNR=8.1
UCH ⇓S **Sg 18 42 55.2 -0.1**
22nm,0.2s
USP Ospenovka 0.62 332 ⇑P **Pg 18 42 48.9 +0.1**
3.5nm,0.1s,SNR=8.9
USP ⇑S **Sg 18 42 57.3 +0.2**
12nm,0.1s
KZA Kyzart 0.69 157 ⇓P **Pg 18 42 50.0 -0.1**
3.3nm,0.2s,SNR=6.2
KZA ⇑S **Sg 18 42 59.5 +0.2**
68nm,0.3s
EKS2 Erkin-Say 0.82 267 ⇑P **Pb 18 42 53.1 +0.5**
1.3nm,0.1s,SNR=21
ULHL Ulahol 1.10 115 P **Pb 18 42 57.9 +0.5**
SNR=7.9
KK31 Karatay Array 3.24 278 ⇑Pn **Pg 18 43 37.5 -1.3**
1.2nm,0.8s,baz=104,slow=15,SNR=14
KK31 ⇑Sn **Sg 18 44 16.9 -3.9**
1.2nm,0.6s,baz=106,slow=28,SNR=3.9

*ISCJB **05** 19:01:20.5±2.1,560S±0.1×274W±0.3,h124km±20km, mb4.4/6, Error ellipse: s-maj=29.5km s-min=12.1km az=113.0*
*IDC **05** 19:01:20.1±0.7,5603S×2742W,h105km±5km,mb4.2/5, mb1 4.3/6,mb1mx4.0/14,mbtmp4.6/6,Error ellipse: s-maj=22.3km s-min=17.2km az=67.0*
*NEIC **05** 19:01:22.0±3.2,5604S×2738W,h123km±27km,mb5.2/2, Error ellipse: s-maj=22.2km s-min=12.6km az=54.0*
*HRVD **05** 19:01:22.0±0.9,5586S×2775W,h133km±7km,MW5.0/27, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s27,c30; Half duration: 1§5 Moment tensor: Scale 10^{16}Nm; M_{rr}1.31±.29; $M_{\theta\theta}$2.10±.34; $M_{\phi\phi}$-3.41±.33; $M_{r\theta}$-1.09±.21; $M_{\theta\phi}$1.39±.31; $M_{r\phi}$0.53±.26; Best double couple: $M_0$3.42200×10^{16} NP1:ϕ=209.00000°, δ62.00000°,λ163.00000°. NP2:ϕ=306.00000°,δ75.00000°, λ29.00000°. Principal axes: T 2.9840, Plg31.0000°, Azm170.0000°; N 0.8750, Plg58.0000°, Azm331.0000°; P -3.8590, Plg9.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **05** 19:01:40.0±2.0,5632S×2304W,h260km,mb4.2/1 Error ellipse: s-maj=97.8km s-min=21.0km az=94.0*

ISC 05 19:01:22.1±2.0,**561S**±01×**275W**±03,**h125**km±19km,**n40,** σ0§**84**/16,**mb4.4**/6,**5C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.48**	**286**	Pn	**Pn**	**19 02 41.5**	**-0.1**
	317nm,0.5s,SNR=8.3						
VNA3	**Neumayer Olymp**	**17.00**	**160**	⇑*i*	**Pn**	**19 05 12.6**	**+0.4**
VNA3				*e*		19 05 14.1	
VNA3				*e*		19 08 11.7	
VNA2	**Neumayer--Watz**	**17.21**	**158**	⇑*i*	**Pn**	**19 05 14.3**	**-0.4**
VNA2				*e*		19 05 15.8	
VNA2				*e*		19 08 16.3	
SNAA	**Sanae**	**18.76**	**156**	P	**P**	**19 05 30.7**	**-0.7**
	3.8nm,0.3s,baz=303,slow=10,SNR=265						
SNAA	**Sanae**	**18.76**	**156**	⇑*i*	**P**	**19 05 31.2**	**-0.2**
SNAA				*e*		19 05 32.6	
SNAA				*e*		19 05 34.3	
SNAA	**Sanae**	**18.76**	**156**	⇑*i*P	**P**	**19 05 31.2**	**-0.2**
	3.0nm,0.5s						
SNAA				*e*		19 05 32.6	
SNAA				*e*		19 05 34.3	
SNAA	**Sanae**	**18.76**	**156**	⇑*i*P	**P**	**19 05 31.2**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
QSPA	**South Pole Qui**	**34.16**	**180**	*e*P	**P**	**19 07 56.3**	**+1.1**
	comp=Z,35nm,0.3s						
CFAA	**Coronel Fontan**	**37.44**	**294**	P	**P**	**19 08 22.4**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=158,slow=16,SNR=3.7						
CFAA				PcP	PcP	19 10 39.1	-0.1
	comp=Z,0.1nm,0.6s,baz=118,slow=4.1,SNR=6.0						
VNDA	**Vanda**	**46.52**	**183**	P	**P**	**19 09 37.6**	**+0.7**
	comp=Z,10.0nm,0.8s,mb4.6,baz=185,slow=5.7,SNR=36						
LPAZ	**La Paz**	**50.28**	**306**	P	**P**	**19 10 06.6**	**+0.9**
	comp=Z,2.9nm,0.6s,mb4.4,baz=160,slow=7.5,SNR=12						
LPAZ				pP	pP	19 10 31.7	-3.1
	comp=Z,2.8nm,0.9s,baz=147,slow=6.6,SNR=3.4						
LPAZ	**La Paz**	**50.28**	**306**	P	**P**	**19 10 06.6**	**+0.9**
LPAZ				pP	pP	19 10 31.7	-3.1
DBIC	**Dimbokro**	**65.27**	**25**	P	**P**	**19 11 50.1**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.0,baz=192,slow=9.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**73.17**	**30**	P	**P**	**19 12 39.9**	**+0.7**
	comp=Z,1.6nm,0.5s,mb4.1,baz=199,slow=6.7,SNR=36						
TORD				pP	pP	19 13 05.3	-4.8
	comp=Z,0.8nm,0.4s,baz=199,slow=6.8,SNR=2.6						
STKA	**Stephens Creek**	**91.88**	**171**	P	**P**	**19 14 13.9**	**-2.2**
	comp=Z,3.2nm,0.7s,mb4.7,baz=230,slow=4.2,SNR=6.4						
ASAR	**Alice Springs**	**98.99**	**163**	P	**P**	**19 14 48.5**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.7,baz=187,slow=3.9,SNR=46						
ASAR				PP	PP	19 18 47.2	-4.8
	comp=Z,0.8nm,0.7s,baz=188,slow=6.6,SNR=7.2						
WRA	**Warramunga Arr**	**102.71**	**162**	P	Pdif	19 15 04.7	-0.3
	comp=Z,0.5nm,0.5s,baz=196,slow=4.4,SNR=12						
BW06	**Boulder Array**	**120.24**	**302**	PKPdf	PKPdf	19 19 57.2	-1.1
PDAR	**Pinedale Array**	**120.24**	**302**	PKP	PKPdf	19 19 56.8	-1.6
	comp=Z,0.4nm,0.5s,baz=117,slow=5.0,SNR=7.5						
NOA	**NORSAR Array B**	**120.70**	**21**	PKP	PKPdf	19 19 57.3	-1.9
	comp=Z,0.8nm,0.8s,baz=89,slow=0.7,SNR=3.5						
NVAR	**Mina Array Bea**	**121.28**	**293**	PKP	PKPdf	19 20 00.6	+0.3
	comp=Z,0.5nm,0.5s,baz=166,slow=1.8,SNR=3.9						
FINES	**FINESS Array B**	**124.49**	**28**	PKP	PKPdf	19 20 04.9	-1.6
	comp=Z,2.6nm,0.5s,baz=136,slow=2.4,SNR=33						
KAF	**Kangasniemi**	**125.11**	**28**	*e*p	PKPdf	19 20 05.4	-2.3
	comp=Z,2.8nm,0.6s						
JOF	**Joensuu**	**127.11**	**29**	*e*p	PKPdf	19 20 11.0	-0.5
	comp=Z,1.8nm,0.5s						
ARCES	**ARCESS Array B**	**131.04**	**22**	PKP	PKPdf	19 20 15.9	-3.0
	comp=Z,2.2nm,0.7s,baz=184,slow=1.9,SNR=18						
BVAR	**Borovoye Array**	**134.93**	**58**	PKP	PKPdf	19 20 25.5	-0.8
	comp=Z,1.4nm,0.5s,baz=208,slow=2.4,SNR=9.5						
YKA	**Yellowknife Ar**	**136.10**	**318**	PKhKP		19 20 15.6	
	comp=Z,0.1nm,0.6s,baz=306,slow=24,SNR=3.2						
YKA				PKP	PKPdf	19 20 27.0	-1.4
	comp=Z,1.0nm,0.5s,baz=124,slow=2.3,SNR=4.8						
YKA				pPKP	pPKPdf	19 20 56.3	-5.7
	comp=Z,0.6nm,0.7s,baz=127,slow=2.1,SNR=2.8						
YKA				SKPbc	SKPbc	19 23 46.3	-2.6
	comp=Z,0.5nm,0.8s,baz=129,slow=1.6,SNR=7.2						
YKA	**Yellowknife Ar**	**136.10**	**318**	PKP		19 20 15.7	
YKA				PKP	PKPdf	19 20 27.1	-1.4
YKA				pPKP	pPKPdf	19 20 56.4	-5.7
YKA				SKPbc	SKPbc	19 23 46.3	-2.6
MKAR	**Makanchi Array**	**137.04**	**72**	PKhKP		19 20 17.9	
	comp=Z,0.1nm,0.6s,baz=26,slow=5.3,SNR=3.1						
MKAR				PKP	PKPdf	19 20 30.8	+0.5
	comp=Z,0.7nm,0.6s,baz=213,slow=0.8,SNR=9.2						
MKAR				SKPbc	SKPbc	19 23 49.6	-2.1
	comp=Z,0.1nm,0.5s,baz=240,slow=2.8,SNR=3.7						
MKAR	**Makanchi Array**	**137.04**	**72**	PKP		19 20 17.9	
MKAR				PKP	PKPdf	19 20 30.8	+0.5
MKAR				SKPbc	SKPbc	19 23 49.6	-2.1
NVS	**Novosibirsk**	**142.20**	**62**	*e*PKIKP	PKPdf	19 20 34.3	-5.3
ZAL	**Zalesovo**	**142.51**	**64**	PKhKP		19 20 31.1	
	comp=Z,0.9nm,0.4s,baz=291,slow=7.7,SNR=3.1						
ZAL				PKP	PKPdf	19 20 39.7	-0.5
	comp=Z,1.1nm,0.3s,baz=236,slow=3.6,SNR=5.6						
INK	**Inuvik**	**145.74**	**321**	*e*PKP	PKPdf	19 20 45.3	-0.5
DAWY	**Dawson**	**146.71**	**312**	*e*PKPbc	PKPbc	19 20 48.0	-1.3
SML	**Sawmill**	**149.93**	**306**	*e*PKPbc	PKPbc	19 20 56.9	-0.8
ILAR	**Eielson Array**	**150.03**	**312**	PKPbc	PKPbc	19 20 56.8	-1.2
	comp=Z,15nm,0.8s,baz=134,slow=3.0,SNR=126						
ILAR				pPKPbc	pPKPbc	19 21 23.9	-7.3
	comp=Z,5.0nm,0.8s,baz=128,slow=1.6,SNR=5.3						
SLKM	**Skilak Lake**	**150.43**	**303**	*e*PKPbc	PKPbc	19 20 58.2	-0.7
COLA	**College**	**150.46**	**312**	*e*PKPbc	PKPbc	19 20 57.5	-1.4
COLA				*e*PKPab	PKPab	19 21 05.2	-0.6
MCK	**McKinley**	**150.68**	**309**	*e*PKPbc	PKPbc	19 20 59.0	-0.4
SONM	**Songino Array**	**150.88**	**87**	PKPbc	PKPbc	19 20 59.4	-0.6
	comp=Z,11nm,0.6s,baz=221,slow=3.6,SNR=26						
SONM				pPKPbc	pPKPbc	19 21 26.3	-7.0
	comp=Z,1.0nm,1.0s,baz=48,slow=26,SNR=0.6						

WEL 05 19:05:48.3±0.3,**3855S**×**17580E,h144**km±2km,**ML3.6**/13,
Error ellipse: s-maj=3.3km s-min=3.3km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	**Tukino**	**0.73**	**189**	PN	Pn	19 06 10.7	+0.4
TUVZ				SN	Sn	19 06 27.7	+0.6
PKVZ	**Pokaka**	**0.82**	**205**	PN	Pn	19 06 10.9	-0.1
PKVZ				SN	Sn	19 06 28.9	+0.6
BKZ	**Black Stump Fm**	**0.82**	**139**	PN	Pn	19 06 11.3	+0.4
BKZ				SN	Sn	19 06 28.5	+0.2
MOVZ	**Moawhango**	**0.86**	**182**	PN	Pn	19 06 11.1	-0.1
MOVZ				SN	Sn	19 06 28.0	-0.8
MTVZ	**Mangateitei**	**0.87**	**197**	PN	Pn	19 06 11.4	+0.1
MTVZ				SN	Sn	19 06 28.6	-0.3
URZ	**Urewera**	**1.07**	**75**	PN	Pn	19 06 12.9	-0.2
URZ				SN	Sn	19 06 32.4	+0.4
MWZ	**Matawai**	**1.38**	**82**	PN	Pn	19 06 16.2	+0.2
MWZ				SN	Sn	19 06 37.2	-0.1
TSZ	**Takapari Road**	**1.52**	**175**	PN	Pn	19 06 17.1	-0.4
KNZ	**Kokohu**	**1.54**	**108**	PN	Pn	19 06 18.1	+0.4
PXZ	**Pawanui**	**1.70**	**151**	PN	Pn	19 06 19.4	-0.1
MRZ	**Mangatainoka R**	**2.12**	**184**	PN	Pn	19 06 22.7	-1.8
MRZ				SN	Sn	19 06 48.6	-3.6
BFZ	**Birch Farm**	**2.16**	**171**	PN	Pn	19 06 23.6	-1.3
BFZ				SN	Sn	19 06 49.7	-3.3

*IDC **05** 19:22:35.0±2.5,2793N×5698E,h0km,mb3.5/7,mb1 3.6/7, mb1mx3.4/23,mbtmp3.5/7,Error ellipse: s-maj=55.9km s-min=26.9km az=149.0*
*NEIC **05** 19:22:40.5,2824N×5691E,h14km,ML3.1(THR),After THR.*
*THR **05** 19:22:40.5±0.4,2824N×5691E,h14km±3km,ML3.0*
*OMAN **05** 19:22:40.4,2824N×5725E,h30km,Error ellipse: s-maj=1178.0km s-min=17.5km az=4.0*
*CSEM **05** 19:22:41.8±0.2,2812N×5700E,h49km±2km,ML3.0,Error ellipse: s-maj=7.7km s-min=4.0km az=105.0*
*ISCJB **05** 19:22:42.0±0.8,2809N±005×570E±0.1,h59km±10km, mb3.3/7,Error ellipse: s-maj=16.6km s-min=8.1km az=13.9*

ISC 05 19:22:43.1±0.8,**2811N**±005×**570E**±01,**h54**km±10km,**n22,** σ0§**78**/28,**mb3.3**/7,**3D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.02**	**226**	*e*PG	**Pn**	**19 23 00.4**	**-0.8**
BNDS				*e*SG	**Sn**	**19 23 15.1**	**+0.7**
BNDS				AML	AML	19 23 18.5	
	comp=N,592nm,0.4s						
BNDS	**Bandar-Abbas**	**1.02**	**226**	*e*Pg	**Pn**	**19 23 00.4**	**-0.7**
	SNR=90						
BNDS				*e*Sg	**Sn**	**19 23 15.1**	**+0.6**
	SNR=90						
BNDS	**Bandar-Abbas**	**1.02**	**226**	Pg	**Pn**	**19 23 00.0**	**-1.1**
BNDS				Sg	**Sn**	**19 23 15.0**	**+0.5**
KRBR	**Kerman**	**1.88**	**354**	*e*PN	**Pn**	**19 23 12.6**	**-0.3**
KRBR				*e*SG	**Sn**	**19 23 35.9**	**+0.5**
KRBR				AML	AML	19 23 47.2	
	comp=N,150nm,0.5s						
KRBR				AML	AML	19 23 47.4	
	comp=E,146nm,0.6s						
KRBR	**Kerman**	**1.88**	**354**	*e*Pn	**Pn**	**19 23 12.6**	**-0.2**
	SNR=52						
KRBR				Sg	**Sn**	**19 23 35.0**	**-0.4**
KRBR	**Kerman**	**1.88**	**354**	Pn	**Pn**	**19 23 12.0**	**-0.8**
KRBR				Sg	**Sn**	**19 23 35.0**	**-0.4**
BANOM	**Banah**	**2.26**	**196**	⇓P	**Pn**	**19 23 18.5**	**+0.4**
	SNR=28						
ASHO	**Ashiyiah**	**3.51**	**194**	⇓P	**Pn**	**19 23 35.6**	**+0.5**
	SNR=11						
GHIR	**Ghir-Karzin**	**3.55**	**274**	*e*PN	**Pn**	**19 23 36.1**	**+0.4**
GHIR				AML	AML	19 24 39.3	
	comp=E,30nm,0.6s						
GHIR				AML	AML	19 24 50.9	
	comp=N,22nm,0.6s						
GHIR	**Ghir-Karzin**	**3.55**	**274**	Pn	**Pn**	**19 23 36.0**	**+0.4**
BIDO	**Bidbid**	**4.68**	**167**	⇓P	**Pn**	**19 23 50.3**	**-0.8**
	SNR=7.7						
AKTK	**Aktyubinsk**	**22.31**	**2**	P	**P**	**19 27 36.8**	**+0.8**
AKTK	**Aktyubinsk**	**22.31**	**2**	P	**P**	**19 27 36.9**	**+0.8**
AKTO	**Aktyubinsk**	**22.31**	**2**	P	**P**	**19 27 36.9**	**+0.8**
	comp=N,0.4nm,0.3s,mb3.3,baz=189,slow=12,SNR=3.5						
BRTR	**Keskin Array B**	**22.52**	**307**	P	**P**	**19 27 38.1**	**0.0**
	comp=N,1.0nm,0.9s,mb3.3,baz=116,slow=11,SNR=7.3						
BVAR	**Borovoye Array**	**26.80**	**18**	P	**P**	**19 28 16.4**	**-1.7**
	comp=N,1.2nm,0.7s,mb3.5,baz=211,slow=10,SNR=8.0						
MKAR	**Makanchi Array**	**27.22**	**40**	P	**P**	**19 28 23.1**	**+1.2**
	comp=N,0.1nm,0.5s,mb2.6,baz=234,slow=4.1,SNR=3.6						
FINES	**FINESS Array B**	**39.18**	**337**	P	**P**	**19 30 05.3**	**-0.4**
	comp=N,0.7nm,0.5s,mb3.6,baz=134,slow=11,SNR=9.8						
FINES	**FINESS Array B**	**39.18**	**337**	P	**P**	**19 30 05.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**53.44**	**266**	P	**P**	**19 31 56.5**	**-1.0**
	comp=N,0.4nm,0.6s,mb3.5,baz=69,slow=7.2,SNR=3.8						
YKA	**Yellowknife Ar**	**89.47**	**356**	P	**P**	**19 35 34.8**	**+0.5**
	comp=N,0.1nm,0.8s,mb3.2,baz=356,slow=3.6,SNR=3.8						
YKA	**Yellowknife Ar**	**89.47**	**356**	P	**P**	**19 35 34.8**	**+0.5**

*ISCJB **05** 20:22:43.8±1.0,558S±03×1244W±03,h10km,mb4.1/6, MS3.4/7,Error ellipse: s-maj=41.1km s-min=23.3km az=165.9*
*IDC **05** 20:22:43.9±1.1,5580S×12442W,h0km,mb4.0/5, mb1 4.2/5,mb1mx4.0/14,mbtmp4.0/5,MS3.4/7,Ms1 3.4/7, ms1mx3.3/25,Error ellipse: s-maj=47.2km s-min=28.1km az=173.0*
*NEIC **05** 20:22:45.5±0.7,5581S×12443W,h10km,mb4.5/2,Error ellipse: s-maj=30.9km s-min=18.3km az=173.0*

ISC 05 20:22:45.7±1.0,**559S**±03×**1245W**±03,**h10**km,**n23,** σ0§**23**/7, **mb4.1**/6,**MS3.4**/7,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**31.11**	**112**	LR	LR	20 38 19.9	
	comp=Z,113nm,19.7s,MS3.5,baz=50,slow=30						
RKT	**Rikitea**	**33.66**	**342**	*e*LR	LR	20 37 57.6	
	165nm,30.2s						
RKT	**Rikitea**	**33.66**	**342**	*e*T		21 04 33.4	
	5.7nm,0.3s						
TBI	**Tubuai**	**37.38**	**320**	*e*LR	LR	20 39 42.7	
	147nm,30.8s						
TBI				*e*LR	LR	20 39 42.7	
	147nm,30.8s						
TBI	**Tubuai**	**37.38**	**320**	*e*T		21 09 17.1	
	44nm,0.4s						
PLCA	**Paso Flores**	**37.88**	**90**	LR	LR	20 42 17.9	
	comp=Z,43nm,21.5s,MS3.2,baz=194,slow=31						
URZ	**Urewera**	**42.13**	**269**	LR	LR	20 43 47.6	
	comp=Z,178nm,20.7s,MS3.9,baz=115,slow=30						
PPT	**Papeete**	**42.76**	**323**	LR	LR	20 43 30.5	
	comp=Z,46nm,20.6s,MS3.4,baz=200,slow=29						
VAH	**Vaihoa**	**44.31**	**327**	*e*T		21 17 55.7	
	46nm,0.3s						
CFAA	**Coronel Fontan**	**45.72**	**82**	LR	LR	20 47 11.8	
	comp=Z,7.3nm,19.9s,MS2.6,baz=144,slow=32						
SNAA	**Sanae**	**46.33**	**158**	P	**P**	**20 31 11.7**	**0.0**
	0.8nm,0.8s,mb3.7,baz=239,slow=11,SNR=5.4						
SNAA				LR	LR	20 48 46.6	
	comp=Z,54nm,20.4s,MS3.5,baz=212,slow=34						
LPAZ	**La Paz**	**57.98**	**70**	P	**P**	**20 32 38.2**	**-0.2**
	1.4nm,0.8s,mb4.0,baz=231,slow=4.4,SNR=5.1						
LPAZ				LR	LR	20 51 09.6	
	comp=Z,43nm,19.3s,MS3.6,baz=165,slow=29						
LPAZ	**La Paz**	**57.98**	**70**	*e*P	**P**	**20 32 38.5**	**+0.2**
	4.1nm,1.2s,mb4.3						
LPAZ				LR	LR	20 51 09.6	
STKA	**Stephens Creek**	**66.34**	**248**	P	**P**	**20 33 34.5**	**+0.1**
	1.8nm,1.0s,mb4.0,baz=148,slow=13,SNR=4.3						
ASAR	**Alice Springs**	**76.96**	**247**	P	**P**	**20 34 38.0**	**-0.4**
	0.9nm,0.8s,mb3.8,baz=155,slow=6.2,SNR=9.5						
WRA	**Warramunga Arr**	**79.80**	**250**	P	**P**	**20 34 54.4**	**+0.3**
	2.6nm,0.9s,mb4.2,baz=146,slow=5.1,SNR=14						
WRAB	**Tennant Creek**	**79.80**	**250**	*e*P	**P**	**20 34 54.1**	**0.0**
	12nm,1.2s,mb4.7						
JIRN	**Jiri**	**144.23**	**231**	*e*P	PKPdf	20 42 20.4	-1.4
	16nm,1.2s						
DMN	**Daman**	**144.65**	**229**	*e*P	PKPdf	20 42 21.1	-1.4
	18nm,0.9s						
KKN	**Kakani**	**144.74**	**230**	*e*P	PKPdf	20 42 21.3	-1.4
	16nm,1.0s						
GKN	**Gorkha**	**145.19**	**229**	*e*P	PKPbc	20 42 22.6	-0.5
	15nm,1.2s						
KOLN	**Koldanda**	**145.43**	**227**	*e*P	PKPbc	20 42 23.1	-0.7
	16nm,1.0s						
SONM	**Songino Array**	**148.24**	**277**	PKPbc	PKPbc	20 42 31.1	-0.8
	0.3nm,0.6s,baz=85,slow=1.6,SNR=2.6						

*IDC **05** 20:28:25.5±0.5,1874N×11981E,h0km,mb4.2/19, mb1 4.3/19,mb1mx4.2/26,mbtmp4.2/19,MS3.6/7, Ms1 3.6/7,ms1mx3.4/30,Error ellipse: s-maj=22.6km s-min=11.9km az=65.0*
*MOS **05** 20:28:28.9±1.1,1881N×11994E,h33km,mb4.7/18,Error ellipse: s-maj=19.0km s-min=8.4km az=113.4*
*BJI **05** 20:28:28.5,19.13N×119.71E,h5km,mB4.6,mb4.3,Ms4.1, Msz3.8*
*ISCJB **05** 20:28:30.0±0.6,1887N±003×11989E±005,h44km±7km, mb4.3/47,MS3.7/11,Error ellipse: s-maj=8.7km s-min=4.8km az=144.5*
*NEIC **05** 20:28:30.8±0.3,1879N×11985E,h35km,mb4.6/15,Error ellipse: s-maj=11.1km s-min=6.2km az=69.0*
*MAN **05** 20:28:31.1,1869N×11997E,h13km,mb3.8,ML4.9,MS1.9*

ISC 05 20:28:29.6±1.2,**1886N**±003×**11988E**±005,**h23**km±9km, **n99,** σ1§**13**/93,**mb4.3**/47,**MS3.7**/11,**3C-6D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.88**	**127**	⇑*i*P	**Pb**	**20 28 45.0**	**-1.2**
PIP				*i* S	**Sb**	**20 28 58.0**	**+0.5**
ABRA	**Dolores**	**1.44**	**147**	*e*P	**Pn**	**20 28 53.5**	**-0.8**
ABRA				*e*S	**Sn**	**20 29 04.2**	**-8.2**
APYP	**Conner**	**1.63**	**127**	*e*P	**Pn**	**20 28 56.1**	**-0.8**
APYP				*e*S	**Sn**	**20 29 11.2**	**-5.9**
SGCP	**Mt. Cagua**	**2.14**	**106**	*e*P	**Pn**	**20 29 05.0**	**+1.0**
CVP	**Callao Caves**	**2.17**	**122**	*e*P	**Pn**	**20 29 04.5**	**+0.1**
CVP				*e*S	**Sn**	**20 29 31.0**	**+0.4**
BOLP	**Bolinao**	**2.47**	**179**	*e*P	**Pn**	**20 29 08.6**	**+0.1**
BCPH	**Baguio City Da**	**2.56**	**165**	⇑*i*P	**Pn**	**20 29 09.7**	**+0.1**
BCPH				*i* S	**Sn**	**20 29 40.0**	**0.0**
CAUP	**Cauayan**	**2.66**	**136**	*e*P	**Pn**	**20 29 13.1**	**+2.0**
PALP	**Palanan**	**3.01**	**126**	*e*P	**Pn**	**20 29 17.6**	**+1.8**
SCZP	**Santa Cruz**	**3.07**	**180**	*e*P	**Pn**	**20 29 17.5**	**+0.8**
BALP	**Baler**	**3.50**	**152**	*e*P	**Pn**	**20 29 25.5**	**+2.9**
TGY	**Tagaytay City**	**4.84**	**168**	Pn	**Pn**	**20 29 45.1**	**+4.0**
	11nm,0.3s,baz=252,slow=6.4,SNR=2.3						
YHNB	**Yeheng**	**5.94**	**13**	*e*Pn	**Pn**	**20 29 57.3**	**+1.1**
YHNB				*e*Sn	**Sn**	**20 31 03.2**	**-0.4**
JOW	**Kunigami**	**11.08**	**43**	LR	LR	20 35 27.8	
	comp=Z,238nm,18.6s,baz=124,slow=38						
NJ2	**Nanjing**	**13.17**	**356**	*e*P	**Pn**	**20 31 34.0**	**-1.2**
NJ2				AP		20 31 41.3	
NJ2				PP		20 31 44.8	
NJ2				XP		20 31 46.1	
NJ2				S	**Sn**	**20 33 59.0**	**-1.9**
NJ2				XS		20 34 10.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,140nm,10.2s						
NJ2				LR	LR		
	comp=N,750nm,10.8s						
NJ2				LR	LR		
	comp=E,790nm,12.6s						
NJ2				LR	LR		
	comp=Z,210nm,19.1s						
GYA	**Guiyang**	**14.35**	**304**	P	**Pn**	**20 31 48.2**	**-3.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**14.77**	**322**	*e*Pn	**Pn**	**20 31 55.6**	**-1.4**
	comp=Z,13nm,1.3s						
CD2	**Chengdu**	**18.89**	**312**	P	**Pn**	**20 32 48.1**	**-1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
KSM	**Kuching**	**19.66**	**210**	*e*P	**Pn**	**20 32 57.6**	**-0.8**
BJT	**Baijiatuau**	**21.33**	**352**	*e*P	**P**	**20 33 15.9**	**+1.0**
	comp=Z,27nm,0.8s,mb4.6						
BJT	**Baijiatuau**	**21.33**	**352**	*e*P	**P**	**20 33 15.9**	**+1.0**
BJT				pmax	pmax		
	comp=Z,27nm,0.8s						
BJI	**Beijing**	**21.35**	**352**	P	**P**	**20 33 14.0**	**-1.1**
BJI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.2						
BJI				AMB	AMB		
	comp=Z,238nm,3.7s						
BJI				LR	LR		
	comp=N,107nm,11.9s,MS3.7						
BJI				LR	LR		
	comp=E,156nm,11.9s,MS3.7						
BJI				LR	LR		
	comp=Z,87nm,13.9s,MS3.3						
LZH	**Lanzhou**	**22.24**	**324**	*e*P	**P**	**20 33 25.2**	**+0.5**
LZH				AP		20 33 30.4	
LZH				XP	sP	20 33 33.1	-0.9
LZH				AMB	AMB		
	comp=Z,43nm,1.6s,mb4.6						
LZH				AMB	AMB		
	comp=Z,150nm,4.0s						
LZH				LR	LR		
	comp=E,722nm,13.5s						
LZH				LR	LR		
	comp=Z,961nm,14.0s,MS4.4						
HHC	**Hu-ho-hao-te**	**23.05**	**344**	*e*P	**P**	**20 33 33.9**	**+0.6**
HHC				AP		20 33 43.1	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,63nm,4.3s						
HHC				LR	LR		
	comp=N,241nm,12.5s,MS4.0						
HHC				LR	LR		
	comp=E,159nm,11.2s,MS4.0			

ZAK pmax pmax
comp=Z,4.0nm,1.8s,mb4.0
KOLN Koldanda 34.38 292 *eP* **P 20 35 15.5 +0.6**
comp=Z,10nm,0.7s,mb4.9
FITZ Fitzroy Crossi 37.16 171 *eP* **P 20 35 38.1 -0.7**
comp=Z,12nm,1.0s,mb4.7
DDI Dehra Dun 39.51 295 *ex* x 20 36 06.0
WRAB Tennant Creek 41.08 159 *eP* **P 20 36 10.4 -1.1**
comp=Z,19nm,0.9s,mb4.7
WRAB Tennant Creek 41.08 159 *eP* **P 20 36 10.4 -1.1**
WRAB pmax pmax
comp=Z,19nm,0.9s,mb4.7
WRA Warramunga Arr 41.09 159 P **P 20 36 10.3 -1.3**
comp=Z,9.4nm,0.9s,mb4.4,baz=339,slow=9.2,SNR=35
WRA PcP PcP 20 38 10.8 -0.1
comp=Z,1.6nm,0.9s,baz=320,slow=4.0,SNR=4.6
WB2 Warramunga Arr 41.09 159 *eP* **P 20 36 10.5 -1.1**
MK31 Makanchi Array 41.49 321 *iP* pP 20 36 24.7 +2.8
MK31 pmax pmax
comp=Z,11nm,0.7s,mb4.6
MKAR Makanchi Array 41.49 321 P **P 20 36 15.8 +0.9**
comp=Z,3.2nm,0.8s,mb4.0,baz=118,slow=8.5,SNR=31
MKAR Makanchi Array 41.49 321 P **P 20 36 15.8 +0.9**
MKAR Makanchi Array 41.49 321 *iP* pP 20 36 24.7 +2.8
MKAR pmax pmax
comp=Z,8.0nm,0.8s
KRAR Krasnoyarsk 42.29 338⇓ *eP* **P 20 36 23.8 +2.4**
KRAR pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
YAK Yakutsk 43.67 7⇓ *eP* **P 20 36 30.3 -2.3**
YAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
ZAL Zalesovo 44.17 331 P **P 20 36 38.1 +1.5**
comp=Z,1.5nm,0.9s,mb3.7,baz=356,slow=14,SNR=4.0
ZAL LR LR 20 56 41.5
comp=Z,95nm,20.3s,MS3.7,baz=178,slow=38
ZAL Zalesovo 44.17 331 *iP* **P 20 36 40.7 +4.1**
ZAL pmax pmax
comp=Z,2.0nm,0.9s
AS31 Alice Springs 44.43 161 *eP* **P 20 36 38.3 -0.3**
ASAR Alice Springs 44.43 161 P **P 20 36 38.4 -0.2**
comp=Z,8.1nm,0.7s,mb4.5,baz=339,slow=6.8,SNR=88
ASPA Alice Springs 44.43 162 *eP* **P 20 36 38.3 -0.3**
AAK Ala-Archa 44.96 312 *ceP* **P 20 36 48.5 +5.6**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
AAK MLR MLR
comp=Z,100nm,19.0s,MS3.8
KURK Kurchatov 45.53 324 *eP* **P 20 36 47.1 -0.3**
comp=Z,8.8nm,0.9s,mb4.7
KURK *e*ScP ScP 20 42 13.8 -3.5
KURK Kurchatov 45.53 324 *eP* **P 20 36 47.1 -0.3**
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CTA Charters Tower 46.55 145 P **P 20 36 56.0 +0.6**
comp=Z,1.1nm,0.4s,mb4.1,baz=338,slow=8.6,SNR=3.5
KK31 Karatay Array 47.90 311 *iP* **P 20 37 07.2 +1.2**
KK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KKAR Karatay Array 47.90 311 *iP* **P 20 37 07.2 +1.2**
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
KLBR Kellerberrin 50.20 182 *eP* **P 20 37 22.6 -1.0**
comp=Z,8.3nm,0.7s,mb4.9
BVAR Borovoye Array 51.12 324 P **P 20 37 31.9 +1.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=258,slow=40,SNR=3.1
NWAO Narrogin (SRO) 51.56 183 P **P 20 37 32.9 -0.9**
comp=Z,7.6nm,0.9s,mb4.6,baz=315,slow=10,SNR=4.5
TIXI Tiksi 53.05 4⇓ *eP* **P 20 37 43.8 -1.1**
TIXI pmax pmax
comp=Z,11nm,2.5s,mb4.3
STKA Stephens Creek 54.58 157 *eP* **P 20 37 53.7 -2.4**
comp=Z,9.8nm,0.9s,mb4.8
STKA Stephens Creek 54.58 157 P **P 20 37 53.1 -2.9**
comp=Z,9.2nm,1.0s,mb4.8,baz=336,slow=5.8,SNR=11
STKA Stephens Creek 54.58 157 *eP* **P 20 37 54.1 -1.9**
AB31 Akbulak array 56.39 317 P **P 20 38 09.9 +0.8**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BILL Bilibino 57.08 19 P **P 20 38 14.7 +0.6**
comp=Z,4.5nm,0.7s,mb4.6
BILL Bilibino 57.08 19⇓ *eP* **P 20 38 08.7 -5.3**
BILL pmax pmax
comp=Z,13nm,2.5s,mb4.5
AKTK Aktyubinsk 57.82 318 P **P 20 38 18.9 -0.3**
AKTO Aktyubinsk 57.82 318 P **P 20 38 18.9 -0.3**
comp=Z,1.4nm,0.6s,mb4.2,baz=94,slow=7.7,SNR=6.0
DZM Mont Dzumac 61.06 130 P **P 20 38 43.0 +1.4**
comp=Z,4.9nm,0.9s,mb4.6,baz=306,slow=4.1,SNR=3.7
KIV Kislovodsk 68.05 311⇓ *eP* **P 20 39 28.8 +1.5**
KIV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
OBN Obninsk 70.95 323 *eP* **P 20 39 46.2 +1.0**
OBN pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
JOF Joensuu 72.75 331 *ep* pP 20 40 04.9 +1.6
comp=Z,1.9nm,0.8s
ILAR Eielson Array 74.49 26 P **P 20 40 07.0 +0.8**
comp=Z,0.3nm,0.8s,mb3.3,baz=269,slow=5.4,SNR=3.4
AFI Afiamalu 74.77 111 P **P 20 40 07.6 -0.2**
comp=Z,22nm,0.3s,baz=239,slow=16,SNR=10
KAF Kangasniemi 75.18 331 *ep* pP 20 40 18.4 +0.9
comp=Z,2.0nm,0.6s,baz=75,slow=5.4
KAF Kangasniemi 75.18 331 *eP* pP 20 40 18.4 +0.9
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
FINES FINESS Array B 75.43 330 P **P 20 40 10.2 -1.4**
comp=Z,0.9nm,0.7s,mb3.8,baz=57,slow=7.0,SNR=5.1
FINES FINESS Array B 75.43 330 *iP* **P 20 40 11.6 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 76.05 319 P **P 20 40 14.6 -0.6**
comp=Z,0.7nm,0.6s,mb3.8,baz=63,slow=6.3,SNR=2.9
AKASG Malin Array Be 76.05 319 *iP* **P 20 40 24.1 +8.9**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 81.60 331 LR LR 21 20 35.3
comp=Z,77nm,18.4s,MS4.1,baz=249,slow=38
NB2 NORSAR Subarra 82.35 332 P **P 20 40 46.6 -3.0**
comp=Z,2.0nm,0.8s,mb4.1,baz=63,slow=5.3
NB2 NORSAR Subarra 82.35 332 P **P 20 40 46.6 -3.0**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
NOA NORSAR Array B 82.35 332 P **P 20 40 47.9 -1.7**
comp=Z,1.5nm,0.9s,mb3.9,baz=63,slow=5.1,SNR=4.9
NOA LR LR 21 20 02.0
comp=Z,69nm,20.0s,MS4.0,baz=215,slow=38
YKA Yellowknife Ar 88.33 22 P **P 20 41 20.3 +0.9**
comp=Z,1.5nm,0.7s,mb4.3,baz=319,slow=4.7,SNR=9.4
YKA Yellowknife Ar 88.33 22 P **P 20 41 20.3 +0.9**
ANMO Albuquerque 110.72 39⇓ *iP*KIKP PKiKP 20 46 57.7 -2.8
SDV Santo Domingo 150.54 22 *eP*KPab PKPab 20 48 29.2 +3.0

ISCJB ***05*** *20:31:47.9±0.4, 6487N±005×12908W±0.10, h10km, mb3.7/9, Error ellipse: s-maj=7.5km s-min=5.4km az=58.8*
IDC ***05*** *20:31:49.1±0.7, 6487N×129.17W, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.7/22, mbtmp3.7/11, ML3.9/3, Error ellipse: s-maj=17.5km s-min=7.7km az=23.0*
NEIC ***05*** *20:31:51.0, 6490N×12920W, h3km, mb4.0/4, MW3.8(PGC), After PGC.*
PGC ***05*** *20:31:51.6, 6490N×12920W, h10km, ML4.1/3, Mw3.8, Mackenzie Mountains, Northwest Territories*
ISC 05 20:31:49.7±0.4, 6488N±004×12912W±008, h10km, n31, σ1§48/53, mb3.7/9, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**3.87**	**335**	Pn	**Pn**	**20 32 49.8**	**+0.7**
	6.6nm,0.3s,baz=157,slow=11,SNR=180						
INK				Pg	**Pg**	**20 32 59.5**	**-4.2**
	20nm,0.3s,baz=156,slow=13,SNR=40						
INK				Sn	**Sn**	**20 33 30.4**	**-4.2**
	9.0nm,0.3s,baz=183,slow=11,SNR=3.5						
INK				Lg		20 33 49.2	
	33nm,0.3s,baz=244,slow=29,SNR=17						
INK	**Inuvik**	**3.87**	**335**	Pn	**Pn**	**20 32 49.7**	**+0.5**
INK				Pg	**Pg**	**20 33 00.1**	**-3.6**
INK				Sn	**Sn**	**20 33 34.2**	**-0.4**
INK				Sg	**Sg**	**20 33 49.2**	**-4.6**
INK				Trac		20 33 57.6	
	comp=Z,191nm,0.5s						
INK				Trac		20 33 57.6	
	comp=Z,191nm,0.5s						
INK	**Inuvik**	**3.87**	**335**	*e*Pn	**Pn**	**20 32 49.8**	**+0.6**
INK				*e*S	**Sn**	**20 33 49.2**	**+15**
DAWY	**Dawson**	**4.52**	**264**	Pn	**Pn**	**20 32 58.6**	**+0.5**
DAWY				Trac		20 34 27.8	
	comp=Z,44nm,0.3s						
DAWY	**Dawson**	**4.52**	**264**	*e*Pg	**Pg**	**20 33 13.2**	**-3.0**
DAWY				*e*S	**Sn**	**20 33 60.0**	**+9.3**
WHY	**Whitehorse**	**4.99**	**215**	Pn	**Pn**	**20 33 05.4**	**+0.8**
WHY				Pg	**Pg**	**20 33 22.3**	**-2.9**
WHY				Sg	**Sg**	**20 34 25.8**	**-4.0**
WHY				Trac		20 34 32.5	
	comp=Z,73nm,0.6s						
HYT	**Haines Junctio**	**5.59**	**227**	Pn	**Pn**	**20 33 14.2**	**+1.4**
HYT				Sg	**Sg**	**20 34 43.1**	**-5.9**
HYT				Trac		20 34 54.9	
	comp=Z,35nm,0.5s						
FNBB	**Fort Nelson**	**6.66**	**152**	Pn	**Pn**	**20 33 28.6**	**+1.1**
FNBB				Sn	**Sn**	**20 34 41.1**	**-2.4**
FNBB				Trac		20 35 54.6	
	comp=Z,26nm,0.7s						
FNBB				Trac		20 35 54.6	
	comp=Z,26nm,0.7s						
YKW3	**Yellowknife Ar**	**6.85**	**103**	Pn	**Pn**	**20 33 31.1**	**+1.0**
YKW3				Pn	**Pn**	**20 33 31.3**	**+1.2**
YKW3				Sn	**Sn**	**20 34 44.1**	**-4.0**
YKW3				Sn	**Sn**	**20 34 44.1**	**-4.0**
YKW3				Sg	**Sg**	**20 35 23.6**	**-5.8**
YKW3				Sg	**Sg**	**20 35 24.3**	**-5.1**
YKW3				Trac		20 35 28.3	
	comp=Z,33nm,0.4s						
YKW3				Trac		20 35 28.3	
	comp=Z,33nm,0.4s						
YKW3				Trac		20 35 28.4	
	comp=Z,27nm,0.3s						
YKW3				Trac		20 35 28.4	
	comp=Z,27nm,0.3s						
YKW3	**Yellowknife Ar**	**6.85**	**103**	*e*Pn	**Pn**	**20 33 31.7**	**+1.6**
YKW3				*e*Sn	**Sn**	**20 34 47.7**	**-0.3**
YKA	**Yellowknife Ar**	**6.88**	**104**	Pn	**Pn**	**20 33 30.6**	**0.0**
	baz=291,slow=13,SNR=45						
YKA				Sn	**Sn**	**20 34 45.3**	**-3.6**
	baz=295,slow=22,SNR=7.1						
YKA				Lg		20 35 23.9	
	baz=26,slow=13,SNR=8.0						
YKA	**Yellowknife Ar**	**6.88**	**104**	Pn	**Pn**	**20 33 30.6**	**0.0**
YKA				Sn	**Sn**	**20 34 45.4**	**-3.6**
YKA				Lg		20 35 23.9	
ILAR	**Eielson Array**	**7.57**	**277**	Pn	**Pn**	**20 33 38.6**	**-1.4**
	0.5nm,0.3s,baz=80,slow=12,SNR=14						
ILAR				Sn	**Sn**	**20 35 05.8**	**-0.2**
	0.6nm,0.3s,baz=85,slow=24,SNR=4.5						
ILAR				Lg		20 35 48.1	
	0.4nm,0.3s,baz=75,slow=28,SNR=4.0						
BMBC	**Bull Mountain**	**9.50**	**156**	Pn	**Pn**	**20 34 07.9**	**+1.4**
FSB	**Fort Saint Jam**	**10.71**	**165**	Pn	**Pn**	**20 34 29.0**	**+5.9**
EDM	**Edmonton**	**14.17**	**138**	*e*Pn	**Pn**	**20 35 09.3**	**-1.1**
RES	**Resolute Bay**	**15.08**	**35**	Pn	**Pn**	**20 35 20.7**	**-2.0**
RES				Sn	**Sn**	**20 37 59.3**	**-10**
RES				Trac		20 38 20.0	
	comp=Z,8.0nm,0.6s						
RES				Trac		20 38 20.0	
	comp=Z,8.0nm,0.6s						
RES	**Resolute Bay**	**15.08**	**35**	*e*Pn	**Pn**	**20 35 20.7**	**-2.0**
	5.7nm,0.4s						
FFC	**Flin Flon**	**16.87**	**114**	*e*Pn	**Pn**	**20 35 42.6**	**-3.2**
	7.9nm,0.6s						
FCC	**Fort Churchill**	**17.46**	**94**	*e*Pn	**Pn**	**20 35 51.0**	**-2.2**
	6.8nm,1.0s						
FCC				*e*S	**Sn**	**20 39 09.4**	**+1.9**
EGMT	**Eagleton**	**19.84**	**139**	*e*P	**Pn**	**20 36 22.5**	**+0.2**
	5.3nm,0.8s						
ULM	**Lac du Bonnet**	**22.70**	**114**	P	**P**	**20 36 52.0**	**+0.6**
	2.3nm,0.8s,mb3.6,baz=320,slow=8.5,SNR=5.6						
ULM	**Lac du Bonnet**	**22.70**	**114**	P	**P**	**20 36 52.0**	**+0.6**
PDAR	**Pinedale Array**	**24.77**	**144**	P	**P**	**20 37 14.1**	**+2.6**
	0.6nm,0.9s,mb3.1,baz=352,slow=7.5,SNR=4.7						
ARCES	**ARCESS Array B**	**44.70**	**12**	P	**P**	**20 40 03.3**	**+0.5**
	2.4nm,0.9s,mb4.0,baz=4.5,slow=13,SNR=3.0						
FINES	**FINESS Array B**	**52.64**	**15**	P	**P**	**20 41 04.1**	**+0.2**
	0.3nm,0.4s,mb3.5,baz=351,slow=9.8,SNR=5.2						
ZAL	**Zalesovo**	**58.68**	**337**	P	**P**	**20 41 47.9**	**+0.7**
	0.7nm,0.6s,mb3.9,baz=92,slow=10,SNR=3.8						
SONM	**Songino Array**	**59.64**	**320**	P	**P**	**20 41 54.9**	**+0.9**
	0.6nm,0.8s,mb3.6,baz=37,slow=6.0,SNR=5.9						
BVAR	**Borovoye Array**	**61.47**	**347**	P	**P**	**20 42 08.4**	**+2.0**
	0.9nm,0.6s,mb4.1,baz=353,slow=4.8,SNR=5.1						
AKASG	**Malin Array Be**	**63.54**	**15**	P	**P**	**20 42 18.4**	**-1.9**
	0.3nm,0.3s,mb3.8,baz=347,slow=6.7,SNR=6.0						
MKAR	**Makanchi Array**	**66.00**	**337**	P	**P**	**20 42 37.0**	**+0.6**
	0.5nm,0.6s,mb3.7,baz=17,slow=5.9,SNR=6.7						

IDC ***05*** *20:46:54.1±0.8, 458S×10135E, h0km, mb4.7/15, mb1 4.7/16, mb1mx4.6/21, mbtmp4.6/16, ML4.2/1, MS4.2/11, Ms1 4.2/11, ms1mx3.9/22, Error ellipse: s-maj=31.5km s-min=11.5km az=46.0*
BJI ***05*** *20:46:56.8, 474S×10143E, h37km, mB5.1, mb5.0, Ms4.7, Msz4.4*
ISCJB ***05*** *20:46:56.4±0.3, 458S±004×10140E±004, h25km, mb4.9/81, MS4.3/27, Error ellipse: s-maj=7.0km s-min=5.1km az=95.6*
MOS ***05*** *20:46:58.7±1.1, 428S×10161E, h33km, mb5.1/31, Error ellipse: s-maj=12.5km s-min=6.1km az=110.0*
HRVD ***05*** *20:46:59.1±1.1, 459S×10154E, h36km±1km, MW4.8/28, Centroid moment Tensor Solution. LP body waves: s17,c24;Mantle waves: s28,c41; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr1.48±.21; Mθθ-0.98±.12; Mφφ-0.50±.20; Mrθ0.76±.10; Mθφ1.16±.11; Mφr-0.10±.17; Best double couple: M01.88500×1016 NP1:φs327.00000°, δ37.00000°, λ118.00000°. NP2: φs113.00000°, δ58.00000°, λ70.00000°. Principal axes: T 1.7230, Plg70.0000°, Azm339.0000°; N 0.3240, Plg17.0000°, Azm124.0000°; P -2.0480, Plg11.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***05*** *20:46:59.1±0.3, 455S×10145E, h30km, mb5.0/27 Error ellipse: s-maj=9.4km s-min=5.7km az=53.0*
NEIC Felt [II] at Bengkulu.
ISC 05 20:46:58.7±0.3, 460S±004×10140E±004, h26km, h26km±1.0km:pP-P, n192, σ1§11/173, mb4.9/81, MS4.3/27, 18C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.52**	**52**	P	**Pn**	**20 47 23.2**	**-1.0**
	6μm,0.6s						
KGM	**Kluang**	**6.84**	**16**	P	**Pn**	**20 48 38.5**	**+1.1**
JCJI	**Jatiwangi**	**7.10**	**106**	P	**Pn**	**20 48 51.0**	**+10**
	172nm,0.8s						
PSI	**Prapat**	**7.75**	**341**	Pn	**Pn**	**20 48 47.2**	**-2.6**
	4.0nm,0.3s,baz=175,slow=14,SNR=14						
PSI				LR	LR	20 52 48.3	
	comp=Z,4μm,19.2s,baz=147,slow=46						
TSI	**Tuntungan**	**8.53**	**341**	P	**Pn**	**20 49 09.3**	**+8.9**
	70nm,1.1s						
BJII	**Banjamegara**	**8.70**	**109**	P	**Pn**	**20 49 12.7**	**+10**
	44nm,1.1s						
COCO	**West Island**	**8.79**	**211**	Pn	**Pn**	**20 49 02.3**	**-1.8**
	3μm,0.8s,SNR=7.7						
COCO	**West Island**	**8.79**	**211**	*e*P	**Pn**	**20 49 02.0**	**-2.1**
	456nm,0.8s						
COCO				*e*		20 49 10.2	
IPM	**Ipoh**	**9.02**	**358**	P	**Pn**	**20 49 08.5**	**+1.2**
KULM	**Kulim**	**9.85**	**356**	*e*P	**Pn**	**20 49 18.0**	**-0.6**
KKM	**Kota Kinabalu**	**18.18**	**55**	P	**Pn**	**20 51 09.4**	**+0.1**
KKM	**Kota Kinabalu**	**18.18**	**55**	*e*P	**Pn**	**20 51 10.0**	**+0.7**
TSM	**Tawau**	**18.68**	**62**	P	**Pn**	**20 51 16.5**	**+1.2**
PCI	**Palu**	**18.78**	**79**	P	**Pn**	**20 51 15.5**	**-1.0**
	196nm,1.6s						
MBWA	**Marble Bar**	**24.25**	**134**	P	**P**	**20 52 14.7**	**+1.2**
	6.4nm,0.8s,mb4.1						
QIZ	**Qiongzhong**	**24.91**	**19**	P	**P**	**20 52 21.8**	**+2.3**
QIZ				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.5						
QIZ				LR	LR		
	comp=E,572nm,16.9s						
QIZ				LR	LR		
	comp=Z,415nm,17.7s,MS4.0						
FITZ	**Fitzroy Crossi**	**27.24**	**121**	*e*P	**P**	**20 52 40.6**	**0.0**
	comp=Z,22nm,1.1s,mb4.6						
KMI	**Kunming**	**29.57**	**2**	⇑P	**P**	**20 53 02.2**	**+0.9**
KMI				AP	pP	20 53 10.1	+1.2
KMI				XP	sP	20 53 13.5	+1.4
KMI				PP	PP	20 54 02.4	-5.8
KMI				PPP		20 54 16.4	
KMI				S	**S**	**20 57 56.1**	**+1.3**
KMI				XS	sS	20 58 08.9	+1.6
KMI				SS	SS	20 59 32.2	-29
KMI				PCS	PcS	20 59 50.7	+1.7
KMI				SSS		20 59 53.6	
KMI				SCS	ScS	21 03 41.7	+0.9
KMI				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,61nm,3.2s						
KMI				LR	LR		
	comp=N,454nm,14.1s,MS4.4						
KMI				LR	LR		
	comp=E,508nm,15.3s,MS4.4						
GYA	**Guiyang**	**31.29**	**9⇑**	*i*P	**P**	**20 53 16.1**	**-0.4**
GYA				AP	pP	20 53 23.2	-0.9
GYA				XP	sP	20 53 26.7	-0.6
GYA				PP	PP	20 54 19.2	-8.2
GYA				S	**S**	**20 58 19.6**	**-2.2**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,120nm,3.2s						
GYA				LR	LR		
	comp=E,870nm,16.4s						
GYA				LR	LR		
	comp=Z,840nm,16.0s,MS4.5						
SHL	**Shillong**	**31.37**	**343**	*e*P	**P**	**20 53 18.0**	**+0.7**
KAKA	**Kakadu**	**31.70**	**107**	*e*P	**P**	**20 53 19.3**	**-0.9**
	comp=Z,20nm,0.9s,mb4.9						
JIRN	**Jiri**	**35.27**	**336**	*e*P	**P**	**20 53 52.6**	**+1.4**
	comp=Z,151nm,1.0s,mb5.9						
CD2	**Chengdu**	**35.38**	**4**	P	**P**	**20 53 55.0**	**+2.8**
CD2				PP	PP	20 55 15.4	+2.8
CD2				S	**S**	**20 59 29.8**	**+4.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
CD2				AMB	AMB		
	comp=Z,70nm,4.5s						
CD2				LR	LR		
	comp=N,480nm,19.2s						
CD2				LR	LR		
	comp=Z,490nm,20.4s,MS4.2						
LSA	**Lhasa**	**35.49**	**345**	P	**P**	**20 53 53.8**	**+0.7**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
LSA	**Lhasa**	**35.49**	**345**	*e*P	**P**	**20 53 54.1**	**+1.0**
	comp=Z,8.2nm,0.6s,mb4.8						
LSA	**Lhasa**	**35.49**	**345**	*e*P	**P**	**20 53 54.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
PKI	**Pulchoki**	**35.51**	**335**	*e*P	**P**	**20 53 54.2**	**+0.9**
WRA	**Warramunga Arr**	**35.51**	**118**	P	**P**	**20 53 53.7**	**+0.3**
	comp=Z,4.3nm,0.5s,mb4.6,baz=307,slow=9.1,SNR=45						
WRAB	**Tennant Creek**	**35.52**	**118**	P	**P**	**20 53 54.9**	**+1.5**
	comp=Z,74nm,0.9s,mb5.6,SNR=8.2						
WRAB	**Tennant Creek**	**35.52**	**118**	*e*P	**P**	**20 53 53.4**	**0.0**
	comp=Z,18nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**35.52**	**118**	*d*P	**P**	**20 53 54.2**	**+0.8**
WB2	**Warramunga Arr**	**35.52**	**118**	*e*P	**P**	**20 53 53.5**	**+0.1**
ENH	**Enshi**	**35.52**	**12**	*e*P	**P**	**20 53 51.9**	**-1.5**
	comp=Z,9.0nm,0.5s,mb5.0						
DMN	**Daman**	**35.67**	**335**	*e*P	**P**	**20 53 55.6**	**+0.9**
	comp=Z,40nm,0.9s,mb5.3						
KKN	**Kakani**	**35.76**	**335**	*e*P	**P**	**20 53 56.2**	**+0.8**
	comp=Z,135nm,1.2s,mb5.7						
KKN	**Kakani**	**35.76**	**335**	*e*P	**P**	**20 53 56.2**	**+0.8**
KKN				pmax	pmax		
	comp=Z,68nm,1.2s,mb5.5						
GKN	**Gorkha**	**36.21**	**334**	*e*P	**P**	**20 54 00.3**	**+1.0**
	comp=Z,128nm,1.1s,mb5.8						
KOLN	**Koldanda**	**36.47**	**333**	*e*P	**P**	**20 54 02.5**	**+1.0**
	comp=Z,92nm,1.2s,mb5.6						
ASPA	**Alice Springs**	**36.62**	**124**	*e*P	**P**	**20 54 03.8**	**+1.0**
AS31	**Alice Springs**	**36.63**	**124**	*e*P	**P**	**20 54 03.8**	**+0.9**
ASAR	**Alice Springs**	**36.63**	**124**	P	**P**	**20 54 03.8**	**+0.9**
	comp=Z,2.3nm,0.6s,mb4.2,baz=295,slow=7.7,SNR=31						
ASAR				S	**S**	**20 59 48.3**	**+4.1**
	comp=Z,0.7nm,0.7s,baz=297,slow=15,SNR=3.4						
WHN	**Wuhan**	**37.07**	**19**	*e*P	**P**	**20 54 07.0**	**+0.3**
XAN	**Xi'an**	**39.08**	**10**	P	**P**	**20 54 22.2**	**-1.4**
XAN				AP	pP	20 54 29.0	-2.3
XAN				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
XAN				LR	LR		
	comp=E,588nm,19.3s						
XAN				LR	LR		
	comp=Z,608nm,15.9s,MS4.5						
NJ2	**Nanjing**	**40.05**	**23**	*e*P	**P**	**20 54 33.4**	**+1.7**
NJ2				AP	pP	20 54 41.1	+1.7
NJ2				S	**S**	**21 00 38.0**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,190nm,11.3s						
NJ2				LR	LR		
	comp=N,940nm,21.0s,MS4.7						
NJ2				LR	LR		
	comp=E,820nm,20.8s,MS4.7						
NJ2				LR	LR		
	comp=Z,500nm,19.8s,MS4.4						
SSE	**Sheshan**	**40.21**	**27**	⇑P	**P**	**20 54 32.4**	**-0.6**
SSE				AP	pP	20 54 39.3	-1.4
SSE				PP	PP	20 56 05.7	+0.1
SSE				PCP	PcP	20 56 34.6	-2.1
SSE				S	**S**	**21 00 41.0**	**+2.6**
SSE				XS	sS	21 00 51.9	+0.8
SSE				SCS	ScS	21 04 35.1	-2.7
SSE				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,188nm,4.5s						
SSE				LR	LR		
	comp=N,164nm,22.2s,MS3.9						
SSE				LR	LR		
	comp=E,46nm,22.2s,MS3.9						
SSE				LR	LR		
	comp=Z,144nm,22.1s,MS3.8						
NDI	**New Delhi**	**40.45**	**326**	*e*P	**P**	**20 54 34.5**	**-0.4**
LZH	**Lanzhou**	**40.53**	**3**	*e*P	**P**	**20 54 35.8**	**+0.1**
LZH				AP	pP	20 54 44.5	+1.1
LZH				XP	sP	20 54 48.4	+1.9
LZH				PP	PP	20 56 13.8	+4.6
LZH				*e*S	**S**	**21 00 46.0**	**+2.8**
LZH				XS	sS	21 00 57.0	+1.1
LZH				SS	SS	21 03 40.0	-3.3
LZH				AMB	AMB		
	comp=Z,47nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,110nm,4.1s						
LZH				LR	LR		
	comp=E,1μm,16.4s						
LZH				LR	LR		
	comp=Z,1μm,18.0s,MS4.8						
JOW	**Kunigami**	**40.65**	**38**	P	**P**	**20 54 36.4**	**-0.2**
	comp=Z,12nm,0.7s,mb4.6,baz=137,slow=18,SNR=3.4						
GTA	**Gaotai**	**43.81**	**358**	⇑P	**P**	**20 55 02.6**	**+0.2**
GTA				AP	pP	20 55 08.5	-1.6
GTA				PP	PP	20 56 46.9	+2.4
GTA				PCP	PcP	20 56 49.3	+0.7
GTA				S	**S**	**21 01 32.8**	**+1.2**
GTA				SS	SS	21 04 42.6	-5.3
GTA				AMB	AMB		
	comp=Z,31nm,1.2s,mb4.9						
GTA				AMB	AMB		
	comp=Z,52nm,5.0s						
GTA				LR	LR		
	comp=N,467nm,19.0s,MS4.5						
GTA				LR	LR		
	comp=E,414nm,17.9s,MS4.5						
GTA				LR	LR		
	comp=Z,683nm,20.9s,MS4.5						
PMG	**Port Moresby**	**45.65**	**99**	P	**P**

HHC AMB AMB
comp=Z,27nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,100nm,2.6s,mb5.3
HHC LR LR
comp=N,353nm,13.6s,MS4.6
HHC LR LR
comp=E,267nm,11.4s,MS4.6
HHC LR LR
comp=Z,302nm,20.1s
CTA Charters Tower 46.27 113 *e*P **P 20 55 22.6 +0.7**
comp=Z,13nm,1.0s,mb4.8
CTA Charters Tower 46.27 113 P **P 20 55 22.2 +0.3**
comp=Z,17nm,1.0s,mb4.9,baz=288,slow=9.2,SNR=13
CTA Charters Tower 46.27 113 *e*P **P 20 55 22.6 +0.7**
CTA pmax pmax
comp=Z,13nm,1.0s
CTAO Charters Tower 46.27 113 *e*P **P 20 55 23.5 +1.6**
comp=Z,20nm,1.0s,mb5.0
CTAO Charters Tower 46.27 113 *e*P **P 20 55 23.5 +1.6**
CTAO pmax pmax
comp=Z,19nm,1.0s,mb5.0
STKA Stephens Creek 46.40 131 *e*P **P 20 55 22.8 -0.2**
comp=Z,3.3nm,0.3s,mb4.7
STKA Stephens Creek 46.40 131 P **P 20 55 21.9 -1.0**
comp=Z,3.1nm,0.7s,mb4.3,baz=312,slow=9.2,SNR=5.7
STKA LR LR 21 15 19.2
comp=Z,503nm,21.3s,MS4.4,baz=111,slow=37
BJT Baijiatuau 46.43 16 *e*P **P 20 55 22.8 -0.4**
comp=Z,23nm,0.6s,mb5.3
BJT Baijiatuau 46.43 16 *e*P **P 20 55 22.8 -0.4**
BJT pmax pmax
comp=Z,23nm,0.6s
BJI Beijing 46.45 16 P **P 20 55 22.9 -0.5**
BJI AP pP 20 55 30.7 -0.5
BJI AMB AMB
comp=Z,39nm,1.1s,mb5.2
BJI AMB AMB
comp=Z,281nm,4.1s
BJI LR LR
comp=N,242nm,14.7s,MS4.6
BJI LR LR
comp=E,431nm,14.7s,MS4.6
BJI LR LR
comp=Z,294nm,20.2s
WMQ Urumqi 49.75 347 P **P 20 55 49.5 +0.6**
WMQ AP pP 20 55 54.5 -2.2
WMQ PCP PcP 20 57 10.7 +1.1
WMQ PP PP 20 57 44.5 +1.0
WMQ PPP 20 58 39.7
WMQ *e*S **S 21 02 55.6 -0.9**
WMQ SS SS 21 06 23.7 -5.3
WMQ AMB AMB
comp=Z,50nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,312nm,5.0s
WMQ LR LR
comp=N,173nm,24.0s,MS4.1
WMQ LR LR
comp=E,138nm,20.5s,MS4.1
WMQ LR LR
comp=Z,139nm,20.5s,MS4.0
CBIJ Chichi jima 50.45 49 LR LR 21 16 13.1
comp=Z,136nm,20.7s,MS3.9,baz=137,slow=35
ULHL Ulahol 51.93 336 P **P 20 56 05.7 +0.4**
SNR=13
KZA Kyzart 52.19 335 P **P 20 56 08.7 +1.5**
SNR=15
JHJ Hachijo jima 2 52.23 41 LR LR 21 16 27.3
comp=Z,138nm,19.3s,MS4.0,baz=29,slow=34
SONM Songino Array 52.39 4 P **P 20 56 09.1 +0.4**
comp=Z,33nm,0.8s,mb5.3,baz=188,slow=8.5,SNR=213
SONM LR LR 21 20 41.0
comp=Z,296nm,20.2s,MS4.3,baz=184,slow=39
ULN Ulaanbaatar 52.48 5 *e*P **P 20 56 09.6 +0.3**
comp=Z,31nm,1.0s,mb5.2
ULN Ulaanbaatar 52.48 5 *c i*P **P 20 56 06.7 -2.6**
UCH Uchtor 52.62 335 P **P 20 56 11.3 +0.9**
SNR=11
TKM2 Tokmak 2 52.75 336 P **P 20 56 11.9 +0.6**
SNR=18
KBK Karagaybulak 52.80 336 P **P 20 56 12.4 +0.7**
SNR=5.8
CN2 Changchun 52.83 22 ⇑P **P 20 56 10.5 -1.4**
CN2 *e*S **S 21 03 37.6 -1.4**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 LR LR
comp=N,400nm,16.0s,MS4.7
CN2 LR LR
comp=E,300nm,16.0s,MS4.7
CN2 LR LR
comp=Z,500nm,16.0s,MS4.7
AML Almayashu 52.89 334 P **P 20 56 13.2 +0.8**
SNR=16
AAK Ala-Archa 52.96 335 P **P 20 56 13.7 +0.7**
SNR=6.4
AAK Ala-Archa 52.96 335 P **P 20 56 12.8 -0.1**
comp=Z,45nm,0.6s,mb5.6,SNR=6.2
AAK Ala-Archa 52.96 335 *e*P **P 20 56 12.6 -0.3**
comp=Z,5.1nm,0.8s,mb4.5
AAK Ala-Archa 52.96 335 *c i*P **P 20 56 12.2 -0.7**
AAK pmax pmax
comp=Z,22nm,2.5s,mb4.6
FRU Bishkek 53.08 336⇑*e*P **P 20 56 15.0 +1.2**
FRU *e* 20 56 26.0
CHMS Chumysh 53.16 336 P **P 20 56 14.4 0.0**
SNR=6.4
EKS2 Erkin-Say 53.29 335 P **P 20 56 16.1 +0.8**
SNR=38
MAJO Matsushiro 53.45 37 *e*P **P 20 56 14.1 -2.4**
comp=Z,35nm,1.4s,mb5.1
MAJO Matsushiro 53.45 37 *e*P **P 20 56 14.1 -2.4**
MAJO pmax pmax
comp=Z,35nm,1.4s,mb5.1
MAT Matsushiro 53.45 37 P **P 20 56 14.4 -2.1**
MAT Matsushiro 53.45 37 *e*P **P 20 56 14.0 -2.5**
comp=Z,21nm,1.3s,mb4.9
MAT Matsushiro 53.45 37 *e*P **P 20 56 14.0 -2.5**
MAT pmax pmax
comp=Z,21nm,1.3s,mb4.9
MJAR Matsushiro Arr 53.45 37 P **P 20 56 14.9 -1.6**
comp=Z,16nm,0.8s,mb5.0,baz=216,slow=7.4,SNR=45
USP Ospenovka 53.48 336 P **P 20 56 16.7 -0.1**
SNR=8.7
MK31 Makanchi Array 53.89 344 *i* P **P 20 56 19.1 -0.6**
MK31 pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
MKAR Makanchi Array 53.89 344 P **P 20 56 19.2 -0.5**
comp=Z,9.1nm,0.5s,mb4.9,baz=152,slow=8.8,SNR=163
MKAR Makanchi Array 53.89 344⇑*e*P **P 20 56 19.2 -0.5**
ZAK Zakamensk 54.78 1⇑*i*P **P 20 56 26.1 -0.1**
ZAK *e* 20 57 33.3
ZAK pmax pmax
comp=Z,16nm,1.2s,mb4.9
ZAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.5
KK31 Karatay Array 55.08 333 *i* P **P 20 56 27.2 -1.2**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
KKAR Karatay Array 55.08 333 *i* P **P 20 56 27.2 -1.2**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
MDJ Mudanjiang 55.13 24 P **P 20 56 30.1 +1.4**
MDJ AP pP 20 56 36.6 -0.1
MDJ XP sP 20 56 39.1 -0.6
MDJ PCP PcP 20 57 30.5 +0.7
MDJ PP PP 20 58 33.2 +1.1
MDJ SCP ScP 21 01 28.0 +1.3
MDJ PCS PcS 21 01 30.5 +0.8
MDJ S **S 21 04 13.8 +3.7**
MDJ AMB AMB
comp=Z,7.0nm,1.6s,mb4.4
MDJ AMB AMB
comp=Z,107nm,4.0s
MDJ LR LR
comp=N,103nm,19.5s,MS4.0
MDJ LR LR
comp=E,84nm,20.6s,MS4.0
MDJ LR LR
comp=Z,148nm,22.7s,MS4.0
HIA Hailar 55.97 14 *e*P **P 20 56 33.3 -1.4**
comp=Z,9.9nm,0.9s,mb4.8
HIA Hailar 55.97 14 *e*P **P 20 56 33.3 -1.5**
HIA pmax pmax
comp=Z,10.0nm,0.9s

MOY Mondy 56.05 360 *e*P **P 20 56 34.8 -0.5**
TLY Talaya 56.09 2 P **P 20 56 36.8 +1.2**
comp=Z,43nm,1.2s,mb5.3,SNR=5.1
IRK Irkutsk 56.67 2 *e*P **P 20 56 39.0 -0.8**
IRK *e* 20 56 52.4
IRK *e* 20 58 44.4
IRK pmax pmax
comp=Z,27nm,1.4s,mb5.1
KURK Kurchatov 58.48 343 P **P 20 56 51.2 -1.3**
comp=Z,99nm,0.9s,mb5.8,SNR=12
KURK Kurchatov 58.48 343 *e*P **P 20 56 51.5 -0.9**
comp=Z,17nm,1.0s,mb5.0
KURK *e* 20 57 07.4
KURK Kurchatov 58.48 343 *e*P **P 20 56 51.6 -0.9**
KURK *e* 20 57 07.4
KURK pmax pmax
comp=Z,17nm,1.0s,mb5.0
KLR Kul'dur 59.75 23 *e*P **P 20 56 57.0 -4.3**
KLR pmax pmax
comp=Z,28nm,1.0s,mb5.2
ZAL Zalesovo 59.96 349 P **P 20 57 01.5 -1.2**
comp=Z,15nm,0.9s,mb5.0,baz=304,slow=4.2,SNR=83
ZAL LR LR 21 27 16.3
comp=Z,152nm,18.7s,MS4.2,baz=293,slow=40
ZAL Zalesovo 59.96 349 P **P 20 57 01.5 -1.2**
ZAL LR LR 21 27 16.3
ASAJ Asahikawa 60.99 33 LR LR 21 26 03.6
comp=Z,100nm,18.3s,MS4.0,baz=99,slow=38
NVS Novosibirsk 61.12 348 *e*P **P 20 57 08.2 -2.5**
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,8.0nm,1.1s
NVS pmax pmax
comp=Z,13nm,1.1s,mb5.0
RDF Al-Radifah 61.49 306 *e*P **P 20 57 14.5 +1.3**
UMR Umm Al-Rimmam 61.62 307 *e*P **P 20 57 12.7 -1.3**
UMR AMb AMB 20 57 16.1
comp=Z,15nm,0.5s,mb5.4
NAY Al-Naaiem 61.87 307 *e*P **P 20 57 16.3 +0.6**
NAY AMb AMB 20 57 18.1
comp=Z,11nm,0.9s,mb5.0
MIB Mutribah 62.02 307 *e*P **P 20 57 16.9 +0.2**
MIB AMb AMB 20 57 19.0
comp=Z,24nm,0.9s,mb5.3
VOSK Vostochnaya 62.63 340 P **P 20 57 19.3 -1.5**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
YSS Yuzh-Sakhalins 62.96 31⇑*e*P **P 20 57 22.9 -0.1**
YSS *e* pP 20 57 31.0 -0.1
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
BOD Bodaibo 63.04 8 *e*P **P 20 57 22.8 -0.7**
BOD pmax pmax
comp=Z,14nm,1.0s,mb5.0
BVA0 Borovoye Array 63.09 340 P **P 20 57 22.7 -1.1**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.9
BRVK Borovoye 63.15 340 P **P 20 57 23.7 -0.6**
comp=Z,81nm,0.6s,mb6.0,SNR=8.5
BRVK Borovoye 63.15 340 *e*P **P 20 57 23.1 -1.1**
comp=Z,7.3nm,0.9s,mb4.8
BRVK Borovoye 63.15 340 *e*P **P 20 57 23.2 -1.1**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
KMBO Kilima Mbogo 64.14 271 LR LR 21 21 44.5
comp=Z,108nm,19.3s,MS4.0,baz=89,slow=33
KMBO Kilima Mbogo 64.14 271⇓*e*P pP 20 57 41.7 +2.9
AB31 Akbulak array 64.57 331 *i* P **P 20 57 32.6 -1.0**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
SVE Sverdlovsk 69.60 337 *e*P **P 20 58 04.7 -0.8**
SVE pmax pmax
comp=Z,60nm,1.1s,mb5.4
YAK Yakutsk 69.90 14 *e*P **P 20 58 05.3 -2.1**
comp=Z,31nm,0.9s,mb5.2
YAK Yakutsk 69.90 14 *e*P **P 20 58 05.5 -1.9**
YAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.4s
ZEI Tsey 70.09 319 *i* P **P 20 58 06.8 -1.8**
ZEI *i* *PP pP 20 58 23.2 +6.5
ZEI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ARU Arti 70.13 336 P **P 20 58 08.1 -0.7**
comp=Z,130nm,0.7s,mb6.0,SNR=8.5
ARU Arti 70.13 336⇑*i*P **P 20 58 07.8 -1.0**
ARU *e* 20 58 29.7
ARU *e* 21 00 41.5
ARU *e*PPP 21 02 21.2
ARU *e*S S 21 07 13.8 -4.6
ARU *e*SS SS 21 11 47.6 -0.7
ARU pmax pmax
comp=Z,20nm,0.9s,mb5.0
KIV Kislovodsk 71.41 319 *e*P **P 20 58 16.3 -0.3**
KIV *e*S S 21 07 29.7 -3.5
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KIV MLR MLR
comp=Z,56nm,19.0s,MS3.9
GOF Gofitskoye 71.67 321 *e*P **P 20 58 11.0 -7.2**
MALT Malatya 72.11 313 P **P 20 58 22.1 +1.3**
comp=Z,1.8nm,1.0s,mb4.0
MALT Malatya 72.11 313 P **P 20 58 22.1 +1.3**
MALT pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
SOKR Solikamsk 72.98 338⇑*i*P **P 20 58 26.8 +0.8**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.1
MA2 Magadan 74.82 24 *e*P **P 20 58 35.5 -1.3**
MA2 *e*S S 21 08 03.8 -8.2
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 MLR MLR
comp=Z,200nm,17.5s,MS4.5
ANN Anapa 75.19 319 *e*P pP 20 58 51.5 +4.4
ANN pmax pmax
comp=Z,101nm,1.3s,mb5.6
BOSA Boshof 75.65 242 LR LR 21 25 37.4
comp=Z,239nm,18.3s,MS4.5,baz=122,slow=31
SYO Syowa Base 75.88 199⇑*e*X 20 58 59.2
SYO Syowa Base 75.88 199⇓*e*P **P 20 58 43.8 +1.0**
SYO *e* 20 58 59.2
BR131 Keskin Array S 76.09 313 *e*P **P 20 58 43.9 -0.2**
comp=Z,1.4nm,0.8s,mb3.9
BR131 *e*PcP PcP 20 58 55.6 -0.6
BRTR Keskin Array B 76.09 313 P **P 20 58 43.2 -0.8**
comp=Z,2.3nm,0.9s,mb4.1,baz=132,slow=8.6,SNR=13
SEY Seymchan 77.51 21 *e*P **P 20 58 51.8 -0.2**
SEY *e* 21 01 47.7
SEY *e* 21 03 36.7
SEY *e*S S 21 08 31.8 -10
SEY *e*SS sS 21 08 59.4 +4.3
SEY pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SEY smax
comp=N,60nm,14.7s
SEY smax
comp=E,40nm,14.7s
TIXI Tiksi 78.19 9⇓*e*P **P 20 58 52.6 -3.2**
TIXI pmax pmax
comp=Z,14nm,1.3s,mb4.7
MOS Moscow 79.42 329 *e*P **P 20 58 58.4 -4.2**
OBN Obninsk 79.72 328⇑*i*P **P 20 59 03.8 -0.4**
OBN *i* 20 59 13.6
OBN pmax pmax
comp=Z,29nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.2
KLMR Klimovskoe 80.76 334 *e*P **P 20 59 07.9 -1.9**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb5.1
AKASG Malin Array Be 82.38 322 P **P 20 59 17.5 -0.9**
comp=Z,2.3nm,0.8s,mb4.2,baz=87,slow=5.3,SNR=12
AKASG Malin Array Be 82.38 322 *i* P **P 20 59 18.1 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
VRI Vrincioaia 82.69 317 ⇓P **P 20 59 21.3 +1.3**
MLR Muntele Rosu 83.13 317 ⇓P **P 20 59 23.5 +1.2**
MLR Muntele Rosu 83.13 317 ⇓P **P 20 59 23.6 +1.3**
BURAR Bucovina Array 84.12 319 ⇓P **P 20 59 29.3 +2.0**
BURAR Bucovina Array 84.12 319 ⇓P **P 20 59 29.3 +1.9**

BILL Bilibino 85.10 20⇓*e*P **P 20 59 31.3 -1.0**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
JOF Joensuu 85.14 334 *e*p **P 20 59 32.6 +0.1**
comp=Z,4.3nm,0.9s,mb4.6
BZS Buzias 86.13 316 ⇑P **P 20 59 38.4 +1.0**
KOLS Kolonicke sedl 86.32 320 *i* P **P 20 59 39.5 +1.1**
KOLS *e*pP pP 20 59 48.2 +1.5
SUW Suwalki 86.80 325 *e*P **P 20 59 41.0 +0.3**
comp=Z,21nm,0.9s,mb5.4
SUW Suwalki 86.80 325 *e*P **P 20 59 41.0 +0.3**
SUW pmax pmax
comp=Z,21nm,0.9s,mb5.4
FINES FINESS Array B 87.04 332 P **P 20 59 41.5 -0.4**
comp=Z,2.1nm,0.8s,mb4.4,baz=106,slow=5.0,SNR=14
FINES LR LR 21 45 01.9
comp=Z,100nm,18.6s,MS4.2,baz=143,slow=40
FINES FINESS Array B 87.04 332 *i* P **P 20 59 41.9 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 87.07 320 *i* P **P 20 59 43.2 +1.1**
STHS *e* pP 20 59 51.6 +1.2
KAF Kangasniemi 87.11 333 *e*p **P 20 59 41.3 -1.0**
comp=Z,6.0nm,0.9s,mb4.8,baz=99,slow=4.4
KAF Kangasniemi 87.11 333 *e*P **P 20 59 41.3 -1.0**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
KECS Kecovo 87.40 319 *e*P **P 20 59 44.8 +1.2**
VYHS Vyhne 88.48 319 *e*P **P 20 59 48.5 -0.3**
ARCES ARCESS Array B 89.37 340 P **P 20 59 52.5 -0.5**
comp=Z,4.5nm,0.7s,mb4.9,baz=88,slow=8.5,SNR=22
ARCES LR LR 21 43 43.1
comp=Z,185nm,21.0s,MS4.5,baz=130,slow=38
ARCES ARCESS Array B 89.37 340 P **P 20 59 52.5 -0.5**
ARCES LR LR 21 43 43.0
SNAA Sanae 90.12 198⇑*i*P **P 21 00 08.8 +12**
GERES GERESS Array B 91.91 319 P **P 21 00 03.8 -0.9**
comp=Z,1.3nm,0.8s,mb4.3,baz=90,slow=5.6,SNR=6.2
TBI Tubuai 105.61 116 *e*LR LR 21 36 08.3
comp=Z,151nm,23.5s
PPT Papeete 106.63 110 *e*LR LR 21 36 38.2
comp=Z,98nm,23.2s
YKA Yellowknife Ar 116.42 18 PKP PKPdf 21 05 39.0 -1.0
comp=Z,0.6nm,0.9s,baz=305,slow=1.8,SNR=5.9
YKA Yellowknife Ar 116.42 18 PKIKP PKPdf 21 05 39.0 -1.0
RKT Rikitea 118.50 119 *e*LR LR 21 42 05.7
comp=Z,132nm,24.0s
DLMT Dillon 129.73 31 *e*PKPdf PKPdf 21 06 07.3 +1.7
MCMT McKenzie Canyo 129.96 31 *e*PKPdf PKPdf 21 06 00.9 -5.1
PDAR Pinedale Array 133.11 31 PKP PKPdf 21 06 13.2 +1.3
comp=Z,0.3nm,0.5s,baz=87,slow=2.0,SNR=6.2
ANMO Albuquerque 140.30 37⇓*i*PKIKP PKPdf 21 06 27.6 +2.4
BDFB Brasilia 143.65 236 PKP PKPdf 21 06 32.9 +1.7
comp=Z,0.9nm,0.4s,baz=131,slow=6.8,SNR=3.2
WMOK Wichita Mounta 144.66 29 *e*PKPdf PKPdf 21 06 31.8 -1.2
CCM Cathedral Cave 144.76 17 *e*PKPdf PKPdf 21 06 32.0 -1.1
FVM French Village 145.06 16 *e*PKPdf PKPdf 21 06 32.6 -1.1
MCWV Mont Chateau 145.08 2 *e*PKPdf PKPdf 21 06 34.3 +0.6
WCI Wyandotte Cave 145.80 11 *e*PKPdf PKPdf 21 06 35.2 +0.3
MIAR Mount Ida 147.12 23 *e*PKP PKPdf 21 06 39.7 +2.5
JCT Junction City 147.41 35 *e*PKP PKPdf 21 06 41.0 +3.3
WVT Waverly 147.49 14 *e*PKP PKPdf 21 06 39.2 +1.4
TZTN Tazewell 147.88 8 *e*PKP PKPdf 21 06 41.7 +3.3
PLAL Pickwick Lake 148.52 15 *e*PKPdf PKPdf 21 06 38.2 -1.3
OXF Oxford 148.59 17 *e*PKPdf PKPdf 21 06 37.9 -1.7
SWET Sewanee 148.79 12 *e*PKPbc PKPbc 21 06 43.9 +0.1
JSC Jenkinsville 150.36 4 *e*PKP PKPdf 21 06 48.3 +5.9

MAN 05 21:11:22.0, 1334N×12018E, h1km, mb2.2, ML3.9, MS5.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**10**	*e*P	Pg	21 11 29.8	+0.2
PGP	**Puerto Galera**	**0.77**	**78**⇓	*e*P	Pg	21 11 37.0	+0.2
BUSP	**Coron**	**1.33**	**179**	*e*P	Pg	21 11 47.6	+0.2
BUSP				*e*S	Sg	21 12 04.7	0.0
ENPP	**El Nido**	**2.25**	**199**	*e*P	Pn	21 12 00.3	+0.1
ENPP				*e*S	Sn	21 12 27.1	-1.5

BJI ***05*** *21:16:07.5, 486S×10142E, h41km, mB5.1, mb4.9, Ms4.4, Msz4.2*
ISCJB ***05*** *21:16:07.9±0.3, 456S±004×10140E±005, h28km, mb4.8/76, MS4.2/20, Error ellipse: s-maj=7.4km s-min=5.2km az=96.5*
MOS ***05*** *21:16:09.2±1.0, 441S×10151E, h33km, mb5.0/26, Error ellipse: s-maj=11.8km s-min=6.4km az=109.4*
HRVD ***05*** *21:16:10.0±0.9, 456S×10139E, h28km±3km, MW4.9/28, Centroid moment Tensor Solution. LP body waves: s20,c23;Mantle waves: s28,c30; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.15±.28; $M_{\theta\theta}$0.49±.17; $M_{\phi\phi}$-2.64±.28; $M_{r\theta}$0.69±.33; $M_{\theta\phi}$0.84±.19; $M_{\phi r}$-0.75±.46; Best double couple: $M_0$2.72000×10^{16} NP1:ϕ_s2.00000°, δ37.00000°, λ115.00000°. NP2:ϕ_s152.00000°, δ57.00000°, λ72.00000°. Principal axes: T 2.4350, Plg72.0000°, Azm17.0000°; N 0.5700, Plg15.0000°, Azm162.0000°; P -3.0060, Plg10.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***05*** *21:16:10.6±4.0, 446S×10151E, h30km±27km, mb4.4/16, mb1 4.5/17, mb1mx4.4/21, mbtmp4.6/17, ML4.0/1, MS4.2/8, Ms1 4.1/8, ms1mx3.7/28 Error ellipse: s-maj=30.6km s-min=12.2km az=44.0*
NEIC ***05*** *21:16:10.0±0.3, 457S×10141E, mb4.9/25, Error ellipse: s-maj=9.0km s-min=5.7km az=60.0*
NEIC Felt [II] at Bengkulu.
ISC 05 21:16:10.4±0.3, 456S±004×10142E±004, h30km, h30km±1.1km: pP-P, n155, σ1§03/142, mb4.8/76, MS4.2/20, 8C-6D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.48**	**53**	P	**Pn**	**21 16 34.5**	**-0.5**
	5μm,0.8s						
PSI	**Prapat**	**7.72**	**341**	Pn	**Pn**	**21 17 58.0**	**-2.8**
	2.2nm,0.3s,baz=132,slow=7.1,SNR=19						
PSI				LR	LR	21 21 49.7	
	comp=Z,2μm,21.1s,baz=146,slow=45						
PSI	**Prapat**	**7.72**	**341**	Pn	**Pn**	**21 17 58.0**	**-2.8**
PSI				LR	LR	21 21 49.7	
COCO	**West Island**	**8.83**	**211**	*e*Pn	**Pn**	**21 18 13.0**	**-3.0**
	221nm,0.8s						
COCO				*e*		21 18 22.1	
KULM	**Kulim**	**9.81**	**356**	*e*P	**Pn**	**21 18 29.6**	**+0.2**
KULM				*e*		21 18 37.0	
KSM	**Kuching**	**10.72**	**56**	*e*Pn	**Pn**	**21 18 47.1**	**+5.3**
BSI	**Banda Aceh**	**11.71**	**328**	P	**Pn**	**21 18 53.8**	**-1.6**
	118nm,0.8s						
KKM	**Kota Kinabalu**	**18.14**	**55**	*e*P	**Pn**	**21 20 20.7**	**+0.6**
PCI	**Palu**	**18.75**	**79**	P	**Pn**	**21 20 27.8**	**+0.4**
	128nm,1.2s						
QIZ	**Qiongzhong**	**24.86**	**19**	*e*P	**P**	**21 21 31.4**	**+1.1**
QIZ				*e*S	**S**	**21 25 54.6**	**+3.2**
QIZ				AMB	AMB		
	comp=Z,16nm,1.6s,mb4.3						
QIZ				AMB	AMB		
	comp=Z,186nm,7.0s						
QIZ				LR	LR		
	comp=E,370nm,17.8s						
QIZ				LR	LR		
	comp=Z,269nm,16.8s,MS3.8						
QIZ	**Qiongzhong**	**24.86**	**19**	*e*P	**P**	**21 21 30.9**	**+0.7**
QIZ				*e*		21 21 38.3	
FITZ	**Fitzroy Crossi**	**27.25**	**122**	*e*P	**P**	**21 21 52.5**	**+0.7**
	comp=Z,17nm,0.9s,mb4.6						
DGAR	**Diego Garcia**	**28.94**	**263**	P	**P**	**21 22 07.6**	**+0.7**
KMI	**Kunming**	**29.53**	**2**	P	**P**	**21 22 13.4**	**+1.2**
KMI				AP	pP	21 22 21.0	+0.2
KMI				PP	PP	21 23 13.7	-5.3
KMI				PCP	PcP	21 25 11.6	-5.3
KMI				S	**S**	**21 27 11.9**	**+6.9**
KMI				XS	sS	21 27 24.8	+5.5
KMI				SCP	ScP	21 28 49.7	-6.8
KMI				PCS	PcS	21 28 53.4	-6.5
KMI				SSS		21 29 14.5	
KMI				SCS	ScS	21 32 46.3	-4.9
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
KMI				AMB	AMB		

comp=Z,141nm,6.0s
KMI LR LR
comp=N,212nm,16.7s,MS4.0
KMI LR LR
comp=E,244nm,15.4s,MS4.0
KMI LR LR
comp=Z,274nm,19.1s,MS3.9
GYA Guiyang 31.25 9⇑ *i*P **P 21 22 27.4 +0.1**
GYA AP pP 21 22 34.6 -1.4
GYA PP PP 21 23 30.8 -7.3
GYA S **S 21 27 30.9 -1.0**
GYA AMB AMB
comp=Z,40nm,0.7s,mb5.4
GYA AMB AMB
comp=Z,210nm,3.8s
GYA LR LR
comp=E,1μm,16.5s
GYA LR LR
comp=Z,1μm,16.0s,MS4.7
NWAO Narrogin (SRO) 31.86 154 *e*P **P 21 22 32.0 -0.7**
JIRN Jiri 35.24 336 *e*P **P 21 23 03.8 +1.7**
comp=Z,103nm,0.8s,mb5.8
CD2 Chengdu 35.34 3 P P 21 23 06.6 +3.6
CD2 PP PP 21 24 27.2 +3.8
CD2 S **S 21 28 40.4 +5.1**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,50nm,5.2s
CD2 LR LR
comp=N,260nm,18.6s
CD2 LR LR
comp=Z,230nm,21.0s,MS3.9
LSA Lhasa 35.46 344 P **P 21 23 05.8 +1.8**
LSA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
LSA Lhasa 35.46 344 *e*P **P 21 23 05.0 +1.0**
comp=Z,5.5nm,0.6s,mb4.7
LSA *e* 21 23 18.1
LSA Lhasa 35.46 344 *e*P **P 21 23 05.0 +1.0**
LSA *e* 21 23 18.1
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ENH Enshi 35.48 12 *e*P **P 21 23 03.1 -1.2**
comp=Z,14nm,0.8s,mb4.9
PKI Pulchoki 35.48 335 *e*P **P 21 23 05.5 +1.3**
comp=Z,20nm,0.7s,mb5.1
PKI Pulchoki 35.48 335 *e*P **P 21 23 05.5 +1.3**
PKI pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
WRA Warramunga Arr 35.51 118 P **P 21 23 04.8 +0.3**
comp=Z,5.1nm,0.8s,mb4.5,baz=306,slow=9.3,SNR=36
WRA S **S 21 28 39.0 +1.0**
comp=Z,0.7nm,1.0s,baz=274,slow=17,SNR=4.1
WRAB Tennant Creek 35.52 118 *e*P **P 21 23 05.0 +0.5**
comp=Z,12nm,0.8s,mb4.9
WRAB Tennant Creek 35.52 118 *e*P **P 21 23 05.1 +0.6**
WRAB pmax pmax
comp=Z,12nm,0.8s,mb4.9
WB2 Warramunga Arr 35.52 118 *e*P **P 21 23 04.4 -0.2**
GUN Gumba 35.59 336 *e*P **P 21 23 06.8 +1.7**
comp=Z,75nm,0.5s,mb5.8
DMN Daman 35.65 335 *e*P **P 21 23 06.9 +1.3**
comp=Z,36nm,0.9s,mb5.3
KKN Kakani 35.73 335 *e*P **P 21 23 07.5 +1.2**
comp=Z,70nm,1.0s,mb5.6
KKN Kakani 35.73 335 *e*P **P 21 23 07.5 +1.2**
KKN pmax pmax
comp=Z,35nm,1.0s,mb5.2
GKN Gorkha 36.19 334 *e*P **P 21 23 11.4 +1.1**
comp=Z,80nm,1.0s,mb5.6
KOLN Koldanda 36.45 333 *e*P **P 21 23 14.0 +1.5**
comp=Z,58nm,1.0s,mb5.5
ASPA Alice Springs 36.63 124 *e*P **P 21 23 15.1 +1.1**
AS31 Alice Springs 36.63 124 *e*P **P 21 23 15.1 +1.1**
ASAR Alice Springs 36.63 124 P **P 21 23 14.8 +0.8**
comp=Z,2.6nm,0.6s,mb4.2,baz=300,slow=8.2,SNR=24
ASAR PcP PcP 21 25 37.2 +0.6
comp=Z,0.5nm,0.7s,baz=304,slow=1.7,SNR=4.8
WHN Wuhan 37.03 19 *e*P **P 21 23 17.5 +0.1**
XAN Xi'an 39.04 10 P **P 21 23 33.6 -0.8**
XAN AMB AMB
comp=Z,21nm,0.8s,mb4.9
XAN LR LR
comp=E,261nm,14.4s
XAN LR LR
comp=Z,280nm,15.3s,MS4.2
NJ2 Nanjing 40.01 23 *e*P **P 21 23 43.3 +0.8**
NJ2 AP pP 21 23 53.1 +1.8
NJ2 S **S 21 29 46.0 -0.2**
NJ2 XS sS 21 30 02.0 +1.3
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,390nm,9.1s
NJ2 LR LR
comp=N,530nm,21.4s,MS4.6
NJ2 LR LR
comp=E,660nm,20.6s,MS4.6
NJ2 LR LR
comp=Z,2μm,13.5s
SSE Sheshan 40.16 27 *e*P **P 21 23 41.3 -2.5**
SSE AMB AMB
comp=Z,18nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,112nm,3.5s
SSE LR LR
comp=N,74nm,24.7s,MS3.5
SSE LR LR
comp=E,22nm,24.7s,MS3.5
SSE LR LR
comp=Z,72nm,21.7s,MS3.5
LZH Lanzhou 40.49 3 *e*P **P 21 23 46.7 +0.2**
LZH AP pP 21 23 55.5 +0.2
LZH XP sP 21 23 59.5 +0.6
LZH AMB AMB
comp=Z,27nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,170nm,5.2s
LZH LR LR
comp=E,780nm,17.6s
LZH LR LR
comp=Z,1μm,19.0s,MS4.8
GTA Gaotai 43.77 358 P **P 21 24 13.8 +0.6**
GTA AP pP 21 24 20.1 -2.0
GTA PP PP 21 25 57.9 +2.6
GTA PCP PcP 21 26 00.5 +0.9
GTA S **S 21 30 44.2 +2.4**
GTA SS SS 21 33 54.0 -4.1
GTA AMB AMB
comp=Z,18nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,75nm,7.6s
GTA LR LR
comp=N,224nm,17.5s,MS4.3
GTA LR LR
comp=E,192nm,17.1s,MS4.3
GTA LR LR
comp=Z,367nm,17.5s,MS4.3
PMG Port Moresby 45.63 99 *e*P **P 21 24 28.8 +0.7**
PMG *e*pP pP 21 24 38.0 +1.1
HHC Hu-ho-hao-te 46.13 11 *e*P **P 21 24 33.1 +1.1**
HHC AP pP 21 24 41.9 +1.0
HHC XP sP 21 24 45.2 +0.7
HHC PCP PcP 21 26 07.9 +0.2
HHC PP PP 21 26 20.9 +0.5
HHC S **S 21 31 17.1 +1.1**
HHC XS sS 21 31 33.4 +2.7
HHC SCS ScS 21 34 22.6 -2.7
HHC AMB AMB
comp=Z,16nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,138nm,6.7s
HHC LR LR
comp=N,203nm,13.5s,MS4.4
HHC LR LR
comp=E,207nm,15.5s,MS4.4
HHC LR LR
comp=Z,158nm,12.9s,MS4.2
CTA Charters Tower 46.26 113 *e*P **P 21 24 34.2 +1.2**
comp=Z,11nm,0.9s,mb4.8
CTA Charters Tower 46.26 113 P **P 21 24 33.6 +0.6**
comp=Z,13nm,0.8s,mb4.9,baz=287,slow=9.2,SNR=13
CTA Charters Tower 46.26 113 *e*P **P 21 24 34.2 +1.2**
CTA pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 46.26 113 *e*P **P 21 24 34.3 +1.3**
CTAO *e*pP pP 21 24 43.5 +1.6
CTAO *e*PcP PcP 21 26 09.2 +1.0
BJT Baijiatuau 46.39 16 *e*P **P 21 24 34.3 +0.3**
comp=Z,15nm,0.6s,mb5.1
BJT Baijiatuau 46.39 16 *e*P **P 21 24 34.3 +0.3**
BJT pmax pmax
comp=Z,15nm,0.6s
BJI Beijing 46.41 16 P **P 21 24 33.5 -0.7**
BJI AMB AMB
comp=Z,29nm,0.7s,mb5.3
BJI LR LR
comp=N,196nm,16.3s,MS4.3
BJI LR LR
comp=E,192nm,16.8s,MS4.3
BJI LR LR
comp=Z,151nm,19.1s,MS4.0
STKA Stephens Creek 46.41 131 *e*P **P 21 24 33.6 -0.6**
comp=Z,3.7nm,0.4s,mb4.7
STKA Stephens Creek 46.41 131 P **P 21 24 33.8 -0.4**
comp=Z,2.8nm,0.6s,mb4.4,baz=298,slow=7.4,SNR=6.2
STKA LR LR 21 44 30.5
comp=Z,311nm,20.0s,MS4.3,baz=113,slow=37
WMQ Urumqi 49.72 347 P **P 21 25 00.5 +0.8**
WMQ AP pP 21 25 10.4 +1.7
WMQ XP sP 21 25 14.3 +2.0
WMQ PCP PcP 21 26 21.7 +1.2
WMQ PP PP 21 26 55.5 +1.1
WMQ PPP 21 27 50.7
WMQ AMB AMB
comp=Z,20nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,152nm,6.0s
WMQ LR LR
comp=N,175nm,22.0s,MS4.1
WMQ LR LR
comp=E,139nm,20.0s,MS4.1
WMQ LR LR
comp=Z,138nm,20.0s,MS4.0
ULHL Ulahol 51.90 336 P **P 21 25 17.3 +1.2**
SNR=13
KZA Kyzart 52.16 335 P **P 21 25 19.4 +1.3**
SNR=13
SONM Songino Array 52.35 4 P **P 21 25 20.4 +0.8**
comp=Z,28nm,0.8s,mb5.3,baz=187,slow=9.0,SNR=273
SONM LR LR 21 50 02.4
comp=Z,148nm,20.3s,MS4.0,baz=357,slow=39
ULN Ulaanbaatar 52.44 5 *e*P **P 21 25 20.5 +0.4**
comp=Z,20nm,0.9s,mb5.0
ULN *e* 21 25 36.0
ULN Ulaanbaatar 52.44 5⇓ *i*P **P 21 25 20.2 +0.1**
UCH Uchtor 52.60 335 P **P 21 25 22.7 +1.4**
SNR=8.3
TKM2 Tokmak 2 52.73 336 P **P 21 25 23.1 +0.8**
SNR=19
KBK Karagaybulak 52.77 336 P **P 21 25 24.0 +1.3**
SNR=7.3
CN2 Changchun 52.79 22 *e*P **P 21 25 21.9 -0.8**
CN2 *e*S **S 21 32 49.0 -0.1**
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
CN2 LR LR
comp=N,300nm,16.0s,MS4.5
CN2 LR LR
comp=E,200nm,16.0s,MS4.5
CN2 LR LR
comp=Z,200nm,16.0s,MS4.3
AML Almayashu 52.87 334 P **P 21 25 24.4 +1.1**
SNR=14
AAK Ala-Archa 52.94 335 P **P 21 25 24.9 +1.0**
SNR=7.4
AAK Ala-Archa 52.94 335 *e*P **P 21 25 23.5 -0.3**
comp=Z,5.9nm,1.0s,mb4.5
AAK *e*pP pP 21 25 31.3 -1.6
AAK Ala-Archa 52.94 335 *e*P **P 21 25 23.5 -0.4**
AAK *e**PP pP 21 25 31.3 -1.6
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CHMS Chumysh 53.13 336 P **P 21 25 25.6 +0.3**
SNR=6.3
EKS2 Erkin-Say 53.26 335 P **P 21 25 26.7 +0.5**
SNR=39
MAJO Matsushiro 53.41 37 *e*P **P 21 25 25.8 -1.5**
comp=Z,11nm,0.8s,mb4.8
MAJO Matsushiro 53.41 37 *e*P **P 21 25 25.8 -1.5**
MAJO pmax pmax
comp=Z,11nm,0.8s,mb4.8
MAT Matsushiro 53.41 37 P **P 21 25 25.5 -1.8**
MAT Matsushiro 53.41 37 *e*P **P 21 25 26.0 -1.3**
comp=Z,8.0nm,1.0s,mb4.6
MAT Matsushiro 53.41 37 *e*P **P 21 25 26.0 -1.3**
MAT pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MJAR Matsushiro Arr 53.41 37 P **P 21 25 25.6 -1.7**
comp=Z,14nm,0.8s,mb5.0,baz=216,slow=7.4,SNR=41
USP Ospenovka 53.46 336 P **P 21 25 28.1 +0.4**
SNR=11
MK31 Makanchi Array 53.86 344 *i*P **P 21 25 30.0 -0.6**
MK31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
MKAR Makanchi Array 53.86 344 P **P 21 25 30.6 0.0**
comp=Z,14nm,0.9s,mb4.9,baz=151,slow=8.0,SNR=128
MKAR Makanchi Array 53.86 344 *i*P **P 21 25 30.0 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
ZAK Zakamensk 54.74 1⇑ *i*P **P 21 25 37.4 +0.3**
ZAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
KK31 Karatay Array 55.06 333 *i*P **P 21 25 39.3 0.0**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
KKAR Karatay Array 55.06 333 *i*P **P 21 25 39.3 0.0**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
HIA Hailar 55.93 14 *e*P **P 21 25 45.0 -0.6**
comp=Z,16nm,1.0s,mb5.0
HIA Hailar 55.93 14 *e*P **P 21 25 45.0 -0.6**
HIA pmax pmax
comp=Z,16nm,1.0s
MOY Mondy 56.01 360 *e*P **P 21 25 41.5 -4.7**
KURK Kurchatov 58.45 343 *e*P **P 21 26 03.5 +0.1**
comp=Z,13nm,1.0s,mb4.9
KURK *e*pP pP 21 26 12.7 +0.2
KURK Kurchatov 58.45 343 *e*P **P 21 26 03.5 +0.1**
KURK *e**PP pP 21 26 12.7 +0.2
KURK pmax pmax
comp=Z,13nm,1.0s,mb4.9
KLR Kul'dur 59.71 23 *e*P **P 21 26 08.2 -3.9**
ZAL Zalesovo 59.92 349 P **P 21 26 12.6 -1.0**
comp=Z,12nm,0.9s,mb4.9,baz=300,slow=5.1,SNR=71
HABR Khabarovsk 60.44 25 *e*P **P 21 26 15.6 -1.5**
KRAR Krasnoyarsk 60.77 355 *ce*P **P 21 26 18.7 -0.7**
ASAJ Asahikawa 60.95 33 P **P 21 26 20.2 -0.3**
comp=Z,5.5nm,0.4s,mb5.0,baz=275,slow=28,SNR=10
NVS Novosibirsk 61.09 348 *e*P **P 21 26 18.9 -2.6**
NVS pmax pmax
comp=N,8.0nm,1.1s
NVS pmax pmax
comp=E,4.0nm,1.1s
NVS pmax pmax
comp=Z,12nm,1.1s,mb4.9
RDF Al-Radifah 61.49 306 *e*P **P 21 26 24.2 -0.1**
RDF AMb AMB 21 26 26.6
comp=Z,20nm,0.8s,mb5.3
UMR Umm Al-Rimmam 61.61 307 *e*P **P 21 26 23.8 -1.3**
UMR AMb AMB 21 26 25.7
comp=Z,9.1nm,0.5s,mb5.2
NAY Al-Naaiem 61.87 307 *e*P **P 21 26 26.1 -0.7**
NAY AMb AMB 21 26 28.9
comp=Z,6.7nm,0.8s,mb4.8
CASY Casey 61.94 176 *e*P **P 21 26 26.1 -1.2**
comp=Z,3.1nm,0.6s,mb4.6
MIB Mutribah 62.01 307 *e*P **P 21 26 27.0 -0.7**
MIB AMb AMB 21 26 30.2
comp=Z,15nm,0.8s,mb5.2
YSS Yuzh-Sakhalins 62.92 31 *e*P **P 21 26 33.1 -0.8**
comp=Z,28nm,1.1s,mb5.3
YSS Yuzh-Sakhalins 62.92 31⇓ *i*P **P 21 26 33.4 -0.5**
YSS pmax pmax
comp=Z,45nm,1.3s,mb5.4
BOD Bodaibo 63.00 8 *e*P **P 21 26 34.0 -0.4**
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.9
BVA0 Borovoye Array 63.06 340 *i*P **P 21 26 33.3 -1.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BRVK Borovoye 63.12 340 *e*P **P 21 26 34.3 -0.9**
comp=Z,6.0nm,1.0s,mb4.7
BRVK Borovoye 63.12 340 *e*P **P 21 26 34.3 -0.9**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
KMBO Kilima Mbogo 64.16 271 LR LR 21 49 55.9
comp=Z,65nm,18.8s,MS3.8,baz=93,slow=32
AB31 Akbulak array 64.55 331 P **P 21 26 44.4 -0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
MAW Mawson 68.18 195 LR LR 21 50 08.3
comp=Z,502nm,19.0s,MS4.8,baz=288,slow=30
GNI Garni 68.34 316 *e*P **P 21 27 08.8 0.0**
SVE Sverdlovsk 69.57 337⇑ *e*P **P 21 27 15.2 -1.3**
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.3
YAK Yakutsk 69.86 14 *e*P **P 21 27 16.9 -1.4**
comp=Z,19nm,0.8s,mb5.1
YAK *e*pP pP 21 27 26.0 -1.6
YAK Yakutsk 69.86 14 *e*P **P 21 27 16.9 -1.4**
YAK *e**PP pP 21 27 26.0 -1.5
YAK pmax pmax
comp=Z,19nm,0.8s,mb5.1
ZEI Tsey 70.07 319 *i*P **P 21 27 20.7 +1.1**
ZEI *i**PP pP 21 27 27.7 -1.2
ZEI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ARU Arti 70.10 336⇑ *i*P **P 21 27 19.2 -0.5**
ARU *e* 21 27 39.9
ARU *e* 21 29 51.5
ARU *e*PPP 21 31 33.0
ARU *e*S S 21 36 27.7 -1.1
ARU *e*SS SS 21 40 57.9 -0.8
ARU pmax pmax
comp=Z,15nm,0.9s,mb4.9
KIV Kislovodsk 71.39 319 *e*P **P 21 27 26.0 -1.5**
KIV Kislovodsk 71.39 319 *e*P **P 21 27 26.5 -1.1**
KIV *e* 21 27 46.3
KIV *e*S S 21 36 42.4 -1.4
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MALT Malatya 72.10 313 *e*P **P 21 27 31.1 -0.7**
comp=Z,0.5nm,0.4s,mb3.8
LSZ Lusaka 72.64 255 LR LR 21 53 41.0
comp=Z,120nm,19.7s,MS4.2,baz=118,slow=31
MA2 Magadan 74.78 24 *c i*P **P 21 27 45.0 -2.6**
MA2 pmax pmax
comp=Z,15nm,1.0s,mb4.9
BOSA Boshof 75.68 242 LR LR 21 53 54.8
comp=Z,139nm,18.7s,MS4.3,baz=133,slow=30
SYO Syowa Base 75.92 199⇓ *e*PP PP 21 30 45.9 +1.2
SYO Syowa Base 75.92 199⇓ *e*P **P 21 27 55.0 +0.8**
SYO ⇓*e*PP PP 21 30 45.9 +1.2
SYO *e*S S 21 37 36.1 +1.2
BRTR Keskin Array B 76.08 313 P **P 21 27 55.1 +0.1**
comp=Z,1.7nm,0.8s,mb4.0,baz=133,slow=7.2,SNR=12
SEY Seymchan 77.47 21 *e*P **P 21 28 03.0 +0.1**
SEY pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TIXI Tiksi 78.15 9⇓ *i*P **P 21 28 04.8 -1.9**
TIXI pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
OBN Obninsk 79.70 328 *d i*P **P 21 28 15.6 +0.4**
OBN pmax pmax
comp=Z,20nm,1.0s,mb5.0
KLMR Klimovskoe 80.73 334 *e*P **P 21 28 19.7 -1.1**
KLMR pmax pmax
comp=Z,30nm,2.3s,mb4.8
AKASG Malin Array Be 82.36 322 P **P 21 28 29.0 -0.4**
comp=Z,0.7nm,0.4s,mb3.9,baz=89,slow=5.1,SNR=9.3
AKASG Malin Array Be 82.36 322 P **P 21 28 29.0 -0.4**
TSUM Tsumeb 82.70 251 LR LR 21 59 22.9
comp=Z,107nm,19.5s,MS4.2,baz=145,slow=31
MLR Muntele Rosu 83.12 317 P **P 21 28 34.4 +1.0**
comp=Z,4.5nm,0.8s,mb4.5,baz=346,slow=4.6,SNR=6.5
BILL Bilibino 85.06 20⇑ *i*P **P 21 28 42.3 -0.9**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
JOF Joensuu 85.12 334 *e*p **P 21 28 44.2 +0.7**
comp=Z,3.6nm,0.8s,mb4.5
FINES FINESS Array B 87.02 332 P **P 21 28 52.8 -0.1**
comp=Z,2.2nm,0.8s,mb4.4,baz=101,slow=4.4,SNR=9.9
KAF Kangasniemi 87.09 333 *e*p **P 21 28 52.8 -0.4**
comp=Z,4.0nm,0.7s,mb4.8
KAF Kangasniemi 87.09 333 *e*P **P 21 28 52.8 -0.4**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ARCES ARCESS Array B 89.34 340 P **P 21 29 04.0 +0.1**
comp=Z,6.4nm,0.8s,mb5.0,baz=88,slow=7.7,SNR=16
GERES GERESS Array B 91.89 319 P **P 21 29 16.8 +1.0**
comp=Z,1.2nm,0.8s,mb4.3,baz=85,slow=5.8,SNR=6.1
NOA NORSAR Array B 94.05 331 P **P 21 29 25.1 -0.7**
comp=Z,0.6nm,0.8s,mb4.1,baz=110,slow=8.5,SNR=3.0
YKA Yellowknife Ar 116.38 18 PKP PKPdf 21 34 49.4 -1.6
comp=Z,0.3nm,0.8s,baz=305,slow=2.4,SNR=5.1
YKA Yellowknife Ar 116.38 18 PKIKP PKPdf 21 34 49.4 -1.6
ULM Lac du Bonnet 132.19 15 PKP PKPdf 21 35 22.1 +0.8
comp=Z,1.0nm,0.5s,baz=324,slow=6.8,SNR=4.7
PDAR Pinedale Array 133.06 31 PKP PKPdf 21 35 23.9 +1.0
comp=Z,0.4nm,0.6s,baz=108,slow=2.0,SNR=6.3
WMOK Wichita Mounta 144.62 29 *e*PKPdf PKPdf 21 35 43.0 -0.9
CCM Cathedral Cave 144.71 17 *e*PKPdf PKPdf 21 35 43.0 -1.2
FVM French Village 145.02 16 *e*PKPbc PKPbc 21 35 44.2 +0.1
MCWV Mont Chateau 145.04 2 *e*PKP PKPdf 21 35 44.7 0.0
WCI Wyandotte Cave 145.76 11 *e*PKP PKPdf 21 35 46.7 +0.7
MIAR Mount Ida 147.08 23 *e*PKP PKPbc 21 35 51.3 +1.0
JCT Junction City 147.36 35 *e*PKP PKPbc 21 35 52.2 +1.1
WVT Waverly 147.45 14 *e*PKP PKPbc 21 35 51.5 +0.2
TZTN Tazewell 147.84 8 *e*PKPbc PKPbc 21 35 52.8 +0.4
PLAL Pickwick Lake 148.48 15 *e*PKPbc PKPbc 21 35 53.4 -0.7
SWET Sewanee 148.75 12 *e*PKPbc PKPbc 21 35 54.9 +0.1
JSC Jenkinsville 150.32 4 *e*PKPbc PKPbc 21 35 59.4 +0.7

IDC ***05*** *21:33:55.3±1.1, 3920N×7320E, h0km, mb3.6/9, mb1 3.7/13, mb1mx3.6/24, mbtmp3.6/13, ML3.1/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/25, Error ellipse: s-maj=21.4km s-min=16.6km az=168.0*
BJI ***05*** *21:33:58.6, 3955N×7331E, h33km, mb4.1, ML3.9*
NNC ***05*** *21:33:58.5±4.0, 3922N×7223E, h0km, mb4.2, mpv4.4, Error ellipse: s-maj=33.2km s-min=17.2km az=4.0*
MOS ***05*** *21:33:59.4±1.8, 3947N×7315E, h33km, mb3.9/1, Error ellipse: s-maj=14.9km s-min=7.3km az=92.6*
ISCJB ***05*** *21:34:00.3±0.9, 3934N±005×7322E±008, h48km±9km, mb3.6/11, Error ellipse: s-maj=11.2km s-min=7.5km az=125.0*
NEIC ***05*** *21:34:01.3±0.7, 3951N×7327E, h35km, mb3.5/2, Error ellipse: s-maj=13.0km s-min=11.6km az=203.0*
ISC 05 21:34:02.4±0.7, 3941N±005×7319E±008, h50km±8km, n47, σ1§00/53, mb3.6/11, 4C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=71	**2.75**	**8**	P	**Pn**	**21 34 44.0**	**0.0**
UCH	**Uchtor** SNR=35	**2.99**	**19**	P	**Pn**	**21 34 47.2**	**-0.1**
KZA	**Kyzart** SNR=40	**3.09**	**30**	P	**Pn**	**21 34 49.3**	**+0.6**
EKS2	**Erkin-Say** SNR=22	**3.28**	**8**	P	**Pn**	**21 34 51.8**	**+0.4**
AAK	**Ala-Archa** SNR=90	**3.37**	**17**	P	**Pn**	**21 34 52.9**	**+0.4**
AAK	**Ala-Archa**	**3.37**	**17**	*e*Pn	**Pn**	**21 34 51.8**	**-0.7**
AAK				*e*Sn	**Sn**	**21 35 38.0**	**+6.7**
KBK	**Karagaybulak** SNR=17	**3.51**	**22**	P	**Pn**	**21 34 55.3**	**+0.8**
ULHL	**Ulahol** SNR=6.8	**3.66**	**38**	P	**Pn**	**21 34 56.4**	**-0.1**
CHMS	**Chumysh** SNR=25	**3.78**	**18**	P	**Pn**	**21 34 59.0**	**+0.9**
TKM2	**Tokmak 2** SNR=13	**3.95**	**27**	P	**Pn**	**21 35 01.3**	**+0.8**
TKM2	**Tokmak 2** 9.5nm,0.5s	**3.95**	**27**	⇓Pn	**Pn**	**21 35 05.7**	**+5.2**
TKM2	37nm,0.6s			⇓Sn	**Sn**	**21 36 01.7**	**+16**
TKM2	**Tokmak 2**	**3.95**	**27**	PN	**Pn**	**21 35 01.2**	**+0.7**
TKM2						21 36 01.6	
TKM2	comp=Z,4.0nm,0.5s			pmax	pmax		
USP	**Ospenovka**	**3.98**	**14**	P	**Pn**	**21 35 01.2**	**+0.3**

SNR=9.3
KK31 Karatay Array 4.21 332 Pn **Pn 21 35 04.8 +0.8**
comp=Z,21nm,0.7s,baz=151,slow=11,SNR=74
KK31 ⇑Sn **Sn 21 35 57.8 +5.9**
comp=Z,19nm,0.6s,baz=134,slow=24,SNR=5.3
KKAR Karatay Array 4.21 332 *i* PN **Pn 21 35 04.8 +0.8**
KKAR 21 35 57.7
KKAR pmax pmax
comp=Z,3.0nm,0.4s
KNDC Almaty 4.75 36 ⇑Pn **Pn 21 35 16.9 +5.4**
comp=Z,322nm,0.5s
KNDC ⇑Sn **Sn 21 36 25.5 +20**
comp=Z,951nm,0.7s
SDNR Sundarnagar 8.47 158 *e*P **Pn 21 36 02.3 -0.1**
SDNR *e*S **Sn 21 37 36.3 -0.3**
MK31 Makanchi Array 9.94 39 Pn **Pn 21 36 35.4 +13**
comp=Z,0.7nm,0.7s,baz=223,slow=14,SNR=4.1
MK31 ⇓Sn Sn 21 38 35.5 +23
comp=Z,1.6nm,0.8s,baz=227,slow=28,SNR=3.5
MKAR Makanchi Array 9.94 39 Pn **Pn 21 36 23.6 +1.2**
comp=Z,0.0nm,0.3s,baz=234,slow=12,SNR=4.1
MKAR LR LR 21 41 00.6
comp=Z,45nm,19.2s,baz=113,slow=42
MKAR Makanchi Array 9.94 39 P **Pn 21 36 23.6 +1.1**
MKAR MLR MLR
comp=Z,45nm,19.2s
KURK Kurchatov 11.94 17 *e*Pn **Pn 21 36 46.9 -2.9**
AB31 Akbulak array 13.65 320 Pn **Pn 21 37 09.0 -4.2**
comp=Z,0.6nm,0.5s,baz=139,slow=12,SNR=14
AB31 ⇑Sn **Sn 21 39 38.3 -5.0**
comp=Z,0.6nm,0.5s,baz=136,slow=23,SNR=2.9
AB31 Akbulak array 13.65 320 *i* P **Pn 21 37 10.3 -2.9**
BVA0 Borovoye Array 13.76 353 *i* P **Pn 21 37 11.0 -3.7**
BVA0 pmax pmax
comp=Z,5.0nm,2.6s
BVAR Borovoye Array 13.76 353 Pn **Pn 21 37 10.3 -4.4**
comp=Z,0.1nm,0.3s,baz=159,slow=13,SNR=8.9
BRVK Borovoye 13.80 353 *e*Pn **Pn 21 37 12.0 -3.3**
comp=Z,1.7nm,0.6s
BRVK Borovoye 13.80 353 *e*P **Pn 21 37 12.0 -3.3**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
AKTK Aktyubinsk 15.37 321 Pn **Pn 21 37 33.5 -2.4**
AKTO Aktyubinsk 15.37 321 ⇓Pn **Pn 21 37 32.2 -3.7**
comp=Z,0.8nm,1.0s
AKTO Aktyubinsk 15.37 321 Pn **Pn 21 37 33.5 -2.4**
comp=Z,0.1nm,0.3s,baz=121,slow=14,SNR=2.9
ZAL Zalesovo 16.54 25 Pn **Pn 21 37 49.4 -1.5**
comp=Z,0.4nm,0.3s,baz=264,slow=12,SNR=4.4
GTA Gaotai 20.55 81 *e*P **P 21 38 36.6 -0.2**
GTA AP 21 38 43.9
GTA XP sP 21 38 46.9 -7.7
GTA AMB AMB
comp=Z,6.0nm,0.8s
KIV Kislovodsk 23.16 291 *e*P **P 21 39 05.1 +0.5**
KIV pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
SONM Songino Array 25.32 60 P **P 21 39 23.8 -0.5**
comp=Z,0.8nm,0.7s,mb3.3,baz=261,slow=9.4,SNR=9.7
ULN Ulaanbaatar 25.76 60 *e*P **P 21 39 27.7 -0.6**
comp=Z,1.0nm,0.7s,mb3.5
ULN Ulaanbaatar 25.76 60 *e*P **P 21 39 27.7 -0.6**
ULN pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
BRTR Keskin Array B 30.32 283 P **P 21 40 10.4 +1.3**
comp=Z,0.4nm,0.6s,mb3.3,baz=87,slow=8.6,SNR=4.0
AKASG Malin Array Be 32.59 305 P **P 21 40 29.2 +0.2**
comp=Z,0.8nm,0.5s,mb3.9,baz=81,slow=7.2,SNR=9.2
FINES FINESS Array B 36.12 323 P **P 21 40 60.0 +0.4**
comp=Z,0.8nm,0.4s,mb4.0,baz=108,slow=9.6,SNR=18
ARCES ARCESS Array B 39.17 336 P **P 21 41 26.1 +0.8**
comp=Z,2.0nm,0.8s,mb3.9,baz=87,slow=6.2,SNR=5.7
NB2 NORSAR Subarra 43.16 321 P **P 21 41 58.1 0.0**
comp=Z,0.5nm,0.5s,mb3.5,baz=93,slow=7.4
NB2 NORSAR Subarra 43.16 321 P **P 21 41 58.1 0.0**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
NOA NORSAR Array B 43.16 321 P **P 21 41 58.3 +0.2**
comp=Z,0.8nm,0.6s,mb3.6,baz=92,slow=7.9,SNR=4.1
TORD Torodi Ar. Bea 67.52 269 P **P 21 44 53.5 +0.3**
comp=Z,0.4nm,0.5s,mb3.7,baz=50,slow=5.2,SNR=7.3
YKA Yellowknife Ar 78.25 4 P **P 21 45 57.1 +0.2**
comp=Z,0.4nm,0.7s,mb3.4,baz=349,slow=5.6,SNR=8.8
WRA Warramunga Arr 82.11 124 P **P 21 46 17.1 -0.5**
comp=Z,0.3nm,0.5s,mb3.5,baz=325,slow=4.9,SNR=7.3
WRAB Tennant Creek 82.11 124 *e*P **P 21 46 18.0 +0.4**

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*ISCJB **05** 22:26:17.7±4.5,21.18N±006×1443E±01,h32km±31km, mb4.3/23,MS3.9/8,Error ellipse: s-maj=21.5km s-min=10.2km az=163.9*
*NEIC **05** 22:26:18.4±0.5,21.17N×144.39E,mb4.6/11,Error ellipse: s-maj=14.4km s-min=8.2km az=79.0*
*MOS **05** 22:26:18.0±1.0,21.21N×144.18E,h33km,mb4.6/7,Error ellipse: s-maj=26.0km s-min=12.5km az=109.1*
*IDC **05** 22:26:18.6±0.7,21.20N×144.27E,h26km±4km,mb3.9/10, mb1 4.0/12,mb1mx3.9/21,mbtmp4.0/12,ML3.6/1,MS3.7/12, Ms1 3.7/12,ms1mx3.4/26,Error ellipse: s-maj=27.4km s-min=12.9km az=89.0*
ISC 05 22:26:20.6±2.0,2122N±008×1445E±01,h45km±17km, h26km±2.2km:pP-P,n47,σ0:94/40,mb4.3/23,MS3.9/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.21 341**		Pn	**Pn**	**22 27 48.6**	**-1.1**
	4.0nm,0.3s,baz=267,slow=19,SNR=2.5						
CBIJ				Sn	**Sn**	**22 28 59.9**	**+0.5**
	11nm,0.3s,baz=120,slow=20,SNR=5.7						
GUMO	**Guam**	**7.60 177**		LR	LR	22 30 25.6	
	comp=Z,206nm,20.2s,baz=186,slow=32						
JHJ	**Hachijo jima 2**	**12.56 342**		LR	LR	22 33 54.2	
	comp=Z,221nm,18.7s,baz=253,slow=36						
JOW	**Kunigami**	**15.83 294**		LR	LR	22 35 27.7	
	comp=Z,135nm,21.3s,baz=156,slow=35						
MJAR	**Matsushiro Arr**	**16.22 342**		Pn	**Pn**	**22 30 05.7**	**+0.5**
	baz=159,slow=12,SNR=3.0						
MJAR				LR	LR	22 35 57.2	
	comp=Z,132nm,18.7s,baz=220,slow=36						
NACB	**Ninganchiao**	**21.32 282**		P	**P**	**22 31 07.9**	**+4.3**
YHNB	**Yeheng**	**21.56 284**		P	**P**	**22 31 09.6**	**+3.5**
ASAJ	**Asahikawa**	**22.88 356**		LR	LR	22 40 21.9	
	comp=Z,158nm,18.8s,MS3.5,baz=113,slow=37						
ULN	**Ulaanbaatar**	**40.10 321**		*e*P	**P**	**22 33 52.2**	**+0.4**
	1.5nm,0.9s,mb3.7						
ULN	**Ulaanbaatar**	**40.10 321**		*e*P	**P**	**22 33 52.2**	**+0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
SONM	**Songino Array**	**40.48 320**		P	**P**	**22 33 55.0**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.3,baz=125,slow=7.1,SNR=5.3						
WRAB	**Tennant Creek**	**42.09 194**		*e*P	**P**	**22 34 08.9**	**+0.9**
	comp=Z,8.7nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**42.09 194**		*e*P	**P**	**22 34 08.9**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**42.10 194**		P	**P**	**22 34 08.1**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.1,baz=14,slow=8.9,SNR=28						
WRA				pP	pP	22 34 16.9	-3.5
	comp=Z,2.2nm,0.8s,baz=13,slow=8.8,SNR=6.5						
ZAK	**Zakamensk**	**43.46 322**		*e*P	**P**	**22 34 17.6**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.1						
ASAR	**Alice Springs**	**45.79 194**		P	**P**	**22 34 37.8**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=13,slow=7.5,SNR=12						
ASAR				pP	pP	22 34 45.9	-4.3
	comp=Z,1.2nm,0.7s,baz=14,slow=8.0,SNR=6.7						
LSA	**Lhasa**	**48.54 291**		*e*P	**P**	**22 35 00.6**	**+1.4**
	comp=Z,3.5nm,1.0s,mb4.3						
LSA	**Lhasa**	**48.54 291**		*e*P	**P**	**22 35 00.6**	**+1.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**52.87 183**		P	**P**	**22 35 30.1**	**-1.6**
	comp=Z,3.5nm,1.0s,mb4.2,baz=42,slow=14,SNR=3.0						
STKA	**Stephens Creek**	**52.87 183**		*e*P	**P**	**22 35 30.6**	**-1.2**
JIRN	**Jiri**	**53.06 289**		*e*P	**P**	**22 35 33.4**	**+0.2**
	comp=Z,9.3nm,0.7s,mb4.8						
GUN	**Gumba**	**53.30 290**		*e*P	**P**	**22 35 35.5**	**+0.5**
	comp=Z,23nm,1.1s,mb5.0						
KKN	**Kakani**	**53.84 289**		*e*P	**P**	**22 35 39.1**	**+0.2**
	comp=Z,11nm,0.9s,mb4.8						
KKN	**Kakani**	**53.84 289**		*e*P	**P**	**22 35 39.1**	**+0.2**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
DMN	**Daman**	**54.02 289**		*e*P	**P**	**22 35 40.8**	**+0.6**
GKN	**Gorkha**	**54.38 290**		*e*P	**P**	**22 35 42.9**	**0.0**
	comp=Z,20nm,1.0s,mb5.0						
KOLN	**Koldanda**	**55.32 290**		*e*P	**P**	**22 35 49.7**	**+0.1**
	comp=Z,10nm,0.8s,mb4.9						
ZAL	**Zalesovo**	**55.35 322**		P	**P**	**22 35 49.1**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.1,baz=42,slow=3.1,SNR=7.5						
ZAL				LR	LR	23 01 04.2	
	comp=Z,83nm,18.1s,MS3.9,baz=214,slow=38						
MKAR	**Makanchi Array**	**55.91 313**		P	**P**	**22 35 53.3**	**-0.6**
	comp=Z,2.1nm,1.0s,mb4.1,baz=93,slow=10.0,SNR=12						
MKAR				pP	pP	22 36 00.6	-6.1
	comp=Z,2.3nm,1.1s,baz=92,slow=8.5,SNR=6.3						
MKAR				PcP	PcP	22 36 52.1	0.0
	comp=Z,0.3nm,0.4s,baz=84,slow=3.4,SNR=6.3						
KURK	**Kurchatov**	**58.65 317**		*e*P	**P**	**22 36 12.7**	**-0.5**
	comp=Z,6.0nm,0.9s,mb4.6						
KURK	**Kurchatov**	**58.65 317**		*e*P	**P**	**22 36 12.7**	**-0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**61.91 27**		P	**P**	**22 36 36.0**	**+0.5**
	comp=Z,1.1nm,0.8s,mb4.0,baz=262,slow=5.7,SNR=11						
ILAR				pP	pP	22 36 44.0	-4.4
	comp=Z,1.0nm,0.8s,baz=245,slow=5.2,SNR=5.8						
ILAR				LR	LR	23 05 33.3	
	comp=Z,63nm,18.1s,MS3.8,baz=360,slow=38						
ILAR	**Eielson Array**	**61.91 27**		P	**P**	**22 36 36.0**	**+0.5**
ILAR				*PP	pP	22 36 44.0	-4.3
BRVK	**Borovoye**	**63.88 320**		*e*P	**P**	**22 36 47.7**	**-0.9**
	comp=Z,2.2nm,0.9s,mb4.2						
BRVK	**Borovoye**	**63.88 320**		*e*P	**P**	**22 36 47.7**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
YKA	**Yellowknife Ar**	**76.30 28**		P	**P**	**22 38 06.7**	**+2.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=292,slow=5.5,SNR=12						
YKA				LR	LR	23 09 50.1	
	comp=Z,74nm,18.6s,MS4.0,baz=325,slow=34						
YKA	**Yellowknife Ar**	**76.30 28**		P	**P**	**22 38 06.7**	**+2.1**
YKA				LR	LR	23 09 50.1	
ARCES	**ARCESS Array B**	**79.75 342**		P	**P**	**22 38 23.9**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=52,slow=7.9,SNR=5.2						
ARCES				LR	LR	23 14 08.6	
	comp=Z,42nm,19.2s,MS3.8,baz=6.9,slow=36						
JOF	**Joensuu**	**81.26 335**		*e*p	**P**	**22 38 31.5**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.7						
NVAR	**Mina Array Bea**	**82.48 52**		LR	LR	23 09 08.8	
	comp=Z,47nm,19.7s,MS3.9,baz=180,slow=31						
ZEI	**Tsey**	**83.27 313**		*e*P	**P**	**22 38 41.6**	**-0.8**
FINES	**FINESS Array B**	**84.13 335**		P	**P**	**22 38 45.3**	**-1.5**
	comp=Z,1.1nm,0.3s,mb4.4,baz=68,slow=4.7,SNR=35						
DUG	**Dugway**	**85.74 49**		*e*P	**P**	**22 38 58.1**	**+3.2**
	comp=Z,4.5nm,1.3s,mb4.5						
DUG	**Dugway**	**85.74 49**		*e*P	**P**	**22 38 58.1**	**+3.2**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.6						
PDAR	**Pinedale Array**	**86.87 45**		LR	LR	23 11 36.5	
	comp=Z,99nm,19.7s,MS4.2,baz=130,slow=31						
NOA	**NORSAR Array B**	**89.82 339**		LR	LR	23 23 33.8	
	comp=Z,32nm,19.6s,MS3.8,baz=175,slow=38						
PLCA	**Paso Flores**	**144.53 131**		PKP	PKPdf	22 45 52.0	0.0
	comp=Z,5.6nm,1.1s,baz=200,slow=1.7,SNR=4.8						

IDC 05 22:32:31.8±2.9,652S×15413E,h0km,mb3.8/6,mb1 3.9/6, mb1mx3.8/14,mbtmp3.8/6,Error ellipse: s-maj=98.8km s-min=26.0km az=104.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39 233**		P	P	22 37 41.9	-0.4
	1.6nm,0.8s,baz=56,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**25.86 227**		P	P	22 38 05.2	+0.2
	1.0nm,0.9s,baz=58,slow=9.6,SNR=5.2						
STKA	**Stephens Creek**	**27.81 203**		P	P	22 38 23.6	+0.9
	1.2nm,0.6s,baz=34,slow=16,SNR=2.9						
SONM	**Songino Array**	**68.47 328**		P	P	22 43 36.6	+0.8
	0.5nm,0.8s,baz=133,slow=4.6,SNR=4.2						
MKAR	**Makanchi Array**	**82.48 319**		P	P	22 44 56.9	+0.7
	0.8nm,0.9s,baz=95,slow=6.5,SNR=6.0						
ZAL	**Zalesovo**	**83.31 326**		P	P	22 44 59.1	-1.3
	0.4nm,0.4s,baz=304,slow=16,SNR=3.1						
TORD	**Torodi Ar. Bea**	**152.07 286**		PKPbc	PKPbc	22 52 29.1	+0.1
	0.7nm,0.7s,baz=93,slow=1.3,SNR=4.7						
TORD				PKPab	PKPab	22 52 40.3	+1.9
	1.4nm,0.8s,baz=70,slow=1.9,SNR=7.7						

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*IDC **05** 22:32:58.8±1.7,674S×129.58E,h0km,mb3.9/2,mb1 4.0/4, mb1mx3.7/14,mbtmp3.8/4,ML4.0/2,MS3.2/1,Ms1 3.2/1, ms1mx2.8/18,Error ellipse: s-maj=134.7km s-min=25.7km az=66.0*
*ISCJB **05** 22:33:08.4±1.4,70S±01×1296E±02,h100km,mb3.6/2, Error ellipse: s-maj=36.8km s-min=17.1km az=135.9*
ISC 05 22:33:10.6±1.4,70S±01×1295E±02,h100km,n8,σ1$30/7, mb3.6/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.35 153**		*e*P	**Pn**	**22 34 41.7**	**+0.2**
	12nm,0.3s						
KAKA				*e*S	Sx	22 35 45.7	
FITZ	**Fitzroy Crossi**	**11.64 199**		*e*P	**Pn**	**22 35 53.6**	**+0.2**
	3.3nm,0.2s						
FITZ				*e*S	Sx	22 37 54.4	
WRA	**Warramunga Arr**	**13.67 160**		Pn	**Pn**	**22 36 16.2**	**-4.0**
	0.9nm,0.3s,baz=344,slow=13,SNR=39						
WRA				Sn	Sx	22 38 37.3	
	1.0nm,0.3s,baz=333,slow=23,SNR=9.9						
WB2	**Warramunga Arr**	**13.68 160**		*e*P	**Pn**	**22 36 16.4**	**-3.8**
WB2				*e*S	Sx	22 38 37.2	
ASAR	**Alice Springs**	**17.08 166**		P	**Pn**	**22 37 02.8**	**-0.3**
	0.5nm,0.3s,baz=336,slow=10,SNR=17						
ASAR				S	Sx	22 40 02.6	
	0.2nm,0.3s,baz=319,slow=15,SNR=4.4						
PMG	**Port Moresby**	**17.63 99**		LR	LR	22 45 10.2	
	comp=Z,68nm,18.3s,baz=352,slow=42						
STKA	**Stephens Creek**	**27.18 157**		P	**P**	**22 38 46.6**	**+1.9**
	2.2nm,0.8s,mb3.8,baz=342,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**67.98 327**		P	**P**	**22 43 58.5**	**-0.3**
	0.3nm,0.4s,mb3.5,baz=116,slow=7.7,SNR=8.1						

IDC 05 22:33:32.3±1.0,2123N×14429E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/19,mbtmp3.6/6,Error ellipse: s-maj=48.6km s-min=22.1km az=102.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.06 194**		P	P	22 41 25.7	0.0
	1.4nm,0.7s,baz=15,slow=8.8,SNR=4.4						
ASAR	**Alice Springs**	**45.76 193**		P	P	22 41 55.9	+0.4
	0.5nm,0.6s,baz=9.7,slow=7.3,SNR=5.1						
MKAR	**Makanchi Array**	**55.77 313**		P	P	22 43 11.9	+1.0
	0.3nm,0.6s,baz=83,slow=9.3,SNR=4.4						
ILAR	**Eielson Array**	**61.98 27**		P	P	22 43 54.0	-0.1
	0.2nm,0.9s,baz=242,slow=7.8,SNR=3.1						
YKA	**Yellowknife Ar**	**76.38 28**		P	P	22 45 23.6	+0.1
	0.2nm,0.5s,baz=290,slow=5.6,SNR=4.1						
FINES	**FINESS Array B**	**84.04 335**		P	P	22 46 03.4	-1.3
	0.7nm,0.8s,baz=76,slow=5.9,SNR=9.2						
FINES				pP		22 46 09.9	
	0.8nm,0.7s,baz=76,slow=8.0,SNR=4.8						

CASC 05 22:43:19.4±2.6,1321N×8746W,h0km±3km,MD4.2,ML3.9, 6C-11D,Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.64 142**		*e*P	Pg	22 43 32.6	+0.9
CRIN				*e*S	Sg	22 43 45.2	+5.3
BLLM	**Bellamira**	**0.80 287**		⇑*e*P	Pg	22 43 51.6	+17
BLLM				*e*S	Sg	22 44 05.4	+20
VSM	**San Miguel**	**0.83 286**		⇑*e*P	Pg	22 43 52.4	+17
VSM				*e*S	Sg	22 44 04.9	+19
TEL3	**Telica 3**	**0.87 136**		*e*P	Pg	22 43 35.9	-0.1
LEON	**Leon**	**0.96 145**		⇓*i*P	Pg	22 43 36.9	-0.9
LEON				*e*S	Sg	22 43 51.7	+1.5
CNGN	**Cerro Negro**	**1.02 133**		*e*P	Pg	22 43 38.6	-0.4
CNGN				*e*S	Sg	22 43 56.2	+4.1
MIRN	**Miramar**	**1.05 136**		⇓*e*P	Pg	22 43 38.9	-0.6
MIRN				*e*S	Sg	22 43 55.7	+2.5
MOMJ	**Momotombo**	**1.20 131**		⇑*e*P	Pg	22 43 41.1	-1.2
MOMJ				*e*S	Sg	22 43 59.8	+2.0
COPN	**Copaltepe**	**1.32 140**		⇓*e*P	Pg	22 43 43.1	-1.7
COPN				*e*S	Sg	22 44 02.5	+0.6
SNVI	**San Vicente**	**1.40 287**		⇓*e*P	Pn	22 44 02.0	+16
SNVI				*e*S	Sg	22 44 21.9	+17
APYN	**Apoyeque**	**1.45 132**		⇓*e*P	Pn	22 43 45.9	-1.0
APYN				*e*S	Sg	22 44 07.2	+1.3
XAVN	**Gruta Xavier**	**1.52 133**		*e*P	Pn	22 43 46.4	-1.5
XAVN				*e*S	Sg	22 44 11.0	+2.7
LCBS	**La Ceiba**	**1.55 287**		⇓*e*P	Pn	22 44 03.9	+16
LCBS				*e*S	Sn	22 44 25.3	+16
MGAN	**Managua**	**1.58 132**		*e*P	Pn	22 43 47.9	-0.8
MGAN				*e*S	Sn	22 44 10.2	+0.4
MGAN				*i*		22 44 12.7	
	comp=E,1μm,0.5s						
LFRS	**El Faro**	**1.62 285**		⇓*e*P	Pn	22 44 04.9	+16
LFRS				*e*S	Sn	22 44 22.2	+12
WILN	**Americas 2**	**1.62 130**		*e*P	Pn	22 43 48.5	-0.7
WILN				*e*S	Sn	22 44 11.3	+0.7
LBRS	**Las Brisas**	**1.63 289**		⇓*e*P	Pn	22 44 05.2	+16
LBRS				*e*S	Sn	22 44 29.1	+18
TICN	**Ticuantepe**	**1.67 134**		*e*P	Pn	22 43 49.5	-0.4
TICN				*e*S	Sn	22 44 13.4	+1.4
MASN	**Masaya**	**1.76 133**		*e*P	Pn	22 43 51.5	+0.4
MASN				*e*S	Sn	22 44 16.1	+2.0
SNET	**Serv Nac Est T**	**1.79 286**		⇑*e*P	Pn	22 44 20.3	+29
SNET				*e*S	Sn	22 44 46.0	+31
BOQS	**Boqueron**	**1.85 287**		⇑*e*P	Pn	22 44 09.6	+17
BOQS				*e*S	Sn	22 44 35.8	+19
APON	**Apoyo**	**1.87 133**		*e*P	Pn	22 43 52.7	+0.1
APON				*e*S	Sn	22 44 20.1	+3.3
SNJE	**San Jose**	**2.19 288**		⇓*e*P	Pn	22 44 15.0	+18
SNJE				*e*S	Sn	22 44 44.9	+20
MTO2	**Montecristo 2**	**2.20 303**		⇓*e*P	Pn	22 44 15.7	+18
MTO2				*e*S	Sn	22 44 44.4	+19
SBLS	**San Blas**	**2.20 287**		⇓*e*P	Pn	22 44 15.6	+18
SBLS				*e*S	Sn	22 44 46.6	+22
RTR	**El Retiro**	**2.24 288**		*e*P	Pn	22 44 15.8	+18
RTR				*e*S	Sn	22 44 46.9	+21
CONN	**Concepcion**	**2.42 132**		*e*P	Pn	22 44 00.4	+0.2
MRL	**Marmol**	**2.85 311**		⇑*e*P	Pn	22 44 06.6	+0.5
MRL				*e*S	Sn	22 44 44.5	+3.4
MRL				AML	AML	22 44 47.0	
	comp=E,713nm,0.6s						
IXG	**Ixpaco**	**3.07 289**		*e*P	Pn	22 44 08.3	-0.8
IXG				*e*S	Sn	22 44 49.4	+2.8
TP2	**Tecpan 2**	**3.80 295**		*e*P	Pn	22 44 20.6	+1.5
TP2				*e*S	Sn	22 45 07.9	+3.3

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*IDC **05** 23:18:03.1±2.1,5461S×2650W,h0km,mb3.9/2,mb1 3.9/2, mb1mx3.7/13,mbtmp3.9/2,Error ellipse: s-maj=110.0km s-min=62.7km az=128.0*
NEIC 05 23:18:08.5±1.1,5454S×2651W,h35km,mb3.6/1,Error ellipse: s-maj=65.3km s-min=15.1km az=80.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**18.30 163**		*e*	Pn	23 22 19.2	-0.3
VNA2	**Neumayer--Watz**	**18.46 160**		*e*	Pn	23 22 21.8	+0.3
SNAA	**Sanae**	**19.98 158**		*e*P	Pn	23 22 36.5	-3.2
	1.6nm,0.5s						
DBIC	**Dimbokro**	**63.63 24**		P	P	23 28 36.0	0.0
	1.5nm,0.7s,baz=159,slow=8.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**71.55 29**		P	P	23 29 26.3	+0.4
	0.6nm,0.7s,baz=202,slow=6.6,SNR=8.0						
ILAR	**Eielson Array**	**149.38 313**		PKPbc	PKPbc	23 37 52.1	-1.6
	0.4nm,0.8s,baz=108,slow=2.9,SNR=6.9						
SONM	**Songino Array**	**150.20 83**		PKPbc	PKPbc	23 37 54.7	-1.0
	0.4nm,0.6s,baz=244,slow=1.0,SNR=3.7						

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*IDC **05** 23:35:32.6±1.1,3156N×9527E,h0km,mb3.7/9, mb1 3.7/11,mb1mx3.7/22,mbtmp3.6/11,ML3.2/2,Error ellipse: s-maj=32.5km s-min=22.9km az=48.0*
*ISCJB **05** 23:35:34.0±0.4,3173N±005×95.19E±005,h10km, mb3.6/11,Error ellipse: s-maj=7.8km s-min=5.2km az=108.4*
*BJI **05** 23:35:33.6,3140N×9493E,h5km,mb4.0,ML3.5,Ms3.9, Msz3.5*
*NEIC **05** 23:35:34.8±0.6,3162N×9525E,h10km,mb3.7/4,Error ellipse: s-maj=12.0km s-min=11.3km az=137.0*
*MOS **05** 23:35:36.1±0.9,3158N×9526E,h33km,mb3.9/2,Error ellipse: s-maj=16.9km s-min=11.5km az=95.9*
ISC 05 23:35:36.0±0.4,3178N±005×9513E±005,h10km,n26, σ1$09/30,mb3.6/11,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.01 240**		PG	**Pn**	**23 36 40.6**	**+3.1**
LSA				SG	**Sb**	**23 37 36.0**	**+0.7**
LSA	**Lhasa**	**4.01 240**		*e*Pn	**Pn**	**23 36 38.4**	**+0.9**
LSA				*e*Sn	**Sn**	**23 37 23.8**	**-0.7**
SHL	**Shillong**	**6.82 206**		*e*P	**Pn**	**23 37 17.0**	**+0.9**
SHL				*e*S	**Sn**	**23 38 34.0**	**+0.2**
CD2	**Chengdu**	**7.43 94**		P	**Pn**	**23 37 25.6**	**+1.1**
CD2				S	**Sn**	**23 38 49.2**	**+0.4**
CD2				LR	LR		
	comp=N,270nm,8.4s						
CD2				LR	LR		
	comp=Z,140nm,8.4s						
MKAR	**Makanchi Array**	**17.95 330**		P	**Pn**	**23 39 44.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=137,slow=13,SNR=5.4						
SONM	**Songino Array**	**18.18 25**		P	**Pn**	**23 39 48.8**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=214,slow=15,SNR=3.7						
ULN	**Ulaanbaatar**	**18.45 26**		P	**Pn**	**23 39 54.0**	**+2.1**
	comp=Z,1.0nm,0.6s						
ULN	**Ulaanbaatar**	**18.45 26**		P	**Pn**	**23 39 54.0**	**+2.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**19.64 309**		*e*P	**Pn**	**23 40 05.6**	**

11nm,0.3s,baz=259,slow=13,SNR=4.6
CBIJ S **Sn** **23 39 34.5 -1.3**
24nm,0.3s,baz=156,slow=18,SNR=4.8
CBIJ LR LR 23 40 12.3
comp=Z,563nm,21.1s,baz=220,slow=36
JHJ Hachijo jima 2 9.88 348 LR LR 23 44 15.9
comp=Z,245nm,18.1s,baz=34,slow=38
JOW Kunigami 13.02 288 LR LR 23 45 23.3
comp=Z,110nm,19.3s,baz=29,slow=34
MJAR Matsushiro Arr 13.51 346 LR LR 23 45 27.6
comp=Z,264nm,20.7s,baz=165,slow=33
YHNB Yeheng 19.01 278 *e*P **Pn** **23 42 17.9 -0.7**
ASAJ Asahikawa 20.64 1 LR LR 23 50 16.8
comp=Z,264nm,21.2s,MS3.6,baz=12,slow=36
HNR Honiara 37.01 150 LR LR 23 59 42.9
comp=Z,94nm,18.0s,MS3.6,baz=360,slow=35
SONM Songino Array 37.40 320 P **P** **23 45 09.2 +1.5**
0.2nm,0.6s,mb3.1,baz=138,slow=5.4,SNR=2.6
SONM LR LR 00 01 05.2
comp=Z,120nm,18.2s,MS3.7,baz=185,slow=37
WB2 Warramunga Arr 43.77 191 *e*P **P** **23 45 59.2 -1.1**
WRA Warramunga Arr 43.77 191 P **P** **23 45 59.3 -1.0**
5.9nm,0.9s,mb4.3,baz=11,slow=8.4,SNR=11
LSA Lhasa 45.75 289 *e*P **P** **23 46 19.5 +3.5**
0.8nm,0.3s,mb4.1
PSI Prapat 46.55 250 P **P** **23 46 23.9 +1.6**
3.0nm,0.5s,mb4.5,baz=254,slow=2.6,SNR=5.0
ASAR Alice Springs 47.49 190 P **P** **23 46 30.2 +0.6**
0.8nm,0.8s,mb3.7,baz=12,slow=9.4,SNR=7.2
ASAR Alice Springs 47.49 190 P **P** **23 46 30.2 +0.6**
ZAL Zalesovo 52.28 321 LR LR 00 10 54.0
comp=Z,104nm,18.0s,MS3.9,baz=154,slow=38
MKAR Makanchi Array 52.83 312 P **P** **23 47 09.7 -0.4**
0.3nm,0.6s,mb3.4,baz=95,slow=6.6,SNR=4.7
KURK Kurchatov 55.57 316 P **P** **23 47 29.6 -0.4**
0.7nm,0.3s,mb4.2
BVAR Borovoye Array 60.74 319 P **P** **23 48 04.9 -1.2**
0.5nm,0.6s,mb3.8,baz=86,slow=5.9,SNR=4.5
BRVK Borovoye 60.81 319 *e*P **P** **23 48 07.2 +0.6**
0.8nm,0.7s,mb4.0
ILAR Eielson Array 60.95 28 P **P** **23 48 08.1 +0.6**
1.9nm,0.9s,mb4.2,baz=258,slow=5.3,SNR=11
ILAR LR LR 00 10 58.4
comp=Z,59nm,19.6s,MS3.7,baz=358,slow=32
YKA Yellowknife Ar 75.38 28 P **P** **23 49 38.3 +0.4**
0.8nm,0.8s,mb3.7,baz=295,slow=5.6,SNR=6.9
YKA Yellowknife Ar 75.38 28 P **P** **23 49 38.3 +0.4**
ARCES ARCESS Array B 76.98 341 LR LR 00 29 08.3
comp=Z,62nm,18.7s,MS4.0,baz=23,slow=40
PPT Papeete 78.13 115 LR LR 00 23 49.7
comp=Z,106nm,18.3s,MS4.2,baz=175,slow=35
FINES FINESS Array B 81.22 334 P **P** **23 50 09.2 -0.9**
1.1nm,0.8s,mb3.8,baz=71,slow=5.1,SNR=5.3
BRTR Keskin Array B 88.47 313 P **P** **23 50 46.2 -0.3**
0.6nm,0.8s,mb3.9,baz=101,slow=3.9,SNR=4.5

*ISCJB **06** 00:03:49.6±0.4, 40.11N±002×2320E±003, h8km±5km, Error ellipse: s-maj=4.1km s-min=3.4km az=175.2*
*ATH **06** 00:03:49.2, 40.15N×2307E, h22km±4km, MD3.0/3*
*CSEM **06** 00:03:50.3±0.1, 40.13N×2320E, h15km, ML2.4, Error ellipse: s-maj=2.9km s-min=2.2km az=90.0*
*THE **06** 00:03:50.3, 40.12N×2321E, h10km, ML2.4*
ISC 06 00:03:50.4±0.4, 4010N±002×2321E±003, h11km±5km, n18, σ1§00/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.33**	**34**	*e*PB	**Pg**	**00 03 56.2**	**-0.7**
PLG				*e*SB	**Sg**	**00 04 02.2**	**+0.9**
PAIG	**Paliouri**	**0.40**	**116**	*e*Pg	**Pg**	**00 03 57.8**	**-0.5**
PAIG				*e*Sg	**Sg**	**00 04 04.4**	**+0.7**
LIT	**Litokhoron**	**0.55**	**270**	*e*Pg	**Pg**	**00 04 00.2**	**-0.9**
LIT				*e*Sg	**Sg**	**00 04 09.2**	**+0.8**
THE	**Thessaloniki**	**0.56**	**341**	*e*Pg	**Pg**	**00 04 00.6**	**-0.7**
THE				*e*Sg	**Sg**	**00 04 08.1**	**-0.6**
OUR	**Ouranopolis**	**0.64**	**69**	*e*Pg	**Pg**	**00 04 02.1**	**-0.7**
OUR				*e*Sg	**Sg**	**00 04 12.2**	**+1.1**
XOR	**Xorichti**	**0.74**	**181**	*e*Pg	**Pg**	**00 04 04.8**	**+0.2**
XOR				*e*Sg	**Sg**	**00 04 15.5**	**+1.2**
NEO	**Neokhori**	**0.80**	**179**	*e*PN	**Pn**	**00 04 05.7**	**-1.9**
GRG	**Griva**	**1.05**	**324**	*e*Pg	**Pg**	**00 04 09.4**	**-1.2**
GRG				*e*Sg	**Sg**	**00 04 25.3**	**+1.0**
SRS	**Serrai**	**1.05**	**16**	*e*Pg	**Pg**	**00 04 09.8**	**-0.9**
SRS				*e*Sg	**Sg**	**00 04 25.2**	**+0.7**
AOS	**Alonnisos**	**1.07**	**151**	*e*Pg	**Pg**	**00 04 10.4**	**-0.5**
AOS	**Alonnisos**	**1.07**	**151**	*e*Pg	**Pg**	**00 04 10.4**	**-0.6**
KNT	**Kendrikon**	**1.08**	**348**	*e*Pg	**Pg**	**00 04 09.9**	**-1.4**
KNT				*e*Sg	**Sg**	**00 04 26.1**	**+0.8**
AGG	**Agios Georgios**	**1.27**	**212**	*e*Pg	**Pg**	**00 04 14.7**	**-0.2**
AGG				*e*Sg	**Sg**	**00 04 33.5**	**+2.0**
VAY	**Valandovo**	**1.31**	**339**	*e*Pg	**Pg**	**00 04 14.2**	**-1.3**
VAY				*e*Sg	**Sg**	**00 04 33.6**	**+1.0**
VAY	**Valandovo**	**1.31**	**339**	*e*Pg	**Pg**	**00 04 14.2**	**-1.4**
VAY				*e*Sg	**Sg**	**00 04 33.6**	**+1.0**
NVR	**Nevrokopi**	**1.34**	**22**	*e*PN	**Pn**	**00 04 14.6**	**-0.5**
NVR				*e*SN	**Sn**	**00 04 33.0**	**+0.1**
MEV	**Metsovon**	**1.55**	**259**	*e*Pg	**Pg**	**00 04 18.9**	**-1.4**
MEV				*e*Sg	**Sg**	**00 04 41.1**	**+0.7**
VTS	**Vitosha**	**2.49**	**0**	*e*Pn	**Pn**	**00 04 31.5**	**+0.7**
VTS				*e*Sn	**Sn**	**00 05 03.0**	**+1.8**

*ISCJB **06** 00:20:37.7±0.4, 1484N±004×94.11W±003, h32km, mb4.1/16, MS3.1/1, Error ellipse: s-maj=6.5km s-min=3.4km az=45.6*
*MEX **06** 00:20:39.5±1.4, 1477N×9409W, h16km±53km, MD4.3*
*NEIC **06** 00:20:41.1±0.6, 1508N×9375W, mb4.3/6, Error ellipse: s-maj=15.6km s-min=7.9km az=46.0*
*IDC **06** 00:20:41.2±1.5, 1517N×9370W, h35km±5km, mb3.8/14, mb1 4.0/14, mb1mx3.8/22, mbtmp4.0/14, MS3.2/1, Ms1 3.2/1, ms1mx2.8/27, Error ellipse: s-maj=53.6km s-min=13.5km az=46.0*
ISC 06 00:20:39.7±0.4, 1489N±004×9405W±003, h34km, h34km±2.1km: pP-P, n54, σ1§45/63, mb4.1/16, MS3.1/1, 2C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**2.17**	**294**	*e*P	**Pn**	**00 21 12.9**	**-0.5**
HUIG				*e*S	**Sn**	**00 21 36.3**	**-2.9**
SCX	**San Cristobal**	**2.29**	**36**	*i* P	**Pn**	**00 21 15.5**	**+0.5**
SCX				*i* S	**Sn**	**00 21 43.5**	**+1.5**
CCIG	**Comitan**	**2.31**	**53**	*e*P	**Pn**	**00 21 16.0**	**+0.8**
CCIG				*e*S	**Sn**	**00 21 44.4**	**+2.0**
CMIG	**Matias Romero**	**2.34**	**340**	⇓*i*P	**Pn**	**00 21 15.9**	**+0.2**
CMIG				*i* S	**Sn**	**00 21 41.8**	**-1.4**
JAT	**Jato**	**2.40**	**103**	*e*P	**Pn**	**00 21 16.3**	**-0.3**
TP2	**Tecpan 2**	**2.93**	**92**⇑	*e*P	**Pn**	**00 21 24.0**	**+0.2**
FUG	**Fuego 3**	**3.13**	**98**	*e*P	**Pn**	**00 21 26.1**	**-0.5**
TUIG	**Tuzandepetl**	**3.15**	**353**	*e*P	**Pn**	**00 21 27.4**	**+0.5**
TUIG				*i* S	**Sn**	**00 22 04.1**	**+0.8**
OXX	**Oaxaca**	**3.38**	**311**	*i* P	**Pn**	**00 21 32.5**	**+2.6**
VHO	**Vista Hermosa**	**3.38**	**310**	*i* P	**Pn**	**00 21 28.9**	**-1.1**
VHO				*i* S	**Sn**	**00 22 09.3**	**+0.4**
IXG	**Ixpaco**	**3.55**	**101**	*e*P	**Pn**	**00 21 31.2**	**-1.1**
IXG				*e*S	**Sn**	**00 22 10.7**	**-2.4**
EVV	**El Vigia**	**3.76**	**341**	*e*P	**Pn**	**00 21 36.0**	**+0.7**
MRL	**Marmol**	**4.21**	**87**⇑	*e*P	**Pn**	**00 21 41.7**	**+0.2**
SBLS	**San Blas**	**4.41**	**103**	*e*P	Px	00 22 04.2	
SBLS				*e*S	Sx	00 22 56.7	
BOQS	**Boqueron**	**4.76**	**103**	*e*P	Px	00 22 09.0	
BOQS				*e*S	Sx	00 23 02.6	
SNVI	**San Vicente**	**5.21**	**103**	*e*P	Px	00 22 13.8	
SNVI				*e*S	Sx	00 23 12.2	
ACX	**Acapulco**	**5.98**	**290**	*i* P	**Pn**	**00 22 07.0**	**+1.2**
PPM	**Popocatepetl**	**6.04**	**314**	*e*P	**Pn**	**00 22 10.2**	**+3.7**
PPM				*e*S	**Sn**	**00 23 15.2**	**+0.7**
MEIG	**Mezcala**	**6.14**	**300**	*i* P	**Pn**	**00 22 06.7**	**-1.3**
MEIG				*i* S	**Sn**	**00 23 15.5**	**-1.5**
PLIG	**Platanillo**	**6.29**	**304**	*e*P	**Pn**	**00 22 09.6**	**-0.3**
PLIG				*e*S	**Sn**	**00 23 20.7**	**+0.2**
CAIG	**El Cayaco**	**6.36**	**291**	*i* P	**Pn**	**00 22 12.7**	**+1.7**
CAIG				*i* S	**Sn**	**00 23 20.0**	**-2.3**
TEIG	**Tepich**	**7.65**	**45**	*e*Pn	**Pn**	**00 22 26.6**	**-2.0**
TEIG				*e*Sn	**Sn**	**00 23 50.0**	**-4.1**
JTS	**JuntasAbangare**	**9.98**	**116**	Pn	**Pn**	**00 23 03.3**	**+2.7**
SOR	**Soroa**	**13.07**	**51**	*e*P	**Pn**	**00 23 40.0**	**-2.9**
LRAL	**Lakeview Retre**	**19.17**	**18**	*e*P	**Pn**	**00 24 58.4**	**-2.9**

9.9nm,1.0s

MIAR	**Mount Ida**	**19.58**	**1**	*e*P	**Pn**	**00 25 03.8**	**-2.4**
	13nm,0.6s						
UALR	**University of**	**19.86**	**4**	*e*P	**Pn**	**00 25 07.4**	**-2.2**
	3.7nm,0.5s						
SWET	**Sewanee**	**21.52**	**18**	*e*P	**P**	**00 25 22.7**	**-3.0**
ROSC	**El Rosal**	**21.81**	**115**	P	**P**	**00 25 30.6**	**+1.8**
	1.0nm,0.4s,mb3.6,baz=269,slow=23,SNR=3.4						
BNM	**Barren Site**	**22.30**	**332**	*e*P	**P**	**00 25 36.1**	**+2.1**
ANMO	**Albuquerque**	**22.89**	**333**	P	**P**	**00 25 41.5**	**+1.2**
	2.1nm,0.7s,mb3.6,baz=153,slow=10,SNR=7.8						
ANMO	**Albuquerque**	**22.89**	**333**	P	**P**	**00 25 41.5**	**+1.2**
SDV	**Santo Domingo**	**23.66**	**102**	P	**P**	**00 25 48.3**	**+0.3**
	2.9nm,0.2s,mb4.4,baz=265,slow=4.2,SNR=2.4						
SDV				LR	LR	00 34 26.8	
	comp=Z,66nm,20.9s,MS3.1,baz=218,slow=35						
SDV	**Santo Domingo**	**23.66**	**102**	P	**P**	**00 25 48.3**	**+0.3**
SDV				LR	LR	00 34 26.8	
CBKS	**Cedar Bluff**	**24.36**	**349**	*e*P	**P**	**00 25 54.1**	**-0.3**
	15nm,0.8s,mb4.5						
WUAZ	**Wupatki**	**25.76**	**326**	*e*P	**P**	**00 26 09.7**	**+2.6**
	23nm,1.4s,mb4.5						
PV01	**Paradox Valley**	**26.48**	**334**	*e*P	**P**	**00 26 16.8**	**+3.1**
PDAR	**Pinedale Array**	**30.82**	**337**	P	**P**	**00 26 53.1**	**+0.8**
	0.5nm,0.8s,mb3.4,baz=148,slow=7.0,SNR=4.8						
ELK	**Elko**	**31.69**	**328**	P	**P**	**00 27 02.5**	**+2.6**
	0.3nm,0.3s,mb3.6,baz=143,slow=16,SNR=3.3						
ELK				sP	sP	00 27 15.6	+1.6
	1.1nm,0.7s,baz=116,slow=7.1,SNR=4.2						
ELK	**Elko**	**31.69**	**328**	P	**P**	**00 27 02.5**	**+2.6**
ELK				sP	sP	00 27 15.6	+1.6
NVAR	**Mina Array Bea**	**31.75**	**322**	P	**P**	**00 27 03.3**	**+2.9**
	1.2nm,0.7s,mb3.8,baz=138,slow=8.4,SNR=4.8						
GCMT	**Greycliff**	**33.50**	**340**	*e*P	**P**	**00 27 16.3**	**+0.6**
ULM	**Lac du Bonnet**	**35.30**	**358**	P	**P**	**00 27 28.7**	**-2.7**
	4.1nm,0.6s,mb4.5,baz=182,slow=10,SNR=12						
ULM	**Lac du Bonnet**	**35.30**	**358**	P	**P**	**00 27 28.7**	**-2.7**
SIV	**San Ignacio**	**44.75**	**132**	P	**P**	**00 28 49.6**	**-0.1**
	0.8nm,0.8s,mb3.6,baz=305,slow=10,SNR=4.4						
YKA	**Yellowknife Ar**	**49.73**	**348**	P	**P**	**00 29 27.8**	**-0.7**
	3.4nm,0.6s,mb4.6,baz=153,slow=7.2,SNR=83						
YKW3	**Yellowknife Ar**	**49.79**	**348**	*e*P	**P**	**00 29 28.2**	**-0.8**
YKW3				*e*	pP	00 29 36.1	-3.1
BDFB	**Brasilia**	**54.67**	**122**	P	**P**	**00 30 05.5**	**+0.3**
	1.2nm,0.4s,mb4.3,baz=124,slow=3.2,SNR=2.8						
ILAR	**Eielson Array**	**61.25**	**337**	P	**P**	**00 30 51.0**	**-0.3**
	1.3nm,0.7s,mb4.2,baz=131,slow=5.6,SNR=16						
NB2	**NORSAR Subarra**	**84.31**	**28**	P	**P**	**00 33 07.7**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.2,baz=291,slow=5.1						
NOA	**NORSAR Array B**	**84.31**	**28**	P	**P**	**00 33 08.1**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.4,baz=291,slow=5.1,SNR=9.4						
NOA				pP	pP	00 33 18.5	-0.4
	comp=Z,1.4nm,0.7s,baz=290,slow=5.2,SNR=3.8						
NOA	**NORSAR Array B**	**84.31**	**28**	P	**P**	**00 33 08.1**	**0.0**
NOA				pP	pP	00 33 18.5	-0.4
ARCES	**ARCESS Array B**	**85.92**	**18**	P	**P**	**00 33 15.8**	**-0.3**
	comp=Z,0.9nm,0.4s,mb4.4,baz=285,slow=4.8,SNR=18						
ARCES				pP	pP	00 33 26.4	-0.5
	comp=Z,3.2nm,0.8s,baz=328,slow=4.3,SNR=2.3						
FINES	**FINESS Array B**	**90.53**	**25**	P	**P**	**00 33 37.1**	**-1.0**
	comp=Z,0.5nm,0.4s,mb4.2,baz=318,slow=1.9,SNR=5.2						
FINES				pP	pP	00 33 49.0	-0.1
	comp=Z,0.4nm,0.5s,baz=276,slow=1.7,SNR=1.8						

BJI 06 01:23:37.0, 2763N×11998E, h18km, ML3.7, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.95**	**205**	P	Pn	01 24 23.5	+0.5
QZH				S	Sn	01 24 58.5	+0.6
QZH				Smax			
	comp=N,230nm,0.6s						
QZH				Smax			
	comp=E,420nm,0.8s						

*ISCJB **06** 01:29:45.5±0.5, 2130S±006×3308E±007, h10km, mb4.1/14, MS3.7/5, Error ellipse: s-maj=10.9km s-min=6.6km az=84.7*
*PRE **06** 01:29:45.6±0.8, 2177S×3324E, h5km, ML4.1*
*IDC **06** 01:29:45.7±0.7, 2124S×3337E, h0km, mb4.0/13, mb1 4.2/16, mb1mx4.1/24, mbtmp4.0/16, ML4.2/3, MS3.6/9, Ms1 3.6/9, ms1mx3.4/22, Error ellipse: s-maj=21.0km s-min=20.0km az=108.0*
*NEIC **06** 01:29:47.1±0.5, 2129S×33.18E, h10km, mb4.6/5, Error ellipse: s-maj=11.9km s-min=8.9km az=121.0*
*MOS **06** 01:29:49.0±1.3, 2128S×3304E, h33km, mb4.5/3, Error ellipse: s-maj=16.9km s-min=12.4km az=71.1*
ISC 06 01:29:46.1±3.3, 2127S±006×3315E±007, h2km±20km, n47, σ1§41/53, mb4.1/14, MS3.7/5, 1C-2D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.09**	**249**	*e*P	Px	01 22 44.5	
MSNA				*e*S	Sx	01 23 20.9	
MSNA				AML	AML	01 23 34.2	
	comp=Z,329nm,0.4s						
SLR	**Silverton**	**6.30**	**224**	*e*P	**Pn**	**01 31 16.4**	**-3.6**
SLR				*e*S	**Sn**	**01 32 21.9**	**-11**
SLR				AML	AML	01 33 12.3	
	comp=Z,124nm,0.7s						
LSZ	**Lusaka**	**7.60**	**321**	Pn	**Pn**	**01 31 38.4**	**+0.6**
	comp=Z,6.1nm,0.3s,baz=146,slow=15,SNR=72						
LSZ				Sn	**Sn**	**01 32 59.9**	**-4.7**
	comp=Z,11nm,0.3s,baz=81,slow=16,SNR=7.5						
LSZ				Lg		01 33 44.5	
	comp=Z,23nm,0.3s,baz=67,slow=16,SNR=10.0						
LSZ				LR	LR	01 34 37.5	
	comp=Z,826nm,19.1s,baz=10,slow=38						
LSZ	**Lusaka**	**7.60**	**321**	⇓*e*Pn	**Pn**	**01 31 38.7**	**+0.9**
	comp=Z,60nm,0.8s						
LSZ				*e*Sn	**Sn**	**01 33 02.3**	**-2.2**
LSZ	**Lusaka**	**7.60**	**321**	⇓*e*P	**Pn**	**01 31 38.7**	**+0.9**
LSZ				*e*		01 33 02.3	
LSZ				pmax	pmax		
	comp=Z,60nm,0.8s						
LBTB	**Lobatse**	**7.88**	**240**	Pn	**Pn**	**01 31 42.8**	**+1.1**
	comp=Z,4.2nm,0.3s,baz=64,slow=14,SNR=58						
LBTB				Sn	**Sn**	**01 33 11.1**	**-0.3**
	comp=Z,5.8nm,0.3s,baz=0.2,slow=23,SNR=3.6						
LBTB				Lg		01 33 48.2	
	comp=Z,6.2nm,0.3s,baz=161,slow=21,SNR=7.0						
LBTB				LR	LR	01 35 05.5	
	comp=Z,143nm,19.9s,baz=71,slow=40						
LBTB	**Lobatse**	**7.88**	**240**	*e*Pn	**Pn**	**01 31 42.8**	**+1.1**
	comp=Z,147nm,0.5s						
LBTB				*e*Sn	**Sn**	**01 33 11.8**	**+0.4**
LBTB	**Lobatse**	**7.88**	**240**	*e*P	**Pn**	**01 31 42.8**	**+1.1**
LBTB				*e*		01 33 11.9	
LBTB				pmax	pmax		
	comp=Z,147nm,0.5s						
BOSA	**Boshof**	**10.23**	**223**	Pn	**Pn**	**01 32 12.1**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=52,slow=13,SNR=27						
BOSA				Sn	**Sn**	**01 34 03.4**	**-5.7**
	comp=Z,1.6nm,0.3s,baz=68,slow=4.0,SNR=2.7						
BOSA				Lg		01 34 58.6	
	comp=Z,2.3nm,0.3s,baz=136,slow=17,SNR=4.5						
BOSA				LR	LR	01 36 17.6	
	comp=Z,411nm,19.9s,baz=47,slow=38						
BOSA	**Boshof**	**10.23**	**223**	*e*Pn	**Pn**	**01 32 13.1**	**-0.8**
	comp=Z,15nm,0.8s						
BOSA				*e*Sn	**Sn**	**01 34 09.9**	**+0.8**
BOSA	**Boshof**	**10.23**	**223**	*e*P	**Pn**	**01 32 13.1**	**-0.7**
BOSA				*e*		01 34 09.9	
BOSA				pmax	pmax		
	comp=Z,15nm,0.8s						
OPO	**Ambohidratompo**	**13.47**	**81**	Pn	**Pn**	**01 32 54.7**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=249,slow=15,SNR=3.6						
OPO				Sn	**Sn**	**01 35 12.6**	**-16**
	comp=Z,1.6nm,0.3s,baz=352,slow=23,SNR=5.6						
TSUM	**Tsumeb**	**14.75**	**275**	Pn	**Pn**	**01 33 14.9**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=114,slow=11,SNR=44						
TSUM				Sn	**Sn**	**01 35 53.3**	**-6.5**
	comp=Z,0.4nm,0.3s,baz=317,slow=22,SNR=6.6						
TSUM				Lg		01 37 15.8	
	comp=Z,0.7nm,0.3s,baz=101,slow=12,SNR=4.0						
TSUM				LR	LR	01 38 51.8	
	comp=Z,83nm,19.6s,baz=143,slow=36						
TSUM	**Tsumeb**	**14.75**	**275**	*e*Pn	**Pn**	**01 33 15.3**	**-0.4**
	comp=Z,15nm,0.8s						
TSUM				*e*S	**Sn**	**01 35 55.6**	**-4.2**
SUR	**Sutherland**	**15.59**	**222**	*e*P	**Pn**	**01 33 24.4**	**-2.5**
SUR				*e*S	**Sn**	**01 36 04.7**	**-15**
SUR	**Sutherland**	**15.59**	**222**	Pn	**Pn**	**01 33 26.3**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=60,slow=13,SNR=22						
SUR				Sn	**Sn**	**01 36 10.4**	**-10**
	comp=Z,0.5nm,0.3s,baz=329,slow=22,SNR=5.3						
SUR				Lg		01 37 49.5	
	baz=305,slow=21,SNR=2.4						
SUR	**Sutherland**	**15.59**	**222**	*e*Pn	**Pn**	**01 33 26.8**	**-0.1**
	comp=Z,4nm,1.1s						
SUR				*e*S	**Sn**	**01 36 07.5**	**-13**
KMBO	**Kilima Mbogo**	**20.42**	**12**	P	**P**	**01 34 24.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=38,slow=23,SNR=2.5						
KMBO				Lg		01 40 16.6	
	comp=Z,8.9nm,1.0s,baz=112,slow=23,SNR=6.2						
KMBO				LR	LR	01 41 46.7	
	comp=Z,131nm,19.9s,MS3.3,baz=96,slow=35						
KMBO	**Kilima Mbogo**	**20.42**	**12**	*e*P	**P**	**01 34 27.1**	**+2.6**
	comp=Z,5.7nm,1.2s						
KMBO				*e*S	**S**	**01 38 27.9**	**+14**
KMBO	**Kilima Mbogo**	**20.42**	**12**	*e*P	**P**	**01 34 27.1**	**+2.6**
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**46.09**	**315**	P	**P**	**01 38 12.8**	**+1.3**
	comp=Z,4.8nm,1.0s,mb4.4,baz=127,slow=6.7,SNR=17						
TORD				PP	PP	01 39 57.0	-2.4
	comp=Z,1.2nm,0.9s,baz=128,slow=8.3,SNR=3.3						
DBIC	**Dimbokro**	**46.50**	**303**	P	**P**	**01 38 15.8**	**+1.2**
	comp=Z,5.0nm,1.1s,mb4.3,baz=119,slow=9.8,SNR=3.5						
DBIC				LR	LR	01 56 57.5	
	comp=Z,76nm,18.9s,MS3.7,baz=105,slow=35						
SYO	**Syowa Base**	**47.90**	**177**⇑	*e*P	**P**	**01 38 21.5**	**-4.1**
SYO				*e*		01 38 34.9	
SNAA	**Sanae**	**54.48**	**193**	*e*P	**P**	**01 39 15.1**	**0.0**
	comp=Z,7.5nm,1.0s,mb4.6						
SNAA	**Sanae**	**54.48**	**193**	*e*P	**P**	**01 39 15.1**	**0.0**
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRTR	**Keskin Array B**	**60.68**	**0**	P	**P**	**01 39 59.5**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.8,baz=168,slow=9.2,SNR=3.4						
QSPA	**South Pole Qui**	**68.88**	**180**	*e*P	**P**	**01 40 52.7**	**+0.5**
	comp=Z,9.5nm,1.2s,mb4.6						
AKASG	**Malin Array Be**	**71.74**	**357**	P	**P**	**01 41 08.6**	**-1.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=184,slow=5.6,SNR=3.9						
GERES	**GERESS Array B**	**71.93**	**347**	P	**P**	**01 41 11.4**	**+0.6**
	comp=Z,0.4nm,0.7s,mb3.5,baz=160,slow=4.3,SNR=3.8						
NWAO	**Narrogin (SRO)**	**73.98**	**120**	P	**P**	**01 41 25.0**	**+2.0**
BDFB	**Brasilia**	**76.43**	**258**	P	**P**	**01 41 39.2**	**+2.1**
	comp=Z,4.8nm,0.8s,mb4.5,baz=139,slow=6.3,SNR=9.2						
VNDA	**Vanda**	**76.99**	**170**	P	**P**	**01 41 40.5**	**+0.2**
	comp=Z,3.4nm,1.0s,mb4.2,baz=248,slow=4.1,SNR=7.3						
VNDA	**Vanda**	**76.99**	**170**	*e*P	**P**	**01 41 40.4**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.3						
VNDA	**Vanda**	**76.99**	**170**	*e*P	**P**	**01 41 40.4**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**80.96**	**32**	P	**P**	**01 42 00.2**	**-1.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=222,slow=5.3,SNR=8.9						
NOA	**NORSAR Array B**	**83.92**	**349**	LR	LR	02 22 52.0	
	comp=Z,25nm,20.0s,MS3.6,baz=55,slow=38						
PLCA	**Paso Flores**	**86.18**	**228**	LR	LR	02 16 43.6	
	comp=Z,87nm,18.9s,MS4.2,baz=175,slow=33						
NVS	**Novosibirsk**	**87.02**	**26**	*e*P	**P**	**01 42 30.9**	**-2.1**
ZAL	**Zalesovo**	**87.06**	**28**	P	**P**	**01 42 33.0**	**-0.2**
	comp=Z,0.6nm,0.5s,mb4.1,baz=53,slow=2.4,SNR=3.4						
ARCES	**ARCESS Array B**	**90.72**	**357**	LR	LR	02 26 43.7	
	comp=Z,38nm,18.9s,MS3.9,baz=192,slow=38						
ASAR	**Alice Springs**	**90.89**	**116**	P	**P**	**01 42 50.8**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.6,baz=242,slow=4.0,SNR=18						
LPAZ	**La Paz**	**94.28**	**251**	P	**P**	**01 43 08.8**	**+1.9**
	comp=Z,0.2nm,0.4s,mb3.9,baz=114,slow=9.5,SNR=3.7						
SONM	**Songino Array**	**94.90**	**40**	P	**P**	**01 43 08.5**	**-1.3**
	comp=Z,0.4nm,0.8s,mb3.9,baz=235,slow=5.1,SNR=3.3						
YKA	**Yellowknife Ar**	**133.29**	**340**	PKP	PKPdf	01 49 02.8	-0.8
	comp=Z,0.4nm,0.6s,baz=42,slow=2.1,SNR=8.0						
ILAR	**Eielson Array**	**136.52**	**0**	PKP	PKPdf	01 49 09.7	+0.1
	comp=Z,0.3nm,0.8s,baz=323,slow=3.9,SNR=4.1						
PDAR	**Pinedale Array**	**142.23**	**313**	PKP	PKPdf	01 49 19.8	-0.3
	comp=Z,0.9nm,1.0s,baz=72,slow=2.9,SNR=3.6						
NVAR	**Mina Array Bea**	**150.08**	**311**	PKPbc	PKPbc	01 49 39.6	+1.3
	comp=Z,1.0nm,0.6s,baz=94,slow=3.6,SNR=5.1						

*NEIC **06** 01:59:30.3, 19.11N×6392W, h5km, M

SHL	**Shillong**	**42.28**	**306**	*e*PN	**P**	**02 07 27.0**	**+2.1**
JIRN	**Jiri**	**47.77**	**306**	*e*P	**P**	**02 08 08.6**	**0.0**
comp=Z,6.6nm,0.4s,mb5.0							
GUN	**Gumba**	**48.13**	**306**	*e*P	**P**	**02 08 11.9**	**+0.6**
comp=Z,11nm,0.5s,mb5.1							
DMN	**Daman**	**48.64**	**305**	*e*P	**P**	**02 08 15.3**	**+0.1**
comp=Z,4.7nm,0.3s,mb5.0							
SONM	**Songino Array**	**49.12**	**340**	P	**P**	**02 08 19.5**	**+0.6**
comp=Z,0.4nm,0.3s,mb3.9,baz=164,slow=6.3,SNR=5.9							
KOLN	**Kolganda**	**49.93**	**305**	*e*P	**P**	**02 08 26.8**	**+1.7**
comp=Z,16nm,0.7s,mb5.2							
BOD	**Bodaibo**	**56.38**	**351**	*e*P	**P**	**02 09 08.4**	**-4.1**
BOD				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.5							
BOD				pmax	pmax		
comp=Z,3.0nm,1.3s,mb4.2							
MKAR	**Makanchi Array**	**59.74**	**325**	P	**P**	**02 09 36.9**	**+0.8**
comp=Z,2.1nm,0.4s,mb4.5,baz=113,slow=8.4,SNR=94							
MKAR	**Makanchi Array**	**59.74**	**325**	*e*P	**P**	**02 09 36.3**	**+0.2**
TKM2	**Tokmak 2**	**62.04**	**318**	P	**P**	**02 09 52.0**	**+0.3**
TKM2				pmax	pmax		
comp=Z,1.0nm,0.8s,mb4.0							
ZAL	**Zalesovo**	**62.62**	**332**	P	**P**	**02 09 53.9**	**-1.7**
comp=Z,0.6nm,0.4s,mb4.1,baz=336,slow=14,SNR=3.8							
AAK	**Ala-Archa**	**62.66**	**318**	P	**P**	**02 09 55.9**	**+0.1**
KURK	**Kurchatov**	**63.89**	**327**	*e*P	**P**	**02 10 04.2**	**+0.2**
comp=Z,3.7nm,0.8s,mb4.5							
KURK				*e*pP	pP	02 10 12.5	-2.2
KURK	**Kurchatov**	**63.89**	**327**	*e*P	**P**	**02 10 04.2**	**+0.2**
KURK				*e**PP	pP	02 10 12.5	-2.2
KURK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
VOSK	**Vostochnaya**	**69.02**	**327**	P	**P**	**02 10 36.0**	**-0.8**
VOSK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
BVA0	**Borovoye Array**	**69.47**	**327**	P	**P**	**02 10 39.3**	**-0.3**
BRVK	**Borovoye**	**69.55**	**327**	*e*P	**P**	**02 10 40.0**	**0.0**
comp=Z,3.8nm,0.7s,mb4.4							
BRVK				*e*pP	pP	02 10 47.6	-3.3
BRVK	**Borovoye**	**69.55**	**327**	*e*P	**P**	**02 10 40.0**	**0.0**
BRVK				*e**PP	pP	02 10 47.6	-3.3
BRVK				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
AB31	**Akbulak array**	**74.41**	**321**	*i* P	**P**	**02 11 08.7**	**-0.5**
AB31				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
VNDA	**Vanda**	**81.97**	**173**	P	**P**	**02 11 49.7**	**-1.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=300,slow=4.3,SNR=3.2							
GOF	**Gofitskoye**	**85.25**	**315**	*e*P	**P**	**02 12 11.3**	**+3.4**
ILAR	**Eielson Array**	**85.29**	**25**	P	**P**	**02 12 08.2**	**+0.1**
comp=Z,0.5nm,0.5s,mb3.9,baz=246,slow=5.5,SNR=14							
ARCES	**ARCESS Array B**	**92.30**	**340**	P	**P**	**02 12 40.0**	**-1.3**
comp=Z,1.3nm,0.6s,mb4.4,baz=78,slow=5.6,SNR=12							
FINES	**FINESS Array B**	**93.88**	**332**	P	**P**	**02 12 46.7**	**-2.0**
comp=Z,0.4nm,0.5s,mb4.1,baz=62,slow=4.5,SNR=3.6							
YKA	**Yellowknife Ar**	**99.72**	**25**	P	Pdif	02 13 15.2	+0.2
comp=Z,0.1nm,0.4s,baz=301,slow=5.4,SNR=6.0							
TORD	**Torodi Ar. Bea**	**125.28**	**288**	PKP	PKPdf	02 18 32.3	+0.5
comp=Z,0.4nm,0.3s,baz=83,slow=1.7,SNR=20							

MOS ***06*** *02:00:05.2±1.3, 239N×128.18E, h33km, mb5.1/6, Error ellipse: s-maj=26.3km s-min=10.6km az=112.2*
ISCJB ***06*** *02:00:20.6±1.2, 224N±004×12831E±009, h183km±11km, mb4.5/31, Error ellipse: s-maj=15.9km s-min=6.4km az=151.7*
BJI ***06*** *02:00:20.5, 199N×12842E, h201km, mB4.7, mb4.5*
IDC ***06*** *02:00:20.5±1.8, 222N×12834E, h167km±16km, mb4.2/14, mb1 4.3/14, mb1mx4.1/21, mbtmp4.7/14, MS3.5/2, Ms1 3.5/2, ms1mx2.9/24, Error ellipse: s-maj=22.8km s-min=8.6km az=77.0*
NEIC ***06*** *02:00:21.3±0.3, 225N×12831E, mb4.7/13, Error ellipse: s-maj=9.9km s-min=4.7km az=74.0*

ISC 06 02:00:21.3±1.2, 224N±004×12834E±009, h172km±11km, n60, σ0°76/57, mb4.5/31, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.53**	**330**	*e*Pn	**Pn**	**02 01 41.6**	**-0.4**
434nm,0.8s							
DAV				*e*Sn	**Sn**	02 02 45.2	+0.5
KKM	**Kota Kinabalu**	**12.67**	**288**	*e*Pn	**Pn**	**02 03 15.0**	**-0.4**
KSM	**Kuching**	**18.04**	**268**	*e*P	**P**	**02 04 20.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.39**	**187**	*e*P	**P**	**02 04 44.0**	**-0.7**
8.9nm,0.6s							
NACB	**Ninganchiao**	**22.76**	**344**	*e*P	**P**	**02 05 08.4**	**-0.3**
WRAB	**Tennant Creek**	**22.81**	**165**	*e*P	**P**	**02 05 10.2**	**+0.9**
55nm,0.6s,mb5.2							
WRAB	**Tennant Creek**	**22.81**	**165**	*e*P	**P**	**02 05 10.2**	**+1.0**
WRAB				pmax	pmax		
comp=Z,55nm,0.6s,mb5.2							
WRA	**Warramunga Arr**	**22.82**	**165**	P	**P**	**02 05 10.1**	**+0.8**
comp=Z,26nm,0.6s,mb4.9,baz=344,slow=10,SNR=17							
WRA				S	**S**	**02 09 04.8**	**-0.5**
comp=Z,0.3nm,0.3s,baz=340,slow=19,SNR=3.2							
WB2	**Warramunga Arr**	**22.82**	**165**	*e*P	**P**	**02 05 10.0**	**+0.7**
QIZ	**Qiongzhong**	**24.62**	**314**	*e*P	**P**	**02 05 23.0**	**-2.7**
QIZ	**Qiongzhong**	**24.62**	**314**	*e*P	**P**	**02 05 25.9**	**+0.1**
comp=Z,20nm,1.0s,mb4.6							
MBWA	**Marble Bar**	**24.74**	**200**	*e*P	**P**	**02 05 26.9**	**+0.2**
comp=Z,14nm,0.9s,mb4.5							
GZH	**Guangzhou**	**25.32**	**326**	P	**P**	**02 05 35.7**	**+3.7**
AS31	**Alice Springs**	**26.31**	**168**	*e*P	**P**	**02 05 41.4**	**+0.5**
ASAR	**Alice Springs**	**26.32**	**168**	P	**P**	**02 05 41.3**	**+0.3**
comp=Z,8.7nm,0.7s,mb4.5,baz=355,slow=8.4,SNR=21							
ASAR				pP	pP	02 06 16.8	+0.6
comp=Z,9.5nm,0.7s,baz=349,slow=12,SNR=4.8							
ASAR				PcP	PcP	02 09 03.3	+0.9
comp=Z,3.6nm,0.7s,baz=353,slow=2.0,SNR=9.7							
ASAR				ScP	ScP	02 12 26.5	+0.6
comp=Z,0.8nm,0.8s,baz=357,slow=3.1,SNR=4.4							
ASAR	**Alice Springs**	**26.32**	**168**	P	**P**	**02 05 41.3**	**+0.3**
ASAR						02 09 03.3	
ASPA	**Alice Springs**	**26.32**	**168**	*e*P	**P**	**02 05 41.4**	**+0.4**
CTA	**Charters Tower**	**28.31**	**142**	P	**P**	**02 05 58.6**	**-0.1**
comp=Z,2.3nm,0.6s,mb4.1,baz=298,slow=14,SNR=2.7							
CTA				LR	LR	02 18 58.5	
comp=Z,98nm,18.1s,baz=46,slow=40							
PSI	**Prapat**	**29.40**	**272**	P	**P**	**02 06 07.4**	**-0.9**
comp=Z,4.4nm,0.8s,mb4.3,baz=43,slow=15,SNR=4.0							
JNU	**Nakatsue**	**30.81**	**4**	P	**P**	**02 06 20.9**	**+0.2**
comp=Z,6.0nm,0.5s,mb4.6,baz=216,slow=7.8,SNR=3.6							
ENH	**Enshi**	**33.12**	**329**	*e*P	**P**	**02 06 42.1**	**+1.2**
comp=Z,16nm,0.8s,mb4.8							
HNR	**Honiara**	**33.55**	**111**	LR	LR	02 19 10.1	
comp=Z,76nm,18.6s,baz=178,slow=34							
KLBR	**Kellerberrin**	**35.12**	**196**	*e*P	**P**	**02 06 57.6**	**-0.6**
comp=Z,13nm,0.7s,mb4.7							
MAJO	**Matsushiro**	**35.33**	**14**	*e*P	**P**	**02 06 59.4**	**-0.6**
comp=Z,17nm,0.9s,mb4.7							
MAJO	**Matsushiro**	**35.33**	**14**	*e*P	**P**	**02 06 59.4**	**-0.5**
MAJO				pmax	pmax		
comp=Z,17nm,0.9s,mb4.7							
MJAR	**Matsushiro Arr**	**35.33**	**14**	P	**P**	**02 06 59.0**	**-0.9**
comp=Z,8.2nm,0.7s,mb4.5,baz=185,slow=9.5,SNR=14							
STKA	**Stephens Creek**	**36.19**	**161**	*e*P	**P**	**02 07 06.0**	**-1.3**
comp=Z,24nm,0.6s,mb5.0							
STKA	**Stephens Creek**	**36.19**	**161**	P	**P**	**02 07 06.0**	**-1.2**
comp=Z,22nm,0.4s,mb5.2,baz=337,slow=8.4,SNR=25							
STKA	**Stephens Creek**	**36.19**	**161**	*e*P	**P**	**02 07 06.1**	**-1.2**
NWAO	**Narrogin (SRO)**	**36.52**	**196**	P	**P**	**02 07 09.8**	**-0.3**
comp=Z,7.9nm,0.9s,mb4.4,baz=360,slow=12,SNR=3.1							
NWAO				PcP	PcP	02 09 28.5	-1.4
comp=Z,3.4nm,0.7s,baz=39,slow=5.2,SNR=4.2							
NWAO	**Narrogin (SRO)**	**36.52**	**196**	P	**P**	**02 07 09.6**	**-0.5**
comp=Z,8.8nm,0.9s,mb4.4							
NWAO				PcP	PcP	02 09 28.5	-1.4
NWAO	**Narrogin (SRO)**	**36.52**	**196**	P	**P**	**02 07 09.6**	**-0.5**
NWAO						02 09 28.5	
NWAO				pmax	pmax		
comp=Z,9.0nm,0.9s							
CD2	**Chengdu**	**36.79**	**323**	P	**P**	**02 07 13.0**	**+0.7**
BJT	**Baijiatuau**	**39.19**	**345**	*e*P	**P**	**02 07 32.0**	**-0.5**
comp=Z,26nm,0.8s,mb4.9							
BJT	**Baijiatuau**	**39.19**	**345**	*e*P	**P**	**02 07 32.0**	**-0.5**
BJT				pmax	pmax		
comp=Z,26nm,0.8s							
HHC	**Hu-ho-hao-te**	**41.31**	**341**	*e*P	**P**	**02 07 50.9**	**+1.0**
HHC				PP	PP	02 09 29.2	+0.3
HHC				SS	SS	02 16 58.9	-2.9
HHC				AMB	AMB		
comp=Z,22nm,0.6s,mb5.0							
HHC				AMB	AMB		
comp=Z,101nm,4.2s							
HHC				LR	LR		
comp=N,92nm,4.6s							
HHC				LR	LR		
comp=E,114nm,4.6s							
HHC				LR	LR		
comp=Z,148nm,4.8s							
ASAJ	**Asahikawa**	**43.57**	**15**	P	**P**	**02 08 07.7**	**-0.4**
comp=Z,6.8nm,0.7s,mb4.4,baz=258,slow=33,SNR=3.0							
GTA	**Gaotai**	**45.19**	**329**	*e*P	**P**	**02 08 22.3**	**+1.3**
GTA				AMB	AMB		
comp=Z,9.0nm,0.8s,mb4.5							
ULN	**Ulaanbaatar**	**49.03**	**341**	*e*P	**P**	**02 08 51.7**	**+1.1**
comp=Z,29nm,1.1s,mb4.8							
ULN	**Ulaanbaatar**	**49.03**	**341**	*e*P	**P**	**02 08 51.7**	**+1.1**
ULN				pmax	pmax		
comp=Z,29nm,1.1s,mb4.8							
SONM	**Songino Array**	**49.22**	**341**	P	**P**	**02 08 52.8**	**+0.7**
comp=Z,6.8nm,0.6s,mb4.4,baz=152,slow=8.3,SNR=24							
SONM				ScP	ScP	02 13 52.5	+1.2
comp=Z,1.1nm,0.9s,baz=155,slow=4.2,SNR=6.4							
YAK	**Yakutsk**	**59.65**	**1**	*e*P	**P**	**02 10 07.9**	**+0.7**
YAK				pmax	pmax		
comp=Z,12nm,0.9s,mb4.7							
MKAR	**Makanchi Array**	**59.69**	**325**	P	**P**	**02 10 08.0**	**+0.5**
comp=Z,9.1nm,0.5s,mb4.8,baz=119,slow=8.5,SNR=21							
MKAR				pP	pP	02 10 48.1	+0.7
comp=Z,3.7nm,0.6s,baz=117,slow=8.4,SNR=2.9							
MKAR				ScP	ScP	02 14 37.5	+0.5
comp=Z,0.7nm,0.8s,baz=107,slow=5.9,SNR=3.9							
MKAR	**Makanchi Array**	**59.69**	**325**	P	**P**	**02 10 08.0**	**+0.5**
MKAR				*PP	pP	02 10 48.1	+0.7
TKM2	**Tokmak 2**	**61.92**	**318**	P	**P**	**02 10 23.1**	**+0.5**
TKM2				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.9							
AAK	**Ala-Archa**	**62.53**	**318**	*e*P	**P**	**02 10 26.1**	**-0.5**
comp=Z,1.6nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**62.53**	**318**	*e*P	**P**	**02 10 26.2**	**-0.4**
AAK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.1							
ZAL	**Zalesovo**	**62.64**	**333**	P	**P**	**02 10 25.7**	**-1.6**
comp=Z,1.1nm,0.4s,mb4.0,baz=335,slow=13,SNR=5.3							
KURK	**Kurchatov**	**63.85**	**327**	*e*P	**P**	**02 10 35.4**	**+0.1**
comp=Z,19nm,0.8s,mb5.0							
KURK	**Kurchatov**	**63.85**	**327**	*e*P	**P**	**02 10 35.4**	**+0.1**
KURK				pmax	pmax		
comp=Z,19nm,0.8s,mb5.0							
VOSK	**Vostochnaya**	**68.98**	**327**	P	**P**	**02 11 07.3**	**-0.6**
VOSK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.8							
BVA0	**Borovoye Array**	**69.44**	**327**	P	**P**	**02 11 10.7**	**0.0**
BVA0				pmax	pmax		
comp=Z,2.0nm,1.3s,mb3.7							
CASY	**Casey**	**69.55**	**188**	*e*P	**P**	**02 11 11.3**	**-0.1**
comp=Z,18nm,1.0s,mb4.8							
AB31	**Akbulak array**	**74.31**	**321**	P	**P**	**02 11 39.4**	**-0.3**
VNDA	**Vanda**	**81.76**	**173**	P	**P**	**02 12 20.6**	**-0.2**
comp=Z,3.0nm,0.8s,mb4.0,baz=315,slow=8.5,SNR=8.7							
ARCES	**ARCESS Array B**	**92.39**	**340**	P	**P**	**02 13 10.8**	**-1.5**
comp=Z,1.5nm,0.7s,mb4.1,baz=89,slow=5.8,SNR=7.0							
JCT	**Junction City**	**123.78**	**51**	*e*PKPdf	PKPdf	02 19 00.2	+1.6
TORD	**Torodi Ar. Bea**	**124.91**	**288**	PKP	PKPdf	02 19 01.8	+1.1
comp=Z,0.6nm,0.3s,baz=72,slow=1.6,SNR=22							
SDV	**Santo Domingo**	**158.09**	**59**	PKP	PKPdf	02 20 00.0	+2.5
comp=Z,2.8nm,0.5s,baz=349,slow=1.7,SNR=7.1							
SIV	**San Ignacio**	**163.49**	**146**	PKP	PKPdf	02 20 05.3	+2.0
comp=Z,0.3nm,0.5s,baz=280,slow=3.7,SNR=3.7							

ISCJB ***06*** *02:05:15.9±0.8, 4162N±007×13854E±009, h100km, mb3.4/3, Error ellipse: s-maj=10.6km s-min=8.6km az=85.6*
IDC ***06*** *02:05:23.8±1.6, 4505N×13995E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/21, mbtmp3.6/4, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.2/25, Error ellipse: s-maj=40.1km s-min=37.2km az=93.0*
JMA ***06*** *02:05:32.2, 4187N×13938E, h5km±2km, M1.6*

ISC 06 02:05:17.4±0.8, 4164N±007×13863E±009, h100km, n12, σ1°18/12, mb3.4/3, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.77**	**55**	P	**Pn**	**02 05 36.8**	**+1.3**
JOSM				*e*S	**Sn**	02 05 40.2	-8.8
JSR	**Shiriuchi**	**1.35**	**94**	*e*S	**Sn**	02 06 00.0	-0.2
JYM2	**Yakumo 2**	**1.39**	**69**	*e*S	**Sn**	02 05 57.5	-3.6
JSH	**Shimam**	**1.46**	**46**	*e*S	**Sn**	02 06 01.3	-1.2
JKB	**Kayabe**	**1.82**	**81**	*e*S	**Sn**	02 06 11.5	+0.9
MJAR	**Matsushiro Arr**	**5.10**	**184**	Pn	**Sn**	02 07 28.5	-0.6
1.6nm,0.3s,baz=4.0,slow=12,SNR=8.9							
JHJ	**Hachijo jima 2**	**8.55**	**173**	LR	LR	02 11 42.8	
comp=Z,139nm,19.7s,baz=91,slow=32							
MKAR	**Makanchi Array**	**39.97**	**297**	P	**P**	**02 12 56.5**	**+14**
0.2nm,0.7s,mb3.1,baz=64,slow=6.6,SNR=1.5							
JOF	**Joensuu**	**60.90**	**330**	*e*p	**P**	**02 15 19.4**	**-0.1**
KAF	**Kangasniemi**	**63.23**	**331**	*e*p	**P**	**02 15 34.4**	**-0.7**
FINES	**FINESS Array B**	**63.74**	**330**	P	**P**	**02 15 38.3**	**-0.2**
0.5nm,0.4s,mb3.7,baz=51,slow=7.9,SNR=7.0							
PDAR	**Pinedale Array**	**75.95**	**45**	P	**P**	**02 16 55.8**	**+2.5**
0.3nm,0.6s,mb3.2,baz=0.0,slow=1.8,SNR=3.6							

CSEM ***06*** *02:17:28.3, 3443N×2245E, h8km, MD3.6/4, After ATH*
NEIC ***06*** *02:17:28.3, 3443N×2245E, h8km, MD3.5(ATH), After ATH.*

ATH 06 02:17:35.0, 3487N×2253E, h7km±2km, MD3.5/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.28**	**91**	*e*PG	Pg	02 17 59.0	-0.6
GVD				*e*SB	Sb	02 18 17.0	+0.9
GVD	**Gavdhos**	**1.28**	**91**	*e*Pg	Pg	02 17 54.5	-5.1
KYTH	**Kithira**	**1.47**	**16**	*e*PB	Pb	02 18 02.5	-0.1
KYTH	**Kithira**	**1.47**	**16**	*e*Pb	Pb	02 18 02.0	-0.6
VAM	**Vamos**	**1.47**	**68**	*e*PB	Pb	02 18 03.0	+0.4
VAM				*e*SB	Sb	02 18 23.0	+1.5
VAM	**Vamos**	**1.47**	**68**	*e*Pn	Pn	02 18 02.2	+0.3
VAM				*e*Sn	Sn	02 18 25.0	+3.6
VLI	**Veliai**	**1.87**	**10**	*e*PN	Pn	02 18 09.5	+2.1
VLI	**Veliai**	**1.87**	**10**	*e*Pn	Pn	02 18 09.9	+2.5

IDC ***06*** *02:36:43.4±2.3, 6555×130.19E, h0km, mb3.9/1, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, ML4.2/2, Error ellipse: s-maj=151.7km s-min=30.5km az=70.0*
NEIC ***06*** *02:36:45.9±1.2, 6275×131.12E, h30km, mb4.7/2, Error ellipse: s-maj=24.3km s-min=11.5km az=61.0*
ISCJB ***06*** *02:36:58.2±2.2, 6965±010×1310E±0.1, h169km±24km, mb4.6/2, Error ellipse: s-maj=22.1km s-min=15.1km az=139.5*

ISC 06 02:36:58.6±2.3, 70S±01×1311E±02, h153km±24km, n9, σ1°40/14, mb4.6/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.83**	**167**	*e*P	**Pn**	**02 38 23.9**	**+0.8**
11nm,0.2s							
KAKA				*e*S	**Sn**	02 39 35.4	+6.2
FITZ	**Fitzroy Crossi**	**12.27**	**205**	*e*P	**Pn**	**02 39 48.0**	**-0.2**
2.1nm,0.3s							
FITZ				*e*S	**Sn**	**02 41 59.9**	**-4.0**
WRAB	**Tennant Creek**	**13.25**	**167**	*e*Pn	**Pn**	**02 40 01.0**	**+0.3**
6.5nm,0.6s							
WRA	**Warramunga Arr**	**13.25**	**167**	Pn	**Pn**	**02 40 01.2**	**+0.4**
1.1nm,0.3s,baz=346,slow=13,SNR=9.4							
WRA				Sn	**Sn**	**02 42 25.7**	**-1.8**
0.5nm,0.3s,baz=354,slow=20,SNR=4.7							
WB2	**Warramunga Arr**	**13.26**	**167**	*e*P	**Pn**	**02 40 01.5**	**+0.7**
WB2				*e*S	**Sn**	**02 42 25.7**	**-1.8**
ASAR	**Alice Springs**	**16.80**	**171**	P	**Pn**	**02 40 48.4**	**+3.6**
0.9nm,0.3s,baz=350,slow=10,SNR=40							
ASAR				S	**S**	**02 43 52.5**	**+1.1**
0.3nm,0.3s,baz=345,slow=25,SNR=7.1							
MBWA	**Marble Bar**	**17.89**	**217**	*e*P	**Pn**	**02 40 59.7**	**+1.9**
2.1nm,0.4s							
COCO	**West Island**	**34.18**	**259**	*e*P	**P**	**02 43 29.2**	**0.0**
56nm,0.4s,mb5.7							
MKAR	**Makanchi Array**	**68.83**	**326**	P	**P**	**02 47 44.3**	**-2.0**
0.7nm,0.5s,mb3.6,baz=120,slow=8.0,SNR=15							

CSEM ***06*** *02:47:15.5±0.3, 4141N×2094E, h5km±2km, ML2.4, Error ellipse: s-maj=3.9km s-min=2.5km az=111.0*
ISCJB ***06*** *02:47:17.0±0.4, 4134N±002×2106E±003, h0km±3km, Error ellipse: s-maj=3.2km s-min=2.6km az=23.5*
SKO ***06*** *02:47:16.7, 4132N×2104E, h13km, M2.4, ML2.4*
THE ***06*** *02:47:17.3, 4135N×2105E, h10km, ML3.0*

ISC 06 02:47:17.6±0.3, 4134N±002×2105E±003, h2km±3km, n41, σ1°12/74, 4C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.29**	**220**	*e*Pg	**Pg**	**02 47 22.3**	**-1.0**
OHR				*e*Sg	**Sg**	**02 47 27.2**	**0.0**
OHR	**Ohrid**	**0.29**	**220**	*i* Pg	**Pg**	**02 47 22.3**	**-1.0**
OHR				*i* Sg	**Sg**	**02 47 27.2**	**0.0**
OHR				*e*Lg		02 47 27.3	
comp=E,605nm,0.3s							
OHR	**Ohrid**	**0.29**	**220**	*i* Pg	**Pg**	**02 47 22.2**	**-1.1**
OHR				*e*Sg	**Sg**	**02 47 27.2**	**0.0**
SAMO	**Samokov**	**0.36**	**11**	⇓*i* Pg	**Pg**	**02 47 24.9**	**+0.3**
SAMO				⇓*i*		02 47 24.9	
SAMO				⇓*i*		02 47 24.9	
SAMO				*i* Sg	**Sg**	**02 47 30.0**	**+0.8**
BIA	**Bitola**	**0.38**	**147**	*e*Pg	**Pg**	**02 47 24.4**	**-0.5**
BIA				*e*Sg	**Sg**	**02 47 30.5**	**+0.7**
BIA	**Bitola**	**0.38**	**147**	*i* Pg	**Pg**	**02 47 24.4**	**-0.5**
BIA				*i* Sg	**Sg**	**02 47 30.8**	**+1.0**
BIA	**Bitola**	**0.38**	**147**	*e*Pg	**Pg**	**02 47 24.4**	**-0.5**
BIA				*i* Sg	**Sg**	**02 47 30.8**	**+1.0**
BELI	**Belica**	**0.38**	**26**	⇓*i* Pg	**Pg**	**02 47 24.6**	**-0.4**
BELI				*i* Sg	**Sg**	**02 47 31.8**	**+1.8**
KOZJ	**Kozjak Brana**	**0.55**	**11**	*e*Pg	**Pg**	**02 47 27.9**	**-0.3**
KOZJ				*i*		02 47 28.4	
KOZJ				*i* Sg	**Sg**	**02 47 35.7**	**+0.4**
FNA	**Florina**	**0.61**	**156**	*e*Pg	**Pg**	**02 47 28.7**	**-0.6**
FNA				*e*Sg	**Sg**	**02 47 38.1**	**+1.0**
SKO	**Skopje**	**0.70**	**25**	*e*Pg	**Pg**	**02 47 31.8**	**+0.8**
SKO				*e*Sg	**Sg**	**02 47 41.4**	**+1.3**
SKO	**Skopje**	**0.70**	**25**	*i* Pg	**Pg**	**02 47 31.7**	**+0.7**
SKO				*i* Sg	**Sg**	**02 47 41.2**	**+1.2**
SKO				*e*Lg		02 47 41.3	
comp=N,295nm,0.3s							
SKO				*e*Lg		02 47 41.3	
comp=E,272nm,0.6s							
SKO	**Skopje**	**0.70**	**25**	*i* Pg	**Pg**	**02 47 31.7**	**+0.7**
SKO				*i* Sg	**Sg**	**02 47 41.2**	**+1.1**
KBN	**Korca**	**0.74**	**196**	*i* Pg	**Pg**	**02 47 34.3**	**+2.5**
KBN				*i* Sg	**Sg**	**02 47 43.0**	**+1.5**
TIR	**Tirane**	**0.89**	**271**	*e*Pg	**Pg**	**02 47 33.6**	**-1.2**
TIR				*e*Sg	**Sg**	**02 47 46.9**	**+0.6**
STIP	**Stip**	**0.92**	**67**	⇑*i* Pg	**Pg**	**02 47 35.2**	**-0.2**
STIP				*i* Sg	**Sg**	**02 47 48.4**	**+1.1**
STIP	**Stip**	**0.92**	**67**	⇑*i* Pg	**Pg**	**02 47 35.1**	**-0.3**
STIP				*i* Sg	**Sg**	**02 47 48.4**	**+1.1**
GRG	**Griva**	**1.09**	**110**	*e*Pg	**Pg**	**02 47 37.9**	**-0.6**
PUK	**Puka**	**1.12**	**309**	*i* Pn	**Pn**	**02 47 36.8**	**-3.5**
PUK				*i* Sn	**Sn**	**02 47 55.1**	**-1.2**
VAY	**Valandovo**	**1.14**	**90**	*e*Pg	**Pg**	**02 47 38.5**	**-1.1**
VAY				*e*Sg	**Sg**	**02 47 54.9**	**+0.5**
VAY	**Valandovo**	**1.14**	**90**	⇑*i* Pg	**Pg**	**02 47 38.5**	**-1.1**
VAY	**Valandovo**	**1.14**	**90**	⇑*i* Pg	**Pg**	**02 47 38.5**	**-1.1**
VAY				*e*Sg	**Sg**	**02 47 54.9**	**+0.5**
LSK	**Leskovik**	**1.23**	**196**	*i* Pg	**Pg**	**02 47 40.8**	**-0.5**
LSK	**Leskovik**	**1.23**	**196**	*e*Pn	**Pg**	**02 47 40.8**	**-0.5**
LSK				*i* Sn	**Sn**	**02 48 00.4**	**+1.2**
BCI	**Bajram Curri**	**1.26**	**325**	*i* Pg	**Pg**	**02 47 44.0**	**+2.1**
BCI				*i* Sg	**Sg**	**02 47 54.6**	**-3.7**
BCI	**Bajram Curri**	**1.26**	**325**	*i* Sg	**Sg**	**02 47 54.6**	**-3.7**
KNT	**Kendrikon**	**1.40**	**97**	*e*Pg	**Pg**	**02 47 43.4**	**-1.1**
KNT				*e*Sg	**Sg**	**02 48 02.9**	**+0.1**
MEV	**Metsovon**	**1.56**	**175**	*e*Pg	**Pg**	**02 47 45.5**	**-2.0**
MEV				*e*Sg	**Sg**	**02 48 07.8**	**+0.2**
THE	**Thessaloniki**	**1.61**	**115**	*e*Pb	**Pb**	**02 47 47.0**	**-1.1**
LIT	**Litokho

MAN 06 02:59:58.0, 1364N×12005E, h29km, mb2.0, ML3.7, MS3.2, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.21**	**64**	*eP*	Pb	03 00 06.2	+2.1
LUBP				*eS*	Sb	03 00 11.1	+2.7
PAZ	**Puerto Azul**	**0.84**	**46⇑**	*eP*	Sb	03 00 31.8	+6.9
PGP	**Puerto Galera**	**0.89**	**99**	*eP*	Pn	03 00 13.7	-0.8
TGY	**Tagaytay City**	**0.97**	**62⇓**	*eP*	Pn	03 00 14.8	-0.8
TGY				*eS*	Sn	03 00 29.4	+1.0
NBP	**Mount Natib**	**1.15**	**18**	*eP*	Pn	03 00 17.5	-0.6
LBPH	**Los Banos**	**1.21**	**65**	*eP*	Pn	03 00 23.4	+4.5
ARP	**Angono**	**1.39**	**50**	*eP*	Pn	03 00 21.9	+0.5
QVPH	**Quezon City--P**	**1.40**	**44⇑**	*eP*	Pn	03 00 24.3	+2.7
BUSP	**Coron**	**1.64**	**175**	*eP*	Pn	03 00 25.1	+0.3
BUSP				*eS*	Sn	03 00 42.4	-2.4

*OMAN **06** 03:09:38.7, 2861N×57.18E, h30km, Error ellipse: s-maj=2049.0km s-min=116.8km az=357.0*
*IDC **06** 03:09:40.0±1.0, 2813N×5677E, h0km, mb4.0/17, mb1 4.2/17, mb1mx4.1/24, mbtmp4.0/17, MS3.4/4, Ms1 3.4/4, ms1mx2.9/29, Error ellipse: s-maj=21.9km s-min=17.0km az=157.0*
*CSEM **06** 03:09:43.6±0.1, 2813N×5696E, h40km, mb3.7/3, Error ellipse: s-maj=3.0km s-min=2.0km az=79.0*
*MOS **06** 03:09:43.1±1.0, 2815N×5683E, h33km, mb4.5/3, Error ellipse: s-maj=15.5km s-min=8.7km az=106.2*
*THR **06** 03:09:44.8±0.3, 2818N×5679E, h27km±2km, ML3.7*
*NEIC **06** 03:09:44.8, 2818N×5679E, h27km, mb3.7/4, ML3.8(THR), MN3.6(TEH), After THR.*
*ISCJB **06** 03:09:45.1±0.5, 2809N±003×5670E±005, h57km±5km, mb3.9/18, MS3.5/3, Error ellipse: s-maj=6.7km s-min=5.3km az=146.6*
*KISR **06** 03:09:45.0±0.9, 2880N×5647E, h33km, ML4.0*
*TEH **06** 03:09:50.6, 2847N×5641E, h7km, Mn3.6*

ISC 06 03:09:46.8±0.4, 2809N±003×5672E±004, h54km±5km, n82, σ1§03/93, mb3.9/18, MS3.5/3, 4C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.84**	**215**	*ePG*	**Pn**	**03 10 02.6**	**+0.1**
BNDS				*eSG*	**Sn**	**03 10 15.7**	**+1.6**
BNDS				AML	AML	03 10 20.7	
	comp=E,2μm,0.4s						
BNDS				AML	AML	03 10 20.9	
	comp=N,2μm,0.7s						
BNDS	**Bandar-Abbas**	**0.84**	**215**	*ePg*	**Pn**	**03 10 02.6**	**+0.1**
	SNR=98						
BNDS				*eSg*	**Sn**	**03 10 15.7**	**+1.6**
	SNR=98						
BNDS	**Bandar-Abbas**	**0.84**	**215**	*ePg*	**Pn**	**03 10 02.0**	**-0.5**
BNDS				*eSg*	**Sn**	**03 10 15.0**	**+0.9**
KRBR	**Kerman**	**1.88**	**1**	*ePN*	**Pn**	**03 10 16.4**	**-0.1**
KRBR				*eSG*	**Sn**	**03 10 40.9**	**+1.8**
KRBR				AML	AML	03 10 46.4	
	comp=N,2μm,0.5s						
KRBR	**Kerman**	**1.88**	**1**	*ePn*	**Pn**	**03 10 16.4**	**-0.1**
	SNR=54						
KRBR				*eSg*	**Sn**	**03 10 40.9**	**+1.8**
	SNR=93						
KRBR	**Kerman**	**1.88**	**1**	*ePn*	**Pn**	**03 10 16.0**	**-0.5**
KRBR				*eSg*	**Sn**	**03 10 40.0**	**+0.9**
GHIR	**Ghir-Karzin**	**3.30**	**274**	*ePN*	**Pn**	**03 10 37.8**	**+1.8**
GHIR				AML	AML	03 11 54.2	
	comp=E,120nm,0.6s						
GHIR	**Ghir-Karzin**	**3.30**	**274**	*ePn*	**Pn**	**03 10 37.0**	**+1.1**
IBAF	**Bafgh**	**3.63**	**344**	*ePn*	**Pn**	**03 10 40.6**	**+0.2**
IMOK	**Mook**	**3.65**	**286**	*ePn*	**Pn**	**03 10 41.9**	**+1.2**
IMOK				*eSn*	**Sn**	**03 11 20.3**	**-2.1**
IPAR	**Pars**	**3.66**	**299**	*ePn*	**Pn**	**03 10 42.1**	**+1.3**
IMEH	**Mehriz**	**3.76**	**331**	*ePn*	**Pn**	**03 10 42.9**	**+0.7**
ZHSF	**Zahedan**	**3.87**	**66**	*ePN*	**Pn**	**03 10 43.6**	**-0.1**
ZHSF	**Zahedan**	**3.87**	**66**	*ePn*	**Pn**	**03 10 43.0**	**-0.7**
HOQ	**Hoqain**	**4.52**	**173**	*⇓P*	**Pn**	**03 10 52.0**	**-0.7**
	SNR=18						
ICHK	**Chekchek**	**4.60**	**335**	*ePn*	**Pn**	**03 10 53.3**	**-0.4**
ISAD	**Sadrabad**	**4.63**	**326**	*ePn*	**Pn**	**03 10 54.2**	**+0.1**
ARQ	**Araqi**	**4.74**	**182**	*⇑P*	**Pn**	**03 10 55.8**	**+0.2**
	SNR=10						
SMDO	**Samad**	**5.15**	**166**	*⇓P*	**Pn**	**03 10 60.0**	**-1.4**
	SNR=22						
BSY	**Bisya**	**5.34**	**175**	*⇓P*	**Pn**	**03 11 03.8**	**-0.1**
	SNR=9.2						
BSYO	**Bisya**	**5.36**	**175**	*P*	**Pn**	**03 11 03.8**	**-0.3**
	SNR=9.2						
IZEF	**Zefreh**	**6.10**	**323**	*ePn*	**Pn**	**03 11 14.4**	**+0.1**
IPIR	**Pirpir**	**6.80**	**314**	*ePn*	**Pn**	**03 11 24.1**	**+0.2**
IKLH	**Kalahroud**	**6.83**	**321**	*ePn*	**Pn**	**03 11 23.9**	**-0.5**
IANJ	**Anjiloo**	**7.73**	**343**	*ePn*	**Pn**	**03 11 35.7**	**-0.9**
RDF	**Al-Radifah**	**8.11**	**278**	*eP*	**Pn**	**03 11 42.1**	**+0.3**
RDF				*eS*	**Sn**	**03 13 09.9**	**-2.1**
RDF				AML	AML	03 13 12.6	
	comp=Z,22nm,0.4s						
ISHM	**Shahmirzad**	**8.22**	**340**	*ePn*	**Pn**	**03 11 44.1**	**+0.7**
MIB	**Mutribah**	**8.39**	**284**	*eP*	**Pn**	**03 11 44.8**	**-0.9**
MIB				*eS*	**Sn**	**03 13 15.2**	**-3.8**
MIB				AML	AML	03 13 19.4	
	comp=Z,17nm,0.4s						
NAY	**Al-Naaiem**	**8.40**	**280**	*eP*	**Pn**	**03 11 45.6**	**-0.3**
NAY				AML	AML	03 13 15.1	
	comp=Z,6.1nm,0.5s						
NAY				*eS*	**Sn**	**03 13 15.6**	**-3.7**
ASAO	**Ashtian**	**8.61**	**320**	*ePN*	**Pn**	**03 11 50.2**	**+1.5**
ASAO	**Ashtian**	**8.61**	**320**	*ePn*	**Pn**	**03 11 50.0**	**+1.3**
IMYA	**Miamay**	**8.71**	**18**	*ePn*	**Pn**	**03 11 52.2**	**+2.2**
IKOM	**Komasi**	**9.95**	**310**	*ePn*	**Pn**	**03 12 05.5**	**-1.4**
IGHG	**Ghaleghazi**	**10.68**	**308**	*ePn*	**Pn**	**03 12 16.2**	**-0.8**
IDHR	**Dehrash**	**11.01**	**309**	*ePn*	**Pn**	**03 12 19.8**	**-1.7**
GNI	**Garni**	**15.57**	**324**	*Pn*	**Pn**	**03 13 27.5**	**+4.8**
	comp=Z,0.4nm,0.3s,baz=208,slow=8.7,SNR=4.4						
GNI				LR	LR	03 20 06.2	
	comp=Z,76nm,21.2s,baz=70,slow=40						
GNI	**Garni**	**15.57**	**324⇑**	*eP*	**Pn**	**03 13 27.0**	**+4.3**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZEI	**Tsey**	**17.96**	**328**	*eP*	**Pn**	**03 13 54.3**	**+1.8**
MALT	**Malatya**	**18.36**	**308**	*eP*	**Pn**	**03 13 59.6**	**+2.2**
	comp=Z,5.0nm,0.9s						
MALT	**Malatya**	**18.36**	**308**	*ePn*	**Pn**	**03 13 59.6**	**+2.2**
	comp=Z,5.0nm,0.9s						
MALT				*eS*	**S**	**03 17 29.7**	**+6.9**
MALT	**Malatya**	**18.36**	**308**	*eP*	**Pn**	**03 13 59.6**	**+2.2**
MALT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV	**Kislovodsk**	**19.43**	**328**	*eP*	**Pn**	**03 14 08.6**	**-1.6**
	comp=Z,11nm,1.4s						
KIV	**Kislovodsk**	**19.43**	**328⇑**	*eP*	**Pn**	**03 14 08.6**	**-1.6**
KIV				pmax	pmax		
	comp=Z,11nm,1.4s						
AAK	**Ala-Archa**	**20.45**	**40**	*eP*	**P**	**03 14 18.9**	**-0.8**
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**20.45**	**40**	*eP*	**P**	**03 14 18.8**	**-0.9**
	comp=Z,2.8nm,0.7s						
AAK	**Ala-Archa**	**20.45**	**40⇓**	*eP*	**P**	**03 14 18.9**	**-0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SOC	**Sochi**	**20.65**	**323**	*eP*	**P**	**03 14 20.4**	**-1.4**
	comp=Z,26nm,0.9s						
SOC	**Sochi**	**20.65**	**323**	*eP*	**P**	**03 14 20.4**	**-1.4**
SOC				*e*PP		03 14 38.3	
SOC				*eS*	**S**	**03 18 02.0**	**-7.5**
SOC				pmax	pmax		
	comp=Z,26nm,0.9s						
BR131	**Keskin Array S**	**22.33**	**307**	*eP*	**P**	**03 14 41.0**	**+1.2**
	comp=Z,2.9nm,0.8s,mb3.8						
BR131	**Keskin Array S**	**22.33**	**307**	*eP*	**P**	**03 14 41.0**	**+1.2**
	comp=Z,2.9nm,0.8s,mb3.8						
BRTR	**Keskin Array B**	**22.33**	**307**	*P*	**P**	**03 14 41.0**	**+1.2**
	comp=Z,3.4nm,0.8s,mb3.8,baz=119,slow=12,SNR=23						
AKTK	**Aktyubinsk**	**22.34**	**2**	*P*	**P**	**03 14 39.5**	**-0.4**
AKTK	**Aktyubinsk**	**22.34**	**2**	*P*	**P**	**03 14 39.5**	**-0.3**
AKTK				LR	LR	03 24 59.8	
AKTO	**Aktyubinsk**	**22.34**	**2**	*P*	**P**	**03 14 39.5**	**-0.3**
	comp=Z,4.8nm,0.8s,mb4.0,baz=182,slow=11,SNR=9.7						
AKTO				LR	LR	03 24 59.8	
	comp=Z,79nm,19.6s,MS3.1,baz=0.0,slow=41						
BVAR	**Borovoye Array**	**26.89**	**18**	*P*	**P**	**03 15 22.3**	**-0.2**
	comp=Z,5.4nm,0.7s,mb4.2,baz=198,slow=9.0,SNR=22						
MKAR	**Makanchi Array**	**27.39**	**40**	*P*	**P**	**03 15 26.5**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.4,baz=228,slow=8.2,SNR=11						
IDI	**Anoyia**	**27.93**	**293**	*P*	**P**	**03 15 32.9**	**+1.0**
	comp=Z,4.2nm,0.9s,mb4.0,baz=38,slow=20,SNR=2.8						
KURK	**Kurchatov**	**28.03**	**30**	*eP*	**P**	**03 15 32.6**	**-0.1**
OBN	**Obninsk**	**30.69**	**337**	*eP*	**P**	**03 15 56.9**	**+0.6**
	comp=Z,6.0nm,0.7s,mb4.5						
OBN	**Obninsk**	**30.69**	**337⇓**	*eP*	**P**	**03 15 56.9**	**+0.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**30.70**	**325**	*P*	**P**	**03 15 55.9**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.8,baz=130,slow=8.1,SNR=5.4						
AKASG	**Malin Array Be**	**30.70**	**325**	*P*	**P**	**03 15 55.9**	**-0.4**
ZAL	**Zalesovo**	**33.00**	**31**	*P*	**P**	**03 16 15.5**	**-1.1**
	comp=Z,3.5nm,0.4s,mb4.7,baz=245,slow=6.9,SNR=15						
OJC	**Ojcow**	**35.64**	**319**	*eP*	**P**	**03 16 40.0**	**+0.6**
JOF	**Joensuu**	**38.58**	**342**	*eP*	**P**	**03 17 05.0**	**+0.7**
GERES	**GERESS Array B**	**38.89**	**314**	*P*	**P**	**03 17 07.2**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.6,baz=78,slow=7.0,SNR=5.6						
GERES				LR	LR	03 32 47.2	
	comp=Z,48nm,21.7s,MS3.3,baz=273,slow=36						
KHC	**Kasperske Hory**	**39.04**	**315**	*eP*	**P**	**03 17 08.5**	**+0.3**
KHC	**Kasperske Hory**	**39.04**	**315**	*eP*	**P**	**03 17 08.3**	**+0.1**
FINES	**FINESS Array B**	**39.10**	**337**	*P*	**P**	**03 17 08.5**	**-0.1**
	comp=Z,5.0nm,0.6s,mb4.5,baz=132,slow=10.0,SNR=37						
KAF	**Kangasniemi**	**39.49**	**338**	*ep*	**P**	**03 17 11.6**	**-0.4**
SONM	**Songino Array**	**43.00**	**49**	*P*	**P**	**03 17 40.7**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.3,baz=267,slow=8.2,SNR=3.9						
ULN	**Ulaanbaatar**	**43.44**	**49**	*eP*	**P**	**03 17 42.8**	**-1.5**
NB2	**NORSAR Subarra**	**44.72**	**330**	*P*	**P**	**03 17 53.8**	**-0.7**
	comp=Z,0.1nm,0.6s,mb2.8,baz=110,slow=9.3						
NOA	**NORSAR Array B**	**44.72**	**330**	*P*	**P**	**03 17 53.7**	**-0.8**
	comp=Z,1.0nm,0.7s,mb3.8,baz=116,slow=8.0,SNR=3.8						
ARCES	**ARCESS Array B**	**45.23**	**345**	*P*	**P**	**03 17 58.5**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.1,baz=133,slow=8.8,SNR=7.4						
ESDC	**Sonseca Array**	**50.82**	**300**	*P*	**P**	**03 18 42.2**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.6,baz=69,slow=7.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**53.19**	**266**	*P*	**P**	**03 19 00.4**	**+1.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=64,slow=7.2,SNR=41						
BOSA	**Boshof**	**63.93**	**211**	*P*	**P**	**03 20 15.2**	**+1.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=42,slow=3.7,SNR=3.6						
SEY	**Seymchan**	**67.87**	**29⇑**	*eP*	**P**	**03 20 37.8**	**-1.6**
INK	**Inuvik**	**83.59**	**4**	LR	LR	04 06 49.6	
	comp=Z,65nm,18.5s,MS4.0,baz=37,slow=41						
WRA	**Warramunga Arr**	**88.89**	**113**	*P*	**P**	**03 22 37.2**	**+2.0**
	comp=Z,0.4nm,0.3s,mb4.2,baz=315,slow=4.2,SNR=2.6						
YKA	**Yellowknife Ar**	**89.47**	**356**	*P*	**P**	**03 22 38.5**	**+0.7**
	comp=Z,0.7nm,0.8s,mb4.1,baz=1.2,slow=5.1,SNR=19						

*MOS **06** 03:11:20.7±1.0, 1330N×120.15E, h21km, mb4.9/4, Error ellipse: s-maj=26.6km s-min=15.1km az=98.4*
*ISCJB **06** 03:11:23.0±0.5, 1340N±004×120.19E±007, h33km, mb4.3/9, Error ellipse: s-maj=10.3km s-min=5.0km az=26.4*
*MAN **06** 03:11:22.6, 1344N×12020E, h19km, mb2.0, ML3.7, MS2.8*
*IDC **06** 03:11:23.1±5.5, 1336N×12024E, h22km±38km, mb3.9/5, mb1 4.1/5, mb1mx3.6/19, mbtmp4.0/5, Error ellipse: s-maj=39.9km s-min=17.9km az=76.0*
*NEIC **06** 03:11:24.8±0.5, 1337N×12037E, h35km, mb4.8/4, Error ellipse: s-maj=18.4km s-min=8.1km az=79.0*

ISC 06 03:11:22.5±1.2, 1338N±004×12023E±007, h16km±8km, n32, σ1§10/35, mb4.3/9, 1C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**3**	*eP*	**Pg**	**03 11 29.4**	**-0.4**
PGP	**Puerto Galera**	**0.72**	**80⇓**	*iP*	**Pb**	**03 11 36.2**	**-0.4**
PGP				*i* S	**Sg**	**03 11 39.3**	**-6.7**
PAZ	**Puerto Azul**	**0.95**	**27**	*eP*	**Sb**	**03 11 55.2**	**+2.4**
TGY	**Tagaytay City**	**0.99**	**44**	Pg	**Pg**	**03 11 41.7**	**-0.1**
	551nm,0.3s,baz=244,slow=3.1,SNR=19						
TGY				Lg		03 11 55.7	
	718nm,0.3s,baz=347,slow=23,SNR=23						
TGY	**Tagaytay City**	**0.99**	**44⇓**	*eP*	**Pb**	**03 11 41.8**	**+0.4**
TGY				*eS*	**Sb**	**03 11 53.5**	**-0.7**
LBPH	**Los Banos**	**1.20**	**50**	*eP*	**Pn**	**03 11 46.7**	**+2.0**
NBP	**Mount Natib**	**1.36**	**8**	*eP*	**Pn**	**03 11 40.8**	**-6.1**
BUSP	**Coron**	**1.37**	**181**	*eP*	**Pn**	**03 11 47.9**	**+0.9**
BUSP				*eS*	**Sn**	**03 12 05.9**	**+1.0**
ARP	**Angono**	**1.46**	**38⇑**	*eP*	**Pn**	**03 11 45.1**	**-3.2**
QVPH	**Quezon City--P**	**1.50**	**33⇓**	*eP*	**Pn**	**03 11 47.5**	**-1.3**
BOAC	**Boac**	**1.58**	**87**	*eP*	**Pn**	**03 11 49.6**	**-0.2**
NZB	**Bigte**	**1.70**	**30**	*eP*	**Pn**	**03 11 51.1**	**-0.5**
OTRP	**Odiongan**	**2.02**	**120**	*eP*	**Pn**	**03 11 56.6**	**+0.7**
POLP	**Polilio Island**	**2.13**	**51**	*eP*	**Pn**	**03 12 00.7**	**+3.2**
CUYO	**Cuyo Island**	**2.63**	**163**	*eP*	**Pn**	**03 12 05.2**	**+0.8**
BALP	**Baler**	**2.69**	**29**	*eP*	**Pn**	**03 12 07.2**	**+2.1**
BJT	**Baijiatuau**	**26.77**	**353**	*eP*	**P**	**03 17 01.8**	**+0.2**
	5.2nm,0.6s,mb4.2						
BJT	**Baijiatuau**	**26.77**	**353**	*eP*	**P**	**03 17 01.8**	**+0.2**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PMG	**Port Moresby**	**35.04**	**129**	*eP*	**P**	**03 18 12.7**	**-1.7**
	comp=Z,4.9nm,0.5s,mb4.7						
PMG	**Port Moresby**	**35.04**	**129**	*eP*	**P**	**03 18 12.7**	**-1.8**
PMG				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WRAB	**Tennant Creek**	**35.91**	**157**	*eP*	**P**	**03 18 21.3**	**-0.7**
	comp=Z,13nm,0.6s,mb5.0						
WRAB				*e*pP	pP	03 18 28.7	+1.9
WRAB	**Tennant Creek**	**35.91**	**157**	*eP*	**P**	**03 18 21.3**	**-0.6**
WRAB				*e*PP	pP	03 18 28.7	+1.9
WRAB				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**35.91**	**157**	*P*	**P**	**03 18 21.4**	**-0.6**
	comp=Z,9.1nm,0.7s,mb4.8,baz=335,slow=9.7,SNR=38						
WB2	**Warramunga Arr**	**35.91**	**157**	*eP*	**P**	**03 18 20.5**	**-1.5**
SONM	**Songino Array**	**36.23**	**344**	*P*	**P**	**03 18 24.6**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=165,slow=8.3,SNR=7.9						
AS31	**Alice Springs**	**39.17**	**160**	*eP*	**P**	**03 18 49.5**	**-0.1**
ASAR	**Alice Springs**	**39.17**	**160**	*P*	**P**	**03 18 49.8**	**+0.1**
	comp=Z,4.1nm,0.6s,mb4.3,baz=339,slow=7.1,SNR=49						
ASPA	**Alice Springs**	**39.17**	**160**	*eP*	**P**	**03 18 49.5**	**-0.1**
MKAR	**Makanchi Array**	**46.02**	**324**	*P*	**P**	**03 19 46.2**	**+1.1**
	comp=Z,0.3nm,0.8s,mb3.3,baz=142,slow=8.9,SNR=3.5						
NWAO	**Narrogin (SRO)**	**46.13**	**183**	*P*	**P**	**03 19 46.4**	**+0.3**
	comp=Z,22nm,1.5s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.13**	**183**	*P*	**P**	**03 19 46.4**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,22nm,1.5s						
FINES	**FINESS Array B**	**80.34**	**331**	*P*	**P**	**03 23 31.4**	**-1.6**
	comp=Z,0.5nm,0.7s,mb3.5,baz=50,slow=4.3,SNR=3.8						

*IDC **06** 03:17:19.7±3.9, 1844N×12045E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=363.2km s-min=27.7km az=61.0*
*ISCJB **06** 03:17:23.9±1.3, 182N±02×120.1E±01, h33km, mb3.2/3, Error ellipse: s-maj=33.3km s-min=14.4km az=45.8*

ISC 06 03:17:25.8±1.3, 183N±02×1202E±02, h35km, n5, σ2§09/6, mb3.2/3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.06**	**114**	*eP*	**Pn**	**03 17 45.5**	**+1.4**
APYP				*eS*	**Sn**	**03 17 54.9**	**-2.7**
CVP	**Callao Caves**	**1.63**	**111**	*eP*	**Pn**	**03 17 54.0**	**+2.1**
WRA	**Warramunga Arr**	**40.44**	**159**	*P*	**P**	**03 24 59.9**	**-0.8**
	0.6nm,0.8s,mb3.4,baz=340,slow=9.5,SNR=3.3						
MKAR	**Makanchi Array**	**42.14**	**321**	*P*	**P**	**03 25 13.8**	**-0.9**
	0.2nm,0.8s,mb2.8,baz=119,slow=8.5,SNR=4.2						
ASAR	**Alice Springs**	**43.79**	**162**	*P*	**P**	**03 25 28.5**	**+0.5**
	0.5nm,0.5s,mb3.5,baz=342,slow=6.7,SNR=7.6						

*ISCJB **06** 03:33:52.4±1.0, 50S±02×152.10E±009, h33km, mb4.3/7, Error ellipse: s-maj=23.8km s-min=10.5km az=136.2*
*NEIC **06** 03:33:53.3±1.2, 484S×15204E, h35km, mb4.5/5, Error ellipse: s-maj=27.5km s-min=13.9km az=172.0*
*IDC **06** 03:33:56.6±6.3, 528S×15222E, h56km±54km, mb3.9/3, mb1 4.2/4, mb1mx3.6/14, mbtmp4.1/4, ML3.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/27, Error ellipse: s-maj=96.3km s-min=35.8km az=139.0*

ISC 06 03:33:54.1±1.0, 49S±01×15207E±009, h35km, n17, σ1§08/15, mb4.3/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.61**	**227**	*P*	**Pn**	**03 35 29.8**	**+1.1**
	2.4nm,0.3s,baz=45,slow=7.5,SNR=5.0						
PMG				*S*	**Sn**	**03 36 43.0**	**+0.2**
	3.6nm,0.3s,baz=101,slow=12,SNR=4.1						
PMG				LR	LR	03 37 15.4	
	comp=Z,59nm,18.7s,baz=290,slow=31						
HNR	**Honiara**	**9.02**	**120**	*ePn*	**Pn**	**03 36 01.1**	**-0.8**
	126nm,0.9s						
KAKA	**Kakadu**	**20.87**	**247**	*eP*	**P**	**03 38 33.2**	**+0.1**
	17nm,0.5s						
WRAB	**Tennant Creek**	**22.82**	**228**	*eP*	**P**	**03 38 53.0**	**-0.8**
	18nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**22.82**	**228**	*eP*	**P**	**03 38 53.1**	**-0.8**
WRA	**Warramunga Arr**	**22.83**	**228**	*P*	**P**	**03 38 53.2**	**-0.8**
	8.0nm,0.7s,mb4.2,baz=54,slow=10,SNR=28						
AS31	**Alice Springs**	**25.58**	**221**	*eP*	**P**	**03 39 21.7**	**+1.8**
ASAR	**Alice Springs**	**25.58**	**221**	*P*	**P**	**03 39 19.2**	**-0.6**
	3.2nm,0.4s,mb4.2,baz=57,slow=8.8,SNR=36						
ASPA	**Alice Springs**	**25.58**	**221**	*eP*	**P**	**03 39 21.7**	**+1.8**
FITZ	**Fitzroy Crossi**	**28.97**	**241**	*eP*	**P**	**03 39 49.9**	**-0.3**
	7.4nm,1.6s,mb4.2						
MBWA	**Marble Bar**	**35.28**	**240**	*P*	**P**	**03 40 45.2**	**-0.4**
	1.9nm,0.7s,mb4.1						
TAU	**Tasmania Unive**	**38.08**	**186**	*P*	**P**	**03 41 09.4**	**0.0**
	35nm,1.1s,mb5.0						
NWAO	**Narrogin (SRO)**	**42.79**	**225**	LR	LR	04 01 45.0	
	comp=Z,110nm,18.6s,baz=199,slow=39						
COCO	**West Island**	**55.01**	**259**	*P*	**P**	**03 43 19.2**	**-2.9**
	49nm,0.4s						
ILAR	**Eielson Array**	**82.53**	**22**	*pP*	pP	03 46 30.5	+6.2
	0.6nm,0.7s,baz=234,slow=4.7,SNR=4.7						
NVAR	**Mina Array Bea**	**92.72**	**52**	*P*	**P**	**03 47 04.1**	**+1.4**
	0.2nm,0.4s,mb3.9,baz=257,slow=8.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**149.64**	**288**	PKPbc	PKPbc	03 53 41.3	+1.3
	1.1nm,0.6s,baz=87,slow=2.4,SNR=22						

*ISCJB **06** 03:50:52.7±0.6, 521N±01×17778W±007, h104km±6km, mb3.8/12, Error ellipse: s-maj=19.7km s-min=7.2km az=174.6*
*IDC **06** 03:50:53.8±0.9, 5199N×17784W, h105km±7km, mb3.4/12, mb1 3.6/13, mb1mx3.5/26, mbtmp3.8/13, Error ellipse: s-maj=21.5km s-min=10.9km az=175.0*
*NEIC **06** 03:50:55.1, 5184N×17765W, h102km, MG3.8(AEIC), After AEIC.*

ISC 06 03:50:53.7±0.6, 520N±01×17776W±007, h103km±5km, h100km±2.3km: pP-P, n23, σ0§88/24, mb3.8/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.68**	**102**	*P*	**Pn**	**03 51 10.8**	**-0.4**
ADK				*S*	**Sn**	**03 51 23.8**	**-0.5**
ATKA	**Atka Island**	**2.21**	**84**	*P*	**Pn**	**03 51 29.4**	**+0.4**
ATKA				*S*	**Sn**	**03 51 55.3**	**-0.7**
FX1	**Attu Island--F**	**5.61**	**282**	*P*	**Pn**	**03 52 16.1**	**+1.4**
	0.7nm,0.3s,baz=262,slow=18,SNR=7.0						
FX1				*S*	**Sn**	**03 53 17.8**	**0.0**
	2.2nm,0.3s,baz=234,slow=20,SNR=3.8						
UNV	**Unalaska Valle**	**7.04**	**71**	*ePn*	**Pn**	**03 52 35.7**	**+1.6**
	84nm,0.4s						
KDAK	**Kodiak Island**	**15.53**	**58**	*P*	**Pn**	**03 54 24.6**	**-2.2**
	2.4nm,0.3s,baz=172,slow=15,SNR=37						
KDAK				*S*	**S**	**03 57 11.7**	**-16**
	0.3nm,0.3s,baz=18,slow=21,SNR=4.4						
ILAR	**Eielson Array**	**20.33**	**39**	*P*	**P**	**03 55 22.0**	**+0.4**
	0.6nm,0.6s,baz=257,slow=11,SNR=13						
ILAR				PcP	PcP	03 59 28.9	-1.7
	0.3nm,0.7s,baz=294,slow=2.9,SNR=5.6						
ILAR				ScP	ScP	04 02 54.0	-3.6
	0.3nm,0.7s,baz=281,slow=2.9,SNR=5.0						
INK	**Inuvik**	**26.55**	**35**	*P*	**P**	**03 56 23.1**	**+1.3**
	0.8nm,0.8s,mb3.3,baz=241,slow=3.9,SNR=6.1						
INK				PcP	PcP	03 59 42.4	-1.4
	0.5nm,0.4s,baz=294,slow=4.3,SNR=7.0						
YKA	**Yellowknife Ar**	**34.31**	**47**	*P*	**P**	**03 57 30.1**	**-0.1**
	0.

comp=N,2μm,0.4s
ANTU Antumapu 2.23 113 *e*P **Pn 03 58 10.4 +0.3**
ANTU *i* S **Sn 03 58 37.4 +0.1**
CLCH Cerro Calan 2.25 108 *e*P **Pn 03 58 10.8 +0.4**
CLCH *i* S **Sn 03 58 38.0 +0.2**
CLCH AMP 03 58 40.5
comp=E,1μm,0.7s
PCH Pirque 2.34 113 *e*P **Pn 03 58 12.4 +0.8**
CMCH Combarbala 2.37 49⇑ *i*P **Pn 03 58 11.3 -0.7**
CMCH *i* S **Sn 03 58 39.6 -1.1**
CMCH AMP 03 58 46.9
comp=N,2μm,0.8s
CMCH Combarbala 2.37 49⇑ *i*P **Pn 03 58 11.3 -0.7**
CMCH *i* S **Sn 03 58 39.6 -1.1**
CHCH Chadas Angostu 2.37 121⇓ *i*P **Pn 03 58 11.9 -0.1**
FCH Farellones 2.43 105⇑ *e*P **Pn 03 58 13.6 +0.8**
FCH *i* S **Sn 03 58 43.0 +0.7**
FCH AMP 03 58 48.1
comp=N,878nm,0.4s
CACH El Canelo 2.50 124⇑ *i*P **Pn 03 58 14.6 +0.8**
SFDO San Fernando 2.56 138⇓ *i*P **Pn 03 58 14.1 -0.5**
LMEL Las Melosas 2.67 115 *e*P **Pn 03 58 16.9 +0.8**
LMEL *i* S **Sn 03 58 48.1 +0.1**
LMEL AMP 03 58 50.0
comp=N,2μm,0.2s
LMEL Las Melosas 2.67 115 *e*P **Pn 03 58 16.9 +0.8**
LMEL *i* S **Sn 03 58 48.1 +0.1**
CICH Cipreses 2.74 126⇓ *i*P **Pn 03 58 17.8 +0.7**
NICH Los Niches 2.74 146⇓ *i*P **Pn 03 58 17.2 0.0**
TALC Talca 2.92 156 *e*P **Pn 03 58 18.2 -1.3**
LNCH Linares 3.34 159 *e*P **Pn 03 58 25.1 -0.3**
CCHI Chillan 3.95 168 *e*P **Pn 03 58 33.1 -0.6**
CFAA Coronel Fontan 4.27 76 Pn **Pn 03 58 40.9 +2.7**
comp=N,0.2nm,0.3s,baz=262,slow=14,SNR=28
CFAA Sn **Sn 03 59 31.4 +3.7**
comp=N,0.7nm,0.3s,baz=5.7,slow=21,SNR=8.5
PLCA Paso Flores 8.24 166 Pn **Pn 03 59 32.2 -0.4**
comp=N,0.4nm,0.3s,baz=341,slow=14,SNR=11
PLCA Sn **Sn 04 01 10.4 +5.0**
comp=N,0.1nm,0.3s,baz=296,slow=21,SNR=1.5
PLCA Paso Flores 8.24 166 *e*Pn **Pn 03 59 32.4 -0.3**
comp=N,2.0nm,0.5s
PLCA Sn **Sn 04 01 10.4 +5.0**
TRQA Tornquist 10.51 123 *e*Pn **Pn 04 00 04.4 +0.7**
comp=N,1.6nm,0.6s
LPAZ La Paz 16.98 17 P **Pn 04 01 34.4 +3.7**
comp=N,0.1nm,0.3s,baz=180,slow=11,SNR=5.1
SIV San Ignacio 19.92 36 P **Pn 04 02 07.1 +0.6**
comp=N,1.7nm,0.6s,baz=216,slow=8.6,SNR=11
SAML Samuel 25.39 23 P **P 04 03 01.4 +1.0**
comp=N,1.2nm,1.0s,mb3.4
PMSA Palmer Station 32.55 173 *e*P **P 04 04 04.6 +0.5**
comp=N,15nm,1.0s,mb4.9
PMSA *e*pP pP 04 04 14.8 +5.9
PMSA *e*sP sP 04 04 19.6 +8.7
BBSR BB Station 65.24 8 P **P 04 08 12.3 -2.3**
DBIC Dimbokro 75.62 72 P **P 04 09 18.5 +0.5**
comp=N,2.2nm,0.7s,mb4.2,baz=244,slow=6.2,SNR=4.4
DBIC Dimbokro 75.62 72 *e*P **P 04 09 18.8 +0.7**
comp=N,2.6nm,0.7s,mb4.3
DBIC *e*pP pP 04 09 28.5 +5.3
DBIC *e*sP sP 04 09 32.4 +7.3
TORD Torodi Ar. Bea 84.62 71 P **P 04 10 07.1 +0.6**
comp=N,0.6nm,0.6s,mb3.9,baz=246,slow=5.7,SNR=11
MKAR Makanchi Array 156.56 46 PKPab PKPab 04 17 57.1 +0.1
comp=N,0.2nm,0.7s,baz=295,slow=5.1,SNR=3.2

PGC 06 04:04:23.1, 6483N×12922W, h1km, ML3.0/3, Mackenzie Mountains, Northwest Territories, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**3.89**	**336**	Pn	Pn	04 05 21.9	-2.1
INK				Pg	Pg	04 05 33.4	-4.3
INK				Sn	Sn	04 06 07.4	-3.0
INK				Sg	Sg	04 06 21.5	-6.6
INK				Trac		04 06 30.1	
comp=Z,6.0nm,0.2s							
INK				Trac		04 06 30.1	
comp=Z,6.0nm,0.2s							
DAWY	**Dawson**	**4.47**	**265**	Pn	Pn	04 05 31.1	-1.0
DAWY				Sn	Sn	04 06 18.0	-6.7
DAWY				Trac		04 06 49.3	
comp=Z,8.0nm,0.5s							
WHY	**Whitehorse**	**4.93**	**214**	Pn	Pn	04 05 38.4	0.0
WHY				Pg	Pg	04 05 56.0	-1.6
WHY				Sg	Sg	04 06 56.3	-5.2
WHY				Trac		04 07 10.3	
comp=Z,14nm,1.1s							
HYT	**Haines Junctio**	**5.53**	**227**	Pn	Pn	04 05 47.3	+0.8
HYT				Sg	Sg	04 07 14.8	-5.9
HYT				Trac		04 07 30.9	
comp=Z,8.0nm,0.8s							
FNBB	**Fort Nelson**	**6.64**	**151**	Pn	Pn	04 05 59.0	-2.9
FNBB				Trac		04 07 18.9	
comp=Z,2.0nm,0.6s							
FNBB				Trac		04 07 18.9	
comp=Z,2.0nm,0.6s							
YKW3	**Yellowknife Ar**	**6.88**	**103**	Pn	Pn	04 06 04.8	-0.3
YKW3				Sn	Sn	04 07 17.4	-6.5
YKW3				Trac		04 08 03.6	
comp=Z,2.0nm,0.3s							
YKW3				Trac		04 08 03.6	
comp=Z,2.0nm,0.3s							
RES	**Resolute Bay**	**15.14**	**35**	Pn	Pn	04 07 53.5	-4.6

*ISCJB **06** 04:31:59.1±0.3, 4485N±002×670E±003, h9km±3km, Error ellipse: s-maj=4.1km s-min=2.8km az=166.9*
*CSEM **06** 04:31:59.1±0.0, 4486N×678E, h10km, ML2.5/4, Error ellipse: s-maj=1.4km s-min=0.8km az=73.0*
*NEIC **06** 04:31:59.7, 4487N×676E, h2km, ML2.5(LDG), After LDG.*
*LDG **06** 04:31:59.7±0.1, 4487N×676E, h2km, Md2.3/3, Ml2.5/5, Error ellipse: s-maj=2.6km s-min=1.2km az=81.0*
*GEN **06** 04:31:59.4, 4486N×667E, h1km, ML2.0*
ISC 06 04:31:59.5±0.3, 4486N±002×673E±003, h13km±3km, n38, σ0§55/63, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Cesana Torines**	**0.07**	**36**	P	**Pg**	04 32 02.0	**-0.1**
MBDF	**Montbardon**	**0.14**	**167**	*e*Pg	**Pg**	04 32 02.7	**-0.3**
MBDF				*e*Sg	**Sg**	04 32 04.8	**-0.7**
168nm,0.2s							
MBDF	**Montbardon**	**0.14**	**167**	*e*Pg	**Pg**	04 32 02.7	**-0.3**
MBDF				*e*Sg	**Sg**	04 32 04.8	**-0.7**
84nm,0.2s							
BNI	**Bardonecchia**	**0.19**	**350**	*e*Pg	**Pg**	04 32 03.9	**+0.1**
BNI				*e*Sg	**Sg**	04 32 06.8	**0.0**
BNI	**Bardonecchia**	**0.19**	**350**	*e*Pg	**Pg**	04 32 03.9	**+0.1**
BNI				*e*Sg	**Sg**	04 32 06.8	**0.0**
FENE	**Fenestrelle**	**0.29**	**55**	P	**Pg**	04 32 06.0	**+0.5**
SURF	**Saint Ours**	**0.39**	**171**	Pg	**Pg**	04 32 08.0	**+0.8**
SURF				Sg	**Sg**	04 32 13.8	**+1.3**
PZZ	**Prazzo**	**0.45**	**143**	P	**Pg**	04 32 08.8	**+0.5**
RSP	**Reno Superiore**	**0.47**	**52**	P	**Pg**	04 32 09.6	**+0.8**
ORIF	**Oris-en-Rattie**	**0.60**	**276**	*e*Pg	**Pg**	04 32 11.6	**+0.3**
ORIF				*e*Sg	**Sg**	04 32 20.0	**+0.7**
20nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.60**	**276**	*e*Pg	**Pg**	04 32 11.6	**+0.3**
ORIF				*e*Sg	**Sg**	04 32 20.0	**+0.7**
9.9nm,0.3s							
LPG	**La Plagne**	**0.64**	**2**	*e*Pg	**Pg**	04 32 12.1	**+0.2**
LPG				*e*Sg	**Sg**	04 32 20.1	**-0.2**
21nm,0.3s							
LPG	**La Plagne**	**0.64**	**2**	*e*Pg	**Pg**	04 32 12.1	**+0.2**
LPG				*e*Sg	**Sg**	04 32 20.1	**-0.2**
11nm,0.3s							
LPL	**La Plagne**	**0.65**	**0**	*e*Pg	**Pg**	04 32 12.2	**0.0**
LPL				*e*Sg	**Sg**	04 32 20.6	**-0.2**
33nm,0.4s							
LPL	**La Plagne**	**0.65**	**0**	*e*Pg	**Pg**	04 32 12.2	**0.0**
LPL				*e*Sg	**Sg**	04 32 20.6	**-0.2**
16nm,0.4s							
STV2	**Anna di Valdie**	**0.75**	**145**	P	**Pg**	04 32 14.2	**+0.1**
STV	**Sta Anna Valdi**	**0.75**	**145**	P	**Pg**	04 32 14.3	**+0.2**
ENR	**Entracque**	**0.81**	**142**	P	**Pg**	04 32 15.2	**+0.1**
ENR				S	**Sg**	04 32 26.0	**+0.3**
TRAV		**0.97**	**48**	P	**Pb**	04 32 18.2	**+0.1**
TRAV				S	**Sb**	04 32 31.1	**+0.2**
ROB	**Roburent**	**0.99**	**124**	P	**Pb**	04 32 18.7	**+0.1**
ROB				S	**Sb**	04 32 31.9	**+0.3**
MONE	**Monesi**	**1.07**	**136**	P	**Pb**	04 32 20.0	**+0.1**
MONE				S	**Sb**	04 32 33.9	**0.0**
SBF	**Sospel**	**1.12**	**153**	*e*Pg	**Pg**	04 32 20.9	**-0.2**
SBF				*e*Sg	**Sg**	04 32 35.0	**-0.7**
14nm,0.3s							
SBF	**Sospel**	**1.12**	**153**	*e*Pg	**Pg**	04 32 20.9	**-0.2**
SBF				*e*Sg	**Sg**	04 32 35.0	**-0.7**
6.8nm,0.3s							
ORX	**Oropa**	**1.17**	**49**	P	**Pn**	04 32 21.6	**0.0**
SMRF	**Simiane la Rot**	**1.21**	**223**	*e*Pg	**Pg**	04 32 23.4	**+0.6**
5.1nm,0.3s							
SMRF				*e*Sg	**Sg**	04 32 38.6	**0.0**
SMRF	**Simiane la Rot**	**1.21**	**223**	*e*Pg	**Pg**	04 32 23.4	**+0.6**
2.5nm,0.3s							
SMRF				*e*Sg	**Sg**	04 32 38.6	**0.0**
RORO		**1.22**	**128**	P	**Pn**	04 32 21.8	**-0.4**
NEGI	**Negi**	**1.23**	**145**	P	**Pn**	04 32 22.1	**-0.3**
FIN	**Finale Ligure**	**1.25**	**121**	P	**Pn**	04 32 22.3	**-0.2**
IMI	**Imperia**	**1.27**	**138**	P	**Pn**	04 32 22.6	**-0.2**
FRF	**La Foret Royal**	**1.30**	**183**	*e*Pg	**Pg**	04 32 24.3	**-0.3**
FRF				*e*Sg	**Sg**	04 32 40.9	**-0.6**
19nm,0.4s							
FRF	**La Foret Royal**	**1.30**	**183**	*e*Pg	**Pg**	04 32 24.3	**-0.3**
FRF				*e*Sg	**Sg**	04 32 40.9	**-0.6**
9.5nm,0.4s							
VIVF	**Saint-Julien-l**	**1.46**	**270**	*e*Pg	**Pg**	04 32 28.6	**+1.0**
VIVF				*e*Sn	**Sn**	04 32 44.8	**+0.3**
13nm,0.6s							
VIVF	**Saint-Julien-l**	**1.46**	**270**	*e*Pg	**Pg**	04 32 28.6	**+1.0**
VIVF				*e*Sn	**Sn**	04 32 44.8	**+0.3**
6.6nm,0.6s							
LMR	**La Mourre**	**1.54**	**186**	*e*Pg	**Pg**	04 32 28.1	**-0.9**
LMR				*e*Sg	**Sg**	04 32 48.2	**-0.8**
8.6nm,0.2s							
LMR	**La Mourre**	**1.54**	**186**	*e*Pg	**Pg**	04 32 28.1	**-0.9**
LMR				*e*Sg	**Sg**	04 32 48.2	**-0.8**
4.3nm,0.2s							
CABF	**La Chapelle**	**1.81**	**346**	*e*Pg	**Pg**	04 32 32.9	**-1.2**
SMF	**Signal de Mont**	**2.69**	**312**	*e*Pg	**Pg**	04 32 49.6	**-1.5**

*ISCJB **06** 05:06:34.7±3.6, 143S±07×1790W±04, h350km±51km, mb3.4/6, Error ellipse: s-maj=127.7km s-min=16.5km az=122.3*
*NEIC **06** 05:06:35.7±0.8, 1420S×17898W, h350km, mb3.7/1, Error ellipse: s-maj=47.1km s-min=15.1km az=157.0*
*IDC **06** 05:06:35.9±3.8, 1443S×17889W, h353km±54km, mb3.1/5, mb1 3.5/6, mb1mx3.3/15, mbtmp3.9/6, Error ellipse: s-maj=115.5km s-min=16.7km az=152.0*
ISC 06 05:06:36.0±3.4, 143S±07×1790W±04, h350km±50km, n11, σ1§07/10, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.97**	**88**	P	**Pn**	**05 08 17.6**	**-0.4**
3.5nm,0.3s,baz=81,slow=21,SNR=6.7							
DZM	**Mont Dzumac**	**15.89**	**239**	P	**P**	**05 10 02.9**	**+2.7**
0.6nm,0.3s,baz=68,slow=19,SNR=8.6							
STKA	**Stephens Creek**	**40.04**	**237**	P	**P**	**05 13 37.8**	**-0.5**
WRAB	**Tennant Creek**	**44.88**	**256**	P	**P**	**05 14 14.0**	**-2.8**
3.7nm,0.8s,mb3.6							
WRA	**Warramunga Arr**	**44.89**	**256**	P	**P**	**05 14 16.8**	**-0.1**
0.2nm,0.3s,mb2.7,baz=81,slow=5.5,SNR=7.5							
ASAR	**Alice Springs**	**45.38**	**251**	P	**P**	**05 14 20.8**	**+0.1**
2.3nm,0.5s,mb3.6,baz=83,slow=8.5,SNR=40							
NVAR	**Mina Array Bea**	**77.19**	**45**	P	**P**	**05 17 52.7**	**+0.8**
0.5nm,0.6s,mb3.4,baz=219,slow=8.5,SNR=3.5							
NVAR	**Mina Array Bea**	**77.19**	**45**	P	**P**	**05 17 52.7**	**+0.8**
ILAR	**Eielson Array**	**82.47**	**13**	P	**P**	**05 18 20.0**	**+0.1**
0.8nm,0.7s,mb3.7,baz=250,slow=5.9,SNR=12							
PDAR	**Pinedale Array**	**85.08**	**44**	P	**P**	**05 18 33.1**	**0.0**
0.7nm,0.8s,mb3.5,baz=219,slow=1.9,SNR=4.3							
GERES	**GERESS Array B**	**143.97**	**346**	PKP	PKPdf	05 25 29.6	-0.4
1.2nm,0.6s,baz=25,slow=3.5,SNR=10							

*NIED **06** 05:23:00, 2470N×12590E, h56km, Mw4.0 Best double couple: M0=1.32000×10^15 NP1:φs=80.00000°, δ=89.00000°, λ=77.00000°. NP2:φs=346.00000°, δ=13.00000°, λ=176.00000°.*
*ISCJB **06** 05:23:07.0±1.0, 247N±01×12590E±008, h61km±6km, mb3.3/4, Error ellipse: s-maj=24.7km s-min=5.7km az=127.4*
*JMA **06** 05:23:08.1±0.1, 2470N×12589E, h55km±2km, M3.6*
*NEIC **06** 05:23:08.1, 2470N×12589E, h54km, MG3.6(JMA), After JMA.*
*IDC **06** 05:23:11.1±7.5, 2590N×12552E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=184.4km s-min=29.6km az=7.0*
ISC 06 05:23:07.7±0.9, 247N±01×12591E±007, h54km±8km, n20, σ0§69/29, mb3.3/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.47**	**279**	P	**Pn**	**05 23 19.0**	**+0.2**
JOGS				S	**Sn**	**05 23 26.8**	**0.0**
JMJ	**Miyako jima 2**	**0.58**	**282**	P	**Pn**	**05 23 20.3**	**+0.2**
JMJ				S	**Sn**	**05 23 29.1**	**0.0**
JTJ	**Tarama**	**1.10**	**268**	P	**Pn**	**05 23 27.4**	**+0.5**
JTJ				S	**Sn**	**05 23 41.0**	**-0.1**
JIJ	**Ishigaki jima**	**1.65**	**259**	P	**Pn**	**05 23 34.7**	**+0.4**
JIJ				S	**Sn**	**05 23 53.3**	**-1.0**
JKRS	**Kuro-shima**	**1.79**	**256**	P	**Pn**	**05 23 36.8**	**+0.5**
JKRS				*e*S	**Sn**	**05 23 58.2**	**+0.3**
JKE	**Kume jima 2**	**1.81**	**26**	P	**Pn**	**05 23 36.5**	**0.0**
IRIF	**Iriomote-Funau**	**2.02**	**260**	P	**Pn**	**05 23 39.7**	**+0.3**
IRIF				*e*S	**Sn**	**05 24 03.6**	**+0.1**
HATJ	**Hateruma jima**	**2.02**	**252**	P	**Pn**	**05 23 40.4**	**+1.0**
HATJ				*e*S	**Sn**	**05 24 03.2**	**-0.3**
JAGN	**Aguni-jima**	**2.24**	**32**	P	**Pn**	**05 23 42.6**	**+0.3**
YOJ	**Yonaguni jima**	**2.65**	**266**	P	**Pn**	**05 23 48.6**	**+0.6**
YOJ				*e*S	**Sn**	**05 24 16.8**	**-2.2**
JIH	**Iheya**	**2.98**	**38**	P	**Pn**	**05 23 52.0**	**-0.5**
JOW	**Kunigami**	**3.01**	**44**	Pn	**Pn**	**05 23 53.6**	**+0.7**
22nm,0.3s,baz=183,slow=15,SNR=96							
JOW	**Kunigami**	**3.01**	**44**	P	**Pn**	**05 23 53.6**	**+0.7**
JMZ	**Minamidaito 2**	**4.93**	**76**	P	**Pn**	**05 24 17.6**	**-1.7**
JMZ				*e*S	**Sn**	**05 25 10.3**	**-4.7**
MJAR	**Matsushiro Arr**	**15.84**	**39**	Pn	**Pn**	**05 26 51.9**	**+4.8**
0.5nm,0.3s,baz=234,slow=10,SNR=5.8							
SONM	**Songino Array**	**27.80**	**331**	P	**P**	**05 28 51.2**	**-0.5**
0.6nm,0.5s,mb3.5,baz=146,slow=9.6,SNR=2.3							
MKAR	**Makanchi Array**	**41.04**	**314**	P	**P**	**05 30 46.2**	**+0.4**
0.1nm,0.3s,mb2.9,baz=99,slow=10,SNR=6.5							
MKAR	**Makanchi Array**	**41.04**	**314**	P	**P**	**05 30 46.2**	**+0.4**
ZAL	**Zalesovo**	**42.25**	**325**	P	**P**	**05 30 55.9**	**+0.2**
0.8nm,0.4s,mb3.7,baz=128,slow=19,SNR=3.2							
YKA	**Yellowknife Ar**	**80.79**	**24**	P	**P**	**05 35 22.3**	**+6.7**
0.3nm,0.7s,mb3.4,baz=304,slow=5.4,SNR=5.3							

*ISCJB **06** 05:32:54.3±0.4, 2119N±005×144.19E±007, h27km, mb4.4/37, MS3.8/14, Error ellipse: s-maj=9.6km s-min=6.7km az=135.4*
*BJI **06** 05:32:54.9, 2125N×14405E, h23km, mB4.9, mb4.7, Ms4.6, Msz4.2*
*MOS **06** 05:32:55.1±1.3, 2128N×14402E, h33km, mb4.8/13, Error ellipse: s-maj=19.2km s-min=9.0km az=100.3*
*NEIC **06** 05:32:55.9±0.3, 2115N×144.11E, mb4.7/10, Error ellipse: s-maj=12.0km s-min=7.1km az=97.0*
*IDC **06** 05:33:01.0±3.7, 2113N×14421E, h75km±33km, mb3.9/12, mb1 4.0/14, mb1mx3.9/22, mbtmp4.2/14, MS3.6/14, Ms1 3.7/14, ms1mx3.5/24, Error ellipse: s-maj=23.5km s-min=14.1km az=89.0*
ISC 06 05:32:56.3±0.4, 2118N±005×14417E±007, h29km, h29km±1.1km: pP-P, n71, σ1§13/69, mb4.4/37, MS3.8/14, 6C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.16**	**343**	P	**Pn**	**05 34 29.8**	**+4.4**
5.4nm,0.3s,baz=285,slow=23,SNR=3.2							
CBIJ				S	**Sn**	**05 35 35.3**	**+0.5**
11nm,0.3s,baz=144,slow=23,SNR=5.5							
GUMO	**Guam**	**7.58**	**175**	LR	LR	05 37 13.3	
comp=Z,358nm,19.3s,baz=36,slow=34							
JOW	**Kunigami**	**15.57**	**294**	LR	LR	05 41 54.4	
comp=Z,120nm,18.6s,baz=288,slow=34							
MJAR	**Matsushiro Arr**	**16.16**	**343**	P	**Pn**	**05 36 45.2**	**+3.8**
0.7nm,0.3s,baz=176,slow=10,SNR=4.7							
MJAR				LR	LR	05 42 35.2	
comp=Z,164nm,20.7s,baz=205,slow=36							
JNU	**Nakatsue**	**16.75**	**318**	P	**Pn**	**05 36 53.9**	**+5.0**
1.5nm,0.3s,baz=49,slow=2.3,SNR=3.8							
SSE	**Sheshan**	**22.84**	**300**	P	**P**	**05 37 55.8**	**-1.2**
SSE				AP		05 38 04.2	
SSE				XP	sP	05 38 08.2	-0.2
SSE				S	**S**	**05 42 02.9**	**-1.8**
SSE				XS	sS	05 42 17.1	-1.0
SSE				AMB	AMB		
comp=Z,30nm,0.7s,mb4.8							
SSE				AMB	AMB		
comp=Z,80nm,3.8s							
ASAJ	**Asahikawa**	**22.91**	**357**	LR	LR	05 46 37.3	
comp=Z,116nm,19.7s,MS3.3,baz=343,slow=36							
NJ2	**Nanjing**	**25.03**	**301**	*e*P	**P**	**05 38 19.4**	**+1.5**
NJ2				AP	pP	05 38 26.4	+0.2
NJ2				XP	sP	05 38 29.9	+0.2
NJ2				PP		05 38 57.1	
NJ2				S	**S**	**05 42 39.0**	**-1.2**
NJ2				XS	sS	05 42 50.0	-3.9
NJ2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5							
NJ2				AMB	AMB		
comp=Z,470nm,3.9s							
NJ2				LR	LR		
comp=N,880nm,31.9s							
NJ2				LR	LR		
comp=E,260nm,16.5s							
NJ2				LR	LR		
comp=Z,370nm,31.5s,MS3.7							
MDJ	**Mudanjiang**	**26.30**	**336**	P	**P**	**05 38 30.6**	**+1.2**
MDJ				AMB	AMB		
comp=Z,9.0nm,2.6s,mb3.8							
MDJ				AMB	AMB		
comp=Z,97nm,3.4s							
CN2	**Changchun**	**27.41**	**330**	*e*P	**P**	**05 38 41.6**	**+2.2**
HABR	**Khabarovsk**	**28.20**	**347**	*e*P	**P**	**05 38 43.7**	**-2.7**
HABR				*e*S	**S**	**05 43 26.7**	**-3.5**
KLR	**Kul'dur**	**29.69**	**343**	*e*P	**P**	**05 38 57.2**	**-2.5**
BJI	**Beijing**	**30.37**	**315**	P	**P**	**05 39 06.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**33.86**	**313**	*e*P	**P**	**05 39 37.4**	**+1.1**
HHC				AP	pP	05 39 44.6	-0.1
HHC				XP	sP	05 39 48.1	-0.1
HHC				PP	PP	05 40 50.3	-2.8
HHC				PCP	PcP	05 42 16.5	+1.8
HHC				S	**S**	**05 44 59.9**	**+1.2**
HHC				XS	sS	05 45 10.8	-1.8
HHC				SS	SS	05 47 04.8	-21
HHC				AMB	AMB		
comp=Z,5.0nm,0.3s,mb4.9							
HHC				AMB	AMB		
comp=Z,33nm,4.5s							
HHC				LR	LR		
comp=N,81nm,4.7s							
HHC				LR	LR		
comp=E,192nm,5.3s							
HHC				LR	LR		
comp=Z,108nm,5.1s							
HNR	**Honiara**	**34.14**	**151**	LR	LR	05 51 33.1	
comp=Z,68nm,19.7s,MS3.4,baz=357,slow=33							
CD2	**Chengdu**	**37.41**	**293**	*e*P	**P**	**05 40 06.5**	**-0.2**
CD2				AP	pP	05 40 13.8	-1.4
CD2				PP	PP	05 41 33.8	+1.5
CD2				S	**S**	**05 45 51.4**	**-1.8**
CD2				SS	SS	05 48 22.5	-15
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
CD2				AMB	AMB		
comp=Z,60nm,5.3s							
LZH	**Lanzhou**	**38.10**	**302**	*e*P	**P**	**05 40 12.2**	**-0.4**
LZH				AP	pP	05 40 22.0	+0.9
LZH				XP	sP	05 40 26.5	+2.0
LZH				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.5							
KMI	**Kunming**	**38.19**	**284**	P	**P**	**05 40 15.1**	**+1.7**
KMI				AMB	AMB		
comp=Z,13nm,0.6s,mb4.8							
MA2	**Magadan**	**38.64**	**5**⇑	*e*P	**P**	**05 40 14.0**	**-3.2**
MA2				pmax	pmax		
comp=Z,20nm,1.7s,mb4.6							
ULN	**Ulaanbaatar**	**39.94**	**321**⇑	*e*P	**P**	**05 40 23.7**	**-4.3**
SONM	**Songino Array**	**40.32**	**320**	P	**P**	**05 40 30.8**	**-0.3**
comp=Z,0.5nm,0.4s,mb3.6,baz=124,slow=6.9,SNR=4.1							
CTA	**Charters Tower**	**41.07**	**177**	LR	LR	05 57 52.9	
comp=Z,61nm,18.3s,MS3.5,baz=229,slow=36							
CTAO	**Charters Tower**	**41.07**	**177**	P	**P**	**05 40 37.5**	**+0.2**
comp=Z,2.5nm,0.7s,mb4.0							
CTAO				pP	pP	05 40 47.1	+1.3
CTAO	**Charters Tower**	**41.07**	**177**	P	**P**	**05 40 37.6**	**+0.3**
CTAO				*PP	pP	05 40 47.1	+1.3
CTAO				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.0							
GTA	**Gaotai**	**41.92**	**306**	*e*P	**P**	**05 40 45.5**	**+1.2**
GTA				AP	pP	05 40 52.6	-0.2
GTA				XP	sP	05 40 56.6	+0.3
GTA				PP	PP	05 42 27.1	+5.6
GTA				S	**S**	**05 47 03.7**	**+2.9**
GTA				XS	sS	05 47 20.3	+5.4
GTA				SS	SS	05 50 06.1	-1.8
GTA				AMB	AMB		
comp=Z,3.0nm,1.0s,mb3.9							
GTA				AMB	AMB		
comp=Z,74nm,6.5s							
GTA				LR	LR		
comp=N,126nm,14.8s,MS4.0							
GTA				LR	LR		
comp=E,145nm,19.4s,MS4.0							
GTA				LR	LR		
comp=Z,59nm,11.4s							
WRAB	**Tennant Creek**	**41.98**	**194**	*e*P	**P**	**05 40 44.4**	**-0.3**
comp=Z,14nm,0.9s,mb4.6							
WRAB				*e*pP	pP	05 40 53.7	+0.4
WRAB	**Tennant Creek**	**41.98**	**194**	*e*P	**P**	**05 40 44.4**	**-0.4**
WRAB				*e*PP	pP	05 40 53.7	+0.4
WRAB				pmax	pmax		
comp=Z,14nm,0.9s,mb4.6							
WB2	**Warramunga Arr**	**41.99**	**194**	*e*P	**P**	**05 40 45.0**	**+0.2**
WRA	**Warramunga Arr**	**41.99**	**194**	P	**P**	**05 40 44.6**	**-0.3**
comp=Z,11nm,1.0s,mb4.4,baz=13,slow=8.8,SNR=31							
YAK	**Yakutsk**	**42.03**	**350**⇑	*e*P	**P**	**05 40 43.7**	**-1.5**
YAK				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.6							
SEY	**Seymchan**	**42.10**	**6**⇑	*i*P	**P**	**05 40 43.0**	**-2.8**
ZAK	**Zakamensk**	**43.31**	**322**	*e*P	**P**	**05 40 55.2**	**-0.4**
ZAK				pmax	pmax		
comp=Z,8.0nm,1.9s,mb4.1							
ASAR	**Alice Springs**	**45.69**	**193**	P	**P**	**05 41 14.8**	**+0.3**
comp=Z,3.1nm,0.7s,mb4.3,baz=10,slow=8.3,S

MKAR				LR	LR	06 09 05.9	
MKAR	**Makanchi Array**	**55.72**	**313**	P	**P**	**05 42 30.7**	**+0.5**
MKAR						05 43 29.3	
KURK	**Kurchatov**	**58.48**	**317**	*e*P	**P**	**05 42 48.9**	**-0.8**
	comp=Z,7.3nm,0.9s,mb4.7						
KURK				*e*pP	pP	05 42 57.0	-1.5
KURK	**Kurchatov**	**58.48**	**317**	*e*P	**P**	**05 42 48.9**	**-0.8**
KURK				*e**PP	pP	05 42 57.0	-1.5
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**61.21**	**308**	*d i*P	**P**	**05 43 08.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.4						
ILAR	**Eielson Array**	**62.08**	**27**	P	**P**	**05 43 13.3**	**-1.0**
	comp=Z,2.0nm,0.9s,mb4.3,baz=257,slow=5.8,SNR=22						
ILAR				LR	LR	06 07 08.2	
	comp=Z,62nm,19.8s,MS3.8,baz=0.4,slow=33						
BVAR	**Borovoye Array**	**63.66**	**320**	P	**P**	**05 43 24.9**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.6,baz=92,slow=7.4,SNR=21						
INK	**Inuvik**	**67.67**	**23**	*e*P	**P**	**05 43 50.1**	**-0.6**
	comp=Z,4.7nm,1.0s,mb4.5						
INK				*e*pP	pP	05 43 58.4	-1.3
INK				*e*sP	sP	05 44 03.0	0.0
INK				PP	PP	05 46 18.1	-2.0
INK	**Inuvik**	**67.67**	**23**	*e*P	**P**	**05 43 50.1**	**-0.6**
INK				*e**PP	pP	05 43 58.4	-1.3
INK				*e**SP	sP	05 44 03.0	-0.1
INK						05 46 18.1	
INK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YKA	**Yellowknife Ar**	**76.48**	**28**	P	**P**	**05 44 42.8**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=293,slow=5.6,SNR=11						
YKA				LR	LR	06 16 25.0	
	comp=Z,50nm,19.0s,MS3.8,baz=215,slow=34						
BMO	**Blue Mountains**	**81.13**	**45**	*e*P	**P**	**05 45 09.7**	**+0.7**
	comp=Z,5.2nm,1.5s,mb4.2						
BMO				*e*pP	pP	05 45 19.2	+1.0
BMO				*e*sP	sP	05 45 21.5	+0.1
BMO	**Blue Mountains**	**81.13**	**45**	*e*P	**P**	**05 45 09.7**	**+0.7**
BMO				*e**PP	pP	05 45 19.2	+1.0
BMO				*e**SP	sP	05 45 21.5	0.0
BMO				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
CMB	**Columbia Colle**	**81.34**	**53**	*e*P	**P**	**05 45 11.0**	**+0.8**
	comp=Z,48nm,2.0s,mb5.1						
CMB				pP	pP	05 45 19.4	+0.1
CMB	**Columbia Colle**	**81.34**	**53**	*e*P	**P**	**05 45 11.0**	**+0.9**
CMB				*PP	pP	05 45 19.4	+0.1
CMB				pmax	pmax		
	comp=Z,48nm,2.0s,mb5.1						
OBN	**Obninsk**	**82.42**	**326**	P	**P**	**05 45 16.0**	**+0.2**
NVAR	**Mina Array Bea**	**82.74**	**52**	P	**P**	**05 45 18.7**	**+1.2**
	comp=Z,2.2nm,0.9s,mb4.2,baz=274,slow=6.8,SNR=9.8						
NVAR				LR	LR	06 13 36.0	
	comp=Z,49nm,21.4s,MS3.8,baz=0.0,slow=29						
ZEI	**Tsey**	**83.08**	**313**	*e*P	**P**	**05 45 18.6**	**-0.6**
KIV	**Kislovodsk**	**83.44**	**315**	*e*P	**P**	**05 45 22.3**	**+1.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
FINES	**FINESS Array B**	**84.04**	**335**	P	**P**	**05 45 22.7**	**-1.5**
	comp=Z,0.9nm,0.3s,mb4.3,baz=64,slow=4.7,SNR=20						
FINES				LR	LR	06 27 12.3	
	comp=Z,31nm,19.2s,MS3.7,baz=337,slow=39						
ELK	**Elko**	**84.07**	**49**	*e*P	**P**	**05 45 25.0**	**+0.7**
	comp=Z,13nm,1.7s,mb4.8						
ELK				*e*pP	pP	05 45 33.8	+0.3
ELK	**Elko**	**84.07**	**49**	*e*P	**P**	**05 45 25.0**	**+0.7**
ELK				*e**PP	pP	05 45 33.8	+0.3
ELK				pmax	pmax		
	comp=Z,13nm,1.7s						
DUG	**Dugway**	**85.99**	**48**	*e*P	**P**	**05 45 34.8**	**+0.9**
	comp=Z,10.0nm,1.3s,mb4.9						
DUG				pP	pP	05 45 41.6	-1.6
DUG	**Dugway**	**85.99**	**48**	*e*P	**P**	**05 45 34.8**	**+0.9**
DUG				*PP	pP	05 45 41.6	-1.5
DUG				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.9						
HWUT	**Hardware Ranch**	**86.26**	**47**	*e*P	**P**	**05 45 36.1**	**+0.8**
	comp=Z,4.8nm,1.1s,mb4.6						
HWUT				*e*pP	pP	05 45 45.3	+0.8
HWUT				*e*sP	sP	05 45 49.4	+1.6
PDAR	**Pinedale Array**	**87.11**	**45**	P	**P**	**05 45 39.7**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.9,baz=208,slow=2.9,SNR=4.7						
PDAR				LR	LR	06 22 54.1	
	comp=Z,80nm,18.1s,MS4.2,baz=140,slow=34						
NOA	**NORSAR Array B**	**89.75**	**339**	LR	LR	06 28 03.4	
	comp=Z,26nm,20.1s,MS3.7,baz=50,slow=37						
ULM	**Lac du Bonnet**	**91.36**	**34**	LR	LR	06 22 48.5	
	comp=Z,81nm,19.6s,MS4.2,baz=247,slow=33						
PLCA	**Paso Flores**	**144.73**	**131**	PKP	PKPdf	05 52 29.6	-0.7
	comp=Z,5.0nm,1.1s,baz=247,slow=5.0,SNR=6.0						
LPAZ	**La Paz**	**149.06**	**86**	PKPbc	PKPbc	05 52 39.4	-2.3
	comp=Z,1.8nm,0.8s,baz=334,slow=4.4,SNR=7.9						

*CSEM **06** 06:11:28.0±0.6, 3776N×2546W, h2km±2km, ML2.4, Error ellipse: s-maj=1.0km s-min=0.8km az=17.0, After PDA*
*PDA **06** 06:11:28.0±0.6, 3776N×2546W, h2km±2km, MD2.8, ML2.4, Error ellipse: s-maj=1.0km s-min=0.8km az=17.0*

SVSA 06 06:11:28.0±0.6, 3776N×2546W, h2km±2km, MD2.8, ML2.4, Error ellipse: s-maj=1.0km s-min=0.8km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**138**	*e*P	Pg	06 11 28.9	+0.4
LFA	**Lagoa do Fogo**	**0.03**	**302**	*i* P	Pg	06 11 29.0	+0.4
MESC	**Monte Escuro**	**0.04**	**14**	*i* P	Pg	06 11 29.0	+0.2
PRCH	**Ribeira Ch**	**0.04**	**212**	*i* P	Pg	06 11 29.0	+0.2
PCNG	**Congro**	**0.05**	**80**	*i* P	Pg	06 11 29.4	+0.4
PCNG				*e*S	Sg	06 11 30.4	+0.7
PCNG	**Congro**	**0.05**	**80**	*e*S	Sg	06 11 30.4	+0.7
PMAT	**Coroa da Mata**	**0.06**	**348**	*e*P	Pg	06 11 29.4	+0.2
PMAT				*e*S	Sg	06 11 30.6	+0.6
PMAT							
	224nm,0.2s						
PMAT	**Coroa da Mata**	**0.06**	**348**	*e*P	Pg	06 11 29.4	+0.2
PMAT				*e*S	Sg	06 11 30.6	+0.6
PVER	**Pico Vermelho**	**0.06**	**310**	*e*P	Pg	06 11 29.3	+0.1
PVER				*e*S	Sg	06 11 30.4	+0.4
PVER							
	2μm,0.2s						
PVER	**Pico Vermelho**	**0.06**	**310**	*e*P	Pg	06 11 29.3	+0.1
PVER				*e*S	Sg	06 11 30.4	+0.4
CML	**Cha da Macela**	**0.07**	**279**	*i* P	Pg	06 11 29.7	+0.3
FRA1	**Furnas**	**0.08**	**101**	*i* P	Pg	06 11 30.0	+0.4
PFAD	**Fenais da Ajud**	**0.13**	**53**	*i* P	Pg	06 11 31.0	+0.4
MIRA	**Miradouro**	**0.14**	**79**	*e*P	Pg	06 11 31.2	+0.4
MIRA				*e*S	Sg	06 11 34.0	+1.4
FAC	**Faja de Cima**	**0.15**	**275**	*e*P	Pg	06 11 31.7	+0.7
PDA	**Ponta Delgada**	**0.17**	**266**	*e*P	Pg	06 11 31.1	-0.1
PDA				*e*S	Sg	06 11 34.1	+0.8
PSAN	**Santo Antonio**	**0.23**	**293**	*e*P	Pg	06 11 32.9	+0.4
PFET	**Feteiras**	**0.27**	**283**	*e*P	Pg	06 11 33.6	+0.4
SET2	**Ginetes**	**0.29**	**287**	*e*P	Pg	06 11 34.1	+0.5
SET4	**Mosteiros**	**0.29**	**293**	*e*P	Pg	06 11 34.2	+0.5
PSMN	**Pico do Norte,**	**0.82**	**157**	*e*P	Pg	06 11 41.8	-1.9
PSMN				*e*S	Sg	06 11 51.9	-2.3

*NEIC **06** 06:54:43.3, 3252N×11557W, h8km, ML3.7(PAS), ML4.4(ECX), After ECX.*
NEIC Felt at Mexicali. Felt [III] at Calexico and [II] at El Centro, California. Also felt at Imperial, California.

ECX 06 06:54:43.3±0.7, 3252N×11558W, h8km, ML4.3, 7C-7D, Fault plane solution: NP1:ϕs105.00000°, δ90.00000°, λ0.00000°., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COK	**Cook Ranch**	**0.35**	**339**	⇓*e*P	Pg	06 54 49.9	-0.3
RMX	**La Rumorosa**	**0.43**	**281**	⇓*i*P	Pg	06 54 50.8	-0.8
RMX				*e*S	Sg	06 54 56.9	-0.3
RMX				⇑*e*		06 54 58.2	
	comp=N,25μm,0.5s						
RMX				⇓*e*		06 54 58.2	
	comp=E,25μm,0.5s						
RMX	**La Rumorosa**	**0.43**	**281**	⇓*i*P	Pg	06 54 50.8	-0.8
RMX				*e*S	Sg	06 54 56.9	-0.3
CRR	**Carrizo Plain**	**0.49**	**318**	⇓*e*P	Pg	06 54 51.9	-0.9
RDX	**Rancho Dowling**	**0.66**	**208**	⇑*i*P	Pg	06 54 54.6	-1.5
RDX				*e*S	Sg	06 55 03.9	-0.9
RDX				⇓*e*		06 55 06.4	
	comp=N,11μm,0.3s						
GLA	**Glamis**	**0.83**	**50**	*e*Pg	Pg	06 54 56.9	-2.3
GLA				*e*Sg	Sg	06 55 07.9	-2.0
BAR	**Barrett**	**0.94**	**280**	*e*Pn	Pn	06 54 59.9	-2.9
BAR				*e*S	Sg	06 55 11.9	-1.6
CBX	**Cerro Bola**	**0.94**	**258**	⇑*i*P	Pg	06 54 59.9	-1.4
CBX				*e*S	Sg	06 55 12.6	-1.0
ENX	**Ensenada**	**1.12**	**236**	⇑*e*P	Pg	06 55 02.9	-1.9
ENX				*e*S	Sg	06 55 19.7	+0.4
ECNX	**Esteban Cantu**	**1.22**	**225**	⇑*i*P	Pb	06 55 04.8	-1.8
ECNX				⇑*i*P		06 55 03.0	
ECNX				*e*S	Sb	06 55 18.2	-4.3
ECNX				*e*S	Sb	06 55 20.9	-1.6
PBX	**Punta Banda**	**1.24**	**232**	⇑*i*P	Pn	06 55 05.1	-1.9
PBX				*e*S	Sb	06 55 21.8	-1.4
PFO	**Pinyon Flat Ob**	**1.31**	**326**	⇓*e*P	Pn	06 55 04.5	-3.4
PFO				*e*Sg	Sg	06 55 20.6	-4.9
SPX	**San Pedro Mart**	**1.47**	**176**	*e*P	Pn	06 55 07.7	-2.4
SPX				*e*S	Sn	06 55 29.1	-0.5
LDFC	**Landfair**	**2.58**	**9**	*e*Pn	Pn	06 55 23.3	-2.0
MWC	**Mount Wilson**	**2.68**	**310**	*e*Pn	Pn	06 55 30.5	+3.8
MWC				*e*Sn	Sn	06 56 04.7	+5.3
NEN	**Nelson**	**3.18**	**11**	*e*Pn	Pn	06 55 31.5	-2.1
ISA	**Isabella**	**3.95**	**323**	*e*Pn	Pn	06 55 41.8	-2.4
TUC	**Tucson**	**4.06**	**92**	*e*Pn	Pn	06 55 42.3	-3.4
DAC	**Darwin (Calif)**	**4.10**	**337**	*e*Pn	Pn	06 55 44.3	-2.0
WUAZ	**Wupatki**	**4.60**	**48**	*e*Pn	Pn	06 55 52.4	-0.7
WUAZ				*e*S	Sn	06 56 55.9	+9.2

*MOS **06** 07:15:06.2±0.6, 5602N×16399E, h5km, mb4.4/1, Error ellipse: s-maj=27.8km s-min=18.3km az=53.6*

KRSC 06 07:15:04.8±1.0, 5620N×16438E, h27km±3km, ML4.4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.87**	**271**	P	Pn	07 15 20.3	-1.0
KBTR				S	Sb	07 15 29.9	-2.7
KBTR	**Krutoberegovo**	**0.87**	**271**	*i* P	Pn	07 15 20.4	-0.9
KBTR				*i* S	Sb	07 15 32.1	-0.5
KBG	**Krutoberegovo**	**0.94**	**274**	*i* P	Pn	07 15 21.5	-0.7
KBG				*i* S	Sb	07 15 34.3	-0.1
KBG				Smax			
	9μm,0.5s						
BKI	**Bering**	**1.34**	**137**	*i* P	Pn	07 15 27.0	-0.8
BKI				*i* S	Sn	07 15 43.2	-1.6
BKI				Smax			
	760nm,1.3s						
SMKR	**Semkarok**	**1.66**	**285**	*i* P	Pn	07 15 33.4	+1.2
SMKR				*i* S	Sn	07 15 54.5	+1.9
BDR	**Baidarnaya**	**1.80**	**283**	*i* P	Pn	07 15 35.7	+1.6
BDR				*i* S	Sn	07 15 57.5	+1.5
SRKR	**Sorokina**	**1.84**	**286**	*i* P	Pn	07 15 36.1	+1.5
SRKR				*e*S	Sn	07 15 58.5	+1.5
ZLN	**Zelenaya**	**2.01**	**266**	*i* P	Pn	07 15 39.1	+2.1
CIRR	**Tsirk**	**2.03**	**269**	*i* P	Pn	07 15 39.3	+2.0
LGNR	**Loginova**	**2.07**	**268**	*i* P	Pn	07 15 39.8	+2.1
LGNR				*e*S	Sn	07 16 03.7	+1.1
KLY	**Klyuchi**	**2.08**	**275**	P	Pn	07 15 38.1	+0.2
KLY				S	Sn	07 16 01.6	-1.4
KLY	**Klyuchi**	**2.08**	**275**	*i* P	Pn	07 15 38.0	+0.1
KLY				*e*S	Sn	07 16 00.4	-2.6
KRSR	**Krestovskiy**	**2.13**	**272**	*i* P	Pn	07 15 40.2	+1.6
KRSR				*e*S	Sn	07 16 04.9	+0.7
MKZ	**Mys Kozlova**	**2.24**	**224**	P	Pn	07 15 40.4	+0.4
MKZ				S	Sn	07 16 04.9	-1.9
MKZ	**Mys Kozlova**	**2.24**	**224**	*i* P	Pn	07 15 40.3	+0.3
MKZ				*i* S	Sn	07 16 06.4	-0.4
KPT	**Kopyto**	**2.34**	**266**	*i* P	Pn	07 15 44.0	+2.5
KPT				*e*S	Sn	07 16 11.7	+2.3
KOZR	**Kozyr**	**2.51**	**269**	PN	Pn	07 15 46.6	+2.7
KOZR				S	Sn	07 16 16.3	+2.7
KOZ	**Kozyrevsk**	**2.53**	**269**	P	Pn	07 15 46.6	+2.6
KOZ				S	Sn	07 16 16.3	+2.4
KOZ	**Kozyrevsk**	**2.53**	**269**	*i* P	Pn	07 15 46.5	+2.5
TUMR	**Tumrok**	**2.56**	**251**	*i* P	Pn	07 15 46.9	+2.3
SRDR	**Sredinnyy**	**2.60**	**275**	*e*P	Pn	07 15 47.7	+2.6
OSSR	**Ossora**	**3.14**	**348**	*i* P	Pn	07 15 50.7	-1.8
OSSR				Smax			
	150nm,0.5s						
ESO	**Esso**	**3.20**	**267**	*i* P	Pn	07 15 55.2	+1.9
ESO				Smax			
	130nm,0.7s						
NLC	**Nalytchevo**	**4.21**	**226**	P	Pn	07 16 08.0	+0.8
NLC				S	Sn	07 16 52.9	-2.6
NLC	**Nalytchevo**	**4.21**	**226**	*i* P	Pn	07 16 08.0	+0.8
NLC				*e*S	Sn	07 16 54.9	-0.6
SMAR	**Somma**	**4.37**	**230**	*i* P	Pn	07 16 11.5	+2.1
AVH	**Avacha**	**4.40**	**230**	*e*P	Pn	07 16 12.1	+2.3
UGLR	**Uglovaya**	**4.40**	**229**	*e*P	Pn	07 16 11.8	+2.0
KOK	**Koryaka**	**4.42**	**231**	*e*P	Pn	07 16 12.4	+2.3
GNL	**Ganaly**	**4.48**	**239**	*i* P	Pn	07 16 13.4	+2.5
PET	**Petropavlovsk**	**4.61**	**229**	*e*S	Sn	07 17 04.5	-0.7
PET	**Petropavlovsk**	**4.61**	**229**	*e*PN	Pn	07 16 14.9	+2.3
PET				pmax	pmax		
	comp=Z,25nm,0.6s						
PET				MLR	MLR		
	comp=E,100nm,12.0s						
PET				MLR	MLR		
	comp=Z,100nm,12.0s						
RUS	**Russkaya**	**5.10**	**225**	P	Pn	07 16 20.5	+1.1
RUS				S	Sn	07 17 14.4	-3.0
RUS	**Russkaya**	**5.10**	**225**	*e*P	Pn	07 16 20.6	+1.2
RUS				*e*S	Sn	07 17 15.4	-2.0
GRL	**Gorelyy**	**5.19**	**228**	*i* P	Pn	07 16 23.8	+3.1
APC	**Apacha**	**5.33**	**235**	*e*P	Pn	07 16 24.0	+1.4
APC				Smax			
	comp=Z,10.0nm,0.6s						
MIPR	**Malaya Ipel'ka**	**5.95**	**232**	*i* P	Pn	07 16 34.2	+3.1
KAMR	**Kamenskoye**	**6.34**	**8**	*i* P	Pn	07 16 38.7	+2.2
KAMR				*i* S	Sn	07 17 47.7	-0.4
KAMR				Smax			
	comp=Z,50nm,1.2s						

MAN 06 07:25:14.4, 1358N×12013E, h32km, mb2.1, ML3.8, MS2.6, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.19**	**37**	*e*P	Pb	07 25 22.4	+1.7
LUBP				*e*S	Sb	07 25 27.5	+2.4
PGP	**Puerto Galera**	**0.81**	**96**	*e*P	Pn	07 25 29.5	0.0
LBPH	**Los Banos**	**1.17**	**61**	*e*P	Pn	07 25 40.4	+5.9
NBP	**Mount Natib**	**1.19**	**14**	⇓*e*P	Pn	07 25 34.4	-0.3
ARP	**Angono**	**1.38**	**46**	*e*P	Pn	07 25 38.6	+1.3
QVPH	**Quezon City--P**	**1.39**	**40**	⇑*e*P	Pn	07 25 41.8	+4.2
BUSP	**Coron**	**1.57**	**178**	*e*P	Pn	07 25 40.4	+0.3
BUSP				*e*S	Sn	07 25 57.9	-1.4
BOAC	**Boac**	**1.67**	**94**	*e*P	Pn	07 25 45.2	+3.8

IDC 06 07:29:55.0±4.1, 1741S×17729W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.7/4, Error ellipse: s-maj=182.4km s-min=31.3km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.81**	**241**	P	P	07 37 30.1	+0.3
	1.8nm,0.6s,baz=101,slow=13,SNR=6.3						
WRA	**Warramunga Arr**	**45.78**	**259**	P	P	07 38 18.5	+0.2
	0.4nm,0.4s,baz=95,slow=7.0,SNR=22						
ASAR	**Alice Springs**	**45.96**	**254**	P	P	07 38 20.1	+0.4
	1.1nm,0.7s,baz=87,slow=9.1,SNR=15						
ILAR	**Eielson Array**	**85.17**	**13**	P	P	07 42 32.8	-0.4
	0.2nm,0.4s,baz=220,slow=5.0,SNR=12						

IDC 06 08:01:52.8±8.7, 057N×10290E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=538.3km s-min=26.3km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.94**	**125**	P	P	08 09 04.3	+0.8
	0.1nm,0.3s,baz=309,slow=8.6,SNR=4.8						
ASAR	**Alice Springs**	**38.57**	**131**	P	P	08 09 17.2	0.0
	0.1nm,0.3s,baz=303,slow=7.4,SNR=4.5						
MKAR	**Makanchi Array**	**49.44**	**341**	P	P	08 10 44.5	0.0
	0.6nm,0.3s,baz=150,slow=8.8,SNR=23						

*NIED **06** 08:21:00, 3370N×14130E, h62km, Mw3.7 Best double couple: Mo3.50000×10^14 NP1:ϕs331.00000°, δ84.00000°, λ13.00000°. NP2:ϕs240.00000°, δ77.00000°, λ174.00000°.*
*ISCJB **06** 08:21:48.6±0.8, 3370N±004×14129E±009, h73km±10km, mb3.8/2, Error ellipse: s-maj=11.9km s-min=6.6km az=1.6*
*JMA **06** 08:21:49.2±0.2, 3372N×14127E, h69km±3km, M3.8*
*IDC **06** 08:21:49.5±2.5, 3369N×14134E, h55km±26km, mb3.4/2, mb1 3.9/5, mb1mx3.4/21, mbtmp4.0/5, ML4.2/3, Error ellipse: s-maj=23.2km s-min=11.2km az=101.0*

ISC 06 08:21:49.7±0.8, 3369N±004×14130E±008, h57km±12km, n18, σ0§66/27, mb3.7/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.99**	**345**	P	**Pn**	**08 22 07.2**	**-0.3**
BSO1				S	**Sn**	**08 22 21.3**	**+0.6**
BSO3	**Boso 3**	**1.28**	**330**	P	**Pn**	**08 22 11.4**	**0.0**
BSO3				S	**Sn**	**08 22 27.5**	**-0.1**
JHJ2	**Mitsune**	**1.37**	**245**	P	**Pn**	**08 22 12.8**	**+0.3**
JHJ2				S	**Sn**	**08 22 29.8**	**+0.2**
JHJ	**Hachijo jima 2**	**1.39**	**246**	P	**Pn**	**08 22 12.9**	**+0.2**
	114nm,0.3s,baz=70,slow=16,SNR=46						
JHJ				S	**Sn**	**08 22 29.8**	**-0.4**
	519nm,0.3s,baz=234,slow=22,SNR=49						
BSO4	**Boso 4**	**1.52**	**329**	P	**Pn**	**08 22 15.2**	**+0.7**
JIM2	**Oshima 3**	**1.85**	**304**	P	**Pn**	**08 22 18.7**	**-0.4**
JIM2				S	**Sn**	**08 22 40.6**	**-0.8**
JKO	**Kozu shima**	**1.86**	**286**	P	**Pn**	**08 22 19.2**	**0.0**
JIZS	**Izushimoda**	**2.25**	**298**	P	**Pn**	**08 22 24.7**	**+0.2**
JOD2	**Odawara 2**	**2.41**	**311**	P	**Pn**	**08 22 26.3**	**-0.3**
JOD2				S	**Sn**	**08 22 53.9**	**-1.0**
JYT	**Yasato**	**2.69**	**341**	P	**Pn**	**08 22 30.8**	**+0.4**
JHU	**Hanno**	**2.72**	**323**	P	**Pn**	**08 22 31.1**	**+0.2**
JHU				S	**Sn**	**08 23 01.7**	**-0.9**
JYN	**Shimob**	**2.90**	**309**	P	**Pn**	**08 22 34.2**	**+0.9**
MJAR	**Matsushiro Arr**	**3.81**	**319**	P	**Pn**	**08 22 47.0**	**+1.3**
	7.9nm,0.3s,baz=155,slow=12,SNR=27						
MJAR				S	**Sn**	**08 23 29.3**	**0.0**
	5.7nm,0.3s,baz=188,slow=31,SNR=8.4						
MAT	**Matsushiro**	**3.81**	**319**	P	**Pn**	**08 22 46.9**	**+1.1**
MAT				S	**Sn**	**08 23 29.7**	**+0.4**
CBIJ	**Chichi jima**	**6.62**	**173**	P	**Pn**	**08 23 23.5**	**-0.8**
	25nm,0.3s,baz=329,slow=18,SNR=18						
ASAJ	**Asahikawa**	**10.46**	**5**	P	**Pn**	**08 24 14.9**	**-1.9**
	1.4nm,0.3s,baz=262,slow=30,SNR=4.7						
WRA	**Warramunga Arr**	**53.74**	**188**	P	**P**	**08 31 05.9**	**-0.1**
	0.4nm,0.3s,mb3.9,baz=6.7,slow=7.7,SNR=35						
ASAR	**Alice Springs**	**57.47**	**188**	P	**P**	**08 31 33.1**	**+0.3**
	0.2nm,0.3s,mb3.6,baz=4.8,slow=6.6,SNR=8.6						

*ISCJB **06** 08:32:32.8±0.4, 4258N±002×4346E±004, h13km, Error ellipse: s-maj=4.1km s-min=2.9km az=159.0*
*TIF **06** 08:32:32.2, 4255N×4350E, h13km±1km*
*CSEM **06** 08:32:34.3±0.3, 4265N×4369E, h17km, ML3.7/2, Error ellipse: s-maj=5.2km s-min=2.9km az=47.0, After OBN*
*MOS **06** 08:32:34.3±1.0, 4265N×4369E, h17km, mb3.9/1, Error ellipse: s-maj=18.2km s-min=9.3km az=90.4*

ISC 06 08:32:33.1±0.4, 4255N±002×4349E±004, h13km, n17, σ0§91/34, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**316**	P	**Pg**	**08 32 35.1**	**-0.3**
ONI				S	**Sg**	**08 32 36.6**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.35**	**11**	*i* PG	**Pg**	**08 32 39.8**	**-0.4**
DIGR				*i* S	**Sg**	**08 32 45.0**	**0.0**
ZEI	**Tsey**	**0.37**	**54**	*i* PG	**Pg**	**08 32 40.9**	**+0.4**
ZEI				*i* S	**Sg**	**08 32 46.8**	**+1.2**
LACR	**Lac**	**0.66**	**65**	*i* PG	**Pg**	**08 32 45.7**	**-0.1**
LACR				*i* S	**Sg**	**08 32 55.1**	**+0.6**
KORR	**Kora**	**0.68**	**38**	*e*PG	**Pg**	**08 32 45.7**	**-0.7**
KORR				*e*S	**Sg**	**08 32 55.1**	**-0.3**
LSNR	**Lesken**	**0.76**	**18**	*e*PG	**Pg**	**08 32 46.8**	**-1.0**
LSNR				*i* S	**Sg**	**08 32 56.9**	**-0.9**
BKR	**Bakuriani**	**0.82**	**179**	P	**Pg**	**08 32 48.3**	**-0.6**
BKR				S	**Sg**	**08 32 59.9**	**+0.3**
ARNR	**Ardon**	**0.86**	**42**	*e*PG	**Pg**	**08 32 48.6**	**-1.1**
ARNR				*e*S	**Sg**	**08 33 00.4**	**-0.6**
DUS	**Dusheti**	**1.01**	**117**	P	**Pb**	**08 32 52.0**	**-0.4**
DUS				S	**Sb**	**08 33 06.2**	**+0.5**
AKH	**Akhalkalaki**	**1.14**	**180**	P	**Pb**	**08 32 53.8**	**-0.9**
AKH				S	**Sb**	**08 33 09.3**	**-0.1**
TBLG	**Delisi**	**1.24**	**131**	P	**Pn**	**08 32 56.0**	**-0.1**
TBLG				S	**Sb**	**08 33 12.4**	**+0.2**
TBLG	**Delisi**	**1.24**	**131**	*e*PG	**Pg**	**08 32 56.0**	**-0.9**
TBLG				*e*S	**Sb**	**08 33 13.4**	**+1.1**
MTA	**Mtatsminda**	**1.30**	**131**	P	**Pn**	**08 32 57.5**	**+0.6**
MTA				S	**Sb**	**08 33 13.9**	**0.0**
SHAR	**Shatzhatmas**	**1.33**	**334**	PG	**Pg**	**08 32 58.5**	**-0.2**
SHAR				S	**Sb**	**08 33 16.5**	**+1.6**

CRIN eS Sg 09 16 27.2 +2.9
BLLM Bellamira 0.72 295⇑ eP Pg 09 16 39.7 +23
BLLM eS Sg 09 16 50.6 +25
VSM San Miguel 0.75 293⇓ eP Pg 09 16 40.6 +23
VSM eS Sg 09 16 52.8 +26
TELN Telica 0.89 127⇑ eP Pg 09 16 19.8 -0.2
TELN eS Sg 09 16 33.7 +2.2
TEL3 Telica 3 0.90 129⇓ eP Pg 09 16 19.7 -0.5
TEL3 eS Sg 09 16 33.6 +1.8
comp=Z,585nm,0.5s
LEON Leon 0.97 138 eP Pg 09 16 20.3 -1.2
LEON eS Sg 09 16 34.8 +0.6
CNGN Cerro Negro 1.06 127 eP Pg 09 16 22.5 -0.7
CNGN eS Sg 09 16 37.6 +0.7
MIRN Miramar 1.08 130⇑ eP Pg 09 16 22.7 -1.0
MIRN eS Sg 09 16 38.0 +0.2
MOMJ Momotombo 1.24 126 eP Pg 09 16 26.8 +0.2
SNVI San Vicente 1.33 291⇑ eP Pn 09 16 50.3 +22
SNVI eS Sg 09 17 08.8 +23
COPN Copaltepe 1.35 135⇑ eP Pn 09 16 26.8 -1.6
COPN eS Sg 09 16 45.3 -0.9
LCBS La Ceiba 1.47 291⇑ eP Pn 09 16 52.3 +22
LCBS eS Sb 09 17 13.1 +23
APYN Apoyeque 1.49 127 eP Pn 09 16 29.6 -0.8
APYN eS Sn 09 16 50.8 +0.6
XAVN Gruta Xavier 1.56 129 eP Pn 09 16 31.2 -0.1
XAVN eS Sn 09 16 52.7 +0.8
MGAN Managua 1.62 127 eP Pn 09 16 31.9 -0.3
MGAN eS Sn 09 16 53.7 +0.2
TICN Ticuantepe 1.70 130 eP Pn 09 16 32.2 -1.2
TICN eS Sn 09 16 56.9 +1.3
comp=Z,457nm,0.6s

MAN 06 09:33:13.4, 720N×12679E, h1km, mb3.3, ML4.5, MS6.8, Mindanao

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*IDC **06** 09:42:40.7±7.0, 268S×7797W, h82km±61km, mb3.4/6, mb1 3.7/7, mb1mx3.6/18, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=59.8km s-min=23.4km az=49.0*
*IGQ **06** 09:42:50.9, 192S×7781W, h194km±4km, Mb4.3, Ms4.1, Error ellipse: s-maj=6.7km s-min=4.4km az=14.8*
*ISCJB **06** 09:42:52.0±0.6, 208S±006×779W±0.1, h176km±4km, mb3.5/6, Error ellipse: s-maj=18.0km s-min=9.5km az=150.6*
*NEIC **06** 09:42:55.4±0.9, 167S×7769W, h171km±10km, mb4.0/2, MD4.1(IGQ), Error ellipse: s-maj=18.8km s-min=10.7km az=69.0*
ISC 06 09:42:52.3±0.6, 212S±006×777W±01, h166km±5km, n28, σ0§91/31, mb3.5/6, 3C-10D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.95**	**314**	⇑P	**Pn**	**09 43 19.3**	**+1.1**
ULBA				S	**Sn**	**09 43 37.7**	**-0.4**
CUSU	**Cusua**	**1.01**	**312**	⇓P	**Pn**	**09 43 20.0**	**+1.3**
JUIV	**Juive**	**1.01**	**313**	⇓P	**Pn**	**09 43 19.6**	**+0.9**
PISA	**Pisayambo**	**1.25**	**328**	⇓P	**Pn**	**09 43 21.5**	**+0.8**
PISA				S	**Sn**	**09 43 43.3**	**+0.9**
TAMB	**Tambo**	**1.56**	**336**	⇓P	**Pn**	**09 43 23.9**	**+0.3**
VC1	**Cotopaxi 1**	**1.62**	**335**	⇓P	**Pn**	**09 43 24.5**	**+0.2**
CAMI	**Rancho Maria**	**1.63**	**332**	P	**Pn**	**09 43 25.0**	**+0.6**
ANTI	**Antisana**	**1.72**	**345**	⇓P	**Pn**	**09 43 25.3**	**0.0**
ANTI				S	**Sn**	**09 43 51.7**	**+0.9**
LAV3	**Lava3-Reventad**	**2.01**	**3**	⇑P	**Pn**	**09 43 27.9**	**-0.7**
PINO	**Pino**	**2.14**	**336**	⇓P	**Pn**	**09 43 29.6**	**-0.4**
PINO				S	**Sn**	**09 43 57.0**	**-2.1**
CAYR	**Refugio Cayamb**	**2.14**	**352**	⇓P	**Pn**	**09 43 29.9**	**-0.1**
YANA	**Yana**	**2.16**	**337**	⇓P	**Pn**	**09 43 29.6**	**-0.6**
ANGU	**Angureal**	**2.17**	**353**	⇓P	**Pn**	**09 43 30.2**	**-0.2**
OTAV	**Otavalo**	**2.45**	**343**	ePn	**Pn**	**09 43 32.2**	**-1.4**
MAG1	**Magdalena**	**2.89**	**315**	⇑P	**Pn**	**09 43 37.1**	**-1.7**
NNA	**Nana**	**9.84**	**175**	ePn	**Pn**	**09 45 19.7**	**+10**
NNA				eSn	**Sn**	**09 46 57.8**	**-1.3**
SDV	**Santo Domingo**	**13.02**	**33**	P	**Pn**	**09 45 50.4**	**-0.7**
	0.5nm,0.3s,baz=251,slow=6.9,SNR=7.9						
SAML	**Samuel**	**15.98**	**116**	eP	**Pn**	**09 46 32.0**	**+4.1**
	8.2nm,0.6s						
SAML				e		09 46 45.7	
SIV	**San Ignacio**	**21.43**	**131**	P	**P**	**09 47 20.3**	**-6.9**
	1.1nm,0.9s,mb3.2,baz=222,slow=14,SNR=9.5						
WMOK	**Wichita Mounta**	**41.65**	**334**	eP	**P**	**09 50 24.1**	**-0.2**
	1.7nm,0.8s,mb3.7						
PDAR	**Pinedale Array**	**53.11**	**331**	P	**P**	**09 51 53.1**	**+0.5**
	0.4nm,0.6s,mb3.3,baz=123,slow=10.0,SNR=5.7						
NVAR	**Mina Array Bea**	**55.02**	**321**	P	**P**	**09 52 07.3**	**+0.8**
	0.6nm,0.3s,mb3.8,baz=138,slow=8.3,SNR=4.0						
YKA	**Yellowknife Ar**	**70.21**	**343**	P	**P**	**09 53 46.3**	**-0.8**
	0.4nm,0.5s,mb3.4,baz=139,slow=5.8,SNR=13						
YKA	**Yellowknife Ar**	**70.21**	**343**	P	**P**	**09 53 46.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**80.19**	**76**	P	**P**	**09 54 45.5**	**+1.4**
	0.2nm,0.4s,baz=281,slow=5.7,SNR=5.8						
ILAR	**Eielson Array**	**83.16**	**336**	P	**P**	**09 54 59.9**	**+0.2**
	1.1nm,0.8s,mb3.6,baz=128,slow=3.5,SNR=8.8						
ASAR	**Alice Springs**	**139.95**	**228**	PKP	PKPdf	10 01 56.8	-3.9
	0.4nm,0.7s,baz=117,slow=3.9,SNR=4.4						
WRA	**Warramunga Arr**	**141.65**	**234**	PKP	PKPdf	10 02 01.9	-1.9
	0.4nm,0.4s,baz=121,slow=2.3,SNR=8.2						

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*ISCJB **06** 09:49:46.3±0.4, 4038S±007×9196W±009, h10km, mb4.4/17, MS4.3/13, Error ellipse: s-maj=10.4km s-min=9.7km az=169.7*
*BJI **06** 09:49:46.9, 4089S×92.16W, h10km, mB5.5, Ms5.7, Msz5.2*
*IDC **06** 09:49:46.2±1.0, 4042S×9185W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.2/16, mbtmp4.1/9, ML3.6/1, MS4.2/14, Ms1 4.2/14, ms1mx4.1/18, Error ellipse: s-maj=29.2km s-min=23.7km az=141.0*
*NEIC **06** 09:49:48.0±0.4, 4036S×9194W, h10km, mb4.6/13, Error ellipse: s-maj=12.4km s-min=9.7km az=92.0*
ISC 06 09:49:47.7±0.4, 4041S±007×9200W±009, h10km, (h37km±1.0km:pP-P), n56, σ0§90/31, mb4.4/17, MS4.3/13, 3C, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**16.30**	**98**	Pn	**Pn**	**09 53 36.4**	**-0.4**
	0.1nm,0.3s,baz=258,slow=11,SNR=3.6						
PLCA				LR	LR	09 58 17.9	
	comp=Z,768nm,21.4s,baz=332,slow=32						
PLCA	**Paso Flores**	**16.30**	**98**	eP	**Pn**	**09 53 38.6**	**+1.9**
	52nm,1.6s						
RPN	**Rapa Nui**	**19.52**	**307**	LR	LR	09 59 43.4	
	comp=Z,978nm,19.9s,baz=270,slow=30						
CFAA	**Coronel Fontan**	**21.09**	**73**	P	**P**	**09 54 31.6**	**-0.6**
	1.4nm,0.8s,mb3.3,baz=245,slow=9.6,SNR=16						
USHA	**Ushuaia**	**21.32**	**140**	LR	LR	10 01 06.4	
	comp=Z,1μm,19.3s,MS4.3,baz=278,slow=32						
TRQA	**Tornquist**	**23.32**	**94**	eP	**P**	**09 54 56.6**	**+0.6**
	75nm,1.9s,mb4.8						
TRQA				epP		09 55 05.6	
NNA	**Nana**	**31.30**	**30**	eP	**P**	**09 56 08.2**	**+0.2**
	8.6nm,0.7s,mb4.7						
NNA				epP	pP	09 56 17.7	+6.6
LPAZ	**La Paz**	**31.72**	**48**	P	**P**	**09 56 13.0**	**+1.3**
	3.4nm,0.9s,mb4.2,baz=224,slow=8.3,SNR=11						
LPAZ				LR	LR	10 06 08.9	
	comp=Z,190nm,18.7s,MS3.8,baz=275,slow=31						
LPAZ	**La Paz**	**31.72**	**48**	eP	**P**	**09 56 13.3**	**+1.6**
	16nm,1.4s,mb4.7						
LPAZ				epP	pP	09 56 24.8	+10
SIV	**San Ignacio**	**36.22**	**57**	P	**P**	**09 56 49.7**	**-1.0**
	3.0nm,0.8s,mb4.2,baz=219,slow=6.5,SNR=9.4						
RKT	**Rikitea**	**39.96**	**282**	eS	**S**	**10 03 27.5**	**-0.1**
	68nm,27.5s						
RKT				eLR	LR	10 08 18.3	
	812nm,27.2s,baz=127						
SAML	**Samuel**	**40.47**	**47**	eP	**P**	**09 57 25.6**	**-0.9**
	28nm,2.0s,mb4.6						
OTAV	**Otavalo**	**42.29**	**20**	eP	**P**	**09 57 42.6**	**+1.2**
	14nm,1.1s,mb4.5						
OTAV				epP	pP	09 57 53.4	+8.8
BDFB	**Brasilia**	**45.38**	**70**	LR	LR	10 16 15.8	
	comp=Z,682nm,19.2s,MS4.6,baz=235,slow=35						
ROSC	**El Rosal**	**47.88**	**24**	LR	LR	10 17 17.2	
	comp=Z,124nm,18.4s,MS3.9,baz=209,slow=34						
QSPA	**South Pole Qui**	**49.83**	**180**	eP	**P**	**09 58 41.3**	**+0.5**
	8.6nm,1.0s,mb4.7						
QSPA				epP	pP	09 58 52.6	+8.6
VNA3	**Neumayer--Watz**	**49.72**	**155**	eP	**P**	**09 58 46.9**	**-0.6**
	2.8nm,1.2s,mb4.1						
ANMO				epP	pP	10 01 47.2	+7.9
WVT	**Waverly**	**76.26**	**3**	eP	**P**	**10 01 34.9**	**-1.6**
PV01	**Paradox Valley**	**79.62**	**347**	eP	**P**	**10 01 55.8**	**+0.6**
PV01				epP	pP	10 02 07.1	+8.5
PV10	**Paradox Valley**	**79.94**	**346**	eP	**P**	**10 01 57.6**	**+0.7**
PV10				epP	pP	10 02 08.1	+7.8
NVAR	**Mina Array Bea**	**82.07**	**339**	P	**P**	**10 02 09.2**	**+0.9**
	0.9nm,0.6s,mb3.9,baz=131,slow=11,SNR=4.3						
NVAR				LR	LR	10 29 59.6	
	comp=Z,45nm,21.2s,MS3.8,baz=0.0,slow=29						
PDAR	**Pinedale Array**	**84.30**	**347**	P	**P**	**10 02 20.3**	**+0.5**
	1.9nm,0.8s,mb4.2,baz=155,slow=4.7,SNR=17						
PDAR				LR	LR	10 34 12.7	
	comp=Z,59nm,18.6s,MS4.0,baz=354,slow=32						
SUR	**Sutherland**	**84.63**	**128**	eP	**P**	**10 02 21.5**	**0.0**
	36nm,1.2s,mb5.4						
BOSA	**Boshof**	**89.99**	**129**	P	**P**	**10 02 45.9**	**-1.5**
	4.8nm,1.0s,mb4.8,baz=276,slow=6.5,SNR=3.5						
BOSA				LR	LR	10 38 12.9	
	comp=Z,132nm,18.2s,MS4.4,baz=200,slow=32						
TSUM	**Tsumeb**	**91.77**	**117**	LR	LR	10 38 03.7	
	comp=Z,162nm,18.1s,MS4.5,baz=138,slow=32						
DBIC	**Dimbokro**	**92.10**	**83**	LR	LR	10 38 29.4	
	comp=Z,111nm,19.5s,MS4.3,baz=209,slow=32						
LBTB	**Lobatse**	**92.83**	**126**	LR	LR	10 41 33.2	
	comp=Z,90nm,18.3s,MS4.3,baz=43,slow=34						
CTA	**Charters Tower**	**99.04**	**234**	LR	LR	10 43 00.1	
	comp=Z,84nm,18.4s,MS4.3,baz=51,slow=32						
TORD	**Torodi Ar. Bea**	**101.18**	**82**	P	Pdif	10 03 37.2	-1.2
	0.2nm,0.9s,baz=318,slow=1.9,SNR=2.9						
BHD	**Baghdad**	**144.65**	**87**	ex	x	10 09 20.0	
MSL	**Mosul**	**144.83**	**82**	ex	x	10 09 25.0	
NAY	**Al-Naaiem**	**145.02**	**96**	eP	PKPbc	10 09 23.1	-1.5
NAY				AMb	AMB	10 09 25.0	
	comp=Z,14nm,1.2s						
RDF	**Al-Radifah**	**145.09**	**96**	eP	PKPbc	10 09 22.9	-1.9
RDF				AMb	AMB	10 09 25.3	
	comp=Z,49nm,0.8s						
KBD	**Kabd**	**145.33**	**96**	eP	PKPbc	10 09 24.6	-1.0
MIB	**Mutribah**	**145.36**	**95**	eP	PKPbc	10 09 24.1	-1.6
MIB				AMb	AMB	10 09 26.5	
	comp=Z,62nm,1.1s						
GNI	**Garni**	**147.24**	**76**	ePKPdf	PKPdf	10 09 29.6	+0.6
CN2	**Changchun**	**152.16**	**289**	ePKP	PKPdf	10 09 37.4	+0.6
NJ2	**Nanjing**	**153.85**	**261**	ePKP	PKPdf	10 09 39.9	+0.6
NJ2				PKP2	PKPab	10 10 03.8	+3.5
NJ2				PKS		10 13 13.0	
NJ2				PP	PP	10 13 40.0	+5.5
NJ2				SKS	SKSdf	10 16 41.0	-5.2
NJ2				SKKS	SKKSac	10 20 23.0	-1.9
NJ2				PP	PP		
	comp=Z,180nm,6.5s						
NJ2				LR	LR		
	comp=N,510nm,27.1s,MS5.4						
NJ2				LR	LR		
	comp=E,420nm,22.2s,MS5.4						
NJ2				LR	LR		
	comp=Z,410nm,25.1s,MS5.1						
BJI	**Beijing**	**158.51**	**278**	PKP	PKPdf	10 09 45.7	+0.3
HHC	**Hu-ho-hao-te**	**162.11**	**279**	ePKP	PKPdf	10 09 49.6	+0.2
HHC				PKP2	PKPab	10 10 39.1	+3.1
HHC				PKS		10 13 21.8	
HHC				SKKS	SKKSac	10 21 06.7	-1.6
HHC				SS	SS	10 34 38.7	-1.0
HHC				LR	LR		
	comp=N,113nm,4.9s						
HHC				LR	LR		
	comp=E,154nm,4.7s						
HHC				LR	LR		
	comp=Z,145nm,5.7s						
CD2	**Chengdu**	**164.09**	**238**	ePKP	PKPdf	10 09 51.6	+0.3
SONM	**Songino Array**	**164.87**	**305**	PKPab	PKPab	10 10 47.7	-0.4
	comp=Z,0.7nm,1.1s,baz=64,slow=3.4,SNR=4.1						
LZH	**Lanzhou**	**166.82**	**256**	ePKP	PKPdf	10 09 54.0	+0.4
WMQ	**Urumqi**	**176.58**	**4**	ePKP	PKPdf	10 09 58.8	+0.6
WMQ				LR	LR		
	comp=Z,212nm,24.0s						

IDC 06 10:17:49.7±1.0, 1943N×14478E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/19, mbtmp3.6/5, Error ellipse: s-maj=90.4km s-min=21.5km az=107.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.44**	**195**	P	P	10 25 30.4	+0.6
	0.6nm,0.6s,baz=17,slow=8.1,SNR=23						
ASAR	**Alice Springs**	**44.12**	**194**	P	P	10 25 59.4	-0.4
	0.3nm,0.4s,baz=10,slow=6.5,SNR=10						
ILAR	**Eielson Array**	**63.38**	**26**	P	P	10 28 21.1	+0.3
	0.2nm,0.6s,baz=258,slow=5.3,SNR=5.1						
YKA	**Yellowknife Ar**	**77.76**	**28**	P	P	10 29 48.0	-0.5
	0.3nm,0.5s,baz=291,slow=5.6,SNR=7.9						

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*CSEM **06** 10:40:44.8±0.0, 4567N×2662E, h141km, Ms3.1, Error ellipse: s-maj=1.3km s-min=0.9km az=40.0*
*THE **06** 10:40:44.8, 4573N×2651E, h139km, ML4.8*
*BJI **06** 10:40:44.4, 4621N×2613E, h146km, mB4.9, mb4.5*
*ISCJB **06** 10:40:45.4±0.1, 4572N±001×2662E±002, h144km±1km, mb4.5/47, Error ellipse: s-maj=2.0km s-min=1.8km az=36.0*
*BUC **06** 10:40:45.6±0.5, 4570N×2664E, h152km±4km, MD5.1/5, Error ellipse: s-maj=3.3km s-min=2.9km az=130.0*
*MOS **06** 10:40:45.3±0.9, 4572N×2655E, h145km, mb4.6/12, Error ellipse: s-maj=3.9km s-min=2.9km az=109.8*
MOS Felt (III-IV) at Kishinev.
*NEIC **06** 10:40:45.7, 4573N×2674E, h139km, mb4.5/56, MD4.8(BUC), After BUC.*
NEIC Felt at Bucarest. Felt [IV] at Chisinau, Moldova.
*IDC **06** 10:40:46.4±0.4, 4575N×2647E, h139km±3km, mb3.9/15, mb1 4.0/22, mb1mx3.9/27, mbtmp4.4/22, Error ellipse: s-maj=11.3km s-min=8.1km az=134.0*
*SOF **06** 10:40:47.5, 4555N×2649E, h140km, MD3.7*
ISC 06 10:40:46.5±0.1, 4573N±001×2661E±002, h141km±1km, h141km±1.3km:pP-P, n428, σ1§16/504, mb4.5/47, 30C-40D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.13**	**12⇑**	iP	**Pn**	**10 41 05.8**	**+0.3**
PLOR				i S	**Sn**	**10 41 20.1**	**+0.2**
VRI	**Vrincioaia**	**0.16**	**30⇑**	iP	**Pn**	**10 41 06.0**	**+0.5**
VRI				i S	**Sn**	**10 41 20.1**	**+0.1**
VRI	**Vrincioaia**	**0.16**	**30**	S	**Sn**	**10 41 20.1**	**+0.1**
BRD	**Bordesti**	**0.34**	**120**	P	**Pn**	**10 41 06.3**	**+0.3**
GRER		**0.43**	**144⇓**	iP	**Pn**	**10 41 07.7**	**+1.3**
GRER				eS	**Sn**	**10 41 23.4**	**+1.9**
PETR		**0.43**	**90⇓**	iP	**Pn**	**10 41 07.2**	**+0.8**
PETR				i S	**Sn**	**10 41 22.6**	**+1.1**
MLR	**Muntele Rosu**	**0.52**	**244**	P	**Pn**	**10 41 07.2**	**+0.3**
	2μm,0.3s,baz=341,slow=7.9,SNR=8843						
MLR				S	**Sn**	**10 41 23.0**	**+0.6**
	3μm,0.3s,baz=46,slow=23,SNR=90						
MLR	**Muntele Rosu**	**0.52**	**244⇑**	iP	**Pn**	**10 41 07.4**	**+0.5**
MLR				i S	**Sn**	**10 41 23.0**	**+0.6**
MLR	**Muntele Rosu**	**0.52**	**244**	P	**Pn**	**10 41 07.3**	**+0.4**
ISR	**Istrita**	**0.61**	**185⇓**	iP	**Pn**	**10 41 08.3**	**+0.9**
ISR				i S	**Sn**	**10 41 25.2**	**+2.0**
GHRR		**0.65**	**59⇑**	iP	**Pn**	**10 41 08.4**	**+0.8**
GHRR				i S	**Sn**	**10 41 24.5**	**+0.8**
TUDR		**0.75**	**100⇑**	iP	**Pn**	**10 41 08.4**	**+0.1**
TUDR				i S	**Sn**	**10 41 25.6**	**+0.6**
TESR		**0.79**	**2⇑**	iP	**Pn**	**10 41 08.6**	**0.0**
TESR				eS	**Sn**	**10 41 24.7**	**-0.7**
SECR		**0.79**	**209⇓**	iP	**Pn**	**10 41 09.3**	**+0.7**
SECR				i S	**Sn**	**10 41 26.4**	**+0.9**
FULR		**0.85**	**188⇓**	iP	**Pn**	**10 41 09.6**	**+0.6**
FULR				i S	**Sn**	**10 41 26.5**	**+0.3**
SNX	**Sinaia**	**0.86**	**245⇑**	iP	**Pn**	**10 41 09.8**	**+0.7**
SNX				i S	**Sn**	**10 41 27.7**	**+1.3**
SNX	**Sinaia**	**0.86**	**245**	P	**Pn**	**10 41 09.9**	**+0.8**
PGOR	**Pogoanele**	**0.86**	**162⇓**	iP	**Pn**	**10 41 09.7**	**+0.6**
PGOR				i S	**Sn**	**10 41 27.5**	**+1.1**
VARR		**0.88**	**79⇓**	iP	**Pn**	**10 41 09.7**	**+0.4**
VARR				i S	**Sn**	**10 41 26.8**	**0.0**
SULR		**1.08**	**194⇓**	iP	**Pn**	**10 41 11.4**	**+0.4**
SULR				i S	**Sn**	**10 41 30.3**	**+0.5**
KGL	**Cahul**	**1.12**	**80⇑**	iP	**Pn**	**10 41 13.8**	**+2.3**
	3μm,0.4s						
KGL				i S	**Sn**	**10 41 31.2**	**+0.7**
	42μm,2.6s						
VOIR		**1.14**	**256⇑**	iP	**Pn**	**10 41 11.5**	**-0.1**
VOIR				i S	**Sn**	**10 41 30.0**	**-0.7**
VOIR		**1.14**	**256⇑**	iP	**Pn**	**10 41 11.6**	**0.0**
MTUR	**Matau**	**1.20**	**246⇑**	iP	**Pn**	**10 41 12.7**	**+0.5**
MTUR				i S	**Sn**	**10 41 33.6**	**+1.8**
MTUR	**Matau**	**1.20**	**246⇑**	iP	**Pn**	**10 41 12.7**	**+0.5**
MTUR				i S	**Sn**	**10 41 35.6**	**+3.8**
CFR	**Carcaliu**	**1.20**	**117⇑**	iP	**Pn**	**10 41 12.1**	**-0.1**
CFR				i S	**Sn**	**10 41 31.3**	**-0.6**
CFR	**Carcaliu**	**1.20**	**117⇓**	iP	**Pn**	**10 41 11.9**	**-0.3**
CFR				i S	**Sn**	**10 41 32.0**	**+0.1**
CFR	**Carcaliu**	**1.20**	**117**	⇑P	**Pn**	**10 41 11.9**	**-0.3**
AMRR		**1.23**	**155⇓**	iP	**Pn**	**10 41 12.7**	**+0.2**
AMRR				i S	**Sn**	**10 41 32.2**	**-0.1**
BERR	**Berezeni**	**1.24**	**59⇓**	iP	**Pn**	**10 41 13.3**	**+0.7**
BERR				i S	**Sn**	**10 41 32.8**	**+0.2**
CNCR	**Cernica**	**1.31**	**191⇓**	iP	**Pn**	**10 41 13.3**	**0.0**
CNCR				i S	**Sn**	**10 41 33.2**	**-0.5**
BTMR	**Bucharest-Geot**	**1.34**	**196⇓**	iP	**Pn**	**10 41 13.5**	**-0.1**
BTMR				i S	**Sn**	**10 41 33.8**	**-0.5**
LEOM	**Leova**	**1.36**	**56**	i P	**Pn**	**10 41 13.2**	**-0.6**
	3μm,0.8s						
LEOM				i S	**Sn**	**10 41 33.7**	**-1.0**
	74μm,0.8s						
CIOR	**Ciorogarla**	**1.38**	**202⇓**	iP	**Pn**	**10 41 13.9**	**-0.1**
CIOR				eS	**Sn**	**10 41 34.5**	**-0.5**
HARR	**Harsova**	**1.39**	**138⇓**	iP	**Pn**	**10 41 14.2**	**0.0**
HARR				i S	**Sn**	**10 41 35.1**	**-0.2**
HARR	**Harsova**	**1.39**	**138**	⇑P	**Pn**	**10 41 14.2**	**0.0**
BUC1	**Bucharest**	**1.44**	**197**	P	**Pn**	**10 41 14.7**	**+0.1**
GOLR		**1.46**	**233⇑**	iP	**Pn**	**10 41 15.1**	**+0.2**
GOLR				i S	**Sn**	**10 41 37.3**	**+0.7**
IAS	**Iasi**	**1.61**	**24⇑**	iP	**Pn**	**10 41 16.8**	**+0.3**
IAS				i S	**Sn**	**10 41 39.2**	**-0.3**
IAS	**Iasi**	**1.61**	**24⇑**	iP	**Pn**	**10 41 16.9**	**+0.4**
IAS	**Iasi**	**1.61**	**24**	⇑P	**Pn**	**10 41 16.9**	**+0.4**
IAS				S	**Sn**	**10 41 39.3**	**-0.2**
TLCR		**1.64**	**108⇓**	iP	**Pn**	**10 41 16.2**	**-0.7**
TLCR				i S	**Sn**	**10 41 39.5**	**-0.6**
TIRR	**Tirgusor**	**1.80**	**134⇓**	iP	**Pn**	**10 41 18.5**	**-0.1**
TIRR				i S	**Sn**	**10 41 41.3**	**-2.0**
TIRR	**Tirgusor**	**1.80**	**134**	ePn	**Pn**	**10 41 18.1**	**-0.5**
TIRR	**Tirgusor**	**1.80**	**134⇓**	iP	**Pn**	**10 41 18.5**	**-0.1**
TIRR				eSn	**Sn**	**10 41 40.7**	**-2.6**
TIRR				S	**Sn**	**10 41 42.2**	**-1.1**
TIRR	**Tirgusor**	**1.80**	**134**	ePn	**Pn**	**10 41 18.1**	**-0.5**
TIRR				eSn	**Sn**	**10 41 40.7**	**-2.6**
MSAB	**Monastry St. A**	**1.85**	**152⇓**	iP	**Pn**	**10 41 19.2**	**0.0**
MSAB				i S	**Sn**	**10 41 43.0**	**-1.3**
KIS	**Kishinev**	**1.99**	**49⇑**	iP	**Pn**	**10 41 21.0**	**+0.1**
	2μm,0.5s						
KIS				i S	**Sn**	**10 41 46.0**	**-1.3**
	27μm,0.5s						
BURAR	**Bucovina Array**	**2.12**	**334⇑**	iP	**Pn**	**10 41 23.7**	**+1.3**
BURAR				i S	**Sn**	**10 41 52.8**	**+2.7**
BURAR	**Bucovina Array**	**2.12**	**334**	P	**Pn**	**10 41 24.2**	**+1.8**
ZIMR		**2.25**	**204⇑**	iP	**Pn**	**10 41 23.5**	**-0.5**
ZIMR				i S	**Sn**	**10 41 50.7**	**-2.2**
PSN	**Preselentsi**	**2.33**	**151**	i P	**Pn**	**10 41 25.3**	**+0.3**
CRAR	**CRAIOVA**	**2.44**	**236⇑**	iP	**Pn**	**10 41 26.3**	**0.0**
CRAR	**CRAIOVA**	**2.44**	**236**	P	**Pn**	**10 41 26.1**	**-0.2**
SZH	**Strazhica**	**2.51**	**191**	i P	**Pn**	**10 41 26.6**	**-0.6**
PRD	**Provadia**	**2.59**	**167**	i P	**Pn**	**10 41 28.6**	**+0.4**
CRA	**Chernovtsy**	**2.60**	**350**	P	**Pn**	**10 41 26.1**	**-2.3**
PVL	**Pavlikeni**	**2.67**	**201**	i P	**Pn**	**10 41 30.0**	**+0.8**
KMPD	**K-Podol'skiy**	**2.84**	**358**	P	**Pn**	**10 41 31.0**	**-0.4**
DJES	**Djerdap**	**3.09**	**251⇑**	iPn	**Pn**	**10 41 38.9**	**+4.3**
DJES				Sn	**Sn**	**10 42 07.3**	**-4.5**
DJES	**Djerdap**	**3.09**	**251**	Sn	**Sn**	**10 42 07.3**	**-4.5**
JMB	**Yambol**	**3.26**	**180**	i P	**Pn**	**10 41 36.0**	**-0.8**
JMB	**Yambol**	**3.26**	**180**	ePn	**Pn**	**10 41 36.0**	**-0.8**
JMB				eSn	**Sn**	**10 42 16.2**	**+0.6**
JMB	**Yambol**	**3.26**	**180**	ePn	**Pn**	**10 41 36.0**	**-0.8**
JMB				eSn	**Sn**	**10 42 16.2**	**+0.5**
BZS	**Buzias**	**3.50**	**270**	P	**Pn**	**10 41 39.9**	**0.0**
PGB	**Panagyurishte**	**3.63**	**210**	i P	**Pn**	**10 41 41.5**	**-0.1**
DIM	**Dimitrovgrad**	**3.76**	**192**	i P	**Pn**	**10 41 42.0**	**-1.2**
BOLS	**Boljevac**	**3.82**	**242⇑**	iPn	**Pn**	**10 41 43.1**	**-0.9**
BOLS				Sn	**Sn**	**10 42 27.5**	**-1.2**
PLD	**Plovdiv**	**3.87**	**202**	i P	**Pn**	**10 41 43.5**	**-1.3**
EDRB	**Edirne**	**3.88**	**179**	P	**Pn**	**10 41 44.7**	**-0.1**
VTS	**Vitosha**	**3.98**	**219**	i P	**Pn**	**10 41 45.7**	**-0.4**
VTS	**Vitosha**	**3.98**	**219**	ePn	**Pn**	**10 41 45.8**	**-0.3**
VTS				eSn	**Sn**	**10 42 32.1**	**-0.4**
SVIS	**Svilajnac**	**4.08**	**251⇓**	iPn	**Pn**	**10 41 46.9**	**-0.6**
SVIS				Sn	**Sn**	**10 42 36.6**	**+1.7**
UZH	**Uzhgorod**	**4.14**	**316**	i P	**Pn**	**10 41 48.4**	**+0.1**
UZH				i S	**Sn**	**10 42 37.4**	**+1.1**
UZH	**Uzhgorod**	**4.14

comp=N,300nm,0.8s
MRMT Marmara Adasi 5.17 172 *e*P **Pn 10 42 00.1 -1.8**
MRMT Marmara Adasi 5.17 172 P **Pn 10 42 00.1 -1.8**
STHS Stebnicka Huta 5.18 317 *i* PN **Pn 10 42 02.6 +0.5**
KIEV Kiev 5.27 18 P **Pn 10 42 04.0 +0.8**
AKASG Malin Array Be 5.28 18 P **Pn 10 42 02.6 -0.7**
comp=N,28nm,0.3s,baz=206,slow=12,SNR=78
AKASG S **Sn 10 42 60.0 -3.4**
comp=N,60nm,0.3s,baz=203,slow=21,SNR=16
VAY Valandovo 5.29 215 *e*Pn **Pn 10 42 02.7 -0.8**
VAY *e*Sn **Sn 10 43 05.3 +1.6**
VAY Valandovo 5.29 215 *e*Pn **Pn 10 42 05.1 +1.5**
SKO Skopje 5.30 227 *e*Pn **Pn 10 42 02.5 -1.1**
KNT Kendrikon 5.30 212 *e*Pn **Pn 10 42 03.4 -0.3**
KNT *e*Sn **Sn 10 43 03.4 -0.6**
SIM Simferopol' 5.35 96 *e*P **Pn 10 42 03.6 -0.7**
comp=N,230nm,0.4s
SIM *e*S **Sn 10 43 02.2 -2.8**
comp=N,210nm,0.7s
SIM Simferopol' 5.35 96 *e*P **Pn 10 42 03.6 -0.7**
SIM *e*S **Sn 10 43 02.2 -2.8**
SIM pmax pmax
comp=Z,230nm,0.4s
SIM smax
comp=N,210nm,0.7s
GBZT Gebze 5.35 156 *e*P **Pn 10 42 00.6 -3.7**
HRT Hereke 5.38 154 P **Pn 10 42 03.7 -1.1**
BBLS Bajina Basta - 5.45 253 *e*Pn **Pn 10 42 06.3 +0.6**
BNT Bandirma 5.45 169 P **Pn 10 42 05.4 -0.3**
BNT Bandirma 5.45 169 P **Pn 10 42 05.3 -0.4**
YAL Yalta 5.48 100 *e*P **Pn 10 42 06.3 +0.2**
comp=N,100nm,0.3s
YAL *e*S **Sn 10 43 05.8 -2.4**
comp=N,70nm,0.7s
YAL Yalta 5.48 100⇓*e*P **Pn 10 42 06.3 +0.2**
YAL *e*S **Sn 10 43 05.8 -2.4**
YAL pmax pmax
comp=Z,100nm,0.3s
YAL smax
comp=N,70nm,0.7s
YLV Yalova 5.54 158 P **Pn 10 42 06.1 -0.7**
PKSM Moragy 5.58 278⇓*i*P **Pn 10 42 07.6 +0.2**
PKSM Moragy 5.58 278 P **Pn 10 42 07.9 +0.5**
ALU Alushta 5.60 98 *i* P **Pn 10 42 07.0 -0.7**
comp=N,220nm,0.5s
ALU *e*S **Sn 10 43 09.8 -1.3**
comp=N,120nm,0.5s
ALU Alushta 5.60 98⇓*i*P **Pn 10 42 07.0 -0.7**
ALU *e*S **Sn 10 43 09.8 -1.3**
ALU pmax pmax
comp=Z,220nm,0.5s
ALU smax
comp=N,120nm,0.5s
NIE Niedzica 5.64 313 *e*P **Pn 10 42 09.4 +1.2**
GRG Griva 5.67 214 *e*Pn **Pn 10 42 08.2 -0.4**
GRG *e*Sn **Sn 10 43 13.6 +0.9**
OUR Ouranopolis 5.72 201 *e*Pn **Pn 10 42 09.6 +0.3**
OUR *e*Sn **Sn 10 43 15.3 +1.3**
THE Thessaloniki 5.75 209 *e*Pn **Pn 10 42 09.6 -0.1**
THE *e*Sn **Sn 10 43 16.4 +1.8**
IZI Iznik 5.78 158 P **Pn 10 42 10.1 0.0**
HENT Hendek 5.81 146 *i* P **Pn 10 42 09.3 -1.2**
ULDT Uludag 5.88 161 *i* P **Pn 10 42 10.7 -0.7**
LOS Limnos 5.90 192 *e*Pn **Pn 10 42 11.1 -0.5**
ORLT Orhaneli 5.92 163 P **Pn 10 42 11.4 -0.6**
ORLT Orhaneli 5.92 163 P **Pn 10 42 11.3 -0.6**
SUDU Sudak 5.97 95 *i* P **Pn 10 42 12.0 -0.7**
comp=N,170nm,0.5s
SUDU Sudak 5.97 95⇓*i*P **Pn 10 42 12.0 -0.7**
SUDU *e*S **Sn 10 43 17.0 -3.0**
SUDU pmax pmax
comp=Z,170nm,0.5s
SUDU smax
comp=N,150nm,0.5s
VYHS Vyhne 5.99 300 *i* PN **Pn 10 42 13.1 +0.2**
BTOK Tokmak 6.05 170 *i* P **Pn 10 42 12.9 -0.8**
GPA Golpazari 6.07 152 *e*P **Pn 10 42 14.0 0.0**
GPA Golpazari 6.07 152 P **Pn 10 42 13.9 -0.1**
LIKS Likavka 6.08 306 P **Pn 10 42 14.4 +0.2**
BALB Balikesir 6.15 171 *e*P **Pn 10 42 14.3 -0.8**
PAIG Paliouri 6.18 201 *e*Pn **Pn 10 42 15.8 +0.3**
PAIG *e*Sn **Sn 10 43 27.0 +2.0**
FEO Feodosiya 6.22 93 *i* P **Pn 10 42 15.6 -0.4**
comp=N,140nm,0.4s
FEO *e*S **Sn 10 43 26.5 +0.5**
comp=N,150nm,0.4s
FEO Feodosiya 6.22 93⇓*i*P **Pn 10 42 15.6 -0.4**
FEO *e*S **Sn 10 43 26.5 +0.5**
FEO pmax pmax
comp=Z,140nm,0.4s
FEO smax
comp=N,150nm,0.4s
MDU Mudurnu 6.24 146 *e*P **Pn 10 42 16.6 +0.4**
FNA Florina 6.25 220 *e*Pn **Pn 10 42 17.1 +0.8**
SAFT Safranbolu 6.29 133 *e*P **Pn 10 42 15.6 -1.3**
LIT Litokhoron 6.38 210 *e*Pn **Pn 10 42 17.8 -0.4**
LIT *e*Sn **Sn 10 43 30.8 +0.9**
OJC Ojcow 6.41 317 *e*Pn **Pn 10 42 17.6 -1.0**
OJC *e*PP 10 42 24.0
OJC *e*Sn **Sn 10 43 34.6 +4.0**
BORA Eskisehir 6.49 153 *i* P **Pn 10 42 19.5 0.0**
SGKT Sivrigoynuk 6.51 140 *i* P **Pn 10 42 19.6 -0.2**
BZK Bozkurt 6.54 123 *e*P **Pn 10 42 19.0 -1.2**
XOR Xorichti 6.84 203 *e*Pn **Pn 10 42 24.6 +0.4**
XOR *e*Sn **Sn 10 43 42.9 +2.1**
JAVC Velka Javorina 6.84 300 P **Pn 10 42 25.3 +1.0**
SMOL Smolenice 6.86 297 *e*PN **Pn 10 42 24.7 +0.2**
ESKT Eskisehir 6.94 152 P **Pn 10 42 24.2 -1.5**
ESKT Eskisehir 6.94 152 *i* P **Pn 10 42 25.9 +0.2**
ESKT Eskisehir 6.94 152 P **Pn 10 42 24.1 -1.6**
SEYT Eskypehyr 6.94 152 *i* P **Pn 10 42 25.9 +0.2**
ZST Bratislava 6.96 294 *e*Pn **Pn 10 42 25.1 -0.8**
OKC Ostrava-Krasne 7.03 309 *e*PN **Pn 10 42 22.7 -4.1**
MEV Metsovon 7.14 216 *e*Pn **Pn 10 42 28.7 +0.5**
TOS Tosya 7.15 128 P **Pn 10 42 27.8 -0.6**
ALT Altintas 7.15 158 P **Pn 10 42 27.9 -0.5**
SOP Sopron 7.19 289 P **Pn 10 42 29.7 +0.8**
ELDT Eldivan 7.23 134 *i* P **Pn 10 42 29.0 -0.5**
KOGS Kog 7.24 279 *e*P **Pn 10 42 30.3 +0.6**
KOGS Kog 7.24 279 P **Pn 10 42 31.0 +1.3**
MORC Moravsky Berou 7.33 307 *e*Pn **Pn 10 42 29.7 -1.2**
comp=N,5.5nm,0.6s
MORC Moravsky Berou 7.33 307 *e*P **Pn 10 42 29.7 -1.2**
MORC pmax pmax
comp=Z,5.0nm,0.6s
MANT Manisa 7.37 168 *i* P **Pn 10 42 30.2 -1.2**
BOYT Boyabat 7.40 123 *i* P **Pn 10 42 30.8 -0.9**
ANTO Ankara 7.41 140 P **Pn 10 42 30.4 -1.5**
ANTO Ankara 7.41 140 P **Pn 10 42 30.3 -1.6**
AGG Agios Georgios 7.41 207 *e*Pn **Pn 10 42 33.4 +1.4**
AGG *e*Sn **Sn 10 43 57.3 +2.7**
AGG Agios Georgios 7.41 207 *e*Pn **Pn 10 42 33.3 +1.4**
VRAC Vranov 7.67 301 P **Pn 10 42 35.1 -0.3**
comp=Z,0.5nm,0.3s,baz=115,slow=12,SNR=21
VRAC Vranov 7.67 301 *e*Pn **Pn 10 42 34.9 -0.5**
VRAC Vranov 7.67 301 P **Pn 10 42 35.7 +0.3**
VRAC Vranov 7.67 301 P **Pn 10 42 35.7 +0.3**
ANN Anapa 7.69 93 *e*P **Pn 10 42 41.5 +5.8**
ANN pmax pmax
comp=Z,100nm,1.0s
CRES Cresnjev 7.80 275 P **Pn 10 42 38.5 +1.3**
ARSA Arzberg 7.81 285 P **Pn 10 42 38.8 +1.6**
CTKT Corum 7.85 128 *i* P **Pn 10 42 37.3 -0.6**
KIZT Kizilcal 7.87 148 P **Pn 10 42 37.5 -0.7**
KIZT Kizilcal 7.87 148 P **Pn 10 42 37.4 -0.7**
BR131 Keskin Array S 7.92 137⇓*e*P **Pn 10 42 37.9 -0.8**
comp=Z,17nm,0.7s
BR131 Keskin Array S 7.92 137⇓*e*P **Pn 10 42 37.9 -0.8**
comp=Z,17nm,0.7s
BRTR Keskin Array B 7.92 137 P **Pn 10 42 38.1 -0.6**
comp=Z,2.1nm,0.3s,baz=322,slow=11,SNR=98
BOJS Bojanci 7.97 272 *e*P **Pn 10 42 40.6 +1.2**
PERS Pernice 8.03 281 *e*P **Pn 10 42 41.0 +0.7**
CORM Corum 8.08 131 P **Pn 10 42 39.7 -1.2**
TKTP Tekketepe 8.16 159 *i* P **Pn 10 42 43.1 +1.1**
KDHN Kadinhani 8.28 148 *i* P **Pn 10 42 43.4 -0.1**
KVT Kavak 8.29 121 *e*P **Pn 10 42 42.2 -1.5**
KVT Kavak 8.29 121 P **Pn 10 42 42.1 -1.6**
DPC Dobruska-Polom 8.30 308 *e*PN **Pn 10 42 42.8 -1.1**
UPC Upice 8.55 308 *e*PN **Pn 10 42 46.0 -1.2**
KSP Ksiaz 8.57 310 *e*P **Pn 10 42 47.4 -0.1**
KSP Ksiaz 8.57 310 *e*P **Pn 10 42 46.0 -1.5**

SUW Suwalki 8.59 346 *e*P **Pn 10 42 46.0 -1.7**
APE Apeiranthos 8.69 186 *e*Pn **Pn 10 42 50.4 +1.3**
MOA Molln 8.74 288⇓*i*P **Pn 10 42 50.8 +1.2**
comp=Z,9.4nm,0.9s
ROBS Robic 9.14 278 *e*P **Pn 10 42 55.8 +0.7**
PRU Pruhonice 9.17 302 *e*PN **Pn 10 42 54.9 -0.5**
KBA Koelnbreinsper 9.27 283⇓*i*P **Pn 10 42 58.4 +1.6**
comp=Z,26nm,1.2s
KBA Koelnbreinsper 9.27 283⇓*i*P **Pn 10 42 58.4 +1.6**
comp=Z,26nm,1.2s
KBA Koelnbreinsper 9.27 283⇓*i*P **Pn 10 42 58.4 +1.6**
KBA pmax pmax
comp=Z,27nm,1.2s
GEC2 GERESS Array S 9.31 294 *e*P **Pn 10 42 58.4 +1.0**
comp=Z,18nm,0.9s
GERES GERESS Array B 9.31 294 P **Pn 10 42 57.7 +0.3**
comp=Z,0.4nm,0.3s,baz=107,slow=13,SNR=71
PVCC Panska Ves 9.38 305 *e*PN **Pn 10 42 57.5 -0.7**
KHC Kasperske Hory 9.47 296 *e*PN **Pn 10 42 59.9 +0.4**
KHC Kasperske Hory 9.47 296⇓*i*P **Pn 10 42 59.3 -0.2**
SOC Sochi 9.58 98 *e*S **Sn 10 44 43.7 -3.3**
SOC Sochi 9.58 98 *e*P **Pn 10 43 03.5 +2.5**
SOC *e* 10 44 43.7
SOC pmax pmax
comp=Z,44nm,0.7s
SVSK Karacayir 9.58 124 *e*P **Pn 10 43 00.5 -0.5**
GRSN GIRESUNGRSN 9.75 115 *i* P **Pn 10 43 00.3 -2.9**
GRSN GIRESUNGRSN 9.75 115 *i* P **Pn 10 43 00.3 -2.9**
WET Wettzell 9.91 295 *e*P **Pn 10 43 05.8 +0.4**
comp=Z,33nm,1.4s
ROTZ Rotzenmuhle 10.51 298 *e*P **Pn 10 43 15.5 +2.2**
comp=Z,14nm,1.4s
NKC Novy Kostel 10.51 300 *e*PN **Pn 10 43 10.6 -2.7**
ZKR Zakros 10.60 182 P **Pn 10 43 17.4 +2.9**
CLL Collm 10.61 307 *e*P **Pn 10 43 13.8 -0.8**
comp=Z,19nm,1.4s
CLL Collm 10.61 307 *i* P **Pn 10 43 13.6 -1.0**
comp=Z,19nm,1.4s
CLL Collm 10.61 307 *i* P **Pn 10 43 13.6 -1.0**
CLL pmax pmax
comp=Z,19nm,1.4s
MANZ Manzenberg 10.64 299 *e*P **Pn 10 43 15.1 +0.1**
comp=Z,16nm,1.2s
WERD Werda 10.67 301 *e*P **Pn 10 43 15.9 +0.5**
comp=Z,11nm,1.1s
GUMT Gumushane 10.78 115 *e*P **Pn 10 43 15.9 -1.0**
GUMT Gumushane 10.78 115 P **Pn 10 43 15.8 -1.0**
GRF Grafenberg Arr 11.10 296 *e*P **Pn 10 43 17.5 -3.6**
comp=Z,21nm,1.0s
GRF Grafenberg Arr 11.10 296 *e*P **Pn 10 43 17.5 -3.6**
GRF pmax pmax
comp=Z,21nm,1.0s
MOX Moxa 11.15 302 *e*P **Pn 10 43 22.4 +0.6**
comp=Z,16nm,1.1s
MOX Moxa 11.15 302 *e*P **Pn 10 43 20.4 -1.4**
comp=Z,35nm,1.8s
MOX Moxa 11.15 302 *e*P **Pn 10 43 20.4 -1.4**
MOX pmax pmax
comp=Z,35nm,1.8s
OBN Obninsk 11.33 30 *e*P **Pn 10 43 25.6 +1.5**
OBN Obninsk 11.33 30 P **Pn 10 43 27.0 +2.9**
OBN *e*S **Sn 10 45 19.8 -9.4**
MALT Malatya 11.48 126 *e*Pn **Pn 10 43 28.4 +2.3**
comp=Z,7.2nm,0.6s
MALT Malatya 11.48 126 *e*P **Pn 10 43 28.4 +2.3**
MALT pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 11.55 93 *i* P **Pn 10 43 28.0 +1.0**
GOF Gofitskoye 11.57 87 *e*P **Pn 10 43 26.4 -0.9**
comp=Z,30nm,0.6s
GOF *i* S **Sn 10 45 31.6 -3.4**
GOF Gofitskoye 11.57 87 *e*P **Pn 10 43 26.4 -0.9**
GOF *i* S **Sn 10 45 31.6 -3.4**
GOF pmax pmax
comp=Z,30nm,0.6s
GOF smax
comp=N,40nm,0.7s
GOF smax
comp=E,70nm,0.7s
DAVA Damuels 11.64 284⇓*i*P **Pn 10 43 36.3 +8.1**
comp=E,30nm,1.4s
DAVA Damuels 11.64 284⇓*i*P **Pn 10 43 36.3 +8.1**
comp=E,30nm,1.4s
GZT Gaziantep 11.71 132 *i* P **Pn 10 43 30.8 +1.7**
CSS Prodhromos 11.90 152 *e*Pn **Pn 10 43 30.7 -1.0**
comp=E,9.1nm,0.6s
BSD Bornholm Skovb 11.98 326 *i* P **Pn 10 43 28.2 -4.5**
ARTV Artvin 12.02 107 *i* P **Pn 10 43 32.3 -0.9**
UBBA Unterbreizbach 12.18 301 *e*P **Pn 10 43 34.4 -0.8**
comp=Z,6.0nm,1.0s
MOS Moscow 12.20 31 *e*P **Pn 10 43 34.7 -0.7**
MOS *e* 10 45 51.4
CLZ Clausthal 12.32 306 *e*P **Pn 10 43 39.3 +2.2**
comp=Z,12nm,0.8s
ZEI Tsey 12.74 97 *e*P **Pn 10 43 43.7 +1.2**
VSU Vasula 12.76 0 *e*P **Pn 10 43 40.1 -2.6**
TNS Taunus Mts 12.97 297 *e*P **Pn 10 43 42.9 -2.6**
comp=Z,14nm,0.8s
PGF Pioggiola 13.04 262 *e*P **Pn 10 43 45.3 -1.1**
comp=Z,124nm,1.3s
PGF Pioggiola 13.04 262 *e*P **Pn 10 43 45.3 -1.1**
comp=Z,62nm,1.3s
PGF Pioggiola 13.04 262 *e*P **Pn 10 43 45.3 -1.1**
PGF pmax pmax
comp=Z,62nm,1.3s
BSEG Bad Segeberg 13.32 314 *e*P **Pn 10 43 54.5 +4.5**
comp=Z,48nm,1.3s
CDF Champ du Feu 13.45 288 *e*P **Pn 10 43 48.6 -3.0**
comp=Z,56nm,1.5s
CDF Champ du Feu 13.45 288 *e*P **Pn 10 43 48.6 -3.0**
comp=Z,28nm,1.5s
CDF Champ du Feu 13.45 288 *e*P **Pn 10 43 48.6 -3.0**
CDF pmax pmax
comp=Z,28nm,1.5s
HINF Hinteralfeld 13.70 286 *e*P **Pn 10 43 52.9 -2.0**
comp=Z,5.6nm,0.4s
HINF Hinteralfeld 13.70 286 *e*P **Pn 10 43 52.9 -2.0**
comp=Z,2.8nm,0.4s
HINF Hinteralfeld 13.70 286 *e*P **Pn 10 43 52.9 -2.0**
HINF pmax pmax
comp=Z,3.0nm,0.4s
SBF Sospel 13.75 269 *e*P **Pn 10 43 54.1 -1.3**
LPG La Plagne 13.91 276 *e*P **Pn 10 43 56.3 -1.2**
comp=Z,53nm,0.8s
LPG La Plagne 13.91 276 *e*P **Pn 10 43 56.3 -1.2**
comp=Z,26nm,0.8s
LPG La Plagne 13.91 276 *e*P **Pn 10 43 56.3 -1.2**
LPG pmax pmax
comp=Z,26nm,0.8s
LPL La Plagne 13.92 276 *e*P **Pn 10 43 56.3 -1.3**
comp=Z,59nm,0.9s
LPL La Plagne 13.92 276 *e*P **Pn 10 43 56.3 -1.3**
comp=Z,29nm,0.9s
LPL La Plagne 13.92 276 *e*P **Pn 10 43 56.3 -1.3**
LPL pmax pmax
comp=Z,29nm,0.9s
MBDF Montbardon 14.02 273 *e*P **Pn 10 43 57.5 -1.4**
comp=Z,35nm,0.8s
MBDF Montbardon 14.02 273 *e*P **Pn 10 43 57.5 -1.4**
comp=Z,18nm,0.8s
MBDF Montbardon 14.02 273 *e*P **Pn 10 43 57.5 -1.4**
MBDF pmax pmax
comp=Z,18nm,0.8s
CABF La Chapelle 14.25 281 *e*P **Pn 10 43 59.7 -2.1**
comp=Z,48nm,0.6s
CABF La Chapelle 14.25 281 *e*P **Pn 10 43 59.7 -2.1**
comp=Z,24nm,0.6s
CABF La Chapelle 14.25 281 *e*P **Pn 10 43 59.7 -2.1**
CABF pmax pmax
comp=Z,24nm,0.6s
GNI Garni 14.39 106 P **Pn 10 44 05.3 +1.7**
comp=Z,0.5nm,0.3s,baz=336,slow=18,SNR=3.0
GNI Garni 14.39 106 *e*Pn **Pn 10 44 06.8 +3.2**
comp=Z,14nm,1.0s
GNI Garni 14.39 106⇑*e*P **Pn 10 44 06.1 +2.5**
GNI pmax pmax
comp=Z,10.0nm,1.1s
ORIF Oris-en-Rattie 14.61 274 *e*P **Pn 10 44 05.2 -1.1**
comp=Z,22nm,0.7s
ORIF *e*R
comp=Z,195nm,19.1s
ORIF Oris-en-Rattie 14.61 274 *e*P **Pn 10 44 05.2 -1.1**
comp=Z,11nm,0.7s
ORIF Oris-en-Rattie 14.61 274 *e*P **Pn 10 44 05.2 -1.1**
ORIF pmax pmax
comp=Z,11nm,0.7s

VIVF Saint-Julien-I 15.46 275 *e*P **Pn 10 44 15.7 -1.2**
comp=Z,40nm,1.2s
VIVF Saint-Julien-I 15.46 275 *e*P **Pn 10 44 15.7 -1.2**
comp=Z,20nm,1.2s
VIVF Saint-Julien-I 15.46 275 *e*P **Pn 10 44 15.7 -1.2**
VIVF pmax pmax
comp=Z,20nm,1.2s
LOR Lormes 15.74 284 *e*P **Pn 10 44 18.5 -1.8**
comp=Z,34nm,1.0s
LOR *e*R
comp=Z,71nm,17.4s
LOR Lormes 15.74 284 *e*P **Pn 10 44 18.5 -1.8**
comp=Z,17nm,1.0s
LOR Lormes 15.74 284 *e*P **Pn 10 44 18.5 -1.8**
LOR pmax pmax
comp=Z,17nm,1.0s
FINES FINESS Array B 15.75 359 P **Pn 10 44 15.7 -4.8**
comp=Z,1.1nm,0.3s,baz=169,slow=14,SNR=27
SMF Signal de Mont 15.79 282 *e*P **Pn 10 44 19.5 -1.5**
comp=Z,49nm,1.2s
SMF Signal de Mont 15.79 282 *e*P **Pn 10 44 19.5 -1.5**
comp=Z,24nm,1.2s
SMF Signal de Mont 15.79 282 *e*P **Pn 10 44 19.5 -1.5**
SMF pmax pmax
comp=Z,24nm,1.2s
SSF Saint Saulge 15.99 283 *e*P **Pn 10 44 22.1 -1.3**
comp=Z,48nm,1.1s
SSF Saint Saulge 15.99 283 *e*P **Pn 10 44 22.1 -1.3**
comp=Z,24nm,1.1s
SSF Saint Saulge 15.99 283 *e*P **Pn 10 44 22.1 -1.3**
SSF pmax pmax
comp=Z,24nm,1.1s
AVF Avril sur Loir 16.11 282 *e*P **Pn 10 44 23.6 -1.4**
comp=Z,39nm,1.1s
AVF Avril sur Loir 16.11 282 *e*P **Pn 10 44 23.6 -1.4**
comp=Z,19nm,1.1s
AVF Avril sur Loir 16.11 282 *e*P **Pn 10 44 23.6 -1.4**
AVF pmax pmax
comp=Z,19nm,1.1s
LASF Ste Croix 16.20 272 *e*P **Pn 10 44 25.9 -0.1**
comp=Z,57nm,1.1s
LASF Ste Croix 16.20 272 *e*P **Pn 10 44 25.9 -0.1**
comp=Z,29nm,1.1s
HFS Hagfors 16.35 337 P **Pn 10 44 25.1 -2.7**
comp=Z,1.3nm,0.3s,baz=143,slow=13,SNR=19
HFA0 Hagfors New Ar 16.36 337 Pn **Pn 10 44 26.0 -1.9**
KAF Kangasniemi 16.42 359 *e*p **Pn 10 44 25.0 -3.7**
BGF Bois d'Agland 16.48 281 *e*P **Pn 10 44 28.5 -0.9**
KLMR Klimovskoe 16.95 22 *e*P **Pn 10 44 24.9 -10**
KLMR *e*S **S 10 47 35.5 -8.2**
KLMR pmax pmax
comp=Z,10.0nm,1.1s
TCF Toulx Ste Croi 16.95 281 *e*P **Pn 10 44 35.2 +0.1**
comp=Z,73nm,1.3s
TCF Toulx Ste Croi 16.95 281 *e*P **Pn 10 44 35.2 +0.1**
comp=Z,36nm,1.3s
TCF Toulx Ste Croi 16.95 281 *e*P **Pn 10 44 35.2 +0.1**
TCF pmax pmax
comp=Z,37nm,1.3s
KONO Kongsberg 17.26 330 *e*P **Pn 10 44 37.6 -1.3**
comp=Z,10nm,0.5s
KONO Kongsberg 17.26 330 *e*P **Pn 10 44 37.6 -1.3**
comp=Z,10nm,0.5s
KONO Kongsberg 17.26 330 *e*P **Pn 10 44 37.6 -1.3**
KONO pmax pmax
comp=Z,10.0nm,0.5s
CAF Calviac 17.27 276 *e*P **Pn 10 44 39.2 +0.3**
comp=Z,57nm,1.4s
CAF Calviac 17.27 276 *e*P **Pn 10 44 39.2 +0.3**
comp=Z,29nm,1.4s
CAF Calviac 17.27 276 *e*P **Pn 10 44 39.2 +0.3**
CAF pmax pmax
comp=Z,29nm,1.4s
EIL Elat 17.32 155 *e*P **Pn 10 44 38.0 -1.5**
EIL Elat 17.32 155 *e*P **Pn 10 44 38.0 -1.5**
JOF Joensuu 17.44 7 *e*p **Pn 10 44 37.5 -3.4**
MTLF Montolieu 17.54 271 *e*P **Pn 10 44 40.5 -1.7**
RJF Les Rejaudoux 17.58 278 *e*P **Pn 10 44 42.6 -0.1**
comp=Z,29nm,0.9s
RJF *e*R
comp=Z,162nm,21.6s
RJF Les Rejaudoux 17.58 278 *e*P **Pn 10 44 42.6 -0.1**
comp=Z,14nm,0.9s
RJF Les Rejaudoux 17.58 278 *e*P **Pn 10 44 42.6 -0.1**
RJF pmax pmax
comp=Z,15nm,0.9s
NAO01 NORSAR Array S 17.75 334 *e*P **Pn 10 44 42.0 -2.6**
comp=Z,16nm,0.6s
NAO01 *e*pP pP 10 45 08.0 0.0
NAO01 NORSAR Array S 17.75 334 *e*P **Pn 10 44 42.0 -2.6**
comp=Z,16nm,0.6s
NAO01 *e*pP pP 10 45 08.0 0.0
NB2 NORSAR Subarra 17.80 335 P **Pn 10 44 41.3 -4.0**
comp=Z,9.8nm,0.6s,baz=141,slow=11
NB2 NORSAR Subarra 17.80 335 P **Pn 10 44 41.3 -4.0**
NB2 pmax pmax
comp=Z,10.0nm,0.6s
NOA NORSAR Array B 17.80 335 P **Pn 10 44 41.9 -3.4**
comp=Z,1.7nm,0.3s,baz=146,slow=12,SNR=28
LDF La Druitiere 18.37 289 *e*P **P 10 44 49.3 -1.0**
comp=Z,38nm,0.7s
LDF La Druitiere 18.37 289 *e*P **P 10 44 49.3 -1.0**
comp=Z,19nm,0.7s
LDF La Druitiere 18.37 289 *e*P **P 10 44 49.3 -1.0**
LDF pmax pmax
comp=Z,19nm,0.7s
MFF Saint Martin d 18.53 282 *e*P **P 10 44 51.8 -0.2**
comp=Z,58nm,1.0s
MFF Saint Martin d 18.53 282 *e*P **P 10 44 51.8 -0.2**
comp=Z,29nm,1.0s
MFF Saint Martin d 18.53 282 *e*P **P 10 44 51.8 -0.2**
MFF pmax pmax
comp=Z,29nm,1.0s
FLN La Foliniere 18.61 289 *e*P **P 10 44 52.1 -0.8**
comp=Z,25nm,0.6s
FLN *e*R
comp=Z,144nm,19.9s
FLN La Foliniere 18.61 289 *e*P **P 10 44 52.1 -0.8**
comp=Z,13nm,0.6s
FLN La Foliniere 18.61 289 *e*P **P 10 44 52.1 -0.8**
FLN pmax pmax
comp=Z,13nm,0.6s
GRR Gorron 18.87 288 *e*P **P 10 44 54.8 -0.9**
comp=Z,43nm,1.0s
GRR Gorron 18.87 288 *e*P **P 10 44 54.8 -0.9**
comp=Z,22nm,1.0s
GRR Gorron 18.87 288 *e*P **P 10 44 54.8 -0.9**
GRR pmax pmax
comp=Z,22nm,1.0s
EPF Esparros 18.95 271 *e*P **P 10 44 59.3 +2.8**
comp=Z,11nm,0.7s
EPF Esparros 18.95 271 *e*P **P 10 44 59.3 +2.8**
comp=Z,5.7nm,0.7s
EPF Esparros 18.95 271 *e*P **P 10 44 59.3 +2.8**
EPF pmax pmax
comp=Z,6.0nm,0.7s
ETSF Etsaut 19.61 271 *e*P **P 10 45 06.5 +2.7**
comp=Z,8.3nm,0.5s
ETSF Etsaut 19.61 271 *e*P **P 10 45 06.5 +2.7**
comp=Z,4.2nm,0.5s
ETSF Etsaut 19.61 271 *e*P **P 10 45 06.5 +2.7**
ETSF pmax pmax
comp=Z,4.0nm,0.5s
SGMF Saint Gilles 20.01 288 *e*P **P 10 45 07.5 -0.5**
comp=Z,34nm,0.8s
SGMF Saint Gilles 20.01 288 *e*P **P 10 45 07.5 -0.5**
comp=Z,17nm,0.8s
SGMF Saint Gilles 20.01 288 *e*P **P 10 45 07.5 -0.5**
SGMF pmax pmax
comp=Z,17nm,0.8s
SJPF Ste Jean 20.02 272 *e*P **P 10 45 08.4 +0.3**
MOL Molde 20.09 334 *e*P **P 10 45 09.5 +0.5**
QUIF Quistinic 20.44 287 *e*P **P 10 45 12.1 -0.6**
NSS Namsos 20.52 342 *e*P **P 10 45 11.8 -1.8**
EKA Eskdalemuir Ar 21.08 308 P **P 10 45 19.3 -0.1**
comp=Z,5.9nm,0.7s,mb4.0,baz=105,slow=12,SNR=12
AKTK Aktyubinsk 21.41 66 P **P 10 45 23.7 +0.7**
AKTO Aktyubinsk 21.41 66 P **P 10 45 23.7 +0.7**
comp=Z,8.4nm,0.5s,mb4.3,baz=269,slow=9.2,SNR=46
MOR8 Moi Rana 21.52 346 *e*P **P 10 45 25.1 +1.0**
MOR8 AMb AMB 10 45 35.0
comp=Z,36nm,1.9s,mb4.5
MOR8 *e*pP 10 45 49.4
MOR8 Moi Rana 21.52 346 *e*P **P 10 45 25.1 +1.0**
comp=Z,36nm,1.9s,mb4.5
APA Apatity 22.19 7⇓*i*P **P 10 45 35.8 +4.6**

APA pmax pmax
comp=Z,34nm,0.8s,mb4.8
ARU Arti 22.54 50 *e*P **P 10 45 33.0 -1.7**
ARU Arti 22.54 50 *e*P **P 10 45 33.0 -1.7**
comp=Z,16nm,0.6s,mb4.6
ARU Arti 22.54 50⇑ *e*P **P 10 45 34.3 -0.4**
ARU pmax pmax
comp=Z,15nm,0.8s,mb4.5
NAY Al-Naaiem 23.10 128 *e*P **P 10 45 40.7 +0.9**
NAY AMb AMB 10 45 41.8
comp=Z,38nm,0.7s,mb5.0
ESDC Sonseca Array 23.18 266 P **P 10 45 39.2 -1.3**
comp=Z,1.5nm,0.6s,mb3.6,baz=55,slow=9.9,SNR=6.9
KBD Kabd 23.41 128 *e*P **P 10 45 44.1 +1.5**
KBD AMb AMB 10 45 45.2
comp=Z,170nm,0.2s
KTK1 Kautokeino 23.41 357 *e*P **P 10 45 44.1 +1.5**
KTK1 *e*pP 10 46 11.6
RDF Al-Radifah 23.52 128 *e*P **P 10 45 45.4 +1.8**
RDF AMb AMB 10 45 46.5
comp=Z,41nm,0.3s,mb5.4
ARCES ARCESS Array B 23.88 359 P **P 10 45 46.7 -0.3**
comp=Z,3.6nm,0.6s,mb4.1,baz=179,slow=11,SNR=31
KEV Kevo 24.10 0 *e*p **P 10 45 49.1 +0.2**
MDT Midelt 27.21 253 P **P 10 46 20.6 +3.7**
comp=Z,1.8nm,0.7s,mb3.8,baz=80,slow=12,SNR=4.1
BRVK Borovoye 28.98 59⇑ *e*P **P 10 46 34.0 +1.3**
comp=Z,4.4nm,0.6s,mb4.4
BRVK Borovoye 28.98 59⇑ *e*P **P 10 46 34.0 +1.4**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
BVAR Borovoye Array 29.04 59 P **P 10 46 34.8 +1.5**
comp=Z,3.1nm,0.5s,mb4.3,baz=274,slow=8.7,SNR=19
BVAR pP pP 10 47 02.1 -1.1
comp=Z,2.2nm,0.6s,baz=275,slow=11,SNR=5.0
EKS2 Erkin-Say 33.57 78 P **P 10 47 15.4 +2.5**
SNR=16
AML Almayashu 33.72 79 P **P 10 47 16.7 +2.5**
SNR=11
AAK Ala-Archa 34.08 78 P **P 10 47 19.9 +2.6**
SNR=15
AAK Ala-Archa 34.08 78 *e*P **P 10 47 18.8 +1.5**
comp=Z,11nm,0.6s,mb4.8
AAK Ala-Archa 34.08 78 *e*P **P 10 47 18.8 +1.5**
AAK pmax pmax
comp=Z,11nm,0.6s,mb4.8
UCH Uchtor 34.24 78 P **P 10 47 21.9 +3.2**
SNR=6.5
KURK Kurchatov 34.41 62 *e*P **P 10 47 20.7 +0.5**
comp=Z,5.0nm,0.3s,mb4.7
KURK Kurchatov 34.41 62 *c e*P **P 10 47 21.0 +0.8**
KZA Kyzart 34.80 78 P **P 10 47 26.5 +3.0**
SNR=6.9
NVS Novosibirsk 36.38 55 *e*P **P 10 47 37.3 +0.3**
NVS *e* pP 10 48 07.9 +0.2
NVS pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
ZAL Zalesovo 37.45 56 P **P 10 47 46.6 +0.6**
comp=E,9.9nm,0.5s,mb4.7,baz=194,slow=7.7,SNR=34
ZAL pP pP 10 48 16.9 +0.1
comp=E,1.5nm,0.5s,baz=208,slow=11,SNR=2.0
MKAR Makanchi Array 37.82 68 P **P 10 47 50.3 +1.1**
comp=E,5.9nm,0.5s,mb4.5,baz=271,slow=8.0,SNR=125
TORD Torodi Ar. Bea 38.73 221 P **P 10 47 56.6 -0.1**
comp=E,4.6nm,0.4s,mb4.4,baz=28,slow=8.8,SNR=91
TORD PcP PcP 10 50 04.5 -1.1
comp=E,1.3nm,0.8s,baz=12,slow=1.6,SNR=4.0
WMQ Urumqi 42.47 70 *e*P **P 10 48 29.7 +2.2**
WMQ AP pP 10 49 00.7 +1.8
WMQ XP sP 10 49 17.3 +2.5
WMQ AMB AMB
comp=Z,21nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,159nm,4.2s
DBIC Dimbokro 47.48 225 P **P 10 49 06.0 -1.1**
comp=Z,3.4nm,0.3s,mb4.4,baz=15,slow=9.6,SNR=25
DBIC Dimbokro 47.48 225 *e*P **P 10 49 05.5 -1.6**
comp=Z,4.0nm,0.3s,mb4.5
DBIC Dimbokro 47.48 225 *e*P **P 10 49 05.5 -1.6**
DBIC pmax pmax
comp=Z,4.0nm,0.3s
KOLN Koldanda 48.02 92 *e*P **P 10 49 12.6 +1.4**
comp=Z,27nm,0.8s,mb4.9
GKN Gorkha 48.60 91 *e*P **P 10 49 16.9 +1.3**
comp=Z,38nm,0.6s,mb5.2
DMN Daman 49.17 91 *e*P **P 10 49 21.3 +1.3**
comp=Z,32nm,0.7s,mb5.1
KKN Kakani 49.18 90 *e*P **P 10 49 21.0 +0.9**
comp=Z,30nm,0.6s,mb5.1
KKN Kakani 49.18 90 *e*P **P 10 49 21.0 +0.9**
KKN pmax pmax
comp=Z,15nm,0.6s,mb4.8
ZAK Zakamensk 49.34 55 *e*P **P 10 49 18.4 -2.9**
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb3.7
PKI Pulchoki 49.40 90 *e*P **P 10 49 23.1 +1.3**
comp=Z,12nm,0.6s,mb4.7
PKI Pulchoki 49.40 90 *e*P **P 10 49 23.1 +1.3**
PKI pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
GUN Gumba 49.52 90 *e*P **P 10 49 24.2 +1.5**
comp=Z,24nm,0.5s,mb5.1
JIRN Jiri 49.90 90 *e*P **P 10 49 27.2 +1.7**
comp=Z,34nm,0.7s,mb5.1
BOD Bodaibo 51.69 43 *e*P **P 10 49 38.4 -0.5**
BOD pmax pmax
comp=Z,3.0nm,1.2s,mb3.8
LSA Lhasa 52.13 84 *e*P **P 10 49 44.4 +2.2**
comp=Z,8.8nm,0.7s,mb4.5
LSA Lhasa 52.13 84 *e*P **P 10 49 44.4 +2.2**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
SONM Songino Array 52.33 57 P **P 10 49 45.3 +1.6**
comp=Z,6.7nm,0.7s,mb4.4,baz=297,slow=8.4,SNR=39
SONM pP pP 10 50 17.2 +1.0
comp=Z,2.9nm,0.9s,baz=296,slow=8.8,SNR=5.1
GTA Gaotai 52.55 69 *e*P **P 10 49 46.6 +1.3**
GTA AP pP 10 50 20.4 +2.5
GTA XP sP 10 50 35.4 +2.0
GTA PP PP 10 51 50.5 +4.9
GTA S **S 10 57 03.8 +2.6**
GTA XS sS 10 58 01.2 +3.6
GTA SS SS 11 00 43.9 +2.8
GTA AMB AMB
comp=Z,4.0nm,0.6s,mb4.3
GTA AMB AMB
comp=Z,81nm,5.7s
GTA LR LR
comp=N,68nm,11.4s
GTA LR LR
comp=E,121nm,14.8s
GTA LR LR
comp=Z,89nm,12.2s
LZH Lanzhou 57.05 70 *e*P **P 10 50 19.9 +2.2**
LZH AP pP 10 50 52.5 +1.8
LZH XP sP 10 51 07.1 +0.9
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,44nm,4.0s
HHC Hu-ho-hao-te 59.22 62 *e*P **P 10 50 34.0 +1.3**
HHC AP pP 10 51 07.6 +1.6
HHC PCP PcP 10 51 21.5 +1.9
HHC XP sP 10 51 22.5 +1.1
HHC PP PP 10 52 48.0 +2.9
HHC S **S 10 58 29.5 0.0**
HHC XS sS 10 59 27.2 +0.2
HHC SCS ScS 11 00 05.9 -3.1
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,47nm,3.8s
HHC LR LR
comp=N,169nm,7.7s
HHC LR LR
comp=E,113nm,4.5s
HHC LR LR
comp=Z,121nm,9.3s
CD2 Chengdu 60.08 75 *e*P **P 10 50 40.0 +1.3**
PALK Pallekele 60.17 112 *e*P **P 10 50 39.9 +0.6**
comp=Z,12nm,0.8s,mb4.8
BILL Bilibino 62.59 16 P **P 10 50 49.0 -6.5**
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
KMI Kunming 63.03 81 P **P 10 51 02.5 +4.1**
KMI AMB AMB
comp=Z,9.0nm,1.1s,mb4.5
ENH Enshi 64.33 72 *e*P **P 10 51 07.5 +0.5**
comp=Z,11nm,0.5s,mb5.0
MDJ Mudanjiang 67.22 49 P **P 10 51 24.6 -0.9**
MDJ AMB AMB
comp=Z,9.0nm,2.2s,mb4.2
MDJ AMB AMB
comp=Z,53nm,4.5s
YKA Yellowknife Ar 67.76 342 P **P 10 51 28.3 -0.5**
comp=Z,0.8nm,0.6s,mb3.6,baz=30,slow=6.0,SNR=19
YKA pP pP 10 52 03.0 +0.1
comp=Z,0.8nm,0.7s,baz=26,slow=6.2,SNR=7.1
NJ2 Nanjing 69.29 65 *e*P **P 10 51 40.6 +2.3**
NJ2 AP pP 10 52 14.8 +2.2
NJ2 XP sP 10 52 30.3 +2.5
NJ2 PP PP 10 54 18.0 +4.8
NJ2 S S 11 00 35.0 +1.6
NJ2 XS sS 11 01 35.0 +2.5
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,50nm,6.9s
NJ2 LR LR
comp=N,280nm,21.2s
NJ2 LR LR
comp=E,1μm,16.5s
NJ2 LR LR
comp=Z,370nm,21.5s
ILAR Eielson Array 69.73 357 P **P 10 51 40.5 -0.5**
comp=Z,0.2nm,0.6s,baz=354,slow=4.9,SNR=5.8
LBTB Lobatse 70.41 181 P **P 10 51 46.0 +0.8**
comp=Z,4.4nm,0.7s,mb4.3,baz=360,slow=6.6,SNR=5.2
LBTB Lobatse 70.41 181 *e*P **P 10 51 45.5 +0.4**
comp=Z,3.7nm,0.7s,mb4.2
LBTB Lobatse 70.41 181 *e*P **P 10 51 45.5 +0.3**
LBTB pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
SSE Sheshan 71.41 64 P **P 10 51 51.4 +0.2**
SSE AP pP 10 52 25.6 0.0
SSE XP sP 10 52 40.3 -0.5
SSE S S 11 00 57.0 -1.0
SSE XS sS 11 01 56.6 -0.8
SSE SS SS 11 05 34.1 -1.2
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,93nm,8.5s
SSE LR LR
comp=N,29nm,20.2s
SSE LR LR
comp=E,36nm,20.2s
SSE LR LR
comp=Z,31nm,19.9s
ULM Lac du Bonnet 72.20 325 P **P 10 51 55.1 -0.8**
comp=Z,0.7nm,0.3s,mb3.8,baz=32,slow=6.7,SNR=4.2
BOSA Boshof 73.99 181 P **P 10 52 06.7 +0.2**
comp=Z,1.4nm,0.6s,mb3.9,baz=217,slow=6.4,SNR=4.2
BOZ Bozeman (W) 81.83 332 *e*P **P 10 52 51.6 +1.9**
comp=Z,4.9nm,0.8s,mb4.2
BOZ Bozeman (W) 81.83 332 *e*P **P 10 52 51.6 +1.8**
BOZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
PDAR Pinedale Array 83.65 329 P **P 10 52 59.1 0.0**
comp=Z,0.7nm,0.9s,mb3.4,baz=55,slow=4.0,SNR=5.9
WRA Warramunga Arr 116.27 92 PKP PKPdf 10 59 12.4 -0.7
comp=Z,0.2nm,0.7s,baz=314,slow=1.6,SNR=4.8
ASAR Alice Springs 118.41 96 PKP PKPdf 10 59 16.6 -0.6
comp=Z,0.2nm,0.7s,baz=319,slow=1.0,SNR=5.4
VNDA Vanda 143.59 165 PKP PKPdf 11 00 00.5 -4.0
comp=Z,2.5nm,1.2s,baz=200,slow=4.2,SNR=5.1
VNDA Vanda 143.59 165 PKIKP PKPdf 11 00 00.5 -3.9
VNDA pmax pmax
comp=Z,3.0nm,1.2s

*BJI **06** 10:59:08.6, 1259N×14484E, h139km, mB4.8, mb4.6*
*ISCJB **06** 10:59:15.0±0.7, 1316N±005×14405E±0.10, h130km±7km, mb4.2/34, Error ellipse: s-maj=15.4km s-min=8.1km az=175.8*
*NEIC **06** 10:59:16.8±0.9, 1319N×14426E, h139km±9km, mb4.4/17, Error ellipse: s-maj=15.9km s-min=6.9km az=85.0*
*IDC **06** 10:59:16.2±0.6, 1316N×14424E, h131km±5km, mb4.0/16, mb1 4.1/16, mb1mx4.0/24, mbtmp4.3/16, Error ellipse: s-maj=18.4km s-min=11.3km az=90.0*
ISC 06 10:59:16.6±0.6, 1319N±005×14417E±010, h132km±6km, n52, σ0§97/49, mb4.2/34, 1C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.79**	**59**	P	**Pn**	**10 59 38.1**	**+0.3**
	623nm,0.3s,baz=201,slow=1.7,SNR=449						
GUMO				S	**Sn**	**10 59 53.8**	**0.0**
	1μm,0.3s,baz=63,slow=23,SNR=73						
GUMO	**Guam**	**0.79**	**59**	*e*Pg	**Pn**	**10 59 38.2**	**+0.5**
GUMO				*e*S	**Sn**	**10 59 53.4**	**-0.4**
JOW	**Kunigami**	**20.15**	**315**	P	**P**	**11 03 42.5**	**+2.0**
	23nm,0.4s,baz=137,slow=12,SNR=5.0						
PMG	**Port Moresby**	**22.64**	**172**	P	**P**	**11 04 06.7**	**+0.1**
	4.6nm,0.6s,mb4.1,baz=69,slow=5.6,SNR=3.7						
JNU	**Nakatsue**	**23.26**	**331**	P	**P**	**11 04 13.2**	**+0.9**
	24nm,0.9s,mb4.7,baz=85,slow=5.7,SNR=6.9						
MJAR	**Matsushiro Arr**	**23.86**	**348**	P	**P**	**11 04 16.2**	**-1.6**
	3.9nm,0.5s,mb4.2,baz=168,slow=9.4,SNR=12						
MAJO	**Matsushiro**	**23.86**	**348**	*e*P	**P**	**11 04 16.1**	**-1.7**
MAT	**Matsushiro**	**23.86**	**348**	P	**P**	**11 04 16.4**	**-1.4**
MAT	**Matsushiro**	**23.86**	**348**	*e*P	**P**	**11 04 16.0**	**-1.8**
	8.4nm,0.9s,mb4.3						
CTA	**Charters Tower**	**33.13**	**176**	*e*P	**P**	**11 05 40.8**	**+0.7**
	4.0nm,0.8s,mb4.2						
CTAO	**Charters Tower**	**33.13**	**176**	*e*P	**P**	**11 05 40.7**	**+0.5**
	5.1nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**34.30**	**197**	*e*P	**P**	**11 05 49.9**	**-0.4**
	15nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**34.31**	**197**	⇓*i*P	**P**	**11 05 50.2**	**-0.2**
WRA	**Warramunga Arr**	**34.32**	**197**	P	**P**	**11 05 50.2**	**-0.2**
	9.1nm,0.8s,mb4.6,baz=21,slow=9.6,SNR=86						
WRA				ScP	ScP	11 11 55.9	-0.4
	0.4nm,0.6s,baz=11,slow=3.6,SNR=6.2						
FITZ	**Fitzroy Crossi**	**36.07**	**211**	*e*P	**P**	**11 06 05.2**	**-0.2**
	5.6nm,0.8s,mb4.2						
BJT	**Baijiatuau**	**36.33**	**323**	*e*P	**P**	**11 06 07.9**	**+0.3**
	5.6nm,0.5s,mb4.5						
AS31	**Alice Springs**	**37.98**	**195**	*e*P	**P**	**11 06 21.4**	**-0.1**
ASAR	**Alice Springs**	**37.98**	**195**	P	**P**	**11 06 21.4**	**-0.1**
	1.8nm,0.8s,mb3.7,baz=20,slow=12,SNR=24						
ASAR				ScP	ScP	11 12 09.4	-0.4
	0.5nm,0.7s,baz=20,slow=3.9,SNR=5.9						
ASPA	**Alice Springs**	**37.98**	**195**	*e*P	**P**	**11 06 21.4**	**-0.2**
MBWA	**Marble Bar**	**41.73**	**215**	*e*P	**P**	**11 06 52.5**	**-0.1**
	4.2nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**44.88**	**183**	*e*P	**P**	**11 07 15.5**	**-2.3**
	3.0nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**44.88**	**183**	P	**P**	**11 07 15.6**	**-2.2**
	4.3nm,0.7s,mb4.2,baz=356,slow=7.1,SNR=6.8						
STKA	**Stephens Creek**	**44.88**	**183**	*e*P	**P**	**11 07 14.9**	**-2.9**
ULN	**Ulaanbaatar**	**46.33**	**326**	*e*P	**P**	**11 07 29.9**	**+0.7**
	4.1nm,0.9s,mb4.1						
SONM	**Songino Array**	**46.67**	**325**	P	**P**	**11 07 32.5**	**+0.6**
	1.9nm,0.7s,mb3.9,baz=143,slow=8.4,SNR=16						
GTA	**Gaotai**	**46.94**	**312**	*e*P	**P**	**11 07 35.0**	**+1.1**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
TOO	**Toolangi**	**50.50**	**179**	⇑*i*P	**P**	**11 08 02.9**	**+1.7**
	comp=Z,13nm,1.3s,mb4.4						
KLBR	**Kellerberrin**	**51.23**	**209**	⇓*i*P	**P**	**11 08 05.9**	**-0.7**
	comp=Z,4.5nm,0.6s,mb4.3						
JIRN	**Jiri**	**55.76**	**295**	*e*P	**P**	**11 08 40.1**	**+0.5**
	comp=Z,5.5nm,0.4s,mb4.8						
GUN	**Gumba**	**56.04**	**295**	*e*P	**P**	**11 08 42.4**	**+0.7**
	comp=Z,6.9nm,0.4s,mb4.8						
GKN	**Gorkha**	**57.15**	**295**	*e*P	**P**	**11 08 48.9**	**-0.6**
	comp=Z,5.5nm,0.3s,mb4.8						
KOLN	**Koldanda**	**58.06**	**295**	*e*P	**P**	**11 08 51.9**	**-3.9**
	comp=Z,8.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**61.31**	**316**	P	**P**	**11 09 18.6**	**+0.5**
	comp=Z,1.3nm,0.4s,mb4.1,baz=92,slow=8.6,SNR=37						
KURK	**Kurchatov**	**64.45**	**320**	*e*P	**P**	**11 09 38.1**	**-0.8**
	comp=Z,8.1nm,1.3s,mb4.4						
ILAR	**Eielson Array**	**69.22**	**25**	P	**P**	**11 10 06.8**	**-2.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=250,slow=5.7,SNR=21						
BVAR	**Borovoye Array**	**69.82**	**322**	P	**P**	**11 10 12.7**	**-0.1**
	baz=100,slow=8.3,SNR=3.9						
BRVK	**Borovoye**	**69.89**	**322**	*e*P	**P**	**11 10 12.3**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.7						
ARU	**Arti**	**76.71**	**325**	*e*P	**P**	**11 10 47.0**	**-6.2**
	comp=Z,13nm,0.6s,mb4.7						
YKA	**Yellowknife Ar**	**83.52**	**27**	P	**P**	**11 11 28.8**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.6,baz=288,slow=5.1,SNR=19						
YBH	**Yreka Blue Hor**	**83.64**	**49**	P	**P**	**11 11 31.8**	**+1.4**
	comp=Z,2.4nm,0.6s,mb4.1,baz=30,slow=14,SNR=6.5						
RES	**Resolute Bay**	**85.09**	**13**	*e*P	**P**	**11 11 37.4**	**-0.3**
	comp=Z,0.8nm,0.4s,mb3.8						
NEW	**Newport**	**85.98**	**41**	P	**P**	**11 11 42.5**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.3,baz=197,slow=1.5,SNR=11						
NEW	**Newport**	**85.98**	**41**	*e*P	**P**	**11 11 42.5**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**87.25**	**342**	P	**P**	**11 11 47.6**	**-0.7**
	comp=Z,3.6nm,1.0s,mb4.2,baz=71,slow=7.8,SNR=5.1						
NVAR	**Mina Array Bea**	**87.70**	**51**	P	**P**	**11 11 51.3**	**+1.0**
	comp=Z,1.6nm,0.6s,mb4.0,baz=257,slow=5.4,SNR=8.8						
ELK	**Elko**	**89.34**	**48**	*e*P	**P**	**11 11 59.4**	**+1.3**
	comp=Z,2.7nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**92.73**	**45**	P	**P**	**11 12 14.8**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.7,baz=248,slow=1.6,SNR=4.8						
JTS	**JuntasAbangare**	**125.94**	**67**	*e*PKPdf	PKPdf	11 18 03.7	+0.8
TORD	**Torodi Ar. Bea**	**134.53**	**304**	PKP	PKPdf	11 18 20.0	+0.8
	comp=Z,0.5nm,0.5s,baz=51,slow=2.6,SNR=6.6						
DBIC	**Dimbokro**	**143.45**	**301**	PKP	PKPdf	11 18 33.6	-1.8
	comp=Z,2.2nm,0.4s,baz=118,slow=4.7,SNR=4.8						
LPAZ	**La Paz**	**148.63**	**100**	PKPbc	PKPbc	11 18 51.1	+3.0
	comp=Z,1.5nm,0.5s,baz=279,slow=4.0,SNR=3.6						
LPAZ	**La Paz**	**148.63**	**100**	*e*PKPab	PKPab	11 18 51.1	-1.0

*IDC **06** 11:23:56.4±3.7, 2137S×3311E, h0km, mb3.7/1, mb1 3.9/2, mb1mx3.4/21, mbtmp3.8/2, ML4.0/1, Error ellipse: s-maj=91.6km s-min=33.0km az=117.0*
*NEIC **06** 11:23:57.3±1.9, 2128S×3321E, h10km, mb4.4/1, Error ellipse: s-maj=29.0km s-min=15.4km az=99.0*
*ISCJB **06** 11:23:59.3±1.6, 2132S±006×326E±0.1, h10km, mb3.7/1, Error ellipse: s-maj=16.9km s-min=7.0km az=29.8*
ISC 06 11:24:00.6±1.5, 2118S±005×329E±01, h10km, n8, σ1§28/14, mb3.7/1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.36**	**322**	*e*Pn	**Pn**	**11 25 48.8**	**+0.7**
	4.6nm,0.3s						
LSZ				*e*Sn	**Sn**	**11 27 12.2**	**+0.5**
LSZ				*e*Sg	**Sg**	**11 27 55.3**	**-1.4**
LBTB	**Lobatse**	**7.69**	**239**	*e*Pn	**Pn**	**11 25 54.5**	**+1.9**
	24nm,0.6s						
LBTB				*e*Sn	**Sn**	**11 27 21.7**	**+1.9**
LBTB				*e*Sg	**Sg**	**11 28 06.5**	**-0.8**
BOSA	**Boshof**	**10.11**	**221**	Pn	**Pn**	**11 26 24.5**	**-1.3**
	0.8nm,0.3s,baz=49,slow=13,SNR=12						
BOSA				Sn	**Sn**	**11 28 13.6**	**-5.7**
	1.9nm,0.3s,baz=114,slow=21,SNR=3.1						
BOSA				Lg		11 29 16.5	
	4.0nm,0.3s,baz=299,slow=20,SNR=3.0						
BOSA	**Boshof**	**10.11**	**221**	Pn	**Pn**	**11 26 24.5**	**-1.3**
BOSA				Sn	**Sn**	**11 28 13.6**	**-5.7**
BOSA				Lg		11 29 16.5	
TSUM	**Tsumeb**	**14.47**	**275**	*e*Pn	**Pn**	**11 27 26.3**	**+0.9**
	4.1nm,0.6s						
SUR	**Sutherland**	**15.47**	**221**	*e*Pn	**Pn**	**11 27 37.0**	**-1.8**
	24nm,1.0s						
SUR				*e*Sn	**Sn**	**11 30 23.9**	**-6.4**
TORD	**Torodi Ar. Bea**	**45.83**	**315**	P	**P**	**11 32 22.7**	**0.0**
	0.6nm,0.6s,mb3.7,baz=130,slow=8.6,SNR=4.6						
YKA	**Yellowknife Ar**	**133.11**	**340**	PKP	PKPdf	11 43 13.3	-3.2
	0.2nm,0.5s,baz=39,slow=1.7,SNR=5.4						

*IDC **06** 11:32:28.5±2.8, 1382N×9133E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.7/18, Error ellipse: s-maj=113.4km s-min=23.8km az=69.0*
*ISCJB **06** 11:32:35.1±4.4, 139N±02×908E±02, h96km±51km, mb3.6/4, Error ellipse: s-maj=29.1km s-min=24.0km az=62.5*
ISC 06 11:32:34.6±3.4, 139N±02×909E±02, h60km±39km, n14, σ1§06/14, mb3.6/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.88**	**141**	*e*P	Px	11 33 30.0	
PBA				*e*x	x	11 34 15.5	
PBA				*e*x	x	11 34 15.8	
	comp=N,1μm,0.9s						
PBA				*e*x	x	11 34 18.0	
	comp=E,1μm,0.6s						
VIS	**Vishakhapatnam**	**8.21**	**298**	*e*P	**Pn**	**11 34 34.1**	**+3.1**
VIS				*e*S	**Sn**	**11 36 01.3**	**-1.0**
VIS				AML	AML	11 36 05.3	
	comp=E,26nm,0.2s						
VIS				AML	AML	11 36 05.6	
	comp=N,34nm,0.2s						
BOK	**Bokaro**	**10.91**	**335**	*e*P	**Pn**	**11 35 07.7**	**-0.1**
BOK				*e*S	**Sn**	**11 36 59.1**	**-9.2**
BOK				AML	AML	11 37 15.4	
	comp=N,22nm,0.5s						
BOK				AML	AML	11 37 15.9	
	comp=E,18nm,0.4s						
PSI	**Prapat**	**13.60**	**144**	LR	LR	11 41 07.7	
	comp=E,62nm,20.3s,baz=67,slow=39						
JIRN	**Jiri**	**14.36**	**343**	*e*P	**Pn**	**11 35 53.1**	**-1.5**
	comp=E,12nm,0.5s						
PKI	**Pulchoki**	**14.52**	**340**	*e*P	**Pn**	**11 35 56.2**	**-0.5**
DMN	**Daman**	**14.65**	**339**	*e*P	**Pn**	**11 35 58.5**	**+0.1**
KKN	**Kakani**	**14.76**	**340**	*e*P	**Pn**	**11 35 59.9**	**0.0**
GKN	**Gorkha**	**15.18**	**338**	*e*P	**Pn**	**11 36 05.1**	**-0.2**
	comp=E,16nm,0.3s						
KOLN	**Koldanda**	**15.37**	**335**	*e*P	**Pn**	**11 36 08.4**	**+0.7**
	comp=E,13nm,0.4s						
MKAR	**Makanchi Array**	**33.56**	**349**	P	**P**	**11 39 11.9**	**+3.3**
	comp=E,0.9nm,0.7s,mb3.8,baz=175,slow=9.0,SNR=10						
SONM	**Songino Array**	**36.18**	**18**	P	**P**	**11 39 32.3**	**+1.0**
	comp=E,0.3nm,0.5s,mb3.5,baz=201,slow=7.6,SNR=3.6						
WRA	**Warramunga Arr**	**54.39**	**127**	P	**P**	**11 41 54.6**	**-0.7**
	comp=E,0.7nm,0.7s,mb3.7,baz=305,slow=8.0,SNR=5.8						
WRA				PcP	PcP	11 42 59.7	+1.2
	comp=E,0.4nm,0.7s,baz=319,slow=3.5,SNR=5.7						
ASAR	**Alice Springs**	**56.24**	**131**	P	**P**	**11 42 08.3**	**-0.3**
	comp=E,0.4nm,0.6s,mb3.6,baz=309,slow=6.6,SNR=7.7						

*BJI **06** 12:01:31.9, 4569N×8102E, h15km, ML3.7*
*ISCJB **06** 12:01:32.0±0.6, 4562N±005×8091E±006, h10km, mb3.4/3, Error ellipse: s-maj=7.2km s-min=5.0km az=117.8*
*IDC **06** 12:01:31.9±1.6, 4562N×8129E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.5/3, Error ellipse: s-maj=25.9km s-min=18.4km az=107.0*
*NNC **06** 12:01:33.6±1.0, 4566N×8102E, h6km±10km, mb3.6, mpv3.3, Error ellipse: s-maj=10.5km s-min=4.2km az=154.0*
*NEIC **06** 12:01:35.0±4.8, 4555N×8120E, h22km±37km, Error ellipse: s-maj=24.6km s-min=13.5km az=125.0*
*MOS **06** 12:01:37.0±1.3, 4567N×8078E, h62km, mb3.8/1, Error ellipse: s-maj=21.6km s-min=13.3km az=97.7*
ISC 06 12:01:33.8±0.6, 4565N±004×8103E±006, h10km, n24, σ1§03/35, mb3.4/3, 10C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.44**	**37**	P	**Pn**	**12 02 00.1**	**+0.1**
	24nm,0.3s,baz=216,slow=18,SNR=1950						
MK31				⇑S	**Sn**	**12 02 19.1**	**+0.2**
	222nm,0.5s,baz=210,slow=29,SNR=34						
MK31	**Makanchi Array**	**1.44**	**37**	*i* PN	**Pn**	**12 02 00.0**	**+0.1**
MK31				pmax	pmax		
	comp=Z,53nm,0.1s						
MKAR	**Makanchi Array**	**1.44**	**37**	Pn	**Pn**	**12 02 00.1**	**+0.1**
	comp=Z,28nm,0.3s,baz=209,slow=15,SNR=1079						
MKAR				Sn	**Sn**	**12 02 18.9**	**0.0**
	comp=Z,89nm,0.3s,baz=210,slow=30,SNR=43						
MKAR	**Makanchi Array**	**1.44**	**37**	P	**Pn**	**12 02 00.0**	**+0.1**
MKAR				S	**Sn**	**12 02 19.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.2s						
TKM2	**Tokmak 2**	**4.76**	**237**	⇑Pg	**Pg**	**12 02 59.2**	**-5.7**
	comp=Z,7.0nm,0.6s						
TKM2				⇓Lg		12 04 04.6	
	comp=Z,25nm,0.7s						

TKM2	**Tokmak 2**	**4.76 237**	*i* PN	**Pg**	**12 02 59.1**	**-5.8**
TKM2			pmax	pmax		
comp=Z,7.0nm,0.6s						
WMQ	**Urumqi**	**5.08 109**	P	**Pn**	**12 02 50.4**	**+0.4**
WMQ			SG	**Sg**	**12 04 08.6**	**-8.4**
WMQ			Smax			
comp=N,51nm,0.6s						
WMQ			Smax			
comp=E,40nm,0.5s						
KURK	**Kurchatov**	**5.32 343**	⇑Pn	**Pn**	**12 02 54.7**	**+1.4**
comp=E,1.0nm,0.6s						
KURK			⇑Pg	**Pg**	**12 03 09.7**	**-6.0**
comp=E,4.4nm,0.8s						
KURK			⇓Sn	**Sn**	**12 03 55.0**	**+0.3**
comp=E,4.6nm,0.5s						
KURK			⇑Lg		12 04 20.6	
comp=E,37nm,0.9s						
KURK	**Kurchatov**	**5.32 343**	*e*Pn	**Pn**	**12 02 54.4**	**+1.1**
comp=E,17nm,0.9s						
KURK			Pg	**Pg**	**12 03 10.6**	**-5.1**
KURK			*e*Sn	**Sn**	**12 03 56.1**	**+1.5**
KURK			*e*Sg	**Sg**	**12 04 22.3**	**-2.4**
KURK	**Kurchatov**	**5.32 343**	*e*PN	**Pn**	**12 02 54.4**	**+1.1**
KURK			*e*		12 03 56.1	
KURK			pmax	pmax		
comp=Z,17nm,0.9s						
AAK	**Ala-Archa**	**5.58 240**	*e*Pn	**Pn**	**12 02 56.9**	**+0.1**
comp=Z,5.9nm,0.6s						
AAK	**Ala-Archa**	**5.58 240**	*e*PN	**Pn**	**12 02 56.9**	**0.0**
AAK			pmax	pmax		
comp=Z,6.0nm,0.6s						
KK31	**Karatay Array**	**7.95 255**	Pn	**Pn**	**12 03 29.4**	**0.0**
comp=Z,0.2nm,0.2s,baz=312,slow=45,SNR=15						
KK31			⇑Lg		12 05 44.6	
comp=Z,5.4nm,0.6s,baz=59,slow=25,SNR=5.0						
KKAR	**Karatay Array**	**7.95 255**	P	**Pn**	**12 03 29.4**	**0.0**
VOSK	**Vostochnaya**	**9.66 321**	⇑Pn	**Pn**	**12 03 53.1**	**+0.2**
comp=Z,6.5nm,1.8s						
VOSK			⇓Sn	**Sn**	**12 05 42.3**	**+0.9**
comp=Z,2.8nm,0.5s						
VOSK			⇑Lg		12 06 39.3	
comp=Z,11nm,1.1s						
VOSK	**Vostochnaya**	**9.66 321**	P	**Pn**	**12 03 52.7**	**-0.1**
VOSK					12 05 38.7	
VOSK			pmax	pmax		
comp=Z,2.0nm,0.9s						
BVA0	**Borovoye Array**	**10.13 321**	⇑Pn	**Pn**	**12 04 00.6**	**+1.4**
comp=Z,0.3nm,0.8s,baz=127,slow=12,SNR=4.7						
BVA0			⇑Lg		12 06 53.4	
comp=Z,1.0nm,0.7s,baz=138,slow=27,SNR=3.7						
BVA0	**Borovoye Array**	**10.13 321**	*e*P	**Pn**	**12 04 00.6**	**+1.4**
BRVK	**Borovoye**	**10.20 321**	*e*Pn	**Pn**	**12 04 03.1**	**+3.0**
BRVK			Sn	**Sn**	**12 05 53.2**	**-1.4**
AB31	**Akbulak array**	**14.71 292**	P	**Pn**	**12 05 00.9**	**-0.9**
comp=Z,0.4nm,0.4s,baz=109,slow=7.5,SNR=12						
ILAR	**Eielson Array**	**63.74 21**	P	**P**	**12 12 03.9**	**-1.8**
comp=Z,0.4nm,0.8s,mb3.5,baz=317,slow=4.6,SNR=5.4						
YKA	**Yellowknife Ar**	**71.49 8**	P	**P**	**12 12 53.7**	**-0.8**
comp=Z,0.3nm,0.6s,mb3.4,baz=345,slow=6.3,SNR=7.9						
YKA	**Yellowknife Ar**	**71.49 8**	P	**P**	**12 12 53.7**	**-0.9**
WRA	**Warramunga Arr**	**81.22 130**	P	**P**	**12 13 49.2**	**-0.6**
comp=Z,0.4nm,0.9s,mb3.4,baz=331,slow=5.1,SNR=4.6						

ISCJB ***06*** *12:04:59.4±4.4, 48S±04×1517E±04, h70km±35km, mb3.6/4, Error ellipse: s-maj=91.2km s-min=27.9km az=76.3*
NEIC ***06*** *12:05:01.3±3.8, 488S×15190E, h86km±29km, mb4.1/2, Error ellipse: s-maj=78.8km s-min=26.7km az=128.0*
IDC ***06*** *12:05:01.9±6.0, 493S×15180E, h92km±49km, mb3.4/3, mb1 3.6/4, mb1mx3.3/14, mbtmp3.7/4, Error ellipse: s-maj=147.5km s-min=31.0km az=127.0*

ISC 06 12:05:00.7±4.0, 48S±04×1518E±04, h71km±31km, n10, σ1$29/12, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.48**	**225**	P	**Pn**	**12 06 34.5**	**+1.1**
0.7nm,0.3s,baz=5.2,slow=11,SNR=3.6							
PMG				S	**Sn**	**12 07 44.2**	**-1.6**
1.7nm,0.3s,baz=126,slow=19,SNR=4.4							
PMG	**Port Moresby**	**6.48**	**225**	*e*P	**Pn**	**12 06 34.7**	**+1.3**
PMG				Sn	**Sn**	**12 07 44.5**	**-1.4**
KAKA	**Kakadu**	**20.66**	**246**	*e*P	**P**	**12 09 36.1**	**+1.4**
12nm,1.0s							
WRAB	**Tennant Creek**	**22.68**	**227**	*e*P	**P**	**12 09 55.3**	**-0.9**
3.2nm,0.4s,mb4.0							
WB2	**Warramunga Arr**	**22.68**	**227**	*e*P	**P**	**12 09 55.4**	**-0.8**
WRA	**Warramunga Arr**	**22.69**	**227**	P	**P**	**12 09 55.6**	**-0.7**
1.6nm,0.4s,mb3.7,baz=53,slow=10.0,SNR=27							
AS31	**Alice Springs**	**25.47**	**221**	*e*P	**P**	**12 10 24.0**	**+1.9**
ASAR	**Alice Springs**	**25.47**	**221**	P	**P**	**12 10 21.5**	**-0.6**
1.0nm,0.4s,mb3.6,baz=56,slow=9.2,SNR=31							
ASPA	**Alice Springs**	**25.47**	**221**	*e*P	**P**	**12 10 24.0**	**+1.9**
ILAR	**Eielson Array**	**82.55**	**22**	P	**P**	**12 17 14.4**	**-1.4**
0.6nm,1.2s,mb3.3,baz=238,slow=5.2,SNR=4.4							

NIED ***06*** *12:50:00, 33.40N×142.40E, h65km, Mw4.1 Best double couple: M0:1.84000×10^15 NP1:φ=298.00000°, δ71.00000°, λ96.00000°. NP2:φ=100.00000°, δ20.00000°, λ72.00000°.*
IDC ***06*** *12:50:36.7±0.7, 33.29N×142.46E, h0km, mb3.8/14, mb1 3.9/17, mb1mx3.9/24, mbtmp3.9/17, ML3.8/3, Error ellipse: s-maj=19.2km s-min=14.7km az=80.0*
MOS ***06*** *12:50:39.8±0.9, 33.26N×142.39E, h38km, mb4.4/1, Error ellipse: s-maj=26.1km s-min=10.6km az=120.5*
ISCJB ***06*** *12:50:39.4±0.5, 33.32N±004×142.45E±005, h33km, mb3.8/15, Error ellipse: s-maj=7.3km s-min=4.8km az=91.8*
JMA ***06*** *12:50:40.6±0.3, 33.36N×142.38E, h74km, M3.6*
NEIC ***06*** *12:50:40.5±3.9, 33.28N×142.45E, h25km±26km, MG3.6(JMA), Error ellipse: s-maj=16.9km s-min=10.7km az=85.0*

ISC 06 12:50:41.7±0.5, 33.36N±005×142.42E±005, h35km, n39, σ0$97/52, mb3.8/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.77**	**318**	P	**Pn**	**12 51 09.1**	**-0.6**
BSO1				*e*S	**Sn**	**12 51 31.6**	**+0.7**
BSO3	**Boso 3**	**2.15**	**313**	P	**Pn**	**12 51 14.7**	**-0.2**
BSO3				*e*S	**Sn**	**12 51 40.1**	**-0.2**
JHJ2	**Mitsune**	**2.20**	**264**	P	**Pn**	**12 51 15.4**	**-0.2**
JHJ2				*e*S	**Sn**	**12 51 41.9**	**+0.3**
JHJ	**Hachijo jima 2**	**2.22**	**265**	Pn	**Pn**	**12 51 15.7**	**-0.4**
77nm,0.3s,baz=222,slow=22,SNR=20							
JHJ				Sn	**Sn**	**12 51 42.3**	**0.0**
132nm,0.3s,baz=227,slow=23,SNR=9.2							
BSO4	**Boso 4**	**2.38**	**314**	P	**Pn**	**12 51 18.6**	**+0.5**
BSO4				*e*S	**Sn**	**12 51 45.8**	**-0.2**
JIM2	**Oshima 3**	**2.83**	**300**	*e*S	**Sn**	**12 51 55.3**	**-1.9**
JOD2	**Odawara 2**	**3.35**	**306**	P	**Pn**	**12 51 31.0**	**-0.5**
JYN	**Shimob**	**3.85**	**305**	P	**Pn**	**12 51 39.0**	**+0.6**
JAG	**Ashikaga**	**3.92**	**322**	P	**Pn**	**12 51 38.9**	**-0.4**
JRY	**Ryogami san**	**3.93**	**313**	P	**Pn**	**12 51 39.5**	**0.0**
JRY				*e*S	**Sn**	**12 52 23.4**	**-1.0**
JMM	**Marumori**	**4.69**	**344**	P	**Pn**	**12 51 47.9**	**-2.1**
JMM				*e*S	**Sn**	**12 52 38.2**	**-5.0**
MJAR	**Matsushiro Arr**	**4.70**	**314**	Pn	**Pn**	**12 51 50.6**	**+0.6**
4.7nm,0.3s,baz=196,slow=9.9,SNR=37							
MJAR				Sn	**Sn**	**12 52 44.9**	**+1.6**
3.4nm,0.3s,baz=148,slow=17,SNR=7.6							
MJAR	**Matsushiro Arr**	**4.70**	**314**	Pn	**Pn**	**12 51 50.6**	**+0.6**
MJAR				Sn	**Sn**	**12 52 44.9**	**+1.6**
MAJO	**Matsushiro**	**4.70**	**314**	*e*Pn	**Pn**	**12 51 50.6**	**+0.6**
MAT	**Matsushiro**	**4.70**	**314**	P	**Pn**	**12 51 51.1**	**+1.0**
MAT				S	**Sn**	**12 52 43.1**	**-0.2**
MAT	**Matsushiro**	**4.70**	**314**	*e*P	**Pn**	**12 51 51.0**	**+0.9**
MAT				*e*S	**Sn**	**12 52 43.0**	**-0.3**
JMK	**Ichinoseki**	**5.67**	**350**	P	**Pn**	**12 52 00.8**	**-2.6**
JMK				*e*S	**Sn**	**12 53 01.7**	**-5.5**
CBIJ	**Chichi jima**	**6.24**	**182**	Pn	**Pn**	**12 52 08.6**	**-2.6**
6.2nm,0.3s,baz=274,slow=22,SNR=7.4							
CBIJ				Sn	**Sn**	**12 53 15.8**	**-5.5**
13nm,0.3s,baz=266,slow=19,SNR=4.0							
CBIJ	**Chichi jima**	**6.24**	**182**	P	**Pn**	**12 52 08.8**	**-2.4**
ASAJ	**Asahikawa**	**10.75**	**1**	Pn	**Pn**	**12 53 09.6**	**-3.4**
1.1nm,0.3s,baz=265,slow=23,SNR=9.0							
ASAJ	**Asahikawa**	**10.75**	**1**	P	**Pn**	**12 53 09.6**	**-3.4**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
SONM	**Songino Array**	**30.63**	**309**	P	**P**	**12 56 54.1**	**+1.6**
comp=Z,1.3nm,0.8s,mb3.8,baz=103,slow=9.0,SNR=10							
BOD	**Bodaibo**	**31.11**	**330**	*e*P	**P**	**12 56 56.3**	**-0.4**
BOD				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.1							
MKAR	**Makanchi Array**	**46.84**	**305**	P	**P**	**12 59 07.6**	**-0.5**
comp=Z,0.6nm,0.6s,mb3.7,baz=91,slow=6.3,SNR=9.9							
ILAR	**Eielson Array**	**52.19**	**31**	P	**P**	**12 59 48.8**	**-0.1**
comp=Z,0.5nm,0.7s,mb3.5,baz=266,slow=6.5,SNR=7.2							
WRA	**Warramunga Arr**	**53.56**	**189**	P	**P**	**12 59 58.7**	**-0.3**
comp=Z,1.0nm,0.7s,mb3.9,baz=7.4,slow=7.6,SNR=16							
WRA				PcP	PcP	13 01 07.0	+1.7
comp=Z,0.7nm,0.7s,baz=2.0,slow=4.5,SNR=5.9							
BVAR	**Borovoye Array**	**53.70**	**315**	P	**P**	**13 00 00.4**	**+0.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=78,slow=7.5,SNR=2.9							
ASAR	**Alice Springs**	**57.28**	**189**	P	**P**	**13 00 24.9**	**-0.9**
comp=Z,0.4nm,0.9s,mb3.5,baz=13,slow=8.7,SNR=3.5							
INK	**Inuvik**	**57.30**	**26**	P	**P**	**13 00 26.4**	**+0.5**
comp=Z,0.7nm,0.9s,mb3.7,baz=286,slow=6.3,SNR=4.5							
AKTK	**Aktyubinsk**	**61.78**	**314**	P	**P**	**13 00 58.2**	**+1.5**
AKTO	**Aktyubinsk**	**61.78**	**314**	P	**P**	**13 00 58.2**	**+1.5**
comp=Z,1.0nm,0.7s,mb4.0,baz=129,slow=6.5,SNR=3.7							
STKA	**Stephens Creek**	**64.89**	**181**	P	**P**	**13 01 18.1**	**+0.8**
comp=Z,2.9nm,1.0s,mb4.3,baz=11,slow=10,SNR=3.3							
YKA	**Yellowknife Ar**	**66.58**	**30**	P	**P**	**13 01 28.4**	**+0.2**
comp=Z,0.5nm,0.8s,mb3.6,baz=297,slow=6.4,SNR=8.8							
YKA	**Yellowknife Ar**	**66.58**	**30**	P	**P**	**13 01 28.4**	**+0.1**
FINES	**FINESS Array B**	**72.46**	**333**	P	**P**	**13 02 05.0**	**+0.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=34,slow=10,SNR=3.9							
HFS	**Hagfors**	**77.78**	**336**	P	**P**	**13 02 34.9**	**-0.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=172,slow=4.3,SNR=5.2							
NB2	**NORSAR Subarra**	**77.90**	**338**	P	**P**	**13 02 36.2**	**+0.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=40,slow=5.6							
NOA	**NORSAR Array B**	**77.90**	**338**	P	**P**	**13 02 36.5**	**+0.7**
comp=Z,1.8nm,0.7s,mb4.1,baz=39,slow=5.7,SNR=5.7							
BRTR	**Keskin Array B**	**81.92**	**312**	P	**P**	**13 02 58.7**	**+1.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=89,slow=3.9,SNR=3.1							

KRSC 06 12:54:17.9±0.6, 5400N×16133E, h22km±6km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.60**	**23**	*i* P	Pb	12 54 29.0	-0.8
MKZ				*i* S	Sb	12 54 37.3	-0.6
KII	**Karymskiy**	**1.11**	**273**	*e*P	Pn	12 54 38.2	+0.1
KII				*e*S	Sb	12 54 52.7	+0.3
SPN	**Mys Shipunski**	**1.19**	**221**	*i* P	Pn	12 54 38.3	-1.0
SPN				*i* S	Sn	12 54 53.2	-1.6
NLC	**Nalytchevo**	**1.45**	**236**	*i* P	Pn	12 54 42.7	0.0
NLC				*i* S	Sn	12 55 01.3	+0.3
TUMR	**Tumrok**	**1.46**	**332**	*e*P	Pn	12 54 44.0	+1.1
SMAR	**Somma**	**1.68**	**245**	*i* P	Pn	12 54 46.7	+0.8
UGLR	**Uglovaya**	**1.69**	**243**	*i* P	Pn	12 54 47.0	+0.9
AVH	**Avacha**	**1.71**	**246**	*i* P	Pn	12 54 47.6	+1.2
AVH				*i* S	Sn	12 55 09.3	+1.8
KOK	**Koryaka**	**1.75**	**247**	*i* P	Pn	12 54 48.0	+1.0
PET	**Petropavlovsk**	**1.87**	**240**	*e*P	Pn	12 54 49.2	+0.6
PET				*i* S	Sn	12 55 11.7	+0.1
GNL	**Ganaly**	**2.03**	**263**	*e*P	Pn	12 54 52.5	+1.7
ZLN	**Zelenaya**	**2.04**	**352**	*i* P	Pn	12 54 52.3	+1.3
ZLN				*e*S	Sn	12 55 17.1	+1.3
KPT	**Kopyto**	**2.07**	**342**	*e*P	Pn	12 54 53.2	+1.9
LGNR	**Loginova**	**2.12**	**350**	*i* P	Pn	12 54 53.9	+1.9
CIRR	**Tsirk**	**2.15**	**351**	*e*P	Pn	12 54 53.8	+1.4
KOZ	**Kozyrevsk**	**2.23**	**338**	*e*P	Pn	12 54 55.0	+1.5
KOZ				*e*S	Sn	12 55 21.7	+1.4
KRSR	**Krestovskiy**	**2.27**	**349**	*i* P	Pn	12 54 55.1	+1.1
KRSR				*i* S	Sn	12 55 21.8	+0.6
RUS	**Russkaya**	**2.31**	**228**	*e*P	Pn	12 54 54.8	+0.2
RUS				*e*S	Sn	12 55 23.3	+1.0
KLY	**Klyuchi**	**2.35**	**351**	*e*P	Pn	12 54 56.0	+0.8
KLY				*e*S	Sn	12 55 23.7	+0.4
KBTR	**Krutoberegovo**	**2.37**	**21**	P	Pn	12 54 56.3	+0.8
GRL	**Gorelyy**	**2.44**	**235**	*e*P	Pn	12 54 57.2	+0.9
ESO	**Esso**	**2.45**	**323**	*e*P	Pn	12 54 57.2	+0.6
ESO				Smax			
40nm,0.7s							
SRDR	**Sredinnyy**	**2.50**	**339**	*e*P	Pn	12 54 58.3	+1.1
BDR	**Baidarnaya**	**2.58**	**358**	*i* P	Pn	12 54 59.6	+1.3
SMKR	**Semkarok**	**2.59**	**2**	*i* P	Pn	12 54 59.7	+1.2
SRKR	**Sorokina**	**2.66**	**358**	*i* P	Pn	12 55 00.7	+1.3
APC	**Apacha**	**2.72**	**248**	*e*P	Pn	12 55 02.6	+2.4
APC				Smax			
40nm,1.1s							
BKI	**Bering**	**2.96**	**64**	*i* S	Sn	12 55 36.0	-2.3
BKI				Smax			
20nm,0.3s							
MIPR	**Malaya Ipel'ka**	**3.25**	**240**	*e*P	Pn	12 55 09.8	+2.3

ISCJB ***06*** *13:37:03.0±1.4, 1324N±006×8747W±005, h6km±10km, mb4.6/28, MS4.3/11, Error ellipse: s-maj=12.3km s-min=3.8km az=82.7*
CASC ***06*** *13:37:03.5±2.9, 1304N×8760W, h2km±8km, MD4.7, ML4.4, mb4.7(NEIC)*
IDC ***06*** *13:37:03.0±1.0, 1331N×8743W, h0km, mb4.3/11, mb1 4.5/14, mb1mx4.3/23, mbtmp4.3/14, ML3.5/3, MS4.1/12, Ms1 4.1/12, ms1mx3.8/25, Error ellipse: s-maj=39.2km s-min=17.1km az=53.0*
BJI ***06*** *13:37:04.1, 1300N×8760W, h10km, mB5.5, Ms5.0, Msz4.6*
NEIC ***06*** *13:37:04.2±0.6, 1304N×8759W, h10km, mb4.7/21, MD4.6(SNET), Error ellipse: s-maj=18.3km s-min=8.6km az=51.0*
NEIC Felt [III] at Conchagua, El Salvador.

ISC 06 13:37:03.7±0.8, 1314N±006×8750W±005, h1km±6km, n114, σ1$29/92, mb4.6/28, MS4.3/11, 8C-8D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.62**	**135**	⇓*e*P	**Pg**	**13 37 17.0**	**+1.4**
BLLM	**Bellamira**	**0.78**	**293**	*e*P	Px	13 37 16.3	
BLLM				*e*S	Sx	13 37 27.9	
TELN	**Telica**	**0.84**	**129**	⇑*e*P	**Pg**	**13 37 20.2**	**+0.4**
TELN				*e*S	**Sg**	**13 37 35.4**	**+4.7**
TEL3	**Telica 3**	**0.85**	**131**	⇓*e*P	**Pg**	**13 37 20.2**	**+0.2**
LEON	**Leon**	**0.93**	**140**	⇓*e*P	**Pg**	**13 37 21.4**	**-0.1**
CAHU	**Cacacuatique**	**0.93**	**312**	*e*P	Px	13 37 18.7	
CAHU				*e*S	Sx	13 37 31.2	
CNGN	**Cerro Negro**	**1.01**	**129**	⇓*e*P	**Pg**	**13 37 22.9**	**0.0**
MIRN	**Miramar**	**1.04**	**132**	⇑*e*P	**Pg**	**13 37 23.5**	**0.0**
MOMJ	**Momotombo**	**1.19**	**128**	⇓*e*P	**Pg**	**13 37 25.4**	**-1.0**
COPN	**Copaltepe**	**1.30**	**137**	⇑*e*P	**Pg**	**13 37 27.5**	**-1.1**
SNVI	**San Vicente**	**1.39**	**290**	*e*P	Px	13 37 27.0	
SNVI				*e*S	Sx	13 37 46.0	
APYN	**Apoyeque**	**1.44**	**129**	⇓*e*P	**Pn**	**13 37 29.7**	**-1.1**
APYN				*e*S	**Sb**	**13 37 51.6**	**+1.6**
XAVN	**Gruta Xavier**	**1.51**	**131**	⇑*e*P	**Pn**	**13 37 31.0**	**-0.8**
LCBS	**La Ceiba**	**1.53**	**290**	*e*P	Px	13 37 28.8	
LCBS				*e*S	Sx	13 37 50.5	
MGAN	**Managua**	**1.57**	**129**	*e*P	**Pn**	**13 37 31.9**	**-0.7**
MGAN				*e*S	**Sn**	**13 37 56.5**	**+2.9**
LFRS	**El Faro**	**1.59**	**288**	*e*P	Px	13 37 30.2	
LFRS				*e*S	Sx	13 37 50.9	
WILN	**Americas 2**	**1.61**	**127**	*e*P	**Pn**	**13 37 31.9**	**-1.2**
WILN				*e*S	**Sn**	**13 37 56.6**	**+2.1**
WILN				*i*		13 38 06.4	
comp=N,11μm,0.7s							
LBRS	**Las Brisas**	**1.62**	**292**	*e*P	Px	13 37 30.4	
LBRS				*e*S	Sx	13 37 51.7	
TICN	**Ticuantepe**	**1.66**	**131**	⇑*e*P	**Pn**	**13 37 33.2**	**-0.6**
MASN	**Masaya**	**1.75**	**131**	*e*P	**Pn**	**13 37 36.9**	**+1.9**
BOQS	**Boqueron**	**1.83**	**289**	⇑*e*P	**Pn**	**13 37 34.6**	**-1.6**
APON	**Apoyo**	**1.85**	**131**	*e*P	**Pn**	**13 37 37.1**	**+0.6**
SBLS	**San Blas**	**2.18**	**289**	⇓*e*P	Px	13 37 39.6	
SBLS				*e*S	Sx	13 38 09.4	
MTO2	**Montecristo 2**	**2.20**	**305**	⇑*e*P	Px	13 37 40.5	
MTO2				*e*S	Sx	13 38 09.8	
RTR	**El Retiro**	**2.22**	**290**	⇓*e*P	Px	13 37 40.8	
RTR				*e*S	Sx	13 38 10.0	
CONN	**Concepcion**	**2.41**	**130**	*e*P	**Pn**	**13 37 43.1**	**-1.1**
MRL	**Marmol**	**2.86**	**312**	⇑*e*P	**Pn**	**13 37 51.3**	**+0.9**
MRL				AML	AML	13 38 32.4	
comp=E,1μm,0.9s							
IXG	**Ixpaco**	**3.05**	**290**	*e*P	**Pn**	**13 37 52.9**	**-0.1**
LIM1	**Limonal**	**3.27**	**138**	*i* P	**Pn**	**13 37 55.2**	**-0.8**
FUG	**Fuego 3**	**3.50**	**292**	*e*P	**Pn**	**13 38 00.9**	**+1.8**
JTS	**JuntasAbangare**	**3.77**	**138**	Pn	**Pn**	**13 38 01.6**	**-1.4**
comp=E,7.3nm,0.3s,baz=323,slow=10.0,SNR=15							
JTS				LR	LR	13 39 47.0	
comp=E,2μm,18.4s,baz=323,slow=42							
JTS	**JuntasAbangare**	**3.77**	**138**	*e*Pn	**Pn**	**13 38 01.4**	**-1.6**
TP2	**Tecpan 2**	**3.79**	**296**	*e*P	**Pn**	**13 38 04.8**	**+1.6**
TP2				*e*S	**Sn**	**13 38 50.4**	**+2.0**
JAT	**Jato**	**4.19**	**287**	*e*P	**Pn**	**13 38 09.9**	**+1.3**
TEIG	**Tepich**	**7.09**	**354**	*e*Pn	**Pn**	**13 38 51.5**	**+3.1**
comp=E,3.9nm,0.7s							
ROSC	**El Rosal**	**15.38**	**121**	Pn	**Pn**	**13 40 43.9**	**+2.1**
comp=E,2.2nm,0.3s,baz=94,slow=19,SNR=2.4							
ROSC				LR	LR	13 47 16.6	
comp=E,230nm,18.9s,baz=178,slow=40							
ROSC	**El Rosal**	**15.38**	**121**	P	**Pn**	**13 40 48.2**	**+6.4**
ROSC				LR	LR	13 47 16.6	
OTAV	**Otavalo**	**15.64**	**144**	Pn	**Pn**	**13 40 44.3**	**-1.0**
comp=E,33nm,1.8s							
SDV	**Santo Domingo**	**17.09**	**103**	P	**Pn**	**13 41 05.0**	**+1.4**
comp=E,0.2nm,0.3s,baz=302,slow=6.9,SNR=7.8							
SDV	**Santo Domingo**	**17.09**	**103**	*e*P	**Pn**	**13 41 04.0**	**+0.3**
comp=E,48nm,1.3s							
HKT	**Hockley**	**18.42**	**337**	*e*P	**Pn**	**13 41 18.7**	**-1.5**
comp=E,47nm,1.4s							
LRAL	**Lakeview Retre**	**19.81**	**1**	P	**Pn**	**13 41 37.9**	**+0.9**
comp=E,14nm,0.9s							
JCT	**Junction City**	**20.66**	**329**	*e*P	**P**	**13 41 46.6**	**+1.9**
comp=E,60nm,1.4s							
SJG	**San Juan**	**21.14**	**74**	LR	LR	13 50 18.9	
comp=E,1μm,18.9s,MS4.2,baz=268,slow=38							
MIAR	**Mount Ida**	**22.01**	**347**	*e*P	**P**	**13 42 01.0**	**+1.7**
comp=E,38nm,1.3s,mb4.7							
LTX	**Lajitas**	**22.02**	**320**	*e*P	**P**	**13 41 60.0**	**+0.6**
comp=E,14nm,0.8s,mb4.5							
SWET	**Sewanee**	**22.02**	**3**	*e*P	**P**	**13 41 59.5**	**+0.1**
HALT	**Halls**	**22.73**	**356**	*e*P	**P**	**13 42 08.4**	**+1.5**
WMOK	**Wichita Mounta**	**23.81**	**336**	*e*P	**P**	**13 42 14.1**	**-3.9**
comp=E,116nm,1.8s,mb5.0							
GDL2	**Guadalupe Moun**	**24.47**	**324**	*e*P	**P**	**13 42 24.9**	**+0.8**
MNTX	**Cornudas Mount**	**24.72**	**321**	*e*P	**P**	**13 42 23.9**	**-2.4**
comp=E,110nm,1.5s,mb5.2							
CPRX	**Cap Rock**	**24.81**	**326**	*e*P	**P**	**13 42 26.9**	**-0.2**
CCM	**Cathedral Cave**	**25.04**	**353**	P	**P**	**13 42 26.6**	**-2.6**
comp=E,12nm,1.0s,mb4.4							
KSU1	**Kansas State U**	**27.09**	**344**	*e*P	**P**	**13 42 49.0**	**+1.2**
BNM	**Barren Site**	**27.19**	**324**	*e*P	**P**	**13 42 48.0**	**-0.7**
ACSO	**Alum Creek Sta**	**27.28**	**8**	*e*P	**P**	**13 42 51.4**	**+1.9**
comp=E,16nm,1.2s,mb4.4							
LPM	**Los Pinos Moun**	**27.31**	**324**	P	**P**	**13 42 48.8**	**-1.0**
LENM	**Lemitar**	**27.40**	**323**	*e*P	**P**	**13 42 50.2**	**-0.4**
ANMO	**Albuquerque**	**27.67**	**325**	P	**P**	**13 42 53.0**	**0.0**
comp=E,15nm,1.2s,mb4.5,baz=148,slow=9.3,SNR=19							
TUC	**Tucson**	**28.61**	**316**	*e*P	**P**	**13 43 02.4**	**+1.0**
comp=E,11nm,1.0s,mb4.5							
PV01	**Paradox Valley**	**31.16**	**327**	*e*P	**P**	**13 43 24.2**	**+0.3**
PV10	**Paradox Valley**	**31.59**	**327**	*e*P	**P**	**13 43 29.4**	**+1.7**
SADO	**Sadowa**	**32.32**	**11**	P	**P**	**13 43 32.5**	**-1.7**
comp=E,6.0nm,0.7s,mb4.5,baz=230,slow=9.6,SNR=2.5							
SADO	**Sadowa**	**32.32**	**11**	P	**P**	**13 43 32.5**	**-1.7**
SRU	**San Rafael**	**32.92**	**326**	*e*P	**P**	**13 43 38.2**	**-1.2**
comp=E,32nm,1.4s,mb5.1							
LDFC	**Landfair**	**33.15**	**316**	*e*P	**P**	**13 43 42.5**	**+1.0**
NEN	**Nelson**	**33.30**	**317**	*e*P	**P**	**13 43 40.7**	**-2.0**
TMUT	**Trail Mountain**	**33.43**	**326**	*e*P	**P**	**13 43 44.4**	**+0.6**
MSU	**Marysvale**	**33.44**	**324**	*e*P	**P**	**13 43 45.4**	**+1.5**
ARUT	**Antelope Range**	**33.71**	**321**	*e*P	**P**	**13 43 48.1**	**+1.8**
MPU	**Maple Canyon**	**34.16**	**326**	*e*P	**P**	**13 43 49.4**	**-0.9**
comp=E,47nm,1.3s,mb5.3							
DAU

Mindanao

*IDC **06** 13:59:47.3±1.3, 3531N×2231E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=30.6km s-min=23.2km az=154.0*
*CSEM **06** 13:59:49.7±0.1, 3500N×2240E, h65km±1km, MD3.7, Error ellipse: s-maj=4.1km s-min=1.6km az=64.0*
*ISCJB **06** 13:59:49.6±0.8, 3498N±005×2234E±009, h62km±11km, mb3.5/5, Error ellipse: s-maj=13.4km s-min=6.0km az=134.9*
*HLW **06** 13:59:53.1, 3493N×2260E, h33km, Mb3.9*
*NEIC **06** 13:59:54.2, 3534N×2268E, h35km, MD3.7(ATH), After ATH.*
*ATH **06** 13:59:54.2, 3534N×2268E, h37km±9km, MD3.7/9*
ISC 06 13:59:51.5±0.7, 3504N±004×2238E±009, h47km±11km, n39, σ0°79/41, mb3.5/5, 5C-3D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.35**	**23**	*e*PN	**Pn**	**14 00 13.0**	**-0.9**
GVD	**Gavdhos**	**1.42**	**98**	*e*P	**Pn**	**14 00 14.8**	**0.0**
GVD	**Gavdhos**	**1.42**	**98**	*e*P	**Pn**	**14 00 14.8**	**-0.1**
VAM	**Vamos**	**1.54**	**76**	*e*PN	**Pn**	**14 00 17.0**	**+0.6**
VLI	**Veliai**	**1.74**	**15**	*e*PB	**Pn**	**14 00 18.5**	**-0.7**
IDI	**Anoyia**	**2.07**	**82**	Pn	**Pn**	**14 00 24.6**	**+0.8**
	12nm,0.3s,baz=262,slow=14,SNR=68						
ITM	**Ithomi**	**2.17**	**350**	*e*PN	**Pn**	**14 00 27.0**	**+1.9**
NPS	**Neapolis**	**2.66**	**84**	*e*PN	**Pn**	**14 00 33.0**	**+1.2**
SANT	**Santorini**	**2.84**	**61**	*e*P	**Pn**	**14 00 33.8**	**-0.5**
SANT	**Santorini**	**2.84**	**61**	*e*P	**Pn**	**14 00 33.8**	**-0.4**
PTL	**Penteli**	**3.23**	**21**	*e*PN	**Pn**	**14 00 40.0**	**+0.3**
MPAR	**Parnis Oros**	**3.29**	**19**	*e*PN	**Pn**	**14 00 40.5**	**0.0**
EVR	**Evrytania**	**3.90**	**353**	*e*PN	**Pn**	**14 00 50.0**	**+1.2**
EVR	**Evrytania**	**3.90**	**353**	*e*Pn	**Pn**	**14 00 48.5**	**-0.3**
KARP	**Karpathos**	**3.94**	**81**	*e*PN	**Pn**	**14 00 50.0**	**+0.5**
SLUM		**4.26**	**145**	⇑P	**Pn**	**14 00 53.0**	**-0.8**
SLUM				S	**Sn**	**14 01 36.9**	**-5.3**
HMAT	**Matruh**	**5.58**	**133**	⇑P	**Pn**	**14 01 11.7**	**-0.2**
TIP	**Timpagrande**	**6.10**	**314**	*e*Pn	**Pn**	**14 01 18.2**	**-0.9**
TIP	**Timpagrande**	**6.10**	**314**	*e*Pn	**Pn**	**14 01 18.2**	**-0.9**
SWA2		**6.34**	**155**	⇑P	**Pn**	**14 01 22.3**	**0.0**
DABA	**Dabaa**	**6.38**	**127**	P	**Pn**	**14 01 22.8**	**-0.1**
SWA1		**6.41**	**153**	⇓P	**Pn**	**14 01 23.3**	**0.0**
SWA1				S	**Sn**	**14 02 29.2**	**-6.0**
HBRG	**Burj al 'Arab**	**7.70**	**123**	⇑P	**Pn**	**14 01 40.7**	**-0.2**
AWBH		**8.70**	**139**	⇑P	**Pn**	**14 01 54.5**	**-0.2**
HNAT	**Natroun**	**8.81**	**125**	⇓P	**Pn**	**14 01 56.1**	**-0.1**
CSS	**Prodhromos**	**8.99**	**87**	P	**Pn**	**14 01 57.7**	**-0.9**
CSS	**Prodhromos**	**8.99**	**87**	P	**Pn**	**14 01 57.7**	**-0.9**
FYM	**Al Fayyum**	**9.06**	**124**	P	**Pn**	**14 01 59.6**	**+0.1**
AYT	**Al 'Ayyat**	**9.13**	**123**	P	**Pn**	**14 02 00.4**	**-0.1**
HFRF	**Wahat Farafira**	**9.36**	**146**	⇓P	**Pn**	**14 02 04.0**	**+0.3**
GLL	**Jalalah**	**9.59**	**122**	P	**Pn**	**14 02 06.2**	**-0.6**
BRTR	**Keskin Array B**	**10.11**	**59**	Pn	**Pn**	**14 02 13.9**	**0.0**
	0.2nm,0.3s,baz=230,slow=14,SNR=5.0						
HDK1	**Dakhla**	**11.24**	**145**	P	**Pn**	**14 02 29.9**	**+0.5**
HFS	**Hagfors**	**25.74**	**350**	P	**P**	**14 05 16.0**	**-1.5**
	2.0nm,0.7s,mb3.7,baz=156,slow=15,SNR=4.5						
TORD	**Torodi Ar. Bea**	**28.72**	**226**	P	**P**	**14 05 47.5**	**+3.2**
	0.3nm,0.7s,mb3.2,baz=39,slow=9.3,SNR=2.9						
ARCES	**ARCESS Array B**	**34.59**	**2**	P	**P**	**14 06 34.8**	**-1.1**
	1.1nm,0.8s,mb3.9,baz=190,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**45.74**	**56**	P	**P**	**14 08 08.1**	**+0.1**
	0.4nm,0.5s,mb3.6,baz=277,slow=7.0,SNR=6.0						
YKA	**Yellowknife Ar**	**76.84**	**341**	P	**P**	**14 11 40.2**	**+1.8**
	0.1nm,0.5s,mb3.0,baz=36,slow=5.4,SNR=4.9						
YKA	**Yellowknife Ar**	**76.84**	**341**	P	**P**	**14 11 40.2**	**+1.8**

CASC 06 14:14:45.0±2.3, 1342N×8747W, h8km±9km, MD3.7, 6C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.39**	**249**	⇑*e*P	Pg	14 14 53.4	+0.9
CNCH				*e*S	Sg	14 14 59.8	+2.3
BLLM	**Bellamira**	**0.75**	**272**	⇑*e*P	Pg	14 15 00.9	+1.4
BLLM				*e*S	Sg	14 15 11.6	+2.4
VSM	**San Miguel**	**0.79**	**271**	⇑*e*P	Pg	14 15 01.5	+1.3
VSM				*e*S	Sg	14 15 13.4	+3.0
CRIN	**San Cristobal**	**0.82**	**150**	*e*P	Pg	14 15 00.3	-0.5
CRIN				*e*S	Sg	14 15 15.0	+3.5
TELN	**Telica**	**1.02**	**143**	*e*P	Pg	14 15 03.7	-0.8
TELN				*e*S	Sg	14 15 16.9	-0.9
TEL3	**Telica 3**	**1.04**	**144**	*e*P	Pg	14 15 03.8	-1.1
LEON	**Leon**	**1.14**	**151**	⇓*e*P	Pg	14 15 04.9	-2.1
LEON				*e*S	Sg	14 15 20.0	-1.7
CNGN	**Cerro Negro**	**1.18**	**141**	*e*P	Pg	14 15 06.4	-1.3
MIRN	**Miramar**	**1.22**	**143**	*e*P	Pb	14 15 06.9	-1.5
MIRN				*e*S	Sg	14 15 23.6	-0.6
SNVI	**San Vicente**	**1.35**	**278**	*e*P	Pn	14 15 13.4	+3.2
SNVI				*e*S	Sb	14 15 31.2	+3.2
MOMJ	**Momotombo**	**1.35**	**138**	⇑*e*P	Pn	14 15 09.1	-1.1
MOMJ				*e*S	Sb	14 15 28.1	+0.1
LCBS	**La Ceiba**	**1.49**	**279**	*e*P	Pn	14 15 13.0	+0.9
LCBS				*e*S	Sn	14 15 34.4	+2.7
COPN	**Copaltepe**	**1.50**	**145**	⇑*e*P	Pn	14 15 11.1	-1.1
LFRS	**El Faro**	**1.56**	**278**	*e*P	Pn	14 15 14.3	+1.1
LFRS				*e*S	Sn	14 15 36.0	+2.4
APYN	**Apoyeque**	**1.60**	**137**	⇑*e*P	Pn	14 15 14.0	+0.3
APYN				*e*S	Sn	14 15 36.4	+1.8
TICN	**Ticuantepe**	**1.83**	**139**	*e*P	Pn	14 15 15.5	-1.3
SBLS	**San Blas**	**2.14**	**282**	*e*P	Pn	14 15 23.1	+2.1
SBLS				*e*S	Sn	14 15 51.1	+3.4

IDC 06 14:23:50.0±3.4, 1879S×17781W, h602km±49km, mb3.0/5, mb1 3.2/5, mb1mx3.1/15, mbtmp4.1/5, Error ellipse: s-maj=110.9km s-min=21.7km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.87**	**262**	P	P	14 29 44.5	+0.2
	3.1nm,0.8s,baz=86,slow=16,SNR=3.6						
STKA	**Stephens Creek**	**38.71**	**242**	P	P	14 30 23.6	-0.3
	1.5nm,0.8s,baz=90,slow=5.1,SNR=4.6						
WB2	**Warramunga Arr**	**45.02**	**260**	*e*P	P	14 31 13.3	0.0
WRA	**Warramunga Arr**	**45.04**	**260**	P	P	14 31 13.3	-0.1
	0.6nm,0.5s,baz=97,slow=6.6,SNR=33						
ASAR	**Alice Springs**	**45.10**	**255**	P	P	14 31 14.8	+0.9
	3.2nm,0.4s,baz=90,slow=7.6,SNR=69						
ASAR				S	S	14 37 11.3	+1.0
	0.5nm,0.9s,baz=85,slow=15,SNR=4.3						
ASPA	**Alice Springs**	**45.11**	**255**	*e*P	P	14 31 14.6	+0.7
ILAR	**Eielson Array**	**86.62**	**13**	P	P	14 35 30.1	-0.5
	0.4nm,0.4s,baz=222,slow=5.0,SNR=26						

IDC 06 14:28:37.4±1.3, 361N×12702E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=143.6km s-min=19.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48**	**163**	P	P	14 33 59.2	+1.1
	1.2nm,0.5s,baz=341,slow=11,SNR=15						
ASAR	**Alice Springs**	**27.93**	**166**	P	P	14 34 30.3	+1.1
	0.3nm,0.5s,baz=340,slow=8.8,SNR=5.8						
STKA	**Stephens Creek**	**37.91**	**160**	P	P	14 35 55.2	-1.0
	1.1nm,0.5s,baz=343,slow=10,SNR=5.7						
SONM	**Songino Array**	**47.50**	**341**	P	P	14 37 13.7	-0.5
	0.2nm,0.5s,baz=139,slow=9.0,SNR=3.3						
MKAR	**Makanchi Array**	**57.82**	**325**	P	P	14 38 31.0	+0.5
	0.3nm,0.4s,baz=114,slow=8.8,SNR=5.2						

*SZGRF **06** 14:31:44.4, 65.18N×2467W, h33km, mb4.4, MS3.3, Iceland region*
*CSEM **06** 14:31:53.4±0.1, 6399N×2186W, h10km, mb4.6/21, Ms3.5, Error ellipse: s-maj=3.2km s-min=2.4km az=76.0*
*IDC **06** 14:31:54.4±0.8, 6412N×2176W, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.9/21, mbtmp3.8/12, ML3.9/1, MS3.7/12, Ms1 3.7/12, ms1mx3.4/28, Error ellipse: s-maj=16.1km s-min=13.6km az=62.0*
*REY **06** 14:31:54.5, 6392N×2192W, h8km, ML4.2, ML4.7*
*ISCJB **06** 14:31:54.2±0.3, 6397N±002×2185W±005, h10km, mb4.2/35, MS3.7/14, Error ellipse: s-maj=3.6km s-min=3.4km az=57.4*
*MOS **06** 14:31:54.6±1.0, 6375N×2231W, h15km, mb4.7/21, Error ellipse: s-maj=17.4km s-min=6.2km az=120.4*
*NEIC **06** 14:31:55.7±0.3, 6387N×2210W, h10km, mb4.5/27, MS3.6/3, Error ellipse: s-maj=11.3km s-min=4.8km az=38.0*
NEIC Felt at Reykjavik.
ISC 06 14:31:55.4±0.3, 6399N±002×2178W±006, h10km, n152, σ1°16/154, mb4.2/35, MS3.7/14, 2C, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISAN	**Sandskeio**	**0.11**	**54**	P	**Pg**	**14 31 58.7**	**+0.6**
IVOS	**Vogsosar**	**0.14**	**167**	P	**Pg**	**14 31 57.2**	**-1.4**
IKRI	**Krysuvik**	**0.17**	**230**	P	**Pg**	**14 31 56.6**	**-2.5**
IBJA	**Bjarnastaoir**	**0.21**	**102**	P	**Pg**	**14 31 59.9**	**+0.1**
IKRO	**Krokur**	**0.31**	**69**	P	**Pg**	**14 32 01.8**	**+0.3**
IHEI	**Heioarbar**	**0.32**	**48**	P	**Pg**	**14 32 01.9**	**+0.2**
IKUD	**Kuludalsa**	**0.34**	**353**	P	**Pg**	**14 32 01.8**	**-0.2**
ISOL	**Solvholt**	**0.37**	**99**	P	**Pg**	**14 32 02.5**	**-0.2**
INYL	**Nylenda**	**0.42**	**268**	P	**Pg**	**14 32 01.3**	**-2.4**
IASM	**Asmuli**	**0.54**	**106**	P	**Pg**	**14 32 04.9**	**-0.9**
ISAU	**Saurbar**	**0.60**	**89**	P	**Pg**	**14 32 06.4**	**-0.6**
IGYG	**Gygjarholskot**	**0.74**	**66**	P	**Pg**	**14 32 09.0**	**-0.8**
IGYG				S	**Sg**	**14 32 20.4**	**+0.9**
BORG	**Borgarnes**	**0.79**	**14**	Pn	**Pn**	**14 32 09.4**	**-3.1**
	464nm,0.3s,baz=204,slow=7.0,SNR=445						
BORG				LR	LR	14 32 18.2	
	comp=Z,8μm,19.4s,baz=0.0,slow=36						
BORG				Sn	**Sn**	**14 32 21.1**	**-3.2**
	1μm,0.3s,baz=0.0,slow=20,SNR=62						
BORG	**Borgarnes**	**0.79**	**14**	*e*Pg	**Pg**	**14 32 09.3**	**-1.2**
BORG	**Borgarnes**	**0.79**	**14**	*e*Pg	**Pg**	**14 32 09.3**	**-1.3**
IASB	**`sbjarnarst**	**0.79**	**14**	P	**Pg**	**14 32 09.4**	**-1.1**
IASB				S	**Sg**	**14 32 21.5**	**+0.7**
IHAU	**Haukadalur**	**0.80**	**91**	P	**Pg**	**14 32 09.8**	**-1.0**
IHAU				S	**Sg**	**14 32 21.4**	**+0.2**
IVES	**Vestmannaeyjar**	**0.86**	**129**	P	**Pg**	**14 32 09.6**	**-2.4**
IMID	**Miomork**	**0.90**	**111**	P	**Pg**	**14 32 10.8**	**-2.0**
IESK	**Eystri-Skogar**	**1.14**	**113**	P	**Pb**	**14 32 13.8**	**-3.3**
IESK				S	**Sb**	**14 32 30.0**	**-1.9**
IVAT	**Vatnsfell**	**1.27**	**80**	P	**Pn**	**14 32 17.6**	**-1.6**
IVAT				S	**Sb**	**14 32 34.5**	**-1.3**
IHVE	**Hveravellir**	**1.30**	**46**	P	**Pn**	**14 32 17.8**	**-1.8**
IHVE				S	**Sb**	**14 32 36.9**	**+0.2**
IHVO	**Lagu-Hvolar**	**1.38**	**108**	P	**Pn**	**14 32 17.8**	**-2.9**
IHVO				S	**Sb**	**14 32 36.5**	**-2.5**
IKAL	**Kalfafell**	**1.81**	**90**	P	**Pn**	**14 32 25.5**	**-1.0**
IKAL				S	**Sn**	**14 32 49.1**	**-0.4**
SFJD	**Kangerlussuaq**	**12.28**	**297**	LR	LR	14 38 59.3	
	comp=Z,633nm,19.1s,baz=90,slow=35						
EKA	**Eskdalemuir Ar**	**12.75**	**124**	Pn	**Pn**	**14 34 57.0**	**+0.3**
	0.4nm,0.3s,baz=318,slow=13,SNR=7.1						
NOA	**NORSAR Array B**	**15.41**	**86**	LR	LR	14 40 49.3	
	comp=Z,97nm,19.5s,baz=330,slow=35						
HFS	**Hagfors**	**16.91**	**87**	LR	LR	14 41 56.8	
	comp=Z,152nm,19.4s,baz=105,slow=36						
ROSF	**Rostrenen**	**18.65**	**139**	*e*P	**Pn**	**14 36 12.9**	**-0.6**
	81nm,1.2s						
ROSF	**Rostrenen**	**18.65**	**139**	*e*P	**Pn**	**14 36 12.9**	**-0.6**
	40nm,1.2s						
ROSF	**Rostrenen**	**18.65**	**139**	*e*P	**Pn**	**14 36 12.9**	**-0.6**
ROSF				pmax	pmax		
	comp=Z,40nm,1.2s						
SGMF	**Saint Gilles**	**18.93**	**137**	*e*P	**Pn**	**14 36 16.8**	**-0.2**
ARCES	**ARCESS Array B**	**19.02**	**52**	LR	LR	14 42 25.8	
	comp=Z,208nm,19.7s,baz=193,slow=33						
QUIF	**Quistinic**	**19.06**	**139**	*e*P	**Pn**	**14 36 18.1**	**-0.4**
	comp=Z,87nm,1.3s						
QUIF	**Quistinic**	**19.06**	**139**	*e*P	**Pn**	**14 36 18.1**	**-0.4**
	comp=Z,44nm,1.3s						
QUIF	**Quistinic**	**19.06**	**139**	*e*P	**Pn**	**14 36 18.1**	**-0.4**
QUIF				pmax	pmax		
	comp=Z,44nm,1.3s						
FLN	**La Foliniere**	**19.13**	**133**	*e*P	**Pn**	**14 36 19.4**	**0.0**
	comp=Z,24nm,0.8s						
FLN				*e*R			
	comp=Z,445nm,22.2s						
FLN	**La Foliniere**	**19.13**	**133**	*e*P	**Pn**	**14 36 19.4**	**0.0**
	comp=Z,12nm,0.8s						
FLN	**La Foliniere**	**19.13**	**133**	*e*P	**Pn**	**14 36 19.4**	**0.0**
FLN				pmax	pmax		
	comp=Z,12nm,0.8s						
GRR	**Gorron**	**19.34**	**134**	*e*P	**Pn**	**14 36 21.5**	**-0.4**
	comp=Z,160nm,1.7s						
GRR	**Gorron**	**19.34**	**134**	*e*P	**Pn**	**14 36 21.5**	**-0.4**
	comp=Z,80nm,1.7s						
GRR	**Gorron**	**19.34**	**134**	*e*P	**Pn**	**14 36 21.5**	**-0.4**
GRR				pmax	pmax		
	comp=Z,80nm,1.7s						
LDF	**La Druitiere**	**19.39**	**132**	*e*P	**Pn**	**14 36 22.4**	**-0.1**
	comp=Z,26nm,0.9s						
LDF	**La Druitiere**	**19.39**	**132**	*e*P	**Pn**	**14 36 22.4**	**-0.1**
	comp=Z,13nm,0.9s						
LDF	**La Druitiere**	**19.39**	**132**	*e*P	**Pn**	**14 36 22.4**	**-0.1**
LDF				pmax	pmax		
	comp=Z,13nm,0.9s						
KEV	**Kevo**	**19.52**	**52**	*e*p	**Pn**	**14 36 28.9**	**+4.9**
BAIF	**Baives**	**19.66**	**123**	*e*P	**Pn**	**14 36 26.3**	**+0.5**
	comp=Z,48nm,0.9s						
BAIF	**Baives**	**19.66**	**123**	*e*P	**Pn**	**14 36 26.3**	**+0.5**
	comp=Z,24nm,0.9s						
BAIF	**Baives**	**19.66**	**123**	*e*P	**Pn**	**14 36 26.3**	**+0.5**
BAIF				pmax	pmax		
	comp=Z,24nm,0.9s						
GIVF	**Givet**	**19.86**	**122**	*e*P	**Pn**	**14 36 28.3**	**+0.2**
RUP	**Ruppelstein**	**21.03**	**119**	*e*P	**P**	**14 36 41.3**	**+2.1**
MFF	**Saint Martin d**	**21.14**	**135**	*e*P	**P**	**14 36 40.0**	**-0.4**
KAF	**Kangasniemi**	**21.47**	**73**	*e*p	**P**	**14 36 49.0**	**+5.1**
FINES	**FINESS Array B**	**21.67**	**75**	P	**P**	**14 36 47.5**	**+1.4**
	comp=Z,4.1nm,0.9s,mb3.9,baz=316,slow=11,SNR=10						
FINES				LR	LR	14 45 49.6	
	comp=Z,73nm,18.2s,MS3.1,baz=350,slow=39						
TOD	**Tromm**	**21.79**	**117**	*e*P	**P**	**14 36 51.4**	**+4.1**
THEF	**They Montfort**	**21.84**	**123**	*e*P	**P**	**14 36 49.7**	**+1.8**
LOR	**Lormes**	**21.88**	**128**	*e*P	**P**	**14 36 48.1**	**-0.3**
	comp=Z,21nm,0.8s,mb4.3						
LOR				*e*R			
	comp=Z,245nm,18.8s						
LOR	**Lormes**	**21.88**	**128**	*e*P	**P**	**14 36 48.1**	**-0.3**
	comp=Z,10nm,0.8s,mb4.3						
LOR				LR	LR		
	comp=Z,240nm,18.8s,MS3.6						
LOR	**Lormes**	**21.88**	**128**	*e*P	**P**	**14 36 48.1**	**-0.3**
LOR				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
LOR				MLR	MLR		
	comp=Z,240nm,18.8s,MS3.6						
SSF	**Saint Saulge**	**21.94**	**129**	*e*P	**P**	**14 36 48.9**	**-0.1**
	comp=Z,23nm,0.9s,mb4.3						
SSF	**Saint Saulge**	**21.94**	**129**	*e*P	**P**	**14 36 48.9**	**-0.1**
	comp=Z,11nm,0.9s,mb4.3						
SSF	**Saint Saulge**	**21.94**	**129**	*e*P	**P**	**14 36 48.9**	**-0.1**
SSF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
MOX	**Moxa**	**22.10**	**111**	*e*P	**P**	**14 36 53.0**	**+2.2**
	comp=Z,34nm,1.5s,mb4.6						
MOX	**Moxa**	**22.10**	**111**	*e*P	**P**	**14 36 53.0**	**+2.2**
MOX				pmax	pmax		
	comp=Z,34nm,1.5s,mb4.6						
AVF	**Avril sur Loir**	**22.12**	**129**	*e*P	**P**	**14 36 50.0**	**-0.9**
	comp=Z,14nm,0.6s,mb4.2						
AVF	**Avril sur Loir**	**22.12**	**129**	*e*P	**P**	**14 36 50.0**	**-0.9**
	comp=Z,7.0nm,0.6s,mb4.2						
AVF	**Avril sur Loir**	**22.12**	**129**	*e*P	**P**	**14 36 50.0**	**-0.9**
AVF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
BGF	**Bois d'Agland**	**22.15**	**130**	*e*P	**P**	**14 36 51.1**	**-0.2**
	comp=Z,48nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**22.15**	**130**	*e*P	**P**	**14 36 51.1**	**-0.2**
	comp=Z,24nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**22.15**	**130**	*e*P	**P**	**14 36 51.1**	**-0.2**
BGF				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.6						
HAU	**Haudompre**	**22.15**	**123**	*e*P	**P**	**14 36 52.1**	**+0.8**
	comp=Z,71nm,1.2s,mb4.7						
HAU				*e*R			
	comp=Z,271nm,20.6s						
HAU	**Haudompre**	**22.15**	**123**	*e*P	**P**	**14 36 52.1**	**+0.8**
	comp=Z,35nm,1.2s,mb4.7						
HAU				LR	LR		
	comp=Z,270nm,20.6s,MS3.6						
HAU	**Haudompre**	**22.15**	**123**	*e*P	**P**	**14 36 52.1**	**+0.8**
HAU				pmax	pmax		
	comp=Z,35nm,1.2s,mb4.7						
HAU				MLR	MLR		
	comp=Z,270nm,20.6s,MS3.6						
CDF	**Champ du Feu**	**22.16**	**121**	*e*P	**P**	**14 36 52.3**	**+0.9**
	comp=Z,42nm,1.1s,mb4.5						
CDF	**Champ du Feu**	**22.16**	**121**	*e*P	**P**	**14 36 52.3**	**+0.9**
	comp=Z,21nm,1.1s,mb4.5						
CDF	**Champ du Feu**	**22.16**	**121**	*e*P	**P**	**14 36 52.3**	**+0.9**
CDF				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.5						
TCF	**Toulx Ste Croi**	**22.18**	**132**	*e*P	**P**	**14 36 51.5**	**0.0**
	comp=Z,83nm,1.2s,mb4.7						
TCF	**Toulx Ste Croi**	**22.18**	**132**	*e*P	**P**	**14 36 51.5**	**0.0**
	comp=Z,42nm,1.2s,mb4.7						
TCF	**Toulx Ste Croi**	**22.18**	**132**	*e*P	**P**	**14 36 51.5**	**0.0**
TCF				pmax	pmax		
	comp=Z,42nm,1.3s,mb4.7						
CLL	**Collm**	**22.18**	**108**	⇑*i*P	**P**	**14 36 54.7**	**+3.2**
	comp=Z,33nm,1.7s,mb4.5						
CLL	**Collm**	**22.18**	**108**	⇑*i*P	**P**	**14 36 54.7**	**+3.2**
CLL				pmax	pmax		
	comp=Z,33nm,1.7s,mb4.5						
WLS	**Welschbruch**	**22.19**	**121**	*e*P	**P**	**14 36 52.5**	**+0.8**
ECH	**Echery**	**22.28**	**121**	*e*P	**P**	**14 36 54.7**	**+2.1**
SMF	**Signal de Mont**	**22.41**	**129**	*e*P	**P**	**14 36 54.0**	**-0.1**
	comp=Z,38nm,0.8s,mb4.6						
SMF	**Signal de Mont**	**22.41**	**129**	*e*P	**P**	**14 36 54.0**	**-0.1**
	comp=Z,19nm,0.8s,mb4.6						
SMF	**Signal de Mont**	**22.41**	**129**	*e*P	**P**	**14 36 54.0**	**-0.1**
SMF				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6						
HINF	**Hinteralfeld**	**22.50**	**122**	*e*P	**P**	**14 36 55.6**	**+0.6**
	comp=Z,14nm,0.7s,mb4.2						
HINF	**Hinteralfeld**	**22.50**	**122**	*e*P	**P**	**14 36 55.6**	**+0.6**
	comp=Z,7.2nm,0.7s,mb4.2						
HINF	**Hinteralfeld**	**22.50**	**122**	*e*P	**P**	**14 36 55.6**	**+0.6**
HINF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
MOF	**Molkenrain**	**22.57**	**122**	*e*P	**P**	**14 36 57.5**	**+1.7**
BFO	**Black Forest**	**22.63**	**120**	*e*P	**P**	**14 36 58.6**	**+2.2**
GRF	**Grafenberg Arr**	**22.68**	**113**	*e*P	**P**	**14 36 58.3**	**+1.4**
	comp=Z,17nm,1.2s,mb4.3						
GRF				*e*L		14 45 20.3	
	comp=Z,110nm,20.5s						
GRF	**Grafenberg Arr**	**22.68**	**113**	*e*P	**P**	**14 36 58.3**	**+1.4**
GRF				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.3						
GRF				MLR	MLR		
	comp=Z,100nm,20.5s,MS3.2						
NKC	**Novy Kostel**	**22.76**	**111**	*e*P	**P**	**14 36 59.2**	**+1.4**
RJF	**Les Rejaudoux**	**22.82**	**134**	*e*P	**P**	**14 36 57.8**	**-0.6**
RJF				*e*R			
	comp=Z,344nm,23.0s						
RJF	**Les Rejaudoux**	**22.82**	**134**	*e*P	**P**	**14 36 57.8**	**-0.6**
RJF				MLR	MLR		
	comp=Z,340nm,23.0s,MS3.7						
LOMF	**Lomont**	**22.88**	**123**	*e*P	**P**	**14 37 00.9**	**+1.9**
FELD	**Feldberg**	**22.88**	**121**	*e*P	**P**	**14 37 00.3**	**+1.3**
BRG	**Berggiesshubel**	**22.90**	**108**	*e*P	**P**	**14 37 00.1**	**+0.9**
	comp=Z,7.0nm,1.0s,mb4.0						
BRG	**Berggiesshubel**	**22.90**	**108**	*e*P	**P**	**14 37 00.1**	**+0.9**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
JOF	**Joensuu**	**23.19**	**68**	*e*p	**P**	**14 37 02.8**	**+0.5**
CABF	**La Chapelle**	**23.23**	**125**	*e*P	**P**	**14 37 02.8**	**0.0**
PRU	**Pruhonice**	**23.82**	**109**	*e*P	**P**	**14 37 08.6**	**+0.1**
SJPF	**Ste Jean**	**24.00**	**141**	*e*P	**P**	**14 37 08.5**	**-1.7**
	comp=Z,72nm,1.5s,mb4.6						
SJPF	**Ste Jean**	**24.00**	**141**	*e*P	**P**	**14 37 08.5**	**-1.7**
	comp=Z,36nm,1.5s,mb4.6						
SJPF	**Ste Jean**	**24.00**	**141**	*e*P	**P**	**14 37 08.5**	**-1.7**
SJPF				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.6						
UPC	**Upice**	**24.04**	**106**	*e*P	**P**	**14 37 10.9**	**+0.3**
KHC	**Kasperske Hory**	**24.08**	**111**	*e*P	**P**	**14 37 10.4**	**-0.5**
VIVF	**Saint-Julien-l**	**24.26**	**130**	*e*P	**P**	**14 37 12.2**	**-0.3**
	comp=Z,52nm,1.4s,mb4.5						
VIVF	**Saint-Julien-l**	**24.26**	**130**	*e*P	**P**	**14 37 12.2**	**-0.3**
	comp=Z,26nm,1.4s,mb4.5						
VIVF	**Saint-Julien-l**	**24.26**	**130**	*e*P	**P**	**14 37 12.2**	**-0.3**
VIVF				pmax	pmax		
	comp=Z,26nm,1.4s,mb4.5						
DPC	**Dobruska-Polom**	**24.29**	**106

BW06 Boulder Array 51.70 290 *e*P **P 14 41 02.3 -0.2**
comp=Z,3.7nm,0.8s,mb4.4
BW06 LR LR
comp=Z,275nm,14.1s,MS4.4
PDAR Pinedale Array 51.70 290 P **P 14 41 02.9 +0.3**
comp=Z,2.6nm,0.7s,mb4.3,baz=67,slow=4.9,SNR=23
PDAR LR LR 15 02 42.5
comp=Z,153nm,18.8s,MS4.0,baz=155,slow=36
TORD Torodi Ar. Bea 53.36 151 P **P 14 41 14.2 -0.7**
comp=Z,3.3nm,0.8s,mb4.3,baz=338,slow=7.2,SNR=4.3
MKAR Makanchi Array 54.66 55 P **P 14 41 24.9 +0.5**
comp=Z,0.2nm,0.6s,mb3.3,baz=332,slow=7.0,SNR=3.1
SONM Songino Array 61.34 37 P **P 14 42 12.2 +1.0**
comp=Z,0.8nm,1.1s,mb3.8,baz=319,slow=6.5,SNR=5.4
BOSA Boshof 99.40 139 LR LR 15 34 53.3
comp=Z,81nm,18.6s,MS4.2,baz=2.8,slow=38

*NEIC **06** 14:33:57.8, 3684S×17951W, h33km, ML4.2(WEL), After WEL.*
*BJI **06** 14:33:57.8, 3680S×17950W, h33km, mB5.5, mb5.1, Ms4.5, Msz4.2*
WEL 06 14:33:58.2±0.3, 3686S×17954W, h33km, ML4.2/8, Error ellipse: s-maj=3.3km s-min=3.1km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.86**	**247**	PN		PN	Pn	14 34 27.1	-0.6
MXZ				SN		SN	Sn	14 34 48.5	-1.5
MXZ	**Matakaoa Point**	**1.86**	**247**	P		Pn		14 34 27.1	-0.6
MXZ				S		Sn		14 34 48.5	-1.5
PUZ	**Puketiti**	**2.13**	**235**	PN		Pn		14 34 31.1	-0.3
PUZ				SN		Sn		14 34 56.0	-0.8
PUZ	**Puketiti**	**2.13**	**235**	*e*P		Pn		14 34 31.1	-0.3
PUZ				S		Sn		14 34 56.6	-0.1
MWZ	**Matawai**	**2.76**	**237**	PN		Pn		14 34 39.5	-0.5
MWZ				SN		Sn		14 35 10.8	-1.4
MWZ	**Matawai**	**2.76**	**237**	*e*P		Pn		14 34 39.5	-0.5
MWZ				S		Sn		14 35 10.8	-1.4
URZ	**Urewera**	**3.01**	**241**	PN		Pn		14 34 43.0	-0.5
URZ	**Urewera**	**3.01**	**241**	P		Pn		14 34 43.0	-0.5
KNZ	**Kokohu**	**3.08**	**225**	PN		Pn		14 34 43.7	-0.9
KNZ				SN		Sn		14 35 18.8	-1.4
KNZ	**Kokohu**	**3.08**	**225**	P		Pn		14 34 43.7	-0.8
KUZ	**Kuaotunu**	**3.81**	**270**	*e*PN		Pn		14 34 53.7	-0.7
KUZ	**Kuaotunu**	**3.81**	**270**	*e*P		Pn		14 34 53.7	-0.8
PXZ	**Pawanui**	**4.25**	**221**	PN		Pn		14 34 57.8	-2.7
KRVZ	**Karewarewa**	**4.42**	**238**	PN		Pn		14 35 02.6	-0.2
NJ2	**Nanjing**	**89.52**	**312**	*e*P		P		14 46 53.1	+1.1
NJ2				AMB		AMB			
comp=Z,10.0nm,0.5s									

CASC 06 14:38:42.3±2.2, 1316N×8756W, h1km±3km, MD3.6, 7C-5D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.29**	**293**	⇑*i*P			Pg	14 38 49.0	+1.2
CNCH				*e*S			Sg	14 38 53.5	+1.8
CRIN	**San Cristobal**	**0.68**	**133**	*e*P			Pg	14 38 56.4	+1.2
CRIN				*e*S			Sg	14 39 08.7	+4.7
BLLM	**Bellamira**	**0.72**	**293**	⇑*e*P			Pg	14 38 56.4	+0.3
BLLM				*e*S			Sg	14 39 08.0	+2.6
VSM	**San Miguel**	**0.74**	**291**	⇑*e*P			Pg	14 38 57.1	+0.6
VSM				*e*S			Sg	14 39 08.5	+2.3
TELN	**Telica**	**0.90**	**128**	*e*P			Pg	14 38 52.8	-6.7
TELN				*e*S			Sg	14 39 15.4	+4.2
TEL3	**Telica 3**	**0.91**	**130**	*e*P			Pg	14 38 59.7	-0.1
TEL3				*e*S			Sg	14 39 13.4	+1.8
LEON	**Leon**	**0.99**	**139**	⇑*e*P			Pg	14 39 00.7	-0.5
LEON				*e*S			Sg	14 39 14.7	+0.7
CNGN	**Cerro Negro**	**1.07**	**128**	*e*P			Pg	14 39 02.5	-0.3
CNGN				*e*S			Sg	14 39 19.7	+3.2
MIRN	**Miramar**	**1.09**	**131**	⇑*e*P			Pg	14 39 02.8	-0.5
MIRN				*e*S			Sg	14 39 18.6	+1.1
MOMJ	**Momotombo**	**1.25**	**127**	⇓*e*P			Pg	14 39 05.1	-1.1
SNVI	**San Vicente**	**1.32**	**290**	⇓*e*P			Pg	14 39 07.0	-0.7
SNVI				*e*S			Sg	14 39 26.6	+1.8
COPN	**Copaltepe**	**1.36**	**136**	*e*P			Pg	14 39 07.0	-1.3
COPN				*e*S			Sg	14 39 25.9	0.0
LCBS	**La Ceiba**	**1.47**	**290**	⇑*e*P			Pn	14 39 09.1	-0.7
LCBS				*e*S			Sg	14 39 30.6	+1.2
APYN	**Apoyeque**	**1.50**	**128**	*e*P			Pn	14 39 10.4	+0.1
APYN				*e*S			Sb	14 39 30.6	+0.2
LFRS	**El Faro**	**1.53**	**288**	⇓*e*P			Pn	14 39 10.0	-0.7
LBRS	**Las Brisas**	**1.55**	**292**	*e*P			Pn	14 39 10.4	-0.7
XAVN	**Gruta Xavier**	**1.57**	**130**	*e*P			Pn	14 39 10.4	-0.9
MGAN	**Managua**	**1.63**	**128**	*e*S			Sn	14 39 34.0	+0.2
WILN	**Americas 2**	**1.67**	**126**	*e*S			Sn	14 39 36.0	+1.3
TICN	**Ticuantepe**	**1.71**	**131**	*e*P			Pn	14 39 12.0	-1.2
BOQS	**Boqueron**	**1.77**	**289**	⇑*e*P			Pn	14 39 14.7	+0.6
SNJE	**San Jose**	**2.11**	**290**	*e*P			Pn	14 39 20.6	+1.8
SBLS	**San Blas**	**2.12**	**289**	⇓*e*P			Pn	14 39 20.0	+1.1
MTO2	**Montecristo 2**	**2.14**	**305**	*e*P			Pn	14 39 20.2	+1.0
MTO2				*e*S			Sn	14 39 48.5	+2.2
RTR	**El Retiro**	**2.16**	**290**	⇓*i*P			Pn	14 39 18.6	-0.7

*IDC **06** 14:57:52.6±0.7, 3897N×101.19E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.2/26, mbtmp4.2/17, ML4.9/1, MS3.2/3, Ms1 3.3/3, ms1mx2.8/41, Error ellipse: s-maj=26.1km s-min=15.2km az=49.0*
*BJI **06** 14:57:53.2, 3910N×101.19E, h10km, mB4.5, mb4.4, ML4.2, Ms4.1, Msz3.6*
*ISCJB **06** 14:57:54.0±1.2, 3905N±003×101.18E±004, h15km±8km, mb4.2/29, MS3.2/4, Error ellipse: s-maj=6.1km s-min=4.4km az=50.1*
*NEIC **06** 14:57:54.7±0.4, 3905N×101.19E, h10km, mb4.2/14, Error ellipse: s-maj=8.2km s-min=6.1km az=123.0*
*MOS **06** 14:57:56.7±1.0, 3906N×101.16E, h37km, mb4.2/9, Error ellipse: s-maj=11.1km s-min=6.4km az=110.9*
ISC 06 14:57:55.7±1.4, 3905N±003×10117E±004, h15km±8km, n88, σ1§15/95, mb4.2/29, MS3.2/4, 4C-3D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.11**	**289**			PG	**Pg**	**14 58 14.2**	**-3.0**
GTA						SG	**Sg**	**14 58 26.6**	**-5.0**
GTA						Smax			
comp=N,3μm,0.5s									
GTA						Smax			
comp=E,2μm,0.4s									
GTA						LR	LR		
comp=N,6μm,5.3s									
GTA						LR	LR		
comp=E,3μm,5.8s									
GTA						LR	LR		
comp=Z,2μm,6.1s									
LZH	**Lanzhou**	**3.64**	**143**	*e*P			**Pn**	**14 58 51.7**	**+0.1**
LZH						PG	**Pg**	**14 59 00.1**	**-5.4**
LZH						S	**Sn**	**14 59 33.6**	**-0.7**
LZH						SG	**Sg**	**14 59 45.8**	**-6.9**
LZH						Smax			
comp=N,1μm,0.7s									
LZH						Smax			
comp=E,1μm,0.8s									
LZH						LR	LR		
comp=N,5μm,6.2s									
LZH						LR	LR		
comp=Z,4μm,7.9s									
HHC	**Hu-ho-hao-te**	**8.19**	**74**	*e*P			**Pn**	**14 59 55.5**	**+1.5**
HHC						AP		14 59 58.6	
HHC						XP		15 00 01.6	
HHC						S	**Sn**	**15 01 29.1**	**+2.8**
HHC						XS		15 01 34.0	
HHC						AMB	AMB		
comp=Z,8.0nm,0.4s									
HHC						AMB	AMB		
comp=Z,53nm,3.9s									
HHC						LR	LR		
comp=N,399nm,2.8s									
HHC						LR	LR		
comp=E,382nm,1.6s									
HHC						LR	LR		
comp=Z,126nm,6.5s									
SONM	**Songino Array**	**9.57**	**22**	Pn			**Pn**	**15 00 13.7**	**+0.7**
comp=Z,11nm,0.3s,baz=204,slow=15,SNR=318									
SONM						Sn	**Sn**	**15 01 57.9**	**-2.3**
comp=Z,2.0nm,0.3s,baz=210,slow=20,SNR=3.6									
SONM						Lg		15 02 55.0	
comp=Z,4.0nm,0.3s,baz=178,slow=30,SNR=7.7									
SONM						LR	LR	15 04 11.6	
comp=Z,130nm,19.6s,baz=155,slow=39									
SONM	**Songino Array**	**9.57**	**22**	P			**Pn**	**15 00 13.7**	**+0.8**
SONM								15 01 57.9	
ULN	**Ulaanbaatar**	**9.79**	**24**	*e*Pn			**Pn**	**15 00 16.9**	**+0.9**
comp=Z,5.9nm,0.6s									
ULN	**Ulaanbaatar**	**9.79**	**24**	*e*P			**Pn**	**15 00 17.0**	**+1.0**
ULN						pmax	pmax		
comp=Z,6.0nm,0.6s									
WMQ	**Urumqi**	**11.18**	**300**	*e*P			**Pn**	**15 00 35.0**	**0.0**
WMQ						AP		15 00 38.4	
WMQ						XP		15 00 41.2	
WMQ						PP		15 00 43.8	
WMQ						*e*S	**Sn**	**15 02 41.2**	**+1.6**
WMQ						SS		15 02 54.9	
WMQ						PCP	PcP	15 06 30.0	-0.8
WMQ						AMB	AMB		
comp=Z,4.0nm,0.6s									
WMQ						AMB	AMB		
comp=Z,26nm,5.0s									
WMQ						LR	LR		
comp=N,384nm,6.8s									
WMQ						LR	LR		
comp=E,251nm,6.8s									
WMQ						LR	LR		
comp=Z,363nm,6.1s									
ZAK	**Zakamensk**	**11.43**	**7**	*e*P			**Pn**	**15 00 39.8**	**+1.4**
ZAK						pmax	pmax		
comp=Z,8.0nm,0.7s									
ZAK						pmax	pmax		
comp=Z,68nm,1.4s									
MOY	**Mondy**	**12.62**	**360**	*e*P			**Pn**	**15 00 57.2**	**+2.5**
GYA	**Guiyang**	**13.38**	**158**	P			**Pn**	**15 01 04.4**	**-0.6**
GYA				AP				15 01 08.0	
GYA				XP				15 01 11.6	
GYA				PP				15 01 19.3	
GYA				AMB	AMB				
comp=Z,10.0nm,0.6s									
GYA				AMB	AMB				
comp=Z,60nm,2.8s									
GYA				LR	LR				
comp=N,370nm,14.5s									
GYA				LR	LR				
comp=E,310nm,15.0s									
GYA				LR	LR				
comp=Z,300nm,14.2s									
KMI	**Kunming**	**13.95**	**174**	P			**Pn**	**15 01 16.7**	**+3.9**
KMI				LR	LR				
comp=Z,83nm,20.0s									
MK31	**Makanchi Array**	**15.82**	**305**	*i*P			**Pn**	**15 01 39.2**	**+1.3**
MK31				pmax	pmax				
comp=Z,8.0nm,0.5s									
MKAR	**Makanchi Array**	**15.82**	**305**	Pn			**Pn**	**15 01 35.7**	**-2.2**
comp=Z,0.3nm,0.3s,baz=101,slow=15,SNR=11									
MKAR	**Makanchi Array**	**15.82**	**305**	Pn			**Pn**	**15 01 35.7**	**-2.2**
MKAR	**Makanchi Array**	**15.82**	**305**	*i*P			**Pn**	**15 01 39.2**	**+1.3**
MKAR				pmax	pmax				
comp=Z,4.0nm,0.6s									
NJ2	**Nanjing**	**15.99**	**110**	*e*P			**Pn**	**15 01 39.9**	**-0.2**
NJ2				AP	pP			15 01 43.4	-4.3
NJ2				XP	sP			15 01 46.9	-2.7
NJ2				PP				15 01 53.0	
NJ2				S			**Sn**	**15 04 35.0**	**-2.0**
NJ2				XS	sS			15 04 41.0	-16
NJ2				AMB	AMB				
comp=Z,10.0nm,1.0s									
NJ2				AMB	AMB				
comp=Z,70nm,3.5s									
NJ2				LR	LR				
comp=N,480nm,21.4s									
NJ2				LR	LR				
comp=E,290nm,19.5s									
NJ2				LR	LR				
comp=Z,190nm,18.2s									
JIRN	**Jiri**	**16.87**	**232**	*e*P			**Pn**	**15 01 53.4**	**+2.1**
comp=Z,19nm,0.4s									
GUN	**Gumba**	**16.89**	**233**	*e*P			**Pn**	**15 01 53.4**	**+1.9**
comp=Z,21nm,0.3s									
KKN	**Kakani**	**17.35**	**234**	*e*P			**Pn**	**15 01 57.8**	**+0.5**
comp=Z,19nm,0.6s									
KKN	**Kakani**	**17.35**	**234**	*e*P			**Pn**	**15 01 57.8**	**+0.5**
KKN				pmax	pmax				
comp=Z,9.0nm,0.6s									
DMN	**Daman**	**17.58**	**234**	*e*P			**Pn**	**15 02 00.9**	**+0.7**
comp=Z,16nm,0.7s									
GKN	**Gorkha**	**17.61**	**236**	*e*P			**Pn**	**15 02 00.8**	**+0.2**
comp=Z,15nm,0.4s									
KOLN	**Koldanda**	**18.45**	**238**	*e*P			**Pn**	**15 02 10.3**	**-0.5**
comp=Z,6.6nm,0.5s									
CN2	**Changchun**	**18.79**	**68**	*e*P			**Pn**	**15 02 16.2**	**+1.1**
CN2				AMB	AMB				
comp=Z,10.0nm,0.8s									
TKM2	**Tokmak 2**	**19.66**	**290**	P			**Pn**	**15 02 25.4**	**-0.1**
SNR=6.4									
KURK	**Kurchatov**	**19.69**	**314**	*e*P			**Pn**	**15 02 23.9**	**-2.0**
comp=Z,11nm,0.9s									
KURK	**Kurchatov**	**19.69**	**314**	⇓*i*P			**Pn**	**15 02 23.4**	**-2.5**
NVS	**Novosibirsk**	**19.89**	**328**	*e*P			**Pn**	**15 02 26.5**	**-1.7**
NVS				pmax	pmax				
comp=N,11nm,1.6s									
NVS				pmax	pmax				
comp=Z,13nm,1.6s									
KZA	**Kyzart**	**19.90**	**287**	P			**Pn**	**15 02 28.9**	**+0.6**
SNR=12									
FRU	**Bishkek**	**20.38**	**289**	*e*P			**P**	**15 02 36.0**	**+4.2**
UCH	**Uchtor**	**20.44**	**287**	P			**P**	**15 02 35.0**	**+2.5**
SNR=16									
AAK	**Ala-Archa**	**20.46**	**289**	*e*P			**P**	**15 02 32.5**	**-0.3**
comp=Z,7.5nm,1.0s									
AAK	**Ala-Archa**	**20.46**	**289**	⇓*i*P			**P**	**15 02 32.2**	**-0.6**
AAK				pmax	pmax				
comp=Z,6.0nm,0.9s									
AAK				MLR	MLR				
comp=Z,100nm,17.0s,MS3.2									
USP	**Ospenovka**	**20.48**	**290**	P			**P**	**15 02 34.5**	**+1.5**
SNR=13									
BOD	**Bodaibo**	**20.56**	**20**	*e*P			**P**	**15 02 34.0**	**+0.2**
BOD				pmax	pmax				
comp=Z,4.0nm,1.3s									
EKS2	**Erkin-Say**	**20.99**	**289**	P			**P**	**15 02 39.6**	**+1.1**
SNR=12									
AML	**Almayashu**	**21.05**	**287**	P			**P**	**15 02 41.2**	**+2.1**
SNR=19									
QIZ	**Qiongzhong**	**21.32**	**157**	*e*P			**P**	**15 02 42.8**	**+0.8**
MDJ	**Mudanjiang**	**21.84**	**66**	P			**P**	**15 02 47.5**	**-0.1**
MDJ				AP				15 02 50.3	
MDJ				XP	sP			15 02 51.6	-2.1
MDJ				PCP	PcP			15 06 46.4	-0.7
MDJ				S			**S**	**15 06 49.8**	**+1.3**
MDJ				PCS	PcS			15 10 25.4	-0.1
MDJ				AMB	AMB				
comp=Z,4.0nm,1.3s,mb3.7									
MDJ				AMB	AMB				
comp=Z,106nm,5.1s									
KK31	**Karatay Array**	**23.39**	**290**	*i*P			**P**	**15 03 03.1**	**-1.0**
KK31				pmax	pmax				
comp=Z,3.0nm,0.6s,mb3.9									
KKAR	**Karatay Array**	**23.39**	**290**	*i*P			**P**	**15 03 03.1**	**-1.0**
KKAR				pmax	pmax				
comp=Z,2.0nm,0.7s,mb3.7									
VOSK	**Vostochnaya**	**24.85**	**313**	P			**P**	**15 03 17.2**	**-0.3**
VOSK				pmax	pmax				
comp=Z,4.0nm,0.7s,mb4.1									
BVA0	**Borovoye Array**	**25.29**	**314**	*i*P			**P**	**15 03 21.6**	**0.0**
BVAR	**Borovoye Array**	**25.29**	**314**	P			**P**	**15 03 21.9**	**+0.4**
comp=Z,5.2nm,0.5s,mb4.3,baz=116,slow=9.5,SNR=40									
BVAR				PcP	PcP			15 06 52.6	-1.8
comp=Z,0.5nm,0.5s,baz=112,slow=3.9,SNR=3.8									
BRVK	**Borovoye**	**25.36**	**314**	*e*P			**P**	**15 03 22.6**	**+0.4**
comp=Z,6.7nm,0.8s,mb4.2									
BRVK	**Borovoye**	**25.36**	**314**	*e*P			**P**	**15 03 22.7**	**+0.5**
BRVK				pmax	pmax				
comp=Z,7.0nm,0.8s,mb4.2									
HABR	**Khabarovsk**	**26.04**	**58**	*e*P			**P**	**15 03 30.0**	**+1.6**
AB31	**Akbulak array**	**30.94**	**303**	*i*P			**P**	**15 04 12.1**	**+0.1**
AB31				pmax	pmax				
comp=Z,1.0nm,0.4s,mb4.0									
AKTK	**Aktyubinsk**	**32.26**	**305**	P			**P**	**15 04 22.5**	**-1.2**
AKTK				LR	LR			15 18 18.5	
AKTO	**Aktyubinsk**	**32.26**	**305**	P			**P**	**15 04 22.5**	**-1.2**
comp=Z,1.8nm,0.6s,mb4.1,baz=92,slow=12,SNR=7.9									
AKTO				LR	LR			15 18 18.5	
comp=Z,49nm,20.8s,MS3.2,baz=140,slow=38									
ARU	**Arti**	**32.85**	**316**	*e*P			**P**	**15 04 28.7**	**-0.1**
comp=Z,9.7nm,0.4s,mb5.1									
ARU	**Arti**	**32.85**	**316**	⇑*i*P			**P**	**15 04 28.9**	**+0.1**
ARU				*e*				15 05 36.8	
ARU				*e*				15 07 12.5	
ARU				*e*S			**S**	**15 09 44.0**	**-1.7**
ARU				*e*SS			SS	15 11 40.6	-27
ARU				pmax	pmax				
comp=Z,11nm,0.8s,mb4.8									
TIXI	**Tiksi**	**35.56**	**15**	⇑*e*P			**P**	**15 04 51.6**	**-0.8**
TIXI				pmax	pmax				
comp=Z,4.0nm,1.1s,mb4.3									
KLMR	**Klimovskoe**	**43.27**	**321**	*e*P			**P**	**15 05 55.0**	**-1.7**
KLMR				pmax	pmax				
comp=Z,40nm,2.0s,mb4.8									
KIV	**Kislovodsk**	**43.28**	**296**	*e*P			**P**	**15 05 57.8**	**+1.0**
KIV				pmax	pmax				
comp=Z,11nm,1.2s,mb4.5									
KIV				MLR	MLR				
comp=Z,24nm,17.0s,MS3.2									
OBN	**Obninsk**	**45.13**	**313**	⇓*e*P			**P**	**15 06 11.5**	**-0.1**
OBN				pmax	pmax				
comp=Z,30nm,1.7s,mb4.8									
JOF	**Joensuu**	**47.11**	**324**	*e*p			**P**	**15 06 28.0**	**+0.9**
ARCES	**ARCESS Array B**	**49.07**	**333**	P			**P**	**15 06 42.0**	**-0.3**
comp=Z,3.2nm,0.6s,mb4.5,baz=82,slow=7.8,SNR=12									
FINES	**FINESS Array B**	**49.72**	**323**	P			**P**	**15 06 46.6**	**-0.6**
comp=Z,1.7nm,0.5s,mb4.4,baz=83,slow=7.4,SNR=18									
AKASG	**Malin Array Be**	**50.38**	**308**	P			**P**	**15 06 51.4**	**-0.9**
comp=Z,4.8nm,0.5s,mb4.8,baz=68,slow=7.9,SNR=16									
BR131	**Keskin Array S**	**51.03**	**294**	*e*P			**P**	**15 06 57.9**	**+0.7**
comp=Z,1.2nm,0.6s,mb4.0									
BRTR	**Keskin Array B**	**51.03**	**294**	P			**P**	**15 06 58.1**	**+1.0**
comp=Z,1.9nm,0.6s,mb4.2,baz=97,slow=7.7,SNR=11									
HFS	**Hagfors**	**55.92**	**323**	P			**P**	**15 07 32.1**	**-0.9**
comp=Z,2.6nm,0.6s,mb4.4,baz=94,slow=8.9,SNR=9.2									
NB2	**NORSAR Subarra**	**56.74**	**324**	P			**P**	**15 07 37.6**	**-1.3**
comp=Z,1.3nm,0.7s,mb4.1,baz=71,slow=7.4									
NB2	**NORSAR Subarra**	**56.74**	**324**	P			**P**	**15 07 37.6**	**-1.3**
NB2				pmax	pmax				
comp=Z,1.0nm,0.7s,mb4.0									
NOA	**NORSAR Array B**	**56.74**	**324**	P			**P**	**15 07 37.7**	**-1.2**
comp=Z,0.9nm,0.6s,mb4.0,baz=71,slow=7.1,SNR=3.6									
NOA				LR	LR			15 35 02.7	
comp=Z,26nm,20.2s,MS3.3,baz=255,slow=39									
NOA	**NORSAR Array B**	**56.74**	**324**	P			**P**	**15 07 37.7**	**-1.2**
NOA				LR	LR			15 35 02.7	
GERES	**GERESS Array B**	**60.41**	**311**	P			**P**	**15 08 03.7**	**-0.8**
comp=Z,0.4nm,0.2s,mb4.0,baz=79,slow=6.9,SNR=4.4									
COLA	**College**	**63.37**	**26**	*e*P			**P**	**15 08 24.6**	**+0.2**
comp=Z,1.6nm,0.6s,mb4.3									
COLA	**College**	**63.37**	**26**	⇑*e*P			**P**	**15 08 24.7**	**+0.3**
DAVOX	**Davos**	**63.66**	**310**	P			**P**	**15 08 26.6**	**+0.3**
comp=Z,3.4nm,0.7s,mb4.5,baz=354,slow=17,SNR=3.8									
ILAR	**Eielson Array**	**63.76**	**26**	P			**P**	**15 08 26.3**	**-0.7**
comp=Z,1.8nm,0.7s,mb4.2,baz=287,slow=5.6,SNR=26									
INK	**Inuvik**	**65.48**	**19**	*e*P			**P**	**15 08 38.2**	**0.0**
comp=Z,3.0nm,0.8s,mb4.4									
INK	**Inuvik**	**65.48**	**19**	*e*P			**P**	**15 08 38.2**	**0.0**
INK				pmax	pmax				
comp=Z,3.0nm,0.8s									
EKA	**Eskdalemuir Ar**	**66.12**	**323**	P			**P**	**15 08 41.2**	**-1.2**
comp=Z,1.3nm,0.7s,mb4.1,baz=57,slow=6.1,SNR=4.4									
WRA	**Warramunga Arr**	**66.39**	**146**	P			**P**	**15 08 43.4**	**-0.7**
comp=Z,1.5nm,0.8s,mb4.1,baz=336,slow=7.3,SNR=18									
WB2	**Warramunga Arr**	**66.40**	**146**	*e*P			**P**	**15 08 43.2**	**-0.9**
DAWY	**Dawson**	**66.72**	**25**	*e*P			**P**	**15 08 45.7**	**-0.6**
AS31	**Alice Springs**	**69.50**	**148**	*e*P			**P**	**15 09 03.5**	**-0.2**
ASPA	**Alice Springs**	**69.50**	**148**	*e*P			**P**	**15 09 03.5**	**-0.2**
ASAR	**Alice Springs**	**69.50**	**148**	P			**P**	**15 09 02.6**	**-1.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=339,slow=6.4,SNR=23									
YKA	**Yellowknife Ar**	**74.79**	**16**	P			**P**	**15 09 34.8**	**-0.5**
comp=Z,1.6nm,0.8s,mb4.0,baz=329,slow=5.7,SNR=28									
YKA	**Yellowknife Ar**	**74.79**	**16**	⇑*e*P			**P**	**15 09 35.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**89.03**	**286**	P			**P**	**15 10 50.5**	**+0.4**
comp=Z,1.3nm,0.9s,mb4.2,baz=42,slow=6.0,SNR=6.3									
BDFB	**Brasilia**	**144.33**	**302**	PKP			PKPdf	15 17 30.0	-1.2
comp=Z,10nm,0.8s,baz=100,slow=2.7,SNR=13									
SAML	**Samuel**	**146.91**	**331**	*e*PKPbc			PKPbc	15 17 37.3	-0.2
SIV	**San Ignacio**	**152.25**	**321**	PKPbc			PKPbc	15 17 49.6	-1.3
comp=Z,1.7nm,0.5s,baz=0.0,slow=0.0,SNR=5.7									

IDC 06 15:03:55.1±8.4, 206S×13833E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/12, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=180.7km s-min=97.1km az=121.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.20**	**192**	P		P	Pn	15 08 10.2	+1.1
0.0nm,0.3s,baz=12,slow=12,SNR=4.1									
ASAR	**Alice Springs**	**21.90**	**191**	P		P		15 08 50.3	+0.5
0.2nm,0.8s,baz=12,slow=10,SNR=3.3									
STKA	**Stephens Creek**	**29.82**	**174**	P		P		15 10 03.4	-0.4
2.0nm,0.8s,baz=354,slow=10,SNR=3.2									

IDC 06 15:08:15.6±1.9, 033N×12754E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/24, Error ellipse: s-maj=156.7km s-min=23.5km az=66.0, Halmahera

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

*NEIC **06** 15:22:42.7±1.3, 1997N×9584E, h65km±12km, mb4.2/2, Error ellipse: s-maj=14.0km s-min=7.6km az=70.0*
*BJI **06** 15:22:42.8, 2000N×9544E, h73km, mB4.9, mb4.1, Ms4.0, Msz3.8*
*IDC **06** 15:22:45.3±6.7, 1992N×9584E, h92km±63km, mb3.7/12, mb1 3.8/13, mb1mx3.7/23, mbtmp4.0/13, ML3.8/1, Error ellipse: s-maj=30.9km s-min=13.4km az=59.0*

ISC 06 15:22:43.8±1.5, 2000N±008×958E±01, h74km±14km, n28, σ0§83/30, mb3.9/14, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	Nakhon Sawan	5.94	136	PN	Pn	15 24 02.0	-7.1
NST				PG	Pn	15 24 24.0	+15
NST				SG	Sn	15 25 39.2	+24
SHL	Shillong	6.63	327	*e*P	Pn	15 24 17.0	-1.6
SHL				*e*S	Sn	15 25 34.5	+1.7
LSA	Lhasa	10.55	337	P	Pn	15 25 11.4	-0.7
LSA	Lhasa	10.55	337	*e*P	Pn	15 25 11.1	-1.0
	7.0nm,0.8s						
HYB	Hyderabad	16.58	264	*i* P	Pn	15 26 31.0	-0.4
HYB	Hyderabad	16.58	264	*e*P	Pn	15 26 31.0	-0.4
PSI	Prapat	17.36	170	P	Pn	15 26 42.9	+1.8
	0.3nm,0.3s,baz=321,slow=9.6,SNR=6.2						
MKAR	Makanchi Array	28.93	341	P	P	15 28 36.7	+0.9
	2.3nm,0.7s,mb3.9,baz=151,slow=9.1,SNR=35						
MKAR	Makanchi Array	28.93	341	P	P	15 28 36.7	+0.9
SONM	Songino Array	29.06	15	P	P	15 28 37.9	+1.0
	1.0nm,0.7s,mb3.5,baz=190,slow=9.4,SNR=9.2						
KURK	Kurchatov	33.54	340	*e*P	P	15 29 16.5	+0.1
	4.8nm,0.8s,mb4.4						
BVAR	Borovoye Array	38.38	335	P	P	15 29 58.0	+0.2
	0.8nm,0.5s,mb3.8,baz=142,slow=7.5,SNR=6.7						
BRVK	Borovoye	38.45	335	*e*P	P	15 29 58.1	-0.2
	1.3nm,0.7s,mb3.9						
AKTK	Aktyubinsk	42.57	325	P	P	15 30 31.8	-0.5
AKTO	Aktyubinsk	42.57	325	P	P	15 30 31.8	-0.5
	1.1nm,0.5s,mb3.9,baz=118,slow=7.7,SNR=6.7						
WRA	Warramunga Arr	54.75	134	P	P	15 32 04.7	-1.0
	1.1nm,0.7s,mb4.0,baz=321,slow=7.7,SNR=20						
ASAR	Alice Springs	57.10	138	P	P	15 32 21.9	-0.5
	0.6nm,0.6s,mb3.8,baz=320,slow=6.6,SNR=16						
AKASG	Malin Array Be	60.02	318	P	P	15 32 41.9	-0.8
	0.8nm,0.5s,mb4.0,baz=84,slow=6.5,SNR=5.6						
JOF	Joensuu	60.83	332	*e*p	P	15 32 48.7	+0.5
KAF	Kangasniemi	62.96	330	*e*p	P	15 33 08.1	+5.6
FINES	FINESS Array B	62.97	330	P	P	15 33 02.2	-0.4
	1.7nm,0.7s,mb4.1,baz=93,slow=5.9,SNR=9.7						
FINES	FINESS Array B	62.97	330	P	P	15 33 02.2	-0.4
GERES	GERESS Array B	70.11	316	P	P	15 33 48.8	+0.7
	2.6nm,0.7s,mb4.2,baz=76,slow=5.6,SNR=16						
NB2	NORSAR Subarra	70.13	329	P	P	15 33 47.7	-0.5
	comp=Z,1.1nm,0.6s,mb3.9,baz=84,slow=6.5						
NOA	NORSAR Array B	70.13	329	P	P	15 33 48.0	-0.2
	comp=Z,1.6nm,0.7s,mb4.0,baz=86,slow=6.0,SNR=5.9						
NOA	NORSAR Array B	70.13	329	P	P	15 33 48.0	-0.2
ILAR	Eielson Array	82.97	23	P	P	15 35 00.6	-0.1
	comp=Z,0.8nm,0.7s,mb3.7,baz=302,slow=4.8,SNR=16						
BOSA	Boshof	83.52	237	P	P	15 35 03.8	+0.3
	comp=Z,1.9nm,0.8s,mb4.0,baz=51,slow=6.5,SNR=3.1						

MEX 06 15:39:02.4±0.6, 1462N×9329W, h22km±37km, MD4.4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.99	34	*i* P	Pn	15 39 32.7	-2.0
CCIG				*i* S	Sn	15 39 55.4	-3.6
SCX	San Cristobal	2.20	17	*e*P	Pn	15 39 35.5	-2.0
SCX				*i* S	Sn	15 40 02.3	-1.7
CMIG	Matias Romero	2.90	328	*i* P	Pn	15 39 45.0	-2.1
CMIG				*i* S	Sn	15 40 18.0	-3.3
OXX	Oaxaca	4.11	307	*e*P	Pn	15 40 02.5	-1.3
VHO	Vista Hermosa	4.11	307	*i* P	Pn	15 40 04.9	+1.1
VHO				*i* S	Sn	15 40 50.9	-0.4

IDC 06 15:50:04.9±8.9, 585S×14569E, h58km±100km, mb2.7/2, mb1 3.0/4, mb1mx3.0/13, mbtmp3.1/4, ML2.9/2, Error ellipse: s-maj=65.6km s-min=44.4km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.82	158	P	Pn	15 51 01.1	-0.2
	0.9nm,0.3s,baz=329,slow=12,SNR=7.2						
PMG				S	Sn	15 51 45.9	+0.9
	0.9nm,0.3s,baz=16,slow=21,SNR=4.6						
WRA	Warramunga Arr	17.83	217	P	Pn	15 54 10.6	+1.7
	0.1nm,0.3s,baz=46,slow=12,SNR=8.1						
ASAR	Alice Springs	21.04	211	P	P	15 54 43.0	-0.8
	0.3nm,0.7s,baz=44,slow=9.4,SNR=4.6						
MKAR	Makanchi Array	76.55	321	P	P	16 01 49.2	+0.3
	0.1nm,0.4s,baz=122,slow=6.9,SNR=4.3						

IGQ 06 15:50:45.3, 275S×7824W, h5km±2km, Mb4.0, Ms3.8, 4C-2D, Error ellipse: s-maj=16.3km s-min=1.9km az=170.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	Patacocha	1.25	351	⇑P	Pg	15 51 09.9	+0.6
PATA				S	Sg	15 51 27.9	+2.3
ARRY	Arrayan	1.25	350	⇓P	Pg	15 51 09.4	0.0
ARRY				S	Sg	15 51 26.6	+1.0
ULBA	Ulba	1.30	353	⇓P	Pn	15 51 10.6	+0.4
ULBA				S	Sg	15 51 28.6	+1.4
CUSU	Cusua	1.32	350	P	Pn	15 51 11.0	+0.5
CUSU				S	Sg	15 51 29.7	+1.9
JUIV	Juive	1.34	350	P	Pn	15 51 11.3	+0.7
JUIV				S	Sb	15 51 29.6	+1.4
PISA	Pisayambo	1.69	355	P	Pn	15 51 18.2	+2.8
PISA				S	Sn	15 51 40.4	+2.9
TAMB	Tambo	2.05	356	⇑P	Pn	15 51 23.4	+3.0
TAMB				S	Sn	15 51 51.0	+4.7
CAMI	Rancho Maria	2.08	353	⇑P	Pn	15 51 24.2	+3.3
VC1	Cotopaxi 1	2.10	356	⇑P	Pn	15 51 24.6	+3.4
VC1				S	Sn	15 51 53.1	+5.5
ANTI	Antisana	2.29	2	P	Pn	15 51 25.3	+1.6
ANTI				S	Sn	15 51 55.1	+2.8
CONE	Cono NE Rev Vo	2.73	13	P	Pn	15 51 36.1	+6.4
CONE				S	Sn	15 52 09.4	+6.2

*NEIC **06** 15:57:57.5, 3646S×17931W, h33km, ML4.4(WEL), After WEL.*
*WEL **06** 15:57:57.4±0.7, 3646S×17932W, h33km, ML4.4/6, Error ellipse: s-maj=7.5km s-min=6.5km az=90.0*
*ISCJB **06** 15:57:58.4±1.7, 3713S±0.1×1792W±0.1, h66km±16km, mb4.1/2, Error ellipse: s-maj=22.5km s-min=14.0km az=92.0*
*IDC **06** 15:58:02.2±2.5, 3618S×17941E, h0km, mb4.2/2, mb1 4.3/3, mb1mx4.0/11, mbtmp4.0/3, ML3.1/1, Error ellipse: s-maj=65.6km s-min=29.8km az=126.0*

ISC 06 15:57:58.2±1.7, 368S±01×1792W±01, h40km±18km, n24, σ1§05/30, mb4.0/2, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.11	249	PN	Pn	15 58 30.6	-0.4
MXZ				SN	Sn	15 58 55.9	0.0
PUZ	Puketiti	2.36	237	PN	Pn	15 58 35.8	+1.3
PUZ				SN	Sn	15 59 04.9	+2.7
PUZ	Puketiti	2.36	237	P	Pn	15 58 35.8	+1.3
PUZ				S	Sn	15 59 04.9	+2.7
MWZ	Matawai	2.99	239	PN	Pn	15 58 43.4	+0.3
MWZ				SN	Sn	15 59 19.7	+2.0
MWZ	Matawai	2.99	239	*e*P	Pn	15 58 43.4	+0.3
MWZ				S	Sn	15 59 19.7	+2.0
URZ	Urewera	3.25	243	Pn	Pn	15 58 47.5	+0.8
	2.8nm,0.3s,baz=14,slow=17,SNR=49						
URZ				Sn	Sn	15 59 23.3	-0.8
URZ	Urewera	3.25	243	PN	Pn	15 58 47.3	+0.6
URZ				*e*SN	Sn	15 59 24.3	+0.2
URZ	Urewera	3.25	243	P	Pn	15 58 47.3	+0.6
KNZ	Kokohu	3.29	227	PN	Pn	15 58 47.7	+0.4
KUZ	Kuaotunu	4.06	270	PN	Pn	15 58 56.1	-1.7
KUZ				SN	Sn	15 59 39.4	-4.7
KUZ	Kuaotunu	4.06	270	P	Pn	15 58 56.1	-1.7
KUZ				S	Sn	15 59 39.4	-4.6
PXZ	Pawanui	4.44	223	PN	Pn	15 59 02.7	-0.3
PXZ				SN	Sn	15 59 53.2	-0.2
MOVZ	Moawhango	4.73	235	PN	Pn	15 59 10.4	+3.4
MOVZ				SN	Sn	15 59 59.8	-0.7
TSZ	Takapari Road	4.97	228	PN	Pn	15 59 09.8	-0.6
TSZ				SN	Sn	16 00 06.0	-0.6
MRZ	Mangatainoka R	5.58	225	PN	Pn	15 59 18.3	-0.5
MRZ				SN	Sn	16 00 20.1	-1.5
CAW	Cannon Point	6.17	224	SN	Sx	16 00 33.3	
SNZO	South Karori	6.51	225	*e*Sn	Sx	16 00 42.0	
NNZ	Nelson	7.24	230	SN	Sx	16 00 58.3	
LTZ	Lake Taylor	8.85	225	SN	Sx	16 01 35.8	
MQZ	McQueen's Vall	9.26	220	SN	Sx	16 01 45.4	
ODZ	Otahua Downs	11.23	220	SN	Sx	16 02 31.6	
ASAR	Alice Springs	42.17	275	P	P	16 05 47.1	+0.2
	3.6nm,0.8s,mb4.1,baz=118,slow=7.7,SNR=48						
WRA	Warramunga Arr	43.73	280	P	P	16 05 59.7	+0.1
	1.4nm,0.5s,mb4.0,baz=120,slow=7.7,SNR=9.1						
FINES	FINESS Array B	150.68	335	PKPbc	PKPbc	16 17 51.9	+5.9
	0.5nm,0.4s,baz=53,slow=5.4,SNR=7.9						
FINES				PKPab	PKPab	16 17 58.2	+5.3
	0.7nm,0.5s,baz=42,slow=4.7,SNR=6.6						

*ISCJB **06** 16:05:45.3±0.8, 1812S±0.10×17847W±008, h556km±10km, mb4.4/31, Error ellipse: s-maj=16.7km s-min=7.7km az=115.5*
*NEIC **06** 16:05:45.9±0.9, 1798S×17848W, h553km±10km, mb4.6/20, Error ellipse: s-maj=14.3km s-min=6.9km az=149.0*
*BJI **06** 16:05:45.3, 1802S×17852W, h553km, mB4.8, mb4.4*
*IDC **06** 16:05:45.6±1.3, 1806S×17844W, h551km±17km, mb3.9/11, mb1 4.0/13, mb1mx3.8/19, mbtmp4.8/13, Error ellipse: s-maj=19.3km s-min=10.3km az=150.0*

ISC 06 16:05:46.0±0.8, 1812S±010×17840W±007, h550km±9km, h545km±2.9km; pP-P, n55, σ1§00/52, mb4.4/31, 5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.62	58	P	P	16 07 39.7	-0.2
	12nm,0.3s,baz=59,slow=23,SNR=12						
AFI				S	S	16 09 13.4	+0.2
	1.4nm,0.3s,baz=319,slow=23,SNR=2.7						
AFI	Afiamalu	7.62	58	*e*P	P	16 07 39.8	-0.1
	74nm,0.6s						
DZM	Mont Dzumac	14.77	252	P	P	16 08 53.7	+0.7
	3.0nm,0.3s,baz=81,slow=14,SNR=52						
URZ	Urewera	20.45	190	P	P	16 09 45.2	-0.8
	4.0nm,0.5s,baz=35,slow=12,SNR=3.7						
HNR	Honiara	22.71	289	P	P	16 10 07.2	+0.9
	26nm,0.7s,mb5.0,baz=294,slow=1.2,SNR=4.2						
HNR	Honiara	22.71	289	*e*P	P	16 10 07.5	+1.2
	22nm,0.7s,mb4.9						
CNB	Canberra Magne	33.31	233	*e*P	P	16 11 39.9	+1.4
	30nm,0.6s,mb5.0						
CTA	Charters Tower	33.42	261	⇓*i*P	P	16 11 38.8	-0.6
	16nm,0.7s,mb4.7						
CTA	Charters Tower	33.42	261	P	P	16 11 39.1	-0.4
	19nm,0.7s,mb4.7,baz=91,slow=11,SNR=43						
CTAO	Charters Tower	33.42	261	*e*P	P	16 11 39.0	-0.4
	20nm,0.8s,mb4.7						
PMG	Port Moresby	34.50	280	P	P	16 11 48.0	-0.5
	52nm,0.9s,mb5.1,baz=84,slow=5.7,SNR=26						
PMG	Port Moresby	34.50	280	*e*P	P	16 11 48.6	+0.1
	55nm,0.9s,mb5.1						
TOO	Toolangi	37.05	231	*e*P	P	16 12 10.9	+1.4
	20nm,0.7s,mb4.8						
STKA	Stephens Creek	38.54	241	⇓*i*P	P	16 12 20.6	-1.1
	21nm,0.6s,mb4.8						
STKA	Stephens Creek	38.54	241	P	P	16 12 20.6	-1.1
	37nm,0.8s,mb5.0,baz=87,slow=9.2,SNR=73						
WB2	Warramunga Arr	44.59	260	⇓*i*P	P	16 13 08.3	-1.1
WRAB	Tennant Creek	44.59	260	*e*P	P	16 13 08.3	-1.1
	20nm,0.6s,mb4.8						
WRA	Warramunga Arr	44.60	260	P	P	16 13 08.5	-1.0
	17nm,0.7s,mb4.7,baz=94,slow=7.1,SNR=266						
AS31	Alice Springs	44.74	254	⇓*i*P	P	16 13 10.3	-0.3
ASAR	Alice Springs	44.74	254	P	P	16 13 10.4	-0.2
	123nm,0.7s,baz=88,slow=8.4,SNR=2423						
ASPA	Alice Springs	44.75	254	⇓*i*P	P	16 13 10.3	-0.3
KAKA	Kakadu	47.59	269	*e*P	P	16 13 31.1	-1.1
	20nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	53.01	261	*e*P	P	16 14 11.5	-0.2
	8.5nm,0.9s,mb4.1						
KLBR	Kellerberrin	58.75	244	*e*P	P	16 14 50.5	-0.8
	19nm,0.7s,mb4.4						
NWAO	Narrogin (SRO)	59.12	242	P	P	16 14 53.4	-0.5
	11nm,0.9s,mb4.1,baz=80,slow=3.7,SNR=7.3						
MUN	Mundaring	60.04	243	*e*P	P	16 15 00.1	+0.1
VNDA	Vanda	60.24	185	P	P	16 15 02.6	+1.3
	0.6nm,0.6s,baz=17,slow=7.4,SNR=3.0						
QSPA	South Pole Qui	71.94	180	*e*P	P	16 16 14.4	+0.5
	4.6nm,0.9s,mb3.9						
SSE	Sheshan	75.88	310	P	P	16 16 36.5	+0.3
SSE				AMB	AMB		
	comp=Z,44nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,122nm,4.1s						
NJ2	Nanjing	78.08	310	*e*P	P	16 16 49.1	+0.9
NJ2				AP	pP	16 18 45.1	+0.5
NJ2				XP	sP	16 19 39.1	-1.9
NJ2				PP	PP	16 19 56.9	+2.4
NJ2				S	S	16 25 54.0	-3.5
NJ2				XS	sS	16 29 22.0	-3.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
NJ2				AMB	AMB		
	comp=Z,410nm,3.9s						
MDJ	Mudanjiang	78.36	325	P	P	16 16 50.2	+0.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.6s,mb3.7						
MDJ				AMB	AMB		
	comp=Z,73nm,4.3s						
NVAR	Mina Array Bea	79.57	44	P	P	16 16 56.8	+0.7
	comp=Z,3.6nm,0.7s,mb3.8,baz=223,slow=8.7,SNR=18						
CN2	Changchun	80.19	322	*e*P	P	16 17 01.2	+1.8
MOD	Modoc	80.24	40	*e*P	P	16 16 59.6	+0.1
	comp=Z,8.1nm,1.0s,mb4.0						
SLKM	Skilak Lake	81.59	14	P	P	16 17 03.7	-2.9
ENH	Enshi	84.39	304	*e*P	P	16 17 20.2	-0.4
	comp=Z,9.2nm,1.1s,mb4.2						
MCK	McKinley	84.74	13	*e*P	P	16 17 20.1	-2.2
	comp=Z,2.9nm,0.8s,mb3.9						
HLID	Hailey	84.78	41	*e*P	P	16 17 22.9	+0.4
	comp=Z,3.2nm,0.8s,mb3.9						
MNTX	Cornudas Mount	85.69	55	*e*P	P	16 17 27.5	+0.6
	comp=Z,1.5nm,0.7s,mb3.7						
ILAR	Eielson Array	86.09	13	P	P	16 17 25.8	-3.0
	comp=Z,1.6nm,0.7s,mb3.8,baz=224,slow=4.9,SNR=27						
MCMT	McKenzie Canyo	86.39	40	*e*P	P	16 17 30.8	+0.6
CHMT	Chamberlain Mo	87.19	39	*e*P	P	16 17 33.1	-0.9
HHC	Hu-ho-hao-te	87.42	314	*e*P	P	16 17 36.4	+1.3
HHC				AP	pP	16 19 35.2	+0.2
HHC				XP	sP	16 20 28.6	-1.9
HHC				PP	PP	16 21 13.6	+3.8
HHC				SKS		16 27 11.2	
HHC				S		16 27 30.3	
HHC				XS	sS	16 31 02.2	-1.4
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,104nm,6.3s						
BW06	Boulder Array	87.49	43	*e*P	P	16 17 35.1	-0.3
	comp=Z,1.1nm,0.6s,mb3.7						
PDAR	Pinedale Array	87.50	43	P	P	16 17 35.4	0.0
	comp=Z,2.9nm,0.7s,mb4.0,baz=221,slow=3.0,SNR=27						
LKWY	Lake	87.79	42	*e*P	P	16 17 36.9	+0.1
	comp=Z,15nm,0.7s,mb4.8						
KMI	Kunming	87.93	297	P	P	16 17 37.4	0.0
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
CD2	Chengdu	89.19	303	*e*P	P	16 17 44.9	+1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,50nm,7.5s						
LZH	Lanzhou	91.03	308	*e*P	P	16 17 53.5	+1.7
LZH				AP	pP	16 19 55.0	+2.6
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,43nm,4.0s						
YKA	Yellowknife Ar	94.52	25	P	P	16 18 06.0	-1.7
	comp=Z,0.8nm,0.8s,mb3.9,baz=246,slow=4.4,SNR=14						
YKA	Yellowknife Ar	94.52	25	P	P	16 18 06.0	-1.7
BRTR	Keskin Array B	144.94	315	PKP	PKPdf	16 24 20.4	-0.2
	comp=Z,1.6nm,0.9s,baz=158,slow=1.3,SNR=8.0						
CLL	Collm	145.67	347	*e*PKPbc	PKPbc	16 24 22.0	-1.4
BRG	Berggiesshubel	145.87	346	*e*PKP	PKPdf	16 24 23.0	+0.7
	comp=Z,2.3nm,0.9s						
GERES	GERESS Array B	147.81	345	PKPbc	PKPbc	16 24 28.3	-0.9
	comp=Z,0.7nm,0.6s,baz=28,slow=3.2,SNR=6.1						

*ISCJB **06** 16:19:18.5±0.9, 173S±0.1×1774W±0.1, h366km±11km, mb4.2/23, Error ellipse: s-maj=22.5km s-min=9.2km az=104.1*
*BJI **06** 16:19:18.9, 1720S×17740W, h359km, mB4.8, mb4.6*
*NEIC **06** 16:19:19.0±1.0, 1721S×17735W, h360km±11km, mb4.3/11, Error ellipse: s-maj=17.5km s-min=7.3km az=145.0*
*IDC **06** 16:19:21.9±2.1, 1737S×17742W, h388km±21km, mb3.7/10, mb1 3.9/11, mb1mx3.8/17, mbtmp4.4/11, Error ellipse: s-maj=19.7km s-min=11.9km az=145.0*

ISC 06 16:19:19.6±0.9, 173S±01×1773W±01, h366km±11km, n52, σ1§07/37, mb4.2/23, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.27	58	P	Pn	16 20 53.5	-0.4
	6.9nm,0.3s,baz=223,slow=10.0,SNR=5.7						
AFI	Afiamalu	6.27	58	*e*P	Pn	16 20 53.2	-0.7
AFI				S	S	16 22 10.8	+0.2
DZM	Mont Dzumac	16.06	250	P	P	16 22 45.8	+0.9
	0.5nm,0.3s,baz=70,slow=17,SNR=11						
URZ	Urewera	21.44	192	P	P	16 23 39.2	-0.2
	4.8nm,0.3s,mb4.2,baz=254,slow=4.3,SNR=18						
CTA	Charters Tower	34.64	260	*e*P	P	16 25 35.3	-0.3
	5.3nm,1.5s,mb3.5						
CTAO	Charters Tower	34.64	260	*e*P	P	16 25 34.9	-0.7
	2.1nm,0.4s,mb3.7						
CNB	Canberra Magne	34.66	232	*e*P	P	16 25 36.6	+0.8
	16nm,0.6s,mb4.4						
PMG	Port Moresby	35.46	278	P	P	16 25 44.2	+1.6
	6.5nm,0.8s,mb3.9,baz=77,slow=3.1,SNR=4.5						
PMG	Port Moresby	35.46	278	*e*P	P	16 25 44.0	+1.4
TOO	Toolangi	38.40	231	*e*P	P	16 26 08.2	+1.2
	14nm,0.4s,mb4.5						
STKA	Stephens Creek	39.88	241	*e*P	P	16 26 17.7	-1.5
	5.1nm,0.4s,mb4.1						
STKA	Stephens Creek	39.88	241	P	P	16 26 17.8	-1.4
	5.8nm,0.4s,mb4.2,baz=93,slow=10,SNR=42						
WB2	Warramunga Arr	45.82	259	*e*P	P	16 27 05.1	-1.2
WRAB	Tennant Creek	45.82	259	*e*P	P	16 27 05.0	-1.3
WRA	Warramunga Arr	45.83	259	P	P	16 27 04.8	-1.6
	2.5nm,0.7s,mb4.4,baz=96,slow=7.2,SNR=57						
ASAR	Alice Springs	46.02	254	P	P	16 27 07.5	-0.4
	20nm,0.5s,mb4.5,baz=89,slow=7.9,SNR=792						
ASAR				PcP	PcP	16 28 39.9	+2.4
	0.8nm,0.4s,baz=104,slow=3.9,SNR=6.2						
ASAR				ScP	ScP	16 31 55.0	+0.2
	0.3nm,0.6s,baz=97,slow=4.4,SNR=4.9						
ASAR				S	S	16 33 20.4	-4.3
	0.4nm,0.9s,baz=93,slow=16,SNR=4.2						
KAKA	Kakadu	48.70	268	*e*P	P	16 27 27.5	-0.8
	12nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	54.22	260	*e*P	P	16 28 09.7	+1.0
	2.1nm,0.3s,mb4.0						
KLBR	Kellerberrin	60.08	243	*e*P	P	16 28 49.0	-0.3
	16nm,0.6s,mb4.6						
VNDA	Vanda	61.12	185	P	P	16 28 56.1	-0.1
	0.9nm,0.9s,mb3.2,baz=18,slow=6.4,SNR=3.0						
VNDA	Vanda	61.12	185	*e*P	P	16 28 57.1	+0.8
MUN	Mundaring	61.37	243	*e*P	P	16 28 58.4	+0.5
NVAR	Mina Array Bea	78.24	43	P	P	16 30 41.0	+1.4
	2.0nm,0.7s,mb4.0,baz=225,slow=10,SNR=9.5						
MDJ	Mudanjiang	78.35	324	P	P	16 30 43.7	+3.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.4s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,87nm,5.3s						
NJ2	Nanjing	78.43	309	*e*P	P	16 30 42.2	+1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CN2	Changchun	80.24	322	*e*P	P	16 30 53.4	+3.1
HLID	Hailey	83.46	41	*e*P	P	16 31 08.0	+1.1
	comp=Z,2.6nm,0.7s,mb4.2						
MCK	McKinley	83.73	12	*e*P	P	16 31 07.1	-1.2
	comp=Z,6.6nm,1.0s,mb4.4						
COLA	College	84.97	12	*e*P	P	16 31 13.0	-1.5
	comp=Z,9.1nm,0.7s,mb4.7						
ILAR	Eielson Array	85.07	13	P	P	16 31 13.5	-1.4
	comp=Z,3.6nm,0.4s,mb4.6,baz=224,slow=5.2,SNR=125						
PDAR	Pinedale Array	86.17	43	P	P	16 31 20.8	+0.5
	comp=Z,0.7nm,0.7s,mb3.6,baz=201,slow=3.6,SNR=8.4						
DAWY	Dawson	86.22	16	*e*P	P	16 31 20.1	-0.5
HHC	Hu-ho-hao-te	87.66	314	*e*P	P	16 31 28.0	+0.7
HHC				AP	pP	16 32 56.6	+4.3
HHC				PP	PP	16 35 04.8	+6.2
HHC				SKS		16 41 17.5	
HHC				S		16 41 40.1	
HHC				AMB	AMB		
	comp=Z,8.0nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,80nm,6.1s						
HHC				LR	LR		
	comp=N,115nm,6.3s						
HHC				LR	LR		
	comp=E,174nm,5.1s						
HHC				LR	LR		
	comp=Z,108nm,6.7s						
CD2	Chengdu	89.68	302	*e*P	P	16 31 36.9	+0.1
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,9.5s						
SYO	Syowa Base	89.97	192	⇓*e*PcP	PcP	16 31 33.3	-5.8
YKA	Yellowknife Ar	93.34	24	P	P	16 31 52.9	-0.8
	comp=Z,0.8nm,

LPAZ La Paz 6.45 94 P **Pn 16 26 41.4 -0.8**
1.4nm,0.3s,baz=281,slow=9.0,SNR=22
LPAZ S **Sn 16 28 05.5 +11**
baz=200,slow=20,SNR=2.5
LPAZ La Paz 6.45 94 *e*Pn **Pn 16 26 40.7 -1.5**
LPAZ S **Sn 16 28 05.5 +11**
SIV San Ignacio 13.23 92 P **Pn 16 28 09.8 -4.8**
0.3nm,0.3s,baz=272,slow=11,SNR=5.7
CFAA Coronel Fontan 16.76 160 P **Pn 16 29 00.8 +0.9**
baz=336,slow=12,SNR=3.2
SDV Santo Domingo 24.96 10 P **P 16 30 26.8 +0.4**
2.2nm,0.6s,mb3.7,baz=320,slow=9.6,SNR=3.6
SDV Santo Domingo 24.96 10 P **P 16 30 26.8 +0.4**
BDFB Brasilia 25.81 93 P **P 16 30 33.7 -0.3**
2.5nm,0.8s,mb3.7,baz=251,slow=9.1,SNR=3.3
BDFB LR LR 16 40 21.2
comp=Z,54nm,21.1s,baz=291,slow=35
SDCO Great Sand Dun 60.64 332 *e*P **P 16 35 13.3 +0.3**
1.2nm,0.7s,mb4.0
PPT Papeete 71.15 257 LR LR 16 59 03.0
comp=Z,359nm,19.6s,baz=297,slow=28
DBIC Dimbokro 72.79 78 P **P 16 36 30.2 -0.1**
4.0nm,0.7s,mb4.3,baz=249,slow=7.3,SNR=7.4
DBIC LR LR 17 07 14.3
comp=Z,78nm,19.7s,baz=338,slow=35
DBIC Dimbokro 72.79 78 *e*P **P 16 36 30.0 -0.4**
3.5nm,0.7s,mb4.3
DBIC LR LR 17 07 14.3
TORD Torodi Ar. Bea 80.97 74 P **P 16 37 16.9 +0.6**
8.8nm,0.5s,mb4.8,baz=261,slow=5.5,SNR=127
YKA Yellowknife Ar 84.12 343 P **P 16 37 31.7 -0.9**
0.3nm,0.7s,mb3.2,baz=140,slow=4.7,SNR=7.5
ASAR Alice Springs 131.69 216 PKP PKPdf 16 44 15.2 +1.0
0.4nm,0.6s,baz=125,slow=1.8,SNR=9.1
WRA Warramunga Arr 134.28 220 PKP PKPdf 16 44 19.9 +0.7
0.6nm,0.6s,baz=140,slow=1.9,SNR=10
MKAR Makanchi Array 143.79 27 PKP PKPdf 16 44 34.5 -1.9
0.2nm,0.6s,baz=335,slow=1.5,SNR=3.8
SONM Songino Array 148.13 358 PKPbc PKPbc 16 44 47.1 0.0
1.1nm,0.6s,baz=344,slow=1.7,SNR=12

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*ISCJB **06** 16:50:22.7±0.6,895N×004×12694E±005,h10km, mb4.1/14,Error ellipse: s-maj=7.0km s-min=6.1km az=49.1*
*IDC **06** 16:50:23.0±0.8,886N×12653E,h0km,mb3.8/8,mb1 4.0/8, mb1mx3.8/18,mbtmp3.8/8,MS3.4/1,Ms1 3.4/1, ms1mx2.4/21,Error ellipse: s-maj=59.8km s-min=17.2km az=74.0*
*NEIC **06** 16:50:24.5±0.4,887N×12655E,h10km,mb4.4/6,Error ellipse: s-maj=14.2km s-min=7.6km az=72.0*
*MAN **06** 16:50:29.0,897N×12661E,h11km,mb4.5,ML5.3,MS2.3*
ISC 06 16:50:24.8±0.5,891N±004×12684E±005,h10km,n34, σ1§51/40,mb4.1/14,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.87**	**213**	⇓*e*P	**Pg**	**16 50 42.5**	**+1.0**
BIPH				*e*S	**Sg**	**16 50 52.3**	**-0.5**
BUTP	**Butuan**	**1.21**	**273**	*e*P	**Pb**	**16 50 46.5**	**-1.3**
BUTP				*e*S	**Sb**	**16 51 00.2**	**-3.2**
BUKP	**Musuan**	**2.04**	**240**	*e*P	**Pn**	**16 51 01.6**	**+2.5**
BUKP				*e*S	**Sn**	**16 51 27.4**	**+2.7**
CGP	**Cagayan de Oro**	**2.17**	**258**	⇑*e*P	**Pn**	**16 51 01.2**	**+0.2**
CGP				*i* S	**Sn**	**16 51 25.4**	**-2.6**
DAV	**Davao City (W)**	**2.22**	**214**	*e*Pn	**Pn**	**16 50 58.8**	**-2.8**
MSLP	**Maasin**	**2.30**	**302**	*e*P	**Pn**	**16 51 04.4**	**+1.6**
PLP	**Palo**	**2.90**	**321**	*e*P	**Pn**	**16 51 13.1**	**+2.2**
TBP	**Tagbilaran**	**3.04**	**285**	*e*P	**Pn**	**16 51 14.6**	**+1.6**
TBP				*e*S	**Sn**	**16 51 42.3**	**-7.1**
OCLP	**Ormoc**	**3.06**	**314**	*e*P	**Pn**	**16 51 15.1**	**+1.9**
LLP	**Lapu-Lapu**	**3.16**	**296**	⇓*e*P	**Pn**	**16 51 16.6**	**+2.0**
LLP				*e*S	**Sn**	**16 51 52.1**	**-0.3**
DCPH	**Dipolog City**	**3.47**	**265**	⇑*i*P	**Pn**	**16 51 19.7**	**+0.9**
PAGZ	**Pagadian**	**3.59**	**253**	*e*P	**Pn**	**16 51 23.3**	**+2.9**
CNP	**Cataman**	**4.17**	**329**	*e*P	**Pn**	**16 51 29.7**	**+1.3**
IPIL	**Ipil**	**4.37**	**256**	*e*P	**Pn**	**16 51 35.1**	**+3.9**
GUIM	**Jordan**	**4.53**	**292**	*e*P	**Pn**	**16 51 34.9**	**+1.5**
WRA	**Warramunga Arr**	**29.61**	**166**	P	**P**	**16 56 30.2**	**+0.1**
0.3nm,0.5s,mb3.3,baz=344,slow=9.6,SNR=5.2							
ASAR	**Alice Springs**	**33.11**	**168**	P	**P**	**16 57 01.9**	**+1.1**
0.3nm,0.4s,mb3.5,baz=353,slow=6.9,SNR=13							
SHL	**Shillong**	**37.11**	**301**	*e*P	**P**	**16 57 26.3**	**-9.1**
SONM	**Songino Array**	**42.48**	**340**	P	**P**	**16 58 19.3**	**-0.8**
0.3nm,0.5s,mb3.1,baz=156,slow=8.6,SNR=3.9							
JIRN	**Jiri**	**42.61**	**301**	*e*P	**P**	**16 58 20.5**	**-0.6**
9.6nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**42.94**	**161**	P	**P**	**16 58 23.2**	**-0.5**
0.6nm,0.4s,mb3.7,baz=351,slow=12,SNR=3.4							
STKA	**Stephens Creek**	**42.94**	**161**	*e*P	**P**	**16 58 23.5**	**-0.3**
GUN	**Gumba**	**42.95**	**302**	*e*P	**P**	**16 58 22.6**	**-1.2**
12nm,0.8s,mb4.7							
KKN	**Kakani**	**43.42**	**301**	*e*P	**P**	**16 58 25.8**	**-1.8**
DMN	**Daman**	**43.51**	**301**	*e*P	**P**	**16 58 27.9**	**-0.5**
GKN	**Gorkha**	**44.02**	**301**	*e*P	**P**	**16 58 30.5**	**-2.0**
1.9nm,0.3s,mb4.4							
KOLN	**Koldanda**	**44.84**	**301**	*e*P	**P**	**16 58 37.7**	**-1.3**
7.4nm,0.6s,mb4.7							
MKAR	**Makanchi Array**	**53.44**	**323**	P	**P**	**16 59 43.9**	**-1.0**
4.9nm,0.8s,mb4.5,baz=120,slow=8.6,SNR=31							
MKAR				LR	LR	17 24 13.9	
comp=Z,41nm,21.2s,baz=314,slow=38							
KURK	**Kurchatov**	**57.50**	**326**	*e*P	**P**	**17 00 12.5**	**-1.6**
7.5nm,0.9s,mb4.7							
BRVK	**Borovoye**	**63.17**	**326**	*e*P	**P**	**17 00 50.8**	**-2.1**
2.0nm,0.8s,mb4.3							
ILAR	**Eielson Array**	**80.41**	**26**	P	**P**	**17 02 36.7**	**+0.2**
0.4nm,0.7s,mb3.4,baz=248,slow=4.9,SNR=6.1							
ARCES	**ARCESS Array B**	**85.66**	**340**	P	**P**	**17 03 02.8**	**-0.8**
1.9nm,0.8s,mb4.4,baz=88,slow=6.5,SNR=3.7							
YKA	**Yellowknife Ar**	**94.76**	**24**	P	**P**	**17 03 48.0**	**+1.6**
0.8nm,0.7s,mb4.3,baz=302,slow=4.7,SNR=19							
YKA	**Yellowknife Ar**	**94.76**	**24**	P	**P**	**17 03 48.0**	**+1.6**

MAN 06 16:52:53.5,886N×12642E,h1km,mb2.7,MS4.2,MS3.0, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.67**	**185**	⇓*i*P	Pg	16 53 05.4	-1.0
BIPH				*e*S	Sg	16 53 15.4	+0.3
BUTP	**Butuan**	**0.80**	**278**	*e*P	Pg	16 53 08.8	0.0
BUKP	**Musuan**	**1.66**	**234**	*e*P	Pn	16 53 23.9	+0.2

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*ISCJB **06** 16:57:34.0±0.4,5142N±002×1607E±002,h0km,mb3.4/2, Error ellipse: s-maj=3.1km s-min=1.8km az=23.1*
*MOS **06** 16:57:34.1±1.4,5161N×1613E,h10km,mb4.0/1,Error ellipse: s-maj=12.6km s-min=5.7km az=84.8*
*IPEC **06** 16:57:35.3±0.4,5148N×1621E,h0km±1km,ML2.9/4,Error ellipse: s-maj=2.4km s-min=1.5km az=29.0*
*NEIC **06** 16:57:35.1±0.3,5153N×1608E,h5km,ML2.6(CLL),Error ellipse: s-maj=5.7km s-min=4.3km az=61.0*
*BGR **06** 16:57:35.4±0.6,5149N×1612E,h1km,ML3.2/13,Error ellipse: s-maj=6.7km s-min=4.4km az=161.0*
*IDC **06** 16:57:36.1±0.6,5147N×1595E,h0km,mb3.5/2, mb1 3.4/10,mb1mx3.3/24,mbtmp3.3/10,ML3.0/8,MS2.6/1, Ms1 2.6/1,ms1mx2.1/21,Error ellipse: s-maj=13.4km s-min=6.7km az=105.0*
*CSEM **06** 16:57:36.8±0.1,5143N×1610E,h1km,ML3.4/8,Error ellipse: s-maj=1.9km s-min=1.1km az=9.0*
*WAR **06** 16:57:36,5147N×1611E,ML3.0,Mining Induced*
*PRU **06** 16:57:37.2,5141N×1604E,h0km*
*VIE **06** 16:57:39.9±0.5,5114N×1640E,h0km,mb2.5/4,ML2.7/4, Error ellipse: s-maj=3.8km s-min=3.1km az=93.0 42 km W of Breslau Suspected Mining induced.*
ISC 06 16:57:34.8±0.3,5149N±002×1609E±002,h0km,n82, σ0§99/152,mb3.4/2,8C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg	**Pg**	**16 57 48.2**	**+0.8**
KSP				*e*Sg	**Sg**	**16 57 56.8**	**+0.8**
KSP	**Ksiaz**	**0.66**	**169**	*i* Pgd	**Pg**	**16 57 48.1**	**+0.7**
KSP				*i* Sg	**Sg**	**16 57 56.7**	**+0.7**
KSP				*e*L		16 58 00.5	
KSP	**Ksiaz**	**0.66**	**169**	⇓*i*Pg	**Pg**	**16 57 48.1**	**+0.7**
KSP				*i* Sg	**Sg**	**16 57 56.7**	**+0.7**
KSP				*e*S	**Sg**	**16 58 00.2**	**+4.2**
UPC	**Upice**	**0.98**	**183**	*e*PG	**Pg**	**16 57 54.1**	**+0.4**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	**16 57 56.9**	**+0.1**
DPC				*e*SG	**Sg**	**16 58 11.4**	**-0.3**
105nm,0.8s							
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*P	**Pg**	**16 57 56.9**	**+0.1**
105nm,0.8s							
DPC				*e*Sg	**Sg**	**16 58 11.0**	**-0.7**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*P	**Pg**	**16 57 56.9**	**+0.1**
DPC				*e*		16 58 11.4	
DPC				smax			
comp=N,105nm,0.8s							
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	**Pg**	**16 58 01.1**	**+0.2**
PVCC				*e*SG	**Sg**	**16 58 19.7**	**+1.2**
PVCC	**Panska Ves**	**1.36**	**226**	*e*Pg	**Pg**	**16 58 01.6**	**+0.7**
PVCC				*e*Sg	**Sg**	**16 58 19.4**	**+0.9**
BRG	**Berggiesshubel**	**1.49**	**246**	*e*Pn	**Pn**	**16 58 02.4**	**-0.4**
BRG				*e*Sg	**Sg**	**16 58 23.8**	**+1.2**
BRG	**Berggiesshubel**	**1.49**	**246**	Pg	**Pg**	**16 58 03.8**	**+0.5**
BRG				Sg	**Sg**	**16 58 23.8**	**+1.2**
BRG	**Berggiesshubel**	**1.49**	**246**	PN	**Pn**	**16 58 02.5**	**-0.3**
BRG				PG	**Pg**	**16 58 03.8**	**+0.5**
BRG				SG	**Sg**	**16 58 23.8**	**+1.2**
comp=N,44nm,0.5s							
RUE	**Ruedersdorf**	**1.74**	**306**	*e*P	**Pn**	**16 58 05.0**	**-1.2**
RUE	**Ruedersdorf**	**1.74**	**306**	*e*P	**Pn**	**16 58 05.0**	**-1.3**
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**16 58 06.7**	**-0.3**
PRU				*e*PG	**Pg**	**16 58 08.8**	**-0.4**
PRU				*e*SG	**Sg**	**16 58 31.8**	**-0.7**
comp=N,32nm,0.5s							
PRU	**Pruhonice**	**1.80**	**214**	*e*Pg	**Pg**	**16 58 08.8**	**-0.4**
PRU				*e*Sg	**Sg**	**16 58 31.8**	**-0.7**
comp=N,32nm,0.5s							
PRU	**Pruhonice**	**1.80**	**214**	*e*P	**Pn**	**16 58 06.7**	**-0.3**
PRU				*e*		16 58 31.8	
PRU				smax			
comp=N,32nm,0.5s							
FBE	**Freiberg**	**1.81**	**253**	*e*Pn	**Pn**	**16 58 08.0**	**+0.7**
FBE				*e*Sg	**Sg**	**16 58 33.9**	**+0.9**
FBE	**Freiberg**	**1.81**	**253**	Pn	**Pn**	**16 58 08.0**	**+0.7**
FBE				Sg	**Sg**	**16 58 33.9**	**+0.8**
RAC	**Raciborz**	**1.94**	**136**	*e*Pg	**Pg**	**16 58 12.1**	**+0.1**
RAC				*e*Sg	**Sg**	**16 58 36.3**	**-0.8**
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**16 58 08.9**	**-0.1**
CLL				*e*Sg	**Sg**	**16 58 38.4**	**+1.1**
CLL	**Collm**	**1.94**	**266**	*i* Pn	**Pn**	**16 58 08.6**	**-0.4**
CLL				*i* Pg	**Pg**	**16 58 12.5**	**+0.4**
CLL				*i* x	x	16 58 15.7	
CLL				*i* x	x	16 58 26.7	
CLL				*i* Sg	**Sg**	**16 58 37.3**	**+0.1**
comp=Z,49nm,0.8s							
CLL	**Collm**	**1.94**	**266**	*i* Pg	**Pg**	**16 58 12.5**	**+0.4**
CLL				*i* S	**Sg**	**16 58 37.3**	**+0.1**
CLL				Sg	**Sg**	**16 58 38.4**	**+1.1**
CLL	**Collm**	**1.94**	**266**	*i* Pn	**Pn**	**16 58 08.6**	**-0.4**
CLL				*i* Pg	**Pg**	**16 58 12.5**	**+0.4**
CLL				*i* Sg	**Sg**	**16 58 37.3**	**+0.1**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**16 58 08.8**	**-0.3**
MORC				*e*S	**Sn**	**16 58 34.9**	**+0.7**
MORC				*e*Sg	**Sg**	**16 58 35.3**	**-2.1**
comp=Z,64nm,0.7s							
MORC	**Moravsky Berou**	**1.95**	**151**	*e*P	**Pn**	**16 58 08.7**	**-0.4**
MORC				*e*S	**Sn**	**16 58 34.9**	**+0.7**
VRAC	**Vranov**	**2.21**	**171**	Pn	**Pn**	**16 58 13.4**	**+0.7**
comp=Z,1.4nm,0.3s,baz=335,slow=16,SNR=13							
VRAC				Lg		16 58 46.1	
comp=Z,4.3nm,0.3s,baz=257,slow=21,SNR=9.0							
VRAC	**Vranov**	**2.21**	**171**	*e*Pn	**Pn**	**16 58 13.1**	**+0.4**
VRAC				*e*Sg	**Sg**	**16 58 43.9**	**-1.8**
comp=Z,52nm,0.7s							
TREC	**Trest**	**2.23**	**190**	*e*PG	**Pg**	**16 58 16.9**	**-0.7**
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**16 58 16.1**	**+0.3**
KRUC				*e*Sg	**Sg**	**16 58 51.2**	**-1.9**
comp=Z,58nm,0.7s							
TANN	**Tannenbergstha**	**2.54**	**246**	*e*Pn	**Pn**	**16 58 17.8**	**+0.6**
TANN				*e*Sg	**Sg**	**16 58 55.4**	**-0.8**
TANN	**Tannenbergstha**	**2.54**	**246**	Pn	**Pn**	**16 58 17.8**	**+0.6**
TANN				Sg	**Sg**	**16 58 55.4**	**-0.9**
WERD	**Werda**	**2.61**	**248**	*e*Pn	**Pn**	**16 58 18.8**	**+0.6**
WERD				*e*Sg	**Sg**	**16 58 58.6**	**-0.1**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**16 58 19.2**	**+0.7**
NKC				*e*PG	**Pg**	**16 58 29.2**	**0.0**
NKC				*e*SG	**Sg**	**16 58 59.8**	**+0.5**
comp=Z,61nm,0.7s							
NKC	**Novy Kostel**	**2.63**	**243**	*e*Pg	**Pg**	**16 58 25.2**	**0.0**
NKC				*e*Sg	**Sg**	**16 58 59.8**	**+0.5**
comp=Z,61nm,0.7s							
NKC	**Novy Kostel**	**2.63**	**243**	*e*P	**Pn**	**16 58 19.2**	**+0.7**
NKC				*e*		16 58 59.8	
NKC				smax			
comp=N,61nm,0.7s							
WERN	**Wernitzgruen**	**2.64**	**244**	*e*Pn	**Pn**	**16 58 19.6**	**+0.9**
WERN				*e*Sg	**Sg**	**16 58 58.8**	**-0.9**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**16 58 26.9**	**+0.9**
OJC				*e*Sg	**Sg**	**16 59 01.3**	**+0.7**
NEUB	**Neuenburg**	**2.72**	**266**	*e*Sg	**Sg**	**16 59 03.1**	**+0.9**
NEUB	**Neuenburg**	**2.72**	**266**	Sg	**Sg**	**16 59 03.1**	**+0.9**
JAVC	**Velka Javorina**	**2.82**	**158**	*e*Pn	**Pn**	**16 58 22.2**	**+1.1**
JAVC				*e*Sg	**Sg**	**16 59 05.7**	**+0.2**
comp=N,47nm,0.8s							
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**16 58 22.0**	**+0.4**
KHC				*e*PG	**Pg**	**16 58 28.1**	**-1.5**
KHC				*e*SN	**Sn**	**16 58 55.7**	**-1.0**
KHC				*e*SG	**Sg**	**16 59 05.0**	**-1.6**
comp=N,24nm,0.7s							
KHC	**Kasperske Hory**	**2.86**	**215**	*e*Pg	**Pg**	**16 58 28.1**	**-1.5**
KHC				*e*Sn	**Sn**	**16 58 55.7**	**-1.0**
KHC				*e*Sg	**Sg**	**16 59 05.0**	**-1.6**
comp=N,24nm,0.7s							
MANZ	**Manzenberg**	**2.94**	**241**	*e*Pn	**Pn**	**16 58 23.5**	**+0.7**
MANZ				*e*Sg	**Sg**	**16 59 08.7**	**-0.7**
MOX	**Moxa**	**2.95**	**255**	*e*Pn	**Pn**	**16 58 23.5**	**+0.7**
MOX				*e*Sg	**Sg**	**16 59 08.4**	**-1.1**
MOX	**Moxa**	**2.95**	**255**	*e*PN	**Pn**	**16 58 23.4**	**+0.5**
MOX				*e*PG	**Pg**	**16 58 31.9**	**+0.6**
MOX				*e*SG	**Sg**	**16 59 10.9**	**+1.4**
MOX	**Moxa**	**2.95**	**255**	*e*Pg	**Pg**	**16 58 31.9**	**+0.6**
MOX				Sg	**Sg**	**16 59 08.4**	**-1.1**
MOX	**Moxa**	**2.95**	**255**	*e*Pn	**Pn**	**16 58 23.4**	**+0.5**
MOX				*e*Pg	**Pg**	**16 58 31.9**	**+0.6**
MOX				*e*Sg	**Sg**	**16 59 10.9**	**+1.4**
ROTZ	**Rotzenmuhle**	**3.02**	**237**	*e*Pn	**Pn**	**16 58 24.6**	**+0.8**
ROTZ				*e*Sg	**Sg**	**16 59 11.7**	**+0.1**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**16 58 25.7**	**+1.3**
GEC2				*e*Sg	**Sg**	**16 59 12.4**	**-0.7**
GERES	**GERESS Array B**	**3.06**	**211**	Pn	**Pn**	**16 58 24.7**	**+0.3**
comp=N,1.0nm,0.3s,baz=28,slow=13,SNR=28							
GERES				Pg	**Pg**	**16 58 31.2**	**-2.2**
comp=N,2.6nm,0.3s,baz=27,slow=20,SNR=34							
GERES				Lg		16 59 11.6	
comp=N,4.6nm,0.3s,baz=34,slow=28,SNR=15							
GERES	**GERESS Array B**	**3.06**	**211**	Pg	**Pg**	**16 58 31.2**	**-2.3**
SMOL	**Smolenice**	**3.10**	**163**	*e*PG	**Pg**	**16 58 34.2**	**0.0**
SMOL				*e*SG	**Sg**	**16 59 13.8**	**-0.6**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**16 58 25.7**	**+0.5**
WET				*e*Sg	**Sg**	**16 59 15.6**	**+0.5**
WET	**Wettzell**	**3.12**	**223**	Pn	**Pn**	**16 58 25.7**	**+0.4**
WET				Sg	**Sg**	**16 59 15.6**	**+0.5**
ZST	**Bratislava**	**3.36**	**168**	*e*PG	**Pg**	**16 58 40.6**	**+1.4**
ZST				*e*SG	**Sg**	**16 59 24.6**	**+1.8**
NIE	**Niedzica**	**3.40**	**126**	*e*P	**Pg**	**16 58 39.3**	**-0.7**
NIE				*e*S	**Sg**	**16 59 26.1**	**+2.0**
VYHS	**Vyhne**	**3.48**	**148**	*e*PG	**Pg**	**16 58 40.9**	**-0.6**
VYHS				*e*SG	**Sg**	**16 59 30.0**	**+3.3**
GRA1	**Grafenberg Arr**	**3.59**	**242**	Sg	**Sg**	**16 59 30.0**	**0.0**
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Sg	**Sg**	**16 59 30.0**	**-0.1**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**16 58 32.2**	**-1.0**
BSD				*i*		16 58 38.4	
BSD				*i* S	**Sn**	**16 59 14.7**	**-2.8**
MOA	**Molln**	**3.83**	**199**	⇑*i*Sg	**Sg**	**16 59 38.7**	**+0.8**
comp=N,29nm,0.6s							
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**16 58 35.8**	**+0.8**
MOA				⇑*i*Sg	**Sg**	**16 59 38.7**	**+0.8**
comp=N,29nm,0.6s							
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**16 58 35.8**	**+0.8**
MOA				Sg	**Sg**	**16 59 38.7**	**+0.8**
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PN	**Pn**	**16 58 36.9**	**+1.1**
STHS				*e*PG	**Pg**	**16 58 49.7**	**+0.3**
STHS				*e*SG	**Sg**	**16 59 44.9**	**+5.1**
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*Pg	**Pg**	**16 58 49.7**	**+0.3**
KECS	**Kecovo**	**4.13**	**135**	*e*PG	**Pg**	**16 58 53.9**	**-0.1**
KECS				*e*SG	**Sg**	**16 59 46.3**	**-1.3**
ARSA	**Arzberg**	**4.26**	**185**	⇑*i*Sg	**Sg**	**16 59 49.3**	**-2.4**
comp=N,23nm,0.9s							
ARSA	**Arzberg**	**4.26**	**185**	⇑*i*Pn	**Pn**	**16 58 41.9**	**+1.0**
ARSA				⇑*i*Sg	**Sg**	**16 59 49.3**	**-2.4**
comp=N,23nm,0.9s							
ARSA	**Arzberg**	**4.26**	**185**	Pn	**Pn**	**16 58 41.9**	**+1.0**
ARSA				Sg	**Sg**	**16 59 49.2**	**-2.4**
ARSA	**Arzberg**	**4.26**	**185**	⇑*i*Pn	**Pn**	**16 58 41.9**	**+1.0**
ARSA				Sg	**Sg**	**16 59 49.2**	**-2.4**
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*PG	**Pg**	**16 58 58.5**	**+1.0**
CRVS				*e*SG	**Sg**	**16 59 53.4**	**0.0**
DAVOX	**Davos**	**6.23**	**223**	Pn	**Pn**	**16 59 06.5**	**-1.5**
comp=N,0.2nm,0.3s,baz=311,slow=18,SNR=3.2							
DAVOX				Lg		17 00 53.3	
comp=N,0.4nm,0.3s,baz=258,slow=20,SNR=2.8							
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**Pn**	**16 59 35.8**	**-0.7**
comp=N,0.6nm,0.3s,baz=280,slow=11,SNR=4.7							
HFS	**Hagfors**	**8.77**	**352**	Pn	**Pn**	**16 59 42.0**	**-0.8**
comp=N,0.1nm,0.3s,baz=164,slow=16,SNR=3.5							
HFS				LR	LR	17 03 52.9	
comp=N,39nm,20.1s,baz=68,slow=43							
NOA	**NORSAR Array B**	**9.95**	**346**	Pn	**Pn**	**16 59 57.1**	**-1.8**
comp=N,0.1nm,0.3s,baz=174,slow=9.3,SNR=2.8							
FINES	**FINESS Array B**	**11.39**	**25**	Pn	**Pn**	**17 00 16.9**	**-1.8**
comp=N,0.1nm,0.3s,baz=216,slow=12,SNR=7.5							
ARCES	**ARCESS Array B**	**18.65**	**10**	Pn	**Pn**	**17 01 49.8**	**-4.5**
comp=N,0.1nm,0.3s,baz=193,slow=10.0,SNR=5.6							
AKTK	**Aktyubinsk**	**26.17**	**76**	P	**P**	**17 03 11.7**	**+0.8**
AKTO	**Aktyubinsk**	**26.17**	**76**	P	**P**	**17 03 11.7**	**+0.8**
comp=N,0.3nm,0.3s,mb3.4,baz=297,slow=14,SNR=3.3							
YKA	**Yellowknife Ar**	**59.87**	**336**	P	**P**	**17 07 42.7**	**+0.5**
comp=N,0.2nm,0.5s,mb3.4,baz=28,slow=7.5,SNR=4.2							
YKA	**Yellowknife Ar**	**59.87**	**336**	P	**P**	**17 07 42.7**	**+0.4**

MEX 06 17:01:42.9±0.6,1745N×10088W,h32km±24km,MD4.2,1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.71**	**124**	⇑*i*P	Pn	17 01 54.6	-2.1
CAIG				*i* S	Sb	17 02 03.2	-3.2
ACX	**Acapulco**	**1.09**	**122**	*i* P	Pn	17 02 00.3	-1.7
MEIG	**Mezcala**	**1.29**	**68**	*i* P	Pn	17 02 03.1	-1.7
MEIG				*i* S	Sn	17 02 19.1	-1.8
PLIG	**Platanillo**	**1.61**	**54**	*e*P	Pn	17 02 07.4	-1.7
PLIG				*i* S	Sn	17 02 25.8	-3.1
MOIG	**Morelia**	**2.23**	**353**	*e*P	Pn	17 02 14.9	-2.8
MOIG				*i* S	Sn	17 02 41.3	-2.8
MRX	**Morelia**	**2.26**	**353**	*e*P	Pn	17 02 18.3	+0.3
MRX				*e*S	Sn	17 02 43.0	-1.8
UNM	**Universidad Na**	**2.47**	**41**	*i* P	Pn	17 02 18.7	-2.3
UNM				*e*P		17 02 20.0	
PPM	**Popocatepetl**	**2.68**	**53**	*e*P	Pn	17 02 22.3	-1.5
PPM				*i* P		17 02 22.4	
PPM				*i* S	Sn	17 02 52.6	-2.6
PNIG	**Pinotepa**	**2.84**	**111**	*i* S	Sn	17 02 57.6	-1.6
VHO	**Vista Hermosa**	**3.98**	**95**	*i* S	Sn	17 03 26.2	-1.2
OXX	**Oaxaca**	**3.99**	**95**	*e*P	Pn	17 02 43.3	+1.4
OXX				*e*S	Sn	17 03 24.5	-3.1

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*MOS **06** 17:15:25.9±1.5,5149N×10380E,h15km,mb4.4/1,Error ellipse: s-maj=11.7km s-min=8.9km az=88.0*
BYKL 06 17:15:25.9±0.3,5147N×10382E,h9km±5km,9C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLY	**Talaya**	**0.24**	**333**	⇑*i*Pg	Pg	17 15 30.6	-0.1
2μm,0.2s							
TLY				⇓*i*Pg	Pg	17 15 30.6	-0.1
749nm,0.2s							
TLY				⇑*i*Pg	Pg	17 15 30.6	-0.1
1μm,0.2s							
TLY				*e*Sg	Sg	17 15 34.1	+0.1
TLY				Pmax			
1μm,0.1s							
TLY				Smax			
5μm,0.3s							
LSTR	**Listvyanka**	**0.75**	**57**	⇑*i*Pg	Pg	17 15 39.6	-0.7
LSTR				*i* Sg	Sg	17 15 49.6	-0.4
LSTR				Pmax			
39nm,0.1s							
LSTR				Smax			

comp=E,168nm,0.5s
HRMR Smax
comp=E,2μm,0.6s
TRG Tyrgan 2.02 49 *e* Pn 17 16 01.1 +0.9
TRG *e*Pg Pg 17 16 01.7 -3.0
TRG *e*Sg Sg 17 16 28.1 -2.9
TRG Pmax
comp=E,90nm,0.2s
TRG Smax
comp=E,1μm,0.2s
TRG Tyrgan 2.02 49 *e*PN Pn 17 16 01.4 +1.2
TRG *e* 17 16 03.1
TRG *e*S Sn 17 16 27.0 +1.4
TRG *e* 17 16 29.3
TRG pmax pmax
comp=Z,89nm,0.3s
TRG smax
comp=E,1μm,0.2s
ORL Orlik 2.70 295 *e* Pn 17 16 11.5 +2.0
ORL *e*Pg Pg 17 16 13.6 -4.0
ORL *e*Sg Sg 17 16 48.5 -4.1
ORL *e* 17 16 56.4
ORL Pmax
comp=E,30nm,0.8s
ORL max
comp=E,224nm,0.8s
ORL Orlik 2.70 295 *e*PN Pn 17 16 13.2 +3.7
ORL *e* 17 16 48.5
ORL pmax pmax
comp=Z,30nm,0.4s
ORL smax
comp=N,218nm,0.5s
KELR Kotokel 2.93 62 *e*Pn Pn 17 16 13.6 +1.0
KELR *e*Pg Pg 17 16 17.5 -4.5
KELR *e*Sn Sn 17 16 47.7 -0.2
KELR *e*Sg Sg 17 16 55.0 -4.9
KELR Pmax
comp=N,28nm,0.2s
KELR Smax
comp=N,293nm,0.3s
OGRR Ongureny 3.17 45 *e* Pn 17 16 17.1 +1.2
OGRR *e*Pg Pg 17 16 21.6 -5.0
OGRR *e*PgPg 17 16 24.0
OGRR *e* 17 16 56.2
OGRR *e*Sg Sg 17 17 02.0 -5.7
OGRR max
comp=N,42nm,0.4s
OGRR Smax
comp=N,303nm,0.4s
OGRR Ongureny 3.17 45 *e*PN Pn 17 16 15.7 -0.2
OGRR *e* 17 16 23.6
OGRR *e*S Sn 17 16 53.9 0.0
OGRR *e* 17 17 02.5
OGRR pmax pmax
comp=Z,42nm,0.5s
OGRR smax
comp=E,300nm,0.6s
MXMB Maximikha 3.51 57 *e*Pn Pn 17 16 20.9 +0.3
MXMB *e*Pg Pg 17 16 28.7 -4.5
MXMB *e*Sn Sn 17 17 02.1 -0.2
MXMB *e*Sg Sg 17 17 14.6 -4.1
MXMB Pmax
comp=E,11nm,0.3s
MXMB Smax
comp=E,166nm,0.7s
SYVR Suvo 4.36 57 *e* Pn 17 16 33.4 +1.1
SYVR *e*Pg Pg 17 16 42.7 -6.7
SYVR *e*Sg Sg 17 17 40.2 -5.7
SYVR Pmax
comp=E,4.0nm,0.5s
SYVR Smax
comp=E,30nm,0.5s
NIZ Nizh Angarsk 5.49 36 *e*Pn Pn 17 16 48.4 +0.5
NIZ *e*Pg Pg 17 17 05.4 -5.7
NIZ *e*Sn Sn 17 17 51.3 +0.1
NIZ *e*Sg Sg 17 18 16.5 -5.8
NIZ Pmax
comp=E,7.0nm,0.4s
NIZ Smax
comp=E,82nm,0.7s
NIZ Nizh Angarsk 5.49 36 *e*PN Pn 17 16 48.3 +0.4
NIZ *e* 17 17 04.5
NIZ *e*S Sn 17 17 50.4 -0.8
NIZ *e* 17 18 15.2
NIZ pmax pmax
comp=Z,8.0nm,0.4s
NIZ smax
comp=N,81nm,1.0s
YLYR Ulyunkhan 5.58 49 *e*Pn Pn 17 16 49.4 +0.4
YLYR *e*Pg Pg 17 17 05.5 -7.2
YLYR *e* 17 17 53.8
YLYR *e*Sg Sg 17 18 17.0 -8.0
YLYR Pmax
comp=N,3.0nm,0.5s
YLYR Smax
comp=N,55nm,0.9s
KPC Khapcheranga 5.73 105 *e* Pn 17 16 50.0 -1.1
KPC *e*Pg Pg 17 17 09.7 -6.0
KPC *e*Sg Sg 17 18 24.6 -5.3
KPC Pmax
comp=N,7.0nm,0.7s
KPC Smax
comp=N,28nm,0.8s
KPC Khapcheranga 5.73 105 *e*PN Pn 17 16 49.9 -1.2
KPC *e* 17 17 10.4
KPC *e* 17 18 25.4
KPC pmax pmax
comp=Z,11nm,0.5s
KPC smax
comp=N,55nm,1.8s
CIT Chita 6.07 81 *e* Pn 17 16 45.5 -10
CIT *e*Sg Sg 17 18 32.0 -8.8
CIT Smax
comp=N,26nm,0.6s
KMO Kumora 6.23 42 *e*Pn Pn 17 16 58.8 +0.8
KMO *e*Pg Pg 17 17 17.2 -8.0
KMO *e*Sg Sg 17 18 37.1 -8.7
KMO Pmax
comp=N,6.0nm,0.4s
KMO Smax
comp=N,82nm,1.0s
KMO Kumora 6.23 42 *e*PN Pn 17 16 59.0 +1.0
KMO *e* 17 17 17.6
KMO *e*S Sn 17 18 07.7 -1.6
KMO *e* 17 18 36.6
KMO pmax pmax
comp=Z,6.0nm,0.4s
KMO smax
comp=N,82nm,1.1s
UKT Uakit 7.10 52 *e*Pn Pn 17 17 11.8 +1.8
UKT *e*Pg Pg 17 17 34.8 -7.1
UKT *e*Sg Sg 17 19 06.6 -7.2
UKT Pmax
comp=N,1.0nm,0.7s
UKT Smax
comp=N,25nm,2.0s
KRAR Krasnoyarsk 7.92 309 *e*PN Pn 17 17 22.1 +0.9
KRAR *e* 17 17 47.6
KRAR *e* 17 18 49.5
KRAR *i* 17 19 32.7
NLYR Nelyaty 8.62 50 *e* 17 19 27.8
NLYR *e*Sg Sn 17 19 54.5 +46
NLYR Smax
comp=N,12nm,0.8s
BOD Bodaibo 8.67 39 *e* 17 19 14.8
BOD *e*Sg Sn 17 19 53.2 +44
BOD Smax
comp=N,23nm,1.9s
TUP Tupik 10.18 67 *e* 17 20 10.0
TUP *e*Sg Sn 17 20 41.3 +55
TUP Smax
comp=N,8.0nm,0.7s

*IDC **06** 17:28:19.7±0.8, 295N×12661E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.2/16, mbtmp4.2/9, MS3.1/3, Ms1 3.1/3, ms1mx2.7/27, Error ellipse: s-maj=76.5km s-min=16.4km az=70.0*
*ISCJB **06** 17:28:26.4±2.8, 300N±007×1267E±0.1, h63km±23km, mb4.4/16, Error ellipse: s-maj=24.8km s-min=9.0km az=136.4*
*NEIC **06** 17:28:32.1±1.9, 289N×12655E, h100km±17km, mb4.4/8, Error ellipse: s-maj=16.8km s-min=5.8km az=63.0*

ISC 06 17:28:30.2±2.3, 296N±008×1267E±01, h81km±20km, n30, σ0§66/31, mb4.2/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.86**	**287**	*eP*		**Pn**	**17 31 03.4**	**+0.8**
KSM	**Kuching**	**16.41**	**265**	*eP*		**Pn**	**17 32 15.0**	**-0.5**
GUMO	**Guam**	**20.86**	**59**	LR		LR	17 38 47.6	
comp=Z,14nm,21.8s,baz=116,slow=30								
FITZ	**Fitzroy Crossi**	**20.95**	**183**	*eP*		**P**	**17 33 07.0**	**+0.6**
18nm,0.9s								
WRAB	**Tennant Creek**	**23.97**	**162**	*eP*		**P**	**17 33 36.7**	**-0.2**
11nm,0.4s,mb4.5								
WRA	**Warramunga Arr**	**23.97**	**162**	P		**P**	**17 33 36.8**	**-0.2**
6.3nm,0.5s,mb4.2,baz=341,slow=10,SNR=115								
WRA				S		**S**	**17 37 48.0**	**+0.1**
1.5nm,0.9s,baz=338,slow=20,SNR=3.9								
WRA	**Warramunga Arr**	**23.97**	**162**	P		**P**	**17 33 36.8**	**-0.2**
WRA				S		**S**	**17 37 48.0**	**+0.1**
MBWA	**Marble Bar**	**24.91**	**196**	*eP*		**P**	**17 33 45.2**	**-0.3**
5.8nm,0.7s,mb4.1								
ASAR	**Alice Springs**	**27.39**	**165**	P		**P**	**17 34 08.2**	**+0.3**
1.1nm,0.4s,mb3.8,baz=344,slow=7.6,SNR=56								
ASAR				S		**S**	**17 38 43.7**	**+1.8**
0.6nm,0.8s,baz=347,slow=20,SNR=4.3								
NWAO	**Narrogin (SRO)**	**36.79**	**193**	*eP*		**P**	**17 35 30.1**	**+0.2**
STKA	**Stephens Creek**	**37.44**	**159**	P		**P**	**17 35 33.5**	**-2.0**
2.6nm,0.4s,mb4.5,baz=334,slow=8.6,SNR=13								
STKA	**Stephens Creek**	**37.44**	**159**	*eP*		**P**	**17 35 34.2**	**-1.3**
JIRN	**Jiri**	**45.77**	**307**	*eP*		**P**	**17 36 43.4**	**-0.1**
5.6nm,0.5s,mb4.5								
GUN	**Gumba**	**46.13**	**307**	*eP*		**P**	**17 36 47.8**	**+1.5**
KKN	**Kakani**	**46.56**	**306**	*eP*		**P**	**17 36 49.4**	**-0.3**
4.6nm,0.4s,mb4.5								
DMN	**Daman**	**46.63**	**306**	*eP*		**P**	**17 36 49.6**	**-0.6**
GKN	**Gorkha**	**47.17**	**306**	*eP*		**P**	**17 36 54.5**	**+0.1**
3.8nm,0.5s,mb4.4								
KOLN	**Koldanda**	**47.91**	**305**	*eP*		**P**	**17 36 59.0**	**-1.2**
SONM	**Songino Array**	**48.00**	**342**	P		**P**	**17 37 01.4**	**+0.5**
0.3nm,0.3s,mb3.6,baz=166,slow=9.6,SNR=5.8								
SONM				LR		LR	17 58 12.6	
comp=Z,37nm,18.4s,baz=150,slow=37								
HYB	**Hyderabad**	**49.32**	**290**	*i* P		**P**	**17 37 11.0**	**0.0**
HYB	**Hyderabad**	**49.32**	**290**	*eP*		**P**	**17 37 11.0**	**0.0**
MKAR	**Makanchi Array**	**58.15**	**326**	P		**P**	**17 38 15.5**	**+0.1**
2.7nm,0.5s,mb4.5,baz=120,slow=8.5,SNR=40								
MKAR				LR		LR	18 05 26.4	
comp=Z,39nm,18.1s,baz=45,slow=38								
YAK	**Yakutsk**	**58.98**	**2**	P		**P**	**17 38 21.2**	**+0.1**
6.1nm,0.7s,mb4.7								
KURK	**Kurchatov**	**62.35**	**328**	*eP*		**P**	**17 38 44.6**	**+0.5**
3.2nm,0.6s,mb4.5								
ILAR	**Eielson Array**	**85.82**	**25**	P		**P**	**17 41 01.4**	**+0.7**
0.2nm,0.4s,mb3.4,baz=239,slow=6.0,SNR=4.5								
ARCES	**ARCESS Array B**	**91.15**	**340**	P		**P**	**17 41 25.6**	**-0.4**
3.1nm,0.8s,mb4.5,baz=54,slow=6.2,SNR=11								
AKASG	**Malin Array Be**	**92.45**	**321**	P		**P**	**17 41 31.8**	**-0.2**
0.6nm,0.4s,mb4.2,baz=69,slow=4.7,SNR=4.8								
AKASG	**Malin Array Be**	**92.45**	**321**	P		**P**	**17 41 31.8**	**-0.2**
FINES	**FINESS Array B**	**92.48**	**332**	P		**P**	**17 41 31.4**	**-0.7**
1.3nm,0.9s,mb4.2,baz=46,slow=5.5,SNR=4.7								
TORD	**Torodi Ar. Bea**	**123.09**	**288**	PKP		PKPdf	17 47 19.1	+1.9
0.8nm,0.6s,baz=80,slow=1.9,SNR=6.4								

*LDG **06** 17:28:57.9±0.2, 5178N×701E, h1km, Ml2.9/2, Error ellipse: s-maj=3.6km s-min=2.0km az=48.0, Suspected Mining induced.*
*CSEM **06** 17:28:58.9±0.2, 5166N×7.14E, h1km, ML2.9/2, Error ellipse: s-maj=4.9km s-min=2.4km az=65.0*
*NEIC **06** 17:28:58.8±5.8, 5163N×683E, h5km, ML2.9(LDG), Error ellipse: s-maj=66.5km s-min=13.4km az=211.0*
*BNS **06** 17:28:58.9±0.5, 5172N×704E, h1km, ML1.7*
*ISCJB **06** 17:28:58.2±0.5, 5160N±003×670E±005, h0km, Error ellipse: s-maj=4.5km s-min=3.6km az=65.0*
*BGR **06** 17:28:59.0±1.4, 5158N×676E, h1km, ML2.0/3, Error ellipse: s-maj=16.7km s-min=5.6km az=86.0*
*BUG **06** 17:28:59.9, 5159N×705E, h1km, ML1.1*

ISC 06 17:28:59.4±0.5, 5161N±003×676E±005, h0km, n27, σ1§18/45, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.07**	**82**	*e*Pg		**Pg**	**17 29 02.2**	**+1.4**
BZER				*e*Sg		**Sg**	**17 29 04.4**	**+2.7**
LAUG	**Laupendahl**	**0.29**	**155**	*e*Pg		**Pg**	**17 29 05.9**	**+1.0**
WTSB	**Winterswijk**	**0.36**	**4**	*e*Pg		**Pg**	**17 29 07.2**	**+0.9**
33nm,0.1s								
BUG	**Bochum--Univer**	**0.36**	**118**	*e*Pg		**Pg**	**17 29 05.7**	**-0.6**
SNR=7.2								
BUG				*e*Sg		**Sg**	**17 29 10.1**	**-1.0**
BNS	**Bensberg**	**0.70**	**158**	*e*Pg		**Pg**	**17 29 13.4**	**+0.6**
BNS				*e*Sg		**Sg**	**17 29 23.9**	**+2.1**
39nm,0.3s								
HOBG	**Hohbusch**	**0.73**	**150**	*e*Pg		**Pg**	**17 29 13.3**	**0.0**
HOBG				*e*Sg		**Sg**	**17 29 24.1**	**+1.4**
33nm,0.4s								
IBBN	**Ibbenburen**	**0.93**	**41**	*e*Pg		**Pg**	**17 29 17.3**	**0.0**
SNR=4.1								
IBBN				*e*Sg		**Sg**	**17 29 29.0**	**-0.4**
HGN	**Heimansgroeve**	**0.99**	**212**	*e*Pg		**Pg**	**17 29 20.9**	**+2.5**
13nm,0.1s,baz=35								
HGN				*e*Sg		**Sg**	**17 29 36.0**	**+4.7**
KLL	**Kalltalsperre**	**1.00**	**196**	*e*Pg		**Pg**	**17 29 20.5**	**+1.9**
KLL				*e*Sg		**Sg**	**17 29 36.6**	**+4.9**
13nm,0.3s								
STB	**Steinbach**	**1.02**	**177**	*e*Pg		**Pg**	**17 29 20.3**	**+1.3**
STB				*e*Sg		**Sg**	**17 29 35.8**	**+3.6**
18nm,0.4s								
BGG	**Burgeitz**	**1.45**	**165**	*e*Pg		**Pg**	**17 29 26.7**	**-0.6**
BGG				*e*Sg		**Sg**	**17 29 45.2**	**-0.9**
12nm,0.2s								
TNS	**Taunus Mts**	**1.75**	**142**	*e*Pg		**Pg**	**17 29 31.2**	**-1.8**
SNR=1.8								
TNS				*e*Sg		**Sg**	**17 29 54.2**	**-1.6**
RUP	**Ruppelstein**	**1.92**	**174**	*e*Pn		**Pn**	**17 29 32.1**	**-1.2**
RUP	**Ruppelstein**	**1.92**	**174**	*e*Pg		**Pg**	**17 29 35.8**	**-0.4**
RUP				*e*Sn		**Sn**	**17 29 56.7**	**-1.5**
RUP				*e*Sg		**Sg**	**17 30 03.5**	**+2.4**
GIVF	**Givet**	**1.94**	**220**	*e*Pg		**Pg**	**17 29 37.9**	**+1.2**
GIVF				*e*Sn		**Sn**	**17 29 59.5**	**+0.7**
12nm,0.3s								
GIVF	**Givet**	**1.94**	**220**	*e*Pg		**Pg**	**17 29 37.9**	**+1.2**
GIVF				*e*Sn		**Sn**	**17 29 59.5**	**+0.7**
5.8nm,0.3s								
GIVF	**Givet**	**1.94**	**220**	*e*Pn		**Pn**	**17 29 33.0**	**-0.6**
GIVF				*e*Pg		**Pg**	**17 29 37.9**	**+1.2**
GIVF				*e*Sn		**Sn**	**17 29 59.5**	**+0.7**
CDF	**Champ du Feu**	**3.22**	**174**	*e*Pn		**Pn**	**17 29 50.5**	**-0.7**
SFTF	**Sexfontaines**	**3.58**	**199**	*e*Pn		**Pn**	**17 29 55.6**	**-0.6**
SFTF				*e*Sn		**Sn**	**17 30 38.2**	**-1.1**
8.7nm,0.3s								
SFTF	**Sexfontaines**	**3.58**	**199**	*e*Pn		**Pn**	**17 29 55.6**	**-0.6**
SFTF				*e*Sn		**Sn**	**17 30 38.2**	**-1.1**
4.3nm,0.3s								
LOR	**Lormes**	**4.74**	**205**	*e*Pn		**Pn**	**17 30 11.5**	**-0.6**
baz=27								
CABF	**La Chapelle**	**5.02**	**185**	*e*Pn		**Pn**	**17 30 14.9**	**-1.1**
SSF	**Saint Saulge**	**5.02**	**206**	*e*Pn		**Pn**	**17 30 15.6**	**-0.4**
SMF	**Signal de Mont**	**5.33**	**202**	*e*Pn		**Pn**	**17 30 19.5**	**-0.6**
FLN	**La Foiniiere**	**5.45**	**241**	*e*Pn		**Pn**	**17 30 21.1**	**-0.8**
baz=56								
BGF	**Bois d'Agland**	**5.67**	**208**	*e*Pn		**Pn**	**17 30 24.2**	**-0.7**
GRR	**Gorron**	**5.87**	**240**	*e*Pn		**Pn**	**17 30 27.5**	**-0.2**

IDC 06 17:40:47.9±2.4, 2174S×17059E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/12, mbtmp3.5/4, Error ellipse: s-maj=60.6km s-min=37.5km az=49.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.84**	**260**	P		P	17 47 31.0	-0.9
0.2nm,0.9s,baz=94,slow=7.8,SNR=5.3								
WRA	**Warramunga Arr**	**33.88**	**266**	P		P	17 47 33.5	+1.2
0.2nm,0.3s,baz=96,slow=8.4,SNR=17								
VNDA	**Vanda**	**55.99**	**182**	P		P	17 50 27.7	-0.5
1.0nm,0.8s,baz=0.0,slow=9.1,SNR=3.2								
SONM	**Songino Array**	**89.97**	**323**	P		P	17 53 49.2	+0.1
0.3nm,0.6s,baz=104,slow=4.6,SNR=3.7								

*ISCJB **06** 17:47:48.1±2.5, 391N±02×715E±02, h156km±47km, Error ellipse: s-maj=35.0km s-min=17.0km az=41.8*
*NNC **06** 17:47:49.0±6.2, 3907N×7159E, h156km±123km, mb2.6, mpv3.4, Error ellipse: s-maj=81.9km s-min=27.7km az=8.0*

ISC 06 17:47:48.8±2.6, 390N±02×715E±02, h156km±47km, n12, σ0§52/14, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.50**	**27**	P		**Pn**	**17 48 41.8**	**-0.8**
SNR=40								
UCH	**Uchtor**	**3.91**	**34**	P		**Pn**	**17 48 47.8**	**-0.2**
SNR=23								
EKS2	**Erkin-Say**	**4.00**	**24**	P		**Pn**	**17 48 49.6**	**+0.5**
SNR=10								
KK31	**Karatay Array**	**4.13**	**350**	⇓P		**Pn**	**17 48 50.2**	**-0.7**
3.3nm,0.4s,baz=167,slow=13,SNR=56								
KK31				⇑S		**Sn**	**17 49 39.6**	**+0.4**
9.4nm,0.6s,baz=170,slow=17,SNR=6.1								
KZA	**Kyzart**	**4.15**	**42**	P		**Pn**	**17 48 51.6**	**+0.6**
SNR=31								
AAK	**Ala-Archa**	**4.23**	**31**	P		**Pn**	**17 48 52.3**	**+0.1**
SNR=7.6								
KBK	**Karagaybulak**	**4.44**	**35**	P		**Pn**	**17 48 55.7**	**+0.8**
SNR=14								
CHMS	**Chumysh**	**4.64**	**31**	P		**Pn**	**17 48 57.7**	**+0.2**
SNR=10								
USP	**Ospenovka**	**4.78**	**27**	P		**Pn**	**17 48 58.9**	**-0.4**
SNR=8.0								
TKM2	**Tokmak 2**	**4.95**	**37**	P		**Pn**	**17 49 00.7**	**-0.8**
SNR=7.6								
TKM2	**Tokmak 2**	**4.95**	**37**	⇑P		**Pn**	**17 49 02.0**	**+0.5**
3.4nm,0.6s								
TKM2				⇑S		**Sn**	**17 49 57.9**	**-0.4**
9.5nm,1.4s								
AB31	**Akbulak array**	**13.16**	**325**	⇓P		**Pn**	**17 50 49.7**	**0.0**
0.6nm,0.6s,baz=145,slow=23,SNR=3.6								

*IDC **06** 17:47:58.9±3.1, 1076S×16604E, h200km±27km, mb3.5/6, mb1 3.6/8, mb1mx3.5/15, mbtmp4.1/8, Error ellipse: s-maj=25.8km s-min=18.8km az=56.0*
*ISCJB **06** 17:47:59.3±2.2, 108S±01×1659E±02, h215km±18km, mb3.7/7, Error ellipse: s-maj=28.2km s-min=13.1km az=126.5*
*NEIC **06** 17:47:59.5±1.5, 1071S×16601E, h206km±13km, mb4.2/1, Error ellipse: s-maj=17.6km s-min=11.5km az=58.0*

ISC 06 17:47:58.3±2.3, 108S±01×1661E±02, h192km±18km, n13, σ0§83/13, mb3.7/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.19**	**282**	P		**Pn**	**17 49 27.4**	**-0.5**
5.7nm,0.3s,baz=95,slow=11,SNR=7.4								
HNR	**Honiara**	**6.19**	**282**	*e*Pn		**Pn**	**17 49 28.0**	**+0.1**
DZM	**Mont Dzumac**	**11.22**	**178**	P		**Pn**	**17 50 36.1**	**+2.7**
2.9nm,0.3s,baz=36,slow=19,SNR=40								
DZM				S		**Sn**	**17 52 37.1**	**-1.3**
0.2nm,0.3s,baz=118,slow=19,SNR=4.8								
URZ	**Urewera**	**29.08**	**162**	P		**P**	**17 53 41.0**	**+0.2**
4.6nm,0.3s,mb4.6,baz=284,slow=1.8,SNR=3.3								
STKA	**Stephens Creek**	**30.85**	**223**	P		**P**	**17 53 56.1**	**-0.2**
1.9nm,0.6s,mb3.9,baz=52,slow=12,SNR=6.5								
STKA	**Stephens Creek**	**30.85**	**223**	*eP*		**P**	**17 53 56.4**	**+0.1**
WRAB	**Tennant Creek**	**31.87**	**250**	*eP*		**P**	**17 54 05.5**	**+0.2**
WRA	**Warramunga Arr**	**31.88**	**250**	P		**P**	**17 54 05.9**	**+0.6**
0.8nm,0.5s,mb3.5,baz=82,slow=8.9,SNR=19								
ASAR	**Alice Springs**	**33.20**	**243**	P		**P**	**17 54 16.4**	**-0.4**
0.4nm,0.8s,mb3.0,baz=62,slow=10,SNR=5.9								
QSPA	**South Pole Qui**	**79.21**	**180**	*eP*		**P**	**17 59 42.1**	**+0.2**
3.9nm,0.7s,mb4.2								
ILAR	**Eielson Array**	**83.17**	**18**	P		**P**	**18 00 02.1**	**-0.6**
0.4nm,0.5s,mb3.4,baz=235,slow=5.1,SNR=4.9								
MKAR	**Makanchi Array**	**93.56**	**317**	P		**P**	**18 00 52.1**	**-0.3**
0.3nm,0.6s,mb3.5,baz=98,slow=3.2,SNR=4.2								
ARCES	**ARCESS Array B**	**116.17**	**346**	PKP		PKPdf	18 06 17.0	-1.5
2.2nm,0.9s,baz=76,slow=1.4,SNR=5.9								

*IDC **06** 18:07:17.7±5.4, 621S×14739E, h21km±34km, mb4.2/10, mb1 4.4/11, mb1mx4.4/14, mbtmp4.4/11, ML4.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/20, Error ellipse: s-maj=25.0km s-min=11.1km az=115.0*
*ISCJB **06** 18:07:21.9±1.5, 6.16S±006×14741E±008, h69km±15km, mb4.5/22, Error ellipse: s-maj=14.5km s-min=7.7km az=59.8*
*MOS **06** 18:07:22.1±1.0, 6.16S×14735E, h75km, mb5.0/3, Error ellipse: s-maj=21.0km s-min=9.8km az=79.3*
*NEIC **06** 18:07:23.6±1.3, 6.19S×14739E, h70km±12km, mb4.6/10, Error ellipse: s-maj=11.6km s-min=8.3km az=97.0*
*BJI **06** 18:07:23.6, 620S×14740E, h70km, mB5.4, mb4.7*

ISC 06 18:07:26.1±1.2, 627S±006×1473E±01, h92km±12km, n47, σ1§23/48, mb4.5/22, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**183**	Pn		**Pn**	**18 08 11.2**	**-2.1**
62nm,0.3s,baz=16,slow=4.8,SNR=106								
PMG				Sn		**Sn**	**18 08 50.8**	**+1.1**
1.5nm,0.3s,baz=321,slow=21,SNR=4.8								
CTA	**Charters Tower**	**13.78**	**184**	*eP*		**Pn**	**18 10 37.7**	**+0.4**
6.4nm,0.9s								
CTA	**Charters Tower**	**13.78**	**184**	Pn		**Pn**	**18 10 37.9**	**+0.6**
1.2nm,0.3s,baz=354,slow=15,SNR=17								
CTA				LR		LR	18 15 20.1	
comp=Z,196nm,20.4s,baz=44,slow=35								
CTA	**Charters Tower**	**13.78**	**184**	*eP*		**Pn**	**18 10 37.7**	**+0.4**
CTA				pmax	pmax			
comp=Z,6.0nm,0.9s								
CTAO	**Charters Tower**	**13.78**	**184**	*eP*		**Pn**	**18 10 37.9**	**+0.5**
comp=Z,8.0nm,0.8s								
CTAO	**Charters Tower**	**13.78**	**184**	*eP*		**Pn**	**18 10 37.9**	**+0.6**
CTAO				pmax	pmax			
comp=Z,8.0nm,0.8s								
KAKA	**Kakadu**	**15.99**	**245**	*eP*		**Pn**	**18 11 05.4**	**-0.2**
comp=Z,16nm,0.4s								
KAKA				*e*S		**S**	**18 14 02.9**	**-7.4**
WRAB	**Tennant Creek**	**18.52**	**222**	*eP*		**Pn**	**18 11 34.9**	**-1.4**
comp=Z,15nm,0.6s								
WRAB	**Tennant Creek**	**18.52**	**222**	*eP*		**Pn**	**18 11 34.9**	**-1.5**
WRAB				pmax	pmax			
comp=Z,15nm,0.6s								
WB2	**Warramunga Arr**	**18.52**	**222**	*eP*		**Pn**	**18 11 35.7**	**-0.7**
WB2				*e*S		**S**	**18 15 00.2**	**-1.4**
WRA	**Warramunga Arr**	**18.53**	**222**	P		**Pn**	**18 11 35.6**	**-0.9**
comp=Z,1.7nm,0.3s,baz=44,slow=12,SNR=80								
WRA				S		**S**	**18 14 59.9**	**-1.9**
comp=Z,0.2nm,0.3s,baz=42,slow=23,SNR=3.4								
WRA				PcP	PcP		18 16 02.8	+1.6
comp=Z,0.1nm,0.3s,baz=19,slow=1.8,SNR=6.4								
WRA	**Warramunga Arr**	**18.53**	**222**	P		**Pn**	**18 11 35.6**	**-0.9**
WRA				S		**S**	**18 14 59.9**	**-1.9**
AS31	**Alice Springs**	**21.57**	**215**	*eP*		**P**	**18 12 09.1**	**+1.0**
ASAR	**Alice Springs**	**21.57**	**215**	P		**P**	**18 12 09.1**	**+1.0**
comp=Z,15nm,0.5s,mb4.6,baz=51,slow=8.4,SNR=152								
ASAR				S		**S**	**18 16 09.7**	**+7.9**
comp=Z,2.6nm,0.8s,baz=30,slow=24,SNR=7.2								
ASPA	**Alice Springs**	**21.57**	**215**	*eP*		**P**	**18 12 09.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.19**	**239**	*eP*		**P**	**18 12 34.5**	**+0.7**
comp=Z,52nm,0.8s,mb4.9								
STKA	**Stephens Creek**	**26.03**	**191**	*eP*		**P**	**18 12 50.2**	**-0.4**
comp=Z,4.7nm,0.9s,mb3.9								
STKA	**Stephens Creek**	**26.03**	**191**	P		**P**	**18 12 50.2**	**-0.3**
comp=Z,4.2nm,0.5s,mb4.1,baz=353,slow=9.8,SNR=10								
CBIJ	**Chichi jima**	**33.53**	**352**	P		**P**	**18 13 55.7**	**-1.2**
comp=Z,46nm,0.5s,mb5.6,baz=279,slow=16,SNR=5.3								
MEEK	**Meekatharra**	**34.01**	**230**	*eP*		**P**	**18 14 02.5**	**+1.4**
comp=Z,2.5nm,0.2s,mb4.7								
KLBR	**Kellerberrin**	**37.39**	**224**	*eP*		**P**	**18 14 31.1**	**+1.2**
comp=Z,11nm,0.8s,mb4.8								
NWAO	**Narrogin (SRO)**	**38.53**	**223**	P		**P**	**18 14 41.2**	**+1.7**
comp=Z,3.4nm,0.6s,mb4.3,baz=35,slow=16,SNR=6.8								
MJAR	**Matsushiro Arr**	**43.43**	**349**	P		**P**	**18 15 18.9**	**-0.8**
comp=Z,7.7nm,1.0s,mb4.4,baz=174,slow=9.0,SNR=11								
MAJO	**Matsushiro**	**43.43**	**349**	*eP*		**P**	**18 15 19.2**	**-0.5**
comp=Z,19nm,1.0s,mb4.8								
MAJO	**Matsushiro**	**43.43**	**349**	*eP*		**P**	**18 15 19.2**	**-0.5**
MAJO				pmax	pmax			
comp=Z,19nm,1.0s,mb4.8								
MAT	**Matsushiro**	**43.43**	**349**	P		**P**	**18 15 19.3**	**-0.4**
MAT	**Matsushiro**	**43.43**	**349**	*eP*		**P**	**18 15 19.

comp=Z,7.0nm,0.9s,mb4.4
PSI Prapat 49.14 279 P **P 18 16 05.6 +1.2**
comp=Z,1.6nm,0.3s,mb4.4,baz=335,slow=5.1,SNR=3.8
ENH Enshi 51.32 317 *e*P **P 18 16 22.8 +1.9**
comp=Z,5.1nm,0.8s,mb4.6
ENH *e* 18 16 32.8
XAN Xi'an 54.08 320 P **P 18 16 42.8 +1.6**
XAN AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
LZH Lanzhou 58.61 319 *e*P **P 18 17 17.1 +3.7**
LZH AMB AMB
comp=Z,22nm,1.4s,mb5.0
GTA Gaotai 63.14 320 *e*P **P 18 17 47.4 +3.3**
GTA AMB AMB
comp=Z,8.0nm,0.7s,mb4.8
SONM Songino Array 64.78 331 P **P 18 17 55.3 +0.5**
comp=Z,2.1nm,0.6s,mb4.2,baz=141,slow=5.0,SNR=20
ZAK Zakamensk 68.02 331 *e*P **P 18 18 13.8 -1.7**
ZAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
BOD Bodaibo 69.33 342 *e*P **P 18 18 19.5 -4.1**
VNDA Vanda 71.63 177 P **P 18 18 36.6 -1.0**
comp=Z,1.8nm,0.8s,mb3.9,baz=353,slow=6.0,SNR=5.4
MKAR Makanchi Array 77.89 320 P **P 18 19 13.1 -0.7**
comp=Z,0.9nm,0.4s,mb3.9,baz=95,slow=9.0,SNR=31
QSPA South Pole Qui 83.70 180 *e*P **P 18 19 45.7 +1.0**
comp=Z,2.8nm,0.9s,mb4.1
ILAR Eielson Array 85.61 23 P **P 18 19 52.3 -2.0**
comp=Z,1.7nm,0.6s,mb4.2,baz=252,slow=4.9,SNR=44
NVAR Mina Array Bea 97.29 52 P **P 18 20 49.4 +0.7**
comp=Z,0.9nm,0.8s,mb4.2,baz=315,slow=7.5,SNR=6.0
NVAR Mina Array Bea 97.29 52 P **P 18 20 49.4 +0.7**
SIV San Ignacio 144.25 129 PKP PKPdf 18 26 50.9 -0.3
comp=Z,1.6nm,0.5s,baz=260,slow=4.8,SNR=11
TORD Torodi Ar. Bea 145.45 284 PKPbc PKPbc 18 26 55.5 +2.1
comp=Z,4.6nm,0.6s,baz=69,slow=3.9,SNR=28
SAML Samuel 146.06 116 *e*PKPdf PKPdf 18 26 56.7 +2.4
DBIC Dimbokro 152.33 272 PKPbc PKPbc 18 27 13.8 +2.5
comp=Z,1.5nm,0.4s,baz=85,slow=3.3,SNR=9.2
BDFB Brasilia 153.47 145 PKPbc PKPbc 18 27 15.7 +1.9
comp=Z,4.3nm,0.6s,baz=147,slow=2.0,SNR=5.6

ISCJB ***06*** *18:13:06.4±0.2, 40.14S±003×7846E±005, h10km, mb5.4/93, MS6.0/131, Error ellipse: s-maj=5.1km s-min=5.0km az=113.2*
MOS ***06*** *18:13:06.6±1.3, 40.07S×7856E, h10km, mb5.7/21, MS6.1/28, Error ellipse: s-maj=12.5km s-min=8.7km az=85.9*
IDC ***06*** *18:13:06.5±0.3, 40.17S×7841E, h0km, mb5.0/27, mb1 5.0/27, mb1mx5.0/27, mbtmp4.9/27, MS6.0/25, Ms1 6.0/25, ms1mx5.8/31, Error ellipse: s-maj=11.3km s-min=6.3km az=178.0*
BJI ***06*** *18:13:08.7, 39.39S×7820E, h11km, mB5.8, mb5.3, Ms6.2, Msz5.8*
NEIC ***06*** *18:13:08.4±0.2, 40.10S×7849E, h10km, mb5.5/31, MS6.1/89, MW6.1, Error ellipse: s-maj=5.9km s-min=5.6km az=177.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{18}Nm; M_{rr}0.21; $M_{\theta\theta}$-1.96; $M_{\phi\phi}$1.74; $M_{r\theta}$0.26; $M_{\theta\phi}$-0.55; $M_{\phi r}$-0.06; Best double couple: $M_0$1.90000×10^{18} NP1:ϕ_s307.00000°, δ88.00000°, λ-173.00000°. NP2: ϕ_s217.00000°, δ83.00000°, λ-2.00000°. Principal axes: T 1.8300, Plg3.0000°, Azm82.0000°; N 0.2400, Plg83.0000°, Azm324.0000°; P -2.0700, Plg6.0000°, Azm172.0000°;*
HRVD ***06*** *18:13:08.4±0.1, 40.17S×7833E, h13km, MW6.2/104, Centroid moment Tensor Solution. LP body waves: s104, c231; Mantle waves: s98, c370; Half duration: 3s0 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.18±.01; $M_{\theta\theta}$-2.30±.01; $M_{\phi\phi}$2.48±.01; $M_{r\theta}$-0.14±.03; $M_{\theta\phi}$-0.14±.01; $M_{\phi r}$0.08±.03; Best double couple: $M_0$2.40000×10^{18} NP1:ϕ_s43.00000°, δ86.00000°, λ-1.00000°. NP2: ϕ_s133.00000°, δ89.00000°, λ-176.00000°. Principal axes: T 2.4870, Plg2.0000°, Azm268.0000°; N -0.1780, Plg86.0000°, Azm151.0000°; P -2.3130, Plg4.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 06 18:13:08.0±0.2, 4016S±003×7843E±005, h10km, (h13km±.8km:pP-P), n416, σ1.9s09/247, mb5.4/93, MS6.0/131, 11C-20D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**28.81**	**192**	P	**P**	**18 19 06.2**	**+0.1**
	34nm,0.7s,mb5.2,baz=351,slow=14,SNR=9.0						
MAW				LR	LR	18 28 34.1	
	comp=Z,60μm,18.2s,MS6.2,baz=17,slow=32						
MUN	**Mundaring**	**31.42**	**87**	*e*P	**P**	**18 19 30.5**	**+1.2**
MUN				*e*PP	PP	18 20 33.2	-7.0
MUN				*e*S	**S**	**18 24 17.2**	**-20**
MUN	**Mundaring**	**31.42**	**87**	*e*P	**P**	**18 19 30.5**	**+1.2**
MUN				*e*		18 20 33.2	
CASY	**Casey**	**31.78**	**156**	*e*P	**P**	**18 19 31.6**	**-0.8**
	108nm,1.4s,mb5.5						
CASY				LR	LR		
	comp=Z,36μm,20.0s,MS6.0						
NWAO	**Narrogin (SRO)**	**31.81**	**89**	P	**P**	**18 19 32.0**	**-0.7**
	comp=Z,24nm,1.1s,mb4.9,baz=246,slow=7.7,SNR=5.2						
NWAO				S	**S**	**18 24 47.2**	**+4.4**
	comp=Z,3.4nm,0.9s,baz=114,slow=23,SNR=2.1						
NWAO				LR	LR	18 29 14.0	
	comp=Z,66μm,21.9s,MS6.3,baz=245,slow=30						
NWAO	**Narrogin (SRO)**	**31.81**	**89**	*e*P	**P**	**18 19 33.1**	**+0.4**
NWAO				MLR	MLR		
	comp=Z,48μm,20.0s						
KLBR	**Kellerberrin**	**32.77**	**87**	*e*P	**P**	**18 19 37.2**	**-3.9**
	comp=Z,56nm,1.3s,mb5.3						
KLBR				*e*S	**S**	**18 25 10.2**	**+12**
OPO	**Ambohidratompo**	**34.42**	**300**	P	**P**	**18 19 55.3**	**-0.2**
	comp=Z,4.9nm,0.9s,mb4.4,baz=241,slow=5.0,SNR=4.1						
SYO	**Syowa Base**	**35.48**	**203**	⇑*e*P	**P**	**18 20 03.5**	**-1.1**
SYO				*e*		18 21 35.0	
MBWA	**Marble Bar**	**39.83**	**74**	*e*P	**P**	**18 20 41.7**	**+0.2**
MBWA				LR	LR		
	comp=Z,34μm,21.0s,MS6.2						
DRV	**Dumont d'Urvil**	**42.73**	**149**	S	**S**	**18 27 30.0**	**+1.1**
DRV				L		18 31 00.0	
BOSA	**Boshof**	**44.77**	**268**	P	**P**	**18 21 22.0**	**+0.3**
	comp=Z,40nm,1.1s,mb5.2,baz=124,slow=9.1,SNR=25						
BOSA				S	**S**	**18 27 58.6**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=279,slow=12,SNR=2.0						
BOSA				LR	LR	18 36 51.5	
	comp=Z,44μm,18.3s,MS6.4,baz=135,slow=32						
BOSA	**Boshof**	**44.77**	**268**	P	**P**	**18 21 22.5**	**+0.8**
	comp=Z,60nm,1.2s,mb5.3						
BOSA				LR	LR		
	comp=Z,44μm,19.0s,MS6.4						
BOSA	**Boshof**	**44.77**	**268**	P	**P**	**18 21 22.5**	**+0.8**
BOSA				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.3						
BOSA				MLR	MLR		
	comp=Z,44μm,19.0s,MS6.4						
NVL	**N'lazarevskaya**	**45.01**	**205**	⇓*i*P	**P**	**18 21 22.3**	**-1.3**
NVL				*e*		18 23 53.5	
NVL				*i*S	**S**	**18 28 01.4**	**-0.8**
NVL				pmax	pmax		
	comp=Z,110nm,1.5s,mb5.5						
FITZ	**Fitzroy Crossi**	**46.09**	**76**	⇓*i*P	**P**	**18 21 32.3**	**+0.2**
	comp=Z,29nm,1.7s,mb4.9						
FITZ				*e*S	**S**	**18 28 19.9**	**+2.2**
LBTB	**Lobatse**	**46.35**	**272**	P	**P**	**18 21 34.0**	**-0.2**
	comp=Z,63nm,1.1s,mb5.5,baz=142,slow=6.9,SNR=29						
LBTB				S	**S**	**18 28 22.2**	**+0.7**
	comp=Z,4.0nm,1.1s,baz=80,slow=20,SNR=2.0						
LBTB				LR	LR	18 38 17.4	
	comp=Z,44μm,18.0s,MS6.5,baz=139,slow=33						
LBTB	**Lobatse**	**46.35**	**272**	P	**P**	**18 21 34.6**	**+0.4**
	comp=Z,113nm,1.3s,mb5.6						
LBTB	**Lobatse**	**46.35**	**272**	P	**P**	**18 21 34.6**	**+0.4**
LBTB				pmax	pmax		
	comp=Z,113nm,1.3s,mb5.6						
SUR	**Sutherland**	**46.40**	**261**	P	**P**	**18 21 35.9**	**+1.4**
	comp=Z,189nm,1.5s,mb5.8,SNR=5.8						
SUR	**Sutherland**	**46.40**	**261**	P	**P**	**18 21 35.1**	**+0.5**
	comp=Z,32nm,1.2s,mb5.1,baz=98,slow=8.7,SNR=8.8						
SUR				S	**S**	**18 28 22.8**	**+0.7**
	comp=Z,4.0nm,1.0s,baz=86,slow=5.7,SNR=2.5						
SUR				LR	LR	18 36 19.2	
	comp=Z,24μm,21.1s,MS6.1,baz=125,slow=30						
SUR	**Sutherland**	**46.40**	**261**	P	**P**	**18 21 35.1**	**+0.5**
SUR				S	**S**	**18 28 22.8**	**+0.6**
SUR				LR	LR	18 36 19.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**46.70**	**29**	P	**P**	**18 21 37.5**	**+0.6**
	comp=Z,64nm,1.1s,mb5.5,baz=193,slow=9.0,SNR=44						
PSI				S	**S**	**18 28 30.3**	**+3.9**
	comp=Z,1.1nm,0.4s,baz=169,slow=19,SNR=2.1						
PSI				LR	LR	18 38 36.9	
	comp=Z,12μm,18.1s,MS5.9,baz=200,slow=33						
PSI	**Prapat**	**46.70**	**29**	P	**P**	**18 21 37.5**	**+0.6**
PSI				S	**S**	**18 28 30.3**	**+3.9**
PALK	**Pallekele**	**47.24**	**3**	P	**P**	**18 21 42.0**	**+0.9**
	comp=Z,61nm,1.5s,mb5.3						
PALK				LR	LR		
	comp=Z,26μm,19.0s,MS6.2						
ADE	**Adelaide**	**47.27**	**104**	*e*P	**P**	**18 21 41.8**	**+0.4**
KGM	**Kluang**	**47.75**	**35**	P	**P**	**18 21 47.7**	**+2.6**
TRD	**Trivandrum**	**48.44**	**358**	*e*P	**P**	**18 21 51.1**	**+0.7**
TRD				AMb	AMB	18 21 54.4	
	comp=Z,135nm,1.1s,mb5.9						
TRD				*e*S	**S**	**18 28 52.0**	**+0.8**
TRD				AMS	AMS	18 37 39.7	
	comp=Z,22μm,22.0s,MS6.1						
IPM	**Ipoh**	**49.03**	**30**	P	**P**	**18 21 57.2**	**+2.2**
ASPA	**Alice Springs**	**49.10**	**88**	*e*P	**P**	**18 21 55.6**	**+0.1**
ASAR	**Alice Springs**	**49.10**	**88**	P	**P**	**18 21 55.3**	**-0.2**
	comp=Z,12nm,0.7s,mb5.0,baz=244,slow=5.1,SNR=80						
ASAR				PcP	PcP	18 23 19.2	+0.2
	comp=Z,6.2nm,0.8s,baz=230,slow=2.5,SNR=5.0						
ASAR				S	**S**	**18 29 01.1**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=76,slow=36,SNR=2.4						
ASAR				PKiKP	PKiKP	18 30 02.1	-5.2
	comp=Z,0.4nm,0.9s,baz=248,slow=4.5,SNR=4.1						
ASAR	**Alice Springs**	**49.10**	**88**	P	**P**	**18 21 55.3**	**-0.2**
ASAR						18 23 19.2	
ASAR				S	**S**	**18 29 01.2**	**+0.6**
AS31	**Alice Springs**	**49.11**	**88**	*e*P	**P**	**18 21 55.6**	**0.0**
KULM	**Kulim**	**49.63**	**30**	*e*P	**P**	**18 21 59.8**	**+0.3**
SNAA	**Sanae**	**49.75**	**204**	P	**P**	**18 22 01.0**	**+0.5**
	comp=Z,4.4nm,0.9s,mb4.5,baz=98,slow=5.9,SNR=7.3						
SNAA				S	**S**	**18 29 10.0**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=24,slow=20,SNR=2.2						
SNAA				LR	LR	18 39 19.6	
	comp=Z,4μm,20.2s,MS5.5,baz=253,slow=32						
SNAA	**Sanae**	**49.75**	**204**	⇓*i*P	**P**	**18 22 01.6**	**+1.2**
SNAA				*e*		18 22 31.4	
SNAA	**Sanae**	**49.75**	**204**	⇓*i*P	**P**	**18 22 01.6**	**+1.2**
SNAA				*e*		18 22 31.4	
VNDA	**Vanda**	**49.75**	**164**	P	**P**	**18 22 00.3**	**-0.2**
	comp=Z,22nm,0.8s,mb5.2,baz=268,slow=7.9,SNR=45						
VNDA				LR	LR	18 41 38.0	
	comp=Z,48μm,18.4s,MS6.5,baz=266,slow=34						
VNDA	**Vanda**	**49.75**	**164**	P	**P**	**18 22 00.3**	**-0.2**
	comp=Z,51nm,1.1s,mb5.5						
QSPA	**South Pole Qui**	**50.00**	**180**	P	**P**	**18 22 01.7**	**-0.7**
QSPA				S	**S**	**18 29 14.4**	**+1.3**
QSPA	**South Pole Qui**	**50.00**	**180**	⇓*i*P	**P**	**18 22 01.7**	**-0.7**
	comp=Z,189nm,1.3s,mb6.0						
LSZ	**Lusaka**	**50.12**	**285**	P	**P**	**18 22 04.2**	**+1.0**
	comp=Z,109nm,1.0s,mb5.8,baz=135,slow=8.3,SNR=79						
LSZ				S	**S**	**18 29 13.6**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=86,slow=8.3,SNR=3.0						
LSZ				LR	LR	18 39 38.3	
	comp=Z,31μm,20.9s,MS6.3,baz=127,slow=32						
LSZ	**Lusaka**	**50.12**	**285**	*e*P	**P**	**18 22 04.2**	**+0.9**
	comp=Z,139nm,1.1s,mb5.9						
LSZ				LR	LR		
	comp=Z,29μm,21.0s,MS6.3						
LSZ	**Lusaka**	**50.12**	**285**	P	**P**	**18 22 04.8**	**+1.5**
LSZ				pmax	pmax		
	comp=Z,140nm,1.1s,mb5.9						
LSZ	**Lusaka**	**50.12**	**285**	*e*P	**P**	**18 22 04.2**	**+0.9**
LSZ				pmax	pmax		
	comp=Z,139nm,1.1s,mb5.9						
LSZ				MLR	MLR		
	comp=Z,29μm,21.0s,MS6.3						
TAU	**Tasmania Unive**	**50.31**	**117**	PFAKE		18 22 20.0	+15
TAU				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
KSM	**Kuching**	**50.64**	**43**	*e*P	**P**	**18 22 08.6**	**+1.4**
SBA	**Scott Base**	**50.76**	**164**	*e*P	**P**	**18 22 09.8**	**+1.7**
	comp=Z,57nm,1.1s,mb5.4						
SBA				LR	LR		
	comp=Z,26μm,19.0s,MS6.3						
SBA	**Scott Base**	**50.76**	**164**	*e*P	**P**	**18 22 09.8**	**+1.6**
SBA				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.4						
SBA				MLR	MLR		
	comp=Z,26μm,19.0s,MS6.3						
STKA	**Stephens Creek**	**50.81**	**102**	*e*P	**P**	**18 22 05.0**	**-3.5**
	comp=Z,53nm,0.9s,mb5.5						
STKA				*i*S	**S**	**18 29 24.9**	**+0.6**
STKA	**Stephens Creek**	**50.81**	**102**	P	**P**	**18 22 05.8**	**-2.6**
	comp=Z,32nm,0.9s,mb5.3,baz=230,slow=7.4,SNR=26						
STKA				S	**S**	**18 29 22.8**	**-1.5**
	comp=Z,1.6nm,0.9s,baz=316,slow=22,SNR=2.1						
STKA				LR	LR	18 39 11.7	
	comp=Z,29μm,21.9s,MS6.3,baz=245,slow=31						
TOO	**Toolangi**	**51.14**	**110**	*e*P	**P**	**18 22 11.2**	**+0.2**
	comp=Z,39nm,1.0s,mb5.3						
TOO				*e*S	**S**	**18 29 35.4**	**+6.4**
TOO	**Toolangi**	**51.14**	**110**	*e*P	**P**	**18 22 11.2**	**+0.2**
TOO				*e*S	**S**	**18 29 35.4**	**+6.4**
TOO				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3						
VNA2	**Neumayer--Watz**	**51.32**	**205**	⇓*i*P	**P**	**18 22 11.6**	**-0.7**
VNA2				*e*	pP	18 22 14.4	-1.1
VNA2				*e*	pP	18 22 16.1	+0.6
VNA2				*e*		18 22 19.6	
VNA2				*e*		18 22 40.9	
WRA	**Warramunga Arr**	**51.54**	**84**	P	**P**	**18 22 13.2**	**-0.8**
	comp=Z,16nm,0.9s,mb4.9,baz=233,slow=7.6,SNR=61						
WRA				PcP	PcP	18 23 27.7	-0.3
	comp=Z,4.4nm,0.7s,baz=234,slow=3.0,SNR=11						
WRA				S	**S**	**18 29 36.5**	**+2.0**
	comp=Z,0.3nm,0.9s,baz=292,slow=10.0,SNR=2.9						
WB2	**Warramunga Arr**	**51.55**	**84**	*e*P	**P**	**18 22 13.4**	**-0.7**
WB2				*e*S	**S**	**18 29 35.3**	**+0.7**
WRAB	**Tennant Creek**	**51.56**	**84**	P	**P**	**18 22 14.0**	**-0.1**
	comp=Z,207nm,1.9s,mb5.7,SNR=6.2						
WRAB	**Tennant Creek**	**51.56**	**84**	P	**P**	**18 22 14.3**	**+0.2**
WRAB				LR	LR		
	comp=Z,37μm,20.0s,MS6.4						
WRAB	**Tennant Creek**	**51.56**	**84**	*i*P	**P**	**18 22 11.8**	**-2.3**
VNA3	**Neumayer Olymp**	**51.97**	**204**	⇓*i*P	**P**	**18 22 16.6**	**-0.6**
VNA3				*e*		18 22 32.9	
VNA3				*e*		18 22 46.7	
KMBO	**Kilima Mbogo**	**53.89**	**305**	P	**P**	**18 22 31.9**	**+0.5**
	comp=Z,14nm,1.1s,mb4.8,baz=102,slow=6.0,SNR=17						
KMBO				S	**S**	**18 30 10.6**	**+4.0**
	comp=Z,0.4nm,0.3s,baz=226,slow=23,SNR=1.5						
KMBO				LR	LR	18 42 15.7	
	comp=Z,8μm,18.5s,MS5.8,baz=133,slow=32						
KMBO	**Kilima Mbogo**	**53.89**	**305**	P	**P**	**18 22 31.9**	**+0.5**
KMBO				S	**S**	**18 30 10.6**	**+4.0**
KAKA	**Kakadu**	**54.55**	**76**	⇓*i*P	**P**	**18 22 36.2**	**0.0**
	comp=Z,21nm,0.6s,mb5.3						
CNB	**Canberra Magne**	**54.94**	**109**	*e*P	**P**	**18 22 41.3**	**+2.3**
	comp=Z,46nm,1.1s,mb5.4						
TSUM	**Tsumeb**	**55.75**	**273**	P	**P**	**18 22 46.2**	**+1.4**
	comp=Z,95nm,1.1s,mb5.7,baz=117,slow=7.5,SNR=67						
TSUM				S	**S**	**18 30 38.2**	**+6.7**
	comp=Z,0.5nm,0.4s,baz=339,slow=14,SNR=1.9						
TSUM	**Tsumeb**	**55.75**	**273**	P	**P**	**18 22 46.1**	**+1.2**
TSM	**Tawau**	**57.15**	**49**	P	**P**	**18 22 57.5**	**+2.7**
HYB	**Hyderabad**	**57.27**	**0**	⇓*i*P	**P**	**18 22 55.5**	**-0.2**
	comp=Z,80nm,1.0s,mb5.7						
HYB				*e*S	**S**	**18 30 54.0**	**+2.3**
HYB				*e*PS		18 31 08.0	
HYB				*e*SS	SS	18 34 40.0	-0.9
HYB				LR	LR	18 43 44.0	
	comp=Z,79nm,18.0s						
HYB	**Hyderabad**	**57.27**	**0**	⇓*e*P	**P**	**18 22 55.5**	**-0.2**
	comp=Z,80nm,1.0s,mb5.7						
HYB				*e*S	**S**	**18 30 56.0**	**+4.3**
HYB	**Hyderabad**	**57.27**	**0**	⇓*e*P	**P**	**18 22 55.5**	**-0.2**
HYB				*e*S	**S**	**18 30 56.0**	**+4.3**
HYB				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.7						
KAD	**Karad**	**57.30**	**355**	⇑*i*P	**P**	**18 22 56.0**	**+0.1**
KKM	**Kota Kinabalu**	**57.64**	**46**	P	**P**	**18 23 06.3**	**+8.0**
VIS	**Vishakhapatnam**	**57.76**	**6**	*i*P	**P**	**18 22 55.1**	**-4.0**
VIS				*e*P	pP	18 22 59.1	-3.2
VIS				*i*S	**S**	**18 30 54.8**	**-3.3**
POO	**Poona**	**58.54**	**355**	⇓*i*P	**P**	**18 23 04.0**	**-0.6**
	comp=Z,150nm,1.0s,mb6.0						
POO				*e*PP	PP	18 25 14.5	+0.5
POO				*i*S	**S**	**18 31 10.0**	**+1.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**58.98**	**354**	*i*x	x	18 23 19.1	
BOM				*i*x	x	18 31 21.0	
ARMA	**Armidale**	**59.00**	**105**	*e*P	**P**	**18 23 06.6**	**-1.2**
ARMA				*e*S	**S**	**18 31 18.1**	**+3.8**
CTA	**Charters Tower**	**60.58**	**92**	⇓*i*P	**P**	**18 23 18.6**	**-0.1**
	comp=Z,11nm,0.9s,mb5.0						
CTA				*i*S	**S**	**18 31 37.1**	**+2.5**
CTA	**Charters Tower**	**60.58**	**92**	P	**P**	**18 23 17.9**	**-0.8**
	comp=Z,21nm,1.1s,mb5.2,baz=241,slow=7.7,SNR=10						
CTA				S	**S**	**18 31 37.9**	**+3.2**
	comp=Z,0.8nm,0.3s,baz=312,slow=8.1,SNR=2.1						
CTA				LR	LR	18 46 51.2	
	comp=Z,19μm,21.1s,MS6.2,baz=236,slow=33						
CTA	**Charters Tower**	**60.58**	**92**	⇓*i*P	**P**	**18 23 18.6**	**-0.1**
CTA				*i*S	**S**	**18 31 37.1**	**+2.5**
CTA				pmax	pmax		
	comp=Z,11nm,0.9s						
CTAO	**Charters Tower**	**60.58**	**92**	P	**P**	**18 23 18.7**	**+0.1**
CTAO				LR	LR		
	comp=Z,18μm,21.0s,MS6.2						
NGP	**Nagpur**	**60.99**	**1**	*e*P	**P**	**18 23 22.0**	**+0.5**
NGP				*e*S	**S**	**18 31 41.6**	**+1.8**
ATD	**Arta Tunnel**	**61.10**	**319**	P	**P**	**18 23 24.2**	**+2.1**
	comp=Z,32nm,1.0s,mb5.4,baz=227,slow=18,SNR=6.7						
DESE	**Dese**	**62.41**	**316**	*e*P	**P**	**18 23 36.5**	**+5.5**
JBP	**Jabalpur**	**63.01**	**2**	⇓*i*P	**P**	**18 23 34.7**	**-0.4**
JBP				*e*x	x	18 23 57.0	
	comp=Z,51nm,2.4s						
JBP				*e*S	**S**	**18 32 07.0**	**+1.6**
CAL	**Calcutta**	**63.05**	**10**	*e*P	**P**	**18 23 37.0**	**+1.7**
CAL				*e*x	x	18 28 16.3	
BHPL	**Bhopal**	**63.08**	**359**	*e*P	**P**	**18 23 35.1**	**-0.4**
BHPL				AMb	AMB	18 23 38.5	
	comp=Z,58nm,1.3s,mb5.6						
BHPL				*e*S	**S**	**18 32 07.8**	**+1.5**
BHJ	**Bhuj**	**63.61**	**351**	*e*P	**P**	**18 23 39.3**	**+0.3**
BHJ				AMb	AMB	18 23 58.9	
	comp=Z,98nm,2.3s,mb5.4						
BHJ				*e*S	**S**	**18 32 14.0**	**+1.1**
BHJ				*e*x	x	18 46 17.2	
	comp=Z,13μm,20.6s						
DAV	**Davao City (W)**	**63.97**	**54**	PFAKE		18 23 50.0	+8.6
DAV				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
WBK	**Wadi Bani Khal**	**65.03**	**340**	⇓P	**P**	**18 23 48.7**	**+0.5**
	SNR=14						
JMDO	**Jabal Madar**	**65.03**	**339**	⇓P	**P**	**18 23 48.6**	**+0.3**
	SNR=6.2						
RPZ	**Rata Peaks**	**65.36**	**127**	LR	LR	18 47 03.6	
	comp=Z,13μm,18.4s,MS6.2,baz=239,slow=31						
BSY	**Bisya**	**65.63**	**338**	⇑P	**P**	**18 23 51.5**	**-0.7**
	SNR=12						
SMDO	**Samad**	**65.70**	**339**	⇑P	**P**	**18 23 52.6**	**0.0**
	SNR=20						
QIZ	**Qiongzhong**	**65.76**	**33**	P	**P**	**18 23 50.7**	**-2.3**
QIZ				S	S	18 32 37.6	-1.8
QIZ				AMB	AMB		
	comp=Z,271nm,7.0s						
QIZ				LR	LR		
	comp=N,3μm,32.4s,MS5.7						
QIZ				LR	LR		
	comp=E,7μm,29.2s,MS5.7						
QIZ				LR	LR		
	comp=Z,4μm,24.7s,MS5.5						
QIZ	**Qiongzhong**	**65.76**	**33**	PFAKE		18 24 10.0	+17
QIZ				LR	LR		
	comp=Z,4μm,20.0s,MS5.6						
AJM	**Ajmer**	**66.39**	**356**	*i*P	**P**	**18 23 57.0**	**-0.1**
AJM				*e*P		18 23 57.2	
AJM				AMb	AMB	18 24 00.2	
	comp=Z,124nm,0.9s,mb5.9						
AJM				AMb	AMB	18 24 00.2	
	comp=Z,124nm,0.9s,mb5.9						
AJM				*e*S	S	18 32 47.4	+0.4
ARQ	**Araqi**	**66.39**	**338**	⇑P	**P**	**18 23 57.2**	**+0.2**
	SNR=8.0						
SHL	**Shillong**	**66.58**	**13**	*i*P	**P**	**18 23 59.0**	**+0.7**
SHL				*e*P		18 23 59.0	
SHL				*e*x	x	18 32 45.0	
SHL				*e*S	S	18 32 52.0	+2.7
TGY	**Tagaytay City**	**66.88**	**45**	P	**P**	**18 24 00.5**	**+0.3**
	comp=Z,95nm,0.3s,baz=145,slow=13,SNR=5.0						
AGRA	**Agra**	**67.04**	**360**	*e*P	**P**	**18 24 01.2**	**0.0**
AGRA				AMb	AMB	18 24 01.9	
	comp=Z,82nm,0.3s,mb6.2						
PKI	**Pulchoki**	**67.69**	**7**	*e*P	**P**	**18 24 04.8**	**-0.6**
	comp=Z,101nm,1.2s,mb5.7						
PKI	**Pulchoki**	**67.69**	**7**	*e*P	**P**	**18 24 04.8**	**-0.6**
PKI				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.4						
DMN	**Daman**	**67.70**	**6**	*e*P	**P**	**18 24 05.4**	**0.0**
	comp=Z,303nm,1.2s,mb6.2						
KOLN	**Koldanda**	**67.75**	**5**	*e*P	**P**	**18 24 05.2**	**-0.5**
	comp=Z,261nm,1.2s,mb6.1						
PMG	**Port Moresby**	**67.75**	**83**	LR	LR	18 52 05.0	
	comp=Z,17μm,18.5s,MS6.3,baz=36,slow=34						
PMG	**Port Moresby**	**67.75**	**83**	P	**P**	**18 24 06.2**	**+0.5**
PMG				LR	LR		
	comp=Z,18μm,19.0s,MS6.3						
TRIS

GZH	**Guangzhou**	**70.84**	**34**	P	**P**	**18 24 23.1**	**-1.7**
GZH				S	S	18 33 44.1	+4.2
GZH				LR	LR		
	comp=N,3μm,17.4s,MS5.7						
GZH				LR	LR		
	comp=E,3μm,20.5s,MS5.7						
GZH				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
BHK	**Bhakra**	**71.24**	**358**	*ex*	x	18 24 42.0	
GYA	**Guiyang**	**71.30**	**27⇑**	*iP*	**P**	**18 24 27.6**	**0.0**
GYA				AP	pP	18 24 31.8	+0.9
GYA				XP	sP	18 24 34.9	+2.8
GYA				PP	PP	18 27 09.2	+3.5
GYA				S	S	18 33 46.9	+1.6
GYA				SKS		18 34 26.6	
GYA				SCS	ScS	18 34 29.4	-2.9
GYA				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
GYA				AMB	AMB		
	comp=Z,700nm,5.1s						
GYA				LR	LR		
	comp=N,4μm,22.5s,MS5.7						
GYA				LR	LR		
	comp=E,3μm,22.8s,MS5.7						
GYA				LR	LR		
	comp=Z,5μm,22.1s,MS5.7						
KLP	**Kalpa**	**71.33**	**360**	*eP*	**P**	**18 24 27.5**	**-0.4**
KLP				AMb	AMB	18 24 31.3	
	comp=Z,83nm,1.5s,mb5.4						
PMSA	**Palmer Station**	**71.34**	**196**	PFAKE		18 24 40.0	+12
PMSA				LR	LR		
	comp=Z,16μm,20.0s,MS6.3						
URZ	**Urewera**	**72.24**	**125**	P	**P**	**18 24 34.6**	**+1.3**
	comp=Z,14nm,0.8s,mb4.9,baz=340,slow=6.3,SNR=4.0						
URZ				LR	LR	18 50 14.8	
	comp=Z,3μm,19.3s,MS5.6,baz=42,slow=31						
RDF	**Al-Radifah**	**74.48**	**332**	*eP*	**P**	**18 24 46.5**	**0.0**
RDF				AMb	AMB	18 24 48.5	
	comp=Z,104nm,1.0s,mb5.7						
CD2	**Chengdu**	**74.51**	**22⇑**	*iP*	**P**	**18 24 46.4**	**-0.3**
CD2				AP	pP	18 24 51.1	+1.1
CD2				XP	sP	18 24 53.4	+2.2
CD2				PP	PP	18 27 37.1	+4.0
CD2				S	S	18 34 21.9	+0.1
CD2				SKS		18 34 50.5	
CD2				SS	SS	18 39 06.5	-1.9
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
CD2				AMB	AMB		
	comp=Z,440nm,7.2s						
CD2				LR	LR		
	comp=E,5μm,23.4s						
CD2				LR	LR		
	comp=Z,3μm,17.1s						
DZM	**Mont Dzumac**	**74.66**	**106**	LR	LR	18 54 40.8	
	comp=Z,13μm,18.1s,MS6.3,baz=250,slow=33						
KBD	**Kabd**	**74.66**	**332**	*eP*	**P**	**18 24 47.8**	**+0.2**
KBD				AMb	AMB	18 24 51.0	
	comp=Z,286nm,1.1s,mb6.1						
QZH	**Quanzhou**	**74.79**	**37**	P	**P**	**18 24 50.6**	**+2.3**
QZH				S	S	18 34 29.0	+4.0
QZH				AMB	AMB		
	comp=Z,700nm,8.9s						
QZH				LR	LR		
	comp=N,4μm,13.8s,MS6.0						
QZH				LR	LR		
	comp=E,4μm,12.2s,MS6.0						
QZH				LR	LR		
	comp=Z,6μm,29.0s						
NAY	**Al-Naaiem**	**74.89**	**332**	*eP*	**P**	**18 24 48.9**	**0.0**
NAY				AMb	AMB	18 24 50.7	
	comp=Z,51nm,1.1s,mb5.4						
UMR	**Umm Al-Rimmam**	**75.00**	**333**	*eP*	**P**	**18 24 49.3**	**-0.2**
UMR				AMb	AMB	18 24 51.4	
	comp=Z,85nm,1.0s,mb5.6						
SHEL	**Horse Pasture**	**75.50**	**261**	PFAKE		18 25 10.0	+18
SHEL				LR	LR		
	comp=Z,9μm,21.0s,MS6.0						
ENH	**Enshi**	**75.77**	**27**	*eP*	**P**	**18 24 53.6**	**-0.4**
	comp=Z,109nm,1.5s,mb5.6						
ENH				LR	LR		
	comp=Z,5μm,22.0s,MS5.8						
TATO	**Taipei**	**76.20**	**40**	PFAKE		18 25 10.0	+14
TATO				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
HNR	**Honiara**	**77.52**	**92**	LR	LR	18 55 49.3	
	comp=Z,14μm,21.5s,MS6.3,baz=182,slow=33						
HNR	**Honiara**	**77.52**	**92**	PFAKE		18 25 20.0	+16
HNR				LR	LR		
	comp=Z,15μm,21.0s,MS6.3						
WHN	**Wuhan**	**77.84**	**31**	⇑P	**P**	**18 25 05.8**	**+0.2**
WHN				S	S	18 34 59.6	+1.1
WHN				LR	LR		
	comp=Z,11μm,20.9s,MS6.2						
XAN	**Xi'an**	**79.02**	**25**	P	**P**	**18 25 11.6**	**-0.5**
XAN				S	S	18 35 10.7	-0.4
XAN				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.1						
XAN				AMB	AMB		
	comp=Z,438nm,6.9s						
XAN				LR	LR		
	comp=N,4μm,26.7s,MS6.1						
XAN				LR	LR		
	comp=E,10μm,23.4s,MS6.1						
XAN				LR	LR		
	comp=Z,4μm,23.8s,MS5.7						
KSH	**Kashi**	**79.33**	**358**	*eP*	**P**	**18 25 13.7**	**-0.1**
KSH				*e*AP	pP	18 25 17.1	0.0
KSH				*e*XP	sP	18 25 17.9	-0.4
KSH				*e*PCP	PcP	18 25 21.5	-0.5
KSH				PP	PP	18 28 13.8	+0.2
KSH				*e*S	S	18 35 13.9	-0.5
KSH				*e*XS	sS	18 35 20.4	+0.6
KSH				*e*SKS		18 35 23.2	
KSH				*e*SCS	ScS	18 35 32.6	-4.3
KSH				AMB	AMB		
	comp=Z,91nm,1.5s,mb5.5						
KSH				AMB	AMB		
	comp=Z,627nm,4.0s						
KSH				LR	LR		
	comp=N,18μm,17.3s,MS6.6						
KSH				LR	LR		
	comp=E,13μm,15.8s,MS6.6						
KSH				LR	LR		
	comp=Z,20μm,18.0s,MS6.5						
LZH	**Lanzhou**	**79.39**	**21**	*eP*	**P**	**18 25 14.6**	**+0.4**
LZH				AP	pP	18 25 17.5	0.0
LZH				XP	sP	18 25 19.2	+0.5
LZH				PP	PP	18 28 17.1	+2.9
LZH				S	S	18 35 15.2	+0.1
LZH				XS	sS	18 35 22.0	+1.4
LZH				AMB	AMB		
	comp=Z,82nm,1.3s,mb5.5						
LZH				AMB	AMB		
	comp=Z,589nm,5.3s						
LZH				LR	LR		
	comp=N,6μm,18.1s						
LZH				LR	LR		
	comp=Z,9μm,19.5s,MS6.1						
BHD	**Baghdad**	**79.56**	**332**	*ex*	x	18 25 12.0	
BHD				*ex*	x	18 28 37.5	
BHD				*ex*	x	18 30 48.0	
BHD				*ex*	x	18 35 24.0	
BHD				*ex*	x	18 35 51.0	
EIL	**Elat**	**80.35**	**323**	P	**P**	**18 25 21.0**	**+1.6**
EFI	**East Falkland**	**81.00**	**206**	PFAKE		18 25 30.0	+7.2
EFI				LR	LR		
	comp=Z,4μm,20.0s,MS5.8						
NJ2	**Nanjing**	**81.01**	**34**	*eP*	**P**	**18 25 24.1**	**+1.2**
NJ2				AP	pP	18 25 28.8	+2.6
NJ2				XP	sP	18 25 31.1	+3.7
NJ2				PP	PP	18 28 31.1	+3.5
NJ2				S	S	18 35 29.0	-3.1
NJ2				XS	sS	18 35 37.0	-0.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,5.8s						
NJ2				LR	LR		
	comp=N,15μm,36.8s,MS6.4						
NJ2				LR	LR		
	comp=E,27μm,34.2s,MS6.4						
NJ2				LR	LR		
	comp=Z,13μm,37.8s,MS6.0						
RAO	**Raoul Island**	**81.13**	**121**	PFAKE		18 25 40.0	+16
RAO				LR	LR		
	comp=Z,7μm,21.0s,MS6.0						
JOW	**Kunigami**	**81.19**	**44**	LR	LR	18 59 57.8	
	comp=Z,904nm,19.1s,MS5.2,baz=43,slow=35						
SSE	**Sheshan**	**81.22**	**36**	P	**P**	**18 25 24.9**	**+0.9**
SSE				AP	pP	18 25 28.2	+0.8
SSE				XP	sP	18 25 29.2	+0.7
SSE				S	S	18 35 36.9	+2.6
SSE				XS	sS	18 35 42.6	+2.8
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,293nm,5.2s						
SSE				LR	LR		
	comp=N,3μm,20.0s,MS6.1						
SSE				LR	LR		
	comp=E,7μm,20.0s,MS6.1						
SSE				LR	LR		
	comp=Z,4μm,16.2s,MS5.8						
GUMO	**Guam**	**81.49**	**64**	PFAKE		18 25 40.0	+15
GUMO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
GTA	**Gaotai**	**81.56**	**17**	*eP*	**P**	**18 25 25.0**	**-0.9**
GTA				AP	pP	18 25 29.3	+0.1
GTA				XP	sP	18 25 31.7	+1.3
GTA				PP	PP	18 28 33.2	+1.0
GTA				S	S	18 35 34.4	-3.5
GTA				SKS		18 35 38.7	
GTA				XS	sS	18 35 41.7	-1.6
GTA				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,322nm,7.6s						
GTA				LR	LR		
	comp=N,5μm,17.5s,MS6.0						
GTA				LR	LR		
	comp=E,5μm,20.5s,MS6.0						
GTA				LR	LR		
	comp=Z,7μm,20.2s,MS6.0						
KZA	**Kyzart**	**81.90**	**358**	P	**P**	**18 25 27.8**	**+0.2**
SNR=46							
AML	**Almayashu**	**82.02**	**356**	P	**P**	**18 25 29.1**	**+0.9**
SNR=66							
ULHL	**Ulahol**	**82.05**	**358**	P	**P**	**18 25 29.0**	**+0.6**
SNR=32							
UCH	**Uchtor**	**82.08**	**357**	P	**P**	**18 25 29.4**	**+0.8**
SNR=23							
AAK	**Ala-Archa**	**82.49**	**357**	P	**P**	**18 25 30.9**	**+0.2**
SNR=24							
AAK	**Ala-Archa**	**82.49**	**357**	P	**P**	**18 25 30.5**	**-0.2**
	comp=Z,119nm,1.1s,mb5.7,SNR=19						
AAK	**Ala-Archa**	**82.49**	**357**	P	**P**	**18 25 29.9**	**-0.8**
	comp=Z,28nm,1.1s,mb5.1						
AAK				LR	LR		
	comp=Z,26μm,20.0s,MS6.6						
AAK	**Ala-Archa**	**82.49**	**357**	*diP*	**P**	**18 25 29.6**	**-1.1**
AAK				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
KBK	**Karagaybulak**	**82.49**	**357**	P	**P**	**18 25 30.9**	**+0.1**
SNR=24							
EKS2	**Erkin-Say**	**82.55**	**357**	P	**P**	**18 25 31.2**	**+0.2**
SNR=51							
FRU	**Bishkek**	**82.68**	**357**	*eP*	**P**	**18 25 32.0**	**+0.3**
FRU				*e*		18 35 54.0	
FRU				pmax	pmax		
	comp=Z,57nm,1.5s,mb5.4						
MSL	**Mosul**	**82.73**	**332**	*ex*	x	18 25 35.0	
TKM2	**Tokmak 2**	**82.74**	**358**	P	**P**	**18 25 31.5**	**-0.5**
SNR=14							
CHMS	**Chumysh**	**82.84**	**357**	P	**P**	**18 25 32.8**	**+0.2**
SNR=27							
AAA	**Alma-Ata**	**83.06**	**359**	*eP*	**P**	**18 25 32.9**	**-0.8**
AAA				*i* S	S	18 35 46.8	-6.4
AAA				pmax	pmax		
	comp=Z,1μm,6.1s						
AAA				smax			
	comp=N,2μm,26.0s						
USP	**Ospenovka**	**83.12**	**357**	P	**P**	**18 25 33.5**	**-0.5**
SNR=24							
BHL	**Bhannes**	**83.61**	**325**	*eP*	**P**	**18 25 38.8**	**+2.2**
TIA	**Tai'an**	**83.92**	**31**	*eP*	**P**	**18 25 37.4**	**-0.7**
TIA				S	S	18 36 01.0	-0.9
TIA				LR	LR		
	comp=N,3μm,15.0s,MS5.8						
TIA				LR	LR		
	comp=E,1μm,15.0s,MS5.8						
WMQ	**Urumqi**	**84.01**	**7**	P	**P**	**18 25 38.2**	**-0.4**
WMQ				AP	pP	18 25 43.0	+1.1
WMQ				XP	sP	18 25 45.2	+2.1
WMQ				PP	PP	18 28 53.8	+1.5
WMQ				SKS		18 35 57.1	
WMQ				S		18 36 00.5	
WMQ				AMB	AMB		
	comp=Z,351nm,1.1s,mb6.4						
WMQ				AMB	AMB		
	comp=Z,1μm,5.6s						
WMQ				LR	LR		
	comp=N,14μm,26.0s,MS6.3						
WMQ				LR	LR		
	comp=E,6μm,24.0s,MS6.3						
WMQ				LR	LR		
	comp=Z,13μm,28.0s,MS6.2						
BTO	**Baotou**	**85.38**	**24**	*eP*	**P**	**18 25 44.3**	**-1.2**
BTO				LR	LR		
	comp=N,900nm,5.5s						
BTO				LR	LR		
	comp=E,2μm,9.2s						
CSS	**Prodhromos**	**85.53**	**324**	*eP*	**P**	**18 25 46.9**	**+0.7**
	comp=E,117nm,1.6s,mb5.9						
GNI	**Garni**	**85.63**	**335**	P	**P**	**18 25 46.8**	**+0.1**
	comp=E,6.4nm,0.7s,mb4.9,baz=80,slow=11,SNR=11						
GNI	**Garni**	**85.63**	**335**	P	**P**	**18 25 48.4**	**+1.7**
GNI				LR	LR		
	comp=Z,4μm,21.0s,MS5.8						
GNI	**Garni**	**85.63**	**335**	*diP*	**P**	**18 25 46.2**	**-0.5**
GNI				pmax	pmax		
	comp=Z,5μm,17.0s						
GNI				MLR	MLR		
	comp=Z,5μm,17.0s						
HHC	**Hu-ho-hao-te**	**86.08**	**25**	*eP*	**P**	**18 25 48.3**	**-0.7**
HHC				AP	pP	18 25 53.0	+0.7
HHC				XP	sP	18 25 55.2	+1.7
HHC				PP	PP	18 29 07.0	-2.1
HHC				SKS		18 36 11.3	
HHC				S		18 36 20.2	
HHC				XS	sS	18 36 30.5	+1.7
HHC				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.3						
HHC				AMB	AMB		
	comp=Z,458nm,4.9s						
HHC				LR	LR		
	comp=N,3μm,24.0s,MS6.1						
HHC				LR	LR		
	comp=E,8μm,23.5s,MS6.1						
HHC				LR	LR		
	comp=Z,4μm,24.1s,MS5.7						
MALT	**Malatya**	**86.26**	**330**	P	**P**	**18 25 51.4**	**+1.5**
DGRG	**David-gareji**	**86.60**	**336**	P	**P**	**18 25 58.6**	**+7.0**
MKAR	**Makanchi Array**	**86.64**	**3**	P	**P**	**18 25 50.7**	**-1.0**
	comp=Z,16nm,0.8s,mb5.3,baz=166,slow=5.8,SNR=135						
MKAR				LR	LR	19 02 00.4	
	comp=Z,19μm,20.1s,MS6.5,baz=181,slow=34						
MKAR	**Makanchi Array**	**86.64**	**3**	P	**P**	**18 25 50.7**	**-1.0**
MKAR				LR	LR	19 02 00.4	
BJT	**Baijiatuau**	**86.90**	**28**	*eP*	**P**	**18 25 51.4**	**-1.6**
	comp=Z,61nm,1.3s,mb5.7						
BJT				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
BJT	**Baijiatuau**	**86.90**	**28**	*eP*	**P**	**18 25 51.4**	**-1.6**
BJT				pmax	pmax		
	comp=Z,61nm,1.3s						
BJT				MLR	MLR		
	comp=Z,3μm,19.0s						
BJI	**Beijing**	**86.92**	**28**	P	**P**	**18 25 51.8**	**-1.3**
BJI				S		18 36 29.9	
BJI				AMB	AMB		
	comp=Z,31nm,1.3s,mb5.4						
BJI				AMB	AMB		
	comp=Z,234nm,3.6s						
BJI				LR	LR		
	comp=N,5μm,23.4s,MS6.0						
BJI				LR	LR		
	comp=E,4μm,19.9s,MS6.0						
BJI				LR	LR		
	comp=Z,4μm,30.9s						
MTA	**Mtatsminda**	**87.01**	**335**	P	**P**	**18 25 58.2**	**+4.7**
TBLG	**Delisi**	**87.06**	**335**	P	**P**	**18 25 58.2**	**+4.5**
TBLG	**Delisi**	**87.06**	**335**	*eP*	**P**	**18 25 58.2**	**+4.5**
ASCN	**Ascension**	**87.07**	**262**	PFAKE		18 26 10.0	+16
ASCN				LR	LR		
	comp=Z,8μm,22.0s,MS6.1						
MAK	**Makhachkala**	**87.34**	**338**	*iP*	**P**	**18 25 56.4**	**+1.3**
MAK				*i*	pP	18 25 58.4	0.0
MAK				*e*		18 29 19.9	
MAK				*e*S		18 36 20.2	
MAK				pmax	pmax		
	comp=Z,66nm,1.3s,mb5.7						
DL2	**Dalian**	**88.04**	**32**	P	**P**	**18 25 57.1**	**-1.4**
DL2				SKS		18 36 26.1	
DL2				S		18 36 38.4	
DL2				SS	SS	18 42 25.8	-4.3
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.3						
DL2				AMB	AMB		
	comp=Z,290nm,6.3s						
DL2				LR	LR		
	comp=N,2μm,23.9s,MS5.6						
DL2				LR	LR		
	comp=E,2μm,22.8s,MS5.6						
DL2				LR	LR		
	comp=Z,2μm,21.2s,MS5.5						
ZEI	**Tsey**	**88.26**	**335**	*iP*	**P**	**18 25 58.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**88.50**	**288**	P	**P**	**18 26 01.5**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.4,baz=102,slow=4.3,SNR=7.9						
TORD				PP	PP	18 29 29.8	+1.2
	comp=Z,3.3nm,1.2s,baz=146,slow=3.2,SNR=3.4						
INCN	**Inchon**	**89.02**	**36**	PFAKE		18 26 10.0	+6.9
INCN				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
DBIC	**Dimbokro**	**89.15**	**279**	P	**P**	**18 26 05.7**	**+2.0**
	comp=Z,5.3nm,0.9s,mb4.9,baz=125,slow=7.8,SNR=3.8						
DBIC				LR	LR	19 00 40.0	
	comp=Z,16μm,21.8s,MS6.4,baz=112,slow=32						
CBIJ	**Chichi jima**	**89.36**	**53**	LR	LR	18 58 11.4	
	comp=Z,1μm,21.8s,MS5.2,baz=218,slow=30						
BRTR	**Keskin Array B**	**89.39**	**327**	P	**P**	**18 26 05.2**	**+0.4**
	comp=Z,1.2nm,0.9s,mb4.2,baz=168,slow=7.4,SNR=7.4						
BRTR				PP	PP	18 29 29.9	-5.9
	comp=Z,3.2nm,1.2s,baz=159,slow=5.3,SNR=3.6						
KIV	**Kislovodsk**	**89.72**	**335**	*iP*	**P**	**18 26 06.5**	**+0.1**
KIV				LR	LR		
	comp=Z,4μm,21.0s,MS5.9						
KIV	**Kislovodsk**	**89.72**	**335**	*eP*	**P**	**18 26 01.7**	**-4.7**
KIV				*e*		18 29 33.9	
KIV				*e*		18 36 28.4	
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
KIV				MLR	MLR		
	comp=Z,6μm,22.0s,MS6.0						
ANTO	**Ankara**	**89.87**	**327**	PFAKE		18 26 20.0	+13
ANTO				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
SOC	**Sochi**	**90.38**	**333**	*eP*	**P**	**18 26 07.2**	**-2.3**
SOC				*e*		18 29 43.1	
SOC				*e*S		18 36 35.6	
SOC				*e*		18 37 03.3	
SOC				*e*		18 38 04.8	
SOC				*e*SS	SS	18 43 05.7	+1.6
SOC				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.4						
KURK	**Kurchatov**	**90.49**	**0**	P	**P**	**18 26 09.6**	**-0.4**
	comp=Z,93nm,0.9s,mb6.1,SNR=14						
KURK	**Kurchatov**	**90.49**	**0**	P	**P**	**18 26 08.7**	**-1.3**
KURK				LR	LR		
	comp=Z,18μm,19.0s,MS6.5						
KURK	**Kurchatov**	**90.49**	**0**	*diP*	**P**	**18 26 08.6**	**-1.4**
GOF	**Gofitskoye**	**90.59**	**336**	*eP*	**P**	**18 26 09.8**	**-0.6**
GOF				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.3						
SONM	**Songino Array**	**91.07**	**18**	P	**P**	**18 26 11.7**	**-1.0**
	comp=Z,4.9nm,0.8s,mb4.9,baz=198,slow=4.5,SNR=40						
SONM				PP	PP	18 29 47.8	-1.3
	comp=Z,3.3nm,1.2s,baz=211,slow=13,SNR=3.9						
SONM				LR	LR	19 07 15.5	
	comp=Z,4μm,20.3s,MS5.9,baz=194,slow=36						
SONM	**Songino Array**	**91.07**	**18**	P	**P**	**18 26 11.7**	**-0.9**
SONM						18 29 47.8	
ULN	**Ulaanbaatar**	**91.25**	**19**	*eP*	**P**	**18 26 12.4**	**-1.1**
	comp=Z,9.0nm,0.9s,mb5.1						
ULN				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
ULN	**Ulaanbaatar**	**91.25**	**19**	*iP*	**P**	**18 26 12.6**	**-0.9**
SNY	**Shenyang**	**91.31**	**32**	⇑P	**P**	**18 26 16.6**	**+2.8**
SNY				AP	pP	18 26 21.2	+4.1
SNY				XP	sP	18 26 24.0	+5.7
SNY				PP	PP	18 29 47.8	-3.2
SNY				S		18 37 10.8	
SNY				SS	SS	18 43 16.5	-1.0
SNY				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb5.2						
SNY				AMB	AMB		
	comp=Z,400nm,5.8s						
SNY				LR	LR		
	comp=N,3μm,28.4s,MS5.9						
SNY				LR	LR		
	comp=E,6μm,26.3s,MS5.9						
SNY				LR	LR		
	comp=Z,3μm,25.7s,MS5.6						
AKTK	**Aktyubinsk**	**91.98**	**347**	P	**P**	**18 26 14.6**	**-2.3**
AKTO	**Aktyubinsk**	**91.98**	**347**	P	**P**	**18 26 14.6**	**-2.3**
	comp=Z,2.7nm,0.9s,mb4.6,baz=175,slow=2.8,SNR=11						
ANN	**Anapa**	**92.25**	**332**	*e*		18 36 44.2	
ANN				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.7						
JHJ	**Hachijo jima 2**	**92.35**	**47**	LR	LR	19 05 07.5	
	comp=Z,1μm,20.1s,MS5.4,baz=62,slow=34						
FUNA	**Funafuti**	**92.69**	**103**	PFAKE		18 26 30.0	+10
FUNA				LR	LR		
	comp=Z,13μm,19.0s,MS6.4						
ZAK	**Zakamensk**	**92.76**	**16**	*eP*	**P**	**18 26 18.0**	**-2.5**
ZAK				pmax	pmax		
	comp=Z,16nm,2.2s,mb5.1						
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.9						
BVAR	**Borovoye Array**	**93.07**	**355**	P	**P**	**18 26 19.5**	**-2.4**
	comp=Z,9.9nm,1.1s,mb5.2,baz=165,slow=6.2,SNR=29						
BVAR				PP	PP	18 30 04.9	+0.1
	comp=Z,0.7nm,0.9s,baz=126,slow=12,SNR=2.2						
BRVK	**Borovoye**	**93.11**	**355**	P	**P**	**18 26 20.1**	**-2.0**
	comp=Z,81nm,1.1s,mb6.1,SNR=14						
BRVK	**Borovoye**	**93.11**	**355**	P	**P**	**18 26 21.0**	**-1.1**
BRVK				MLR	MLR		
	comp=Z,8μm,21.0s,MS6.1						
SIM	**Simferopol'**	**93.60**	**330**	*eP*	**P**	**18 26 25.0**	**+0.6**
SIM				*e*		18 37 03.8	
SIM				*e*S		18 37 39.0	
SIM				*e*SS	SS	18 43 50.0	-0.5
CN2	**Changchun**	**93.71**	**32**	*eP*	**P**	**18 26 23.5**	**-1.4**
CN2				*e*S		18 37 30.5	
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.1						
CN2				LR	LR		
	comp=N,4μm,22.0s,MS5.9						
CN2				LR	LR		
	comp=E,4μm,22.0s,MS5.9						
CN2				LR	LR		
	comp=Z,3μm,21.0s,MS5.7						
MAJO	**Matsushiro**	**94.02**	**44**	P	**P**	**18 26 30.5**	**+4.2**
	comp=Z,29nm,1.4s,mb5.5						
MAJO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
MAJO	**Matsushiro**	**94.02**	**44**	P	**P**	**18 26 30.5**	**+4.2**
MAJO				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5						
MAT	**Matsushiro**	**94.02**	**44**	P	**P**	**18 26 25.4**	**-0.9**
MAT				S		18 37 37.0	
MAT	**Matsushiro**	**94.02**	**44**	*eP*	**P**	**18 26 25.0**	**-1.3**
	comp=Z,35nm,1.7s,mb5.5						
MAT				*e*S		18 37 37.0	
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS5.1						
MAT	**Matsushiro**	**94.02**	**44**	*eP*	**P**	**18 26 25.0**	**-1.3**
MAT				*e*S		18 37 37.0	
MAT				pmax	pmax		
	comp=Z,35nm,1.7s,mb5.5						
MAT				MLR	MLR		
	comp=Z,710nm,20.0s,MS5.1						
MJAR	**Matsushiro Arr**	**94.02**	**44**	P	**P**	**18 26 25.5**	**-0.8**
	comp=Z,4.7nm,0.9s,mb4.9,baz=205,slow=4.5,SNR=8.5						

TRQA Tornquist 94.12 210 PFAKE 18 26 40.0 +13
TRQA LR LR
comp=Z,4μm,21.0s,MS5.8
PLCA Paso Flores 94.68 203 P **P** **18 26 30.5 +1.2**
comp=Z,3.5nm,1.0s,mb4.8,baz=201,slow=3.8,SNR=5.0
PLCA Paso Flores 94.68 203 P **P** **18 26 30.5 +1.2**
PLCA Paso Flores 94.68 203 P **P** **18 26 32.0 +2.7**
NVS Novosibirsk 94.72 3 i/P **P** **18 26 27.6 -1.9**
NVS pmax pmax
comp=Z,63nm,2.6s,mb5.6
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.3s
AFI Afiamalu 95.66 113 LR LR 19 01 28.7
comp=E,4μm,20.2s,MS5.9,baz=222,slow=30
AFI Afiamalu 95.66 113 PFAKE 18 26 50.0 +16
AFI LR LR
comp=Z,5μm,19.0s,MS6.0
MDJ Mudanjiang 96.11 34 P **P** **18 26 36.3 +0.5**
MDJ AP pP 18 26 39.6 +0.4
MDJ XP sP 18 26 40.9 +0.5
MDJ S 18 37 53.8
MDJ AMB AMB
comp=Z,9.0nm,1.8s,mb4.9
MDJ AMB AMB
comp=Z,167nm,6.1s
MDJ LR LR
comp=N,5μm,37.4s,MS5.9
MDJ LR LR
comp=E,6μm,38.4s,MS5.9
MDJ LR LR
comp=Z,4μm,23.5s
MDJ Mudanjiang 96.11 34 PFAKE 18 26 50.0 +14
MDJ LR LR
comp=Z,4μm,22.0s,MS5.8
HIA Hailar 96.21 26 *e*P **P** **18 26 34.8 -1.5**
comp=Z,9.6nm,0.9s,mb5.2
HIA LR LR
comp=Z,3μm,19.0s,MS5.8
HIA Hailar 96.21 26 *e*P **P** **18 26 34.8 -1.5**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA MLR MLR
comp=Z,3μm,19.0s
KRAR Krasnoyarsk 96.58 8 *i* P **P** **18 26 35.7 -2.3**
KIS Kishinev 97.38 328 *e*P **P** **18 26 52.0 +10**
KIS *e* 18 37 20.0
KIS MLR MLR
comp=Z,3μm,18.0s,MS5.8
KIS MLR MLR
comp=N,2μm,17.0s,MS5.9
KIS MLR MLR
comp=E,2μm,17.0s,MS5.9
KIS MLR MLR
comp=Z,3μm,18.0s
ARU Arti 97.68 349 *i* P **P** **18 26 42.2 -0.8**
ARU MLR MLR
comp=Z,4μm,20.0s,MS6.0
RAR Rarotonga 98.38 127 LR LR 19 02 37.7
comp=Z,5μm,21.3s,MS6.0,baz=215,slow=30
AKASG Malin Array Be 100.21 331 PP PP 18 30 57.2 -2.8
comp=Z,0.1nm,0.2s,baz=150,slow=6.2,SNR=7.2
WAKE Wake Island 100.86 74 PFAKE 18 27 10.0 +13
WAKE LR LR
comp=Z,5μm,19.0s,MS6.0
OBN Obninsk 101.41 337 PFAKE 18 27 10.0 +10
OBN LR LR
comp=Z,4μm,20.0s,MS6.0
BOD Bodaibo 102.06 19 *e*P Pdif 18 26 58.9 -3.6
TBI Tubuai 102.66 136 *e*LQ 18 56 13.1
comp=Z,5μm,38.5s
TBI Tubuai 102.66 136 *e*PP PP 18 31 18.1 -0.4
comp=Z,87nm,33.8s
TBI Tubuai 102.66 136 *e*S Sdif 18 38 48.2 -2.0
comp=Z,1μm,30.0s
TBI *e*SS SS 18 45 58.5 +0.7
comp=Z,4μm,30.0s
TBI *e*LR LR 19 00 53.4
comp=Z,3μm,25.2s
OJC Ojcow 103.65 326 *e*Pdiff Pdif 18 27 19.4 +10
OJC *e*PP PP 18 31 39.5 +14
OJC *e*SKSac SKSac 18 37 51.7 +2.1
OJC *e*SP SP 18 40 47.4 +13
OJC *e*SS SS 18 46 12.0 +0.6
OJC L 19 23 14.3
comp=Z,16nm,18.3s
YSS Yuzh-Sakhalins 103.92 39 PFAKE 18 27 20.0 +9.3
YSS LR LR
comp=Z,2μm,20.0s,MS5.7
OKC Ostrava-Krasne 104.09 325 AMS AMS 19 23 30.0
comp=Z,2μm,18.4s
RCBR Riachuelo 104.44 249 PFAKE 18 27 30.0 +17
RCBR LR LR
comp=Z,4μm,19.0s,MS6.0
TREC Trest 104.91 323 *e*PP PP 18 31 34.3 -0.9
DPC Dobruska-Polom 105.28 324 *e*PP PP 18 31 44.4 +6.4
DPC AMS AMS 19 21 50.0
comp=Z,2μm,27.9s
GERES GERESS Array B 105.43 322 PP PP 18 31 36.7 -2.4
comp=Z,1.2nm,0.8s,baz=134,slow=3.9,SNR=5.1
UPC Upice 105.53 324 *e*PP PP 18 31 40.8 +1.0
KLMR Klimovskoe 105.56 341 *i* P Pdif 18 27 19.0 +1.0
KLMR *e* 18 31 42.5
KLMR *e*SS SS 18 46 36.6 -0.9
KLMR pmax pmax
comp=Z,60nm,2.5s
KSP Ksiaz 105.64 324 *e*Pdif Pdif 18 27 07.7 -11
KSP *e*PP PP 18 31 38.7 -2.0
KSP *e*SKSac SKSac 18 38 00.1 +1.5
KSP *e* 18 41 04.0
KSP *e*SS SS 18 46 32.9 -5.8
KSP *e* 18 56 52.6
KSP LR LR
comp=Z,5μm,24.3s,MS6.0
KSP Ksiaz 105.64 324 *e*P Pdif 18 27 07.7 -11
KSP *e* 18 31 38.7
KSP *e*SS SS 18 46 32.9 -5.8
KSP MLR MLR
comp=Z,5μm,24.3s,MS6.0
KHC Kasperske Hory 105.69 322 *e*PP PP 18 31 50.7 +10
KHC AMS AMS 19 23 30.0
comp=Z,4μm,19.9s
PRU Pruhonice 105.84 323 *e*PP PP 18 31 45.5 +3.4
PRU AMS AMS 19 25 40.0
comp=Z,3μm,18.1s
PVCC Panska Ves 106.20 323 AMS AMS 19 26 10.0
comp=Z,3μm,18.7s
BRG Berggiesshubel 106.73 323 *e*PP PP 18 31 53.8 +5.1
comp=Z,5.2nm,1.5s
BRG SS SS 18 46 43.0 -10
BRG
comp=N,2μm,20.3s
BRG
comp=E,973nm,15.3s
BRG
comp=Z,2μm,18.0s
NKC Novy Kostel 106.98 322 AMS AMS 19 28 50.0
comp=Z,3μm,17.6s
GRF Grafenberg Arr 107.20 321 *e*PP PP 18 32 00.2 +8.1
GRF *e*L 19 25 47.9
comp=Z,4μm,20.6s
PPT Papeete 107.24 132 *e*LQ 18 57 56.8
comp=Z,20μm,30.2s
PPT Papeete 107.24 132 *e*PP PP 18 31 46.7 -5.8
comp=Z,133nm,28.2s
PPT Papeete 107.24 132 *e*S Sdif 18 39 24.0 -4.4
comp=Z,2μm,26.8s
PPT *e*SS SS 18 46 55.9 -4.6
comp=Z,4μm,29.0s
PPT *e*LR LR 19 03 04.2
comp=Z,6μm,25.8s
CLL Collm 107.46 323 *e*PP PP 18 31 55.4 +1.4
CLL *e*Sdiff Sdif 18 39 32.4 +2.2
CLL *e*PS PS 18 41 19.5 +4.0
CLL *e*PPS 18 42 29.2
CLL *e*SS SS 18 46 58.5 -4.9
CLL *e*SSS 18 51 11.3
CLL *e*SSSS 18 54 30.7
CLL *e*L 19 24 57.9
comp=Z,5μm,20.0s
CLL Collm 107.46 323 *i* PP PP 18 31 55.0 +1.0
comp=Z,23nm,1.6s
CLL *ex* x 18 36 12.0
CLL *e*Sdif Sdif 18 39 29.0 -1.2
CLL *e*PS PS 18 41 18.0 +2.5
CLL *e*PPS 18 42 24.0
CLL *e*SS SS 18 46 49.0 -14
CLL *ex* x 18 48 30.0
CLL *e*SSS 18 51 05.0
CLL *e*SSSS 18 54 18.0
CLL LmH 19 23 00.0
comp=N,4μm,18.0s
CLL LmH 19 23 00.0
comp=E,2μm,19.0s
CLL LmV 19 24 00.0
comp=Z,5μm,19.8s
ESLA Sonseca Array 109.28 306 PFAKE 18 31 50.0 +12
ESLA LR LR
comp=Z,30μm,20.0s,MS6.8
RKT Rikitea 109.77 147 *e*LQ 18 58 57.9
comp=Z,6μm,32.8s
RKT Rikitea 109.77 147 *e*PS PS 18 41 26.6 -12
comp=Z,975nm,28.8s
RKT Rikitea 109.77 147 *e*SKSac SKSac 18 38 15.8 -0.7
comp=Z,302nm,29.0s
RKT *e*SS SS 18 47 38.6 +4.0
comp=Z,2μm,33.8s
RKT *e*LR LR 19 04 06.0
comp=Z,5μm,29.2s
PTCN Pitcairn Islan 109.88 153 PFAKE 18 31 50.0 +11
PTCN LR LR
comp=Z,5μm,22.0s,MS6.1
YAK Yakutsk 109.90 23 PFAKE 18 31 50.0 +11
YAK LR LR
comp=Z,6μm,22.0s,MS6.1
LVZ Lovozero 112.65 344 PFAKE 18 32 00.0 +15
LVZ LR LR
comp=Z,4μm,19.0s,MS6.0
APA Apatity 112.66 343 i/PKIKP 18 31 32.6
APA *e*PS PS 18 42 00.0 -6.0
APA *e*PPS 18 43 15.0
APA *e*SS SS 18 48 06.0 -7.2
APA pmax pmax
comp=Z,46nm,1.6s
APA MLR MLR
comp=Z,6μm,19.0s,MS6.2
APA MLR MLR
comp=Z,2μm,18.0s
APA MLR MLR
comp=Z,4μm,18.0s
RPN Rapa Nui 112.67 173 PFAKE 18 32 00.0 +15
RPN LR LR
comp=Z,8μm,20.0s,MS6.3
KONO Kongsberg 114.38 329 *e*SS SS 18 48 32.2 -3.7
KONO Kongsberg 114.38 329 PFAKE 18 32 00.0 +12
KONO LR LR
comp=Z,5μm,19.0s,MS6.1
NB2 NORSAR Subarra114.63 330 PP PP 18 31 48.5 -57
comp=Z,6.9nm,1.4s,baz=129,slow=7.4
NB2 NORSAR Subarra114.63 330 PP PP 18 31 48.5 -57
baz=129,slow=7.4
NB2 NORSAR Subarra114.63 330 P PKiKP 18 31 48.5 +0.1
NAO01 NORSAR Array S 114.63 330 PFAKE 18 32 00.0 +12
NAO01 LR LR
comp=Z,5μm,19.0s,MS6.1
PET Petropavlovsk 115.68 41 PFAKE 18 32 00.0 +10
PET LR LR
comp=Z,3μm,20.0s,MS5.9
PET Petropavlovsk 115.68 41 *e*PKIKP 18 31 35.6
PET *e*PS PS 18 42 28.0 -5.6
PET *e*SS SS 18 49 06.7 +14
PET pmax pmax
comp=Z,30nm,11.4s
PET pmax pmax
comp=Z,100nm,13.2s
MA2 Magadan 115.76 33 PFAKE 18 32 00.0 +9.4
MA2 LR LR
comp=Z,3μm,19.0s,MS5.9
LPAZ La Paz 115.80 216 PFAKE 18 32 00.0 +9.3
LPAZ LR LR
comp=Z,4μm,20.0s,MS6.0
KEV Kevo 115.84 342 PFAKE 18 32 00.0 +9.2
KEV LR LR
comp=Z,5μm,22.0s,MS6.1
BER Bergen 116.54 328 *e*SS SS 18 48 58.9 -5.3
BER AMS AMS 19 26 54.1
comp=Z,7μm,20.6s,MS6.2
NSS Namsos 116.54 334 AMS AMS 19 23 21.2
comp=Z,4μm,24.9s,MS6.0
TIXI Tiksi 117.04 16 *i* PKIKP PKPdf 18 31 49.9 -3.2
TIXI *e*PPP 18 35 32.1
TIXI *e* 18 38 50.1
TIXI *e*SP SP 18 42 39.6 -5.1
TIXI *e*SS SS 18 49 04.6 -6.2
TIXI *e*SSS 18 53 29.8
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI MLR MLR
comp=Z,8μm,21.0s,MS6.3
TIXI MLR MLR
comp=N,2μm,17.0s,MS6.2
TIXI MLR MLR
comp=E,5μm,22.0s,MS6.2
ESK Eskdalemuir 117.60 320 PFAKE 18 32 10.0 +16
ESK LR LR
comp=Z,4μm,19.0s,MS6.0
MIDW Midway 117.91 75 PFAKE 18 32 10.0 +15
MIDW LR LR
comp=Z,6μm,21.0s,MS6.2
TAOE Nuku Hiva Isla 119.59 135 *e*PP PP 18 33 23.5 +3.3
comp=Z,501nm,29.4s
TAOE Nuku Hiva Isla 119.59 135 *e*PS PS 18 43 01.0 -8.0
comp=Z,4μm,31.7s
TAOE Nuku Hiva Isla 119.59 135 *e*SS SS 18 49 43.4 -0.5
comp=Z,6μm,24.8s
TAOE *e*LR LR 19 08 45.5
comp=Z,8μm,27.3s
SAML Samuel 119.62 225 PFAKE 18 32 10.0 +12
SAML LR LR
comp=Z,5μm,21.0s,MS6.1
BJO Bjornoya 120.89 344 AMS AMS 19 27 36.5
comp=Z,3μm,20.2s,MS6.0
PDA Ponta Delgada 122.65 294 *e*LR LR 19 11 33.0
NNA Nana 123.27 209 PFAKE 18 32 20.0 +15
NNA LR LR
comp=Z,3μm,20.0s,MS5.9
SMY Shemya 123.78 47 PFAKE 18 32 20.0 +14
SMY LR LR
comp=Z,4μm,21.0s,MS6.0
ADH Angra Heroismo 124.17 294 *i* LR LR 19 12 00.0
KBS Kingsbay 124.83 348 *e*PP PP 18 33 42.5 -13
KBS *e*SS SS 18 50 47.4 -3.1
KBS AMS AMS 19 28 41.8
comp=Z,3μm,23.0s,MS5.8
KBS Kingsbay 124.83 348 PFAKE 18 32 20.0 +12
KBS LR LR
comp=Z,4μm,20.0s,MS6.1
BILL Bilibino 125.75 28 PFAKE 18 32 20.0 +10
BILL LR LR
comp=Z,10μm,21.0s,MS6.5
BILL Bilibino 125.75 28 *i* PKIKP PKPdf 18 32 14.0 +4.2
BILL pmax pmax
comp=Z,23nm,1.8s
ADK Adak 128.76 50 PFAKE 18 32 30.0 +14
ADK LR LR
comp=Z,3μm,21.0s,MS5.9
KIP Kipapa 128.90 94 PFAKE 18 32 30.0 +14
KIP LR LR
comp=Z,6μm,20.0s,MS6.3
POHA Pohakuloa 129.83 97 PFAKE 18 32 30.0 +12
POHA LR LR
comp=Z,8μm,20.0s,MS6.4
OTAV Otavalo 135.03 214 PKPdf PKPdf 18 32 28.9 +1.5
OTAV LR LR
comp=Z,3μm,19.0s,MS6.0
UNV Unalaska Valle 135.22 50 PFAKE 18 32 40.0 +12
UNV LR LR
comp=Z,8μm,20.0s,MS6.4
TNA Tin City 135.40 33 *e*PKPdf PKPdf 18 32 27.0 -1.0
TNA LR LR
comp=Z,3μm,20.0s,MS6.0
PAYG Puerto Ayora 138.08 197 PFAKE 18 32 50.0 +17
PAYG LR LR
comp=Z,6μm,21.0s,MS6.3
SDV Santo Domingo 138.43 230 PFAKE 18 32 50.0 +16
SDV LR LR
comp=Z,8μm,22.0s,MS6.4
SJG San Juan 142.42 245 PFAKE 18 32 50.0 +9.1
SJG LR LR
comp=Z,4μm,20.0s,MS6.2
MCK McKinley 143.73 34 *e*PKPpre 18 32 39.1
MCK LR LR
comp=Z,4μm,21.0s,MS6.1
COLA College 143.81 32 PFAKE 18 32 50.0 +6.6
COLA LR LR
comp=Z,7μm,20.0s,MS6.4
FIB Fire Island 143.85 38 PFAKE 18 32 50.0 +6.6
FIB LR LR
comp=Z,3μm,21.0s,MS6.0
ILAR Eielson Array 144.23 31 PKhKP 18 32 38.0
comp=Z,2.6nm,0.8s,baz=290,slow=3.1,SNR=20
PMR Palmer 144.24 37 PKPpre 18 32 42.0
PMR LR LR
comp=Z,4μm,20.0s,MS6.1
SML Sawmill 144.55 37 *e*PKPpre 18 32 42.4
RES Resolute Bay 145.24 357 PKPab PKPab 18 32 44.9 -0.7
MENT Mentasta 146.21 34 *e*P PKPdf 18 32 48.1 +0.6
JTS JuntasAbangare 146.80 211 PKPbc PKPbc 18 32 51.7 +1.4
comp=Z,17nm,0.9s,baz=316,slow=19,SNR=6.9
JTS JuntasAbangare 146.80 211 PKP2 PKPab 18 32 51.7 +0.2
JTS MLR MLR
comp=Z,4μm,20.0s
INK Inuvik 146.94 21 PKPbc PKPbc 18 32 48.5 -2.2
comp=Z,58nm,1.1s,baz=323,slow=3.3,SNR=59
INK Inuvik 146.94 21 PKP2 PKPab 18 32 48.4 -3.7
DAWY Dawson 147.47 30 PKPdf PKPdf 18 32 51.6 +2.0
BBSR BB Station 149.44 267 PFAKE 18 33 00.0 +7.2
BBSR LR LR
comp=Z,6μm,20.0s,MS6.4
SIT Sitka 152.39 41 PFAKE 18 33 10.0 +13
SIT LR LR
comp=Z,7μm,20.0s,MS6.5
YKW3 Yellowknife Ar 156.23 15 PKPdf PKPdf 18 33 07.5 +4.7
YKA Yellowknife Ar 156.29 15 PKP PKPdf 18 33 01.8 -1.0
comp=Z,1.6nm,1.0s,baz=347,slow=1.8,SNR=10
YKA PP PP 18 37 02.2 -6.1
comp=Z,2.5nm,1.1s,baz=334,slow=5.1,SNR=4.6
YKA Yellowknife Ar 156.29 15 PKP PKPdf 18 33 01.8 -1.0
YKA PP PP 18 37 02.2 -6.1
TEIG Tepich 157.10 214 PFAKE 18 33 20.0 +16
TEIG LR LR
comp=Z,874nm,21.0s,MS5.6
WES Weston 157.21 286 PFAKE 18 33 20.0 +16
WES LR LR
comp=Z,3μm,19.0s,MS6.1
HRV Harvard--Oak R 157.40 286 PFAKE 18 33 20.0 +16
HRV LR LR
comp=Z,7μm,21.0s,MS6.5
LBNH Lisbon 157.72 290 PFAKE 18 33 20.0 +15
LBNH LR LR
comp=Z,7μm,20.0s,MS6.5
NCB Newcomb 159.38 290 PFAKE 18 33 20.0 +13
NCB LR LR
comp=Z,7μm,21.0s,MS6.5
DWPF Disney 159.50 240 PFAKE 18 33 20.0 +13
DWPF LR LR
comp=Z,2μm,20.0s,MS5.9
BINY Binghamton 160.65 284 PFAKE 18 33 20.0 +12
BINY LR LR
comp=Z,8μm,21.0s
FCC Fort Churchill 160.78 348 PKPdf PKPdf 18 33 12.6 +4.4
FCC PKPab PKPab 18 33 49.7 -0.7
CBN Corbin 161.15 272 PFAKE 18 33 20.0 +11
CBN LR LR
comp=Z,10μm,22.0s
NHSC New Hope 161.47 254 PFAKE 18 33 20.0 +11
NHSC LR LR
comp=Z,7μm,22.0s
OCWA Octopus Mounta 162.08 57 PFAKE 18 33 20.0 +10
OCWA LR LR
comp=Z,9μm,20.0s
BLA Blacksburg 163.23 267 PFAKE 18 33 20.0 +9.3
BLA LR LR
comp=Z,518nm,20.0s
MCWV Mont Chateau 163.32 275 PFAKE 18 33 20.0 +9.2
MCWV LR LR
comp=Z,7μm,19.0s
COR Corvallis 163.35 67 PFAKE 18 33 20.0 +9.2
COR LR LR
comp=Z,2μm,19.0s
HOPS Hopland 163.38 87 PFAKE 18 33 20.0 +9.2
HOPS LR LR
comp=Z,7μm,20.0s
ERPA Erie 163.63 284 PFAKE 18 33 20.0 +8.9
ERPA LR LR
comp=Z,7μm,22.0s
HUMO Hull Mountain 163.76 74 PFAKE 18 33 20.0 +8.8
HUMO LR LR
comp=Z,7μm,21.0s
YBH Yreka Blue Hor 163.95 78 PFAKE 18 33 20.0 +8.6
YBH LR LR
comp=Z,6μm,20.0s
WDC Whiskeytown Da 164.01 82 PFAKE 18 33 20.0 +8.6
WDC LR LR
comp=Z,5μm,19.0s
SAO San Andreas Ge 164.07 96 PFAKE 18 33 20.0 +8.5
SAO LR LR
comp=Z,7μm,19.0s
EDM Edmonton 164.66 28 PKPab PKPab 18 34 06.7 -0.7
CMB Columbia Colle 165.23 92 PFAKE 18 33 20.0 +7.5
CMB LR LR
comp=Z,6μm,20.0s
HAWA Hanford 165.52 59 PFAKE 18 33 20.0 +7.3
HAWA LR LR
comp=Z,637nm,20.0s
MOD Modoc 165.75 77 PFAKE 18 33 20.0 +7.1
MOD LR LR
comp=Z,8μm,21.0s
ACSO Alum Creek Sta 165.79 276 PFAKE 18 33 20.0 +7.0
ACSO LR LR
comp=Z,5μm,19.0s
ISA Isabella 165.92 103 PFAKE 18 33 20.0 +6.9
ISA LR LR
comp=Z,1μm,20.0s
NEW Newport 166.23 49 PKP PKPdf 18 33 14.6 +1.3
comp=Z,1.9nm,0.7s,baz=66,slow=11,SNR=2.3
NEW PKPab PKPab 18 34 13.5 -0.8
comp=Z,3.0nm,0.6s,baz=335,slow=19,SNR=3.0
NEW Newport 166.23 49 PKIKP PKPdf 18 33 14.6 +1.3
NEW 18 34 13.5
NEW MLR MLR
comp=Z,10μm,19.0s
AAM Ann Arbor 166.35 285 PFAKE 18 33 20.0 +6.6
AAM LR LR
comp=Z,8μm,22.0s
PFO Pinyon Flat Ob 166.42 114 PFAKE 18 33 20.0 +6.5
PFO LR LR
comp=Z,9μm,20.0s
SWET Sewanee 166.67 253 PKPab PKPab 18 34 17.6 +1.4
DAC Darwin (Calif) 166.82 102 PFAKE 18 33 30.0 +16
DAC LR LR
comp=Z,6μm,19.0s
NVAR Mina Array Bea 166.92 92 PKP PKPdf 18 33 14.8 +0.9
comp=Z,1.9nm,0.8s,baz=174,slow=3.6,SNR=8.0
NVAR PKPab PKPab 18 34 16.5 -0.8
comp=Z,0.4nm,0.5s,baz=238,slow=8.4,SNR=2.1
NVAR Mina Array Bea 166.92 92 PKP PKPdf 18 33 14.8 +0.9
NVAR PKPab PKPab 18 34 16.5 -0.8
WVOR Wild Horse Val 166.96 74 PFAKE 18 33 20.0 +6.1
WVOR LR LR
comp=Z,9μm,19.0s
BMO Blue Mountains 167.48 63 PKPab PKPab 18 34 24.5 +4.7
BMO LR LR
comp=Z,7μm,20.0s
TPH Tonopah 167.66 95 PFAKE 18 33 30.0 +16
TPH LR LR
comp=Z,6μm,20.0s
WCI Wyandotte Cave 167.99 266 PFAKE 18 33 30.0 +15
WCI LR LR
comp=Z,2μm,22.0s
BMN Battle Mountai 168.04 84 PFAKE 18 33 30.0 +15
BMN LR LR
comp=Z,7μm,20.0s
PLAL Pickwick Lake 168.12 248 PFAKE 18 33 30.0 +15
PLAL LR LR
comp=Z,9μm,20.0s
WVT Waverly 168.46 254 PFAKE 18 33 30.0 +15
WVT LR LR
comp=Z,7μm,20.0s
HKT Hockley 168.79 206 PFAKE 18 33 30.0 +15
HKT LR LR
comp=Z,1μm,19.0s
OXF Oxford 168.80 244 PFAKE 18 33 30.0 +15
OXF LR LR

comp=Z,7μm,21.0s
MSO Missoula 168.82 49 PFAKE 18 33 30.0 +15
MSO LR LR
comp=Z,7μm,20.0s
LTX Lajitas 169.06 170 PFAKE 18 33 30.0 +15
LTX LR LR
comp=Z,7μm,20.0s
ULM Lac du Bonnet 169.14 340 PKP PKPdf 18 33 14.9 -0.5
comp=Z,4.0nm,0.9s,baz=222,slow=3.9,SNR=5.2
ULM PKPab PKPab 18 34 25.7 -1.5
comp=Z,2.3nm,0.8s,baz=357,slow=3.3,SNR=4.4
ULM Lac du Bonnet 169.14 340 PKP PKPdf 18 33 14.9 -0.5
ULM PKPab PKPab 18 34 25.7 -1.5
TUC Tucson 169.20 134 *e*PKPdf PKPdf 18 33 17.2 +1.8
TUC LR LR
comp=Z,5μm,21.0s
EYMN Ely 169.37 320 PFAKE 18 33 30.0 +14
EYMN LR LR
comp=Z,9μm,20.0s
ELK Elko 169.56 82 PKP PKPdf 18 33 17.0 +1.4
comp=Z,4.2nm,1.0s,baz=200,slow=1.0,SNR=9.5
ELK PKPab PKPab 18 34 28.0 -1.0
comp=Z,4.5nm,0.9s,baz=237,slow=2.2,SNR=4.0
ELK Elko 169.56 82 *e*PKPdf PKPdf 18 33 15.6 0.0
ELK *e*PKPab PKPab 18 34 29.4 +0.3
ELK LR LR
comp=Z,10μm,21.0s
HLID Hailey 169.83 66 *e*PKPdf PKPdf 18 33 16.9 +1.1
HLID LR LR
comp=Z,9μm,21.0s
NATX Nacogdoches 169.93 216 PFAKE 18 33 30.0 +14
NATX LR LR
comp=Z,7μm,21.0s
EGMT Eagleton 170.18 34 *e*PKPdf PKPdf 18 33 17.6 +1.7
JCT Junction City 170.24 189 *e*PKPdf PKPdf 18 33 16.6 +0.6
JCT LR LR
comp=Z,7μm,21.0s
BOZ Bozeman (W) 170.81 50 PFAKE 18 33 30.0 +14
BOZ LR LR
comp=Z,9μm,21.0s
WUAZ Wupatki 170.97 118 PFAKE 18 33 30.0 +14
WUAZ LR LR
comp=Z,13μm,20.0s
MNTX Cornudas Mount 171.01 159 *e*PKPdf PKPdf 18 33 18.1 +1.6
MNTX LR LR
comp=Z,9μm,21.0s
FVM French Village 171.06 259 PKPab PKPab 18 34 36.8 +1.1
DUG Dugway 171.39 86 PFAKE 18 33 30.0 +13
DUG LR LR
comp=Z,11μm,22.0s
DGMT Dagmar 171.48 12 *e*PKPdf PKPdf 18 33 18.2 +1.5
DGMT PKPab PKPab 18 34 37.6 0.0
DGMT LR LR
comp=Z,6μm,21.0s
MIAR Mount Ida 171.52 231 PFAKE 18 33 30.0 +13
MIAR LR LR
comp=Z,7μm,22.0s
MVU Marysvale 171.59 98 PFAKE 18 33 30.0 +13
MVU LR LR
comp=Z,8μm,20.0s
CCM Cathedral Cave 171.70 259 PKPdf PKPdf 18 33 17.6 +0.8
CCM *e*PKPab PKPab 18 34 38.5 0.0
CCM LR LR
comp=Z,2μm,19.0s
YMR Madison River 171.72 54 PFAKE 18 33 30.0 +13
YMR LR LR
comp=Z,8μm,19.0s
LKWY Lake 172.12 53 PKPdf PKPdf 18 33 17.7 +0.8
LKWY LR LR
comp=Z,15μm,20.0s
MPU Maple Canyon 172.28 88 PKPab PKPab 18 34 43.0 +1.9
MPU LR LR
comp=Z,9μm,20.0s
HWUT Hardware Ranch 172.29 76 *e*PKPdf PKPdf 18 33 18.0 +1.0
HWUT LR LR
comp=Z,13μm,22.0s
AHID Auburn Hatcher 172.38 67 *e*PKPab PKPab 18 34 42.5 +0.9
AHID LR LR
comp=Z,8μm,20.0s
LAO LASA Array 172.65 26 *e*PKPdf PKPdf 18 33 18.0 +0.8
LAO LR LR
comp=Z,10μm,19.0s
BW06 Boulder Array 173.46 64 PFAKE 18 33 30.0 +12
BW06 LR LR
comp=Z,7μm,20.0s
PDAR Pinedale Array 173.46 64 PKP PKPdf 18 33 17.6 +0.1
comp=Z,5.5nm,1.1s,baz=127,slow=2.2,SNR=16
PDAR PKPab PKPab 18 34 46.8 +0.5
comp=Z,2.6nm,1.1s,baz=224,slow=2.5,SNR=2.8
PDAR PP PP 18 38 43.9 +5.9
comp=Z,0.7nm,0.9s,baz=210,slow=1.2,SNR=4.2
ANMO Albuquerque 173.51 142 PKP PKPdf 18 33 18.4 +0.9
comp=Z,1.3nm,0.5s,baz=22,slow=5.4,SNR=2.9
ANMO Albuquerque 173.51 142 PKIKP PKPdf 18 33 18.4 +0.9
ANMO MLR MLR
comp=Z,10μm,19.0s
WMOK Wichita Mounta 174.15 203 PFAKE 18 33 30.0 +12
WMOK LR LR
comp=Z,8μm,20.0s
SMCO Snowmass 175.72 101 *e*PKPdf PKPdf 18 33 21.2 +3.0
SDCO Great Sand Dun 176.10 127 PFAKE 18 33 30.0 +12
SDCO LR LR
comp=Z,13μm,20.0s
ISCO Idaho Springs 176.87 95 *e*PKPdf PKPdf 18 33 20.2 +1.7
ISCO LR LR
comp=Z,15μm,21.0s
CBKS Cedar Bluff 178.05 227 PFAKE 18 33 30.0 +11
CBKS LR LR
comp=Z,9μm,21.0s

*ISCJB **06** 18:16:57.3±0.9, 19.11N±008×6394W±003, h10km, Error ellipse: s-maj=10.9km s-min=4.7km az=0.1*
*NEIC **06** 18:17:00.8, 19.12N×6399W, h5km±31km, MD3.6(RSPR), After RSPR.*
*RSPR **06** 18:17:00.8, 19.12N×6399W, h5km±31km, MD3.6/13, MD3.6/13*

ISC 06 18:17:00.2±1.4, 1907N±009×6395W±004, h24km±10km, n29, σ0°50/38, 10C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.91**	**224**	*e*S	**Sb**	**18 17 29.7**	**+0.8**
TBVI	**Tortola**	**0.91**	**224**	⇑*e*P	**Pb**	**18 17 16.4**	**-0.9**
TBVI				*e*S	**Sb**	**18 17 29.7**	**+0.8**
STVI	**Saint Thomas**	**1.20**	**234**	*e*S	**Sn**	**18 17 36.7**	**-0.2**
STVI	**Saint Thomas**	**1.20**	**234**	⇑*e*P	**Pn**	**18 17 20.7**	**-0.7**
STVI				*e*S	**Sn**	**18 17 36.7**	**-0.2**
CDVI	**St. Croix**	**1.52**	**211**	*e*S	**Sn**	**18 17 43.9**	**-1.1**
CDVI	**St. Croix**	**1.52**	**211**	⇑*e*P	**Pn**	**18 17 26.9**	**+1.0**
CDVI				*e*S	**Sn**	**18 17 43.9**	**-1.1**
MTP	**Monte Pirata**	**1.81**	**238**	*e*S	**Sn**	**18 17 51.9**	**-0.2**
MTP	**Monte Pirata**	**1.81**	**238**	⇑*e*P	**Pn**	**18 17 29.4**	**-0.4**
MTP				*e*S	**Sn**	**18 17 51.9**	**-0.2**
CBYP	**Canovanas**	**1.98**	**247**	*e*S	**Sn**	**18 17 56.9**	**+0.8**
CBYP	**Canovanas**	**1.98**	**247**	⇑*e*P	**Pn**	**18 17 32.5**	**+0.4**
CBYP				*e*S	**Sn**	**18 17 56.9**	**+0.8**
HUMP	**Col San Antoni**	**2.03**	**243**	*e*S	**Sn**	**18 17 57.6**	**+0.2**
HUMP	**Col San Antoni**	**2.03**	**243**	⇑*e*P	**Pn**	**18 17 32.6**	**-0.2**
HUMP				*e*S	**Sn**	**18 17 57.6**	**+0.2**
SJG	**San Juan**	**2.30**	**246**	*e*S	**Sn**	**18 18 04.7**	**+0.6**
SJG	**San Juan**	**2.30**	**246**	⇓*e*P	**Pn**	**18 17 36.0**	**-0.6**
SJG	**San Juan**	**2.30**	**246**	⇓*e*P	**Pn**	**18 17 36.2**	**-0.3**
SJG				*e*S	**Sn**	**18 18 04.7**	**+0.6**
CELP	**Cerrillos**	**2.69**	**249**	⇓*i*P	**Pn**	**18 17 41.8**	**-0.1**
ICM	**Isla Caja Muer**	**2.71**	**245**	⇓*e*P	**Pn**	**18 17 42.8**	**+0.6**
AOPR	**Arecibo Observ**	**2.75**	**255**	*e*S	**Sn**	**18 18 15.1**	**-0.2**
AOPR	**Arecibo Observ**	**2.75**	**255**	⇑*e*P	**Pn**	**18 17 43.0**	**+0.2**
AOPR				*e*S	**Sn**	**18 18 15.1**	**-0.2**
LRS	**Lares**	**2.85**	**255**	⇑*e*P	**Pn**	**18 17 43.6**	**-0.6**
MGP	**Maguayo**	**3.16**	**251**	⇑*e*P	**Pn**	**18 17 48.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**3.18**	**251**	*e*S	**Sn**	**18 18 25.8**	**-0.1**
CRPR	**Cabo Rojo, PR**	**3.18**	**251**	⇓*e*P	**Pn**	**18 17 48.6**	**-0.1**
CRPR				*e*S	**Sn**	**18 18 25.8**	**-0.1**
SEG	**Port Louis**	**3.53**	**138**	*e*P	**Pn**	**18 17 53.2**	**-0.3**
LZG	**Guadaloupe-1**	**3.57**	**144**	*e*P	**Pn**	**18 17 54.2**	**+0.1**
TBG	**Guadaloupe-3**	**3.88**	**145**	*e*P	**Pn**	**18 17 58.8**	**+0.5**
DEG	**La Desirade**	**3.88**	**134**	*e*P	**Pn**	**18 17 58.8**	**+0.4**
MGG	**Marie-Galante**	**4.01**	**141**	*e*P	**Pn**	**18 18 00.2**	**0.0**
BBL	**Barber's Block**	**4.25**	**146**	*e*P	**Pn**	**18 18 03.1**	**-0.2**

*IDC **06** 18:39:30.1±1.6, 3303S×17831W, h0km, mb4.3/3, mb1 4.4/4, mb1mx4.1/13, mbtmp4.2/4, ML3.8/1, MS3.8/1, Ms1 3.8/1, ms1mx3.4/21, Error ellipse: s-maj=41.2km s-min=35.9km az=172.0*
*NEIC **06** 18:39:31.6±1.1, 3309S×17828W, h10km, mb4.5/2, Error ellipse: s-maj=25.9km s-min=18.0km az=123.0*
*ISCJB **06** 18:39:34.9±2.4, 3324S±008×1786W±04, h33km, mb4.2/4, Error ellipse: s-maj=44.0km s-min=10.0km az=14.3*

ISC 06 18:39:36.5±2.4, 3321S±008×1785W±04, h35km, n21, σ0°75/16, mb4.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.97**	**7**	LR	LR	18 41 31.5	
	comp=Z,1μm,20.7s,baz=317,slow=32						
MXZ	**Matakaoa Point**	**5.08**	**210**	PN	**Pn**	**18 40 50.9**	**+0.8**
PUZ	**Puketiti**	**5.54**	**208**	PN	**Pn**	**18 40 54.9**	**-1.4**
PUZ				SN	**Sn**	**18 41 58.5**	**-0.3**
MWZ	**Matawai**	**6.06**	**211**	PN	**Pn**	**18 41 04.9**	**+1.3**
URZ	**Urewera**	**6.19**	**214**	Pn	**Pn**	**18 41 05.6**	**+0.3**
	2.2nm,0.3s,baz=99,slow=2.8,SNR=14						
URZ				Sn	**Sn**	**18 42 15.4**	**+0.5**
	5.8nm,0.3s,baz=131,slow=18,SNR=6.9						
URZ	**Urewera**	**6.19**	**214**	PN	**Pn**	**18 41 04.1**	**-1.3**
URZ				SN	**Sn**	**18 42 14.7**	**-0.1**
KNZ	**Kokohu**	**6.59**	**207**	PN	**Pn**	**18 41 11.0**	**+0.2**
MQZ	**McQueen's Vall**	**12.57**	**211**	SN	**Sn**	**18 44 39.1**	**-12**
CTA	**Charters Tower**	**33.96**	**284**	P	**P**	**18 46 17.2**	**+0.7**
	2.4nm,0.5s,mb4.4,baz=116,slow=11,SNR=8.5						
CTA	**Charters Tower**	**33.96**	**284**	P	**P**	**18 46 17.2**	**+0.7**
CTAO	**Charters Tower**	**33.96**	**284**	*e*P	**P**	**18 46 17.0**	**+0.5**
	3.2nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**42.64**	**270**	P	**P**	**18 47 29.1**	**-0.3**
	1.6nm,0.6s,mb3.9,baz=109,slow=7.6,SNR=23						
WRAB	**Tennant Creek**	**43.88**	**275**	*e*P	**P**	**18 47 39.4**	**0.0**
	5.9nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**43.88**	**275**	P	**P**	**18 47 38.9**	**-0.5**
	2.9nm,0.5s,mb4.3,baz=117,slow=7.6,SNR=16						
KAF	**Kangasniemi**	**147.03**	**339**	*e*p	PKPdf	18 59 12.8	-0.6
FINES	**FINESS Array B**	**147.62**	**338**	PKPbc	PKPbc	18 59 14.5	-2.6
	1.9nm,0.8s,baz=28,slow=4.5,SNR=6.4						
FINES	**FINESS Array B**	**147.62**	**338**	PKPbc	PKPbc	18 59 14.5	-2.6
NB2	**NORSAR Subarra**	**151.45**	**350**	PKPa	PKPbc	18 59 26.0	-0.6
	comp=Z,0.9nm,0.7s,baz=15,slow=2.7						
NOA	**NORSAR Array B**	**151.45**	**350**	PKPbc	PKPbc	18 59 24.4	-2.2
	comp=Z,1.0nm,0.7s,baz=16,slow=4.2,SNR=4.6						
NOA	**NORSAR Array B**	**151.45**	**350**	PKPbc	PKPbc	18 59 24.4	-2.2
TORD	**Torodi Ar. Bea**	**160.03**	**180**	PKPab	PKPab	19 00 12.0	+0.3
	comp=Z,0.8nm,0.8s,baz=186,slow=2.7,SNR=4.8						

IDC 06 18:49:41.5±3.6, 4033S×7841E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=133.8km s-min=47.8km az=29.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.12**	**88**	P	P	18 58 31.4	+0.6
	1.3nm,0.9s,baz=244,slow=5.4,SNR=17						
ASAR				PcP	PcP	18 59 54.6	+0.3
	0.5nm,0.8s,baz=224,slow=3.9,SNR=4.7						
STKA	**Stephens Creek**	**50.79**	**101**	P	P	18 58 48.5	+5.1
	3.0nm,0.6s,baz=240,slow=4.2,SNR=4.3						
WRA	**Warramunga Arr**	**51.57**	**84**	P	P	18 58 49.0	-0.4
	1.0nm,0.8s,baz=232,slow=7.6,SNR=9.8						
WRA				PcP	PcP	19 00 03.4	0.0
	0.7nm,0.6s,baz=234,slow=2.8,SNR=8.1						
MKAR	**Makanchi Array**	**86.81**	**3**	P	P	19 02 27.0	-0.7
	0.4nm,0.8s,baz=164,slow=6.0,SNR=5.5						

NNC 06 18:53:18.0±23.0, 3803N×7173E, h0km, mb3.4, mpv3.1, 1C-2D, Error ellipse: s-maj=187.5km s-min=138.5km az=8.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.15**	**350**	P	Pn	18 54 35.7	-0.6
	0.6nm,0.3s,baz=149,slow=12,SNR=32						
KK31				⇑S	Sn	18 55 37.0	+0.5
	3.1nm,0.6s,baz=146,slow=24,SNR=4.2						
TKM2	**Tokmak 2**	**5.71**	**30**	⇓P	Pn	18 54 44.0	0.0
	3.9nm,1.1s						
TKM2				⇓S	Sn	18 55 53.7	+3.5
	8.0nm,1.9s						
AB31	**Akbulak array**	**14.08**	**327**	P	Pn	18 56 38.1	-0.5
	0.2nm,0.4s,baz=129,slow=12,SNR=5.5						

IDC 06 18:58:51.5±7.2, 1980S×17830E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.9/13, mbtmp3.8/3, Error ellipse: s-maj=316.9km s-min=39.4km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.26**	**262**	P	P	19 06 38.3	0.0
	1.5nm,1.0s,baz=96,slow=8.1,SNR=6.8						
ASAR	**Alice Springs**	**41.30**	**256**	P	P	19 06 39.1	+0.5
	2.3nm,0.5s,baz=86,slow=8.6,SNR=81						
ILAR	**Eielson Array**	**88.44**	**14**	P	P	19 11 45.1	-0.4
	0.2nm,0.6s,baz=231,slow=5.7,SNR=4.1						

IDC 06 19:04:53.5±4.2, 4102S×7844E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=161.8km s-min=90.3km az=5.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.13**	**87**	P	P	19 13 43.4	+0.5
	0.7nm,0.6s,baz=244,slow=5.4,SNR=17						
ASAR				PcP	PcP	19 15 06.2	-0.2
	0.6nm,0.9s,baz=224,slow=3.5,SNR=2.7						
STKA	**Stephens Creek**	**50.63**	**101**	P	P	19 13 54.4	0.0
	2.4nm,0.7s,baz=249,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**51.63**	**84**	P	P	19 14 01.6	-0.2
	0.6nm,0.5s,baz=232,slow=7.7,SNR=15						
WRA				PcP	PcP	19 15 15.5	0.0
	0.4nm,0.6s,baz=231,slow=2.7,SNR=2.8						

*ISCJB **06** 19:08:21.8±1.3, 1924N±007×6394W±003, h16km±8km, Error ellipse: s-maj=11.7km s-min=4.7km az=18.4*
*NEIC **06** 19:08:23.9, 19.16N×6379W, h25km, MD3.7(RSPR), After RSPR.*
*RSPR **06** 19:08:23.9, 19.16N×6379W, h25km±19km, MD3.7/14, MD3.7/14*

ISC 06 19:08:22.7±1.3, 1916N±006×6397W±003, h9km±6km, n32, σ0°80/43, 11C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.96**	**219**	*e*S	**Sg**	**19 08 54.2**	**+0.4**
TBVI	**Tortola**	**0.96**	**219**	⇑*i*P	**Pg**	**19 08 41.0**	**-0.3**
TBVI				*e*S	**Sg**	**19 08 54.2**	**+0.4**
STVI	**Saint Thomas**	**1.24**	**230**	*e*S	**Sb**	**19 09 01.7**	**-0.6**
STVI	**Saint Thomas**	**1.24**	**230**	⇑*e*P	**Pn**	**19 08 45.3**	**-0.8**
STVI				*e*S	**Sb**	**19 09 01.7**	**-0.6**
STMA	**St. Maarten, A**	**1.38**	**144**	*e*P	**Pn**	**19 08 48.3**	**+0.2**
STMA				*e*S	**Sb**	**19 09 05.9**	**-0.4**
CDVI	**St. Croix**	**1.59**	**209**	*e*S	**Sn**	**19 09 10.4**	**-1.3**
CDVI	**St. Croix**	**1.59**	**209**	⇑*e*P	**Pn**	**19 08 49.8**	**-1.3**
CDVI				*e*S	**Sn**	**19 09 10.4**	**-1.3**
MTP	**Monte Pirata**	**1.84**	**235**	*e*S	**Sn**	**19 09 17.8**	**-0.1**
MTP	**Monte Pirata**	**1.84**	**235**	⇑*e*P	**Pn**	**19 08 54.0**	**-0.4**
MTP				*e*S	**Sn**	**19 09 17.8**	**-0.1**
STAT	**Sint Eustatius**	**1.90**	**150**	*e*S	**Pg**	**19 09 02.2**	**+2.9**
STAT	**Sint Eustatius**	**1.90**	**150**	*e*S	**Sn**	**19 09 21.4**	**+2.0**
CBYP	**Canovanas**	**2.00**	**244**	*e*S	**Sn**	**19 09 21.6**	**-0.1**
CBYP	**Canovanas**	**2.00**	**244**	⇓*e*P	**Pn**	**19 08 56.7**	**+0.1**
CBYP				*e*S	**Sn**	**19 09 21.6**	**-0.1**
HUMP	**Col San Antoni**	**2.05**	**241**	*e*S	**Sn**	**19 09 23.0**	**0.0**
HUMP	**Col San Antoni**	**2.05**	**241**	⇑*e*P	**Pn**	**19 08 57.2**	**-0.1**
HUMP				*e*S	**Sn**	**19 09 23.0**	**0.0**
SJG	**San Juan**	**2.32**	**244**	*e*S	**Sn**	**19 09 30.0**	**+0.4**
SJG	**San Juan**	**2.32**	**244**	⇑*e*P	**Pn**	**19 09 00.9**	**-0.1**
SJG	**San Juan**	**2.32**	**244**	⇑*e*P	**Pn**	**19 09 01.6**	**+0.6**
SJG				*e*S	**Sn**	**19 09 30.0**	**+0.4**
CELP	**Cerrillos**	**2.70**	**247**	⇓*i*P	**Pn**	**19 09 06.5**	**+0.2**
ICM	**Isla Caja Muer**	**2.73**	**243**	*e*S	**Sn**	**19 09 40.0**	**+0.2**
ICM	**Isla Caja Muer**	**2.73**	**243**	⇑*e*P	**Pn**	**19 09 07.1**	**+0.4**
ICM				*e*S	**Sn**	**19 09 40.0**	**+0.2**
AOPR	**Arecibo Observ**	**2.76**	**253**	*e*S	**Sn**	**19 09 41.9**	**+1.4**
AOPR	**Arecibo Observ**	**2.76**	**253**	⇑*e*P	**Pn**	**19 09 07.6**	**+0.5**
AOPR				*e*S	**Sn**	**19 09 41.9**	**+1.4**
LRS	**Lares**	**2.86**	**253**	⇑*e*P	**Pn**	**19 09 08.1**	**-0.4**
BPA	**Boggy Peak**	**2.91**	**136**	*e*S	**Sn**	**19 09 44.8**	**+0.7**
MGP	**Maguayo**	**3.18**	**249**	⇑*e*P	**Pn**	**19 09 13.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**3.19**	**249**	*e*S	**Sn**	**19 09 51.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**3.19**	**249**	⇓*e*P	**Pn**	**19 09 13.2**	**+0.1**
CRPR				*e*S	**Sn**	**19 09 51.4**	**+0.2**
SEG	**Port Louis**	**3.61**	**139**	*e*P	**Pn**	**19 09 17.5**	**-1.3**
LZG	**Guadaloupe-1**	**3.66**	**145**	*e*P	**Pn**	**19 09 20.0**	**+0.5**
TBG	**Guadaloupe-3**	**3.97**	**146**	*e*P	**Pn**	**19 09 22.1**	**-1.6**
BBL	**Barber's Block**	**4.33**	**146**	*e*P	**Pn**	**19 09 28.2**	**-0.5**

*MOS **06** 19:10:15.1±0.9, 4797N×10303E, h14km, mb4.2/3, Error ellipse: s-maj=10.8km s-min=6.3km az=76.3*
*ISCJB **06** 19:10:15.7±0.4, 4829N±002×10312E±005, h10km, mb3.9/9, Error ellipse: s-maj=4.5km s-min=3.1km az=34.8*
*BYKL **06** 19:10:15.3±1.3, 4797N×10296E, h1km±19km*
*IDC **06** 19:10:15.6±0.9, 4805N×10310E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML2.4/1, Error ellipse: s-maj=26.2km s-min=13.3km az=14.0*
*NEIC **06** 19:10:17.3±0.4, 4821N×10316E, h10km, mb4.0/4, Error ellipse: s-maj=11.9km s-min=6.7km az=181.0*
*BJI **06** 19:10:22.0, 4755N×10354E, h18km, mB5.1, mb4.2, ML4.5, Ms4.3, Msz4.0*

ISC 06 19:10:17.9±0.3, 4818N±002×10311E±004, h10km, n65, σ1°62/98, mb3.9/9, 7C-1D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**2.21**	**3**	⇑*i*Pn	**Pn**	**19 10 57.0**	**+2.5**
ZAK				*e*Pg	**Pg**	**19 10 58.8**	**-1.4**
ZAK				Pmax		19 10 59.5	
	978nm,0.7s						
ZAK				*e*Sg	**Sg**	**19 11 31.4**	**+2.6**
ZAK				Smax		19 11 32.3	
	4μm,0.9s						
ZAK	**Zakamensk**	**2.21**	**3**	*e*P	**Pn**	**19 10 56.9**	**+2.4**
ZAK				*e*		19 11 31.6	
ZAK				pmax	pmax		
	comp=Z,951nm,0.6s						
ZAK				smax			
	comp=E,4μm,0.9s						
SONM	**Songino Array**	**2.23**	**98**	Pn	**Pn**	**19 10 54.8**	**-0.1**
	comp=E,206nm,0.3s,baz=273,slow=18,SNR=1836						
SONM				Pg	**Pg**	**19 10 56.3**	**-4.4**
	comp=E,206nm,0.3s,baz=275,slow=18,SNR=640						
SONM				Lg		19 11 25.8	
	comp=E,72nm,0.3s,baz=269,slow=23,SNR=5.4						
ULN	**Ulaanbaatar**	**2.66**	**95**	*e*P	**Pn**	**19 11 00.2**	**-0.6**
ULN				*e*S	**Sn**	**19 11 36.3**	**+3.1**
TLY	**Talaya**	**3.52**	**5**	⇑*i*Pn	**Pn**	**19 11 15.1**	**+2.5**
TLY				*e*Pg	**Pg**	**19 11 21.9**	**-3.4**
TLY				Pmax		19 11 26.1	
	comp=E,266nm,0.6s						
TLY				*e*Sg	**Sg**	**19 12 10.2**	**-0.7**
TLY				Smax		19 12 19.0	
	comp=E,1μm,1.8s						
TLY	**Talaya**	**3.52**	**5**	*e*P	**Pn**	**19 11 15.2**	**+2.6**
TLY				pmax	pmax		
	comp=Z,267nm,0.4s						
MOY	**Mondy**	**3.75**	**339**	*e*Pn	**Pn**	**19 11 18.0**	**+2.2**
MOY				*e*Pg	**Pg**	**19 11 25.6**	**-4.1**
MOY				Pmax		19 11 29.8	
	comp=Z,344nm,0.7s						
MOY				*e*		19 11 58.6	
MOY				*e*Sg	**Sg**	**19 12 17.6**	**-0.7**
MOY				Smax		19 12 28.9	
	comp=Z,1μm,1.2s						
MOY	**Mondy**	**3.75**	**339**	*e*P	**Pn**	**19 11 18.1**	**+2.3**
MOY				pmax	pmax		
	comp=Z,344nm,0.7s						
ARS	**Arshan**	**3.77**	**353**	⇑*i*Pn	**Pn**	**19 11 18.0**	**+2.0**
ARS				*e*Pg	**Pg**	**19 11 26.7**	**-3.4**
ARS				*e*		19 11 30.5	
ARS				max		19 11 34.4	
	comp=Z,227nm,0.6s						
ARS				*e*Sg	**Sg**	**19 12 18.5**	**-0.4**
ARS				Smax		19 12 27.6	
	comp=Z,2μm,1.2s						
LSTR	**Listvyanka**	**3.85**	**16**	*e*Pn	**Pn**	**19 11 19.5**	**+2.3**
LSTR				*e*Pg	**Pg**	**19 11 27.8**	**-3.9**
LSTR				Pmax		19 11 37.1	
	comp=Z,115nm,0.6s						
LSTR				*e*Sg	**Sg**	**19 12 20.2**	**-1.5**
LSTR				Smax		19 12 27.8	
	comp=Z,825nm,0.7s						
LSTR	**Listvyanka**	**3.85**	**16**	⇑*i*P	**Pn**	**19 11 19.7**	**+2.5**
LSTR				pmax	pmax		
	comp=Z,115nm,0.6s						
BTMB	**Babushkin**	**3.94**	**25**	*e*Pn	**Pn**	**19 11 20.4**	**+2.1**
BTMB				*e*Pg	**Pg**	**19 11 28.9**	**-4.4**
BTMB				Pmax		19 11 32.9	
	comp=Z,167nm,0.3s						
BTMB				*e*Sg	**Sg**	**19 12 22.8**	**-1.5**
BTMB				Smax		19 12 30.2	
	comp=Z,2μm,0.6s						
IRK	**Irkutsk**	**4.13**	**10**	*e*Pn	**Pn**	**19 11 23.3**	**+2.2**
IRK				*e*Pg	**Pg**	**19 11 33.0**	**-4.1**
IRK				Pmax		19 11 37.2	
	comp=Z,201nm,0.3s						
IRK				*e*Sg	**Sg**	**19 12 29.5**	**-1.1**
IRK				Smax		19 12 37.4	
	comp=Z,3μm,0.8s						
IRK	**Irkutsk**	**4.13**	**10**	*e*P	**Pn**	**19 11 22.0**	**+0.9**
IRK				pmax	pmax		
	comp=Z,202nm,0.4s						
KAB	**Kabansk**	**4.49**	**29**	*e*Pn	**Pn**	**19 11 27.8**	**+1.8**
KAB				*e*Pg	**Pg**	**19 11 40.1**	**-3.9**
KAB				*e*Sg	**Sg**	**19 12 42.1**	**-0.1**
KAB				Pmax			
	comp=Z,201nm,0.7s						
KAB				Smax			
	comp=Z,5μm,1.5s						
KAB	**Kabansk**	**4.49**	**29**	*e*P	**Pg**	**19 11 41.6**	**-2.4**
ORL	**Orlik**	**4.85**	**335**	⇑*i*Pn	**Pn**	**19 11 32.8**	**+1.9**
ORL				*e*		19 11 42.1	
ORL				*e*Pg	**Pg**	**19 11 46.2**	**-4.5**
ORL				Pmax		19 11 47.7	
	comp=Z,101nm,0.5s						
ORL				*e*Sg	**Sg**	**19 12 51.4**	**-2.1**
ORL				Smax		19 13 04.6	
	comp=Z,309nm,0.8s						
ORL	**Orlik**	**4.85**	**335**	*e*P	**Pg**	**19 11 45.8**	**-4.9**
ORL				pmax	pmax		
	comp=Z,105nm,0.6s						
TRG	**Tyrgan**	**5.03**	**23**	*e*Pn	**Pn**	**19 11 35.3**	**+2.0**
TRG				*e*Pg	**Pg**	**19 11 48.6**	**-5.6**
TRG				Pmax		19 12 01.2	
	comp=Z,30nm,0.7s						
TRG				*e*Sg	**Sg**	**19 12 57.6**	**-1.7**
TRG				Smax		19 13 02.9	
	comp=Z,433nm,1.0s						
TRG	**Tyrgan**	**5.03**	**23**	*e*P	**Pn**	**19 11 35.2**	**+1.9**
TRG				*e*S	**Sn**	**19

SYVR				*e*Sg	**Sg**	**19 13 59.1**	**-3.4**
SYVR				Smax		19 14 05.4	
	comp=N,342nm,1.1s						
SYVR	**Suvo**	**7.00**	**36**	*e*P	**Pn**	**19 12 02.6**	**+2.2**
SYVR				pmax	pmax		
	comp=Z,26nm,0.5s						
CIT	**Chita**	**7.73**	**56**	*e*	**Pn**	**19 12 10.9**	**+0.4**
CIT				max		19 12 31.1	
CIT				*e*		19 13 50.6	
CIT				*e*Sg	**Sg**	**19 14 21.1**	**-5.0**
CIT				Smax		19 14 31.3	
	comp=Z,235nm,2.2s						
CIT	**Chita**	**7.73**	**56**	*e*P	**Pn**	**19 12 11.3**	**+0.8**
CIT				*e*S	**Sn**	**19 13 37.7**	**-0.4**
CIT				pmax	pmax		
	comp=Z,25nm,2.0s						
CIT				smax			
	comp=N,232nm,1.5s						
YLYR	**Ulyunkhan**	**8.37**	**34⇑**	*i*Pn	**Pn**	**19 12 21.0**	**+1.8**
YLYR				*e*Pg	Pn	19 12 50.1	+31
YLYR				Pmax		19 12 54.3	
	comp=N,8.0nm,0.6s						
YLYR				*e*Sg	Sn	19 14 42.9	+49
YLYR				Smax		19 14 56.3	
	comp=N,284nm,1.8s						
YLYR	**Ulyunkhan**	**8.37**	**34**	*e*P	**Pn**	**19 12 21.3**	**+2.1**
NIZ	**Nizh Angarsk**	**8.57**	**25**	*e*Pn	**Pn**	**19 12 23.5**	**+1.5**
NIZ				*e*Pg	Pn	19 12 52.7	+31
NIZ				Pmax		19 13 04.3	
	comp=N,5.0nm,0.5s						
NIZ				*e*		19 14 23.9	
NIZ				*e*Sg	Sn	19 14 47.3	+48
NIZ				Smax		19 14 55.5	
	comp=N,146nm,1.1s						
NIZ	**Nizh Angarsk**	**8.57**	**25**	*e*P	**Pn**	**19 12 24.1**	**+2.1**
NIZ				*e*S	**Sn**	**19 14 00.0**	**+1.2**
NIZ				pmax	pmax		
	comp=Z,5.0nm,0.4s						
NIZ				smax			
	comp=N,145nm,1.4s						
GTA	**Gaotai**	**9.09**	**196**	*e*P	**Pn**	**19 12 27.6**	**-1.4**
GTA				AP		19 12 32.8	
GTA				XP		19 12 36.0	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.3s						
KMO	**Kumora**	**9.18**	**30**	*e*Pn	**Pn**	**19 12 32.9**	**+2.5**
KMO				*e*		19 13 09.6	
KMO				*e*Sg	Sn	19 15 08.4	+55
KMO				Smax		19 15 39.9	
	comp=Z,276nm,1.3s						
HHC	**Hu-ho-hao-te**	**9.49**	**137**	*e*P	**Pn**	**19 12 32.9**	**-1.7**
HHC				AMB	AMB		
	comp=Z,19nm,0.5s						
HHC				AMB	AMB		
	comp=Z,407nm,9.8s						
UKT	**Uakit**	**9.78**	**38**	*e*Pn	**Pn**	**19 12 40.2**	**+1.6**
UKT				*e*		19 13 18.7	
UKT				*e*Sg	Sn	19 15 26.2	+58
UKT				Smax		19 15 54.2	
	comp=Z,127nm,2.0s						
KRAR	**Krasnoyarsk**	**10.05**	**325**	*e*P	**Pn**	**19 12 37.9**	**-4.3**
KRAR				*e*		19 14 35.4	
HIA	**Hailar**	**11.04**	**78**	P	**Pn**	**19 12 53.1**	**-2.8**
HIA	**Hailar**	**11.04**	**78**	*i*P	**Pn**	**19 12 57.5**	**+1.6**
NLYR	**Nelyaty**	**11.32**	**38**	*e*Pn	**Pn**	**19 13 02.9**	**+3.2**
NLYR				*e*Pg	Pn	19 13 44.8	+45
NLYR				Pmax		19 13 47.8	
	comp=Z,4.0nm,0.6s						
NLYR				*e*Sg	Sn	19 16 14.8	+69
NLYR				Smax		19 16 38.1	
	comp=Z,375nm,1.4s						
BOD	**Bodaibo**	**11.65**	**30**	*e*P	**Pn**	**19 13 05.8**	**+1.6**
TUP	**Tupik**	**12.24**	**53**	*e*	**Pn**	**19 13 12.5**	**+0.3**
TUP				*e*		19 13 20.0	
TUP				*e*Sg		19 16 41.2	
TUP				Smax		19 16 59.9	
	comp=Z,186nm,1.5s						
MKAR	**Makanchi Array**	**14.15**	**272**	Pn	**Pn**	**19 13 38.6**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=78,slow=14,SNR=2.4						
MKAR				Lg		19 17 37.5	
	comp=Z,0.2nm,0.3s,baz=81,slow=30,SNR=9.4						
KURK	**Kurchatov**	**16.11**	**288**	*e*P	**Pn**	**19 14 04.1**	**-0.3**
	comp=Z,2.6nm,0.7s						
KURK	**Kurchatov**	**16.11**	**288**	*i*P	**Pn**	**19 14 03.1**	**-1.3**
ENH	**Enshi**	**18.54**	**162**	*e*P	**Pn**	**19 14 30.1**	**-4.6**
NJ2	**Nanjing**	**20.05**	**138**	*e*P	**P**	**19 14 48.4**	**-2.7**
NJ2				AP		19 14 53.6	
NJ2				XP	sP	19 14 57.1	+1.9
NJ2				PP		19 15 07.2	
NJ2				S	**S**	**19 18 25.0**	**-11**
NJ2				XS	sS	19 18 32.0	-8.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,2μm,10.6s						
NJ2				LR	LR		
	comp=N,610nm,15.0s						
NJ2				LR	LR		
	comp=E,1μm,14.5s						
NJ2				LR	LR		
	comp=Z,780nm,21.7s						
YAK	**Yakutsk**	**20.37**	**37**	*i*P	**P**	**19 14 55.9**	**+1.3**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AAK	**Ala-Archa**	**20.78**	**265**	*e*P	**P**	**19 14 58.6**	**-0.4**
	comp=Z,3.7nm,0.9s						
AAK	**Ala-Archa**	**20.78**	**265**	*i*P	**P**	**19 14 58.0**	**-1.0**
AAK				pmax	pmax		
	comp=Z,12nm,2.5s						
HABR	**Khabarovsk**	**21.16**	**77**	*e*P	**P**	**19 15 01.7**	**-1.5**
HABR				*e*S	**S**	**19 18 58.3**	**-0.2**
BVAR	**Borovoye Array**	**21.21**	**296**	P	**P**	**19 15 01.7**	**-2.0**
	comp=Z,1.1nm,0.8s,mb3.2,baz=104,slow=12,SNR=6.3						
BRVK	**Borovoye**	**21.27**	**296**	*e*P	**P**	**19 15 03.1**	**-1.3**
JIRN	**Jiri**	**24.35**	**219**	*e*P	**P**	**19 15 36.0**	**+0.1**
	comp=Z,7.1nm,0.6s,mb4.3						
KKN	**Kakani**	**24.63**	**221**	*e*P	**P**	**19 15 38.7**	**+0.3**
	comp=Z,8.5nm,0.5s,mb4.5						
KKN	**Kakani**	**24.63**	**221**	*e*P	**P**	**19 15 38.7**	**+0.3**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
GKN	**Gorkha**	**24.73**	**222**	*e*P	**P**	**19 15 40.5**	**+1.2**
DMN	**Daman**	**24.86**	**221**	*e*P	**P**	**19 15 39.9**	**-0.6**
	comp=Z,6.5nm,0.6s,mb4.3						
KOLN	**Koldanda**	**25.40**	**224**	*e*P	**P**	**19 15 45.9**	**+0.5**
OBN	**Obninsk**	**40.43**	**306**	P	**P**	**19 17 51.0**	**-5.3**
NOA	**NORSAR Array B**	**50.34**	**321**	P	**P**	**19 19 14.3**	**-0.6**
	comp=Z,1.6nm,0.9s,mb4.1,baz=60,slow=7.2,SNR=3.1						
ILAR	**Eielson Array**	**55.03**	**29**	P	**P**	**19 19 49.7**	**+0.1**
	comp=Z,0.8nm,0.9s,mb3.8,baz=312,slow=5.2,SNR=6.5						
YKA	**Yellowknife Ar**	**65.65**	**18**	P	**P**	**19 21 01.7**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.5,baz=334,slow=6.7,SNR=4.5						
WRA	**Warramunga Arr**	**73.35**	**149**	P	**P**	**19 21 48.3**	**-1.5**
	comp=Z,0.5nm,0.7s,mb3.6,baz=345,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**76.67**	**151**	P	**P**	**19 22 07.7**	**-1.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=345,slow=6.4,SNR=8.0						

NEIC ***06*** *19:33:31.2±2.3, 34.34N×142.43E, h10km, mb4.1/2, Error ellipse: s-maj=73.9km s-min=11.5km az=57.0*
IDC ***06*** *19:33:32.3±1.7, 3403N×14169E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/18, mbtmp3.4/5, ML4.0/1, Error ellipse: s-maj=35.1km s-min=20.6km az=65.0*
JMA ***06*** *19:33:34.7±0.5, 3401N×14174E, h28km±4km, M3.4*
ISCJB ***06*** *19:33:35.2±0.8, 3402N±005×14177E±008, h33km, mb3.6/6, Error ellipse: s-maj=10.1km s-min=6.4km az=124.0*

ISC 06 19:33:37.3±0.8, 3403N±005×14169E±008, h35km, n23, σ0.85/30, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.86**	**317**	P	**Pn**	**19 33 51.3**	**-1.7**
BSO3	**Boso 3**	**1.25**	**309**	P	**Pn**	**19 33 57.7**	**-0.6**
BSO4	**Boso 4**	**1.48**	**311**	P	**Pn**	**19 34 01.4**	**0.0**
KTR	**Katsuura**	**1.60**	**315**	P	**Pn**	**19 34 03.4**	**+0.3**
TATJ	**Tateyama 2**	**1.80**	**304**	P	**Pn**	**19 34 05.7**	**-0.1**
TATJ				*e*S	**Sn**	**19 34 27.6**	**+0.2**
JHJ2	**Mitsune**	**1.81**	**240**	P	**Pn**	**19 34 05.9**	**-0.2**
JHJ	**Hachijo jima 2**	**1.83**	**241**	Pn	**Pn**	**19 34 06.0**	**-0.3**
	82nm,0.3s,baz=18,slow=0.5,SNR=44						
JHJ				Sn	**Sn**	**19 34 28.0**	**-0.3**
	74nm,0.3s,baz=50,slow=21,SNR=11						
JIM2	**Oshima 3**	**2.00**	**291**	P	**Pn**	**19 34 07.2**	**-1.3**
JKO	**Kozu shima**	**2.13**	**275**	P	**Pn**	**19 34 10.2**	**-0.2**
JIZS	**Izushimoda**	**2.43**	**287**	P	**Pn**	**19 34 14.1**	**-0.4**
JIZS				*e*S	**Sn**	**19 34 43.7**	**+0.7**
JOD2	**Odawara 2**	**2.48**	**301**	P	**Pn**	**19 34 14.1**	**-1.1**
JYN	**Shimob**	**2.98**	**300**	P	**Pn**	**19 34 23.8**	**+1.7**
JYN				*e*S	**Sn**	**19 35 00.0**	**+3.4**
JAG	**Ashikaga**	**3.02**	**323**	P	**Pn**	**19 34 22.5**	**-0.1**
MJAR	**Matsushiro Arr**	**3.80**	**312**	**Pn**	**Pn**	**19 34 33.0**	**-0.3**
	11nm,0.3s,baz=157,slow=12,SNR=79						
MJAR				Sn	**Sn**	**19 35 16.8**	**0.0**
	2.8nm,0.3s,baz=256,slow=22,SNR=6.8						
MAJO	**Matsushiro**	**3.80**	**312**	*e*P	**Pn**	**19 34 34.3**	**+1.0**
MAT	**Matsushiro**	**3.80**	**312**	P	**Pn**	**19 34 34.0**	**+0.6**
MAT				S	**Sn**	**19 35 16.8**	**0.0**
MAT	**Matsushiro**	**3.80**	**312**	*e*P	**Pn**	**19 34 34.0**	**+0.6**
MAT				*e*S	**Sn**	**19 35 17.0**	**+0.2**
SONM	**Songino Array**	**29.74**	**308**	P	**P**	**19 39 41.5**	**+1.2**
	0.3nm,0.7s,mb3.1,baz=106,slow=10.0,SNR=4.4						
MKAR	**Makanchi Array**	**45.96**	**305**	P	**P**	**19 41 55.4**	**-1.5**
	0.2nm,0.7s,mb3.2,baz=86,slow=7.1,SNR=3.9						
KURK	**Kurchatov**	**48.01**	**310**	*e*P	**P**	**19 42 12.5**	**-0.4**
	0.8nm,0.7s,mb3.9						
WRAB	**Tennant Creek**	**54.11**	**189**	*e*P	**P**	**19 43 00.1**	**+1.4**
	3.1nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**54.12**	**189**	P	**P**	**19 42 58.6**	**-0.2**
	0.6nm,0.4s,mb3.9,baz=1.7,slow=7.6,SNR=21						
ASAR	**Alice Springs**	**57.85**	**188**	P	**P**	**19 43 25.9**	**+0.5**
	0.4nm,0.7s,mb3.6,baz=2.4,slow=7.8,SNR=6.6						

IDC 06 19:40:32.4±1.1, 2445N×14273E, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.6/19, mbtmp3.5/7, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/25, Error ellipse: s-maj=44.3km s-min=19.2km az=87.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.68**	**350**	Pn	Pn	19 41 18.1	+1.4
	8.0nm,0.3s,baz=338,slow=22,SNR=15						
CBIJ				Sn	Sn	19 41 55.5	+5.6
	28nm,0.3s,baz=282,slow=24,SNR=6.9						
CBIJ				LR	LR	19 42 25.8	
	comp=Z,224nm,18.5s,baz=15,slow=42						
MJAR	**Matsushiro Arr**	**12.66**	**343**	Pn	Pn	19 43 34.8	+1.1
	0.3nm,0.3s,baz=162,slow=11,SNR=3.6						
SONM	**Songino Array**	**36.98**	**318**	P	P	19 47 44.4	+1.0
	0.1nm,0.4s,baz=122,slow=7.4,SNR=4.4						
WRA	**Warramunga Arr**	**44.88**	**191**	P	P	19 48 49.1	+0.6
	0.6nm,0.5s,baz=10,slow=8.1,SNR=32						
ASAR	**Alice Springs**	**48.59**	**191**	P	P	19 49 17.7	+0.1
	0.2nm,0.5s,baz=16,slow=13,SNR=6.3						
MKAR	**Makanchi Array**	**52.55**	**311**	P	P	19 49 45.6	-1.9
	0.1nm,0.4s,baz=89,slow=9.0,SNR=4.1						
YKA	**Yellowknife Ar**	**74.23**	**28**	P	P	19 52 10.6	-0.5
	1.2nm,0.6s,baz=293,slow=5.8,SNR=16						

MAN 06 19:45:38.2, 1917N×12123E, h36km, mb3.4, ML4.6, MS4.3, Philippine Islands region

MOS ***06*** *20:46:23.6±0.8, 3501N×2799E, h33km, mb4.2/12, Error ellipse: s-maj=10.0km s-min=5.0km az=117.3*
ISCJB ***06*** *20:46:27.5±0.2, 3521N±002×28.11E±002, h68km±3km, mb3.8/19, Error ellipse: s-maj=3.1km s-min=2.6km az=98.0*
CSEM ***06*** *20:46:27.0±0.0, 3523N×28.15E, h68km, mb4.1/7, Mw3.3, Error ellipse: s-maj=1.2km s-min=0.9km az=69.0*
ATH ***06*** *20:46:29.0, 3536N×28.11E, h42km±3km, MD3.7/11*
NEIC ***06*** *20:46:29.9±0.4, 3535N×2807E, h60km±4km, mb4.0/15, MD3.8(ATH), Error ellipse: s-maj=8.1km s-min=3.6km az=185.0*
HLW ***06*** *20:46:29.4, 35.15N×28.16E, h33km, Mb4.2*
IDC ***06*** *20:46:30.7±2.1, 3549N×2800E, h52km±17km, mb3.5/12, mb1 3.8/18, mb1mx3.7/26, mbtmp3.8/18, ML3.9/6, MS3.8/1, Ms1 3.8/1, ms1mx2.9/27, Error ellipse: s-maj=26.4km s-min=9.5km az=154.0*
NIC ***06*** *20:46:32.1±0.3, 3585N×2837E, h25km, mb4.3, ML3.9, MW3.3*

ISC 06 20:46:29.0±0.2, 3525N±002×2808E±002, h60km±3km, n195, σ0.97/222, mb3.8/19, 15C-5D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.81**	**292**	*e*P	**Pn**	**20 46 45.0**	**+0.4**
KARP				*e*S	**Sn**	**20 46 56.0**	**-0.1**
ARG	**Arkhangelos**	**0.97**	**2**	*e*P	**Pn**	**20 46 46.1**	**-0.5**
KSL	**Kastellorizon**	**1.52**	**53**	*e*P	**Pn**	**20 46 54.0**	**+0.1**
KSL				*e*S	**Sn**	**20 47 12.0**	**-0.7**
DAT	**Datca**	**1.54**	**345**	PN	**Pn**	**20 46 52.8**	**-1.3**
DAT				SN	**Sn**	**20 47 12.7**	**-0.4**
NISR	**Nisiros**	**1.57**	**331**	*e*P	**Pn**	**20 46 54.0**	**-0.6**
DALT	**Dalyan (Mudla)**	**1.59**	**16**	PN	**Pn**	**20 46 54.3**	**-0.5**
FETY	**Fethiye**	**1.61**	**30**	PN	**Pn**	**20 46 54.2**	**-0.9**
BDRM	**Kayabasi**	**1.89**	**344**	*i*P	**Pn**	**20 46 58.5**	**-0.4**
BDRM				*i*S	**Sn**	**20 47 19.7**	**-1.9**
YER	**Yerkesik**	**1.89**	**5**	PN	**Pn**	**20 46 58.1**	**-0.9**
BODT	**Bodrum**	**1.92**	**341**	PN	**Pn**	**20 46 57.3**	**-2.0**
XRY	**Khrisi**	**1.99**	**260**	*e*P	**Pn**	**20 47 02.0**	**+1.7**
NPS	**Neapolis**	**2.02**	**271**	*e*P	**Pn**	**20 47 03.0**	**+2.3**
NPS				*e*S	**Sn**	**20 47 27.4**	**+2.5**
MLSB	**Milas**	**2.06**	**353**	PN	**Pn**	**20 47 01.5**	**+0.2**
ELL	**Elmali**	**2.11**	**44**	*e*PN	**Pn**	**20 47 02.6**	**+0.7**
GOLH	**Golhisar**	**2.32**	**31**	*i*P	**Pn**	**20 47 05.9**	**+1.1**
GOLH				*i*S	**Sn**	**20 47 33.6**	**+1.5**
SANT	**Santorini**	**2.41**	**299**	*e*P	**Pn**	**20 47 08.6**	**+2.6**
SANT	**Santorini**	**2.41**	**299**	*e*P	**Pn**	**20 47 08.6**	**+2.6**
AYDN	**Tasoluk**	**2.42**	**356**	*i*P	**Pn**	**20 47 06.2**	**+0.1**
AYDN				*i*S	**Sn**	**20 47 36.5**	**+2.0**
IDI	**Anoyia**	**2.61**	**272**	P	**Pn**	**20 47 09.4**	**+0.6**
	8.1nm,0.3s,baz=71,slow=16,SNR=37						
IDI				S	**Sn**	**20 47 40.4**	**+1.1**
	22nm,0.3s,baz=319,slow=14,SNR=14						
IDI	**Anoyia**	**2.61**	**272**	P	**Pn**	**20 47 09.4**	**+0.6**
IDI				S	**Sn**	**20 47 40.3**	**+1.0**
DENT	**Denizli**	**2.62**	**17**	*e*PN	**Pn**	**20 47 08.7**	**-0.2**
SMG	**Samos**	**2.66**	**338⇑**	*i*P	**Pn**	**20 47 08.8**	**-0.6**
SMG	**Samos**	**2.66**	**338⇑**	*i*Pn	**Pn**	**20 47 08.6**	**-0.8**
ANTB	**Antalya**	**2.66**	**51**	*e*PN	**Pn**	**20 47 09.8**	**+0.4**
APE	**Apeiranthos**	**2.75**	**312**	*e*PN	**Pn**	**20 47 06.7**	**-4.0**
APE	**Apeiranthos**	**2.75**	**312**	*e*P	**Pn**	**20 47 11.0**	**+0.3**
APE	**Apeiranthos**	**2.75**	**312**	*e*Pn	**Pn**	**20 47 10.7**	**0.0**
BCK	**Bucak**	**3.00**	**42**	*e*PN	**Pn**	**20 47 14.6**	**+0.6**
VAM	**Vamos**	**3.18**	**274⇑**	*i*P	**Pn**	**20 47 18.8**	**+2.3**
IZM	**Izmir**	**3.21**	**348**	*e*PN	**Pn**	**20 47 15.8**	**-1.2**
BLCB	**Balcova**	**3.24**	**345**	*e*PN	**Pn**	**20 47 15.2**	**-2.2**
KHL	**Karahalli**	**3.28**	**20**	*e*PN	**Pn**	**20 47 18.2**	**+0.3**
TKTP	**Tekketepe**	**3.32**	**32**	*i*P	**Pn**	**20 47 18.6**	**+0.1**
TKTP	**Tekketepe**	**3.32**	**32**	*i*P	**Pn**	**20 47 18.5**	**+0.1**
AKMC	**Akamas**	**3.49**	**92**	P	**Pn**	**20 47 21.4**	**+0.6**
PPCY	**Paphos**	**3.52**	**95**	P	**Pn**	**20 47 22.3**	**+1.2**
AKS	**Akhisar**	**3.63**	**357**	*e*PN	**Pn**	**20 47 21.9**	**-0.8**
ALFC	**Alevga**	**3.70**	**90⇑**	*e*P	**Pn**	**20 47 24.2**	**+0.6**
	7.5nm,0.2s						
ALFC				S	**Sn**	**20 48 04.8**	**-1.2**
SZAC	**Souni-Zanaja**	**3.97**	**96**	P	**Pn**	**20 47 28.1**	**+0.7**
	9.1nm,0.1s						
SZAC				S	**Sn**	**20 48 13.5**	**+0.9**
ALT	**Altintas**	**4.13**	**22**	*e*PN	**Pn**	**20 47 29.8**	**+0.2**
MAMC	**Mammari**	**4.21**	**90**	P	**Pn**	**20 47 30.9**	**+0.3**
HMAT	**Matruh**	**4.22**	**192**	P	**Pn**	**20 47 30.7**	**-0.1**
HMAT				S	**Sn**	**20 48 14.9**	**-3.9**
DABA	**Dabaa**	**4.23**	**178**	P	**Pn**	**20 47 30.8**	**-0.1**
KYTH	**Kithira**	**4.23**	**286**	*e*P	**Pn**	**20 47 33.5**	**+2.6**
KYTH	**Kithira**	**4.23**	**286**	*e*Pn	**Pn**	**20 47 30.0**	**-0.9**
CSS	**Prodhromos**	**4.31**	**92**	P	**Pn**	**20 47 33.4**	**+1.4**
	2.2nm,0.3s						
CSS				S	**Sn**	**20 48 20.0**	**-1.0**
KONT	**Konya--Tatoy**	**4.37**	**51**	*e*PN	**Pn**	**20 47 33.7**	**+0.9**
VLI	**Veliai**	**4.42**	**291**	*e*P	**Pn**	**20 47 35.0**	**+1.5**
VLI	**Veliai**	**4.42**	**291**	*e*Pn	**Pn**	**20 47 34.2**	**+0.7**
SLUM		**4.45**	**213**	P	**Pn**	**20 47 34.1**	**+0.3**
SLUM				S	**Sn**	**20 48 20.1**	**-4.2**
KDHN	**Kadinhani**	**4.60**	**44**	*i*P	**Pn**	**20 47 36.4**	**+0.5**
KDHN				*i*S	**Sn**	**20 48 29.0**	**+0.9**
IKL	**Isikli**	**4.67**	**76**	*e*PN	**Pn**	**20 47 36.6**	**-0.2**
KIZT	**Kizilcal**	**4.73**	**39**	*e*PN	**Pn**	**20 47 37.8**	**0.0**
ESKT	**Eskisehir**	**4.80**	**27**	*e*PN	**Pn**	**20 47 38.6**	**-0.1**
ESKT	**Eskisehir**	**4.80**	**27**	*i*P	**Pn**	**20 47 39.9**	**+1.2**
SEYT	**Eskypehyr**	**4.80**	**27**	*i*P	**Pn**	**20 47 39.9**	**+1.2**
PHNC	**Paralimni**	**4.88**	**91**	P	**Pn**	**20 47 43.5**	**+3.7**
HBRG	**Burj al 'Arab**	**4.89**	**162**	P	**Pn**	**20 47 40.3**	**+0.4**
HBRG				S	**Sn**	**20 48 30.6**	**-4.5**
ULDT	**Uludag**	**4.96**	**9**	*i*P	**Pn**	**20 47 49.6**	**+8.8**
MERS	**Mersin**	**5.46**	**71**	*e*PN	**Pn**	**20 47 47.3**	**-0.5**
AANS		**5.68**	**150**	P	**Pn**	**20 47 50.4**	**-0.3**
SQR		**5.96**	**153**	P	**Pn**	**20 47 54.6**	**+0.1**
KARA	**Karaisali**	**5.98**	**68**	*e*PN	**Pn**	**20 47 55.2**	**+0.3**
HNAT	**Natroun**	**5.99**	**158**	⇑P	**Pn**	**20 47 54.9**	**-0.1**
FYM	**Al Fayyum**	**6.08**	**155**	P	**Pn**	**20 47 57.2**	**+1.0**
AYT	**Al 'Ayyat**	**6.10**	**154**	⇓P	**Pn**	**20 47 56.1**	**-0.4**
KOT	**Kottamia**	**6.17**	**148**	⇑P	**Pn**	**20 47 56.9**	**-0.6**
SGKT	**Sivrigoynuk**	**6.18**	**29**	*i*P	**Pn**	**20 48 00.3**	**+2.7**
HHAG	**Hagoal**	**6.27**	**146**	⇑P	**Pn**	**20 47 58.3**	**-0.5**
BRTR	**Keskin Array B**	**6.29**	**43**	P	**Pn**	**20 47 59.1**	**+0.1**
	0.6nm,0.3s,baz=220,slow=16,SNR=14						
BRTR				S	**Sn**	**20 49 07.7**	**-1.7**
	1.4nm,0.3s,baz=215,slow=23,SNR=14						
BR131	**Keskin Array S**	**6.29**	**43**	*e*P	**Pn**	**20 47 58.7**	**-0.3**
	2.4nm,0.5s						
BR131				*e*S	**Sn**	**20 49 09.8**	**+0.3**
BR131	**Keskin Array S**	**6.29**	**43**	*e*P	**Pn**	**20 47 58.7**	**-0.4**
	2.4nm,0.5s						
BR131				*e*S	**Sn**	**20 49 09.8**	**+0.3**
SWA1		**6.29**	**199**	⇓P	**Pn**	**20 47 59.6**	**+0.5**
SWA1				S	**Sn**	**20 49 04.6**	**-5.0**
AMAG	**Maghara**	**6.29**	**135**	⇓P	**Pn**	**20 47 58.3**	**-0.9**
HSAF	**As Saff**	**6.33**	**151**	⇑P	**Pn**	**20 47 59.2**	**-0.4**
SWA2		**6.38**	**201**	⇑P	**Pn**	**20 48 00.9**	**+0.5**
GLL	**Jalalah**	**6.43**	**151**	⇑P	**Pn**	**20 48 00.5**	**-0.5**
CEYT	**Ceyhan**	**6.45**	**72**	*e*PN	**Pn**	**20 48 01.0**	**-0.3**
KOZT	**Kozan**	**6.63**	**68**	*e*P	**Pn**	**20 48 03.3**	**-0.5**
SUZ		**6.72**	**142**	P	**Pn**	**20 48 05.3**	**+0.3**
COBT	**Iskenderun**	**6.76**	**77**	*i*P	**Pn**	**20 48 06.3**	**+0.9**
COBT				*i*S	**Sn**	**20 49 17.8**	**-3.2**
COBT	**Iskenderun**	**6.76**	**77**	*i*P	**Pn**	**20 48 06.3**	**+0.8**
HBNS	**Bani Suwayf**	**6.81**	**156**	P	**Pn**	**20 48 05.8**	**-0.4**
HBNS	**Bani Suwayf**	**6.81**	**156**	P	**Pn**	**20 48 05.8**	**-0.5**
AWBH		**6.94**	**174**	P	**Pn**	**20 48 07.9**	**-0.1**
ZAF		**7.05**	**146**	⇑P	**Pn**	**20 48 08.6**	**-0.9**
ZNM		**7.12**	**144**	P	**Pn**	**20 48 10.2**	**-0.3**
HNKL	**Nakhl**	**7.27**	**135**	⇓P	**Pn**	**20 48 12.3**	**-0.2**
HNKL				S	**Sn**	**20 49 27.2**	**-6.4**
HRDS	**Abu Rudays**	**7.88**	**144**	⇑P	**Pn**	**20 48 19.9**	**-0.9**
GZT	**Gaziantep**	**7.94**	**72**	*i*P	**Pn**	**20 48 24.4**	**+2.7**
GZT				*i*S	**Sn**	**20 49 44.5**	**-5.5**
GRB	**Gharib**	**8.02**	**149**	⇓P	**Pn**	**20 48 22.6**	**-0.3**
GRB	**Gharib**	**8.02**	**149**	P	**Pn**	**20 48 22.5**	**-0.3**
EIL	**Elat**	**8.04**	**132**	*e*Pn	**Pn**	**20 48 22.6**	**-0.4**
	104nm,0.4s						
EIL				*e*Sn	**Sn**	**20 49 45.2**	**-7.2**
EIL	**Elat**	**8.04**	**132**	*e*Pn	**Pn**	**20 48 22.6**	**-0.4**
	104nm,0.4s						
EIL				*e*Sn	**Sn**	**20 49 45.2**	**-7.1**
HFRF	**Wahat Farafira**	**8.07**	**179**	⇑P	**Pn**	**20 48 23.6**	**+0.1**
HBST	**Basata**	**8.24**	**135**	P	**Pn**	**20 48 24.9**	**-0.8**
TR2		**8.35**	**143**	⇑P	**Pn**	**20 48 26.4**	**-0.9**
HKAT	**Jabal Katrina**	**8.38**	**142**	⇑P	**Pn**	**20 48 27.6**	**0.0**
TR1		**8.78**	**144**	P	**Pn**	**20 48 32.1**	**-1.1**
MALT	**Malatya**	**8.85**	**67**	*e*P	**Pn**	**20 48 34.1**	**0.0**
	1.6nm,0.4s						
MALT	**Malatya**	**8.85**	**67**	*e*P	**Pn**	**20 48 34.1**	**0.0**
	1.6nm,0.4s						
MALT	**Malatya**	**8.85**	**67**	*e*P	**Pn**	**20 48 34.1**	**0.0**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HHRG	**Al Ghardaqah**	**9.28**	**148**	P	**Pn**	**20 48 39.3**	**-0.7**
MLR	**Muntele Rosu**	**10.36**	**352**	P	**Pn**	**20 49 01.5**	**+6.7**
	comp=Z,0.1nm,0.3s,baz=186,slow=5.5,SNR=3.8						
VAE	**Valguarnera**	**11.25**	**285

comp=Z,2.8nm,0.6s,mb3.8
SMF Signal de Mont 21.47 309 *eP* **P 20 51 11.9 -0.5**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
LOR Lormes 21.72 311 *eP* **P 20 51 14.4 -0.6**
AVF Avril sur Loir 21.84 309 *eP* **P 20 51 15.6 -0.7**
comp=Z,12nm,0.7s,mb4.1
AVF Avril sur Loir 21.84 309 *eP* **P 20 51 15.6 -0.7**
comp=Z,5.9nm,0.7s,mb4.1
AVF Avril sur Loir 21.84 309 *eP* **P 20 51 15.6 -0.7**
AVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
SSF Saint Saulge 21.85 310 *eP* **P 20 51 16.0 -0.5**
comp=Z,12nm,0.6s,mb4.2
SSF Saint Saulge 21.85 310 *eP* **P 20 51 16.0 -0.5**
comp=Z,5.9nm,0.6s,mb4.2
SSF Saint Saulge 21.85 310 *eP* **P 20 51 16.0 -0.5**
SSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
BGF Bois d'Agland 22.07 308 *eP* **P 20 51 18.2 -0.6**
TCF Toulx Ste Croix 22.39 307 *eP* **P 20 51 21.4 -0.7**
MFF Saint Martin d 24.03 307 *eP* **P 20 51 38.1 -0.1**
LDF La Druitiere 24.70 311 *eP* **P 20 51 43.7 -0.6**
comp=Z,3.4nm,0.4s,mb3.9
LDF La Druitiere 24.70 311 *eP* **P 20 51 43.7 -0.6**
comp=Z,1.7nm,0.4s,mb3.9
LDF La Druitiere 24.70 311 *eP* **P 20 51 43.7 -0.6**
LDF pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
FLN La Foliniere 24.98 311 *eP* **P 20 51 46.3 -0.6**
comp=Z,11nm,0.5s,mb4.3
FLN La Foliniere 24.98 311 *eP* **P 20 51 46.3 -0.6**
comp=Z,5.4nm,0.5s,mb4.3
FLN La Foliniere 24.98 311 *eP* **P 20 51 46.3 -0.6**
FLN pmax pmax
comp=Z,5.0nm,0.5s,mb4.3
GRR Gorron 25.08 310 *eP* **P 20 51 47.2 -0.6**
comp=Z,10nm,0.4s,mb4.4
GRR Gorron 25.08 310 *eP* **P 20 51 47.2 -0.6**
comp=Z,5.2nm,0.4s,mb4.4
GRR Gorron 25.08 310 *eP* **P 20 51 47.2 -0.6**
GRR pmax pmax
comp=Z,5.0nm,0.4s,mb4.4
ESDC Sonseca Array 25.74 289 P **P 20 51 55.3 +1.5**
comp=Z,2.0nm,0.5s,mb3.9,baz=81,slow=9.4,SNR=15
SGMF Saint Gilles 26.10 309 *eP* **P 20 51 56.8 -0.2**
FINES FINESS Array B 26.25 358 P **P 20 51 58.0 -0.3**
comp=Z,1.2nm,0.6s,mb3.6,baz=159,slow=11,SNR=11
FINES FINESS Array B 26.25 358 P **P 20 51 58.0 -0.4**
QUIF Quistinic 26.39 308 *eP* **P 20 51 59.5 -0.1**
AKTK Aktyubinsk 26.46 46 P **P 20 52 03.3 +3.1**
AKTK LR LR 21 04 48.4
AKTO Aktyubinsk 26.46 46 P **P 20 52 03.3 +3.1**
comp=Z,0.6nm,0.5s,mb3.4,baz=254,slow=10,SNR=4.0
AKTO LR LR 21 04 48.4
comp=Z,205nm,18.0s,baz=0.0,slow=42
ROSF Rostrenen 26.58 309 *eP* **P 20 52 00.9 -0.5**
comp=Z,9.6nm,0.6s,mb4.2
ROSF Rostrenen 26.58 309 *eP* **P 20 52 00.9 -0.5**
comp=Z,4.8nm,0.6s,mb4.2
ROSF Rostrenen 26.58 309 *eP* **P 20 52 00.9 -0.5**
ROSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
HFS Hagfors 26.60 344 P **P 20 52 01.3 -0.2**
comp=Z,5.4nm,0.9s,mb4.0,baz=154,slow=12,SNR=10.0
MDT Midelt 27.14 274 P **P 20 52 09.9 +3.5**
comp=Z,2.1nm,0.9s,mb3.7,baz=45,slow=9.4,SNR=3.2
JOF Joensuu 27.77 3 *ep* **P 20 52 12.5 +0.5**
NB2 NORSAR Subarra 27.98 342 P **P 20 52 13.1 -0.8**
comp=Z,1.6nm,0.8s,mb3.7,baz=143,slow=10
NB2 NORSAR Subarra 27.98 342 P **P 20 52 13.1 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
NOA NORSAR Array B 27.98 342 P **P 20 52 12.6 -1.4**
comp=Z,1.2nm,0.8s,mb3.6,baz=145,slow=8.8,SNR=3.6
TORD Torodi Ar. Bea 32.42 234 P **P 20 52 55.0 +1.8**
comp=Z,0.5nm,0.4s,mb3.7,baz=29,slow=8.6,SNR=10
ARCES ARCESS Array B 34.37 358 P **P 20 53 09.7 -0.4**
comp=Z,1.2nm,0.6s,mb4.0,baz=171,slow=8.5,SNR=22
MKAR Makanchi Array 41.73 57 P **P 20 54 14.1 +2.1**
comp=Z,0.3nm,0.7s,mb3.1,baz=278,slow=6.3,SNR=4.3
SONM Songino Array 57.57 51 P **P 20 56 15.4 +3.0**
comp=Z,0.6nm,0.7s,mb3.7,baz=295,slow=7.4,SNR=8.8
YKA Yellowknife Ar 78.08 343 P **P 20 58 22.1 +0.9**
comp=Z,0.2nm,0.5s,mb3.3,baz=30,slow=5.6,SNR=5.2
ILAR Eielson Array 80.24 358 P **P 20 58 33.9 +0.9**
comp=Z,0.4nm,0.5s,mb3.6,baz=339,slow=4.1,SNR=11

IDC 06 21:29:14.1±0.8, 677N×7295W, h160km±13km, mb3.1/2, mb1 3.6/4, mb1mx3.2/20, mbtmp3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/16, Error ellipse: s-maj=46.1km s-min=7.9km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.34**	**216**	P	Pn	21 29 55.6	+1.8
	48nm,0.3s,baz=285,slow=10,SNR=69						
ROSC				S	Sn	21 30 25.5	+1.0
	104nm,0.3s,baz=74,slow=20,SNR=8.5						
SDV	**Santo Domingo**	**3.11**	**47**	P	Pn	21 30 04.7	+1.5
	44nm,0.3s,baz=227,slow=4.7,SNR=239						
SDV				S	Sn	21 30 41.7	+0.4
	31nm,0.3s,baz=76,slow=20,SNR=14						
JTS	**JuntasAbangare**	**12.38**	**287**	LR	LR	21 36 53.5	
	comp=Z,70nm,19.5s,baz=58,slow=37						
PDAR	**Pinedale Array**	**48.22**	**324**	P	P	21 37 38.9	+0.5
	0.3nm,0.6s,baz=112,slow=9.2,SNR=3.2						
YKA	**Yellowknife Ar**	**63.37**	**340**	P	P	21 39 25.8	-0.3
	0.7nm,0.6s,baz=131,slow=6.6,SNR=14						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPbc	21 48 47.2	+0.7
	0.2nm,0.5s,baz=106,slow=3.1,SNR=9.9						

CASC 06 21:29:38.2±2.6, 1316N×8757W, h1km±6km, MD4.0, ML3.3, 8C-10D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.28**	**295**	*eP*	Pg	21 29 44.3	+0.7
CNCH				*eS*	Sg	21 29 49.2	+2.0
CRIN	**San Cristobal**	**0.68**	**132**	*eP*	Pg	21 29 52.5	+1.2
CRIN				*eS*	Sg	21 30 01.9	+1.7
BLLM	**Bellamira**	**0.70**	**294↑**	*eP*	Pg	21 29 51.9	+0.2
BLLM				*eS*	Sg	21 30 02.1	+1.2
VSM	**San Miguel**	**0.73**	**292↑**	*eP*	Pg	21 29 52.6	+0.4
VSM				*eS*	Sg	21 30 05.1	+3.4
CAHU	**Cacacuatique**	**0.87**	**315**	*eP*	Pg	21 29 54.5	-0.3
CAHU				*eS*	Sg	21 30 08.3	+2.2
TELN	**Telica**	**0.91**	**127↓**	*eP*	Pg	21 29 55.6	-0.1
TELN				*eS*	Sg	21 30 12.0	+4.6
TEL3	**Telica 3**	**0.92**	**129↓**	*eP*	Pg	21 29 56.0	+0.2
TEL3				*eS*	Sg	21 30 10.1	+2.3
LEON	**Leon**	**0.99**	**138↓**	*eP*	Pg	21 29 57.2	0.0
LEON				*eS*	Sg	21 30 11.8	+1.6
CNGN	**Cerro Negro**	**1.08**	**127↑**	*eP*	Pg	21 29 58.8	0.0
MIRN	**Miramar**	**1.10**	**130↓**	*eP*	Pg	21 29 59.3	0.0
MOMJ	**Momotombo**	**1.25**	**126↓**	*eP*	Pg	21 30 01.3	-1.0
MOMJ				*eS*	Sg	21 30 20.3	+1.8
SNVI	**San Vicente**	**1.31**	**290↑**	*eP*	Pg	21 30 02.4	-0.9
SNVI				*eS*	Sg	21 30 21.1	+0.8
COPN	**Copaltepe**	**1.36**	**135↑**	*eP*	Pg	21 30 03.2	-1.1
LCBS	**La Ceiba**	**1.45**	**290↑**	*eP*	Pn	21 30 04.5	-1.1
LCBS				*eS*	Sg	21 30 25.2	+0.3
APYN	**Apoyeque**	**1.51**	**127**	*eP*	Pn	21 30 06.2	-0.1
APYN				*eS*	Sb	21 30 27.3	+0.7
LFRS	**El Faro**	**1.52**	**288↓**	*eP*	Pn	21 30 05.6	-0.9
LFRS				*eS*	Sn	21 30 28.9	+2.0
LBRS	**Las Brisas**	**1.54**	**292↓**	*eP*	Pn	21 30 06.4	-0.4
LBRS				*eS*	Sn	21 30 27.4	-0.1
XAVN	**Gruta Xavier**	**1.58**	**129**	*eP*	Pn	21 30 06.4	-0.9
XAVN				*eS*	Sn	21 30 28.4	+0.1
MGAN	**Managua**	**1.64**	**128**	*eS*	Sn	21 30 30.5	+0.6
MGAN				*i*		21 30 33.1	
	comp=E,482nm,0.8s						
WILN	**Americas 2**	**1.68**	**126**	*eP*	Pn	21 30 07.6	-1.1
WILN				*eS*	Sn	21 30 31.8	+0.9
TICN	**Ticuantepe**	**1.72**	**130**	*eP*	Pn	21 30 08.6	-0.7
BOQS	**Boqueron**	**1.76**	**289↑**	*eP*	Pn	21 30 09.9	+0.1
BOQS				*eS*	Sn	21 30 34.0	+1.3
APON	**Apoyo**	**1.92**	**130↓**	*eP*	Pn	21 30 12.9	+0.9
SNJE	**San Jose**	**2.10**	**290↓**	*eP*	Pn	21 30 15.6	+1.1
SNJE				*eS*	Sn	21 30 45.3	+4.1
SBLS	**San Blas**	**2.10**	**289↓**	*eP*	Pn	21 30 15.7	+1.1
MTO2	**Montecristo 2**	**2.13**	**306**	*eP*	Pn	21 30 15.4	+0.5
MRL	**Marmol**	**2.80**	**313↑**	*eP*	Pn	21 30 26.8	+2.7
MRL				AML	AML	21 31 07.3	
	comp=E,123nm,0.8s						
IXG	**Ixpaco**	**2.98**	**290**	*eP*	Pn	21 30 28.6	+2.0
IXG				*eS*	Sn	21 31 06.2	+3.3

*CSEM **06** 21:37:00.9±0.1, 3858N×2681E, h2km, MD3.3, Error ellipse: s-maj=2.5km s-min=1.4km az=75.0*
*ISCJB **06** 21:37:01.9±0.5, 3853N±002×2679E±003, h6km±4km, Error ellipse: s-maj=4.2km s-min=3.5km az=163.7*
*ISK **06** 21:37:01.4, 3855N×2680E, h6km, MD3.3, ML3.4*
*NEIC **06** 21:37:02.2, 3844N×2672E, h29km, MD3.4(ISK), MD3.5(ATH), After ATH.*
*ATH **06** 21:37:02.2, 3844N×2672E, h29km, MD3.5/4*
ISC 06 21:37:02.3±0.5, 3853N±002×2682E±003, h5km±4km, n49, σ1§01/68, 3C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.23**	**129**	*i* PG	**Pg**	**21 37 06.8**	**+0.1**
BLCB				*i* SG	**Sg**	**21 37 09.9**	**+0.2**
URLA	**Izmir**	**0.24**	**226**	*i* P	**Pg**	**21 37 07.3**	**+0.3**
URLA				*i* S	**Sg**	**21 37 10.7**	**+0.5**
IZM	**Izmir**	**0.37**	**110**	*i* PG	**Pg**	**21 37 09.5**	**0.0**
IZM				*i* SG	**Sg**	**21 37 15.4**	**+1.1**
KDAG	**Bornova**	**0.37**	**109**	*i* P	**Pg**	**21 37 09.4**	**0.0**
KDAG				*i* S	**Sg**	**21 37 14.7**	**+0.3**
KDAG	**Bornova**	**0.37**	**109**	*i* P	**Pg**	**21 37 09.4**	**-0.1**
AYVA	**Ayvalik**	**0.79**	**353**	*i* P	**Pg**	**21 37 17.9**	**+0.6**
AYVA				*i* S	**Sg**	**21 37 29.4**	**+1.8**
SMG	**Samos**	**0.82**	**179**	*e*PN	**Pn**	**21 37 16.9**	**-3.6**
SMG				*e*SN	**Sg**	**21 37 27.6**	**-1.0**
PRK	**Paraskevi**	**0.83**	**329↑**	*i* PN	**Pn**	**21 37 19.5**	**-1.2**
PRK				*e*SN	**Sn**	**21 37 31.8**	**-1.6**
AKS	**Akhisar**	**0.85**	**65**	PG	**Pg**	**21 37 18.9**	**+0.2**
AKS				SG	**Sg**	**21 37 31.1**	**+1.4**
AYDN	**Tasoluk**	**1.20**	**136**	*i* P	**Pg**	**21 37 24.3**	**-1.1**
AYDN				*i* S	**Sg**	**21 37 39.6**	**-1.3**
EZN	**Ezine**	**1.35**	**344**	PN	**Pn**	**21 37 26.5**	**-1.3**
MANT	**Manisa**	**1.36**	**91**	*i* P	**Pn**	**21 37 27.8**	**-0.1**
MANT				*i* S	**Sb**	**21 37 44.9**	**-1.1**
BALB	**Balikesir**	**1.38**	**36**	PN	**Pn**	**21 37 27.3**	**-1.0**
MLSB	**Milas**	**1.44**	**148**	PN	**Pn**	**21 37 29.2**	**+0.1**
BODT	**Bodrum**	**1.51**	**165**	PN	**Pn**	**21 37 30.7**	**+0.7**
BDRM	**Kayabasi**	**1.54**	**161**	*i* P	**Pn**	**21 37 29.6**	**-0.9**
BDRM				*i* S	**Sn**	**21 37 51.3**	**+0.5**
BDRM	**Kayabasi**	**1.54**	**161**	*i* P	**Pn**	**21 37 29.5**	**-0.9**
BDRM				*i* S	**Sn**	**21 37 51.3**	**+0.5**
BTOK	**Tokmak**	**1.55**	**37**	*i* P	**Pn**	**21 37 31.5**	**+0.9**
BTOK				*i* S	**Sn**	**21 37 52.4**	**+1.3**
DST	**Dursunbey**	**1.77**	**52**	PN	**Pn**	**21 37 32.6**	**-1.0**
APE	**Apeiranthos**	**1.78**	**215**	PN	**Pn**	**21 37 33.5**	**-0.2**
APE	**Apeiranthos**	**1.78**	**215**	*e*PN	**Pn**	**21 37 31.5**	**-2.2**
YER	**Yerkesik**	**1.81**	**140**	PN	**Pn**	**21 37 34.5**	**+0.4**
DAT	**Datca**	**1.89**	**161**	*e*PN	**Pn**	**21 37 36.1**	**+0.8**
DENT	**Denizli**	**1.91**	**113**	*e*PN	**Pn**	**21 37 35.9**	**+0.4**
EDC	**Edincik**	**1.99**	**24**	*e*PN	**Pn**	**21 37 35.5**	**-1.1**
BNT	**Bandirma**	**2.02**	**25**	*e*PN	**Pn**	**21 37 36.3**	**-0.6**
KCT	**Karacabey**	**2.10**	**34**	*e*PN	**Pn**	**21 37 38.2**	**0.0**
KHL	**Karahalli**	**2.13**	**95**	*e*PN	**Pn**	**21 37 39.3**	**+0.7**
MRMT	**Marmara Adasi**	**2.16**	**16**	*e*PN	**Pn**	**21 37 38.2**	**-0.7**
ORLT	**Orhaneli**	**2.21**	**46**	*e*PN	**Pn**	**21 37 40.0**	**+0.3**
DALT	**Dalyan (Mudla)**	**2.27**	**140**	*e*PN	**Pn**	**21 37 41.6**	**+1.1**
MFT	**Murefte**	**2.29**	**9**	*e*PN	**Pn**	**21 37 40.5**	**-0.1**
ULDT	**Uludag**	**2.42**	**47**	*i* P	**Pn**	**21 37 47.4**	**+5.0**
ULDT				*i* S	**Sn**	**21 38 17.3**	**+5.0**
FETY	**Fethiye**	**2.61**	**136**	*e*PN	**Pn**	**21 37 46.4**	**+1.3**
IZI	**Iznik**	**2.74**	**48**	*e*PN	**Pn**	**21 37 47.4**	**+0.5**
RDO	**Rodhopi**	**2.79**	**340**	*e*PN	**Pn**	**21 37 48.0**	**+0.3**
TKTP	**Tekketepe**	**2.80**	**99**	*i* P	**Pg**	**21 37 51.8**	**-4.1**
TKTP				*i* S	**Sg**	**21 38 39.9**	**+7.7**
YLV	**Yalova**	**2.84**	**43**	*e*PN	**Pn**	**21 37 49.0**	**+0.8**
ELL	**Elmali**	**3.03**	**125**	*e*PN	**Pn**	**21 37 52.2**	**+1.3**
BORA	**Eskisehir**	**3.13**	**63**	*i* P	**Pg**	**21 38 04.0**	**+1.7**
BORA				*i* S	**Sg**	**21 38 42.8**	**0.0**
ESKT	**Eskisehir**	**3.29**	**71**	*i* P	**Pg**	**21 38 03.2**	**-2.2**
ESKT				*i* S	**Sg**	**21 38 47.8**	**-0.2**
EDRB	**Edirne**	**3.32**	**359**	*e*PN	**Pn**	**21 37 54.9**	**+0.1**
HENT	**Hendek**	**3.90**	**53**	*i* P	**Pn**	**21 38 07.5**	**+4.7**
HENT				*i* S	**Sg**	**21 39 13.3**	**+5.9**
SGKT	**Sivrigoynuk**	**4.54**	**62**	*i* P	**Pn**	**21 38 15.9**	**+4.4**
SGKT				*i* S	**Sg**	**21 39 25.7**	**-2.2**
ELDT	**Eldivan**	**5.47**	**67**	*i* P	**Pg**	**21 38 45.2**	**-1.9**
MLR	**Muntele Rosu**	**6.99**	**355↓**	*i* P	**Pn**	**21 38 44.3**	**-1.0**
VRI	**Vrincioaia**	**7.33**	**360↑**	*i* P	**Pn**	**21 39 02.4**	**+12**
BZS	**Buzias**	**8.07**	**333↓**	*i* P	**Pn**	**21 39 01.0**	**+0.9**
BURAR	**Bucovina Array**	**9.16**	**353↑**	*i* P	**Pn**	**21 39 16.6**	**+1.5**

*IDC **06** 21:37:19.9±11.0, 1673N×9758W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/19, mbtmp3.9/4, Error ellipse: s-maj=236.1km s-min=224.2km az=78.0*
*ISCJB **06** 21:37:26.2±0.7, 1668N±005×9924W±004, h33km, mb3.8/4, Error ellipse: s-maj=7.7km s-min=4.1km az=53.9*
*MEX **06** 21:37:28.6±0.7, 1668N×9924W, h21km±24km, MD4.4*
ISC 06 21:37:27.1±0.7, 1666N±005×9926W±004, h35km, n21, σ0§99/30, mb3.8/4, 2C-1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.66**	**289**	*i* P	**Pn**	**21 37 39.2**	**-0.8**
CAIG	**El Cayaco**	**1.04**	**292↑**	*e*P	**Pn**	**21 37 45.2**	**+0.1**
CAIG				*e*S	**Sn**	**21 37 57.5**	**-0.9**
PNIG	**Pinotepa**	**1.12**	**103↑**	*e*P	**Pn**	**21 37 46.0**	**-0.2**
PNIG				*e*S	**Sn**	**21 37 58.8**	**-1.7**
MEIG	**Mezcala**	**1.31**	**345↓**	*i* P	**Pn**	**21 37 48.3**	**-0.5**
MEIG				*e*S	**Sn**	**21 38 03.5**	**-1.6**
PLIG	**Platanillo**	**1.74**	**352**	*i* P	**Pn**	**21 37 54.6**	**-0.2**
PLIG				*i* S	**Sn**	**21 38 15.0**	**-0.8**
CHVM	**Chichinautzin**	**2.42**	**3**	*e*P	**Pn**	**21 38 05.0**	**+0.8**
CIVM	**Cilcuayo**	**2.45**	**6**	*e*P	**Pn**	**21 38 06.3**	**+1.7**
VHO	**Vista Hermosa**	**2.46**	**80**	*e*P	**Pn**	**21 38 04.9**	**+0.3**
VHO				*i* S	**Sn**	**21 38 33.5**	**0.0**
OXX	**Oaxaca**	**2.47**	**80**	*e*P	**Pn**	**21 38 07.0**	**+2.2**
PPM	**Popocatepetl**	**2.47**	**14**	*e*P	**Pn**	**21 38 04.6**	**-0.3**
PPM				*e*P		21 38 07.2	
SZVM	**Salazar**	**2.66**	**358**	*e*P	**Pn**	**21 38 07.8**	**+0.5**
UNM	**Universidad Na**	**2.66**	**2**	*e*P	**Pn**	**21 38 06.8**	**-0.7**
UNM				*i* P		21 38 10.0	
UNM				*e*P		21 38 10.5	
UNM				*i* S	**Sn**	**21 38 39.5**	**+1.1**
UNM				*i* S	**Sn**	**21 38 39.8**	**+1.4**
PTVM	**Pico Tres Padr**	**2.92**	**3**	*e*P	**Pn**	**21 38 09.8**	**-1.3**
HUIG	**Huatulco**	**3.15**	**106**	*i* S	**Sn**	**21 38 49.6**	**-1.0**
MOIG	**Morelia**	**3.52**	**329**	*i* P	**Pn**	**21 38 19.9**	**+0.6**
MOIG				*i* S	**Sn**	**21 38 59.3**	**-0.4**
MRX	**Morelia**	**3.54**	**329**	*e*P	**Pn**	**21 38 25.8**	**+6.2**
LVIG	**Laguna Verde**	**4.08**	**41**	*i* P	**Pn**	**21 38 28.4**	**+1.5**
LVIG				*i* S	**Sn**	**21 39 12.4**	**-1.0**
PDAR	**Pinedale Array**	**27.47**	**343**	P	**P**	**21 43 11.1**	**+1.2**
	1.8nm,0.9s,mb3.6,baz=138,slow=11,SNR=6.0						
YKA	**Yellowknife Ar**	**47.04**	**350**	P	**P**	**21 45 54.9**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=157,slow=7.1,SNR=15						
INK	**Inuvik**	**56.01**	**345**	P	**P**	**21 47 02.7**	**+0.5**
	3.6nm,1.0s,mb4.4,baz=139,slow=7.7,SNR=11						
ILAR	**Eielson Array**	**57.71**	**338**	P	**P**	**21 47 15.7**	**+1.4**
	0.6nm,1.0s,mb3.6,baz=136,slow=7.1,SNR=4.8						

MEX 06 22:03:50.3±1.0, 1687N×10048W, h5km, MD3.7, 2C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.27**	**48↑**	*i* P	Pg	22 03 54.6	-0.9
CAIG				*i* S	Sg	22 03 59.1	0.0
ACX	**Acapulco**	**0.54**	**90**	*i* P	Pg	22 04 00.3	-0.3
ZIIG	**Zihuatanejo**	**1.20**	**308**	*e*P	Pg	22 04 08.9	-4.3
ZIIG				*e*S	Sg	22 04 25.3	-3.5
MEIG	**Mezcala**	**1.33**	**38↑**	*e*P	Pn	22 04 12.6	-2.9
MEIG				*e*S	Sb	22 04 30.3	-2.9
PLIG	**Platanillo**	**1.78**	**31**	*e*P	Pn	22 04 20.1	-1.6
PLIG				*e*S	Sn	22 04 40.6	-4.0
PPM	**Popocatepetl**	**2.81**	**39**	*e*P	Pn	22 04 37.5	+1.7
VHO	**Vista Hermosa**	**3.59**	**86**	*i* S	Sn	22 05 25.9	-3.4

*ISCJB **06** 22:13:33.5±0.7, 1613S±02×1780E±0.1, h23km, mb4.4/13, MS3.8/7, Error ellipse: s-maj=24.9km s-min=14.9km az=106.4*
*IDC **06** 22:13:34.9±1.4, 1606S×17809E, h24km±3km, mb4.0/7, mb1 4.3/7, mb1mx4.1/14, mbtmp4.2/7, MS3.7/10, Ms1 3.7/10, ms1mx3.6/20, Error ellipse: s-maj=57.6km s-min=17.1km az=138.0*
*NEIC **06** 22:13:35.2±0.5, 1603S×17803E, mb4.4/3, Error ellipse: s-maj=17.7km s-min=10.3km az=145.0*
*BJI **06** 22:13:35.2, 1600S×17800E, h24km, mB5.5, mb4.9*
ISC 06 22:13:35.3±0.7, 1613S±01×1781E±01, h25km, h25km±1.2km: pP-P, n32, σ0§92/18, mb4.4/13, MS3.8/7, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.01**	**79**	LR	LR	22 18 40.4	
	comp=Z,439nm,19.8s,baz=116,slow=30						
DZM	**Mont Dzumac**	**12.54**	**240**	LR	LR	22 19 44.9	
	comp=Z,100nm,19.5s,baz=40,slow=30						
RAO	**Raoul Island**	**13.63**	**165**	LR	LR	22 21 03.2	
	comp=Z,430nm,21.5s,baz=267,slow=33						
RAR	**Rarotonga**	**21.57**	**107**	LR	LR	22 24 26.6	
	comp=Z,776nm,19.6s,MS4.1,baz=329,slow=30						
URZ	**Urewera**	**22.13**	**182**	LR	LR	22 25 38.1	
	comp=Z,208nm,21.6s,MS3.5,baz=198,slow=33						
CTA	**Charters Tower**	**30.52**	**258**	LR	LR	22 30 23.5	
	comp=Z,102nm,19.6s,MS3.5,baz=57,slow=33						
PMG	**Port Moresby**	**30.87**	**279**	LR	LR	22 30 54.0	
	comp=Z,110nm,18.5s,MS3.5,baz=250,slow=34						
PMG	**Port Moresby**	**30.87**	**279**	*e*P	**P**	**22 19 49.0**	**-0.6**
	2.6nm,0.5s,mb4.3						
PPT	**Papeete**	**30.95**	**97**	*e*LR	LR	22 27 48.4	
	497nm,29.5s						
TBI	**Tubuai**	**31.33**	**109**	*e*LR	LR	22 28 01.8	
	620nm,29.8s						
STKA	**Stephens Creek**	**36.68**	**238**	P	**P**	**22 20 39.8**	**-0.3**
	4.3nm,0.9s,mb4.3,baz=58,slow=4.3,SNR=6.0						
STKA				pP	pP	22 20 47.2	-0.3
	6.3nm,1.0s,baz=70,slow=11,SNR=5.8						
STKA				LR	LR	22 33 41.3	
	comp=Z,155nm,20.9s,MS3.8,baz=28,slow=33						
STKA	**Stephens Creek**	**36.68**	**238**	P	**P**	**22 20 39.8**	**-0.3**
STKA				pP	pP	22 20 47.2	-0.3
STKA				LR	LR	22 33 41.3	
TAOE	**Nuku Hiva Isla**	**41.33**	**85**	*e*LR	LR	22 32 43.1	
	728nm,26.1s						
WRAB	**Tennant Creek**	**41.71**	**258**	*e*P	**P**	**22 21 21.4**	**-0.7**
	2.2nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**41.72**	**258**	P	**P**	**22 21 21.8**	**-0.3**
	1.7nm,0.9s,mb3.7,baz=90,slow=8.8,SNR=9.1						
WRA				pP	pP	22 21 28.8	-0.8
	4.5nm,1.1s,baz=89,slow=8.5,SNR=10						
ASAR	**Alice Springs**	**42.12**	**252**	P	**P**	**22 21 25.1**	**-0.3**
	2.1nm,0.9s,mb3.8,baz=81,slow=8.6,SNR=19						
ASAR				pP	pP	22 21 32.8	-0.2
	7.4nm,0.9s,baz=82,slow=9.0,SNR=22						
ASAR				PcP	PcP	22 23 20.6	+0.9
	1.0nm,0.8s,baz=147,slow=3.0,SNR=4.7						
RKT	**Rikitea**	**44.61**	**107**	*e*LR	LR	22 34 09.0	
	377nm,29.5s,baz=281						
NWAO	**Narrogin (SRO)**	**57.16**	**241**	*e*P	**P**	**22 23 19.9**	**0.0**
MJAR	**Matsushiro Arr**	**64.47**	**325**	P	**P**	**22 24 09.6**	**-0.1**
	3.4nm,0.9s,mb4.3,baz=154,slow=6.4,SNR=6.1						
MJAR				LR	LR	22 47 03.0	
	comp=Z,107nm,19.3s,MS4.0,baz=130,slow=31						
QSPA	**South Pole Qui**	**73.98**	**180**	*e*P	**P**	**22 25 09.1**	**+0.5**
	18nm,0.6s,mb5.2						
QSPA				*e*pP	pP	22 25 16.3	-0.2
ENH	**Enshi**	**80.48**	**305**	*e*P	**P**	**22 25 45.8**	**+0.7**
COLA	**College**	**84.75**	**14**	*e*P	**P**	**22 26 06.6**	**-0.7**
	18nm,1.2s,mb5.1						
COLA				*e*pP	pP	22 26 14.3	-1.0
ILAR	**Eielson Array**	**84.89**	**14**	P	**P**	**22 26 07.2**	**-0.8**
	5.2nm,0.9s,mb4.7,baz=237,slow=5.9,SNR=38						
ILAR				pP	pP	22 26 14.6	-1.5
	6.0nm,1.0s,baz=224,slow=5.0,SNR=13						
LZH	**Lanzhou**	**87.13**	**309**	*e*P	**P**	**22 26 22.0**	**+2.9**
LZH				AP	pP	22 26 26.6	-0.6
LZH				XP	sP	22 26 29.5	-0.6
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,120nm,4.5s						
SONM	**Songino Array**	**89.99**	**320**	P	**P**	**22 26 33.0**	**+0.4**
	comp=Z,0.3nm,0.8s,mb3.7,baz=124,slow=2.7,SNR=4.5						
SONM				pP	pP	22 26 41.0	+0.3
	comp=Z,1.0nm,1.0s,baz=130,slow=3.3,SNR=4.8						
SONM				LR	LR	23 01 23.8	
	comp=Z,43nm,21.6s,MS3.8,baz=168,slow=32						
GTA	**Gaotai**	**91.30**	**

*IDC **06** 22:23:06.7±6.8, 1787S×16799E, h52km±60km, mb3.9/5, mb1 4.1/6, mb1mx3.9/13, mbtmp4.2/6, ML3.9/1, Error ellipse: s-maj=56.2km s-min=42.2km az=111.0*

ISC 06 22:23:04.9±1.0, 1778S±009×1681E±01, h35km±10km, n14, σ0°72/13, mb4.4/8, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.20**	**55**	⇑*iP*	**Pn**	**22 23 11.4**	**-0.3**
DZM	**Mont Dzumac**	**4.54**	**200**	P	**Pn**	**22 24 12.4**	**+1.4**
	5.7nm,0.3s,baz=347,slow=14,SNR=57						
DZM				S	**Sn**	**22 25 01.7**	**-0.8**
	18nm,0.3s,baz=146,slow=23,SNR=17						
STKA	**Stephens Creek**	**27.73**	**235**	P	**P**	**22 28 49.5**	**-0.5**
	2.4nm,0.9s,mb3.9,baz=66,slow=11,SNR=4.5						
WRAB	**Tennant Creek**	**31.96**	**261**	*eP*	**P**	**22 29 27.1**	**-0.3**
	1.8nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**31.97**	**261**	P	**P**	**22 29 26.7**	**-0.7**
	0.7nm,0.3s,mb3.9,baz=91,slow=9.4,SNR=52						
WRA				PcP	PcP	22 32 17.1	+0.1
	0.4nm,0.8s,baz=95,slow=2.4,SNR=4.8						
ASAR	**Alice Springs**	**32.44**	**254**	P	**P**	**22 29 31.9**	**+0.2**
	3.0nm,0.4s,mb4.5,baz=79,slow=8.9,SNR=37						
MBWA	**Marble Bar**	**45.57**	**258**	*eP*	**P**	**22 31 22.4**	**+1.0**
	5.3nm,0.7s,mb4.6						
VNDA	**Vanda**	**59.85**	**182**	*eP*	**P**	**22 33 06.2**	**-0.6**
QSPA	**South Pole Qui**	**72.26**	**180**	*eP*	**P**	**22 34 27.3**	**+0.7**
	6.0nm,1.1s,mb4.4						
SONM	**Songino Array**	**85.40**	**323**	P	**P**	**22 35 38.6**	**0.0**
	1.2nm,0.9s,mb4.0,baz=142,slow=4.3,SNR=8.0						
MCMT	**McKenzie Canyo**	**94.86**	**45**	*eP*	**P**	**22 36 23.9**	**+0.7**
LKWY	**Lake**	**96.42**	**45**	P	**P**	**22 36 29.4**	**-0.9**
	14nm,1.0s,mb5.4						
MKAR	**Makanchi Array**	**99.93**	**316**	P	Pdif	22 36 44.4	-1.7
	0.2nm,0.5s,baz=104,slow=4.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**166.09**	**253**	PKPab	PKPab	22 44 07.0	+0.4
	0.7nm,0.9s,baz=82,slow=7.0,SNR=5.3						

MEX 06 22:25:21.6±1.1, 1720N×10110W, h30km±47km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.81**	**101**	*iP*	Pn	22 25 34.9	-1.9
CAIG				*iS*	Sb	22 25 43.9	-3.8
ACX	**Acapulco**	**1.18**	**106**	*iP*	Pn	22 25 42.5	+0.6
MEIG	**Mezcala**	**1.58**	**63**	*iP*	Pn	22 25 45.3	-2.3
MEIG				*iS*	Sn	22 26 05.3	-1.7
PLIG	**Platanillo**	**1.93**	**52**	*iP*	Pn	22 25 50.2	-2.1
PLIG				*iS*	Sn	22 26 13.4	-2.1
MOIG	**Morelia**	**2.47**	**358**	*iP*	Pn	22 25 55.8	-3.9
MOIG				*iS*	Sn	22 26 26.5	-2.3
PPM	**Popocatepetl**	**2.99**	**51**	*iP*	Pn	22 26 05.2	-1.7
PPM				*iS*	Sn	22 26 39.8	-2.0

BJI 06 22:34:42.0, 3854N×9947E, h10km, ML3.1, Ms3.4, Msz3.5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**0.91**	**17**	PG	Pg	22 34 57.9	-1.6
GTA				SG	Sg	22 35 11.3	-0.1
GTA				Smax			
	comp=N,206nm,0.6s						
GTA				LR	LR		
	comp=N,236nm,4.6s						
GTA				LR	LR		
	comp=E,245nm,4.5s						
GTA				LR	LR		
	comp=Z,240nm,6.8s						

*IDC **06** 22:53:30.6±1.5, 591S×14751E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.7/13, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=70.2km s-min=23.4km az=109.0*

*ISCJB **06** 22:53:31.3±5.3, 591S±007×1474E±02, h11km±32km, mb4.0/4, Error ellipse: s-maj=34.2km s-min=12.4km az=5.6*

*NEIC **06** 22:53:35.9±1.0, 595S×14743E, h35km, mb4.1/3, Error ellipse: s-maj=30.2km s-min=13.1km az=105.0*

ISC 06 22:53:32.5±6.3, 589S±008×1474E±02, h11km±38km, n13, σ1°11/13, mb4.0/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.51**	**184**	Pn	**Pn**	**22 54 27.3**	**+0.4**
	12nm,0.3s,baz=29,slow=8.8,SNR=22						
PMG				Sn	**Sn**	**22 55 08.1**	**-0.3**
	8.7nm,0.3s,baz=190,slow=23,SNR=6.5						
WRAB	**Tennant Creek**	**18.89**	**221**	*eP*	**Pn**	**22 57 52.8**	**-0.6**
	2.2nm,0.4s						
WB2	**Warramunga Arr**	**18.89**	**221**	*eP*	**Pn**	**22 57 51.9**	**-1.6**
WRA	**Warramunga Arr**	**18.90**	**221**	P	**Pn**	**22 57 52.5**	**-1.1**
	0.3nm,0.3s,baz=42,slow=12,SNR=18						
AS31	**Alice Springs**	**21.95**	**215**	*eP*	**P**	**22 58 28.1**	**+1.9**
ASAR	**Alice Springs**	**21.95**	**215**	P	**P**	**22 58 26.0**	**-0.2**
	1.8nm,0.3s,mb3.9,baz=57,slow=8.9,SNR=23						
ASPA	**Alice Springs**	**21.96**	**215**	*eP*	**P**	**22 58 28.1**	**+1.9**
FITZ	**Fitzroy Crossi**	**24.49**	**238**	*eP*	**P**	**22 58 52.0**	**+0.3**
	9.3nm,1.4s,mb4.0						
STKA	**Stephens Creek**	**26.43**	**191**	*eP*	**P**	**22 59 09.1**	**-0.1**
KURK	**Kurchatov**	**81.38**	**323**	*eP*	**P**	**23 05 51.0**	**+1.7**
	3.8nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**85.21**	**23**	P	**P**	**23 06 08.2**	**-0.8**
	0.3nm,0.4s,mb3.8,baz=251,slow=5.6,SNR=8.1						
BRVK	**Borovoye**	**87.00**	**324**	P	**P**	**23 06 16.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**145.48**	**285**	PKPbc	PKPbc	23 13 12.1	+1.4
	0.6nm,0.5s,baz=69,slow=4.2,SNR=16						

IDC 06 22:55:58.0±2.3, 1656N×14549E, h305km±24km, mb3.1/4, mb1 3.3/5, mb1mx3.0/19, mbtmp3.8/5, Error ellipse: s-maj=44.0km s-min=24.2km az=80.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.01**	**192**	P	Pn	22 56 54.2	+0.1
	45nm,0.3s,baz=350,slow=4.6,SNR=7.9						
WRA	**Warramunga Arr**	**37.89**	**197**	P	P	23 02 46.5	+0.1
	0.3nm,0.6s,baz=8.2,slow=8.6,SNR=4.6						
SONM	**Songino Array**	**44.70**	**323**	P	P	23 03 41.5	0.0
	0.7nm,0.6s,baz=138,slow=7.4,SNR=8.5						
MKAR	**Makanchi Array**	**59.81**	**315**	P	P	23 05 32.2	+0.4
	1.2nm,0.4s,baz=95,slow=8.1,SNR=59						
YKA	**Yellowknife Ar**	**79.97**	**28**	P	P	23 07 32.7	-0.9
	0.2nm,0.4s,baz=286,slow=5.1,SNR=4.6						

*NEIC **06** 23:01:11.4, 3477S×7250W, h29km, ML3.0(GUC), After GUC.*

GUC 06 23:01:11.4±0.6, 3477S×7250W, h29km±3km, MD3.9, ML3.0, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.95**	**132**	*iP*	Pn	23 01 27.8	-0.9
TALC				*iS*	Sn	23 01 40.4	-0.8
TALC				AMP		23 01 41.5	
	comp=N,1μm,0.1s						
TALC	**Talca**	**0.95**	**132**	*iP*	Pn	23 01 27.8	-0.9
TALC				*iS*	Sn	23 01 40.4	-0.8
CNCO	**Chanco**	**0.96**	**182**	*iP*	Pn	23 01 28.6	-0.3
CNCO				*iS*	Sn	23 01 41.3	-0.3
CNCO				AMP		23 01 42.8	
	comp=E,601nm,0.4s						
CNCO	**Chanco**	**0.96**	**182**	*iP*	Pn	23 01 28.6	-0.3
CNCO				*iS*	Sn	23 01 41.3	-0.3
NICH	**Los Niches**	**1.07**	**103**	*eP*	Pn	23 01 30.3	-0.1
LNV	**Longovilo**	**1.21**	**48**	*iP*	Pn	23 01 32.5	+0.1
LNV				*iS*	Sn	23 01 48.7	+0.9
SFDO	**San Fernando**	**1.23**	**83**	⇓*iP*	Pn	23 01 33.0	+0.4
SFDO				*iS*	Sn	23 01 49.2	+0.9
LNCH	**Linares**	**1.30**	**146**	*iP*	Pn	23 01 34.0	+0.4
LNCH				*iS*	Sn	23 01 51.4	+1.4
LNCH				AMP		23 01 56.0	
	comp=N,626nm,0.3s						
LNCH	**Linares**	**1.30**	**146**	*iP*	Pn	23 01 34.0	+0.4
LNCH				*iS*	Sn	23 01 51.4	+1.4
CACH	**El Canelo**	**1.70**	**68**	⇓*iP*	Pn	23 01 41.2	+2.1
CACH				*iS*	Sn	23 02 03.2	+3.4
TACH	**Talagante**	**1.71**	**50**	*eP*	Pn	23 01 40.4	+1.2
TACH				*iS*	Sn	23 02 02.8	+2.8
CHCH	**Chadas Angostu**	**1.74**	**62**	*iP*	Pn	23 01 41.0	+1.4
CHCH				*iS*	Sn	23 02 03.5	+2.7
CICH	**Cipreses**	**1.77**	**76**	*eP*	Pn	23 01 41.9	+1.8
CICH				*iS*	Sn	23 02 06.9	+5.2
CCHI	**Chillan**	**1.86**	**169**	*eP*	Pn	23 01 42.7	+1.5
CCHI				*iS*	Sn	23 02 06.4	+2.6
CCHI				AMP		23 02 16.4	
	comp=N,318nm,0.5s						
CCHI	**Chillan**	**1.86**	**169**	*eP*	Pn	23 01 42.7	+1.5
CCHI				*iS*	Sn	23 02 06.4	+2.6
PCH	**Pirque**	**2.01**	**56**	*eP*	Pn	23 01 44.6	+1.4
FCH	**Farellones**	**2.33**	**53**	*eP*	Pn	23 01 49.5	+1.8
FCH				*iS*	Sn	23 02 20.0	+4.6
FCH				AMP		23 02 27.3	
	comp=N,65nm,0.2s						

*ISCJB **06** 23:05:33.7±1.9, 131N±0.1×1453E±03, h80km±13km, mb3.7/8, Error ellipse: s-maj=47.9km s-min=18.3km az=6.7*

*IDC **06** 23:05:33.8±1.8, 1309N×14535E, h66km±13km, mb3.4/7, mb1 3.6/7, mb1mx3.5/19, mbtmp3.7/7, Error ellipse: s-maj=36.6km s-min=18.2km az=94.0*

*NEIC **06** 23:05:34.6±1.6, 1309N×14535E, h74km±12km, mb4.1/1, Error ellipse: s-maj=34.4km s-min=12.5km az=95.0*

ISC 06 23:05:34.4±2.2, 131N±01×1454E±03, h71km±16km, n10, σ0°55/10, mb3.7/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.70**	**313**	P	**Pn**	**23 05 49.5**	**+0.2**
	287nm,0.3s,baz=122,slow=3.4,SNR=43						
GUMO				S	**Sn**	**23 06 00.2**	**-0.2**
	537nm,0.3s,baz=53,slow=20,SNR=36						
WRAB	**Tennant Creek**	**34.58**	**199**	*eP*	**P**	**23 12 16.7**	**+0.4**
	2.2nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**34.59**	**199**	P	**P**	**23 12 16.0**	**-0.4**
	0.4nm,0.5s,mb3.5,baz=22,slow=9.5,SNR=10.0						
ASAR	**Alice Springs**	**38.23**	**197**	P	**P**	**23 12 47.4**	**0.0**
	0.2nm,0.5s,mb3.2,baz=14,slow=11,SNR=5.7						
SONM	**Songino Array**	**47.42**	**325**	P	**P**	**23 14 02.4**	**+0.7**
	0.5nm,0.7s,mb3.4,baz=120,slow=5.0,SNR=6.9						
MKAR	**Makanchi Array**	**62.19**	**316**	P	**P**	**23 15 48.4**	**0.0**
	0.2nm,0.3s,mb3.6,baz=91,slow=8.9,SNR=13						
ILAR	**Eielson Array**	**68.78**	**25**	P	**P**	**23 16 30.3**	**-0.6**
	0.8nm,0.5s,mb3.8,baz=254,slow=6.0,SNR=16						
YKA	**Yellowknife Ar**	**83.05**	**27**	P	**P**	**23 17 52.9**	**+0.8**
	0.5nm,0.5s,mb3.6,baz=288,slow=5.2,SNR=6.7						
FINES	**FINESS Array B**	**91.81**	**335**	P	**P**	**23 18 33.4**	**-1.1**
	2.0nm,1.1s,mb4.2,baz=56,slow=4.8,SNR=5.6						
DBIC	**Dimbokro**	**144.51**	**302**	PKP	PKPdf	23 25 02.5	-0.1
	2.0nm,0.4s,baz=33,slow=2.4,SNR=12						

*ISCJB **06** 23:07:57.2±1.4, 1911N±007×6397W±005, h5km±12km, Error ellipse: s-maj=13.0km s-min=6.6km az=39.1*

*NEIC **06** 23:07:58.6, 1905N×6380W, h5km, MD3.6(RSPR), After RSPR.*

*RSPR **06** 23:07:58.6, 1905N×6380W, h5km±31km, MD3.6/15, MD3.6/15*

ISC 06 23:07:57.9±1.3, 1908N±007×6395W±004, h4km±6km, n29, σ0°60/44, 14C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.91**	**223**	*eS*	**Sg**	**23 08 27.8**	**+0.5**
TBVI	**Tortola**	**0.91**	**223**	⇑*iP*	**Pg**	**23 08 15.8**	**+0.4**
TBVI				*eS*	**Sg**	**23 08 27.8**	**+0.5**
STVI	**Saint Thomas**	**1.20**	**233**	*eS*	**Sg**	**23 08 36.4**	**-0.1**
STVI	**Saint Thomas**	**1.20**	**233**	⇑*eP*	**Pg**	**23 08 20.0**	**-0.9**
STVI				*eS*	**Sg**	**23 08 36.4**	**-0.1**
STMA	**St. Maarten, A**	**1.31**	**142**	*eP*	**Pn**	**23 08 23.1**	**+0.2**
STMA				*eS*	**Sg**	**23 08 40.2**	**+0.3**
CDVI	**St. Croix**	**1.53**	**210**	*eS*	**Sn**	**23 08 45.0**	**-1.3**
CDVI	**St. Croix**	**1.53**	**210**	⇑*eP*	**Pn**	**23 08 26.4**	**+0.4**
CDVI				*eS*	**Sn**	**23 08 45.0**	**-1.3**
MTP	**Monte Pirata**	**1.81**	**237**	*eS*	**Sn**	**23 08 52.6**	**-0.6**
MTP	**Monte Pirata**	**1.81**	**237**	⇑*eP*	**Pn**	**23 08 28.9**	**-1.0**
MTP				*eS*	**Sn**	**23 08 52.6**	**-0.6**
CBYP	**Canovanas**	**1.98**	**246**	*eS*	**Sn**	**23 08 57.8**	**+0.5**
CBYP	**Canovanas**	**1.98**	**246**	⇑*eP*	**Pn**	**23 08 31.7**	**-0.4**
CBYP				*eS*	**Sn**	**23 08 57.8**	**+0.5**
HUMP	**Col San Antoni**	**2.03**	**243**	*eS*	**Sn**	**23 08 59.0**	**+0.4**
HUMP	**Col San Antoni**	**2.03**	**243**	⇑*eP*	**Pn**	**23 08 31.8**	**-1.0**
HUMP				*eS*	**Sn**	**23 08 59.0**	**+0.4**
CPD	**Cerro la Pandu**	**2.13**	**241**	*eS*	**Sn**	**23 09 01.5**	**+0.4**
CPD	**Cerro la Pandu**	**2.13**	**241**	⇑*eP*	**Pn**	**23 08 34.0**	**-0.2**
CPD				*eS*	**Sn**	**23 09 01.5**	**+0.4**
SJG	**San Juan**	**2.30**	**246**	*eS*	**Sn**	**23 09 04.5**	**-0.7**
SJG	**San Juan**	**2.30**	**246**	⇑*eP*	**Pn**	**23 08 36.3**	**-0.2**
SJG				*eS*	**Sn**	**23 09 05.4**	**+0.2**
SJG	**San Juan**	**2.30**	**246**	⇑*eP*	**Pn**	**23 08 36.8**	**+0.3**
SJG				*eS*	**Sn**	**23 09 04.5**	**-0.7**
CELP	**Cerrillos**	**2.69**	**249**	⇑*eP*	**Pn**	**23 08 41.2**	**-0.6**
CELP				*eS*	**Sn**	**23 09 15.2**	**+0.4**
ICM	**Isla Caja Muer**	**2.71**	**245**	*eS*	**Sn**	**23 09 15.5**	**+0.1**
ICM	**Isla Caja Muer**	**2.71**	**245**	⇑*eP*	**Pn**	**23 08 43.1**	**+0.9**
ICM				*eS*	**Sn**	**23 09 15.5**	**+0.1**
AOPR	**Arecibo Observ**	**2.75**	**255**	*eS*	**Sn**	**23 09 17.0**	**+0.6**
AOPR	**Arecibo Observ**	**2.75**	**255**	⇑*eP*	**Pn**	**23 08 43.2**	**+0.5**
AOPR				*eS*	**Sn**	**23 09 17.0**	**+0.6**
LRS	**Lares**	**2.85**	**255**	⇑*eP*	**Pn**	**23 08 44.8**	**+0.7**
MGP	**Maguayo**	**3.16**	**251**	⇓*eP*	**Pn**	**23 08 48.0**	**-0.4**
MGP				*eS*	**Sn**	**23 09 27.3**	**+0.7**
CRPR	**Cabo Rojo, PR**	**3.18**	**251**	*eS*	**Sn**	**23 09 26.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**3.18**	**251**	⇑*eP*	**Pn**	**23 08 48.2**	**-0.5**
CRPR				*eS*	**Sn**	**23 09 26.9**	**-0.2**
SEG	**Port Louis**	**3.54**	**138**	*eP*	**Pn**	**23 08 53.0**	**-0.6**
PHG	**Guadaloupe-2**	**3.76**	**144**	*eP*	**Pn**	**23 08 57.6**	**+1.0**

*IDC **06** 23:20:50.4±1.3, 3507N×2735E, h0km, mb3.7/5, mb1 3.6/10, mb1mx3.5/23, mbtmp3.6/10, ML3.5/4, Error ellipse: s-maj=29.6km s-min=12.0km az=169.0*

*ISCJB **06** 23:20:51.6±0.8, 3527N±002×2736E±004, h15km±8km, mb3.5/5, Error ellipse: s-maj=5.2km s-min=3.6km az=177.2*

*CSEM **06** 23:20:51.7±0.1, 3530N×2742E, h20km, MD3.6, Error ellipse: s-maj=1.8km s-min=1.2km az=93.0*

*ATH **06** 23:20:52.0, 3532N×2722E, h17km±3km, MD3.6/9*

*NEIC **06** 23:20:52.8, 3546N×2711E, h24km, ML3.6(ATH), After ATH.*

*MOS **06** 23:20:55.3±2.1, 3535N×2724E, h33km, mb3.8/1, Error ellipse: s-maj=15.5km s-min=11.4km az=73.9*

*HLW **06** 23:20:56.6, 3517N×2741E, h33km, Mb3.3*

ISC 06 23:20:51.6±0.8, 3532N±002×2727E±003, h3km±6km, n76, σ1°03/89, mb3.5/5, 2C-5D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.24**	**338**	*ePB*	**Pg**	**23 20 57.0**	**+0.7**
ARG	**Arkhangelos**	**1.13**	**38**	*ePN*	**Pg**	**23 21 14.0**	**+0.7**
ARG				*eSN*	**Sg**	**23 21 31.0**	**+3.0**
ARG	**Arkhangelos**	**1.13**	**38**	*ePb*	**Pg**	**23 21 13.0**	**-0.3**
ARG				*eSn*	**Sg**	**23 21 31.0**	**+3.0**
NISR	**Nisiros**	**1.29**	**355**	*ePN*	**Pn**	**23 21 16.0**	**-0.5**
NPS	**Neapolis**	**1.36**	**268**	*ePN*	**Pn**	**23 21 17.0**	**-0.3**
NPS	**Neapolis**	**1.36**	**268**	*ePn*	**Pn**	**23 21 17.5**	**+0.2**
XRY	**Khrisi**	**1.37**	**251**	*ePN*	**Pn**	**23 21 17.0**	**-0.5**
DAT	**Datca**	**1.43**	**10**	PN	**Pn**	**23 21 17.4**	**-0.9**
DAT				SN	**Sn**	**23 21 37.7**	**+0.2**
BODT	**Bodrum**	**1.74**	**1**	PN	**Pn**	**23 21 22.4**	**-0.2**
BDRM	**Kayabasi**	**1.75**	**5**	*iP*	**Pn**	**23 21 24.1**	**+1.4**
BDRM				*iS*	**Sn**	**23 21 44.6**	**-0.9**
DALT	**Dalyan (Mudla)**	**1.82**	**37**	PN	**Pn**	**23 21 24.6**	**+0.9**
IDI	**Anoyia**	**1.95**	**270**	Pn	**Pn**	**23 21 24.7**	**-0.8**
	11nm,0.3s,baz=73,slow=14,SNR=39						
IDI				Pg	**Pg**	**23 21 27.4**	**-1.5**
	10nm,0.3s,baz=85,slow=16,SNR=40						
IDI				Lg		23 21 54.8	
	12nm,0.3s,baz=298,slow=19,SNR=6.1						
IDI	**Anoyia**	**1.95**	**270**	Pg	**Pg**	**23 21 27.4**	**-1.5**
FETY	**Fethiye**	**1.97**	**48**	PN	**Pn**	**23 21 26.0**	**+0.2**
YER	**Yerkesik**	**1.99**	**24**	PN	**Pn**	**23 21 26.3**	**+0.3**
MLSB	**Milas**	**2.01**	**12**	PN	**Pn**	**23 21 26.2**	**-0.1**
KSL	**Kastellorizon**	**2.06**	**66**	*ePB*	**Pb**	**23 21 28.0**	**-1.5**
APE	**Apeiranthos**	**2.24**	**322**	*ePN*	**Pn**	**23 21 27.9**	**-1.6**
APE	**Apeiranthos**	**2.24**	**322**	*ePB*	**Pb**	**23 21 30.0**	**-2.6**
APE	**Apeiranthos**	**2.24**	**322**	*eP*	**Pn**	**23 21 28.0**	**-1.5**
AYDN	**Tasoluk**	**2.39**	**12**	*iP*	**Pn**	**23 21 32.6**	**+1.2**
AYDN				*iS*	**Sn**	**23 21 57.8**	**-3.4**
SMG	**Samos**	**2.41**	**352**	*ePN*	**Pn**	**23 21 34.0**	**+2.2**
VAM	**Vamos**	**2.51**	**273**	*ePN*	**Pn**	**23 21 34.5**	**+1.3**
ELL	**Elmali**	**2.57**	**56**	*ePN*	**Pn**	**23 21 34.0**	**0.0**
GOLH	**Golhisar**	**2.66**	**43**	*iP*	**Pn**	**23 21 37.1**	**+1.8**
GOLH				*iS*	**Sg**	**23 22 16.7**	**-0.4**
DENT	**Denizli**	**2.81**	**30**	*ePN*	**Pn**	**23 21 37.9**	**+0.5**
BLCB	**Balcova**	**3.06**	**357**	*ePN*	**Pn**	**23 21 40.8**	**0.0**
IZM	**Izmir**	**3.07**	**360**	*ePN*	**Pn**	**23 21 41.0**	**+0.1**
ANTB	**Antalya**	**3.16**	**59**	*ePN*	**Pn**	**23 21 42.2**	**+0.1**
MANT	**Manisa**	**3.33**	**18**	*iP*	**Pn**	**23 21 43.7**	**-0.7**
MANT				*iS*	**Sn**	**23 22 23.3**	**-1.2**
BCK	**Bucak**	**3.42**	**50**	*ePN*	**Pn**	**23 21 45.9**	**+0.1**
KHL	**Karahalli**	**3.50**	**30**	*ePN*	**Pn**	**23 21 47.2**	**+0.4**
AKS	**Akhisar**	**3.58**	**7**	*ePN*	**Pn**	**23 21 47.8**	**-0.1**
TKTP	**Tekketepe**	**3.66**	**41**	*iP*	**Pn**	**23 21 49.5**	**+0.5**
TKTP				*iS*	**Sg**	**23 22 44.9**	**-4.2**
SLUM		**4.19**	**205**	P	**Pn**	**23 21 57.1**	**+0.8**
HMAT	**Matruh**	**4.22**	**182**	⇑P	**Pn**	**23 21 57.3**	**+0.6**
BALB	**Balikesir**	**4.34**	**6**	*ePN*	**Pn**	**23 21 58.1**	**-0.2**
ALT	**Altintas**	**4.36**	**30**	*ePN*	**Pn**	**23 21 58.5**	**-0.2**
DABA	**Dabaa**	**4.38**	**169**	⇓P	**Pn**	**23 21 58.6**	**-0.3**
DABA				S	**Sn**	**23 22 43.6**	**-6.9**
HDMB	**Hadim**	**4.53**	**67**	*ePN*	**Pn**	**23 22 00.3**	**-0.6**
KONT	**Konya--Tatoy**	**4.86**	**56**	*ePN*	**Pn**	**23 22 05.1**	**-0.4**
ORLT	**Orhaneli**	**4.89**	**15**	*ePN*	**Pn**	**23 22 05.6**	**-0.3**
CSS	**Prodhromos**	**4.98**	**92**	*ePn*	**Pn**	**23 22 07.2**	**+0.1**
	13nm,0.6s						
CSS				*eSn*	**Sn**	**23 23 07.2**	**+2.0**
KIZT	**Kizilcal**	**5.12**	**45**	*ePN*	**Pn**	**23 22 08.9**	**-0.1**
IKL	**Isikli**	**5.29**	**78**	*ePN*	**Pn**	**23 22 10.2**	**-1.3**
MERS	**Mersin**	**6.07**	**73**	*ePN*	**Pn**	**23 22 20.9**	**-1.2**
SWA1		**6.18**	**193**	⇑*eP*	**Pn**	**23 22 24.2**	**+0.6**
SWA1				S	**Sn**	**23 23 28.7**	**-6.2**
SWA2		**6.25**	**195**	⇓P	**Pn**	**23 22 25.2**	**+0.6**
HMYD	**Mayadein**	**6.26**	**151**	P	**Pn**	**23 22 24.7**	**-0.1**
HNAT	**Natroun**	**6.34**	**153**	P	**Pn**	**23 22 25.6**	**-0.2**
FYM	**Al Fayyum**	**6.45**	**149**	P	**Pn**	**23 22 28.4**	**+1.0**
KARA	**Karaisali**	**6.58**	**71**	*ePN*	**Pn**	**23 22 27.7**	**-1.4**
KRTS	**Karatas**	**6.69**	**77**	*ePN*	**Pn**	**23 22 29.0**	**-1.7**
BR131	**Keskin Array S**	**6.70**	**47**	*ePn*	**Pn**	**23 22 31.9**	**+1.1**
	1.2nm,0.4s						
BR131	**Keskin Array S**	**6.70**	**47**	*ePn*	**Pn**	**23 22 31.9**	**+1.1**
	1.2nm,0.4s						
BRTR	**Keskin Array B**	**6.70**	**47**	Pn	**Pn**	**23 22 31.6**	**+0.7**
	0.4nm,0.3s,baz=215,slow=13,SNR=9.3						
BRTR	**Keskin Array B**	**6.70**	**47**	Pn	**Pn**	**23 22 31.5**	**+0.7**
HHAG	**Hagoal**	**6.72**	**141**	P	**Pn**	**23 22 31.0**	**-0.1**
HSAF	**As Saff**	**6.74**	**146**	P	**Pn**	**23 22 31.5**	**+0.2**
AMAG	**Maghara**	**6.83**	**131**	⇓P	**Pn**	**23 22 32.1**	**-0.4**
GLL	**Jalalah**	**6.84**	**146**	⇓P	**Pn**	**23 22 32.6**	**-0.1**
SUZ		**7.20**	**138**	P	**Pn**	**23 22 38.5**	**+0.8**
KOZT	**Kozan**	**7.23**	**70**	*eP*	**Pn**	**23 22 35.9**	**-2.1**
ZAF		**7.50**	**142**	P	**Pn**	**23 22 41.5**	**-0.2**
ZNM		**7.59**	**140**	P	**Pn**	**23 22 42.5**	**-0.4**
HNKL	**Nakhl**	**7.80**	**132**	⇓P	**Pn**	**23 22 45.1**	**-0.8**
HNKL				S	**Sn**	**23 24 05.6**	**-9.1**
GNI	**Garni**	**14.64**	**66**	Pn	**Pn**	**23 24 25.1**	**+5.7**
	0.1nm,0.3s,baz=7.8,slow=2.7,SNR=3.7						
AKASG	**Malin Array Be**	**15.44**	**5**	Pn	**Pn**	**23 24 33.1**	**+3.0**
	0.6nm,0.3s,baz=194,slow=12,SNR=4.5						
GERES	**GERESS Array B**	**16.82**	**328**	P	**Pn**	**23 24 52.1**	**+4.1**
	0.1nm,0.3s,baz=144,slow=12,SNR=5.0						
KHC	**Kasperske Hory**	**17.09**	**328**	*eP*	**Pn**	**23 24 53.0**	**+1.7**
FINES	**FINESS Array B**	**26.15**	**359**	P	**P**	**23 26 27.2**	**+0.3**
	0.6nm,0.6s,mb3.3,baz=167,slow=11,SNR=3.5						
AKTK	**Aktyubinsk**	**26.88**	**46**	P	**P**	**23 26 35.9**	**+2.4**
AKTO	**Aktyubinsk**	**26.88**	**46**	P	**P**	**23 26 35.9**	**+2.4**
	1.0nm,0.6s,mb3.5,baz=238,slow=9.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**31.94**	**233**	P	**P**	**23 27 17.9**	**-0.5**
	1.5nm,0.7s,mb3.9,baz=36,slow=9.8,SNR=12						
MKAR	**Makan

SONM Songino Array 26.82 282 P **P** **00 23 03.7 +0.2**
comp=Z,0.2nm,0.3s,mb3.2,baz=69,slow=7.9,SNR=4.7
JOW Kunigami 27.07 220 P **P** **00 23 05.7 0.0**
comp=Z,13nm,0.4s,mb4.9,baz=115,slow=20,SNR=11
KDAK Kodiak Island 35.41 53 P **P** **00 24 16.4 -0.2**
comp=Z,4.9nm,0.5s,mb4.4,baz=306,slow=6.8,SNR=6.5
SLKM Skilak Lake 36.02 48 *eP* **P** **00 24 20.9 -0.7**
SML Sawmill 36.67 46 *eP* **P** **00 24 27.4 +0.5**
ILAR Eielson Array 36.83 41 P **P** **00 24 28.1 -0.1**
comp=Z,5.3nm,0.8s,mb4.1,baz=279,slow=8.0,SNR=79
INK Inuvik 41.37 34 P **P** **00 25 04.7 +0.1**
comp=Z,8.1nm,0.4s,mb4.6,baz=293,slow=6.0,SNR=178
INK Inuvik 41.37 34 *eP* **P** **00 25 04.8 +0.2**
comp=Z,8.4nm,0.4s,mb4.6
INK Inuvik 41.37 34 *eP* **P** **00 25 04.8 +0.2**
INK pmax pmax
comp=Z,8.0nm,0.4s
MKAR Makanchi Array 42.22 292 P **P** **00 25 11.4 +0.1**
comp=Z,1.3nm,0.6s,mb3.7,baz=66,slow=7.4,SNR=30
KURK Kurchatov 42.56 299 *eP* **P** **00 25 14.1 +0.1**
comp=Z,2.0nm,0.6s,mb3.8
KURK Kurchatov 42.56 299 *eP* **P** **00 25 14.1 +0.1**
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
BRVK Borovoye 46.08 305 P **P** **00 25 40.5 -0.4**
YKA Yellowknife Ar 50.94 36 P **P** **00 26 16.6 -0.2**
comp=Z,2.9nm,0.6s,mb3.9,baz=304,slow=6.9,SNR=53
JIRN Jiri 51.00 268 *eP* **P** **00 26 17.8 +0.6**
comp=Z,8.4nm,0.3s,mb4.7
GUN Gumba 51.03 269 *eP* **P** **00 26 18.3 +0.9**
comp=Z,16nm,0.4s,mb4.8
KKN Kakani 51.50 269 *eP* **P** **00 26 21.8 +1.0**
comp=Z,7.5nm,0.3s,mb4.7
PKI Pulchoki 51.56 269 *eP* **P** **00 26 21.4 +0.1**
comp=Z,6.0nm,0.3s,mb4.4
DMN Daman 51.74 269 *eP* **P** **00 26 22.6 +0.1**
comp=Z,11nm,0.3s,mb4.6
GKN Gorkha 51.77 270 *eP* **P** **00 26 23.7 +0.9**
comp=Z,23nm,0.4s,mb4.8
KOLN Koldanda 52.61 270 *eP* **P** **00 26 29.6 +0.9**
comp=Z,8.6nm,0.4s,mb4.4
KEV Kevo 53.29 338 *ep* **P** **00 26 32.4 -1.2**
ARCES ARCESS Array B 53.82 338 P **P** **00 26 37.0 -0.2**
comp=Z,0.8nm,0.4s,mb3.4,baz=38,slow=7.0,SNR=12
JOF Joensuu 56.99 331 *ep* **P** **00 26 59.4 +0.1**
KAF Kangasniemi 59.16 332 *ep* **P** **00 27 12.9 -0.9**
FINES FINESS Array B 59.74 332 P **P** **00 27 17.1 -0.6**
comp=Z,2.0nm,0.4s,mb3.7,baz=38,slow=8.4,SNR=31
NB2 NORSAR Subarra 64.19 338 P **P** **00 27 46.0 -0.5**
comp=Z,1.5nm,0.5s,mb3.6,baz=28,slow=6.5
NB2 NORSAR Subarra 64.19 338 P **P** **00 27 46.0 -0.5**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb3.7
NOA NORSAR Array B 64.19 338 P **P** **00 27 46.2 -0.3**
comp=Z,2.3nm,0.6s,mb3.7,baz=30,slow=6.4,SNR=8.8
NVAR Mina Array Bea 64.47 60 P **P** **00 27 49.2 +1.0**
comp=Z,1.4nm,0.5s,mb3.5,baz=287,slow=7.7,SNR=6.6
NVAR Mina Array Bea 64.47 60 P **P** **00 27 49.2 +1.0**
PDAR Pinedale Array 66.11 52 P **P** **00 27 59.4 +0.9**
comp=Z,2.8nm,0.7s,mb3.8,baz=313,slow=2.1,SNR=25
ULM Lac du Bonnet 66.80 39 P **P** **00 28 02.2 -0.5**
comp=Z,0.6nm,0.4s,mb3.4,baz=338,slow=5.4,SNR=2.9
AKASG Malin Array Be 66.96 322 P **P** **00 28 03.1 -0.6**
comp=Z,1.2nm,0.4s,mb3.7,baz=35,slow=6.2,SNR=7.9
WRAB Tennant Creek 70.18 193 *eP* **P** **00 28 23.6 +0.6**
comp=Z,5.0nm,0.6s,mb4.1
WRAB *e*PcP PcP 00 28 38.6 -1.6
WRAB Tennant Creek 70.18 193 *eP* **P** **00 28 23.6 +0.6**
WRAB *e* 00 28 38.6
WRAB pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
WB2 Warramunga Arr 70.19 193 *eP* **P** **00 28 22.8 -0.3**
WRA Warramunga Arr 70.19 193 P **P** **00 28 23.0 -0.1**
comp=Z,2.9nm,0.6s,mb3.9,baz=9.7,slow=6.3,SNR=14
WRA Warramunga Arr 70.19 193 P **P** **00 28 23.0 -0.1**
WRA pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 73.91 193 P **P** **00 28 45.1 +0.5**
comp=Z,4.3nm,0.5s,mb4.3,baz=1.7,slow=5.0,SNR=50
ASAR Alice Springs 73.91 193 P **P** **00 28 45.1 +0.5**
ASAR pmax pmax
comp=Z,4.0nm,0.5s
ASPA Alice Springs 73.92 193 *eP* **P** **00 28 45.2 +0.6**
GERES GERESS Array B 74.11 330 P **P** **00 28 45.6 -0.1**
comp=Z,0.4nm,0.4s,mb3.3,baz=42,slow=6.1,SNR=7.7
MBWA Marble Bar 74.59 207 *eP* **P** **00 28 48.1 -0.2**
comp=Z,1.9nm,0.4s,mb4.0
STKA Stephens Creek 81.28 185 P **P** **00 29 22.4 -1.8**
comp=Z,14nm,1.4s,mb4.2,baz=335,slow=3.1,SNR=2.8
STKA Stephens Creek 81.28 185 P **P** **00 29 21.8 -2.4**
BDFB Brasilia 143.90 26 PKP PKPdf 00 36 37.8 +0.3
comp=Z,2.7nm,0.7s,baz=212,slow=4.8,SNR=4.6

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*IDC **07** 00:18:40.0±0.8, 430N×12827E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/19, mbtmp4.0/9, Error ellipse: s-maj=56.2km s-min=17.9km az=71.0*
*NEIC **07** 00:18:45.6±0.4, 428N×128.11E, h35km, mb4.4/5, Error ellipse: s-maj=14.3km s-min=7.7km az=68.0*
*BJI **07** 00:18:45.9, 393N×12761E, h43km, mB5.1, mb4.7, Ms4.4, Msz4.3*
*ISCJB **07** 00:18:48.0±2.3, 423N±008×1280E±02, h71km±20km, mb4.1/16, Error ellipse: s-maj=29.2km s-min=10.2km az=141.4*

ISC 07 00:18:49.5±2.1, 427N±008×1282E±02, h70km±19km, n29, σ0s78/26, mb4.1/16, 3D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**4.73**	**320**	*eP*	**Pn**	**00 19 58.1**	**-0.2**
BUKP				*eS*	**Sn**	**00 21 02.4**	**+11**
KKM	**Kota Kinabalu**	**12.02**	**279**	*eP*	**Pn**	**00 21 33.4**	**-4.5**
WRAB	**Tennant Creek**	**24.81**	**166**	*eP*	**P**	**00 24 05.5**	**+0.6**
	11nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**24.81**	**166**	P	**P**	**00 24 03.8**	**-1.2**
	1.4nm,0.3s,mb3.8,baz=344,slow=10,SNR=17						
WB2	**Warramunga Arr**	**24.82**	**166**	*eP*	**P**	**00 24 05.2**	**+0.2**
MBWA	**Marble Bar**	**26.58**	**198**	*eP*	**P**	**00 24 21.4**	**+0.4**
	4.0nm,0.7s,mb4.1						
KULM	**Kulim**	**27.43**	**273**	*eP*	**P**	**00 24 27.4**	**-1.2**
ASAR	**Alice Springs**	**28.32**	**169**	P	**P**	**00 24 36.5**	**0.0**
	0.2nm,0.3s,mb3.1,baz=352,slow=8.8,SNR=3.2						
XAN	**Xi'an**	**34.61**	**331**	P	**P**	**00 25 31.2**	**-0.5**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**38.15**	**161**	*eP*	**P**	**00 26 05.5**	**+3.6**
LZH	**Lanzhou**	**38.79**	**328**	*eP*	**P**	**00 26 09.0**	**+1.8**
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,120nm,4.2s						
SHL	**Shillong**	**40.72**	**305**	*eP*	**P**	**00 26 23.5**	**+0.2**
ULN	**Ulaanbaatar**	**47.07**	**341**	*eP*	**P**	**00 27 14.7**	**+0.6**
	comp=Z,6.8nm,0.9s,mb4.4						
SONM	**Songino Array**	**47.26**	**340**	P	**P**	**00 27 15.9**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.0,baz=154,slow=9.2,SNR=22						
SONM				PcP	PcP	00 28 46.3	+0.5
	comp=Z,0.4nm,0.4s,baz=134,slow=3.9,SNR=5.8						
MKAR	**Makanchi Array**	**57.94**	**324**	P	**P**	**00 28 35.0**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.4,baz=115,slow=8.1,SNR=42						
KURK	**Kurchatov**	**62.06**	**327**	*eP*	**P**	**00 29 02.8**	**+0.1**
	comp=Z,5.2nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**67.66**	**326**	P	**P**	**00 29 38.7**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=120,slow=8.8,SNR=8.0						
BRVK	**Borovoye**	**67.73**	**326**	*eP*	**P**	**00 29 40.0**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.0						
AKTK	**Aktyubinsk**	**74.13**	**321**	P	**P**	**00 30 18.4**	**+0.1**
AKTO	**Aktyubinsk**	**74.13**	**321**	P	**P**	**00 30 18.4**	**+0.1**
	comp=Z,1.1nm,0.6s,mb3.8,baz=107,slow=15,SNR=5.2						
ILAR	**Eielson Array**	**84.01**	**25**	P	**P**	**00 31 11.4**	**-0.8**
	comp=Z,0.7nm,0.8s,mb3.6,baz=252,slow=5.2,SNR=7.0						
FINES	**FINESS Array B**	**92.03**	**332**	P	**P**	**00 31 48.8**	**-1.9**
	comp=Z,1.9nm,1.0s,mb4.3,baz=349,slow=1.9,SNR=3.7						
SYO	**Syowa Base**	**93.43**	**201**	⇓*eP*	**P**	**00 31 57.6**	**+0.4**
YKA	**Yellowknife Ar**	**98.42**	**25**	P	**P**	**00 32 19.6**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.8,baz=304,slow=5.0,SNR=5.8						
YKA	**Yellowknife Ar**	**98.42**	**25**	P	**P**	**00 32 19.6**	**-0.3**
VNA2	**Neumayer--Watz**	**107.69**	**194**	⇓*i*	Pdif	00 33 08.4	+7.4
	baz=228,slow=4.8						
VNA3	**Neumayer Olymp**	**108.00**	**193**	⇓*i*	Pdif	00 33 06.1	+3.7
TORD	**Torodi Ar. Bea**	**124.10**	**289**	PKP	PKPdf	00 37 41.0	+1.1
	comp=Z,0.7nm,0.6s,baz=77,slow=1.3,SNR=9.5						
CFAA	**Coronel Fontan**	**148.75**	**152**	PKPbc	PKPbc	00 38 29.8	+1.0
	comp=Z,0.1nm,0.3s,baz=228,slow=6.6,SNR=4.4						

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*IDC **07** 00:21:07.9±6.0, 2080S×17769W, h485km±58km, mb3.5/7, mb1 3.7/8, mb1mx3.5/15, mbtmp4.3/8, Error ellipse: s-maj=54.8km s-min=27.3km az=135.0*
*NEIC **07** 00:21:09.9±3.4, 2077S×17778W, h508km±34km, mb4.1/5, Error ellipse: s-maj=26.8km s-min=21.0km az=98.0*
*ISCJB **07** 00:21:11.9±4.5, 208S±02×1779W±02, h539km±52km, mb4.0/9, Error ellipse: s-maj=34.5km s-min=25.6km az=26.3*

ISC 07 00:21:09.7±4.1, 208S±02×1778W±02, h505km±44km, n29, σ1s90/18, mb4.0/9, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.78**	**262**	P	**P**	**00 24 17.2**	**-0.3**
	0.3nm,0.3s,baz=81,slow=18,SNR=5.0						
CTA	**Charters Tower**	**33.70**	**265**	*eP*	**P**	**00 27 09.3**	**+1.1**
	2.5nm,0.5s,mb3.9						
CTA	**Charters Tower**	**33.70**	**265**	P	**P**	**00 27 09.2**	**+1.0**
	5.3nm,0.7s,mb4.1,baz=93,slow=11,SNR=6.7						
CTAO	**Charters Tower**	**33.70**	**265**	*eP*	**P**	**00 27 09.2**	**+0.9**
	3.7nm,0.6s,mb4.0						
TAU	**Tasmania Unive**	**36.59**	**225**	*eP*	**P**	**00 27 31.9**	**-0.4**
STKA	**Stephens Creek**	**37.88**	**245**	⇑*iP*	**P**	**00 27 41.8**	**-1.2**
	5.6nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**37.88**	**245**	P	**P**	**00 27 41.6**	**-1.3**
	5.2nm,0.7s,mb4.1,baz=94,slow=6.0,SNR=6.9						
AS31	**Alice Springs**	**44.69**	**257**	*eP*	**P**	**00 28 45.2**	**+8.2**
ASAR	**Alice Springs**	**44.69**	**257**	P	**P**	**00 28 37.8**	**+0.8**
	6.2nm,0.6s,mb4.2,baz=98,slow=7.7,SNR=63						
ASAR				PcP	PcP	00 30 10.3	+1.6
	1.1nm,0.6s,baz=101,slow=4.0,SNR=7.5						
ASAR	**Alice Springs**	**44.69**	**257**	P	**P**	**00 28 37.8**	**+0.8**
ASAR				PcP	PcP	00 30 10.3	+1.6
WB2	**Warramunga Arr**	**44.79**	**262**	*eP*	**P**	**00 28 38.0**	**+0.2**
WRA	**Warramunga Arr**	**44.80**	**262**	P	**P**	**00 28 37.7**	**-0.1**
	1.2nm,0.3s,mb3.8,baz=96,slow=8.1,SNR=29						
MBWA	**Marble Bar**	**58.02**	**257**	*eP*	**P**	**00 30 14.0**	**+0.3**
	11nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**69.29**	**180**	*eP*	**P**	**00 31 27.8**	**+2.0**
	8.3nm,0.9s,mb4.3						
MJAR	**Matsushiro Arr**	**70.58**	**324**	P	**P**	**00 31 33.2**	**-0.2**
	2.3nm,0.5s,mb4.0,baz=154,slow=6.2,SNR=5.7						
SNAA	**Sanae**	**87.72**	**178**	*eP*	**P**	**00 33 02.2**	**-2.1**
ILAR	**Eielson Array**	**88.53**	**13**	P	**P**	**00 33 07.1**	**-1.0**
	0.7nm,0.5s,mb3.8,baz=217,slow=5.8,SNR=12						
PDAR	**Pinedale Array**	**89.00**	**43**	P	**P**	**00 33 11.2**	**+1.0**
	0.6nm,0.8s,mb3.5,baz=226,slow=4.9,SNR=4.5						
MKAR	**Makanchi Array**	**111.56**	**313**	PKiKP	PKiKP	00 38 46.1	-0.2
	0.4nm,0.5s,baz=47,slow=0.3,SNR=4.4						
ARCES	**ARCESS Array B**	**129.24**	**350**	PKP	PKPdf	00 39 19.6	-0.6
	2.5nm,0.9s,baz=54,slow=2.1,SNR=6.3						
FINES	**FINESS Array B**	**136.11**	**344**	PKP	PKPdf	00 39 32.3	-0.8
	0.4nm,0.7s,baz=45,slow=1.1,SNR=3.6						
AKASG	**Malin Array Be**	**143.37**	**331**	PKP	PKPdf	00 39 44.0	-2.2
	1.5nm,0.4s,baz=44,slow=4.0,SNR=14						
MALT	**Malatya**	**144.29**	**307**	PKPdf	PKPdf	00 39 49.7	+1.9
BRTR	**Keskin Array B**	**147.20**	**312**	PKPbc	PKPbc	00 39 56.4	+0.5
	1.1nm,0.7s,baz=126,slow=4.3,SNR=7.2						
CLL	**Collm**	**148.39**	**347**	⇓*iP*	PKPdf	00 39 59.5	+4.8
	comp=Z,7.0nm,0.8s						
BRG	**Berggiesshubel**	**148.59**	**346**	*i* P	PKPdf	00 39 59.9	+4.9
	comp=Z,3.8nm,0.8s						
KHC	**Kasperske Hory**	**150.30**	**345**	*eP*	PKPdf	00 40 04.5	+6.8
GERES	**GERESS Array B**	**150.53**	**345**	PKPbc	PKPbc	00 40 04.7	+0.7
	comp=Z,0.9nm,0.6s,baz=40,slow=2.3,SNR=9.2						
TORD	**Torodi Ar. Bea**	**172.39**	**176**	PKP	PKPdf	00 40 20.8	+0.6
	comp=Z,1.0nm,1.1s,baz=236,slow=0.8,SNR=4.1						

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*ISCJB **07** 00:56:53.8±0.2, 4424N×001×668E±002, h12km±2km, Error ellipse: s-maj=2.1km s-min=1.9km az=166.4*
*MOS **07** 00:56:53.3±0.8, 4420N×665E, h11km, mb3.6/1, Error ellipse: s-maj=8.3km s-min=4.7km az=105.1*
*STR **07** 00:56:54.9±0.1, 4424N×672E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **07** 00:56:54.3±0.1, 4422N×677E, h12km, ML2.5, Error ellipse: s-maj=1.1km s-min=1.0km az=147.0*
*NEIC **07** 00:56:54.9, 4424N×672E, h5km, MD2.7(ROM), ML2.7(LDG), ML2.5(STR), ML2.9(CSEM), After STR.*
*GEN **07** 00:56:54.2, 4421N×666E, h4km, ML2.0*
*LDG **07** 00:56:54.9±0.1, 4422N×672E, h2km, Md3.0/2, Ml2.7/16, Error ellipse: s-maj=1.4km s-min=1.2km az=86.0*
*ROM **07** 00:56:55.0±0.4, 4423N×680E, h14km±5km, Md2.7/4, Error ellipse: s-maj=5.3km s-min=3.0km az=84.0*

ISC 07 00:56:54.4±0.2, 4424N±001×669E±001, h15km±2km, n86, σ0s85/163, 1C-1D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.26**	**20**	Pg	**Pg**	**00 56 59.9**	**-0.1**
SURF				Sg	**Sg**	**00 57 04.5**	**+0.7**
PZZ	**Prazzo**	**0.40**	**48**	P	**Pg**	**00 57 03.0**	**+0.5**
PZZ				S	**Sg**	**00 57 08.7**	**+0.8**
STV	**Sta Anna Valdi**	**0.45**	**89**	P	**Pg**	**00 57 03.5**	**0.0**
STV				S	**Sg**	**00 57 09.9**	**+0.2**
STV2	**Anna di Valdie**	**0.46**	**89**	P	**Pg**	**00 57 03.5**	**0.0**
STV2				S	**Sg**	**00 57 09.7**	**0.0**
MVIF	**Mont Vial**	**0.48**	**136**	Pg	**Pg**	**00 57 03.5**	**-0.4**
MVIF				Sg	**Sg**	**00 57 10.5**	**+0.1**
DOI	**San Damiano**	**0.48**	**56**	Pg	**Pg**	**00 57 04.2**	**+0.2**
DOI				Sg	**Sg**	**00 57 11.0**	**+0.6**
	159nm,0.4s						
MBDF	**Montbardon**	**0.49**	**7**	*e*Pg	**Pg**	**00 57 04.1**	**-0.1**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**00 57 11.2**	**+0.4**
	59nm,0.3s,SNR=1.0						
ENR	**Entracque**	**0.52**	**91**	P	**Pg**	**00 57 04.8**	**0.0**
ENR				S	**Sg**	**00 57 11.9**	**+0.1**
AUTN	**L'Aution**	**0.58**	**114**	Pg	**Pg**	**00 57 05.5**	**-0.4**
AUTN				Sg	**Sg**	**00 57 14.0**	**+0.3**
STOF	**St-Etienne Org**	**0.61**	**247**	Pg	**Pg**	**00 57 07.4**	**+0.9**
SBF	**Sospel**	**0.65**	**125**	*e*Pg	**Pg**	**00 57 06.8**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**00 57 15.4**	**-0.5**
	132nm,0.3s,SNR=1.0						
SAOF	**Saorge**	**0.67**	**112**	Pg	**Pg**	**00 57 07.1**	**-0.5**
SAOF				Sg	**Sg**	**00 57 16.8**	**+0.3**
FRF	**La Foret Royal**	**0.68**	**183**	*e*Pg	**Pg**	**00 57 06.7**	**-1.0**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**00 57 16.0**	**-0.7**
	70nm,0.3s,SNR=1.0						
RRL	**Cesana Torines**	**0.68**	**5**	P	**Pg**	**00 57 08.1**	**+0.3**
RRL				S	**Sg**	**00 57 17.5**	**+0.6**
REVF	**Revere**	**0.70**	**135**	Pg	**Pg**	**00 57 08.0**	**-0.1**
REVF				Sg	**Sg**	**00 57 18.8**	**+1.5**
TAVF	**Tavernes**	**0.77**	**217**	Pg	**Pg**	**00 57 08.9**	**-0.6**
TAVF				Sg	**Sg**	**00 57 21.1**	**+1.4**
MONE	**Monesi**	**0.78**	**101**	P	**Pg**	**00 57 09.3**	**-0.3**
MONE				S	**Sg**	**00 57 19.9**	**0.0**
VILF	**Villemus**	**0.80**	**242**	Pg	**Pg**	**00 57 10.7**	**+0.6**
VILF				Sg	**Sg**	**00 57 23.1**	**+2.4**
BNI	**Bardonecchia**	**0.81**	**359**	*e*P	**Pg**	**00 57 10.0**	**-0.2**
BNI				*e*S	**Sg**	**00 57 21.8**	**+0.8**
NEGI	**Negi**	**0.83**	**118**	P	**Pb**	**00 57 10.1**	**-0.4**
NEGI				S	**Sg**	**00 57 21.1**	**-0.3**
FENE	**Fenestrelle**	**0.83**	**18**	P	**Pb**	**00 57 10.6**	**0.0**
FENE				S	**Sg**	**00 57 21.7**	**+0.1**
SMRF	**Simiane la Rot**	**0.85**	**252**	*e*Pg	**Pg**	**00 57 10.7**	**-0.2**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**00 57 22.2**	**+0.2**
SMRF				*e*Sn	**Sn**	**00 57 24.6**	**+0.7**
	74nm,0.2s,SNR=1.0						
ROB	**Roburent**	**0.85**	**86**	P	**Pb**	**00 57 10.6**	**-0.2**
ROB				S	**Sb**	**00 57 21.8**	**-0.2**
ORIF	**Oris-en-Rattie**	**0.89**	**320**	*e*Pg	**Pg**	**00 57 10.9**	**-0.9**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**00 57 23.7**	**+0.2**
	60nm,0.5s,SNR=1.0						
LMR	**La Mourre**	**0.92**	**188**	*e*Pn	**Pn**	**00 57 11.6**	**-1.1**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**00 57 23.2**	**-1.0**
	66nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**0.92**	**188**	*e*Pn	**Pn**	**00 57 11.6**	**-1.1**
LMR				*e*Sg	**Sg**	**00 57 23.2**	**-1.0**
LMR	**La Mourre**	**0.92**	**188**	*e*Pg	**Pg**	**00 57 10.6**	**-1.6**
LMR				*e*Pn	**Pn**	**00 57 11.6**	**-1.1**
IMI	**Imperia**	**0.92**	**110**	Pg	**Pg**	**00 57 11.9**	**-0.4**
	51nm,0.2s						
IMI				S	**Sb**	**00 57 24.0**	**-0.2**
RORO		**1.00**	**97**	P	**Pb**	**00 57 13.1**	**-0.3**
RORO				S	**Sb**	**00 57 25.8**	**-0.5**
RSP	**Reno Superiore**	**1.00**	**24**	P	**Pb**	**00 57 13.5**	**+0.1**
RSP				S	**Sb**	**00 57 26.5**	**+0.2**
PUYF	**Puyloubier**	**1.01**	**226**	Pg	**Pg**	**00 57 14.0**	**+0.1**
PUYF				Sg	**Sg**	**00 57 29.0**	**+1.9**
FIN	**Finale Ligure**	**1.09**	**91**	P	**Pb**	**00 57 14.4**	**-0.6**
FIN	**Finale Ligure**	**1.09**	**91**	Pg	**Pg**	**00 57 15.1**	**-0.4**
FIN				S	**Sb**	**00 57 28.1**	**-0.9**
FIN				Sg	**Sg**	**00 57 30.2**	**+0.5**
	19nm,0.2s						
TREF	**Trevaresse**	**1.13**	**237**	Pg	**Pg**	**00 57 16.5**	**+0.3**
BERF	**Bertagne**	**1.18**	**218**	Pg	**Pg**	**00 57 16.7**	**-0.4**
BERF				Sg	**Sg**	**00 57 33.8**	**+1.3**
PRAF	**Pradon**	**1.18**	**249**	Pg	**Pg**	**00 57 17.9**	**+0.7**
GELF	**Grande-Etoile**	**1.25**	**227**	Pg	**Pg**	**00 57 17.9**	**-0.7**
LPG	**La Plagne**	**1.26**	**2**	*e*Pg	**Pg**	**00 57 18.7**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**00 57 35.4**	**+0.3**
	16nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**1.26**	**2**	*e*Pg	**Pg**	**00 57 18.7**	**0.0**
LPG				*e*Sg	**Sg**	**00 57 35.4**	**+0.3**
LPG	**La Plagne**	**1.26**	**2**	*e*Pn	**Pn**	**00 57 18.2**	**+0.8**
LPG				*e*Pg	**Pg**	**00 57 18.7**	**0.0**
LPG				*e*Sg	**Sg**	**00 57 35.4**	**+0.3**
LPL	**La Plagne**	**1.28**	**1**	*e*Pg	**Pg**	**00 57 19.1**	**0.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**00 57 35.8**	**+0.1**
	37nm,0.5s,SNR=1.0						
LPL	**La Plagne**	**1.28**	**1**	*e*Pg	**Pg**	**00 57 19.1**	**0.0**
LPL				*e*Sg	**Sg**	**00 57 35.8**	**+0.1**
LPL	**La Plagne**	**1.28**	**1**	*e*Pn	**Pn**	**00 57 18.7**	**+1.0**
LPL				*e*Pg	**Pg**	**00 57 19.1**	**0.0**
LPL				*e*Sg	**Sg**	**00 57 35.8**	**+0.1**
PCP	**Pian Castagno**	**1.36**	**77**	P	**Pn**	**00 57 19.2**	**+0.3**
PCP				S	**Sn**	**00 57 36.2**	**-0.4**
TRAV		**1.48**	**30**	P	**Pn**	**00 57 20.6**	**+0.2**
TRAV				S	**Sn**	**00 57 38.6**	**-0.9**
VIVF	**Saint-Julien-I**	**1.57**	**294**	*e*Pg	**Pg**	**00 57 24.5**	**-0.1**
VIVF				*e*Sn	**Sn**	**00 57 41.8**	**0.0**
	14nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-I**	**1.57**	**294**	*e*Pg	**Pg**	**00 57 24.5**	**-0.1**
VIVF				*e*Sn	**Sn**	**00 57 41.8**	**0.0**
VIVF	**Saint-Julien-I**	**1.57**	**294**	*e*Pn	**Pn**	**00 57 22.4**	**+0.7**
VIVF				*e*Pg	**Pg**	**00 57 24.5**	**-0.1**
VIVF				*e*Sn	**Sn**	**00 57 41.8**	**0.0**
ORO	**Oropa**	**1.66**	**33**	Pg	**Pg**	**00 57 25.0**	**-1.4**
ORO				Sg	**Sg**	**00 57 49.3**	**+1.3**
	5.0nm,0.2s						
ORX	**Oropa**	**1.67**	**33**	P	**Pn**	**00 57 23.6**	**+0.5**
EMV	**Vieux Emosson**	**1.83**	**5**	⇓P	**Pn**	**00 57 28.8**	**+3.5**
DIX	**Grande Dixence**	**1.91**	**15**	P	**Pn**	**00 57 30.1**	**+3.7**
SC2M	**Scurtabr**	**2.05**	**84**	P	**Pn**	**00 57 28.9**	**+0.6**
LASF	**Ste Croix**	**2.05**	**266**	*e*Pg	**Pg**	**00 57 32.7**	**-1.0**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**00 57 53.2**	**-0.3**
	8.7nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**2.05**	**266**	*e*Pg	**Pg**	**00 57 32.7**	**-1.0**
LASF				*e*Sn	**Sn**	**00 57 53.2**	**-0.3**
LASF	**Ste Croix**	**2.05**	**266**	*e*Pn	**Pn**	**00 57 28.2**	**-0.1**
LASF				*e*Pg	**Pg**	**00 57 32.7**	**-1.0**
LASF				*e*Sn	**Sn**	**00 57 53.2**	**-0.3**
LKBD	**Leukerbad**	**2.25**	**17**	⇑P	**Pn**	**00 57 35.3**	**+4.3**
CODM		**2.27**	**85**	P	**Pn**	**00 57 31.7**	**+0.3**
PGF	**Pioggiola**	**2.38**	**134**	*e*Pn	**Pn**	**00 57 32.7**	**-0.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**00 58 00.3**	**-1.5**
	16nm,0.3s						
CABF	**La Chapelle**	**2.41**	**350**	*e*Pg	**Pg**	**00 57 40.1**	**-0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**00 58 11.3**	**-0.6**
	5.0nm,0.4s						
CABF	**La Chapelle**	**2.41**	**350**	*e*Pg	**Pg**	**00 57 40.1**	**-0.6**
CABF				*e*Sg	**Sg**	**00 58 11.3**	**-0.6**
CABF	**La Chapelle**	**2.41**	**350**	*e*Pn	**Pn**	**00 57 34.2**	**+0.9**
CABF				*e*Pg	**Pg**	**00 57 40.1**	**-0.6**
CABF				Pg	**Pg**	**00 57 40.3**	**-0.4**
CABF				*e*Sg	**Sg**	**00 58 11.3**	**-0.6**
GRAM		**2.43**	**83**	P	**Pn**	**00 57 34.3**	**+0.7**
VALM		**2.56**	**86**	P	**Pn**	**00 57 35.4**	**+0.1**
SARO	**Sassorosso**	**

ISC 07 01:35:16.9±3.1, 46S±02×1438E±01, h121km±34km, n14, σ0997/15, mb3.7/4, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.81**	**145**	P	**Pn**	**01 36 41.7**	**+0.9**
	1.6nm,0.3s,baz=315,slow=18,SNR=3.2						
PMG				S	**Sn**	**01 37 46.2**	**0.0**
	3.6nm,0.3s,baz=84,slow=16,SNR=2.3						
KAKA	**Kakadu**	**13.77**	**234**	*e*P	**Pn**	**01 38 25.6**	**-1.4**
	44nm,0.6s						
CTAO	**Charters Tower**	**15.55**	**171**	*e*Pn	**Pn**	**01 38 47.7**	**-1.7**
	16nm,0.6s						
WRAB	**Tennant Creek**	**17.76**	**210**	*e*P	**Pn**	**01 39 17.0**	**+0.5**
	8.2nm,0.5s						
WRAB				*e*S	**S**	**01 42 20.1**	**-13**
WB2	**Warramunga Arr**	**17.77**	**210⇑**	*i*P	**Pn**	**01 39 16.7**	**+0.2**
WRA	**Warramunga Arr**	**17.78**	**210**	P	**Pn**	**01 39 16.6**	**0.0**
	1.0nm,0.3s,baz=31,slow=11,SNR=20						
WRA				pP	pP	01 39 33.9	-3.5
	0.9nm,0.3s,baz=22,slow=13,SNR=8.3						
ASAR	**Alice Springs**	**21.18**	**206**	P	**P**	**01 39 53.8**	**+1.2**
	1.6nm,0.5s,mb3.6,baz=29,slow=12,SNR=19						
ASAR				pP		01 40 14.8	
	3.2nm,0.9s,baz=40,slow=11,SNR=6.7						
FITZ	**Fitzroy Crossi**	**22.22**	**232**	*e*P	**P**	**01 40 03.8**	**+0.3**
	12nm,0.6s,mb4.4						
KULM	**Kulim**	**44.18**	**282**	P	**P**	**01 43 13.2**	**-0.4**
MKAR	**Makanchi Array**	**74.41**	**321**	P	**P**	**01 46 41.9**	**+0.3**
	0.1nm,0.3s,mb3.0,baz=99,slow=7.6,SNR=3.8						
MKAR				pP	pP	01 47 08.6	-3.2
	2.4nm,0.9s,baz=109,slow=6.7,SNR=13						
MKAR	**Makanchi Array**	**74.41**	**321**	P	**P**	**01 46 41.9**	**+0.3**
MKAR				pP	pP	01 47 08.6	-3.2
KURK	**Kurchatov**	**78.21**	**324**	P	**P**	**01 47 04.5**	**+1.5**
ILAR	**Eielson Array**	**85.51**	**24**	P	**P**	**01 47 39.7**	**-1.6**
	1.1nm,0.6s,mb3.9,baz=257,slow=4.9,SNR=22						
DBIC	**Dimbokro**	**148.72**	**275**	PKPbc	PKPbc	01 54 52.6	+2.7
	1.3nm,0.5s,baz=45,slow=2.9,SNR=9.7						

*MOS **07** 01:46:23.5±0.8, 438S×15232E, h80km, mb5.2/17, MS4.3/6, Error ellipse: s-maj=9.9km s-min=6.8km az=69.5*
*BJI **07** 01:46:24.5, 442S×15283E, h106km, mB5.1, mb5.0*
*NEIC **07** 01:46:25.8±0.1, 448S×15237E, mb5.2/45, Error ellipse: s-maj=5.1km s-min=3.8km az=128.0*
*ISCJB **07** 01:46:25.5±0.2, 454S±003×15239E±003, h102km, mb5.0/75, Error ellipse: s-maj=4.8km s-min=4.3km az=93.3*
*HRVD **07** 01:46:25.8±0.1, 462S×15234E, h96km±1km, MW5.3/102, Centroid moment Tensor Solution. LP body waves: s78,c132;Mantle waves: s102,c183; Half duration: 1±1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.40±.03; $M_{\theta\theta}$-0.14±.02; $M_{\phi\phi}$0.53±.03; $M_{r\theta}$-0.69±.02; $M_{\theta\phi}$-0.28±.03; $M_{r\phi}$0.89±.02; Best double couple: $M_0$1.24900×1017 NP1:ϕ_s9.00000°, δ16.00000°, λ-44.00000°. NP2: ϕ_s142.00000°, δ79.00000°, λ-102.00000°. Principal axes: T 1.3310, Plg33.0000°, Azm242.0000°; N -0.1640, Plg12.0000°, Azm144.0000°; P -1.1670, Plg55.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 01:46:26.6±0.6, 453S×15227E, h101km±4km, mb4.8/14, mb1 5.0/18, mb1mx4.9/20, mbtmp5.2/18, MS4.2/16, Ms1 4.2/16, ms1mx4.1/21 Error ellipse: s-maj=10.7km s-min=8.9km az=79.0*

ISC 07 01:46:27.3±0.2, 459S±003×15243E±003, h104km, h104km±2.2km: pP-P, n287, σ1s12/216, mb5.0/75, 12C-7D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.09**	**227**	P	**Pn**	**01 48 07.4**	**-0.9**
	24nm,0.3s,baz=34,slow=7.3,SNR=32						
PMG				S	**Sn**	**01 49 28.5**	**+1.1**
	48nm,0.3s,baz=150,slow=18,SNR=4.1						
PMG	**Port Moresby**	**7.09**	**227**	Pn	**Pn**	**01 48 08.8**	**+0.4**
PMG	**Port Moresby**	**7.09**	**227**	*c i*P	**Pn**	**01 48 08.4**	**0.0**
HNR	**Honiara**	**8.87**	**123**	P	**Pn**	**01 48 33.1**	**+0.5**
	16nm,0.3s,baz=250,slow=3.4,SNR=11						
HNR				S	**Sn**	**01 50 13.7**	**+3.0**
	48nm,0.3s,baz=97,slow=15,SNR=2.6						
HNR	**Honiara**	**8.87**	**123**	*e*Pn	**Pn**	**01 48 33.6**	**+1.0**
	603nm,0.8s						
HNR				*e*Sn	**Sn**	**01 50 17.4**	**+6.7**
HNR	**Honiara**	**8.87**	**123**	*e*P	**Pn**	**01 48 33.6**	**+1.0**
HNR				*e*		01 50 17.4	
HNR				pmax	pmax		
	comp=Z,603nm,0.8s						
CTA	**Charters Tower**	**16.54**	**201**	*e*P	**Pn**	**01 50 14.0**	**+1.1**
	comp=Z,34nm,0.8s						
CTA				*e*S	**S**	**01 53 19.8**	**-1.4**
CTA	**Charters Tower**	**16.54**	**201**	P	**Pn**	**01 50 14.2**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=28,slow=14,SNR=39						
CTA				LR	LR	01 55 57.2	
	comp=Z,970nm,20.6s,baz=25,slow=34						
CTA	**Charters Tower**	**16.54**	**201**	*e*P	**Pn**	**01 50 14.0**	**+1.1**
CTA				*e*S	**S**	**01 53 19.8**	**-1.4**
CTA				pmax	pmax		
	comp=Z,34nm,0.8s						
CTAO	**Charters Tower**	**16.54**	**201**	*e*P	**Pn**	**01 50 14.2**	**+1.3**
	comp=Z,40nm,0.8s						
CTAO				*e*		01 50 29.5	
CTAO	**Charters Tower**	**16.54**	**201**	*e*P	**Pn**	**01 50 14.2**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,40nm,0.8s						
GUMO	**Guam**	**19.56**	**338**	P	**P**	**01 50 46.9**	**+0.1**
	comp=Z,13nm,0.3s,baz=175,slow=8.6,SNR=23						
GUMO				LR	LR	01 57 09.3	
	comp=Z,214nm,20.9s,baz=152,slow=33						
GUMO	**Guam**	**19.56**	**338**	*e*P	**P**	**01 50 47.7**	**+0.9**
	comp=Z,748nm,0.9s						
GUMO	**Guam**	**19.56**	**338**	*e*P	**P**	**01 50 47.7**	**+1.0**
GUMO				pmax	pmax		
	comp=Z,748nm,0.9s						
KAKA	**Kakadu**	**21.34**	**246**	*e*P	**P**	**01 51 04.3**	**-1.6**
	comp=Z,711nm,1.2s,mb5.9						
DZM	**Mont Dzumac**	**22.05**	**143**	P	**P**	**01 51 14.7**	**+1.3**
	comp=Z,192nm,0.9s,mb5.4,baz=324,slow=11,SNR=113						
DZM				pP		01 51 34.4	
	comp=Z,64nm,0.8s,baz=314,slow=18,SNR=4.4						
DZM				S	**S**	**01 55 14.5**	**+4.5**
	comp=Z,4.6nm,0.9s,baz=295,slow=14,SNR=4.0						
WRAB	**Tennant Creek**	**23.30**	**228**	P	**P**	**01 51 25.0**	**-0.8**
	comp=Z,3μm,0.7s						
WRAB	**Tennant Creek**	**23.30**	**228**	*e*P	**P**	**01 51 25.3**	**-0.5**
	comp=Z,437nm,0.7s,mb5.9						
WRAB				*e*S	**S**	**01 55 33.0**	**+2.7**
WRAB	**Tennant Creek**	**23.30**	**228**	*e*P	**P**	**01 51 25.3**	**-0.5**
WRAB				*e*S	**S**	**01 55 33.0**	**+2.7**
WRAB				pmax	pmax		
	comp=Z,437nm,0.7s,mb5.9						
WB2	**Warramunga Arr**	**23.30**	**228⇑**	*i*P	**P**	**01 51 25.3**	**-0.6**
WB2				*e*S	**S**	**01 55 28.9**	**-1.5**
WRA	**Warramunga Arr**	**23.31**	**228**	P	**P**	**01 51 25.3**	**-0.7**
	comp=Z,218nm,0.7s,mb5.6,baz=52,slow=9.5,SNR=362						
WRA				pP		01 51 44.8	
	comp=Z,72nm,0.7s,baz=51,slow=9.2,SNR=4.1						
WRA				S	**S**	**01 55 28.5**	**-2.0**
	comp=Z,12nm,0.9s,baz=62,slow=13,SNR=3.8						
WRA				ScP	ScP	01 58 40.2	+1.7
	comp=Z,4.8nm,0.9s,baz=47,slow=2.9,SNR=5.2						
WRA	**Warramunga Arr**	**23.31**	**228**	P	**P**	**01 51 25.3**	**-0.6**
WRA				*PP		01 51 44.8	
WRA				S	**S**	**01 55 28.6**	**-1.9**
ARMA	**Armidale**	**25.70**	**182**	*e*P	**P**	**01 51 48.3**	**+0.6**
AS31	**Alice Springs**	**26.06**	**222**	*e*P	**P**	**01 51 50.5**	**-0.4**
ASAR	**Alice Springs**	**26.06**	**222**	P	**P**	**01 51 50.4**	**-0.5**
	comp=Z,32nm,0.5s,mb5.0,baz=57,slow=8.2,SNR=145						
ASAR				pP	pP	01 52 12.9	-0.9
	comp=Z,84nm,0.8s,baz=57,slow=9.1,SNR=9.7						
ASAR				sP	sP	01 52 23.7	-2.2
	comp=Z,116nm,0.9s,baz=53,slow=9.3,SNR=7.0						
ASAR				ScP	ScP	01 58 47.9	+1.7
	comp=Z,10.0nm,1.1s,baz=49,slow=2.9,SNR=6.6						
ASAR	**Alice Springs**	**26.06**	**222**	P	**P**	**01 51 50.4**	**-0.5**
ASAR				*PP	pP	01 52 12.9	-0.8
ASPA	**Alice Springs**	**26.06**	**222**	*e*P	**P**	**01 51 50.5**	**-0.4**
STKA	**Stephens Creek**	**28.99**	**199**	*e*P	**P**	**01 52 14.0**	**-3.0**
	comp=Z,29nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**28.99**	**199**	P	**P**	**01 52 14.9**	**-2.1**
	comp=Z,33nm,0.7s,mb5.0,baz=4.1,slow=8.7,SNR=57						
STKA				LR	LR	02 04 08.0	
	comp=Z,498nm,20.6s,baz=18,slow=37						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**29.44**	**241**	*e*P	**P**	**01 52 19.6**	**-1.4**
	comp=Z,125nm,0.8s,mb5.6						
BUKP	**Musuan**	**29.98**	**294**	*e*P	**P**	**01 52 25.8**	**0.0**
TOO	**Toolangi**	**33.44**	**190**	*e*P	**P**	**01 52 57.5**	**+1.4**
	comp=Z,13nm,1.0s,mb4.7						
TOO	**Toolangi**	**33.44**	**190**	*e*P	**P**	**01 52 57.5**	**+1.4**
TOO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
AFI	**Afiamalu**	**36.47**	**107**	LR	LR	02 05 16.1	
	comp=Z,361nm,20.3s,baz=43,slow=31						
KKM	**Kota Kinabalu**	**37.67**	**286**	*e*P	**P**	**01 53 32.5**	**+0.1**
URZ	**Urewera**	**40.35**	**149**	P	**P**	**01 53 56.1**	**+1.5**
	comp=Z,16nm,0.5s,mb5.1,baz=326,slow=7.2,SNR=8.9						
URZ				LR	LR	02 08 22.2	
	comp=Z,225nm,18.0s,baz=342,slow=32						
KLBR	**Kellerberrin**	**42.19**	**226**	*e*P	**P**	**01 54 07.7**	**-1.9**
	comp=Z,34nm,0.6s,mb5.2						
KLBR				*e*pP	pP	01 54 28.9	-4.8
RPZ	**Rata Peaks**	**42.30**	**160**	P	**P**	**01 54 12.0**	**+1.5**
	comp=Z,40nm,0.7s,mb5.3,baz=180,slow=3.7,SNR=13						
RPZ				LR	LR	02 09 02.1	
	comp=Z,575nm,18.8s,baz=231,slow=32						
KSM	**Kuching**	**42.52**	**277**	*e*P	**P**	**01 54 12.7**	**+0.4**
MJAR	**Matsushiro Arr**	**43.02**	**343**	P	**P**	**01 54 14.0**	**-2.5**
	comp=Z,7.8nm,1.0s,mb4.4,baz=168,slow=8.1,SNR=8.8						
MJAR				LR	LR	02 09 47.2	
	comp=Z,158nm,21.1s,baz=155,slow=33						
NWAO	**Narrogin (SRO)**	**43.28**	**225**	P	**P**	**01 54 17.4**	**-1.0**
	comp=Z,7.2nm,0.5s,mb4.7,baz=61,slow=11,SNR=6.9						
NWAO				PP	PP	01 55 58.2	-2.7
	comp=Z,43nm,0.8s,baz=60,slow=9.7,SNR=11						
NWAO				LR	LR	02 12 58.4	
	comp=Z,632nm,19.4s,baz=25,slow=37						
NWAO	**Narrogin (SRO)**	**43.28**	**225**	P	**P**	**01 54 17.4**	**-1.0**
NWAO				PP	PP	01 55 58.2	-2.7
NWAO				LR	LR	02 12 58.4	
NWAO	**Narrogin (SRO)**	**43.28**	**225**	P	**P**	**01 54 17.5**	**-0.9**
NWAO						01 55 58.2	
MUN	**Mundaring**	**43.51**	**227**	*e*P	**P**	**01 54 19.1**	**-1.2**
MUN				*e*pP	pP	01 54 40.3	-4.2
QZH	**Quanzhou**	**44.09**	**313**	*e*P	**P**	**01 54 26.4**	**+1.5**
QZH				*e*S	**S**	**02 00 51.1**	**+1.4**
QZH				XS	sS	02 01 29.2	-2.2
QZH				SCS	ScS	02 04 13.1	+0.2
SSE	**Sheshan**	**46.35**	**322**	P	**P**	**01 54 43.4**	**+0.6**
SSE				AP	pP	01 55 11.0	+3.7
SSE				XP	sP	01 55 25.1	+6.1
SSE				PCP	PcP	01 56 16.7	+0.4
SSE				S	**S**	**02 01 21.6**	**-0.7**
SSE				XS	sS	02 02 09.7	+5.4
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,197nm,3.8s						
SSE				LR	LR		
	comp=N,199nm,25.7s						
SSE				LR	LR		
	comp=E,319nm,25.7s						
SSE				LR	LR		
	comp=Z,144nm,26.8s						
KS15	**Wonju Array Si**	**47.65**	**333**	P	**P**	**01 54 52.1**	**-0.9**
QIZ	**Qiongzhong**	**48.05**	**301**	P	**P**	**01 54 57.9**	**+1.9**
QIZ				AP	pP	01 55 26.1	+5.5
QIZ				S	**S**	**02 01 45.2**	**-1.2**
QIZ				SCS	ScS	02 04 40.8	+2.1
QIZ				SS	SS	02 05 15.8	-0.7
QIZ				AMB	AMB		
	comp=Z,109nm,5.0s						
INCN	**Inchon**	**48.26**	**332**	P	**P**	**01 54 57.4**	**-0.2**
NJ2	**Nanjing**	**48.45**	**321**	*e*P	**P**	**01 55 00.5**	**+1.4**
NJ2				AP	pP	01 55 26.4	+2.7
NJ2				XP	sP	01 55 39.2	+3.8
NJ2				PP	PP	01 56 54.5	+1.9
NJ2				S	**S**	**02 01 51.0**	**-1.1**
NJ2				XS	sS	02 02 36.0	+1.6
NJ2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,170nm,5.4s						
NJ2				LR	LR		
	comp=N,3μm,17.0s						
NJ2				LR	LR		
	comp=E,910nm,19.4s						
NJ2				LR	LR		
	comp=Z,210nm,25.6s						
MDJ	**Mudanjiang**	**53.09**	**340**	P	**P**	**01 55 35.5**	**+1.6**
MDJ				AP	pP	01 56 01.8	+2.9
MDJ				XP	sP	01 56 14.2	+3.7
MDJ				PCP	PcP	01 56 41.2	+0.2
MDJ				PCS	PcS	02 00 40.2	+0.3
MDJ				S	**S**	**02 02 59.2**	**+3.0**
MDJ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,53nm,4.2s						
MDJ				LR	LR		
	comp=N,270nm,36.5s						
MDJ				LR	LR		
	comp=E,431nm,38.3s						
MDJ				LR	LR		
	comp=Z,235nm,34.7s						
ENH	**Enshi**	**53.74**	**313**	*e*P	**P**	**01 55 37.2**	**-1.5**
	comp=Z,42nm,1.0s,mb5.4						
ENH				*e*pP	pP	01 56 01.1	-2.7
CN2	**Changchun**	**53.96**	**336**	*e*P	**P**	**01 55 40.9**	**+0.7**
CN2				*e*AP	pP	01 56 10.5	+5.2
CN2				*e*XP	sP	01 56 23.4	+6.5
CN2				*e*S	**S**	**02 03 11.0**	**+3.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
PSI	**Prapat**	**53.97**	**277**	P	**P**	**01 55 38.1**	**-2.2**
	comp=Z,6.2nm,0.7s,mb4.8,baz=184,slow=6.7,SNR=8.6						
GYA	**Guiyang**	**53.98**	**307⇑**	*i*P	**P**	**01 55 42.9**	**+2.5**
GYA				AP	pP	01 56 09.3	+3.9
GYA				XP	sP	01 56 22.0	+5.0
GYA				PCP	PcP	01 56 46.5	+2.2
GYA				PP	PP	01 57 47.4	+4.7
GYA				S	**S**	**02 03 08.4**	**+0.3**
GYA				XS	sS	02 03 54.6	+3.5
GYA				SS	SS	02 06 50.8	+0.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,110nm,3.2s						
GYA				LR	LR		
	comp=N,490nm,18.9s						
GYA				LR	LR		
	comp=E,570nm,19.0s						
GYA				LR	LR		
	comp=Z,560nm,18.8s						
KLR	**Kul'dur**	**56.54**	**344**	*e*P	**P**	**01 55 53.9**	**-4.9**
KLR				*e*	pP	01 56 20.1	-3.9
KMI	**Kunming**	**56.56**	**304**	P	**P**	**01 56 01.3**	**+2.4**
KMI				AP	pP	01 56 25.4	+1.2
KMI				XP	sP	01 56 41.4	+5.7
KMI				PP	PP	01 58 13.5	+7.7
KMI				S	**S**	**02 03 43.8**	**+1.2**
KMI				XS	sS	02 04 26.4	+0.4
KMI				SS	SS	02 07 37.1	+5.6
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb5.0						
KMI				AMB	AMB		
	comp=Z,113nm,4.3s						
KMI				LR	LR		
	comp=N,288nm,21.8s						
KMI				LR	LR		
	comp=E,149nm,21.8s						
KMI				LR	LR		
	comp=Z,191nm,26.8s						
PET	**Petropavlovsk**	**57.64**	**4**	*e*P	**P**	**01 56 08.0**	**+1.5**
PET				*e*PP	pP	01 56 36.0	+4.2
PET				*e*S	**S**	**02 03 56.3**	**-0.4**
PET				*e*SS	SS	02 07 46.8	-1.5
PET				*e*SSS		02 10 13.2	
PET				pmax	pmax		
	comp=Z,100nm,15.3s						
PET				pmax	pmax		
	comp=Z,100nm,13.5s						
PET				smax			
	comp=N,100nm,11.5s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**58.14**	**108**	*e*S	**S**	**02 04 17.5**	**+14**
	comp=Z,530nm,23.0s						
PPT				*e*LR	LR	02 13 31.4	
	comp=Z,452nm,30.0s						
PPT	**Papeete**	**58.14**	**108**	LR	LR	02 17 56.0	
	comp=Z,4.6nm,20.6s,baz=294,slow=32						
CD2	**Chengdu**	**58.32**	**311**	P	**P**	**01 56 12.2**	**+0.9**
CD2				AP	pP	01 56 34.6	-2.1
CD2				S	**S**	**02 04 01.5**	**-4.1**
CD2				SS	SS	02 07 59.5	+0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				LR	LR		
	comp=N,140nm,4.3s						
CD2				LR	LR		
	comp=Z,160nm,7.2s						
HHC	**Hu-ho-hao-te**	**58.66**	**324**	*e*P	**P**	**01 56 15.4**	**+1.8**
HHC				AP	pP	01 56 45.5	+6.4
HHC				PCP	PcP	01 57 03.3	+0.7
HHC				PP	PP	01 58 28.5	+4.1
HHC				S	**S**	**02 04 09.7**	**-0.3**
HHC				SCS	ScS	02 05 49.8	-3.7
HHC				SS	SS	02 08 04.9	+0.5
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,108nm,4.8s						
HHC				LR	LR		
	comp=N,225nm,6.1s						
HHC				LR	LR		
	comp=E,220nm,5.3s						
HHC				LR	LR		
	comp=Z,174nm,8.6s						
TBI	**Tubuai**	**58.98**	**114**	*e*S	**S**	**02 04 28.7**	**+15**
	comp=Z,428nm,27.2s						
TBI				*e*LQ		02 11 22.8	
	comp=Z,677nm,26.2s						
TBI				*e*LR	LR	02 13 52.7	
	comp=Z,640nm,35.2s						
BTO	**Baotou**	**59.41**	**323**	*e*P	**P**	**01 56 18.9**	**+0.1**
LZH	**Lanzhou**	**60.82**	**316**	*e*P	**P**	**01 56 29.0**	**+0.5**
LZH				AP	pP	01 56 52.5	-1.5
LZH				XP	sP	01 57 02.5	-3.0
LZH				PP	PP	01 58 46.5	+3.0
LZH				*e*S	**S**	**02 04 36.4**	**-1.4**
LZH				XS	sS	02 05 23.4	+1.8
LZH				*e*SS	SS	02 08 38.7	+0.4
LZH				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,108nm,6.2s						
MA2	**Magadan**	**63.98**	**359**	P	**P**	**01 56 47.9**	**-1.6**
MA2	**Magadan**	**63.98**	**359**	*e*P	**P**	**01 56 48.8**	**-0.7**
MA2				*e*PP	pP	01 57 14.5	-0.7
MA2				S	**S**	**02 05 11.9**	**-5.4**
MA2				*e*SS	sS	02 05 56.9	-4.6
MA2				pmax	pmax		
	comp=N,4.0nm,0.7s						
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
GTA	**Gaotai**	**65.25**	**317**	*e*P	**P**	**01 56 58.4**	**+0.7**
GTA				AP	pP	01 57 23.9	+0.3
GTA				XP	sP	01 57 37.6	+2.6
GTA				PP	PP	01 59 27.2	+4.7
GTA				S	S	02 05 33.0	0.0
GTA				XS	sS	02 06 20.5	+3.1
GTA				SS	SS	02 09 50.4	+2.9
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.3						
GTA				AMB	AMB		
	comp=Z,95nm,6.5s						
GTA				LR	LR		
	comp=N,177nm,13.7s						
GTA				LR	LR		
	comp=E,118nm,17.1s						
GTA				LR	LR		
	comp=Z,134nm,17.1s						
ULN	**Ulaanbaatar**	**65.62**	**328**	P	**P**	**01 57 00.3**	**+0.2**
ULN	**Ulaanbaatar**	**65.62**	**328⇑**	*e*P	**P**	**01 57 00.5**	**+0.4**
SHL	**Shillong**	**65.89**	**300**	*e*P	**P**	**01 57 02.5**	**+0.7**
SONM	**Songino Array**	**65.95**	**328**	P	**P**	**01 57 01.6**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.1,baz=151,slow=6.3,SNR=13						
SONM				pP	pP	01 57 27.4	-0.7
	comp=Z,5.6nm,0.7s,baz=146,slow=4.4,SNR=6.2						
SONM				LR	LR	02 23 25.2	
	comp=Z,115nm,19.4s,baz=141,slow=34						
SONM	**Songino Array**	**65.95**	**328**	P	**P**	**01 57 01.6**	**-0.6**
SONM				*PP	pP	01 57 27.4	-0.8
SEY	**Seymchan**	**67.33**	**360⇑**	*e*P	**P**	**01 57 10.3**	**-0.7**
LSA	**Lhasa**	**67.82**	**305**	*e*P	**P**	**01 57 15.6**	**+1.6**
	comp=Z,8.6nm,0.8s,mb4.6						
LSA				*e*pP	pP	01 57 39.1	-1.0
LSA	**Lhasa**	**67.82**	**305**	*e*P	**P**	**01 57 15.6**	**+1.5**
LSA				*e*PP	pP	01 57 39.1	-1.0
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
CASY	**Casey**	**68.11**	**197**	*e*P	**P**	**01 57 15.2**	**-0.7**
	comp=Z,32nm,1.0s,mb5.1						
ZAK	**Zakamensk**	**69.12**	**329**	*e*P	**P**	**01 57 20.7**	**-1.5**
ZAK				*e*	pP	01 57 48.5	+0.2
ZAK				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.7						
BOD	**Bodaibo**	**69.46**	**339**	*e*P	**P**	**01 57 22.5**	**-1.8**
BOD				*e*	pP	01 57 47.9	-2.5
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
BOK	**Bokaro**	**70.64**	**297**	*e*P	**P**	**01 57 33.6**	**+2.1**
JIRN	**Jiri**	**71.37**	**301**	*e*P	**P**	**01 57 36.8**	**+0.9**
	comp=Z,27nm,0.7s,mb5.2						
VIS	**Vishakhapatnam**	**71.65**	**290**	*e*P	**P**	**01 57 38.3**	**+0.8**
VIS				AMb	AMB	01 57 40.4	
	comp=Z,31nm,1.1s,mb5.1						
GUN	**Gumba**	**71.70**	**301**	*e*P	**P**	**01 57 38.9**	**+1.0**
	comp=Z,59nm,0.7s,mb5.5						
PKI	**Pulchoki**	**72.01**	**301**	*e*P	**P**	**01 57 40.4**	**+0.7**
	comp=Z,38nm,1.0s,mb5.2						
PKI	**Pulchoki**	**72.01**	**301**	*e*P	**P**	**01 57 40.4**	**+0.7**
PKI				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
KKN	**Kakani**	**72.18**	**301**	*e*P	**P**	**01 57 41.2**	**+0.5**
	comp=Z,35nm,0.7s,mb5.3						
KKN	**Kakani**	**72.18**	**301**	*e*P	**P**	**01 57 41.2**	**+0.5**
KKN				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.0						
RKT	**Rikitea**	**72.21**	**113**	*e*S	S	02 07 10.0	+15
	comp=Z,374nm,26.2s						
RKT				*e*LR	LR	02 19 59.3	
	comp=Z,360nm,35.2s						
DMN	**Daman**	**72.28**	**301**	*e

comp=E,994nm,19.7s
WMQ LR LR
comp=Z,995nm,21.5s
TNA Tin City 75.69 16 P **P 01 58 00.6 -0.6**
HYB Hyderabad 76.08 289 *i* P **P 01 58 03.0 -0.4**
comp=Z,50nm,1.0s,mb5.2
HYB Hyderabad 76.08 289 *e*P **P 01 58 03.0 -0.4**
comp=Z,50nm,1.0s,mb5.2
HYB Hyderabad 76.08 289 *e*P **P 01 58 03.0 -0.4**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.2
KDAK Kodiak Island 76.15 27 LR LR 02 24 23.4
comp=Z,218nm,21.9s,baz=234,slow=30
TIXI Tiksi 77.64 353 *i* P **P 01 58 11.9 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,2.4s,mb4.0
BHPL Bhopal 78.11 295 *e*P **P 01 58 15.6 +0.8**
BHPL AMb AMB 01 58 16.5
comp=Z,26nm,0.8s,mb5.0
SLKM Skilak Lake 78.63 25 P **P 01 58 16.4 -1.2**
FIB Fire Island 78.99 25 P **P 01 58 18.8 -0.8**
PMR Palmer 79.64 24 P **P 01 58 21.3 -1.9**
comp=Z,22nm,1.0s,mb5.0
PMR Palmer 79.64 24 P **P 01 58 21.3 -1.9**
PMR pmax pmax
comp=Z,22nm,1.0s,mb4.9
MKAR Makanchi Array 79.93 319 P **P 01 58 25.1 +0.4**
comp=Z,2.8nm,0.6s,mb4.3,baz=96,slow=7.4,SNR=29
MKAR PKKPbc PKKPbc 02 17 10.2 +1.1
comp=Z,0.4nm,0.8s,baz=320,slow=1.3,SNR=3.8
SML Sawmill 80.08 24 *e*P **P 01 58 24.2 -1.3**
KAD Karad 80.19 288 *e*P **P 01 58 25.4 -0.7**
MCK McKinley 80.81 23 P **P 01 58 27.5 -1.9**
comp=Z,21nm,1.0s,mb4.9
MCK McKinley 80.81 23 P **P 01 58 27.5 -1.9**
MCK pmax pmax
comp=Z,21nm,1.0s,mb4.9
COLA College 81.79 22 *e*P **P 01 58 31.9 -2.6**
comp=Z,21nm,0.9s,mb5.0
COLA *e*PcP PcP 01 58 39.6 -0.4
COLA *e*pP pP 01 58 58.7 -2.7
COLA *e*sP sP 01 59 08.0 -4.6
COLA College 81.79 22 *e*P **P 01 58 32.0 -2.6**
COLA *e**PP pP 01 58 58.7 -2.8
COLA pmax pmax
comp=Z,21nm,0.9s,mb5.0
NVS Novosibirsk 81.95 327 *e*P **P 01 58 33.5 -1.9**
ILAR Eielson Array 82.10 22 P **P 01 58 33.5 -2.8**
comp=Z,12nm,0.9s,mb4.8,baz=246,slow=6.0,SNR=87
ILAR LR LR 02 32 18.1
comp=Z,112nm,19.4s,baz=187,slow=34
KSH Kashi 82.52 311 P **P 01 58 40.2 +1.8**
KSH S S 02 08 42.0 -4.6
KSH AMB AMB
comp=Z,24nm,1.1s,mb4.9
KSH AMB AMB
comp=Z,103nm,3.7s
KSH LR LR
comp=N,235nm,5.7s
KSH LR LR
comp=E,345nm,5.8s
KSH LR LR
comp=Z,165nm,5.5s
KURK Kurchatov 83.38 322 P **P 01 58 41.2 -1.6**
KURK Kurchatov 83.38 322 ⇑ *e*P **P 01 58 41.7 -1.1**
TKM2 Tokmak 2 83.52 314 P **P 01 58 44.5 +0.9**
SNR=9.1
KZA Kyzart 83.59 313 P **P 01 58 46.0 +2.1**
SNR=12
UCH Uchtor 84.16 313 P **P 01 58 48.8 +2.0**
SNR=7.8
AAK Ala-Archa 84.25 314 P **P 01 58 47.1 -0.2**
comp=Z,56nm,0.7s,mb5.5,SNR=5.4
AAK Ala-Archa 84.25 314 P **P 01 58 47.1 -0.2**
AAK Ala-Archa 84.25 314 ⇓ *i*P **P 01 58 46.6 -0.7**
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
AAK MLR MLR
comp=Z,100nm,16.0s
USP Ospenovka 84.38 314 P **P 01 58 48.7 +0.8**
SNR=11
AML Almayashu 84.74 313 P **P 01 58 50.2 +0.5**
SNR=29
DAWY Dawson 84.75 24 P **P 01 58 49.4 -0.3**
EKS2 Erkin-Say 84.78 313 P **P 01 58 51.2 +1.3**
SNR=8.4
BHJ Bhuj 85.18 294 *e*P **P 01 58 50.9 -1.0**
QSPA South Pole Qui 85.37 180 *e*P **P 01 58 52.8 -0.1**
comp=Z,27nm,1.0s,mb5.1
MAW Mawson 85.62 203 LR LR 02 33 07.6
comp=Z,208nm,18.2s,baz=78,slow=33
INK Inuvik 88.39 21 LR LR 02 37 32.1
comp=Z,126nm,19.0s,baz=95,slow=35
INK Inuvik 88.39 21 P **P 01 59 05.5 -2.0**
comp=Z,21nm,1.1s,mb5.1
INK Inuvik 88.39 21 P **P 01 59 05.5 -2.0**
INK pmax pmax
comp=Z,21nm,1.1s
BRVK Borovoye 88.92 323 P **P 01 59 08.8 -1.2**
comp=Z,56nm,0.5s,mb5.8,SNR=5.8
BRVK Borovoye 88.92 323 P **P 01 59 08.0 -2.0**
HUMO Hull Mountain 89.11 47 P **P 01 59 11.3 +0.4**
comp=Z,24nm,0.9s,mb5.2
YBH Yreka Blue Hor 89.19 48 P **P 01 59 12.0 +0.8**
comp=Z,14nm,0.9s,mb5.0
YBH Yreka Blue Hor 89.19 48 P **P 01 59 12.0 +0.8**
YBH pmax pmax
comp=Z,14nm,0.9s
LHEM Herd Peak 89.54 48 P **P 01 59 12.9 +0.1**
FRIS Frissel Point 89.92 46 P **P 01 59 15.1 +0.4**
CMW Cultus Mountai 90.38 42 P **P 01 59 16.6 -0.2**
CMB Columbia Colle 90.58 52 P **P 01 59 18.4 +0.7**
MOD Modoc 90.99 48 *e*P **P 01 59 19.5 -0.2**
comp=Z,20nm,0.9s,mb5.2
MOD *e*pP pP 01 59 44.2 -2.8
ETW Entiat 91.49 43 P **P 01 59 21.3 -0.6**
PAHR Pah Rah Range 91.50 50 P **P 01 59 21.4 -0.6**
comp=Z,6.7nm,0.8s,mb4.8
HAWA Hanford 91.93 44 P **P 01 59 22.9 -1.1**
MTUM Tungsten Hills 91.96 53 P **P 01 59 24.9 +0.8**
MWC Mount Wilson 92.14 56 P **P 01 59 25.2 +0.2**
NVAR Mina Array Bea 92.24 52 P **P 01 59 25.9 +0.5**
comp=Z,9.4nm,0.8s,mb5.1,baz=253,slow=7.4,SNR=41
NVAR Mina Array Bea 92.24 52 P **P 01 59 25.9 +0.5**
WVOR Wild Horse Val 92.27 48 *e*P **P 01 59 25.2 -0.4**
comp=Z,23nm,0.9s,mb5.4
WVOR *e* 01 59 39.1
WVOR Wild Horse Val 92.27 48 *e*P **P 01 59 25.2 -0.4**
WVOR pmax pmax
comp=Z,23nm,0.9s,mb5.4
OD2 Odessa Site #2 92.57 43 P **P 01 59 26.3 -0.6**
DAC Darwin (Calif) 92.66 54 P **P 01 59 28.0 +0.6**
comp=Z,11nm,1.0s,mb5.1
DAC Darwin (Calif) 92.66 54 P **P 01 59 28.0 +0.6**
DAC pmax pmax
comp=Z,11nm,1.0s,mb5.1
TPH Tonopah 93.07 52 P **P 01 59 29.8 +0.6**
comp=Z,9.5nm,0.8s,mb5.2
TPH Tonopah 93.07 52 P **P 01 59 29.8 +0.6**
TPH pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
BMN Battle Mountai 93.20 50 P **P 01 59 30.3 +0.4**
comp=Z,5.9nm,0.8s,mb5.0
BMN Battle Mountai 93.20 50 P **P 01 59 30.3 +0.4**
BMN pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
BMO Blue Mountains 93.39 45 P **P 01 59 29.9 -0.8**
PFO Pinyon Flat Ob 93.44 57 P **P 01 59 31.7 +0.8**
comp=Z,9.3nm,0.8s,mb5.2
PFO Pinyon Flat Ob 93.44 57 P **P 01 59 31.7 +0.8**
PFO pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
NEW Newport 93.69 42 P **P 01 59 31.5 -0.6**
comp=Z,12nm,1.0s,mb5.2
NEW Newport 93.69 42 P **P 01 59 31.5 -0.6**
NEW pmax pmax
comp=Z,11nm,1.0s
SYO Syowa Base 93.75 199 ⇓ *e*P **P 01 59 28.6 -3.8**
LDFC Landfair 94.62 55 *e*P **P 01 59 36.8 +0.4**
LDFC *e*pP pP 02 00 00.6 -3.1
SHPR Sheep Range 94.63 54 P **P 01 59 37.4 +0.9**
ELK Elko 94.73 50 P **P 01 59 37.1 +0.2**
GLA Glamis 94.77 57 P **P 01 59 38.5 +1.5**
BSMT Bassoo Peak 95.24 42 P **P 01 59 38.7 -0.5**
YKW3 Yellowknife Ar 95.41 28 P **P 01 59 38.8 -1.1**
YKA Yellowknife Ar 95.41 28 P **P 01 59 38.2 -1.7**
comp=Z,3.2nm,0.7s,mb4.8,baz=271,slow=4.8,SNR=67
YKA pP pP 02 00 05.0 -2.3
comp=Z,1.4nm,0.7s,baz=272,slow=5.0,SNR=3.0
YKA PKKPbc PKKPbc 02 16 31.2 -0.3
comp=Z,0.3nm,0.7s,baz=87,slow=2.9,SNR=9.4
YKA LR LR 02 36 12.9
comp=Z,131nm,20.7s,baz=280,slow=31
YKA Yellowknife Ar 95.41 28 P **P 01 59 38.2 -1.7**
YKA pP pP 02 00 05.0 -2.3
YKA PKKPbc PKKPbc 02 16 31.2 -0.3
YKA LR LR 02 36 12.9
YKA Yellowknife Ar 95.41 28 P **P 01 59 38.2 -1.8**
YKA *PP pP 02 00 05.1 -2.2
HLID Hailey 95.42 47 P **P 01 59 40.1 +0.1**
comp=Z,3.6nm,0.7s,mb4.9
ARU Arti 95.94 326 *e*P **P 01 59 40.7 -1.7**
ARU *e* 02 03 34.9
ARU *e*S 02 10 07.5
ARU *e*PS PS 02 12 15.6 -8.5
ARU *e*SS SS 02 17 28.4 +3.9
ARUT Antelope Range 96.05 53 *e*P **P 01 59 43.5 +0.7**
EDM Edmonton 96.17 37 P **P 01 59 43.1 -0.3**
CHMT Chamberlain Mo 96.27 43 *e*P **P 01 59 42.7 -1.2**
HVU Hansel Valley 96.61 49 P **P 01 59 45.9 +0.5**
DLMT Dillon 96.73 45 *e*P **P 01 59 45.1 -0.9**
comp=Z,4.9nm,0.8s,mb5.0
DLMT *e*pP pP 02 00 11.1 -2.2
LRM Limekiln Ridge 96.83 45 P **P 01 59 45.7 -0.7**
BOZ Bozeman (W) 97.41 45 P **P 01 59 48.9 -0.2**
comp=Z,5.8nm,0.8s,mb5.1
BOZ Bozeman (W) 97.41 45 P **P 01 59 48.9 -0.1**
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
HWUT Hardware Ranch 97.51 49 P **P 01 59 48.8 -0.7**
comp=Z,7.5nm,1.0s,mb5.2
QLMT Earthquake Lak 97.56 46 *e*P **P 01 59 50.1 +0.4**
TCUT Toone Canyon 97.63 49 P **P 01 59 48.3 -1.7**
WUAZ Wupatki 97.68 55 P **P 01 59 51.5 +1.2**
TMUT Trail Mountain 97.80 51 P **P 01 59 51.5 +0.7**
YMR Madison River 97.90 46 *e*P **P 01 59 51.5 +0.2**
comp=Z,10nm,0.8s,mb5.4
YFT Old Faithful 98.00 46 P **P 01 59 53.3 +1.6**
REDW Red Top Meadow 98.01 47 P **P 01 59 51.5 -0.2**
FLWY Flagg Ranch 98.11 46 *e*P **P 01 59 52.1 -0.1**
comp=Z,8.8nm,0.8s,mb5.3
LOHW Long Hollow 98.19 47 P **P 01 59 52.3 -0.2**
LKWY Lake 98.31 46 P **P 01 59 55.0 +1.9**
comp=Z,6.4nm,0.8s,mb5.2
LKWY Lake 98.31 46 P **P 01 59 55.0 +1.9**
LKWY pmax pmax
comp=Z,6.0nm,0.8s,mb5.2
EGMT Eagleton 98.62 42 *e*PcP PcP 01 59 53.8 -0.6
comp=Z,8.9nm,1.1s
PDAR Pinedale Array 98.98 48 P **P 01 59 55.2 -0.9**
comp=Z,7.9nm,0.8s,mb5.3,baz=249,slow=2.1,SNR=75
PDAR PP PP 02 04 03.0 +3.8
comp=Z,1.4nm,0.9s,baz=264,slow=4.5,SNR=6.6
PDAR LR LR 02 36 29.4
comp=Z,150nm,21.1s,baz=244,slow=30
SMCO Snowmass 101.09 51 *e*Pdif Pdif 02 00 05.8 +0.4
comp=Z,6.1nm,0.8s
LAO LASA Array 101.11 43 Pdif Pdif 02 00 05.7 +0.2
ISCO Idaho Springs 102.11 50 Pdif Pdif 02 00 10.6 +0.6
ARCES ARCESS Array B 106.56 343 PKiKP PKiKP 02 04 39.3 -0.7
comp=Z,2.2nm,0.6s,baz=99,slow=1.1,SNR=9.1
FINES FINESS Array B 110.71 336 Pdiff Pdif 02 00 48.1 -0.1
comp=Z,2.8nm,1.1s,baz=64,slow=4.4,SNR=3.4
FINES PKiKP PKiKP 02 04 46.8 -1.0
comp=Z,1.1nm,0.6s,baz=109,slow=3.3,SNR=6.9
AKASG Malin Array Be 114.11 324 PKiKP PKiKP 02 04 53.1 -1.1
comp=Z,1.0nm,0.4s,baz=57,slow=2.6,SNR=5.5
BRTR Keskin Array B 114.89 312 PKKPbc PKKPbc 02 15 34.9 +2.5
comp=Z,0.6nm,0.7s,baz=215,slow=5.6,SNR=5.5
SUW Suwalki 115.88 329 *e*PKP PKPdf 02 04 57.4 -0.2
NB2 NORSAR Subarra116.59 340 PKPd PKPdf 02 04 57.3 -1.7
comp=Z,0.8nm,0.6s,baz=44,slow=1.9
NOA NORSAR Array B 116.59 340 PKP PKPdf 02 04 58.0 -1.0
comp=Z,1.5nm,0.6s,baz=49,slow=1.9,SNR=12
KWP Kalwaria 118.33 325 *e*PKP PKPdf 02 05 01.7 -0.7
BOSA Boshof 119.46 234 PKP PKPdf 02 05 05.9 +1.4
BOSA PKKPbc PKKPbc 02 15 17.7 +1.4
comp=Z,2.3nm,0.8s,baz=144,slow=6.4,SNR=3.6
BOSA Boshof 119.46 234 PKP PKPdf 02 05 05.9 +1.4
BOSA PKKPbc PKKPbc 02 15 17.7 +1.4
comp=Z,4.7nm,1.0s,baz=183,slow=10,SNR=3.9
PLCA Paso Flores 120.17 143 PKP PKPdf 02 05 06.7 +0.8
comp=Z,2.4nm,0.8s,baz=208,slow=4.9,SNR=4.1
LBTB Lobatse 120.58 238 PKP PKPdf 02 05 07.8 +1.1
comp=Z,1.3nm,0.7s,baz=217,slow=5.2,SNR=4.9
LBTB PKKPbc PKKPbc 02 15 13.8 +1.8
comp=Z,6.3nm,0.9s,baz=322,slow=3.7,SNR=7.4
LBTB Lobatse 120.58 238 PKP PKPdf 02 05 07.8 +1.1
LBTB PKKPbc PKKPbc 02 15 13.8 +1.8
SUR Sutherland 121.19 228 PKKPbc PKKPbc 02 15 10.8 +1.0
comp=Z,4.6nm,0.7s,baz=199,slow=6.3,SNR=5.2
LSZ Lusaka 121.37 249 PKP PKPdf 02 05 08.9 +0.7
comp=Z,1.6nm,0.5s,baz=126,slow=5.4,SNR=3.9
BLA Blacksburg 121.90 49 *e*PKPdf PKPdf 02 05 09.6 +0.3
PVCC Panska Ves 122.21 330 *e*PKPdf PKPdf 02 05 10.0 +0.2
BRG Berggiesshubel 122.31 330 *e*PKP PKPdf 02 05 09.6 -0.4
comp=Z,3.8nm,0.9s
GRUS Gruza 122.31 320 ⇓ *i*PKP PKPdf 02 05 10.3 +0.3
CLL Collm 122.49 331 *e*PKPdf PKPdf 02 05 07.0 -3.4
CLL *i* x x 02 05 11.9
comp=Z,6.0nm,0.9s
CLL *i* (pPKPdf) 02 05 26.9
PRU Pruhonice 122.55 329 *e*PKPdf PKPdf 02 05 10.7 +0.2
NKC Novy Kostel 123.45 330 *e*PKPdf PKPdf 02 05 11.9 -0.3
KHC Kasperske Hory 123.57 329 *e*PKPdf PKPdf 02 05 11.9 -0.5
KHC epPKP pPKPdf 02 05 41.3 +0.4
GERES GERESS Array B 123.68 328 PKP PKPdf 02 05 12.2 -0.4
comp=Z,2.7nm,0.6s,baz=73,slow=1.6,SNR=29
GRA1 Grafenberg Arr 124.40 330 *e*PKP PKPdf 02 05 13.9 -0.1
GRF Grafenberg Arr 124.40 330 *e*PKPdf PKPdf 02 05 13.9 -0.1
MOTA Moosalm 125.98 328 ⇑ *i*P PKPdf 02 05 16.8 -0.2
comp=Z,15nm,1.4s
SQTA Sankt Quirin 126.01 328 ⇓ *e*P PKPdf 02 05 16.9 -0.2
comp=Z,11nm,1.4s
DAVA Damuels 126.66 329 ⇓ *i*P PKPdf 02 05 18.5 +0.2
comp=Z,6.0nm,0.7s
DAVA Damuels 126.66 329 ⇓ *i*P PKPdf 02 05 18.5 +0.2
CDF Champ du Feu 127.18 331 *e*PKP1 PKPdf 02 05 19.3 0.0
HINF Hinteralfeld 127.80 331 *e*PKP1 PKPdf 02 05 20.7 +0.2
comp=Z,22nm,1.2s
HAU Haudompre 127.91 332 *e*PKP1 PKPdf 02 05 19.8 -0.9
comp=Z,19nm,1.0s
HAU *e*R
comp=Z,102nm,21.8s
HAU Haudompre 127.91 332 *e*PKIKP PKPdf 02 05 19.8 -0.9
HAU MLR MLR
comp=Z,100nm,21.8s
CABF La Chapelle 129.02 331 *e*PKP1 PKPdf 02 05 22.7 -0.1
LPL La Plagne 129.46 329 *e*PKP1 PKPdf 02 05 23.6 -0.1
comp=Z,11nm,0.9s
LPG La Plagne 129.46 329 *e*PKP1 PKPdf 02 05 23.9 +0.2
comp=Z,35nm,1.3s
LOR Lormes 129.60 333 *e*PKP1 PKPdf 02 05 23.6 -0.4
comp=Z,23nm,1.3s
LOR *e*R
comp=Z,118nm,22.8s
LOR Lormes 129.60 333 *e*PKIKP PKPdf 02 05 23.6 -0.4
LOR MLR MLR
comp=Z,120nm,22.8s
TSUM Tsumeb 129.67 241 SKPbc 02 08 38.2
comp=Z,4.4nm,0.9s,baz=101,slow=4.6,SNR=6.3
SSF Saint Saulge 129.92 333 *e*PKP1 PKPdf 02 05 24.4 -0.2
comp=Z,14nm,1.1s
MBDF Montbardon 129.98 328 *e*PKP1 PKPdf 02 05 24.5 -0.2
SMF Signal de Mont 130.07 332 *e*PKP1 PKPdf 02 05 25.2 +0.4
comp=Z,39nm,1.3s
AVF Avril sur Loir 130.19 332 *e*PKP1 PKPdf 02 05 25.1 0.0
SBF Sospel 130.20 327 *e*PKP1 PKPdf 02 05 24.8 -0.3
comp=Z,134nm,1.4s
LDF La Druitiere 130.30 336 *e*PKP1 PKPdf 02 05 24.8 -0.5
comp=Z,6.6nm,0.7s
FLN La Foliniere 130.30 337 *e*PKP1 PKPdf 02 05 24.5 -0.8
comp=Z,9.8nm,0.6s
FLN *e*R
comp=Z,106nm,19.2s
FLN La Foliniere 130.30 337 *e*PKIKP PKPdf 02 05 24.5 -0.8
FLN MLR MLR
comp=Z,110nm,19.3s
ORIF Oris-en-Rattie 130.31 329 *e*PKP1 PKPdf 02 05 25.1 -0.2
comp=Z,19nm,0.9s
ORIF *e*R
comp=Z,105nm,22.8s
BGF Bois d'Agland 130.60 333 *e*PKP1 PKPdf 02 05 25.5 -0.3
GRR Gorron 130.75 337 *e*PKP1 PKPdf 02 05 25.9 -0.2
comp=Z,11nm,0.7s
FRF La Foret Royal 130.83 327 *e*PKP1 PKPdf 02 05 25.9 -0.4
VIVF Saint-Julien-l 130.96 330 *e*PKP1 PKPdf 02 05 26.6 +0.1
comp=Z,10nm,0.9s
TCF Toulx Ste Croi 131.09 333 *e*PKP1 PKPdf 02 05 26.7 -0.1
comp=Z,16nm,1.1s
SGMF Saint Gilles 131.52 338 *e*PKP1 PKPdf 02 05 26.6 -1.0
ROSF Rostrenen 131.72 338 *e*PKP1 PKPdf 02 05 27.4 -0.6
MFF Saint Martin d 131.89 335 *e*PKP1 PKPdf 02 05 28.1 -0.2
comp=Z,9.2nm,0.8s
LASF Ste Croix 131.93 330 *e*PKP1 PKPdf 02 05 28.4 0.0
MTLF Montolieu 133.28 330 *e*PKP1 PKPdf 02 05 30.9 0.0
ROSC El Rosal 133.40 88 PKP PKPdf 02 05 30.9 -0.2
comp=Z,3.6nm,0.6s,baz=288,slow=20,SNR=4.1
ROSC SKPbc SKPbc 02 08 55.3 +5.3
comp=Z,16nm,1.0s,baz=93,slow=18,SNR=6.4
LPAZ La Paz 134.84 118 PKP PKPdf 02 05 35.8 +2.0
comp=Z,5.7nm,0.7s,baz=221,slow=5.3,SNR=11
LPAZ SKP 02 09 00.3
comp=Z,6.3nm,1.0s,baz=302,slow=2.7,SNR=11
LPAZ La Paz 134.84 118 *e*PKP PKPdf 02 05 24.7 -9.1
LPAZ PKP PKPdf 02 05 35.8 +2.0
LPAZ SKP 02 09 00.3
LPAZ La Paz 134.84 118 *e*PKHKP 02 05 24.7
LPAZ 02 05 35.8
SDV Santo Domingo 137.04 82 *e*PKP PKPdf 02 05 28.9 -9.0
SAML Samuel 142.03 111 *e*PKPdf PKPdf 02 05 43.3 -3.7
LZG Guadaloupe-1 144.51 69 *e*P PKPdf 02 05 50.4 -1.0
DOG Dongo Capester 144.69 69 *e*P PKPdf 02 05 50.9 -0.7
SEG Port Louis 144.69 68 *e*P PKPdf 02 05 50.1 -1.6
TBG Guadaloupe-3 144.71 69 *e*P PKPdf 02 05 50.2 -1.5
BBL Barber's Block 144.95 69 *e*P PKPdf 02 05 51.6 -0.6
MGG Marie-Galante 145.00 69 *e*P PKPdf 02 05 51.5 -0.7
FDF Fort de France 145.44 71 ⇑ *e*P PKPdf 02 05 53.9 +0.9
BIM Bigot 145.57 71 ⇑ *e*P PKPdf 02 05 54.3 +1.1
CRM Caravelle 145.66 71 ⇓ *e*P PKPdf 02 05 53.7 +0.4
MVM Montagne Vaucl 145.72 71 ⇑ *e*P PKPdf 02 05 54.9 +1.4
TPP Pointe-a-Pierr 145.94 78 *e*P PKPdf 02 05 57.2 +3.4
TRN Trinidad (W) 145.95 78 *e*P PKPdf 02 05 55.7 +1.9
TBH Brigand Hill 146.30 78 *e*P PKPdf 02 05 58.2 +3.8
TPR Prospect 146.48 77 *e*P PKPdf 02 05 58.2 +3.5
BOT Bacolet 146.54 77 *e*P PKPdf 02 05 58.5 +3.6
CAM4 Nova Friburgo 149.47 152 ⇑ *i*P PKPdf 02 06 04.3 +4.7
CAM4 *i* 02 06 09.8
CAM4 *i* 02 06 14.6
CAM4 *i* 02 06 35.2
CAM4 *i* 02 06 39.2
TORD Torodi Ar. Bea 149.89 288 PKPbc PKPbc 02 06 05.5 +0.3
comp=Z,15nm,0.6s,baz=75,slow=2.0,SNR=38
BDFB Brasilia 151.47 135 PKPbc PKPbc 02 06 10.4 +1.5
comp=Z,45nm,0.8s,baz=198,slow=2.5,SNR=17
CAM3 Guarapari 151.81 154 ⇑ *i*P PKPbc 02 06 13.1 +3.4
CAM3 *i* 02 06 16.9
CAM3 *i* 02 06 20.7
CAM3 *i* 02 06 34.7
CAM3 *i* 02 06 44.6
DBIC Dimbokro 157.31 276 PKPbc PKPdf 02 06 20.9 +10
comp=Z,2.7nm,0.8s,baz=150,slow=3.3,SNR=3.6
DBIC PKPab PKPab 02 06 43.6 +1.1
comp=Z,8.9nm,0.7s,baz=59,slow=4.1,SNR=16

IDC 07 02:03:54.8±16.0,**2099S**×**17609W**,**h292**km±145km,
mb3.2/4,**mb1 3.4**/5,**mb1mx3.2**/16,**mbtmp3.9**/5,**MS3.1**/1,
Ms1 3.1/1,**ms1mx2.9**/7,**Error ellipse: s-maj=242.9km**
s-min=36.0km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.29**	**263**	P	P	02 07 26.8	+0.5
0.2nm,0.3s,baz=88,slow=19,SNR=6.1							
DZM				LR	LR	02 12 25.7	
comp=Z,71nm,20.0s,baz=192,slow=31							
CTA	**Charters Tower**	**35.23**	**265**	P	P	02 10 22.0	+0.1
2.0nm,0.5s,baz=102,slow=9.8,SNR=5.3							
ASAR	**Alice Springs**	**46.15**	**257**	P	P	02 11 51.9	+1.4
0.5nm,0.7s,baz=106,slow=7.4,SNR=3.9							
WRA	**Warramunga Arr**	**46.31**	**262**	P	P	02 11 51.1	-0.7
0.8nm,0.4s,baz=102,slow=6.3,SNR=3.9							
NVAR	**Mina Array Bea**	**80.16**	**42**	P	P	02 15 33.1	+0.4
0.8nm,0.7s,baz=223,slow=9.4,SNR=5.4							

ISCJB ***07*** *02:09:22.8±4.7,413S±08×78.1E±08,h10km,mb4.2/6,*
Error ellipse: s-maj=147.4km s-min=25.6km az=71.9
NEIC ***07*** *02:09:24.3±2.7,4123S×7797E,h10km,mb4.5/3,Error*
ellipse: s-maj=91.1km s-min=17.9km az=215.0
IDC ***07*** *02:09:24.2±9.1,4093S×78.15E,h0km,mb4.0/3,mb1 4.2/3,*
mb1mx3.8/14,mbtmp4.0/3,Error ellipse: s-maj=329.4km
s-min=46.1km az=28.0

ISC 07 02:09:22.5±4.8,**415S**±09×**776E**±09,**h10**km,**n9**,σ0°**24**/8,
mb4.2/6,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.77**	**87**	P	P	**02 18 15.4**	**+0.3**
1.8nm,0.8s,mb4.2,baz=234,slow=6.7,SNR=16							
ASAR	**Alice Springs**	**49.77**	**87**	P	P	**02 18 15.4**	**+0.3**
STKA	**Stephens Creek**	**51.13**	**101**	P	P	**02 18 25.6**	**+0.1**
WRA	**Warramunga Arr**	**52.28**	**84**	P	P	**02 18 33.8**	**-0.3**
3.0nm,0.7s,mb4.3,baz=233,slow=7.3,SNR=13							
WRAB	**Tennant Creek**	**52.30**	**84**	*e*P	P	**02 18 34.0**	**-0.2**
4.5nm,0.8s,mb4.5							
LSA	**Lhasa**	**71.94**	**12**	*e*P	P	**02 20 46.3**	**+0.2**
3.9nm,0.4s,mb4.7							
AAK	**Ala-Archa**	**83.81**	**358**	*e*P	P	**02 21 52.3**	**+0.2**
1.4nm,0.8s,mb4.1							
MKAR	**Makanchi Array**	**88.02**	**3**	P	P	**02 22 12.6**	**-0.4**
0.4nm,0.8s,mb3.7,baz=180,slow=4.0,SNR=4.1							
ILAR	**Eielson Array**	**145.69**	**32**	PKPbc	PKPbc	02 29 01.4	-0.1
0.2nm,0.6s,baz=270,slow=3.6,SNR=4.5							

TEH ***07*** *02:18:26.3,3075N×5684E,h17km,ML4.3*
IDC ***07*** *02:18:58.8±1.2,3075N×5687E,h0km,mb3.9/11,*
mb1 4.0/12,mb1mx3.9/22,mbtmp3.9/12,ML3.5/1,Error
ellipse: s-maj=29.2km s-min=19.1km az=132.0
ISCJB ***07*** *02:18:59.3±0.4,3081N±003×5689E±004,h10km,*
mb3.9/15,Error ellipse: s-maj=5.1km s-min=4.3km
az=22.3
CSEM ***07*** *02:18:59.9±0.1,3080N×5683E,h16km,mb4.2/6,Error*
ellipse: s-maj=1.7km s-min=1.4km az=16.0
THR ***07*** *02:19:00.5±1.1,3079N×5687E,h14km,7km,ML3.8*
MOS ***07*** *02:19:02.6±1.0,3082N×5686E,h33km,mb4.3/7,Error*
ellipse: s-maj=17.0km s-min=9.6km az=95.8
NEIC ***07*** *02:19:02.9,3075N×5684E,h17km,mb3.7/3,MN4.3(TEH),*
After TEH.

ISC 07 02:19:00.9±0.4,**3080N**±003×**5692E**±004,**h10**km,**n91**,
σ1°**01**/117,**mb3.9**/15,**3C-1D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.83**	**190**	*e*PG	**Pg**	**02 19 15.3**	**-1.6**
KRBR				*e*SG	**Sg**	**02 19 27.3**	**-0.5**
KRBR				AML	AML	02 19 30.6	
comp=N,4μm,0.3s							
KRBR	**Kerman**	**0.83**	**190**	*e*Pg	**Pg**	**02 19 15.3**	**-1.6**
SNR=90							
KRBR				*e*Sg	**Sg**	**02 19 27.3**	**-0.5**
SNR=90							
IBAF	**Bafgh**	**1.40**	**304**	*e*Pn	**Pn**	**02 19 24.5**	**-2.0**
IBAF				*e*Pn	**Pn**	**02 19 24.7**	**-1.8**
IBAF	**Bafgh**	**1.40**	**304**	*e*Pn	**Pn**	**02 19 24.8**	**-1.7**
IMEH	**Mehriz**	**2.06**	**287**	*e*Pn	**Pn**	**02 19 35.9**	**+0.3**
IMEH				*e*Pn	**Pn**	**02 19 36.3**	**+0.7**
IMEH	**Mehriz**	**2.06**	**287**	*e*Pn	**Pn**	**02 19 36.1**	**+0.5**
ICHK	**Chekchek**	**2.58**	**304**	*e*Pn	**Pn**	**02 19 43.1**	**+0.4**
ICHK				*e*Pn	**Pn**	**02 19 43.8**	**+1.1**
ICHK				*e*Sn	**Sn**	**02 20 13.7**	**-0.5**
ICHK	**Chekchek**	**2.58**	**304**	*e*Pn	**Pn**	**02 19 42.1**	**-0.6**
ICHK				*e*Sn	**Sn**	**02 20 13.7**	**-0.5**
BNDS	**Bandar-Abbas**	**3.46**	**191**	*e*Pn	**Pn**	**02 19 56.6**	**+1.9**
BNDS				AML	AML	02 20 50.8	
comp=E,249nm,0.6s							
BNDS				AML	AML	02 20 58.2	
comp=N,172nm,0.6s							
IPAR	**Pars**	**3.48**	**255**	*e*Pn	**Pn**	**02 19 56.0**	**+0.9**
IPAR				*e*Pn	**Pn**	**02 19 58.2**	**+3.1**

IPAR	**Pars**	**3.48 255**	Pn		**Pn**	**02 19 55.9**	**+0.8**
ZHSF	**Zahedan**	**3.54 109**	*e*PN		**Pn**	**02 19 57.5**	**+1.5**
ZHSF			*e*PG		**Pg**	**02 20 05.0**	**-3.8**
ZHSF			AML		AML	02 20 59.0	
	comp=N,175nm,0.7s						
ZHSF	**Zahedan**	**3.54 109**	*e*Pg		**Pg**	**02 20 04.9**	**-3.9**
	SNR=90						
NASN	**Na'in**	**4.03 301**	*e*PN		**Pn**	**02 20 03.7**	**+1.1**
NASN			*e*PG		**Pg**	**02 20 12.3**	**-5.7**
NASN			*e*SG		**Sg**	**02 21 04.4**	**-5.8**
NASN	**Na'in**	**4.03 301**	*e*Pg		**Pg**	**02 20 12.3**	**-5.7**
	SNR=90						
NASN			*e*Sg		**Sg**	**02 21 04.4**	**-5.8**
	SNR=90						
IMOK	**Mook**	**4.05 245**	*e*Pn		**Pn**	**02 20 02.6**	**-0.3**
IMOK			*e*Pn		**Pn**	**02 20 06.9**	**+4.0**
IMOK	**Mook**	**4.05 245**	*e*Pn		**Pn**	**02 20 02.5**	**-0.4**
GHIR	**Ghir-Karzin**	**4.25 235**	*e*PN		**Pn**	**02 20 06.6**	**+0.9**
GHIR			*e*PG		**Pg**	**02 20 16.1**	**-6.2**
GHIR			AML		AML	02 21 26.0	
	comp=E,130nm,0.7s						
GHIR	**Ghir-Karzin**	**4.25 235**	*e*Pg		**Pg**	**02 20 16.1**	**-6.2**
	SNR=90						
IZEF	**Zefreh**	**4.43 299**	*e*Pn		**Pn**	**02 20 08.5**	**+0.4**
IKLH	**Kalahroud**	**5.18 300**	*e*Pn		**Pn**	**02 20 18.8**	**+0.3**
IANJ	**Anjiloo**	**5.29 332**	*e*Pn		**Pn**	**02 20 19.7**	**-0.3**
IANJ			*e*Pn		**Pn**	**02 20 20.5**	**+0.5**
IANJ			*e*Lg			02 21 48.4	
IPIR	**Pirpir**	**5.47 292**	*e*Pn		**Pn**	**02 20 21.8**	**-0.6**
ILAS	**Lasjerd**	**5.65 325**	*e*Pn		**Pn**	**02 20 22.3**	**-2.6**
ILAS			*e*Pn		**Pn**	**02 20 27.7**	**+2.8**
IMOG	**Moghan**	**5.66 20**	*e*Pn		**Pn**	**02 20 24.8**	**-0.3**
ISHM	**Shahmirzad**	**5.84 330**	*e*Pn		**Pn**	**02 20 27.9**	**+0.4**
ISHM			*e*Pn		**Pn**	**02 20 28.2**	**+0.7**
ISHM	**Shahmirzad**	**5.84 330**	Pn		**Pn**	**02 20 28.2**	**+0.7**
MHI	**Mashhad**	**5.89 21**	*e*Pn		**Pn**	**02 20 28.0**	**-0.2**
IFIR	**Firoozkooh**	**5.95 325**	*e*Pn		**Pn**	**02 20 29.6**	**+0.5**
IFIR			*e*Pn		**Pn**	**02 20 29.7**	**+0.6**
IFIR			*e*Lg			02 22 08.7	
IFIR	**Firoozkooh**	**5.95 325**	*e*Pn		**Pn**	**02 20 29.0**	**-0.1**
IFIR			*e*Sn		**Sn**	**02 21 33.6**	**-3.7**
IVRN	**Varamin**	**6.04 315**	*e*Pn		**Pn**	**02 20 30.8**	**+0.5**
IVRN			*e*Pn		**Pn**	**02 20 31.2**	**+0.9**
IVRN	**Varamin**	**6.04 315**	*e*Pn		**Pn**	**02 20 29.8**	**-0.5**
IVRN			*e*Sn		**Sn**	**02 21 35.5**	**-4.1**
IKRD	**Kardeh**	**6.10 12**	*e*Pn		**Pn**	**02 20 35.6**	**+4.5**
IKRD			*e*Pn		**Pn**	**02 20 37.4**	**+6.3**
IMYA	**Miamay**	**6.13 25**	*e*Pn		**Pn**	**02 20 32.5**	**+1.0**
IMYA			*e*Pn		**Pn**	**02 20 32.6**	**+1.1**
IMYA	**Miamay**	**6.13 25**	*e*Pn		**Pn**	**02 20 31.9**	**+0.4**
DAMV	**Damavand**	**6.35 321**	*e*PN		**Pn**	**02 20 35.8**	**+1.2**
IAFJ	**Afjeh**	**6.66 321**	*e*Pn		**Pn**	**02 20 39.4**	**+0.6**
IAFJ			*e*Pn		**Pn**	**02 20 41.0**	**+2.2**
IAFJ			*e*Pn		**Pn**	**02 20 41.1**	**+2.3**
IAFJ	**Afjeh**	**6.66 321**	*e*Pn		**Pn**	**02 20 38.4**	**-0.4**
IAFJ	**Afjeh**	**6.66 321**	Pn		**Pn**	**02 20 40.9**	**+2.1**
ASAO	**Ashtian**	**6.91 305**	*e*PN		**Pn**	**02 20 43.5**	**+1.3**
IMHD	**Mahdasht**	**7.15 315**	*e*Pn		**Pn**	**02 20 45.0**	**-0.5**
IMHD			*e*Sn		**Sn**	**02 22 01.7**	**-5.1**
IRAZ	**Razeghan**	**7.45 310**	*e*Pn		**Pb**	**02 21 01.8**	**-8.4**
IRAZ			*e*Pn		**Pb**	**02 21 06.2**	**-4.0**
IRAZ	**Razeghan**	**7.45 310**	*e*Sn		**Sn**	**02 22 08.6**	**-5.5**
QRN	**Al-Qurain**	**8.09 258**	*e*P		**Pn**	**02 20 57.8**	**-0.6**
KBD	**Kabd**	**8.16 261**	*e*P		**Pn**	**02 20 59.6**	**+0.1**
KBD			AML		AML	02 22 33.9	
	comp=Z,57nm,0.6s						
MIB	**Mutribah**	**8.34 266**	*e*P		**Pn**	**02 21 01.4**	**-0.5**
MIB			AML		AML	02 22 37.4	
	comp=Z,17nm,0.5s						
RDF	**Al-Radifah**	**8.35 259**	*e*P		**Pn**	**02 21 02.0**	**0.0**
RDF			AML		AML	02 22 36.0	
	comp=Z,22nm,0.7s						
NAY	**Al-Naaiem**	**8.53 262**	*e*P		**Pn**	**02 21 04.1**	**-0.4**
NAY			AML		AML	02 22 38.6	
	comp=Z,5.2nm,0.6s						
SNGE	**Sanandaj**	**9.11 301**	*e*PN		**Pn**	**02 21 13.9**	**+1.5**
ZEI	**Tsey**	**15.83 323**	*e*P		**Pn**	**02 22 50.5**	**+6.6**
KIV	**Kislovodsk**	**17.29 323**	*i* P		**Pn**	**02 23 06.3**	**+3.9**
KIV			pmax		pmax		
	comp=Z,8.0nm,1.3s						
GOF	**Gofitskoye**	**17.92 326**	*e*P		**Pn**	**02 23 09.0**	**-1.2**
AAK	**Ala-Archa**	**18.34 45**	*e*Pn		**Pn**	**02 23 14.5**	**-0.8**
	comp=Z,7.0nm,1.3s						
AAK	**Ala-Archa**	**18.34 45**	*i* P		**Pn**	**02 23 14.9**	**-0.4**
	comp=Z,9.0nm,1.5s						
AAK	**Ala-Archa**	**18.34 45**	*e*Pn		**Pn**	**02 23 14.5**	**-0.9**
	comp=Z,7.0nm,1.3s						
AAK	**Ala-Archa**	**18.34 45**	*i* P		**Pn**	**02 23 14.9**	**-0.4**
AAK			pmax		pmax		
	comp=Z,9.0nm,1.5s						
SOC	**Sochi**	**18.68 318**	*i* P		**Pn**	**02 23 19.9**	**+0.5**
	comp=Z,26nm,1.3s						
SOC	**Sochi**	**18.68 318**	*d* *i*P		**Pn**	**02 23 19.9**	**+0.5**
SOC			pmax		pmax		
	comp=Z,26nm,1.3s						
AKTK	**Aktyubinsk**	**19.63 2**	P		**Pn**	**02 23 29.5**	**-1.4**
AKTO	**Aktyubinsk**	**19.63 2**	P		**Pn**	**02 23 29.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=193,slow=11,SNR=14						
BR131	**Keskin Array S**	**20.95 301**	*e*P		**P**	**02 23 43.4**	**-0.4**
	comp=Z,1.9nm,0.8s						
BR131	**Keskin Array S**	**20.95 301**	*e*P		**P**	**02 23 43.4**	**-0.5**
	comp=Z,1.9nm,0.8s						
BRTR	**Keskin Array B**	**20.95 301**	P		**P**	**02 23 43.6**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=114,slow=11,SNR=13						
BRTR	**Keskin Array B**	**20.95 301⇑**	*e*P		**P**	**02 23 45.7**	**+1.9**
BVAR	**Borovoye Array**	**24.28 20**	P		**P**	**02 24 18.1**	**-0.2**
	comp=Z,3.7nm,0.8s,mb3.9,baz=190,slow=7.5,SNR=15						
MKAR	**Makanchi Array**	**25.26 44**	P		**P**	**02 24 27.6**	**+0.4**
	comp=Z,2.2nm,0.9s,mb3.7,baz=223,slow=7.4,SNR=16						
MKAR	**Makanchi Array**	**25.26 44**	P		**P**	**02 24 27.5**	**+0.3**
MKAR	**Makanchi Array**	**25.26 44⇑**	*e*P		**P**	**02 24 26.7**	**-0.5**
KURK	**Kurchatov**	**25.63 33**	*e*P		**P**	**02 24 30.8**	**+0.2**
	comp=Z,3.0nm,0.9s,mb3.8						
KURK	**Kurchatov**	**25.63 33**	*e*P		**P**	**02 24 30.8**	**+0.2**
	comp=Z,3.2nm,0.9s,mb3.9						
KURK			*e*PcP		PcP	02 27 47.0	-14
KURK	**Kurchatov**	**25.63 33**	*e*P		**P**	**02 24 30.8**	**+0.2**
KURK			pmax		pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
ARU	**Arti**	**25.64 2**	*i* P		**P**	**02 24 33.0**	**+2.3**
	comp=Z,6.0nm,1.3s,mb4.0						
ARU	**Arti**	**25.64 2⇑**	*i*P		**P**	**02 24 33.0**	**+2.3**
ARU			*e*			02 25 11.6	
ARU			pmax		pmax		
	comp=Z,6.0nm,1.3s,mb4.0						
OBN	**Obninsk**	**28.29 335**	*e*P		**P**	**02 24 54.1**	**-0.4**
	comp=Z,3.0nm,0.8s,mb4.0						
OBN	**Obninsk**	**28.29 335**	*e*PcP		PcP	02 28 03.6	-3.9
OBN	**Obninsk**	**28.29 335**	*e*P		**P**	**02 24 54.1**	**-0.4**
OBN			*e*			02 25 43.0	
OBN			*e*			02 28 03.6	
OBN			pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
AKASG	**Malin Array Be**	**28.63 322**	P		**P**	**02 24 57.1**	**-0.4**
	comp=Z,1.6nm,0.7s,mb3.9,baz=129,slow=8.0,SNR=7.1						
AKASG	**Malin Array Be**	**28.63 322**	*i* P		**P**	**02 24 57.0**	**-0.5**
AKASG			pmax		pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**36.69 336**	P		**P**	**02 26 07.7**	**-0.3**
	comp=Z,1.5nm,0.8s,mb3.9,baz=134,slow=11,SNR=7.2						
KMBO	**Kilima Mbogo**	**36.86 214**	P		**P**	**02 26 09.3**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=45,slow=19,SNR=3.4						
GERES	**GERESS Array B**	**37.18 312**	P		**P**	**02 26 11.1**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.6,baz=107,slow=7.7,SNR=7.7						
NOA	**NORSAR Array B**	**42.47 329**	P		**P**	**02 26 56.4**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.1,baz=119,slow=8.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**53.62 264**	P		**P**	**02 28 21.1**	**-1.2**
	comp=Z,4.5nm,0.7s,mb4.5,baz=63,slow=6.9,SNR=55						
TIXI	**Tiksi**	**55.40 21**	*i* P		**P**	**02 28 36.0**	**+0.7**
	comp=Z,4.0nm,0.7s,mb4.6						
TIXI	**Tiksi**	**55.40 21**	*i* P		**P**	**02 28 36.0**	**+0.7**
TIXI			pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BILL	**Bilibino**	**68.60 22**	*e*P		**P**	**02 30 04.0**	**0.0**
	comp=Z,2.0nm,1.3s,mb3.9						
BILL	**Bilibino**	**68.60 22**	*e*P		**P**	**02 30 04.0**	**0.0**
BILL			pmax		pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
ILAR	**Eielson Array**	**82.94 10**	P		**P**	**02 31 24.5**	**-1.5**
	comp=Z,0.4nm,0.7s,mb3.6,baz=314,slow=4.5,SNR=7.4						
YKA	**Yellowknife Ar**	**86.78 356**	P		**P**	**02 31 44.6**	**-0.7**
	comp=Z,0.7nm,0.6s,mb4.1,baz=360,slow=5.0,SNR=23						
YKA	**Yellowknife Ar**	**86.78 356**	P		**P**	**02 31 44.6**	**-0.8**
	comp=Z,1.0nm,0.6s,mb4.2						
YKA	**Yellowknife Ar**	**86.78 356**	P		**P**	**02 31 44.6**	**-0.8**
YKA			pmax		pmax		
	comp=Z,1.0nm,0.6s						

ISCJB ***07*** *02:34:29.3±4.2, 43S±02×1526E±07, h33km, mb4.5/4, Error ellipse: s-maj=106.3km s-min=24.1km az=28.3*
IDC ***07*** *02:34:29.0±3.1, 380S×15148E, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/13, mbtmp4.1/2, Error ellipse: s-maj=137.2km s-min=41.2km az=119.0*
NEIC ***07*** *02:34:32.4±1.6, 4.42S×152.41E, h35km, mb4.6/3, Error ellipse: s-maj=45.8km s-min=16.2km az=111.0*

ISC 07 02:34:31.6±3.5, 45S±02×1526E±06, h35km, n9, σ0§14/7, mb4.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**21.55**	**246**	*e*P		**P**	**02 39 17.8**	**0.0**
	41nm,1.5s,mb4.6							
WRAB	**Tennant Creek**	**23.52**	**228**	*e*P		**P**	**02 39 38.5**	**-0.1**
	7.8nm,0.4s,mb4.5							
WB2	**Warramunga Arr**	**23.53**	**228**	*e*P		**P**	**02 39 38.6**	**0.0**
WRA	**Warramunga Arr**	**23.54**	**228**	P		**P**	**02 39 38.7**	**+0.1**
	2.7nm,0.3s,mb4.1,baz=50,slow=10,SNR=27							
ASAR	**Alice Springs**	**26.28**	**222**	P		**P**	**02 40 03.5**	**-0.1**
	0.8nm,0.3s,baz=54,slow=8.7,SNR=16							
BJT	**Baijiatuau**	**55.48**	**326**	P		**P**	**02 44 02.7**	**-0.1**
	5.6nm,0.4s,mb5.0							
DGAR	**Diego Garcia**	**79.69**	**263**	*e*P		**P**	**02 46 35.9**	**+0.3**
	66nm,0.3s							
DGAR				*e*PcP		PcP	02 46 44.3	+1.0
SANT	**Santorini**	**122.10**	**311**	*e*PKPdf		PKPdf	02 53 23.9	+1.5
TORD	**Torodi Ar. Bea**	**150.02**	**289**	PKPbc		PKPbc	02 54 18.8	+0.5
	0.2nm,0.4s,baz=76,slow=2.1,SNR=12							

NEIC ***07*** *02:45:57.6, 3188S×7150W, h41km, MD3.8(GUC), After GUC.*

GUC 07 02:45:57.6±0.5, 3188S×7150W, h41km±1km, MD3.8, ML2.7, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.00**	**308⇑**	*i*P		Pn	02 46 04.2	+0.1
CHNG				*i* S		Sn	02 46 08.9	+0.2
CHNG				AMP			02 46 09.2	
	comp=E,626nm,0.2s							
ILCH	**Illapel**	**0.37**	**49⇓**	*i*P		Pn	02 46 07.2	+0.5
ILCH				*i* S		Sn	02 46 14.3	+1.1
ILCH				AMP			02 46 14.5	
	comp=N,1μm,0.1s							
CMCH	**Combarbala**	**0.83**	**31⇓**	*i*P		Pn	02 46 13.2	+0.4
CMCH				*i* S		Sn	02 46 25.2	+1.5
CMCH				AMP			02 46 27.9	
	comp=N,1μm,0.8s							
CMCH	**Combarbala**	**0.83**	**31⇓**	*i*P		Pn	02 46 13.2	+0.4
CMCH				*i* S		Sn	02 46 25.2	+1.5
JACH	**Jahuel**	**1.10**	**136**	*i* P		Pn	02 46 17.7	+1.1
JACH				*i* S		Sn	02 46 32.8	+2.2
PEL	**Peldehue**	**1.43**	**152**	*e*P		Pn	02 46 22.1	+1.0
PEL				*i* S		Sn	02 46 41.0	+2.3
PEL				AMP			02 46 43.6	
	comp=E,177nm,0.3s							
PEL	**Peldehue**	**1.43**	**152**	P		Pn	02 46 22.1	+1.0
PEL				*i* S		Sn	02 46 41.0	+2.3
RCDM	**Rinconada Maip**	**1.70**	**160**	*e*P		Pn	02 46 25.6	+0.8
RCDM				*i* S		Sn	02 46 47.2	+1.9
RCDM				AMP			02 46 54.2	
	comp=E,144nm,0.2s							
RCDM	**Rinconada Maip**	**1.70**	**160**	*e*P		Pn	02 46 25.6	+0.8
RCDM				*i* S		Sn	02 46 47.2	+1.9
FCH	**Farellones**	**1.76**	**145**	*e*P		Pn	02 46 27.7	+2.0
FCH				*i* S		Sn	02 46 49.9	+3.1
FCH				AMP			02 46 52.9	
	comp=E,68nm,0.1s							
TACH	**Talagante**	**1.83**	**165**	*e*P		Pn	02 46 27.7	+1.2

NIED ***07*** *03:46:00, 3730N×13900E, h5km, Mw3.5 Best double couple: M0:2.17000×10^14 NP1:φs202.00000°, δ64.00000°, λ120.00000°. NP2:φs330.00000°, δ39.00000°, λ44.00000°.*
ISCJB ***07*** *03:46:47.2±0.6, 3733N±003×13900E±004, h8km, Error ellipse: s-maj=5.2km s-min=4.3km az=2.7*
JMA ***07*** *03:46:47.7, 3734N×13900E, h8km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs338.00000°, δ29.00000°, λ49.00000°. NP2: φs203.00000°, δ69.00000°, λ110.00000°. Principal axes: T Plg61.0000°, Azm143.0000°; N Plg19.0000°, Azm15.0000°; P Plg21.0000°, Azm278.0000°;*
JMA Felt II J1.

ISC 07 03:46:47.0±0.7, 3733N±003×13900E±005, h18km±6km, n7, σ0§59/13, 1C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.08**	**170**	⇓P		**Pg**	**03 46 49.9**	**-0.6**
JHK				S		**Sg**	**03 46 51.8**	**-1.0**
JIZZ	**Izumozaki**	**0.31**	**312**	⇓P		**Pg**	**03 46 54.2**	**+0.5**
JIZZ				*e*S		**Sg**	**03 46 59.4**	**+1.1**
JNS	**Sasagawa**	**0.55**	**27**	⇓P		**Pg**	**03 46 57.8**	**-0.2**
JNS				*e*S		**Sg**	**03 47 05.2**	**-0.3**
JFY	**Yanaizu**	**0.57**	**81**	⇓P		**Pg**	**03 46 58.6**	**+0.3**
JFY				S		**Sg**	**03 47 06.3**	**+0.4**
JKT	**Katashina**	**0.59**	**160**	⇑P		**Pg**	**03 46 59.1**	**+0.4**
JKT				*e*S		**Sg**	**03 47 07.3**	**+0.6**
JSD	**Sado**	**0.92**	**321**	⇓P		**Pb**	**03 47 03.5**	**-1.0**
MAT	**Matsushiro**	**1.01**	**219**	P		**Pb**	**03 47 05.7**	**-0.2**
MAT				S		**Sb**	**03 47 18.8**	**0.0**

PRE ***07*** *03:58:39.7±1.4, 2160S×3349E, h5km, ML5.0*
ISCJB ***07*** *03:58:41.1±0.7, 2131S±008×3298E±007, h10km, mb3.8/4, Error ellipse: s-maj=12.7km s-min=7.3km az=104.8*
IDC ***07*** *03:58:42.5±1.0, 2115S×3309E, h0km, mb3.8/4, mb1 4.2/10, mb1mx3.9/26, mbtmp4.1/10, ML4.3/5, MS3.3/3, Ms1 3.2/3, ms1mx2.9/26, Error ellipse: s-maj=28.9km s-min=23.0km az=155.0*
NEIC ***07*** *03:58:44.1±0.6, 2115S×3303E, h10km, Error ellipse: s-maj=15.6km s-min=10.4km az=152.0*

ISC 07 03:58:43.2±0.7, 2132S±007×3299E±007, h10km, n21, σ1§50/32, mb3.8/4, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.94**	**249**	*e*P		Px	03 51 33.1	
MSNA				*e*S		Sx	03 52 11.2	
MSNA				AML		AML	03 52 20.8	
	comp=Z,617nm,0.5s							
SLR	**Silverton**	**6.17**	**224**	*e*P		**Pn**	**04 00 14.2**	**-0.1**
SLR				*e*S		**Sn**	**04 01 23.0**	**-1.9**
SLR				AML		AML	04 02 05.9	
	comp=Z,257nm,0.5s							
LSZ	**Lusaka**	**7.54**	**322**	Pn		**Pn**	**04 00 32.8**	**-0.5**
	comp=Z,5.4nm,0.3s,baz=148,slow=14,SNR=27							
LSZ				Sn		**Sn**	**04 01 52.1**	**-6.6**
	comp=Z,3.7nm,0.3s,baz=210,slow=20,SNR=5.4							
LSZ				Lg			04 02 32.8	
	comp=Z,14nm,0.3s,baz=58,slow=18,SNR=7.1							
LSZ	**Lusaka**	**7.54**	**322**	Pn		**Pn**	**04 00 32.8**	**-0.5**
LSZ				Sn		**Sn**	**04 01 52.1**	**-6.6**
LSZ				Lg			04 02 32.8	
LBTB	**Lobatse**	**7.74**	**240**	*e*P		**Pn**	**04 00 37.9**	**+2.0**
LBTB				*e*S		**Sn**	**04 02 05.0**	**+1.5**
LBTB	**Lobatse**	**7.74**	**240**	Pn		**Pn**	**04 00 38.7**	**+2.8**
	comp=Z,4.2nm,0.3s,baz=65,slow=13,SNR=34							
LBTB				Sn		**Sn**	**04 02 06.4**	**+2.9**
	comp=Z,2.5nm,0.3s,baz=139,slow=20,SNR=4.8							
LBTB				Lg			04 02 44.0	
	comp=Z,8.0nm,0.3s,baz=166,slow=21,SNR=4.0							
LBTB				LR		LR	04 03 49.8	
	comp=Z,180nm,21.0s,baz=82,slow=39							
LBTB	**Lobatse**	**7.74**	**240**	Pn		**Pn**	**04 00 38.7**	**+2.8**
LBTB				Sn		**Sn**	**04 02 06.4**	**+2.9**
LBTB				Lg			04 02 44.0	
LBTB				LR		LR	04 03 49.8	
BOSA	**Boshof**	**10.10**	**222**	*e*P		**Pn**	**04 01 08.1**	**-0.2**
BOSA				*e*S		**Sn**	**04 02 57.9**	**-3.7**
BOSA				AML		AML	04 04 19.8	
	comp=Z,411nm,0.7s							
BOSA	**Boshof**	**10.10**	**222**	Pn		**Pn**	**04 01 10.9**	**+2.7**
	comp=Z,1.6nm,0.3s,baz=52,slow=13,SNR=33							
BOSA				Sn		**Sn**	**04 02 59.8**	**-1.8**
	comp=Z,2.3nm,0.3s,baz=354,slow=16,SNR=9.0							
BOSA				Lg			04 03 59.8	
	comp=Z,3.5nm,0.3s,baz=307,slow=18,SNR=2.6							
BOSA				LR		LR	04 05 14.8	
	comp=Z,225nm,18.6s,baz=346,slow=38							
OPO	**Ambohidratompo**	**13.63**	**81**	Pn		**Pn**	**04 01 55.2**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=250,slow=18,SNR=2.4							
OPO				Sn		**Sn**	**04 04 16.9**	**-11**
	comp=Z,0.7nm,0.3s,baz=0.0,slow=20,SNR=4.2							
TSUM	**Tsumeb**	**14.61**	**276**	Pn		**Pn**	**04 02 10.7**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=94,slow=9.7,SNR=16							
TSUM				Sn		**Sn**	**04 04 47.4**	**-4.5**
	comp=Z,0.6nm,0.3s,baz=17,slow=20,SNR=3.3							
TSUM				Lg			04 06 21.0	
	comp=Z,1.4nm,0.3s,baz=171,slow=21,SNR=3.9							
TSUM				LR		LR	04 08 49.0	
	comp=Z,73nm,19.9s,baz=145,slow=41							
TSUM	**Tsumeb**	**14.61**	**276**	*e*Pn		**Pn**	**04 02 09.0**	**-1.0**
	comp=Z,100nm,1.1s							
TSUM				*e*Sn		**Sn**	**04 04 50.4**	**-1.6**
TSUM				Lg			04 06 21.0	
TSUM				*e*			04 06 26.1	
TSUM				LR		LR	04 08 49.0	
SUR	**Sutherland**	**15.46**	**222**	*e*P		**Pn**	**04 02 22.9**	**+1.5**
SUR				*e*S		**Sn**	**04 05 05.5**	**-7.2**
SUR	**Sutherland**	**15.46**	**222**	Pn		**Pn**	**04 02 24.0**	**+2.7**
	comp=Z,1.6nm,0.3s,baz=55,slow=16,SNR=16							
SUR				Sn		**Sn**	**04 05 08.7**	**-4.0**
	comp=Z,0.9nm,0.3s,baz=156,slow=23,SNR=5.8							
SUR				Lg			04 06 49.0	
	comp=Z,0.3nm,0.3s,baz=330,slow=20,SNR=3.9							
SUR	**Sutherland**	**15.46**	**222**	Pn		**Pn**	**04 02 24.0**	**+2.7**
SUR				Sn		**Sn**	**04 05 08.7**	**-4.0**
SUR				Lg			04 06 49.0	
TORD	**Torodi Ar. Bea**	**46.02**	**315**	P		**P**	**04 07 07.5**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=129,slow=6.7,SNR=12							
MKAR	**Makanchi Array**	**81.07**	**32**	P		**P**	**04 10 57.2**	**-1.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=216,slow=5.2,SNR=6.3							
FINES	**FINESS Array B**	**82.66**	**357**	P		**P**	**04 11 07.1**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=188,slow=8.4,SNR=2.6							
ASAR	**Alice Springs**	**91.01**	**116**	P		**P**	**04 11 49.6**	**+2.0**
	comp=Z,0.5nm,0.8s,mb3.9,baz=258,slow=4.1,SNR=4.5							
YKA	**Yellowknife Ar**	**133.28**	**340**	PKP		PKPdf	04 17 59.9	+0.5
	comp=Z,0.2nm,0.7s,baz=48,slow=1.9,SNR=4.2							
NVAR	**Mina Array Bea**	**150.00**	**311**	PKPbc		PKPbc	04 18 35.4	+1.5
	comp=Z,0.5nm,0.6s,baz=100,slow=2.1,SNR=6.6							

ISCJB ***07*** *04:36:53.0±0.8, 2811N±005×5708E±008, h10km, mb3.4/7, Error ellipse: s-maj=11.8km s-min=5.4km az=54.0*
IDC ***07*** *04:36:52.2±2.5, 2808N×5686E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.4/22, mbtmp3.5/7, Error ellipse: s-maj=55.2km s-min=28.0km az=150.0*
THR ***07*** *04:36:55.5±0.5, 2810N×5700E, h14km±5km, ML3.2*
MOS ***07*** *04:36:55.5±1.5, 2800N×5699E, h33km, mb3.7/1, Error ellipse: s-maj=36.6km s-min=17.2km az=106.8*
CSEM ***07*** *04:36:56.1±0.1, 2808N×5697E, h35km, ML3.2, Error ellipse: s-maj=5.7km s-min=2.4km az=119.0*
NEIC ***07*** *04:36:58.5, 2807N×5669E, h10km, mb3.6/2, MN3.1(TEH), After TEH.*

ISC 07 04:36:54.3±0.9, 2808N±005×5709E±008, h10km, n27, σ1§42/31, mb3.4/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.06**	**230**	*e*PG		**Pg**	**04 37 14.7**	**0.0**
BNDS				*e*SG		**Sg**	**04 37 28.6**	**+0.1**
BNDS				AML		AML	04 37 30.9	
	comp=E,701nm,0.5s							
BNDS	**Bandar-Abbas**	**1.06**	**230**	*e*Pg		**Pg**	**04 37 14.6**	**-0.1**
	SNR=90							
BNDS				*e*Sg		**Sg**	**04 37 28.6**	**+0.2**
	SNR=90							
KRBR	**Kerman**	**1.91**	**351**	*e*PG		**Pg**	**04 37 29.9**	**-1.0**
KRBR				*e*SG		**Sg**	**04 37 55.5**	**-0.3**
KRBR				AML		AML	04 37 59.3	
	comp=N,246nm,0.6s							
KRBR	**Kerman**	**1.91**	**351**	*e*Pg		**Pg**	**04 37 29.9**	**-1.1**
	SNR=90							
KRBR				*e*Sg		**Sg**	**04 37 55.5**	**-0.

BGG				*e*Sg	**Sg**	**04 39 35.0**	**-0.3**
TNS	**Taunus Mts**	**1.69**	**147**	*e*Pg	**Pg**	**04 39 20.8**	**+0.1**
	SNR=1.7						
TNS				*e*Sg	**Sg**	**04 39 41.5**	**-1.2**
GTTG	**Gvttingen**	**1.83**	**92**	*e*Sg	**Sg**	**04 39 47.2**	**0.0**
UBBA	**Unterbreizbach**	**2.05**	**113**	*e*Pg	**Pg**	**04 39 26.9**	**-0.6**
	SNR=1.3						
CLZ	**Clausthal**	**2.09**	**84**	*e*Pg	**Pg**	**04 39 27.9**	**-0.5**
	SNR=1.7						
CLZ				*e*Sg	**Sg**	**04 39 56.0**	**+0.7**
GIVF	**Givet**	**2.09**	**223**	*e*Pn	**Pn**	**04 39 24.0**	**-0.6**
GIVF				*e*Sn	**Sn**	**04 39 49.3**	**-2.0**
GIVF				*e*Sg	**Sg**	**04 39 55.5**	**+0.1**
	11nm,0.3s						
CDF	**Champ du Feu**	**3.25**	**177**	*e*Pn	**Pn**	**04 39 39.8**	**-0.7**
CDF				*e*Sg	**Sg**	**04 40 32.7**	**0.0**
	2.4nm,0.4s						
MEZF	**Maizieres J'vi**	**3.40**	**203**	*e*Pn	**Pn**	**04 39 41.6**	**-1.0**
HINF	**Hinteralfeld**	**3.84**	**182**	*e*Pn	**Pn**	**04 39 47.7**	**-1.0**
LOR	**Lormes**	**4.85**	**206**	*e*Pn	**Pn**	**04 40 01.9**	**-0.6**
	baz=37						
CABF	**La Chapelle**	**5.08**	**187**	*e*Pn	**Pn**	**04 40 05.2**	**-0.6**
SSF	**Saint Saulge**	**5.14**	**208**	*e*Pn	**Pn**	**04 40 05.4**	**-1.1**
HYF	**Humbligny**	**5.24**	**215**	*e*Pn	**Pn**	**04 40 06.3**	**-1.6**
AVF	**Avril sur Loir**	**5.43**	**208**	*e*Pn	**Pn**	**04 40 09.3**	**-1.2**
SMF	**Signal de Mont**	**5.43**	**204**	*e*Pn	**Pn**	**04 40 09.5**	**-1.0**
LDF	**La Druitiere**	**5.53**	**239**	*e*Pn	**Pn**	**04 40 10.3**	**-1.5**
FLN	**La Foliniere**	**5.62**	**242**	*e*Pn	**Pn**	**04 40 12.7**	**-0.4**
	baz=60						
BGF	**Bois d'Agland**	**5.79**	**210**	*e*Pn	**Pn**	**04 40 14.2**	**-1.3**
GRR	**Gorron**	**6.04**	**240**	*e*Pn	**Pn**	**04 40 17.9**	**-1.0**
SGMF	**Saint Gilles**	**7.06**	**245**	*e*Pn	**Pn**	**04 40 31.2**	**-1.6**
QUIF	**Quistinic**	**7.58**	**244**	*e*Pn	**Pn**	**04 40 37.8**	**-2.3**

GUC ***07*** *04:42:56.6±0.6,2328S×6873W,h100km,ML5.0*
ISCJB ***07*** *04:42:56.1±0.3,2312S±003×6862W±005,h97km, mb4.5/34, Error ellipse: s-maj=7.0km s-min=4.8km az=21.6*
NEIC ***07*** *04:42:57.9±0.3,2308S×6863W,mb4.6/26, Error ellipse: s-maj=11.7km s-min=6.7km az=79.0*
IDC ***07*** *04:42:57.8±0.5,2311S×6867W,h97km±3km,mb4.3/13, mb1 4.3/15,mb1mx4.3/19,mbtmp4.6/15,MS4.0/2, Ms1 3.9/2,ms1mx3.1/18, Error ellipse: s-maj=17.5km s-min=11.6km az=62.0*
MOS ***07*** *04:42:58.1±1.3,2303S×6867W,h112km,mb4.9/8, Error ellipse: s-maj=25.1km s-min=11.2km az=108.8*
BJI ***07*** *04:42:58.1,2310S×6860W,h97km,mB5.2*
ISC 07 04:42:58.1±0.3,2314S±003×6869W±005,h99km, h99km±1.1km:pP-P,n91,σ1§23/82,mb4.5/34,1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.41**	**259**	⇓*i*P	**Pn**	**04 43 23.6**	**+0.4**
CEN1				*i* S	**Sn**	**04 43 43.5**	**+1.4**
CEN1				AMP		04 43 45.6	
	comp=E,13μm,0.7s						
ANCH	**Antofagasta**	**1.67**	**251**	*e*P	**Pn**	**04 43 21.4**	**-5.0**
ANCH				*i* S	**Sn**	**04 43 42.8**	**-5.1**
CPN1	**Cerro Paranal**	**2.16**	**226**	*e*P	**Pn**	**04 43 31.3**	**-1.3**
CPN1				*i* S	**Sn**	**04 43 57.2**	**-1.9**
CPN1				AMP		04 44 06.0	
	comp=E,13μm,0.5s						
CRCH	**Chaqaral**	**3.65**	**208**	*e*P	**Pn**	**04 43 50.2**	**-2.2**
CRCH				AMP		04 44 46.5	
	comp=E,4μm,0.8s						
LPAZ	**La Paz**	**6.83**	**4**	P	**Pn**	**04 44 35.4**	**-0.2**
	comp=E,2.5nm,0.3s,baz=175,slow=5.8,SNR=43						
LPAZ	**La Paz**	**6.83**	**4**	*e*Pn	**Pn**	**04 44 36.2**	**+0.5**
	comp=E,161nm,1.1s						
LPAZ				*e*S	Sn	04 45 21.6	-30
ARE	**Arequipa**	**7.15**	**338**	*e*P	**Pn**	**04 44 37.0**	**-2.9**
ARE				*e*S	**Sn**	**04 45 55.0**	**-4.5**
CFAA	**Coronel Fontan**	**8.44**	**177**	P	**Pn**	**04 44 55.9**	**-1.6**
	comp=E,0.3nm,0.3s,baz=350,slow=13,SNR=65						
CFAA				S	**Sn**	**04 46 30.6**	**-0.4**
	comp=E,0.6nm,0.3s,baz=333,slow=2.3,SNR=2.4						
SIV	**San Ignacio**	**10.10**	**47**	P	**Pn**	**04 45 17.3**	**-2.7**
	comp=E,21nm,0.3s,baz=258,slow=10,SNR=403						
SIV				S	**Sn**	**04 47 04.6**	**-6.8**
	comp=E,8.1nm,0.3s,baz=313,slow=23,SNR=5.2						
SAML	**Samuel**	**15.06**	**21**	*e*Pn	**Pn**	**04 46 22.5**	**-3.0**
	comp=E,6.5nm,0.7s						
TRQA	**Tornquist**	**15.94**	**160**	*e*P	**Pn**	**04 46 35.2**	**-1.4**
	comp=E,24nm,0.8s						
PLCA	**Paso Flores**	**17.61**	**185**	P	**Pn**	**04 46 57.5**	**+0.4**
	comp=E,0.3nm,0.3s,baz=24,slow=12,SNR=4.6						
PLCA				PcP	PcP	04 51 32.6	+1.8
	comp=E,0.1nm,0.3s,baz=24,slow=8.7,SNR=3.5						
PLCA				LR	LR	04 54 43.5	
	comp=E,130nm,19.3s,baz=121,slow=40						
BDFB	**Brasilia**	**20.86**	**73**	P	**P**	**04 47 31.3**	**-0.7**
	comp=E,20nm,0.8s,baz=246,slow=11,SNR=27						
BDFB				pP		04 47 53.4	
	comp=E,21nm,0.8s,baz=250,slow=12,SNR=7.2						
OTAV	**Otavalo**	**25.10**	**336**	*e*P	**P**	**04 48 15.0**	**+1.5**
	comp=E,12nm,0.9s,mb4.3						
OTAV				*e*pP	pP	04 48 38.0	+2.7
SDV	**Santo Domingo**	**31.88**	**356**	P	**P**	**04 49 12.1**	**-1.7**
	comp=E,2.9nm,0.5s,mb4.3,baz=292,slow=18,SNR=5.6						
SDV				LR	LR	05 03 08.4	
	comp=E,16nm,20.8s,baz=199,slow=38						
SDV	**Santo Domingo**	**31.88**	**356**	*e*P	**P**	**04 49 11.9**	**-1.9**
	comp=E,4.8nm,0.8s,mb4.3						
SDV				*e*pP	pP	04 49 39.1	+3.1
VNA3	**Neumayer Olymp**	**58.47**	**161**	*e*P	**P**	**04 52 45.1**	**+1.5**
VNA3				*e*		04 52 49.3	
VNA3				*e*	pP	04 53 09.6	+1.7
VNA3				*e*		04 53 19.9	
VNA3				*e*		04 53 33.1	
VNA2	**Neumayer--Watz**	**59.05**	**160**	*e*P	**P**	**04 52 49.1**	**+1.4**
	baz=292,slow=9.0						
VNA2				*e*		04 52 53.9	
VNA2				*e*	pP	04 53 13.4	+1.4
VNA2				*e*		04 53 24.3	
VNA2				*e*		04 53 36.4	
SWET	**Sewanee**	**60.29**	**344**	*e*P	**P**	**04 52 55.0**	**-1.3**
SWET				*e*pP	pP	04 53 19.3	-1.3
SWET				*e*sP	sP	04 53 31.5	0.0
OXF	**Oxford**	**60.62**	**340**	*e*P	**P**	**04 52 56.9**	**-1.5**
	comp=E,19nm,1.0s,mb5.1						
OXF				*e*pP	pP	04 53 21.8	-1.1
OXF				*e*sP	sP	04 53 33.2	-0.5
OXF	**Oxford**	**60.62**	**340**	*e*P	**P**	**04 52 56.9**	**-1.5**
OXF				*e**PP	pP	04 53 21.8	-1.0
OXF				*e**SP	sP	04 53 33.2	-0.5
OXF				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
SNAA	**Sanae**	**60.67**	**161**	P	**P**	**04 52 58.4**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.4,baz=266,slow=8.0,SNR=15						
SNAA	**Sanae**	**60.67**	**161**	*e*P	**P**	**04 52 59.3**	**+0.5**
SNAA				*e*		04 53 04.7	
SNAA				*e*	pP	04 53 23.7	+0.5
SNAA				*e*		04 53 33.6	
SNAA				*e*		04 53 42.7	
SNAA	**Sanae**	**60.67**	**161**	*e*P	**P**	**04 52 59.3**	**+0.5**
SNAA				*e*	pP	04 53 23.7	+0.5
SNAA				*e*		04 53 42.7	
JCT	**Junction City**	**61.11**	**329**	*e*P	**P**	**04 53 01.4**	**-0.4**
	comp=Z,3.7nm,0.4s,mb4.8						
JCT				*e*pP	pP	04 53 26.2	0.0
JCT	**Junction City**	**61.11**	**329**	*e*P	**P**	**04 53 01.4**	**-0.3**
JCT				*e**PP	pP	04 53 26.2	0.0
JCT				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
WVT	**Waverly**	**61.66**	**342**	*e*P	**P**	**04 53 03.7**	**-1.8**
	comp=Z,16nm,0.8s,mb5.1						
WVT				*e*sP	sP	04 53 39.9	-0.9
WVT	**Waverly**	**61.66**	**342**	*e*P	**P**	**04 53 03.7**	**-1.8**
WVT				*e**SP	sP	04 53 39.9	-0.9
WVT				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
MIAR	**Mount Ida**	**62.05**	**337**	*e*P	**P**	**04 53 07.2**	**-0.9**
	comp=Z,14nm,1.1s,mb4.9						
MIAR				*e*pP	pP	04 53 31.5	-1.1
MIAR				*e*sP	sP	04 53 43.8	+0.4
MIAR	**Mount Ida**	**62.05**	**337**	*e*P	**P**	**04 53 07.2**	**-0.9**
MIAR				*e**PP	pP	04 53 31.5	-1.1
MIAR				*e**SP	sP	04 53 43.8	+0.4
MIAR				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
CCM	**Cathedral Cave**	**64.45**	**340**	*e*P	**P**	**04 53 22.8**	**-1.2**
	comp=Z,14nm,1.0s,mb4.7						
CCM				*e*sP	sP	04 53 59.0	-0.4
CCM	**Cathedral Cave**	**64.45**	**340**	*e*P	**P**	**04 53 22.8**	**-1.1**
CCM				*e**SP	sP	04 53 59.0	-0.4
CCM				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
FFD	**Franklin Falls**	**66.33**	**358**	*e*P	**P**	**04 53 36.0**	**-0.1**
	comp=Z,8.8nm,0.4s,mb4.9						
QSPA	**South Pole Qui**	**67.06**	**180**	*e*P	**P**	**04 53 42.2**	**+1.5**
	comp=Z,16nm,0.6s,mb5.0						
LPM	**Los Pinos Moun**	**67.56**	**327**	*e*P	**P**	**04 53 44.4**	**+0.5**
LPM				*e*pP	pP	04 54 09.4	+0.7
ANMO	**Albuquerque**	**67.98**	**327**	P	**P**	**04 53 47.3**	**+0.8**
	comp=Z,4.7nm,0.7s,mb4.5,baz=143,slow=7.1,SNR=24						
ANMO				pP	pP	04 54 12.1	+0.7
	comp=Z,1.9nm,0.7s,baz=140,slow=7.6,SNR=3.6						
ANMO				sP	sP	04 54 22.1	0.0
	comp=Z,4.9nm,0.8s,baz=160,slow=7.3,SNR=7.8						
ANMO	**Albuquerque**	**67.98**	**327**	*e*P	**P**	**04 53 47.1**	**+0.6**
	comp=Z,2.5nm,0.6s,mb4.2						
ANMO				*e*pP	pP	04 54 11.7	+0.3
ANMO	**Albuquerque**	**67.98**	**327**	*e*P	**P**	**04 53 47.1**	**+0.6**
ANMO				*e**PP	pP	04 54 11.7	+0.3
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SADO	**Sadowa**	**68.25**	**352**	P	**P**	**04 53 46.5**	**-1.7**
	comp=Z,2.4nm,0.6s,mb4.2,baz=186,slow=6.4,SNR=6.0						
DBIC	**Dimbokro**	**69.01**	**73**	P	**P**	**04 53 54.0**	**+1.2**
	comp=Z,5.2nm,0.7s,mb4.5,baz=207,slow=4.3,SNR=12						
DBIC				pP	pP	04 54 17.9	+0.1
	comp=Z,9.4nm,0.8s,baz=201,slow=5.5,SNR=6.4						
SDCO	**Great Sand Dun**	**69.75**	**330**	*e*pP	pP	04 54 22.7	+0.3
	comp=Z,5.7nm,0.8s						
SDCO				*e*sP	sP	04 54 34.4	+1.2
WUAZ	**Wupatki**	**70.97**	**324**	*e*P	**P**	**04 54 06.1**	**+1.2**
	comp=Z,11nm,1.0s,mb4.7						
LDFC	**Landfair**	**72.73**	**322**	*e*P	**P**	**04 54 14.9**	**-0.4**
SRU	**San Rafael**	**73.25**	**327**	*e*P	**P**	**04 54 19.2**	**+0.7**
	comp=Z,7.2nm,0.6s,mb4.7						
SRU	**San Rafael**	**73.25**	**327**	*e*P	**P**	**04 54 19.2**	**+0.7**
SRU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
MSU	**Marysvale**	**73.64**	**326**	*e*P	**P**	**04 54 22.1**	**+1.4**
MSU				PcP	PcP	04 54 35.5	-0.6
MSU				*e*pP	pP	04 54 44.1	-1.8
MSU				*e*sP	sP	04 54 57.5	+0.8
MSU	**Marysvale**	**73.64**	**326**	*e*P	**P**	**04 54 22.2**	**+1.4**
MSU						04 54 35.5	
EYMN	**Ely**	**73.67**	**344**	*e*P	**P**	**04 54 19.9**	**-1.0**
	comp=Z,5.2nm,0.6s,mb4.4						
EYMN				*e*sP	sP	04 54 55.6	-1.1
ARUT	**Antelope Range**	**73.77**	**324**	*e*P	**P**	**04 54 23.0**	**+1.5**
ARUT				*e*sP	sP	04 54 58.1	+0.7
PDAR	**Pinedale Array**	**75.62**	**330**	P	**P**	**04 54 32.2**	**0.0**
	comp=Z,1.2nm,0.5s,mb3.9,baz=133,slow=7.8,SNR=21						
HWUT	**Hardware Ranch**	**75.68**	**328**	*e*P	**P**	**04 54 32.9**	**+0.4**
	comp=Z,6.2nm,0.6s,mb4.5						
LOHW	**Long Hollow**	**76.76**	**330**	*e*P	**P**	**04 54 39.3**	**+0.6**
	comp=Z,3.3nm,0.5s,mb4.3						
LOHW				*e*pP	pP	04 55 04.5	+0.5
LOHW				*e*sP	sP	04 55 14.6	-0.1
NVAR	**Mina Array Bea**	**76.91**	**322**	P	**P**	**04 54 40.4**	**+1.0**
	comp=Z,1.2nm,0.7s,mb3.8,baz=158,slow=6.5,SNR=10						
NVAR				sP	sP	04 55 16.2	+0.7
	comp=Z,1.9nm,0.8s,baz=161,slow=6.5,SNR=7.1						
NVAR	**Mina Array Bea**	**76.91**	**322**	P	**P**	**04 54 40.4**	**+1.0**
NVAR				sP	sP	04 55 16.2	+0.8
ULM	**Lac du Bonnet**	**76.93**	**342**	P	**P**	**04 54 38.5**	**-1.1**
	comp=Z,8.9nm,0.5s,mb4.8,baz=155,slow=6.3,SNR=44						
ULM				pP	pP	04 55 03.2	-1.7
	comp=Z,3.0nm,0.6s,baz=159,slow=8.1,SNR=3.7						
FLWY	**Flagg Ranch**	**77.17**	**330**	*e*P	**P**	**04 54 41.8**	**+0.9**
	comp=Z,13nm,0.9s,mb4.7						
FLWY				*e*pP	pP	04 55 07.3	+1.0
TORD	**Torodi Ar. Bea**	**77.72**	**70**	P	**P**	**04 54 44.8**	**+0.8**
	comp=Z,29nm,0.6s,mb5.2,baz=254,slow=5.3,SNR=566						
TORD				pP	pP	04 55 09.6	+0.2
	comp=Z,11nm,0.6s,baz=252,slow=5.5,SNR=5.8						
TORD				sP	sP	04 55 19.4	-0.6
	comp=Z,8.5nm,0.7s,baz=252,slow=5.2,SNR=3.2						
YMR	**Madison River**	**77.75**	**331**	*e*P	**P**	**04 54 45.3**	**+1.2**
	comp=Z,4.9nm,0.6s,mb4.4						
YMR				*e*sP	sP	04 55 20.9	+0.6
PAHR	**Pah Rah Range**	**78.39**	**322**	*e*P	**P**	**04 54 49.2**	**+1.4**
	comp=Z,14nm,0.8s,mb4.7						
PAHR				*e*sP	sP	04 55 24.3	+0.5
HLID	**Hailey**	**78.53**	**328**	*e*P	**P**	**04 54 49.7**	**+1.2**
	comp=Z,8.1nm,0.8s,mb4.6						
HLID				*e*sP	sP	04 55 25.2	+0.6
MCMT	**McKenzie Canyo**	**78.73**	**330**	*e*P	**P**	**04 54 50.8**	**+1.2**
MCMT				*e*sP	sP	04 55 26.2	+0.6
DLMT	**Dillon**	**79.02**	**330**	*e*P	**P**	**04 54 51.9**	**+0.7**
	comp=Z,3.0nm,0.5s,mb4.4						
DLMT				*e*pP	pP	04 55 17.4	+0.7
DLMT				*e*sP	sP	04 55 27.4	+0.2
TSUM	**Tsumeb**	**79.38**	**106**	*e*P	**P**	**04 54 55.5**	**+2.4**
	comp=Z,6.9nm,0.8s,mb4.5						
TSUM				*e*sP	sP	04 55 30.9	+1.7
CHMT	**Chamberlain Mo**	**80.49**	**331**	*e*P	**P**	**04 54 59.9**	**+0.7**
BMO	**Blue Mountains**	**80.90**	**327**	*e*P	**P**	**04 55 01.6**	**+0.4**
	comp=Z,2.9nm,0.9s,mb4.1						
BMO				*e*sP	sP	04 55 37.4	0.0
BMO	**Blue Mountains**	**80.90**	**327**	*e*P	**P**	**04 55 01.6**	**+0.3**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
BOSA	**Boshof**	**82.50**	**118**	P	**P**	**04 55 09.6**	**-0.1**
	comp=Z,4.9nm,0.8s,mb4.4,baz=286,slow=4.5,SNR=9.7						
MDT	**Midelt**	**82.64**	**50**	P	**P**	**04 55 10.7**	**+0.3**
	comp=Z,1.5nm,0.7s,mb3.9,baz=321,slow=6.5,SNR=5.1						
MDT				pP	pP	04 55 36.8	+0.7
	comp=Z,1.7nm,0.7s,baz=300,slow=9.8,SNR=2.4						
LBTB	**Lobatse**	**84.15**	**115**	*e*P	**P**	**04 55 20.3**	**+2.1**
	comp=Z,4.5nm,0.7s,mb4.4						
LBTB				PcP	PcP	04 55 25.5	+3.7
LBTB				*e*pP	pP	04 55 45.5	+1.6
LBTB				*e*sP	sP	04 55 55.8	+1.3
LBTB	**Lobatse**	**84.15**	**115**	*e*P	**P**	**04 55 20.3**	**+2.1**
LBTB				*e**PP	pP	04 55 45.5	+1.6
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
FCC	**Fort Churchill**	**84.27**	**347**	*e*P	**P**	**04 55 18.3**	**-0.5**
	comp=Z,10nm,0.6s,mb4.8						
FCC				*e*pP	pP	04 55 43.6	-0.9
FCC				*e*sP	sP	04 55 58.5	+3.4
FCC	**Fort Churchill**	**84.27**	**347**	*e*P	**P**	**04 55 18.3**	**-0.4**
FCC				*e**PP	pP	04 55 43.6	-0.9
FCC				*e**SP	sP	04 55 58.5	+3.4
FCC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
EDM	**Edmonton**	**85.33**	**335**	*e*P	**P**	**04 55 22.5**	**-1.5**
ESDC	**Sonseca Array**	**86.85**	**44**	pP	pP	04 55 56.1	-1.3
	comp=Z,1.4nm,0.9s,baz=262,slow=4.7,SNR=3.6						
YKA	**Yellowknife Ar**	**92.79**	**340**	P	**P**	**04 55 58.6**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.8,baz=135,slow=4.5,SNR=102						
YKA				pP	pP	04 56 24.2	-1.2
	comp=Z,2.7nm,0.8s,baz=136,slow=4.4,SNR=8.0						
YKA				sP	sP	04 56 34.7	-1.2
	comp=Z,2.1nm,0.7s,baz=135,slow=4.3,SNR=5.2						
YKA	**Yellowknife Ar**	**92.79**	**340**	P	**P**	**04 55 58.6**	**-0.8**
YKA				pP	pP	04 56 24.2	-1.2
YKA				sP	sP	04 56 34.7	-1.2
YKA	**Yellowknife Ar**	**92.79**	**340**	P	**P**	**04 55 58.6**	**-0.8**
YKA				*PP	pP	04 56 24.3	-1.1
YKW3	**Yellowknife Ar**	**92.85**	**341**	*e*P	**P**	**04 55 58.8**	**-0.9**
YKW3				*e*pP	pP	04 56 24.5	-1.2
YKW3				*e*sP	sP	04 56 34.5	-1.6
RAO	**Raoul Island**	**94.30**	**236**	LR	LR	05 26 59.3	
	comp=Z,286nm,20.8s,baz=166,slow=28						
BVAR	**Borovoye Array**	**137.01**	**35**	PKP	PKPdf	05 02 10.8	+1.5
	comp=Z,1.4nm,0.7s,baz=276,slow=2.7,SNR=8.9						
BVAR				pPKP	pPKPdf	05 02 36.4	-0.1
	comp=Z,1.5nm,0.7s,baz=276,slow=5.8,SNR=4.7						
AML	**Almayashu**	**143.47**	**50**	P	PKPdf	05 02 20.6	-0.4
	SNR=5.2						
UCH	**Uchtor**	**144.00**	**49**	P	PKPdf	05 02 22.7	+0.8
	SNR=7.4						
KBK	**Karagaybulak**	**144.15**	**48**	P	PKPdf	05 02 22.9	+0.7
	SNR=10.0						
TKM2	**Tokmak 2**	**144.50**	**48**	P	PKPdf	05 02 23.2	+0.4
	SNR=8.5						
KZA	**Kyzart**	**144.57**	**49**	P	PKPdf	05 02 24.6	+1.6
	SNR=25						
ULHL	**Ulahol**	**145.20**	**48**	P	PKPbc	05 02 25.9	+2.1
	SNR=18						
MKAR	**Makanchi Array**	**146.82**	**38**	PKPbc	PKPbc	05 02 27.8	-0.9
	comp=Z,9.7nm,0.7s,baz=332,slow=1.2,SNR=64						
MKAR				pPKPbc	pPKPbc	05 02 54.3	-1.2
	comp=Z,9.2nm,0.7s,baz=324,slow=2.5,SNR=13						
WMQ	**Urumqi**	**151.65**	**38**	*e*PKP	PKPdf	05 02 34.3	-0.2
WMQ				LR	LR		
	comp=Z,95nm,24.0s						
HHC	**Hu-ho-hao-te**	**162.34**	**359**	*e*PKP	PKPdf	05 02 47.5	-0.5
HHC				APKP		05 03 14.2	
HHC				XPKP		05 03 25.0	
HHC				PKS		05 06 19.6	
HHC				PP	PP	05 07 22.1	+1.9
HHC				SKS	SKSdf	05 09 40.6	-3.2
HHC				SS	SS	05 27 32.4	-0.8
HHC				LR	LR		
	comp=N,103nm,5.5s						
HHC				LR	LR		
	comp=E,86nm,5.7s						
HHC				LR	LR		
	comp=Z,91nm,5.9s						
LZH	**Lanzhou**	**165.56**	**25**	*e*PKP	PKPdf	05 02 50.7	-0.2
LZH				APKP		05 03 17.6	
LZH				XPKP		05 03 28.2	
LZH				PKP2	PKPab	05 03 51.3	+1.3
LZH				LR	LR		
	comp=N,256nm,19.6s						
LZH				LR	LR		
	comp=Z,563nm,20.5s						
NJ2	**Nanjing**	**168.89**	**325**	*e*PKP	PKPdf	05 02 53.1	-0.3
NJ2				APKP		05 03 20.1	
NJ2				XPKP		05 03 30.6	
NJ2				PKP2	PKPab	05 04 06.6	+1.9
NJ2				PKS		05 06 24.0	
NJ2				PP	PP	05 07 57.0	+2.9
NJ2				SKS	SKSdf	05 09 45.0	-3.0
NJ2				SKKS	SKKSac	05 14 33.0	+0.9
NJ2				PP	PP		
	comp=Z,90nm,6.6s						
NJ2				LR	LR		
	comp=N,690nm,33.9s						
NJ2				LR	LR		
	comp=E,160nm,28.0s						
NJ2				LR	LR		
	comp=Z,330nm,35.4s						

BJI ***07*** *04:53:13.6,287N×12859E,h23km,mB5.2,mb5.5,Ms4.6, Msz4.0*
CSEM ***07*** *04:53:20.3,352N×128.14E,h33km,mb5.5*
HRVD ***07*** *04:53:20.0±0.3,354N×12805E,h116km±2km,MW5.1/83, Centroid moment Tensor Solution. LP body waves: s55,c71;Mantle waves: s83,c142; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.46±.17; Mθθ2.77±.17; Mφφ-6.23±.19; Mrθ2.74±.10; Mθφ0.49±.20; Mφr1.34±.16; Best double couple: M0=6.21800×10^16 NP1:φs143.00000°, δ51.00000°,λ34.00000°. NP2:φs30.00000°,δ64.00000°, λ136.00000°. Principal axes: T 6.0220, Plg49.0000°, Azm351.0000°; N 0.3920, Plg40.0000°, Azm186.0000°; P -6.4140, Plg8.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***07*** *04:53:20.2±1.1,356N×12801E,h33km,mb5.6/32 Error ellipse: s-maj=10.7km s-min=5.7km az=108.3*
ISCJB ***07*** *04:53:30.1±0.6,345N±003×128.14E±004,h125km±5km, mb5.3/120, Error ellipse: s-maj=6.8km s-min=4.7km az=156.5*
IDC ***07*** *04:53:30.7±1.6,345N×128.10E,h117km±13km,mb4.9/28, mb1 5.0/30,mb1mx4.9/32,mbtmp5.3/30,MS3.8/17, Ms1 3.8/17,ms1mx3.7/25, Error ellipse: s-maj=13.8km s-min=9.5km az=79.0*
NEIC ***07*** *04:53:32.0±1.0,345N×128.14E,h128km±9km,mb5.3/48, Error ellipse: s-maj=7.0km s-min=4.4km az=74.0*
ISC 07 04:53:30.7±0.6,345N±003×12821E±004,h114km±4km, n309,σ1§07/289,mb5.3/120,28C-10D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.45**	**324**	*e*P	**Pn**	**04 54 38.0**	**+1.9**
DAV	**Davao City (W)**	**4.45**	**324**	Pn	**Pn**	**04 54 42.4**	**+6.3**
BIPH	**Bislig**	**5.05**	**339**	⇑*i*P	**Pn**	**04 54 42.6**	**-1.6**
BIPH				*i* S	**Sn**	**04 55 32.4**	**-9.0**
BUKP	**Musuan**	**5.40**	**325**	*e*P	**Pn**	**04 54 48.8**	**-0.2**
BUKP				*e*S	**Sn**	**04 55 49.2**	**-0.6**
BUTP	**Butuan**	**6.06**	**335**	*e*P	**Pn**	**04 54 59.5**	**+1.7**
BUTP				*e*S	**Sn**	**04 56 03.8**	**-2.0**
CGP	**Cagayan de Oro**	**6.08**	**325**	⇓*i*P	**Pn**	**04 54 58.8**	**+0.7**
CGP				*i* S	**Sn**	**04 56 01.0**	**-5.2**
PAGZ	**Pagadian**	**6.49**	**313**	*e*P	**Pn**	**04 55 01.8**	**-1.9**
SCPH	**Surigao**	**6.85**	**337**	‖*e*P	**Pn**	**04 55 10.6**	**+2.1**
IPIL	**Ipil**	**7.07**	**308**	*e*P	**Pn**	**04 55 09.9**	**-1

comp=Z,78nm,0.4s,mb5.4,baz=344,slow=10,SNR=422
WRA ScP ScP 05 05 41.3 -0.3
comp=Z,4.3nm,0.7s,baz=338,slow=3.1,SNR=6.9
WB2 Warramunga Arr 24.02 166 *e*P **P** **04 58 34.6 -0.3**
WB2 *e*PP 04 59 04.1
WB2 *e*S **S** **05 02 46.6 +3.0**
WB2 *e*SCS ScS 05 09 26.8 -2.0
GZH Guangzhou 24.25 325 P **P** **04 58 39.2 +2.2**
GZH S **S** **05 02 53.1 +5.7**
GZH AMB AMB
comp=Z,212nm,0.8s,mb5.5
GZH LR LR
comp=N,336nm,19.1s
GZH LR LR
comp=E,302nm,17.7s
GZH LR LR
comp=Z,657nm,37.5s
KGM Kluang 24.90 267 P **P** **04 58 45.1 +2.2**
MBWA Marble Bar 25.83 198 *e*P **P** **04 58 52.0 +0.8**
comp=Z,48nm,1.1s,mb4.8
MBWA *e* pP 04 59 11.3 -4.7
KSI Kapahiang 26.55 255 P **P** **04 59 01.7 +3.9**
comp=Z,85nm,0.8s,mb5.3
CBIJ Chichi jima 27.05 28 P **P** **04 59 01.0 -1.2**
comp=Z,209nm,0.7s,mb5.8,baz=285,slow=20,SNR=11
IPM Ipoh 27.14 273 P **P** **04 59 04.0 +1.0**
AS31 Alice Springs 27.52 169⇓ *i*P **P** **04 59 06.7 +0.3**
AS31 *e*ScS ScS 05 09 41.4 -2.2
ASAR Alice Springs 27.52 169 P **P** **04 59 06.8 +0.3**
comp=Z,17nm,0.6s,mb4.8,baz=357,slow=8.3,SNR=338
ASAR PcP PcP 05 02 22.9 +1.2
comp=Z,5.4nm,0.7s,baz=352,slow=2.0,SNR=5.0
ASAR ScP ScP 05 05 51.6 -0.1
comp=Z,4.6nm,0.7s,baz=356,slow=2.2,SNR=11
ASAR PKiKP PKiKP 05 09 58.0 -0.3
comp=Z,0.4nm,0.3s,baz=328,slow=1.7,SNR=4.3
ASAR Alice Springs 27.52 169 P **P** **04 59 06.8 +0.3**
ASAR PcP PcP 05 02 22.9 +1.2
ASAR ScP ScP 05 05 51.6 -0.1
ASAR Alice Springs 27.52 169 P **P** **04 59 06.8 +0.4**
ASAR 05 02 22.9
ASPA Alice Springs 27.52 169⇓ *i*P **P** **04 59 06.7 +0.3**
ASPA *e*SCS ScS 05 09 41.4 -2.2
KKTK Khon Kaen 28.05 299 P **P** **04 59 12.0 +0.9**
SSE Sheshan 28.29 347 P **P** **04 59 13.3 0.0**
SSE AP pP 04 59 19.5 -19
SSE XP sP 04 59 22.2 -29
SSE S **S** **05 03 59.2 +8.1**
SSE XS sS 05 04 09.6 -25
SSE AMB AMB
comp=Z,78nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,160nm,5.5s
SSE LR LR
comp=N,32nm,25.7s
SSE LR LR
comp=E,202nm,25.7s
SSE LR LR
comp=Z,123nm,20.0s
SSE Sheshan 28.29 347 P **P** **04 59 13.3 0.0**
comp=Z,78nm,0.7s,mb5.3
SSE pP pP 04 59 19.5 -19
SSE sP sP 04 59 22.2 -29
SSE S **S** **05 03 59.2 +8.1**
SSE sS sS 05 04 09.6 -25
SSE LR LR
comp=Z,120nm,20.0s
PSI Prapat 29.25 270 P **P** **04 59 21.3 -0.5**
comp=Z,9.5nm,0.6s,mb4.6,baz=134,slow=1.1,SNR=9.8
PSI PcP PcP 05 02 26.1 +0.2
comp=Z,6.8nm,0.6s,baz=194,slow=3.3,SNR=4.4
PSI ScP ScP 05 05 56.3 -0.8
comp=Z,9.1nm,0.8s,baz=291,slow=2.3,SNR=7.6
PSI LR LR 05 12 06.0
comp=Z,137nm,19.0s,baz=18,slow=38
PSI Prapat 29.25 270 P **P** **04 59 21.3 -0.5**
PSI PcP PcP 05 02 26.1 +0.2
PSI ScP ScP 05 05 56.3 -0.8
PSI LR LR 05 12 06.0
PSI Prapat 29.25 270 P **P** **04 59 21.3 -0.5**
PSI 05 02 26.2
PSI 05 05 56.3
CTA Charters Tower 29.35 144 P **P** **04 59 27.3 +4.6**
comp=Z,1.9nm,0.4s,baz=318,slow=12,SNR=3.2
CTA ScP ScP 05 05 58.8 +1.3
comp=Z,9.3nm,0.8s,baz=304,slow=4.2,SNR=6.8
CTA LR LR 05 12 16.4
comp=Z,173nm,18.4s,baz=158,slow=38
JNU Nakatsue 29.62 5 P **P** **04 59 24.6 -0.5**
comp=Z,45nm,0.8s,mb5.2,baz=162,slow=9.7,SNR=14
NJ2 Nanjing 29.78 344 *e*P **P** **04 59 27.3 +0.8**
NJ2 AP pP 04 59 34.6 -17
NJ2 XP sP 04 59 38.0 -27
NJ2 PP PP 05 00 24.6 -11
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,30nm,3.9s
NJ2 LR LR
comp=N,2μm,17.4s
NJ2 LR LR
comp=E,360nm,19.6s
NJ2 LR LR
comp=Z,410nm,24.6s
WHN Wuhan 29.96 336 ⇑P **P** **04 59 29.5 +1.4**
WHN AMB AMB
comp=Z,83nm,1.0s,mb5.3
NST Nakhon Sawan 30.18 296 P **P** **04 59 30.5 +0.5**
GYA Guiyang 30.82 320⇑ *i*P **P** **04 59 36.4 +0.8**
GYA AP pP 04 59 43.8 -17
GYA XP sP 04 59 46.9 -27
GYA PP PP 05 00 36.4 -11
GYA S **S** **05 04 37.8 +7.0**
GYA SCP ScP 05 06 13.4 +11
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,140nm,3.8s
GYA LR LR
comp=N,520nm,16.4s
GYA LR LR
comp=E,380nm,16.8s
GYA LR LR
comp=Z,580nm,17.0s
JHJ Hachijo jima 2 31.44 19 LR LR 05 13 14.4
comp=Z,91nm,18.4s,baz=66,slow=38
ENH Enshi 32.02 328 *e*P **P** **04 59 46.6 +0.4**
comp=Z,125nm,0.8s,mb5.7
KMI Kunming 32.63 314 P **P** **04 59 52.2 +0.7**
KMI AP pP 04 59 59.4 -17
KMI XP sP 05 00 02.4 -27
KMI PP PP 05 01 02.1 -5.3
KMI PCP PcP 05 02 36.7 +1.7
KMI S **S** **05 05 06.9 +7.9**
KMI XS sS 05 05 19.4 -23
KMI SCP ScP 05 06 18.1 +10
KMI PCS PcS 05 06 19.4 -0.9
KMI AMB AMB
comp=Z,32nm,1.0s,mb5.1
KMI AMB AMB
comp=Z,137nm,3.1s
KMI LR LR
comp=N,141nm,13.3s
KMI LR LR
comp=E,132nm,11.5s
KMI LR LR
comp=Z,180nm,14.4s
KMI Kunming 32.63 314 P **P** **04 59 52.2 +0.7**
comp=Z,32nm,1.0s,mb5.1
KMI pP pP 04 59 59.4 -17
KMI sP sP 05 00 02.4 -27
KMI PP PP 05 01 02.1 -5.3
KMI PPP 05 01 18.6
KMI PcP PcP 05 02 36.7 +1.7
KMI S **S** **05 05 06.9 +7.9**
KMI sS sS 05 05 19.4 -23
KMI ScP ScP 05 06 18.1 +10
KMI PcS PcS 05 06 19.4 -0.9
KMI SS SS 05 07 06.0 -18
KMI SSS 05 07 30.3
KMI LR LR
comp=Z,180nm,14.4s
KS15 Wonju Array Si 33.83 360 P **P** **05 00 02.2 +0.3**
INCN Inchon 33.90 358 P **P** **05 00 03.3 +0.8**
comp=Z,60nm,0.8s,mb5.5

TIA Tai'an 34.17 344 *e*P **P** **05 00 05.6 +0.7**
TIA AMB AMB
comp=Z,64nm,0.8s,mb5.5
MJAR Matsushiro Arr 34.20 14 P **P** **05 00 03.8 -1.3**
comp=Z,68nm,0.7s,mb5.6,baz=184,slow=9.4,SNR=127
MJAR PcP PcP 05 02 40.5 +1.1
comp=Z,12nm,0.7s,baz=184,slow=3.3,SNR=12
MJAR LR LR 05 12 50.4
comp=Z,102nm,20.5s,baz=185,slow=34
MJAR Matsushiro Arr 34.20 14 P **P** **05 00 03.8 -1.3**
MJAR 05 02 40.5
MAJO Matsushiro 34.20 14 P **P** **05 00 03.9 -1.2**
comp=Z,75nm,0.8s,mb5.6
MAJO Matsushiro 34.20 14 P **P** **05 00 03.9 -1.2**
MAJO pmax pmax
comp=Z,73nm,0.8s,mb5.6
MAT Matsushiro 34.20 14 P **P** **05 00 03.6 -1.5**
MAT Matsushiro 34.20 14 *e*P **P** **05 00 04.0 -1.1**
comp=Z,70nm,0.9s,mb5.5
MAT Matsushiro 34.20 14 *e*P **P** **05 00 04.0 -1.1**
MAT pmax pmax
comp=Z,70nm,0.9s,mb5.5
XAN Xi'an 35.34 332 P **P** **05 00 15.0 0.0**
XAN AMB AMB
comp=Z,177nm,1.1s,mb5.8
CD2 Chengdu 35.75 322 P **P** **05 00 18.8 +0.3**
CD2 XP sP 05 00 27.1 -30
CD2 PP PP 05 01 38.3 -3.6
CD2 S **S** **05 05 54.8 +7.7**
CD2 XS sS 05 06 12.8 -18
CD2 SS SS 05 08 22.1 -5.3
CD2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
CD2 AMB AMB
comp=Z,110nm,6.6s
CD2 LR LR
comp=N,210nm,15.0s
CD2 LR LR
comp=Z,180nm,6.6s
DL2 Dalian 35.80 351 P **P** **05 00 18.9 0.0**
DL2 AMB AMB
comp=Z,40nm,0.6s,mb5.5
KLBR Kellerberrin 36.24 195 *e*P **P** **05 00 22.9 +0.3**
comp=Z,15nm,0.6s,mb5.1
KLBR *e* pP 05 00 50.4 +2.3
MUN Mundaring 37.03 197 *e*P **P** **05 00 29.7 +0.3**
MUN *e* pP 05 00 54.0 -0.9
STKA Stephens Creek 37.37 161⇑ *i*P **P** **05 00 31.0 -1.2**
comp=Z,14nm,0.3s,mb5.4
STKA Stephens Creek 37.37 161 P **P** **05 00 31.0 -1.2**
comp=Z,18nm,0.3s,mb5.4,baz=338,slow=7.9,SNR=77
STKA ScP ScP 05 06 23.3 -2.1
comp=Z,4.7nm,0.8s,baz=293,slow=9.0,SNR=3.4
STKA LR LR 05 15 38.8
comp=Z,177nm,20.6s,baz=230,slow=36
BJI Beijing 38.02 345 *e*P **P** **05 00 37.5 -0.2**
BJI PCP PcP 05 02 51.8 +1.0
BJI S **S** **05 06 35.0 +13**
BJI SS SS 05 09 18.5 +5.4
BJI AMB AMB
comp=Z,199nm,2.4s,mb5.5
BJI LR LR
comp=Z,116nm,24.0s
BJI Beijing 38.02 345 *e*P **P** **05 00 37.5 -0.2**
comp=Z,110nm,0.8s,mb5.7
BJI PcP PcP 05 02 51.8 +1.0
BJI S **S** **05 06 35.0 +13**
BJI SS SS 05 09 18.5 +5.4
BJI LR LR
comp=Z,120nm,24.0s
ADE Adelaide 39.47 166 *e*P **P** **05 00 51.5 +1.7**
LZH Lanzhou 39.50 328 ⇑P **P** **05 00 51.5 +1.4**
LZH PP PP 05 02 27.2 +4.3
LZH AMB AMB
comp=Z,161nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,528nm,5.1s
LZH LR LR
comp=N,1μm,4.6s
LZH Lanzhou 39.50 328 ⇑P **P** **05 00 51.5 +1.4**
comp=N,161nm,1.0s,mb5.8
LZH pP pP 05 01 14.2 -1.6
LZH sP sP 05 01 25.8 -3.0
LZH PP PP 05 02 27.2 +4.3
LZH PcP PcP 05 02 57.1 +1.6
LZH *e*S **S** **05 06 46.2 +2.4**
LZH sS sS 05 07 28.3 -0.2
LZH *e*SS SS 05 09 40.1 -2.7
VLA Vladivostok 39.64 4 *i*P **P** **05 00 53.0 +1.8**
comp=N,204nm,1.4s,mb5.8
VLA Vladivostok 39.64 4 *i*P **P** **05 00 53.0 +1.8**
VLA pmax pmax
comp=Z,204nm,1.4s,mb5.8
HHC Hu-ho-hao-te 40.14 340 *e*P **P** **05 00 55.8 +0.5**
HHC AP pP 05 01 03.2 -18
HHC XP sP 05 01 06.7 -27
HHC PP PP 05 02 33.1 +3.3
HHC AMB AMB
comp=Z,45nm,0.8s,mb5.3
HHC LR LR
comp=N,174nm,6.7s
HHC LR LR
comp=E,121nm,5.7s
HHC LR LR
comp=Z,154nm,17.8s
CN2 Changchun 40.26 357 *e*P **P** **05 00 57.7 +1.4**
CN2 *e*AP pP 05 01 05.1 -17
CN2 *e*XP sP 05 01 08.5 -27
CN2 *e*S **S** **05 07 04.2 +9.2**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,11.0s
CN2 LR LR
comp=E,500nm,11.0s
CN2 LR LR
comp=Z,900nm,11.0s
BTO Baotou 40.47 339 *e*P **P** **05 00 55.4 -2.6**
ERM Erimo 40.66 17 P **P** **05 01 01.6 +2.0**
comp=Z,552nm,0.6s,mb6.6,SNR=5.8
MDJ Mudanjiang 41.02 2 P **P** **05 01 03.0 +0.5**
MDJ AP pP 05 01 09.0 -19
MDJ XP sP 05 01 12.0 -29
MDJ PP PP 05 02 38.6 -0.7
MDJ S **S** **05 07 15.7 +9.4**
MDJ SS SS 05 10 20.5 +7.7
MDJ AMB AMB
comp=Z,99nm,1.0s,mb5.6
MDJ AMB AMB
comp=Z,213nm,3.9s
MDJ LR LR
comp=N,71nm,35.7s
MDJ LR LR
comp=E,111nm,31.3s
MDJ LR LR
comp=Z,190nm,37.2s
MDJ Mudanjiang 41.02 2 *e*P **P** **05 01 02.8 +0.3**
comp=Z,68nm,0.8s,mb5.5
MDJ *e*PcP PcP 05 03 00.9 +0.5
SHL Shillong 41.23 306 *e*P **P** **05 01 04.0 -0.3**
SHL *i*P 05 01 05.0
SHL *e*P 05 01 46.4
SHL *e*x x 05 07 08.0
ASAJ Asahikawa 42.45 15 P **P** **05 01 14.9 +0.7**
comp=Z,70nm,0.7s,mb5.5,baz=228,slow=12,SNR=41
ASAJ LR LR 05 18 10.8
comp=Z,90nm,19.1s,baz=16,slow=35
LSA Lhasa 43.73 311 P **P** **05 01 26.0 +1.5**
LSA Lhasa 43.73 311 *e*P **P** **05 01 26.5 +2.0**
comp=Z,40nm,0.6s,mb5.3
LSA *e*pP pP 05 01 34.8 -16
LSA Lhasa 43.73 311 *e*P **P** **05 01 26.5 +2.0**
LSA *e**PP pP 05 01 34.8 -16
LSA pmax pmax
comp=Z,40nm,0.6s,mb5.3
GTA Gaotai 44.10 328 P **P** **05 01 28.4 +0.9**
GTA AP pP 05 01 37.8 -16
GTA XP sP 05 01 43.3 -23
GTA PCP PcP 05 03 11.6 +0.9
GTA PP PP 05 03 13.9 +1.5
GTA SCP ScP 05 06 58.7 +6.7
GTA S **S** **05 08 01.4 +10**
GTA XS sS 05 08 18.1 -19

GTA SS SS 05 11 13.4 +0.3
GTA AMB AMB
comp=Z,108nm,0.8s,mb5.6
GTA AMB AMB
comp=Z,333nm,6.8s
GTA LR LR
comp=N,223nm,25.5s
GTA LR LR
comp=E,191nm,26.6s
GTA LR LR
comp=Z,312nm,16.4s
YSS Yuzh-Sakhalins 45.13 14⇑ *i*P **P** **05 01 36.2 +0.5**
YSS pmax pmax
comp=Z,110nm,0.8s,mb5.6
DZM Mont Dzumac 45.17 126 LR LR 05 18 14.8
comp=Z,143nm,19.6s,baz=201,slow=33
HABR Khabarovsk 45.24 6 *e*P **P** **05 01 38.0 +1.5**
HABR *e*S **S** **05 08 13.3 +5.3**
HABR pmax pmax
comp=Z,138nm,0.8s,mb5.7
BOK Bokaro 45.57 300 *e*P **P** **05 01 38.4 -0.7**
BOK AMb AMB 05 01 41.6
comp=Z,31nm,0.8s,mb5.1
KLR Kul'dur 45.71 3⇓ *i*P **P** **05 01 36.8 -3.4**
KLR pmax pmax
comp=Z,36nm,1.0s,mb5.1
VIS Vishakhapatnam 46.19 291 *e*P **P** **05 01 43.2 -0.8**
HIA Hailar 46.22 352 *e*P **P** **05 01 43.7 -0.5**
comp=Z,12nm,0.8s,mb4.7
HIA pP pP 05 01 49.8 -21
HIA Hailar 46.22 352 *e*P **P** **05 01 43.7 -0.5**
HIA *PP pP 05 01 49.8 -21
HIA pmax pmax
comp=Z,12nm,0.8s
JIRN Jiri 46.73 305 *e*P **P** **05 01 49.3 +1.1**
comp=Z,129nm,0.7s,mb5.8
GUN Gumba 47.09 306 *e*P **P** **05 01 51.9 +0.9**
comp=Z,193nm,0.7s,mb6.0
PKI Pulchoki 47.34 305 *e*P **P** **05 01 53.4 +0.5**
comp=Z,52nm,0.6s,mb5.4
KKN Kakani 47.53 305 *e*P **P** **05 01 54.7 +0.3**
comp=Z,91nm,0.7s,mb5.7
DMN Daman 47.60 305 *e*P **P** **05 01 55.6 +0.7**
comp=Z,106nm,0.7s,mb5.8
ULN Ulaanbaatar 47.85 341⇑ *i*P **P** **05 01 57.2 +0.3**
SONM Songino Array 48.04 340 P **P** **05 01 58.4 +0.1**
comp=Z,20nm,0.7s,mb5.1,baz=154,slow=8.2,SNR=203
SONM PcP PcP 05 03 24.8 +0.3
comp=Z,8.0nm,0.7s,baz=145,slow=2.8,SNR=6.1
SONM ScP ScP 05 07 07.4 -0.9
comp=Z,1.1nm,0.9s,baz=132,slow=2.1,SNR=4.7
SONM LR LR 05 21 41.9
comp=Z,65nm,20.0s,baz=154,slow=35
SONM Songino Array 48.04 340 P **P** **05 01 58.4 0.0**
SONM 05 03 24.8
GKN Gorkha 48.13 305 *e*P **P** **05 01 59.4 +0.3**
comp=Z,58nm,0.5s,mb5.6
KOLN Koldanda 48.90 304 *e*P **P** **05 02 06.0 +1.1**
comp=Z,265nm,0.7s,mb6.3
HYB Hyderabad 50.60 290 *i*P **P** **05 02 19.0 +1.2**
HYB *e* pP 05 02 50.0 +5.4
HYB Hyderabad 50.60 290 *e*P **P** **05 02 19.0 +1.2**
HYB *e* pP 05 02 50.0 +5.4
NGP Nagpur 50.89 294 *e*P **P** **05 02 20.7 +0.7**
NGP AMb AMB 05 02 22.6
comp=Z,34nm,1.1s,mb5.3
TRD Trivandrum 51.19 278 *e*P **P** **05 02 23.1 +0.9**
TRD AMb AMB 05 02 23.9
comp=Z,50nm,0.6s,mb5.7
ZAK Zakamensk 51.28 340 *e*P **P** **05 02 22.2 -0.7**
comp=Z,16nm,1.4s,mb4.9
ZAK *e* 05 03 35.4
ZAK Zakamensk 51.28 340 *e*P **P** **05 02 22.2 -0.7**
ZAK *e* 05 03 35.4
ZAK pmax pmax
comp=Z,16nm,1.4s,mb4.9
ZAK pmax pmax
comp=Z,21nm,1.1s,mb5.1
LGTI Lohaghat 52.25 305 *e*P **P** **05 02 31.0 +0.9**
LGTI *e*x x 05 03 41.0
IRK Irkutsk 52.55 342 *e*P **P** **05 02 31.7 -0.6**
comp=Z,37nm,3.8s
IRK *e* 05 04 35.8
IRK Irkutsk 52.55 342 *e*P **P** **05 02 31.7 -0.6**
IRK *e* 05 04 35.8
IRK pmax pmax
comp=Z,37nm,3.8s
BHPL Bhopal 52.85 297 *e*P **P** **05 02 33.6 -0.9**
BHPL AMb AMB 05 02 36.1
comp=Z,81nm,0.9s,mb5.7
MOY Mondy 53.16 339 *e*P **P** **05 02 37.2 +0.4**
comp=Z,58nm,1.7s,mb5.3
MOY Mondy 53.16 339 *e*P **P** **05 02 37.2 +0.4**
MOY pmax pmax
comp=Z,58nm,1.7s,mb5.3
WMQ Urumqi 53.80 324⇑ *i*P **P** **05 02 42.2 +0.7**
WMQ AP pP 05 02 49.8 -19
WMQ XP sP 05 02 53.1 -28
WMQ PCP PcP 05 03 47.8 +1.9
WMQ PP PP 05 04 44.8 +1.2
WMQ S **S** **05 10 13.8 +6.4**
WMQ SCS ScS 05 12 26.5 +6.9
WMQ AMB AMB
comp=Z,109nm,0.8s,mb5.9
WMQ AMB AMB
comp=Z,689nm,4.6s
WMQ LR LR
comp=N,4μm,26.0s
WMQ LR LR
comp=E,2μm,26.0s
WMQ LR LR
comp=Z,2μm,26.0s
DDI Dehra Dun 54.33 305 *e*P **P** **05 02 43.0 -2.3**
NDI New Delhi 54.51 303 *e*P **P** **05 02 45.0 -1.6**
NDI *e*P 05 02 45.5
NDI *e*P 05 02 45.7
NDI AMb AMB 05 02 46.8
comp=Z,182nm,0.5s,mb6.4
KAD Karad 54.70 289 *e*P **P** **05 02 47.8 -0.2**
KAD AMb AMB 05 02 49.0
comp=Z,40nm,0.9s,mb5.5
POO Poona 55.20 290 *e*x x 05 03 02.1
POO AMb AMB 05 03 03.7
comp=Z,87nm,0.7s,mb5.9
POO Poona 55.20 290⇑ *i*P **P** **05 02 51.0 -0.6**
comp=Z,2μm,1.0s
SMLA Simla 55.32 306 *e*P **P** **05 02 52.9 +0.5**
SMLA *e*P 05 02 53.0
SMLA AMb AMB 05 02 53.7
comp=Z,307nm,0.6s,mb6.5
SDNR Sundarnagar 55.60 306 *e*P **P** **05 02 54.1 -0.4**
AJM Ajmer 56.09 300 *e*P **P** **05 02 57.9 -0.1**
AJM AMb AMB 05 02 59.1
comp=Z,65nm,0.7s,mb5.8
DLH Dalhousie 56.75 307 *e*P **P** **05 03 04.0 +1.4**
DLH *e*x x 05 03 09.0
THN Thein Dam 56.92 307 *e*P **P** **05 03 03.8 0.0**
YAK Yakutsk 58.45 1*c i*P **P** **05 03 14.0 -0.6**
YAK pmax pmax
comp=Z,61nm,0.6s,mb5.8
MA2 Magadan 58.63 13*ce*P **P** **05 03 16.0 +0.3**
MA2 pmax pmax
comp=N,8.0nm,0.9s
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MK31 Makanchi Array 58.63 325 *i*P **P** **05 03 15.9 +0.1**
MKAR Makanchi Array 58.63 325 P **P** **05 03 16.1 +0.3**
comp=Z,79nm,0.7s,mb5.9,baz=113,slow=7.2,SNR=134
MKAR LR LR 05 29 59.8
comp=Z,83nm,18.7s,baz=48,slow=37
MKAR Makanchi Array 58.63 325 *e*P **P** **05 03 15.9 +0.1**
MKAR pmax pmax
comp=Z,28nm,0.5s
KSH Kashi 59.29 315 *e*P **P** **05 03 22.3 +2.0**
KSH *e*AP pP 05 03 31.0 -17
KSH *e*XP sP 05 03 35.2 -25
KSH *e*PCP PcP 05 04 10.9 +3.6
KSH *e*PP PP 05 05 37.8 +5.4
KSH *e*SCP ScP 05 08 08.8 +11
KSH PCS PcS 05 08 11.3 +1.9
KSH S **S** **05 11 30.1 +10**
KSH SCS ScS 05 13 09.1 +10
KSH SS SS 05 15 27.8 +12
KSH AMB AMB
comp=Z,138nm,1.0s,mb5.9

KSH AMB AMB
comp=Z,322nm,4.8s
KSH LR LR
comp=N,257nm,5.5s
KSH LR LR
comp=E,195nm,4.2s
KSH LR LR
comp=Z,240nm,5.1s
BHJ Bhuj 59.84 295 *e*P **P 05 03 23.9 -0.2**
BHJ AMb AMB 05 03 26.3
comp=Z,71nm,0.9s,mb5.7
ULHL Ulahol 60.22 318 P **P 05 03 28.2 +1.5**
SNR=6.5
KZA Kyzart 60.82 317 P **P 05 03 32.6 +1.8**
SNR=31
TKM2 Tokmak 2 60.94 318 P **P 05 03 32.3 +0.8**
SNR=43
TKM2 Tokmak 2 60.94 318 *i* P **P 05 03 32.3 +0.8**
KBK Karagaybulak 61.26 318 P **P 05 03 34.8 +1.1**
SNR=13
UCH Uchtor 61.38 317 P **P 05 03 36.0 +1.4**
SNR=37
CHMS Chumysh 61.53 318 P **P 05 03 35.8 +0.2**
SNR=12
FRU Bishkek 61.55 318 *e*P **P 05 03 37.0 +1.3**
comp=Z,40nm,2.0s,mb5.1
FRU Bishkek 61.55 318 *e*P **P 05 03 37.0 +1.3**
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.1
AAK Ala-Archa 61.56 317 P **P 05 03 36.5 +0.8**
SNR=11
FX1 Attu Island--F 61.60 29 P **P 05 03 37.2 +1.2**
comp=Z,18nm,0.4s,mb5.4,baz=129,slow=1.4,SNR=6.2
USP Ospenovka 61.81 318 P **P 05 03 37.9 +0.5**
SNR=78
AML Almayashu 61.90 317 P **P 05 03 39.5 +1.4**
SNR=58
SEY Seymchan 61.98 12 *e*P **P 05 03 39.4 +0.8**
SEY *e* 05 06 01.4
SEY *e*S **S 05 12 05.1 +11**
SEY *es*S sS 05 12 35.8 -5.9
SEY *e* 05 13 18.9
SEY LR LR
comp=Z,90nm,17.0s
SEY Seymchan 61.98 12 *e*P **P 05 03 39.4 +0.8**
SEY 05 06 01.4
SEY *e*S **S 05 12 05.1 +11**
SEY *e**SS sS 05 12 35.8 -5.9
SEY 05 13 18.9
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SEY pmax pmax
comp=E,3.0nm,0.5s
SEY smax
comp=N,50nm,4.2s
SEY smax
comp=E,39nm,5.4s
SEY MLR MLR
comp=Z,90nm,17.0s
SEY MLR MLR
comp=N,40nm,18.0s
SEY MLR MLR
comp=E,50nm,18.0s
EKS2 Erkin-Say 62.05 317 P **P 05 03 40.1 +1.0**
SNR=60
KURK Kurchatov 62.77 327 P **P 05 03 43.8 -0.1**
comp=E,987nm,0.6s,SNR=65
KURK Kurchatov 62.77 327 P **P 05 03 43.6 -0.2**
NVS Novosibirsk 62.79 333⇑ *i*P **P 05 03 42.6 -1.4**
comp=E,60nm,0.8s,mb5.6
NVS *e* 05 04 18.9
NVS Novosibirsk 62.79 333⇑ *i*P **P 05 03 42.6 -1.4**
NVS *e* 05 04 18.9
NVS pmax pmax
comp=N,31nm,0.8s
NVS pmax pmax
comp=Z,60nm,0.8s,mb5.6
NVS pmax pmax
comp=E,32nm,0.7s
KK31 Karatay Array 64.44 317 *i* P **P 05 03 54.7 -0.1**
KKAR Karatay Array 64.44 317 P **P 05 03 54.7 -0.1**
comp=E,28nm,0.7s,mb5.2
KKAR Karatay Array 64.44 317 P **P 05 03 54.7 -0.1**
KKAR pmax pmax
comp=Z,28nm,0.7s,mb5.2
VOSK Vostochnaya 67.91 326 P **P 05 04 16.0 -1.0**
comp=Z,18nm,0.6s,mb5.1
VOSK Vostochnaya 67.91 326 P **P 05 04 16.0 -1.0**
VOSK pmax pmax
comp=Z,18nm,0.6s,mb5.1
TIXI Tiksi 68.11 0⇑ *e*P **P 05 04 16.7 -1.5**
BVA0 Borovoye Array 68.36 327 *i* P **P 05 04 19.1 -0.7**
comp=Z,8.0nm,0.9s,mb4.5
BVA0 Borovoye Array 68.36 327 *i* P **P 05 04 19.1 -0.7**
BVA0 pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BVAR Borovoye Array 68.36 327 P **P 05 04 19.3 -0.5**
comp=Z,56nm,0.8s,mb5.5,baz=120,slow=8.8,SNR=189
BRVK Borovoye 68.43 327 P **P 05 04 19.3 -0.9**
comp=Z,56nm,0.5s,SNR=26
BRVK Borovoye 68.43 327 P **P 05 04 19.9 -0.3**
BRVK pmax pmax
comp=Z,56nm,0.8s,mb5.5
BILL Bilibino 69.45 14 *i* P **P 05 04 26.2 -0.3**
ABKT Ailbek 72.22 309 P **P 05 04 44.6 +1.3**
comp=Z,324nm,0.8s,mb6.2,SNR=11
ABKT Ailbek 72.22 309 P **P 05 04 44.2 +0.9**
UNV Unalaska Valle 72.82 34 *e*P **P 05 04 47.6 +0.7**
AB31 Akbulak array 73.30 321 *i* P **P 05 04 48.9 -0.8**
AKTK Aktyubinsk 74.80 321 P **P 05 04 57.8 -0.6**
AKTO Aktyubinsk 74.80 321 P **P 05 04 57.8 -0.6**
comp=Z,25nm,0.8s,mb5.0,baz=98,slow=7.4,SNR=93
SVE Sverdlovsk 74.97 328 *e*P **P 05 04 58.4 -1.0**
ARU Arti 75.96 328⇑ *i*P **P 05 05 03.6 -1.4**
ARU *e* 05 07 54.7
ARU *e*PPP 05 09 37.7
ARU *e*S S 05 14 38.4 -0.3
ARU *e*SS SS 05 19 31.9 -1.6
ARU pmax pmax
comp=Z,30nm,0.7s,mb5.1
TNA Tin City 76.28 23 P **P 05 05 07.4 +0.6**
QRN Al-Qurain 79.84 298 *e*P **P 05 05 26.2 -0.3**
UMR Umm Al-Rimmam 80.04 299 *e*P **P 05 05 27.3 -0.3**
UMR AMb AMB 05 05 28.1
comp=Z,60nm,0.7s,mb5.5
KBD Kabd 80.05 299 *e*P **P 05 05 27.1 -0.6**
RDF Al-Radifah 80.17 299 *e*P **P 05 05 27.9 -0.4**
RDF AMb AMB 05 05 28.9
comp=Z,33nm,0.6s,mb5.3
MIB Mutribah 80.37 299 *e*P **P 05 05 28.7 -0.6**
MIB AMb AMB 05 05 29.9
comp=Z,84nm,0.8s,mb5.6
NAY Al-Naaiem 80.44 299 *e*P **P 05 05 29.1 -0.7**
NAY AMb AMB 05 05 30.2
comp=Z,34nm,0.8s,mb5.2
KDAK Kodiak Island 81.34 32 P **P 05 05 34.7 +0.2**
comp=Z,22nm,1.0s,mb4.9,baz=292,slow=2.3,SNR=13
GNI Garni 82.79 310 P **P 05 05 42.1 0.0**
comp=Z,5.6nm,0.6s,mb4.5,baz=325,slow=7.1,SNR=6.0
GNI Garni 82.79 310 *c i*P **P 05 05 41.9 -0.2**
GNI pmax pmax
comp=Z,37nm,2.7s
SLKM Skilak Lake 82.86 30 P **P 05 05 42.6 +0.2**
FIB Fire Island 82.94 29 P **P 05 05 44.3 +1.5**
VNDA Vanda 82.97 173 P **P 05 05 42.8 -0.2**
comp=Z,5.2nm,0.5s,mb4.6,baz=319,slow=6.4,SNR=18
PMR Palmer 83.48 29 P **P 05 05 45.5 -0.1**
comp=Z,40nm,1.1s,mb5.2
PMR Palmer 83.48 29 P **P 05 05 45.5 -0.1**
PMR pmax pmax
comp=Z,40nm,1.1s,mb5.2
ZEI Tsey 83.49 312 *e*P **P 05 05 45.7 0.0**
ZEI *i* 05 08 56.8
ZEI Tsey 83.49 312 *e*P **P 05 05 45.7 0.0**
ZEI *i* 05 08 56.8
ZEI pmax pmax
comp=Z,16nm,0.8s,mb4.9
PPT Papeete 83.62 108 LR LR 05 38 36.4
comp=Z,24nm,19.7s,baz=46,slow=32
MCK McKinley 83.76 26 P **P 05 05 46.7 -0.3**
comp=Z,38nm,1.0s,mb5.2
MCK McKinley 83.76 26 P **P 05 05 46.7 -0.3**
MCK pmax pmax
comp=Z,19nm,1.0s,mb4.9

SML Sawmill 83.88 28 *e*P **P 05 05 48.0 +0.3**
MAW Mawson 84.01 200 LR LR 05 40 09.9
comp=Z,133nm,18.6s,baz=254,slow=33
COLA College 84.32 25 *e*P **P 05 05 49.4 -0.5**
KIV Kislovodsk 84.40 314 *e*P **P 05 05 49.9 -0.4**
comp=Z,10.0nm,0.7s,mb4.8
KIV *e*S 05 16 01.9
KIV Kislovodsk 84.40 314 *e*P **P 05 05 49.9 -0.4**
KIV *e*S 05 16 01.9
KIV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ILAR Eielson Array 84.72 25 P **P 05 05 51.1 -0.8**
comp=Z,3.5nm,0.7s,mb4.4,baz=250,slow=6.3,SNR=23
ILAR PP PP 05 09 06.5 -2.9
comp=Z,4.0nm,1.1s,baz=256,slow=6.6,SNR=7.0
ILAR PKKPbc PKKPbc 05 23 59.6 -0.8
comp=Z,0.6nm,0.7s,baz=30,slow=2.5,SNR=11
ILAR LR LR 05 38 26.6
comp=Z,46nm,20.1s,baz=359,slow=32
ILAR Eielson Array 84.72 25 P **P 05 05 51.2 -0.7**
ILAR 05 09 06.5
ATD Arta Tunnel 84.78 281 P **P 05 05 53.4 +1.2**
comp=Z,25nm,0.7s,mb5.3,baz=66,slow=1.3,SNR=13
VRHR Novokhopersk 85.19 321 *e*P **P 05 05 53.0 -1.2**
VRHR pmax pmax
comp=Z,70nm,0.7s,mb5.7
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.6s
KLMR Klimovskoe 86.37 331 *c i*P **P 05 05 58.4 -1.7**
KLMR pmax pmax
comp=Z,40nm,1.1s,mb5.3
SOC Sochi 86.55 313 *e*P **P 05 05 59.2 -1.8**
comp=Z,42nm,1.0s,mb5.3
SOC *e*S 05 16 14.2
SOC LR LR
comp=Z,440nm,21.0s
SOC Sochi 86.55 313 *e*P **P 05 05 59.2 -1.8**
SOC *e*S 05 16 14.2
SOC pmax pmax
comp=Z,42nm,1.0s,mb5.3
SOC MLR MLR
comp=Z,437nm,21.0s
MOS Moscow 87.50 326 *e*P **P 05 06 02.7 -2.9**
comp=Z,72nm,1.0s,mb5.7
MOS Moscow 87.50 326 *e*P **P 05 06 02.7 -2.9**
MOS pmax pmax
comp=Z,72nm,1.0s,mb5.7
MALT Malatya 87.71 308 P **P 05 06 07.0 +0.4**
DAWY Dawson 87.98 26 P **P 05 06 08.1 +0.3**
OBN Obninsk 88.14 325 *e*P **P 05 06 07.2 -1.4**
OBN *e* 05 09 37.5
OBN *e*S 05 16 26.5
OBN pmax pmax
comp=Z,49nm,1.1s,mb5.5
ANN Anapa 88.15 315 *e*P **P 05 06 07.8 -0.8**
comp=Z,43nm,0.8s,mb5.5
ANN *e*S 05 16 26.7
ANN Anapa 88.15 315 *e*P **P 05 06 07.8 -0.8**
ANN *e*S 05 16 26.7
ANN pmax pmax
comp=Z,43nm,0.8s,mb5.5
LVZ Lovozero 88.17 338 *e*P **P 05 06 06.0 -2.7**
LVZ pmax pmax
comp=Z,23nm,1.2s,mb5.1
APA Apatity 88.68 338⇑ *i*P **P 05 06 09.5 -1.6**
comp=Z,18nm,1.0s,mb5.1
APA Apatity 88.68 338⇑ *i*P **P 05 06 09.5 -1.6**
APA pmax pmax
comp=Z,18nm,1.0s,mb5.1
INK Inuvik 89.88 22 P **P 05 06 15.7 -1.0**
comp=Z,5.9nm,1.0s,mb4.7,baz=281,slow=5.5,SNR=18
INK PKIKP PKIKP 05 11 12.0 -0.7
comp=Z,0.5nm,0.7s,baz=3.8,slow=1.9,SNR=3.7
INK PKKPbc PKKPbc 05 23 47.5 -0.4
comp=Z,1.5nm,0.6s,baz=52,slow=3.7,SNR=19
INK Inuvik 89.88 22 P **P 05 06 15.8 -0.9**
JOF Joensuu 90.10 333 *ep* **P 05 06 16.2 -1.5**
comp=Z,9.0nm,0.5s,mb5.2
SIM Simferopol' 90.49 315 *e*P **P 05 06 18.8 -0.8**
comp=Z,21nm,0.9s,mb5.3
SIM Simferopol' 90.49 315 *e*P **P 05 06 18.8 -0.8**
SIM pmax pmax
comp=Z,21nm,0.9s,mb5.3
KEV Kevo 90.66 340 *ep* **P 05 06 18.7 -1.6**
KMBO Kilima Mbogo 91.02 269 P **P 05 06 21.4 -0.6**
comp=Z,3.9nm,1.1s,mb4.5,baz=52,slow=12,SNR=6.9
EIL Elat 91.14 300 P **P 05 06 22.9 +0.3**
comp=Z,163nm,0.6s,mb6.3
ARCES ARCESS Array B 91.22 340 P **P 05 06 20.3 -2.7**
comp=Z,13nm,0.7s,mb5.2,baz=80,slow=6.3,SNR=59
ARCES PKIKP PKIKP 05 11 14.8 -0.1
comp=Z,3.1nm,0.9s,baz=180,slow=2.3,SNR=5.5
ARCES LR LR 05 51 31.4
comp=Z,56nm,18.3s,baz=15,slow=38
ARE0 ARCESS Array S 91.22 340 *e*P **P 05 06 21.0 -1.9**
BR131 Keskin Array S 91.33 310 *e*P **P 05 06 22.1 -1.4**
comp=Z,5.0nm,0.8s,mb4.7
BRTR Keskin Array B 91.33 310 P **P 05 06 22.3 -1.2**
comp=Z,3.4nm,0.8s,mb4.5,baz=112,slow=4.6,SNR=19
BRTR PP PP 05 10 00.6 -1.7
comp=Z,1.3nm,0.7s,baz=96,slow=9.3,SNR=5.0
KAF Kangasniemi 92.53 333 *ep* **P 05 06 26.4 -2.6**
comp=Z,6.3nm,0.7s,mb5.0,baz=74,slow=4.3
KAF Kangasniemi 92.53 333 *e*P **P 05 06 26.4 -2.6**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
SYO Syowa Base 92.70 201⇑ *e*PP PP 05 10 11.8 -1.2
SYO Syowa Base 92.70 201⇓ *e*PKiKP PKiKP 05 11 20.2 +2.8
SYO Syowa Base 92.70 201⇓ *e*P 05 17 12.0
SYO Syowa Base 92.70 201⇑ *e*P **P 05 06 28.2 -1.6**
SYO ⇑ *e*PP PP 05 10 11.8 -1.2
FINES FINESS Array B 92.77 332 P **P 05 06 28.0 -2.2**
comp=Z,3.3nm,0.6s,mb4.9,baz=65,slow=5.2,SNR=34
FINES LR LR 05 50 49.2
comp=Z,39nm,19.4s,baz=101,slow=37
AKASG Malin Array Be 93.04 321 P **P 05 06 29.3 -2.1**
comp=Z,12nm,0.7s,mb5.3,baz=70,slow=4.7,SNR=42
AKASG PP PP 05 10 13.1 -2.6
comp=Z,2.2nm,1.0s,baz=70,slow=9.2,SNR=3.0
AKASG Malin Array Be 93.04 321 P **P 05 06 29.3 -2.1**
AKASG *e* 05 10 13.1
QSPA South Pole Qui 93.36 180 *e*P **P 05 06 33.9 +1.1**
comp=Z,6.7nm,0.8s,mb5.0
VRI Vrincioaia 95.51 317 ⇓ P **P 05 06 42.8 +0.1**
MLR Muntele Rosu 96.12 316 P **P 05 06 44.0 -1.5**
comp=Z,6.7nm,0.8s,mb5.1,baz=136,slow=3.0,SNR=7.3
MLR Muntele Rosu 96.12 316 ⇓ P **P 05 06 45.1 -0.4**
BURAR Bucovina Array 96.19 318 ⇓ P **P 05 06 45.4 -0.4**
DAG Danmarks Havn 97.72 353⇑ *i*P **P 05 06 50.9 -1.8**
comp=Z,4.2nm,0.5s,mb5.2
DAG Danmarks Havn 97.72 353⇑ *i*P **P 05 06 50.9 -1.8**
DAG pmax pmax
comp=Z,4.0nm,0.5s,mb5.2
RES Resolute Bay 97.82 11 P **P 05 06 52.6 -0.5**
comp=Z,414nm,0.8s
RES Resolute Bay 97.82 11 P **P 05 06 52.7 -0.4**
RES pmax pmax
comp=Z,13nm,0.8s,mb5.5
YKA Yellowknife Ar 99.14 25 P **P 05 06 58.7 -0.3**
comp=Z,2.6nm,0.8s,mb4.8,baz=302,slow=4.7,SNR=42
YKA PP PP 05 10 54.6 -8.1
comp=Z,0.7nm,0.9s,baz=295,slow=7.0,SNR=4.1
YKA PKIKP PKiKP 05 11 28.2 -0.4
comp=Z,0.5nm,0.6s,baz=314,slow=1.8,SNR=9.2
YKA PKKPbc PKKPbc 05 23 23.0 -0.5
comp=Z,0.3nm,0.6s,baz=114,slow=2.4,SNR=7.6
YKA LR LR 05 51 57.7
comp=Z,56nm,19.2s,baz=265,slow=35
YKA Yellowknife Ar 99.14 25 P **P 05 06 58.7 -0.3**
YKA PP PP 05 10 54.6 -8.1
NB2 NORSAR Subarra 99.69 334 P Pdif 05 06 59.0 -2.5
comp=Z,2.3nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 99.69 334 P PP 05 10 46.7 -20
comp=Z,1.0nm,0.6s,baz=66,slow=8.6
NB2 NORSAR Subarra 99.69 334 P Pdif 05 06 59.0 -2.5
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.9
NOA NORSAR Array B 99.69 334 P Pdif 05 06 59.1 -2.4
comp=Z,3.6nm,0.8s,baz=66,slow=4.6,SNR=14
NOA PP PP 05 10 51.6 -15
comp=Z,1.7nm,0.9s,baz=67,slow=8.1,SNR=4.6
NOA LR LR 05 53 21.0
comp=Z,78nm,21.7s,baz=150,slow=36
CLL Collm 102.73 324 *e*PP PP 05 11 29.0 -0.8

GERES GERESS Array B 103.22 322 Pdiff Pdif 05 07 15.3 -1.9
comp=Z,0.9nm,0.8s,baz=73,slow=4.5,SNR=8.9
GERES PKiKP PKiKP 05 11 33.5 -2.5
comp=Z,0.5nm,0.5s,baz=117,slow=1.7,SNR=5.5
NVAR Mina Array Bea 105.99 49 PKiKP PKiKP 05 11 39.1 -2.0
comp=Z,0.3nm,0.6s,baz=253,slow=3.0,SNR=3.7
NVAR PKKPbc PKKPbc 05 23 04.7 +1.2
comp=Z,0.4nm,0.7s,baz=198,slow=4.1,SNR=3.6
NVAR PKKPab PKKPab 05 23 21.5 +1.1
comp=Z,0.2nm,0.6s,baz=118,slow=4.6,SNR=3.6
MNV Mina 106.10 48 Pdif Pdif 05 07 35.6 +5.6
CDF Champ du Feu 107.30 323 *e*PKIKP PKiKP 05 11 46.1 +2.5
HINF Hinteralfeld 107.81 323 *e*PKIKP PKiKP 05 11 47.2 +2.7
comp=Z,5.8nm,0.8s
BOZ Bozeman (W) 108.01 40 *e*PKPdf PKiKP 05 11 46.7 +1.8
BOZ PP PP 05 12 08.9 0.0
MBDF Montbardon 109.22 320 *e*PKIKP PKiKP 05 11 49.0 +1.8
comp=Z,9.9nm,0.9s
ORIF Oris-en-Rattie 109.71 320 *e*PKIKP PKiKP 05 11 51.7 +3.6
comp=Z,5.7nm,0.7s
SSF Saint Saulge 110.18 323 *e*PKIKP PKiKP 05 11 49.4 +0.4
comp=Z,7.6nm,0.9s
PDAR Pinedale Array 110.59 42 PKiKP PKiKP 05 11 50.6 +0.9
comp=Z,0.6nm,0.8s,baz=145,slow=3.6,SNR=4.9
PDAR PKKPbc PKKPbc 05 22 49.6 +0.6
comp=Z,0.7nm,0.7s,baz=122,slow=4.9,SNR=7.3
PDAR PKKPab PKKPab 05 22 59.6 -0.3
comp=Z,1.1nm,0.7s,baz=132,slow=6.5,SNR=7.4
BGF Bois d'Agland 110.82 323 *e*PKIKP PKiKP 05 11 51.5 +1.3
comp=Z,9.3nm,0.7s
TCF Toulx Ste Croi 111.33 323 *e*PKIKP PKiKP 05 11 51.6 +0.4
comp=Z,8.2nm,0.8s
MFF Saint Martin d 112.57 324 *e*PKIKP PKiKP 05 11 53.7 +0.2
comp=Z,6.6nm,0.6s
SGMF Saint Gilles 113.03 327 *e*PKIKP PKiKP 05 11 54.4 0.0
comp=Z,9.0nm,0.7s
ULM Lac du Bonnet 114.49 29 PKP PKiKP 05 11 56.6 -0.6
comp=Z,2.2nm,0.7s,baz=265,slow=2.6,SNR=9.1
ULM PKKPbc PKKPbc 05 22 40.5 +4.5
comp=Z,1.5nm,0.6s,baz=137,slow=7.0,SNR=5.2
BNM Barren Site 116.32 49 *e*PKPdf PKPdf 05 12 02.8 +2.1
ESDC Sonseca Array 118.64 319 PKP PKPdf 05 12 05.6 +0.4
comp=Z,0.6nm,0.5s,baz=22,slow=1.9,SNR=5.9
ESDC PP PP 05 13 29.0 +4.8
comp=Z,2.0nm,0.8s,baz=55,slow=8.3,SNR=4.7
KSU1 Kansas State U 120.89 40 *e*PKPdf PKPdf 05 12 10.3 +0.9
JCT Junction City 123.12 50 *e*PKPdf PKPdf 05 12 15.4 +1.6
TORD Torodi Ar. Bea 124.41 288 PKP PKPdf 05 12 17.1 +0.9
comp=Z,7.9nm,0.8s,baz=54,slow=1.8,SNR=54
TORD PP PP 05 14 06.7 +3.4
comp=Z,1.6nm,0.9s,baz=60,slow=4.6,SNR=3.5
CCM Cathedral Cave 124.87 38 *e*PKPdf PKPdf 05 12 17.4 +0.2
SADO Sadowa 126.13 24 PKP PKPdf 05 12 19.1 -0.4
comp=Z,5.4nm,1.0s,baz=338,slow=5.2,SNR=4.7
DBIC Dimbokro 132.08 282 PKP PKPdf 05 12 32.1 +1.2
comp=Z,7.4nm,0.8s,baz=122,slow=2.3,SNR=12
PLCA Paso Flores 139.21 158 PKP PKPdf 05 12 44.3 +0.2
comp=Z,2.9nm,0.7s,baz=75,slow=1.5,SNR=6.0
TRQA Tornquist 144.32 166 *e*PKPdf PKPdf 05 12 53.2 0.0
CCCC Cccc 144.68 45 *e*P PKPdf 05 12 55.8 +1.9
HLGC Holguin 146.07 44 *e*P PKPdf 05 12 58.4 +2.2
ROSC El Rosal 156.02 70 PKP PKPdf 05 13 14.1 +2.7
comp=Z,2.9nm,0.4s,baz=66,slow=20,SNR=3.1
ROSC PKPab PKPab 05 13 42.7 +3.5
comp=Z,10nm,0.8s,baz=109,slow=6.6,SNR=5.8
SDV Santo Domingo 157.57 57 PKP PKPdf 05 13 14.6 +1.2
comp=Z,4.9nm,0.9s,baz=315,slow=3.8,SNR=5.1
SDV PKPab PKPab 05 13 47.1 +1.2
comp=Z,6.5nm,0.8s,baz=295,slow=3.5,SNR=5.0
LPAZ La Paz 159.49 130 PKP PKPdf 05 13 16.9 +1.2
comp=Z,1.1nm,0.8s,baz=326,slow=2.8,SNR=5.0
LPAZ PKPab PKPab 05 13 51.5 -2.7
comp=Z,1.9nm,0.9s,baz=224,slow=5.6,SNR=4.0
LPAZ La Paz 159.49 130 PKP PKPdf 05 13 16.9 +1.2
LPAZ PKPab PKPab 05 13 51.5 -2.7
BDFB Brasilia 167.33 197 PKP PKPdf 05 13 23.6 +0.6
comp=Z,1.5nm,0.6s,baz=90,slow=1.0,SNR=2.8

MOS ***07*** *04:57:21.6±2.1, 5561N×16571E, h10km, mb4.2/1, Error ellipse: s-maj=24.8km s-min=22.0km az=45.3*
KRSC ***07*** *04:57:21.2±1.5, 5563N×16599E, h20km±7km, ML4.1*
ISCJB ***07*** *04:57:22.6±0.9, 5555N±005×16581E±007, h22km±9km, mb3.5/4, Error ellipse: s-maj=8.3km s-min=6.3km az=147.3*
IDC ***07*** *04:57:36.3±2.3, 5594N×16927E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML3.0/1, Error ellipse: s-maj=49.1km s-min=16.8km az=75.0*
NEIC ***07*** *04:57:39.0±3.9, 5553N×16936E, h35km, Error ellipse: s-maj=82.2km s-min=33.2km az=192.0*

ISC 07 04:57:22.7±1.0, 5559N±005×16584E±008, h12km±8km, n32, σ1§02/43, mb3.5/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**169**	*i* P	**Pg**	**04 57 29.6**	**-1.0**
BKI				*i* S	**Sg**	**04 57 35.4**	**-0.5**
BKI				Smax			
	10μm,0.4s						
KBTR	**Krutoberegovo**	**1.81**	**291**	P	**Pn**	**04 57 51.4**	**-2.2**
KBTR				S	**Sn**	**04 58 13.1**	**-3.3**
KBTR	**Krutoberegovo**	**1.81**	**291**	*i* P	**Pn**	**04 57 51.5**	**-2.1**
KBTR				*e*S	**Sn**	**04 58 17.0**	**+0.6**
MKZ	**Mys Kozlova**	**2.58**	**248**	*e*S	**Sn**	**04 58 34.9**	**-0.5**
SMKR	**Semkarok**	**2.64**	**294**	*e*P	**Pn**	**04 58 04.5**	**-0.5**
SMKR				*e*S	**Sn**	**04 58 36.0**	**-0.9**
BDR	**Baidarnaya**	**2.77**	**293**	*i* P	**Pn**	**04 58 07.1**	**+0.3**
SRKR	**Sorokina**	**2.82**	**294**	*e*P	**Pn**	**04 58 07.3**	**-0.2**
ZLN	**Zelenaya**	**2.87**	**281**	*e*P	**Pn**	**04 58 08.6**	**+0.4**
ZLN				*e*S	**Sn**	**04 58 42.9**	**+0.3**
CIRR	**Tsirk**	**2.92**	**282**	*i* P	**Pn**	**04 58 09.0**	**+0.2**
LGNR	**Loginova**	**2.94**	**282**	*e*P	**Pn**	**04 58 09.9**	**+0.7**
KLY	**Klyuchi**	**3.00**	**286**	P	**Pn**	**04 58 08.3**	**-1.7**
KLY				S	**Sn**	**04 58 42.8**	**-3.1**
KLY	**Klyuchi**	**3.00**	**286**	*e*P	**Pn**	**04 58 07.9**	**-2.1**
KLY				*e*S	**Sn**	**04 58 41.8**	**-4.1**
KRSR	**Krestovskiy**	**3.03**	**284**	*e*P	**Pn**	**04 58 10.3**	**-0.1**
KPT	**Kopyto**	**3.19**	**279**	*e*P	**Pn**	**04 58 11.9**	**-0.7**
TUMR	**Tumrok**	**3.26**	**267**	*e*P	**Pn**	**04 58 14.4**	**+0.9**
KOZ	**Kozyrevsk**	**3.40**	**280**	*e*P	**Pn**	**04 58 16.9**	**+1.5**
SRDR	**Sredinnyy**	**3.52**	**284**	*i* P	**Pn**	**04 58 17.6**	**+0.6**
SRDR				*e*S	**Sn**	**04 58 58.8**	**+0.3**
SPN	**Mys Shipunski**	**4.22**	**236**	*e*S	**Sn**	**04 59 14.4**	**-1.5**
NLC	**Nalytchevo**	**4.50**	**240**	*e*P	**Pn**	**04 58 30.9**	**+0.3**
NLC				*e*S	**Sn**	**04 59 21.2**	**-1.7**
SMAR	**Somma**	**4.72**	**243**	*e*P	**Pn**	**04 58 34.5**	**+0.8**
UGLR	**Uglovaya**	**4.74**	**243**	*e*P	**Pn**	**04 58 34.6**	**+0.7**
AVH	**Avacha**	**4.75**	**244**	*e*P	**Pn**	**04 58 35.3**	**+1.2**
AVH				*e*S	**Sn**	**04 59 29.1**	**0.0**
KOK	**Koryaka**	**4.79**	**244**	*e*P	**Pn**	**04 58 35.6**	**+1.0**
PET	**Petropavlovsk**	**4.93**	**241**	*e*PN	**Pn**	**04 58 37.2**	**+0.7**
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
GNL	**Ganaly**	**4.96**	**251**	*e*P	**Pn**	**04 58 38.3**	**+1.4**
FX1	**Attu Island--F**	**5.08**	**119**	Pn	**Pn**	**04 58 34.9**	**-3.7**
	comp=Z,3.7nm,0.3s,baz=333,slow=4.6,SNR=30						
FX1				Sn	**Sn**	**04 59 31.4**	**-5.8**
	comp=Z,2.4nm,0.3s,baz=132,slow=19,SNR=3.6						
GRL	**Gorelyy**	**5.49**	**240**	*e*P	**Pn**	**04 58 45.9**	**+1.7**
KAMR	**Kamenskoye**	**6.89**	**1**	*i* P	**Pn**	**04 59 01.8**	**-1.6**
ILAR	**Eielson Array**	**24.65**	**49**	P	**P**	**05 02 43.2**	**+0.2**
	comp=Z,3.0nm,0.9s,mb3.8,baz=256,slow=7.5,SNR=17						
INK	**Inuvik**	**29.81**	**41**	P	**P**	**05 03 30.1**	**+0.8**
	comp=Z,1.3nm,1.1s,mb3.6,baz=288,slow=9.6,SNR=2.6						
YKA	**Yellowknife Ar**	**39.02**	**46**	P	**P**	**05 04 49.2**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.2,baz=299,slow=8.2,SNR=7.4						
PDAR	**Pinedale Array**	**53.40**	**66**	P	**P**	**05 06 42.0**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=321,slow=3.8,SNR=4.2						

ISCJB ***07*** *05:20:13.7±2.0, 354N±01×696E±02, h10km, Error ellipse: s-maj=29.1km s-min=8.5km az=115.2*
NNC ***07*** *05:20:20.9±7.5, 3604N×6863E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=78.2km s-min=60.9km az=176.0*

ISC 07 05:20:14.9±2.0, 353N±01×694E±02, h10km, n5, σ1§20/7, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**7.43**	**119**	*e*P	**Pn**	**05 22 04.9**	**+1.6**
SDNR				*e*S	**Sn**	**05 23 26.3**	**-1.3**
KK31	**Karatay Array**	**7.82**	**6**	⇑Pn	**Pn**	**05 22 08.7**	**0.0**
	0.6nm,0.3s,baz=202,slow=15,SNR=26						

KK31 ⇓Sn Sn 05 23 37.5 +0.2
1.1nm,0.5s,baz=197,slow=24,SNR=3.6
TKM2 Tokmak 2 9.00 31 ⇑Pn Pn 05 22 29.6 +4.7
1.8nm,0.5s
AB31 Akbulak array 15.54 336 ⇑P Pn 05 23 49.7 -4.4
0.3nm,0.3s,baz=155,slow=12,SNR=20
AKTO Aktyubinsk 17.20 335 ⇑P Pn 05 24 14.9 -0.3
1.8nm,2.2s

*ISCJB **07** 06:07:46.0±0.5,5154N±003×16.10E±003,h0km,Error ellipse: s-maj=4.4km s-min=2.2km az=18.5*
*MOS **07** 06:07:46.7±1.1,5171N×1625E,h17km,mb3.6/1,Error ellipse: s-maj=17.8km s-min=6.4km az=79.7*
*BGR **07** 06:07:48.0±0.7,5159N×16.16E,h1km,ML3.0/13,Error ellipse: s-maj=12.2km s-min=5.6km az=164.0*
*IPEC **07** 06:07:47.8±0.2,5158N×16.16E,h0km,ML2.1/2,Error ellipse: s-maj=1.7km s-min=1.0km az=22.0*
*NEIC **07** 06:07:48.0,5159N×1616E,h1km,ML3.0(SZGRF),After SZGRF.*
*IDC **07** 06:07:48.8±1.0,5155N×1592E,h0km,mb1 3.4/4, mb1mx3.2/19,mbtmp3.3/4,ML2.7/3,Error ellipse: s-maj=18.2km s-min=8.5km az=110.0*
*WAR **07** 06:07:49.1,5156N×1610E,ML2.6,Mining Induced*
*CSEM **07** 06:07:49.3±0.2,5151N×1610E,h0km,ML3.3/3,Error ellipse: s-maj=3.7km s-min=1.6km az=15.0*
*PRU **07** 06:07:49.5,5149N×1608E,h0km*
*VIE **07** 06:07:52.7±0.6,5120N×1623E,h0km,mb2.4/4,ML2.8/4, Error ellipse: s-maj=4.2km s-min=3.5km az=90.0 55 km WNW of Breslau Suspected Mining induced.*

ISC 07 06:07:47.5±0.5,5156N±003×1612E±003,h0km,n65, σ1§06/118,6C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*i* Pgd	**Pg**	**06 08 02.3**	**+0.9**
KSP				*e*Sg	**Sg**	**06 08 11.9**	**+1.1**
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**06 08 02.2**	**+0.8**
KSP				*e*Sg	**Sg**	**06 08 11.1**	**+0.3**
KSP	**Ksiaz**	**0.73**	**171**	⇓*i*Pg	**Pg**	**06 08 02.3**	**+0.9**
KSP				*e*Sg	**Sg**	**06 08 11.1**	**+0.3**
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**06 08 08.3**	**+0.6**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**06 08 11.0**	**+0.2**
DPC				*e*SG	**Sg**	**06 08 26.2**	**-0.4**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*Pg	**Pg**	**06 08 11.0**	**+0.2**
DPC				*e*Sg	**Sg**	**06 08 26.5**	**-0.1**
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pg**	**06 08 15.3**	**+0.5**
PVCC				*e*SG	**Sg**	**06 08 34.1**	**+0.8**
194nm,0.3s							
PVCC	**Panska Ves**	**1.43**	**224**	*e*Pg	**Pg**	**06 08 15.3**	**+0.5**
PVCC				*e*Sg	**Sg**	**06 08 33.6**	**+0.3**
PVCC				*e*S	**Sg**	**06 08 34.1**	**+0.8**
PVCC	**Panska Ves**	**1.43**	**224**	*e*P	**Pg**	**06 08 15.3**	**+0.5**
PVCC				*e*		06 08 34.1	
PVCC				smax			
comp=N,194nm,0.3s							
BRG	**Berggiesshubel**	**1.54**	**244**	*e*Pg	**Pg**	**06 08 17.1**	**+0.2**
BRG				*e*Sg	**Sg**	**06 08 37.7**	**+0.9**
BRG	**Berggiesshubel**	**1.54**	**244**	*e*Pn	**Pn**	**06 08 16.9**	**+0.8**
BRG	**Berggiesshubel**	**1.54**	**244**	Pg	**Pg**	**06 08 17.1**	**+0.2**
BRG				Sg	**Sg**	**06 08 37.7**	**+0.9**
BRG	**Berggiesshubel**	**1.54**	**244**	Pg	**Pg**	**06 08 16.9**	**+0.1**
BRG				Sg	**Sg**	**06 08 37.5**	**+0.8**
BRG				SG	**Sg**	**06 08 37.5**	**+0.8**
comp=N,55nm,0.4s							
BRG	**Berggiesshubel**	**1.54**	**244**	PG	**Pg**	**06 08 16.9**	**+0.1**
FBE	**Freiberg**	**1.85**	**251**	*e*Pg	**Pg**	**06 08 22.8**	**-0.2**
FBE				*e*Sg	**Sg**	**06 08 47.1**	**0.0**
PRU	**Pruhonice**	**1.87**	**213**	*e*PG	**Pn**	**06 08 21.9**	**+1.2**
PRU				*e*SG	**Sg**	**06 08 46.6**	**-0.9**
comp=N,37nm,0.3s							
PRU	**Pruhonice**	**1.87**	**213**	*e*P	**Pn**	**06 08 21.9**	**+1.2**
comp=N,37nm,0.3s							
PRU				*e*S	**Sg**	**06 08 46.6**	**-0.9**
PRU	**Pruhonice**	**1.87**	**213**	*e*P	**Pn**	**06 08 21.9**	**+1.2**
PRU				*e*		06 08 46.6	
PRU				smax			
comp=N,37nm,0.3s							
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**06 08 21.5**	**-0.5**
CLL				*e*Sg	**Sg**	**06 08 51.1**	**+0.4**
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**06 08 21.7**	**-0.4**
CLL				*i* Pg	**Pg**	**06 08 24.5**	**-0.7**
CLL				*ex*	x	06 08 29.0	
CLL				*i* Sg	**Sg**	**06 08 51.0**	**+0.2**
comp=Z,21nm,0.4s							
CLL	**Collm**	**1.97**	**264**	*i* Pg	**Pg**	**06 08 24.5**	**-0.7**
CLL				Sg	**Sg**	**06 08 51.1**	**+0.3**
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**06 08 21.7**	**-0.4**
CLL				*i* Pg	**Pg**	**06 08 24.5**	**-0.7**
CLL				*i* Sg	**Sg**	**06 08 51.0**	**+0.2**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**06 08 22.5**	**0.0**
MORC				*e*Sn	**Sn**	**06 08 49.6**	**+1.4**
MORC				*e*Sg	**Sg**	**06 08 51.2**	**-0.6**
comp=Z,13nm,0.3s							
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**06 08 22.5**	**0.0**
MORC				*e*Sn	**Sn**	**06 08 49.6**	**+1.4**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pg**	**06 08 26.8**	**-1.9**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*Pg	**Pg**	**06 08 25.8**	**-2.9**
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**06 08 27.5**	**+1.3**
comp=Z,1.3nm,0.3s,baz=346,slow=15,SNR=6.4							
VRAC				Pg	**Pg**	**06 08 31.8**	**+0.7**
comp=Z,2.5nm,0.3s,baz=339,slow=14,SNR=6.2							
VRAC				Lg		06 09 01.4	
comp=Z,4.5nm,0.3s,baz=92,slow=22,SNR=6.0							
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**06 08 27.2**	**+0.9**
VRAC	**Vranov**	**2.27**	**172**	Pg	**Pg**	**06 08 31.8**	**+0.7**
VRAC				*e*Sg	**Sg**	**06 08 59.4**	**-1.2**
comp=Z,9.3nm,0.2s							
VRAC				S	**Sn**	**06 09 01.4**	**+6.4**
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**06 08 30.4**	**+0.9**
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Sg	**Sg**	**06 09 10.0**	**-0.5**
WERD	**Werda**	**2.66**	**247**	*e*Pg	**Pg**	**06 08 36.3**	**-2.0**
WERD				*e*Sg	**Sg**	**06 09 12.7**	**-0.1**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**06 08 32.7**	**+0.9**
NKC				*e*PG	**Pg**	**06 08 38.1**	**-0.7**
NKC				*e*SG	**Sg**	**06 09 13.4**	**-0.2**
comp=Z,48nm,0.5s							
NKC	**Novy Kostel**	**2.68**	**242**	*e*Pg	**Pg**	**06 08 38.1**	**-0.7**
NKC				*e*Sg	**Sg**	**06 09 13.4**	**-0.2**
comp=Z,48nm,0.5s							
NKC	**Novy Kostel**	**2.68**	**242**	*e*P	**Pn**	**06 08 32.7**	**+0.9**
NKC				*e*		06 09 13.4	
NKC				smax			
comp=N,49nm,0.5s							
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**06 08 38.0**	**-1.0**
OJC				*e*Sg	**Sg**	**06 09 14.3**	**+0.5**
WERN	**Wernitzgruen**	**2.69**	**243**	*e*Sg	**Sg**	**06 09 15.9**	**+2.0**
NEUB	**Neuenburg**	**2.75**	**264**	*e*Sg	**Sg**	**06 09 16.6**	**+0.9**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**06 08 34.6**	**-0.6**
KHC				*e*PG	**Pg**	**06 08 41.7**	**-1.9**
KHC				*e*SN	**Sn**	**06 09 10.0**	**-1.1**
KHC				*e*SG	**Sg**	**06 09 20.1**	**-1.4**
comp=N,13nm,0.5s							
KHC	**Kasperske Hory**	**2.93**	**215**	*e*Pg	**Pg**	**06 08 41.8**	**-1.8**
KHC				*e*S	**Sn**	**06 09 10.0**	**-1.1**
comp=N,13nm,0.5s							
KHC				*e*Sn	**Sn**	**06 09 10.0**	**-1.1**
KHC				*e*Sg	**Sg**	**06 09 20.3**	**-1.2**
MOX	**Moxa**	**2.99**	**254**	*e*Pn	**Pn**	**06 08 35.9**	**-0.2**
MOX				*e*Sg	**Sg**	**06 09 24.7**	**+1.3**
MOX	**Moxa**	**2.99**	**254**	Pn	**Pn**	**06 08 35.9**	**-0.1**
MOX				Sg	**Sg**	**06 09 24.7**	**+1.3**
MOX	**Moxa**	**2.99**	**254**	*e*P	**Pg**	**06 08 45.3**	**+0.6**
MOX				*e*SG	**Sg**	**06 09 24.3**	**+0.9**
MOX	**Moxa**	**2.99**	**254**	*e*PG	**Pg**	**06 08 45.3**	**+0.6**
MANZ	**Manzenberg**	**3.00**	**240**	*e*Sg	**Sg**	**06 09 24.8**	**+1.1**
MANZ	**Manzenberg**	**3.00**	**240**	Sg	**Sg**	**06 09 24.8**	**+1.0**
ROTZ	**Rotzenmuhle**	**3.07**	**236**	*e*Pn	**Pn**	**06 08 37.8**	**+0.6**
ROTZ				*e*Sg	**Sg**	**06 09 25.2**	**-1.0**
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Pn	**Pn**	**06 08 39.4**	**+1.4**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**06 08 38.0**	**-0.1**
comp=N,0.7nm,0.3s,baz=30,slow=13,SNR=14							
GERES				Pg	**Pg**	**06 08 45.2**	**-2.3**
comp=N,1.7nm,0.3s,baz=29,slow=16,SNR=16							
GERES				Sn	**Sn**	**06 09 14.0**	**-2.2**
comp=N,1.3nm,0.3s,baz=34,slow=21,SNR=6.6							
GERES				Lg		06 09 25.6	
comp=N,5.1nm,0.3s,baz=21,slow=27,SNR=14							
GERES	**GERESS Array B**	**3.13**	**211**	Pg	**Pg**	**06 08 45.2**	**-2.3**
GERES				S	**Sn**	**06 09 14.0**	**-2.1**
GERES	**GERESS Array B**	**3.13**	**211**	P	**Pn**	**06 08 38.0**	**0.0**
GERES						06 09 14.0	
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**06 08 39.5**	**+0.6**
NIE	**Niedzica**	**3.43**	**127**	*e*P	**Pg**	**06 08 52.5**	**-0.7**
NIE				*e*S	**Sg**	**06 09 38.9**	**+1.3**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**06 08 43.8**	**-1.1**
BSD				*i* S	**Sn**	**06 09 24.1**	**-4.4**
BSD				*i*		06 09 26.9	
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**06 08 43.8**	**-1.1**
BSD				*i* S	**Sn**	**06 09 24.1**	**-4.4**
GRA1	**Grafenberg Arr**	**3.64**	**241**	Sg	**Sg**	**06 09 45.2**	**+0.8**
GRF	**Grafenberg Arr**	**3.64**	**241**	*e*Sg	**Sg**	**06 09 45.2**	**+0.8**
MOA	**Molln**	**3.91**	**199**	⇑*i*Sg	**Sg**	**06 09 51.9**	**-1.1**
comp=N,9.8nm,0.4s							
MOA	**Molln**	**3.91**	**199**	⇑*i*Pn	**Pn**	**06 08 49.3**	**+0.6**
MOA				⇑*i*Sg	**Sg**	**06 09 51.9**	**-1.1**
comp=N,9.8nm,0.4s							
MOA	**Molln**	**3.91**	**199**	⇑*i*Pn	**Pn**	**06 08 49.3**	**+0.6**
MOA				Sg	**Sg**	**06 09 51.9**	**-1.1**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PG	**Pg**	**06 09 03.5**	**+1.1**
STHS				*e*SG	**Sg**	**06 09 56.5**	**+3.4**
ARSA	**Arzberg**	**4.33**	**185**	⇑*i*Sg	**Sg**	**06 10 03.5**	**-3.2**
comp=N,6.3nm,0.6s							
ARSA	**Arzberg**	**4.33**	**185**	⇓*i*Pn	**Pn**	**06 08 55.7**	**+1.1**
ARSA				⇑*i*Sg	**Sg**	**06 10 03.5**	**-3.2**
comp=N,6.3nm,0.6s							
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**06 10 28.4**	**-1.9**
comp=N,0.1nm,0.3s,baz=220,slow=13,SNR=3.0							
FINES				Sn	**Sn**	**06 12 30.2**	**-7.3**
comp=N,0.1nm,0.3s,baz=211,slow=21,SNR=4.1							
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**Pn**	**06 12 00.5**	**-5.5**
comp=N,0.1nm,0.3s,baz=187,slow=12,SNR=2.4							

IDC 07 06:13:24.6±2.2,2194S×14805E,h0km,mb3.6/1, mb1 3.5/3,mb1mx3.4/9,mbtmp3.3/3,ML2.9/2,Error ellipse: s-maj=57.0km s-min=27.8km az=168.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.45**	**209**	Pn	Pn	06 16 02.1	-7.3
0.5nm,0.3s,baz=9.5,slow=12,SNR=2.5							
STKA				Sn	Sn	06 18 07.5	-10
baz=330,slow=16,SNR=3.2							
STKA				Lg		06 19 28.4	
0.5nm,0.3s,baz=290,slow=18,SNR=2.5							
WRA	**Warramunga Arr**	**12.96**	**276**	Pn	Pn	06 16 28.1	-1.9
0.1nm,0.3s,baz=96,slow=12,SNR=7.9							
WRA				Sn	Sn	06 18 56.7	+1.6
0.0nm,0.3s,baz=90,slow=20,SNR=3.5							
WRA				Lg		06 20 17.8	
0.2nm,0.3s,baz=102,slow=30,SNR=7.1							
ASAR	**Alice Springs**	**13.16**	**260**	Pn	Pn	06 16 32.9	+0.2
0.1nm,0.3s,baz=86,slow=14,SNR=3.6							
ASAR				Sn	Sn	06 18 59.5	-0.3
0.1nm,0.3s,baz=89,slow=23,SNR=6.7							
ASAR				Lg		06 20 25.2	
0.2nm,0.3s,baz=85,slow=28,SNR=6.3							
SONM	**Songino Array**	**78.88**	**333**	P	P	06 25 31.2	+1.5
0.5nm,0.9s,baz=131,slow=4.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**146.81**	**260**	PKPbc	PKPbc	06 33 07.7	-1.0
1.0nm,0.8s,baz=116,slow=3.4,SNR=6.0							

IDC 07 06:27:56.4±11.0,527S×15402E,h146km±68km,mb3.1/3, mb1 3.4/4,mb1mx3.1/15,mbtmp3.7/4,Error ellipse: s-maj=107.5km s-min=78.6km az=178.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.95**	**238**	P	Pn	06 29 49.5	+0.4
2.9nm,0.3s,baz=45,slow=7.1,SNR=6.4							
PMG				S	Sn	06 31 18.1	+0.5
1.1nm,0.3s,baz=319,slow=11,SNR=2.4							
WRA	**Warramunga Arr**	**24.07**	**231**	P	P	06 32 59.2	+1.1
0.6nm,0.5s,baz=53,slow=9.7,SNR=13							
ASAR	**Alice Springs**	**26.65**	**225**	P	P	06 33 21.5	+0.1
0.3nm,0.5s,baz=52,slow=8.4,SNR=4.9							
STKA	**Stephens Creek**	**28.92**	**202**	P	P	06 33 40.7	-0.8
0.7nm,0.7s,baz=20,slow=15,SNR=2.9							

*LDG **07** 06:28:39.2±0.3,1407S×16765E,h10km,Mb6.2/4,Ms5.3/7, Error ellipse: s-maj=35.7km s-min=14.6km az=90.0*
*SZGRF **07** 06:28:49.2,1385S×168.12E,h147km,Vanuatu Islands*
*CRAAG **07** 06:28:52.9,1479S×167.16E,Mb5.7*
*ISCJB **07** 06:28:53.7±0.1,1485S±002×16728E±002,h137km, mb5.6/135,Error ellipse: s-maj=3.3km s-min=2.8km az=127.5*
*IDC **07** 06:28:54.9±0.3,1487S×16732E,h138km±2km,mb5.3/32, mb1 5.4/35,mb1mx5.4/35,mbtmp5.8/35,MS5.0/17, Ms1 5.0/17,ms1mx4.8/33,Error ellipse: s-maj=7.4km s-min=7.0km az=146.0*
*BJI **07** 06:28:55.0,1424S×16734E,h129km,mB5.9,mb5.7*
*MOS **07** 06:28:55.1±1.2,1479S×16732E,h143km,mb5.8/49, MS5.3/19,Error ellipse: s-maj=6.9km s-min=6.1km az=82.6*
*HRVD **07** 06:28:55.0±0.1,1490S×16720E,h144km,MW6.2/106, Centroid moment Tensor Solution. LP body waves: s106,c250;Mantle waves: s105,c404; Half duration: 2≥9 Moment tensor: Scale 10^{18}Nm; M_{rr}1.25±.01; $M_{\theta\theta}$0.30±.01; $M_{\phi\phi}$-1.55±.01; $M_{r\theta}$-1.02±.01; $M_{\theta\phi}$1.08±.01; $M_{\phi r}$-0.54±.01; Best double couple: $M_0$2.12300×10^{18} NP1:ϕ_s303.00000°, δ56.00000°,λ40.00000°. NP2:ϕ_s188.00000°,δ58.00000°, λ138.00000°. Principal axes: T 2.1990, Plg51.0000°, Azm154.0000°; N -0.1490, Plg39.0000°, Azm337.0000°; P -2.0480, Plg1.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **07** 06:28:55.0±0.1,1481S×16737E,mb5.7/85,ME5.6, MW6.2 Error ellipse: s-maj=4.1km s-min=3.1km az=88.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^{18}Nm; M_{rr}1.45; $M_{\theta\theta}$0.75; $M_{\phi\phi}$-2.19; $M_{r\theta}$-1.11; $M_{\theta\phi}$0.91; $M_{\phi r}$-0.75; Best double couple: $M_0$2.50000×10^{18} NP1: ϕ_s197.00000°,δ63.00000°,λ135.00000°. NP2: ϕ_s312.00000°,δ51.00000°,λ36.00000°. Principal axes: T 2.5400, Plg50.0000°, Azm158.0000°; N -0.0300, Plg39.0000°, Azm352.0000°; P -2.5000, Plg7.0000°, Azm257.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s321.00000°,δ41.00000°,λ49.00000°. NP2: ϕ_s190.00000°,δ60.00000°,λ120.00000°. Principal axes: T Plg62.0000°, Azm149.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm259.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Luganville.
*ORF **07** 06:28:58.1,773S×163.10E,h30km,mb6.5*

ISC 07 06:28:55.7±0.1,1485S±002×16736E±002,h139km, h139km±7km:pP-P,n940,σ1§03/467,mb5.6/135,142C-45D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.93**	**163**	⇑*i*P	**Pn**	**06 29 41.3**	**-0.4**
DZM	**Mont Dzumac**	**7.24**	**187**	P	**Pn**	**06 30 38.8**	**0.0**
112nm,0.3s,baz=26,slow=17,SNR=667							
DZM				S	**Sn**	**06 31 56.5**	**-3.1**
17nm,0.3s,baz=330,slow=20,SNR=2.0							
DZM				LR	LR	06 32 45.3	
comp=Z,20μm,19.1s,baz=11,slow=32							
DZM				ScP	ScP	06 40 30.2	+0.3
0.5nm,0.3s,baz=46,slow=11,SNR=4.6							
HNR	**Honiara**	**9.03**	**306**	Pn	**Pn**	**06 31 03.5**	**+0.7**
HNR	**Honiara**	**9.03**	**306**	P	**Pn**	**06 31 03.5**	**+0.7**
917nm,0.3s,baz=138,slow=0.6,SNR=108							
HNR				S	**Sn**	**06 32 43.7**	**+0.9**
201nm,0.3s,baz=86,slow=18,SNR=4.3							
HNR				LR	LR	06 33 20.4	
comp=Z,18μm,18.9s,baz=172,slow=30							
HNR	**Honiara**	**9.03**	**306**	*e*Pn	**Pn**	**06 31 03.4**	**+0.6**
4μm,0.6s							
HNR				*e*Sn	**Sn**	**06 32 44.3**	**+1.5**
HNR	**Honiara**	**9.03**	**306**	*e*P	**Pn**	**06 31 03.4**	**+0.6**
HNR				*e*		06 32 44.3	
HNR				pmax	pmax		
comp=Z,4μm,0.6s							
FUNA	**Funafuti**	**13.18**	**63**	*e*Pn	**Pn**	**06 31 58.5**	**+1.0**
RAO	**Raoul Island**	**19.76**	**139**	P	**P**	**06 33 14.3**	**-0.4**
comp=Z,47nm,0.3s,baz=79,slow=8.1,SNR=8.3							
RAO				LR	LR	06 38 23.0	
comp=Z,9μm,20.9s,baz=312,slow=29							
RAO	**Raoul Island**	**19.76**	**139**	*e*P	**P**	**06 33 16.4**	**+1.6**
comp=Z,2μm,0.9s							
RAO	**Raoul Island**	**19.76**	**139**	*e*P	**P**	**06 33 16.4**	**+1.7**
RAO				pmax	pmax		
comp=Z,2μm,0.9s							
AFI	**Afiamalu**	**20.23**	**90**	P	**P**	**06 33 20.9**	**+1.1**
comp=Z,397nm,0.8s,baz=20,slow=4.5,SNR=29							
AFI				ScP	ScP	06 40 52.5	+1.1
comp=Z,61nm,0.8s,baz=61,slow=21,SNR=6.1							
AFI	**Afiamalu**	**20.23**	**90**	*e*P	**P**	**06 33 21.6**	**+1.8**
comp=Z,476nm,0.8s							
AFI	**Afiamalu**	**20.23**	**90**	*e*P	**P**	**06 33 21.6**	**+1.8**
AFI				pmax	pmax		
comp=Z,476nm,0.8s							
PMG	**Port Moresby**	**20.47**	**283**	P	**P**	**06 33 23.7**	**+1.4**
PMG				S	**S**	**06 37 08.1**	**+4.3**
PMG	**Port Moresby**	**20.47**	**283**	P	**P**	**06 33 23.5**	**+1.1**
comp=Z,582nm,1.0s,baz=96,slow=7.2,SNR=108							
PMG	**Port Moresby**	**20.47**	**283**	⇓*e*P	**P**	**06 33 23.7**	**+1.3**
comp=Z,800nm,1.1s							
PMG				*e*S	**S**	**06 37 07.7**	**+3.9**
PMG	**Port Moresby**	**20.47**	**283**	⇓*e*P	**P**	**06 33 23.7**	**+1.3**
PMG				*e*S	**S**	**06 37 07.7**	**+3.9**
PMG				pmax	pmax		
comp=Z,800nm,1.1s							
CTA	**Charters Tower**	**20.79**	**252**	⇓*i*P	**P**	**06 33 27.1**	**+1.3**
comp=Z,620nm,1.0s							
CTA				*e*S	**S**	**06 37 13.5**	**+3.5**
CTA				*e*PCS	PcS	06 41 07.9	+0.9
CTA				*e*SCS	ScS	06 44 37.7	+1.5
CTA				*e*		06 45 44.1	
CTA	**Charters Tower**	**20.79**	**252**	P	**P**	**06 33 26.8**	**+1.0**
comp=Z,616nm,0.9s,baz=76,slow=12,SNR=349							
CTA				S	**S**	**06 37 10.3**	**+0.3**
comp=Z,18nm,0.8s,baz=64,slow=19,SNR=6.4							
CTA	**Charters Tower**	**20.79**	**252**	⇓*i*P	**P**	**06 33 27.1**	**+1.3**
CTA				*e*S	**S**	**06 37 13.5**	**+3.5**
CTA				*e*		06 44 37.7	
CTA				pmax	pmax		
comp=Z,620nm,1.0s							
CTAO	**Charters Tower**	**20.79**	**252**	⇓*e*P	**P**	**06 33 27.2**	**+1.4**
comp=Z,1μm,1.1s							
CTAO				*e*S	**S**	**06 37 12.2**	**+2.2**
CTAO	**Charters Tower**	**20.79**	**252**	⇓*e*P	**P**	**06 33 27.2**	**+1.4**
CTAO				*e*S	**S**	**06 37 12.2**	**+2.2**
CTAO				pmax	pmax		
comp=Z,1μm,1.1s							
OUZ	**Omahuta**	**21.05**	**166**	PN	**P**	**06 33 30.1**	**+1.6**
OUZ	**Omahuta**	**21.05**	**166**	P	**P**	**06 33 30.1**	**+1.6**
WCZ	**Waipu Caves**	**21.92**	**165**	⇑PN	**P**	**06 33 39.7**	**+1.9**
WCZ	**Waipu Caves**	**21.92**	**165**	*e*P	**P**	**06 33 39.7**	**+2.0**
KAAZ	**Kauri Point**	**22.85**	**165**	PN	**P**	**06 33 48.3**	**+1.4**
KAAZ	**Kauri Point**	**22.85**	**165**	*e*P	**P**	**06 33 48.3**	**+1.4**
MTAZ	**Motutapu**	**22.87**	**164**	PN	**P**	**06 33 48.0**	**+1.0**
MTAZ	**Motutapu**	**22.87**	**164**	*e*P	**P**	**06 33 48.0**	**+0.9**
WTAZ	**Waiatarua**	**22.92**	**165**	PN	**P**	**06 33 48.6**	**+1.1**
WTAZ	**Waiatarua**	**22.92**	**165**	*e*P	**P**	**06 33 48.6**	**+1.1**
OTAZ	**Otara**	**23.02**	**164**	PN	**P**	**06 33 48.0**	**-0.5**
OTAZ	**Otara**	**23.02**	**164**	P	**P**	**06 33 48.0**	**-0.5**
MKAZ	**Moumakai**	**23.24**	**164**	PN	**P**	**06 33 51.3**	**+0.8**
MKAZ	**Moumakai**	**23.24**	**164**	P	**P**	**06 33 51.3**	**+0.8**
TOZ	**Tahuroa Road**	**23.91**	**164**	PN	**P**	**06 33 57.4**	**+0.8**
TOZ	**Tahuroa Road**	**23.91**	**164**	*e*P	**P**	**06 33 57.4**	**+0.8**
RIV	**Riverview**	**23.92**	**215**	⇑*i*P	**P**	**06 33 58.0**	**+1.3**
RIV				*e*S	S	**06 38 05.7**	**+2.8**
RIV				*e*SCP	ScP	06 41 03.2	+2.4
RIV	**Riverview**	**23.92**	**215**	⇑*i*P	**P**	**06 33 58.0**	**+1.3**
RIV				*e*S	**S**	**06 38 05.7**	**+2.8**
WIZ	**White Island**	**24.22**	**161**	PN	**P**	**06 34 00.3**	**+0.9**
WIZ	**White Island**	**24.22**	**161**	*e*P	**P**	**06 34 00.3**	**+0.9**
MXZ	**Matakaoa Point**	**24.62**	**159**	PN	**P**	**06 34 02.3**	**-0.8**
MXZ	**Matakaoa Point**	**24.62**	**159**	*e*P	**P**	**06 34 02.3**	**-0.8**
TAZ	**Tarawera**	**24.66**	**163**	PN	**P**	**06 34 04.8**	**+1.4**
TAZ	**Tarawera**	**24.66**	**163**	*e*P	**P**	**06 34 04.8**	**+1.4**
PATZ	**Paeroa**	**24.73**	**163**	PN	**P**	**06 34 06.1**	**+2.1**
PATZ	**Paeroa**	**24.73**	**163**	P	**P**	**06 34 07.0**	**+3.0**
URZ	**Urewera**	**24.86**	**162**	P	**P**	**06 34 04.9**	**-0.4**
comp=Z,108nm,0.5s,mb5.7,baz=18,slow=4.1,SNR=51							
URZ				LR	LR	06 42 38.4	
comp=Z,2μm,19.0s,baz=250,slow=33							
URZ	**Urewera**	**24.86**	**162**	PN	**P**	**06 34 04.8**	**-0.4**
URZ	**Urewera**	**24.86**	**162**	*e*P	**P**	**06 34 04.8**	**-0.5**
MWZ	**Matawai**	**25.06**	**161**	PN	**P**	**06 34 06.3**	**-0.7**
MWZ	**Matawai**	**25.06**	**161**	*e*P	**P**	**06 34 06.3**	**-0.8**
PUZ	**Puketiti**	**25.07**	**159**	PN	**P**	**06 34 05.8**	**-1.3**
PUZ	**Puketiti**	**25.07**	**159**	*e*P	**P**	**06 34 05.9**	**-1.2**
WNVZ

TOO			*e*S		**S**	**06 39 36.4 +0.6**
TOO			*e*			06 41 20.0
TOO			pmax		pmax	
comp=Z,84nm,0.8s,mb5.5						
WKZ	**Wanaka**	**29.92 178**	PN		**P**	**06 34 50.3 -0.1**
WKZ	**Wanaka**	**29.92 178**	*e*P		**P**	**06 34 51.0 +0.6**
ODZ	**Otahua Downs**	**30.23 175**	PN		**P**	**06 34 52.4 -0.7**
ODZ	**Otahua Downs**	**30.23 175**	*e*P		**P**	**06 34 52.4 -0.7**
EAZ	**Earnscleugh**	**30.33 177**	PN		**P**	**06 34 53.9 -0.1**
EAZ	**Earnscleugh**	**30.33 177**	*e*P		**P**	**06 34 53.9 -0.1**
TUZ	**Tuapeka**	**31.07 177**	PN		**P**	**06 35 01.0 +0.4**
TUZ	**Tuapeka**	**31.07 177**	*e*P		**P**	**06 35 01.0 +0.5**
WB2	**Warramunga Arr**	**31.87 256**	⇓*i*P		**P**	**06 35 06.4 -1.1**
WB2			*e*PCP		PcP	06 37 56.1 +1.2
WB2			*e*S		**S**	**06 40 02.9 -5.1**
WB2			*e*SCS		ScS	06 45 22.6 -1.3
WRAB	**Tennant Creek**	**31.87 256**	P		**P**	**06 35 06.6 -0.9**
comp=Z,717nm,1.1s,mb6.3,SNR=26						
WRAB	**Tennant Creek**	**31.87 256**⇓	*e*P		**P**	**06 35 06.4 -1.1**
comp=Z,252nm,1.1s,mb5.9						
WRAB			*e*S		**S**	**06 40 03.2 -4.8**
WRAB	**Tennant Creek**	**31.87 256**⇓	*e*P		**P**	**06 35 06.4 -1.1**
WRAB			*e*S		**S**	**06 40 03.2 -4.8**
WRAB			pmax		pmax	
comp=Z,252nm,1.1s,mb5.9						
WRA	**Warramunga Arr**	**31.88 256**	P		**P**	**06 35 06.6 -1.1**
comp=Z,97nm,1.0s,mb5.5,baz=86,slow=8.4,SNR=160						
WRA			pP		pP	06 35 35.4 -2.0
comp=Z,74nm,1.0s,baz=84,slow=9.0,SNR=4.0						
WRA			PcP		PcP	06 37 54.1 -0.8
comp=Z,75nm,1.0s,baz=98,slow=2.4,SNR=7.4						
WRA			S		**S**	**06 40 03.6 -4.6**
comp=Z,72nm,1.4s,baz=82,slow=15,SNR=7.2						
WRA			ScP		ScP	06 41 25.5 +0.1
comp=Z,47nm,1.2s,baz=82,slow=3.7,SNR=6.7						
WRA			PKiKP		PKiKP	06 45 20.6 -2.5
comp=Z,8.5nm,0.9s,baz=358,slow=0.4,SNR=13						
WRA			P3KPbc			07 06 39.7
comp=Z,0.5nm,0.9s,baz=283,slow=2.3,SNR=6.6						
WRA			tx		tx	07 07 15.7
comp=Z,6.6nm,1.1s,baz=275,slow=2.8,SNR=10.0						
WRA	**Warramunga Arr**	**31.88 256**	P		**P**	**06 35 06.6 -1.1**
WRA			pP		pP	06 35 35.4 -2.0
WRA			PcP		PcP	06 37 54.1 -0.8
WRA			S		**S**	**06 40 03.6 -4.6**
WRA			ScP		ScP	06 41 25.5 +0.1
WRA	**Warramunga Arr**	**31.88 256**	P		**P**	**06 35 06.6 -1.0**
WRA			*PP		pP	06 35 35.4 -2.0
WRA						06 37 54.1
WRA			S		**S**	**06 40 03.6 -4.6**
ADE	**Adelaide**	**32.62 227**⇑	*i*P		**P**	**06 35 15.4 +1.3**
AS31	**Alice Springs**	**32.71 249**⇓	*i*P		**P**	**06 35 14.3 -0.6**
AS31			*e*S		**S**	**06 40 17.6 -3.4**
AS31			*e*ScS		ScS	06 45 25.8 -2.4
ASAR	**Alice Springs**	**32.71 249**	P		**P**	**06 35 14.3 -0.5**
comp=Z,364nm,1.1s,mb6.0,baz=79,slow=8.8,SNR=500						
ASAR			pP		pP	06 35 45.1 +0.3
comp=Z,48nm,0.7s,baz=77,slow=8.8,SNR=2.3						
ASAR			PcP		PcP	06 37 56.8 -0.4
comp=Z,57nm,0.9s,baz=79,slow=3.6,SNR=7.9						
ASAR			S		**S**	**06 40 17.8 -3.3**
comp=Z,66nm,1.3s,baz=74,slow=16,SNR=7.1						
ASAR			ScP		ScP	06 41 29.1 +1.0
comp=Z,22nm,0.9s,baz=85,slow=3.5,SNR=9.9						
ASAR			pScP			06 42 33.5
comp=Z,27nm,1.0s,baz=85,slow=3.4,SNR=8.8						
ASAR			PKiKP		PKiKP	06 45 20.6 -3.1
comp=Z,8.3nm,1.1s,baz=35,slow=4.6,SNR=5.9						
ASAR			P3KPbc			07 06 34.6
comp=Z,0.6nm,0.9s,baz=268,slow=5.5,SNR=4.1						
ASAR			tx		tx	07 07 10.7
comp=Z,1.0nm,1.0s,baz=243,slow=4.7,SNR=4.2						
ASAR	**Alice Springs**	**32.71 249**	P		**P**	**06 35 14.3 -0.5**
ASAR			pP		pP	06 35 45.1 +0.3
ASAR			PcP		PcP	06 37 56.8 -0.4
ASAR			S		**S**	**06 40 17.8 -3.3**
ASAR			ScP		ScP	06 41 29.1 +1.0
ASAR			pScP			06 42 33.5
ASAR	**Alice Springs**	**32.71 249**	P		**P**	**06 35 14.4 -0.5**
ASAR			*PP		pP	06 35 45.1 +0.3
ASAR						06 37 56.8
ASAR			S		**S**	**06 40 17.8 -3.3**
ASAR						06 42 33.5
ASPA	**Alice Springs**	**32.72 249**⇓	*i*P		**P**	**06 35 14.3 -0.6**
ASPA			*e*S		**S**	**06 40 17.6 -3.5**
ASPA			*e*SCS		ScS	06 45 25.8 -2.4
TAU	**Tasmania Unive**	**32.84 208**	P		**P**	**06 35 16.6 +0.6**
comp=Z,882nm,1.1s,mb6.4,SNR=9.7						
TAU	**Tasmania Unive**	**32.84 208**	*e*P		**P**	**06 35 16.3 +0.3**
comp=Z,313nm,1.4s,mb5.8						
TAU			*e*PcP		PcP	06 37 58.6 +1.0
TAU	**Tasmania Unive**	**32.84 208**	*e*P		**P**	**06 35 16.3 +0.3**
TAU			*e*			06 37 58.6
TAU			pmax		pmax	
comp=Z,313nm,1.4s,mb5.8						
KAKA	**Kakadu**	**33.96 269**⇓	*i*P		**P**	**06 35 25.0 -0.7**
comp=Z,118nm,0.9s,mb5.6						
GUMO	**Guam**	**35.97 321**	P		**P**	**06 35 43.8 +0.9**
comp=Z,95nm,0.9s,mb5.4,baz=198,slow=19,SNR=2.4						
GUMO			LR		LR	06 48 59.0
comp=Z,3μm,21.6s,baz=324,slow=34						
FITZ	**Fitzroy Crossi**	**40.08 259**	*e*P		**P**	**06 36 17.9 +0.5**
comp=Z,406nm,1.0s,mb6.0						
FITZ			*e*S		**S**	**06 42 10.3 -2.8**
MCQ	**Macquarie Isla**	**40.11 188**⇑	*i*P		**P**	**06 36 17.6 0.0**
PAE	**Paea**	**41.37 100**	*e*P		**P**	**06 36 29.2 +1.2**
PPT	**Papeete**	**41.38 100**	*e*P		**P**	**06 36 29.6 +1.6**
PPT	**Papeete**	**41.38 100**	*e*S		**S**	**06 42 34.1 +1.8**
comp=Z,5μm,26.0s						
PPT			*e*LR		LR	06 48 16.8
comp=Z,13μm,30.8s						
PPT	**Papeete**	**41.38 100**	P		**P**	**06 36 29.0 +1.0**
comp=Z,85nm,0.5s,mb5.6,baz=264,slow=4.2,SNR=18						
TBI	**Tubuai**	**41.54 109**	*e*P		**P**	**06 36 30.7 +1.3**
comp=Z,463nm,0.9s,mb6.1						
TBI	**Tubuai**	**41.54 109**	*e*S		**S**	**06 42 36.0 +1.3**
comp=Z,4μm,26.1s						
TBI			*e*LR		LR	06 48 16.8
comp=Z,10μm,35.0s						
TVO	**Taravao**	**41.68 100**	*e*P		**P**	**06 36 32.0 +1.5**
MEH	**Mehetia**	**42.80 100**	*e*P		**P**	**06 36 41.0 +1.4**
MEH			*e*pP		pP	06 37 15.3 +4.7
comp=Z,279nm,1.4s						
VAH	**Vaihoa**	**43.41 97**	*e*P		**P**	**06 36 46.1 +1.6**
VAH			*e*pP		pP	06 37 21.5 +5.9
comp=Z,626nm,1.5s						
MBWA	**Marble Bar**	**45.60 255**⇑	*e*P		**P**	**06 37 02.1 +0.3**
comp=Z,226nm,0.9s,mb5.8						
MBWA			*e*pP		pP	06 37 33.9 +0.7
MBWA			*e*S		**S**	**06 43 29.6 -4.1**
BUKP	**Musuan**	**47.63 296**	*e*P		**P**	**06 37 20.6 +2.9**
BUTP	**Butuan**	**47.67 297**	*e*P		**P**	**06 37 18.2 +0.3**
KLBR	**Kellerberrin**	**48.12 241**⇑	*i*P		**P**	**06 37 20.7 -0.7**
KLBR			*e*pP		pP	06 37 53.4 +0.3
KLBR			*e*PP		PP	06 39 16.3 +1.4
KLBR			*e*S		**S**	**06 44 05.7 -3.9**
KLBR			*e*SS		SS	06 47 57.6 +17
NWAO	**Narrogin (SRO)**	**48.77 239**⇑	*e*P		**P**	**06 37 25.8 -0.5**
comp=Z,212nm,1.0s,mb5.7						
NWAO			*e*pP		pP	06 37 58.0 0.0
NWAO	**Narrogin (SRO)**	**48.77 239**⇑	*e*P		**P**	**06 37 25.8 -0.5**
NWAO			*e*PP		pP	06 37 58.0 -0.1
NWAO			pmax		pmax	
comp=Z,212nm,1.0s						
MSLP	**Maasin**	**48.89 298**	*e*P		**P**	**06 37 27.9 +0.6**
PAGZ	**Pagadian**	**49.09 294**	*e*P		**P**	**06 37 30.1 +1.3**
BESP	**Borongan**	**49.15 300**	*e*P		**P**	**06 37 21.2 -8.0**
MUN	**Mundaring**	**49.48 241**⇑	*i*P		**P**	**06 37 31.4 -0.4**
MUN			*e*pP		pP	06 38 04.6 +1.0
MUN			*e*PP		PP	06 39 30.1 +2.9
MUN			*e*SCP		ScP	06 42 35.1 +1.0
MUN			*e*S		**S**	**06 44 27.2 -1.4**
MUN			*e*sS		sS	06 45 27.3 +3.6
MUN	**Mundaring**	**49.48 241**⇑	*i*P		**P**	**06 37 31.4 -0.4**
MUN			*e*PP		pP	06 38 04.6 +1.0
MUN			*e*			06 39 30.1
MUN			*e*S		**S**	**06 44 27.2 -1.4**
MUN			*e*SS		sS	06 45 27.3 +3.6
TBP	**Tagbilaran**	**49.53 297**	*e*P		**P**	**06 37 32.8 +0.7**
KIP	**Kipapa**	**49.53 44**	*i*P		**P**	**06 37 34.1 +1.9**
OCLP	**Ormoc**	**49.56 299**	*e*P		**P**	**06 37 32.3 -0.1**
IPIL	**Ipil**	**49.78 294**	*e*P		**P**	**06 37 34.2 +0.2**
CNP	**Čatarman**	**50.26 301**	*e*P		**P**	**06 37 36.4 -1.3**
MAUI	**Maui**	**50.30 46**	*i*P		**P**	**06 37 39.8 +1.8**
GUIM	**Jordan**	**51.08 297**	*e*P		**P**	**06 37 43.1 -0.6**
PVCP	**Virac**	**51.25 301**	*e*P		**P**	**06 37 46.0 +0.9**
RCP	**Roxas**	**51.40 298**⇓	*i*P		**P**	**06 37 47.7 +1.5**
TAOE	**Nuku Hiva Isla**	**51.62 90**	*e*S		**S**	**06 44 58.1 -0.1**
comp=Z,6μm,26.0s						
TAOE			*e*LR		LR	06 52 50.5
comp=Z,20μm,33.2s						
AUQP	**San Andres**	**52.34 300**	*e*P		**P**	**06 37 52.4 -0.7**
OTRP	**Odiongan**	**52.41 299**	*e*P		**P**	**06 37 55.2 +1.5**
CUYO	**Cuyo Island**	**52.54 296**	*e*P		**P**	**06 37 54.4 -0.2**
TSM	**Tawau**	**52.59 287**	P		**P**	**06 37 57.2 +2.2**
POLP	**Polilio Island**	**53.67 301**	*e*P		**P**	**06 38 03.1 +0.2**
BUSP	**Coron**	**53.79 297**	*e*P		**P**	**06 38 03.6 -0.2**
PPR	**Puerto Princes**	**54.05 294**⇓	*e*P		**P**	**06 38 07.3 +1.6**
ENPP	**El Nido**	**54.09 296**	*e*P		**P**	**06 38 07.0 +1.1**
TGY	**Tagaytay City**	**54.19 300**	P		**P**	**06 38 07.9 +1.3**
comp=Z,195nm,0.3s,baz=132,slow=12,SNR=11						
BATP	**Bataraza**	**54.46 292**	*e*P		**P**	**06 38 09.3 +0.7**
JHJ	**Hachijo jima 2**	**54.49 331**	P		**P**	**06 38 07.7 -1.1**
comp=Z,51nm,0.4s,mb5.6,baz=130,slow=7.9,SNR=2.6						
JHJ			pP		pP	06 38 39.4 -1.8
comp=Z,203nm,0.9s,baz=196,slow=12,SNR=4.5						
JHJ			PcP		PcP	06 39 11.6 +1.1
comp=Z,296nm,1.0s,baz=129,slow=12,SNR=3.9						
JHJ			LR		LR	06 57 36.6
comp=Z,618nm,18.6s,baz=145,slow=32						
BALP	**Baler**	**54.50 302**	*e*P		**P**	**06 38 08.8 -0.1**
LUBP	**Lubang**	**54.59 299**	*e*P		**P**	**06 38 13.4 +3.9**
KKM	**Kota Kinabalu**	**54.78 289**	P		**P**	**06 38 12.4 +1.5**
KKM	**Kota Kinabalu**	**54.78 289**⇑	*e*P		**P**	**06 38 11.9 +0.9**
KKM			*e*pP		pP	06 38 43.4 0.0
DRV	**Dumont d'Urvil**	**54.85 193**	P		**P**	**06 38 15.0 +3.6**
DRV			S		**S**	**06 45 50.0 +8.2**
DRV			L			06 52 00.0
RKT	**Rikitea**	**54.86 108**	*e*P		**P**	**06 38 12.1 +0.6**
comp=Z,222nm,1.4s,mb5.7						
RKT	**Rikitea**	**54.86 108**	*e*S		**S**	**06 45 41.4 -0.5**
comp=Z,3μm,28.5s						
RKT			*e*LR		LR	06 54 33.4
comp=Z,8μm,32.0s						
CAUP	**Cauayan**	**54.93 303**	*e*P		**P**	**06 38 13.2 +1.1**
SGCP	**Mt. Cagua**	**55.45 305**	*e*P		**P**	**06 38 16.1 +0.3**
APYP	**Conner**	**55.89 304**	*e*P		**P**	**06 38 17.4 -1.5**
JOW	**Kunigami**	**56.19 317**	P		**P**	**06 38 21.6 +0.6**
comp=Z,174nm,1.1s,mb5.8,baz=151,slow=7.4,SNR=14						
JOW			pP		pP	06 38 53.9 +0.3
comp=Z,171nm,0.8s,baz=157,slow=7.2,SNR=6.3						
ABRA	**Dolores**	**56.20 303**	*e*P		**P**	**06 38 18.7 -2.4**
MJAR	**Matsushiro Arr**	**58.05 332**	P		**P**	**06 38 33.3 -0.7**
comp=Z,86nm,1.2s,mb5.5,baz=162,slow=7.1,SNR=60						
MJAR			pP		pP	06 39 04.0 -2.8
comp=Z,96nm,1.0s,baz=164,slow=7.2,SNR=14						
MJAR			PKPPKP			07 08 17.2
comp=Z,0.7nm,0.3s,baz=296,slow=6.1,SNR=5.2						
MJAR	**Matsushiro Arr**	**58.05 332**	P		**P**	**06 38 33.3 -0.8**
MJAR			*PP		pP	06 39 04.0 -2.8
MAJO	**Matsushiro**	**58.05 332**⇑	*e*P		**P**	**06 38 33.4 -0.7**
comp=Z,273nm,1.1s,mb6.0						
MAJO			*e*pP		pP	06 39 06.0 -0.8
MAJO	**Matsushiro**	**58.05 332**⇑	*e*P		**P**	**06 38 33.4 -0.7**
MAJO			*e*PP		pP	06 39 06.0 -0.8
MAJO			pmax		pmax	
comp=Z,273nm,1.1s,mb6.0						
MAT	**Matsushiro**	**58.05 332**	P		**P**	**06 38 33.4 -0.7**
MAT			S		**S**	**06 46 20.0 -4.0**
MAT	**Matsushiro**	**58.05 332**	*e*P		**P**	**06 38 33.0 -1.1**
comp=Z,297nm,1.5s,mb5.9						
MAT			*e*S		**S**	**06 46 20.0 -4.0**
MAT			LR		LR	
comp=Z,1μm,20.0s						
MAT	**Matsushiro**	**58.05 332**	*e*P		**P**	**06 38 33.0 -1.1**
MAT			*e*S		**S**	**06 46 20.0 -4.0**
MAT			pmax		pmax	
comp=Z,297nm,1.5s,mb5.9						
MAT			MLR		MLR	
comp=Z,1μm,20.0s						
JNU	**Nakatsue**	**59.07 324**	P		**P**	**06 38 41.2 +0.1**
comp=Z,128nm,1.0s,mb5.7,baz=102,slow=7.7,SNR=25						
JNU			pP		pP	06 39 12.9 -1.1
comp=Z,153nm,1.1s,baz=119,slow=13,SNR=5.7						
NACB	**Ninganchiao**	**59.17 310**⇑	*e*P		**P**	**06 38 41.7 -0.1**
NACB			*e*pP		pP	06 39 14.4 -0.3
YHNB	**Yeheng**	**59.63 311**⇑	*e*P		**P**	**06 38 45.0 0.0**
YHNB			*e*pP		pP	06 39 17.7 -0.1
TATO	**Taipei**	**59.72 311**	*e*P		**P**	**06 38 45.7 0.0**
comp=Z,137nm,1.0s,mb5.7						
TATO			*e*pP		pP	06 39 18.1 -0.4
TATO			*e*PcP		PcP	06 39 31.3 +0.2
ERM	**Erimo**	**60.82 340**	P		**P**	**06 38 53.5 +0.4**
comp=Z,593nm,1.0s,mb6.4,SNR=5.6						
QZH	**Quanzhou**	**61.85 309**⇑	*i*P		**P**	**06 39 00.4 +0.4**
QZH			AP		pP	06 39 31.3 -1.8
QZH			S		**S**	**06 47 13.6 +1.1**
QZH			AMB		AMB	
comp=Z,270nm,1.2s,mb6.0						
QZH			AMB		AMB	
comp=Z,2μm,3.0s						
QZH			LR		LR	
comp=N,2μm,15.8s						
QZH			LR		LR	
comp=E,2μm,15.5s						
QZH			LR		LR	
comp=Z,4μm,24.9s						
VNDA	**Vanda**	**62.75 181**	P		**P**	**06 39 05.7 -0.3**
comp=Z,134nm,0.7s,mb5.9,baz=0.7,slow=7.1,SNR=259						
VNDA			PKPPKP			07 08 10.6
comp=Z,8.0nm,1.2s,baz=264,slow=7.3,SNR=3.8						
VNDA	**Vanda**	**62.75 181**⇑	*e*P		**P**	**06 39 05.5 -0.5**
comp=Z,259nm,0.9s,mb6.1						
VNDA	**Vanda**	**62.75 181**⇑	*e*P		**P**	**06 39 05.5 -0.5**
VNDA			pmax		pmax	
comp=Z,259nm,0.9s						
ASAJ	**Asahikawa**	**62.88 340**	P		**P**	**06 39 07.9 +1.0**
comp=Z,231nm,1.0s,mb6.0,baz=225,slow=12,SNR=51						
ASAJ			pP		pP	06 39 39.4 -0.7
comp=Z,31nm,0.8s,baz=218,slow=15,SNR=1.5						
ASAJ			LR		LR	07 03 52.2
comp=Z,2μm,19.6s,baz=57,slow=33						
SBA	**Scott Base**	**63.02 180**⇑	*e*P		**P**	**06 39 07.9 +0.1**
comp=Z,748nm,0.9s,mb6.5						
SBA	**Scott Base**	**63.02 180**⇑	*e*P		**P**	**06 39 07.9 +0.1**
SBA			pmax		pmax	
comp=Z,748nm,0.9s,mb6.5						
CASY	**Casey**	**63.45 202**⇑	*i*P		**P**	**06 39 10.4 -0.2**
CASY			*e*S		**S**	**06 47 31.3 -1.3**
SSE	**Sheshan**	**63.67 316**	P		**P**	**06 39 12.3 +0.3**
SSE			PP		PP	06 41 34.4 +0.7
SSE			S		**S**	**06 47 38.7 +3.5**
SSE			SCS		ScS	06 48 52.5 +0.4
SSE			AMB		AMB	
comp=Z,76nm,1.2s,mb5.4						
SSE			AMB		AMB	
comp=Z,2μm,8.0s						
SSE			LR		LR	
comp=N,2μm,20.0s						
SSE			LR		LR	
comp=E,2μm,20.0s						
SSE			LR		LR	
comp=Z,2μm,29.6s						
SSE	**Sheshan**	**63.67 316**	P		**P**	**06 39 11.7 -0.4**
SSE			pP		pP	06 39 45.4 0.0
HKC	**Hong Kong**	**63.86 304**⇑	*i*P		**P**	**06 39 14.0 +0.7**
KS15	**Wonju Array Si**	**63.90 326**⇑	*e*P		**P**	**06 39 12.9 -0.6**
KS15			*e*pP		pP	06 39 46.0 -0.8
INCN	**Inchon**	**64.61 325**	*e*P		**P**	**06 39 18.5 +0.3**
comp=Z,138nm,1.3s,mb5.6						
INCN			*e*pP		pP	06 39 51.6 0.0
GZH	**Guangzhou**	**64.92 305**	P		**P**	**06 39 20.6 +0.4**
GZH			S		**S**	**06 47 49.0 -1.6**
GZH			LR		LR	
comp=N,931nm,21.3s						
GZH			LR		LR	
comp=E,2μm,23.1s						
GZH			LR		LR	
comp=Z,3μm,24.0s						
YSS	**Yuzh-Sakhalins**	**65.37 342**⇑	*e*P		**P**	**06 39 23.8 +0.7**
comp=Z,506nm,1.2s,mb6.2						
YSS			*e*pP		pP	06 39 55.8 -0.7
YSS	**Yuzh-Sakhalins**	**65.37 342**α	*i*P		**P**	**06 39 25.0 +1.9**
YSS			*e*			06 39 52.5
YSS			*e*PP		pP	06 39 58.0 +1.5
YSS			*e*SP		sP	06 40 14.0 +2.4
YSS			*e*			06 41 44.0
YSS			*i*S		S	06 47 56.0 -0.1
YSS			*e*			06 48 42.0
YSS			*e*SS		sS	06 48 58.0 +4.2
YSS			*e*SS		SS	06 52 10.0 -1.7
YSS			pmax		pmax	
comp=Z,390nm,1.1s,mb6.2						
YSS			pmax		pmax	
comp=N,270nm,1.3s						
YSS			pmax		pmax	
comp=E,220nm,1.3s						
YSS			pmax		pmax	
comp=N,1μm,4.0s						
YSS			pmax		pmax	
comp=Z,2μm,4.0s						
YSS			smax			
comp=N,2μm,9.0s						
YSS			MLR		MLR	
comp=Z,900nm,18.0s						
KGM	**Kluang**	**65.53 279**	P		**P**	**06 39 26.3 +2.2**
NJ2	**Nanjing**	**65.82 316**	*e*P		**P**	**06 39 26.5 +0.5**
NJ2			PP		PP	06 41 55.3 +2.8
NJ2			S		S	06 47 58.0 -3.6
NJ2			AMB		AMB	
comp=Z,140nm,1.1s,mb5.7						
NJ2			AMB		AMB	
comp=Z,530nm,6.5s						
NJ2			LR		LR	
comp=N,14μm,20.3s						
NJ2			LR		LR	
comp=E,5μm,23.5s						
NJ2			LR		LR	
comp=Z,1μm,37.4s						
QIZ	**Qiongzhong**	**65.87 299**	P		**P**	**06 39 27.8 +1.5**
QIZ			AP		pP	06 39 59.1 -0.7
QIZ			S		S	06 48 00.6 -1.6
QIZ			XS		sS	06 48 53.9 -6.1
QIZ			SCS		ScS	06 49 05.0 -4.1
QIZ			AMB		AMB	
comp=Z,121nm,1.4s,mb5.5						
QIZ			AMB		AMB	
comp=Z,579nm,8.9s						
QIZ	**Qiongzhong**	**65.87 299**⇑	*e*P		**P**	**06 39 27.6 +1.2**
comp=Z,230nm,1.4s,mb5.8						
QIZ			*e*pP		pP	06 39 58.8 -1.0
VLA	**Vladivostok**	**66.22 332**d	*i*P		**P**	**06 39 29.3 +0.8**
comp=Z,131nm,20.1s,baz=198,slow=30						
VLA			*e*			06 39 54.6
VLA			*i**PP		pP	06 40 02.3 +0.2
VLA			*e**SP		sP	06 40 17.3 +0.2
VLA			*i*S		S	06 48 06.8 +0.4
VLA			*i**SS		sS	06 49 06.2 +1.9
VLA			pmax		pmax	
comp=Z,300nm,1.5s,mb5.9						
VLA			MLR		MLR	
comp=Z,800nm,21.6s						
FX1	**Attu Island--F**	**67.63 4**	LR		LR	07 02 59.9
comp=Z,131nm,20.1s,baz=198,slow=30						
FX1	**Attu Island--F**	**67.63 4**⇓	*e*P		**P**	**06 39 38.2 +0.7**
FX1			*e*pP		pP	06 40 13.6 +2.5
ADK	**Adak**	**67.88 11**	*e*P		**P**	**06 39 38.3 -0.7**
comp=Z,114nm,1.4s,mb5.4						
ADK	**Adak**	**67.88 11**	*e*P		**P**	**06 39 38.3 -0.7**
ADK			pmax		pmax	
comp=Z,114nm,1.4s,mb5.4						
PET	**Petropavlovsk**	**68.00 354**⇑	*e*P		**P**	**06 39 39.1 -0.7**
comp=Z,115nm,1.0s,mb5.6						
PET	**Petropavlovsk**	**68.00 354**⇓	*i*P		**P**	**06 39 39.9 +0.1**
PET			*e**PP		pP	06 40 12.8 -0.7
PET			*e*			06 42 14.6
PET			*e*S		S	06 48 26.6 -1.2
PET			*e*PS			06 49 03.8
PET			*e**SS		sS	06 49 22.0 -4.0
PET			pmax		pmax	
comp=Z,180nm,1.3s,mb5.6						
PET			pmax		pmax	
comp=Z,500nm,9.2s						
PET			pmax		pmax	
comp=Z,2μm,5.7s						
PET			pmax		pmax	
comp=Z,700nm,16.1s						
PET			smax			
comp=N,2μm,15.0s						
WHN	**Wuhan**	**68.09 312**	⇑P		**P**	**06 39 40.0 -0.3**
WHN			S		S	06 48 26.1 -2.7
WHN			AMB		AMB	
comp=Z,245nm,1.5s,mb5.7						
MDJ	**Mudanjiang**	**68.42 332**	P		**P**	**06 39 43.0 +0.6**
MDJ			AP		pP	06 40 14.8 -1.4
MDJ			S		S	06 48 36.8 +4.0
MDJ			SS		SS	06 52 55.3 -3.7
MDJ			AMB		AMB	
comp=Z,165nm,1.6s,mb5.5						
MDJ			AMB		AMB	
comp=Z,750nm,7.2s						
MDJ			LR		LR	
comp=N,1μm,35.9s						
MDJ			LR		LR	
comp=E,1μm,31.4s						
MDJ			LR		LR	
comp=Z,2μm,42.6s						
MDJ	**Mudanjiang**	**68.42 332**⇑	*e*P		**P**	**06 39 42.8 +0.4**
comp=Z,552nm,1.3s,mb6.1						
MDJ			*e*pP		pP	06 40 15.8 -0.4
DL2	**Dalian**	**68.44 323**⇑	*i*P		**P**	**06 39 42.9 +0.4**
DL2			AP		pP	06 40 15.8 -0.5
DL2			S		S	06 48 32.7 -0.3
DL2			AMB		AMB	
comp=Z,90nm,1.0s,mb5.5						
DL2			AMB		AMB	
comp=Z,420nm,6.5s						
IPM	**Ipoh**	**68.45 281**	P		**P**	**06 39 43.7 +1.1**
IPM	**Ipoh**	**68.45 281**	P		**P**	**06 39 43.7 +1.1**
HABR	**Khabarovsk**	**69.28 338**⇑	*i*P		**P**	**06 39 48.7 +1.0**
HABR			*e*		pP	06 40 22.5 +1.0
HABR			*e*S		S	06 48 43.0 +0.2
HABR			pmax		pmax	
comp=Z,259nm,1.2s,mb5.8						
HABR			pmax		pmax	
comp=Z,896nm,1.8s,mb6.2						
SNY	**Shenyang**	**69.35 326**	⇑P		**P**	**06 39 48.1 -0.1**
SNY			AP		pP	06 40 21.8 -0.2
SNY			S		S	06 48 42.6 -1.1
SNY			SS		SS	06 53 11.6 -1.7
SNY			AMB		AMB	
comp=Z,47nm,1.7s,mb4.9						
SNY			AMB		AMB	
comp=Z,900nm,3.3s						
SNY			LR		LR	
comp=N,966nm,17.6s				

KLR eSS SKSac 06 49 45.5 -3.3
KLR pmax pmax
comp=E,180nm,1.6s
KLR pmax pmax
comp=Z,600nm,1.6s,mb6.1
KLR pmax pmax
comp=Z,2µm,10.0s
KLR smax
comp=N,2µm,9.5s
KLR smax
comp=E,1µm,9.5s
ENH Enshi 71.51 309⇑ eP P 06 40 00.9 -0.3
comp=E,850nm,1.5s,mb6.2
ENH epP pP 06 40 34.7 -0.6
GYA Guiyang 71.85 305⇑ iP P 06 40 04.1 +0.8
GYA PP PP 06 42 45.6 +1.0
GYA S S 06 49 08.6 -4.1
GYA SKS 06 49 48.7
GYA AMB AMB
comp=Z,160nm,1.2s,mb5.6
GYA AMB AMB
comp=Z,630nm,6.3s
GYA LR LR
comp=N,1µm,23.9s
GYA LR LR
comp=E,1µm,18.6s
GYA LR LR
comp=Z,2µm,22.5s
UNV Unalaska Valle 71.98 16 eP P 06 40 02.1 -1.9
comp=Z,278nm,1.5s,mb5.8
NNT Nongplab 72.29 289 P P 06 40 08.3 +2.4
BJT Baijiatuau 72.40 321 P P 06 40 07.1 +0.5
BJT pP pP 06 40 40.3 -0.3
BJT S S 06 49 18.8 -0.1
BJT ScS ScS 06 50 00.5 +0.1
BJT Baijiatuau 72.40 321⇑ eP P 06 40 06.8 +0.3
comp=Z,79nm,1.0s,mb5.4
BJT epP pP 06 40 40.2 -0.4
BJT Baijiatuau 72.40 321⇑ eP P 06 40 06.9 +0.3
BJT e*PP pP 06 40 40.2 -0.4
BJT pmax pmax
comp=Z,79nm,1.0s
BJI Beijing 72.41 321 P P 06 40 07.0 +0.4
BJI AP pP 06 40 40.8 +0.1
BJI S S 06 49 17.5 -1.6
BJI AMB AMB
comp=Z,124nm,1.9s,mb5.3
BJI AMB AMB
comp=Z,2µm,4.4s
BJI LR LR
comp=N,1µm,27.4s
BJI LR LR
comp=E,1µm,26.5s
BJI LR LR
comp=Z,4µm,47.5s
NST Nakhon Sawan 73.01 292 ⇓P P 06 40 11.1 +0.9
comp=Z,177nm,1.0s,mb5.8
TIY Taiyuan 73.41 317 eP P 06 40 11.0 -1.5
TIY S S 06 49 30.0 -0.3
TIY LR LR
comp=E,2µm,22.0s
XAN Xi'an 73.83 313 P P 06 40 15.4 +0.4
XAN S S 06 49 29.6 -5.5
XAN AMB AMB
comp=Z,125nm,2.0s,mb5.3
XAN AMB AMB
comp=Z,769nm,10.1s
XAN LR LR
comp=N,1µm,28.5s
XAN LR LR
comp=E,2µm,26.8s
XAN LR LR
comp=Z,2µm,39.5s
KMI Kunming 74.44 302 ⇑P P 06 40 20.6 +2.1
KMI PCP PcP 06 40 34.7 +2.3
KMI PP PP 06 43 11.0 +4.4
KMI S S 06 49 44.0 +2.1
KMI SKS 06 50 11.1
KMI SCS ScS 06 50 16.3 -0.4
KMI AMB AMB
comp=Z,295nm,1.3s,mb5.9
KMI AMB AMB
comp=Z,1µm,5.1s
KMI LR LR
comp=N,426nm,15.8s
KMI LR LR
comp=E,1µm,25.1s
KMI LR LR
comp=Z,2µm,25.6s
QSPA South Pole Qui 75.18 180 P P 06 40 22.4 -0.4
QSPA South Pole Qui 75.18 180⇑ iP P 06 40 22.5 -0.3
comp=Z,580nm,1.0s,mb6.2
MA2 Magadan 75.37 351⇑ eP P 06 40 23.0 -0.9
comp=Z,197nm,1.2s,mb5.6
MA2 epP pP 06 40 58.0 -0.1
MA2 Magadan 75.37 351 c eP P 06 40 22.5 -1.4
MA2 e 06 40 42.1
MA2 e*PP pP 06 41 00.1 +1.9
MA2 e*SP sP 06 41 16.0 +3.0
MA2 eS S 06 49 48.5 -3.8
MA2 e*SS sS 06 50 53.9 +2.4
MA2 pmax pmax
comp=N,40nm,1.2s
MA2 pmax pmax
comp=E,20nm,1.2s
MA2 pmax pmax
comp=Z,100nm,1.2s,mb5.3
MA2 MLR MLR
comp=Z,1µm,20.0s
HHC Hu-ho-hao-te 75.73 320 eP P 06 40 26.8 +0.9
HHC PCP PcP 06 40 38.9 +0.9
HHC PP PP 06 43 20.8 +3.3
HHC S S 06 49 54.4 -1.8
HHC SKS 06 50 17.0
HHC SCS ScS 06 50 23.3 -3.8
HHC AMB AMB
comp=Z,144nm,1.2s,mb5.5
HHC LR LR
comp=N,1µm,27.9s
HHC LR LR
comp=E,1µm,20.1s
HHC LR LR
comp=Z,2µm,50.1s
CD2 Chengdu 76.15 308 P P 06 40 29.2 +0.9
CD2 AP pP 06 41 00.6 -2.1
CD2 S S 06 49 59.5 -1.3
CD2 SS SS 06 54 58.3 +1.3
CD2 AMB AMB
comp=Z,110nm,1.4s,mb5.3
CD2 AMB AMB
comp=Z,540nm,5.5s
CD2 LR LR
comp=N,960nm,17.4s
CD2 LR LR
comp=Z,870nm,20.9s
HIA Hailar 76.43 330⇑ eP P 06 40 29.6 -0.2
comp=Z,361nm,1.6s,mb5.8
HIA epP pP 06 41 03.1 -1.2
HIA Hailar 76.43 330⇑ eP P 06 40 29.7 -0.2
HIA e*PP pP 06 41 03.1 -1.2
HIA pmax pmax
comp=Z,361nm,1.6s
BTO Baotou 76.57 319 eP P 06 40 31.2 +0.6
BTO AMB AMB
comp=Z,136nm,1.5s,mb5.4
SEY Seymchan 78.41 353⇑ eP P 06 40 40.4 -0.5
SEY Seymchan 78.41 353 i P P 06 40 40.7 -0.2
SEY *PP pP 06 41 15.5 +0.1
SEY *SP sP 06 41 31.0 +0.8
SEY e 06 43 47.4
SEY ePPP 06 45 32.9
SEY eS S 06 50 22.1 -3.1
SEY e 06 51 21.5
SEY SS SS 06 55 24.5 -6.5
SEY pmax pmax
comp=E,60nm,1.0s
SEY pmax pmax
comp=Z,110nm,1.0s,mb5.4
SEY smax
comp=N,1µm,6.6s
SEY smax
comp=E,320nm,6.6s
SEY MLR MLR
comp=N,960nm,19.0s
SEY MLR MLR
comp=Z,2µm,19.0s
SEY MLR MLR
comp=E,900nm,20.0s
LZH Lanzhou 78.46 312 ⇑P P 06 40 43.0 +1.8
LZH AP pP 06 41 15.0 -0.7
LZH PP PP 06 43 46.0 +5.6
LZH S S 06 50 28.0 +2.3
LZH SKS 06 50 41.0
LZH AMB AMB
comp=Z,700nm,1.3s,mb6.1
LZH AMB AMB
comp=Z,2µm,5.2s
LZH LR LR
comp=E,3µm,17.8s
LZH LR LR
comp=Z,3µm,19.0s
KDAK Kodiak Island 79.54 21 P P 06 40 45.7 -1.3
comp=Z,33nm,1.0s,mb4.9,baz=146,slow=2.9,SNR=11
KDAK LR LR 07 09 46.3
comp=Z,2µm,21.1s,baz=222,slow=31
NRGR Nerungri 79.60 338 eP P 06 40 46.0 -1.3
NRGR S S 06 50 36.3 -1.4
NRGR smax
comp=N,2.0nm,0.3s
CLNS Chul'man 79.67 338 eP P 06 40 47.3 -0.4
CLNS e 06 40 52.3
CLNS e*SP pP 06 41 21.7 -0.7
CLNS eS S 06 50 27.8 -11
CLNS e 06 50 50.7
CLNS pmax pmax
comp=N,73nm,1.2s
CLNS pmax pmax
comp=Z,140nm,1.2s,mb5.5
CLNS pmax pmax
comp=E,26nm,1.1s
CLNS pmax pmax
comp=Z,19nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,33nm,0.9s
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS smax
comp=N,383nm,9.4s
CLNS smax
comp=Z,613nm,11.8s
CLNS smax
comp=E,663nm,11.3s
SVW2 Sparrevohn 81.23 17 eP P 06 40 55.1 -1.0
MAW Mawson 81.81 202 eP P 06 40 57.6 -1.5
comp=E,144nm,1.1s,mb5.5
MAW Mawson 81.81 202 P P 06 40 58.0 -1.1
comp=E,137nm,0.9s,mb5.6,baz=98,slow=5.2,SNR=32
MAW Mawson 81.81 202 eP P 06 40 59.2 +0.1
MAW e pP 06 41 35.3 +1.4
MAW pmax pmax
comp=Z,580nm,1.4s
YAK Yakutsk 82.17 343⇑ eP P 06 41 00.4 -0.6
comp=Z,907nm,1.0s,mb6.4
YAK epP pP 06 41 36.0 +0.2
YAK Yakutsk 82.17 343 c iP P 06 41 01.0 0.0
YAK i *PP pP 06 41 34.3 -1.5
YAK i S S 06 51 01.1 -3.3
YAK i *SS sS 06 51 46.4 -18
YAK pmax pmax
comp=Z,579nm,1.3s,mb6.0
YAK pmax pmax
comp=N,190nm,1.4s
YAK pmax pmax
comp=E,125nm,1.4s
YAK smax
comp=N,25nm,1.3s
YAK smax
comp=E,9.0nm,1.3s
ULN Ulaanbaatar 82.28 324⇑ eP P 06 41 02.0 +0.4
comp=E,357nm,1.4s,mb5.8
ULN epP pP 06 41 35.8 -0.7
ULN Ulaanbaatar 82.28 324⇑ eP P 06 41 02.0 +0.4
ULN e*PP pP 06 41 35.8 -0.6
ULN pmax pmax
comp=Z,357nm,1.4s,mb5.8
TNA Tin City 82.30 10⇑ eP P 06 41 00.8 -0.9
comp=Z,106nm,1.6s,mb5.2
TNA epP pP 06 41 34.2 -2.3
SLKM Skilak Lake 82.42 20 eP P 06 41 01.1 -1.2
SLKM epP pP 06 41 37.0 -0.1
SONM Songino Array 82.64 324 P P 06 41 03.7 +0.2
comp=Z,66nm,1.0s,mb5.3,baz=136,slow=4.3,SNR=309
SONM pP pP 06 41 37.1 -1.2
comp=Z,32nm,1.0s,baz=128,slow=2.6,SNR=4.0
SONM sP sP 06 41 53.4 +0.4
comp=Z,26nm,1.0s,baz=140,slow=4.4,SNR=2.7
SONM S S 06 51 06.9 -2.3
comp=Z,6.4nm,1.3s,baz=156,slow=4.2,SNR=17
SONM PKKPbc PKKPbc 06 59 26.2 -1.0
comp=Z,2.5nm,1.1s,baz=298,slow=1.4,SNR=5.1
SONM PKPPKP 07 07 24.7
comp=Z,1.0nm,1.2s,baz=222,slow=2.0,SNR=3.5
SONM LR LR 07 16 57.9
comp=Z,982nm,20.0s,baz=122,slow=35
SONM Songino Array 82.64 324 P P 06 41 03.7 +0.3
SONM *PP pP 06 41 37.1 -1.2
SONM *SP sP 06 41 53.4 +0.4
SONM S S 06 51 06.9 -2.3
BILL Bilibino 82.66 360⇑ eP P 06 41 02.5 -1.1
comp=Z,358nm,1.4s,mb5.9
BILL epP pP 06 41 36.3 -2.1
BILL Bilibino 82.66 360 c iP P 06 41 02.8 -0.7
BILL e*PP pP 06 41 41.7 +3.3
BILL e*SP sP 06 41 56.8 +3.7
BILL eS S 06 51 06.2 -3.2
BILL pmax pmax
comp=Z,498nm,2.0s,mb5.9
BILL MLR MLR
comp=Z,4µm,22.0s
GTA Gaotai 82.81 314⇑ iP P 06 41 05.4 +1.1
GTA PP PP 06 44 20.8 +4.5
GTA SKS 06 51 09.2
GTA S S 06 51 12.2 +1.2
GTA AMB AMB
comp=Z,250nm,1.3s,mb5.8
GTA AMB AMB
comp=Z,2µm,5.7s
GTA LR LR
comp=N,690nm,17.5s
GTA LR LR
comp=E,613nm,24.3s
GTA LR LR
comp=Z,1µm,23.2s
FIB Fire Island 82.93 19⇑ eP P 06 41 04.0 -0.9
comp=Z,137nm,1.1s,mb5.6
FIB Fire Island 82.93 19 eP P 06 41 04.4 -0.5
FIB e pP 06 41 42.4 +2.6
FIB pmax pmax
comp=Z,140nm,1.0s,mb5.7
PMR Palmer 83.58 19 eP P 06 41 06.2 -2.1
comp=Z,296nm,1.6s,mb5.8
PMR Palmer 83.58 19 eP P 06 41 07.0 -1.3
PMR e pP 06 41 46.0 +2.8
PMR pmax pmax
comp=Z,200nm,1.3s,mb5.7
AGT Agartala 83.69 297 i x x 06 41 15.0
AGT i x x 06 42 01.0
SHL Shillong 83.70 298 i P P 06 41 10.5 +1.6
SHL eP 06 41 10.5
SHL i S S 06 51 16.0 -3.9
SHL eS S 06 51 16.0 -3.9
SML Sawmill 84.00 19⇑ eP P 06 41 09.0 -1.4
SML epP pP 06 41 44.9 -0.5
BOD Bodaibo 84.62 334 eP P 06 41 12.3 -1.2
BOD e 06 51 20.1
BOD pmax pmax
comp=Z,189nm,1.0s,mb5.8
PTRM Twissleman Ran 84.83 51 eP P 06 41 14.2 -0.4
PTRM epP pP 06 41 44.0 -5.6
WDC Whiskeytown Da 85.08 46 eP P 06 41 15.6 -0.3
comp=Z,47nm,1.4s,mb5.0
WDC epP pP 06 41 49.0 -1.8
WDC Whiskeytown Da 85.08 46 eP P 06 41 15.6 -0.2
WDC e*PP pP 06 41 49.0 -1.9
WDC pmax pmax
comp=Z,47nm,1.4s,mb5.0
MCK McKinley 85.24 18⇑ eP P 06 41 14.8 -1.8
comp=Z,82nm,1.0s,mb5.4
MCK epP pP 06 41 51.9 +0.3
MCK esP sP 06 42 01.9 -4.4
MCK McKinley 85.24 18⇑ eP P 06 41 14.8 -1.8
MCK e*PP pP 06 41 51.9 +0.2
MCK e*SP sP 06 42 01.9 -4.4
MCK pmax pmax
comp=Z,82nm,1.0s,mb5.4
YBH Yreka Blue Hor 85.44 45 P P 06 41 17.4 -0.2
comp=Z,22nm,1.0s,mb4.8,baz=173,slow=3.0,SNR=10.0
YBH LR LR 07 13 05.2
comp=Z,531nm,19.0s,baz=243,slow=31
YBH Yreka Blue Hor 85.44 45 eP P 06 41 18.1 +0.5
comp=Z,29nm,1.1s,mb4.9
YBH epP pP 06 41 52.7 0.0
YBH Yreka Blue Hor 85.44 45 eP P 06 41 18.1 +0.5
YBH e*PP pP 06 41 52.7 0.0
YBH pmax pmax
comp=Z,29nm,1.1s
CMB Columbia Colle 85.61 49⇑ eP P 06 41 18.0 -0.5
comp=Z,60nm,1.4s,mb5.1
CMB epP pP 06 41 53.2 -0.3
CMB Columbia Colle 85.61 49⇑ eP P 06 41 18.0 -0.4
CMB e*PP pP 06 41 53.2 -0.3
CMB pmax pmax
comp=Z,60nm,1.4s,mb5.1
HUMO Hull Mountain 85.63 44 eP P 06 41 18.7 +0.2
comp=Z,52nm,1.1s,mb5.2
HUMO epP pP 06 41 55.2 +1.6
LSA Lhasa 85.70 302⇑ eP P 06 41 20.4 +1.5
comp=Z,224nm,1.3s,mb5.7
LSA epP pP 06 41 54.8 +0.8
LSA Lhasa 85.70 302⇑ eP P 06 41 20.4 +1.5
LSA e*PP pP 06 41 54.8 +0.8
LSA pmax pmax
comp=Z,224nm,1.3s,mb5.7
ZAK Zakamensk 85.70 325⇓ iP P 06 41 18.5 -0.4
ZAK e pP 06 41 53.7 -0.3
ZAK e 06 51 28.6
ZAK e 06 52 32.5
ZAK pmax pmax
comp=Z,473nm,1.6s,mb6.0
ZAK pmax pmax
comp=Z,479nm,2.0s,mb5.9
ZAK pmax pmax
comp=Z,94nm,2.0s,mb5.2
CAL Calcutta 85.81 294 i P P 06 41 19.3 -0.1
CAL ex x 06 51 35.5
MWC Mount Wilson 85.96 53⇑ eP P 06 41 20.2 0.0
MWC epP pP 06 41 55.5 +0.2
IRK Irkutsk 86.08 327⇑ iP P 06 41 19.1 -1.7
IRK e pP 06 41 54.1 -1.8
IRK pmax pmax
comp=Z,247nm,1.8s,mb5.6
TLY Talaya 86.14 326 P P 06 41 21.9 +0.9
comp=Z,184nm,1.4s,mb5.6,SNR=13
ISA Isabella 86.15 52⇑ eP P 06 41 21.3 +0.1
comp=Z,20nm,1.6s,mb4.6
ISA epP pP 06 41 56.0 -0.2
ISA Isabella 86.15 52⇑ eP P 06 41 21.3 +0.2
ISA e*PP pP 06 41 56.0 -0.2
ISA pmax pmax
comp=Z,20nm,1.6s,mb4.6
MENT Mentasta 86.32 20 eP P 06 41 20.9 -1.0
COLA College 86.40 18⇑ eP P 06 41 20.7 -1.6
comp=Z,98nm,0.9s,mb5.5
COLA epP pP 06 41 58.7 +1.2
COLA College 86.40 18⇑ eP P 06 41 20.7 -1.6
COLA e*PP pP 06 41 58.7 +1.2
COLA pmax pmax
comp=Z,98nm,0.9s,mb5.5
BAR Barrett 86.51 55 eP P 06 41 23.1 +0.2
ILAR Eielson Array 86.61 18 P P 06 41 20.8 -2.6
comp=Z,37nm,0.8s,mb5.3,baz=237,slow=4.3,SNR=232
ILAR pP pP 06 41 56.0 -2.5
comp=Z,21nm,0.8s,baz=242,slow=4.9,SNR=3.1
ILAR S 06 51 33.7
comp=Z,2.7nm,1.0s,baz=234,slow=7.7,SNR=12
ILAR PKKP PKKPbc 06 59 08.9 -8.9
comp=Z,1.0nm,0.9s,baz=258,slow=3.5,SNR=4.0
ILAR PKKPbc PKKPbc 06 59 16.4 -1.4
comp=Z,6.1nm,0.9s,baz=332,slow=1.7,SNR=17
ILAR PKPPKP 07 07 17.6
comp=Z,1.9nm,1.1s,baz=348,slow=0.8,SNR=4.9
ILAR LR LR 07 13 10.6
comp=Z,3µm,21.9s,baz=240,slow=31
ILAR Eielson Array 86.61 18 P P 06 41 20.8 -2.5
ILAR *PP pP 06 41 56.0 -2.5
ILAR S 06 51 33.7
MTUM Tungsten Hills 86.70 50 eP P 06 41 24.3 +0.5
MTUM epP pP 06 41 59.3 +0.4
BBB Bella Bella 86.82 34 P P 06 41 22.2 -2.2
comp=Z,25nm,1.1s,mb5.0,baz=246,slow=5.6,SNR=4.4
BBB pP pP 06 42 00.0 +0.5
comp=Z,40nm,1.1s,baz=245,slow=4.1,SNR=4.5
BBB Bella Bella 86.82 34 P P 06 41 22.2 -2.2
BBB pP pP 06 42 00.0 +0.5
PAHR Pah Rah Range 86.97 48⇑ eP P 06 41 25.2 +0.1
comp=Z,130nm,1.4s,mb5.6
PAHR epP pP 06 42 00.0 -0.2
PFO Pinyon Flat Ob 86.99 54 P P 06 41 25.1 -0.1
comp=Z,155nm,1.0s,mb5.8,SNR=9.0
PFO Pinyon Flat Ob 86.99 54 eP P 06 41 25.4 +0.2
comp=Z,20nm,0.6s,mb5.1
PFO ePP PP 06 44 50.8 +0.6
PFO Pinyon Flat Ob 86.99 54 eP P 06 41 25.4 +0.2
PFO e 06 44 50.8
PFO pmax pmax
comp=Z,20nm,0.6s,mb5.1
DAC Darwin (Calif) 87.04 51⇑ eP P 06 41 25.6 +0.2
comp=Z,82nm,1.4s,mb5.4
DAC epP pP 06 42 00.8 +0.2
DAC Darwin (Calif) 87.04 51⇑ eP P 06 41 25.6 +0.2
DAC e*PP pP 06 42 00.8 +0.2
DAC pmax pmax
comp=Z,82nm,1.4s,mb5.4
MOD Modoc 87.15 45⇑ eP P 06 41 25.6 -0.4
comp=Z,116nm,2.0s,mb5.4
MOD epP pP 06 42 00.7 -0.5
MOD ePP PP 06 44 52.5 +1.0
BKCOR Black Crater 87.16 43 P P 06 41 26.1 0.0
NVAR Mina Array Bea 87.28 49 P P 06 41 26.6 0.0
comp=Z,5.9nm,0.8s,mb4.5,baz=229,slow=8.6,SNR=56
NVAR pP pP 06 42 01.4 -0.4
comp=Z,12nm,0.8s,baz=235,slow=6.8,SNR=7.3
NVAR PKKPbc PKKPbc 06 59 16.4 +0.2
comp=Z,2.2nm,1.0s,baz=58,slow=2.2,SNR=9.4
NVAR PKPPKP 07 07 19.0
comp=Z,0.7nm,0.8s,baz=92,slow=4.1,SNR=6.5
NVAR Mina Array Bea 87.28 49 P P 06 41 26.6 0.0
NVAR pP pP 06 42 01.4 -0.4
NVAR PKKPbc PKKPbc 06 59 16.4 +0.2
NVAR P'P' 07 07 19.0
STW Striped Peak 87.52 39 P P 06 41 28.4 +0.7
MOY Mondy 87.58 325 eP P 06 41 26.9 -1.1
MOY pmax pmax
comp=Z,297nm,4.0s
TPH Tonopah 87.95 50⇑ eP P 06 41 29.9 +0.1
comp=Z,394nm,2.3s,mb5.8
TPH epP pP 06 42 05.0 -0.1
TPH Tonopah 87.95 50⇑ eP P 06 41 29.9 +0.1
TPH e*PP pP 06 42 05.0 0.0
TPH pmax pmax
comp=Z,394nm,2.3s,mb5.8
BOK Bokaro 88.33 295 eP P 06 41 32.2 +0.7
WVOR Wild Horse Val 88.50 45⇑ eP P 06 41 32.3 -0.1
comp=Z,166nm,1.7s,mb5.7
WVOR epP pP 06 42 07.6 -0.1
WVOR Wild Horse Val 88.50 45⇑ eP P 06 41 32.3 -0.1
WVOR e*PP pP 06 42 07.6 -0.1
WVOR pmax pmax
comp=Z,166nm,1.7s,mb5.7
DAWY Dawson 88.52 21 eP P 06 41 30.1 -2.4
LDFC Landfair 88.53 53⇑ eP P 06 41 33.0 +0.4
SYO Syowa Base 88.62 197⇓ eP P 06 41 27.6 -5.3
SYO Syowa Base 88.62 197⇓ i P P 06 41 31.8 -1.1
SYO Syowa Base 88.62 197⇑ esP sP 06 42 23.0 +0.2
SYO Syowa Base 88.62 197⇓ i P P 06 41 31.8 -1.1
SYO ⇑ esP sP 06 42 23.0 +0.2
PALK Pallekele 88.63 278 P P 06 41 34.7 +1.7
comp=Z,532nm,1.3s,mb6.3,SNR=18
PALK Pallekele 88.63 278⇑ eP P 06 41 34.3 +1.4
comp=Z,126nm,1.2s,mb5.7
PALK epP pP 06 42 11.0 +2.7
BMN Battle Mountai 88.78 48⇑ eP P 06 41 33.9 +0.3
comp=Z,180nm,1.9s,mb5.7
BMN ePP PP 06 45 05.0 +0.6

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BMN  Battle Mountai  88.78  48⇑eP      P     06 41 33.9 +0.2
BMN                          e                06 45 05.0
BMN                          pmax     pmax
     comp=Z,180nm,1.9s,mb5.7
VIS  Vishakhapatnam  88.92 289 i P      P     06 41 32.9 -1.4
VIS                          eP               06 41 34.2
VIS                          i x      x       06 45 26.9
NEN  Nelson          88.92  53⇑eP      P     06 41 34.5 +0.1
NEN                          epP      pP      06 42 08.7 -1.0
NEN                          ePP      PP      06 45 06.0 +0.3
TBM  Table Mountain  89.01  40  P      P     06 41 35.2 +0.5
JIRN Jiri            89.19 299 eP       P     06 41 36.2 +0.6
     comp=Z,582nm,1.2s,mb6.4
MDW  Midway          89.32  41  P      P     06 41 36.7 +0.5
RSW  Rattlesnake Hi  89.35  41  P      P     06 41 37.0 +0.7
HAWA Hanford         89.39  41 eP       P     06 41 36.2 -0.3
     comp=Z,8.2nm,1.4s,mb4.5
HAWA                         epP      pP      06 42 10.0 -1.9
HAWA                         ePP      PP      06 45 09.3  0.0
GBL  Gable Mountain  89.51  41  P      P     06 41 37.5 +0.4
GUN  Gumba           89.53 299 eP       P     06 41 37.7 +0.5
     comp=Z,375nm,1.0s,mb6.3
PKI  Pulchoki        89.83 298 eP       P     06 41 38.8 +0.2
     comp=Z,523nm,1.1s,mb6.4
PKI  Pulchoki        89.83 298 eP       P     06 41 38.8 +0.2
PKI                          pmax     pmax
     comp=Z,262nm,1.1s,mb6.1
KKN  Kakani          90.00 299 eP       P     06 41 39.5 +0.1
     comp=Z,583nm,1.3s,mb6.3
KKN  Kakani          90.00 299 eP       P     06 41 39.5 +0.1
KKN                          pmax     pmax
     comp=Z,292nm,1.3s,mb6.0
DMN  Daman           90.10 298 eP       P     06 41 40.1 +0.3
     comp=Z,826nm,1.1s,mb6.6
TIXI Tiksi           90.10 349⇑iP       P     06 41 38.4 -1.4
TIXI Tiksi           90.10 349 eP       P     06 41 36.4 -3.4
TIXI                         eSP      SP      06 53 23.1 -5.1
TIXI                         pmax     pmax
     comp=N,26nm,1.1s
TIXI                         pmax     pmax
     comp=Z,120nm,1.1s,mb5.7
TIXI                         pmax     pmax
     comp=E,49nm,1.2s
TIXI                         pmax     pmax
     comp=Z,270nm,1.4s,mb6.0
TIXI                         MLR      MLR
     comp=Z,787nm,16.0s
BMO  Blue Mountains  90.28  43⇑eP      P     06 41 40.2 -0.5
     comp=Z,46nm,1.1s,mb5.3
BMO                          epP      pP      06 42 16.4 +0.4
BMO  Blue Mountains  90.28  43⇑eP      P     06 41 40.2 -0.5
BMO                          e*PP     pP      06 42 16.5 +0.5
BMO                          pmax     pmax
     comp=Z,46nm,1.1s,mb5.3
ELK  Elko            90.30  48⇑eP      P     06 41 40.6 -0.2
     comp=Z,39nm,1.1s,mb5.2
ELK                          epP      pP      06 42 15.9 -0.3
ELK                          esP      sP      06 42 28.1 -2.6
ELK                          ePP      PP      06 45 16.3 -0.3
ELK  Elko            90.30  48⇑eP      P     06 41 40.6 -0.2
ELK                          e*PP     pP      06 42 15.9 -0.3
ELK                          e*SP     sP      06 42 28.1 -2.6
ELK                          e                06 45 16.3
ELK                          pmax     pmax
     comp=Z,39nm,1.1s
MDRS Chennai         90.56 283 eP       P     06 41 41.1 -0.9
GKN  Gorkha          90.61 299 eP       P     06 41 41.8 -0.4
ARUT Antelope Range  90.67  51⇓eP       P     06 41 43.3 +0.8
ARUT                         epP      pP      06 42 18.0 +0.1
TUC  Tucson          91.11  57⇑eP      P     06 41 45.2 +0.7
     comp=Z,48nm,1.3s,mb5.4
TUC                          epP      pP      06 42 19.4 -0.5
TUC  Tucson          91.11  57⇑eP      P     06 41 45.2 +0.7
TUC                          e*PP     pP      06 42 19.4 -0.5
TUC                          pmax     pmax
     comp=Z,48nm,1.3s,mb5.4
KOLN Koldanda        91.43 298 eP       P     06 41 45.3 -0.7
     comp=Z,396nm,1.5s,mb6.2
WUAZ Wupatki         91.57  54⇑eP      P     06 41 47.3 +0.6
     comp=Z,53nm,1.1s,mb5.5
WUAZ                         epP      pP      06 42 21.0 -1.1
NEW  Newport         91.59  40  P      P     06 41 46.2 -0.5
     comp=Z,14nm,0.9s,mb5.0,baz=230,slow=2.4,SNR=15
NEW                          pP       pP      06 42 21.1 -1.1
     comp=Z,20nm,1.0s,baz=226,slow=3.4,SNR=4.9
NEW  Newport         91.59  40⇑eP      P     06 41 46.1 -0.7
     comp=Z,23nm,1.0s,mb5.2
NEW                          epP      pP      06 42 21.1 -1.1
NEW  Newport         91.59  40⇑eP      P     06 41 46.1 -0.7
NEW                          e*PP     pP      06 42 21.1 -1.1
NEW                          pmax     pmax
     comp=Z,23nm,1.0s
HLID Hailey          91.80  45 eP       P     06 41 47.8  0.0
     comp=Z,22nm,1.2s,mb5.1
HLID                         epP      pP      06 42 23.3 +0.1
HLID                         ePP      PP      06 45 26.0 -2.4
MVU  Marysvale       91.81  51⇑eP      P     06 41 55.6 +7.8
     comp=Z,28nm,1.1s,mb5.2
MVU                          epP      pP      06 42 29.9 +6.7
MVU                          ePP      PP      06 45 35.5 +6.9
MSU  Marysvale       91.84  51 eP       P     06 41 48.7 +0.8
MSU                          epP      pP      06 42 24.0 +0.7
DUG  Dugway          91.88  49 eP       P     06 41 48.2 +0.1
     comp=Z,22nm,1.2s,mb5.1
DUG                          epP      pP      06 42 24.2 +0.7
DUG  Dugway          91.88  49 eP       P     06 41 48.2 +0.1
DUG                          e*PP     pP      06 42 24.2 +0.7
DUG                          pmax     pmax
     comp=Z,22nm,1.2s,mb5.1
NLU  North Lily Min  92.35  49 eP       P     06 41 48.5 -1.7
NLU                          epP      pP      06 42 26.5 +0.8
HVU  Hansel Valley   92.39  47 eP       P     06 41 51.0 +0.6
     comp=Z,83nm,1.9s,mb5.4
HVU                          epP      pP      06 42 26.8 +0.9
HVU  Hansel Valley   92.39  47 eP       P     06 41 51.1 +0.6
HVU                          e*PP     pP      06 42 26.8 +0.9
HVU                          pmax     pmax
     comp=Z,83nm,1.9s,mb5.4
TRD  Trivandrum      92.53 278 eP       P     06 41 51.3 +0.2
TRD                          eP               06 41 51.3
TMUT Trail Mountain  92.80  50 eP       P     06 41 53.3 +1.0
WMQ  Urumqi          92.87 315⇑iP       P     06 41 53.0 +0.3
WMQ                          PP       PP      06 45 40.0 +3.2
WMQ                          SKS              06 52 09.8
WMQ                          S                06 52 41.3
WMQ                          AMB      AMB
     comp=Z,206nm,1.4s,mb6.1
WMQ                          AMB      AMB
     comp=Z,1μm,5.0s
WMQ                          LR       LR
     comp=N,971nm,20.0s
WMQ                          LR       LR
     comp=E,1μm,24.0s
WMQ                          LR       LR
     comp=Z,895nm,24.0s
MAIT Maitri          92.95 188 ePKP     P     06 41 52.3 -0.8
INK  Inuvik          92.97  19  P      P     06 41 50.7 -2.5
     comp=Z,4.6nm,0.8s,mb4.6,baz=220,slow=7.3,SNR=19
INK                          pP       pP      06 42 26.8 -1.7
     comp=Z,2.6nm,0.9s,baz=229,slow=3.0,SNR=1.6
INK                          PKKPbc   PKKPbc  06 59 00.6 -1.5
     comp=Z,15nm,1.2s,baz=68,slow=2.3,SNR=7.7
INK                          PKPPKP           07 07 07.7
     comp=Z,6.4nm,1.2s,baz=357,slow=3.0,SNR=7.2
INK  Inuvik          92.97  19 eP       P     06 41 51.2 -1.9
     comp=Z,12nm,1.1s,mb4.9
INK                          epP      pP      06 42 29.1 +0.6
INK                          esP      sP      06 42 41.2 -1.9
INK  Inuvik          92.97  19 eP       P     06 41 51.2 -1.9
INK                          e*PP     pP      06 42 29.1 +0.6
INK                          e*SP     sP      06 42 41.2 -1.9
INK                          pmax     pmax
     comp=Z,12nm,1.1s
DAU  Daniels Canyon  93.08  49 eP       P     06 41 51.5 -2.2
HWUT Hardware Ranch  93.20  48 eP       P     06 41 53.6 -0.6
     comp=Z,35nm,1.5s,mb5.3
HYB  Hyderabad       93.24 287⇑iP       P     06 41 54.0 -0.4
     comp=Z,100nm,1.0s,mb5.9
HYB                          epP      pP      06 42 27.0 -2.8
HYB                          esP      sP      06 42 44.0 -0.4
HYB                          e                06 46 08.0
HYB                          eSKS             06 52 14.0
HYB                          ePS      sS      06 53 56.0 +4.8
HYB  Hyderabad       93.24 287⇑eP       P     06 41 54.0 -0.4
     comp=Z,100nm,1.0s,mb5.9
HYB                          e        pP      06 42 27.0 -2.8
HYB                          eS               06 52 12.0
HYB  Hyderabad       93.24 287⇑eP       P     06 41 54.0 -0.4
HYB                          e        pP      06 42 27.0 -2.8
HYB                          eS               06 52 12.0
HYB                          pmax     pmax
     comp=Z,100nm,1.0s,mb5.9
SRU  San Rafael      93.25  51 eP       P     06 41 54.6 +0.2
     comp=Z,15nm,1.1s,mb5.0
SRU                          epP      pP      06 42 28.6 -1.3
SRU  San Rafael      93.25  51 eP       P     06 41 54.6 +0.2
SRU                          e*PP     pP      06 42 28.6 -1.3
SRU                          pmax     pmax
     comp=Z,15nm,1.1s,mb5.0
JBP  Jabalpur        93.38 293⇑eP       P     06 41 54.9 -0.1
JBP                          ex       x       06 41 57.6
     comp=Z,150nm,1.7s
JBP                          ex       x       06 52 14.9
SNAA Sanae           93.44 183  P       P     06 41 53.5 -1.7
     comp=Z,45nm,0.8s,mb5.6,baz=195,slow=5.4
SNAA                         LR       LR      07 18 42.8
     comp=Z,436nm,19.6s,baz=2.5,slow=32
SNAA Sanae           93.44 183⇑iP       P     06 41 53.6 -1.7
SNAA                         e                06 41 55.4
SNAA                         e        pP      06 42 29.8 -0.9
SNAA Sanae           93.44 183⇑iP       P     06 41 53.6 -1.7
DLMT Dillon          93.59  44 eP       P     06 41 56.2 +0.2
     comp=Z,18nm,1.0s,mb5.2
DLMT                         epP      pP      06 42 32.5 +1.1
DLMT                         ePP      PP      06 45 40.8 -1.7
CHMT Chamberlain Mo  93.63  42 eP       P     06 41 55.6 -0.6
CHMT                         epP      pP      06 42 30.5 -1.1
NGP  Nagpur          93.71 291 eP       P     06 41 56.9 +0.3
NGP                          eS               06 52 15.8
VNA3 Neumayer Olymp  94.10 181⇑iP       P     06 41 56.2 -2.1
VNA3                         e                06 41 57.9
VNA3                         e                06 42 00.0
VNA3                         e        pP      06 42 32.9 -0.9
VNA3                         e                06 42 47.7
BOZ  Bozeman (W)     94.33  44 eP       P     06 41 59.5 +0.1
     comp=Z,29nm,1.7s,mb5.1
BOZ                          epP      pP      06 42 35.8 +1.0
BOZ  Bozeman (W)     94.33  44 eP       P     06 41 59.5 +0.1
BOZ                          e*PP     pP      06 42 35.8 +1.0
BOZ                          pmax     pmax
     comp=Z,29nm,1.7s,mb5.1
VNA2 Neumayer--Watz  94.37 182⇑iP       P     06 41 58.1 -1.4
     baz=181,slow=4.8
VNA2                         e                06 41 59.5
VNA2                         e                06 42 02.1
VNA2                         e        pP      06 42 33.8 -1.2
VNA2                         e                06 42 49.1
LOHW Long Hollow     94.45  46 eP       P     06 41 59.8 -0.2
     comp=Z,7.6nm,1.2s,mb4.7
PV01 Paradox Valley  94.46  52 eP       P     06 42 00.2 +0.2
PV01                         epP      pP      06 42 34.3 -1.1
YMR  Madison River   94.50  45 eP       P     06 42 00.4 +0.3
     comp=Z,8.5nm,1.1s,mb4.9
YMR                          epP      pP      06 42 36.7 +1.1
FLWY Flagg Ranch     94.52  46 eP       P     06 42 00.5 +0.3
     comp=Z,4.4nm,1.1s,mb4.6
VNA1 Neumayer--Stat  94.67 181⇑iP       P     06 42 00.2 -0.7
VNA1                         e                06 42 01.7
VNA1                         e        pP      06 42 34.7 -1.7
PDAR Pinedale Array  94.96  47  P       P     06 42 00.8 -1.4
     comp=Z,2.6nm,1.1s,baz=210,slow=3.3,SNR=10
PDAR                         pP       pP      06 42 35.7 -2.0
     comp=Z,0.9nm,0.7s,baz=267,slow=3.0,SNR=2.1
PDAR                         PP       PP      06 45 49.6 -3.5
     comp=Z,3.5nm,1.1s,baz=252,slow=8.6,SNR=5.8
PDAR                         tx       tx      06 46 27.4
     comp=Z,5.7nm,1.1s,baz=251,slow=4.5,SNR=5.5
PDAR                         PKKPbc   PKKPbc  06 58 54.6 -2.2
     comp=Z,4.3nm,0.9s,baz=90,slow=3.4,SNR=16
PDAR                         PKPPKP           07 07 06.2
     comp=Z,2.1nm,1.0s,baz=110,slow=1.9,SNR=8.8
PDAR                         LR       LR      07 19 57.9
     comp=Z,1μm,19.5s,baz=254,slow=32
PDAR Pinedale Array  94.96  47  P       P     06 42 00.8 -1.4
PDAR                         pP       pP      06 42 35.7 -2.0
PDAR                         PP       PP      06 45 49.6 -3.5
PDAR                         PKKPbc   PKKPbc  06 58 54.6 -2.2
PDAR                         P'P'             07 07 06.2
PDAR                         LR       LR      07 19 57.9
BNM  Barren Site     94.96  56 eP       P     06 42 02.7 +0.4
BNM                          epP      pP      06 42 35.8 -1.9
BNM                          esP      sP      06 42 50.1 -2.1
LPM  Los Pinos Moun  95.00  56 eP       P     06 42 02.5 +0.1
LPM                          epP      pP      06 42 37.0 -0.9
ANMO Albuquerque     95.29  55  P       P     06 42 03.7 -0.1
     comp=Z,6.1nm,1.0s,mb4.8,baz=228,slow=5.6,SNR=16
ANMO                         pP       pP      06 42 38.0 -1.3
     comp=Z,7.0nm,1.1s,baz=241,slow=4.9,SNR=4.3
ANMO                         PP       PP      06 45 54.0 -1.7
     comp=Z,1.4nm,0.9s,baz=241,slow=8.1,SNR=3.0
ANMO                         tx       tx      06 46 27.9
     comp=Z,2.5nm,1.0s,baz=256,slow=6.7,SNR=4.9
ANMO Albuquerque     95.29  55 eP       P     06 42 04.1 +0.3
     comp=Z,8.7nm,1.1s,mb4.9
ANMO                         epP      pP      06 42 38.8 -0.4
ANMO Albuquerque     95.29  55 eP       P     06 42 04.1 +0.3
ANMO                         e*PP     pP      06 42 38.8 -0.4
ANMO                         pmax     pmax
     comp=Z,9.0nm,1.1s
BHPL Bhopal          95.68 292 eP       P     06 42 04.2 -1.3
SMCO Snowmass        95.93  51 eP       P     06 42 07.1 +0.4
     comp=Z,5.5nm,1.0s,mb4.8
SMCO                         epP      pP      06 42 43.1 +1.0
USHA Ushuaia         96.13 151  LR       LR    07 15 19.5
     comp=Z,747nm,20.1s,baz=261,slow=29
LTX  Lajitas         96.25  61 eP       P     06 42 08.5 +0.4
     comp=Z,4.1nm,0.9s,mb4.8
LTX                          epP      pP      06 42 44.5 +0.9
LTX  Lajitas         96.25  61 eP       P     06 42 08.5 +0.4
LTX                          e*PP     pP      06 42 44.5 +0.9
LTX                          pmax     pmax
     comp=Z,4.0nm,0.9s,mb4.8
GDL2 Guadalupe Moun  96.33  58 eP       P     06 42 09.0 +0.5
GDL2                         epP      pP      06 42 43.8 -0.2
DDI  Dehra Dun       96.76 299 eP       P     06 42 09.0 -1.4
DDI                          ex       x       06 50 29.0
NDI  New Delhi       97.11 298 eP       P     06 42 09.5 -2.5
NDI                          eP               06 42 10.0
KAD  Karad           97.27 286 eP       P     06 42 10.9 -1.8
MKAR Makanchi Array  97.35 316  P       P     06 42 12.8 -0.3
     comp=Z,62nm,1.0s,mb5.9,baz=98,slow=5.0,SNR=222
MKAR                         pP       pP      06 42 47.5 -1.0
     comp=Z,20nm,0.9s,baz=98,slow=7.5,SNR=4.0
MKAR                         PP       PP      06 46 08.6 -2.9
     comp=Z,4.4nm,1.1s,baz=99,slow=8.9,SNR=2.9
MKAR                         PKKPbc   PKKPbc  06 58 50.2 -0.3
     comp=Z,1.2nm,0.8s,baz=273,slow=4.0,SNR=5.3
MKAR Makanchi Array  97.35 316  P       P     06 42 12.8 -0.3
MKAR                         *PP      pP      06 42 47.6 -1.0
MKAR                                         06 46 08.6
ZAL  Zalesovo        97.55 324  P       P     06 42 13.3 -0.7
     comp=Z,28nm,1.0s,mb5.7,baz=2.7,slow=5.4,SNR=86
ZAL                          pP       pP      06 42 47.9 -1.6
     comp=Z,9.6nm,0.7s,baz=4.2,slow=4.5,SNR=2.7
ZAL                          PKPPKP           07 07 03.2
     comp=Z,0.8nm,0.3s,baz=342,slow=20,SNR=1.9
ZAL                          LR       LR      07 26 07.3
     comp=Z,934nm,21.3s,baz=170,slow=35
ZAL  Zalesovo        97.55 324  P       P     06 42 13.3 -0.7
ZAL                          pP       pP      06 42 47.9 -1.6
ZAL                          P'P'             07 07 03.2
ZAL                          LR       LR      07 26 07.3
ZAL  Zalesovo        97.55 324  P       P     06 42 13.3 -0.7
ZAL                          *PP      pP      06 42 47.9 -1.6
YKA  Yellowknife Ar  97.61  27  P       P     06 42 11.8 -2.4
     comp=Z,10.0nm,0.9s,mb5.2,baz=256,slow=4.5,SNR=110
YKA                          PKIKP    PKIKP   06 46 48.2 +0.3
     comp=Z,1.1nm,1.0s,baz=308,slow=3.1,SNR=5.0
YKA                          PKKPbc   PKKPbc  06 58 49.1 -0.7
     comp=Z,6.9nm,0.8s,baz=69,slow=2.7,SNR=32
YKA                          PKPPKP           07 06 54.4
     comp=Z,0.5nm,1.1s,baz=38,slow=1.8,SNR=4.0
YKA                          LR       LR      07 26 48.2
     comp=Z,627nm,18.9s,baz=270,slow=36
YKW3 Yellowknife Ar  97.62  27 eP       P     06 42 12.7 -1.7
SMLA Simla           97.69 300 eP       P     06 42 12.8 -1.9
POO  Poona           97.85 287⇑iP       P     06 42 14.0 -1.4
     comp=Z,50nm,1.0s,mb5.9
POO                          ex       x       06 42 27.0
POO                          AMb      AMB     06 42 28.3
     comp=Z,58nm,1.3s,mb5.9
POO                          i x      x       06 52 40.0
POO                          ex       x       06 58 16.0
POO                          ex       x       07 05 04.0
NVS  Novosibirsk     98.65 324⇑iP       P     06 42 17.4 -1.5
NVS                          i *PP    pP      06 42 50.7 -3.8
NVS                          e                06 52 38.6
NVS                          i S              06 53 30.2
NVS                          pmax     pmax
     comp=N,52nm,1.6s
NVS                          pmax     pmax
     comp=Z,150nm,1.6s,mb6.2
NVS                          pmax     pmax
     comp=E,105nm,1.5s
NVS                          pmax     pmax
     comp=Z,208nm,2.4s,mb6.1
NVS                          pmax     pmax
     comp=N,180nm,2.3s
NVS                          pmax     pmax
     comp=E,186nm,2.3s
NVS                          smax
     comp=E,397nm,2.9s
AJM  Ajmer           98.86 295 eP       P     06 42 18.6 -1.3
AJM                          AMb      AMB     06 42 21.2
     comp=Z,80nm,1.1s,mb6.1
JCT  Junction City   99.78  61 eP       Pdif  06 42 23.5 -0.4
     comp=Z,11nm,1.1s
JCT                          epP      pP      06 42 58.4 -1.1
JCT  Junction City   99.78  61 eP       Pdif  06 42 23.5 -0.4
JCT                          e*PP     pP      06 42 58.4 -1.1
JCT                          pmax     pmax
     comp=Z,11nm,1.1s,mb5.2
KSH  Kashi          100.34 308 eP       Pdif  06 42 27.4 +1.0
KSH                          SKS              06 52 53.3
KSH                          S        Sdif    06 53 50.2 -0.1
KSH                          AMB      AMB
     comp=Z,68nm,1.3s
KSH                          AMB      AMB
     comp=Z,197nm,3.4s
KSH                          LR       LR
     comp=N,1μm,13.4s
KSH                          LR       LR
     comp=E,752nm,11.6s
KSH                          LR       LR
     comp=Z,1μm,16.8s
KURK Kurchatov      100.55 320 ePdif    Pdif  06 42 25.6 -1.8
     comp=Z,66nm,1.5s
KURK Kurchatov      100.55 320 eP       Pdif  06 42 25.6 -1.8
KURK                         pmax     pmax
     comp=Z,66nm,1.5s
FRU  Bishkek        101.92 311 eP       Pdif  06 42 34.0 +0.5
FRU                          pmax     pmax
     comp=Z,40nm,1.6s
AAK  Ala-Archa      101.98 311 ePdif    Pdif  06 42 32.4 -1.3
     comp=Z,6.9nm,1.1s
AAK  Ala-Archa      101.98 311 eP       Pdif  06 42 32.4 -1.3
AAK                          pmax     pmax
     comp=Z,7.0nm,1.1s
PLCA Paso Flores    103.00 139  PKKPbc   PKKPbc  06 58 32.7 -1.8
     comp=Z,4.9nm,1.1s,baz=73,slow=12,SNR=2.9
KKAR Karatay Array  104.94 311 i P      Pdif  06 42 45.9 -1.0
KKAR                         pmax     pmax
     comp=Z,7.0nm,1.1s
VOSK Vostochnaya    105.51 321  P       Pdif  06 42 47.9 -1.5
VOSK                         pmax     pmax
     comp=Z,39nm,1.6s
ULM  Lac du Bonnet  105.56  41 Pdiff     Pdif  06 42 50.9 +1.2
     comp=Z,0.7nm,0.7s,baz=354,slow=3.7,SNR=3.2
ULM                          tx       tx      06 43 25.4
     comp=Z,0.7nm,0.5s,baz=332,slow=6.6,SNR=3.2
ULM                          PKIKP    PKiKP   06 46 59.7 -2.6
     comp=Z,1.6nm,0.5s,baz=226,slow=3.5,SNR=5.2
ULM                          PKKPbc   PKKPbc  06 58 25.4 -1.3
     comp=Z,1.8nm,0.7s,baz=39,slow=2.2,SNR=4.2
ULM                          PKPPKP           07 06 46.9
     comp=Z,3.4nm,1.0s,baz=61,slow=4.2,SNR=7.0
ULM  Lac du Bonnet  105.56  41 Pdif     Pdif  06 42 50.9 +1.2
ULM                          PKPdf    PKiKP   06 46 59.7 -2.6
ULM                          PKKPbc   PKKPbc  06 58 25.4 -1.3
ULM                          P'P'             07 06 46.9
BVA0 Borovoye Array 105.89 321 i P      Pdif  06 42 50.0 -1.1
BVA0                         pmax     pmax
     comp=Z,8.0nm,1.5s
BVAR Borovoye Array 105.89 321  Pdiff     Pdif  06 42 49.5 -1.6
     comp=Z,8.1nm,1.0s,baz=103,slow=3.2,SNR=28
BVAR                         PKiKP    PKiKP   06 47 01.7 -1.2
     comp=Z,13nm,1.0s,baz=146,slow=1.7,SNR=10
BRVK Borovoye       105.96 321 ePdif    Pdif  06 42 50.4 -1.1
     comp=Z,22nm,1.5s
BRVK                         ePKPdf   PKiKP   06 47 02.6 -0.5
BRVK Borovoye       105.96 321 eP       Pdif  06 42 50.4 -1.0
BRVK                         pmax     pmax
     comp=Z,22nm,1.5s
ARU  Arti           112.63 325⇑ePKIKP   PKiKP   06 47 15.2 -0.4
AKTK Aktyubinsk     113.62 319  PKPdf    PKiKP   06 47 16.2 -1.2
AKTO Aktyubinsk     113.62 319  PKIKP    PKiKP   06 47 16.2 -1.2
     comp=Z,8.5nm,0.8s,baz=81,slow=4.3,SNR=18
BSY  Bisya          113.93 289 ⇑P       PKiKP   06 47 17.3 -0.7
KBS  Kingsbay       114.82 355 i        PKKPab  06 58 07.5 +4.2
KBS                          eSS      SS      07 04 04.5 +0.6
ASHO Ashiyiah       115.17 291 ⇑P       PKiKP   06 47 20.0 -0.4
     SNR=9.8
RBK  Rabkut         116.04 282  P       PKPdf   06 47 23.3 +1.2
     SNR=5.8
WHFO Wadi Hawf      116.51 283  P       PKPdf   06 47 23.5 +0.5
     SNR=6.4
ABTO Aybut          116.88 282  P       PKPdf   06 47 23.8 +0.1
     SNR=10
LPAZ La Paz         117.08 117  PKP     PKPdf   06 47 23.8 -0.3
     comp=Z,3.8nm,0.9s,baz=239,slow=2.7,SNR=9.6
LPAZ                         pPKP     pPKPdf  06 48 02.9 +1.8
     comp=Z,6.0nm,0.9s,baz=44,slow=1.7,SNR=4.9
LPAZ                         PKKPbc   PKKPbc  06 57 49.0  0.0
     comp=Z,3.1nm,0.9s,baz=35,slow=6.7,SNR=8.2
LPAZ La Paz         117.08 117 ePKIKP   PKPdf   06 47 24.7 +0.6
DAG  Danmarks Havn  117.99  2⇓iP       PKPdf   06 47 23.8 -2.0
     comp=Z,31nm,1.2s
DAG  Danmarks Havn  117.99  2⇓ePKIKP    PKPdf   06 47 23.8 -2.0
ROSC El Rosal       118.58  93 PKhKP    06 47 23.4
     comp=Z,2.4nm,0.4s,baz=239,slow=5.9,SNR=3.5
LVZ  Lovozero       118.94 341⇑ePKP     PKPdf   06 47 25.5 -2.2
LVZ  Lovozero       118.94 341 i PKIKP  PKPdf   06 47 25.6 -2.1
LVZ                          e*PP             06 48 02.7
LVZ                          e*SP             06 48 20.4
LVZ                          e                06 54 06.4
LVZ                          e                07 05 11.5
LVZ                          pmax     pmax
     comp=Z,67nm,1.4s
LVZ                          pmax     pmax
     comp=N,14nm,1.0s
LVZ                          pmax     pmax
     comp=E,19nm,1.2s
LVZ                          pmax     pmax
     comp=Z,536nm,3.2s
LVZ                          pmax     pmax
     comp=N,587nm,4.7s
LVZ                          pmax     pmax
     comp=E,463nm,3.5s
APA  Apatity        119.52 341⇑iPKIKP   PKPdf   06 47 27.2 -1.6
APA                          i *PP            06 48 05.0
APA                          e                06 54 09.0
APA                          eSP      SP      06 58 35.0 +8.2
APA                          pmax     pmax
     comp=Z,75nm,1.1s
BINY Binghamton     119.52  50 ePKPdf   PKPdf   06 47 28.4 -0.4
KEV  Kevo           119.86 345 epkp     PKPdf   06 47 27.6 -1.8
KEV  Kevo           119.86 345 ep       pPKPdf  06 48 03.8 -2.6
SUMG Summit         120.33  9 ePKPdf    PKPdf   06 47 30.0 -0.3
SUMG                         epPKPdf  pPKPdf  06 48 06.9 -0.4
ARCES ARCESS Array B 120.39 345 PKP     PKPdf   06 47 28.9 -1.6
     comp=Z,41nm,0.6s,baz=68,slow=1.2,SNR=151
ARCES                        pPKP     pPKPdf  06 48 05.7 -1.7
     comp=Z,33nm,0.8s,baz=48,slow=1.8,SNR=6.8
ARCES                        PKKPbc   PKKPbc  06 57 31.3 -5.8
     comp=Z,3.6nm,0.6s,baz=191,slow=3.7,SNR=6.5
ARCES                        PKKPab   PKKPab  06 57 35.5 -3.3
     comp=Z,5.0nm,0.7s,baz=228,slow=3.3,SNR=31
ARCES ARCESS Array B 120.39 345 PKP     PKPdf   06 47 28.9 -1.6
ARCES                        pPKP     pPKPdf  06 48 05.7 -1.7
ARCES                        PKKPbc   PKKPbc  06 57 31.3 -5.8
ARCES                        PKKPab   PKKPab  06 57 35.5 -3.3
ARCES ARCESS Array B 120.39 345 PKIKP   PKPdf   06 47 28.9 -1.5
ARCES                                        06 48 05.7
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ARE0	ARCESS Array S	120.39	345	*e*PKPdf	PKPdf	06 47 29.3	-1.2
ARE0				*ep*PKPdf	pPKPdf	06 48 06.1	-1.3
NCB	Newcomb	120.56	48	*e*PKPdf	PKPdf	06 47 29.3	-1.5
NCB				*ep*PKPdf	pPKPdf	06 48 09.2	+1.4
KLMR	Klimovskoe	120.83	333*d*	*i*PKIKP	PKIKP	06 47 30.6	-0.7
KLMR				*e*		06 48 07.4	
KLMR				pmax	pmax		
	comp=Z,280nm,1.5s						
KLMR				MLR	MLR		
	comp=Z,2μm,22.0s						
MIV	Mineville/With	121.03	47	*e*PKPdf	PKPdf	06 47 30.8	-0.9
KTK1	Kautokeino	121.32	346	*e*P	PKPdf	06 47 30.4	-1.8
KTK1				AMb	AMB	06 47 32.4	
	comp=Z,41nm,0.8s						
MAK	Makhachkala	121.76	312	*i*PKIKP		06 47 19.8	
MAK				*e*		06 54 13.3	
SFJD	Kangerlussuaq	122.26	17	PKP	PKPdf	06 47 31.8	-2.2
	comp=Z,40nm,1.1s,baz=108,slow=0.5,SNR=6.0						
SFJD				pPKP	pPKPdf	06 48 09.8	-1.2
	comp=Z,21nm,0.8s,baz=230,slow=2.4,SNR=4.2						
SFJD				PKKPbc	PKKPbc	06 57 28.2	-1.8
	comp=Z,12nm,0.8s,baz=136,slow=7.9,SNR=4.1						
SFJD	Kangerlussuaq	122.26	17	*i*P	PKPdf	06 47 31.6	-2.4
	comp=Z,54nm,1.1s						
SFJD				*i*		06 48 09.8	
SFJD				*e*		06 49 36.6	
SFJD				*i*		06 55 48.0	
SFJD							
	comp=Z,1μm,21.0s						
SFJD	Kangerlussuaq	122.26	17	*i*PKIKP	PKPdf	06 47 31.6	-2.4
SFJD				*i*		06 48 09.8	
SFJD				MLR	MLR		
	comp=Z,1μm,21.0s						
QRN	Al-Qurain	122.63	295	*e*P	PKPdf	06 47 34.9	+0.1
QRN				AMb	AMB	06 47 37.5	
	comp=Z,215nm,0.8s						
KBD	Kabd	122.83	295	*e*P	PKPdf	06 47 35.2	+0.1
RDF	Al-Radifah	122.95	295	*e*P	PKPdf	06 47 35.4	0.0
RDF				AMb	AMB	06 47 38.1	
	comp=Z,205nm,0.9s						
JOF	Joensuu	123.03	338	*e*pkp	PKPdf	06 47 35.0	-0.5
JOF	Joensuu	123.03	338	*ep*	pPKPdf	06 48 11.9	-0.6
SDV	Santo Domingo	123.06	89	*e*PKPdf	PKPdf	06 47 35.1	-0.5
SDV				*ep*PKPdf	pPKPdf	06 48 14.1	+1.6
MIB	Mutribah	123.12	296	*e*P	PKPdf	06 47 35.7	0.0
MIB				AMb	AMB	06 47 38.3	
	comp=Z,143nm,1.0s						
SUR	Sutherland	123.16	214	PKP	PKPdf	06 47 35.9	+0.1
	comp=Z,70nm,1.0s,baz=114,slow=3.0,SNR=25						
SUR				pPKP	pPKPdf	06 48 13.4	+0.7
	comp=Z,51nm,1.2s,baz=213,slow=2.2,SNR=4.2						
SUR	Sutherland	123.16	214	*e*PKPdf	PKPdf	06 47 36.9	+1.1
SUR				*ep*PKPdf	pPKPdf	06 48 13.1	+0.3
SIV	San Ignacio	123.19	121	PKP	PKPdf	06 47 34.7	-1.2
	comp=Z,7.2nm,0.8s,baz=235,slow=2.8,SNR=11						
SIV				pPKP	pPKPdf	06 48 12.5	-0.3
	comp=Z,3.4nm,0.7s,baz=331,slow=2.1,SNR=2.9						
SIV				PKKPbc	PKKPbc	06 57 25.4	-1.0
	comp=Z,2.0nm,0.9s,baz=93,slow=8.9,SNR=6.3						
NAY	Al-Naaiem	123.22	295	*e*P	PKPdf	06 47 35.4	-0.5
NAY				AMb	AMB	06 47 37.2	
	comp=Z,66nm,1.1s						
BOSA	Boshof	123.34	220	PKP	PKPdf	06 47 36.8	+0.6
	comp=Z,106nm,1.1s,baz=123,slow=2.3,SNR=36						
BOSA				pPKP	pPKPdf	06 48 12.3	-0.8
	comp=Z,32nm,1.0s,baz=127,slow=3.8,SNR=4.0						
BOSA	Boshof	123.34	220	*e*PKIKP	PKPdf	06 47 36.7	+0.6
BOSA				*e*		06 48 12.4	
DGRG	David-gareji	123.57	310	P	PKPdf	06 47 37.4	+0.8
VRHR	Novokhopersk	123.63	322	*e*PKIKP	PKPdf	06 47 35.8	-0.9
VRHR				pmax	pmax		
	comp=Z,120nm,1.3s						
VRHR				pmax	pmax		
	comp=N,50nm,1.5s						
VRHR				pmax	pmax		
	comp=E,20nm,1.1s						
DUS	Dusheti	123.95	311	P	PKPdf	06 47 37.5	+0.2
MTA	Mtatsminda	123.96	310	P	PKPdf	06 47 40.5	+3.2
TBLG	Delisi	123.99	311	P	PKPdf	06 47 37.9	+0.6
MOS	Moscow	124.03	328	*e*PKIKP	PKPdf	06 47 36.5	-0.9
MOS				*e*		06 48 13.7	
MOS				pmax	pmax		
	comp=Z,400nm,1.8s						
MOS				pmax	pmax		
	comp=Z,185nm,1.5s						
SCO	Scoresbysund	124.09	4	*i*P	PKPdf	06 47 36.9	-0.7
	comp=Z,26nm,0.9s						
SCO				*i*		06 48 14.6	
GNI	Garni	124.27	309	*e*P	PKPdf	06 47 36.0	-1.9
GNI	Garni	124.27	309	PKP	PKPdf	06 47 38.2	+0.3
	comp=Z,21nm,0.8s,baz=349,slow=6.9,SNR=22						
GNI	Garni	124.27	309	*e*PKIKP	PKPdf	06 47 38.9	+1.0
GNI				*e*		06 48 16.1	
ZEI	Tsey	124.40	312	*i*PKIKP	PKPdf	06 47 36.7	-1.4
ZEI				*i*		06 48 15.8	
ZEI				*i*		06 49 30.6	
GOF	Gofitskoye	124.48	315	*e*PKIKP	PKPdf	06 47 36.0	-2.3
GOF				pmax	pmax		
	comp=Z,90nm,1.3s						
SAML	Samuel	124.60	112	*e*PKPdf	PKPdf	06 47 38.3	-0.2
SAML				*ep*PKPdf	pPKPdf	06 48 16.2	+0.6
VOR	Voronezh	124.82	323	*e*PKIKP	PKPdf	06 47 36.5	-2.5
VOR				pmax	pmax		
	comp=Z,450nm,1.8s						
OBN	Obninsk	124.85	328	*e*PKPdf	PKPdf	06 47 38.8	-0.2
OBN	Obninsk	124.85	328*c*	*i*PKIKP	PKPdf	06 47 38.4	-0.6
OBN				pmax	pmax		
	comp=Z,57nm,0.9s						
AKH	Akhalkalaki	124.97	310	P	PKPdf	06 47 38.0	-1.2
KIV	Kislovodsk	124.99	314	*e*PKPdf	PKPdf	06 47 39.5	+0.2
KIV	Kislovodsk	124.99	314	*i*PKIKP	PKPdf	06 47 39.2	-0.1
KIV				*e*		06 48 16.4	
KIV				*e*		06 49 29.6	
KIV				*e*		06 54 26.9	
KIV				*e*SP	SP	06 59 14.3	-1.0
KIV				*e*PS	PS	06 59 28.5	-2.8
KIV				pmax	pmax		
	comp=Z,84nm,1.0s						
CLDR	Caldiran	125.07	308	*e*P	PKPdf	06 47 39.0	-0.4
PUL	Pulkovo	125.29	335	*i*PKIKP	PKPdf	06 47 40.0	+0.1
PUL				*e**PP		06 48 14.2	
PUL				*e**SP		06 48 34.2	
PUL				*e*		06 54 28.9	
PUL				*e*SP	SP	06 59 11.3	-6.7
PUL				pmax	pmax		
	comp=Z,405nm,1.1s						
PUL				pmax	pmax		
	comp=N,113nm,0.6s						
PUL				pmax	pmax		
	comp=E,197nm,0.9s						
KAF	Kangasniemi	125.33	339	*e*pkp	PKPdf	06 47 38.2	-1.7
KAF	Kangasniemi	125.33	339	*ep*	pPKPdf	06 48 15.1	-1.8
HKR	Hakkari	125.45	306	*e*P	PKPdf	06 47 40.4	+0.2
BHD	Baghdad	125.45	300	*ex*	x	06 47 37.0	
BHD				*ex*	x	06 50 52.0	
BHD				*ex*	x	06 51 27.0	
TVAN	Van	125.56	307	*i*P	PKPdf	06 47 39.1	-1.2
VANB	Van	125.56	307	*e*P	PKPdf	06 47 43.5	+3.2
LBTB	Lobatse	125.60	224	*e*PKPdf	PKPdf	06 47 41.1	+0.6
LBTB				*ep*PKPdf	pPKPdf	06 48 17.7	+0.2
CUKT	Cukurca	125.61	305	*e*P	PKPdf	06 47 39.5	-1.0
MOR8	Moi Rana	125.62	347	*e*P	PKPdf	06 47 39.4	-1.1
MOR8				AMb	AMB	06 47 40.5	
	comp=Z,74nm,1.4s						
FINES	FINESS Array B	125.86	338	PKP	PKPdf	06 47 39.4	-1.5
	comp=Z,58nm,1.0s,baz=79,slow=4.1,SNR=79						
FINES				pPKP	pPKPdf	06 48 15.9	-2.0
	comp=Z,40nm,0.9s,baz=96,slow=5.7,SNR=8.3						
ATD	Arta Tunnel	125.99	274	PKP	PKPdf	06 47 42.8	+1.6
	comp=Z,32nm,1.1s,baz=104,slow=1.9,SNR=16						
MSL	Mosul	126.16	304	*ex*	x	06 47 42.5	
MSL				*ex*	x	06 54 35.0	
MSL				*ex*	x	06 55 41.0	
ERZM	Erzurum	126.86	309	*i*P	PKPdf	06 47 43.6	+0.8
EZM	Erzurum	126.86	309	*e*P	PKPdf	06 47 44.9	+2.0
BTMT	Batman	127.11	307	*e*P	PKPdf	06 47 43.4	+0.1
SOC	Sochi	127.17	314*c*	*e*PKIKP	PKPdf	06 47 43.0	-0.4
SOC				*e*		06 49 43.5	
SOC				*e*PS	PS	06 59 52.5	+2.2
SOC				*e*SS	SS	07 06 37.0	-4.4
SOC				pmax	pmax		
	comp=Z,78nm,1.2s						
VSU	Vasula	127.56	335	⇑*i*PKP	PKPdf	06 47 43.2	-1.0

NSS	Namsos	127.57	347	*e*P	PKPdf	06 47 40.9	-3.4
KMBO	Kilima Mbogo	128.16	257	PKP	PKPdf	06 47 44.4	-1.0
	comp=Z,51nm,1.2s,baz=69,slow=2.0,SNR=60						
KMBO				pPKP	pPKPdf	06 48 23.1	+0.7
	comp=Z,34nm,1.3s,baz=346,slow=3.1,SNR=4.8						
ANN	Anapa	128.37	316	*i*	PP	06 49 52.5	+0.6
KELT	Kelkit	128.39	310	*i*P	PKPdf	06 47 46.5	+0.7
SJG	San Juan	128.73	79	PKP	PKPdf	06 47 44.9	-1.5
	comp=Z,40nm,0.9s,baz=356,slow=2.0,SNR=9.2						
SJG				pPKP	pPKPdf	06 48 23.8	+0.4
	comp=Z,39nm,0.8s,baz=53,slow=5.1,SNR=2.4						
SJG	San Juan	128.73	79	*e*PKIKP	PKPdf	06 47 46.1	-0.3
SJG				*e*		06 48 24.4	
GRSN	GIRESUNGRSN	128.92	311	*i*P	PKPdf	06 47 46.1	-0.7
CPD	Cerro la Pandu	128.94	79	*e*PKPdf	PKPdf	06 47 46.1	-0.7
URFA	Urfa	129.32	306	*e*P	PKPdf	06 47 48.6	+1.1
MYA	Malataya	129.44	308	*e*P	PKPdf	06 47 49.3	+1.5
MALT	Malatya	129.44	308	*e*PKPdf	PKPdf	06 47 48.6	+0.8
MALT	Malatya	129.44	308	⇓PKIKP	PKPdf	06 47 49.6	+1.8
MNK	Minsk	129.49	331	*e*PKIKP	PKPdf	06 47 46.0	-1.9
LSZ	Lusaka	129.76	235	SKPbc		06 51 00.3	
	comp=Z,44nm,0.9s,baz=125,slow=3.5,SNR=10.0						
LSZ				tx	tx	06 52 05.6	
	comp=Z,24nm,1.0s,baz=80,slow=4.3,SNR=4.0						
LSZ	Lusaka	129.76	235	*e*PKPdf	PKPdf	06 47 49.7	+1.3
LSZ				*e*PP	PP	06 49 59.2	-1.7
LSZ				*e*SKPdf	SKPdf	06 51 00.1	-11
LSZ	Lusaka	129.76	235	*e*PKIKP	PKPdf	06 47 49.7	+1.3
LSZ				*e*		06 49 59.2	
MOL	Molde	130.24	348	*e*P	PKPdf	06 47 50.5	+1.2
MOL				AMb	AMB	06 47 52.4	
	comp=Z,163nm,1.6s						
GZT	Gaziantep	130.32	307	*i*P	PKPdf	06 47 50.5	+1.1
SIM	Simferopol'	130.52	317	PKIKP	PKPdf	06 47 51.2	+1.4
SIM				SS	SS	07 08 09.4	+47
SIM				pmax	pmax		
	comp=Z,26nm,0.7s						
SIM				pmax	pmax		
	comp=Z,350nm,9.7s						
GAZ	Gaziantep	130.64	306	*e*P	PKPdf	06 47 48.6	-1.4
NB2	NORSAR Subarra	130.76	345	PKPd	PKPdf	06 47 48.7	-1.6
	comp=Z,126nm,1.4s,baz=31,slow=1.9						
NB2	NORSAR Subarra	130.76	345	PKPd	PKPdf	06 47 48.7	-1.6
	baz=31,slow=1.9						
NOA	NORSAR Array B	130.76	345	PKhKP		06 47 36.5	
	comp=Z,6.7nm,1.0s,baz=50,slow=2.1,SNR=7.7						
NOA				PKP	PKPdf	06 47 48.9	-1.4
	comp=Z,34nm,1.1s,baz=36,slow=2.0,SNR=27						
NOA				pPKP	pPKPdf	06 48 24.9	-2.4
	comp=Z,19nm,0.9s,baz=34,slow=2.0,SNR=7.8						
NOA				SKPbc	SKPbc	06 51 01.0	-0.4
	comp=Z,86nm,0.8s,baz=30,slow=3.1,SNR=81						
NOA				tx	tx	06 52 06.0	
	comp=Z,93nm,1.2s,baz=32,slow=3.0,SNR=6.1						
NOA	NORSAR Array B	130.76	345	PKP	PKPdf	06 47 48.9	-1.4
NOA				pPKP	pPKPdf	06 48 24.9	-2.4
NOA				SKPbc	SKPbc	06 51 01.0	-0.4
NOA	NORSAR Array B	130.76	345	PKIKP	PKPdf	06 47 48.9	-1.4
NOA						06 48 24.9	
HFS	Hagfors	130.86	343	PKhKP		06 47 34.2	
	comp=Z,1.6nm,0.7s,baz=294,slow=1.5,SNR=4.5						
HFS				PKP	PKPdf	06 47 48.7	-1.8
	comp=Z,12nm,0.7s,baz=140,slow=5.8,SNR=18						
HFS				pPKP	pPKPdf	06 48 25.9	-1.6
	comp=Z,18nm,0.8s,baz=236,slow=1.6,SNR=7.4						
HFS				SKPbc	SKPbc	06 51 01.3	-0.5
	comp=Z,36nm,0.7s,baz=92,slow=3.4,SNR=18						
HFS				tx	tx	06 52 05.3	
	comp=Z,39nm,1.0s,baz=0.0,slow=3.0,SNR=11						
HFS	Hagfors	130.86	343	PKP	PKPdf	06 47 48.7	-1.8
HFS				pPKP	pPKPdf	06 48 25.9	-1.6
HFS				SKPbc	SKPbc	06 51 01.4	-0.5
HFS	Hagfors	130.86	343	PKIKP	PKPdf	06 47 48.7	-1.8
HFS						06 48 25.9	
AKASG	Malin Array Be	130.88	326	PKhKP		06 47 34.5	
	comp=Z,0.7nm,0.5s,baz=63,slow=2.5,SNR=5.5						
AKASG				PKP	PKPdf	06 47 49.2	-1.3
	comp=Z,11nm,0.7s,baz=56,slow=1.4,SNR=72						
AKASG				pPKP	pPKPdf	06 48 25.3	-2.2
	comp=Z,36nm,1.2s,baz=53,slow=1.7,SNR=4.7						
AKASG				SKPbc	SKPbc	06 51 01.5	-0.4
	comp=Z,39nm,0.8s,baz=47,slow=4.3,SNR=28						
AKASG				tx	tx	06 52 06.3	
	comp=Z,14nm,0.9s,baz=50,slow=4.2,SNR=7.0						
AKASG	Malin Array Be	130.88	326	PKP	PKPdf	06 47 49.2	-1.3
AKASG				pPKP	pPKPdf	06 48 25.3	-2.2
AKASG				SKPbc	SKPbc	06 51 01.5	-0.4
AKASG	Malin Array Be	130.88	326	PKIKP	PKPdf	06 47 49.2	-1.3
AKASG						06 48 25.3	
NAO01	NORSAR Array S	131.01	345	*e*PKPdf	PKPdf	06 47 50.7	0.0
BOYT	Boyabat	131.21	312	*i*P	PKPdf	06 47 52.0	+0.9
HTY	Hatay	131.71	305	*e*P	PKPdf	06 47 50.6	-1.5
SUW	Suwalki	131.94	332	*e*PKP	PKPdf	06 47 52.8	+0.3
SUW				*e*PP	PP	06 50 17.8	+2.8
SUW				*e*		06 51 06.0	
SUW				*e*		06 52 11.7	
SUW				L		07 42 29.1	
	comp=Z,1.1nm,27.0s						
SUW	Suwalki	131.94	332	*e*PKP	PKPdf	06 47 52.8	+0.3
SUW				*e*PP	PP	06 50 17.8	+2.8
SUW				*e*		06 51 06.0	
SUW				*e*		06 52 11.7	
SUW	Suwalki	131.94	332	*e*PKIKP	PKPdf	06 47 52.8	+0.3
SUW				*e*		06 50 17.8	
TOS	Tosya	131.96	312	*e*P	PKPdf	06 47 53.0	+0.4
AVNT	Avonos	132.03	309	*i*P	PKPdf	06 47 46.3	-6.4
KONO	Kongsberg	132.37	345	*e*P	PKPdf	06 47 47.2	-6.1
KONO				*i*		06 50 52.8	
KONO	Kongsberg	132.37	345	*e*P	PKPdf	06 47 54.2	+0.9
KONO	Kongsberg	132.37	345	*e*PKIKP	PKPdf	06 47 53.0	-0.3
ELDT	Eldivan	132.56	312	*i*P	PKPdf	06 47 53.8	+0.1
BR131	Keskin Array S	132.65	311	*e*PKPdf	PKPdf	06 47 53.7	-0.2
BR131				*ep*PKPdf	pPKPdf	06 48 31.3	+0.5
BR131				*e*SKPbc	SKPbc	06 51 09.7	+1.5
BRTR	Keskin Array B	132.65	311	PKhKP		06 47 44.1	
	comp=Z,1.7nm,0.8s,baz=178,slow=3.3,SNR=6.2						
BRTR				PKP	PKPdf	06 47 53.1	-0.7
	comp=Z,16nm,1.0s,baz=124,slow=2.2,SNR=21						
BRTR				pPKP	pPKPdf	06 48 26.9	-3.9
	comp=Z,7.1nm,1.0s,baz=134,slow=8.7,SNR=2.0						
BRTR				SKPbc	SKPbc	06 51 09.8	+1.6
	comp=Z,36nm,1.2s,baz=99,slow=3.7,SNR=16						
BRTR				tx	tx	06 52 17.2	
	comp=Z,8.0nm,0.8s,baz=95,slow=3.8,SNR=4.3						
BRTR	Keskin Array B	132.65	311	PKP	PKPdf	06 47 53.1	-0.7
BRTR				pPKP	pPKPdf	06 48 26.9	-3.9
BRTR				SKPbc	SKPbc	06 51 09.8	+1.6
BRTR	Keskin Array B	132.65	311	PKIKP	PKPdf	06 47 53.2	-0.7
BRTR						06 48 27.0	
BER	Bergen	132.68	348	*e*P	PKPdf	06 47 52.3	-1.6
BER				*e*		06 50 59.2	
SAFT	Safranbolu	132.84	313	*e*P	PKPdf	06 47 54.5	+0.3
KIS	Kishinev	132.98	322	*e*PKIKP	PKPdf	06 47 53.0	-1.5
KIS				*e*		06 48 30.0	
ANTO	Ankara	133.22	311	*e*P	PKPdf	06 47 54.5	-0.4
ANTO	Ankara	133.22	311	*e*PKPdf	PKPdf	06 47 55.2	+0.3
ANTO				*ep*PKPdf	pPKPdf	06 48 32.6	+0.7
ANTO				*e*SKPab		06 51 12.0	
ANTO	Ankara	133.22	311	*e*PKIKP	PKPdf	06 47 55.2	+0.3
ANTO				*e*		06 48 32.6	
LOD	Lodumlu	133.24	311	*e*P	PKPdf	06 47 53.0	-2.0
BLS5	Blasjo	133.31	347	*e*P	PKPdf	06 47 57.7	+2.6
SGKT	Sivrigoynuk	133.52	312	*i*P		06 47 49.5	
BDFB	Brasilia	133.75	129	PKhKP		06 47 48.2	
	comp=Z,2.7nm,0.8s,baz=162,slow=6.2,SNR=3.7						
BDFB				PKP	PKPdf	06 47 54.9	-1.0
	comp=Z,7.2nm,0.7s,baz=193,slow=2.2,SNR=9.1						
BDFB	Brasilia	133.75	129	PKIKP	PKPdf	06 47 54.9	-1.0
KMY	Karmoy	133.77	347	*e*P	PKPdf	06 47 57.3	+1.4
EIL	Elat	133.87	297	*e*PKPdf	PKPdf	06 47 56.5	+0.3
EIL				*ep*PKPdf	pPKPdf	06 48 35.4	+2.2
WAR	Warsaw	134.09	332	*e*PKP	PKPdf	06 47 58.2	+1.7
WAR				*e*PKiKP	PKiKP	06 47 59.4	+1.5
LVV	L'vov	134.14	327	*e*PKIKP	PKPdf	06 47 56.0	-0.6
LVV				*i*		06 48 34.0	
MDU	Mudurnu	134.16	313	*e*P	PKPdf	06 47 55.5	-1.2
CSS	Prodhromos	134.21	305	*e*PKPdf	PKPdf	06 47 58.8	+2.0
CSS				*ep*PKPdf	pPKPdf	06 48 35.7	+1.9
CSS				*e*SKPbc	SKPbc	06 51 15.2	+1.8
KIZT	Kizilcal	134.22	310	*e*P	PKPdf	06 47 53.2	-3.5
HENT	Hendek	134.25	313	*i*P	PKPdf	06 47 56.0	-0.9
CFR	Carcaliu	134.26	320	⇑P	PKPdf	06 47 58.3	+1.4
BSD	Bornholm Skovb	134.51	338	*i*P	PKPdf	06 47 58.3	+1.0

BSD				*i*		06 51 05.9	
BSD	Bornholm Skovb	134.51	338	*e*PKIKP	PKPdf	06 47 58.3	+1.0
BSD				MLR	MLR		
	comp=Z,850nm,20.0s						
HARR	Harsova	134.62	319	⇓P	PKPdf	06 47 55.5	-2.0
HARR	Harsova	134.62	319	⇓P	PKPdf	06 47 55.5	-2.0
BURAR	Bucovina Array	134.76	324	⇓P	PKPdf	06 48 00.0	+2.2
BURAR	Bucovina Array	134.76	324	⇓P	PKPdf	06 48 00.0	+2.2
VRI	Vrincioaia	134.79	321	⇓P	PKPdf	06 47 51.8	-6.1
COP	Copenhagen	134.90	340	⇓*i*P	PKPdf	06 47 59.4	+1.3
	comp=Z,51nm,1.0s						
COP				*i*		06 51 09.9	
COP				*i*		06 52 08.7	
COP							
	comp=Z,380nm,20.0s						
COP	Copenhagen	134.90	340	⇓*e*P	PKPdf	06 47 59.4	+1.3
COP				*i*		06 51 09.9	
COP				*i*		06 52 08.7	
COP							
	comp=Z,390nm,20.0s						
KWP	Kalwaria	134.94	328	*e*PKP		06 47 47.3	
KWP				*e*PKiKP	PKiKP	06 47 58.5	-1.1
KWP				*e*PP	PP	06 50 32.8	-1.3
KWP				*e*		06 51 07.1	
KWP				*e*		06 52 27.0	
KWP	Kalwaria	134.94	328	*e*PKPdf	PKPdf	06 47 58.5	+0.4
KWP				*e*PP	PP	06 50 32.8	-1.3
KWP				*e*		06 51 07.1	
KWP				*e*		06 52 27.0	
KWP	Kalwaria	134.94	328	*e*PKIKP	PKPdf	06 47 58.5	+0.4
KWP				*e*		06 50 32.8	
TSUM	Tsumeb	134.95	222	SKPbc	SKPbc	06 51 17.7	+1.9
	baz=136,slow=6.4						
TSUM				tx	tx	06 52 23.0	
	comp=Z,19nm,1.1s,baz=145,slow=2.6,SNR=6.1						
TSUM	Tsumeb	134.95	222	*e*PKPdf	PKPdf	06 47 58.7	+0.5
TSUM				*ep*PKPdf	pPKPdf	06 48 35.7	+0.5
GKP	Gorka Klasztor	135.01	335	*e*PKP	PKPdf	06 47 58.2	-0.1
GKP				L		06 49 33.5	
	comp=Z,1.3nm,22.1s						
GKP				*e*		06 51 11.8	
GKP	Gorka Klasztor	135.01	335	*e*PKP	PKPdf	06 47 58.2	-0.1
GKP				*e*		06 51 11.8	
GKP				LR	LR		
	comp=Z,1μm,22.1s						
MUD	Monsted U'grnd	135.25	343	*i*P	PKPdf	06 47 59.8	+1.1
	comp=Z,47nm,1.2s						
MUD				*i*		06 51 10.3	
MUD							
	comp=Z,640nm,19.0s						
MUD	Monsted U'grnd	135.25	343	*i*P	PKPdf	06 47 59.8	+1.1
MUD				*i*		06 51 10.3	
KOLS	Kolonicke sedl	135.59	327	*e*PKP	PKPdf	06 47 49.8	-10
KOLS				*e*		06 48 00.5	
KOLS				*e*		06 48 37.8	
KOLS	Kolonicke sedl	135.59	327	*e*PKP	PKPdf	06 48 00.5	+1.1
KOLS				*e*		06 48 37.8	
ULDT	Uludag	135.75	313	*i*P	PKPdf	06 48 00.0	+0.3
UZH	Uzhgorod	135.76	327	*i*PKIKP	PKPdf	06 48 01.0	+1.3
UZH				*e*		07 01 07.0	
STHS	Stebnicka Huta	135.82	329	*e*		06 47 51.2	
STHS	Stebnicka Huta	135.82	329	*e*PKP	PKPdf	06 47 59.7	-0.1
STHS				*e*		06 48 39.1	
STHS				*e*		06 51 11.5	
STHS				*e*		06 52 26.8	
STHS	Stebnicka Huta	135.82	329	*e*PKP	PKPdf	06 47 59.7	-0.1
STHS				*e*		06 48 39.1	
STHS				*e*		06 51 11.5	
STHS				*e*		06 52 26.8	
STHS	Stebnicka Huta	135.82	329	*e*PKIKP	PKPdf	06 47 59.7	-0.1
STHS				*e*		06 48 39.1	
OJC	Ojcow	136.01	330	*e*PKPdf	PKPdf	06 47 59.1	-1.0
OJC				*ep*PKPdf	pPKPdf	06 48 36.5	-0.6
OJC				*e*PP	PP	06 50 41.4	+0.6
CRVS	Cervenica-Dubn	136.03	328	*e*PKP	PKPdf	06 48 02.1	+1.9
CRVS				*e*		06 48 40.2	
CRVS				*e*		06 51 28.0	
CRVS				*e*		06 52 18.5	
CRVS	Cervenica-Dubn	136.03	328	*e*PKIKP	PKPdf	06 48 02.1	+1.9
CRVS				*e*		06 48 40.2	
KECS	Kecovo	136.80	328	*e*PKP	PKPdf	06 47 58.0	-3.6
KECS				*e*		06 51 19.6	
KECS				*e*		06 52 30.1	
PVL	Pavlikeni	136.97	319	*e*P	PKPdf	06 47 56.5	-5.4
RUE	Ruedersdorf	136.98	336	*e*PKPpre	

BRG SKP 06 51 24.0
BUD Budapest 138.19 328 *es*PKP/D PKPdf 06 48 04.2 0.0
CLL Collm 138.20 336 *e*PKPpre 06 47 52.9
CLL *e*PKPdf PKPdf 06 48 03.9 -0.3
comp=Z,150nm,1.5s
CLL *ep*PKPdf pPKPdf 06 48 40.7 -0.5
CLL *e*PP PP 06 50 49.2 -5.2
CLL *e*SKPdf SKPdf 06 51 25.3 -0.8
CLL *es*PP 06 51 44.0
CLL *e*SKKSac SKKSac 06 57 35.7 +0.5
CLL *e*SKSP 07 00 51.3
CLL *e*PPS 07 03 15.4
CLL *e*SS SS 07 08 56.9 +1.9
CLL *es*SS 07 10 03.7
CLL *e*LR LR 07 34 22.5
CLL *e*L 07 48 24.3
comp=Z,951nm,22.0s
CLL Collm 138.20 336 *e*PKPpre 06 47 53.0
comp=Z,24nm,1.3s
CLL ⇊*i*PKPdf PKPdf 06 48 04.4 +0.2
comp=Z,146nm,1.5s
CLL *i* pPKPdf pPKPdf 06 48 40.3 -0.9
CLL *es*PKPdf 06 48 58.0
CLL *i* x x 06 50 35.9
comp=Z,26nm,1.2s
CLL *e*PP PP 06 50 53.0 -1.4
CLL *i* SKPdf SKPdf 06 51 25.4 -0.7
comp=Z,192nm,2.4s
CLL *i* PKSdf 06 51 39.4
CLL *es*PP 06 51 43.0
CLL *i* pSKPdf 06 52 15.7
CLL *i* sSKPdf 06 52 30.7
CLL *ex* x 06 54 52.0
CLL *e*SKSP 07 00 34.0
CLL *e*PPS 07 03 17.0
CLL *ep*PPS 07 03 38.0
CLL *e*SS 07 10 32.0
CLL *e*SSS 07 13 42.0
CLL *e*(SSSS) 07 17 48.0
CLL LmV 07 47 00.0
comp=Z,900nm,19.6s
CLL Collm 138.20 336⇊*i*PKP PKPdf 06 48 04.4 +0.2
CLL *i* pPKP pPKPdf 06 48 40.3 -0.9
CLL *i* SKP 06 51 25.4
CLL *i* PKS 06 51 39.4
CLL LR LR
comp=Z,900nm,19.6s
CLL Collm 138.20 336⇊*i*PKIKP PKPdf 06 48 04.4 +0.2
CLL *i* 06 48 40.3
CLL MLR MLR
comp=Z,900nm,19.6s
EAB Aberfoyle 138.25 353 P PKPdf 06 48 03.0 -1.3
EAB AMb AMB 06 48 07.4
comp=Z,240nm,1.3s
ESY Stoneypath 138.29 352 P PKPdf 06 48 04.4 +0.1
ESY AMb AMB 06 48 07.3
comp=Z,176nm,1.5s
SMOL Smolenice 138.30 330 *i* PKP PKPdf 06 48 05.8 +1.4
SRO2 Moca 138.33 328 *i* PKP PKPdf 06 48 04.7 +0.3
SRO Srobarova 138.34 329 *i* PKP PKPdf 06 48 05.0 +0.6
SRO *e* 06 51 26.9
EDI Edinburgh 138.37 352 P PKPdf 06 48 03.8 -0.7
EDI AMb AMB 06 48 07.6
comp=Z,99nm,1.4s
SRO1 Iza 138.41 329 *e*PKP PKPdf 06 48 05.4 +0.8
EAU Auchinoon 138.48 352 P PKPdf 06 48 04.5 -0.2
EAU AMb AMB 06 48 08.8
comp=Z,246nm,1.5s
PRA Prague 138.55 334 *e*PKPdf PKPdf 06 48 05.0 +0.2
PRA pPKP pPKPdf 06 48 41.0 -0.9
PRU Pruhonice 138.57 334 *e*PKPpre 06 47 55.8
PRU *e*PKPdf PKPdf 06 48 04.9 0.0
PRU *ep*PKP pPKPdf 06 48 40.9 -1.0
PRU *e*SKP 06 51 28.1
PRU Pruhonice 138.57 334 *e*PKHKP 06 47 55.8
PRU *e* 06 48 04.9
PRU *e* 06 48 40.9
VTS Vitosha 138.64 319 *e*P 06 47 55.0
VTS Vitosha 138.64 319⇊PKHKP 06 47 54.2
TREC Trest 138.66 332 *e*PKPpre 06 47 56.0
ZST Bratislava 138.68 330 *i* PKP PKPdf 06 48 05.8 +0.7
ZST *e* 06 48 40.1
ZST *e* 06 50 53.0
ZST Bratislava 138.68 330 *i* PKP PKPdf 06 48 05.8 +0.7
ZST *e* 06 48 40.1
ZST *e* 06 51 26.3
ZST *e* 06 52 35.8
ZST Bratislava 138.68 330 *i* PKIKP PKPdf 06 48 05.8 +0.7
ZST *e* 06 48 40.1
BOLS Boljevac 138.75 321⇑*i*PKP PKPdf 06 48 04.4 -0.8
CLZ Clausthal 138.76 338 *e*PKPpre 06 47 55.9
MMB Musomiste 138.81 318 *e*P 06 47 54.5
SVIS Svilajnac 138.93 322⇑*i*PKP PKPdf 06 48 05.6 +0.1
BEO Belgrade 139.06 324 *i* PKP PKPdf 06 48 05.5 -0.2
KKB Krupnik 139.09 318 *e*P 06 47 56.5
BBH Bruntsheil 139.10 351 P 06 47 59.4
WERD Werda 139.15 336 *e*PKPpre 06 47 57.0
BWH Wardlaw 139.16 352 P PKPdf 06 48 04.9 -1.1
BHH Howats Hill 139.18 352 P PKPdf 06 48 05.3 -0.7
IBBN Ibbenburen 139.25 341 *e*PKPpre 06 47 57.0
NKC Novy Kostel 139.26 335 *e*PKPpre 06 47 57.2
NKC *e*PKPdf PKPdf 06 48 05.7 -0.4
MOX Moxa 139.26 336 *e*PKPpre 06 47 57.2
MOX Moxa 139.26 336 *e*PKP 06 47 57.3
MOX *e* 06 48 06.3
comp=Z,115nm,1.6s
MOX *e* 06 48 44.1
MOX
comp=Z,400nm,20.0s
MOX Moxa 139.26 336 *e*PKHKP 06 47 57.3
MOX *e* 06 48 06.3
MOX *e* 06 48 44.1
MOX pmax pmax
comp=Z,115nm,1.6s
MOX MLR MLR
comp=Z,400nm,20.0s
GRUS Gruza 139.46 322 *e*PKP 06 47 58.4
BBO1 Bothel 139.53 352 P PKPdf 06 48 06.0 -0.6
MANZ Manzenberg 139.59 335 *e*PKPpre 06 47 58.2
MANZ *ep*PKPdf pPKPdf 06 48 37.2 -6.5
KHC Kasperske Hory 139.63 333 *e*PKPpre 06 47 58.1
KHC *e*PKPdf PKPdf 06 48 07.3 +0.5
KHC *ep*PKP pPKPdf 06 48 43.0 -0.8
KHC Kasperske Hory 139.63 333 *i* PKP PKPdf 06 48 07.1 +0.3
CKE Keswick 139.65 351 P PKPdf 06 48 02.1 -4.8
VAY Valandovo 139.70 318 *i* PKP 06 47 57.5
VAY *i* 06 48 40.1
ROTZ Rotzenmuhle 139.72 335 *e*PKPpre 06 47 58.3
UBBA Unterbreizbach 139.73 338 *e*PKPpre 06 47 58.1
DIVS Divcibare 139.76 323 *i* PKP 06 47 59.7
GEC2 GERESS Array S 139.79 333 *e*PKPpre 06 47 58.3
GERES GERESS Array B 139.79 333 PKhKP 06 47 58.5
comp=Z,6.2nm,0.7s,baz=46,slow=3.9,SNR=27
GERES PKP PKPdf 06 48 06.8 -0.3
comp=Z,14nm,0.7s,baz=119,slow=1.2,SNR=29
GERES pPKP pPKPdf 06 48 42.6 -1.5
comp=Z,17nm,0.8s,baz=70,slow=1.6,SNR=3.3
GERES SKPbc SKPbc 06 51 29.2 -0.7
comp=Z,4.0nm,0.9s,baz=229,slow=2.2,SNR=4.0
GERES tx tx 06 52 36.8
comp=Z,4.6nm,0.8s,baz=29,slow=3.0,SNR=3.6
GERES GERESS Array B 139.79 333 PKP PKPdf 06 48 06.8 -0.3
GERES pPKP pPKPdf 06 48 42.6 -1.5
GERES SKPbc SKPbc 06 51 29.2 -0.7
GERES GERESS Array B 139.79 333 PKIKP PKPdf 06 48 06.8 -0.3
GERES 06 48 42.6
WTSB Winterswijk 139.84 341 *e*PKP PKPdf 06 48 06.6 -0.5
comp=Z,154nm,1.3s
WTSB *ex* x 06 48 44.6
WET Wettzell 139.92 334 *e*PKPpre 06 47 58.7
GRG Griva 139.99 317 *e*P 06 47 55.2
SKO Skopje 140.08 319 *i* PKP 06 48 00.1
SKO *i* 06 48 43.2
ARSA Arzberg 140.10 330⇑P 06 47 59.9
comp=Z,37nm,1.1s
GRF Grafenberg Arr 140.17 336 *e*PKPpre 06 47 59.3
BBLS Bajina Basta - 140.23 323 *e*PKP 06 48 00.3
MOA Molln 140.27 332⇊*i*P 06 48 01.8
comp=Z,86nm,1.3s
KOGS Kog 140.30 328 *e*PKPdf 06 48 01.5
KOGS *e* 06 48 47.5

LIT Litokhoron 140.36 316 *e*P 06 47 55.7
LHO Holmfirth 140.46 350 P 06 48 00.1
BIA Bitola 140.66 318 *i* PKP PKPdf 06 48 07.8 -0.9
BIA *i* 06 48 44.1
IDI Anoyia 140.70 308 PKhKP 06 48 00.5
comp=Z,12nm,0.6s,baz=81,slow=8.8,SNR=7.4
IDI PKP PKPdf 06 48 10.2 +1.5
comp=Z,28nm,0.7s,baz=31,slow=5.9,SNR=6.3
IDI pPKP pPKPdf 06 48 46.9 +1.1
comp=Z,50nm,1.0s,baz=116,slow=8.4,SNR=3.5
IDI Anoyia 140.70 308 PKP PKPdf 06 48 10.2 +1.5
IDI pPKP pPKPdf 06 48 46.9 +1.1
FNA Florina 140.75 318 *e*P 06 48 01.3
DMUB Kingscourt 140.78 355 *e*P 06 48 01.0
SISC Sisak 140.90 327 *i* PKP PKPdf 06 48 04.1 -5.0
OHR Ohrid 140.95 319 *i* PKP 06 47 57.5
OHR *i* 06 48 36.9
AGG Agios Georgios 140.98 315 *e*P 06 48 01.9
WCB1 Church Bay 141.03 352 P 06 48 01.5
WCB1 AMb AMB 06 48 10.9
comp=Z,106nm,2.5s
OBKA Obir 141.10 330⇊*i*P PKPdf 06 48 04.0 -5.4
comp=Z,44nm,1.2s
HGN Heimansgroeve 141.16 341 *e*PKP 06 48 02.6
comp=Z,65nm,1.4s
HGN *ex* x 06 48 39.4
YRC Rhoscolyn 141.16 352 P PKPdf 06 48 04.0 -5.6
YRC AMb AMB 06 48 05.9
comp=Z,62nm,1.3s
BEBN Eben Emael 141.21 341 PKP PKPdf 06 48 05.0 -4.7
BEBN APKP 06 48 49.9
KBA Koelnbreinsper 141.26 331⇊*i*P PKPdf 06 48 04.1 -5.6
comp=Z,76nm,1.2s
MEM Membach 141.27 341 PKP PKPdf 06 48 04.4 -5.4
MEM APKP 06 48 42.4
SBD1 Bryn Du 141.31 351 P PKPdf 06 48 05.0 -4.8
DLF Lyons Farm 141.34 354 *e*P PKPdf 06 48 04.0 -5.9
MEV Metsovon 141.35 317 *e*P PKPdf 06 48 04.5 -5.4
DCN Croghan 141.36 355 *e*P PKPdf 06 48 04.0 -5.9
LJU Ljubljana 141.44 329 *e*PKPdf PKPdf 06 48 05.4 -4.6
LJU *e* 06 48 43.5
LJU *e* 06 48 50.1
LJU *e* 06 51 46.1
LJU *e* 06 52 41.4
BOJS Bojanci 141.45 328 *e*PKPdf PKPdf 06 48 05.8 -4.3
BOJS *e* 06 51 46.5
UCC Uccle 141.60 343 PKP PKPdf 06 48 04.8 -5.6
UCC APKP 06 48 50.3
HLM1 Long Mynd 141.62 350 P PKPdf 06 48 05.1 -5.3
HLM1 AMb AMB 06 48 08.3
comp=Z,98nm,1.6s
CADS Cadrg 141.69 330 *e*PKPdf PKPdf 06 48 05.2 -5.3
CADS *e* 06 51 46.5
RUP Ruppelstein 141.70 339 PKP PKPdf 06 48 05.7 -4.8
STU Stuttgart 141.70 337 *e*PKPdf PKPdf 06 48 10.9 +0.4
PTCC Patocco-Chiusa 141.75 331 PKP PKPdf 06 48 05.7 -4.9
SSP1 Stoney Pound 141.76 351 P PKPdf 06 48 06.2 -4.5
SSP1 AMb AMB 06 48 08.2
comp=Z,97nm,1.3s
VOY Vojsko 141.76 330 *e*PKPdf PKPdf 06 48 05.5 -5.1
VOY *e* 06 48 43.0
VOY *e* 06 49 30.3
WATA Walderalm 141.86 333⇊*i*P PKPdf 06 48 06.6 -4.2
comp=Z,104nm,1.2s,SNR=11
SNF Seneffe 141.88 342 PKP PKPdf 06 48 05.7 -5.2
SNF APKP 06 48 48.5
GMNA Gemona 141.90 331 PKP PKPdf 06 48 06.5 -4.4
HAE Alders End 142.03 350 P PKPdf 06 48 05.7 -5.4
WLF Walferdange 142.04 340 PKP PKPdf 06 48 07.7 -3.5
WLF APKP 06 48 44.1
WLF Walferdange 142.04 340 *e*PKIKP PKPdf 06 48 07.9 -3.2
LANF Langenberg 142.05 338 PKP PKPdf 06 48 06.5 -4.7
MOTA Moosalm 142.06 334⇊P PKPdf 06 48 07.4 -3.8
comp=Z,218nm,1.2s,SNR=45
GIVF Givet 142.08 342 *e*PKP1 PKPdf 06 48 06.3 -4.9
comp=Z,334nm,1.2s
SQTA Sankt Quirin 142.11 333⇑*i*P PKPdf 06 48 07.2 -4.0
comp=Z,169nm,1.1s,SNR=43
SQTA Sankt Quirin 142.11 333⇑*i*PKIKP PKPdf 06 48 07.2 -4.1
MCH1 Michaelchurch 142.15 350 P PKPdf 06 48 07.0 -4.3
DOU Dourbes 142.15 342 PKP PKPdf 06 48 06.8 -4.6
DOU PKiKP PKiKP 06 48 14.5 +0.2
DOU APKP 06 48 46.8
BFO Black Forest 142.40 337 *e*PKPdf PKPdf 06 48 08.1 -3.7
MENF Mencas 142.42 345 PKP PKPdf 06 48 11.3 -0.5
HGH Gray Hill 142.46 350 P 06 48 02.2
HGH AMb AMB 06 48 09.2
comp=Z,84nm,1.5s
DAVA Damuels 142.62 335⇑*i*P PKPdf 06 48 07.7 -4.5
comp=Z,295nm,1.3s,SNR=61
APPI Appiano 142.67 333 PKP PKPdf 06 48 08.2 -4.1
WLS Welschbruch 142.69 338 PKP PKPdf 06 48 08.1 -4.2
CDF Champ du Feu 142.72 338 *e*PKP1 PKPdf 06 48 08.4 -3.9
comp=Z,331nm,1.3s
CTI Castel Tesino 142.81 332 PKP PKPdf 06 48 09.1 -3.4
LIBD Limburg 142.82 337 PKP PKPdf 06 48 08.3 -4.2
FELD Feldberg 142.89 337 PKP PKPdf 06 48 08.1 -4.5
ECH Echery 142.92 338 PKP PKPdf 06 48 08.7 -4.0
VAL Valentia 142.95 358 *e*P pPKPdf 06 48 39.6 -10
BRMO Bormio 143.05 333 PKP PKPdf 06 48 10.7 -2.2
MOF Molkenrain 143.24 338 PKP PKPdf 06 48 09.6 -3.7
THEF They Montfort 143.33 339 PKP PKPdf 06 48 10.6 -2.8
HINF Hinteralfeld 143.37 338 *e*PKP1 PKPdf 06 48 10.3 -3.2
HAU Haudompre 143.39 339 *e*PKP1 PKPdf 06 48 10.6 -2.9
comp=Z,348nm,1.1s
HAU *e*R
comp=Z,833nm,23.0s
HAU Haudompre 143.39 339 *e*PKIKP PKPdf 06 48 10.6 -2.9
HAU MLR MLR
comp=Z,830nm,23.0s
MEZF Maizieres J'vi 143.41 340 *e*PKP1 PKPdf 06 48 11.0 -2.6
comp=Z,478nm,1.2s
BBS Basel-Blauen 143.42 337 PKP PKPdf 06 48 10.4 -3.2
TUE Stuetta 143.49 334 PKP PKPdf 06 48 10.6 -3.1
LOMF Lomont 143.77 337 PKP PKPdf 06 48 12.0 -2.2
RGNG Rignano Grg 143.80 323 PKP PKPdf 06 48 12.1 -2.1
CING Cingoli 143.99 327 PKP PKPdf 06 48 13.4 -1.2
PTRP Pietrapertosa 144.23 321 PKP PKPdf 06 48 14.1 -0.9
CCA1 Carmenellis 144.24 352 P PKPdf 06 48 12.7 -2.3
CCA1 AMb AMB 06 48 15.7
comp=Z,603nm,1.7s
CPZ Penzance 144.32 352 P PKPdf 06 48 12.9 -2.2
CMA1 Manaccan 144.33 352 P PKPdf 06 48 13.2 -1.9
CGH1 Goonhilly 144.37 352 P PKPdf 06 48 12.8 -2.4
CGH1 AMb AMB 06 48 16.1
comp=Z,751nm,1.4s
MURB Monte Urbino 144.42 328 PKP PKPdf 06 48 14.6 -0.7
FNVD Fontana Vidola 144.46 330 PKP PKPdf 06 48 15.7 +0.3
CII Carovilli 144.50 324 PKP PKPdf 06 48 14.6 -0.9
AQU L'Aquila 144.58 326 PKP PKPdf 06 48 16.1 +0.5
TIP Timpagrande 144.59 319 PKP PKPdf 06 48 15.3 -0.3
JLP Les Platons 144.63 348 P PKPdf 06 48 14.3 -1.4
CABF La Chapelle 144.67 337⇑*i*PKP1 PKPdf 06 48 15.7 -0.1
comp=Z,5μm,1.4s
JRS Jersey 144.67 348 P PKPdf 06 48 14.5 -1.3
JVM Valle D.L. Mar 144.67 348 P PKPdf 06 48 14.3 -1.4
JSA Saint Aubin 144.69 348 P PKPdf 06 48 14.0 -1.8
CUC Castrocucco 144.70 321 PKP PKPdf 06 48 14.0 -1.8
FLN La Foliniere 144.73 346⇑*i*PKP1 PKPdf 06 48 14.9 -1.0
comp=Z,1μm,1.1s
FLN *e*R
comp=Z,1μm,21.2s
FLN La Foliniere 144.73 346⇑*i*PKIKP PKPdf 06 48 14.9 -1.0
FLN MLR MLR
comp=Z,1μm,21.3s
ORO Oropa 144.74 335 PKP PKPdf 06 48 14.9 -1.0
BOB Bobbio (Coli) 144.79 332 PKP PKPdf 06 48 14.7 -1.3
LDF La Druitiere 144.80 346⇑*i*PKP1 PKPdf 06 48 15.1 -0.9
comp=Z,1μm,1.2s
VLC Villacollemand 144.82 331 PKP PKPdf 06 48 14.9 -1.1
LOR Lormes 144.88 340⇑*i*PKP1 PKPdf 06 48 16.0 -0.1
comp=Z,4μm,1.4s
LOR *e*R
comp=Z,690nm,22.5s
LOR Lormes 144.88 340⇑*i*PKIKP PKPdf 06 48 16.0 -0.1
LOR MLR MLR
comp=Z,690nm,22.5s
CSNT Castellina Chi 144.89 329 PKP PKPdf 06 48 14.6 -1.5
RFI Roccamonfina 144.96 324 PKP PKPdf 06 48 16.2 -0.1
CERT Cerreto 145.09 326 PKP PKPdf 06 48 16.1 -0.4
GRR Gorron 145.17 346⇑*i*PKP1 PKPbc 06 48 16.6 +0.1
comp=Z,4μm,1.3s
SSF Saint Saulge 145.17 341⇑*i*PKP1 PKPbc 06 48 17.1 +0.6
comp=Z,6μm,1.2s
HYF Humbligny 145.26 342⇑*i*PKP1 PKPbc 06 48 17.6 +0.8
LPL La Plagne 145.34 336 *e*PKP1 PKPbc 06 48 17.1 +0.1
comp=Z,3μm,1.3s
LPG La Plagne 145.34 336 *e*PKP1 PKPbc 06 48 18.3 +1.2
comp=Z,4μm,1.3s
SMF Signal de Mont 145.43 340⇑*i*PKP1 PKPbc 06 48 17.7 +0.4
comp=Z,5μm,1.4s
AVF Avril sur Loir 145.46 340⇑*i*PKP1 PKPbc 06 48 17.7 +0.3
comp=Z,3μm,1.4s
TOLF Tolfa 145.54 327 PKP PKPdf 06 48 17.9 +0.7
SGMF Saint Gilles 145.66 348 *e*PKP1 PKPbc 06 48 17.0 -1.0
comp=Z,5μm,1.3s
CEL Celeste 145.67 318 PKP PKPdf 06 48 17.4 -0.1
ROSF Rostrenen 145.72 349 *e*PKP1 PKPbc 06 48 16.9 -1.3
comp=Z,4μm,1.4s
MAON Monte Argentar 145.73 328 PKP PKPdf 06 48 17.4 -0.2
BNI Bardonecchia 145.74 335 PKP PKPdf 06 48 19.0 +1.4
BNI Bardonecchia 145.74 335 *e*PKP2 PKPab 06 48 18.4 -0.4
FIN Finale Ligure 145.78 333 PKP PKPdf 06 48 17.5 -0.2
BGF Bois d'Agland 145.83 341 *e*PKP1 PKPbc 06 48 17.6 -0.9
comp=Z,3μm,1.3s
GDM Grand'Maison 145.84 336 PKP PKPdf 06 48 19.7 +1.9
GRN Grenoble 145.95 337 PKP PKPdf 06 48 19.9 +2.0
DOI San Damiano 145.95 334 PKP PKPdf 06 48 16.9 -1.1
MBDF Montbardon 145.97 335 *e*PKP1 PKPbc 06 48 18.0 -1.0
comp=Z,2μm,1.3s
PLDF La Plantade 146.09 340 PKP PKPdf 06 48 20.1 +1.9
QUIF Quistinic 146.10 349 *e*PKP1 PKPbc 06 48 17.7 -1.7
comp=Z,2μm,1.7s
SURF Saint Ours 146.15 335 PKP PKPdf 06 48 20.1 +1.8
ORIF Oris-en-Rattie 146.17 336 *e*PKP1 PKPbc 06 48 18.1 -1.5
comp=Z,878nm,0.9s
ORIF *e*R
comp=Z,922nm,22.2s
SLNA Salina 146.17 319 PKP PKPdf 06 48 19.7 +1.4
AGO Saint Agoulin 146.19 340 PKP PKPdf 06 48 18.8 +0.5
SAOF Saorge 146.24 333 PKP PKPdf 06 48 19.4 +1.0
TCF Toulx Ste Croi 146.27 341⇑*i*PKP1 PKPbc 06 48 18.7 -1.2
comp=Z,2μm,1.2s
AUTN L'Aution 146.28 334 PKP PKPdf 06 48 19.3 +0.8
SBF Sospel 146.39 333 *e*PKP1 PKPbc 06 48 18.2 -2.0
comp=Z,3μm,1.1s
MVIF Mont Vial 146.48 334 PKP PKPdf 06 48 20.1 +1.2
REVF Revere 146.52 333 PKP PKPdf 06 48 20.6 +1.7
MFF Saint Martin d 146.66 344 *e*PKP1 PKPbc 06 48 19.2 -1.8
comp=Z,2μm,1.1s
VIVF Saint-Julien-l 146.68 337 *e*PKP1 PKPbc 06 48 19.2 -1.8
comp=Z,2μm,1.4s
CORF Corte 146.81 330 PKP PKPdf 06 48 22.2 +2.8
LBL Lubilhac 146.87 339 PKP PKPdf 06 48 20.6 +1.1
FRF La Foret Royal 146.97 334 *e*PKP1 PKPbc 06 48 19.3 -2.6
comp=Z,3μm,1.3s
SMRF Simiane la Rot 147.07 335 *e*PKP1 PKPbc 06 48 20.0 -2.1
comp=Z,3μm,1.4s
VILF Villemus 147.12 335 PKP PKPdf 06 48 22.8 +2.9
TAVF Tavernes 147.17 335 PKP PKPbc 06 48 23.0 +0.6
LMR La Mourre 147.21 334 *e*PKP1 PKPbc 06 48 19.8 -2.7
comp=Z,3μm,1.4s
RJF Les Rejaudoux 147.37 341 *e*PKP1 PKPbc 06 48 20.2 -2.8
comp=Z,3μm,1.4s
RJF *e*R
comp=Z,934nm,20.2s
RJF Les Rejaudoux 147.37 341 *e*PKIKP PKPdf 06 48 20.2 -0.1
RJF MLR MLR
comp=Z,930nm,20.3s
PRAF Pradon 147.38 336 PKP PKPbc 06 48 23.9 +0.9
PUYF Puyloubier 147.39 335 PKP PKPbc 06 48 23.7 +0.7
TREF Trevaresse 147.44 335 PKP PKPbc 06 48 23.9 +0.7
CAF Calviac 147.53 340 *e*PKP1 PKPbc 06 48 20.8 -2.6
comp=Z,1μm,1.3s
BERF Bertagne 147.57 335 PKP PKPbc 06 48 23.9 +0.4
GELF Grande-Etoile 147.62 335 PKP PKPbc 06 48 24.1 +0.4
LASF Ste Croix 147.65 338 *e*PKP1 PKPbc 06 48 20.9 -2.8
comp=Z,3μm,1.4s
CLTB Caltabellotta 147.78 319 PKP PKPbc 06 48 25.0 +0.9
LFF La Frestale 147.93 342 *e*PKP1 PKPdf 06 48 21.4 +0.1
comp=Z,2μm,1.2s
SHEL Horse Pasture 148.64 193 *e*PKPdf PKPdf 06 48 24.0 +1.6
SHEL *e*PKPab PKPab 06 48 29.2 -1.1
VSL Villasalto 148.76 326 *e*PKPbc PKPbc 06 48 26.7 +0.1
MTLF Montolieu 148.88 339 *e*PKP1 PKPdf 06 48 22.8 0.0
comp=Z,2μm,1.3s
CGL Cagliari Serpe 148.90 326 PKP PKPbc 06 48 27.7 +0.7
LRDF Laroque-de-Fa 149.12 338 PKP PKPbc 06 48 27.9 +0.4
RCBR Riachuelo 149.12 130 *e*PKPdf PKPdf 06 48 24.1 +0.9
SJAF Saint Jean de 149.38 337 PKP PKPbc 06 48 27.9 -0.3
FILF Fillols 149.44 338 PKP PKPbc 06 48 28.4 +0.1
CARF Carcanieres 149.47 338 PKP PKPbc 06 48 27.9 -0.5
MLS Moulis 149.60 340 PKP PKPbc 06 48 28.8 +0.1
SALF Salau 149.75 340 PKP PKPbc 06 48 29.7 +0.7
VALF Valcebollere 149.77 338 PKP PKPbc 06 48 29.5 +0.4
EPF Esparros 149.78 341 *e*PKP1 PKPdf 06 48 24.6 +0.3
comp=Z,1μm,1.4s
MELF Melles 149.79 340 PKP PKPbc 06 48 29.3 +0.1
LABF Labassere 149.85 341 PKP PKPbc 06 48 29.7 +0.4
REYF Montagne du Re 149.97 342 PKP PKPbc 06 48 29.7 +0.1
RESF Ens 149.98 341 PKP PKPbc 06 48 30.9 +1.3
ORDF Ordiarp 150.00 343 PKP PKPbc 06 48 29.7 0.0
VIEF Viey 150.01 341 PKP PKPbc 06 48 30.9 +1.2
ATE Arette 150.05 342 PKP PKPbc 06 48 29.3 -0.5
OSSF Osses 150.05 343 PKP PKPbc 06 48 29.7 -0.1
SJPF Ste Jean 150.18 343 *e*PKP1 PKPdf 06 48 25.2 +0.3
comp=Z,1μm,1.3s
ETSF Etsaut 150.18 342 *e*PKP1 PKPdf 06 48 25.5 +0.6
comp=Z,987nm,1.1s
EBR Ebro Roquetas 151.71 339 *e*PKPDF PKPdf 06 48 28.0 +0.8
CMAH Djebel Manchou 151.89 324 P PKPbc 06 48 34.5 +0.4
CAEH 'Ain El Ouahch 152.09 325 P PKPbc 06 48 35.0 +0.5
CKFL Kef-Lekhel 152.44 325 P PKPbc 06 48 36.0 +0.7
PBRG Braganca 152.66 350 *e*PKPdf PKPdf 06 48 28.3 -0.3
PBRG Braganca 152.66 350 *e*PKPbc PKPbc 06 48 35.7 -0.1
PBRG Braganca 152.66 350 *e*PKPab PKPab 06 48 47.4 +0.5
CASM Ain Smara 152.67 325 P PKPbc 06 48 36.0 +0.2
DFRA Djebel Bou Aff 152.80 326 P PKPbc 06 48 37.5 +1.4
PCAB Cabril 152.94 352 *e*PKPdf PKPdf 06 48 28.9 -0.1
PCAB Cabril 152.94 352 *e*PKPbc PKPbc 06 48 36.7 +0.3
PCAB Cabril 152.94 352 *e*PKPab PKPab 06 48 48.9 +0.8
ADH Angra Heroismo 153.01 26 *e*LR LR 07 40 35.0
SET Setif 153.31 326 P PKPdf 06 48 32.0 +2.4
PVRL Vila Real 153.32 352 *e*PKPdf PKPdf 06 48 29.9 +0.3
PVRL Vila Real 153.32 352 *e*PKPbc PKPbc 06 48 37.5 +0.3
PVRL Vila Real 153.32 352 *e*PKPab PKPab 06 48 50.7 +0.9
CKHR Kef el Ahmar 153.39 326 P PKPbc 06 48 39.0 +1.6
CMER Merouana 153.46 325 P PKPbc 06 48 38.0 +0.5
PVIS Viseu 153.90 352 *e*PKPdf PKPdf 06 48 30.3 -0.1
PVIS Viseu 153.90 352 *e*PKPbc PKPbc 06 48 38.9 +0.4
PVIS Viseu 153.90 352 *e*PKPab PKPab 06 48 53.2 +1.0
ESDC Sonseca Array 154.12 345 PKP PKPdf 06 48 30.5 -0.3
comp=Z,7.5nm,1.0s,baz=2.5,slow=2.8,SNR=21
ESDC PKPbc PKPbc 06 48 39.2 +0.2
comp=Z,18nm,1.0s,baz=12,slow=2.4,SNR=24
ESDC PKPab PKPab 06 48 52.5 -0.7
comp=Z,50nm,1.0s,baz=14,slow=3.6,SNR=5.4
ESDC pPKPbc pPKPbc 06 49 14.7 -1.2
comp=Z,13nm,0.8s,baz=12,slow=3.1,SNR=3.4
ESDC pPKPab pPKPab 06 49 29.4 +0.5
comp=Z,13nm,0.8s,baz=8.3,slow=5.0,SNR=2.9
ESDC PP PP 06 52 24.2 -4.2
comp=Z,13nm,1.0s,baz=21,slow=6.7,SNR=6.7
ESLA Sonseca Array 154.12 345 *e*PKPdf PKPdf 06 48 31.3 +0.6
ESLA *e*PKPbc PKPbc 06 48 39.0 0.0
ESLA *e*PKPab PKPab 06 48 54.1 +0.9
ESLA *ep*PKPdf pPKPdf 06 49 16.8 +9.0
MTE Manteigas 154.16 351 *e*PKPdf PKPdf 06 48 30.8 0.0
MTE Manteigas 154.16 351 *e*PKPbc PKPbc 06 48 39.2 +0.2
MTE Manteigas 154.16 351 *e*PKPab PKPab 06 48 53.9 +0.6
MTE Manteigas 154.16 351 *e*PKPdf PKPdf 06 48 31.1 +0.4
MTE *e*PKPbc PKPbc 06 48 39.6 +0.5
MTE *e*PKPab PKPab 06 48 53.9 +0.6
MTE *ep*PKPdf pPKPdf 06 49 16.6 +8.7
PAB San Pablo 154.34 345 PKPdf PKPdf 06 48 31.3 +0.3
PAB PKPbc PKPbc 06 48 39.9 +0.5
PAB PKPab PKPab 06 48 55.2 +1.2
PDA Ponta Delgada 154.43 24 *e* 08 18 54.0
EMHD Djebel Mahouad 154.57 330 P PKPdf 06 48 31.0 -0.4
PCBR Castelo Branco 154.69 351 *e*PKPdf PKPdf 06 48 31.4 -0.1
PCBR Castelo Branco 154.69 351 *e*PKPbc PKPbc 06 48 40.2 0.0
PCBR Castelo Branco 154.69 351 *e*PKPab PKPab 06 48 56.3 +0.7
PTOM Tomar 155.04 352 *e*PKPdf PKPdf 06 48 32.0 0.0
PTOM Tomar 155.04 352 *e*PKPbc PKPdf 06 48 40.9 +8.9
PTOM Tomar 155.04 352 *e*PKPab PKPab 06 48 57.9 +0.8
EBNR Beni Rached 155.17 332 P PKPdf 06 48 32.0 -0.2

EANR	'Ain N'Sour	155.65	332	P	PKPdf	06 48 33.5 +0.7
PLOU	Loures	155.86	353	*e*PKPdf	PKPdf	06 48 32.9 -0.2
PLOU				*i* -		06 48 43.6
PLOU	Loures	155.86	353	*e*PKPab	PKPab	06 49 01.3 +0.7
ETRT	Tiaret	156.02	331	P	PKPdf	06 48 34.0 +0.7
MOE	Montemor	156.11	352	*e*PKPdf	PKPdf	06 48 35.3 +1.9
MOE	Montemor	156.11	352	*e*PKPab	PKPab	06 49 03.4 +1.7
OJGS	Djebel Guires	156.18	332	P	PKPdf	06 48 35.0 +1.5
PBEJ	Beja	156.53	351	*e*PKPdf	PKPdf	06 48 34.3 +0.3
PBEJ				*i* -		06 48 52.6
PBEJ	Beja	156.53	351	*e*PKPab	PKPab	06 49 04.8 +1.3
ODJA	Bouhanifia	156.72	333	P	PKPdf	06 48 36.0 +1.8
PTEO	Sao Teotonio	157.13	352	*e*PKPdf	PKPdf	06 48 34.8 +0.1
PTEO				*i* -		06 48 46.0
PTEO	Sao Teotonio	157.13	352	*e*PKPab	PKPab	06 49 07.4 +1.4
ASCN	Ascension	157.31	176	*e*PKPdf	PKPdf	06 48 35.7 +0.7
ASCN				*e*PKPab	PKPab	06 49 06.5 -0.3
TORD	Torodi Ar. Bea	165.99	265	PKP	PKPdf	06 48 43.4 -0.5
	comp=Z,61nm,1.2s,baz=337,slow=0.4,SNR=134					
TORD				pPKP	pPKPdf	06 49 21.9 +0.7
	comp=Z,13nm,1.0s,baz=106,slow=0.6,SNR=2.4					
TORD				PKPab	PKPab	06 49 44.2 -0.6
	comp=Z,72nm,1.1s,baz=84,slow=2.4,SNR=16					
TORD				pPKPab	pPKPab	06 50 19.7 -0.7
	comp=Z,46nm,1.1s,baz=98,slow=4.1,SNR=4.5					
TORD				PP	PP	06 53 29.1 -3.2
	comp=Z,8.5nm,1.1s,baz=87,slow=3.4,SNR=3.6					
DBIC	Dimbokro	168.85	224	PKP	PKPdf	06 48 45.9 0.0
	comp=Z,41nm,0.9s,baz=107,slow=1.7,SNR=29					
DBIC				PKPab	PKPab	06 49 58.5 +1.0
	comp=Z,15nm,0.7s,baz=131,slow=6.5,SNR=8.7					
DBIC				PP	PP	06 53 45.4 -1.5
	comp=Z,5.6nm,1.0s,baz=106,slow=10,SNR=2.3					
DBIC	Dimbokro	168.85	224	*e*PKIKP	PKPdf	06 48 45.8 -0.2

MAN 07 06:31:08.7, 1897N×11922E, h33km, mb2.8, ML4.3, MS7.5, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	1.47	116	⇓*e*P	Pn	06 31 32.5	-0.4
PIP				*e*S	Sn	06 31 44.6	-6.4
ABRA	Dolores	1.93	133	*e*P	Pn	06 31 40.9	+1.7
ABRA				*e*S	Sn	06 31 59.6	-2.7
APYP	Conner	2.21	120	*e*P	Pn	06 31 43.6	+0.6
APYP				*e*S	Sn	06 32 05.0	-4.2
BOLP	Bolinao	2.66	166	*e*P	Pn	06 31 49.9	+0.7
CVP	Callao Caves	2.77	117	⇓*i*P	Pn	06 31 52.0	+1.3
CVP				*i* S	Sn	06 32 16.0	-7.1
SGCP	Mt. Cagua	2.77	105	*e*P	Pn	06 31 51.8	+1.0
SGCP				*e*S	Sn	06 32 17.0	-6.1
CAUP	Cauayan	3.19	129	*e*P	Pn	06 32 01.1	+4.6
PALP	Palanan	3.59	121	*e*P	Pn	06 32 07.2	+5.2
PALP				*e*S	Sn	06 32 43.8	+0.5
BALP	Baler	3.92	145	*e*P	Pn	06 32 12.0	+5.4
QVPH	Quezon City--P	4.64	157	*e*P	Pn	06 32 09.5	-6.9

NAO 07 06:37:55.7±6.3, 8212N×191E, ML2.8
IDC 07 06:38:00.9±8.0, 8098N×268W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.2/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/24, Error ellipse: s-maj=161.0km s-min=52.5km az=22.0
ISCJB 07 06:38:07.1±2.1, 800N±02×31W±04, h10km, mb3.5/1, MS3.8/1, Error ellipse: s-maj=31.1km s-min=9.4km az=12.1

ISC 07 06:38:07.5±2.1, 802N±02×32W±04, h10km, n12, σ0°53/18, mb3.5/1, MS3.8/1, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	3.04	107	*e*P	Pg	06 39 11.4	+5.7
KBS				*e*S	Sg	06 39 51.0	+5.8
KBS				AML	AML	06 39 56.3	
	comp=Z,29nm,0.3s						
SPA0	Spitsbergen Ar	4.20	109	Pn	Pn	06 39 07.0	-4.5
	baz=352,slow=12						
SPA0				Sn	Sn	06 40 00.8	+0.2
DAG	Danmarks Havn	4.62	230	*i* P	Pn	06 39 17.0	-0.3
	comp=Z,1.7nm,0.4s						
DAG				*i*		06 40 20.0	
HSP	Hornsund	4.89	121	*e*P	Pn	06 39 21.0	0.0
HSP				*e*S	Sn	06 40 24.8	+7.1
HSP	Hornsund	4.89	121	P	Pn	06 39 21.1	0.0
HSP				S	Sn	06 40 24.8	+7.1
ARA0	ARCESS Array S	12.82	130	P	Pn	06 41 09.7	0.0
	baz=354,slow=12						
ARA0				Sn	Sn	06 43 32.4	-0.1
	baz=1.0,slow=22						
ARCES	ARCESS Array B	12.82	130	Pn	Pn	06 41 08.6	-1.1
	comp=Z,0.2nm,0.3s,baz=357,slow=10,SNR=22						
ARCES				Sn	Sn	06 43 32.6	+0.1
	comp=Z,0.2nm,0.3s,baz=350,slow=20,SNR=3.8						
NB2	NORSAR Subarra	19.72	159	P	Pn	06 42 43.9	+5.3
NOA	NORSAR Array B	19.72	159	P	Pn	06 42 38.8	+0.2
	comp=Z,1.6nm,0.8s,baz=350,slow=12,SNR=3.9						
FIA0	FINESS Array S	20.65	138	P	P	06 42 47.5	+0.3
	baz=358,slow=12						
FINES	FINESS Array B	20.65	138	P	P	06 42 47.0	-0.1
	comp=Z,1.5nm,0.8s,baz=357,slow=12,SNR=5.5						
FINES				LR	LR	06 50 48.2	
	comp=Z,363nm,19.2s,MS3.8,baz=342,slow=36						
GERES	GERESS Array B	32.03	159	P	P	06 44 35.1	+1.0
	comp=Z,0.4nm,0.5s,mb3.5,baz=0.7,slow=7.8,SNR=4.0						

BJI 07 06:38:11.4, 3580S×178.10E, h85km, mB5.0, mb5.1, Ms5.4, Msz5.2
NEIC 07 06:38:11.4, 3576S×17808E, h85km, ML4.0(WEL), After WEL.

WEL 07 06:38:13.6±0.8, 3593S×17872E, h33km, ML3.9/16, Error ellipse: s-maj=8.2km s-min=5.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.66	191	P*	Pn	06 38 40.4	-0.1
MXZ				S*	Sn	06 39 00.6	0.0
MXZ	Matakaoa Point	1.66	191	*e*P	Pn	06 38 40.4	0.0
MXZ				S	Sn	06 39 01.9	+1.3
PUZ	Puketiti	2.17	190	PN	Pn	06 38 47.0	-0.4
PUZ				SN	Sn	06 39 12.5	-0.6
PUZ	Puketiti	2.17	190	*e*P	Pn	06 38 47.1	-0.3
PUZ				S	Sn	06 39 12.5	-0.6
KUZ	Kuaotunu	2.55	251	PN	Pn	06 38 52.3	-0.3
MWZ	Matawai	2.58	201	P*	Pn	06 38 52.5	-0.5
MWZ				S*	Sn	06 39 23.5	+0.2
MWZ	Matawai	2.58	201	P	Pn	06 38 52.7	-0.4
MWZ				S	Sn	06 39 23.6	+0.3
URZ	Urewera	2.66	208	P*	Pn	06 38 53.2	-0.9
URZ				S*	Sn	06 39 24.7	-0.5
URZ	Urewera	2.66	208	*e*P	Pn	06 38 53.2	-0.9
KNZ	Kokohu	3.19	195	PN	Pn	06 38 59.3	-2.2
BKZ	Black Stump Fm	3.68	208	P*	Pn	06 39 05.3	-2.9
PXZ	Pawanui	4.35	199	PN	Pn	06 39 12.1	-5.3
PXZ				SN	Sn	06 40 01.2	-5.7
BFZ	Birch Farm	5.12	202	PN	Pn	06 39 22.8	-5.2
MRZ	Mangataiinoka R	5.33	207	PN	Pn	06 39 25.1	-5.7
MTW	Mount Morrison	5.79	205	PN	Pn	06 39 30.7	-6.6
MTW	Mount Morrison	5.79	205	P	Pn	06 39 31.1	-6.2
CAW	Cannon Point	5.91	208	PN	Pn	06 39 33.0	-5.8
TCW	Tory Channel	6.32	212	PN	Pn	06 39 37.7	-6.7
TUWZ	Tuamarina	6.64	213	PN	Pn	06 39 41.8	-7.0
NJ2	Nanjing	87.85	313	*e*P	P	06 50 48.1	-12
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
HHC	Hu-ho-hao-te	98.14	315	*e*P	P	06 51 38.3	-8.8
HHC				AP	pP	06 52 01.5	+3.8
HHC				XP	sP	06 52 11.3	+10
HHC				SKS		07 02 07.5	
HHC				S		07 02 56.8	
HHC				XS	sS	07 03 32.2	+2.6
HHC				AMB	AMB		
	comp=Z,7.0nm,0.3s						
HHC				AMB	AMB		
	comp=Z,270nm,7.3s						
HHC				LR	LR		
	comp=N,471nm,20.1s						
HHC				LR	LR		
	comp=E,562nm,15.7s						
HHC				LR	LR		
	comp=Z,664nm,17.2s						

IDC 07 06:48:51.0±1.1, 4183N×14423E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/22, mbtmp3.9/11, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.9/33, Error ellipse: s-maj=25.0km s-min=21.2km az=112.0
ISCJB 07 06:48:53.9±1.4, 4175N±009×14447E±008, h39km±10km, mb3.9/10, Error ellipse: s-maj=15.6km s-min=8.2km az=124.4
JMA 07 06:48:53.7±0.2, 4171N×14441E, h62km±3km, M4.1
MOS 07 06:48:54.4±1.2, 4188N×14434E, h40km, mb4.1/10, Error ellipse: s-maj=25.3km s-min=14.5km az=100.5

ISC 07 06:48:53.0±1.8, 4172N±006×14442E±008, h22km±13km, n34, σ0°83/38, mb3.9/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.99	288	P	Pb	06 49 12.0	+0.5
JCH	Churui	1.19	319	P	Pn	06 49 14.6	+0.2
JCH				*e*S	Sn	06 49 29.9	0.0
JOB	Onbets	1.26	340	P	Pn	06 49 15.7	+0.4
JOB				*e*S	Sn	06 49 32.2	+0.6
JAK	Akkeshi	1.29	9	P	Pn	06 49 16.4	+0.6
JNBK	Urakawa-nobuka	1.37	295	P	Pn	06 49 17.0	+0.2
JAR	Ashorobuto	1.65	343	P	Pn	06 49 20.7	0.0
JBT2	Biratori 2	1.86	305	P	Pn	06 49 22.8	-0.8
YUK	Yuzh-Kuril'sk	2.55	24	*e*P	Pn	06 49 41.5	+8.5
YUK				*e*S	Sn	06 50 02.1	-1.2
YUK				pmax	pmax		
	comp=Z,290nm,0.3s						
YUK				pmax	pmax		
	comp=N,120nm,0.4s						
YUK				smax			
	comp=E,320nm,0.4s						
YUK				smax			
	comp=N,960nm,0.5s						
YUK				smax			
	comp=N,2μm,0.8s						
ASAJ	Asahikawa	2.75	331	Pn	Pn	06 49 35.5	-0.2
	comp=N,4.3nm,0.3s,baz=180,slow=16,SNR=12						
ASAJ				LR	LR	06 51 06.8	
	comp=N,467nm,19.9s,baz=329,slow=53						
ASAJ	Asahikawa	2.75	331	P	Pn	06 49 35.6	-0.2
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,467nm,19.9s						
KUR	Kuril'sk	4.32	34	P	Pn	06 49 56.8	-0.5
KUR				*e*S	Sn	06 50 47.0	0.0
KUR				smax			
	comp=N,140nm,0.5s						
KUR				smax			
	comp=E,90nm,0.5s						
MJAR	Matsushiro Arr	7.07	225	Pn	Pn	06 50 33.4	-1.8
	comp=E,0.8nm,0.3s,baz=26,slow=13,SNR=10						
MJAR	Matsushiro Arr	7.07	225	P	Pn	06 50 33.4	-1.8
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	Songino Array	27.47	296	P	P	06 54 37.8	+0.3
	comp=Z,3.3nm,1.0s,mb3.8,baz=84,slow=8.4,SNR=10						
SONM	Songino Array	27.47	296	P	P	06 54 37.8	+0.3
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAL	Zalesovo	40.67	308	P	P	06 56 31.8	+0.1
	comp=Z,2.0nm,0.9s,mb3.8,baz=14,slow=12,SNR=2.1						
ZAL	Zalesovo	40.67	308	P	P	06 56 31.8	+0.2
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	Urumqi	41.00	293	*e*PKP	P	06 56 38.4	+4.1
MKAR	Makanchi Array	43.77	299	P	P	06 56 56.0	-0.8
	comp=Z,1.0nm,0.8s,mb3.6,baz=81,slow=9.6,SNR=9.1						
MKAR	Makanchi Array	43.77	299	P	P	06 56 56.1	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array B	44.31	35	P	P	06 57 02.0	+0.8
	comp=Z,0.5nm,0.8s,mb3.3,baz=263,slow=5.9,SNR=6.3						
ILAR	Eielson Array	44.31	35	P	P	06 57 02.1	+0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	49.16	29	P	P	06 57 39.8	+0.6
	comp=Z,1.3nm,0.5s,mb4.2,baz=280,slow=6.2,SNR=13						
INK	Inuvik	49.16	29	P	P	06 57 39.8	+0.6
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	49.25	310	P	P	06 57 39.9	0.0
	comp=Z,1.9nm,0.4s,mb4.5,baz=70,slow=7.4,SNR=11						
BVAR	Borovoye Array	49.25	310	P	P	06 57 39.9	0.0
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	Warramunga Arr	62.05	191	P	P	06 59 14.6	+2.8
	comp=Z,0.6nm,0.8s,mb3.8,baz=7.2,slow=6.7,SNR=6.2						
WRA	Warramunga Arr	62.05	191	P	P	06 59 14.6	+2.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	65.76	332	P	P	06 59 34.4	-1.8
	comp=Z,1.6nm,0.8s,mb4.1,baz=53,slow=9.8,SNR=5.8						
FINES	FINESS Array B	65.76	332	P	P	06 59 34.4	-1.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	70.75	338	P	P	07 00 07.8	+0.3
	comp=Z,1.3nm,0.8s,mb3.9,baz=33,slow=6.2,SNR=3.6						
NOA	NORSAR Array B	70.75	338	P	P	07 00 07.8	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	72.00	323	P	P	07 00 15.1	+0.1
	comp=Z,1.1nm,0.5s,mb4.1,baz=42,slow=5.9,SNR=9.5						
AKASG	Malin Array Be	72.00	323	P	P	07 00 15.1	+0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

NEIC 07 07:01:50.5, 1828N×6793W, h116km, MD3.6(RSPR), After RSPR.

RSPR 07 07:01:50.5, 1828N×6793W, h116km±2km, MD3.6/15, MD3.6/15, 12C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.80	76	*e*S	Sn	07 02 25.5	+0.4
AGPR	Aguadilla, PR	0.80	76	⇓*e*P	Pn	07 02 10.1	-0.2
AGPR				*e*S	Sn	07 02 25.5	+0.4
CRPR	Cabo Rojo, PR	0.82	109	*e*S	Sn	07 02 26.5	+1.0
CRPR	Cabo Rojo, PR	0.82	109	⇓*e*P	Pn	07 02 09.5	-0.9
CRPR				*e*S	Sn	07 02 26.5	+1.0
MGP	Maguayo	0.84	109	⇑*e*P	Pn	07 02 09.7	-0.9
MGP				*e*S	Sn	07 02 24.5	-1.3
LRS	Lares	1.03	89	⇓*e*P	Pn	07 02 12.0	-0.4
LRS				*e*S	Sn	07 02 28.4	-0.5
AOPR	Arecibo Observ	1.12	87	*e*S	Sn	07 02 30.4	-0.2
AOPR	Arecibo Observ	1.12	87	⇑*e*P	Pn	07 02 12.8	-0.6
AOPR				*e*S	Sn	07 02 30.4	-0.2
OBIP	Obispado Ponce	1.28	101	*e*S	Sn	07 02 34.8	+1.1
OBIP	Obispado Ponce	1.28	101	⇑*e*P	Pn	07 02 14.8	-0.3
OBIP				*e*S	Sn	07 02 34.8	+1.1
CELP	Cerrillos	1.30	99	⇑*e*P	Pn	07 02 15.6	+0.3
CELP				*e*S	Sn	07 02 34.6	+0.5
ICM	Isla Caja Muer	1.39	106	*e*S	Sn	07 02 35.1	-0.9
ICM	Isla Caja Muer	1.39	106	⇑*e*P	Pn	07 02 15.7	-0.7
ICM				*e*S	Sn	07 02 35.1	-0.9
SJG	San Juan	1.70	95	⇓*e*P	Pn	07 02 20.6	+0.6
SJG				*e*S	Sn	07 02 42.5	+0.1
SJG	San Juan	1.70	95	⇑*e*P	Pn	07 02 20.3	+0.3
SJG				*e*S	Sn	07 02 42.2	-0.2
CPD	Cerro la Pandu	1.93	97	*e*S	Sn	07 02 48.4	+1.0
CPD	Cerro la Pandu	1.93	97	⇑*e*P	Pn	07 02 23.4	+0.6
CPD				*e*S	Sn	07 02 48.4	+1.0
CBYP	Canovanas	1.97	90	*e*S	Sn	07 02 47.7	-0.7
CBYP	Canovanas	1.97	90	⇑*i*P	Pn	07 02 22.7	-0.6
CBYP				*e*S	Sn	07 02 47.7	-0.7
HUMP	Col San Antoni	1.98	94	*e*S	Sn	07 02 48.7	0.0
HUMP	Col San Antoni	1.98	94	⇑*e*P	Pn	07 02 23.5	0.0
HUMP				*e*S	Sn	07 02 48.7	0.0
MTP	Monte Pirata	2.26	94	*e*S	Sn	07 02 55.7	+0.7
MTP	Monte Pirata	2.26	94	⇑*e*P	Pn	07 02 27.3	+0.3
MTP				*e*S	Sn	07 02 55.7	+0.7
STVI	Saint Thomas	2.82	88	*e*S	Sn	07 03 08.9	+1.0
STVI	Saint Thomas	2.82	88	⇑*e*P	Pn	07 02 34.4	+0.2
STVI				*e*S	Sn	07 03 08.9	+1.0
TBVI	Tortola	3.15	87	*e*S	Sn	07 03 15.3	-0.5
TBVI	Tortola	3.15	87	⇑*e*P	Pn	07 02 38.7	+0.1
TBVI				*e*S	Sn	07 03 15.3	-0.5

BJI 07 07:10:47.6, 4047S×7804E, h17km, mB5.6, mb5.2, Ms5.7, Msz5.4
MOS 07 07:10:48.7±1.2, 4020S×7857E, h10km, mb5.2/9, Error ellipse: s-maj=14.6km s-min=11.3km az=82.6
IDC 07 07:10:48.1±0.4, 4013S×7858E, h0km, mb4.6/24, mb1 4.7/24, mb1mx4.6/26, mbtmp4.6/24, MS5.5/21, Ms1 5.5/21, ms1mx5.4/28, Error ellipse: s-maj=17.6km s-min=12.0km az=5.0
ISCJB 07 07:10:49.4±0.2, 4026S±005×7858E±006, h15km, mb4.9/52, MS5.5/40, Error ellipse: s-maj=6.9km s-min=6.7km az=24.3
NEIC 07 07:10:50.1±0.2, 4013S×7856E, h10km, mb5.2/20, Error ellipse: s-maj=7.0km s-min=6.2km az=170.0
HRVD 07 07:10:50.2±0.1, 4006S×7826E, h12km, MW5.8/94, Centroid moment Tensor Solution. LP body waves: s84,c160;Mantle waves: s94,c196; Half duration: 2s0 Moment tensor: Scale 1017Nm; Mrr0.36±.10; Mθθ-6.88±.09; Mφφ6.52±.10; Mrθ-0.36±.26; Mφθ-2.06±.10; Mφr0.77±.27; Best double couple: M0 7.06500×1017 NP1:φ=37.00000°, δ=84.00000°, λ=4.00000°. NP2: φ=306.00000°, δ=86.00000°, λ=174.00000°. Principal axes: T 6.9320, Plg7.0000°, Azm261.0000°; N 0.2630, Plg83.0000°, Azm96.0000°; P -7.1980, Plg2.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
CSEM 07 07:10:52.0, 4026S×7853E, h33km, ML5.8

ISC 07 07:10:51.1±0.2, 4024S±005×7855E±006, h15km, h15km±2.2km: pP-P, n159, σ1°03/121, mb4.9/52, MS5.5/40, 8C-4D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	Mawson	28.75	192	P	P	07 16 46.2	-1.7
	64nm,1.2s,mb5.2,baz=45,slow=12,SNR=2.7						
MAW				LR	LR	07 26 06.9	
	comp=Z,20μm,18.7s,MS5.8,baz=17,slow=32						
MAW	Mawson	28.75	192	*e*P	P	07 16 48.7	+0.8
	42nm,0.9s,mb5.2						
MAW	Mawson	28.75	192	*e*P	P	07 16 48.7	+0.8
MAW				pmax	pmax		
	comp=Z,42nm,0.9s						
MUN	Mundaring	31.34	87	*e*P	P	07 17 11.8	+1.0
CASY	Casey	31.67	156	*e*P	P	07 17 14.9	+1.2
	comp=Z,41nm,1.2s,mb5.1						
NWAO	Narrogin (SRO)	31.72	89	P	P	07 17 14.9	+0.7
	comp=Z,4.7nm,0.8s,mb4.4,baz=203,slow=7.3,SNR=3.0						
NWAO				LR	LR	07 27 06.7	
	comp=Z,21μm,20.4s,MS5.8,baz=240,slow=31						
KLBR	Kellerberrin	32.69	87	*e*P	P	07 17 23.1	+0.4
	comp=Z,13nm,0.9s,mb4.9						
OPO	Ambohidratompo	34.54	299	P	P	07 17 39.2	+0.3
	comp=Z,4.1nm,1.0s,mb4.3,baz=135,slow=7.1,SNR=2.9						
SYO	Syowa Base	35.44	203	⇓*e*PP	PP	07 19 09.8	+2.7
SYO	Syowa Base	35.44	203	⇓*e*P	P	07 17 47.2	+0.6
SYO				⇓*e*PP	PP	07 19 09.8	+2.7
MBWA	Marble Bar	39.77	74	*e*P	P	07 18 23.2	0.0
	comp=Z,17nm,1.1s,mb4.7						
DRV	Dumont d'Urvil	42.62	149	S	S	07 25 13.0	+4.0
DRV				R		07 31 00.0	
BOSA	Boshof	44.86	268	P	P	07 19 03.8	-0.9
	comp=Z,11nm,0.9s,mb4.7,baz=115,slow=8.2,SNR=11						
BOSA				LR	LR	07 34 30.4	
	comp=Z,15μm,18.4s,MS6.0,baz=133,slow=32						
BOSA	Boshof	44.86	268	*e*P	P	07 19 03.4	-1.3
	comp=Z,12nm,0.9s,mb4.7						
BOSA	Boshof	44.86	268	*e*P	P	07 19 03.4	-1.3
BOSA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	46.02	75	*e*P	P	07 19 14.1	+0.2
	comp=Z,27nm,1.1s,mb5.1						
LBTB	Lobatse	46.45	272	P	P	07 19 15.9	-1.3
	comp=Z,14nm,0.9s,mb4.9,baz=151,slow=7.2,SNR=16						
LBTB				LR	LR	07 35 55.8	
	comp=Z,14μm,18.2s,MS6.0,baz=136,slow=32						
LBTB	Lobatse	46.45	272	*e*P	P	07 19 15.8	-1.5
	comp=Z,17nm,1.0s,mb4.9						
LBTB	Lobatse	46.45	272	*e*P	P	07 19 15.8	-1.5
LBTB				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
SUR	Sutherland	46.48	261	P	P	07 19 17.9	+0.4
	comp=Z,8.7nm,0.7s,mb4.8,baz=122,slow=12,SNR=9.3						
PSI	Prapat	46.72	29	P	P	07 19 19.0	-0.4
	comp=Z,11nm,0.8s,mb4.8,baz=193,slow=7.5,SNR=7.6						
ASPA	Alice Springs	49.01	88	*e*P	P	07 19 37.1	-0.1
ASAR	Alice Springs	49.02	88	P	P	07 19 36.8	-0.4
	comp=Z,11nm,0.8s,mb4.9,baz=235,slow=6.6,SNR=79						
ASAR				PcP	PcP	07 20 59.9	-1.1
	comp=Z,6.1nm,0.8s,baz=229,slow=3.4,SNR=11						
AS31	Alice Springs	49.02	88	*e*P	P	07 19 37.1	-0.1
VNDA	Vanda	49.65	164	P	P	07 19 42.5	+0.5
	comp=Z,17nm,0.9s,mb5.1,baz=276,slow=8.7,SNR=12						
VNDA				LR	LR	07 39 20.1	
	comp=Z,24μm,18.2s,MS6.2,baz=257,slow=34						
VNDA	Vanda	49.65	164	*e*P	P	07 19 42.9	+0.9
	comp=Z,30nm,1.1s,mb5.2						
VNDA	Vanda	49.65	164	*e*P	P	07 19 42.9	+0.9
VNDA				pmax	pmax		
	comp=Z,30nm,1.1s						
KULM	Kulim	49.66	29	*e*P	P	07 19 42.4	+0.3
SNAA	Sanae	49.71	204	P	P	07 19 42.6	+0.1
	comp=Z,3.2nm,0.9s,mb4.4,baz=112,slow=8.0,SNR=7.8						
SNAA	Sanae	49.71	204	⇑*i*P	P	07 19 44.1	+1.6
SNAA				*e*	pP	07 19 46.6	-0.6
SNAA				*e*		07 19 51.7	
SNAA				*e*		07 20 03.7	
SNAA	Sanae	49.71	204	⇑*i*P	P	07 19 44.1	+1.6
SNAA				*e*	pP	07 19 46.6	-0.6
SNAA				*e*		07 19 51.7	
SNAA				*e*		07 20 03.7	
SNAA	Sanae	49.71	204	⇑*i*P	P	07 19 44.1	+1.6
SNAA				*e*	pP	07 19 46.6	-0.6
SNAA				*e*		07 19 51.7	
QSPA	South Pole Qui	49.92	180	⇓*i*P	P	07 19 43.7	-0.4
	comp=Z,57nm,1.2s,mb5.5						
LSZ	Lusaka	50.23	285	*e*P	P	07 19 46.2	-0.2
	comp=Z,36nm,0.9s,mb5.4						
LSZ	Lusaka	50.23	285	*e*P	P	07 19 46.2	-0.2

HYB eS S 07 28 36.0 +1.4
KAD Karad 57.39 355 eS S 07 28 35.3 +0.3
KAD AMS AMS 07 41 16.1
comp=Z,6μm,19.5s,MS5.7
VIS Vishakhapatnam 57.83 5 eS S 07 28 42.2 +1.4
POO Poona 58.63 355 eP P 07 20 48.5 +1.0
BOM Bombay 59.07 354 eP P 07 20 50.6 +0.1
BOM ex x 07 20 54.9
comp=Z,201nm,4.1s
BOM ex x 07 28 28.6
CTA Charters Tower 60.48 92 eP P 07 20 59.6 -0.7
comp=Z,7.8nm,1.2s,mb4.6
CTA Charters Tower 60.48 92 P P 07 20 59.3 -1.0
comp=Z,5.0nm,0.8s,mb4.6,baz=253,slow=7.0,SNR=5.5
CTA Charters Tower 60.48 92 eP P 07 20 59.6 -0.7
CTA pmax pmax
comp=Z,8.0nm,1.2s
ATD Arta Tunnel 61.22 319 P P 07 21 04.8 -0.5
comp=Z,20nm,0.9s,mb5.2,baz=218,slow=22,SNR=6.4
ATD Arta Tunnel 61.22 319 P P 07 21 04.8 -0.5
JBP Jabalpur 63.09 1 i P P 07 21 18.1 +0.3
JBP ex x 07 21 56.7
comp=Z,28nm,2.1s
JBP eS S 07 29 49.9 +1.7
CAL Calcutta 63.11 10 ex x 07 40 59.0
BHPL Bhopal 63.16 359 eS S 07 29 48.4 -0.6
BHJ Bhuj 63.70 351 AMS AMS 07 41 03.0
comp=Z,2μm,22.0s,MS5.1
BOK Bokaro 64.07 7 eS S 07 29 58.6 -1.8
BOK AMS AMS 07 40 39.6
comp=Z,2μm,22.3s,MS5.2
RPZ Rata Peaks 65.24 127 LR LR 07 40 32.9
comp=Z,1μm,21.6s,MS5.1,baz=238,slow=27
SHL Shillong 66.63 13 eP P 07 21 42.0 +1.1
SHL ex x 07 30 34.0
PMG Port Moresby 67.67 83 P P 07 21 47.9 +0.4
comp=Z,13nm,0.7s,mb5.1,baz=265,slow=8.7,SNR=5.3
PMG LR LR 07 49 37.6
comp=Z,6μm,19.7s,MS5.8,baz=38,slow=34
PMG Port Moresby 67.67 83 eP P 07 21 47.5 0.0
comp=Z,19nm,0.8s,mb5.2
PMG Port Moresby 67.67 83 i P P 07 21 48.5 +1.0
PKI Pulchoki 67.76 7 eP P 07 21 48.7 +0.6
DMN Daman 67.77 6 eP P 07 21 48.6 +0.4
KOLN Koldanda 67.82 5 eP P 07 21 46.4 -2.1
comp=Z,210nm,2.0s,mb5.8
JIRN Jiri 67.92 7 eP P 07 21 49.0 -0.1
KKN Kakani 67.97 6 eP P 07 21 49.2 -0.2
GKN Gorkha 68.13 6 eP P 07 21 48.9 -1.5
GUN Gumba 68.14 7 eP P 07 21 49.5 -1.0
KMI Kunming 68.82 23 P P 07 21 56.5 +1.8
KMI PCP PcP 07 22 19.9 +0.7
KMI PP PP 07 24 31.9 +5.2
KMI SCP 07 26 22.6
KMI PCS 07 26 23.7
KMI S S 07 31 02.1 +4.1
KMI SKS 07 31 52.6
KMI SCS ScS 07 31 54.1 -0.4
KMI SS SS 07 35 31.3 +8.3
KMI AMB AMB
comp=Z,15nm,0.6s,mb5.1
KMI AMB AMB
comp=Z,373nm,6.3s
KMI LR LR
comp=N,1μm,16.3s,MS5.3
KMI LR LR
comp=E,1μm,19.5s,MS5.3
KMI LR LR
comp=Z,2μm,24.1s,MS5.2
LSA Lhasa 70.56 12 P P 07 22 06.0 +0.6
LSA AP pP 07 22 15.5 +5.2
LSA XP sP 07 22 19.0 +6.9
LSA PCP PcP 07 22 22.5 -4.1
LSA PP PP 07 24 48.6 +6.9
LSA S S 07 31 15.6 -2.9
LSA LR LR
comp=N,720nm,20.3s,MS5.1
LSA LR LR
comp=E,730nm,19.2s,MS5.1
LSA LR LR
comp=Z,2μm,20.3s,MS5.3
GYA Guiyang 71.33 26 P P 07 22 10.9 +0.8
GYA AP pP 07 22 15.2 +0.2
GYA PP PP 07 24 52.5 +4.2
GYA S S 07 31 30.2 +2.8
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,340nm,5.3s
GYA LR LR
comp=N,1μm,19.8s,MS5.3
GYA LR LR
comp=E,1μm,17.9s,MS5.3
GYA LR LR
comp=Z,2μm,20.4s,MS5.3
CD2 Chengdu 74.55 22 P P 07 22 29.6 +0.4
CD2 XP sP 07 22 37.8 +1.9
CD2 PP PP 07 25 17.2 +1.4
CD2 S S 07 32 01.2 -2.8
CD2 SKS 07 32 30.3
CD2 SS SS 07 36 52.6 +1.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,420nm,5.8s
CD2 LR LR
comp=N,1μm,22.8s
CD2 LR LR
comp=Z,830nm,16.2s
QZH Quanzhou 74.80 37 P P 07 22 32.9 +2.2
QZH S S 07 32 09.0 +2.2
QZH LR LR
comp=N,2μm,14.4s,MS5.7
QZH LR LR
comp=E,2μm,17.0s,MS5.7
QZH LR LR
comp=Z,3μm,21.8s,MS5.5
HNR Honiara 77.42 92 LR LR 07 53 42.3
comp=Z,5μm,21.7s,MS5.8,baz=184,slow=33
XAN Xi'an 79.05 25 P P 07 22 54.0 -0.6
XAN S S 07 32 45.2 -8.0
XAN AMB AMB
comp=Z,9.0nm,1.9s,mb4.4
XAN LR LR
comp=N,803nm,26.8s,MS5.5
XAN LR LR
comp=E,3μm,26.0s,MS5.5
XAN LR LR
comp=Z,2μm,18.4s
KSH Kashi 79.41 358 eP P 07 22 57.4 +0.8
KSH eAP pP 07 23 02.0 +0.5
KSH ePCP PcP 07 23 05.4 +0.8
KSH ePP PP 07 25 58.5 +1.8
KSH S S 07 32 56.5 -0.5
KSH SKS 07 33 07.2
KSH SCS ScS 07 33 16.5 -2.8
KSH SS SS 07 38 06.1 +1.9
KSH AMB AMB
comp=Z,31nm,0.4s,mb5.6
KSH AMB AMB
comp=Z,589nm,5.8s
KSH LR LR
comp=N,7μm,17.3s,MS6.2
KSH LR LR
comp=E,5μm,16.7s,MS6.2
KSH LR LR
comp=Z,8μm,18.4s,MS6.1
LZH Lanzhou 79.44 21 eP P 07 22 57.5 +0.8
LZH AP pP 07 23 04.0 +2.3
LZH XP sP 07 23 09.4 +6.0
LZH PP PP 07 25 58.0 +1.1
LZH S S 07 32 53.3 -4.0
LZH SKS 07 33 07.0
LZH XS sS 07 33 08.0 +2.5
LZH AMB AMB
comp=Z,130nm,1.2s,mb5.7
LZH AMB AMB
comp=Z,450nm,4.8s
LZH LR LR
comp=N,3μm,16.8s
LZH LR LR
comp=Z,3μm,18.0s,MS5.7
BHD Baghdad 79.67 331 ex x 07 23 04.0
BHD ex x 07 33 03.0

EIL Elat 80.47 323 eP P 07 23 03.0 +0.7
comp=Z,343nm,1.3s
NJ2 Nanjing 81.03 34 eP P 07 23 05.1 -0.2
NJ2 PP PP 07 26 12.1 +2.0
NJ2 S S 07 33 11.5 -2.5
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,380nm,11.2s
NJ2 LR LR
comp=N,5μm,38.3s,MS5.8
NJ2 LR LR
comp=E,7μm,34.2s,MS5.8
NJ2 LR LR
comp=Z,1μm,21.3s
JOW Kunigami 81.18 44 LR LR 07 57 59.8
comp=Z,530nm,18.2s,MS4.9,baz=178,slow=35
SSE Sheshan 81.23 36 P P 07 23 07.4 +1.0
SSE PP PP 07 26 12.8 +1.0
SSE S S 07 33 19.0 +2.8
SSE SS SS 07 38 36.1 +4.6
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,262nm,8.2s
SSE LR LR
comp=N,737nm,28.6s,MS5.3
SSE LR LR
comp=E,2μm,28.6s,MS5.3
SSE LR LR
comp=Z,1μm,19.2s
GUMO Guam 81.44 64 LR LR 07 53 44.6
comp=Z,314nm,18.6s,MS4.7,baz=250,slow=32
GTA Gaotai 81.61 16 eP P 07 23 07.5 -0.9
GTA PP PP 07 26 18.3 +3.4
GTA S S 07 33 20.0 -0.1
GTA SKS 07 33 22.7
GTA SS SS 07 38 43.2 +6.0
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
GTA AMB AMB
comp=Z,212nm,5.3s
GTA LR LR
comp=N,2μm,19.8s,MS5.5
GTA LR LR
comp=E,2μm,22.8s,MS5.5
GTA LR LR
comp=Z,3μm,20.1s,MS5.6
AAK Ala-Archa 82.57 357 eP P 07 23 12.3 -1.1
comp=Z,38nm,1.8s,mb5.1
AAK Ala-Archa 82.57 357 c i P P 07 23 13.6 +0.2
AAK pmax pmax
comp=Z,20μm,2.1s
AAK MLR MLR
comp=Z,4μm,18.0s
FRU Bishkek 82.77 357 eP P 07 23 16.0 +1.6
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.4
MSL Mosul 82.84 332 ex x 07 23 16.0
AAA Alma-Ata 83.14 359 eP P 07 23 11.0 -5.4
AAA i S S 07 33 29.1 -6.6
AAA pmax pmax
comp=Z,800nm,5.2s
AAA smax
comp=N,1μm,16.7s
WMQ Urumqi 84.08 7 eP P 07 23 20.0 -1.2
WMQ PP PP 07 26 35.6 +0.4
WMQ SKS 07 33 38.9
WMQ S 07 33 42.3
WMQ SS SS 07 39 13.2 -0.6
WMQ AMB AMB
comp=Z,29nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,162nm,4.6s
WMQ LR LR
comp=N,5μm,26.0s,MS5.8
WMQ LR LR
comp=E,2μm,22.5s,MS5.8
WMQ LR LR
comp=Z,5μm,26.0s,MS5.7
GNI Garni 85.74 335 P P 07 23 27.4 -2.1
comp=Z,2.7nm,0.4s,mb4.8,baz=162,slow=20,SNR=2.1
GNI LR LR 07 59 10.4
comp=Z,2μm,18.8s,MS5.6,baz=250,slow=34
GNI Garni 85.74 335 eP P 07 23 28.7 -0.8
comp=Z,20nm,1.3s,mb5.2
GNI Garni 85.74 335 i P P 07 23 31.0 +1.5
GNI pmax pmax
comp=Z,23nm,1.7s
HHC Hu-ho-hao-te 86.12 24 eP P 07 23 32.4 +1.0
HHC AP pP 07 23 37.1 +0.7
HHC XP sP 07 23 39.5 +1.3
HHC PP PP 07 26 55.4 +3.7
HHC SKS 07 33 55.5
HHC S S 07 34 07.6
HHC SS SS 07 39 49.2 +5.4
HHC AMB AMB
comp=Z,7.0nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,219nm,6.3s
HHC LR LR
comp=N,1μm,23.0s,MS5.6
HHC LR LR
comp=E,3μm,22.7s,MS5.6
HHC LR LR
comp=Z,1μm,26.2s,MS5.2
MALT Malatya 86.38 329 eP P 07 23 33.0 +0.4
comp=Z,26nm,1.5s,mb5.2
MALT Malatya 86.38 329 eP P 07 23 33.1 +0.4
MALT pmax pmax
comp=Z,26nm,1.5s,mb5.2
MKAR Makanchi Array 86.71 3 P P 07 23 31.6 -2.7
comp=Z,3.5nm,0.9s,mb4.6,baz=172,slow=5.8,SNR=20
MKAR LR LR 07 59 39.1
comp=Z,7μm,20.2s,MS6.1,baz=176,slow=34
DGRG David-gareji 86.71 336 P P 07 23 36.3 +2.0
DGRG S 07 25 39.4
MTA Mtatsminda 87.12 335 P P 07 23 38.2 +1.8
MTA S 07 25 40.0
TBLG Delisi 87.17 335 P P 07 23 36.7 +0.2
TBLG S 07 25 41.2
TBLG Delisi 87.17 335 eP P 07 23 36.7 +0.1
DL2 Dalian 88.06 32 eP P 07 23 38.3 -2.5
DL2 S 07 34 23.2
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.1
DL2 AMB AMB
comp=Z,240nm,5.3s
DL2 LR LR
comp=N,660nm,23.6s,MS5.1
DL2 LR LR
comp=E,660nm,23.0s,MS5.1
DL2 LR LR
comp=Z,1μm,22.5s,MS5.2
TORD Torodi Ar. Bea 88.62 288 P P 07 23 43.9 +0.4
comp=Z,1.2nm,0.8s,mb4.3,baz=111,slow=4.4,SNR=6.7
DBIC Dimbokro 89.25 279 P P 07 23 47.2 +0.8
comp=Z,5.6nm,1.2s,mb4.8,baz=157,slow=11,SNR=3.3
DBIC LR LR 07 58 18.3
comp=Z,4μm,21.5s,MS5.8,baz=102,slow=32
DBIC Dimbokro 89.25 279 P P 07 23 47.2 +0.8
DBIC LR LR 07 58 18.3
CBIJ Chichi jima 89.34 53 LR LR 07 57 06.4
comp=Z,628nm,20.8s,MS5.0,baz=301,slow=31
BRTR Keskin Array B 89.51 327 P P 07 23 48.0 +0.3
comp=Z,0.2nm,0.5s,baz=290,slow=4.3,SNR=3.0
BRTR Keskin Array B 89.51 327 i P P 07 23 52.5 +4.8
BRTR pmax pmax
comp=Z,1.0nm,0.8s
KIV Kislovodsk 89.83 335 eP P 07 23 48.5 -0.7
KIV pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
KURK Kurchatov 90.57 0 i P P 07 23 52.8 +0.2
SONM Songino Array 91.11 18 P P 07 23 53.6 -1.6
comp=Z,0.9nm,0.8s,mb4.2,baz=198,slow=5.8,SNR=9.4
SONM LR LR 08 04 34.0
comp=Z,2μm,18.8s,MS5.6,baz=194,slow=35
ULN Ulaanbaatar 91.30 19 i P P 07 23 56.4 +0.4
JHJ Hachijo jima 2 92.33 47 LR LR 08 02 48.8
comp=Z,825nm,20.0s,MS5.2,baz=114,slow=34
ZAK Zakamensk 92.82 16 eP P 07 24 01.1 -1.9
ZAK pmax pmax
comp=Z,11nm,1.9s,mb5.0
ZAK pmax pmax
comp=Z,9.0nm,2.1s,mb4.8
BVAR Borovoye Array 93.16 355 P P 07 24 03.3 -1.3

comp=Z,0.7nm,0.8s,mb4.1,baz=134,slow=6.4,SNR=4.8
BRVK Borovoye 93.20 355 i P P 07 24 04.8 0.0
CN2 Changchun 93.73 32 eP P 07 24 08.7 +1.5
CN2 eXP sP 07 24 15.7 +1.7
CN2 eS 07 35 15.7
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,21.0s,MS5.5
CN2 LR LR
comp=E,1μm,21.0s,MS5.5
CN2 LR LR
comp=Z,1μm,22.0s,MS5.3
ZAL Zalesovo 93.95 4 LR LR 08 04 14.1
comp=Z,7μm,21.6s,MS6.1,baz=274,slow=34
MJAR Matsushiro Arr 94.02 44 P P 07 24 06.8 -1.7
comp=Z,3.0nm,0.9s,mb4.7,baz=188,slow=5.5,SNR=4.3
MJAR LR LR 08 04 39.2
comp=Z,531nm,21.3s,MS5.0,baz=225,slow=34
KWAJ Kwajalein Atol 94.90 83 P P 07 24 13.1 +0.5
MDJ Mudanjiang 96.12 34 P P 07 24 18.9 +0.7
MDJ AP pP 07 24 22.3 -0.9
MDJ PP PP 07 28 10.5 -0.4
MDJ S 07 35 39.1
MDJ SS SS 07 42 15.2 +7.1
MDJ AMB AMB
comp=Z,11nm,2.1s,mb4.9
MDJ AMB AMB
comp=Z,273nm,6.5s
MDJ LR LR
comp=N,1μm,38.9s,MS5.4
MDJ LR LR
comp=E,2μm,37.0s,MS5.4
MDJ LR LR
comp=Z,549nm,19.8s
ARU Arti 97.78 349 i P P 07 24 25.9 +0.2
ARU Arti 97.78 349 eP P 07 24 25.8 +0.1
ARU e 07 28 24.0
ARU ePPP 07 30 29.0
ARU eS 07 35 00.5
ARU eSS SS 07 42 31.0 -0.5
ARU MLR MLR
comp=N,1μm,17.0s,MS5.5
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.7
ARU MLR MLR
comp=E,1μm,18.0s,MS5.5
AKASG Malin Array Be 100.33 331 PP PP 07 28 42.5 -0.7
comp=E,0.2nm,0.3s,baz=122,slow=7.1,SNR=4.9
LVV L'vov 101.68 327 eP Pdif 07 24 50.8 +7.8
TBI Tubuai 102.54 136 eSS SS 07 43 43.3 +5.4
comp=E,837nm,27.2s
TBI eLQ 07 53 56.4
comp=E,2μm,33.2s
TBI eLR LR 07 58 26.2
comp=E,1μm,24.8s
GERES GERESS Array B 105.55 322 PP PP 07 29 21.1 -1.2
comp=E,0.4nm,0.7s,baz=152,slow=9.1,SNR=4.1
PPT Papeete 107.12 132 eSS SS 07 44 40.3 -0.3
comp=E,1μm,25.8s
PPT eLQ 07 55 41.6
comp=E,7μm,31.0s
PPT eLR LR 08 00 38.8
comp=E,2μm,26.8s
RKT Rikitea 109.65 147 eSS SS 07 45 17.4 +2.6
comp=E,631nm,33.2s
RKT eLQ 07 56 40.0
comp=E,2μm,31.8s
RKT eLR LR 08 01 47.7
comp=E,3μm,28.8s
BILL Bilibino 125.78 28 i PKIKP PKPdf 07 29 53.2 +1.1
BILL pmax pmax
comp=Z,2.0nm,1.3s
OTAV Otavalo 135.02 214 ePKPdf PKPdf 07 30 11.2 +1.6
COLA College 143.83 32 i PKIKP PKPdf 07 30 29.0 +3.4
ILAR Eielson Array 144.25 32 PKP PKPdf 07 30 22.9 -3.5
comp=Z,1.5nm,0.8s,baz=275,slow=3.0,SNR=9.2
RES Resolute Bay 145.33 357 ePKPdf PKPdf 07 30 25.8 -2.4
JTS JuntasAbangare 146.78 211 ePKPbc PKPbc 07 30 33.1 +0.6
INK Inuvik 146.98 21 PKPbc PKPbc 07 30 29.1 -3.9
comp=Z,16nm,1.1s,baz=313,slow=2.5,SNR=23
INK Inuvik 146.98 21 ePKP2 PKPab 07 30 30.4 -4.1
DAWY Dawson 147.50 30 ePKPbc PKPbc 07 30 33.2 -1.2
HLGC Holguin 151.01 236 eP PKPab 07 30 55.0 +4.1
YKA Yellowknife Ar 156.34 15 PKP PKPdf 07 30 43.5 -1.6
comp=Z,0.4nm,0.8s,baz=326,slow=1.6,SNR=6.0
YKA PKPab PKPab 07 31 09.3 -4.0
comp=Z,1.3nm,0.9s,baz=329,slow=3.7,SNR=10
YKA PP PP 07 34 43.8 -7.1
comp=Z,0.1nm,0.4s,baz=338,slow=4.8,SNR=2.6
YKA Yellowknife Ar 156.34 15 PKP PKPdf 07 30 43.5 -1.6
YKA PKPab PKPab 07 31 09.3 -4.0
YKA PP PP 07 34 43.8 -7.1
YKA Yellowknife Ar 156.34 15 PKIKP PKPdf 07 30 43.5 -1.6
YKA 07 31 09.4
TEIG Tepich 157.09 213 ePKPdf PKPdf 07 30 46.5 +0.4
TEIG ePKPab PKPab 07 31 17.9 +1.4
NVAR Mina Array Bea 166.82 92 PKP PKPdf 07 30 57.2 +1.2
comp=Z,1.0nm,0.9s,baz=231,slow=3.3,SNR=5.1
NVAR PKPab PKPab 07 31 59.1 0.0
comp=Z,1.3nm,0.8s,baz=230,slow=6.9,SNR=6.3
ULM Lac du Bonnet 169.25 340 PKP PKPdf 07 30 58.0 +0.4
comp=Z,1.3nm,0.8s,baz=9.1,slow=2.8,SNR=3.5
MSU Marysvale 171.51 98 ePKPdf PKPdf 07 31 04.6 +5.7
CCM Cathedral Cave 171.78 258 PKPab PKPab 07 32 21.5 +0.4
HWUT Hardware Ranch 172.22 77 ePKPdf PKPdf 07 31 03.3 +4.0
LAO LASA Array 172.68 27 ePKPdf PKPdf 07 31 00.2 +0.8
PDAR Pinedale Array 173.41 65 PKP PKPdf 07 30 59.1 -0.6
comp=Z,3.1nm,1.2s,baz=129,slow=2.1,SNR=7.1
PDAR PKPab PKPab 07 32 28.9 +0.6
comp=Z,0.6nm,0.7s,baz=269,slow=3.7,SNR=3.9
PV10 Paradox Valley 173.83 105 ePKPdf PKPdf 07 31 00.7 +0.8

*NEIC **07** 07:39:48.8, 19.12N×6388W, h5km, MD3.5(RSPR), After RSPR.*

RSPR 07 07:39:48.8, 1912N×6388W, h5km±31km, MD3.5/9, MD3.5/9, 6C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.98**	**224**	eS	Sg	07 40 18.0	-2.4
TBVI	**Tortola**	**0.98**	**224**	↑eP	Pg	07 40 05.2	-2.5
TBVI				eS	Sg	07 40 18.0	-2.4
STVI	**Saint Thomas**	**1.27**	**234**	eS	Sg	07 40 26.7	-3.1
STVI	**Saint Thomas**	**1.27**	**234**	↑eP	Pg	07 40 09.6	-3.7
STVI				eS	Sg	07 40 26.7	-3.1
CDVI	**St. Croix**	**1.60**	**212**	eS	Sn	07 40 35.7	-3.0
CDVI	**St. Croix**	**1.60**	**212**	↓eP	Pn	07 40 16.2	-1.4
CDVI				eS	Sn	07 40 35.7	-3.0
MTP	**Monte Pirata**	**1.89**	**238**	eS	Sn	07 40 42.7	-3.1
MTP	**Monte Pirata**	**1.89**	**238**	↓eP	Pn	07 40 18.4	-3.2
MTP				eS	Sn	07 40 42.7	-3.1
CBYP	**Canovanas**	**2.05**	**246**	eS	Sn	07 40 46.6	-3.2
CBYP	**Canovanas**	**2.05**	**246**	↑eP	Pn	07 40 20.8	-3.2
CBYP				eS	Sn	07 40 46.6	-3.2
HUMP	**Col San Antoni**	**2.10**	**243**	eS	Sn	07 40 48.5	-2.7
HUMP	**Col San Antoni**	**2.10**	**243**	↑eP	Pn	07 40 21.3	-3.3
HUMP				eS	Sn	07 40 48.5	-2.7
AOPR	**Arecibo Observ**	**2.82**	**255**	↑eP	Pn	07 40 32.8	-1.7
CRPR	**Cabo Rojo, PR**	**3.25**	**251**	↑eP	Pn	07 40 38.0	-2.4

IDC 07 07:46:13.3±5.8, 1197N×14003E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=261.6km s-min=25.1km az=78.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.20**	**190**	P	P	07 52 42.7	-0.3
	1.0nm,0.8s,baz=11,slow=9.9,SNR=6.4						
ASAR	**Alice Springs**	**35.92**	**190**	P	P	07 53 16.2	+0.9
	0.4nm,0.7s,baz=24,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**59.43**	**318**	P	P	07 56 18.4	+0.7
	0.8nm,0.8s,baz=94,slow=9.1,SNR=6.4						
BVAR	**Borovoye Array**	**68.29**	**322**	P	P	07 57 15.5	-0.5
	0.7nm,0.6s,baz=110,slow=7.8,SNR=4.6						

*HLW **07** 08:09:20.9, 3086N×3556E, h15km, Mb3.0*
*ISCJB **07** 08:09:21.0±1.6, 2989N±006×3637E±009, h0km, Error*

ellipse: s-maj=11.4km s-min=8.5km az=120.8
*CSEM **07** 08:09:22.2±0.4,2988N×3628E,h2km,ML1.8,Error ellipse: s-maj=6.0km s-min=3.9km az=65.0,Mining explosion.*
*GII **07** 08:09:23.0±0.8,2987N×3623E,h0km±23km,ML1.8/2*
ISC 07 08:09:21.3±1.7,2987N±007×3641E±009,h0km,n8, σ0:90/14,3D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.20	278	Pg	**Pg**	08 09 43.7	-0.5
HRFI				Sg	**Sg**	08 10 00.7	+0.9
ZFRI	Zfri	1.26	303	Pg	**Pg**	08 09 45.5	0.0
ZFRI				Sg	**Sg**	08 10 02.8	+1.0
EIL	Elat	1.28	261	Pg	**Pg**	08 09 45.5	-0.3
EIL				Sg	**Sg**	08 10 02.1	-0.4
KMTI	Karmit	1.48	279	Pn	**Pn**	08 09 48.4	-0.7
KMTI				Sn	**Sn**	08 10 06.3	-2.8
HBST	Basata	1.60	246	⇓P	**Pn**	08 09 50.5	-0.2
HBST				S	**Sn**	08 10 12.2	+0.1
HDHB	Dhahab	1.94	234	P	**Pn**	08 09 57.5	+2.1
HKAT	Jabal Katrina	2.50	238	⇓P	**Pn**	08 10 03.5	+0.3
HKAT				S	**Sn**	08 10 34.6	+0.2
TR2		2.78	238	⇓P	**Pn**	08 10 06.4	-0.6

*IDC **07** 08:10:12.5±0.9,991N×12570E,h0km,mb3.8/8,mb1 4.0/8, mb1mx3.8/19,mbtmp3.8/8,Error ellipse: s-maj=65.3km s-min=18.2km az=65.0*
*ISCJB **07** 08:10:19.3±0.7,1006N±003×126.17E±005,h33km, mb3.8/8,Error ellipse: s-maj=7.1km s-min=4.8km az=166.2*
*MAN **07** 08:10:20.0,1004N×126.12E,h26km,mb3.3,ML4.5,MS1.8*
MAN F SURIGAO CITY - INTENSITY I.
ISC 07 08:10:20.4±0.6,1005N±003×12616E±005,h35km,n24, σ1:32/34,mb3.8/8,1C-3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.71	248	⇓eP	**Pn**	08 10 33.4	-0.5
SCPH				eS	**Sn**	08 10 41.0	-2.6
BUTP	Butuan	1.20	206	eP	**Pn**	08 10 40.0	-0.6
BUTP				eS	**Sn**	08 10 56.7	+1.0
MSLP	Maasin	1.28	274	eP	**Pn**	08 10 41.4	-0.3
MSLP				eS	**Sn**	08 10 57.5	-0.2
PLP	Palo	1.60	314	eP	**Pn**	08 10 46.5	+0.4
PLP				i S	**Sn**	08 11 07.0	+1.5
BESP	Borongan	1.69	335	eP	**Pn**	08 10 48.9	+1.5
BESP				eS	**Sn**	08 11 12.0	+4.2
BIPH	Bislig	1.87	174	⇓eP	**Pn**	08 10 49.2	-0.6
BIPH				eS	**Sn**	08 11 14.3	+2.1
CGP	Cagayan de Oro	2.15	222	⇑eP	**Pn**	08 10 53.2	-0.4
CGP				i S	**Sn**	08 11 18.5	-0.5
LLP	Lapu-Lapu	2.17	277	i P	**Pn**	08 10 54.3	+0.3
LLP				eS	**Sn**	08 11 11.4	-8.3
TBP	Tagbilaran	2.29	261	eP	**Pn**	08 10 56.2	+0.6
TBP				eS	**Sn**	08 11 20.8	-1.8
BUKP	Musuan	2.42	207	eP	**Pn**	08 10 58.7	+1.3
BUKP				eS	**Sn**	08 11 27.4	+1.7
CNP	Catarman	2.85	329	eP	**Pn**	08 11 04.1	+0.8
SNPH	Sibulan	2.96	256	eP	**Pn**	08 11 06.0	+1.1
DCPH	Dipolog City	3.13	242	eP	**Pn**	08 11 07.6	+0.4
GUIM	Jordan	3.56	280	eP	**Pn**	08 11 12.6	-0.4
RCP	Roxas	3.67	294	⇓eP	**Pn**	08 11 15.6	+1.0
PVCP	Virac	4.03	331	eP	**Pn**	08 11 20.8	+1.2
WRA	Warramunga Arr	30.88	165	P	**P**	08 16 31.2	-2.2
	0.3nm,0.6s,mb3.3,baz=343,slow=9.0,SNR=7.0						
ASAR	Alice Springs	34.36	167	P	**P**	08 17 00.1	-3.7
	0.2nm,0.3s,mb3.5,baz=352,slow=7.0,SNR=5.6						
SONM	Songino Array	41.18	340	P	**P**	08 17 59.1	-2.3
	0.4nm,0.5s,mb3.3,baz=161,slow=10.0,SNR=5.5						
DZM	Mont Dzumac	50.80	129	P	**P**	08 19 17.7	+0.5
	1.3nm,0.6s,mb4.0,baz=32,slow=21,SNR=5.6						
MKAR	Makanchi Array	52.13	323	P	**P**	08 19 24.4	-2.8
	1.2nm,0.7s,mb4.0,baz=120,slow=8.1,SNR=16						
ARCES	ARCESS Array B	84.36	340	P	**P**	08 22 45.4	-3.5
	5.7nm,1.1s,mb4.6,baz=75,slow=5.1,SNR=5.0						
FINES	FINESS Array B	86.03	332	P	**P**	08 22 54.0	-3.3
	0.7nm,0.4s,mb4.3,baz=78,slow=4.8,SNR=12						
YKA	Yellowknife Ar	94.00	24	P	**P**	08 23 33.1	-1.6
	0.2nm,0.6s,mb3.8,baz=298,slow=4.7,SNR=5.2						

IDC 07 08:17:19.6±61.0,1743S×17868W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/14,mbtmp3.9/3,MS3.5/1,Ms1 3.5/1, ms1mx2.9/16,Error ellipse: s-maj=1107.0km s-min=148.9km az=79.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.51	63	LR	LR	08 20 53.0	
	comp=Z,341nm,21.6s,baz=156,slow=28						
STKA	Stephens Creek	38.64	241	P	P	08 24 44.7	+0.1
	0.7nm,0.4s,baz=74,slow=7.4,SNR=1.2						
WRA	Warramunga Arr	44.47	259	P	P	08 25 32.8	+0.3
	0.4nm,0.4s,baz=94,slow=7.5,SNR=24						
ASAR	Alice Springs	44.68	254	P	P	08 25 34.6	+0.5
	1.6nm,0.5s,baz=87,slow=8.6,SNR=28						

*HLW **07** 08:39:51.6,3127N×3560E,h17km,Mb3.2*
*ISCJB **07** 08:39:56.7±0.5,3085N±003×3503E±005,h0km,Error ellipse: s-maj=6.0km s-min=3.7km az=21.9*
*GII **07** 08:39:56.1±2.0,3086N×3500E,h0km±10km,ML2.3/5*
*CSEM **07** 08:39:56.0±0.1,3083N×3503E,h0km,ML2.3,Error ellipse: s-maj=1.9km s-min=1.4km az=89.0,Mining explosion.*
ISC 07 08:39:57.2±0.5,3086N±003×3502E±005,h0km,n18, σ0:98/24,1C-7D,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	Zfri	0.33	156	Pg	**Pg**	08 40 04.2	+0.6
ZFRI	Zfri	0.33	156	Pg	**Pg**	08 40 04.1	+0.6
SVTA	Shivta	0.35	282	Pg	**Pg**	08 40 03.8	-0.2
MZDA	Masada	0.54	33	Pg	**Pg**	08 40 07.6	+0.2
MZDA				Sg	**Sg**	08 40 16.0	+1.7
KZIT	Kziot	0.54	275	Pg	**Pg**	08 40 07.5	-0.1
KZIT				Sg	**Sg**	08 40 16.6	+2.1
KMTI	Karmit	0.80	199	Pg	**Pg**	08 40 12.1	-0.3
KMTI				Sg	**Sg**	08 40 23.5	+0.7
HRFI	Mount Harif	0.82	179	Pg	**Pg**	08 40 12.7	-0.2
HRFI				Sg	**Sg**	08 40 24.6	+1.0
EIL	Elat	1.19	183	Pg	**Pg**	08 40 19.6	-0.3
HNKL	Nakhl	1.29	224	⇓P	**Pg**	08 40 21.2	-0.7
AMAG	Maghara	1.58	263	⇓P	**Pn**	08 40 25.6	-0.8
MMLI	Mount Malkishu	1.61	12	Pn	**Pn**	08 40 26.2	-0.7
HBST	Basata	1.66	189	⇓P	**Pn**	08 40 26.0	-1.5
HBST				S	**Sn**	08 40 50.7	+1.2
OFRI	'Ofer	1.76	359	Pn	**Pn**	08 40 28.6	-0.2
SUZ		2.15	242	⇓P	**Pn**	08 40 34.1	-0.2
HDHB	Dhahab	2.16	189	⇓P	**Pn**	08 40 32.9	-1.5
HKAT	Jabal Katrina	2.50	201	⇑P	**Pn**	08 40 38.7	-0.4
HKAT				S	**Sn**	08 41 13.0	+2.9
TR2		2.71	205	⇓P	**Pn**	08 40 41.4	-0.6
TR1		2.99	198	⇓P	**Pn**	08 40 44.9	-0.9

*CSEM **07** 08:58:05.2±0.9,3858N×2848W,h14km±2km,ML1.7,Error ellipse: s-maj=2.4km s-min=1.7km az=21.0,After PDA*
*PDA **07** 08:58:05.2±0.9,3858N×2848W,h14km±2km,MD2.7, ML1.7,Error ellipse: s-maj=2.4km s-min=1.7km az=21.0*
SVSA 07 08:58:05.2±0.9,3858N×2848W,h14km±2km,MD2.7, ML1.7,Error ellipse: s-maj=2.4km s-min=1.7km az=21.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	Pico	0.09	153	i P	Pg	08 58 07.9	-0.2
PICO				eS	Sg	08 58 10.0	-0.2
PICO	Pico	0.09	153	eS	Sg	08 58 10.0	-0.2
PCND	Candelaria	0.11	174	eP	Pg	08 58 08.0	-0.4
PCND				eS	Sg	08 58 10.2	-0.5
PCND							
	92nm,0.2s						
HOR	Horta	0.13	247	eP	Pg	08 58 08.1	-0.6
HOR				eS	Sg	08 58 10.6	-0.6
PBOI	Pico dos Bois	0.16	151	eS	Sg	08 58 11.3	-0.6
PBOI							
	53nm,0.2s						
CALA	Caldeira	0.18	271	i P	Pg	08 58 08.7	-0.2
CALA				eS	Sg	08 58 11.8	-0.4
CALA	Caldeira	0.18	271	eS	Sg	08 58 11.8	-0.4
PCED	Cedros	0.18	286	eP	Pg	08 58 08.5	-0.9
PCED				eS	Sg	08 58 11.8	-0.6
PCED							
	52nm,0.2s						
PCED	Cedros	0.18	286	eP	Pg	08 58 08.5	-0.9
PCED				eS	Sg	08 58 11.8	-0.6
ROSA	Rosais	0.23	52	eP	Pg	08 58 09.8	-0.4
ROSA				eS	Sg	08 58 12.9	-0.8
PTCA	Ponta do Capel	0.25	272	eS	Sg	08 58 13.8	-0.4
PTCA							
	61nm,0.2s						
PMAN	Manadas	0.31	80	eS	Sg	08 58 14.7	-1.1
PMAN							
	50nm,0.1s						
PIED	Piedade	0.37	115	eS	Sg	08 58 16.4	-1.2

IDC 07 09:35:22.8±6.9,1805S×6949W,h136km±45km,mb3.1/2, mb1 3.2/3,mb1mx3.0/16,mbtmp3.3/3,Error ellipse: s-maj=78.8km s-min=54.9km az=10.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.19	37	P	Pn	09 36 00.0	+0.7
	1.3nm,0.3s,baz=212,slow=6.9,SNR=35						
LPAZ				S	Sn	09 36 28.9	+1.6
	0.3nm,0.3s,baz=183,slow=12,SNR=2.4						
TORD	Torodi Ar. Bea	76.75	71	P	P	09 46 59.8	+0.7
	0.3nm,0.5s,baz=249,slow=5.6,SNR=4.9						
YKA	Yellowknife Ar	87.77	341	P	P	09 47 55.9	-0.5
	0.2nm,0.6s,baz=127,slow=4.4,SNR=5.9						

IDC 07 10:10:14.0±6.7,651S×15197E,h62km±55km,mb3.5/4, mb1 3.7/5,mb1mx3.5/13,mbtmp3.8/5,ML2.7/1,Error ellipse: s-maj=59.7km s-min=33.1km az=116.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.56	239	P	Pn	10 11 34.2	+0.1
	1.6nm,0.3s,baz=55,slow=11,SNR=6.3						
PMG				S	Sn	10 12 37.9	+1.2
	1.2nm,0.3s,baz=156,slow=20,SNR=4.2						
WRA	Warramunga Arr	21.71	230	P	P	10 15 00.0	+0.2
	2.3nm,0.8s,baz=57,slow=10,SNR=18						
ASAR	Alice Springs	24.34	224	P	P	10 15 25.6	-0.3
	0.9nm,0.5s,baz=57,slow=9.2,SNR=26						
STKA	Stephens Creek	27.03	200	P	P	10 15 50.9	+0.6
	2.1nm,0.6s,baz=14,slow=11,SNR=5.2						
ILAR	Eielson Array	84.05	22	P	P	10 22 37.4	-0.4
	0.5nm,0.7s,baz=254,slow=4.9,SNR=4.4						
TORD	Torodi Ar. Bea	150.00	285	PKPbc	PKPbc	10 29 58.5	+1.2
	1.9nm,0.9s,baz=65,slow=2.0,SNR=7.8						

IDC 07 10:27:45.7±2.2,5939S×2990W,h0km,mb4.0/3, mb1 4.0/3,mb1mx3.8/14,mbtmp4.0/3,MS3.9/6,Ms1 3.9/6, ms1mx3.7/12,Error ellipse: s-maj=96.2km s-min=34.8km az=179.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	31.41	288	LR	LR	10 45 03.8	
	comp=Z,168nm,21.1s,baz=174,slow=33						
MAW	Mawson	38.37	142	LR	LR	10 48 07.8	
	comp=Z,202nm,18.9s,baz=65,slow=32						
VNDA	Vanda	43.15	184	LR	LR	10 54 29.8	
	comp=Z,234nm,18.2s,baz=193,slow=37						
BOSA	Boshof	48.21	75	P	P	10 36 26.9	-1.1
	1.2nm,0.6s,baz=231,slow=13,SNR=2.5						
BOSA				LR	LR	10 52 03.9	
	comp=Z,132nm,21.2s,baz=287,slow=30						
LPAZ	La Paz	51.28	310	P	P	10 36 51.2	-0.2
	0.7nm,0.7s,baz=170,slow=11,SNR=2.9						
DBIC	Dimbokro	68.81	27	LR	LR	11 01 21.2	
	comp=Z,87nm,19.4s,baz=158,slow=29						
ROSC	El Rosal	73.03	313	LR	LR	11 11 59.7	
	comp=Z,54nm,18.1s,baz=184,slow=36						
TORD	Torodi Ar. Bea	76.68	32	P	P	10 39 38.7	+0.2
	1.9nm,0.8s,baz=199,slow=5.5,SNR=12						
YKA	Yellowknife Ar	137.65	317	PKP	PKPdf	10 47 10.5	-1.1
	0.2nm,0.7s,baz=119,slow=2.0,SNR=3.8						
INK	Inuvik	147.39	318	PKPbc	PKPbc	10 47 30.1	-1.2
	1.3nm,0.9s,baz=102,slow=3.2,SNR=4.8						
ILAR	Eielson Array	151.13	308	PKPbc	PKPbc	10 47 38.8	-2.0
	0.8nm,0.8s,baz=130,slow=1.4,SNR=8.3						
ILAR				PKPab	PKPab	10 47 45.6	-2.9
	1.1nm,0.8s,baz=134,slow=1.6,SNR=9.1						

CASC 07 10:54:34.5±1.7,1212N×8696W,h99km±7km,MD3.6, ML3.5,11C-5D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	Leon	0.30	13	⇑iP	Pn	10 54 49.5	+0.6
LEON				eS	Sn	10 54 59.7	0.0
COPN	Copaltepe	0.36	81	⇓eP	Pn	10 54 49.8	+0.6
COPN				eS	Sn	10 55 00.5	+0.3
MIRN	Miramar	0.40	37	⇓iP	Pn	10 54 49.8	+0.4
MIRN				eS	Sn	10 55 01.2	+0.6
CNGN	Cerro Negro	0.45	34	⇑eP	Pn	10 54 50.0	+0.2
TEL3	Telica 3	0.46	14	⇑eP	Pn	10 54 50.4	+0.6
TEL3				eS	Sn	10 55 02.9	+1.6
TEL3				i		10 55 06.0	
	comp=Z,1μm,0.4s						
TELN	Telica	0.49	15	eP	Pn	10 54 51.0	+0.9
TELN				eS	Sn	10 55 03.1	+1.4
MOMJ	Momotombo	0.50	55	⇑eP	Pn	10 54 50.1	0.0
MOMJ				eS	Sn	10 55 01.7	-0.1
CRIN	San Cristobal	0.58	351	eP	Pn	10 54 51.6	+0.8
CRIN				eS	Sn	10 55 03.7	+0.8
APYN	Apoyeque	0.61	79	⇑eP	Pn	10 54 51.1	+0.2
APYN				eS	Sn	10 55 04.1	+0.8
XAVN	Gruta Xavier	0.62	88	⇑eP	Pn	10 54 51.4	+0.3
XAVN				eS	Sn	10 55 03.7	+0.2
MGAN	Managua	0.70	88	⇓iP	Pn	10 54 51.9	+0.1
MGAN				eS	Sn	10 55 05.6	+0.9
MGAN				i		10 55 06.4	
	comp=N,1μm,0.4s						
TICN	Ticuantepe	0.72	97	eP	Pn	10 54 52.6	+0.6
TICN				eS	Sn	10 55 06.6	+1.6
WILN	Americas 2	0.76	87	eP	Pn	10 54 52.3	0.0
WILN				eS	Sn	10 55 06.1	+0.4
APON	Apoyo	0.90	103	eP	Pn	10 54 54.6	+0.9
APON				eS	Sn	10 55 09.0	+0.9
SSNN	San Juan del S	1.37	127	eP	Pn	10 55 00.1	+1.1
SSNN				eS	Sn	10 55 18.8	+1.1
SSNN				i		10 55 20.1	
	comp=Z,713nm,0.2s						
CONN	Concepcion	1.42	113	eP	Pn	10 54 60.0	+0.3
CONN				eS	Sn	10 55 19.0	+0.3
CNCH	Conchagua	1.43	323	⇓eP	Pn	10 54 59.6	-0.1
CNCH				eS	Sn	10 55 19.9	+0.9
BLLM	Bellamira	1.81	317	⇑eP	Pn	10 55 04.8	+0.3
BLLM				eS	Sn	10 55 29.0	+1.6
VSM	San Miguel	1.82	315	⇑eP	Pn	10 55 06.6	+1.9
VSM				eS	Sn	10 55 30.8	+3.0
SNVI	San Vicente	2.36	309	⇑eP	Pn	10 55 12.2	+0.6
SNVI				eS	Sn	10 55 41.7	+1.6
LCBS	La Ceiba	2.49	308	⇑eP	Pn	10 55 13.9	+0.5
LCBS				eS	Sn	10 55 44.0	+0.8
LFRS	El Faro	2.54	306	eP	Pn	10 55 14.7	+0.7
LFRS				eS	Sn	10 55 44.6	+0.2
BOQS	Boqueron	2.77	306	eP	Pn	10 55 18.0	+0.8
BOQS				eS	Sn	10 55 50.7	+0.7
SBLS	San Blas	3.11	304	⇑eP	Pn	10 55 22.9	+1.3
SBLS				eS	Sn	10 55 59.0	+1.0
RTR	El Retiro	3.16	304	eP	Pn	10 55 24.0	+1.7
RTR				eS	Sn	10 56 00.0	+0.9
CGA2	Cerro Gallo 2	3.22	130	eP	Pn	10 55 25.2	+2.1
CGA2				eS	Sn	10 56 01.5	+0.8
MTO2	Montecristo 2	3.25	314	eP	Pn	10 55 24.5	+0.9
PRS1	Puriscal	3.36	129	eP	Pn	10 55 26.7	+1.7
LAJ	Bijagual	3.58	129	⇓eP	Pn	10 55 26.4	-1.5
LCR2	La Lucha 2	3.75	129	eP	Pn	10 55 30.9	+0.8
LCR2				eS	Sn	10 56 15.6	+2.3
BUS	Buena Vista	4.05	129	eP	Pn	10 55 36.1	+1.8
BUS				eS	Sn	10 56 22.7	+2.0

IDC 07 11:11:07.8±9.6,016S×9715E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.3/18,mbtmp3.3/3,Error ellipse: s-maj=467.4km s-min=30.3km az=54.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.38	121	P	P	11 18 55.3	-0.3
	0.6nm,1.0s,baz=294,slow=8.1,SNR=3.7						
WRA				pP		11 19 02.5	
	0.3nm,0.7s,baz=301,slow=8.9,SNR=5.0						
ASAR	Alice Springs	42.63	126	P	P	11 19 07.0	+1.2
	0.1nm,0.6s,baz=302,slow=8.4,SNR=4.4						
ASAR				pP		11 19 14.5	
	0.3nm,0.5s,baz=297,slow=8.0,SNR=6.5						
MKAR	Makanchi Array	48.54	346	P	P	11 19 52.6	0.0
	0.3nm,0.7s,baz=155,slow=6.9,SNR=4.4						

*IDC **07** 11:24:26.9±7.3,3037S×17946W,h337km±71km,mb3.2/4, mb1 3.4/5,mb1mx3.3/14,mbtmp4.0/5,Error ellipse: s-maj=71.6km s-min=28.8km az=17.0*
*ISCJB **07** 11:24:27.8±2.2,3061S±008×179.1W±03,h400km,mb3.4/4, Error ellipse: s-maj=40.1km s-min=9.3km az=164.2*
ISC 07 11:24:32.2±2.1,3080S±008×1795W±03,h400km,n21, σ0:89/19,mb3.4/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	7.49	194	PN	**Pn**	11 26 21.7	+0.3
PUZ				SN	**S**	11 27 50.1	-0.6
MWZ	Matawai	7.91	197	PN	**Pn**	11 26 25.6	-0.6
MWZ				SN	**S**	11 27 59.0	-0.5
URZ	Urewera	7.96	200	P	**P**	11 26 25.7	-1.4
	2.9nm,0.3s,baz=322,slow=1.9,SNR=30						
URZ				S	**S**	11 28 00.6	+0.2
	10nm,0.3s,baz=77,slow=22,SNR=22						
URZ	Urewera	7.96	200	PN	**Pn**	11 26 26.5	-0.1
URZ				SN	**S**	11 28 01.4	+1.0
KNZ	Kokohu	8.53	195	PN	**Pn**	11 26 35.1	+1.9
BKZ	Black Stump Fm	8.98	201	PN	**Pn**	11 26 38.6	+0.2
WNVZ	Wahianoa	9.42	204	PN	**Pn**	11 26 44.2	+0.8
TSZ	Takapari Road	9.96	201	PN	**Pn**	11 26 49.0	-0.8
MRZ	Mangatainoka R	10.63	201	PN	**Pn**	11 26 56.4	-1.0
THZ	Tophouse	12.54	207	ePN	**P**	11 27 19.5	+1.7
CTA	Charters Tower	32.62	281	P	**P**	11 30 27.4	-1.1
	2.2nm,0.9s,mb3.5,baz=95,slow=12,SNR=3.7						
STKA	Stephens Creek	33.16	258	P	**P**	11 30 34.2	+1.1
	1.0nm,0.3s,mb3.6,baz=98,slow=10,SNR=3.9						
ASAR	Alice Springs	41.83	268	P	**P**	11 31 45.1	+0.3
	0.3nm,0.4s,mb3.0,baz=104,slow=7.9,SNR=6.0						
WB2	Warramunga Arr	42.84	273	eP	**P**	11 31 52.7	-0.2
WRA	Warramunga Arr	42.85	273	P	**P**	11 31 52.7	-0.3
	0.7nm,0.3s,mb3.5,baz=106,slow=8.8,SNR=39						
KAF	Kangasniemi	144.49	339	epkp	PKPdf	11 43 19.6	-2.0
FINES	FINESS Array B	145.07	339	PKP	PKPdf	11 43 22.0	-0.7
	2.9nm,0.4s,baz=55,slow=4.4,SNR=36						
NB2	NORSAR Subarra	148.94	350	PKPa	PKPbc	11 43 32.9	-0.7
	comp=Z,0.9nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.94	350	PKPbc	PKPbc	11 43 33.2	-0.4
	comp=Z,1.0nm,0.5s,baz=17,slow=4.2,SNR=5.0						
AKASG	Malin Array Be	150.84	321	PKPbc	PKPbc	11 43 37.8	-0.3
	comp=Z,0.3nm,0.3s,baz=52,slow=2.3,SNR=5.4						
BRTR	Keskin Array B	151.67	297	PKPbc	PKPbc	11 43 41.8	+1.8
	comp=Z,0.7nm,0.6s,baz=93,slow=3.2,SNR=3.9						

*ISCJB **07** 11:24:59.2±0.9,6336S±009×1703E±06,h10km,mb4.2/5, MS4.4/15,Error ellipse: s-maj=37.4km s-min=12.1km az=160.5*
*IDC **07** 11:24:59.6±1.0,6324S×17083E,h0km,mb4.1/4, mb1 4.4/5,mb1mx4.3/11,mbtmp4.2/5,ML3.7/1,MS4.4/17, Ms1 4.4/17,ms1mx4.3/22,Error ellipse: s-maj=43.8km s-min=27.2km az=59.0*
*NEIC **07** 11:25:01.2±0.5,6336S×17040E,h10km,mb4.4/2,Error ellipse: s-maj=24.2km s-min=9.8km az=83.0*
ISC 07 11:25:00.5±0.9,6336S±009×1705E±06,h10km,n34, σ0:76/9,mb4.2/5,MS4.4/15,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	14.49	187	Pn	**Pn**	11 28 26.2	+0.6
	0.3nm,0.3s,baz=10,slow=13,SNR=13						
VNDA				LR	LR	11 32 49.0	
	comp=Z,3μm,20.6s,baz=18,slow=32						
VNDA	Vanda	14.49	187	Pn	**Pn**	11 28 26.2	+0.6
VNDA				LR	LR	11 32 49.0	
SBA	Scott Base	14.62	183	ePn	**Pn**	11 28 26.6	-0.7
	7.8nm,0.7s						
RPZ	Rata Peaks	19.68	1	LR	LR	11 35 27.2	
	comp=Z,μm,21.4s,baz=202,slow=32						
URZ	Urewera	25.45	12	LR	LR	11 38 56.7	
	comp=Z,1μm,20.3s,MS4.5,baz=77,slow=33						
QSPA	South Pole Qui	26.73	180	eP	**P**	11 30 39.8	-0.4
	11nm,1.1s,mb4.3						
RAO	Raoul Island	34.93	18	LR	LR	11 43 02.1	
	comp=Z,654nm,21.0s,MS4.3,baz=138,slow=31						
STKA	Stephens Creek	36.39	316	LR	LR	11 44 34.4	
	comp=Z,485nm,18.6s,MS4.3,baz=334,slow=32						
MAW	Mawson	39.44	215	LR	LR	11 48 45.3	
	comp=Z,2μm,18.2s,MS5.0,baz=139,slow=36						
DZM	Mont Dzumac	41.35	354	P	**P**	11 32 45.7	-0.8
	4.3nm,1.0s,mb4.0,baz=195,slow=16,SNR=4.0						
DZM				LR	LR	11 47 21.4	
	comp=Z,662nm,19.4s,MS4.5,baz=196,slow=32						
CTA	Charters Tower	46.27	328	LR	LR	11 49 23.1	
	comp=Z,375nm,20.4s,MS4.3,baz=262,slow=32						
ASAR	Alice Springs	46.50	311	P	**P**	11 33 27.6	-0.3
	2.5nm,1.1s,mb4.1,baz=162,slow=8.0,SNR=8.1						
TBI	Tubuai	48.02	53	eLQ		11 44 36.1	
	815nm,27.5s						
TBI				eLR	LR	11 46 44.6	
	543nm,26.5s,baz=202						
WRA	Warramunga Arr	49.81	313	P	**P**	11 33 54.4	+0.9
	2.2nm,1.1s,mb4.1,baz=166,slow=8.3,SNR=4.2						
AFI	Afiamalu	50.94	22	LR	LR	11 51 30.4	
	comp=Z,356nm,21.5s,MS4.3,baz=183,slow=31						
PPT	Papeete	53.31	50	eLQ		11 46 38.1	
	765nm,24.5s						
P

Error ellipse: s-maj=299.0km s-min=182.9km az=160.0

ISC 07 11:30:53.7±9.1, 386N×08×704E±02, h35km, n8, σ0°54/8, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.34**	**35**	P	**Pn**	**11 31 56.8**	**-0.3**
	SNR=15						
KK31	**Karatay Array**	**4.48**	**1**	⇑Pn	**Pn**	**11 31 59.2**	**+0.1**
	1.8nm,0.5s,baz=167,slow=12,SNR=38						
KK31				⇑Lg		11 33 02.2	
	5.0nm,0.5s,baz=159,slow=30,SNR=3.5						
UCH	**Uchtor**	**4.80**	**40**	P	**Pn**	**11 32 02.9**	**-0.6**
	SNR=8.0						
EKS2	**Erkin-Say**	**4.80**	**32**	P	**Pn**	**11 32 04.5**	**+1.0**
	SNR=6.4						
KZA	**Kyzart**	**5.09**	**46**	P	**Pn**	**11 32 08.2**	**+0.8**
	SNR=12						
USP	**Ospenovka**	**5.60**	**33**	P	**Pn**	**11 32 14.0**	**-0.5**
	SNR=14						
TKM2	**Tokmak 2**	**5.86**	**41**	P	**Pn**	**11 32 17.7**	**-0.3**
	SNR=7.8						
AB31	**Akbulak array**	**13.00**	**328**	⇑Pn	**Pn**	**11 33 55.8**	**0.0**
	0.4nm,0.6s,baz=357,slow=13,SNR=8.7						

IDC 07 11:33:28.2±1.9, 138N×12791E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, Error ellipse: s-maj=161.7km s-min=22.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.11**	**164**	P	P	11 38 26.8	+1.7
	1.5nm,0.7s,baz=342,slow=10,SNR=18						
ASAR	**Alice Springs**	**25.57**	**167**	P	P	11 38 59.5	+0.6
	0.5nm,0.6s,baz=352,slow=7.4,SNR=9.8						
STKA	**Stephens Creek**	**35.53**	**160**	P	P	11 40 25.1	-1.8
	0.6nm,0.3s,baz=333,slow=16,SNR=3.1						
MKAR	**Makanchi Array**	**60.14**	**326**	P	P	11 43 37.8	+0.3
	0.6nm,0.3s,baz=114,slow=8.1,SNR=19						

MAN 07 11:37:58.2, 1748N×11958E, h16km, mb2.3, ML3.9, MS4.2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.14**	**164**	*e*P	Pn	11 38 17.2	-2.2
APYP	**Conner**	**1.63**	**76**	*e*P	Pn	11 38 26.2	-0.1
APYP				*e*S	Sn	11 38 47.2	+0.3
CAUP	**Cauayan**	**2.21**	**104**	*e*P	Pn	11 38 36.5	+2.2
CAUP				*e*S	Sn	11 39 01.2	0.0
BALP	**Baler**	**2.58**	**132**	*e*P	Pn	11 38 40.2	+0.9
BALP				*e*S	Sn	11 39 11.9	+1.6

MAN 07 11:48:06.4, 1800N×12074E, h6km, mb2.3, ML3.9, MS0.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**1.47**	**135**	*e*P	Pn	11 48 40.9	+7.5
CAUP				*e*S	Sn	11 49 05.8	+13
BALP	**Baler**	**2.38**	**160**	*e*P	Pn	11 48 39.4	-6.6
BALP				*e*S	Sn	11 49 13.3	-2.1

IDC 07 11:51:52.1±4.3, 1730S×17783W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=192.2km s-min=32.4km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.41**	**241**	P	P	11 59 24.1	+0.5
	0.9nm,0.5s,baz=72,slow=5.7,SNR=4.0						
WRA	**Warramunga Arr**	**45.29**	**259**	P	P	12 00 11.4	-0.2
	0.5nm,0.6s,baz=96,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**45.49**	**254**	P	P	12 00 13.8	+0.7
	4.6nm,0.6s,baz=88,slow=8.1,SNR=117						
ASPA	**Alice Springs**	**45.49**	**254**	*e*P	P	12 00 13.5	+0.3
ILAR	**Eielson Array**	**85.17**	**13**	P	P	12 04 29.9	-0.4
	0.2nm,0.5s,baz=227,slow=5.3,SNR=8.6						

*ISCJB **07** 11:57:30.6±4.0, 56S±02×1518E±0.1, h63km±34km, mb4.1/5, Error ellipse: s-maj=36.3km s-min=22.1km az=147.9*

*IDC **07** 11:57:31.5±5.5, 562S×15187E, h53km±49km, mb3.8/4, mb1 4.1/5, mb1mx3.7/14, mbtmp4.1/5, ML3.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/21, Error ellipse: s-maj=40.9km s-min=28.0km az=165.0*

ISC 07 11:57:32.0±3.5, 56S±02×1518E±01, h62km±29km, n11, σ0°39/10, mb4.1/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.01**	**230**	P	**Pn**	**11 58 58.5**	**+0.2**
	2.8nm,0.3s,baz=62,slow=7.3,SNR=12						
PMG				S	**Sn**	**12 00 05.9**	**+0.1**
	1.4nm,0.3s,baz=2.1,slow=18,SNR=4.3						
KAKA	**Kakadu**	**20.41**	**248**	*e*P	**P**	**12 02 03.1**	**-0.8**
	8.1nm,0.7s						
DZM	**Mont Dzumac**	**21.67**	**141**	P	**P**	**12 02 17.1**	**-0.3**
	1.5nm,0.6s,mb3.6,baz=23,slow=8.7,SNR=5.0						
WB2	**Warramunga Arr**	**22.22**	**228**	*e*P	**P**	**12 02 23.3**	**0.0**
WRA	**Warramunga Arr**	**22.23**	**228**	P	**P**	**12 02 23.2**	**-0.2**
	5.9nm,0.7s,mb4.1,baz=53,slow=9.8,SNR=35						
ASAR	**Alice Springs**	**24.95**	**222**	P	**P**	**12 02 49.7**	**+0.2**
	9.2nm,0.8s,mb4.4,baz=55,slow=9.1,SNR=74						
ASPA	**Alice Springs**	**24.95**	**222**	*e*P	**P**	**12 02 50.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.46**	**242**	*e*P	**P**	**12 03 20.8**	**-0.2**
	40nm,1.9s,mb4.7						
MJAR	**Matsushiro Arr**	**43.77**	**344**	LR	LR	12 21 56.8	
	comp=Z,101nm,20.1s,baz=220,slow=33						
ILAR	**Eielson Array**	**83.21**	**22**	P	**P**	**12 09 51.9**	**+0.3**
	0.5nm,0.7s,mb3.7,baz=244,slow=5.7,SNR=8.2						
TORD	**Torodi Ar. Bea**	**149.61**	**287**	PKPbc	PKPbc	12 17 16.4	+2.0
	2.2nm,0.7s,baz=73,slow=2.7,SNR=12						

*IDC **07** 12:01:47.8±0.8, 1895N×14488E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/19, mbtmp3.7/9, Error ellipse: s-maj=33.3km s-min=17.4km az=96.0*

*ISCJB **07** 12:01:51.0±0.6, 1894N±008×1448E±02, h33km, mb4.0/13, Error ellipse: s-maj=24.4km s-min=11.6km az=2.4*

*NEIC **07** 12:01:52.0±8.8, 1892N×14482E, h27km±63km, mb4.5/5, Error ellipse: s-maj=20.8km s-min=8.9km az=92.0*

ISC 07 12:01:53.2±0.6, 1895N±008×1448E±02, h35km, n17, σ0°68/17, mb4.0/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.47**	**343**	P	**Pn**	**12 06 06.2**	**0.0**
	baz=158,slow=9.1,SNR=3.7						
MAJO	**Matsushiro**	**18.47**	**343**	P	**Pn**	**12 06 16.4**	**+10**
WRAB	**Tennant Creek**	**39.98**	**195**	*e*P	**P**	**12 09 24.5**	**+0.2**
	4.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**40.00**	**195**	P	**P**	**12 09 24.9**	**+0.5**
	0.9nm,0.7s,mb3.6,baz=13,slow=8.8,SNR=9.1						
SONM	**Songino Array**	**42.43**	**322**	P	**P**	**12 09 44.1**	**-0.4**
	0.4nm,0.6s,mb3.2,baz=131,slow=8.8,SNR=3.4						
ASAR	**Alice Springs**	**43.68**	**195**	P	**P**	**12 09 54.9**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=12,slow=9.4,SNR=12						
STKA	**Stephens Creek**	**50.63**	**184**	P	**P**	**12 10 47.4**	**-1.4**
	1.2nm,0.8s,mb3.9,baz=345,slow=6.7,SNR=3.7						
STKA	**Stephens Creek**	**50.63**	**184**	P	**P**	**12 10 47.1**	**-1.6**
BILL	**Bilibino**	**50.91**	**10**	*e*P	**P**	**12 10 50.8**	**0.0**
	9.9nm,1.2s,mb4.6						
MKAR	**Makanchi Array**	**57.69**	**314**	P	**P**	**12 11 40.6**	**+0.5**
	0.8nm,0.7s,mb3.8,baz=97,slow=8.6,SNR=8.8						
KURK	**Kurchatov**	**60.53**	**318**	*e*P	**P**	**12 11 59.7**	**-0.1**
	14nm,1.6s,mb4.8						
ILAR	**Eielson Array**	**63.78**	**26**	P	**P**	**12 12 20.8**	**-0.8**
	1.0nm,0.8s,mb3.9,baz=256,slow=5.6,SNR=12						
BRVK	**Borovoye**	**65.82**	**320**	*e*P	**P**	**12 12 35.2**	**+0.3**
	3.9nm,0.9s,mb4.4						
BRVK				*e*	pP	12 12 42.5	-3.1
BRVK				*e*	pP	12 12 48.2	+2.6
INK	**Inuvik**	**69.47**	**23**	P	**P**	**12 12 57.6**	**-0.2**
	4.0nm,1.2s,mb4.2						
YKA	**Yellowknife Ar**	**78.15**	**28**	P	**P**	**12 13 48.4**	**-0.3**
	0.4nm,0.6s,mb3.5,baz=292,slow=5.6,SNR=11						
YKA	**Yellowknife Ar**	**78.15**	**28**	P	**P**	**12 13 48.4**	**-0.3**
NVAR	**Mina Array Bea**	**83.63**	**52**	P	**P**	**12 14 19.7**	**+1.7**
	0.4nm,0.7s,mb3.6,baz=254,slow=5.2,SNR=4.7						

IDC 07 12:34:08.3±3.5, 673N×7481W, h165km±89km, mb3.1/1, mb1 3.5/1, mb1mx2.9/19, mbtmp3.6/1, Error ellipse: s-maj=452.2km s-min=30.8km az=88.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.92**	**166**	P	Pn	12 34 44.9	+1.5
	71nm,0.3s,baz=0.1,slow=2.0,SNR=204						
ROSC				S	Sn	12 35 11.7	+1.2
	30nm,0.3s,baz=91,slow=23,SNR=8.6						
YKA	**Yellowknife Ar**	**62.78**	**340**	P	P	12 44 15.7	-0.4
	0.4nm,0.5s,baz=134,slow=6.6,SNR=12						
ASAR	**Alice Springs**	**147.69**	**235**	PKPbc	PKPbc	12 53 33.6	+0.3
	0.4nm,0.7s,baz=117,slow=3.6,SNR=8.1						
WRA	**Warramunga Arr**	**148.81**	**242**	PKPbc	PKPbc	12 53 36.9	+0.6
	0.3nm,0.3s,baz=106,slow=2.7,SNR=15						

*CSEM **07** 13:12:18.9±0.3, 6130N×3588E, h2km, ML2.7, Error ellipse: s-maj=6.5km s-min=4.2km az=146.0*

*NAO **07** 13:12:23.2±5.3, 6156N×3506E, ML2.6*

HEL 07 13:12:24.4±0.4, 6148N×3514E, h0km, ML2.7, ML2.6(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOF	**Joensuu**	**2.30**	**311**	*e*P	Pn	13 13 04.3	+0.7
JOF				*e*S	Sn	13 13 30.8	-1.8
JOF	**Joensuu**	**2.30**	**311**	P	Pn	13 13 04.2	+0.6
VJF	**Virojoki**	**3.81**	**259**	*e*P	Pn	13 13 24.4	+0.1
VJF				*e*S	Sn	13 14 07.6	-2.2
VJF				*e*SG	Sg	13 14 21.6	-5.2
VJF	**Virojoki**	**3.81**	**259**	P	Pn	13 13 24.3	0.0
VJF				Sg	Sg	13 14 21.5	-5.3
KAF	**Kangasniemi**	**4.24**	**283**	*e*P	Pn	13 13 30.3	+0.1
KAF				*e*S	Sn	13 14 18.3	-2.1
KAF				*e*SG	Sg	13 14 35.6	-5.1
KAF	**Kangasniemi**	**4.24**	**283**	P	Pn	13 13 30.3	+0.1
KAF				Sg	Sg	13 14 35.5	-5.1
KJN	**Kajaani**	**4.30**	**311**	*e*P	Pn	13 13 31.5	+0.5
KJN				*e*S	Sn	13 14 18.3	-3.6
KJN				*e*SG	Sg	13 14 36.9	-5.6
KJN				MSG		13 14 37.9	
	comp=Z,20nm,0.5s						
KJN	**Kajaani**	**4.30**	**311**	P	Pn	13 13 31.4	+0.4
KJN				Sg	Sg	13 14 36.9	-5.6
FIA0	**FINESS Array S**	**4.35**	**274**	*e*P	Pn	13 13 31.0	-0.7
FIA0				*e*S	Sn	13 14 20.9	-2.1
FIA0				*e*SG	Sg	13 14 38.2	-5.8
FIA0				MSG		13 14 41.4	
	comp=Z,18nm,0.6s						
FIA0	**FINESS Array S**	**4.35**	**274**	Pn	Pn	13 13 31.1	-0.6
	baz=101,slow=14						
FIA0				Sn	Sn	13 14 20.7	-2.3
	baz=74,slow=28						
FIA0				Lg		13 14 37.9	
	baz=73,slow=28						
FIA0	**FINESS Array S**	**4.35**	**274**	Pn	Pn	13 13 31.1	-0.6
	SNR=50						
FIA0				Sn	Sn	13 14 20.7	-2.4
	SNR=50						
FIA0				Sg	Sg	13 14 38.2	-5.9
SUF	**Sumiainen**	**4.40**	**290**	*e*P	Pn	13 13 33.7	+1.2
SUF				*e*S	Sn	13 14 23.3	-1.2
SUF				*e*SG	Sg	13 14 38.2	-7.6
SUF				MSG		13 14 42.2	
	comp=Z,7.7nm,0.5s						
SUF	**Sumiainen**	**4.40**	**290**	P	Pn	13 13 33.6	+1.1
SUF				Sg	Sg	13 14 38.2	-7.7
KEF	**Keuruu**	**4.92**	**283**	*e*S	Sn	13 14 34.7	-2.4
KEF				*e*SG	Sg	13 14 54.9	-7.4
KEF	**Keuruu**	**4.92**	**283**	Sg	Sg	13 14 54.9	-7.5
VSU	**Vasula**	**5.19**	**238**	*e*S	Sn	13 14 41.4	-2.4
VSU				*e*SG	Sg	13 15 04.5	-6.6
KU4	**Liikasenvaara**	**5.49**	**336**	*e*P	Pn	13 13 47.0	-0.3
KU4				*e*S	Sn	13 14 47.9	-3.2
KU4				*e*SG	Sg	13 15 14.4	-6.2
ARA0	**ARCESS Array S**	**9.01**	**338**	Pn	Pn	13 14 32.6	-3.1
	baz=154,slow=16						
ARA0				Sn	Sn	13 16 09.2	-8.7
	baz=162,slow=28						
ARA0				Lg		13 17 02.6	
	baz=145,slow=28						
ARA0	**ARCESS Array S**	**9.01**	**338**	*e*P	Pn	13 14 32.6	-3.1
ARA0				*e*S	Sn	13 16 09.2	-8.7
ARA0				*e*SG		13 17 02.6	
ARA0	**ARCESS Array S**	**9.01**	**338**	Pn	Pn	13 14 32.6	-3.1
	SNR=50						
ARA0				Sn	Sn	13 16 09.2	-8.7
	SNR=50						

IDC 07 13:12:38.5±6.6, 1927S×17604W, h86km±52km, mb3.3/4, mb1 3.7/5, mb1mx3.5/15, mbtmp3.8/5, ML2.5/1, Error ellipse: s-maj=131.7km s-min=21.2km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.72**	**38**	P	Pn	13 14 15.1	+0.7
	5.6nm,0.3s,baz=292,slow=4.9,SNR=8.8						
AFI				S	Sn	13 15 30.0	+0.5
	8.6nm,0.3s,baz=208,slow=22,SNR=7.2						
DZM	**Mont Dzumac**	**16.63**	**257**	P	Pn	13 16 33.9	+7.7
	0.2nm,0.3s,baz=108,slow=20,SNR=8.8						
STKA	**Stephens Creek**	**39.98**	**243**	P	P	13 20 03.7	-1.0
	0.6nm,0.4s,baz=74,slow=7.4,SNR=3.0						
ASAR	**Alice Springs**	**46.60**	**255**	P	P	13 20 58.5	+0.5
	0.4nm,0.5s,baz=76,slow=8.7,SNR=16						
WRA	**Warramunga Arr**	**46.61**	**260**	P	P	13 20 58.8	+0.8
	0.3nm,0.3s,baz=97,slow=7.9,SNR=14						
NVAR	**Mina Array Bea**	**78.87**	**43**	P	P	13 24 32.8	+0.5
	0.5nm,0.6s,baz=223,slow=9.0,SNR=5.0						

IDC 07 13:14:22.7±64.0, 1748S×17811E, h0km, mb4.4/3, mb1 4.6/3, mb1mx4.0/13, mbtmp4.4/3, Error ellipse: s-maj=1147.0km s-min=142.5km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.96**	**240**	P	P	13 21 24.1	-0.8
	3.8nm,0.8s,baz=85,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**41.45**	**259**	P	P	13 22 11.9	+0.8
	1.0nm,0.3s,baz=91,slow=7.8,SNR=42						
ASAR	**Alice Springs**	**41.72**	**254**	P	P	13 22 13.8	+0.6
	8.0nm,0.5s,baz=87,slow=8.9,SNR=111						

*ISCJB **07** 13:34:44.0±0.3, 6094N±004×2075E±004, h0km, Error ellipse: s-maj=5.4km s-min=2.7km az=156.0*

*UPP **07** 13:34:45.4, 6091N×2048E, h0km, ML2.7, Mining explosion.*

*HEL **07** 13:34:45.1±0.1, 6093N×2069E, h0km, ML2.7(UPP), ML2.2(NAO), Explosion*

*NAO **07** 13:34:45.1±1.0, 6112N×2049E, ML2.2*

*CSEM **07** 13:34:45.0±0.1, 6097N×2072E, h2km, ML2.7, Error ellipse: s-maj=2.7km s-min=1.8km az=166.0, Mining explosion.*

*BER **07** 13:34:47.0±4.4, 6115N×2045E, h0km, ML2.2(NAO), Suspected explosion*

ISC 07 13:34:44.6±0.3, 6094N±004×2072E±004, h0km, n43, σ1°23/67, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.52**	**81**	*e*P	**Pg**	**13 34 53.7**	**-0.8**
RAF				*e*S	**Sg**	**13 34 59.7**	**-1.5**
RAF	**Rauma**	**0.52**	**81**	P	**Pg**	**13 34 53.6**	**-0.9**
AAL	**Aland**	**0.85**	**205**	*i* P	**Pg**	**13 34 59.9**	**-1.0**
FLYU	**Flymyra**	**1.62**	**241**	*e*P	**Pn**	**13 35 13.0**	**-1.5**
NRTU	**Norrtaelje**	**1.64**	**220**	*e*P	**Pn**	**13 35 13.2**	**-1.5**
IGGU	**Iggoen**	**1.67**	**269**	*e*P	**Pn**	**13 35 13.7**	**-1.4**
ARNU	**Arnoeviken**	**1.78**	**296**	*e*P	**Pn**	**13 35 15.6**	**-1.0**
OSTU	**Oestervaala**	**1.91**	**250**	*e*P	**Pn**	**13 35 18.0**	**-0.4**
MEF	**Metsahovi**	**1.96**	**110**	*e*P	**Pn**	**13 35 19.6**	**+0.6**
MEF				*e*S	**Sn**	**13 35 45.2**	**+0.9**
MEF	**Metsahovi**	**1.96**	**110**	P	**Pn**	**13 35 19.6**	**+0.6**
MEF				S	**Sn**	**13 35 45.1**	**+0.9**
BACU	**Backbrunna**	**2.10**	**240**	*e*P	**Pn**	**13 35 21.1**	**+0.1**
VAF	**Ylistaro**	**2.30**	**23**	*e*P	**Pn**	**13 35 25.2**	**+1.5**
VAF				*e*S	**Sn**	**13 35 52.8**	**+0.1**
VAF	**Ylistaro**	**2.30**	**23**	P	**Pn**	**13 35 25.2**	**+1.4**
VAF				S	**Sn**	**13 35 52.8**	**0.0**
KEF	**Keuruu**	**2.34**	**56**	*e*P	**Pn**	**13 35 25.2**	**+1.0**
KEF				*e*S	**Sn**	**13 35 52.3**	**-1.4**
KEF	**Keuruu**	**2.34**	**56**	P	**Pn**	**13 35 25.2**	**+0.9**
KEF				S	**Sn**	**13 35 52.2**	**-1.5**
NYNU	**Nynaeshamn**	**2.38**	**216**	*e*P	**Pn**	**13 35 25.7**	**+0.9**
ROTU	**Roteberg**	**2.42**	**284**	*e*P	**Pn**	**13 35 25.9**	**+0.5**
FALU	**Falun**	**2.44**	**262**	*e*P	**Pn**	**13 35 26.8**	**+1.0**
HUSU	**Husum**	**2.51**	**344**	*e*P	**Pn**	**13 35 27.2**	**+0.6**
PVF	**Pernaja**	**2.56**	**97**	*e*P	**Pn**	**13 35 29.0**	**+1.7**
PVF				*e*S	**Sn**	**13 35 59.3**	**+0.2**
PVF	**Pernaja**	**2.56**	**97**	P	**Pn**	**13 35 29.0**	**+1.7**
PVF				S	**Sn**	**13 35 59.2**	**+0.1**
FIA0	**FINESS Array S**	**2.64**	**77**	Pn	**Pn**	**13 35 29.4**	**+0.9**
	baz=268,slow=16						
FIA0				Sn	**Sn**	**13 36 02.8**	**+1.6**
	baz=274,slow=28						
FIA0	**FINESS Array S**	**2.64**	**77**	*e*P	**Pn**	**13 35 30.0**	**+1.5**
FIA0				*e*S	**Sn**	**13 36 00.1**	**-1.1**
FIA0	**FINESS Array S**	**2.64**	**77**	P	**Pn**	**13 35 30.0**	**+1.5**
FIA0				S	**Sn**	**13 36 00.0**	**-1.2**
SOLU	**Sollefteaa**	**2.83**	**326**	*e*P	**Pn**	**13 35 31.6**	**+0.6**
KAF	**Kangasniemi**	**2.92**	**64**	*e*P	**Pn**	**13 35 33.3**	**+1.0**
KAF				*e*S	**Sn**	**13 36 07.3**	**-0.9**
KAF	**Kangasniemi**	**2.92**	**64**	P	**Pn**	**13 35 33.3**	**+1.0**
KAF				S	**Sn**	**13 36 07.2**	**-0.9**
UMAU	**Umeaa**	**2.95**	**360**	*e*P	**Pn**	**13 35 34.1**	**+1.4**
BREU	**Bredtraesk**	**3.12**	**342**	*e*P	**Pn**	**13 35 36.1**	**+1.1**
SUF	**Sumiainen**	**3.13**	**53**	*e*P	**Pn**	**13 35 36.5**	**+1.3**
SUF				*e*S	**Sn**	**13 36 11.6**	**-1.7**
SUF	**Sumiainen**	**3.13**	**53**	P	**Pn**	**13 35 36.4**	**+1.2**
VJF	**Virojoki**	**3.38**	**94**	*e*P	**Pn**	**13 35 40.6**	**+1.9**
VJF				*e*S	**Sn**	**13 36 18.8**	**-0.6**
VJF	**Virojoki**	**3.38**	**94**	P	**Pn**	**13 35 40.5**	**+1.9**
VJF				S	**Sn**	**13 36 18.8**	**-0.6**
HFS	**Hagfors**	**3.56**	**260**	*e*P	**Pn**	**13 35 41.4**	**+0.2**
HFS				*e*SB	**Sb**	**13 36 31.9**	**-0.5**
HFS	**Hagfors**	**3.56**	**260**	Pn	**Pn**	**13 35 41.4**	**+0.2**
	baz=94,slow=10						
HFS				Lg		13 36 31.9	
	baz=80,slow=37						
KJN	**Kajaani**	**4.52**	**43**	*e*P	**Pn**	**13 35 55.8**	**+1.5**
KJN				*e*S	**Sn**	**13 36 45.3**	**-2.3**
KJN	**Kajaani**	**4.52**	**43**	P	**Pn**	**13 35 55.7**	**+1.4**
NB2	**NORSAR Subarra**	**4.63**	**275**	Pn	**Pn**	**13 35 55.0**	**-0.8**
	baz=78,slow=12						
NB2				Sn	**Sn**	**13 36 47.5**	**-2.8**
NB2				Lg		13 37 04.1	
	baz=83,slow=37						
NB2	**NORSAR Subarra**	**4.63**	**275**	*e*P	**Pn**	**13 35 55.0**	**-0.8**
NB2				*e*S	**Sn**	**13 36 47.5**	**-2.8**
NB2				*e*SB	**Sb**	**13 37 04.1**	**+1.1**
NB2	**NORSAR Subarra**	**4.63**	**275**	Pn	**Pn**	**13 35 55.0**	**-0.8**
	SNR=50						
NB2				Sn	**Sn**	**13 36 47.5**	**-2.8**
	SNR=50						
JOF	**Joensuu**	**5.38**	**64**	*e*P	**Pn**	**13 36 07.3**	**+1.2**
JOF				*e*S	**Sn**	**13 37 06.1**	**-2.7**
ARA0	**ARCESS Array S**	**8.86**	**11**	Pn	**Pn**	**13 36 50.7**	**-3.1**
	baz=193,slow=14						
ARA0	**ARCESS Array S**	**8.86**	**11**	*e*P	**Pn**	**13 36 50.7**	**-3.1**

*IDC **07** 13:42:45.7±0.7, 224N×12775E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/18, mbtmp4.1/10, MS3.3/3, Ms1 3.3/3, ms1mx2.7/29, Error ellipse: s-maj=42.7km s-min=14.2km az=77.0*

*BJI **07** 13:42:47.0, 187N×128.19E, h45km, mB5.0, mb4.7, Ms4.0*

*ISCJB **07** 13:42:49.9±2.4, 222N±005×12776E±009, h43km±22km, mb4.5/44, MS3.5/5, Error ellipse: s-maj=16.0km s-min=6.7km az=136.5*

*MOS **07** 13:42:49.0±0.9, 225N×12760E, h33km, mb4.7/13, Error ellipse: s-maj=22.7km s-min=8.6km az=106.9*

*NEIC **07** 13:42:52.5±1.4, 222N×12773E, h55km±14km, mb4.6/16, Error ellipse: s-maj=12.7km s-min=4.7km az=69.0*

ISC 07 13:42:51.8±1.7, 222N±005×12780E±009, h43km±17km, n83, σ0°90/76, mb4.5/44, MS3.5/5, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.16**	**289**	Pn	**Pn**	**13 45 42.3**	**-0.2**
KAKA	**Kakadu**	**15.54**	**163**	*e*P	**Pn**	**13 46 27.6**	**-0.2**
	17nm,0.8s						
KSM	**Kuching**	**17.50**	**268**	*e*Pn	**Pn**	**13 46 52.7**	**0.0**
FITZ	**Fitzroy Crossi**	**20.31**	**186**	*e*P	**P**	**13 47 23.8**	**-0.3**
	7.2nm,0.5s						
WRAB	**Tennant Creek**	**22.94**	**164**	*e*P	**P**	**13 47 52.6**	**+0.4**
	22nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**22.94**	**164**	*c i* P	**P**	**13 47 52.7**	**+0.5**
WRA	**Warramunga Arr**	**22.94**	**164**	*i* P	**P**	**13 47 53.1**	**+0.8**
	8.5nm,0.7s,mb4.3,baz=343,slow=10,SNR=67						
WRA	**Warramunga Arr**	**22.94**	**164**	*i* P	**P**	**13 47 53.0**	**+0.7**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WB2	**Warramunga Arr**	**22.95**	**164**	*e*P	**P**	**13 47 52.7**	**+0.4**
YHNB	**Yeheng**	**23.16**	**345**	*e*P	**P**	**13 47 54.3**	**-0.3**
YHNB				*e*		13 48 11.9	
QIZ	**Qiongzhong**	**24.25**	**315**	*e*P	**P**	**13 48 05.9**	**+1.1**
QIZ	**Qiongzhong**	**24.25**	**315**	*e*P	**P**	**13 48 05.1**	**+0.3**
	comp=Z,7.5nm,0.9s,mb4.1						
MBWA	**Marble Bar**	**24.55**	**198**	*e*P	**P**	**13 48 07.1**	**-0.4**
	comp=Z,13nm,0.9s,mb4.5						
GZH	**Guangzhou**	**25.04**	**327**	P	**P**	**13 48 15.6**	**+3.7**
AS31	**Alice Springs**	**26.41**	**167**	*e*P	**P**	**13 48 24.9**	**+0.6**
ASAR	**Alice Springs**	**26.41**	**167**	P	**P**	**13 48 25.6**	**+1.2**
	comp=Z,1.3nm,0.4s,mb3.8,baz=343,slow=7.1,SNR=58						
ASPA	**Alice Springs**	**26.41**	**167**	*e

comp=Z,105nm,4.2s
SHL Shillong 41.63 307 *e*P **P 13 50 37.0 +1.2**
ASAJ Asahikawa 43.73 15 P **P 13 50 58.2 +5.4**
comp=Z,2.6nm,0.5s,mb4.2,baz=225,slow=10.0,SNR=5.6
LSA Lhasa 44.23 312 P **P 13 50 55.2 -1.7**
comp=Z,8.4nm,0.8s,mb4.5
LSA Lhasa 44.23 312 P **P 13 50 55.2 -1.7**
LSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
GTA Gaotai 44.93 329 *e*P **P 13 51 03.3 +0.8**
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.3
KLR Kul'dur 46.95 4 *e*P **P 13 51 15.0 -3.4**
GUN Gumba 47.48 307 *e*P **P 13 51 22.6 +0.1**
comp=Z,23nm,0.7s,mb5.2
PKI Pulchoki 47.71 306 *e*P **P 13 51 23.8 -0.5**
KKN Kakani 47.91 306 *e*P **P 13 51 25.9 +0.1**
comp=Z,4.4nm,0.3s,mb4.9
DMN Daman 47.97 306 *e*P **P 13 51 26.7 +0.4**
comp=Z,28nm,1.0s,mb5.2
GKN Gorkha 48.51 306 *e*P **P 13 51 30.6 +0.1**
ULN Ulaanbaatar 48.88 342 *e*P **P 13 51 33.2 -0.1**
comp=Z,7.0nm,0.9s,mb4.7
ULN Ulaanbaatar 48.88 342 *i*P **P 13 51 33.7 +0.5**
SONM Songino Array 49.06 341 P **P 13 51 34.9 +0.2**
comp=Z,1.3nm,0.7s,mb4.1,baz=152,slow=8.2,SNR=14
KOLN Koldanda 49.26 305 *e*P **P 13 51 36.2 0.0**
comp=Z,17nm,0.6s,mb5.3
MOY Mondy 54.16 340 *e*P **P 13 52 13.6 +0.9**
WMQ Urumqi 54.56 325 *e*P **P 13 52 16.5 +0.8**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,65nm,4.2s
WMQ LR LR
comp=N,99nm,28.0s,MS3.8
WMQ LR LR
comp=E,65nm,26.0s,MS3.8
DDI Dehra Dun 54.72 306 *e*x x 13 52 21.2
BOD Bodaibo 56.50 351 *e*P **P 13 52 31.5 +1.9**
MK31 Makanchi Array 59.40 325 *i*P **P 13 52 50.2 +0.3**
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
MKAR Makanchi Array 59.40 325 P **P 13 52 50.4 +0.5**
comp=Z,2.3nm,0.4s,mb4.5,baz=120,slow=8.2,SNR=60
MKAR LR LR 14 20 51.5
comp=Z,42nm,18.1s,MS3.6,baz=191,slow=38
MKAR Makanchi Array 59.40 325 *e*P **P 13 52 50.2 +0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
YAK Yakutsk 59.68 1 P **P 13 52 50.7 -1.1**
YAK Yakutsk 59.68 1 *i*P **P 13 52 51.4 -0.4**
YAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
AAK Ala-Archa 62.19 318 *e*P **P 13 53 07.3 -1.6**
comp=Z,2.4nm,1.0s,mb4.3
AAK Ala-Archa 62.19 318 *i*P **P 13 53 11.9 +3.1**
AAK MLR MLR
comp=Z,100nm,18.0s,MS4.0
SEY Seymchan 63.26 12 *i*P **P 13 53 17.1 +1.1**
KURK Kurchatov 63.58 328 *e*P **P 13 53 17.0 -1.1**
comp=Z,7.2nm,0.6s,mb4.9
KURK Kurchatov 63.58 328 *e*P **P 13 53 17.0 -1.1**
KURK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
NVS Novosibirsk 63.69 333 *e*P **P 13 53 23.1 +4.3**
KK31 Karatay Array 65.06 317 *i*P **P 13 53 28.1 +0.3**
KK31 pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
KKAR Karatay Array 65.06 317 *i*P **P 13 53 28.1 +0.3**
KKAR pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BVAR Borovoye Array 69.16 327 P **P 13 53 53.2 -0.6**
comp=Z,0.5nm,0.4s,mb3.8,baz=132,slow=6.6,SNR=6.6
BRVK Borovoye 69.23 327 *e*P **P 13 53 52.6 -1.7**
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 69.23 327 *e*P **P 13 53 52.6 -1.6**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
TIXI Tiksi 69.33 0 *i*P **P 13 53 53.9 -0.9**
TIXI pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
BILL Bilibino 70.73 14 *e*P **P 13 54 03.0 -0.5**
BILL pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
AB31 Akbulak array 73.99 321 *i*P **P 13 54 25.7 +2.8**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
AKTK Aktyubinsk 75.50 322 P **P 13 54 31.4 -0.2**
AKTO Aktyubinsk 75.50 322 P **P 13 54 31.4 -0.2**
comp=Z,1.3nm,0.6s,mb4.1,baz=92,slow=8.8,SNR=4.7
ARU Arti 76.77 328 P **P 13 54 37.2 -1.6**
ARU Arti 76.77 328 *e*P **P 13 54 37.4 -1.5**
ARU *e* 13 57 29.2
ARU *e*PPP 13 59 13.5
ARU *e*S S 14 04 21.2 -1.7
ARU *e*SS SS 14 09 15.0 -4.4
KIV Kislovodsk 84.95 314 *e*P **P 13 55 22.4 0.0**
KIV pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
ILAR Eielson Array 86.00 25 P **P 13 55 27.9 +0.2**
comp=Z,0.4nm,1.0s,mb3.6,baz=246,slow=5.2,SNR=3.5
QSPA South Pole Qui 92.14 180 P **P 13 56 00.3 +3.5**
comp=Z,5.6nm,1.3s,mb4.7
HFS Hagfors 99.84 332 LR LR 14 49 58.6
comp=Z,52nm,18.9s,MS4.1,baz=249,slow=40

*CSEM **07** 13:51:17.6±0.1, 6086N×2062E, h1km, ML2.8/2, Error ellipse: s-maj=2.5km s-min=1.7km az=166.0, Mining explosion.*
*NAO **07** 13:51:18.3±1.0, 6100N×2051E, ML2.0*
*UPP **07** 13:51:19.2, 6088N×2044E, h0km, ML2.5, Mining explosion.*
*BER **07** 13:51:20.6±3.1, 6120N×2039E, h0km, ML2.0(NAO), Suspected explosion*
HEL 07 13:51:18.5±0.1, 6089N×2070E, h0km, ML1.8, ML2.5(UPP), **ML2.0**(NAO), **Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.54**	**75**	*e*P	Pg	13 51 27.2	-1.6
RAF				*e*S	Sg	13 51 33.4	-2.3
AAL	**Aland**	**0.80**	**206**	*i*P	Pg	13 51 33.0	-0.7
FLYU	**Flymyra**	**1.59**	**242**	*e*P	Pn	13 51 46.2	-1.6
NRTU	**Norrtaelje**	**1.59**	**221**	*e*P	Pn	13 51 46.4	-1.6
IGGU	**Iggoen**	**1.66**	**271**	*e*P	Pn	13 51 47.3	-1.5
ARNU	**Arnoeviken**	**1.79**	**298**	*e*P	Pn	13 51 49.4	-1.3
OSTU	**Oestervaala**	**1.88**	**251**	*e*P	Pn	13 51 51.3	-0.6
MEF	**Metsahovi**	**1.95**	**109**	*e*P	Pn	13 51 52.8	0.0
MEF				*e*S	Sn	13 52 17.6	-0.4
MEF	**Metsahovi**	**1.95**	**109**	P	Pn	13 51 52.8	0.0
MEF				S	Sn	13 52 17.5	-0.4
BACU	**Backbrunna**	**2.07**	**241**	*e*P	Pn	13 51 54.5	0.0
NYNU	**Nynaeshamn**	**2.33**	**217**	*e*P	Pn	13 51 58.6	+0.6
VAF	**Ylistaro**	**2.35**	**22**	*e*P	Pn	13 51 59.8	+1.4
VAF				*e*S	Sn	13 52 28.7	+0.8
VAF	**Ylistaro**	**2.35**	**22**	P	Pn	13 51 59.7	+1.3
VAF				S	Sn	13 52 28.7	+0.8
KEF	**Keuruu**	**2.37**	**55**	*e*P	Pn	13 51 58.6	0.0
KEF				*e*S	Sn	13 52 26.6	-1.9
KEF	**Keuruu**	**2.37**	**55**	P	Pn	13 51 58.6	-0.1
KEF				S	Sn	13 52 26.5	-2.0
FALU	**Falun**	**2.43**	**263**	*e*P	Pn	13 51 58.6	-0.8
ROTU	**Roteberg**	**2.43**	**285**	*e*P	Pn	13 51 59.8	+0.4
HUSU	**Husum**	**2.56**	**345**	*e*P	Pn	13 52 01.0	-0.2
PVF	**Pernaja**	**2.56**	**96**	*e*P	Pn	13 52 02.5	+1.3
PVF				*e*S	Sn	13 52 32.6	-0.5
PVF				*e*SG	Sg	13 52 36.8	-4.0
PVF	**Pernaja**	**2.56**	**96**	P	Pn	13 52 02.5	+1.3
PVF				S	Sn	13 52 32.6	-0.5
PVF				Sg	Sg	13 52 36.7	-4.1
FIA0	**FINESS Array S**	**2.66**	**76**	Pn	Pn	13 52 03.0	+0.3
baz=264,slow=14							
FIA0				Sn	Sn	13 52 37.6	+1.9
baz=259,slow=28							
FIA0	**FINESS Array S**	**2.66**	**76**	*e*P	Pn	13 52 03.1	+0.4
FIA0				*e*S	Sn	13 52 35.4	-0.3
FIA0	**FINESS Array S**	**2.66**	**76**	P	Pn	13 52 03.0	+0.3
FIA0				S	Sn	13 52 35.3	-0.3
SOLU	**Sollefteaa**	**2.87**	**327**	*e*P	Pn	13 52 05.7	+0.2
KAF	**Kangasniemi**	**2.95**	**63**	*e*P	Pn	13 52 07.5	+0.9
KAF				*e*S	Sn	13 52 40.8	-2.0
KAF				*e*SB	Sb	13 52 47.5	-1.1
KAF				MSG		13 52 48.5	
comp=Z,2.2nm,0.3s							
KAF	**Kangasniemi**	**2.95**	**63**	P	Pn	13 52 07.5	+0.9
KAF				S	Sn	13 52 40.8	-2.0
KAF				Sg	Sg	13 52 47.5	-5.9
comp=Z,2.2nm,0.3s							
UMAU	**Umeaa**	**3.00**	**360**	*e*P	Pn	13 52 08.0	+0.7
BREU	**Bredtraesk**	**3.17**	**343**	*e*P	Pn	13 52 09.9	+0.3
SUF	**Sumiainen**	**3.17**	**52**	*e*P	Pn	13 52 09.8	+0.1
SUF				*e*S	Sn	13 52 46.6	-1.5
SUF				*e*SG	Sg	13 52 54.7	-5.7
SUF				MSG		13 52 57.2	
comp=Z,2.5nm,0.2s							
SUF	**Sumiainen**	**3.17**	**52**	P	Pn	13 52 09.7	+0.1
SUF				S	Sn	13 52 46.6	-1.6
SUF				Sg	Sg	13 52 54.7	-5.7
comp=Z,2.5nm,0.2s							
VJF	**Virojoki**	**3.39**	**93**	*e*P	Pn	13 52 12.6	0.0
VJF				*e*S	Sn	13 52 51.9	-1.6
HFS	**Hagfors**	**3.55**	**261**	*e*P	Pn	13 52 14.0	-0.8
HFS				*e*PG	Pg	13 52 22.9	-3.6
HFS				*e*SG		13 53 07.8	
HFS	**Hagfors**	**3.55**	**261**	Pn	Pn	13 52 14.0	-0.8
baz=85,slow=14							
HFS				Pg	Pg	13 52 22.9	-3.6
baz=78,slow=18							
HFS				Lg		13 53 07.8	
baz=79,slow=37							
HFS	**Hagfors**	**3.55**	**261**	Pg	Pg	13 52 22.9	-3.6
SNR=90							
NB2	**NORSAR Subarra**	**4.63**	**276**	*e*P	Pn	13 52 28.4	-1.3
NB2				*e*SB		13 53 37.2	
NB2	**NORSAR Subarra**	**4.63**	**276**	Pn	Pn	13 52 28.4	-1.3
baz=80,slow=14							
NB2				Lg		13 53 37.2	
baz=86,slow=37							
ARA0	**ARCESS Array S**	**8.91**	**11**	Pn	Pn	13 53 24.0	-4.4
baz=190,slow=16							
ARA0	**ARCESS Array S**	**8.91**	**11**	*e*P	Pn	13 53 24.0	-4.4

*IDC **07** 13:58:35.8±6.7, 3616N×7078E, h139km±59km, mb3.5/10, mb1 3.6/13, mb1mx3.5/23, mbtmp3.9/13, Error ellipse: s-maj=31.4km s-min=17.0km az=19.0*
*MOS **07** 13:58:39.8±0.7, 3642N×7076E, h182km, mb4.0/1, Error ellipse: s-maj=15.4km s-min=7.3km az=96.9*
*ISCJB **07** 13:58:40.9±0.5, 3650N±003×7081E±007, h193km±6km, mb3.7/11, Error ellipse: s-maj=9.2km s-min=4.8km az=149.7*
*NEIC **07** 13:58:40.8±1.4, 3644N×7082E, h177km±15km, mb4.6/9, Error ellipse: s-maj=15.9km s-min=6.3km az=56.0*
*NNC **07** 13:58:47.1±2.9, 3697N×7077E, h188km±26km, mb3.0, mpv4.4, Error ellipse: s-maj=29.8km s-min=15.2km az=32.0*
ISC 07 13:58:41.8±0.5, 3650N±003×7080E±007, h188km±6km, **n64**, σ0°**76**/69, **mb3.8**/11, **9C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.82**	**161**	⇓P	**Pn**	**13 59 29.4**	**+0.8**
CHCP	**Chirah Chowk**	**3.48**	**144**	⇑P	**Pn**	**13 59 37.3**	**+0.8**
THW	**Thamin Wali**	**3.77**	**168**	P	**Pn**	**13 59 40.4**	**+0.2**
SBDP	**Shaikh Budin**	**4.19**	**180**	P	**Pn**	**13 59 44.8**	**-0.6**
SARP	**Sargodha**	**4.82**	**161**	P	**Pn**	**13 59 53.1**	**-0.4**
SARP				S	**Sn**	**14 00 46.0**	**-3.9**
DLH	**Dalhousie**	**5.81**	**131**	*e*P	**Pn**	**14 00 08.0**	**+1.7**
DLH				*e*x	x	14 01 14.0	
AML	**Almayashu**	**6.06**	**21**	P	**Pn**	**14 00 09.7**	**+0.2**
SNR=275							
UCH	**Uchtor**	**6.40**	**26**	P	**Pn**	**14 00 14.1**	**0.0**
SNR=55							
KZA	**Kyzart**	**6.55**	**30**	P	**Pn**	**14 00 15.5**	**-0.5**
SNR=22							
EKS2	**Erkin-Say**	**6.57**	**20**	P	**Pn**	**14 00 16.4**	**+0.1**
SNR=45							
KK31	**Karatay Array**	**6.60**	**358**	⇓P	**Pn**	**14 00 16.4**	**-0.3**
6.7nm,0.2s,baz=181,slow=12,SNR=674							
KK31				⇑S	**Sn**	**14 01 27.0**	**-4.6**
48nm,0.5s,baz=192,slow=19,SNR=23							
KKAR	**Karatay Array**	**6.60**	**358**	PN	**Pn**	**14 00 16.3**	**-0.4**
KKAR				pmax	pmax		
comp=Z,4.0nm,0.2s							
AAK	**Ala-Archa**	**6.76**	**24**	P	**Pn**	**14 00 19.1**	**+0.4**
SNR=41							
AAK	**Ala-Archa**	**6.76**	**24**	*e*Pn	**Pn**	**14 00 17.8**	**-0.9**
comp=Z,20nm,0.3s							
AAK				*e*Sn	**Sn**	**14 01 29.8**	**-5.6**
AAK	**Ala-Archa**	**6.76**	**24**	*e*PN	**Pn**	**14 00 17.8**	**-0.9**
AAK				pmax	pmax		
comp=Z,20nm,0.3s							
KBK	**Karagaybulak**	**6.93**	**26**	P	**Pn**	**14 00 21.6**	**+0.6**
SNR=26							
ULHL	**Ulahol**	**7.12**	**35**	P	**Pn**	**14 00 23.7**	**+0.3**
SNR=8.6							
SDNR	**Sundarnagar**	**7.14**	**132**	*e*x	x	14 00 22.9	
SDNR				*e*x	x	14 01 38.9	
CHMS	**Chumysh**	**7.17**	**24**	P	**Pn**	**14 00 24.1**	**0.0**
SNR=6.3							
USP	**Ospenovka**	**7.33**	**22**	P	**Pn**	**14 00 25.4**	**-0.8**
SNR=66							
TKM2	**Tokmak 2**	**7.40**	**28**	P	**Pn**	**14 00 27.4**	**+0.2**
SNR=49							
TKM2	**Tokmak 2**	**7.40**	**28**	⇑P	**Pn**	**14 00 27.2**	**0.0**
comp=Z,17nm,0.4s							
TKM2				⇓S	**Sn**	**14 01 47.7**	**-2.9**
comp=Z,11nm,0.8s							
TKM2	**Tokmak 2**	**7.40**	**28**	PN	**Pn**	**14 00 27.1**	**0.0**
TKM2				pmax	pmax		
comp=Z,7.0nm,0.4s							
MK31	**Makanchi Array**	**13.39**	**36**	⇑P	**Pn**	**14 01 45.1**	**+0.6**
comp=Z,2.4nm,0.7s,baz=227,slow=17,SNR=18							
MKAR	**Makanchi Array**	**13.39**	**36**	P	**Pn**	**14 01 42.0**	**-2.4**
comp=Z,0.3nm,0.3s,baz=218,slow=11,SNR=7.6							
MKAR	**Makanchi Array**	**13.39**	**36**	P	**Pn**	**14 01 45.8**	**+1.4**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
KOLN	**Koldanda**	**13.89**	**125**	*e*P	**Pn**	**14 01 49.4**	**-1.3**
comp=Z,6.9nm,0.3s							
GKN	**Gorkha**	**14.44**	**122**	*e*P	**Pn**	**14 01 56.7**	**-0.8**
comp=Z,49nm,0.4s							
DMN	**Daman**	**15.01**	**122**	*e*P	**Pn**	**14 02 04.3**	**-0.2**
comp=Z,20nm,0.5s							
AB31	**Akbulak array**	**15.01**	**332**	⇑P	**Pn**	**14 02 03.4**	**-1.2**
comp=Z,1.6nm,0.3s,baz=146,slow=12,SNR=97							
AB31				⇑S	**S**	**14 04 41.0**	**-10**
comp=Z,1.6nm,0.5s,baz=153,slow=24,SNR=6.4							
AB31	**Akbulak array**	**15.01**	**332**	*e*P	**Pn**	**14 02 03.2**	**-1.4**
AB31				pmax	pmax		
comp=Z,1.0nm,0.3s							
KKN	**Kakani**	**15.01**	**121**	*e*P	**Pn**	**14 02 04.5**	**-0.1**
comp=Z,26nm,0.4s							
KKN	**Kakani**	**15.01**	**121**	*e*P	**Pn**	**14 02 04.5**	**-0.1**
KKN				pmax	pmax		
comp=Z,13nm,0.4s							
PKI	**Pulchoki**	**15.24**	**122**	*e*P	**Pn**	**14 02 07.5**	**+0.2**
comp=Z,74nm,0.6s							
PKI	**Pulchoki**	**15.24**	**122**	*e*P	**Pn**	**14 02 07.5**	**+0.2**
PKI				pmax	pmax		
comp=Z,37nm,0.6s							
KURK	**Kurchatov**	**15.29**	**19**	⇑P	**Pn**	**14 02 08.3**	**+0.3**
comp=Z,3.1nm,2.0s							
KURK	**Kurchatov**	**15.29**	**19**	*e*P	**Pn**	**14 02 08.7**	**+0.8**
GUN	**Gumba**	**15.35**	**120**	*e*P	**Pn**	**14 02 09.1**	**+0.4**
comp=Z,14nm,0.3s							
JIRN	**Jiri**	**15.72**	**120**	*e*P	**Pn**	**14 02 13.5**	**+0.2**
comp=Z,23nm,0.4s							
VOSK	**Vostochnaya**	**16.23**	**0**	⇓P	**Pn**	**14 02 19.9**	**+0.6**
comp=Z,1.0nm,0.5s							
BVA0	**Borovoye Array**	**16.53**	**359**	⇑P	**Pn**	**14 02 23.4**	**+0.4**
comp=Z,0.3nm,0.5s,baz=148,slow=8.8,SNR=28							
BVA0	**Borovoye Array**	**16.53**	**359**	*e*P	**Pn**	**14 02 23.5**	**+0.5**
BVAR	**Borovoye Array**	**16.53**	**359**	P	**Pn**	**14 02 23.5**	**+0.5**
comp=Z,1.2nm,0.3s,baz=159,slow=8.9,SNR=30							
BRVK	**Borovoye**	**16.56**	**359**	*e*Pn	**Pn**	**14 02 23.5**	**+0.1**
AKTK	**Aktyubinsk**	**16.70**	**331**	P	**Pn**	**14 02 25.4**	**+0.3**
AKTO	**Aktyubinsk**	**16.70**	**331**	P	**Pn**	**14 02 25.2**	**+0.2**
comp=Z,2.4nm,1.1s							
AKTO				⇑S	**S**	**14 05 23.2**	**-5.7**
comp=Z,0.3nm,0.5s							
AKTO	**Aktyubinsk**	**16.70**	**331**	P	**Pn**	**14 02 25.4**	**+0.3**
comp=Z,0.8nm,0.3s,baz=142,slow=11,SNR=35							
ZAL	**Zalesovo**	**19.97**	**25**	P	**P**	**14 03 00.7**	**+1.1**
comp=Z,11nm,0.3s,baz=254,slow=6.9,SNR=28							
NVS	**Novosibirsk**	**20.24**	**21**	*i*P	**P**	**14 03 02.9**	**+0.4**
ARU	**Arti**	**21.59**	**341**	*e*P	**P**	**14 03 15.8**	**-0.9**
comp=Z,3.8nm,0.8s,mb3.9							
ARU	**Arti**	**21.59**	**341**	*e*P	**P**	**14 03 17.2**	**+0.5**
KIV	**Kislovodsk**	**22.65**	**298**	P	**P**	**14 03 25.9**	**-1.0**
SONM	**Songino Array**	**28.47**	**55**	P	**P**	**14 04 19.6**	**+0.4**
comp=Z,0.2nm,0.5s,mb3.1,baz=263,slow=9.9,SNR=3.1							
AKASG	**Malin Array Be**	**32.82**	**309**	P	**P**	**14 04 58.1**	**+0.7**
comp=Z,1.4nm,0.5s,mb4.0,baz=80,slow=7.4,SNR=7.7							
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**14 05 37.0**	**+0.5**
comp=Z,0.8nm,0.4s,mb3.7,baz=147,slow=8.1,SNR=5.1							
GVD	**Gavdhos**	**37.70**	**282**	P	**P**	**14 05 33.0**	**-6.0**
comp=Z,89nm,1.2s,mb5.3							
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**14 06 07.5**	**+0.5**
comp=Z,2.0nm,0.6s,mb3.9,baz=112,slow=8.2,SNR=10							
NB2	**NORSAR Subarra**	**44.29**	**323**	P	**P**	**14 06 32.7**	**-0.1**
comp=Z,1.3nm,0.5s,mb3.8,baz=96,slow=7.9							
NB2	**NORSAR Subarra**	**44.29**	**323**	P	**P**	**14 06 32.7**	**-0.1**
NB2				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.7							
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**14 06 33.2**	**+0.5**
comp=Z,2.7nm,0.6s,mb4.0,baz=97,slow=7.8,SNR=9.1							
TORD	**Torodi Ar. Bea**	**65.56**	**269**	P	**P**	**14 09 04.2**	**-0.9**
comp=Z,0.5nm,0.4s,mb3.7,baz=58,slow=5.4,SNR=9.3							
YKA	**Yellowknife Ar**	**81.26**	**3**	P	**P**	**14 10 37.4**	**+0.6**
comp=Z,0.5nm,0.4s,mb3.5,baz=350,slow=5.4,SNR=18							
WRA	**Warramunga Arr**	**82.12**	**122**	P	**P**	**14 10 40.7**	**-0.7**
comp=Z,0.9nm,1.0s,mb3.4,baz=324,slow=5.0,SNR=9.8							
ASAR	**Alice Springs**	**84.38**	**125**	P	**P**	**14 10 51.8**	**-1.1**
comp=Z,0.3nm,0.7s,mb3.1,baz=307,slow=5.0,SNR=7.4							

IDC 07 14:01:31.5±5.2, 473S×15164E, h76km±45km, **mb3.0**/3, **mb1 3.3**/4, **mb1mx3.1**/14, **mbtmp3.4**/4, **ML2.7**/1, **Error ellipse: s-maj=125.2km s-min=28.6km az=129.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.43**	**223**	P	Pn	14 03 04.2	+0.7
1.0nm,0.3s,baz=41,slow=11,SNR=5.2							
PMG				S	Sn	14 04 16.4	+0.9
3.4nm,0.3s,baz=158,slow=18,SNR=8.9							
WRA	**Warramunga Arr**	**22.64**	**227**	P	P	14 06 25.9	-0.2
0.3nm,0.4s,baz=52,slow=10,SNR=7.6							
ASAR	**Alice Springs**	**25.44**	**221**	P	P	14 06 52.4	+0.3
0.2nm,0.6s,baz=56,slow=9.3,SNR=6.9							
ILAR	**Eielson Array**	**82.53**	**22**	P	P	14 13 45.4	-0.5
0.4nm,0.7s,baz=247,slow=5.3,SNR=7.3							
TORD	**Torodi Ar. Bea**	**149.19**	**288**	PKPbc	PKPbc	14 21 12.5	+1.4
0.3nm,0.5s,baz=64,slow=2.4,SNR=5.0							

*IDC **07** 14:04:28.9±1.0, 6081N×2083E, h0km, mb1 3.0/4, mb1mx2.8/20, mbtmp2.9/4, ML2.7/4, Error ellipse: s-maj=18.0km s-min=6.3km az=165.0*
*NAO **07** 14:04:31.4±1.0, 6116N×2044E, ML2.1*
*BER **07** 14:04:33.1±4.0, 6103N×2042E, h0km, ML2.1(NAO), Suspected explosion*
HEL 07 14:04:31.6±0.1, 6089N×2069E, h0km, **ML1.7, ML2.0**(UPP), **ML2.1**(NAO), **Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.54**	**75**	*e*P	Pg	14 04 40.1	-2.0
RAF				*e*S	Sg	14 04 47.0	-2.1
AAL	**Aland**	**0.79**	**206**	*i*P	Pg	14 04 46.0	-0.8
FORU	**Forsmark**	**1.33**	**249**	*e*P	Pg	14 04 55.0	-2.2
FLYU	**Flymyra**	**1.58**	**242**	*e*P	Pn	14 04 59.2	-1.7
NRTU	**Norrtaelje**	**1.59**	**221**	*e*P	Pn	14 04 59.4	-1.6
IGGU	**Iggoen**	**1.65**	**271**	*e*P	Pn	14 05 00.3	-1.5
ARNU	**Arnoeviken**	**1.79**	**298**	*e*P	Pn	14 05 02.6	-1.2
UPP	**Uppsala**	**1.84**	**237**	*e*P	Pn	14 05 03.9	-0.5
OSTU	**Oestervaala**	**1.87**	**251**	*e*P	Pn	14 05 04.3	-0.6
MEF	**Metsahovi**	**1.95**	**108**	*e*P	Pn	14 05 05.7	-0.2
MEF				*e*S	Sn	14 05 30.6	-0.6
BACU	**Backbrunna**	**2.06**	**241**	*e*P	Pn	14 05 07.5	0.0
NYNU	**Nynaeshamn**	**2.32**	**217**	*e*P	Pn	14 05 11.5	+0.5
VAF	**Ylistaro**	**2.36**	**23**	*e*P	Pn	14 05 12.1	+0.5
VAF				*e*S	Sn	14 05 40.0	-1.2
KEF	**Keuruu**	**2.38**	**56**	*e*P	Pn	14 05 11.5	-0.4
KEF				*e*S	Sn	14 05 41.3	-0.4
FALU	**Falun**	**2.42**	**263**	*e*P	Pn	14 05 11.9	-0.5
ROTU	**Roteberg**	**2.42**	**285**	*e*P	Pn	14 05 12.7	+0.3
PVF	**Pernaja**	**2.57**	**95**	*e*P	Pn	14 05 14.8	+0.4
PVF				*e*S	Sn	14 05 45.5	-0.9
FIA0	**FINESS Array S**	**2.67**	**76**	*e*P	Pn	14 05 15.4	-0.5
FIA0				*e*S	Sn	14 05 48.0	-0.9
FIA0				*e*SG	Sg	14 05 53.6	-3.8
FIA0	**FINESS Array S**	**2.67**	**76**	Pn	Pn	14 05 16.0	+0.1
baz=266,slow=14							
FIA0				Sn	Sn	14 05 50.4	+1.4
baz=270,slow=28							
FINES	**FINESS Array B**	**2.67**	**76**	Pn	Pn	14 05 15.8	0.0
1.6nm,0.3s,baz=267,slow=13,SNR=83							
FINES				Lg		14 05 49.1	
2.6nm,0.3s,baz=269,slow=27,SNR=16							
ESKU	**Eskilstuna**	**2.72**	**234**	*e*P	Pn	14 05 16.4	-0.1
SOLU	**Sollefteaa**	**2.87**	**327**	*e*P	Pn	14 05 18.9	+0.3
KAF	**Kangasniemi**	**2.96**	**63**	*e*P	Pn	14 05 18.8	-1.1
KAF				*e*S	Sn	14 05 54.8	-1.3
KAF				*e*SB	Sb	14 06 01.0	-1.0
KAF				MSG		14 06 01.6	
comp=Z,2.0nm,0.2s							
UMAU	**Umeaa**	**3.01**	**360**	*e*P	Pn	14 05 21.2	+0.7
BREU	**Bredtraesk**	**3.17**	**343**	*e*P	Pn	14 05 22.8	+0.1
SUF	**Sumiainen**	**3.18**	**52**	*e*P	Pn	14 05 23.2	+0.4
SUF				*e*S	Sn	14 06 00.6	-0.9
SUF				*e*SG	Sg	14 06 08.7	-5.1
SUF				MSG		14 06 10.6	
comp=Z,1.6nm,0.2s							
VJF	**Virojoki**	**3.39**	**93**	*e*P	Pn	14 05 26.6	+0.8
VJF				*e*S	Sn	14 06 05.1	-1.6
HFS	**Hagfors**	**3.54**	**261**	*e*P	Pn	14 05 27.7	-0.1
HFS				*e*PG	Pg	14 05 35.8	-3.6
HFS				*e*SB		14 06 17.6	
HFS	**Hagfors**	**3.54**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.90**	**160**	*e*P	**Pn**	**14 13 13.2**	**-0.8**
SGCP				*e*S	**Sn**	**14 13 37.9**	**+1.1**
APYP	**Conner**	**2.17**	**183**	*e*P	**Pn**	**14 13 16.1**	**-1.7**
APYP				*e*S	**Sn**	**14 13 43.1**	**-0.3**
CVP	**Callao Caves**	**2.36**	**169**	*e*P	**Pn**	**14 13 20.0**	**-0.4**
ABRA	**Dolores**	**2.45**	**195**	*e*P	**Pn**	**14 13 21.2**	**-0.5**
ABRA				*e*S	**Sn**	**14 13 51.1**	**+0.6**
CAUP	**Cauayan**	**3.11**	**172**	*e*P	**Pn**	**14 13 31.9**	**+1.3**
PALP	**Palanan**	**3.12**	**161**	*e*P	**Pn**	**14 13 26.6**	**-4.3**
PALP				*e*S	**Sn**	**14 14 14.3**	**+7.4**
BOLP	**Bolinao**	**3.89**	**201**	*e*P	**Pn**	**14 13 42.2**	**+0.9**
BALP	**Baler**	**4.28**	**177**	*e*P	**Pn**	**14 13 46.6**	**0.0**
MKAR	**Makanchi Array**	**41.50**	**319**	P	**P**	**14 20 33.9**	**+7.9**
	0.1nm,0.3s,mb2.9,baz=120,slow=8.5,SNR=2.7						
WRA	**Warramunga Arr**	**41.71**	**161**	P	**P**	**14 20 26.4**	**-1.4**
	0.5nm,0.3s,mb3.6,baz=342,slow=9.1,SNR=9.8						
ASAR	**Alice Springs**	**45.12**	**164**	P	**P**	**14 20 55.2**	**0.0**
	0.5nm,0.3s,mb3.8,baz=342,slow=6.7,SNR=20						
YKA	**Yellowknife Ar**	**86.71**	**23**	P	**P**	**14 25 23.5**	**+1.2**
	0.3nm,0.7s,mb3.6,baz=309,slow=4.7,SNR=6.4						

*ISCJB **07** 14:38:29.1±0.3, 6093N±003×2073E±004, h0km, Error ellipse: s-maj=5.1km s-min=2.8km az=151.8*
*IDC **07** 14:38:29.1±0.9, 6097N×2082E, h0km, mb1 3.0/4, mb1mx2.8/21, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=20.8km s-min=5.9km az=166.0*
*HEL **07** 14:38:30.3±0.1, 6093N×2069E, h0km, ML1.7, ML1.9(UPP), Explosion*

ISC 07 14:38:29.9±0.3, 6093N±004×2071E±004, h0km, n30, σ0§86/43, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.52**	**79**	*e*P	**Pg**	**14 38 38.8**	**-1.1**
RAF				*e*S	**Sg**	**14 38 45.7**	**-1.0**
AAL	**Aland**	**0.83**	**205**	*i* P	**Pg**	**14 38 45.2**	**-0.6**
FLYU	**Flymyra**	**1.61**	**241**	*e*P	**Pn**	**14 38 58.2**	**-1.3**
NRTU	**Norrtaelje**	**1.63**	**220**	*e*P	**Pn**	**14 38 58.5**	**-1.2**
IGGU	**Iggoen**	**1.66**	**270**	*e*P	**Pn**	**14 38 59.1**	**-1.0**
ARNU	**Arnoeviken**	**1.78**	**297**	*e*P	**Pn**	**14 39 01.3**	**-0.6**
ARNU				*e*S	**Sn**	**14 39 23.4**	**-1.8**
OSTU	**Oestervaala**	**1.90**	**250**	*e*P	**Pn**	**14 39 03.4**	**-0.1**
MEF	**Metsahovi**	**1.96**	**110**	*e*P	**Pn**	**14 39 04.6**	**+0.3**
MEF				*e*S	**Sn**	**14 39 30.0**	**+0.5**
BACU	**Backbrunna**	**2.09**	**240**	*e*P	**Pn**	**14 39 06.4**	**+0.3**
VAF	**Ylistaro**	**2.31**	**23**	*e*P	**Pn**	**14 39 09.9**	**+0.7**
VAF				*e*S	**Sn**	**14 39 38.4**	**0.0**
KEF	**Keuruu**	**2.35**	**56**	*e*P	**Pn**	**14 39 09.9**	**+0.2**
KEF				*e*S	**Sn**	**14 39 39.3**	**+0.1**
NYNU	**Nynaeshamn**	**2.36**	**216**	*e*P	**Pn**	**14 39 10.7**	**+0.8**
ROTU	**Roteberg**	**2.42**	**284**	*e*P	**Pn**	**14 39 11.3**	**+0.6**
FALU	**Falun**	**2.44**	**262**	*e*P	**Pn**	**14 39 12.0**	**+1.1**
HUSU	**Husum**	**2.52**	**345**	*e*P	**Pn**	**14 39 12.6**	**+0.5**
PVF	**Pernaja**	**2.56**	**96**	*e*P	**Pn**	**14 39 13.8**	**+1.2**
PVF				*e*S	**Sn**	**14 39 43.9**	**-0.6**
FIA0	**FINESS Array S**	**2.65**	**76**	*e*P	**Pn**	**14 39 14.5**	**+0.7**
FIA0				*e*S	**Sn**	**14 39 46.4**	**-0.3**
FINES	**FINESS Array B**	**2.65**	**76**	Pn	**Pn**	**14 39 14.9**	**+1.1**
	0.9nm,0.3s,baz=265,slow=14,SNR=76						
FINES				Lg		14 39 49.5	
	2.3nm,0.3s,baz=264,slow=27,SNR=26						
ESKU	**Eskilstuna**	**2.75**	**234**	*e*P	**Pn**	**14 39 15.4**	**+0.1**
SOLU	**Sollefteaa**	**2.84**	**327**	*e*P	**Pn**	**14 39 16.4**	**0.0**
KAF	**Kangasniemi**	**2.93**	**64**	*e*P	**Pn**	**14 39 18.8**	**+1.1**
KAF				*e*S	**Sn**	**14 39 53.1**	**-0.5**
KAF				MSG		14 40 03.6	
	comp=Z,1.7nm,0.2s						
UMAU	**Umeaa**	**2.96**	**360**	*e*P	**Pn**	**14 39 19.5**	**+1.3**
BREU	**Bredtraesk**	**3.13**	**342**	*e*P	**Pn**	**14 39 21.3**	**+0.8**
NRAU	**Nora**	**3.14**	**247**	*e*P	**Pn**	**14 39 20.1**	**-0.4**
SUF	**Sumiainen**	**3.15**	**53**	*e*P	**Pn**	**14 39 21.1**	**+0.4**
SUF				*e*S	**Sn**	**14 39 58.2**	**-0.7**
SUF				*e*SG	**Sg**	**14 40 07.4**	**-3.5**
SUF				MSG		14 40 08.2	
	comp=Z,1.7nm,0.2s						
VJF	**Virojoki**	**3.38**	**94**	*e*P	**Pn**	**14 39 24.1**	**+0.2**
VJF				*e*S	**Sn**	**14 40 04.4**	**-0.4**
HFS	**Hagfors**	**3.56**	**260**	Pn	**Pn**	**14 39 26.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=88,slow=13,SNR=12						
HFS				Pg	**Pg**	**14 39 33.1**	**-5.0**
	comp=Z,0.6nm,0.3s,baz=76,slow=16,SNR=15						
HFS				Sn	**Sn**	**14 40 05.4**	**-3.7**
	comp=Z,0.8nm,0.3s,baz=294,slow=27,SNR=12						
HFS				Lg		14 40 20.4	
	comp=Z,0.9nm,0.3s,baz=76,slow=30,SNR=7.3						
BYXU	**Byxelkrok**	**4.12**	**209**	*e*P	**Pn**	**14 39 34.9**	**+0.9**
NOA	**NORSAR Array B**	**4.63**	**276**	Pn	**Pn**	**14 39 41.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=110,slow=17,SNR=3.8						
NOA				Lg		14 40 48.0	
	comp=Z,0.4nm,0.3s,baz=214,slow=8.0,SNR=2.0						
ARCES	**ARCESS Array B**	**8.87**	**11**	Pn	**Pn**	**14 40 35.8**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=189,slow=13,SNR=16						

*ISCJB **07** 14:50:13.4±0.3, 6092N±004×2074E±004, h0km, Error ellipse: s-maj=5.4km s-min=2.6km az=151.3*
*NAO **07** 14:50:14.7±1.0, 6120N×2040E, ML2.0*
*HEL **07** 14:50:14.5±0.1, 6092N×2073E, h0km, ML1.8, ML2.0(UPP), ML2.0(NAO), Explosion*
*IDC **07** 14:50:14.3±1.4, 6100N×2082E, h10km±14km, mb1 2.8/4, mb1mx2.7/20, mbtmp2.8/4, ML2.6/4, Error ellipse: s-maj=21.7km s-min=6.7km az=166.0*
*BER **07** 14:50:16.3±3.3, 6116N×2033E, h0km, ML2.0(NAO), Suspected explosion*

ISC 07 14:50:14.0±0.3, 6090N±004×2073E±004, h0km, n36, σ0§94/54, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.52**	**76**	*e*P	**Pg**	**14 50 23.1**	**-0.8**
RAF				*e*S	**Sg**	**14 50 30.0**	**-0.6**
AAL	**Aland**	**0.81**	**207**	*i* P	**Pg**	**14 50 29.5**	**-0.1**
FLYU	**Flymyra**	**1.61**	**242**	*e*P	**Pn**	**14 50 42.5**	**-1.0**
FLYU				*e*S	**Sn**	**14 51 05.1**	**+0.1**
NRTU	**Norrtaelje**	**1.61**	**221**	*e*P	**Pn**	**14 50 42.8**	**-0.9**
IGGU	**Iggoen**	**1.67**	**270**	*e*P	**Pn**	**14 50 43.3**	**-1.1**
ARNU	**Arnoeviken**	**1.80**	**298**	*e*P	**Pn**	**14 50 45.2**	**-1.0**
OSTU	**Oestervaala**	**1.90**	**251**	*e*P	**Pn**	**14 50 47.5**	**-0.1**
MEF	**Metsahovi**	**1.94**	**109**	*e*P	**Pn**	**14 50 48.1**	**0.0**
MEF				*e*S	**Sn**	**14 51 14.0**	**+0.9**
BACU	**Backbrunna**	**2.08**	**241**	*e*P	**Pn**	**14 50 50.6**	**+0.4**
VAF	**Ylistaro**	**2.33**	**22**	*e*P	**Pn**	**14 50 54.4**	**+0.9**
VAF				*e*S	**Sn**	**14 51 23.4**	**+0.5**
NYNU	**Nynaeshamn**	**2.35**	**217**	*e*P	**Pn**	**14 50 54.8**	**+1.0**
KEF	**Keuruu**	**2.35**	**56**	*e*P	**Pn**	**14 50 54.3**	**+0.5**
KEF				*e*S	**Sn**	**14 51 23.2**	**-0.3**
ROTU	**Roteberg**	**2.44**	**284**	*e*P	**Pn**	**14 50 55.7**	**+0.7**
FALU	**Falun**	**2.44**	**262**	*e*P	**Pn**	**14 50 56.4**	**+1.3**
HUSU	**Husum**	**2.55**	**344**	*e*P	**Pn**	**14 50 56.7**	**+0.2**
PVF	**Pernaja**	**2.55**	**96**	*e*P	**Pn**	**14 50 57.8**	**+1.3**
PVF				*e*S	**Sn**	**14 51 28.3**	**+0.1**
FIA0	**FINESS Array S**	**2.65**	**76**	Pn	**Pn**	**14 50 59.0**	**+1.1**
	baz=266,slow=16						
FIA0				Sn	**Sn**	**14 51 33.9**	**+3.2**
	baz=268,slow=28						
FIA0	**FINESS Array S**	**2.65**	**76**	*e*P	**Pn**	**14 50 58.8**	**+0.9**
FIA0				*e*S	**Sn**	**14 51 30.6**	**-0.1**
FIA0				MSG		14 51 37.1	
	comp=Z,4.1nm,0.3s						
FINES	**FINESS Array B**	**2.65**	**76**	Pn	**Pn**	**14 50 59.5**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=265,slow=15,SNR=102						
FINES				Lg		14 51 34.2	
	comp=Z,2.6nm,0.3s,baz=266,slow=27,SNR=26						
SOLU	**Sollefteaa**	**2.86**	**327**	*e*P	**Pn**	**14 51 00.7**	**-0.2**
KAF	**Kangasniemi**	**2.94**	**63**	*e*P	**Pn**	**14 51 02.7**	**+0.8**
KAF				*e*S	**Sn**	**14 51 36.4**	**-1.4**
KAF				*e*SG	**Sg**	**14 51 43.9**	**-4.4**
UMAU	**Umeaa**	**2.99**	**360**	*e*P	**Pn**	**14 51 03.6**	**+1.0**
SUF	**Sumiainen**	**3.15**	**52**	*e*P	**Pn**	**14 51 05.5**	**+0.7**
SUF				*e*S	**Sn**	**14 51 42.6**	**-0.6**
SUF				*e*SG	**Sg**	**14 51 50.7**	**-4.6**
SUF				MSG		14 51 52.5	
	comp=Z,2.0nm,0.2s						
BREU	**Bredtraesk**	**3.16**	**342**	*e*P	**Pn**	**14 51 05.7**	**+0.8**
VJF	**Virojoki**	**3.37**	**93**	*e*SB	**Sb**	**14 51 54.9**	**-1.3**
HFS	**Hagfors**	**3.56**	**261**	*e*P	**Pn**	**14 51 10.9**	**+0.4**
HFS				*e*PG	**Pg**	**14 51 17.0**	**-5.3**
HFS				*e*SB	**Sb**	**14 52 01.1**	**-0.5**
HFS	**Hagfors**	**3.56**	**261**	Pn	**Pn**	**14 51 10.9**	**+0.4**
	baz=77,slow=12						
HFS				Pg	**Pg**	**14 51 17.0**	**-5.3**
	baz=82,slow=18						
HFS				Lg		14 52 01.1	
	baz=59,slow=37						
HFS	**Hagfors**	**3.56**	**261**	Pn	**Pn**	**14 51 10.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=113,slow=11,SNR=16						
HFS				Pg	**Pg**	**14 51 18.5**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=77,slow=16,SNR=18						
HFS				Lg		14 52 03.4	
	comp=Z,1.0nm,0.3s,baz=71,slow=32,SNR=9.1						
NB2	**NORSAR Subarra**	**4.64**	**276**	*e*P	**Pn**	**14 51 23.7**	**-1.6**
NB2				*e*SB	**Sb**	**14 52 33.0**	**+0.5**
NB2	**NORSAR Subarra**	**4.64**	**276**	Pn	**Pn**	**14 51 23.7**	**-1.6**
	baz=80,slow=14						
NB2				Lg		14 52 33.0	
	baz=100,slow=37						
NOA	**NORSAR Array B**	**4.64**	**276**	Pn	**Pn**	**14 51 23.1**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=261,slow=18,SNR=2.4						
NOA				Lg		14 52 32.5	
	comp=Z,0.5nm,0.3s,baz=359,slow=15,SNR=2.6						
ARA0	**ARCESS Array S**	**8.89**	**11**	Pn	**Pn**	**14 52 19.6**	**-4.1**
	baz=190,slow=16						
ARA0				Sn	**Sn**	**14 53 54.3**	**-10**
	baz=190,slow=22						
ARA0	**ARCESS Array S**	**8.89**	**11**	*e*P	**Pn**	**14 52 19.6**	**-4.1**
ARA0				*e*		14 53 54.3	
ARCES	**ARCESS Array B**	**8.89**	**11**	Pn	**Pn**	**14 52 19.8**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=188,slow=13,SNR=24						
SPA0	**Spitsbergen Ar**	**17.42**	**357**	P	**Pn**	**14 54 14.9**	**-3.4**
	baz=157,slow=14						
SPA0	**Spitsbergen Ar**	**17.42**	**357**	*e*P	**Pn**	**14 54 14.9**	**-3.4**

MAN 07 15:13:12.8, 1437N×12018E, h57km, mb1.7, ML3.6, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.63**	**174**	*e*P	Pn	15 13 27.4	+1.4
LUBP				*e*S	Sn	15 13 39.4	+3.7
SCZP	**Santa Cruz**	**1.42**	**350**	*e*P	Pn	15 13 37.0	+0.7
POLP	**Polilio Island**	**1.74**	**78**	*e*P	Pn	15 13 41.8	+1.1
POLP				*e*S	Sn	15 14 03.2	+1.4
BOAC	**Boac**	**1.85**	**119**	*e*P	Pn	15 13 44.0	+1.8
BOAC				*e*S	Sn	15 14 05.1	+0.6
BALP	**Baler**	**1.92**	**45**	*e*P	Pn	15 13 44.6	+1.5
BALP				*e*S	Sn	15 14 05.8	-0.4
BOLP	**Bolinao**	**2.02**	**353**	*e*P	Pn	15 13 44.9	+0.4
BOLP				*e*S	Sn	15 14 10.0	+1.5
BUSP	**Coron**	**2.35**	**179**	*e*P	Pn	15 13 50.2	+1.3
BUSP				*e*S	Sn	15 14 17.0	+0.3
ENPP	**El Nido**	**3.23**	**193**	*e*P	Pn	15 14 02.3	+1.4
ENPP				*e*S	Sn	15 14 37.5	-0.6
PALP	**Palanan**	**3.44**	**39**	*e*P	Pn	15 13 59.5	-4.4

*ISCJB **07** 15:14:58.1±2.0, 2521S±009×1800E±01, h464km±27km, mb3.7/9, Error ellipse: s-maj=18.4km s-min=13.0km az=54.2*
*NEIC **07** 15:14:58.7±1.2, 2514S×17994W, h461km±15km, mb4.0/4, Error ellipse: s-maj=15.5km s-min=10.7km az=127.0*
*IDC **07** 15:15:00.5±1.8, 2518S×17994E, h479km±19km, mb3.3/7, mb1 3.6/10, mb1mx3.5/16, mbtmp4.3/10, Error ellipse: s-maj=25.6km s-min=14.8km az=152.0*

ISC 07 15:14:59.2±1.4, 2525S±01×1800W±01, h464km±21km, n24, σ0§83/21, mb3.7/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.28**	**190**	P	**P**	**15 17 50.7**	**-0.8**
	1.0nm,0.3s,baz=318,slow=16,SNR=5.5						
URZ				S	**S**	**15 20 08.7**	**-5.2**
	0.9nm,0.3s,baz=250,slow=23,SNR=9.1						
AFI	**Afiamalu**	**13.60**	**36**	P	**P**	**15 17 55.1**	**0.0**
	3.2nm,0.3s,baz=283,slow=14,SNR=4.1						
AFI	**Afiamalu**	**13.60**	**36**	*e*P	**P**	**15 17 54.4**	**-0.7**
SNZO	**South Karori**	**16.69**	**194**	*e*P	**P**	**15 18 27.7**	**-0.1**
	26nm,0.7s						
RPZ	**Rata Peaks**	**19.90**	**199**	P	**P**	**15 18 59.3**	**+0.5**
	1.9nm,0.3s,baz=36,slow=4.9,SNR=5.3						
CTA	**Charters Tower**	**31.53**	**272**	*e*P	**P**	**15 20 43.3**	**+1.5**
	3.8nm,0.6s,mb4.0						
CTA	**Charters Tower**	**31.53**	**272**	P	**P**	**15 20 42.7**	**+0.8**
	5.0nm,0.6s,mb4.1,baz=97,slow=11,SNR=13						
STKA	**Stephens Creek**	**34.29**	**250**	*e*P	**P**	**15 21 03.6**	**-1.7**
	1.2nm,0.4s,mb3.7						
STKA	**Stephens Creek**	**34.29**	**250**	P	**P**	**15 21 04.2**	**-1.1**
	1.6nm,0.5s,mb3.7,baz=95,slow=15,SNR=9.3						
AS31	**Alice Springs**	**41.87**	**262**	*e*P	**P**	**15 22 07.9**	**+0.5**
ASAR	**Alice Springs**	**41.87**	**262**	P	**P**	**15 22 07.8**	**+0.5**
	1.6nm,0.5s,mb3.8,baz=90,slow=6.8,SNR=73						
ASAR				S	**S**	**15 27 48.5**	**-2.4**
	0.5nm,0.8s,baz=102,slow=17,SNR=4.9						
ASPA	**Alice Springs**	**41.87**	**262**	*e*P	**P**	**15 22 07.9**	**+0.5**
WB2	**Warramunga Arr**	**42.35**	**268**	*e*P	**P**	**15 22 11.5**	**+0.3**
WRAB	**Tennant Creek**	**42.36**	**268**	*e*P	**P**	**15 22 11.3**	**+0.1**
	2.2nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**42.36**	**268**	P	**P**	**15 22 11.6**	**+0.3**
	1.7nm,0.5s,mb3.7,baz=101,slow=7.5,SNR=42						
QSPA	**South Pole Qui**	**64.91**	**180**	*e*P	**P**	**15 24 52.0**	**+0.2**
	2.9nm,0.7s,mb4.0						
MJAR	**Matsushiro Arr**	**72.96**	**326**	P	**P**	**15 25 39.5**	**-1.0**
	1.7nm,0.7s,mb3.7,baz=150,slow=5.2,SNR=4.2						
NVAR	**Mina Array Bea**	**85.65**	**44**	P	**P**	**15 26 49.1**	**+1.3**
	0.7nm,0.7s,mb3.4,baz=228,slow=10.0,SNR=7.1						
ILAR	**Eielson Array**	**93.26**	**14**	P	**P**	**15 27 22.2**	**-1.0**
	0.3nm,0.6s,mb3.5,baz=220,slow=6.1,SNR=4.7						
ARCES	**ARCESS Array B**	**133.14**	**348**	PKP	PKPdf	15 33 20.9	-0.3
	7.6nm,1.1s,baz=25,slow=3.2,SNR=6.0						
FINES	**FINESS Array B**	**139.66**	**341**	PKhKP		15 33 24.1	
	0.6nm,0.6s,baz=15,slow=2.2,SNR=4.0						
FINES				PKP	PKPdf	15 33 33.7	+0.4
	0.6nm,0.8s,baz=27,slow=0.4,SNR=3.4						
FINES				SKPbc	SKPbc	15 36 22.6	-2.2
	1.6nm,0.7s,baz=350,slow=5.8,SNR=5.4						
NOA	**NORSAR Array B**	**143.34**	**351**	PKP	PKPdf	15 33 37.1	-2.8
	4.2nm,0.8s,baz=16,slow=5.0,SNR=11						
AKASG	**Malin Array Be**	**146.05**	**326**	PKPbc	PKPbc	15 33 45.1	-1.2
	1.6nm,0.5s,baz=45,slow=4.2,SNR=10.0						
BRTR	**Keskin Array B**	**148.35**	**306**	PKPbc	PKPbc	15 33 50.7	-1.7
	0.6nm,0.6s,baz=76,slow=5.2,SNR=4.3						

IDC 07 15:20:35.4±8.8, 740S×15078E, h51km±68km, mb3.4/2, mb1 3.8/3, mb1mx3.4/13, mbtmp3.7/3, ML2.3/1, Error ellipse: s-maj=84.3km s-min=55.3km az=144.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.10**	**241**	P	Pn	15 21 35.6	+0.2
	1.4nm,0.3s,baz=24,slow=8.6,SNR=9.0						
PMG				S	Sn	15 22 22.9	+0.9
	17nm,0.3s,baz=109,slow=22,SNR=21						
WRA	**Warramunga Arr**	**20.23**	**230**	P	P	15 25 06.1	-0.1
	2.8nm,0.5s,baz=56,slow=11,SNR=26						
ASAR	**Alice Springs**	**22.89**	**223**	P	P	15 25 35.1	+0.5
	0.5nm,0.4s,baz=56,slow=9.0,SNR=21						
TORD	**Torodi Ar. Bea**	**149.06**	**283**	PKPbc	PKPbc	15 40 18.6	+0.8
	0.6nm,0.6s,baz=75,slow=2.4,SNR=3.6						

*ISCJB **07** 15:26:56.2±1.7, 3445N±009×690E±02, h33km, Error ellipse: s-maj=20.2km s-min=12.4km az=146.5*
*NNC **07** 15:26:59.5±5.5, 3460N×6878E, h38km±61km, mb3.9, mpv3.8, Error ellipse: s-maj=89.1km s-min=36.0km az=163.0*

ISC 07 15:26:57.6±1.7, 3432N±009×690E±01, h35km, n14, σ1§16/17, 3C-3D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**7.30**	**110**	*e*P	**Pn**	**15 28 42.1**	**+0.4**
SDNR				*e*S	**Sn**	**15 30 01.7**	**-1.6**
AML	**Almayashu**	**8.65**	**24**	P	**Pn**	**15 29 01.4**	**+1.2**
	SNR=35						
KK31	**Karatay Array**	**8.86**	**7**	⇓Pn	**Pn**	**15 29 02.2**	**-0.9**
	1.5nm,0.3s,baz=193,slow=14,SNR=32						
KK31				⇑Sn	**Sn**	**15 30 39.4**	**-2.2**
	1.5nm,0.5s,baz=189,slow=22,SNR=4.2						
UCH	**Uchtor**	**9.03**	**27**	P	**Pn**	**15 29 06.2**	**+0.9**
	SNR=10						
EKS2	**Erkin-Say**	**9.15**	**23**	P	**Pn**	**15 29 03.1**	**-3.9**
	SNR=15						
KZA	**Kyzart**	**9.20**	**31**	P	**Pn**	**15 29 08.5**	**+0.8**
	SNR=12						
AAK	**Ala-Archa**	**9.37**	**26**	P	**Pn**	**15 29 10.8**	**+0.8**
	SNR=23						
KBK	**Karagaybulak**	**9.56**	**28**	P	**Pn**	**15 29 13.5**	**+0.9**
	SNR=8.9						
CHMS	**Chumysh**	**9.78**	**26**	P	**Pn**	**15 29 17.2**	**+1.5**
	SNR=21						
USP	**Ospenovka**	**9.93**	**24**	P	**Pn**	**15 29 18.6**	**+0.9**
	SNR=6.7						
TKM2	**Tokmak 2**	**10.04**	**29**	P	**Pn**	**15 29 19.3**	**+0.1**
	SNR=9.2						
TKM2	**Tokmak 2**	**10.04**	**29**	⇓Pn	**Pn**	**15 29 19.1**	**-0.1**
	3.0nm,0.5s						
TKM2				⇑Sn	**Sn**	**15 31 10.1**	**-0.5**
	3.1nm,0.8s						
MK31	**Makanchi Array**	**16.04**	**35**	⇑P	**Pn**	**15 30 39.6**	**-0.7**
	1.2nm,0.7s,baz=214,slow=10,SNR=7.2						
AB31	**Akbulak array**	**16.35**	**339**	⇓P	**Pn**	**15 30 42.3**	**-2.0**
	0.4nm,0.3s,baz=279,slow=11,SNR=23						

MEX 07 16:10:03.0±0.7, 1916N×9633W, h24km±45km, MD3.6, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**0.56**	**351**	*e*P	Pb	16 10 12.2	-2.1
LVIG				*i* S	Sb	16 10 19.9	-2.0
TPIG	**Tehuac#an**	**1.23**	**233**	*i* P	Pn	16 10 22.0	-2.6
TPIG				*i* S	Sn	16 10 36.7	-3.7
OXX	**Oaxaca**	**2.10**	**190**	*i* P	Pn	16 10 35.5	-1.2
PPM	**Popocatepetl**	**2.18**	**268**	*e*P	Pn	16 10 39.1	+1.4

IDC 07 16:15:13.1±55.0, 1765S×17174W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.0/3, Error ellipse: s-maj=1067.0km s-min=188.8km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.35**	**242**	P	P	16 23 25.8	+0.7
	1.4nm,0.9s,baz=90,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**50.91**	**258**	P	P	16 24 16.1	+0.1
	0.9nm,0.3s,baz=98,slow=7.0,SNR=84						
ASAR	**Alice Springs**	**50.97**	**254**	P	P	16 24 16.9	+0.5
	1.8nm,0.7s,baz=90,slow=7.6,SNR=66						

*SKO **07** 16:15:52.3, 4071N×2296E, h15km, M2.5, ML2.6*
*ISCJB **07** 16:15:54.3±0.5, 4084N±002×2294E±004, h10km, Error ellipse: s-maj=4.4km s-min=3.3km az=124.2*
*CSEM **07** 16:15:54.9±0.2, 4085N×2294E, h10km, ML2.3, Error ellipse: s-maj=4.0km s-min=3.0km az=57.0*
*THE **07** 16:15:55.0, 4084N×2295E, h1km, ML2.3*

ISC 07 16:15:54.9±0.9, 4085N±003×2294E±004, h11km±17km, n11, σ0§78/21, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.22**	**175**	*e*Pg	**Pg**	**16 15 58.9**	**-0.6**
THE				*e*Sg	**Sg**	**16 16 01.9**	**-0.7**
KNT	**Kendrikon**	**0.31**	**354**	*e*Pg	**Pg**	**16 16 01.3**	**+0.1**
KNT				*e*Sg	**Sg**	**16 16 05.8**	**+0.4**
GRG	**Griva**	**0.42**	**285**	*e*Pg	**Pg**	**16 16 03.1**	**-0.1**
GRG				*e*Sg	**Sg**	**16 16 09.3**	**+0.5**
VAY	**Valandovo**	**0.55**	**330**	⇑*i*Pg	**Pg**	**16 16 05.0**	**-0.5**
VAY				*i* Sg	**Sg**	**16 16 13.1**	**+0.3**
VAY				*e*Lg		16 16 13.4	
	comp=E,265nm,0.3s						
VAY				*e*Lg		16 16 13.4	
	comp=N,91nm,0.2s						
VAY	**Valandovo**	**0.55**	**330**	⇑*i*Pg	**Pg**	**16 16 05.0**	**-0.6**
VAY				*i* Sg	**Sg**	**16 16 13.0**	**+0.2**
SRS	**Serrai**	**0.56**	**61**	*e*Pg	**Pg**	**16 16 05.2**	**-0.6**
SRS				*e*Sg	**Sg**	**16 16 13.7**	**+0.5**
SRS	**Serrai**	**0.56**	**61**	*e*Pg	**Pg**	**16 16 05.2**	**-0.6**
SRS				*e*Sg	**Sg**	**16 16 13.7**	**+0.4**
LIT	**Litokhoron**	**0.82**	**205**	*e*Pg	**Pg**	**16 16 09.9**	**-0.8**
LIT				*e*Sg	**Sg**	**16 16 23.1**	**+1.6**
OUR	**Ouranopolis**	**0.95**	**123**	*e*Pg	**Pg**	**16 16 12.3**	**-0.9**
OUR				*e*Sg	**Sg**	**16 16 26.9**	**+1.5**
PAIG	**Paliouri**	**1.08**	**148**	*e*Pg	**Pg**	**16 16 14.4**	**-1.3**
PAIG				*e*Sg	**Sg**	**16 16 30.6**	**+0.9**
FNA	**Florina**	**1.19**	**267**	*e*Pg	**

IKL	Isikli	5.40	77	ePN	Pn	16 19 14.6	+0.9
YLV	Yalova	5.62	17	ePN	Pn	16 19 16.1	-0.7
SWA2		6.12	194	P	Pn	16 19 23.2	-0.4
MERS	Mersin	6.18	72	ePN	Pn	16 19 25.9	+1.5
KARA	Karaisali	6.69	70	eP	Pn	16 19 32.7	+1.3
HSAF	As Saff	6.69	145	P	Pn	16 19 29.6	-1.9
GLL	Jalalah	6.80	144	⇓P	Pn	16 19 31.0	-2.0
BRTR	Keskin Array B	6.84	47	P	Pn	16 19 35.2	+1.8
	0.3nm,0.3s,baz=221,slow=15,SNR=8.2						
BRTR				S	Sn	16 20 53.4	+2.0
	0.2nm,0.3s,baz=217,slow=21,SNR=3.6						
BRTR	Keskin Array B	6.84	47	P	Pn	16 19 35.2	+1.8
BRTR				S	Sn	16 20 53.3	+2.0
BR131	Keskin Array S	6.84	47	ePn	Pn	16 19 35.0	+1.6
	3.6nm,0.6s						
BR131	Keskin Array S	6.84	47	ePn	Pn	16 19 35.0	+1.5
	3.6nm,0.6s						
EIL	Elat	8.59	128	ePn	Pn	16 19 56.3	-1.1
EIL				eSn	Sn	16 21 28.6	-5.7
EIL	Elat	8.59	128	ePn	Pn	16 19 56.3	-1.2
EIL				eSn	Sn	16 21 28.6	-5.7
TIP	Timpagrande	9.20	299	ePn	Pn	16 20 04.2	-1.7
TIP	Timpagrande	9.20	299	ePn	Pn	16 20 04.2	-1.7
TIRR	Tirgusor	9.29	6	eP	Pn	16 20 07.6	+0.6
MLR	Muntele Rosu	10.31	355	P	Pn	16 20 22.7	+1.6
	baz=151,slow=19,SNR=3.1						
KIV	Kislovodsk	14.79	49	eP	Pn	16 21 30.8	+8.5
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	Malin Array Be	15.55	5	P	Pn	16 21 34.2	+1.8
	comp=Z,0.8nm,0.3s,baz=194,slow=12,SNR=8.7						
GERES	GERESS Array B	16.87	328	P	Pn	16 21 50.0	+0.8
	comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=7.4						
DPC	Dobruska-Polom	17.07	336	eP	Pn	16 21 54.5	+2.7
KHC	Kasperske Hory	17.14	328	eP	Pn	16 21 54.8	+2.1
KHC	Kasperske Hory	17.14	328	i P	Pn	16 21 53.4	+0.7
OBN	Obninsk	20.94	15⇑	eP	P	16 22 38.9	+2.9
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	FINESS Array B	26.26	359	P	P	16 23 26.5	-2.0
	comp=Z,0.6nm,0.6s,mb3.3,baz=148,slow=13,SNR=4.0						
HFS	Hagfors	26.43	345	P	P	16 23 28.5	-1.5
	comp=Z,1.6nm,0.8s,mb3.6,baz=276,slow=15,SNR=2.3						
AKTK	Aktyubinsk	27.02	46	P	P	16 23 34.8	-0.5
AKTK	Aktyubinsk	27.02	46	P	P	16 23 34.8	-0.6
AKTO	Aktyubinsk	27.02	46	P	P	16 23 34.8	-0.6
	comp=Z,0.6nm,0.5s,mb3.4,baz=244,slow=11,SNR=2.9						
TORD	Torodi Ar. Bea	31.80	233	P	P	16 24 17.3	-0.5
	comp=Z,0.7nm,0.4s,mb3.8,baz=32,slow=8.2,SNR=10.0						
ARCES	ARCESS Array B	34.39	359	P	P	16 24 36.8	-3.6
	comp=Z,3.2nm,0.9s,mb4.2,baz=52,slow=9.8,SNR=3.7						
MKAR	Makanchi Array	42.37	57	P	P	16 25 47.2	-0.3
	comp=Z,1.6nm,0.5s,mb3.9,baz=272,slow=7.8,SNR=50						
SONM	Songino Array	58.18	51	P	P	16 27 47.2	0.0
	comp=Z,1.4nm,0.5s,mb4.2,baz=287,slow=7.9,SNR=22						
ULN	Ulaanbaatar	58.59	51⇑	eP	P	16 27 49.9	-0.2
TIXI	Tiksi	60.54	21⇑	eP	P	16 27 59.6	-3.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
YKA	Yellowknife Ar	77.90	343	P	P	16 29 48.4	-2.7
	comp=Z,0.2nm,0.5s,mb3.3,baz=31,slow=6.1,SNR=4.7						

IDC ***07*** *16:23:24.4±4.0,2686S×179.13W,h357km±57km,mb2.8/3, mb1 3.0/3,mb1mx2.9/13,mbtmp3.6/3,Error ellipse: s-maj=124.8km s-min=37.1km az=174.0*

ISCJB ***07*** *16:23:28.2±1.5,281S±0.1×1799W±0.2,h350km,mb3.0/3, Error ellipse: s-maj=24.9km s-min=13.6km az=128.3*

ISC 07 16:23:28.9±1.3,2803S±010×1798W±0.2,h350km,n15, σ0§83/16,mb3.0/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.05	127	P	Pn	16 24 20.8	+0.3
	390nm,0.3s,baz=76,slow=9.2,SNR=26						
RAO				S	S	16 25 06.8	+4.9
	56nm,0.3s,baz=252,slow=20,SNR=1.9						
PUZ	Puketiti	10.15	189	PN	Pn	16 25 48.0	-0.6
PUZ				SN	S	16 27 43.8	+0.6
MWZ	Matawai	10.52	192	PN	Pn	16 25 52.1	-0.9
URZ	Urewera	10.53	193	PN	Pn	16 25 54.2	+1.1
KNZ	Kokohu	11.17	190	PN	Pn	16 26 00.2	-0.4
BKZ	Black Stump Fm	11.53	195	PN	Pn	16 26 05.3	+0.3
PXZ	Pawanui	12.29	192	PN	Pn	16 26 12.0	-2.0
TSZ	Takapari Road	12.51	195	PN	Pn	16 26 16.8	+0.3
BFZ	Birch Farm	13.04	193	PN	Pn	16 26 23.6	+0.8
MRZ	Mangatainoka R	13.17	196	PN	Pn	16 26 24.3	0.0
CAW	Cannon Point	13.72	197	PN	Pn	16 26 30.6	-0.1
CTA	Charters Tower	31.92	277	P	P	16 29 24.1	+1.2
	1.1nm,0.5s,mb3.3,baz=97,slow=13,SNR=3.1						
ASAR	Alice Springs	41.71	265	P	P	16 30 44.6	0.0
	1.0nm,1.2s,mb2.8,baz=97,slow=6.9,SNR=7.9						
WRA	Warramunga Arr	42.48	271	P	P	16 30 49.8	-1.0
	0.3nm,0.3s,mb2.9,baz=103,slow=8.7,SNR=16						
AKASG	Malin Array Be	148.47	324	PKPbc	PKPdf	16 42 27.1	-3.4
	0.3nm,0.4s,baz=43,slow=3.3,SNR=5.0						

ISCJB ***07*** *16:47:56.0±3.8,33S±0.1×1389E±0.3,h146km±35km, mb3.4/2,Error ellipse: s-maj=46.2km s-min=18.0km az=15.9*

IDC ***07*** *16:48:08.8±9.1,357S×13896E,h263km±109km,mb3.0/3, mb1 3.0/4,mb1mx2.9/11,mbtmp3.6/4,Error ellipse: s-maj=190.9km s-min=32.5km az=92.0*

ISC 07 16:48:05.4±3.4,35S±01×1384E±03,h211km±28km,n6, σ0§98/8,mb3.3/2,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.90	213	eP	Pn	16 50 34.6	-1.4
	2.8nm,0.3s						
KAKA				eS	S	16 52 38.6	+0.7
WB2	Warramunga Arr	16.82	193	eP	P	16 51 47.6	0.0
WRA	Warramunga Arr	16.82	193	P	P	16 51 47.7	+0.1
	0.3nm,0.3s,baz=14,slow=13,SNR=40						
WRA				S	S	16 54 51.8	-0.5
	0.2nm,0.3s,baz=17,slow=21,SNR=7.6						
ASAR	Alice Springs	20.52	192	P	P	16 52 28.4	+1.0
	0.5nm,0.5s,baz=22,slow=10,SNR=8.0						
MKAR	Makanchi Array	70.24	323	P	P	16 58 55.9	+0.4
	0.4nm,0.4s,mb3.4,baz=94,slow=8.8,SNR=15						
BVAR	Borovoye Array	79.79	325	P	P	16 59 49.8	-0.3
	0.3nm,0.4s,mb3.3,baz=114,slow=7.2,SNR=5.6						

JMA 07 17:19:14.1±0.2,3180N×14227E,h44km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.45	303	P	Pn	17 19 53.1	+1.5
JHJ2				S	Sn	17 20 21.8	+1.5
JHU	Hanno	4.75	329	P	Pn	17 20 25.7	+2.6
JHO	Hitachi	5.00	344	P	Pn	17 20 28.0	+1.4
JHO				S	Sn	17 21 23.1	0.0
JAG	Ashikaga	5.17	334	P	Pn	17 20 30.8	+1.9
JAG				S	Sn	17 21 28.3	+1.0

ISCJB ***07*** *17:26:37.9±0.2,4936N±001×683E±003,h0km,Error ellipse: s-maj=2.4km s-min=1.8km az=8.4*

NEIC ***07*** *17:26:39.5,4936N×690E,h1km,ML2.5(STR), ML2.9(LDG),After STR.*

CSEM ***07*** *17:26:39.6±0.1,4937N×691E,h1km,ML2.0/3,Error ellipse: s-maj=1.3km s-min=1.0km az=90.0*

BGR ***07*** *17:26:39.7±0.3,4937N×687E,h1km,ML2.0/3,Error ellipse: s-maj=4.4km s-min=3.3km az=72.0*

STR ***07*** *17:26:39.5±0.2,4936N×690E,h1km±1km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

BNS ***07*** *17:26:40.6±0.8,4939N×690E,h1km,ML1.7*

LDG ***07*** *17:26:40.0±0.1,4937N×688E,h1km,Md3.1/1,Ml2.9/11, Error ellipse: s-maj=1.6km s-min=1.2km az=92.0, Suspected Mining induced.*

ISC 07 17:26:39.1±0.2,4936N±001×685E±003,h0km,n48, σ0§76/80,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.37	22	ePg	Pg	17 26 46.3	+0.2
	SNR=20						
RUP	Ruppelstein	0.37	22	Pg	Pg	17 26 46.4	+0.3
WLF	Walferdange	0.55	304	ePg	Pg	17 26 50.8	+1.3
	SNR=4.3						
WLF				eSg	Sg	17 26 56.4	-0.2
WLF	Walferdange	0.55	304	ePg	Pg	17 26 49.6	+0.1
ABH	Alteburg	0.69	41	ePg	Pg	17 26 51.9	-0.4
	SNR=3.0						
ABH	Alteburg	0.69	41	Pg	Pg	17 26 51.9	-0.4
	SNR=3.0						
ABH				Sg	Sg	17 27 02.0	+0.7
LANF	Langenberg	0.73	121	Pg	Pg	17 26 53.0	-0.2
LANF	Langenberg	0.73	121	ePg	Pg	17 26 53.1	-0.1
	SNR=8.5						
BGG	Burgeitz	0.90	20	ePg	Pg	17 26 57.0	+0.7
BGG				eSg	Sg	17 27 09.0	+0.9
	19nm,0.4s						
HILG	Hillesheim	0.94	353	eSg	Sg	17 27 11.0	+1.8
CDF	Champ du Feu	0.99	163	ePn	Pn	17 26 59.1	-1.1
CDF				eSg	Sg	17 27 11.8	+0.9
	23nm,0.2s						
CDF	Champ du Feu	0.99	163	ePn	Pn	17 26 59.1	-1.1
CDF				eSg	Sg	17 27 11.8	+0.9
CDF	Champ du Feu	0.99	163	ePg	Pg	17 26 58.0	-0.1
CDF				ePn	Pn	17 26 59.1	-1.1
CDF				eSg	Sg	17 27 11.8	+0.9
WLS	Welschbruch	1.01	160	ePg	Pg	17 26 59.5	+1.1
	SNR=8.2						
WLS	Welschbruch	1.01	160	Pg	Pg	17 26 58.2	-0.2
ECH	Echery	1.17	170	Pg	Pg	17 27 02.0	+0.6
ECH				Sg	Sg	17 27 17.1	+0.6
ECH	Echery	1.17	170	ePg	Pg	17 27 02.1	+0.7
	SNR=7.2						
RFYF	Reffroy	1.17	232	ePg	Pg	17 27 02.2	+0.8
	baz=48						
RFYF				eSg	Sg	17 27 17.6	+1.1
	38nm,0.3s						
STB	Steinbach	1.23	360	ePg	Pg	17 27 03.1	+0.4
STB				eSg	Sg	17 27 19.6	+0.9
THEF	They Montfort	1.27	207	Pg	Pg	17 27 03.8	+0.4
THEF				Sg	Sg	17 27 20.6	+0.7
THEF	They Montfort	1.27	207	ePg	Pg	17 27 03.8	+0.4
	SNR=12						
TOD	Tromm	1.30	78	ePg	Pg	17 27 03.4	-0.6
	SNR=8.1						
TOD	Tromm	1.30	78	Pg	Pg	17 27 03.4	-0.6
	SNR=8.1						
TOD				Sg	Sg	17 27 20.9	+0.1
TOD	Tromm	1.30	78	Pg	Pg	17 27 03.0	-1.0
TOD				Sg	Sg	17 27 20.9	+0.1
LIBD	Limburg	1.31	157	ePg	Pg	17 27 05.0	+0.8
	SNR=3.5						
KLL	Kalltalsperre	1.33	345	ePg	Pg	17 27 04.5	-0.1
KLL				eSg	Sg	17 27 21.1	-0.8
	13nm,0.7s						
TNS	Taunus Mts	1.35	50	ePg	Pg	17 27 04.5	-0.4
	SNR=4.1						
TNS				eSg	Sg	17 27 22.7	+0.3
HAU	Haudompre	1.40	194	ePg	Pg	17 27 05.7	-0.2
HAU				eSg	Sg	17 27 24.5	+0.5
	57nm,0.4s						
BFO	Black Forest	1.42	136	ePg	Pg	17 27 06.0	-0.3
	SNR=8.1						
BFO				eSg	Sg	17 27 24.0	-0.8
BFO	Black Forest	1.42	136	eP	Pn	17 27 05.6	-0.6
BFO				eS	Sg	17 27 24.9	+0.1
BFO	Black Forest	1.42	136	eP	Pn	17 27 05.6	-0.5
BFO				eS	Sg	17 27 24.9	+0.1
MEZF	Maizieres J'vi	1.47	235	ePg	Pg	17 27 07.8	+0.6
	baz=58						
MEZF				eSg	Sg	17 27 26.9	+0.8
	21nm,0.4s						
GIVF	Givet	1.51	300	ePg	Pg	17 27 08.3	+0.3
GIVF				eSg	Sg	17 27 28.3	+0.7
	32nm,0.5s						
GIVF	Givet	1.51	300	ePg	Pg	17 27 08.3	+0.3
GIVF				eSg	Sg	17 27 28.3	+0.7
GIVF	Givet	1.51	300	ePn	Pn	17 27 06.4	-1.0
GIVF				ePg	Pg	17 27 08.3	+0.3
GIVF				eSg	Sg	17 27 28.3	+0.7
HGN	Heimansgroeve	1.52	338	ePg	Pg	17 27 07.4	-0.9
	2.8nm,0.1s						
HGN				eSg	Sg	17 27 26.8	-1.2
MOF	Molkenrain	1.52	173	Pg	Pg	17 27 08.6	+0.3
MOF				Sg	Sg	17 27 28.7	+0.7
MOF	Molkenrain	1.52	173	ePg	Pg	17 27 08.6	+0.3
	SNR=5.2						
HINF	Hinteralfeld	1.55	180	ePg	Pg	17 27 08.5	-0.2
HINF				eSg	Sg	17 27 28.9	+0.1
	68nm,0.3s						
SFTF	Sexfontaines	1.67	227	ePn	Pn	17 27 09.1	-0.4
SFTF				eSg	Sg	17 27 33.4	+0.8
	16nm,0.3s						
BAIF	Baives	1.85	293	ePg	Pg	17 27 14.9	+0.3
BAIF				eSg	Sg	17 27 38.3	-0.3
	17nm,0.6s						
CABF	La Chapelle	2.80	191	ePn	Pn	17 27 24.0	-1.1
CABF				eSg	Sg	17 28 08.5	-0.5
	4.2nm,0.3s						
LOR	Lormes	2.89	225	ePn	Pn	17 27 25.0	-1.4
	baz=50						
LOR				eSn	Sn	17 27 59.4	-2.5
LOR				eSg	Sg	17 28 11.9	-0.2
	22nm,0.7s						
SSF	Saint Saulge	3.21	225	ePn	Pn	17 27 29.4	-1.3
SMF	Signal de Mont	3.39	218	ePn	Pn	17 27 32.1	-1.1
KHC	Kasperske Hory	4.41	90	ePN	Pn	17 27 46.5	-0.8
GEC2	GERESS Array S	4.53	94	ePn	Pn	17 27 48.6	-0.3
	SNR=6.4						
LDF	La Druitiere	4.66	263	ePn	Pn	17 27 49.9	-0.7

ISCJB ***07*** *17:44:05.5±2.0,3029S±006×1783W±03,h250km,mb2.9/2, Error ellipse: s-maj=33.5km s-min=8.1km az=5.7*

IDC ***07*** *17:44:10.9±1.4,3049S×17868W,h259km±12km,mb2.7/2, mb1 3.1/4,mb1mx3.1/14,mbtmp3.7/4,Error ellipse: s-maj=33.3km s-min=18.9km az=125.0*

ISC 07 17:44:11.3±1.3,3046S×007×1790W±03,h243km±22km, n19,σ1§35/18,mb3.0/2,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.52	38	P	Pn	17 44 49.7	+0.6
	87nm,0.3s,baz=119,slow=19,SNR=2.7						
PUZ	Puketiti	7.93	196	PN	Pn	17 46 01.8	-1.9
PUZ				SN	S	17 47 36.8	+2.9
MWZ	Matawai	8.36	199	PN	Pn	17 46 07.4	-1.8
MWZ				SN	S	17 47 48.9	+4.8
URZ	Urewera	8.42	201	P	Pn	17 46 09.2	-0.7
	1.0nm,0.3s,baz=336,slow=15,SNR=7.4						
URZ				S	S	17 47 47.9	+2.5
	3.4nm,0.3s,baz=176,slow=21,SNR=13						
PXZ	Pawanui	10.13	198	SN	S	17 48 24.3	-1.1
BFZ	Birch Farm	10.91	199	SN	S	17 48 44.6	+1.1
CAW	Cannon Point	11.66	203	SN	S	17 49 00.7	-0.4
TCW	Tory Channel	12.03	205	SN	S	17 49 07.3	-2.3
NNZ	Nelson	12.38	208	SN	S	17 49 17.8	+0.1
THZ	Tophouse	13.03	208	PN	Pn	17 47 09.0	+1.1
THZ				SN	S	17 49 32.9	+0.2
MQZ	McQueen's Vall	14.79	204	SN	S	17 50 08.1	-4.7
DZM	Mont Dzumac	15.49	299	P	Pn	17 47 36.7	-0.9
	0.1nm,0.3s,baz=120,slow=20,SNR=4.7						
ASAR	Alice Springs	42.25	267	P	P	17 51 42.2	+1.4
	0.3nm,0.5s,mb3.0,baz=103,slow=7.4,SNR=5.6						
WRA	Warramunga Arr	43.24	273	P	P	17 51 49.2	+0.4
	0.2nm,0.4s,mb2.9,baz=111,slow=6.1,SNR=13						
KAF	Kangasniemi	144.31	340	ep	PKPdf	18 03 12.0	-6.4
FINES	FINESS Array B	144.90	339	PKPbc	PKPdf	18 03 15.8	-3.6
	2.9nm,0.5s,baz=60,slow=3.7,SNR=28						
NB2	NORSAR Subarra	148.67	350	PKPa	PKPbc	18 03 27.2	-2.5
	comp=Z,0.5nm,0.5s,baz=16,slow=2.9						
NOA	NORSAR Array B	148.67	350	PKPbc	PKPbc	18 03 27.5	-2.3
	comp=Z,0.6nm,0.5s,baz=16,slow=4.4,SNR=3.4						
AKASG	Malin Array Be	150.82	322	PKPbc	PKPbc	18 03 31.6	-3.3
	comp=Z,1.6nm,0.6s,baz=50,slow=2.9,SNR=10.0						

NNC ***07*** *18:10:42.0±1.4,4129N×7343E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=14.2km s-min=4.2km az=6.0*

KNET ***07*** *18:10:42.2±0.6,4138N×7360E,h10km±3km,ml2.2,Error ellipse: s-maj=4.3km s-min=3.0km az=76.0*

ISCJB ***07*** *18:10:43.0±1.4,4132N±007×7350E±009,h10km,Error ellipse: s-maj=11.0km s-min=9.1km az=133.1*

ISC 07 18:10:44.1±1.4,4137N±007×7355E±009,h10km,n11, σ1§37/20,10C-11D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.77	8	⇓P	Pg	18 10 57.1	-1.8
	36nm,0.3s,SNR=67						
AML				⇑S	Sg	18 11 09.0	0.0
	58nm,0.1s						
UCH	Uchtor	1.12	40	⇑P	Pb	18 11 03.2	-2.3
	18nm,0.2s,SNR=22						
UCH				⇓S	Sb	18 11 19.9	-0.2
	44nm,0.2s						
EKS2	Erkin-Say	1.30	7	⇓P	Pn	18 11 06.7	-1.6
	12nm,0.2s,SNR=42						
EKS2				⇑S	Sb	18 11 24.3	-1.0
	15nm,0.2s						
AAK	Ala-Archa	1.44	29	⇓P	Pn	18 11 09.2	-1.0
	13nm,0.2s,SNR=33						
AAK				⇓S	Sn	18 11 29.5	+0.3
	18nm,0.2s						
KZA	Kyzart	1.46	60	⇓P	Pn	18 11 08.7	-1.7
	13nm,0.2s,SNR=25						
KZA				⇓S	Sn	18 11 29.9	+0.4
	15nm,0.2s						
KBK	Karagaybulak	1.65	39	⇓P	Pn	18 11 13.1	0.0
	19nm,0.3s,SNR=32						
KBK				⇓S	Sn	18 11 36.4	+2.0
	76nm,0.4s						
CHMS	Chumysh	1.85	28	⇓P	Pn	18 11 16.8	+0.9
	20nm,0.4s,SNR=13						
CHMS				⇑S	Sn	18 11 42.2	+2.9
	9.5nm,0.2s						
USP	Ospenovka	2.02	20	⇑P	Pn	18 11 19.1	+0.9
	7.0nm,0.2s,SNR=17						
USP				⇑S	Sn	18 11 47.7	+4.2
	31nm,0.4s						
TKM2	Tokmak 2	2.17	44	⇑P	Pn	18 11 21.2	+1.0
	18nm,0.3s,SNR=23						
TKM2	Tokmak 2	2.17	44	⇑P	Pn	18 11 21.2	+0.9
	10nm,0.4s						
TKM2				⇓S	Sn	18 11 51.6	+4.5
	12nm,0.6s						
KK31	Karatay Array	2.84	309	⇑Pn	Pn	18 11 31.8	+2.3
	0.5nm,0.2s,baz=128,slow=12,SNR=39						
KK31				⇑Lg		18 12 10.6	
	3.2nm,0.3s,baz=132,slow=27,SNR=16						

IDC ***07*** *18:20:44.4±0.5,2357N×7077E,h0km,mb4.8/23, mb1 4.9/23,mb1mx4.9/24,mbtmp4.8/23,MS5.1/18, Ms1 5.1/18,ms1mx5.0/22,Error ellipse: s-maj=12.9km s-min=11.8km az=98.0*

SZGRF ***07*** *18:20:44.3,2306N×7141E,h33km,mb5.2,MS4.8, Southern India*

NDI ***07*** *18:20:45.6±3.5,2374N×7069E,h10km,ML5.2, mb5.2(NEIC)*

ISCJB ***07*** *18:20:45.5±0.1,2375N±002×7089E±002,h18km, mb5.1/186,MS5.3/77,Error ellipse: s-maj=2.6km s-min=2.0km az=3.4*

NEIC ***07*** *18:20:46.1±0.2,2378N×7090E,h10km,mb5.2/111, MS5.1/26,MW5.5,Error ellipse: s-maj=6.0km s-min=3.5km az=199.0,Moment Tensor Solution. s4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.08; $M_{\theta\theta}$-2.05; $M_{\phi\phi}$1.97; $M_{r\theta}$-0.40; $M_{\theta\phi}$-0.36; $M_{r\phi}$-0.63; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s220.00000°,δ87.00000°,λ20.00000°. NP2: ϕ_s129.00000°,δ70.00000°,λ177.00000°. Principal axes: T 2.1700, Plg16.0000°, Azm87.0000°; N 0.0000, Plg70.0000°, Azm229.0000°; P -2.1800, Plg12.0000°, Azm353.0000°;*

NEIC At least seven people injured in the Jatawada-Rapar area and some buildings damaged at Jatawada. Felt [IV] at Ahmadabad, Bhuj, Morbi and Rajkot; [II] at Vadodara. Felt in much of Gujarat and in southern Rajasthan. Also felt at Matli, Pakistan.

HRVD ***07*** *18:20:46.1±0.2,2372N×7077E,h12km,MW5.5/96, Centroid moment Tensor Solution. LP body waves: s84,c151;Mantle waves: s96,c197; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.14±.02; $M_{\theta\theta}$-1.89±.02; $M_{\phi\phi}$1.75±.03; $M_{r\theta}$0.37±.06; $M_{\theta\phi}$-0.06±.02; $M_{r\phi}$-0.29±.06; Best double couple: $M_0$1.88000×10^{17} NP1:ϕ_s224.00000°,δ76.00000°,λ0.00000°. NP2: ϕ_s134.00000°,δ90.00000°,λ166.00000°. Principal axes: T 1.8040, Plg10.0000°, Azm88.0000°; N 0.1470, Plg76.0000°, Azm314.0000°; P -1.9550, Plg10.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***07*** *18:20:47.3,2400N×7109E,h10km,mB5.4,mb5.1,Ms5.7, Msz5.4*

MOS ***07*** *18:20:47.7±1.2,2370N×7082E,h33km,mb5.4/90, MS5.1/34,Error ellipse: s-maj=6.6km s-min=3.3km az=125.0*

ISC 07 18:20:48.0±0.1,2378N±002×7090E±001,h19km, h19km±1.7km:pP-P,n561,σ1§26/648,mb5.1/186,MS5.3/77, 44C-24D,Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	Bhuj	1.26	245	eP	Pn	18 21 06.1	-4.4
BHJ				eS	Sn	18 21 22.0	-4.9
BHJ				eS	Sn	18 21 22.7	-4.1
BHJ				AML	AML	18 21 27.6	
	comp=E,49μm,0.5s						
BHJ				AML	AML	18 21 27.8	
	comp=N,115μm,0.6s						
BHV	Bhavnagar	2.33	150	eP	Pn	18 21 24.0	-1.2
BHV				ex	Sb	18 22 00.0	+2.4
JASL	Jaisalmer	3.13	0	eP	Pn	18 21 34.9	-1.3
AJM	Ajmer	4.33	51	eP	Pn	18 21 52.8	+0.2
AJM				i P		18 21 53.0	
AJM				eS	Sn	18 22 44.3	+1.8
AJM				AML	AML	18 23 12.3	
	comp=N,6μm,0.4s						
AJM				AML	AML	18 23 12.5	
	comp=E,9μm,0.3s						
BOM	Bombay	5.18	160	eP	Pn	18 22 04.3	-0.1
BOM				eS	Sn	18 23 02.2	-1.4
BOM				ex	x	18 23 11.0	
	comp=N,7μm,0.5s						
BOM				ex	x	18 23 11.5	
	comp=E,5μm,0.4s						
POO	Poona	5.91	152	eP	Pn	18 22 26.1	+12
POO				eS	Sn	18 23 30.8	+9.2
POO				AML	AML	18 24 09.2	
	comp=E,3μm,0.5s						
POO				AML	AML	18 24 09.9	
	comp=N,2μm,0.6s						
BHPL	Bhopal	6.01	94	eP	Pn	18 22 16.3	+0.4
BHPL				eS	Sn	18 23 22.9	-1.2
BHPL				AML	AML	18 24 03.2	
	comp=N,4μm,0.6s						
BHPL				AML	AML	18 24 03.9	
	comp=E,3μm,0.6s						
KHET	Khetri	6.14	45	eP	Pn	18 22 17.8	+0.2
KHET				eS	Sn	18 23 26.4	-1.0
KHET				AML	AML	18 24 14.2	
	comp=N,5μm,0.7s

NGP	**Nagpur**	**7.98**	**108**	*e*P		**Pn**	**18 22 43.1 +0.2**
NGP				*e*S		**Sn**	**18 24 09.9 -2.6**
NGP				*e*x		x	18 24 53.7
	comp=N,1μm,0.8s						
SARP	**Sargodha**	**8.26**	**11**	P		**Pn**	**18 22 44.6 -2.0**
SARP				S		**Sn**	**18 24 15.0 -4.3**
JBP	**Jabalpur**	**8.36**	**92⇑**	*e*P		**Pn**	**18 22 48.8 +0.7**
JBP				*e*S		**Sn**	**18 24 20.0 -1.9**
SBDP	**Sheikh Budin**	**8.48**	**359**	⇓P		**Pn**	**18 22 47.6 -2.2**
THW	**Thamme Wali**	**9.01**	**5**	P		**Pn**	**18 22 54.6 -2.3**
BHK	**Bhakra**	**9.04**	**32**	*e*x		x	18 23 05.3
BHK				*e*S		**Sn**	**18 24 35.9 -2.7**
KALG	**Kalgarh**	**9.04**	**49**	*e*P		**Pn**	**18 22 49.6 -7.8**
KALG				*e*S		**Sn**	**18 24 24.9 -14**
DDI	**Dehra Dun**	**9.11**	**43**	*e*P		**Pn**	**18 22 59.2 +0.8**
DDI				*e*x		x	18 24 28.3
PONG	**Pong**	**9.28**	**28**	*e*P		**Pn**	**18 23 01.0 +0.3**
PONG				*e*S		**Sn**	**18 24 40.0 -4.5**
HYB	**Hyderabad**	**9.56**	**130⇓**	*i*P		**Pn**	**18 23 04.0 -0.6**
	comp=N,146nm,0.8s						
HYB				*e*			18 24 44.0
HYB				*e*S		**Sn**	**18 24 54.0 +2.6**
HYB				LR		LR	18 26 44.0
	comp=N,40nm,12.0s						
HYB	**Hyderabad**	**9.56**	**130⇓**	*e*P		**Pn**	**18 23 04.0 -0.6**
	comp=N,146nm,0.8s						
HYB				*e*S		**Sn**	**18 24 44.0 -7.4**
HYB	**Hyderabad**	**9.56**	**130⇓**	*e*P		**Pn**	**18 23 04.0 -0.6**
HYB				*e*S		**Sn**	**18 24 44.0 -7.4**
HYB				pmax		pmax	
	comp=Z,146nm,0.8s						
JMU	**Jammu**	**9.57**	**21**	*e*x		**Sn**	**18 24 50.0 -1.6**
DLH	**Dalhousie**	**9.80**	**26**	*e*P		**Pn**	**18 23 09.0 +1.2**
DLH				*e*x		**Sn**	**18 25 02.0 +4.7**
CEP	**Cherat**	**10.04**	**5**	P		**Pn**	**18 23 10.7 -0.4**
NIL	**Nilore**	**10.04**	**11**	Pn		**Pn**	**18 23 10.6 -0.5**
	comp=Z,2μm,0.6s,SNR=33						
ALBI	**Allahabad**	**10.05**	**79**	*e*x		**Pn**	**18 23 08.5 -2.7**
CHCP	**Chirah Chowk**	**10.05**	**11**	P		**Pn**	**18 23 09.4 -1.9**
LGTI	**Lohaghat**	**10.09**	**54**	*e*P		**Pn**	**18 23 08.5 -3.2**
LGTI				*e*x		x	18 25 48.3
KLP	**Kalpa**	**10.10**	**39**	*e*P		**Pn**	**18 23 11.3 -0.5**
PTH	**Pithoragarh**	**10.12**	**53**	*e*P		**Pn**	**18 23 11.0 -1.1**
PTH				*e*x		**Sn**	**18 25 04.0 -1.0**
BLSP	**Bilaspur**	**10.48**	**97**	*i*x		x	18 23 31.0
SRNI	**Srinagar**	**10.84**	**18**	*e*P		**Pn**	**18 23 23.0 +0.9**
SRNI				*e*x		**Sn**	**18 25 22.5 -0.4**
WBK	**Wadi Bani Khal**	**11.04**	**266**	P		**Pn**	**18 23 21.4 -3.3**
	SNR=45						
MNGI	**Mangalore**	**11.41**	**160**	*e*x		**Pn**	**18 23 30.5 +0.7**
MNGI				*e*x		x	18 26 47.2
BIDO	**Bidbid**	**11.71**	**271**	⇓P		**Pn**	**18 23 31.2 -2.8**
	SNR=21						
SMDO	**Samad**	**11.82**	**269**	P		**Pn**	**18 23 32.2 -3.3**
	SNR=97						
JMDO	**Jabal Madar**	**11.86**	**266**	⇑P		**Pn**	**18 23 33.6 -2.5**
	SNR=66						
KOLN	**Koldanda**	**12.11**	**68**	*e*P		**Pn**	**18 23 37.0 -2.4**
	comp=Z,1μm,0.7s						
VLK	**Valmikinagar**	**12.22**	**71**	*e*x		x	18 24 11.0
HOQ	**Hoqain**	**12.46**	**272**	⇓P		**Pn**	**18 23 40.4 -3.8**
	SNR=40						
BSY	**Bisya**	**12.64**	**268**	⇑P		**Pn**	**18 23 45.4 -1.2**
	SNR=156						
GKN	**Gorkha**	**13.06**	**68**	*e*P		**Pn**	**18 23 49.4 -3.0**
	comp=Z,556nm,0.5s						
VIS	**Vishakhapatnam**	**13.09**	**115⇑**	*i*P		**Pn**	**18 23 51.3 -1.6**
VIS				*e*S		**Sn**	**18 26 09.1 -8.9**
VIS				*i*x		x	18 26 18.9
VIS				AML		AML	18 27 45.4
	comp=E,318nm,0.8s						
VIS				AML		AML	18 27 46.7
	comp=N,388nm,0.7s						
ARQ	**Araqi**	**13.20**	**271**	P		**Pn**	**18 23 52.9 -1.4**
	SNR=98						
DMN	**Daman**	**13.36**	**70**	*e*P		**Pn**	**18 23 53.4 -3.1**
	comp=N,823nm,0.6s						
BANOM	**Banah**	**13.43**	**282**	⇑P		**Pn**	**18 23 54.0 -3.4**
KKN	**Kakani**	**13.55**	**70**	*e*P		**Pn**	**18 23 55.8 -3.3**
	comp=N,794nm,0.5s						
KKN	**Kakani**	**13.55**	**70**	*e*P		**Pn**	**18 23 55.8 -3.3**
KKN				pmax		pmax	
	comp=Z,397nm,0.5s						
ASHO	**Ashiyiah**	**13.57**	**277**	P		**Pn**	**18 23 58.6 -0.7**
	SNR=62						
PKI	**Pulchoki**	**13.62**	**71**	*e*P		**Pn**	**18 23 56.4 -3.6**
	comp=Z,1μm,0.6s						
PKI	**Pulchoki**	**13.62**	**71**	*e*P		**Pn**	**18 23 56.4 -3.6**
PKI				pmax		pmax	
	comp=Z,611nm,0.6s						
BOK	**Bokaro**	**13.72**	**87⇑**	*i*P		**Pn**	**18 23 57.4 -4.1**
BOK				*e*S		**Sn**	**18 26 20.9 -12**
BOK				*i*S		**Sn**	**18 26 25.2 -8.1**
BOK				AML		AML	18 28 14.5
	comp=N,770nm,0.7s						
MDRS	**Chennai**	**13.86**	**139**	*e*P		**Pn**	**18 24 02.4 -0.9**
MDRS				*e*S		**Sn**	**18 26 25.1 -11**
SALM	**Salem**	**13.92**	**149**	*e*P		**Pn**	**18 24 02.0 -2.2**
SALM				*e*x		x	18 27 58.0
JIRN	**Jiri**	**14.31**	**71**	*e*P		**Pn**	**18 24 05.5 -4.0**
	comp=N,704nm,0.5s						
CAL	**Calcutta**	**16.08**	**91**	*e*P		**Pn**	**18 24 31.9 -1.1**
CAL				*e*x		**Sn**	**18 27 26.6 -4.1**
TRD	**Trivandrum**	**16.26**	**158**	*e*P		**Pn**	**18 24 33.2 -2.1**
TRD				*e*S		**Sn**	**18 27 20.5 -15**
KSH	**Kashi**	**16.26**	**14**	*e*P		**Pn**	**18 24 33.1 -2.2**
KSH				*e*AP		pP	18 24 36.6 -7.1
KSH				*e*XP		sP	18 24 40.6 -5.6
KSH				*e*PP			18 24 46.2
KSH				S		**Sn**	**18 27 30.1 -5.0**
KSH				XS		sS	18 27 36.2 -20
KSH				SS			18 27 49.7
KSH				*e*PCP		PcP	18 29 30.7 +1.9
KSH				*e*SCP		ScP	18 33 03.0 +0.8
KSH				PCS		PcS	18 33 04.3 -0.2
KSH				SCS		ScS	18 36 40.8 -0.4
KSH				AMB		AMB	
	comp=Z,133nm,1.8s						
KSH				LR		LR	
	comp=N,20μm,8.6s						
KSH				LR		LR	
	comp=E,36μm,8.2s						
KSH				LR		LR	
	comp=Z,28μm,14.6s						
GTK	**Gangtok**	**16.37**	**74**	*e*x		**Pn**	**18 24 26.0 -11**
GTK				*e*S		**Sn**	**18 27 26.0 -12**
WHFO	**Wadi Hawf**	**17.03**	**253**	P		**Pn**	**18 24 43.2 -1.8**
	SNR=298						
ABTO	**Aybut**	**17.67**	**252**	⇑P		**Pn**	**18 24 50.7 -2.2**
	SNR=44						
ABKT	**Ailbek**	**17.84**	**325**	Pn		**Pn**	**18 24 53.5 -1.5**
	comp=Z,514nm,1.1s,SNR=14						
AML	**Almayashu**	**18.45**	**7**	P		**Pn**	**18 25 03.8 +1.3**
	SNR=10						
KZA	**Kyzart**	**18.60**	**10**	P		**Pn**	**18 25 02.5 -1.9**
	SNR=110						
UCH	**Uchtor**	**18.64**	**8**	P		**Pn**	**18 25 02.6 -2.2**
	SNR=51						
PALK	**Pallekele**	**18.92**	**149**	Pn		**Pn**	**18 25 08.0 -0.2**
	comp=Z,325nm,0.6s,SNR=8.2						
PALK	**Pallekele**	**18.92**	**149**	*e*Pn		**Pn**	**18 25 07.9 -0.3**
PALK				*e*Sn		Sn	18 28 10.9 -29
ULHL	**Ulahol**	**18.94**	**12**	P		**Pn**	**18 25 07.5 -0.9**
	SNR=17						
EKS2	**Erkin-Say**	**18.98**	**7**	P		**Pn**	**18 25 09.5 +0.6**
	SNR=48						
LSA	**Lhasa**	**19.01**	**68**	P		**Pn**	**18 25 09.2 -0.1**
LSA				AP		pP	18 25 15.7 +1.7
LSA				XP		sP	18 25 20.2 +3.7
LSA				S		**Sn**	**18 28 42.8 +1.1**
LSA				AMB		AMB	
	comp=Z,60nm,0.8s						
LSA				LR		LR	
	comp=N,4μm,14.8s						
LSA				LR		LR	
	comp=E,5μm,13.7s						
LSA				LR		LR	
	comp=Z,12μm,14.8s						
LSA	**Lhasa**	**19.01**	**68**	*e*Pn		**Pn**	**18 25 08.3 -1.1**
	comp=Z,233nm,0.8s						
LSA				*e*Sn		**Sn**	**18 28 30.5 -11**
LSA	**Lhasa**	**19.01**	**68**	*e*P		**Pn**	**18 25 08.3 -1.0**
LSA				*e*			18 28 30.5
LSA				pmax		pmax	
	comp=Z,233nm,0.8s						
AAK	**Ala-Archa**	**19.03**	**8**	P		**Pn**	**18 25 09.2 -0.4**
	SNR=99						
AAK	**Ala-Archa**	**19.03**	**8**	P		**Pn**	**18 25 08.4 -1.2**
	comp=Z,824nm,0.7s,SNR=39						
AAK	**Ala-Archa**	**19.03**	**8**	*e*Pn		**Pn**	**18 25 06.6 -3.0**
	comp=Z,114nm,0.8s						
AAK				*e*Sn		**Sn**	**18 28 29.8 -12**
AAK	**Ala-Archa**	**19.03**	**8**	*e*P		**Pn**	**18 25 06.6 -3.0**
AAK				*e*			18 28 29.8
AAK				pmax		pmax	
	comp=Z,114nm,0.8s						
KBK	**Karagaybulak**	**19.12**	**9**	P		**Pn**	**18 25 10.1 -0.5**
	SNR=52						
SHL	**Shillong**	**19.15**	**80**	*e*x		**Pn**	**18 25 08.5 -2.5**
SHL				*e*S		**Sn**	**18 28 31.5 -14**
FRU	**Bishkek**	**19.25**	**8**	*i*P		**Pn**	**18 25 12.0 -0.1**
FRU				*i*S		**Sn**	**18 28 44.0 -3.3**
FRU				pmax		pmax	
	comp=Z,460nm,1.8s						
FRU				smax			
	comp=N,4μm,4.0s						
KK31	**Karatay Array**	**19.27**	**359**	*i*P		**Pn**	**18 25 09.0 -3.4**
KK31	**Karatay Array**	**19.27**	**359**	*i*P		**Pn**	**18 25 09.9 -2.5**
KK31				pmax		pmax	
	comp=Z,93nm,0.6s						
KKAR	**Karatay Array**	**19.27**	**359**	*i*P		**Pn**	**18 25 09.9 -2.5**
KKAR				pmax		pmax	
	comp=Z,61nm,0.7s						
CHMS	**Chumysh**	**19.43**	**9**	P		**Pn**	**18 25 13.2 -1.1**
	SNR=43						
TKM2	**Tokmak 2**	**19.48**	**10**	P		**Pn**	**18 25 13.3 -1.6**
	SNR=96						
USP	**Ospenovka**	**19.66**	**8**	P		**Pn**	**18 25 16.5 -0.6**
	SNR=134						
AAA	**Alma-Ata**	**20.07**	**13**	*d*iP		**P**	**18 25 20.7 +0.6**
AAA				*e*S		**S**	**18 29 10.0 +5.3**
AAA				pmax		pmax	
	comp=Z,800nm,5.2s						
AAA				smax			
	comp=E,1μm,16.7s						
AAA				MLR		MLR	
	comp=Z,20μm,17.0s,MS5.5						
QRN	**Al-Qurain**	**21.18**	**288**	*e*P		**P**	**18 25 30.4 -1.7**
QRN				AMb		AMB	18 25 36.0
	comp=Z,432nm,0.9s,mb5.8						
KBD	**Kabd**	**21.44**	**289**	*e*P		**P**	**18 25 33.6 -1.3**
KBD				AMb		AMB	18 25 39.8
	comp=Z,2μm,0.9s						
UMR	**Umm Al-Rimmam**	**21.48**	**291**	*e*P		**P**	**18 25 35.0 -0.4**
UMR				AMb		AMB	18 25 41.3
	comp=Z,362nm,1.1s,mb5.6						
RDF	**Al-Radifah**	**21.53**	**289**	*e*P		**P**	**18 25 35.1 -0.7**
RDF				AMb		AMB	18 25 38.9
	comp=Z,540nm,1.1s,mb5.9						
NAY	**Al-Naaiem**	**21.84**	**290**	*e*P		**P**	**18 25 37.7 -1.5**
NAY				AMb		AMB	18 25 43.3
	comp=Z,231nm,1.0s,mb5.6						
MIB	**Mutribah**	**21.85**	**291**	*e*P		**P**	**18 25 37.8 -1.5**
MIB				AMb		AMB	18 25 43.5
	comp=Z,465nm,1.0s,mb5.9						
WMQ	**Urumqi**	**24.29**	**31**	*e*P		**P**	**18 26 04.0 0.0**
WMQ				AP			18 26 08.2
WMQ				XP		sP	18 26 11.0 -1.3
WMQ				PP			18 26 39.1
WMQ				PCP		PcP	18 29 45.3 +1.7
WMQ				S		**S**	**18 30 19.6 -2.3**
WMQ				SS			18 31 12.8
WMQ				AMB		AMB	
	comp=Z,99nm,1.0s,mb5.2						
WMQ				AMB		AMB	
	comp=Z,632nm,4.6s						
WMQ				LR		LR	
	comp=N,14μm,18.4s,MS5.6						
WMQ				LR		LR	
	comp=E,11μm,17.0s,MS5.6						
WMQ				LR		LR	
	comp=Z,8μm,17.0s,MS5.3						
MK31	**Makanchi Array**	**24.72**	**19**	*i*P		**P**	**18 26 07.8 -0.1**
MK31	**Makanchi Array**	**24.72**	**19**	*i*P		**P**	**18 26 07.7 -0.2**
MK31				pmax		pmax	
	comp=Z,68nm,0.8s,mb5.2						
MKAR	**Makanchi Array**	**24.72**	**19**	P		**P**	**18 26 07.8 -0.1**
	comp=Z,22nm,0.8s,mb4.7,baz=206,slow=8.6,SNR=116						
MKAR				S		**S**	**18 30 37.6 +8.8**
	comp=Z,2.9nm,0.7s,baz=194,slow=24,SNR=2.3						
MKAR				LR		LR	18 36 04.4
	comp=Z,2μm,21.0s,MS4.7,baz=195,slow=37						
BHD	**Baghdad**	**25.09**	**298**	*e*x		x	18 26 09.0
BHD				*e*x		x	18 30 33.5
BHD				*e*x		x	18 31 07.0
BHD				*e*x		x	18 31 50.0
AB31	**Akbulak array**	**26.85**	**344⇑**	*e*P		**P**	**18 26 27.8 +0.6**
MSL	**Mosul**	**27.01**	**304**	*e*x		x	18 26 30.0
MSL				*e*x		x	18 31 05.0
MAK	**Makhachkala**	**27.19**	**320**	*c*iP		**P**	**18 26 34.4 +4.1**
MAK				*e*			18 27 21.6
MAK				*e*PPP			18 27 33.8
MAK				*e*SS			18 32 34.8
MAK				pmax		pmax	
	comp=Z,303nm,1.4s,mb5.6						
GNI	**Garni**	**27.40**	**313**	*e*Pn		**P**	**18 26 34.2 +2.1**
	comp=Z,78nm,1.0s,mb5.2						
GNI	**Garni**	**27.40**	**313**	*d*iP		**P**	**18 26 34.1 +1.9**
GNI				pmax		pmax	
	comp=Z,81nm,1.0s						
GNI				MLR		MLR	
	comp=Z,3μm,19.0s						
KURK	**Kurchatov**	**27.55**	**11**	*e*Pn		**P**	**18 26 32.8 -0.7**
KURK				LR		LR	
	comp=Z,1μm,22.0s,MS4.4						
KURK	**Kurchatov**	**27.55**	**11**	*d*iP		**P**	**18 26 33.2 -0.3**
DGRG	**David-gareji**	**27.64**	**316**	P		**P**	**18 26 37.4 +3.1**
DGRG				S		**S**	**18 31 20.0 +4.8**
MTA	**Mtatsminda**	**28.14**	**316**	P		**P**	**18 26 41.0 +2.2**
MTA				S		**S**	**18 31 26.6 +3.6**
TBLG	**Delisi**	**28.19**	**316**	P		**P**	**18 26 42.6 +3.4**
TBLG	**Delisi**	**28.19**	**316**	*e*P		**P**	**18 26 42.6 +3.4**
AKTK	**Aktyubinsk**	**28.43**	**343**	P		**P**	**18 26 42.0 +0.6**
AKTK				S		**S**	**18 31 29.5 +1.9**
AKTK				LR		LR	18 39 55.0
AKTO	**Aktyubinsk**	**28.43**	**343**	P		**P**	**18 26 42.0 +0.6**
	comp=Z,5.8nm,0.6s,mb4.4,baz=155,slow=8.0,SNR=17						
AKTO				S		**S**	**18 31 29.5 +1.9**
	comp=Z,10nm,0.9s,baz=139,slow=12,SNR=1.6						
AKTO				LR		LR	18 39 55.0
	comp=Z,4μm,18.4s,MS5.0,baz=0.0,slow=40						
AKTO	**Aktyubinsk**	**28.43**	**343**	P		**P**	**18 26 42.0 +0.6**
AKTO				S		**S**	**18 31 29.5 +1.9**
NST	**Nakhon Sawan**	**28.63**	**101**	P		**P**	**18 26 46.0 +2.8**
GTA	**Gaotai**	**28.98**	**51**	P		**P**	**18 26 47.7 +1.5**
GTA				AP		pP	18 26 53.1 +0.9
GTA				XP		sP	18 26 55.6 +1.0
GTA				PP		PP	18 27 40.9 -11
GTA				S		**S**	**18 31 40.4 +4.2**
GTA				XS		sS	18 31 48.0 +2.0
GTA				AMB		AMB	
	comp=Z,37nm,1.0s,mb5.1						
GTA				AMB		AMB	
	comp=Z,196nm,6.8s						
GTA				LR		LR	
	comp=N,12μm,19.4s,MS5.6						
GTA				LR		LR	
	comp=E,8μm,20.2s,MS5.6						
GTA				LR		LR	
	comp=Z,5μm,12.9s						
KMI	**Kunming**	**28.98**	**81**	P		**P**	**18 26 47.9 +1.6**
KMI				AP		pP	18 26 50.3 -1.9
KMI				PP		PP	18 27 41.5 -10
KMI				PCP		PcP	18 29 56.8 +2.1
KMI				S		**S**	**18 31 37.6 +1.4**
KMI				XS		sS	18 31 41.6 -4.4
KMI				SS		SS	18 33 05.8 -33
KMI				SCP		ScP	18 33 37.2 +2.1
KMI				PCS		PcS	18 33 38.2 +0.8
KMI				SCS		ScS	18 37 29.7 +0.8
KMI				AMB		AMB	
	comp=Z,19nm,0.9s,mb4.8						
KMI				AMB		AMB	
	comp=Z,254nm,4.0s						
KMI				LR		LR	
	comp=N,5μm,11.1s,MS5.5						
KMI				LR		LR	
	comp=E,6μm,15.5s,MS5.5						
KMI				LR		LR	
	comp=Z,6μm,15.3s,MS5.3						
BVAR	**Borovoye Array**	**29.20**	**359**	P		**P**	**18 26 50.7 +2.5**
	comp=Z,7.7nm,0.7s,mb4.5,baz=164,slow=9.3,SNR=22						
BVAR				S		**S**	**18 31 38.4 -1.2**
	comp=Z,1.6nm,0.6s,baz=118,slow=8.3,SNR=1.9						
BRVK	**Borovoye**	**29.23**	**359**	P		**P**	**18 26 51.5 +3.0**
	comp=Z,91nm,1.3s,mb5.3,SNR=7.3						
BRVK	**Borovoye**	**29.23**	**359**	*e*Pn		**P**	**18 26 48.6 +0.1**
	comp=Z,25nm,1.3s,mb4.8						
BRVK	**Borovoye**	**29.23**	**359**	*e*P		**P**	**18 26 48.6 +0.1**
BRVK				pmax		pmax	
	comp=Z,25nm,1.3s,mb4.8						
ZEI	**Tsey**	**29.27**	**317**	*e*P		**P**	**18 26 51.3 +2.5**
ZEI				pmax		pmax	
	comp=Z,16nm,1.0s,mb4.7						
ATD	**Arta Tunnel**	**29.31**	**250**	P		**P**	**18 26 48.8 -0.4**
	comp=Z,15nm,0.9s,mb4.7,baz=309,slow=22,SNR=4.8						
ATD				S		**S**	**18 31 50.7 +9.3**
	comp=Z,3.6nm,0.4s,baz=187,slow=20,SNR=2.2						
ATD				LR		LR	18 37 44.3
	comp=Z,1μm,18.1s,MS4.5,baz=281,slow=35						
NNT	**Nongplab**	**29.51**	**107**	P		**P**	**18 26 54.0 +3.1**
CD2	**Chengdu**	**29.96**	**69**	P		**P**	**18 26 55.4 +0.5**
CD2				AP		pP	18 27 01.6 +0.7
CD2				PP		PP	18 27 52.5 -10
CD2				S		**S**	**18 31 49.9 -1.7**
CD2				SS		SS	18 33 24.5 -35
CD2				AMB		AMB	
	comp=Z,20nm,1.1s,mb4.8						
CD2				AMB		AMB	
	comp=Z,90nm,5.9s						
CD2				LR		LR	
	comp=N,3μm,10.2s						
CD2				LR		LR	
	comp=Z,5μm,10.2s,MS5.4						
KIV	**Kislovodsk**	**30.64**	**318**	*e*Pn		**P**	**18 27 02.0 +1.0**
	comp=Z,40nm,1.1s,mb5.2						
KIV	**Kislovodsk**	**30.64**	**318**	*e*P		**P**	**18 27 02.5 +1.5**
KIV				*e*			18 28 00.4
KIV				*e*			18 30 02.1
KIV				*e*S		**S**	**18 32 06.0 +3.7**
KIV				*e*SS		SS	18 33 35.6 -38
KIV				pmax		pmax	
	comp=Z,43nm,1.1s,mb5.2						
KIV				MLR		MLR	
	comp=Z,2μm,18.0s,MS4.7						
KKTK	**Khon Kaen**	**30.84**	**98**	P		**P**	**18 27 04.0 +1.3**
LZH	**Lanzhou**	**30.92**	**59**	*e*P		**P**	**18 27 05.9 +2.5**
LZH				AP		pP	18 27 15.2 +5.8
LZH				XP		sP	18 27 19.1 +7.3
LZH				PP		PP	18 28 10.0 -3.3
LZH				S		**S**	**18 32 09.4 +2.7**
LZH				AMB		AMB	
	comp=Z,32nm,1.5s,mb4.9						
LZH				AMB		AMB	
	comp=Z,110nm,4.0s						
LZH				LR		LR	
	comp=E,3μm,11.6s						
LZH				LR		LR	
	comp=Z,6μm,13.3s,MS5.4						
MALT	**Malatya**	**31.18**	**305**	P		**P**	**18 27 06.4 +0.7**
	comp=Z,51nm,1.4s,mb5.2						
MALT	**Malatya**	**31.18**	**305**	⇑P		**P**	**18 27 06.9 +1.2**
ZAL	**Zalesovo**	**31.88**	**16**	P		**P**	**18 27 12.1 +0.3**
	comp=Z,5.1nm,0.6s,mb4.5,baz=268,slow=6.5,SNR=17						
ZAL				LR		LR	18 41 56.5
	comp=Z,7μm,21.8s,MS5.3,baz=262,slow=40						
SOC	**Sochi**	**32.33**	**315**	*e*P		**P**	**18 27 14.8 -1.0**
SOC				*e**PP		pP	18 27 22.3 +0.5
SOC				*e*			18 28 16.6
SOC				*e*PPP			18 28 43.7
SOC				*e*S		**S**	**18 32 26.6 -2.0**
SOC				*e**SS		sS	18 32 43.1 +4.6
SOC				*e*SS		SS	18 34 20.8 -27
SOC				*e*			18 37 48.1
SOC				pmax		pmax	
	comp=Z,22nm,1.0s,mb4.9						
SOC				MLR		MLR	
	comp=Z,1μm,15.0s,MS4.8						
NVS	**Novosibirsk**	**32.35**	**13**	*e*P		**P**	**18 27 14.8 -1.2**
NVS				*e*S		**S**	**18 32 38.1 +9.1**
NVS				pmax		pmax	
	comp=N,21nm,1.4s						
NVS				pmax		pmax	
	comp=E,19nm,1.4s						
NVS				pmax		pmax	
	comp=Z,28nm,1.4s,mb4.9						
NVS				smax			
	comp=N,58nm,1.7s						
NVS				smax			
	comp=E,14nm,1.2s						
GYA	**Guiyang**	**32.43**	**78⇑**	*i*P		**P**	**18 27 17.0 +0.3**
GYA				AP		pP	18 27 21.8 -0.8
GYA				XP		sP	18 27 24.6 -0.5
GYA				PP		PP	18 28 24.7 -5.3
GYA				S		**S**	**18 32 29.6 -0.6**
GYA				SS		SS	18 34 22.2 -28
GYA				AMB		AMB	
	comp=Z,40nm,0.8s,mb5.3						
GYA				AMB		AMB	
	comp=Z,270nm,4.8s						
GYA				LR		LR	
	comp=N,3μm,13.2s,MS5.3						
GYA				LR		LR	
	comp=E,3μm,13.8s,MS5.3						
GYA				LR		LR	
	comp=Z,4μm,13.8s,MS5.2						
EIL	**Elat**	**32.55**	**288**	*e*P		**P**	**18 27 18.2 +0.4**
	comp=Z,411nm,1.0s						
ARU	**Arti**	**33.84**	**348**	P		**P**	**18 27 29.3 +0.3**
	comp=Z,307nm,0.9s,mb6.2,SNR=13						
ARU	**Arti**	**33.84**	**348**	P		**P**	**18 27 29.8 +0.8**
	comp=Z,118nm,1.3s,mb5.7						
ARU	**Arti**	**33.84**	**348⇓**	*i*P		**P**	**18 27 30.0 +1.0**
ARU				*e*			18 28 39.3
ARU				*e*			18 30 09.2
ARU				*e*S		**S**	**18 32 53.7 +1.6**
ARU				*e*SS		SS	18 34 59.7 -19
ARU				*e*SSS			18 35 17.5
ARU				*e*			18 37 46.8
ARU				pmax		pmax	
	comp=Z,65nm,1.2s,mb5.4						
ARU				MLR		MLR	
	comp=Z,6μm,17.0s,MS5.4						
ARU				MLR		MLR	
	comp=N,4μm,16.5s,MS5.2						
ARU				MLR		MLR	
	comp=E,2μm,18.0s,MS5.2						
SVE	**Sverdlovsk**	**33.85**	**350⇑**	*e*P		**P**	**18 27 29.2 +0.1**
SVE				*e*			18 30 04.0
SVE				*e*S		**S**	**18 32 50.0 -2.2**
SVE				*e*SS		SS	18 35 24.0 +5.3
SVE				*e*			18 37 44.0
SVE				pmax		pmax	
	comp=Z,72nm,2.0s,mb5.3						
SVE				MLR		MLR	
	comp=N,9μm,15.0s,MS5.7						
SVE				MLR		MLR	
	comp=E,6μm,15.0s,MS5.7						
SVE				MLR		MLR	
	comp=Z,13μm,15.0s,MS5.8						
KULM	**Kulim**	**34.03**	**118**	*e*P		**P**	**18 27 31.7 +1.0**
PSI	**Prapat**	**34.19**	**123**	P		**P**	**18 27

comp=E,3µm,18.1s,MS5.6
XAN LR LR
IPM Ipoh 34.81 119 P **P** **18 27 38.1 +0.7**
ENH Enshi 34.85 71 *e*P **P** **18 27 38.0 +0.2**
comp=Z,56nm,1.1s,mb5.4
ENH LR LR
comp=Z,3µm,20.0s,MS5.0
BR131 Keskin Array S 35.16 306 P **P** **18 27 38.9 -1.6**
BRTR Keskin Array B 35.16 306 P **P** **18 27 40.5 0.0**
comp=Z,1.4nm,0.7s,baz=115,slow=8.3,SNR=8.4
VRHR Novokhopersk 35.40 328 *e*P **P** **18 27 42.4 -0.1**
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
VRHR pmax pmax
comp=E,10.0nm,0.5s
MOY Mondy 36.16 32 *e*P **P** **18 27 50.8 +1.8**
MOY pmax pmax
comp=Z,33nm,2.6s,mb4.8
QIZ Qiongzhong 36.49 90 ⇑P **P** **18 27 53.5 +1.7**
QIZ PP PP 18 29 14.0 -0.9
QIZ S **S** **18 33 23.9 -8.9**
QIZ AMB AMB
comp=Z,27nm,1.6s,mb4.9
QIZ AMB AMB
comp=Z,314nm,4.1s
QIZ LR LR
comp=N,2µm,14.3s,MS5.2
QIZ LR LR
comp=E,2µm,17.6s,MS5.2
QIZ LR LR
comp=Z,4µm,18.2s,MS5.2
QIZ Qiongzhong 36.49 90 *e*P **P** **18 27 53.1 +1.3**
comp=Z,46nm,1.4s,mb5.2
SIM Simferopol' 36.55 314 *e*P **P** **18 27 54.9 +2.6**
SIM Simferopol' 36.55 314 *e*P **P** **18 27 53.3 +1.0**
SIM S **S** **18 33 34.9 +1.1**
SIM pmax pmax
comp=Z,47nm,1.0s,mb5.3
ZAK Zakamensk 36.55 35 *e*P **P** **18 27 53.8 +1.5**
ZAK *e* 18 36 38.6
ZAK pmax pmax
comp=Z,27nm,1.5s,mb4.9
ZAK pmax pmax
comp=Z,13nm,1.8s,mb4.5
BTO Baotou 36.77 53 *e*P **P** **18 27 55.3 +1.1**
BTO S **S** **18 33 42.5 +5.4**
BTO AMB AMB
comp=Z,50nm,1.3s,mb5.2
BTO LR LR
comp=N,2µm,17.0s,MS5.2
BTO LR LR
comp=E,3µm,12.8s,MS5.2
SONM Songino Array 36.98 41 P **P** **18 27 57.9 +1.9**
comp=E,63nm,1.0s,mb5.4,baz=242,slow=7.0,SNR=169
SOKR Solikamsk 37.12 348*c i*P **P** **18 28 00.0 +2.8**
SOKR S **S** **18 33 44.6 +2.2**
SOKR pmax pmax
comp=Z,80nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,9µm,25.0s,MS5.5
ULN Ulaanbaatar 37.39 41 P **P** **18 28 01.1 +1.7**
comp=Z,35nm,1.0s,mb5.1
ULN LR LR
comp=Z,5µm,22.0s,MS5.2
ULN Ulaanbaatar 37.39 41⇑*i*P **P** **18 28 01.2 +1.7**
PECR Pechory 37.95 336 *e*P **P** **18 28 04.0 -0.2**
PECR *e*S **S** **18 34 00.0 +4.9**
PECR pmax pmax
comp=Z,140nm,2.0s,mb5.3
PECR smax
comp=N,700nm,10.0s
PECR smax
comp=E,800nm,13.0s
PECR MLR MLR
comp=E,4µm,14.0s,MS5.3
PECR MLR MLR
comp=Z,5µm,14.0s,MS5.4
PECR MLR MLR
comp=N,2µm,16.0s,MS5.3
HHC Hu-ho-hao-te 37.96 53 *e*P **P** **18 28 06.2 +1.9**
HHC AP pP 18 28 10.6 +0.3
HHC XP sP 18 28 13.2 +0.5
HHC PP PP 18 29 36.6 +5.5
HHC PCP PcP 18 30 23.3 +3.4
HHC S **S** **18 33 56.9 +1.6**
HHC XS sS 18 34 04.3 -0.9
HHC SS SS 18 36 31.7 -11
HHC SCS ScS 18 38 16.6 +1.0
HHC AMB AMB
comp=Z,20nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,271nm,3.6s
HHC LR LR
comp=N,17µm,21.0s,MS5.9
HHC LR LR
comp=E,8µm,19.0s,MS5.9
HHC LR LR
comp=Z,6µm,13.9s
TIY Taiyuan 37.99 59 PR 18 28 05.0
TIY S **S** **18 33 59.0 +3.3**
TIY LR LR
comp=N,12µm,19.0s
KGM Kluang 38.11 120 P **P** **18 28 07.2 +1.6**
IRK Irkutsk 38.13 33 *e*P **P** **18 28 05.7 0.0**
IRK pmax pmax
comp=Z,26nm,1.9s,mb4.6
GZH Guangzhou 38.84 82 P **P** **18 28 14.2 +2.5**
GZH S **S** **18 34 12.1 +3.5**
GZH LR LR
comp=N,3µm,12.1s,MS5.5
GZH LR LR
comp=E,3µm,14.9s,MS5.5
GZH LR LR
comp=Z,5µm,14.3s,MS5.5
MOS Moscow 40.19 331 *e*P **P** **18 28 22.0 -1.0**
MOS *e* pP 18 28 28.4 -0.6
MOS *e* 18 28 35.5
MOS *e* 18 29 56.5
MOS *e* 18 30 30.8
MOS *e*S **S** **18 34 30.1 +1.3**
MOS pmax pmax
comp=Z,116nm,1.3s,mb5.5
TIRR Tirgusor 40.21 311 ⇑P **P** **18 28 23.5 +0.4**
TIRR Tirgusor 40.21 311 *e*P **P** **18 28 23.5 +0.4**
OBN Obninsk 40.28 330 *e*P **P** **18 28 23.4 -0.4**
comp=Z,46nm,1.0s,mb5.2
OBN Obninsk 40.28 330*d i*P **P** **18 28 23.0 -0.7**
OBN *e* 18 28 30.8
OBN *e* 18 29 55.9
OBN *e*S **S** **18 34 30.8 +0.6**
OBN pmax pmax
comp=Z,58nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,4µm,19.0s,MS5.2
CFR Carcaliu 40.61 312 ⇓P **P** **18 28 26.5 +0.1**
KIS Kishinev 40.74 315 *e*P **P** **18 28 29.0 +1.5**
KIS *e* 18 30 06.0
KIS *e* 18 34 45.0
KIS MLR MLR
comp=Z,1µm,20.0s,MS4.7
KIS MLR MLR
comp=Z,900nm,20.0s
SANT Santorini 40.93 299 *e*P **P** **18 28 28.3 -0.7**
comp=Z,307nm,1.2s,mb5.8
KMBO Kilima Mbogo 41.01 238 P **P** **18 28 29.5 -0.2**
comp=Z,5.1nm,0.8s,mb4.2,baz=43,slow=11,SNR=15
KMBO LR LR 18 45 17.0
comp=Z,2µm,18.2s,MS5.0,baz=51,slow=36
BJT Baijiatuau 41.24 56 *e*P **P** **18 28 32.0 +0.4**
comp=Z,118nm,1.4s,mb5.3
BJT LR LR
comp=Z,9µm,19.0s,MS5.7
BJT Baijiatuau 41.24 56 *e*P **P** **18 28 32.0 +0.4**
BJT pmax pmax
comp=Z,118nm,1.4s
BJT MLR MLR
comp=Z,9µm,19.0s
BJI Beijing 41.25 56 P **P** **18 28 33.1 +1.4**
BJI PP PP 18 30 09.3 +2.3
BJI S **S** **18 34 46.6 +2.1**
BJI AMB AMB
comp=Z,38nm,1.3s,mb4.9
BJI AMB AMB
comp=Z,306nm,3.8s
BJI LR LR
comp=N,13µm,19.5s,MS5.9
BJI LR LR
comp=E,5µm,16.6s,MS5.9
BJI LR LR
comp=Z,5µm,14.9s,MS5.5
TIA Tai'an 41.55 62 ⇑P **P** **18 28 34.9 +0.8**
TIA AMB AMB
comp=Z,94nm,1.2s,mb5.3
TIA LR LR
comp=N,12µm,15.0s
VRI Vrincioaia 41.76 313 ⇓P **P** **18 28 37.0 +1.1**
AKASG Malin Array Be 41.88 321 P **P** **18 28 36.3 -0.6**
comp=N,4.4nm,0.6s,mb4.3,baz=113,slow=6.5,SNR=35
AKASG PP PP 18 30 12.6 -1.2
comp=N,5.2nm,0.9s,baz=107,slow=11,SNR=4.2
GVD Gavdhos 41.95 296 P **P** **18 28 38.3 +0.8**
comp=N,126nm,1.0s,mb5.5
MLR Muntele Rosu 42.18 312 ⇓P **P** **18 28 40.8 +1.5**
NJ2 Nanjing 42.88 68 *e*P **P** **18 28 46.6 +1.6**
NJ2 AP pP 18 28 51.1 0.0
NJ2 XP sP 18 28 53.6 +0.1
NJ2 PP PP 18 30 29.0 +4.4
NJ2 S **S** **18 35 11.0 +2.3**
NJ2 XS sS 18 35 18.0 -0.7
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,380nm,10.2s
NJ2 LR LR
comp=N,11µm,17.3s
NJ2 LR LR
comp=E,6µm,9.7s
NJ2 LR LR
comp=Z,4µm,12.9s,MS5.5
KLMR Klimovskoe 42.90 338*d i*P **P** **18 28 44.8 -0.4**
KLMR *e* 18 30 27.3
KLMR *e*S **S** **18 34 58.0 -11**
KLMR pmax pmax
comp=Z,70nm,1.3s,mb5.2
KLMR pmax pmax
comp=Z,80nm,5.8s
KLMR smax
comp=E,450nm,3.4s
KLMR MLR MLR
comp=Z,3µm,15.0s,MS5.3
BURAR Bucovina Array 43.26 315 ⇑P **P** **18 28 48.7 +0.6**
BURAR Bucovina Array 43.26 315 ⇑P **P** **18 28 48.7 +0.6**
QZH Quanzhou 43.28 78 P **P** **18 28 49.2 +0.9**
QZH S **S** **18 35 17.8 +3.2**
QZH LR LR
comp=N,15µm,17.2s,MS6.0
QZH LR LR
comp=E,5µm,13.7s,MS6.0
QZH LR LR
comp=Z,9µm,14.0s,MS5.8
VTS Vitosha 43.47 307 ⇑P **P** **18 28 49.6 -0.1**
KSM Kuching 44.13 114 *e*P **P** **18 28 56.4 +1.3**
MNK Minsk 44.27 325 *e*P **P** **18 29 00.0 +3.8**
LVV L'vov 44.67 318 *e*P **P** **18 29 01.2 +1.8**
LVV *e* 18 30 48.4
LVV *e*S **S** **18 35 36.6 +1.8**
LVV L'vov 44.67 318 *e*P **P** **18 29 02.6 +3.2**
LVV *e*S **S** **18 35 32.1 -2.7**
LVV MLR MLR
comp=E,1µm,14.0s
SSE Sheshan 44.91 69 P **P** **18 29 01.1 -0.2**
SSE AP pP 18 29 04.2 -3.2
SSE S **S** **18 35 38.4 +0.1**
SSE XS sS 18 35 43.8 -4.5
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,137nm,5.0s
SSE LR LR
comp=Z,5µm,12.9s,MS5.6
BZS Buzias 45.17 311 ⇑P **P** **18 29 05.0 +1.6**
DL2 Dalian 45.31 58 P **P** **18 29 06.4 +1.9**
DL2 S **S** **18 35 51.2 +7.1**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
DL2 AMB AMB
comp=Z,160nm,3.7s
DL2 LR LR
comp=N,4µm,19.6s,MS5.4
DL2 LR LR
comp=E,1µm,19.5s,MS5.4
DL2 LR LR
comp=Z,4µm,14.2s
UZH Uzhgorod 45.42 316 *e*P **P** **18 29 07.0 +1.6**
UZH *e*S **S** **18 35 49.0 +3.4**
UZH MLR MLR
comp=E,1µm,13.0s
KWP Kalwaria 45.43 317 *e*P **P** **18 29 07.0 +1.5**
KOLS Kolonicke sedl 45.51 316 *e*P **P** **18 29 08.1 +2.0**
KOLS *e* 18 29 45.6
HIA Hailar 45.74 44 *e*P **P** **18 29 09.5 +1.6**
comp=E,21nm,1.0s,mb5.0
HIA LR LR
comp=Z,5µm,19.0s,MS5.5
HIA Hailar 45.74 44 *e*P **P** **18 29 09.5 +1.6**
HIA pmax pmax
comp=Z,21nm,1.0s
HIA MLR MLR
comp=Z,5µm,19.0s
YHNB Yeheng 45.83 78 *e*P **P** **18 29 10.9 +2.3**
CRVS Cervenica-Dubn 46.02 316 *e*pP pP 18 29 14.9 -1.3
CRVS *e* 18 29 18.1
NACB Ninganchiao 46.11 79 *e*P **P** **18 29 15.9 +5.1**
STHS Stebnicka Huta 46.29 316 *e*pP pP 18 29 15.7 -2.7
STHS *e* 18 29 29.5
KECS Kecovo 46.55 315 *e*P **P** **18 29 15.6 +1.3**
KECS *e* pP 18 29 21.5 +1.1
SUW Suwalki 46.57 323 *e*P **P** **18 29 13.8 -0.6**
VSU Vasula 46.64 330 *i* P **P** **18 29 14.9 -0.1**
PSZ Piszkesteto 46.80 314⇑*e*P **P** **18 29 17.7 +1.4**
PSZ Piszkesteto 46.80 314 *e*P **P** **18 29 16.5 +0.2**
comp=Z,26nm,1.3s,mb5.0
PSZ Piszkesteto 46.80 314 *e*P **P** **18 29 16.5 +0.2**
PSZ pmax pmax
comp=Z,26nm,1.3s,mb5.0
NIE Niedzica 46.88 316 *e*P **P** **18 29 19.6 +2.7**
KKM Kota Kinabalu 46.95 105 P **P** **18 29 19.6 +2.2**
KKM Kota Kinabalu 46.95 105 *e*P **P** **18 29 19.1 +1.6**
SNY Shenyang 47.04 54 ⇓P **P** **18 29 18.9 +0.8**
SNY AP pP 18 29 23.4 -0.8
SNY XP sP 18 29 25.8 -0.8
SNY S **S** **18 36 10.9 +2.1**
SNY AMB AMB
comp=Z,17nm,1.5s,mb4.8
SNY AMB AMB
comp=Z,310nm,4.1s
SNY LR LR
comp=N,2µm,19.4s,MS5.4
SNY LR LR
comp=E,3µm,17.4s,MS5.4
SNY LR LR
comp=Z,4µm,22.7s
JOF Joensuu 47.18 337 *e*p **P** **18 29 19.1 -0.1**
OJC Ojcow 47.40 317 *e*P **P** **18 29 21.8 +0.9**
OJC *e*S **S** **18 36 16.9 +2.9**
OJC L 18 51 23.6
comp=Z,5.5nm,21.8s
VYHS Vyhne 47.62 315 *e*P **P** **18 29 22.8 +0.2**
VYHS *e* pP 18 29 29.0 +0.2
VYHS *e* 18 29 56.7
VYHS Vyhne 47.62 315 *e*P **P** **18 29 22.8 +0.2**
VYHS *e* pP 18 29 29.0 +0.2
TIP Timpagrande 47.98 302 *e*P **P** **18 29 23.6 -1.8**
OKC Ostrava-Krasne 48.35 316 *e*P **P** **18 29 26.5 -1.8**
OKC AMS AMS 18 54 30.0
OKC Ostrava-Krasne 48.35 316 *e*P **P** **18 29 25.5 -2.8**
FINES FINESS Array B 48.40 333 P **P** **18 29 28.2 -0.5**
comp=Z,8.1nm,0.8s,mb4.8,baz=111,slow=10,SNR=28
FINES LR LR 18 52 35.5
comp=Z,1µm,18.0s,MS5.0,baz=116,slow=39
FINES FINESS Array B 48.40 333 *i* P **P** **18 29 28.7 0.0**
FINES pmax pmax
comp=Z,8.0nm,0.8s
SMOL Smolenice 48.54 315 *e*P **P** **18 29 30.6 +0.8**
CN2 Changchun 48.60 52 ⇑P **P** **18 29 31.0 +0.8**
CN2 *e*XP sP 18 29 38.0 -0.7
CN2 *e*S **S** **18 36 31.3 +0.3**
CN2 SS SS 18 39 56.6 -4.5
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.2
CN2 LR LR
comp=N,2µm,16.0s,MS5.5
CN2 LR LR
comp=E,4µm,16.0s,MS5.5
CN2 LR LR
comp=Z,5µm,16.0s,MS5.6
KAF Kangasniemi 48.65 334 *e*p **P** **18 29 29.4 -1.2**
ZST Bratislava 48.70 314 *e*P **P** **18 29 32.5 +1.6**
ZST *e* 18 30 07.6
ZST *e* 18 30 18.0
MORC Moravsky Berou 48.72 316 *e*P **P** **18 29 30.6 -0.5**
comp=Z,23nm,1.3s,mb5.0
MORC Moravsky Berou 48.72 316 ⇑P **P** **18 29 30.9 -0.2**
KOGS Kog 48.99 312 *e*P **P** **18 29 34.5 +1.3**
INCN Inchon 49.21 60 *e*P **P** **18 29 33.7 -1.2**
comp=Z,49nm,0.9s,mb5.5
TSM Tawau 49.22 106 P **P** **18 29 39.7 +4.7**
LVZ Lovozero 49.40 343 *e*P **P** **18 29 37.4 +1.1**
LVZ *e*S **S** **18 36 42.7 +0.4**
LVZ *e*SS SS 18 40 11.5 -2.5
LVZ pmax pmax
comp=Z,83nm,2.0s,mb5.4
LVZ pmax pmax
comp=N,43nm,2.1s
LVZ pmax pmax
comp=E,28nm,1.3s
LVZ smax
comp=E,446nm,3.7s
LVZ MLR MLR
comp=Z,3µm,13.0s,MS5.4
LVZ MLR MLR
comp=N,1µm,16.0s,MS5.2
LVZ MLR MLR
comp=E,1µm,14.0s,MS5.2
DOBS Dobrina 49.49 311 *e*P **P** **18 29 38.0 +1.0**
APA Apatity 49.52 342⇓*i*P **P** **18 29 37.7 +0.5**
APA *i* 18 29 49.4
APA *i* 18 29 56.0
APA *i* S **S** **18 36 48.0 +4.1**
APA pmax pmax
comp=Z,30nm,0.8s,mb5.4
APA MLR MLR
comp=Z,4µm,13.0s,MS5.6
ARSA Arzberg 49.60 313⇑*i*P **P** **18 29 39.3 +1.4**
comp=Z,41nm,1.6s,mb5.2,SNR=8.2
DPC Dobruska-Polom 49.60 317 *e*P **P** **18 29 38.1 +0.2**
DPC AMS AMS 18 57 20.0
comp=Z,1µm,11.9s
KSP Ksiaz 49.72 317 *e*P **P** **18 29 40.6 +1.8**
KSP Ksiaz 49.72 317 *e*P **P** **18 29 39.9 +1.1**
KSP *e*S **S** **18 36 49.0 +2.2**
KSP MLR MLR
comp=Z,3µm,21.7s,MS5.2
UPC Upice 49.83 317 *e*P **P** **18 29 39.8 +0.2**
TREC Trest 49.94 315 *e*P **P** **18 29 40.3 -0.2**
LJU Ljubljana 50.13 311 *e*P **P** **18 29 43.2 +1.3**
KS15 Wonju Array Si 50.20 60 *e*P **P** **18 29 41.9 -0.6**
MOA Molln 50.52 313⇑*i*P **P** **18 29 45.7 +0.9**
comp=Z,83nm,2.1s,mb5.3,SNR=6.8
VOY Vojsko 50.56 311 *e*P **P** **18 29 45.8 +0.6**
VOY *e* 18 32 13.2
AQU L'Aquila 50.65 306 P **P** **18 29 42.0 -3.8**
comp=Z,99nm,1.2s,mb5.6
AQU L'Aquila 50.65 306 P **P** **18 29 42.0 -3.8**
AQU pmax pmax
comp=Z,99nm,1.2s,mb5.6
PRU Pruhonice 50.66 316 *e*P **P** **18 29 46.4 +0.5**
PRU AMS AMS 18 58 20.0
comp=Z,1µm,13.0s
CADS Cadrg 50.69 311 *e*P **P** **18 29 45.8 -0.3**
PVCC Panska Ves 50.74 317 *e*P **P** **18 29 48.1 +1.6**
CLNS Chul'man 50.88 35 *e*P **P** **18 29 48.7 +1.2**
CLNS *e**PP pP 18 29 54.8 +1.1
CLNS *e* 18 30 57.1
CLNS *e* 18 31 39.9
CLNS *e*S **S** **18 36 59.6 -3.2**
CLNS *e*SS SS 18 40 32.3 -5.3
CLNS pmax pmax
comp=Z,16nm,1.1s,mb4.9
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS smax
comp=E,216nm,13.3s
CLNS smax
comp=Z,78nm,12.5s
CLNS smax
comp=N,150nm,12.6s
CLNS MLR MLR
comp=Z,4µm,19.0s,MS5.5
CLNS MLR MLR
comp=N,900nm,13.0s
CLNS MLR MLR
comp=E,4µm,19.0s
PTCC Patocco-Chiusa 50.98 311 P **P** **18 29 49.4 +1.1**
GEC2 GERESS Array S 51.03 314 *e*P **P** **18 29 48.2 -0.5**
comp=Z,59nm,1.6s,mb5.3
GEC2 GERESS Array S 51.03 314 *e*P **P** **18 29 48.2 -0.5**
GEC2 pmax pmax
comp=Z,59nm,1.6s,mb5.3
GERES GERESS Array B 51.03 314 P **P** **18 29 48.2 -0.5**
comp=Z,7.1nm,0.8s,mb4.6,baz=97,slow=6.9,SNR=38
GERES LR LR 18 57 43.6
comp=Z,1µm,18.4s,MS4.9,baz=215,slow=43
SNTG Esanatoglia 51.03 307 P **P** **18 29 49.9 +1.2**
ARV Arcevia 51.04 308 P **P** **18 29 50.0 +1.2**
comp=Z,36nm,0.8s,mb5.3
ARV Arcevia 51.04 308 P **P** **18 29 50.0 +1.2**
ARV pmax pmax
comp=Z,36nm,0.8s,mb5.3
KBA Koelnbreinsper 51.05 312 *i* P **P** **18 29 50.1 +1.3**
comp=Z,48nm,1.4s,mb5.3,SNR=12
KBA Koelnbreinsper 51.05 312 *i* P **P** **18 29 50.1 +1.3**
KBA pmax pmax
comp=Z,49nm,1.4s,mb5.2
KHC Kasperske Hory 51.15 315 *e*P **P** **18 29 48.8 -0.8**
KHC AMS AMS 18 56 50.0
comp=Z,1µm,17.5s
KHC Kasperske Hory 51.15 315 *i* P **P** **18 29 49.6 0.0**
BRG Berggiesshubel 51.19 317 *e*P **P** **18 29 50.3 +0.4**
comp=Z,81nm,1.6s,mb5.4
BRG Berggiesshubel 51.19 317 *i* P **P** **18 29 51.9 +2.0**
comp=Z,48nm,1.6s,mb5.2
BRG S **S** **18 37 05.0 -2.2**
BRG
comp=N,1µm,18.6s
BRG
comp=E,639nm,14.6s
BRG
comp=Z,665nm,16.9s
BSD Bornholm Skovb 51.49 323 *i* P **P** **18 29 50.7 -1.4**
comp=Z,63nm,0.8s,mb5.6
BSD *i* S **S** **18 37 14.0 +2.7**
BSD
comp=Z,2µm,19.0s
BSD Bornholm Skovb 51.49 323 *i* P **P** **18 29 50.7 -1.4**
comp=Z,63nm,0.8s,mb5.6
BSD *i* S **S** **18 37 14.0 +2.7**
RUE Ruedersdorf 51.58 319 *e*P **P** **18 29 52.4 -0.4**
comp=Z,18nm,0.7s,mb5.1
WET Wettzell 51.61 315 *e*P **P** **18 29 53.9 +0.9**
comp=Z,23nm,1.5s,mb4.9
WET Wettzell 51.61 315 *e*P **P** **18 29 53.9 +0.9**
WET pmax pmax
comp=Z,23nm,1.5s,mb4.9
MDJ Mudanjiang 51.64 51 P **P** **18 29 54.2 +1.0**
MDJ AP pP 18 29 57.3 -2.1
MDJ XP sP 18 29 58.7 -3.1
MDJ PCP PcP 18 31 06.9 +0.1
MDJ PP PP 18 31 52.1 +1.4
MDJ AMB AMB
comp=Z,32nm,1.5s,mb5.0
MDJ AMB AMB
comp=Z,133nm,4.6s

MDJ LR LR
comp=N,4μm,16.2s,MS5.6
MDJ LR LR
comp=E,2μm,17.5s,MS5.6
MDJ LR LR
comp=Z,3μm,16.8s,MS5.4
MDJ Mudanjiang 51.64 51 *e*P **P 18 29 53.9 +0.6**
comp=Z,43nm,1.1s,mb5.3
MDJ LR LR
comp=Z,3μm,20.0s,MS5.3
CLL Collm 51.85 317 *e*P **P 18 29 55.2 +0.4**
comp=Z,18nm,1.1s,mb4.9
CLL *e*PcP PcP 18 31 09.3 +1.7
CLL *e*S **S 18 37 18.2 +2.0**
CLL *e*SS SS 18 41 01.0 +8.0
CLL *e*L 18 58 26.0
comp=Z,1μm,20.0s
CLL Collm 51.85 317⇑ *i*P **P 18 29 56.3 +1.5**
comp=Z,18nm,1.1s,mb4.9
CLL *i* x x 18 30 03.5
CLL *i* (sP) sP 18 30 15.0 +12
CLL *i* PcP PcP 18 31 09.2 +1.6
CLL *e*S **S 18 37 19.0 +2.8**
CLL LmV 18 58 00.0
comp=Z,1μm,19.0s
CLL Collm 51.85 317⇑ *i*P **P 18 29 56.3 +1.5**
comp=Z,18nm,1.1s,mb4.9
CLL *i* pP 18 30 03.5 +2.5
CLL *i* pP pP 18 30 09.7 +8.7
CLL *e*S **S 18 37 19.0 +2.8**
CLL LR LR
comp=Z,1μm,19.0s,MS5.0
CLL Collm 51.85 317⇑ *i*P **P 18 29 56.3 +1.5**
CLL *i* pP 18 30 03.5 +2.5
CLL *i* *PP pP 18 30 09.7 +8.7
CLL *e*S **S 18 37 19.0 +2.8**
CLL pmax pmax
comp=Z,18nm,1.1s,mb4.9
CLL MLR MLR
comp=Z,1μm,19.0s,MS5.0
SFI Santa Sofia 51.86 308 P **P 18 29 48.7 -6.2**
comp=Z,189nm,2.0s,mb5.7
SFI Santa Sofia 51.86 308 P **P 18 29 48.7 -6.2**
SFI pmax pmax
comp=Z,189nm,2.0s,mb5.7
NKC Novy Kostel 52.03 316 *e*P **P 18 29 57.3 +1.1**
NKC AMS AMS 18 59 50.0
comp=Z,2μm,13.1s
VMG Vicchio 52.08 308 P **P 18 29 57.2 +0.7**
CTI Castel Tesino 52.12 311 P **P 18 29 57.5 +0.6**
comp=Z,38nm,1.1s,mb5.2
CTI Castel Tesino 52.12 311 P **P 18 29 57.5 +0.6**
CTI pmax pmax
comp=Z,38nm,1.1s,mb5.2
ROTZ Rotzenmuhle 52.12 315 *e*P **P 18 29 57.0 +0.1**
comp=Z,53nm,1.4s,mb5.3
WERD Werda 52.15 316 *e*P **P 18 29 57.0 -0.1**
comp=Z,32nm,1.4s,mb5.1
MANZ Manzenberg 52.22 316 *e*P **P 18 29 58.0 +0.4**
comp=Z,52nm,1.5s,mb5.2
WATA Walderalm 52.28 312⇑ *i*P **P 18 29 57.0 -1.0**
comp=Z,46nm,1.4s,mb5.2,SNR=8.5
WATA Walderalm 52.28 312⇑ *i*P **P 18 29 57.0 -1.0**
WATA pmax pmax
comp=Z,46nm,1.4s,mb5.2
FNVD Fontana Vidola 52.39 308 P **P 18 30 01.0 +2.2**
comp=Z,149nm,1.4s,mb5.7
ZCCA Zocca 52.50 309 P **P 18 30 02.1 +2.4**
SQTA Sankt Quirin 52.52 312⇑ *i*P **P 18 29 58.7 -1.0**
comp=Z,32nm,1.2s,mb5.1,SNR=9.8
SQTA Sankt Quirin 52.52 312⇑ *i*P **P 18 29 58.7 -1.0**
comp=Z,32nm,1.2s,mb5.1
SQTA Sankt Quirin 52.52 312⇑ *i*P **P 18 29 58.7 -1.1**
SQTA pmax pmax
comp=Z,32nm,1.2s,mb5.1
FUR Furstenfeldbru 52.55 313 *e*P **P 18 29 58.7 -1.4**
comp=Z,32nm,1.0s,mb5.2
FUR Furstenfeldbru 52.55 313 *e*P **P 18 29 58.7 -1.4**
FUR pmax pmax
comp=Z,32nm,1.0s,mb5.2
MOTA Moosalm 52.60 312⇑ *i*P **P 18 29 58.3 -2.1**
comp=Z,25nm,1.0s,mb5.1,SNR=16
MOTA Moosalm 52.60 312⇑ *i*P **P 18 29 58.3 -2.1**
MOTA pmax pmax
comp=Z,25nm,1.0s,mb5.1
MOX Moxa 52.62 316 *e*P **P 18 30 00.6 +0.1**
comp=Z,63nm,1.4s,mb5.3
MOX Moxa 52.62 316 *e*P **P 18 30 02.1 +1.6**
comp=Z,76nm,1.5s,mb5.4
MOX
comp=Z,1μm,19.0s
MOX Moxa 52.62 316 *e*P **P 18 30 02.1 +1.6**
MOX pmax pmax
comp=Z,76nm,1.5s,mb5.4
MOX MLR MLR
comp=Z,1μm,19.0s,MS5.0
GRA1 Grafenberg Arr 52.75 315 *e*P **P 18 30 01.7 +0.2**
comp=Z,80nm,1.4s,mb5.5
GRA1 *e*S **S 18 37 34.5 +5.9**
GRA1 LR LR
comp=Z,800nm,19.8s,MS4.8
GRF Grafenberg Arr 52.75 315 *e*P **P 18 30 01.7 +0.2**
comp=Z,80nm,1.4s,mb5.5
GRF *e*S **S 18 37 34.5 +5.9**
GRF *e*L 18 57 22.2
comp=Z,769nm,19.8s
GRF Grafenberg Arr 52.75 315 *e*P **P 18 30 01.7 +0.2**
GRF *e*S **S 18 37 34.5 +5.9**
GRF pmax pmax
comp=Z,80nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,800nm,19.8s,MS4.8
GRF Grafenberg Arr 52.75 315 *e*P **P 18 30 01.7 +0.2**
GRF *e*S **S 18 37 34.5 +5.9**
GRF pmax pmax
comp=Z,80nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,800nm,19.8s,MS4.8
BDI Bagni Di Lucca 52.77 308 P **P 18 30 01.7 +0.1**
GSCL Gusciola 52.78 308 P **P 18 30 03.0 +1.3**
ERBM Eremo 52.91 309 P **P 18 30 04.4 +1.7**
COP Copenhagen 53.00 323 *i* P **P 18 30 05.5 +2.2**
comp=Z,45nm,1.1s,mb5.3
COP *i* S **S 18 37 36.6 +4.6**
COP
comp=Z,820nm,19.0s
COP Copenhagen 53.00 323 *i* P **P 18 30 05.5 +2.2**
COP *i* S **S 18 37 36.6 +4.6**
COP pmax pmax
comp=Z,45nm,1.1s,mb5.3
COP MLR MLR
comp=Z,820nm,19.0s,MS4.8
ARCES ARCESS Array B 53.01 342 P **P 18 30 03.0 -0.4**
comp=Z,11nm,0.8s,mb4.9,baz=139,slow=5.2,SNR=23
ARCES LR LR 18 55 20.5
comp=Z,3μm,18.1s,MS5.3,baz=133,slow=39
ARE0 ARCESS Array S 53.01 342 P **P 18 30 06.6 +3.2**
BRMO Bormio 53.03 311 P **P 18 30 04.2 +0.6**
DAVA Damuels 53.42 312⇑ *i*P **P 18 30 05.7 -0.8**
comp=Z,73nm,1.4s,mb5.4,SNR=13
KLR Kul'dur 53.46 45 *e*P **P 18 30 04.2 -2.6**
KLR *e*S **S 18 37 39.0 +0.7**
KLR *e*SSS 18 43 06.0
KLR pmax pmax
comp=E,38nm,1.4s
KLR pmax pmax
comp=Z,67nm,1.4s,mb5.4
KLR MLR MLR
comp=Z,17μm,13.0s,MS6.3
CLZ Clausthal 53.55 318 *e*P **P 18 30 07.3 -0.1**
comp=Z,26nm,1.2s,mb5.0
CLZ Clausthal 53.55 318 *e*P **P 18 30 07.3 -0.1**
CLZ pmax pmax
comp=Z,26nm,1.2s,mb5.0
UBBA Unterbreizbach 53.66 317 *e*P **P 18 30 08.1 -0.1**
comp=Z,37nm,1.7s,mb5.0
BSEG Bad Segeberg 53.88 320 *e*P **P 18 30 09.7 -0.1**
comp=Z,73nm,1.5s,mb5.4
PGF Pioggiola 53.91 306 *e*P **P 18 30 08.2 -1.9**
comp=Z,186nm,1.5s,mb5.5
PGF Pioggiola 53.91 306 *e*P **P 18 30 08.2 -1.9**
comp=Z,93nm,1.5s,mb5.5
PGF Pioggiola 53.91 306 *e*P **P 18 30 08.2 -1.9**
PGF pmax pmax
comp=Z,93nm,1.5s,mb5.5
STU Stuttgart 53.99 314 *e*P **P 18 30 09.9 -0.7**
comp=Z,32nm,1.0s,mb5.2
STU Stuttgart 53.99 314 P **P 18 30 08.8 -1.8**
comp=Z,62nm,1.2s,mb5.4
STU Stuttgart 53.99 314 P **P 18 30 08.8 -1.8**
STU pmax pmax
comp=Z,62nm,1.2s,mb5.4
TOD Tromm 54.31 315 *e*P **P 18 30 13.9 +1.0**
BFO Black Forest 54.53 313 *e*P **P 18 30 15.0 +0.4**
comp=Z,21nm,1.2s,mb5.0
BFO Black Forest 54.53 313 *e*P **P 18 30 11.2 -3.4**
TNS Taunus Mts 54.59 316 *e*P **P 18 30 15.1 +0.1**
comp=Z,54nm,1.4s,mb5.4
TNS Taunus Mts 54.59 316 *e*P **P 18 30 15.1 +0.1**
TNS pmax pmax
comp=Z,54nm,1.4s,mb5.4
YAK Yakutsk 54.73 30 *e*P **P 18 30 14.9 -1.1**
comp=Z,25nm,0.8s,mb5.3
YAK LR LR
comp=Z,4μm,19.0s,MS5.5
YAK Yakutsk 54.73 30 *e*P **P 18 30 16.1 +0.1**
YAK *e* 18 38 02.2
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=N,150nm,15.0s
YAK pmax pmax
comp=Z,119nm,11.2s
YAK pmax pmax
comp=E,165nm,20.5s
YAK MLR MLR
comp=Z,2μm,16.0s,MS5.2
YAK MLR MLR
comp=N,877nm,13.0s,MS5.3
YAK MLR MLR
comp=E,2μm,16.0s,MS5.3
NB2 NORSAR Subarra 54.88 329 P **P 18 30 15.5 -1.6**
comp=Z,18nm,1.0s,mb5.0,baz=105,slow=7.4
NB2 NORSAR Subarra 54.88 329 P **P 18 30 15.5 -1.6**
NB2 pmax pmax
comp=Z,18nm,1.0s,mb5.1
NOA NORSAR Array B 54.88 329 P **P 18 30 16.2 -0.9**
comp=Z,11nm,1.0s,mb4.8,baz=106,slow=7.1,SNR=12
NOA LR LR 18 58 43.1
comp=Z,3μm,18.1s,MS5.4,baz=95,slow=41
NOA NORSAR Array B 54.88 329 P **P 18 30 16.2 -0.9**
NOA LR LR 18 58 43.0
LANF Langenberg 54.91 314 *e*P **P 18 30 17.9 +0.6**
MUD Monsted U'grnd 54.94 323 *i* P **P 18 30 19.2 +1.7**
comp=Z,56nm,1.2s,mb5.5
MUD *i* 18 30 27.8
MUD
comp=Z,2μm,17.0s
MUD Monsted U'grnd 54.94 323 *i* P **P 18 30 19.2 +1.7**
comp=Z,56nm,1.2s,mb5.5
MUD *i* 18 30 27.8
BBS Basel-Blauen 55.04 312 *e*P **P 18 30 18.2 -0.1**
SBF Sospel 55.05 308 *e*P **P 18 30 16.5 -1.8**
comp=Z,37nm,0.8s,mb5.1
SBF Sospel 55.05 308 *e*P **P 18 30 16.5 -1.8**
comp=Z,18nm,0.8s,mb5.2
SBF Sospel 55.05 308 *e*P **P 18 30 16.5 -1.8**
SBF pmax pmax
comp=Z,18nm,0.8s,mb5.2
ABH Alteburg 55.14 315 *e*P **P 18 30 20.2 +1.2**
WLS Welschbruch 55.19 313 *e*P **P 18 30 19.1 -0.2**
IBBN Ibbenburen 55.21 318 *e*P **P 18 30 19.1 -0.4**
comp=Z,79nm,1.4s,mb5.5
CDF Champ du Feu 55.24 313 *e*P **P 18 30 18.2 -1.5**
comp=Z,38nm,1.2s,mb5.0
CDF Champ du Feu 55.24 313 *e*P **P 18 30 18.2 -1.5**
comp=Z,19nm,1.2s,mb5.0
CDF Champ du Feu 55.24 313 *e*P **P 18 30 18.2 -1.5**
CDF pmax pmax
comp=Z,19nm,1.2s,mb5.0
ECH Echery 55.31 313 *e*P **P 18 30 20.4 +0.2**
ECH Echery 55.31 313 *e*P **P 18 30 19.3 -0.9**
MOF Molkenrain 55.31 313 *e*P **P 18 30 19.5 -0.7**
KONO Kongsberg 55.33 327 P **P 18 30 18.9 -1.4**
comp=Z,24nm,1.1s,mb5.1
KONO Kongsberg 55.33 327⇑ *e*P **P 18 30 22.8 +2.5**
BUG Bochum--Univer 55.43 317 *e*P **P 18 30 20.6 -0.5**
comp=Z,24nm,1.2s,mb5.1
RUP Ruppelstein 55.44 315 *e*P **P 18 30 21.5 +0.3**
HINF Hinteralfeld 55.50 313 *e*P **P 18 30 20.0 -1.5**
comp=Z,43nm,1.2s,mb5.1
HINF Hinteralfeld 55.50 313 *e*P **P 18 30 20.0 -1.5**
comp=Z,22nm,1.2s,mb5.0
HINF Hinteralfeld 55.50 313 *e*P **P 18 30 20.0 -1.5**
HINF pmax pmax
comp=Z,22nm,1.2s,mb5.1
LOMF Lomont 55.50 312 *e*P **P 18 30 21.7 +0.1**
LOMF Lomont 55.50 312 *e*P **P 18 30 20.2 -1.4**
MBDF Montbardon 55.52 309 *e*P **P 18 30 19.7 -2.0**
comp=Z,44nm,1.0s,mb5.1
MBDF Montbardon 55.52 309 *e*P **P 18 30 19.7 -2.0**
comp=Z,22nm,1.0s,mb5.1
MBDF Montbardon 55.52 309 *e*P **P 18 30 19.7 -2.0**
MBDF pmax pmax
comp=Z,22nm,1.0s,mb5.1
LPG La Plagne 55.53 310 *e*P **P 18 30 20.4 -1.4**
comp=Z,34nm,1.0s,mb5.0
LPG La Plagne 55.53 310 *e*P **P 18 30 20.4 -1.4**
comp=Z,17nm,1.0s,mb5.0
LPG La Plagne 55.53 310 *e*P **P 18 30 20.4 -1.4**
LPG pmax pmax
comp=Z,17nm,1.0s,mb5.0
LPL La Plagne 55.54 310 *e*P **P 18 30 20.4 -1.5**
comp=Z,123nm,1.5s,mb5.4
LPL La Plagne 55.54 310 *e*P **P 18 30 20.4 -1.5**
comp=Z,62nm,1.5s,mb5.4
LPL La Plagne 55.54 310 *e*P **P 18 30 20.4 -1.5**
LPL pmax pmax
comp=Z,61nm,1.5s,mb5.4
BNI Bardonecchia 55.58 309 *e*P **P 18 30 21.5 -0.7**
comp=Z,74nm,1.5s,mb5.5
BNI Bardonecchia 55.58 309 *e*P **P 18 30 21.5 -0.6**
BNI pmax pmax
comp=Z,74nm,1.5s,mb5.5
HABR Khabarovsk 55.59 47 *e*P **P 18 30 23.3 +1.1**
HABR *e*S **S 18 38 08.8 +1.9**
HABR pmax pmax
comp=Z,45nm,1.2s,mb5.4
HABR MLR MLR
comp=Z,1250μm,13.0s
HAU Haudompre 55.84 313 *e*P **P 18 30 22.8 -1.2**
HAU *e*R
comp=Z,840nm,20.0s
HAU Haudompre 55.84 313 *e*P **P 18 30 22.8 -1.2**
HAU MLR MLR
comp=Z,840nm,20.0s,MS4.8
CABF La Chapelle 55.99 311 *e*P **P 18 30 24.3 -0.8**
comp=Z,176nm,1.3s,mb5.6
CABF La Chapelle 55.99 311 *e*P **P 18 30 24.3 -0.8**
comp=Z,88nm,1.3s,mb5.6
CABF La Chapelle 55.99 311 *e*P **P 18 30 24.3 -0.8**
CABF pmax pmax
comp=Z,88nm,1.3s,mb5.6
WLF Walferdange 56.03 315 *e*P **P 18 30 25.3 -0.1**
comp=Z,48nm,1.5s,mb5.3
WLF Walferdange 56.03 315 ⇓P **P 18 30 26.7 +1.4**
WLF Walferdange 56.03 315 P **P 18 30 26.8 +1.5**
comp=Z,31nm,1.1s,mb5.2
WLF Walferdange 56.03 315 P **P 18 30 26.8 +1.4**
WLF pmax pmax
comp=Z,31nm,1.1s,mb5.2
THEF They Montfort 56.09 313 *e*P **P 18 30 26.0 +0.2**
THEF They Montfort 56.09 313 *e*P **P 18 30 23.9 -1.9**
ORIF Oris-en-Rattie 56.15 309 *e*P **P 18 30 25.1 -1.1**
comp=Z,37nm,1.3s,mb5.0
ORIF *e*R
comp=Z,1μm,20.2s
ORIF Oris-en-Rattie 56.15 309 *e*P **P 18 30 25.1 -1.1**
comp=Z,18nm,1.3s,mb5.0
ORIF Oris-en-Rattie 56.15 309 *e*P **P 18 30 25.1 -1.1**
ORIF pmax pmax
comp=Z,18nm,1.3s,mb4.9
MEM Membach 56.17 316 ⇓P **P 18 30 28.0 +1.6**
comp=Z,5.1nm,1.4s,mb4.4
MEM XP sP 18 30 36.4 +1.4
MEM E 18 30 50.0
MEZF Maizieres J'vi 56.72 313 *e*P **P 18 30 29.5 -0.8**
GIVF Givet 56.91 315 *e*P **P 18 30 31.5 -0.1**
LSZ Lusaka 57.00 231 *e*P **P 18 30 33.7 +1.4**
comp=Z,25nm,1.2s,mb5.1
LSZ Lusaka 57.00 231 *e*P **P 18 30 33.7 +1.4**
LSZ pmax pmax
comp=Z,25nm,1.2s,mb5.1
VIVF Saint-Julien-l 57.01 309 *e*P **P 18 30 30.8 -1.5**
comp=Z,80nm,1.2s,mb5.3
VIVF Saint-Julien-l 57.01 309 *e*P **P 18 30 30.8 -1.5**
comp=Z,40nm,1.2s,mb5.3
VIVF Saint-Julien-l 57.01 309 *e*P **P 18 30 30.8 -1.5**
VIVF pmax pmax
comp=Z,40nm,1.2s,mb5.3
DOU Dourbes 57.05 315⇑P **P 18 30 33.7 +1.0**
comp=Z,4.1nm,0.9s,mb4.5
DOU E 18 30 49.0
SNF Seneffe 57.26 316 P **P 18 30 33.0 -1.2**
BAIF Baives 57.30 315 *e*P **P 18 30 34.1 -0.3**
LOR Lormes 57.52 312 *e*P **P 18 30 34.2 -1.8**
LOR *e*R
comp=Z,1μm,21.0s
LOR Lormes 57.52 312 *e*P **P 18 30 34.2 -1.8**
LOR MLR MLR
comp=Z,1μm,21.0s,MS5.0
SMF Signal de Mont 57.54 311 *e*P **P 18 30 34.5 -1.6**
comp=Z,59nm,1.3s,mb5.2
SMF Signal de Mont 57.54 311 *e*P **P 18 30 34.5 -1.6**
comp=Z,30nm,1.3s,mb5.2
SMF Signal de Mont 57.54 311 *e*P **P 18 30 34.5 -1.6**
SMF pmax pmax
comp=Z,29nm,1.3s,mb5.2
LASF Ste Croix 57.62 308 *e*P **P 18 30 35.4 -1.3**
comp=Z,101nm,1.2s,mb5.4
TIXI Tiksi 57.70 19⇓ *e*P **P 18 30 36.3 -1.0**
TIXI Tiksi 57.70 19 *e*P **P 18 30 32.0 -5.3**
TIXI *e*S **S 18 38 31.3 -3.6**
TIXI *e*SS SS 18 42 20.0 -5.3
TIXI pmax pmax
comp=Z,15nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,4μm,15.0s,MS5.7
PLDF La Plantade 57.71 310 *e*P **P 18 30 37.5 +0.2**
PLDF La Plantade 57.71 310 *e*P **P 18 30 32.7 -4.6**
SSF Saint Saulge 57.77 312 *e*P **P 18 30 36.2 -1.5**
comp=Z,48nm,1.3s,mb5.0
SSF Saint Saulge 57.77 312 *e*P **P 18 30 36.2 -1.5**
comp=Z,24nm,1.3s,mb5.1
SSF Saint Saulge 57.77 312 *e*P **P 18 30 36.2 -1.5**
SSF pmax pmax
comp=Z,24nm,1.3s,mb5.1
AVF Avril sur Loir 57.88 311 *e*P **P 18 30 36.7 -1.8**
comp=Z,32nm,1.2s,mb4.9
AVF Avril sur Loir 57.88 311 *e*P **P 18 30 36.7 -1.8**
comp=Z,16nm,1.2s,mb4.9
AVF Avril sur Loir 57.88 311 *e*P **P 18 30 36.7 -1.8**
AVF pmax pmax
comp=Z,16nm,1.2s,mb4.9
LBL Lubilhac 58.00 310 *e*P **P 18 30 40.1 +0.8**
AGO Saint Agoulin 58.05 311 *e*P **P 18 30 40.6 +0.9**
AGO Saint Agoulin 58.05 311 *e*P **P 18 30 33.3 -6.4**
PYM Petit Puy Mans 58.15 310 *e*P **P 18 30 34.0 -6.4**
BGF Bois d'Agland 58.23 311 *e*P **P 18 30 39.6 -1.3**
HYF Humbligny 58.35 312 *e*P **P 18 30 40.9 -0.9**
MAJO Matsushiro 58.51 61 *e*P **P 18 30 43.0 +0.1**
comp=Z,28nm,1.1s,mb5.2
MAJO Matsushiro 58.51 61 *e*P **P 18 30 43.0 +0.1**
MAJO pmax pmax
comp=Z,28nm,1.1s,mb5.2
MAT Matsushiro 58.51 61 P **P 18 30 43.2 +0.3**
MAT S **S 18 38 43.0 -2.5**
MAT Matsushiro 58.51 61 *e*P **P 18 30 43.0 +0.1**
comp=Z,18nm,1.1s,mb5.0
MAT *e*S **S 18 38 44.0 -1.4**
MAT LR LR
comp=Z,1μm,20.0s,MS5.1
MAT Matsushiro 58.51 61 *e*P **P 18 30 43.0 +0.1**
MAT *e*S **S 18 38 44.0 -1.4**
MAT pmax pmax
comp=Z,18nm,1.1s,mb5.0
MAT MLR MLR
comp=Z,1μm,20.0s,MS5.1
MJAR Matsushiro Arr 58.51 61 P **P 18 30 43.9 +1.0**
comp=Z,16nm,1.1s,mb5.0,baz=281,slow=8.6,SNR=22
MJAR LR LR 18 56 50.4
comp=Z,916nm,19.4s,MS4.9,baz=275,slow=37
MJAR Matsushiro Arr 58.51 61 P **P 18 30 43.9 +1.0**
MJAR LR LR 18 56 50.4
MTLF Montolieu 58.85 307 *e*P **P 18 30 43.7 -1.6**
comp=Z,66nm,1.3s,mb5.2
MTLF Montolieu 58.85 307 *e*P **P 18 30 43.7 -1.6**
comp=Z,33nm,1.3s,mb5.2
MTLF Montolieu 58.85 307 *e*P **P 18 30 43.7 -1.6**
MTLF pmax pmax
comp=Z,33nm,1.3s,mb5.2
CAF Calviac 58.86 309 *e*P **P 18 30 44.1 -1.2**
comp=Z,52nm,1.2s,mb5.1
CAF Calviac 58.86 309 *e*P **P 18 30 44.1 -1.2**
comp=Z,26nm,1.2s,mb5.1
CAF Calviac 58.86 309 *e*P **P 18 30 44.1 -1.2**
CAF pmax pmax
comp=Z,26nm,1.2s,mb5.1
RJF Les Rejaudoux 59.22 310 *e*P **P 18 30 46.7 -1.1**
comp=Z,51nm,1.2s,mb5.1
RJF *e*R
comp=Z,846nm,20.2s
RJF Les Rejaudoux 59.22 310 *e*P **P 18 30 46.7 -1.1**
comp=Z,26nm,1.2s,mb5.1
RJF LR LR
comp=Z,850nm,20.3s,MS4.9
RJF Les Rejaudoux 59.22 310 *e*P **P 18 30 46.7 -1.1**
RJF pmax pmax
comp=Z,26nm,1.2s,mb5.1
RJF MLR MLR
comp=Z,850nm,20.3s,MS4.9
LFF La Frestale 59.79 309 *e*P **P 18 30 50.6 -1.2**
comp=Z,167nm,1.5s,mb5.6
LFF La Frestale 59.79 309 *e*P **P 18 30 50.6 -1.2**
comp=Z,84nm,1.5s,mb5.5
LFF La Frestale 59.79 309 *e*P **P 18 30 50.6 -1.2**
LFF pmax pmax
comp=Z,84nm,1.5s,mb5.5
LDF La Druitiere 60.15 314 *e*P **P 18 30 52.8 -1.5**
comp=Z,124nm,1.5s,mb5.4
LDF La Druitiere 60.15 314 *e*P **P 18 30 52.8 -1.5**
comp=Z,62nm,1.5s,mb5.4
LDF La Druitiere 60.15 314 *e*P **P 18 30 52.8 -1.5**
LDF pmax pmax
comp=Z,62nm,1.5s,mb5.4
EPF Esparros 60.25 307 *e*P **P 18 30 52.3 -2.6**
MFF Saint Martin d 60.29 311 *e*P **P 18 30 53.5 -1.7**
comp=Z,60nm,1.2s,mb5.2
MFF Saint Martin d 60.29 311 *e*P **P 18 30 53.5 -1.7**
comp=Z,30nm,1.2s,mb5.2
MFF Saint Martin d 60.29 311 *e*P **P 18 30 53.5 -1.7**
MFF pmax pmax
comp=Z,30nm,1.2s,mb5.2
EGRA Graus 60.35 306 ⇓P **P 18 30 56.4 +0.8**
comp=Z,24nm,0.9s,mb5.2
EBIE Bielsa 60.43 307 P **P 18 30 55.9 -0.2**
comp=Z,36nm,1.3s,mb5.2
YSS Yuzh-Sakhalins 60.82 48 PFAKE 18 31 10.0 +11
YSS
comp=Z,4μm,20.0s,MS5.5
YSS Yuzh-Sakhalins 60.82 48 *e*P **P 18 31 01.0 +2.2**
YSS *e*S **S 18 39 18.0 +2.8**
YSS *e*PS 18 39 24.0
YSS *e*SS SS 18 43 18.0 +3.8
EMOS Mosqueruela 61.17 304 P **P 18 31 01.4 +0.2**
comp=Z,42nm,0.9s,mb5.6
ECHE Chera 61.65 303 P **P 18 31 05.6 +1.2**
comp=Z,8.5nm,0.9s,mb4.9
ECHE Chera 61.65 303 P **P 18 31 05.6 +1.2**
ECHE pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
SGMF Saint Gilles 61.80 313 *e*P **P 18 31 04.1 -1.3**
comp=Z,221nm,1.5s,mb5.8
SGMF Saint Gilles 61.80 313 *e*P **P 18 31 04.1 -1.3**
comp=Z,110nm,1.5s,mb5.8
SGMF Saint Gilles 61.80 313 *e*P **P 18 31 04.1 -1.3**
SGMF pmax pmax
comp=Z,111nm,1.5s,mb5.8
EVIA Vianos 62.98 303 P **P 18 31 14.1 +0.8**
EHUE Huescar 63.19 302 P **P 18 31 14.8 0.0**
EQES Quesada 63.57 302 P **P 18 31 17.5 +0.3**
comp=Z,88nm,1.6s,mb5.5
EBER Berja 63.59 301 P **P 18 31 18.3 +0.9**
comp=Z,105nm,1.4s,mb5.7

GUD Guadarrama 63.90 305 P **P 18 31 19.8 +0.4**
comp=Z,34nm,1.2s,mb5.2
GUD Guadarrama 63.90 305 P **P 18 31 19.8 +0.4**
GUD pmax pmax
comp=Z,34nm,1.2s,mb5.2
ESDC Sonseca Array 63.92 304 P **P 18 31 18.1 -1.4**
comp=Z,9.2nm,0.8s,mb4.8,baz=66,slow=6.7,SNR=20
ESDC Sonseca Array 63.92 304 P **P 18 31 18.6 -1.0**
comp=Z,7.2nm,0.8s,mb4.8
ESLA Sonseca Array 63.92 304 *e*P **P 18 31 18.3 -1.2**
comp=Z,9.1nm,1.2s,mb4.7
ESLA LR LR
comp=Z,3μm,20.0s,MS5.5
ECOG Cogollos-Vega 64.05 301 P **P 18 31 20.4 0.0**
comp=Z,2.2nm,0.2s,mb4.8
ECOG Cogollos-Vega 64.05 301 P **P 18 31 20.4 0.0**
ECOG pmax pmax
comp=Z,2.0nm,0.2s,mb4.8
EBAN Banos Encina 64.06 302 P **P 18 31 20.7 +0.2**
comp=Z,24nm,0.8s,mb5.3
EBAN Banos Encina 64.06 302 P **P 18 31 20.7 +0.3**
EBAN pmax pmax
comp=Z,24nm,0.8s,mb5.3
EGUA Guajares 64.14 301 P **P 18 31 21.0 0.0**
ERON Agron 64.29 301 P **P 18 31 21.7 -0.3**
comp=Z,14nm,0.7s,mb5.1
ELOJ Sierra Loja 64.54 301 P **P 18 31 21.7 -1.9**
ELUQ Luque 64.55 302 P **P 18 31 23.3 -0.3**
EADA Adamuz 64.67 302 P **P 18 31 24.8 +0.3**
comp=Z,67nm,1.3s,mb5.5
MA2 Magadan 64.71 34 *e*P **P 18 31 24.2 -0.5**
comp=Z,20nm,0.9s,mb5.2
MA2 Magadan 64.71 34 *d i*P **P 18 31 25.0 +0.3**
MA2 *e* 18 31 42.9
MA2 *i* S **S 18 40 05.7 +1.7**
MA2 *e* 18 41 20.8
MA2 *e*SSS 18 47 09.2
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
MA2 MLR MLR
comp=Z,3μm,22.0s,MS5.5
EMIJ Mijas 65.14 301 P **P 18 31 27.1 -0.5**
comp=Z,18nm,0.7s,mb5.2
SEY Seymchan 65.25 30|| *e*P **P 18 31 28.6 +0.4**
SEY Seymchan 65.25 30 *e*P **P 18 31 28.7 +0.5**
SEY *e* 18 33 47.4
SEY *e*S S 18 40 15.8 +5.1
SEY *e* 18 41 23.1
SEY pmax pmax
comp=Z,20nm,0.7s,mb5.3
SEY pmax pmax
comp=E,18nm,1.0s
SEY smax
comp=N,60nm,5.6s
SEY smax
comp=E,140nm,5.6s
ECAB El Cabril 65.34 302 P **P 18 31 29.1 +0.3**
comp=E,27nm,0.9s,mb5.3
LBTB Lobatse 65.42 225 P **P 18 31 29.2 -0.1**
comp=E,56nm,0.9s,mb5.6
LBTB Lobatse 65.42 225 P **P 18 31 29.2 -0.1**
LBTB pmax pmax
comp=Z,56nm,0.9s,mb5.6
PBRG Braganca 65.61 307 *e*P **P 18 31 31.1 +0.5**
comp=Z,26nm,2.1s,mb4.9
ESPR Espera 65.93 301 P **P 18 31 32.3 -0.3**
comp=Z,20nm,1.0s,mb5.1
TORD Torodi Ar. Bea 65.96 274 P **P 18 31 31.8 -1.0**
comp=Z,43nm,0.8s,mb5.5,baz=74,slow=4.4,SNR=120
EMIN Mina Concepcio 66.37 302 P **P 18 31 35.0 -0.5**
comp=Z,15nm,1.0s,mb5.0
EBAD Badajoz 66.42 303 P **P 18 31 35.2 -0.5**
comp=Z,28nm,1.1s,mb5.2
PVRL Vila Real 66.43 306 *e*P **P 18 31 36.6 +0.7**
MTE Manteigas 66.48 305 *e*P **P 18 31 37.0 +0.8**
comp=Z,61nm,1.6s,mb5.4
MTE Manteigas 66.48 305 P **P 18 31 36.5 +0.3**
PCBR Castelo Branco 66.55 305 *e*P **P 18 31 37.0 +0.4**
comp=Z,58nm,1.7s,mb5.3
PCAB Cabril 66.58 307 *e*P **P 18 31 36.7 -0.1**
comp=Z,53nm,1.6s,mb5.3
PVIS Viseu 66.68 306 *e*P **P 18 31 36.5 -0.9**
STS Santiago 66.72 308 P **P 18 31 38.0 +0.3**
DAG Danmarks Havn 66.93 346⇑ *i*P **P 18 31 38.3 -0.7**
comp=Z,17nm,1.0s,mb5.0
DAG Danmarks Havn 66.93 346⇑ *e*P **P 18 31 38.3 -0.7**
comp=Z,17nm,1.0s,mb5.0
DAG Danmarks Havn 66.93 346⇑ *e*P **P 18 31 38.3 -0.7**
DAG pmax pmax
comp=Z,17nm,1.0s,mb5.0
EGRO El Granado 67.05 302 P **P 18 31 39.7 -0.1**
comp=Z,9.3nm,0.9s,mb4.8
PBEJ Beja 67.24 303 *e*P **P 18 31 41.4 +0.4**
comp=Z,24nm,1.7s,mb5.0
TSUM Tsumeb 67.29 235 *e*P **P 18 31 40.7 -0.6**
comp=Z,13nm,0.9s,mb5.0
PTOM Tomar 67.30 305 *e*P **P 18 31 41.8 +0.4**
comp=Z,54nm,1.4s,mb5.4
FITZ Fitzroy Crossi 67.72 123 *e*P **P 18 31 44.8 +0.8**
comp=Z,19nm,1.8s,mb4.8
PTEO Sao Teotonio 68.01 303 *e*P **P 18 31 46.5 +0.7**
BOSA Boshof 68.16 223 P **P 18 31 46.3 -0.5**
comp=Z,12nm,0.8s,mb5.0,baz=54,slow=8.0,SNR=28
BOSA LR LR 18 58 35.1
comp=Z,649nm,19.8s,MS4.9,baz=41,slow=33
BOSA Boshof 68.16 223 *e*P **P 18 31 46.5 -0.3**
comp=Z,14nm,0.9s,mb5.0
BOSA Boshof 68.16 223 *e*P **P 18 31 46.5 -0.3**
BOSA pmax pmax
comp=Z,14nm,0.9s,mb5.0
PET Petropavlovsk 70.05 40 *e*P **P 18 32 01.7 +3.2**
PET *e*S S 18 41 08.6 +0.4
PET *e*SS SS 18 45 39.3 +1.6
PET *e*SSS 18 48 45.8
PET smax
comp=N,200nm,17.2s
PET MLR MLR
comp=Z,4μm,18.0s,MS5.7
BILL Bilibino 70.17 23 *i*P **P 18 32 00.4 +1.2**
KAKA Kakadu 70.23 114 *e*P **P 18 32 00.3 +0.7**
comp=Z,11nm,0.8s,mb4.8
MUN Mundaring 70.36 140 *e*P **P 18 32 00.3 -0.1**
KLBR Kellerberrin 71.00 139 *e*P **P 18 32 03.4 -0.9**
comp=Z,12nm,1.0s,mb4.8
NWAO Narrogin (SRO) 71.64 140 LR LR 19 00 55.4
comp=Z,1μm,20.7s,MS5.1,baz=331,slow=34
NWAO Narrogin (SRO) 71.64 140 P **P 18 32 08.1 0.0**
comp=Z,18nm,1.0s,mb5.0
NWAO LR LR
comp=Z,1μm,21.0s,MS5.1
NWAO Narrogin (SRO) 71.64 140 P **P 18 32 08.1 -0.1**
NWAO pmax pmax
comp=Z,18nm,1.0s
NWAO MLR MLR
comp=Z,1μm,21.0s
SUMG Summit 73.09 343 *e*P **P 18 32 17.4 +0.6**
comp=Z,28nm,1.2s,mb5.1
DBIC Dimbokro 74.33 270 P **P 18 32 23.8 -0.3**
comp=Z,13nm,0.7s,mb5.0,baz=47,slow=5.9,SNR=17
DBIC LR LR 19 07 18.8
comp=Z,2μm,18.5s,MS5.4,baz=54,slow=38
DBIC Dimbokro 74.33 270 *e*P **P 18 32 24.2 +0.1**
comp=Z,19nm,0.8s,mb5.1
DBIC Dimbokro 74.33 270 *e*P **P 18 32 24.2 +0.1**
DBIC pmax pmax
comp=Z,19nm,0.8s
CFTV Fuerteventura 74.91 295 P **P 18 32 29.2 +1.7**
comp=Z,20nm,0.8s,mb5.1
WRA Warramunga Arr 75.56 120 P **P 18 32 31.8 +0.6**
comp=Z,14nm,1.0s,mb4.8,baz=300,slow=7.6,SNR=69
WRAB Tennant Creek 75.56 120 P **P 18 32 31.4 +0.2**
comp=Z,144nm,1.3s,mb5.7,SNR=7.0
WRAB Tennant Creek 75.56 120 *e*P **P 18 32 31.3 0.0**
comp=Z,53nm,1.1s,mb5.4
WRAB LR LR
comp=Z,727nm,20.0s,MS5.0
WRAB Tennant Creek 75.56 120 *i*P **P 18 32 32.0 +0.8**
WB2 Warramunga Arr 75.57 120 *e*P **P 18 32 31.5 +0.2**
ASAR Alice Springs 77.22 123 P **P 18 32 40.9 +0.3**
comp=Z,4.3nm,0.8s,mb4.4,baz=307,slow=5.6,SNR=43
SFJD Kangerlussuaq 79.60 340 *i*P **P 18 32 56.5 +2.7**
comp=Z,30nm,1.2s,mb5.1
SFJD *i* 18 33 05.2
SFJD
comp=Z,930nm,19.0s
SFJD Kangerlussuaq 79.60 340 *e*P **P 18 32 56.5 +2.7**
comp=Z,30nm,1.2s,mb5.1
SFJD *i* 18 33 05.2
SFJD LR LR
comp=Z,940nm,19.0s,MS5.2
SFJD Kangerlussuaq 79.60 340 *e*P **P 18 32 56.5 +2.7**
SFJD *i* 18 33 05.2
SFJD pmax pmax
comp=Z,30nm,1.2s,mb5.1
SFJD MLR MLR
comp=Z,940nm,19.0s,MS5.2
TNA Tin City 80.37 21 P **P 18 32 58.8 +0.9**
PMG Port Moresby 81.40 104 *e*P **P 18 33 03.0 -0.4**
comp=Z,18nm,1.0s,mb5.0
PMG LR LR
comp=Z,441nm,22.0s,MS4.8
PMG Port Moresby 81.40 104 *e*P **P 18 33 03.0 -0.4**
PMG pmax pmax
comp=Z,18nm,1.0s
PMG MLR MLR
comp=Z,441nm,22.0s
CTA Charters Tower 85.37 114 *e*P **P 18 33 24.2 +0.3**
comp=Z,6.4nm,1.0s,mb4.7
CTA Charters Tower 85.37 114 *e*P **P 18 33 24.2 +0.3**
CTA pmax pmax
comp=Z,6.0nm,1.0s
CTAO Charters Tower 85.37 114 *e*P **P 18 33 23.9 +0.1**
comp=Z,10nm,1.1s,mb4.9
CTAO LR LR
comp=Z,674nm,19.0s,MS5.1
CTAO Charters Tower 85.37 114 *e*P **P 18 33 23.9 0.0**
CTAO pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
CTAO MLR MLR
comp=Z,674nm,19.0s,MS5.1
INK Inuvik 86.44 9 LR LR 19 17 38.2
comp=Z,637nm,18.5s,MS5.0,baz=351,slow=39
COLA College 86.70 16 *i*P **P 18 33 30.0 -0.4**
ILAR Eielson Array 87.02 15 P **P 18 33 31.8 -0.3**
comp=Z,1.6nm,1.0s,mb4.2,baz=347,slow=1.8,SNR=12
ILAR LR LR 19 15 45.1
comp=Z,1μm,21.2s,MS5.2,baz=333,slow=38
STKA Stephens Creek 87.31 127 *e*P **P 18 33 31.0 -2.4**
comp=Z,1.7nm,0.6s,mb4.5
STKA Stephens Creek 87.31 127 P **P 18 33 30.6 -2.9**
comp=Z,2.3nm,0.7s,mb4.5,baz=314,slow=9.8,SNR=4.5
STKA LR LR 19 13 21.4
comp=Z,2μm,21.0s,MS5.5,baz=293,slow=36
MCK McKinley 87.36 17 P **P 18 33 33.8 +0.2**
PMR Palmer 89.04 18 P **P 18 33 40.6 -1.1**
comp=Z,8.6nm,1.0s,mb5.0
PMR Palmer 89.04 18 P **P 18 33 40.6 -1.0**
PMR pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
DAWY Dawson 89.29 13 P **P 18 33 43.0 +0.2**
MAW Mawson 91.31 183 LR LR 19 06 56.9
comp=Z,895nm,20.7s,MS5.2,baz=17,slow=30
YKA Yellowknife Ar 93.91 3 P **P 18 34 03.6 -0.6**
comp=Z,1.3nm,0.9s,mb4.3,baz=346,slow=4.8,SNR=17
YKA LR LR 19 21 48.8
comp=Z,2μm,19.5s,MS5.5,baz=0.0,slow=39
YKA Yellowknife Ar 93.91 3 P **P 18 34 03.6 -0.6**
YKA LR LR 19 21 48.8
YKA Yellowknife Ar 93.91 3 *i*P **P 18 34 03.5 -0.7**
YKA pmax pmax
comp=Z,1.0nm,0.9s
SYO Syowa Base 95.28 191⇑ *e*P **P 18 34 10.3 -0.2**
SYO *e* 18 37 58.2
TAU Tasmania Unive 96.55 134 PFAKE 18 34 30.0 +14
TAU LR LR
comp=Z,1μm,19.0s,MS5.5
DRV Dumont d'Urvil 103.75 157 Pdif Pdif 18 34 47.0 -1.4
PDAR Pinedale Array 113.78 0 PKP PKiKP 18 39 25.6 +0.3
comp=Z,0.4nm,0.6s,baz=80,slow=3.2,SNR=4.0
PPT Papeete 141.72 89 *e*LR LR 19 26 27.7
comp=Z,562nm,24.5s
TBI Tubuai 143.09 98 *e*SS SS 19 02 08.9 +0.4
comp=Z,167nm,28.0s
TBI *e*LR LR 19 27 05.1
comp=Z,657nm,23.5s
TAOE Nuku Hiva Isla 146.82 69 *e*LR LR 19 28 53.4
comp=Z,1μm,22.0s
NNA Nana 147.22 285 *e*P PKPdf 18 40 32.0 +4.4
RKT Rikitea 156.26 94 *e*LR LR 19 33 12.3
comp=Z,471nm,25.8s

OTT 07 18:36:55.2±0.1, 7210N×9642W, h18km, MN3.4/6, 76km west from Fort Ross, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**2.63**	**9**	PN	Pn	18 37 37.0	+0.2
RES				SN	Sn	18 38 07.5	-0.8
RES				Trac		18 38 22.8	
comp=Z,47nm,0.1s							
PINU	**Pond Inlet**	**5.62**	**75**	PN	Pn	18 38 15.8	-2.1
PINU				SN	Sn	18 39 17.5	-4.4
QILN	**Qililugaq Expl**	**6.51**	**142**	PN	Pn	18 38 30.0	-0.1
QILN				SN	Sn	18 39 37.0	-6.9
QILN				Trac		18 40 34.5	
comp=Z,13nm,0.2s							
LUPN	**Lupin Mine**	**8.30**	**227**	PN	Pn	18 38 53.6	-1.1
LUPN				SN	Sn	18 40 20.1	-7.9
EUNU	**Eureka**	**8.33**	**12**	PN	Pn	18 38 54.7	-0.3
EUNU				SN	Sn	18 40 21.4	-7.2
TULEG	**Thule**	**8.61**	**46**	PN	Pn	18 38 58.6	-0.3
TULEG				SN	Sn	18 40 28.8	-6.7
COWN	**Contwyoto Lake**	**8.69**	**225**	PN	Pn	18 38 58.6	-1.3
COWN				SN	Sn	18 40 31.0	-6.4
COWN				Trac		18 41 29.6	
comp=Z,14nm,0.3s							
GLWN	**Glow Worm Lake**	**8.78**	**219**	PN	Pn	18 39 00.4	-0.8
GLWN				SN	Sn	18 40 33.8	-5.9
GLWN				Trac		18 41 39.6	
comp=Z,15nm,0.3s							
YNEN	**Yamba Lake Nor**	**8.81**	**224**	PN	Pn	18 39 00.9	-0.8
YNEN				SN	Sn	18 40 33.0	-7.5
ACKN	**Achilles Lake**	**8.86**	**224**	PN	Pn	18 39 01.0	-1.3
ACKN				SN	Sn	18 40 34.9	-6.7
EKTN	**Ekati Mine**	**9.06**	**222**	PN	Pn	18 39 05.0	-0.1
EKTN				SN	Sn	18 40 38.9	-7.7
YMBN	**Yamba Lake**	**9.10**	**225**	PN	Pn	18 39 04.4	-1.2
YMBN				SN	Sn	18 40 39.9	-7.7
DVKN	**Diavik Mine**	**9.17**	**221**	PN	Pn	18 39 05.6	-0.9
DVKN				SN	Sn	18 40 41.4	-7.8
MCKN	**MacKay Lake No**	**9.43**	**220**	PN	Pn	18 39 09.1	-1.0
MCKN				SN	Sn	18 40 47.9	-7.6
YRTN	**Rankin Inlet**	**9.48**	**168**	PN	Pn	18 39 10.7	-0.1
YRTN				SN	Sn	18 40 50.0	-6.8
MLON	**Marlo Lake**	**9.57**	**218**	PN	Pn	18 39 10.7	-1.3
MLON				SN	Sn	18 40 51.3	-7.8
KNDN	**Kennady Lake**	**9.94**	**215**	PN	Pn	18 39 16.3	-0.9
KNDN				SN	Sn	18 41 00.7	-7.6
SNPN	**Snap Lake**	**10.17**	**219**	PN	Pn	18 39 18.9	-1.4
SNPN				SN	Sn	18 41 05.7	-8.2
ILKN	**Indian Lake**	**10.48**	**230**	PN	Pn	18 39 23.1	-1.4
CTLN	**Castor Lake**	**10.52**	**233**	PN	Pn	18 39 23.9	-1.2
CTLN				SN	Sn	18 41 12.9	-10
GALN	**Gameti Lake**	**11.10**	**234**	PN	Pn	18 39 31.0	-2.1
GALN				SN	Sn	18 41 26.3	-10
YKB9	**Yellowknife Ar**	**11.78**	**225**	Trac		18 43 17.1	
comp=Z,13nm,0.7s							
YKW3	**Yellowknife Ar**	**11.80**	**225**	PN	Pn	18 39 39.6	-2.9
YKW3				SN	Sn	18 41 44.0	-10
YKW3				Trac		18 43 13.6	
comp=Z,5.9nm,0.4s							
INK	**Inuvik**	**12.96**	**271**	PN	Pn	18 39 57.2	-1.2
INK				SN	Sn	18 42 10.0	-12

IDC 07 18:39:19.0±2.3, 213N×12719E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=193.0km s-min=24.6km az=67.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.03**	**163**	P	P	18 44 24.2	-1.4
0.5nm,0.5s,baz=341,slow=10,SNR=8.5							
ASAR	**Alice Springs**	**26.46**	**166**	P	P	18 44 59.1	+1.5
0.2nm,0.3s,baz=345,slow=11,SNR=12							
MKAR	**Makanchi Array**	**59.12**	**326**	P	P	18 49 21.4	+0.2
0.5nm,0.6s,baz=122,slow=8.6,SNR=8.0							

*ISCJB **07** 19:17:01.2±1.0, 3347N×005×14101E±009, h63km±11km, mb3.5/2, Error ellipse: s-maj=12.9km s-min=7.0km az=34.0*
*JMA **07** 19:17:01.7±0.2, 3351N×14099E, h56km, M3.0*
*IDC **07** 19:17:03.0±4.3, 3341N×14096E, h56km±39km, mb3.1/2, mb1 3.4/3, mb1mx3.0/18, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=50.3km s-min=12.9km az=88.0*
ISC 07 19:17:02.0±1.2, 3345N±005×14104E±010, h47km±16km, n15, σ0§69/22, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.08**	**252**	P	**Pn**	**19 17 20.7**	**0.0**
JHJ2				S	**Sn**	**19 17 34.8**	**+0.3**
JHJ	**Hachijo jima 2**	**1.10**	**253**	P	**Pn**	**19 17 21.0**	**0.0**
186nm,0.3s,baz=75,slow=22,SNR=89							
JHJ				S	**Sn**	**19 17 34.5**	**-0.5**
58nm,0.3s,baz=62,slow=21,SNR=6.7							
BSO1	**Boso 1**	**1.20**	**358**	P	**Pn**	**19 17 21.7**	**-0.7**
BSO1				S	**Sn**	**19 17 37.2**	**-0.3**
BSO2	**Boso 2**	**1.32**	**350**	S	**Sn**	**19 17 40.3**	**-0.1**
BSO3	**Boso 3**	**1.42**	**342**	P	**Pn**	**19 17 25.1**	**-0.2**
NJJJ	**Nii jima 2**	**1.74**	**304**	P	**Pn**	**19 17 29.4**	**-0.4**
JKO	**Kozu shima**	**1.75**	**295**	P	**Pn**	**19 17 29.6**	**-0.2**
JKO				*e*S	**Sn**	**19 17 50.5**	**-0.4**
JIZS	**Izushimoda**	**2.19**	**306**	P	**Pn**	**19 17 36.1**	**+0.1**
JOD2	**Odawara 2**	**2.42**	**319**	P	**Pn**	**19 17 38.8**	**-0.3**
JOD2				S	**Sn**	**19 18 05.5**	**-2.1**
SHZ3	**Shizuoka 3**	**2.84**	**305**	P	**Pn**	**19 17 46.1**	**+1.2**
JYN	**Shimoda**	**2.90**	**315**	P	**Pn**	**19 17 47.1**	**+1.4**
MJAR	**Matsushiro Arr**	**3.86**	**324**	P	**Pn**	**19 17 59.5**	**+0.6**
1.8nm,0.3s,baz=143,slow=12,SNR=12							
MJAR				S	**Sn**	**19 18 43.5**	**+0.6**
0.8nm,0.3s,baz=7.6,slow=16,SNR=3.0							
MAT	**Matsushiro**	**3.86**	**324**	P	**Pn**	**19 17 59.8**	**+0.9**
MAT				S	**Sn**	**19 18 43.5**	**+0.5**
WRA	**Warramunga Arr**	**53.48**	**188**	P	**P**	**19 26 17.0**	**-0.5**
0.2nm,0.3s,mb3.5,baz=6.2,slow=7.6,SNR=17							
ASAR	**Alice Springs**	**57.20**	**188**	P	**P**	**19 26 44.2**	**0.0**
0.3nm,0.8s,mb3.4,baz=10,slow=4.2,SNR=4.6							

*IDC **07** 19:24:06.7±2.2, 4059S×7825E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/15, mbtmp4.2/6, MS4.3/13, Ms1 4.2/13, ms1mx4.1/21, Error ellipse: s-maj=70.5km s-min=30.8km az=41.0*
*ISCJB **07** 19:24:08.2±0.5, 403S±01×787E±01, h10km, mb4.5/18, MS4.3/13, Error ellipse: s-maj=15.8km s-min=13.3km az=88.2*
*MOS **07** 19:24:08.5±1.8, 4025S×7876E, h10km, mb4.8/9, Error ellipse: s-maj=24.3km s-min=22.0km az=79.3*
*NEIC **07** 19:24:10.0±0.5, 4024S×7866E, h10km, mb4.7/12, Error ellipse: s-maj=15.4km s-min=12.9km az=45.0*
ISC 07 19:24:09.9±0.5, 402S±01×787E±01, h10km, n44, σ1§17/28, mb4.5/18, MS4.3/13, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**28.77**	**193**	LR	LR	19 39 06.9	
comp=Z,593nm,18.4s,MS4.2,baz=40,slow=32							
NWAO	**Narrogin (SRO)**	**31.62**	**89**	LR	LR	19 40 12.5	
comp=Z,529nm,21.3s,MS4.2,baz=252,slow=30							
CASY	**Casey**	**31.63**	**156**	P	**P**	**19 30 31.8**	**-1.2**
35nm,1.2s,mb5.1							
BOSA	**Boshof**	**44.96**	**268**	LR	LR	19 48 03.8	
comp=Z,342nm,18.3s,MS4.3,baz=143,slow=32							
PSI	**Prapat**	**46.67**	**28**	P	**P**	**19 32 40.8**	**+2.2**
1.9nm,0.4s,mb4.4,baz=181,slow=9.6,SNR=3.3							
ASAR	**Alice Springs**	**48.92**	**88**	P	**P**	**19 32 57.5**	**+1.5**
1.9nm,0.8s,mb4.2,baz=243,slow=5.9,SNR=24							
ASAR				PcP	PcP	19 34 20.5	+0.2
1.4nm,0.8s,baz=232,slow=3.3,SNR=12							
VNDA	**Vanda**	**49.62**	**164**	LR	LR	19 51 02.6	
comp=Z,296nm,20.8s,MS4.3,baz=272,slow=33							
VNDA	**Vanda**	**49.62**	**164**	P	**P**	**19 33 02.0**	**+0.6**
26nm,1.3s,mb5.1							
VNDA	**Vanda**	**49.62**	**164**	P	**P**	**19 33 02.0**	**+0.6**
VNDA				pmax	pmax		
comp=Z,26nm,1.3s							
QSPA	**South Pole Qui**	**49.92**	**180**	*e*P	**P**	**19 33 04.4**	**+0.7**
comp=Z,18nm,1.2s,mb5.0							
LSZ	**Lusaka**	**50.32**	**285**	*e*P	**P**	**19 33 07.7**	**+1.0**
comp=Z,11nm,1.1s,mb4.8							
LSZ	**Lusaka**	**50.32**	**285**	*e*P	**P**	**19 33 07.7**	**+1.0**
LSZ				pmax	pmax		
comp=Z,11nm,1.1s,mb4.8							
STKA	**Stephens Creek**	**50.60**	**101**	P	**P**	**19 33 08.8**	**-0.1**
comp=Z,7.0nm,1.1s,mb4.5,baz=253,slow=6.5,SNR=7.5							
STKA				LR	LR	19 49 35.9	
comp=Z,362nm,21.2s,MS4.4,baz=109,slow=30							
STKA	**Stephens Creek**	**50.60**	**101**	*e*P	**P**	**19 33 08.1**	**-0.8**
STKA				LR	LR	19 49 35.9	
WRA	**Warramunga Arr**	**51.36**	**84**	P	**P**	**19 33 15.2**	**+0.6**
comp=Z,1.3nm,0.7s,mb3.9,baz=233,slow=7.5,SNR=10							
WRA				PcP	PcP	19 34 29.5	+0.2
comp=Z,1.1nm,0.6s,baz=234,slow=2.9,SNR=20							
WRAB	**Tennant Creek**	**51.38**	**84**	P	**P**	**19 33 15.6**	**+0.9**
comp=Z,3.5nm,0.8s,mb4.3							
WRAB	**Tennant Creek**	**51.38**	**84**	P	**P**	**19 33 15.6**	**+0.9**
WRAB				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
KMBO	**Kilima Mbogo**	**54.09**	**305**	LR	LR	19 51 58.9	
comp=Z,98nm,18.7s,MS3.9,baz=84,slow=31							
TSUM	**Tsumeb**	**55.94**	**273**	*e*P	**P**	**19 33 48.8**	**+0.7**
comp=Z,7.0nm,1.3s,mb4.5							
TSUM				*e*		19 33 57.1	
CTA	**Charters Tower**	**60.39**	**92**	LR	LR	20 00 12.9	
comp=Z,147nm,18.2s,MS4.2,baz=234,slow=36							
CTAO	**Charters Tower**	**60.39**	**92**	P	**P**	**19 34 18.3**	**-0.9**
comp=Z,20nm,1.4s,mb5.0							
CTAO	**Charters Tower**	**60.39**	**92**	P	**P**	**19 34 18.3**	**-0.9**
CTAO				pmax	pmax		
comp=Z,20nm,1.4s,mb5.0							
RPZ	**Rata Peaks**	**65.16**	**127**	LR	LR	19 58 00.5	
comp=Z,223nm,19.2s,MS4.4,baz=351,slow=31							
PMG	**Port Moresby**	**67.57**	**83**	LR	LR	20 03 53.2	
comp=Z,160nm,18.1s,MS4.3,baz=244,slow=35							
PMG	**Port Moresby**	**67.57**	**83**	P	**P**	**19 35 03.6**	**-2.9**
comp=Z,13nm,0.9s,mb5.0							
PMG	**Port Moresby**	**67.57**	**83**	P	**P**	**19 35 03.6**	**-2.9**
PMG				pmax	pmax		
comp=Z,13nm,0.9s							
LSA	**Lhasa**	**70.54**	**11**	P	**P**	**19 35 26.0**	**+1.1**
comp=Z,2.9nm,0.9s,mb4.2							
LSA	**Lhasa**	**70.54**	**11**	P	**P**	**19 35 26.0**	**+1.1**
LSA				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
DZM	**Mont Dzumac**	**74.45**	**106**	LR	LR	20 02 12.5	
comp=Z,197nm,18.7s,MS4.4,baz=14,slow=31							
HNR	**Honiara**	**77.33**	**92**	LR	LR	20 08 27.1	
comp=Z,200nm,18.1s,MS4.5,baz=178,slow=34							
AAK	**Ala-Archa**	**82.58**	**357**	*e*P	**P**	**19 36 32.6**	**-0.5**
comp=Z,5.0nm,1.2s,mb4.4							
AAK	**Ala-Archa**	**82.58**	**357**	*e*P	**P**	**19 36 32.6**	**-0.5**
AAK				pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.4							
MALT	**Malatya**	**86.42**	**329**	P	**P**	**19 36 50.5**	**-2.0**
comp=Z,2.7nm,0.8s,mb4.5							
MALT	**Malatya**	**86.42**	**329**	P	**P**	**19 36 50.5**	**-2.0**
MALT				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.6							
MKAR	**Makanchi Array**	**86.71**	**2**	P	**P**	**19 36 53.2**	**-0.7**
comp=Z,1.3nm,0.8s,mb4.2,baz=168,slow=6.0,SNR=8.2							
MKAR				LR	LR	20 12 31.0	
comp=Z,155nm,19.6s,MS4.4,baz=7.8,slow=33							
DBIC	**Dimbokro**	**89.35**	**279**	LR	LR	20 09 54.4	
comp=Z,185nm,21.5s,MS4.5,baz=43,slow=31							
KURK	**Kurchatov**	**90.57**	**360**	P	**P**	**19 37 11.1**	**-1.2**
comp=Z,2.1nm,1.1s,mb4.4							
KURK	**Kurchatov**	**90.57**	**360**	P	**P**	**19 37 11.1**	**-1.2**
KURK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.4							
SONM	**Songino Array**	**91.08**	**18**	P	**P**	**19 37 14.0**	**-0.6**
comp=Z,0.5nm,0.6s,mb4.0,baz=206,slow=4.7,SNR=6.5							
RES	**Resolute Bay**	**145.33**	**357**	*e*PKPdf	PKPdf	19 43 47.1	-0.8
INK	**Inuvik**	**146.94**	**21**	PKPbc	PKPbc	19 43 51.2	-1.4
comp=Z,5.1nm,1.0s,baz=339,slow=5.7,SNR=12							
INK	**Inuvik**	**146.94**	**21**	PKPbc	PKPbc	19 43 51.2	-1.4
INK				*e*PKPdf	PKPdf	19 43 51.4	+0.7
YKA	**Yellowknife Ar**	**156.32**	**15**	PKPab	PKPab	19 44 31.4	-1.5
comp=Z,0.2nm,0.5s,baz=333,slow=4.4,SNR=5.7							
YKA	**Yellowknife Ar**	**156.32**	**15**	PKP2	PKPab	19 44 31.4	-1.5

*IDC **07** 19:26:38.1±2.5, 5444N×15993W, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.3/21, mbtmp3.3/5, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/18, Error ellipse: s-maj=57.3km s-min=25.8km az=149.0*

*ISCJB **07** 19:26:42.4±1.5, 550N±0.1×1597W±0.1, h34km±16km, mb3.1/3, Error ellipse: s-maj=20.0km s-min=7.6km az=127.8*

*NEIC **07** 19:26:48.3, 5507N×16004W, h23km, ML3.4(AEIC), After AEIC.*

ISC 07 19:26:44.9±2.5, 550N±01×1598W±01, h34km±14km, n11, σ0§92/16, mb3.1/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.52**	**310**	P	**Pn**	**19 26 55.9**	**0.0**
SDPT				S	**Sb**	**19 27 03.6**	**+0.3**
UNV	**Unalaska Valle**	**4.10**	**256**	*e*Pn	**Pn**	**19 27 44.0**	**-1.0**
UNV				*e*Sn	**Sn**	**19 28 31.6**	**-0.1**
KDAK	**Kodiak Island**	**4.86**	**52**	Pn	**Pn**	**19 27 56.6**	**+1.1**
KDAK	0.9nm,0.3s,baz=262,slow=20,SNR=28			Sn	**Sn**	**19 28 49.3**	**-1.4**
KDAK	1.6nm,0.3s,baz=313,slow=19,SNR=2.9			LR	LR	19 29 54.7	
KDAK	**Kodiak Island**	**4.86**	**52**	Pn	**Pn**	**19 27 56.6**	**+1.1**
KDAK	comp=Z,380nm,20.3s,baz=272,slow=37			Sn	**Sn**	**19 28 49.3**	**-1.4**
ILAR	**Eielson Array**	**11.70**	**28**	Pn	**Pn**	**19 29 28.3**	**-1.0**
ILAR	0.1nm,0.3s,baz=219,slow=14,SNR=5.2			Sn	**Sn**	**19 31 38.9**	**+0.3**
INK	**Inuvik**	**18.02**	**32**	P	**Pn**	**19 30 52.0**	**-0.5**
YKA	0.2nm,0.3s,baz=209,slow=8.4,SNR=11 **Yellowknife Ar**	**24.14**	**54**	P	**P**	**19 31 58.8**	**+1.2**
	0.1nm,0.6s,mb2.4,baz=277,slow=9.8,SNR=3.7						
YKA	**Yellowknife Ar**	**24.14**	**54**	P	**P**	**19 31 58.8**	**+1.2**
SONM	**Songino Array**	**54.67**	**305**	P	**P**	**19 36 10.0**	**-0.4**
	0.2nm,0.6s,mb3.3,baz=56,slow=6.7,SNR=4.0						
AKASG	**Malin Array Be**	**74.38**	**354**	P	**P**	**19 38 20.9**	**+1.8**
	0.3nm,0.3s,mb3.7,baz=7.4,slow=5.7,SNR=3.6						
AKASG	**Malin Array Be**	**74.38**	**354**	P	**P**	**19 38 20.9**	**+1.8**

*IDC **07** 19:31:11.1±44.0, 3447N×7150E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/19, mbtmp3.8/3, Error ellipse: s-maj=807.1km s-min=218.4km az=149.0*

*ISCJB **07** 19:31:19.8±4.5, 350N±06×71E±, h33km, mb3.7/3, Error ellipse: s-maj=196.9km s-min=57.5km az=139.0*

*NNC **07** 19:31:53.7±0.9, 3694N×6941E, h106km±90km, mb3.0, mpv3.5, Error ellipse: s-maj=90.1km s-min=9.1km az=96.0*

ISC 07 19:31:21.2±4.5, 351N±07×71E±, h35km, n7, σ0§19/8, mb3.7/3, 3C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.05**	**357**	P	**Pn**	**19 33 22.9**	**+7.4**
KK31	1.1nm,0.2s,baz=177,slow=10,SNR=95			⇑S	**Sn**	**19 34 33.2**	**-12**
AB31	3.0nm,0.5s,baz=191,slow=23,SNR=11 **Akbulak array**	**16.41**	**333**	⇑P	**Pn**	**19 35 08.6**	**-0.2**
AKTO	0.6nm,0.3s,baz=149,slow=13,SNR=25 **Aktyubinsk**	**18.10**	**332**	⇑P	**Pn**	**19 35 29.8**	**+0.1**
FINES	1.4nm,2.3s **FINES Array B**	**38.75**	**327**	P	**P**	**19 38 42.2**	**+0.2**
ARCES	0.4nm,0.4s,mb3.5,baz=123,slow=10,SNR=5.6 **ARCES Array B**	**42.52**	**338**	P	**P**	**19 39 13.2**	**0.0**
ARCES	0.9nm,0.5s,mb3.8,baz=116,slow=8.1,SNR=6.1 **ARCES Array B**	**42.52**	**338**	P	**P**	**19 39 13.2**	**0.0**
ARCES	comp=Z,1.0nm,0.5s			pmax	pmax		
NOA	**NORSAR Array B**	**45.60**	**324**	P	**P**	**19 39 37.8**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=97,slow=7.8,SNR=3.0						

*MOS **07** 19:32:42.3±1.0, 235N×12724E, h33km, mb4.9/4, Error ellipse: s-maj=35.9km s-min=12.1km az=113.8*

*NEIC **07** 19:32:50.0±2.2, 225N×12729E, h93km±20km, mb4.5/11, Error ellipse: s-maj=20.2km s-min=5.7km az=69.0*

*ISCJB **07** 19:32:53.1±2.8, 223N±009×127.1E±0.1, h137km±25km, mb4.3/23, Error ellipse: s-maj=26.1km s-min=8.4km az=124.1*

*IDC **07** 19:32:53.7±3.9, 214N×12723E, h124km±34km, mb4.1/7, mb1 4.2/7, mb1mx3.9/15, mbtmp4.4/7, Error ellipse: s-maj=132.5km s-min=11.5km az=69.0*

ISC 07 19:32:52.4±2.4, 223N±007×1272E±01, h115km±21km, n38, σ0§84/40, mb4.5/23, 5C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.60**	**289**	*e*Pn	**Pn**	**19 35 33.5**	**-0.9**
KAKA	**Kakadu**	**15.73**	**161**	*e*P	**Pn**	**19 36 31.1**	**+3.6**
	20nm,0.6s						
KSM	**Kuching**	**16.91**	**268**	Pn	**Pn**	**19 36 41.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.26**	**184**	*e*P	**P**	**19 37 18.7**	**0.0**
	9.6nm,0.6s						
WRAB	**Tennant Creek**	**23.11**	**163**	*e*P	**P**	**19 37 48.2**	**-0.1**
	30nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**23.11**	**163**	*c i*P	**P**	**19 37 48.3**	**0.0**
WRA	**Warramunga Arr**	**23.12**	**163**	P	**P**	**19 37 48.2**	**-0.2**
	12nm,0.5s,mb4.5,baz=333,slow=11,SNR=150			PcP	PcP	19 41 34.7	+1.2
WRA	0.2nm,0.6s,baz=330,slow=2.3,SNR=6.8			S	**S**	**19 41 49.7**	**-1.1**
WRA	0.6nm,1.0s,baz=345,slow=16,SNR=2.7						
WB2	**Warramunga Arr**	**23.12**	**163**	⇑*i*P	**P**	**19 37 48.4**	**0.0**
WB2				*e*S	**S**	**19 41 51.7**	**+0.8**
MBWA	**Marble Bar**	**24.37**	**197**	*e*P	**P**	**19 37 59.9**	**+0.1**
	20nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**26.55**	**166**	P	**P**	**19 38 19.8**	**+0.2**
	2.2nm,0.6s,mb3.9,baz=351,slow=7.5,SNR=56			PcP	PcP	19 41 42.6	+1.6
ASAR	2.5nm,0.5s,baz=352,slow=2.3,SNR=25						
ENH	**Enshi**	**32.56**	**331**	*e*P	**P**	**19 39 12.1**	**-0.5**
	7.6nm,0.8s,mb4.6						
KLBR	**Kellerberrin**	**34.81**	**194**	*e*P	**P**	**19 39 32.8**	**+0.7**
	54nm,1.7s,mb5.1						
MUN	**Mundaring**	**35.59**	**196**	*e*P	**P**	**19 39 39.2**	**+0.4**
MJAR	**Matsushiro Arr**	**35.62**	**15**	P	**P**	**19 39 46.9**	**+7.7**
	0.9nm,0.6s,mb3.9,baz=183,slow=9.8,SNR=4.0						
STKA	**Stephens Creek**	**36.57**	**159**	⇑*i*P	**P**	**19 39 45.7**	**-1.4**
	18nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**36.57**	**159**	P	**P**	**19 39 46.0**	**-1.1**
	18nm,0.7s,mb5.1,baz=333,slow=7.8,SNR=51						
STKA	**Stephens Creek**	**36.57**	**159**	*e*P	**P**	**19 39 45.7**	**-1.4**
LSA	**Lhasa**	**43.79**	**312**	*e*P	**P**	**19 40 48.1**	**+1.4**
	3.5nm,0.6s,mb4.3						
LSA	**Lhasa**	**43.79**	**312**	*e*P	**P**	**19 40 48.1**	**+1.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
JIRN	**Jiri**	**46.64**	**307**	*e*P	**P**	**19 41 09.5**	**+0.3**
	comp=Z,6.3nm,0.5s,mb4.6						
GUN	**Gumba**	**46.99**	**307**	*e*P	**P**	**19 41 12.4**	**+0.4**
	comp=Z,12nm,0.5s,mb4.9						
PKI	**Pulchoki**	**47.23**	**306**	*e*P	**P**	**19 41 13.8**	**0.0**
KKN	**Kakani**	**47.42**	**306**	*e*P	**P**	**19 41 15.8**	**+0.5**
	comp=Z,4.6nm,0.5s,mb4.5						
GKN	**Gorkha**	**48.03**	**306**	*e*P	**P**	**19 41 20.1**	**+0.1**
	comp=Z,8.3nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**48.68**	**342**	*e*P	**P**	**19 41 25.4**	**+0.4**
	comp=Z,1.9nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**48.68**	**342**	⇑*e*P	**P**	**19 41 26.0**	**+1.0**
KOLN	**Koldanda**	**48.77**	**306**	*e*P	**P**	**19 41 24.8**	**-0.9**
	comp=Z,9.0nm,0.8s,mb4.8						
SONM	**Songino Array**	**48.86**	**341**	P	**P**	**19 41 27.4**	**+1.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=157,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**59.05**	**326**	P	**P**	**19 42 41.2**	**+0.8**
	comp=Z,1.7nm,0.5s,mb4.3,baz=118,slow=7.8,SNR=35						
YAK	**Yakutsk**	**59.69**	**1**	*e*P	**P**	**19 42 44.3**	**-0.4**
	comp=Z,21nm,0.8s,mb5.2						
YAK	**Yakutsk**	**59.69**	**1**	*e*P	**P**	**19 42 44.3**	**-0.5**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
KURK	**Kurchatov**	**63.25**	**328**	*e*P	**P**	**19 43 08.9**	**+0.2**
	comp=Z,7.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**63.25**	**328**	*c i*P	**P**	**19 43 09.1**	**+0.4**
BVAR	**Borovoye Array**	**68.83**	**327**	P	**P**	**19 43 44.9**	**+0.5**
	comp=Z,1.1nm,0.6s,mb3.8,baz=219,slow=38,SNR=7.8						
ARU	**Arti**	**76.45**	**328**	P	**P**	**19 44 28.4**	**-1.1**
	comp=Z,1.9nm,0.7s,mb3.9						
ARU	**Arti**	**76.45**	**328**	P	**P**	**19 44 28.4**	**-1.1**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
OBN	**Obninsk**	**88.56**	**325**	*e*P	**P**	**19 45 29.2**	**-3.0**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
ARCES	**ARCESS Array B**	**92.01**	**340**	P	**P**	**19 45 46.9**	**-1.4**
	comp=Z,5.0nm,1.1s,mb4.7,baz=79,slow=4.7,SNR=4.3						

IDC 07 19:35:28.8±3.9, 687N×7312W, h158km±46km, mb1 3.6/2, mb1mx2.9/21, mbtmp4.0/2, Error ellipse: s-maj=300.3km s-min=8.0km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**211**	P	Pn	19 36 09.9	+1.7
	18nm,0.3s,baz=82,slow=18,SNR=34						
ROSC				S	Sn	19 36 39.8	+1.2
	29nm,0.3s,baz=76,slow=20,SNR=18						
SDV	**Santo Domingo**	**3.18**	**51**	P	Pn	19 36 20.0	+1.3
	18nm,0.3s,baz=255,slow=13,SNR=72						
SDV				S	Sn	19 36 57.7	+0.4
	8.0nm,0.3s,baz=8.8,slow=8.3,SNR=8.5						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	PKPbc	19 54 58.9	+0.6
	0.2nm,0.4s,baz=134,slow=3.7,SNR=5.3						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	PKPbc	19 55 01.9	+0.6
	0.3nm,0.6s,baz=106,slow=3.0,SNR=8.5						

IDC 07 19:39:18.4±0.8, 677N×7302W, h157km±17km, mb3.1/1, mb1 3.3/3, mb1mx3.0/21, mbtmp3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.6/10, Error ellipse: s-maj=66.4km s-min=7.8km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.30**	**214**	P	Pn	19 39 59.6	+2.1
	12nm,0.3s,baz=92,slow=24,SNR=34						
ROSC				S	Sn	19 40 28.6	+1.0
	31nm,0.3s,baz=84,slow=19,SNR=11						
SDV	**Santo Domingo**	**3.17**	**48**	P	Pn	19 40 09.5	+1.3
	2.7nm,0.3s,baz=269,slow=5.0,SNR=6.8						
SDV				S	Sn	19 40 47.2	+0.5
	6.4nm,0.3s,baz=116,slow=20,SNR=16						
SDV				LR	LR	19 41 16.6	
	comp=Z,201nm,20.6s,baz=141,slow=37						
YKA	**Yellowknife Ar**	**63.35**	**340**	P	P	19 49 30.5	-0.3
	0.4nm,0.6s,baz=131,slow=6.6,SNR=9.0						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	PKPbc	19 58 51.8	+0.6
	0.3nm,0.9s,baz=108,slow=2.5,SNR=6.4						

*IDC **07** 19:39:57.6±1.6, 084N×9738E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML3.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/15, Error ellipse: s-maj=51.0km s-min=20.6km az=59.0*

*BJI **07** 19:39:58.4, 080N×9740E, h30km, mB5.2, mb4.6*

*ISCJB **07** 19:39:59.9±0.8, 083N±009×974E±0.1, h33km, mb4.0/9, Error ellipse: s-maj=18.1km s-min=12.0km az=150.6*

*NEIC **07** 19:40:01.5±0.6, 081N×9737E, h30km, mb4.1/3, Error ellipse: s-maj=13.6km s-min=9.1km az=74.0*

ISC 07 19:40:02.5±0.8, 085N±009×974E±01, h35km, n15, σ0§74/14, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.44**	**37**	Pn	**Pn**	**19 40 38.8**	**-1.0**
	5.6nm,0.3s,baz=232,slow=6.4,SNR=9.5						
KULM	**Kulim**	**5.45**	**36**	*e*Pn	**Pn**	**19 41 21.3**	**+0.1**
KKM	**Kota Kinabalu**	**19.43**	**74**	*e*P	**Pn**	**19 44 27.4**	**+0.3**
LSA	**Lhasa**	**29.31**	**349**	P	**P**	**19 46 02.0**	**+0.4**
	5.7nm,1.0s,mb4.3						
XAN	**Xi'an**	**34.72**	**17**	P	**P**	**19 46 48.2**	**-0.9**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**41.65**	**122**	P	**P**	**19 47 47.9**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.3,baz=299,slow=9.0,SNR=8.8						
ASAR	**Alice Springs**	**43.00**	**127**	P	**P**	**19 47 59.6**	**+1.2**
	comp=Z,0.8nm,0.8s,mb3.5,baz=300,slow=7.4,SNR=12						
SONM	**Songino Array**	**47.44**	**8**	P	**P**	**19 48 33.6**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.8,baz=190,slow=8.7,SNR=11						
ULN	**Ulaanbaatar**	**47.56**	**9**	P	**P**	**19 48 34.7**	**+0.1**
	comp=Z,1.8nm,1.2s,mb4.0						
MKAR	**Makanchi Array**	**47.63**	**346**	P	**P**	**19 48 36.0**	**+0.8**
	comp=Z,1.6nm,0.5s,mb4.3,baz=160,slow=8.7,SNR=29						
GUMO	**Guam**	**48.61**	**73**	LR	LR	20 09 01.8	
	comp=Z,56nm,21.7s,baz=85,slow=36						
KURK	**Kurchatov**	**52.19**	**345**	*e*P	**P**	**19 49 10.0**	**+0.3**
	comp=Z,2.8nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**52.95**	**132**	*e*P	**P**	**19 49 15.0**	**-0.3**
BVAR	**Borovoye Array**	**56.65**	**341**	P	**P**	**19 49 42.1**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=122,slow=7.0,SNR=5.9						
CASY	**Casey**	**67.64**	**174**	P	**P**	**19 50 54.0**	**-1.8**

MAN 07 19:44:00.8, 1070N×12539E, h52km, mb1.9, ML3.6, MS3.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.61**	**319**	*e*P	Pn	19 44 15.1	+1.6
PLP				*e*S	Sn	19 44 25.5	+2.9
MSLP	**Maasin**	**0.77**	**223**	*e*P	Pn	19 44 17.7	+2.2
MSLP				*e*S	Sn	19 44 29.2	+3.0
BESP	**Borongan**	**0.90**	**3**	*e*P	Pn	19 44 18.3	+1.1
BESP				*e*S	Sn	19 44 31.3	+2.1
SCPH	**Surigao**	**0.92**	**174**	⇓*e*P	Pn	19 44 17.0	-0.5

*ISCJB **07** 20:34:08.7±0.8, 4183N±003×7735E±003, h1km±5km, mb4.2/24, MS3.8/4, Error ellipse: s-maj=4.7km s-min=3.6km az=45.7*

*IDC **07** 20:34:09.2±0.8, 4175N×7728E, h0km, mb4.0/11, mb1 4.2/14, mb1mx4.0/24, mbtmp4.0/14, ML4.0/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/33, Error ellipse: s-maj=14.2km s-min=14.0km az=141.0*

*NNC **07** 20:34:12.9±1.3, 4211N×7724E, h0km, mb4.4, mpv4.5, Error ellipse: s-maj=12.0km s-min=7.7km az=172.0*

*KNET **07** 20:34:12.3±0.6, 4187N×7703E, h11km±2km, ml4.4, Error ellipse: s-maj=3.4km s-min=3.1km az=23.0*

*NEIC **07** 20:34:13.2±0.4, 4175N×7718E, h30km, mb4.3/11, Error ellipse: s-maj=9.9km s-min=6.4km az=51.0*

NEIC Felt [II] at Almaty, Kazakhstan.

*MOS **07** 20:34:13.8±1.7, 4199N×7726E, h33km, mb4.3/10, Error ellipse: s-maj=10.0km s-min=5.8km az=105.4*

MOS Felt (II) at Alma-Ata.

*BJI **07** 20:34:14.7, 4199N×7743E, h25km, mB4.8, mb4.4, ML4.5, Ms4.2, Msz3.9*

ISC 07 20:34:10.5±0.8, 4185N±003×7728E±003, h3km±5km, n98, σ1§49/125, mb4.2/24, MS3.8/4, 12C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.87**	**298**	P	**Pg**	**20 34 25.9**	**-1.2**
	1μm,0.2s,SNR=1672						
ULHL				⇑S	**Sg**	**20 34 36.9**	**-1.5**
	3μm,0.2s						
KNDC	**Almaty**	**1.39**	**351**	⇓P	**Pn**	**20 34 37.1**	**+0.3**
KNDC				⇓S	**Sb**	**20 34 56.5**	**+1.4**
AAA	**Alma-Ata**	**1.44**	**350**	*e*PG	**Pg**	**20 34 37.3**	**-0.9**
AAA				*i* S	**Sb**	**20 34 56.2**	**-0.6**
AAA				pmax	pmax		
	comp=Z,24nm,0.2s						
AAA				smax			
	comp=N,25nm,0.4s						
KZA	**Kyzart**	**1.53**	**279**	⇓P	**Pn**	**20 34 37.3**	**-1.4**
	comp=N,672nm,0.2s,SNR=1462						
KZA				⇑S	**Sn**	**20 34 56.9**	**-2.2**
	comp=N,4μm,0.4s						
TKM2	**Tokmak 2**	**1.64**	**311**	P	**Pn**	**20 34 40.3**	**0.0**
	comp=N,2μm,0.2s,SNR=3436						
TKM2				⇑S	**Sn**	**20 35 02.0**	**+0.1**
	comp=N,2μm,0.1s						
TKM2	**Tokmak 2**	**1.64**	**311**	⇓P	**Pn**	**20 34 40.3**	**0.0**
	comp=N,1μm,0.3s						
TKM2				⇓S	**Sn**	**20 35 01.6**	**-0.3**
	comp=N,996nm,0.4s						
TKM2	**Tokmak 2**	**1.64**	**311**	P*	**Pb**	**20 34 40.3**	**-1.1**
TKM2				S	**Sn**	**20 35 01.5**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,1μm,0.3s						
KBK	**Karagaybulak**	**1.91**	**296**	P	**Pn**	**20 34 44.8**	**+0.9**
	comp=Z,3μm,0.6s,SNR=1406						
KBK				⇑S	**Sn**	**20 35 09.6**	**+1.1**
	comp=Z,3μm,0.3s						
UCH	**Uchtor**	**2.09**	**281**	⇑P	**Pn**	**20 34 47.6**	**+1.1**
	comp=Z,640nm,0.4s,SNR=1197						
UCH				⇓S	**Sn**	**20 35 15.4**	**+2.3**
	comp=Z,2μm,0.5s						
CHMS	**Chumysh**	**2.19**	**302**	P	**Pn**	**20 34 49.4**	**+1.5**
	comp=Z,1μm,0.3s,SNR=1532						
CHMS				⇑S	**Sn**	**20 35 18.5**	**+3.0**
	comp=Z,1μm,0.2s						
FRU	**Bishkek**	**2.20**	**297**	⇓*i*PN	**Pn**	**20 34 50.6**	**+2.6**
FRU				*i* S	**Sn**	**20 35 20.0**	**+4.2**
FRU				pmax	pmax		
	comp=Z,960nm,1.6s						
FRU				pmax	pmax		
	comp=Z,2μm,2.0s						
FRU				smax			
	comp=N,2μm,1.8s						
FRU				smax			
	comp=N,4μm,2.0s						
AAK	**Ala-Archa**	**2.21**	**292**	P	**Pn**	**20 34 49.6**	**+1.5**
	comp=N,857nm,0.4s,SNR=590						
AAK				⇓S	**Sn**	**20 35 17.9**	**+2.0**
	comp=N,2μm,0.3s						
AAK	**Ala-Archa**	**2.21**	**292**	*e*Pn	**Pn**	**20 34 48.6**	**+0.5**
AAK				*e*Sn	**Sn**	**20 35 15.2**	**-0.8**
USP	**Ospenovka**	**2.49**	**306**	⇓P	**Pn**	**20 34 53.8**	**+1.8**
	comp=N,2μm,0.4s,SNR=1818						
KSH	**Kashi**	**2.53**	**203**	P	**Pn**	**20 34 57.0**	**+4.5**
KSH				S	**Sn**	**20 35 29.6**	**+5.7**
KSH				Smax			
	comp=N,3μm,0.9s						
KSH				Smax			
	comp=E,3μm,1.1s						
AML	**Almayashu**	**2.69**	**277**	⇓P	**Pn**	**20 34 56.8**	**+2.2**
	comp=E,638nm,0.3s,SNR=1596						
KK31	**Karatay Array**	**5.16**	**286**	Pn	**Pn**	**20 35 30.1**	**+1.4**
	comp=E,1.6nm,0.4s,baz=99,slow=13,SNR=1706						
KK31				Pg	**Pb**	**20 35 42.5**	**+1.1**
	comp=E,64nm,0.5s,baz=99,slow=15,SNR=135						
KK31				⇓Lg		20 36 50.1	
	comp=E,117nm,0.5s,baz=100,slow=29,SNR=15						
KKAR	**Karatay Array**	**5.16**	**286**	PN	**Pb**	**20 35 42.4**	**+1.0**
KKAR						20 36 50.0	
KKAR				pmax	pmax		
	comp=Z,24nm,0.4s						
KKAR				pmax	pmax		
	comp=Z,40nm,0.4s						
MK31	**Makanchi Array**	**6.11**	**34**	Pn	**Pn**	**20 35 44.3**	**+2.5**
	comp=Z,34nm,0.5s,baz=209,slow=14,SNR=500						
MK31				⇑Lg		20 37 16.2	
	comp=Z,135nm,0.8s,baz=217,slow=26,SNR=4.2						
MKAR	**Makanchi Array**	**6.11**	**34**	Pn	**Pn**	**20 35 44.0**	**+2.3**
	comp=Z,7.1nm,0.3s,baz=209,slow=15,SNR=418						
MKAR				Sn	**Sn**	**20 36 52.4**	**+0.2**
	comp=Z,7.1nm,0.3s,baz=203,slow=20,SNR=3.6						
MKAR				Lg		20 37 17.3	
	comp=Z,15nm,0.3s,baz=218,slow=27,SNR=6.5						
MKAR				LR	LR	20 38 31.2	
	comp=Z,263nm,19.8s,baz=52,slow=42						
MKAR	**Makanchi Array**	**6.11**	**34**	Pn	**Pn**	**20 35 44.0**	**+2.3**
MKAR				Sn	**Sn**	**20 36 52.4**	**+0.2**
MKAR				Lg		20 37 17.3	
MKAR				LR	LR	20 38 31.2	
MKAR	**Makanchi Array**	**6.11**	**34**	*e*PN	**Pn**	**20 35 44.2**	**+2.5**
MKAR						20 37 16.2	
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,78nm,0.6s						
WMQ	**Urumqi**	**7.91**	**72**	*e*P	**Pn**	**20 36 08.0**	**+1.6**
WMQ				S	**Sn**	**20 37 40.5**	**+4.1**
WMQ				Smax			
	comp=N,92nm,1.0s						
WMQ				Smax			
	comp=E,108nm,1.0s						
CHCP	**Chirah Chowk**	**8.77**	**203**	P	**Pn**	**20 36 23.7**	**+5.5**
KURK	**Kurchatov**	**8.92**	**6**	⇑Pn	**Pn**	**20 36 20.2**	**0.0**
	comp=E,7.8nm,0.6s						
KURK				⇓Lg		20 38 48.8	
	comp=E,248nm,0.9s						
KURK	**Kurchatov**	**8.92**	**6**	*e*Pn	**Pn**	**20 36 20.1**	**-0.1**
	comp=E,21nm,0.6s						
KURK	**Kurchatov**	**8.92**	**6**	*i* P	**Pn**	**20 36 20.5**	**+0.3**
THW	**Thamme Wali**	**10.05**	**208**	P	**Pn**	**20 36 39.1**	**+3.3**
SDNR	**Sundarnagar**	**10.33**	**181**	*e*P	**Pn**	**20 36 41.5**	**+1.9**
SDNR				*e*S	**Sn**	**20 38 42.5**	**+6.5**
SBDP	**Sheikh Budin**	**10.84**	**210**	P	**Pn**	**20 36 47.8**	**+1.2**
DRP	**Derazinda**	**11.56**	**212**	P	**Pn**	**20 36 55.1**	**-1.4**
VOSK	**Vostochnaya**	**11.68**	**341**	⇑Pn	**Pn**	**20 36 57.6**	**-0.6**
	comp=E,2.8nm,0.5s						
VOSK				⇑Lg		20 40 14.8	
	comp=E,183nm,1.1s						
VOSK	**Vostochnaya**	**11.68**	**341**	P	**Pn**	**20 36 57.5**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BVA0	**Borovoye Array**	**12.11**	**340**	⇓Pn	**Pn**	**20 37 03.2**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=143,slow=14,SNR=101						
BVA0				⇑Lg		20 40 28.0	
	comp=Z,39nm,1.6s,baz=150,slow=26,SNR=10.0						
BVA0	**Borovoye Array**	**12.11**	**340**	P	**Pn**	**20 37 03.1**	**-0.8**
BVAR	**Borovoye Array**	**12.11**	**340**	Pn	**Pn**	**20 37 02.0**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=147,slow=14,SNR=38						
BVAR				Sn	**Sn**	**20 39 13.2**	**-6.2**
	comp=Z,0.8nm,0.3s,baz=157,slow=20,SNR=3.1						
BVAR				Lg		20 40 28.8	
	comp=Z,3.5nm,0.3s,baz=148,slow=29,SNR=5.4						
BVAR	**Borovoye Array**	**12.11**	**340**	P	**Pn**	**20 37 02.0**	**-1.9**
BVAR						20 39 13.2	
BRVK	**Borovoye**	**12.16**	**340**	*e*Pn	**Pn**	**20 37 03.0**	**-1.7**
	comp=Z,7.0nm,0.5s						
BRVK	**Borovoye**	**12.16**	**340**	*e*P	**Pn**	**20 37 03.0**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NVS	**Novosibirsk**	**13.58**	**15**	*e*P	**Pn**	**20 37 25

CD2	**Chengdu**	**23.86**	**109**	*e*P	**P**	**20 39 26.1**	**+0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
GNI	**Garni**	**24.54**	**277**	*e*P	**P**	**20 39 35.7**	**+4.4**
	comp=Z,7.5nm,0.9s,mb4.2						
GNI	**Garni**	**24.54**	**277**	*i* P	**P**	**20 39 32.5**	**+1.2**
GNI				MLR	MLR		
	comp=Z,100nm,19.0s						
GOF	**Gofitskoye**	**24.95**	**289**	⇓*i*P	**P**	**20 39 39.0**	**+3.9**
GOF				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.5						
KIV	**Kislovodsk**	**25.32**	**287**	P	**P**	**20 39 37.7**	**-0.7**
	comp=Z,4.3nm,0.7s,mb4.1						
KIV	**Kislovodsk**	**25.32**	**287**	*e*P	**P**	**20 39 41.0**	**+2.6**
KIV				*e*		20 40 16.4	
KIV				*e*S	**S**	**20 44 08.0**	**+2.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
KIV				MLR	MLR		
	comp=Z,104nm,13.0s,MS3.5						
BOD	**Bodaibo**	**28.12**	**43**	*e*P	**P**	**20 40 03.2**	**-0.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
OBN	**Obninsk**	**29.61**	**311**	*e*P	**P**	**20 40 16.4**	**-0.5**
OBN				*e*S	**S**	**20 45 10.8**	**-2.0**
OBN				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
BR131	**Keskin Array S**	**32.85**	**281**	*e*P	**P**	**20 40 45.2**	**-0.3**
	comp=Z,8.5nm,1.4s,mb4.5						
BRTR	**Keskin Array B**	**32.85**	**281**	P	**P**	**20 40 46.5**	**+1.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=102,slow=8.9,SNR=4.9						
BRTR	**Keskin Array B**	**32.85**	**281**	*i* P	**P**	**20 40 46.5**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
JOF	**Joensuu**	**34.04**	**324**	*e*p	**P**	**20 40 55.5**	**-0.3**
NJ2	**Nanjing**	**34.35**	**93**	*e*P	**P**	**20 41 01.1**	**+2.6**
NJ2				AP	pP	20 41 13.2	+14
NJ2				PP	PP	20 42 17.6	+1.4
NJ2				S	**S**	**20 46 25.0**	**-1.7**
NJ2				XS	sS	20 46 45.0	+17
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,110nm,7.1s						
NJ2				LR	LR		
	comp=N,210nm,18.3s,MS4.2						
NJ2				LR	LR		
	comp=E,310nm,16.2s,MS4.2						
NJ2				LR	LR		
	comp=Z,140nm,11.7s,MS3.9						
EIL	**Elat**	**36.09**	**264**	P	**P**	**20 41 10.7**	**-2.8**
	comp=Z,109nm,0.9s,mb5.8						
FINES	**FINESS Array B**	**36.11**	**321**	P	**P**	**20 41 13.2**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=110,slow=11,SNR=7.4						
FINES	**FINESS Array B**	**36.11**	**321**	*i* P	**P**	**20 41 16.3**	**+2.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YAK	**Yakutsk**	**36.77**	**39**	*e*P	**P**	**20 41 18.3**	**-1.0**
	comp=Z,7.7nm,0.8s,mb4.6						
YAK	**Yakutsk**	**36.77**	**39**	⇓*e*P	**P**	**20 41 18.7**	**-0.6**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.6						
ARCES	**ARCESS Array B**	**38.30**	**334**	P	**P**	**20 41 31.3**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.0,baz=95,slow=9.9,SNR=7.1						
TIXI	**Tiksi**	**38.97**	**23**	⇓*e*P	**P**	**20 41 37.3**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.8						
NIE	**Niedzica**	**39.70**	**301**	*e*P	**P**	**20 41 49.5**	**+5.5**
SANT	**Santorini**	**40.08**	**280**	P	**P**	**20 41 49.2**	**+2.1**
NB2	**NORSAR Subarra**	**43.27**	**320**	P	**P**	**20 42 12.5**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.8,baz=86,slow=8.6						
NB2	**NORSAR Subarra**	**43.27**	**320**	P	**P**	**20 42 12.5**	**-0.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	**NORSAR Array B**	**43.27**	**320**	P	**P**	**20 42 13.1**	**-0.2**
	comp=Z,1.1nm,0.5s,mb3.8,baz=87,slow=8.1,SNR=5.1						
BILL	**Bilibino**	**51.63**	**29**	*e*P	**P**	**20 43 17.7**	**-0.6**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**68.23**	**19**	P	**P**	**20 45 11.3**	**-1.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=314,slow=5.3,SNR=16						
TORD	**Torodi Ar. Bea**	**70.64**	**270**	P	**P**	**20 45 25.6**	**-1.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=52,slow=5.2,SNR=14						
YKA	**Yellowknife Ar**	**75.57**	**6**	P	**P**	**20 45 55.4**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=347,slow=5.8,SNR=44						
WRA	**Warramunga Arr**	**80.98**	**127**	P	**P**	**20 46 25.3**	**-1.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=326,slow=4.9,SNR=15						
WRA	**Warramunga Arr**	**80.98**	**127**	*i* P	**P**	**20 46 25.2**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	**Tennant Creek**	**80.98**	**127**	*e*P	**P**	**20 46 24.2**	**-2.3**
	comp=Z,8.2nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**80.98**	**127**	*e*P	**P**	**20 46 24.2**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**83.60**	**130**	P	**P**	**20 46 38.9**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.6,baz=315,slow=4.0,SNR=6.0						
STKA	**Stephens Creek**	**94.23**	**130**	P	**P**	**20 47 30.1**	**-1.0**
PDAR	**Pinedale Array**	**95.54**	**5**	P	**P**	**20 47 36.4**	**-0.7**
	comp=Z,0.4nm,0.8s,mb3.9,baz=33,slow=2.2,SNR=3.4						

IDC 07 20:36:54.4±2.0, 068N×12506E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/16, mbtmp3.2/3, Error ellipse: s-maj=194.0km s-min=26.6km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.43**	**157**	P	P		20 41 54.5	-0.2
	0.4nm,0.6s,baz=334,slow=11,SNR=8.4							
ASAR	**Alice Springs**	**25.69**	**161**	P	P		20 42 26.8	+0.7
	0.2nm,0.6s,baz=355,slow=8.3,SNR=4.4							
MKAR	**Makanchi Array**	**59.14**	**327**	P	P		20 46 56.9	+0.1
	0.4nm,0.5s,baz=116,slow=8.7,SNR=4.9							

*CSEM **07** 20:56:15.3, 1372N×4556E, h13km, ML3.8, After DHMR*

DHMR 07 20:56:15.3±0.8, 1372N×4556E, h13km±3km, ML3.8, 2C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**0.26**	**1**	⇑*i*P		Pg	20 56 20.7	0.0
BDHA				*i* S		Sg	20 56 24.1	-0.2
BDHA				AML		AML	20 56 24.4	
	comp=E,15μm,0.2s							
BDHA	**Al Bayda'**	**0.26**	**1**	⇑*i*P		Pg	20 56 20.7	0.0
BDHA				*i* S		Sg	20 56 24.1	-0.2
	comp=E,7μm,0.2s							
LBOS		**0.34**	**296**	*i* P		Pg	20 56 22.4	+0.2
LBOS				*i* S		Sg	20 56 27.6	+0.7
ADEN	**Aden**	**1.09**	**211**	*i* P		Pb	20 56 35.2	-0.9
ADEN				*i* S		Sb	20 56 50.7	+0.5
ADEN				AML		AML	20 56 52.3	
	comp=E,2μm,0.5s							
ADEN	**Aden**	**1.09**	**211**	*i* P		Pb	20 56 35.2	-0.9
ADEN				*i* S		Sb	20 56 50.7	+0.5
	comp=E,1μm,0.5s							
DHBB	**Dhamar BB**	**1.42**	**307**	*i* P		Pn	20 56 41.4	+0.6
DHBB				*i* S		Sn	20 57 01.4	+2.0
TRBA	**At Turbah**	**1.49**	**251**	*i* P		Pn	20 56 42.2	+0.5
TRBA				⇓*e*P			20 56 42.5	
TRBA				*i* S		Sn	20 57 02.8	+1.7
TRBA				AML		AML	20 57 04.9	
	comp=E,445nm,0.4s							
TRBA	**At Turbah**	**1.49**	**251**	*i* P		Pn	20 56 42.2	+0.4
TRBA	**At Turbah**	**1.49**	**251**	⇓*e*P		Pn	20 56 42.5	+0.7
TRBA				*i* S		Sn	20 57 02.8	+1.7
	comp=E,222nm,0.4s							
UDYN	**Al 'Udayn**	**1.57**	**279**	*i* P		Pn	20 56 43.4	+0.5
UDYN				*i* S		Sn	20 57 04.7	+1.6
SANA	**San'a**	**2.12**	**322**	*i* P		Pn	20 56 52.5	+2.1
SANA				*i* S		Sn	20 57 21.1	+4.6
SANA				AML		AML	20 57 25.1	
	comp=E,3μm,0.3s							

*IDC **07** 20:57:29.8±9.1, 039N×12406E, h125km±87km, mb3.4/5, mb1 3.5/5, mb1mx3.4/16, mbtmp3.8/5, Error ellipse: s-maj=126.3km s-min=18.6km az=66.0*

*ISCJB **07** 20:57:34.9±3.9, 04N±02×124.1E±04, h196km±43km, mb3.8/8, Error ellipse: s-maj=80.2km s-min=12.6km az=124.5*

*NEIC **07** 20:57:34.4±3.6, 037N×124.13E, h173km±39km, mb4.3/3, Error ellipse: s-maj=61.7km s-min=10.0km az=64.0*

ISC 07 20:57:34.6±4.3, 04N±02×124.2E±04, h173km±47km, n11, σ0§74/11, mb3.9/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.71**	**305**	*e*Pn		**Pn**	**20 59 50.2**	**-0.1**
WRAB	**Tennant Creek**	**22.54**	**154**	*e*P		**P**	**21 02 20.1**	**+0.2**
	3.1nm,0.5s,mb4.0							
WRA	**Warramunga Arr**	**22.55**	**154**	P		**P**	**21 02 19.2**	**-0.8**
	1.6nm,0.4s,mb3.8,baz=333,slow=10,SNR=54							
WB2	**Warramunga Arr**	**22.55**	**154**	*e*P		**P**	**21 02 20.1**	**+0.1**
ASAR	**Alice Springs**	**25.73**	**159**	P		**P**	**21 02 50.5**	**+1.6**
	0.3nm,0.4s,mb3.3,baz=328,slow=9.0,SNR=8.0							
ASAR				PcP		PcP	21 06 15.9	+1.7
	0.1nm,0.4s,baz=355,slow=2.6,SNR=4.1							
STKA	**Stephens Creek**	**36.10**	**154**	P		**P**	**21 04 19.1**	**-0.6**
	1.3nm,0.5s,mb3.9,baz=338,slow=10,SNR=8.6							
STKA	**Stephens Creek**	**36.10**	**154**	*e*P		**P**	**21 04 18.5**	**-1.2**
SONM	**Songino Array**	**49.70**	**344**	P		**P**	**21 06 09.9**	**+1.0**
	0.4nm,0.7s,mb3.2,baz=159,slow=8.6,SNR=5.4							
MKAR	**Makanchi Array**	**58.89**	**328**	P		**P**	**21 07 15.2**	**-0.1**
	1.1nm,0.4s,mb4.0,baz=124,slow=8.3,SNR=39							
MKAR				PcP		PcP	21 08 02.4	-0.3
	0.4nm,0.4s,baz=146,slow=2.8,SNR=11							
MA2	**Magadan**	**62.55**	**15**	*e*P		**P**	**21 07 39.6**	**-0.3**
	18nm,1.3s,mb4.8							
KURK	**Kurchatov**	**63.22**	**329**	*e*P		**P**	**21 07 43.8**	**-0.6**
	2.5nm,0.6s,mb4.2							

IDC 07 21:03:07.5±3.5, 2292S×17718W, h0km, mb4.2/4, mb1 4.3/4, mb1mx4.0/14, mbtmp4.2/4, Error ellipse: s-maj=148.0km s-min=48.9km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.09**	**268**	*e*P		P	21 09 55.9	+2.2
	3.1nm,0.4s							
CTA	**Charters Tower**	**34.09**	**268**	P		P	21 09 56.0	+2.3
	4.3nm,0.4s,baz=99,slow=12,SNR=15							
STKA	**Stephens Creek**	**37.49**	**247**	P		P	21 10 22.1	-0.8
	0.7nm,0.6s,baz=105,slow=12,SNR=4.0							
ASAR	**Alice Springs**	**44.76**	**259**	P		P	21 11 22.6	-0.1
	1.1nm,0.5s,baz=100,slow=7.2,SNR=16							
WB2	**Warramunga Arr**	**45.06**	**264**	*e*P		P	21 11 24.5	-0.6
WRA	**Warramunga Arr**	**45.07**	**264**	P		P	21 11 24.8	-0.4
	0.9nm,0.3s,baz=95,slow=8.2,SNR=103							
GERES	**GERESS Array B**	**152.72**	**344**	PKPbc		PKPbc	21 23 06.5	+0.2
	0.1nm,0.3s,baz=13,slow=2.2,SNR=3.9							

*ISCJB **07** 21:17:46.0±0.6, 08N±02×260W±0.1, h10km, mb4.0/12, MS4.2/20, Error ellipse: s-maj=27.6km s-min=12.4km az=137.9*

*IDC **07** 21:17:46.2±0.8, 093N×2601W, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/22, mbtmp3.9/9, MS4.2/20, Ms1 4.2/20, ms1mx4.0/33, Error ellipse: s-maj=33.6km s-min=19.1km az=159.0*

*NEIC **07** 21:17:47.5±0.6, 066N×2601W, h10km, mb4.5/5, Error ellipse: s-maj=27.6km s-min=12.6km az=152.0*

ISC 07 21:17:47.8±0.6, 07N±02×260W±01, h10km, n35, σ1§40/18, mb4.0/12, MS4.2/20, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.82**	**237**	*e*Pn		**Pn**	**21 20 34.5**	**-2.0**
	33nm,1.3s							
RCBR				*e*Sn		**Sn**	**21 22 29.0**	**-19**
DBIC	**Dimbokro**	**21.91**	**74**	P		**P**	**21 22 40.2**	**-0.9**
	26nm,1.2s,mb4.5,baz=239,slow=12,SNR=9.1							
DBIC				LR		LR	21 28 31.8	
	comp=Z,743nm,19.6s,MS4.1,baz=237,slow=30							
DBIC	**Dimbokro**	**21.91**	**74**	*e*P		**P**	**21 22 39.9**	**-1.2**
	26nm,1.0s,mb4.6							
DBIC				*e*S		**S**	**21 26 30.8**	**-12**
BDFB	**Brasilia**	**27.14**	**232**	LR		LR	21 33 01.2	
	comp=Z,1μm,21.9s,MS4.5,baz=64,slow=34							
TORD	**Torodi Ar. Bea**	**30.09**	**65**	P		**P**	**21 23 56.5**	**-0.8**
	1.4nm,0.7s,mb3.8,baz=248,slow=9.2,SNR=5.7							
SAML	**Samuel**	**38.26**	**255**	P		**P**	**21 25 08.2**	**+0.1**
	6.5nm,1.3s,mb4.2							
SIV	**San Ignacio**	**38.39**	**243**	P		**P**	**21 25 10.3**	**+1.1**
	1.2nm,0.9s,mb3.6,baz=38,slow=7.6,SNR=4.5							
CPUP	**Villa Florida**	**40.44**	**226**	LR		LR	21 42 00.1	
	comp=Z,411nm,20.5s,MS4.3,baz=50,slow=36							
SJG	**San Juan**	**43.05**	**296**	LR		LR	21 41 11.4	
	comp=Z,99nm,18.1s,MS3.8,baz=267,slow=33							
SJG	**San Juan**	**43.05**	**296**	*e*P		**P**	**21 25 53.6**	**+5.9**
	15nm,0.9s,mb4.7							
ESDC	**Sonseca Array**	**43.68**	**25**	P		**P**	**21 25 55.5**	**+2.7**
	0.5nm,0.7s,mb3.4,baz=223,slow=7.4,SNR=4.7							
LPAZ	**La Paz**	**44.86**	**246**	P		**P**	**21 26 04.6**	**+2.4**
	1.9nm,0.9s,mb3.9,baz=63,slow=15,SNR=5.2							
LPAZ				LR		LR	21 44 02.7	
	comp=Z,351nm,18.3s,MS4.3,baz=229,slow=35							
LPAZ	**La Paz**	**44.86**	**246**	*e*P		**P**	**21 26 04.4**	**+2.2**
	3.5nm,1.1s,mb4.1							
TSUM	**Tsumeb**	**47.12**	**117**	P		**P**	**21 26 22.1**	**+2.1**
	0.9nm,0.4s,mb4.0,baz=288,slow=7.7,SNR=3.8							
TSUM	**Tsumeb**	**47.12**	**117**	*e*P		**P**	**21 26 21.0**	**+1.0**
	4.7nm,1.0s,mb4.4							
ROSC	**El Rosal**	**48.43**	**276**	LR		LR	21 46 03.1	
	comp=Z,180nm,18.5s,MS4.1,baz=163,slow=35							
CFAA	**Coronel Fontan**	**51.30**	**227**	LR		LR	21 49 00.8	
	comp=Z,62nm,20.4s,MS3.6,baz=39,slow=36							
BOSA	**Boshof**	**57.02**	**125**	LR		LR	21 46 43.5	
	comp=Z,263nm,18.9s,MS4.4,baz=110,slow=30							
PLCA	**Paso Flores**	**57.75**	**219**	LR		LR	21 49 45.8	
	comp=Z,307nm,20.4s,MS4.4,baz=355,slow=33							
KMBO	**Kilima Mbogo**	**63.28**	**92**	LR		LR	21 53 00.8	
	comp=Z,218nm,19.4s,MS4.3,baz=276,slow=33							
SADO	**Sadowa**	**64.16**	**321**	LR		LR	21 50 05.1	
	comp=Z,160nm,18.8s,MS4.2,baz=257,slow=30							
NOA	**NORSAR Array B**	**66.53**	**19**	LR		LR	21 58 12.1	
	comp=Z,106nm,18.1s,MS4.1,baz=250,slow=37							
BRTR	**Keskin Array B**	**66.57**	**46**	P		**P**	**21 28 38.0**	**0.0**
	0.8nm,0.8s,mb3.8,baz=241,slow=6.7,SNR=4.3							
HFS	**Hagfors**	**66.69**	**20**	LR		LR	21 53 52.9	
	comp=Z,159nm,20.3s,MS4.2,baz=248,slow=33							
AKASG	**Malin Array Be**	**68.15**	**34**	P		**P**	**21 28 47.9**	**-0.2**
	0.8nm,0.5s,mb4.0,baz=238,slow=6.9,SNR=6.2							
FINES	**FINESS Array B**	**72.18**	**23**	LR		LR	21 57 18.5	
	comp=Z,87nm,20.6s,MS4.0,baz=176,slow=33							
ARCES	**ARCESS Array B**	**76.68**	**16**	LR		LR	22 02 26.4	
	comp=Z,122nm,18.8s,MS4.2,baz=28,slow=35							
ULM	**Lac du Bonnet**	**76.68**	**322**	LR		LR	21 56 56.1	
	comp=Z,143nm,20.5s,MS4.3,baz=39,slow=31							
PDAR	**Pinedale Array**	**84.78**	**313**	P		**P**	**21 30 22.3**	**0.0**
	1.0nm,1.2s,mb3.8,baz=104,slow=6.9,SNR=3.4							
AKTO	**Aktyubinsk**	**85.64**	**40**	LR		LR	22 13 39.5	
	comp=Z,58nm,18.1s,MS4.0,baz=0.0,slow=39							
YKA	**Yellowknife Ar**	**88.73**	**332**	P		**P**	**21 30 39.4**	**-2.2**
	0.1nm,0.3s,mb3.6,baz=91,slow=5.0,SNR=2.4							
YBH	**Yreka Blue Hor**	**94.55**	**312**	LR		LR	22 07 44.7	
	comp=Z,143nm,21.1s,MS4.4,baz=88,slow=32							
INK	**Inuvik**	**95.77**	**339**	LR		LR	22 10 53.3	
	comp=Z,64nm,20.6s,MS4.1,baz=76,slow=33							
BBB	**Bella Bella**	**96.86**	**323**	LR		LR	22 11 35.7	
	comp=Z,161nm,18.7s,MS4.5,baz=18,slow=33							
ASAR	**Alice Springs**	**149.99**	**141**	PKPbc		PKPbc	21 37 39.4	+0.9
	1.1nm,1.1s,baz=228,slow=2.4,SNR=3.5							
ASAR				PKPab		PKPab	21 37 44.8	+0.6
	1.5nm,0.9s,baz=214,slow=2.9,SNR=11							

MAN 07 21:23:30.6, 961N×12526E, h1km, mb2.1, ML3.8, MS0.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.28**	**52**	⇑*e*P		Pg	21 23 36.2	+0.2
SCPH				*e*S		Sg	21 23 48.4	+8.8
MSLP	**Maasin**	**0.66**	**323**	*e*P		Pg	21 23 43.0	-0.1
MSLP				*e*S		Sg	21 24 02.0	+10
BUTP	**Butuan**	**0.73**	**151**	*e*P		Pg	21 23 45.0	+0.5
BUTP				*e*S		Sg	21 24 05.8	+12

*ISCJB **07** 21:26:43.1±0.2, 5031N×001×770E±002, h8km±2km, Error ellipse: s-maj=2.0km s-min=1.9km az=137.5*

*MOS **07** 21:26:44.8±2.5, 5032N×740E, h10km, mb3.6/1, Error ellipse: s-maj=10.4km s-min=4.7km az=84.6*

*UCC **07** 21:26:44.4±0.3, 5030N×772E, h9km±2km, ML2.1*

*LDG **07** 21:26:45.7±0.1, 5036N×762E, h10km, Md3.4/1, Ml3.1/17, Error ellipse: s-maj=1.1km s-min=1.0km az=79.0*

*CSEM **07** 21:26:45.5±0.1, 5036N×765E, h12km, ML2.5/12, Error ellipse: s-maj=0.9km s-min=0.8km az=49.0*

*BGR **07** 21:26:45.6±0.2, 5039N×765E, h5km, ML2.5/12, Error ellipse: s-maj=3.3km s-min=2.2km az=135.0, Gespuert Koblenz-Eherenbreitstein I=IV-V*

*NEIC **07** 21:26:46.3, 5027N×759E, h5km, ML2.4(SZGRF), ML2.6(STR), ML3.1(LDG), After STR.*

*STR **07** 21:26:46.3±0.7, 5027N×759E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BNS **07** 21:26:46.4±0.5, 5035N×758E, h12km±8km, ML2.2*

*PRU **07** 21:26:47.8, 5028N×787E, h0km*

ISC 07 21:26:44.5±0.2, 5034N±001×765E±002, h14km±2km, n129, σ1§23/242, 6C-12D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.24**	**237**	⇑*i*Pg		**Pg**	**21 26 51.0**	**+1.3**
BGG				*i* Sg		**Sg**	**21 26 54.0**	**+0.8**
	330nm,0.1s							
ABH	**Alteburg**	**0.46**	**188**	*e*Pg		**Pg**	**21 26 55.2**	**+1.6**
	SNR=47							
ABH	**Alteburg**	**0.46**	**188**	Pg		**Pg**	**21 26 55.1**	**+1.5**
TNS	**Taunus Mts**	**0.52**	**102**	*e*Pg		**Pg**	**21 26 55.7**	**+0.9**
	SNR=23							
TNS				*e*Sg		**Sg**	**21 27 03.3**	**+1.5**
TNS	**Taunus Mts**	**0.52**	**102**	Pg		**Pg**	**21 26 55.7**	**+0.9**
	SNR=23							
TNS				*e*Sg		**Sg**	**21 27 03.2**	**+1.4**
TNS	**Taunus Mts**	**0.52**	**102**	*e*Pg		**Pg**	**21 26 55.7**	**+0.9**
TNS				*e*Sg		**Sg**	**21 27 03.2**	**+1.4**
STB	**Steinbach**	**0.58**	**297**	*e*Pg		**Pg**	**21 26 56.5**	**+0.7**
STB				*e*Sg		**Sg**	**21 27 03.4**	**-0.2**
	120nm,0.1s							
HILG	**Hillesheim**	**0.62**	**266**	*e*Pg		**Pg**	**21 26 57.6**	**+0.9**
HILG				*e*Sg		**Sg**	**21 27 05.7**	**+0.7**
HOBG	**Hohbusch**	**0.68**	**343**	⇓*e*Pg		**Pg**	**21 26 58.1**	**+0.4**
HOBG				*e*Sg		**Sg**	**21 27 08.1**	**+1.4**
BNS	**Bensberg**	**0.70**	**335**	⇑*i*Pg		**Pg**	**21 26 58.6**	**+0.6**
BNS				*e*Sg		**Sg**	**21 27 08.6**	**+1.3**
	310nm,0.3s							
RUP	**Ruppelstein**	**0.74**	**211**	*e*Pg		**Pg**	**21 26 59.5**	**+0.6**
	SNR=34							
RUP	**Ruppelstein**	**0.74**	**211**	Pg		**Pg**	**21 26 59.6**	**+0.7**
KLL	**Kalltalsperre**	**0.91**	**291**	*e*Pg		**Pg**	**21 27 02.9**	**+0.8**
KLL				*e*Sg		**Sg**	**21 27 14.4**	**+0.3**
	31nm,0.4s							
TOD	**Tromm**	**1.04**	**134**	*e*Pg		**Pg**	**21 27 05.3**	**+0.7**
	SNR=8.1							
TOD	**Tromm**	**1.04**	**134**	Pg		**Pg**	**21 27 05.6**	**+1.0**
TOD				Sg		**Sg**	**21 27 19.3**	**+1.1**
KTD	**Kalmit**	**1.05**	**164**	*e*Pg		**Pg**	**21 27 06.0**	**+1.2**
	SNR=5.4							
KTD	**Kalmit**	**1.05**	**164**	Pg		**Pg**	**21 27 05.9**	**+1.1**
KTD				Sg		**Sg**	**21 27 20.3**	**+1.7**
MEM	**Membach**	**1.09**	**285**	⇓P		**Pb**	**21 27 05.2**	**+0.2**
MEM				S		**Sb**	**21 27 20.2**	**+1.2**
MEM	**Membach**	**1.09**	**285**	P		**Pb**	**21 27 05.2**	**+0.1**
MEM				S		**Sb**	**21 27 20.2**	**+1.1**
LAUG	**Laupendahl**	**1.11**	**336**	*e*Pg		**Pg**	**21 27 05.8**	**-0.1**
LAUG				*e*Sg		**Sg**	**21 27 19.8**	**-0.6**
	121nm,0.5s							
BUG	**Bochum--Univer**	**1.13**	**348**	*e*Pg		**Pg**	**21 27 06.1**	**-0.2**
	SNR=4.7							
BUG				*e*Sg		**Sg**	**21 27 20.4**	**-0.7**
BUG	**Bochum--Univer**	**1.13**	**348**	*e*P		**Pb**	**21 27 06.2**	**+0.3**
WLF	**Walferdange**	**1.18**	**236**	*e*Pn		**Pn**	**21 27 06.8**	**+0.3**
	SNR=0.8							
WLF				*e*Sg		**Sg**	**21 27 23.2**	**+0.7**
WLF	**Walferdange**	**1.18**	**236**	P		**Pn**	**21 27 06.8**	**+0.2**
WLF				S		**Sb**	**21 27 22.0**	**+0.3**
	comp=E,34nm,0.3s							
WLF	**Walferdange**	**1.18**	**236**	*e*Pg		**Pg**	**21 27 06.8**	**-0.4**
WLF				*e*Sg		**Sg**	**21 27 21.8**	**-0.7**
WLF	**Walferdange**	**1.18**	**236**	*e*Pg		**Pg**	**21 27 06.8**	**-0.3**
WLF				*e*Sg		**Sg**	**21 27 21.8**	**-0.7**
HGN	**Heimansgroeve**	**1.18**	**292**	*e*Pg		**Pg**	**21 27 06.9**	**-0.3**
	comp=E,8.8nm,0.2s,baz=100							
HGN				*e*Sg		**Sg**	**21 27 22.7**	**+0.2**
RODG	**Roetgen-Dahlhe**	**1.24**	**312**	⇓*e*Pg		**Pg**	**21 27 07.9**	**-0.4**
BEBN	**Eben Emael**	**1.34**

SNR=7.5
LIBD Limburg 2.19 181 *e*Pg **Pg 21 27 28.5 +2.1**
SNR=3.1
RFYF Reffroy 2.22 221 *e*Pn **Pn 21 27 20.9 0.0**
baz=42
RFYF Reffroy 2.22 221 *e*Pg **Pg 21 27 27.2 +0.1**
baz=44
RFYF *e*Sg **Sg 21 27 55.6 -0.3**
comp=N,33nm,0.3s
RFYF Reffroy 2.22 221 *e*Pg **Pg 21 27 27.2 +0.1**
RFYF *e*Sg **Sg 21 27 55.6 -0.3**
RFYF Reffroy 2.22 221 *e*Pn **Pn 21 27 20.9 0.0**
RFYF *e*Pg **Pg 21 27 27.2 +0.1**
RFYF *e*Sg **Sg 21 27 55.6 -0.3**
BAIF Baives 2.23 264 *e*Pg **Pg 21 27 26.9 -0.4**
BAIF *e*Sn **Sn 21 27 46.3 -2.1**
SNR=1.0
BAIF *e*Sg **Sg 21 27 55.0 -1.2**
comp=N,15nm,0.2s
BAIF Baives 2.23 264 *e*Pg **Pg 21 27 26.9 -0.4**
BAIF *e*Sn **Sn 21 27 46.3 -2.1**
BAIF *e*Sg **Sg 21 27 55.0 -1.2**
BAIF Baives 2.23 264 *e*P **Pn 21 27 22.6 +1.6**
BAIF *e*Pg **Pg 21 27 26.9 -0.4**
BAIF *e*Sn **Sn 21 27 46.3 -2.1**
BAIF *e*Sg **Sg 21 27 55.0 -1.2**
BAIF Baives 2.23 264 *e*P **Pn 21 27 22.6 +1.6**
BAIF *e* 21 27 46.3
CLZ Clausthal 2.29 48 *e*Pn **Pn 21 27 22.0 +0.2**
SNR=2.5
CLZ *e*Pg **Pg 21 27 26.8 -1.5**
SNR=9.3
CLZ *e*Sg **Sg 21 27 57.4 -0.6**
THEF They Montfort 2.38 208 Pg **Pg 21 27 28.9 -1.1**
THEF Sg **Sg 21 28 01.8 +1.0**
THEF They Montfort 2.38 208 *e*Pg **Pg 21 27 32.0 +2.0**
SNR=3.5
KIZ Kirchzarten 2.39 176 Pg **Pg 21 27 30.6 +0.3**
GRF Grafenberg Arr 2.39 104 *e*Sg **Sg 21 28 02.5 +1.1**
GUT Gutenstein 2.46 156 P **Pn 21 27 25.5 +1.3**
HAU Haudompre 2.48 201 *e*Pg **Pg 21 27 31.8 -0.3**
HAU *e*Sn **Sn 21 27 53.1 -1.5**
SNR=1.0
HAU *e*Sg **Sg 21 28 04.3 0.0**
comp=N,17nm,0.2s
HAU Haudompre 2.48 201 *e*Pg **Pg 21 27 31.8 -0.3**
HAU *e*Sn **Sn 21 27 53.1 -1.5**
HAU *e*Sg **Sg 21 28 04.3 0.0**
HAU Haudompre 2.48 201 *e*Pn **Pn 21 27 24.7 +0.2**
HAU *e*Pg **Pg 21 27 31.8 -0.3**
HAU *e*Sn **Sn 21 27 53.1 -1.5**
HAU *e*Sg **Sg 21 28 04.3 0.0**
HAU Haudompre 2.48 201 *e*P **Pn 21 27 24.7 +0.2**
HAU *e* 21 27 53.1
MEZF Maizieres J'vi 2.50 224 *e*Pg **Pg 21 27 32.4 0.0**
baz=38,SNR=1.0
MEZF *e*Sg **Sg 21 28 04.2 -0.6**
comp=N,9.9nm,0.2s
MEZF Maizieres J'vi 2.50 224 *e*Pg **Pg 21 27 32.4 0.0**
MEZF *e*Sg **Sg 21 28 04.2 -0.6**
MEZF Maizieres J'vi 2.50 224 *e*Pn **Pn 21 27 24.9 +0.2**
MEZF *e*Pg **Pg 21 27 32.4 0.0**
MEZF *e*Sg **Sg 21 28 04.2 -0.6**
MOF Molkenrain 2.51 188 *e*Pg **Pg 21 27 31.9 -0.7**
SNR=4.2
MOX Moxa 2.55 82 *e*Pg **Pg 21 27 33.8 +0.4**
MOX *e*Sg **Sg 21 28 04.9 -1.5**
MOX Moxa 2.55 82 *e*Pg **Pg 21 27 33.8 +0.4**
MOX *e*Sg **Sg 21 28 05.5 -1.0**
HINF Hinteralfeld 2.58 192 *e*Pg **Pg 21 27 34.1 +0.2**
HINF *e*Sn **Sn 21 27 54.6 -2.3**
HINF *e*Sg **Sg 21 28 06.8 -0.4**
comp=N,15nm,0.3s
HINF Hinteralfeld 2.58 192 *e*Pg **Pg 21 27 34.1 +0.2**
HINF *e*Sn **Sn 21 27 54.6 -2.3**
HINF *e*Sg **Sg 21 28 06.8 -0.4**
HINF Hinteralfeld 2.58 192 *e*Pn **Pn 21 27 25.7 -0.1**
HINF *e*Pg **Pg 21 27 34.1 +0.2**
HINF *e*Sn **Sn 21 27 54.6 -2.3**
HINF *e*Sg **Sg 21 28 06.8 -0.4**
HINF Hinteralfeld 2.58 192 *e*P **Pn 21 27 25.7 -0.1**
HINF *e* 21 27 54.6
SFTF Sexfontaines 2.73 220 *e*Pg **Pg 21 27 36.5 -0.4**
baz=32
SFTF *e*Sg **Sg 21 28 11.9 -0.4**
comp=N,18nm,0.3s
SFTF Sexfontaines 2.73 220 *e*Pg **Pg 21 27 36.5 -0.4**
SFTF *e*Sg **Sg 21 28 11.9 -0.4**
SFTF Sexfontaines 2.73 220 *e*Pn **Pn 21 27 28.6 +0.7**
SFTF *e*Pg **Pg 21 27 36.5 -0.4**
SFTF *e*Sg **Sg 21 28 11.9 -0.4**
NEUB Neuenburg 2.76 70 *e*Sg **Sg 21 28 12.1 -1.0**
SISB Singen-Sch Ber 2.79 161 P **Pn 21 27 30.7 +2.0**
WERD Werda 2.98 86 *e*Sg **Sg 21 28 18.6 -1.7**
LOMF Lomont 3.04 191 *e*Pg **Pg 21 27 42.3 -0.3**
SNR=2.2
NKC Novy Kostel 3.08 90 *e*SN **Sg 21 28 21.8 -1.6**
TANN Tannenbergstha 3.08 87 *e*Pn **Pn 21 27 34.2 +1.5**
SNR=1.3
TANN *e*Sg **Sg 21 28 21.7 -1.7**
CLL Collm 3.53 72 *e*Sg **Sg 21 28 36.0 -1.9**
WET Wettzell 3.59 107 *e*Pn **Pn 21 27 42.1 +2.3**
SNR=2.8
WET *e*Sg **Sg 21 28 39.9 0.0**
MOTA Moosalm 3.76 141 ⇓*i*Pn **Pn 21 27 45.0 +2.9**
MOTA ⇑*i*Sn **Sn 21 28 24.9 -1.2**
MOTA Moosalm 3.76 141 ⇓*i*Pn **Pn 21 27 45.0 +2.9**
MOTA Sn **Sn 21 28 24.9 -1.2**
CABF La Chapelle 3.87 196 *e*Pn **Pn 21 27 43.8 +0.2**
SNR=1.0
CABF *e*Sg **Sg 21 28 47.9 -0.8**
comp=N,7.6nm,0.6s,SNR=1.0
SQTA Sankt Quirin 3.91 142 ⇓*i*Pn **Pn 21 27 47.1 +3.1**
SQTA ⇑*i*Sn **Sn 21 28 28.1 -1.6**
SQTA Sankt Quirin 3.91 142 ⇓*i*Pn **Pn 21 27 47.1 +3.1**
SQTA Sn **Sn 21 28 28.1 -1.6**
LOR Lormes 3.96 221 *e*Pn **Pn 21 27 44.8 0.0**
baz=44,SNR=1.0
LOR Lormes 3.96 221 *e*Pg **Pg 21 27 59.4 -1.0**
baz=42,SNR=1.0
LOR *e*Sn **Sn 21 28 27.9 -3.2**
SNR=1.0
LOR *e*Sg **Sg 21 28 49.2 -2.5**
comp=N,8.0nm,0.4s
LOR Lormes 3.96 221 *e*Pn **Pn 21 27 44.8 0.0**
LOR *e*Pg **Pg 21 27 59.4 -1.0**
LOR *e*Sn **Sn 21 28 27.9 -3.2**
LOR *e*Sg **Sg 21 28 49.2 -2.5**
LOR Lormes 3.96 221 *e*P **Pn 21 27 44.8 0.0**
LOR *e* 21 28 27.9
KHC Kasperske Hory 4.03 105 *e*SN **Sn 21 28 31.6 -1.2**
KHC *e*SG **Sg 21 28 52.1 -1.8**
GEC2 GERESS Array S 4.21 108 *e*Pn **Pn 21 27 50.2 +2.0**
SNR=2.7
GEC2 *e*Sn **Sn 21 28 37.5 +0.3**
SSF Saint Saulge 4.27 222 *e*Pg **Pg 21 28 04.8 -1.6**
SSF *e*Sg **Sg 21 28 59.5 -2.2**
comp=N,6.1nm,0.4s,SNR=1.0
SSF Saint Saulge 4.27 222 *e*Pn **Pn 21 27 48.3 -0.8**
SSF *e*Pg **Pg 21 28 04.8 -1.6**
SSF *e*Sg **Sg 21 28 59.5 -2.2**
SMF Signal de Mont 4.48 216 *e*Pg **Pg 21 28 09.4 -0.9**
SNR=1.0
SMF *e*Sn **Sn 21 28 40.5 -3.3**
SMF Signal de Mont 4.48 216 *e*Pn **Pn 21 51.8 -0.1**
SMF *e*Pg **Pg 21 28 09.4 -0.9**
SMF *e*Sn **Sn 21 28 40.5 -3.3**
HYF Humbligny 4.51 229 *e*Pg **Pg 21 28 08.8 -2.2**
AVF Avril sur Loir 4.55 220 *e*Sn **Sn 21 28 41.9 -3.8**
AVF *e*Sg **Sg 21 29 08.1 -2.5**
comp=N,0.9nm,0.3s
AVF Avril sur Loir 4.55 220 *e*Pn **Pn 21 27 51.8 -1.2**
AVF *e*Sn **Sn 21 28 41.9 -3.8**
AVF *e*Sg **Sg 21 29 08.1 -2.5**
BGF Bois d'Agland 4.95 222 *e*Pn **Pn 21 27 58.2 -0.2**
BGF *e*Sn **Sn 21 28 51.4 -4.1**
BGF *e*Sg **Sg 21 29 21.2 -2.2**
comp=N,11nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.95 222 *e*P **Pn 21 27 58.2 -0.2**
BGF *e* 21 28 51.4
KBA Koelnbreinsper 4.98 129 ⇑*i*Pn **Pn 21 28 02.0 +3.1**
KBA ⇑*i*Sn **Sn 21 28 54.4 -1.8**
KBA Koelnbreinsper 4.98 129 ⇓*i*Pn **Pn 21 28 02.0 +3.1**
KBA Sn **Sn 21 28 54.4 -1.8**
MOA Molln 5.01 117 ⇓*i*Pn **Pn 21 28 01.7 +2.5**
MOA ⇓*i*Sn **Sn 21 28 55.4 -1.5**
MBDF Montbardon 5.64 186 *e*Pg **Pg 21 28 31.0 -1.5**
SNR=1.0
MFF Saint Martin d 6.39 237 *e*P **Pn 21 28 22.3 +4.1**
MFF Saint Martin d 6.39 237 *e*P **Pn 21 28 22.3 +4.1**
MFF Saint Martin d 6.39 237 *e*Pn **Pn 21 28 17.4 -0.8**
MFF *e*P 21 28 22.3
RJF Les Rejaudoux 6.51 222 *e*Sn **Sn 21 29 29.2 -4.7**
comp=N,8.6nm,0.2s,SNR=1.0
LASF Ste Croix 6.77 204 *e*Sn **Sn 21 29 39.3 -1.1**
comp=N,7.9nm,0.8s,SNR=1.0
MTLF Montolieu 7.92 210 *e*Pn **Pn 21 28 37.5 -1.8**
SNR=1.0
MTLF Montolieu 7.92 210 *e*Pn **Pn 21 28 37.5 -1.8**

*ISCJB **07** 21:28:11.0±0.2,4299N±002×043E±002,h8km±3km,Error ellipse: s-maj=3.0km s-min=2.1km az=4.8*
*CSEM **07** 21:28:12.2±0.1,4288N×041E,h5km,ML2.4,Error ellipse: s-maj=1.7km s-min=0.9km az=7.0*
*NEIC **07** 21:28:12.0,4295N×043E,h5km,ML2.4(STR), ML2.7(LDG),After STR.*
*LDG **07** 21:28:12.1±0.1,4289N×041E,h2km,Md2.7/1,Ml2.7/8, Error ellipse: s-maj=1.8km s-min=1.0km az=8.0*
*STR **07** 21:28:12.0±0.1,4295N×043E,h5km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **07** 21:28:12.7±0.2,4290N×040E,h9km±2km,mbLg2.1/23, Error ellipse: s-maj=1.7km s-min=1.4km az=145.0, PRXIMO*
ISC 07 21:28:11.9±0.2,4295N±002×041E±002,h13km±3km,n77, σ0§76/126,1C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.10**	**328**	*e*Pg	**Pg**	**21 28 15.6**	**+0.8**
EPF				*e*Sg	**Sg**	**21 28 17.9**	**+1.0**
141nm,0.2s							
EPF	**Esparros**	**0.10**	**328**	Pg	**Pg**	**21 28 15.6**	**+0.8**
EPF				Lg		21 28 17.9	
70nm,0.2s							
RESF	**Ens**	**0.15**	**201**	Pg	**Pg**	**21 28 15.4**	**-0.1**
RESF	**Ens**	**0.15**	**201**	P	**Pg**	**21 28 15.5**	**0.0**
RESF				S	**Sg**	**21 28 17.7**	**-0.3**
MELF	**Melles**	**0.27**	**106**	P	**Pg**	**21 28 17.9**	**+0.4**
MELF				S	**Sg**	**21 28 21.7**	**+0.6**
LABF	**Labassere**	**0.27**	**292**	Pg	**Pg**	**21 28 17.9**	**+0.5**
LABF				Sg	**Sg**	**21 28 21.9**	**+0.7**
LABF	**Labassere**	**0.27**	**292**	P	**Pg**	**21 28 17.9**	**+0.5**
LABF				S	**Sg**	**21 28 21.8**	**+0.6**
VIEF	**Viey**	**0.29**	**258**	P	**Pg**	**21 28 17.8**	**-0.1**
VIEF				S	**Sg**	**21 28 21.7**	**-0.2**
EBIE	**Bielsa**	**0.33**	**217**	⇑Pg	**Pg**	**21 28 18.4**	**-0.1**
124nm,0.1s,SNR=18							
EBIE				Lg		21 28 22.3	
86nm,0.1s,SNR=27							
MLS	**Moulis**	**0.50**	**89**	Pg	**Pg**	**21 28 21.5**	**-0.2**
MLS				Sg	**Sg**	**21 28 27.8**	**-0.6**
MLS	**Moulis**	**0.50**	**89**	P	**Pg**	**21 28 21.6**	**-0.1**
MLS				S	**Sg**	**21 28 28.2**	**-0.2**
REYF	**Montagne du Re**	**0.60**	**282**	Pg	**Pg**	**21 28 23.5**	**-0.1**
REYF				Sg	**Sg**	**21 28 32.0**	**+0.4**
REYF	**Montagne du Re**	**0.60**	**282**	P	**Pg**	**21 28 23.6**	**-0.1**
REYF				S	**Sg**	**21 28 32.0**	**+0.5**
SALF	**Salau**	**0.60**	**108**	Pg	**Pg**	**21 28 23.6**	**0.0**
SALF				Sg	**Sg**	**21 28 31.4**	**-0.2**
SALF	**Salau**	**0.60**	**108**	P	**Pg**	**21 28 23.7**	**+0.1**
SALF				S	**Sg**	**21 28 31.4**	**-0.2**
FDAF	**Les Forges d'A**	**0.73**	**260**	P	**Pg**	**21 28 25.5**	**-0.6**
FDAF				S	**Sg**	**21 28 34.9**	**-0.7**
EGRA	**Graus**	**0.76**	**185**	Pg	**Pg**	**21 28 26.3**	**-0.2**
0.5nm,0.1s,SNR=5.4							
EGRA				Lg		21 28 34.8	
4.4nm,0.1s,SNR=9.5							
CSOR	**Sort**	**0.78**	**137**	Pg	**Pg**	**21 28 26.7**	**-0.3**
ATE	**Arette**	**0.83**	**280**	Pg	**Pg**	**21 28 27.8**	**-0.1**
ATE				Sg	**Sg**	**21 28 39.6**	**+0.9**
ATE	**Arette**	**0.83**	**280**	P	**Pg**	**21 28 27.8**	**-0.1**
ATE				S	**Sg**	**21 28 38.5**	**-0.2**
GRBF	**Gourbit**	**0.83**	**97**	Pn	**Pn**	**21 28 27.7**	**-1.6**
CORG	**Organya**	**0.98**	**137**	Pn	**Pn**	**21 28 29.7**	**-1.7**
LARF	**Larrau**	**1.03**	**276**	S	**Sb**	**21 28 44.8**	**-0.2**
CAVN	**Les Avellanes**	**1.09**	**167**	Pg	**Pg**	**21 28 32.5**	**-0.4**
SJPF	**Ste Jean**	**1.21**	**278**	*e*Pg	**Pg**	**21 28 34.7**	**-0.5**
SJPF				*e*Sg	**Sg**	**21 28 50.2**	**-0.7**
15nm,0.3s							
SJPF	**Ste Jean**	**1.21**	**278**	Pg	**Pg**	**21 28 34.7**	**-0.5**
SJPF				Lg		21 28 50.2	
7.6nm,0.3s							
CLLI	**Llivia**	**1.24**	**112**	Pg	**Pg**	**21 28 35.8**	**0.0**
CARF	**Carcanieres**	**1.27**	**100**	Pg	**Pg**	**21 28 36.5**	**+0.3**
CARF				Sg	**Sg**	**21 28 53.0**	**+0.3**
CARF	**Carcanieres**	**1.27**	**100**	P	**Pn**	**21 28 36.1**	**+0.8**
CARF				S	**Sb**	**21 28 52.8**	**+0.9**
VALF	**Valcebollere**	**1.30**	**114**	Sg	**Sg**	**21 28 54.8**	**+0.9**
VALF	**Valcebollere**	**1.30**	**114**	S	**Sb**	**21 28 54.6**	**+1.7**
IPRE	**Itoiz**	**1.31**	**264**	Lg		21 28 54.3	
9.4nm,0.2s,SNR=4.0							
EMIR	**Miracle**	**1.32**	**141**	Pn	**Pn**	**21 28 37.3**	**+1.2**
1.2nm,0.1s,SNR=20							
EMIR				Pg	**Pg**	**21 28 39.0**	**+1.7**
7.9nm,0.1s,SNR=4.0							
EMIR				Lg		21 28 54.8	
12nm,0.1s,SNR=7.5							
MTLF	**Montolieu**	**1.38**	**73**	*e*Pn	**Pn**	**21 28 36.9**	**+0.1**
MTLF	**Montolieu**	**1.38**	**73**	*e*Pg	**Pg**	**21 28 38.3**	**-0.1**
MTLF				*e*Sg	**Sg**	**21 28 56.0**	**-0.3**
6.2nm,0.2s							
MTLF	**Montolieu**	**1.38**	**73**	Pn	**Pn**	**21 28 36.9**	**+0.1**
MTLF				Pg	**Pg**	**21 28 38.3**	**-0.1**
MTLF				Lg		21 28 56.0	
3.1nm,0.2s							
MTLF	**Montolieu**	**1.38**	**73**	*e*Pn	**Pn**	**21 28 36.9**	**+0.1**
MTLF	**Montolieu**	**1.38**	**73**	*e*Pg	**Pg**	**21 28 38.3**	**-0.1**
MTLF				*e*Sg	**Sg**	**21 28 56.0**	**-0.3**
MTLF				*e*Pg	**Pg**	**21 28 38.3**	**-0.1**
MTLF				*e*Sg	**Sg**	**21 28 56.0**	**-0.3**
MTLF	**Montolieu**	**1.38**	**73**	*e*Pn	**Pn**	**21 28 36.9**	**+0.1**
ESAC	**San Caprasio**	**1.39**	**208**	Pg	**Pg**	**21 28 38.4**	**-0.1**
7.3nm,0.1s,SNR=7.9							
ESAC				Lg		21 28 56.0	
83nm,0.2s,SNR=18							
IUNC	**Unciti**	**1.42**	**263**	Pg	**Pg**	**21 28 40.2**	**+1.1**
0.4nm,0.1s,SNR=7.9							
IUNC				Lg		21 28 58.7	
12nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**1.43**	**282**	Pg	**Pg**	**21 28 39.2**	**-0.2**
3.0nm,0.1s,SNR=4.0							
EALK				Lg		21 28 58.1	
13nm,0.2s,SNR=8.5							
ELIZ	**Elizondo**	**1.44**	**279**	Pg	**Pg**	**21 28 40.6**	**+1.1**
1.7nm,0.1s,SNR=7.9							
ELIZ				Lg		21 28 59.0	
6.8nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**1.44**	**271**	Pg	**Pg**	**21 28 40.1**	**+0.6**
0.5nm,0.1s,SNR=7.9							
IUSE				Lg		21 28 58.5	
12nm,0.2s,SNR=7.9							
CBRU	**Bruguera**	**1.46**	**116**	Pg	**Pg**	**21 28 40.5**	**+0.5**
EARA	**Aranguren**	**1.47**	**264**	Lg		21 29 00.2	
14nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**1.67**	**162**	Pg	**Pg**	**21 28 42.8**	**-1.1**
0.9nm,0.1s,SNR=9.3							
EPOB				Lg		21 29 04.0	
1.8nm,0.1s,SNR=7.8							
EJON	**La Jonquera**	**1.89**	**104**	Pg	**Pg**	**21 28 47.9**	**-0.3**
1.0nm,0.1s,SNR=7.9							
EJON				Lg		21 29 12.5	
7.6nm,0.2s,SNR=7.1							
CFON	**Fontmartina**	**1.91**	**128**	Pg	**Pg**	**21 28 47.2**	**-1.3**
ERTA	**Horta de San J**	**1.99**	**182**	Pg	**Pg**	**21 28 48.5**	**-1.5**
0.8nm,0.1s,SNR=7.9							
ERTA				Lg		21 29 13.9	
7.1nm,0.2s,SNR=9.3							
LFF	**La Frestale**	**2.01**	**7**	*e*Pg	**Pg**	**21 28 50.7**	**+0.3**
LFF				*e*Sg	**Sg**	**21 29 17.5**	**+1.1**
40nm,0.6s							
LFF	**La Frestale**	**2.01**	**7**	Pn	**Pn**	**21 28 45.7**	**+0.2**
LFF				Pg	**Pg**	**21 28 50.7**	**+0.3**
LFF				Lg		21 29 17.5	
20nm,0.6s							
LFF	**La Frestale**	**2.01**	**7**	*e*Pg	**Pg**	**21 28 50.7**	**+0.3**
LFF				*e*Sg	**Sg**	**21 29 17.5**	**+1.1**
LFF	**La Frestale**	**2.01**	**7**	*e*Pn	**Pn**	**21 28 45.7**	**+0.2**
LFF				*e*Pg	**Pg**	**21 28 50.7**	**+0.3**
LFF				*e*Sg	**Sg**	**21 29 17.5**	**+1.1**
CAF	**Calviac**	**2.31**	**31**	*e*Pn	**Pn**	**21 28 49.9**	**+0.2**
CAF	**Calviac**	**2.31**	**31**	*e*P	**Pb**	**21 28 52.7**	**-0.7**
CAF	**Calviac**	**2.31**	**31**	*e*Pg	**Pg**	**21 28 55.6**	**-0.6**
CAF				*e*Sn	**Sn**	**21 29 18.2**	**+0.2**
CAF				*e*Sg	**Sg**	**21 29 26.5**	**+0.4**
6.4nm,0.2s							
CAF	**Calviac**	**2.31**	**31**	Pn	**Pn**	**21 28 49.9**	**+0.2**
CAF				Pg	**Pg**	**21 28 55.6**	**-0.6**
CAF				Sn	**Sn**	**21 29 18.2**	**+0.2**
CAF				Lg		21 29 26.5	
3.2nm,0.2s							
CAF	**Calviac**	**2.31**	**31**	*e*Pn	**Pn**	**21 28 49.9**	**+0.2**
CAF	**Calviac**	**2.31**	**31**	*e*P	**Pb**	**21 28 52.7**	**-0.7**
CAF	**Calviac**	**2.31**	**31**	*e*Pg	**Pg**	**21 28 55.6**	**-0.6**
CAF				*e*Sn	**Sn**	**21 29 18.2**	**+0.2**
CAF				*e*Sg	**Sg**	**21 29 26.5**	**+0.4**
CAF	**Calviac**	**2.31**	**31**	*e*Pg	**Pg**	**21 28 49.1**	**-7.1**
CAF				*e*Pn	**Pn**	**21 28 49.9**	**+0.2**
CAF				*e*P		21 28 52.7	
CAF				*e*Pg	**Pg**	**21 28 55.6**	**-0.6**
CAF				*e*Sn	**Sn**	**21 29 18.2**	**+0.2**
CAF				*e*Sg	**Sg**	**21 29 26.5**	**+0.4**
RJF	**Les Rejaudoux**	**2.49**	**18**	*e*Pg	**Pg**	**21 28 59.1**	**-0.5**
RJF				*e*Sg	**Sg**	**21 29 31.7**	**-0.1**
9.7nm,0.2s							
RJF	**Les Rejaudoux**	**2.49**	**18**	Pn	**Pn**	**21 28 52.5**	**+0.4**
RJF				Pg	**Pg**	**21 28 59.1**	**-0.5**
RJF				Lg		21 29 31.7	
4.8nm,0.2s							
RJF	**Les Rejaudoux**	**2.49**	**18**	*e*Pg	**Pg**	**21 28 59.1**	**-0.5**
RJF				*e*Sg	**Sg**	**21 29 31.7**	**-0.1**
RJF	**Les Rejaudoux**	**2.49**	**18**	*e*Pn	**Pn**	**21 28 52.5**	**+0.4**
RJF				*e*Pg	**Pg**	**21 28 59.1**	**-0.5**
RJF				*e*Sg	**Sg**	**21 29 31.7**	**-0.1**
EMOS	**Mosqueruela**	**2.66**	**195**	Pn	**Pn**	**21 28 55.4**	**+0.9**
SNR=4.0							
EMOS				Lg		21 29 33.1	
1.3nm,0.3s,SNR=4.0							
LASF	**Ste Croix**	**2.75**	**65**	*e*P	**Pn**	**21 28 58.5**	**+2.8**
LASF	**Ste Croix**	**2.75**	**65**	*e*Pg	**Pg**	**21 29 03.5**	**-1.1**
LASF				*e*Sg	**Sg**	**21 29 39.4**	**-0.8**
2.6nm,0.3s							
LASF	**Ste Croix**	**2.75**	**65**	Pn	**Pn**	**21 28 55.5**	**-0.2**
LASF				Pg	**Pg**	**21 29 03.5**	**-1.1**
LASF				Lg		21 29 39.4	
1.3nm,0.3s							
LASF	**Ste Croix**	**2.75**	**65**	*e*P	**Pn**	**21 28 58.5**	**+2.8**
LASF	**Ste Croix**	**2.75**	**65**	*e*Pg	**Pg**	**21 29 03.5**	**-1.1**
LASF				*e*Sg	**Sg**	**21 29 39.4**	**-0.8**
LASF	**Ste Croix**	**2.75**	**65**	*e*Pn	**Pn**	**21 28 55.5**	**-0.2**
LASF				*e*P		21 28 58.5	
LASF				*e*Pg	**Pg**	**21 29 03.5**	**-1.1**
LASF				*e*Sg	**Sg**	**21 29 39.4**	**-0.8**
MFF	**Saint Martin d**	**3.68**	**354**	*e*Pg	**Pg**	**21 29 21.2**	**-1.1**
MFF				*e*Sg	**Sg**	**21 30 09.7**	**-0.2**
2.6nm,0.2s							
MFF	**Saint Martin d**	**3.68**	**354**	Pg	**Pg**	**21 29 21.2**	**-1.1**
MFF				Lg		21 30 09.7	
1.3nm,0.2s							
BGF	**Bois d'Agland**	**4.00**	**25**	*e*Pg	**Pg**	**21 29 27.0**	**-1.6**
BGF				*e*Sg	**Sg**	**21 30 19.9**	**-0.6**
13nm,0.4s							
BGF	**Bois d'Agland**	**4.00**	**25**	Pg	**Pg**	**21 29 27.0**	**-1.6**
BGF				Lg		21 30 19.9	
6.6nm,0.4s							

*ISCJB **07** 21:29:06.4±1.2,2332S±007×669W±02,h126km±19km, mb4.0/2,Error ellipse: s-maj=24.4km s-min=8.9km az=33.8*
*NEIC **07** 21:29:08.3±1.2,2320S×6722W,h145km±14km,Error ellipse: s-maj=24.9km s-min=12.6km az=105.0*
*IDC **07** 21:29:08.3±1.9,2336S×6701W,h137km±20km,mb3.8/2, mb1 3.7/5,mb1mx3.5/16,mbtmp4.2/5,Error ellipse: s-maj=31.6km s-min=16.6km az=96.0*
ISC 07 21:29:07.5±1.0,2329S±006×669W±01,h112km±15km,n11, σ1§46/14,mb4.0/2,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.06**	**350**	P	**Pn**	**21 30 49.0**	**+0.8**
0.8nm,0.3s,baz=171,slow=8.8,SNR=18							
LPAZ				S	**Sn**	**21 32 03.6**	**-3.3**
0.1nm,0.3s,baz=329,slow=20,SNR=5.0							
LPAZ	**La Paz**	**7.06**	**350**	*e*Pn	**Pn**	**21 30 48.6**	**+0.4**
LPAZ				P		21 30 49.0	
LPAZ				*e*Sn	**Sn**	**21 31 57.0**	**-10**
LPAZ				S	**Sn**	**21 32 03.6**	**-3.3**
CFAA	**Coronel Fontan**	**8.36**	**188**	P	**Pn**	**21 31 07.3**	**+1.4**
0.1nm,0.3s,baz=359,slow=12,SNR=3.8							
CFAA				S	**Sn**	**21 32 37.0**	**-1.6**
0.1nm,0.3s,baz=252,slow=19,SNR=3.6							
CFAA	**Coronel Fontan**	**8.36**	**188**	P	**Pn**	**21 31 07.3**	**+1.4**
CFAA				S	**Sn**	**21 32 37.0**	**-1.6**
SIV	**San Ignacio**	**9.11**	**38**	P	**Pn**	**21 31 17.2**	**+1.1**
5.6nm,0.3s,baz=224,slow=13,SNR=76							
SIV				S	**Sn**	**21 32 55.2**	**-1.6**
0.1nm,0.3s,baz=181,slow=19,SNR=3.5							
BDFB	**Brasilia**	**19.37**	**70**	P	**P**	**21 33 26.4**	**+2.1**
0.3nm,0.3s,baz=250,slow=12,SNR=4.1							
SDV	**Santo Domingo**	**32.18**	**353**	P	**P**	**21 35 25.1**	**+0.5**
4.5nm,0.3s,mb4.7,baz=218,slow=7.0,SNR=25							
TORD	**Torodi Ar. Bea**	**76.25**	**69**	P	**P**	**21 40 42.1**	**-1.6**
0.3nm,0.5s,mb3.3,baz=254,slow=5.6,SNR=9.0							
WRA	**Warramunga Arr**	**132.29**	**207**	PKP	PKPdf	21 48 05.5	-2.8
0.3nm,0.7s,baz=153,slow=1.9,SNR=5.8							
MKAR	**Makanchi Array**	**145.93**	**39**	PKPbc	PKPbc	21 48 31.0	-2.9
0.3nm,0.7s,baz=305,slow=3.9,SNR=4.3							
MKAR	**Makanchi Array**	**145.93**	**39**	PKPbc	PKPbc	21 48 31.0	-2.9

IDC 07 21:41:40.8±2.4,990S×7877W,h0km,mb3.6/1,mb1 3.7/2, mb1mx3.5/18,mbtmp3.4/2,ML3.4/2,Error ellipse: s-maj=116.7km s-min=32.9km az=40.0,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**12.16**	**123**	Pn	Pn	21 44 37.1	+1.8
0.0nm,0.3s,baz=302,slow=15,SNR=2.9							
SIV	**San Ignacio**	**18.28**	**111**	P	Pn	21 45 55.3	-0.5
0.2nm,0.3s,baz=287,slow=12,SNR=6.4							
YKA	**Yellowknife Ar**	**77.31**	**344**	P	P	21 53 37.1	-0.1
0.2nm,0.4s,baz=138,slow=5.7,SNR=7.5							
WRA	**Warramunga Arr**	**135.93**	**228**	PKP	PKPdf	22 01 03.9	+0.2
0.2nm,0.7s,baz=117,slow=2.1,SNR=5.8							

*

DBIC pmax pmax
comp=Z,48nm,1.1s
BDFB Brasilia 27.20 232 P **P 21 58 37.1 +0.1**
comp=Z,2.1nm,0.5s,mb3.9,baz=50,slow=12,SNR=4.2
BDFB LR LR 22 08 05.5
comp=Z,2μm,19.0s,MS4.7,baz=73,slow=34
TORD Torodi Ar. Bea 30.04 65 P **P 21 59 01.7 -0.5**
comp=Z,3.9nm,0.6s,mb4.3,baz=249,slow=9.9,SNR=31
MDT Midelt 37.72 30 P **P 22 00 10.6 +1.7**
comp=Z,3.2nm,0.9s,mb4.0,baz=218,slow=7.8,SNR=6.2
SAML Samuel 38.32 255 P **P 22 00 14.1 +0.1**
comp=Z,3.6nm,1.1s,mb4.0
SIV San Ignacio 38.45 243 P **P 22 00 15.5 +0.4**
comp=Z,1.5nm,0.7s,mb3.8,baz=85,slow=9.9,SNR=6.8
CPUP Villa Florida 40.48 226 LR LR 22 16 55.0
comp=Z,632nm,20.4s,MS4.5,baz=36,slow=36
SJG San Juan 43.10 296 LR LR 22 15 03.5
comp=Z,68nm,18.8s,MS4.0,baz=98,slow=31
ESDC Sonseca Array 43.65 25 P **P 22 00 58.2 +0.3**
comp=Z,0.9nm,0.7s,mb3.6,baz=276,slow=38,SNR=4.9
LPAZ La Paz 44.92 246 P **P 22 01 09.8 +1.7**
comp=Z,2.7nm,0.6s,mb4.2,baz=74,slow=5.9,SNR=12
LPAZ LR LR 22 19 07.4
comp=Z,374nm,18.6s,MS4.3,baz=262,slow=35
LPAZ La Paz 44.92 246 *eP* **P 22 01 09.2 +1.1**
comp=Z,3.2nm,0.7s,mb4.3
LPAZ La Paz 44.92 246 *eP* **P 22 01 09.2 +1.1**
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
TSUM Tsumeb 47.07 117 P **P 22 01 26.9 +1.9**
comp=Z,2.6nm,0.8s,mb4.2,baz=263,slow=7.6,SNR=8.1
TSUM Tsumeb 47.07 117 *eP* **P 22 01 26.8 +1.8**
comp=Z,4.0nm,0.8s,mb4.4
ROSC El Rosal 48.49 276 LR LR 22 21 16.9
comp=Z,297nm,18.2s,MS4.3,baz=48,slow=35
TRQA Tornquist 50.90 217 *eP* **P 22 01 53.5 -0.9**
comp=Z,3.6nm,0.6s,mb4.5
LSZ Lusaka 55.79 109 *eP* **P 22 02 29.9 -0.5**
comp=Z,3.9nm,1.0s,mb4.4
LSZ Lusaka 55.79 109 *eP* **P 22 02 29.9 -0.5**
LSZ pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BOSA Boshof 56.98 125 P **P 22 02 39.5 +0.6**
comp=Z,3.6nm,1.0s,mb4.4,baz=277,slow=9.9,SNR=4.4
BOSA LR LR 22 22 29.5
comp=Z,380nm,19.6s,MS4.5,baz=328,slow=31
BOSA Boshof 56.98 125 *eP* **P 22 02 39.1 +0.3**
comp=Z,4.1nm,0.9s,mb4.5
BOSA Boshof 56.98 125 *eP* **P 22 02 39.1 +0.3**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
PLCA Paso Flores 57.80 219 LR LR 22 29 32.3
comp=Z,417nm,19.3s,MS4.6,baz=26,slow=38
IDI Anoyia 58.41 48 LR LR 22 31 04.6
comp=Z,240nm,20.7s,MS4.3,baz=81,slow=39
GERES GERESS Array B 58.80 30 P **P 22 02 51.2 -0.4**
comp=Z,1.1nm,0.8s,mb3.9,baz=236,slow=6.3,SNR=8.4
GERES LR LR 22 28 04.7
comp=Z,180nm,18.9s,MS4.2,baz=235,slow=36
GERES GERESS Array B 58.80 30 P **P 22 02 51.2 -0.4**
GERES LR LR 22 28 04.7
KHC Kasperske Hory 58.93 29 *eP* **P 22 02 52.0 -0.5**
JTS JuntasAbangare 59.41 281 LR LR 22 26 01.7
comp=Z,104nm,19.8s,MS4.0,baz=100,slow=34
CLL Collm 60.14 27 *eP* **P 22 03 01.0 +0.1**
MORC Moravsky Berou 61.33 31 P **P 22 03 08.1 -0.8**
comp=Z,2.3nm,0.8s,mb4.4
MORC Moravsky Berou 61.33 31 P **P 22 03 08.1 -0.8**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
PSZ Piszkesteto 61.46 33 *eP* **P 22 03 09.9 +0.1**
comp=Z,9.8nm,1.0s,mb4.9
PSZ Piszkesteto 61.46 33 *eP* **P 22 03 09.9 +0.1**
PSZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
KMBO Kilima Mbogo 63.22 92 LR LR 22 27 55.5
comp=Z,270nm,18.7s,MS4.5,baz=93,slow=33
MLR Muntele Rosu 63.71 38 P **P 22 03 24.8 0.0**
comp=Z,1.6nm,0.6s,mb4.2,baz=155,slow=17,SNR=3.9
KWP Kalwaria 63.96 33 P **P 22 03 27.0 +0.5**
comp=Z,8.8nm,1.1s,mb4.7
KWP Kalwaria 63.96 33 P **P 22 03 27.0 +0.5**
KWP pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
SADO Sadowa 64.19 321 LR LR 22 24 37.3
comp=Z,232nm,21.7s,MS4.3,baz=255,slow=30
NOA NORSAR Array B 66.50 19 LR LR 22 33 16.0
comp=Z,127nm,18.5s,MS4.2,baz=190,slow=36
BR131 Keskin Array S 66.52 46 *eP* **P 22 03 43.0 -0.1**
comp=Z,1.7nm,0.6s,mb4.2
BRTR Keskin Array B 66.52 46 P **P 22 03 43.5 +0.4**
comp=Z,3.1nm,0.8s,mb4.4,baz=221,slow=6.2,SNR=14
AKASG Malin Array Be 68.11 34 P **P 22 03 52.8 -0.4**
comp=Z,11nm,0.8s,mb5.0,baz=240,slow=6.8,SNR=13
MALT Malatya 69.64 49 *eP* **P 22 04 02.6 -0.1**
comp=Z,5.4nm,0.8s,mb4.5
MALT Malatya 69.64 49 *eP* **P 22 04 02.6 -0.1**
MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
JMIC Jan Mayen 71.07 6 LR LR 22 27 07.8
comp=Z,206nm,19.3s,MS4.4,baz=122,slow=29
FINES FINESS Array B 72.15 23 P **P 22 04 17.2 -0.8**
comp=Z,1.8nm,0.8s,mb4.0,baz=197,slow=5.2,SNR=8.1
FINES LR LR 22 33 22.4
comp=Z,127nm,19.0s,MS4.2,baz=170,slow=34
SUMG Summit 72.18 356 P **P 22 04 17.9 -0.3**
comp=Z,12nm,1.2s,mb4.7
SNAA Sanae 73.79 173 P **P 22 04 19.4 -8.2**
comp=Z,31nm,1.7s,mb5.0
SNAA Sanae 73.79 173 P **P 22 04 19.4 -8.3**
SNAA pmax pmax
comp=Z,31nm,1.7s
DAG Danmarks Havn 76.08 2⇑ *iP* **P 22 04 41.2 +0.3**
DAG Danmarks Havn 76.08 2⇑ *eP* **P 22 04 41.2 +0.3**
ARCES ARCESS Array B 76.66 16 LR LR 22 34 03.3
comp=Z,161nm,18.4s,MS4.4,baz=207,slow=32
ULM Lac du Bonnet 76.71 322 LR LR 22 32 00.3
comp=Z,181nm,21.7s,MS4.3,baz=78,slow=31
PDAR Pinedale Array 84.82 313 LR LR 22 37 50.9
comp=Z,204nm,21.4s,MS4.5,baz=102,slow=32
AKTK Aktyubinsk 85.59 40 P **P 22 05 31.7 0.0**
AKTO Aktyubinsk 85.59 40 P **P 22 05 31.7 0.0**
comp=Z,1.8nm,0.9s,mb4.3,baz=267,slow=5.6,SNR=6.5
YKA Yellowknife Ar 88.75 332 P **P 22 05 47.6 +0.6**
comp=Z,0.1nm,0.3s,mb3.6,baz=114,slow=21,SNR=2.9
YKA LR LR 22 40 54.2
comp=Z,209nm,20.2s,MS4.5,baz=90,slow=32
NEW Newport 90.26 318 LR LR 22 40 58.7
comp=Z,211nm,18.5s,MS4.6,baz=46,slow=32
NJ2 Nanjing 133.41 42 *e*PKP PKPdf 22 12 05.2 -4.4
NJ2 XPKP 22 12 19.6
NJ2 PP PP 22 14 37.0 -0.1
NJ2 PKS 22 15 40.0
NJ2 PP PP
comp=Z,90nm,6.6s
NJ2 LR LR
comp=N,690nm,33.9s
NJ2 LR LR
comp=E,160nm,28.0s
NJ2 LR LR
comp=Z,330nm,35.4s,MS4.8
ASAR Alice Springs 149.96 141 PKPbc PKPbc 22 12 43.8 0.0
comp=Z,1.3nm,0.8s,baz=203,slow=1.7,SNR=9.6

*ISCJB **07** 22:01:34.4±4.2, 20S±03×1284E±05, h28km±31km, mb4.4/6, Error ellipse: s-maj=96.6km s-min=9.0km az=129.3*
*NEIC **07** 22:01:39.0±1.0, 249S×12739E, h35km, mb4.0/3, Error ellipse: s-maj=64.0km s-min=11.8km az=66.0*
*IDC **07** 22:01:43.5±4.8, 258S×12743E, h87km±52km, mb3.7/2, mb1 3.8/3, mb1mx3.4/16, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=218.6km s-min=12.8km az=67.0*
ISC 07 22:01:42.6±2.9, 23S±02×1282E±04, h87km±28km**, n14,** σ**1**§**07/16, mb4.2/6, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.55**	**161**	*eP*	**Pn**	**22 05 54.8**	**+1.2**
	3.7nm,0.8s						
WRA	**Warramunga Arr**	**18.56**	**161**	P	**Pn**	**22 05 52.6**	**-1.2**
	0.2nm,0.3s,baz=335,slow=13,SNR=19						
WRA				S	**S**	**22 09 19.7**	**+0.1**
	baz=335,slow=21,SNR=5.0						
ASAR	**Alice Springs**	**21.97**	**166**	P	**P**	**22 06 31.2**	**+1.9**
	2.1nm,0.3s,mb3.9,baz=346,slow=12,SNR=38						
ASAR				S	**S**	**22 10 27.8**	**+1.0**
	1.3nm,0.8s,baz=340,slow=16,SNR=7.4						
QIZ	**Qiongzhong**	**27.81**	**320**	*eP*	**P**	**22 07 23.2**	**-0.4**
STKA	**Stephens Creek**	**32.04**	**158**	P	**P**	**22 07 59.0**	**-1.9**
NWAO	**Narrogin (SRO)**	**32.17**	**197**	*eP*	**P**	**22 07 58.9**	**-3.2**
	6.5nm,1.0s,mb4.3						
LSA	**Lhasa**	**47.57**	**315**	*eP*	**P**	**22 10 10.5**	**+1.0**
	0.8nm,0.4s,mb3.9						
JIRN	**Jiri**	**50.16**	**309**	*eP*	**P**	**22 10 30.2**	**+0.9**
	3.7nm,0.7s,mb4.4						
GUN	**Gumba**	**50.52**	**310**	*eP*	**P**	**22 10 32.6**	**+0.6**
	9.9nm,0.7s,mb4.9						
GKN	**Gorkha**	**51.53**	**309**	*eP*	**P**	**22 10 39.1**	**-0.5**
KOLN	**Koldanda**	**52.23**	**308**	*eP*	**P**	**22 10 44.5**	**-0.3**
MKAR	**Makanchi Array**	**63.31**	**326**	P	**P**	**22 12 02.0**	**-0.3**
	1.0nm,0.6s,mb3.9,baz=124,slow=8.5,SNR=16						
KURK	**Kurchatov**	**67.57**	**328**	P	**P**	**22 12 29.6**	**-0.1**
BRVK	**Borovoye**	**73.20**	**328**	*eP*	**P**	**22 13 03.9**	**-0.2**

*IDC **07** 22:02:14.7±1.5, 4347N×10529W, h0km, mb3.7/6, mb1 3.9/11, mb1mx3.7/24, mbtmp3.7/11, ML3.9/5, Error ellipse: s-maj=39.7km s-min=7.0km az=152.0*
*ISCJB **07** 22:02:16.6±0.5, 4378N±002×10546W±004, h0km, mb3.9/6, Error ellipse: s-maj=4.5km s-min=3.5km az=7.2*
*NEIC **07** 22:02:16.6±0.7, 4369N×105.18W, h0km, ML3.5, Error ellipse: s-maj=9.1km s-min=5.9km az=109.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 07 22:02:16.9±0.4, 4378N±003×**10529W**±004**, h0**km**, n44,** σ**1**§**20/71, mb3.9/6, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RWWY	**Rawlins**	**2.52**	**215**	*e*Pn	**Pn**	**22 02 59.2**	**+0.1**
RWWY				*e*Sn	**Sn**	**22 03 30.9**	**+0.3**
LAO	**LASA Array**	**2.99**	**348**	*e*Pn	**Pn**	**22 03 06.4**	**+0.8**
LAO				*e*Sn	**Sn**	**22 03 43.1**	**+1.1**
BW06	**Boulder Array**	**3.28**	**254**	*e*Pn	**Pn**	**22 03 09.3**	**-0.2**
BW06				*e*Sn	**Sn**	**22 03 50.2**	**+0.9**
PDAR	**Pinedale Array**	**3.28**	**254**	Pn	**Pn**	**22 03 09.2**	**-0.4**
	13nm,0.3s,baz=70,slow=15,SNR=199						
PDAR				Pg	**Pg**	**22 03 14.9**	**-4.9**
	26nm,0.3s,baz=72,slow=19,SNR=56						
PDAR				Lg		22 03 55.0	
	29nm,0.3s,baz=75,slow=29,SNR=17						
GCMT	**Greycliff**	**3.71**	**304**	*e*Pn	**Pn**	**22 03 16.4**	**+0.9**
GCMT				*e*Sn	**Sn**	**22 03 57.2**	**-2.7**
LKWY	**Lake**	**3.76**	**284**	*e*Pn	**Pn**	**22 03 17.7**	**+1.5**
LKWY				*e*Pg	**Pg**	**22 03 27.2**	**-1.9**
LOHW	**Long Hollow**	**3.86**	**269**	*e*Pn	**Pn**	**22 03 19.8**	**+2.3**
LOHW				*e*Sn	**Sn**	**22 04 03.3**	**-0.3**
FLWY	**Flagg Ranch**	**3.92**	**276**	*e*Pn	**Pn**	**22 03 19.2**	**+0.8**
FLWY				*e*Pg	**Pg**	**22 03 30.0**	**-2.2**
FLWY				*e*Sn	**Sn**	**22 04 04.4**	**-0.7**
ISCO	**Idaho Springs**	**3.98**	**184**	*e*Pn	**Pn**	**22 03 18.7**	**-0.5**
ISCO				*e*Sn	**Sb**	**22 04 17.1**	**+0.4**
SNOW	**Snow King Moun**	**3.98**	**267**	*e*Pn	**Pn**	**22 03 21.6**	**+2.3**
SNOW				*e*S	**Sn**	**22 04 10.4**	**+3.7**
YFT	**Old Faithful**	**4.05**	**281**	*e*Pn	**Pn**	**22 03 20.6**	**+0.4**
YFT				*e*Pg	**Pg**	**22 03 31.1**	**-3.5**
YFT				*e*S	**Sg**	**22 04 26.4**	**-0.8**
REDW	**Red Top Meadow**	**4.07**	**266**	*e*Pn	**Pn**	**22 03 20.9**	**+0.5**
REDW				*e*Pg	**Pg**	**22 03 28.6**	**-6.3**
YMR	**Madison River**	**4.18**	**284**	*e*Pn	**Pn**	**22 03 24.5**	**+2.5**
AHID	**Auburn Hatcher**	**4.37**	**259**	*e*P	**Pb**	**22 03 32.9**	**-1.6**
AHID				*e*S	**Sn**	**22 04 20.1**	**+4.1**
QLMT	**Earthquake Lak**	**4.53**	**286**	*e*Pn	**Pn**	**22 03 27.3**	**+0.5**
QLMT				*e*Pg	**Pg**	**22 03 38.8**	**-5.0**
QLMT				*e*Sg	**Sg**	**22 04 40.7**	**-1.9**
DGMT	**Dagmar**	**4.75**	**9**	*e*Pn	**Pn**	**22 03 32.2**	**+2.4**
SMCO	**Snowmass**	**4.77**	**196**	*e*Pn	**Pb**	**22 03 40.4**	**-1.0**
SMCO				*e*S	**Sb**	**22 04 39.6**	**+0.3**
BOZ	**Bozeman (W)**	**4.89**	**295**	*e*Pn	**Pn**	**22 03 31.3**	**-0.4**
BOZ				*e*Sg	**Sg**	**22 04 47.4**	**-6.7**
HWUT	**Hardware Ranch**	**5.11**	**247**	*e*Pn	**Pn**	**22 03 34.1**	**-0.6**
	21nm,0.4s						
HWUT				*e*Sg	**Sg**	**22 04 56.7**	**-4.4**
TCUT	**Toone Canyon**	**5.25**	**242**	*e*Pn	**Pn**	**22 03 36.2**	**-0.5**
TCUT				*e*Sg	**Sg**	**22 05 05.5**	**-0.2**
DLMT	**Dillon**	**5.46**	**289**	*e*Pn	**Pn**	**22 03 40.9**	**+1.4**
	7.5nm,0.4s						
HRY	**Holter Researc**	**5.47**	**305**	*e*Pn	**Pn**	**22 03 40.7**	**+0.9**
HRY				*e*Pg	**Pg**	**22 03 58.9**	**-2.9**
HRY				*e*Sg	**Sg**	**22 05 06.8**	**-6.0**
MCMT	**McKenzie Canyo**	**5.53**	**284**	*e*Pn	**Pn**	**22 03 42.7**	**+2.2**
MCMT				*e*Sg	**Sg**	**22 05 15.3**	**+0.8**
DAU	**Daniels Canyon**	**5.57**	**235**	*e*Pn	**Pn**	**22 03 41.4**	**+0.4**
DAU				*e*S	**Sb**	**22 05 06.7**	**+4.3**
SPUT	**South Promonto**	**5.84**	**247**	*e*Pn	**Pn**	**22 03 45.0**	**+0.3**
HVU	**Hansel Valley**	**5.86**	**253**	*e*Pn	**Pn**	**22 03 44.8**	**-0.3**
	14nm,0.5s						
HVU				*e*Sg	**Sg**	**22 05 25.3**	**0.0**
MPU	**Maple Canyon**	**6.04**	**234**	*e*Pn	**Pn**	**22 03 52.8**	**+5.3**
	19nm,0.7s						
SRU	**San Rafael**	**6.10**	**222**	*e*Pn	**Pn**	**22 03 46.9**	**-1.4**
	24nm,0.4s						
SRU				*e*Sg	**Sg**	**22 05 36.8**	**+3.9**
TMUT	**Trail Mountain**	**6.31**	**227**	*e*Pn	**Pn**	**22 03 51.1**	**-0.1**
BGU	**Big Grassy Mou**	**6.41**	**246**	*e*Pn	**Pn**	**22 03 55.4**	**+2.9**
CHMT	**Chamberlain Mo**	**6.43**	**302**	*e*Pn	**Pn**	**22 03 53.3**	**+0.5**
HLID	**Hailey**	**6.62**	**271**	*e*Pn	**Pn**	**22 03 57.2**	**+1.7**
	4.0nm,0.7s						
DUG	**Dugway**	**6.65**	**240**	*e*Pn	**Pn**	**22 03 55.2**	**-0.7**
	9.6nm,0.4s						
MSU	**Marysvale**	**7.39**	**227**	*e*Pn	**Pn**	**22 04 05.5**	**-0.6**
ELK	**Elko**	**7.98**	**251**	Pn	**Pn**	**22 04 13.7**	**-0.4**
	0.3nm,0.3s,baz=62,slow=12,SNR=5.7						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**22 04 28.4**	**-1.4**
	5.7nm,0.3s,baz=228,slow=12,SNR=23						
ULM				Lg		22 07 03.0	
	0.7nm,0.3s,baz=317,slow=18,SNR=2.0						
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn	**Pn**	**22 04 58.3**	**+0.4**
	0.2nm,0.3s,baz=59,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**19.53**	**347**	P	**Pn**	**22 06 46.8**	**-0.2**
	baz=158,slow=11,SNR=9.2						
ILAR	**Eielson Array**	**31.23**	**327**	P	**P**	**22 08 38.9**	**+0.8**
	0.2nm,0.5s,mb3.3,baz=108,slow=8.0,SNR=4.9						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**22 12 33.2**	**-1.5**
	1.4nm,0.5s,mb4.4,baz=332,slow=6.8,SNR=16						
NOA	**NORSAR Array B**	**63.58**	**29**	P	**P**	**22 12 47.9**	**-1.5**
	1.5nm,1.1s,mb4.1,baz=339,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**68.00**	**23**	P	**P**	**22 13 16.9**	**-1.0**
	0.7nm,0.5s,mb4.1,baz=318,slow=5.4,SNR=4.9						
SONM	**Songino Array**	**84.60**	**339**	P	**P**	**22 14 51.9**	**-0.3**
	0.3nm,0.4s,mb3.8,baz=352,slow=3.9,SNR=5.9						
MKAR	**Makanchi Array**	**89.57**	**355**	P	**P**	**22 15 15.5**	**-0.8**
	0.5nm,0.7s,mb3.9,baz=6.7,slow=4.2,SNR=6.2						

*ISCJB **07** 22:42:05.1±1.6, 641S±009×1282E±01, h319km±20km, mb3.9/9, Error ellipse: s-maj=21.4km s-min=8.9km az=115.8*
*NEIC **07** 22:42:07.7±1.4, 645S×12827E, h325km±18km, mb4.1/4, Error ellipse: s-maj=16.3km s-min=9.5km az=49.0*
*IDC **07** 22:42:10.9±4.5, 641S×12839E, h366km±53km, mb3.3/4, mb1 3.6/7, mb1mx3.4/15, mbtmp4.3/7, Error ellipse: s-maj=37.0km s-min=12.0km az=72.0*
ISC 07 22:42:08.4±1.2, 648S±007×**1283E**±01**, h338**km±15km**, n21,** σ**1**§**05/25, mb3.9/9, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.43**	**147**	*eP*	**Pn**	**22 43 53.7**	**-1.9**
	29nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.83**	**192**	*eP*	**Pn**	**22 44 47.5**	**-0.7**
	22nm,0.6s						
WRAB	**Tennant Creek**	**14.62**	**157**	*eP*	**P**	**22 45 20.0**	**+0.7**
	28nm,0.5s						
WRAB				*e*S	**S**	**22 47 57.1**	**-0.6**
WRA	**Warramunga Arr**	**14.62**	**157**	P	**P**	**22 45 19.7**	**+0.4**
	4.0nm,0.3s,baz=339,slow=12,SNR=198						
WRA				S	**S**	**22 47 57.0**	**-0.8**
	0.8nm,0.3s,baz=338,slow=20,SNR=9.5						
WB2	**Warramunga Arr**	**14.63**	**157**	⇓ *iP*	**P**	**22 45 19.9**	**+0.5**
WB2				*e*S	**S**	**22 47 56.3**	**-1.6**
MBWA	**Marble Bar**	**16.77**	**209**	*eP*	**P**	**22 45 43.8**	**+1.1**
	17nm,1.0s						
KKM	**Kota Kinabalu**	**17.30**	**316**	*eP*	**P**	**22 45 49.8**	**+1.3**
ASAR	**Alice Springs**	**17.93**	**163**	P	**P**	**22 45 56.7**	**+1.6**
	3.3nm,0.3s,baz=346,slow=11,SNR=238						
ASAR				S	**S**	**22 49 05.1**	**+2.0**
	0.6nm,0.3s,baz=345,slow=20,SNR=48						
PMG	**Port Moresby**	**18.94**	**100**	P	**P**	**22 46 06.5**	**+0.6**
	1.1nm,0.3s,baz=284,slow=12,SNR=4.8						
CTA	**Charters Tower**	**22.09**	**129**	P	**P**	**22 46 37.0**	**+0.8**
	4.1nm,0.8s,mb3.7,baz=316,slow=12,SNR=6.3						
CTAO	**Charters Tower**	**22.09**	**129**	*eP*	**P**	**22 46 37.8**	**+1.6**
	3.8nm,0.7s,mb3.7						
STKA	**Stephens Creek**	**28.17**	**155**	P	**P**	**22 47 29.8**	**-0.8**
	1.0nm,0.6s,mb3.2,baz=321,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**28.17**	**155**	P	**P**	**22 47 29.8**	**-0.8**
STKA				*e*		22 48 29.5	
LSA	**Lhasa**	**50.64**	**317**	*eP*	**P**	**22 50 35.0**	**+0.9**
	1.5nm,0.6s,mb3.4						
JIRN	**Jiri**	**52.95**	**312**	*eP*	**P**	**22 50 50.7**	**-0.3**
	2.9nm,0.3s,mb4.1						
GUN	**Gumba**	**53.32**	**312**	*eP*	**P**	**22 50 53.7**	**0.0**
	8.9nm,0.4s,mb4.4						
PKI	**Pulchoki**	**53.49**	**311**	*eP*	**P**	**22 50 54.3**	**-0.6**
GKN	**Gorkha**	**54.29**	**311**	*eP*	**P**	**22 51 00.0**	**-0.6**
	5.8nm,0.3s,mb4.4						
KOLN	**Koldanda**	**54.95**	**310**	*eP*	**P**	**22 51 02.9**	**-2.4**
	7.2nm,0.6s,mb4.2						
SONM	**Songino Array**	**57.42**	**343**	P	**P**	**22 51 22.5**	**-0.2**
	1.1nm,0.8s,mb3.2,baz=161,slow=6.9,SNR=9.4						
MKAR	**Makanchi Array**	**66.86**	**328**	P	**P**	**22 52 24.5**	**-0.3**
	1.4nm,0.4s,mb4.0,baz=126,slow=7.7,SNR=61						

*ISCJB **07** 22:47:32.9±0.9, 2126S±005×685W±0.1, h125km±15km, mb4.2/3, Error ellipse: s-maj=19.1km s-min=7.8km az=173.4*
*NEIC **07** 22:47:33.5±1.0, 2118S×6837W, h98km±16km, mb4.0/3, Error ellipse: s-maj=17.4km s-min=10.5km az=87.0*
*IDC **07** 22:47:34.3±1.8, 2125S×6830W, h118km±16km, mb3.8/2, mb1 3.5/7, mb1mx3.4/18, mbtmp3.8/7, Error ellipse: s-maj=32.0km s-min=13.4km az=88.0*
ISC 07 22:47:33.8±0.8, 2126S±005×**686W**±01**, h128**km±12km**, n13,** σ**1**§**31/15, mb4.2/3, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.97**	**5**	P	**Pn**	**22 48 48.4**	**+2.0**
	4.2nm,0.3s,baz=187,slow=7.0,SNR=59						
LPAZ				S	**Sn**	**22 49 43.8**	**+0.9**
	baz=78,slow=20,SNR=1.5						
ARE	**Arequipa**	**5.50**	**330**	*eP*	**Pn**	**22 48 54.0**	**+0.5**
ARE				*e*S	**Sn**	**22 49 54.0**	**-1.7**
SIV	**San Ignacio**	**8.86**	**55**	P	**Pn**	**22 49 35.4**	**-3.5**
	1.3nm,0.3s,baz=248,slow=13,SNR=15						
CFAA	**Coronel Fontan**	**10.31**	**178**	P	**Pn**	**22 49 58.2**	**0.0**
	0.1nm,0.3s,baz=352,slow=16,SNR=6.4						
CFAA				S	**Sn**	**22 51 51.2**	**-0.7**
	0.1nm,0.3s,baz=270,slow=20,SNR=4.4						
CPUP	**Villa Florida**	**11.49**	**118**	P	**Pn**	**22 50 12.6**	**-1.3**
	0.3nm,0.3s,baz=270,slow=10,SNR=2.2						
SAML	**Samuel**	**13.31**	**24**	*e*Pn	**Pn**	**22 50 37.5**	**-0.2**
TRQA	**Tornquist**	**17.69**	**163**	*eP*	**Pn**	**22 51 33.8**	**+1.7**
	3.6nm,0.5s						
PLCA	**Paso Flores**	**19.48**	**184**	P	**P**	**22 51 53.9**	**+3.2**
	0.1nm,0.3s,baz=17,slow=8.4,SNR=3.0						
PLCA	**Paso Flores**	**19.48**	**184**	*eP*	**P**	**22 51 55.1**	**+4.4**
	4.0nm,0.8s						
WCI	**Wyandotte Cave**	**61.46**	**344**	*eP*	**P**	**22 57 35.1**	**-1.7**
	8.3nm,0.8s,mb4.8						
TORD	**Torodi Ar. Bea**	**77.01**	**70**	P	**P**	**22 59 12.9**	**+0.4**
	1.6nm,0.6s,mb4.0,baz=254,slow=5.3,SNR=38						
YKA	**Yellowknife Ar**	**91.06**	**340**	P	**P**	**23 00 24.2**	**+0.5**
	0.5nm,0.6s,mb3.8,baz=132,slow=4.2,SNR=11						
MKAR	**Makanchi Array**	**145.28**	**36**	PKPbc	PKPbc	23 06 57.8	+1.5
	1.0nm,0.4s,baz=324,slow=3.4,SNR=22						

*IDC **07** 22:47:52.5±1.1, 1491N×14727E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/20, mbtmp4.0/7, ML4.2/1, Error ellipse: s-maj=31.4km s-min=19.0km az=96.0*
*ISCJB **07** 22:47:55.6±0.8, 1494N±009×1473E±01, h33km, mb3.9/9, MS5.1/1, Error ellipse: s-maj=15.8km s-min=10.5km az=67.0*
*NEIC **07** 22:47:57.9±0.8, 1494N×147.16E, h35km, mb4.0/3, Error ellipse: s-maj=20.7km s-min=11.7km az=93.0*
*BJI **07** 22:47:57.8, 1490N×14720E, h35km, mB5.3, mb4.1, Ms5.1, Msz5.1*
ISC 07 22:47:58.0±0.8, 1494N±008×**1473E**±01**, h35**km**, n14,** σ**0**§**93/15, mb3.9/9, MS5.1/1, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.67**	**240**	Pn	**Pn**	**22 48 36.6**	**-1.8**
	39nm,0.3s,baz=69,slow=8.6,SNR=4.9						
GUMO				Sn	**Sn**	**22 49 09.9**	**+0.4**
	38nm,0.3s,baz=12,slow=23,SNR=5.7						
GUMO	**Guam**	**2.67**	**240**	Pn	**Pn**	**22 48 36.6**	**-1.8**
GUMO				Sn	**Sn**	**22 49 09.9**	**+0.4**
JOW	**Kunigami**	**21.28**	**307**	P	**P**	**22 52 41.1**	**-0.1**
	7.5nm,0.3s,mb4.5,baz=117,slow=14,SNR=8.7						
WRAB	**Tennant Creek**	**36.90**	**200**	*eP*	**P**	**22 55 05.3**	**+2.0**
	4.2nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**36.91**	**200**	P	**P**	**22 55 03.5**	**+0.2**
	2.8nm,0.8s,mb4.1,baz=21,slow=9.2,SNR=10						
ASAR	**Alice Springs**	**40.52**	**199**	P	**P**	**22 55 33.8**	**+0.2**
	0.9nm,0.8s,mb3.5,baz=21,slow=7.9,SNR=8.2						
LZH	**Lanzhou**	**44.02**	**307**	*eP*	**P**	**22 56 03.2**	**+1.1**
LZH				AP	pP	22 56 12.4	0.0
LZH				XP	sP	22 56 16.0	-0.6
LZH				AMB	AMB		
	comp=Z,200nm,4.2s						
LZH				LR	LR		
	comp=E,1μm,12.4s						
LZH				LR	LR		
	comp=Z,2μm,14.0s,MS5.1						
MBWA	**Marble Bar**	**44.91**	**218**	*eP*	**P**	**22 56 09.2**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.6						
ULN	**Ulaanbaatar**	**46.64**	**323**	*eP*

22C-19D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.81**	**60**	Pn	**Pn**	**22 51 52.3**	**-0.5**
	238nm,0.8s,baz=239,slow=16,SNR=792						
KK31				⇑Pg	**Pb**	**22 52 05.3**	**-2.8**
	66nm,0.4s,baz=239,slow=18,SNR=38						
KK31				⇑Lg		22 53 31.0	
	654nm,0.6s,baz=243,slow=28,SNR=10						
KK31	**Karatay Array**	**5.81**	**60**	Pg	**Pb**	**22 52 05.3**	**-2.8**
	66nm,0.4s,SNR=38						
KK31	**Karatay Array**	**5.81**	**60**	*i* PN	**Pn**	**22 51 52.3**	**-0.6**
KK31				pmax	pmax		
	comp=Z,17nm,0.1s						
KKAR	**Karatay Array**	**5.81**	**60**	*e*PN	**Pn**	**22 51 52.3**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.2s						
KKAR				pmax	pmax		
	comp=Z,1μm,0.8s						
KKAR				pmax	pmax		
	comp=Z,31μm,9.0s						
AAK	**Ala-Archa**	**8.45**	**71**	Pn	**Pn**	**22 52 26.0**	**-3.1**
AAK				Sn	**Sn**	**22 54 04.9**	**+0.4**
AAK	**Ala-Archa**	**8.45**	**71**	Pn	**Pn**	**22 52 26.0**	**-3.1**
AAK				Sn	**Sn**	**22 54 04.9**	**+0.3**
FRU	**Bishkek**	**8.58**	**70**	*e*P	**Pn**	**22 52 32.0**	**+1.1**
	comp=Z,100nm,1.4s						
FRU	**Bishkek**	**8.58**	**70**	*e*P	**Pn**	**22 52 32.0**	**+1.1**
FRU				pmax	pmax		
	comp=Z,100nm,1.4s						
AB31	**Akbulak array**	**9.23**	**345**	Pn	**Pn**	**22 52 38.0**	**-1.8**
	comp=Z,13nm,0.5s,baz=160,slow=13,SNR=351						
AB31				⇓Lg		22 55 16.4	
	comp=Z,385nm,0.9s,baz=171,slow=24,SNR=3.9						
AB31	**Akbulak array**	**9.23**	**345**	P	**Pn**	**22 52 37.9**	**-1.9**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AB31				pmax	pmax		
	comp=Z,41nm,0.4s						
AB31				pmax	pmax		
	comp=Z,14μm,9.0s						
TKM2	**Tokmak 2**	**9.30**	**70**	⇓Lg		22 55 25.9	
	comp=Z,505nm,1.1s						
CEP	**Cherat**	**9.32**	**132**	P	**Pn**	**22 52 45.0**	**+4.0**
SBDP	**Sheikh Budin**	**9.94**	**142**	P	**Pn**	**22 52 48.8**	**-0.8**
THW	**Thamme Wali**	**10.01**	**137**	P	**Pn**	**22 52 50.3**	**-0.2**
DRP	**Derazinda**	**10.14**	**146**	P	**Pn**	**22 52 52.0**	**-0.3**
CHCP	**Chirah Chowk**	**10.22**	**128**	P	**Pn**	**22 52 52.5**	**-0.9**
AAA	**Alma-Ata**	**10.34**	**70**	*i* P	**Pn**	**22 52 48.2**	**-6.9**
AAA	**Alma-Ata**	**10.34**	**70**	*c i* P	**Pn**	**22 52 48.2**	**-6.9**
KNDC	**Almaty**	**10.35**	**70**	⇑Lg		22 56 00.6	
	comp=Z,6μm,1.4s						
AKTK	**Aktyubinsk**	**10.77**	**340**	Pn	**Pn**	**22 53 00.6**	**-0.4**
AKTK				Sn	**Sn**	**22 54 57.6**	**-4.0**
AKTK	**Aktyubinsk**	**10.77**	**340**	Pn	**Pn**	**22 53 00.6**	**-0.4**
AKTK				Sn	**Sn**	**22 54 57.6**	**-4.0**
AKTK				Lg		22 56 15.8	
AKTK				LR	LR	22 57 46.7	
AKTO	**Aktyubinsk**	**10.77**	**340**	⇓Pn	**Pn**	**22 52 59.7**	**-1.3**
	comp=Z,2.0nm,0.3s						
AKTO				⇑Lg		22 56 12.3	
	comp=Z,57nm,1.2s						
AKTO	**Aktyubinsk**	**10.77**	**340**	Pn	**Pn**	**22 53 00.6**	**-0.4**
	comp=Z,6.7nm,0.3s,baz=159,slow=11,SNR=152						
AKTO				Sn	**Sn**	**22 54 57.6**	**-4.0**
	comp=Z,5.1nm,0.3s,baz=28,slow=9.0,SNR=4.3						
AKTO				Lg		22 56 15.8	
	comp=Z,6.9nm,0.3s,baz=230,slow=20,SNR=4.8						
AKTO				LR	LR	22 57 46.7	
	comp=Z,488nm,21.9s,baz=0.0,slow=41						
AKTO	**Aktyubinsk**	**10.77**	**340**	P	**Pn**	**22 53 00.6**	**-0.4**
AKTO						22 54 57.6	
DLH	**Dalhousie**	**12.65**	**124**	*e*P	**Pn**	**22 53 33.0**	**+6.4**
DLH				*e*S	**Sn**	**22 55 44.0**	**-3.4**
VOSK	**Vostochnaya**	**13.31**	**20**	⇑Pn	**Pn**	**22 53 32.4**	**-3.2**
	comp=Z,23nm,0.8s						
VOSK				⇑Lg		22 57 27.9	
	comp=Z,566nm,1.5s						
VOSK	**Vostochnaya**	**13.31**	**20**	P	**Pn**	**22 53 32.3**	**-3.3**
VOSK				pmax	pmax		
	comp=Z,17nm,0.8s						
VOSK				pmax	pmax		
	comp=Z,848nm,1.5s						
BVA0	**Borovoye Array**	**13.44**	**18**	Pn	**Pn**	**22 53 35.8**	**-1.6**
	comp=Z,6.5nm,0.8s,baz=199,slow=13,SNR=139						
BVA0				⇑Lg		22 57 35.2	
	comp=Z,93nm,1.4s						
BVA0	**Borovoye Array**	**13.44**	**18**	*i* P	**Pn**	**22 53 35.7**	**-1.7**
	comp=Z,125nm,1.4s						
BVA0	**Borovoye Array**	**13.44**	**18**	*i* P	**Pn**	**22 53 35.7**	**-1.7**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVA0				pmax	pmax		
	comp=Z,125nm,1.4s						
BVAR	**Borovoye Array**	**13.44**	**18**	Pn	**Pn**	**22 53 35.1**	**-2.3**
	comp=Z,2.1nm,0.3s,baz=198,slow=12,SNR=45						
BVAR				Sn	**Sn**	**22 55 58.5**	**-8.3**
	comp=Z,4.3nm,0.3s,baz=350,slow=29,SNR=3.8						
BVAR				Lg		22 57 35.4	
	baz=191,slow=22,SNR=1.8						
BVAR	**Borovoye Array**	**13.44**	**18**	Pn	**Pn**	**22 53 35.8**	**-1.6**
	comp=Z,6.5nm,0.8s,SNR=139						
BVAR	**Borovoye Array**	**13.44**	**18**	P	**Pn**	**22 53 35.1**	**-2.3**
BVAR						22 55 58.5	
BRVK	**Borovoye**	**13.45**	**18**	*e*Pn	**Pn**	**22 53 36.0**	**-1.5**
	comp=Z,31nm,0.6s						
BRVK	**Borovoye**	**13.45**	**18**	*e*Pn	**Pn**	**22 53 36.0**	**-1.4**
	comp=Z,31nm,0.6s						
BRVK	**Borovoye**	**13.45**	**18**	*e*P	**Pn**	**22 53 36.0**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,31nm,0.6s						
BHK	**Bhakra**	**13.69**	**127**	*e*S	**Sn**	**22 56 08.4**	**-4.6**
DGRG	**David-gareji**	**13.85**	**280**	P	**Pn**	**22 53 41.8**	**-1.2**
MTA	**Mtatsminda**	**14.28**	**281**	P	**Pn**	**22 53 46.2**	**-2.6**
TBLG	**Delisi**	**14.32**	**281**	P	**Pn**	**22 53 46.9**	**-2.5**
TBLG	**Delisi**	**14.32**	**281**	*e*P	**Pn**	**22 53 46.8**	**-2.6**
DUS	**Dusheti**	**14.34**	**283**	P	**Pn**	**22 53 58.2**	**+8.4**
GNI	**Garni**	**14.43**	**275**	Pn	**Pn**	**22 53 49.6**	**-1.3**
GNI	**Garni**	**14.43**	**275**	Pn	**Pn**	**22 53 49.6**	**-1.2**
GNI	**Garni**	**14.43**	**275**	*i* P	**Pn**	**22 53 51.6**	**+0.7**
GNI				pmax	pmax		
	comp=Z,28nm,1.1s						
KURK	**Kurchatov**	**14.69**	**40**	⇑Pn	**Pn**	**22 53 50.8**	**-3.6**
	comp=Z,22nm,1.0s						
KURK				⇑Lg		22 58 14.0	
	comp=Z,191nm,1.1s						
KURK	**Kurchatov**	**14.69**	**40**	Pn	**Pn**	**22 53 50.8**	**-3.6**
	comp=Z,22nm,1.0s						
KURK				*e*Sn	**Sn**	**22 56 43.0**	**+5.8**
KURK	**Kurchatov**	**14.69**	**40**	*e*Pn	**Pn**	**22 53 51.9**	**-2.6**
KURK				*e*Sn	**Sn**	**22 56 43.0**	**+5.8**
MK31	**Makanchi Array**	**14.94**	**59**	⇑Pn	**Pn**	**22 53 55.1**	**-2.7**
	comp=Z,24nm,0.7s,baz=247,slow=14,SNR=298						
MK31				⇓Lg		22 58 15.0	
	comp=Z,135nm,1.1s						
MK31	**Makanchi Array**	**14.94**	**59**	*i* P	**Pn**	**22 53 55.1**	**-2.7**
MK31				pmax	pmax		
	comp=Z,32nm,0.7s						
MKAR	**Makanchi Array**	**14.94**	**59**	Pn	**Pn**	**22 53 54.9**	**-2.9**
	comp=Z,1.4nm,0.3s,baz=246,slow=15,SNR=71						
MKAR				Lg		22 58 20.5	
	comp=Z,1.0nm,0.3s,baz=255,slow=29,SNR=4.1						
MKAR	**Makanchi Array**	**14.94**	**59**	*e*P	**Pn**	**22 53 55.1**	**-2.7**
MKAR				pmax	pmax		
	comp=Z,23nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,153nm,1.0s						
ZEI	**Tsey**	**14.95**	**286**	*e*P	**Pn**	**22 54 05.8**	**+7.7**
ZEI				*e*S	**Sn**	**22 56 42.2**	**-1.6**
AKH	**Akhalkalaki**	**15.26**	**280**	P	**Pn**	**22 54 01.7**	**-0.4**
DDI	**Dehra Dun**	**15.46**	**126**	*e*P	**Pn**	**22 54 03.9**	**-0.9**
DDI				*ex*	x	22 56 46.4	
GOF	**Gofitskoye**	**15.82**	**294**	*e*P	**Pn**	**22 54 06.0**	**-3.5**
	comp=Z,54nm,1.5s						
GOF				*e*S	**Sn**	**22 56 55.0**	**-10**
GOF	**Gofitskoye**	**15.82**	**294**	*e*P	**Pn**	**22 54 06.0**	**-3.5**
GOF				*e*S	**Sn**	**22 56 55.0**	**-10**
GOF				pmax	pmax		
	comp=Z,54nm,1.5s						
KIV	**Kislovodsk**	**15.92**	**290**	Pn	**Pn**	**22 54 07.2**	**-3.5**
KIV				Sn	**Sn**	**22 56 49.5**	**-18**
KIV	**Kislovodsk**	**15.92**	**290**	Pn	**Pn**	**22 54 07.2**	**-3.5**
KIV				Sn	**Sn**	**22 56 49.5**	**-18**
KIV	**Kislovodsk**	**15.92**	**290**	*i* P	**Pn**	**22 54 08.4**	**-2.3**
KIV				*e*		22 56 59.7	
KIV				pmax	pmax		
	comp=Z,48nm,1.3s						
KIV				MLR	MLR		
	comp=Z,500nm,17.0s						
NDI	**New Delhi**	**16.16**	**132**	*e*P	**Pn**	**22 54 11.0**	**-2.9**
NDI				*ex*	x	22 56 59.0	
ARU	**Arti**	**16.38**	**350**	*e*Pn	**Pn**	**22 54 13.9**	**-2.7**
	comp=Z,92nm,1.0s						
ARU				*e*S	**Sn**	**22 57 23.9**	**+5.5**
ARU	**Arti**	**16.38**	**350**	*e*Pn	**Pn**	**22 54 13.9**	**-2.8**
	comp=Z,92nm,1.0s						
ARU				*e*S	**Sn**	**22 57 23.9**	**+5.5**
ARU	**Arti**	**16.38**	**350**	*e*P	**Pn**	**22 54 14.2**	**-2.4**
ARU				*e*S	**Sn**	**22 57 13.8**	**-4.6**
SVE	**Sverdlovsk**	**16.55**	**354**	*e*P	**Pn**	**22 54 20.5**	**+1.7**
	comp=Z,82nm,2.1s						
SVE	**Sverdlovsk**	**16.55**	**354**	*e*P	**Pn**	**22 54 20.5**	**+1.7**
SVE				pmax	pmax		
	comp=Z,82nm,2.1s						
SVE				pmax	pmax		
	comp=E,3μm,8.0s						
SVE				MLR	MLR		
	comp=N,2μm,8.0s						
SVE				MLR	MLR		
	comp=E,1μm,8.0s						
SVE				MLR	MLR		
	comp=Z,2μm,8.0s						
MSL	**Mosul**	**16.62**	**262**	*ex*	x	22 54 17.0	
ASHO	**Ashiyiah**	**16.91**	**204**	⇑P	**Pn**	**22 54 22.0**	**-1.5**
	SNR=11						
UMR	**Umm Al-Rimmam**	**16.92**	**235**	*e*P	**Pn**	**22 54 22.9**	**-0.6**
UMR				AMb	AMB	22 54 24.0	
	comp=Z,144nm,1.1s						
BHD	**Baghdad**	**16.96**	**251**	*ex*	x	22 54 22.5	
MIB	**Mutribah**	**16.99**	**237**	*e*P	**Pn**	**22 54 23.9**	**-0.5**
MIB				AMb	AMB	22 54 26.0	
	comp=Z,260nm,1.2s						
KBD	**Kabd**	**17.20**	**234**	*e*P	**Pn**	**22 54 26.1**	**-0.9**
KBD				AMb	AMB	22 54 29.0	
	comp=Z,509nm,1.1s						
QRN	**Al-Qurain**	**17.37**	**233**	*e*P	**Pn**	**22 54 28.4**	**-0.7**
QRN				AMb	AMB	22 54 29.5	
	comp=Z,97nm,0.8s						
NAY	**Al-Naaiem**	**17.43**	**235**	*e*P	**Pn**	**22 54 28.7**	**-1.2**
NAY				AMb	AMB	22 54 30.4	
	comp=Z,86nm,0.9s						
RDF	**Al-Radifah**	**17.46**	**234**	*e*P	**Pn**	**22 54 29.5**	**-0.8**
RDF				AMb	AMB	22 54 31.9	
	comp=Z,111nm,0.8s						
SMDO	**Samad**	**17.93**	**197**	P	**Pn**	**22 54 37.1**	**+1.1**
	SNR=6.7						
SOC	**Sochi**	**18.04**	**288**	*e*P	**Pn**	**22 54 35.3**	**-2.2**
	comp=Z,42nm,1.0s						
SOC				*e*S	**Sn**	**22 57 55.6**	**-3.1**
	comp=Z,422nm,13.0s						
SOC	**Sochi**	**18.04**	**288**	*e*P	**Pn**	**22 54 35.3**	**-2.2**
SOC				*e*		22 57 55.6	
SOC				pmax	pmax		
	comp=Z,42nm,1.0s						
SOC				MLR	MLR		
	comp=Z,422nm,13.0s						
ARQ	**Araqi**	**18.04**	**202**	⇓P	**Pn**	**22 54 36.8**	**-0.7**
	SNR=18						
WMQ	**Urumqi**	**18.16**	**71**	*e*P	**Pn**	**22 54 41.0**	**+2.1**
WMQ				AP	pP	22 54 47.0	+5.0
WMQ				XP	sP	22 54 51.1	+7.8
WMQ				PP		22 54 56.4	
WMQ				PCP	PcP	22 59 13.0	+0.8
WMQ				AMB	AMB		
	comp=Z,76nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,578nm,4.0s						
WMQ				LR	LR		
	comp=N,637nm,6.0s						
WMQ				LR	LR		
	comp=E,578nm,7.0s						
WMQ				LR	LR		
	comp=Z,418nm,6.0s						
WBK	**Wadi Bani Khal**	**18.18**	**194**	⇓P	**Pn**	**22 54 38.5**	**-0.6**
BSY	**Bisya**	**18.43**	**199**	⇑P	**Pn**	**22 54 42.5**	**+0.3**
	SNR=8.1						
JMDO	**Jabal Madar**	**18.58**	**196**	⇑P	**Pn**	**22 54 44.8**	**+0.8**
	SNR=6.6						
VRHR	**Novokhopersk**	**18.64**	**312**	*e*P	**Pn**	**22 54 44.6**	**-0.1**
VRHR				*e*S	**Sn**	**22 58 00.7**	**-12**
	comp=Z,150nm,0.8s						
VRHR	**Novokhopersk**	**18.64**	**312**	*e*P	**Pn**	**22 54 44.6**	**-0.1**
VRHR				*e*S	**Sn**	**22 58 00.7**	**-12**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,20nm,0.6s						
VRHR				smax			
	comp=N,150nm,0.8s						
VRHR				smax			
	comp=E,110nm,0.6s						
VRHR				smax			
	comp=Z,20nm,0.6s						
NVS	**Novosibirsk**	**19.48**	**36**	*e*P	**Pn**	**22 54 53.6**	**-1.2**
NVS				*e*S	**Sn**	**22 58 16.8**	**-17**
NVS	**Novosibirsk**	**19.48**	**36**	*e*P	**Pn**	**22 54 53.6**	**-1.2**
NVS				*e*S	**Sn**	**22 58 16.8**	**-17**
NVS				pmax	pmax		
	comp=N,144nm,1.6s						
NVS				pmax	pmax		
	comp=E,76nm,1.6s						
NVS				pmax	pmax		
	comp=Z,111nm,1.6s						
NVS				smax			
	comp=N,86nm,1.3s						
NVS				smax			
	comp=E,61nm,1.3s						
MALT	**Malatya**	**19.58**	**272**	*e*P	**Pn**	**22 54 53.3**	**-2.8**
	comp=E,12nm,1.0s						
MALT	**Malatya**	**19.58**	**272**	*e*P	**Pn**	**22 54 53.3**	**-2.8**
	comp=E,12nm,1.0s						
MALT	**Malatya**	**19.58**	**272**	*e*P	**Pn**	**22 54 53.3**	**-2.8**
MALT				pmax	pmax		
	comp=Z,12nm,1.0s						
SOKR	**Solikamsk**	**19.66**	**350**	*i* P	**Pn**	**22 55 00.3**	**+3.2**
	comp=Z,50nm,1.1s						
SOKR				S	**Sn**	**22 58 29.7**	**-8.2**
	comp=Z,400nm,15.0s						
SOKR	**Solikamsk**	**19.66**	**350**	*c i* P	**Pn**	**22 55 00.3**	**+3.2**
SOKR				S	**Sn**	**22 58 29.7**	**-8.2**
SOKR				pmax	pmax		
	comp=Z,50nm,1.1s						
SOKR				MLR	MLR		
	comp=Z,400nm,15.0s						
VORD	**Divnogorie**	**19.92**	**310**	*e*P	**Pn**	**22 54 57.3**	**-2.9**
	comp=Z,9.0nm,0.4s						
VORD				*e*S	**Sn**	**22 58 33.7**	**-10**
VORD	**Divnogorie**	**19.92**	**310**	*e*P	**Pn**	**22 54 57.3**	**-2.9**
VORD				*e*S	**Sn**	**22 58 33.7**	**-10**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,30nm,0.8s						
VORD				smax			
	comp=Z,9.0nm,0.4s						
VORD				smax			
	comp=E,110nm,0.8s						
PECR	**Pechory**	**20.43**	**328**	*e*P	**P**	**22 55 04.0**	**0.0**
PECR				*e*S	**S**	**22 58 50.6**	**-2.1**
PECR	**Pechory**	**20.43**	**328**	*e*P	**P**	**22 55 04.0**	**0.0**
PECR				*e*S	**S**	**22 58 50.6**	**-2.1**
PECR				smax			
	comp=N,600nm,8.0s						
PECR				smax			
	comp=E,500nm,8.0s						
PECR				MLR	MLR		
	comp=E,700nm,12.0s						
PECR				MLR	MLR		
	comp=Z,1μm,12.0s,MS4.4						
BHPL	**Bhopal**	**20.70**	**142**	*e*P	**P**	**22 55 04.4**	**-2.5**
BHPL				AMb	AMB	22 55 08.9	
	comp=Z,59nm,0.8s						
KOLN	**Koldanda**	**20.74**	**121**	*e*P	**P**	**22 55 06.9**	**-0.5**
	comp=Z,66nm,1.0s						
GKN	**Gorkha**	**21.27**	**119**	*e*P	**P**	**22 55 12.9**	**-0.2**
	comp=Z,105nm,0.9s,mb5.2						
KKN	**Kakani**	**21.84**	**119**	*e*P	**P**	**22 55 18.7**	**-0.5**
	comp=Z,45nm,0.7s,mb5.0						
KKN	**Kakani**	**21.84**	**119**	*e*P	**P**	**22 55 18.7**	**-0.5**
KKN				pmax	pmax		
	comp=Z,22nm,0.7s,mb4.7						
DMN	**Daman**	**21.84**	**119**	*e*P	**P**	**22 55 18.9**	**-0.3**
	comp=Z,78nm,1.0s,mb5.1						
PKI	**Pulchoki**	**22.07**	**119**	*e*P	**P**	**22 55 21.4**	**-0.2**
	comp=Z,109nm,0.7s,mb5.4						
PKI	**Pulchoki**	**22.07**	**119**	*e*P	**P**	**22 55 21.4**	**-0.2**
PKI				pmax	pmax		
	comp=Z,54nm,0.7s,mb5.1						
SIM	**Simferopol'**	**22.11**	**292**	*e*P	**P**	**22 55 22.0**	**-0.1**
	comp=Z,26nm,0.6s,mb4.8						
SIM				S	**S**	**22 59 27.2**	**+1.5**
	comp=Z,220nm,19.0s						
SIM	**Simferopol'**	**22.11**	**292**	*e*P	**P**	**22 55 22.0**	**-0.1**
SIM				S	**S**	**22 59 27.2**	**+1.5**
SIM				pmax	pmax		
	comp=Z,26nm,0.6s,mb4.8						
SIM				MLR	MLR		
	comp=Z,220nm,19.0s,MS3.6						
GUN	**Gumba**	**22.16**	**117**	*e*P	**P**	**22 55 22.5**	**-0.2**
	comp=Z,160nm,0.8s,mb5.5						
JIRN	**Jiri**	**22.53**	**117**	*e*P	**P**	**22 55 26.8**	**+0.2**
	comp=Z,100nm,0.6s,mb5.4						
BR131	**Keskin Array S**	**22.92**	**278**	P	**P**	**22 55 31.5**	**+0.8**
BRTR	**Keskin Array B**	**22.92**	**278**	P	**P**	**22 55 31.1**	**+0.4**
	comp=Z,14nm,1.0s,mb4.3,baz=93,slow=8.7,SNR=38						
MOS	**Moscow**	**22.98**	**321**	*e*P	**P**	**22 55 32.1**	**+0.7**
	comp=Z,200nm,2.1s,mb5.2						
MOS				*e*S	**S**	**22 59 42.3**	**+0.5**
MOS	**Moscow**	**22.98**	**321**	*e*P	**P**	**22 55 32.1**	**+0.7**
MOS				*e*		22 55 58.1	
MOS				*e*S	**S**	**22 59 42.3**	**+0.5**
MOS				*e*SS		23 00 12.0	
MOS				*e*SSS		23 00 35.1	
MOS				pmax	pmax		
	comp=Z,108nm,1.6s,mb5.0						
MOS				pmax	pmax		
	comp=Z,200nm,2.1s,mb5.2						
OBN	**Obninsk**	**23.20**	**318**	*i* P	**P**	**22 55 33.9**	**+0.2**
	comp=Z,24nm,0.5s,mb4.9						
OBN				*e*S	**S**	**22 59 44.0**	**-1.3**
	comp=Z,400nm,13.0s						
OBN	**Obninsk**	**23.20**	**318**	P	**P**	**22 55 34.5**	**+0.8**
	comp=Z,29nm,0.6s,mb4.9						
OBN	**Obninsk**	**23.20**	**318**	*i* P	**P**	**22 55 33.9**	**+0.2**
OBN				*e*S	**S**	**22 59 44.0**	**-1.3**
OBN				pmax	pmax		
	comp=Z,24nm,0.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,400nm,13.0s,MS4.0						
ANTO	**Ankara**	**23.53**	**279**	*e*P	**P**	**22 55 38.2**	**+1.1**
	comp=Z,87nm,1.4s,mb5.0						
ANTO	**Ankara**	**23.53**	**279**	*e*P	**P**	**22 55 38.2**	**+1.1**
ANTO				pmax	pmax		
	comp=Z,87nm,1.4s,mb5.0						
WHFO	**Wadi Hawf**	**23.97**	**204**	⇓P	**P**	**22 55 40.5**	**-0.7**
	SNR=16						
RBK	**Rabkut**	**24.23**	**202**	⇑P	**P**	**22 55 43.7**	**+0.1**
	SNR=13						
ABTO	**Aybut**	**24.65**	**204**	⇓P	**P**	**22 55 47.6**	**+0.2**
	SNR=52						
KRAR	**Krasnoyarsk**	**24.71**	**41**	*i* P	**P**	**22 55 47.7**	**-0.3**
	comp=Z,500nm,20.0s						
KRAR	**Krasnoyarsk**	**24.71**	**41**	*i* P	**P**	**22 55 47.7**	**-0.3**
KRAR				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.0						
LSA	**Lhasa**	**24.84**	**107**	P	**P**	**22 55 51.2**	**+2.1**
LSA	**Lhasa**	**24.84**	**107**	P	**P**	**22 55 51.4**	**+2.3**
	comp=Z,30nm,0.8s,mb4.9						
LSA	**Lhasa**	**24.84**	**107**	P	**P**	**22 55 51.4**	**+2.3**
	comp=Z,30nm,0.8s,mb4.9						
LSA	**Lhasa**	**24.84**	**107**	P	**P**	**22 55 51.4**	**+2.3**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.9						
BOK	**Bokaro**	**24.99**	**125**	*e*P	**P**	**22 55 49.4**	**-1.0**
BOK				AMb	AMB	22 55 52.0	
	comp=Z,25nm,0.8s,mb4.8						
KLMR	**Klimovskoe**	**25.28**	**332**	*e*P	**P**	**22 55 53.2**	**0.0**
	comp=Z,60nm,1.4s,mb4.9						
KLMR	**Klimovskoe**	**25.28**	**332**	*e*P	**P**	**22 55 53.2**	**0.0**
KLMR				*e*S	**S**	**23 00 09.3**	**-10**
KLMR				pmax	pmax		
	comp=Z,60nm,1.4s,mb4.9						
KLMR				smax			
	comp=E,720nm,4.0s						
KLMR				MLR	MLR		
	comp=Z,610nm,15.0s,MS4.2						
EIL	**Elat**	**25.70**	**254**	P	**P**	**22 55 57.7**	**+0.7**
EIL	**Elat**	**25.70**	**254**	P	**P**	**22 55 57.7**	**+0.7**
AKASG	**Malin Array Be**	**25.98**	**305**	P	**P**	**22 55 59.4**	**-0.1**
	comp=Z,3.9nm,0.6s,mb4.1,baz=84,slow=8.0,SNR=23						
AKASG	**Malin Array Be**	**25.98**	**305**	P	**P**	**22 55 59.4**	**-0.1**
HYB	**Hyderabad**	**26.29**	**146**	⇑*i* P	**P**	**22 56 04.0**	**+1.7**
	comp=Z,40nm,1.0s,mb4.9						
HYB	**Hyderabad**	**26.29**	**146**	⇑*e*P	**P**	**22 56 04.0**	**+1.7**
	comp=Z,40nm,1.0s,mb4.9						
HYB	**Hyderabad**	**26.29**	**146**	⇑*e*P	**P**	**22 56 04.0**	**+1.7**
HYB				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
VRI	**Vrincioaia**	**27.31**	**294**	⇓P	**P**	**22 56 05.6**	**-5.9**
GTA	**Gaotai**	**27.66**	**80**	P	**P**	**22 56 16.0**	**+1.4**
GTA				AP	pP	22 56 23.7	+6.1
GTA				XP	sP	22 56 27.2	+8.3
GTA				PP		22 57 05.3	
GTA				S	**S**	**23 00 57.0**	**+0.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,174nm,5.7s						
GTA				LR	LR		
	comp=N,359nm,16.4s,MS4.2						
GTA				LR	LR		
	comp=E,399nm,15.2s,MS4.2						
GTA				LR	LR		
	comp=Z,373nm,12.2s,MS4.2						
MNK	**Minsk**	**27.66**	**313**	*e*P	**P**	**22 56 14.0**	**-0.6**
SHL	**Shillong**	**27.79**	**114**	*e*P	**P**	**22 56 17.0**	**+1.2**
SHL				*ex*	x	23 01 24.0	
MLR	**Muntele Rosu**	**27.87**	**293**	P	**P**	**22 56 19.3**	**+2.8**
	comp=Z,38nm,1.2s,mb4.9,baz=67,slow=3.9,SNR=7.9						
MLR				LR	LR	23 08 45.2	
	comp=Z,168nm,20.3s,MS3.6,baz=343,slow=40						
MLR	**Muntele Rosu**	**27.87**	**293**	⇓P	**P**	**22 56 19.2**	**+2.7**
MOY	**Mondy**	**27.98**	**54**	*e*P	**P**	**22 56 22.2**	**+4

SONM LR LR 23 11 11.5
comp=Z,143nm,20.1s,MS3.6,baz=191,slow=40
KECS Kecovo 31.49 299 *e*P **P** **22 56 48.8 +0.2**
KECS *e*PCP PcP 22 59 40.5 -1.0
NIE Niedzica 31.59 301 *e*P **P** **22 56 51.4 +1.9**
ULN Ulaanbaatar 31.70 62 P **P** **22 56 51.1 +0.7**
comp=Z,33nm,1.4s,mb5.0
ULN Ulaanbaatar 31.70 62 P **P** **22 56 51.1 +0.7**
comp=Z,33nm,1.4s,mb5.0
ULN Ulaanbaatar 31.70 62 *c i*P **P** **22 56 51.9 +1.5**
OJC Ojcow 31.93 303 *e*P **P** **22 56 54.1 +1.6**
VYHS Vyhne 32.59 300 *e*P **P** **22 57 00.4 +2.2**
VYHS *e*PCP PcP 22 59 40.9 -3.6
VYHS Vyhne 32.59 300 *e*PcP PcP 22 59 40.9 -3.6
MORC Moravsky Berou 33.39 302 P **P** **22 57 06.1 +0.9**
GKP Gorka Klasztor 33.64 308 *e*P **P** **22 57 08.0 +0.6**
CD2 Chengdu 33.71 94 P **P** **22 57 09.6 +1.6**
CD2 S **S** **23 02 30.4 -0.8**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CD2 LR LR
comp=N,190nm,16.2s
CD2 LR LR
comp=Z,140nm,12.0s,MS3.9
ZST Bratislava 33.76 299 *e*P **P** **22 57 09.7 +1.2**
TRD Trivandrum 33.91 156 *e*x x 22 56 00.6
VRAC Vranov 34.03 301 ⇓P **P** **22 57 12.1 +1.3**
DPC Dobruska-Polom 34.16 303 *e*P **P** **22 57 11.9 0.0**
UPC Upice 34.35 303 *e*P **P** **22 57 14.3 +0.7**
TREC Trest 34.75 301 *e*P **P** **22 57 18.3 +1.3**
PRU Pruhonice 35.32 302 *e*P **P** **22 57 23.0 +1.0**
ARCES ARCESS Array B 35.34 338 P **P** **22 57 22.6 +0.4**
comp=Z,9.2nm,0.8s,mb4.7,baz=130,slow=8.2,SNR=29
ARCES LR LR 23 11 43.9
comp=Z,257nm,21.4s,MS4.0,baz=293,slow=36
BRG Berggiesshubel 35.66 304 *e*P **P** **22 57 25.6 +0.7**
comp=Z,3.1nm,0.7s,mb4.3
BRG
comp=N,90nm,19.1s
BRG
comp=E,123nm,15.2s
BRG
comp=Z,216nm,13.1s
KMI Kunming 35.93 103 P **P** **22 57 27.9 +0.7**
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
GERES GERESS Array B 35.96 301 P **P** **22 57 27.6 +0.2**
comp=Z,1.7nm,0.7s,mb4.1,baz=72,slow=8.6,SNR=14
KHC Kasperske Hory 36.01 301 *e*P **P** **22 57 29.4 +1.5**
HHC Hu-ho-hao-te 36.02 73 *e*P **P** **22 57 29.0 +1.0**
HHC AP pP 22 57 36.2 +5.1
HHC XP sP 22 57 39.6 +7.3
HHC PP PP 22 58 51.0 +1.2
HHC PCP PcP 22 59 55.3 +1.0
HHC S **S** **23 03 05.9 -0.9**
HHC XS sS 23 03 17.4 +5.5
HHC SCS ScS 23 07 43.0 -3.1
HHC AMB AMB
comp=Z,6.0nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,156nm,3.0s
HHC LR LR
comp=N,400nm,14.3s,MS4.4
HHC LR LR
comp=E,254nm,12.2s,MS4.4
HHC LR LR
comp=Z,242nm,10.7s,MS4.2
CLL Collm 36.23 305 ⇓ *i*P **P** **22 57 30.5 +0.8**
comp=Z,23nm,1.5s,mb4.9
CLL *i* x x 22 57 33.1
CLL Collm 36.23 305 ⇓ *i*P **P** **22 57 30.5 +0.8**
CLL pmax pmax
comp=Z,23nm,1.5s,mb4.9
BOD Bodaibo 36.29 44 *e*P **P** **22 57 31.3 +1.0**
comp=Z,6.0nm,1.6s,mb4.3
BOD Bodaibo 36.29 44 *e*P **P** **22 57 31.3 +1.0**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
XAN Xi'an 36.31 85 P **P** **22 57 30.9 +0.5**
XAN AMB AMB
comp=Z,12nm,1.4s,mb4.6
NKC Novy Kostel 36.65 303 *e*P **P** **22 57 35.1 +1.8**
NB2 NORSAR Subarra 37.75 321 P **P** **22 57 42.5 -0.2**
comp=Z,29nm,1.4s,mb4.8,baz=99,slow=8.6
NB2 NORSAR Subarra 37.75 321 P **P** **22 57 42.5 -0.2**
NB2 pmax pmax
comp=Z,29nm,1.4s,mb4.8
NOA NORSAR Array B 37.75 321 P **P** **22 57 42.5 -0.2**
comp=Z,5.5nm,0.7s,mb4.4,baz=99,slow=8.5,SNR=18
NOA LR LR 23 15 16.7
comp=Z,226nm,18.4s,MS4.0,baz=90,slow=40
GYA Guiyang 38.14 98 ⇑ *i*P **P** **22 57 46.4 +0.4**
GYA AP pP 22 57 53.6 +4.5
GYA XP sP 22 57 56.8 +6.5
GYA PP PP 22 59 16.5 +3.4
GYA PCP PcP 23 00 02.2 +1.5
GYA S **S** **23 03 36.8 -2.3**
GYA SCP ScP 23 03 46.9 -1.6
GYA SCS ScS 23 07 54.7 -3.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,110nm,3.4s
GYA LR LR
comp=N,480nm,17.4s,MS4.5
GYA LR LR
comp=E,390nm,17.6s,MS4.5
GYA LR LR
comp=Z,490nm,18.0s,MS4.4
ENH Enshi 38.38 91 P **P** **22 57 49.3 +1.3**
comp=Z,14nm,0.9s,mb4.7
ENH Enshi 38.38 91 P **P** **22 57 49.3 +1.3**
comp=Z,14nm,0.9s,mb4.7
WHN Wuhan 41.96 87 *e*P **P** **22 58 19.0 +1.3**
YAK Yakutsk 44.31 38 *i*P **P** **22 58 36.3 -0.4**
comp=Z,400nm,18.0s
YAK Yakutsk 44.31 38 *i*P **P** **22 58 36.3 -0.4**
YAK pmax pmax
comp=Z,19nm,1.1s,mb4.7
YAK MLR MLR
comp=Z,400nm,18.0s,MS4.4
TIXI Tiksi 44.46 24 PP PP 23 00 20.2 -1.4
TIXI Tiksi 44.46 24 P **P** **22 58 38.3 +0.4**
TIXI 23 00 20.2
NJ2 Nanjing 44.70 83 *e*P **P** **22 58 43.4 +3.6**
NJ2 AP pP 22 58 50.9 +8.0
NJ2 XP sP 22 58 54.2 +10
NJ2 PP PP 23 00 29.1 +5.0
NJ2 S **S** **23 05 19.0 +2.7**
NJ2 XS sS 23 05 31.0 +10
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,310nm,7.4s
NJ2 LR LR
comp=N,410nm,18.8s,MS4.5
NJ2 LR LR
comp=E,310nm,16.2s,MS4.5
NJ2 LR LR
comp=Z,190nm,10.7s
CN2 Changchun 45.05 64 *e*P **P** **22 58 45.2 +2.6**
CN2 *e*AP pP 22 58 52.7 +6.9
CN2 *e*S **S** **23 05 21.7 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,11.0s,MS4.7
CN2 LR LR
comp=E,300nm,11.0s,MS4.7
CN2 LR LR
comp=Z,400nm,12.0s,MS4.6
SSE Sheshan 46.90 82 P **P** **22 58 54.8 -2.4**
SSE AMB AMB
comp=Z,54nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,105nm,5.5s
SSE LR LR
comp=N,67nm,20.3s,MS3.8
SSE LR LR
comp=E,77nm,20.4s,MS3.8
SSE LR LR
comp=Z,68nm,18.0s,MS3.6
KLR Kul'dur 47.61 55 *e*P **P** **22 59 00.0 -2.8**

KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.0
MDJ Mudanjiang 47.62 62 P **P** **22 59 03.9 +1.1**
MDJ AP pP 22 59 10.1 +4.2
MDJ XP sP 22 59 12.8 +5.6
MDJ PCP PcP 23 00 33.6 +1.2
MDJ PP PP 23 00 55.1 +0.8
MDJ S **S** **23 05 54.5 -3.7**
MDJ AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,92nm,3.7s
MDJ LR LR
comp=N,239nm,8.6s
MDJ LR LR
comp=E,355nm,9.0s
MDJ LR LR
comp=Z,418nm,9.5s
KMBO Kilima Mbogo 47.83 217 P **P** **22 59 04.8 +0.4**
comp=Z,1.6nm,0.7s,mb4.1,baz=29,slow=10,SNR=5.3
KMBO LR LR 23 21 15.6
comp=Z,89nm,19.4s,MS3.8,baz=87,slow=39
KMBO Kilima Mbogo 47.83 217 P **P** **22 59 04.8 +0.4**
KMBO LR LR 23 21 15.6
PSI Prapat 49.16 130 P **P** **22 59 14.4 -0.3**
comp=Z,7.1nm,0.9s,mb4.7,baz=335,slow=7.8,SNR=5.9
DAG Danmarks Havn 49.31 342 ⇓ *i*P **P** **22 59 15.9 0.0**
comp=Z,3.7nm,0.8s,mb4.5
DAG Danmarks Havn 49.31 342 ⇓ *e*P **P** **22 59 15.9 0.0**
comp=Z,3.7nm,0.8s,mb4.5
DAG Danmarks Havn 49.31 342 ⇓ *e*P **P** **22 59 15.9 0.0**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
TATO Taipei 50.22 89 P **P** **22 59 20.8 -2.0**
TATO Taipei 50.22 89 P **P** **22 59 20.8 -1.9**
ESDC Sonseca Array 50.56 293 P **P** **22 59 25.6 +0.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=61,slow=7.6,SNR=8.3
JNU Nakatsue 53.20 75 P **P** **22 59 44.6 -0.5**
comp=Z,18nm,0.6s,mb5.2,baz=93,slow=43,SNR=5.2
SEY Seymchan 54.40 34 *i*P **P** **22 59 54.3 +0.3**
YSS Yuzh-Sakhalins 55.32 55 *i*P **P** **23 00 02.1 +1.7**
comp=Z,100nm,13.0s
YSS Yuzh-Sakhalins 55.32 55 **P** **23 00 04.6 +4.1**
YSS Yuzh-Sakhalins 55.32 55 *i*P **P** **23 00 02.1 +1.7**
YSS pmax pmax
comp=Z,35nm,1.4s,mb5.2
YSS MLR MLR
comp=Z,100nm,13.0s,MS4.1
MJAR Matsushiro Arr 56.89 68 P **P** **23 00 12.1 +0.4**
comp=Z,10nm,1.1s,mb4.8,baz=295,slow=8.7,SNR=12
BILL Bilibino 57.63 26 *i*P **P** **23 00 18.4 +1.5**
comp=Z,21nm,1.8s,mb4.9
BILL Bilibino 57.63 26 *e*PcP PcP 23 01 05.8 -4.3
BILL Bilibino 57.63 26 *i*P **P** **23 00 18.4 +1.5**
BILL *e* 23 01 05.8
BILL *e* 23 02 23.8
BILL pmax pmax
comp=Z,21nm,1.8s,mb4.9
TORD Torodi Ar. Bea 60.27 262 P **P** **23 00 35.0 -0.2**
comp=Z,8.0nm,1.0s,mb4.7,baz=48,slow=7.3,SNR=51
LSZ Lusaka 64.44 218 P **P** **23 01 04.1 +0.9**
comp=Z,4.6nm,0.9s,mb4.5
LSZ Lusaka 64.44 218 P **P** **23 01 04.1 +0.9**
comp=Z,4.6nm,0.9s,mb4.5
LSZ Lusaka 64.44 218 P **P** **23 01 04.1 +0.9**
LSZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TNA Tin City 67.07 21 P **P** **23 01 21.7 +1.5**
comp=Z,11nm,1.4s,mb4.7
TNA Tin City 67.07 21 P **P** **23 01 21.7 +1.6**
comp=Z,11nm,1.4s,mb4.7
DBIC Dimbokro 69.35 261 P **P** **23 01 34.1 -0.4**
comp=Z,4.5nm,0.8s,mb4.5,baz=26,slow=8.2,SNR=5.6
INK Inuvik 70.85 7 P **P** **23 01 44.6 +1.0**
comp=Z,14nm,1.1s,mb4.8
INK Inuvik 70.85 7 P **P** **23 01 44.6 +0.9**
comp=Z,14nm,1.1s,mb4.8
INK Inuvik 70.85 7 P **P** **23 01 44.6 +1.0**
INK pmax pmax
comp=Z,14nm,1.1s
COLA College 72.19 14 *e*P **P** **23 01 51.5 -0.3**
comp=Z,26nm,1.2s,mb5.0
COLA College 72.19 14 *e*P **P** **23 01 51.5 -0.3**
comp=Z,26nm,1.2s,mb5.0
COLA College 72.19 14 *e*P **P** **23 01 51.5 -0.3**
COLA pmax pmax
comp=Z,26nm,1.2s,mb5.0
ILAR Eielson Array 72.46 13 P **P** **23 01 53.4 +0.1**
comp=Z,4.4nm,1.0s,mb4.4,baz=328,slow=4.3,SNR=21
TSUM Tsumeb 73.15 225 P **P** **23 01 58.2 +0.7**
comp=Z,8.2nm,1.1s,mb4.6
TSUM Tsumeb 73.15 225 P **P** **23 01 58.2 +0.7**
comp=Z,8.3nm,1.1s,mb4.6
LBTB Lobatse 74.08 216 P **P** **23 02 03.5 +0.6**
comp=Z,18nm,1.3s,mb4.8
LBTB Lobatse 74.08 216 P **P** **23 02 03.5 +0.6**
comp=Z,18nm,1.3s,mb4.8
LBTB Lobatse 74.08 216 P **P** **23 02 03.6 +0.7**
LBTB pmax pmax
comp=Z,18nm,1.3s,mb4.8
SLKM Skilak Lake 75.69 17 *e*P **P** **23 02 12.5 +0.3**
BOSA Boshof 77.36 214 P **P** **23 02 21.7 0.0**
comp=Z,3.3nm,0.5s,mb4.5,baz=19,slow=8.5,SNR=10
BOSA LR LR 23 36 29.2
comp=Z,92nm,18.4s,MS4.1,baz=261,slow=36
YKW3 Yellowknife Ar 77.37 359 P **P** **23 02 21.6 -0.1**
YKW3 Yellowknife Ar 77.37 359 P **P** **23 02 21.6 -0.1**
YKA Yellowknife Ar 77.44 359 P **P** **23 02 22.1 0.0**
comp=Z,2.2nm,0.7s,mb4.2,baz=360,slow=6.3,SNR=36
YKA LR LR 23 37 23.2
comp=Z,93nm,19.9s,MS4.1,baz=20,slow=36
YKA Yellowknife Ar 77.44 359 P **P** **23 02 22.1 0.0**
FCC Fort Churchill 79.47 348 P **P** **23 02 33.6 +0.3**
comp=Z,14nm,1.3s,mb4.7
FCC Fort Churchill 79.47 348 P **P** **23 02 33.6 +0.3**
comp=Z,14nm,1.3s,mb4.7
FCC Fort Churchill 79.47 348 P **P** **23 02 33.6 +0.3**
FCC pmax pmax
comp=Z,14nm,1.3s,mb4.7
FFC Flin Flon 84.44 352 P **P** **23 02 59.7 +0.2**
EDM Edmonton 86.71 358 P **P** **23 03 06.9 -3.9**
ULM Lac du Bonnet 87.95 347 P **P** **23 03 16.6 -0.2**
comp=Z,3.8nm,0.8s,mb4.7,baz=25,slow=4.6,SNR=6.7
ULM LR LR 23 45 50.3
comp=Z,74nm,20.5s,MS4.1,baz=23,slow=38
WRA Warramunga Arr 88.94 117 P **P** **23 03 21.5 +0.1**
comp=Z,6.3nm,0.9s,mb5.0,baz=323,slow=4.8,SNR=56
WRA PKKPbc PKKPbc 23 21 01.1 +1.2
comp=Z,0.5nm,1.0s,baz=132,slow=2.6,SNR=8.2
WRAB Tennant Creek 88.94 117 P **P** **23 03 22.0 +0.5**
WB2 Warramunga Arr 88.95 117 *e*P **P** **23 03 21.1 -0.4**
ASAR Alice Springs 91.22 120 P **P** **23 03 31.9 -0.2**
comp=Z,4.8nm,0.8s,mb4.9,baz=318,slow=4.9,SNR=42
NEW Newport 91.71 1 LR LR 23 45 31.7
comp=Z,67nm,18.4s,MS4.1,baz=180,slow=36
PDAR Pinedale Array 96.98 355 P **P** **23 03 59.5 +1.0**
comp=Z,0.6nm,0.8s,mb4.0,baz=337,slow=3.4,SNR=4.3
PDAR LR LR 23 50 43.5
comp=Z,66nm,18.3s,MS4.2,baz=20,slow=37
YBH Yreka Blue Hor 98.04 5 LR LR 23 48 28.3
comp=Z,61nm,21.6s,MS4.1,baz=352,slow=36
HWUT Hardware Ranch 98.25 356 P **P** **23 04 06.4 +2.1**
comp=Z,2.2nm,0.6s,mb4.9
TCUT Toone Canyon 98.73 356 P **P** **23 04 10.3 +3.9**
DAU Daniels Canyon 99.43 356 P **P** **23 04 04.5 -5.0**
TMUT Trail Mountain 100.54 356 Pdif Pdif 23 04 15.0 +0.6
PLCA Paso Flores 145.50 254 PKPbc PKPbc 23 10 05.6 +0.5
comp=Z,24nm,1.2s,baz=72,slow=6.2,SNR=12

*ISCJB **07** 22:56:53.2±0.1, 49.362N±0.009×685E±0.02, h0km, Error ellipse: s-maj=1.5km s-min=1.3km az=18.5*
*MOS **07** 22:56:54.3±1.0, 49.37N×6.75E, h10km, mb3.9/1, Error ellipse: s-maj=5.8km s-min=3.7km az=88.6*
*PRU **07** 22:56:55.4, 49.43N×6.89E, h0km*
*LEDBW **07** 22:56:55.7±0.2, 49.38N×6.89E, h1km, ML3.2, Error ellipse: s-maj=6.0km s-min=2.0km az=101.0*
*CSEM **07** 22:56:55.6±0.0, 49.37N×6.90E, h1km, ML3.6/8, Error ellipse: s-maj=0.7km s-min=0.6km az=139.0*
*NEIC **07** 22:56:55.1, 49.38N×6.80E, h1km, ML3.3(SZGRF), ML3.3(STR), ML3.9(LDG), After STR.*
*BGR **07** 22:56:55.5, 49.37N×6.88E, h1km, ML3.4/21*
*LDG **07** 22:56:55.7±0.1, 49.37N×6.88E, h1km, Md3.8/2, Ml3.9/31, Error ellipse: s-maj=1.1km s-min=0.9km az=124.0, Suspected Mining induced.*
*STR **07** 22:56:55.2±0.2, 49.37N×6.80E, h1km±1km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*UCC **07** 22:56:55.2±0.8, 49.35N×6.87E, h1km±6km, ML2.9*
*BNS **07** 22:56:56.1±0.8, 49.39N×6.98E, h1km, ML3.0*

ISC 07 22:56:54.2±0.1, 49.366N±0.008×682E±0.01, h0km, n199, σ1§35/376, 21C-22D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.37**	**25**	P*	**Pg**	**22 57 02.3**	**+1.0**
RUP	**Ruppelstein**	**0.37**	**25**	Pg	**Pg**	**22 57 02.6**	**+1.3**
RUP				Sg	**Sg**	**22 57 08.1**	**+2.0**
WLF	**Walferdange**	**0.53**	**305**	*e*Pg	**Pg**	**22 57 06.6**	**+2.4**
SNR=68							
WLF				*e*Sg	**Sg**	**22 57 12.5**	**+1.5**
WLF	**Walferdange**	**0.53**	**305**	⇓P	**Pg**	**22 57 06.7**	**+2.4**
WLF				S	**Sg**	**22 57 12.7**	**+1.7**
comp=E,246nm,0.6s							
WLF	**Walferdange**	**0.53**	**305**	*e*Pg	**Pg**	**22 57 06.6**	**+2.3**
WLF				*e*Sg	**Sg**	**22 57 14.2**	**+3.1**
ABH	**Alteburg**	**0.70**	**42**	⇓P*	**Pg**	**22 57 07.9**	**+0.2**
ABH	**Alteburg**	**0.70**	**42**	Pg	**Pg**	**22 57 08.0**	**+0.3**
ABH				Sg	**Sg**	**22 57 18.1**	**+1.3**
LANF	**Langenberg**	**0.76**	**120**	Pg	**Pg**	**22 57 09.2**	**+0.5**
LANF				Sg	**Sg**	**22 57 20.9**	**+2.4**
LANF	**Langenberg**	**0.76**	**120**	⇓P	**Pg**	**22 57 09.3**	**+0.6**
KTD	**Kalmit**	**0.83**	**93**	P*	**Pg**	**22 57 10.3**	**+0.2**
KTD	**Kalmit**	**0.83**	**93**	Pg	**Pg**	**22 57 10.1**	**0.0**
KTD				Sg	**Sg**	**22 57 23.2**	**+2.3**
BGG	**Burgeitz**	**0.91**	**22**	*e*Pg	**Pg**	**22 57 12.3**	**+0.7**
BGG				*e*Sg	**Sg**	**22 57 24.1**	**+0.8**
comp=E,421nm,0.8s							
HILG	**Hillesheim**	**0.93**	**355**	*e*Pg	**Pg**	**22 57 14.1**	**+2.1**
HILG				*e*Sg	**Sg**	**22 57 26.5**	**+2.4**
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**22 57 15.2**	**-0.3**
CDF				*e*Sg	**Sg**	**22 57 26.8**	**+0.4**
comp=E,248nm,0.2s							
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**22 57 15.2**	**-0.3**
CDF				*e*Sg	**Sg**	**22 57 26.8**	**+0.4**
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pg	**Pg**	**22 57 14.1**	**+0.7**
CDF				*e*Pn	**Pn**	**22 57 15.2**	**-0.3**
CDF				*e*Sg	**Sg**	**22 57 26.8**	**+0.4**
STR	**Strasbourg**	**1.00**	**141**	Pg	**Pg**	**22 57 14.3**	**+0.9**
STR				Sg	**Sg**	**22 57 29.2**	**+2.8**
WLS	**Welschbruch**	**1.02**	**159**	Pg	**Pg**	**22 57 14.4**	**+0.7**
WLS				Sg	**Sg**	**22 57 29.2**	**+2.3**
WLS	**Welschbruch**	**1.02**	**159**	⇓P	**Pg**	**22 57 14.6**	**+0.9**
WLS				P		22 57 15.7	
RFYF	**Reffroy**	**1.15**	**231**	*e*Pg	**Pg**	**22 57 18.4**	**+2.1**
baz=50							
RFYF				*e*Sg	**Sg**	**22 57 33.6**	**+2.4**
comp=E,643nm,0.3s							
ECH	**Echery**	**1.17**	**169**	Pg	**Pg**	**22 57 17.4**	**+0.7**
ECH				Sg	**Sg**	**22 57 33.3**	**+1.4**
ECH	**Echery**	**1.17**	**169**	⇓P	**Pg**	**22 57 17.5**	**+0.8**
ECH				P		22 57 18.6	
STB	**Steinbach**	**1.23**	**1**	*e*Pg	**Pg**	**22 57 18.0**	**+0.3**
STB				*e*Sg	**Sg**	**22 57 35.3**	**+1.6**
comp=E,217nm,0.5s							
THEF	**They Montfort**	**1.27**	**206**	Pg	**Pg**	**22 57 19.6**	**+1.1**
THEF				Sg	**Sg**	**22 57 36.7**	**+1.8**
THEF	**They Montfort**	**1.27**	**206**	⇓P	**Pg**	**22 57 19.5**	**+1.0**
TOD	**Tromm**	**1.32**	**79**	P	**Pg**	**22 57 18.5**	**-1.0**
TOD				⇑ *i*Pg	**Pg**	**22 57 19.5**	**0.0**
TOD	**Tromm**	**1.32**	**79**	P	**Pg**	**22 57 18.5**	**-1.0**
TOD				⇑ *i*P		22 57 19.5	
TOD	**Tromm**	**1.32**	**79**	Pg	**Pg**	**22 57 19.5**	**0.0**
KLL	**Kalltalsperre**	**1.32**	**346**	*e*Pg	**Pg**	**22 57 19.6**	**0.0**
LIBD	**Limburg**	**1.32**	**157**	P	**Pg**	**22 57 20.7**	**+1.1**
LIBD	**Limburg**	**1.32**	**157**	Pg	**Pg**	**22 57 20.6**	**+1.0**
LIBD				Sg	**Sg**	**22 57 38.8**	**+2.1**
MEM	**Membach**	**1.35**	**338**	⇑P	**Pg**	**22 57 20.2**	**+0.1**
MEM				S	**Sg**	**22 57 38.3**	**+0.7**
comp=N,190nm,0.6s							
MEM	**Membach**	**1.35**	**338**	P	**Pg**	**22 57 20.1**	**0.0**
MEM				S	**Sg**	**22 57 38.2**	**+0.6**
comp=N,190nm,0.6s							
TNS	**Taunus Mts**	**1.36**	**50**	*e*Pg	**Pg**	**22 57 19.2**	**-1.1**
SNR=59							
TNS				*e*Sg	**Sg**	**22 57 37.9**	**-0.1**
TNS	**Taunus Mts**	**1.36**	**50**	*e*Pg	**Pg**	**22 57 20.6**	**+0.3**
TNS				*e*Sg	**Sg**	**22 57 38.8**	**+0.9**
HAU	**Haudompre**	**1.40**	**193**	*e*Pg	**Pg**	**22 57 22.2**	**+1.2**
HAU				*e*Sg	**Sg**	**22 57 40.3**	**+1.2**
comp=N,421nm,0.2s							
HAU	**Haudompre**	**1.40**	**193**	*e*Pg	**Pg**	**22 57 22.2**	**+1.2**
HAU				*e*Sg	**Sg**	**22 57 40.3**	**+1.2**
HAU	**Haudompre**	**1.40**	**193**	*e*Pn	**Pn**	**22 57 20.9**	**0.0**
HAU				*e*Pg	**Pg**	**22 57 22.2**	**+1.2**
HAU				*e*Sg	**Sg**	**22 57 40.3**	**+1.2**
BFO	**Black Forest**	**1.44**	**135**	*e*Pn	**Pn**	**22 57 20.7**	**-0.9**
SNR=85							
BFO				*e*Pg	**Pg**	**22 57 22.8**	**+1.0**
SNR=80							
BFO				*e*Sg	**Sg**	**22 57 39.3**	**-1.2**
BFO	**Black Forest**	**1.44**	**135**	*e*Pg	**Pg**	**22 57 20.8**	**-1.0**
BFO				*e*Sg	**Sg**	**22 57 41.1**	**+0.6**
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pn	**Pn**	**22 57 22.4**	**+0.7**
baz=48,SNR=1.0							
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pg	**Pg**	**22 57 24.7**	**+2.7**
baz=53							
MEZF				*e*Sn	**Sn**	**22 57 40.8**	**-0.6**
SNR=1.0							
MEZF				*e*Sg	**Sg**	**22 57 42.8**	**+2.0**
comp=N,251nm,0.4s							
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pg	**Pg**	**22 57 24.7**	**+2.7**
MEZF				*e*Sn	**Sn**	**22 57 40.8**	**-0.6**
MEZF				*e*Sg	**Sg**	**22 57 42.8**	**+2.0**
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pn	**Pn**	**22 57 22.4**	**+0.7**
MEZF				*e*Pg	**Pg**	**22 57 24.7**	**+2.7**
MEZF				*e*Sn	**Sn**	**22 57 40.8**	**-0.6**
MEZF				*e*Sg	**Sg**	**22 57 42.8**	**+2.0**
LBG	**Lerchenberg**	**1.48**	**118**	P	**Pn**	**22 57 21.2**	**-0.9**
GIVF	**Givet**	**1.49**	**300**	*e*Pg	**Pg**	**22 57 24.3**	**+1.6**
SNR=1.0							
GIVF				*e*Sn	**Sn**	**22 57 41.1**	**-1.2**
SNR=1.0							
GIVF				*e*Sg	**Sg**	**22 57 44.6**	**+2.6**
comp=N,744nm,0.6s,SNR=1.0							
GIVF	**Givet**	**1.49**	**300**	*e*Pg	**Pg**	**22 57 24.3**	**+1.6**
GIVF				*e*Sn	**Sn**	**22 57 41.1**	**-1.2**
GIVF				*e*Sg	**Sg**	**22 57 44.6**	**+2.6**
GIVF	**Givet**	**1.49**	**300**	*e*Pn	**Pn**	**22 57 22.8**	**+0.6**
GIVF				*e*Pg	**Pg**	**22 57 24.3**	**+1.6**
GIVF				*e*Sn	**Sn**	**22 57 41.1**	**-1.2**
GIVF				*e*Sg	**Sg**	**22 57 44.6**	**+2.6**
GIVF	**Givet**	**1.49**	**300**	*e*P	**Pn**	**22 57 22.8**	**+0.6**
GIVF				*e*		22 57 41.1	
HGN	**Heimansgroeve**	**1.51**	**338**	*e*Pn	**Pn**	**22 57 22.7**	**+0.2**
baz=150							
HGN				*e*Pg	**Pg**	**22 57 24.1**	**+0.9**
HGN				*e*Sn	**Sn**	**22 57 39.5**	**-3.4**
HGN				*e*Sg	**Sg**	**22 57 42.6**	**-0.2**
HGN	**Heimansgroeve**	**1.51**	**338**	*e*Pg	**Pg**	**22 57 24.1**	**+0.9**
HGN				*e*Sn	**Sn**	**22 57 39.5**	**-3.4**
HGN				*e*Sg	**Sg**	**22 57 42.6**	**-0.1**
FBB	**Freiburg**	**1.53**	**153**	P*	**Pb**	**22 57 24.4**	**+1.0**
MOF	**Molkenrain**	**1.53**	**172**	Pg	**Pg**	**22 57 24.4**	**+0.9**
MOF				Sg	**Sg**	**22 57 44.7**	**+1.3**
MOF	**Molkenrain**	**1.53**	**172**	P	**Pn**	**22 57 24.0**	**+1.2**
MOF				S	**Sn**	**22 57 45.2**	**+1.8**
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pn	**Pn**	**22 57 24.6**	**+1.5**
SNR=1.0							
HINF				*e*Sg	**Sg**	**22 57 44.6**	**+0.5**
comp=N,954nm,0.2s							
KIZ	**Kirchzarten**	**1.59**	**152**	P	**Pn**	**22 57 22.9**	**-0.7**
KIZ				Pg	**Pg**	**22 57 25.3**	**+0.6**
KIZ				Sg	**Sg**	**22 57 45.6**	**+0.4**
BEBN	**Eben Emael**	**1.61**	**333**	⇓P	**Pn**	**22 57 25.2**	**+1.3**
BEBN				S	**Sn**	**22 57 47.9**	**+2.6**
BEBN	**Eben Emael**	**1.61**	**333**	⇓P	**Pn**	**22 57 25.2**	**+1.3**
BEBN	**Eben Emael**	**1.61**	**333**	P	**Pn**	**22 57 25.1**	**+1.3**
DOU	**Dourbes**	**1.61**	**298**	⇑P	**Pn**	**22 57 24.8**	**+0.9**
DOU				S	**Sn**	**22 57 47.1**	**+1.6**
comp=N,134nm,0.6s							
DOU	**Dourbes**	**1.61**	**298**	⇑P	**Pn**	**22 57 24.8**	**+0.9**
DOU	**Dourbes**	**1.61**	**298**	P	**Pn**	**22 57 24.8**	**+0.9**
DOU				S	**Sn**	**22 57 47.0**	**+1.5**
comp=N,134nm,0.6s							

BNS	**Bensberg**	**1.62**	**8**	*e*Sg	**Sg**	**22 57 44.5**	**-1.6**
HOBG	**Hohbusch**	**1.65**	**11**	*e*Pg	**Pg**	**22 57 24.2**	**-1.7**
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Pn	**Pn**	**22 57 24.9**	**+0.4**
	baz=46						
SFTF				*e*Sg	**Sg**	**22 57 49.3**	**+2.0**
	comp=N,240nm,0.3s,baz=46						
STU	**Stuttgart**	**1.67**	**110**	*e*Pn	**Pn**	**22 57 24.2**	**-0.6**
	SNR=6.1						
STU				*e*Sg	**Sg**	**22 57 45.5**	**-2.5**
STU	**Stuttgart**	**1.67**	**110**	*e*Pg	**Pg**	**22 57 24.1**	**-2.2**
STU				*e*Sg	**Sg**	**22 57 45.6**	**-2.4**
FELD	**Feldberg**	**1.69**	**152**	Pg	**Pg**	**22 57 27.2**	**+0.7**
FELD				Sg	**Sg**	**22 57 48.8**	**+0.3**
SPAK	**Spaichingen**	**1.82**	**133**	Pg	**Pg**	**22 57 29.4**	**+0.4**
SPAK				Sg	**Sg**	**22 57 56.1**	**+3.5**
SIND	**Sindeldorf**	**1.82**	**89**	⇓P	**Pn**	**22 57 25.5**	**-1.3**
BBS	**Basel-Blauen**	**1.96**	**166**	P	**Pn**	**22 57 29.7**	**+1.0**
BBS				Sg	**Sg**	**22 57 59.4**	**+2.3**
BBS	**Basel-Blauen**	**1.96**	**166**	Pg	**Pg**	**22 57 32.6**	**+0.8**
BBS	**Basel-Blauen**	**1.96**	**166**	Pg	**Pg**	**22 57 32.6**	**+0.8**
LAUG	**Laupendahl**	**1.99**	**2**	*e*Pg	**Pn**	**22 57 28.9**	**-0.1**
SNF	**Seneffe**	**2.00**	**306**	P	**Pn**	**22 57 30.6**	**+1.5**
SNF	**Seneffe**	**2.00**	**306**	⇑P	**Pn**	**22 57 31.1**	**+2.0**
GUT	**Gutenstein**	**2.00**	**130**	P	**Pn**	**22 57 29.0**	**-0.3**
LOMF	**Lomont**	**2.02**	**180**	P	**Pn**	**22 57 29.7**	**+0.2**
LOMF				Sg	**Sg**	**22 58 00.2**	**+1.2**
LOMF	**Lomont**	**2.02**	**180**	Pg	**Pg**	**22 57 33.4**	**+0.5**
BUG	**Bochum--Univer**	**2.10**	**8**	*e*Pg	**Pg**	**22 57 34.2**	**-0.2**
	SNR=5.3						
BUG				*e*Sg	**Sg**	**22 58 02.5**	**+0.9**
BUG	**Bochum--Univer**	**2.10**	**8**	*e*Pg	**Pg**	**22 57 34.2**	**-0.2**
BUG				*e*Sg	**Sg**	**22 58 02.7**	**+1.1**
UCC	**Uccle**	**2.13**	**313**	P	**Pn**	**22 57 34.8**	**+3.7**
UCC				S	**Sn**	**22 57 55.2**	**-3.1**
UCC	**Uccle**	**2.13**	**313**	⇑P	**Pn**	**22 57 32.9**	**+1.8**
SISB	**Singen-Sch Ber**	**2.21**	**139**	P*	**Pb**	**22 57 36.9**	**+1.9**
SISB	**Singen-Sch Ber**	**2.21**	**139**	P	**Pn**	**22 57 32.1**	**0.0**
HDH	**Heidenheim**	**2.37**	**108**	P	**Pn**	**22 57 33.6**	**-0.7**
HROE	**Hohe Rhon--Fla**	**2.46**	**60**	*e*Pn	**Pn**	**22 57 35.2**	**-0.3**
UBBA	**Unterbreizbach**	**2.51**	**53**	*e*Pg	**Pg**	**22 57 41.9**	**-0.5**
	SNR=3.8						
UBBA				*e*Sg	**Sg**	**22 58 14.1**	**-0.9**
NORI	**Noerdlinger Ri**	**2.59**	**103**	⇓*i*Pn	**Pn**	**22 57 37.2**	**-0.1**
WTSB	**Winterswijk**	**2.60**	**360**	*e*Pn	**Pn**	**22 57 42.6**	**+5.1**
	comp=N,88nm,1.1s						
WTSB				*e*Sn	**Sn**	**22 58 12.6**	**+2.8**
UBR	**Uberruh**	**2.76**	**126**	P	**Pn**	**22 57 40.7**	**+1.0**
CABF	**La Chapelle**	**2.80**	**190**	*e*Pg	**Pg**	**22 57 47.7**	**-0.2**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**22 58 12.7**	**-2.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 58 24.3**	**+0.1**
	comp=N,85nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**2.80**	**190**	*e*Pg	**Pg**	**22 57 47.7**	**-0.2**
CABF				*e*Sn	**Sn**	**22 58 12.7**	**-2.0**
CABF				*e*Sg	**Sg**	**22 58 24.3**	**+0.1**
CABF	**La Chapelle**	**2.80**	**190**	*e*Pn	**Pn**	**22 57 40.5**	**+0.3**
CABF				*e*Pg	**Pg**	**22 57 47.7**	**-0.2**
CABF				*e*Sn	**Sn**	**22 58 12.7**	**-2.0**
CABF				*e*Sg	**Sg**	**22 58 24.3**	**+0.1**
CABF	**La Chapelle**	**2.80**	**190**	*e*P	**Pn**	**22 57 40.5**	**+0.3**
CABF				*e*		22 58 12.7	
LOR	**Lormes**	**2.88**	**224**	*e*Pn	**Pn**	**22 57 41.3**	**0.0**
	baz=49,SNR=1.0						
LOR				*e*Sn	**Sn**	**22 58 15.2**	**-1.5**
	baz=43,SNR=1.0						
LOR				*e*Sg	**Sg**	**22 58 27.1**	**+0.3**
	comp=N,76nm,0.2s,baz=41,SNR=1.0						
LOR	**Lormes**	**2.88**	**224**	*e*P	**Pn**	**22 57 41.3**	**0.0**
LOR				*e*		22 58 15.2	
GRA1	**Grafenberg Arr**	**2.89**	**82**	*e*Pg	**Pg**	**22 57 46.0**	**-3.6**
GRA1				*e*Sg	**Sg**	**22 58 26.0**	**-1.0**
GRF	**Grafenberg Arr**	**2.89**	**82**	*e*Pg	**Pg**	**22 57 46.0**	**-3.6**
GRF				*e*Sg	**Sg**	**22 58 26.2**	**-0.9**
GRF	**Grafenberg Arr**	**2.89**	**82**	*e*Pg	**Pg**	**22 57 46.0**	**-3.6**
GRF				*e*Sg	**Sg**	**22 58 26.0**	**-1.0**
DAVA	**Damuels**	**2.92**	**134**	⇓*i*Sn	**Sn**	**22 58 16.3**	**-1.3**
DAVA				⇑*i*Sg	**Sg**	**22 58 28.5**	**+0.5**
	comp=N,87nm,0.7s						
DAVA	**Damuels**	**2.92**	**134**	⇑*e*Pn	**Pn**	**22 57 42.6**	**+0.7**
	SNR=11						
DAVA				⇑*i*Sn	**Sn**	**22 58 16.3**	**-1.3**
DAVA				⇑*i*Sg	**Sg**	**22 58 28.5**	**+0.5**
	comp=N,87nm,0.7s						
DAVA	**Damuels**	**2.92**	**134**	⇑*e*Pn	**Pn**	**22 57 42.6**	**+0.7**
DAVA				Sn	**Sn**	**22 58 16.3**	**-1.3**
DAVA				Sg	**Sg**	**22 58 28.5**	**+0.5**
GTTG	**Gvttingen**	**2.97**	**42**	*e*Sg	**Sg**	**22 58 29.9**	**+0.4**
IBBN	**Ibbenburen**	**3.00**	**11**	*e*Pg	**Pg**	**22 57 51.1**	**-0.7**
	SNR=1.8						
IBBN				*e*Sg	**Sg**	**22 58 29.5**	**-1.3**
FUR	**Furstenfeldbru**	**3.19**	**110**	*e*Pn	**Pn**	**22 57 46.1**	**+0.6**
	SNR=3.0						
FUR				*e*Pg	**Pg**	**22 57 55.7**	**+0.4**
	SNR=9.7						
FUR				*e*Sg	**Sg**	**22 58 35.1**	**-1.5**
SSF	**Saint Saulge**	**3.20**	**225**	*e*Pn	**Pn**	**22 57 45.4**	**-0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 58 22.3**	**-2.2**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 58 37.3**	**+0.4**
	comp=N,168nm,0.7s						
SSF	**Saint Saulge**	**3.20**	**225**	*e*P	**Pn**	**22 57 45.4**	**-0.3**
SSF				*e*		22 58 22.3	
DAVOX	**Davos**	**3.30**	**140**	Pn	**Pn**	**22 57 49.4**	**+2.2**
MOX	**Moxa**	**3.35**	**66**	*e*Pn	**Pn**	**22 57 48.5**	**+0.7**
	SNR=7.8						
MOX				*e*Pg	**Pg**	**22 57 55.3**	**-3.1**
	SNR=10						
MOX				*e*Sn	**Sn**	**22 58 26.5**	**-1.8**
MOX				*e*Sg	**Sg**	**22 58 40.2**	**-1.7**
MOX	**Moxa**	**3.35**	**66**	*e*PN	**Pn**	**22 57 48.1**	**+0.3**
MOX				*e*PG	**Pg**	**22 57 56.3**	**-2.1**
MOX				*e*SN	**Sn**	**22 58 26.5**	**-1.8**
MOX				*e*SG	**Sg**	**22 58 41.5**	**-0.4**
MOX	**Moxa**	**3.35**	**66**	*e*Pg	**Pg**	**22 57 56.3**	**-2.1**
MOX				*e*S	**Sn**	**22 58 26.5**	**-1.8**
MOX	**Moxa**	**3.35**	**66**	*e*P	**Pn**	**22 57 48.1**	**+0.3**
MOX				*e*		22 58 26.5	
CLZ	**Clausthal**	**3.36**	**41**	*e*Pn	**Pn**	**22 57 48.0**	**+0.1**
	SNR=3.1						
CLZ				*e*Sg	**Sg**	**22 58 40.0**	**-2.1**
CLZ	**Clausthal**	**3.36**	**41**	*e*Pn	**Pn**	**22 57 47.6**	**-0.3**
TUE	**Stuetta**	**3.36**	**149**	Pn	**Pn**	**22 57 50.0**	**+2.1**
SMF	**Signal de Mont**	**3.38**	**217**	*e*Pn	**Pn**	**22 57 47.4**	**-0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 58 26.3**	**-2.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 58 42.5**	**-0.2**
	comp=N,71nm,0.4s						
SMF	**Signal de Mont**	**3.38**	**217**	*e*P	**Pn**	**22 57 47.4**	**-0.8**
SMF				*e*		22 58 26.3	
AVF	**Avril sur Loir**	**3.47**	**223**	*e*Pn	**Pn**	**22 57 48.7**	**-0.7**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**22 58 29.3**	**-1.9**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**22 58 45.7**	**0.0**
	comp=N,46nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**3.47**	**223**	*e*P	**Pn**	**22 57 48.7**	**-0.7**
AVF				*e*		22 58 29.3	
HYF	**Humbligny**	**3.49**	**235**	*e*Pn	**Pn**	**22 57 48.1**	**-1.6**
HYF				*e*Sn	**Sn**	**22 58 29.4**	**-2.3**
HYF				*e*Sg	**Sg**	**22 58 46.1**	**-0.2**
MANZ	**Manzenberg**	**3.49**	**78**	*e*Pn	**Pn**	**22 57 50.5**	**+0.7**
MANZ				*e*Sg	**Sg**	**22 58 44.3**	**-2.2**
MOTA	**Moosalm**	**3.50**	**124**	⇑*i*Sg	**Sg**	**22 58 47.0**	**+0.2**
	comp=N,16nm,0.3s						
MOTA	**Moosalm**	**3.50**	**124**	⇓*i*Pn	**Pn**	**22 57 50.9**	**+1.0**
MOTA				⇑*i*Pg	**Pg**	**22 58 01.7**	**+0.4**
MOTA				⇑*i*Sg	**Sg**	**22 58 47.0**	**+0.2**
	comp=N,16nm,0.3s						
MOTA	**Moosalm**	**3.50**	**124**	Pg	**Pg**	**22 58 01.7**	**+0.4**
MOTA				Sg	**Sg**	**22 58 47.0**	**+0.2**
	comp=N,16nm,0.3s						
MOTA	**Moosalm**	**3.50**	**124**	⇑*i*Pg	**Pg**	**22 58 01.7**	**+0.4**
MOTA				Sg	**Sg**	**22 58 47.0**	**+0.2**
ROTZ	**Rotzenmuhle**	**3.53**	**81**	*e*Pn	**Pn**	**22 57 50.9**	**+0.6**
ROTZ				*e*Sg	**Sg**	**22 58 44.5**	**-3.2**
FUORN	**Ofenpass**	**3.59**	**139**	Pn	**Pn**	**22 57 53.4**	**+2.3**
SQTA	**Sankt Quirin**	**3.63**	**125**	⇓*i*Sg	**Sg**	**22 58 51.1**	**+0.1**
	comp=N,9.0nm,0.3s						
SQTA	**Sankt Quirin**	**3.63**	**125**	⇓*i*Pn	**Pn**	**22 57 52.5**	**+0.8**
	SNR=9.1						
SQTA				⇓*i*Sg	**Sg**	**22 58 51.1**	**+0.1**
	comp=N,9.0nm,0.3s						
NEUB	**Neuenburg**	**3.68**	**58**	*e*Sg	**Sg**	**22 58 52.1**	**-0.2**
WERD	**Werda**	**3.71**	**71**	*e*Pn	**Pn**	**22 57 52.7**	**-0.1**
	SNR=2.2						
WERD				*e*Pg	**Pg**	**22 58 04.1**	**-1.2**
	SNR=17						
WERD				*e*Sg	**Sg**	**22 58 51.8**	**-1.6**
VAI	**Varese**	**3.74**	**159**	Pn	**Pn**	**22 57 54.5**	**+1.3**
NKC	**Novy Kostel**	**3.75**	**74**	*e*PN	**Pn**	**22 57 54.3**	**+1.0**
NKC				*e*PG	**Pg**	**22 58 03.7**	**-2.4**
NKC				*e*SG	**Sg**	**22 58 52.6**	**-2.1**
	comp=N,68nm,0.7s						
NKC	**Novy Kostel**	**3.75**	**74**	*e*Pg	**Pg**	**22 58 03.7**	**-2.4**
NKC				*e*Sg	**Sg**	**22 58 52.6**	**-2.1**
	comp=N,68nm,0.7s						
BRMO	**Bormio**	**3.75**	**139**	Pn	**Pn**	**22 57 55.6**	**+2.3**
MUGIO	**Muggio**	**3.76**	**156**	Pn	**Pn**	**22 57 54.8**	**+1.4**
WATA	**Walderalm**	**3.77**	**121**	⇓*i*Sg	**Sg**	**22 58 55.4**	**+0.1**
	comp=N,10.0nm,0.4s						
WATA	**Walderalm**	**3.77**	**121**	⇓*i*Pn	**Pn**	**22 57 54.2**	**+0.6**
WATA				⇓*i*Sg	**Sg**	**22 58 55.4**	**+0.1**
	comp=N,10.0nm,0.4s						
TANN	**Tannenbergstha**	**3.80**	**72**	*e*Pn	**Pn**	**22 57 54.2**	**+0.2**
	SNR=2.9						
TANN				*e*Pg	**Pg**	**22 58 04.9**	**-2.1**
	SNR=12						
TANN				*e*Sg	**Sg**	**22 58 53.6**	**-2.7**
ORO	**Oropa**	**3.82**	**168**	Pn	**Pn**	**22 57 56.6**	**+2.3**
LPL	**La Plagne**	**3.85**	**181**	*e*Pg	**Pg**	**22 58 07.6**	**-0.4**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**22 58 37.6**	**-3.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 58 57.1**	**-0.9**
	comp=N,28nm,0.6s,SNR=1.0						
LPL	**La Plagne**	**3.85**	**181**	*e*Pn	**Pn**	**22 57 55.4**	**+0.7**
LPL				*e*Pg	**Pg**	**22 58 07.6**	**-0.4**
LPL				*e*Sn	**Sn**	**22 58 37.6**	**-3.1**
LPL				*e*Sg	**Sg**	**22 58 57.1**	**-0.9**
LPL	**La Plagne**	**3.85**	**181**	*e*P	**Pn**	**22 57 55.4**	**+0.7**
LPL				*e*		22 58 37.6	
LPG	**La Plagne**	**3.87**	**181**	*e*Pn	**Pn**	**22 57 55.5**	**+0.5**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**22 58 38.0**	**-3.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**22 58 57.4**	**-1.2**
	comp=N,20nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**3.87**	**181**	*e*P	**Pn**	**22 57 55.5**	**+0.5**
LPG				*e*		22 58 38.0	
BGF	**Bois d'Agland**	**3.87**	**225**	*e*Pn	**Pn**	**22 57 54.6**	**-0.4**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**22 58 38.8**	**-2.4**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 58 58.8**	**+0.1**
	comp=N,281nm,0.5s						
BGF	**Bois d'Agland**	**3.87**	**225**	*e*P	**Pn**	**22 57 54.6**	**-0.4**
BGF				*e*		22 58 38.8	
WET	**Wettzell**	**3.98**	**91**	*e*Pn	**Pn**	**22 57 56.6**	**+0.2**
	SNR=16						
WET				*e*Sn	**Sn**	**22 58 41.6**	**-2.2**
WET				*e*Sg	**Sg**	**22 58 58.1**	**-3.9**
SCE	**Schlegeis**	**4.02**	**124**	⇑*i*Pn	**Pn**	**22 57 58.8**	**+1.8**
APPI	**Appiano**	**4.14**	**133**	Pn	**Pn**	**22 58 01.2**	**+2.5**
RJOB	**Jochberg**	**4.29**	**110**	⇓*i*Pn	**Pn**	**22 58 02.0**	**+1.2**
TCF	**Toulx Ste Croi**	**4.37**	**227**	*e*Pg	**Pg**	**22 58 16.7**	**-1.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**22 59 14.4**	**-0.2**
	comp=N,45nm,0.6s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.37**	**227**	*e*Pn	**Pn**	**22 58 01.1**	**-0.7**
TCF				*e*Pg	**Pg**	**22 58 16.7**	**-1.3**
TCF				*e*Sg	**Sg**	**22 59 14.4**	**-0.2**
CLL	**Collm**	**4.41**	**62**	*e*Pg	**Pg**	**22 58 15.0**	**-3.8**
CLL				*e*Sg	**Sg**	**22 59 15.0**	**-1.0**
CLL	**Collm**	**4.41**	**62**	*e*Pg	**Pg**	**22 58 15.0**	**-3.8**
CLL				*i* Sg	**Sg**	**22 59 15.1**	**-0.9**
	comp=Z,27nm,0.8s						
KHC	**Kasperske Hory**	**4.44**	**90**	*e*PN	**Pn**	**22 58 02.7**	**0.0**
KHC				*ex*	x	22 58 20.5	
KHC				*e*SN	**Sn**	**22 58 52.1**	**-3.0**
KHC				*e*SG	**Sg**	**22 59 13.2**	**-3.5**
	comp=Z,19nm,0.8s						
KHC	**Kasperske Hory**	**4.44**	**90**	*e*Pn	**Pn**	**22 58 02.7**	**0.0**
KHC				*e*S	**Sn**	**22 58 52.1**	**-3.0**
	comp=Z,19nm,0.8s						
KHC				*e*Sg	**Sg**	**22 59 13.2**	**-3.5**
	comp=Z,19nm,0.8s						
BGLD	**Berchtesgaden**	**4.46**	**110**	⇑*i*Pn	**Pn**	**22 58 04.0**	**+0.9**
ORIF	**Oris-en-Rattie**	**4.50**	**189**	*e*Pg	**Pg**	**22 58 18.9**	**-1.5**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**22 58 53.4**	**-3.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 59 17.7**	**-0.9**
	comp=Z,28nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.50**	**189**	*e*Pn	**Pn**	**22 58 03.6**	**+0.1**
ORIF				*e*Pg	**Pg**	**22 58 18.9**	**-1.5**
ORIF				*e*Sn	**Sn**	**22 58 53.4**	**-3.1**
ORIF				*e*Sg	**Sg**	**22 59 17.7**	**-0.9**
ORIF	**Oris-en-Rattie**	**4.50**	**189**	*e*P	**Pn**	**22 58 03.6**	**+0.1**
ORIF				*e*		22 58 53.4	
GEC2	**GERESS Array S**	**4.55**	**94**	*e*Pn	**Pn**	**22 58 04.6**	**+0.3**
	SNR=55						
GEC2				*e*Sn	**Sn**	**22 58 54.5**	**-3.4**
LDF	**La Druitiere**	**4.63**	**263**	*e*Pg	**Pg**	**22 58 22.5**	**-0.5**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**22 58 56.5**	**-3.4**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**22 59 22.0**	**-1.1**
	comp=Z,136nm,0.9s						
LDF	**La Druitiere**	**4.63**	**263**	*e*Pn	**Pn**	**22 58 05.7**	**+0.3**
LDF				*e*Pg	**Pg**	**22 58 22.5**	**-0.5**
LDF				*e*Sn	**Sn**	**22 58 56.5**	**-3.4**
LDF				*e*Sg	**Sg**	**22 59 22.0**	**-1.1**
LDF	**La Druitiere**	**4.63**	**263**	*e*P	**Pn**	**22 58 05.7**	**+0.3**
LDF				*e*		22 58 56.5	
MBDF	**Montbardon**	**4.64**	**180**	*e*Pg	**Pg**	**22 58 21.1**	**-2.1**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**22 59 22.2**	**-1.1**
	comp=Z,26nm,0.7s						
MBDF	**Montbardon**	**4.64**	**180**	*e*Pn	**Pn**	**22 58 05.4**	**-0.2**
MBDF				*e*Pg	**Pg**	**22 58 21.1**	**-2.1**
MBDF				*e*Sg	**Sg**	**22 59 22.2**	**-1.1**
VIVF	**Saint-Julien-l**	**4.74**	**199**	*e*Pg	**Pg**	**22 58 23.4**	**-1.7**
VIVF				*e*Sn	**Sn**	**22 58 59.0**	**-3.6**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**22 59 24.4**	**-2.2**
	comp=Z,26nm,0.4s						
VIVF	**Saint-Julien-l**	**4.74**	**199**	*e*Pn	**Pn**	**22 58 05.8**	**-1.1**
VIVF				*e*Pg	**Pg**	**22 58 23.4**	**-1.7**
VIVF				*e*Sn	**Sn**	**22 58 59.0**	**-3.6**
VIVF				*e*Sg	**Sg**	**22 59 24.4**	**-2.2**
VIVF	**Saint-Julien-l**	**4.74**	**199**	*e*P	**Pn**	**22 58 05.8**	**-1.1**
VIVF				*e*		22 58 59.0	
BRG	**Berggiesshubel**	**4.83**	**69**	*e*Pg	**Pg**	**22 58 23.1**	**-3.6**
	SNR=2.3						
BRG				*e*Sg	**Sg**	**22 59 25.4**	**-3.9**
BRG	**Berggiesshubel**	**4.83**	**69**	PG	**Pg**	**22 58 23.0**	**-3.7**
BRG				SG	**Sg**	**22 59 25.3**	**-4.0**
	comp=Z,8.9nm,0.8s						
KBA	**Koelnbreinsper**	**4.93**	**115**	⇑*i*Sn	**Sn**	**22 59 04.6**	**-2.6**
KBA	**Koelnbreinsper**	**4.93**	**115**	⇑*i*Pn	**Pn**	**22 58 10.2**	**+0.7**
	SNR=14						
KBA				⇑*i*Sn	**Sn**	**22 59 04.6**	**-2.6**
PRU	**Pruhonice**	**5.05**	**80**	*e*SG	**Sg**	**22 59 32.0**	**-4.6**
	comp=Z,40nm,0.9s						
GRR	**Gorron**	**5.16**	**262**	*e*Pg	**Pg**	**22 58 31.2**	**-1.8**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**22 59 08.4**	**-4.4**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**22 59 37.8**	**-2.1**
	comp=Z,48nm,0.6s						
GRR	**Gorron**	**5.16**	**262**	*e*Pn	**Pn**	**22 58 13.2**	**+0.6**
GRR				*e*Pg	**Pg**	**22 58 31.2**	**-1.8**
GRR				*e*Sn	**Sn**	**22 59 08.4**	**-4.4**
GRR				*e*Sg	**Sg**	**22 59 37.8**	**-2.1**
GRR	**Gorron**	**5.16**	**262**	*e*P	**Pn**	**22 58 13.2**	**+0.6**
GRR				*e*		22 59 08.4	
MOA	**Molln**	**5.17**	**104**	⇓*i*Sn	**Sn**	**22 59 10.5**	**-2.6**
MOA	**Molln**	**5.17**	**104**	⇓*i*Pn	**Pn**	**22 58 13.3**	**+0.5**
	SNR=22						
MOA				⇓*i*Sn	**Sn**	**22 59 10.5**	**-2.6**
MOA	**Molln**	**5.17**	**104**	⇓*i*Pn	**Pn**	**22 58 13.3**	**+0.5**
MOA				Sn	**Sn**	**22 59 10.5**	**-2.7**
RJF	**Les Rejaudoux**	**5.43**	**224**	*e*Pn	**Pn**	**22 58 16.2**	**-0.2**
RJF				*e*Sg	**Sg**	**22 59 46.0**	**-2.6**
	comp=Z,35nm,0.6s						
RJF	**Les Rejaudoux**	**5.43**	**224**	*e*Sg	**Sg**	**22 59 46.0**	**-2.6**
MFF	**Saint Martin d**	**5.43**	**242**	*e*Pn	**Pn**	**22 58 16.0**	**-0.4**
MFF				*e*Sg	**Sg**	**22 59 47.5**	**-1.2**
	comp=Z,52nm,0.8s						
MFF	**Saint Martin d**	**5.43**	**242**	*e*Sg	**Sg**	**22 59 47.5**	**-1.2**
CAF	**Calviac**	**5.50**	**218**	*e*Pn	**Pn**	**22 58 16.5**	**-0.8**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**22 59 48.7**	**-2.1**
	comp=Z,41nm,0.6s						
CAF	**Calviac**	**5.50**	**218**	*e*Sg	**Sg**	**22 59 48.7**	**-2.1**
LASF	**Ste Croix**	**5.67**	**202**	*e*Sg	**Sg**	**22 59 54.7**	**-1.6**
	comp=Z,41nm,0.7s						
LFF	**La Frestale**	**6.06**	**225**	*e*Sg	**Sg**	**23 00 06.4**	**-2.6**
	comp=Z,85nm,0.8s						
SGMF	**Saint Gilles**	**6.29**	**263**	*e*Pn	**Pn**	**22 58 28.3**	**+0.1**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**23 00 14.5**	**-1.8**
	comp=Z,57nm,0.8s						
SGMF	**Saint Gilles**	**6.29**	**263**	*e*Sg	**Sg**	**23 00 14.5**	**-1.8**
ROSF	**Rostrenen**	**6.74**	**265**	*e*Pn	**Pn**	**22 58 33.3**	**-1.1**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**23 00 28.4**	**-2.2**
	comp=Z,43nm,0.8s						
ROSF	**Rostrenen**	**6.74**	**265**	*e*Sg	**Sg**	**23 00 28.4**	**-2.2**
QUIF	**Quistinic**	**6.77**	**261**	*e*Pn	**Pn**	**22 58 34.3**	**-0.5**
MTLF	**Montoliou**	**6.81**	**210**	*e*Sg	**Sg**	**23 00 30.0**	**-3.0**
	comp=Z,25nm,0.8s						
ZST	**Bratislava**	**6.90**	**96**	*e*PN	**Pn**	**22 58 36.1**	**-0.5**
ZST				*e*SG	**Sg**	**23 00 35.7**	**-0.1**
EPF	**Esparros**	**7.76**	**218**	*e*Pn	**Pn**	**22 58 49.3**	**+0.9**
	SNR=1.0						
VYHS	**Vyhne**	**7.97**	**92**	*e*PN	**Pn**	**22 58 51.7**	**+0.5**

*IDC **07** 23:46:38.7±0.9,2283S×17136E,h0km,mb4.3/8, mb1 4.5/9,mb1mx4.4/15,mbtmp4.3/9,ML3.7/1,MS3.7/11, Ms1 3.7/11,ms1mx3.5/22,Error ellipse: s-maj=31.7km s-min=20.4km az=162.0*
*ISCJB **07** 23:46:44.4±2.5,230S±0.1×1712E±0.1,h44km±20km, mb4.6/17,MS3.7/9,Error ellipse: s-maj=21.4km s-min=12.4km az=81.4*
*BJI **07** 23:46:44.0,2290S×17130E,h35km,mB5.3,mb4.8,Ms5.0, Msz5.3*
*LDG **07** 23:46:45.8±0.2,2205S×17133E,h33km,Mb5.0/1,Error ellipse: s-maj=20.0km s-min=5.4km az=173.0*
*NEIC **07** 23:46:45.0±0.3,2289S×17127E,h35km,mb4.7/9,Error ellipse: s-maj=11.5km s-min=9.5km az=183.0*
*MOS **07** 23:46:45.5±1.3,2272S×17091E,h33km,mb4.5/4,Error ellipse: s-maj=28.0km s-min=14.0km az=23.5*

ISC 07 23:46:46.0±2.2,229S±01×1713E±01,h43km±18km,n84, σ1§15/31,mb4.6/17,MS3.7/9,4C-6D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.55**	**280**	Pn	**Pn**	**23 47 51.1**	**-1.2**
	3.6nm,0.3s,baz=94,slow=17,SNR=41						
DZM				Sn	**Sn**	**23 48 44.5**	**+0.6**
	3.5nm,0.3s,baz=111,slow=13,SNR=4.9						
DZM				LR	LR	23 49 14.9	
	comp=Z,233nm,21.1s,baz=199,slow=34						
BKM	**Butte a Klehm**	**5.96**	**331**	*i* P	**Pn**	**23 48 01.0**	**-11**
RAO	**Raoul Island**	**11.57**	**125**	Pn	**Pn**	**23 49 36.6**	**+8.1**
	260nm,0.3s,baz=12,slow=23,SNR=5.8						
URZ	**Urewera**	**16.08**	**163**	Pn	**Pn**	**23 50 30.9**	**+1.9**
	0.7nm,0.3s,baz=17,slow=6.2,SNR=4.9						
URZ				LR	LR	23 54 58.4	
	comp=Z,416nm,21.2s,baz=97,slow=31		

DPC				*ex*	x	00 06 30.0	
UPC	**Upice**	**146.39**	**331**	*e*PKP	PKPdf	00 06 21.8	+1.0
UPC				*ex*	x	00 06 30.5	
BZS	**Buzias**	**146.55**	**320**	⇓P	PKPdf	00 06 22.4	+1.2
VRAC	**Vranov**	**146.97**	**329**	⇓P	PKPdf	00 06 24.1	+2.3
PVCC	**Panska Ves**	**147.00**	**332**	*e*PKP	PKPdf	00 06 23.7	+1.8
BRG	**Berggiesshubel**	**147.00**	**333**	*e*P	PKPdf	00 06 23.2	+1.3
BRG				*e*		00 06 31.2	
BRG	**Berggiesshubel**	**147.00**	**333**	*e*P	PKPdf	00 06 23.2	+1.3
	comp=Z,2.5nm,0.8s						
BRG				*e*		00 06 31.2	
	comp=Z,6.8nm,1.0s						
BRG							
	comp=N,159nm,22.0s						
BRG							
	comp=E,90nm,17.1s						
BRG							
	comp=Z,163nm,14.9s						
CLL	**Collm**	**147.05**	**335**	⇓*i*PKPbc	PKPbc	00 06 23.5	-0.6
	comp=Z,8.0nm,0.9s						
CLL				*i* PKPab	PKPab	00 06 26.3	+0.6
CLL				*i* pPKPab	pPKPab	00 06 37.6	-1.2
PRU	**Pruhonice**	**147.41**	**332**	*e*PKP	PKPdf	00 06 24.4	+1.8
PRU				*ex*	x	00 06 32.2	
TREC	**Trest**	**147.49**	**330**	*e*PKP	PKPdf	00 06 24.7	+2.0
TREC				*ex*	x	00 06 32.1	
NKC	**Novy Kostel**	**148.11**	**334**	*e*PKP	PKPdf	00 06 26.4	+2.7
KHC	**Kasperske Hory**	**148.47**	**332**	*e*PKP	PKPdf	00 06 27.3	+3.0
KHC				*ex*	x	00 06 35.7	
GERES	**GERESS Array B**	**148.63**	**331**	PKPbc	PKPbc	00 06 28.0	-0.3
	comp=Z,5.2nm,0.9s,baz=41,slow=1.9,SNR=20						
GRA1	**Grafenberg Arr**	**149.03**	**335**	*e*PKP	PKPbc	00 06 29.3	0.0
GRF	**Grafenberg Arr**	**149.03**	**335**	*e*PKP	PKPbc	00 06 29.3	0.0
KBA	**Koelnbreinsper**	**150.08**	**329**	⇑*i*P	PKPbc	00 06 31.3	-0.6
	comp=Z,16nm,1.3s						
GIVF	**Givet**	**150.87**	**342**	*e*PKIKP	PKPdf	00 06 28.5	+0.4
MOTA	**Moosalm**	**150.90**	**332**	⇑*i*P	PKPbc	00 06 32.9	-1.0
	comp=Z,5.3nm,0.9s						
SQTA	**Sankt Quirin**	**150.95**	**331**	⇓*i*P	PKPbc	00 06 33.2	-0.8
	comp=Z,8.3nm,1.0s						
HINF	**Hinteralfeld**	**152.22**	**337**	*e*PKIKP	PKPdf	00 06 30.3	+0.1
MEZF	**Maizieres J'vi**	**152.23**	**340**	*e*PKIKP	PKPdf	00 06 30.3	+0.1
HAU	**Haudompre**	**152.23**	**338**	*e*PKIKP	PKPdf	00 06 30.4	+0.2
	comp=Z,2.3nm,0.6s						
CABF	**La Chapelle**	**153.52**	**337**	*e*PKIKP	PKPdf	00 06 31.9	-0.1
	comp=Z,24nm,1.1s						
LOR	**Lormes**	**153.69**	**340**	*e*PKIKP	PKPdf	00 06 31.7	-0.6
	comp=Z,16nm,1.0s						
SSF	**Saint Saulge**	**153.99**	**341**	*e*PKIKP	PKPdf	00 06 32.7	0.0
SMF	**Signal de Mont**	**154.25**	**340**	*e*PKIKP	PKPdf	00 06 32.8	-0.3
AVF	**Avril sur Loir**	**154.28**	**341**	*e*PKIKP	PKPdf	00 06 32.8	-0.3
MBDF	**Montbardon**	**154.82**	**333**	*e*PKIKP	PKPdf	00 06 32.9	-1.0
	comp=Z,40nm,1.4s						
ORIF	**Oris-en-Rattie**	**155.02**	**335**	*e*PKIKP	PKPdf	00 06 33.2	-1.0
TCF	**Toulx Ste Croi**	**155.07**	**342**	*e*PKIKP	PKPdf	00 06 34.2	0.0
LMR	**La Mourre**	**156.06**	**332**	*e*PKIKP	PKPdf	00 06 35.1	-0.5
RJF	**Les Rejaudoux**	**156.17**	**342**	*e*PKIKP	PKPdf	00 06 35.7	0.0
	comp=Z,33nm,1.1s						
CAF	**Calviac**	**156.35**	**341**	*e*PKIKP	PKPdf	00 06 35.7	-0.2
	comp=Z,35nm,1.3s						
LASF	**Ste Croix**	**156.50**	**337**	*e*PKIKP	PKPdf	00 06 35.7	-0.4
MTLF	**Montolieu**	**157.72**	**339**	*e*PKIKP	PKPdf	00 06 37.7	0.0
EPF	**Esparros**	**158.59**	**342**	*e*PKIKP	PKPdf	00 06 38.0	-0.7
SJPF	**Ste Jean**	**158.93**	**345**	*e*PKIKP	PKPdf	00 06 38.8	-0.3
	comp=Z,46nm,1.2s						
TORD	**Torodi Ar. Bea**	**166.12**	**227**	PKP	PKPdf	00 06 46.6	+0.3
	comp=Z,1.4nm,0.9s,baz=148,slow=0.9,SNR=7.3						
TORD				PKPab	PKPab	00 07 48.1	+1.1
	comp=Z,1.2nm,0.9s,baz=119,slow=3.9,SNR=4.2						

PRE ***08*** *00:05:20.1±1.5, 2169S×3352E, h5km, ML5.2*
IDC ***08*** *00:05:24.9±0.9, 2140S×3324E, h0km, mb4.0/13, mb1 4.3/18, mb1mx4.2/26, mbtmp4.2/18, ML4.3/5, MS3.5/4, Ms1 3.6/4, ms1mx3.4/19, Error ellipse: s-maj=23.8km s-min=19.2km az=141.0*
ISCJB ***08*** *00:05:25.6±3.0, 2158S±007×329E±0.1, h21km±20km, mb4.1/13, Error ellipse: s-maj=19.6km s-min=7.1km az=66.6*
NEIC ***08*** *00:05:26.3±0.6, 2142S×3307E, h10km, mb4.6/3, Error ellipse: s-maj=14.5km s-min=9.3km az=126.0*
ISC 08 00:05:27.7±3.0, 2156S±007×330E±01, h22km±20km, n35, σ1§14/45, mb4.1/13, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.01**	**225**	*e*P	**Pn**	**00 06 53.9**	**-1.2**
SLR				*e*S	**Sn**	**00 08 02.5**	**-0.8**
SLR				AML	AML	00 08 47.3	
	comp=Z,216nm,0.6s						
LBTB	**Lobatse**	**7.64**	**242**	*e*P	**Pn**	**00 07 18.2**	**+0.6**
LBTB				*e*S	**Sn**	**00 08 45.0**	**+1.7**
LBTB				AML	AML	00 09 41.4	
	comp=Z,196nm,0.7s						
LBTB	**Lobatse**	**7.64**	**242**	Pn	**Pn**	**00 07 20.4**	**+2.9**
	comp=Z,12nm,0.3s,baz=68,slow=13,SNR=67						
LBTB				Sn	**Sn**	**00 08 46.9**	**+3.5**
	comp=Z,12nm,0.3s,baz=138,slow=22,SNR=6.2						
LBTB				Lg		00 09 25.2	
	comp=Z,11nm,0.3s,baz=342,slow=20,SNR=3.8						
LBTB	**Lobatse**	**7.64**	**242**	*e*Pn	**Pn**	**00 07 20.7**	**+3.2**
	comp=Z,0.4nm,0.3s						
LBTB				*e*S	**Sn**	**00 08 37.2**	**-6.1**
LSZ	**Lusaka**	**7.75**	**323**	Pn	**Pn**	**00 07 18.5**	**-0.5**
	comp=Z,11nm,0.3s,baz=146,slow=15,SNR=85						
LSZ				Sn	**Sn**	**00 08 39.6**	**-6.4**
	comp=Z,26nm,0.3s,baz=208,slow=19,SNR=34						
LSZ				Lg		00 09 24.9	
	comp=Z,90nm,0.3s,baz=49,slow=19,SNR=13						
LSZ	**Lusaka**	**7.75**	**323**	Pn	**Pn**	**00 07 18.5**	**-0.5**
LSZ				Sn	**Sn**	**00 08 39.6**	**-6.4**
LSZ				Lg		00 09 24.9	
SWZ	**Schweizer**	**8.96**	**230**	*e*P	**Pn**	**00 07 36.1**	**+0.3**
SWZ				*e*S	**Sn**	**00 09 14.8**	**-1.1**
SWZ				AML	AML	00 10 24.2	
	comp=Z,92nm,0.7s						
BOSA	**Boshof**	**9.94**	**223**	*e*P	**Pn**	**00 07 47.6**	**-1.4**
BOSA				*e*S	**Sn**	**00 09 36.3**	**-3.5**
BOSA				AML	AML	00 10 22.0	
	comp=Z,1μm,0.7s						
BOSA	**Boshof**	**9.94**	**223**	Pn	**Pn**	**00 07 50.8**	**+1.8**
	comp=Z,2.5nm,0.3s,baz=48,slow=13,SNR=42						
BOSA				Sn	**Sn**	**00 09 40.2**	**+0.4**
	comp=Z,4.5nm,0.3s,baz=328,slow=10,SNR=6.3						
BOSA				Lg		00 10 42.4	
	comp=Z,4.1nm,0.3s,baz=129,slow=21,SNR=4.4						
BOSA	**Boshof**	**9.94**	**223**	*e*Pn	**Pn**	**00 07 51.1**	**+2.1**
	comp=Z,0.4nm,0.3s						
BOSA				*e*Sn	**Sn**	**00 09 38.6**	**-1.3**
OPO	**Ambohidratompo**	**13.65**	**80**	Pn	**Pn**	**00 08 35.4**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=292,slow=5.4,SNR=4.5						
OPO				Sn	**Sn**	**00 10 57.7**	**-13**
	comp=Z,1.6nm,0.3s,baz=172,slow=20,SNR=7.0						
TSUM	**Tsumeb**	**14.66**	**276**	Pn	**Pn**	**00 08 53.1**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=106,slow=12,SNR=88						
TSUM				Sn	**Sn**	**00 11 28.7**	**-6.6**
	comp=Z,1.5nm,0.3s,baz=259,slow=20,SNR=4.6						
TSUM				Lg		00 13 07.3	
	comp=Z,2.2nm,0.3s,baz=100,slow=17,SNR=3.9						
TSUM				LR	LR	00 14 51.4	
	comp=Z,188nm,19.2s,baz=142,slow=38						
SUR	**Sutherland**	**15.30**	**223**	*e*P	**Pn**	**00 09 02.1**	**0.0**
SUR				*e*S	**Sn**	**00 11 45.1**	**-5.8**
SUR	**Sutherland**	**15.30**	**223**	Pn	**Pn**	**00 09 04.3**	**+2.2**
	comp=Z,1.4nm,0.3s,baz=49,slow=14,SNR=16						
SUR				Sn	**Sn**	**00 11 46.9**	**-4.0**
	comp=Z,0.9nm,0.3s,baz=331,slow=18,SNR=5.2						
SUR				Lg		00 13 18.7	
	comp=Z,0.8nm,0.3s,baz=322,slow=23,SNR=3.4						
SUR				LR	LR	00 15 18.4	
	comp=Z,205nm,18.5s,baz=47,slow=38						
SUR	**Sutherland**	**15.30**	**223**	*e*Pn	**Pn**	**00 09 03.8**	**+1.6**
	comp=Z,30nm,0.8s						
KMBO	**Kilima Mbogo**	**20.72**	**12**	P	**P**	**00 10 05.2**	**-1.3**
	comp=Z,3.0nm,0.9s,baz=197,slow=14,SNR=7.2						
KMBO				LR	LR	00 18 40.6	
	comp=Z,36nm,20.9s,baz=96,slow=39						
KMBO	**Kilima Mbogo**	**20.72**	**12**	P	**P**	**00 10 05.2**	**-1.3**
KMBO				LR	LR	00 18 40.6	
TORD	**Torodi Ar. Bea**	**46.20**	**315**	P	**P**	**00 13 52.5**	**+1.6**
	comp=Z,4.3nm,0.8s,mb4.4,baz=128,slow=6.8,SNR=35						
DBIC	**Dimbokro**	**46.55**	**303**	P	**P**	**00 13 54.7**	**+1.2**
	comp=Z,2.8nm,0.9s,mb4.2,baz=90,slow=12,SNR=3.5						
BRTR	**Keskin Array B**	**60.96**	**1**	P	**P**	**00 15 37.8**	**-1.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=169,slow=8.7,SNR=2.6						
ESDC	**Sonseca Array**	**70.02**	**330**	P	**P**	**00 16 38.3**	**+0.7**
	comp=Z,2.2nm,0.9s,mb4.1,baz=138,slow=6.1,SNR=6.4						
AKASG	**Malin Array Be**	**72.02**	**357**	P	**P**	**00 16 48.6**	**-1.0**
	comp=Z,0.1nm,0.2s,mb3.3,baz=167,slow=4.4,SNR=4.4						
GERES	**GERESS Array B**	**72.17**	**347**	P	**P**	**00 16 51.3**	**+0.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=160,slow=4.3,SNR=5.5						
NWAO	**Narrogin (SRO)**	**73.95**	**119**	P	**P**	**00 17 05.7**	**+4.6**
BDFB	**Brasilia**	**76.25**	**258**	P	**P**	**00 17 18.3**	**+3.9**
	comp=Z,3.3nm,0.8s,mb4.3,baz=143,slow=6.9,SNR=4.1						
MBWA	**Marble Bar**	**79.58**	**109**	*e*P	sP	00 17 43.5	+0.7
	comp=Z,9.5nm,1.1s						
CPUP	**Villa Florida**	**81.02**	**245**	LR	LR	00 48 34.8	
	comp=Z,121nm,20.6s,baz=186,slow=32						
MKAR	**Makanchi Array**	**81.27**	**32**	P	**P**	**00 17 41.1**	**-0.8**
	comp=Z,1.1nm,0.9s,mb3.8,baz=219,slow=5.6,SNR=12						
FINES	**FINESS Array B**	**82.90**	**357**	P	**P**	**00 17 50.5**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=31,slow=4.4,SNR=5.7						
KAF	**Kangasniemi**	**83.55**	**357**	*e*p	**P**	**00 17 53.3**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.4,baz=171,slow=4.8						
NOA	**NORSAR Array B**	**84.17**	**350**	P	**P**	**00 17 58.1**	**+1.0**
	comp=Z,2.5nm,1.0s,mb4.3,baz=152,slow=4.8,SNR=3.6						
ASAR	**Alice Springs**	**90.89**	**116**	P	**P**	**00 18 30.9**	**+1.4**
	comp=Z,1.1nm,0.7s,mb4.3,baz=239,slow=3.9,SNR=12						
SONM	**Songino Array**	**95.20**	**40**	P	**P**	**00 18 48.7**	**-0.6**
	comp=Z,0.6nm,0.9s,mb4.0,baz=246,slow=5.8,SNR=5.1						
YKA	**Yellowknife Ar**	**133.52**	**340**	PKP	PKPdf	00 24 42.7	+0.5
	comp=Z,0.4nm,0.7s,baz=31,slow=2.1,SNR=6.6						
NVAR	**Mina Array Bea**	**150.17**	**311**	PKPbc	PKPbc	00 25 18.8	+2.1
	comp=Z,0.9nm,0.5s,baz=62,slow=6.5,SNR=6.2						

PRE 08 00:23:47.4±0.9, 2088S×3336E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.43**	**244**	*e*P		00 16 38.3	
MSNA				*e*S		00 17 18.1	
MSNA				AML	AML	00 17 34.5	
	comp=Z,58nm,0.2s						
LBTB	**Lobatse**	**8.26**	**239**	*e*P	Pn	00 25 49.0	+1.2
LBTB				*e*S	Sn	00 27 17.9	-3.6
LBTB				AML	AML	00 28 11.0	
	comp=Z,3.3nm,0.6s						
BOSA	**Boshof**	**10.65**	**222**	*e*P	Pn	00 26 21.9	+1.3
BOSA				*e*S	Sn	00 28 15.5	-4.9
BOSA				AML	AML	00 29 28.4	
	comp=Z,2.8nm,0.7s						

GUC 08 00:29:11.3±0.4, 3541S×7295W, h8km±1km, MD3.9, ML2.4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.47**	**134**	*i* P	Pg	00 29 21.0	+0.7
CNCO				*i* S	Sg	00 29 28.1	+1.6
CNCO				AMP		00 29 30.8	
	comp=E,860nm,0.3s						
COCH	**Cobquecura**	**0.73**	**170**	*e*P	Pg	00 29 25.2	-0.1
COCH				*i* S	Sg	00 29 36.1	+1.3
COCH				AMP		00 29 37.7	
	comp=N,36nm,0.4s						
TALC	**Talca**	**1.07**	**90**	*e*P	Pg	00 29 30.9	-1.1
TALC				*i* S	Sg	00 29 45.7	-0.2
TALC				AMP		00 29 48.0	
	comp=N,2μm,0.2s						
LNV	**Longovilo**	**1.93**	**42**	*e*P	Pn	00 29 44.6	+0.2
LNV				*i* P		00 29 44.6	
LNV				*i* S	Sn	00 30 09.7	+0.9
CACH	**El Canelo**	**2.33**	**57**	*e*P	Pn	00 29 51.1	+1.3
CICH	**Cipreses**	**2.35**	**63**	⇓*i*P	Pn	00 29 51.2	+1.1
CICH				*i* S	Sn	00 30 22.0	+2.9
CHCH	**Chadas Angostu**	**2.40**	**53**	*i* P	Pn	00 29 52.0	+1.1
FCH	**Farellones**	**3.03**	**47**	*e*P	Pn	00 30 01.3	+1.8

ISCJB ***08*** *00:41:21.3±2.2, 363N±0.1×208E±0.1, h8km±12km, mb3.1/2, Error ellipse: s-maj=21.7km s-min=13.1km az=77.3*
IDC ***08*** *00:41:27.4±29.0, 3689N×2139E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/21, mbtmp3.1/3, ML3.6/1, Error ellipse: s-maj=562.3km s-min=42.1km az=35.0*
NEIC ***08*** *00:41:32.3, 3685N×2132E, h10km, MD3.7(ATH), After ATH.*
ATH ***08*** *00:41:32.3, 3685N×2132E, h10km±4km, MD3.7/4*
CSEM ***08*** *00:41:32.3, 3685N×2132E, h10km, MD3.7/4, After ATH*
ISC 08 00:41:26.6±2.4, 365N±01×211E±01, h16km±12km, n12, σ0§81/13, mb3.1/2, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.99**	**44**	*e*PB	**Pb**	**00 41 44.1**	**-1.2**
VLI	**Veliai**	**1.53**	**80**	*e*PG	**Pg**	**00 41 56.9**	**+0.9**
RLS	**Riolos of Patr**	**1.61**	**11**	*e*PN	**Pn**	**00 41 54.8**	**+0.4**
VLS	**Valsamata**	**1.74**	**348**	*e*PG	**Pg**	**00 41 59.3**	**-0.8**
VLS				*e*SB	**Sb**	**00 42 20.1**	**+0.3**
EVR	**Evrytania**	**2.51**	**13**	*e*PN	**Pn**	**00 42 09.9**	**+3.2**
BOJS	**Bojanci**	**10.03**	**336**	*i* Pn	**Pn**	**00 43 50.5**	**+0.5**
CRES	**Cresnjev**	**10.25**	**337**	*i* Pn	**Pn**	**00 43 52.4**	**-0.6**
CEY	**Cerknica**	**10.52**	**334**	*i* Pn	**Pn**	**00 43 57.1**	**+0.4**
VOJS	**Vojsko**	**10.96**	**333**	*i* Pn	**Pn**	**00 44 03.2**	**+0.4**
GERES	**GERESS Array B**	**13.49**	**339**	Pn	**Pn**	**00 44 36.9**	**-0.3**
	0.1nm,0.3s,baz=159,slow=15,SNR=4.3						
FINES	**FINESS Array B**	**25.19**	**6**	P	**P**	**00 46 50.5**	**-0.8**
	0.5nm,0.6s,mb3.2,baz=174,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**45.84**	**57**	P	**P**	**00 49 47.5**	**-0.4**
	0.1nm,0.4s,mb3.1,baz=276,slow=7.2,SNR=4.1						

NEIC ***08*** *00:51:07.0, 2787S×71.13W, h46km, After GUC.*
GUC 08 00:51:07.0±1.5, 2787S×7113W, h46km±19km, ML3.5, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.84**	**19**	*e*P	Pn	00 51 22.8	+0.3
CDCH				*i* S	Sn	00 51 34.7	+1.0
CDCH				AMP		00 51 40.1	
	comp=E,706nm,0.3s						
CDCH	**Caldera**	**0.84**	**19**	*e*P	Pn	00 51 22.8	+0.3
CDCH				*i* S	Sn	00 51 34.7	+1.0
CPCH	**Copiapo**	**0.86**	**54**	⇑*e*P	Pn	00 51 23.8	+1.1
CPCH				*i* S	Sn	00 51 35.5	+1.4
CPCH				AMP		00 51 38.6	
	comp=E,26μm,0.1s						
CPCH	**Copiapo**	**0.86**	**54**	⇑*e*P	Pn	00 51 23.8	+1.1
CPCH				*i* S	Sn	00 51 35.5	+1.4
CRCH	**Chaqaral**	**1.59**	**17**	*e*P	Pn	00 51 33.4	+0.7
CRCH				*i* S	Sn	00 51 52.7	+0.8
CRCH				AMP		00 52 01.8	
	comp=E,519nm,0.2s						
CRCH	**Chaqaral**	**1.59**	**17**	*e*P	Pn	00 51 33.4	+0.7
CRCH				*i* S	Sn	00 51 52.7	+0.8
LSCH	**La Serena**	**2.03**	**183**	*e*P	Pn	00 51 36.9	-1.8
LSCH				*i* S	Sn	00 51 59.7	-3.2
CMCH	**Combarbala**	**3.29**	**178**	*e*P	Pn	00 51 53.6	-2.4
CMCH				*i* S	Sn	00 52 30.6	-3.3
TRQA	**Tornquist**	**12.72**	**145**	*e*Pn	Pn	00 54 04.3	-0.9

PRE 08 00:55:57.6±1.1, 2189S×3381E, h5km, ML3.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.54**	**262**	*e*P		00 48 49.0	
MSNA				*e*S		00 49 29.7	
MSNA				AML	AML	00 49 44.1	
	comp=Z,96nm,0.5s						
LBTB	**Lobatse**	**8.16**	**246**	*e*P	Pn	00 57 58.1	+1.5
LBTB				*e*S	Sn	00 59 25.7	-3.5
LBTB				AML	AML	01 00 16.3	
	comp=Z,9.2nm,0.8s						
BOSA	**Boshof**	**10.23**	**227**	*e*P	Pn	00 58 26.0	+0.9
BOSA				*e*S	Sn	01 00 15.6	-4.6
BOSA				AML	AML	01 01 51.8	
	comp=Z,5.1nm,0.7s						

NNC 08 00:57:58.6±5.5, 4060N×6361E, h0km, mb3.3, mpv3.2, 4C-1D, Error ellipse: s-maj=43.3km s-min=17.8km az=33.0, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.72**	**62**	⇑Pn	Pn	00 59 24.5	-0.4
	1.5nm,0.6s,baz=246,slow=16,SNR=10.0						
KK31				⇑Lg		01 00 57.4	
	7.0nm,0.6s,baz=250,slow=34,SNR=6.0						
AB31	**Akbulak array**	**9.03**	**345**	⇑Pn	Pn	01 00 11.4	+1.1
	0.1nm,0.3s,baz=0.0,slow=0.1,SNR=8.6						
AB31				Sn	Sn	01 01 47.8	-5.0
	0.4nm,0.2s,baz=10.0,slow=34,SNR=3.0						
AB31				⇑Lg		01 02 45.6	
	5.4nm,0.7s						
TKM2	**Tokmak 2**	**9.25**	**72**	⇓Lg		01 02 55.6	
	5.5nm,0.8s						
VOSK	**Vostochnaya**	**13.13**	**20**	P	Pn	01 01 06.2	-0.1
VOSK	**Vostochnaya**	**13.13**	**20**	P	Pn	01 01 06.2	-0.1

MOS ***08*** *01:00:00.5±0.8, 4448N×2847W, h10km, mb4.6/8, Error ellipse: s-maj=26.2km s-min=12.8km az=151.4*
IDC ***08*** *01:00:00.9±0.8, 4451N×2808W, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/24, mbtmp3.8/9, MS3.9/24, Ms1 3.9/24, ms1mx3.8/33, Error ellipse: s-maj=29.7km s-min=18.8km az=43.0*
ISCJB ***08*** *01:00:01.2±0.4, 445N±0.1×2836W±008, h10km, mb4.0/17, MS3.9/24, Error ellipse: s-maj=15.5km s-min=8.1km az=153.0*
CSEM ***08*** *01:00:01.0±0.1, 4454N×2839W, h10km, mb4.4/9, Error ellipse: s-maj=7.5km s-min=3.4km az=172.0*
NEIC ***08*** *01:00:03.0±0.5, 4450N×2836W, h10km, mb4.5/10, Error ellipse: s-maj=17.5km s-min=8.6km az=167.0*
ISC 08 01:00:03.1±0.5, 445N±01×2832W±008, h10km, n65, σ1§08/48, mb4.0/17, MS3.9/24, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**17.66**	**69**	*e*P	**Pn**	**01 04 08.2**	**-1.0**
	91nm,1.3s						
ROSF	**Rostrenen**	**17.66**	**69**	*e*P	**Pn**	**01 04 08.2**	**-1.0**
	46nm,1.3s						
ROSF	**Rostrenen**	**17.66**	**69**	*e*P	**Pn**	**01 04 08.2**	**-1.0**
ROSF				pmax	pmax		
	comp=Z,46nm,1.3s						
GRR	**Gorron**	**19.27**	**69**	*e*P	**Pn**	**01 04 29.0**	**+0.2**
TCF	**Toulx Ste Croi**	**21.45**	**74**	*e*P	**P**	**01 04 52.2**	**+0.7**
	comp=Z,59nm,1.4s,mb4.4						
TCF	**Toulx Ste Croi**	**21.45**	**74**	*e*P	**P**	**01 04 52.2**	**+0.7**
	comp=Z,30nm,1.4s,mb4.4						
TCF	**Toulx Ste Croi**	**21.45**	**74**	*e*P	**P**	**01 04 52.2**	**+0.7**
TCF				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.4						
MDT	**Midelt**	**21.80**	**114**	P	**P**	**01 04 57.5**	**+2.3**
	comp=Z,1.7nm,0.9s,mb3.5,baz=300,slow=12,SNR=4.3						
MDT				LR	LR	01 11 30.4	
	comp=Z,215nm,19.0s,MS3.6,baz=334,slow=32						
BGF	**Bois d'Agland**	**21.86**	**74**	*e*P	**P**	**01 04 57.6**	**+1.7**
MTLF	**Montolieu**	**21.97**	**82**	*e*P	**P**	**01 04 57.4**	**+0.4**
	comp=Z,104nm,1.7s,mb4.7						
MTLF	**Montolieu**	**21.97**	**82**	*e*P	**P**	**01 04 57.4**	**+0.4**
	comp=Z,52nm,1.7s,mb4.7						
MTLF	**Montolieu**	**21.97**	**82**	*e*P	**P**	**01 04 57.4**	**+0.4**
MTLF				pmax	pmax		
	comp=Z,52nm,1.7s,mb4.7						
AVF	**Avril sur Loir**	**22.18**	**73**	*e*P	**P**	**01 04 59.4**	**+0.1**
	comp=Z,51nm,1.5s,mb4.4						
AVF	**Avril sur Loir**	**22.18**	**73**	*e*P	**P**	**01 04 59.4**	**+0.1**
	comp=Z,26nm,1.5s,mb4.4						
AVF	**Avril sur Loir**	**22.18**	**73**	*e*P	**P**	**01 04 59.4**	**+0.1**
AVF				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.4						
SSF	**Saint Saulge**	**22.26**	**72**	*e*P	**P**	**01 05 00.3**	**+0.1**
	comp=Z,66nm,1.4s,mb4.6						
SSF	**Saint Saulge**	**22.26**	**72**	*e*P	**P**	**01 05 00.3**	**+0.1**
	comp=Z,33nm,1.4s,mb4.6						
SSF	**Saint Saulge**	**22.26**	**72**	*e*P	**P**	**01 05 00.3**	**+0.1**
SSF				pmax	pmax		
	comp=Z,33nm,1.4s,mb4.6						
LOR	**Lormes**	**22.49**	**71**	*e*P	**P**	**01 05 02.9**	**+0.4**
	comp=Z,58nm,1.5s,mb4.5						
LOR	**Lormes**	**22.49**	**71**	*e*P	**P**	**01 05 02.9**	**+0.4**
	comp=Z,29nm,1.5s,mb4.5						
LOR	**Lormes**	**22.49**	**71**	*e*P	**P**	**01 05 02.9**	**+0.4**
LOR				pmax	pmax		
	comp=Z,29nm,1.5s,mb4.5						
LPL	**La Plagne**	**24.69**	**75**	*e*P	**P**	**01 05 23.6**	**-0.6**
	comp=Z,35nm,1.5s,mb4.3						
LPL	**La Plagne**	**24.69**	**75**	*e*P	**P**	**01 05 23.6**	**-0.6**
	comp=Z,17nm,1.5s,mb4.3						
LPL	**La Plagne**	**24.69**	**75**	*e*P	**P**	**01 05 23.6**	**-0.6**
LPL				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.3						
SFJD	**Kangerlussuaq**	**25.51**	**340**	LR	LR	01 13 27.9	
	comp=Z

KMBO LR LR 01 43 40.5
CPUP Villa Florida 75.32 207 P **P** **01 11 44.7 -1.8**
comp=Z,0.5nm,0.4s,mb3.8,baz=346,slow=14,SNR=4.6
CPUP LR LR 01 43 28.7
comp=Z,81nm,21.2s,MS4.0,baz=188,slow=35
CPUP Villa Florida 75.32 207 *e*P **P** **01 11 44.4 -2.1**
comp=Z,4.0nm,0.6s,mb4.5
CPUP Villa Florida 75.32 207 *e*P **P** **01 11 44.4 -2.1**
comp=Z,4.3nm,0.6s,mb4.6
CPUP LR LR 01 43 28.7
CPUP Villa Florida 75.32 207 *e*P **P** **01 11 44.4 -2.1**
CPUP pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 79.81 29 P **P** **01 12 09.0 -2.6**
comp=Z,0.3nm,0.9s,mb3.2,baz=322,slow=4.4,SNR=2.8
BOSA Boshof 87.66 135 LR LR 01 50 36.6
comp=Z,121nm,18.3s,MS4.3,baz=335,slow=35
SUR Sutherland 88.63 140 LR LR 01 47 27.0
comp=Z,87nm,21.8s,MS4.1,baz=52,slow=32

*ISCJB **08** 01:07:07.9±1.5,2377S±008×67.1W±03,h232km±38km, mb3.6/1, Error ellipse: s-maj=49.1km s-min=9.8km az=20.4*
*IDC **08** 01:07:13.1±9.8,2333S×6687W,h238km±67km,mb3.4/1, mb1 3.5/3,mb1mx3.2/14,mbtmp4.1/3, Error ellipse: s-maj=107.5km s-min=36.0km az=27.0*
ISC 08 01:07:08.1±1.5,2381S±009×669W±03,h197km±37km,n8, σ1°40/14,mb3.6/1,3C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.05**	**277**	⇓*i*P	**Pn**	**01 07 60.0**	**+1.9**
CEN1				*i* S	**Sn**	**01 08 38.6**	**+1.5**
CEN1				AMP		01 08 41.3	
	comp=E,337nm,0.6s						
ANCH	**Antofagasta**	**3.21**	**272**	⇑*i*P	**Pn**	**01 07 58.4**	**-1.6**
ANCH				*i* S	**Sn**	**01 08 36.8**	**-3.9**
CPN1	**Cerro Paranal**	**3.29**	**255**	⇑*i*P	**Pn**	**01 08 02.7**	**+1.7**
CPN1				*i* S	**Sn**	**01 08 43.1**	**+0.7**
CPN1				AMP		01 08 45.0	
	comp=N,107nm,0.4s						
CRCH	**Chaqaral**	**4.21**	**232**	⇑*i*P	**Pn**	**01 08 13.2**	**+0.9**
CRCH				*i* S	**Sn**	**01 09 01.8**	**-0.9**
CDCH	**Caldera**	**4.81**	**227**	⇓*i*P	**Pn**	**01 08 19.4**	**-0.5**
CDCH				*i* S	**Sn**	**01 09 14.1**	**-2.3**
LPAZ	**La Paz**	**7.57**	**351**	P	**Pn**	**01 08 55.6**	**-0.1**
	comp=N,1.0nm,0.3s,baz=167,slow=9.1,SNR=23						
LPAZ				S	**Sn**	**01 10 18.1**	**-3.1**
	baz=30,slow=20,SNR=3.0						
BDFB	**Brasilia**	**19.54**	**69**	P	**P**	**01 11 21.1**	**+0.5**
	comp=N,0.6nm,0.3s,baz=241,slow=12,SNR=11						
TORD	**Torodi Ar. Bea**	**76.42**	**69**	P	**P**	**01 18 35.8**	**+0.1**
	comp=N,0.6nm,0.4s,mb3.6,baz=257,slow=5.5,SNR=23						

*IDC **08** 01:19:40.5±2.9,3330S×17864W,h0km,mb3.9/2, mb1 4.2/3,mb1mx3.9/13,mbtmp4.0/3,ML4.1/1,MS3.2/2, Ms1 3.2/2,ms1mx2.8/20, Error ellipse: s-maj=68.1km s-min=35.6km az=118.0*
*ISCJB **08** 01:19:41.5±5.3,335S±02×1783W±08,h33km,mb3.9/4, Error ellipse: s-maj=95.2km s-min=14.0km az=30.7*
*NEIC **08** 01:19:45.2±2.1,3345S×17845W,h35km,mb4.1/2, Error ellipse: s-maj=43.6km s-min=22.7km az=103.0*
ISC 08 01:19:43.0±5.1,335S±02×1782W±07,h35km,n9,σ0°61/6, mb3.9/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.22**	**3**	LR	LR	01 22 04.5	
	comp=Z,218nm,19.6s,baz=299,slow=35						
URZ	**Urewera**	**6.13**	**218**	P	**Pn**	**01 21 11.2**	**+0.2**
	4.7nm,0.3s,baz=271,slow=3.6,SNR=16						
URZ				Sn	**Sn**	**01 22 19.7**	**-0.1**
	3.8nm,0.3s,baz=138,slow=20,SNR=8.4						
DZM	**Mont Dzumac**	**17.73**	**306**	LR	LR	01 28 30.1	
	comp=Z,91nm,19.2s,baz=209,slow=31						
CTAO	**Charters Tower**	**34.29**	**284**	P	**P**	**01 26 26.6**	**+0.8**
	1.8nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**42.91**	**270**	P	**P**	**01 27 37.9**	**-0.3**
	1.3nm,0.7s,mb3.8,baz=109,slow=7.4,SNR=16						
WRAB	**Tennant Creek**	**44.17**	**275**	*e*P	**P**	**01 27 48.0**	**-0.2**
	1.3nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**44.17**	**275**	P	**P**	**01 27 47.8**	**-0.5**
	0.7nm,0.5s,mb3.7,baz=115,slow=7.8,SNR=21						
FINES	**FINESS Array B**	**147.97**	**338**	PKPbc	PKPbc	01 39 25.3	+0.7
	0.5nm,0.5s,baz=50,slow=4.3,SNR=8.2						
FINES	**FINESS Array B**	**147.97**	**338**	PKPbc	PKPbc	01 39 25.3	+0.7

ECX 08 01:23:39.9±0.4,3240N×11526W,h10km,MD3.5,ML3.6, 7C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.47**	**303**	⇑*e*P	Pg	01 23 48.0	-1.1
RMX	**La Rumorosa**	**0.72**	**287**	⇓*e*P	Pg	01 23 52.8	-1.1
RMX				*e*S	Sg	01 24 02.6	-0.8
RMX				⇑*e*		01 24 05.2	
	comp=N,2μm,0.3s						
RDX	**Rancho Dowling**	**0.75**	**232**	*e*P	Pg	01 23 53.0	-1.4
RDX				*e*S	Sg	01 24 03.4	-0.6
RDX				⇓*e*		01 24 09.8	
	comp=N,2μm,0.7s						
RDX				⇑*e*		01 24 09.8	
	comp=E,2μm,0.6s						
CBX	**Cerro Bola**	**1.19**	**266**	*e*P	Pb	01 24 00.4	-2.2
CBX				*e*S	Sb	01 24 16.8	-1.2
ENX	**Ensenada**	**1.30**	**247**	⇑*e*P	Pn	01 24 02.3	-1.8
ENX				*e*S	Sb	01 24 19.7	-1.4
ECNX	**Esteban Cantu**	**1.36**	**237**	⇑*e*P	Pn	01 24 03.1	-1.8
ECNX				⇑*e*P		01 24 02.6	
ECNX				*e*S	Sb	01 24 19.9	-2.9
ECNX				*e*S	Sb	01 24 21.7	-1.1
SPX	**San Pedro Mart**	**1.36**	**188**	*e*P	Pn	01 24 03.3	-1.6
PBX	**Punta Banda**	**1.41**	**243**	⇑*e*P	Pn	01 24 03.8	-1.8
PBX				*e*S	Sn	01 24 23.2	-1.0

PRE 08 01:24:54.1±1.4,2280S×3359E,h5km,ML3.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.32**	**277**	*e*P		01 17 35.6	
MSNA				*e*S		01 18 14.1	
MSNA				AML	AML	01 18 28.1	
	comp=Z,77nm,0.3s						
LBTB	**Lobatse**	**7.63**	**252**	*e*P	Pn	01 26 46.4	+0.4
LBTB				*e*S	Sn	01 28 09.9	-2.9
LBTB				AML	AML	01 29 08.0	
	comp=Z,12nm,0.6s						
BOSA	**Boshof**	**9.48**	**231**	*e*P	Pn	01 27 13.2	+2.0
BOSA				*e*S	Sn	01 28 53.4	-4.8
BOSA				AML	AML	01 30 22.2	
	comp=Z,3.6nm,0.6s						

*THR **08** 01:41:33.9±1.1,3443N×4895E,h14km±9km,ML3.5*
*ISCJB **08** 01:41:36.2±0.9,3436N±003×4901E±003,h15km±9km, Error ellipse: s-maj=6.4km s-min=3.2km az=112.1*
*CSEM **08** 01:41:36.1±0.1,3444N×4894E,h20km,ML3.5, Error ellipse: s-maj=2.7km s-min=1.2km az=150.0*
*TEH **08** 01:41:37.0,3431N×4896E,h7km,Mn3.6*
*KISR **08** 01:41:37.3±0.9,3421N×4935E,h33km,ML3.2*
ISC 08 01:41:35.6±0.9,3442N±003×4897E±003,h1km±6km,n26, σ1°02/44,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**0.88**	**81**	*e*PG	**Pg**	**01 41 50.7**	**-1.8**
ASAO				AML	AML	01 42 04.3	
	comp=E,1μm,0.3s						
ASAO				AML	AML	01 42 08.1	
	comp=N,1μm,0.9s						
IKOM	**Komasi**	**1.23**	**259**	*e*Pg	**Pg**	**01 41 58.2**	**-1.1**
IKOM				*e*Sg	**Sg**	**01 42 15.1**	**-0.1**
SNGE	**Sanandaj**	**1.50**	**297**	*e*PG	**Pg**	**01 42 01.1**	**-3.3**
SNGE				AML	AML	01 42 22.7	
	comp=E,877nm,0.2s						
SNGE				AML	AML	01 42 25.4	
	comp=N,1μm,0.5s						
IMHD	**Mahdasht**	**1.88**	**47**	*e*Pn	**Pn**	**01 42 07.6**	**-1.2**
IGHG	**Ghaleghazi**	**1.99**	**268**	*e*Pn	**Pn**	**01 42 10.7**	**+0.3**
IGHG				*e*Sn	**Sn**	**01 42 35.7**	**-0.2**
IDHR	**Dehrash**	**2.15**	**278**	*e*Pn	**Pn**	**01 42 14.1**	**+1.5**
IDHR				*e*Sn	**Sn**	**01 42 39.5**	**-0.4**
THKV	**Tehran--Karaj**	**2.16**	**46**	*e*PG	**Pn**	**01 42 12.8**	**+0.1**
THKV				*e*SG	**Sn**	**01 42 42.1**	**+2.0**
THKV				AML	AML	01 42 43.5	
	comp=E,320nm,0.3s						
THKV	**Tehran--Karaj**	**2.16**	**46**	*e*Pg	**Pn**	**01 42 12.8**	**+0.1**
	SNR=90						
THKV				*e*Sg	**Sn**	**01 42 42.1**	**+2.0**
	SNR=90						
CHTH	**Charan**	**2.31**	**49**	*e*PN	**Pn**	**01 42 14.0**	**-0.7**
IVRN	**Varamin**	**2.34**	**75**	*e*Pn	**Pn**	**01 42 15.9**	**+0.7**
IVRN				*e*Sn	**Sn**	**01 42 45.2**	**+0.7**
IPIR	**Pirpir**	**2.35**	**137**	*e*Pn	**Pn**	**01 42 17.5**	**+2.1**
IAFJ	**Afjeh**	**2.67**	**57**	*e*Pn	**Pn**	**01 42 19.3**	**-0.3**
IAFJ				*e*Sn	**Sn**	**01 42 51.6**	**-0.9**
DAMV	**Damavand**	**2.74**	**63**	*e*PN	**Pn**	**01 42 20.1**	**-0.5**
DAMV				AML	AML	01 43 01.5	
	comp=E,116nm,0.6s						
IFIR	**Firoozkooh**	**3.33**	**67**	*e*Pn	**Pn**	**01 42 29.6**	**+0.8**
IFIR				*e*Sn	**Sn**	**01 43 08.8**	**-0.2**
ILAS	**Lasjerd**	**3.41**	**72**	*e*Pn	**Pn**	**01 42 29.8**	**-0.1**
ILAS				*e*Sn	**Sn**	**01 43 10.6**	**-0.4**
IGAR	**Garneh**	**3.46**	**128**	*e*Pn	**Pn**	**01 42 30.7**	**+0.1**
ISHM	**Shahmirzad**	**3.80**	**67**	*e*Pn	**Pn**	**01 42 37.0**	**+1.7**
ISHM				*e*Sn	**Sn**	**01 43 20.0**	**-0.6**
IANJ	**Anjiloo**	**4.19**	**74**	*e*Pn	**Pn**	**01 42 41.0**	**+0.4**
IANJ				*e*Sn	**Sn**	**01 43 28.9**	**-1.3**
IKIA	**Kiasar**	**4.25**	**64**	*e*Pn	**Pn**	**01 42 42.6**	**+1.2**
IKIA				*e*Sn	**Sn**	**01 43 30.6**	**-0.9**
MIB	**Mutribah**	**4.80**	**197**	*e*P	**Pn**	**01 42 50.4**	**+1.3**
MIB				*e*S	**Sn**	**01 43 45.0**	**-0.3**
MIB				AML	AML	01 43 48.2	
	comp=Z,11nm,0.3s						
MIB	**Mutribah**	**4.80**	**197**	*e*P	**Pn**	**01 42 50.3**	**+1.3**
MIB				*e*S	**Sn**	**01 43 45.0**	**-0.3**
UMR	**Umm Al-Rimmam**	**4.96**	**193**	*e*P	**Pn**	**01 42 52.1**	**+0.8**
UMR				AML	AML	01 43 47.5	
	comp=Z,12nm,0.3s						
UMR				*e*S	**Sn**	**01 43 48.2**	**-1.1**
KBD	**Kabd**	**5.34**	**192**	*e*P	**Pn**	**01 42 57.4**	**+1.1**
KBD				*e*S	**Sn**	**01 43 56.9**	**-1.5**
KBD				AML	AML	01 43 57.9	
	comp=Z,41nm,0.3s						
KBD	**Kabd**	**5.34**	**192**	*e*P	**Pn**	**01 42 57.4**	**+1.0**
KBD				*e*S	**Sn**	**01 43 56.9**	**-1.5**
NAY	**Al-Naaiem**	**5.36**	**196**	*e*P	**Pn**	**01 42 57.4**	**+0.8**
NAY				AML	AML	01 43 56.6	
	comp=Z,5.6nm,0.5s						
NAY				*e*S	**Sn**	**01 43 57.8**	**-1.2**
RDF	**Al-Radifah**	**5.61**	**193**	*e*P	**Pn**	**01 43 00.8**	**+0.7**
RDF				AML	AML	01 44 04.9	
	comp=Z,12nm,0.4s						

IDC 08 01:56:29.4±3.3,3329S×17889W,h0km,mb3.4/2, mb1 3.8/3,mb1mx3.6/13,mbtmp3.6/3,ML3.7/1,Error ellipse: s-maj=73.4km s-min=36.9km az=112.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.93**	**212**	Pn	Pn	01 57 58.7	+0.3
	2.1nm,0.3s,baz=18,slow=3.2,SNR=7.6						
URZ				Sn	Sn	01 59 06.1	-0.9
	1.3nm,0.3s,baz=131,slow=20,SNR=3.7						
ASAR	**Alice Springs**	**42.28**	**271**	P	P	02 04 25.1	+0.5
	0.3nm,0.5s,baz=110,slow=7.5,SNR=4.9						
WRA	**Warramunga Arr**	**43.53**	**276**	P	P	02 04 34.7	0.0
	0.3nm,0.5s,baz=116,slow=7.6,SNR=9.6						
FINES	**FINESS Array B**	**147.56**	**338**	PKPbc	PKPbc	02 16 13.9	-1.6
	1.2nm,1.0s,baz=38,slow=3.4,SNR=3.7						

*ISCJB **08** 01:58:14.3±0.6,3953N±003×1413E±0.1,h133km±3km, mb3.6/5, Error ellipse: s-maj=16.4km s-min=5.5km az=13.1*
*JMA **08** 01:58:16.2±0.1,3952N×141.18E,h124km±1km,M3.4*
*IDC **08** 01:58:16.8±1.9,3964N×14152E,h147km±17km,mb3.4/5, mb1 3.3/7,mb1mx3.1/20,mbtmp3.7/7, Error ellipse: s-maj=35.3km s-min=15.3km az=99.0*
ISC 08 01:58:15.3±0.6,3953N±003×1413E±01,h128km±3km,n19, σ0°53/29,mb3.6/5,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOM	**Ohasama**	**0.06**	**177**	P	**Pn**	**01 58 33.1**	**+0.4**
JOM				S	**Sn**	**01 58 46.0**	**+0.2**
JMK	**Ichinoseki**	**0.58**	**185**	P	**Pn**	**01 58 34.8**	**+0.1**
JMK				*e*S	**Sn**	**01 58 48.6**	**-0.7**
JAH	**Hinai**	**0.83**	**323**	P	**Pn**	**01 58 36.7**	**+0.2**
JAH				*e*S	**Sn**	**01 58 52.6**	**+0.1**
JANG	**Nango**	**0.86**	**12**	P	**Pn**	**01 58 37.3**	**+0.5**
JANG				S	**Sn**	**01 58 52.7**	**-0.3**
JYK	**Kaneyama**	**0.95**	**230**	P	**Pn**	**01 58 37.7**	**+0.1**
JYK				S	**Sn**	**01 58 53.9**	**-0.5**
JIO	**Ouri**	**1.08**	**177**	P	**Pn**	**01 58 39.0**	**+0.2**
JIO				*e*S	**Sn**	**01 58 56.2**	**-0.4**
JOU	**Okura**	**1.26**	**203**	P	**Pn**	**01 58 41.0**	**+0.3**
JTM	**Tenmabayashi**	**1.27**	**352**	P	**Pn**	**01 58 41.0**	**+0.3**
JTM				*e*S	**Sn**	**01 58 59.9**	**-0.1**
JMM	**Marumori**	**1.71**	**193**	P	**Pn**	**01 58 45.9**	**+0.2**
JMM				*e*S	**Sn**	**01 59 08.5**	**-0.3**
JOT	**Ohata**	**1.86**	**354**	P	**Pn**	**01 58 47.8**	**+0.3**
JOT				*e*S	**Sn**	**01 59 11.8**	**-0.2**
JAW	**Awa shima**	**1.92**	**237**	P	**Pn**	**01 58 48.3**	**+0.1**
MJAR	**Matsushiro Arr**	**3.85**	**220**	P	**Pn**	**01 59 18.1**	**+5.0**
	0.8nm,0.3s,baz=20,slow=14,SNR=6.8						
ASAJ	**Asahikawa**	**4.68**	**12**	P	**Pn**	**01 59 25.8**	**+1.6**
	0.9nm,0.3s,baz=195,slow=20,SNR=3.0						
ASAJ				S	**Sn**	**02 00 15.9**	**-1.7**
	1.6nm,0.3s,baz=9.0,slow=19,SNR=4.9						
SONM	**Songino Array**	**26.38**	**300**	P	**P**	**02 03 39.9**	**+0.2**
	0.3nm,0.5s,mb3.0,baz=98,slow=9.7,SNR=3.6						
MKAR	**Makanchi Array**	**42.75**	**300**	P	**P**	**02 05 59.9**	**0.0**
	1.7nm,0.7s,mb3.9,baz=84,slow=10.0,SNR=24						
WRA	**Warramunga Arr**	**59.52**	**188**	P	**P**	**02 08 04.9**	**-0.1**
	0.4nm,0.7s,mb3.6,baz=2.9,slow=7.3,SNR=6.6						
JOF	**Joensuu**	**63.72**	**331**	*e*p	**P**	**02 08 33.3**	**0.0**
FINES	**FINESS Array B**	**66.57**	**332**	P	**P**	**02 08 51.4**	**-0.2**
	0.9nm,0.6s,mb3.8,baz=20,slow=8.5,SNR=6.7						
AKASG	**Malin Array Be**	**72.27**	**322**	P	**P**	**02 09 26.0**	**-0.7**
	0.5nm,0.4s,mb3.7,baz=46,slow=6.3,SNR=5.7						

*ISCJB **08** 02:04:12.3±1.1,3350N±005×1408E±0.1,h69km±11km, mb3.9/2, Error ellipse: s-maj=19.9km s-min=7.8km az=29.7*
*JMA **08** 02:04:12.6±0.1,3353N×14084E,h53km,M2.9*
*IDC **08** 02:04:17.7±1.0,3317N×13933E,h70km±15km,mb3.5/2, mb1 3.7/3,mb1mx3.1/19,mbtmp3.6/3, Error ellipse: s-maj=35.4km s-min=9.4km az=74.0*
ISC 08 02:04:13.0±1.3,3349N±006×1408E±02,h53km±16km,n11, σ0°68/15,mb3.8/2,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.91**	**246**	P	**Pn**	**02 04 29.9**	**+0.3**
JHJ2				S	**Sn**	**02 04 42.8**	**+1.0**
JHJ	**Hachijo jima 2**	**0.93**	**247**	P	**Pn**	**02 04 30.1**	**+0.1**
	176nm,0.3s,baz=276,slow=22,SNR=122						
JHJ				S	**Sn**	**02 04 40.9**	**-1.4**
	233nm,0.3s,baz=59,slow=22,SNR=31						
BSO1	**Boso 1**	**1.17**	**7**	P	**Pn**	**02 04 32.3**	**-0.8**
BSO3	**Boso 3**	**1.33**	**349**	P	**Pn**	**02 04 34.8**	**-0.5**
BSO3				*e*S	**Sn**	**02 04 52.5**	**+0.5**
BSO4	**Boso 4**	**1.55**	**346**	P	**Pn**	**02 04 38.4**	**+0.2**
KTJJ	**Kamata 2**	**2.04**	**315**	P	**Pn**	**02 04 44.9**	**0.0**
JOD2	**Odawara 2**	**2.27**	**322**	P	**Pn**	**02 04 48.2**	**+0.1**
JHU	**Hanno**	**2.67**	**332**	P	**Pn**	**02 04 54.0**	**+0.4**
MJAR	**Matsushiro Arr**	**3.72**	**326**	P	**Pn**	**02 05 08.6**	**+0.6**
	1.3nm,0.3s,baz=145,slow=13,SNR=6.2						
MJAR				S	**Sn**	**02 05 49.8**	**-0.7**
	0.4nm,0.3s,baz=166,slow=28,SNR=3.7						
WRA	**Warramunga Arr**	**53.49**	**188**	P	**P**	**02 13 27.0**	**-0.9**
	1.2nm,0.3s,mb4.3,baz=6.3,slow=7.6,SNR=59						
ASAR	**Alice Springs**	**57.21**	**188**	P	**P**	**02 13 55.6**	**+0.8**
	0.1nm,0.3s,mb3.3,baz=9.5,slow=7.5,SNR=3.7						

PRE 08 02:12:08.0±1.4,2157S×3347E,h5km,ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.29**	**256**	*e*P		02 04 56.8	
MSNA				*e*S		02 05 36.3	
MSNA				AML	AML	02 06 00.9	
	comp=Z,144nm,0.2s						
SLR	**Silverton**	**6.31**	**228**	*e*P	Pn	02 13 43.2	+1.6
SLR				*e*S	Sn	02 14 51.0	-3.1
SLR				AML	AML	02 15 38.8	
	comp=Z,41nm,0.4s						
LBTB	**Lobatse**	**8.01**	**243**	*e*P	Pn	02 14 06.0	+1.0
LBTB				*e*S	Sn	02 15 32.0	-3.9
SWZ	**Schweizer**	**9.28**	**231**	*e*P	Pn	02 14 24.1	+1.7
SWZ				*e*S	Sn	02 16 05.8	-1.5
BOSA	**Boshof**	**10.22**	**225**	*e*P	Pn	02 14 36.9	+1.6
BOSA				*e*S	Sn	02 16 25.9	-4.4
BOSA				AML	AML	02 17 14.1	
	comp=Z,140nm,0.5s						

IDC 08 02:23:35.0±2.4,2493N×14173E,h136km±30km,mb3.5/5, mb1 3.6/6,mb1mx3.2/19,mbtmp3.8/6,Error ellipse: s-maj=77.5km s-min=22.5km az=82.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.19**	**11**	P	Pn	02 24 11.2	-0.4
	19nm,0.3s,baz=267,slow=21,SNR=17						
CBIJ				S	Sn	02 24 40.6	+0.8
	30nm,0.3s,baz=290,slow=23,SNR=4.6						
WRA	**Warramunga Arr**	**45.18**	**190**	P	P	02 31 38.4	+0.3
	1.3nm,0.4s,baz=9.0,slow=8.6,SNR=6.1						
MKAR	**Makanchi Array**	**51.55**	**311**	P	P	02 32 27.0	+0.1
	0.2nm,0.5s,baz=94,slow=7.2,SNR=4.2						
BVAR	**Borovoye Array**	**59.37**	**318**	P	P	02 33 22.9	+0.1
	0.5nm,0.4s,baz=84,slow=7.0,SNR=7.1						
ARCES	**ARCESS Array B**	**75.44**	**341**	P	P	02 35 03.9	0.0
	3.3nm,1.0s,baz=38,slow=6.1,SNR=3.6						
FINES	**FINESS Array B**	**79.70**	**334**	P	P	02 35 26.7	-0.8
	0.2nm,0.3s,baz=59,slow=5.9,SNR=5.2						

CASC 08 02:28:31.4±4.6,1527N×9010W,h11km±38km,MD4.0, ML4.2,4C-6D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.44**	**117**	⇑*e*P	Pg	02 28 39.2	-0.9
MRL				*e*S	Sg	02 28 46.7	+0.6
NBG	**Las Nubes**	**0.71**	**199**	⇓*e*P	Pg	02 28 50.6	+5.4
GCG	**Guatemala City**	**0.79**	**212**	⇓*e*P	Pg	02 28 45.4	-1.4
GCG				*e*S	Sg	02 28 56.2	-1.0
PCG	**Pacaya**	**0.99**	**209**	⇓*e*P	Pg	02 28 50.5	-0.1
PCG				*e*S	Sg	02 29 04.1	+0.5
TP2	**Tecpan 2**	**1.01**	**242**	⇓*e*P	Pg	02 28 48.7	-2.1
TP2				*e*S	Sg	02 29 04.0	0.0
TP2				AML	AML	02 29 04.5	
	comp=E,4μm,0.3s						
FUG	**Fuego 3**	**1.08**	**221**	⇓*i*P	Pb	02 28 51.2	-0.9
IXG	**Ixpaco**	**1.14**	**197**	⇓*e*P	Pb	02 28 51.9	-1.1
IXG				*e*S	Sb	02 29 07.5	-0.3
IXG				AML	AML	02 29 13.4	
	comp=N,34μm,0.5s						
SNJE	**San Jose**	**1.47**	**161**	⇑*e*P	Pn	02 28 59.4	+1.7
SNJE				*e*S	Sn	02 29 19.5	+2.5
SBLS	**San Blas**	**1.49**	**162**	*e*P	Pn	02 29 00.2	+2.1
SBLS				*e*S	Sn	02 29 20.0	+2.5
BOQS	**Boqueron**	**1.72**	**152**	*e*P	Pn	02 29 03.7	+2.5
BOQS				*e*S	Sn	02 29 27.0	+4.0
JAT	**Jato**	**1.76**	**238**	⇑*e*P	Pn	02 29 03.9	+2.2
LBRS	**Las Brisas**	**1.83**	**146**	⇑*e*P	Pn	02 29 05.4	+2.7
LBRS				*e*S	Sn	02 29 30.8	+4.8
LCBS	**La Ceiba**	**1.94**	**146**	*e*P	Pn	02 29 05.8	+1.7
LCBS				*e*S	Sn	02 29 32.1	+3.6

*ISCJB **08** 02:32:27.3±0.3,3532N±002×491W±003,h10km, Error ellipse: s-maj=3.3km s-min=2.8km az=141.7*
*CSEM **08** 02:32:27.9±0.1,3528N×467W,h10km,ML3.7/7, Error ellipse: s-maj=3.6km s-min=3.0km az=65.0*
*NEIC **08** 02:32:31.5,3546N×472W,h0km,MN2.6(MDD), After MDD.*
*MDD **08** 02:32:31.9±0.4,3525N×476W,h39km±16km,mbLg2.7/22, Error ellipse: s-maj=5.0km s-min=4.1km az=92.0,PRXIMO*
*SFS **08** 02:32:31.0,3546N×472W,h0km,ML2.6*
*CNRM **08** 02:32:31.4,3525N×476W,h26km,MD3.4*
*INMG **08** 02:32:33.0±1.0,3550N×490W,h9km±6km,ML2.6, Error ellipse: s-maj=4.6km s-min=3.1km az=163.0*
*IGIL **08** 02:32:35.9,3550N×480W,h31km,ML2.8*
ISC 08 02:32:28.6±0.3,3533N±002×487W±003,h10km,n101, σ1°57/180,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.76**	**98**	*e*P	**Pg**	**02 32 45.0**	**+1.6**
MPAL				*i* S	**Sg**	**02 32 54.0**	**+0.7**
TOU	**Touzarine**	**0.98**	**112**	*i* P	**Pg**	**02 32 48.0**	**+0.4**
TOU				*i* S	**Sg**	**02 32 58.0**	**-2.4**
EMIJ	**Mijas**	**1.23**	**3**	P	**Pn**	**02 32 51.9**	**0.0**
	6.3nm,0.3s,SNR=72						
EMIJ				S	**Sb**	**02 33 06.6**	**-1.3**
	67nm,0.2s						
EMIJ	**Mijas**	**1.23**	**3**	P	**Pn**	**02 32 51.9**	**0.0**
	6.3nm,0.3s,SNR=72						
EMIJ				S	**Sb**	**02 33 06.7**	**-1.2**
EMIJ	**Mijas**	**1.23**	**3**	P	**Pn**	**02 32 51.9**	**0.0**
EMIJ				S	**Sb**	**02 33 06.7**	**-1.2**
MAL	**Malaga**	**1.44**	**15**	*i* P	**Pn**	**02 32 55.0**	**+0.3**
MAL				*e*S	**Sn**	**02 33 12.4**	**-1.3**
EMEL	**Melilla**	**1.56**	**91**	P	**Pn**	**02 32 52.2**	**-4.3**
	143nm,0.1s,SNR=7.9						
EMEL				S	**Sn**	**02 33 10.1**	**-6.6**
	177nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**1.57**	**91**	P	**Pn**	**02 32 52.2**	**-4.3**
	143nm,0.1s,SNR=7.9						
EMLI				S	**Sn**	**02 33 10.1**	**-6.8**
	177nm,0.1s,SNR=7.9						
LIJA	**Lijar**	**1.63**	**345**	*i* P	**Pn**	**02

ECOG S **Sn** **02 33 31.9 -0.7**
ECOG Cogollos-Vega 2.21 28 P **Pn** **02 33 07.0 +1.7**
ECOG S **Sn** **02 33 31.9 -0.7**
EBER Berja 2.23 45 P **Pn** **02 33 05.4 -0.3**
6.5nm,0.2s,SNR=45
EBER S **Sn** **02 33 29.9 -3.5**
24nm,0.2s
EBER Berja 2.23 45 P **Pn** **02 33 05.4 -0.3**
6.5nm,0.2s,SNR=45
EBER S **Sn** **02 33 29.9 -3.4**
24nm,0.2s
EBER Berja 2.23 45 P **Pn** **02 33 05.4 -0.3**
EBER S **Sn** **02 33 29.6 -3.7**
ELUQ Luque 2.27 12 P **Pn** **02 33 08.6 +2.4**
4.9nm,0.2s,SNR=7.9
ELUQ S **Sn** **02 33 34.7 +0.4**
11nm,0.2s,SNR=7.9
ELUQ Luque 2.27 12 P **Pn** **02 33 08.6 +2.4**
4.9nm,0.2s,SNR=7.9
ELUQ S **Sn** **02 33 34.1 -0.2**
ELUQ Luque 2.27 12 P **Pn** **02 33 08.6 +2.4**
ELUQ S **Sn** **02 33 34.1 -0.2**
CZD Col de Zad 2.30 184 *i* P **Pn** **02 33 06.0 -0.6**
CZD *i* S **Sn** **02 33 31.0 -3.9**
ENIJ Nijar 2.70 52 P **Pn** **02 33 11.9 -0.3**
1.0nm,0.1s,SNR=12
ENIJ S **Sn** **02 33 41.7 -3.1**
5.2nm,0.2s
ENIJ Nijar 2.70 52 P **Pn** **02 33 11.9 -0.3**
ENIJ S **Sn** **02 33 41.7 -3.2**
EMIN Mina Concepcio 2.83 330 P **Pn** **02 33 15.4 +1.5**
0.2nm,0.0s,SNR=28
EMIN S **Sn** **02 33 46.4 -1.7**
7.0nm,0.1s
EMIN Mina Concepcio 2.83 330 P **Pn** **02 33 15.4 +1.5**
0.2nm,0.0s,SNR=28
EMIN S **Sn** **02 33 46.3 -1.7**
EMIN Mina Concepcio 2.83 330 P **Pn** **02 33 15.4 +1.5**
EMIN S **Sn** **02 33 46.3 -1.7**
EADA Adamuz 2.84 5 P **Pn** **02 33 15.6 +1.6**
1.6nm,0.0s,SNR=31
EADA S **Sn** **02 33 47.4 -0.8**
11nm,0.1s
EADA Adamuz 2.84 5 P **Pn** **02 33 15.6 +1.6**
1.6nm,0.0s,SNR=31
EADA S **Sn** **02 33 47.7 -0.5**
EADA Adamuz 2.84 5 P **Pn** **02 33 15.6 +1.6**
EADA S **Sn** **02 33 47.7 -0.5**
EQES Quesada 2.86 30 P **Pn** **02 33 15.9 +1.7**
5.0nm,0.1s,SNR=62
EQES S **Sn** **02 33 47.8 -0.9**
20nm,0.2s,SNR=5.0
EQES Quesada 2.86 30 P **Pn** **02 33 15.9 +1.7**
5.0nm,0.1s,SNR=62
EQES S **Sn** **02 33 47.8 -0.9**
20nm,0.2s,SNR=5.0
EQES Quesada 2.86 30 P **Pn** **02 33 15.9 +1.7**
EQES S **Sn** **02 33 47.8 -0.8**
EBAN Banos Encina 2.96 17 P **Pn** **02 33 16.8 +1.2**
2.0nm,0.1s,SNR=9.2
EBAN S **Sn** **02 33 50.0 -1.1**
4.7nm,0.2s
EGRO El Granado 3.05 317 P **Pn** **02 33 18.5 +1.6**
0.4nm,0.0s,SNR=31
EGRO S **Sn** **02 33 52.0 -1.3**
19nm,0.1s
EGRO El Granado 3.05 317 P **Pn** **02 33 18.5 +1.7**
0.4nm,0.0s,SNR=31
EGRO S **Sn** **02 33 52.0 -1.3**
19nm,0.1s
EGRO El Granado 3.05 317 P **Pn** **02 33 18.5 +1.6**
EGRO S **Sn** **02 33 52.5 -0.9**
ZFT Errachidia 3.32 172 P **Pn** **02 33 20.0 -0.6**
ZFT S **Sn** **02 33 55.0 -5.1**
ZFT Errachidia 3.32 172 *i* P **Pn** **02 33 20.0 -0.6**
TZC Tazercounte 3.45 204 P **Pn** **02 33 22.0 -0.5**
TZC S **Sn** **02 33 58.0 -5.4**
TZC Tazercounte 3.45 204 *e*P **Pn** **02 33 22.0 -0.5**
PBEJ Beja 3.61 319 *e*Pn **Pn** **02 33 26.2 +1.6**
PBEJ *e*Sn **Sn** **02 34 05.7 -1.6**
9.6nm,0.1s
PBEJ Beja 3.61 319 *e*Pn **Pn** **02 33 26.2 +1.6**
PBEJ *e*Sn **Sn** **02 34 05.7 -1.6**
9.6nm,0.1s
MORF Marmelete 3.63 304 *e*P **Pn** **02 33 28.3 +3.4**
MORF *e*S **Sn** **02 34 06.5 -1.4**
MORF *e*S **Sn** **02 34 06.5 -1.4**
MORF AML AML 02 34 08.7
comp=E,25nm,0.3s
MORF Marmelete 3.63 304 *e*P **Pn** **02 33 28.3 +3.3**
MORF *e*S **Sn** **02 34 06.5 -1.4**
MORF Marmelete 3.63 304 P **Pn** **02 33 28.3 +3.3**
MORF S **Sn** **02 34 06.5 -1.4**
PTEO Sao Teotonio 3.81 306 *e*Sn **Sn** **02 34 11.1 -1.2**
PTEO
comp=E,6.2nm,0.2s
PTEO Sao Teotonio 3.81 306 *e*Sn **Sn** **02 34 11.1 -1.2**
comp=E,6.2nm,0.2s
EBAD Badajoz 3.82 334 P **Pn** **02 33 29.4 +1.8**
comp=E,1.6nm,0.1s,SNR=20
EBAD S **Sn** **02 34 10.6 -2.0**
comp=E,20nm,0.2s
EBAD Badajoz 3.82 334 P **Pn** **02 33 29.4 +1.9**
comp=E,1.6nm,0.1s,SNR=20
EBAD Badajoz 3.82 334 P **Pn** **02 33 29.4 +1.8**
EBAD S **Sn** **02 34 10.7 -1.8**
EMUR La Murta 3.84 48 P **Pn** **02 33 29.7 +1.9**
comp=E,2.7nm,0.6s,SNR=7.9
EMUR S **Sn** **02 34 08.7 -4.3**
comp=E,2.2nm,0.3s,SNR=7.9
EMUR La Murta 3.84 48 P **Pn** **02 33 29.7 +1.9**
comp=E,2.7nm,0.6s,SNR=7.9
EMUR S **Sn** **02 34 08.7 -4.3**
comp=E,2.2nm,0.3s,SNR=7.9
MOE Montemor 4.23 320 *e*Sn **Sn** **02 34 20.9 -1.8**
ETOB Tobarra 4.24 38 P **Pn** **02 33 34.4 +1.2**
comp=E,2.2nm,0.1s,SNR=28
ETOB Tobarra 4.24 38 P **Pn** **02 33 34.4 +1.1**
comp=E,2.2nm,0.1s,SNR=28
ESDC Sonseca Array 4.39 9 P **Pn** **02 33 36.4 +1.1**
comp=E,0.7nm,0.1s,baz=183,slow=12,SNR=12
ESDC S **Sn** **02 34 22.8 -3.8**
comp=E,1.8nm,0.1s,baz=189,slow=23,SNR=6.2
ESDC Sonseca Array 4.39 9 P **Pn** **02 33 36.4 +1.0**
comp=E,0.7nm,0.1s,SNR=12
ESDC S **Sn** **02 34 23.2 -3.4**
ESDC Sonseca Array 4.39 9 P **Pn** **02 33 36.4 +1.1**
ESDC S **Sn** **02 34 23.2 -3.3**
OUK Oukaimeden 4.82 212 P **Pn** **02 33 41.0 -0.2**
OUK S **Sn** **02 34 34.0 -3.1**
OUK Oukaimeden 4.82 212 *e*P **Pn** **02 33 41.0 -0.2**
PLOU Loures 4.93 317 *e*Sn **Sn** **02 34 38.2 -1.6**
PLOU
comp=E,7.7nm,0.2s
PLOU Loures 4.93 317 *e*Sn **Sn** **02 34 38.2 -1.6**
comp=E,7.7nm,0.2s
PCBR Castelo Branco 4.95 336 *e*Pn **Pn** **02 33 44.8 +1.7**
PCBR *e*Sn **Sn** **02 34 37.1 -3.3**
PCBR
comp=E,8.8nm,0.3s
PCBR Castelo Branco 4.95 336 *e*Pn **Pn** **02 33 44.8 +1.7**
PCBR *e*Sn **Sn** **02 34 37.1 -3.3**
comp=E,8.8nm,0.3s
CIA Chichaoua 4.97 222 P **Pn** **02 33 43.0 -0.3**
CIA S **Sn** **02 34 37.0 -3.8**
CIA Chichaoua 4.97 222 *i* P **Pn** **02 33 43.0 -0.3**
EBEN Beniarda 5.01 46 P **Pn** **02 33 44.0 +0.2**
comp=E,1.6nm,0.2s,SNR=7.9
EBEN Beniarda 5.01 46 P **Pn** **02 33 44.0 +0.2**
comp=E,1.6nm,0.2s,SNR=7.9
PTOM Tomar 5.12 328 *e*Pn **Pn** **02 33 47.1 +1.7**
PTOM *e*Sn **Sn** **02 34 41.4 -3.2**
PTOM
comp=E,6.0nm,0.2s
PTOM Tomar 5.12 328 *e*Pn **Pn** **02 33 47.1 +1.7**
PTOM *e*Sn **Sn** **02 34 41.4 -3.2**
comp=E,6.0nm,0.2s
ECHE Chera 5.26 35 P **Pn** **02 33 48.1 +0.8**
comp=E,2.9nm,0.3s,SNR=12
ECHE S **Sn** **02 34 42.4 -5.5**
comp=E,0.4nm,0.2s,SNR=4.0
GUD Guadarrama 5.33 6 P **Pn** **02 33 49.6 +1.4**
comp=E,1.1nm,0.2s,SNR=7.9
GUD S **Sn** **02 34 45.9 -3.8**
comp=E,1.9nm,0.2s,SNR=7.9
MTE Manteigas 5.48 338 *e*Sn **Sn** **02 34 50.7 -2.8**
MTE
comp=E,7.1nm,0.5s
MTE Manteigas 5.48 338 *e*Sn **Sn** **02 34 50.7 -2.8**
comp=E,7.1nm,0.5s
PVIS Viseu 5.88 337 *e*Pn **Pn** **02 33 57.6 +1.8**
PVIS *e*Sn **Sn** **02 34 59.8 -3.4**
PVIS
comp=E,5.5nm,0.1s
PVIS Viseu 5.88 337 *e*Sn **Sn** **02 34 59.8 -3.4**
comp=E,5.5nm,0.1s
EMOS Mosqueruela 6.11 33 P **Pn** **02 34 00.4 +1.4**
comp=E,0.4nm,0.1s,SNR=7.9
EMOS S **Sn** **02 35 04.0 -4.8**
comp=E,0.3nm,0.2s,SNR=7.9
EMOS Mosqueruela 6.11 33 P **Pn** **02 34 00.4 +1.5**
comp=E,0.4nm,0.1s,SNR=7.9
PVRL Vila Real 6.34 340 *e*Pn **Pn** **02 34 03.7 +1.6**
PVRL *e*Sn **Sn** **02 35 10.7 -3.9**
PVRL
comp=E,8.8nm,0.2s
PBRG Braganca 6.63 348 *e*Pn **Pn** **02 34 07.7 +1.7**
PBRG *e*Sn **Sn** **02 35 17.3 -4.3**
PBRG
comp=E,1.4nm,0.2s
ECAL Calabor 6.76 348 P **Pn** **02 34 09.4 +1.5**
comp=E,4.7nm,0.3s,SNR=7.9
ECAL S **Sn** **02 35 21.5 -3.3**
comp=E,1.8nm,0.2s,SNR=7.9
ECAL Calabor 6.76 348 P **Pn** **02 34 09.4 +1.5**
comp=E,4.7nm,0.3s,SNR=7.9
ECAL Calabor 6.76 348 P **Pn** **02 34 09.4 +1.5**
ECAL S **Sn** **02 35 21.7 -3.2**
PCAB Cabril 6.83 340 *e*Pn **Pn** **02 34 10.4 +1.5**
PCAB *e*Sn **Sn** **02 35 22.0 -4.7**
PCAB
comp=E,2.3nm,0.2s
ERTA Horta de San J 6.95 35 P **Pn** **02 34 11.5 +1.0**
comp=E,0.2nm,0.1s,SNR=7.9
ERTA Horta de San J 6.95 35 P **Pn** **02 34 09.8 -0.7**
ERTA Horta de San J 6.95 35 P **Pn** **02 34 09.8 -0.7**
ELOB Lobios 6.99 340 P **Pn** **02 34 12.3 +1.3**
comp=E,0.1nm,0.0s,SNR=7.9
ELOB S **Sn** **02 35 25.8 -4.7**
comp=E,2.8nm,0.2s,SNR=7.9
ELOB Lobios 6.99 340 P **Pn** **02 34 12.3 +1.3**
ELOB S **Sn** **02 35 26.5 -4.0**
EPOB Poblet 7.61 36 P **Pn** **02 34 20.3 +0.8**
comp=E,0.2nm,0.1s,SNR=7.9
EARI Arriondas 7.96 358 P **Pn** **02 34 26.7 +2.4**
comp=E,0.5nm,0.2s,SNR=4.0
EARI S **Sn** **02 35 50.0 -4.4**
comp=E,0.4nm,0.2s,SNR=4.0

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*NEIC **08** 02:39:20.4±3.5, 2878S×7174W, h29km±24km, mb4.6/2, Error ellipse: s-maj=22.7km s-min=10.4km az=92.0*
*ISCJB **08** 02:39:21.1±0.8, 2884S±003×7166W±0.1, h48km±8km, mb4.3/8, Error ellipse: s-maj=16.0km s-min=4.5km az=8.7*
*GUC **08** 02:39:22.5±0.9, 2888S×7127W, h48km, MD4.4, ML4.3*
*IDC **08** 02:39:22.6±3.4, 2883S×7162W, h41km±27km, mb4.1/6, mb1 4.0/9, mb1mx3.8/17, mbtmp4.1/9, ML3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/19, Error ellipse: s-maj=26.6km s-min=19.5km az=83.0*

ISC 08 02:39:21.9±0.8, 2882S±003×717W±01, h36km±8km, n28, σ0°76/31, mb4.3/8, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.15**	**161**	⇑*i*P	**Pn**	**02 39 42.0**	**+0.6**
LSCH				*i* S	**Sn**	**02 39 55.4**	**-0.5**
LSCH				AMP		02 39 56.7	
	comp=E,10μm,0.3s						
CPCH	**Copiapo**	**1.87**	**39**	⇓*i*P	**Pn**	**02 39 52.2**	**+0.8**
CPCH				*i* S	**Sn**	**02 40 13.5**	**-0.2**
CPCH				AMP		02 40 20.5	
	comp=E,15μm,0.2s						
CDCH	**Caldera**	**1.90**	**23**	⇑*i*P	**Pn**	**02 39 52.0**	**+0.3**
CDCH				*i* S	**Sn**	**02 40 13.4**	**-1.0**
CDCH				AMP		02 40 14.7	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**2.42**	**166**	⇓*i*P	**Pn**	**02 39 58.8**	**-0.1**
CMCH				*i* S	**Sn**	**02 40 26.0**	**-1.2**
CMCH				AMP		02 40 42.6	
	comp=E,7μm,0.6s						
CRCH	**Chaqaral**	**2.64**	**21**	⇑*i*P	**Pn**	**02 40 02.6**	**+0.7**
CRCH				*i* S	**Sn**	**02 40 32.3**	**-0.4**
CRCH				AMP		02 40 53.0	
	comp=E,908nm,0.6s						
CHNG	**Los Chungos**	**3.06**	**177**	⇓*i*P	**Pn**	**02 40 07.6**	**-0.1**
CHNG				AMP		02 40 47.1	
	comp=E,498nm,0.5s						
CFAA	**Coronel Fontan**	**4.07**	**134**	P	**Pn**	**02 40 23.5**	**+1.9**
	comp=E,2.1nm,0.3s,baz=314,slow=12,SNR=115						
CFAA				S	**Sn**	**02 41 08.1**	**+0.2**
	comp=E,5.0nm,0.3s,baz=62,slow=22,SNR=11						
PEL	**Peldehue**	**4.39**	**169**	*e*P	**Pn**	**02 40 26.1**	**+0.1**
FCH	**Farellones**	**4.64**	**166**	*e*P	**Pn**	**02 40 31.2**	**+1.7**
FCH				*i* S	**Sn**	**02 41 22.2**	**0.0**
PLCA	**Paso Flores**	**11.92**	**176**	P	**Pn**	**02 42 08.2**	**-1.1**
	comp=E,0.1nm,0.3s,baz=347,slow=14,SNR=2.0						
PLCA				LR	LR	02 46 58.2	
	comp=E,135nm,19.2s,baz=9.8,slow=38						
TRQA	**Tornquist**	**12.25**	**141**	*e*Pn	**Pn**	**02 42 13.2**	**-0.7**
	comp=E,11nm,1.0s						
LPAZ	**La Paz**	**12.89**	**15**	P	**Pn**	**02 42 21.9**	**-0.7**
	comp=E,0.1nm,0.3s,baz=193,slow=7.0,SNR=3.9						
LPAZ	**La Paz**	**12.89**	**15**	*e*Pn	**Pn**	**02 42 21.4**	**-1.2**
	comp=E,1.7nm,0.7s						
LPAZ				*e*Pn		02 42 27.9	
CPUP	**Villa Florida**	**12.96**	**82**	P	**Pn**	**02 42 31.3**	**+7.8**
	comp=E,0.3nm,0.3s,baz=230,slow=15,SNR=3.6						
SIV	**San Ignacio**	**16.08**	**40**	P	**Pn**	**02 43 00.9**	**-4.3**
	comp=E,0.3nm,0.3s,baz=234,slow=8.2,SNR=8.1						
BDFB	**Brasilia**	**25.46**	**64**	P	**P**	**02 44 46.7**	**+0.3**
	comp=E,3.5nm,0.5s,mb4.1,baz=246,slow=7.9,SNR=10						
USHA	**Ushuaia**	**26.10**	**176**	P	**P**	**02 44 52.3**	**+0.1**
	comp=E,12nm,0.9s,mb4.4,baz=350,slow=6.5,SNR=5.2						
SNAA	**Sanae**	**56.27**	**159**	*e*P	**P**	**02 48 57.7**	**-1.0**
	comp=E,3.9nm,0.6s,mb4.6						
QSPA	**South Pole Qui**	**61.40**	**180**	*e*P	**P**	**02 49 34.1**	**-0.2**
	comp=E,3.7nm,0.7s,mb4.6						
DBIC	**Dimbokro**	**73.27**	**72**	P	**P**	**02 50 49.6**	**+0.2**
	comp=E,4.7nm,0.8s,mb4.5,baz=238,slow=8.8,SNR=5.7						
PDAR	**Pinedale Array**	**79.31**	**333**	P	**P**	**02 51 24.8**	**+1.0**
	comp=E,0.3nm,0.6s,mb3.4,baz=124,slow=7.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**82.17**	**70**	P	**P**	**02 51 39.1**	**+0.1**
	comp=E,3.4nm,0.7s,mb4.4,baz=271,slow=4.6,SNR=35						
BOSA	**Boshof**	**82.22**	**118**	P	**P**	**02 51 39.0**	**-0.3**
	comp=E,2.4nm,0.6s,mb4.3,baz=210,slow=6.4,SNR=7.4						
BOSA	**Boshof**	**82.22**	**118**	P	**P**	**02 51 39.0**	**-0.3**
ASAR	**Alice Springs**	**122.30**	**208**	PKP	PKPdf	02 58 13.2	+0.2
	comp=E,0.5nm,0.5s,baz=123,slow=1.8,SNR=6.2						
WRA	**Warramunga Arr**	**125.40**	**210**	PKP	PKPdf	02 58 19.4	+0.5
	comp=E,1.5nm,0.5s,baz=156,slow=1.7,SNR=53						
BVAR	**Borovoye Array**	**143.15**	**38**	PKP	PKPdf	02 58 49.4	-2.6
	comp=E,0.2nm,0.4s,baz=263,slow=3.8,SNR=3.7						
MKAR	**Makanchi Array**	**152.90**	**41**	PKPbc	PKPbc	02 59 15.2	0.0
	comp=E,2.4nm,0.6s,baz=316,slow=1.8,SNR=30						
MKAR				PKPab	PKPab	02 59 26.9	+0.6
	comp=E,1.0nm,0.8s,baz=324,slow=4.1,SNR=5.8						

IDC 08 02:44:47.5±1.4, 069S×12335E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.5/17, mbtmp3.4/4, Error ellipse: s-maj=147.6km s-min=23.6km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**151**	P	P	02 49 42.9	+0.2
	2.1nm,0.8s,baz=331,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**25.03**	**157**	P	P	02 50 13.7	+0.5
	0.2nm,0.3s,baz=325,slow=8.0,SNR=3.9						
SONM	**Songino Array**	**50.54**	**345**	P	P	02 53 48.6	+1.0
	0.3nm,0.7s,baz=142,slow=4.9,SNR=2.7						
MKAR	**Makanchi Array**	**59.38**	**328**	P	P	02 54 50.8	-0.7
	0.2nm,0.6s,baz=141,slow=8.2,SNR=2.7						

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*NEIC **08** 03:13:31.2, 2564S×6950W, h100km, MD3.7(GUC), After GUC.*

GUC 08 03:13:31.2±0.8, 2564S×6950W, h100km, MD3.7, ML3.6,

7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**1.23**	**235**	⇑*i*P	Pn	03 13 54.2	0.0
CRCH				*i* S	Sn	03 14 11.9	+0.3
CRCH				AMP		03 14 13.7	
	comp=E,3μm,0.2s						
CRCH	**Chaqaral**	**1.23**	**235**	⇑*i*P	Pn	03 13 54.2	0.0
CRCH				*i* S	Sn	03 14 11.9	+0.3
CPN1	**Cerro Paranal**	**1.30**	**321**	⇓*i*P	Pn	03 13 56.4	+1.4
CPN1				*i* S	Sn	03 14 15.3	+2.3
CPN1				AMP		03 14 17.4	
	comp=E,2μm,0.3s						
CDCH	**Caldera**	**1.86**	**220**	⇑*i*P	Pn	03 14 00.7	-1.3
CDCH				*i* S	Sn	03 14 24.0	-1.4
CDCH				AMP		03 14 28.5	
	comp=E,756nm,0.4s						
CDCH	**Caldera**	**1.86**	**220**	⇑*i*P	Pn	03 14 00.7	-1.3
CDCH				*i* S	Sn	03 14 24.0	-1.4
CPCH	**Copiapo**	**1.88**	**204**	⇑*i*P	Pn	03 14 00.5	-1.7
CPCH				*i* S	Sn	03 14 24.6	-1.1
ANCH	**Antofagasta**	**2.12**	**337**	⇑*i*P	Pn	03 14 02.4	-2.9
ANCH				*i* S	Sn	03 14 28.2	-3.1
CEN1	**Los Morros**	**2.33**	**344**	⇑*i*P	Pn	03 14 06.6	-1.4
CEN1				*i* S	Sn	03 14 33.2	-3.0
CEN1				AMP		03 14 38.7	
	comp=N,214nm,0.3s						

IDC 08 03:30:10.3±1.6, 1234N×12629E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=154.1km s-min=19.4km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.04**	**166**	P	P	03 36 47.6	+0.3
	0.4nm,0.6s,baz=346,slow=9.3,SNR=4.4						
ASAR	**Alice Springs**	**36.55**	**168**	P	P	03 37 19.2	+1.6
	0.6nm,0.7s,baz=348,slow=7.2,SNR=7.7						
SONM	**Songino Array**	**39.10**	**339**	P	P	03 37 39.4	+0.2
	0.5nm,0.5s,baz=152,slow=9.1,SNR=5.5						
STKA	**Stephens Creek**	**46.35**	**162**	P	P	03 38 36.5	-1.6
	1.4nm,0.6s,baz=342,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**50.41**	**322**	P	P	03 39 09.4	+0.1
	1.2nm,0.8s,baz=106,slow=8.9,SNR=14						

IDC 08 03:48:09.5±2.7, 3953N×11021E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.4/4, ML2.4/1, Error ellipse: s-maj=47.4km s-min=36.3km az=48.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.75**	**343**	Pn	Pn	03 50 18.2	+0.9
	0.0nm,0.3s,baz=159,slow=13,SNR=12						
SONM				Sn	Sn	03 51 55.8	-0.8
	0.1nm,0.3s,baz=143,slow=14,SNR=3.6						
SONM				Lg		03 52 46.7	
	0.1nm,0.3s,baz=163,slow=30,SNR=2.5						
MKAR	**Makanchi Array**	**21.55**	**299**	P	P	03 52 59.3	-1.1
	1.5nm,0.9s,baz=95,slow=11,SNR=14						
ZAL	**Zalesovo**	**22.44**	**318**	P	P	03 53 11.3	+1.4
	0.6nm,0.4s,baz=143,slow=14,SNR=5.0						
YKA	**Yellowknife Ar**	**72.14**	**20**	P	P	03 59 35.2	-0.6
	0.1nm,0.3s,baz=324,slow=5.4,SNR=4.9						

IDC 08 03:49:12.4±3.5, 3031S×17979W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.9/12, mbtmp3.9/3, Error ellipse: s-maj=168.5km s-min=20.4km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.94**	**57**	Pn	Pn	03 49 46.9	+0.3
	133nm,0.3s,baz=223,slow=17,SNR=7.4						
RAO				Sn	Sn	03 50 12.0	+0.3
	122nm,0.3s,baz=253,slow=19,SNR=3.0						
STKA	**Stephens Creek**	**32.99**	**257**	P	P	03 55 48.7	-0.3
	1.9nm,0.4s,baz=95,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**41.57**	**268**	P	P	03 57 02.2	+0.4
	0.5nm,0.4s,baz=104,slow=7.5,SNR=8.8						
WRA	**Warramunga Arr**	**42.55**	**273**	P	P	03 57 10.2	+0.3
	0.6nm,0.4s,baz=113,slow=7.9,SNR=27						

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*ISCJB **08** 04:18:55.5±0.2, 4098N±001×2043E±002, h5km, mb3.7/14, Error ellipse: s-maj=2.2km s-min=1.6km az=90.2*
*ATH **08** 04:18:55.9, 4105N×2054E, h14km±2km, MD4.0/13, ML4.1*
*SKO **08** 04:18:56.5, 4096N×2051E, h18km, M2.8, ML3.7*
*PDG **08** 04:18:56.8±0.5, 4097N×2049E, h9km±1km*
*NEIC **08** 04:18:57.4, 4095N×2052E, h5km, mb4.0/5, ML3.8(THE), ML4.0(PDG), ML4.1(ATH), After THE.*
*THE **08** 04:18:57.4, 4095N×2052E, h5km, ML3.8*
*LDG **08** 04:18:57.6±0.1, 4119N×2044E, h10km, Ml4.0/8, Error ellipse: s-maj=5.2km s-min=3.2km az=20.0*
*CSEM **08** 04:18:58.0±0.0, 4111N×2052E, h20km, mb4.1/3, ML4.0/4, Error ellipse: s-maj=1.5km s-min=0.9km az=42.0*
*MOS **08** 04:18:58.6±0.9, 4096N×2045E, h37km, mb4.1/4, Error ellipse: s-maj=5.6km s-min=3.6km az=103.4*
*IDC **08** 04:19:00.0±2.7, 4096N×2045E, h33km±21km, mb3.4/13, mb1 3.6/21, mb1mx3.6/31, mbtmp3.6/21, ML3.7/8, Error ellipse: s-maj=15.1km s-min=12.6km az=43.0*

ISC 08 04:18:57.3±0.3, 4094N±001×2049E±002, h7km±2km, n199, σ1°25/278, mb3.7/14, 31C-17D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.28**	**54**	*e*Pg	**Pg**	**04 19 02.6**	**-0.3**
OHR	**Ohrid**	**0.28**	**54**	⇓*i*Pg	**Pg**	**04 19 02.9**	**0.0**
OHR				*e*Sg	**Sg**	**04 19 08.0**	**+1.3**
OHR				*e*Lg		04 19 08.1	
	comp=E,20μm,0.8s						
OHR	**Ohrid**	**0.28**	**54**	⇓*i*Pg	**Pg**	**04 19 02.8**	**-0.1**
OHR				*e*Sg	**Sg**	**04 19 07.9**	**+1.3**
TIR	**Tirane**	**0.62**	**311**	*e*Pg	**Pg**	**04 19 08.7**	**-0.6**
BIA	**Bitola**	**0.63**	**83**	*e*Pg	**Pg**	**04 19 08.6**	**-0.9**
BIA	**Bitola**	**0.63**	**83**	*i* Pg	**Pg**	**04 19 08.5**	**-0.9**
BIA				*e*Sg	**Sg**	**04 19 18.2**	**+0.5**
BIA				*e*Lg		04 19 18.8	
	comp=N,5μm,0.5s						
BIA				*e*Lg		04 19 18.9	
	comp=E,4μm,0.4s						
BIA	**Bitola**	**0.63**	**83**	*e*Pg	**Pg**	**04 19 08.6**	**-0.9**
BIA				*e*Sg	**Sg**	**04 19 18.2**	**+0.5**
FNA	**Florina**	**0.69**	**103**	*e*Pg	**Pg**	**04 19 10.2**	**-0.3**
	comp=E,74nm,0.3s						
LSK	**Leskovik**	**0.80**	**174**	*i* Pg	**Pg**	**04 19 11.0**	**-1.6**
LSK				*i* Sg	**Sg**	**04 19 24.5**	**+1.6**
SAMO	**Samokov**	**0.89**	**33**	⇓*i*Pg	**Pg**	**04 19 13.8**	**-0.7**
SAMO				*i* Sg	**Sg**	**04 19 26.2**	**+0.2**
VLO	**Vlora**	**0.90**	**238**	*i* Pg	**Pg**	**04 19 13.7**	**-0.8**
VLO				*i* Sg	**Sg**	**04 19 28.9**	**+2.8**
KOZJ	**Kozjak Brana**	**1.07**	**29**	⇓*i*Pg	**Pg**	**04 19 16.7**	**-1.1**
KOZJ				*i* Sg	**Sg**	**04 19 33.1**	**+1.4**
SRN	**Sarande**	**1.13**	**200**	*i* Pg	**Pg**	**04 19 10.4**	**-8.5**
KZN	**Kozani**	**1.16**	**123**	*e*PN	**Pg**	**04 19 18.0**	**-1.6**
KZN				*e*SB	**Sb**	**04 19 35.4**	**+0.4**
SKO	**Skopje**	**1.25**	**34**	*e*Pg	**Pg**	**04 19 20.9**	**-0.3**
SKO				*e*Sg	**Sg**	**04 19 39.8**	**+2.4**
SKO				*e*Lg		04 19 40.1	
	comp=E,2μm,0.7s						
SKO				*e*Lg		04 19 40.4	
	comp=N,3μm,0.4s						
SKO	**Skopje**	**1.25**	**34**	*e*Pg	**Pg**	**04 19 20.7**	**-0.5**
MEV	**Metsovon**	**1.29**	**154**	*e*Pg	**Pg**	**04 19 21.4**	**-0.5**
JAN	**Janina**	**1.31**	**168**	*e*PN	**Pn**	**04 19 21.5**	**-0.6**
JAN				*e*SB	**Sb**	**04 19 41.9**	**+2.5**
SDA	**Shkodra**	**1.34**	**326**	*i* Pg	**Pg**	**04 19 21.5**	**-1.4**
SDA				*i* Sg	**Sg**	**04 19 43.9**	**+3.7**
KEK	**Kerkira**	**1.34**	**204**	*e*PG	**Pg**	**04 19 22.8**	**-0.2**
KEK				*e*SB	**Sb**	**04 19 43.5**	**+3.4**
ULC	**Ulcinj**	**1.38**	**318**	⇑*i*Pg	**Pg**	**04 19 22.1**	**-1.7**
ULC				*e*Sg	**Sg**	**04 19 43.2**	**+1.5**
IGT	**Igoumenitsa**	**1.42**	**185**	*e*Pg

STIP eLg 04 19 45.6
comp=E,699nm,1.2s
STIP eLg 04 19 45.9
comp=N,414nm,0.5s
VAY Valandovo 1.61 76 ePg **Pn 04 19 25.3 -0.9**
VAY Valandovo 1.61 76 i Pg **Pn 04 19 25.6 -0.6**
VAY eSg **Sn 04 19 46.8 -0.4**
VAY eLg 04 19 49.3
comp=E,1μm,0.8s
VAY eLg 04 19 49.8
comp=N,2μm,0.8s
VAY Valandovo 1.61 76 i Pg **Pn 04 19 25.6 -0.6**
VAY eSg **Sn 04 19 46.8 -0.4**
PVY Plav 1.69 347 ⇑i Pn **Pn 04 19 27.7 +0.4**
PVY eSn **Sn 04 19 51.5 +2.3**
LIT Litokhoron 1.74 118 ePb **Pn 04 19 27.6 -0.3**
comp=N,27nm,0.2s
LIT Litokhoron 1.74 118 ePb **Pn 04 19 27.6 -0.3**
comp=N,27nm,0.2s
TTG Podgorica 1.75 329 ePn **Pn 04 19 27.9 -0.1**
TTG eSn **Sn 04 19 52.8 +2.2**
BUM Brajici-Budva 1.81 319 ⇑i Pn **Pn 04 19 29.2 +0.3**
BUM eSn **Sn 04 19 54.2 +2.2**
KNT Kendrikon 1.83 82 ePb **Pn 04 19 28.7 -0.5**
comp=N,38nm,0.2s
THE Thessaloniki 1.90 99 ePb **Pn 04 19 29.2 -1.0**
comp=N,7.0nm,0.3s
LCI Lecce 1.91 252 Pn **Pn 04 19 30.5 +0.2**
IVA Berane 1.98 347 ⇓i Pn **Pn 04 19 31.7 +0.5**
IVA eSn **Sn 04 19 58.5 +2.3**
HCY Herceg Novi 2.12 316 ⇑i Pn **Pn 04 19 33.5 +0.4**
HCY eSn **Sn 04 20 01.5 +1.8**
NKY Niksic 2.18 330 ⇑i Pn **Pn 04 19 33.9 -0.1**
NKY eSn **Sn 04 20 03.1 +2.0**
EVR Evrytania 2.26 153 ePN **Pn 04 19 36.8 +1.7**
EVR eSN **Sn 04 20 05.0 +1.7**
PLG Polygyros 2.32 103 ePN **Pn 04 19 35.7 -0.2**
PLG eSN **Sn 04 20 04.6 0.0**
SRS Serrai 2.35 85 ePn **Pn 04 19 35.8 -0.5**
AGG Agios Georgios 2.38 143 ePn **Pn 04 19 36.7 0.0**
comp=N,7.0nm,0.2s
AGG eSn **Sn 04 20 05.8 -0.4**
TREB Trebinje 2.39 319 P **Pn 04 19 37.6 +0.7**
BRY Bratogost 2.44 324 ⇑i Pn **Pn 04 19 37.6 +0.1**
BRY eSn **Sn 04 20 09.2 +1.6**
PLE Pljevlja 2.52 341 ⇑i Pn **Pn 04 19 38.9 +0.2**
PLE eSn **Sn 04 20 11.1 +1.5**
UPM Unac-Piva 2.55 333 ePn **Pn 04 19 39.1 +0.1**
UPM eSn **Sn 04 20 12.1 +1.8**
NVR Nevrokopi 2.58 80 ePN **Pn 04 19 39.4 0.0**
VTS Vitosha 2.61 50 ePn **Pn 04 19 40.4 +0.4**
VTS Vitosha 2.61 50 ⇓P **Pn 04 19 40.3 +0.4**
PAIG Paliouri 2.63 112 ePN **Pn 04 19 39.0 -1.2**
OUR Ouranopolis 2.72 102 ePn **Pn 04 19 40.8 -0.7**
comp=N,8.0nm,0.2s
BAI Bari 2.74 275 ePn **Pn 04 19 36.0 -5.7**
VLS Valsamata 2.76 178 ePN **Pn 04 19 43.8 +1.8**
STON Ston 2.84 314 i Pn **Pn 04 19 42.7 -0.4**
STON i Sn **Sn 04 20 18.6 +1.0**
SG1 Sgolgore (BA) 2.89 269 ePn **Pn 04 19 43.6 -0.2**
GRUS Gruza 2.95 3 ePn **Pn 04 19 44.4 -0.2**
GRUS Gruza 2.95 3 Pn **Pn 04 19 44.3 -0.2**
RLS Riolos of Patr 2.98 165 ePB **Pb 04 19 47.4 -3.3**
LKR Lokris 3.00 139 ePN **Pn 04 19 45.6 +0.4**
BOLS Boljevac 3.08 20 ⇑i Pn **Pn 04 19 45.4 -1.0**
BOLS eSn **Sn 04 20 21.9 -1.6**
DIVS Divcibare 3.17 353 i Pn **Pn 04 19 47.6 -0.1**
DIVS eSn **Sn 04 20 27.6 +1.8**
DIVS Divcibare 3.17 353 ePn **Pn 04 19 47.7 0.0**
CDT Castel del Mon 3.20 274 ePn **Pn 04 19 47.0 -1.0**
TIP Timpagrande 3.37 240 ePn **Pn 04 19 49.9 -0.4**
TIP Timpagrande 3.37 240 ePg **Pg 04 20 01.1 -0.7**
TIP Timpagrande 3.37 240 ePn **Pn 04 19 49.9 -0.4**
TIP ePg **Pg 04 20 01.1 -0.7**
SVIS Svilajnac 3.39 9 ⇑i Pn **Pn 04 19 49.7 -0.9**
SVIS eSn **Sn 04 20 27.8 -3.3**
FGMS Monte Sant'Ang 3.50 284 Pn **Pn 04 19 51.5 -0.7**
CUC Castrocucco 3.69 257 Pn **Pn 04 19 57.2 +2.4**
MPAR Parnis Oros 3.75 137 ePN **Pn 04 19 57.0 +1.4**
FG4 Candela 3.77 274 Pn **Pn 04 19 56.1 +0.3**
RDO Rodhopi 3.82 85 ePN **Pn 04 19 57.1 +0.6**
ATH Athens Observa 3.88 139 ePN **Pn 04 19 58.7 +1.4**
PTL Penteli 3.89 137 ePN **Pn 04 19 58.0 +0.5**
ITM Ithomi 3.92 163 ePN **Pn 04 20 00.0 +2.1**
KYR Kavouri 4.01 140 ePN **Pn 04 19 59.8 +0.6**
SOI Samo 4.47 232 Pn **Pn 04 20 05.3 -0.2**
BLY Banja Luka 4.51 328 P **Pn 04 20 07.2 +1.1**
BLY S **Sn 04 21 00.0 +1.2**
VLI Veliai 4.63 155 ePN **Pn 04 20 09.0 +1.3**
CII Carovilli 4.72 282 Pn **Pn 04 20 09.4 +0.4**
BZS Buzias 4.74 10 ⇑P **Pn 04 20 08.2 -1.0**
RFI Roccamonfina 4.93 276 Pn **Pn 04 20 12.6 +0.8**
PTQR Pietraquaria 5.44 284 Pn **Pn 04 20 20.1 +1.4**
AQU L'Aquila 5.50 287 ePn **Pn 04 20 20.0 +0.4**
NVLJ Novalja 5.50 313 ePn **Pn 04 20 19.5 -0.1**
NVLJ i Sn **Sn 04 21 22.1 -0.9**
NVLJ Novalja 5.50 313 ePn **Pn 04 20 19.4 -0.2**
NVLJ i Sn **Sn 04 21 22.1 -1.0**
BOJS Bojanci 5.95 322 i Pn **Pn 04 20 25.9 0.0**
BOJS eSn **Sn 04 21 31.1 -3.2**
MLR Muntele Rosu 6.04 39 Pn **Pn 04 20 28.9 +1.8**
comp=N,1.4nm,0.3s,baz=177,slow=16,SNR=6.8
MLR Muntele Rosu 6.04 39 ⇑P **Pn 04 20 31.3 +4.2**
SNTG Esanatoglia 6.08 295 Pn **Pn 04 20 26.4 -1.1**
KOGS Kog 6.30 332 ePn **Pn 04 20 31.3 +0.7**
MURB Monte Urbino 6.36 294 Pn **Pn 04 20 31.3 -0.2**
VISS Visnje 6.37 322 i Pn **Pn 04 20 32.0 +0.5**
VISS eSn **Sn 04 21 41.6 -2.9**
VISS Visnje 6.37 322 i Pn **Pn 04 20 32.0 +0.4**
VISS eSn **Sn 04 21 41.6 -2.9**
CEY Cerknica 6.52 319 i Pn **Pn 04 20 33.5 -0.1**
CEY eSn **Sn 04 21 47.0 -1.2**
IDI Anoyia 6.62 147 Pn **Pn 04 20 35.2 +0.2**
comp=N,1.8nm,0.3s,baz=272,slow=5.9,SNR=19
IDI Sn **Sn 04 21 46.9 -3.9**
comp=N,1.6nm,0.3s,baz=300,slow=22,SNR=4.0
HARR Harsova 6.63 53 ⇓P **Pn 04 20 36.4 +1.3**
LJU Ljubljana 6.69 322 ePn **Pn 04 20 36.6 +0.6**
LJU eSn **Sn 04 21 52.2 -0.3**
VRI Vrincioaia 6.69 41 ⇑P **Pn 04 20 38.0 +2.0**
VRI Vrincioaia 6.69 41 ⇑P **Pn 04 20 38.1 +2.1**
CRE Caprese Michel 6.88 296 Pn **Pn 04 20 39.0 +0.5**
SRO2 Moca 6.98 348 ePN **Pn 04 20 41.7 +1.7**
SRO2 eSN **Sn 04 22 01.9 +2.3**
PSZ Piszkesteto 6.99 357 e **Pn 04 20 34.5 -5.5**
PSZ ePn **Pn 04 20 41.7 +1.7**
PSZ eSn **Sn 04 21 54.3 -5.5**
PSZ Piszkesteto 6.99 357 eP **Pn 04 20 40.3 +0.3**
comp=N,16nm,0.8s
PSZ Piszkesteto 6.99 357 ePn **Pn 04 20 40.3 +0.2**
comp=N,16nm,0.8s
PSZ Piszkesteto 6.99 357 eP **Pn 04 20 40.3 +0.3**
PSZ pmax pmax
comp=Z,16nm,0.8s
VOY Vojsko 6.99 319 ePn **Pn 04 20 40.3 +0.2**
VOY eSn **Sn 04 21 57.4 -2.5**
CFR Carcaliu 7.01 50 ⇓P **Pn 04 20 46.3 +5.9**
OBKA Obir 7.03 324 ⇑i Sn **Sn 04 21 60.0 -1.0**
OBKA Obir 7.03 324 ⇑i Pn **Pn 04 20 41.2 +0.5**
OBKA ⇑i Sn **Sn 04 21 60.0 -1.0**
OBKA Obir 7.03 324 ⇑i Pn **Pn 04 20 41.2 +0.5**
OBKA Sn **Sn 04 21 60.0 -1.0**
SRO Srobarova 7.04 348 eSN **Sn 04 22 01.9 +0.7**
ARSA Arzberg 7.25 332 ⇑i Sn **Sn 04 22 06.0 -0.2**
ARSA Arzberg 7.25 332 ⇓i Pn **Pn 04 20 43.8 +0.2**
ARSA ⇑i Sn **Sn 04 22 06.0 -0.2**
ARSA Arzberg 7.25 332 ⇓i Pn **Pn 04 20 43.8 +0.2**
ARSA Sn **Sn 04 22 06.0 -0.2**
ROBS Robic 7.33 319 ePn **Pn 04 20 44.3 -0.5**
ROBS eSn **Sn 04 22 04.8 -3.4**
BURAR Bucovina Array 7.48 25 ⇑P **Pn 04 20 49.4 +2.6**
BURAR Bucovina Array 7.48 25 ⇑P **Pn 04 20 49.4 +2.6**
PTCC Patocco-Chiusa 7.52 319 Pn **Pn 04 20 48.3 +0.9**
KECS Kecovo 7.54 360 ePN **Pn 04 20 48.5 +0.9**
KECS eSN **Sn 04 22 13.6 +0.3**
VYHS Vyhne 7.64 352 ePN **Pn 04 20 51.1 +2.1**
ZST Bratislava 7.64 343 eSN **Sn 04 22 18.0 +2.1**
CRVS Cervenica-Dubn 7.99 5 ePN **Pn 04 20 54.1 +0.3**
KBA Koelnbreinsper 8.01 322 ⇑i Sn **Sn 04 22 22.8 -2.0**
KBA Koelnbreinsper 8.01 322 ⇓i Pn **Pn 04 20 53.8 -0.2**
KBA ⇑i Sn **Sn 04 22 22.8 -2.0**
KBA Koelnbreinsper 8.01 322 ⇓i Pn **Pn 04 20 53.8 -0.2**
KBA S **Sn 04 22 22.8 -2.1**
KBA Koelnbreinsper 8.01 322 ⇓i Pn **Pn 04 20 53.8 -0.2**
KBA Sn **Sn 04 22 22.8 -2.0**
KOLS Kolonicke sedl 8.09 8 ePN **Pn 04 20 58.2 +3.0**
CTI Castel Tesino 8.21 311 Pn **Pn 04 20 55.3 -1.5**
MOA Molln 8.22 329 ⇓i Sn **Sn 04 22 30.2 +0.2**
MOA Molln 8.22 329 ⇑i Pn **Pn 04 20 57.1 +0.2**
MOA ⇓i Sn **Sn 04 22 30.2 +0.2**
MOA Molln 8.22 329 ⇑i Pn **Pn 04 20 57.1 +0.1**
MOA Sn **Sn 04 22 30.2 +0.2**
STHS Stebnicka Huta 8.49 3 ePN **Pn 04 21 02.8 +2.1**
STHS eSN **Sn 04 22 34.1 -2.6**
APPI Appiano 8.69 313 Pn **Pn 04 21 03.0 -0.5**
PGF Pioggiola 8.74 284 eP **Pn 04 21 05.5 +1.4**
PGF Pioggiola 8.74 284 eP **Pn 04 21 05.5 +1.4**
PGF Pioggiola 8.74 284 ePn **Pn 04 21 01.2 -2.9**
PGF eP 04 21 05.5
VRAC Vranov 8.81 343 Pn **Pn 04 21 04.9 -0.1**
comp=Z,0.6nm,0.3s,baz=236,slow=9.4,SNR=3.3
MORC Moravsky Berou 9.07 348 Pn **Pn 04 21 09.3 +0.6**
MORC Moravsky Berou 9.07 348 ⇑P **Pn 04 21 13.0 +4.3**
SQTA Sankt Quirin 9.16 316 ⇓i Sn **Sn 04 22 51.8 -1.4**
SQTA Sankt Quirin 9.16 316 ⇑i Pn **Pn 04 21 09.8 -0.1**
SQTA ⇓i Sn **Sn 04 22 51.8 -1.4**
SQTA Sankt Quirin 9.16 316 ⇑i Pn **Pn 04 21 09.8 -0.1**
SQTA Sn **Sn 04 22 51.8 -1.5**
GERES GERESS Array B 9.25 331 Pn **Pn 04 21 11.3 +0.2**
comp=Z,0.2nm,0.3s,baz=154,slow=14,SNR=5.7
GERES Sn **Sn 04 22 54.0 -1.5**
comp=Z,0.5nm,0.3s,baz=147,slow=24,SNR=5.6
MOTA Moosalm 9.30 317 ⇑i Sn **Sn 04 22 55.6 -0.9**
MOTA Moosalm 9.30 317 ⇑i Pn **Pn 04 21 12.0 +0.3**
MOTA ⇑i Sn **Sn 04 22 55.6 -0.9**
KHC Kasperske Hory 9.53 331 ePN **Pn 04 21 16.3 +1.3**
KHC eSN **Sn 04 22 57.0 -5.4**
DAVOX Davos 9.63 311 Pn **Pn 04 21 15.9 -0.4**
comp=Z,0.7nm,0.3s,baz=134,slow=16,SNR=9.5
DAVOX Sn **Sn 04 23 01.9 -2.8**
comp=Z,0.6nm,0.3s,baz=326,slow=23,SNR=3.1
PRU Pruhonice 9.96 337 eSN **Sn 04 23 09.4 -3.5**
SBF Sospel 10.09 291 ePn **Pn 04 21 18.8 -3.8**
BRTR Keskin Array B 10.11 93 Pn **Pn 04 21 23.3 +0.4**
comp=Z,0.1nm,0.3s,baz=304,slow=10,SNR=3.6
MBDF Montbardon 10.76 295 ePn **Pn 04 21 26.9 -4.9**
MBDF eSn **Sn 04 23 18.4 -14**
comp=Z,21nm,1.1s
LPG La Plagne 11.01 299 ePn **Pn 04 21 30.9 -4.3**
LPG eSn **Sn 04 23 22.7 -16**
comp=Z,11nm,0.7s
LPL La Plagne 11.03 299 ePn **Pn 04 21 31.3 -4.2**
LPL eSn **Sn 04 23 25.4 -14**
comp=Z,8.6nm,0.5s
STU Stuttgart 11.20 318 eP **Pn 04 21 38.7 +0.9**
BFO Black Forest 11.38 315 eP **Pn 04 21 40.9 +0.7**
ORIF Oris-en-Rattie 11.43 295 ePn **Pn 04 21 36.7 -4.2**
ORIF eSn **Sn 04 23 37.3 -11**
comp=Z,4.5nm,0.6s
AKASG Malin Array Be 11.49 29 Pn **Pn 04 21 41.3 -0.5**
comp=Z,0.3nm,0.3s,baz=235,slow=11,SNR=2.6
AKASG Malin Array Be 11.49 29 Pn **Pn 04 21 41.3 -0.5**
CABF La Chapelle 11.85 303 ePn **Pn 04 21 42.0 -4.7**
HINF Hinteralfeld 11.93 310 ePn **Pn 04 21 43.1 -4.6**
HINF eSn **Sn 04 23 47.5 -14**
comp=Z,5.8nm,0.6s
HINF Hinteralfeld 11.93 310 ePn **Pn 04 21 43.1 -4.6**
HINF eSn **Sn 04 23 47.5 -14**
comp=Z,2.9nm,0.6s
CDF Champ du Feu 12.00 313 eP **Pn 04 21 49.7 +0.9**
CDF eSn **Sn 04 23 46.9 -16**
comp=Z,2.8nm,0.6s
CDF Champ du Feu 12.00 313 eP **Pn 04 21 49.7 +0.9**
CDF eSn **Sn 04 23 46.9 -16**
comp=Z,1.4nm,0.6s
CDF Champ du Feu 12.00 313 ePn **Pn 04 21 44.0 -4.8**
CDF eP 04 21 49.7
CDF eSn **Sn 04 23 46.9 -16**
HAU Haudompre 12.31 310 ePn **Pn 04 21 48.4 -4.7**
HAU eSn **Sn 04 23 56.9 -14**
comp=Z,8.4nm,0.6s
HAU Haudompre 12.31 310 ePn **Pn 04 21 48.4 -4.7**
HAU eSn **Sn 04 23 56.9 -14**
comp=Z,4.2nm,0.6s
LOR Lormes 13.51 303 eP **Pn 04 22 10.0 +0.6**
baz=119
LOR eSn **Sn 04 24 26.2 -14**
comp=Z,4.5nm,0.5s
LOR Lormes 13.51 303 eP **Pn 04 22 10.0 +0.6**
LOR eSn **Sn 04 24 26.2 -14**
comp=Z,2.2nm,0.5s
LOR Lormes 13.51 303 ePn **Pn 04 22 04.5 -4.9**
LOR eP 04 22 10.0
LOR eSn **Sn 04 24 26.2 -14**
HFS Hagfors 19.67 350 P **Pn 04 23 25.0 -3.2**
comp=Z,0.5nm,0.3s,baz=163,slow=11,SNR=15
NAO01 NORSAR Array S 20.78 347 P **P 04 23 37.8 -1.1**
comp=Z,9.5nm,0.9s
NAO01 NORSAR Array S 20.78 347 P **P 04 23 37.8 -1.1**
comp=Z,9.5nm,0.9s
FINES FINESS Array B 20.81 8 P **P 04 23 36.5 -2.7**
comp=Z,0.5nm,0.3s,baz=176,slow=10,SNR=10.0
NB2 NORSAR Subarra 20.91 347 P **P 04 23 38.4 -1.9**
comp=Z,3.5nm,1.0s,baz=160,slow=11
NB2 NORSAR Subarra 20.91 347 P **P 04 23 38.4 -1.9**
NB2 pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 20.91 347 P **P 04 23 38.1 -2.2**
comp=Z,2.0nm,0.6s,baz=155,slow=10,SNR=7.7
EKA Eskdalemuir Ar 21.22 321 P **P 04 23 42.2 -1.4**
comp=Z,2.8nm,0.9s,mb3.6,baz=175,slow=11,SNR=3.7
KAF Kangasniemi 21.49 7 ep **P 04 23 42.8 -3.7**
JOF Joensuu 22.93 13 ep **P 04 24 01.6 -0.3**
ARCES ARCESS Array B 28.78 4 P **P 04 24 52.9 -2.8**
comp=Z,1.0nm,0.6s,mb3.8,baz=187,slow=9.3,SNR=9.1
TORD Torodi Ar. Bea 32.21 216 P **P 04 25 26.1 +0.1**
comp=Z,1.2nm,1.0s,mb3.7,baz=34,slow=7.7,SNR=6.5
BRVK Borovoye 35.35 53 eP **P 04 25 53.4 +0.1**
comp=Z,1.5nm,0.6s,mb4.1
BRVK Borovoye 35.35 53 eP **P 04 25 53.4 +0.1**
comp=Z,1.5nm,0.6s,mb4.1
BRVK Borovoye 35.35 53 eP **P 04 25 53.4 +0.1**
comp=Z,1.5nm,0.6s,mb4.1
BRVK Borovoye 35.35 53 eP **P 04 25 53.4 +0.1**
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BVAR Borovoye Array 35.41 53 P **P 04 25 53.4 -0.4**
comp=Z,0.5nm,0.6s,mb3.6,baz=270,slow=5.9,SNR=4.6
KURK Kurchatov 40.69 56 eP **P 04 26 36.8 -1.6**
comp=Z,1.0nm,0.4s,mb3.8
KURK Kurchatov 40.69 56 eP **P 04 26 36.8 -1.7**
comp=Z,1.0nm,0.4s,mb3.8
KURK Kurchatov 40.69 56 eP **P 04 26 36.8 -1.6**
KURK pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
DBIC Dimbokro 40.95 220 P **P 04 26 38.9 -1.6**
comp=Z,3.5nm,1.0s,mb4.0,baz=24,slow=11,SNR=3.8
ZAL Zalesovo 43.89 50 P **P 04 27 03.1 -1.3**
comp=Z,1.8nm,0.5s,mb4.0,baz=191,slow=6.0,SNR=3.7
MKAR Makanchi Array 43.92 61 P **P 04 27 02.8 -1.9**
comp=Z,0.2nm,0.4s,mb3.2,baz=286,slow=5.8,SNR=3.0
SONM Songino Array 58.74 52 P **P 04 28 55.0 -0.8**
comp=Z,0.2nm,0.7s,mb3.3,baz=287,slow=9.9,SNR=2.6
BILL Bilibino 68.33 13 eP **P 04 30 00.3 +1.1**
comp=Z,2.2nm,0.8s,mb4.2
BILL Bilibino 68.33 13 eP **P 04 30 00.3 +1.0**
comp=Z,2.2nm,0.8s,mb4.2
BILL Bilibino 68.33 13 eP **P 04 30 00.3 +1.1**
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
INK Inuvik 69.34 350 P **P 04 30 03.3 -2.2**
comp=Z,0.5nm,0.8s,mb3.5,baz=39,slow=6.5,SNR=3.5
YKA Yellowknife Ar 70.79 340 P **P 04 30 12.1 -2.3**
comp=Z,0.4nm,0.8s,mb3.4,baz=35,slow=5.5,SNR=5.6
ILAR Eielson Array 74.16 354 P **P 04 30 33.6 -0.9**
comp=Z,0.2nm,0.9s,mb3.1,baz=0.0,slow=4.3,SNR=3.5

*IDC **08** 04:29:44.7±6.5, **607N×9474E, h82**km±45km, **mb3.1**/4, mb1 3.3/5, mb1mx3.1/22, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=112.3km s-min=21.0km az=60.0, Nicobar Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.28**	**128**	P	Pn	04 31 01.9	+0.9
	2.1nm,0.3s,baz=320,slow=13,SNR=9.5						
PSI				S	Sn	04 32 03.3	+2.7
	0.8nm,0.3s,baz=61,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**41.97**	**347**	P	P	04 37 27.4	0.0
	0.1nm,0.3s,baz=165,slow=7.2,SNR=5.6						
SONM	**Songino Array**	**42.79**	**12**	P	P	04 37 34.2	+0.1
	0.3nm,0.6s,baz=187,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**46.74**	**125**	P	P	04 38 06.0	+0.5
	0.5nm,0.4s,baz=304,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**48.31**	**129**	P	P	04 38 17.9	+0.2
	0.6nm,0.8s,baz=295,slow=7.3,SNR=4.6						

*IDC **08** 05:01:03.7±2.1, 129N×12432E, h261km±21km, mb3.9/12, mb1 4.0/12, mb1mx3.9/20, mbtmp4.5/12, Error ellipse: s-maj=22.6km s-min=10.3km az=62.0*
*ISCJB **08** 05:01:05.8±2.2, 118N±007×1243E±0.1, h295km±23km, mb4.3/30, Error ellipse: s-maj=18.1km s-min=7.5km az=127.3*
*NEIC **08** 05:01:10.8±3.0, 1.12N×12428E, h335km±34km, mb4.1/13, Error ellipse: s-maj=16.2km s-min=9.5km az=74.0*
*BJI **08** 05:01:10.7, 1.10N×12430E, h334km, mB4.2, mb4.1*

ISC 08 05:01:09.3±2.0, 118N±007×1243E±0.1, h316km±22km**, n38,** σ0°98/40**, mb4.3**/30**, 3D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.98**	**150**	eP	P	05 04 35.7	-0.5
	16nm,0.6s						
MBWA	**Marble Bar**	**22.65**	**191**	eP	P	05 05 43.5	-0.4
	4.8nm,0.7s,mb3.9						
WRAB	**Tennant Creek**	**23.17**	**155**	⇓i P	P	05 05 48.7	0.0
	68nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**23.18**	**155**	P	P	05 05 48.7	+0.1
	23nm,0.4s,mb4.8,baz=335,slow=10.0,SNR=272						
WRA				S	S	05 09 36.1	-0.2
	1.2nm,0.7s,baz=336,slow=15,SNR=5.1						
WB2	**Warramunga Arr**	**23.18**	**155**	⇓i P	P	05 05 48.8	+0.1
PMG	**Port Moresby**	**25.07**	**115**	P	P	05 06 05.7	0.0
	22nm,1.1s,mb4.5,baz=307,slow=8.1,SNR=4.8						
PMG	**Port Moresby**	**25.07**	**115**	eP	P	05 06 06.4	+0.7
	12nm,0.9s,mb4.3						
PSI	**Prapat**	**25.42**	**274**	P	P	05 06 08.8	0.0
	5.2nm,0.6s,mb4.1,baz=105,slow=5.5,SNR=7.5						
ASAR	**Alice Springs**	**26.40**	**160**	P	P	05 06 18.2	+0.6
	5.0nm,0.6s,mb4.2,baz=340,slow=7.5,SNR=65						
ASAR				S	S	05 10 29.3	+2.2
	0.3nm,0.3s,baz=304,slow=23,SNR=3.7						
ASAR				ScP	ScP	05 12 50.6	+7.5
	0.6nm,0.5s,baz=342,slow=2.5,SNR=6.1						
NJ2	**Nanjing**	**31.14**	**351**	eP	P	05 07 03.1	+3.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
KMI	**Kunming**	**31.63**	**321**	P	P	05 07 07.1	+3.5
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.6						
ENH	**Enshi**	**32.18**	**335**	eP	P	05 07 09.9	+1.6
	comp=Z,6.6nm,0.6s,mb4.3						
KLBR	**Kellerberrin**	**33.18**	**190**	eP	P	05 07 17.0	0.0
	comp=Z,4.3nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**36.73**	**155**	P	P	05 07 46.0	-1.1
	comp=Z,9.0nm,0.7s,mb4.3,baz=326,slow=9.5,SNR=22						
STKA	**Stephens Creek**	**36.73**	**155**	⇓eP	P	05 07 46.2	-0.9
MJAR	**Matsushiro Arr**	**37.47**	**19**	P	P	05 07 52.1	-1.1
	comp=Z,2.0nm,0.6s,mb3.7,baz=192,slow=9.7,SNR=4.9						
JIRN	**Jiri**	**45.00**	**309**	eP	P	05 08 54.8	+0.7
	comp=Z,24nm,0.6s,mb4.6						
GUN	**Gumba**	**45.37**	**309**	eP	P	05 08 57.4	+0.5
	comp=Z,40nm,0.7s,mb4.8						
PKI	**Pulchoki**	**45.57**	**309**	eP	P	05 08 58.3	-0.2
	comp=Z,6.7nm,0.2s,mb4.5						
DMN	**Daman**	**45.82**	**309**	eP	P	05 08 59.7	-0.7
GKN	**Gorkha**	**46.37**	**309**	eP	P	05 09 04.6	-0.1
	comp=Z,20nm,0.6s,mb4.6						
KOLN	**Koldanda**	**47.08**	**308**	eP	P	05 09 10.3	+0.2
	comp=Z,16nm,0.3s,mb4.8						
HIA	**Hailar**	**48.07**	**356**	eP	P	05 09 19.7	+2.1
	comp=Z,3.9nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**48.85**	**345**	eP	P	05 09 25.1	+1.5
	comp=Z,3.0nm,0.9s,mb3.6						
SONM	**Songino Array**	**49.00**	**344**	P	P	05 09 23.3	-1.5
	comp=Z,3.2nm,0.8s,mb3.7,baz=158,slow=8.7,SNR=21						
MKAR	**Makanchi Array**	**58.32**	**327**	P	P	05 10 31.1	-0.7
	comp=Z,1.9nm,0.3s,mb4.0,baz=121,slow=7.0,SNR=60						
MKAR				PcP	PcP	05 11 19.6	+0.5
	comp=Z,1.3nm,0.7s,baz=122,slow=4.4,SNR=7.5						
MKAR				ScP	ScP	05 14 54.1	+5.8
	comp=Z,0.2nm,0.6s,baz=107,slow=4.8,SNR=2.4						
AAK	**Ala-Archa**	**60.67**	**320**	eP	P	05 10 48.3	+0.5
	comp=Z,2.9nm,0.8s,mb3.9						
YAK	**Yakutsk**	**60.84**	**3**	eP	P	05 10 48.9	0.0
	comp=Z,10nm,0.3s,mb4.8						
MA2	**Magadan**	**61.76**	**15**	eP	P	05 10 56.1	+1.1
	comp=Z,6.0nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**61.80**	**335**	P	P	05 10 54.3	-1.0
	comp=Z,1.8nm,0.3s,mb4.2,baz=340,slow=6.5,SNR=7.4						
KURK	**Kurchatov**	**62.63**	**329**	eP	P	05 10 59.8	-1.0
	comp=Z,7.9nm,0.8s,mb4.4						
BRVK	**Borovoye**	**68.24**	**328**	P	P	05 11 36.1	-0.3
	comp=Z,2.0nm,0.8s,mb3.9						
KMBO	**Kilima Mbogo**	**87.08**	**269**	P	P	05 13 20.6	+1.0
	comp=Z,2.5nm,0.8s,mb4.1,baz=67,slow=12,SNR=6.3						
JOF	**Joensuu**	**90.33**	**333**	ep	P	05 13 33.8	-1.1
ARCES	**ARCESS Array B**	**91.99**	**340**	P	P	05 13 40.4	-2.1
	comp=Z,3.0nm,0.9s,mb4.2,baz=92,slow=5.8,SNR=4.8						
KAF	**Kangasniemi**	**92.72**	**332**	ep	P	05 13 46.8	+0.9
FINES	**FINESS Array B**	**92.92**	**332**	P	P	05 13 45.4	-1.4
	comp=Z,1.0nm,0.9s,mb3.8,baz=28,slow=4.9,SNR=3.6						
FINES	**FINESS Array B**	**92.92**	**332**	P	P	05 13 45.4	-1.4

*IDC **08** 05:27:32.3±1.4, 973N×9198E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, MS3.4/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=61.9km s-min=19.2km az=57.0*
*ISCJB **08** 05:27:34.6±1.0, 94N×02×917E±02, h33km, mb3.9/11, Error ellipse: s-maj=41.8km s-min=12.3km az=107.4*
*NEIC **08** 05:27:37.0±1.4, 960N×92.10E, h30km, mb4.1/4, Error ellipse: s-maj=59.4km s-min=15.7km az=57.0*

ISC 08 05:27:37.0±1.0, 94N±02×915E±02, h35km**, n20,** σ1°09**/19, mb3.9**/11**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.60**	**28**	eP	Px	05 28 38.6	
PBA				eS	Sx	05 28 53.9	
PBA				ex	x	05 28 55.2	
	comp=E,413nm,0.4s						
PBA				ex	x	05 28 55.5	
	comp=N,706nm,0.5s						
PSI	**Prapat**	**9.84**	**131**	LR	LR	05 33 46.4	
	comp=N,191nm,18.1s,baz=242,slow=38						
VIS	**Vishakhapatnam**	**11.50**	**317**	i P	Pn	05 30 20.6	+2.0
VIS				i S	Sn	05 32 23.5	-2.4
PKI	**Pulchoki**	**19.02**	**343**	eP	Pn	05 31 57.5	+0.9
DMN	**Daman**	**19.14**	**342**	eP	Pn	05 31 59.5	+1.4
GUN	**Gumba**	**19.21**	**345**	eP	Pn	05 31 59.6	+0.6
	comp=N,16nm,0.7s						
GKN	**Gorkha**	**19.65**	**342**	eP	Pn	05 32 04.7	+0.5
KOLN	**

*IDC **08** 05:41:17.1±4.9, 1492S×16733E, h0km, mb4.2/4, mb1 4.3/4, mb1mx4.0/14, mbtmp4.2/4, Error ellipse: s-maj=130.8km s-min=48.5km az=118.0*

*ISCJB **08** 05:41:20.3±7.7, 15.1S±02×1673E±03, h30km±57km, mb4.0/4, Error ellipse: s-maj=53.2km s-min=17.7km az=109.9*

ISC 08 05:41:20.9±8.0, 150S±02×1674E±03, h26km±59km, n5, σ0:51/6, mb4.0/4, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.79**	**163**	⇑*i*P	**Pn**	**05 42 03.8**	**0.0**
BKM				S	**Sn**	**05 42 36.7**	**+0.1**
STKA	**Stephens Creek**	**28.94**	**230**	P	**P**	**05 47 17.4**	**-0.6**
	5.0nm,0.7s,mb4.4,baz=45,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**31.90**	**256**	P	**P**	**05 47 44.2**	**+0.1**
	1.0nm,0.7s,mb3.8,baz=85,slow=9.2,SNR=6.1						
ASAR	**Alice Springs**	**32.71**	**249**	P	**P**	**05 47 51.6**	**+0.4**
	2.7nm,0.6s,mb4.4,baz=79,slow=9.1,SNR=35						
MKAR	**Makanchi Array**	**97.48**	**316**	P	**P**	**05 54 52.4**	**0.0**
	0.1nm,0.4s,mb3.6,baz=91,slow=7.1,SNR=3.8						

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*BJI **08** 06:33:33.4, 350N×9592E, h41km, mB5.2, mb5.2, Ms5.3, Msz5.0*

*ISCJB **08** 06:33:36.0±0.1, 398N±003×9624E±002, h26km, mb5.3/197, MS4.9/46, Error ellipse: s-maj=4.4km s-min=3.2km az=59.2*

*MOS **08** 06:33:37.6±1.0, 4.19N×9631E, h33km, mb5.5/90, MS4.8/10, Error ellipse: s-maj=9.6km s-min=3.9km az=124.3*

*HRVD **08** 06:33:38.2±0.2, 388N×9622E, h12km, MW5.3/81, Centroid moment Tensor Solution. LP body waves: s67,c119;Mantle waves: s81,c151; Half duration: 1ŝ1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.87±.02; $M_{\theta\theta}$0.21±.02; $M_{\phi\phi}$0.65±.02; $M_{r\theta}$0.45±.05; $M_{\theta\phi}$0.51±.01; $M_{\phi r}$0.07±.05; Best double couple: $M_0$1.04000×10^{17} NP1:ϕ_s14.00000°, δ39.00000°, λ-122.00000°. NP2: ϕ_s232.00000°, δ57.00000°, λ-67.00000°. Principal axes: T 1.0380, Plg10.0000°, Azm306.0000°; N 0.0030, Plg19.0000°, Azm39.0000°; P -1.0420, Plg68.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **08** 06:33:38.7±1.9, 399N×9634E, h33km±13km, mb5.0/35, mb1 5.0/36, mb1mx5.0/36, mbtmp5.1/36, MS4.6/19, Ms1 4.6/19, ms1mx4.5/29 Error ellipse: s-maj=12.5km s-min=8.0km az=42.0*

*NEIC **08** 06:33:38.2±0.1, 400N×9626E, h30km, mb5.3/115, MW5.4, Error ellipse: s-maj=5.0km s-min=3.1km az=42.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.17; $M_{\theta\theta}$0.44; $M_{\phi\phi}$0.73; $M_{r\theta}$-0.56; $M_{\theta\phi}$0.66; $M_{\phi r}$-0.38; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s48.00000°, δ60.00000°, λ-81.00000°. NP2:ϕ_s210.00000°, δ32.00000°, λ-106.00000°. Principal axes: T 1.4300, Plg14.0000°, Azm131.0000°; N -0.0700, Plg8.0000°, Azm223.0000°; P -1.3600, Plg74.0000°, Azm342.0000°;*

NEIC Felt at Banda Aceh. Also felt in other parts of Aceh Province.

*SZGRF **08** 06:33:39.8, 423N×96.16E, h33km, mb5.3, Northern Sumatera, Indonesia*

ISC 08 06:33:38.2±0.1, 402N±003×9624E±002, h27km, h27km±1.8km:pP-P, n649, σ1ŝ02/567, mb5.3/197, MS4.9/45, 30C-27D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.75**	**327**	P	**Pn**	**06 34 07.0**	**+0.3**
	12μm,0.9s						
TSI	**Tuntungan**	**2.37**	**102**	P	**Pn**	**06 34 16.7**	**+1.4**
	36μm,0.9s						
PSI	**Prapat**	**2.94**	**114**	Pn	**Pn**	**06 34 24.6**	**+1.5**
	79nm,0.3s,baz=306,slow=8.2,SNR=195						
PSI				Sn	**Sn**	**06 35 00.3**	**+2.8**
	208nm,0.3s,baz=199,slow=11,SNR=4.4						
PSI				LR	LR	06 35 36.5	
	comp=Z,17μm,21.5s,baz=273,slow=41						
PSI	**Prapat**	**2.94**	**114**	P	**Pn**	**06 34 24.6**	**+1.5**
PSI						06 35 00.3	
KULM	**Kulim**	**4.57**	**74**	*e*Pn	**Pn**	**06 34 47.4**	**+1.8**
KULM				*e*Sn	**Sn**	**06 35 41.2**	**+3.4**
IPM	**Ipoh**	**4.79**	**84**	P	**Pn**	**06 34 49.9**	**+1.3**
SNG	**Songkhla**	**5.37**	**54**	P	**Pn**	**06 34 59.0**	**+2.5**
	816nm,1.0s						
KGM	**Kluang**	**7.34**	**105**	P	**Pn**	**06 35 27.2**	**+3.6**
PBA	**Port Blair**	**8.35**	**336**	*ex*	x	06 36 01.7	
PBA				*ex*	x	06 37 48.5	
NNT	**Nongplab**	**9.19**	**22**	P	**Pn**	**06 35 53.3**	**+4.3**
KSI	**Kapahiang**	**9.91**	**140**	P	**Pn**	**06 35 56.9**	**-2.0**
	835nm,0.5s						
KKTK	**Khon Kaen**	**13.85**	**27**	P	**Pn**	**06 37 02.0**	**+9.4**
	2μm,0.9s						
PALK	**Pallekele**	**15.80**	**283**	Pn	**Pn**	**06 37 19.5**	**+0.8**
	828nm,0.8s,SNR=7.3						
PALK	**Pallekele**	**15.80**	**283**	*e*Pn	**Pn**	**06 37 19.1**	**+0.4**
	112nm,0.8s						
PALK				*e*Sn	**Sn**	**06 39 58.7**	**-14**
JCJI	**Jatiwangi**	**15.91**	**131**	P	**Pn**	**06 37 24.5**	**+4.3**
	773nm,0.6s						
COCO	**West Island**	**16.11**	**178**	*e*Pn	**Pn**	**06 37 21.0**	**-1.8**
	208nm,0.9s						
BJII	**Banjamegara**	**17.54**	**130**	P	**Pn**	**06 37 37.4**	**-3.3**
	96nm,1.0s						
VIS	**Vishakhapatnam**	**18.59**	**318**	*e*P	**Pn**	**06 37 53.6**	**0.0**
VIS				AMb	AMB	06 38 04.0	
	comp=Z,172nm,1.2s						
VIS				*ex*	x	06 41 10.7	
SALM	**Salem**	**19.41**	**294**	*e*P	**Pn**	**06 38 02.0**	**-1.4**
SALM				*ex*	x	06 41 27.0	
TRD	**Trivandrum**	**19.68**	**284**	*ex*	**Pn**	**06 38 10.4**	**+3.7**
TRD				*i* S	**Sn**	**06 41 46.4**	**-0.4**
CAL	**Calcutta**	**19.95**	**338**	*ex*	**Pn**	**06 38 16.6**	**+6.8**
CAL				*e*S	**Sn**	**06 41 52.4**	**-0.9**
QIZ	**Qiongzhong**	**19.98**	**41**	P	**Pn**	**06 38 11.4**	**+1.1**
QIZ				PP		06 38 33.2	
QIZ				S	**Sn**	**06 41 59.6**	**+5.5**
QIZ				XS	sS	06 42 07.4	+4.0
QIZ				AMB	AMB		
	comp=Z,73nm,1.1s						
QIZ				LR	LR		
	comp=N,5μm,17.1s						
QIZ				LR	LR		
	comp=E,5μm,17.1s						
QIZ				LR	LR		
	comp=Z,3μm,10.5s						
QIZ	**Qiongzhong**	**19.98**	**41**	*e*P	**Pn**	**06 38 11.3**	**+1.0**
	comp=Z,106nm,1.0s						
KKM	**Kota Kinabalu**	**20.00**	**83**	P	**P**	**06 38 10.1**	**+1.5**
KKM	**Kota Kinabalu**	**20.00**	**83**	*e*P	**P**	**06 38 09.9**	**+1.3**
TSM	**Tawau**	**21.58**	**88**	P	**P**	**06 38 25.3**	**-0.4**
SHL	**Shillong**	**21.83**	**349**	*e*P	**P**	**06 38 26.0**	**-2.4**
SHL				*e*S	**S**	**06 42 26.0**	**-2.3**
HYB	**Hyderabad**	**21.86**	**309**	⇓*i*P	**P**	**06 38 30.5**	**+1.7**
	comp=Z,290nm,1.0s,mb5.7						
HYB				*e*S	**S**	**06 42 34.0**	**+5.1**
HYB				LR	LR	06 47 12.0	
	comp=Z,4.1nm,18.0s						
HYB	**Hyderabad**	**21.86**	**309**	⇓*e*P	**P**	**06 38 30.5**	**+1.7**
	comp=Z,290nm,1.0s,mb5.7						
HYB				*e*S	**S**	**06 42 34.0**	**+5.1**
HYB	**Hyderabad**	**21.86**	**309**	⇓*e*P	**P**	**06 38 30.5**	**+1.7**
HYB				*e*S	**S**	**06 42 34.0**	**+5.1**
HYB				pmax	pmax		
	comp=Z,290nm,1.0s,mb5.7						
KMI	**Kunming**	**21.90**	**16**	P	**P**	**06 38 32.5**	**+3.4**
KMI				AP		06 38 39.3	
KMI				XP	sP	06 38 42.1	+2.1
KMI				PP		06 38 59.1	
KMI				S	**S**	**06 42 29.1**	**-0.5**
KMI				SS		06 43 07.7	
KMI				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.6						
KMI				AMB	AMB		
	comp=Z,498nm,7.5s						
KMI				LR	LR		
	comp=N,3μm,11.2s,MS5.1						
KMI				LR	LR		
	comp=E,3μm,13.4s,MS5.1						
KMI				LR	LR		
	comp=Z,4μm,12.5s,MS5.1						
BOK	**Bokaro**	**22.06**	**334**	*e*P	**P**	**06 38 30.4**	**-0.5**
BOK				AMb	AMB	06 38 32.0	
	comp=Z,63nm,0.7s,mb5.1						
BOK				*i* S	**S**	**06 42 34.2**	**+1.5**
BOK				*e*S	**S**	**06 42 34.4**	**+1.6**
NGP	**Nagpur**	**23.86**	**317**	*e*P	**P**	**06 38 51.6**	**+2.3**
NGP				*ex*	x	06 38 54.0	
	comp=Z,186nm,1.5s						
NGP				*e*S	**S**	**06 43 03.8**	**+0.2**
LATR	**Latur**	**23.99**	**308**	*e*P	**P**	**06 38 51.0**	**+0.5**
PCI	**Palu**	**24.08**	**101**	P	**P**	**06 38 55.4**	**+4.1**
	comp=Z,230nm,1.9s,mb5.3						
JBP	**Jabalpur**	**24.69**	**322**	⇓*i*P	**P**	**06 38 57.3**	**+0.5**
JBP				*e*S	**S**	**06 43 19.6**	**+2.7**
KAD	**Karad**	**25.34**	**303**	⇑*i*P	**P**	**06 39 05.2**	**+2.4**
JIRN	**Jiri**	**25.39**	**339**	*e*P	**P**	**06 39 02.9**	**-0.4**
	comp=Z,75nm,0.6s,mb5.4						
PKI	**Pulchoki**	**25.60**	**337**	*e*P	**P**	**06 39 04.7**	**-0.5**
	comp=Z,59nm,0.6s,mb5.3						
PKI	**Pulchoki**	**25.60**	**337**	*e*P	**P**	**06 39 04.7**	**-0.5**
PKI				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.0						
GUN	**Gumba**	**25.73**	**338**	*e*P	**P**	**06 39 06.1**	**-0.2**
	comp=Z,74nm,0.5s,mb5.4						
DMN	**Daman**	**25.76**	**337**	*e*P	**P**	**06 39 05.6**	**-0.9**
KKN	**Kakani**	**25.85**	**337**	*e*P	**P**	**06 39 06.6**	**-0.8**
	comp=Z,101nm,0.8s,mb5.4						
KKN	**Kakani**	**25.85**	**337**	*e*P	**P**	**06 39 06.6**	**-0.8**
KKN				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.1						
LSA	**Lhasa**	**26.00**	**350**	P	**P**	**06 39 09.9**	**+1.2**
LSA				AP	pP	06 39 20.0	+3.3
LSA				XP	sP	06 39 25.0	+5.0
LSA				SCP	ScP	06 46 05.2	-9.0
LSA				PCS	PcS	06 46 08.8	-8.5
LSA				SCS	ScS	06 49 57.5	-6.4
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
LSA				LR	LR		
	comp=N,840nm,24.7s,MS4.4						
LSA				LR	LR		
	comp=E,1μm,23.2s,MS4.4						
LSA				LR	LR		
	comp=Z,1μm,22.4s,MS4.4						
LSA	**Lhasa**	**26.00**	**350**	*e*P	**P**	**06 39 09.4**	**+0.7**
	comp=Z,72nm,0.6s,mb5.4						
LSA	**Lhasa**	**26.00**	**350**	*e*P	**P**	**06 39 09.4**	**+0.7**
LSA				pmax	pmax		
	comp=Z,73nm,0.6s,mb5.4						
POO	**Poona**	**26.22**	**305**	*ex*	x	06 39 24.4	
POO				AMb	AMB	06 39 26.0	
	comp=Z,61nm,1.4s,mb4.9						
GKN	**Gorkha**	**26.29**	**336**	*e*P	**P**	**06 39 10.8**	**-0.6**
BHPL	**Bhopal**	**26.39**	**318**	*e*P	**P**	**06 39 13.3**	**+1.1**
BHPL				AMb	AMB	06 39 17.1	
	comp=Z,71nm,1.4s,mb5.0						
BHPL				*e*S	**S**	**06 43 47.3**	**+3.4**
KOLN	**Koldanda**	**26.52**	**334**	*e*P	**P**	**06 39 13.0**	**-0.5**
	comp=Z,163nm,0.7s,mb5.7						
BOM	**Bombay**	**27.25**	**305**	*e*P	**P**	**06 39 19.4**	**-0.6**
	comp=Z,335nm,2.0s,mb5.5						
BOM				*e*P		06 39 19.5	
BOM				*ex*	x	06 39 23.2	
	comp=Z,335nm,2.0s						
BOM				*ex*	x	06 42 54.6	
CD2	**Chengdu**	**27.68**	**14**	⇓*i*P	**P**	**06 39 23.5**	**-0.3**
CD2				XP	sP	06 39 37.4	+2.3
CD2				PP		06 40 15.2	
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,190nm,4.8s						
CD2				LR	LR		
	comp=N,3μm,14.4s						
CD2				LR	LR		
	comp=Z,2μm,12.0s,MS4.8						
ENH	**Enshi**	**28.96**	**24**	*e*P	**P**	**06 39 35.3**	**0.0**
	comp=Z,23nm,0.7s,mb5.0						
ENH				*e*pP	pP	06 39 41.2	-2.0
QZH	**Quanzhou**	**29.92**	**44**	P	**P**	**06 39 45.2**	**+1.4**
QZH				AP	pP	06 39 51.4	-0.4
QZH				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.3						
QZH				LR	LR		
	comp=N,4μm,11.6s,MS5.4						
QZH				LR	LR		
	comp=E,3μm,11.4s,MS5.4						
QZH				LR	LR		
	comp=Z,4μm,13.2s,MS5.3						
AJM	**Ajmer**	**30.44**	**319**	*i* P	**P**	**06 39 49.0**	**+0.6**
AJM				*e*P		06 39 49.4	
AJM				AMb	AMB	06 39 53.4	
	comp=Z,79nm,1.6s,mb5.2						
NDI	**New Delhi**	**30.48**	**326**	*e*P	**P**	**06 39 48.5**	**-0.2**
NDI				*ex*	x	06 44 46.0	
DDI	**Dehra Dun**	**31.30**	**329**	*ex*	**P**	**06 39 53.5**	**-2.5**
DDI				*e*S	**S**	**06 45 05.5**	**+4.3**
YHNB	**Yeheng**	**31.73**	**47**	P	**P**	**06 39 50.8**	**-9.0**
XAN	**Xi'an**	**32.12**	**20**	P	**P**	**06 40 02.7**	**-0.5**
XAN				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.2						
XAN				AMB	AMB		
	comp=Z,135nm,8.8s						
XAN				LR	LR		
	comp=N,2μm,17.1s,MS5.1						
XAN				LR	LR		
	comp=E,3μm,15.6s,MS5.1						
XAN				LR	LR		
	comp=Z,3μm,13.2s,MS5.1						
LZH	**Lanzhou**	**32.68**	**11**	*e*P	**P**	**06 40 08.3**	**+0.2**
LZH				AP	pP	06 40 17.0	+0.9
LZH				XP	sP	06 40 22.5	+3.1
LZH				PP	PP	06 41 20.0	-2.1
LZH				AMB	AMB		
	comp=Z,80nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,250nm,4.2s						
LZH				LR	LR		
	comp=E,4μm,12.8s						
LZH				LR	LR		
	comp=Z,4μm,14.4s,MS5.3						
SDNR	**Sundarnagar**	**32.80**	**329**	*e*P	**P**	**06 40 08.7**	**-0.5**
SDNR				*e*S	**S**	**06 45 24.9**	**+0.3**
BHK	**Bhakra**	**33.03**	**328**	*e*S	**S**	**06 45 31.0**	**+3.0**
MBWA	**Marble Bar**	**34.00**	**138**	*e*P	**P**	**06 40 18.1**	**-1.6**
	comp=Z,67nm,1.3s,mb5.4						
DLH	**Dalhousie**	**34.15**	**329**	*e*P	**P**	**06 40 23.0**	**+2.1**
NJ2	**Nanjing**	**35.04**	**35**	*e*P	**P**	**06 40 29.9**	**+1.3**
NJ2				AP	pP	06 40 39.6	+2.9
NJ2				XP	sP	06 40 43.5	+3.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,180nm,12.0s						
NJ2				LR	LR		
	comp=N,3μm,16.3s,MS5.4						
NJ2				LR	LR		
	comp=E,6μm,19.9s,MS5.4						
NJ2				LR	LR		
	comp=Z,3μm,12.1s						
SWI	**Sorong**	**35.33**	**97**	P	**P**	**06 40 35.5**	**+4.4**
	comp=Z,187nm,1.0s,mb6.0						
GTA	**Gaotai**	**35.38**	**5**	*e*P	**P**	**06 40 30.6**	**-0.9**
GTA				AP	pP	06 40 39.2	-0.4
GTA				XP	sP	06 40 43.6	+0.7
GTA				PP	PP	06 41 50.6	-1.5
GTA				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,95nm,5.3s						
GTA				LR	LR		
	comp=N,1μm,13.7s,MS5.0						
GTA				LR	LR		
	comp=E,1μm,12.2s,MS5.0						
GTA				LR	LR		
	comp=Z,1μm,16.0s,MS4.8						
SSE	**Sheshan**	**35.74**	**38**	P	**P**	**06 40 35.3**	**+0.7**
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,215nm,6.2s						
SSE				LR	LR		
	comp=N,1μm,16.3s,MS4.8						
SSE				LR	LR		
	comp=E,930nm,16.3s,MS4.8						
SSE				LR	LR		
	comp=Z,2μm,14.2s,MS5.0						
FITZ	**Fitzroy Crossi**	**36.37**	**128**	⇑*i*P	**P**	**06 40 38.4**	**-1.6**
	comp=Z,62nm,0.7s,mb5.7						
NIL	**Nilore**	**36.45**	**327**	P	**P**	**06 40 40.1**	**-0.6**
	comp=Z,168nm,0.7s,mb6.1,SNR=6.2						
TIA	**Tai'an**	**37.37**	**28**	⇓P	**P**	**06 40 48.5**	**0.0**
TIA				XP	sP	06 41 10.1	+10
TIA				LR	LR		
	comp=N,930nm,15.2s,MS4.9						
TIA				LR	LR		
	comp=E,1μm,14.9s,MS4.9						
JOW	**Kunigami**	**38.10**	**50**	P	**P**	**06 40 55.2**	**+0.5**
	comp=E,40nm,0.6s,mb5.3,baz=274,slow=11,SNR=8.3						
BTO	**Baotou**	**38.49**	**17**	*e*P	**P**	**06 40 58.1**	**+0.2**
HHC	**Hu-ho-hao-te**	**39.18**	**19**	*e*P	**P**	**06 41 05.0**	**+1.3**
HHC				AP	pP	06 41 14.7	+2.9
HHC				XP	sP	06 41 18.8	+3.7
HHC				AMB	AMB		
	comp=Z,21nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,315nm,3.7s						
HHC				LR	LR		
	comp=N,2μm,18.6s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,15.5s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,17.8s,MS5.0						
KAKA	**Kakadu**	**39.62**	**115**	*e*P	**P**	**06 41 06.5**	**-0.9**
	comp=Z,32nm,0.6s,mb5.2						
BJI	**Beijing**	**40.13**	**24**	*e*P	**P**	**06 41 12.7**	**+1.0**
BJI				XP	sP	06 41 28.8	+5.7
BJI				S	**S**	**06 47 18.6**	**+2.2**
BJI				XS	sS	06 47 42.7	+13
BJI				AMB	AMB		
	comp=Z,110nm,0.9s,mb5.6						
BJI				AMB	AMB		
	comp=Z,478nm,4.0s						
BJI				LR	LR		
	comp=N,762nm,11.7s,MS5.2						
BJI				LR	LR		
	comp=E,2μm,15.0s,MS5.2						
BJI				LR	LR		
	comp=Z,673nm,16.6s,MS4.6						
WMQ	**Urumqi**	**40.35**	**350**	*e*P	**P**	**06 41 13.2**	**-0.3**
WMQ				AP	pP	06 41 23.0	+1.3
WMQ				XP	sP	06 41 27.0	+2.1
WMQ				PP	PP	06 42 50.6	+4.0
WMQ				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,225nm,4.2s						
WMQ				LR	LR		
	comp=N,732nm,19.2s,MS4.7						
WMQ				LR	LR		
	comp=E,697nm,15.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,18.5s,MS4.7						
MUN	**Mundaring**	**40.52**	**153**	*e*P	**P**	**06 41 15.4**	**+0.5**
KLBR	**Kellerberrin**	**40.91**	**151**	⇓*i*P	**P**	**06 41 17.7**	**-0.4**
	comp=Z,52nm,0.9s,mb5.2						
SMDO	**Samad**	**41.48**	**301**	P	**P**	**06 41 25.6**	**+2.9**
	SNR=5.5						
BIDO	**Bidbid**	**41.58**	**301**	P	**P**	**06 41 26.3**	**+2.7**
	SNR=11						
DL2	**Dalian**	**41.70**	**30**	P	**P**	**06 41 25.9**	**+1.4**
DL2				S	**S**	**06 47 44.8**	**+5.1**
DL2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.2						
DL2				AMB	AMB		
	comp=Z,180nm,6.0s						
DL2				LR	LR		
	comp=N,910nm,14.0s,MS4.9						
DL2				LR	LR		
	comp=E,900nm,14.9s,MS4.9						
DL2				LR	LR		
	comp=Z,950nm,15.3s,MS4.8						
NWAO	**Narrogin (SRO)**	**41.78**	**153**	P	**P**	**06 41 25.6**	**+0.3**
	comp=Z,40nm,0.7s,mb5.2,baz=320,slow=9.2,SNR=26						
NWAO				LR	LR	07 00 36.3	
	comp=Z,688nm,18.5s,MS4.6,baz=335,slow=39						
NWAO	**Narrogin (SRO)**	**41.78**	**153**	*e*P	**P**	**06 41 24.1**	**-1.2**
	comp=Z,67nm,1.0s,mb5.2						
NWAO	**Narrogin (SRO)**	**41.78**	**153**	*e*P	**P**	**06 41 24.1**	**-1.2**
NWAO				pmax	pmax		
	comp=Z,67nm,1.0s						
ULHL	**Ulahol**	**42.04**	**338**	P	**P**	**06 41 26.8**	**-0.6**
	SNR=28						
BSY	**Bisya**	**42.10**	**300**	P	**P**	**06 41 31.0**	**+3.1**
	SNR=9.5						
KZA	**Kyzart**	**42.28**	**337**	P	**P**	**06 41 29.2**	**-0.2**
	SNR=22						
HOQ	**Hoqain**	**42.30**	**301**	P	**P**	**06 41 32.8**	**+3.3**
	SNR=5.5						
UCH	**Uchtor**	**42.70**	**336**	P	**P**	**06 41 32.9**	**+0.1**
	SNR=43						
TKM2	**Tokmak 2**	**42.87**	**338**	P	**P**	**06 41 33.7**	**-0.4**
	SNR=14						
TKM2	**Tokmak 2**	**42.87**	**338**	*i* P	**P**	**06 41 33.6**	**-0.5**
ARQ	**Araqi**	**42.89**	**300**	P	**P**	**06 41 38.0**	**+3.7**
	SNR=6.0						
KBK	**Karagaybulak**	**42.89**	**337**	P	**P**	**06 41 34.6**	**+0.3**
	SNR=14						
AML	**Almayashu**	**42.96**	**335**	P	**P**	**06 41 35.1**	**+0.3**
	SNR=44						
AAK	**Ala-Archa**	**43.05**	**336**	P	**P**	**06 41 37.6**	**+2.1**
	SNR=24						
AAK	**Ala-Archa**	**43.05**	**336**	P	**P**	**06 41 35.9**	**+0.3**
	comp=Z,150nm,0.7s,mb5.8,SNR=15						
AAK	**Ala-Archa**	**43.05**	**336**	*e*P	**P**	**06 41 34.6**	**-1.0**
	comp=Z,25nm,0.9s,mb5.0						
AAK	**Ala-Archa**	**43.05**	**336**	*e i*P	**P**	**06 41 35.3**	**-0.3**
AAK				pmax	pmax		
	comp=Z,42nm,1.7s,mb4.9						
FRU	**Bishkek**	**43.17**	**337**	*e*P	**P**	**06 41 38.5**	**+1.9**
FRU				*e*		06 41 55.0	
FRU				pmax	pmax		
	comp=Z,80nm,1.9s,mb5.1						
FRU				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.9						
CHMS	**Chumysh**	**43.26**	**337**	P	**P**	**06 41 37.5**	**+0.2**
	SNR=7.8						
RBK	**Rabkut**	**43.30**	**291**	P	**P**	**06 41 40.5**	**+3.0**
	SNR=8.2						
EKS2	**Erkin-Say**	**43.37**	**336**	P	**P**	**06 41 38.3**	**+0.2**
	SNR=30						
USP	**Ospenovka**	**43.58**	**337**	P	**P**	**06 41 39.4**	**-0.5**
	SNR=68						
ABTO	**Aybut**	**44.11**	**291**	P	**P**	**06 41 46.3**	**+2.2**
	SNR=16						
MK31	**Makanchi Array**	**44.30**	**346**	P	**P**	**06 41 43.9**	**-1.7**
MK31				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.0						
MKAR	**Makanchi Array**	**44.30**	**346**	P	**P**	**06 41 44.2**	**-1.4**
	comp=Z,43nm,0.7s,mb5.3,baz=158,slow=7.2,SNR=262						
WRA	**Warramunga Arr**	**44.36**	**124**	P	**P**	**06 41 45.4**	**-0.7**
	comp=Z,65nm,0.9s,mb5.4,baz=302,slow=9.1,SNR=98						
WRA				S	**S**	**06 48 15.0**	**-3.8**
	comp=Z,8.4nm,1.2s,baz=296,slow=16,SNR=7.7						
WRAB	**Tennant Creek**	**44.36**	**124**	P	**P**	**06 41 45.9**	**-0.2**
	comp=Z,856nm,0.5s,SNR=24						
WRAB	**Tennant Creek**	**44.36**	**124**	*e*P	**P**	**06 41 45.5**	**-0.6**
	comp=Z,116nm,0.6s,mb5.8						
WRAB	**Tennant Creek**	**44.36**	**124**	*e*P	**P**	**06 41 45.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,116nm,0.6s,mb5.8						
WB2	**Warramunga Arr**	**44.37**	**124**	⇓*i*P	**P**	**06 41 45.3**	**-0.9**
WB2				*e*S	**S**	**06 48 07.3**	**-12**
SONM	**Songino Array**	**44.52**	**10**	P	**P**	**06 41 47.4**	**0.0**
	comp=Z,25nm,0.8s,mb5.1,baz=194,slow=8.4,SNR=73						
SONM				PcP	PcP	06 43 31.5	+1.2
	comp=Z,19nm,0.6s,baz=187,slow=3

CN2	**Changchun**	**47.28**	**29**	*e*P	**P**	**06 42 09.2**	**+0.1**
CN2				*e*AP	pP	06 42 19.1	+1.7
CN2				*e*XP	sP	06 42 22.7	+2.1
CN2				*e*S	**S**	**06 49 00.6**	**-0.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s,MS5.2						
CN2				LR	LR		
	comp=E,2μm,15.0s,MS5.2						
CN2				LR	LR		
	comp=Z,2μm,14.0s,MS5.1						
ABKT	**Ailbek**	**48.46**	**319**	P	**P**	**06 42 18.3**	**0.0**
	comp=Z,317nm,0.8s,SNR=12						
KURK	**Kurchatov**	**48.84**	**345**	P	**P**	**06 42 20.8**	**-0.4**
	comp=Z,284nm,0.6s,SNR=11						
KURK	**Kurchatov**	**48.84**	**345**	*e*P	**P**	**06 42 20.2**	**-1.1**
	comp=Z,27nm,0.6s,mb5.5						
KURK	**Kurchatov**	**48.84**	**345**	*d i*P	**P**	**06 42 20.0**	**-1.2**
HIA	**Hailar**	**49.32**	**20**	*e*P	**P**	**06 42 25.2**	**+0.3**
HIA	**Hailar**	**49.32**	**20**	*d i*P	**P**	**06 42 24.6**	**-0.3**
MDJ	**Mudanjiang**	**49.92**	**31**	P	**P**	**06 42 29.2**	**-0.3**
MDJ				AP	pP	06 42 38.4	+0.6
MDJ				XP	sP	06 42 42.3	+1.3
MDJ				PCP	PcP	06 43 48.7	-0.8
MDJ				SCP	ScP	06 47 40.1	-3.2
MDJ				PCS	PcS	06 47 45.2	-1.2
MDJ				S	**S**	**06 49 41.3**	**+3.2**
MDJ				SCS	ScS	06 52 19.0	0.0
MDJ				SS	SS	06 53 11.9	+0.9
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.8						
MDJ				LR	LR		
	comp=N,985nm,20.8s,MS4.9						
MDJ				LR	LR		
	comp=E,692nm,18.3s,MS4.9						
MDJ				LR	LR		
	comp=Z,595nm,19.6s,MS4.6						
MDJ	**Mudanjiang**	**49.92**	**31**	*e*P	**P**	**06 42 29.8**	**+0.3**
MAT	**Matsushiro**	**50.31**	**44**	P	**P**	**06 42 31.4**	**-1.1**
MAT	**Matsushiro**	**50.31**	**44**	*e*P	**P**	**06 42 31.0**	**-1.5**
MJAR	**Matsushiro Arr**	**50.31**	**44**	P	**P**	**06 42 32.4**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.5,baz=207,slow=7.9,SNR=4.2						
MJAR				PcP	PcP	06 43 52.1	+1.1
	comp=Z,5.9nm,0.7s,baz=243,slow=2.1,SNR=5.4						
MJAR				ScP	ScP	06 47 46.0	+1.1
	comp=Z,4.8nm,1.0s,baz=230,slow=3.7,SNR=8.8						
MJAR				LR	LR	07 07 11.6	
	comp=Z,756nm,18.2s,MS4.7,baz=250,slow=40						
MJAR	**Matsushiro Arr**	**50.31**	**44**	P	**P**	**06 42 32.4**	**-0.1**
MJAR						06 43 52.1	
ZAL	**Zalesovo**	**50.64**	**351**	P	**P**	**06 42 34.4**	**-0.5**
	comp=Z,29nm,0.6s,mb5.4,baz=305,slow=6.4,SNR=44						
LBOS		**51.22**	**284**	⇓*i*P	**P**	**06 42 41.1**	**+1.9**
NVS	**Novosibirsk**	**51.76**	**350**	*e*P	**P**	**06 42 41.0**	**-2.3**
NVS				*e*S	**S**	**06 50 04.8**	**+1.3**
NVS				pmax	pmax		
	comp=N,16nm,0.8s						
NVS				pmax	pmax		
	comp=E,17nm,0.8s						
NVS				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
NVS				smax			
	comp=N,14nm,1.6s						
NVS				smax			
	comp=E,26nm,1.6s						
QRN	**Al-Qurain**	**51.99**	**304**	*e*P	**P**	**06 42 45.7**	**+0.7**
QRN				AMb	AMB	06 42 47.7	
	comp=Z,227nm,0.8s,mb6.1						
KBD	**Kabd**	**52.32**	**304**	*e*P	**P**	**06 42 48.0**	**+0.5**
KBD				AMb	AMB	06 42 50.6	
	comp=Z,523nm,1.1s						
PMG	**Port Moresby**	**52.46**	**105**	P	**P**	**06 42 48.3**	**-0.3**
	comp=Z,35nm,0.8s,mb5.3,baz=292,slow=5.9,SNR=21						
PMG	**Port Moresby**	**52.46**	**105**	*e*P	**P**	**06 42 47.6**	**-1.0**
	comp=Z,66nm,0.8s,mb5.6						
PMG	**Port Moresby**	**52.46**	**105**	*e*P	**P**	**06 42 49.1**	**+0.6**
NAY	**Al-Naaiem**	**52.72**	**304**	*e*P	**P**	**06 42 50.9**	**+0.4**
NAY				AMb	AMB	06 42 52.3	
	comp=Z,183nm,0.5s,mb6.2						
MIB	**Mutribah**	**52.82**	**305**	*e*P	**P**	**06 42 51.7**	**+0.5**
MIB				AMb	AMB	06 42 54.2	
	comp=Z,294nm,0.8s,mb6.3						
VOSK	**Vostochnaya**	**52.85**	**341**	P	**P**	**06 42 49.8**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
OPO	**Ambohidratompo**	**53.26**	**243**	P	**P**	**06 42 56.0**	**+1.5**
	comp=Z,11nm,1.0s,mb4.7,baz=65,slow=6.9,SNR=7.9						
BVA0	**Borovoye Array**	**53.29**	**341**	*i* P	**P**	**06 42 53.2**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**53.29**	**341**	P	**P**	**06 42 53.1**	**-1.6**
	comp=Z,11nm,0.5s,mb5.0,baz=140,slow=9.7,SNR=56						
BVAR				PcP	PcP	06 44 02.0	-0.1
	comp=Z,13nm,0.8s,baz=155,slow=3.8,SNR=4.6						
BVAR				ScP	ScP	06 47 59.9	+2.0
	comp=Z,2.6nm,0.8s,baz=116,slow=6.6,SNR=4.2						
BVAR	**Borovoye Array**	**53.29**	**341**	P	**P**	**06 42 53.1**	**-1.6**
BVAR						06 44 02.0	
BRVK	**Borovoye**	**53.36**	**341**	P	**P**	**06 42 53.9**	**-1.2**
	comp=Z,173nm,0.5s,mb6.2,SNR=11						
BRVK	**Borovoye**	**53.36**	**341**	*e*P	**P**	**06 42 53.0**	**-2.2**
	comp=Z,8.8nm,0.5s,mb5.0						
BRVK	**Borovoye**	**53.36**	**341**	*e*P	**P**	**06 42 53.0**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
ATD	**Arta Tunnel**	**53.36**	**281**	P	**P**	**06 42 55.0**	**-0.1**
	comp=Z,16nm,0.6s,mb5.1,baz=66,slow=4.3,SNR=8.1						
ATD				LR	LR	07 02 18.7	
	comp=Z,300nm,20.7s,MS4.3,baz=267,slow=32						
KLR	**Kul'dur**	**54.21**	**28**	*e*P	**P**	**06 42 58.5**	**-2.9**
KLR				MLR	MLR		
	comp=N,2μm,13.0s						
KLR				MLR	MLR		
	comp=Z,6μm,13.0s,MS5.8						
AB31	**Akbulak array**	**54.60**	**332**	⇑*e*P	**P**	**06 43 03.5**	**-0.7**
CTA	**Charters Tower**	**54.63**	**118**	⇓*i*P	**P**	**06 43 04.2**	**-0.3**
	comp=Z,30nm,1.8s,mb5.0						
CTA	**Charters Tower**	**54.63**	**118**	P	**P**	**06 43 03.7**	**-0.8**
	comp=Z,15nm,0.8s,mb5.1,baz=291,slow=10,SNR=9.3						
CTA				LR	LR	07 07 51.1	
	comp=Z,906nm,21.5s,MS4.8,baz=276,slow=38						
CTA	**Charters Tower**	**54.63**	**118**	⇓*i*P	**P**	**06 43 04.2**	**-0.3**
CTA				pmax	pmax		
	comp=Z,30nm,1.8s						
CTAO	**Charters Tower**	**54.63**	**118**	*e*P	**P**	**06 43 04.3**	**-0.2**
	comp=Z,69nm,1.4s,mb5.5						
CTAO	**Charters Tower**	**54.63**	**118**	*e*P	**P**	**06 43 04.3**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,69nm,1.4s,mb5.5						
HABR	**Khabarovsk**	**55.30**	**30**	*e*P	**P**	**06 43 11.2**	**+1.9**
HABR				*e*S	**S**	**06 50 53.0**	**+1.4**
HABR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
BOD	**Bodaibo**	**55.45**	**11**	*e*P	**P**	**06 43 08.4**	**-1.9**
BOD				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
ADE	**Adelaide**	**55.62**	**138**	*e*P	**P**	**06 43 12.0**	**+0.4**
STKA	**Stephens Creek**	**55.95**	**133**	*e*P	**P**	**06 43 11.3**	**-2.7**
	comp=Z,20nm,0.7s,mb5.3						
STKA	**Stephens Creek**	**55.95**	**133**	P	**P**	**06 43 11.3**	**-2.6**
	comp=Z,21nm,0.8s,mb5.2,baz=306,slow=6.9,SNR=46						
STKA				LR	LR	07 10 15.2	
	comp=Z,758nm,21.3s,MS4.8,baz=306,slow=39						
AKTK	**Aktyubinsk**	**56.31**	**332**	P	**P**	**06 43 15.4**	**-1.1**
AKTO	**Aktyubinsk**	**56.31**	**332**	P	**P**	**06 43 15.4**	**-1.1**
	comp=Z,35nm,0.9s,mb5.4,baz=130,slow=7.8,SNR=54						
AKTO	**Aktyubinsk**	**56.31**	**332**	*i* P	**P**	**06 43 15.4**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
BHD	**Baghdad**	**56.35**	**308**	*ex*	x	06 43 13.0	
CUKT	**Cukurca**	**58.33**	**312**	*e*P	**P**	**06 43 29.7**	**-1.1**
MSL	**Mosul**	**58.38**	**311**	*ex*	x	06 43 31.5	
YSS	**Yuzh-Sakhalins**	**58.60**	**36**	*e*P	**P**	**06 43 31.9**	**-0.8**
YSS				*ep*P	pP	06 43 39.2	-1.9
YSS	**Yuzh-Sakhalins**	**58.60**	**36**	*e*P	**P**	**06 43 35.2**	**+2.5**
YSS				S	**S**	**06 51 34.0**	**-1.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
YSS				MLR	MLR		
	comp=N,500nm,16.0s,MS4.9						
YSS				MLR	MLR		
	comp=E,500nm,16.0s,MS4.9						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s,MS5.0						
GNI	**Garni**	**58.62**	**315**	*e*P	**P**	**06 43 33.3**	**+0.5**
GNI	**Garni**	**58.62**	**315**	*e*P	**P**	**06 43 33.4**	**+0.6**
	comp=Z,56nm,1.0s,mb5.5						
GNI	**Garni**	**58.62**	**315**	*d i*P	**P**	**06 43 32.2**	**-0.6**
GNI				pmax	pmax		
	comp=Z,37nm,1.3s						
DGRG	**David-gareji**	**58.73**	**317**	P	**P**	**06 43 34.9**	**+1.4**
DGRG				S	tx	06 47 00.3	
CLDR	**Caldiran**	**58.81**	**314**	*e*P	**P**	**06 43 32.8**	**-1.3**
VANB	**Van**	**58.98**	**313**	*e*P	pP	06 43 47.1	+3.3
KMBO	**Kilima Mbogo**	**59.17**	**266**	P	**P**	**06 43 37.4**	**+0.7**
	comp=Z,14nm,1.0s,mb5.0,baz=65,slow=8.0,SNR=29						
KMBO				LR	LR	07 05 51.3	
	comp=Z,780nm,19.2s,MS4.8,baz=89,slow=33						
KMBO	**Kilima Mbogo**	**59.17**	**266**	*i* P	**P**	**06 43 38.2**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,14nm,1.0s						
MTA	**Mtatsminda**	**59.22**	**317**	P	**P**	**06 43 37.5**	**+0.5**
MTA				S	tx	06 47 00.6	
TBLG	**Delisi**	**59.28**	**317**	P	**P**	**06 43 38.2**	**+0.8**
TBLG				S	tx	06 47 01.4	
DUS	**Dusheti**	**59.45**	**317**	P	**P**	**06 43 37.5**	**-1.1**
DUS				S	tx	06 47 00.6	
SVE	**Sverdlovsk**	**59.73**	**338**	⇓*e*P	**P**	**06 43 38.6**	**-1.9**
SVE				*e*S	S	06 52 16.0	+26
SVE				*e*		06 55 44.0	
SVE				pmax	pmax		
	comp=Z,120nm,2.3s,mb5.5						
SVE				MLR	MLR		
	comp=N,500nm,18.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,500nm,18.0s,MS4.8						
SVE				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.0						
AKH	**Akhalkalaki**	**60.00**	**316**	P	**P**	**06 43 43.1**	**+0.8**
AKH				S	tx	06 47 06.9	
ARU	**Arti**	**60.23**	**337**	P	**P**	**06 43 42.4**	**-1.6**
	comp=Z,211nm,1.4s,mb6.0,SNR=13						
ARU	**Arti**	**60.23**	**337**	*e*P	**P**	**06 43 42.1**	**-1.8**
	comp=Z,20nm,0.6s,mb5.3						
ARU				*e*PcP	PcP	06 44 29.4	+0.2
ARU	**Arti**	**60.23**	**337**	⇓*i*P	**P**	**06 43 42.3**	**-1.6**
ARU				*e*		06 44 28.0	
ARU				*e*		06 45 51.1	
ARU				*e*S	**S**	**06 51 55.2**	**-1.0**
ARU				*e*SS	SS	06 55 52.8	-0.8
ARU				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.4						
ZEI	**Tsey**	**60.27**	**318**	*e*P	**P**	**06 43 42.9**	**-1.3**
ZEI				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.3						
KIV	**Kislovodsk**	**61.57**	**319**	P	**P**	**06 43 52.7**	**-0.3**
	comp=Z,273nm,0.8s,SNR=5.7						
KIV	**Kislovodsk**	**61.57**	**319**	*e*P	**P**	**06 43 52.5**	**-0.5**
	comp=Z,165nm,1.5s,mb5.9						
KIV	**Kislovodsk**	**61.57**	**319**	*d i*P	**P**	**06 43 52.8**	**-0.2**
KIV				pmax	pmax		
	comp=Z,104nm,1.7s,mb5.7						
TOO	**Toolangi**	**61.63**	**137**	*e*P	**P**	**06 43 54.7**	**+1.3**
	comp=Z,17nm,1.2s,mb5.0						
TOO	**Toolangi**	**61.63**	**137**	*e*P	**P**	**06 43 54.7**	**+1.3**
TOO				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
GOF	**Gofitskoye**	**61.80**	**320**	*e*P	**P**	**06 43 54.7**	**+0.1**
GOF				pmax	pmax		
	comp=Z,53nm,1.3s,mb5.5						
URFA	**Urfa**	**61.99**	**311**	*e*P	**P**	**06 43 57.9**	**+2.0**
GUMT	**Gumushane**	**62.47**	**314**	*e*P	**P**	**06 43 59.4**	**+0.4**
MALT	**Malatya**	**62.55**	**311**	*e*P	**P**	**06 43 56.2**	**-3.4**
MALT	**Malatya**	**62.55**	**311**	*e*P	**P**	**06 43 59.9**	**+0.2**
	comp=Z,32nm,1.1s,mb5.4						
MALT	**Malatya**	**62.55**	**311**	⇑P	**P**	**06 44 02.2**	**+2.6**
YAK	**Yakutsk**	**63.01**	**17**	*e*P	**P**	**06 44 01.5**	**-1.2**
	comp=Z,98nm,0.6s,mb6.1						
YAK	**Yakutsk**	**63.01**	**17**	*d i*P	**P**	**06 44 00.5**	**-2.2**
YAK				pmax	pmax		
	comp=Z,93nm,0.7s,mb6.0						
SOKR	**Solikamsk**	**63.13**	**339**	*c i*P	**P**	**06 44 03.1**	**-0.4**
SOKR				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.8						
SOKR				MLR	MLR		
	comp=Z,2μm,32.0s,MS5.0						
EIL	**Elat**	**63.17**	**301**	*e*P	**P**	**06 44 04.7**	**+1.0**
	comp=Z,1μm,0.9s						
CNB	**Canberra Magne**	**63.28**	**133**	*e*P	**P**	**06 44 04.5**	**0.0**
	comp=Z,53nm,1.5s,mb5.5						
SOC	**Sochi**	**63.41**	**317**	⇓*i*P	**P**	**06 44 03.7**	**-1.6**
SOC				*e*		06 44 16.7	
SOC				*e*		06 44 40.6	
SOC				*e*		06 46 24.3	
SOC				*e*S	**S**	**06 52 31.3**	**-5.0**
SOC				pmax	pmax		
	comp=Z,59nm,0.8s,mb5.8						
KOZT	**Kozan**	**64.28**	**310**	*e*P	**P**	**06 44 08.1**	**-3.0**
KARA	**Karaisali**	**64.82**	**309**	*e*P	**P**	**06 44 16.1**	**+1.6**
VRHR	**Novokhopersk**	**65.28**	**326**	*e*P	**P**	**06 44 15.9**	**-1.6**
VRHR				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
VRHR				pmax	pmax		
	comp=N,20nm,0.6s						
VRHR				pmax	pmax		
	comp=E,30nm,1.7s						
ANN	**Anapa**	**65.38**	**318**	*e*P	**P**	**06 44 21.4**	**+3.2**
ANN				*e*		06 46 45.1	
ANN				*e*S	S	06 53 09.3	+8.7
ANN				pmax	pmax		
	comp=Z,181nm,1.8s,mb5.8						
ANN				MLR	MLR		
	comp=N,489nm,17.0s,MS4.8						
ANN				MLR	MLR		
	comp=E,177nm,17.0s,MS4.8						
ANN				MLR	MLR		
	comp=Z,296nm,17.0s,MS4.5						
CSS	**Prodhromos**	**65.62**	**307**	*e*P	**P**	**06 44 19.5**	**-0.3**
	comp=Z,90nm,1.3s,mb5.6						
KAMT	**Kaman**	**66.38**	**311**	*e*P	**P**	**06 44 23.5**	**-1.2**
BR131	**Keskin Array S**	**66.53**	**312**	*e*P	**P**	**06 44 25.2**	**-0.4**
	comp=Z,7.7nm,0.6s,mb4.9						
BRTR	**Keskin Array B**	**66.53**	**312**	P	**P**	**06 44 25.2**	**-0.4**
	comp=Z,11nm,0.6s,mb5.0,baz=127,slow=7.2,SNR=52						
VORD	**Divnogorie**	**66.55**	**325**	*e*P	**P**	**06 44 25.0**	**-0.7**
VORD				*e*PP	pP	06 44 32.5	-1.8
VORD				*e*SP	sP	06 44 37.1	-0.4
VORD				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
VORD				pmax	pmax		
	comp=E,100nm,1.6s						
TOS	**Tosya**	**66.59**	**313**	*e*P	**P**	**06 44 25.3**	**-0.7**
VOR	**Voronezh**	**66.92**	**325**	*e*P	**P**	**06 44 27.0**	**-1.1**
VOR				pmax	pmax		
	comp=E,100nm,1.8s						
VOR				pmax	pmax		
	comp=Z,170nm,1.8s,mb5.8						
ANTO	**Ankara**	**67.19**	**312**	*e*P	**P**	**06 44 29.8**	**0.0**
	comp=Z,34nm,0.8s,mb5.4						
ANTO	**Ankara**	**67.19**	**312**	*e*P	**P**	**06 44 29.8**	**0.0**
ANTO				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.4						
SAFT	**Safranbolu**	**67.62**	**313**	*e*P	**P**	**06 44 32.5**	**0.0**
SIM	**Simferopol'**	**67.66**	**317**	*c i*P	**P**	**06 44 33.0**	**+0.2**
SIM				*e*S	S	06 53 25.0	-3.3
SIM				pmax	pmax		
	comp=Z,34μm,0.8s						
SIM				MLR	MLR		
	comp=Z,420nm,19.9s,MS4.7						
ELL	**Elmali**	**68.71**	**308**	*e*P	**P**	**06 44 39.2**	**-0.2**
MA2	**Magadan**	**69.24**	**26**	*e*P	**P**	**06 44 42.4**	**-0.3**
MA2	**Magadan**	**69.24**	**26**	*e*P	**P**	**06 44 41.9**	**-0.7**
MA2				*e*		06 53 45.8	
MA2				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.3						
MA2				pmax	pmax		
	comp=N,9.0nm,0.8s						
MA2				pmax	pmax		
	comp=E,5.0nm,0.8s						
MOS	**Moscow**	**69.44**	**329**	*e*P	**P**	**06 44 42.8**	**-1.1**
MOS				*e*		06 45 00.9	
MOS				pmax	pmax		
	comp=Z,139nm,1.0s,mb5.8						
OBN	**Obninsk**	**69.74**	**328**	*e*P	**P**	**06 44 44.1**	**-1.6**
	comp=Z,70nm,1.0s,mb5.5						
OBN	**Obninsk**	**69.74**	**328**	⇑*e*P	**P**	**06 44 44.9**	**-0.8**
OBN				*e*		06 47 17.8	
OBN				pmax	pmax		
	comp=Z,168nm,1.7s,mb5.7						
OBN				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.8						
LSZ	**Lusaka**	**70.03**	**252**	P	**P**	**06 44 49.1**	**+1.6**
	comp=Z,11nm,0.7s,mb4.9,baz=83,slow=5.2,SNR=12						
LSZ	**Lusaka**	**70.03**	**252**	*e*P	**P**	**06 44 47.9**	**+0.4**
	comp=Z,11nm,0.6s,mb5.0						
LSZ				*ep*P	pP	06 44 54.1	-2.0
LSZ	**Lusaka**	**70.03**	**252**	*e*P	**P**	**06 44 47.9**	**+0.4**
LSZ				*e*PP	pP	06 44 54.1	-2.0
LSZ				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
PET	**Petropavlovsk**	**70.46**	**35**	*e*P	**P**	**06 44 50.3**	**+0.1**
	comp=Z,25nm,0.6s,mb5.3						
PET	**Petropavlovsk**	**70.46**	**35**	*e*P	**P**	**06 44 49.7**	**-0.4**
PET				pmax	pmax		
	comp=Z,48nm,0.6s,mb5.6						
PET				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.7						
TIXI	**Tiksi**	**70.60**	**10**	*i* Pr		06 44 48.8	
TIXI	**Tiksi**	**70.60**	**10**	*e*P	**P**	**06 44 47.7**	**-3.3**
TIXI				pmax	pmax		
	comp=Z,41nm,0.7s,mb5.5						
TIXI				MLR	MLR		
	comp=Z,729nm,14.0s,MS5.1						
KARP	**Karpathos**	**70.69**	**306**	*e*P	**P**	**06 44 52.0**	**+0.5**
KLMR	**Klimovskoe**	**70.82**	**334**	*d i*P	**P**	**06 44 50.7**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.5						
CASY	**Casey**	**70.88**	**174**	*e*P	**P**	**06 44 51.1**	**-1.6**
	comp=Z,42nm,1.1s,mb5.3						
IZM	**Izmir**	**71.08**	**309**	*e*P	**P**	**06 44 54.4**	**+0.5**
TIRR	**Tirgusor**	**71.45**	**316**	*e*P	**P**	**06 44 55.9**	**-0.2**
TIRR	**Tirgusor**	**71.45**	**316**	⇑P	**P**	**06 44 56.0**	**-0.2**
SEY	**Seymchan**	**71.57**	**24**	*i* Pr		06 44 58.5	
SEY	**Seymchan**	**71.57**	**24**	*d i*P	**P**	**06 44 58.4**	**+1.5**
KIS	**Kishinev**	**71.77**	**318**	*e*P	**P**	**06 44 57.0**	**-1.1**
CFR	**Carcaliu**	**71.80**	**316**	⇑P	**P**	**06 44 58.8**	**+0.5**
NPS	**Neapolis**	**71.90**	**306**	*e*P	**P**	**06 45 00.0**	**+1.2**
SANT	**Santorini**	**72.18**	**307**	P	**P**	**06 45 00.5**	**0.0**
AKASG	**Malin Array Be**	**72.46**	**322**	P	**P**	**06 45 01.1**	**-1.1**
	comp=Z,24nm,0.7s,mb5.3,baz=92,slow=5.2,SNR=111						
AKASG	**Malin Array Be**	**72.46**	**322**	*i* P	**P**	**06 45 00.6**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,24nm,0.7s						
IDI	**Anoyia**	**72.48**	**306**	P	**P**	**06 45 03.2**	**+0.8**
	comp=Z,60nm,0.7s,mb5.6,baz=90,slow=6.5,SNR=26						
VRI	**Vrincioaia**	**72.92**	**317**	⇓P	**P**	**06 45 05.3**	**+0.4**
VAM	**Vamos**	**73.06**	**306**	*e*P	**P**	**06 45 06.5**	**+0.7**
GVD	**Gavdhos**	**73.08**	**305**	P	**P**	**06 45 04.8**	**-1.1**
	comp=Z,64nm,0.7s,mb5.7						
DZM	**Mont Dzumac**	**73.30**	**114**	P	**P**	**06 45 08.1**	**+0.9**
	comp=Z,8.1nm,0.8s,mb4.7,baz=266,slow=9.3,SNR=6.1						
DZM				LR	LR	07 18 13.9	
	comp=Z,478nm,19.7s,MS4.8,baz=206,slow=36						
MLR	**Muntele Rosu**	**73.38**	**316**	⇑P	**P**	**06 45 08.6**	**+0.9**
RZN	**Rozhen**	**73.57**	**312**	*i* P	**P**	**06 45 09.0**	**+0.2**
KYTH	**Kithira**	**74.11**	**306**	*e*P	**P**	**06 45 12.0**	**+0.1**
VLI	**Veliai**	**74.24**	**307**	*e*P	**P**	**06 45 13.0**	**+0.3**
MMB	**Musomiste**	**74.29**	**312**	*i* P	**P**	**06 45 12.0**	**-1.0**
LBTB	**Lobatse**	**74.29**	**243**	*e*P	**P**	**06 45 14.1**	**+1.1**
	comp=Z,65nm,1.1s,mb5.5						
LBTB				*ep*P	pP	06 45 18.8	-2.9
LBTB	**Lobatse**	**74.29**	**243**	*e*P	**P**	**06 45 14.1**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.5						
MNK	**Minsk**	**74.30**	**326**	⇑*e*P	**P**	**06 45 10.0**	**-3.1**
MNK				pmax	pmax		
	comp=Z,190nm,1.0s,mb6.0						
PUL	**Pulkovo**	**74.58**	**331**	*e*P	**P**	**06 45 14.0**	**-0.7**
PUL				MLR	MLR		
	comp=Z,541nm,15.0s,MS5.0						
KKB	**Krupnik**	**74.80**	**312**	*i* P	**P**	**06 45 15.0**	**-1.0**
VTS	**Vitosha**	**74.82**	**313**	*i* P	**P**	**06 45 16.0**	**-0.1**
ITM	**Ithomi**	**75.09**	**307**	*e*P	**P**	**06 45 17.0**	**-0.7**
VAY	**Valandovo**	**75.11**	**312**	*i* P	**P**	**06 45 16.6**	**-1.2**
JOF	**Joensuu**	**75.21**	**335**	*ep*	**P**	**06 45 18.0**	**-0.3**
	comp=Z,29nm,0.8s,mb5.2						
MAW	**Mawson**	**75.23**	**193**	P	**P**	**06 45 17.2**	**-1.3**
	comp=Z,20nm,0.9s,mb5.1,baz=63,slow=11,SNR=4.1						
MAW				LR	LR	07 15 08.0	
	comp=Z,214nm,19.2s,MS4.5,baz=166,slow=33						
BOSA	**Boshof**	**75.37**	**239**	P	**P**	**06 45 20.1**	**+0.9**
	comp=Z,15nm,1.0s,mb4.9,baz=80,slow=7.7,SNR=12						
BOSA				LR	LR	07 15 55.1	
	comp=Z,230nm,18.2s,MS4.5,baz=194,slow=34						
BOSA	**Boshof**	**75.37**	**239**	*e*P	**P**	**06 45 19.1**	**-0.1**
	comp=Z,58nm,1.6s,mb5.3						
BOSA	**Boshof**	**75.37**	**239**	*e*P	**P**	**06 45 19.1**	**-0.1**
BOSA				pmax	pmax		
	comp=Z,58nm,1.6s,mb5.3						
EVR	**Evrytania**	**75.38**	**309**	*e*P	**P**	**06 45 19.5**	**+0.2**
LVZ	**Lovozero**	**75.88**	**340**	P	**P**	**06 45 21.0**	**-1.2**
	comp=Z,370nm,0.7s,SNR=12						
LVZ	**Lovozero**	**75.88**	**340**	*e*P	**P**	**06 45 21.4**	**-0.8**
LVZ				pmax	pmax		
	comp=Z,47nm,0.7s,mb5.5						
**

GRI pmax pmax
comp=Z,82nm,0.8s,mb5.7
ARCES ARCESS Array B 79.58 340 P **P** **06 45 42.3 -0.5**
comp=Z,14nm,0.4s,mb5.2,baz=99,slow=6.8,SNR=146
ARCES LR LR 07 23 56.8
comp=Z,670nm,20.9s,MS5.0,baz=107,slow=38
ARE0 ARCESS Array S 79.58 340 *e*P **P** **06 45 42.5 -0.2**
MORC Moravsky Berou 79.65 320 *e*P **P** **06 45 42.9 -0.3**
comp=Z,17nm,0.8s,mb5.0
MORC Moravsky Berou 79.65 320 *e*P **P** **06 45 42.9 -0.3**
MORC pmax pmax
comp=Z,17nm,0.8s,mb5.0
TDS Terranova Siba 79.68 309 P **P** **06 45 44.3 +1.0**
comp=Z,203nm,1.1s,mb6.0
TDS Terranova Siba 79.68 309 P **P** **06 45 44.3 +1.0**
TDS pmax pmax
comp=Z,203nm,1.1s,mb6.0
ZST Bratislava 79.78 318 *e*P **P** **06 45 43.8 -0.1**
ZST *es*P sP 06 45 58.6 +2.9
SOI Samo 79.81 308 P **P** **06 45 44.3 +0.3**
comp=Z,236nm,1.9s,mb5.8
SOI Samo 79.81 308 P **P** **06 45 44.3 +0.3**
SOI pmax pmax
comp=Z,236nm,1.9s,mb5.8
SUR Sutherland 79.91 236 *e*P **P** **06 45 46.7 +2.2**
comp=Z,33nm,1.0s,mb5.2
KOGS Kog 80.20 316 *e*P **P** **06 45 46.3 +0.1**
KTK1 Kautokeino 80.22 340 *e*P **P** **06 45 46.6 +0.3**
KTK1 AMb AMB 06 45 49.6
comp=Z,75nm,1.5s,mb5.4
KTK1 Kautokeino 80.22 340 *e*P **P** **06 45 46.6 +0.3**
comp=Z,75nm,1.5s,mb5.4
MGR Morigerati 80.31 310 P **P** **06 45 46.5 -0.2**
comp=Z,26nm,0.6s,mb5.3
DPC Dobruska-Polom 80.49 320 *e*P **P** **06 45 48.2 +0.5**
DPC *ex* x 06 45 49.4
KSP Ksiaz 80.55 321 *e*P **P** **06 45 48.4 +0.4**
KSP Ksiaz 80.55 321 *e*P **P** **06 45 48.3 +0.3**
GOLS Golise 80.61 316 *e*P **P** **06 45 48.8 +0.5**
TSUM Tsumeb 80.64 250 *e*P **P** **06 45 50.1 +1.6**
comp=Z,21nm,1.0s,mb5.0
PZI Palazzolo 80.65 307 P **P** **06 45 50.2 +1.7**
comp=Z,29nm,1.2s,mb5.1
PZI Palazzolo 80.65 307 P **P** **06 45 50.2 +1.7**
PZI pmax pmax
comp=Z,29nm,1.2s,mb5.1
UPC Upice 80.70 320 *e*P **P** **06 45 49.3 +0.5**
UPC *e*PCP PcP 06 45 50.8 -4.7
ARSA Arzberg 80.76 317⇑*i*P **P** **06 45 50.0 +0.8**
comp=Z,19nm,1.1s,mb4.9
BOJS Bojanci 80.83 315 *e*P **P** **06 45 49.7 +0.1**
TREC Trest 80.94 319 *e*P **P** **06 45 50.6 +0.5**
TREC *e*PCP PcP 06 45 52.6 -4.0
PERS Pernice 81.00 316 *e*P **P** **06 45 50.7 +0.3**
LJU Ljubljana 81.37 316 *e*P **P** **06 45 53.7 +1.3**
OBKA Obir 81.38 316⇑*i*P **P** **06 45 53.0 +0.6**
comp=Z,20nm,0.9s,mb5.0
PRU Pruhonice 81.60 320 *e*P **P** **06 45 52.3 -1.3**
PRU *ex* x 06 45 54.2
PVCC Panska Ves 81.62 320 *e*P **P** **06 45 54.3 +0.6**
PVCC *e*PCP PcP 06 45 56.3 -3.2
MOA Molln 81.65 318⇑*i*P **P** **06 45 53.9 0.0**
comp=Z,7.0nm,0.7s,mb4.7
BSD Bornholm Skovb 81.76 325 *i*P **P** **06 45 53.4 -1.0**
comp=Z,24nm,0.7s,mb5.2
BSD Bornholm Skovb 81.76 325 *i*P **P** **06 45 53.4 -1.0**
BSD pmax pmax
comp=Z,24nm,0.7s,mb5.2
VOY Vojsko 81.81 316 *e*P **P** **06 45 54.5 -0.2**
VOY *e* 06 45 57.5
VOY *e* 06 46 33.6
TRO Tromso 81.84 340 *e*P **P** **06 45 54.3 -0.6**
RPZ Rata Peaks 81.86 135 P **P** **06 45 55.1 +0.1**
comp=Z,19nm,0.8s,mb5.1,baz=280,slow=4.9,SNR=4.8
RPZ LR LR 07 22 43.9
comp=Z,953nm,19.1s,MS5.2,baz=234,slow=36
PTQR Pietraquaria 82.01 312 P **P** **06 45 56.3 +0.5**
AQU L'Aquila 82.02 312 *e*P **P** **06 45 55.5 -0.3**
comp=Z,35nm,0.6s,mb5.5
AQU L'Aquila 82.02 312 P **P** **06 45 56.8 +1.0**
AQU pmax pmax
comp=Z,35nm,0.7s,mb5.4
BRG Berggiesshubel 82.04 321 *e*P **P** **06 45 56.0 +0.1**
comp=Z,18nm,1.1s,mb4.9
BRG Berggiesshubel 82.04 321 *e*P **P** **06 45 56.2 +0.3**
BRG *e* 06 46 10.9
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRG Berggiesshubel 82.04 321 *e*P **P** **06 45 56.2 +0.3**
comp=Z,7.3nm,1.0s,mb4.6
BRG *e* 06 46 10.9
comp=Z,10.0nm,1.1s
GEC2 GERESS Array S 82.08 319 *e*P **P** **06 45 56.5 +0.4**
comp=Z,32nm,1.3s,mb5.1
GEC2 GERESS Array S 82.08 319 *e*P **P** **06 45 56.5 +0.4**
GEC2 pmax pmax
comp=Z,32nm,1.3s,mb5.1
GERES GERESS Array B 82.08 319 P **P** **06 45 56.2 0.0**
comp=Z,9.1nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=45
ROBS Robic 82.09 316 *e*P **P** **06 45 56.4 +0.2**
KHC Kasperske Hory 82.18 319 *e*P **P** **06 45 56.8 +0.2**
KHC pP pP 06 46 06.0 +0.6
KHC Kasperske Hory 82.18 319 *e*P **P** **06 45 57.0 +0.4**
KHC Kasperske Hory 82.18 319 *e*P **P** **06 45 56.8 +0.2**
KHC *e* pP 06 46 06.0 +0.6
PTCC Patocco-Chiusa 82.20 316 P **P** **06 45 56.6 -0.2**
KBA Koelnbreinsper 82.24 317⇑*i*P **P** **06 45 51.4 -5.6**
comp=Z,10nm,0.7s,mb4.9
KBA Koelnbreinsper 82.24 317⇑*i*P **P** **06 45 51.4 -5.6**
KBA pmax pmax
comp=Z,11nm,0.7s,mb4.9
RUE Ruedersdorf 82.24 322 *e*P **P** **06 45 56.9 -0.1**
comp=Z,67nm,0.7s,mb5.7
RUE Ruedersdorf 82.24 322 *e*P **P** **06 45 56.7 -0.3**
comp=Z,56nm,0.6s,mb5.7
NRCA Norcia 82.25 313 P **P** **06 45 56.8 -0.2**
GMNA Gemona 82.28 316 P **P** **06 45 58.8 +1.6**
SYO Syowa Base 82.37 198⇓*e*PcP PcP 06 46 03.6 +0.8
SYO Syowa Base 82.37 198⇑*e*P **P** **06 45 56.3 -1.4**
SYO ⇓*e*PcP PcP 06 46 03.6 +0.8
SNTG Esanatoglia 82.39 313 P **P** **06 45 58.9 +1.2**
ARV Arcevia 82.39 313 P **P** **06 45 58.6 +0.8**
comp=Z,60nm,0.9s,mb5.5
ARV Arcevia 82.39 313 P **P** **06 45 58.6 +0.8**
ARV pmax pmax
comp=Z,60nm,0.9s,mb5.5
WET Wettzell 82.64 319 *e*P **P** **06 45 59.1 +0.1**
comp=Z,20nm,1.2s,mb5.0
WET Wettzell 82.64 319 *e*P **P** **06 45 59.1 +0.1**
WET pmax pmax
comp=Z,20nm,1.2s,mb5.0
CLL Collm 82.65 321 *e*P **P** **06 45 59.0 -0.1**
comp=Z,18nm,1.2s,mb5.0
CLL *e*PcP PcP 06 46 03.0 -1.1
CLL *es*P sP 06 46 12.0 +1.0
CLL Collm 82.65 321 *e*P **P** **06 45 59.0 -0.1**
comp=Z,18nm,1.2s,mb5.0
CLL *e*pP pP 06 46 03.0 -4.9
CLL Collm 82.65 321 *e*P **P** **06 45 59.0 -0.1**
CLL pmax pmax
comp=Z,18nm,1.2s,mb5.0
NKC Novy Kostel 82.96 320 *e*P **P** **06 46 01.0 +0.3**
SEST Monte Rota 83.00 316 P **P** **06 46 01.4 +0.5**
MOR8 Moi Rana 83.03 336 *e*P **P** **06 46 00.3 -0.7**
MOR8 AMb AMB 06 46 01.4
comp=Z,33nm,0.5s,mb5.6
MOR8 Moi Rana 83.03 336 *e*P **P** **06 46 00.3 -0.7**
comp=Z,33nm,0.5s,mb5.6
WERD Werda 83.06 320 *e*P **P** **06 46 01.1 -0.1**
comp=Z,12nm,1.1s,mb4.8
ROTZ Rotzenmuhle 83.10 319 *e*P **P** **06 46 01.9 +0.5**
comp=Z,18nm,1.1s,mb5.0
CRE Caprese Michel 83.11 313 P **P** **06 46 01.9 +0.4**
comp=Z,15nm,0.6s,mb5.2
CRE Caprese Michel 83.11 313 P **P** **06 46 01.9 +0.4**
CRE pmax pmax
comp=Z,15nm,0.6s,mb5.2
MANZ Manzenberg 83.17 320 *e*P **P** **06 46 02.4 +0.6**
comp=Z,24nm,1.2s,mb5.1
SFI Santa Sofia 83.19 314 P **P** **06 46 03.2 +1.3**
comp=Z,82nm,1.0s,mb5.7
SFI Santa Sofia 83.19 314 P **P** **06 46 03.2 +1.3**
SFI pmax pmax
comp=Z,82nm,1.0s,mb5.7
COP Copenhagen 83.21 325 *i*P **P** **06 46 02.6 +0.6**
comp=Z,24nm,0.5s,mb5.5
COP Copenhagen 83.21 325 *e*P **P** **06 46 02.6 +0.6**
comp=Z,24nm,0.5s,mb5.5
COP Copenhagen 83.21 325 *e*P **P** **06 46 02.6 +0.6**
COP pmax pmax
comp=Z,24nm,0.5s,mb5.5
CTI Castel Tesino 83.37 316 P **P** **06 46 03.5 +0.6**
comp=Z,31nm,0.7s,mb5.5
CTI Castel Tesino 83.37 316 P **P** **06 46 03.5 +0.6**
CTI pmax pmax
comp=Z,31nm,0.7s,mb5.5
VMG Vicchio 83.42 314 P **P** **06 46 04.3 +1.2**
WATA Walderalm 83.45 317⇑*i*P **P** **06 46 03.4 +0.1**
comp=Z,10.0nm,1.0s,mb4.8
WATA Walderalm 83.45 317⇑*i*P **P** **06 46 03.4 +0.1**
comp=Z,10.0nm,1.0s,mb4.8
WATA Walderalm 83.45 317⇑*i*P **P** **06 46 03.4 +0.1**
WATA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MOX Moxa 83.50 320 *e*P **P** **06 46 03.4 -0.1**
comp=Z,9.0nm,1.0s,mb4.8
MOX Moxa 83.50 320 *e*P **P** **06 46 03.8 +0.3**
MOX
comp=Z,400nm,19.0s
LOF Lofoten 83.57 338 *e*P **P** **06 46 04.6 +0.7**
FUR Furstenfeldbru 83.67 318 *e*P **P** **06 46 04.0 -0.4**
comp=Z,28nm,0.5s,mb5.7
FUR Furstenfeldbru 83.67 318 *e*P **P** **06 46 04.0 -0.4**
FUR pmax pmax
comp=Z,28nm,0.5s,mb5.7
SQTA Sankt Quirin 83.70 317⇑*i*P **P** **06 46 04.1 -0.4**
comp=Z,10nm,0.8s,mb5.0,SNR=8.5
SQTA Sankt Quirin 83.70 317⇑*i*P **P** **06 46 04.1 -0.4**
comp=Z,10nm,0.8s,mb5.0
SQTA Sankt Quirin 83.70 317⇑*i*P **P** **06 46 04.1 -0.4**
SQTA pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
FNVD Fontana Vidola 83.72 314 P **P** **06 46 06.6 +2.0**
GRA1 Grafenberg Arr 83.73 319 *e*P **P** **06 46 05.2 +0.5**
comp=Z,14nm,0.9s,mb5.1
GRF Grafenberg Arr 83.73 319 *e*P **P** **06 46 05.2 +0.5**
comp=Z,14nm,0.9s,mb5.1
GRF Grafenberg Arr 83.73 319 *e*P **P** **06 46 05.2 +0.5**
GRF pmax pmax
comp=Z,14nm,0.9s,mb5.1
GRF Grafenberg Arr 83.73 319 *e*P **P** **06 46 05.2 +0.5**
GRF pmax pmax
comp=Z,14nm,0.9s,mb5.1
GRFO Grafenberg 83.74 319 *e*P **P** **06 46 05.1 +0.4**
comp=Z,30nm,1.5s,mb5.2
GRFO Grafenberg 83.74 319 *e*P **P** **06 46 05.1 +0.4**
GRFO pmax pmax
comp=Z,676nm,1.5s
MOTA Moosalm 83.77 317 *i*P **P** **06 46 04.5 -0.4**
comp=Z,12nm,1.0s,mb5.0,SNR=6.8
MOTA Moosalm 83.77 317 *i*P **P** **06 46 04.5 -0.4**
comp=Z,12nm,1.0s,mb5.0
MOTA Moosalm 83.77 317 *i*P **P** **06 46 04.5 -0.4**
MOTA pmax pmax
comp=Z,13nm,1.0s,mb5.0
GRFL Gerfalco 83.82 313 P **P** **06 46 04.7 -0.5**
comp=Z,25nm,1.0s,mb5.3
NSS Namsos 83.93 344 *e*P **P** **06 46 03.8 -1.9**
NB2 NORSAR Subarra 84.10 331 P **P** **06 46 05.3 -1.3**
comp=Z,26nm,0.9s,mb5.4,baz=95,slow=5.3
NB2 NORSAR Subarra 84.10 331 P **P** **06 46 05.3 -1.3**
NB2 pmax pmax
comp=Z,26nm,0.9s,mb5.4
NOA NORSAR Array B 84.10 331 P **P** **06 46 05.7 -0.9**
comp=Z,17nm,0.8s,mb5.3,baz=93,slow=5.2,SNR=56
NOA LR LR 07 27 10.1
comp=Z,222nm,18.8s,MS4.6,baz=55,slow=38
GSCL Gusciola 84.11 314 P **P** **06 46 08.5 +1.9**
NAO01 NORSAR Array S 84.25 331 *e*P **P** **06 46 06.8 -0.5**
comp=Z,18nm,0.8s,mb5.2
BRMO Bormio 84.27 316 P **P** **06 46 08.1 +0.7**
CLZ Clausthal 84.31 322 *e*P **P** **06 46 07.6 -0.1**
comp=Z,24nm,0.7s,mb5.4
CLZ Clausthal 84.31 322 *e*P **P** **06 46 07.6 -0.1**
CLZ pmax pmax
comp=Z,24nm,0.7s,mb5.4
BSEG Bad Segeberg 84.38 324 *e*P **P** **06 46 08.1 +0.1**
comp=Z,27nm,0.8s,mb5.4
DAVA Damuels 84.60 317⇑*i*P **P** **06 46 09.5 +0.3**
comp=Z,22nm,1.1s,mb5.2
DAVA Damuels 84.60 317⇑*i*P **P** **06 46 09.5 +0.3**
comp=Z,22nm,1.1s,mb5.2
KONO Kongsberg 84.86 329 *e*P **P** **06 46 10.8 +0.4**
MUD Monsted U'grnd 85.06 326 *i*P **P** **06 46 11.7 +0.3**
comp=Z,18nm,0.6s,mb5.4
MUD Monsted U'grnd 85.06 326 *i*P **P** **06 46 11.7 +0.3**
MUD pmax pmax
comp=Z,18nm,0.6s,mb5.4
STU Stuttgart 85.06 318 *e*P **P** **06 46 11.2 -0.2**
comp=Z,17nm,0.7s,mb5.3
DOMB Dombas 85.15 332 *e*P **P** **06 46 12.1 +0.2**
DOMB AMb AMB 06 46 13.8
comp=Z,12nm,0.7s,mb5.1
DOMB Dombas 85.15 332 *e*P **P** **06 46 12.1 +0.2**
comp=Z,12nm,0.7s,mb5.2
PGF Pioggiola 85.28 312 *e*P **P** **06 46 12.3 -0.2**
comp=Z,26nm,0.8s,mb5.1
PGF Pioggiola 85.28 312 *e*P **P** **06 46 12.3 -0.2**
comp=Z,13nm,0.8s,mb5.1
PGF Pioggiola 85.28 312 *e*P **P** **06 46 12.3 -0.2**
PGF pmax pmax
comp=Z,13nm,0.8s,mb5.1
URZ Urewera 85.31 129 P **P** **06 46 11.9 -0.8**
comp=Z,16nm,0.8s,mb5.2,baz=22,slow=2.4,SNR=5.5
URZ LR LR 07 25 36.6
comp=Z,497nm,19.3s,MS4.9,baz=254,slow=37
TNS Taunus Mts 85.53 320 *e*P **P** **06 46 13.9 +0.1**
comp=Z,18nm,1.0s,mb5.3
TNS Taunus Mts 85.53 320 *e*P **P** **06 46 13.9 +0.1**
TNS pmax pmax
comp=Z,18nm,1.0s,mb5.3
BFO Black Forest 85.64 318 *e*P **P** **06 46 13.8 -0.5**
comp=Z,12nm,0.9s,mb5.1
BFO Black Forest 85.64 318 *e*P **P** **06 46 13.4 -0.9**
FIN Finale Ligure 85.82 314 P **P** **06 46 15.2 0.0**
MOL Molde 85.86 332 *e*P **P** **06 46 18.2 +2.8**
IBBN Ibbenburen 85.92 322 *e*P **P** **06 46 15.8 +0.1**
comp=Z,24nm,0.6s,mb5.6
BUG Bochum--Univer 86.25 321 *e*P **P** **06 46 17.4 +0.1**
comp=Z,17nm,0.6s,mb5.5
CDF Champ du Feu 86.34 318 *e*P **P** **06 46 16.9 -0.9**
comp=Z,11nm,0.6s,mb4.9
CDF Champ du Feu 86.34 318 *e*P **P** **06 46 16.9 -0.9**
comp=Z,5.6nm,0.6s,mb5.0
CDF Champ du Feu 86.34 318 *e*P **P** **06 46 16.9 -0.9**
CDF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
ODD1 Odda 86.36 330 *e*P **P** **06 46 17.6 -0.3**
SBF Sospel 86.39 314 *e*P **P** **06 46 17.7 -0.3**
comp=Z,80nm,0.7s,mb5.7
SBF Sospel 86.39 314 *e*P **P** **06 46 17.7 -0.3**
comp=Z,40nm,0.7s,mb5.8
SBF Sospel 86.39 314 *e*P **P** **06 46 17.7 -0.3**
SBF pmax pmax
comp=Z,40nm,0.7s,mb5.8
BLS5 Blasjo 86.46 329 *e*P **P** **06 46 19.2 +0.8**
BLS5 AMb AMB 06 46 21.1
comp=Z,35nm,0.7s,mb5.7
BLS5 Blasjo 86.46 329 *e*P **P** **06 46 19.4 +1.0**
comp=Z,35nm,0.6s,mb5.8
HYA Hoyanger 86.54 331 *e*P **P** **06 46 19.2 +0.4**
HYA AMb AMB 06 46 30.4
comp=Z,82nm,1.7s,mb5.7
HYA Hoyanger 86.54 331 *e*P **P** **06 46 19.2 +0.4**
comp=Z,82nm,1.7s,mb5.7
HINF Hinteralfeld 86.64 318 *e*P **P** **06 46 18.1 -1.2**
comp=Z,6.1nm,0.6s,mb4.7
HINF Hinteralfeld 86.64 318 *e*P **P** **06 46 18.1 -1.2**
comp=Z,3.0nm,0.6s,mb4.7
HINF Hinteralfeld 86.64 318 *e*P **P** **06 46 18.1 -1.2**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
LPG La Plagne 86.81 315 *e*P **P** **06 46 20.1 0.0**
comp=Z,49nm,0.7s,mb5.6
LPG La Plagne 86.81 315 *e*P **P** **06 46 20.1 0.0**
comp=Z,24nm,0.7s,mb5.5
LPG La Plagne 86.81 315 *e*P **P** **06 46 20.1 0.0**
LPG pmax pmax
comp=Z,24nm,0.7s,mb5.5
LPL La Plagne 86.82 315 *e*P **P** **06 46 20.1 0.0**
comp=Z,54nm,0.8s,mb5.5
LPL La Plagne 86.82 315 *e*P **P** **06 46 20.1 0.0**
comp=Z,27nm,0.8s,mb5.5
LPL La Plagne 86.82 315 *e*P **P** **06 46 20.1 0.0**
LPL pmax pmax
comp=Z,27nm,0.8s,mb5.5
MBDF Montbardon 86.83 314 *e*P **P** **06 46 20.1 -0.1**
comp=Z,29nm,0.7s,mb5.3
MBDF Montbardon 86.83 314 *e*P **P** **06 46 20.1 -0.1**
comp=Z,14nm,0.7s,mb5.3
MBDF Montbardon 86.83 314 *e*P **P** **06 46 20.1 -0.1**
MBDF pmax pmax
comp=Z,14nm,0.7s,mb5.3
BNI Bardonecchia 86.88 315 *e*P **P** **06 46 20.6 +0.2**
comp=Z,14nm,0.8s,mb5.2
BNI Bardonecchia 86.88 315 *e*P **P** **06 46 20.6 +0.2**
BNI pmax pmax
comp=Z,14nm,0.8s,mb5.2
HAU Haudompre 86.97 318 *e*P **P** **06 46 20.1 -0.8**
comp=Z,36nm,0.8s,mb5.3
HAU Haudompre 86.97 318 *e*P **P** **06 46 20.1 -0.8**
comp=Z,18nm,0.8s,mb5.3
HAU Haudompre 86.97 318 *e*P **P** **06 46 20.1 -0.8**
HAU pmax pmax
comp=Z,18nm,0.8s,mb5.3
BER Bergen 86.99 330 *e*P **P** **06 46 21.7 +0.7**
WLF Walferdange 87.03 319 *e*P **P** **06 46 21.7 +0.6**
comp=Z,10.0nm,1.0s,mb5.0
ASK Askoy 87.05 330 *e*P **P** **06 46 21.3 +0.1**
FOO Floro 87.07 331 *e*P **P** **06 46 19.0 -2.4**
LMR La Mourre 87.08 313 *e*P **P** **06 46 21.1 -0.3**
comp=Z,26nm,0.9s,mb5.2
LMR La Mourre 87.08 313 *e*P **P** **06 46 21.1 -0.3**
comp=Z,13nm,0.9s,mb5.2
LMR La Mourre 87.08 313 *e*P **P** **06 46 21.1 -0.3**
LMR pmax pmax
comp=Z,13nm,0.9s,mb5.2
KMY Karmoy 87.09 329 *e*P **P** **06 46 20.6 -0.9**
CABF La Chapelle 87.22 316 *e*P **P** **06 46 21.9 -0.2**
comp=Z,26nm,0.6s,mb5.4
CABF La Chapelle 87.22 316 *e*P **P** **06 46 21.9 -0.2**
comp=Z,13nm,0.6s,mb5.3
CABF La Chapelle 87.22 316 *e*P **P** **06 46 21.9 -0.2**
CABF pmax pmax
comp=Z,13nm,0.6s,mb5.3
ORIF Oris-en-Rattie 87.45 315 *e*P **P** **06 46 23.3 +0.1**
comp=Z,27nm,0.7s,mb5.3
ORIF Oris-en-Rattie 87.45 315 *e*P **P** **06 46 23.3 +0.1**
comp=Z,14nm,0.7s,mb5.3
ORIF Oris-en-Rattie 87.45 315 *e*P **P** **06 46 23.3 +0.1**
ORIF pmax pmax
comp=Z,14nm,0.7s,mb5.3
SMRF Simiane la Rot 87.72 314 *e*P **P** **06 46 24.8 +0.3**
comp=Z,18nm,0.7s,mb5.1
SMRF Simiane la Rot 87.72 314 *e*P **P** **06 46 24.8 +0.3**
comp=Z,18nm,0.7s,mb5.4
GIVF Givet 87.86 320 *e*P **P** **06 46 23.9 -1.3**
DOU Dourbes 88.01 320⇓*i*P **P** **06 46 25.4 -0.4**
VIVF Saint-Julien-l 88.31 315 *e*P **P** **06 46 27.1 -0.2**
comp=Z,21nm,0.7s,mb5.2
VIVF Saint-Julien-l 88.31 315 *e*P **P** **06 46 27.1 -0.2**
comp=Z,11nm,0.7s,mb5.2
VIVF Saint-Julien-l 88.31 315 *e*P **P** **06 46 27.1 -0.2**
VIVF pmax pmax
comp=Z,11nm,0.7s,mb5.2
RAO Raoul Island 88.31 119 LR LR 07 23 36.5
comp=Z,473nm,21.0s,MS4.9,baz=296,slow=34
LOR Lormes 88.70 317 *e*P **P** **06 46 28.7 -0.4**
comp=Z,28nm,0.7s,mb5.4
LOR Lormes 88.70 317 *e*P **P** **06 46 28.7 -0.4**
comp=Z,14nm,0.7s,mb5.4
LOR Lormes 88.70 317 *e*P **P** **06 46 28.7 -0.4**
LOR pmax pmax
comp=Z,14nm,0.7s,mb5.4
VNDA Vanda 88.75 169 P **P** **06 46 28.8 -0.6**
comp=Z,9.3nm,0.7s,mb5.2,baz=311,slow=5.1,SNR=18
VNDA LR LR 07 22 51.4
comp=Z,200nm,19.4s,MS4.5,baz=186,slow=33
VNDA Vanda 88.75 169 *e*P **P** **06 46 28.9 -0.4**
comp=Z,10.0nm,0.7s,mb5.2
VNDA Vanda 88.75 169 *e*P **P** **06 46 29.0 -0.4**
VNDA pmax pmax
comp=Z,10.0nm,0.7s
SMF Signal de Mont 88.76 316 *e*P **P** **06 46 29.0 -0.4**
comp=Z,32nm,0.7s,mb5.5
SMF Signal de Mont 88.76 316 *e*P **P** **06 46 29.0 -0.4**
comp=Z,16nm,0.7s,mb5.5
SMF Signal de Mont 88.76 316 *e*P **P** **06 46 29.0 -0.4**
SMF pmax pmax
comp=Z,16nm,0.7s,mb5.5
TNA Tin City 88.79 24 *e*P **P** **06 46 28.3 -1.2**
TNA *ep*P pP 06 46 34.2 -4.2
LASF Ste Croix 88.95 314 *e*P **P** **06 46 30.5 +0.2**
comp=Z,23nm,0.9s,mb5.2
SSF Saint Saulge 88.96 317 *e*P **P** **06 46 30.4 +0.1**
comp=Z,18nm,0.7s,mb5.2
SSF Saint Saulge 88.96 317 *e*P **P** **06 46 30.4 +0.1**
comp=Z,8.9nm,0.7s,mb5.2
SSF Saint Saulge 88.96 317 *e*P **P** **06 46 30.4 +0.1**
SSF pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
AVF Avril sur Loir 89.08 317 *e*P **P** **06 46 30.5 -0.4**
comp=Z,16nm,0.8s,mb5.1
AVF Avril sur Loir 89.08 317 *e*P **P** **06 46 30.5 -0.4**
comp=Z,8.1nm,0.8s,mb5.1
AVF Avril sur Loir 89.08 317 *e*P **P** **06 46 30.5 -0.4**
AVF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
BGF Bois d'Agland 89.45 316 *e*P **P** **06 46 32.7 0.0**
comp=Z,18nm,0.7s,mb5.2
BGF Bois d'Agland 89.45 316 *e*P **P** **06 46 32.7 0.0**
comp=Z,9.3nm,0.7s,mb5.2
BGF Bois d'Agland 89.45 316 *e*P **P** **06 46 32.7 0.0**
BGF pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
TCF Toulx Ste Croi 89.92 316 *e*P **P** **06 46 34.8 0.0**
CAF Calviac 90.15 315 *e*P **P** **06 46 36.3 +0.4**
comp=Z,7.4nm,0.5s,mb4.9
CAF Calviac 90.15 315 *e*P **P** **06 46 36.3 +0.4**
comp=Z,3.7nm,0.5s,mb5.0
CAF Calviac 90.15 315 *e*P **P** **06 46 36.3 +0.4**
CAF pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
MTLF Montolieu 90.20 313 *e*P **P** **06 46 36.4 +0.2**
RJF Les Rejaudoux 90.50 315 *e*P **P** **06 46 38.0 +0.4**
comp=Z,17nm,0.6s,mb5.2
RJF Les Rejaudoux 90.50 315 *e*P **P** **06 46 38.0 +0.4**
comp=Z,8.4nm,0.6s,mb5.2
RJF Les Rejaudoux 90.50 315 *e*P **P** **06 46 38.0 +0.4**
RJF pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
LFF La Frestale 91.09 315 *e*P **P** **06 46 40.9 +0.6**
comp=Z,26nm,0.8s,mb5.3
LFF La Frestale 91.09 315 *e*P **P** **06 46 40.9 +0.6**
comp=Z,13nm,0.8s,mb5.3
LFF La Frestale 91.09 315 *e*P **P** **06 46 40.9 +0.6**
LFF pmax pmax
comp=Z,13nm,0.8s,mb5.3
LDF La Druitiere 91.23 319 *e*P **P** **06 46 40.9 0.0**
comp=Z,44nm,0.8s,mb5.5
LDF La Druitiere 91.23 319 *e*P **P** **06 46 40.9 0.0**
comp=Z,22nm,0.8s,mb5.5
LDF La Druitiere 91.23 319 *e*P **P** **06 46 40.9 0.0**
LDF pmax pmax
comp=Z,22nm,0.8s,mb5.5
MFF Saint Martin d 91.50 317 *e*P **P** **06 46 42.2 0.0**
comp=Z,72nm,1.1s,mb5.6
MFF Saint Martin d 91.50 317 *e*P **P** **06 46 42.2 0.0**
comp=Z,36nm,1.1s,mb5.6
MFF Saint Martin d 91.50 317 *e*P **P** **06 46 42.2 0.0**
MFF pmax pmax
comp=Z,36nm,1.1s,mb5.6
EPF Esparros 91.60 313 *e*P **P** **06 46 43.4 +0.7**
GRR Gorron 91.74 319 *e*P **P** **06 46 43.4 +0.1**
SJPF Ste Jean 92.73 313 *e*P **P** **06 46 48.6 +0.7**
SGMF Saint Gilles 92.88 319 *e*P **P** **06 46 48.2 -0.4**
QUIF Quistinic 93.34 318 *e*P **P** **06 46 50.0 -0.7**
ROSF Rostrenen 93.34 319 *e*P **P** **06 46 49.9 -0.8**
TORD Torodi Ar. Bea 93.52 283 P **P** **06 46 52.2 +0.7**
comp=Z,10nm,0.6s,mb5.4,baz=95,slow=5.5,SNR=93
TORD PP PP 06 50 38.6 +2.6
comp=Z,2.5nm,1.0s,baz=82,slow=6.6,SNR=5.4
TORD PKKP PKKPbc 07 03 58.7 +1.6
comp=Z,0.5nm,0.5s,baz=299,slow=2.8,SNR=9.1
QSPA South Pole Qui 93.94 180 *e*P **P** **06 46 53.8 +0.3**
comp=Z,9.2nm,0.8s,mb5.3
ESDC Sonseca Array 95.29 310 P **P** **06 47 00.3 +0.7**
comp=Z,1.7nm,0.6s,mb4.7,baz=50,slow=5.7,SNR=8.0

SNAA	**Sanae**	**96.65**	**198**	LR	LR	07 27 28.7	
	comp=Z,99nm,19.0s,MS4.3,baz=148,slow=33						
MDT	**Midelt**	**96.93**	**304**	P	**P**	**06 47 08.7**	**+1.6**
	comp=Z,3.5nm,0.8s,mb4.8,baz=48,slow=4.1,SNR=8.6						
MCK	**McKinley**	**97.13**	**24**	*e*P	**P**	**06 47 07.8**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.6						
MCK	**McKinley**	**97.13**	**24**	*e*P	**P**	**06 47 07.8**	**-0.2**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**97.49**	**23**	P	**P**	**06 47 08.2**	**-1.4**
	comp=Z,0.9nm,0.6s,mb4.4,baz=290,slow=3.7,SNR=4.2						
ILAR				PP	PP	06 51 05.0	-1.9
	comp=Z,1.1nm,0.8s,baz=291,slow=8.2,SNR=5.3						
ILAR				PKKPbc	PKKPbc	07 03 45.9	-0.6
	comp=Z,0.8nm,0.6s,baz=137,slow=2.2,SNR=14						
ILAR				LR	LR	07 36 31.9	
	comp=Z,238nm,18.0s,MS4.7,baz=150,slow=39						
ILAR	**Eielson Array**	**97.49**	**23**	P	**P**	**06 47 08.2**	**-1.4**
ILAR				PP	PP	06 51 05.1	
INK	**Inuvik**	**100.08**	**17**	P	Pdif	06 47 20.4	-0.8
	comp=Z,3.0nm,0.5s,baz=336,slow=4.2,SNR=4.1						
INK	**Inuvik**	**100.08**	**17**	*e*P	Pdif	06 47 20.5	-0.7
DBIC	**Dimbokro**	**100.53**	**278**	P	Pdif	06 47 25.4	+2.2
	comp=Z,5.0nm,0.9s,baz=61,slow=5.1,SNR=4.2						
RES	**Resolute Bay**	**101.13**	**3**	*e*Pdif	Pdif	06 47 25.5	-0.3
YKA	**Yellowknife Ar**	**109.64**	**15**	PKiKP	PKiKP	06 52 05.4	-1.0
	comp=Z,0.5nm,0.7s,baz=309,slow=1.9,SNR=4.8						
YKA				PP	PP	06 52 35.9	-1.6
	comp=Z,0.7nm,0.7s,baz=328,slow=7.8,SNR=6.4						
YKA				PKKPbc	PKKPbc	07 03 09.5	-0.8
	comp=Z,1.0nm,0.8s,baz=141,slow=3.1,SNR=12						
YKA	**Yellowknife Ar**	**109.64**	**15**	PKPdf	PKiKP	06 52 05.5	-1.0
YKA				PP	PP	06 52 35.9	-1.6
YKA				PKKPbc	PKKPbc	07 03 09.5	-0.8
TBI	**Tubuai**	**113.87**	**114**	*e*PS	PS	07 02 32.0	-13
	comp=Z,153nm,28.2s						
TBI	**Tubuai**	**113.87**	**114**	*e*LR	LR	07 26 29.8	
	comp=Z,449nm,31.8s						
PPT	**Papeete**	**114.25**	**107**	*e*PS	PS	07 02 47.3	-1.0
	comp=Z,203nm,25.0s						
PPT	**Papeete**	**114.25**	**107**	*e*LR	LR	07 26 43.2	
	comp=Z,399nm,28.5s						
FCC	**Fort Churchill**	**116.88**	**6**	*e*PKPdf	PKPdf	06 52 16.5	-3.7
EDM	**Edmonton**	**117.78**	**20**	*e*PKPdf	PKPdf	06 52 16.6	-5.4
FFC	**Flin Flon**	**119.54**	**12**	*e*PKPdf	PKPdf	06 52 24.5	-0.9
NEW	**Newport**	**120.33**	**25**	*e*PKPdf	PKPdf	06 52 26.9	0.0
HAWA	**Hanford**	**120.66**	**28**	*e*PKPdf	PKPdf	06 52 28.0	+0.5
HUMO	**Hull Mountain**	**121.59**	**33**	*e*PKPdf	PKPdf	06 52 29.3	0.0
MSO	**Missoula**	**122.79**	**24**	*e*PKPdf	PKPdf	06 52 31.3	-0.3
CHMT	**Chamberlain Mo**	**123.00**	**24**	*e*PKPdf	PKPdf	06 52 31.4	-0.6
EGMT	**Eagleton**	**123.39**	**21**	*e*PKPdf	PKPdf	06 52 32.7	0.0
MOD	**Modoc**	**123.51**	**32**	*e*P	PKPdf	06 52 33.8	+0.8
WVOR	**Wild Horse Val**	**123.99**	**31**	*e*PKPdf	PKPdf	06 52 34.9	+1.0
DLMT	**Dillon**	**124.53**	**24**	*e*PKPdf	PKPdf	06 52 35.5	+0.6
BOZ	**Bozeman (W)**	**124.68**	**24**	*e*PKPdf	PKPdf	06 52 35.7	+0.5
MCMT	**McKenzie Canyo**	**124.85**	**25**	*e*PKPdf	PKPdf	06 52 36.1	+0.6
ULM	**Lac du Bonnet**	**124.95**	**9**	PKP	PKPdf	06 52 35.2	-0.5
	comp=Z,18nm,0.7s,baz=352,slow=2.4,SNR=43						
HLID	**Hailey**	**125.17**	**27**	*e*PKPdf	PKPdf	06 52 37.1	+1.0
QLMT	**Earthquake Lak**	**125.44**	**24**	*e*PKPdf	PKPdf	06 52 37.3	+0.6
PAHR	**Pah Rah Range**	**125.54**	**34**	*e*PKPdf	PKPdf	06 52 37.2	+0.3
LAO	**LASA Array**	**125.75**	**19**	*e*PKPdf	PKPdf	06 52 38.2	+0.9
YMR	**Madison River**	**125.76**	**24**	*e*PKPdf	PKPdf	06 52 38.9	+1.7
YFT	**Old Faithful**	**125.99**	**24**	*e*PKPdf	PKPdf	06 52 39.1	+1.4
LKWY	**Lake**	**126.07**	**23**	*e*PKPdf	PKPdf	06 52 40.4	+2.5
BMN	**Battle Mountai**	**126.18**	**31**	*e*PKPdf	PKPdf	06 52 39.1	+1.1
LOHW	**Long Hollow**	**126.78**	**24**	*e*PKPdf	PKPdf	06 52 39.4	+0.2
SNOW	**Snow King Moun**	**126.84**	**24**	*e*PKPdf	PKPdf	06 52 40.4	+1.1
REDW	**Red Top Meadow**	**126.88**	**25**	*e*PKPdf	PKPdf	06 52 40.3	+0.9
ELK	**Elko**	**126.95**	**30**	*e*PKPdf	PKPdf	06 52 40.8	+1.2
NVAR	**Mina Array Bea**	**127.03**	**34**	PKP	PKPdf	06 52 41.5	+1.7
	comp=Z,8.5nm,0.7s,baz=287,slow=1.3,SNR=35						
RKT	**Rikitea**	**127.05**	**116**	*e*SS	SS	07 11 43.2	-1.0
	comp=Z,216nm,40.8s						
RKT				*e*LR	LR	07 32 35.0	
	comp=Z,328nm,36.2s						
HVU	**Hansel Valley**	**127.32**	**27**	*e*PKPdf	PKPdf	06 52 41.1	+0.8
MTUM	**Tungsten Hills**	**127.64**	**35**	*e*PKPdf	PKPdf	06 52 42.3	+1.4
PTRM	**Twissleman Ran**	**127.81**	**38**	*e*PKPdf	PKPdf	06 52 41.2	0.0
BW06	**Boulder Array**	**127.90**	**24**	*e*PKPdf	PKPdf	06 52 41.3	-0.1
PDAR	**Pinedale Array**	**127.90**	**24**	PKP	PKPdf	06 52 41.5	+0.1
	comp=Z,2.5nm,0.6s,baz=138,slow=1.1,SNR=18						
HWUT	**Hardware Ranch**	**128.00**	**26**	*e*PKPdf	PKPdf	06 52 42.1	+0.6
DUG	**Dugway**	**128.56**	**28**	*e*PKPdf	PKPdf	06 52 43.0	+0.4
DAC	**Darwin (Calif)**	**128.95**	**35**	*e*PKPdf	PKPdf	06 52 43.9	+0.5
NLU	**North Lily Min**	**129.09**	**28**	*e*PKPdf	PKPdf	06 52 41.6	-2.1
MVU	**Marysvale**	**130.17**	**29**	*e*PKPbc	PKPdf	06 52 55.3	+10
MSU	**Marysvale**	**130.18**	**29**	*e*PKPdf	PKPdf	06 52 47.6	+1.9
CCUT	**Cedar City**	**130.33**	**31**	*e*PKPdf	PKPdf	06 52 47.4	+1.4
SRU	**San Rafael**	**130.49**	**27**	*e*PKPdf	PKPdf	06 52 46.8	+0.5
NEN	**Nelson**	**130.95**	**34**	*e*PKPdf	PKPdf	06 52 49.4	+2.2
PV10	**Paradox Valley**	**131.76**	**27**	*e*PKPdf	PKPdf	06 52 49.7	+1.0
ISCO	**Idaho Springs**	**131.99**	**23**	*e*PKPdf	PKPdf	06 52 50.6	+1.4
BINY	**Binghamton**	**133.47**	**352**	*e*PKPdf	PKPdf	06 52 53.1	+1.2
ERPA	**Erie**	**133.96**	**356**	*e*PKPdf	PKPdf	06 52 52.8	-0.1
CBKS	**Cedar Bluff**	**134.90**	**18**	*e*PKPdf	PKPdf	06 52 54.9	+0.3
KSU1	**Kansas State U**	**135.49**	**14**	*e*PKPdf	PKPdf	06 52 55.1	-0.6
TUC	**Tucson**	**135.68**	**33**	*e*PKPdf	PKPdf	06 52 54.0	-2.0
ANMO	**Albuquerque**	**135.75**	**27**	*e*PKPdf	PKPdf	06 52 57.6	+1.4
ANMO	**Albuquerque**	**135.75**	**27**	⇑*i*PKIKP	PKPdf	06 52 58.2	+2.0
LPM	**Los Pinos Moun**	**136.20**	**28**	*e*PKPdf	PKPdf	06 52 57.7	+0.7
BNM	**Barren Site**	**136.34**	**28**	*e*PKPdf	PKPdf	06 52 57.2	-0.1
CCM	**Cathedral Cave**	**137.57**	**9**	*e*PKPdf	PKPdf	06 52 59.0	-0.6
FVM	**French Village**	**137.76**	**8**	*e*PKPdf	PKPdf	06 52 59.8	-0.2
WCI	**Wyandotte Cave**	**137.91**	**3**	*e*PKPdf	PKPdf	06 53 00.2	0.0
WMOK	**Wichita Mounta**	**138.94**	**19**	*e*PKPdf	PKPdf	06 52 51.6	-10
MNTX	**Cornudas Mount**	**138.95**	**29**	*e*PKPdf	PKPdf	06 52 56.0	-6.1
WVT	**Waverly**	**139.88**	**5**	*e*PKPdf	PKPdf	06 52 55.5	-8.3
MIAR	**Mount Ida**	**140.55**	**13**	*e*PKPdf	PKPdf	06 52 57.9	-7.1
UALR	**University of**	**140.58**	**11**	*e*PKPdf	PKPdf	06 53 05.0	0.0
TRQA	**Tornquist**	**140.71**	**208**	*e*PKPdf	PKPdf	06 52 57.0	-8.3
PLAL	**Pickwick Lake**	**141.00**	**6**	*e*PKPdf	PKPdf	06 52 57.6	-8.2
PLCA	**Paso Flores**	**141.56**	**196**	PKhKP		06 53 00.9	
	comp=Z,3.5nm,0.6s,baz=176,slow=11,SNR=7.2						
LTX	**Lajitas**	**141.73**	**29**	*e*PKPdf	PKPdf	06 53 04.4	-2.7
JCT	**Junction City**	**142.43**	**23**	*e*PKPdf	PKPdf	06 53 04.4	-4.0
NATX	**Nacogdoches**	**142.94**	**16**	*e*PKPdf	PKPdf	06 53 06.5	-2.8
BDFB	**Brasilia**	**143.01**	**249**	PKP	PKPdf	06 53 07.8	-1.6
	comp=Z,10nm,0.5s,baz=136,slow=2.5,SNR=38						
LRAL	**Lakeview Retre**	**143.03**	**5**	*e*PKPdf	PKPdf	06 53 05.8	-3.7
HKT	**Hockley**	**144.30**	**18**	*e*PKPdf	PKPdf	06 53 09.5	-2.1
CPUP	**Villa Florida**	**146.34**	**226**	PKPbc	PKPbc	06 53 16.9	+0.5
	comp=Z,26nm,0.6s,baz=91,slow=2.1,SNR=92						
CPUP	**Villa Florida**	**146.34**	**226**	*e*PKP2	PKPab	06 53 16.4	-0.9
FCH	**Farellones**	**148.24**	**202**	*e*P	PKPdf	06 53 17.5	-0.8
SEG	**Port Louis**	**150.07**	**313**	*e*P	PKPbc	06 53 27.2	+1.0
MGG	**Marie-Galante**	**150.25**	**312**	*e*P	PKPbc	06 53 27.6	+0.9
DOG	**Dongo Capester**	**150.40**	**313**	*e*P	PKPbc	06 53 27.3	+0.2
LZG	**Guadaloupe-1**	**150.44**	**313**	*e*P	PKPbc	06 53 27.6	+0.5
SCG	**Saint Claude**	**150.44**	**313**	*e*P	PKPbc	06 53 27.9	+0.7
TBG	**Guadaloupe-3**	**150.53**	**313**	*e*P	PKPbc	06 53 28.5	+1.1
BBL	**Barber's Block**	**150.61**	**312**	*e*P	PKPbc	06 53 28.6	+1.1
FDF	**Fort de France**	**150.86**	**310**	*e*P	PKPbc	06 53 29.9	+1.7
MTP	**Monte Pirata**	**151.63**	**321**	*e*PKPbc	PKPbc	06 53 30.7	+0.8
CPD	**Cerro la Pandu**	**151.90**	**322**	*e*PKPbc	PKPbc	06 53 31.4	+0.8
SJG	**San Juan**	**151.99**	**322**	*e*PKPbc	PKPbc	06 53 31.9	+1.2
MGV	**Manicaragua**	**153.77**	**352**	*e*P	PKPdf	06 53 29.5	+2.7
LPAZ	**La Paz**	**160.39**	**230**	PKP	PKPdf	06 53 37.4	+2.2
	comp=Z,4.4nm,0.8s,baz=196,slow=1.4,SNR=21						
LPAZ				PKPab	PKPab	06 54 18.2	+2.1
	comp=Z,16nm,0.6s,baz=116,slow=3.9,SNR=37						
LPAZ	**La Paz**	**160.39**	**230**	*e*PKIKP	PKPdf	06 53 36.6	+1.4
LPAZ				*e*		06 54 18.5	
SDV	**Santo Domingo**	**161.68**	**314**	*e*PKPdf	PKPdf	06 53 37.6	+0.9
ROSC	**El Rosal**	**167.10**	**313**	PKP	PKPdf	06 53 43.6	+2.1
	comp=Z,4.4nm,0.8s,baz=74,slow=6.4,SNR=7.4						
ROSC				PKPab	PKPab	06 54 48.6	+3.0
	comp=Z,4.9nm,0.6s,baz=90,slow=7.1,SNR=4.7						
OTAV	**Otavalo**	**173.22**	**308**	*e*PKPdf	PKPdf	06 53 46.1	+1.2
OTAV				*e*PKPab	PKPab	06 55 14.6	+1.8

NIED ***08*** *06:35:00,4390N×14830E,h35km,Mw5.0 Best double couple: M*$_0$*3.17000×10*^{16} *NP1:*ϕ_s*29.00000°,δ70.00000°, λ81.00000°. NP2:*ϕ_s*233.00000°,δ22.00000°,λ113.00000°.*
SKHL ***08*** *06:35:45.8±0.6,4408N×14861E,h36km±15km,mb5.6/2, Ms4.7/8,msh5.7/1*
SKHL Felt (III) at Gorny, (II-III) at Reidovo, (II) at Kurilsk.
JMA ***08*** *06:35:45.5±0.4,4390N×14830E,h0km,M5.1*
JMA Felt I J1.
BJI ***08*** *06:35:46.7,44.19N×148.45E,h40km,mB5.3,mb5.4,Ms5.0, Msz4.7*
MOS ***08*** *06:35:47.8±0.9,4425N×14836E,h39km,mb5.6/48, MS4.0/10,Error ellipse: s-maj=7.5km s-min=4.4km az=110.1*
MOS Felt (III) at Gornii; (II-III) at Reidovo; (II) at Kurilsk.
ISCJB ***08*** *06:35:47.2±0.2,44.18N±003×14841E±002,h35km, mb5.3/214,MS4.7/20,Error ellipse: s-maj=4.1km s-min=2.2km az=142.7*
IDC ***08*** *06:35:48.6±2.8,44.16N×14835E,h35km±22km,mb4.8/24, mb1 4.9/27,mb1mx4.9/31,mbtmp5.0/27,ML4.4/3,MS4.2/7, Ms1 4.2/7,ms1mx3.8/32,Error ellipse: s-maj=14.7km s-min=11.5km az=134.0*
HRVD ***08*** *06:35:48.7±0.5,4405N×14869E,h38km±1km,MW5.0/63, Centroid moment Tensor Solution. LP body waves: s41,c54;Mantle waves: s63,c89; Half duration: 0 Moment tensor: Scale 10*^{16}*Nm; M*$_{rr}$*3.87±.28; M*$_{\theta\theta}$*-1.71±.19; M*$_{\phi\phi}$*-2.15±.22; M*$_{r\theta}$*0.87±.18; M*$_{\theta\phi}$*-2.19±.12; M*$_{\phi r}$*1.95±.16; Best double couple: M*$_0$*4.53800×10*^{16} *NP1:*ϕ_s*231.00000°,δ32.00000°,λ105.00000°. NP2: ϕ*$_s$*33.00000°,δ59.00000°,λ81.00000°. Principal axes: T 4.4550, Plg74.0000°, Azm278.0000°; N 0.1760, Plg8.0000°, Azm38.0000°; P -4.6210, Plg14.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***08*** *06:35:48.7±0.1,44.14N×14838E,mb5.3/136 Error ellipse: s-maj=4.0km s-min=2.3km az=163.0*
NEIC Felt [III] at Gornyy and Reydovo and [II] at Kuril'sk. Recorded [1 JMA] in eastern Hokkaido.
SZGRF ***08*** *06:35:54.7,4532N×14757E,h33km,mb5.6,Kuril Islands, Russia*

ISC 08 06:35:49.0±0.2,4421N±003×14840E±002,h37km, h37km±.8km:pP-P,n624,σ0s87/593,mb5.3/214,MS4.7/20, 139C-24D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.09**	**340**	⇓*i*P	**Pn**	**06 36 05.1**	**-2.7**
KUR				⇓*i*P		06 36 05.1	
KUR				*i* P		06 36 05.1	
KUR				AMB	AMB	06 36 06.0	
	12μm,1.2s						
KUR				AMB	AMB	06 36 06.0	
	25μm,1.2s						
KUR				AMB	AMB	06 36 06.0	
	18μm,1.2s						
KUR				AMB	AMB	06 36 06.0	
	8μm,1.2s						
KUR				AMB	AMB	06 36 06.0	
	40μm,1.2s						
KUR				AMB	AMB	06 36 06.0	
	4μm,0.5s						
KUR				AMB	AMB	06 36 06.0	
	2μm,0.5s						
KUR				AMB	AMB	06 36 06.0	
	13μm,0.5s						
KUR				*e*S	**Sn**	**06 36 20.0**	**-1.7**
KUR				A		06 36 21.0	
	88μm,1.8s						
KUR				A		06 36 21.0	
	65μm,1.8s						
KUR				A		06 36 24.0	
	50μm,2.0s						
KUR				A		06 36 24.0	
	30μm,2.0s						
KUR	**Kuril'sk**	**1.09**	**340**	*i*PN	**Pn**	**06 36 05.1**	**-2.7**
KUR				*e*S	**Sn**	**06 36 20.0**	**-1.7**
KUR				pmax	pmax		
	comp=N,4μm,0.5s						
KUR				pmax	pmax		
	comp=E,2μm,0.5s						
KUR				pmax	pmax		
	comp=Z,13μm,0.5s						
KUR				pmax	pmax		
	comp=N,18μm,1.2s						
KUR				pmax	pmax		
	comp=E,8μm,1.2s						
KUR				pmax	pmax		
	comp=Z,40μm,1.2s						
KUR				smax			
	comp=N,88μm,1.8s						
KUR				smax			
	comp=E,65μm,1.8s						
YUK	**Yuzh-Kuril'sk**	**1.84**	**265**	*i* P	**Pn**	**06 36 17.0**	**-1.0**
YUK				AMB	AMB	06 36 19.5	
	comp=E,770nm,0.5s						
YUK				AMB	AMB	06 36 19.5	
	comp=E,3μm,0.5s						
YUK				AMB	AMB	06 36 19.5	
	comp=E,8μm,0.2s						
YUK				AMB	AMB	06 36 20.0	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	06 36 20.0	
	comp=E,5μm,1.0s						
YUK				AMB	AMB	06 36 20.0	
	comp=E,11μm,1.0s						
YUK				*i* rx	rx	06 36 28.0	
YUK				*i* rx	rx	06 36 32.3	
YUK				*i* S	**Sn**	**06 36 40.0**	**0.0**
YUK				A		06 36 42.7	
	comp=E,54μm,1.0s						
YUK				A		06 36 42.7	
	comp=E,40μm,2.8s						
YUK				A		06 36 48.8	
	comp=E,29μm,0.5s						
YUK				A		06 36 48.8	
	comp=E,11μm,0.5s						
YUK				AMS	AMS	06 37 02.7	
	comp=E,17μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**1.84**	**265**	⇑*i*PN	**Pn**	**06 36 17.0**	**-1.0**
YUK				*i* S	**Sn**	**06 36 40.0**	**0.0**
YUK				pmax	pmax		
	comp=Z,8μm,0.3s						
YUK				pmax	pmax		
	comp=N,770nm,0.5s						
YUK				pmax	pmax		
	comp=E,3μm,0.5s						
YUK				pmax	pmax		
	comp=Z,11μm,0.8s						
YUK				pmax	pmax		
	comp=N,2μm,0.6s						
YUK				pmax	pmax		
	comp=E,5μm,0.6s						
YUK				smax			
	comp=E,54μm,1.0s						
YUK				smax			
	comp=N,40μm,2.8s						
NEM2	**Nemuro 2**	**2.10**	**247**	P	**Pn**	**06 36 19.6**	**-2.0**
NEM2				*e*S	**Sn**	**06 36 45.0**	**-1.5**
JRA	**Rausu**	**2.38**	**265**	P	**Pn**	**06 36 25.2**	**-0.3**
JRA				*e*S	**Sn**	**06 36 54.6**	**+1.2**
JNK	**Nakash**	**2.73**	**258**	P	**Pn**	**06 36 29.6**	**-0.7**
JNK				*e*S	**Sn**	**06 37 02.9**	**+0.8**
JAK	**Akkeshi**	**2.95**	**247**	P	**Pn**	**06 36 32.1**	**-1.2**
JAK				*e*S	**Sn**	**06 37 06.8**	**-0.7**
JTKR	**Abashiri--Toko**	**3.25**	**267**	P	**Pn**	**06 36 37.9**	**+0.5**
JAR	**Ashorobuto**	**3.48**	**256**	P	**Pn**	**06 36 40.8**	**+0.2**
JMP	**Maruseppu**	**3.64**	**269**	P	**Pn**	**06 36 43.6**	**+0.9**
JCH	**Churui**	**4.00**	**248**	P	**Pn**	**06 36 47.5**	**-0.3**
JKK2	**Kamakawa 2**	**4.09**	**267**	P	**Pn**	**06 36 50.7**	**+1.7**
ASAJ	**Asahikawa**	**4.18**	**271**	Pn	**Pn**	**06 36 51.1**	**+0.9**
	comp=N,15nm,0.3s,baz=82,slow=17,SNR=35						
ASAJ				LR	LR	06 38 34.8	
	comp=N,7μm,20.4s,baz=148,slow=40						
ASAJ	**Asahikawa**	**4.18**	**271**	PN	**Pn**	**06 36 51.1**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,7μm,20.4s						
JSE	**Soyaes**	**4.22**	**282**	P	**Pn**	**06 36 51.8**	**+1.0**
JNBK	**Urakawa-nobuka**	**4.55**	**247**	P	**Pn**	**06 36 55.0**	**-0.3**
JWK2	**Keihoku**	**4.76**	**286**	P	**Pn**	**06 37 01.2**	**+3.0**
YSS	**Yuzh-Sakhalins**	**4.82**	**307**	⇓*i*P	**Pn**	**06 37 01.4**	**+2.4**
YSS				⇓*i*P		06 37 01.4	
YSS				AMB	AMB	06 37 02.2	
	comp=Z,130nm,0.6s						
YSS				AMB	AMB	06 37 02.2	
	comp=Z,180nm,0.6s						
YSS				*e*S	**Sn**	**06 37 55.0**	**+1.4**
YSS				A		06 37 56.3	
	comp=Z,270nm,1.0s						
YSS				A		06 37 56.3	
	comp=Z,290nm,1.0s						
YSS				AMS	AMS	06 39 02.0	
	comp=Z,4μm,14.0s						
YSS				AMS	AMS	06 39 02.0	
	comp=Z,2μm,16.0s						
YSS				AMS	AMS	06 39 02.0	
	comp=Z,4μm,15.0s						
YSS	**Yuzh-Sakhalins**	**4.82**	**307**	⇓*i*Pn	**Pn**	**06 37 00.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.82**	**307**	*i*PN	**Pn**	**06 37 01.4**	**+2.4**
YSS				*e*S	**Sn**	**06 37 55.0**	**+1.4**
YSS				pmax	pmax		
	comp=N,110nm,0.6s						
YSS				pmax	pmax		
	comp=E,130nm,0.6s						
YSS				pmax	pmax		
	comp=Z,180nm,0.6s						
YSS				smax			
	comp=N,270nm,1.0s						
YSS				smax			
	comp=E,290nm,1.0s						
YSS				MLR	MLR		
	comp=Z,4μm,15.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,4μm,14.0s						
JHR	**Hokuryu**	**4.84**	**267**	P	**Pn**	**06 37 02.3**	**+3.0**
JEW	**Eniwo**	**5.24**	**257**	P	**Pn**	**06 37 06.8**	**+2.1**
JKB	**Kayabe**	**5.88**	**249**	P	**Pn**	**06 37 13.6**	**+0.1**
JKB				*e*S	**Sn**	**06 38 17.2**	**-2.4**
JOT	**Ohata**	**6.10**	**245**	P	**Pn**	**06 37 16.1**	**-0.5**
JANG	**Nango**	**6.38**	**235**	P	**Pn**	**06 37 18.4**	**-2.1**
JANG				*e*S	**Sn**	**06 38 24.8**	**-7.3**
UGL	**Uglegorsk**	**6.54**	**320**	*i* P	**Pn**	**06 37 24.5**	**+1.9**
UGL				*e*P		06 37 24.5	
UGL				AMB	AMB	06 37 29.5	
	comp=E,210nm,0.7s						
UGL				AMB	AMB	06 37 29.5	
	comp=E,500nm,1.0s						
UGL				AMS	AMS	06 40 14.0	
	comp=E,3μm,16.0s						
UGL				AMS	AMS	06 40 14.0	
	comp=E,2μm,16.0s						
UGL				AMS	AMS	06 40 16.0	
	comp=E,4μm,16.0s						
UGL	**Uglegorsk**	**6.54**	**320**	⇑*i*PN	**Pn**	**06 37 24.5**	**+1.9**
UGL				*e*		06 38 38.0	
UGL				pmax	pmax		
	comp=Z,210nm,0.7s						
UGL				pmax	pmax		
	comp=Z,500nm,1.0s						
UGL				MLR	MLR		
	comp=N,3μm,16.0s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
UGL				MLR	MLR		
	comp=Z,4μm,16.0s						
JOSM	**Okushiri--Mats**	**6.87**	**255**	P	**Pn**	**06 37 28.1**	**+1.0**
SKR	**Severo-Kuril's**	**8.32**	**36**	*e*P	**Pn**	**06 37 43.5**	**-3.5**
SKR				AMB	AMB	06 37 43.9	
	comp=Z,80nm,0.4s						
SKR				AMB	AMB	06 37 43.9	
	comp=Z,50nm,0.4s						
SKR				AMB	AMB	06 37 43.9	
	comp=Z,100nm,0.4s						
SKR				*e*S	**Sn**	**06 39 15.5**	**-4.2**
SKR				A		06 39 42.5	
	comp=Z,190nm,0.9s						
SKR				A		06 39 42.5	
	comp=Z,270nm,0.9s						
SKR				A		06 39 42.5	
	comp=Z,90nm,0.9s						
SKR				AMS	AMS	06 40 46.0	
	comp=Z,6μm,19.0s						
SKR				AMS	AMS	06 40 46.0	
	comp=Z,5μm,19.0s						
SKR				AMS	AMS	06 40 46.0	
	comp=Z,6μm,19.0s						
SKR				AMS	AMS	06 40 46.0	
	comp=Z,5μm,19.0s						
TEY	**Ternei**	**8.46**	**280**	*e*P	**Pn**	**06 37 52.0**	**+3.1**
TEY				AMS	AMS	06 41 30.0	
	comp=Z,2μm,14.0s						
TEY				AMS	AMS	06 41 30.0	
	comp=Z,3μm,14.0s						
PAU	**Pauzhetka**	**9.20**	**35**	*e*P	**Pn**	**06 38 03.4**	**+4.3**
OKH	**Okha**	**10.02**	**341**	*e*P	**Pn**	**06 38 10.4**	**+0.1**
OKH				⇑*i*P		06 38 11.0	
OKH				AMB	AMB	06 38 11.8	
	comp=Z,300nm,0.8s						
OKH				AMB	AMB	06 38 15.6	
	comp=Z,1μm,4.0s						
OKH				*e*S	**Sn**	**06 40 02.0**	**+0.7**
OKH				*e*S	**Sn**	**06 40 04.2**	**+2.9**
OKH				A		06 40 18.2	
	comp=Z,2μm,4.6s						
OKH				AMS	AMS	06 43 01.6	
	comp=Z,3μm,14.0s						
OKH				AMS	AMS	06 43 01.6	
	comp=Z,3μm,12.0s						
OKH				AMS	AMS	06 43 01.6	
	comp=Z,2μm,15.0s						
HABR	**Khabarovsk**	**10.17**	**299**	⇑*i*PN	**Pn**	**06 38 17.9**	**+5.5**
HABR				*e*S	**Sn**	**06 40 09.8**	**+4.7**
HABR				pmax	pmax		
	comp=Z,209nm,1.0s						

KLR	**Kul'dur**	**12.48 300**	*e*PN	**Pn**	**06 38 44.7**	**+0.8**
KLR			*e*		06 41 11.5	
KLR			pmax	pmax		
	comp=E,170nm,1.4s					
KLR			pmax	pmax		
	comp=Z,120nm,1.4s					
KLR			MLR	MLR		
	comp=E,2μm,20.0s					
KLR			MLR	MLR		
	comp=Z,7μm,13.0s					
JHJ	**Hachijo jima 2**	**12.95 214**	Pn	**Pn**	**06 38 47.5**	**-2.9**
	comp=Z,8.6nm,0.3s,baz=35,slow=14,SNR=3.7					
JHJ			Sn	**Sn**	**06 40 59.5**	**-14**
	comp=Z,46nm,0.3s,baz=80,slow=22,SNR=5.8					
JWT	**Wachi**	**13.38 233**	P	**Pn**	**06 38 54.5**	**-1.8**
MDJ	**Mudanjiang**	**13.46 278**	P	**Pn**	**06 38 59.5**	**+2.2**
MDJ			S	**Sn**	**06 41 26.2**	**+0.7**
MDJ			AMB	AMB		
	comp=Z,102nm,0.9s					
MDJ			AMB	AMB		
	comp=Z,291nm,9.0s					
MDJ			LR	LR		
	comp=N,324nm,17.4s					
MDJ			LR	LR		
	comp=E,1μm,17.4s					
MDJ			LR	LR		
	comp=Z,2μm,19.5s					
MDJ	**Mudanjiang**	**13.46 278**	*e*Pn	**Pn**	**06 38 57.9**	**+0.6**
	comp=Z,78nm,0.8s					
EKMR	**Ekimchan**	**13.50 316**	*e*P	**Pn**	**06 38 55.9**	**-2.0**
EKMR			AMB	AMB	06 38 59.6	
	comp=Z,90nm,1.0s					
EKMR			AMB	AMB	06 38 59.6	
	comp=Z,60nm,1.0s					
EKMR			AMB	AMB	06 38 59.6	
	comp=Z,170nm,1.0s					
MA2	**Magadan**	**15.46 5**	*e*Pn	**Pn**	**06 39 24.4**	**+0.2**
	comp=Z,29nm,0.6s					
MA2	**Magadan**	**15.46 5**	*e*P	**Pn**	**06 39 23.0**	**-1.2**
MA2			*e*S	**S**	**06 42 11.8**	**-17**
MA2			pmax	pmax		
	comp=N,10.0nm,0.7s					
MA2			pmax	pmax		
	comp=Z,20nm,0.7s					
MA2			MLR	MLR		
	comp=Z,600nm,18.0s					
YASR	**Yasnyy**	**16.20 311**	*e*P	**Pn**	**06 39 31.4**	**-2.3**
YASR			AMB	AMB	06 39 35.2	
	comp=Z,40nm,1.0s					
YASR			AMB	AMB	06 39 35.2	
	comp=Z,180nm,1.0s					
BMKR	**Bomnak**	**16.44 317**	*e*P	**Pn**	**06 39 36.6**	**-0.1**
BMKR			AMB	AMB	06 39 39.4	
	comp=Z,70nm,0.8s					
CN2	**Changchun**	**16.52 277**	*e*P	**Pn**	**06 39 38.0**	**+0.3**
CN2			*e*AP	pP	06 39 45.7	-3.7
CN2			*e*XP	sP	06 39 50.3	-3.9
CN2			AMB	AMB		
	comp=Z,50nm,0.9s					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,1μm,16.0s					
CN2			LR	LR		
	comp=E,1μm,16.0s					
CN2			LR	LR		
	comp=Z,2μm,17.0s					
ZEA	**Zeya**	**16.79 312**	*e*P	**Pn**	**06 39 38.5**	**-2.6**
ZEA			AMB	AMB	06 39 41.8	
	comp=Z,60nm,0.9s					
ZEA			AMB	AMB	06 39 41.8	
	comp=Z,110nm,0.9s					
ZEA			AMB	AMB	06 39 42.0	
	comp=Z,400nm,6.0s					
ZEA			AMS	AMS	06 46 52.0	
	comp=Z,600nm,15.0s					
ZEA			AMS	AMS	06 46 52.0	
	comp=Z,1μm,15.0s					
ZEA			AMS	AMS	06 46 52.0	
	comp=Z,1μm,15.0s					
KS15	**Wonju Array Si**	**16.91 254**	*e*P	**Pn**	**06 39 44.4**	**+1.7**
KROS	**Kirovskiy**	**17.25 314**	*e*P	**Pn**	**06 39 46.8**	**-0.1**
KROS			AMB	AMB	06 39 49.6	
	comp=Z,15nm,0.7s					
KROS			AMB	AMB	06 39 49.6	
	comp=Z,27nm,0.7s					
JNU	**Nakatsue**	**17.56 237**	P	**Pn**	**06 39 53.4**	**+2.6**
	comp=Z,1.7nm,0.3s,baz=68,slow=12,SNR=8.1					
JNU			LR	LR	06 47 12.4	
	comp=Z,2μm,20.5s,baz=2.1,slow=39					
INCN	**Inchon**	**17.76 255**	*e*P	**Pn**	**06 39 53.4**	**+0.2**
	comp=Z,60nm,0.9s					
SNY	**Shenyang**	**18.29 271**	⇓P	**Pn**	**06 40 00.1**	**+0.4**
SNY			S	**S**	**06 43 15.3**	**-11**
SNY			AMB	AMB		
	comp=Z,50nm,0.8s					
SNY			LR	LR		
	comp=E,926nm,17.7s					
SNY			LR	LR		
	comp=Z,1μm,17.7s					
FX1	**Attu Island--F**	**18.47 53**	LR	LR	06 45 38.1	
	comp=Z,46nm,21.9s,baz=266,slow=32					
SEY	**Seymchan**	**18.90 6**	*e*P	**Pn**	**06 40 05.9**	**-1.2**
SEY			*e*S	**S**	**06 43 36.4**	**-2.4**
SEY			pmax	pmax		
	comp=N,20nm,0.8s					
SEY			pmax	pmax		
	comp=E,10.0nm,0.8s					
SEY			pmax	pmax		
	comp=Z,50nm,0.8s					
SEY			smax			
	comp=E,1μm,20.6s					
SEY			MLR	MLR		
	comp=Z,1μm,21.0s					
SEY			MLR	MLR		
	comp=N,690nm,20.0s					
SEY			MLR	MLR		
	comp=E,170nm,16.0s					
CLNS	**Chul'man**	**19.45 319**	*e*P	**Pn**	**06 40 11.3**	**-2.4**
CLNS			pmax	pmax		
	comp=E,5.0nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,14nm,0.7s					
CLNS			pmax	pmax		
	comp=N,8.0nm,0.8s					
CLNS			MLR	MLR		
	comp=Z,1μm,15.0s					
CLNS			MLR	MLR		
	comp=N,200nm,13.0s					
CLNS			MLR	MLR		
	comp=E,600nm,12.0s					
HIA	**Hailar**	**20.22 295**	*e*P	**P**	**06 40 19.5**	**-1.2**
	comp=E,29nm,0.8s					
HIA	**Hailar**	**20.22 295**	*c i*P	**P**	**06 40 19.3**	**-1.3**
DL2	**Dalian**	**20.68 264**	⇑P	**P**	**06 40 25.1**	**-0.5**
DL2			AMB	AMB		
	comp=Z,40nm,0.6s					
DL2			AMB	AMB		
	comp=Z,150nm,4.7s					
DL2			LR	LR		
	comp=N,300nm,14.8s,MS4.0					
DL2			LR	LR		
	comp=E,350nm,15.9s,MS4.0					
DL2			LR	LR		
	comp=Z,350nm,13.9s,MS3.9					
YAK	**Yakutsk**	**20.95 335**	*e*P	**P**	**06 40 26.0**	**-2.6**
	comp=Z,209nm,0.8s					
YAK	**Yakutsk**	**20.95 335**	*c i*P	**P**	**06 40 26.1**	**-2.5**
YAK			pmax	pmax		
	comp=Z,65nm,0.6s					
BJI	**Beijing**	**24.18 271**	P	**P**	**06 41 00.8**	**-0.9**
BJI			AMB	AMB		
	comp=Z,397nm,2.5s,mb5.4					
BJI			LR	LR		
	comp=N,487nm,14.3s,MS4.5					
BJI			LR	LR		
	comp=E,1μm,17.5s,MS4.5					
BJI			LR	LR		
	comp=Z,1μm,19.6s,MS4.3					
BJT	**Baijiatuau**	**24.19 271**	*e*P	**P**	**06 41 00.9**	**-0.9**
SSE	**Sheshan**	**25.08 248**	P	**P**	**06 41 10.6**	**+0.7**
SSE			AP	pP	06 41 21.4	+1.1
SSE			XP	sP	06 41 26.6	+1.7
SSE			S	**S**	**06 45 31.8**	**0.0**
SSE			XS	sS	06 45 50.4	+1.2
SSE			PCS	PcS	06 48 25.5	+1.5
SSE			AMB	AMB		
	comp=Z,58nm,0.8s,mb5.2					
SSE			AMB	AMB		
	comp=Z,215nm,6.1s					
SSE			LR	LR		
	comp=N,1μm,16.3s,MS4.6					
SSE			LR	LR		
	comp=E,930nm,16.3s,MS4.6					
SSE			LR	LR		
	comp=Z,2μm,14.2s,MS4.8					
BOD	**Bodaibo**	**25.24 315**	*e*P	**P**	**06 41 07.2**	**-4.1**
BOD			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.5					
BILL	**Bilibino**	**25.67 15**	*e*P	**P**	**06 41 13.2**	**-2.1**
	comp=Z,11nm,0.8s,mb4.5					
BILL	**Bilibino**	**25.67 15**	*e*P	**P**	**06 41 13.0**	**-2.3**
BILL			pmax	pmax		
	comp=Z,13nm,1.3s,mb4.3					
NJ2	**Nanjing**	**26.07 252**	*e*P	**P**	**06 41 21.5**	**+2.6**
NJ2			AP	pP	06 41 30.8	+1.4
NJ2			XP	sP	06 41 34.9	+1.0
NJ2			PP		06 42 02.9	
NJ2			S	**S**	**06 45 47.0**	**-0.6**
NJ2			XS	sS	06 46 03.0	-2.0
NJ2			AMB	AMB		
	comp=Z,110nm,0.7s,mb5.5					
NJ2			AMB	AMB		
	comp=Z,290nm,4.3s					
NJ2			LR	LR		
	comp=N,5μm,12.5s					
NJ2			LR	LR		
	comp=E,3μm,21.2s					
NJ2			LR	LR		
	comp=Z,970nm,15.4s,MS4.5					
HHC	**Hu-ho-hao-te**	**27.21 276**	*e*P	**P**	**06 41 29.7**	**+0.6**
HHC			AP	pP	06 41 39.1	-0.5
HHC			XP	sP	06 41 43.2	-0.9
HHC			PP		06 42 16.7	
HHC			PCP	PcP	06 44 49.8	+1.2
HHC			S	**S**	**06 46 06.9**	**+1.4**
HHC			XS	sS	06 46 20.4	-2.5
HHC			SS		06 47 21.0	
HHC			AMB	AMB		
	comp=Z,23nm,0.4s,mb5.1					
HHC			LR	LR		
	comp=N,2μm,17.7s,MS4.9					
HHC			LR	LR		
	comp=E,3μm,20.6s,MS4.9					
HHC			LR	LR		
	comp=Z,2μm,17.2s,MS4.7					
TIY	**Taiyuan**	**27.77 269**	*e*P	**P**	**06 41 34.0**	**-0.1**
TIY			LR	LR		
	comp=N,4μm,14.0s					
ULN	**Ulaanbaatar**	**28.69 292**	*e*P	**P**	**06 41 43.1**	**+0.7**
TIXI	**Tiksi**	**29.10 347**	*e*P	**P**	**06 41 41.1**	**-4.9**
TIXI			*e*PPP		06 42 41.1	
TIXI			*e*		06 44 48.2	
TIXI			*e*S	**S**	**06 46 31.0**	**-4.3**
TIXI			*e*		06 48 27.3	
TIXI			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3					
TIXI			MLR	MLR		
	comp=Z,369nm,15.0s,MS4.1					
WHN	**Wuhan**	**30.07 255**	⇓P	**P**	**06 41 54.5**	**-0.1**
WHN			AMB	AMB		
	comp=Z,90nm,0.6s,mb5.7					
WHN			LR	LR		
	comp=Z,9μm,16.8s,MS5.5					
ZAK	**Zakamensk**	**30.84 298**	*e*P	**P**	**06 42 01.1**	**-0.2**
ZAK			*e*		06 45 05.9	
ZAK			pmax	pmax		
	comp=Z,18nm,1.7s,mb4.6					
QZH	**Quanzhou**	**30.92 241**	*e*P	**P**	**06 42 02.1**	**0.0**
QZH			S	**S**	**06 47 02.5**	**-1.3**
QZH			LR	LR		
	comp=N,3μm,12.5s,MS5.3					
QZH			LR	LR		
	comp=E,3μm,10.8s,MS5.3					
QZH			LR	LR		
	comp=Z,4μm,11.1s,MS5.4					
TNA	**Tin City**	**31.98 33**	*e*P	**P**	**06 42 11.5**	**+0.1**
	comp=Z,15nm,0.9s,mb4.8					
MOY	**Mondy**	**32.14 300**	*e*P	**P**	**06 42 11.5**	**-1.3**
MOY			pmax	pmax		
	comp=Z,12nm,1.3s,mb4.6					
ENH	**Enshi**	**33.63 259**	*e*P	**P**	**06 42 24.9**	**-1.0**
	comp=Z,25nm,0.7s,mb5.2					
LZH	**Lanzhou**	**34.66 272**	⇑P	**P**	**06 42 35.8**	**+1.0**
LZH			AP	pP	06 42 45.2	-0.2
LZH			XP	sP	06 42 49.0	-0.9
LZH			PP	PP	06 43 53.0	-0.7
LZH			S	**S**	**06 48 03.0**	**+1.1**
LZH			XS	sS	06 48 19.0	-0.5
LZH			*e*SS	SS	06 50 15.0	-18
LZH			AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2					
LZH			AMB	AMB		
	comp=Z,150nm,4.1s					
LZH			LR	LR		
	comp=E,4μm,12.8s					
LZH			LR	LR		
	comp=Z,5μm,14.4s,MS5.4					
GTA	**Gaotai**	**36.11 280**	⇑*i*P	**P**	**06 42 48.1**	**+0.9**
GTA			AP	pP	06 42 59.2	+1.3
GTA			XP	sP	06 43 03.4	+1.0
GTA			PP	PP	06 44 11.2	+1.5
GTA			PCP	PcP	06 45 13.1	+0.5
GTA			S	**S**	**06 48 25.8**	**+1.6**
GTA			XS	sS	06 48 41.9	+0.1
GTA			SCP	ScP	06 48 56.4	+0.5
GTA			SS	SS	06 50 48.1	-14
GTA			SCS	ScS	06 53 01.4	-0.2
GTA			AMB	AMB		
	comp=Z,61nm,0.8s,mb5.6					
GTA			AMB	AMB		
	comp=Z,247nm,4.9s					
GTA			LR	LR		
	comp=N,647nm,17.1s,MS4.7					
GTA			LR	LR		
	comp=E,734nm,15.2s,MS4.7					
GTA			LR	LR		
	comp=Z,938nm,16.4s,MS4.6					
CD2	**Chengdu**	**37.35 265**	⇑*i*P	**P**	**06 42 57.7**	**-0.1**
CD2			AMB	AMB		
	comp=Z,90nm,0.7s,mb5.7					
GYA	**Guiyang**	**37.91 256**	⇑*i*P	**P**	**06 43 01.9**	**-0.6**
GYA			AP	pP	06 43 11.8	-1.4
GYA			XP	sP	06 43 16.2	-1.5
GYA			PP	PP	06 44 30.4	+0.9
GYA			PCP	PcP	06 45 21.6	+3.6
GYA			S	**S**	**06 48 48.8**	**-2.8**
GYA			AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1					
GYA			AMB	AMB		
	comp=Z,320nm,6.0s					
GYA			LR	LR		
	comp=N,1μm,13.2s,MS5.1					
GYA			LR	LR		
	comp=E,1μm,12.8s,MS5.1					
GYA			LR	LR		
	comp=Z,2μm,13.0s,MS5.0					
KDAK	**Kodiak Island**	**38.27 48**	P	**P**	**06 43 05.0**	**-0.5**
	comp=Z,43nm,0.7s,mb5.3,baz=284,slow=3.5,SNR=26					
FIB	**Fire Island**	**39.24 42**	*e*P	**P**	**06 43 15.0**	**+1.3**
	comp=Z,15nm,0.6s,mb4.9					
FIB	**Fire Island**	**39.24 42**	*e*P	**P**	**06 43 15.0**	**+1.3**
FIB			pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9					
MCK	**McKinley**	**39.72 38**	*e*P	**P**	**06 43 17.9**	**+0.2**
	comp=Z,15nm,1.0s,mb4.7					
MCK			*e*PcP	PcP	06 45 22.8	-0.9
MCK	**McKinley**	**39.72 38**	*e*P	**P**	**06 43 17.9**	**+0.2**
MCK			*e*		06 45 22.8	
MCK			pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7					
SML	**Sawmill**	**40.08 41**	*e*P	**P**	**06 43 20.6**	**-0.1**
COLA	**College**	**40.17 36**	*e*P	**P**	**06 43 21.8**	**+0.4**
	comp=Z,45nm,0.9s,mb5.2					
COLA	**College**	**40.17 36**	*e*P	**P**	**06 43 22.0**	**+0.6**
ILAR	**Eielson Array**	**40.58 37**	P	**P**	**06 43 24.6**	**-0.3**
	comp=Z,13nm,1.0s,mb4.5,baz=255,slow=2.3,SNR=69					
ILAR			PcP	PcP	06 45 24.8	-1.7
	comp=Z,2.5nm,0.7s,baz=282,slow=3.6,SNR=5.7					
ILAR			LR	LR	07 02 12.8	
	comp=Z,204nm,18.0s,MS4.0,baz=98,slow=39					
ILAR	**Eielson Array**	**40.58 37**	P	**P**	**06 43 24.6**	**-0.2**
ILAR					06 45 24.8	
QIZ	**Qiongzhong**	**40.78 245**	⇓P	**P**	**06 43 28.0**	**+1.5**
ZAL	**Zalesovo**	**41.46 307**	PcP	PcP	06 45 29.8	+0.4
	comp=Z,13nm,0.6s,baz=32,slow=6.0,SNR=9.8					
KMI	**Kunming**	**41.50 258**	P	**P**	**06 43 32.6**	**+0.2**
KMI			AP	pP	06 43 44.9	+1.8
KMI			XP	sP	06 43 48.8	+1.2
KMI			PP	PP	06 45 09.4	+0.8
KMI			AMB	AMB		
	comp=Z,57nm,1.1s,mb5.1					
WMQ	**Urumqi**	**42.77 292**	⇓*i*P	**P**	**06 43 43.4**	**+0.7**
WMQ			AP	pP	06 43 53.2	-0.3
WMQ			XP	sP	06 43 57.2	-0.8
WMQ			PP	PP	06 45 20.8	-1.5
WMQ			AMB	AMB		
	comp=Z,99nm,0.8s,mb5.6					
WMQ			AMB	AMB		
	comp=Z,721nm,4.6s					
WMQ			LR	LR		
	comp=N,742nm,19.2s,MS4.8					
WMQ			LR	LR		
	comp=E,701nm,15.4s,MS4.8					
WMQ			LR	LR		
	comp=Z,1μm,18.5s,MS4.8					
MK31	**Makanchi Array**	**45.17 298**	P	**P**	**06 44 01.8**	**-0.2**
MK31			pmax	pmax		
	comp=Z,58nm,0.8s,mb5.5					
MKAR	**Makanchi Array**	**45.17 298**	P	**P**	**06 44 02.0**	**0.0**
	comp=Z,54nm,0.7s,mb5.5,baz=73,slow=9.0,SNR=18					
MKAR			PcP	PcP	06 45 41.6	-0.2
	comp=Z,9.7nm,0.6s,baz=76,slow=5.1,SNR=6.0					
MKAR			ScP	ScP	06 49 30.5	-1.0
	comp=Z,1.8nm,0.9s,baz=46,slow=6.2,SNR=3.7					
MKAR	**Makanchi Array**	**45.17 298**	P	**P**	**06 44 02.0**	**0.0**
MKAR					06 45 41.7	
INK	**Inuvik**	**45.55 31**	P	**P**	**06 44 05.5**	**+0.5**
	comp=Z,41nm,0.9s,mb5.3,baz=300,slow=6.8,SNR=232					
INK	**Inuvik**	**45.55 31**	⇑*i*P	**P**	**06 44 05.3**	**+0.3**
	comp=Z,39nm,0.8s,mb5.4					
INK			*e*PcP	PcP	06 45 42.0	-1.1
INK	**Inuvik**	**45.55 31**	⇑*i*P	**P**	**06 44 05.3**	**+0.3**
INK			*e*		06 45 42.0	
INK			pmax	pmax		
	comp=Z,39nm,0.8s					
KURK	**Kurchatov**	**46.02 304**	*e*P	**P**	**06 44 07.0**	**-1.7**
LSA	**Lhasa**	**47.08 272**	*e*P	**P**	**06 44 17.8**	**+0.8**
BVAR	**Borovoye Array**	**49.91 309**	P	**P**	**06 44 38.4**	**-0.4**
	comp=Z,9.6nm,0.8s,mb4.9,baz=96,slow=9.1,SNR=3.7					
BVAR			PcP	PcP	06 45 58.5	-0.2
	comp=Z,11nm,0.6s,baz=70,slow=4.4,SNR=5.6					
ULHL	**Ulahol**	**51.02 295**	P	**P**	**06 44 48.1**	**+0.9**
	SNR=13					
TKM2	**Tokmak 2**	**51.12 296**	P	**P**	**06 44 49.0**	**+1.0**
	SNR=23					
TKM2	**Tokmak 2**	**51.12 296**	*i* P	**P**	**06 44 48.8**	**+0.8**
TKM2			pmax	pmax		
	comp=Z,75nm,0.9s,mb5.6					
CHMS	**Chumysh**	**51.63 296**	P	**P**	**06 44 52.1**	**+0.4**
	SNR=6.7					
KBK	**Karagaybulak**	**51.67 296**	P	**P**	**06 44 52.8**	**+0.7**
	SNR=20					
USP	**Ospenovka**	**51.67 297**	P	**P**	**06 44 52.6**	**+0.6**
	SNR=25					
KZA	**Kyzart**	**51.75 295**	P	**P**	**06 44 54.5**	**+1.8**
	SNR=22					
JIRN	**Jiri**	**51.81 273**	*e*P	**P**	**06 44 52.8**	**-0.3**
	comp=Z,282nm,1.1s,mb6.1					
GUN	**Gumba**	**51.89 274**	*e*P	**P**	**06 44 54.0**	**+0.3**
	comp=Z,390nm,1.0s,mb6.3					
AAK	**Ala-Archa**	**51.98 296**	P	**P**	**06 44 54.8**	**+0.5**
	SNR=12					
AAK	**Ala-Archa**	**51.98 296**	*c i*P	**P**	**06 44 53.4**	**-0.9**
AAK			pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4					
KKN	**Kakani**	**52.39 274**	*e*P	**P**	**06 44 57.6**	**+0.2**
	comp=Z,153nm,0.8s,mb6.0					
KKN	**Kakani**	**52.39 274**	*e*P	**P**	**06 44 57.6**	**+0.2**
KKN			pmax	pmax		
	comp=Z,77nm,0.8s,mb5.7					
EKS2	**Erkin-Say**	**52.42 296**	P	**P**	**06 44 58.3**	**+0.6**
	SNR=18					
PKI	**Pulchoki**	**52.42 274**	*e*P	**P**	**06 44 57.6**	**-0.1**
	comp=Z,99nm,0.7s,mb5.8					
PKI	**Pulchoki**	**52.42 274**	*e*P	**P**	**06 44 57.6**	**-0.1**
PKI			pmax	pmax		
	comp=Z,49nm,0.7s,mb5.5					
KSH	**Kashi**	**52.53 292**	*e*P	**P**	**06 44 59.5**	**+1.0**
KSH			*e*AP	pP	06 45 11.8	+2.3
KSH			*e*XP	sP	06 45 15.3	+1.4
KSH			PCP	PcP	06 46 11.6	+3.1
KSH			PP	PP	06 47 01.3	+3.7
KSH			SCP	ScP	06 50 04.8	+2.1
KSH			PCS	PcS	06 50 08.8	+1.8
KSH			XS	sS	06 52 41.2	+0.4
KSH			SCS	ScS	06 54 45.1	-0.2
KSH			AMB	AMB		
	comp=Z,69nm,0.8s,mb5.6					
KSH			AMB	AMB		
	comp=Z,308nm,5.8s					
KSH			LR	LR		
	comp=N,736nm,14.8s,MS5.0					
KSH			LR	LR		
	comp=E,723nm,11.9s,MS5.0					
KSH			LR	LR		
	comp=Z,934nm,26.3s					
DMN	**Daman**	**52.62 274**	*e*P	**P**	**06 44 59.5**	**+0.4**
	comp=Z,192nm,0.7s,mb6.1					
GKN	**Gorkha**	**52.73 275**	*e*P	**P**	**06 45 00.1**	**+0.2**
	comp=Z,152nm,0.7s,mb6.1					
AML	**Almayashu**	**52.74 296**	P	**P**	**06 45 01.3**	**+1.3**
	SNR=16					
KOLN	**Koldanda**	**53.61 275**	*e*P	**P**	**06 45 06.8**	**+0.4**
	comp=Z,210nm,1.0s,mb6.0					
RES	**Resolute Bay**	**54.27 17**	*e*P	**P**	**06 45 09.8**	**-1.4**
	comp=Z,44nm,0.8s,mb5.4					
RES	**Resolute Bay**	**54.27 17**	*e*P	**P**	**06 45 09.8**	**-1.4**
RES			pmax	pmax		
	comp=Z,44nm,0.8s,mb5.4					
KK31	**Karatay Array**	**54.30 298**	*i* P	**P**	**06 45 11.3**	**-0.1**
KK31			pmax	pmax		
	comp=Z,52nm,0.6s,mb5.6					
KKAR	**Karatay Array**	**54.30 298**	*i* P	**P**	**06 45 11.3**	**-0.1**
KKAR			pmax	pmax		
	comp=Z,34nm,0.7s,mb5.4					
ARU	**Arti**	**54.63 317**	⇑*i*P	**P**	**06 45 13.0**	**-0.8**
ARU			*e*		06 46 15.6	
ARU			*e*		06 47 14.6	
ARU			*e*PPP		06 48 24.0	
ARU			*e*S	**S**	**06 52 51.9**	**+0.9**
ARU			*e*SS	SS	06 56 35.5	+1.5
ARU			pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4					
ARU			MLR	MLR		
	comp=E,800nm,18.0s,MS4.8					
ARU			MLR	MLR		
	comp=Z,1μm,18.0s,MS5.0					
ARU			MLR	MLR		
	comp=N,300nm,19.0s,MS4.8					
YKW3	**Yellowknife Ar**	**54.88 34**	*e*P	**P**	**06 45 15.7**	**+0.1**
YKW3			*e*pP	pP	06 45 26.8	+0.1
YKA	**Yellowknife Ar**	**54.92 34**	P	**P**	**06 45 16.0**	**+0.1**
	comp=N,11nm,0.6s,mb5.1,baz=300,slow=6.9,SNR=232					
YKA			PcP	PcP	06 46 17.1	-0.4
	comp=N,2.2nm,0.6s,baz=300,slow=3.6,SNR=4.9					
YKA	**Yellowknife Ar**	**54.92 34**	*i* P	**P**	**06 45 16.0**	**+0.1**
YKA			pmax	pmax		
	comp=Z,11nm,0.6s					
KULM	**Kulim**	**56.97 242**	*e*P	**P**	**06 45 30.9**	**+0.3**
KULM			*e*pP	pP	06 45 41.9	+0.2
AB31	**Akbulak array**	**57.48 309**	*i* P	**P**	**06 45 33.8**	**-0.4**
AB31			pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9					
NIL	**Nilore**	**57.52 287**	P	**P**	**06 45 35.6**	**+1.1**
	comp=Z,266nm,0.9s,mb6.3,SNR=5.5					
AKTK	**Aktyubinsk**	**57.92 311**	P	**P**	**06 45 37.7**	**+0.4**
AKTO	**Aktyubinsk**	**57.92 311**	P	**P**	**06 45 37.7**	**+0.4**
	comp=Z,11nm,0.7s,mb5.0,baz=70,slow=5.9,SNR=4.9					
KEV	**Kevo**	**58.60 340**	P	**P**	**06 45 39.9**	**-2.1**
KEV			pmax	pmax		
	comp=Z,54nm,1.1s,mb5.5					
DAG	**Danmarks Havn**	**59.02 357**	⇑*i*P	**P**	**06 45 43.9**	**-1.0**
	comp=Z,3.4nm,0.4s,mb4.7					
DAG	**Danmarks Havn**	**59.02 357**	⇑*e*P	**P**	**06 45 43.9**	**-1.0**
DAG			pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7					
PSI	**Prapat**	**59.97 241**	P	**P**	**06 45 51.1**	**-0.4**

comp=Z,18nm,0.9s,mb5.1,baz=3.4,slow=2.2,SNR=11
EDM Edmonton 60.45 43 *e*P **P 06 45 54.7 -0.1**
EDM *e*pP pP 06 46 06.4 +0.4
HAWA Hanford 61.08 52 *e*P **P 06 45 59.5 +0.4**
comp=Z,0.8nm,1.3s
HAWA *e*pP pP 06 46 10.1 -0.2
HUMO Hull Mountain 61.23 57 *e*P **P 06 46 01.6 +1.5**
HUMO *e*pP pP 06 46 12.3 +1.0
NEW Newport 61.35 49 P **P 06 46 00.8 -0.1**
comp=Z,34nm,1.2s,mb5.3
NEW *e*pP pP 06 46 12.8 +0.7
NEW Newport 61.35 49 P **P 06 46 00.8 -0.1**
NEW *e**PP pP 06 46 12.8 +0.7
NEW pmax pmax
comp=Z,34nm,1.2s
JOF Joensuu 62.10 333 *e*p **P 06 46 05.8 -0.2**
MOD Modoc 63.24 57 *e*P **P 06 46 14.2 +0.7**
comp=Z,14nm,0.8s,mb5.1
MOD *e*pP pP 06 46 25.8 +1.0
BMO Blue Mountains 63.25 53 *e*P **P 06 46 14.0 +0.4**
comp=Z,6.4nm,1.1s,mb4.7
SUMG Summit 63.42 2 *e*P **P 06 46 13.4 -1.3**
comp=Z,20nm,0.8s,mb5.3
HYB Hyderabad 63.69 269⇑ *i*P **P 06 46 16.0 -0.5**
comp=Z,70nm,1.0s,mb5.7
HYB *e*pP pP 06 46 26.5 -1.3
HYB Hyderabad 63.69 269⇑ *e*P **P 06 46 16.0 -0.5**
comp=Z,70nm,1.0s,mb5.7
HYB *e* pP 06 46 26.5 -1.3
HYB Hyderabad 63.69 269⇑ *e*P **P 06 46 16.0 -0.5**
HYB *e* pP 06 46 26.5 -1.3
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.7
WVOR Wild Horse Val 63.92 55 *e*P **P 06 46 18.3 +0.3**
comp=Z,3.6nm,0.8s,mb4.5
WVOR *e*pP pP 06 46 26.7 -2.6
WVOR Wild Horse Val 63.92 55 *e*P **P 06 46 18.3 +0.3**
WVOR *e**PP pP 06 46 26.7 -2.6
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MSO Missoula 63.94 49 *e*P **P 06 46 17.1 -1.0**
comp=Z,16nm,0.9s,mb5.0
MSO *e*pP pP 06 46 30.3 +0.9
CTA Charters Tower 64.01 182 P **P 06 46 18.4 -0.3**
comp=Z,1.9nm,0.6s,mb4.3,baz=63,slow=4.5,SNR=1.4
CHMT Chamberlain Mo 64.26 49 *e*P **P 06 46 20.6 +0.3**
CHMT *e*pP pP 06 46 31.4 -0.2
CHMT *e*sP sP 06 46 35.1 -0.8
KAF Kangasniemi 64.31 334 *e*p **P 06 46 17.1 -3.5**
MOR8 Moi Rana 64.40 341 *e*P **P 06 46 19.1 -2.1**
MOR8 AMb AMB 06 46 20.2
comp=Z,68nm,0.7s,mb5.8
FFC Flin Flon 64.79 37 *e*P **P 06 46 23.8 +0.1**
comp=Z,31nm,0.8s,mb5.4
FFC Flin Flon 64.79 37 *e*P **P 06 46 23.8 +0.1**
FFC pmax pmax
comp=Z,31nm,0.8s,mb5.4
FINES FINESS Array B 64.88 333 P **P 06 46 23.0 -1.3**
comp=Z,18nm,0.7s,mb5.2,baz=45,slow=8.4,SNR=10
WRA Warramunga Arr 65.12 195 P **P 06 46 24.8 -1.1**
comp=Z,3.9nm,0.7s,mb4.6,baz=16,slow=6.9,SNR=5.8
WRA PKP2bc 07 15 12.4
comp=Z,1.8nm,0.8s,baz=200,slow=2.8,SNR=9.6
WRA Warramunga Arr 65.12 195 P **P 06 46 24.8 -1.1**
WRA ⇑*e* 07 15 12.4
HRY Holter Researc 65.15 48 *e*P **P 06 46 26.7 +0.6**
HRY *e*pP pP 06 46 38.6 +1.2
FCC Fort Churchill 65.17 31⇑ *e*P **P 06 46 25.9 -0.3**
comp=Z,29nm,0.6s,mb5.5
FCC Fort Churchill 65.17 31⇑ *e*P **P 06 46 25.9 -0.3**
FCC pmax pmax
comp=Z,29nm,0.6s,mb5.5
EGMT Eagleton 65.42 46 *e*P **P 06 46 28.1 +0.3**
comp=Z,26nm,0.7s,mb5.4
EGMT *e*pP pP 06 46 39.0 -0.2
OBN Obninsk 65.48 324 *e*P **P 06 46 27.6 -0.6**
OBN *e*S S 06 54 59.3 -11
OBN pmax pmax
comp=Z,52nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.6
CMB Columbia Colle 65.52 60 *e*P **P 06 46 29.3 +0.8**
comp=Z,7.1nm,0.9s,mb4.7
CMB Columbia Colle 65.52 60 *e*P **P 06 46 29.3 +0.8**
CMB pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
DLMT Dillon 65.58 50 *e*P **P 06 46 28.9 +0.1**
comp=Z,11nm,0.8s,mb5.0
HLID Hailey 65.68 52 *e*P **P 06 46 30.6 +1.1**
comp=Z,11nm,1.1s,mb4.8
MCMT McKenzie Canyo 65.77 50 *e*P **P 06 46 30.4 +0.3**
BOZ Bozeman (W) 65.93 49 *e*P **P 06 46 31.8 +0.7**
comp=Z,24nm,0.6s,mb5.4
BOZ *e*pP pP 06 46 43.3 +0.9
BOZ Bozeman (W) 65.93 49 *e*P **P 06 46 31.8 +0.7**
BOZ *e**PP pP 06 46 43.3 +0.9
BOZ pmax pmax
comp=Z,24nm,0.6s,mb5.4
BMN Battle Mountai 65.98 56 *e*P **P 06 46 32.5 +1.1**
comp=Z,5.9nm,0.8s,mb4.7
BMN Battle Mountai 65.98 56 *e*P **P 06 46 32.5 +1.1**
BMN pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
NSS Namsos 66.35 341 *e*P **P 06 46 31.1 -2.7**
QLMT Earthquake Lak 66.55 50 *e*P **P 06 46 35.7 +0.6**
QLMT *e*pP pP 06 46 45.8 -0.7
NVAR Mina Array Bea 66.57 59 P **P 06 46 36.1 +1.0**
comp=Z,5.8nm,0.7s,mb4.7,baz=301,slow=5.4,SNR=24
VOR Voronezh 66.61 320 P **P 06 46 34.0 -1.4**
VOR pmax pmax
comp=Z,50nm,1.0s,mb5.5
YMR Madison River 66.91 50 *e*P **P 06 46 38.0 +0.6**
comp=Z,15nm,0.7s,mb5.1
YMR *e*pP pP 06 46 49.3 +0.6
VORD Divnogorie 67.08 320 *e*P **P 06 46 36.6 -1.9**
VORD pmax pmax
comp=Z,30nm,0.8s,mb5.4
VORD pmax pmax
comp=E,70nm,0.7s
YFT Old Faithful 67.12 50 *e*P **P 06 46 39.7 +1.0**
LKWY Lake 67.29 49 P **P 06 46 40.1 +0.3**
comp=E,12nm,0.8s,mb5.0
LKWY Lake 67.29 49 P **P 06 46 40.1 +0.3**
LKWY pmax pmax
comp=Z,12nm,0.8s,mb5.0
FLWY Flagg Ranch 67.44 50 P **P 06 46 41.3 +0.6**
comp=Z,9.6nm,0.8s,mb4.9
TPH Tonopah 67.45 58 *e*P **P 06 46 41.3 +0.5**
comp=Z,13nm,0.7s,mb5.1
TPH Tonopah 67.45 58 *e*P **P 06 46 41.3 +0.5**
TPH pmax pmax
comp=Z,13nm,0.7s,mb5.1
HVU Hansel Valley 67.75 53 *e*P **P 06 46 43.2 +0.5**
comp=Z,4.5nm,1.0s,mb4.5
HVU *e*pP pP 06 46 52.1 -1.9
HVU Hansel Valley 67.75 53 *e*P **P 06 46 43.2 +0.5**
HVU *e**PP pP 06 46 52.1 -1.9
HVU pmax pmax
comp=Z,40nm,1.0s,mb5.4
LOHW Long Hollow 67.79 50 *e*P **P 06 46 43.0 0.0**
comp=Z,8.5nm,0.7s,mb4.9
SNOW Snow King Moun 67.80 51 *e*P **P 06 46 43.9 +0.9**
comp=Z,27nm,1.1s,mb5.2
REDW Red Top Meadow 67.81 51 *e*P **P 06 46 44.1 +1.0**
comp=Z,41nm,1.1s,mb5.4
LAO LASA Array 68.12 46 *e*P **P 06 46 45.4 +0.4**
comp=Z,28nm,0.8s,mb5.3
LAO *e*pP pP 06 46 57.5 +1.1
SFJD Kangerlussuaq 68.18 8 *i*P **P 06 46 44.7 -0.7**
comp=Z,30nm,0.9s,mb5.3
SFJD Kangerlussuaq 68.18 8 *i*P **P 06 46 44.7 -0.7**
SFJD pmax pmax
comp=Z,30nm,0.9s,mb5.3
AFI Afiamalu 68.26 138 LR LR 07 10 29.2
comp=Z,309nm,20.0s,MS4.5,baz=301,slow=30
DAC Darwin (Calif) 68.36 60 *e*P **P 06 46 46.9 +0.4**
comp=Z,8.0nm,1.0s,mb4.7
DAC Darwin (Calif) 68.36 60 *e*P **P 06 46 46.9 +0.4**
DAC pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
HWUT Hardware Ranch 68.55 53 *e*P **P 06 46 47.9 +0.2**
comp=Z,10.0nm,0.8s,mb4.8
DUG Dugway 68.74 54 *e*P **P 06 46 49.5 +0.6**
comp=Z,8.5nm,0.8s,mb4.7
DUG Dugway 68.74 54 *e*P **P 06 46 49.5 +0.6**
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ASAR Alice Springs 68.84 194 P **P 06 46 49.4 -0.1**
comp=Z,3.6nm,0.8s,mb4.4,baz=10,slow=6.3,SNR=5.9
ASAR PKP2bc 07 15 02.6
comp=Z,2.4nm,0.9s,baz=190,slow=3.1,SNR=9.3
ASAR Alice Springs 68.84 194 P **P 06 46 49.4 -0.1**
ASAR ⇑*e* 07 15 02.6
PDAR Pinedale Array 68.92 51 P **P 06 46 50.2 +0.2**
comp=Z,5.0nm,0.6s,mb4.6,baz=245,slow=0.8,SNR=50
PDAR LR LR 07 18 42.7
comp=Z,105nm,19.4s,MS4.1,baz=130,slow=37
TCUT Toone Canyon 68.96 53 *e*P **P 06 46 51.0 +0.7**
DOMB Dombas 69.16 341 *e*P **P 06 46 51.0 -0.5**
DOMB AMb AMB 06 46 52.7
comp=Z,22nm,0.9s,mb5.1
GOF Gofitskoye 69.20 313⇑ *i*P **P 06 46 52.4 +0.6**
GOF pmax pmax
comp=Z,337nm,1.3s,mb6.1
NLU North Lily Min 69.33 54 *e*P **P 06 46 50.6 -2.0**
NB2 NORSAR Subarra 69.50 339 P **P 06 46 52.7 -0.9**
comp=Z,37nm,0.7s,mb5.4,baz=31,slow=6.5
NB2 NORSAR Subarra 69.50 339 P **P 06 46 52.7 -0.9**
NB2 pmax pmax
comp=Z,37nm,0.7s,mb5.4
NOA NORSAR Array B 69.50 339 P **P 06 46 52.6 -0.9**
comp=Z,35nm,0.7s,mb5.4,baz=32,slow=6.2,SNR=58
MPU Maple Canyon 69.55 54 *e*P **P 06 46 54.2 +0.3**
comp=Z,14nm,1.0s,mb4.8
NAO01 NORSAR Array S 69.75 339 *e*P **P 06 46 52.6 -2.5**
comp=Z,32nm,0.8s,mb5.3
ARUT Antelope Range 69.93 57 *e*P **P 06 46 56.8 +0.6**
KIV Kislovodsk 70.13 312 *e*P **P 06 46 57.9 +0.4**
KIV Kislovodsk 70.13 312 *c i*P **P 06 46 58.0 +0.5**
KIV pmax pmax
comp=Z,104nm,0.6s,mb5.9
CCUT Cedar City 70.13 57 *e*P **P 06 46 58.1 +0.6**
MVU Marysvale 70.20 55 *e*P **P 06 46 58.1 +0.3**
comp=Z,5.0nm,1.0s,mb4.4
MVU *e*pP pP 06 47 06.3 -3.0
MSU Marysvale 70.21 55 *e*P **P 06 46 59.1 +1.1**
TMUT Trail Mountain 70.27 54 *e*P **P 06 46 58.7 +0.4**
ZEI Tsey 70.28 311 *e*P **P 06 46 57.1 -1.3**
ZEI *i* *PP pP 06 47 05.6 -4.2
ZEI pmax pmax
comp=Z,55nm,0.8s,mb5.5
FOO Floro 70.47 342 *e*P **P 06 46 59.1 -0.5**
NEN Nelson 70.47 59 *e*P **P 06 46 60.0 +0.4**
NEN *e*pP pP 06 47 09.4 -1.6
TBLG Delisi 70.51 310 *e*P pP 06 47 11.1 -0.1
ULM Lac du Bonnet 70.59 38 P **P 06 46 59.6 -0.7**
comp=Z,3.1nm,0.5s,mb4.5,baz=318,slow=7.0,SNR=16
HYA Hoyanger 70.60 342 *e*P **P 06 47 00.8 +0.5**
HYA AMb AMB 06 47 01.8
comp=Z,89nm,0.9s,mb5.7
SRU San Rafael 70.79 54 *e*P **P 06 47 01.9 +0.5**
comp=Z,12nm,0.7s,mb4.9
SRU *e*pP pP 06 47 14.1 +1.2
SRU San Rafael 70.79 54 *e*P **P 06 47 01.9 +0.4**
SRU *e**PP pP 06 47 14.1 +1.2
SRU pmax pmax
comp=Z,12nm,0.7s,mb4.9
BORG Borgarnes 71.09 355 P **P 06 47 02.7 -0.6**
ASK Askoy 71.43 342 *e*P **P 06 47 05.2 -0.2**
RUND Rundenannen 71.45 342 *e* **P 06 47 05.3 -0.2**
RUND Rundenannen 71.45 342 *e*P **P 06 47 05.5 -0.1**
BER Bergen 71.49 342 *e*P **P 06 47 05.6 -0.1**
SUW Suwalki 71.57 329 *e*P **P 06 47 05.3 -0.9**
GNI Garni 71.57 308 *e*P **P 06 47 08.0 +1.7**
GNI Garni 71.57 308 *c i*P **P 06 47 07.8 +1.6**
GNI pmax pmax
comp=Z,50nm,1.3s
ODD1 Odda 71.61 341 *e*P **P 06 47 05.4 -1.0**
EGD Espegrend 71.61 342 *e*P **P 06 47 06.5 0.0**
AKASG Malin Array Be 71.74 324 P **P 06 47 06.4 -0.9**
comp=Z,30nm,0.7s,mb5.4,baz=37,slow=6.0,SNR=49
SOC Sochi 71.95 314 *e*P **P 06 47 07.8 -0.7**
SOC *e**SP sP 06 47 19.6 -4.6
SOC pmax pmax
comp=Z,204nm,2.2s,mb5.7
PV10 Paradox Valley 72.14 54 *e*P **P 06 47 10.4 +0.8**
ANN Anapa 72.26 316 *e*P **P 06 47 10.1 -0.2**
ANN *e*S S 06 56 31.3 +0.7
ANN pmax pmax
comp=Z,61nm,0.7s,mb5.6
KMY Karmoy 72.55 341 *e*P **P 06 47 11.1 -1.0**
PV01 Paradox Valley 72.58 54 *e*P **P 06 47 05.4 -6.8**
WUAZ Wupatki 72.68 57 *e*P **P 06 47 13.7 +0.8**
comp=Z,15nm,1.1s,mb4.8
WUAZ *e*pP pP 06 47 22.9 -1.3
ISCO Idaho Springs 73.12 51 *e*P **P 06 47 16.2 +0.8**
comp=Z,7.2nm,0.7s,mb4.7
ISCO Idaho Springs 73.12 51 *e*P **P 06 47 16.2 +0.8**
ISCO pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BSD Bornholm Skovb 73.48 334⇑ *i*P **P 06 47 16.7 -0.9**
comp=Z,45nm,0.7s,mb5.5
BSD Bornholm Skovb 73.48 334⇑ *i*P **P 06 47 16.7 -0.9**
BSD pmax pmax
comp=Z,45nm,0.7s,mb5.5
COP Copenhagen 73.75 336 *i* P **P 06 47 18.9 -0.3**
comp=Z,64nm,0.7s,mb5.7
COP Copenhagen 73.75 336 *i* P **P 06 47 18.9 -0.3**
COP pmax pmax
comp=Z,64nm,0.7s,mb5.7
SIM Simferopol' 73.79 318 *d i*P **P 06 47 19.8 +0.4**
SIM pmax pmax
comp=Z,68nm,0.7s,mb5.7
SIM MLR MLR
comp=Z,420nm,15.7s,MS4.8
BANOM Banah 73.84 290 P **P 06 47 20.4 +0.7**
SNR=5.3
MUD Monsted U'grnd 74.00 338⇓ *i*P **P 06 47 20.6 -0.1**
comp=Z,34nm,0.7s,mb5.4
MUD Monsted U'grnd 74.00 338⇓ *i*P **P 06 47 20.6 -0.1**
MUD pmax pmax
comp=Z,35nm,0.7s,mb5.4
EYMN Ely 74.22 37 *e*P **P 06 47 21.2 -0.7**
comp=Z,32nm,0.9s,mb5.2
EYMN *e*pP pP 06 47 32.6 -0.8
GKP Gorka Klasztor 74.26 332 *e*P **P 06 47 22.3 +0.1**
SDCO Great Sand Dun 74.60 52 *e*P **P 06 47 24.8 +0.7**
comp=Z,3.0nm,0.6s,mb4.4
HOQ Hoqain 74.70 288 P **P 06 47 25.6 +0.9**
SNR=5.1
KIS Kishinev 74.72 322 *e*P **P 06 47 24.0 -0.8**
KIS *e* 06 47 39.0
KIS *e* 06 57 24.0
KIS *e* 06 57 45.0
KIS MLR MLR
comp=Z,500nm,17.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,16.0s
MSL Mosul 75.17 306 *ex* x 06 47 28.5
TUC Tucson 75.20 59 *e*P **P 06 47 27.9 +0.3**
comp=Z,5.9nm,1.0s,mb4.5
TUC Tucson 75.20 59 *e*P **P 06 47 27.9 +0.3**
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KWP Kalwaria 75.22 327 *e*P **P 06 47 28.2 +0.5**
BSY Bisya 75.33 287 P **P 06 47 29.5 +1.2**
SNR=5.4
BURAR Bucovina Array 75.80 324⇑ P **P 06 47 31.1 +0.1**
OJC Ojcow 75.86 329 *i* Pc 06 47 31.4
BSEG Bad Segeberg 75.88 336 *e*P **P 06 47 31.3 -0.2**
comp=Z,59nm,0.9s,mb5.5
KOLS Kolonicke sedl 75.95 327 *i* P **P 06 47 31.8 -0.1**
STHS Stebnicka Huta 75.97 328 *i* P **P 06 47 32.6 +0.6**
ANMO Albuquerque 76.00 55 *e*P **P 06 47 32.7 +0.6**
comp=Z,5.8nm,1.0s,mb4.5
ANMO Albuquerque 76.00 55 *e*P **P 06 47 32.7 +0.6**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
RUE Ruedersdorf 76.07 333 *e*P **P 06 47 32.3 -0.3**
comp=Z,69nm,0.9s,mb5.6
CRVS Cervenica-Dubn 76.30 327 *e*P **P 06 47 34.5 +0.6**
NIE Niedzica 76.32 328 *e*Pc 06 47 34.6
MALT Malatya 76.36 310 *e*P **P 06 47 35.3 +1.1**
comp=Z,40nm,1.1s,mb5.3
MALT Malatya 76.36 310 *e*P **P 06 47 35.3 +1.1**
MALT pmax pmax
comp=Z,40nm,1.1s,mb5.3
CFR Carcaliu 76.42 321 ⇓P **P 06 47 34.6 +0.1**
BNM Barren Site 76.45 55 *e*P **P 06 47 35.6 +0.9**
BHD Baghdad 76.50 303 *ex* x 06 47 29.0
VRI Vrincioaia 76.51 322⇑P **P 06 47 36.0 +0.9**
RAC Raciborz 76.56 330 *e*P **P 06 47 35.9 +0.5**
KSP Ksiaz 76.61 331 *e*P **P 06 47 35.7 +0.1**
KSP Ksiaz 76.61 331⇑ *e*P **P 06 47 35.5 -0.1**
OKC Ostrava-Krasne 76.78 329⇓ *i*P **P 06 47 35.0 -1.6**
OKC *e*pP pP 06 47 45.9 -2.2
OKC Ostrava-Krasne 76.78 329⇓ *i*P **P 06 47 34.0 -2.6**
OKC *e* pP 06 47 44.9 -3.2
TIRR Tirgusor 76.85 320⇑P **P 06 47 36.0 -1.0**
UPC Upice 76.99 331⇓ *i*P **P 06 47 38.3 +0.5**
UPC *e*pP pP 06 47 48.0 -1.3
DPC Dobruska-Polom 77.01 331⇑ *i*P **P 06 47 38.4 +0.5**
DPC *e*pP pP 06 47 49.0 -0.4
UMR Umm Al-Rimmam 77.01 299 *e*P **P 06 47 38.0 +0.1**
UMR AMb AMB 06 47 38.9
comp=Z,125nm,0.6s,mb6.0
KECS Kecovo 77.02 327 *i* P **P 06 47 37.9 0.0**
MORC Moravsky Berou 77.05 330⇑ *i*P **P 06 47 38.0 -0.1**
MORC *e*pP pP 06 47 48.6 -1.0
MIB Mutribah 77.08 299 *e*P **P 06 47 38.2 -0.1**
MIB AMb AMB 06 47 39.4
comp=Z,113nm,0.6s,mb6.0
MLR Muntele Rosu 77.15 322⇑P **P 06 47 39.5 +0.8**
MLR Muntele Rosu 77.15 322 P **P 06 47 39.3 +0.6**
ESY Stoneypath 77.28 344 *e*P sP 06 48 04.4 +9.2
ESY AMb AMB 06 48 07.3
comp=Z,176nm,1.5s,mb5.8
ESY Stoneypath 77.28 344 *e*P sP 06 48 04.4 +9.2
ESY AMb AMB 06 48 07.3
comp=Z,176nm,1.5s,mb5.8
KBD Kabd 77.28 298 *e*P **P 06 47 39.5 0.0**
KBD AMb AMB 06 47 40.6
comp=Z,288nm,0.6s
CLL Collm 77.32 333⇑ *i*P **P 06 47 39.1 -0.5**
comp=Z,108nm,0.9s,mb5.8
CLL *e*pP pP 06 47 49.5 -1.6
CLL *e*PP PP 06 50 36.5 +2.4
CLL *e*SS SS 07 02 36.7 +11
CLL *e*SSS 07 06 04.5
CLL *e*LR LR 07 14 08.3
CLL *e*L 07 22 48.0
comp=Z,358nm,22.0s
CLL Collm 77.32 333 *e*P **P 06 47 38.9 -0.7**
comp=Z,107nm,0.9s,mb5.8
CLL Collm 77.32 333⇑ *i*P **P 06 47 39.2 -0.4**
comp=Z,107nm,0.9s,mb5.8
CLL *e*pP pP 06 47 49.0 -2.1
CLL *e*SS SS 07 02 48.0 +22
CLL *e*SSS 07 06 00.0
CLL Collm 77.32 333⇑ *e*P **P 06 47 39.0 -0.6**
comp=Z,107nm,0.9s,mb5.8
CLL *e*pP pP 06 47 49.0 -2.1
CLL Collm 77.32 333⇑ *e*P **P 06 47 39.0 -0.6**
CLL *e**PP pP 06 47 49.0 -2.1
CLL pmax pmax
comp=Z,107nm,0.9s,mb5.8
EAB Aberfoyle 77.37 345 *e*P sP 06 48 03.0 +7.3
EAB AMb AMB 06 48 07.4
comp=Z,240nm,1.3s,mb6.0
EAB Aberfoyle 77.37 345 *e*P sP 06 48 03.0 +7.3
EAB AMb AMB 06 48 07.4
comp=Z,240nm,1.3s,mb6.0
BRG Berggiesshubel 77.38 332 *e*P **P 06 47 39.5 -0.5**
comp=Z,43nm,1.2s,mb5.2
BRG Berggiesshubel 77.38 332 *i* P **P 06 47 39.6 -0.4**
comp=Z,26nm,1.2s,mb5.0
BRG Berggiesshubel 77.38 332 *i* P **P 06 47 39.6 -0.4**
BRG pmax pmax
comp=Z,26nm,1.2s,mb5.0
EDI Edinburgh 77.39 344 *e*P sP 06 48 03.8 +7.9
EDI AMb AMB 06 48 07.6
comp=Z,99nm,1.4s,mb5.6
EDI Edinburgh 77.39 344 *e*P sP 06 48 03.8 +7.9
EDI AMb AMB 06 48 07.6
comp=Z,99nm,1.4s,mb5.6
QRN Al-Qurain 77.44 298 *e*P **P 06 47 40.5 +0.3**
QRN AMb AMB 06 47 41.4
comp=Z,191nm,0.5s,mb6.3
PVCC Panska Ves 77.47 332⇑ *i*P **P 06 47 40.6 +0.2**
PVCC *e*pP pP 06 47 48.4 -3.6
EAU Auchinoon 77.52 344 *e*P sP 06 48 04.5 +7.9
EAU AMb AMB 06 48 08.8
comp=Z,246nm,1.5s,mb5.9
EAU Auchinoon 77.52 344 *e*P sP 06 48 04.5 +7.9
EAU AMb AMB 06 48 08.8
comp=Z,246nm,1.5s,mb5.9
NAY Al-Naaiem 77.52 299 *e*P **P 06 47 40.6 -0.2**
NAY AMb AMB 06 47 41.7
comp=Z,66nm,0.6s,mb5.7
VYHS Vyhne 77.64 328 *i* P **P 06 47 41.5 +0.1**
CLZ Clausthal 77.69 335 *e*P **P 06 47 41.8 +0.1**
comp=Z,99nm,1.1s,mb5.7
CLZ Clausthal 77.69 335 *e*P **P 06 47 41.8 +0.1**
CLZ pmax pmax
comp=Z,99nm,1.1s,mb5.7
PSZ Piszkesteto 77.70 327⇑ *i*P **P 06 47 42.0 +0.2**
VRAC Vranov 77.79 330 P **P 06 47 42.9 +0.6**
BR131 Keskin Array S 77.88 314⇑ *i*P **P 06 47 42.6 -0.1**
BRTR Keskin Array B 77.88 314 P **P 06 47 43.3 +0.6**
comp=Z,16nm,0.7s,mb5.0,baz=81,slow=3.9,SNR=22
BRTR Keskin Array B 77.88 314 *i* P **P 06 47 43.2 +0.5**
BRTR pmax pmax
comp=Z,16nm,0.7s
PRU Pruhonice 77.93 332⇓ *e*P **P 06 47 43.1 +0.1**
PRU *e*pP pP 06 47 51.4 -3.2
EKA Eskdalemuir Ar 77.94 344 P **P 06 47 42.8 -0.3**
comp=Z,25nm,0.7s,mb5.2,baz=24,slow=5.0,SNR=16
ESK Eskdalemuir 77.97 344 *e*P **P 06 47 43.1 -0.1**
comp=Z,15nm,0.6s,mb5.1
ESK Eskdalemuir 77.97 344 *e*P **P 06 47 43.1 -0.1**
ESK pmax pmax
comp=Z,15nm,0.6s,mb5.1
IBBN Ibbenburen 78.05 337 *e*P **P 06 47 43.3 -0.4**
comp=Z,74nm,0.8s,mb5.7
BBH Bruntsheil 78.08 344 *e*P sP 06 47 59.4 -0.3
BBH Bruntsheil 78.08 344 *e*P sP 06 47 59.4 -0.3
SMOL Smolenice 78.15 329 *e*P **P 06 47 45.2 +1.0**
BHH Howats Hill 78.18 344 *e*P sP 06 48 05.3 +5.1
BHH Howats Hill 78.18 344 *e*P sP 06 48 05.3 +5.1
BWH Wardlaw 78.19 344 *e*P sP 06 48 04.9 +4.6
BWH Wardlaw 78.19 344 *e*P sP 06 48 04.9 +4.6
TREC Trest 78.19 331⇑ *e*P **P 06 47 44.7 +0.2**
ANTO Ankara 78.20 315⇑ *i*P **P 06 47 45.3 +0.8**
comp=Z,74nm,0.8s,mb5.7
ANTO *e*pP pP 06 47 55.7 -0.4
ANTO Ankara 78.20 315⇑ *i*P **P 06 47 45.3 +0.8**
ANTO *e**PP pP 06 47 55.7 -0.4
ANTO pmax pmax
comp=Z,74nm,0.8s,mb5.7
WERD Werda 78.29 333 *e*P **P 06 47 44.8 -0.2**
comp=Z,31nm,1.0s,mb5.2
MOX Moxa 78.34 334 *e*P **P 06 47 45.0 -0.3**
comp=Z,50nm,1.1s,mb5.4
MOX Moxa 78.34 334 *e*P **P 06 47 45.0 -0.3**
MOX pmax pmax
comp=Z,60nm,1.2s,mb5.4
SRO Srobarova 78.40 328 *i* P **P 06 47 45.9 +0.3**
SRO2 Moca 78.41 328 *e*P **P 06 47 46.8 +1.1**
NKC Novy Kostel 78.42 333⇑ *e*P **P 06 47 46.1 +0.3**
NKC *e*pP pP 06 47 54.3 -3.0
KSU1 Kansas State U 78.46 46 *e*P **P 06 47 44.9 -1.0**
KSU1 *e*pP pP 06 47 56.7 -0.8
SRO1 Iza 78.47 328 *e*P **P 06 47 46.5 +0.5**
BBO1 Bothel 78.52 344 *e*P sP 06 48 06.0 +3.9
BBO1 Bothel 78.52 344 *e*P sP 06 48 06.0 +3.9
ZST Bratislava 78.53 329 *e*P **P 06 47 47.0 +0.6**
WTSB Winterswijk 78.63 337⇑ *e*P **P 06 47 46.5 -0.4**
comp=Z,61nm,1.0s,mb5.5
CKE Keswick 78.63 344 *e*P sP 06 48 02.1 -0.7
CKE Keswick 78.63 344 *e*P sP 06 48 02.1 -0.7
MANZ Manzenberg 78.75 333 *e*P **P 06 47 47.5 -0.1**
comp=Z,34nm,1.0s,mb5.2
BZS Buzias 78.89 325⇑P **P 06 47 48.0 -0.3**
BZS Buzias 78.89 325 P **P 06 47 47.9 -0.4**
ROTZ Rotzenmuhle 78.91 333 *e*P **P 06 47 48.7 +0.3**
comp=Z,44nm,1.0s,mb5.3
MNTX Cornudas Mount 78.92 57 *e*P **P 06 47 48.7 +0.2**
comp=Z,5.5nm,0.7s,mb4.6
MNTX *e*pP pP 06 48 00.7 +0.7
BUG Bochum--Univer 78.96 336 *e*P **P 06 47 48.3 -0.4**
comp=Z,64nm,1.0s,mb5.5
KHC Kasperske Hory 78.99 332⇑ *e*P **P 06 47 49.2 +0.3**
KHC *e*pP pP 06 47 59.5 -0.9
GDL2 Guadalupe Moun 79.17 56 *e*P **P 06 47 50.4 +0.6**

GEC2 **GERESS Array S 79.19 331** eP P **06 47 49.7 -0.3**
comp=Z,30nm,1.0s,mb5.2
GEC2 **GERESS Array S 79.19 331** eP P **06 47 49.7 -0.3**
GEC2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
GERES **GERESS Array B 79.19 331** P P **06 47 49.8 -0.2**
comp=Z,14nm,0.8s,mb4.9,baz=33,slow=5.1,SNR=12
WET **Wettzell 79.22 332** eP P **06 47 50.4 +0.3**
comp=Z,65nm,1.0s,mb5.5
WET **Wettzell 79.22 332** eP P **06 47 50.4 +0.3**
WET pmax pmax
comp=Z,65nm,1.0s,mb5.5
GRA1 **Grafenberg Arr 79.29 333** eP P **06 47 50.8 +0.3**
comp=Z,132nm,0.9s,mb5.9
GRF **Grafenberg Arr 79.29 333** eP P **06 47 50.8 +0.3**
comp=Z,132nm,0.9s,mb5.9
GRF **Grafenberg Arr 79.29 333** eP P **06 47 50.8 +0.3**
GRF pmax pmax
comp=Z,132nm,0.9s,mb5.9
GRF **Grafenberg Arr 79.29 333** eP P **06 47 50.8 +0.3**
GRF pmax pmax
comp=Z,132nm,0.9s,mb5.9
LHO **Holmfirth 79.34 342** eP pP 06 48 00.1 -2.2
LHO **Holmfirth 79.34 342** eP pP 06 48 00.1 -2.2
PKSM **Moragy 79.60 327** P P **06 47 52.0 -0.2**
TNS **Taunus Mts 79.69 335** eP P **06 47 52.5 -0.2**
comp=Z,51nm,1.1s,mb5.4
TNS **Taunus Mts 79.69 335** eP P **06 47 52.5 -0.2**
TNS pmax pmax
comp=Z,51nm,1.1s,mb5.4
MOA **Molln 79.85 331⇑** iP P **06 47 53.5 -0.1**
comp=Z,168nm,2.4s,mb5.5
ARSA **Arzberg 79.91 330⇑** iP P **06 47 54.1 +0.3**
comp=Z,21nm,1.3s,mb4.9
ARSA **Arzberg 79.91 330⇑** iP P **06 47 54.1 +0.3**
comp=Z,21nm,1.3s,mb4.9
HGN **Heimansgroeve 79.95 337** eP P **06 47 53.7 -0.4**
comp=Z,50nm,1.2s,mb5.3
BEBN **Eben Emael 79.99 337** P P **06 47 53.5 -0.8**
DMUB **Kingscourt 80.01 345** eP P **06 47 54.3 -0.1**
WCB1 **Church Bay 80.06 344** eP pP 06 48 01.5 -4.7
WCB1 AMb AMB 06 48 10.9
comp=Z,106nm,2.5s,mb5.3
WCB1 **Church Bay 80.06 344** eP pP 06 48 01.5 -4.7
WCB1 AMb AMB 06 48 10.9
comp=Z,106nm,2.5s,mb5.3
MEM **Membach 80.07 337** P P **06 47 54.3 -0.4**
MEM PCP PcP 06 47 59.1 -2.9
MEM AP pP 06 48 04.4 -1.9
MEM XP sP 06 48 10.0 -0.6
TOD **Tromm 80.13 335** eP P **06 47 54.9 -0.2**
YRC **Rhoscolyn 80.19 344** eP pP 06 48 04.0 -3.0
YRC AMb AMB 06 48 05.9
comp=Z,62nm,1.3s,mb5.4
YRC **Rhoscolyn 80.19 344** eP pP 06 48 04.0 -3.0
YRC AMb AMB 06 48 05.9
comp=Z,62nm,1.3s,mb5.4
SBD1 **Bryn Du 80.24 343** eP pP 06 48 05.0 -2.3
SBD1 **Bryn Du 80.24 343** eP pP 06 48 05.0 -2.3
ABH **Alteburg 80.27 336** eP P **06 47 55.3 -0.5**
DLF **Lyons Farm 80.52 345⇑** iP P **06 47 57.0 -0.2**
HLM1 **Long Mynd 80.53 343⇑** eP pP 06 48 05.1 -3.6
HLM1 AMb AMB 06 48 08.3
comp=Z,98nm,1.6s,mb5.5
HLM1 **Long Mynd 80.53 343⇑** eP pP 06 48 05.1 -3.6
HLM1 AMb AMB 06 48 08.3
comp=Z,98nm,1.6s,mb5.5
WMOK **Wichita Mounta 80.53 50** eP P **06 47 56.3 -1.0**
comp=Z,6.6nm,0.9s,mb4.6
WMOK epP pP 06 48 09.0 +0.2
WMOK **Wichita Mounta 80.53 50** eP P **06 47 56.3 -0.9**
WMOK e*PP pP 06 48 09.0 +0.2
WMOK pmax pmax
comp=Z,70nm,0.9s,mb5.6
RUP **Ruppelstein 80.57 336** eP P **06 47 56.8 -0.6**
PERS **Pernice 80.57 329** eP P **06 47 57.3 -0.1**
FUR **Furstenfeldbru 80.60 333** eP P **06 47 57.8 +0.2**
comp=Z,135nm,1.3s,mb5.7
FUR **Furstenfeldbru 80.60 333** eP P **06 47 57.8 +0.2**
FUR pmax pmax
comp=Z,135nm,1.3s,mb5.7
DCN **Croghan 80.61 346⇑** iP P **06 47 57.5 -0.2**
SNF **Seneffe 80.64 338⇑** P P **06 47 57.8 0.0**
VTS **Vitosha 80.65 322** i P P **06 47 58.0 +0.1**
GRUS **Gruza 80.67 325** i P P **06 47 57.4 -0.5**
SSP1 **Stoney Pound 80.67 343⇑** eP pP 06 48 06.2 -3.4
SSP1 AMb AMB 06 48 08.2
comp=Z,97nm,1.3s,mb5.6
SSP1 **Stoney Pound 80.67 343⇑** eP pP 06 48 06.2 -3.4
SSP1 AMb AMB 06 48 08.2
comp=Z,97nm,1.3s,mb5.6
RZN **Rozhen 80.70 321** i P P **06 47 58.0 -0.1**
STU **Stuttgart 80.74 334** eP P **06 47 58.1 -0.3**
comp=Z,56nm,0.9s,mb5.5
STU **Stuttgart 80.74 334** eP P **06 47 58.6 +0.2**
comp=Z,20nm,0.6s,mb5.2
STU **Stuttgart 80.74 334** eP P **06 47 58.6 +0.2**
STU pmax pmax
comp=Z,20nm,0.6s,mb5.2
DIVS **Divcibare 80.80 325** i P P **06 47 57.1 -1.5**
KBA **Koelnbreinsper 80.83 331⇑** iP P **06 47 58.9 +0.1**
comp=Z,60nm,1.1s,mb5.4,SNR=12
KBA **Koelnbreinsper 80.83 331⇑** iP P **06 47 58.9 +0.1**
comp=Z,60nm,1.1s,mb5.4
KBA **Koelnbreinsper 80.83 331⇑** iP P **06 47 58.9 +0.1**
KBA pmax pmax
comp=Z,61nm,1.1s,mb5.4
GIVF **Givet 80.85 337** eP P **06 47 58.4 -0.6**
comp=Z,32nm,0.9s,mb4.9
GIVF **Givet 80.85 337** eP P **06 47 58.4 -0.6**
comp=Z,16nm,0.9s,mb4.9
GIVF **Givet 80.85 337** eP P **06 47 58.4 -0.6**
GIVF pmax pmax
comp=Z,16nm,0.9s,mb5.0
WLF **Walferdange 80.87 336** eP P **06 47 59.8 +0.8**
comp=Z,30nm,1.1s,mb5.1
WLF **Walferdange 80.87 336** P P **06 48 00.2 +1.2**
WLF **Walferdange 80.87 336** eP P **06 47 59.0 0.0**
comp=Z,21nm,1.0s,mb5.0
WLF **Walferdange 80.87 336** eP P **06 47 59.0 0.0**
WLF pmax pmax
comp=Z,21nm,1.0s,mb5.0
OBKA **Obir 80.89 330⇑** iP P **06 47 58.9 -0.2**
comp=Z,14nm,1.0s,mb4.8
HAE **Alders End 80.91 342** eP pP 06 48 05.7 -5.1
HAE **Alders End 80.91 342** eP pP 06 48 05.7 -5.1
DOU **Dourbes 80.92 337** P P **06 47 58.9 -0.5**
comp=Z,6.4nm,1.0s,mb4.5
LANF **Langenberg 80.99 335** eP P **06 47 59.6 -0.1**
GCIS **Gornji Cirnik 81.04 329** i P P **06 47 59.5 -0.4**
MCH1 **Michaelchurch 81.04 343** eP pP 06 48 07.0 -4.5
MCH1 **Michaelchurch 81.04 343** eP pP 06 48 07.0 -4.5
PDKS **Podkum 81.11 329** eP P **06 47 59.7 -0.6**
MENF **Mencas 81.16 339** eP P **06 48 00.2 -0.4**
WATA **Walderalm 81.22 332⇑** iP P **06 48 01.1 +0.2**
comp=Z,37nm,1.1s,mb5.2
WATA **Walderalm 81.22 332⇑** iP P **06 48 01.1 +0.2**
WATA pmax pmax
comp=Z,37nm,1.1s,mb5.2
MMB **Musomiste 81.22 321** i P P **06 48 01.0 +0.1**
BBLS **Bajina Basta - 81.22 325** i P P **06 48 02.0 +1.0**
KKB **Krupnik 81.29 322** i P P **06 48 01.0 -0.3**
LJU **Ljubljana 81.29 329** eP P **06 48 00.7 -0.6**
HGH **Gray Hill 81.34 342** eP P **06 48 02.2 +0.7**
HGH AMb AMB 06 48 09.2
comp=Z,84nm,1.5s,mb5.5
HGH **Gray Hill 81.34 342** eP P **06 48 02.2 +0.7**
HGH AMb AMB 06 48 09.2
comp=Z,84nm,1.5s,mb5.5
MOTA **Moosalm 81.37 332⇓** iP P **06 48 01.9 +0.2**
comp=Z,45nm,1.0s,mb5.4
MOTA **Moosalm 81.37 332⇓** iP P **06 48 01.9 +0.2**
comp=Z,45nm,1.0s,mb5.3
BFO **Black Forest 81.40 334** eP P **06 48 01.6 -0.3**
comp=Z,31nm,0.9s,mb5.2
BFO **Black Forest 81.40 334** eP P **06 48 01.6 -0.3**
BFO pmax pmax
comp=Z,31nm,0.9s,mb5.2
SQTA **Sankt Quirin 81.44 332⇑** iP P **06 48 02.3 +0.2**
comp=Z,27nm,0.9s,mb5.2
SQTA **Sankt Quirin 81.44 332⇑** iP P **06 48 02.3 +0.2**
comp=Z,27nm,0.9s,mb5.2
BOJS **Bojanci 81.48 329** eP P **06 48 01.9 -0.4**
ROBS **Robic 81.49 330** eP P **06 48 01.1 -1.2**
CSS **Prodhromos 81.60 311** P P **06 48 02.9 0.0**
comp=Z,27nm,0.8s,mb5.2
WLS **Welschbruch 81.63 335** eP P **06 48 02.9 -0.2**
LTX **Lajitas 81.64 57** eP P **06 48 03.3 +0.2**
comp=Z,14nm,0.6s,mb5.1
LTX epP pP 06 48 15.0 +0.3
CDF **Champ du Feu 81.66 335⇑** iP P **06 48 03.0 -0.2**
comp=Z,80nm,1.1s,mb5.3
CDF **Champ du Feu 81.66 335⇑** iP P **06 48 03.0 -0.2**
comp=Z,40nm,1.1s,mb5.3
ABTO **Aybut 81.67 286** P P **06 48 03.8 +0.5**
SNR=5.4
LIBD **Limburg 81.79 335** eP P **06 48 04.0 +0.1**
DAVA **Damuels 81.83 333⇑** iP P **06 48 04.2 +0.1**
comp=Z,17nm,0.8s,mb5.0
NWAO **Narrogin (SRO) 81.86 206** P P **06 48 03.8 -0.5**
comp=Z,8.0nm,0.7s,mb4.8,baz=50,slow=5.4,SNR=4.6
ECH **Echery 81.87 335** eP P **06 48 03.7 -0.6**
FELD **Feldberg 81.91 334** eP P **06 48 04.6 +0.1**
SKO **Skopje 81.92 323** i P P **06 48 05.8 +1.1**
VAY **Valandovo 81.96 322** i P P **06 48 04.5 -0.3**
CCM **Cathedral Cave 81.97 43** eP P **06 48 04.2 -0.7**
comp=Z,26nm,0.8s,mb5.2
CCM epP pP 06 48 16.2 -0.2
SLM **Saint Louis 82.01 42** eP P **06 48 04.5 -0.6**
comp=Z,29nm,0.2s,mb5.9
SLM epP pP 06 48 16.5 -0.2
AAM **Ann Arbor 82.07 36** eP P **06 48 05.4 0.0**
AAM epP pP 06 48 16.8 -0.2
MOF **Molkenrain 82.20 335** eP P **06 48 05.5 -0.6**
THEF **They Montfort 82.21 336** eP P **06 48 05.3 -0.8**
MEZF **Maizieres J'vi 82.23 336** eP P **06 48 06.2 0.0**
HAU **Haudompre 82.30 335⇑** iP P **06 48 06.1 -0.5**
comp=Z,58nm,1.2s,mb5.1
HAU **Haudompre 82.30 335⇑** iP P **06 48 06.1 -0.5**
comp=Z,29nm,1.2s,mb5.1
HINF **Hinteralfeld 82.31 335⇑** iP P **06 48 06.0 -0.7**
comp=Z,25nm,0.9s,mb4.8
HINF **Hinteralfeld 82.31 335⇑** iP P **06 48 06.0 -0.7**
comp=Z,13nm,0.9s,mb4.8
BRMO **Bormio 82.38 332** P P **06 48 07.5 +0.5**
BBS **Basel-Blauen 82.43 334** eP P **06 48 05.9 -1.4**
FVM **French Village 82.43 43** eP P **06 48 06.9 -0.3**
comp=Z,28nm,1.1s,mb5.1
FVM epP pP 06 48 18.8 -0.1
LOMF **Lomont 82.74 335** eP P **06 48 08.5 -0.4**
OHR **Ohrid 82.90 323** i P P **06 48 08.7 -1.1**
JCT **Junction City 83.10 54⇑** eP P **06 48 10.5 -0.2**
comp=Z,14nm,0.8s,mb5.0
CCA1 **Carnmenellis 83.22 343⇑** eP P **06 48 12.7 +1.4**
CCA1 AMb AMB 06 48 15.7
comp=Z,603nm,1.7s
CCA1 **Carnmenellis 83.22 343⇑** eP P **06 48 12.7 +1.4**
CCA1 AMb AMB 06 48 15.7
comp=Z,603nm,1.7s
CMA1 **Manaccan 83.30 343⇑** eP P **06 48 13.2 +1.5**
CMA1 **Manaccan 83.30 343⇑** eP P **06 48 13.2 +1.5**
MUGIO **Muggio 83.30 333** P P **06 48 11.1 -0.7**
CPZ **Penzance 83.32 343⇑** eP P **06 48 12.9 +1.0**
CPZ **Penzance 83.32 343⇑** eP P **06 48 12.9 +1.0**
CGH1 **Goonhilly 83.33 343⇑** eP P **06 48 12.8 +0.9**
CGH1 AMb AMB 06 48 16.1
comp=Z,751nm,1.4s
CGH1 **Goonhilly 83.33 343⇑** eP P **06 48 12.8 +0.9**
CGH1 AMb AMB 06 48 16.1
comp=Z,751nm,1.4s
JLP **Les Platons 83.42 341⇑** eP P **06 48 14.3 +1.9**
JLP **Les Platons 83.42 341⇑** eP P **06 48 14.3 +1.9**
VAI **Varese 83.44 333** P P **06 48 12.0 -0.5**
JRS **Jersey 83.47 341⇑** eP P **06 48 14.5 +1.9**
JRS **Jersey 83.47 341⇑** eP P **06 48 14.5 +1.9**
JVM **Valle D.L. Mar 83.47 341⇑** eP P **06 48 14.3 +1.7**
JVM **Valle D.L. Mar 83.47 341⇑** eP P **06 48 14.3 +1.7**
JSA **Saint Aubin 83.49 341⇑** eP P **06 48 14.0 +1.2**
JSA **Saint Aubin 83.49 341⇑** eP P **06 48 14.0 +1.2**
PPT **Papeete 83.49 122** eLR LR 07 13 42.8
comp=Z,409nm,26.0s,baz=319
MIAR **Mount Ida 83.49 47** eP P **06 48 12.7 0.0**
comp=Z,16nm,0.7s,mb5.2
MIAR epP pP 06 48 24.6 +0.2
LDF **La Druitiere 83.55 340⇑** iP P **06 48 12.7 -0.3**
comp=Z,47nm,1.0s,mb5.3
LDF **La Druitiere 83.55 340⇑** iP P **06 48 12.7 -0.3**
comp=Z,23nm,1.0s,mb5.3
CABF **La Chapelle 83.63 335⇑** iP P **06 48 13.3 -0.2**
comp=Z,40nm,1.0s,mb5.2
CABF **La Chapelle 83.63 335⇑** iP P **06 48 13.3 -0.2**
comp=Z,20nm,1.0s,mb5.2
LOR **Lormes 83.69 337⇑** iP P **06 48 13.4 -0.4**
comp=Z,60nm,0.8s,mb5.5
LOR **Lormes 83.69 337⇑** iP P **06 48 13.4 -0.4**
comp=Z,30nm,0.8s,mb5.5
ERPA **Erie 83.74 34** eP P **06 48 13.6 -0.4**
comp=Z,5.2nm,0.5s,mb4.9
ERPA epP pP 06 48 24.9 -0.8
GRR **Gorron 83.92 340⇑** iP P **06 48 14.9 -0.1**
comp=Z,127nm,1.1s,mb5.7
GRR **Gorron 83.92 340⇑** iP P **06 48 14.9 -0.1**
comp=Z,64nm,1.1s,mb5.7
SSF **Saint Saulge 83.98 337** eP P **06 48 15.0 -0.3**
comp=Z,51nm,0.9s,mb5.4
SSF **Saint Saulge 83.98 337** eP P **06 48 15.0 -0.3**
comp=Z,26nm,0.9s,mb5.3
ZCCA **Zocca 84.02 331** P P **06 48 15.9 +0.4**
HYF **Humbligny 84.04 337** eP P **06 48 15.5 0.0**
ACSO **Alum Creek Sta 84.06 37** eP P **06 48 15.4 -0.3**
comp=Z,4.0nm,0.4s,mb4.9
ACSO epP pP 06 48 26.6 -0.7
SFI **Santa Sofia 84.10 330** P P **06 48 16.3 +0.4**
comp=Z,118nm,1.4s,mb5.8
VMG **Vicchio 84.16 330** P P **06 48 17.5 +1.3**
WCI **Wyandotte Cave 84.21 40** eP P **06 48 16.6 +0.2**
comp=Z,12nm,1.0s,mb5.0
WCI epP pP 06 48 27.7 -0.4
SMF **Signal de Mont 84.26 336⇑** iP P **06 48 16.6 -0.1**
comp=Z,79nm,0.8s,mb5.6
SMF **Signal de Mont 84.26 336⇑** iP P **06 48 16.6 -0.1**
comp=Z,40nm,0.8s,mb5.6
SNTG **Esanatoglia 84.27 329** P P **06 48 16.8 +0.1**
AVF **Avril sur Loir 84.27 337⇑** iP P **06 48 16.7 0.0**
comp=Z,63nm,0.9s,mb5.4
AVF **Avril sur Loir 84.27 337⇑** iP P **06 48 16.7 0.0**
comp=Z,32nm,0.9s,mb5.5
LPL **La Plagne 84.41 334⇑** iP P **06 48 17.9 +0.5**
comp=Z,62nm,0.8s,mb5.5
LPL **La Plagne 84.41 334⇑** iP P **06 48 17.9 +0.5**
comp=Z,31nm,0.8s,mb5.5
LPG **La Plagne 84.42 334⇑** iP P **06 48 18.1 +0.6**
comp=Z,72nm,0.8s,mb5.6
LPG **La Plagne 84.42 334⇑** iP P **06 48 18.1 +0.6**
comp=Z,36nm,0.8s,mb5.5
SGMF **Saint Gilles 84.45 341⇑** iP P **06 48 17.4 -0.3**
comp=Z,92nm,0.7s,mb5.7
SGMF **Saint Gilles 84.45 341⇑** iP P **06 48 17.4 -0.3**
comp=Z,46nm,0.7s,mb5.7
ROSF **Rostrenen 84.54 341⇑** iP P **06 48 17.7 -0.4**
comp=Z,57nm,0.7s,mb5.5
ROSF **Rostrenen 84.54 341⇑** iP P **06 48 17.7 -0.4**
comp=Z,28nm,0.7s,mb5.5
NRCA **Norcia 84.56 329** P P **06 48 18.5 +0.3**
BGF **Bois d'Agland 84.63 337** eP P **06 48 18.5 0.0**
comp=Z,25nm,0.6s,mb5.2
BGF **Bois d'Agland 84.63 337** eP P **06 48 18.5 0.0**
comp=Z,12nm,0.6s,mb5.2
BNI **Bardonecchia 84.84 334** eP P **06 48 19.8 +0.1**
comp=Z,14nm,0.8s,mb5.1
AQU **L'Aquila 84.87 328** eP P **06 48 20.2 +0.5**
comp=Z,56nm,1.0s,mb5.7
QUIF **Quistinic 84.91 341⇑** iP P **06 48 19.7 -0.3**
comp=Z,61nm,0.9s,mb5.4
QUIF **Quistinic 84.91 341⇑** iP P **06 48 19.7 -0.3**
comp=Z,30nm,0.9s,mb5.4
PLDF **La Plantade 84.94 336** eP P **06 48 20.2 +0.1**
AGO **Saint Agoulin 85.01 337** eP P **06 48 20.8 +0.3**
NATX **Nacogdoches 85.04 50** eP P **06 48 17.9 -2.7**
ACCN **Adirondack Com 85.05 29** eP P **06 48 19.8 -0.9**
ACCN epP pP 06 48 31.2 -1.1
TCF **Toulx Ste Croi 85.05 337⇑** iP P **06 48 20.9 +0.2**
comp=Z,79nm,1.3s,mb5.4
TCF **Toulx Ste Croi 85.05 337⇑** iP P **06 48 20.9 +0.2**
comp=Z,39nm,1.3s,mb5.4
GRFL **Gerfalco 85.07 330** P P **06 48 20.2 -0.6**
comp=Z,16nm,0.6s,mb5.3
MBDF **Montbardon 85.10 334⇑** iP P **06 48 20.7 -0.2**
comp=Z,30nm,0.7s,mb5.2
MBDF **Montbardon 85.10 334⇑** iP P **06 48 20.7 -0.2**
comp=Z,15nm,0.7s,mb5.2
WVT **Waverly 85.17 42** eP P **06 48 20.8 -0.4**
comp=Z,17nm,0.8s,mb5.2
WVT epP pP 06 48 32.9 0.0
ORIF **Oris-en-Rattie 85.21 334⇑** iP P **06 48 21.8 +0.3**
comp=Z,42nm,0.8s,mb5.3
ORIF **Oris-en-Rattie 85.21 334⇑** iP P **06 48 21.8 +0.3**
comp=Z,21nm,0.8s,mb5.3
PYM **Petit Puy Mans 85.32 336** eP P **06 48 22.4 +0.4**
MFF **Saint Martin d 85.40 339** eP P **06 48 21.8 -0.6**
comp=Z,88nm,0.8s,mb5.6
MFF **Saint Martin d 85.40 339** eP P **06 48 21.8 -0.6**
comp=Z,44nm,0.8s,mb5.6
SAOF **Saorge 85.51 333** eP P **06 48 22.4 -0.6**
VIVF **Saint-Julien-l 85.64 335⇑** iP P **06 48 24.1 +0.5**
comp=Z,79nm,0.9s,mb5.6
VIVF **Saint-Julien-l 85.64 335⇑** iP P **06 48 24.1 +0.5**
comp=Z,39nm,0.9s,mb5.6
SBF **Sospel 85.66 333⇑** iP P **06 48 23.1 -0.6**
comp=Z,91nm,0.9s,mb5.7
SBF **Sospel 85.66 333⇑** iP P **06 48 23.1 -0.6**
comp=Z,46nm,0.9s,mb5.7
IDI **Anoyia 85.71 317** P P **06 48 23.8 -0.2**
comp=Z,21nm,0.6s,mb5.5,baz=67,slow=7.5,SNR=9.3
LBL **Lubilhac 85.72 336** eP P **06 48 24.3 +0.3**
REVF **Revere 85.79 333** eP P **06 48 23.2 -1.2**
PLAL **Pickwick Lake 85.96 43** eP P **06 48 24.9 -0.3**
comp=Z,6.5nm,0.6s,mb5.0
PLAL epP pP 06 48 36.3 -0.6
RJF **Les Rejaudoux 86.15 337** eP P **06 48 26.4 +0.3**
comp=Z,46nm,1.0s,mb5.4
RJF **Les Rejaudoux 86.15 337** eP P **06 48 26.4 +0.3**
comp=Z,23nm,1.0s,mb5.4
SMRF **Simiane la Rot 86.15 334⇑** iP P **06 48 26.6 +0.4**
comp=Z,53nm,1.1s,mb5.4
SMRF **Simiane la Rot 86.15 334⇑** iP P **06 48 26.6 +0.4**
comp=Z,53nm,1.1s,mb5.7
VILF **Villemus 86.22 334** eP P **06 48 26.9 +0.4**
PGF **Pioggiola 86.30 331⇑** iP P **06 48 26.3 -0.6**
comp=Z,27nm,0.7s,mb5.3
PGF **Pioggiola 86.30 331⇑** iP P **06 48 26.3 -0.6**
comp=Z,13nm,0.7s,mb5.3
TAVF **Tavernes 86.32 334** eP P **06 48 27.1 +0.1**
CAF **Calviac 86.34 337** eP P **06 48 27.8 +0.7**
comp=Z,106nm,1.1s,mb5.7
CAF **Calviac 86.34 337** eP P **06 48 27.8 +0.7**
comp=Z,53nm,1.1s,mb5.7
LMR **La Mourre 86.43 333⇑** iP P **06 48 27.3 -0.2**
comp=Z,169nm,1.0s,mb5.9
LMR **La Mourre 86.43 333⇑** iP P **06 48 27.3 -0.2**
comp=Z,84nm,1.0s,mb5.9
PRAF **Pradon 86.44 334** eP P **06 48 28.4 +0.9**
PUYF **Puyloubier 86.51 334** eP P **06 48 26.3 -1.6**
TREF **Trevaresse 86.53 334** eP P **06 48 28.9 +0.9**
LASF **Ste Croix 86.59 335⇑** iP P **06 48 28.9 +0.6**
comp=Z,60nm,1.1s,mb5.4
LFF **La Frestale 86.70 338⇑** iP P **06 48 28.9 +0.1**
comp=Z,76nm,0.7s,mb5.8
LFF **La Frestale 86.70 338⇑** iP P **06 48 28.9 +0.1**
comp=Z,38nm,0.7s,mb5.7
BERF **Bertagne 86.71 334** eP P **06 48 29.3 +0.4**
GELF **Grande-Etoile 86.73 334** eP P **06 48 29.7 +0.7**
SWET **Sewanee 86.81 42** eP P **06 48 29.2 -0.2**
SWET epP pP 06 48 40.7 -0.4
MVL **Millersville 86.99 33** eP P **06 48 30.2 -0.1**
MVL epP pP 06 48 41.8 -0.1
CPCT **Cooper Cave 87.29 41** eP P **06 48 31.8 +0.1**
CPCT epP pP 06 48 43.2 -0.2
ELN **Prospectdale 87.53 37** eP P **06 48 31.8 -1.0**
ELN epP pP 06 48 44.0 -0.6
BLA **Blacksburg 87.68 37** eP P **06 48 33.4 -0.2**
comp=Z,3.1nm,1.1s,mb4.5
MTLF **Montolieu 87.75 336⇑** iP P **06 48 34.3 +0.4**
comp=Z,21nm,0.7s,mb5.2
MTLF **Montolieu 87.75 336⇑** iP P **06 48 34.3 +0.4**
comp=Z,11nm,0.7s,mb5.2
TBI **Tubuai 87.99 126** eLR LR 07 15 47.4
comp=Z,338nm,28.8s,baz=321
EPF **Esparros 88.57 337** eP P **06 48 37.1 -0.7**
comp=Z,19nm,0.9s,mb5.1
EPF **Esparros 88.57 337** eP P **06 48 37.1 -0.7**
comp=Z,9.3nm,0.9s,mb5.1
SJPF **Ste Jean 88.92 338** eP P **06 48 39.7 +0.2**
comp=Z,32nm,1.1s,mb5.2
SJPF **Ste Jean 88.92 338** eP P **06 48 39.7 +0.2**
comp=Z,16nm,1.1s,mb5.3
ESDC **Sonseca Array 92.86 339** P P **06 48 57.8 +0.1**
comp=Z,5.7nm,0.7s,mb5.1,baz=14,slow=4.1,SNR=13
RKT **Rikitea 96.78 116** eSS SS 07 07 11.6 +1.4
comp=Z,80nm,28.5s
RKT eLR LR 07 19 53.5
comp=Z,218nm,25.2s
MDT **Midelt 99.49 337** P P **06 49 27.2 -0.6**
comp=Z,2.4nm,0.7s,mb4.8,baz=26,slow=7.0,SNR=6.2
TORD **Torodi Ar. Bea 115.37 324** PKP PKPdf 06 54 25.8 -0.8
comp=Z,1.4nm,0.5s,baz=10,slow=1.5,SNR=27
TORD PP PP 06 55 26.4 -1.5
comp=Z,2.1nm,0.8s,baz=20,slow=7.7,SNR=5.2
SDV **Santo Domingo 116.45 44** ePKPdf PKPdf 06 54 23.8 -4.8
VNDA **Vanda 121.74 177** PKP PKPdf 06 54 37.2 -1.6
comp=Z,3.5nm,0.8s,baz=51,slow=6.5,SNR=5.0
LSZ **Lusaka 122.09 280** PKP PKPdf 06 54 39.6 +0.1
comp=Z,1.5nm,0.4s,baz=52,slow=12,SNR=2.8
DBIC **Dimbokro 123.90 327** PKP PKPdf 06 54 42.4 -0.6
comp=Z,4.7nm,0.6s,baz=48,slow=3.3,SNR=9.2
BOSA **Boshof 132.59 269** PKP PKPdf 06 55 00.3 +0.8
comp=Z,2.0nm,0.8s,baz=36,slow=3.8,SNR=3.8
QSPA **South Pole Qui 133.94 180** eP PKPdf 06 54 59.8 -2.2
SYO **Syowa Base 137.03 210⇓** eP Pdif 06 52 07.9 -6.9
BDFB **Brasilia 148.30 31** PKPbc PKPbc 06 55 31.7 +0.7
comp=Z,19nm,0.7s,baz=224,slow=1.3,SNR=10.0
BDFB **Brasilia 148.30 31** PKP2 PKPab 06 55 31.7 -2.5
BDFB pmax pmax
comp=Z,19nm,0.7s
SNAA **Sanae 149.16 197** PKPbc PKPbc 06 55 31.6 -1.7
comp=Z,4.2nm,0.8s,baz=156,slow=1.8,SNR=13
SNAA **Sanae 149.16 197⇑** PKPdf PKPdf 06 55 31.6 +2.5
SNAA e 06 55 33.1
SNAA e 06 55 39.0
SNAA e 06 55 44.9
SNAA e 06 55 50.1
SNAA e 06 55 55.4
SNAA e 06 56 11.3
SNAA **Sanae 149.16 197⇑** PKPdf PKPdf 06 55 31.6 +2.5
SNAA e 06 55 33.1
SNAA e 06 55 39.0
SNAA e 06 55 44.9
SNAA e 06 55 50.1
SNAA e 06 55 55.4
SNAA e 06 56 11.3
VNA2 **Neumayer--Watz 150.68 196⇑** PKPdf PKPbc 06 55 35.9 -1.1
baz=119,slow=1.5
VNA2 e 06 55 37.6
VNA2 e 06 55 43.3
VNA2 e 06 55 49.4
VNA2 e 06 55 54.4
VNA2 e 06 55 59.5
VNA2 e 06 56 15.9
VNA2 e 06 56 31.4
VNA2 e 06 56 45.5
VNA3 **Neumayer Olymp 150.84 194⇑** PKPdf PKPbc 06 55 36.0 -1.4
VNA3 e 06 55 37.5
VNA3 e 06 55 42.8
VNA3 e 06 55 49.1
VNA3 e 06 55 54.0
VNA3 e 06 55 58.9
VNA3 e 06 56 15.1
VNA3 e 06 56 31.4
VNA1 **Neumayer--Stat 151.07 196⇑** PKPdf PKPab 06 55 45.2 -0.4
VNA1 e 06 55 52.3
VNA1 e 06 55 59.1
VNA1 e 06 56 03.4
VNA1 e 06 56 23.1
PLCA **Paso Flores 151.24 97** PKPbc PKPbc 06 55 38.1 -0.2
comp=Z,9.9nm,0.8s,baz=268,slow=1.8,SNR=14
PLCA PKPab PKPab 06 55 45.3 -1.0
comp=Z,10nm,1.1s,baz=302,slow=4.5,SNR=4.6
PLCA **Paso Flores 151.24 97** ePKIKP PKPbc 06 55 38.1 -0.2
CPUP **Villa Florida 152.61 58** PKPbc PKPbc 06 55 41.3 -0.1
comp=Z,1.6nm,0.4s,baz=47,slow=3.4,SNR=4.4
CPUP PKPab PKPab 06 55 51.5 -0.5
comp=Z,3.1nm,0.5s,baz=298,slow=3.9,SNR=4.2

*IDC **08** 06:56:20.3± 1.1, 700S× 1523 83E, h0km, mb3.9/7, mb1 4.1/8,*

mb1mx4.1/14, mbtmp4.0/8, ML3.2/1, Error ellipse: s-maj=40.7km s-min=21.4km az=117.0
*ISCJB **08** 06:56:26.1±0.9, 68S±01×1522E±01, h33km, mb3.9/9, Error ellipse: s-maj=27.1km s-min=10.7km az=92.4*
*NEIC **08** 06:56:28.5±0.9, 688S×15233E, mb4.5/2, Error ellipse: s-maj=26.1km s-min=10.7km az=123.0*

ISC 08 06:56:27.9±0.9, 69S±01×1523E±01, h35km, n15, σ0°71/14, mb3.9/9, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.71**	**243**	Pn	**Pn**	**06 57 50.3**	**+0.2**
	3.9nm,0.3s,baz=62,slow=5.9,SNR=12						
PMG				Sn	**Sn**	**06 58 53.5**	**-0.8**
	2.9nm,0.3s,baz=60,slow=5.1,SNR=3.8						
KAKA	**Kakadu**	**20.43**	**252**	⇑*iP*	**P**	**07 01 02.1**	**0.0**
	36nm,0.5s						
WRAB	**Tennant Creek**	**21.76**	**232**	*eP*	**P**	**07 01 16.5**	**+0.1**
	13nm,0.9s,mb4.4						
WRAB				*e*pP		07 01 27.2	
WB2	**Warramunga Arr**	**21.76**	**232**	*eP*	**P**	**07 01 16.5**	**+0.1**
WRA	**Warramunga Arr**	**21.77**	**232**	P	**P**	**07 01 17.0**	**+0.5**
	7.7nm,0.9s,mb4.1,baz=56,slow=9.9,SNR=23						
ASAR	**Alice Springs**	**24.34**	**225**	P	**P**	**07 01 43.4**	**+1.0**
	4.5nm,0.7s,mb4.0,baz=56,slow=8.9,SNR=56						
STKA	**Stephens Creek**	**26.84**	**201**	P	**P**	**07 02 03.8**	**-1.2**
	1.0nm,0.3s,mb3.9,baz=3.5,slow=8.8,SNR=5.0						
STKA	**Stephens Creek**	**26.84**	**201**	*eP*	**P**	**07 02 04.1**	**-0.9**
STKA				*e*pP	pP	07 02 15.8	+0.8
FITZ	**Fitzroy Crossi**	**28.30**	**244**	*eP*	**P**	**07 02 18.4**	**+0.3**
	11nm,0.7s,mb4.6						
SONM	**Songino Array**	**67.80**	**328**	P	**P**	**07 07 22.0**	**-0.2**
	0.4nm,0.5s,mb3.7,baz=117,slow=5.0,SNR=3.4						
MKAR	**Makanchi Array**	**81.55**	**319**	P	**P**	**07 08 43.2**	**+1.4**
	0.3nm,0.7s,mb3.3,baz=116,slow=3.4,SNR=4.5						
ZAL	**Zalesovo**	**82.59**	**327**	P	**P**	**07 08 46.4**	**-0.9**
	0.7nm,0.5s,mb3.9,baz=316,slow=21,SNR=4.1						
ILAR	**Eielson Array**	**84.22**	**22**	P	**P**	**07 08 55.0**	**-0.8**
	0.4nm,0.8s,mb3.6,baz=239,slow=5.3,SNR=5.8						
BDFB	**Brasilia**	**149.92**	**138**	PKPbc	PKPbc	07 16 10.3	-4.1
	0.5nm,0.3s,baz=180,slow=9.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**150.47**	**285**	PKPbc	PKPbc	07 16 15.4	-0.1
	0.9nm,1.0s,baz=54,slow=2.0,SNR=4.3						

IDC 08 07:08:56.9±7.7, 495S×15024E, h107km±54km, mb3.7/2, mb1 4.0/3, mb1mx3.5/13, mbtmp4.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=125.2km s-min=53.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.38**	**214**	P	Pn	07 10 15.1	+0.3
	7.2nm,0.3s,baz=56,slow=8.4,SNR=18						
PMG				S	Sn	07 11 16.2	+0.8
	9.5nm,0.3s,baz=23,slow=22,SNR=14						
GUMO	**Guam**	**19.17**	**344**	LR	LR	07 19 23.3	
	comp=Z,44nm,20.4s,baz=54,slow=33						
WB2	**Warramunga Arr**	**21.48**	**225**	*eP*	P	07 13 37.2	+0.4
WRA	**Warramunga Arr**	**21.49**	**225**	P	P	07 13 37.4	+0.6
	2.8nm,0.4s,baz=50,slow=10.0,SNR=26						
ASAR	**Alice Springs**	**24.38**	**219**	P	P	07 14 05.0	-0.1
	4.1nm,0.7s,baz=54,slow=8.9,SNR=28						
TORD	**Torodi Ar. Bea**	**147.92**	**287**	PKPbc	PKPbc	07 28 30.3	+0.7
	0.6nm,0.9s,baz=93,slow=2.2,SNR=5.0						

*IDC **08** 07:28:20.1±1.8, 2450S×17978E, h507km±18km, mb3.6/8, mb1 3.7/9, mb1mx3.5/16, mbtmp4.4/9, Error ellipse: s-maj=20.7km s-min=16.0km az=16.0*
*ISCJB **08** 07:28:21.7±1.7, 245S±0.1×1797E±0.1, h542km±19km, mb4.1/9, Error ellipse: s-maj=20.3km s-min=12.5km az=101.8*
*NEIC **08** 07:28:22.2±1.8, 2448S×17978E, h539km±18km, mb4.5/5, Error ellipse: s-maj=21.4km s-min=10.6km az=51.0*

ISC 08 07:28:22.0±1.7, 246S±01×1798E±01, h533km±17km, n23, σ0°67/22, mb4.1/9, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.54**	**279**	P	**P**	**07 31 06.6**	**+0.5**
	baz=81,slow=17,SNR=4.9						
URZ	**Urewera**	**13.81**	**189**	P	**P**	**07 31 20.0**	**+0.7**
	1.9nm,0.3s,baz=252,slow=7.4,SNR=9.1						
URZ				S	**S**	**07 33 44.6**	**-0.8**
	0.6nm,0.3s,baz=30,slow=20,SNR=6.1						
RPZ	**Rata Peaks**	**20.38**	**198**	P	**P**	**07 32 21.6**	**-0.7**
	5.4nm,0.4s,baz=32,slow=9.5,SNR=4.8						
CTA	**Charters Tower**	**31.31**	**271**	*eP*	**P**	**07 33 59.2**	**+0.6**
	12nm,0.4s,mb4.8						
CTA	**Charters Tower**	**31.31**	**271**	P	**P**	**07 33 59.6**	**+1.0**
	15nm,0.4s,mb4.8,baz=92,slow=12,SNR=12						
CTAO	**Charters Tower**	**31.31**	**271**	*eP*	**P**	**07 33 58.8**	**+0.2**
	11nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**34.31**	**249**	*eP*	**P**	**07 34 23.0**	**-1.0**
	2.4nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**34.31**	**249**	P	**P**	**07 34 23.2**	**-0.8**
	3.1nm,0.6s,mb4.0,baz=93,slow=9.6,SNR=16						
PMG	**Port Moresby**	**34.56**	**290**	P	**P**	**07 34 26.0**	**-0.1**
	9.4nm,0.6s,mb4.5,baz=16,slow=6.8,SNR=5.9						
ASAR	**Alice Springs**	**41.76**	**261**	P	**P**	**07 35 24.9**	**+0.3**
	1.7nm,0.5s,mb3.8,baz=91,slow=7.6,SNR=30						
ASAR				ScP	ScP	07 40 13.2	+5.3
	0.5nm,0.6s,baz=110,slow=4.3,SNR=5.5						
ASAR				S	**S**	**07 41 04.1**	**+0.8**
	0.4nm,0.7s,baz=98,slow=16,SNR=3.4						
WB2	**Warramunga Arr**	**42.18**	**267**	⇓*iP*	**P**	**07 35 27.6**	**-0.3**
WRA	**Warramunga Arr**	**42.19**	**267**	P	**P**	**07 35 27.7**	**-0.3**
	6.6nm,0.5s,mb4.4,baz=103,slow=8.0,SNR=52						
WRA				ScP	ScP	07 40 15.0	+5.4
	2.6nm,0.8s,baz=99,slow=4.2,SNR=11						
WRA				S	**S**	**07 41 09.5**	**0.0**
	1.0nm,1.1s,baz=112,slow=14,SNR=2.7						
KAKA	**Kakadu**	**46.20**	**276**	*eP*	**P**	**07 35 58.3**	**-0.7**
	3.9nm,0.3s,mb4.4						
VNDA	**Vanda**	**53.67**	**185**	P	**P**	**07 36 54.8**	**+1.0**
	1.7nm,0.8s,mb3.4,baz=33,slow=4.9,SNR=3.6						
QSPA	**South Pole Qui**	**65.49**	**180**	*eP*	**P**	**07 38 14.0**	**+1.5**
	8.2nm,0.7s,mb4.3						
SNAA	**Sanae**	**83.97**	**179**	*e*	**P**	**07 39 55.7**	**-0.5**
VNA3	**Neumayer Olymp**	**84.19**	**177**	*e*	**P**	**07 39 57.3**	**+0.1**
VNA2	**Neumayer--Watz**	**84.61**	**178**	*e*	**P**	**07 39 59.3**	**0.0**
	baz=195,slow=4.9						
PDAR	**Pinedale Array**	**93.31**	**44**	P	**P**	**07 40 39.2**	**-0.7**
	0.3nm,0.7s,mb3.5,baz=214,slow=4.2,SNR=3.3						
ARCES	**ARCESS Array B**	**132.53**	**348**	PKP	PKPdf	07 46 34.2	-1.8
	3.3nm,1.1s,baz=7.6,slow=3.7,SNR=4.8						
FINES	**FINESS Array B**	**139.05**	**341**	SKPbc	SKPbc	07 49 34.0	+1.0
	1.4nm,0.8s,baz=61,slow=6.5,SNR=5.1						
AKASG	**Malin Array Be**	**145.46**	**327**	PKPbc	PKPbc	07 46 58.9	-1.7
	0.4nm,0.4s,baz=52,slow=4.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**168.47**	**189**	PKPab	PKPab	07 48 41.3	+0.5
	1.2nm,0.7s,baz=200,slow=3.0,SNR=7.5						

MEX 08 07:37:50.1±0.6, 1770N×10359W, h10km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**2.26**	**323**	*iP*	Pn	07 38 24.4	-3.0
CJM				*i* S	Sn	07 38 51.0	-4.3
SFJM	**Santa Fe**	**2.82**	**11**	*iP*	Pn	07 38 32.5	-2.7
SFJM				*i* S	Sn	07 39 04.5	-4.7
MOIG	**Morelia**	**3.01**	**49**	*eP*	Pn	07 38 33.0	-4.8
MOIG				*i* S	Sn	07 39 12.6	-1.3
ACX	**Acapulco**	**3.61**	**103**	*iP*	Pn	07 38 49.5	+3.5

*ISCJB **08** 07:44:18.0±1.3, 178S±02×1787W±01, h545km±18km, mb3.9/11, Error ellipse: s-maj=26.8km s-min=12.7km az=120.1*
*NEIC **08** 07:44:18.6±0.9, 1778S×17863W, h541km±13km, mb3.9/2, Error ellipse: s-maj=20.2km s-min=9.5km az=151.0*
*IDC **08** 07:44:18.6±1.9, 1787S×17859W, h542km±24km, mb3.4/11, mb1 3.6/13, mb1mx3.5/20, mbtmp4.3/13, Error ellipse: s-maj=28.9km s-min=12.4km az=150.0*

ISC 08 07:44:19.1±1.2, 178S±02×1786W±01, h546km±16km, n21, σ0°94/21, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**60**	P	**P**	**07 46 12.4**	**-0.6**
	3.8nm,0.3s,baz=270,slow=2.0,SNR=6.7						
AFI	**Afiamalu**	**7.63**	**60**	P	**P**	**07 46 12.4**	**-0.6**
AFI				Pn	**P**	**07 46 13.8**	**+0.8**
DZM	**Mont Dzumac**	**14.68**	**251**	P	**P**	**07 47 26.1**	**+0.8**
	0.8nm,0.3s,baz=93,slow=14,SNR=10						
URZ	**Urewera**	**20.71**	**190**	P	**P**	**07 48 20.4**	**-1.4**
	9.3nm,0.9s,baz=13,slow=18,SNR=4.6						
CTA	**Charters Tower**	**33.28**	**260**	P	**P**	**07 50 11.0**	**-0.6**
	3.0nm,0.5s,mb4.0,baz=82,slow=11,SNR=5.9						
CTA	**Charters Tower**	**33.28**	**260**	P	**P**	**07 50 11.0**	**-0.6**
CTAO	**Charters Tower**	**33.28**	**260**	*eP*	**P**	**07 50 11.1**	**-0.5**
	3.0nm,0.7s,mb3.9						
PMG	**Port Moresby**	**34.26**	**280**	P	**P**	**07 50 20.1**	**+0.3**
	5.6nm,0.6s,mb4.3,baz=90,slow=12,SNR=5.0						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**07 50 54.3**	**-0.6**
	4.4nm,0.5s,mb4.3,baz=96,slow=9.1,SNR=26						
WRAB	**Tennant Creek**	**44.46**	**259**	*eP*	**P**	**07 51 42.0**	**+0.2**
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**07 51 41.9**	**0.0**
	2.5nm,0.5s,mb4.0,baz=93,slow=6.9,SNR=21						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**07 51 43.6**	**+0.4**
	17nm,0.4s,mb4.9,baz=88,slow=8.1,SNR=440						
MBWA	**Marble Bar**	**57.92**	**256**	*eP**	**P**	**07 53 19.1**	**-0.1**
QSPA	**South Pole Qui**	**72.24**	**180**	*eP**	**P**	**07 54 50.5**	**+1.3**
	1.4nm,0.6s,mb3.6						
YBH	**Yreka Blue Hor**	**78.57**	**39**	P	**P**	**07 55 25.3**	**+1.0**
	1.5nm,0.7s,mb3.4,baz=37,slow=5.1,SNR=2.9						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**07 55 30.4**	**+1.2**
	1.0nm,0.7s,mb3.3,baz=218,slow=6.7,SNR=5.6						
ILAR	**Eielson Array**	**85.84**	**13**	P	**P**	**07 55 59.0**	**-2.2**
	0.5nm,0.4s,mb3.5,baz=223,slow=5.2,SNR=20						
PDAR	**Pinedale Array**	**87.41**	**44**	P	**P**	**07 56 09.1**	**+0.5**
	0.8nm,0.5s,mb3.6,baz=211,slow=3.3,SNR=10						
YKA	**Yellowknife Ar**	**94.33**	**25**	P	**P**	**07 56 39.0**	**-1.4**
	0.3nm,0.8s,mb3.5,baz=250,slow=4.7,SNR=4.5						
YKA	**Yellowknife Ar**	**94.33**	**25**	P	**P**	**07 56 39.0**	**-1.4**
GERES	**GERESS Array B**	**147.47**	**345**	PKPbc	PKPbc	08 03 01.5	-0.4
	0.6nm,0.5s,baz=47,slow=1.7,SNR=5.2						

MAN 08 07:45:24.0, 1008N×12594E, h24km, mb2.3, ML3.9, MS3.8, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.54**	**236**	⇓*eP*	Pb	07 45 34.9	+0.1
SCPH				*i* S	Sb	07 45 34.9	-7.3
MSLP	**Maasin**	**1.07**	**273**	*eP*	Pn	07 45 43.5	+0.1
MSLP				*e*S	Sb	07 46 01.1	+3.8
BUTP	**Butuan**	**1.15**	**196**	*eP*	Pn	07 45 44.9	+0.3
BUTP				*e*S	Sn	07 45 59.1	-0.5
BESP	**Borongan**	**1.59**	**342**	*eP*	Pn	07 45 50.0	-0.6
BESP				*e*S	Sn	07 46 11.0	+0.7
BUKP	**Musuan**	**2.36**	**202**	*eP*	Pn	07 46 02.4	+1.3
BUKP				*e*S	Sn	07 46 34.0	+4.7

*IDC **08** 08:27:34.4±0.8, 1252N×14378E, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/19, mbtmp4.0/7, Error ellipse: s-maj=35.5km s-min=16.5km az=118.0*
*ISCJB **08** 08:27:36.0±5.5, 1241N±009×1438E±0.1, h24km±40km, mb4.1/11, Error ellipse: s-maj=25.4km s-min=10.9km az=59.4*
*NEIC **08** 08:27:39.3±0.6, 1243N×14385E, h35km, mb4.6/3, Error ellipse: s-maj=22.4km s-min=11.9km az=106.0*

ISC 08 08:27:37.0±6.5, 1245N±010×1438E±01, h17km±41km, n15, σ0°99/18, mb4.1/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.52**	**42**	Pn	**Pn**	**08 28 03.5**	**+0.2**
	30nm,0.3s,baz=242,slow=20,SNR=8.9						
GUMO				Sn	**Sn**	**08 28 22.6**	**-0.1**
	69nm,0.3s,baz=59,slow=22,SNR=4.9						
GUMO	**Guam**	**1.52**	**42**	*e*Pn	**Pn**	**08 28 03.3**	**0.0**
GUMO				Pn	**Pn**	**08 28 03.5**	**+0.2**
GUMO				Sn	**Sn**	**08 28 22.6**	**-0.1**
GUMO				*e*Sn	**Sn**	**08 28 22.8**	**+0.2**
WRAB	**Tennant Creek**	**33.50**	**196**	*eP*	**P**	**08 34 15.6**	**+0.2**
	6.0nm,0.6s,mb4.7						
WRAB				*e*pP	pP	08 34 25.2	+4.5
WRA	**Warramunga Arr**	**33.52**	**196**	P	**P**	**08 34 15.9**	**+0.4**
	4.7nm,0.6s,mb4.6,baz=20,slow=9.7,SNR=80						
BJT	**Baijiatuau**	**36.72**	**323**	*eP*	**P**	**08 34 42.1**	**-1.0**
	12nm,0.6s,mb4.9						
ASAR	**Alice Springs**	**37.18**	**195**	P	**P**	**08 34 47.9**	**+0.8**
	1.0nm,0.6s,mb3.8,baz=20,slow=12,SNR=21						
STKA	**Stephens Creek**	**44.12**	**183**	P	**P**	**08 35 42.0**	**-2.3**
	0.7nm,0.5s,mb3.6,baz=347,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**61.61**	**317**	P	**P**	**08 37 54.2**	**+0.7**
	0.4nm,0.7s,mb3.7,baz=94,slow=7.8,SNR=5.9						
ILAR	**Eielson Array**	**70.03**	**25**	P	**P**	**08 38 46.6**	**-1.1**
	0.4nm,0.6s,mb3.5,baz=250,slow=5.6,SNR=12						
BRVK	**Borovoye**	**70.26**	**322**	P	**P**	**08 38 50.5**	**+1.3**
	0.5nm,0.5s,mb3.7						
YKA	**Yellowknife Ar**	**84.33**	**27**	P	**P**	**08 40 08.4**	**+0.4**
	0.5nm,0.4s,mb4.0,baz=285,slow=5.1,SNR=5.5						
YKA	**Yellowknife Ar**	**84.33**	**27**	P	**P**	**08 40 08.4**	**+0.4**
NVAR	**Mina Array Bea**	**88.42**	**51**	P	**P**	**08 40 29.1**	**+1.1**
	0.5nm,0.4s,mb4.1,baz=269,slow=4.1,SNR=5.2						
FINES	**FINESS Array B**	**91.76**	**335**	P	**P**	**08 40 42.3**	**-1.4**
	0.9nm,0.5s,mb4.3,baz=62,slow=6.4,SNR=6.5						
LPAZ	**La Paz**	**148.82**	**101**	PKPbc	PKPbc	08 47 26.4	+2.9
	0.7nm,0.6s,baz=331,slow=4.2,SNR=3.8						

NEIC 08 08:42:51.9, 6214N×14836W, h25km, ML3.4(AEIC), ML3.5(PMR), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	**Glory Hole Cre**	**0.46**	**216**	P	Pb	08 43 00.8	-0.6
RC01	**Rabbit Creek A**	**1.24**	**212**	P	Pn	08 43 12.2	-1.4
RC01				S	Sn	08 43 28.9	-0.7
PAX	**Paxson**	**1.58**	**57**	P	Pn	08 43 17.7	-0.6
TRF	**Thorofare Moun**	**1.58**	**327**	P	Pn	08 43 17.1	-1.3
KTH	**Kantishna Hill**	**1.84**	**321**	P	Pn	08 43 20.8	-1.1
SLKM	**Skilak Lake**	**1.87**	**209**	P	Pn	08 43 21.4	-0.9
EYAK	**Cordova Ski Ar**	**2.04**	**141**	P	Pn	08 43 23.5	-1.1
BMRM	**Bremner River**	**2.15**	**122**	P	Pn	08 43 24.7	-1.4
BMRM				S	Sn	08 43 51.0	-1.0
MENT	**Mentasta**	**2.30**	**68**	*eP*	Pn	08 43 27.2	-0.9
DOT	**Dot Lake**	**2.48**	**51**	P	Pn	08 43 30.2	-0.5
IL1	**Eielson Array**	**2.72**	**13**	P	Pn	08 43 32.6	-1.3
TT01	**Tatalina**	**3.63**	**286**	P	Pn	08 43 45.0	-1.5
IM3	**Indian Mountai**	**4.52**	**331**	P	Pn	08 43 57.4	-1.3
KDAK	**Kodiak Island**	**4.86**	**208**	P	Pn	08 44 00.8	-2.6
COLD	**Coldfoot**	**5.17**	**352**	P	Pn	08 44 06.7	-0.8
BM3	**Burnt Mountain**	**5.54**	**15**	P	Pn	08 44 12.3	-0.3
INK	**Inuvik**	**8.76**	**39**	*e*Pn	Pn	08 44 56.1	-0.8
	2.2nm,0.5s						

*LDG **08** 09:04:13.9±0.3, 3768N×160W, h10km, Ml3.5/3, Error ellipse: s-maj=6.5km s-min=2.7km az=136.0*
*NEIC **08** 09:04:14.2, 3771N×161W, h0km, ML3.5(LDG), MN3.0(MDD), After MDD.*
NEIC Felt at Aledo, La Hoya, Lorca and Totana.
*SFS **08** 09:04:14.0, 3772N×161W, h8km, ML3.3*
*INMG **08** 09:04:14.0±0.9, 3773N×163W, h6km±2km, ML3.4, Error ellipse: s-maj=2.2km s-min=1.3km az=135.0*
*CSEM **08** 09:04:14.3±0.1, 3775N×161W, h10km, ML3.6/26, Error ellipse: s-maj=1.8km s-min=0.9km az=154.0*

MDD 08 09:04:14.1±0.2, 3771N×162W, h6km±2km, mbLg3.3/42, 2C-2D, Error ellipse: s-maj=2.9km s-min=1.4km az=157.0, PRXIMO III ALEDO LORCA MULA TOTANA II-III ALHAMA DE MURCIA II PLIEGO I BULLAS PUERTO LUMBRERAS, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXLO	**Lorca**	**0.08**	**241**	Pg	Pg	09 04 15.3	-0.6
EXLO				Lg		09 04 16.7	
EXLO	**Lorca**	**0.08**	**241**	Pg	Pg	09 04 15.3	-0.6
EXLO				Lg		09 04 16.7	
EMUR	**La Murta**	**0.32**	**67**	⇑Pg	Pg	09 04 20.1	-0.3
	117nm,0.3s,SNR=18						
EMUR				Lg		09 04 24.7	
	1μm,0.2s,SNR=5.0						
EMUR	**La Murta**	**0.32**	**67**	Pg	Pg	09 04 20.1	-0.3
	117nm,0.3s,SNR=18						
EMUR				Lg		09 04 23.2	
EMUR	**La Murta**	**0.32**	**67**	Pg	Pg	09 04 20.1	-0.3
EMUR				Lg		09 04 23.2	
EXMU	**Mula**	**0.34**	**17**	Pg	Pg	09 04 20.3	-0.4
EXMU				Lg		09 04 25.5	
EXMU	**Mula**	**0.34**	**17**	Pg	Pg	09 04 20.3	-0.4
CART	**Cartagena**	**0.50**	**104**	⇓P	Pg	09 04 23.8	0.0
CART				S	Sg	09 04 30.5	+0.1
CART	**Cartagena**	**0.50**	**104**	*e*Pg	Pg	09 04 23.9	+0.1
CART	**Cartagena**	**0.50**	**104**	*e*Pg	Pg	09 04 23.9	+0.1
CART				*e*Sg	Sg	09 04 30.5	0.0
EHUE	**Huescar**	**0.78**	**278**	⇑Pg	Pg	09 04 27.9	-1.2
	6.1nm,0.3s,SNR=18						
EHUE				Lg		09 04 39.2	
	183nm,0.5s,SNR=7.9						
EHUE	**Huescar**	**0.78**	**278**	Pg	Pg	09 04 28.4	-0.7
EHUE	**Huescar**	**0.78**	**278**	Pg	Pg	09 04 28.4	-0.7
EHUE				Lg		09 04 40.1	
ENIJ	**Nijar**	**0.88**	**213**	⇓Pg	Pg	09 04 30.2	-0.8
	36nm,0.4s,SNR=18						
ENIJ				Lg		09 04 41.0	
	244nm,0.3s,SNR=12						
ENIJ	**Nijar**	**0.88**	**213**	Pg	Pg	09 04 30.2	-0.8
ENIJ				Lg		09 04 41.5	
ETOB	**Tobarra**	**0.93**	**3**	Pg	Pg	09 04 31.1	-0.9
	609nm,0.2s,SNR=372						
ETOB				Lg		09 04 44.5	
	4μm,0.4s,SNR=19						
ETOB	**Tobarra**	**0.93**	**3**	Pg	Pg	09 04 31.1	-0.9
	609nm,0.2s,SNR=372						
ETOB	**Tobarra**	**0.93**	**3**	Pg	Pg	09 04 30.6	-1.4
ETOB				Lg		09 04 44.9	
EQES	**Quesada**	**1.16**	**275**	Pg	Pg	09 04 36.1	-0.2
	152nm,0.4s,SNR=33						
EQES				Lg		09 04 51.6	
	764nm,0.5s,SNR=5.2						
EQES	**Quesada**	**1.16**	**275**	Pg	Pg	09 04 36.1	-0.2
	152nm,0.4s,SNR=33						
EVIA	**Vianos**	**1.16**	**323**	Pg	Pg	09 04 35.1	-1.3
	295nm,0.3s,SNR=95						
EBER	**Berja**	**1.30**	**232**	Pg	Pg	09 04 37.9	-1.1
	72nm,0.4s,SNR=66						
EBER				Lg		09 04 55.7	
	308nm,0.5s,SNR=5.0						
EBER	**Berja**	**1.30**	**232**	Pg	Pg	09 04 38.0	-1.1
EBEN	**Beniarda**	**1.48**	**48**	Pn	Pn	09 04 39.0	-2.2
	30nm,0.2s,SNR=70						
EBEN				Sn	Sn	09 04 57.9	-2.8
	33nm,0.6s,SNR=5.0						
EBEN				Lg		09 05 02.4	
	141nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**1.48**	**48**	Pn	Pn	09 04 39.0	-2.2
	30nm,0.2s,SNR=70						
EBEN				Sn	Sn	09 04 57.9	-2.9
	33nm,0.6s,SNR=5.0						
EBEN	**Beniarda**	**1.48**	**48**	Pg	Pn	09 04 39.0	-2.2
EBEN				Lg		09 05 02.5	
EQUE	**Quentar**	**1.54**	**251**	Pg	Pg	09 04 43.2	-0.4
	41nm,0.3s,SNR=52						
EQUE				Lg		09 05 03.8	
	175nm,0.5s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.61**	**255**	Pg	Pg	09 04 44.5	-0.5
	38nm,0.3s,SNR=28						
ECOG				Lg		09 05 06.9	
	159nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**1.77**	**285**	Pn	Pn	09 04 44.5	-0.8
	17nm,0.2s,SNR=35						
EBAN				Lg		09 05 09.7	
	144nm,0.3s,SNR=15						
EBAN	**Banos Encina**	**1.77**	**285**	Pg	Pn	09 04 44.5	-0.8
EBAN				Lg		09 05 10.1	
EGUA	**Guajares**	**1.79**	**241**	Pg	Pg	09 04 47.1	-1.2
	3.3nm,0.2s,SNR=7.9						
EGUA				Lg		09 05 11.4	
	11nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**1.79**	**241**	Pg	Pn	09 04 45.8	+0.3
EGUA				Lg		09 05 11.4	
ERON	**Agron**	**1.88**	**249**	Pg	Pg	09 04 48.3	-1.8
	10nm,0.4s,SNR=11						
ERON				Lg		09 05 15.0	
	36nm,0.4s,SNR=8.8						
ERON	**Agron**	**1.88**	**249**	Pg	Pg	09 04 48.7	-1.4
ERON	**Agron**	**1.88**	**249**	Pg	Pg	09 04 48.7	-1.4
ERON				Lg		09 05 15.0	
ECHE	**Chera**	**1.94**	**15**	Pn	Pn	09 04 45.6	-1.9
	3.3nm,0.4s,SNR=16						
ECHE				Pg	Pg	09 04 50.2	-1.2
	44nm,0.2s,SNR=112						
ECHE				Lg		09 05 15.3	
	89nm,0.2s,SNR=9.7						
ECHE	**Chera**	**1.94**	**15**	Pg	Pg	09 04 50.2	-1.1
	44nm,0.2s,SNR=112						
ECHE	**Chera**	**1.94**	**15**	Pg	Pg	09 04 50.2	-1.2
ECHE				Lg		09 05 15.5	
ELOJ	**Sierra Loja**	**2.10**	**255**	Pg	Pb	09 04 52.2	-0.3
	6.6nm,0.3s,SNR=17						
ELOJ				Lg		09 05 21.3	
	41nm,0.4s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.10**	**255**	Pg	Pb	09 04 51.7	-0.8

EMOS	**Mosqueruela**	**2.79**	**18**	Pn	Pn	09 04 58.1	-1.2
	9.1nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.79**	**18**	Pg	Pg	09 05 07.2	-0.4
	6.5nm,0.4s,SNR=4.0						
EMOS				Sn	Sn	09 05 30.3	-2.9
	11nm,0.5s,SNR=4.0						
ECAB	**El Cabril**	**3.03**	**278**	Pn	Pn	09 05 01.0	-1.5
	13nm,0.3s,SNR=24						
ECAB				Sn	Sn	09 05 36.2	-2.9
	25nm,0.4s,SNR=7.9						
ECAB				Lg		09 05 48.5	
	119nm,0.4s,SNR=5.0						
ECAB	**El Cabril**	**3.03**	**278**	Pn	Pn	09 05 01.0	-1.5
	13nm,0.3s,SNR=24						
ECAB				Sn	Sn	09 05 36.2	-2.9
	25nm,0.4s,SNR=7.9						
ESPR	**Espera**	**3.48**	**257**	Pn	Pn	09 05 06.6	-2.2
	0.7nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	09 05 47.8	-2.5
	14nm,0.4s,SNR=4.0						
ESPR				Lg		09 06 06.4	
	76nm,0.8s,SNR=7.9						
ESPR	**Espera**	**3.48**	**257**	Pn	Pn	09 05 06.6	-2.2
	0.7nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	09 05 47.8	-2.5
	14nm,0.4s,SNR=4.0						
EBR	**Ebro Roquetas**	**3.51**	**27**	*e*SN	Sn	09 05 51.0	+0.1
GUD	**Guadarrama**	**3.53**	**327**	Pn	Pn	09 05 08.1	-1.3
	4.4nm,0.4s,SNR=7.9						
GUD				Pg	Pg	09 05 18.4	-3.3
	7.5nm,0.3s,SNR=7.9						
GUD				Sn	Sn	09 05 47.7	-3.6
	16nm,0.4s,SNR=7.9						
GUD				Lg		09 06 05.0	
	76nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**3.53**	**327**	Pg	Pg	09 05 18.4	-3.3
	7.5nm,0.3s,SNR=7.9						
GUD				Sn	Sn	09 05 47.7	-3.7
	16nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**3.57**	**24**	Pn	Pn	09 05 09.3	-0.7
	165nm,1.2s,SNR=5.9						
ERTA				Sn	Sn	09 05 49.3	-3.2
	17nm,0.2s,SNR=7.9						
ERTA				Lg		09 06 03.9	
	49nm,0.5s,SNR=5.0						
ERTA	**Horta de San J**	**3.57**	**24**	Pn	Pn	09 05 09.3	-0.7
	165nm,1.2s,SNR=5.9						
ERTA				Sn	Sn	09 05 49.3	-3.2
	17nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.01**	**272**	Pn	Pn	09 05 14.9	-1.1
	2.6nm,0.3s,SNR=7.9						
EMIN				Pg	Pg	09 05 28.4	-2.4
	2.8nm,0.3s,SNR=4.0						
EMIN				Sn	Sn	09 06 00.4	-2.8
	6.0nm,0.3s,SNR=7.9						
EMIN				Lg		09 06 21.3	
	96nm,0.7s,SNR=5.0						
EMIN	**Mina Concepcio**	**4.01**	**272**	Pn	Pn	09 05 14.9	-1.1
	2.6nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.01**	**272**	Pg	Pg	09 05 28.4	-2.5
	2.8nm,0.3s,SNR=4.0						
EMIN				Sn	Sn	09 06 00.4	-2.8
	6.0nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**4.03**	**58**	Pn	Pn	09 05 15.0	-1.3
	7.7nm,0.3s,SNR=22						
ETOS				Sn	Sn	09 05 59.5	-4.1
	5.8nm,0.2s,SNR=5.0						
ETOS	**Mallorca**	**4.03**	**58**	Pn	Pn	09 05 15.0	-1.2
	7.7nm,0.3s,SNR=22						
ETOS				Sn	Sn	09 05 59.5	-4.2
	5.8nm,0.2s,SNR=5.0						
ETOS	**Mallorca**	**4.03**	**58**	P	Pn	09 05 15.1	-1.2
ESAC	**San Caprasio**	**4.10**	**12**	Pn	Pn	09 05 17.0	-0.2
	30nm,0.3s,SNR=5.2						
ESAC				Pg	Pg	09 05 29.9	-2.8
	18nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	09 06 00.7	-4.8
	79nm,0.4s,SNR=7.9						
ESAC				Lg		09 06 22.9	
	144nm,0.3s,SNR=5.0						
ESAC	**San Caprasio**	**4.10**	**12**	Pn	Pn	09 05 17.0	-0.2
	30nm,0.3s,SNR=5.2						
ESAC	**San Caprasio**	**4.10**	**12**	Pg	Pg	09 05 29.9	-2.8
	18nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	09 05 59.7	-5.8
	79nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**4.10**	**12**	P	Pn	09 05 17.4	+0.1
EPOB	**Poblet**	**4.19**	**29**	Pn	Pn	09 05 17.0	-1.4
	7.7nm,0.4s,SNR=7.9						
EPOB				Sn	Sn	09 06 02.7	-5.0
	13nm,0.5s,SNR=7.9						
EPOB				Lg		09 06 22.3	
	6.0nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**4.19**	**29**	Pn	Pn	09 05 17.0	-1.5
	7.7nm,0.4s,SNR=7.9						
EPOB				Sn	Sn	09 06 02.7	-5.0
	13nm,0.5s,SNR=7.9						
EBAD	**Badajoz**	**4.38**	**285**	Pn	Pn	09 05 18.9	-2.1
	0.9nm,0.1s,SNR=5.2						
EBAD				Sn	Sn	09 06 08.9	-3.4
	12nm,0.3s,SNR=7.9						
EBAD				Lg		09 06 31.5	
	41nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.38**	**285**	Pn	Pn	09 05 18.9	-2.1
	0.9nm,0.1s,SNR=5.2						
EBAD	**Badajoz**	**4.38**	**285**	P	Pn	09 05 19.4	-1.6
EBAD				Sn	Sn	09 06 08.9	-3.4
	12nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.38**	**285**	P	Pn	09 05 19.4	-1.6
EGRO	**El Granado**	**4.66**	**270**	Pn	Pn	09 05 23.7	-1.2
	2.6nm,0.2s,SNR=11						
EGRO				Sn	Sn	09 06 16.2	-3.2
	6.3nm,0.3s,SNR=7.9						
EGRO				Lg		09 06 39.4	
	28nm,0.6s,SNR=7.9						
EGRO	**El Granado**	**4.66**	**270**	Pn	Pn	09 05 23.7	-1.3
	2.6nm,0.2s,SNR=11						
EGRO				Sn	Sn	09 06 16.2	-3.1
	6.3nm,0.3s,SNR=7.9						
EGRA	**Graus**	**4.72**	**18**	Pn	Pn	09 05 23.4	-2.3
	2.4nm,0.5s,SNR=7.9						
EGRA				Lg		09 06 41.4	
	46nm,0.7s,SNR=7.9						
EMIR	**Miracle**	**4.84**	**29**	Pn	Pn	09 05 26.4	-1.0
	1.9nm,0.3s,SNR=4.0						
EMIR				Sn	Sn	09 06 19.2	-4.6
	12nm,0.4s,SNR=7.9						
EMIR				Lg		09 06 46.9	
	23nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**4.84**	**29**	Pn	Pn	09 05 26.4	-1.1
	1.9nm,0.3s,SNR=4.0						
EMIR				Sn	Sn	09 06 19.2	-4.6
	12nm,0.4s,SNR=7.9						
PBEJ	**Beja**	**4.96**	**276**	*e*Pn	Pn	09 05 28.1	-0.9
PBEJ				*e*Sn	Sn	09 06 23.6	-3.0
PBEJ							
	30nm,0.5s						
IUNC	**Unciti**	**5.04**	**1**	Pn	Pn	09 05 30.7	+0.6
	5.5nm,0.3s,SNR=7.9						
IUNC				Sn	Sn	09 06 23.8	-4.9
	3.1nm,0.3s,SNR=7.9						
IUNC				Lg		09 06 54.4	
	18nm,0.6s,SNR=7.9						
IUNC	**Unciti**	**5.04**	**1**	Pn	Pn	09 05 30.7	+0.6
	5.5nm,0.3s,SNR=7.9						
IUNC				Sn	Sn	09 06 23.8	-4.8
	3.1nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**5.05**	**297**	*e*Sn	Sn	09 06 26.1	-2.8
PCBR				*e*Sg	Sg	09 06 54.4	-1.8
PCBR							
	43nm,0.5s						
PCBR	**Castelo Branco**	**5.05**	**297**	*e*Sn	Sn	09 06 26.1	-2.8
PCBR				*e*Sg	Sg	09 06 54.4	-1.8
	43nm,0.5s						
EARA	**Aranguren**	**5.05**	**0**	Lg		09 06 54.0	
	229nm,0.5s,SNR=4.0						
EBIE	**Bielsa**	**5.15**	**15**	Pn	Pn	09 05 31.4	-0.2
	0.5nm,0.2s,SNR=10.0						
EBIE				Sn	Sn	09 06 26.0	-5.3
	13nm,0.6s,SNR=7.9						
EBIE				Lg		09 06 56.4	
	13nm,0.5s,SNR=4.0						
EBIE	**Bielsa**	**5.15**	**15**	Pn	Pn	09 05 31.4	-0.2
	0.5nm,0.2s,SNR=10.0						
EBIE	**Bielsa**	**5.15**	**15**	P	Pn	09 05 32.4	+0.8
EBIE				Sn	Sn	09 06 26.0	-5.3
	13nm,0.6s,SNR=7.9						
EBIE	**Bielsa**	**5.15**	**15**	P	Pn	09 05 32.4	+0.8

IUSE	**Utxeti**	**5.23**	**1**	Pn	Pn	09 05 33.3	+0.6
	3.2nm,0.2s,SNR=7.9						
IUSE				Lg		09 06 59.8	
	6.4nm,0.4s,SNR=7.9						
IUSE	**Utxeti**	**5.23**	**1**	Pn	Pn	09 05 33.3	+0.6
	3.2nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**5.34**	**302**	*e*Pn	Pn	09 05 33.4	-0.8
MTE				*e*Sn	Sn	09 06 32.3	-3.7
MTE				*e*Sg	Sg	09 07 05.3	-0.2
MTE							
	53nm,0.7s						
MTE	**Manteigas**	**5.34**	**302**	*e*Pn	Pn	09 05 33.4	-0.8
MTE				*e*Sn	Sn	09 06 32.3	-3.7
MTE				*e*Sg	Sg	09 07 05.3	-0.2
	53nm,0.7s						
MOE	**Montemor**	**5.37**	**281**	*e*Sn	Sn	09 06 32.8	-4.1
SJPF	**Ste Jean**	**5.40**	**3**	*e*Pn	Pn	09 05 34.7	-0.4
SJPF				*e*Sn	Sn	09 06 31.7	-5.9
SJPF				*e*Sg	Sg	09 07 03.2	-4.4
	11nm,0.3s						
SJPF	**Ste Jean**	**5.40**	**3**	*e*Pn	Pn	09 05 34.7	-0.4
SJPF				*e*Sn	Sn	09 06 31.7	-5.9
SJPF				*e*Sg	Sg	09 07 03.2	-4.4
	5.3nm,0.3s						
ELIZ	**Elizondo**	**5.45**	**1**	Pn	Pn	09 05 34.3	-1.4
	5.1nm,0.4s,SNR=7.9						
ELIZ				Sn	Sn	09 06 34.6	-4.1
	3.3nm,0.2s,SNR=4.0						
EALK	**Alkurruntz**	**5.50**	**1**	Pn	Pn	09 05 36.6	+0.1
	24nm,0.5s,SNR=16						
EALK				Sn	Sn	09 06 35.4	-4.6
	43nm,0.5s,SNR=7.9						
EALK				Lg		09 07 07.4	
	48nm,0.7s,SNR=7.9						
EALK	**Alkurruntz**	**5.50**	**1**	P	Pn	09 05 37.3	+0.8
EALK	**Alkurruntz**	**5.50**	**1**	P	Pn	09 05 37.3	+0.8
EPF	**Esparros**	**5.52**	**15**	*e*Pn	Pn	09 05 36.2	-0.5
EPF				*e*Sn	Sn	09 06 34.5	-5.9
EPF				*e*Sg	Sg	09 07 04.6	-6.7
	11nm,0.3s						
EPF	**Esparros**	**5.52**	**15**	Pn	Pn	09 05 36.2	-0.5
EPF				Sn	Sn	09 06 34.5	-5.9
EPF				Lg		09 07 04.6	
	5.3nm,0.3s						
EPF	**Esparros**	**5.52**	**15**	*e*Pn	Pn	09 05 36.2	-0.5
EPF				*e*Sn	Sn	09 06 34.5	-5.9
PTEO	**Sao Teotonio**	**5.64**	**270**	*e*Sn	Sn	09 06 40.8	-2.8
PTEO				*e*Sg	Sg	09 07 14.0	-1.3
PTEO							
	26nm,0.7s						
PTEO	**Sao Teotonio**	**5.64**	**270**	*e*Sg	Sg	09 07 14.0	-1.3
	26nm,0.7s						
PTOM	**Tomar**	**5.65**	**292**	*e*Sn	Sn	09 06 39.4	-4.2
PTOM				*e*Sg	Sg	09 07 12.7	-2.7
PTOM							
	78nm,0.7s						
PTOM	**Tomar**	**5.65**	**292**	*e*Sg	Sg	09 07 12.7	-2.7
	78nm,0.7s						
PBRG	**Braganca**	**5.68**	**318**	*e*Pn	Pn	09 05 37.7	-1.3
PBRG				*e*Sn	Sn	09 06 39.3	-5.2
PBRG				*e*Sg	Sg	09 07 12.3	-4.2
PBRG							
	38nm,0.7s						
PBRG	**Braganca**	**5.68**	**318**	*e*Pn	Pn	09 05 37.7	-1.3
PBRG				*e*Sn	Sn	09 06 39.3	-5.2
PBRG				*e*Sg	Sg	09 07 12.3	-4.2
	38nm,0.7s						
ELAN	**Lanestosa**	**5.68**	**346**	Pn	Pn	09 05 38.7	-0.3
	2.7nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	09 06 37.4	-7.2
	17nm,0.5s,SNR=7.9						
ELAN				Lg		09 07 13.0	
	32nm,0.7s,SNR=7.9						
PVIS	**Viseu**	**5.72**	**304**	*e*Pn	Pn	09 05 38.6	-0.9
PVIS				*e*Sn	Sn	09 06 41.1	-4.4
PVIS				*e*Sg	Sg	09 07 15.1	-2.8
PVIS							
	24nm,0.6s						
PVIS	**Viseu**	**5.72**	**304**	Pn	Pn	09 05 38.6	-0.9
PVIS				Sn	Sn	09 06 41.1	-4.4
PVIS				Lg		09 07 15.1	
	12nm,0.6s						
ECAL	**Calabor**	**5.78**	**319**	Pn	Pn	09 05 38.6	-1.7
	3.2nm,0.2s,SNR=4.8						
ECAL				Sn	Sn	09 06 41.3	-5.5
	10nm,0.3s,SNR=7.9						
ECAL				Lg		09 07 14.5	
	70nm,0.6s,SNR=4.7						
ECAL	**Calabor**	**5.78**	**319**	P	Pn	09 05 40.3	0.0
EARI	**Arriondas**	**6.22**	**335**	Pn	Pn	09 05 45.5	-0.9
	16nm,0.6s,SNR=7.9						
EARI				Sn	Sn	09 06 51.6	-6.1
	117nm,1.3s,SNR=7.9						
EARI				Lg		09 07 30.6	
	28nm,0.6s,SNR=7.9						
ERUA	**La Rua**	**6.31**	**320**	Lg		09 07 35.4	
	28nm,0.6s,SNR=5.7						
MTLF	**Montolieu**	**6.33**	**26**	*e*Sn	Sn	09 06 53.3	-7.3
MTLF				*e*Sg	Sg	09 07 31.8	-5.7
	6.9nm,0.5s						
MTLF	**Montolieu**	**6.33**	**26**	*e*Sn	Sn	09 06 53.3	-7.3
MTLF				*e*Sg	Sg	09 07 31.8	-5.7
	3.5nm,0.5s						
PCAB	**Cabril**	**6.35**	**311**	*e*Sn	Sn	09 06 55.5	-5.5
PCAB				*e*Sg	Sg	09 07 35.6	-2.4
PCAB							
	26nm,0.8s						
ELOB	**Lobios**	**6.47**	**312**	Pn	Pn	09 05 47.9	-1.9
	2.1nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	09 06 57.2	-6.7
	8.6nm,0.4s,SNR=7.9						
ELOB				Lg		09 07 35.8	
	32nm,0.5s,SNR=7.9						
EPON	**Pontenova**	**7.01**	**325**	Pn	Pn	09 05 56.4	-0.9
	1.9nm,0.2s,SNR=7.9						
EPON				Sn	Sn	09 07 10.0	-7.3
	24nm,0.5s,SNR=7.9						
EPON				Lg		09 07 55.6	
	5.4nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**7.43**	**13**	*e*Pn	Pn	09 06 00.4	-2.6
EMAZ	**Mazaricos**	**7.68**	**315**	Lg		09 08 14.9	
	6.4nm,0.3s,SNR=4.6						
CAF	**Calviac**	**7.72**	**20**	*e*Pn	Pn	09 06 05.8	-1.2
MFF	**Saint Martin d**	**8.95**	**7**	*e*Pn	Pn	09 06 21.0	-2.8
PGF	**Pioggiola**	**9.45**	**56**	*e*Pn	Pn	09 06 29.6	-1.1
QUIF	**Quistinic**	**10.26**	**354**	*e*Pn	Pn	09 06 40.3	-1.5
SGMF	**Saint Gilles**	**10.56**	**357**	*e*Pn	Pn	09 06 44.3	-1.6

NEIC ***08*** *09:22:40.7, 4074S×17638E, h14km, ML4.1(WEL), After WEL.*

WEL 08 09:22:39.9±0.2, 4079S×17641E, h20km±1km, ML4.1/36, 1D, Error ellipse: s-maj=2.4km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.17**	**311**	P*	Pg	09 22 43.7	-0.9
BFZ				S*	Sg	09 22 46.7	-1.1
BFZ	**Birch Farm**	**0.17**	**311**	P	Pg	09 22 43.7	-0.9
BFZ				S	Sg	09 22 46.7	-1.1
MRZ	**Mangatainoka R**	**0.65**	**281**	⇓P*	Pb	09 22 52.6	+0.1
MRZ				*e*S*	Sb	09 23 01.1	-0.1
MRZ	**Mangatainoka R**	**0.65**	**281**	P	Pb	09 22 52.6	+0.1
MTW	**Mount Morrison**	**0.78**	**242**	P*	Pb	09 22 55.2	+0.4
MTW	**Mount Morrison**	**0.78**	**242**	P	Pb	09 22 55.2	+0.4
TSZ	**Takapari Road**	**0.81**	**335**	P*	Pb	09 22 55.6	+0.3
TSZ				S*	Sb	09 23 06.3	+0.5
TSZ	**Takapari Road**	**0.81**	**335**	P	Pb	09 22 55.6	+0.3
TRWZ	**Traveller**	**0.82**	**222**	P*	Pb	09 22 55.5	+0.1
PXZ	**Pawanui**	**0.83**	**24**	P*	Pb	09 22 55.6	-0.1
PAWZ	**Paruwai Farm**	**0.95**	**231**	P*	Pb	09 22 57.3	-0.4
CAW	**Cannon Point**	**1.07**	**252**	P*	Pb	09 22 59.3	-0.3
MSWZ	**Moikau Station**	**1.08**	**234**	P*	Pb	09 22 58.8	-1.1
MSWZ				*e*S*	Sb	09 23 13.3	-0.2
KIW	**Kapiti Island**	**1.14**	**266**	P*	Pb	09 23 00.7	-0.3
KIW				S*	Sb	09 23 16.5	+1.1
BHW	**Baring Head**	**1.32**	**242**	P*	Pb	09 23 02.4	-1.6
WEL	**Wellington**	**1.34**	**248**	P*	Pb	09 23 03.0	-1.3
MRW	**Makara Radio**	**1.37**	**251**	P*	Pb	09 23 03.4	-1.5
MRW				S*	Sb	09 23 21.3	-0.5
SNZO	**South Karori**	**1.39**	**248**	P*	Pb	09 23 03.5	-1.7
SNZO	**South Karori**	**1.39**	**248**	*e*Pn	Pn	09 23 03.8	-0.3
SNZO				*e*Sn	Sn	09 23 23.1	+1.1

MOVZ	**Moawhango**	**1.47**	**340**	PN	Pn	09 23 06.1	+0.8
WAZ	**Wanganui**	**1.50**	**313**	PN	Pn	09 23 07.0	+1.3
MTVZ	**Mangateitei**	**1.58**	**332**	*e*PN	Pn	09 23 08.0	+1.2
BKZ	**Black Stump Fm**	**1.62**	**2**	PN	Pn	09 23 07.2	-0.3
TRVZ	**Turoa**	**1.63**	**336**	*e*PN	Pn	09 23 09.0	+1.5
TCW	**Tory Channel**	**1.67**	**255**	PN	Pn	09 23 07.6	-0.5
FWVZ	**Far West T-bar**	**1.67**	**336**	PN	Pn	09 23 09.5	+1.4
PKVZ	**Pokaka**	**1.71**	**331**	PN	Pn	09 23 09.9	+1.3
OTVZ	**Oturere**	**1.73**	**340**	PN	Pn	09 23 10.0	+1.2
NGZ	**Ngauruhoe**	**1.73**	**339**	*e*PN	Pn	09 23 10.3	+1.5
WTVZ	**West Tongariro**	**1.79**	**339**	PN	Pn	09 23 11.0	+1.3
RITZ	**Rihia Road**	**1.86**	**347**	PN	Pn	09 23 11.7	+1.0
DUWZ	**D'Urville Isla**	**1.89**	**269**	PN	Pn	09 23 11.5	+0.5
KNZ	**Kokohu**	**2.02**	**29**	PN	Pn	09 23 11.6	-1.2
NNZ	**Nelson**	**2.33**	**259**	PN	Pn	09 23 16.9	-0.2

HLW ***08*** *09:58:37.7, 3058N×3523E, h7km, Mb3.0*
ISCJB ***08*** *09:58:39.5±0.7, 3045N±004×3498E±007, h0km, Error ellipse: s-maj=9.6km s-min=4.6km az=144.3*
CSEM ***08*** *09:58:39.2±0.1, 3045N×3496E, h1km, ML2.6, Error ellipse: s-maj=1.8km s-min=1.3km az=80.0, Mining explosion.*
GII ***08*** *09:58:39.9±0.0, 3044N×3499E, h0km, ML2.6/2*

ISC 08 09:58:39.8±0.7, 3045N±004×3499E±007, h0km, n13, σ1°04/16, 3D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.19**	**58**	Pg	**Pg**	**09 58 44.1**	**+0.5**
KMTI	**Karmit**	**0.41**	**213**	Pg	**Pg**	**09 58 47.7**	**0.0**
HRFI	**Mount Harif**	**0.42**	**174**	Pg	**Pg**	**09 58 48.1**	**+0.3**
HRFI				Sg	**Sg**	**09 58 54.9**	**+1.7**
SVTA	**Shivta**	**0.57**	**327**	Pg	**Pg**	**09 58 50.9**	**0.0**
SVTA	**Shivta**	**0.57**	**327**	Pg	**Pg**	**09 58 50.8**	**0.0**
KZIT	**Kziot**	**0.68**	**312**	Pg	**Pg**	**09 58 53.0**	**+0.1**
KZIT				Sg	**Sg**	**09 59 04.2**	**+2.5**
EIL	**Elat**	**0.78**	**182**	Pg	**Pg**	**09 58 54.2**	**-0.6**
HBST	**Basata**	**1.25**	**190**	⇓P	**Pg**	**09 59 03.1**	**-0.7**
HBST				S	**Sg**	**09 59 21.8**	**+1.8**
AMAG	**Maghara**	**1.55**	**278**	⇓P	**Pn**	**09 59 07.6**	**-1.0**
HDHB	**Dhahab**	**1.75**	**191**	⇓P	**Pn**	**09 59 10.1**	**-1.3**
SUZ		**1.96**	**252**	P	**Pn**	**09 59 13.9**	**-0.4**
HKAT	**Jabal Katrina**	**2.11**	**205**	P	**Pn**	**09 59 15.1**	**-1.3**
TR2		**2.33**	**208**	P	**Pn**	**09 59 18.9**	**-0.6**

IDC ***08*** *10:08:22.5±0.8, 1251N×14385E, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.8/6, MS3.6/1, Ms1 3.5/1, ms1mx2.5/26, Error ellipse: s-maj=41.8km s-min=16.6km az=119.0*
ISCJB ***08*** *10:08:24.8±5.9, 124N±01×1438E±02, h30km±43km, mb3.9/7, Error ellipse: s-maj=40.6km s-min=11.3km az=59.8*

ISC 08 10:08:25.7±6.3, 124N±01×1439E±02, h22km±46km, n9, σ1°08/10, mb3.9/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.49**	**38**	Pn	**Pn**	**10 08 51.3**	**+0.1**
	21nm,0.3s,baz=192,slow=14,SNR=6.8						
GUMO				Sn	**Sn**	**10 09 09.8**	**-0.1**
	43nm,0.3s,baz=183,slow=21,SNR=11						
WB2	**Warramunga Arr**	**33.51**	**196**	*e*P	**P**	**10 15 03.4**	**-0.1**
WRA	**Warramunga Arr**	**33.51**	**196**	P	**P**	**10 15 03.8**	**+0.2**
	4.3nm,0.6s,mb4.5,baz=21,slow=9.8,SNR=23						
ASAR	**Alice Springs**	**37.17**	**195**	P	**P**	**10 15 36.5**	**+1.4**
	1.3nm,0.7s,mb3.8,baz=14,slow=16,SNR=5.4						
ASAR				PcP	PcP	10 17 56.2	+1.3
	0.5nm,0.7s,baz=42,slow=1.8,SNR=5.5						
STKA	**Stephens Creek**	**44.10**	**183**	P	**P**	**10 16 29.9**	**-2.3**
	1.0nm,0.5s,mb3.8,baz=355,slow=15,SNR=2.9						
STKA				LR	LR	10 36 30.7	
	comp=Z,74nm,19.3s,baz=205,slow=38						
MKAR	**Makanchi Array**	**61.69**	**317**	P	**P**	**10 18 42.1**	**0.0**
	0.3nm,0.6s,mb3.6,baz=86,slow=7.9,SNR=5.1						
ILAR	**Eielson Array**	**70.02**	**25**	P	**P**	**10 19 34.1**	**-1.6**
	0.5nm,0.8s,mb3.5,baz=245,slow=5.4,SNR=7.8						
YKA	**Yellowknife Ar**	**84.32**	**27**	P	**P**	**10 20 56.1**	**+0.1**
	0.4nm,0.4s,mb3.9,baz=286,slow=5.0,SNR=11						
NVAR	**Mina Array Bea**	**88.37**	**51**	P	**P**	**10 21 17.7**	**+1.8**
	0.6nm,0.6s,mb4.0,baz=269,slow=4.2,SNR=3.7						

ISCJB ***08*** *10:09:39.0±2.1, 34S±0.1×1393E±05, h33km, mb3.6/1, Error ellipse: s-maj=65.1km s-min=15.8km az=10.4*
IDC ***08*** *10:09:38.1±5.0, 335S×13848E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/11, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=203.4km s-min=30.5km az=85.0*

ISC 08 10:09:44.6±2.6, 34S±01×1382E±08, h35km, n6, σ0°94/7, mb3.6/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.86**	**211**	*e*P	**Pn**	**10 12 24.4**	**+6.9**
	8.4nm,0.4s						
WB2	**Warramunga Arr**	**16.87**	**192**	*e*P	**Pn**	**10 13 37.9**	**0.0**
WRA	**Warramunga Arr**	**16.87**	**193**	Pn	**Pn**	**10 13 36.0**	**-1.9**
	0.3nm,0.3s,baz=15,slow=12,SNR=16						
WRA				Sn	**Sn**	**10 16 44.6**	**+0.3**
	0.1nm,0.3s,baz=11,slow=22,SNR=4.8						
ASAR	**Alice Springs**	**20.58**	**191**	P	**P**	**10 14 20.4**	**0.0**
	1.1nm,0.8s,baz=25,slow=9.6,SNR=17						
ASPA	**Alice Springs**	**20.58**	**191**	*e*P	**P**	**10 14 21.

0.3nm,0.5s,baz=20,slow=12,SNR=7.0
MKAR Makanchi Array 61.70 317 P P 10 46 35.8 +0.4
0.2nm,0.6s,baz=97,slow=7.8,SNR=2.5
ILAR Eielson Array 69.98 25 P P 10 47 27.4 -1.5

ISCJB ***08*** *10:49:43.2±2.2,216S±0.1×1738W±01,h35km±19km, mb4.6/15,MS3.8/7,Error ellipse: s-maj=23.6km s-min=13.9km az=115.8*
NEIC ***08*** *10:49:44.5±0.7,2141S×17377W,h35km,mb4.8/7,Error ellipse: s-maj=23.1km s-min=12.7km az=133.0*
BJI ***08*** *10:49:46.9,2102S×17281W,h55km,mB5.3,mb5.2*
IDC ***08*** *10:49:46.2±2.5,2161S×17385W,h45km±22km,mb4.2/10, mb1 4.4/12,mb1mx4.3/19,mbtmp4.4/12,ML4.1/2,MS3.8/9, Ms1 3.8/9,ms1mx3.5/27,Error ellipse: s-maj=31.0km s-min=13.4km az=155.0*
ISC 08 10:49:45.8±2.1,216S±01×1738W±01,h44km±19km,n42, σ0979/33,mb4.6/15,MS3.8/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.92**	**14**	P	**Pn**	**10 51 30.2**	**-8.1**
	5.3nm,0.3s,baz=72,slow=7.7,SNR=8.8						
AFI				S	**Sn**	**10 52 49.3**	**-17**
	7.8nm,0.3s,baz=20,slow=22,SNR=3.5						
AFI	**Afiamalu**	**7.92**	**14**	*e*Pn	**Pn**	**10 51 30.1**	**-8.2**
AFI				*e*Sn	**Sn**	**10 52 53.7**	**-13**
RAR	**Rarotonga**	**13.04**	**91**	P	**Pn**	**10 52 36.7**	**-12**
	8.4nm,0.3s,baz=245,slow=8.0,SNR=8.1						
RAR				LR	LR	10 57 19.7	
	comp=Z,591nm,18.5s,baz=297,slow=35						
URZ	**Urewera**	**18.34**	**203**	P	**Pn**	**10 53 56.8**	**0.0**
	0.9nm,0.3s,baz=335,slow=22,SNR=4.4						
URZ				S	**S**	**10 57 06.9**	**-17**
	0.2nm,0.3s,baz=342,slow=20,SNR=2.3						
DZM	**Mont Dzumac**	**18.38**	**265**	P	**Pn**	**10 53 57.9**	**+0.5**
	0.4nm,0.3s,baz=80,slow=21,SNR=7.6						
DZM				LR	LR	10 59 26.3	
	comp=Z,202nm,20.8s,baz=204,slow=32						
TBI	**Tubuai**	**22.51**	**99**	*e*LQ		10 58 41.3	
	234nm,28.5s						
TBI				*e*LR	LR	10 59 35.4	
	551nm,26.8s,baz=264						
PPT	**Papeete**	**23.13**	**84**	*e*LQ		10 59 06.1	
	428nm,24.8s						
PPT				*e*LR	LR	10 59 48.9	
	511nm,25.5s,baz=256						
HNR	**Honiara**	**28.03**	**292**	LR	LR	11 04 12.0	
	comp=Z,113nm,20.3s,MS3.5,baz=178,slow=31						
RKT	**Rikitea**	**35.83**	**100**	*e*LR	LR	11 05 45.0	
	352nm,27.0s,baz=278						
CTA	**Charters Tower**	**37.33**	**265**	*e*P	**P**	**10 56 53.2**	**-0.6**
	5.3nm,0.7s,mb4.5						
CTA	**Charters Tower**	**37.33**	**265**	P	**P**	**10 56 53.3**	**-0.6**
	6.9nm,0.7s,mb4.6,baz=91,slow=11,SNR=9.7						
PMG	**Port Moresby**	**39.45**	**282**	P	**P**	**10 57 10.7**	**-1.0**
	25nm,1.0s,mb4.9,baz=108,slow=6.6,SNR=12						
PMG				LR	LR	11 09 47.6	
	comp=Z,120nm,18.2s,MS3.8,baz=240,slow=30						
PMG	**Port Moresby**	**39.45**	**282**	*e*P	**P**	**10 57 11.4**	**-0.3**
	10nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**40.90**	**246**	*e*P	**P**	**10 57 22.3**	**-1.4**
	4.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**40.90**	**246**	P	**P**	**10 57 22.7**	**-1.0**
	5.4nm,0.6s,mb4.4,baz=88,slow=9.2,SNR=18						
STKA				LR	LR	11 12 00.7	
	comp=Z,106nm,19.3s,MS3.7,baz=32,slow=33						
ASAR	**Alice Springs**	**48.12**	**257**	P	**P**	**10 58 21.4**	**+0.1**
	13nm,0.7s,mb5.1,baz=101,slow=7.5,SNR=178						
ASAR				PcP	PcP	10 59 50.0	+1.7
	1.5nm,0.7s,baz=112,slow=4.3,SNR=4.8						
ASAR				S	**S**	**11 05 16.7**	**-0.2**
	0.8nm,1.0s,baz=86,slow=16,SNR=6.8						
WB2	**Warramunga Arr**	**48.36**	**262**	*e*P	**P**	**10 58 22.7**	**-0.4**
WRAB	**Tennant Creek**	**48.36**	**262**	*e*P	**P**	**10 58 22.8**	**-0.3**
	15nm,0.7s,mb5.1						
WRA	**Warramunga Arr**	**48.37**	**262**	P	**P**	**10 58 22.8**	**-0.4**
	13nm,0.7s,mb5.1,baz=99,slow=6.4,SNR=113						
WRA				PcP	PcP	10 59 51.0	+1.8
	1.3nm,0.7s,baz=98,slow=3.0,SNR=2.9						
WRA				S	**S**	**11 05 20.5**	**+0.1**
	0.2nm,0.8s,baz=98,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**48.37**	**262**	P	**P**	**10 58 22.8**	**-0.4**
WRA				PcP	PcP	10 59 51.0	+1.8
WRA				S	**S**	**11 05 20.5**	**+0.1**
GUMO	**Guam**	**53.61**	**307**	LR	LR	11 18 43.0	
	comp=Z,68nm,19.2s,MS3.7,baz=321,slow=32						
FITZ	**Fitzroy Crossi**	**56.80**	**262**	*e*P	**P**	**10 59 26.1**	**+0.6**
	11nm,1.0s,mb4.8						
VNDA	**Vanda**	**57.17**	**186**	LR	LR	11 19 10.4	
	comp=Z,99nm,19.0s,MS3.9,baz=95,slow=31						
QSPA	**South Pole Qui**	**68.44**	**180**	*e*P	**P**	**11 00 44.1**	**+0.9**
	14nm,1.1s,mb4.9						
MJAR	**Matsushiro Arr**	**73.52**	**321**	P	**P**	**11 01 14.3**	**+0.4**
	3.0nm,0.8s,mb4.3,baz=158,slow=5.9,SNR=9.0						
ASAJ	**Asahikawa**	**76.67**	**329**	LR	LR	11 28 24.3	
	comp=Z,97nm,21.1s,MS4.1,baz=3.4,slow=30						
KSM	**Kuching**	**77.48**	**277**	*e*P	**P**	**11 01 37.8**	**+1.1**
YSS	**Yuzh-Sakhalins**	**78.73**	**331**	*e*P	**P**	**11 01 44.0**	**+0.4**
	7.9nm,0.7s,mb4.8						
NVAR	**Mina Array Bea**	**79.20**	**41**	P	**P**	**11 01 46.4**	**+0.3**
	1.4nm,0.8s,mb4.0,baz=233,slow=11,SNR=6.8						
NVAR	**Mina Array Bea**	**79.20**	**41**	P	**P**	**11 01 46.4**	**+0.3**
CN2	**Changchun**	**85.65**	**321**	*e*P	**P**	**11 02 22.4**	**+2.6**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.3						
PDAR	**Pinedale Array**	**87.12**	**42**	P	**P**	**11 02 26.3**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.8,baz=248,slow=0.5,SNR=3.9						
ILAR	**Eielson Array**	**88.60**	**11**	P	**P**	**11 02 33.6**	**-0.4**
	comp=Z,1.0nm,0.8s,mb4.2,baz=227,slow=5.8,SNR=14						
YKA	**Yellowknife Ar**	**95.92**	**24**	P	**P**	**11 03 06.7**	**-1.2**
	comp=Z,0.7nm,0.8s,mb4.2,baz=236,slow=4.1,SNR=17						
LPAZ	**La Paz**	**97.96**	**111**	LR	LR	11 40 14.0	
	comp=Z,65nm,20.2s,MS4.1,baz=352,slow=31						
BVAR	**Borovoye Array**	**122.49**	**320**	PKP	PKPdf	11 08 36.2	-0.1
	comp=Z,1.9nm,0.7s,baz=82,slow=0.8,SNR=13						
AKASG	**Malin Array Be**	**145.85**	**334**	PKPbc	PKPbc	11 09 19.4	-0.8
	comp=Z,3.1nm,0.8s,baz=35,slow=3.2,SNR=16						
MALT	**Malatya**	**147.75**	**308**	*e*PKPab	PKPab	11 09 27.1	-1.1
BR131	**Keskin Array S**	**150.51**	**314**	*e*PKPbc	PKPbc	11 09 33.4	+0.8
BR131				*e*PKPab	PKPab	11 09 41.1	+1.8
BRTR	**Keskin Array B**	**150.51**	**314**	PKPbc	PKPbc	11 09 33.8	+1.1
	comp=Z,4.8nm,0.8s,baz=130,slow=2.2,SNR=15						
GERES	**GERESS Array B**	**152.21**	**349**	PKPbc	PKPbc	11 09 36.6	+0.1
	comp=Z,1.1nm,0.8s,baz=17,slow=1.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**170.51**	**152**	PKP	PKPdf	11 09 49.3	+0.4
	comp=Z,0.7nm,0.8s,baz=302,slow=1.1,SNR=5.6						
TORD				PKPab	PKPab	11 11 06.8	+0.7
	comp=Z,1.1nm,0.8s,baz=200,slow=4.4,SNR=4.9						

IDC ***08*** *10:59:47.9±0.8,1.12N×9.702E,h0km,mb4.3/13, mb1 4.4/14,mb1mx4.3/22,mbtmp4.3/14,ML3.8/1,MS4.2/7, Ms1 4.2/7,ms1mx3.7/27,Error ellipse: s-maj=29.8km s-min=14.8km az=50.0*
BJI ***08*** *10:59:49.7,098N×9720E,h31km,mB5.1,mb5.0,Ms4.8, Msz4.6*
ISCJB ***08*** *10:59:50.2±0.3,1.15N±005×97.15E±004,h25km,mb4.8/65, MS4.5/28,Error ellipse: s-maj=7.5km s-min=5.3km az=88.5*
NEIC ***08*** *10:59:51.9±0.3,1.11N×97.14E,mb4.8/21,Error ellipse: s-maj=8.9km s-min=5.7km az=50.0*
MOS ***08*** *10:59:51.3±1.1,120N×97.12E,h33km,mb5.0/27,Error ellipse: s-maj=12.6km s-min=7.2km az=101.3*
ISC 08 10:59:52.6±0.4,116N±005×9715E±005,h27km, h27km±1.3km:pP-P,n127,σ1§10/129,mb4.8/65,MS4.5/28, 7C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.41**	**47**	Pn	**Pn**	**11 00 29.8**	**-0.4**
	20nm,0.3s,baz=202,slow=6.2,SNR=50						
PSI				LR	LR	11 01 20.1	
	comp=Z,2μm,19.9s,baz=306,slow=37						
PPI	**Padang Panjang**	**3.62**	**116**	P	**Pn**	**11 00 48.2**	**+1.3**
	254nm,1.1s						
BSI	**Banda Aceh**	**4.69**	**337**	P	**Pn**	**11 01 06.6**	**+5.0**
	99nm,0.7s						
IPM	**Ipoh**	**5.08**	**49**	P	**Pn**	**11 01 08.0**	**+1.1**
KULM	**Kulim**	**5.39**	**40⇑**	*e*P	**Pn**	**11 01 10.7**	**-0.5**
KGM	**Kluang**	**6.22**	**82**	P	**Pn**	**11 01 24.0**	**+1.3**
KSI	**Kapahiang**	**7.24**	**131**	P	**Pn**	**11 01 45.0**	**+8.4**
	188nm,0.5s						
KKM	**Kota Kinabalu**	**19.63**	**75**	P	**Pn**	**11 04 20.3**	**-0.2**
KKM	**Kota Kinabalu**	**19.63**	**75⇑**	*e*P	**Pn**	**11 04 19.3**	**-1.2**
TSM	**Tawau**	**20.93**	**81**	P	**P**	**11 04 32.3**	**-0.8**
QIZ	**Qiongzhong**	**21.68**	**34**	P	**P**	**11 04 41.1**	**-0.1**
QIZ				AP		11 04 50.9	
QIZ				S	**S**	**11 08 36.0**	**-3.8**
QIZ				XS	sS	11 08 48.8	-2.7
QIZ				SS		11 09 13.3	
QIZ				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.3						
QIZ				LR	LR		
	comp=N,625nm,15.5s,MS4.3						
QIZ				LR	LR		
	comp=E,816nm,15.0s,MS4.3						
QIZ				LR	LR		
	comp=Z,842nm,12.2s,MS4.4						
QIZ	**Qiongzhong**	**21.68**	**34⇓**	*e*P	**P**	**11 04 41.1**	**-0.1**
	comp=Z,7.6nm,0.6s,mb4.3						
HYB	**Hyderabad**	**24.40**	**313**	*i* P	**P**	**11 05 10.0**	**+1.3**
HYB	**Hyderabad**	**24.40**	**313**	*e*P	**P**	**11 05 10.0**	**+1.3**
KMI	**Kunming**	**24.43**	**12**	P	**P**	**11 05 09.8**	**+0.9**
KMI				AP		11 05 16.9	
KMI				XP	sP	11 05 19.8	-0.2
KMI				PP		11 05 47.0	
KMI				PCP	PcP	11 08 47.1	-0.3
KMI				S	**S**	**11 09 28.2**	**+1.0**
KMI				XS	sS	11 09 40.2	+0.2
KMI				SS		11 10 25.8	
KMI				SCP	ScP	11 12 22.8	-1.4
KMI				PCS	PcS	11 12 25.8	-1.5
KMI				AMB	AMB		
	comp=Z,56nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,246nm,4.7s						
KMI				LR	LR		
	comp=N,2μm,16.2s,MS4.8						
KMI				LR	LR		
	comp=E,997nm,13.8s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,14.2s,MS4.8						
SHL	**Shillong**	**24.79**	**349**	*i* P	**P**	**11 05 11.5**	**-0.7**
SHL				*e*S	**S**	**11 09 38.0**	**+5.0**
GYA	**Guiyang**	**26.77**	**19⇑**	*i* P	**P**	**11 05 28.9**	**-1.2**
GYA				AP	pP	11 05 35.8	-2.1
GYA				XP	sP	11 05 39.2	-2.0
GYA				PP		11 06 13.0	
GYA				S	**S**	**11 10 01.2**	**-3.1**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,3.4s						
GYA				LR	LR		
	comp=N,2μm,13.4s,MS4.8						
GYA				LR	LR		
	comp=E,570nm,13.5s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,13.6s,MS4.7						
GZH	**Guangzhou**	**26.88**	**35**	P	**P**	**11 05 36.1**	**+5.0**
GZH				S	**S**	**11 10 13.2**	**+7.2**
GZH				LR	LR		
	comp=N,746nm,13.3s,MS4.4						
GZH				LR	LR		
	comp=E,474nm,16.6s,MS4.4						
GZH				LR	LR		
	comp=Z,1μm,14.0s,MS4.7						
JIRN	**Jiri**	**28.37**	**339**	*e*P	**P**	**11 05 45.6**	**+1.2**
	comp=Z,72nm,1.1s,mb5.2						
PKI	**Pulchoki**	**28.57**	**338**	*e*P	**P**	**11 05 49.9**	**+3.7**
GUN	**Gumba**	**28.71**	**339**	*e*P	**P**	**11 05 49.1**	**+1.7**
	comp=Z,73nm,0.7s,mb5.5						
DMN	**Daman**	**28.72**	**337**	*e*P	**P**	**11 05 50.1**	**+2.5**
KKN	**Kakani**	**28.82**	**338**	*e*P	**P**	**11 05 49.1**	**+0.7**
	comp=Z,40nm,0.9s,mb5.2						
KKN	**Kakani**	**28.82**	**338**	*e*P	**P**	**11 05 49.1**	**+0.7**
KKN				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
LSA	**Lhasa**	**28.95**	**349**	P	**P**	**11 05 51.4**	**+1.8**
LSA	**Lhasa**	**28.95**	**349**	*e*P	**P**	**11 05 51.4**	**+1.8**
	comp=Z,18nm,1.0s,mb4.8						
LSA	**Lhasa**	**28.95**	**349**	*e*P	**P**	**11 05 51.4**	**+1.8**
LSA				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
GKN	**Gorkha**	**29.26**	**337**	*e*P	**P**	**11 05 53.3**	**+1.0**
KOLN	**Koldanda**	**29.47**	**335**	*e*P	**P**	**11 05 54.9**	**+0.7**
	comp=Z,29nm,0.7s,mb5.1						
CD2	**Chengdu**	**30.24**	**11**	P	**P**	**11 06 03.4**	**+2.3**
CD2				XP	sP	11 06 13.0	+0.8
CD2				PP	PP	11 07 04.1	-5.4
CD2				S	**S**	**11 11 03.3**	**+4.3**
CD2				XS	sS	11 11 14.0	+2.0
CD2				SS	SS	11 12 44.0	-24
CD2				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.5						
CD2				AMB	AMB		
	comp=Z,120nm,7.2s						
CD2				LR	LR		
	comp=N,550nm,14.4s						
CD2				LR	LR		
	comp=Z,740nm,15.0s,MS4.5						
ENH	**Enshi**	**31.23**	**21**	*e*P	**P**	**11 06 08.5**	**-1.3**
	comp=Z,31nm,0.6s,mb5.3						
ENH				*e*pP	pP	11 06 15.7	-1.9
QZH	**Quanzhou**	**31.43**	**40**	P	**P**	**11 06 11.9**	**+0.4**
QZH				*e*S	**S**	**11 11 15.4**	**-2.2**
QZH				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.4						
QZH				LR	LR		
	comp=N,1μm,12.3s,MS4.8						
QZH				LR	LR		
	comp=E,1μm,13.9s,MS4.8						
QZH				LR	LR		
	comp=Z,2μm,15.0s,MS4.8						
FITZ	**Fitzroy Crossi**	**33.94**	**126**	*e*P	**P**	**11 06 33.3**	**-0.2**
	comp=Z,7.3nm,0.9s,mb4.6						
XAN	**Xi'an**	**34.52**	**17**	P	**P**	**11 06 37.2**	**-1.3**
XAN				AP	pP	11 06 44.4	-2.0
XAN				S	**S**	**11 12 00.8**	**-4.7**
XAN				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.2						
XAN				AMB	AMB		
	comp=Z,77nm,6.0s						
XAN				LR	LR		
	comp=N,287nm,16.3s,MS4.5						
XAN				LR	LR		
	comp=E,692nm,16.7s,MS4.5						
XAN				LR	LR		
	comp=Z,923nm,15.3s,MS4.6						
LZH	**Lanzhou**	**35.30**	**9**	*e*P	**P**	**11 06 44.6**	**-0.7**
LZH				AP	pP	11 06 54.2	+1.0
LZH				XP	sP	11 06 59.0	+2.5
LZH				*e*S	**S**	**11 12 16.1**	**-1.5**
LZH				XS	sS	11 12 30.0	-0.7
LZH				*e*SS	SS	11 14 36.0	-16
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,170nm,4.2s						
LZH				LR	LR		
	comp=N,1μm,14.5s						
LZH				LR	LR		
	comp=Z,2μm,15.7s,MS4.9						
NJ2	**Nanjing**	**36.92**	**32**	*e*P	**P**	**11 07 00.4**	**+1.3**
NJ2				AP	pP	11 07 07.7	+0.6
NJ2				XP	sP	11 07 11.1	+0.8
NJ2				PP	PP	11 08 27.0	+3.6
NJ2				S	**S**	**11 12 42.0**	**-0.4**
NJ2				XS	sS	11 12 54.0	-1.6
NJ2				AMB	AMB		
	comp=Z,110nm,0.5s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,210nm,10.4s						
NJ2				LR	LR		
	comp=N,1μm,15.4s,MS4.8						
NJ2				LR	LR		
	comp=E,870nm,17.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,460nm,13.0s,MS4.5						
SSE	**Sheshan**	**37.47**	**35**	P	**P**	**11 07 04.8**	**+1.0**
SSE				AP	pP	11 07 11.1	-0.7
SSE				XP	sP	11 07 13.6	-1.4
SSE				PP	PP	11 08 30.7	+1.2
SSE				S	**S**	**11 12 53.4**	**+2.6**
SSE				XS	sS	11 13 04.3	+0.4
SSE				PCS	PcS	11 13 11.0	+0.6
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,71nm,5.8s						
SSE				LR	LR		
	comp=N,429nm,15.0s,MS4.5						
SSE				LR	LR		
	comp=E,296nm,15.0s,MS4.5						
SSE				LR	LR		
	comp=Z,542nm,12.1s,MS4.6						
KAKA	**Kakadu**	**37.63**	**113**	*e*P	**P**	**11 07 04.2**	**-0.9**
	comp=Z,16nm,1.0s,mb4.7						
GTA	**Gaotai**	**38.15**	**3**	*e*P	**P**	**11 07 08.9**	**-0.6**
GTA				AP	pP	11 07 15.9	-1.6
GTA				XP	sP	11 07 20.0	-0.7
GTA				PP	PP	11 08 39.2	+2.3
GTA				S	**S**	**11 12 59.7**	**-1.3**
GTA				XS	sS	11 13 15.2	+1.0
GTA				SS	SS	11 15 36.3	-13
GTA				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,92nm,6.1s						
GTA				LR	LR		
	comp=N,413nm,13.3s,MS4.5						
GTA				LR	LR		
	comp=E,349nm,14.4s,MS4.5						
GTA				LR	LR		
	comp=Z,530nm,16.0s,MS4.5						
HHC	**Hu-ho-hao-te**	**41.61**	**17**	*e*P	**P**	**11 07 40.4**	**+2.1**
HHC				AP	pP	11 07 47.8	+1.5
HHC				XP	sP	11 07 51.1	+1.6
HHC				PP	PP	11 09 20.8	+6.2
HHC				PCP	PcP	11 09 36.9	+1.9
HHC				S	**S**	**11 13 56.8**	**+3.9**
HHC				XS	sS	11 14 08.7	+2.6
HHC				SS	SS	11 16 58.0	-0.3
HHC				SCS	ScS	11 17 39.5	-0.3
HHC				AMB	AMB		
	comp=Z,11nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,132nm,4.9s						
HHC				LR	LR		
	comp=N,610nm,18.6s,MS4.7						
HHC				LR	LR		
	comp=E,753nm,16.3s,MS4.7						
HHC				LR	LR		
	comp=Z,622nm,15.7s,MS4.6						
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**11 07 42.4**	**+0.5**
	comp=Z,4.5nm,0.6s,mb4.3,baz=302,slow=9.1,SNR=56						
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	**P**	**11 07 42.0**	**+0.1**
	comp=Z,17nm,1.0s,mb4.6						
WRAB				*e*pP	pP	11 07 51.0	+1.0
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	**P**	**11 07 42.0**	**+0.1**
WRAB				*e**PP	pP	11 07 51.0	+1.0
WRAB				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**42.06**	**122**	*e*P	**P**	**11 07 42.2**	**+0.2**
BJT	**Baijiatuau**	**42.37**	**22**	*e*P	**P**	**11 07 44.6**	**+0.1**
	comp=Z,16nm,0.6s,mb4.8						
BJT				*e*pP	pP	11 07 51.7	-0.8
BJT	**Baijiatuau**	**42.37**	**22**	*e*P	**P**	**11 07 44.6**	**+0.1**
BJT				*e**PP	pP	11 07 51.7	-0.8
BJT				pmax	pmax		
	comp=Z,16nm,0.6s						
BJI	**Beijing**	**42.39**	**22**	P	**P**	**11 07 45.6**	**+0.9**
BJI				XP	sP	11 07 54.3	-1.6
BJI				PP	PP	11 09 30.9	+7.8
BJI				AMB	AMB		
	comp=Z,27nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=N,367nm,13.1s,MS4.6						
BJI				LR	LR		
	comp=E,367nm,13.8s,MS4.6						
BJI				LR	LR		
	comp=Z,214nm,15.8s,MS4.1						
WMQ	**Urumqi**	**43.30**	**350**	P	**P**	**11 07 52.6**	**+0.6**
WMQ				AP	pP	11 08 00.0	-0.1
WMQ				XP	sP	11 08 03.4	+0.1
WMQ				PP	PP	11 09 35.6	+2.7
WMQ				PCP	PcP	11 09 41.8	+1.2
WMQ				*e*S	**S**	**11 14 18.1**	**+0.3**
WMQ				SS	SS	11 17 25.6	-6.1
WMQ				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,148nm,4.5s						
WMQ				LR	LR		
	comp=N,168nm,20.2s,MS4.2						
WMQ				LR	LR		
	comp=E,259nm,23.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,141nm,24.0s,MS3.8						
ASPA	**Alice Springs**	**43.41**	**127**	*e*P	**P**	**11 07 53.3**	**+0.4**
AS31	**Alice Springs**	**43.41**	**127**	*e*P	**P**	**11 07 53.3**	**+0.4**
ASAR	**Alice Springs**	**43.41**	**127**	P	**P**	**11 07 53.5**	**+0.6**
	comp=Z,2.2nm,0.5s,mb4.2,baz=298,slow=7.8,SNR=44						
ASAR				PcP	PcP	11 09 42.2	+1.2
	comp=Z,0.6nm,0.7s,baz=304,slow=2.9,SNR=4.2						
UCH	**Uchtor**	**45.67**	**336**	P	**P**	**11 08 12.7**	**+1.8**
	SNR=17						
TKM2	**Tokmak 2**	**45.84**	**338**	P	**P**	**11 08 13.4**	**+1.2**
	SNR=6.6						
KBK	**Karagaybulak**	**45.86**	**337**	P	**P**	**11 08 14.4**	**+2.0**
	SNR=6.1						
KS15	**Wonju Array Si**	**45.88**	**35⇓**	*e*P	**P**	**11 08 12.9**	**+0.3**
KS15				*e*pP	pP	11 08 19.4	-1.3
AML	**Almayashu**	**45.92**	**336**	P	**P**	**11 08 14.1**	**+1.2**
	SNR=10.0						
AAK	**Ala-Archa**	**46.02**	**337**	*e*P	**P**	**11 08 14.3**	**+0.6**
	comp=Z,31nm,1.5s,mb5.0						
AAK				*e*pP	pP	11 08 25.4	+3.6
AAK	**Ala-Archa**	**46.02**	**337**	*e*P	**P**	**11 08 14.3**	**+0.6**
AAK				*e**PP	pP	11 08 25.4	+3.6
AAK				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.0						
FRU	**Bishkek**	**46.14**	**337**	*e*P	pP	11 08 24.0	+1.3
EKS2	**Erkin-Say**	**46.33**	**336**	P	**P**	**11 08 16.5**	**+0.4**
	SNR=11						
USP	**Ospenovka**	**46.55**	**337**	P	**P**	**11 08 19.0**	**+1.1**
	SNR=5.4						
SONM	**Songino Array**	**47.18**	**8**	P	**P**	**11 08 22.6**	**-0.2**
	comp=Z,7.8nm,0.8s,mb4.7,baz=190,slow=8.0,SNR=59						
SONM				PcP	PcP	11 09 54.1	0.0
	comp=Z,1.8nm,0.7s,baz=186,slow=3.8,SNR=7.0						
MK31	**Makanchi Array**	**47.27**	**346**	P	**P**	**11 08 22.8**	**-0.7**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**11 08 23.3**	**-0.2**
	comp=Z,5.6nm,0.6s,mb4.7,baz=160,slow=7.8,SNR=83						
KKAR	**Karatay Array**	**48.07**	**334**	*i* P	**P**	**11 08 30.0**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.9						
ZAK	**Zakamensk**	**49.32**	**5**	*e*P	**P**	**11 08 38.6**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,10.0nm,2.0s,mb4.5						
CN2	**Changchun**

KURK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MDJ Mudanjiang 51.92 29 P P 11 08 59.7 +0.7
MDJ AP pP 11 09 06.0 -1.2
MDJ XP sP 11 09 08.9 -1.5
MDJ SCP ScP 11 13 58.9 -7.5
MDJ PCS PcS 11 14 04.8 -4.7
MDJ AMB AMB
comp=Z,12nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,105nm,4.8s
MDJ LR LR
comp=N,126nm,18.0s,MS4.1
MDJ LR LR
comp=E,140nm,20.5s,MS4.1
MDJ LR LR
comp=Z,265nm,15.6s,MS4.4
MDJ Mudanjiang 51.92 29 *e*P **P 11 09 00.0 +1.1**
comp=Z,8.9nm,0.8s,mb4.8
CTA Charters Tower 52.53 116 LR LR 11 33 35.1
comp=Z,307nm,20.2s,MS4.3,baz=98,slow=38
STKA Stephens Creek 53.37 132 *e*P **P 11 09 09.2 -0.4**
comp=Z,3.9nm,0.6s,mb4.5
STKA Stephens Creek 53.37 132 P **P 11 09 09.2 -0.4**
comp=Z,4.6nm,0.9s,mb4.4,baz=306,slow=6.3,SNR=12
STKA LR LR 11 33 52.3
comp=Z,360nm,21.7s,MS4.4,baz=118,slow=38
NVS Novosibirsk 54.71 350 *i* P **P 11 09 17.8 -1.6**
NVS *i* 11 09 35.4
NVS pmax pmax
comp=Z,28nm,1.8s,mb5.0
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.2s
KRAR Krasnoyarsk 54.79 357 *e*P **P 11 09 15.3 -4.7**
KRAR pmax pmax
comp=Z,23nm,1.3s,mb5.0
VOSK Vostochnaya 55.82 341 P **P 11 09 26.7 -0.8**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BVA0 Borovoye Array 56.27 341 *i* P **P 11 09 28.8 -1.9**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
BVAR Borovoye Array 56.27 341 P **P 11 09 29.6 -1.1**
comp=Z,5.6nm,0.8s,mb4.7,baz=142,slow=8.8,SNR=24
KLR Kul'dur 56.31 27 *e*P **P 11 09 27.7 -3.2**
KLR pmax pmax
comp=Z,32nm,1.0s,mb5.3
KLR MLR MLR
comp=N,600nm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s,MS5.4
BRVK Borovoye 56.33 341 *e*P **P 11 09 29.3 -1.8**
comp=Z,3.3nm,0.6s,mb4.5
BRVK *e*pP pP 11 09 37.6 -1.8
BRVK Borovoye 56.33 341 *e*P **P 11 09 29.3 -1.8**
BRVK *e**PP pP 11 09 37.6 -1.8
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
HABR Khabarovsk 57.31 29 *e*P **P 11 09 33.3 -4.8**
AB31 Akbulak array 57.53 332 *i* P **P 11 09 38.8 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BOD Bodaibo 58.06 11 *e*P **P 11 09 41.8 -1.5**
BOD pmax pmax
comp=Z,12nm,1.0s,mb4.9
AKTO Aktyubinsk 59.24 332 P **P 11 09 50.6 -0.9**
AKTO pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
CLNS Chul'man 59.79 17 *e*P **P 11 09 53.2 -2.1**
CLNS pmax pmax
comp=Z,12nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS MLR MLR
comp=Z,500nm,15.0s,MS4.8
CLNS MLR MLR
comp=N,100nm,16.0s,MS4.8
CLNS MLR MLR
comp=E,500nm,14.0s,MS4.8
YSS Yuzh-Sakhalins 60.41 34 *e*P **P 11 09 59.9 +0.4**
comp=E,20nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 60.41 34 P **P 11 10 00.5 +1.0**
YSS *e* 11 10 12.1
YSS pmax pmax
comp=Z,20nm,1.0s,mb5.1
YSS MLR MLR
comp=Z,300nm,16.0s,MS4.5
ARU Arti 63.20 337 P **P 11 10 17.6 -0.8**
ARU Arti 63.20 337⇓ *i* P **P 11 10 16.9 -1.4**
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
KIV Kislovodsk 64.31 319 *e*P pP 11 10 33.9 -0.1
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.1
YAK Yakutsk 65.47 16 *e*P **P 11 10 32.4 -0.8**
YAK pmax pmax
comp=Z,19nm,1.0s,mb5.1
ANN Anapa 68.10 318 *e*P **P 11 10 50.0 +0.1**
ANN *e* 11 13 29.0
ANN pmax pmax
comp=Z,107nm,1.2s,mb5.8
MA2 Magadan 71.39 26 *e*P **P 11 11 08.6 -1.6**
comp=Z,8.3nm,0.9s,mb4.7
MA2 Magadan 71.39 26 *e*P **P 11 11 10.0 -0.2**
MA2 S S 11 20 22.2 -4.4
MA2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MA2 MLR MLR
comp=Z,300nm,22.0s,MS4.5
OBN Obninsk 72.63 328⇑ *e*P **P 11 11 23.4 +5.8**
OBN *i* 11 11 42.3
OBN *i* 11 13 59.1
OBN pmax pmax
comp=Z,21nm,1.6s,mb4.8
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
TIXI Tiksi 73.23 10 P **P 11 11 19.9 -1.4**
TIXI Tiksi 73.23 10⇑ *e*P **P 11 11 20.2 -1.0**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SEY Seymchan 73.82 23 *e*P **P 11 11 24.4 -0.2**
SEY *e* 11 21 26.5
SEY pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BOSA Boshof 74.72 240 LR LR 11 42 29.1
comp=Z,131nm,18.4s,MS4.3,baz=133,slow=34
AKASG Malin Array Be 75.26 322 P **P 11 11 31.5 -1.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=94,slow=4.8,SNR=7.7
AKASG Malin Array Be 75.26 322 P **P 11 11 31.5 -1.5**
SYO Syowa Base 79.95 198⇑ *e*P **P 11 11 57.9 -1.3**
FINES FINESS Array B 80.01 333 P **P 11 11 58.7 -0.8**
comp=Z,1.0nm,0.7s,mb3.8,baz=137,slow=4.2,SNR=5.3
FINES FINESS Array B 80.01 333 *i* P **P 11 12 00.0 +0.5**
FINES pmax pmax
comp=Z,1.0nm,0.7s
KAF Kangasniemi 80.10 333 *e*p **P 11 11 57.4 -2.6**
comp=Z,1.0nm,0.5s,mb4.0,baz=104,slow=5.0
KAF Kangasniemi 80.10 333 *e*P **P 11 11 57.4 -2.6**
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BILL Bilibino 81.22 21⇑ *e*P **P 11 12 04.7 -1.3**
BILL pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.7
ARCES ARCESS Array B 82.56 340 P **P 11 12 12.9 -0.1**
comp=Z,2.8nm,0.9s,mb4.3,baz=96,slow=4.9,SNR=7.3
ARCES LR LR 11 53 07.1
comp=Z,116nm,18.4s,MS4.3,baz=356,slow=39
GERES GERESS Array B 84.81 319 P **P 11 12 25.1 +0.5**
comp=Z,1.3nm,0.9s,mb4.1,baz=95,slow=6.7,SNR=6.2
VNDA Vanda 85.80 169 LR LR 11 46 43.4
comp=Z,154nm,18.1s,MS4.4,baz=276,slow=33
NB2 NORSAR Subarra 87.02 331 P **P 11 12 34.7 -0.8**
comp=Z,2.0nm,0.8s,mb4.4,baz=91,slow=5.1
NB2 NORSAR Subarra 87.02 331 P **P 11 12 34.7 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
NOA NORSAR Array B 87.02 331 P **P 11 12 35.6 +0.1**
comp=Z,1.3nm,0.9s,mb4.2,baz=95,slow=6.0,SNR=2.8
NOA LR LR 11 57 14.2
comp=Z,72nm,21.0s,MS4.0,baz=105,slow=40

TBI Tubuai 111.88 115 *e*LR LR 11 51 44.2
comp=Z,111nm,29.0s
YKA Yellowknife Ar 112.14 15 PP PP 11 19 05.0 -5.0
comp=Z,0.2nm,0.5s,baz=330,slow=7.5,SNR=4.3
PPT Papeete 112.51 108 *e*LR LR 11 52 01.6
comp=Z,93nm,23.2s
RKT Rikitea 124.96 118 *e*LR LR 11 57 47.4
comp=Z,145nm,41.0s
PLCA Paso Flores 139.06 194 PKP PKPdf 11 19 14.6 -2.1
comp=Z,4.2nm,1.1s,baz=172,slow=6.4,SNR=3.0
CPUP Villa Florida 144.94 222 PKP PKPdf 11 19 27.9 +0.6
comp=Z,1.8nm,0.5s,baz=107,slow=3.2,SNR=11
CPUP Villa Florida 144.94 222 *e*PKIKP PKPdf 11 19 27.7 +0.5
CPUP *e* 11 19 34.8
LRAL Lakeview Retre 145.76 6 *e*PKPdf PKPdf 11 19 29.3 +0.7
LRAL *e*pPKPdf pPKPdf 11 19 35.6 -1.9

IDC 08 11:08:00.3±5.0, 1244N×14389E, h37km±48km, mb3.5/6, mb1 3.7/6, mb1mx3.5/20, mbtmp3.7/6, Error ellipse: s-maj=48.3km s-min=18.1km az=100.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.48**	**40**	P	n	Pn	11 08 24.1	-0.3
GUMO	15nm,0.3s,baz=162,slow=3.7,SNR=6.1				Sn	Sn	11 08 43.9	+1.3
GUMO	26nm,0.3s,baz=332,slow=22,SNR=12							
WB2	**Warramunga Arr**	**33.53**	**196**	*e*P		P	11 14 36.6	+0.3
WRA	**Warramunga Arr**	**33.53**	**196**	P		P	11 14 36.8	+0.4
	2.0nm,0.7s,baz=20,slow=9.8,SNR=23							
ASAR	**Alice Springs**	**37.20**	**195**	P		P	11 15 08.1	+0.2
	0.4nm,0.5s,baz=19,slow=13,SNR=9.0							
SONM	**Songino Array**	**47.13**	**326**	P		P	11 16 29.3	+0.5
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.4							
BVAR	**Borovoye Array**	**70.23**	**322**	P		P	11 19 09.7	+0.1
	0.2nm,0.4s,baz=105,slow=7.3,SNR=4.6							
YKA	**Yellowknife Ar**	**84.31**	**27**	P		P	11 20 28.8	+0.5
	0.2nm,0.4s,baz=286,slow=5.1,SNR=4.4							
FINES	**FINESS Array B**	**91.79**	**335**	P		P	11 21 02.7	-1.6
	0.9nm,0.7s,baz=86,slow=7.1,SNR=3.1							

*IDC **08** 11:14:27.8±11.0, 12.12N×8720W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, Error ellipse: s-maj=216.6km s-min=170.4km az=151.0*
*ISCJB **08** 11:14:46.6±0.5, 130N±0.1×8878W±006, h86km±8km, mb3.6/4, Error ellipse: s-maj=19.3km s-min=3.7km az=61.4*
*CASC **08** 11:14:47.1±2.5, 1298N×8883W, h43km±37km, MD4.2, ML4.2*
ISC 08 11:14:48.0±0.5, 132N±01×8872W±007, h74km±8km, n37, σ1$01/43, mb3.6/4, 9C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.47**	**346**	*e*P		Px	11 15 04.7	
SNVI				*e*S		Sx	11 15 15.6	
VSM	**San Miguel**	**0.51**	**58**⇓	*e*P		Px	11 15 06.2	
VSM				*e*S		Sx	11 15 17.6	
BLLM	**Bellamira**	**0.55**	**59**⇓	*e*P		Px	11 15 06.4	
BLLM				*e*S		Sx	11 15 16.6	
LBRS	**Las Brisas**	**0.66**	**332**⇑	*i*P		Px	11 15 07.0	
LBRS				*e*S		Sx	11 15 16.8	
PICS	**Picacho**	**0.78**	**318**⇑	*e*P		Px	11 15 10.7	
PICS				*e*S		Sx	11 15 24.4	
BOQS	**Boqueron**	**0.79**	**317**⇑	*e*P		Px	11 15 07.4	
BOQS				*e*S		Sx	11 15 21.3	
CNCH	**Conchagua**	**0.87**	**82**⇑	*e*P		Px	11 15 09.9	
CNCH				*e*S		Sx	11 15 25.3	
SBLS	**San Blas**	**1.11**	**308**	*e*P		Px	11 15 11.1	
SBLS				*e*S		Sx	11 15 27.2	
SNJE	**San Jose**	**1.11**	**310**	*e*P		Px	11 15 11.3	
SNJE				*e*S		Sx	11 15 27.8	
RTR	**El Retiro**	**1.16**	**309**⇓	*e*P		Px	11 15 12.1	
RTR				*e*S		Sx	11 15 28.0	
CRIN	**San Cristobal**	**1.69**	**105**⇑	*e*P		**Pn**	**11 15 16.2**	**+0.6**
TEL3	**Telica 3**	**1.92**	**107**⇑	*e*P		**Pn**	**11 15 18.5**	**-0.1**
TEL3				*e*S		**Sn**	**11 15 42.7**	**+0.8**
TELN	**Telica**	**1.92**	**106**⇑	*e*P		**Pn**	**11 15 18.6**	**0.0**
TELN				*e*S		**Sn**	**11 15 42.9**	**+0.9**
LEON	**Leon**	**1.93**	**112**	*e*P		**Pn**	**11 15 17.6**	**-1.1**
IXG	**Ixpaco**	**1.97**	**301**⇑	*e*P		**Pn**	**11 15 17.2**	**-2.0**
IXG					AML	AML	11 15 43.9	
	comp=E,13μm,0.4s							
CNGN	**Cerro Negro**	**2.08**	**108**	*e*P		**Pn**	**11 15 20.3**	**-0.4**
MIRN	**Miramar**	**2.08**	**110**	*e*P		**Pn**	**11 15 20.6**	**-0.3**
MIRN				*e*S		**Sn**	**11 15 44.1**	**-1.8**
MRL	**Marmol**	**2.12**	**334**⇓	*e*P		**Pn**	**11 15 22.4**	**+1.1**
MOMJ	**Momotombo**	**2.25**	**109**	*e*P		**Pn**	**11 15 22.9**	**-0.1**
MOMJ				*e*S		**Sn**	**11 15 49.7**	**-0.3**
COPN	**Copaltepe**	**2.29**	**115**	*e*P		**Pn**	**11 15 22.5**	**-1.1**
COPN				*e*S		**Sn**	**11 15 49.8**	**-1.1**
FUG	**Fuego 3**	**2.43**	**302**	*e*P		**Pn**	**11 15 24.9**	**-0.6**
FUG				*e*S		**Sn**	**11 15 54.2**	**0.0**
APYN	**Apoyeque**	**2.49**	**111**⇓	*e*P		**Pn**	**11 15 25.9**	**-0.4**
APYN				*e*S		**Sn**	**11 15 56.1**	**+0.5**
XAVN	**Gruta Xavier**	**2.54**	**113**	*e*P		**Pn**	**11 15 26.4**	**-0.5**
XAVN				*e*S		**Sn**	**11 15 58.0**	**+1.1**
MGAN	**Managua**	**2.61**	**112**	*e*P		**Pn**	**11 15 27.1**	**-0.9**
MGAN				*e*S		**Sn**	**11 15 58.1**	**-0.5**
MGAN				*i*			11 15 59.0	
	comp=E,442nm,0.4s							
TICN	**Ticuantepe**	**2.67**	**114**	*e*P		**Pn**	**11 15 29.5**	**+0.8**
TICN				*e*S		**Sn**	**11 15 59.0**	**-1.1**
TP2	**Tecpan 2**	**2.76**	**306**	*e*P		**Pn**	**11 15 29.9**	**0.0**
TP2				*e*S		**Sn**	**11 16 04.9**	**+2.8**
APON	**Apoyo**	**2.87**	**115**	*e*P		**Pn**	**11 15 32.0**	**+0.6**
APON				*e*S		**Sn**	**11 16 05.8**	**+0.9**
JAT	**Jato**	**3.06**	**293**⇑	*e*P		**Pn**	**11 15 33.3**	**-0.7**
CGA2	**Cerro Gallo 2**	**5.21**	**126**	*e*P		**Pn**	**11 16 05.0**	**+1.8**
PRS1	**Puriscal**	**5.35**	**126**⇓	*e*P		**Pn**	**11 16 06.1**	**+0.9**
PRS1				*e*S		**Sn**	**11 17 06.0**	**+0.5**
LAJ	**Bijagual**	**5.57**	**126**	*e*P		**Pn**	**11 16 05.1**	**-3.1**
LAJ				*e*S		**Sn**	**11 17 06.4**	**-4.5**
LCR2	**La Lucha 2**	**5.74**	**126**	*e*P		**Pn**	**11 16 11.6**	**+1.1**
LCR2				*e*S		**Sn**	**11 17 14.7**	**-0.2**
BUS	**Buena Vista**	**6.04**	**126**⇓	*e*P		**Pn**	**11 16 16.0**	**+1.4**
BUS				*e*S		**Sn**	**11 17 22.5**	**+0.1**
PDAR	**Pinedale Array**	**34.57**	**333**	P		P	**11 21 31.9**	**+2.4**
	comp=E,0.3nm,0.6s,mb3.3,baz=137,slow=9.4,SNR=4.0							
ULM	**Lac du Bonnet**	**37.45**	**352**	P		**P**	**11 21 53.6**	**-0.4**
	comp=E,0.5nm,0.3s,mb3.9,baz=135,slow=7.1,SNR=1.9							
YKA	**Yellowknife Ar**	**52.61**	**345**	P		**P**	**11 23 53.6**	**-0.6**
	comp=E,1.4nm,0.6s,mb4.2,baz=138,slow=7.8,SNR=18							
ILAR	**Eielson Array**	**64.88**	**336**	P		**P**	**11 25 18.2**	**-1.1**
	comp=E,0.2nm,0.6s,mb3.1,baz=166,slow=5.2,SNR=4.3							

JMA 08 11:17:41.5±0.2, 3824N×14466E, h52km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.49**	**291**	P		Pn	11 18 20.8	+1.3
MIYJ	**Miyakonagasawa**	**2.59**	**302**	P		Pn	11 18 21.9	+1.0
MIYJ				S		Sn	11 18 52.0	+0.9
JIO	**Ouri**	**2.61**	**276**	P		Pn	11 18 22.7	+1.5
JIO				*e*S		Sn	11 18 53.3	+1.6
JMK	**Ichinoseki**	**2.79**	**286**	P		Pn	11 18 25.3	+1.7
JMK				*e*S		Sn	11 18 58.7	+2.7
JOM	**Ohasama**	**2.90**	**296**	P		Pn	11 18 26.8	+1.6
JOM				*e*S		Sn	11 19 01.7	+2.8
JMM	**Marumori**	**3.08**	**264**	P		Pn	11 18 28.8	+1.2
JMM				*e*S		Sn	11 19 04.0	+0.9
JCH	**Churui**	**4.48**	**348**	P		Pn	11 18 46.0	-0.8
JCH				*e*S		Sn	11 19 34.6	-3.0
JRY	**Ryogami san**	**5.11**	**246**	P		Pn	11 18 56.6	+1.2
JRY				*e*S		Sn	11 19 52.4	-0.7
JOD2	**Odawara 2**	**5.37**	**238**	*e*S		Sn	11 19 59.0	-0.5
MAT	**Matsushiro**	**5.41**	**254**	P		Pn	11 19 02.5	+2.9
MAT				S		Sn	11 20 03.5	+3.0
JTKR	**Abashiri--Toko**	**5.75**	**355**	P		Pn	11 19 03.2	-1.1
JTKR				*e*S		Sn	11 20 05.2	-3.7

IDC 08 11:24:13.1±0.9, 1248N×14390E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=34.6km s-min=16.8km az=116.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.45**	**41**	Pn		Pn	11 24 41.8	+1.2
	16nm,0.3s,baz=194,slow=13,SNR=6.9							
GUMO					Sn	Sn	11 25 01.5	+1.2
	60nm,0.3s,baz=346,slow=23,SNR=26							
WRA	**Warramunga Arr**	**33.56**	**196**	P		P	11 30 54.3	-0.4
	2.0nm,0.7s,baz=20,slow=9.9,SNR=27							
ASAR	**Alice Springs**	**37.23**	**195**	P		P	11 31 27.1	+0.9
	0.4nm,0.6s,baz=20,slow=12,SNR=9.3							
MKAR	**Makanchi Array**	**61.63**	**317**	P		P	11 34 33.4	+0.9
	0.2nm,0.6s,baz=109,slow=7.8,SNR=3.4							
ILAR	**Eielson Array**	**69.97**	**25**	P		P	11 35 24.4	-1.8
	0.5nm,0.8s,baz=258,slow=5.6,SNR=4.6							
BVAR	**Borovoye Array**	**70.21**	**322**	P		P	11 35 27.9	+0.2
	0.2nm,0.4s,baz=111,slow=7.0,SNR=4.3							
YKA	**Yellowknife Ar**	**84.27**	**27**	P		P	11 36 46.2	-0.4
	0.2nm,0.4s,baz=286,slow=5.0,SNR=5.7							
LPAZ	**La Paz**	**148.76**	**101**	PKPbc		PKPbc	11 44 04.6	+2.2
	0.6nm,0.8s,baz=288,slow=3.2,SNR=3.6							

IDC 08 11:55:03.3±8.6, 1136S×16604E, h90km±66km, mb3.5/7, mb1 3.7/8, mb1mx3.6/16, mbtmp3.9/8, ML4.5/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/23, Error ellipse: s-maj=88.2km s-min=24.1km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.29**	**287**	P		Pn	11 56 33.3	-0.2
	11nm,0.3s,baz=106,slow=3.4,SNR=4.9							
PMG	**Port Moresby**	**18.67**	**274**	LR		LR	12 05 51.3	
	comp=Z,52nm,19.6s,baz=192,slow=35							
CTA	**Charters Tower**	**20.91**	**243**	P		P	11 59 39.8	+1.3
	4.7nm,0.7s,baz=71,slow=6.5,SNR=5.9							
CTA				LR		LR	12 06 43.1	
	comp=Z,58nm,20.8s,baz=231,slow=34							
STKA	**Stephens Creek**	**30.42**	**224**	P		P	12 01 07.1	+0.1
	1.1nm,0.8s,baz=50,slow=11,SNR=3.2							
WRA	**Warramunga Arr**	**31.65**	**250**	P		P	12 01 18.5	+0.6
	1.2nm,0.8s,baz=81,slow=9.1,SNR=7.2							
ASAR	**Alice Springs**	**32.91**	**244**	P		P	12 01 28.8	-0.2
	1.4nm,0.8s,baz=72,slow=9.6,SNR=15							
RAR	**Rarotonga**	**34.18**	**111**	LR		LR	12 12 28.1	
	comp=Z,717nm,18.0s,baz=197,slow=31							
RPN	**Rapa Nui**	**80.18**	**116**	LR		LR	12 33 32.3	
	comp=Z,28nm,21.9s,baz=86,slow=29							
ILAR	**Eielson Array**	**83.72**	**18**	P		P	12 07 22.3	+0.1
	0.4nm,0.6s,baz=238,slow=5.8,SNR=12							
MKAR	**Makanchi Array**	**93.95**	**317**	P		P	12 08 10.9	0.0
	0.2nm,0.6s,baz=93,slow=8.7,SNR=4.5							
YKA	**Yellowknife Ar**	**95.12**	**27**	P		P	12 08 15.5	-0.9
	0.1nm,0.6s,baz=262,slow=4.4,SNR=4.6							

*CSEM **08** 11:56:21.7±0.7, 3868N×2860W, h5km, ML1.5, Error ellipse: s-maj=2.7km s-min=1.7km az=151.0, After PDA*
*PDA **08** 11:56:21.7±0.7, 3868N×2860W, h5km, MD2.8, ML1.5, Error ellipse: s-maj=2.7km s-min=1.7km az=151.0*
SVSA 08 11:56:21.7±0.7, 3868N×2860W, h5km, MD2.8, ML1.5, Error ellipse: s-maj=2.7km s-min=1.7km az=151.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.10**	**237**	*i* P		Pg	11 56 23.3	-0.4
PCED				*e*S		Sg	11 56 25.5	+0.4
PCED								
	84nm,0.2s							
PCED	**Cedros**	**0.10**	**237**	*e*S		Sg	11 56 25.5	+0.4
CALA	**Caldeira**	**0.13**	**219**	*i* P		Pg	11 56 24.3	0.0
CALA				*e*S		Sg	11 56 26.6	+0.5
CALA	**Caldeira**	**0.13**	**219**	*e*S		Sg	11 56 26.6	+0.5
HOR	**Horta**	**0.16**	**189**	*e*P		Pg	11 56 24.3	-0.5
HOR				*e*S		Sg	11 56 26.7	-0.2
PTCA	**Ponta do Capel**	**0.18**	**238**	*e*S		Sg	11 56 28.2	+0.4
PTCA								
	30nm,0.1s							
PICO	**Pico**	**0.23**	**143**	*e*P		Pg	11 56 25.8	-0.3
PICO				*i* S		Sg	11 56 29.2	+0.1
PCND	**Candelaria**	**0.24**	**153**	*e*S		Sg	11 56 29.6	+0.1
PCND								
	27nm,0.2s							
ROSA	**Rosais**	**0.28**	**82**	*e*P		Pg	11 56 26.9	-0.3
ROSA				*e*S		Sg	11 56 30.8	-0.1

*BJI **08** 12:16:43.4, 388N×9485E, h30km, mB5.0, mb4.6*
*ISCJB **08** 12:16:53.0±0.6, 479N±009×9523E±007, h33km, mb4.4/23, Error ellipse: s-maj=14.4km s-min=7.5km az=57.6*
*NEIC **08** 12:16:54.1±0.6, 476N×9498E, h30km, mb4.4/8, Error ellipse: s-maj=21.4km s-min=7.6km az=222.0*
*IDC **08** 12:16:57.8±4.1, 483N×95.11E, h65km±36km, mb4.0/10, mb1 4.1/11, mb1mx3.9/22, mbtmp4.3/11, ML3.9/1, MS4.2/1, Ms1 4.2/1, ms1mx2.7/31, Error ellipse: s-maj=45.5km s-min=16.4km az=52.0*
ISC 08 12:16:55.3±0.6, 480N±009×9517E±007, h35km, (h49km±1.6km:pP-P), n44, σ1$03/45, mb4.4/23, 7C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.23**	**118**	P		**Pn**	**12 18 01.3**	**+4.0**
	5.8nm,0.3s,baz=318,slow=17,SNR=28							
PSI					S	**Sn**	**12 18 52.5**	**+7.0**
	3.5nm,0.3s,baz=336,slow=22,SNR=4.0							
KULM	**Kulim**	**5.48**	**85**	*e*Pn		**Pn**	**12 18 17.6**	**+3.2**
KULM				*e*Sn		**Sn**	**12 19 15.6**	**-0.6**
KMI	**Kunming**	**21.48**	**19**	P		**P**	**12 21 41.8**	**+1.0**
KMI					AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.3							
JIRN	**Jiri**	**24.29**	**340**	*e*P		**P**	**12 22 09.6**	**+0.3**
GUN	**Gumba**	**24.63**	**340**	*e*P		**P**	**12 22 12.7**	**+0.3**
	comp=Z,11nm,0.5s,mb4.7							
LSA	**Lhasa**	**25.06**	**352**	*e*P		**P**	**12 22 14.8**	**-1.5**
	comp=Z,3.1nm,0.5s,mb4.1							
GKN	**Gorkha**	**25.16**	**338**	*e*P		**P**	**12 22 18.0**	**+0.8**
	comp=Z,9.3nm,0.3s,mb4.8							
KOLN	**Koldanda**	**25.36**	**335**	*e*P		**P**	**12 22 19.7**	**+0.6**
	comp=Z,21nm,0.7s,mb4.8							
XAN	**Xi'an**	**31.78**	**22**	P		**P**	**12 23 15.6**	**-0.6**
XAN					AMB	AMB		
	comp=Z,12nm,0.7s,mb4.8							
GTA	**Gaotai**	**34.71**	**6**	*e*P		**P**	**12 23 41.3**	**-0.5**
GTA					AP	pP	12 23 53.0	+1.0
GTA					XP	sP	12 23 58.6	+2.4
GTA					AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5							
ULHL	**Ulahol**	**40.92**	**338**	P		**P**	**12 24 35.2**	**+1.0**
	SNR=5.5							
KZA	**Kyzart**	**41.15**	**337**	P		**P**	**12 24 36.8**	**+0.6**
	SNR=5.1							
UCH	**Uchtor**	**41.57**	**337**	P		**P**	**12 24 40.9**	**+1.4**
	SNR=16							
TKM2	**Tokmak 2**	**41.75**	**338**	P		**P**	**12 24 41.9**	**+0.9**
	SNR=6.0							
KBK	**Karagaybulak**	**41.76**	**337**	P		**P**	**12 24 42.6**	**+1.5**
	SNR=10							
AML	**Almayashu**	**41.81**	**336**	P		**P**	**12 24 42.9**	**+1.3**
	SNR=5.1							
AAK	**Ala-Archa**	**41.92**	**337**	P		**P**	**12 24 44.7**	**+2.3**
	SNR=8.4							
AAK	**Ala-Archa**	**41.92**	**337**	*e*P		**P**	**12 24 43.0**	**+0.6**
	comp=Z,4.8nm,0.6s,mb4.3							
EKS2	**Erkin-Say**	**42.23**	**336**	P		**P**	**12 24 46.2**	**+1.3**
	SNR=11							
USP	**Ospenovka**	**42.46**	**338**	P		**P**	**12 24 47.5**	**+0.7**
	SNR=14							
MKAR	**Makanchi Array**	**43.30**	**347**	P		**P**	**12 24 52.9**	**-0.7**
	comp=Z,2.8nm,0.4s,mb4.3,baz=167,slow=6.7,SNR=60							
MKAR					PcP	PcP	12 26 40.5	-1.6
	comp=Z,0.4nm,0.6s,baz=173,slow=5.2,SNR=3.2							
SONM	**Songino Array**	**43.95**	**11**	P		**P**	**12 24 57.5**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.6,baz=189,slow=9.2,SNR=8.6							
SONM					PcP	PcP	12 26 43.8	-0.6
	comp=Z,0.7nm,0.7s,baz=192,slow

KURK Kurchatov 47.83 346 *eP* **P 12 25 27.8 -1.7**
comp=Z,1.6nm,0.4s,mb4.4
ZAL Zalesovo 49.72 352 P **P 12 25 43.2 -0.7**
comp=Z,3.2nm,0.5s,mb4.6,baz=306,slow=6.5,SNR=19
ATD Arta Tunnel 52.16 281 LR LR 12 45 28.4
comp=Z,205nm,19.4s,baz=20,slow=33
BRVK Borovoye 52.28 341 *eP* **P 12 26 02.1 -1.1**
comp=Z,5.2nm,0.7s,mb4.6
BRTR Keskin Array B 65.22 312 P **P 12 27 32.4 -0.7**
comp=Z,1.9nm,0.6s,mb4.3,baz=132,slow=6.9,SNR=9.2
AKASG Malin Array Be 71.19 322 P **P 12 28 08.9 -1.7**
comp=Z,1.3nm,0.5s,mb4.1,baz=96,slow=5.3,SNR=13
VRI Vrincioaia 71.62 317 ⇑P **P 12 28 13.3 +0.1**
VRI Vrincioaia 71.62 317 ⇑P **P 12 28 13.3 +0.1**
MLR Muntele Rosu 72.08 316 ⇑P **P 12 28 16.4 +0.5**
MLR Muntele Rosu 72.08 316 ⇑P **P 12 28 16.4 +0.5**
BURAR Bucovina Array 73.01 318 ⇑P **P 12 28 21.6 +0.2**
BURAR Bucovina Array 73.01 318 ⇑P **P 12 28 21.6 +0.1**
JOF Joensuu 74.05 335 *ep* **P 12 28 27.3 -0.3**
comp=Z,2.7nm,0.6s,mb4.3
FINES FINESS Array B 75.89 332 P **P 12 28 36.6 -1.6**
comp=Z,3.0nm,0.6s,mb4.4,baz=97,slow=5.9,SNR=21
FINES pP pP 12 28 50.5 +1.4
comp=Z,0.9nm,0.4s,baz=98,slow=6.4,SNR=3.0
KAF Kangasniemi 75.98 333 *ep* **P 12 28 37.1 -1.6**
comp=Z,1.7nm,0.5s,mb4.2,baz=106,slow=5.3
ARCES ARCESS Array B 78.49 340 P **P 12 28 51.6 -1.1**
comp=Z,1.0nm,0.3s,mb4.2,baz=101,slow=6.7,SNR=21
GERES GERESS Array B 80.79 319 P **P 12 29 05.0 -0.2**
comp=Z,0.9nm,0.4s,mb4.0,baz=103,slow=5.9,SNR=8.2
SYO Syowa Base 82.79 197⇓*eP* **P 12 29 21.1 +5.3**

TRN 08 12:17:09.0,1490N×6057W,h49km,MD3.7,Md2.6(FDF), 5D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRM	**Caravelle**	**0.36**	**247**	⇓*iP*	Pn	12 17 19.9	+1.3
CRM				*eS*	Sn	12 17 28.1	+2.6
MVM	**Montagne Vaucl**	**0.46**	**223**	*eP*	Pn	12 17 20.8	+1.1
LPMF	**Morne Lapointe**	**0.50**	**230**	*eP*	Pn	12 17 21.1	+0.9
BVM	**Bellevue**	**0.50**	**252**	⇓*iP*	Pn	12 17 21.6	+1.4
BAMF	**Morne Balai**	**0.57**	**262**	⇓*iP*	Pn	12 17 22.6	+1.7
FDF	**Fort de France**	**0.58**	**254**	⇓*eP*	Pn	12 17 22.6	+1.4
FDF				*eS*	Sn	12 17 32.4	+2.4
PML	**Morne Lenard**	**0.60**	**259**	*eP*	Pn	12 17 23.0	+1.6
BIM	**Bigot**	**0.61**	**232**	*eS*	Sn	12 17 33.0	+2.4
PCM	**Pelee Case Pet**	**0.62**	**263**	⇓*iP*	Pn	12 17 23.3	+1.6
DWS	**Wesley**	**0.98**	**313**	*eP*	Pn	12 17 28.3	+1.9
DWS				*eS*	Sn	12 17 42.1	+2.9
BBL	**Barber's Block**	**1.07**	**306**	*eP*	Pn	12 17 29.4	+1.8
MGG	**Marie-Galante**	**1.25**	**325**	*eP*	Pn	12 17 30.8	+0.8
TBG	**Guadaloupe-3**	**1.41**	**313**	*eP*	Pn	12 17 33.2	+1.0
DOG	**Dongo Capester**	**1.52**	**318**	*eP*	Pn	12 17 35.0	+1.3
PHG	**Guadaloupe-2**	**1.52**	**317**	*eP*	Pn	12 17 35.3	+1.5
TAG	**Tarade**	**1.55**	**317**	*eP*	Pn	12 17 35.6	+1.4
TAG				*eS*	Sn	12 17 55.2	+2.0
SCG	**Saint Claude**	**1.56**	**317**	*eP*	Pn	12 17 35.6	+1.4
SSV	**Crater Summit**	**1.67**	**201**	*eP*	Pn	12 17 37.3	+1.5
SSV				*eS*	Sn	12 17 58.3	+2.2
SVV	**Soufriere Volc**	**1.69**	**202**	*eP*	Pn	12 17 38.2	+2.2
SVV				*eS*	Sn	12 17 58.8	+2.3
LZG	**Guadaloupe-1**	**1.70**	**317**	*eP*	Pn	12 17 37.9	+1.8
SVB	**Belmont**	**1.74**	**202**	*eP*	Pn	12 17 38.6	+1.8
SVB				*eS*	Sn	12 18 00.1	+2.3
SEG	**Port Louis**	**1.75**	**329**	*eP*	Pn	12 17 38.9	+2.1
FCV	**Fort Charlotte**	**1.85**	**201**	*eP*	Pn	12 17 39.7	+1.5
FCV				*eS*	Sn	12 18 01.9	+1.5
GRCU	**Cariacou**	**2.56**	**200**	*eS*	Sn	12 18 19.1	+1.3
GRW	**Mount Saint Ca**	**2.92**	**201**	*eP*	Pn	12 17 55.9	+3.0

MOS 08 12:20:07.8±0.3,4253N×4334E,h15km,mb3.6/1,Error ellipse: s-maj=56.7km s-min=14.7km az=55.7,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.41**	**25**	*i* PG	Pg	12 20 17.1	+1.1
DIGR				*i* S	Sg	12 20 22.6	+1.1
ZEI	**Tsey**	**0.47**	**60**	*i* PG	Pg	12 20 18.3	+1.1
ZEI				*i* S	Sg	12 20 24.5	+0.9
LACR	**Lac**	**0.76**	**67**	*i* PG	Pg	12 20 23.1	+0.5
LACR				*i* S	Sg	12 20 32.7	+0.1
KORR	**Kora**	**0.77**	**44**	*e*PG	Pg	12 20 23.1	+0.4
KORR				*eS*	Sg	12 20 32.9	0.0
LSNR	**Lesken**	**0.82**	**25**	*e*PG	Pg	12 20 24.1	+0.4
LSNR				*eS*	Sg	12 20 34.6	+0.2
ARNR	**Ardon**	**0.95**	**46**	*e*PG	Pg	12 20 26.2	0.0
ARNR				*eS*	Sb	12 20 38.2	-0.1

SZGRF ***08*** *12:28:02.5,1749S×17755W,h33km,Fiji Islands region*
ORF ***08*** *12:28:04.2,1716S×17649W,h30km,mb6.0*
ISCJB ***08*** *12:28:43.2±0.8,1665S±005×17747W±005,h371km±8km, mb4.8/87,Error ellipse: s-maj=9.0km s-min=5.2km az=101.9*
MOS ***08*** *12:28:44.2±1.2,1643S×17754W,h375km,mb4.9/29, Error ellipse: s-maj=11.4km s-min=8.4km az=51.9*
IDC ***08*** *12:28:44.4±1.2,1663S×17736W,h371km±12km,mb4.4/22, mb1 4.5/24,mb1mx4.5/26,mbtmp5.1/24,Error ellipse: s-maj=14.2km s-min=8.4km az=146.0*
BJI ***08*** *12:28:46.5,1643S×17768W,h390km,mB4.8,mb4.8*
BGS ***08*** *12:28:47.8±3.6,1661S×17747W,h402km,mb4.9(NEIC)*
NEIC ***08*** *12:28:47.4±0.1,1661S×17747W,mb4.7/53,Error ellipse: s-maj=7.7km s-min=3.7km az=145.0*
ISC 08 12:28:44.3±0.8,1666S±005×17740W±005,h369km±8km, h399km±3.9km:pP-P,n371,σ1902/185,mb4.8/87,18C-43D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.07**	**64**	P	**Pn**	**12 30 16.5**	**0.0**
57nm,0.3s,baz=249,slow=14,SNR=73
AFI S **S** **12 31 30.5 -0.9**
4.0nm,0.3s,baz=0.0,slow=20,SNR=2.2
AFI Afiamalu 6.07 64 *e*Pn **Pn 12 30 16.5 0.0**
834nm,0.8s
AFI *e*Sn **S** **12 31 29.5 -2.0**
AFI Afiamalu 6.07 64 *eP* **Pn 12 30 16.5 0.0**
AFI *e* 12 31 29.5
AFI pmax pmax
comp=Z,834nm,0.8s
RAO Raoul Island 12.55 182 S **S 12 33 45.9 -3.2**
comp=Z,120nm,0.3s,baz=90,slow=20,SNR=5.0
BKM Butte a Klehm 13.76 264⇑P **P 12 31 37.7 -6.8**
BKM S **S** **12 34 25.2 +11**
DZM Mont Dzumac 16.17 248 P **P 12 32 12.3 +1.7**
comp=Z,2.7nm,0.3s,baz=72,slow=17,SNR=37
URZ Urewera 22.06 192 P **P 12 33 07.0 -2.5**
comp=Z,28nm,0.5s,mb4.7,baz=287,slow=1.3,SNR=24
URZ Urewera 22.06 192 *e*PN **P 12 33 06.4 -3.1**
THZ Tophouse 26.38 196 PN **P 12 33 48.0 -0.2**
LTZ Lake Taylor 27.50 197 *e*PN **P 12 33 56.5 -1.7**
RPZ Rata Peaks 28.70 198 P **P 12 34 08.6 -0.2**
comp=Z,12nm,0.7s,mb4.2,baz=40,slow=11,SNR=6.7
RPZ Rata Peaks 28.70 198 P **P 12 34 08.6 -0.2**
ARMA Armidale 31.41 239 *eP* **P 12 34 33.8 +1.3**
CTA Charters Tower 34.62 259 *eP* **P 12 35 00.6 +0.6**
comp=Z,9.2nm,0.6s,mb4.2
CTA *e* 12 37 25.4
CTA Charters Tower 34.62 259 P **P 12 35 00.9 +0.9**
comp=Z,14nm,0.6s,mb4.3,baz=88,slow=11,SNR=41
CTA PcP PcP 12 37 25.0 +0.3
comp=Z,6.5nm,0.8s,baz=138,slow=2.4,SNR=4.2
CTA Charters Tower 34.62 259 *eP* **P 12 35 00.6 +0.6**
CTA *e* 12 37 25.4
CTA pmax pmax
comp=Z,9.0nm,0.6s
CTAO Charters Tower 34.62 259 *eP* **P 12 35 00.8 +0.7**
comp=Z,14nm,0.7s,mb4.3
CTAO *e*PcP PcP 12 37 25.3 +0.5
CTAO Charters Tower 34.62 259 *eP* **P 12 35 00.8 +0.8**
CTAO *e* 12 37 25.3
CTAO pmax pmax
comp=Z,14nm,0.7s,mb4.3
CNB Canberra Magne 34.96 231 *eP* **P 12 35 04.5 +1.7**
comp=Z,91nm,0.7s,mb5.1
PMG Port Moresby 35.23 277 P **P 12 35 07.0 +1.9**
comp=Z,90nm,0.9s,mb5.0,baz=85,slow=5.7,SNR=48
PMG Port Moresby 35.23 277⇑*eP* **P 12 35 08.2 +3.0**
comp=Z,114nm,1.0s,mb5.0
PMG Port Moresby 35.23 277*c iP* **P 12 35 08.1 +2.9**
TOO Toolangi 38.71 230 *eP* **P 12 35 35.6 +1.5**
comp=Z,84nm,0.8s,mb5.0
TOO Toolangi 38.71 230 *eP* **P 12 35 35.6 +1.5**
TOO pmax pmax
comp=Z,84nm,0.8s,mb5.0
STKA Stephens Creek 40.08 240 *eP* **P 12 35 44.2 -1.1**
comp=Z,55nm,0.9s,mb4.8
STKA Stephens Creek 40.08 240 P **P 12 35 45.0 -0.3**
comp=Z,69nm,0.9s,mb4.9,baz=86,slow=8.8,SNR=126
WB2 Warramunga Arr 45.81 258 *eP* **P 12 36 30.6 -0.1**
WB2 *eS* **S** **12 42 44.2 -1.8**
WRAB Tennant Creek 45.81 258 *eP* **P 12 36 30.5 -0.2**
comp=Z,22nm,0.8s,mb4.3
WRAB *e*PcP PcP 12 38 01.4 +0.4
WRAB *eS* **S** **12 42 50.7 +4.7**
WRAB Tennant Creek 45.81 258 *eP* **P 12 36 30.5 -0.2**
WRAB *e* 12 38 01.4
WRAB *eS* **S** **12 42 50.7 +4.7**
WRAB pmax pmax
comp=Z,22nm,0.8s,mb4.3
WRA Warramunga Arr 45.82 258 P **P 12 36 30.9 +0.1**
comp=Z,8.8nm,0.6s,mb4.0,baz=82,slow=6.8,SNR=145
WRA PcP PcP 12 38 01.7 +0.6
comp=Z,4.3nm,0.7s,baz=86,slow=3.4,SNR=6.8
WRA ScP ScP 12 41 18.7 +0.6
comp=Z,1.6nm,0.9s,baz=84,slow=3.9,SNR=4.3
WRA S **S** **12 42 42.6 -3.6**
comp=Z,2.3nm,0.9s,baz=90,slow=14,SNR=6.9
WRA Warramunga Arr 45.82 258 P **P 12 36 30.9 +0.1**
WRA 12 38 01.7
WRA S **S** **12 42 42.6 -3.5**
ASAR Alice Springs 46.07 253 P **P 12 36 33.1 +0.5**
comp=Z,94nm,0.5s,mb5.1,baz=88,slow=8.0,SNR=590
ASAR PcP PcP 12 38 02.3 +0.3
comp=Z,5.5nm,0.8s,baz=96,slow=5.1,SNR=5.3
ASAR ScP ScP 12 41 20.1 +0.9
comp=Z,2.1nm,0.7s,baz=83,slow=4.1,SNR=8.0
ASAR S **S** **12 42 46.2 -3.4**
comp=Z,4.9nm,0.8s,baz=84,slow=16,SNR=23
ASAR Alice Springs 46.07 253 P **P 12 36 33.2 +0.5**
ASAR 12 38 02.3
ASAR S **S** **12 42 46.3 -3.4**
KAKA Kakadu 48.59 268 *eP* **P 12 36 52.5 +0.6**
comp=Z,64nm,0.4s,mb5.2
FITZ Fitzroy Crossi 54.20 259⇑*iP* **P 12 37 33.8 +0.8**
comp=Z,23nm,0.6s,mb4.7
MBWA Marble Bar 59.32 255 *eP* **P 12 38 09.9 +1.3**
comp=Z,19nm,0.7s,mb4.6
KLBR Kellerberrin 60.25 243 *eP* **P 12 38 14.2 -0.7**
comp=Z,42nm,0.7s,mb5.0
MUN Mundaring 61.55 242 *eP* **P 12 38 23.0 -0.5**
VNDA Vanda 61.77 185 P **P 12 38 25.2 +0.2**
comp=Z,2.9nm,0.6s,mb4.0,baz=24,slow=7.4,SNR=11
JHJ Hachijo jima 2 64.21 321 P **P 12 38 41.0 +0.2**
comp=Z,185nm,0.8s,mb5.8,baz=88,slow=24,SNR=5.2
MJAR Matsushiro Arr 67.50 322 P **P 12 39 00.9 -0.7**
comp=Z,16nm,0.7s,mb4.8,baz=158,slow=6.1,SNR=44
MAJO Matsushiro 67.50 322⇓*eP* **P 12 39 00.9 -0.7**
comp=Z,10.0nm,0.9s,mb4.5
MAJO Matsushiro 67.50 322⇓*eP* **P 12 39 00.9 -0.7**
MAJO pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
MAT Matsushiro 67.50 322 P **P 12 39 01.2 -0.4**
MAT Matsushiro 67.50 322 *eP* **P 12 39 01.0 -0.6**
comp=Z,8.0nm,1.0s,mb4.4
MAT Matsushiro 67.50 322 *eP* **P 12 39 01.0 -0.6**
MAT pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
KKM Kota Kinabalu 69.39 283⇓*eP* **P 12 39 14.1 +0.9**
JNU Nakatsue 69.92 315 P **P 12 39 16.2 -0.1**
comp=Z,26nm,0.7s,mb5.0,baz=81,slow=4.8,SNR=7.3
ASAJ Asahikawa 70.66 331 P **P 12 39 21.4 +0.6**
comp=Z,20nm,0.8s,mb4.9,baz=191,slow=3.7
YSS Yuzh-Sakhalins 72.75 333 *eP* **P 12 39 33.3 +0.2**
comp=Z,32nm,1.1s,mb5.0
YSS Yuzh-Sakhalins 72.75 333*d iP* **P 12 39 33.6 +0.5**
YSS pmax pmax
comp=Z,32nm,1.0s,mb5.0
QSPA South Pole Qui 73.39 180 *eP* **P 12 39 37.5 +0.6**
comp=Z,14nm,0.8s,mb4.7
KS15 Wonju Array Si 74.44 318 *eP* **P 12 39 43.8 +0.9**
VLA Vladivostok 75.50 324 *eP* **P 12 39 48.8 -0.1**
VLA pmax pmax
comp=Z,60nm,1.8s,mb5.0
SSE Sheshan 75.70 309 P **P 12 39 50.4 +0.4**
SSE AMB AMB
comp=Z,49nm,0.6s,mb5.4
SSE AMB AMB
comp=Z,93nm,7.2s
CMB Columbia Colle 76.27 43 *eP* **P 12 39 53.3 +0.1**
comp=Z,14nm,1.0s,mb4.7
CMB Columbia Colle 76.27 43 *eP* **P 12 39 53.3 +0.1**
CMB pmax pmax
comp=Z,14nm,1.0s,mb4.7
YBH Yreka Blue Hor 76.95 39 P **P 12 39 57.5 +0.5**
comp=Z,12nm,0.7s,mb4.8,baz=172,slow=2.2,SNR=18
YBH Yreka Blue Hor 76.95 39 *eP* **P 12 39 57.7 +0.8**
comp=Z,30nm,1.3s,mb4.9
YBH Yreka Blue Hor 76.95 39 *eP* **P 12 39 57.7 +0.7**
YBH pmax pmax
comp=Z,30nm,1.3s
KDAK Kodiak Island 76.96 13 P **P 12 39 56.3 -0.7**
comp=Z,24nm,0.6s,mb5.1,baz=217,slow=3.6,SNR=13
MTUM Tungsten Hills 77.10 44 *eP* **P 12 39 58.6 +0.8**
HUMO Hull Mountain 77.32 38 *eP* **P 12 39 59.7 +0.6**
comp=Z,8.0nm,1.0s,mb4.4
HABR Khabarovsk 77.41 330 *eP* **P 12 39 59.7 +0.2**
HABR *eS* S 12 49 17.0 -1.9
MDJ Mudanjiang 77.73 324 P **P 12 40 02.2 +0.9**
MDJ AP pP 12 41 31.0 +6.4
MDJ XP sP 12 42 13.6 +10
MDJ PP PP 12 43 07.0 +4.5
MDJ S S 12 49 22.9 +0.7
MDJ SCS ScS 12 49 43.0 -2.2
MDJ AMB AMB
comp=Z,16nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,80nm,4.4s
MDJ LR LR
comp=N,40nm,40.8s
MDJ LR LR
comp=E,38nm,28.1s
MDJ LR LR
comp=Z,21nm,29.6s
PAHR Pah Rah Range 77.85 42 *eP* **P 12 40 02.2 +0.3**
comp=Z,18nm,1.1s,mb4.7
NVAR Mina Array Bea 77.86 44 P **P 12 40 02.5 +0.6**
comp=Z,11nm,0.7s,mb4.7,baz=217,slow=7.4,SNR=59
NJ2 Nanjing 77.90 309 *eP* **P 12 39 59.9 -2.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
NJ2 AMB AMB
comp=Z,60nm,4.2s
NJ2 LR LR
comp=N,410nm,22.0s
NJ2 LR LR
comp=E,1μm,24.5s
NJ2 LR LR
comp=Z,290nm,28.8s
TPH Tonopah 78.39 44⇓*eP* **P 12 40 05.3 +0.5**
comp=Z,24nm,1.3s,mb4.8
TPH Tonopah 78.39 44⇓*eP* **P 12 40 05.3 +0.5**
TPH pmax pmax
comp=Z,24nm,1.3s,mb4.8
MOD Modoc 78.51 40 *eP* **P 12 40 06.0 +0.5**
comp=Z,5.4nm,0.6s,mb4.5
NEN Nelson 78.78 47 *eP* **P 12 40 07.1 +0.2**
KLR Kul'dur 79.54 329 *eP* **P 12 40 08.3 -2.7**
CN2 Changchun 79.63 322 *eP* **P 12 40 12.7 +1.2**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
BMN Battle Mountai 79.64 42⇓*eP* **P 12 40 11.9 +0.4**
comp=Z,28nm,1.1s,mb4.9
BMN Battle Mountai 79.64 42⇓*eP* **P 12 40 11.9 +0.4**
BMN pmax pmax
comp=Z,27nm,1.1s,mb4.9
WVOR Wild Horse Val 79.83 40⇓*eP* **P 12 40 12.8 +0.3**
comp=Z,22nm,1.0s,mb4.8
WVOR Wild Horse Val 79.83 40⇓*eP* **P 12 40 12.8 +0.2**
WVOR pmax pmax
comp=Z,22nm,1.0s,mb4.8
SLKM Skilak Lake 79.95 13 *eP* **P 12 40 11.7 -1.5**
TUC Tucson 80.17 52 *eP* **P 12 40 15.4 +1.1**
comp=Z,25nm,1.3s,mb4.8
TUC Tucson 80.17 52 *eP* **P 12 40 15.4 +1.0**
TUC pmax pmax
comp=Z,25nm,1.3s,mb4.8
MA2 Magadan 80.25 344⇓*eP* **P 12 40 13.1 -1.7**
comp=Z,13nm,0.9s,mb4.7
MA2 Magadan 80.25 344⇓*eP* **P 12 40 13.1 -1.7**
MA2 pmax pmax
comp=Z,13nm,0.9s,mb4.7
CCUT Cedar City 80.75 46 *eP* **P 12 40 18.3 +0.8**
ARUT Antelope Range 80.81 46 *eP* **P 12 40 18.4 +0.7**
RMW Rattlesnake Mo 80.89 35 P **P 12 40 18.5 +0.4**
ELK Elko 81.09 43 *eP* **P 12 40 19.3 +0.2**
comp=Z,13nm,1.1s,mb4.6
ELK Elko 81.09 43 *eP* **P 12 40 19.3 +0.1**
ELK pmax pmax
comp=Z,13nm,1.1s
RSW Rattlesnake Hi 81.50 36 P **P 12 40 21.9 +0.6**
HAWA Hanford 81.53 36 *eP* **P 12 40 21.4 -0.1**
comp=Z,3.2nm,1.3s,mb4.0
REDWA Red Mountain 81.53 36 P **P 12 40 21.8 +0.3**
RPW Rockport 81.64 34 P **P 12 40 21.8 -0.3**
GBL Gable Mountain 81.69 36 P **P 12 40 22.4 +0.1**
ETW Entiat 81.78 35 P **P 12 40 22.9 +0.2**
BMO Blue Mountains 81.97 39 *eP* **P 12 40 23.4 -0.3**
comp=Z,8.3nm,0.9s,mb4.6
BMO Blue Mountains 81.97 39 *eP* **P 12 40 23.4 -0.3**
BMO pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MSU Marysvale 82.03 46 *eP* **P 12 40 25.0 +0.9**
EPH Ephrata 82.04 36 P **P 12 40 24.1 -0.1**
WTV Waterville 82.04 35 P **P 12 40 24.0 -0.1**
TNA Tin City 82.28 4⇓*eP* **P 12 40 24.9 -0.5**
comp=Z,39nm,0.8s,mb5.3
SAW Saint Andrews 82.35 35 P **P 12 40 25.6 -0.1**
DUG Dugway 82.41 44 *eP* **P 12 40 26.1 +0.1**
comp=Z,20nm,1.4s,mb4.7
DUG Dugway 82.41 44 *eP* **P 12 40 26.1 +0.1**
DUG pmax pmax
comp=Z,19nm,1.4s,mb4.7
SEY Seymchan 82.78 347 *eP* **P 12 40 26.5 -1.4**
SEY *PP pP 12 41 54.6 +2.2
SEY *e* 12 43 39.9
SEY *eS* S 12 50 02.0 -12
SEY *e*SS SS 12 55 43.1 -3.3
SEY pmax pmax
comp=E,8.0nm,0.8s
SEY pmax pmax
comp=Z,20nm,0.8s,mb5.0
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY smax
comp=N,90nm,5.0s
SEY smax
comp=E,110nm,5.0s
HLID Hailey 83.05 41⇓*eP* **P 12 40 29.8 +0.5**
comp=E,19nm,0.8s,mb5.0
TMUT Trail Mountain 83.07 46 *eP* **P 12 40 30.6 +1.2**
MCK McKinley 83.11 12 *eP* **P 12 40 27.7 -1.9**
comp=E,24nm,0.9s,mb5.0
MCK McKinley 83.11 12 *eP* **P 12 40 27.7 -1.9**
MCK pmax pmax
comp=Z,24nm,0.9s,mb5.0
MPU Maple Canyon 83.12 45 *eP* **P 12 40 30.0 +0.4**
comp=Z,10nm,0.9s,mb4.7
SRU San Rafael 83.46 46⇓*eP* **P 12 40 31.8 +0.4**
comp=Z,18nm,0.8s,mb5.0
SRU San Rafael 83.46 46⇓*eP* **P 12 40 31.8 +0.5**
SRU pmax pmax
comp=Z,18nm,0.8s,mb5.0
BJI Beijing 83.58 315 P **P 12 40 32.9 +0.9**
BJI AMB AMB
comp=Z,19nm,1.0s,mb4.9
BJI LR LR
comp=Z,87nm,19.7s
TCUT Toone Canyon 83.79 44⇓*eP* **P 12 40 33.6 +0.6**
HWUT Hardware Ranch 83.92 43 *eP* **P 12 40 33.2 -0.4**
comp=Z,5.8nm,0.7s,mb4.5
NEW Newport 83.93 36⇓*eP* **P 12 40 33.0 -0.7**
comp=Z,4.7nm,0.6s,mb4.5
NEW Newport 83.93 36⇓*eP* **P 12 40 33.0 -0.7**
NEW pmax pmax
comp=Z,5.0nm,0.6s
MNTX Cornudas Mount 84.07 55⇓*eP* **P 12 40 35.2 +0.8**
comp=Z,18nm,0.9s,mb4.9
MNTX *e*pP pP 12 42 08.0 +8.8
PV10 Paradox Valley 84.16 47 *eP* **P 12 40 35.1 +0.3**
LPM Los Pinos Moun 84.17 52 *eP* **P 12 40 35.9 +1.0**
COLA College 84.35 12 *eP* **P 12 40 34.1 -1.7**
comp=Z,49nm,0.7s,mb5.5
COLA College 84.35 12*c iP* **P 12 40 33.5 -2.3**
PV01 Paradox Valley 84.38 48 *eP* **P 12 40 36.2 +0.2**
ILAR Eielson Array 84.46 13 P **P 12 40 34.5 -1.8**
comp=Z,20nm,0.5s,mb5.2,baz=226,slow=5.3,SNR=525
LTX Lajitas 84.51 57⇓*eP* **P 12 40 38.2 +1.7**
comp=Z,45nm,1.3s,mb5.1
LTX Lajitas 84.51 57⇓*eP* **P 12 40 38.3 +1.7**
LTX pmax pmax
comp=Z,45nm,1.3s,mb5.1
ANMO Albuquerque 84.56 51 P **P 12 40 37.3 +0.5**
comp=Z,6.7nm,0.9s,mb4.5,baz=226,slow=4.8,SNR=22
ANMO Albuquerque 84.56 51 *eP* **P 12 40 37.5 +0.6**
comp=Z,7.5nm,1.0s,mb4.5
ANMO *e*pP pP 12 42 08.5 +6.8
ANMO Albuquerque 84.56 51 *eP* **P 12 40 37.5 +0.6**
ANMO *e**PP pP 12 42 08.5 +6.8
ANMO pmax pmax
comp=Z,7.0nm,1.0s
MCMT McKenzie Canyo 84.66 40 *eP* **P 12 40 37.8 +0.5**
PSI Prapat 84.75 274 P **P 12 40 36.8 -1.0**
comp=Z,8.2nm,0.8s,mb4.6,baz=155,slow=6.6,SNR=5.4
MSO Missoula 85.01 38 *eP* **P 12 40 39.1 0.0**
comp=Z,2.9nm,0.5s,mb4.4
GDL2 Guadalupe Moun 85.06 54 *eP* **P 12 40 40.4 +1.0**
DLMT Dillon 85.08 40⇓*eP* **P 12 40 39.5 0.0**
comp=Z,25nm,0.9s,mb5.0
REDW Red Top Meadow 85.22 42 *eP* **P 12 40 40.6 +0.6**
comp=Z,22nm,1.1s,mb4.9
GYA Guiyang 85.27 299 P **P 12 40 41.9 +1.6**
GYA PP PP 12 44 09.7 +5.7
GYA SKS 12 50 25.4
GYA S 12 50 38.5
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
BILL Bilibino 85.29 354⇓*eP* **P 12 40 39.1 -1.3**
comp=Z,52nm,0.6s,mb5.5
BILL Bilibino 85.29 354*deP* **P 12 40 39.1 -1.3**
BILL pmax pmax
comp=Z,69nm,0.8s,mb5.5
SNOW Snow King Moun 85.33 42⇓*eP* **P 12 40 40.9 +0.3**
comp=Z,18nm,1.0s,mb4.9
CHMT Chamberlain Mo 85.46 38 *eP* **P 12 40 40.6 -0.7**
LOHW Long Hollow 85.49 42 *eP* **P 12 40 41.5 0.0**
comp=Z,6.6nm,1.2s,mb4.3
QLMT Earthquake Lak 85.55 41 *eP* **P 12 40 42.9 +1.2**
FLWY Flagg Ranch 85.65 42⇓*eP* **P 12 40 42.6 +0.4**
comp=Z,17nm,1.0s,mb4.8
YMR Madison River 85.76 41 *eP* **P 12 40 43.8 +1.1**
comp=Z,50nm,1.4s,mb5.2
PDAR Pinedale Array 85.78 43 P **P 12 40 42.5 -0.3**
comp=Z,3.6nm,0.7s,mb4.3,baz=197,slow=2.5,SNR=32
BOZ Bozeman (W) 85.81 40⇓*eP* **P 12 40 43.0 0.0**
comp=Z,17nm,1.0s,mb4.8
BOZ Bozeman (W) 85.81 40⇓*eP* **P 12 40 43.0 0.0**
BOZ pmax pmax
comp=Z,17nm,1.0s,mb4.8
LKWY Lake 86.07 41⇓*eP* **P 12 40 46.1 +1.8**
comp=Z,21nm,1.0s,mb4.9
LKWY Lake 86.07 41⇓*eP* **P 12 40 46.1 +1.9**
LKWY pmax pmax
comp=Z,21nm,1.0s,mb4.9
HRY Holter Researc 86.21 39 *eP* **P 12 40 44.8 -0.1**
XAN Xi'an 86.28 307 P **P 12 40 46.3 +1.1**
XAN AMB AMB
comp=Z,30nm,1.0s,mb5.1
SDCO Great Sand Dun 86.42 49 *eP* **P 12 40 46.3 +0.4**
comp=Z,6.6nm,1.0s,mb4.4
HHC Hu-ho-hao-te 87.10 314 *eP* **P 12 40 49.2 +0.1**
HHC AP pP 12 42 20.2 +5.6
HHC PP PP 12 44 21.4 +2.8
HHC SKS 12 50 36.1
HHC S 12 50 53.0
HHC XS sS 12 53 34.9 +7.0
HHC AMB AMB

comp=Z,7.0nm,0.4s,mb4.8
HHC AMB AMB
comp=Z,158nm,4.6s
HHC LR LR
comp=N,153nm,5.5s
HHC LR LR
comp=E,155nm,6.3s
HHC LR LR
comp=Z,95nm,5.1s
CLNS Chul'man 87.51 332 *e*P **P 12 40 49.1 -2.0**
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=Z,37nm,1.0s,mb5.2
CLNS pmax pmax
comp=E,14nm,1.1s
KMI Kunming 88.13 297 P **P 12 40 55.8 +1.8**
KMI AMB AMB
comp=Z,11nm,1.0s,mb4.6
EDM Edmonton 88.59 33 *e*P **P 12 40 54.9 -1.3**
YAK Yakutsk 88.78 338*d i*P **P 12 40 54.8 -2.2**
YAK pmax pmax
comp=Z,22nm,1.0s,mb4.9
CD2 Chengdu 89.21 303 *e*P **P 12 40 58.1 -0.9**
LAO LASA Array 89.64 41 *e*P **P 12 41 01.9 +0.9**
comp=Z,36nm,1.3s,mb5.2
INK Inuvik 90.43 15 *e*P **P 12 41 02.8 -1.9**
comp=Z,6.0nm,0.9s,mb4.5
INK Inuvik 90.43 15 *e*P **P 12 41 02.8 -1.9**
INK pmax pmax
comp=Z,6.0nm,0.9s
LZH Lanzhou 90.90 307 *e*P **P 12 41 07.5 +0.6**
LZH AP pP 12 42 43.1 +10
LZH PP PP 12 44 52.6 +3.9
LZH *e*SKS 12 50 58.5
LZH *e*S 12 51 26.5
LZH *e*SS SS 12 57 45.1 +0.9
LZH AMB AMB
comp=Z,18nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,79nm,6.5s
PLCA Paso Flores 91.49 133 P **P 12 41 10.7 +1.1**
comp=Z,4.3nm,0.8s,mb4.4,baz=268,slow=5.0,SNR=4.4
SNAA Sanae 91.82 178⇑*i*P **P 12 41 09.8 -1.3**
VNA3 Neumayer Olymp 91.92 176⇑*i*P **P 12 41 11.7 +0.1**
VNA3 *e* 12 41 13.6
VNA2 Neumayer--Watz 92.37 177⇑*i*P **P 12 41 12.7 -0.9**
baz=202,slow=3.8
VNA2 *e* 12 41 14.8
VNA1 Neumayer--Stat 92.59 176⇑*i*P **P 12 41 13.4 -1.3**
YKA Yellowknife Ar 92.80 24 P **P 12 41 13.9 -1.7**
comp=Z,5.8nm,0.6s,mb4.8,baz=245,slow=4.4,SNR=26
YKA PKKPbc PKKPbc 12 58 21.1 -3.4
comp=Z,0.2nm,0.5s,baz=38,slow=2.1,SNR=6.3
YKA Yellowknife Ar 92.80 24 P **P 12 41 13.9 -1.7**
YKA 12 58 21.2
YKW3 Yellowknife Ar 92.83 24 *e*P **P 12 41 14.4 -1.4**
ULN Ulaanbaatar 92.84 319 *e*P **P 12 41 15.6 -0.2**
comp=Z,8.4nm,1.1s,mb4.7
ULN Ulaanbaatar 92.84 319 *e*P **P 12 41 15.9 +0.1**
BOD Bodaibo 93.06 330 *e*P **P 12 41 14.8 -2.0**
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
SONM Songino Array 93.24 319 P **P 12 41 16.7 -1.0**
comp=Z,1.7nm,0.8s,mb4.1,baz=130,slow=4.0,SNR=9.2
SONM PP PP 12 45 11.9 +4.9
comp=Z,1.1nm,0.9s,baz=114,slow=7.3,SNR=5.6
TIXI Tiksi 95.20 345 *e*P **P 12 41 24.1 -2.5**
TIXI pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
ULM Lac du Bonnet 97.33 40 P **P 12 41 34.8 -1.4**
comp=Z,0.7nm,0.4s,mb4.1,baz=268,slow=2.4,SNR=3.8
ZAL Zalesovo 107.86 322 PKiKP PKiKP 12 46 27.1 -1.2
comp=Z,1.3nm,0.6s,baz=26,slow=1.3,SNR=12
MKAR Makanchi Array 108.96 314 Pdiff Pdif 12 42 27.0 -0.9
comp=Z,0.2nm,0.7s,baz=80,slow=1.6,SNR=3.2
MKAR PKiKP PKiKP 12 46 28.8 -1.5
comp=Z,2.4nm,0.7s,baz=48,slow=1.8,SNR=27
MKAR PKKPbc PKKPbc 12 57 38.9 +0.4
comp=Z,1.4nm,0.8s,baz=290,slow=3.6,SNR=15
MKAR Makanchi Array 108.96 314 Pdif Pdif 12 42 27.0 -0.9
MKAR PKPdf PKiKP 12 46 28.8 -1.5
MKAR PKKPbc PKKPbc 12 57 38.9 +0.4
AAK Ala-Archa 114.34 310 *e*P PKiKP 12 46 38.8 -1.7
BVAR Borovoye Array 116.48 321 PKP PKPdf 12 46 43.3 -1.4
comp=Z,6.8nm,0.7s,baz=112,slow=1.4,SNR=46
ARU Arti 122.34 327 *e*P PKPdf 12 46 54.5 -1.4
ARU Arti 122.34 327*c i*PKIKP PKPdf 12 46 54.7 -1.2
OPO Ambohidratompo123.88 233 PKP PKPdf 12 46 58.5 -0.4
comp=Z,2.7nm,0.7s,baz=211,slow=2.6,SNR=4.7
AKTO Aktyubinsk 124.54 320 PKP PKPdf 12 46 59.2 -0.9
comp=Z,5.7nm,0.8s,baz=66,slow=1.3,SNR=18
ARCES ARCESS Array B 125.26 350 PKP PKPdf 12 47 00.1 -1.4
comp=Z,14nm,0.7s,baz=6.8,slow=1.3,SNR=56
ARCES PKKPbc PKKPbc 12 56 39.9 -1.1
comp=Z,4.3nm,0.8s,baz=208,slow=2.3,SNR=8.7
KLMR Klimovskoe 128.58 338 *i*PKIKP PKPdf 12 47 04.1 -3.7
KLMR pmax pmax
comp=Z,30nm,2.2s
JOF Joensuu 129.65 343 *e*pkp PKPdf 12 47 09.1 -0.8
KAF Kangasniemi 131.61 345 *e*pkp PKPdf 12 47 11.6 -2.0
FINES FINESS Array B 132.25 345 PKhKP 12 47 04.3
comp=Z,0.8nm,0.6s,baz=343,slow=2.6,SNR=3.9
FINES PKP PKPdf 12 47 13.4 -1.4
comp=Z,4.8nm,0.7s,baz=52,slow=3.1,SNR=18
OBN Obninsk 133.62 334⇓*i*PKIKP PKPdf 12 47 15.9 -1.5
OBN *e* 12 49 47.6
OBN pmax pmax
comp=Z,11nm,1.0s
VRSR Storozhevoye 134.88 328 *e*PKIKP PKPdf 12 47 18.8 -0.9
VRSR pmax pmax
comp=Z,2.0nm,1.0s
VRSR pmax pmax
comp=N,1.0nm,0.8s
VRSR pmax pmax
comp=E,1.0nm,1.1s
NB2 NORSAR Subarra135.25 354 PKPd PKPdf 12 47 19.2 -1.2
comp=Z,1.7nm,0.6s,baz=27,slow=1.8
NOA NORSAR Array B 135.25 354 PKP PKPdf 12 47 19.2 -1.2
comp=Z,0.6nm,0.5s,baz=8.0,slow=3.2,SNR=8.9
HFS Hagfors 135.84 352 PKhKP 12 47 04.7
comp=Z,1.6nm,0.7s,baz=114,slow=3.7,SNR=4.9
HFS PKP PKPdf 12 47 20.8 -0.7
comp=Z,3.3nm,0.7s,baz=141,slow=0.9,SNR=5.3
GNI Garni 136.70 311 *e*PKPdf PKPdf 12 47 25.0 +1.9
SOC Sochi 138.69 318 *i*PKHKP 12 47 15.5
AKASG Malin Array Be 139.89 334 PKhKP 12 47 19.6
comp=Z,1.5nm,0.5s,baz=43,slow=3.9,SNR=7.5
AKASG PKP PKPdf 12 47 29.6 +0.6
comp=Z,3.5nm,0.6s,baz=42,slow=2.9,SNR=9.1
EKA Eskdalemuir Ar 141.15 5 PKhKP 12 47 21.6
comp=Z,1.0nm,0.5s,baz=335,slow=3.2,SNR=7.0
EKA PKP PKPdf 12 47 32.2 +1.0
comp=Z,1.0nm,0.5s,baz=292,slow=1.4,SNR=5.1
KMBO Kilima Mbogo 141.52 246 PKhKP 12 47 27.8
comp=Z,2.4nm,0.7s,baz=65,slow=22,SNR=5.7
LVV L'vov 142.66 337 *e*PKIKP PKPdf 12 47 30.2 -3.7
KWP Kalwaria 143.30 338 *e*PKP PKPdf 12 47 32.3 -2.7
OJC Ojcow 143.76 341 *e*PKP PKPdf 12 47 33.7 -2.1
BURAR Bucovina Array 143.95 334⇓P PKPdf 12 47 34.7 -1.5
HLM1 Long Mynd 143.96 6 *e*P PKPdf 12 47 32.5 -3.7
HLM1 AMb AMB 12 47 36.2
comp=Z,54nm,2.1s
HLM1 Long Mynd 143.96 6 *e*P PKPdf 12 47 32.5 -3.7
HLM1 AMb AMB 12 47 36.2
comp=Z,54nm,2.1s
STHS Stebnicka Huta 143.99 339 *i*PKP PKPdf 12 47 35.3 -0.9
STHS *e* 12 47 38.5
SSP1 Stoney Pound 144.03 6 *e*P PKPdf 12 47 33.1 -3.2
SSP1 AMb AMB 12 47 35.2
comp=Z,65nm,1.7s
SSP1 Stoney Pound 144.03 6 *e*P PKPdf 12 47 33.1 -3.2
SSP1 AMb AMB 12 47 35.2
comp=Z,65nm,1.7s
KOLS Kolonicke sedl 144.04 338 *i*PKP PKPdf 12 47 35.1 -1.2
KSP Ksiaz 144.17 345 *e*PKP PKPdf 12 47 35.3 -1.3
IBBN Ibbenburen 144.20 355 *e*PKPbc PKPdf 12 47 34.9 -1.7
COBT Iskenderun 144.25 310 *i*P PKPdf 12 47 37.0 +0.3
ELDT Eldivan 144.30 318 *i*P PKPdf 12 47 36.8 0.0
NIE Niedzica 144.30 340 *i*PKPd PKPdf 12 47 36.1 -0.7
CRVS Cervenica-Dubn 144.35 339 *e*PKP PKPdf 12 47 36.3 -0.6
HTR Trewern Hill 144.35 6 *e*P PKPdf 12 47 34.8 -2.1
HTR Trewern Hill 144.35 6 *e*P PKPdf 12 47 34.8 -2.1
CLZ Clausthal 144.36 352 *e*PKPbc PKPdf 12 47 35.3 -1.6
CLZ Clausthal 144.36 352 *e*PKPbc PKPdf 12 47 35.3 -1.6

CFR Carcaliu 144.41 328⇑P PKPdf 12 47 36.2 -0.8
CLL Collm 144.45 349 *e*PKPbc PKPdf 12 47 35.6 -1.4
CLL Collm 144.45 349⇓*i*PKPdf PKPdf 12 47 35.5 -1.5
comp=Z,45nm,1.0s
CLL Collm 144.45 349⇓*i*PKIKP PKPdf 12 47 35.5 -1.5
CLL pmax pmax
comp=Z,45nm,1.0s
MCH1 Michaelchurch 144.46 6 *e*P PKPdf 12 47 35.1 -1.9
MCH1 Michaelchurch 144.46 6 *e*P PKPdf 12 47 35.1 -1.9
HAE Alders End 144.46 5 *e*P PKPdf 12 47 35.3 -1.8
HAE AMb AMB 12 47 36.4
comp=Z,119nm,0.9s
HAE Alders End 144.46 5 *e*P PKPdf 12 47 35.3 -1.8
HAE AMb AMB 12 47 36.4
comp=Z,119nm,0.9s
UPC Upice 144.55 345 *e*PKP PKPdf 12 47 36.7 -0.5
BR131 Keskin Array S 144.57 317 *e*PKPdf PKPdf 12 47 37.0 -0.2
BRTR Keskin Array B 144.57 317 PKP PKPdf 12 47 37.1 -0.1
comp=Z,16nm,0.6s,baz=136,slow=4.1,SNR=52
OKC Ostrava-Krasne 144.59 343 *e*PKP PKPdf 12 47 35.2 -2.1
OKC Ostrava-Krasne 144.59 343 *e*PKIKP PKPdf 12 47 34.2 -3.1
SSW Stow on the Wo 144.59 5 *e*P PKPdf 12 47 36.3 -1.0
SSW Stow on the Wo 144.59 5 *e*P PKPdf 12 47 36.3 -1.0
VRI Vrincioaia 144.60 330⇑P PKPdf 12 47 37.1 -0.2
WTSB Winterswijk 144.62 356 *e*PKP PKPdf 12 47 35.8 -1.5
comp=Z,98nm,0.8s
DPC Dobruska-Polom 144.62 345 *e*PKP PKPdf 12 47 37.2 -0.1
BRG Berggiesshubel 144.68 348 *e*PKPbc PKPdf 12 47 36.6 -0.8
BRG Berggiesshubel 144.68 348 *i*PKIKP PKPdf 12 47 36.7 -0.7
BRG pmax pmax
comp=Z,30nm,1.3s
BRG Berggiesshubel 144.68 348 *i*PKP PKPdf 12 47 36.7 -0.7
comp=Z,30nm,1.3s
TIRR Tirgusor 144.77 327⇑P PKPdf 12 47 37.8 +0.2
MORC Moravsky Berou 144.82 343 *e*PKPdf PKPdf 12 47 37.2 -0.5
MORC Moravsky Berou 144.82 343⇑*i*PKIKP PKPdf 12 47 37.5 -0.2
HGH Gray Hill 144.84 6 *e*P PKPdf 12 47 36.5 -1.2
HGH AMb AMB 12 47 37.4
comp=Z,181nm,0.7s
HGH Gray Hill 144.84 6 *e*P PKPdf 12 47 36.5 -1.2
HGH AMb AMB 12 47 37.4
comp=Z,181nm,0.7s
HARR Harsova 144.85 328⇓P PKPdf 12 47 38.2 +0.5
PVCC Panska Ves 144.87 347 *e*PKP PKPdf 12 47 37.6 -0.2
SKP1 Kophill 144.91 4 *e*P PKPdf 12 47 36.6 -1.2
SKP1 Kophill 144.91 4 *e*P PKPdf 12 47 36.6 -1.2
ANTO Ankara 145.04 318 *e*PKPdf PKPdf 12 47 38.7 +0.7
SWN1 Swindon 145.05 5 *e*P PKPdf 12 47 37.5 -0.5
SWN1 Swindon 145.05 5 *e*P PKPdf 12 47 37.5 -0.5
BUG Bochum--Univer 145.10 355 *e*PKPbc PKPbc 12 47 37.8 -0.7
MLR Muntele Rosu 145.24 331 PKPbc PKPbc 12 47 38.6 -0.4
comp=Z,18nm,0.7s,baz=4.1,slow=1.3,SNR=11
MOX Moxa 145.33 350 *e*PKPbc PKPbc 12 47 38.6 -0.6
MOX Moxa 145.33 350 *e*PKP PKPdf 12 47 38.5 0.0
comp=Z,48nm,1.1s
MOX Moxa 145.33 350 *e*PKP2 PKPab 12 47 38.5 -1.5
MOX pmax pmax
comp=Z,48nm,1.1s
SWK Warminster 145.37 5 *e*P PKPdf 12 47 39.2 +0.6
SWK Warminster 145.37 5 *e*P PKPdf 12 47 39.2 +0.6
PRU Pruhonice 145.38 346 *e*PKP PKPdf 12 47 39.1 +0.5
PRU *ex* x 12 47 50.3
WERD Werda 145.40 349 *e*PKPbc PKPbc 12 47 39.0 -0.4
VRAC Vranov 145.50 344 PKPbc PKPbc 12 47 39.7 -0.1
comp=Z,12nm,0.8s,baz=116,slow=1.5,SNR=11
VRAC Vranov 145.50 344⇓PKP2 PKPab 12 47 39.6 -1.0
NKC Novy Kostel 145.58 349 *e*PKP PKPdf 12 47 39.7 +0.7
VYHS Vyhne 145.58 341 *i*PKP PKPdf 12 47 40.0 +1.0
VOIR 145.70 332⇓P PKPdf 12 47 40.3 +1.1
PSZ Piszkesteto 145.74 339 *e*PKPdf PKPdf 12 47 40.1 +0.8
TREC Trest 145.80 345 *e*PKP PKPdf 12 47 40.3 +0.9
BEBN Eben Emael 145.85 357 PKPab PKPab 12 47 41.3 -0.7
HGN Heimansgroeve 145.87 356 *e*PKP PKPdf 12 47 37.5 -2.0
comp=Z,41nm,1.7s
MANZ Manzenberg 145.88 349 *e*PKPbc PKPbc 12 47 40.2 -0.7
SMOL Smolenice 145.99 342 *e*PKP PKPdf 12 47 41.5 +1.8
MEM Membach 146.02 356 PKPbc PKPbc 12 47 40.6 -0.7
ROTZ Rotzenmuhle 146.07 349 *e*PKPbc PKPbc 12 47 41.4 0.0
TNS Taunus Mts 146.19 353 *e*PKPbc PKPbc 12 47 41.5 -0.2
TNS Taunus Mts 146.19 353 *e*PKPbc PKPbc 12 47 41.5 -0.2
SNF Seneffe 146.21 358 PKPbc PKPbc 12 47 41.2 -0.6
SNF PKPab PKPab 12 47 42.7 -0.7
GRA1 Grafenberg Arr 146.32 350 *e*PKPbc PKPbc 12 47 41.6 -0.5
GRF Grafenberg Arr 146.32 350 *e*PKPbc PKPbc 12 47 41.6 -0.5
ZST Bratislava 146.37 342 *e*PKP PKPdf 12 47 42.5 +2.2
KHC Kasperske Hory 146.40 347 *e*PKP PKPdf 12 47 40.3 -0.1
KHC *ex* x 12 47 42.4
WET Wettzell 146.53 348 *e*PKPbc PKPbc 12 47 42.4 -0.3
WET Wettzell 146.53 348 *e*PKPbc PKPbc 12 47 42.4 -0.3
GIVF Givet 146.59 357 *e*PKP1 PKPbc 12 47 42.0 -0.9
comp=Z,47nm,0.8s
DOU Dourbes 146.61 358 PKPbc PKPbc 12 47 42.4 -0.5
GEC2 GERESS Array S 146.64 347 *e*PKPbc PKPbc 12 47 42.5 -0.5
GEC2 GERESS Array S 146.64 347 *e*PKPbc PKPbc 12 47 42.5 -0.5
GERES GERESS Array B 146.64 347 PKP PKPdf 12 47 40.6 -0.2
comp=Z,12nm,0.8s,baz=267,slow=2.0,SNR=50
GERES PKPbc PKPbc 12 47 42.6 -0.4
comp=Z,13nm,0.8s,baz=29,slow=3.0,SNR=49
BAIF Baives 146.66 358 *e*PKP1 PKPbc 12 47 42.3 -0.8
comp=Z,56nm,0.9s
WLF Walferdange 146.95 356 *e*PKPbc PKPbc 12 47 44.0 +0.1
WLF Walferdange 146.95 356 PKPbc PKPbc 12 47 43.7 -0.1
WLF PKPab PKPab 12 47 46.3 -0.1
WLF Walferdange 146.95 356 *e*PKP2 PKPbc 12 47 43.7 -0.2
BZS Buzias 147.03 335⇓P PKPdf 12 47 43.5 +2.1
JLP Les Platons 147.27 6 *e*P PKPdf 12 47 42.4 +0.6
JLP Les Platons 147.27 6 *e*P PKPdf 12 47 42.4 +0.6
JVM Valle D.L. Mar 147.29 6 *e*P PKPbc 12 47 44.1 -0.7
JVM Valle D.L. Mar 147.29 6 *e*P PKPbc 12 47 44.1 -0.7
MOA Molln 147.45 345⇓*i*P PKPbc 12 47 45.0 -0.2
comp=Z,28nm,1.0s
LANF Langenberg 147.48 354 PKP PKPbc 12 47 45.4 +0.1
STU Stuttgart 147.52 352 *e*PKPbc PKPbc 12 47 45.3 -0.1
PKSM Moragy 147.64 339 PKP2 PKPbc 12 47 45.1 -0.6
ARSA Arzberg 147.68 343⇑*i*P PKPbc 12 47 45.5 -0.2
comp=Z,18nm,1.1s
EIL Elat 147.68 299 *e*PKPbc PKPbc 12 47 46.1 +0.3
FUR Furstenfeldbru 147.78 349 *e*PKPbc PKPbc 12 47 46.1 0.0
FLN La Foliniere 147.88 4 *e*PKP1 PKPbc 12 47 45.2 -1.1
comp=Z,170nm,1.0s
ROSF Rostrenen 148.04 7 *e*PKP1 PKPbc 12 47 45.5 -1.2
comp=Z,57nm,0.8s
BFO Black Forest 148.06 353 *e*PKPbc PKPbc 12 47 46.4 -0.4
LDF La Druitiere 148.07 3 *e*PKP1 PKPbc 12 47 45.6 -1.2
comp=Z,42nm,0.7s
BTOK Tokmak 148.08 321 *i*P PKPbc 12 47 46.8 -0.1
WLS Welschbruch 148.09 354 PKP PKPbc 12 47 46.4 -0.5
CDF Champ du Feu 148.10 354 *e*PKP1 PKPbc 12 47 46.2 -0.7
comp=Z,71nm,1.0s
SGMF Saint Gilles 148.21 7 *e*PKP1 PKPbc 12 47 46.0 -1.2
comp=Z,144nm,0.9s
GRR Gorron 148.23 4 *e*PKP1 PKPbc 12 47 46.3 -0.9
comp=Z,112nm,0.9s
ECH Echery 148.31 354 PKP PKPdf 12 47 47.1 +3.6
PERS Pernice 148.35 343 *i*PKPbc PKPbc 12 47 46.6 -0.9
KBA Koelnbreinsper 148.39 346⇑*i*P PKPbc 12 47 47.1 -0.5
comp=Z,26nm,0.7s
THEF They Montfort 148.39 356 PKP PKPbc 12 47 47.7 +0.1
QUIF Quistinic 148.47 7 *e*PKP1 PKPbc 12 47 46.6 -1.2
comp=Z,225nm,1.4s
MANT Manisa 148.53 319 *i*P PKPbc 12 47 47.5 -0.5
HAU Haudompre 148.59 355 *e*PKP1 PKPbc 12 47 47.4 -0.7
comp=Z,47nm,0.7s
MOTA Moosalm 148.60 349⇓*i*P PKPbc 12 47 47.9 -0.3
comp=Z,30nm,1.2s
MOF Molkenrain 148.67 354 PKP PKPdf 12 47 46.9 +2.8
DOBS Dobrina 148.70 343 *e*PKPbc PKPbc 12 47 47.8 -0.6
SQTA Sankt Quirin 148.70 349⇑*i*P PKPbc 12 47 48.2 -0.2
comp=Z,17nm,1.0s
VTS Vitosha 148.72 330⇑PKP2 PKPbc 12 47 48.3 -0.2
HINF Hinteralfeld 148.73 354 *e*PKP1 PKPbc 12 47 47.5 -1.0
comp=Z,19nm,0.7s
DAVA Damuels 148.87 350⇓*i*P PKPbc 12 47 48.7 -0.1
comp=Z,34nm,0.9s
GCIS Gornji Cirnik 148.91 342 *e*PKPbc PKPbc 12 47 48.8 -0.2
LEGS Legarje 148.92 343 *e*PKPbc PKPbc 12 47 48.6 -0.4
DIVS Divcibare 148.94 335 *e*PKP PKPbc 12 47 48.9 -0.1
LOMF Lomont 149.19 354 PKP PKPdf 12 47 49.2 +4.3
VOY Vojsko 149.23 345 *e*PKPbc PKPdf 12 47 45.6 +0.6
VOY *e* PKPbc 12 47 48.8 -0.9
JAVS Javornik 149.32 344 *e*PKPbc PKPbc 12 47 49.1 -0.9
BOJS Bojanci 149.35 342 *i*PKPbc PKPbc 12 47 50.0 0.0
BOJS *e* 12 48 51.0

DAVOX Davos 149.36 350 PKP PKPdf 12 47 45.3 +0.1
comp=Z,40nm,0.9s,baz=336,slow=16,SNR=4.9
DAVOX PKPbc PKPbc 12 47 50.2 +0.1
comp=Z,51nm,0.7s,baz=267,slow=1.1,SNR=50
AYDN Tasoluk 149.46 318 *i*P PKPbc 12 47 50.7 +0.4
LOR Lormes 149.46 358 *e*PKP1 PKPbc 12 47 49.7 -0.6
comp=Z,82nm,0.9s
HYF Humbligny 149.47 360 *e*PKP1 PKPbc 12 47 50.0 -0.3
SSF Saint Saulge 149.67 359 *e*PKP1 PKPbc 12 47 50.3 -0.5
comp=Z,117nm,1.0s
AVF Avril sur Loir 149.95 359 *e*PKP1 PKPbc 12 47 50.5 -0.9
comp=Z,29nm,0.7s
CABF La Chapelle 149.99 355 *e*PKP1 PKPbc 12 47 51.6 +0.1
comp=Z,149nm,0.9s
MFF Saint Martin d 150.05 4 *e*PKP1 PKPbc 12 47 50.8 -0.9
comp=Z,70nm,1.0s
SMF Signal de Mont 150.08 358 *e*PKP1 PKPbc 12 47 50.8 -1.0
comp=Z,55nm,1.0s
BGF Bois d'Agland 150.19 360 *e*PKP1 PKPbc 12 47 51.4 -0.6
comp=Z,88nm,0.8s
TCF Toulx Ste Croi 150.45 1 *e*PKP1 PKPbc 12 47 51.9 -0.7
comp=Z,88nm,0.9s
AGO Saint Agoulin 150.69 359 PKP PKPbc 12 47 53.0 -0.2
PLDF La Plantade 150.76 359 PKP PKPbc 12 47 53.0 -0.3
PYM Petit Puy Mans 150.99 359 PKP PKPbc 12 47 54.0 +0.1
LPL La Plagne 151.02 354 *e*PKP1 PKPbc 12 47 54.2 +0.3
comp=Z,57nm,0.8s
LPG La Plagne 151.04 354 *e*PKP1 PKPbc 12 47 54.4 +0.4
comp=Z,59nm,0.9s
RJF Les Rejaudoux 151.43 2 *e*PKP1 PKPbc 12 47 54.1 -0.8
comp=Z,49nm,0.8s
BNI Bardonecchia 151.49 354 *e*PKPbc PKPbc 12 47 55.5 +0.5
BNI *e*PKPab PKPab 12 48 05.4 +0.4
LBL Lubilhac 151.51 359 PKP PKPbc 12 47 55.5 +0.5
ORIF Oris-en-Rattie 151.69 355 *e*PKP1 PKPbc 12 47 55.2 -0.3
comp=Z,56nm,0.8s
LFF La Frestale 151.76 3 *e*PKP1 PKPbc 12 47 54.9 -0.7
comp=Z,26nm,0.6s
MBDF Montbardon 151.80 354 *e*PKP1 PKPbc 12 47 55.4 -0.3
comp=Z,39nm,0.6s
CAF Calviac 151.81 1 *e*PKP1 PKPbc 12 47 55.2 -0.5
comp=Z,32nm,0.6s
VIVF Saint-Julien-l 151.83 357 *e*PKP1 PKPbc 12 47 55.5 -0.3
comp=Z,52nm,1.0s
AUTN L'Aution 152.44 352 PKP PKPbc 12 47 56.7 -0.4
SBF Sospel 152.57 352 *e*PKP1 PKPbc 12 47 56.3 -1.1
comp=Z,48nm,0.8s
LASF Ste Croix 152.65 358 *e*PKP1 PKPbc 12 47 57.4 -0.2
comp=Z,51nm,1.0s
SMRF Simiane la Rot 152.65 355 *e*PKP1 PKPbc 12 47 57.6 0.0
comp=Z,33nm,0.9s
IDI Anoyia 152.80 317 PKPbc PKPbc 12 47 58.8 +0.9
comp=Z,16nm,0.9s,baz=20,slow=15,SNR=11
FRF La Foret Royal 152.96 354 *e*PKP1 PKPbc 12 47 57.5 -0.8
LMR La Mourre 153.20 354 *e*PKP1 PKPbc 12 47 58.1 -0.7
comp=Z,64nm,1.3s
MTLF Montolieu 153.40 1 *e*PKP1 PKPbc 12 47 58.6 -0.6
comp=Z,15nm,0.9s
PGF Pioggiola 153.62 349 *e*PKP1 PKPbc 12 47 58.8 -0.9
comp=Z,30nm,1.0s
EPF Esparros 153.64 4 *e*PKP1 PKPbc 12 47 58.8 -0.9
ESDC Sonseca Array 156.36 13 PKP PKPdf 12 47 55.0 -0.3
comp=Z,0.2nm,0.3s,baz=8.3,slow=1.9,SNR=4.7
DBIC Dimbokro 167.68 143 PKP PKPdf 12 48 06.7 0.0
comp=Z,3.9nm,0.7s,baz=20,slow=1.8,SNR=5.0
TORD Torodi Ar. Bea 176.40 166 PKP PKPdf 12 48 09.8 -0.7
comp=Z,5.2nm,0.9s,baz=338,slow=1.1,SNR=24
TORD PKPab PKPab 12 49 54.3 +0.2
comp=Z,2.5nm,0.6s,baz=208,slow=3.6,SNR=12

SZGRF ***08*** *12:30:43.7,2706N×5866E,h33km,mb4.4,Southern Iran*
TEH ***08*** *12:30:47.2,28.19N×5670E,h28km,ML4.2*
ISCJB ***08*** *12:30:56.9±0.2,2811N±002×5682E±002,h23km,*
mb4.5/90,MS3.8/10,Error ellipse: s-maj=3.6km
s-min=2.9km az=56.7
CSEM ***08*** *12:30:56.3±0.1,2825N×5693E,h10km,mb4.6/15,Ms3.7,*
Error ellipse: s-maj=2.3km s-min=2.0km az=175.0
BJI ***08*** *12:30:56.3,2843N×5673E,h25km,mB4.8,mb4.7,Ms4.6,*
Msz4.2
IDC ***08*** *12:30:57.9±0.7,2813N×5679E,h19km±4km,mb4.2/25,*
mb1 4.3/25,mb1mx4.3/28,mbtmp4.3/25,MS3.7/4,
Ms1 3.8/4,ms1mx3.2/21,Error ellipse: s-maj=15.1km
s-min=13.2km az=154.0
NEIC ***08*** *12:30:58.4±0.3,2807N×5681E,mb4.6/45,ML4.2(THR),*
MN4.2(TEH),Error ellipse: s-maj=7.0km s-min=5.0km
az=182.0
MOS ***08*** *12:30:58.5±0.8,2817N×5681E,h33km,mb4.9/39,Error*
ellipse: s-maj=7.0km s-min=4.3km az=114.2
THR ***08*** *12:30:59.0±0.7,2822N×5676E,h17km±5km,ML4.2*
ISC 08 12:30:59.0±0.2,2811N±002×5684E±002,h24km,
h24km±1.1km:pP-P,n282,σ1§21/299,mb4.5/90,MS3.8/10,
6C-8D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.92**	**220**	*e*PG	**Pb**	**12 31 17.4**	**+1.1**
BNDS				AML	AML	12 31 38.4	
	comp=E,7μm,0.6s						
BNDS				AML	AML	12 31 38.5	
	comp=N,5μm,0.6s						
KRBR	**Kerman**	**1.87**	**358**	*e*PG	**Pn**	**12 31 31.0**	**+1.5**
KRBR				*e*SG	**Sn**	**12 31 54.8**	**+2.5**
KRBR				AML	AML	12 32 01.5	
	comp=N,4μm,0.5s						
KRBR				AML	AML	12 32 02.2	
	comp=E,3μm,0.3s						
KRBR	**Kerman**	**1.87**	**358**	*e*Pg	**Pn**	**12 31 31.0**	**+1.5**
	SNR=91						
KRBR				*e*Sg	**Sn**	**12 31 54.8**	**+2.5**
	SNR=91						
KRBR	**Kerman**	**1.87**	**358**	*e*Pg	**Pn**	**12 31 31.0**	**+1.5**
KRBR				*e*Sg	**Sn**	**12 31 54.8**	**+2.5**
BANOM	**Banah**	**2.23**	**193**	P	**Pn**	**12 31 35.8**	**+1.3**
	SNR=106						
GHIR	**Ghir-Karzin**	**3.40**	**274**	*e*PN	**Pn**	**12 31 52.4**	**+1.8**
GHIR				AML	AML	12 32 46.2	
	comp=E,511nm,0.6s						
GHIR	**Ghir-Karzin**	**3.40**	**274**	*e*Pn	**Pn**	**12 31 52.3**	**+1.7**
	SNR=52						
ASHO	**Ashiyiah**	**3.48**	**192**	P	**Pn**	**12 31 53.6**	**+1.9**
	SNR=27						
IBAF	**Bafgh**	**3.64**	**343**	*e*Pn	**Pn**	**12 31 56.1**	**+2.2**
IBAF				*e*Sn	**Sn**	**12 32 35.8**	**-0.3**
IPAR	**Pars**	**3.74**	**298**	*e*Pn	**Pn**	**12 31 57.7**	**+2.4**
IPAR				*e*Sn	**Sn**	**12 32 37.7**	**-0.8**
IMOK	**Mook**	**3.74**	**285**	*e*Pn	**Pn**	**12 31 57.3**	**+2.0**
IMOK				*e*Sn	**Sn**	**12 32 37.6**	**-1.0**
ZHSF	**Zahedan**	**3.76**	**66**	*e*PN	**Pn**	**12 31 58.8**	**+3.2**
IMEH	**Mehriz**	**3.80**	**330**	*e*Pn	**Pn**	**12 31 58.6**	**+2.6**
SHI	**Shiraz**	**4.09**	**293**	*e*Pn	**Pn**	**12 32 02.9**	**+2.9**
ICHK	**Chekchek**	**4.63**	**334**	*e*Pn	**Pn**	**12 32 09.5**	**+2.1**
ICHK				*e*Sn	**Sn**	**12 32 59.2**	**-1.2**
ISAD	**Sadrabad**	**4.67**	**325**	*e*Pn	**Pn**	**12 32 11.0**	**+2.9**
ISAD				*e*Sn	**Sn**	**12 32 59.8**	**-1.7**
BIDO	**Bidbid**	**4.71**	**165**	P	**Pn**	**12 32 08.3**	**-0.3**
	SNR=36						
ARQ	**Araqi**	**4.76**	**183**	P	**Pn**	**12 32 11.3**	**+2.1**
	SNR=9.2						
SMDO	**Samad**	**5.15**	**167**	P	**Pn**	**12 32 15.2**	**+0.6**
	SNR=17						
BSY	**Bisya**	**5.35**	**176**	P	**Pn**	**12 32 19.4**	**+2.0**
	SNR=14						
IGAR	**Garneh**	**5.75**	**317**	*e*Pn	**Pn**	**12 32 28.5**	**+5.6**
IGAR				*e*Sn	**Sn**	**12 33 29.3**	**+1.1**
JMDO	**Jabal Madar**	**5.83**	**168**	P	**Pn**	**12 32 25.2**	**+1.3**
	SNR=11						
NASN	**Na'in**	**5.83**	**324**	*e*PN	**Pn**	**12 32 26.0**	**+2.1**
IZEF	**Zefreh**	**6.16**	**322**	*e*Pn	**Pn**	**12 32 30.0**	**+1.6**
IZEF				*e*Sn	**Sn**	**12 33 33.8**	**-4.2**
IPIR	**Pirpir**	**6.87**	**313**	*e*Pn	**Pn**	**12 32 39.8**	**+1.6**
IPIR				*e*Sn	**Sn**	**12 33 51.0**

KBD AML AML 12 34 26.2
comp=Z,296nm,0.4s
IVRN Varamin 8.13 329 *e*Pn **Pn 12 32 57.4 +1.8**
IVRN *e*Sn **Sn 12 34 21.2 -5.5**
RDF Al-Radifah 8.21 278 *e*P **Pn 12 32 56.8 +0.1**
RDF AML AML 12 34 28.5
comp=Z,43nm,0.4s
ISHM Shahmirzad 8.24 339 *e*Pn **Pn 12 32 58.4 +1.3**
ISHM *e*Sn **Sn 12 34 24.8 -4.6**
IMOG Moghan 8.25 14 *e*Pn **Pn 12 33 00.5 +3.3**
IFIR Firoozkooh 8.27 336 *e*Pn **Pn 12 32 59.5 +2.0**
NAY Al-Naaiem 8.51 280 *e*P **Pn 12 33 00.8 +0.2**
NAY AML AML 12 34 29.9
comp=Z,22nm,0.6s
IPAY Payeh 8.52 12 *e*Pn **Pn 12 33 03.0 +2.2**
DAMV Damavand 8.56 332 *e*PN **Pn 12 33 02.9 +1.4**
IGLO Galoogah 8.65 342 *e*Pn **Pn 12 33 06.1 +3.4**
IGLO *e*Lg 12 35 33.8
IMYA Miamay 8.66 18 *e*Pn **Pn 12 33 06.1 +3.3**
IMYA *e*Lg 12 35 32.8
ASAO Ashtian 8.67 319 *e*PN **Pn 12 33 04.7 +1.8**
IKRD Kardeh 8.75 9 *e*Pn **Pn 12 33 10.6 +6.5**
IAFJ Afjeh 8.86 332 *e*Pn **Pn 12 33 07.9 +2.3**
IAFJ Afjeh 8.86 332 *e*Pn **Pn 12 33 07.8 +2.2**
IPRN Paran-Amol 8.99 336 *e*Pn **Pn 12 33 08.4 +1.0**
CHTH Charan 9.16 330 *e*PN **Pn 12 33 11.2 +1.6**
WHFO Wadi Hawf 10.53 196 P **Pn 12 33 27.1 -1.3**
SNR=26
RBK Rabkut 10.83 193 P **Pn 12 33 31.5 -1.0**
SNR=9.7
IDHR Dehrash 11.08 309 *e*Pn **Pn 12 33 34.3 -1.7**
IDHR *e*Sn **Sn 12 35 31.3 -7.8**
IDHR Dehrash 11.08 309 *e*Sn **Sn 12 35 31.3 -7.8**
ABTO Aybut 11.19 198 P **Pn 12 33 35.9 -1.5**
SNR=29
THW Thamme Wali 13.68 66 P **Pn 12 34 13.0 +1.6**
IMRD Marand 14.07 322 *e*Pn **Pn 12 34 21.8 +5.0**
GNI Garni 15.62 323 *e*P **Pn 12 34 37.2 -0.3**
comp=Z,21nm,0.9s
GNI *e*pP pP 12 34 57.9 +10
GNI *e*sP sP 12 35 08.0 +17
GNI Garni 15.62 323 *e*P **Pn 12 34 37.2 -0.3**
GNI pmax pmax
comp=Z,21nm,0.9s
MARD Mardin 16.32 308 *i* P **Pn 12 34 43.4 -3.1**
ZEI Tsey 18.00 328 *e*P **Pn 12 35 10.0 +2.5**
MALT Malatya 18.43 308 *e*P **Pn 12 35 14.5 +1.7**
comp=Z,15nm,0.9s
MALT Malatya 18.43 308 *e*P **Pn 12 35 14.5 +1.6**
comp=Z,15nm,0.9s
MALT Malatya 18.43 308 *e*P **Pn 12 35 14.5 +1.7**
MALT pmax pmax
comp=Z,15nm,0.9s
KK31 Karatay Array 18.60 33 *i* P **Pn 12 35 14.5 -0.4**
comp=Z,5.0nm,0.6s
KK31 Karatay Array 18.60 33 *i* P **Pn 12 35 14.5 -0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 18.60 33 *e*P **Pn 12 35 14.5 -0.4**
comp=Z,3.0nm,0.7s
KKAR Karatay Array 18.60 33 *e*P **Pn 12 35 14.5 -0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
GZT Gaziantep 18.63 305 *i* P **Pn 12 35 14.7 -0.5**
EIL Elat 19.23 280 *e*P **Pn 12 35 23.9 +1.5**
comp=Z,257nm,0.8s
COBT Iskenderun 19.29 301 *i* P **Pn 12 35 21.5 -1.6**
KIV Kislovodsk 19.47 328⇑ *e*P **Pn 12 35 25.5 +0.1**
comp=Z,15nm,0.8s
KIV Kislovodsk 19.47 328⇑ *e*P **Pn 12 35 25.5 +0.1**
comp=Z,15nm,0.8s
KIV Kislovodsk 19.47 328 *d i*P **Pn 12 35 25.8 +0.4**
KIV pmax pmax
comp=Z,24nm,1.3s
AML Almayashu 19.59 40 P **Pn 12 35 26.1 -0.7**
SNR=19
GRSN GIRESUNGRSN 19.89 315 *i* P **Pn 12 35 27.7 -2.6**
EKS2 Erkin-Say 19.98 39 P **Pn 12 35 30.1 -1.4**
SNR=18
UCH Uchtor 20.12 41 P **P 12 35 31.7 +0.5**
SNR=8.7
GOF Gofitskoye 20.17 331 *e*P **P 12 35 31.8 +0.1**
comp=Z,45nm,0.8s
GOF Gofitskoye 20.17 331 *e*P **P 12 35 31.8 +0.1**
GOF pmax pmax
comp=Z,45nm,0.8s
AAK Ala-Archa 20.37 40 P **P 12 35 34.9 +1.1**
SNR=11
AAK Ala-Archa 20.37 40⇓ *e*P **P 12 35 34.1 +0.3**
comp=Z,8.3nm,0.8s
AAK Ala-Archa 20.37 40⇓ *e*P **P 12 35 34.1 +0.2**
comp=Z,8.3nm,0.8s
AAK Ala-Archa 20.37 40 *d i*P **P 12 35 34.0 +0.2**
AAK pmax pmax
comp=Z,10.0nm,0.8s
KZA Kyzart 20.46 42 P **P 12 35 40.4 +5.6**
SNR=7.7
FRU Bishkek 20.57 40 P **P 12 35 39.0 +3.0**
FRU *e* 12 35 53.0
ULHL Ulahol 21.16 43 P **P 12 35 43.5 +1.2**
SNR=9.1
TKM2 Tokmak 2 21.18 41 P **P 12 35 43.4 +0.7**
SNR=5.9
AB31 Akbulak array 21.25 6 *e*P **P 12 35 43.4 0.0**
comp=Z,20nm,0.9s,mb4.5
AB31 Akbulak array 21.25 6 *e*P **P 12 35 43.4 0.0**
AB31 pmax pmax
comp=Z,20nm,0.9s,mb4.5
BOYT Boyabat 22.31 312 *i* P **P 12 35 55.3 +0.7**
AKTK Aktyubinsk 22.32 2 *i* P **P 12 35 54.2 -0.6**
comp=Z,5.0nm,1.0s,mb3.9
AKTK Aktyubinsk 22.32 2 P **P 12 35 54.8 0.0**
AKTK LR LR 12 46 14.2
AKTO Aktyubinsk 22.32 2 P **P 12 35 54.8 0.0**
comp=Z,8.5nm,0.4s,mb4.5,baz=185,slow=11,SNR=38
AKTO LR LR 12 46 14.2
comp=Z,318nm,18.7s,MS3.8,baz=0.0,slow=41
AKTO Aktyubinsk 22.32 2 *i* P **P 12 35 54.2 -0.6**
AKTO pmax pmax
comp=Z,5.0nm,1.0s,mb3.9
BR131 Keskin Array S 22.40 307 *e*P **P 12 35 56.6 +0.9**
comp=Z,9.2nm,0.7s,mb4.3
BR131 Keskin Array S 22.40 307 *e*P **P 12 35 56.6 +1.0**
comp=Z,9.2nm,0.7s,mb4.3
BRTR Keskin Array B 22.40 307 P **P 12 35 56.2 +0.6**
comp=Z,13nm,0.8s,mb4.4,baz=117,slow=11,SNR=38
BRTR Keskin Array B 22.40 307 P **P 12 35 56.2 +0.5**
HYB Hyderabad 22.64 113 *i* P **P 12 36 05.0 +6.8**
HYB Hyderabad 22.64 113 *e*P **P 12 36 05.0 +6.8**
ANN Anapa 22.73 322 *e*P **P 12 35 58.1 -1.1**
comp=Z,110nm,1.3s,mb5.1
ANN Anapa 22.73 322 *e*P **P 12 35 58.1 -1.1**
ANN pmax pmax
comp=Z,110nm,1.3s,mb5.1
ELDT Eldivan 22.87 309 *i* P **P 12 36 02.2 +1.6**
KOLN Koldanda 23.63 84 *e*P **P 12 36 10.2 +1.8**
TKTP Tekketepe 24.26 301 *i* P **P 12 36 10.7 -3.4**
KKN Kakani 25.11 84 *e*P **P 12 36 22.4 +0.5**
comp=Z,23nm,0.6s,mb4.9
KKN Kakani 25.11 84 *e*P **P 12 36 22.4 +0.5**
KKN pmax pmax
comp=Z,12nm,0.6s,mb4.6
PKI Pulchoki 25.25 84 *e*P **P 12 36 24.9 +1.7**
GUN Gumba 25.62 84 *e*P **P 12 36 27.3 +0.8**
comp=Z,61nm,1.0s,mb5.1
VRHR Novokhopersk 25.68 338 *e*P **P 12 36 26.7 -0.3**
comp=Z,50nm,0.5s,mb5.3
VRHR Novokhopersk 25.68 338 *e*P **P 12 36 26.7 -0.3**
VRHR pmax pmax
comp=Z,50nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
JIRN Jiri 25.92 84 *e*P **P 12 36 29.9 +0.6**
comp=E,19nm,0.6s,mb4.8
VOSK Vostochnaya 26.74 19 P **P 12 36 36.2 -0.5**
comp=E,9.0nm,0.9s,mb4.3
VOSK Vostochnaya 26.74 19 P **P 12 36 36.2 -0.5**
VOSK pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
BRVK Borovoye 26.84 18 *e*P **P 12 36 36.9 -0.7**
comp=Z,7.9nm,0.8s,mb4.3
BRVK Borovoye 26.84 18 *e*P **P 12 36 36.9 -0.7**
comp=Z,7.9nm,0.8s,mb4.3

BRVK *e*pP pP 12 36 44.4 -0.3
BRVK Borovoye 26.84 18 *e*P **P 12 36 36.9 -0.7**
BRVK *e**PP pP 12 36 44.4 -0.3
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
BVA0 Borovoye Array 26.84 18 *i* P **P 12 36 37.4 -0.2**
comp=Z,3.0nm,0.8s,mb3.9
BVA0 Borovoye Array 26.84 18 *i* P **P 12 36 37.4 -0.2**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
BVAR Borovoye Array 26.84 18 P **P 12 36 37.4 -0.2**
comp=Z,16nm,0.7s,mb4.7,baz=200,slow=8.5,SNR=97
BVAR PcP PcP 12 39 59.2 -0.6
comp=Z,0.5nm,0.4s,baz=216,slow=2.5,SNR=5.7
VOR Voronezh 27.05 336 P **P 12 36 39.0 -0.5**
comp=Z,70nm,1.0s,mb5.2
VOR Voronezh 27.05 336 P **P 12 36 39.0 -0.5**
VOR pmax pmax
comp=Z,70nm,1.0s,mb5.2
MK31 Makanchi Array 27.31 40 P **P 12 36 41.4 -0.4**
comp=Z,1.0nm,0.5s,mb3.6
MK31 Makanchi Array 27.31 40 P **P 12 36 41.4 -0.4**
MK31 pmax pmax
comp=Z,1.0nm,0.5s,mb3.6
MKAR Makanchi Array 27.31 40 P **P 12 36 41.4 -0.4**
comp=Z,1.8nm,0.5s,mb3.9,baz=233,slow=7.4,SNR=35
MKAR Makanchi Array 27.31 40⇑ *e*P **P 12 36 41.7 -0.1**
KURK Kurchatov 27.96 30 *e*P **P 12 36 47.4 -0.2**
comp=Z,4.7nm,0.8s,mb4.2
KURK Kurchatov 27.96 30 *e*P **P 12 36 47.9 +0.3**
ARU Arti 28.33 2⇓ *i*P **P 12 36 50.2 -0.7**
ARU *e*PPP 12 37 46.3
ARU *e* 12 40 02.3
ARU *e*S **S 12 41 35.3 -0.7**
ARU *e*SS 12 42 54.8
ARU *e* 12 47 32.1
ARU pmax pmax
comp=Z,3.0nm,1.2s,mb3.8
WMQ Urumqi 29.28 49 *e*P **P 12 36 59.5 +0.2**
WMQ AP pP 12 37 06.7 +0.2
WMQ XP sP 12 37 10.1 +0.7
WMQ PP PP 12 37 55.2 -10
WMQ AMB AMB
comp=Z,3.0nm,0.7s,mb4.1
WMQ AMB AMB
comp=Z,28nm,4.0s
WMQ LR LR
comp=N,89nm,19.6s,MS3.6
WMQ LR LR
comp=E,132nm,21.0s,MS3.6
WMQ LR LR
comp=Z,131nm,21.6s,MS3.5
MLR Muntele Rosu 29.96 314 LR LR 12 50 59.5
comp=Z,76nm,21.1s,MS3.3,baz=322,slow=40
OBN Obninsk 30.72 337⇓ *i*P **P 12 37 12.1 0.0**
OBN *e* 12 38 12.6
OBN *e*SS SS 12 43 46.0 -39
OBN pmax pmax
comp=Z,24nm,0.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.5
AKASG Malin Array Be 30.74 325 P **P 12 37 11.1 -1.2**
comp=Z,2.4nm,0.6s,mb4.2,baz=129,slow=8.2,SNR=19
NVS Novosibirsk 32.86 28 *e*P **P 12 37 30.0 -0.9**
NVS pmax pmax
comp=N,12nm,1.1s
NVS pmax pmax
comp=Z,13nm,1.1s,mb4.8
ZAL Zalesovo 32.93 31 P **P 12 37 31.5 0.0**
comp=Z,11nm,0.3s,mb5.2,baz=239,slow=6.3,SNR=45
KOLS Kolonicke sedl 33.69 318 *e*P **P 12 37 39.2 +1.0**
KOLS *e*pP pP 12 37 45.6 +0.3
KWP Kalwaria 33.74 319 *e*P **P 12 37 38.5 -0.1**
comp=Z,7.9nm,0.6s,mb4.8
KWP Kalwaria 33.74 319 *e*P **P 12 37 38.5 -0.1**
KWP pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
STHS Stebnicka Huta 34.51 318 *e*P **P 12 37 43.6 -1.6**
KMBO Kilima Mbogo 34.62 216 P **P 12 37 47.0 +0.8**
comp=Z,0.5nm,0.3s,mb3.9,baz=54,slow=8.3,SNR=4.2
KMBO Kilima Mbogo 34.62 216⇑ *e*P **P 12 37 48.7 +2.5**
KLMR Klimovskoe 34.76 345 *e*P **P 12 37 45.0 -2.4**
KLMR pmax pmax
comp=Z,30nm,2.1s,mb4.8
VYHS Vyhne 35.61 315 *e*sP sP 12 38 03.9 -1.0
OJC Ojcow 35.69 318 *e*P **P 12 37 55.4 -0.1**
MORC Moravsky Berou 36.87 317 *e*P **P 12 38 04.9 -0.6**
comp=Z,1.6nm,0.6s,mb4.0
MORC Moravsky Berou 36.87 317 *e*P **P 12 38 04.9 -0.6**
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
GTA Gaotai 37.15 61 *e*P **P 12 38 08.1 +0.2**
GTA AP pP 12 38 13.2 -1.9
GTA XP sP 12 38 16.6 -1.4
GTA S **S 12 43 55.0 +2.0**
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.4
GTA AMB AMB
comp=Z,110nm,9.1s
GTA LR LR
comp=N,92nm,14.4s,MS3.8
GTA LR LR
comp=E,84nm,14.8s,MS3.8
GTA LR LR
comp=Z,63nm,12.5s,MS3.6
VRAC Vranov 37.28 316 P **P 12 38 07.5 -1.5**
comp=Z,4.7nm,0.6s,mb4.5,baz=83,slow=7.7,SNR=4.1
DPC Dobruska-Polom 37.80 317 *e*P **P 12 38 12.9 -0.5**
DPC *e*x x 12 38 21.6
KRAR Krasnoyarsk 37.91 33 *e*P **P 12 38 14.0 -0.3**
KRAR pmax pmax
comp=Z,22nm,0.5s,mb5.1
UPC Upice 38.05 317 *e*P **P 12 38 15.0 -0.5**
JOF Joensuu 38.60 342 *e*p **P 12 38 20.4 +0.3**
PRU Pruhonice 38.76 316 *e*P pP 12 38 33.3 +4.5
GEC2 GERESS Array S 38.95 314 *e*P **P 12 38 22.7 -0.4**
comp=Z,5.0nm,0.9s,mb4.2
GEC2 GERESS Array S 38.95 314 *e*P **P 12 38 22.7 -0.4**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
GERES GERESS Array B 38.95 314 P **P 12 38 22.7 -0.3**
comp=Z,2.3nm,0.6s,mb4.1,baz=115,slow=9.0,SNR=18
KHC Kasperske Hory 39.11 314 *e*P **P 12 38 23.9 -0.5**
KHC *e*x x 12 38 32.3
FINES FINESS Array B 39.12 337 P **P 12 38 24.0 -0.6**
comp=Z,14nm,0.6s,mb4.9,baz=133,slow=9.2,SNR=86
BRG Berggiesshubel 39.41 317 *e*P **P 12 38 26.5 -0.4**
comp=Z,4.0nm,0.8s,mb4.2
BRG Berggiesshubel 39.41 317 P **P 12 38 26.4 -0.5**
BRG pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
BRG Berggiesshubel 39.41 317 *e*(P) **P 12 38 26.4 -0.5**
comp=Z,1.5nm,0.7s,mb3.9
KAF Kangasniemi 39.52 338 *e*p **P 12 38 26.8 -1.0**
WET Wettzell 39.55 314 *e*P **P 12 38 27.2 -0.9**
comp=Z,4.0nm,0.9s,mb4.2
WET Wettzell 39.55 314 *e*P **P 12 38 27.2 -0.9**
WET pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
CLL Collm 40.11 318 *e*P **P 12 38 32.8 +0.1**
comp=Z,7.0nm,0.6s,mb4.6
CLL Collm 40.11 318⇓ *i*P **P 12 38 32.8 +0.1**
comp=Z,20nm,1.3s,mb4.7
CLL *i*pP pP 12 38 41.3 +1.3
CLL Collm 40.11 318⇓ *i*P **P 12 38 32.8 +0.1**
CLL *i* pP 12 38 41.3 +1.3
CLL pmax pmax
comp=Z,20nm,1.3s,mb4.7
ROTZ Rotzenmuhle 40.14 315 *e*P **P 12 38 32.8 -0.2**
comp=Z,7.0nm,0.9s,mb4.4
LZH Lanzhou 40.29 66 *e*P **P 12 38 31.2 -3.0**
LZH AP pP 12 38 38.6 -2.9
LZH XP sP 12 38 42.1 -2.3
LZH PP PP 12 40 08.1 +1.0
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.7
MOY Mondy 40.41 42 *e*P **P 12 38 36.1 +0.9**
BSD Bornholm Skovb 40.43 324 *i* P **P 12 38 33.9 -1.5**
comp=Z,25nm,0.7s,mb5.0
BSD Bornholm Skovb 40.43 324 *i* P **P 12 38 33.9 -1.5**
BSD pmax pmax
comp=Z,25nm,0.7s,mb5.0
CD2 Chengdu 40.70 74 *e*P **P 12 38 37.0 -0.6**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6

CD2 AMB AMB
comp=Z,50nm,5.2s
GRA1 Grafenberg Arr 40.74 315 *e*P **P 12 38 37.2 -0.8**
comp=Z,16nm,1.0s,mb4.6
GRF Grafenberg Arr 40.74 315 *e*P **P 12 38 37.2 -0.8**
comp=Z,16nm,1.0s,mb4.6
GRF Grafenberg Arr 40.74 315 *e*P **P 12 38 37.2 -0.8**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.6
GRF Grafenberg Arr 40.74 315 *e*P **P 12 38 37.2 -0.8**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.6
MOX Moxa 40.75 316 *e*P **P 12 38 38.2 +0.2**
comp=Z,3.0nm,1.0s,mb3.9
DAVOX Davos 40.99 310 P **P 12 38 39.7 -0.3**
comp=Z,6.7nm,0.4s,mb4.6,baz=118,slow=4.8,SNR=10
PGF Pioggiola 41.07 304 *e*P **P 12 38 40.9 +0.3**
comp=Z,56nm,1.2s,mb4.8
PGF Pioggiola 41.07 304 *e*P **P 12 38 40.9 +0.3**
comp=Z,28nm,1.2s,mb4.8
PGF Pioggiola 41.07 304 *e*P **P 12 38 40.9 +0.3**
PGF pmax pmax
comp=Z,28nm,1.2s,mb4.8
ZAK Zakamensk 41.43 45 *e*P **P 12 38 40.6 -3.0**
ZAK pmax pmax
comp=Z,3.0nm,2.4s,mb3.5
CLZ Clausthal 41.84 318 *e*P **P 12 38 47.1 +0.2**
comp=Z,15nm,0.9s,mb4.6
CLZ Clausthal 41.84 318 *e*P **P 12 38 47.1 +0.2**
CLZ pmax pmax
comp=Z,15nm,0.9s,mb4.6
SBF Sospel 42.32 305 *e*P **P 12 38 50.2 -0.7**
comp=Z,29nm,0.9s,mb4.6
SBF Sospel 42.32 305 *e*P **P 12 38 50.2 -0.7**
comp=Z,15nm,0.9s,mb4.6
SBF Sospel 42.32 305 *e*P **P 12 38 50.2 -0.7**
SBF pmax pmax
comp=Z,15nm,0.9s,mb4.6
BSEG Bad Segeberg 42.49 321 *e*P **P 12 38 50.3 -2.0**
comp=Z,15nm,1.1s,mb4.5
TNS Taunus Mts 42.61 315 *e*P **P 12 38 52.7 -0.5**
comp=Z,6.0nm,0.9s,mb4.3
TNS Taunus Mts 42.61 315 *e*P **P 12 38 52.7 -0.5**
TNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
MBDF Montbardon 42.87 307 *e*P **P 12 38 54.6 -0.8**
comp=Z,17nm,0.8s,mb4.5
MBDF Montbardon 42.87 307 *e*P **P 12 38 54.6 -0.8**
comp=Z,8.6nm,0.8s,mb4.5
MBDF Montbardon 42.87 307 *e*P **P 12 38 54.6 -0.8**
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
SONM Songino Array 42.91 49 P **P 12 38 55.3 -0.4**
comp=Z,1.2nm,0.7s,mb3.7,baz=266,slow=8.8,SNR=14
SONM LR LR 12 58 47.6
comp=Z,160nm,19.3s,MS3.9,baz=204,slow=39
LPG La Plagne 42.96 308 *e*P **P 12 38 55.4 -0.7**
comp=Z,17nm,0.7s,mb4.6
LPG La Plagne 42.96 308 *e*P **P 12 38 55.4 -0.7**
comp=Z,8.7nm,0.7s,mb4.6
LPG La Plagne 42.96 308 *e*P **P 12 38 55.4 -0.7**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
BNI Bardonecchia 42.97 307 *e*P **P 12 38 55.4 -0.8**
comp=Z,14nm,0.9s,mb4.7
BNI Bardonecchia 42.97 307 *e*P **P 12 38 55.4 -0.7**
BNI pmax pmax
comp=Z,14nm,0.9s,mb4.7
LPL La Plagne 42.98 308 *e*P **P 12 38 55.6 -0.6**
comp=Z,8.3nm,0.5s,mb4.5
LPL La Plagne 42.98 308 *e*P **P 12 38 55.6 -0.6**
comp=Z,4.2nm,0.5s,mb4.5
LPL La Plagne 42.98 308 *e*P **P 12 38 55.6 -0.6**
LPL pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
CDF Champ du Feu 43.01 312 *e*P **P 12 38 55.2 -1.3**
HFS Hagfors 43.25 330 P **P 12 38 57.1 -1.4**
comp=Z,1.7nm,0.4s,mb4.2,baz=134,slow=8.5,SNR=18
ULN Ulaanbaatar 43.35 49 *e*P **P 12 39 00.2 +1.0**
comp=Z,1.6nm,0.6s,mb3.9
ULN *e*pP pP 12 39 05.9 -0.7
ULN Ulaanbaatar 43.35 49 *e*P **P 12 39 00.2 +0.9**
ULN *e**PP pP 12 39 05.9 -0.7
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
CABF La Chapelle 43.55 309 *e*P **P 12 39 00.4 -0.4**
comp=Z,20nm,0.8s,mb4.6
CABF La Chapelle 43.55 309 *e*P **P 12 39 00.4 -0.4**
comp=Z,10nm,0.8s,mb4.6
CABF La Chapelle 43.55 309 *e*P **P 12 39 00.4 -0.4**
CABF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
HAU Haudompre 43.56 311 *e*P **P 12 39 00.0 -0.9**
WLF Walferdange 43.95 314 *e*P **P 12 39 06.8 +2.7**
comp=Z,16nm,1.2s,mb4.6
VIVF Saint-Julien-l 44.37 307 *e*P **P 12 39 07.0 -0.4**
NB2 NORSAR Subarra 44.76 330 P **P 12 39 08.9 -1.6**
comp=Z,1.9nm,0.6s,mb4.1,baz=114,slow=7.9
NB2 NORSAR Subarra 44.76 330 P **P 12 39 08.9 -1.6**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
NOA NORSAR Array B 44.76 330 P **P 12 39 08.8 -1.8**
comp=Z,4.3nm,0.8s,mb4.3,baz=116,slow=8.0,SNR=9.7
NOA LR LR 13 00 48.9
comp=Z,71nm,18.6s,MS3.6,baz=250,slow=40
GIVF Givet 44.87 314 *e*P **P 12 39 11.8 +0.3**
LASF Ste Croix 44.91 305 *e*P **P 12 39 11.1 -0.6**
KEV Kevo 45.08 346 *e*p **P 12 39 12.0 -1.1**
SMF Signal de Mont 45.09 309 *e*P **P 12 39 12.6 -0.6**
comp=Z,32nm,0.8s,mb4.9
SMF Signal de Mont 45.09 309 *e*P **P 12 39 12.6 -0.6**
comp=Z,16nm,0.8s,mb4.9
SMF Signal de Mont 45.09 309 *e*P **P 12 39 12.6 -0.6**
SMF pmax pmax
comp=Z,16nm,0.8s,mb4.9
LOR Lormes 45.14 310 *e*P **P 12 39 12.7 -0.8**
comp=Z,9.7nm,0.8s,mb4.4
LOR Lormes 45.14 310 *e*P **P 12 39 12.7 -0.8**
comp=Z,4.8nm,0.8s,mb4.4
LOR Lormes 45.14 310 *e*P **P 12 39 12.7 -0.8**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ARCES ARCESS Array B 45.24 345 P **P 12 39 13.3 -1.0**
comp=Z,3.5nm,0.7s,mb4.3,baz=134,slow=8.2,SNR=16
ARCES pP pP 12 39 19.3 -2.4
comp=Z,4.0nm,0.9s,baz=139,slow=8.1,SNR=2.1
ARCES PcP PcP 12 40 53.3 -0.8
comp=Z,3.3nm,0.8s,baz=144,slow=2.3,SNR=5.5
BAIF Baives 45.26 314 *e*P **P 12 39 14.9 +0.4**
comp=Z,39nm,1.2s,mb4.8
BAIF Baives 45.26 314 *e*P **P 12 39 14.9 +0.4**
comp=Z,20nm,1.2s,mb4.8
BAIF Baives 45.26 314 *e*P **P 12 39 14.9 +0.4**
BAIF pmax pmax
comp=Z,20nm,1.2s,mb4.8
SSF Saint Saulge 45.36 310 *e*P **P 12 39 14.7 -0.6**
comp=Z,30nm,0.8s,mb4.8
SSF Saint Saulge 45.36 310 *e*P **P 12 39 14.7 -0.6**
comp=Z,15nm,0.8s,mb4.8
SSF Saint Saulge 45.36 310 *e*P **P 12 39 14.7 -0.6**
SSF pmax pmax
comp=Z,15nm,0.8s,mb4.9
AVF Avril sur Loir 45.44 309 *e*P **P 12 39 15.0 -0.9**
comp=Z,16nm,0.9s,mb4.5
AVF Avril sur Loir 45.44 309 *e*P **P 12 39 15.0 -0.9**
comp=Z,8.0nm,0.9s,mb4.5
AVF Avril sur Loir 45.44 309 *e*P **P 12 39 15.0 -0.9**
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BGF Bois d'Agland 45.77 309 *e*P **P 12 39 17.9 -0.6**
comp=Z,41nm,0.9s,mb5.0
BGF Bois d'Agland 45.77 309 *e*P **P 12 39 17.9 -0.6**
comp=Z,21nm,0.9s,mb5.0
BGF Bois d'Agland 45.77 309 *e*P **P 12 39 17.9 -0.6**
BGF pmax pmax
comp=Z,21nm,0.9s,mb5.1
MTLF Montolieu 46.08 304 *e*P **P 12 39 20.9 -0.1**
comp=Z,39nm,1.3s,mb4.9
MTLF Montolieu 46.08 304 *e*P **P 12 39 20.9 -0.1**
comp=Z,20nm,1.3s,mb4.9
MTLF Montolieu 46.08 304 *e*P **P 12 39 20.9 -0.1**
MTLF pmax pmax
comp=Z,20nm,1.3s,mb4.9
HHC Hu-ho-hao-te 46.18 59 *e*P **P 12 39 20.0 -1.8**
HHC AP pP 12 39 27.5 -1.7
HHC XP sP 12 39 30.9 -1.2
HHC AMB AMB

comp=Z,7.0nm,0.3s,mb5.1
HHC AMB AMB
comp=Z,53nm,4.3s
HHC LR LR
comp=N,98nm,6.9s
HHC LR LR
comp=E,139nm,6.7s
HHC LR LR
comp=Z,147nm,7.1s
TCF Toulx Ste Croi 46.19 308 *eP* **P 12 39 21.5 -0.4**
comp=Z,17nm,0.7s,mb4.8
TCF Toulx Ste Croi 46.19 308 *eP* **P 12 39 21.5 -0.4**
comp=Z,8.6nm,0.7s,mb4.8
TCF Toulx Ste Croi 46.19 308 *eP* **P 12 39 21.5 -0.4**
TCF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CAF Calviac 46.23 307 *eP* **P 12 39 21.9 -0.2**
comp=Z,10nm,0.6s,mb4.6
CAF Calviac 46.23 307 *eP* **P 12 39 21.9 -0.2**
comp=Z,5.2nm,0.6s,mb4.6
CAF Calviac 46.23 307 *eP* **P 12 39 21.9 -0.2**
CAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
RJF Les Rejaudoux 46.63 307 *eP* **P 12 39 25.3 0.0**
comp=Z,19nm,0.8s,mb4.8
RJF Les Rejaudoux 46.63 307 *eP* **P 12 39 25.3 0.0**
comp=Z,9.5nm,0.8s,mb4.8
RJF Les Rejaudoux 46.63 307 *eP* **P 12 39 25.3 0.0**
RJF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LFF La Frestale 47.16 306 *eP* **P 12 39 29.4 -0.1**
SJPF Ste Jean 48.60 304 *eP* **P 12 39 40.6 0.0**
comp=Z,16nm,0.8s,mb4.8
SJPF Ste Jean 48.60 304 *eP* **P 12 39 40.6 0.0**
comp=Z,7.8nm,0.8s,mb4.8
SJPF Ste Jean 48.60 304 *eP* **P 12 39 40.6 0.0**
SJPF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BOD Bodaibo 49.29 36 *eP* **P 12 39 43.4 -2.5**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
SGMF Saint Gilles 49.52 311 *eP* **P 12 39 47.1 -0.6**
comp=Z,32nm,0.9s,mb5.0
SGMF Saint Gilles 49.52 311 *eP* **P 12 39 47.1 -0.6**
comp=Z,16nm,0.9s,mb5.0
SGMF Saint Gilles 49.52 311 *eP* **P 12 39 47.1 -0.6**
SGMF pmax pmax
comp=Z,16nm,0.9s,mb5.0
EKA Eskdalemuir Ar 50.43 320 P **P 12 39 53.0 -1.5**
comp=Z,2.0nm,0.6s,mb4.3,baz=98,slow=7.5,SNR=11
ESDC Sonseca Array 50.90 300 P **P 12 39 57.6 -0.5**
comp=Z,0.8nm,0.5s,mb3.9,baz=67,slow=7.7,SNR=4.3
HIA Hailar 51.85 48 *eP* **P 12 40 04.3 -1.0**
MDT Midelt 52.53 291 P **P 12 40 09.9 -0.4**
comp=Z,3.1nm,0.8s,mb4.3,baz=91,slow=8.5,SNR=8.4
NJ2 Nanjing 53.17 70 *eP* **P 12 40 14.4 -0.6**
NJ2 AP pP 12 40 22.0 -0.4
NJ2 XP sP 12 40 25.2 -0.1
NJ2 PP PP 12 40 15.9 +0.9
NJ2 S **S 12 47 41.0 -3.3**
NJ2 XS sS 12 47 54.0 -2.5
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,20nm,10.2s
NJ2 LR LR
comp=N,500nm,22.5s,MS4.6
NJ2 LR LR
comp=E,400nm,19.9s,MS4.6
NJ2 LR LR
comp=Z,290nm,28.8s
TORD Torodi Ar. Bea 53.29 266 P **P 12 40 15.4 -0.5**
comp=Z,6.3nm,0.7s,mb4.7,baz=59,slow=6.9,SNR=44
TORD pP pP 12 40 21.6 -1.7
comp=Z,8.7nm,0.6s,baz=63,slow=7.1,SNR=22
SSE Sheshan 55.33 70 P **P 12 40 30.3 -0.4**
SSE XP sP 12 40 39.4 -1.7
SSE PP PP 12 42 34.3 -0.2
SSE S **S 12 48 14.9 +1.5**
SSE XS sS 12 48 25.9 +0.2
SSE AMB AMB
comp=Z,42nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,81nm,5.7s
SSE LR LR
comp=Z,26nm,15.7s,MS3.4
CN2 Changchun 56.18 54 *eP* **P 12 40 36.0 -0.9**
CN2 *e*AP pP 12 40 43.6 -0.8
CN2 *e*S **S 12 48 21.1 -3.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
YAK Yakutsk 57.58 32↑ *eP* **P 12 40 45.7 -1.1**
TIXI Tiksi 57.94 21 *eP* **P 12 40 46.3 -3.0**
TIXI pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
DBIC Dimbokro 61.95 262 P **P 12 41 15.7 -1.2**
comp=Z,4.6nm,0.9s,mb4.6,baz=11,slow=5.2,SNR=2.6
DBIC pP pP 12 41 22.9 -1.5
comp=Z,3.5nm,0.7s,baz=129,slow=1.9,SNR=2.1
DBIC Dimbokro 61.95 262 *eP* **P 12 41 15.7 -1.2**
comp=Z,7.5nm,0.9s,mb4.8
DBIC Dimbokro 61.95 262 *eP* **P 12 41 15.7 -1.2**
DBIC pmax pmax
comp=Z,8.0nm,0.9s
BOSA Boshof 64.00 211 P **P 12 41 30.4 -0.1**
comp=Z,2.0nm,0.6s,mb4.3,baz=30,slow=5.0,SNR=5.1
YSS Yuzh-Sakhalins 67.39 48 *eP* **P 12 41 52.0 -0.3**
SEY Seymchan 67.81 29 *eP* **P 12 41 54.5 -0.5**
MA2 Magadan 68.12 33 *eP* **P 12 41 55.9 -1.1**
MA2 pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BILL Bilibino 71.11 22↑ *eP* **P 12 42 16.1 +0.7**
BILL pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.2
RES Resolute Bay 75.82 353 *eP* **P 12 42 41.2 -1.8**
comp=Z,0.9nm,0.4s,mb4.0
RES Resolute Bay 75.82 353 *eP* **P 12 42 41.3 -1.8**
RES pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ILAR Eielson Array 85.59 10 P **P 12 43 33.5 -1.9**
comp=Z,0.3nm,0.6s,mb3.7,baz=324,slow=5.2,SNR=7.2
WRA Warramunga Arr 88.80 113 P **P 12 43 51.5 +0.7**
comp=Z,2.5nm,0.9s,mb4.5,baz=316,slow=4.1,SNR=5.0
WRA pP pP 12 43 57.1 -1.6
comp=Z,2.3nm,0.9s,baz=307,slow=4.4,SNR=7.2
YKW3 Yellowknife Ar 89.39 356 *eP* **P 12 43 52.3 -1.3**
YKA Yellowknife Ar 89.46 356 P **P 12 43 53.3 -0.7**
comp=Z,2.2nm,0.8s,mb4.5,baz=0.3,slow=5.1,SNR=33
ASAR Alice Springs 90.33 117 P **P 12 43 58.9 +0.9**
comp=Z,0.6nm,0.8s,mb4.0,baz=302,slow=4.6,SNR=4.4

*ISCJB **08** 12:42:10.1±0.6, 36.10N±004×13995E±008, h93km±6km, mb3.5/3, Error ellipse: s-maj=11.4km s-min=7.0km az=147.8*
*IDC **08** 12:42:11.1±1.9, 3605N×13999E, h85km±15km, mb3.1/3, mb1 3.4/5, mb1mx3.1/21, mbtmp3.7/5, Error ellipse: s-maj=26.2km s-min=8.5km az=64.0*
*JMA **08** 12:42:12.0±0.1, 36.10N×13991E, h77km±1km, M3.0*
ISC 08 12:42:11.2±0.6, 3609N±004×13994E±008, h85km±6km, n17, σ0°59/23, mb3.5/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.24**	**57**	P	**Pn**	**12 42 23.8**	**0.0**
JAG	**Ashikaga**	**0.51**	**310**	P	**Pn**	**12 42 25.3**	**-0.2**
JAG				S	**Sn**	**12 42 35.7**	**-0.5**
JRY	**Ryogami san**	**0.84**	**265**	P	**Pn**	**12 42 29.3**	**+0.5**
JRY				S	**Sn**	**12 42 42.2**	**+0.3**
JKT	**Katashina**	**0.87**	**320**	P	**Pn**	**12 42 29.2**	**+0.1**
JKT				S	**Sn**	**12 42 42.4**	**-0.1**
JOD2	**Odawara 2**	**1.08**	**220**	P	**Pn**	**12 42 31.5**	**0.0**
JYN	**Shimob**	**1.28**	**243**	P	**Pn**	**12 42 34.3**	**+0.4**
JFY	**Yanaizu**	**1.32**	**352**	P	**Pn**	**12 42 34.7**	**+0.2**
JHK	**Hiroka**	**1.37**	**327**	P	**Pn**	**12 42 35.5**	**+0.5**
BSO3	**Boso 3**	**1.37**	**160**	P	**Pn**	**12 42 35.5**	**+0.4**
JIM2	**Oshima 3**	**1.44**	**197**	P	**Pn**	**12 42 35.7**	**-0.2**
MJAR	**Matsushiro Arr**	**1.47**	**288**	P	**Pn**	**12 42 36.9**	**+0.6**
	15nm,0.3s,baz=98,slow=12,SNR=129						
MJAR				S	**Sn**	**12 42 55.4**	**+0.2**
	8.8nm,0.3s,baz=108,slow=18,SNR=13						
MAT	**Matsushiro**	**1.47**	**288**	P	**Pn**	**12 42 36.8**	**+0.5**
MAT				S	**Sn**	**12 42 53.8**	**-1.5**
JHJ	**Hachijo jima 2**	**2.97**	**183**	P	**Pn**	**12 42 56.8**	**+0.6**
	69nm,0.3s,baz=241,slow=11,SNR=27						
JHJ				S	**Sn**	**12 43 30.1**	**-0.8**
	20nm,0.3s,baz=252,slow=20,SNR=3.8						
ASAJ	**Asahikawa**	**8.27**	**13**	P	**Pn**	**12 44 07.3**	**-0.9**
	0.6nm,0.3s,baz=196,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**43.62**	**303**	P	**P**	**12 50 06.5**	**-0.5**
	0.5nm,0.7s,mb3.3,baz=72,slow=8.6,SNR=5.1						
BVAR	**Borovoye Array**	**50.33**	**313**	P	**P**	**12 51 00.3**	**+1.0**
	0.3nm,0.5s,mb3.5,baz=108,slow=9.3,SNR=2.5						
WRA	**Warramunga Arr**	**55.98**	**186**	P	**P**	**12 51 39.9**	**-0.8**
	0.2nm,0.4s,mb3.5,baz=0.5,slow=7.6,SNR=9.2						

*ISCJB **08** 13:38:29.3±0.7, 216S±02×1739W±0.1, h0km, mb4.4/14, MS3.7/6, Error ellipse: s-maj=27.4km s-min=12.6km az=126.6*
*IDC **08** 13:38:29.7±1.1, 2185S×17369W, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.3/18, mbtmp4.2/11, MS3.7/7, Ms1 3.7/7, ms1mx3.3/24, Error ellipse: s-maj=57.6km s-min=17.8km az=154.0*
*NEIC **08** 13:38:35.3±0.6, 2163S×17378W, mb4.5/7, Error ellipse: s-maj=26.9km s-min=12.1km az=155.0*
*MOS **08** 13:38:35.5±1.6, 2107S×17402W, h33km, mb4.7/5, Error ellipse: s-maj=21.6km s-min=16.6km az=152.2*
ISC 08 13:38:35.9±4.4, 216S±02×1738W±01, h33km±30km, h32km±1.4km:pP-P, n41, σ0°88/31, mb4.3/14, MS3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.87**	**15**	Pn	**Pn**	**13 40 21.3**	**-6.8**
	5.1nm,0.3s,baz=213,slow=22,SNR=8.7						
AFI				Sn	**Sn**	**13 41 40.3**	**-16**
	1.6nm,0.3s,baz=39,slow=23,SNR=3.6						
AFI				T		13 48 27.0	
	3.4nm,0.3s,baz=293,slow=19,SNR=5.7						
AFI	**Afiamalu**	**7.87**	**15**	Pn	**Pn**	**13 40 21.3**	**-6.8**
AFI				Sn	**Sn**	**13 41 40.4**	**-16**
DZM	**Mont Dzumac**	**18.33**	**265**	P	**Pn**	**13 42 50.5**	**+3.0**
	0.2nm,0.3s,baz=76,slow=15,SNR=3.7						
DZM				LR	LR	13 48 13.8	
	comp=Z,188nm,20.5s,baz=203,slow=32						
HNR	**Honiara**	**27.95**	**292**	LR	LR	13 53 43.3	
	comp=Z,100nm,20.4s,MS3.4,baz=182,slow=32						
CTA	**Charters Tower**	**37.27**	**265**	*eP*	**P**	**13 45 45.2**	**+0.5**
	3.2nm,0.9s,mb4.2						
CTA	**Charters Tower**	**37.27**	**265**	P	**P**	**13 45 44.5**	**-0.2**
	2.6nm,0.5s,mb4.3,baz=103,slow=11,SNR=5.3						
CTA	**Charters Tower**	**37.27**	**265**	*eP*	**P**	**13 45 45.2**	**+0.5**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CTAO	**Charters Tower**	**37.27**	**265**	*eP*	**P**	**13 45 44.8**	**+0.1**
	comp=Z,5.5nm,0.9s,mb4.4						
CTAO	**Charters Tower**	**37.27**	**265**	*eP*	**P**	**13 45 44.8**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
PMG	**Port Moresby**	**39.38**	**282**	P	**P**	**13 46 02.7**	**+0.3**
	comp=Z,6.6nm,0.7s,mb4.5,baz=84,slow=4.8,SNR=5.3						
STKA	**Stephens Creek**	**40.87**	**246**	*eP*	**P**	**13 46 13.5**	**-1.3**
	comp=Z,1.7nm,0.9s,mb3.7						
STKA	**Stephens Creek**	**40.87**	**246**	P	**P**	**13 46 13.6**	**-1.2**
	comp=Z,1.7nm,0.5s,mb3.9,baz=90,slow=9.9,SNR=8.8						
STKA				LR	LR	14 02 02.9	
	comp=Z,90nm,19.9s,MS3.6,baz=26,slow=35						
ASAR	**Alice Springs**	**48.08**	**257**	P	**P**	**13 47 12.3**	**0.0**
	comp=Z,4.6nm,0.9s,mb4.5,baz=99,slow=7.5,SNR=59						
ASAR				PcP	PcP	13 48 37.5	-2.2
	comp=Z,1.2nm,1.0s,baz=101,slow=3.0,SNR=2.0						
ASAR				S	**S**	**13 54 08.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=99,slow=16,SNR=4.1						
WB2	**Warramunga Arr**	**48.30**	**262**	*eP*	**P**	**13 47 13.7**	**-0.4**
WRAB	**Tennant Creek**	**48.31**	**262**	*eP*	**P**	**13 47 13.6**	**-0.5**
	comp=Z,23nm,1.3s,mb5.1						
WRAB				*e*pP	pP	13 47 23.7	-0.2
WRAB	**Tennant Creek**	**48.31**	**262**	*eP*	**P**	**13 47 13.6**	**-0.5**
WRAB				*e**PP	pP	13 47 23.7	-0.2
WRAB				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
WRA	**Warramunga Arr**	**48.32**	**262**	P	**P**	**13 47 14.0**	**-0.2**
	comp=Z,6.0nm,1.0s,mb4.6,baz=99,slow=7.7,SNR=33						
GUMO	**Guam**	**53.52**	**307**	LR	LR	14 06 48.8	
	comp=Z,56nm,18.3s,MS3.6,baz=79,slow=32						
CBIJ	**Chichi jima**	**64.45**	**317**	LR	LR	14 12 18.9	
	comp=Z,39nm,19.0s,MS3.6,baz=145,slow=31						
QSPA	**South Pole Qui**	**68.50**	**180**	*eP*	**P**	**13 49 36.0**	**+1.0**
	comp=Z,12nm,1.2s,mb4.7						
QSPA				*e*pP	pP	13 49 45.4	+0.3
MJAR	**Matsushiro Arr**	**73.43**	**321**	P	**P**	**13 50 05.4**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=152,slow=6.5,SNR=4.6						
ASAJ	**Asahikawa**	**76.58**	**329**	LR	LR	14 17 00.9	
	comp=Z,72nm,21.3s,MS4.0,baz=188,slow=30						
YSS	**Yuzh-Sakhalins**	**78.65**	**331**	*eP*	**P**	**13 50 36.3**	**+1.6**
	comp=Z,5.8nm,0.8s,mb4.6						
YSS				*e*pP	pP	13 50 45.4	+0.4
YSS	**Yuzh-Sakhalins**	**78.65**	**331**	*eP*	**P**	**13 50 36.3**	**+1.7**
YSS				*e**PP	pP	13 50 45.4	+0.5
YSS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**79.19**	**41**	P	**P**	**13 50 37.9**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=207,slow=6.4,SNR=7.4						
NVAR	**Mina Array Bea**	**79.19**	**41**	P	**P**	**13 50 37.9**	**+0.3**
ANMO	**Albuquerque**	**85.08**	**50**	P	**P**	**13 51 08.7**	**+0.2**
	comp=Z,1.5nm,0.9s,mb4.1,baz=237,slow=5.5,SNR=4.4						
ANMO	**Albuquerque**	**85.08**	**50**	*eP*	**P**	**13 51 08.7**	**+0.3**
	comp=Z,4.2nm,1.1s,mb4.5						
ANMO				*e*pP	pP	13 51 18.1	-0.7
ANMO	**Albuquerque**	**85.08**	**50**	*eP*	**P**	**13 51 08.7**	**+0.3**
ANMO				*e**PP	pP	13 51 18.1	-0.7
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PDAR	**Pinedale Array**	**87.12**	**42**	P	**P**	**13 51 18.6**	**+0.1**
	comp=Z,0.6nm,1.1s,mb3.9,baz=201,slow=4.8,SNR=3.2						
ILAR	**Eielson Array**	**88.55**	**11**	P	**P**	**13 51 24.6**	**-0.7**
	comp=Z,2.3nm,1.2s,mb4.4,baz=226,slow=5.1,SNR=6.1						
ILAR				LR	LR	14 24 18.8	
	comp=Z,48nm,19.1s,MS3.9,baz=182,slow=31						
YKA	**Yellowknife Ar**	**95.89**	**24**	P	**P**	**13 51 57.7**	**-1.6**
	comp=Z,0.5nm,0.9s,mb4.0,baz=230,slow=4.3,SNR=8.9						
MKAR	**Makanchi Array**	**114.78**	**313**	PKP	PKiKP	13 57 10.4	-2.7
	comp=Z,0.5nm,0.8s,baz=90,slow=1.4,SNR=5.1						
AKASG	**Malin Array Be**	**145.77**	**334**	PKPbc	PKPbc	13 58 11.4	-0.1
	comp=Z,1.9nm,0.8s,baz=38,slow=3.7,SNR=9.2						
MALT	**Malatya**	**147.67**	**308**	*e*PKPdf	PKPdf	13 58 14.2	-0.1
MALT				*e*PKPab	PKPab	13 58 19.2	-0.1
MALT				*ep*PKPdf	pPKPdf	13 58 26.0	+1.0
CLL	**Collm**	**149.85**	**351**	*i* P	PKPdf	13 58 23.3	+5.5
	comp=Z,6.0nm,0.8s						
CLL				*i* x	x	13 58 33.1	
BRG	**Berggieshubel**	**150.13**	**350**	*e*(P)	PKPdf	13 58 10.2	-8.1
	comp=Z,2.5nm,0.8s						
BR131	**Keskin Array S**	**150.42**	**314**	*e*PKPbc	PKPbc	13 58 25.4	+1.4
BRTR	**Keskin Array B**	**150.42**	**314**	PKPbc	PKPbc	13 58 24.8	+0.8
	comp=Z,3.9nm,0.9s,baz=153,slow=0.3,SNR=12						
GERES	**GERESS Array B**	**152.13**	**349**	PKPbc	PKPbc	13 58 27.8	-0.1
	comp=Z,0.7nm,0.6s,baz=29,slow=3.0,SNR=6.7						
TORD	**Torodi Ar. Bea**	**170.59**	**152**	PKP	PKPdf	13 58 40.8	+0.2
	comp=Z,1.6nm,1.1s,baz=309,slow=1.8,SNR=4.6						

*NEIC **08** 14:29:00.0, 23.14S×12730E, h0km, ML2.5(AUST), After AUST.*
AUST 08 14:29:00.8, 2314S×12730E, h0km, ML2.5, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**5.25**	**342**	*eP*	Pn	14 30 18.4	-2.0
FITZ				*e*S	Sn	14 31 15.2	-6.4
	4.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**5.25**	**342**	*eP*	Pn	14 30 18.4	-2.0
	4.0nm,0.5s						
FITZ				*e*S	Sn	14 31 15.2	-6.4
ASPA	**Alice Springs**	**6.08**	**96**	*eP*	Pn	14 30 29.8	-2.1
ASPA				*e*S	Sn	14 31 35.4	-6.9
AS31	**Alice Springs**	**6.09**	**96**	*eP*	Pn	14 30 29.8	-2.2
AS31				*e*S	Sn	14 31 35.4	-7.0
MBWA	**Marble Bar**	**7.29**	**284**	*eP*	Pn	14 30 46.9	-1.6
MBWA				*e*S	Sn	14 32 03.6	-8.4
WB2	**Warramunga Arr**	**7.29**	**65**	*eP*	Pn	14 30 44.0	-4.5
WB2				*e*S	Sn	14 32 03.8	-8.2
MORW	**Morawa**	**11.71**	**237**	*eP*	Pn	14 31 45.4	-3.8
	3.8nm,0.4s						
MORW				*e*S	Sn	14 33 49.0	-12
	8.7nm,0.3s						

MAN 08 14:42:07.5, 1515N×11978E, h24km, mb3.2, ML4.5, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.64**	**11**	*eP*	Pb	14 42 19.9	0.0
SCZP				*e*S	Sb	14 42 28.7	+0.2
BOLP	**Bolinao**	**1.23**	**6**	*eP*	Pn	14 42 29.1	0.0
BOLP				*e*S	Sn	14 42 42.3	-2.8
BCPH	**Baguio City Da**	**1.45**	**32**	*eP*	Pn	14 42 31.9	-0.3
BCPH				*e*S	Sn	14 42 50.4	0.0
LUBP	**Lubang**	**1.47**	**162**	*eP*	Pn	14 42 34.6	+2.1
LUBP				*e*S	Sn	14 42 51.4	+0.4
BALP	**Baler**	**1.83**	**71**	*eP*	Pn	14 42 38.4	+1.0
BALP				*e*S	Sn	14 43 00.2	+0.5
ABRA	**Dolores**	**2.64**	**20**	*eP*	Pn	14 42 49.0	+0.4
ABRA				*e*S	Sn	14 43 22.3	+2.4
CAUP	**Cauayan**	**2.66**	**47**	*eP*	Pn	14 42 51.2	+2.4
APYP	**Conner**	**3.04**	**27**	*eP*	Pn	14 42 55.7	+1.6
APYP				*e*S	Sn	14 43 30.0	+0.3
BUSP	**Coron**	**3.15**	**173**	*eP*	Pn	14 42 57.5	+2.0
ENPP	**El Nido**	**3.93**	**185**	*eP*	Pn	14 43 06.9	+0.6
ENPP				*e*S	Sn	14 43 47.3	-4.4

*ISCJB **08** 14:44:12.7±1.6, 3060S±004×720W±0.1, h26km±13km, mb3.5/2, Error ellipse: s-maj=17.2km s-min=7.1km az=163.1*
*GUC **08** 14:44:13.6±0.9, 3063S×7192W, h31km±6km, MD4.2, ML4.1*
*NEIC **08** 14:44:17.2±1.7, 3082S×7237W, h56km±17km, Error ellipse: s-maj=23.4km s-min=11.9km az=99.0*
*IDC **08** 14:44:17.2±4.3, 3092S×7221W, h57km±38km, mb3.3/2, mb1 3.7/5, mb1mx3.6/16, mbtmp3.6/5, ML4.0/3, Error ellipse: s-maj=50.4km s-min=37.8km az=99.0*
ISC 08 14:44:13.3±1.8, 3059S±004×7195W±008, h19km±13km, n30, σ0°66/33, mb3.5/2, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.92**	**42**	*eP*	**Pb**	**14 44 30.3**	**-0.3**
LSCH				*i* S	**Sb**	**14 44 42.7**	**+0.3**
LSCH				AMP		14 44 44.9	
	comp=E,5μm,0.3s						
CMCH	**Combarbala**	**1.00**	**125**↑	*iP*	**Pb**	**14 44 31.4**	**-0.7**
CMCH				*i* S	**Sb**	**14 44 44.3**	**-0.5**
CMCH				AMP		14 44 56.1	
	comp=N,12μm,0.7s						
CHNG	**Los Chungos**	**1.34**	**163**↓	*iP*	**Pn**	**14 44 36.0**	**-1.0**
CHNG				*e*S	**Sn**	**14 44 53.3**	**-0.9**
CHNG				AMP		14 44 57.6	
	comp=E,1μm,0.5s						
PACH	**Papudo**	**1.99**	**167**↑	*iP*	**Pn**	**14 44 45.2**	**-0.6**
JACH	**Jahuel**	**2.38**	**151**	*eP*	**Pn**	**14 44 51.5**	**+0.2**
PEL	**Peldehue**	**2.76**	**157**↓	*iP*	**Pn**	**14 44 57.2**	**+0.8**
PEL				*i* S	**Sn**	**14 45 29.8**	**+0.5**
PEL				AMP		14 45 40.7	
	comp=E,2μm,0.5s						
LCCH	**Las Cruces**	**2.89**	**174**↓	*iP*	**Pn**	**14 44 57.6**	**-0.7**
CLCH	**Cerro Calan**	**3.04**	**157**	*eP*	**Pn**	**14 45 01.1**	**+0.8**
CLCH				AMP		14 45 54.1	
	comp=E,1μm,0.4s						
RCDM	**Rinconada Maip**	**3.05**	**162**↓	*iP*	**Pn**	**14 45 00.5**	**+0.1**
RCDM				*e*S	**Sn**	**14 45 35.8**	**-0.5**
RCDM				AMP		14 45 48.5	
	comp=E,557nm,0.7s						
SAN	**Santiago**	**3.05**	**159**	AMP		14 45 52.5	
	comp=E,772nm,0.6s						
FCH	**Farellones**	**3.07**	**153**	*eP*	**Pn**	**14 45 01.1**	**+0.4**
FCH				AMP		14 45 54.8	
	comp=E,526nm,0.3s						
TACH	**Talagante**	**3.17**	**164**↑	*iP*	**Pn**	**14 45 02.4**	**+0.3**
ANTU	**Antumapu**	**3.17**	**160**	AMP		14 45 53.6	
	comp=N,857nm,0.7s						
PCH	**Pirque**	**3.25**	**158**↑	*iP*	**Pn**	**14 45 03.2**	**-0.1**
PCH				*i* S	**Sn**	**14 45 41.4**	**-0.1**
CHCH	**Chadas Angostu**	**3.51**	**162**	*eP*	**Pn**	**14 45 06.4**	**-0.3**
LMEL	**Las Melosas**	**3.57**	**156**↓	*iP*	**Pn**	**14 45 08.5**	**+0.9**
LMEL				AMP		14 46 08.2	
	comp=N,356nm,0.5s						
CACH	**El Canelo**	**3.69**	**162**↑	*iP*	**Pn**	**14 45 10.3**	**+1.0**
CACH				*e*S	**Sn**	**14 45 53.1**	**+0.8**
CICH	**Cipreses**	**3.93**	**161**↓	*iP*	**Pn**	**14 45 13.5**	**+0.9**
SFDO	**San Fernando**	**4.09**	**169**	*eP*	**Pn**	**14 45 14.5**	**-0.2**
PLCA	**Paso Flores**	**10.18**	**174**	P	**Pn**	**14 46 36.4**	**-1.9**
	comp=N,0.4nm,0.3s,baz=323,slow=14,SNR=3.9						
PLCA	**Paso Flores**	**10.18**	**174**	*eP*	**Pn**	**14 46 38.1**	**-0.2**
	comp=N,1.2nm,0.4s						
TRQA	**Tornquist**	**11.10**	**135**	*eP*	**Pn**	**14 46 54.8**	**+3.8**
CPUP	**Villa Florida**	**13.54**	**75**	P	**Pn**	**14 47 32.2**	**+7.9**
	comp=N,0.5nm,0.3s,baz=235,slow=18,SNR=3.2						
CPUP	**Villa Florida**	**13.54**	**75**	P	**Pn**	**14 47 32.2**	**+7.9**
LPAZ	**La Paz**	**14.66**	**15**	P	**Pn**	**14 47 45.9**	**+6.3**
	comp=N,0.1nm,0.3s,baz=211,slow=12,SNR=5.7						
LPAZ	**La Paz**	**14.66**	**15**	*eP*	**Pn**	**14 47 46.2**	**+6.5**
	comp=N,1.1nm,0.6s						
PDAR	**Pinedale Array**	**80.77**	**333**	P	**P**	**14 56 25.3**	**-0.1**
	comp=N,0.3nm,0.5s,mb3.4,baz=139,slow=7.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**82.99**	**70**	P	**P**	**14 56 36.6**	**-0.5**
	comp=N,0.2nm,0.4s,mb3.5,baz=246,slow=5.0,SNR=4.4						
BVAR	**Borovoye Array**	**144.68**	**40**	PKPbc	PKPdf	15 03 47.3	-1.3
	comp=N,1.9nm,0.4s,baz=300,slow=2.1,SNR=20						
ZAL	**Zalesovo**	**151.26**	**29**	PKPbc	PKPbc	15 04 04.8	-0.6
	comp=N,2.3nm,0.5s,baz=150,slow=6.2,SNR=13						

IDC 08 14:45:03.6±1.7, 6675S×12903E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.5/14, mbtmp3.5/4, Error ellipse: s-maj=144.1km s-min=25.8km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.16**	**159**	Pn	Pn	14 48 26.8	+1.4
	0.2nm,0.3s,baz=340,slow=13,SNR=12						
WRA				Sn	Sn	14 50 53.2	-10
	0.4nm,0.3s,baz=329,slow=24,SNR=10						
ASAR	**Alice Springs**	**17.53**	**165**	P	Pn	14 49 11.6	+2.1
	0.2nm,0.3s,baz=347,slow=9.7,SNR=38						
ASAR				S	Sn	14 52 15.6	-10
	0.1nm,0.3s,baz=180,slow=15,SNR=3.9						
STKA	**Stephens Creek**	**27.69**	**157**	P	P	14 50 52.4	-0.9
	0.9nm,0.9s,baz=324,slow=12,SNR=

SHL eS **Sn** **14 54 34.0 -9.4**
BOK Bokaro 12.00 328 eP **Pn** **14 52 34.1 -0.1**
BOK AMb AMB 14 52 44.9
comp=Z,23nm,0.2s
BOK eS **Sn** **14 54 36.7 -10**
MDRS Chennai 12.23 269 eP **Pn** **14 52 40.8 +3.5**
PSI Prapat 12.39 150 Pn **Pn** **14 52 39.6 +0.2**
comp=Z,0.8nm,0.3s,baz=350,slow=11,SNR=11
PSI LR LR 14 57 38.7
comp=Z,130nm,18.6s,baz=200,slow=38
PSI Prapat 12.39 150 Pn **Pn** **14 52 39.6 +0.2**
PSI LR LR 14 57 38.7
PALK Pallekele 13.48 243 ePn **Pn** **14 52 52.6 -1.8**
comp=Z,5.4nm,0.5s
PALK eSn **Sn** **14 55 09.1 -14**
HYB Hyderabad 14.22 287 *i P* **Pn** **14 53 03.0 -1.4**
HYB *e* 14 55 33.0
HYB eS **Sn** **14 55 42.0 +1.0**
HYB Hyderabad 14.22 287 eP **Pn** **14 53 03.0 -1.4**
HYB eS **Sn** **14 55 33.0 -8.0**
NGP Nagpur 15.07 301 eP **Pn** **14 53 16.9 +1.0**
NGP ex x 14 55 56.1
NGP eS **Sn** **14 55 59.3 -2.4**
JIRN Jiri 15.22 337 eP **Pn** **14 53 15.3 -2.5**
comp=Z,62nm,0.6s
JBP Jabalpur 15.38 310⇓*iP* **Pn** **14 53 22.3 +2.3**
JBP ex x 14 53 30.6
comp=Z,20nm,0.5s
JBP ex x 14 55 57.6
PKI Pulchoki 15.45 335 eP **Pn** **14 53 19.1 -1.8**
PKI eS **Sn** **14 56 00.4 -11**
GUN Gumba 15.56 337 eP **Pn** **14 53 19.9 -2.4**
DMN Daman 15.61 334 eP **Pn** **14 53 21.8 -1.2**
comp=Z,38nm,0.8s
KKN Kakani 15.69 335 eP **Pn** **14 53 22.1 -2.0**
comp=Z,17nm,0.5s
KKN Kakani 15.69 335 eP **Pn** **14 53 22.1 -2.0**
KKN pmax pmax
comp=Z,9.0nm,0.5s
LSA Lhasa 16.02 355 P **Pn** **14 53 32.2 +4.0**
LSA Lhasa 16.02 355 ePn **Pn** **14 53 31.5 +3.3**
comp=Z,20nm,0.9s
LSA Lhasa 16.02 355 eP **Pn** **14 53 31.5 +3.3**
LSA pmax pmax
comp=Z,20nm,0.9s
GKN Gorkha 16.15 333 eP **Pn** **14 53 29.4 -0.6**
comp=Z,33nm,0.3s
GKN eS **Sn** **14 56 17.1 -11**
LATR Latur 16.30 289 ex x 14 56 15.6
KOLN Koldanda 16.44 330 eP **Pn** **14 53 33.1 -0.5**
comp=Z,60nm,0.6s
BHPL Bhopal 17.39 305 eP **Pn** **14 53 47.3 +1.7**
BHPL AMb AMB 14 53 59.5
comp=Z,32nm,0.7s
KAD Karad 18.30 284 eP **Pn** **14 54 01.7 +5.0**
KAD AMb AMB 14 54 04.2
comp=Z,10nm,1.3s
POO Poona 18.83 287 ex x 14 54 14.0
POO *i x* x 14 54 28.5
POO *i x* x 14 57 09.0
CD2 Chengdu 19.90 29 P **Pn** **14 54 15.8 -0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.9s
NDI New Delhi 20.80 318 eP **P** **14 54 28.6 +4.7**
NDI ex x 14 57 50.0
KSM Kuching 21.15 124 eP **P** **14 54 27.4 -0.3**
AJM Ajmer 21.25 310 eP **P** **14 54 33.3 +4.5**
AJM AMb AMB 14 54 43.4
comp=Z,20nm,1.6s,mb4.2
DDI Dehra Dun 21.43 323 eP **P** **14 54 35.7 +4.9**
DDI ex x 14 58 18.7
ENH Enshi 22.58 40 eP **P** **14 54 42.3 -0.7**
comp=Z,18nm,0.9s,mb4.5
KKM Kota Kinabalu 24.27 106 eP **P** **14 54 59.9 +0.3**
AAK Ala-Archa 32.90 335 eP **P** **14 56 17.9 +1.3**
comp=Z,3.4nm,1.0s,mb4.2
AAK Ala-Archa 32.90 335 eP **P** **14 56 17.9 +1.3**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MKAR Makanchi Array 34.17 347 P **P** **14 56 28.9 +1.3**
comp=Z,0.9nm,0.7s,mb3.8,baz=164,slow=8.2,SNR=10
SONM Songino Array 35.89 16 P **P** **14 56 44.3 +1.9**
comp=Z,0.3nm,0.4s,mb3.6,baz=203,slow=7.0,SNR=5.2
KURK Kurchatov 38.70 346 eP **P** **14 57 07.9 +1.6**
comp=Z,5.5nm,0.9s,mb4.3
KURK Kurchatov 38.70 346 eP **P** **14 57 07.9 +1.7**
KURK pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
ZAL Zalesovo 40.66 353 P **P** **14 57 23.7 +1.2**
comp=Z,0.8nm,0.6s,mb3.5,baz=313,slow=9.9,SNR=5.3
CN2 Changchun 41.01 37 eP **P** **14 57 30.2 +4.8**
BVAR Borovoye Array 43.11 340 P **P** **14 57 43.7 +1.2**
comp=Z,0.3nm,0.4s,mb3.4,baz=133,slow=8.5,SNR=3.8
BVAR pP pP 14 57 53.0 +1.0
comp=Z,0.7nm,0.5s,baz=147,slow=8.9,SNR=6.1
FITZ Fitzroy Crossi 45.24 133 eP **P** **14 57 58.3 -1.3**
comp=Z,8.6nm,0.6s,mb4.8
AKTK Aktyubinsk 46.27 330 P **P** **14 58 08.6 +0.8**
AKTO Aktyubinsk 46.27 330 P **P** **14 58 08.6 +0.8**
comp=Z,0.9nm,0.5s,mb3.9,baz=126,slow=16,SNR=4.3
MJAR Matsushiro Arr 46.46 52 P **P** **14 58 11.7 +2.4**
comp=Z,1.7nm,0.8s,mb4.0,baz=255,slow=9.0,SNR=4.3
BOD Bodaibo 46.89 15 eP **P** **14 58 10.9 -1.7**
MUN Mundaring 50.64 154 eP **P** **14 58 41.1 -0.3**
KLBR Kellerberrin 50.98 152 eP **P** **14 58 43.1 -0.9**
comp=Z,36nm,1.4s,mb5.1
NWAO Narrogin (SRO) 51.89 154 P **P** **14 58 50.1 -0.7**
comp=Z,8.0nm,0.6s,mb4.8,baz=335,slow=5.3,SNR=14
NWAO Narrogin (SRO) 51.89 154 eP **P** **14 58 50.0 -0.8**
comp=Z,3.9nm,0.4s,mb4.7
NWAO Narrogin (SRO) 51.89 154 eP **P** **14 58 50.0 -0.8**
NWAO pmax pmax
comp=Z,4.0nm,0.4s
WRA Warramunga Arr 52.79 128 P **P** **14 58 56.8 -0.7**
comp=Z,12nm,0.6s,mb5.0,baz=302,slow=10,SNR=248
WRA PcP PcP 15 00 07.1 +0.5
comp=Z,2.3nm,0.5s,baz=320,slow=3.1,SNR=14
WRAB Tennant Creek 52.79 128 eP **P** **14 58 56.8 -0.7**
comp=Z,37nm,0.9s,mb5.3
WRAB Tennant Creek 52.79 128 eP **P** **14 58 56.8 -0.7**
WRAB pmax pmax
comp=Z,37nm,0.9s,mb5.3
WB2 Warramunga Arr 52.80 128⇑*iP* **P** **14 58 56.9 -0.6**
ASAR Alice Springs 54.71 132 P **P** **14 59 10.9 -0.6**
comp=Z,6.6nm,0.4s,mb5.0,baz=307,slow=6.8,SNR=205
ASAR PcP PcP 15 00 14.3 +0.4
comp=Z,1.0nm,0.5s,baz=319,slow=4.2,SNR=2.8
ASAR ScP ScP 15 04 09.0 -1.0
comp=Z,0.2nm,0.8s,baz=317,slow=4.7,SNR=4.3
ASAR Alice Springs 54.71 132 P **P** **14 59 10.9 -0.6**
ASAR 15 00 14.3
BR131 Keskin Array S 57.73 308 eP **P** **14 59 33.0 -0.1**
comp=Z,2.4nm,0.7s,mb4.3
BRTR Keskin Array B 57.73 308 P **P** **14 59 33.4 +0.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=127,slow=7.4,SNR=8.5
BRTR pP pP 14 59 42.5 -0.3
comp=Z,1.9nm,0.8s,baz=110,slow=6.4,SNR=5.4
PMG Port Moresby 58.62 110 P **P** **14 59 39.8 +0.5**
comp=Z,13nm,0.8s,mb5.0,baz=282,slow=7.9,SNR=8.5
STKA Stephens Creek 65.09 135 eP **P** **15 00 20.6 -2.2**
comp=Z,5.5nm,0.8s,mb4.6
STKA Stephens Creek 65.09 135 P **P** **15 00 20.8 -2.0**
comp=Z,6.1nm,0.8s,mb4.7,baz=334,slow=6.4,SNR=16
FINES FINESS Array B 67.00 331 P **P** **15 00 35.1 0.0**
comp=Z,0.5nm,0.5s,mb3.8,baz=127,slow=8.2,SNR=3.8
FINES pP pP 15 00 43.8 -1.2
comp=Z,1.5nm,0.7s,baz=98,slow=6.1,SNR=4.1
ARCES ARCESS Array B 69.39 340 P **P** **15 00 50.4 +0.3**
comp=Z,4.3nm,1.0s,mb4.3,baz=96,slow=8.3,SNR=5.2
ARCES pP pP 15 01 00.4 +0.3
comp=Z,2.1nm,0.7s,baz=100,slow=7.1,SNR=2.0
ARCES LR LR 15 37 28.2
comp=Z,59nm,18.1s,MS3.9,baz=10,slow=41
ARCES ARCESS Array B 69.39 340 P **P** **15 00 50.4 +0.3**
ARCES *PP pP 15 01 00.4 +0.4
GERES GERESS Array B 72.67 317 P **P** **15 01 10.7 +0.8**
comp=Z,2.4nm,1.1s,mb4.0,baz=83,slow=4.2,SNR=17
NB2 NORSAR Subarra 74.07 330 P **P** **15 01 17.9 -0.3**
comp=Z,1.5nm,0.7s,mb4.0,baz=91,slow=6.2
NB2 NORSAR Subarra 74.07 330 P **P** **15 01 17.9 -0.3**
comp=Z,1.5nm,0.7s,mb4.0
NB2 NORSAR Subarra 74.07 330 P **P** **15 01 17.9 -0.3**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 74.07 330 P **P** **15 01 17.9 -0.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=5.8,SNR=2.9
NOA pP pP 15 01 27.4 -0.8
comp=Z,1.2nm,0.6s,baz=90,slow=5.8,SNR=3.4
LBTB Lobatse 75.94 240 eP **P** **15 01 30.5 +1.5**
comp=Z,1.3nm,0.5s,mb4.1
LBTB Lobatse 75.94 240 eP **P** **15 01 30.5 +1.5**
LBTB pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BOSA Boshof 77.61 236 P **P** **15 01 40.0 +1.5**
comp=Z,2.9nm,0.6s,mb4.4,baz=75,slow=4.9,SNR=9.1
BOSA Boshof 77.61 236 eP **P** **15 01 39.8 +1.4**
comp=Z,2.5nm,0.5s,mb4.4
BOSA Boshof 77.61 236 eP **P** **15 01 39.8 +1.4**
BOSA pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
TORD Torodi Ar. Bea 88.00 283 P **P** **15 02 33.5 +1.2**
comp=Z,1.1nm,0.8s,mb4.1,baz=85,slow=4.4,SNR=5.5
ILAR Eielson Array 89.89 22 P **P** **15 02 40.7 -0.4**
comp=Z,0.3nm,0.7s,mb3.8,baz=301,slow=4.4,SNR=7.5

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*MOS **08** 14:51:45.9±1.1, 25.13S×179.17W, h403km, mb4.8/2, Error ellipse: s-maj=25.1km s-min=20.9km az=38.5*
*NEIC **08** 14:51:47.6±1.0, 25.47S×179.13W, h422km±12km, mb4.5/5, Error ellipse: s-maj=16.4km s-min=15.3km az=126.0*
*IDC **08** 14:51:47.6±1.5, 25.58S×179.23W, h419km±16km, mb3.8/6, mb1 3.7/8, mb1mx3.6/15, mbtmp4.5/8, Error ellipse: s-maj=24.3km s-min=20.0km az=29.0*
*ISCJB **08** 14:51:48.3±1.1, 25.68S±0.09×179.4W±0.2, h428km±12km, mb4.1/9, Error ellipse: s-maj=21.8km s-min=13.5km az=153.3*

ISC 08 14:51:49.6±1.1, 2576S±009×1794W±01, h424km±12km, n31, σ0§97/23, mb4.2/8, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
RAO Raoul Island 3.71 160 P **P** **14 53 00.7 +0.2**
268nm,0.3s,baz=72,slow=20,SNR=9.3
RAO S **S** **14 53 57.2 -0.9**
142nm,0.3s,baz=272,slow=22,SNR=4.3
RAO Raoul Island 3.71 160 eP **P** **14 53 01.2 +0.7**
RAO eS **S** **14 53 49.8 -8.3**
URZ Urewera 12.82 193 P **P** **14 54 37.5 -0.2**
2.0nm,0.3s,baz=17,slow=7.6,SNR=24
URZ S **S** **14 56 55.9 -0.6**
3.3nm,0.3s,baz=58,slow=18,SNR=7.9
DZM Mont Dzumac 13.48 283 P **P** **14 54 47.2 +2.3**
0.7nm,0.3s,baz=82,slow=16,SNR=10
AFI Afiamalu 13.77 33 P **P** **14 54 40.4 -7.6**
1.4nm,0.3s,baz=40,slow=23,SNR=3.8
AFI Afiamalu 13.77 33 P **P** **14 54 40.5 -7.6**
AFI P 14 54 41.9
RPZ Rata Peaks 19.54 201 P **P** **14 55 48.5 +0.2**
0.3nm,0.3s,baz=244,slow=14,SNR=2.6
HNR Honiara 25.48 306 P **P** **14 56 39.5 -2.3**
37nm,0.7s,mb5.0,baz=21,slow=1.1,SNR=2.7
HNR Honiara 25.48 306 eP **P** **14 56 39.8 -2.0**
29nm,0.6s,mb4.9
HNR Honiara 25.48 306 eP **P** **14 56 39.8 -2.0**
HNR pmax pmax
comp=Z,29nm,0.6s,mb4.9
CTA Charters Tower 32.10 273 eP **P** **14 57 40.3 +0.5**
comp=Z,6.6nm,0.5s,mb4.2
CTA Charters Tower 32.10 273 eP **P** **14 57 40.3 +0.5**
CTA pmax pmax
comp=Z,7.0nm,0.5s
STKA Stephens Creek 34.61 251 eP **P** **14 58 00.5 -0.7**
comp=Z,1.9nm,0.5s,mb3.7
STKA Stephens Creek 34.61 251 P **P** **14 58 00.6 -0.6**
comp=Z,1.9nm,0.5s,mb3.7,baz=98,slow=11,SNR=22
PMG Port Moresby 35.67 291 P **P** **14 58 09.6 -0.5**
comp=Z,7.2nm,0.7s,mb4.1,baz=88,slow=4.8,SNR=7.3
ASAR Alice Springs 42.33 262 P **P** **14 59 04.4 0.0**
comp=Z,2.6nm,0.4s,mb3.9,baz=91,slow=7.4,SNR=88
ASAR Alice Springs 42.33 262 P **P** **14 59 04.4 0.0**
WRA Warramunga Arr 42.88 268 P **P** **14 59 08.9 +0.1**
comp=Z,1.7nm,1.0s,mb3.3,baz=104,slow=7.5,SNR=5.5
QSPA South Pole Qui 64.33 180 eP **P** **15 01 43.7 +1.7**
comp=Z,13nm,1.3s,mb4.3
SDCO Great Sand Dun 93.72 50 eP **P** **15 04 19.4 -0.2**
comp=Z,9.6nm,1.1s,mb4.7
SONM Songino Array 98.88 319 P Pdif 15 04 40.2 -2.7
comp=Z,0.4nm,0.9s,baz=116,slow=3.4,SNR=3.6
MKAR Makanchi Array 113.82 312 PKiKP PKiKP 15 09 36.7 -2.3
comp=Z,0.2nm,0.6s,baz=15,slow=5.0,SNR=3.7
BVAR Borovoye Array 122.20 318 PKP PKPdf 15 09 53.0 -2.1
comp=Z,0.8nm,0.6s,baz=88,slow=0.9,SNR=6.1
ARCES ARCESS Array B 133.81 348 PKP PKPdf 15 10 13.8 -3.3
comp=Z,1.6nm,0.7s,baz=28,slow=2.1,SNR=5.5
FINES FINESS Array B 140.38 341 PKhKP 15 10 19.4
comp=Z,0.7nm,0.7s,baz=38,slow=5.3,SNR=3.9
NB2 NORSAR Subarra144.00 351 PKPa PKPdf 15 10 31.8 -3.9
comp=Z,2.4nm,0.7s,baz=20,slow=3.8
NB2 NORSAR Subarra144.00 351 PKPab PKPdf 15 10 31.8 -3.9
NOA NORSAR Array B 144.00 351 PKP PKPdf 15 10 32.1 -3.5
comp=Z,3.8nm,0.7s,baz=15,slow=5.0,SNR=15
AKASG Malin Array Be 146.83 326 PKPbc PKPbc 15 10 40.7 -2.3
comp=Z,0.9nm,0.4s,baz=42,slow=4.2,SNR=7.5
AKASG Malin Array Be 146.83 326 PKPbc PKPbc 15 10 40.7 -2.3
BRTR Keskin Array B 149.13 305 PKPbc PKPbc 15 10 47.6 -1.3
comp=Z,0.9nm,0.7s,baz=90,slow=2.5,SNR=3.5

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*ISCJB **08** 15:17:52.5±0.6, 21.00S×0.06×329.6E±0.06, h10km, mb4.1/6, MS3.5/1, Error ellipse: s-maj=9.0km s-min=8.3km az=68.8*
*IDC **08** 15:17:53.0±1.0, 21.12S×33.36E, h0km, mb4.1/4, mb1 4.4/8, mb1mx4.0/25, mbtmp4.3/8, ML4.2/2, MS3.5/5, Ms1 3.4/5, ms1mx3.1/28, Error ellipse: s-maj=30.8km s-min=24.3km az=170.0*
*NEIC **08** 15:17:53.9±0.6, 21.08S×33.22E, h10km, mb4.4/3, Error ellipse: s-maj=15.3km s-min=10.7km az=153.0*

ISC 08 15:17:54.1±0.6, 2098S±005×3307E±006, h10km, n25, σ1§16/30, mb4.1/6, MS3.5/1, 3C, Mozambique

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
LSZ Lusaka 7.33 320 Pn **Pn** **15 19 43.6 +2.5**
4.9nm,0.3s,baz=151,slow=13,SNR=54
LSZ Sn **Sn** **15 21 03.5 -0.9**
18nm,0.3s,baz=26,slow=21,SNR=7.1
LSZ Lg 15 21 46.9
66nm,0.3s,baz=241,slow=21,SNR=14
LSZ LR LR 15 22 52.8
comp=Z,270nm,18.8s,baz=224,slow=39
LSZ Lusaka 7.33 320 ePn **Pn** **15 19 43.6 +2.4**
59nm,0.6s
LSZ eSn **Sn** **15 21 04.3 0.0**
LSZ eSg **Sg** **15 21 48.3 -1.0**
LBTB Lobatse 7.97 238 Pn **Pn** **15 19 51.6 +1.7**
6.4nm,0.3s,baz=67,slow=13,SNR=61
LBTB Sn **Sn** **15 21 19.7 -0.4**
6.6nm,0.3s,baz=83,slow=19,SNR=3.2
LBTB Lg 15 22 03.6
16nm,0.3s,baz=340,slow=22,SNR=7.2
LBTB LR LR 15 23 19.0
comp=Z,139nm,20.6s,baz=88,slow=40
LBTB Lobatse 7.97 238 ePn **Pn** **15 19 51.7 +1.8**
31nm,0.5s
LBTB eSn **Sn** **15 21 20.0 -0.1**
LBTB eSg Sn 15 21 56.2 +36
BOSA Boshof 10.39 221 Pn **Pn** **15 20 22.7 -0.4**
4.2nm,0.3s,baz=52,slow=14,SNR=77
BOSA Sn **Sn** **15 22 13.6 -6.1**
3.5nm,0.3s,baz=341,slow=13,SNR=4.8
BOSA Lg 15 23 18.3
4.1nm,0.3s,baz=143,slow=18,SNR=5.3
BOSA LR LR 15 24 35.3
comp=Z,335nm,20.5s,baz=54,slow=38
BOSA Boshof 10.39 221 ePn **Pn** **15 20 22.8 -0.4**
19nm,0.6s
BOSA eSn **Sn** **15 22 12.4 -7.3**
BOSA Sg Sn 15 23 16.8 +57
OPO Ambohidratompo 13.51 82 Pn **Pn** **15 21 02.2 -3.5**
0.7nm,0.3s,baz=282,slow=15,SNR=3.6
OPO Sn **Sn** **15 23 20.9 -15**
2.8nm,0.3s,baz=154,slow=18,SNR=8.9
TSUM Tsumeb 14.65 274 Pn **Pn** **15 21 21.6 +0.2**
1.5nm,0.3s,baz=107,slow=11,SNR=38
TSUM Sn **Sn** **15 23 58.1 -5.8**
0.5nm,0.3s,baz=59,slow=19,SNR=2.9
TSUM Lg 15 25 38.7
2.2nm,0.3s,baz=175,slow=10,SNR=7.7
TSUM LR LR 15 27 12.4
comp=Z,243nm,18.2s,baz=8.1,slow=37
TSUM Tsumeb 14.65 274 ePn **Pn** **15 21 21.2 -0.2**
24nm,0.7s
TSUM eSn **Sn** **15 24 00.2 -3.6**
SUR Sutherland 15.76 221 Pn **Pn** **15 21 34.9 -1.2**
4.2nm,0.3s,baz=56,slow=13,SNR=38
SUR Sn **Sn** **15 24 21.2 -10**
0.8nm,0.3s,baz=349,slow=14,SNR=3.6
SUR Lg 15 26 10.7
0.7nm,0.3s,baz=330,slow=20,SNR=3.6
SUR Sutherland 15.76 221 ePn **Pn** **15 21 35.2 -0.9**
25nm,0.6s
KMBO Kilima Mbogo 20.15 12 Lg 15 28 20.3
0.8nm,0.5s,baz=64,slow=23,SNR=3.0
TORD Torodi Ar. Bea 45.83 315 P **P** **15 26 19.2 +3.0**
1.8nm,0.6s,mb4.2,baz=137,slow=8.1,SNR=11
DBIC Dimbokro 46.28 302 LR LR 15 44 30.7
comp=Z,49nm,18.9s,MS3.5,baz=310,slow=34
SYO Syowa Base 48.19 177⇑*esP* sP 15 26 41.1 +2.1
SYO Syowa Base 48.19 177⇑ eP **P** **15 26 34.1 -0.6**
SYO ⇑*esP* sP 15 26 41.1 +2.1
QSPA South Pole Qui 69.17 180 eP **P** **15 29 00.9 +0.2**
LSA Lhasa 75.26 50 eP **P** **15 29 37.7 +0.5**
1.7nm,0.5s,mb4.2
BDFB Brasilia 76.41 258 P **P** **15 29 47.3 +3.6**
5.0nm,0.8s,mb4.5,baz=117,slow=2.3,SNR=2.7
MKAR Makanchi Array 80.75 32 P **P** **15 30 07.3 -0.3**
0.5nm,0.8s,mb3.5,baz=224,slow=3.3,SNR=6.2
KURK Kurchatov 81.88 27 eP **P** **15 30 14.3 +0.6**
3.0nm,1.1s,mb4.1
ASAR Alice Springs 91.09 116 P **P** **15 30 58.4 -0.5**
0.9nm,0.8s,mb4.2,baz=239,slow=4.1,SNR=13
YKA Yellowknife Ar 132.99 340 PKP PKPdf 15 37 10.2 +0.6
0.2nm,0.6s,baz=44,slow=2.2,SNR=4.7
YKA Yellowknife Ar 132.99 340 PKP PKPdf 15 37 10.2 +0.6
NVAR Mina Array Bea 149.83 312 PKPbc PKPbc 15 37 48.0 +3.7
1.3nm,0.7s,baz=60,slow=5.3,SNR=3.7

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*CSEM **08** 15:56:04.7, 22.27S×171.48E, h33km, mb5.8*
*ISCJB **08** 15:56:16.3±0.2, 22.35S±0.03×171.47E±0.04, h138km, mb5.2/74, Error ellipse: s-maj=5.2km s-min=3.9km az=127.4*
*IDC **08** 15:56:16.6±1.5, 22.31S×171.52E, h133km±12km, mb5.0/17, mb1 5.1/20, mb1mx5.1/23, mbtmp5.5/20, MS4.0/13, Ms1 4.0/13, ms1mx3.9/19, Error ellipse: s-maj=12.2km s-min=10.6km az=4.0*
*BJI **08** 15:56:17.0, 21.93S×171.76E, h140km, mB5.2, mb5.3*
*HRVD **08** 15:56:18.4±0.2, 22.43S×171.58E, h131km±1km, MW5.3/94, Centroid moment Tensor Solution. LP body waves: s72, c107; Mantle waves: s94, c178; Half duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr 0.29±.02; Mθθ -0.74±.02; Mφφ 0.45±.02; Mrθ 0.52±.02; Mθφ 0.20±.02; Mφr 0.45±.01; Best double couple: M0 0.96500×10^17 NP1: φs 318.00000°, δ42.00000°, λ163.00000°. NP2: φs 61.00000°, δ78.00000°, λ49.00000°. Principal axes: T 0.9750, Plg42.0000°, Azm292.0000°; N -0.0200, Plg40.0000°, Azm70.0000°; P -0.9550, Plg23.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 15:56:18.4±1.1, 22.35S×171.51E, h145km±10km, mb5.3/43, MW5.2 Error ellipse: s-maj=6.2km s-min=5.8km az=73.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^16 Nm; Mrr 2.88; Mθθ -1.81; Mφφ -1.07; Mrθ 8.09; Mθφ 3.13; Mφr -1.85; Best double couple: M0 9.20000×10^16 NP1: φs 105.00000°, δ80.00000°, λ74.00000°. NP2: φs 343.00000°, δ19.00000°, λ147.00000°. Principal axes: T 8.9800, Plg52.0000°, Azm356.0000°; N 0.4700, Plg16.0000°, Azm108.0000°; P -9.4500, Plg33.0000°, Azm208.0000°;*
*SZGRF **08** 15:56:18.4, 22.59S×172.04E, h153km, Southeast of Loyalty Islands*
*MOS **08** 15:56:20.2±2.0, 22.18S×171.33E, h158km, mb5.3/26, Error ellipse: s-maj=9.7km s-min=8.3km az=122.6*

ISC 08 15:56:18.0±0.2, 2238S±003×17155E±004, h140km, h140km±1.5km: pP-P, n358, σ0§95/196, mb5.2/74, 52C-10D, Southeast of Loyalty Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DZM Mont Dzumac 4.74 273 P **Pn** **15 57 26.9 -0.8**
204nm,0.3s,baz=101,slow=14,SNR=2413
DZM S **Sn** **15 58 19.5 -2.4**
215nm,0.3s,baz=50,slow=16,SNR=14
WCZ Waipu Caves 13.73 170 PN **Pn** **15 59 27.3 +0.5**
KUZ Kuaotunu 14.76 167 PN **Pn** **15 59 40.5 +0.7**
HIZ Hauiti 16.33 171 PN **Pn** **15 59 59.6 +0.5**
URZ Urewera 16.53 164 P **Pn** **16 00 01.8 +0.2**
URZ LR LR 16 05 15.2
comp=Z,643nm,18.9s,baz=342,slow=32
URZ Urewera 16.53 164 PN **Pn** **16 00 02.5 +0.9**
PUZ Puketiti 16.67 161 ePN **Pn** **16 00 03.1 -0.2**
MWZ Matawai 16.71 163 PN **Pn** **16 00 04.7 +0.9**
HNR Honiara 17.02 317 P **Pn** **16 00 05.6 -1.9**
baz=197,slow=1.4
HNR Honiara 17.02 317⇑*eP* **Pn** **16 00 06.8 -0.7**
754nm,1.1s
HNR Honiara 17.02 317⇑*eP* **Pn** **16 00 06.8 -0.7**
HNR pmax pmax
comp=Z,754nm,1.1s
BKZ Black Stump Fm 17.25 167 PN **Pn** **16 00 10.7 +0.3**
AFI Afiamalu 17.94 65 LR LR 16 05 43.9
comp=Z,536nm,20.6s,baz=220,slow=32
TSZ Takapari Road 18.02 169 PN **Pn** **16 00 18.5 -1.0**
QRZ Quartz Range 18.41 178 PN **Pn** **16 00 24.0 0.0**
MRZ Mangatainoka R 18.54 170 PN **Pn** **16 00 23.7 -2.0**
BFZ Birch Farm 18.67 169 PN **Pn** **16 00 24.8 -2.4**
NNZ Nelson 18.84 176 ePN **Pn** **16 00 28.4 -0.8**
SNZO South Karori 19.06 173 eP **P** **16 00 29.2 -0.1**
comp=Z,160nm,0.8s
THZ Tophouse 19.36 177 PN **Pn** **16 00 33.1 -2.1**
KHZ Kahutara 20.05 176 ⇓PN **P** **16 00 39.5 -0.6**
LTZ Lake Taylor 20.35 178 PN **P** **16 00 43.6 +0.3**
WVZ Waitaha Valley 20.65 182 PN **P** **16 00 47.4 +0.9**
RIV Riverview 21.25 233 eP **P** **16 00 55.5 +2.6**
RPZ Rata Peaks 21.28 181 P **P** **16 00 53.5 +0.3**
comp=Z,55nm,0.8s,mb5.0,baz=19,slow=5.0,SNR=21
RPZ LR LR 16 07 56.2
comp=Z,464nm,20.7s,baz=228,slow=33
RPZ Rata Peaks 21.28 181 PN **P** **16 00 53.8 +0.6**
CNB Canberra Magne 23.25 231 eP **P** **16 01 14.4 +1.6**
comp=Z,70nm,0.8s,mb5.1
CTA Charters Tower 23.68 271⇑*iP* **P** **16 01 17.6 +0.9**
comp=Z,67nm,0.7s,mb5.3
CTA Charters Tower 23.68 271 P **P** **16 01 17.8 +1.1**
comp=Z,85nm,0.7s,mb5.4,baz=95,slow=11,SNR=92
CTA LR LR 16 09 58.5
comp=Z,90nm,18.1s,baz=90,slow=35
CTA Charters Tower 23.68 271⇑*iP* **P** **16 01 17.6 +0.9**
CTA pmax pmax
comp=Z,67nm,0.7s
CTAO Charters Tower 23.68 271 P **P** **16 01 17.6 +0.9**
comp=Z,172nm,1.0s,mb5.5
CTAO Charters Tower 23.68 271 P **P** **16 01 17.6 +0.9**
CTAO pmax pmax
comp=Z,172nm,1.0s,mb5.5
RAR Rarotonga 26.64 93 LR LR 16 09 38.1
comp=Z,436nm,21.4s,baz=282,slow=30
PMG Port Moresby 26.71 295 P **P** **16 01 44.0 -0.1**
comp=Z,131nm,0.7s,mb5.7,baz=106,slow=5.2,SNR=114
PMG LR LR 16 09 17.5
comp=Z,220nm,18.3s,baz=284,slow=29
PMG Port Moresby 26.71 295 P **P** **16 01 44.5 +0.3**
comp=Z,124nm,0.8s,mb5.6
PMG Port Moresby 26.71 295*c iP* **P** **16 01 44.1 0.0**
TOO Toolangi 27.05 230⇓*iP* **P** **16 01 48.9 +1.7**
comp=Z,18nm,0.9s,mb4.7
TOO Toolangi 27.05 230⇓*iP* **P** **16 01 48.9 +1.7**
TOO pmax pmax
comp=Z,18nm,0.9s,mb4.7
STKA Stephens Creek 28.21 244⇑*iP* **P** **16 01 56.6 -0.8**
comp=Z,50nm,0.8s,mb5.3
STKA *e*PCP PcP 16 05 06.6 -0.9
STKA *e*SCS ScS 16 12 30.4 +2.1
STKA Stephens Creek 28.21 244 P **P** **16 01 56.6 -0.8**
comp=Z,57nm,0.7s,mb5.4,baz=89,slow=10,SNR=163
STKA PcP PcP 16 05 06.5 -1.0
comp=Z,14nm,0.7s,baz=52,slow=1.4,SNR=6.4
STKA ScP ScP 16 08 38.1 +2.7
comp=Z,7.2nm,1.1s,baz=7.9,slow=2.8,SNR=5.4
AS31 Alice Springs 34.60 260⇑*iP* **P** **16 02 53.4 0.0**
AS31 *e*ScS ScS 16 13 02.2 +2.0

ASAR Alice Springs 34.60 260 P **P** **16 02 53.5 +0.1**
comp=Z,192nm,0.8s,mb5.8,baz=82,slow=9.4,SNR=1569
ASAR PcP PcP 16 05 24.4 -0.4
comp=Z,9.1nm,0.8s,baz=112,slow=2.9,SNR=5.4
ASAR S **S** **16 08 11.6 -0.7**
comp=Z,1.4nm,0.9s,baz=87,slow=20,SNR=2.6
ASAR ScP ScP 16 08 58.8 +1.9
comp=Z,0.4nm,0.7s,baz=99,slow=4.2,SNR=2.4
ASAR P3KPbc 16 33 47.1
comp=Z,0.2nm,1.0s,baz=285,slow=3.9,SNR=4.3
ASAR Alice Springs 34.60 260 P **P** **16 02 53.5 +0.1**
ASAR PcP PcP 16 05 24.4 -0.4
ASAR S **S** **16 08 11.6 -0.7**
ASAR ScP ScP 16 08 58.8 +1.9
ASAR *e* 16 33 47.1
ASAR Alice Springs 34.60 260 P **P** **16 02 53.5 +0.1**
ASAR 16 05 24.4
ASAR S **S** **16 08 11.6 -0.7**
ASPA Alice Springs 34.61 260⇑*iP* **P** **16 02 53.4 -0.1**
ASPA *e*SCS ScS 16 13 02.2 +2.0
WB2 Warramunga Arr 34.72 267⇑*iP* **P** **16 02 53.7 -0.7**
WB2 *e*SCS ScS 16 13 03.2 +2.4
WRAB Tennant Creek 34.72 267 P **P** **16 02 53.6 -0.8**
comp=Z,462nm,0.5s,SNR=74
WRAB Tennant Creek 34.72 267 P **P** **16 02 52.9 -1.5**
comp=Z,90nm,0.8s,mb5.5
WRAB Tennant Creek 34.72 267*c iP* **P** **16 02 53.3 -1.1**
WRA Warramunga Arr 34.73 267 P **P** **16 02 53.5 -1.0**
comp=Z,40nm,0.5s,mb5.3,baz=98,slow=8.4,SNR=345
WRA PP PP 16 04 16.6 +0.5
comp=Z,25nm,1.2s,baz=98,slow=11,SNR=9.7
WRA PcP PcP 16 05 24.8 -0.3
comp=Z,9.7nm,0.8s,baz=91,slow=2.6,SNR=4.7
WRA S **S** **16 08 15.2 +1.0**
comp=Z,2.6nm,1.0s,baz=93,slow=15,SNR=4.2
TBI Tubuai 35.87 99 *e*LQ 16 11 09.6
comp=Z,599nm,29.2s
TBI *e*LR LR 16 12 38.5
comp=Z,286nm,39.0s
PPT Papeete 36.78 90 *e*LQ 16 11 39.3
comp=Z,623nm,26.8s
PPT *e*LR LR 16 13 11.3
comp=Z,630nm,30.8s
PPT Papeete 36.78 90 LR LR 16 15 17.9
comp=Z,442nm,19.8s,baz=146,slow=31
KAKA Kakadu 38.41 278⇑*iP* **P** **16 03 25.6 -0.1**
comp=Z,157nm,0.6s,mb5.8
FITZ Fitzroy Crossi 43.16 267⇑*iP* **P** **16 04 05.5 +0.9**
comp=Z,614nm,0.6s
GUMO Guam 44.29 321 P **P** **16 04 13.9 +0.2**
comp=Z,65nm,0.7s,mb5.4,baz=197,slow=23,SNR=2.9
MBWA Marble Bar 47.94 261 *e*P **P** **16 04 42.7 +0.5**
comp=Z,170nm,0.7s,mb5.8
TAOE Nuku Hiva Isla 48.22 82 *e*LR LR 16 18 33.6
comp=Z,1μm,26.5s
KLBR Kellerberrin 48.40 247⇑*iP* **P** **16 04 45.6 -0.1**
comp=Z,677nm,1.2s,mb6.2
NWAO Narrogin (SRO) 48.78 245 P **P** **16 04 49.0 +0.3**
comp=Z,116nm,0.8s,mb5.6
NWAO Narrogin (SRO) 48.78 245 P **P** **16 04 49.0 +0.3**
NWAO pmax pmax
comp=Z,116nm,0.8s
RKT Rikitea 49.09 102 *e*LR LR 16 18 29.6
comp=Z,276nm,35.2s
MUN Mundaring 49.69 246⇑*iP* **P** **16 04 55.5 -0.1**
VNDA Vanda 55.39 183 P **P** **16 05 36.8 -0.7**
comp=Z,3.9nm,0.6s,mb4.3,baz=360,slow=7.3,SNR=11
VNDA PcP PcP 16 06 35.9 -0.3
comp=Z,4.5nm,0.8s,baz=301,slow=2.7,SNR=2.6
VNDA LR LR 16 24 35.0
comp=Z,141nm,22.0s,baz=39,slow=31
VNDA Vanda 55.39 183 *e*P **P** **16 05 37.4 -0.1**
comp=Z,14nm,1.1s,mb4.6
VNDA Vanda 55.39 183 *e*P **P** **16 05 37.4 -0.1**
VNDA pmax pmax
comp=Z,14nm,1.1s
SBA Scott Base 55.57 181 *e*P **P** **16 05 39.9 +1.1**
comp=Z,60nm,0.9s,mb5.4
SBA Scott Base 55.57 181 *e*P **P** **16 05 39.9 +1.1**
SBA pmax pmax
comp=Z,61nm,0.9s,mb5.4
PAGZ Pagadian 55.92 297 *e*P **P** **16 05 42.1 +0.8**
MSLP Maasin 56.02 300 *e*P **P** **16 05 42.0 0.0**
OCLP Ormoc 56.75 301 *e*P **P** **16 05 47.3 +0.2**
CBIJ Chichi jima 56.80 329 P **P** **16 05 46.3 -1.2**
comp=Z,280nm,0.8s,mb6.2,baz=175,slow=4.1,SNR=14
GUIM Jordan 58.12 299 *e*P **P** **16 05 55.9 -0.9**
PVCP Virac 58.61 303 *e*P **P** **16 06 00.5 +0.3**
TSM Tawau 58.76 290 P **P** **16 06 01.3 +0.1**
CUYO Cuyo Island 59.52 298 *e*P **P** **16 06 07.2 +0.7**
BOAC Boac 60.34 301 *e*P **P** **16 06 11.2 -0.8**
BUSP Coron 60.83 299 *e*P **P** **16 06 15.6 +0.3**
POLP Polillo Island 61.01 303 *e*P **P** **16 06 15.4 -1.2**
ENPP El Nido 61.02 298 *e*P **P** **16 06 17.1 +0.4**
KKM Kota Kinabalu 61.05 291 P **P** **16 06 18.2 +1.3**
KKM Kota Kinabalu 61.05 291 *e*P **P** **16 06 18.0 +1.2**
BATP Bataraza 61.09 294 *e*P **P** **16 06 18.1 +1.0**
TGY Tagaytay City 61.43 301 P **P** **16 06 19.3 -0.1**
comp=Z,130nm,0.7s,baz=168,slow=3.3,SNR=6.9
BALP Baler 61.89 303 *e*P **P** **16 06 22.1 -0.3**
CAUP Cauayan 62.42 305 *e*P **P** **16 06 25.8 -0.2**
APYP Conner 63.41 305 *e*P **P** **16 06 32.0 -0.5**
ABRA Dolores 63.69 304 *e*P **P** **16 06 33.9 -0.4**
KSM Kuching 64.18 283 *e*P **P** **16 06 38.4 +0.8**
MJAR Matsushiro Arr 66.53 331 P **P** **16 06 51.9 -0.8**
comp=Z,25nm,0.8s,mb5.1,baz=166,slow=7.2,SNR=53
MAJO Matsushiro 66.53 331 *e*P **P** **16 06 52.0 -0.7**
comp=Z,44nm,0.9s,mb5.3
MAJO Matsushiro 66.53 331 *e*P **P** **16 06 52.0 -0.7**
MAJO pmax pmax
comp=Z,44nm,0.9s,mb5.3
MAT Matsushiro 66.53 331 P **P** **16 06 51.9 -0.8**
MAT *e*S S 16 15 33.6 +1.3
MAT Matsushiro 66.53 331 *e*P **P** **16 06 52.0 -0.7**
comp=Z,100nm,1.6s,mb5.4
MAT Matsushiro 66.53 331 *e*P **P** **16 06 52.0 -0.7**
MAT pmax pmax
comp=Z,100nm,1.6s,mb5.4
NACB Ninganchiao 67.06 311 *e*P **P** **16 06 55.5 -0.6**
YHNB Yeheng 67.53 311 *e*P **P** **16 06 57.9 -1.1**
TATO Taipei 67.65 311 P **P** **16 06 59.5 -0.2**
QSPA South Pole Qui 67.69 180 *e*P **P** **16 06 59.8 -0.2**
comp=Z,13nm,0.8s,mb4.7
KGM Kluang 70.74 281 P **P** **16 07 20.5 +1.7**
SSE Sheshan 71.82 316 P **P** **16 07 26.2 +0.9**
SSE XP sP 16 08 15.8 +1.1
SSE S S 16 16 35.6 +1.2
SSE SCS ScS 16 17 18.3 +0.4
SSE XS sS 16 17 35.5 +1.9
SSE AMB AMB
comp=Z,60nm,0.8s,mb5.4
SSE LR LR
comp=N,40nm,25.3s
SSE LR LR
comp=E,43nm,25.3s
SSE LR LR
comp=Z,64nm,20.0s
KS15 Wonju Array Si 72.32 325 *e*P **P** **16 07 28.4 +0.2**
GZH Guangzhou 72.45 305 P **P** **16 07 29.6 +0.5**
GZH S S 16 16 41.2 -0.4
GZH LR LR
comp=N,90nm,21.3s
GZH LR LR
comp=E,110nm,15.1s
GZH LR LR
comp=Z,113nm,17.6s
QIZ Qiongzhong 73.00 299⇑P **P** **16 07 33.6 +1.3**
QIZ AP pP 16 08 04.1 -2.6
QIZ S S 16 16 43.7 -4.1
QIZ AMB AMB
comp=Z,30nm,0.9s,mb5.0
QIZ AMB AMB
comp=Z,127nm,6.7s
INCN Inchon 73.02 324 *e*P **P** **16 07 32.6 +0.2**
comp=Z,200nm,1.1s,mb5.8
YSS Yuzh-Sakhalins 73.75 340 *e*P **P** **16 07 37.0 +0.3**
comp=Z,55nm,0.8s,mb5.3
YSS Yuzh-Sakhalins 73.75 340⇑*iP* **P** **16 07 38.0 +1.3**
YSS *e* pP 16 08 13.0 +1.8
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=Z,60nm,0.9s,mb5.3
IPM Ipoh 73.84 282 P **P** **16 07 38.2 +1.0**
NJ2 Nanjing 73.95 315 *e*P **P** **16 07 38.3 +0.4**
NJ2 AP pP 16 08 13.0 +0.6
NJ2 XP sP 16 08 28.3 +1.0
NJ2 PP PP 16 10 27.0 +2.3
NJ2 S S 16 16 55.0 -3.5
NJ2 XS sS 16 17 55.0 -3.1
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,110nm,10.6s
NJ2 LR LR
comp=N,560nm,17.3s
NJ2 LR LR
comp=E,170nm,24.6s
NJ2 LR LR
comp=Z,290nm,19.9s
KULM Kulim 74.52 282 *e*P **P** **16 07 41.9 +0.7**
ADK Adak 74.66 8 *e*P **P** **16 07 40.7 -1.2**
comp=Z,41nm,0.7s,mb5.2
ADK Adak 74.66 8 *e*P **P** **16 07 40.7 -1.3**
ADK pmax pmax
comp=Z,41nm,0.7s,mb5.2
VLA Vladivostok 74.70 331 *e*P **P** **16 07 41.4 -0.8**
VLA *e* 16 07 51.5
VLA pmax pmax
comp=Z,48nm,1.9s,mb4.8
PET Petropavlovsk 75.92 352 *e*P **P** **16 07 48.6 -0.6**
PET *e*SS SS 16 22 18.9 +3.3
PET pmax pmax
comp=Z,54nm,1.3s,mb5.0
WHN Wuhan 76.05 312⇓P **P** **16 07 50.2 +0.3**
WHN AMB AMB
comp=Z,80nm,1.0s,mb5.3
DL2 Dalian 76.81 322⇑*iP* **P** **16 07 54.2 0.0**
DL2 S S 16 17 32.0 +2.0
DL2 AMB AMB
comp=Z,70nm,0.9s,mb5.3
DL2 AMB AMB
comp=Z,220nm,5.0s
MDJ Mudanjiang 76.91 331 P **P** **16 07 54.5 -0.2**
MDJ AP pP 16 08 27.9 -1.5
MDJ XP sP 16 08 41.7 -2.7
MDJ PP PP 16 10 52.7 +3.1
MDJ S S 16 17 32.7 +1.6
MDJ SS SS 16 22 31.1 +0.6
MDJ AMB AMB
comp=Z,26nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,85nm,4.1s
MDJ LR LR
comp=N,97nm,34.8s
MDJ LR LR
comp=E,84nm,32.4s
MDJ LR LR
comp=Z,142nm,37.8s
MDJ Mudanjiang 76.91 331 *e*P **P** **16 07 54.6 -0.1**
comp=Z,6.9nm,0.6s,mb4.5
NIKO Nikolski 76.95 12 *e*P **P** **16 07 53.8 -1.1**
TIA Tai'an 77.71 318⇑P **P** **16 07 59.3 +0.1**
TIA AMB AMB
comp=Z,175nm,0.9s,mb5.7
HABR Khabarovsk 77.73 336 *e*P **P** **16 08 01.9 +2.6**
HABR pmax pmax
comp=Z,28nm,0.8s,mb4.9
SNY Shenyang 77.78 325⇑P **P** **16 07 59.0 -0.6**
SNY AMB AMB
comp=Z,25nm,1.0s,mb4.8
CN2 Changchun 78.25 328⇑P **P** **16 08 02.0 -0.2**
CN2 *e*XP sP 16 08 52.1 +0.2
CN2 *e*S S 16 17 45.0 -0.6
CN2 AMB AMB
comp=Z,90nm,0.8s,mb5.5
CN2 AMB AMB
comp=Z,200nm,4.0s
ENH Enshi 79.32 309 *e*P **P** **16 08 07.8 -0.3**
comp=Z,76nm,1.0s,mb5.3
GYA Guiyang 79.37 304⇑*iP* **P** **16 08 08.7 +0.4**
GYA AP pP 16 08 43.8 +0.6
GYA XP sP 16 08 59.2 +1.1
GYA PP PP 16 11 12.8 +2.6
GYA S S 16 17 56.4 -1.1
GYA SKS 16 18 07.0
GYA SS SS 16 23 11.2 +3.7
GYA AMB AMB
comp=Z,40nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,100nm,5.4s
GYA LR LR
comp=N,430nm,18.4s
GYA LR LR
comp=E,480nm,19.0s
GYA LR LR
comp=Z,510nm,18.8s
KLR Kul'dur 79.61 335 *e*P **P** **16 08 06.5 -3.1**
KLR pmax pmax
comp=Z,50nm,1.8s,mb4.8
BJT Baijiatuau 80.72 320 *e*P **P** **16 08 15.8 +0.3**
comp=Z,81nm,1.1s,mb5.3
BJT Baijiatuau 80.72 320 *e*P **P** **16 08 15.8 +0.3**
BJT pmax pmax
comp=Z,81nm,1.1s
BJI Beijing 80.72 320 *e*P **P** **16 08 15.9 +0.3**
BJI AMB AMB
comp=Z,73nm,1.0s,mb5.3
BJI LR LR
comp=Z,216nm,28.0s
KMI Kunming 81.75 301 P **P** **16 08 22.7 +1.7**
KMI AP pP 16 08 58.4 +2.3
KMI XP sP 16 09 13.6 +2.7
KMI PP PP 16 11 33.3 +3.5
KMI S S 16 18 22.0 -0.2
KMI XS sS 16 19 24.4 +1.5
KMI SS SS 16 23 45.9 +2.9
KMI AMB AMB
comp=Z,34nm,1.3s,mb4.8
KMI LR LR
comp=Z,58nm,24.9s
XAN Xi'an 81.81 312 P **P** **16 08 21.9 +0.6**
XAN AMB AMB
comp=Z,68nm,1.2s,mb5.2
SYO Syowa Base 82.52 196⇓*e*PcP PcP 16 08 29.2 -0.5
SYO Syowa Base 82.52 196⇓*e*P **P** **16 08 23.0 -2.0**
SYO ⇓*e*PcP PcP 16 08 29.2 -0.5
MA2 Magadan 83.42 350 *e*P **P** **16 08 27.4 -2.2**
comp=Z,7.3nm,0.8s,mb4.5
MA2 Magadan 83.42 350*c iP* **P** **16 08 27.6 -2.0**
MA2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CD2 Chengdu 83.85 307 P **P** **16 08 32.8 +1.0**
CD2 AP pP 16 09 08.3 +1.3
CD2 XP sP 16 09 23.4 +1.5
CD2 PP PP 16 11 50.1 +3.2
CD2 SKS 16 18 38.8
CD2 S S 16 18 43.5 +0.1
CD2 XS sS 16 19 45.4 +1.0
CD2 SS SS 16 24 17.5 +3.5
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,50nm,7.2s
CD2 LR LR
comp=N,80nm,8.4s
CD2 LR LR
comp=Z,50nm,15.6s
HHC Hu-ho-hao-te 84.00 319⇑*iP* **P** **16 08 33.4 +0.8**
HHC AP pP 16 09 08.9 +1.1
HHC XP sP 16 09 24.0 +1.4
HHC PP PP 16 11 50.5 +2.3
HHC SKS 16 18 40.0
HHC S S 16 18 43.5 -1.4
HHC XS sS 16 19 47.2 +1.3
HHC SS SS 16 24 18.3 +2.1
HHC AMB AMB
comp=Z,80nm,0.9s,mb5.5
HHC AMB AMB
comp=Z,172nm,4.9s
HHC LR LR
comp=N,103nm,6.1s
HHC LR LR
comp=E,166nm,4.7s
HHC LR LR
comp=Z,128nm,19.1s
BTO Baotou 84.81 318 *e*P **P** **16 08 37.6 +1.0**
SNAA Sanae 86.12 182⇑*iP* **P** **16 08 41.4 -1.7**
SNAA *e* 16 08 44.1
SNAA *e* 16 08 45.6
SAO San Andreas Ge 86.29 48 P **P** **16 08 45.2 +1.2**
comp=Z,21nm,0.9s,mb4.9
SAO San Andreas Ge 86.29 48 P **P** **16 08 45.2 +1.2**
SAO pmax pmax
comp=Z,21nm,0.9s,mb4.9
SEY Seymchan 86.37 351 *e*P **P** **16 08 43.2 -1.2**
SEY *PP pP 16 09 18.5 -1.3
SEY *e*PPP 16 14 05.2
SEY pmax pmax
comp=E,5.0nm,0.9s
SEY pmax pmax
comp=Z,20nm,0.9s,mb4.8
SEY pmax pmax
comp=N,10.0nm,1.3s
KCPM Cahto Peak 86.42 44 *e*P **P** **16 08 45.7 +1.1**
LZH Lanzhou 86.42 311⇑P **P** **16 08 45.5 +0.9**
LZH AP pP 16 09 21.2 +1.2
LZH XP sP 16 09 36.5 +1.7
LZH PP PP 16 12 11.1 +3.3
LZH *e*SKS 16 18 55.9
LZH *e*S 16 19 08.1
LZH *e*SS SS 16 24 54.6 +2.8
LZH AMB AMB
comp=Z,90nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,463nm,4.5s
VNA3 Neumayer Olymp 86.62 180⇑*iP* **P** **16 08 44.0 -1.6**
VNA3 *e* 16 08 46.3
VNA3 *e* 16 08 50.1
VNA2 Neumayer--Watz 86.94 180⇑*iP* **P** **16 08 45.8 -1.3**
baz=181,slow=4.6
VNA2 *e* 16 08 48.1
VNA2 *e* 16 08 49.0
KHMM Horse Mountain 86.97 43 P **P** **16 08 48.2 +0.9**
WDC Whiskeytown Da 87.57 44 P **P** **16 08 50.3 +0.1**
comp=Z,16nm,0.9s,mb4.8
WDC Whiskeytown Da 87.57 44 P **P** **16 08 50.3 +0.1**
WDC pmax pmax
comp=Z,16nm,0.9s,mb4.8
USHA Ushuaia 87.66 150 P **P** **16 08 50.3 -0.3**
comp=Z,7.0nm,0.9s,mb4.5,baz=150,slow=14,SNR=2.8
YBH Yreka Blue Hor 88.08 43 P **P** **16 08 52.9 +0.4**
comp=Z,15nm,0.6s,mb5.0,baz=194,slow=1.8,SNR=39
YBH LR LR 16 39 16.6
comp=Z,50nm,20.6s,baz=194,slow=29
YBH Yreka Blue Hor 88.08 43 *e*P **P** **16 08 53.1 +0.5**
comp=Z,16nm,0.7s,mb5.0
YBH Yreka Blue Hor 88.08 43 *e*P **P** **16 08 53.1 +0.5**
YBH pmax pmax
comp=Z,16nm,0.7s
HUMO Hull Mountain 88.39 42 *e*P **P** **16 08 54.7 +0.7**
comp=Z,27nm,1.0s,mb5.0
DAC Darwin (Calif) 88.73 50 P **P** **16 08 56.5 +0.9**
TNA Tin City 89.06 8 P **P** **16 08 57.4 +0.3**
PAHR Pah Rah Range 89.19 46 *e*P **P** **16 08 57.9 +0.1**
comp=Z,38nm,1.1s,mb5.2
GLA Glamis 89.22 54 *e*P **P** **16 08 58.6 +0.7**
NVAR Mina Array Bea 89.29 48 P **P** **16 08 59.0 +0.8**
comp=Z,14nm,0.7s,mb5.0,baz=234,slow=11,SNR=66
MOD Modoc 89.70 44 *e*P **P** **16 09 00.3 +0.2**
comp=Z,21nm,0.9s,mb5.1
BILL Bilibino 90.24 358 *e*P **P** **16 09 01.2 -1.5**
comp=Z,21nm,1.0s,mb5.0
BILL Bilibino 90.24 358⇑*iP* **P** **16 09 01.3 -1.4**
BILL pmax pmax
comp=Z,28nm,1.3s,mb5.0
NEN Nelson 90.40 51 *e*P **P** **16 09 03.4 0.0**
YAK Yakutsk 90.51 342 P **P** **16 09 02.5 -1.4**
comp=Z,20nm,0.8s,mb5.2
YAK Yakutsk 90.51 342*c iP* **P** **16 09 01.8 -2.1**
YAK pmax pmax
comp=Z,26nm,0.8s,mb5.3
SHPR Sheep Range 90.57 51 P **P** **16 09 05.3 +1.1**
HOOD Mount Hood Mea 90.64 40 P **P** **16 09 04.8 +0.3**
ULN Ulaanbaatar 90.66 323 *e*P **P** **16 09 04.5 -0.1**
ULN Ulaanbaatar 90.66 323*c iP* **P** **16 09 04.7 +0.1**
GTA Gaotai 90.84 313 *e*P **P** **16 09 06.0 +0.5**
GTA AP pP 16 09 42.3 +1.2
GTA XP sP 16 09 56.6 +0.8
GTA PP PP 16 12 47.7 +4.7
GTA SKS 16 19 23.9
GTA S 16 19 49.3
GTA XS sS 16 20 52.8 +0.7
GTA SS SS 16 26 00.1 +4.2
GTA AMB AMB
comp=Z,35nm,1.3s,mb5.2
GTA AMB AMB
comp=Z,173nm,5.3s
GTA LR LR
comp=N,88nm,14.8s
GTA LR LR
comp=E,70nm,16.4s
GTA LR LR
comp=Z,99nm,15.6s
BMN Battle Mountai 90.99 46 *e*P **P** **16 09 06.1 0.0**
comp=Z,25nm,1.1s,mb5.2
BMN Battle Mountai 90.99 46 *e*P **P** **16 09 06.1 -0.1**
BMN pmax pmax
comp=Z,25nm,1.1s,mb5.2
SONM Songino Array 91.02 322 P **P** **16 09 05.7 -0.6**
comp=Z,16nm,0.8s,mb5.1,baz=158,slow=2.1,SNR=124
SONM PKKPbc PKKPbc 16 26 29.5 +0.2
comp=Z,0.7nm,1.0s,baz=287,slow=2.6,SNR=3.7
SONM LR LR 16 47 37.2
comp=Z,77nm,20.1s,baz=131,slow=34
WVOR Wild Horse Val 91.04 44 *e*P **P** **16 09 06.0 -0.3**
comp=Z,18nm,1.0s,mb5.1
WVOR *e*pP pP 16 09 41.2 -0.8
WVOR Wild Horse Val 91.04 44 *e*P **P** **16 09 06.0 -0.4**
WVOR pmax pmax
comp=Z,18nm,1.0s,mb5.1
TUC Tucson 91.95 56 P **P** **16 09 10.9 +0.3**
ARUT Antelope Range 92.37 50 *e*P **P** **16 09 12.8 +0.2**
COLA College 92.43 16 *e*P **P** **16 09 09.5 -3.3**
HAWA Hanford 92.46 40 *e*P **P** **16 09 12.3 -0.6**
comp=Z,1.5nm,1.0s
ILAR Eielson Array 92.60 17 P **P** **16 09 10.9 -2.7**
comp=Z,5.7nm,0.8s,mb4.7,baz=226,slow=5.0,SNR=42
ILAR PKKPbc PKKPbc 16 26 24.9 -0.3
comp=Z,0.7nm,0.7s,baz=31,slow=5.2,SNR=13
ILAR LR LR 16 44 54.8
comp=Z,114nm,18.9s,baz=181,slow=32
ILAR Eielson Array 92.60 17 P **P** **16 09 10.9 -2.7**
ILAR 16 26 24.9
LSA Lhasa 93.00 301 *e*P **P** **16 09 16.4 +1.0**
comp=Z,7.2nm,0.8s,mb4.8
LSA Lhasa 93.00 301 *e*P **P** **16 09 16.5 +1.1**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BOD Bodaibo 93.10 333 *e*P **P** **16 09 12.8 -3.1**
BOD pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
PALK Pallekele 93.50 276 P **P** **16 09 19.4 +1.7**
comp=Z,28nm,1.1s,mb5.3
ZAK Zakamensk 94.10 323⇑*iP* **P** **16 09 19.5 -1.0**
ZAK pmax pmax
comp=Z,35nm,1.5s,mb5.3
HLID Hailey 94.30 44 *e*P **P** **16 09 21.1 -0.4**
comp=Z,4.3nm,0.8s,mb4.6
TMUT Trail Mountain 94.60 49 P **P** **16 09 25.4 +2.6**
MOY Mondy 95.99 324 *e*P **P** **16 09 28.8 -0.3**
JIRN Jiri 96.22 297 *e*P **P** **16 09 30.9 +0.7**
comp=Z,7.0nm,0.6s,mb5.2
ANMO Albuquerque 96.32 55 LR LR 16 45 52.5
comp=Z,106nm,20.5s,baz=220,slow=31
GUN Gumba 96.57 297 *e*P **P** **16 09 31.7 0.0**
comp=Z,20nm,0.9s,mb5.4
PKI Pulchoki 96.83 297 *e*P **P** **16 09 33.5 +0.6**
KKN Kakani 97.02 297 *e*P **P** **16 09 34.0 +0.2**
comp=Z,27nm,1.1s,mb5.5
KKN Kakani 97.02 297 *e*P **P** **16 09 34.0 +0.2**
KKN pmax pmax
comp=Z,14nm,1.1s,mb5.2
DMN Daman 97.10 297 *e*P **P** **16 09 34.6 +0.5**
comp=Z,35nm,1.1s,mb5.6
PDAR Pinedale Array 97.17 47 P **P** **16 09 33.0 -1.5**
comp=Z,0.6nm,0.8s,baz=237,slow=3.1,SNR=3.5
PDAR PKKPbc PKKPbc 16 26 13.7 +0.6
comp=Z,0.6nm,0.7s,baz=83,slow=4.9,SNR=5.8
PDAR LR LR 16 50 32.1
comp=Z,56nm,19.1s,baz=346,slow=34
GKN Gorkha 97.63 297 *e*P **P** **16 09 36.2 -0.3**
TIXI Tiksi 98.26 347 *e*P **P** **16 09 34.6 -4.7**
TIXI pmax pmax

comp=Z,8.0nm,2.5s,mb4.7
KOLN Koldanda 98.40 296 *e*P **P** 16 09 39.5 **-0.5**
comp=Z,13nm,1.1s,mb5.3
WMQ Urumqi 100.92 313 *e*P Pdif 16 09 51.5 +0.3
WMQ AMB AMB
comp=Z,9.0nm,1.2s
WMQ AMB AMB
comp=Z,75nm,4.0s
YKA Yellowknife Ar 102.46 27 P Pdif 16 09 55.9 -2.2
comp=Z,0.7nm,0.9s,baz=248,slow=4.8,SNR=5.7
YKA PP PP 16 14 06.8 -5.6
comp=Z,0.7nm,1.0s,baz=254,slow=7.8,SNR=4.7
YKA PKKPbc PKKPbc 16 25 54.8 -3.3
comp=Z,0.2nm,0.6s,baz=70,slow=2.8,SNR=3.7
MKAR Makanchi Array 105.48 315 Pdiff Pdif 16 10 11.2 -0.3
comp=Z,3.4nm,0.6s,baz=84,slow=5.0,SNR=37
MKAR PKiKP PKiKP 16 14 21.5 -2.8
comp=Z,0.4nm,0.6s,baz=260,slow=1.5,SNR=4.8
MKAR PP PP 16 14 34.0 -0.8
comp=Z,0.7nm,0.7s,baz=115,slow=5.8,SNR=4.3
MKAR PKKPbc PKKPbc 16 25 48.2 -1.0
comp=Z,0.4nm,0.7s,baz=310,slow=2.7,SNR=5.7
MKAR Makanchi Array 105.48 315 Pdif Pdif 16 10 11.2 -0.3
MKAR PKPdf PKiKP 16 14 21.5 -2.8
MKAR PP PP 16 14 34.0 -0.8
MKAR PKKPbc PKKPbc 16 25 48.2 -1.0
MKAR Makanchi Array 105.48 315 P Pdif 16 10 11.2 -0.3
MKAR 16 14 34.1
SUR Sutherland 118.78 208 PKP PKPdf 16 14 49.9 +0.3
comp=Z,10nm,0.8s,baz=126,slow=11,SNR=3.2
BOSA Boshof 119.77 214 PKP PKPdf 16 14 51.5 0.0
comp=Z,6.5nm,0.6s,baz=177,slow=2.2,SNR=17
ARU Arti 121.04 323 PKPdf PKPdf 16 14 52.2 -1.7
ARU Arti 121.04 323 PKIKP PKPdf 16 14 52.2 -1.7
AKTK Aktyubinsk 121.83 316 PKP PKPdf 16 14 54.0 -1.4
AKTO Aktyubinsk 121.83 316 PKP PKPdf 16 14 54.0 -1.4
comp=Z,2.9nm,0.6s,baz=101,slow=3.2,SNR=15
LBTB Lobatse 122.45 217 PKP PKPdf 16 14 57.3 +0.8
comp=Z,4.0nm,0.7s,baz=140,slow=3.9,SNR=15
LSZ Lusaka 128.14 227 PKP PKPdf 16 15 08.7 +1.2
comp=Z,4.9nm,0.7s,baz=139,slow=1.0,SNR=13
LSZ Lusaka 128.14 227 *e*PKIKP PKPdf 16 15 08.6 +1.1
ARCES ARCESS Array B 128.64 345 PKP PKPdf 16 15 04.8 -3.6
comp=Z,5.4nm,0.9s,baz=353,slow=8.6,SNR=13
KMBO Kilima Mbogo 129.70 248 PKP PKPdf 16 15 11.3 +0.9
comp=Z,6.3nm,0.9s,baz=50,slow=4.7,SNR=16
KMBO Kilima Mbogo 129.70 248 PKP PKPdf 16 15 11.3 +0.9
KMBO Kilima Mbogo 129.70 248⇑*i*PKIKP PKPdf 16 15 11.8 +1.4
TSUM Tsumeb 131.46 214 PKP PKPdf 16 15 13.5 -0.3
comp=Z,9.4nm,0.8s,baz=127,slow=3,6,SNR=12
TSUM Tsumeb 131.46 214 *e*PKPdf PKPdf 16 15 15.4 +1.6
GNI Garni 131.93 304 *i*PKIKP PKPdf 16 15 14.9 +0.3
MOS Moscow 132.48 326 *e*PKIKP PKPdf 16 15 25.8 +10
MOS pmax pmax
comp=Z,48nm,1.2s
KIV Kislovodsk 132.94 310 *i*PKIKP PKPdf 16 15 16.7 +0.1
OBN Obninsk 133.29 326 *i*PKIKP PKPdf 16 15 17.8 +0.6
OBN *e* 16 17 49.7
OBN *e* 16 20 38.1
OBN *e* 16 22 05.7
OBN pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 134.30 338 PKhKP 16 15 08.4
comp=Z,0.5nm,0.5s,baz=236,slow=9,9,SNR=5.4
MALT Malatya 137.00 303 ⇑P PKPdf 16 15 24.7 +0.5
AKASG Malin Array Be 139.29 323 PKhKP 16 15 19.9
comp=Z,3.0nm,0.8s,baz=68,slow=3.0,SNR=11
AKASG PP PP 16 18 08.3 -15
comp=Z,0.1nm,0.3s,baz=62,slow=7.0,SNR=2.8
AKASG Malin Array Be 139.29 323 PKP PKPdf 16 15 19.9 -8.4
AKASG PP PP 16 18 08.3 -15
BRTR Keskin Array B 140.42 306 PKhKP 16 15 21.3
comp=Z,3.0nm,0.8s,baz=137,slow=4.8,SNR=6.0
BRTR PP PP 16 18 30.2 0.0
comp=Z,1.3nm,0.8s,baz=64,slow=2.9,SNR=4.2
PPE Popeni 142.20 318 P PKPdf 16 15 32.6 -0.9
LVV L'vov 142.58 325 *e*PKHKP 16 15 29.2
VRI Vrincioaia 143.08 318 ⇓P PKPdf 16 15 32.4 -2.7
BURAR Bucovina Array 143.13 321 ⇑P PKPdf 16 15 33.1 -2.1
BURAR Bucovina Array 143.13 321 ⇑P PKPdf 16 15 33.1 -2.2
KWP Kalwaria 143.38 326 *e*PKP PKPdf 16 15 32.5 -3.2
MLR Muntele Rosu 143.74 318 ⇑P PKPdf 16 15 33.9 -2.4
MLR Muntele Rosu 143.74 318 P PKPdf 16 15 34.7 -1.6
KOLS Kolonicke sedl 144.03 325 *e*PKP PKPdf 16 15 34.6 -2.2
STHS Stebnicka Huta 144.27 326 *e*PKP PKPdf 16 15 35.7 -1.5
VOIR 144.32 318 ⇑P PKPdf 16 15 35.8 -1.5
MTUR Matau 144.41 318 P PKPdf 16 15 36.6 -0.9
CRVS Cervenica-Dubn 144.47 326 *e*PKP PKPdf 16 15 37.1 -0.5
OJC Ojcow 144.48 328 *e*PKP PKPdf 16 15 35.5 -2.1
JMB Yambol 144.63 313 *i*P PKPdf 16 15 36.0 -1.9
JMB Yambol 144.63 313 *e*P PKPdf 16 15 35.2 -2.6
SZH Strazhica 144.74 314 *i*P PKPdf 16 15 37.0 -1.0
NIE Niedzica 144.74 327 *e*PKP PKPdf 16 15 37.6 -0.4
KECS Kecovo 145.24 326 *i*PKP PKPdf 16 15 38.6 -0.3
BSEG Bad Segeberg 145.44 340 *e*PKPbc PKPbc 16 15 38.6 -0.9
RUE Ruedersdorf 145.44 336 *e*PKPbc PKPbc 16 15 38.8 -0.7
OKC Ostrava-Krasne 145.53 329 *e*PKP PKPdf 16 15 37.8 -1.6
OKC *ex* x 16 15 39.5
OKC *ex* x 16 01.0
OKC Ostrava-Krasne 145.53 329 *e*PKHKP 16 15 36.8
OKC *e* 16 15 38.5
ALN Alexandroupoli 145.60 311 *e*P PKPdf 16 15 37.8 -1.8
KSP Ksiaz 145.66 332 *e*PKP PKPdf 16 15 39.9 +0.3
KSP Ksiaz 145.66 332 *e*PKP2 PKPab 16 15 39.6 -1.1
MORC Moravsky Berou 145.85 330 *e*PKPdf PKPdf 16 15 39.4 -0.6
MORC Moravsky Berou 145.85 330 ⇑PKP2 PKPab 16 15 40.4 -1.0
PSZ Piszkesteto 145.90 325⇑*e*PKP/p PKPdf 16 15 40.1 +0.1
DPC Dobruska-Polom 146.00 331 *e*PKP PKPdf 16 15 41.1 +0.9
DPC *ex* x 16 15 42.6
DPC *ex* x 16 12.4
DPC Dobruska-Polom 146.00 331 *e*PKP2 PKPab 16 15 41.1 -0.9
DPC *e* 16 15 42.6
UPC Upice 146.03 332 *e*PKP PKPdf 16 15 41.3 +1.1
UPC *ex* x 16 15 45.6
VYHS Vyhne 146.08 327 *e*PKP PKPdf 16 15 41.2 +0.9
RZN Rozhen 146.22 313 *i*P PKPdf 16 15 41.0 +0.4
BZS Buzias 146.29 321 ⇑P PKPdf 16 15 41.5 +0.8
BZS Buzias 146.29 321 ⇑PKP2 PKPab 16 15 41.6 -1.5
VRAC Vranov 146.62 330 P PKPdf 16 15 43.1 +1.9
VRAC Vranov 146.62 330 ⇑PKP2 PKPab 16 15 42.7 -1.7
BRG Berggiesshubel 146.63 334 *e*PKPbc PKPbc 16 15 42.3 -0.8
BRG Berggiesshubel 146.63 334 *i*PKP2 PKPab 16 15 42.2 -2.2
BRG pmax pmax
comp=Z,15nm,0.9s
BRG Berggiesshubel 146.63 334 *i*PKP PKPdf 16 15 42.2 +1.0
comp=Z,15nm,0.9s
PVCC Panska Ves 146.63 333 *e*P PKPdf 16 15 42.7 +1.4
PVCC *ex* x 16 15 44.5
LOS Limnos 146.65 309 *e*P PKPdf 16 15 42.5 +1.2
CLL Collm 146.66 335 *e*PKPbc PKPbc 16 15 42.0 -1.2
CLL Collm 146.66 335⇑*i*PKPbc PKPbc 16 15 42.0 -1.2
comp=Z,25nm,0.8s
CLL *i*PKPab PKPab 16 15 43.7 -0.9
comp=Z,21nm,0.6s
CLL *i*(PKiKP) 16 15 47.7
CLL *ep*PKPbc pPKPbc 16 16 18.0 -2.1
CLL Collm 146.66 335⇑*i*PKP PKPdf 16 15 42.0 +0.7
CLL *i* 16 15 43.7
CLL *ep*PKP pPKPdf 16 16 18.0 -0.7
CLL Collm 146.66 335⇑*i*PKIKP PKPdf 16 15 42.0 +0.7
CLL *i* 16 15 43.7
SMOL Smolenice 146.77 328 *e*PKP PKPdf 16 15 43.6 +2.1
SRO Srobarova 146.79 326 *e*PKP PKPdf 16 15 42.7 +1.2
VTS Vitosha 146.83 315 *i*P PKPdf 16 15 43.5 +1.9
VTS Vitosha 146.83 315 *e*P PKPdf 16 15 43.5 +1.8
SRO1 Iza 146.87 326 *e*PKP PKPdf 16 15 43.2 +1.5
MMB Musomiste 146.93 313 *i*P PKPdf 16 15 43.0 +1.2
PRU Pruhonice 147.05 332 *e*PKP PKPdf 16 15 43.5 +1.5
PRU *ex* x 16 15 45.7
PRU *ex* x 16 13.9
TREC Trest 147.14 331 *e*PKP PKPdf 16 15 44.0 +1.9
ZST Bratislava 147.15 328 *e*PKP PKPdf 16 15 44.2 +2.1
CLZ Clausthal 147.19 338 *e*PKPbc PKPbc 16 15 44.0 -0.6
CLZ *e*PKPab PKPab 16 15 46.3 -0.3
SRS Serrai 147.22 312 *e*P PKPdf 16 15 43.3 +1.0
KKB Krupnik 147.24 314 *i*P PKPdf 16 15 44.0 +1.7
SVIS Svilajnac 147.24 319⇓*i*PKP PKPbc 16 15 47.2 +2.4
APE Apeiranthos 147.26 304 ⇓P PKPdf 16 15 43.8 +1.5
WERD Werda 147.61 335 *e*PKPbc PKPbc 16 15 45.1 -0.7
IBBN Ibbenburen 147.62 341 *e*PKPbc PKPbc 16 15 44.8 -1.0
IBBN *e*PKPab PKPab 16 15 48.1 -0.3
PKSM Moragy 147.63 324 P PKPbc 16 15 45.3 -0.5
KNT Kendrikon 147.68 313 *e*P PKPdf 16 15 44.5 +1.5
MOX Moxa 147.72 336 *e*PKPbc PKPbc 16 15 45.0 -1.1
MOX Moxa 147.72 336 *e*PKP PKPbc 16 15 44.9 -1.2
comp=Z,17nm,1.1s
NKC Novy Kostel 147.73 335 *e*PKP PKPbc 16 15 45.6 -0.5
NKC *ex* x 16 15 48.2
VAY Valandovo 147.83 313 *i*PKP PKPdf 16 15 45.0 +1.7
MANZ Manzenberg 148.06 335 *e*PKPbc PKPbc 16 15 46.2 -0.8
MANZ *e*PKPab PKPab 16 15 50.0 -0.1
DIVS Divcibare 148.09 320 *i*PKP PKPbc 16 15 46.7 -0.4
DIVS Divcibare 148.09 320 *e*P PKPbc 16 15 46.6 -0.4
KHC Kasperske Hory 148.11 332 *e*PKP PKPbc 16 15 46.6 -0.5
KHC *ex* x 16 15 50.3
KHC *ep*PKP pPKPdf 16 16 22.0 +0.9
ROTZ Rotzenmuhle 148.19 334 *e*PKPbc PKPbc 16 15 46.5 -0.8
GEC2 GERESS Array S 148.27 332 *e*PKPbc PKPbc 16 15 46.7 -0.8
GEC2 *e*PKPab PKPab 16 15 50.7 -0.3
GEC2 GERESS Array S 148.27 332 *e*PKP2 PKPab 16 15 50.7 -0.3
GERES GERESS Array B 148.27 332 PKPbc PKPbc 16 15 46.2 -1.3
comp=Z,12nm,0.7s,baz=45,slow=2.3,SNR=48
SKO Skopje 148.28 315 *i*PKP PKPbc 16 15 47.7 +0.1
WET Wettzell 148.40 333 *e*PKPbc PKPbc 16 15 46.9 -0.9
LIT Litokhoron 148.41 311 *e*P PKPbc 16 15 46.5 -1.4
ARSA Arzberg 148.57 328⇑*i*P PKPbc 16 15 48.4 +0.1
comp=Z,12nm,1.1s
ARSA Arzberg 148.57 328⇑*i*P PKPbc 16 15 48.4 +0.1
GRA1 Grafenberg Arr 148.64 335 *e*PKPbc PKPbc 16 15 47.9 -0.6
GRA1 *e*PKPab PKPab 16 15 52.5 0.0
GRA1 *ep*PKPbc pPKPbc 16 16 28.5 +3.0
GRF Grafenberg Arr 148.64 335 *e*PKPbc PKPbc 16 15 47.9 -0.6
GRF *e*PKPab PKPab 16 15 52.5 0.0
GRF *ep*PKPbc pPKPbc 16 16 28.5 +3.0
MOA Molln 148.75 330⇑*i*P PKPbc 16 15 48.1 -0.7
comp=Z,14nm,1.1s
FNA Florina 148.88 313 *e*P PKPbc 16 15 48.0 -1.0
AGG Agios Georgios 148.96 309 *e*P PKPdf 16 15 44.8 -0.3
OHR Ohrid 149.11 314 *i*PKP PKPbc 16 15 48.5 -1.2
PERS Pernice 149.20 327 *e*PKPbc PKPbc 16 15 48.5 -1.3
TNS Taunus Mts 149.21 339 *e*PKPbc PKPbc 16 15 49.1 -0.8
SISC Sisak 149.33 325 *i*PKP PKPbc 16 15 49.8 -0.4
MEV Metsovon 149.42 311 *e*P PKPbc 16 15 50.7 +0.3
CRES Cresnjev 149.58 326 *i*PKPbc PKPbc 16 15 50.2 -0.6
PDKS Podkum 149.65 327 *e*PKPbc PKPbc 16 15 50.4 -0.6
KBA Koelnbreinsper 149.74 330⇑*i*P PKPbc 16 15 49.8 -1.4
comp=Z,22nm,1.2s
FUR Furstenfeldbru 149.83 333 *e*PKPbc PKPbc 16 15 50.7 -0.7
FUR *e*PKPab PKPab 16 15 57.4 +0.1
FUR *ep*PKPbc pPKPbc 16 16 30.7 +2.2
FUR Furstenfeldbru 149.83 333 *e*PKHKP 16 15 50.7
FUR *e* 16 15 57.4
BOJS Bojanci 149.90 326 *e*PKPdf PKPdf 16 15 47.5 +0.9
BOJS *i*PKPbc PKPbc 16 15 51.0 -0.6
BOJS *e*PKPab PKPab 16 15 57.5 -0.1
LJU Ljubljana 149.90 327 *e*PKPdf PKPdf 16 15 46.0 -0.6
LJU *e*PKPbc PKPbc 16 15 50.8 -0.8
LJU *i*PKPab PKPab 16 15 57.0 -0.7
IGT Igoumenitsa 150.15 312 *e*P PKPbc 16 15 52.0 -0.2
STU Stuttgart 150.16 336 *e*PKPbc PKPbc 16 15 51.3 -0.9
VOY Vojsko 150.23 328 *e*PKPbc PKPbc 16 15 51.0 -1.4
JAVS Javornik 150.24 327 *e*PKPbc PKPbc 16 15 51.0 -1.4
GIVF Givet 150.43 343 *e*PKIKP PKPbc 16 15 51.0 -1.9
comp=Z,41nm,0.8s
WLF Walferdange 150.43 341 *e*PKPbc PKPbc 16 15 52.7 -0.2
WLF *e*PKPab PKPab 16 15 59.9 +0.1
WLF *ep*PKPbc pPKPbc 16 16 32.7 +2.7
WLF Walferdange 150.43 341 PKPbc PKPbc 16 15 52.8 -0.1
WLF E 16 15 57.6
WLF PKPab PKPab 16 15 59.9 +0.1
DOU Dourbes 150.50 343 PKPbc PKPbc 16 15 52.2 -0.8
MOTA Moosalm 150.54 332⇑*i*P PKPbc 16 15 52.0 -1.1
comp=Z,11nm,0.9s
SQTA Sankt Quirin 150.59 332⇑*i*P PKPbc 16 15 52.3 -0.9
comp=Z,12nm,1.0s
BAIF Baives 150.64 343 *e*PKIKP PKPbc 16 15 51.6 -1.7
BFO Black Forest 150.85 337 *e*PKPbc PKPbc 16 15 52.5 -1.3
BFO *e*PKPab PKPab 16 16 00.9 -0.6
DAVA Damuels 151.10 334⇑*i*P PKPbc 16 15 53.6 -0.9
comp=Z,21nm,0.7s
DAVA Damuels 151.10 334⇑*i*P PKPbc 16 15 53.6 -0.9
CDF Champ du Feu 151.15 338 *e*PKIKP PKPbc 16 15 52.6 -1.9
comp=Z,19nm,0.9s
HINF Hinterlafeld 151.81 338 *e*PKIKP PKPbc 16 15 53.9 -2.2
HAU Haudompre 151.82 339 *e*PKIKP PKPbc 16 15 54.1 -2.0
comp=Z,14nm,0.8s
FLN La Foliniere 152.92 348 *e*PKIKP PKPbc 16 15 53.6 -4.9
LDF La Druitiere 153.02 348 *e*PKIKP PKPbc 16 15 54.3 -4.4
GRR Gorron 153.35 349 *e*PKIKP PKPbc 16 15 54.6 -4.9
LPG La Plagne 153.81 335 *e*PKIKP PKPbc 16 15 59.1 -1.4
SMF Signal de Mont 153.83 341 *e*PKIKP PKPbc 16 15 55.2 -5.3
AVF Avril sur Loir 153.84 341 *e*PKIKP PKPbc 16 15 55.0 -5.5
PBRG Braganca 160.58 356 *e*PKPab PKPab 16 16 42.3 -0.9
PVRL Vila Real 161.15 358 *e*PKPab PKPab 16 16 45.1 -0.6
PVIS Viseu 161.72 359 *e*PKPab PKPab 16 16 47.3 -0.9
MTE Manteigas 162.02 358 *e*PKPab PKPab 16 16 49.1 -0.4
ESDC Sonseca Array 162.34 349 PKPab PKPab 16 16 49.9 -1.1
comp=Z,3.6nm,0.7s,baz=11,slow=3.0,SNR=13
DBIC Dimbokro 164.00 193 PKP PKPdf 16 16 04.0 -0.4
comp=Z,2.9nm,0.8s,baz=90,slow=6.1,SNR=3.1
DBIC PKPab PKPab 16 16 57.8 -0.4
comp=Z,4.2nm,0.7s,baz=152,slow=4.4,SNR=8.0
TORD Torodi Ar. Bea 166.67 228 PKP PKPdf 16 16 06.2 -0.4
comp=Z,5.8nm,1.0s,baz=350,slow=0.8,SNR=18
TORD PKPab PKPab 16 17 10.6 +0.6
comp=Z,17nm,0.9s,baz=119,slow=4.3,SNR=34

*ISCJB **08** 15:57:44.4±1.8, 4089N±009×75.13E±009, h10km, Error ellipse: s-maj=12.9km s-min=10.1km az=165.8*
*KNET **08** 15:57:44.8±0.7, 4104N×7509E, h9km±4km, ml2.0, Error ellipse: s-maj=4.4km s-min=3.9km az=137.0*
*NNC **08** 15:57:48.1±8.4, 4109N×75.14E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=85.5km s-min=36.3km az=120.0*
ISC 08 15:57:45.1±1.8, 4092N±009×7513E±010, h10km, n9, σ1§14/15, 8C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**1.16**	**4**	⇓P	**Pb**	**15 58 05.2**	**-2.1**
	11nm,0.2s,SNR=41						
KZA				⇓S	**Sb**	**15 58 20.9**	**-1.4**
	18nm,0.2s						
UCH	**Uchtor**	**1.38**	**341**	⇑P	**Pn**	**15 58 09.4**	**-1.1**
	4.1nm,0.1s,SNR=34						
UCH				⇑S	**Sb**	**15 58 28.0**	**-0.8**
	25nm,0.2s						
ULHL	**Ulahol**	**1.56**	**32**	⇑P	**Pn**	**15 58 12.4**	**-0.6**
	6.2nm,0.1s,SNR=9.1						
ULHL				⇑S	**Sn**	**15 58 33.6**	**+0.3**
	7.9nm,0.1s						
AML	**Almayashu**	**1.62**	**319**	⇑P	**Pn**	**15 58 13.2**	**-0.5**
	5.4nm,0.2s,SNR=16						
AML				⇓S	**Sn**	**15 58 34.6**	**0.0**
	11nm,0.2s						
KBK	**Karagaybulak**	**1.74**	**356**	⇑P	**Pn**	**15 58 16.0**	**+0.6**
	11nm,0.1s,SNR=9.0						
KBK				⇑S	**Sn**	**15 58 39.4**	**+1.9**
	41nm,0.3s						
AAK	**Ala-Archa**	**1.77**	**345**	⇓P	**Pn**	**15 58 16.7**	**+0.9**
	2.9nm,0.2s,SNR=9.6						
AAK				⇓S	**Sn**	**15 58 39.9**	**+1.4**
	13nm,0.3s						
TKM2	**Tokmak 2**	**2.03**	**10**	P	**Pn**	**15 58 21.2**	**+1.8**
	SNR=13						
TKM2	**Tokmak 2**	**2.03**	**10**	⇑Pn	**Pn**	**15 58 20.5**	**+1.1**
	6.6nm,0.3s						
TKM2				⇓Lg		15 58 47.3	
	6.0nm,0.4s						
KK31	**Karatay Array**	**4.07**	**304**	⇓Pn	**Pn**	**15 58 56.7**	**+9.2**
	0.2nm,0.3s,baz=132,slow=16,SNR=6.3						
KK31				⇓Lg		15 59 49.3	
	0.5nm,0.4s,baz=125,slow=28,SNR=6.7						

*CSEM **08** 16:15:04.9±0.3, 3243N×609W, h2km, ML3.0/4, Error ellipse: s-maj=9.6km s-min=4.3km az=125.0*
*ISCJB **08** 16:15:05.1±1.1, 3263N±004×633W±005, h4km±9km, Error ellipse: s-maj=9.7km s-min=4.3km az=89.4*
*MDD **08** 16:15:06.6±0.5, 3252N×622W, h0km, mb4.1/3, Error ellipse: s-maj=8.0km s-min=3.0km az=140.0, PRXIMO*
*CNRM **08** 16:15:06.7, 3253N×622W, h0km, MD3.3*
ISC 08 16:15:06.1±0.9, 3259N±007×627W±009, h5km±10km, n19, σ1§14/34, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIB	**El Ksiba**	**0.20**	**93**	P	**Pg**	**16 15 08.5**	**-1.5**
KIB				S	**Sg**	**16 15 13.0**	**+0.4**
KIB	**El Ksiba**	**0.20**	**93**	*i*P	**Pg**	**16 15 08.5**	**-1.5**
TZC	**Tazercounte**	**0.47**	**203**	P	**Pg**	**16 15 14.0**	**-1.3**
TZC				S	**Sg**	**16 15 22.0**	**+0.5**
TZC	**Tazercounte**	**0.47**	**203**	*i*P	**Pg**	**16 15 14.0**	**-1.3**
CZD	**Col de Zad**	**1.13**	**66**	*i*P	**Pg**	**16 15 27.0**	**-0.7**
CZD				*i*S	**Sg**	**16 15 42.0**	**-0.3**
MIF	**Mishlifen**	**1.20**	**47**	*i*P	**Pb**	**16 15 29.0**	**-0.3**
MIF				*i*S	**Sb**	**16 15 46.0**	**+0.9**
OUK	**Oukaimeden**	**1.93**	**225**	*i*P	**Pn**	**16 15 40.0**	**+0.5**
OUK				*i*S	**Sn**	**16 16 04.5**	**+0.3**
CIA	**Chichaoua**	**2.34**	**245**	P	**Pn**	**16 15 45.0**	**-0.2**
CIA				S	**Sn**	**16 16 13.0**	**-1.4**
CIA	**Chichaoua**	**2.34**	**245**	*i*P	**Pn**	**16 15 45.0**	**-0.2**
EGRO	**El Granado**	**5.04**	**349**	P	**Pn**	**16 16 23.9**	**+1.7**
	2.9nm,0.3s,SNR=4.7						
EGRO				S	**Sn**	**16 17 20.5**	**-0.3**
	1.1nm,0.2s						
EGRO	**El Granado**	**5.04**	**349**	Pn	**Pn**	**16 16 23.9**	**+1.7**
	2.9nm,0.3s,SNR=4.7						
EGRO				Sn	**Sn**	**16 17 20.5**	**-0.2**
	1.1nm,0.2s						
EMIN	**Mina Concepcio**	**5.18**	**356**	P	**Pn**	**16 16 25.2**	**+1.0**
	0.4nm,0.2s,SNR=6.3						
EMIN				S	**Sn**	**16 17 23.0**	**-1.3**
	0.4nm,0.2s						
EMIN	**Mina Concepcio**	**5.18**	**356**	Pn	**Pn**	**16 16 25.2**	**+1.0**
	0.4nm,0.2s,SNR=6.3						
EMIN				Sn	**Sn**	**16 17 23.0**	**-1.3**
	0.4nm,0.2s						
ECAB	**El Cabril**	**5.52**	**7**	P	**Pn**	**16 16 30.8**	**+1.9**
	SNR=7.9						
ECAB				S	**Sn**	**16 17 32.1**	**-0.6**
	2.3nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**5.52**	**7**	Pn	**Pn**	**16 16 30.8**	**+1.9**
	SNR=7.9						
ECAB				Sn	**Sn**	**16 17 32.1**	**-0.6**
	2.3nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**5.74**	**13**	P	**Pn**	**16 16 32.7**	**+0.9**
	1.3nm,0.2s,SNR=4.8						
EADA				S	**Sn**	**16 17 35.8**	**-2.2**
	1.4nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**5.74**	**13**	Pn	**Pn**	**16 16 32.7**	**+0.8**
	1.3nm,0.2s,SNR=4.8						
EADA				Sn	**Sn**	**16 17 35.8**	**-2.2**
	1.4nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**6.18**	**355**	P	**Pn**	**16 16 39.9**	**+1.9**
	2.6nm,0.3s,SNR=7.5						
EBAD				S	**Sn**	**16 17 45.4**	**-3.6**
	0.9nm,0.2s						
EBAD	**Badajoz**	**6.18**	**355**	Pn	**Pn**	**16 16 39.9**	**+1.9**
	2.6nm,0.3s,SNR=7.5						

IDC 08 16:17:25.1±3.7, 799N×9329E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=143.1km s-min=24.3km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.80**	**348**	P	P	16 24 59.7	-0.1
	0.2nm,0.6s,baz=166,slow=6.4,SNR=4.3						
SONM	**Songino Array**	**41.24**	**13**	P	P	16 25 11.9	+0.2
	0.3nm,0.9s,baz=190,slow=7.3,SNR=2.9						
WRA	**Warramunga Arr**	**49.02**	**125**	P	P	16 26 13.7	+0.1
	0.3nm,0.5s,baz=300,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**50.64**	**129**	P	P	16 26 26.7	+0.8
	0.2nm,0.6s,baz=301,slow=7.7,SNR=9.0						

*ISCJB **08** 16:27:28.6±0.8, 1494S±009×7197W±009, h121km±11km, mb3.9/5, Error ellipse: s-maj=17.4km s-min=12.7km az=80.0*
*NEIC **08** 16:27:29.3±0.9, 1495S×7200W, h111km±10km, mb4.7/4, Error ellipse: s-maj=15.1km s-min=11.0km az=223.0*
*IDC **08** 16:27:33.6±3.3, 1518S×7182W, h151km±29km, mb3.6/4, mb1 3.8/7, mb1mx3.6/21, mbtmp4.1/7, Error ellipse: s-maj=39.2km s-min=23.0km az=60.0*
ISC 08 16:27:29.6±0.8, 1493S±009×7195W±009, h113km±11km, n19, σ1§11/22, mb3.9/5, 2C-1D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.59**	**164**	⇑*i*P	**Pn**	**16 27 57.8**	**+0.2**
ARE				*i*S	**Sn**	**16 28 19.7**	**+0.7**
LPAZ	**La Paz**	**3.92**	**111**	P	**Pn**	**16 28 30.9**	**+3.0**
	6.7nm,0.3s,baz=302,slow=11,SNR=96						
LPAZ				S	**Sn**	**16 29 18.1**	**+5.0**
	0.6nm,0.3s,baz=199,slow=22,SNR=2.5						
LPAZ	**La Paz**	**3.92**	**111**	⇑*e*Pn	**Pn**	**16 28 31.0**	**+3.0**
LPAZ				S	**Sn**	**16 29 18.1**	**+5.0**
NNA	**Nana**	**5.58**	**301**	*e*Pn	**Pn**	**16 28 49.1**	**-1.2**
	110nm,0.3s						
NNA				*e*Sn	**Sn**	**16 29 48.3**	**-4.8**
SAML	**Samuel**	**10.43**	**56**	⇓*e*P	**Pn**	**16 29 55.0**	**-0.9**
	13nm,0.6s						
SIV	**San Ignacio**	**10.54**	**97**	P	**Pn**	**16 29 57.2**	**-0.3**
	0.7nm,0.3s,baz=282,slow=12,SNR=30						
SIV				S	**Sn**	**16 31 48.7**	**-4.9**
	0.4nm,0.3s,baz=8.9,slow=12,SNR=3.1						
CFAA	**Coronel Fontan**	**16.95**	**169**	P	**Pn**	**16 31 18.7**	**-1.1**
	0.0nm,0.3s,baz=351,slow=12,SNR=4.7						
CFAA	**Coronel Fontan**	**16.95**	**169**	P	**Pn**	**16 31 18.7**	**-1.1**
CPUP	**Villa Florida**	**17.76**	**132**	P	**Pn**	**16 31 28.1**	**-1.5**
	0.8nm,0.3s,baz=293,slow=10,SNR=15						
CPUP	**Villa Florida**	**17.76**	**132**	*e*P	**Pn**	**16 31 28.6**	**-1.0**
SDV	**Santo Domingo**	**23.69**	**3**	P	**P**	**16 32 35.4**	**+4.4**
	6.3nm,0.6s,mb4.1,baz=200,slow=15,SNR=15						
SDV	**Santo Domingo**	**23.69**	**3**	P	**P**	**16 32 31.4**	**+0.5**
	5.3nm,0.5s,mb4.1						
SDCO	**Great Sand Dun**	**61.14**	**330**	*e*P	**P**	**16 37 33.7**	**+1.7**
	3.6nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	**66.99**	**331**	P	**P**	**16 38 11.5**	**+1.3**
	0.7nm,0.6s,mb3.6,baz=115,slow=8.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**78.04**	**73**	P	**P**	**16 39 15.4**	**-0.3**
	0.5nm,0.4s,mb3.6,baz=252,slow=4.6,SNR=12						
YKA	**Yellowknife Ar**	**84.06**	**342**	P	**P**	**16 39 47.2**	**-0.4**
	0.8nm,0.6s,mb3.8,baz=133,slow=5.1,SNR=20						
YKA				pP	pP	16 40 22.4	+5.8
	0.3nm,0.7s,baz=134,slow=5.6,SNR=1.9						
YKA	**Yellowknife Ar**	**84.06**	**342**	P	**P**	**16 39 47.2**	**-0.4**
YKA				pP	pP	16 40 22.4	+5.8
WRA	**Warramunga Arr**	**136.77**	**217**	PKP	PKPdf	16 46

ASAR Alice Springs 78.94 112 P P 16 45 29.1 +0.3
0.3nm,0.9s,baz=223,slow=4.8,SNR=5.0

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*ISCJB **08** 16:46:43.7±0.4,4937N±002×685E±003,h0km,Error ellipse: s-maj=3.3km s-min=2.4km az=5.2*
*CSEM **08** 16:46:45.6±0.1,4937N×688E,h1km,ML2.5/9,Error ellipse: s-maj=1.0km s-min=0.9km az=68.0*
*NEIC **08** 16:46:45.3,4938N×690E,h1km,ML1.9(SZGRF), ML2.6(LDG),After LDG.*
*LDG **08** 16:46:45.3±0.1,4938N×690E,h1km,Md2.5/1,Ml2.6/9, Error ellipse: s-maj=0.8km s-min=0.7km az=63.0, Suspected Mining induced.*
*BGR **08** 16:46:46.1±0.5,4937N×685E,h1km,ML1.9,Error ellipse: s-maj=7.8km s-min=4.4km az=33.0*
*BNS **08** 16:46:46.4±1.7,4940N×692E,h1km,ML1.5, Saarbruecken-West*

ISC 08 16:46:44.8±0.4,4937N±002×686E±004,h0km,n28, σ0§80/54,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.55**	**303**	*e*Pg	**Pg**	**16 46 56.4**	**+1.1**
WLF				*e*Sg	**Sg**	**16 47 02.6**	**+0.2**
BGG	**Burgeitz**	**0.89**	**20**	*e*Pg	**Pg**	**16 47 02.9**	**+1.0**
BGG				*e*Sg	**Sg**	**16 47 14.2**	**+0.8**
	9.7nm,0.3s						
HILG	**Hillesheim**	**0.93**	**353**	*e*Sg	**Sg**	**16 47 17.1**	**+2.5**
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn	**Pn**	**16 47 04.8**	**-1.3**
CDF				*e*Sg	**Sg**	**16 47 17.0**	**0.0**
	9.9nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn	**Pn**	**16 47 04.8**	**-1.3**
CDF				*e*Sg	**Sg**	**16 47 17.0**	**0.0**
	4.9nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg	**Pg**	**16 47 04.1**	**+0.1**
CDF				*e*Pn	**Pn**	**16 47 04.8**	**-1.3**
CDF				*e*Sg	**Sg**	**16 47 17.0**	**0.0**
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**16 47 07.6**	**+0.2**
	baz=48						
RFYF				*e*Sg	**Sg**	**16 47 23.5**	**+0.8**
	12nm,0.2s						
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**16 47 07.6**	**+0.2**
RFYF				*e*Sg	**Sg**	**16 47 23.5**	**+0.8**
	5.8nm,0.2s						
STB	**Steinbach**	**1.22**	**359**	*e*Pg	**Pg**	**16 47 08.2**	**-0.1**
STB				*e*Sg	**Sg**	**16 47 22.5**	**-1.6**
	7.7nm,0.7s						
KLL	**Kalltalsperre**	**1.32**	**345**	*e*Pg	**Pg**	**16 47 10.6**	**+0.3**
KLL				*e*Sg	**Sg**	**16 47 25.8**	**-1.6**
	3.7nm,0.5s						
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	**Pg**	**16 47 10.8**	**+0.4**
TNS				*e*Sg	**Sg**	**16 47 28.2**	**+0.5**
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**16 47 11.9**	**0.0**
HAU				*e*Sg	**Sg**	**16 47 30.2**	**0.0**
	16nm,0.3s						
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**16 47 11.9**	**0.0**
HAU				*e*Sg	**Sg**	**16 47 30.2**	**0.0**
	7.8nm,0.3s						
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	**Pg**	**16 47 12.3**	**+0.2**
BFO				*e*Sg	**Sg**	**16 47 30.9**	**+0.3**
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	**Pg**	**16 47 12.3**	**+0.2**
BFO				*e*Sg	**Sg**	**16 47 30.9**	**+0.3**
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**16 47 13.4**	**+0.2**
MEZF				*e*Sg	**Sg**	**16 47 32.7**	**+0.4**
	6.9nm,0.3s						
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**16 47 13.4**	**+0.2**
MEZF				*e*Sg	**Sg**	**16 47 32.7**	**+0.4**
	3.5nm,0.3s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**16 47 13.6**	**-0.2**
GIVF				*e*Sg	**Sg**	**16 47 33.8**	**+0.4**
	7.0nm,0.2s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**16 47 13.6**	**-0.2**
GIVF				*e*Sg	**Sg**	**16 47 33.8**	**+0.4**
	3.5nm,0.2s						
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	**16 47 14.7**	**0.0**
HINF				*e*Sg	**Sg**	**16 47 35.0**	**+0.1**
	29nm,0.2s						
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	**16 47 14.7**	**0.0**
HINF				*e*Sg	**Sg**	**16 47 35.0**	**+0.1**
	15nm,0.2s						
HOBG	**Hohbusch**	**1.64**	**10**	*e*Pg	**Pg**	**16 47 14.3**	**-2.0**
HOBG				*e*Sg	**Sg**	**16 47 33.0**	**-4.6**
	11nm,0.7s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pg	**Pg**	**16 47 16.8**	**-0.2**
	baz=47						
SFTF				*e*Sg	**Sg**	**16 47 38.8**	**0.0**
	3.7nm,0.3s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pg	**Pg**	**16 47 16.8**	**-0.2**
SFTF				*e*Sg	**Sg**	**16 47 38.8**	**0.0**
	1.9nm,0.3s						
BAIF	**Baives**	**1.85**	**293**	*e*Pg	**Pg**	**16 47 20.4**	**0.0**
BAIF				*e*Sg	**Sg**	**16 47 44.3**	**-0.2**
	2.4nm,0.2s						
BAIF	**Baives**	**1.85**	**293**	*e*Pg	**Pg**	**16 47 20.4**	**0.0**
BAIF				*e*Sg	**Sg**	**16 47 44.3**	**-0.2**
	1.2nm,0.2s						
LOR	**Lormes**	**2.91**	**225**	*e*Pn	**Pn**	**16 47 31.3**	**-1.0**
	baz=51						
SSF	**Saint Saulge**	**3.22**	**225**	*e*Pn	**Pn**	**16 47 35.7**	**-1.0**

CASC 08 17:16:57.8±2.4,1141N×8608W,h172km±8km,MD3.8, ML3.4,13C-6D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.26**	**117**	↑*e*P	Pn	17 17 21.3	+0.5
SSNN				*e*S	Sn	17 17 36.7	-1.8
CONN	**Concepcion**	**0.48**	**71**	↑*e*P	Pn	17 17 21.4	-0.1
APON	**Apoyo**	**0.51**	**2**	↑*e*P	Pn	17 17 21.7	0.0
MADN	**Villa Maderas**	**0.54**	**90**	↓*e*P	Pn	17 17 22.3	+0.5
TICN	**Ticuantepe**	**0.64**	**347**	↑*e*P	Pn	17 17 22.7	+0.4
MGAN	**Managua**	**0.75**	**348**	↑*e*P	Pn	17 17 23.1	+0.2
MGAN				*e*S	Sn	17 17 43.1	+0.8
	comp=N,358nm,0.4s						
MGAN				*i*		17 17 45.4	
	comp=E,351nm,0.6s						
WILN	**Americas 2**	**0.76**	**352**	↑*e*P	Pn	17 17 23.1	+0.1
WILN				*e*S	Sn	17 17 43.0	+0.7
XAVN	**Gruta Xavier**	**0.78**	**342**	↑*e*P	Pn	17 17 23.4	+0.3
XAVN				*e*S	Sn	17 17 44.6	+2.1
APYN	**Apoyeque**	**0.86**	**342**	↓*e*P	Pn	17 17 23.9	+0.3
COPN	**Copaltepe**	**0.92**	**327**	↓*e*P	Pn	17 17 24.0	-0.1
COPN				*e*S	Sn	17 17 43.3	-0.9
MOMJ	**Momotombo**	**1.09**	**336**	↑*e*P	Pn	17 17 25.3	-0.1
MOMJ				*e*S	Sn	17 17 48.5	+1.9
MIRN	**Miramar**	**1.20**	**329**	↓*e*P	Pn	17 17 26.4	+0.2
CNGN	**Cerro Negro**	**1.24**	**331**	↑*e*P	Pn	17 17 26.5	-0.1
CNGN				*e*S	Sn	17 17 49.9	+1.0
LEON	**Leon**	**1.28**	**322**	↑*e*P	Pn	17 17 27.1	+0.1
VCR	**Vista de Mar**	**1.35**	**161**	↑*i*P	Pn	17 17 29.0	+1.4
TEL3	**Telica 3**	**1.38**	**327**	↑*i*P	Pn	17 17 28.3	+0.4
TEL3				*e*S	Sn	17 17 51.2	+0.2
TELN	**Telica**	**1.40**	**329**	↓*e*P	Pn	17 17 28.5	+0.4
TELN				*e*S	Sn	17 17 53.7	+2.3
CRIN	**San Cristobal**	**1.60**	**324**	↑*e*P	Pn	17 17 30.4	+0.4
CGA2	**Cerro Gallo 2**	**2.11**	**131**	↓*e*P	Pn	17 17 36.4	+0.9
PRS1	**Puriscal**	**2.24**	**129**	*e*P	Pn	17 17 38.1	+1.1
LAJ	**Bijagual**	**2.46**	**128**	*e*P	Pn	17 17 38.0	-1.6
LCR2	**La Lucha 2**	**2.63**	**129**	*e*P	Pn	17 17 41.8	+0.3
BUS	**Buena Vista**	**2.94**	**129**	*e*P	Pn	17 17 45.9	+0.7

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*ISCJB **08** 17:27:53.9±1.1,224S±0.1×679W±02,h107km±23km, mb3.9/2,Error ellipse: s-maj=35.2km s-min=10.5km az=56.5*
*GUC **08** 17:27:57.3±0.8,2241S×6845W,h140km,ML4.0*
*IDC **08** 17:28:06.9±9.2,2121S×6793W,h190km±68km,mb3.6/2, mb1 3.4/5,mb1mx3.3/15,mbtmp4.0/5,Error ellipse: s-maj=117.3km s-min=32.9km az=5.0*

ISC 08 17:27:55.1±0.8,224S±01×679W±01,h94km±18km,n11, σ1§06/13,mb3.9/2,2C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.36**	**244**	*e*P	**Pn**	**17 28 33.9**	**+1.8**
CEN1				*i* S	**Sn**	**17 29 01.2**	**+0.6**
CEN1				AMP		17 29 07.8	
	comp=N,504nm,0.8s						
ANCH	**Antofagasta**	**2.67**	**240**	↑*i*P	**Pn**	**17 28 31.9**	**-4.3**
ANCH				*i* S	**Sn**	**17 29 01.1**	**-6.6**
ANCH				AMP		17 29 04.3	
	comp=N,686nm,0.1s						
CPN1	**Cerro Paranal**	**3.22**	**225**	↑*i*P	**Pn**	**17 28 44.4**	**+0.8**
CPN1				*e*S	**Sn**	**17 29 20.1**	**-1.0**
CPN1				AMP		17 29 32.0	
	comp=E,338nm,0.4s						
CRCH	**Chaqaral**	**4.67**	**212**	*i* S	**Sn**	**17 29 55.1**	**-1.1**
CRCH				AMP		17 29 58.1	
	comp=N,168nm,0.5s						
LPAZ	**La Paz**	**6.06**	**358**	P	**Pn**	**17 29 20.9**	**-1.2**
	comp=N,1.1nm,0.3s,baz=206,slow=9.6,SNR=27						
SIV	**San Ignacio**	**9.04**	**47**	P	**Pn**	**17 30 02.8**	**+0.2**
	comp=N,1.8nm,0.3s,baz=239,slow=11,SNR=30						
SIV				S	**Sn**	**17 31 39.0**	**-3.6**
	comp=N,0.4nm,0.3s,baz=110,slow=23,SNR=7.5						
BDFB	**Brasilia**	**19.93**	**74**	P	**Pn**	**17 32 22.9**	**+1.1**
	comp=N,0.3nm,0.3s,baz=243,slow=14,SNR=3.4						
DBIC	**Dimbokro**	**68.08**	**73**	P	**P**	**17 38 44.6**	**+0.1**
	comp=N,1.3nm,0.5s,mb4.0,baz=209,slow=10,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.76**	**70**	P	**P**	**17 39 35.7**	**-0.4**
	comp=N,0.6nm,0.4s,mb3.7,baz=259,slow=5.6,SNR=11						
YKA	**Yellowknife Ar**	**92.33**	**340**	pP	pP	17 41 25.1	+5.4
	comp=N,0.1nm,0.3s,baz=134,slow=4.9,SNR=6.7						
MKAR	**Makanchi Array**	**145.76**	**37**	PKP	PKPdf	17 47 20.8	-1.8
	comp=N,0.3nm,0.5s,baz=341,slow=3.7,SNR=6.0						

IDC 08 17:38:05.7±2.5,255N×12757E,h0km,mb3.2/3,mb1 3.4/3, mb1mx3.3/15,mbtmp3.2/3,MS3.3/1,Ms1 3.3/1, ms1mx2.4/9,Error ellipse: s-maj=192.2km s-min=26.9km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**164**	P	P	17 43 15.8	+0.4
	0.3nm,0.3s,baz=343,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**26.78**	**167**	P	P	17 43 47.0	-0.2
	0.2nm,0.6s,baz=348,slow=7.2,SNR=7.3						
HNR	**Honiara**	**34.39**	**111**	LR	LR	17 59 20.9	
	comp=Z,48nm,18.2s,baz=183,slow=37						
MKAR	**Makanchi Array**	**59.00**	**325**	P	P	17 48 07.7	+0.6
	0.1nm,0.4s,baz=122,slow=8.1,SNR=4.2						

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*ISCJB **08** 17:38:22.5±2.1,1997S±006×1699E±0.1,h36km±17km, mb4.3/11,Error ellipse: s-maj=17.9km s-min=10.2km az=9.1*
*SZGRF **08** 17:38:23.3,2059S×1691E,h33km,Vanuatu Islands*
*LDG **08** 17:38:24.0±0.4,1870S×16838E,h10km,Mb4.5/1,Ms4.1/1, Error ellipse: s-maj=53.2km s-min=38.2km az=47.0*
*BJI **08** 17:38:32.0,2010S×16970E,h113km,mB5.0,mb4.7*
*IDC **08** 17:38:32.6±3.8,2023S×16963E,h112km±31km,mb3.8/7, mb1 3.9/9,mb1mx3.8/16,mbtmp4.2/9,MS3.2/2,Ms1 3.2/2, ms1mx2.7/20,Error ellipse: s-maj=32.5km s-min=26.3km az=9.0*
*NEIC **08** 17:38:33.0±1.9,2012S×16966E,h114km±15km,mb4.2/2, Error ellipse: s-maj=17.3km s-min=10.6km az=47.0*

ISC 08 17:38:23.8±1.9,1995S±006×1699E±01,h37km±16km,n54, σ0§92/20,mb4.3/11,6C-2D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.77**	**325**	↑*i*P	**Pn**	**17 39 05.0**	**-0.6**
BKM				S	**Sn**	**17 39 37.7**	**-0.2**
DZM	**Mont Dzumac**	**3.88**	**236**	P	**Pn**	**17 39 27.1**	**+6.2**
	41nm,0.3s,baz=46,slow=19,SNR=502						
DZM				S	**Sn**	**17 40 05.5**	**+0.4**
	39nm,0.3s,baz=100,slow=16,SNR=6.2						
DZM				LR	LR	17 40 17.2	
	comp=Z,135nm,19.7s,baz=34,slow=30						
RAO	**Raoul Island**	**14.41**	**132**	LR	LR	17 45 34.3	
	comp=Z,214nm,20.8s,baz=225,slow=29						
URZ	**Urewera**	**19.28**	**163**	P	**Pn**	**17 42 47.3**	**+0.8**
	0.6nm,0.3s,baz=326,slow=3.6,SNR=2.3						
CTA	**Charters Tower**	**22.24**	**266**	P	**P**	**17 43 18.2**	**+1.0**
	2.7nm,0.4s,mb4.0,baz=88,slow=12,SNR=13						
CTAO	**Charters Tower**	**22.24**	**266**	*e*P	**P**	**17 43 18.4**	**+1.1**
	3.1nm,0.4s,mb4.1						
PMG	**Port Moresby**	**24.36**	**292**	P	**P**	**17 43 39.5**	**+1.4**
	4.9nm,1.0s,mb3.9,baz=162,slow=6.4,SNR=3.6						
STKA	**Stephens Creek**	**28.02**	**239**	P	**P**	**17 44 10.0**	**-1.3**
	1.3nm,0.6s,mb3.8,baz=101,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**33.41**	**264**	P	**P**	**17 44 57.5**	**-1.3**
	0.4nm,0.6s,mb3.6,baz=96,slow=8.2,SNR=7.0						
WRA				PcP	PcP	17 47 38.8	-0.9
	0.2nm,0.5s,baz=94,slow=3.4,SNR=5.5						
ASAR	**Alice Springs**	**33.59**	**257**	P	**P**	**17 44 59.8**	**-0.6**
	6.1nm,0.5s,mb4.8,baz=86,slow=9.2,SNR=174						
ASAR				PcP	PcP	17 47 39.0	-1.2
	0.8nm,0.9s,baz=103,slow=3.0,SNR=5.4						
QSPA	**South Pole Qui**	**70.11**	**180**	*e*P	**P**	**17 49 33.2**	**+1.0**
	6.3nm,0.8s,mb4.6						
CN2	**Changchun**	**75.40**	**328**	*e*P	**P**	**17 50 04.3**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**81.18**	**319**	*e*P	**P**	**17 50 39.0**	**+3.4**
HHC				AMB	AMB		
	comp=Z,6.0nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,83nm,5.7s						
GTA	**Gaotai**	**88.08**	**313**	*e*P	**P**	**17 51 10.6**	**+0.2**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.5						
SONM	**Songino Array**	**88.17**	**323**	P	**P**	**17 51 11.5**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.3,baz=137,slow=4.5,SNR=14						
SNAA	**Sanae**	**88.48**	**182**	↑*i*	**P**	**17 51 11.0**	**-1.3**
VNA3	**Neumayer Olymp**	**89.05**	**180**	↑*i*	**P**	**17 51 14.1**	**-0.8**
VNA2	**Neumayer--Watz**	**89.35**	**181**	↑*i*	**P**	**17 51 16.1**	**-0.3**
	baz=184,slow=4.8						
ILAR	**Eielson Array**	**90.72**	**17**	P	**P**	**17 51 22.4**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.9,baz=238,slow=5.4,SNR=9.4						
ARCES	**ARCESS Array B**	**125.92**	**345**	PKP	PKPdf	17 57 20.7	-1.0
	comp=Z,1.9nm,0.9s,baz=74,slow=2.8,SNR=18						
WERD	**Werda**	**144.78**	**335**	*e*PKPbc	PKPdf	17 57 56.0	-0.6
NKC	**Novy Kostel**	**144.89**	**335**	*e*PKP	PKPdf	17 57 56.9	+0.1
MOX	**Moxa**	**144.89**	**336**	*e*PKPbc	PKPdf	17 57 56.3	-0.5
MANZ	**Manzenberg**	**145.22**	**335**	*e*PKPbc	PKPbc	17 57 57.8	+0.7
KHC	**Kasperske Hory**	**145.26**	**332**	*e*PKP	PKPdf	17 57 57.8	+0.3
ROTZ	**Rotzenmuhle**	**145.35**	**334**	*e*PKPbc	PKPbc	17 57 58.3	+0.8
GEC2	**GERESS Array S**	**145.42**	**332**	*e*PKPbc	PKPbc	17 57 58.2	+0.5
GERES	**GERESS Array B**	**145.42**	**332**	PKPbc	PKPbc	17 57 57.9	+0.2
	comp=Z,4.5nm,0.7s,baz=35,slow=3.3,SNR=35						
WET	**Wettzell**	**145.55**	**333**	*e*PKPbc	PKPbc	17 57 58.5	+0.3
GRA1	**Grafenberg Arr**	**145.81**	**335**	*e*PKPbc	PKPbc	17 57 59.6	+0.7
GRF	**Grafenberg Arr**	**145.81**	**335**	*e*PKPbc	PKPbc	17 57 59.6	+0.7
MOA	**Molln**	**145.90**	**330**	↑*i*P	PKPdf	17 57 59.2	+0.6
	comp=Z,4.7nm,0.6s						
KBA	**Koelnbreinsper**	**146.88**	**330**	↓*i*P	PKPdf	17 58 02.0	+1.7
	comp=Z,4.0nm,0.8s						
WLF	**Walferdange**	**147.64**	**340**	*e*PKPbc	PKPbc	17 58 05.4	+1.2
GIVF	**Givet**	**147.66**	**342**	*e*PKP1	PKPbc	17 58 04.2	-0.1
	comp=Z,16nm,0.6s						
MOTA	**Moosalm**	**147.69**	**333**	↑*i*P	PKPbc	17 58 04.4	0.0
	comp=Z,3.6nm,0.8s						
SQTA	**Sankt Quirin**	**147.74**	**332**	↓*i*P	PKPbc	17 58 04.9	+0.4
	comp=Z,5.5nm,0.8s						
BAIF	**Baives**	**147.88**	**343**	*e*PKP1	PKPbc	17 58 04.9	0.0
	comp=Z,13nm,0.8s						
BFO	**Black Forest**	**148.02**	**337**	*e*PKPbc	PKPbc	17 58 05.5	+0.2
CDF	**Champ du Feu**	**148.34**	**338**	*e*PKP1	PKPbc	17 58 05.8	-0.3
	comp=Z,5.7nm,0.6s						
MEZF	**Maizieres J'vi**	**149.01**	**340**	*e*PKP1	PKPbc	17 58 07.9	+0.1
HAU	**Haudompre**	**149.01**	**338**	*e*PKP1	PKPbc	17 58 07.8	0.0
	comp=Z,23nm,0.9s						
FLN	**La Foliniere**	**150.24**	**347**	*e*PKP1	PKPbc	17 58 10.3	-0.5
CABF	**La Chapelle**	**150.29**	**337**	*e*PKP1	PKPbc	17 58 11.2	+0.2
	comp=Z,11nm,0.7s						
LDF	**La Druitiere**	**150.32**	**347**	*e*PKP1	PKPbc	17 58 10.5	-0.5
	comp=Z,12nm,0.7s						
LOR	**Lormes**	**150.48**	**341**	*e*PKP1	PKPbc	17 58 11.1	-0.3
	comp=Z,13nm,0.7s						
GRR	**Gorron**	**150.67**	**347**	*e*PKP1	PKPbc	17 58 11.6	-0.3
SSF	**Saint Saulge**	**150.77**	**341**	*e*PKP1	PKPbc	17 58 11.9	-0.2
LPL	**La Plagne**	**150.97**	**335**	*e*PKP1	PKPbc	17 58 12.8	+0.2
	comp=Z,9.8nm,0.9s						
LPG	**La Plagne**	**150.98**	**335**	*e*PKP1	PKPbc	17 58 13.0	+0.4
	comp=Z,11nm,0.9s						
BGF	**Bois d'Agland**	**151.43**	**341**	*e*PKP1	PKPbc	17 58 13.9	+0.3
	comp=Z,14nm,0.7s						
MBDF	**Montbardon**	**151.60**	**334**	*e*PKP1	PKPbc	17 58 13.7	-0.3
ORIF	**Oris-en-Rattie**	**151.80**	**336**	*e*PKP1	PKPbc	17 58 14.4	-0.1
	comp=Z,19nm,1.0s						
TCF	**Toulx Ste Croi**	**151.86**	**342**	*e*PKP1	PKPbc	17 58 14.2	-0.4

GUC 08 17:56:29.5±0.6,3121S×6884W,h145km,MD3.5,ML3.4, 1C-2D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.85**	**270**	*e*P	Pn	17 57 03.3	+0.8
CMCH				*i* S	Sn	17 57 28.6	+0.7
CMCH				AMP		17 57 31.0	
	comp=E,515nm,0.6s						
FCH	**Farellones**	**2.44**	**210**	↓*i*P	Pn	17 57 12.2	+2.5
FCH				*i* S	Sn	17 57 43.8	+3.2
FCH				AMP		17 57 52.0	
	comp=E,87nm,0.2s						
PEL	**Peldehue**	**2.48**	**219**	*e*P	Pn	17 57 10.8	+0.6
PEL				*i* S	Sn	17 57 42.5	+1.1
PEL				AMP		17 57 44.6	
	comp=E,167nm,0.4s						
PCH	**Pirque**	**2.79**	**210**	*i* P	Pn	17 57 15.5	+1.5
RCDM	**Rinconada Maip**	**2.82**	**216**	*e*P	Pn	17 57 15.0	+0.7
RCDM				*i* S	Sn	17 57 49.7	+0.8
RCDM				AMP		17 57 52.4	
	comp=E,112nm,0.2s						
TACH	**Talagante**	**3.02**	**215**	*e*P	Pn	17 57 17.0	+0.2
TACH				*e*S	Sn	17 57 53.6	+0.3
CHCH	**Chadas Angostu**	**3.12**	**209**	↑*i*P	Pn	17 57 19.0	+0.8
CHCH				*i* S	Sn	17 57 56.5	+0.8
CACH	**El Canelo**	**3.26**	**207**	↓*i*P	Pn	17 57 21.3	+1.3
CICH	**Cipreses**	**3.38**	**203**	*e*P	Pn	17 57 22.2	+0.8

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*ISCJB **08** 17:57:20.0±2.7,626N±007×9284E±006,h14km±17km, mb4.1/18,MS3.8/4,Error ellipse: s-maj=14.4km s-min=6.0km az=74.5*
*IDC **08** 17:57:19.4±0.7,646N×9292E,h0km,mb4.0/10, mb1 4.1/11,mb1mx3.9/21,mbtmp4.0/11,ML4.1/1,MS3.7/3, Ms1 3.6/3,ms1mx3.2/22,Error ellipse: s-maj=26.4km s-min=15.7km az=48.0*
*BJI **08** 17:57:24.3,645N×9349E,h12km,mb4.4,Ms4.2,Msz4.0*
*NEIC **08** 17:57:24.2±0.5,631N×9289E,h30km,mb4.2/6,Error ellipse: s-maj=12.7km s-min=6.9km az=221.0*

ISC 08 17:57:23.5±2.7,631N±007×9283E±006,h23km±21km,n47, σ1§32/48,mb4.1/17,MS3.8/4,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.00**	**120**	Pn	**Pn**	**17 59 05.0**	**+0.4**
	3.4nm,0.3s,baz=318,slow=16,SNR=8.5						
PSI				Sn	**Sn**	**18 00 22.0**	**-1.5**
	6.5nm,0.3s,baz=312,slow=16,SNR=6.5						
PSI				LR	LR	18 02 11.2	
	comp=Z,365nm,20.5s,baz=108,slow=41						
KULM	**Kulim**	**7.85**	**97**	*e*P	**Pn**	**17 59 15.4**	**-0.7**
PALK	**Pallekele**	**12.08**	**275**	*e*P	**Pn**	**18 00 13.1**	**-1.1**
	9.1nm,0.4s						
VIS	**Vishakhapatnam**	**14.65**	**322**	*i* P	**Pn**	**18 00 46.9**	**-2.3**
VIS				*e*P		18 00 47.1	
VIS				*ex*	x	18 03 17.9	
HYB	**Hyderabad**	**17.79**	**310**	*i* P	**Pn**	**18 01 31.0**	**+1.5**
HYB				*e*S	**Sn**	**18 04 46.5**	**-0.5**
HYB	**Hyderabad**	**17.79**	**310**	*e*P	**Pn**	**18 01 31.0**	**+1.5**
HYB				*e*S	**Sn**	**18 04 46.5**	**-0.5**
KSM	**Kuching**	**18.08**	**105**	*e*P	**Pn**	**18 01 33.0**	**0.0**
BOK	**Bokaro**	**18.62**	**340**	*e*P	**Pn**	**18 01 35.7**	**-3.9**
BOK				AMb	AMB	18 01 46.1	
	comp=Z,4.9nm,0.4s						
BOK				*ex*	x	18 04 53.1	
SHL	**Shillong**	**19.17**	**357**	*e*P	**Pn**	**18 01 41.9**	**-4.3**
NGP	**Nagpur**	**19.89**	**319**	*e*P	**Pn**	**18 01 50.7**	**-4.2**
NGP				AMb	AMB	18 02 04.1	
	comp=Z,15nm,0.4s						
QIZ	**Qiongzhong**	**20.83**	**51**	P	**P**	**18 02 03.9**	**+0.5**
QIZ				LR	LR		
	comp=E,466nm,13.0s						
QIZ				LR	LR		
	comp=Z,456nm,13.0s,MS4.0						
QIZ	**Qiongzhong**	**20.83**	**51**	*e*Pn	**P**	**18 02 03.8**	**+0.4**
KMI	**Kunming**	**20.97**	**26**	P	**P**	**18 02 06.1**	**+1.2**
KMI				XP	sP	18 02 19.2	+4.8
KMI				AMB	AMB		
	comp=Z,13nm,0.7s						
KMI				LR	LR		
	comp=Z,130nm,17.7s,MS3.4						
KAD	**Karad**	**21.25**	**303**	*e*P	**P**	**18 02 04.7**	**-3.2**
KAD				AMb	AMB	18 02 22.0	
	comp=Z,32nm,1.5s,mb4.4						
KAD				*e*S	**S**	**18 06 06.7**	**+3.8**
POO	**Poona**	**22.13**	**305**	*ex*	x	18 02 48.5	
JIRN	**Jiri**	**22.15**	**344**	*e*P	**P**	**18 02 19.6**	**+2.1**
PKI	**Pulchoki**	**22.29**	**342**	*e*P	**P**	**18 02 22.4**	**+3.4**
DMN	**Daman**	**22.41**	**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEN1	**Los Morros**	**3.26**	**278**	⇓*iP*	**Pn**	**18 00 46.6**	**+2.9**
CEN1				*i* S	**Sn**	**18 01 27.0**	**+2.0**
CEN1				AMP		18 01 29.2	
	comp=N,364nm,0.3s						
ANCH	**Antofagasta**	**3.42**	**273**	⇑*iP*	**Pn**	**18 00 43.8**	**-1.8**
ANCH				*i* S	**Sn**	**18 01 24.3**	**-4.1**
ANCH				AMP		18 01 26.9	
	comp=N,999nm,0.2s						
CPN1	**Cerro Paranal**	**3.47**	**257**	⇑*iP*	**Pn**	**18 00 47.6**	**+1.3**
CPN1				*i* S	**Sn**	**18 01 29.3**	**-0.3**
CPN1				AMP		18 01 32.2	
	comp=E,872nm,0.3s						
CRCH	**Chaqaral**	**4.32**	**235**	⇑*iP*	**Pn**	**18 00 57.0**	**+0.1**
CRCH				*i* S	**Sn**	**18 01 46.7**	**-1.9**
CDCH	**Caldera**	**4.90**	**229**	*eP*	**Pn**	**18 01 03.1**	**-1.2**
CDCH				*i* S	**Sn**	**18 01 58.0**	**-3.9**
LPAZ	**La Paz**	**7.68**	**350**	P	**Pn**	**18 01 40.9**	**+0.7**
	comp=E,0.8nm,0.3s,baz=170,slow=8.9,SNR=15						
LPAZ				S	**Sn**	**18 03 05.4**	**-1.6**
	comp=E,0.2nm,0.3s,baz=30,slow=24,SNR=3.5						
LPAZ	**La Paz**	**7.68**	**350**	*ePn*	**Pn**	**18 01 41.4**	**+1.2**
	comp=E,3.4nm,0.6s						
LPAZ				*eS*	**Sn**	**18 03 08.1**	**+1.1**
CFAA	**Coronel Fontan**	**7.81**	**190**	P	**Pn**	**18 01 43.9**	**+2.1**
	comp=E,0.1nm,0.3s,baz=10.0,slow=13,SNR=20						
CFAA				S	**Sn**	**18 03 04.5**	**-5.3**
	comp=E,1.0nm,0.3s,baz=251,slow=16,SNR=19						
CPUP	**Villa Florida**	**8.82**	**108**	P	**Pn**	**18 01 54.8**	**-0.2**
	comp=E,1.1nm,0.3s,baz=272,slow=11,SNR=45						
CPUP	**Villa Florida**	**8.82**	**108**	*ePn*	**Pn**	**18 01 54.7**	**-0.4**
	comp=E,70nm,0.8s						
SIV	**San Ignacio**	**9.47**	**35**	P	**Pn**	**18 02 02.7**	**-0.7**
	comp=E,0.7nm,0.3s,baz=231,slow=12,SNR=28						
TRQA	**Tornquist**	**14.68**	**165**	*ePn*	**Pn**	**18 03 09.8**	**+0.3**
SAML	**Samuel**	**15.23**	**13**	*eP*	**Pn**	**18 03 15.8**	**-0.3**
	comp=E,4.0nm,0.7s						
PLCA	**Paso Flores**	**17.10**	**190**	P	**Pn**	**18 03 38.6**	**0.0**
	comp=E,1.1nm,0.3s,baz=7.6,slow=13,SNR=6.3						
PLCA	**Paso Flores**	**17.10**	**190**	*eP*	**Pn**	**18 03 38.3**	**-0.4**
	comp=E,8.0nm,0.5s						
BDFB	**Brasilia**	**19.38**	**68**	P	**P**	**18 04 02.1**	**+0.2**
	comp=E,4.1nm,0.3s,baz=248,slow=11,SNR=53						
SNAA	**Sanae**	**59.36**	**161**	*eP*	**P**	**18 09 32.9**	**+0.6**
	comp=E,2.6nm,0.6s,mb4.0						
QSPA	**South Pole Qui**	**66.31**	**180**	*eP*	**P**	**18 10 19.5**	**+1.3**
	comp=E,8.2nm,0.5s,mb4.6						
DBIC	**Dimbokro**	**67.50**	**71**	P	**P**	**18 10 24.6**	**-1.0**
	comp=E,2.0nm,0.4s,mb4.1,baz=264,slow=7.0,SNR=6.0						
SYO	**Syowa Base**	**73.55**	**159**	⇓*epP*	pP	18 11 44.5	-5.0
TORD	**Torodi Ar. Bea**	**76.26**	**69**	P	**P**	**18 11 17.5**	**-0.3**
	comp=E,3.9nm,0.7s,mb4.2,baz=258,slow=5.8,SNR=49						
PDAR	**Pinedale Array**	**77.20**	**329**	P	**P**	**18 11 23.9**	**+0.8**
	comp=E,0.5nm,0.5s,mb3.4,baz=138,slow=9.0,SNR=5.9						
ULM	**Lac du Bonnet**	**78.22**	**341**	P	**P**	**18 11 27.9**	**-0.7**
	comp=E,0.8nm,0.4s,mb3.7,baz=159,slow=9.4,SNR=4.9						
YKA	**Yellowknife Ar**	**94.12**	**340**	P	**P**	**18 12 46.2**	**-0.8**
	comp=E,0.8nm,0.6s,mb3.9,baz=133,slow=4.3,SNR=23						
YKA	**Yellowknife Ar**	**94.12**	**340**	P	**P**	**18 12 46.2**	**-0.8**
ASAR	**Alice Springs**	**128.68**	**204**	PKP	PKPdf	18 18 35.2	+0.7
	comp=E,1.5nm,0.7s,baz=135,slow=1.9,SNR=25						
ASAR				SKPbc		18 21 34.8	
	comp=E,0.3nm,1.0s,baz=133,slow=3.4,SNR=4.5						
WRA	**Warramunga Arr**	**131.85**	**207**	PKP	PKPdf	18 18 41.2	+0.6
	comp=E,1.0nm,0.5s,baz=155,slow=1.8,SNR=4.7						
WRA				SKPbc	SKPbc	18 21 47.9	+0.1
	comp=E,0.2nm,0.6s,baz=156,slow=3.1,SNR=4.8						
BVAR	**Borovoye Array**	**136.54**	**37**	PKP	PKPdf	18 18 49.4	+0.1
	comp=E,0.4nm,0.6s,baz=270,slow=1.5,SNR=3.6						
MKAR	**Makanchi Array**	**146.26**	**40**	PKPbc	PKPbc	18 19 07.4	-0.8
	comp=E,2.6nm,0.6s,baz=325,slow=2.3,SNR=48						
MKAR				pPKPbc	pPKPbc	18 20 01.5	+2.5
	comp=E,0.7nm,0.8s,baz=302,slow=2.7,SNR=2.8						
MKAR	**Makanchi Array**	**146.26**	**40**	PKPbc	PKPbc	18 19 07.4	-0.8
MKAR				pPKPbc	pPKPbc	18 20 01.5	+2.5
SONM	**Songino Array**	**155.48**	**11**	PKP	PKPdf	18 19 20.7	-0.1
	comp=E,0.4nm,0.8s,baz=64,slow=3.4,SNR=3.5						
SONM				PKPab	PKPab	18 19 47.7	+0.2
	comp=E,0.6nm,0.7s,baz=334,slow=2.8,SNR=5.0						

*IDC **08** 18:00:32.9±1.1, 631N×9281E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/21, mbtmp3.9/9, ML3.5/1, Error ellipse: s-maj=51.3km s-min=15.9km az=50.0*
*ISCJB **08** 18:00:36.9±4.0, 63N±02×929E±02, h42km±35km, mb3.9/9, Error ellipse: s-maj=51.0km s-min=15.6km az=100.1*
*NEIC **08** 18:00:38.5±2.8, 631N×9286E, h41km±24km, mb4.1/1, Error ellipse: s-maj=41.7km s-min=12.1km az=55.0*
ISC 08 18:00:39.4±3.4, 64N±02×929E±03, h43km±30km, n12, σ0§52/13, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.00**	**120**	Pn	**Pn**	**18 02 19.1**	**-0.1**
	0.8nm,0.3s,baz=275,slow=16,SNR=2.7						
PSI				Sn	**Sn**	**18 03 37.6**	**+0.1**
	1.3nm,0.3s,baz=56,slow=7.2,SNR=3.1						
AAK	**Ala-Archa**	**39.61**	**339**	*eP*	**P**	**18 08 06.9**	**+0.3**
	4.6nm,1.3s,mb4.0						
MKAR	**Makanchi Array**	**41.30**	**349**	P	**P**	**18 08 20.4**	**-0.1**
	0.9nm,0.5s,mb3.7,baz=166,slow=9.0,SNR=19						
MKAR	**Makanchi Array**	**41.30**	**349**	P	**P**	**18 08 20.4**	**-0.1**
SONM	**Songino Array**	**42.91**	**13**	P	**P**	**18 08 33.5**	**-0.2**
	1.1nm,0.7s,mb3.7,baz=194,slow=8.3,SNR=6.5						
SONM				PcP	PcP	18 10 25.1	+1.3
	0.3nm,0.5s,baz=215,slow=1.9,SNR=4.0						
WRA	**Warramunga Arr**	**48.45**	**124**	P	**P**	**18 09 17.8**	**+0.4**
	1.9nm,0.7s,mb4.2,baz=305,slow=9.0,SNR=8.2						
ASAR	**Alice Springs**	**49.95**	**128**	P	**P**	**18 09 29.6**	**+0.7**
	2.1nm,0.7s,mb4.2,baz=307,slow=7.5,SNR=12						
BVAR	**Borovoye Array**	**50.02**	**342**	P	**P**	**18 09 29.2**	**-0.2**
	0.6nm,0.6s,mb3.8,baz=146,slow=8.4,SNR=4.1						
STKA	**Stephens Creek**	**60.01**	**132**	P	**P**	**18 10 40.8**	**-0.7**
	1.3nm,0.7s,mb4.0,baz=305,slow=5.8,SNR=4.5						
STKA	**Stephens Creek**	**60.01**	**132**	*eP*	**P**	**18 10 39.5**	**-2.0**
BRTR	**Keskin Array B**	**62.47**	**312**	P	**P**	**18 10 58.0**	**-0.1**
	0.5nm,0.7s,mb3.7,baz=121,slow=7.7,SNR=4.0						
GERES	**GERESS Array B**	**78.11**	**318**	P	**P**	**18 12 34.2**	**+0.4**
	0.8nm,0.8s,mb3.7,baz=90,slow=7.8,SNR=4.7						

MAN 08 18:03:22.8, 1766N×11985E, h8km, mb1.9, ML3.7, MS2.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.83**	**91**	*eP*	Pg	18 03 38.7	0.0
ABRA				*eS*	Sg	18 03 47.6	-1.9
BOLP	**Bolinao**	**1.28**	**177**	*eP*	Pn	18 03 45.9	-1.0
APYP	**Conner**	**1.35**	**81**	*eP*	Pn	18 03 46.8	-1.1
APYP				*eS*	Sb	18 04 04.0	-1.7
CAUP	**Cauayan**	**2.02**	**110**	*eP*	Pn	18 03 59.3	+2.1

MAN 08 18:21:12.4, 1542N×12169E, h2km, mb3.2, ML4.5, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	**0.34**	**341**	*eP*	Pg	18 21 18.3	-0.5
BALP				*eS*	Sg	18 21 23.9	+0.6
POLP	**Polilio Island**	**0.73**	**161**	*eP*	Pg	18 21 27.8	+1.4
POLP				*eS*	Sg	18 21 40.9	+5.1
CAUP	**Cauayan**	**1.52**	**5**	*eP*	Pn	18 21 38.9	-1.6
CAUP				*eS*	Sn	18 22 01.0	+0.1
PALP	**Palanan**	**1.78**	**23**	*eP*	Pn	18 21 44.0	-0.1
PALP				*eS*	Sn	18 22 05.5	-1.8
BOAC	**Boac**	**1.95**	**176**	*eP*	Pn	18 21 46.8	+0.2
BOAC				*eS*	Sn	18 22 13.3	+1.7
ABRA	**Dolores**	**2.41**	**337**	*eP*	Pn	18 21 54.7	+2.0
ABRA				*eS*	Sn	18 22 23.5	+0.7
APYP	**Conner**	**2.47**	**350**	*eP*	Pn	18 21 56.1	+2.5
APYP				*eS*	Sn	18 22 25.3	+1.1

*ISCJB **08** 18:36:44.1±0.6, 125N±0.1×1437E±0.1, h10km, mb4.0/9, Error ellipse: s-maj=20.4km s-min=9.1km az=79.8*
*IDC **08** 18:36:44.5±0.8, 1254N×14373E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/20, mbtmp3.8/8, Error ellipse: s-maj=27.0km s-min=16.7km az=114.0*
*NEIC **08** 18:36:45.8±0.5, 1251N×14371E, h10km, mb4.8/1, Error ellipse: s-maj=19.0km s-min=11.2km az=111.0*
ISC 08 18:36:46.0±6.7, 125N±01×1438E±01, h11km±42km, n12, σ0§72/12, mb4.0/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.52**	**46**	Pn	**Pn**	**18 37 13.2**	**0.0**
	22nm,0.3s,baz=206,slow=16,SNR=16						
GUMO				Sn	**Sn**	**18 37 32.7**	**-0.2**
	72nm,0.3s,baz=143,slow=22,SNR=25						
WRAB	**Tennant Creek**	**33.55**	**196**	*eP*	**P**	**18 43 25.5**	**-0.3**
	8.8nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**33.56**	**196**	P	**P**	**18 43 25.8**	**-0.1**
	4.0nm,0.6s,mb4.5,baz=20,slow=9.8,SNR=34						
ASAR	**Alice Springs**	**37.23**	**195**	P	**P**	**18 43 57.5**	**0.0**
	0.8nm,0.6s,mb3.7,baz=20,slow=12,SNR=19						
ASAR				PcP	PcP	18 46 18.6	+1.5
	0.4nm,0.6s,baz=24,slow=3.2,SNR=6.2						
SONM	**Songino Array**	**46.99**	**326**	P	**P**	**18 45 16.2**	**-0.8**
	0.4nm,0.9s,mb3.3,baz=120,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**61.50**	**317**	P	**P**	**18 47 04.2**	**+1.3**
	0.4nm,0.7s,mb3.7,baz=93,slow=8.4,SNR=6.0						
BVAR	**Borovoye Array**	**70.09**	**322**	P	**P**	**18 47 58.5**	**+0.3**
	0.4nm,0.4s,mb3.7,baz=111,slow=7.9,SNR=6.7						
YKA	**Yellowknife Ar**	**84.30**	**27**	P	**P**	**18 49 17.7**	**-0.2**
	0.4nm,0.4s,mb3.9,baz=287,slow=5.2,SNR=5.6						
YKA	**Yellowknife Ar**	**84.30**	**27**	P	**P**	**18 49 17.7**	**-0.2**
NVAR	**Mina Array Bea**	**88.44**	**51**	P	**P**	**18 49 39.5**	**+1.2**
	0.5nm,0.7s,mb3.9,baz=269,slow=6.3,SNR=3.9						
FINES	**FINESS Array B**	**91.66**	**335**	P	**P**	**18 49 52.0**	**-1.2**
	0.4nm,0.4s,mb4.1,baz=67,slow=4.9,SNR=7.0						
LPAZ	**La Paz**	**148.92**	**101**	PKPbc	PKPbc	18 56 37.0	+3.2
	0.5nm,0.6s,baz=297,slow=4.5,SNR=3.7						

*ISCJB **08** 19:04:21.8±0.6, 4381N±004×105.11W±007, h0km, mb4.4/1, Error ellipse: s-maj=7.2km s-min=5.5km az=176.3*
*IDC **08** 19:04:21.4±2.1, 4340N×10528W, h0km, mb4.4/1, mb1 4.0/4, mb1mx3.5/23, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=49.1km s-min=8.4km az=154.0*
*NEIC **08** 19:04:23.8±0.5, 4371N×105.15W, h0km, ML3.1, Error ellipse: s-maj=7.7km s-min=6.7km az=127.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 08 19:04:23.6±0.6, 4377N±004×10515W±007, h0km, n21, σ1§16/26, mb4.4/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHWY	**Pilot Hill**	**2.48**	**185**	*eP*	**Pn**	**19 05 04.9**	**-0.3**
PHWY				*eS*	**Sn**	**19 05 38.7**	**+2.5**
RWWY	**Rawlins**	**2.58**	**217**	*eP*	**Pn**	**19 05 06.5**	**0.0**
RWWY				*eS*	**Sn**	**19 05 40.1**	**+1.5**
LAO	**LASA Array**	**3.01**	**346**	*eP*	**Pn**	**19 05 14.9**	**+2.4**
PDAR	**Pinedale Array**	**3.37**	**254**	Pn	**Pn**	**19 05 16.7**	**-0.8**
	4.2nm,0.3s,baz=76,slow=15,SNR=101						
PDAR				Pg	**Pb**	**19 05 22.4**	**-1.8**
	8.4nm,0.3s,baz=71,slow=17,SNR=47						
PDAR				Lg		19 06 01.0	
	10nm,0.3s,baz=79,slow=34,SNR=8.0						
LKWY	**Lake**	**3.86**	**284**	*eP*	**Pn**	**19 05 25.0**	**+0.8**
LOHW	**Long Hollow**	**3.96**	**270**	*eP*	**Pn**	**19 05 26.5**	**+0.9**
ISCO	**Idaho Springs**	**3.98**	**185**	*eP*	**Pn**	**19 05 26.1**	**+0.2**
ISCO				*eS*	**Sb**	**19 06 22.1**	**-1.3**
FLWY	**Flagg Ranch**	**4.02**	**276**	*eP*	**Pn**	**19 05 26.1**	**-0.2**
YFT	**Old Faithful**	**4.15**	**281**	P	**Pn**	**19 05 25.4**	**-2.8**
REDW	**Red Top Meadow**	**4.16**	**266**	*eP*	**Pn**	**19 05 28.1**	**-0.2**
YMR	**Madison River**	**4.27**	**284**	*eP*	**Pn**	**19 05 30.1**	**+0.2**
YMR				*ePg*	**Pb**	**19 05 39.1**	**-0.5**
BOZ	**Bozeman (W)**	**4.98**	**294**	*eP*	**Pn**	**19 05 38.5**	**-1.1**
	5.8nm,0.6s						
HWUT	**Hardware Ranch**	**5.20**	**248**	*eP*	**Pn**	**19 05 41.7**	**-0.8**
	8.3nm,0.4s						
TCUT	**Toone Canyon**	**5.33**	**242**	*eP*	**Pn**	**19 05 44.9**	**+0.4**
MCMT	**McKenzie Canyo**	**5.62**	**283**	*eP*	**Pn**	**19 05 50.3**	**+1.8**
PV10	**Paradox Valley**	**6.14**	**210**	*eP*	**Pn**	**19 05 56.7**	**+1.2**
SRU	**San Rafael**	**6.16**	**223**	*eP*	**Pn**	**19 05 54.7**	**-1.1**
	8.9nm,0.4s						
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**19 06 35.8**	**+0.2**
	2.9nm,0.3s,baz=232,slow=12,SNR=15						
ACSO	**Alum Creek Sta**	**16.85**	**94**	P	**Pn**	**19 08 19.8**	**-0.9**
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**Pn**	**19 08 54.8**	**+0.8**
	baz=159,slow=12,SNR=4.3						
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**19 14 40.0**	**-1.2**
	3.4nm,1.0s,mb4.4,baz=320,slow=7.1,SNR=6.8						

*IDC **08** 19:07:02.0±0.8, 1254N×14376E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.8/6, Error ellipse: s-maj=37.2km s-min=16.3km az=118.0*
*ISCJB **08** 19:07:04.7±6.4, 125N±0.1×1437E±02, h31km±47km, mb4.0/7, Error ellipse: s-maj=38.5km s-min=12.0km az=66.7*
*NEIC **08** 19:07:06.0±7.0, 1250N×14381E, h28km±52km, mb4.8/1, Error ellipse: s-maj=41.3km s-min=12.2km az=108.0*
ISC 08 19:07:05.0±7.0, 125N±01×1438E±02, h19km±44km, n9, σ0§64/10, mb4.0/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.52**	**46**	Pn	**Pn**	**19 07 31.0**	**0.0**
	84nm,0.3s,baz=226,slow=1.4,SNR=50						
GUMO				Sn	**Sn**	**19 07 50.5**	**+0.2**
	105nm,0.3s,baz=178,slow=23,SNR=22						
WRAB	**Tennant Creek**	**33.56**	**196**	*eP*	**P**	**19 13 43.6**	**0.0**
	8.2nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**33.57**	**196**	P	**P**	**19 13 43.6**	**-0.1**
	3.1nm,0.6s,mb4.4,baz=20,slow=9.8,SNR=63						
ASAR	**Alice Springs**	**37.24**	**195**	P	**P**	**19 14 15.5**	**+0.2**
	0.8nm,0.6s,mb3.8,baz=20,slow=12,SNR=23						
ASAR				PcP	PcP	19 16 36.6	+1.9
	0.4nm,0.7s,baz=37,slow=2.9,SNR=6.5						
MKAR	**Makanchi Array**	**61.50**	**317**	P	**P**	**19 17 21.4**	**+1.0**
	0.4nm,0.8s,mb3.6,baz=94,slow=7.2,SNR=4.8						
ILAR	**Eielson Array**	**69.99**	**25**	P	**P**	**19 18 14.2**	**-0.9**
	0.6nm,1.0s,mb3.5,baz=248,slow=5.6,SNR=6.1						
YKA	**Yellowknife Ar**	**84.30**	**27**	P	**P**	**19 19 36.2**	**+0.7**
	0.3nm,0.4s,mb3.8,baz=286,slow=5.1,SNR=4.4						
YKA	**Yellowknife Ar**	**84.30**	**27**	P	**P**	**19 19 36.2**	**+0.7**
FINES	**FINESS Array B**	**91.66**	**335**	P	**P**	**19 20 09.8**	**-1.1**
	0.5nm,0.4s,mb4.2,baz=66,slow=4.8,SNR=7.7						

IDC 08 19:11:33.0±2.1, 165N×12697E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/15, mbtmp3.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/10, Error ellipse: s-maj=173.3km s-min=24.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.64**	**162**	P	P	19 16 35.9	+0.3
	0.4nm,0.4s,baz=341,slow=11,SNR=22						
ASAR	**Alice Springs**	**26.05**	**165**	P	P	19 17 08.4	+0.4
	0.1nm,0.3s,baz=343,slow=11,SNR=3.3						
MJAR	**Matsushiro Arr**	**36.24**	**15**	LR	LR	19 33 34.3	
	comp=Z,42nm,19.1s,baz=155,slow=36						
MKAR	**Makanchi Array**	**59.39**	**326**	P	P	19 21 37.2	+0.1
	0.2nm,0.4s,baz=125,slow=8.1,SNR=8.0						

IDC 08 19:22:43.3±1.7, 630S×12985E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.6/14, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=130.5km s-min=28.1km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.24**	**163**	Pn	Pn	19 26 05.2	-1.0
	0.2nm,0.3s,baz=344,slow=14,SNR=14						
WRA				Sn	Sn	19 28 34.1	-11
	0.6nm,0.3s,baz=341,slow=20,SNR=9.7						
ASAR	**Alice Springs**	**17.70**	**168**	P	Pn	19 26 52.1	+1.0
	0.2nm,0.3s,baz=343,slow=8.5,SNR=33						
ASAR				S	Sn	19 30 00.2	-8.7
	0.1nm,0.3s,baz=353,slow=27,SNR=5.8						
SONM	**Songino Array**	**57.74**	**342**	P	P	19 32 35.5	-0.4
	0.1nm,0.5s,baz=158,slow=6.1,SNR=3.9						
MKAR	**Makanchi Array**	**67.57**	**327**	P	P	19 33 42.2	+0.6
	1.4nm,0.5s,baz=124,slow=7.4,SNR=42						

IDC 08 19:26:07.0±1.8, 072N×9731E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, ML3.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.3/26, Error ellipse: s-maj=54.3km s-min=21.7km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.62**	**38**	Pn	Pn	19 26 50.0	-0.5
	3.2nm,0.3s,baz=228,slow=16,SNR=17						
WRA	**Warramunga Arr**	**41.69**	**122**	P	P	19 33 57.3	-0.1
	0.3nm,0.5s,baz=302,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**43.02**	**127**	P	P	19 34 09.1	+0.8
	0.4nm,0.7s,baz=299,slow=7.4,SNR=4.8						
SONM	**Songino Array**	**47.58**	**8**	P	P	19 34 44.2	-0.2
	0.3nm,0.3s,baz=188,slow=9.2,SNR=8.3						
SONM				LR	LR	19 57 14.3	
	comp=Z,46nm,19.4s,baz=174,slow=39						
MKAR	**Makanchi Array**	**47.73**	**346**	P	P	19 34 45.5	0.0
	1.0nm,0.5s,baz=160,slow=9.1,SNR=32						
ZAL	**Zalesovo**	**54.04**	**351**	P	P	19 35 33.1	0.0
	1.0nm,0.5s,baz=326,slow=7.3,SNR=5.1						

MAN 08 19:41:37.0, 1100N×12476E, h1km, mb2.6, ML4.1, MS1.4, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.15**	**289**	*eP*	Pg	19 41 40.9	+1.0
MSLP	**Maasin**	**0.87**	**173**	*eP*	Pg	19 41 54.2	+0.6
MSLP				*eS*	Sg	19 42 09.8	+4.9
BESP	**Borongan**	**0.90**	**48**	*eP*	Pg	19 41 54.5	+0.3
BESP				*eS*	Sg	19 42 07.2	+1.4
LLP	**Lapu-Lapu**	**1.03**	**229**	⇑*iP*	Pg	19 41 55.9	-1.0
LLP				*i* S	Sg	19 42 09.9	-0.3
SCPH	**Surigao**	**1.41**	**149**	⇓*eP*	Pn	19 42 04.0	+0.2
CNP	**Catarman**	**1.50**	**357**	*eP*	Pn	19 42 04.7	-0.4
CNP				*eS*	Sb	19 42 25.6	+0.4
TBP	**Tagbilaran**	**1.57**	**214**	*eP*	Pn	19 42 05.8	-0.2
TBP				*eS*	Sn	19 42 27.9	+0.9
BUTP	**Butuan**	**2.19**	**157**	*eP*	Pg	19 42 19.9	+0.9
BUTP				*eS*	Sg	19 42 54.0	+6.6
PVCP	**Virac**	**2.65**	**347**	*eP*	Pn	19 42 21.8	+1.0
OTRP	**Odiongan**	**3.00**	**297**	*eP*	Sn	19 42 58.9	-3.4
BUKP	**Musuan**	**3.12**	**174**	*eP*	Pn	19 42 29.1	+1.9
PAGZ	**Pagadian**	**3.41**	**204**	*eP*	Pn	19 42 32.2	+0.8

*ISCJB **08** 19:59:54.6±1.0, 2249N±010×129W±0.1, h10km, mb3.9/5, Error ellipse: s-maj=21.7km s-min=6.7km az=103.7*
*CSEM **08** 19:59:56.6, 2244N×1281W, h10km, mb4.0/1, After NEIC*
*NEIC **08** 19:59:56.6±1.0, 2244N×1281W, h10km, mb4.0/1, Error ellipse: s-maj=22.8km s-min=11.4km az=62.0*
*IDC **08** 20:00:01.3±3.1, 2292N×1173W, h0km, mb4.0/4, mb1 3.9/5, mb1mx3.5/23, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=108.3km s-min=34.6km az=79.0*
ISC 08 19:59:56.0±1.0, 224N±01×129W±01, h10km, n23, σ1§31/28, mb3.9/5, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFTV	**Fuerteventura**	**6.04**	**350**	P	**Pn**	**20 01 25.1**	**-0.3**
CFTV				S	**Sn**	**20 02 27.3**	**-7.2**
CFTV	**Fuerteventura**	**6.04**	**350**	P	**Pn**	**20 01 25.1**	**-0.2**
CFTV				S	**Sn**	**20 02 27.3**	**-7.3**
CCAN	**Las Canadas**	**6.65**	**331**	P	**Pn**	**20 01 36.7**	**+2.9**
CCAN				S	**Sn**	**20 02 48.2**	**-1.4**
CCAN	**Las Canadas**	**6.65**	**331**	P	**Pn**	**20 01 36.7**	**+3.0**
CCAN				S	**Sn**	**20 02 48.2**	**-1.4**
EFAM	**Famara**	**6.68**	**355**	P	**Pn**	**20 01 33.2**	**-1.0**
EFAM	**Famara**	**6.68**	**355**	P	**Pn**	**20 01 33.2**	**-1.0**
EGOM	**La Gomera**	**6.89**	**327**	P	**Pn**	**20 01 39.2**	**+2.2**
EGOM				S	**Sn**	**20 02 53.1**	**-2.4**
EGOM	**La Gomera**	**6.89**	**327**	P	**Pn**	**20 01 39.2**	**+2.1**
EGOM				S	**Sn**	**20 02 53.1**	**-2.3**
CHIE	**El Hierro**	**6.97**	**320**	P	**Pn**	**20 01 43.6**	**+5.5**
CHIE	**El Hierro**	**6.97**	**320**	P	**Pn**	**20 01 43.6**	**+5.5**
MDT	**Midelt**	**12.68**	**34**	Pn	**Pn**	**20 02 57.4**	**+1.0**
	0.1nm,0.3s,baz=210,slow=14,SNR=3.1						
MDT				Lg		20 06 20.7	
	0.4nm,0.3s,baz=294,slow=12,SNR=5.5						
TORD	**Torodi Ar. Bea**	**16.69**	**121**	Pn	**Pn**	**20 03 48.0**	**-2.0**
	0.3nm,0.3s,baz=312,slow=12,SNR=16						
TORD				Sn	**Sn**	**20 06 54.8**	**-0.6**

PCH			*i* S	Sn	20 10 01.0	+1.2
CHCH	**Chadas Angostu**	**1.23 165**	⇑*i*P	Pn	20 09 50.4	+0.5
CHCH			*i* S	Sn	20 10 06.9	+1.3
LNV	**Longovilo**	**1.25 194**	⇓*i*P	Pn	20 09 49.9	-0.1
LNV			*i* S	Sn	20 10 06.9	+0.9
LMEL	**Las Melosas**	**1.31 148**	⇑*i*P	Pn	20 09 51.9	+1.0
LMEL			*i* S	Sn	20 10 09.6	+2.1
LMEL			AMP		20 10 11.4	
	comp=E,2μm,0.2s					
LMEL	**Las Melosas**	**1.31 148**	⇑*i*P	Pn	20 09 51.9	+1.0
LMEL			*i* S	Sn	20 10 09.6	+2.1
CACH	**El Canelo**	**1.42 165**	⇑*i*P	Pn	20 09 53.5	+1.1
CACH			*i* S	Sn	20 10 12.7	+2.6
CICH	**Cipreses**	**1.66 162**	⇓*i*P	Pn	20 09 56.7	+1.2
SFDO	**San Fernando**	**1.87 179**	⇑*i*P	Pn	20 09 58.9	+0.5
SFDO			*i* S	Sn	20 10 22.2	+1.2

IDC 08 20:48:51.9±2.7, 1764S×17662W, h0km, mb4.5/3, mb1 4.6/4, mb1mx4.1/14, mbtmp4.5/4, ML2.8/1, Error ellipse: s-maj=164.8km s-min=31.1km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.95**	**52**	Pn	Pn	20 50 21.5	+0.2
	13nm,0.3s,baz=222,slow=15,SNR=8.8						
AFI				Sn	Sn	20 51 14.1	-16
	20nm,0.3s,baz=42,slow=21,SNR=8.0						
STKA	**Stephens Creek**	**40.26**	**241**	*e*P	P	20 56 30.5	0.0
	4.8nm,1.0s						
STKA	**Stephens Creek**	**40.26**	**241**	P	P	20 56 30.7	+0.2
	3.9nm,0.7s,baz=90,slow=11,SNR=12						
WB2	**Warramunga Arr**	**46.35**	**259**	*e*P	P	20 57 19.8	+0.1
WRA	**Warramunga Arr**	**46.36**	**259**	P	P	20 57 19.9	+0.1
	2.0nm,0.7s,baz=96,slow=7.0,SNR=61						
ASAR	**Alice Springs**	**46.51**	**254**	P	P	20 57 21.6	+0.6
	13nm,0.7s,baz=87,slow=8.6,SNR=238						

*CSEM **08** 20:55:41.9±1.1, 3845N×2841W, h1km±3km, ML1.6, After PDA*
*PDA **08** 20:55:41.9±1.1, 3845N×2841W, h1km±3km, MD3.0, ML1.6*
SVSA 08 20:55:41.9±1.1, 3845N×2841W, h1km±3km, MD3.0, ML1.6, Error ellipse: s-maj=2.7km s-min=2.5km az=0.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBOI	**Pico dos Bois**	**0.03**	**124**	*i* P	Pg	20 55 42.5	0.0
PBOI				*e*S	Sg	20 55 43.4	+0.5
PBOI							
	813nm,0.1s						
PCND	**Candelaria**	**0.05**	**290**	*e*P	Pg	20 55 43.1	+0.3
PICO	**Pico**	**0.05**	**343**	*i* P	Pg	20 55 42.8	-0.1
PICO				*e*S	Sg	20 55 43.9	+0.3
PICO	**Pico**	**0.05**	**343**	*e*S	Sg	20 55 43.9	+0.3
HOR	**Horta**	**0.19**	**293**	*e*P	Pg	20 55 45.5	0.0
HOR				*e*S	Sg	20 55 48.4	+0.4
CALA	**Caldeira**	**0.26**	**299**	*e*P	Pg	20 55 46.8	-0.2
CALA				*e*S	Sg	20 55 51.0	+0.6
PAMA	**Santo Amaro**	**0.29**	**38**	*e*P	Pg	20 55 47.7	+0.3
PCED	**Cedros**	**0.29**	**307**	*e*P	Pg	20 55 46.7	-0.8
PCED				*e*S	Sg	20 55 51.6	+0.4
PCED							
	40nm,0.3s						
PCED	**Cedros**	**0.29**	**307**	*e*P	Pg	20 55 46.7	-0.8
PCED				*e*S	Sg	20 55 51.6	+0.4
ROSA	**Rosais**	**0.30**	**26**	*i* P	Pg	20 55 47.3	-0.3
ROSA				*e*S	Sg	20 55 51.7	+0.3
ROSA	**Rosais**	**0.30**	**26**	*e*S	Sg	20 55 51.7	+0.3
PMAN	**Manadas**	**0.31**	**54**	*e*S	Sg	20 55 51.6	-0.2
PMAN							
	31nm,0.1s						
PTCA	**Ponta do Capel**	**0.33**	**293**	*e*rx	Pg	20 55 49.3	+1.0

*IDC **08** 21:04:29.8±1.7, 665S×105.19E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/18, mbtmp3.7/7, Error ellipse: s-maj=76.1km s-min=17.7km az=49.0*
*NEIC **08** 21:04:32.0±1.0, 669S×105.16E, h15km, mb4.6/2, Error ellipse: s-maj=45.3km s-min=10.0km az=47.0*
*ISCJB **08** 21:04:33.0±1.4, 66S±03×1053E±03, h33km, mb4.0/10, Error ellipse: s-maj=57.8km s-min=13.0km az=95.4*
ISC 08 21:04:35.0±1.4, 67S±03×1052E±03, h35km, n15, σ0§51/16, mb4.0/10, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**20.16**	**137**	P	**P**	**21 09 10.7**	**+4.4**
KAKA	**Kakadu**	**27.54**	**105**	*e*P	**P**	**21 10 18.5**	**+0.1**
	16nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**31.24**	**118**	P	**P**	**21 10 51.4**	**+0.2**
	1.2nm,0.5s,mb4.0,baz=293,slow=10,SNR=27						
WRAB	**Tennant Creek**	**31.25**	**118**	*e*P	**P**	**21 10 51.3**	**0.0**
	2.4nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**31.25**	**118**	*e*P	**P**	**21 10 51.2**	**-0.1**
ASAR	**Alice Springs**	**32.38**	**125**	P	**P**	**21 11 01.4**	**+0.2**
	0.2nm,0.3s,mb3.4,baz=296,slow=7.9,SNR=8.4						
PMG	**Port Moresby**	**41.66**	**97**	P	**P**	**21 12 20.4**	**+0.4**
	15nm,0.7s,mb4.7,baz=249,slow=8.6,SNR=4.9						
STKA	**Stephens Creek**	**42.23**	**131**	*e*P	**P**	**21 12 23.7**	**-0.9**
	2.1nm,0.5s,mb4.0						
STKA				*e*S	**S**	**21 18 35.5**	**-7.1**
STKA	**Stephens Creek**	**42.23**	**131**	P	**P**	**21 12 24.1**	**-0.6**
	2.2nm,0.5s,mb4.1,baz=308,slow=8.5,SNR=14						
STKA	**Stephens Creek**	**42.23**	**131**	*e*P	**P**	**21 12 23.6**	**-1.0**
SONM	**Songino Array**	**54.28**	**1**	P	**P**	**21 13 57.4**	**-0.3**
	0.2nm,0.4s,mb3.4,baz=179,slow=9.0,SNR=7.9						
MKAR	**Makanchi Array**	**56.98**	**341**	P	**P**	**21 14 16.5**	**-0.5**
	0.1nm,0.5s,mb3.1,baz=151,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**56.98**	**341**	P	**P**	**21 14 16.5**	**-0.5**
BVAR	**Borovoye Array**	**66.36**	**338**	P	**P**	**21 15 19.9**	**-0.3**
	0.3nm,0.4s,mb3.7,baz=127,slow=6.9,SNR=4.6						
FINES	**FINESS Array B**	**90.62**	**332**	P	**P**	**21 17 34.9**	**+1.1**
	1.4nm,1.0s,mb4.2,baz=90,slow=2.8,SNR=3.0						

*ISCJB **08** 21:12:14.9±0.4, 5736N±003×12067E±004, h1km, mb3.5/5, Error ellipse: s-maj=5.0km s-min=2.8km az=10.3*
*MOS **08** 21:12:14.9±2.1, 5730N×12045E, h11km, mb4.8/1, Error ellipse: s-maj=11.4km s-min=8.4km az=54.9*
*BYKL **08** 21:12:15.4±0.5, 5738N×12070E, h1km±14km*
*IDC **08** 21:12:17.0±1.8, 5730N×12005E, h0km, mb3.5/6, mb1 3.5/7, mb1mx3.4/23, mbtmp3.4/7, ML2.6/1, Error ellipse: s-maj=34.6km s-min=29.4km az=86.0*
*NEIC **08** 21:12:20.6±1.0, 5712N×11967E, h10km, Error ellipse: s-maj=24.9km s-min=13.8km az=141.0*
ISC 08 21:12:15.6±0.4, 5733N±003×12073E±003, h1km, n56, σ1§36/87, mb3.5/5, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.58**	**225**	⇑*i*Pg	**Pg**	**21 12 26.8**	**0.0**
KHNR				*e*Sg	**Sg**	**21 12 34.5**	**+0.2**
YKLR	**Yuktali**	**0.90**	**145**	*e*Pg	**Pg**	**21 12 33.3**	**+0.5**
YKLR				*e*Sg	**Sg**	**21 12 46.1**	**+1.6**
YKLR				Smax		21 12 46.8	
	2μm,0.4s						
CRS	**Chara**	**1.41**	**253**	⇓*i*Pg	**Pg**	**21 12 41.1**	**-1.6**
CRS				Pmax		21 12 41.8	
	815nm,0.9s						
CRS				*e*Sg	**Sg**	**21 12 58.9**	**-2.1**
CRS				Smax		21 13 00.1	
	2μm,0.4s						
CRS	**Chara**	**1.41**	**253**	*e*P	**Pn**	**21 12 41.2**	**-1.2**
CRS				*e*		21 12 59.1	
CRS				pmax	pmax		
	comp=Z,822nm,0.6s						
CRS				smax			
	comp=E,2μm,0.4s						
NRGR	**Nerungri**	**2.29**	**106**	*e*P	**Pb**	**21 12 57.5**	**-0.2**
NRGR				S	**Sb**	**21 13 26.1**	**-0.3**
NRGR				pmax	pmax		
	comp=Z,47nm,0.1s						
NRGR				smax			
	comp=N,70nm,0.1s						
CLNS	**Chul'man**	**2.33**	**101**	*e*	**Pn**	**21 12 56.3**	**+1.3**
CLNS				*e*Pg	**Pb**	**21 12 57.8**	**-0.5**
CLNS				Pmax		21 13 04.8	
	comp=N,267nm,0.2s						
CLNS				*e*Sg	**Sb**	**21 13 28.6**	**+1.1**
				Smax		21 13 29.1	
	comp=N,2μm,0.2s						
IENR	**Iengra**	**2.53**	**114**	*e*Pn	**Pn**	**21 12 59.6**	**+1.8**
IENR				*e*Pg	**Pg**	**21 13 02.1**	**-2.0**
IENR				*e*Sg	**Sg**	**21 13 34.8**	**-2.1**
ALDR	**Aldan**	**2.80**	**61**	*e*	**Pn**	**21 13 03.6**	**+2.1**
ALDR				*e*Sg	**Sg**	**21 13 39.8**	**-5.8**
ALDR				Smax		21 13 41.3	
	comp=N,1μm,0.2s						
NLYR	**Nelyaty**	**2.88**	**255**	*e*Pn	**Pn**	**21 13 02.6**	**-0.1**
NLYR				*e*Pg	**Pb**	**21 13 06.8**	**-1.0**
NLYR				Pmax		21 13 07.8	
	comp=N,326nm,0.6s						
NLYR				*e*Sg	**Sb**	**21 13 42.8**	**-0.8**
NLYR				Smax		21 13 48.0	
	comp=N,1μm,0.9s						
NLYR	**Nelyaty**	**2.88**	**255**	*e*P	**Pn**	**21 13 02.4**	**-0.3**
NLYR				*i*		21 13 42.5	
NLYR				pmax	pmax		
	comp=Z,326nm,0.4s						
NLYR				smax			
	comp=N,1μm,1.0s						
TUP	**Tupik**	**2.95**	**189**	*e*Pn	**Pn**	**21 13 03.5**	**-0.1**
TUP				*e*		21 13 06.2	
TUP				*e*Pg	**Pb**	**21 13 08.7**	**-0.2**
TUP				Pmax		21 13 09.1	
	comp=N,200nm,0.7s						
TUP				*e*Sn	**Sn**	**21 13 38.9**	**-0.7**
TUP				*e*Sg	**Sb**	**21 13 47.2**	**+1.7**
TUP				Smax		21 13 48.5	
	comp=N,2μm,0.9s						
TUP	**Tupik**	**2.95**	**189**	*e*P	**Pn**	**21 13 03.5**	**-0.1**
TUP				*e*		21 13 46.5	
TUP				pmax	pmax		
	comp=Z,143nm,0.6s						
TUP				smax			
	comp=E,2μm,0.9s						
TNDR	**Tynda**	**3.12**	**133**	*e*	**Pn**	**21 13 06.9**	**+0.9**
TNDR				*e*		21 13 45.3	
TNDR				*e*Sg	**Sg**	**21 13 53.3**	**-2.7**
TNDR				Smax		21 13 56.7	
	comp=E,5μm,0.7s						
BOD	**Bodaibo**	**3.66**	**280**	⇓*i*Pn	**Pn**	**21 13 12.3**	**-1.0**
BOD				*e*Pg	**Pb**	**21 13 20.2**	**-0.8**
BOD				Pmax		21 13 21.9	
	comp=E,90nm,0.4s						
BOD				*e*Sg	**Sb**	**21 14 06.4**	**+0.6**
BOD				Smax		21 14 12.9	
	comp=E,585nm,1.1s						
BOD	**Bodaibo**	**3.66**	**280**	*e*P	**Pn**	**21 13 11.4**	**-1.9**
BOD				pmax	pmax		
	comp=Z,89nm,0.7s						
SVKR	**Severomuysk**	**4.14**	**256**	*e*Pn	**Pn**	**21 13 19.5**	**-0.4**
SVKR				*e*Pg	**Pb**	**21 13 29.8**	**+0.6**
SVKR				Pmax		21 13 32.6	
	comp=Z,130nm,0.5s						
SVKR				*e*Sg	**Sb**	**21 14 23.3**	**+3.7**
SVKR				Smax		21 14 37.2	
	comp=Z,621nm,0.9s						
SVKR	**Severomuysk**	**4.14**	**256**	*e*P	**Pb**	**21 13 29.8**	**+0.6**
SVKR				pmax	pmax		
	comp=Z,123nm,0.4s						
UKT	**Uakit**	**4.36**	**248**	*e*	**Pn**	**21 13 23.2**	**+0.3**
UKT				*e*Pg	**Pb**	**21 13 33.2**	**+0.2**
UKT				Pmax		21 13 35.7	
	comp=Z,68nm,0.5s						
UKT				*e*Sg	**Sb**	**21 14 28.6**	**+2.6**
UKT				Smax		21 14 30.9	
	comp=Z,253nm,0.8s						
UKT	**Uakit**	**4.36**	**248**	*e*P	**Pb**	**21 13 33.1**	**+0.1**
UKT				pmax	pmax		
	comp=Z,67nm,0.4s						
YOA	**Uoyan**	**5.10**	**260**	*e*	**Pn**	**21 13 34.2**	**+1.0**
YOA				*e*Pg	**Pb**	**21 13 47.3**	**+1.6**
YOA				Pmax		21 13 55.8	
	comp=Z,176nm,1.3s						
YOA				*e*Sg	**Sb**	**21 14 53.5**	**+6.0**
YOA				Smax		21 15 17.6	
	comp=Z,2μm,1.2s						
YOA	**Uoyan**	**5.10**	**260**	*e*P	**Pb**	**21 13 47.1**	**+1.4**
YOA				pmax	pmax		
	comp=Z,103nm,0.6s						
KMO	**Kumora**	**5.46**	**259**	*e*Pn	**Pn**	**21 13 38.0**	**-0.1**
KMO				*e*Pg	**Pb**	**21 13 53.0**	**+1.2**
KMO				Pmax		21 14 01.8	
	comp=Z,33nm,0.8s						
KMO				*e*Sg	**Sb**	**21 15 02.3**	**+4.5**
KMO				Smax		21 15 18.4	
	comp=Z,298nm,1.4s						
KMO	**Kumora**	**5.46**	**259**	*e*P	**Pn**	**21 13 37.9**	**-0.2**
KMO				*e*S	**Sn**	**21 14 37.9**	**-3.6**
KMO				pmax	pmax		
	comp=Z,23nm,0.4s						
KMO				smax			
	comp=E,294nm,1.0s						
YLYR	**Ulyunkhan**	**5.89**	**249**	*e*Pn	**Pn**	**21 13 44.5**	**+0.5**
YLYR				*e*Pg	**Pb**	**21 14 01.8**	**+2.7**
YLYR				Pmax		21 14 07.4	
	comp=E,10.0nm,0.6s						
YLYR				*e*Sg	**Sb**	**21 15 17.0**	**+6.8**
YLYR				Smax		21 15 28.7	
	comp=E,233nm,1.0s						
YLYR	**Ulyunkhan**	**5.89**	**249**	*e*P	**Pn**	**21 13 44.3**	**+0.3**
NIZ	**Nizh Angarsk**	**6.38**	**261**	*e*	**Pn**	**21 13 51.9**	**+1.2**
NIZ				*e*Pg	**Pb**	**21 14 09.9**	**+2.4**
NIZ				Pmax		21 14 16.9	
	comp=E,14nm,1.0s						
NIZ				*e*Sg	**Sb**	**21 15 31.0**	**+6.7**
NIZ				Smax		21 15 39.0	
	comp=E,146nm,1.0s						
NIZ	**Nizh Angarsk**	**6.38**	**261**	*e*P	**Pn**	**21 13 52.0**	**+1.3**
YAK	**Yakutsk**	**6.53**	**40**	P	**Pn**	**21 14 05.2**	**+12**
	comp=E,16nm,0.4s						
YAK				*e*S	Sn	21 15 29.4	+21
YAK	**Yakutsk**	**6.53**	**40**	*e*P	**Pn**	**21 13 55.2**	**+2.4**
YAK				*e*		21 15 16.1	
YAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.3s						
YAK				smax			
	comp=N,22nm,1.0s						
YAK				smax			
	comp=Z,11nm,0.9s						
YAK				smax			
	comp=E,12nm,1.1s						
CIT	**Chita**	**6.75**	**221**	*e*	**Pb**	**21 14 14.1**	**+0.3**
CIT				*e*Sg	**Sg**	**21 15 44.2**	**-8.4**
CIT				Smax		21 15 48.0	
	comp=E,540nm,1.4s						
SYVR	**Suvo**	**7.12**	**243**	*e*	**Pn**	**21 14 00.7**	**-0.2**
SYVR				*e*Pg	**Pb**	**21 14 24.2**	**+4.2**
SYVR				Pmax		21 14 39.3	
	comp=E,7.0nm,0.5s						
SYVR				*e*Sg	**Sb**	**21 15 55.8**	**+10**
SYVR				Smax		21 16 03.6	
	comp=E,316nm,1.0s						
SYVR	**Suvo**	**7.12**	**243**	*e*P	**Pn**	**21 14 00.8**	**-0.1**
SYVR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
HIA	**Hailar**	**8.10**	**185**	*e*P	**Pn**	**21 14 11.8**	**-2.6**
	comp=Z,7.8nm,0.6s						
HIA	**Hailar**	**8.10**	**185**	*e*P	**Pn**	**21 14 12.2**	**-2.2**
OGRR	**Ongureny**	**8.32**	**249**	*e*	Pn	21 14 49.9	+33
OGRR				max		21 14 50.5	
	comp=Z,5.0nm,0.6s						
OGRR				*e*Sg	**Sg**	**21 16 34.2**	**-8.6**
OGRR				Smax		21 16 49.5	
	comp=Z,60nm,1.9s						
KPC	**Khapcheranga**	**9.11**	**217**	*e*	Px	21 15 24.0	
KPC				*e*		21 16 22.5	
KPC				*e*Sg	Sx	21 16 56.1	
KPC				Smax		21 17 15.6	
	comp=Z,175nm,1.2s						
KPC	**Khapcheranga**	**9.11**	**217**	*e*P	**Pn**	**21 14 27.0**	**-1.2**
KPC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TRG	**Tyrgan**	**9.44**	**247**	*e*Pn	**Pn**	**21 14 34.0**	**+1.4**
TRG				*e*Pg	Pn	21 15 06.3	+34
TRG				Pmax		21 15 11.0	
	comp=Z,2.0nm,0.6s						
TRG				*e*		21 16 50.1	
TRG				*e*Sg	Sn	21 17 08.4	+49
TRG				Smax		21 17 20.0	
	comp=Z,285nm,1.8s						
KLR	**Kul'dur**	**10.45**	**136**	*e*P	**Pn**	**21 14 47.3**	**+0.8**
TLY	**Talaya**	**11.42**	**248**	*e*Sg	Sx	21 18 09.7	
TLY				Smax		21 18 29.5	
	comp=Z,25nm,1.7s						
TLY	**Talaya**	**11.42**	**248**	*i* P	**Pn**	**21 14 55.5**	**-4.3**
ARS	**Arshan**	**11.90**	**251**	*e*	**Sn**	**21 17 27.6**	**+7.9**
ARS				*e*Sg	Sn	21 18 24.7	+65
ARS				Smax		21 18 46.4	
	comp=Z,70nm,1.6s						
ULN	**Ulaanbaatar**	**12.59**	**227**	*e*P	**Pn**	**21 15 13.6**	**-2.2**
SONM	**Songino Array**	**12.87**	**228**	Pn	**Pn**	**21 15 16.5**	**-3.2**
	comp=Z,0.0nm,0.3s,baz=40,slow=13,SNR=2.7						
SONM				Lg		21 18 53.3	
	comp=Z,0.3nm,0.3s,baz=24,slow=28,SNR=4.4						
ORL	**Orlik**	**12.93**	**257**	*e*Pn	**Pn**	**21 15 20.8**	**+0.3**
ORL				*e*		21 17 58.8	
ORL				*e*Sg	Sn	21 18 54.6	+70
ORL				Smax		21 19 20.0	
	comp=Z,30nm,1.1s						
TIXI	**Tiksi**	**14.77**	**10**	*e*P	**Pn**	**21 15 38.1**	**-7.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KRAR	**Krasnoyarsk**	**15.33**	**277**	*e*P	**Pn**	**21 15 47.5**	**-5.6**
KRAR				*e*		21 18 41.4	
MA2	**Magadan**	**15.81**	**69**	*e*P	**Pn**	**21 16 05.2**	**+5.8**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SEY	**Seymchan**	**16.61**	**57**	*e*P	**Pn**	**21 16 04.3**	**-5.3**
ZAL	**Zalesovo**	**20.41**	**276**	P	**P**	**21 16 51.9**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=9.5,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**25.54**	**262**	P	**P**	**21 17 44.5**	**-1.2**
	comp=Z,0.7nm,0.7s,mb3.4,baz=64,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**25.54**	**262**	*i* P	**P**	**21 17 44.5**	**-1.3**
BVAR	**Borovoye Array**	**28.52**	**283**	P	**P**	**21 18 10.6**	**-2.0**
	comp=Z,0.1nm,0.4s,mb3.0,baz=69,slow=9.4,SNR=2.4						
FINES	**FINESS Array B**	**44.30**	**317**	P	**P**	**21 20 24.6**	**-2.4**
	comp=Z,0.9nm,0.6s,mb3.7,baz=45,slow=11,SNR=7.6						
NOA	**NORSAR Array B**	**49.78**	**323**	P	**P**	**21 21 10.0**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=43,slow=7.8,SNR=2.8						
ASAR	**Alice Springs**	**81.44**	**168**	P	**P**	**21 24 35.8**	**+1.5**
	comp=Z,0.3nm,0.7s,mb3.4,baz=354,slow=4.8,SNR=4.8						

GUC 08 21:17:47.6±0.8, 2698S×6979W, h95km±13km, ML3.7, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.63**	**233**	⇑*i*P	Pn	21 18 04.3	+0.4
CPCH				*i* S	Sn	21 18 16.6	+0.5
CPCH				AMP		21 18 17.9	
	comp=E,31μm,0.1s						
CDCH	**Caldera**	**0.94**	**264**	*e*P	Pn	21 18 07.0	0.0
CDCH				*i* S	Sn	21 18 21.7	+0.3
CDCH				AMP		21 18 22.4	
	comp=N,2μm,0.3s						
CRCH	**Chaqaral**	**0.98**	**310**	⇓*i*P	Pn	21 18 09.2	+1.8
CRCH				*i* S	Sn	21 18 24.9	+2.6
CRCH				AMP		21 18 26.1	
	comp=E,2μm,0.5s						
CPN1	**Cerro Paranal**	**2.41**	**346**	*e*P	Pn	21 18 27.0	+1.7
CPN1				*i* S	Sn	21 18 56.0	+1.8
CPN1				AMP		21 19 03.8	
	comp=E,192nm,0.4s						
CEN1	**Los Morros**	**3.59**	**354**	⇓*i*P	Pn	21 18 39.3	-1.9
CEN1				*i* S	Sn	21 19 18.7	-3.9
CEN1				AMP		21 19 37.8	
	comp=E,57nm,0.7s						

*IDC **08** 21:37:05.6±0.9, 1250N×14381E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.8/6, Error ellipse: s-maj=37.5km s-min=17.2km az=116.0*
*ISCJB **08** 21:37:08.3±6.5, 124N±0.1×1438E±02, h30km±48km, mb4.0/7, Error ellipse: s-maj=38.7km s-min=11.4km az=58.6*
*NEIC **08** 21:37:10.1±8.0, 1246N×14387E, h32km±60km, mb4.5/1, Error ellipse: s-maj=48.1km s-min=11.9km az=105.0*
ISC 08 21:37:09.7±6.9, 125N±01×1438E±02, h27km±51km, n9, σ0§77/10, mb4.0/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**43**	Pn	**Pn**	**21 37 34.5**	**-0.3**
	29nm,0.3s,baz=216,slow=20,SNR=8.7						
GUMO				Sn	**Sn**	**21 37 53.7**	**+0.2**
	78nm,0.3s,baz=13,slow=23,SNR=23						
WRAB	**Tennant Creek**	**33.54**	**196**	*e*P	**P**	**21 43 46.6**	**-0.5**
	4.3nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**33.55**	**196**	*e*P	**P**	**21 43 47.2**	**+0.1**
WRA	**Warramunga Arr**	**33.55**	**196**	P	**P**	**21 43 47.2**	**0.0**
	2.4nm,0.7s,mb4.3,baz=21,slow=9.8,SNR=34						
ASAR	**Alice Springs**	**37.22**	**195**	P	**P**	**21 44 19.3**	**+0.6**
	1.3nm,0.9s,mb3.8,baz=20,slow=9.9,SNR=13						
MKAR	**Makanchi Array**	**61.57**	**317**	P	**P**	**21 47 25.9**	**+1.4**
	0.1nm,0.6s,mb3.1,baz=97,slow=6.8,SNR=4.5						
YKA	**Yellowknife Ar**	**84.30**	**27**	P	**P**	**21 49 39.7**	**+0.6**
	0.2nm,0.4s,mb3.6,baz=286,slow=4.9,SNR=3.3						
ARCES	**ARCESS Array B**	**87.81**	**342**	P	**P**	**21 49 55.8**	**-0.6**
	2.1nm,0.9s,mb4.4,baz=93,slow=8.5,SNR=3.2						
FINES	**FINESS Array B**	**91.72**	**335**	P	**P**	**21 50 13.0**	**-1.7**
	1.0nm,0.9s,mb4.2,baz=64,slow=4.4,SNR=4.3						

*IGQ **08** 21:54:12.7, 096S×7930W, h115km±5km, Mb4.2, Ms4.0, Error ellipse: s-maj=2.1km s-min=1.8km az=143.1*
*ISCJB **08** 21:54:13.9±0.6, 091S±006×7930W±008, h111km±6km, mb3.7/5, Error ellipse: s-maj=13.3km s-min=9.4km az=151.5*
*NEIC **08** 21:54:16.0±1.2, 077S×7893W, h113km±12km, mb4.1/1, MD4.3(IGQ), Error ellipse: s-maj=28.9km s-min=10.3km az=66.0*
*IDC **08** 21:54:21.0±12.0, 043S×7841W, h155km±138km, mb3.3/5, mb1 3.5/6, mb1mx3.3/20, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=124.5km s-min=28.1km az=53.0*
ISC 08 21:54:14.9±0.6, 092S±006×7930W±008, h102km±6km, n49, σ0§83/52, mb3.7/5, 29C-6D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMI	**Rancho Maria**	**0.83**	**73**	⇑P	**Pn**	**21 54 33.9**	**+0.2**
CAMI	**Rancho Maria**	**0.83**	**73**	⇑P	**Pn**	**21 54 33.9**	**+0.2**
NAS1	**Nasa**	**0.86**	**71**	⇑P	**Pn**	**21 54 34.3**	**+0.2**
NAS1	**Nasa**	**0.86**	**71**	⇑P	**Pn**	**21 54 34.3**	**+0.2**
PISA	**Pisayambo**	**0.92**	**99**	⇑P	**Pn**	**21 54 34.4**	**-0.2**
PISA	**Pisayambo**	**0.92**	**99**	⇑P	**Pn**	**21 54 34.4**	**-0.2**
VC1	**Cotopaxi 1**	**0.93**	**73**	⇑P	**Pn**	**21 54 34.8**	**+0.1**
VC1	**Cotopaxi 1**	**0.93**	**73**	⇑P	**Pn**	**21 54 34.8**	**+0.1**
CUSU	**Cusua**	**0.97**	**123**	⇓P	**Pn**	**21 54 34.7**	**-0.4**

LAV3				S	Sn	21 55 10.1	+1.0
CONE	Cono NE Rev Vo	1.85	63	⇑P	Pn	21 54 45.6	-0.1
NNA	Nana	11.26	168	eP	Pn	21 56 53.7	+1.0
SAML	Samuel	17.91	117	eP	Pn	21 58 13.7	-3.6
	9.7nm,0.9s						
LPAZ	La Paz	18.82	145	P	P	21 58 28.4	+1.9
	0.2nm,0.3s,baz=336,slow=13,SNR=4.6						
SIV	San Ignacio	23.39	131	P	P	21 59 13.2	-1.3
	1.4nm,0.7s,mb3.4,baz=317,slow=12,SNR=6.7						
ANMO	Albuquerque	43.81	327	P	P	22 02 12.4	+1.9
	1.9nm,0.5s,mb4.0,baz=146,slow=9.8,SNR=4.0						
PDAR	Pinedale Array	51.30	332	P	P	22 03 09.4	+0.8
	0.3nm,0.5s,mb3.5,baz=121,slow=8.5,SNR=3.4						
ULM	Lac du Bonnet	52.91	347	P	P	22 03 18.9	-1.6
	1.0nm,0.3s,mb4.3,baz=173,slow=8.1,SNR=3.7						
YKA	Yellowknife Ar	68.61	343	P	P	22 05 05.6	-1.3
	0.3nm,0.6s,mb3.3,baz=143,slow=5.1,SNR=7.1						
YKA	Yellowknife Ar	68.61	343	P	P	22 05 05.6	-1.3
WRA	Warramunga Arr	141.06	236	PKhKP		22 13 27.5	
	0.2nm,0.8s,baz=114,slow=2.3,SNR=4.7						
WRA				PKP	PKPdf	22 13 35.3	+2.1
	0.2nm,0.4s,baz=112,slow=2.2,SNR=7.4						
WRA	Warramunga Arr	141.06	236	PKP	PKPdf	22 13 35.3	+2.1

MOS 08 22:07:10.9±0.2, 4353N×4502E, h18km, mb3.6/1, Error ellipse: s-maj=58.2km s-min=13.7km az=139.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSR	Komsomolskaya	0.55	254	ePG	Pg	22 07 22.9	+1.0
KMSR				eS	Sg	22 07 35.5	+6.2
ARNR	Ardon	0.64	238	ePG	Pg	22 07 24.4	+0.9
ARNR				eS	Sg	22 07 38.3	+6.3
KORR	Kora	0.82	238	ePG	Pg	22 07 27.2	+0.2
KORR				eS	Sb	22 07 43.2	+5.8
LACR	Lac	0.88	217	i PG	Pg	22 07 27.8	-0.2
LACR				eS	Sb	22 07 44.3	+5.3
LSNR	Lesken	0.91	254	ePG	Pg	22 07 28.3	-0.4
LSNR				eS	Sb	22 07 45.2	+5.2
ZEI	Tsey	1.11	228	i PG	Pg	22 07 31.1	-1.4
ZEI				i S	Sb	22 07 50.4	+4.6
DIGR	Digorskoe uzhe	1.22	240	ePG	Pg	22 07 32.8	-1.8
DIGR				eS	Sb	22 07 53.0	+4.1

FUNV 08 22:13:35.3, 913N×7011W, h0km, MW3.6, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANV	Sanarito	0.67	57	eP	Pg	22 13 48.5	+0.3
SANV				eS	Sg	22 13 57.9	+1.0
SOCV	Socops	1.12	221	eP	Pg	22 13 55.8	-1.0
SOCV				eS	Sg	22 14 11.9	+0.6
QARV	Quebrada Arrib	1.14	339	eP	Pg	22 13 57.0	-0.3
QARV				eS	Sg	22 14 12.7	+0.7
TEPV	Terepaima	1.23	48	eP	Pg	22 13 58.1	-0.7
TEPV				eS	Sg	22 14 15.3	+0.6
VIGV	El Vigia	1.27	257	eP	Pg	22 13 59.2	-0.5
SIQV	Siquisique	1.54	11	eP	Pn	22 14 04.1	+0.2
SIQV				eS	Sn	22 14 24.5	0.0
DABV	Dabajuro	1.85	344	eP	Pn	22 14 09.1	+0.8
DABV				eS	Sn	22 14 32.7	+0.3
BAUV	El Baul	2.05	95	eP	Pn	22 14 10.3	-0.7
BAUV				eS	Sn	22 14 36.6	-0.7
ELOV	Elorza	2.21	164	eP	Pn	22 14 13.0	-0.2
ELOV				eS	Sn	22 14 40.5	-0.7
JACV	Jacura	2.31	33	eS	Sn	22 14 42.9	-1.0
CAPV	Capacho	2.52	240	eP	Pn	22 14 17.4	0.0
CAPV				eS	Sn	22 14 47.8	-1.0
VIRV	Villa del Rosa	2.64	301	eP	Pn	22 14 18.0	-1.2
VIRV				eS	Sn	22 14 50.2	-1.6
MONV	Montecano	2.81	3	eS	Sn	22 14 53.3	-2.6

ISCJB 08 22:25:40.5±0.9, 1951N±003×7779W±007, h6km, Error ellipse: s-maj=10.3km s-min=4.3km az=15.5
SSNC 08 22:25:43.2, 1946N×7786W, h15km, MD3.0, ML2.1
JSN 08 22:25:44.2±1.3, 1946N×7772W, h6km±11km, MD3.2
ISC 08 22:25:43.7±1.9, 1951N±004×7777W±009, h29km±14km, n7, σ0°49/13, 2C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	0.91	52	⇑ePG	Pn	22 26 00.9	+0.5
LMGC				eSG	Sb	22 26 12.5	+0.1
	comp=N,228nm,0.1s						
LMGC				e			
	comp=E,260nm,0.1s						
BBJ	Bamboo Saint A	1.22	157	⇑eP	Pn	22 26 04.9	+0.1
BBJ				eS	Sn	22 26 20.4	+0.1
CVJ	Coleyville	1.30	170	eP	Pn	22 26 05.6	-0.2
CVJ				eS	Sn	22 26 21.2	-1.0
MCJ	Malvern	1.58	177	eS	Sn	22 26 30.4	+1.2
CCCC	Cccc	1.68	0	eP	Pn	22 26 10.5	-0.6
CCCC				eS	Sn	22 26 31.8	+0.2
	comp=N,0.8nm,0.1s						
CCCC				e			
	comp=E,0.9nm,0.1s						
STH	Stony Hill	1.69	147	eP	Pn	22 26 11.3	+0.1
STH				eS	Sn	22 26 31.6	-0.3
RCC	Rio Carpintero	2.01	76	eP	Pn	22 26 15.5	-0.1
RCC				eS	Sn	22 26 39.8	0.0
	comp=N,37nm,0.1s						
RCC				e			
	comp=E,44nm,0.0s						

ISCJB 08 22:34:55.4±1.8, 218N±0.1×143.1E±0.1, h268km±14km, mb3.8/15, Error ellipse: s-maj=20.3km s-min=17.2km az=43.1
IDC 08 22:34:56.1±2.0, 2179N×143.10E, h258km±18km, mb3.2/9, mb1 3.4/10, mb1mx3.3/21, mbtmp3.8/10, Error ellipse: s-maj=21.1km s-min=13.3km az=95.0
ISC 08 22:34:56.4±1.7, 218N±01×1432E±01, h262km±14km, n20, σ0°69/19, mb3.8/15, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.34	351	P	Pn	22 36 17.6	+0.9
	25nm,0.3s,baz=100,slow=23,SNR=19						
CBIJ				S	S	22 37 20.2	-0.7
	24nm,0.3s,baz=0.6,slow=23,SNR=5.7						
SONM	Songino Array	39.25	320	P	P	22 42 00.2	+0.4
	0.3nm,0.3s,mb3.2,baz=128,slow=7.8,SNR=6.0						
WRA	Warramunga Arr	42.38	192	P	P	22 42 25.1	-0.1
	0.6nm,0.6s,mb3.0,baz=17,slow=10.0,SNR=21						
ASAR	Alice Springs	46.09	192	P	P	22 42 53.6	-0.9
	0.3nm,0.7s,mb2.8,baz=11,slow=11,SNR=4.2						
JIRN	Jiri	51.70	289	eP	P	22 43 37.8	+0.8
	19nm,0.5s,mb4.7						
GUN	Gumba	51.94	289	eP	P	22 43 39.4	+0.6
	9.2nm,0.4s,mb4.5						
PKI	Pulchoki	52.40	289	eP	P	22 43 41.7	-0.4
	5.0nm,0.3s,mb4.3						
KKN	Kakani	52.49	289	eP	P	22 43 42.9	+0.2
GKN	Gorkha	53.02	289	eP	P	22 43 46.9	+0.2
	7.3nm,0.3s,mb4.5						
KOLN	Koldanda	53.96	289	eP	P	22 43 53.6	+0.1
	3.1nm,0.3s,mb4.1						
ZAL	Zalesovo	54.13	322	P	P	22 43 54.5	-0.1
	1.0nm,0.7s,mb3.2,baz=150,slow=24,SNR=5.7						
MKAR	Makanchi Array	54.61	313	P	P	22 43 57.9	-0.2
	0.4nm,0.5s,mb3.1,baz=91,slow=8.5,SNR=9.5						
KDAK	Kodiak Island	58.12	35	P	P	22 44 23.1	+0.3
	14nm,1.0s,mb4.4,baz=300,slow=8.1,SNR=4.4						
ILAR	Eielson Array	61.95	27	P	P	22 44 47.9	-0.9
	0.8nm,0.7s,mb3.4,baz=269,slow=5.2,SNR=8.8						
YKA	Yellowknife Ar	76.37	28	P	P	22 46 16.8	-0.1
	0.8nm,0.4s,mb3.7,baz=292,slow=5.9,SNR=13						
JOF	Joensuu	80.21	334	ep	P	22 46 37.0	-0.9
FINES	FINESS Array B	83.08	334	P	P	22 46 51.9	-1.0
	1.1nm,0.9s,mb3.7,baz=64,slow=4.4,SNR=7.4						
NVAR	Mina Array Bea	83.09	51	P	P	22 46 54.6	+1.8
	0.8nm,0.6s,mb3.7,baz=268,slow=4.3,SNR=5.7						
PLCA	Paso Flores	145.84	131	PKPbc	PKPbc	22 54 05.8	+1.0
	6.2nm,1.0s,baz=206,slow=3.8,SNR=6.7						
LPAZ	La Paz	149.95	85	PKPbc	PKPbc	22 54 17.5	+1.8
	1.0nm,0.5s,baz=270,slow=3.0,SNR=4.8						

CASC 08 22:51:22.4±2.6, 1474N×8954W, h20km±999km, MD3.4, ML3.6, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.90	185	eP	Pb	22 51 47.3	+8.0
SBLS				eS	Sb	22 52 00.7	+10
BOQS	Boqueron	1.03	166	⇓eP	Pb	22 51 49.8	+8.2
BOQS				eS	Sb	22 52 03.7	+9.0
IXG	Ixpaco	1.05	238	⇑eP	Pb	22 51 41.1	-0.7
IXG				eS	Sb	22 51 56.0	+0.8
IXG				AML	AML	22 51 60.0	
	comp=E,2μm,0.4s						
LBRS	Las Brisas	1.11	154	eP	Pn	22 51 52.1	+9.4
LBRS				eS	Sb	22 52 08.0	+11
LFRS	El Faro	1.21	157	⇑eP	Pn	22 51 50.9	+6.8
LFRS				eS	Sb	22 52 05.8	+6.1
LCBS	La Ceiba	1.21	153	eP	Pn	22 51 52.2	+8.0
LCBS				eS	Sb	22 52 08.3	+8.5
SNVI	San Vicente	1.31	149	eP	Pn	22 51 56.4	+11
SNVI				eS	Sn	22 52 15.4	+13

ISCJB 08 22:52:19.4±1.0, 200N±02×7023W±008, h54km, Error ellipse: s-maj=35.0km s-min=3.7km az=33.1
NEIC 08 22:52:23.0, 2018N×7000W, h54km, MD4.2(RSPR), After RSPR.
RSPR 08 22:52:23.0, 2018N×7000W, h54km±49km, MD4.2/11, MD4.2/11
ISC 08 22:52:21.3±0.9, 199N±02×7027W±008, h54km, n22, σ0°97/34, 9C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	3.46	119	eS	Sn	22 53 53.7	+1.3
LSP	Las Mesas	3.46	119	⇑eP	Pn	22 53 14.0	+1.3
LSP				eS	Sn	22 53 53.7	+1.3
CRPR	Cabo Rojo, PR	3.53	122	eS	Sn	22 53 54.6	+0.6
CRPR	Cabo Rojo, PR	3.53	122	⇑eP	Pn	22 53 13.8	+0.2
CRPR				eS	Sn	22 53 54.6	+0.6
MGP	Maguayo	3.54	121	⇑iP	Pn	22 53 14.2	+0.4
MGP				eS	Sn	22 53 54.2	-0.3
LRS	Lares	3.61	116	⇑eP	Pn	22 53 16.0	+1.3
AOPR	Arecibo Observ	3.66	114	eS	Sn	22 53 56.2	-1.2
AOPR	Arecibo Observ	3.66	114	⇑eP	Pn	22 53 16.7	+1.2
AOPR				eS	Sn	22 53 56.2	-1.2
MASC	Masc	3.74	275	eP	Pn	22 53 16.0	-0.4
MASC				eS	Sn	22 53 59.8	+0.6
	comp=N,0.9nm,0.3s						
MASC				e			
	comp=E,1.0nm,0.1s						
CELP	Cerrillos	3.93	117	⇑eP	Pn	22 53 19.6	+0.5
SJG	San Juan	4.28	114	eS	Sn	22 54 09.9	-2.6
SJG	San Juan	4.28	114	⇑eP	Pn	22 53 24.3	+0.4
SJG	San Juan	4.28	114	⇑eP	Pn	22 53 23.8	-0.1
SJG				eS	Sn	22 54 09.9	-2.6
MOAC	Moa	4.47	281	eP	Pn	22 53 20.7	-5.8
MOAC				eS	Sn	22 54 17.9	+0.7
	comp=N,1.1nm,0.5s						
MOAC				e			
	comp=E,1.5nm,0.5s						
CBYP	Canovanas	4.47	110	eS	Sn	22 54 15.6	-1.7
CBYP	Canovanas	4.47	110	⇑eP	Pn	22 53 26.5	-0.1
CBYP				eS	Sn	22 54 15.6	-1.7
CPD	Cerro la Pandu	4.51	113	ePn	Pn	22 53 27.7	+0.6
CPD				eSn	Sn	22 54 18.5	+0.2
HUMP	Col San Antoni	4.53	112	eS	Sn	22 54 18.4	-0.2
HUMP	Col San Antoni	4.53	112	⇑eP	Pn	22 53 26.6	-0.7
HUMP				eS	Sn	22 54 18.4	-0.2
MTP	Monte Pirata	4.80	111	eS	Sn	22 54 24.8	-0.6
MTP	Monte Pirata	4.80	111	⇓eP	Pn	22 53 30.9	-0.2
MTP				eS	Sn	22 54 24.8	-0.6
RCC	Rio Carpintero	5.11	272	eP	Pn	22 53 34.8	-0.4
RCC				eS	Sn	22 54 30.4	-2.4
	comp=N,17nm,0.3s						
RCC				e			
	comp=E,19nm,0.3s						

NEIC 08 23:09:10.6±0.7, 5002N×1846E, h5km, MG2.8(WAR), Error ellipse: s-maj=12.2km s-min=6.5km az=5.0
IPEC 08 23:09:10.8±0.1, 5003N×1844E, h0km, ML2.2/4, Error ellipse: s-maj=2.1km s-min=0.7km az=162.0
CSEM 08 23:09:10.9±0.2, 5013N×1838E, h2km, ML3.2/5, Error ellipse: s-maj=4.5km s-min=2.6km az=10.0
WAR 08 23:09:11.1, 5006N×1844E, ML2.7, 3C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.16	280	⇓iPg	Pg	23 09 14.9	+0.8
RAC				eSg	Sg	23 09 18.0	+1.8
OKC	Ostrava-Krasne	0.29	221	ePG	Pg	23 09 15.2	-1.4
OKC				eSG	Sg	23 09 19.9	-0.4
	486nm,0.6s						
OKC	Ostrava-Krasne	0.29	221	ePg	Pg	23 09 14.2	-2.4
OKC				eSg	Sg	23 09 18.9	-1.4
	486nm,0.6s						
MORC	Moravsky Berou	0.64	245	ePg	Pg	23 09 23.0	-0.4
MORC				eSg	Sg	23 09 30.1	-1.6
	37nm,0.2s						
MORC	Moravsky Berou	0.64	245	ePg	Pg	23 09 23.0	-0.4
MORC				eSg	Sg	23 09 29.3	-2.4
OJC	Ojcow	0.89	79	ePg	Pg	23 09 27.6	-0.6
OJC				eSg	Sg	23 09 39.9	+0.1
LIKS	Likavka	1.10	156	ePN	Pn	23 09 33.8	+0.1
LIKS				eSN	Sn	23 09 49.7	+0.1
JAVC	Velka Javorina	1.30	203	ePg	Pg	23 09 36.1	+0.1
JAVC				eSg	Sg	23 09 55.5	+2.7
	23nm,0.4s						
NIE	Niedzica	1.37	117	ePg	Pg	23 09 36.6	-0.8
NIE				i		23 09 37.5	
NIE				eSg	Sg	23 09 56.2	+0.9
DPC	Dobruska-Polom	1.39	283	ePG	Pg	23 09 36.4	-1.4
DPC				eSG	Sg	23 09 55.5	-0.3
	164nm,0.5s						
DPC	Dobruska-Polom	1.39	283	ePg	Pg	23 09 36.5	-1.2
DPC				eSg	Sg	23 09 54.8	-1.0
VRAC	Vranov	1.41	239	ePg	Pg	23 09 37.1	-1.1
VRAC				eSg	Sg	23 09 54.9	-1.5
	39nm,0.3s						
KSP	Ksiaz	1.58	301	ePg	Pg	23 09 38.9	-2.5
KSP				eSg	Sg	23 10 00.3	-1.6
VYHS	Vyhne	1.58	170	ePN	Pn	23 09 39.7	-0.7
VYHS				eSN	Sn	23 10 01.6	0.0
UPC	Upice	1.62	287	ePG	Pg	23 09 40.0	-2.1
UPC				eSG	Sg	23 10 02.3	-0.8
KRUC	Moravsky	1.66	234	ePg	Pg	23 09 40.5	-2.4
KRUC				eSg	Sg	23 10 02.2	-2.2
	33nm,0.4s						
SMOL	Smolenice	1.68	204	ePN	Pn	23 09 40.7	-1.0
SMOL				eSN	Sn	23 10 04.6	+0.7
STHS	Stebnicka Huta	1.93	108	ePG	Pg	23 09 48.0	-0.1
STHS				eSN	Sn	23 10 15.5	+5.4
ZST	Bratislava	2.06	206	ePN	Pn	23 09 46.0	-0.9
ZST				eSN	Sn	23 10 12.0	-1.2
TREC	Trest	2.06	249	ePG	Pn	23 09 47.2	+0.2
KECS	Kecovo	2.07	139	e	Pn	23 09 46.1	-1.0
KECS	Kecovo	2.07	139	ePG	Pg	23 09 52.2	+1.5
KECS				eSN	Sn	23 10 14.8	+1.3
CRVS	Cervenica-Dubn	2.29	119	ePG	Pg	23 09 53.2	-1.7
CRVS				eSN	Sn	23 10 24.5	+5.6
PSZ	Piszkesteto	2.34	155	ePn	Pn	23 09 48.8	-2.1
PRU	Pruhonice	2.51	270	ePN	Pn	23 09 51.1	-2.1
PRU				ePG	Pb	23 09 54.8	-2.3
PRU				eSG	Sb	23 10 28.2	-0.3
	14nm,0.6s						
PRU	Pruhonice	2.51	270	ePg	Pb	23 09 54.8	-2.3
PRU				eSg	Sb	23 10 28.2	-0.3
	14nm,0.6s						
PVCC	Panska Ves	2.52	282	ePG	Pg	23 09 57.3	-2.2
PVCC				eSG	Sg	23 10 31.1	-1.1
KOLS	Kolonicke sedl	2.74	113	ePG	Pg	23 10 03.5	-0.2
KOLS				eSG	Sg	23 10 44.7	+5.5
KWP	Kalwaria	2.80	97	ePn	Pg	23 10 02.7	-2.0
KWP				eSn	Sn	23 10 34.3	+2.8
KWP				eSg	Sg	23 10 47.0	+6.0
KHC	Kasperske Hory	3.29	256	ePN	Pn	23 10 02.8	-1.1
KHC				ePG	Pb	23 10 10.9	+0.5
KHC				eSG	Sb	23 10 52.7	+1.7
	13nm,0.4s						
KHC	Kasperske Hory	3.29	256	ePg	Pb	23 10 10.9	+0.5
KHC				eSg	Sb	23 10 52.7	+1.7
	13nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	Molln	3.52	233	⇑iPn	Pn	23 10 06.2	-0.9
MOA				⇑iSg	Sg	23 11 01.9	-2.5
	comp=Z,9.4nm,0.6s						
MOA	Molln	3.52	233	⇑iPn	Pn	23 10 06.2	-0.9
MOA				Sg	Sg	23 11 01.9	-2.5
CLL	Collm	3.68	292	ePg	Pg	23 10 19.0	-2.6
CLL				eSg	Sg	23 11 08.0	-1.2
	comp=Z,16nm,0.6s						
NKC	Novy Kostel	3.86	275	ePG	Pb	23 10 21.0	+1.0
MOX	Moxa	4.41	280	ePN	Pg	23 10 32.1	-3.5
MOX				eSG	Sg	23 11 30.1	-2.6

CSEM 08 23:23:07.4, 3724N×3453E, h3km, MD3.6, After ISK
ISK 08 23:23:07.4, 3724N×3453E, h3km, MD3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	Mersin	0.37	181	i PG	Pg	23 23 15.4	+0.9
MERS				SG	Sg	23 23 21.4	+2.2
KARA	Karaisali	0.42	86	PG	Pg	23 23 16.3	+0.9
NIG	Nigde	0.88	4	PG	Pg	23 23 25.0	+0.8
KRTS	Karatas	0.95	134	PG	Pg	23 23 26.4	+0.9
CEYT	Ceyhan	1.00	103	PG	Pg	23 23 27.4	+0.9
KOZT	Kozan	1.06	76	PG	Pg	23 23 28.5	+0.8
IKL	Isikli	1.20	215	PN	Pn	23 23 31.2	+0.1
HTY	Hatay	1.70	130	PN	Pn	23 23 39.1	+1.1
KONT	Konya--Tatoy	1.86	293	ePN	Pn	23 23 41.9	+1.7
GAZ	Gaziantep	2.14	91	ePN	Pn	23 23 45.4	+1.3
MYA	Malataya	3.27	69	ePN	Pn	23 24 00.9	+1.4
SVSK	Karacayir	3.30	35	ePN	Pn	23 24 02.0	+2.0
URFA	Urfa	3.42	85	ePN	Pn	23 24 03.6	+1.9
ELL	Elmali	3.73	264	ePN	Pn	23 24 07.8	+1.9

THE 08 23:34:37.6, 3637N×2086E, h24km, ML4.0
IDC 08 23:34:41.9±0.8, 3730N×2092E, h0km, mb3.8/11, mb1 3.9/14, mb1mx3.8/28, mbtmp3.8/14, ML4.1/3, Error ellipse: s-maj=18.2km s-min=18.0km az=128.0
MOS 08 23:34:43.1±0.6, 3718N×2079E, h10km, mb4.0/8, Error ellipse: s-maj=7.1km s-min=4.2km az=85.2
ISCJB 08 23:34:43.4±0.3, 3724N±002×2075E±002, h10km, mb3.7/12, MS3.2/1, Error ellipse: s-maj=2.9km s-min=2.5km az=147.1
NEIC 08 23:34:44.6, 3721N×2080E, h23km, ML3.9(THE), ML4.0(ATH), After ATH.
ATH 08 23:34:44.4, 3720N×2079E, h23km±1km, MD4.0/18, ML4.0
HLW 08 23:34:45.9, 3730N×2134E, h33km, Mb4.0
CSEM 08 23:34:45.0±0.1, 3715N×2085E, h10km, ML4.0, Error ellipse: s-maj=2.2km s-min=1.1km az=174.0
ISC 08 23:34:44.5±0.2, 3721N±002×2081E±002, h10km, n182, σ1°31/224, mb3.7/12, MS3.2/1, 16C-14D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.90	91	ePB	Pb	23 35 01.4	-0.7
ITM				eSN	Sn	23 35 15.3	-0.8
ITM	Ithomi	0.90	91	eSn	Sn	23 35 15.3	-0.8
VLS	Valsamata	0.98	350	ePN	Pn	23 35 03.2	-1.2
VLS				eSN	Sn	23 35 18.0	-0.3
VLS	Valsamata	0.98	350	eSn	Sn	23 35 18.0	-0.3
RLS	Riolos of Patr	1.00	31	ePN	Pn	23 35 03.3	-1.3
RLS				eSN	Sn	23 35 18.1	-0.6
VLI	Veliai	1.77	105	ePN	Pn	23 35 16.8	+1.6
VLI	Veliai	1.77	105	ePn	Pn	23 35 17.0	+1.8
EVR	Evrytania	1.88	25	ePN	Pn	23 35 18.5	+1.8
EVR	Evrytania	1.88	25	ePn	Pn	23 35 19.0	+2.3
KYTH	Kithira	2.02	117	ePN	Pn	23 35 20.0	+1.5
KYTH	Kithira	2.02	117	ePn	Pn	23 35 20.5	+2.0
MGER	Gerania Oros	2.10	67	ePN	Pn	23 35 20.5	+0.8
AGG	Agios Georgios	2.18	33	ePn	Pn	23 35 22.9	+2.1
	comp=Z,7.0nm,0.3s						
AGG				eSn	Sn	23 35 46.8	-1.0
AGG	Agios Georgios	2.18	33	ePn	Pn	23 35 22.9	+2.2
	7.0nm,0.3s						
AGG				eSn	Sn	23 35 46.8	-0.9
AGG	Agios Georgios	2.18	33	P	Pn	23 35 21.2	+0.5
AGG				S	Sg	23 35 55.7	+1.3
NAIG	Nisos Aigina	2.20	75	ePN	Pn	23 35 21.5	+0.4
LKR	Lokris	2.26	50	ePB	Pn	23 35 23.0	+1.2
IGT	Igoumenitsa	2.35	351	ePn	Pn	23 35 24.2	+1.1
IGT				eSn	Sn	23 35 50.9	-1.2
IGT	Igoumenitsa	2.35	351	P	Pn	23 35 24.2	+1.0
IGT				S	Sg	23 36 00.3	+0.2
ATH	Athens Observa	2.44	71	ePN	Pn	23 35 24.7	+0.4
KVR	Kavouri	2.44	74	ePN	Pn	23 35 25.0	+0.7
KVR	Kavouri	2.44	74	ePn	Pn	23 35 24.0	-0.3
JAN	Janina	2.45	1	ePN	Pn	23 35 25.5	+1.0
MPAR	Parnis Oros	2.51	67	ePN	Pn	23 35 25.8	+0.5
PTL	Penteli	2.57	70	ePN	Pn	23 35 26.5	+0.3
MEV	Metsovon	2.60	7	P	Pn	23 35 27.6	+1.1
MEV	Metsovon	2.60	7	P	Pn	23 35 27.6	+1.1
KEK	Kerkira	2.63	343	ePN	Pn	23 35 28.4	+1.5
NEO	Neokhori	2.83	41	ePN	Pn	23 35 30.9	+1.1
XOR	Xorichti	2.86	40	ePn	Pn	23 35 31.6	+1.4
	comp=Z,7.0nm,0.3s						
XOR	Xorichti	2.86	40	P	Pn	23 35 30.5	+0.4
XOR	Xorichti	2.86	40	ePn	Pn	23 35 31.6	+1.5
	7.0nm,0.3s						
XOR	Xorichti	2.86	40	P	Pn	23 35 30.6	+0.4
LIT	Litokhoron	3.18	24	ePn	Pn	23 35 35.6	+1.1
	comp=Z,4.0nm,0.2s						
LIT				eSn	Sn	23 36 11.4	-1.1
LIT	Litokhoron	3.18	24	P	Pn	23 35 35.6	+1.1
LIT				S	Sb	23 36 19.9	+0.1
KZN	Kozani	3.19	13	ePN	Pn	23 35 36.4	+1.8
KZN				eSN	Sn	23 36 12.9	+0.2
VAM	Vamos	3.28	122	ePN	Pn	23 35 36.4	+0.5
PAIG	Paliouri	3.53	39	ePn	Pn	23 35 40.0	+0.7
PAIG				eSn	Sn	23 36 20.2	-0.9
PAIG	Paliouri	3.53	39	ePn	Pn	23 35 40.0	+0.7
PAIG				eSn	Sn	23 36 20.2	-0.9
PAIG	Paliouri	3.53	39	P	Pn	23 35 39.7	+0.4
PAIG				S	Sb	23 36 28.3	-1.6
FNA	Florina	3.60	7	ePn	Pn	23 35 41.6	+1.3
	comp=Z,6.0nm,0.3s						
FNA			

MSI	Messina ING	4.28	285	Pn	Pn	23 35 50.7	+1.0
LOS	Limnos	4.32	50	*e*Pn	Pn	23 35 51.8	+1.6
LOS	Limnos	4.32	50	P	Pn	23 35 50.8	+0.6
LOS	Limnos	4.32	50	*e*Pn	Pn	23 35 51.8	+1.6
LOS	Limnos	4.32	50	P	Pn	23 35 50.8	+0.7
VAY	Valandovo	4.33	18	*i* Pn	Pn	23 35 51.2	+0.8
ORI	Oriolo Calabro	4.45	311	Pn	Pn	23 35 53.6	+1.6
AGST	Augusta-Monte	4.45	272	Pn	Pn	23 35 51.1	-0.9
SRS	Serrai	4.47	28	*e*Pn	Pn	23 35 53.3	+1.1
SRS				*e*Sn	Sn	23 36 43.3	-0.9
SRS	Serrai	4.47	28	P	Pn	23 35 52.9	+0.7
SRS				S	Sb	23 36 52.5	-4.4
BELI	Belica	4.49	4	⇑*i*Pn	Pn	23 35 53.0	+0.6
BELI				*i* Sn	Sn	23 36 43.3	-1.5
SSY	Sortino	4.58	271	Pn	Pn	23 35 53.1	-0.7
BRT	Bari-Castellan	4.62	324	Pn	Pn	23 35 54.9	+0.6
PZI	Palazzolo	4.68	270	Pn	Pn	23 35 55.1	-0.1
NVR	Nevrokopi	4.77	29	*e*PN	Pn	23 35 58.2	+1.8
SKO	Skopje	4.79	6	*e*Pn	Pn	23 35 57.7	+1.1
SKO	Skopje	4.79	6	*i* Pn	Pn	23 35 57.5	+0.9
CUC	Castrocucco	4.80	307	Pn	Pn	23 35 59.7	+2.9
MNO	Monte Soro	4.91	280	Pn	Pn	23 35 59.5	+1.2
SLNA	Salina	4.92	288	Pn	Pn	23 36 00.5	+2.1
MMB	Musomiste	4.93	26	*i* P	Pn	23 35 59.0	+0.4
KKB	Krupnik	4.98	20	*i* P	Pn	23 36 00.0	+0.8
MGR	Morigerati	5.05	307	Pn	Pn	23 36 01.3	+1.1
	24nm,0.2s						
RDO	Rodhopi	5.38	42	*e*PN	Pn	23 36 07.0	+2.2
SGO	Sicignano	5.44	310	Pn	Pn	23 36 07.1	+1.5
	24nm,0.3s						
SGO	Sicignano	5.44	310	P	Pn	23 36 07.1	+1.5
SGO				pmax	pmax		
	comp=Z,24nm,0.3s						
VTS	Vitosha	5.69	18	*i* P	Pn	23 36 10.0	+1.0
STON	Ston	6.14	338	*i* Pn	Pn	23 36 13.4	-1.8
STON				*i* Sn	Sn	23 37 20.1	-5.4
GRUS	Gruza	6.68	359	*i* Pn	Pn	23 36 21.4	-1.2
SLUM		6.76	146	P	Pn	23 36 21.3	-2.5
DIVS	Divcibare	6.91	355	*i* Pn	Pn	23 36 25.0	-0.8
VOIR		8.82	20	⇓P	Pn	23 36 53.7	+1.7
SWA2		8.84	153	⇓P	Pn	23 36 50.9	-1.4
SWA1		8.92	151	P	Pn	23 36 52.1	-1.3
SWA1				S	Sn	23 38 23.7	-10
MLR	Muntele Rosu	9.13	23	Pn	Pn	23 36 58.7	+2.4
	comp=Z,0.3nm,0.3s,baz=159,slow=12,SNR=8.4						
MLR	Muntele Rosu	9.13	23	P	Pn	23 36 57.8	+1.5
HARR	Harsova	9.21	34	⇓P	Pn	23 37 06.7	+9.3
BOJS	Bojanci	9.28	335	*e*Pn	Pn	23 36 57.8	-0.5
BOJS				*e*Sn	Sn	23 38 38.2	-4.6
CRES	Cresnjev	9.50	337	*e*Pn	Pn	23 37 00.5	-0.8
VRI	Vrincioaia	9.72	25	⇑P	Pn	23 37 07.3	+2.9
PDKS	Podkum	9.86	336	*e*Pn	Pn	23 37 05.4	-0.8
HBRG	Burj al 'Arab	10.00	129	P	Pn	23 37 04.9	-3.3
VOJS	Vojsko	10.22	332	*i* Pn	Pn	23 37 10.3	-0.9
PERS	Pernice	10.33	338	*e*Pn	Pn	23 37 11.2	-1.5
PERS				*e*Sn	Sn	23 38 58.8	-10
BRTR	Keskin Array B	10.37	72	Pn	Pn	23 37 15.1	+1.8
	comp=Z,0.1nm,0.3s,baz=287,slow=10,SNR=3.1						
OBKA	Obir	10.40	335	⇓*i*Sn	Sn	23 39 04.3	-5.8
	comp=Z,8.6nm,0.6s						
OBKA	Obir	10.40	335	⇑*i*Pn	Pn	23 37 12.7	-0.9
	comp=Z,0.8nm,0.2s						
OBKA				⇓*i*Sn	Sn	23 39 04.3	-5.8
	comp=Z,8.6nm,0.6s						
ROBS	Robic	10.54	331	*e*Pn	Pn	23 37 15.5	-0.1
ROBS				*e*Sn	Sn	23 39 05.1	-8.7
ARSA	Arzberg	10.77	340	⇓*i*Sn	Sn	23 39 12.8	-6.5
ARSA	Arzberg	10.77	340	⇑*i*Pn	Pn	23 37 18.9	+0.1
	comp=Z,2.4nm,0.3s						
ARSA				⇓*i*Sn	Sn	23 39 12.8	-6.5
BURAR	Bucovina Array	10.90	16	⇑P	Pn	23 37 24.0	+3.5
AWBH		11.17	140	P	Pn	23 37 22.2	-2.0
KECS	Kecovo	11.27	359	*e*PN	Pn	23 37 25.0	-0.6
KBA	Koelnbreinsper	11.31	333	⇑*i*Sn	Sn	23 39 26.4	-6.1
	comp=Z,2.1nm,0.5s						
KBA	Koelnbreinsper	11.31	333	⇓*i*Pn	Pn	23 37 25.2	-0.9
	comp=Z,1.9nm,0.4s						
KBA				⇑*i*Sn	Sn	23 39 26.4	-6.1
	comp=Z,2.1nm,0.5s						
VYHS	Vyhne	11.37	353	*e*PN	Pn	23 37 23.0	-4.0
MOA	Molln	11.67	338	⇑*i*Sn	Sn	23 39 33.3	-8.1
	comp=Z,1.2nm,0.3s						
MOA	Molln	11.67	338	⇑*i*Pn	Pn	23 37 30.2	-0.9
	comp=Z,6.6nm,0.4s,SNR=14						
MOA				⇑*i*Sn	Sn	23 39 33.3	-8.1
	comp=Z,1.2nm,0.3s						
KOLS	Kolonicke sedl	11.77	5	*e*PN	Pn	23 37 33.7	+1.3
GLL	Jalalah	11.86	127	P	Pn	23 37 30.8	-2.9
HFRF	Wahat Farafira	11.87	146	P	Pn	23 37 31.5	-2.2
WATA	Walderalm	12.20	329	⇓*i*Sn	Sn	23 39 48.0	-6.4
	comp=Z,2.7nm,0.4s						
WATA	Walderalm	12.20	329	⇑*i*Pn	Pn	23 37 37.7	-0.7
	comp=Z,2.0nm,0.3s						
WATA				⇓*i*Sn	Sn	23 39 48.0	-6.4
	comp=Z,2.7nm,0.4s						
SQTA	Sankt Quirin	12.27	328	⇓*i*Sn	Sn	23 39 49.4	-6.6
	comp=Z,0.8nm,0.2s						
SQTA	Sankt Quirin	12.27	328	⇑*i*Pn	Pn	23 37 39.1	-0.1
	comp=Z,2.1nm,0.5s						
SQTA				⇓*i*Sn	Sn	23 39 49.4	-6.6
	comp=Z,0.8nm,0.2s						
MOTA	Moosalm	12.41	328	⇑*i*Pn	Pn	23 37 39.5	-1.7
	comp=Z,1.5nm,0.6s						
DAVOX	Davos	12.54	323	Pn	Pn	23 37 44.3	+1.3
	baz=151,slow=19						
DAVOX				Sn	Sn	23 39 55.3	-7.4
GERES	GERESS Array B	12.73	338	Pn	Pn	23 37 43.9	-1.7
	comp=Z,0.4nm,0.3s,baz=156,slow=13,SNR=13						
GERES				Sn	Sn	23 39 58.8	-8.6
	comp=Z,0.3nm,0.3s,baz=155,slow=23,SNR=4.4						
DAVA	Damuels	12.91	325	⇑*i*Sn	Sn	23 40 05.5	-6.2
DAVA	Damuels	12.91	325	⇑*e*Pn	Pn	23 37 46.5	-1.4
	comp=Z,2.3nm,0.3s						
DAVA				⇑*i*Sn	Sn	23 40 05.5	-6.2
KHC	Kasperske Hory	13.03	338	*e*P	Pn	23 37 40.8	-8.8
KHC				*ex*	x	23 37 48.9	
KHC	Kasperske Hory	13.03	338	*e*P	Pn	23 37 51.1	+1.5
DPC	Dobruska-Polom	13.53	348	*e*P	Pn	23 37 53.8	-2.7
PRU	Pruhonice	13.55	343	*e*P	Pn	23 38 05.3	+8.5
UPC	Upice	13.73	347	*e*P	Pn	23 38 09.2	+10
AKRG	Al Kharijah	14.29	142	P	Pn	23 38 04.7	-2.1
GTR	Jabal at Tayr	14.32	142	P	Pn	23 38 05.5	-1.7
BRG	Berggiesshubel	14.52	342	*e*P	Pn	23 38 18.3	+8.4
BRG				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BRG	Berggiesshubel	14.52	342	*e*(P)	Pn	23 38 18.3	+8.4
	comp=Z,2.6nm,1.2s						
ANN	Anapa	14.65	54	*e*P	Pn	23 38 13.5	+1.7
	comp=Z,52nm,1.0s						
ANN	Anapa	14.65	54	*e*P	Pn	23 38 13.5	+1.7
ANN				*e*S	Sn	23 40 55.2	+1.0
ANN				pmax	pmax		
	comp=Z,52nm,1.0s						
HHRG	Al Ghardaqah	14.68	129	⇓P	Pn	23 38 09.5	-2.6
AKASG	Malin Array Be	14.78	21	Pn	Pn	23 38 17.3	+3.8
	comp=Z,1.8nm,0.3s,baz=206,slow=9.2,SNR=7.9						
AKASG	Malin Array Be	14.78	21	P	Pn	23 38 17.3	+3.9
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CLL	Collm	15.15	341	*i* (P)	Pn	23 38 25.8	+7.3
	comp=Z,10.0nm,1.0s						
ESDC	Sonseca Array	19.55	285	P	Pn	23 39 12.3	-1.1
	comp=Z,0.3nm,0.3s,baz=80,slow=10,SNR=5.2						
OBN	Obninsk	20.89	26	⇓*e*P	P	23 39 28.1	+1.3
OBN				*e*		23 39 46.6	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.2						
MDT	Midelt	21.25	266	P	P	23 39 31.9	+1.2
	comp=Z,1.2nm,0.7s,mb3.3,baz=106,slow=12,SNR=4.7						
HFS	Hagfors	23.39	351	P	P	23 39 51.4	-2.2
	comp=Z,3.5nm,0.5s,mb4.0,baz=148,slow=9.9,SNR=16						
HFS	Hagfors	23.39	351	P	P	23 39 51.4	-2.2
HFS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
EKA	Eskdalemuir Ar	24.36	326	P	P	23 40 01.4	-1.1
	comp=Z,5.3nm,0.7s,mb4.1,baz=126,slow=8.1,SNR=22						
EKA	Eskdalemuir Ar	24.36	326	P	P	23 40 01.5	-1.0
EKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES	FINESS Array B	24.49	6	P	P	23 40 01.5	-2.2
	comp=Z,1.0nm,0.4s,mb3.6,baz=161,slow=13,SNR=15						
FINES	FINESS Array B	24.49	6	*e*P	P	23 40 02.2	-1.5
NB2	NORSAR Subarra	24.61	349	P	P	23 40 03.4	-1.5
	comp=Z,1.3nm,0.6s,mb3.6,baz=156,slow=10						
NOA	NORSAR Array B	24.61	349	P	P	23 40 03.4	-1.5
	comp=Z,2.7nm,0.8s,mb3.9,baz=157,slow=9.0,SNR=9.3						
NOA	NORSAR Array B	24.61	349	P	P	23 40 03.4	-1.5
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KAF	Kangasniemi	25.17	6	*e*p	P	23 40 05.4	-4.5
JOF	Joensuu	26.54	11	*e*p	P	23 40 19.1	-3.2
TORD	Torodi Ar. Bea	29.43	220	P	P	23 40 47.9	-0.3
	comp=Z,0.6nm,0.5s,mb3.6,baz=32,slow=8.8,SNR=28						
AKTK	Aktyubinsk	29.60	52	P	P	23 40 47.6	-2.1
	comp=Z,1.0nm,0.4s,mb3.9						
AKTO	Aktyubinsk	29.60	52	P	P	23 40 47.6	-2.0
	comp=Z,0.5nm,0.4s,mb3.6,baz=255,slow=12,SNR=3.9						
AKTO	Aktyubinsk	29.60	52	P	P	23 40 47.6	-2.1
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ARCES	ARCESS Array B	32.49	3	P	P	23 41 13.2	-2.0
	comp=Z,1.5nm,0.8s,mb3.9,baz=192,slow=10,SNR=9.1						
ARCES	ARCESS Array B	32.49	3	P	P	23 41 13.2	-2.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	45.62	58	P	P	23 43 02.8	-2.2
	comp=Z,0.3nm,0.3s,mb3.6,baz=272,slow=7.8,SNR=18						
MKAR	Makanchi Array	45.62	58	*i* P	P	23 43 02.7	-2.3
ZAL	Zalesovo	46.16	47	P	P	23 43 06.5	-2.8
	comp=Z,0.7nm,0.5s,mb3.9,baz=161,slow=17,SNR=3.6						
ZAL	Zalesovo	46.16	47	P	P	23 43 06.5	-2.8
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	74.38	340	P	P	23 46 20.8	-1.6
	comp=Z,0.1nm,0.5s,mb3.0,baz=31,slow=5.5,SNR=4.3						
YKA	Yellowknife Ar	74.38	340	P	P	23 46 20.8	-1.7
WRA	Warramunga Arr	120.27	93	PKP	PKPdf	23 53 34.5	-1.3
	comp=Z,0.3nm,0.6s,baz=319,slow=1.9,SNR=7.4						
ASAR	Alice Springs	121.84	97	PKP	PKPdf	23 53 37.7	-1.1
	comp=Z,0.3nm,0.3s,baz=315,slow=1.1,SNR=6.6						

*ISCJB **08** 23:55:01.6±1.3, 4159N±007×2409E±006, h8km±7km, Error ellipse: s-maj=11.6km s-min=7.0km az=165.4*
*ATH **08** 23:55:01.3, 4161N×2410E, h20km±4km, MD3.0/4*
*CSEM **08** 23:55:02.9±0.2, 4158N×2412E, h2km, ML2.6, Error ellipse: s-maj=4.3km s-min=1.9km az=174.0*
*NEIC **08** 23:55:04.2, 4151N×2406E, h4km, MD3.0(ATH), After THE.*
*THE **08** 23:55:04.2, 4151N×2406E, h4km, ML2.6*

ISC 08 23:55:02.2±1.3, 4159N±007×2411E±006, h10km±8km, n13, σ0°81/24, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	Nevrokopi	0.31	218	⇑*i*PB	Pg	23 55 08.0	-0.3
NVR				*e*SB	Sg	23 55 12.5	+0.1
NVR	Nevrokopi	0.31	218	*e*Pg	Pg	23 55 08.1	-0.2
NVR				*e*Sg	Sg	23 55 12.5	+0.1
SRS	Serrai	0.62	220	*e*Pg	Pg	23 55 14.0	-0.1
SRS				*e*Sg	Sg	23 55 22.7	+0.5
KNT	Kendrikon	1.01	245	*e*Pg	Pg	23 55 21.8	+0.2
KNT				*e*Sg	Sg	23 55 35.1	+0.4
RDO	Rodhopi	1.16	112	*e*PN	Pn	23 55 24.1	-0.3
RDO				*e*SN	Sn	23 55 39.7	-0.7
OUR	Ouranopolis	1.26	184	*e*Pg	Pg	23 55 26.0	-0.3
OUR				*e*Sg	Sg	23 55 43.0	+0.3
OUR	Ouranopolis	1.26	184	*e*Pg	Pg	23 55 26.0	-0.4
OUR				*e*Sg	Sg	23 55 43.0	+0.2
PLG	Polygyros	1.32	203	*e*PN	Pn	23 55 26.7	+0.1
PLG				*e*SN	Sn	23 55 44.4	+0.2
PLG	Polygyros	1.32	203	*e*Pg	Pg	23 55 26.5	-1.0
GRG	Griva	1.44	244	*e*Pg	Pg	23 55 29.9	+0.2
GRG				*e*Sg	Sg	23 55 48.4	0.0
ALN	Alexandroupoli	1.62	115	*e*Pb	Pb	23 55 32.9	+0.8
ALN				*e*Sb	Sb	23 55 55.0	+2.5
ALN	Alexandroupoli	1.62	115	*e*Pb	Pb	23 55 32.8	+0.7
ALN				*e*Sb	Sb	23 55 55.0	+2.5
LIA	Limnos Island	1.88	154	*e*PB	Pb	23 55 34.1	-2.4

*NEIC **09** 00:05:33.3, 3645N×967W, h0km, MN2.6(MDD), After MDD.*
*MDD **09** 00:05:33.2±1.4, 3641N×965W, h0km, mbLg2.4/8, Error ellipse: s-maj=12.0km s-min=9.7km az=44.0, PRXIMO*
*INMG **09** 00:05:34.6±0.7, 3639N×968W, h10km, ML2.2, Error ellipse: s-maj=3.9km s-min=2.5km az=61.0*
*IGIL **09** 00:05:34.4, 3640N×968W, h0km, ML2.3*
*ISCJB **09** 00:05:34.6±1.1, 3658N±005×947W±006, h10km, Error ellipse: s-maj=8.5km s-min=5.2km az=89.8*
*CSEM **09** 00:05:35.0±0.5, 3637N×927W, h2km, ML3.3/5, Error ellipse: s-maj=8.8km s-min=5.5km az=48.0*

ISC 09 00:05:35.1±1.0, 3654N±005×950W±006, h10km, n48, σ0°96/93, 9C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	Marmelete	1.03	41	*e*P	Pg	00 05 56.4	+1.5
MORF				*e*S	Sg	00 06 12.4	+4.2
MORF				*e*S	Sg	00 06 12.5	+4.2
MORF				AML	AML	00 06 15.1	
	comp=E,43nm,0.1s						
MORF	Marmelete	1.03	41	P	Pg	00 05 56.4	+1.5
MORF				S	Sg	00 06 12.4	+4.2
MORF	Marmelete	1.03	41	*e*P	Pg	00 05 56.4	+1.5
MORF				*e*S	Sg	00 06 12.5	+4.2
PTEO	Sao Teotonio	1.18	32	*e*P	Pb	00 05 58.4	+0.7
PTEO				*e*S	Sb	00 06 16.1	+3.0
PTEO							
	comp=E,21nm,0.2s						
PTEO	Sao Teotonio	1.18	32	*e*P	Pb	00 05 58.4	+0.7
PTEO				*e*S	Sb	00 06 16.1	+3.0
	comp=E,21nm,0.2s						
EGRO	El Granado	1.90	58	P	Pn	00 06 08.0	+0.4
	comp=E,0.1nm,0.1s,SNR=6.0						
EGRO				S	Sn	00 06 33.2	+1.6
	comp=E,6.0nm,0.1s,SNR=15						
EGRO	El Granado	1.90	58	P	Pn	00 06 08.0	+0.4
EGRO				S	Sn	00 06 33.4	+1.9
EGRO	El Granado	1.90	58	P	Pn	00 06 08.0	+0.4
EGRO				S	Sn	00 06 33.4	+1.9
PBEJ	Beja	1.98	41	*e*Pn	Sn	00 06 09.1	+0.4
PBEJ				*e*Sn	Sn	00 06 35.3	+1.8
PBEJ							
	comp=E,7.2nm,0.2s						
MOE	Montemor	2.18	24	*e*Pn	Pn	00 06 12.0	+0.5
MOE				*e*Sn	Sn	00 06 39.5	+0.9
PLOU	Loures	2.36	7	*e*Pn	Pn	00 06 13.6	-0.3
PLOU				*e*Sn	Sn	00 06 43.3	+0.3
PLOU							
	comp=E,12nm,0.3s						
PLOU	Loures	2.36	7	*e*Pn	Pn	00 06 13.6	-0.3
PLOU				*e*Sn	Sn	00 06 43.3	+0.3
	comp=E,12nm,0.3s						
EMIN	Mina Concepcio	2.57	61	P	Pn	00 06 16.9	0.0
	comp=E,0.2nm,0.1s,SNR=9.2						
EMIN				S	Sn	00 06 48.8	+0.6
	comp=E,3.1nm,0.1s,SNR=10						
EMIN	Mina Concepcio	2.57	61	P	Pn	00 06 16.9	0.0
EMIN				S	Sn	00 06 49.1	+0.9
EMIN	Mina Concepcio	2.57	61	P	Pn	00 06 16.9	0.0
EMIN				S	Sn	00 06 49.1	+0.9
ESPR	Espera	2.95	82	⇑P	Pn	00 06 21.7	-0.3
	comp=E,0.1nm,0.0s,SNR=18						
ESPR				S	Sn	00 06 57.1	-0.4
	comp=E,5.5nm,0.3s,SNR=7.9						
ESPR	Espera	2.95	82	⇑P	Pn	00 06 21.7	-0.3
ESPR				S	Sn	00 06 57.5	0.0
ESPR	Espera	2.95	82	⇑P	Pn	00 06 21.7	-0.3
ESPR				S	Sn	00 06 57.5	0.0
EBAD	Badajoz	2.97	41	⇑P	Pn	00 06 22.5	+0.2
	comp=E,0.1nm,0.0s,SNR=18						
EBAD				S	Sn	00 06 59.0	+1.1
	comp=E,2.1nm,0.1s,SNR=10.0						
EBAD	Badajoz	2.97	41	⇑P	Pn	00 06 22.5	+0.2
EBAD				S	Sn	00 06 59.5	+1.6
EBAD	Badajoz	2.97	41	⇑P	Pn	00 06 22.5	+0.2
EBAD				S	Sn	00 06 59.5	+1.6
PTOM	Tomar	3.19	15	*e*Pn	Pn	00 06 25.5	+0.1
PTOM				*e*Sn	Sn	00 07 03.3	-0.2
PTOM							
	comp=E,4.8nm,0.1s						
PTOM	Tomar	3.19	15	*e*Pn	Pn	00 06 25.5	+0.1
PTOM				*e*Sn	Sn	00 07 03.3	-0.2
	comp=E,4.8nm,0.1s						
PCBR	Castelo Branco	3.66	25	*e*Pn	Pn	00 06 32.0	+0.1
PCBR				*e*Sn	Sn	00 07 14.7	-0.4
PCBR							
	comp=E,2.3nm,0.3s						
PCBR	Castelo Branco	3.66	25	*e*Pn	Pn	00 06 32.0	+0.1
PCBR				*e*Sn	Sn	00 07 14.7	-0.4
	comp=E,2.3nm,0.3s						
EMIJ	Mijas	3.81	88	P	Pn	00 06 33.9	+0.1
	comp=E,0.1nm,0.1s,SNR=4.0						
EMIJ				S	Sn	00 07 17.3	-1.4
	comp=E,0.5nm,0.2s,SNR=4.0						
EMIJ	Mijas	3.81	88	P	Pn	00 06 35.0	+1.2
EMIJ				S	Sn	00 07 17.5	-1.2
EMIJ	Mijas	3.81	88	P	Pn	00 06 35.0	+1.1
EMIJ				S	Sn	00 07 17.5	-1.1
MTE	Manteigas	4.15	21	*e*Pn	Pn	00 06 38.9	+0.3
MTE				*e*Sn	Sn	00 07 26.9	-0.2
MTE							
	comp=E,3.9nm,0.2s						
MTE	Manteigas	4.15	21	*e*Pn	Pn	00 06 38.9	+0.3
MTE				*e*Sn	Sn	00 07 26.9	-0.2
	comp=E,3.9nm,0.2s						
EADA	Adamuz	4.25	66	P	Pn	00 06 40.2	+0.3
	comp=E,0.0nm,0.0s,SNR=7.9						
EADA				S	Sn	00 07 28.0	-1.5
	comp=E,1.3nm,0.1s,SNR=7.9						
EADA	Adamuz	4.25	66	P	Pn	00 06 40.2	+0.3
EADA				S	Sn	00 07 28.7	-0.8
EADA	Adamuz	4.25	66	P	Pn	00 06 40.2	+0.3
EADA				S	Sn	00 07 28.7	-0.9
PVIS	Viseu	4.36	16	*e*Pn	Pn	00 06 42.1	+0.7
PVIS				*e*Sn	Sn	00 07 32.0	-0.2
PVIS							
	comp=E,3.4nm,0.1s						
PVIS	Viseu	4.36	16	*e*Pn	Pn	00 06 42.1	+0.7
PVIS				*e*Sn	Sn	00 07 32.0	-0.2
	comp=E,3.4nm,0.1s						
EBAN	Banos Encina	4.84	69	S	Sn	00 07 42.7	-1.4
	comp=E,1.0nm,0.2s,SNR=7.9						
PVRL	Vila Real	4.93	16	*e*Pn	Pn	00 06 49.9	+0.6
PVRL				*e*Sn	Sn	00 07 45.8	-0.6
PVRL							
	comp=E,6.4nm,0.1s						
EQES	Quesada	5.29	74	S	Sn	00 07 54.5	-0.7
	comp=E,0.4nm,0.1s,SNR=7.9						
PCAB	Cabril	5.29	12	*e*Pn	Pn	00 06 53.8	-0.4
PCAB				*e*Sn	Sn	00 07 53.4	-1.9
ESDC	Sonseca Array	5.38	53	⇑P	Pn	00 06 55.7	+0.3
	comp=E,0.3nm,0.2s,baz=240,slow=13,SNR=18						
ESDC				S	Sn	00 07 56.9	-0.4
	comp=E,1.2nm,0.1s,baz=240,slow=24,SNR=8.5						
ESDC	Sonseca Array	5.38	53	⇑P	Pn	00 06 55.7	+0.3
ESDC				S	Sn	00 07 57.3	0.0
ESDC	Sonseca Array	5.38	53	⇑P	Pn	00 06 55.7	+0.3
ESDC				S	Sn	00 07 57.3	0.0
ELOB	Lobios	5.44	11	P	Pn	00 06 55.3	-0.9
	comp=E,0.3nm,0.1s,SNR=6.4						
ELOB				S	Sn	00 07 56.4	-2.5
	comp=E,1.0nm,0.1s,SNR=7.9						
EZAM	Zamans	5.64	6	⇓P	Pn	00 06 58.0	-1.0
	comp=E,0.4nm,0.1s,SNR=4.0						
PBRG	Braganca	5.68	21	*e*Pn	Pn	00 06 59.9	+0.3
PBRG				*e*Sn	Sn	00 08 04.0	-0.8
PBRG							
	comp=E,1.3nm,0.1s						
ECAL	Calabor	5.81	21	P	Pn	00 07 01.3	0.0
	comp=E,2.2nm,0.3s,SNR=4.0						
ECAL				S	Sn	00 08 08.1	+0.1
	comp=E,0.2nm,0.1s,SNR=7.9						
ECAL	Calabor	5.81	21	P	Pn	00 07 02.0	+0.7
ECAL				S	Sn	00 08 06.8	-1.2
ETOB	Tobarra	6.66	69	S	Sn	00 08 26.6	-2.3
	comp=E,0.7nm,0.2s,SNR=4.0						

GUC 09 00:34:08.0±0.6, 3301S×7217W, h26km±5km, MD3.5, ML2.2, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	1.14	146	*e*P	Pn	00 34 28.1	-0.2
LNV				*i* S	Sn	00 34 42.7	-0.2
TACH	Talagante	1.22	122	*e*P	Pn	00 34 29.0	-0.3
TACH				*i* S	Sn	00 34 45.0	+0.1
PCH	Pirque	1.52	114	⇓*i*P	Pn	00 34 34.2	+0.8
PCH				*i* S	Sn	00 34 54.0	+1.7
CHCH	Chadas Angostu	1.57	126	*e*P	Pn	00 34 35.0	+0.9
CHCH				*i* S	Sn	00 34 55.2	+1.6
FCH	Farellones	1.61	102	*e*P	Pn	00 34 36.0	+1.2
FCH				*i* S	Sn	00 34 57.5	+2.9
FCH				AMP		00 35 05.7	
	comp=E,46nm,0.4s						

PRS1	Puriscal	2.15	106	eP	Pn	00 45 28.4 -1.8
LAJ	Bijagual	2.37	108	eP	Pn	00 45 27.2 -5.9
LCR2	La Lucha 2	2.52	109	eP	Pn	00 45 37.0 +1.8
LCR2				eS	Sn	00 46 10.1 +3.6
BUS	Buena Vista	2.81	111	eP	Pn	00 45 41.5 +2.4

*NEIC **09** 01:13:38.6, 1728N×6869W, h10km, MD3.7(RSPR), After RSPR.*

RSPR 09 01:13:38.6, 1728N×6869W, h10km±31km, MD3.7/13, MD3.7/13, 14C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	1.68	64	eS	Sn	01 14 25.1	-4.4
CRPR	Cabo Rojo, PR	1.68	64	eP	Pn	01 14 04.6	-3.4
CRPR				eS	Sn	01 14 25.1	-4.4
MGP	Maguayo	1.69	64	eP	Pn	01 14 05.0	-3.3
LSP	Las Mesas	1.77	59	eP	Pn	01 14 07.0	-2.4
AGPR	Aguadilla, PR	1.92	52	eP	Pn	01 14 08.7	-2.6
LRS	Lares	2.03	60	eP	Pn	01 14 09.4	-3.5
OBIP	Obispado Ponce	2.13	69	eP	Pn	01 14 11.6	-2.7
AOPR	Arecibo Observ	2.13	60	eS	Sn	01 14 37.7	-3.2
AOPR	Arecibo Observ	2.13	60	eP	Pn	01 14 10.6	-3.7
AOPR				eS	Sn	01 14 37.7	-3.2
ICM	Isla Caja Muer	2.16	73	eS	Sn	01 14 38.4	-3.2
ICM	Isla Caja Muer	2.16	73	eP	Pn	01 14 11.0	-3.7
ICM				eS	Sn	01 14 38.4	-3.2
CELP	Cerrillos	2.17	68	eP	Pn	01 14 11.9	-2.8
CELP				eS	Sn	01 14 38.0	-3.7
SJG	San Juan	2.56	71	eP	Pn	01 14 18.3	-1.9
SJG				eS	Sn	01 14 48.4	-3.1
SJG	San Juan	2.56	71	eP	Pn	01 14 17.5	-2.7
SJG	San Juan	2.56	71	eP	Pn	01 14 17.5	-2.7
SJG				eS	Sn	01 14 48.1	-3.4
CPD	Cerro la Pandu	2.75	74	eS	Sn	01 14 52.4	-3.8
HUMP	Col San Antoni	2.84	72	eP	Pn	01 14 22.2	-1.8
HUMP				eS	Sn	01 14 54.8	-3.6
CBYP	Canovanas	2.88	70	eP	Pn	01 14 22.6	-1.9
MTP	Monte Pirata	3.10	74	eS	Sn	01 15 01.6	-3.1
MTP	Monte Pirata	3.10	74	eP	Pn	01 14 25.0	-2.6
MTP				eS	Sn	01 15 01.6	-3.1
STVI	Saint Thomas	3.71	73	eS	Sn	01 15 16.5	-3.3
STVI	Saint Thomas	3.71	73	eP	Pn	01 14 34.1	-1.9
STVI				eS	Sn	01 15 16.5	-3.3
TBVI	Tortola	4.05	73	eP	Pn	01 14 38.6	-2.0
TBVI				eS	Sn	01 15 24.9	-3.2

*ISCJB **09** 01:14:04.6±0.4, 4992N±003×1833E±002, h0km, Error ellipse: s-maj=4.0km s-min=1.9km az=27.1*
*NEIC **09** 01:14:06.5±0.8, 4985N×1839E, h5km, ML3.0(SZGRF), Error ellipse: s-maj=12.0km s-min=6.9km az=180.0*
*IPEC **09** 01:14:07.2±0.1, 4985N×1847E, h2km±3km, ML2.2/3, Error ellipse: s-maj=1.8km s-min=0.7km az=164.0*
*MOS **09** 01:14:07.5±1.4, 4985N×1838E, h9km, mb3.7/1, Error ellipse: s-maj=10.9km s-min=8.6km az=126.6*
*PRU **09** 01:14:08.2, 4984N×1837E, h0km*
*CSEM **09** 01:14:08.4±0.1, 4989N×1835E, h1km, ML3.0/4, Error ellipse: s-maj=2.8km s-min=1.4km az=16.0*
*BGR **09** 01:14:13.3±1.1, 4986N×1810E, h1km, ML3.0/11, Error ellipse: s-maj=8.9km s-min=7.8km az=51.0*

ISC 09 01:14:06.8±0.3, 4986N±002×1837E±002, h0km, n51, σ1§12/87, 1C-2D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.14	263	ePG	Pg	01 14 10.2	+0.6
OKC				eSG	Sg	01 14 13.6	+2.2
	1μm,0.5s						
OKC	Ostrava-Krasne	0.14	263	eP	Pg	01 14 09.2	-0.4
OKC				eSg	Sg	01 14 12.6	+1.2
	1μm,0.5s						
RAC	Raciborz	0.25	334	ePg	Pg	01 14 13.7	+2.0
RAC				eSg	Sg	01 14 19.0	+4.1
MORC	Moravsky Berou	0.54	262	ePg	Pg	01 14 18.4	+1.2
MORC				eSg	Sg	01 14 26.4	+2.2
	51nm,0.5s						
MORC	Moravsky Berou	0.54	262	ePg	Pg	01 14 18.5	+1.3
MORC				eSg	Sg	01 14 27.1	+2.9
OJC	Ojcow	0.99	68	ePg	Pg	01 14 24.9	-0.9
OJC				eSg	Sg	01 14 37.8	-0.9
JAVC	Velka Javorina	1.10	205	ePg	Pg	01 14 29.8	+2.0
VRAC	Vranov	1.28	245	ePg	Pg	01 14 32.0	+0.7
VRAC				eSg	Sg	01 14 49.0	+1.1
	31nm,0.5s						
NIE	Niedzica	1.34	108	ePg	Pg	01 14 31.6	-0.9
NIE				eSg	Sg	01 14 50.1	+0.3
VYHS	Vyhne	1.40	167	i PN	Pn	01 14 33.0	-0.5
VYHS				eSN	Sn	01 14 51.9	-0.8
VYHS	Vyhne	1.40	167	ePg	Pg	01 14 33.1	-0.5
VYHS				eSn	Sn	01 14 51.9	-0.8
DPC	Dobruska-Polom	1.41	291	ePG	Pg	01 14 34.2	+0.4
DPC				eSG	Sg	01 14 53.8	+1.8
	33nm,0.6s						
DPC	Dobruska-Polom	1.41	291	ePg	Pg	01 14 34.0	+0.2
DPC				eSg	Sg	01 14 53.4	+1.4
DPC	Dobruska-Polom	1.41	291	eP	Pg	01 14 34.2	+0.4
DPC				e		01 14 53.8	
DPC				smax			
	comp=N,33nm,0.6s						
SMOL	Smolenice	1.48	205	ePN	Pn	01 14 34.8	+0.1
SMOL				eSN	Sn	01 14 55.1	+0.4
KRUC	Moravsky	1.51	239	ePg	Pg	01 14 35.7	-0.1
KRUC				eSg	Sg	01 14 56.2	+0.8
	comp=N,21nm,0.3s						
UPC	Upice	1.65	294	ePG	Pg	01 14 38.5	+0.1
KSP	Ksiaz	1.66	307	ePg	Pg	01 14 37.2	-1.4
KSP				e		01 14 39.9	
KSP				eSg	Sg	01 15 01.7	+1.7
KSP	Ksiaz	1.66	307	ePg	Pg	01 14 37.2	-1.4
KSP				e		01 14 39.9	
KSP				eSg	Sg	01 15 01.7	+1.7
ZST	Bratislava	1.86	207	ePN	Pn	01 14 40.2	+0.3
ZST				eSN	Sn	01 15 03.3	-0.8
STHS	Stebnicka Huta	1.92	102	ePN	Pn	01 14 42.9	+2.2
STHS				eSN	Sn	01 15 09.9	+4.3
KECS	Kecovo	1.96	134	ePN	Pn	01 14 40.5	-0.7
KECS				eSN	Sn	01 15 06.4	0.0
PSZ	Piszkesteto	2.19	152	ePn	Pn	01 14 42.3	-2.1
CRVS	Cervenica-Dubn	2.24	114	ePN	Pn	01 14 47.9	+2.8
CRVS				eSG	Sg	01 15 20.3	+1.6
PRU	Pruhonice	2.48	275	ePG	Pg	01 14 52.5	-1.8
PRU				eSG	Sg	01 15 25.7	-0.7
	comp=N,14nm,0.8s						
PRU	Pruhonice	2.48	275	eP	Pg	01 14 52.5	-1.8
PRU				e		01 15 25.7	
PRU				smax			
	comp=N,14nm,0.8s						
PVCC	Panska Ves	2.53	287	ePG	Pg	01 14 54.4	-1.0
KOLS	Kolonicke sedl	2.71	108	ePG	Pg	01 14 58.8	0.0
KOLS				eSG	Sg	01 15 34.3	+0.3
BRG	Berggiesshubel	3.01	291	ePg	Pg	01 15 03.4	-1.2
BRG				eSg	Sg	01 15 44.0	+0.4
BRG	Berggiesshubel	3.01	291	PG	Pg	01 15 03.2	-1.3
BRG				SG	Sg	01 15 44.0	+0.4
	comp=N,4.5nm,0.6s						
KHC	Kasperske Hory	3.21	259	ePN	Pn	01 14 58.8	+0.4
KHC				ePG	Pg	01 15 06.7	-1.6
KHC				eSG	Sg	01 15 48.2	-1.6
	comp=N,26nm,1.1s						
KHC	Kasperske Hory	3.21	259	ePg	Pg	01 15 06.7	-1.6
KHC				eSg	Sg	01 15 48.2	-1.6
	comp=N,26nm,1.1s						
GEC2	GERESS Array S	3.21	253	ePg	Pg	01 15 07.9	-0.6
GEC2				eSg	Sg	01 15 50.7	+0.6
GEC2	GERESS Array S	3.21	253	ePg	Pg	01 15 07.9	-0.5
GEC2				eSg	Sg	01 15 50.7	+0.6
MOA	Molln	3.37	235	i/ iPn	Pn	01 15 00.7	0.0
MOA				i i Sg	Sg	01 15 55.8	+0.7
	comp=N,4.3nm,0.4s						
MOA	Molln	3.37	235	i/ iPn	Pn	01 15 00.7	0.0
MOA				Sg	Sg	01 15 55.8	+0.7
FBE	Freiberg	3.38	290	eSg	Sg	01 15 55.9	+0.4
WET	Wettzell	3.65	261	ePg	Pg	01 15 16.1	-0.7
WET				eSg	Sg	01 16 04.2	+0.2
WET	Wettzell	3.65	261	ePg	Pg	01 15 16.1	-0.6
WET				eSg	Sg	01 16 04.2	+0.2
CLL	Collm	3.71	295	ePg	Pg	01 15 17.8	-0.2
CLL				eSg	Sg	01 16 06.9	+0.7
CLL	Collm	3.71	295	ePg	Pg	01 15 18.0	0.0
CLL				eSg	Sg	01 16 08.0	+1.8
	comp=Z,12nm,0.9s						
NKC	Novy Kostel	3.83	278	eSG	Sg	01 16 10.9	+0.9
TANN	Tannenbergstha	3.84	281	ePg	Pg	01 15 18.6	-1.9
TANN				eSg	Sg	01 16 09.2	-1.0
WERN	Wernitzgruen	3.88	279	eSg	Sg	01 16 10.7	-0.9
WERD	Werda	3.94	281	eSg	Sg	01 16 14.0	+0.5
ROTZ	Rotzenmuhle	3.99	271	eSg	Sg	01 16 14.0	-1.1
MANZ	Manzenberg	4.05	274	eSg	Sg	01 16 15.5	-1.3
MOX	Moxa	4.41	283	eSg	Sg	01 16 28.0	-0.4
MOX	Moxa	4.41	283	eSG	Sg	01 16 32.3	+4.0
GRA1	Grafenberg Arr	4.63	271	Sg	Sg	01 16 33.7	-2.0
GRF	Grafenberg Arr	4.63	271	eSg	Sg	01 16 33.7	-2.0

*ISCJB **09** 01:23:33.0±1.4, 203S±0.1×1779W±0.1, h555km±24km, mb4.0/10, Error ellipse: s-maj=26.0km s-min=16.2km az=90.7*
*IDC **09** 01:23:34.6±1.9, 2032S×17789W, h563km±28km, mb3.3/6, mb1 3.6/8, mb1mx3.4/16, mbtmp4.4/8, Error ellipse: s-maj=26.3km s-min=17.1km az=139.0*
*NEIC **09** 01:23:34.5±1.0, 2033S×17778W, h568km±15km, mb4.5/5, Error ellipse: s-maj=19.5km s-min=12.3km az=145.0*

ISC 09 01:23:34.9±1.2, 204S±01×1778W±01, h573km±18km, n17, σ0§81/20, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.58	43	P	P	01 25 37.9	-0.9
	7.4nm,0.3s,baz=231,slow=22,SNR=6.5						
AFI				S	S	01 27 13.4	-7.2
	2.5nm,0.3s,baz=72,slow=20,SNR=2.7						
DZM	Mont Dzumac	14.84	261	P	P	01 26 44.1	+1.7
	0.7nm,0.3s,baz=72,slow=18,SNR=6.5						
URZ	Urewera	18.39	193	P	P	01 27 14.4	-0.8
	5.5nm,0.3s,baz=304,slow=2.3,SNR=20						
RPZ	Rata Peaks	25.11	199	P	P	01 28 15.9	+0.6
	14nm,0.9s,mb4.6,baz=127,slow=7.4,SNR=3.3						
CTA	Charters Tower	33.74	264	eP	P	01 29 29.7	0.0
	6.1nm,0.3s,mb4.7						
CTAO	Charters Tower	33.74	264	eP	P	01 29 29.6	0.0
	7.8nm,0.4s,mb4.7						
PMG	Port Moresby	35.54	283	P	P	01 29 44.8	+0.1
	8.5nm,0.7s,mb4.4,baz=94,slow=4.7,SNR=4.3						
PMG	Port Moresby	35.54	283	eP	P	01 29 44.7	+0.1
	7.9nm,0.6s,mb4.4						
ASAR	Alice Springs	44.78	257	P	P	01 30 58.4	+0.1
	2.5nm,0.5s,mb4.0,baz=94,slow=7.4,SNR=42						
ASAR				S	S	01 36 53.2	-1.1
	0.7nm,0.7s,baz=92,slow=16,SNR=7.6						
ASAR	Alice Springs	44.78	257	P	P	01 30 58.4	+0.1
ASAR				S	S	01 36 53.1	-1.1
WB2	Warramunga Arr	44.84	262	eP	P	01 30 58.3	-0.4
WRAB	Tennant Creek	44.85	262	eP	P	01 30 58.3	-0.4
	4.5nm,0.3s,mb4.5						
WRA	Warramunga Arr	44.86	262	P	P	01 30 58.4	-0.4
	2.5nm,0.3s,mb4.2,baz=97,slow=7.4,SNR=57						
KAKA	Kakadu	48.21	271	eP	P	01 31 23.9	-0.2
	6.4nm,0.7s,mb4.3						
MBWA	Marble Bar	58.12	257	eP	P	01 32 34.1	-0.2
	1.4nm,0.6s,mb3.3						
ILAR	Eielson Array	88.12	13	P	P	01 35 24.8	-0.4
	0.3nm,0.8s,mb3.0,baz=217,slow=5.3,SNR=6.0						
PDAR	Pinedale Array	88.69	43	P	P	01 35 29.9	+2.1
	0.4nm,0.6s,mb3.4,baz=225,slow=2.4,SNR=3.5						

*ISCJB **09** 01:30:05.7±0.5, 530N±007×32.11E±006, h10km, mb4.2/16, MS3.8/10, Error ellipse: s-maj=10.7km s-min=8.0km az=106.6*
*IDC **09** 01:30:06.1±0.9, 533N×3198E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, MS3.8/11, Ms1 3.8/11, ms1mx3.7/21, Error ellipse: s-maj=28.4km s-min=18.2km az=101.0*
*NEIC **09** 01:30:08.2±0.5, 536N×32.18E, h10km, mb4.4/7, Error ellipse: s-maj=17.0km s-min=9.4km az=93.0*
*BJI **09** 01:30:08.2, 540N×3220E, h10km, mB5.2, mb4.8, Ms4.6, Msz4.3*

ISC 09 01:30:08.1±0.5, 535N±007×3216E±005, h10km, n38, σ1§07/33, mb4.2/16, MS3.8/10, Sudan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FURI	Furi	7.37	61	ePN	Pg	01 32 25.6	-3.6
FURI				eSN	Sb	01 33 44.1	+0.1
FURI				eSG	Sg	01 34 03.9	-0.7
KMBO	Kilima Mbogo	8.21	141	Pn	Pn	01 32 05.9	-1.2
	0.4nm,0.3s,baz=288,slow=20,SNR=14						
KMBO				Lg		01 34 14.8	
	7.5nm,0.3s,baz=43,slow=22,SNR=9.0						
ATD	Arta Tunnel	12.23	59	LR	LR	01 37 47.5	
	comp=Z,231nm,19.6s,baz=280,slow=37						
LSZ	Lusaka	20.87	191	P	P	01 34 50.1	0.0
	4.4nm,1.0s,baz=359,slow=7.8,SNR=5.6						
LSZ				LR	LR	01 42 44.4	
	comp=Z,703nm,18.5s,MS4.1,baz=180,slow=36						
LSZ	Lusaka	20.87	191	eP	P	01 34 50.2	0.0
	19nm,1.5s						
TSUM	Tsumeb	28.30	210	P	P	01 36 01.5	-0.3
	5.3nm,1.1s,mb4.1,baz=5.9,slow=8.0,SNR=3.8						
TSUM	Tsumeb			LR	LR	01 48 03.3	
	comp=Z,59nm,19.3s,MS3.2,baz=179,slow=38						
TSUM	Tsumeb	28.30	210	eP	P	01 36 02.8	+1.0
	4.5nm,1.0s,mb4.0						
IDI	Anoyia	30.54	348	LR	LR	01 50 29.4	
	comp=Z,73nm,20.2s,MS3.3,baz=133,slow=40						
LBTB	Lobatse	30.85	192	LR	LR	01 47 55.8	
	comp=Z,221nm,18.2s,MS3.9,baz=25,slow=35						
TORD	Torodi Ar. Bea	31.02	287	P	P	01 36 23.7	-2.1
	0.8nm,0.9s,mb3.5,baz=96,slow=6.6,SNR=5.6						
MALT	Malatya	33.30	9	eP	P	01 36 47.3	+1.5
	9.0nm,1.1s,mb4.6						
BR131	Keskin Array S	34.25	2	eP	P	01 36 55.5	+1.4
	3.1nm,0.9s,mb4.2						
BRTR	Keskin Array B	34.25	2	P	P	01 36 55.5	+1.4
	3.8nm,0.9s,mb4.3,baz=177,slow=11,SNR=13						
BOSA	Boshof	34.41	191	LR	LR	01 50 50.0	
	comp=Z,351nm,19.2s,MS4.1,baz=13,slow=36						
BOSA	Boshof	34.41	191	P	P	01 36 59.1	+3.5
GNI	Garni	36.45	16	P	P	01 37 13.7	+0.6
DBIC	Dimbokro	36.83	274	LR	LR	01 51 54.9	
	comp=Z,95nm,18.2s,MS3.6,baz=71,slow=36						
DBIC	Dimbokro	36.83	274	eP	P	01 37 16.1	-0.1
	24nm,1.5s,mb4.8						
KECS	Kecovo	44.12	349	eP	P	01 38 17.4	+0.8
VYHS	Vyhne	44.47	347	eP	P	01 38 18.1	-1.2
AKASG	Malin Array Be	45.26	357	P	P	01 38 24.6	-1.1
	1.3nm,0.8s,mb3.8,baz=180,slow=6.7,SNR=8.1						
GERES	GERESS Array B	46.09	343	P	P	01 38 32.1	-0.2
	1.0nm,0.7s,mb3.9,baz=159,slow=8.0,SNR=7.4						
GERES				LR	LR	01 59 53.9	
	comp=Z,62nm,18.1s,MS3.6,baz=189,slow=39						
KHC	Kasperske Hory	46.39	343	eP	P	01 38 33.5	-1.1
ESLA	Sonseca Array	47.18	322	P	P	01 38 41.6	+0.8
AKTK	Aktyubinsk	49.90	21	P	P	01 39 02.0	+0.3
AKTO	Aktyubinsk	49.90	21	P	P	01 39 02.0	+0.3
	2.6nm,1.1s,mb4.2,baz=226,slow=12,SNR=4.0						
AAK	Ala-Archa	52.73	39	eP	P	01 39 23.6	+0.6
	4.9nm,1.3s,mb4.3						
ARU	Arti	55.08	18	eP	P	01 39 40.0	-0.2
	13nm,1.4s,mb4.8						
FINES	FINESS Array B	56.15	356	P	P	01 39 46.9	-0.9
	0.7nm,0.7s,mb3.8,baz=200,slow=15,SNR=3.3						
NOA	NORSAR Array B	57.76	348	P	P	01 39 57.6	-1.6
	1.6nm,0.9s,mb4.1,baz=158,slow=7.3,SNR=3.9						
NOA				LR	LR	02 09 17.5	
	comp=Z,37nm,18.2s,MS3.5,baz=290,slow=41						
MKAR	Makanchi Array	59.62	38	P	P	01 40 12.8	+0.6
	2.2nm,0.9s,mb4.2,baz=240,slow=5.8,SNR=14						
MKAR	Makanchi Array	59.62	38	P	P	01 40 12.8	+0.6
ARCES	ARCESS Array B	64.24	357	LR	LR	02 11 12.5	
	comp=Z,117nm,20.1s,MS4.1,baz=195,slow=38						
ZAL	Zalesovo	64.41	31	P	P	01 40 45.0	+0.6
	1.3nm,0.8s,mb4.0,baz=228,slow=7.9,SNR=10						
ZAL	Zalesovo	64.41	31	P	P	01 40 45.0	+0.6
GTA	Gaotai	69.40	50	eP	P	01 41 19.7	+3.5
GTA				AP	pP	01 41 28.5	+9.1
GTA				XP	sP	01 41 33.1	+12
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.3						
BDFB	Brasilia	82.01	253	LR	LR	02 16 53.6	
	comp=Z,87nm,18.6s,MS4.2,baz=302,slow=34						
NJ2	Nanjing	84.40	58	eP	P	01 42 42.1	+1.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.2						

PRE 09 01:38:07.4±1.6, 2148S×3339E, h5km, ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	3.24	254	eP		01 30 51.2	
MSNA				eS		01 31 28.8	
MSNA				AML	AML	01 31 40.1	
	comp=Z,195nm,0.4s						
SLR	Silverton	6.32	227	eS	Sn	01 40 50.9	-2.8
SLR				AML	AML	01 41 43.1	
	comp=Z,94nm,0.6s						
LBTB	Lobatse	7.98	242	eP	Pn	01 40 06.0	+2.0
LBTB				eS	Sn	01 41 31.3	-3.4
LBTB				AML	AML	01 42 22.9	
	comp=Z,42nm,0.6s						
SWZ	Schweizer	9.29	231	eP	Pn	01 40 23.0	+1.1
SWZ				eS	Sn	01 42 03.1	-3.7
SWZ				AML	AML	01 43 17.8	
	comp=Z,30nm,0.5s						
BOSA	Boshof	10.24	224	eP	Pn	01 40 36.0	+1.0
BOSA				eS	Sn	01 42 26.0	-4.1
BOSA				AML	AML	01 43 46.7	
	comp=Z,31nm,0.7s						
PKA	Prieska	12.59	227	eP	Pn	01 41 08.4	+1.3

IDC 09 01:38:10.9±2.8, 095S×13352E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=142.9km s-min=25.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.89	178	P	Pn	01 42 33.1	-0.3
	0.3nm,0.3s,baz=357,slow=11,SNR=11						
WB2	Warramunga Arr	18.89	178	eP	Pn	01 42 32.9	-0.5
ASAR	Alice Springs	22.58	179	P	P	01 43 13.3	+0.5
	0.6nm,0.4s,baz=2.0,slow=12,SNR=14						
MKAR	Makanchi Array	65.28	324	P	P	01 48 54.6	+0.1
	0.4nm,0.5s,baz=112,slow=7.3,SNR=10						

TRN 09 02:39:19.9, 1203N×5923W, h35km, MD3.7, Md4.1(FDF), 1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRCU	Cariacou	2.22	282	eP	Pn	02 39 55.8	+1.7
GRCU				eS	Sn	02 40 21.9	+1.5
SVV	Soufriere Volc	2.33	304	eP	Pn	02 39 56.9	+1.3
SVV				eS	Sn	02 40 24.5	+1.5
GRSS	Sisters	2.35	277	eP	Pn	02 39 57.9	+1.9
GRHS	Sauteurs	2.37	275	eP	Pn	02 39 57.3	+1.1
GRW	Mount Saint Ca	2.39	273	eP	Pn	02 39 57.7	+1.2
GRW				eS	Sn	02 40 26.5	+2.0
BIM	Bigot	3.06	324	eP	Pn	02 40 07.6	+1.9
CRM	Caravelle	3.17	329	eP	Pn	02 40 09.0	+1.8
CRM				eS	Sn	02 40 44.4	+0.7
FDF	Fort de France	3.27	325	i/ eP	Pn	02 40 10.9	+2.3
FDF				eS	Sn	02 40 47.8	+1.4

*ISCJB **09** 02:53:10.1±1.7, 4352N±007×46.18E±0.10, h11km, Error ellipse: s-maj=11.8km s-min=7.7km az=90.2*
*MOS **09** 02:53:10.3±3.0, 4304N×4604E, h16km, mb3.7/1, Error ellipse: s-maj=57.5km s-min=12.9km az=5.3*
*TIF **09** 02:53:10.2, 4334N×4613E, h11km±5km*

ISC 09 02:53:10.4±1.7, 4345N±008×4619E±009, h3km±6km, n12, σ1§27/23, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	Sundja	1.07	250	ePG	Pg	02 53 30.2	-0.8
SNJR				eS	Sg	02 53 44.3	-0.6
BTKR	Batakoyurt	1.20	267	ePG	Pg	02 53 34.4	+1.0
BTKR				eS	Sg	02 53 51.4	+2.4
KMSR	Komsomolskaya	1.38	267	i PG	Pg	02 53 37.4	+0.5
KMSR				eS	Sb	02 53 56.9	+2.0
ARNR	Ardon	1.42	260	ePG	Pg	02 53 36.9	-0.7
ARNR				eS	Sb	02 53 56.1	+0.3
LACR	Lac	1.52	246	i PG	Pg	02 53 37.0	-2.5
LACR				i S	Sn	02 53 56.4	-2.2
LSNR	Lesken	1.74	265	ePN	Pn	02 53 42.0	+0.6
LSNR				i S	Sn	02 54 04.9	+0.8
DUS	Dusheti	1.74	219	P	Pn	02 53 40.7	-0.8
DUS				S	Sn	02 54 03.0	-1.2
ZEI	Tsey	1.81	249	i PG	Pg	02 53 41.4	-3.7
ZEI				i S	Sn	02 54 03.9	-1.9
DIGR	Digorskoe uzhe	1.98	255	i PN	Pn	02 53 44.3	-0.5
DIGR				i S	Sn	02 54 09.1	-1.0
TBLG	Delisi	2.02	212	P	Pn	02 53 45.4	0.0
TBLG				S	Sn	02 54 12.6	+1.5
MTA	Mtatsminda	2.04	211	S	Sn	02 54 12.4	+1.0
DGRG	David-gareji	2.09	197	P	Pn	02 53 46.7	+0.5
DGRG				S	Sn	02 54 14.3	+1.6

*IDC **09** 02:55:05.0±0.8, 373S×15123E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, ML3.0/1, MS4.0/14, Ms1 4.0/14, ms1mx3.8/20, Error ellipse: s-maj=31.5km s-min=17.9km az=104.0*
*ISCJB **09** 02:55:08.1±3.9, 37S±0.1×1512E±0.1, h28km±28km, mb4.1/15, MS4.0/14, Error ellipse: s-maj=22.2km s-min=16.0km az=69.6*
*NEIC **09** 02:55:17.2±3.1, 388S×151.16E, h100km±28km, mb4.1/7, Error ellipse: s-maj=22.4km s-min=18.4km az=94.0*
*BJI **09** 02:55:17.0, 390S×15120E, h99km, mB5.1, mb4.6*

ISC 09 02:55:12.9±2.5, 39S±01×1513E±01, h60km±23km, n36, σ1§28/26, mb4.1/15, MS4.0/14, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.88	217	Pn	Pn	02 56 49.7	-1.4
	1.5nm,0.3s,baz=38,slow=13,SNR=6.9						
PMG				LR	LR	02 59 32.8	
	comp=Z,675nm,18.6s,baz=32,slow=39						
PMG	Port Moresby	6.88	217	ePn	Pn	02 56 52.2	+1.1
	34nm,0.8s						
CTA	Charters Tower	16.86	197	eP	Pn	02 59 09.5	+4.6

comp=Z,110nm,10.3s
NJ2 LR LR
comp=N,350nm,23.8s,MS4.4
NJ2 LR LR
comp=E,230nm,19.6s,MS4.4
NJ2 LR LR
comp=Z,230nm,26.6s
ASAJ Asahikawa 48.39 352 LR LR 03 24 14.0
comp=Z,112nm,19.6s,MS3.9,baz=100,slow=36
MDJ Mudanjiang 52.03 340 P **P** **03 04 15.5 -0.9**
MDJ AP pP 03 04 39.1 +7.1
MDJ XP sP 03 04 49.7 +11
MDJ PP PP 03 06 18.8 +3.9
MDJ S **S** **03 11 37.8 +2.3**
MDJ SS SS 03 15 11.2 -2.0
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
MDJ AMB AMB
comp=Z,49nm,3.3s
MDJ LR LR
comp=N,53nm,29.3s,MS3.7
MDJ LR LR
comp=E,76nm,25.5s,MS3.7
MDJ LR LR
comp=Z,133nm,26.8s,MS3.8
PPT Papeete 59.44 108 *e*LR LR 03 22 55.0
comp=Z,65nm,26.0s
TBI Tubuai 60.31 115 *e*LR LR 03 23 19.5
comp=Z,126nm,30.0s
ULN Ulaanbaatar 64.41 329 *e*P **P** **03 05 44.0 +1.1**
comp=Z,7.6nm,1.7s,mb4.5
SONM Songino Array 64.74 328 P **P** **03 05 45.5 +0.5**
comp=Z,0.8nm,0.6s,mb4.0,baz=123,slow=4.2,SNR=4.3
RKT Rikitea 73.53 113 *e*LR LR 03 29 27.6
comp=Z,112nm,23.5s
VNDA Vanda 73.82 178 LR LR 03 38 26.6
comp=Z,113nm,18.6s,MS4.2,baz=101,slow=35
MKAR Makanchi Array 78.64 319 P **P** **03 07 08.7 +0.3**
comp=Z,1.2nm,0.7s,mb4.0,baz=105,slow=6.8,SNR=18
MKAR LR LR 03 40 07.6
comp=Z,79nm,18.4s,MS4.1,baz=270,slow=34
ZAL Zalesovo 79.55 327 LR LR 03 41 00.5
comp=Z,112nm,18.7s,MS4.2,baz=7.7,slow=35
MCK McKinley 80.58 23 *e*P **P** **03 07 18.0 -0.9**
comp=Z,2.6nm,0.8s,mb4.2
ILAR Eielson Array 81.86 22 P **P** **03 07 24.6 -1.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=247,slow=5.7,SNR=24
KURK Kurchatov 82.11 322 *e*P **P** **03 07 26.4 -0.6**
comp=Z,1.3nm,0.7s,mb4.0
AAK Ala-Archa 82.94 314 *e*P **P** **03 07 31.2 -0.1**
comp=Z,1.5nm,0.8s,mb4.1
BVAR Borovoye Array 87.59 323 P **P** **03 07 52.8 -1.8**
comp=Z,1.3nm,0.9s,mb4.2,baz=126,slow=7.5,SNR=4.8
YKA Yellowknife Ar 95.30 28 P **P** **03 08 30.4 +0.1**
comp=Z,0.4nm,0.7s,mb4.0,baz=275,slow=4.6,SNR=7.7
YKA LR LR 03 49 47.5
comp=Z,142nm,19.8s,MS4.4,baz=265,slow=34
PDAR Pinedale Array 99.32 47 LR LR 03 47 06.2
comp=Z,118nm,19.6s,MS4.4,baz=84,slow=31
TORD Torodi Ar. Bea 148.59 289 PKPbc PKPbc 03 14 54.6 +1.5
comp=Z,1.3nm,0.6s,baz=77,slow=2.1,SNR=9.9

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*IDC **09** 03:10:21.1±1.6, 4979N×8790E, h0km, mb1 3.5/4, mb1mx3.3/25, mbtmp3.4/4, ML3.3/4, Error ellipse: s-maj=17.5km s-min=10.6km az=106.0*
*ISCJB **09** 03:10:22.7±0.9, 4981N±006×8789E±010, h33km, Error ellipse: s-maj=9.4km s-min=8.0km az=46.9*
*NNC **09** 03:10:22.6±4.3, 4979N×8774E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=39.9km s-min=26.8km az=59.0*
*NEIC **09** 03:10:22.8±0.9, 4982N×8786E, h10km, Error ellipse: s-maj=14.1km s-min=11.3km az=172.0*
*MOS **09** 03:10:22.8±1.4, 4981N×8792E, h33km, mb3.5/1, Error ellipse: s-maj=37.2km s-min=25.9km az=121.3*

ISC 09 03:10:25.4±0.9, 4980N±006×8789E±010, h35km, n18, σ1§27/27, 4C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**4.56 336**		Pn	**Pn**	**03 11 33.0**	**+1.1**
	3.9nm,0.3s,baz=322,slow=9.0,SNR=27						
ZAL				Sn	**Sn**	**03 12 25.6**	**+1.9**
	2.7nm,0.3s,baz=312,slow=7.3,SNR=3.4						
ZAL				Lg		03 12 47.9	
	4.9nm,0.3s,baz=54,slow=19,SNR=6.6						
ZAL	**Zalesovo**	**4.56 336**		Pn	**Pn**	**03 11 33.0**	**+1.1**
ZAL				Sn	**Sn**	**03 12 25.6**	**+1.9**
ZAL				Lg		03 12 47.9	
ZAL	**Zalesovo**	**4.56 336**		PN	**Pn**	**03 11 33.0**	**+1.1**
ZAL						03 12 25.6	
MK31	**Makanchi Array**	**4.80 233**		⇑Pn	**Pn**	**03 11 35.8**	**+0.7**
	3.4nm,0.5s,baz=56,slow=12,SNR=190						
MK31				⇓Lg		03 12 51.0	
	15nm,0.3s,baz=57,slow=34						
MK31	**Makanchi Array**	**4.80 233**		Pn	**Pn**	**03 11 35.8**	**+0.7**
MK31				Lg		03 12 51.0	
MKAR	**Makanchi Array**	**4.80 233**		Pn	**Pn**	**03 11 36.0**	**+0.9**
	1.4nm,0.3s,baz=54,slow=14,SNR=94						
MKAR				Pg	**Pn**	**03 11 48.5**	**+13**
	5.7nm,0.3s,baz=48,slow=16,SNR=40						
MKAR				Sn	**Sn**	**03 12 31.1**	**+1.7**
	3.5nm,0.3s,baz=45,slow=29,SNR=7.4						
MKAR				Lg		03 12 52.7	
	7.1nm,0.3s,baz=50,slow=30,SNR=6.2						
MKAR	**Makanchi Array**	**4.80 233**		Pn	**Pn**	**03 11 36.0**	**+0.9**
MKAR				Pg	**Pn**	**03 11 48.5**	**+13**
MKAR				Sn	**Sn**	**03 12 31.1**	**+1.7**
MKAR				Lg		03 12 52.7	
NVS	**Novosibirsk**	**5.80 332**		*e*PN	**Pn**	**03 11 58.7**	**+10**
NVS				*e*		03 12 08.6	
NVS				*e*		03 12 55.3	
NVS				*i*		03 13 20.5	
KURK	**Kurchatov**	**6.01 282**		⇑Pn	**Pn**	**03 11 51.7**	**-0.2**
	1.9nm,0.6s						
KURK				⇑Sn	**Sn**	**03 13 01.2**	**+1.7**
	11nm,1.0s						
KURK				⇓Lg		03 13 29.1	
	24nm,0.7s						
KURK	**Kurchatov**	**6.01 282**		*e*Pn	**Pn**	**03 11 51.4**	**-0.4**
	4.0nm,0.5s						
KURK				*e*Sn	**Sn**	**03 12 59.1**	**-0.4**
KURK				*e*Sg	Sn	03 13 30.3	+31
KURK	**Kurchatov**	**6.01 282**		*e*PN	**Pn**	**03 11 51.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
VOSK	**Vostochnaya**	**10.99 292**		⇓P	**Pn**	**03 12 58.9**	**-1.1**
	comp=Z,5.5nm,2.2s						
VOSK	**Vostochnaya**	**10.99 292**		P	**Pn**	**03 12 58.9**	**-1.1**
BVA0	**Borovoye Array**	**11.39 293**		⇑P	**Pn**	**03 13 04.1**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=107,slow=14,SNR=6.0						
BVAR	**Borovoye Array**	**11.39 293**		Pn	**Pn**	**03 13 04.1**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=106,slow=14,SNR=4.5						
BVAR				Sn	**Sn**	**03 15 08.3**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=101,slow=22,SNR=4.8						
BVAR				Lg		03 16 18.9	
	comp=Z,0.0nm,0.3s,baz=111,slow=23,SNR=2.5						
BVAR	**Borovoye Array**	**11.39 293**		P	**Pn**	**03 13 04.1**	**-1.5**
BVAR						03 15 08.3	
SONM	**Songino Array**	**12.36 92**		Pn	**Pn**	**03 13 18.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=277,slow=11,SNR=2.3						
SONM				Lg		03 16 54.0	
	comp=Z,0.2nm,0.3s,baz=278,slow=30,SNR=2.8						
KK31	**Karatay Array**	**13.71 247**		P	**Pn**	**03 13 36.1**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=56,slow=12,SNR=4.3						

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*ISCJB **09** 03:11:56.5±0.9, 2887N±008×1394E±04, h420km±23km, mb3.2/3, Error ellipse: s-maj=62.0km s-min=7.5km az=159.7*
*IDC **09** 03:11:56.6±3.5, 2860N×13878E, h374km±103km, mb3.0/3, mb1 3.2/5, mb1mx2.8/21, mbtmp3.7/5, Error ellipse: s-maj=214.0km s-min=17.0km az=67.0*
*JMA **09** 03:11:57.6±0.1, 2902N×140.17E, h448km, M3.5*

ISC 09 03:11:57.9±0.8, 2896N±008×1397E±05, h423km±24km, n12, σ0§93/17, mb3.2/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.86 130**		P	**P**	**03 13 02.1**	**+0.4**
	16nm,0.3s,baz=272,slow=20,SNR=14						
CBIJ				S	**S**	**03 13 53.1**	**-0.4**
	42nm,0.3s,baz=304,slow=23,SNR=16						
CBIJ	**Chichi jima**	**2.86 130**		P	**P**	**03 13 02.3**	**+0.6**
CBIJ				*e*S	**S**	**03 13 53.5**	**0.0**
JHHJ	**Haha-jima-NKT**	**3.18 136**		P	**P**	**03 13 04.5**	**+0.3**
JHHJ				*e*S	**S**	**03 13 57.4**	**-0.7**
BSO3	**Boso 3**	**5.86 6**		*e*S	**S**	**03 14 44.2**	**-0.5**
JRY	**Ryogami san**	**7.07 355**		P	**P**	**03 13 43.9**	**+1.2**
JAG	**Ashikaga**	**7.45 358**		P	**P**	**03 13 46.8**	**0.0**
JAG				*e*S	**S**	**03 15 13.9**	**-2.2**
JHO	**Hitachi**	**7.66 5**		P	**P**	**03 13 50.2**	**+1.0**
JHO				*e*S	**S**	**03 15 20.1**	**-0.3**
MJAR	**Matsushiro Arr**	**7.67 351**		P	**P**	**03 13 49.7**	**+0.4**
	0.6nm,0.3s,baz=170,slow=11,SNR=6.0						
JMK	**Ichinoseki**	**10.04 7**		P	**P**	**03 14 18.4**	**+2.9**
MKAR	**Makanchi Array**	**47.61 308**		P	**P**	**03 19 53.1**	**-0.5**
	0.2nm,0.4s,mb2.8,baz=86,slow=5.9,SNR=5.0						
WRA	**Warramunga Arr**	**48.89 187**		P	**P**	**03 20 02.6**	**-0.7**
	1.3nm,0.3s,mb3.7,baz=2.6,slow=7.8,SNR=24						
ASAR	**Alice Springs**	**52.62 187**		P	**P**	**03 20 30.5**	**-0.2**
	0.7nm,0.6s,mb3.1,baz=16,slow=12,SNR=14						

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*BJI **09** 03:18:20.5, 3790N×2680E, h24km, mB5.1, mb4.6, Ms4.2, Msz3.9*
*ISK **09** 03:18:20.7, 3787N×2665E, h7km, ML4.0*
*MOS **09** 03:18:21.9±0.8, 3786N×2681E, h10km, mb4.7/1, Error ellipse: s-maj=10.3km s-min=5.5km az=109.3*
*NEIC **09** 03:18:21.7, 3786N×2683E, h24km, mb4.3/1, MD4.0(ISK), ML3.8(ATH), After ATH.*
NEIC Felt in the Izmir area, Turkey.
*ISCJB **09** 03:18:21.2±0.6, 3787N±002×2675E±002, h3km±5km, mb4.0/10, Error ellipse: s-maj=3.4km s-min=3.0km az=128.3*
*IDC **09** 03:18:21.8±0.9, 3791N×2674E, h0km, mb3.9/8, mb1 3.9/11, mb1mx3.7/25, mbtmp3.8/11, ML3.5/3, Error ellipse: s-maj=24.1km s-min=14.1km az=122.0*
*ATH **09** 03:18:21.5, 3788N×2682E, h23km, MD3.8/19, ML3.8*
*CSEM **09** 03:18:22.9±0.1, 3786N×2683E, h15km, ML3.8, Error ellipse: s-maj=1.3km s-min=1.2km az=150.0*
*THE **09** 03:18:22.1, 3779N×2696E, h8km*

ISC 09 03:18:23.5±0.5, 3786N±002×2677E±003, h12km±3km, n122, σ1§09/139, mb4.0/10, 4C-6D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.16 162**		*i*PB	**Pg**	**03 18 27.0**	**-0.2**
SMG				*e*SB	**Sg**	**03 18 30.3**	**+0.5**
BLCB	**Balcova**	**0.56 22**		*i* PG	**Pg**	**03 18 33.0**	**-1.5**
IZM	**Izmir**	**0.66 36**		*i* PG	**Pg**	**03 18 34.2**	**-2.1**
BODT	**Bodrum**	**0.91 152**		PG	**Pg**	**03 18 39.8**	**-1.2**
BODT				SG	**Sg**	**03 18 53.3**	**+0.5**
APE	**Apeiranthos**	**1.27 232**		PN	**Pn**	**03 18 44.0**	**-3.0**
APE	**Apeiranthos**	**1.27 232**		*e*Pb	**Pb**	**03 18 45.9**	**-1.4**
APE	**Apeiranthos**	**1.27 232**		⇓*i*Pn	**Pn**	**03 18 46.0**	**-0.9**
APE	**Apeiranthos**	**1.27 232**		P	**Pn**	**03 18 48.5**	**+1.6**
APE				*i* S	**Sb**	**03 19 04.7**	**+1.2**
APE	**Apeiranthos**	**1.27 232**		P	**Pn**	**03 18 48.5**	**+1.5**
APE				S	**Sb**	**03 19 11.3**	**+7.8**
APE	**Apeiranthos**	**1.27 232**		*d* iP	**Pn**	**03 18 46.0**	**-0.9**
APE				*i* S	**Sb**	**03 19 04.7**	**+1.2**
DAT	**Datca**	**1.30 150**		PN	**Pn**	**03 18 46.3**	**-1.1**
AKS	**Akhisar**	**1.30 38**		PN	**Pn**	**03 18 46.4**	**-1.1**
YER	**Yerkesik**	**1.40 121**		PN	**Pn**	**03 18 48.2**	**-0.6**
YER				SN	**Sn**	**03 19 09.4**	**+2.2**
PRK	**Paraskevi**	**1.44 344**		*e*PN	**Pn**	**03 18 48.3**	**-1.0**
PRK				*e*SN	**Sn**	**03 19 07.0**	**-1.1**
DENT	**Denizli**	**1.79 93**		*e*PN	**Pn**	**03 18 54.3**	**+0.1**
SANT	**Santorini**	**1.82 216**		*e*Pn	**Pn**	**03 18 56.2**	**+1.6**
SANT	**Santorini**	**1.82 216**		*e*Pn	**Pn**	**03 18 56.2**	**+1.6**
DALT	**Dalyan (Mudla)**	**1.84 126**		*e*PN	**Pn**	**03 18 56.8**	**-0.1**
ARG	**Arkhangelos**	**1.97 146**		*e*PB	**Pb**	**03 18 55.4**	**-3.8**
ARG				*e*SN	**Sn**	**03 19 20.8**	**-0.3**
BALB	**Balikesir**	**1.98 26**		*e*PN	**Pn**	**03 18 56.4**	**-0.3**
FETY	**Fethiye**	**2.21 123**		*e*PN	**Pn**	**03 19 00.2**	**+0.2**
KHL	**Karahalli**	**2.22 77**		*e*PN	**Pn**	**03 19 00.3**	**+0.3**
DST	**Dursunbey**	**2.27 39**		*e*PN	**Pn**	**03 19 00.3**	**-0.4**
PTL	**Penteli**	**2.31 276**		*e*PB	**Pb**	**03 19 01.0**	**-4.0**
KVR	**Kavouri**	**2.38 270**		*e*PN	**Pn**	**03 19 02.0**	**-0.2**
LIA	**Limnos Island**	**2.38 329**		*e*PB	**Pb**	**03 19 01.9**	**-4.4**
LIA				*e*SN	**Sn**	**03 19 30.4**	**-1.0**
MPAR	**Parnis Oros**	**2.42 278**		*e*PB	**Pb**	**03 19 03.0**	**-3.9**
ATH	**Athens Observa**	**2.42 274**		*e*PB	**Pb**	**03 19 02.8**	**-4.1**
LOS	**Limnos**	**2.46 328**		*e*Pn	**Pn**	**03 19 03.5**	**+0.2**
LOS	**Limnos**	**2.46 328**		P	**Pn**	**03 19 03.7**	**+0.4**
NAIG	**Nisos Aigina**	**2.60 269**		*e*PN	**Pn**	**03 19 05.0**	**-0.3**
EDC	**Edincik**	**2.62 19**		*e*PN	**Pn**	**03 19 05.2**	**-0.4**
BNT	**Bandirma**	**2.65 19**		*e*PN	**Pn**	**03 19 05.4**	**-0.5**
KCT	**Karacabey**	**2.70 27**		*e*PN	**Pn**	**03 19 06.4**	**-0.2**
ORLT	**Orhaneli**	**2.74 37**		*e*PN	**Pn**	**03 19 07.3**	**+0.1**
NPS	**Neapolis**	**2.76 200**		*e*PN	**Pn**	**03 19 06.8**	**-0.7**
MGER	**Gerania Oros**	**2.78 274**		*e*PN	**Pn**	**03 19 07.5**	**-0.3**
ALT	**Altintas**	**2.88 65**		*e*PN	**Pn**	**03 19 09.3**	**+0.2**
IDI	**Anoyia**	**2.98 211**		Pn	**Pn**	**03 19 10.2**	**-0.4**
	2.5nm,0.3s,baz=243,slow=10,SNR=14						
IDI				Sn	**Sn**	**03 19 44.0**	**-2.2**
	20nm,0.3s,baz=300,slow=20,SNR=12						
IDI	**Anoyia**	**2.98 211**		Pn	**Pn**	**03 19 10.1**	**-0.4**
IDI				Sn	**Sn**	**03 19 44.0**	**-2.2**
BCK	**Bucak**	**3.05 96**		*e*PN	**Pn**	**03 19 11.9**	**+0.4**
LKR	**Lokris**	**3.07 286**		*e*PN	**Pn**	**03 19 11.8**	**0.0**
ALN	**Alexandroupoli**	**3.08 350**		*e*Pn	**Pn**	**03 19 11.3**	**-0.6**
ALN				S	**Sn**	**03 19 50.9**	**+2.2**
ALN	**Alexandroupoli**	**3.08 350**		P	**Pn**	**03 19 09.6**	**-2.3**
ALN				S	**Sn**	**03 19 50.9**	**+2.2**
PAIG	**Paliouri**	**3.17 311**		*e*Pn	**Pn**	**03 19 13.3**	**+0.1**
PAIG	**Paliouri**	**3.17 311**		P	**Pn**	**03 19 15.5**	**+2.3**
PAIG	**Paliouri**	**3.17 311**		P	**Pn**	**03 19 15.5**	**+2.3**
XOR	**Xorichti**	**3.18 299**		*e*Pn	**Pn**	**03 19 13.3**	**0.0**
XOR	**Xorichti**	**3.18 299**		P	**Pn**	**03 19 16.2**	**+2.9**
XOR	**Xorichti**	**3.18 299**		P	**Pn**	**03 19 16.2**	**+2.9**
VAM	**Vamos**	**3.21 221**		*e*PN	**Pn**	**03 19 14.1**	**+0.5**
VAM	**Vamos**	**3.21 221**		*e*Pb	**Pb**	**03 19 16.8**	**-3.5**
VLI	**Veliai**	**3.27 251**		*e*PN	**Pn**	**03 19 13.7**	**-0.7**
OUR	**Ouranopolis**	**3.29 320**		P	**Pn**	**03 19 16.4**	**+1.6**
YLV	**Yalova**	**3.37 36**		*e*PN	**Pn**	**03 19 16.2**	**+0.3**
RDO	**Rodhopi**	**3.42 344**		*e*PN	**Pn**	**03 19 16.3**	**-0.2**
BADT	**Buyukada**	**3.50 31**		*e*PN	**Pn**	**03 19 17.9**	**+0.3**
CTT	**Catalca**	**3.52 21**		*e*PN	**Pn**	**03 19 18.1**	**+0.1**
PLG	**Polygyros**	**3.60 315**		*e*PN	**Pn**	**03 19 19.0**	**-0.1**
PLG	**Polygyros**	**3.60 315**		*e*Pn	**Pn**	**03 19 19.8**	**+0.7**
GPA	**Golpazari**	**3.67 48**		*e*PN	**Pn**	**03 19 20.6**	**+0.6**
AGG	**Agios Georgios**	**3.68 290**		*e*Pn	**Pn**	**03 19 21.0**	**+0.9**
AGG	**Agios Georgios**	**3.68 290**		P	**Pn**	**03 19 23.2**	**+3.1**
AGG	**Agios Georgios**	**3.68 290**		P	**Pn**	**03 19 23.2**	**+3.1**
AGG				S	**Sb**	**03 20 13.4**	**+0.6**
HRT	**Hereke**	**3.71 36**		*e*PN	**Pn**	**03 19 21.0**	**+0.4**
ITM	**Ithomi**	**3.91 261**		*e*PN	**Pn**	**03 19 23.0**	**-0.3**
EVR	**Evrytania**	**4.04 287**		*e*PN	**Pn**	**03 19 24.7**	**-0.4**
EVR	**Evrytania**	**4.04 287**		*e*Pn	**Pn**	**03 19 26.4**	**+1.3**
SRS	**Serrai**	**4.08 324**		*e*Pn	**Pn**	**03 19 25.8**	**+0.2**
SRS	**Serrai**	**4.08 324**		P	**Pn**	**03 19 27.2**	**+1.6**
SRS	**Serrai**	**4.08 324**		P	**Pn**	**03 19 27.2**	**+1.6**
RZN	**Rozhen**	**4.14 338**		*i* P	**Pn**	**03 19 26.0**	**-0.4**
NVR	**Nevrokopi**	**4.15 328**		*e*PN	**Pn**	**03 19 26.6**	**+0.1**
DIM	**Dimitrovgrad**	**4.29 348**		*i* P	**Pn**	**03 19 28.0**	**-0.5**
MDU	**Mudurnu**	**4.32 52**		*e*PN	**Pn**	**03 19 29.9**	**+0.9**
MMB	**Musomiste**	**4.40 329**		*i* P	**Pn**	**03 19 30.0**	**-0.1**
KNT	**Kendrikon**	**4.46 319**		*e*Pn	**Pn**	**03 19 31.6**	**+0.8**
KNT	**Kendrikon**	**4.46 319**		P	**Pn**	**03 19 31.9**	**+1.1**
PLD	**Plovdiv**	**4.53 340**		*i* P	**Pn**	**03 19 32.0**	**+0.2**
GRG	**Griva**	**4.58 314**		*e*Pn	**Pn**	**03 19 33.7**	**+1.2**
GRG	**Griva**	**4.58 314**		P	**Pn**	**03 19 34.1**	**+1.5**
GRG	**Griva**	**4.58 314**		P	**Pn**	**03 19 34.1**	**+1.5**
KKB	**Krupnik**	**4.91 326**		*i* P	**Pn**	**03 19 37.0**	**0.0**
ANTO	**Ankara**	**5.11 65**		*e*Sg	**Sg**	**03 21 09.1**	**+1.6**
ANTO	**Ankara**	**5.11 65**		*e*Pg	**Pg**	**03 20 02.0**	**+0.7**
ANTO				*e*Sg	**Sg**	**03 21 09.1**	**+1.6**
PRD	**Provadia**	**5.35 5**		*i* P	**Pn**	**03 19 42.0**	**-1.1**
VTS	**Vitosha**	**5.46 331**		*i* P	**Pn**	**03 19 45.2**	**+0.7**
BR131	**Keskin Array S**	**5.68 69**		*e*Pn	**Pn**	**03 19 48.2**	**+0.6**
	9.0nm,0.7s						
BR131	**Keskin Array S**	**5.68 69**		*e*Pn	**Pn**	**03 19 48.2**	**+0.6**
	9.0nm,0.7s						
BRTR	**Keskin Array B**	**5.68 69**		Pn	**Pn**	**03 19 48.1**	**+0.6**
	0.8nm,0.3s,baz=244,slow=14,SNR=26						
BRTR				Sn	**Sn**	**03 20 50.6**	**-2.1**
	0.3nm,0.3s,baz=256,slow=23,SNR=2.9						
TIRR	**Tirgusor**	**6.71 10**		⇑P	**Pn**	**03 20 07.4**	**+5.7**
CFR	**Carcaliu**	**7.38 8**		⇑P	**Pn**	**03 20 09.2**	**-1.8**
MLR	**Muntele Rosu**	**7.65 356**		Pn	**Pn**	**03 20 15.3**	**+0.7**
	0.4nm,0.3s,baz=200,slow=11,SNR=8.6						
MLR				Sn	**Sn**	**03 21 40.3**	**-0.9**
	0.4nm,0.3s,baz=255,slow=20,SNR=2.1						
MLR	**Muntele Rosu**	**7.65 356**		⇑P	**Pn**	**03 20 19.9**	**+5.2**
VOIR		**7.68 351**		⇓P	**Pn**	**03 20 16.2**	**+1.1**
TIP	**Timpagrande**	**7.96 283**		*e*Pn	**Pn**	**03 20 20.0**	**+1.1**
TIP	**Timpagrande**	**7.96 283**		*e*Pn	**Pn**	**03 20 19.9**	**+1.0**
PLOR	**Plostina**	**7.98 359**		⇓P	**Pn**	**03 20 23.7**	**+4.4**
VRI	**Vrincioaia**	**8.00 360**		⇓P	**Pn**	**03 20 27.6**	**+8.1**
BURAR	**Bucovina Array**	**9.81 354**		⇓P	**Pn**	**03 20 46.1**	**+1.7**
EIL	**Elat**	**10.63 138**		*e*Pn	**Pn**	**03 20 56.7**	**+1.2**
EIL	**Elat**	**10.63 138**		*e*Pn	**Pn**	**03 20 56.7**	**+1.2**
KIV	**Kislovodsk**	**13.48 58**		P	**Pn**	**03 21 37.2**	**+2.7**
	3.2nm,0.5s						
KIV	**Kislovodsk**	**13.48 58**		P	**Pn**	**03 21 37.2**	**+2.7**
	3.2nm,0.5s						
KIV	**Kislovodsk**	**13.48 58**		P	**Pn**	**03 21 37.2**	**+2.7**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KHC	**Kasperske Hory**	**14.76 324**		*e*P	**Pn**	**03 21 49.0**	**-2.9**
OBN	**Obninsk**	**18.50 18**		*e*P	**Pn**	**03 22 35.6**	**-3.9**
OBN				pmax	pmax		
	comp=Z,18nm,2.5s						
FINES	**FINESS Array B**	**23.61 359**		P	**P**	**03 23 34.4**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.2,baz=167,slow=9.2,SNR=4.1						
AKTK	**Aktyubinsk**	**25.50 50**		P	**P**	**03 23 52.2**	**+0.7**
AKTK	**Aktyubinsk**	**25.50 50**		P	**P**	**03 23 52.1**	**+0.6**
AKTO	**Aktyubinsk**	**25.50 50**		P	**P**	**03 23 52.1**	**+0.6**
	comp=Z,1.9nm,0.8s,mb3.7,baz=249,slow=14,SNR=4.8						
MDT	**Midelt**	**26.02 268**		P	**P**	**03 23 57.8**	**+1.5**
	comp=Z,1.5nm,0.8s,mb3.5,baz=112,slow=16,SNR=3.9						
TORD	**Torodi Ar. Bea**	**33.23 229**		P	**P**	**03 25 00.9**	**+0.6**
	comp=Z,4.0nm,0.6s,mb4.5,baz=34,slow=8.9,SNR=86						
MKAR	**Makanchi Array**	**41.24 59**		P	**P**	**03 26 07.9**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.4,baz=281,slow=6.0,SNR=11						
DBIC	**Dimbokro**	**42.27 231**		P	**P**	**03 26 17.0**	**+0.3**
	comp=Z,2.9nm,0.5s,mb4.2,baz=155,slow=14,SNR=10						
DBIC	**Dimbokro**	**42.27 231**		*e*P	**P**	**03 26 16.5**	**-0.2**
	comp=Z,3.4nm,0.6s,mb4.2						
DBIC	**Dimbokro**	**42.27 231**		P	**P**	**03 26 17.0**	**+0.3**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SCHQ	**Schefferville**	**61.99 319**		P	**P**	**03 28 42.1**	**-1.2**
	comp=Z,1.9nm,0.9s,mb4.2,baz=43,slow=4.2,SNR=4.4						
MDJ	**Mudanjiang**	**72.40 47**		P	**P**	**03 29 46.4**	**-3.0**
MDJ				S	S	03 39 10.4	-2.5
MDJ				SS	SS	03 43 48.3	-2.8
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,84nm,3.6s						
MDJ				LR	LR		
	comp=N,52nm,26.1s						
MDJ				LR	LR		
	comp=Z,29nm,16.1s						
NJ2	**Nanjing**	**72.64 63**		*e*P	**P**	**03 29 48.4**	**-2.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
YKA	**Yellowknife Ar**	**75.28 343**		P	**P**	**03 30 05.3**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.3,baz=28,slow=5.3,SNR=6.2						
YKA	**Yellowknife Ar**	**75.28 343**		P	**P**	**03 30 05.3**	**-1.0**

IDC 09 03:22:44.2±3.6, 1009N×9240E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, 1D, Error ellipse: s-maj=143.6km s-min=25.2km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.60 12**		⇓*e*P	Px	03 23 38.8	
PBA				*e*S	Sx	03 24 14.5	
PBA				*e*x	x	03 24 28.4	
	comp=E,859nm,0.7s						
PBA				*e*x	x	03 24 32.2	
	comp=N,564nm,0.7s						
VIS	**Vishakhapatnam**	**11.62 312**		*i* P	Pn	03 25 23.6	-7.6
VIS				*i* S	Sn	03 27 20.6	-21
MKAR	**Makanchi Array**	**37.58 349**		P	P	03 30 00.4	+0.1
	comp=N,0.2nm,0.5s,baz=167,slow=8.2,SNR=6.1						
SONM	**Songino Array**	**39.44 15**		P	P	03 30 15.8	-0.1
	comp=N,1.5nm,0.8s,baz=196,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**50.94 126**		P	P	03 31 48.1	+0.8
	comp=N,0.5nm,0.4s,baz=306,slow=8.5,SNR=3.8						
WB2	**Warramunga Arr**	**50.95 126**		*e*P	P	03 31 48.1	+0.7
ASAR	**Alice Springs**	**52.65 130**		P	P	03 32 00.1	+0.1
	comp=N,0.6nm,0.5s,baz=299,slow=6.7,SNR=

mb1 4.5/19, mb1mx4.4/24, mbtmp4.4/19, ML4.4/2, MS4.1/12, Ms1 4.1/12, ms1mx4.0/25, Error ellipse: s-maj=20.6km s-min=13.9km az=108.0

*MOS **09** 03:41:20.5±1.0, 337S×2825E, h10km, mb4.8/19, Error ellipse: s-maj=14.9km s-min=7.4km az=76.7*

*BJI **09** 03:41:20.9, 350S×2830E, h10km, mB5.2, mb4.9, Ms5.1, Msz4.6*

*ISCJB **09** 03:41:21.4±2.8, 348S±005×2804E±007, h20km±20km, mb4.6/48, MS4.4/14, Error ellipse: s-maj=12.6km s-min=7.6km az=57.4*

*NEIC **09** 03:41:22.0±0.3, 347S×2828E, h10km, mb4.6/15, Error ellipse: s-maj=11.8km s-min=6.9km az=101.0*

ISC 09 03:41:24.2±3.1, 346S±007×2807E±007, h23km±23km, h17km±1.5km: pP-P, n101, σ0°96/99, mb4.6/48, MS4.4/14, 5C-1D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.46**	**76**	Pn	**Pn**	**03 43 35.1**	**-3.9**
	2.2nm,0.3s,baz=238,slow=16,SNR=29						
KMBO				Sn	**Sn**	**03 45 15.0**	**-10**
	6.4nm,0.3s,baz=165,slow=24,SNR=6.9						
KMBO				Lg		03 46 06.7	
	11nm,0.3s,baz=223,slow=18,SNR=6.6						
KMBO				LR	LR	03 46 31.4	
	comp=Z,897nm,21.0s,baz=250,slow=33						
KMBO	**Kilima Mbogo**	**9.46**	**76**	P	**Pn**	**03 43 35.2**	**-3.8**
KMBO						03 45 15.0	
LSZ	**Lusaka**	**11.74**	**179**	Pn	**Pn**	**03 44 08.3**	**-2.0**
	3.7nm,0.3s,baz=1.6,slow=12,SNR=35						
LSZ				Sn	**Sn**	**03 46 12.6**	**-8.0**
	4.0nm,0.3s,baz=323,slow=20,SNR=4.4						
LSZ				Lg		03 47 29.0	
	5.9nm,0.3s,baz=119,slow=23,SNR=12						
LSZ	**Lusaka**	**11.74**	**179**	*e*Pn	**Pn**	**03 44 08.1**	**-2.2**
	20nm,0.4s						
LSZ				*e*Sn	**Sn**	**03 46 13.6**	**-7.1**
LSZ	**Lusaka**	**11.74**	**179**	*e*P	**Pn**	**03 44 08.1**	**-2.2**
LSZ				pmax	pmax		
	comp=Z,19nm,0.4s						
TSUM	**Tsumeb**	**18.70**	**212**	P	**Pn**	**03 45 41.4**	**0.0**
	comp=Z,0.5nm,0.3s,baz=21,slow=12,SNR=11						
TSUM				S	**Sn**	**03 49 04.2**	**-5.8**
	comp=Z,0.7nm,0.3s,baz=131,slow=23,SNR=3.1						
TSUM				Lg		03 51 09.2	
	comp=Z,0.5nm,0.3s,baz=90,slow=19,SNR=5.6						
TSUM				LR	LR	03 53 31.1	
	comp=Z,326nm,18.1s,baz=324,slow=39						
TSUM	**Tsumeb**	**18.70**	**212**	*e*P	**Pn**	**03 45 42.4**	**+0.9**
	comp=Z,8.6nm,0.6s						
LBTB	**Lobatse**	**21.56**	**186**	P	**P**	**03 46 11.6**	**-0.5**
	comp=Z,9.8nm,0.8s,mb4.3,baz=24,slow=11,SNR=13						
LBTB				Lg		03 52 39.8	
	comp=Z,17nm,1.0s,baz=288,slow=21,SNR=3.7						
LBTB				LR	LR	03 55 02.4	
	comp=Z,882nm,18.7s,MS4.2,baz=21,slow=38						
LBTB	**Lobatse**	**21.56**	**186**	*e*P	**P**	**03 46 12.5**	**+0.5**
	comp=Z,13nm,0.9s,mb4.4						
LBTB	**Lobatse**	**21.56**	**186**	*e*P	**P**	**03 46 12.5**	**+0.5**
LBTB				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.4						
BOSA	**Boshof**	**25.16**	**186**	P	**P**	**03 46 48.5**	**+0.8**
	comp=Z,5.5nm,0.7s,mb4.2,baz=17,slow=11,SNR=11						
BOSA				Lg		03 54 34.2	
	comp=Z,11nm,1.0s,baz=274,slow=17,SNR=2.0						
BOSA				LR	LR	03 57 03.1	
	comp=Z,949nm,20.2s,MS4.3,baz=10,slow=37						
BOSA	**Boshof**	**25.16**	**186**	*e*P	**P**	**03 46 48.7**	**+1.0**
	comp=Z,8.8nm,0.7s,mb4.4						
BOSA	**Boshof**	**25.16**	**186**	*e*P	**P**	**03 46 48.7**	**+1.0**
BOSA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.4						
SUR	**Sutherland**	**29.57**	**193**	LR	LR	04 00 11.9	
	comp=Z,272nm,20.4s,MS3.9,baz=48,slow=38						
TORD	**Torodi Ar. Bea**	**30.95**	**303**	P	**P**	**03 47 39.0**	**-0.4**
	comp=Z,4.1nm,0.6s,mb4.5,baz=108,slow=7.6,SNR=84						
TORD				Lg		03 57 36.9	
	comp=Z,3.3nm,1.1s,baz=120,slow=32,SNR=4.2						
ABTO	**Aybut**	**32.36**	**49**	P	**P**	**03 47 54.1**	**+2.2**
	SNR=8.8						
WHFO	**Wadi Hawf**	**33.06**	**49**	P	**P**	**03 47 59.3**	**+1.3**
	SNR=7.4						
DBIC	**Dimbokro**	**34.38**	**287**	P	**P**	**03 48 10.4**	**+1.0**
	comp=Z,6.2nm,0.5s,mb4.8,baz=93,slow=8.9,SNR=34						
DBIC				LR	LR	04 03 26.1	
	comp=Z,275nm,18.2s,MS4.0,baz=332,slow=38						
DBIC	**Dimbokro**	**34.38**	**287**	*e*P	**P**	**03 48 10.6**	**+1.1**
	comp=Z,6.1nm,0.5s,mb4.8						
DBIC	**Dimbokro**	**34.38**	**287**	*e*P	**P**	**03 48 10.6**	**+1.2**
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
RDF	**Al-Radifah**	**37.24**	**29**	*e*P	**P**	**03 48 34.7**	**+0.8**
RDF				AMb	AMB	03 48 36.6	
	comp=Z,22nm,0.9s,mb5.0						
NAY	**Al-Naaiem**	**37.36**	**28**	*e*P	**P**	**03 48 34.7**	**-0.3**
NAY				AMb	AMB	03 48 37.4	
	comp=Z,11nm,0.8s,mb4.7						
MIB	**Mutribah**	**37.87**	**28**	*e*P	**P**	**03 48 39.3**	**0.0**
MIB				AMb	AMB	03 48 41.4	
	comp=Z,33nm,0.6s,mb5.2						
BSY	**Bisya**	**38.56**	**46**	⇑P	**P**	**03 48 45.9**	**+0.8**
ASHO	**Ashiyiah**	**39.02**	**43**	P	**P**	**03 48 49.6**	**+0.7**
	SNR=10.0						
HOQ	**Hoqain**	**39.17**	**45**	P	**P**	**03 48 50.8**	**+0.6**
	SNR=7.1						
BIDO	**Bidbid**	**39.71**	**46**	P	**P**	**03 48 55.6**	**+0.9**
	SNR=11						
WBK	**Wadi Bani Khal**	**39.77**	**48**	P	**P**	**03 48 56.9**	**+1.7**
	SNR=7.5						
MALT	**Malatya**	**42.65**	**12**	*e*P	**P**	**03 49 20.3**	**+1.4**
	comp=Z,6.2nm,0.9s,mb4.3						
MALT	**Malatya**	**42.65**	**12**	*e*P	**P**	**03 49 20.3**	**+1.4**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**43.27**	**6**	P	**P**	**03 49 23.7**	**-0.3**
	comp=Z,8.1nm,0.7s,mb4.6,baz=181,slow=9.5,SNR=42						
BR131	**Keskin Array S**	**43.28**	**6**	*e*P	**P**	**03 49 23.9**	**0.0**
	comp=Z,6.7nm,0.7s,mb4.5						
VOIR		**48.75**	**357**	⇑P	**P**	**03 50 06.8**	**-0.3**
MLR	**Muntele Rosu**	**48.77**	**358**	⇑P	**P**	**03 50 08.1**	**+0.8**
GOF	**Gofitskoye**	**50.12**	**14**	*e*P	**P**	**03 50 17.1**	**-0.4**
BURAR	**Bucovina Array**	**50.92**	**358**	⇑P	**P**	**03 50 26.2**	**+2.6**
BURAR	**Bucovina Array**	**50.92**	**358**	⇑P	**P**	**03 50 26.2**	**+2.6**
PSZ	**Piszkesteto**	**51.66**	**353**	*e*P	**P**	**03 50 28.6**	**-0.5**
	comp=Z,3.4nm,0.6s,mb4.5						
PSZ	**Piszkesteto**	**51.66**	**353**	*e*P	**P**	**03 50 28.7**	**-0.5**
PSZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ESDC	**Sonseca Array**	**52.05**	**329**	P	**P**	**03 50 33.0**	**+0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=149,slow=7.3,SNR=6.5						
KWP	**Kalwaria**	**53.08**	**356**	*e*P	**P**	**03 50 40.4**	**+0.7**
GERES	**GERESS Array B**	**53.57**	**348**	P	**P**	**03 50 42.9**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=170,slow=8.2,SNR=14						
MORC	**Moravsky Berou**	**53.80**	**352**	*e*P	**P**	**03 50 44.8**	**-0.2**
	comp=Z,1.7nm,0.7s,mb4.1						
MORC	**Moravsky Berou**	**53.80**	**352**	*e*P	**P**	**03 50 44.8**	**-0.2**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KHC	**Kasperske Hory**	**53.87**	**348**	*e*P	**P**	**03 50 45.0**	**-0.5**
AKASG	**Malin Array Be**	**53.96**	**1**	P	**P**	**03 50 44.8**	**-1.3**
	comp=Z,2.7nm,1.0s,mb4.1,baz=181,slow=6.3,SNR=6.9						
DPC	**Dobruska-Polom**	**54.54**	**351**	*e*P	**P**	**03 50 55.3**	**+4.9**
GRA1	**Grafenberg Arr**	**54.91**	**347**	*e*P	**P**	**03 50 52.8**	**-0.2**
GRF	**Grafenberg Arr**	**54.91**	**347**	*e*P	**P**	**03 50 52.8**	**-0.2**
OBN	**Obninsk**	**58.79**	**6**	*e*P	**P**	**03 51 19.1**	**-1.5**
OBN				*e*		03 52 09.7	
OBN				pmax	pmax		
	comp=Z,39nm,2.3s,mb5.0						
KK31	**Karatay Array**	**60.08**	**35**	*i* P	**P**	**03 51 29.3**	**-0.2**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
KKAR	**Karatay Array**	**60.08**	**35**	*i* P	**P**	**03 51 29.3**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
KOLN	**Koldanda**	**61.78**	**56**	*e*P	**P**	**03 51 39.7**	**-1.3**
	comp=Z,14nm,1.0s,mb5.1						
GKN	**Gorkha**	**62.72**	**56**	*e*P	**P**	**03 51 46.9**	**-0.4**
	comp=Z,22nm,0.7s,mb5.4						
DMN	**Daman**	**62.98**	**57**	*e*P	**P**	**03 51 48.9**	**-0.1**
KKN	**Kakani**	**63.18**	**57**	*e*P	**P**	**03 51 50.5**	**+0.1**
	comp=Z,18nm,0.6s,mb5.4						
GUN	**Gumba**	**63.72**	**57**	*e*P	**P**	**03 51 53.9**	**-0.1**
JIRN	**Jiri**	**63.90**	**57**	*e*P	**P**	**03 51 54.9**	**-0.2**
	comp=Z,18nm,0.7s,mb5.2						
ARU	**Arti**	**64.66**	**18**	⇓*i*P	**P**	**03 52 00.0**	**-0.1**
ARU				*e*		03 52 32.0	
ARU				*e*		03 54 20.6	
ARU				*e*S	**S**	**04 00 38.5**	**-0.3**
ARU				*e*SS	SS	04 04 48.5	-1.2
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**64.73**	**359**	P	**P**	**03 51 59.3**	**-1.3**
	comp=Z,3.1nm,0.7s,mb4.4,baz=141,slow=6.4,SNR=17						
FINES				LR	LR	04 20 01.9	
	comp=Z,164nm,18.7s,MS4.2,baz=176,slow=36						
KLMR	**Klimovskoe**	**64.74**	**6**	*e*P	**P**	**03 52 01.9**	**+1.2**
KLMR				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
KAF	**Kangasniemi**	**65.40**	**359**	*e*p	**P**	**03 52 03.2**	**-1.7**
	comp=Z,5.0nm,0.7s,mb4.7						
KAF	**Kangasniemi**	**65.40**	**359**	*e*P	**P**	**03 52 03.2**	**-1.7**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
NAO01	**NORSAR Array S**	**65.50**	**351**	*e*P	**P**	**03 52 04.6**	**-1.0**
	comp=Z,9.4nm,0.8s,mb4.9						
NB2	**NORSAR Subarra**	**65.63**	**351**	P	**P**	**03 52 05.4**	**-1.0**
	comp=Z,9.1nm,0.9s,mb4.8,baz=162,slow=6.2						
NB2	**NORSAR Subarra**	**65.63**	**351**	P	**P**	**03 52 05.4**	**-1.0**
NB2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
NOA	**NORSAR Array B**	**65.63**	**351**	P	**P**	**03 52 05.8**	**-0.7**
	comp=Z,5.5nm,0.7s,mb4.7,baz=163,slow=6.2,SNR=14						
NOA				LR	LR	04 22 07.0	
	comp=Z,102nm,20.0s,MS4.0,baz=30,slow=37						
NOA	**NORSAR Array B**	**65.63**	**351**	P	**P**	**03 52 05.8**	**-0.7**
NOA				LR	LR	04 22 07.0	
JOF	**Joensuu**	**66.24**	**2**	*e*p	**P**	**03 52 06.7**	**-3.7**
	comp=Z,2.8nm,0.8s,mb4.3						
BRVK	**Borovoye**	**66.52**	**26**	*e*P	**P**	**03 52 11.4**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.1						
BRVK	**Borovoye**	**66.52**	**26**	*e*P	**P**	**03 52 11.4**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BVA0	**Borovoye Array**	**66.54**	**26**	*i* P	**P**	**03 52 11.5**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
BVAR	**Borovoye Array**	**66.54**	**26**	P	**P**	**03 52 11.4**	**-0.9**
	comp=Z,3.6nm,0.7s,mb4.5,baz=221,slow=6.8,SNR=23						
VOSK	**Vostochnaya**	**66.60**	**27**	P	**P**	**03 52 11.2**	**-1.4**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MAW	**Mawson**	**68.32**	**166**	LR	LR	04 17 35.0	
	comp=Z,178nm,19.6s,MS4.3,baz=254,slow=32						
MK31	**Makanchi Array**	**69.06**	**37**	*i* P	**P**	**03 52 27.3**	**-0.8**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**69.06**	**37**	P	**P**	**03 52 27.4**	**-0.7**
	comp=Z,12nm,0.7s,mb4.9,baz=243,slow=5.6,SNR=97						
KURK	**Kurchatov**	**69.08**	**32**	*e*P	**P**	**03 52 27.8**	**-0.5**
	comp=Z,14nm,0.8s,mb5.0						
KURK	**Kurchatov**	**69.08**	**32**	*e*P	**P**	**03 52 27.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
WMQ	**Urumqi**	**71.09**	**41**	*e*P	**P**	**03 52 41.1**	**+0.5**
WMQ				AP	pP	03 52 45.8	-2.2
WMQ				XP	sP	03 52 48.1	-2.6
WMQ				PCP	PcP	03 53 01.6	+0.9
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,45nm,4.6s						
WMQ				LR	LR		
	comp=N,489nm,21.0s,MS4.9						
WMQ				LR	LR		
	comp=E,499nm,21.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,575nm,20.0s,MS4.8						
ARCES	**ARCESS Array B**	**72.86**	**359**	P	**P**	**03 52 50.8**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.1,baz=161,slow=5.7,SNR=9.4						
NVS	**Novosibirsk**	**73.68**	**30**	*e*P	**P**	**03 52 57.0**	**+0.9**
ZAL	**Zalesovo**	**74.01**	**31**	P	**P**	**03 52 57.2**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.3,baz=215,slow=5.0,SNR=18						
BDFB	**Brasilia**	**75.68**	**255**	P	**P**	**03 53 10.5**	**+2.9**
	comp=Z,2.1nm,0.8s,mb4.2,baz=62,slow=8.2,SNR=4.8						
GTA	**Gaotai**	**78.21**	**49**	*e*P	**P**	**03 53 22.8**	**+0.9**
GTA				AP	pP	03 53 29.9	+0.6
GTA				XP	sP	03 53 33.7	+1.7
GTA				PP	PP	03 56 23.5	+4.9
GTA				S	S	04 03 19.4	+4.2
GTA				XS	sS	04 03 22.8	-4.7
GTA				SKS		04 03 32.1	
GTA				SS	SS	04 08 23.2	+5.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
GTA				AMB	AMB		
	comp=Z,125nm,5.4s						
GTA				LR	LR		
	comp=N,941nm,11.2s,MS5.4						
GTA				LR	LR		
	comp=E,858nm,15.4s,MS5.4						
GTA				LR	LR		
	comp=Z,1μm,10.8s,MS5.4						
CD2	**Chengdu**	**79.54**	**58**	*e*P	**P**	**03 53 29.1**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
LZH	**Lanzhou**	**80.58**	**53**	*e*P	**P**	**03 53 35.1**	**+0.3**
LZH				AP	pP	03 53 39.8	-2.5
LZH				XP	sP	03 53 42.0	-3.0
LZH				PP	PP	03 56 40.3	+1.9
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.9						
ZAK	**Zakamensk**	**83.27**	**39**	*e*P	**P**	**03 53 38.3**	**-11**
ZAK				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.5						
CPUP	**Villa Florida**	**84.36**	**244**	LR	LR	04 26 58.4	
	comp=Z,252nm,19.3s,MS4.6,baz=216,slow=32						
SONM	**Songino Array**	**84.73**	**41**	P	**P**	**03 53 57.3**	**+0.9**
	comp=Z,1.7nm,0.8s,mb4.2,baz=251,slow=4.4,SNR=3.3						
ULN	**Ulaanbaatar**	**85.17**	**42**	*e*P	**P**	**03 53 59.3**	**+0.7**
	comp=Z,2.6nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**85.17**	**42**	*e*P	**P**	**03 53 59.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
SUMG	**Summit**	**86.41**	**344**	*e*P	**P**	**03 54 06.2**	**+1.4**
	comp=Z,5.0nm,0.9s,mb4.7						
HHC	**Hu-ho-hao-te**	**87.32**	**49**	*e*P	**P**	**03 54 08.6**	**-0.6**
HHC				AP	pP	03 54 13.5	-3.2
HHC				XP	sP	03 54 15.6	-3.8
HHC				PP	PP	03 57 34.7	+1.3
HHC				SKS		04 04 32.6	
HHC				S		04 04 45.7	
HHC				XS	sS	04 04 54.1	-6.4
HHC				SS	SS	04 10 30.7	-1.9
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,170nm,6.3s						
HHC				LR	LR		
	comp=N,1μm,9.0s						
HHC				LR	LR		
	comp=E,1μm,12.3s						
HHC				LR	LR		
	comp=Z,642nm,12.0s,MS5.2						
BOD	**Bodaibo**	**90.73**	**32**	*e*P	**P**	**03 54 24.5**	**-0.7**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.3						
NJ2	**Nanjing**	**92.48**	**58**	*e*P	**P**	**03 54 33.2**	**-0.1**
NJ2				AP	pP	03 54 38.0	-2.9
NJ2				XP	sP	03 54 40.2	-3.4
NJ2				PP	PP	03 58 16.8	+2.3
NJ2				S		04 05 33.0	
NJ2				XS	sS	04 05 41.0	-7.5
NJ2				AMB	AMB		
	comp=Z,110nm,10.3s						
NJ2				LR	LR		
	comp=N,560nm,37.3s						
NJ2				LR	LR		
	comp=E,170nm,24.6s						
NJ2				LR	LR		
	comp=Z,290nm,39.9s,MS4.4						
CFAA	**Coronel Fontan**	**93.58**	**238**	LR	LR	04 29 15.1	
	comp=Z,13nm,21.0s,MS3.4,baz=3.0,slow=31						
SJG	**San Juan**	**95.07**	**288**	LR	LR	04 37 04.9	
	comp=Z,79nm,19.4s,MS4.2,baz=276,slow=35						
CN2	**Changchun**	**97.71**	**46**	*e*P	**P**	**03 54 57.1**	**-0.1**
MDJ	**Mudanjiang**	**100.62**	**45**	P	Pdif	03 55 10.4	+0.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,52nm,3.3s						
ILAR	**Eielson Array**	**118.71**	**358**	PKP	PKPdf	04 00 09.9	-0.5
	comp=Z,0.3nm,0.6s,baz=339,slow=3.4,SNR=6.3						

IDC 09 03:46:41.2±7.0, 571S×14675E, h111km±68km, mb3.4/3, mb1 3.7/5, mb1mx3.4/13, mbtmp3.7/5, MS3.7/1, Ms1 3.7/1, ms1mx2.5/17, Error ellipse: s-maj=66.4km s-min=31.6km az=142.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.70**	**174**	P	Pn	03 47 37.7	+1.2
	4.6nm,0.3s,baz=351,slow=6.8,SNR=13						
PMG				S	Sn	03 48 19.5	+0.2
	13nm,0.3s,baz=172,slow=21,SNR=25						
WRA	**Warramunga Arr**	**18.59**	**219**	P	P	03 50 50.4	+0.7
	0.3nm,0.3s,baz=42,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**21.72**	**213**	P	P	03 51 23.6	+0.3
	0.9nm,0.7s,baz=50,slow=8.0,SNR=9.8						
DZM	**Mont Dzumac**	**25.05**	**132**	LR	LR	03 59 29.1	
	comp=Z,159nm,19.3s,baz=206,slow=31						
ILAR	**Eielson Array**	**85.31**	**23**	P	P	03 59 05.0	-0.7
	0.5nm,0.7s,baz=250,slow=4.9,SNR=8.0						
NVAR	**Mina Array Bea**	**97.39**	**52**	P	P	04 00 03.2	+1.1
	0.4nm,0.6s,baz=244,slow=5.7,SNR=3.7						
NVAR	**Mina Array Bea**	**97.39**	**52**	P	P	04 00 03.2	+1.1

MAN 09 03:55:09.1, 1744N×12247E, h12km, mb2.2, ML3.9, MS1.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.67**	**293**	*e*P	Pg	03 55 23.0	+0.9
CVP				*i* S	Sg	03 55 33.0	+2.1
CAUP	**Cauayan**	**0.79**	**231**	*e*P	Pg	03 55 25.0	+0.6
CAUP				*e*S	Sg	03 55 38.6	+3.7
SGCP	**Mt. Cagua**	**0.89**	**333**	*e*P	Pg	03 55 25.5	-0.8
APYP	**Conner**	**1.24**	**290**	*e*P	Pn	03 55 31.4	-0.8
ABRA	**Dolores**	**1.69**	**277**	*e*P	Pn	03 55 38.2	-0.2

CASC 09 04:00:01.8±2.5, 1345N×9018W, h31km±7km, MD3.6, ML3.5, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.67**	**55**	⇓*e*P	Pb	04 00 26.4	+11
SBLS				*e*S	Sb	04 00 36.9	+13
SNJE	**San Jose**	**0.70**	**53**	*e*P	Pb	04 00 26.8	+11
SNJE				*e*S	Sb	04 00 37.7	+13
IXG	**Ixpaco**	**0.77**	**340**	⇓*e*P	Pn	04 00 15.8	-0.7
IXG				*e*S	Sb	04 00 27.9	+1.1
IXG				AML	AML	04 00 35.9	
	comp=E,5μm,0.5s						
BOQS	**Boqueron**	**0.92**	**72**	*e*P	Pn	04 00 29.4	+11
BOQS				*e*S	Sn	04 00 42.7	+12
LFU	**La Fuente**	**1.08**	**74**	⇑*e*P	Pn	04 00 31.9	+11
LFU				*e*S	Sn	04 00 46.3	+12
LFRS	**El Faro**	**1.10**	**81**	*e*P	Pn	04 00 31.2	+10
LFRS				*e*S	Sn	04 00 46.3	+11
LBRS	**Las Brisas**	**1.14**	**75**	*e*P	Pn	04 00 32.5	+11
LBRS				*e*S	Sn	04 00 49.5	+13
FUG	**Fuego 3**	**1.18**	**327**	⇑*e*P	Pn	04 00 22.2	0.0
FUG				*e*S	Sn	04 00 38.7	+1.5
LCBS	**La Ceiba**	**1.19**	**80**	*e*P	Pn	04 00 32.5	+10
LCBS				*e*S	Sn	04 00 48.6	+11
SNVI	**San Vicente**	**1.32**	**83**	*e*P	Pn	04 00 34.6	+11
SNVI				*e*S	Sn	04 00 52.0	+11
TP2	**Tecpan 2**	**1.56**	**329**	⇓*e*P	Pn	04 00 28.0	+0.6
TP2				*e*S	Sn	04 00 49.0	+2.5
VSM	**San Miguel**	**1.86**	**90**	*e*P	Pn	04 00 41.6	+10
VSM				*e*S	Sn	04 01 05.3	+11
BLLM	**Bellamira**	**1.89**	**90**	*e*P	Pn	04 00 42.3	+10
BLLM				*e*S	Sn	04 01 05.4	+11
CNCH	**Conchagua**	**2.29**	**94**	*e*P	Pn	04 00 47.6	+10
CNCH				*e*S	Sn	04 01 14.4	+10

IDC 09 04:03:26.4±1.6, 272S×13926E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.7/12, mbtmp3.5/4, ML3.6/1, MS3.3/1, Ms1 3.2/1, ms1mx2.6/18, Error ellipse: s-maj=78.4km s-min=27.7km az=97.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**17.78**	**195**	*e*P	Pn	04 07 35.2	0.0
WRA	**Warramunga Arr**	**17.78**	**195**	P	Pn	04 07 34.5	-0.8
	0.2nm,0.3s,baz=16,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**21.46**	**194**	P	P	04 08 17.1	+0.7
	0.9nm,0.5s,baz=19,slow=9.6,SNR=7.5						
STKA	**Stephens Creek**	**29.09**	**176**	LR	LR	04 20 26.5	
	comp=Z,62nm,20.7s,baz=206,slow=35						
MKAR	**Makanchi Array**	**70.13**	**322**	P	P	04 14 41.0	+0.3
	0.2nm,0.5s,baz=104,slow=6.8,SNR=4.7						
ILAR	**Eielson Array**	**85.61**	**24**	P	P	04 16 06.5	-0.2
	0.5nm,1.0s,baz=255,slow=3.2,SNR=4.9						

*NIED **09** 04:07:00, 2390N×12040E, h8km, Mw4.8 Best double couple: M0:1.92000×10^16 NP1:φ0=70.00000°, δ77.00000°, λ104.00000°. NP2:φ0=202.00000°, δ19.00000°, λ43.00000°.*

*ISCJB **09** 04:07:26.7±0.2, 2357N±003×12050E±002, h10km, mb4.6/63, MS4.0/19, Error ellipse: s-maj=3.8km s-min=2.5km az=173.0*

*BJI **09** 04:07:27.6, 2362N×12061E, h14km, mB4.9, mb4.6, ML5.4, Ms4.9, Msz4.6*

SSE Smax
comp=N,429nm,1.0s
SSE Smax
comp=E,577nm,0.9s
SSE LR LR
comp=N,3μm,10.0s
SSE LR LR
comp=E,3μm,10.0s
SSE LR LR
comp=Z,5μm,9.6s
JIH Iheya 7.57 61 P **Pn 04 09 18.6 -0.3**
JOW Kunigami 7.74 64 Pn **Pn 04 09 21.1 -0.1**
comp=Z,12nm,0.3s,baz=210,slow=9.8,SNR=4.3
JOW Kunigami 7.74 64 P **Pn 04 09 20.5 -0.7**
BALP Baler 7.87 173 *e*P **Pn 04 09 25.1 +2.0**
NJ2 Nanjing 8.56 350 *e*P **Pn 04 09 30.8 -1.7**
NJ2 AP 04 09 34.0
NJ2 S **Sn 04 11 04.3 -4.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
NJ2 AMB AMB
comp=Z,150nm,3.5s
NJ2 Smax
comp=N,5μm,1.1s
NJ2 Smax
comp=E,3μm,0.9s
NJ2 LR LR
comp=N,8μm,10.1s
NJ2 LR LR
comp=E,10μm,11.6s
NJ2 LR LR
comp=Z,3μm,11.0s
JTK Tokunoshima 8.68 59 P **Pn 04 09 33.6 -0.6**
WHN Wuhan 8.84 323 P **Pn 04 09 37.4 +1.0**
WHN S **Sn 04 11 13.1 -2.9**
WHN LR LR
comp=Z,10μm,8.2s
JAM Amami Oshima 9.48 58 P **Pn 04 09 43.6 -1.6**
QIZ Qiongzhong 10.93 247 P **Pn 04 10 05.8 +0.8**
QIZ *e*S **Sn 04 12 10.9 +3.6**
QIZ AMB AMB
comp=Z,14nm,1.4s
QIZ LR LR
comp=N,2μm,17.5s
QIZ LR LR
comp=E,1μm,17.5s
QIZ LR LR
comp=Z,1μm,13.2s
QIZ Qiongzhong 10.93 247 *e*Pn **Pn 04 10 04.9 -0.1**
comp=Z,48nm,1.2s
QIZ Sn **Sn 04 12 08.8 +1.4**
ENH Enshi 11.87 306 *e*Pn **Pn 04 10 21.0 +3.0**
comp=Z,34nm,1.0s
GYA Guiyang 12.88 286 P **Pn 04 10 33.0 +1.3**
GYA AP 04 10 38.6
GYA XP 04 10 42.8
GYA S **Sn 04 12 55.4 +0.4**
GYA SS 04 13 10.2
GYA AMB AMB
comp=Z,20nm,0.9s
GYA AMB AMB
comp=Z,180nm,7.8s
GYA LR LR
comp=N,4μm,11.1s
GYA LR LR
comp=E,4μm,9.6s
GYA LR LR
comp=Z,5μm,9.3s
JNU Nakatsue 13.16 42 LR LR 04 16 25.5
comp=Z,1μm,21.6s,baz=0.9,slow=40
XAN Xi'an 14.54 318 P **Pn 04 10 56.0 +1.7**
XAN LR LR
comp=N,2μm,8.9s
XAN LR LR
comp=E,1μm,9.5s
DL2 Dalian 15.30 3 P **Pn 04 11 04.2 -0.4**
DL2 *e*S **Sn 04 13 54.8 +0.7**
DL2 XS sS 04 14 06.1 -9.1
DL2 AMB AMB
comp=Z,10.0nm,0.8s
DL2 LR LR
comp=N,740nm,11.2s
DL2 LR LR
comp=E,1μm,10.4s
DL2 LR LR
comp=Z,1μm,10.1s
KMI Kunming 16.27 279 P **Pn 04 11 23.5 +6.3**
KMI AP pP 04 11 28.5 +5.5
KMI XP sP 04 11 30.0 +5.7
KMI AMB AMB
comp=Z,34nm,1.1s
KMI AMB AMB
comp=Z,85nm,3.1s
KMI LR LR
comp=N,4μm,11.1s
KMI LR LR
comp=E,847nm,9.8s
KMI LR LR
comp=Z,2μm,10.6s
CD2 Chengdu 16.58 300 P **Pn 04 11 24.6 +3.5**
CD2 XP sP 04 11 29.5 +1.8
CD2 PP 04 11 32.7
CD2 S **Sn 04 14 29.1 +3.9**
CD2 XS sS 04 14 39.2 -2.1
CD2 AMB AMB
comp=Z,10.0nm,0.6s
CD2 AMB AMB
comp=Z,40nm,5.6s
CD2 LR LR
comp=N,1μm,9.6s
CD2 LR LR
comp=Z,1μm,8.7s
BJT Baijiatuau 16.79 348 *e*P **Pn 04 11 26.0 +2.2**
comp=Z,61nm,1.1s
BJT Baijiatuau 16.79 348 *e*P **Pn 04 11 26.0 +2.2**
BJT pmax pmax
comp=Z,61nm,1.1s
BJI Beijing 16.81 348 P **Pn 04 11 25.4 +1.4**
BJI S **Sn 04 14 28.8 -1.9**
BJI AMB AMB
comp=Z,35nm,0.8s
BJI LR LR
comp=N,871nm,17.2s
BJI LR LR
comp=E,2μm,17.8s
KKM Kota Kinabalu 17.93 194 P **Pn 04 11 35.7 -2.2**
SNY Shenyang 18.37 7 ⇑P **Pn 04 11 46.0 +2.6**
SNY AP pP 04 11 50.8 +4.6
SNY XP sP 04 11 54.5 +7.0
SNY AMB AMB
comp=Z,18nm,2.0s
SNY AMB AMB
comp=Z,270nm,11.4s
SNY LR LR
comp=N,3μm,9.9s
SNY LR LR
comp=E,1μm,11.3s
SNY LR LR
comp=Z,2μm,9.9s
HHC Hu-ho-hao-te 18.78 338 *e*P **Pn 04 11 51.5 +3.1**
HHC AP pP 04 11 57.5 +6.7
HHC XP sP 04 12 01.6 +10
HHC PP 04 12 08.1
HHC S **Sn 04 15 19.8 +1.2**
HHC XS sS 04 15 28.0 +1.9
HHC PCP PcP 04 16 16.4 +1.3
HHC AMB AMB
comp=Z,6.0nm,0.4s
HHC AMB AMB
comp=Z,325nm,5.0s
HHC LR LR
comp=N,1μm,9.0s
HHC LR LR
comp=E,1μm,13.2s
HHC LR LR
comp=Z,642nm,11.9s
LZH Lanzhou 19.05 315 *e*P **Pn 04 11 53.6 +2.0**
LZH AP pP 04 12 01.5 +7.8
LZH XP sP 04 12 05.2 +10
LZH AMB AMB
comp=Z,120nm,1.4s
LZH AMB AMB
comp=Z,350nm,4.7s
LZH LR LR
comp=E,3μm,8.2s
LZH LR LR
comp=Z,4μm,10.8s
BTO Baotou 19.13 335 *e*P **Pn 04 11 53.9 +1.3**
BTO LR LR
comp=N,678nm,9.6s
BTO LR LR
comp=E,1μm,9.5s
JHJ Hachijo jima 2 19.41 56 LR LR 04 18 56.6
comp=E,261nm,20.0s,baz=292,slow=35
CBIJ Chichi jima 19.89 75 P **Pn 04 12 03.3 +1.6**
comp=E,63nm,0.6s,baz=75,slow=23,SNR=4.2
CBIJ LR LR 04 20 01.3
comp=E,140nm,19.2s,baz=78,slow=37
MJAR Matsushiro Arr 19.99 46 P **Pn 04 12 05.4 +2.5**
comp=E,2.9nm,0.6s,baz=234,slow=9.1,SNR=9.1
MJAR LR LR 04 20 46.6
comp=E,194nm,19.2s,baz=245,slow=39
CN2 Changchun 20.57 10 *e*P **P 04 12 09.6 +2.2**
CN2 *e*S **S 04 15 48.0 -9.4**
CN2 AMB AMB
comp=Z,50nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,17.0s,MS4.6
CN2 LR LR
comp=E,2μm,17.0s,MS4.6
MDJ Mudanjiang 22.25 17 P **P 04 12 25.3 -0.3**
MDJ AP 04 12 31.4
MDJ PP 04 12 56.4
MDJ S **S 04 16 28.8 -1.7**
MDJ AMB AMB
comp=Z,19nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,47nm,2.8s,mb4.4
MDJ LR LR
comp=N,561nm,13.4s,MS4.5
MDJ LR LR
comp=E,1μm,14.3s,MS4.5
MDJ LR LR
comp=Z,807nm,10.4s,MS4.4
HIA Hailar 25.64 359 *e*P **P 04 12 57.0 -1.3**
comp=Z,28nm,1.1s,mb4.7
HIA Hailar 25.64 359 *d i*P **P 04 12 57.7 -0.6**
SHL Shillong 26.09 280 *e*P **P 04 13 08.0 +5.6**
SHL *e*x x 04 22 10.0
ULN Ulaanbaatar 26.50 339 *e*P **P 04 13 05.9 -0.1**
comp=Z,8.8nm,0.9s,mb4.3
ULN LR LR
comp=Z,401nm,21.0s,MS3.9
ULN Ulaanbaatar 26.50 339 *e*P **P 04 13 05.9 -0.2**
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
ULN MLR MLR
comp=Z,401nm,21.0s,MS3.9
SONM Songino Array 26.69 339 P **P 04 13 08.1 +0.3**
comp=Z,7.8nm,1.0s,mb4.2,baz=158,slow=9.2,SNR=16
SONM pP pP 04 13 25.6 +15
comp=Z,9.3nm,0.9s,baz=154,slow=9.1,SNR=6.2
SONM LR LR 04 25 26.3
comp=Z,210nm,21.6s,MS3.6,baz=63,slow=40
SONM Songino Array 26.69 339 P **P 04 13 08.1 +0.3**
SONM *PP pP 04 13 25.6 +15
LSA Lhasa 26.90 289 P **P 04 13 11.6 +1.9**
LSA Lhasa 26.90 289 *e*P **P 04 13 11.5 +1.8**
comp=Z,23nm,0.9s,mb4.7
LSA Lhasa 26.90 289 *e*P **P 04 13 11.5 +1.8**
LSA pmax pmax
comp=Z,23nm,0.9s,mb4.7
KLR Kul'dur 27.08 16 *e*P **P 04 13 09.2 -2.1**
KLR MLR MLR
comp=N,1μm,12.0s,MS4.7
KLR MLR MLR
comp=E,500nm,12.0s,MS4.7
KLR MLR MLR
comp=Z,2μm,12.0s,MS4.8
ASAJ Asahikawa 27.34 36 P **P 04 13 17.2 +3.6**
comp=Z,6.7nm,0.7s,mb4.3,baz=202,slow=18,SNR=4.4
YSS Yuzh-Sakhalins 29.36 32 *e*P **P 04 13 32.8 +1.2**
YSS pmax pmax
comp=Z,11nm,1.3s,mb4.4
PSI Prapat 29.38 229 P **P 04 13 33.0 +1.1**
comp=Z,4.9nm,0.9s,mb4.2,baz=338,slow=10,SNR=3.9
PSI LR LR 04 26 28.7
comp=Z,261nm,18.8s,MS3.9,baz=96,slow=39
PSI Prapat 29.38 229 P **P 04 13 33.0 +1.1**
PSI LR LR 04 26 28.7
ZAK Zakamensk 29.93 338 *e*P **P 04 13 35.4 -1.3**
ZAK pmax pmax
comp=Z,7.0nm,1.8s,mb4.1
MOY Mondy 31.81 337 *e*P **P 04 13 53.4 +0.1**
WMQ Urumqi 33.63 315 P **P 04 14 10.3 +1.1**
WMQ AP pP 04 14 17.7 +5.4
WMQ XP sP 04 14 21.0 +7.4
WMQ PP PP 04 15 23.7 -1.6
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,89nm,4.6s
WMQ LR LR
comp=N,132nm,14.0s,MS3.9
WMQ LR LR
comp=E,121nm,15.0s,MS3.9
WMQ LR LR
comp=Z,233nm,15.0s,MS4.0
BOD Bodaibo 34.52 354 *e*P **P 04 14 14.0 -3.0**
BOD pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
MK31 Makanchi Array 38.34 317 *i* P **P 04 14 49.9 +0.3**
MK31 pmax pmax
comp=Z,24nm,1.0s,mb4.9
MKAR Makanchi Array 38.34 317 P **P 04 14 50.0 +0.4**
comp=Z,5.9nm,0.7s,mb4.4,baz=109,slow=10,SNR=73
MKAR pP pP 04 15 06.3 +14
comp=Z,12nm,0.9s,baz=107,slow=8.5,SNR=13
MKAR LR LR 04 33 12.6
comp=Z,122nm,20.3s,MS3.7,baz=309,slow=40
MKAR Makanchi Array 38.34 317 P **P 04 14 50.0 +0.4**
MKAR *PP pP 04 15 06.3 +14
YAK Yakutsk 38.93 7 *e*P **P 04 14 52.6 -1.9**
YAK pmax pmax
comp=Z,17nm,1.3s,mb4.6
ZAL Zalesovo 40.42 328 P **P 04 15 06.7 -0.2**
comp=Z,6.7nm,0.7s,mb4.5
ZAL LR LR 04 33 43.7
comp=Z,164nm,20.5s,MS3.9,baz=159,slow=39
TKM2 Tokmak 2 41.65 309 P **P 04 15 18.5 +1.4**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
NVS Novosibirsk 41.68 328 *e*P **P 04 15 16.0 -1.3**
NVS pmax pmax
comp=Z,19nm,1.4s,mb4.5
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,12nm,1.6s
MA2 Magadan 41.77 23 *e*P **P 04 15 22.6 +4.6**
MA2 *e* 04 16 58.1
MA2 *e*S **S 04 21 32.8 -2.5**
MA2 *e*SS SS 04 24 33.8 -7.3
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
MA2 MLR MLR
comp=Z,300nm,22.0s,MS4.1
PMG Port Moresby 41.88 138 LR LR 04 31 33.7
comp=Z,66nm,19.1s,MS3.5,baz=220,slow=34
KURK Kurchatov 42.16 321 *e*P **P 04 15 20.4 -0.8**
comp=Z,12nm,1.1s,mb4.4
KURK LR LR
comp=Z,235nm,20.0s,MS4.1
KURK Kurchatov 42.16 321 P **P 04 15 20.9 -0.3**
KURK pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
MBWA Marble Bar 44.48 181 *e*P **P 04 15 39.0 -1.0**
comp=Z,5.6nm,0.7s,mb4.4
SEY Seymchan 44.74 20 *e*P **P 04 15 41.4 -0.7**
WRAB Tennant Creek 45.31 162 *e*P **P 04 15 45.0 -1.5**
comp=Z,19nm,0.8s,mb5.0
WRAB Tennant Creek 45.31 162 *e*P **P 04 15 45.0 -1.6**
WRAB pmax pmax
comp=Z,19nm,0.8s,mb5.0
WRA Warramunga Arr 45.32 162 P **P 04 15 44.9 -1.7**
comp=Z,7.6nm,0.6s,mb4.7,baz=343,slow=8.7,SNR=16
WRA PcP PcP 04 17 25.4 -0.8
comp=Z,2.3nm,0.9s,baz=337,slow=3.7,SNR=5.5
WRA S **S 04 22 20.1 -7.1**
comp=Z,0.8nm,0.9s,baz=344,slow=14,SNR=2.8
WB2 Warramunga Arr 45.32 162 ⇓*i*P **P 04 15 45.0 -1.7**
KK31 Karatay Array 45.35 308 *i* P **P 04 15 47.0 +0.1**
KK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
KKAR Karatay Array 45.35 308 *i* P **P 04 15 47.0 +0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
VOSK Vostochnaya 47.31 321 P **P 04 16 01.8 -0.5**
VOSK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BVA0 Borovoye Array 47.75 321 *i* P **P 04 16 05.8 +0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BVAR Borovoye Array 47.75 321 P **P 04 16 05.7 0.0**
comp=Z,4.3nm,0.7s,mb4.6,baz=109,slow=8.9,SNR=26
BRVK Borovoye 47.82 321 *e*P **P 04 16 06.1 -0.2**
comp=Z,5.1nm,0.8s,mb4.6
BRVK Borovoye 47.82 321 *e*P **P 04 16 06.1 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TIXI Tiksi 48.32 4 *de*P **P 04 16 08.4 -1.8**
TIXI pmax pmax
comp=Z,12nm,1.3s,mb4.8
ZRNK Zerenda 48.53 321 *e*P **P 04 16 11.6 -0.1**
comp=Z,73nm,0.8s,mb5.8
ZRNK Zerenda 48.53 321 P **P 04 16 11.8 +0.1**
ZRNK pmax pmax
comp=Z,12nm,1.2s,mb4.8
AS31 Alice Springs 48.74 164 *e*P **P 04 16 12.9 -0.4**
ASPA Alice Springs 48.74 164 *e*P **P 04 16 12.9 -0.5**
ASAR Alice Springs 48.74 164 P **P 04 16 12.4 -1.0**
comp=Z,6.3nm,0.9s,mb4.6,baz=334,slow=6.5,SNR=30
ASAR PcP PcP 04 17 37.8 -0.5
comp=Z,2.7nm,0.9s,baz=356,slow=3.8,SNR=5.6
CTA Charters Tower 50.14 148 *e*P **P 04 16 23.8 -0.3**
comp=Z,5.0nm,1.4s,mb4.3
CTA Charters Tower 50.14 148 P **P 04 16 23.8 -0.3**
comp=Z,4.4nm,0.8s,mb4.5,baz=328,slow=8.7,SNR=5.6
CTA Charters Tower 50.14 148 *e*P **P 04 16 23.8 -0.3**
CTA pmax pmax
comp=Z,5.0nm,1.4s
CTAO Charters Tower 50.14 148 *e*P **P 04 16 23.2 -0.9**
comp=Z,5.1nm,0.8s,mb4.6
CTAO Charters Tower 50.14 148 *e*P **P 04 16 23.2 -0.9**
CTAO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
HNR Honiara 50.63 126 LR LR 04 33 57.5
comp=Z,86nm,20.4s,MS3.8,baz=358,slow=31
BILL Bilibino 52.45 20 *e*P **P 04 16 42.3 +0.9**
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AB31 Akbulak array 53.42 315 P **P 04 16 48.7 +0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SVE Sverdlovsk 54.16 324 *e*P **P 04 16 54.0 0.0**
SVE pmax pmax
comp=Z,40nm,1.2s,mb5.2
AKTK Aktyubinsk 54.77 316 P **P 04 16 58.0 -0.4**
AKTO Aktyubinsk 54.77 316 P **P 04 16 58.0 -0.4**
comp=Z,3.7nm,1.0s,mb4.4,baz=96,slow=6.9,SNR=7.1
ARU Arti 55.22 323 *e*P **P 04 17 01.3 -0.3**
comp=Z,18nm,0.8s,mb5.1
ARU Arti 55.22 323 ⇓*i*P **P 04 17 01.4 -0.2**
ARU *e* 04 19 03.4
ARU *e*S **S 04 24 34.8 -10**
ARU *e*SS SS 04 28 21.5 -7.6
ARU pmax pmax
comp=Z,21nm,0.9s,mb5.2
STKA Stephens Creek 58.72 159 *e*P **P 04 17 23.4 -3.1**
comp=Z,3.0nm,0.5s,mb4.6
STKA Stephens Creek 58.72 159 P **P 04 17 23.6 -2.9**
comp=Z,3.7nm,0.9s,mb4.4,baz=7.9,slow=4.9,SNR=5.3
GNI Garni 64.64 305 *e*P **P 04 18 05.5 -0.8**
comp=Z,18nm,1.0s,mb5.0
GNI Garni 64.64 305 *e*P **P 04 18 05.6 -0.8**
GNI pmax pmax
comp=Z,18nm,1.0s
GOF Gofitskoye 65.06 310 *e*P **P 04 18 08.4 -0.7**
KLMR Klimovskoe 65.34 328 *e*P **P 04 18 09.8 -1.1**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb5.2
KIV Kislovodsk 65.49 309 *e*P **P 04 18 12.3 +0.4**
comp=Z,65nm,1.3s,mb5.5
KIV Kislovodsk 65.49 309 *e*P **P 04 18 12.1 +0.2**
KIV *e* 04 18 44.2
KIV *e*S S 04 26 46.9 -10
KIV *e*SSS 04 34 04.1
KIV pmax pmax
comp=Z,31nm,0.7s,mb5.5
VRSR Storozhevoye 66.65 317 *e*P **P 04 18 18.9 -0.5**
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=E,5.0nm,1.0s
OBN Obninsk 67.59 322 ⇑*i*P **P 04 18 23.7 -1.6**
OBN *e* 04 18 29.3
OBN *e* 04 18 45.5
OBN pmax pmax
comp=Z,44nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
JOF Joensuu 68.92 331 *e*p **P 04 18 32.6 -1.1**
comp=Z,5.3nm,0.9s,mb4.5
ANN Anapa 69.02 311 *e*P **P 04 18 34.2 -0.1**
ANN pmax pmax
comp=Z,105nm,1.3s,mb5.6
MALT Malatya 69.82 304 *e*P **P 04 18 40.5 +1.2**
comp=Z,31nm,1.1s,mb5.2
MALT Malatya 69.82 304 *e*P **P 04 18 40.5 +1.3**
MALT pmax pmax
comp=Z,31nm,1.1s,mb5.2
ARCES ARCESS Array B 69.86 338 P **P 04 18 39.4 -0.1**
comp=Z,2.9nm,0.8s,mb4.2,baz=54,slow=12,SNR=4.8
ILAR Eielson Array 70.02 27 LR LR 04 51 24.8
comp=Z,106nm,18.1s,MS4.1,baz=358,slow=38
KAF Kangasniemi 71.37 330 *e*p **P 04 18 45.9 -2.8**
comp=Z,4.0nm,1.0s,mb4.3
KAF Kangasniemi 71.37 330 *e*P **P 04 18 45.9 -2.8**
KAF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
FINES FINESS Array B 71.65 330 P **P 04 18 50.0 -0.3**
comp=Z,5.1nm,0.9s,mb4.5,baz=75,slow=8.1,SNR=17
FINES LR LR 04 56 44.8
comp=Z,188nm,18.3s,MS4.4,baz=273,slow=41
VSU Vasula 72.14 327 *e*P **P 04 18 52.9 -0.4**
AKASG Malin Array Be 72.91 318 P **P 04 18 57.0 -0.9**
comp=Z,4.0nm,0.7s,mb4.4,baz=62,slow=5.6,SNR=15
BR131 Keskin Array S 73.03 306 *e*P **P 04 18 59.4 +0.7**
comp=Z,3.5nm,0.9s,mb4.3
BRTR Keskin Array B 73.03 306 P **P 04 18 59.8 +1.1**
comp=Z,4.6nm,0.8s,mb4.4,baz=110,slow=5.9,SNR=19
SUW Suwalki 75.40 323 *e*P **P 04 19 12.1 -0.4**
KWP Kalwaria 77.22 319 *e*P **P 04 19 23.4 +0.6**
KOLS Kolonicke sedl 77.74 318 *e*P **P 04 19 25.8 +0.1**
STHS Stebnicka Huta 78.18 319 *e*P **P 04 19 26.1 -2.1**
CRVS Cervenica-Dubn 78.25 318 *e*P **P 04 19 27.9 -0.6**
NB2 NORSAR Subarra 78.46 332 P **P 04 19 26.7 -3.0**
comp=Z,5.9nm,1.1s,mb4.4,baz=62,slow=5.6
NB2 NORSAR Subarra 78.46 332 P **P 04 19 26.7 -3.0**
NB2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
NOA NORSAR Array B 78.46 332 P **P 04 19 29.1 -0.6**
comp=Z,2.0nm,0.8s,mb4.1,baz=62,slow=5.5,SNR=6.8
NOA LR LR 04 55 48.4
comp=Z,112nm,19.4s,MS4.2,baz=125,slow=37
OJC Ojcow 78.73 320 *e*P **P 04 19 31.7 +0.5**
NIE Niedzica 78.74 319 *e*P **P 04 19 32.5 +1.2**
KECS Kecovo 79.00 318 *e*P **P 04 19 32.9 +0.2**
RES Resolute Bay 79.35 9 *e*P **P 04 19 32.6 -2.0**
comp=Z,9.1nm,1.4s,mb4.5
RES Resolute Bay 79.35 9 *e*P **P 04 19 32.6 -2.0**
RES pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
PSZ Piszkesteto 79.59 318 *e*P **P 04 19 35.4 -0.5**
comp=Z,2.2nm,0.5s,mb4.3
PSZ Piszkesteto 79.59 318 *e*P **P 04 19 35.4 -0.5**
PSZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
OKC Ostrava-Krasne 79.86 320 *e*P **P 04 19 35.8 -1.6**
OKC Ostrava-Krasne 79.86 320 *e*P **P 04 19 34.8 -2.6**
VYHS Vyhne 80.00 319 *e*P **P 04 19 38.9 +0.8**
SANT Santorini 80.23 305 *e*P **P 04 19 38.4 -1.0**
comp=Z,155nm,0.9s,mb5.9
MORC Moravsky Berou 80.25 320 *e*P **P 04 19 39.8 +0.4**

comp=Z,14nm,1.5s,mb4.7
MORC Moravsky Berou 80.25 320 *e*P **P 04 19 39.8 +0.4**
MORC pmax pmax
comp=Z,14nm,1.5s,mb4.7
DPC Dobruska-Polom 80.71 321 *e*P **P 04 19 42.3 +0.4**
UPC Upice 80.82 321 *e*P **P 04 19 42.7 +0.2**
URZ Urewera 81.24 138 LR LR 04 53 32.9
comp=Z,130nm,21.1s,MS4.3,baz=293,slow=34
PRU Pruhonice 81.90 321 *e*P **P 04 19 48.9 +0.7**
CLL Collm 82.16 323 *e*P **P 04 19 51.0 +1.4**
KHC Kasperske Hory 82.85 321 *e*P **P 04 19 54.2 +1.0**
KHC Kasperske Hory 82.85 321⇑ *e*P **P 04 19 53.9 +0.7**
GERES GERESS Array B 82.91 320 P **P 04 19 54.2 +0.7**
comp=Z,1.8nm,0.8s,mb4.1,baz=69,slow=4.9,SNR=9.6
SUMG Summit 83.03 354 *e*P **P 04 19 53.1 -1.1**
comp=Z,7.0nm,1.0s,mb4.7
PDKS Podkum 83.41 318 *i*P **P 04 19 57.0 +0.9**
YKW3 Yellowknife Ar 83.71 22 *e*P **P 04 19 56.2 -1.4**
YKA Yellowknife Ar 83.75 23 P **P 04 19 56.7 -1.2**
comp=Z,1.2nm,0.7s,mb4.1,baz=316,slow=4.9,SNR=29
GRA1 Grafenberg Arr 83.93 322 *e*P **P 04 19 59.8 +1.0**
comp=Z,9.0nm,1.2s,mb4.8
GRF Grafenberg Arr 83.93 322 *e*P **P 04 19 59.8 +1.0**
comp=Z,9.0nm,1.2s,mb4.8
GRF Grafenberg Arr 83.93 322 *e*P **P 04 19 59.8 +1.0**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
VOJS Vojsko 84.12 318 *e*P **P 04 19 60.0 +0.2**
KMBO Kilima Mbogo 84.27 266 P **P 04 20 01.4 +0.9**
comp=Z,2.9nm,0.9s,mb4.4,baz=53,slow=22,SNR=6.1
AQU L'Aquila 86.16 315 *e*P **P 04 20 10.6 +0.7**
comp=Z,1.8nm,1.1s,mb5.2
AQU L'Aquila 86.16 315 *e*P **P 04 20 10.6 +0.6**
AQU pmax pmax
comp=Z,1.8nm,1.1s,mb5.2
BNI Bardonecchia 88.98 320 *e*P **P 04 20 22.9 -0.6**
comp=Z,8.8nm,1.0s,mb5.0
BNI Bardonecchia 88.98 320 *e*P **P 04 20 22.9 -0.6**
BNI pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
RKT Rikitea 111.53 107 *e*LQ 04 26 39.7
comp=Z,646nm,29.0s
RKT *e*LR LR 04 28 20.4
comp=Z,135nm,30.8s
VNA2 Neumayer--Watz 124.13 198 *e*PKPdf PKPdf 04 26 27.7 +0.4
baz=60,slow=0.7
VNA2 *e* 04 26 31.7
VNA2 *e* 04 26 37.3
VNA3 Neumayer Olymp 124.61 197 *e*PKPdf PKPdf 04 26 31.9 +3.7
VNA3 *e* 04 26 35.5
SDV Santo Domingo 145.94 20 PKPbc PKPbc 04 27 09.1 +0.7
comp=Z,11nm,0.8s,baz=67,slow=0.7,SNR=14
SDV Santo Domingo 145.94 20 *e*PKPbc PKPbc 04 27 08.7 +0.4
BDFB Brasilia 166.62 304 PKPab PKPab 04 28 37.3 +0.7
comp=Z,1.9nm,0.7s,baz=87,slow=5.7,SNR=4.1
LPAZ La Paz 169.10 50 PKP PKPdf 04 27 38.3 +2.4
comp=Z,1.2nm,0.9s,baz=319,slow=1.2,SNR=3.6
SIV San Ignacio 172.30 11 PKP PKPdf 04 27 39.0 +1.3
comp=Z,1.9nm,0.9s,baz=273,slow=1.9,SNR=8.0
CPUP Villa Florida 176.64 215 PKPab PKPab 04 29 20.6 -0.5
comp=Z,0.4nm,0.4s,baz=50,slow=4.3,SNR=2.9

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*ISCJB **09** 04:15:57.3±2.7, 346N±0.1×732E±0.2, h5km±17km, mb3.5/3, Error ellipse: s-maj=36.0km s-min=10.4km az=122.8*
*IDC **09** 04:15:57.9±2.0, 3453N×7317E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.5/24, mbtmp3.6/6, ML3.2/3, Error ellipse: s-maj=63.6km s-min=25.2km az=72.0*
*NDI **09** 04:16:09.4±2.0, 3411N×7332E, h15km, MD3.4*
ISC 09 04:15:59.9±2.8, 346N±01×731E±02, h12km±17km, n12, σ1§18/15, mb3.5/3, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.04**	**134**	*e*P	**Pb**	**04 16 52.7**	**-1.3**
THN				*e*SG	**Sg**	**04 17 36.2**	**-1.5**
DLH	**Dalhousie**	**3.12**	**130**	*e*PG	**Pg**	**04 17 00.0**	**+0.2**
DLH				*e*SG	**Sg**	**04 17 40.0**	**-0.3**
BHK	**Bhakra**	**4.20**	**138**	*e*SG	**Sg**	**04 18 14.6**	**0.0**
SDNR	**Sundarnagar**	**4.46**	**133**	*e*P	**Pn**	**04 17 10.1**	**+2.8**
SDNR				*ex*	x	04 18 18.1	
DDI	**Dehra Dun**	**5.95**	**134**	*e*SG	**Sg**	**04 19 12.0**	**+1.2**
KK31	**Karatay Array**	**8.75**	**347**	⇑P	**Pn**	**04 18 08.5**	**+2.2**
	2.2nm,0.4s,baz=162,slow=12,SNR=56						
KK31				⇑S	**Sn**	**04 19 42.8**	**-1.9**
	1.1nm,0.5s,baz=170,slow=23,SNR=5.3						
MKAR	**Makanchi Array**	**14.03**	**27**	Pn	**Pn**	**04 19 18.8**	**+0.4**
	0.0nm,0.3s,baz=214,slow=14,SNR=2.6						
BVAR	**Borovoye Array**	**18.54**	**355**	P	**Pn**	**04 20 17.5**	**+1.0**
	0.2nm,0.3s,baz=258,slow=36,SNR=4.1						
AKTO	**Aktyubinsk**	**19.31**	**330**	P	**Pn**	**04 20 24.5**	**-1.3**
	0.2nm,0.3s,baz=120,slow=9.9,SNR=4.1						
ZAL	**Zalesovo**	**21.03**	**19**	P	**P**	**04 20 43.5**	**0.0**
	1.9nm,0.6s,mb3.6,baz=84,slow=7.7,SNR=5.2						
WRA	**Warramunga Arr**	**79.50**	**123**	P	**P**	**04 28 06.3**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=324,slow=5.0,SNR=5.6						
ASAR	**Alice Springs**	**81.73**	**126**	P	**P**	**04 28 18.4**	**+0.1**
	0.1nm,0.3s,mb3.3,baz=322,slow=6.8,SNR=4.9						

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*IDC **09** 04:25:09.4±3.2, 2161S×17390W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.2/15, mbtmp4.3/5, Error ellipse: s-maj=153.2km s-min=29.6km az=145.0*
*ISCJB **09** 04:25:12.9±3.6, 2165S×0.8×1740W±0.7, h33km, mb4.3/6, Error ellipse: s-maj=142.7km s-min=28.6km az=106.7*
*NEIC **09** 04:25:16.8±1.6, 2154S×17405W, h50km, mb4.5/2, Error ellipse: s-maj=79.3km s-min=15.9km az=149.0*
ISC 09 04:25:13.8±3.6, 217S±08×1738W±07, h35km, n14, σ0§45/10, mb4.3/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.33**	**265**	P	**P**	**04 32 22.2**	**-0.5**
	3.4nm,0.8s,mb4.2,baz=124,slow=9.7,SNR=4.1						
CTA	**Charters Tower**	**37.33**	**265**	P	**P**	**04 32 22.2**	**-0.5**
CTAO	**Charters Tower**	**37.33**	**265**	P	**P**	**04 32 22.2**	**-0.5**
	4.6nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**40.88**	**246**	P	**P**	**04 32 52.1**	**-0.3**
	3.0nm,0.7s,mb4.0,baz=78,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**40.88**	**246**	*e*P	**P**	**04 32 51.8**	**-0.6**
ASAR	**Alice Springs**	**48.12**	**257**	P	**P**	**04 33 51.0**	**+0.9**
	4.4nm,0.8s,mb4.6,baz=94,slow=8.0,SNR=50						
WB2	**Warramunga Arr**	**48.36**	**262**	*e*P	**P**	**04 33 52.0**	**0.0**
WRAB	**Tennant Creek**	**48.36**	**262**	*e*P	**P**	**04 33 51.9**	**-0.1**
	5.2nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**48.37**	**262**	P	**P**	**04 33 52.3**	**+0.2**
	6.1nm,0.8s,mb4.7,baz=98,slow=7.8,SNR=41						
ILAR	**Eielson Array**	**88.66**	**11**	P	**P**	**04 38 03.3**	**-0.1**
	0.7nm,1.0s,mb4.0,baz=209,slow=5.6,SNR=4.1						
MKAR	**Makanchi Array**	**114.91**	**313**	PKP	PKiKP	04 43 51.5	+0.6
	0.5nm,0.9s,baz=16,slow=0.6,SNR=4.1						
MKAR	**Makanchi Array**	**114.91**	**313**	PKP	PKiKP	04 43 51.5	+0.6
AKASG	**Malin Array Be**	**145.91**	**334**	PKPbc	PKPbc	04 44 49.3	-0.2
	0.7nm,0.6s,baz=29,slow=2.8,SNR=4.2						
BRTR	**Keskin Array B**	**150.56**	**314**	PKPbc	PKPbc	04 45 03.6	+1.8
	1.9nm,0.9s,baz=29,slow=3.3,SNR=6.4						

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*MOS **09** 04:42:05.4±1.0, 5288N×15536E, h553km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=40.7km az=49.1*
KRSC 09 04:42:05.5±0.7, 5290N×15505E, h556km±9km, ML3.8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.22**	**120**	*e*P	P	04 43 12.9	0.0
APC	**Apacha**	**1.28**	**88**	*i*P	P	04 43 12.6	-0.4
PAU	**Pauzhetka**	**1.80**	**142**	*e*P	P	04 43 15.4	+0.6
GRL	**Gorelyy**	**1.87**	**100**	P	P	04 43 16.0	+0.9
GNL	**Ganaly**	**1.91**	**64**	*e*P	P	04 43 15.1	-0.2
RUS	**Russkaya**	**2.16**	**101**	*i*P	P	04 43 16.4	0.0
RUS				*e*S	S	04 44 08.0	-6.2
KOK	**Koryaka**	**2.20**	**78**	*e*P	P	04 43 17.2	+0.6
AVH	**Avacha**	**2.25**	**79**	*e*P	P	04 43 17.8	+1.0
SMAR	**Somma**	**2.29**	**79**	*e*P	P	04 43 18.0	+1.0
UGLR	**Uglovaya**	**2.30**	**81**	*e*P	P	04 43 18.1	+1.0
NLC	**Nalytchevo**	**2.61**	**82**	*e*P	P	04 43 19.3	+0.6
NLC				*e*S	S	04 44 12.8	-5.5
SPN	**Mys Shipunski**	**3.01**	**84**	*e*P	P	04 43 21.3	+0.3
SPN				*e*S	S	04 44 16.4	-6.2
KOZ	**Kozyrevsk**	**4.23**	**40**	P	P	04 43 30.4	+0.9
KOZR	**Kozyr**	**4.25**	**40**	P	P	04 43 30.4	+0.8
MKZ	**Mys Kozlova**	**4.30**	**65**	P	P	04 43 30.3	+0.3
MKZ				S	S	04 44 32.8	-6.2
MKZ	**Mys Kozlova**	**4.30**	**65**	*e*P	P	04 43 30.2	+0.2
MKZ				*e*S	S	04 44 32.8	-6.2
SRDR	**Sredinnyy**	**4.37**	**37**	*e*P	P	04 43 31.2	+0.7
ZLN	**Zelenaya**	**4.58**	**45**	P	P	04 43 33.0	+0.8
SRKR	**Sorokina**	**5.17**	**41**	P	P	04 43 36.6	-0.4
KBTR	**Krutoberegovo**	**5.61**	**51**	P	P	04 43 40.1	-0.7

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*ISCJB **09** 04:47:11.8±3.4, 38S±0.1×151.1E±0.2, h79km±31km, mb3.9/9, Error ellipse: s-maj=27.2km s-min=21.0km az=13.3*
*NEIC **09** 04:47:12.9±3.2, 380S×151.12E, h76km±29km, mb4.2/4, Error ellipse: s-maj=26.1km s-min=19.1km az=96.0*
*IDC **09** 04:47:12.6±4.6, 386S×15123E, h78km±43km, mb3.8/7, mb1 4.0/8, mb1mx3.8/16, mbtmp4.1/8, ML3.1/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/21, Error ellipse: s-maj=31.6km s-min=21.4km az=96.0*
ISC 09 04:47:13.9±3.0, 39S±01×1511E±02, h86km±27km, n22, σ1§09/17, mb3.9/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.78**	**215**	P	**Pn**	**04 48 50.7**	**0.0**
	2.1nm,0.3s,baz=24,slow=7.7,SNR=24						
PMG	**Port Moresby**	**6.78**	**215**	*e*Pn	**Pn**	**04 48 50.9**	**+0.1**
	43nm,0.8s						
CTA	**Charters Tower**	**16.82**	**196**	*e*P	**Pn**	**04 51 07.5**	**+3.5**
	11nm,0.9s						
CTA	**Charters Tower**	**16.82**	**196**	P	**Pn**	**04 51 07.5**	**+3.5**
	0.2nm,0.3s,baz=30,slow=14,SNR=6.0						
CTA				LR	LR	04 56 27.0	
	comp=Z,97nm,20.9s,baz=216,slow=33						
CTAO	**Charters Tower**	**16.82**	**196**	*e*P	**Pn**	**04 51 07.4**	**+3.5**
	20nm,1.0s						
WRAB	**Tennant Creek**	**22.88**	**224**	*e*P	**P**	**04 52 09.3**	**-0.8**
	28nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**22.88**	**224**	*e*P	**P**	**04 52 09.6**	**-0.6**
WRA	**Warramunga Arr**	**22.89**	**224**	P	**P**	**04 52 09.7**	**-0.6**
	5.9nm,0.8s,mb4.0,baz=49,slow=10.0,SNR=16						
DZM	**Mont Dzumac**	**23.42**	**142**	P	**P**	**04 52 15.6**	**+0.4**
	9.8nm,1.0s,mb4.1,baz=333,slow=10,SNR=5.8						
DZM				LR	LR	04 59 56.1	
	comp=Z,341nm,20.1s,baz=203,slow=33						
ASAR	**Alice Springs**	**25.79**	**219**	P	**P**	**04 52 37.7**	**+1.0**
	3.0nm,0.8s,mb3.8,baz=55,slow=8.7,SNR=16						
STKA	**Stephens Creek**	**29.28**	**197**	*e*P	**P**	**04 53 06.6**	**-1.3**
	3.1nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**29.28**	**197**	P	**P**	**04 53 06.5**	**-1.4**
	4.1nm,0.9s,mb4.1,baz=44,slow=15,SNR=9.4						
STKA				LR	LR	05 04 07.8	
	comp=Z,137nm,18.8s,baz=23,slow=35						
STKA	**Stephens Creek**	**29.28**	**197**	*e*P	**P**	**04 53 10.8**	**+2.9**
STKA				*e*pP	pP	04 53 17.8	-10
MJAR	**Matsushiro Arr**	**41.96**	**344**	P	**P**	**04 54 56.4**	**+0.1**
	0.8nm,0.3s,mb3.9,baz=170,slow=15,SNR=4.4						
MJAR				LR	LR	05 09 42.3	
	comp=Z,88nm,21.9s,baz=170,slow=32						
RKT	**Rikitea**	**73.69**	**113**	*e*LR	LR	04 58 57.5	
	68nm,24.2s						
KDAK	**Kodiak Island**	**76.09**	**27**	LR	LR	05 29 02.4	
	comp=Z,182nm,20.2s,baz=105,slow=33						
MKAR	**Makanchi Array**	**78.53**	**319**	P	**P**	**04 59 06.0**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=101,slow=7.5,SNR=8.6						
ILAR	**Eielson Array**	**81.92**	**22**	P	**P**	**04 59 22.2**	**-1.7**
	0.7nm,0.7s,mb3.6,baz=247,slow=5.5,SNR=11						
AAK	**Ala-Archa**	**82.81**	**314**	*e*P	**P**	**04 59 30.2**	**+1.6**
	1.0nm,0.7s,mb3.8						
NVAR	**Mina Array Bea**	**92.81**	**52**	LR	LR	05 32 46.1	
	comp=Z,35nm,20.2s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**99.44**	**47**	LR	LR	05 37 27.9	
	comp=Z,88nm,19.8s,baz=100,slow=30						
TORD	**Torodi Ar. Bea**	**148.43**	**289**	PKPbc	PKPbc	05 06 52.0	+1.6
	1.3nm,0.9s,baz=79,slow=2.1,SNR=6.6						

MOS 09 04:58:28.2±4.0, 4353N×4519E, h16km, mb3.6/1, Error ellipse: s-maj=99.9km s-min=40.7km az=49.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSR	**Komsomolskaya**	**0.67**	**257**	*e*PG	Pg	04 58 46.3	+4.9
PRTR	**Priterechnaya**	**0.69**	**289**	*e*PG	Pg	04 58 44.4	+2.6
PRTR				*e*S	Sg	04 58 56.3	+5.3
ARNR	**Ardon**	**0.75**	**243**	*e*PG	Pg	04 58 47.9	+5.1
KORR	**Kora**	**0.93**	**242**	*e*PG	Pg	04 58 50.4	+4.1
KORR				*e*S	Sb	04 59 06.6	+8.5
LACR	**Lac**	**0.96**	**223**	*i*PG	Pg	04 58 51.5	+4.7
LSNR	**Lesken**	**1.03**	**256**	*e*PG	Pg	04 58 50.9	+2.7
LSNR				*e*S	Sb	04 59 07.5	+6.5
ZEI	**Tsey**	**1.21**	**232**	*i*PG	Pg	04 58 54.4	+2.8
ZEI				*i*S	Sb	04 59 13.5	+7.3
DIGR	**Digorskoe uzhe**	**1.33**	**242**	*i*PG	Pg	04 58 55.7	+1.8
DIGR				*i*S	Sn	04 59 15.8	+6.2

IDC 09 05:03:06.1±1.5, 1131N×13881E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/14, Error ellipse: s-maj=70.5km s-min=30.8km az=85.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**22.20**	**158**	LR	LR	05 16 29.8	
	comp=Z,48nm,19.5s,baz=36,slow=36						
ASAR	**Alice Springs**	**35.09**	**188**	P	P	05 10 01.2	+0.2
	0.3nm,0.5s,baz=14,slow=13,SNR=9.5						
MKAR	**Makanchi Array**	**59.11**	**318**	P	P	05 13 08.5	+0.2
	0.7nm,0.9s,baz=101,slow=8.1,SNR=7.9						
YKA	**Yellowknife Ar**	**87.56**	**26**	P	P	05 15 55.8	-0.2
	0.2nm,0.7s,baz=292,slow=5.1,SNR=4.6						

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*CSEM **09** 05:04:44.9±1.1, 3861N×2856W, h6km±3km, ML2.4, Error ellipse: s-maj=2.5km s-min=2.0km az=52.0, After PDA*
*PDA **09** 05:04:44.9±1.1, 3861N×2856W, h6km±3km, MD2.9, ML2.4, Error ellipse: s-maj=2.5km s-min=2.0km az=52.0*
SVSA 09 05:04:44.9±1.1, 3861N×2856W, h6km±3km, MD2.9, ML2.4, Error ellipse: s-maj=2.5km s-min=2.0km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**211**	*i*P	Pg	05 04 46.6	-0.5
HOR				*e*S	Sg	05 04 48.6	0.0
HOR	**Horta**	**0.10**	**211**	*e*S	Sg	05 04 48.6	0.0
PCED	**Cedros**	**0.11**	**277**	*i*P	Pg	05 04 46.8	-0.4
PCED				*e*S	Sg	05 04 49.1	+0.3
PCED							
	3μm,0.3s						
PCED	**Cedros**	**0.11**	**277**	*e*S	Sg	05 04 49.1	+0.3
CALA	**Caldeira**	**0.11**	**254**	*i*P	Pg	05 04 47.4	+0.1
CALA				*e*S	Sg	05 04 49.4	+0.5
CALA	**Caldeira**	**0.11**	**254**	*e*S	Sg	05 04 49.4	+0.5
PICO	**Pico**	**0.16**	**137**	*i*P	Pg	05 04 47.6	-0.4
PICO				*e*S	Sg	05 04 50.2	0.0
PICO	**Pico**	**0.16**	**137**	*e*S	Sg	05 04 50.2	0.0
PCND	**Candelaria**	**0.16**	**152**	*i*P	Pg	05 04 48.2	0.0
PCND				*i*S	Sg	05 04 50.8	+0.4
PCND							
	1μm,0.1s						
PTCA	**Ponta do Capel**	**0.19**	**261**	*i*P	Pg	05 04 49.0	+0.4
PTCA				*e*S	Sg	05 04 51.2	+0.1
PTCA							
	500nm,0.2s						
PTCA	**Ponta do Capel**	**0.19**	**261**	*e*S	Sg	05 04 51.2	+0.1
PBOI	**Pico dos Bois**	**0.23**	**140**	*i*P	Pg	05 04 49.0	-0.4
PBOI				*e*S	Sg	05 04 52.1	-0.4
PBOI							
	260nm,0.1s						
ROSA	**Rosais**	**0.27**	**67**	*i*P	Pg	05 04 49.8	-0.4
ROSA				*e*S	Sg	05 04 53.6	-0.2
ROSA	**Rosais**	**0.27**	**67**	*e*S	Sg	05 04 53.6	-0.2
PAMA	**Santo Amaro**	**0.31**	**78**	*i*P	Pg	05 04 50.8	-0.1
PAMA				*e*S	Sg	05 04 55.3	+0.4
PMAN	**Manadas**	**0.37**	**87**	*e*P	Pg	05 04 50.6	-1.5
PMAN				*e*S	Sg	05 04 56.5	-0.4
PMAN							
	1μm,0.2s						
PMAN	**Manadas**	**0.37**	**87**	*e*P	Pg	05 04 50.6	-1.5
PMAN				*e*S	Sg	05 04 56.5	-0.4
PIED	**Piedade**	**0.44**	**116**	*e*P	Pg	05 04 53.4	-0.1
PLUZ	**Luz**	**0.52**	**321**	*e*P	Pg	05 04 55.3	+0.5
PLUZ				*e*S	Sg	05 05 02.8	+1.2
PLUZ							
	47nm,0.2s						
SRBC	**Serra Branca**	**0.59**	**44**	*e*rx		05 04 46.8	
PVIA	**Vitoria**	**0.60**	**41**	*e*P	Pg	05 04 55.4	-1.1
PVIA				*e*S	Sg	05 05 02.6	-1.8
PVIA							
	17nm,0.2s						
PGRA	**Graciosa**	**0.61**	**47**	*i*P	Pg	05 04 54.7	-2.0
PGRA				*e*S	Sg	05 05 02.9	-1.8
PGRA							
	74nm,0.2s						
PGRA	**Graciosa**	**0.61**	**47**	*e*S	Sg	05 05 02.9	-1.8
STGR	**Santa Cruz**	**0.64**	**43**	*e*P	Pg	05 04 55.5	-1.7
STGR				*e*S	Sg	05 05 03.5	-2.0
STGR							
	31nm,0.2s						
STGR	**Santa Cruz**	**0.64**	**43**	*e*P	Pg	05 04 55.5	-1.7
STGR				*e*S	Sg	05 05 03.5	-2.0
ASBA	**Santa Barbara**	**0.97**	**83**	*e*P	Pg	05 05 00.2	-3.4
ASBA				*e*S	Sg	05 05 11.9	-4.3
ASBA							
	56nm,0.2s						
ASBA	**Santa Barbara**	**0.97**	**83**	*e*P	Pg	05 05 00.2	-3.4
ASBA				*e*S	Sg	05 05 11.9	-4.3
PSBA	**Serra de Santa**	**0.98**	**81**	*e*P	Pg	05 04 59.3	-4.4
PSBA				*e*S	Sg	05 05 11.7	-4.7
PSBA							
	59nm,0.2s						
PSBA	**Serra de Santa**	**0.98**	**81**	*e*P	Pg	05 04 59.3	-4.4
PSBA				*e*S	Sg	05 05 11.7	-4.7
PPAD	**Pico dos Padre**	**1.00**	**85**	*e*P	Pg	05 05 00.5	-3.6
PPAD				*e*S	Sg	05 05 12.6	-4.5
PPAD							
	66nm,0.2s						
PPAD	**Pico dos Padre**	**1.00**	**85**	*e*P	Pg	05 05 00.5	-3.6
PPAD				*e*S	Sg	05 05 12.6	-4.5
PBIS	**Biscoitos**	**1.03**	**81**	*e*P	Pg	05 05 00.9	-3.9
PBIS				*e*S	Sg	05 05 13.2	-5.0
PBIS							
	17nm,0.1s						
PBIS	**Biscoitos**	**1.03**	**81**	*e*P	Pg	05 05 00.9	-3.9
PBIS				*e*S	Sg	05 05 13.2	-5.0
ADH	**Angra Heroismo**	**1.04**	**87**	*e*S	Sg	05 05 13.3	-5.1
RIB2	**Ribeirinha**	**1.09**	**87**	*e*P	Pg	05 05 01.7	-4.1
RIB2				*e*S	Sg	05 05 14.5	-5.4
RIB2							
	26nm,0.1s						
RIB2	**Ribeirinha**	**1.09**	**87**	*e*P	Pg	05 05 01.7	-4.1
RIB2				*e*S	Sg	05 05 14.5	-5.4
PVNV	**Vila Nova**	**1.11**	**82**	*e*S	Sg	05 05 15.2	-5.4
PVNV							
	20nm,0.1s						
PFAV	**Pico das Favas**	**1.16**	**85**	*e*P	Pg	05 05 03.1	-4.1
PFAV				*e*S	Sg	05 05 16.5	-5.7
PFAV							
	13nm,0.1s						
PFAV	**Pico das Favas**	**1.16**	**85**	*e*P	Pg	05 05 03.1	-4.1
PFAV				*e*S	Sg	05 05 16.5	-5.7
SET4	**Mosteiros**	**2.30**	**108**	*e*S	Sn	05 05 44.9	-7.0
SET2	**Ginetes**	**2.30**	**109**	*e*S	Sn	05 05 44.9	-7.1
PFET	**Feteiras**	**2.33**	**109**	*e*S	Sn	05 05 45.5	-7.1
PSAN	**Santo Antonio**	**2.36**	**108**	*e*S	Sn	05 05 45.8	-7.7
FAC	**Faja de Cima**	**2.44**	**109**	*e*S	Sn	05 05 47.5	-8.0
CML	**Cha da Macela**	**2.52**	**109**	*e*S	Sn	05 05 51.0	-6.4

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*IDC **09** 05:18:04.1±1.2, 1996N×12292E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.6/4, Error ellipse: s-maj=74.2km s-min=25.3km az=71.0*
*ISCJB **09** 05:18:07.5±1.1, 199N±0.1×1228E±0.3, h33km, mb3.5/4, Error ellipse: s-maj=36.0km s-min=17.5km az=178.4*
ISC 09 05:18:09.3±1.1, 199N±01×1227E±03, h35km, n7, σ0§63/8, mb3.5/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.29**	**201**	*e*P	**Pn**	**05 18 44.0**	**-0.6**
CVP				*e*S	**Sn**	**05 19 20.0**	**+8.5**
APYP	**Conner**	**2.41**	**215**	*e*P	**Pn**	**05 18 40.9**	**-5.3**
CAUP	**Cauayan**	**3.01**	**196**	*e*P	**Pn**	**05 18 49.3**	**-5.1**
WRA	**Warramunga Arr**	**41.17**	**163**	P	**P**	**05 25 50.4**	**+0.2**
	0.9nm,0.6s,mb3.6,baz=343,slow=9.1,SNR=5.3						
MKAR	**Makanchi Array**	**42.45**	**319**	P	**P**	**05 26 01.3**	**+0.6**
	0.2nm,0.5s,mb3.0,baz=114,slow=8.3,SNR=4.5						
ASAR	**Alice Springs**	**44.62**	**165**	P	**P**	**05 26 18.9**	**+0.7**
	0.4nm,0.3s,mb3.7,baz=337,slow=7.1,SNR=8.1						
YKA	**Yellowknife Ar**	**86.40**	**23**	P	**P**	**05 30 47.1**	**-0.9**
	0.3nm,0.5s,mb3.8,baz=306,slow=4.6,SNR=7.2						

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*IDC **09** 05:38:56.9±2.2, 893S×11642E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/17, mbtmp4.0/5, Error ellipse: s-maj=194.9km s-min=19.1km az=51.0*
*ISCJB **09** 05:39:12.0±1.7, 88S±06×1169E±07, h150km, mb3.9/5, Error ellipse: s-maj=130.9km s-min=13.7km az=96.7*
*NEIC **09** 05:39:13.8±1.4, 890S×11682E, h150km, mb4.1/2, Error ellipse: s-maj=110.0km s-min=11.9km az=48.0*
ISC 09 05:39:14.0±1.6, 88S±06×1169E±06, h150km, n10, σ0§82/10, mb3.9/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.20**	**125**	P	**P**	**05 43 36.9**	**0.0**
	5.1nm,0.7s,baz=312,slow=11,SNR=20						
WRAB	**Tennant Creek**	**20.20**	**125**	*e*P	**P**	**05 43 36.9**	**-0.1**
	5.6nm,0.7s						
WB2	**Warramunga Arr**	**20.21**	**125**	*e*P	**P**	**05 43 36.6**	**-0.4**
ASAR	**Alice Springs**	**21.99**	**134**	P	**P**	**05 43 57.0**	**+1.1**
	1.4nm,0.3s,mb3.8,baz=318,

comp=Z,78nm,0.6s
KBK Karagaybulak 5.69 21 P **Pn 05 59 55.8 +1.0**
SNR=26
THN Thein Dam 5.69 149 *e*P **Pn 05 59 54.0 -0.8**
THN *e*S **S 06 00 58.8 -2.5**
DLH Dalhousie 5.70 146 *e*P **Pn 05 59 57.0 +2.0**
DLH *e*S **S 06 01 00.0 -1.6**
ULHL Ulahol 5.78 31 P **Pn 05 59 56.2 +0.3**
SNR=33
KK31 Karatay Array 5.89 348 P **Pn 05 59 57.0 -0.4**
comp=Z,4.7nm,0.3s,baz=161,slow=12,SNR=274
KK31 ⇑S **S 06 01 01.1 -4.8**
comp=Z,66nm,0.3s,baz=174,slow=22,SNR=8.5
KK31 Karatay Array 5.89 348 *i* PN **Pn 05 59 56.9 -0.5**
KK31 pmax pmax
comp=Z,10.0nm,0.1s
KKAR Karatay Array 5.89 348 PN **Pn 05 59 56.9 -0.5**
KKAR S **S 06 01 01.1 -4.8**
KKAR pmax pmax
comp=Z,2.0nm,0.2s
CHMS Chumysh 5.95 18 P **Pn 05 59 58.5 +0.2**
SNR=24
TKM2 Tokmak 2 6.12 24 P **Pn 06 00 01.0 +0.6**
SNR=9.3
TKM2 Tokmak 2 6.12 24 ⇓P **Pn 06 00 01.0 +0.6**
comp=Z,98nm,0.7s
TKM2 ⇑S **S 06 01 02.2 -9.1**
comp=Z,23nm,0.8s
TKM2 Tokmak 2 6.12 24 PN **Pn 06 00 00.8 +0.4**
TKM2 pmax pmax
comp=Z,63nm,0.7s
SDNR Sundarnagar 7.03 145 *e*P **Pn 06 00 10.7 -1.3**
SDNR *e*S **S 06 01 27.1 -5.4**
MK31 Makanchi Array 12.02 35 P **Pn 06 01 14.3 -1.3**
comp=Z,9.2nm,0.9s,baz=200,slow=12,SNR=46
MK31 Makanchi Array 12.02 35 *i* P **Pn 06 01 14.3 -1.4**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 12.02 35 P **Pn 06 01 14.7 -1.0**
comp=Z,0.3nm,0.3s,baz=224,slow=13,SNR=38
MKAR Makanchi Array 12.02 35 *i* P **Pn 06 01 14.3 -1.4**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
WMQ Urumqi 13.40 56 P **Pn 06 01 33.1 +0.3**
WMQ AMB AMB
comp=Z,21nm,0.9s
WMQ AMB AMB
comp=Z,155nm,4.5s
KURK Kurchatov 14.11 17 ⇓P **Pn 06 01 40.3 -1.3**
comp=Z,6.0nm,1.0s
KURK Kurchatov 14.11 17 *e*Pn **Pn 06 01 40.3 -1.3**
comp=Z,13nm,1.0s
KURK Kurchatov 14.11 17 *e*P **Pn 06 01 40.3 -1.3**
KURK pmax pmax
comp=Z,13nm,1.0s
AB31 Akbulak array 14.86 327 ⇑P **Pn 06 01 50.3 -0.3**
comp=Z,1.2nm,0.6s,baz=136,slow=11,SNR=18
AB31 Akbulak array 14.86 327 *e*P **Pn 06 01 50.3 -0.3**
AB31 *i* S **S 06 04 26.2 -8.9**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
VOSK Vostochnaya 15.39 357 ⇓P **Pn 06 01 56.0 -1.1**
comp=Z,4.0nm,0.9s
VOSK Vostochnaya 15.39 357 P **Pn 06 01 56.0 -1.1**
VOSK S **S 06 04 42.2 -5.0**
VOSK pmax pmax
comp=Z,4.0nm,0.9s
BVA0 Borovoye Array 15.72 356 P **Pn 06 02 00.7 -0.4**
comp=Z,0.4nm,0.6s,baz=179,slow=11,SNR=23
BVA0 Borovoye Array 15.72 356 *i* P **Pn 06 02 00.6 -0.5**
BVA0 *i* S **S 06 04 53.8 -0.6**
BVAR Borovoye Array 15.72 356 P **Pn 06 02 00.6 -0.4**
comp=Z,0.6nm,0.3s,baz=160,slow=11,SNR=23
BVAR S **S 06 04 54.0 -0.4**
comp=Z,0.2nm,0.3s,baz=166,slow=19,SNR=8.0
ZRNK Zerenda 15.75 353 ⇓P **Pn 06 02 01.5 +0.1**
comp=Z,5.8nm,1.1s
ZRNK Zerenda 15.75 353 *e*P **Pn 06 02 01.6 +0.1**
comp=Z,6.0nm,0.9s
ZRNK Zerenda 15.75 353 *e*P **Pn 06 02 01.6 +0.1**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 15.76 356 *e*P **Pn 06 02 01.6 0.0**
comp=Z,5.2nm,0.9s
BRVK Borovoye 15.76 356 *e*P **Pn 06 02 01.6 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
AKTK Aktyubinsk 16.57 327 P **P 06 02 11.0 +1.2**
AKTK S **S 06 05 11.3 -0.1**
AKTO Aktyubinsk 16.57 327 P **P 06 02 11.0 +1.2**
comp=Z,0.6nm,0.3s,baz=132,slow=11,SNR=7.8
AKTO S **S 06 05 11.3 -0.1**
comp=Z,0.1nm,0.3s,baz=11,slow=16,SNR=5.1
LSA Lhasa 17.51 110 *e*P **P 06 02 24.2 +4.1**
comp=Z,9.8nm,0.7s
LSA Lhasa 17.51 110 *e*P **P 06 02 24.2 +4.1**
LSA pmax pmax
comp=Z,10.0nm,0.7s
ZAL Zalesovo 18.71 24 P **P 06 02 34.0 +0.9**
comp=Z,4.7nm,0.3s,baz=249,slow=7.9,SNR=25
ZAL S **S 06 05 53.1 -1.1**
comp=Z,0.4nm,0.3s,baz=181,slow=18,SNR=4.4
NVS Novosibirsk 19.04 20 *i* P **P 06 02 36.8 +0.2**
NVS pmax pmax
comp=Z,14nm,1.2s
NVS pmax pmax
comp=N,15nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.2s
ARU Arti 21.17 339 ⇓*i* P **P 06 03 01.0 +1.7**
ARU *e*S **S 06 06 57.1 +17**
ARU pmax pmax
comp=Z,3.0nm,1.2s,mb3.7
GNI Garni 21.59 286 P **P 06 03 10.3 +6.7**
comp=Z,15nm,1.2s,mb4.4
GNI Garni 21.59 286 P **P 06 03 10.3 +6.7**
GNI pmax pmax
comp=Z,15nm,1.2s
FINES FINESS Array B 37.33 325 P **P 06 05 22.4 +0.2**
comp=Z,0.5nm,0.3s,mb3.5,baz=122,slow=8.0,SNR=9.5
NJ2 Nanjing 38.39 84 *e*P **P 06 05 32.2 +1.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.6
ARCES ARCESS Array B 40.74 337 P **P 06 05 50.8 +0.4**
comp=Z,1.0nm,0.5s,mb3.5,baz=118,slow=9.0,SNR=21
NOA NORSAR Array B 44.30 322 P **P 06 06 18.1 -0.8**
comp=Z,0.9nm,0.7s,mb3.2,baz=106,slow=10,SNR=3.3
TIXI Tiksi 44.61 22 *e*P **P 06 06 22.4 +1.0**
TIXI pmax pmax
comp=Z,4.0nm,1.7s,mb3.5
BILL Bilibino 57.40 26 *e*P **P 06 07 57.1 +0.7**
BILL pmax pmax
comp=Z,5.0nm,1.7s,mb3.9
TORD Torodi Ar. Bea 66.72 269 P **P 06 08 57.4 -1.0**
comp=Z,1.2nm,0.4s,mb3.9,baz=48,slow=5.9,SNR=40
INK Inuvik 72.90 10 *e*P **P 06 09 36.4 +0.5**
comp=Z,0.8nm,0.5s,mb3.6
INK Inuvik 72.90 10 *e*P **P 06 09 36.4 +0.5**
INK pmax pmax
comp=Z,1.0nm,0.5s
ILAR Eielson Array 73.68 16 P **P 06 09 39.6 -0.9**
comp=Z,0.1nm,0.5s,mb2.7,baz=322,slow=5.7,SNR=4.6
YKA Yellowknife Ar 80.34 3 P **P 06 10 17.4 -0.1**
comp=Z,0.6nm,0.5s,mb3.5,baz=351,slow=5.4,SNR=25

PRE ***09*** *06:07:04.7±1.3,22.47S×34.09E,h5km,ML4.7*
ISCJB ***09*** *06:07:07.8±0.9,21.28S±0.05×32.76E±0.08,h10km,mb4.1/2, MS3.5/3, Error ellipse: s-maj=11.1km s-min=7.1km az=26.4*
IDC ***09*** *06:07:08.9±1.2,21.19S×32.97E,h0km,mb3.8/3,mb1 4.2/8, mb1mx3.8/26,mbtmp4.2/8,ML4.2/4,MS3.4/7,Ms1 3.4/7, ms1mx3.3/19, Error ellipse: s-maj=22.5km s-min=17.8km az=133.0*
NEIC ***09*** *06:07:10.1±1.8,21.16S×32.95E,h10km,mb4.2/1, Error ellipse: s-maj=30.5km s-min=13.3km az=111.0*
ISC 09 06:07:10.1±0.9,2130S±0.05×3280E±0.08,h10km,n24, σ1§42/31,mb4.1/2,MS3.5/3,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.78**	**247**	*e*P	Px	05 59 47.3	
MSNA				*e*S	Sx	06 00 31.6	
MSNA				AML	AML	06 00 42.5	
comp=Z,414nm,0.5s							
SLR	**Silverton**	**6.05**	**222**	*e*S	**Sn**	**06 09 46.5**	**-2.5**
SLR				AML	AML	06 10 40.1	
comp=Z,142nm,0.6s							
LSZ	**Lusaka**	**7.42**	**323**	Pn	**Pn**	**06 08 58.9**	**+0.6**
comp=Z,9.9nm,0.3s,baz=153,slow=12,SNR=53							
LSZ				Sn	**Sn**	**06 10 21.7**	**-0.8**
comp=Z,5.3nm,0.3s,baz=22,slow=17,SNR=4.3							
LSZ				Lg		06 11 05.1	
comp=Z,13nm,0.3s,baz=129,slow=12,SNR=5.7							
LSZ				LR	LR	06 12 15.7	
comp=Z,350nm,20.2s,baz=165,slow=41							
LSZ	**Lusaka**	**7.42**	**323**	*e*Pn	**Pn**	**06 08 59.0**	**+0.6**
comp=Z,24nm,0.4s							
LSZ				*e*Sn	**Sn**	**06 10 20.8**	**-1.7**
LBTB	**Lobatse**	**7.59**	**239**	*e*P	**Pn**	**06 09 05.0**	**+4.3**
LBTB				*e*S	**Sn**	**06 10 32.9**	**+6.2**
LBTB				AML	AML	06 11 36.9	
comp=Z,120nm,0.6s							
LBTB	**Lobatse**	**7.59**	**239**	Pn	**Pn**	**06 09 05.6**	**+5.0**
comp=Z,1.9nm,0.3s,baz=66,slow=14,SNR=22							
LBTB				Sn	**Sn**	**06 10 32.8**	**+6.1**
comp=Z,3.1nm,0.3s,baz=1.6,slow=21,SNR=4.0							
LBTB				Lg		06 11 15.4	
comp=Z,7.0nm,0.3s,baz=346,slow=20,SNR=9.6							
LBTB	**Lobatse**	**7.59**	**239**	*e*Pn	**Pn**	**06 09 05.4**	**+4.7**
comp=Z,26nm,1.0s							
LBTB				*e*Sn	**Sn**	**06 10 28.2**	**+1.6**
SWZ	**Schweizer**	**8.98**	**228**	*e*P	**Pn**	**06 09 20.3**	**+0.5**
SWZ				*e*S	**Sn**	**06 10 58.0**	**-3.0**
SWZ				AML	AML	06 12 19.2	
comp=Z,42nm,0.7s							
BOSA	**Boshof**	**9.99**	**222**	*e*P	**Pn**	**06 09 31.5**	**-2.2**
BOSA				*e*S	**Sn**	**06 11 17.8**	**-7.9**
BOSA				AML	AML	06 14 37.6	
comp=Z,31nm,0.7s							
BOSA	**Boshof**	**9.99**	**222**	Pn	**Pn**	**06 09 36.4**	**+2.7**
comp=Z,1.3nm,0.3s,baz=47,slow=15,SNR=25							
BOSA				Sn	**Sn**	**06 11 25.7**	**0.0**
comp=Z,1.9nm,0.3s,baz=344,slow=15,SNR=3.8							
BOSA				Lg		06 12 32.2	
comp=Z,3.9nm,0.3s,baz=315,slow=19,SNR=4.9							
BOSA				LR	LR	06 13 51.8	
comp=Z,65nm,18.3s,baz=172,slow=40							
BOSA	**Boshof**	**9.99**	**222**	*e*Pn	**Pn**	**06 09 36.0**	**+2.4**
PKA	**Prieska**	**12.31**	**225**	*e*P	**Pn**	**06 10 05.0**	**-0.4**
TSUM	**Tsumeb**	**14.43**	**276**	Pn	**Pn**	**06 10 35.8**	**+1.5**
comp=Z,0.8nm,0.3s,baz=85,slow=13,SNR=5.8							
TSUM				Sn	**Sn**	**06 13 16.7**	**+2.3**
comp=Z,0.2nm,0.3s,baz=32,slow=20,SNR=2.7							
TSUM				Lg		06 14 50.4	
comp=Z,1.3nm,0.3s,baz=348,slow=18,SNR=4.0							
TSUM				LR	LR	06 16 31.9	
comp=Z,166nm,19.5s,baz=139,slow=39							
TSUM	**Tsumeb**	**14.43**	**276**	*e*Pn	**Pn**	**06 10 34.9**	**+0.6**
comp=Z,14nm,1.0s							
TSUM				*e*Sn	**Sn**	**06 13 13.7**	**-0.7**
SUR	**Sutherland**	**15.36**	**222**	*e*P	**Pn**	**06 10 44.3**	**-2.5**
SUR				*e*S	**Sn**	**06 13 25.6**	**-11**
SUR	**Sutherland**	**15.36**	**222**	Pn	**Pn**	**06 10 48.4**	**+1.6**
comp=Z,1.1nm,0.3s,baz=51,slow=14,SNR=11							
SUR				Sn	**Sn**	**06 13 37.8**	**+0.9**
comp=Z,0.6nm,0.3s,baz=310,slow=23,SNR=4.0							
SUR				Lg		06 15 17.7	
comp=Z,0.9nm,0.3s,baz=306,slow=19,SNR=3.8							
SUR				LR	LR	06 16 53.1	
comp=Z,101nm,19.8s,baz=113,slow=38							
SUR	**Sutherland**	**15.36**	**222**	P	**Pn**	**06 10 49.1**	**+2.4**
comp=Z,11nm,0.8s							
KMBO	**Kilima Mbogo**	**20.51**	**13**	P	**P**	**06 11 47.0**	**-1.4**
comp=Z,0.8nm,0.5s,baz=204,slow=14,SNR=4.1							
KMBO				Lg		06 17 39.9	
comp=Z,1.1nm,0.3s,baz=281,slow=16,SNR=4.1							
KMBO				LR	LR	06 20 12.0	
comp=Z,38nm,19.9s,MS2.8,baz=87,slow=38							
TORD	**Torodi Ar. Bea**	**45.88**	**315**	P	**P**	**06 15 33.3**	**+0.8**
comp=Z,2.0nm,0.9s,mb4.0,baz=121,slow=6.5,SNR=10.0							
DBIC	**Dimbokro**	**46.23**	**303**	LR	LR	06 34 06.1	
comp=Z,76nm,18.3s,MS3.7,baz=303,slow=35							
MAW	**Mawson**	**50.00**	**165**	LR	LR	06 33 02.6	
comp=Z,123nm,18.0s,MS4.0,baz=74,slow=31							
ASAR	**Alice Springs**	**91.18**	**116**	P	**P**	**06 20 15.7**	**+0.3**
comp=Z,0.8nm,0.8s,mb4.1,baz=244,slow=4.0,SNR=7.9							
YKA	**Yellowknife Ar**	**133.20**	**340**	PKP	PKPdf	06 26 24.7	-1.3
comp=Z,0.1nm,0.6s,baz=32,slow=2.2,SNR=5.4							
NVAR	**Mina Array Bea**	**149.85**	**311**	PKPbc	PKPbc	06 27 02.7	+2.3
comp=Z,0.8nm,0.7s,baz=66,slow=3.5,SNR=6.8							

ISCJB ***09*** *07:18:26.0±5.8,39S±03×1532E±05,h86km±43km, mb3.5/4, Error ellipse: s-maj=83.4km s-min=29.0km az=52.8*
IDC ***09*** *07:18:26.4±9.1,385S×15326E,h75km±64km,mb3.4/4, mb1 3.7/5,mb1mx3.5/15,mbtmp3.8/5,ML3.2/1, Error ellipse: s-maj=99.7km s-min=33.4km az=103.0*
ISC 09 07:18:27.2±5.5,40S±03×1534E±05,h85km±37km,n7, σ0§57/7,mb3.5/4,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.20**	**228**	P	**Pn**	**07 20 23.3**	**-0.1**
1.8nm,0.3s,baz=51,slow=15,SNR=3.6							
PMG				S	**Sn**	**07 21 54.4**	**+0.1**
1.1nm,0.3s,baz=179,slow=11,SNR=4.3							
WB2	**Warramunga Arr**	**24.41**	**228**	*e*P	**P**	**07 23 37.3**	**-0.3**
WRA	**Warramunga Arr**	**24.42**	**228**	P	**P**	**07 23 37.6**	**-0.1**
3.1nm,0.5s,mb3.9,baz=52,slow=10,SNR=32							
ASAR	**Alice Springs**	**27.15**	**222**	P	**P**	**07 24 02.9**	**+0.5**
0.3nm,0.3s,mb3.3,baz=55,slow=8.4,SNR=5.9							
SONM	**Songino Array**	**65.92**	**327**	P	**P**	**07 29 04.6**	**+0.6**
0.7nm,0.6s,mb3.7,baz=150,slow=3.2,SNR=3.6							
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**07 30 26.9**	**-0.6**
0.2nm,0.7s,mb3.0,baz=106,slow=1.9,SNR=3.9							
TORD	**Torodi Ar. Bea**	**150.56**	**290**	PKPbc	PKPbc	07 38 10.3	+1.2
0.9nm,0.7s,baz=71,slow=1.7,SNR=7.3							

CASC 09 07:24:23.9±1.8,1237N×8796W,h73km±52km,MD3.6, ML3.2,3C,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.91**	**8**	*e*P	Pn	07 24 56.0	+15
CNCH				*e*S	Sn	07 25 10.2	+16
CRIN	**San Cristobal**	**0.95**	**70**	*e*P	Pn	07 24 42.8	+0.9
CRIN				*e*S	Sn	07 24 56.9	+1.7
LEON	**Leon**	**1.04**	**88**	⇑*e*P	Pn	07 24 42.8	-0.3
LEON				*e*S	Sn	07 24 57.5	+0.2
BLLM	**Bellamira**	**1.10**	**346**	*e*P	Pn	07 24 58.4	+15
BLLM				*e*S	Sn	07 25 11.9	+13
TEL3	**Telica 3**	**1.11**	**80**	*e*P	Pn	07 24 43.6	-0.2
TEL3				*e*S	Sn	07 25 00.0	+1.3
MIRN	**Miramar**	**1.22**	**87**	⇑*e*P	Pn	07 24 45.5	+0.2
MIRN				*e*S	Sn	07 25 02.1	+0.8
COPN	**Copaltepe**	**1.35**	**98**	⇑*e*P	Pn	07 24 47.0	0.0
COPN				*e*S	Sn	07 25 05.4	+1.1
MOMJ	**Momotombo**	**1.39**	**88**	*e*P	Pn	07 24 47.0	-0.5
MOMJ				*e*S	Sn	07 25 06.0	+0.8
APYN	**Apoyeque**	**1.58**	**95**	*e*P	Pn	07 24 50.9	+0.9
APYN				*e*S	Sn	07 25 10.6	+1.0
LCBS	**La Ceiba**	**1.61**	**322**	*e*P	Pn	07 25 05.0	+15
LCBS				*e*S	Sn	07 25 25.5	+15
LFRS	**El Faro**	**1.64**	**319**	*e*P	Pn	07 25 05.0	+14
LFRS				*e*S	Sn	07 25 26.8	+16
MGAN	**Managua**	**1.69**	**98**	*e*P	Pn	07 24 51.7	+0.3
MGAN				*e*S	Sn	07 25 12.8	+0.5
MGAN				*e*		07 25 16.1	
comp=N,254nm,0.3s							
WILN	**Americas 2**	**1.75**	**97**	*e*P	Pn	07 24 52.2	+0.1
WILN				*e*S	Sn	07 25 14.2	+0.6

NEIC ***09*** *07:36:11.9±0.8,72.4S×120.35E,h541km±11km,mb4.2/15, Error ellipse: s-maj=13.7km s-min=6.5km az=70.0*
BJI ***09*** *07:36:11.3,7.40S×120.40E,h568km,mB4.5,mb4.4*
ISCJB ***09*** *07:36:12.3±0.9,72.4S±0.06×120.4E±0.1,h562km±14km, mb4.1/21, Error ellipse: s-maj=17.6km s-min=7.3km az=135.7*
IDC ***09*** *07:36:12.5±2.0,72.1S×120.40E,h546km±23km,mb3.6/9, mb1 3.7/10,mb1mx3.6/18,mbtmp4.5/10, Error ellipse: s-maj=22.4km s-min=11.5km az=74.0*
ISC 09 07:36:13.3±0.9,725S±0.06×1205E±0.1,h559km±12km,n44, σ0§74/38,mb4.1/21,2C-1D,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**11.76**	**347**	P	**P**	**07 38 49.9**	**+0.7**
TSM	**Tawau**	**11.76**	**347**	P	**P**	**07 38 49.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.91**	**155**	⇑*i*P	**P**	**07 38 51.0**	**+0.2**
72nm,0.6s							
KAKA	**Kakadu**	**12.98**	**116**	*e*P	**P**	**07 39 00.7**	**-1.1**
8.1nm,0.5s							
MBWA	**Marble Bar**	**13.84**	**183**	P	**P**	**07 39 07.6**	**-3.1**
16nm,0.6s							
KKM	**Kota Kinabalu**	**13.87**	**342**	P	**P**	**07 39 10.9**	**-0.1**
KKM	**Kota Kinabalu**	**13.87**	**342**	P	**P**	**07 39 10.9**	**-0.1**
KKM	**Kota Kinabalu**	**13.87**	**342**	⇑*e*Pn	**P**	**07 39 10.0**	**-1.0**
WRA	**Warramunga Arr**	**18.45**	**135**	P	**P**	**07 39 55.8**	**+1.1**
3.9nm,0.3s,baz=314,slow=11,SNR=189							
WRAB	**Tennant Creek**	**18.45**	**134**	*e*P	**P**	**07 39 55.7**	**+1.0**
61nm,0.7s							
WRAB				*e*S	**S**	**07 42 53.8**	**-1.0**
WB2	**Warramunga Arr**	**18.45**	**134**	*e*P	**P**	**07 39 55.8**	**+1.0**
ASAR	**Alice Springs**	**20.81**	**143**	P	**P**	**07 40 17.1**	**+1.0**
6.0nm,0.5s,baz=319,slow=8.5,SNR=145							
ASAR				PcP	PcP	07 44 00.8	+0.8
2.3nm,0.4s,baz=327,slow=1.5,SNR=13							
ASAR				ScP	ScP	07 46 45.1	+0.9
0.7nm,0.5s,baz=325,slow=2.0,SNR=4.4							
KLBR	**Kellerberrin**	**24.35**	**186**	*e*P	**P**	**07 40 47.4**	**-0.3**
5.8nm,0.6s,mb4.4							
NWAO	**Narrogin (SRO)**	**25.72**	**186**	P	**P**	**07 40 59.7**	**-0.1**
4.7nm,0.5s,mb4.4,baz=8.8,slow=3.8,SNR=7.7							
NWAO	**Narrogin (SRO)**	**25.72**	**186**	*e*P	**P**	**07 40 59.1**	**-0.7**
2.3nm,0.5s,mb4.1							
CTA	**Charters Tower**	**28.07**	**120**	PcP	PcP	07 44 17.8	+1.4
1.9nm,0.5s,baz=304,slow=3.9,SNR=6.8							
QIZ	**Qiongzhong**	**28.13**	**338**	*e*P	**P**	**07 41 21.0**	**0.0**
6.2nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**31.44**	**144**	P	**P**	**07 41 48.9**	**-0.5**
2.8nm,0.3s,mb4.2,baz=340,slow=10,SNR=3.3							
STKA				PcP	PcP	07 44 23.6	-1.8
2.2nm,0.3s,baz=328,slow=2.5,SNR=5.2							
ENH	**Enshi**	**38.77**	**345**	P	**P**	**07 42 50.0**	**-0.3**
6.0nm,0.4s,mb4.5							
NJ2	**Nanjing**	**39.11**	**358**	*e*P	**P**	**07 42 53.8**	**+0.7**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.6							
MJAR	**Matsushiro Arr**	**46.64**	**20**	P	**P**	**07 43 50.9**	**-0.8**
comp=Z,6.1nm,0.9s,mb4.2,baz=196,slow=8.7,SNR=8.6							
GTA	**Gaotai**	**50.21**	**339**	*e*P	**P**	**07 44 19.1**	**+0.9**
GTA				AMB	AMB		
comp=Z,5.0nm,0.7s,mb4.0							
MDJ	**Mudanjiang**	**52.28**	**8**	P	**P**	**07 44 33.1**	**-0.1**
MDJ				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.2							
MDJ				AMB	AMB		
comp=Z,18nm,3.2s							
SONM	**Songino Array**	**56.24**	**349**	P	**P**	**07 45 01.0**	**0.0**
comp=Z,2.6nm,0.4s,mb3.8,baz=166,slow=8.5,SNR=7.3							
MKAR	**Makanchi Array**	**63.59**	**332**	P	**P**	**07 45 49.9**	**+0.2**
comp=Z,1.2nm,0.3s,mb3.8,baz=139,slow=7.6,SNR=73							
MKAR	**Makanchi Array**	**63.59**	**332**	P	**P**	**07 45 49.9**	**+0.2**
AAK	**Ala-Archa**	**64.90**	**324**	*e*P	**P**	**07 45 57.6**	**-0.3**
comp=Z,0.7nm,0.6s,mb3.3							
KURK	**Kurchatov**	**68.09**	**333**	*e*P	**P**	**07 46 17.6**	**-0.1**
comp=Z,2.0nm,0.8s,mb3.7							
OPO	**Ambohidratompo**	**71.91**	**253**	P	**P**	**07 46 41.1**	**+0.8**
comp=Z,2.3nm,0.6s,mb3.8,baz=143,slow=3.8,SNR=6.2							
VNDA	**Vanda**	**73.48**	**171**	P	**P**	**07 46 49.6**	**+0.3**
comp=Z,3.6nm,0.6s,mb4.0,baz=324,slow=7.3,SNR=23							
VNDA	**Vanda**	**73.48**	**171**	*e*P	**P**	**07 46 50.1**	**+0.7**
comp=Z,1.9nm,0.5s,mb3.8							
BRVK	**Borovoye**	**73.53**	**331**	*e*P	**P**	**07 46 48.9**	**-0.8**
comp=Z,0.7nm,0.4s,mb3.4							
ZRNK	**Zerenda**	**74.08**	**331**	*e*P	**P**	**07 46 51.5**	**-1.3**
comp=Z,1.6nm,0.4s,mb3.8							
SYO	**Syowa Base**	**80.00**	**201**	⇓*e*P	**P**	**07 47 24.6**	**-0.3**
QSPA	**South Pole Qui**	**82.73**	**180**	*e*P	**P**	**07 47 39.1**	**+0.2**
comp=Z,3.1nm,0.4s,mb4.2							
LSZ	**Lusaka**	**90.30**	**255**	*e*P	**P**	**07 48 15.4**	**+0.5**
comp=Z,2.6nm,0.5s,mb4.3							
BOSA	**Boshof**	**91.11**	**241**	P	**P**	**07 48 18.6**	**-0.2**
comp=Z,2.6nm,0.7s,mb4.3,baz=96,slow=3.6,SNR=8.7							
SNAA	**Sanae**	**93.06**	**195**	*e*P	**P**	**07 48 27.8**	**+0.2**
comp=Z,2.8nm,0.5s,mb4.5							
NVAR	**Mina Array Bea**	**118.79**	**50**	PKP	PKPdf	07 54 00.6	+2.2
comp=Z,0.4nm,0.6s,baz=251,slow=1.3,SNR=4.4							
TORD	**Torodi Ar. Bea**	**119.57**	**281**	PKP	PKPdf	07 54 00.7	+0.8
comp=Z,1.2nm,0.6s,baz=56,slow=2.0,SNR=14							
TZTN	**Tazewell**	**143.53**	**33**	*e*PKPdf	PKPdf	07 54 44.0	-0.6
LRAL	**Lakeview Retre**	**143.85**	**41**	*e*PKPbc	PKPdf	07 54 45.7	+0.4
CPUP	**Villa Florida**	**146.55**	**184**	PKPbc	PKPbc	07 54 53.9	+1.5
comp=Z,2.1nm,0.5s,baz=163,slow=0.7,SNR=9.9							
LPAZ	**La Paz**	**155.11**	**160**	PKP	PKPdf	07 55 06.0	+3.3
comp=Z,0.4nm,0.7s,baz=215,slow=1.6,SNR=4.4							
LPAZ				PKPab	PKPab	07 55 33.7	+2.7
comp=Z,2.1nm,0.6s,baz=199,slow=2.4,SNR=8.9							

IDC ***09*** *07:55:35.0±0.6,31.64N×95.07E,h0km,mb4.1/15, mb1 4.2/17,mb1mx4.1/24,mbtmp4.0/17,ML3.5/2, Error ellipse: s-maj=22.2km s-min=14.8km az=48.0*
ISCJB ***09*** *07:55:41.4±0.8,31.74N±0.05×95.18E±0.04,h59km±9km, mb4.3/27,MS3.3/1, Error ellipse: s-maj=8.0km s-min=5.3km az=175.0*
MOS ***09*** *07:55:41.4±0.9,31.73N×95.13E,h60km,mb4.4/13, Error ellipse: s-maj=11.4km s-min=7.4km az=90.8*
BJI ***09*** *07:55:41.5,31.79N×95.16E,h50km,mB4.7,mb4.6,ML4.0, Ms4.2,Msz4.1*
NEIC ***09*** *07:55:42.5±1.1,31.79N×95.10E,h52km±13km,mb4.2/5, Error ellipse: s-maj=11.6km s-min=9.2km az=164.0*
ISC 09 07:55:42.3±0.7,3171N±0.04×9512E±0.04,h51km±7km,n73, σ1§19/81,mb4.3/27,MS3.3/1,4C-5D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.96**	**241**	*e*Pn	**Pn**	**07 56 41.9**	**+1.4**
LSA				*e*Sn	**Sn**	**07 57 30.5**	**+4.8**
SHL	**Shillong**	**6.75**	**206**	*e*PN	**Pn**	**07 57 17.0**	**-1.7**
SHL				*e*SN	**Sn**	**07 58 33.0**	**-1.2**
CD2	**Chengdu**	**7.44**	**94**	P	**Pn**	**07 57 30.4**	**+2.3**
CD2				S	**Sn**	**07 58 54.1**	**+3.0**
CD2				AMB	AMB		
comp=Z,20nm,0.7s							
CD2				AMB	AMB		
comp=Z,60nm,5.2s							
CD2				LR	LR		
comp=E,780nm,9.6s							
LZH	**Lanzhou**	**8.46**	**57**	*e*P	**Pn**	**07 57 43.1**	**+0.9**
LZH				AP		07 57 50.1	
LZH				XP		07 57 55.0	
LZH				*e*S	**Sn**	**07 59 16

HHC XS sS 08 02 36.7 -15
HHC SS 08 02 43.4
HHC AMB AMB
comp=Z,16nm,0.5s
HHC AMB AMB
comp=Z,82nm,4.9s
HHC LR LR
comp=N,565nm,8.6s
HHC LR LR
comp=E,504nm,10.8s
HHC LR LR
comp=Z,498nm,11.9s
MKAR Makanchi Array 18.00 330 P **Pn 07 59 47.1 -1.7**
comp=Z,0.2nm,0.3s,baz=146,slow=13,SNR=16
SONM Songino Array 18.25 25 P **Pn 07 59 51.9 +0.2**
comp=Z,0.1nm,0.3s,baz=220,slow=13,SNR=2.8
ULHL Ulahol 18.34 310 P **Pn 07 59 53.6 +0.8**
SNR=8.2
ULN Ulaanbaatar 18.52 26 Pn **Pn 07 59 53.8 -1.3**
KZA Kyzart 18.92 309 P **Pn 07 59 59.9 +0.1**
SNR=12
UCH Uchtor 19.48 308 P **Pn 08 00 05.8 -0.6**
SNR=7.3
ZAK Zakamensk 19.62 16⇓*i*P **Pn 08 00 06.7 -1.4**
ZAK pmax pmax
comp=Z,15nm,1.8s
AAK Ala-Archa 19.67 309 P **Pn 08 00 08.3 -0.4**
SNR=11
AAK Ala-Archa 19.67 309 *e*P **Pn 08 00 06.8 -1.9**
comp=Z,22nm,1.3s
AAK Ala-Archa 19.67 309 *de*P **Pn 08 00 07.0 -1.7**
FRU Bishkek 19.68 310 *e*P **Pn 08 00 09.0 +0.1**
AML Almayashu 19.98 307 P **Pn 08 00 12.4 0.0**
SNR=9.6
EKS2 Erkin-Say 20.16 309 P **P 08 00 13.1 +0.9**
SNR=8.3
MOY Mondy 20.40 11 *e*P **P 08 00 16.0 +1.1**
HYB Hyderabad 20.68 230 *i* P **P 08 00 19.0 +1.0**
HYB Hyderabad 20.68 230 *e*P **P 08 00 19.0 +1.0**
SSE Sheshan 22.25 85 P **P 08 00 34.0 -0.7**
SSE S **S 08 04 25.7 -11**
SSE AMB AMB
comp=Z,21nm,0.8s,mb4.6
SSE AMB AMB
comp=Z,85nm,5.6s
SSE LR LR
comp=N,198nm,22.1s,MS3.5
SSE LR LR
comp=E,60nm,22.2s,MS3.5
SSE LR LR
comp=Z,72nm,19.9s,MS3.1
KURK Kurchatov 22.59 332 *e*P **P 08 00 37.4 -0.9**
comp=Z,5.7nm,0.8s,mb4.0
KURK Kurchatov 22.59 332⇓*e*P **P 08 00 37.6 -0.7**
KRAR Krasnoyarsk 24.34 357 *i* P **P 08 00 54.5 -0.7**
NVS Novosibirsk 24.61 343 *e*P **P 08 00 57.2 -0.5**
NVS *e* 08 01 51.9
HIA Hailar 25.48 39 *e*P **P 08 01 06.8 +1.3**
comp=Z,8.9nm,1.1s,mb4.2
HIA Hailar 25.48 39 *e*P **P 08 01 06.8 +1.2**
HIA pmax pmax
comp=Z,9.0nm,1.1s
CN2 Changchun 26.69 54 *e*P **P 08 01 16.9 +0.4**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.5
BVAR Borovoye Array 27.81 327 P **P 08 01 26.7 +0.2**
comp=Z,1.7nm,0.8s,mb3.7,baz=134,slow=10,SNR=10
BRVK Borovoye 27.88 327 P **P 08 01 27.1 -0.1**
comp=Z,1.9nm,0.8s,mb3.8
BRVK Borovoye 27.88 327 P **P 08 01 27.1 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
KLR Kul'dur 32.50 47 *e*P **P 08 02 05.0 -3.0**
SVE Sverdlovsk 34.59 327 *e*P **P 08 02 28.8 +2.6**
ARU Arti 35.38 325 *e*P **P 08 02 36.0 +3.0**
ARU *e* 08 03 56.7
ARU *e*S **S 08 08 05.6 +1.6**
YAK Yakutsk 37.61 26⇑*e*P **P 08 02 49.8 -2.2**
YAK pmax pmax
comp=Z,7.0nm,0.4s,mb4.7
ASAJ Asahikawa 38.95 58 P **P 08 03 03.0 -0.2**
comp=Z,6.7nm,0.9s,mb4.4,baz=260,slow=6.1,SNR=5.5
ASAJ Asahikawa 38.95 58 P **P 08 03 03.0 -0.2**
ASAJ pmax pmax
comp=Z,7.0nm,0.9s
YSS Yuzh-Sakhalins 39.24 53⇓*e*P **P 08 03 05.5 -0.2**
YSS pmax pmax
comp=Z,13nm,1.3s,mb4.5
GNI Garni 41.18 296⇓*e*P **P 08 03 25.2 +3.4**
GNI pmax pmax
comp=Z,21nm,1.3s
TIXI Tiksi 43.89 15⇑*e*P **P 08 03 43.0 -0.7**
TIXI pmax pmax
comp=Z,7.0nm,1.7s,mb4.1
SOC Sochi 44.68 302 *e*P **P 08 03 50.7 +0.7**
SOC *e**PP pP 08 04 15.7 +12
SOC *e* 08 05 34.0
SOC *e*PPP 08 06 16.2
SOC *e*S **S 08 10 18.4 -4.4**
SOC *e*SSS 08 14 33.3
SOC pmax pmax
comp=Z,37nm,0.9s,mb5.2
KLMR Klimovskoe 46.22 326 *e*P **P 08 04 03.4 +1.2**
KLMR pmax pmax
comp=Z,20nm,1.1s,mb5.0
SEY Seymchan 47.47 31 *e*P **P 08 04 12.1 +0.1**
BRTR Keskin Array B 49.70 297 P **P 08 04 29.4 +0.3**
comp=Z,1.4nm,0.7s,mb4.1,baz=100,slow=7.3,SNR=6.6
AKASG Malin Array Be 51.31 312 P **P 08 04 39.9 -1.3**
comp=Z,4.2nm,0.7s,mb4.5,baz=75,slow=6.6,SNR=12
AKASG Malin Array Be 51.31 312 P **P 08 04 39.9 -1.3**
FINES FINESS Array B 52.75 326 P **P 08 04 52.0 0.0**
comp=Z,0.6nm,0.5s,mb3.8,baz=96,slow=7.7,SNR=5.0
ARCES ARCESS Array B 53.55 336 P **P 08 04 57.3 -0.5**
comp=Z,1.3nm,0.8s,mb3.9,baz=61,slow=9.9,SNR=4.6
BILL Bilibino 53.97 26⇑*e*P **P 08 04 59.3 -1.6**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
GERES GERESS Array B 61.53 312 P **P 08 05 54.4 +0.5**
comp=Z,1.0nm,0.6s,mb4.1,baz=94,slow=9.8,SNR=7.0
GERES GERESS Array B 61.53 312 P **P 08 05 54.4 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 63.65 138⇑*e*P **P 08 06 09.3 +1.2**
WRA Warramunga Arr 63.66 138 P **P 08 06 08.5 +0.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=327,slow=7.2,SNR=15
WRA Warramunga Arr 63.66 138 P **P 08 06 08.5 +0.4**
WRA pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 63.70 251 P **P 08 06 07.6 -0.9**
comp=Z,1.1nm,0.8s,mb3.9,baz=56,slow=11,SNR=2.7
KMBO Kilima Mbogo 63.70 251 P **P 08 06 07.6 -0.8**
KMBO pmax pmax
comp=Z,1.0nm,0.8s
PMG Port Moresby 64.39 120 *e*P **P 08 06 14.3 +1.4**
comp=Z,10nm,1.0s,mb4.8
PMG Port Moresby 64.39 120 *e*P **P 08 06 14.3 +1.4**
PMG pmax pmax
comp=Z,10.0nm,1.0s
ASAR Alice Springs 66.40 141 P **P 08 06 26.8 +0.8**
comp=Z,1.9nm,0.8s,mb4.2,baz=331,slow=6.3,SNR=22
ASAR Alice Springs 66.40 141 P **P 08 06 26.8 +0.8**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 72.47 23 P **P 08 07 03.0 -0.4**
comp=Z,2.2nm,0.9s,mb4.1,baz=296,slow=5.4,SNR=23
ILAR Eielson Array 72.47 23 P **P 08 07 03.0 -0.4**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 73.97 17 P **P 08 07 12.2 0.0**
comp=Z,2.9nm,0.9s,mb4.2,baz=353,slow=8.2,SNR=8.8
INK Inuvik 73.97 17 P **P 08 07 12.3 +0.1**
INK pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 77.03 141 P **P 08 07 28.1 -1.7**
comp=Z,1.3nm,0.7s,mb4.0,baz=270,slow=9.1,SNR=4.3
YKA Yellowknife Ar 83.13 13 P **P 08 08 02.5 -0.1**
comp=Z,1.0nm,0.9s,mb3.8,baz=331,slow=4.8,SNR=8.6
YKA Yellowknife Ar 83.13 13 P **P 08 08 02.5 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 86.06 283 P **P 08 08 18.4 +0.9**
comp=Z,3.3nm,0.9s,mb4.6,baz=47,slow=5.2,SNR=17
ARUT Antelope Range 105.90 23 *e*PKPdf PKiKP 08 13 58.5 -1.8

ISCJB ***09*** *08:10:04.6±0.6, 3756N±003×2258E±005, h85km±7km, Error ellipse: s-maj=6.7km s-min=4.5km az=139.5*
CSEM ***09*** *08:10:04.2±0.1, 3755N×2261E, h75km±2km, ML3.3, Error ellipse: s-maj=2.7km s-min=2.1km az=94.0*
ATH ***09*** *08:10:05.4, 3758N×2259E, h68km±3km, ML3.3*
NEIC ***09*** *08:10:07.5, 3766N×2268E, h31km, ML3.2(CSEM), ML3.3(ATH), After THE.*
THE ***09*** *08:10:07.5, 3766N×2268E, h21km*
HLW ***09*** *08:10:08.7, 3741N×2741E, h33km, Mb3.5*
ISC 09 08:10:06.1±0.6, 3757N±003×2260E±005, h71km±9km, n33, σ0°68/46, 2C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.66**	**234**	*e*P	**Pn**	**08 10 20.9**	**+0.3**
ITM				*e*S	**Sn**	**08 10 31.2**	**-0.1**
MGER	**Gerania Oros**	**0.67**	**52**	*e*P	**Pn**	**08 10 20.0**	**-0.7**
NAIG	**Nisos Aigina**	**0.73**	**75**	*e*P	**Pn**	**08 10 21.5**	**+0.1**
VLI	**Veliai**	**0.90**	**162**	*e*P	**Pn**	**08 10 23.6**	**+0.3**
VLI				*e*S	**Sn**	**08 10 36.0**	**-0.1**
KVR	**Kavouri**	**0.97**	**74**	*e*P	**Pn**	**08 10 24.5**	**+0.3**
ATH	**Athens Observa**	**0.97**	**65**	*e*P	**Pn**	**08 10 24.6**	**+0.3**
ATH				*e*S	**Sn**	**08 10 37.6**	**-0.3**
RLS	**Riolos of Patr**	**1.02**	**299**	*e*P	**Pn**	**08 10 24.4**	**-0.4**
RLS				*e*S	**Sn**	**08 10 39.6**	**+0.8**
MPAR	**Parnis Oros**	**1.07**	**57**	*e*P	**Pn**	**08 10 26.0**	**+0.5**
LKR	**Lokris**	**1.12**	**16**	*e*P	**Pn**	**08 10 25.7**	**-0.5**
AGG	**Agios Georgios**	**1.46**	**352**	*e*Pg	**Pn**	**08 10 30.2**	**-0.3**
AGG				*e*Sg	**Sn**	**08 10 48.4**	**-0.6**
EVR	**Evrytania**	**1.48**	**335**	*e*P	**Pn**	**08 10 30.4**	**-0.4**
VLS	**Valsamata**	**1.70**	**291**	*e*P	**Pn**	**08 10 34.0**	**+0.3**
NEO	**Neokhori**	**1.80**	**16**	*e*P	**Pn**	**08 10 35.0**	**-0.1**
XOR	**Xorichti**	**1.85**	**14**	*e*Pb	**Pn**	**08 10 35.8**	**0.0**
APE	**Apeiranthos**	**2.39**	**101**	*e*Pn	**Pn**	**08 10 44.2**	**+1.2**
APE				*e*Sn	**Sn**	**08 11 11.4**	**0.0**
PAIG	**Paliouri**	**2.50**	**19**	*e*Pn	**Pn**	**08 10 44.4**	**-0.1**
VAM	**Vamos**	**2.52**	**149**	*e*P	**Pn**	**08 10 45.7**	**+1.0**
LIT	**Litokhoron**	**2.53**	**358**	*e*Pn	**Pn**	**08 10 44.5**	**-0.3**
LIT				*e*Sn	**Sn**	**08 11 14.0**	**-0.6**
OUR	**Ouranopolis**	**2.96**	**21**	*e*Pn	**Pn**	**08 10 51.0**	**+0.2**
FNA	**Florina**	**3.34**	**344**	*e*Pn	**Pn**	**08 10 56.2**	**+0.2**
FNA				*e*Sn	**Sn**	**08 11 35.5**	**+1.0**
GRG	**Griva**	**3.38**	**358**	*e*Pn	**Pn**	**08 10 56.3**	**-0.2**
KNT	**Kendrikon**	**3.59**	**4**	*e*Pn	**Pn**	**08 10 60.0**	**+0.6**
KNT				*e*Sn	**Sn**	**08 11 40.4**	**-0.2**
VAY	**Valandovo**	**3.74**	**360**	*i* Pn	**Pn**	**08 11 01.5**	**+0.1**
VAY				*i* Sg	**Sn**	**08 11 42.4**	**-1.9**
VAY	**Valandovo**	**3.74**	**360**	*i* Pn	**Pn**	**08 11 01.5**	**+0.1**
VAY				*i* Sg	**Sn**	**08 11 42.3**	**-2.0**
MMB	**Musomiste**	**4.11**	**12**	P	**Pn**	**08 11 08.0**	**+1.6**
KKB	**Krupnik**	**4.31**	**5**	P	**Pn**	**08 11 09.0**	**-0.1**
RZN	**Rozhen**	**4.42**	**21**	*e*P	**Pn**	**08 11 16.0**	**+5.3**
VTS	**Vitosha**	**5.04**	**5**	P	**Pn**	**08 11 20.0**	**+0.9**
SLUM		**6.44**	**160**⇓	*e*P	**Pn**	**08 11 38.0**	**-0.3**
SLUM				S	**Sn**	**08 12 43.1**	**-7.1**
BBLS	**Bajina Basta -**	**6.74**	**340**	*i* Pn	**Sn**	**08 12 52.9**	**-4.7**
DIVS	**Divcibare**	**6.81**	**344**	*i* Pn	**Sn**	**08 12 51.4**	**-8.0**
SWA2		**8.64**	**163**	⇑P	**Pn**	**08 12 07.5**	**-0.8**
SWA2				S	**Sn**	**08 13 34.6**	**-10**
SWA1		**8.69**	**162**⇑	*e*P	**Pn**	**08 12 06.9**	**-2.0**

NIED ***09*** *08:23:00, 4520N×15170E, h26km, Mw4.8 Best double couple: M0=2.04000×10^16 NP1:φ=293.00000°, δ63.00000°, λ-36.00000°. NP2:φ=41.00000°, δ59.00000°, λ-148.00000°.*
SKHL ***09*** *08:23:49.9±2.3, 4510N×15169E, h31km±5km, mb6.0/4, mbh5.7/7, Ms5.0/8, msh5.3/7*
JMA ***09*** *08:23:50.6±0.6, 4521N×15170E, h30km, M5.7*
MOS ***09*** *08:23:51.1±1.2, 4494N×15168E, h33km, mb5.5/78, MS4.5/18, Error ellipse: s-maj=6.7km s-min=4.2km az=108.4*
BJI ***09*** *08:23:52.7, 4500N×15129E, h30km, mB5.1, mb5.1, Ms4.9, Msz4.7*
ISCJB ***09*** *08:23:53.4±0.1, 4488N±003×15161E±002, h56km, mb5.2/187, MS4.6/56, Error ellipse: s-maj=4.2km s-min=2.1km az=134.5*
IDC ***09*** *08:23:55.0±0.3, 4502N×15168E, h56km±2km, mb4.6/27, mb1 4.7/30, mb1mx4.7/32, mbtmp4.9/30, MS4.4/24, Ms1 4.4/24, ms1mx4.2/39, Error ellipse: s-maj=10.9km s-min=8.1km az=125.0*
NEIC ***09*** *08:23:55.3±0.1, 4499N×15173E, mb5.2/113, Error ellipse: s-maj=4.8km s-min=3.2km az=161.0*
HRVD ***09*** *08:23:55.3±0.3, 4505N×15190E, h13km±1km, MW5.0/67, Centroid moment Tensor Solution. LP body waves: s29,c45;Mantle waves: s67,c121; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.26±.18; Mθθ3.60±.14; Mφφ-1.33±.10; Mrθ1.51±.28; Mrφ1.55±.09; Mθφ-0.39±.26; Best double couple: M0=3.67400×10^16 NP1:φ=42.00000°, δ43.00000°, λ-139.00000°. NP2: φ=280.00000°, δ64.00000°, λ-55.00000°. Principal axes: T 4.3250, Plg12.0000°, Azm345.0000°; N -1.2910, Plg31.0000°, Azm83.0000°; P -3.0240, Plg56.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***09*** *08:24:01.0, 4650N×15150E, h55km, mb5.3, Kuril Islands, Russia*
ISC 09 08:23:55.3±0.1, 4493N±003×15161E±003, h58km, h58km±.6km:pP-P, n611, σ1°25/631, mb5.2/187, MS4.6/56, 53C-37D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.67**	**278**	*i* P	**Pn**	**08 24 30.8**	**-5.0**
KUR				AMB	AMB	08 24 32.9	
KUR	520nm,0.5s			AMB	AMB	08 24 32.9	
KUR	210nm,0.5s			AMB	AMB	08 24 32.9	
KUR	950nm,0.5s			AMB	AMB	08 24 36.8	
KUR	2μm,1.2s			AMB	AMB	08 24 36.8	
KUR	4μm,1.2s			pP		08 24 41.5	
KUR				*i* S	**Sn**	**08 25 04.0**	**-2.9**
KUR				A		08 25 06.0	
KUR	17μm,2.0s			A		08 25 06.0	
KUR	10μm,2.0s			A		08 25 10.8	
KUR	4μm,0.5s			A		08 25 10.8	
KUR	2μm,0.5s			AMS	AMS	08 26 25.0	
KUR	31μm,13.0s			AMS	AMS	08 26 25.0	
KUR	16μm,13.0s			AMS	AMS	08 26 25.0	
KUR	19μm,13.0s						
KUR	**Kuril'sk**	**2.67**	**278**⇓	*i*PN	**Pn**	**08 24 30.8**	**-5.0**
KUR				*i* S	**Sn**	**08 25 04.0**	**-2.9**
KUR				pmax	pmax		
KUR	comp=N,520nm,0.5s			pmax	pmax		
KUR	comp=E,210nm,0.5s			pmax	pmax		
KUR	comp=Z,950nm,0.5s			pmax	pmax		
KUR	comp=N,2μm,1.2s			pmax	pmax		
KUR	comp=E,2μm,1.2s			pmax	pmax		
KUR	comp=Z,4μm,1.2s			smax			
KUR	comp=N,17μm,2.0s			smax			
KUR	comp=E,10μm,2.0s			MLR	MLR		
KUR	comp=N,31μm,13.0s			MLR	MLR		
KUR	comp=E,16μm,13.0s			MLR	MLR		
KUR	comp=Z,19μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**4.21**	**260**	*i* P	**Pn**	**08 24 55.2**	**-1.7**
YUK				*i* P		08 24 55.2	
YUK				AMB	AMB	08 24 57.2	
YUK	comp=Z,740nm,0.5s			AMB	AMB	08 24 57.2	
YUK	comp=Z,920nm,0.5s			AMB	AMB	08 24 59.0	
YUK	comp=Z,2μm,0.5s			AMB	AMB	08 24 59.0	
YUK	comp=Z,2μm,1.0s			AMB	AMB	08 24 59.0	
YUK	comp=Z,2μm,2.5s			AMB	AMB	08 24 59.0	
YUK	comp=Z,4μm,2.5s			*i* S	**Sn**	**08 25 43.0**	**-1.7**
YUK				A		08 25 47.4	
YUK	comp=Z,3μm,0.5s			A		08 25 47.4	
YUK	comp=Z,3μm,0.5s			A		08 25 50.0	
YUK	comp=Z,8μm,4.0s			A		08 25 50.0	
YUK	comp=Z,8μm,2.0s			AMS	AMS	08 27 38.0	
YUK	comp=Z,11μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**4.21**	**260**⇑	*i*PN	**Pn**	**08 24 55.2**	**-1.7**
YUK				pmax	pmax		
YUK	comp=N,740nm,0.5s			pmax	pmax		
YUK	comp=E,920nm,0.5s			pmax	pmax		
YUK	comp=Z,2μm,0.5s			pmax	pmax		
YUK	comp=E,2μm,2.5s			pmax	pmax		
YUK	comp=Z,4μm,2.5s			pmax	pmax		
YUK	comp=N,2μm,1.0s						
NEM2	**Nemuro 2**	**4.50**	**252**	⇓P	**Pn**	**08 24 58.1**	**-2.8**
NEM2				*e*S	**Sn**	**08 25 47.5**	**-4.4**
JRA	**Rausu**	**4.75**	**260**	⇓P	**Pn**	**08 25 03.6**	**-0.7**
JRA				*e*S	**Sn**	**08 25 58.0**	**0.0**
JNK	**Nakash**	**5.13**	**257**	P	**Pn**	**08 25 07.8**	**-1.7**
JNK				*e*S	**Sn**	**08 26 05.1**	**-2.2**
JAK	**Akkeshi**	**5.35**	**251**	P	**Pn**	**08 25 09.9**	**-2.6**
JAK				*e*S	**Sn**	**08 26 09.1**	**-3.7**
JTKR	**Abashiri--Toko**	**5.59**	**263**	⇓P	**Pn**	**08 25 15.1**	**-0.8**
JAR	**Ashorobuto**	**5.88**	**257**	P	**Pn**	**08 25 18.4**	**-1.3**
JAR				*e*S	**Sn**	**08 26 25.7**	**0.0**
JOB	**Onbets**	**5.97**	**253**	P	**Pn**	**08 25 19.0**	**-2.0**
JOB				*e*S	**Sn**	**08 26 25.5**	**-2.5**
JMP	**Maruseppu**	**5.97**	**264**	P	**Pn**	**08 25 20.9**	**-0.2**
JCH	**Churui**	**6.40**	**252**	P	**Pn**	**08 25 24.3**	**-2.6**
JCH				*e*S	**Sn**	**08 26 36.0**	**-2.6**
JSE	**Soyaes**	**6.41**	**273**	P	**Pn**	**08 25 25.3**	**-1.7**
JKK2	**Kamakawa 2**	**6.43**	**264**	P	**Pn**	**08 25 27.4**	**0.0**
ASAJ	**Asahikawa**	**6.49**	**266**	P	**Pn**	**08 25 28.1**	**-0.1**
ASAJ	comp=N,47nm,0.3s,baz=95,slow=15,SNR=200			LR	LR	08 28 36.2	
ASAJ	comp=N,1μm,18.4s,baz=82,slow=43						
ASAJ	**Asahikawa**	**6.49**	**266**	P	**Pn**	**08 25 28.5**	**+0.3**
ASAJ	**Asahikawa**	**6.49**	**266**	PN	**Pn**	**08 25 28.1**	**-0.1**
ASAJ				pmax	pmax		
ASAJ	comp=Z,47nm,0.3s			MLR	MLR		
ASAJ	comp=Z,1μm,18.4s						
YSS	**Yuzh-Sakhalins**	**6.50**	**291**⇑	*e*P	**Pn**	**08 25 28.9**	**+0.6**
YSS				*e*pP		08 25 38.0	
YSS				*i* sP		08 25 41.8	
YSS				*e*S	**Sn**	**08 26 40.5**	**-0.5**
YSS				A		08 26 51.8	
YSS	comp=Z,190nm,1.0s			AMS	AMS	08 28 29.0	
YSS	comp=Z,5μm,15.0s			AMS	AMS	08 28 29.0	
YSS	comp=Z,3μm,15.0s			AMS	AMS	08 28 29.0	
YSS	comp=Z,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.50**	**291**	*e*Pn	**Pn**	**08 25 27.8**	**-0.4**
SKR	comp=Z,88nm,0.7s **Severo-Kuril's**	**6.51**	**26**	*e*P	**Pn**	**08 25 22.5**	**-5.9**
SKR				AMB	AMB	08 25 26.0	
SKR	comp=Z,2μm,2.0s			AMB	AMB	08 25 26.0	
SKR	comp=Z,2μm,2.0s			AMB	AMB	08 25 26.7	
SKR	comp=Z,160nm,0.6s			AMB	AMB	08 25 26.7	
SKR	comp=Z,150nm,0.6s			AMB	AMB	08 25 26.7	
SKR	comp=Z,400nm,0.6s			sP		08 25 34.4	
SKR				*e*S	**Sn**	**08 26 29.8**	**-11**
SKR				A		08 26 42.0	
SKR	comp=Z,3μm,8.0s			A		08 26 42.0	
SKR	comp=Z,3μm,8.0s			A		08 26 42.0	
SKR	comp=Z,2μm,10.0s			A		08 26 42.0	
SKR	comp=Z,3μm,10.0s			A		08 26 46.5	
SKR	comp=Z,190nm,0.7s			A		08 26 46.5	
SKR	comp=Z,280nm,0.7s			AMS	AMS	08 28 06.0	
SKR	comp=Z,6μm,16.0s			AMS	AMS	08 28 06.0	
SKR	comp=Z,5μm,16.0s						
JFR	**Furan**	**6.73**	**258**	P	**Pn**	**08 25 31.1**	**-0.4**
ERM	**Erimo**	**6.80**	**248**	Pn	**Pn**	**08 25 32.9**	**+0.5**
JEM	comp=Z,4μm,0.4s,SNR=65 **Erimo**	**6.80**	**248**	P	**Pn**	**08 25 31.6**	**-0.8**
JWK2	**Keihoku**	**6.88**	**277**	P	**Pn**	**08 25 35.1**	**+1.6**
JAB	**Ashibetsu**	**6.89**	**261**	P	**Pn**	**08 25 34.1**	**+0.4**
JNBK	**Urakawa-nobuka**	**6.95**	**251**	P	**Pn**	**08 25 31.7**	**-2.8**
JSS	**Shosan**	**6.98**	**269**	P	**Pn**	**08 25 36.9**	**+2.1**
JBT2	**Biratori 2**	**7.02**	**255**	P	**Pn**	**08 25 33.3**	**-2.1**
JBT2				*e*S	**Sn**	**08 26 49.1**	**-4.7**
JHR	**Hokuryu**	**7.19**	**264**	⇓P	**Pn**	**08 25 38.2**	**+0.5**
PAU	**Pauzhetka**	**7.41**	**26**	*e*P	**Pn**	**08 25 34.0**	**-6.7**
JEW	**Eniwo**	**7.63**	**258**	P	**Pn**	**08 25 41.7**	**-2.1**
UGL	**Uglegorsk**	**7.73**	**306**	*e*PN	**Pn**	**08 25 46.0**	**+0.9**
UGL				*e*		08 27 16.0	
UGL				pmax	pmax		
UGL	comp=Z,51nm,0.7s			MLR	MLR		
UGL	comp=Z,6μm,16.0s			MLR	MLR		
UGL	comp=N,6μm,14.0s			MLR	MLR		
UGL	comp=E,8μm,14.0s						
JNB	**Noboribetsu**	**8.04**	**256**	P	**Pn**	**08 25 47.6**	**-1.8**
JNB				*e*S	**Sn**	**08 27 15.6**	**-3.3**
JSK	**Shakotan**	**8.16**	**263**	P	**Pn**	**08 25 51.9**	**+0.9**
JKB	**Kayabe**	**8.28**	**252**	P	**Pn**	**08 25 50.1**	**-2.5**
JKB				*e*S	**Sn**	**08 27 18.4**	**-6.2**
TYV	**Tymovskoe**	**8.45**	**318**	*e*P	**Pn**	**08 25 54.0**	**-1.0**
TYV				AMB	AMB	08 26 10.0	
TYV	comp=E,65nm,0.8s			AMB	AMB	08 26 17.0	
TYV	comp=E,500nm,7.0s			AMB	AMB	08 26 17.0	
TYV	comp=E,700nm,7.0s			A		08 27 42.0	
TYV	comp=E,700nm,7.0s						
JOT	**Ohata**	**8.49**	**249**	P	**Pn**	**08 25 52.8**	**-2.8**
JYM2	**Yakumo 2**	**8.64**	**255**	P	**Pn**	**08 25 55.6**	**-1.9**
JSH	**Shimam**	**8.67**	**259**	P	**Pn**	**08 25 56.8**	**-1.2**
JANG	**Nango**	**8.72**	**242**	P	**Pn**	**08 25 54.7**	**-3.9**
JANG				*e*S	**Sn**	**08 27 26.2**	**-9.2**
JTH	**Tanohata**	**8.76**	**239**	P	**Pn**	**08 25 54.3**	**-4.9**
JTH				*e*S	**Sn**	**08 27 26.3**	**-10**
JTM	**Tenmabayashi**	**8.78**	**246**	P	**Pn**	**08 25 56.3**	**-3.1**
JTM				*e*S	**Sn**	**08 27 29.1**	**-7.8**
JSR	**Shiriuchi**	**8.85**	**251**	⇑P	**Pn**	**08 25 57.8**	**-2.6**
JSR				*e*S	**Sn**	**08 27 32.3**	**-6.3**
JSI2	**Shiura 2**	**9.07**	**249**	P	**Pn**	**08 26 00.7**	**-2.8**
JOSM	**Okushiri--Mats**	**9.27**	**256**	P	**Pn**	**08 26 04.0**	**-2.1**
PET	**Petropavlovsk**	**9.33**	**27**	*e*P	**Pn**	**08 26 05.9**	**-1.1**
PET				*e*S	**Sn**	**08 27 46.6**	**-3.8**
PET				A		08 28 15.4	
PET	comp=E,4μm,24.0s			AMS	AMS	08 31 33.0	
PET	comp=E,1μm,21.0s						
PET	**Petropavlovsk**	**9.33**	**27**	*e*Pn	**Pn**	**08 26 02.6**	**-4.4**
PET				*e*Sn	**Sn**	**08 27 36.4**	**-14**
OFUJ	**Ofunato**	**9.42**	**235**	P	**Pn**	**08 26 03.8**	**-4.5**

JRG	**Rokugo**	**9.84 240**	P	**Pn**	**08 26 10.1**	**-3.9**
JRG			*e*S	**Sn**	**08 27 56.7**	**-6.2**
JIO	**Ouri**	**10.03 233**	P	**Pn**	**08 26 11.6**	**-5.0**
JIO			*e*S	**Sn**	**08 27 57.3**	**-10**
JOG2	**Oga 2**	**10.07 244**	P	**Pn**	**08 26 14.6**	**-2.5**
OKH	**Okha**	**10.32 330**⇑	*i*P	**Pn**	**08 26 16.0**	**-4.5**
OKH			*e*P		08 26 16.4	
OKH			AMB	AMB	08 26 18.0	
	comp=E,100nm,0.8s					
OKH			AMB	AMB	08 26 20.2	
	comp=E,1μm,5.0s					
OKH			AMB	AMB	08 26 20.2	
	comp=E,2μm,5.0s					
OKH			AMB	AMB	08 26 20.2	
	comp=E,1μm,6.0s					
OKH			*e*S	**Sn**	**08 28 10.1**	**-4.5**
OKH			A		08 28 10.9	
	comp=E,100nm,0.8s					
OKH			A		08 28 16.0	
	comp=E,1μm,6.0s					
OKH			A		08 28 16.0	
	comp=E,1μm,6.0s					
TEY	**Ternei**	**10.63 276**	*e*P	**Pn**	**08 26 23.0**	**-1.8**
TEY			AMB	AMB	08 26 27.0	
	comp=E,260nm,1.5s					
TEY			AMB	AMB	08 26 27.0	
	comp=E,390nm,1.5s					
TEY			AMS	AMS	08 32 05.0	
	comp=E,2μm,12.0s					
TEY			AMS	AMS	08 32 05.0	
	comp=E,2μm,12.0s					
TEY			AMS	AMS	08 32 05.0	
	comp=E,3μm,12.0s					
JYA	**Atsumi**	**10.90 239**	P	**Pn**	**08 26 24.5**	**-4.0**
JFK	**Kawauchi**	**11.06 231**	P	**Pn**	**08 26 25.6**	**-5.1**
JFK			*e*S	**Sn**	**08 28 21.4**	**-11**
JFY	**Yanaizu**	**11.69 234**	P	**Pn**	**08 26 35.4**	**-3.9**
GRNR	**Gornyy**	**11.75 305**	*e*P	**Pn**	**08 26 35.0**	**-5.1**
GRNR			AMB	AMB	08 26 36.2	
	comp=E,14nm,0.8s					
HABR	**Khabarovsk**	**11.91 293**	*e*PN	**Pn**	**08 26 43.3**	**+1.1**
HABR			*e*S	**Sn**	**08 29 05.2**	**+12**
MJAR	**Matsushiro Arr**	**13.15 235**	P	**Pn**	**08 26 55.5**	**-3.7**
	comp=E,4.7nm,0.3s,baz=36,slow=12,SNR=46					
MJAR			S	**Sn**	**08 29 26.1**	**+2.2**
	comp=E,2.4nm,0.3s,baz=337,slow=26,SNR=4.9					
MAJO	**Matsushiro**	**13.16 235**	*e*Pn	**Pn**	**08 26 56.0**	**-3.2**
	comp=E,110nm,0.9s					
MAJO	**Matsushiro**	**13.16 235**	*e*PN	**Pn**	**08 26 56.1**	**-3.1**
MAJO			pmax	pmax		
	comp=Z,110nm,0.9s					
MAT	**Matsushiro**	**13.16 235**	P	**Pn**	**08 26 55.3**	**-3.9**
MAT			S	**Sn**	**08 29 27.1**	**+3.2**
MAT	**Matsushiro**	**13.16 235**	*e*P	**Pn**	**08 26 55.0**	**-4.2**
	comp=Z,46nm,0.8s					
MAT			*e*S	**Sn**	**08 29 27.0**	**+3.1**
MAT	**Matsushiro**	**13.16 235**	*e*PN	**Pn**	**08 26 55.0**	**-4.2**
MAT			pmax	pmax		
	comp=Z,46nm,0.8s					
KLR	**Kul'dur**	**14.19 295**	*e*P	**Pn**	**08 27 09.8**	**-3.4**
KLR			pP		08 27 21.0	
KLR			AMS	AMS	08 35 05.0	
	comp=Z,2μm,13.0s					
KLR			AMS	AMS	08 35 05.0	
	comp=Z,1μm,13.0s					
KLR			AMS	AMS	08 35 05.0	
	comp=Z,9μm,13.0s					
KLR	**Kul'dur**	**14.19 295**	*e*P	**Pn**	**08 27 09.8**	**-3.4**
KLR			*e*		08 29 45.0	
KLR			MLR	MLR		
	comp=N,2μm,13.0s					
KLR			MLR	MLR		
	comp=E,1μm,13.0s					
KLR			MLR	MLR		
	comp=Z,9μm,13.0s					
VLA	**Vladivostok**	**14.30 270**	*d i*P	**Pn**	**08 27 11.8**	**-2.8**
VLA					08 29 50.7	
VLA			pmax	pmax		
	comp=Z,120nm,1.1s					
VLA			MLR	MLR		
	comp=Z,1μm,14.0s					
EKMR	**Ekimchan**	**14.68 310**	*e*P	**Pn**	**08 27 13.0**	**-6.5**
EKMR			AMB	AMB	08 27 23.7	
	comp=Z,14nm,0.7s					
EKMR			AMB	AMB	08 27 23.7	
	comp=Z,6.0nm,0.7s					
EKMR			AMB	AMB	08 27 23.7	
	comp=Z,23nm,0.7s					
MA2	**Magadan**	**14.68 358**	*e*P	**Pn**	**08 27 13.1**	**-6.5**
	comp=Z,32nm,0.6s					
MA2	**Magadan**	**14.68 358**	*de*P	**Pn**	**08 27 15.8**	**-3.8**
MA2			*e*S	**Sn**	**08 30 01.8**	**+0.8**
MA2			pmax	pmax		
	comp=N,20nm,0.9s					
MA2			pmax	pmax		
	comp=Z,30nm,0.9s					
MA2			MLR	MLR		
	comp=Z,6μm,15.0s					
JHJ	**Hachijo jima 2**	**14.93 222**	S	**Sn**	**08 29 55.1**	**-12**
	comp=Z,51nm,0.3s,baz=60,slow=23,SNR=7.5					
JHJ			LR	LR	08 31 54.9	
	comp=Z,15nm,20.9s,baz=106,slow=32					
MDJ	**Mudanjiang**	**15.64 277**	P	**Pn**	**08 27 29.4**	**-2.5**
MDJ			AP	pP	08 27 40.9	-6.6
MDJ			PP		08 27 43.7	
MDJ			S	**S**	**08 30 24.6**	**-12**
MDJ			AMB	AMB		
	comp=Z,40nm,0.8s					
MDJ			AMB	AMB		
	comp=Z,163nm,3.8s					
MDJ			LR	LR		
	comp=N,4μm,11.9s					
MDJ			LR	LR		
	comp=E,606nm,15.8s					
MDJ			LR	LR		
	comp=Z,2μm,15.8s					
MDJ	**Mudanjiang**	**15.64 277**	*e*P	**Pn**	**08 27 29.4**	**-2.5**
	comp=Z,48nm,0.8s					
FX1	**Attu Island--F**	**16.21 53**	P	**Pn**	**08 27 34.0**	**-5.2**
	comp=Z,4.6nm,0.3s,baz=80,slow=16,SNR=13					
FX1			S	S	08 30 17.9	-30
	comp=Z,2.2nm,0.3s,baz=40,slow=16,SNR=7.2					
FX1	**Attu Island--F**	**16.21 53**	*e*P	**Pn**	**08 27 36.8**	**-2.4**
YASR	**Yasnyy**	**17.52 307**	*e*P	**Pn**	**08 27 49.8**	**-5.7**
YASR			AMB	AMB	08 27 53.3	
	comp=Z,3.0nm,0.6s					
YASR			AMB	AMB	08 27 53.3	
	comp=Z,9.0nm,0.6s					
YASR			AMB	AMB	08 27 53.3	
	comp=Z,17nm,0.6s					
BMKR	**Bomnak**	**17.58 312**	*e*P	**Pn**	**08 27 51.4**	**-4.8**
BMKR			AMB	AMB	08 27 56.0	
	comp=Z,16nm,0.5s					
SEY	**Seymchan**	**18.05 1**⇓	*i*P	**Pn**	**08 27 55.0**	**-6.9**
SEY	**Seymchan**	**18.05 1**	*e*P	**Pn**	**08 27 56.2**	**-5.7**
SEY			pmax	pmax		
	comp=N,30nm,1.2s					
SEY			pmax	pmax		
	comp=Z,36nm,1.2s					
SEY			pmax	pmax		
	comp=E,5.0nm,1.0s					
SEY			MLR	MLR		
	comp=Z,4μm,19.0s					
SEY			MLR	MLR		
	comp=N,3μm,18.0s					
SEY			MLR	MLR		
	comp=E,1μm,15.0s					
ZEA	**Zeya**	**18.08 308**	*e*P	**Pn**	**08 27 56.9**	**-5.4**
ZEA			AMB	AMB	08 27 58.2	
	comp=E,29nm,1.1s					
ZEA			AMB	AMB	08 27 58.2	
	comp=E,24nm,1.1s					
ZEA			AMB	AMB	08 27 58.2	
	comp=E,43nm,1.1s					
ZEA			A		08 31 23.0	
	comp=E,600nm,6.0s					
ZEA			A		08 31 23.0	
	comp=E,300nm,9.0s					
ZEA			A		08 31 23.0	
	comp=E,200nm,9.0s					
ZEA			AMS	AMS	08 35 55.0	
	comp=E,2μm,13.0s					
ZEA			AMS	AMS	08 35 55.0	
	comp=E,2μm,13.0s					
ZEA			AMS	AMS	08 35 55.0	
	comp=E,2μm,13.0s					
KROS	**Kirovskiy**	**18.48 310**	*e*P	**Pn**	**08 28 01.8**	**-5.3**
KROS			AMB	AMB	08 28 04.8	
	comp=E,8.0nm,0.4s					
KROS			AMB	AMB	08 28 04.8	
	comp=E,23nm,0.4s					
CN2	**Changchun**	**18.72 276**	*e*P	**Pn**	**08 28 07.3**	**-2.7**
CN2			*e*AP	pP	08 28 18.8	-2.8
CN2			*e*S	**S**	**08 31 29.5**	**-10**
CN2			AMB	AMB		
	comp=Z,80nm,0.8s					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,6μm,14.0s					
CN2			LR	LR		
	comp=E,2μm,14.0s					
CN2			LR	LR		
	comp=Z,2μm,14.0s					
KS15	**Wonju Array Si**	**19.32 256**	*e*P	**Pn**	**08 28 16.0**	**-1.1**
CBIJ	**Chichi jima**	**19.33 206**	P	**Pn**	**08 28 17.1**	**-0.3**
	comp=Z,5.1nm,0.3s,baz=39,slow=5.0,SNR=5.1					
CBIJ			S	**S**	**08 31 35.5**	**-16**
	comp=Z,11nm,0.3s,baz=251,slow=23,SNR=7.2					
CBIJ			LR	LR	08 36 32.9	
	comp=Z,546nm,18.3s,baz=12,slow=39					
JNU	**Nakatsue**	**19.90 241**	P	**Pn**	**08 28 24.1**	**0.0**
	comp=Z,2.2nm,0.3s,baz=40,slow=18,SNR=12					
INCN	**Inchon**	**20.16 257**	*e*P	**P**	**08 28 25.0**	**+0.3**
	comp=Z,74nm,0.9s					
CLNS	**Chul'man**	**20.49 315**	*e*P	**P**	**08 28 26.3**	**-2.1**
CLNS			*e*		08 28 42.4	
CLNS			*e*S	**S**	**08 32 10.8**	**-3.7**
CLNS			*e*		08 32 41.3	
CLNS			*e*SS		08 32 45.9	
CLNS			pmax	pmax		
	comp=E,14nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,32nm,0.7s					
CLNS			pmax	pmax		
	comp=N,31nm,0.8s					
CLNS			smax			
	comp=N,68nm,1.2s					
CLNS			smax			
	comp=Z,32nm,1.3s					
CLNS			smax			
	comp=E,76nm,1.4s					
CLNS			MLR	MLR		
	comp=Z,1μm,15.0s,MS4.3					
CLNS			MLR	MLR		
	comp=N,300nm,12.0s,MS4.3					
CLNS			MLR	MLR		
	comp=E,900nm,14.0s,MS4.3					
SNY	**Shenyang**	**20.57 271**	⇓P	**P**	**08 28 29.1**	**-0.1**
SNY			AP		08 28 33.1	
SNY			S	**S**	**08 32 18.1**	**+2.1**
SNY			XS	sS	08 32 23.6	-13
SNY			AMB	AMB		
	comp=Z,107nm,0.9s					
SNY			AMB	AMB		
	comp=Z,180nm,5.3s					
SNY			LR	LR		
	comp=N,626nm,11.2s,MS4.7					
SNY			LR	LR		
	comp=E,2μm,12.4s,MS4.7					
SNY			LR	LR		
	comp=Z,1μm,12.6s,MS4.5					
YAK	**Yakutsk**	**21.35 331**	*e*P	**P**	**08 28 34.5**	**-3.1**
	comp=Z,179nm,0.8s,mb5.5					
YAK			*e*pP		08 28 49.1	
YAK	**Yakutsk**	**21.35 331**	*e*P	**P**	**08 28 34.3**	**-3.3**
YAK			*e*PP		08 28 42.4	
YAK			*e*S	**S**	**08 32 26.2**	**-5.2**
YAK			*e*		08 32 41.4	
YAK			*e*SSS		08 33 04.4	
YAK			pmax	pmax		
	comp=N,12nm,1.1s					
YAK			pmax	pmax		
	comp=E,11nm,1.1s					
YAK			pmax	pmax		
	comp=Z,43nm,1.1s,mb4.7					
YAK			smax			
	comp=N,83nm,1.2s					
YAK			smax			
	comp=Z,8.0nm,0.8s					
YAK			smax			
	comp=E,64nm,1.3s					
YAK			MLR	MLR		
	comp=Z,811nm,23.0s,MS4.0					
YAK			MLR	MLR		
	comp=N,136nm,11.0s					
YAK			MLR	MLR		
	comp=E,718nm,15.0s					
HIA	**Hailar**	**22.03 293**	*e*P	**P**	**08 28 40.6**	**-4.2**
	comp=E,19nm,0.8s,mb4.6					
HIA	**Hailar**	**22.03 293**	*e*P	**P**	**08 28 40.7**	**-4.2**
HIA			pmax	pmax		
	comp=Z,19nm,0.8s					
DL2	**Dalian**	**23.03 265**	PR		08 28 54.5	
DL2			S	**S**	**08 33 01.1**	**-0.5**
DL2			AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8					
DL2			AMB	AMB		
	comp=Z,360nm,4.5s					
DL2			LR	LR		
	comp=N,680nm,14.1s,MS4.3					
DL2			LR	LR		
	comp=E,310nm,13.3s,MS4.3					
DL2			LR	LR		
	comp=Z,500nm,13.6s,MS4.1					
BILL	**Bilibino**	**24.41 13**	*e*P	**P**	**08 29 04.2**	**-4.1**
	comp=Z,28nm,0.8s,mb4.8					
BILL	**Bilibino**	**24.41 13**⇓	*e*P	**P**	**08 29 04.0**	**-4.2**
BILL			*i* S	**S**	**08 33 22.9**	**-1.1**
BILL			pmax	pmax		
	comp=Z,33nm,1.0s,mb4.7					
BILL			MLR	MLR		
	comp=Z,2μm,17.0s,MS4.7					
JOW	**Kunigami**	**26.00 234**	P	**P**	**08 29 21.6**	**-1.0**
	comp=Z,92nm,1.0s,mb5.3,baz=39,slow=6.2,SNR=6.1					
BOD	**Bodaibo**	**26.40 313**	*e*P	**P**	**08 29 22.4**	**-3.9**
BOD			*e*		08 30 10.3	
BOD			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4					
BOD			pmax	pmax		
	comp=Z,17nm,1.8s,mb4.3					
BJI	**Beijing**	**26.45 272**	P	**P**	**08 29 27.4**	**+0.7**
BJI			S	**S**	**08 33 59.1**	**+2.8**
BJI			AMB	AMB		
	comp=Z,34nm,0.8s,mb4.9					
BJI			AMB	AMB		
	comp=Z,302nm,5.4s					
BJI			LR	LR		
	comp=N,1μm,16.1s,MS4.7					
BJI			LR	LR		
	comp=E,823nm,15.2s,MS4.7					
BJI			LR	LR		
	comp=Z,944nm,17.9s,MS4.4					
BJT	**Baijiatuau**	**26.46 272**	*e*P	**P**	**08 29 26.6**	**-0.2**
	comp=Z,36nm,0.8s,mb5.0					
BJT	**Baijiatuau**	**26.46 272**	*e*P	**P**	**08 29 26.6**	**-0.2**
BJT			pmax	pmax		
	comp=Z,36nm,0.8s					
SSE	**Sheshan**	**27.48 250**	P	**P**	**08 29 37.5**	**+1.5**
SSE			S	**S**	**08 34 12.3**	**-0.3**
SSE			AMB	AMB		
	comp=Z,57nm,1.0s,mb5.1					
SSE			AMB	AMB		
	comp=Z,101nm,3.9s					
SSE			LR	LR		
	comp=N,403nm,22.4s,MS4.0					
SSE			LR	LR		
	comp=E,281nm,22.4s,MS4.0					
SSE			LR	LR		
	comp=Z,592nm,20.2s,MS4.2					
NJ2	**Nanjing**	**28.48 254**	*e*P	**P**	**08 29 46.1**	**+1.2**
NJ2			PP	PP	08 30 38.3	-12
NJ2			S	**S**	**08 34 26.0**	**-2.3**
NJ2			AMB	AMB		
	comp=Z,30nm,1.1s,mb4.8					
NJ2			AMB	AMB		
	comp=Z,110nm,7.4s					
NJ2			LR	LR		
	comp=N,2μm,14.9s,MS5.0					
NJ2			LR	LR		
	comp=E,2μm,12.5s,MS5.0					
NJ2			LR	LR		
	comp=Z,1μm,11.8s,MS4.7					
TIXI	**Tiksi**	**28.94 345**	*i* P	**P**	**08 29 44.6**	**-4.4**
TIXI	**Tiksi**	**28.94 345**	*e*P	**P**	**08 29 43.1**	**-5.9**
TIXI			*e*S	**S**	**08 34 36.9**	**+1.2**
TIXI			*e*		08 36 30.3	
TIXI			pmax	pmax		
	comp=Z,21nm,1.1s,mb4.8					
TIXI			MLR	MLR		
	comp=Z,732nm,15.0s,MS4.4					
HHC	**Hu-ho-hao-te**	**29.41 276**	*e*P	**P**	**08 29 54.4**	**+1.2**
HHC			PP	PP	08 30 50.7	-10
HHC			PCP	PcP	08 32 59.0	+1.1
HHC			S	**S**	**08 34 42.7**	**-0.3**
HHC			SS	SS	08 36 16.0	-34
HHC			AMB	AMB		
	comp=Z,66nm,0.9s,mb5.4					
HHC			AMB	AMB		
	comp=Z,306nm,3.2s					
HHC			LR	LR		
	comp=N,3μm,17.3s,MS5.0					
HHC			LR	LR		
	comp=E,2μm,15.3s,MS5.0					
HHC			LR	LR		
	comp=Z,2μm,15.9s,MS4.8					
TNA	**Tin City**	**30.13 33**	*e*P	**P**	**08 29 58.0**	**-1.6**
	comp=Z,15nm,1.2s,mb4.6					
ULN	**Ulaanbaatar**	**30.55 292**	*e*P	**P**	**08 30 03.5**	**+0.3**
ULN			*e*pP	pP	08 30 19.0	+1.4
BTO	**Baotou**	**30.59 277**	*e*P	**P**	**08 30 04.1**	**+0.5**
BTO			LR	LR		
	comp=N,524nm,16.7s,MS4.7					
BTO			LR	LR		
	comp=E,1μm,12.8s,MS4.7					
SONM	**Songino Array**	**30.99 292**	P	**P**	**08 30 06.1**	**-1.0**
	comp=E,5.4nm,0.5s,mb4.7,baz=87,slow=6.3,SNR=15					
SONM			PcP	PcP	08 33 01.3	-0.7
	comp=E,5.3nm,0.9s,baz=30,slow=1.1,SNR=3.7					
SONM			LR	LR	08 44 09.3	
	comp=E,548nm,18.4s,MS4.2,baz=60,slow=39					
SONM	**Songino Array**	**30.99 292**	P	**P**	**08 30 06.1**	**-1.0**
SONM					08 33 01.3	
GUMO	**Guam**	**31.76 193**	LR	LR	08 42 07.7	
	comp=E,571nm,18.4s,MS4.3,baz=270,slow=34					
WHN	**Wuhan**	**32.47 257**	⇓P	**P**	**08 30 20.6**	**+0.5**
WHN			S	**S**	**08 35 33.7**	**+2.9**
WHN			LR	LR		
	comp=Z,2μm,19.4s,MS4.9					
ZAK	**Zakamensk**	**32.54 297**	*e*P	**P**	**08 30 18.6**	**-2.1**
ZAK			*e*		08 33 04.7	
ZAK			*e*		08 35 33.7	
ZAK			pmax	pmax		
	comp=Z,30nm,1.6s,mb5.0					
QZH	**Quanzhou**	**33.29 244**⇓	*i*P	**P**	**08 30 29.0**	**+1.7**
QZH			S	**S**	**08 35 45.0**	**+1.5**
QZH			AMB	AMB		
	comp=Z,140nm,1.3s,mb5.7					
QZH			LR	LR		
	comp=N,1μm,17.0s,MS4.8					
QZH			LR	LR		
	comp=E,1μm,14.6s,MS4.8					
QZH			LR	LR		
	comp=Z,1μm,17.6s,MS4.6					
XAN	**Xi'an**	**34.33 267**	P	**P**	**08 30 36.7**	**+0.4**
XAN			S	**S**	**08 36 00.0**	**+0.3**
XAN			SCP	ScP	08 36 55.7	+4.3
XAN			AMB	AMB		
	comp=Z,28nm,1.4s,mb5.0					
XAN			LR	LR		
	comp=N,752nm,14.3s,MS4.6					
XAN			LR	LR		
	comp=E,371nm,17.0s,MS4.6					
XAN			LR	LR		
	comp=Z,962nm,15.7s,MS4.6					
ENH	**Enshi**	**36.02 261**	*e*P	**P**	**08 30 51.0**	**+0.2**
	comp=Z,12nm,0.6s,mb5.0					
ENH			*e*PcP	PcP	08 33 17.2	+1.0
KDAK	**Kodiak Island**	**36.08 49**	P	**P**	**08 30 49.4**	**-2.0**
	comp=Z,20nm,0.9s,mb5.0,baz=282,slow=13,SNR=7.7					
KDAK			pP	pP	08 31 05.0	-0.9
	comp=Z,43nm,0.7s,baz=304,slow=5.4,SNR=6.6					
LZH	**Lanzhou**	**36.92 273**	*e*P	**P**	**08 30 59.9**	**+1.4**
LZH			PP	PP	08 32 28.0	+4.6
LZH			S	**S**	**08 36 41.3**	**+2.0**
LZH			AMB	AMB		
	comp=Z,150nm,1.2s,mb5.7					
LZH			AMB	AMB		
	comp=Z,470nm,5.7s					
LZH			LR	LR		
	comp=E,2μm,14.5s					
LZH			LR	LR		
	comp=Z,3μm,15.0s,MS5.2					
PMR	**Palmer**	**37.65 42**	*e*P	**P**	**08 31 03.7**	**-1.0**
	comp=Z,23nm,1.4s,mb4.7					
PMR			*e*pP	pP	08 31 18.1	-1.2
PMR	**Palmer**	**37.65 42**	P	**P**	**08 31 07.4**	**+2.7**
PMR			*e*		08 31 16.0	
PMR			pmax	pmax		
	comp=Z,36nm,1.1s,mb5.0					
MCK	**McKinley**	**37.73 39**	*e*P	**P**	**08 31 03.7**	**-1.7**
	comp=Z,39nm,1.2s,mb5.0					
MCK	**McKinley**	**37.73 39**	*e*P	**P**	**08 31 03.7**	**-1.6**
MCK			pmax	pmax		
	comp=Z,39nm,1.2s,mb5.0					
KRAR	**Krasnoyarsk**	**37.87 309**⇑	*e*P	**P**	**08 31 05.3**	**-1.2**
KRAR			pmax	pmax		
	comp=Z,31nm,0.6s,mb5.2					
KRAR			MLR	MLR		
	comp=Z,2μm,17.0s,MS4.9					
GZH	**Guangzhou**	**38.00 248**	P	**P**	**08 31 04.5**	**-3.1**
GZH			S	**S**	**08 36 52.3**	**-3.4**
GZH			LR	LR		
	comp=N,720nm,18.5s,MS4.6					
GZH			LR	LR		
	comp=E,422nm,17.0s,MS4.6					
GZH			LR	LR		
	comp=Z,1μm,16.0s,MS4.8					
SML	**Sawmill**	**38.02 42**	*e*P	**P**	**08 31 06.3**	**-1.5**
SML			*e*pP	pP	08 31 21.1	-1.3
COLA	**College**	**38.22 37**	*e*P	**P**	**08 31 08.5**	**-1.1**
	comp=Z,39nm,0.9s,mb5.1					
COLA	**College**	**38.22 37**	P	**P**	**08 31 08.6**	**-0.9**
COLA			pmax	pmax		
	comp=Z,39nm,1.0s,mb5.1					
GTA	**Gaotai**	**38.24 280**⇓	*i*P	**P**	**08 31 11.1**	**+1.4**
GTA			PP	PP	08 32 43.2	+5.2
GTA			PCP	PcP	08 33 23.9	+0.9
GTA			S	**S**	**08 37 01.9**	**+2.6**
GTA			SCP	ScP	08 37 05.5	-0.3
GTA			PCS	PcS	08 37 11.3	-0.7
GTA			SS	SS	08 39 42.8	-6.5
GTA			AMB	AMB		
	comp=Z,76nm,0.7s,mb5.5					
GTA			AMB	AMB		
	comp=Z,202nm,5.4s					
GTA			LR	LR		
	comp=N,2μm,15.4s,MS5.1					
GTA			LR	LR		
	comp=E,1μm,17.0s,MS5.1					
GTA			LR	LR		
	comp=Z,1μm,12.4s,MS5.0					
ILAR	**Eielson Array**	**38.63 37**	P	**P**	**08 31 11.0**	**-2.0**
	comp=Z,16nm,1.1s,mb4.7,baz=261,slow=7.2,SNR=51					
ILAR			pP	pP	08 31 26.1	-1.5
	comp=Z,49nm,1.2s,baz=258,slow=6.5,SNR=12					
ILAR			LR	LR	08 47 34.1	
	comp=Z,454nm,20.5s,MS4.3,baz=144,slow=37					
ILAR	**Eielson Array**	**38.63 37**	P	**P**	**08 31 11.0**	**-2.0**
ILAR			*PP	pP	08 31 26.1	-1.5
DIV	**Divide**	**39.29 43**	*e*P	**P**	**08 31 16.9**	**-1.6**
	comp=Z,132nm,0.9s,mb5.7					
DIV			*e*pP	pP	08 31 32.7	-0.4
CD2	**Chengdu**	**39.69 266**	P	**P**	**08 31 22.5**	**+0.7**
CD2			PP	PP	08 32 59.6	+5.8
CD2			S	**S**	**08 37 21.7**	**+0.5**
CD2			SS	SS	08 40 14.6	-3.8
CD2			AMB	AMB		
	comp=Z,60nm,0.8s,mb5.4					
CD2			AMB	AMB		
	comp=Z,90nm,5.0s					
CD2			LR	LR		
	comp=E,420nm,13.8s					
CD2			LR	LR		
	comp=Z,380nm,14.4s,MS4.4					
TGY	**Tagaytay City**	**40.25 230**	P	**P**	**08 31 28.2**	**+1.8**
	comp=Z,148nm,0.4s,baz=138,slow=21,SNR=4.0					

GYA Guiyang 40.30 258⇓ *i*P P 08 31 27.3 +0.4
GYA AP pP 08 31 42.6 +1.0
GYA PP PP 08 33 05.6 +5.1
GYA S **S** 08 37 33.9 +3.6
GYA AMB AMB
comp=Z,60nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,260nm,4.5s
GYA LR LR
comp=N,2µm,17.8s,MS5.0
GYA LR LR
comp=E,720nm,18.0s,MS5.0
GYA LR LR
comp=Z,1µm,18.2s,MS4.8
ZAL Zalesovo 42.86 307 P **P** 08 31 47.5 -0.3
comp=Z,3.9nm,0.4s,mb4.5
ZAL PcP PcP 08 33 38.2 +0.4
comp=Z,4.1nm,0.6s,baz=61,slow=1.9,SNR=4.5
ZAL pPcP 08 33 54.2
comp=Z,5.1nm,0.6s,baz=90,slow=3.3,SNR=4.2
ZAL LR LR 08 52 24.2
comp=Z,867nm,18.4s,MS4.7,baz=44,slow=40
ZAL Zalesovo 42.86 307 P **P** 08 31 47.5 -0.3
ZAL 08 33 38.3
QIZ Qiongzhong 43.17 247 ⇑P **P** 08 31 52.6 +2.4
QIZ AMB AMB
comp=Z,19nm,1.7s,mb4.5
QIZ LR LR
comp=N,396nm,16.1s,MS4.6
QIZ LR LR
comp=E,385nm,13.3s,MS4.6
QIZ LR LR
comp=Z,498nm,16.8s,MS4.5
NVS Novosibirsk 43.48 309 *e*P **P** 08 32 06.4 +14
NVS pmax pmax
comp=Z,20nm,1.2s,mb4.7
NVS pmax pmax
comp=E,18nm,1.1s
INK Inuvik 43.76 31 P **P** 08 31 54.4 -0.6
comp=E,23nm,0.9s,mb4.9,baz=285,slow=7.5,SNR=41
INK pP pP 08 32 08.6 -1.2
comp=E,27nm,0.8s,baz=282,slow=6.4,SNR=11
INK Inuvik 43.76 31 *e*P **P** 08 31 53.9 -1.0
comp=E,57nm,1.1s,mb5.2
INK *e*pP pP 08 32 09.2 -0.6
INK Inuvik 43.76 31 P **P** 08 31 54.4 -0.6
INK *PP pP 08 32 08.6 -1.3
INK pmax pmax
comp=Z,23nm,0.9s
KMI Kunming 43.88 260 P **P** 08 31 57.0 +1.0
KMI XP sP 08 32 06.6 -11
KMI PP PP 08 33 38.7 -0.3
KMI PCP PcP 08 33 45.2 +3.9
KMI SCP ScP 08 37 32.3 +4.2
KMI S **S** 08 38 27.9 +4.8
KMI XS sS 08 38 39.3 -8.9
KMI AMB AMB
comp=Z,31nm,1.4s,mb4.8
KMI AMB AMB
comp=Z,200nm,3.8s
KMI LR LR
comp=N,549nm,18.2s,MS4.7
KMI LR LR
comp=E,469nm,15.4s,MS4.7
KMI LR LR
comp=Z,736nm,18.2s,MS4.6
WMQ Urumqi 44.62 292 P **P** 08 32 03.1 +1.2
WMQ PP PP 08 33 49.0 +2.1
WMQ S **S** 08 38 34.0 +0.1
WMQ SCS ScS 08 41 52.6 -1.7
WMQ AMB AMB
comp=Z,55nm,0.7s,mb5.5
WMQ AMB AMB
comp=Z,369nm,4.2s
WMQ LR LR
comp=N,460nm,16.5s,MS4.6
WMQ LR LR
comp=E,317nm,15.8s,MS4.6
WMQ LR LR
comp=Z,545nm,16.0s,MS4.6
MK31 Makanchi Array 46.86 298 *i*P **P** 08 32 19.4 -0.2
MKAR Makanchi Array 46.86 298 P **P** 08 32 19.2 -0.3
comp=Z,11nm,0.6s,mb4.9,baz=76,slow=7.5,SNR=138
MKAR pP pP 08 32 35.1 +0.5
comp=Z,8.0nm,0.6s,baz=71,slow=7.9,SNR=8.2
MKAR PcP PcP 08 33 51.7 0.0
comp=Z,6.5nm,0.7s,baz=68,slow=1.2,SNR=4.8
MKAR LR LR 08 52 45.5
comp=Z,524nm,18.6s,MS4.5,baz=183,slow=37
MKAR Makanchi Array 46.86 298 P **P** 08 32 19.2 -0.3
MKAR pP pP 08 32 35.1 +0.5
MKAR PcP PcP 08 33 51.7 0.0
MKAR LR LR 08 52 45.5
MKAR Makanchi Array 46.86 298 P **P** 08 32 19.3 -0.3
MKAR *PP pP 08 32 35.1 +0.5
MKAR 08 33 51.7
KURK Kurchatov 47.51 304 *e*P **P** 08 32 23.2 -1.5
comp=Z,26nm,0.8s,mb5.3
KURK Kurchatov 47.51 304 P **P** 08 32 23.5 -1.2
KURK pmax pmax
comp=Z,26nm,0.9s,mb5.3
KKM Kota Kinabalu 49.49 229 *e*P **P** 08 32 41.5 +1.6
KKTK Khon Kaen 49.75 251 P **P** 08 32 43.0 +1.2
comp=Z,864nm,0.5s
VOSK Vostochnaya 51.02 309 P **P** 08 32 41.3 -10
VOSK pmax pmax
comp=Z,20nm,1.4s,mb4.8
BVA0 Borovoye Array 51.22 310 P **P** 08 32 54.5 +1.6
BVA0 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BVAR Borovoye Array 51.22 310 P **P** 08 32 51.6 -1.3
comp=Z,1.4nm,0.4s,mb4.3,baz=90,slow=8.9,SNR=9.0
BVAR PcP PcP 08 34 06.7 -0.8
comp=Z,6.9nm,0.7s,baz=66,slow=3.6,SNR=4.9
BVAR pPcP 08 34 22.3
comp=Z,5.9nm,0.7s,baz=77,slow=3.2,SNR=4.3
BVAR Borovoye Array 51.22 310 P **P** 08 32 51.6 -1.3
BVAR 08 34 06.7
BRVK Borovoye 51.26 310 *e*P **P** 08 32 52.1 -1.1
comp=Z,3.7nm,0.6s,mb4.5
BRVK *e*pP pP 08 33 06.7 -1.7
BRVK Borovoye 51.26 310 *e*P **P** 08 32 52.1 -1.1
BRVK *e*PP pP 08 33 06.7 -1.7
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SHL Shillong 51.28 269 *i*P **P** 08 32 54.0 +0.7
SHL *e*P 08 32 54.0
SHL *ex* x 08 40 16.0
ALE Alert 51.66 5 P **P** 08 32 54.2 -2.0
comp=Z,188nm,0.8s,mb6.1,SNR=17
ZRNK Zerenda 52.00 310 *e*P **P** 08 32 57.4 -1.3
NST Nakhon Sawan 52.04 253 P **P** 08 33 00.0 +1.0
comp=Z,36nm,0.7s,mb5.4
ULHL Ulahol 52.79 296 P **P** 08 33 06.2 +1.6
SNR=11
TKM2 Tokmak 2 52.87 297 P **P** 08 33 06.3 +1.2
SNR=10
TKM2 Tokmak 2 52.87 297 *i*P **P** 08 33 06.1 +1.0
RES Resolute Bay 52.90 18 *e*P **P** 08 33 03.8 -1.6
comp=Z,33nm,0.9s,mb5.3
RES Resolute Bay 52.90 18 P **P** 08 33 03.9 -1.5
RES pmax pmax
comp=Z,33nm,0.9s,mb5.3
YKW3 Yellowknife Ar 52.98 35 *e*P **P** 08 33 04.8 -1.2
YKW3 *e*pP pP 08 33 19.9 -1.4
YKA Yellowknife Ar 53.02 35 P **P** 08 33 04.7 -1.6
comp=Z,11nm,1.0s,mb4.7,baz=298,slow=6.8,SNR=42
YKA pP pP 08 33 20.8 -0.7
comp=Z,20nm,0.8s,baz=297,slow=7.0,SNR=26
YKA Yellowknife Ar 53.02 35 P **P** 08 33 04.7 -1.5
YKA *PP pP 08 33 20.8 -0.7
USP Ospenovka 53.38 297 P **P** 08 33 10.2 +1.2
SNR=7.2
KBK Karagaybulak 53.41 297 P **P** 08 33 10.5 +1.3
SNR=5.4
KZA Kyzart 53.51 296 P **P** 08 33 12.2 +2.3
SNR=36
FRU Bishkek 53.53 297 *e*P **P** 08 33 12.0 +2.0
FRU *e* pP 08 33 26.0 +0.7
FRU pmax pmax
comp=Z,90nm,2.1s,mb5.3
FRU MLR MLR
comp=Z,1µm,15.0s,MS5.0
AAK Ala-Archa 53.71 297 P **P** 08 33 12.5 +1.1
SNR=18

AAK Ala-Archa 53.71 297 P **P** 08 33 11.5 +0.2
comp=Z,121nm,0.8s,mb5.9,SNR=17
AAK Ala-Archa 53.71 297 *e*P **P** 08 33 11.3 0.0
comp=Z,22nm,0.8s,mb5.2
AAK *e*pP pP 08 33 26.3 -0.3
AAK Ala-Archa 53.71 297 *e*P **P** 08 33 11.3 0.0
AAK *e*PP pP 08 33 26.3 -0.3
AAK pmax pmax
comp=Z,22nm,0.8s,mb5.1
UCH Uchtor 53.91 296 P **P** 08 33 14.7 +1.9
SNR=8.8
JIRN Jiri 54.05 275 *e*P **P** 08 33 15.5 +1.7
comp=Z,200nm,1.0s,mb6.0
GUN Gumba 54.12 275 *e*P **P** 08 33 15.8 +1.5
comp=Z,184nm,0.9s,mb6.0
KBS Kingsbay 54.14 351⇑*e*P **P** 08 33 12.6 -1.8
EKS2 Erkin-Say 54.15 297 P **P** 08 33 15.6 +1.0
SNR=19
PMG Port Moresby 54.23 185 P **P** 08 33 16.2 +1.1
comp=Z,6.2nm,0.5s,mb4.8,baz=4.8,slow=9.1,SNR=4.2
PMG Port Moresby 54.23 185 *e*P **P** 08 33 16.2 +1.1
comp=Z,23nm,1.2s,mb5.0
PMG Port Moresby 54.23 185 *e*P **P** 08 33 16.2 +1.1
PMG pmax pmax
comp=Z,23nm,1.2s
KSH Kashi 54.38 293 *e*P **P** 08 33 18.9 +2.7
KSH PCS PcS 08 38 15.3 -3.7
KSH S **S** 08 40 51.0 +0.8
KSH SCS ScS 08 42 59.1 -1.2
KSH AMB AMB
comp=Z,43nm,0.7s,mb5.5
KSH AMB AMB
comp=Z,221nm,3.5s
KSH LR LR
comp=N,715nm,14.4s
KSH LR LR
comp=E,590nm,8.8s
KSH LR LR
comp=Z,601nm,14.0s,MS4.8
AML Almayashu 54.48 297 P **P** 08 33 18.7 +1.8
SNR=18
NNT Nongplab 54.51 251 P **P** 08 33 19.8 +2.7
KKN Kakani 54.61 276 *e*P **P** 08 33 19.4 +1.5
comp=Z,198nm,0.9s,mb6.2
KKN Kakani 54.61 276 *e*P **P** 08 33 19.4 +1.5
KKN pmax pmax
comp=Z,99nm,0.9s,mb5.8
PKI Pulchoki 54.65 275 *e*P **P** 08 33 19.5 +1.3
comp=Z,95nm,0.9s,mb5.8
PKI Pulchoki 54.65 275 *e*P **P** 08 33 19.5 +1.3
PKI pmax pmax
comp=Z,47nm,0.9s,mb5.5
DMN Daman 54.84 276 *e*P **P** 08 33 21.2 +1.6
comp=Z,210nm,0.9s,mb6.2
GKN Gorkha 54.94 276 *e*P **P** 08 33 21.6 +1.3
comp=Z,199nm,1.0s,mb6.1
ARU Arti 55.65 318 *e*P **P** 08 33 23.6 -1.8
comp=Z,38nm,0.8s,mb5.5
ARU Arti 55.65 318⇓*i*P **P** 08 33 23.4 -2.0
ARU *e* 08 34 21.6
ARU *e*S **S** 08 41 07.9 +0.7
ARU *e* 08 43 09.9
ARU pmax pmax
comp=Z,41nm,0.9s,mb5.5
ARU MLR MLR
comp=N,200nm,15.0s,MS4.7
ARU MLR MLR
comp=E,400nm,15.0s,MS4.7
ARU MLR MLR
comp=Z,400nm,15.0s,MS4.6
KOLN Koldanda 55.81 277 *e*P **P** 08 33 28.1 +1.6
comp=Z,143nm,1.0s,mb6.0
KK31 Karatay Array 55.96 299 *i*P **P** 08 33 27.8 +0.2
KKAR Karatay Array 55.96 299 P **P** 08 33 27.7 +0.1
KKAR pmax pmax
comp=Z,20nm,0.8s,mb5.2
LGTI Lohaghat 57.16 280 *e*P **P** 08 33 38.0 +1.9
KLP Kalpa 57.32 284 *e*P **P** 08 33 38.7 +1.5
KLP AMb AMB 08 33 41.1
comp=Z,54nm,1.0s,mb5.5
KLP *e*S **S** 08 41 32.1 +2.9
MTMW Mount Mitchell 57.46 56 P **P** 08 33 40.4 +2.1
EBG Ellensburg 57.94 54 P **P** 08 33 41.1 -0.4
VLL Laurance Lake 58.08 56 P **P** 08 33 42.6 0.0
DDI Dehra Dun 58.17 283 *e*P **P** 08 33 43.1 -0.1
EPH Ephrata 58.25 53 P **P** 08 33 42.7 -1.1
EDM Edmonton 58.34 45 *e*P **P** 08 33 43.3 -1.1
APA Apatity 58.60 337 *e*P **P** 08 33 44.3 -1.9
APA *e*S **S** 08 41 44.0 -2.0
APA pmax pmax
comp=Z,18nm,1.2s,mb5.0
KEV Kevo 58.71 340 *e*p **P** 08 33 43.2 -3.8
comp=Z,9.1nm,0.6s,mb5.0
KEV Kevo 58.71 340 *e*P **P** 08 33 43.2 -3.8
KEV pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
AB31 Akbulak array 58.79 310⇑*e*P **P** 08 33 46.8 -0.7
NEW Newport 59.13 51 LR LR 08 58 00.7
comp=Z,241nm,19.4s,MS4.3,baz=126,slow=35
AKTK Aktyubinsk 59.16 312 P **P** 08 33 49.5 -0.6
AKTO Aktyubinsk 59.16 312 P **P** 08 33 49.5 -0.6
comp=Z,4.6nm,0.6s,mb4.7,baz=57,slow=6.7,SNR=21
ARCES ARCESS Array B 59.23 341 P **P** 08 33 49.0 -1.6
comp=Z,11nm,0.8s,mb4.9,baz=26,slow=5.7,SNR=18
ARCES LR LR 09 03 55.4
comp=Z,312nm,18.7s,MS4.5,baz=29,slow=41
ARE0 ARCESS Array S 59.23 341 *e*P **P** 08 33 48.8 -1.7
KULM Kulim 59.33 244 *e*P **P** 08 33 53.3 +2.0
LHEM Herd Peak 59.91 60 P **P** 08 33 57.3 +2.1
AYAN Aya Nagar 59.92 281 *e*P **P** 08 33 55.9 +0.6
AYAN AMb AMB 08 33 56.7
comp=Z,26nm,0.7s,mb5.4
KAKA Kakadu 59.94 202 *e*P **P** 08 33 55.9 +0.4
comp=Z,45nm,0.6s,mb5.7
KTK1 Kautokeino 60.15 341 *e*P **P** 08 33 55.1 -1.8
KTK1 AMb AMB 08 33 57.2
comp=Z,26nm,0.6s,mb5.5
KTK1 *e*pP pP 08 34 10.5 -1.9
KUDL Kundal 60.57 282 *e*P **P** 08 34 00.1 +0.3
KUDL AMb AMB 08 34 03.1
comp=Z,50nm,1.9s,mb5.3
KUDL *e*S **S** 08 42 14.6 +3.2
KHET Khetri 61.09 282⇑*i*P **P** 08 34 03.9 +0.7
KLMR Klimovskoe 61.12 329 *e*P **P** 08 34 02.1 -1.4
KLMR pmax pmax
comp=Z,40nm,1.8s,mb5.2
KLMR MLR MLR
comp=Z,580nm,18.0s,MS4.8
WVOR Wild Horse Val 61.62 57 *e*P **P** 08 34 06.7 -0.2
comp=Z,22nm,1.0s,mb5.2
WVOR *e*pP pP 08 34 22.1 -0.3
WVOR Wild Horse Val 61.62 57 *e*P **P** 08 34 06.7 -0.1
WVOR *e*PP pP 08 34 22.1 -0.3
WVOR pmax pmax
comp=Z,22nm,1.0s,mb5.2
MSO Missoula 61.72 51 *e*P **P** 08 34 06.8 -0.7
comp=Z,22nm,0.9s,mb5.3
CHMT Chamberlain Mo 62.05 51 *e*P **P** 08 34 08.7 -1.0
PSI Prapat 62.34 244 P **P** 08 34 13.3 +1.6
comp=Z,9.3nm,0.9s,mb4.9,baz=39,slow=4.2,SNR=4.8
JOF Joensuu 62.50 334 *e*p **P** 08 34 11.6 -1.2
comp=Z,5.4nm,0.7s,mb4.8
SUMG Summit 62.59 3 *e*P **P** 08 34 12.6 -0.8
FFC Flin Flon 62.82 39 P **P** 08 34 13.1 -1.8
comp=Z,46nm,1.2s,mb5.5,SNR=6.0
FFC Flin Flon 62.82 39 *e*P **P** 08 34 13.8 -1.1
comp=Z,46nm,1.1s,mb5.5
FFC *e*pP pP 08 34 29.6 -0.9
FFC Flin Flon 62.82 39 *e*P **P** 08 34 13.8 -1.1
FFC *e*PP pP 08 34 29.6 -0.9
FFC pmax pmax
comp=Z,46nm,1.1s,mb5.5
AJM Ajmer 62.89 281 *i*P **P** 08 34 16.0 +0.7
HRY Holter Researc 62.95 50 *e*P **P** 08 34 14.7 -1.0
LOF Lofoten 62.96 344 *e*P **P** 08 34 16.4 +0.5
LOF AMb AMB 08 34 21.6
comp=Z,127nm,1.6s,mb5.8
BHPL Bhopal 62.98 277 *e*P **P** 08 34 16.1 +0.1
BHPL AMb AMB 08 34 19.3
comp=Z,74nm,1.6s,mb5.6
CMB Columbia Colle 63.17 62 *e*P **P** 08 34 16.7 -0.5
comp=Z,13nm,1.2s,mb4.9
CMB Columbia Colle 63.17 62 P **P** 08 34 16.8 -0.4
CMB *e* pP 08 34 29.8 -3.0
CMB pmax pmax

comp=Z,26nm,1.1s,mb5.3
FCC Fort Churchill 63.37 32 *e*P **P** 08 34 16.5 -2.0
comp=Z,47nm,1.4s,mb5.4
FCC Fort Churchill 63.37 32 *e*P **P** 08 34 16.5 -2.0
FCC pmax pmax
comp=Z,47nm,1.4s,mb5.4
HLID Hailey 63.42 54 *e*P **P** 08 34 18.6 -0.3
comp=Z,7.2nm,0.8s,mb4.8
HLID *e*pP pP 08 34 33.6 -0.9
MCMT McKenzie Canyo 63.53 52 *e*P **P** 08 34 18.9 -0.7
MCMT *e*pP pP 08 34 35.0 -0.3
BMN Battle Mountai 63.67 58 *e*P **P** 08 34 20.5 0.0
comp=Z,10nm,0.8s,mb4.9
BMN Battle Mountai 63.67 58 P **P** 08 34 21.1 +0.6
BMN *e* pP 08 34 35.3 -0.8
BMN pmax pmax
comp=Z,24nm,1.0s,mb5.2
NVAR Mina Array Bea 64.23 61 P **P** 08 34 23.9 -0.3
comp=Z,6.5nm,0.7s,mb4.8,baz=294,slow=6.2,SNR=43
NVAR pP pP 08 34 40.3 +0.5
comp=Z,9.5nm,0.8s,baz=297,slow=6.0,SNR=15
NVAR LR LR 08 59 12.6
comp=Z,164nm,18.8s,MS4.2,baz=255,slow=33
QLMT Earthquake Lak 64.33 52 *e*P **P** 08 34 24.0 -0.8
QLMT *e*pP pP 08 34 39.6 -0.9
MOR8 Moi Rana 64.44 342 *e*P **P** 08 34 23.1 -2.5
MOR8 AMb AMB 08 34 25.1
comp=Z,42nm,1.5s,mb5.2
MOR8 *e*pP pP 08 34 38.2 -3.0
KAF Kangasniemi 64.65 335 *e*p **P** 08 34 24.9 -2.0
comp=Z,5.1nm,0.7s,mb4.7
KAF Kangasniemi 64.65 335 *e*P **P** 08 34 24.9 -2.0
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ELK Elko 64.67 57 LR LR 08 57 11.7
comp=Z,283nm,21.9s,MS4.4,baz=15,slow=31
ELK Elko 64.67 57 *e*P **P** 08 34 26.9 -0.2
ELK *e*pP pP 08 34 42.9 +0.1
GCMT Greycliff 64.69 50 *e*P **P** 08 34 27.0 -0.3
PTRM Twissleman Ran 64.74 64 *e*P **P** 08 34 29.5 +2.0
PTRM *e*pP pP 08 34 42.5 -0.7
CTA Charters Tower 64.88 186 *e*P **P** 08 34 27.7 -0.7
comp=Z,7.3nm,1.5s,mb4.5
CTA Charters Tower 64.88 186 P **P** 08 34 28.0 -0.5
comp=Z,6.9nm,0.8s,mb4.7,baz=354,slow=7.4,SNR=7.0
CTA Charters Tower 64.88 186 P **P** 08 34 28.0 -0.4
CTA pmax pmax
comp=Z,7.0nm,0.8s
YFT Old Faithful 64.89 52 *e*P **P** 08 34 27.8 -0.7
YFT *e*pP pP 08 34 44.6 +0.4
TPH Tonopah 65.12 60 *e*P **P** 08 34 29.4 -0.6
comp=Z,13nm,0.9s,mb5.0
TPH *e*pP pP 08 34 44.8 -0.9
TPH Tonopah 65.12 60 P **P** 08 34 29.5 -0.5
TPH *e* pP 08 34 45.5 -0.2
TPH pmax pmax
comp=Z,34nm,1.1s,mb5.3
FLWY Flagg Ranch 65.20 52 *e*P **P** 08 34 31.0 +0.4
comp=Z,65nm,1.5s,mb5.4
FLWY *e*pP pP 08 34 46.1 -0.1
FINES FINESS Array B 65.24 334 P **P** 08 34 29.0 -1.7
comp=Z,6.5nm,0.5s,mb4.9,baz=37,slow=7.7,SNR=48
FINES LR LR 09 06 09.5
comp=Z,353nm,20.0s,MS4.6,baz=259,slow=39
FINES FINESS Array B 65.24 334 P **P** 08 34 29.0 -1.7
FINES LR LR 09 06 09.4
MOS Moscow 65.35 325 *e*P **P** 08 34 42.0 +11
HVU Hansel Valley 65.47 55 *e*P **P** 08 34 31.9 -0.4
comp=Z,11nm,1.0s,mb4.8
HVU *e*pP pP 08 34 47.2 -0.7
HVU Hansel Valley 65.47 55 P **P** 08 34 32.0 -0.3
HVU *e* pP 08 34 47.4 -0.6
HVU pmax pmax
comp=Z,18nm,0.9s,mb5.1
LOHW Long Hollow 65.55 52 *e*P **P** 08 34 33.0 +0.2
comp=Z,16nm,1.0s,mb5.0
LOHW *e*pP pP 08 34 48.2 -0.3
SNOW Snow King Moun 65.56 52 *e*P **P** 08 34 32.8 0.0
comp=Z,20nm,1.1s,mb5.1
SNOW *e*pP pP 08 34 48.4 -0.1
REDW Red Top Meadow 65.57 53 *e*P **P** 08 34 33.1 +0.2
comp=Z,42nm,1.3s,mb5.3
REDW *e*pP pP 08 34 48.1 -0.5
LAO LASA Array 65.96 47 *e*P **P** 08 34 35.0 -0.4
comp=Z,35nm,1.0s,mb5.3
LAO *e*pP pP 08 34 50.0 -1.2
HYB Hyderabad 65.98 271⇓*i*P **P** 08 34 35.5 0.0
comp=Z,70nm,1.0s,mb5.7
HYB Hyderabad 65.98 271⇓*e*P **P** 08 34 35.5 0.0
comp=Z,70nm,1.0s,mb5.7
HYB Hyderabad 65.98 271⇓*e*P **P** 08 34 35.5 0.0
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.7
OBN Obninsk 66.22 325⇓*e*P **P** 08 34 36.1 -0.9
OBN Obninsk 66.22 325 *e*P **P** 08 34 36.0 -1.0
OBN *e* 08 35 08.3
OBN pmax pmax
comp=Z,81nm,2.5s,mb5.3
OBN MLR MLR
comp=Z,500nm,22.0s,MS4.7
HWUT Hardware Ranch 66.28 54 *e*P **P** 08 34 36.8 -0.6
comp=Z,14nm,0.9s,mb5.0
HWUT *e*pP pP 08 34 52.4 -0.8
NSS Namsos 66.39 342 *e*P **P** 08 34 36.4 -1.8
WRAB Tennant Creek 66.44 198 P **P** 08 34 38.6 +0.1
comp=Z,187nm,1.0s,mb6.1,SNR=9.8
WRAB Tennant Creek 66.44 198 *e*P **P** 08 34 38.2 -0.2
comp=Z,46nm,0.9s,mb5.5
WRAB *e*pP pP 08 34 55.7 +1.5
WRAB Tennant Creek 66.44 198 *d*i*P* **P** 08 34 38.4 -0.1
WB2 Warramunga Arr 66.45 198⇓*i*P **P** 08 34 38.5 0.0
DUG Dugway 66.45 56 *e*P **P** 08 34 38.0 -0.5
comp=Z,16nm,0.8s,mb5.1
DUG *e*pP pP 08 34 53.0 -1.3
DUG Dugway 66.45 56 P **P** 08 34 38.5 0.0
DUG pmax pmax
comp=Z,16nm,0.9s,mb5.0
WRA Warramunga Arr 66.45 198 P **P** 08 34 38.5 0.0
comp=Z,22nm,0.8s,mb5.2,baz=16,slow=6.7,SNR=101
WRA pP pP 08 34 54.5 +0.2
comp=Z,5.6nm,0.7s,baz=18,slow=7.0,SNR=4.9
ABKT Ailbek 66.63 301 P **P** 08 34 41.2 +1.5
comp=Z,269nm,0.8s,SNR=7.4
BW06 Boulder Array 66.68 52 *e*P **P** 08 34 39.0 -1.0
comp=Z,14nm,0.9s,mb5.0
BW06 *e*pP pP 08 34 54.5 -1.3
PDAR Pinedale Array 66.68 52 P **P** 08 34 38.8 -1.3
comp=Z,4.5nm,0.9s,mb4.5,baz=309,slow=2.6,SNR=20
PDAR pP pP 08 34 53.8 -2.0
comp=Z,10nm,0.9s,baz=301,slow=1.9,SNR=15
PDAR LR LR 09 02 08.7
comp=Z,203nm,18.7s,MS4.4,baz=98,slow=34
PDAR PKP2bc 09 03 14.2
comp=Z,0.4nm,0.9s,baz=79,slow=3.2,SNR=3.9
PDAR Pinedale Array 66.68 52 P **P** 08 34 38.8 -1.3
PDAR pP pP 08 34 53.8 -2.0
PDAR LR LR 09 02 08.7
PDAR ⇑*e* 09 03 14.2
NLU North Lily Min 67.04 56 *e*P **P** 08 34 39.4 -2.9
FITZ Fitzroy Crossi 67.04 207 *e*P **P** 08 34 39.5 -2.8
comp=Z,30nm,1.1s,mb5.2
SFJD Kangerlussuaq 67.12 9 LR LR 09 06 12.7
comp=Z,564nm,20.4s,MS4.8,baz=318,slow=38
SFJD Kangerlussuaq 67.12 9 *i*P **P** 08 34 41.8 -1.0
comp=Z,42nm,1.0s,mb5.4
SFJD *i* pP 08 34 57.4 -1.2
SFJD
comp=Z,480nm,19.0s
SFJD Kangerlussuaq 67.12 9 P **P** 08 34 43.6 +0.8
SFJD *e* pP 08 34 58.1 -0.5
MPU Maple Canyon 67.26 56 *e*P **P** 08 34 43.5 -0.2
comp=Z,8.8nm,1.0s,mb4.7
MPU *e*pP pP 08 34 58.9 -0.5
VSU Vasula 67.34 332⇓*e*P **P** 08 34 41.4 -2.8
ARUT Antelope Range 67.61 59 *e*P **P** 08 34 45.6 -0.3
ARUT *e*pP pP 08 35 00.7 -1.0
VRSR Storozhevoye 67.87 321 *e*P **P** 08 34 46.5 -1.0
VRSR *e*S S 08 43 38.7 -2.9
VRSR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,0.9s
VRSR smax

comp=N,9.0nm,3.8s
VRSR smax
comp=Z,1.0nm,0.9s
VRSR smax
comp=E,8.0nm,3.9s
VRSR MLR MLR
comp=N,80nm,18.0s,MS4.0
VRSR MLR MLR
comp=E,30nm,18.0s,MS4.0
VRSR MLR MLR
comp=Z,90nm,18.0s,MS4.0
MSU Marysvale 67.91 57 *e*P **P 08 34 47.9 +0.1**
MSU *e*pP pP 08 35 03.0 -0.6
TMUT Trail Mountain 67.97 56 *e*P **P 08 34 47.9 -0.3**
TMUT *e*pP pP 08 35 03.0 -1.0
NEN Nelson 68.13 61 *e*P **P 08 34 48.8 -0.3**
LDFC Landfair 68.33 62 *e*P **P 08 34 49.6 -0.8**
LDFC *e*pP pP 08 35 04.9 -1.3
SRU San Rafael 68.50 56 *e*P **P 08 34 50.7 -0.7**
comp=Z,25nm,0.8s,mb5.3
SRU *e*pP pP 08 35 06.2 -1.1
SRU San Rafael 68.50 56 P **P 08 34 50.9 -0.6**
SRU pmax pmax
comp=Z,25nm,0.8s,mb5.3
ULM Lac du Bonnet 68.59 40 P **P 08 34 50.1 -2.0**
comp=Z,2.2nm,0.9s,mb4.1,baz=301,slow=2.0,SNR=4.3
ULM pP pP 08 35 06.7 -1.2
comp=Z,3.0nm,0.7s,baz=308,slow=6.1,SNR=5.8
ULM LR LR 09 05 34.3
comp=Z,232nm,21.9s,MS4.4,baz=340,slow=36
MOL Molde 69.06 343 *e*P **P 08 35 05.4 +10**
KAD Karad 69.16 274 ⇓*i*P **P 08 34 56.0 +0.4**
NB2 NORSAR Subarra 69.61 341 P **P 08 34 57.5 -0.8**
comp=Z,23nm,0.8s,mb5.2,baz=29,slow=6.2
NB2 NORSAR Subarra 69.61 341 P **P 08 34 57.5 -0.8**
NB2 pmax pmax
comp=Z,23nm,0.8s,mb5.2
NOA NORSAR Array B 69.61 341 P **P 08 34 57.3 -1.0**
comp=Z,15nm,0.6s,mb5.1,baz=30,slow=6.3,SNR=40
NOA LR LR 09 09 56.8
comp=Z,219nm,18.9s,MS4.4,baz=0.0,slow=40
PV10 Paradox Valley 69.86 56 *e*P **P 08 34 59.7 -0.2**
PV10 *e*pP pP 08 35 14.8 -0.9
NAO01 NORSAR Array S 69.86 341 *e*P **P 08 34 58.5 -1.4**
NAO01 *e*pP pP 08 35 14.1 -1.6
MNK Minsk 70.04 329 *e*P **P 08 35 00.0 -1.0**
AS31 Alice Springs 70.15 197 *e*P **P 08 35 02.6 +0.9**
ASAR Alice Springs 70.15 197 P **P 08 35 02.9 +1.2**
comp=Z,33nm,0.8s,mb5.3,baz=14,slow=5.9,SNR=217
ASAR pP pP 08 35 18.1 +0.6
comp=Z,16nm,0.9s,baz=14,slow=5.5,SNR=8.7
ASPA Alice Springs 70.15 197 *e*P **P 08 35 02.6 +0.9**
PV01 Paradox Valley 70.29 56 *e*P **P 08 35 01.7 -0.9**
WUAZ Wupatki 70.35 59 *e*P **P 08 35 03.0 +0.1**
comp=Z,17nm,1.2s,mb4.8
WUAZ *e*pP pP 08 35 17.6 -1.1
SMCO Snowmass 70.52 54 *e*P **P 08 35 03.3 -0.6**
comp=Z,13nm,0.9s,mb4.9
SMCO *e*pP pP 08 35 18.6 -1.2
KONO Kongsberg 71.22 341 ⇑*e*P **P 08 35 06.8 -1.4**
KIV Kislovodsk 71.31 314 P **P 08 35 08.6 -0.1**
KIV Kislovodsk 71.31 314 *e*P **P 08 35 10.3 +1.6**
KIV *e* pP 08 35 28.5 +3.9
KIV *e*S S 08 44 24.8 +2.8
KIV *e*SS SS 08 49 01.2 +4.1
KIV pmax pmax
comp=Z,57nm,1.1s,mb5.4
KIV MLR MLR
comp=Z,331nm,16.0s,MS4.7
PALK Pallekele 71.39 262 *e*P **P 08 35 09.6 +0.4**
comp=Z,9.0nm,0.8s,mb4.8
ZEI Tsey 71.52 312 P **P 08 35 09.1 -0.9**
ZEI pmax pmax
comp=Z,19nm,1.0s,mb5.0
DGRG David-gareji 71.65 310 P **P 08 35 12.7 +1.9**
MTA Mtatsminda 71.79 311 P **P 08 35 12.9 +1.3**
TBLG Delisi 71.80 311 P **P 08 35 13.7 +2.1**
MBWA Marble Bar 71.91 211 *e*P **P 08 35 13.5 +1.2**
comp=Z,162nm,1.8s,mb5.7
SUW Suwalki 72.09 331 *e*P **P 08 35 13.6 +0.2**
SDCO Great Sand Dun 72.34 54 *e*P **P 08 35 14.4 -0.5**
comp=Z,5.2nm,0.9s,mb4.5
AKASG Malin Array Be 72.47 326 P **P 08 35 15.1 -0.6**
comp=Z,12nm,0.4s,mb5.2,baz=34,slow=5.9,SNR=57
AKASG pP pP 08 35 30.1 -1.6
comp=Z,17nm,0.6s,baz=36,slow=5.9,SNR=9.4
TUC Tucson 72.86 61 *e*P **P 08 35 16.5 -1.5**
comp=Z,4.0nm,1.0s,mb4.3
TUC *e*pP pP 08 35 32.6 -1.4
TUC Tucson 72.86 61 *e*P **P 08 35 16.5 -1.5**
TUC *e**PP pP 08 35 32.6 -1.3
TUC pmax pmax
comp=Z,40nm,1.0s,mb5.3
GNI Garni 72.90 310 *e*P **P 08 35 20.0 +1.8**
SOC Sochi 73.08 315 *e*P **P 08 35 17.7 -1.6**
SOC *e* 08 38 09.6
SOC *e*S S 08 44 42.1 -0.2
SOC pmax pmax
comp=Z,51nm,1.2s,mb5.3
SOC MLR MLR
comp=Z,401nm,16.0s,MS4.8
LAZ Ladron 73.67 58 *e*P **P 08 35 21.9 -0.8**
ANMO Albuquerque 73.70 57 *e*P **P 08 35 22.1 -0.8**
comp=Z,6.9nm,1.2s,mb4.5
ANMO Albuquerque 73.70 57 *d i*P **P 08 35 22.2 -0.7**
ARMA Armidale 74.98 180 *e*P **P 08 35 32.4 +2.0**
ARMA *e*pP pP 08 35 49.0 +2.6
LVV L'vov 75.19 328 *i*P **P 08 35 31.8 +0.2**
LVV *i* pP 08 35 46.2 -1.4
LVV *e* 08 38 21.8
LVV *e*SS SS 08 50 02.4 +6.2
SCHQ Schefferville 75.40 22 P **P 08 35 31.6 -1.2**
comp=Z,3.9nm,0.7s,mb4.4,baz=280,slow=5.2,SNR=6.8
SCHQ LR LR 09 11 56.6
comp=Z,231nm,20.8s,MS4.5,baz=304,slow=38
KIS Kishinev 75.54 324 *e*P **P 08 35 33.0 -0.6**
KIS *e* pP 08 35 50.0 +0.4
KIS *e* 08 45 08.0
BANOM Banah 75.71 292 P **P 08 35 36.0 +1.4**
SNR=14
KWP Kalwaria 75.84 329 *e*P **P 08 35 36.1 +0.8**
BSEG Bad Segeberg 76.12 338 *e*P **P 08 35 36.9 0.0**
comp=Z,40nm,1.3s,mb5.2
OJC Ojcow 76.40 330 *e*P **P 08 35 38.6 +0.1**
BURAR Bucovina Array 76.52 326 ⇓P **P 08 35 39.3 +0.1**
BURAR Bucovina Array 76.52 326 ⇓P **P 08 35 39.3 +0.2**
STHS Stebnicka Huta 76.56 329 *e*P **P 08 35 40.5 +1.1**
STHS *e*pP pP 08 35 55.3 -0.1
MSL Mosul 76.56 308 *e*x x 08 35 41.5
KOLS Kolonicke sedl 76.58 328 *e*P **P 08 35 39.9 +0.4**
KOLS *e* 08 35 50.3
KOLS *e* 08 36 08.5
KOLS Kolonicke sedl 76.58 328 *e*P **P 08 35 39.9 +0.4**
KOLS *e* 08 35 50.3
MNTX Cornudas Mount 76.60 59 *e*P **P 08 35 39.2 -0.5**
comp=Z,5.4nm,0.8s,mb4.5
HOQ Hoqain 76.64 290 P **P 08 35 41.3 +1.5**
SNR=7.8
ASHO Ashiyiah 76.72 292 P **P 08 35 42.0 +1.7**
SNR=12
NIE Niedzica 76.89 330 *e*P **P 08 35 42.2 +1.0**
CRVS Cervenica-Dubn 76.90 329 *e*P **P 08 35 43.9 +2.6**
JMDO Jabal Madar 76.93 288 P **P 08 35 43.0 +1.5**
SNR=9.1
STKA Stephens Creek 76.98 189 *e*P **P 08 35 40.8 -1.0**
comp=Z,15nm,1.0s,mb4.9
STKA *e* 08 36 12.5
STKA Stephens Creek 76.98 189 P **P 08 35 40.9 -0.8**
comp=Z,15nm,0.9s,mb4.9,baz=352,slow=7.3,SNR=28
STKA PKKP PKKPbc 08 54 33.4 -16
comp=Z,0.4nm,0.4s,baz=124,slow=3.6,SNR=2.8
STKA LR LR 09 06 05.4
comp=Z,268nm,19.9s,MS4.6,baz=24,slow=33
KSP Ksiaz 77.05 333 *e*P **P 08 35 42.5 +0.3**
KSP Ksiaz 77.05 333 *e*P **P 08 35 41.9 -0.3**
KSP *e**PP pP 08 35 56.7 -1.5
CFR Carcaliu 77.27 323 ⇓P **P 08 35 44.1 +0.7**
BSY Bisya 77.28 289 ⇑P **P 08 35 45.2 +1.8**
SNR=7.1
VRI Vrincioaia 77.31 324 ⇑P **P 08 35 46.4 +2.8**
ARQ Araqi 77.33 290 P **P 08 35 45.5 +1.8**
SNR=5.8
UPC Upice 77.43 333 *e*P **P 08 35 44.3 0.0**
DPC Dobruska-Polom 77.47 333 *e*P **P 08 35 44.9 +0.4**

DPC *e*pP pP 08 36 05.1 +4.5
MORC Moravsky Berou 77.55 332 P **P 08 35 45.9 +0.9**
KECS Kecovo 77.61 329 *e*P **P 08 35 45.3 0.0**
KECS *e* pP 08 36 05.1 +3.7
MALT Malatya 77.61 312 P **P 08 35 47.6 +2.3**
CLL Collm 77.68 335 *i*P **P 08 35 45.2 -0.5**
comp=Z,35nm,0.9s,mb5.3
CLL *e*PcP PcP 08 35 54.5 -1.1
CLL *e*pP pP 08 36 00.8 -1.0
CLL *e*S S 08 45 34.0 +0.8
CLL *e*LR LR 09 01 12.7
CLL *e*L 09 14 33.6
comp=Z,415nm,18.0s
CLL Collm 77.68 335 *i*P **P 08 35 45.1 -0.6**
comp=Z,35nm,0.9s,mb5.3
CLL *i* pP pP 08 36 00.3 -1.5
CLL *i* (sP) sP 08 36 08.8 +0.7
CLL Collm 77.68 335 *i*P **P 08 35 45.1 -0.6**
comp=Z,35nm,0.9s,mb5.3
CLL *i* pP pP 08 36 00.3 -1.5
CLL Collm 77.68 335 *i*P **P 08 35 45.1 -0.6**
CLL *i* *PP pP 08 36 00.3 -1.5
CLL pmax pmax
comp=Z,35nm,0.9s,mb5.3
TIRR Tirgusor 77.72 322 ⇓P **P 08 35 48.7 +2.8**
HARR Harsova 77.74 323 ⇓P **P 08 35 46.0 0.0**
BRG Berggiesshubel 77.77 334 *e*P **P 08 35 46.0 -0.2**
comp=Z,12nm,0.9s,mb4.8
BRG Berggiesshubel 77.77 334 *e*P **P 08 35 46.1 -0.1**
comp=Z,4.1nm,0.9s,mb4.4
BRG *i* 08 36 09.7
BRG LR LR
comp=Z,280nm,15.4s,MS4.7
BRG Berggiesshubel 77.77 334 *e*P **P 08 35 46.1 -0.1**
comp=Z,4.1nm,0.9s,mb4.4
BRG *i* 08 36 09.7
comp=Z,12nm,1.1s
BRG
comp=N,236nm,17.3s
BRG
comp=E,192nm,17.1s
BRG
comp=Z,282nm,15.4s
ESK Eskdalemuir 77.88 346 *e*P **P 08 35 46.2 -0.6**
comp=Z,25nm,1.0s,mb5.1
ESK Eskdalemuir 77.88 346 *e*P **P 08 35 46.2 -0.6**
ESK pmax pmax
comp=Z,25nm,1.0s,mb5.1
PVCC Panska Ves 77.88 334 *e*P **P 08 35 46.8 0.0**
MLR Muntele Rosu 77.94 324 ⇓P **P 08 35 48.1 +1.0**
MLR Muntele Rosu 77.94 324 P **P 08 35 48.7 +1.6**
CLZ Clausthal 77.98 337 *e*P **P 08 35 47.7 +0.4**
comp=Z,41nm,1.1s,mb5.3
CLZ Clausthal 77.98 337 *e*P **P 08 35 47.7 +0.4**
CLZ pmax pmax
comp=Z,41nm,1.1s,mb5.3
ISR Istrita 77.99 324 ⇑P **P 08 35 47.0 -0.4**
BHD Baghdad 78.00 305 *ex* x 08 35 38.0
VYHS Vyhne 78.19 330 *e*P **P 08 35 48.9 +0.4**
IBBN Ibbenburen 78.27 338 *e*P **P 08 35 48.8 -0.1**
comp=Z,44nm,0.8s,mb5.4
VRAC Vranov 78.27 332 P **P 08 35 50.1 +1.2**
WMOK Wichita Mounta 78.30 52 *e*P **P 08 35 47.3 -1.8**
comp=Z,11nm,1.3s,mb4.6
WMOK Wichita Mounta 78.30 52 *e*P **P 08 35 47.3 -1.8**
WMOK pmax pmax
comp=Z,11nm,1.3s,mb4.6
PSZ Piszkesteto 78.30 329 *e*Pc 08 35 48.3
PSZ Piszkesteto 78.30 329 *e*P **P 08 35 48.0 -1.1**
PSZ Piszkesteto 78.30 329 P **P 08 35 50.3 +1.2**
VOIR 78.36 325 ⇓P **P 08 35 50.4 +1.0**
PRU Pruhonice 78.36 333 *e*P **P 08 35 49.4 0.0**
PRU *e*pP pP 08 36 04.3 -1.2
PRU AMS AMS 09 14 50.0
comp=Z,800nm,17.7s
TANN Tannenbergstha 78.63 335 *e*P **P 08 35 50.7 -0.2**
comp=Z,11nm,1.0s,mb4.7
TREC Trest 78.65 332 *e*P **P 08 35 51.2 +0.2**
UMR Umm Al-Rimmam 78.65 300 *e*P **P 08 35 51.7 +0.6**
MOX Moxa 78.68 335 *e*P **P 08 35 51.1 -0.1**
comp=Z,20nm,1.1s,mb5.0
MOX Moxa 78.68 335 *e*P **P 08 35 51.0 -0.2**
comp=Z,35nm,1.4s,mb5.1
MOX
comp=Z,300nm,19.0s
MOX Moxa 78.68 335 *e*P **P 08 35 51.0 -0.2**
MOX pmax pmax
comp=Z,35nm,1.4s,mb5.1
MOX MLR MLR
comp=Z,300nm,19.0s,MS4.7
MIB Mutribah 78.71 301 *e*P **P 08 35 52.0 +0.7**
MIB AMb AMB 08 35 58.6
comp=Z,107nm,0.6s,mb6.0
WTSB Winterswijk 78.83 339 *e*P **P 08 35 52.0 0.0**
comp=Z,32nm,1.0s,mb5.2
RAO Raoul Island 78.88 153 LR LR 09 04 35.8
comp=Z,388nm,19.9s,MS4.7,baz=351,slow=31
KBD Kabd 78.93 300 *e*P **P 08 35 53.6 +1.0**
SRO Srobarova 78.96 330 *e*P **P 08 35 54.4 +1.7**
BR131 Keskin Array S 78.98 316 *e*P **P 08 35 53.5 +0.7**
BRTR Keskin Array B 78.99 316 P **P 08 35 53.5 +0.6**
comp=Z,9.4nm,0.9s,mb4.7,baz=66,slow=2.9,SNR=12
BRTR pP pP 08 36 08.7 -0.3
comp=Z,13nm,0.9s,baz=36,slow=0.8,SNR=11
UBBA Unterbreizbach 79.00 336 *e*P **P 08 35 53.2 +0.3**
comp=Z,17nm,1.4s,mb4.8
ZST Bratislava 79.05 331 *e*P **P 08 35 54.6 +1.3**
ZST *e*pP pP 08 36 10.0 +0.6
QRN Al-Qurain 79.10 300 *e*P **P 08 35 54.6 +1.1**
QRN AMb AMB 08 35 58.1
comp=Z,163nm,0.5s,mb6.2
NAY Al-Naaiem 79.16 300 *e*P **P 08 35 54.4 +0.6**
NAY AMb AMB 08 35 58.2
comp=Z,69nm,0.8s,mb5.7
BUG Bochum--Univer 79.18 338 *e*P **P 08 35 53.8 -0.2**
comp=Z,42nm,1.2s,mb5.2
RDF Al-Radifah 79.20 300 *e*P **P 08 35 54.9 +0.8**
RDF AMb AMB 08 35 56.9
comp=Z,129nm,1.0s,mb5.8
ROTZ Rotzenmuhle 79.28 335 *e*P **P 08 35 55.0 +0.5**
comp=Z,21nm,1.0s,mb5.0
ANTO Ankara 79.29 317 P **P 08 35 53.9 -0.7**
comp=Z,16nm,0.8s,mb5.0
ANTO *e*pP pP 08 36 11.0 +0.4
ANTO Ankara 79.29 317 P **P 08 35 55.9 +1.4**
ANTO *e**PP pP 08 36 11.0 +0.3
ANTO pmax pmax
comp=Z,24nm,0.9s,mb5.1
KHC Kasperske Hory 79.41 333 *e*P **P 08 35 55.4 +0.2**
KHC x x 08 35 58.0
KHC *e*pP pP 08 36 10.6 -0.7
KHC AMS AMS 09 15 40.0
comp=Z,1μm,16.6s
KHC Kasperske Hory 79.41 333 *e*P **P 08 35 55.4 +0.2**
KHC *e* 08 35 58.0
KHC *e**PP pP 08 36 10.6 -0.7
KHC MLR MLR
comp=Z,1μm,16.6s,MS5.3
BZS Buzias 79.58 327 ⇓P **P 08 35 56.4 +0.3**
WET Wettzell 79.62 334 *e*P **P 08 35 56.9 +0.6**
comp=Z,23nm,1.0s,mb5.1
WET Wettzell 79.62 334 *e*P **P 08 35 56.9 +0.6**
WET pmax pmax
comp=Z,23nm,1.0s,mb5.1
GEC2 GERESS Array S 79.62 333 *e*P **P 08 35 56.4 +0.1**
comp=Z,16nm,1.1s,mb4.9
GEC2 GERESS Array S 79.62 333 *e*P **P 08 35 56.4 +0.1**
GEC2 pmax pmax
comp=Z,16nm,1.1s,mb4.9
GERES GERESS Array B 79.62 333 P **P 08 35 56.1 -0.3**
comp=Z,7.5nm,0.8s,mb4.7,baz=38,slow=5.0,SNR=20
GERES pP pP 08 36 11.5 -1.0
comp=Z,9.1nm,0.9s,baz=34,slow=5.3,SNR=8.6
GERES LR LR 09 14 57.7
comp=Z,312nm,18.9s,MS4.7,baz=313,slow=38
GERES GERESS Array B 79.62 333 P **P 08 35 56.1 -0.2**
GERES *PP pP 08 36 11.5 -1.0
GRA1 Grafenberg Arr 79.64 335 *e*P **P 08 35 57.0 +0.5**
comp=Z,40nm,0.9s,mb5.3
GRA1 *e*pP pP 08 36 12.5 -0.1
GRF Grafenberg Arr 79.64 335 *e*P **P 08 35 57.0 +0.5**
comp=Z,40nm,0.9s,mb5.3
GRF *e*pP pP 08 36 12.5 -0.1
GRF Grafenberg Arr 79.64 335 *e*P **P 08 35 57.0 +0.5**
GRF *e**PP pP 08 36 12.5 -0.1

GRF pmax pmax
comp=Z,40nm,0.9s,mb5.3
CRAR CRAIOVA 79.78 325 ⇓P **P 08 35 48.9 -8.3**
CCM Cathedral Cave 79.85 46 *e*P **P 08 35 56.0 -1.6**
comp=Z,13nm,0.9s,mb4.9
CCM Cathedral Cave 79.85 46 *e*P **P 08 35 56.0 -1.6**
CCM pmax pmax
comp=Z,13nm,0.9s,mb4.9
DMUB Kingscourt 79.86 347 *e*P **P 08 35 58.2 +0.6**
SLM Saint Louis 79.92 45 P **P 08 35 52.0 -5.9**
TNS Taunus Mts 79.97 337 *e*P **P 08 35 58.4 +0.2**
comp=Z,25nm,1.1s,mb5.1
TNS Taunus Mts 79.97 337 *e*P **P 08 35 58.4 +0.2**
TNS pmax pmax
comp=Z,25nm,1.1s,mb5.1
SADO Sadowa 79.99 34 LR LR 09 15 36.7
comp=Z,170nm,20.1s,MS4.4,baz=244,slow=39
HGN Heimansgroeve 80.15 339 *e*P **P 08 35 59.3 +0.1**
comp=Z,28nm,1.4s,mb5.0
BEBN Eben Emael 80.19 339 E 08 36 04.6
BEBN AP pP 08 36 15.2 -0.4
BEBN XP sP 08 36 23.8 +1.9
MEM Membach 80.27 339 P **P 08 36 00.3 +0.4**
MEM AP pP 08 36 15.2 -0.8
MOA Molln 80.31 332 ⇑*i*P **P 08 35 59.9 -0.1**
comp=Z,11nm,0.9s,mb4.8
FVM French Village 80.32 45 *e*P **P 08 35 58.8 -1.3**
comp=Z,15nm,1.1s,mb4.8
FVM *e*pP pP 08 36 13.7 -2.5
FVM French Village 80.32 45 *e*P **P 08 35 58.8 -1.3**
FVM *e**PP pP 08 36 13.7 -2.6
FVM pmax pmax
comp=Z,15nm,1.1s,mb4.8
DLF Lyons Farm 80.38 347 *e*P **P 08 36 01.2 +0.8**
ARSA Arzberg 80.41 331 ⇓*i*P **P 08 36 01.6 +1.0**
comp=Z,7.8nm,1.2s,mb4.5
ARSA Arzberg 80.41 331 ⇓*i*P **P 08 36 01.6 +1.0**
comp=Z,7.8nm,1.2s,mb4.5
TOD Tromm 80.42 336 *e*P **P 08 36 00.5 -0.2**
ABH Alteburg 80.52 337 *e*P **P 08 36 01.2 0.0**
SNF Seneffe 80.80 340 P **P 08 36 05.6 +2.9**
SNF AP pP 08 36 18.1 -0.8
JCT Junction City 80.81 56 *e*P **P 08 36 00.7 -2.0**
comp=Z,9.6nm,0.9s,mb4.7
JCT Junction City 80.81 56 *e*P **P 08 36 00.7 -2.0**
JCT pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FUR Furstenfeldbru 80.98 334 *e*P **P 08 36 04.6 +0.9**
comp=Z,24nm,0.8s,mb5.2
FUR Furstenfeldbru 80.98 334 *e*P **P 08 36 04.6 +0.9**
FUR pmax pmax
comp=Z,24nm,0.8s,mb5.2
GIVF Givet 81.04 339 *e*P **P 08 36 03.9 -0.1**
comp=Z,65nm,1.2s,mb5.2
GIVF Givet 81.04 339 *e*P **P 08 36 03.9 -0.1**
comp=Z,32nm,1.2s,mb5.1
GIVF Givet 81.04 339 *e*P **P 08 36 03.9 -0.1**
GIVF pmax pmax
comp=Z,33nm,1.2s,mb5.1
STU Stuttgart 81.06 336 *e*P **P 08 36 03.9 -0.2**
comp=Z,21nm,1.1s,mb5.0
PERS Pernice 81.08 331 *e*P **P 08 36 04.5 +0.3**
PERS *e* pP 08 36 20.2 -0.2
DOU Dourbes 81.10 339 P **P 08 36 04.4 +0.1**
comp=Z,5.0nm,0.9s,mb4.4
DOU AP pP 08 36 19.1 -1.4
DOU XP sP 08 36 28.6 +1.7
BAIF Baives 81.23 339 *e*P **P 08 36 05.1 +0.1**
comp=Z,76nm,1.1s,mb5.2
BAIF Baives 81.23 339 *e*P **P 08 36 05.1 +0.1**
comp=Z,38nm,1.1s,mb5.2
BAIF Baives 81.23 339 *e*P **P 08 36 05.1 +0.1**
BAIF pmax pmax
comp=Z,38nm,1.1s,mb5.2
MENF Mencas 81.27 341 *e*P **P 08 36 05.1 -0.1**
KBA Koelnbreinsper 81.29 333 ⇑*i*P **P 08 36 06.4 +1.2**
comp=Z,78nm,1.5s,mb5.4
KBA Koelnbreinsper 81.29 333 ⇑*i*P **P 08 36 06.4 +1.2**
comp=Z,78nm,1.5s,mb5.4
KBA Koelnbreinsper 81.29 333 ⇑*i*P **P 08 36 06.4 +1.1**
KBA pmax pmax
comp=Z,78nm,1.5s,mb5.4
GRUS Gruza 81.38 326 *i*P **P 08 36 04.6 -1.2**
VTS Vitosha 81.45 324 P **P 08 36 06.6 +0.5**
DIVS Divcibare 81.48 327 *i*P **P 08 36 05.3 -1.0**
LEGS Legarje 81.61 331 *e*P **P 08 36 06.8 -0.2**
WATA Walderalm 81.63 334 ⇓*i*P **P 08 36 07.1 0.0**
comp=Z,20nm,1.0s,mb5.0
WATA Walderalm 81.63 334 ⇓*i*P **P 08 36 07.1 0.0**
WATA pmax pmax
comp=Z,20nm,1.0s,mb5.0
BFO Black Forest 81.71 336 *e*P **P 08 36 07.6 +0.1**
comp=Z,21nm,0.9s,mb5.1
BFO Black Forest 81.71 336 *e*P **P 08 36 07.6 +0.1**
BFO pmax pmax
comp=Z,21nm,0.9s,mb5.1
MOTA Moosalm 81.77 334 ⇑*i*P **P 08 36 08.4 +0.6**
comp=Z,15nm,1.0s,mb4.8
MOTA Moosalm 81.77 334 ⇑*i*P **P 08 36 08.4 +0.6**
MOTA pmax pmax
comp=Z,15nm,1.0s,mb4.9
SQTA Sankt Quirin 81.84 334 ⇑*i*P **P 08 36 09.0 +0.8**
comp=Z,13nm,1.0s,mb4.8
SQTA Sankt Quirin 81.84 334 ⇑*i*P **P 08 36 09.0 +0.8**
comp=Z,13nm,1.0s,mb4.8
SQTA Sankt Quirin 81.84 334 ⇑*i*P **P 08 36 09.0 +0.8**
SQTA pmax pmax
comp=Z,13nm,1.0s,mb4.8
BBLS Bajina Basta - 81.90 327 *e*P **P 08 36 03.3 -5.2**
VISS Visnje 81.90 331 *i*P **P 08 36 08.0 -0.5**
WLS Welschbruch 81.91 337 *e*P **P 08 36 10.0 +1.4**
CDF Champ du Feu 81.93 337 ⇑*i*P **P 08 36 08.8 +0.1**
comp=Z,58nm,0.9s,mb5.2
CDF Champ du Feu 81.93 337 ⇑*i*P **P 08 36 08.8 +0.1**
comp=Z,29nm,0.9s,mb5.2
CDF Champ du Feu 81.93 337 ⇑*i*P **P 08 36 08.8 +0.1**
CDF pmax pmax
comp=Z,29nm,0.9s,mb5.2
PPT Papeete 81.97 124 *e*LR LR 09 00 32.9
comp=Z,306nm,21.0s,baz=326
PPT Papeete 81.97 124 LR LR 09 06 33.8
comp=Z,379nm,19.9s,MS4.8,baz=279,slow=31
ECH Echery 82.14 337 *e*P **P 08 36 09.6 -0.2**
KLBR Kellerberrin 82.15 209 *e*P **P 08 36 10.3 +0.5**
comp=Z,18nm,0.7s,mb5.1
WCI Wyandotte Cave 82.16 42 *e*P **P 08 36 08.6 -1.3**
DAVA Damuels 82.19 335 ⇑*i*P **P 08 36 10.5 +0.5**
comp=Z,18nm,1.2s,mb4.9
MEZF Maizieres J'vi 82.45 338 ⇑*i*P **P 08 36 12.9 +1.5**
comp=Z,78nm,0.7s,mb5.4
MEZF Maizieres J'vi 82.45 338 ⇑*i*P **P 08 36 12.9 +1.5**
comp=Z,78nm,0.7s,mb5.7
THEF They Montfort 82.46 338 *e*P **P 08 36 12.4 +1.0**
HINF Hinteralfeld 82.59 337 ⇑*i*P **P 08 36 11.8 -0.3**
comp=Z,30nm,0.9s,mb5.0
HINF Hinteralfeld 82.59 337 ⇑*i*P **P 08 36 11.8 -0.3**
comp=Z,15nm,0.9s,mb5.0
HINF Hinteralfeld 82.59 337 ⇑*i*P **P 08 36 11.8 -0.3**
HINF pmax pmax
comp=Z,15nm,0.9s,mb5.0
SKO Skopje 82.69 325 *i*P **P 08 36 12.6 0.0**
VAY Valandovo 82.77 324 *i*P **P 08 36 12.5 -0.5**
RBK Rabkut 82.93 288 P **P 08 36 14.7 +0.8**
SNR=8.4
WHFO Wadi Hawf 82.94 288 P **P 08 36 14.6 +0.7**
SNR=16
LOMF Lomont 83.03 337 *e*P **P 08 36 15.7 +1.3**
MUN Mundaring 83.04 210 *e*P **P 08 36 14.6 +0.2**
WVT Waverly 83.06 45 *e*P **P 08 36 13.3 -1.3**
WVT *e*pP pP 08 36 27.2 -3.6
NWAO Narrogin (SRO) 83.55 209 P **P 08 36 18.0 +1.0**
comp=Z,27nm,0.9s,mb5.4,baz=21,slow=5.2,SNR=14
NWAO Narrogin (SRO) 83.55 209 *e*P **P 08 36 18.3 +1.2**
comp=Z,29nm,1.0s,mb5.4
NWAO Narrogin (SRO) 83.55 209 *e*P **P 08 36 18.3 +1.2**
NWAO pmax pmax
comp=Z,29nm,1.0s
FLN La Foliniere 83.55 342 *e*P **P 08 36 17.0 -0.1**
comp=Z,72nm,1.1s,mb5.4
FLN *e*R
comp=Z,276nm,17.0s
FLN La Foliniere 83.55 342 *e*P **P 08 36 17.0 -0.1**
comp=Z,36nm,1.1s,mb5.4
FLN La Foliniere 83.55 342 *e*P **P 08 36 17.0 -0.1**
FLN pmax pmax

comp=Z,36nm,1.1s,mb5.4
LDF La Druitiere 83.63 342 *e*P **P 08 36 18.9 +1.4**
ABTO Aybut 83.65 288 P **P 08 36 18.7 +1.1**
SNR=14
OHR Ohrid 83.67 325 *i* P **P 08 36 18.6 +0.9**
LOR Lormes 83.90 339⇑*i*P **P 08 36 19.1 +0.2**
comp=Z,104nm,1.2s,mb5.5
LOR *e*R
comp=Z,306nm,22.8s
LOR Lormes 83.90 339⇑*i*P **P 08 36 19.1 +0.2**
comp=Z,52nm,1.2s,mb5.5
LOR Lormes 83.90 339⇑*i*P **P 08 36 19.1 +0.2**
LOR pmax pmax
comp=Z,52nm,1.2s,mb5.5
GRR Gorron 83.99 342⇑*i*P **P 08 36 19.4 +0.1**
comp=Z,90nm,1.0s,mb5.5
GRR Gorron 83.99 342⇑*i*P **P 08 36 19.4 +0.1**
comp=Z,45nm,1.0s,mb5.5
GRR Gorron 83.99 342⇑*i*P **P 08 36 19.4 +0.1**
GRR pmax pmax
comp=Z,45nm,1.0s,mb5.5
SSF Saint Saulge 84.19 339⇑*i*P **P 08 36 20.3 0.0**
comp=Z,47nm,1.0s,mb5.3
SSF Saint Saulge 84.19 339⇑*i*P **P 08 36 20.3 0.0**
comp=Z,24nm,1.0s,mb5.3
SSF Saint Saulge 84.19 339⇑*i*P **P 08 36 20.3 0.0**
SSF pmax pmax
comp=Z,24nm,1.0s,mb5.3
AVF Avril sur Loir 84.48 339⇑*i*P **P 08 36 22.0 +0.2**
comp=Z,99nm,1.1s,mb5.5
AVF Avril sur Loir 84.48 339⇑*i*P **P 08 36 22.0 +0.2**
comp=Z,49nm,1.1s,mb5.5
AVF Avril sur Loir 84.48 339⇑*i*P **P 08 36 22.0 +0.2**
AVF pmax pmax
comp=Z,49nm,1.1s,mb5.5
SMF Signal de Mont 84.48 338⇑*i*P **P 08 36 22.1 +0.3**
comp=Z,197nm,1.0s,mb5.9
SMF Signal de Mont 84.48 338⇑*i*P **P 08 36 22.1 +0.3**
comp=Z,99nm,1.0s,mb5.9
SMF Signal de Mont 84.48 338⇑*i*P **P 08 36 22.1 +0.3**
SMF pmax pmax
comp=Z,99nm,1.0s,mb5.9
LPL La Plagne 84.72 336 *e*P **P 08 36 24.1 +1.1**
comp=Z,60nm,1.0s,mb5.4
LPL La Plagne 84.72 336 *e*P **P 08 36 24.1 +1.1**
comp=Z,30nm,1.0s,mb5.4
LPL La Plagne 84.72 336 *e*P **P 08 36 24.1 +1.1**
LPL pmax pmax
comp=Z,30nm,1.0s,mb5.4
LPG La Plagne 84.74 336⇑*i*P **P 08 36 24.2 +1.1**
comp=Z,74nm,0.9s,mb5.5
LPG La Plagne 84.74 336⇑*i*P **P 08 36 24.2 +1.1**
comp=Z,37nm,0.9s,mb5.5
LPG La Plagne 84.74 336⇑*i*P **P 08 36 24.2 +1.1**
LPG pmax pmax
comp=Z,37nm,0.9s,mb5.5
BGF Bois d'Agland 84.82 339 *e*P **P 08 36 24.1 +0.6**
comp=Z,111nm,1.3s,mb5.5
BGF Bois d'Agland 84.82 339 *e*P **P 08 36 24.1 +0.6**
comp=Z,56nm,1.3s,mb5.5
BGF Bois d'Agland 84.82 339 *e*P **P 08 36 24.1 +0.6**
BGF pmax pmax
comp=Z,55nm,1.3s,mb5.5
BNI Bardonecchia 85.16 336 *e*P **P 08 36 25.4 +0.1**
PLDF La Plantade 85.17 338 *e*P **P 08 36 26.0 +0.7**
AGO Saint Agoulin 85.22 339 *e*P **P 08 36 26.7 +1.2**
TCF Toulx Ste Croi 85.23 339⇑*i*P **P 08 36 26.6 +1.0**
comp=Z,50nm,1.0s,mb5.3
TCF Toulx Ste Croi 85.23 339⇑*i*P **P 08 36 26.6 +1.0**
comp=Z,25nm,1.0s,mb5.3
TCF Toulx Ste Croi 85.23 339⇑*i*P **P 08 36 26.6 +1.0**
TCF pmax pmax
comp=Z,25nm,1.0s,mb5.3
MBDF Montbardon 85.43 336 *e*P **P 08 36 28.2 +1.6**
comp=Z,16nm,0.7s,mb5.0
MBDF Montbardon 85.43 336 *e*P **P 08 36 28.2 +1.6**
comp=Z,8.0nm,0.7s,mb5.0
MBDF Montbardon 85.43 336 *e*P **P 08 36 28.2 +1.6**
MBDF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
MFF Saint Martin d 85.51 341 *e*P **P 08 36 28.1 +1.1**
comp=Z,94nm,1.0s,mb5.7
MFF Saint Martin d 85.51 341 *e*P **P 08 36 28.1 +1.1**
comp=Z,47nm,1.0s,mb5.7
MFF Saint Martin d 85.51 341 *e*P **P 08 36 28.1 +1.1**
MFF pmax pmax
comp=Z,47nm,1.0s,mb5.7
ORIF Oris-en-Rattie 85.52 336 *e*P **P 08 36 28.0 +1.0**
comp=Z,47nm,0.9s,mb5.4
ORIF *e*R
comp=Z,202nm,19.5s
ORIF Oris-en-Rattie 85.52 336 *e*P **P 08 36 28.0 +1.0**
comp=Z,24nm,0.9s,mb5.4
ORIF Oris-en-Rattie 85.52 336 *e*P **P 08 36 28.0 +1.0**
ORIF pmax pmax
comp=Z,24nm,0.9s,mb5.4
PYM Petit Puy Mans 85.53 339 *e*P **P 08 36 30.6 +3.5**
VIVF Saint-Julien-I 85.91 337 *e*P **P 08 36 29.8 +0.8**
comp=Z,68nm,1.1s,mb5.5
VIVF Saint-Julien-I 85.91 337 *e*P **P 08 36 29.8 +0.8**
comp=Z,34nm,1.1s,mb5.5
VIVF Saint-Julien-I 85.91 337 *e*P **P 08 36 29.8 +0.8**
VIVF pmax pmax
comp=Z,34nm,1.1s,mb5.5
URZ Urewera 85.94 160 LR LR 09 08 45.6
comp=Z,407nm,19.1s,MS4.8,baz=6.5,slow=31
LBL Lubilhac 85.95 338 *e*P **P 08 36 32.0 +2.9**
FRNF Fournols 85.98 339 *e*P **P 08 36 30.3 +1.0**
SBF Sospel 86.02 335 *e*P **P 08 36 30.8 +1.3**
comp=Z,122nm,1.0s,mb5.8
SBF Sospel 86.02 335 *e*P **P 08 36 30.8 +1.3**
comp=Z,61nm,1.0s,mb5.8
SBF Sospel 86.02 335 *e*P **P 08 36 30.8 +1.3**
SBF pmax pmax
comp=Z,61nm,1.0s,mb5.8
RJF Les Rejaudoux 86.33 339 *e*P **P 08 36 31.6 +0.6**
comp=Z,118nm,1.4s,mb5.6
RJF *e*R
comp=Z,364nm,18.2s
RJF Les Rejaudoux 86.33 339 *e*P **P 08 36 31.6 +0.6**
comp=Z,59nm,1.4s,mb5.6
RJF Les Rejaudoux 86.33 339 *e*P **P 08 36 31.6 +0.6**
RJF pmax pmax
comp=Z,59nm,1.4s,mb5.6
FRF La Foret Royal 86.53 335 *e*P **P 08 36 32.2 +0.2**
CAF Calviac 86.54 339 *e*P **P 08 36 33.3 +1.2**
comp=Z,89nm,1.2s,mb5.6
CAF Calviac 86.54 339 *e*P **P 08 36 33.3 +1.2**
comp=Z,45nm,1.2s,mb5.6
CAF Calviac 86.54 339 *e*P **P 08 36 33.3 +1.2**
CAF pmax pmax
comp=Z,45nm,1.2s,mb5.6
TBI Tubuai 86.58 128 *e*LR LR 09 02 39.9
comp=Z,246nm,22.0s,baz=328
LMR La Mourre 86.78 335 *e*P **P 08 36 33.6 +0.4**
comp=Z,101nm,1.1s,mb5.7
LMR La Mourre 86.78 335 *e*P **P 08 36 33.6 +0.4**
comp=Z,51nm,1.1s,mb5.7
LMR La Mourre 86.78 335 *e*P **P 08 36 33.6 +0.4**
LMR pmax pmax
comp=Z,51nm,1.1s,mb5.7
LFF La Frestale 86.86 340 *e*P **P 08 36 35.5 +2.9**
comp=Z,82nm,0.9s,mb5.7
LFF La Frestale 86.86 340 *e*P **P 08 36 35.5 +2.9**
comp=Z,41nm,0.9s,mb5.7
LFF La Frestale 86.86 340 *e*P **P 08 36 35.5 +2.9**
LFF pmax pmax
comp=Z,41nm,0.9s,mb5.7
MTLF Montolieu 87.98 338 *e*P **P 08 36 40.3 +1.3**
comp=Z,31nm,1.0s,mb5.2
MTLF Montolieu 87.98 338 *e*P **P 08 36 40.3 +1.3**
comp=Z,16nm,1.0s,mb5.2
MTLF Montolieu 87.98 338 *e*P **P 08 36 40.3 +1.3**
MTLF pmax pmax
comp=Z,16nm,1.0s,mb5.2
EPF Esparros 88.75 339 *e*P **P 08 36 44.5 +1.9**
ETSF Etsaut 89.10 340 *e*P **P 08 36 46.0 +1.7**
comp=Z,23nm,0.7s,mb5.3
ETSF Etsaut 89.10 340 *e*P **P 08 36 46.0 +1.7**
comp=Z,11nm,0.7s,mb5.3
ETSF Etsaut 89.10 340 *e*P **P 08 36 46.0 +1.7**
ETSF pmax pmax
comp=Z,11nm,0.7s,mb5.3
RPZ Rata Peaks 89.94 166 LR LR 09 13 13.9
comp=Z,299nm,18.3s,MS4.8,baz=19,slow=33
TORD Torodi Ar. Bea 116.08 327 PKP PKPdf 08 42 31.4 -0.4
comp=Z,0.9nm,0.5s,baz=34,slow=1.7,SNR=18
TORD pPKP pPKPdf 08 42 46.9 -1.9
comp=Z,0.6nm,0.5s,baz=22,slow=1.7,SNR=3.8
TORD PKKPab PKKPab 08 53 06.7 -0.2
comp=Z,1.7nm,0.8s,baz=210,slow=4.3,SNR=6.9
VNDA Vanda 122.34 177 PKP PKPdf 08 42 42.1 -1.7
comp=Z,3.9nm,0.9s,baz=323,slow=5.0,SNR=5.7
VNDA Vanda 122.34 177 *e*PKIKP PKPdf 08 42 42.7 -1.1
LSZ Lusaka 124.19 283 *e*PKPdf PKPdf 08 42 46.7 -0.7
DBIC Dimbokro 124.45 331 PKP PKPdf 08 42 47.8 -0.1
comp=Z,4.6nm,0.9s,baz=5.3,slow=3.3,SNR=5.9
DBIC pPKP pPKPdf 08 43 03.4 -1.4
comp=Z,5.2nm,0.9s,baz=34,slow=8.4,SNR=3.3
DBIC Dimbokro 124.45 331 *e*PKIKP PKPdf 08 42 48.2 +0.3
LBTB Lobatse 132.45 276 *e*PKPdf PKPdf 08 43 03.3 +0.2
SAML Samuel 133.25 51 *e*PKPdf PKPdf 08 43 04.0 -0.5
QSPA South Pole Qui 134.66 180 *e*P PKPdf 08 43 06.7 -0.5
LPAZ La Paz 136.12 62 PKP PKPdf 08 43 11.2 +1.2
comp=Z,2.8nm,0.8s,baz=2.9,slow=8.1,SNR=14
LPAZ La Paz 136.12 62 *e*PKPdf PKPdf 08 43 10.7 +0.8
LPAZ La Paz 136.12 62 PKIKP PKPdf 08 43 11.2 +1.2
LPAZ pmax pmax
comp=Z,30nm,0.8s
CFAA Coronel Fontan 146.35 81 PKPbc PKPbc 08 43 28.8 -0.8
comp=Z,1.9nm,0.7s,baz=238,slow=1.3,SNR=36
BDFB Brasilia 146.43 36 PKPbc PKPbc 08 43 29.6 -0.2
comp=Z,4.1nm,0.7s,baz=289,slow=3.3,SNR=8.0
BDFB pPKPbc pPKPbc 08 43 45.6 -1.0
comp=Z,6.5nm,0.8s,baz=85,slow=4.9,SNR=4.1
CPUP Villa Florida 150.28 61 PKPbc PKPbc 08 43 39.0 -0.8
comp=Z,6.4nm,0.6s,baz=318,slow=2.9,SNR=18
CPUP pPKPbc pPKPbc 08 43 54.8 -2.0
comp=Z,4.5nm,0.6s,baz=338,slow=2.6,SNR=5.8
CPUP Villa Florida 150.28 61 *e*PKIKP PKPdf 08 43 39.0 +4.3
SNAA Sanae 150.51 196 PKPbc PKPbc 08 43 39.2 -1.2
comp=Z,10nm,0.9s,baz=174,slow=3.5,SNR=19
SNAA pPKPbc pPKPbc 08 43 55.0 -2.4
comp=Z,5.0nm,0.8s,baz=334,slow=1.5,SNR=4.2
SNAA Sanae 150.51 196 *e*PKPdf PKPdf 08 43 39.2 +4.2
SNAA *e* 08 43 45.9
SNAA *e* 08 43 49.6
SNAA *e* 08 43 55.4
SNAA *e* 08 43 57.8
SNAA *e* 08 44 10.4
SNAA *e* 08 44 22.9
SNAA Sanae 150.51 196 *e*PKIKP PKPdf 08 43 38.9 +3.9
SNAA *e* 08 43 47.1
VNA2 Neumayer--Watz 151.97 195 *e*PKPdf PKPdf 08 43 43.1 +5.8
baz=102,slow=1.3
VNA2 *e* 08 43 49.5
VNA2 *e* 08 43 53.5
VNA2 *e* 08 43 58.6
VNA2 *e* 08 44 01.2
VNA2 *e* 08 44 13.8
VNA2 *e* 08 44 16.7
VNA2 *e* 08 44 26.7
VNA2 *e* 08 44 41.1
VNA3 Neumayer Olymp 152.08 193 *e*PKPdf PKPdf 08 43 42.9 +5.5
VNA3 *e* 08 43 49.3
VNA3 *e* 08 43 53.7
VNA3 *e* 08 43 59.0
VNA3 *e* 08 44 01.2
VNA3 *e* 08 44 13.7
VNA3 *e* 08 44 16.5
VNA3 *e* 08 44 27.0
VNA3 *e* 08 44 41.3
VNA1 Neumayer--Stat 152.36 194 *e*PKPdf PKPdf 08 43 44.8 +7.0
VNA1 *e* 08 43 51.8
VNA1 *e* 08 43 55.7
VNA1 *e* 08 44 00.5
VNA1 *e* 08 44 02.6
VNA1 *e* 08 44 15.4
VNA1 *e* 08 44 28.3

*ISCJB **09** 08:24:05.0±1.0, 597S±02×262W±06, h10km, mb3.9/2, Error ellipse: s-maj=48.4km s-min=13.2km az=127.5*
*IDC **09** 08:24:04.1±1.8, 5993S×2626W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.7/14, mbtmp4.0/2, Error ellipse: s-maj=75.1km s-min=43.5km az=9.0*
ISC 09 08:24:06.9±1.0, 597S±02×261W±06, h10km, n9, σ0°47/6, mb3.9/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.21**	**154**	*e*		**Pn**	**08 27 15.1**	**+0.6**
VNA1				*e*			08 27 19.6	
VNA1				*e*			08 27 26.4	
VNA1				*e*			08 27 50.0	
VNA3	**Neumayer Olymp**	**13.37**	**157**	*e*		**Pn**	**08 27 16.1**	**-0.5**
VNA3				*e*			08 27 21.2	
VNA3				*e*			08 27 27.5	
VNA3				*e*			08 27 50.5	
VNA3				*e*			08 29 35.8	
VNA3				*e*			08 29 39.0	
VNA2	**Neumayer--Watz**	**13.61**	**153**	*e*		**Pn**	**08 27 19.8**	**-0.2**
VNA2				*e*			08 27 24.7	
VNA2				*e*			08 27 31.1	
VNA2				*e*			08 27 54.1	
VNA2				*e*			08 29 37.7	
VNA2				*e*			08 29 40.8	
SNAA	**Sanae**	**15.20**	**152**	*e*		**Pn**	**08 27 41.7**	**+0.2**
SNAA				*e*			08 27 45.6	
SNAA				*e*			08 27 53.5	
SNAA				*e*			08 28 14.4	
LPAZ	**La Paz**	**53.00**	**306**	P		**P**	**08 33 23.8**	**+0.1**
0.7nm,0.3s,mb4.0,baz=124,slow=7.3,SNR=8.9								
TORD	**Torodi Ar. Bea**	**75.98**	**28**	P		**P**	**08 35 54.0**	**-0.1**
0.5nm,0.4s,mb3.8,baz=198,slow=6.3,SNR=11								
ARCES	**ARCESS Array B**	**134.10**	**23**	PKP		PKPdf	08 43 21.8	-2.8
2.0nm,0.9s,baz=219,slow=2.3,SNR=5.7								
SONM	**Songino Array**	**150.18**	**92**	PKPbc		PKPbc	08 43 56.2	-1.8
1.4nm,0.7s,baz=200,slow=1.9,SNR=5.7								
ILAR	**Eielson Array**	**152.88**	**306**	PKPbc		PKPbc	08 44 00.8	-3.5
0.2nm,0.4s,baz=140,slow=2.3,SNR=8.3								

*IDC **09** 08:43:08.2±24.0, 5183N×17767W, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.2/3, Error ellipse: s-maj=449.0km s-min=94.8km az=79.0*
*ISCJB **09** 08:43:39.1±1.2, 528N±04×1760W±03, h205km±22km, mb2.9/2, Error ellipse: s-maj=70.7km s-min=23.2km az=149.5*
*NEIC **09** 08:43:39.7±1.5, 5271N×176.16W, h207km±17km, MG2.9(AEIC), Error ellipse: s-maj=49.8km s-min=37.4km az=152.0*
ISC 09 08:43:40.0±1.2, 528N±04×1761W±03, h203km±20km, n5, σ0°36/8, mb2.9/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.97**	**204**	*e*Pn		**Pn**	**08 44 09.5**	**-0.4**
ADK				S		**Sn**	**08 44 33.0**	**0.0**
ADK				*e*Sn		**Sn**	**08 44 33.5**	**+0.5**
ATKA	**Atka Island**	**1.27**	**116**	P		**Pn**	**08 44 12.4**	**+0.4**
ATKA				S		**Sn**	**08 44 36.7**	**-0.2**
ILAR	**Eielson Array**	**19.09**	**40**	P		**P**	**08 47 47.3**	**0.0**
1.0nm,1.1s,baz=234,slow=9.5,SNR=6.5								
YKA	**Yellowknife Ar**	**33.04**	**48**	P		**P**	**08 49 56.1**	**0.0**
0.2nm,0.5s,mb2.9,baz=285,slow=8.4,SNR=4.4								
PDAR	**Pinedale Array**	**44.29**	**75**	P		**P**	**08 51 29.5**	**0.0**
0.4nm,0.7s,mb2.9,baz=284,slow=6.0,SNR=3.4								

JMA 09 09:02:00.1±0.7, 4523N×15168E, h30km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.65**	**248**	P		Pn	09 03 07.4	-0.9
NEM2				*e*S		Sn	09 03 56.5	-4.7
JNK	**Nakash**	**5.25**	**254**	P		Pn	09 03 17.5	+1.0
JNK				*e*S		Sn	09 04 12.9	-3.1
JAK	**Akkeshi**	**5.50**	**249**	P		Pn	09 03 19.1	-0.9
JAK				*e*S		Sn	09 04 17.7	-4.5
JTKR	**Abashiri--Toko**	**5.69**	**260**	P		Pn	09 03 24.3	+1.7
JAR	**Ashorobuto**	**6.00**	**254**	P		Pn	09 03 27.7	+0.9
JAR				*e*S		Sn	09 04 33.1	-1.4
JMP	**Maruseppu**	**6.06**	**261**	P		Pn	09 03 29.8	+2.1
JOB	**Onbets**	**6.11**	**250**	P		Pn	09 03 28.4	+0.1
JOB				*e*S		Sn	09 04 32.9	-4.3
JKK2	**Kamakawa 2**	**6.53**	**261**	P		Pn	09 03 36.4	+2.4
JCH	**Churui**	**6.55**	**249**	P		Pn	09 03 33.9	-0.5
JCH				*e*S		Sn	09 04 44.9	-3.1
JNBK	**Urakawa-nobuka**	**7.10**	**249**	P		Pn	09 03 41.8	-0.2
JNBK				*e*S		Sn	09 04 55.9	-5.8
JNB	**Noboribetsu**	**8.17**	**254**	*e*S		Sn	09 05 24.3	-3.6
JKB	**Kayabe**	**8.42**	**250**	*e*S		Sn	09 05 27.7	-6.4
JANG	**Nango**	**8.91**	**241**	*e*S		Sn	09 05 34.0	-12
JTH	**Tanohata**	**8.96**	**237**	*e*S		Sn	09 05 35.8	-12

*ISCJB **09** 09:04:07.0±2.4, 206S±02×16978E±010, h132km±20km, mb4.3/9, Error ellipse: s-maj=38.2km s-min=14.7km az=12.7*
*IDC **09** 09:04:07.3±3.4, 2050S×16979E, h115km±29km, mb4.1/6, mb1 4.2/7, mb1mx3.9/14, mbtmp4.4/7, Error ellipse: s-maj=43.3km s-min=23.6km az=174.0*
*NEIC **09** 09:04:07.7±1.7, 2050S×16982E, h124km±15km, mb4.4/5, Error ellipse: s-maj=24.5km s-min=10.0km az=187.0*
ISC 09 09:04:06.9±2.4, 205S±02×16984E±010, h116km±21km, n21, σ0°71/19, mb4.3/9, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.16**	**331**	‖*i*P		**Pn**	**09 04 41.1**	**-14**
DZM	**Mont Dzumac**	**3.55**	**243**	P		**Pn**	**09 05 01.4**	**+1.1**
31nm,0.3s,baz=132,slow=18,SNR=556								
DZM				S		**Sn**	**09 05 40.6**	**-1.1**
62nm,0.3s,baz=328,slow=23,SNR=20								
RAO	**Raoul Island**	**14.14**	**131**	P		**Pn**	**09 07 21.7**	**-0.2**
204nm,0.3s,baz=278,slow=22,SNR=4.8								
RAO	**Raoul Island**	**14.14**	**131**	*e*Pn		**Pn**	**09 07 21.8**	**-0.1**
CTA	**Charters Tower**	**22.12**	**267**	*e*P		**P**	**09 08 53.5**	**+0.5**
7.6nm,0.5s,mb4.3								
CTA	**Charters Tower**	**22.12**	**267**	P		**P**	**09 08 54.8**	**+1.8**
7.8nm,0.5s,mb4.3,baz=94,slow=11,SNR=19								
PMG	**Port Moresby**	**24.48**	**293**	P		**P**	**09 09 14.9**	**-0.2**
9.0nm,0.8s,mb4.2,baz=109,slow=8.2,SNR=3.6								
STKA	**Stephens Creek**	**27.70**	**240**	*e*P		**P**	**09 09 44.3**	**+0.2**
2.8nm,0.7s,mb3.9								
STKA	**Stephens Creek**	**27.70**	**240**	P		**P**	**09 09 44.5**	**+0.4**
3.3nm,0.7s,mb4.0,baz=86,slow=8.5,SNR=12								
WB2	**Warramunga Arr**	**33.27**	**265**	*e*P		**P**	**09 10 32.2**	**-1.0**
WRAB	**Tennant Creek**	**33.27**	**265**	*e*P		**P**	**09 10 32.6**	**-0.6**
2.2nm,0.5s,mb4.2								
WRA	**Warramunga Arr**	**33.28**	**265**	P		**P**	**09 10 32.4**	**-0.8**
1.4nm,0.5s,mb4.1,baz=94,slow=8.5,SNR=35								
AS31	**Alice Springs**	**33.40**	**258**	*e*P		**P**	**09 10 34.5**	**+0.2**
ASAR	**Alice Springs**	**33.40**	**258**	P		**P**	**09 10 34.6**	**+0.3**
17nm,0.6s,mb5.1,baz=85,slow=9.3,SNR=334								
ASPA	**Alice Springs**	**33.41**	**258**	*e*P		**P**	**09 10 34.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.70**	**265**	*e*P		**P**	**09 11 44.7**	**+0.6**
9.7nm,0.6s,mb4.7								
MBWA	**Marble Bar**	**46.68**	**260**	*e*P		**P**	**09 12 24.7**	**+0.8**
32nm,1.3s,mb4.9								
ILAR	**Eielson Array**	**91.22**	**17**	P		**P**	**09 16 58.3**	**-0.7**
0.3nm,0.7s,mb3.5,baz=235,slow=4.5,SNR=5.1								
ARCES	**ARCESS Array B**	**126.38**	**345**	PKP		PKPdf	09 22 55.7	-0.3
0.9nm,0.8s,baz=48,slow=1.8,SNR=5.1								
ARCES	**ARCESS Array B**	**126.38**	**345**	PKP		PKPdf	09 22 55.7	-0.3
GERES	**GERESS Array B**	**145.83**	**332**	PKPbc		PKPbc	09 23 33.4	+0.8
0.4nm,0.2s,baz=53,slow=5.2,SNR=7.0								

PRE 09 09:13:35.9±0.9, 2171S×3436E, h5km, ML4.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**4.07**	**260**	*e*P			09 06 25.9	
MSNA				*e*S			09 07 12.2	
MSNA				AML		AML	09 07 22.7	
comp=Z,255nm,0.5s								
SLR	**Silverton**	**6.86**	**233**	*e*S		Sn	09 16 40.4	+4.9
SLR				AML		AML	09 17 17.4	
comp=Z,82nm,0.5s								
LBTB	**Lobatse**	**8.70**	**246**	*e*P		Pn	09 15 43.1	+0.8
LBTB				*e*S		Sn	09 17 17.0	-3.7
LBTB				AML		AML	09 18 07.5	
comp=Z,43nm,0.6s								
BOSA	**Boshof**	**10.73**	**228**	*e*P		Pn	09 16 11.6	+1.4
BOSA				*e*S		Sn	09 18 05.4	-5.3
BOSA				AML		AML	09 19 25.7	
comp=Z,27nm,0.7s								
PKA	**Prieska**	**13.12**	**230**	*e*P		Pn	09 16 45.1	+2.3

*ISCJB **09** 09:15:57.5±1.1, 1621N×006×6184W×009, h148km±11km, Error ellipse: s-maj=15.8km s-min=5.0km az=117.6*
*TRN **09** 09:15:57.2, 1628N×6152W, h151km, MD3.5, M3.5(FDF), MD3.3(FDF)*
*RSPR **09** 09:15:59.0, 2081N×6198W, h25km±64km, MD4.4/6, MD4.4/6*
*NEIC **09** 09:16:00.3, 1622N×6163W, h135km, MD4.4(RSPR), After FDF.*
ISC 09 09:15:58.0±1.2, 1622N±005×6183W±008, h147km±11km, n34, σ0°90/49, 13C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LZG	**Guadaloupe-1**	**0.09**	**146**	‖*e*P		**Pn**	**09 16 18.4**	**+0.6**
SCG	**Saint Claude**	**0.23**	**143**	‖*e*P		**Pn**	**09 16 18.9**	**+0.9**
SCG	**Saint Claude**	**0.23**	**143**	‖*e*P		**Pn**	**09 16 18.9**	**+0.9**
BCG	**Bois Riant Cap**	**0.24**	**123**	*e*P		**Pn**	**09 16 18.8**	**+0.8**
PHG	**Guadaloupe-2**	**0.27**	**138**	*e*P		**Pn**	**09 16 18.9**	**+0.8**
DOG	**Dongo Capester**	**0.27**	**132**	‖*e*P		**Pn**	**09 16 18.7**	**+0.5**
DOG	**Dongo Capester**	**0.27**	**132**	‖*e*P		**Pn**	**09 16 18.7**	**+0.5**
SEG	**Port Louis**	**0.36**	**59**	‖*e*P		**Pn**	**09 16 18.7**	**+0.2**
SEG	**Port Louis**	**0.36**	**59**	‖*e*P		**Pn**	**09 16 18.7**	**+0.2**
TBG	**Guadaloupe-3**	**0.40**	**154**	‖*e*P		**Pn**	**09 16 19.0**	**+0.4**
MGG	**Marie-Galante**	**0.57**	**121**	‖*e*P		**Pn**	**09 16 19.7**	**+0.2**
SFG	**Saint Francois**	**0.61**	**86**	*e*P		**Pn**	**09 16 19.6**	**-0.1**
DEG	**La Desirade**	**0.74**	**82**	‖*e*P		**Pn**	**09 16 20.0**	**-0.5**
DEG				*e*S		**Sn**	**09 16 34.7**	**-2.9**
BBL	**Barber's Block**	**0.77**	**153**	‖*e*P		**Pn**	**09 16 20.5**	**-0.2**
DWS	**Wesley**	**0.81**	**142**	*e*P		**Pn**	**09 16 22.0**	**+0.9**
DWS				*e*S		**Sn**	**09 16 39.3**	**+0.8**
BPA	**Boggy Peak**	**0.83**	**358**	‖*e*P		**Pn**	**09 16 22.1**	**+1.0**
BPA				*e*S		**Sn**	**09 16 39.0**	**+0.2**
CPB	**Codrington**	**1.42**	**0**	*e*P		**Pn**	**09 16 27.2**	**+0.7**
CPB				*e*S		**Sn**	**09 16 48.2**	**-0.1**
FDF	**Fort de France**	**1.61**	**156**	*e*P		**Pn**	**09 16 28.1**	**-0.4**
FDF				*e*S		**Sn**	**09 16 51.8**	**-0.2**
CRM	**Caravelle**	**1.70**	**149**	*e*P		**Pn**	**09 16 28.7**	**-0.9**
CRM				*e*S		**Sn**	**09 16 52.4**	**-1.2**
BIM	**Bigot**	**1.84**	**157**	*e*P		**Pn**	**09 16 30.9**	**-0.2**
BIM				*e*S		**Sn**	**09 16 57.3**	**+0.8**
MVM	**Montagne Vaucl**	**1.88**	**151**	*e*P		**Pn**	**09 16 30.9**	**-0.7**
MVM				*e*S		**Sn**	**09 16 56.1**	**-1.2**
STMA	**St. Maarten, A**	**2.19**	**326**	*e*P		**Pn**	**09 16 40.9**	**+5.6**
STMA				*e*S		**Sn**	**09 17 02.7**	**-1.1**
TBVI	**Tortola**	**3.44**	**310**	*e*S		**Sn**	**09 17 29.9**	**-2.0**
TBVI	**Tortola**	**3.44**	**310**	‖*e*P		**Pn**	**09 16 50.5**	**-0.4**
TBVI				*e*S		**Sn**	**09 17 29.9**	**-2.0**
STVI	**Saint Thomas**	**3.67**	**306**	*e*S		**Sn**	**09 17 35.7**	**-1.6**
STVI	**Saint Thomas**	**3.67**	**306**	‖*e*P		**Pn**	**09 16 54.0**	**+0.1**
STVI				*e*S		**Sn**	**09 17 35.7**	**-1.6**
MTP	**Monte Pirata**	**4.03**	**298**	*e*S		**Sn**	**09 17 49.5**	**+4.0**
MTP	**Monte Pirata**	**4.03**	**298**	‖*e*P		**Pn**	**09 17 00.7**	**+2.2**
MTP				*e*S		**Sn**	**09 17 49.5**	**+4.0**
CBYP	**Canovanas**	**4.36**	**299**	*e*S		**Sn**	**09 17 54.2**	**+0.8**
CBYP	**Canovanas**	**4.36**	**299**	‖*e*P		**Pn**	**09 17 02.9**	**0.0**
CBYP				*e*S		**Sn**	**09 17 54.2**	**+0.8**
AOPR	**Arecibo Observ**	**5.16**	**295**	*e*S		**Sn**	**09 18 11.7**	**-0.6**
AOPR	**Arecibo Observ**	**5.16**	**295**	‖*e*P		**Pn**	**09 17 13.5**	**0.0**
AOPR				*e*S		**Sn**	**09 18 11.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**5.36**	**290**	*e*S		**Sn**	**09 18 23.0**	**+6.0**
CRPR	**Cabo Rojo, PR**	**5.36**	**290**	‖*e*P		**Pn**	**09 17 16.3**	**+0.2**
CRPR				*e*S		**Sn**	**09 18 23.0**

URLA *i* S **Sg** **09 33 18.0 +0.7**
BLCB Balcova 0.31 56 *e*PG **Pg** **09 33 17.2 +0.2**
BLCB *e*SG **Sg** **09 33 21.2 -0.1**
IZM Izmir 0.47 67 *i* PG **Pg** **09 33 20.1 +0.1**
IZM *i* SG **Sg** **09 33 27.0 +0.7**
KDAG Bornova 0.47 67 *i* P **Pg** **09 33 20.3 +0.1**
KDAG *i* S **Sg** **09 33 25.9 -0.5**
SMG Samos 0.52 169 *e*PN **Pg** **09 33 20.4 -0.5**
SMG *e*SN **Sg** **09 33 27.9 +0.2**
AYDN Tasoluk 1.07 121 *i* P **Pb** **09 33 31.4 -0.1**
AYDN *i* S **Sb** **09 33 45.0 -0.5**
AKS Akhisar 1.09 52 *e*PG **Pg** **09 33 30.1 -1.6**
PRK Paraskevi 1.09 342 *e*PN **Pn** **09 33 31.2 -0.8**
PRK *e*SN **Sn** **09 33 46.7 -0.2**
BODT Bodrum 1.24 157 *e*PN **Pn** **09 33 33.3 -0.8**
BDRM Kayabasi 1.29 153 *i* P **Pn** **09 33 37.5 +2.8**
BDRM *i* S **Sb** **09 33 51.2 -0.3**
BDRM Kayabasi 1.29 153 *i* S **Sb** **09 33 51.2 -0.3**
MANT Manisa 1.48 79 *i* P **Pn** **09 33 38.5 +1.2**
MANT *i* S **Sn** **09 33 57.4 +0.8**
APE Apeiranthos 1.48 220 *e*PN **Pn** **09 33 36.5 -0.9**
APE Apeiranthos 1.48 220 *e*PN **Pn** **09 33 39.0 +1.6**
BALB Balikesir 1.69 32 *e*PN **Pn** **09 33 39.8 -0.4**
DST Dursunbey 2.04 46 *e*PN **Pn** **09 33 45.1 0.0**

GUC 09 09:44:22.1±0.7, 3350S×7077W, h87km±2km, MD4.2, ML4.2, 7C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.04**	**287**	*e*P	Pn	09 44 34.1	-0.2
RCDM				*i* S	Sn	09 44 43.2	-0.1
RCDM				AMP		09 44 44.8	
	comp=E,40μm,0.1s						
SAN	**Santiago**	**0.10**	**62**	*e*P	Pn	09 44 34.4	0.0
SAN				*i* S	Sn	09 44 43.6	+0.1
ANTU	**Antumapu**	**0.13**	**122**	*e*P	Pn	09 44 34.4	0.0
ANTU				*i* S	Sn	09 44 43.6	0.0
ANTU				AMP		09 44 44.8	
	comp=E,10μm,0.2s						
DSCH	**Colegio Aleman**	**0.19**	**58**	*e*P	Pn	09 44 34.1	-0.5
DSCH				*i* S	Sn	09 44 43.7	-0.2
TACH	**Talagante**	**0.21**	**223**	⇑*i*P	Pn	09 44 34.7	0.0
TACH				*i* S	Sn	09 44 44.0	0.0
CLCH	**Cerro Calan**	**0.22**	**62**	⇓*i*P	Pn	09 44 35.0	+0.3
CLCH				*i* S	Sn	09 44 44.7	+0.6
CLCH				AMP		09 44 46.0	
	comp=E,15μm,0.3s						
PCH	**Pirque**	**0.24**	**120**	⇑*i*P	Pn	09 44 35.0	+0.1
PCH				*i* S	Sn	09 44 44.9	+0.7
PEL	**Peldehue**	**0.36**	**11**	⇓*i*P	Pn	09 44 35.7	+0.2
PEL				*i* S	Sn	09 44 45.7	+0.3
PEL				AMP		09 44 46.8	
	comp=E,18μm,0.3s						
FCH	**Farellones**	**0.43**	**67**	⇓*i*P	Pn	09 44 36.8	+0.8
FCH				*i* S	Sn	09 44 47.6	+1.3
FCH				AMP		09 44 48.5	
	comp=N,16μm,0.2s						
CHCH	**Chadas Angostu**	**0.44**	**168**	⇑*i*P	Pn	09 44 36.2	+0.1
ROCH	**El Roble**	**0.57**	**339**	⇓*i*P	Pn	09 44 37.0	0.0
ROCH				*i* S	Sn	09 44 48.8	+0.7
CACH	**El Canelo**	**0.63**	**167**	⇓*i*P	Pn	09 44 38.4	+0.8
LCCH	**Las Cruces**	**0.67**	**272**	⇑*i*P	Pn	09 44 38.4	+0.3
LNV	**Longovilo**	**0.70**	**230**	⇓*i*P	Pn	09 44 38.1	-0.3
JACH	**Jahuel**	**0.83**	**10**	⇓*i*P	Pn	09 44 39.7	0.0
JACH				*i* S	Sn	09 44 52.4	-0.3
CICH	**Cipreses**	**0.87**	**161**	⇓*i*P	Pn	09 44 40.8	+0.7
CICH				*i* S	Sn	09 44 54.2	+0.7
IHA	**Instituto Hidr**	**0.87**	**303**	⇑*i*P	Pn	09 44 40.1	-0.1
IHA				*i* S	Sn	09 44 53.7	+0.1
SFDO	**San Fernando**	**1.13**	**190**	⇑*i*P	Pn	09 44 43.6	+0.5
NICH	**Los Niches**	**1.55**	**194**	⇓*i*P	Pn	09 44 48.5	+0.3
NICH				*i* S	Sn	09 45 08.3	+0.2
CHNG	**Los Chungos**	**1.73**	**339**	⇑*i*P	Pn	09 44 50.7	+0.1
CHNG				*i* S	Sn	09 45 11.2	-1.1
TALC	**Talca**	**2.02**	**201**	*e*P	Pn	09 44 54.3	-0.2
TALC				*i* S	Sn	09 45 18.9	-0.3
LNCH	**Linares**	**2.44**	**196**	⇓*i*P	Pn	09 45 00.1	+0.1
LNCH				*i* S	Sn	09 45 28.0	-1.1
CNCO	**Chanco**	**2.66**	**213**	*e*P	Pn	09 45 02.0	-1.0
CCHI	**Chillan**	**3.28**	**199**	*e*P	Pn	09 45 11.0	-0.3
CCHI				AMP		09 46 10.3	
	comp=E,822nm,0.7s						

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*MOS **09** 09:46:31.2±0.7, 5624N×163.14E, h6km, mb4.3/1, Error ellipse: s-maj=32.0km s-min=16.2km az=58.1*

KRSC 09 09:46:31.0±0.5, 5627N×16306E, h2km±1km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.15**	**245**	*i* P	Pg	09 46 35.2	+1.3
KBG	**Krutoberegovo**	**0.20**	**266**	*i* P	Pg	09 46 36.4	+1.6
KBG				*i* S	Sg	09 46 40.1	+2.7
KBG				Smax			
	27μm,0.4s						
SMKR	**Semkarok**	**0.94**	**290**	*i* P	Pg	09 46 50.5	+1.5
SMKR				*i* S	Sg	09 47 05.0	+3.8
BDR	**Baidarnaya**	**1.07**	**287**	*i* P	Pg	09 46 52.9	+1.4
BDR				*i* S	Sg	09 47 09.0	+3.6
SRKR	**Sorokina**	**1.12**	**291**	*i* P	Pg	09 46 53.7	+1.3
SRKR				*i* S	Sg	09 47 10.1	+3.2
ZLN	**Zelenaya**	**1.29**	**260**	*e*P	Pg	09 46 56.3	+0.6
ZLN				*e*S	Sg	09 47 14.4	+2.0
CIRR	**Tsirk**	**1.30**	**264**	*i* P	Pg	09 46 56.5	+0.5
CIRR				*e*S	Sg	09 47 14.9	+2.1
LGNR	**Loginova**	**1.34**	**263**	*i* P	Pg	09 46 57.2	+0.5
LGNR				*i* S	Sg	09 47 16.2	+2.2
KLY	**Klyuchi**	**1.34**	**273**	P	Pg	09 46 55.1	-1.6
KLY				S	Sg	09 47 12.0	-2.2
KLY	**Klyuchi**	**1.34**	**273**	*i* P	Pg	09 46 55.1	-1.6
KLY				*e*S	Sg	09 47 12.4	-1.8
KRSR	**Krestovskiy**	**1.39**	**269**	*e*P	Pn	09 46 57.4	0.0
KRSR				*e*S	Sg	09 47 16.5	+0.7
KPT	**Kopyto**	**1.62**	**260**	*e*P	Pn	09 47 01.7	+1.2
KPT				*e*S	Sn	09 47 24.0	+2.0
KOZR	**Kozyr**	**1.78**	**265**	PN	Pn	09 47 04.5	+1.7
KOZR				S	Sn	09 47 29.5	+3.5
KOZ	**Kozyrevsk**	**1.79**	**265**	P	Pn	09 47 04.5	+1.5
KOZ				S	Sn	09 47 29.5	+3.2
KOZ	**Kozyrevsk**	**1.79**	**265**	*e*P	Pn	09 47 04.7	+1.7
KOZ				*e*S	Sn	09 47 29.5	+3.2
SRDR	**Sredinnyy**	**1.86**	**273**	*i* P	Pn	09 47 05.4	+1.5
SRDR				*e*S	Sn	09 47 30.6	+2.6
MKZ	**Mys Kozlova**	**1.88**	**204**	P	Pn	09 47 03.8	-0.3
MKZ				S	Sn	09 47 27.7	-0.7
MKZ	**Mys Kozlova**	**1.88**	**204**	*e*P	Pn	09 47 03.8	-0.3
MKZ				*e*S	Sn	09 47 29.5	+1.1
TUMR	**Tumrok**	**1.92**	**240**	*e*P	Pn	09 47 06.1	+1.4
TUMR				*e*S	Sn	09 47 31.7	+2.3
ESO	**Esso**	**2.47**	**264**	*e*P	Pn	09 47 14.4	+2.2
ESO				Smax			
	80nm,0.6s						
OSSR	**Ossora**	**2.99**	**0**	P	Pn	09 47 21.9	+2.5
KII	**Karymskiy**	**3.05**	**224**	*e*P	Pn	09 47 22.4	+2.2
NLC	**Nalytchevo**	**3.78**	**216**	P	Pn	09 47 31.2	+0.9
NLC				S	Sn	09 48 15.1	-0.2
NLC	**Nalytchevo**	**3.78**	**216**	*e*P	Pn	09 47 31.1	+0.8
NLC				*e*S	Sn	09 48 15.1	-0.2
SMAR	**Somma**	**3.89**	**221**	*e*P	Pn	09 47 33.7	+1.9
AVH	**Avacha**	**3.92**	**222**	*e*P	Pn	09 47 34.5	+2.4
GNL	**Ganaly**	**3.92**	**231**	*e*P	Pn	09 47 34.3	+2.1
UGLR	**Uglovaya**	**3.93**	**220**	*e*P	Pn	09 47 34.5	+2.2
KOK	**Koryaka**	**3.93**	**222**	*e*P	Pn	09 47 34.8	+2.4
PET	**Petropavlovsk**	**4.14**	**220**	P	Pn	09 47 37.3	+2.1
PET				S	Sn	09 48 25.3	+1.1
PET	**Petropavlovsk**	**4.14**	**220**	*e*P	Pn	09 47 37.3	+2.1
PET				*e*S	Sn	09 48 25.8	+1.6
KRMR	**Karymshinskiy**	**4.49**	**222**	*e*P	Pn	09 47 43.1	+3.1
RUS	**Russkaya**	**4.67**	**217**	P	Pn	09 47 43.8	+1.2
RUS				S	Sn	09 48 36.3	-1.1
RUS	**Russkaya**	**4.67**	**217**	*e*P	Pn	09 47 44.1	+1.5
GRL	**Gorelyy**	**4.73**	**220**	*e*P	Pn	09 47 46.3	+3.0
APC	**Apacha**	**4.80**	**228**	*e*P	Pn	09 47 46.7	+2.5
MIPR	**Malaya Ipel'ka**	**5.44**	**225**	*e*P	Pn	09 47 56.5	+3.4
KAMR	**Kamenskoye**	**6.41**	**13**	*e*P	Pn	09 48 09.7	+3.3

IDC 09 09:52:33.3±6.5, 324S×15044E, h57km±67km, mb2.9/3, mb1 3.4/4, mb1mx3.2/15, mbtmp3.4/4, ML2.9/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/11, Error ellipse: s-maj=161.9km s-min=32.4km az=128.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.94**	**208**	P	Pn	09 54 13.0	+0.7
	1.2nm,0.3s,baz=38,slow=8.3,SNR=4.3						
PMG				LR	LR	09 56 58.3	
	comp=Z,47nm,21.3s,baz=80,slow=38						
HNR	**Honiara**	**11.27**	**124**	LR	LR	09 59 04.1	
	comp=Z,100nm,19.4s,baz=357,slow=35						
WRA	**Warramunga Arr**	**22.86**	**222**	P	P	09 57 31.7	+0.1
	0.4nm,0.7s,baz=49,slow=10.0,SNR=5.8						
ASAR	**Alice Springs**	**25.85**	**217**	P	P	09 57 60.0	+0.6
	0.6nm,1.0s,baz=48,slow=8.5,SNR=4.1						
ILAR	**Eielson Array**	**81.62**	**23**	P	P	10 04 44.8	-0.3
	0.2nm,0.7s,baz=247,slow=5.8,SNR=3.9						

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*IDC **09** 09:59:51.6±0.5, 5953S×2965W, h0km, mb4.9/15, mb1 4.9/16, mb1mx4.9/17, mbtmp4.9/16, ML3.9/1, MS5.5/23, Ms1 5.5/23, ms1mx5.4/24, Error ellipse: s-maj=16.7km s-min=12.1km az=14.0*

*ISCJB **09** 09:59:51.6±0.3, 5953S±005×297W±0.1, h10km, mb5.1/27, MS5.5/35, Error ellipse: s-maj=10.4km s-min=5.2km az=104.3*

*NEIC **09** 09:59:53.0±0.2, 5954S×2966W, h10km, mb5.5/20, MW5.9, Error ellipse: s-maj=10.2km s-min=6.5km az=220.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17} Nm; M_{rr}0.30; $M_{\theta\theta}$-3.49; $M_{\phi\phi}$3.19; $M_{r\theta}$-2.12; $M_{\theta\phi}$6.63; $M_{\phi r}$1.17; Best double couple: $M_0$7.80000×10^{17} NP1: ϕ_s76.00000°, δ80.00000°, λ-12.00000°. NP2: ϕ_s168.00000°, δ78.00000°, λ-169.00000°. Principal axes: T 7.2700, Plg1.0000°, Azm122.0000°; N 0.9800, Plg74.0000°, Azm215.0000°; P -8.2600, Plg16.0000°, Azm32.0000°;*

*BJI **09** 09:59:53.0, 5950S×2970W, h10km, mB5.5, Ms5.9, Msz5.6*

*HRVD **09** 09:59:53.0±0.1, 5970S×2970W, h15km, MW5.8/106, Centroid moment Tensor Solution. LP body waves: s89,c193; Mantle waves: s106,c222; Half duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.35±.07; $M_{\theta\theta}$-4.75±.07; $M_{\phi\phi}$5.10±.07; $M_{r\theta}$0.61±.21; $M_{\theta\phi}$4.19±.06; $M_{\phi r}$1.18±.22; Best double couple: $M_0$6.58900×10^{17} NP1: ϕ_s335.00000°, δ82.00000°, λ174.00000°. NP2: ϕ_s66.00000°, δ84.00000°, λ9.00000°. Principal axes: T 6.8820, Plg10.0000°, Azm290.0000°; N -0.5870, Plg80.0000°, Azm101.0000°; P -6.2960, Plg2.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **09** 09:59:55.6±1.2, 5957S×2966W, h33km, mb5.6/10 Error ellipse: s-maj=27.1km s-min=12.9km az=103.8*

ISC 09 09:59:53.2±0.3, 5956S±005×297W±01, h10km, n156, σ1§04/66, mb5.2/26, MS5.5/35, 10C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.47**	**322**	Pn	**Pn**	**10 01 32.6**	**+4.1**
	1μm,0.8s,SNR=18						
HOPE	**Hope Point**	**6.47**	**322**	*e*Pn	**Pn**	**10 01 27.1**	**-1.4**
	187nm,0.8s						
VNA1	**Neumayer--Stat**	**14.20**	**150**	*e*Pn	**Pn**	**10 03 14.6**	**+0.2**
VNA1				*e*		10 03 16.0	
VNA1				*e*		10 03 18.3	
VNA1				*e*		10 03 21.4	
VNA1				*e*		10 03 24.0	
VNA1				*e*		10 03 28.2	
VNA1				*e*		10 03 30.4	
VNA1				*e*		10 03 33.5	
VNA1				*e*		10 03 36.2	
VNA1				*e*		10 03 45.9	
VNA1				*e*		10 17 46.4	
VNA1				*e*		10 18 00.6	
VNA1				*e*		10 18 12.5	
VNA1				*e*		10 18 24.3	
VNA3	**Neumayer Olymp**	**14.27**	**153**	*e*Pn	**Pn**	**10 03 13.8**	**-1.5**
VNA3				*e*		10 03 15.0	
VNA3				*e*		10 03 17.2	
VNA3				*e*		10 03 20.5	
VNA3				*e*		10 03 23.0	
VNA3				*e*		10 03 26.7	
VNA3				*e*		10 03 30.7	
VNA3				*e*		10 03 33.0	
VNA3				*e*		10 03 34.4	
VNA3				*e*		10 03 36.2	
VNA3				*e*		10 03 46.1	
VNA3				*e*		10 17 47.8	
VNA3				*e*		10 18 01.7	
VNA3				*e*		10 18 15.4	
VNA3				*e*		10 18 25.9	
VNA2	**Neumayer--Watz**	**14.60**	**150**	*e*Pn	**Pn**	**10 03 20.1**	**+0.3**
VNA2				*e*		10 03 21.1	
VNA2				*e*		10 03 23.3	
VNA2				*e*		10 03 26.6	
VNA2				*e*		10 03 28.8	
VNA2				*e*		10 03 33.1	
VNA2				*e*		10 03 36.0	
VNA2				*e*		10 03 38.5	
VNA2				*e*		10 03 40.3	
VNA2				*e*		10 03 41.6	
VNA2				*e*		10 03 46.2	
VNA2				*e*		10 03 52.5	
VNA2				*e*		10 03 58.5	
VNA2				*e*		10 17 48.9	
VNA2				*e*		10 18 01.8	
VNA2				*e*		10 18 16.5	
VNA2				*e*		10 18 27.1	
SNAA	**Sanae**	**16.22**	**149**	Pn	**Pn**	**10 03 41.0**	**-0.2**
	0.5nm,0.3s,baz=310,slow=12,SNR=29						
SNAA				Sn	**Sn**	**10 06 42.5**	**+1.4**
	baz=226,slow=23,SNR=1.4						
SNAA				LR	LR	10 08 32.6	
	comp=Z,7μm,18.1s,baz=313,slow=32						
SNAA	**Sanae**	**16.22**	**149**	*e*Pn	**Pn**	**10 03 40.7**	**-0.5**
SNAA				*e*		10 03 42.0	
SNAA				*e*		10 03 43.9	
SNAA				*e*		10 03 47.0	
SNAA				*e*		10 03 49.4	
SNAA				*e*		10 03 53.7	
SNAA				*e*		10 03 56.5	
SNAA				*e*		10 03 59.1	
SNAA				*e*		10 04 05.5	
SNAA				*e*		10 04 12.4	
SNAA	**Sanae**	**16.22**	**149**	*e*Pn	**Pn**	**10 03 41.0**	**-0.2**
	182nm,1.4s						
SNAA	**Sanae**	**16.22**	**149**	*e*P	**Pn**	**10 03 41.0**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,182nm,1.4s						
EFI	**East Falkland**	**17.76**	**284**	Pn	**Pn**	**10 04 00.4**	**-0.1**
	comp=Z,836nm,1.0s,SNR=12						
EFI	**East Falkland**	**17.76**	**284**	*e*P	**Pn**	**10 04 00.1**	**-0.4**
	comp=Z,1μm,2.0s						
EFI	**East Falkland**	**17.76**	**284**	*e*P	**Pn**	**10 04 00.1**	**-0.4**
EFI				pmax	pmax		
	comp=Z,1μm,2.0s						
USHA	**Ushuaia**	**21.30**	**266**	P	**P**	**10 04 40.2**	**+0.2**
	comp=Z,90nm,0.9s,mb5.1,baz=99,slow=9.7,SNR=21						
USHA				S	**S**	**10 08 39.5**	**+2.9**
	comp=Z,9.1nm,0.9s,baz=318,slow=15,SNR=2.5						
USHA				LR	LR	10 10 47.5	
	comp=Z,32μm,21.3s,MS5.7,baz=97,slow=31						
TRQA	**Tornquist**	**29.77**	**302**	*e*P	**P**	**10 05 59.7**	**-0.2**
	comp=Z,254nm,1.8s,mb5.7						
SYO	**Syowa Base**	**29.80**	**137**	⇑*e*P	**P**	**10 05 59.3**	**-0.9**
SYO	**Syowa Base**	**29.80**	**137**	⇑*e*PP	PP	10 07 03.4	-4.0
QSPA	**South Pole Qui**	**30.68**	**180**	⇑*i*P	**P**	**10 06 09.3**	**+1.3**
	comp=Z,106nm,1.4s,mb5.5						
PLCA	**Paso Flores**	**31.57**	**288**	LR	LR	10 18 18.5	
	comp=Z,10μm,20.3s,MS5.5,baz=144,slow=35						
FCH	**Farellones**	**37.42**	**296**	*e*P	**P**	**10 07 06.3**	**-0.1**
CFAA	**Coronel Fontan**	**37.95**	**300**	P	**P**	**10 07 09.7**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.0,baz=156,slow=7.8,SNR=21						
MAW	**Mawson**	**38.16**	**142**	P	**P**	**10 07 13.4**	**+0.7**
	comp=Z,47nm,1.0s,mb5.2,baz=281,slow=5.2,SNR=3.5						
MAW				LR	LR	10 20 40.3	
	comp=Z,7μm,21.5s,MS5.4,baz=244,slow=33						
CAM4	**Nova Friburgo**	**38.28**	**341**	⇓*i*P	**P**	**10 07 14.8**	**+1.1**
CAM4				*i*	pP	10 07 16.4	-0.4
CAM4				*i*		10 07 22.0	
CAM4				*i*		10 07 28.0	

CPUP	**Villa Florida**	**38.33**	**318**	P	**P**	**10 07 13.5**	**-0.7**
	comp=Z,11nm,0.6s,mb4.8,baz=140,slow=7.2,SNR=25						
CPUP				LR	LR	10 21 42.9	
	comp=Z,6μm,20.0s,MS5.4,baz=146,slow=34						
CPUP	**Villa Florida**	**38.33**	**318**	*e*P	**P**	**10 07 13.5**	**-0.6**
	comp=Z,57nm,0.5s,mb5.6						
CPUP	**Villa Florida**	**38.33**	**318**	*e*P	**P**	**10 07 13.5**	**-0.7**
CPUP				pmax	pmax		
	comp=Z,57nm,0.5s						
SUR	**Sutherland**	**42.87**	**74**	P	**P**	**10 07 52.9**	**+1.3**
	comp=Z,25nm,1.1s,mb4.9,baz=277,slow=2.3,SNR=5.0						
SUR				LR	LR	10 22 46.0	
	comp=Z,4μm,18.4s,MS5.3,baz=216,slow=32						
SUR	**Sutherland**	**42.87**	**74**	*e*P	**P**	**10 07 52.8**	**+1.1**
	comp=Z,51nm,1.0s,mb5.2						
VNDA	**Vanda**	**42.99**	**184**	P	**P**	**10 07 53.0**	**+0.4**
	comp=Z,7.4nm,0.8s,mb4.5,baz=169,slow=7.5,SNR=12						
VNDA				LR	LR	10 27 05.7	
	comp=Z,3μm,18.1s,MS5.2,baz=176,slow=38						
VNDA	**Vanda**	**42.99**	**184**	*e*P	**P**	**10 07 52.3**	**-0.3**
	comp=Z,52nm,1.5s,mb5.0						
VNDA	**Vanda**	**42.99**	**184**	*e*P	**P**	**10 07 52.3**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,52nm,1.5s						
BDFB	**Brasilia**	**45.87**	**335**	P	**P**	**10 08 15.5**	**-0.2**
	comp=Z,14nm,0.9s,mb4.9,baz=118,slow=3.3,SNR=12						
BDFB				LR	LR	10 24 06.5	
	comp=Z,4μm,20.9s,MS5.3,baz=330,slow=32						
BOSA	**Boshof**	**48.14**	**75**	P	**P**	**10 08 33.7**	**+0.3**
	comp=Z,27nm,1.0s,mb5.2,baz=219,slow=6.8,SNR=20						
BOSA				LR	LR	10 26 45.9	
	comp=Z,3μm,18.4s,MS5.3,baz=219,slow=34						
BOSA	**Boshof**	**48.14**	**75**	*e*P	**P**	**10 08 33.5**	**+0.1**
	comp=Z,92nm,1.1s,mb5.7						
BOSA	**Boshof**	**48.14**	**75**	*e*P	**P**	**10 08 33.5**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,92nm,1.1s,mb5.7						
CASY	**Casey**	**51.04**	**161**	*e*P	**P**	**10 08 54.8**	**-0.7**
LBTB	**Lobatse**	**51.31**	**73**	LR	LR	10 25 48.1	
	comp=Z,4μm,21.9s,MS5.3,baz=225,slow=30						
LBTB	**Lobatse**	**51.31**	**73**	*e*P	**P**	**10 08 57.5**	**0.0**
	comp=Z,62nm,0.9s,mb5.5						
LBTB				*e*pP	pP	10 09 04.4	+3.7
LBTB	**Lobatse**	**51.31**	**73**	*e*P	**P**	**10 08 57.5**	**0.0**
LBTB				*e**PP	pP	10 09 04.4	+3.7
LBTB				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.5						
LPAZ	**La Paz**	**51.48**	**310**	P	**P**	**10 08 59.6**	**+0.8**
	comp=Z,14nm,0.8s,mb4.9,baz=146,slow=7.0,SNR=38						
LPAZ	**La Paz**	**51.48**	**310**	P	**P**	**10 08 59.7**	**+0.9**
	comp=Z,185nm,1.8s,mb5.7						
LPAZ	**La Paz**	**51.48**	**310**	P	**P**	**10 08 59.7**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,185nm,1.8s						
TSUM	**Tsumeb**	**52.55**	**61**	LR	LR	10 26 32.2	
	comp=Z,3μm,20.0s,MS5.3,baz=280,slow=30						
TSUM	**Tsumeb**	**52.55**	**61**	*e*P	**P**	**10 09 07.2**	**+0.4**
	comp=Z,22nm,1.0s,mb5.0						
ARE	**Arequipa**	**52.66**	**306**	*e*P	**P**	**10 09 10.0**	**+2.4**
RCBR	**Riachuelo**	**53.81**	**352**	*e*P	**P**	**10 09 14.8**	**-1.3**
	comp=Z,108nm,1.8s,mb5.5						
DRV	**Dumont d'Urvil**	**53.86**	**175**	S	**S**	**10 16 59.0**	**+7.6**
DRV				SS	SS	10 20 39.0	+6.7
DRV				R		10 26 00.0	
SAML	**Samuel**	**56.46**	**319**	*e*P	**P**	**10 09 34.6**	**-0.6**
	comp=Z,41nm,0.9s,mb5.5						
NNA	**Nana**	**58.91**	**303**	*e*P	**P**	**10 09 52.7**	**+0.3**
	comp=Z,92nm,1.4s,mb5.6						
LSZ	**Lusaka**	**60.87**	**69**	LR	LR	10 31 57.7	
	comp=Z,4μm,21.1s,MS5.6,baz=211,slow=32						
LSZ	**Lusaka**	**60.87**	**69**	*e*P	**P**	**10 10 05.9**	**0.0**
	comp=Z,39nm,0.9s,mb5.5						
LSZ	**Lusaka**	**60.87**	**69**	*e*P	**P**	**10 10 05.9**	**0.0**
LSZ				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.5						
DBIC	**Dimbokro**	**68.91**	**27**	P	**P**	**10 10 58.1**	**-0.1**
	comp=Z,17nm,0.7s,mb5.1,baz=168,slow=8.2,SNR=39						
DBIC				LR	LR	10 36 02.9	
	comp=Z,3μm,18.3s,MS5.5,baz=176,slow=32						
DBIC	**Dimbokro**	**68.91**	**27**	*e*P	**P**	**10 10 57.6**	**-0.7**
	comp=Z,18nm,0.8s,mb5.0						
DBIC	**Dimbokro**	**68.91**	**27**	*e*P	**P**	**10 10 57.6**	**-0.7**
DBIC				pmax	pmax		
	comp=Z,18nm,0.8s						
OTAV	**Otavalo**	**70.61**	**307**	*e*P	**P**	**10 11 09.8**	**+1.0**
	comp=Z,118nm,1.5s,mb5.6						
ROSC	**El Rosal**	**73.23**	**313**	P	**P**	**10 11 25.7**	**+1.2**
	comp=Z,4.3nm,0.4s,mb4.7,baz=281,slow=20,SNR=8.6						
ROSC				LR	LR	10 43 35.2	
	comp=Z,3μm,21.9s,MS5.6,baz=183,slow=36						
SDV	**Santo Domingo**	**75.65**	**318**	*e*P	**P**	**10 11 37.9**	**-0.6**
	comp=Z,38nm,1.1s,mb5.2						
RPZ	**Rata Peaks**	**75.68**	**195**	LR	LR	10 40 31.5	
	comp=Z,5μm,21.7s,MS5.8,baz=193,slow=32						
TORD	**Torodi Ar. Bea**	**76.76**	**31**	P	**P**	**10 11 44.9**	**0.0**
	comp=Z,40nm,1.0s,mb5.3,baz=197,slow=6.1,SNR=126						
THZ	**Tophouse**	**77.33**	**197**	*e*PN	**P**	**10 11 50.3**	**+2.2**
KMBO	**Kilima Mbogo**	**77.50**	**70**	P	**P**	**10 11 50.9**	**+1.9**
	comp=Z,3.6nm,1.1s,mb4.2,baz=209,slow=2.8,SNR=5.0						
KMBO				LR	LR	10 43 09.7	
	comp=Z,3μm,18.5s,MS5.7,baz=71,slow=34						
KMBO	**Kilima Mbogo**	**77.50**	**70**	P	**P**	**10 11 50.9**	**+1.9**
KMB

CLL				*e*SS	SS	10 35 54.0	+14
CLL				*e*SSS		10 40 24.0	
GNI	**Garni**	**116.60**	**56**	⇑*i*PKIKP	PKPdf	10 18 32.0	-5.5
SOC	**Sochi**	**117.45**	**50**	*i* PKIKP	PKPdf	10 18 40.1	+1.0
SOC				*e*		10 19 52.4	
SOC				*e*PS	PS	10 29 37.1	+2.2
SOC				*e*SS	SS	10 36 06.3	+5.0
SOC				pmax	pmax		
	comp=Z,76nm,1.5s						
SOC				MLR	MLR		
	comp=Z,634nm,21.0s,MS5.2						
SRU	**San Rafael**	**118.54**	**299**	PKIKP	PKIKPdf	10 18 42.1	+0.9
AKASG	**Malin Array Be**	**119.79**	**39**	PKP	PKPdf	10 18 42.8	-0.8
	comp=Z,0.2nm,0.3s,baz=222,slow=1.2,SNR=3.7						
HWUT	**Hardware Ranch**	**121.03**	**300**	*e*PKPdf	PKPdf	10 18 44.6	-1.5
PDAR	**Pinedale Array**	**121.09**	**302**	PKP	PKPdf	10 18 46.3	+0.1
	comp=Z,0.4nm,0.6s,baz=134,slow=6.4,SNR=4.5						
NVAR	**Mina Array Bea**	**121.55**	**293**	PKP	PKPdf	10 18 47.5	+0.4
	comp=Z,0.4nm,0.6s,baz=155,slow=3.5,SNR=3.9						
ULM	**Lac du Bonnet**	**121.87**	**316**	PKP	PKPdf	10 18 45.1	-2.5
	comp=Z,1.1nm,0.6s,baz=329,slow=1.4,SNR=3.7						
LOHW	**Long Hollow**	**122.23**	**302**	*e*PKPdf	PKPdf	10 18 48.7	+0.4
HFS	**Hagfors**	**124.04**	**25**	PKP	PKPdf	10 18 49.9	-1.9
	comp=Z,2.1nm,0.7s,baz=203,slow=11,SNR=3.0						
NB2	**NORSAR Subarra**	**124.36**	**23**	PKPd	PKPdf	10 18 51.8	-0.6
	comp=Z,7.8nm,1.2s,baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**124.36**	**23**	PKPd	PKPdf	10 18 51.8	-0.6
	baz=202,slow=1.9						
NOA	**NORSAR Array B**	**124.36**	**23**	PKP	PKPdf	10 18 50.0	-2.4
	comp=Z,2.6nm,0.8s,baz=202,slow=1.8,SNR=7.3						
OBN	**Obninsk**	**125.91**	**40**	*i* PKIKP	PKPdf	10 18 53.6	-1.8
OBN				*e*SS	SS	10 37 44.7	-4.7
OBN				pmax	pmax		
	comp=Z,26nm,2.1s						
OBN				MLR	MLR		
	comp=Z,600nm,21.0s,MS5.2						
MOS	**Moscow**	**126.77**	**41**	*e*P	Pdif	10 15 28.7	-8.9
SHL	**Shillong**	**127.59**	**104**	*e*P	PKPdf	10 19 05.0	+6.4
FINES	**FINESS Array B**	**128.10**	**30**	PKP	PKPdf	10 18 56.4	-3.2
	comp=Z,4.4nm,0.8s,baz=241,slow=3.9,SNR=16						
KAF	**Kangasniemi**	**128.72**	**30**	*e*p	PKPdf	10 18 56.1	-4.7
	comp=Z,6.5nm,0.8s						
QIZ	**Qiongzhong**	**130.19**	**126**	PKP	PKPdf	10 19 02.9	-0.7
QIZ				PP	PP	10 21 19.1	+2.7
QIZ				SS	SS	10 38 40.3	-2.2
QIZ				PP	PP		
	comp=Z,127nm,8.7s						
QIZ				LR	LR		
	comp=N,708nm,22.8s,MS5.4						
QIZ				LR	LR		
	comp=E,608nm,20.8s,MS5.4						
QIZ				LR	LR		
	comp=Z,2μm,25.9s						
AKTK	**Aktyubinsk**	**130.43**	**57**	PKP	PKPdf	10 19 01.2	-2.8
AKTO	**Aktyubinsk**	**130.43**	**57**	PKP	PKPdf	10 19 01.2	-2.8
	comp=Z,2.5nm,0.9s,baz=159,slow=6.0,SNR=4.1						
JOF	**Joensuu**	**130.70**	**32**	*e*p	PKPdf	10 19 01.5	-3.0
	comp=Z,2.7nm,0.8s						
KLMR	**Klimovskoe**	**131.44**	**38**	*i* PKIKP	PKPdf	10 19 11.5	+5.6
KLMR				*e*		10 21 21.5	
KLMR				pmax	pmax		
	comp=Z,20nm,1.4s						
AAK	**Ala-Archa**	**132.28**	**75**	*e*PKPdf	PKPdf	10 19 05.8	-1.7
AAK	**Ala-Archa**	**132.28**	**75**	⇑*i*PKIKP	PKPdf	10 19 06.1	-1.4
KMI	**Kunming**	**132.43**	**115**	PKP	PKPdf	10 19 07.6	-0.2
KMI				PP	PP	10 21 30.4	-0.5
KMI				PKS		10 22 41.4	
KMI				SKKS	SKKSac	10 28 27.5	+0.3
KMI				SS	SS	10 39 12.4	+2.5
KMI				PP	PP		
	comp=Z,136nm,7.1s						
KMI				LR	LR		
	comp=N,702nm,24.3s,MS5.5						
KMI				LR	LR		
	comp=E,943nm,28.8s,MS5.5						
KMI				LR	LR		
	comp=Z,2μm,25.8s,MS5.6						
ARCES	**ARCESS Array B**	**134.70**	**24**	PKP	PKPdf	10 19 09.1	-3.0
	comp=Z,3.3nm,0.7s,baz=186,slow=1.1,SNR=8.3						
ARU	**Arti**	**134.98**	**52**	*i* PKIKP	PKPdf	10 19 13.6	+1.0
ARU				*e*		10 21 49.1	
ARU				*e*SS	SS	10 39 46.5	+5.8
ARU				MLR	MLR		
	comp=Z,1μm,22.5s,MS5.5						
ARU				MLR	MLR		
	comp=N,400nm,21.0s,MS5.5						
ARU				MLR	MLR		
	comp=E,900nm,22.0s,MS5.5						
GYA	**Guiyang**	**135.37**	**118**	PKP	PKPdf	10 19 13.9	+0.6
GYA				PP	PP	10 21 50.9	+1.3
GYA				PKS		10 22 48.6	
GYA				SKS	SKSdf	10 26 23.4	-1.0
GYA				SKKS	SKKSac	10 28 41.9	-3.1
GYA				PP	PP		
	comp=Z,130nm,7.8s						
GYA				LR	LR		
	comp=N,681nm,19.4s,MS5.6						
GYA				LR	LR		
	comp=E,860nm,20.7s,MS5.6						
GYA				LR	LR		
	comp=Z,890nm,20.8s,MS5.5						
SVE	**Sverdlovsk**	**136.09**	**52**	*e*PKIKP	PKPdf	10 19 14.0	-0.6
DAG	**Danmarks Havn**	**136.25**	**4**	⇑*i*P	PKPdf	10 19 12.4	-2.5
	comp=Z,3.0nm,0.8s						
DAG	**Danmarks Havn**	**136.25**	**4**	⇑*e*PKIKP	PKPdf	10 19 12.4	-2.5
ZRNK	**Zerenda**	**137.03**	**61**	PKIKP	PKPdf	10 19 21.6	+5.2
BRVK	**Borovoye**	**137.67**	**62**	*e*PKPdf	PKPdf	10 19 16.0	-1.6
BVAR	**Borovoye Array**	**137.70**	**62**	PKP	PKPdf	10 19 13.6	-4.0
	comp=Z,1.9nm,0.8s,baz=222,slow=4.0,SNR=7.2						
CD2	**Chengdu**	**137.80**	**112**	*e*PKP	PKPdf	10 19 14.5	-3.3
CD2				PP	PP	10 22 07.0	+2.2
CD2				SKKS	SKKSac	10 28 52.9	-6.6
CD2				SS	SS	10 40 12.2	-2.1
CD2				PP	PP		
	comp=Z,100nm,9.6s						
CD2				LR	LR		
	comp=E,450nm,19.2s						
CD2				LR	LR		
	comp=Z,510nm,26.4s						
YKA	**Yellowknife Ar**	**137.85**	**316**	PKhKP		10 19 03.8	
	comp=Z,0.7nm,0.9s,baz=122,slow=3.6,SNR=11						
YKA				PKP	PKPdf	10 19 15.1	-2.8
	comp=Z,2.5nm,0.7s,baz=125,slow=2.2,SNR=23						
YKA				PP	PP	10 22 01.4	-3.7
	comp=Z,1.9nm,0.9s,baz=123,slow=6.3,SNR=9.1						
YKA	**Yelloweknife Ar**	**137.85**	**316**	PKP	PKPdf	10 19 15.1	-2.8
YKA				PP	PP	10 22 01.4	-3.7
YKW3	**Yellowknife Ar**	**137.90**	**317**	*e*PKPdf	PKPdf	10 19 15.6	-2.4
WMQ	**Urumqi**	**139.75**	**84**	*e*PKP	PKPdf	10 19 21.5	+0.1
WMQ				PP	PP	10 22 21.6	+4.7
WMQ				PKS		10 22 56.0	
WMQ				SKKS	SKKSac	10 29 07.5	-3.5
WMQ				SS	SS	10 40 36.4	-1.0
WMQ				PP	PP		
	comp=Z,224nm,8.0s						
WMQ				LR	LR		
	comp=N,1μm,24.0s,MS5.6						
WMQ				LR	LR		
	comp=E,759nm,22.2s,MS5.6						
WMQ				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
KURK	**Kurchatov**	**139.99**	**70**	*e*PKIKP	PKPdf	10 19 22.2	+0.4
RES	**Resolute Bay**	**140.62**	**338**	*e*PKPdf	PKPdf	10 19 14.3	-8.6
LZH	**Lanzhou**	**142.06**	**107**	*e*PKP	PKPdf	10 19 22.5	-3.1
LZH				PP	PP	10 22 32.3	+1.3
LZH				PP	PP		
	comp=Z,356nm,6.2s						
LZH				LR	LR		
	comp=E,1μm,17.0s						
LZH				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
GTA	**Gaotai**	**142.66**	**100**	PKP	PKPdf	10 19 26.8	+0.2
GTA				APKP		10 19 32.0	
GTA				PP	PP	10 22 38.2	+3.6
GTA				PKS		10 23 01.4	
GTA				PP	PP		
	comp=Z,343nm,10.0s						
GTA				LR	LR		
	comp=N,1μm,23.2s,MS5.7						
GTA				LR	LR		
	comp=E,947nm,23.6s,MS5.7						
GTA				LR	LR		
	comp=Z,1μm,22.8s,MS5.7						
NVS	**Novosibirsk**	**144.75**	**67**	*i* PKIKP	PKPdf	10 19 27.8	-2.5
NVS				*e*		10 22 47.3	
NVS				pmax	pmax		
	comp=Z,197nm,1.6s						
NVS				pmax	pmax		
	comp=N,108nm,1.7s						
NVS				pmax	pmax		
	comp=E,41nm,1.7s						
ZAL	**Zalesovo**	**144.96**	**70**	PKP	PKPdf	10 19 27.6	-3.0
	comp=E,1.8nm,0.7s,baz=253,slow=4.7,SNR=11						
NJ2	**Nanjing**	**145.42**	**129**	*e*PKP	PKPdf	10 19 27.8	-3.6
NJ2				PKP2	PKPab	10 19 30.4	-1.1
NJ2				APKP		10 19 38.4	
NJ2				PP	PP	10 22 52.0	+0.8
NJ2				PKS		10 23 01.0	
NJ2				PP	PP		
	comp=Z,180nm,5.2s						
NJ2				LR	LR		
	comp=N,7μm,29.2s,MS6.3						
NJ2				LR	LR		
	comp=E,2μm,25.3s,MS6.3						
NJ2				LR	LR		
	comp=Z,1μm,36.1s						
SSE	**Sheshan**	**145.47**	**133**	*e*PKP	PKPdf	10 19 33.0	+1.5
SSE				SS	SS	10 41 43.2	-0.4
SSE				PP	PP		
	comp=Z,90nm,12.0s						
SSE				LR	LR		
	comp=N,423nm,23.1s,MS5.3						
SSE				LR	LR		
	comp=E,381nm,23.0s,MS5.3						
SSE				LR	LR		
	comp=Z,830nm,22.1s,MS5.5						
INK	**Inuvik**	**147.59**	**318**	PKPbc	PKPbc	10 19 35.4	-2.4
	comp=Z,43nm,0.9s,baz=111,slow=4.5,SNR=41						
INK	**Inuvik**	**147.59**	**318**	*e*PKIKP	PKPdf	10 19 32.3	-2.8
INK				*e*		10 19 38.3	
HHC	**Hu-ho-hao-te**	**149.53**	**110**	*e*PKP	PKPdf	10 19 36.0	-2.3
HHC				PKS		10 23 09.0	
HHC				PP	PP	10 23 17.3	+2.0
HHC				SKS	SKSdf	10 26 39.2	-7.2
HHC				SKKS	SKKSac	10 30 01.2	-5.6
HHC				SS	SS	10 42 26.6	-2.9
HHC				LR	LR		
	comp=N,809nm,19.6s,MS5.7						
HHC				LR	LR		
	comp=E,980nm,19.1s,MS5.7						
HHC				LR	LR		
	comp=Z,681nm,21.6s,MS5.4						
SML	**Sawmill**	**150.85**	**301**	*e*PKPab	PKPab	10 19 51.4	-1.8
BJT	**Baijiatuan**	**151.02**	**117**	*e*PKPbc	PKPbc	10 19 46.2	-0.1
KDAK	**Kodiak Island**	**151.04**	**292**	PKPbc	PKPbc	10 19 44.1	-2.3
	comp=Z,9.9nm,0.6s,baz=82,slow=6.6,SNR=6.8						
PMR	**Palmer**	**151.12**	**300**	*e*PKPbc	PKPbc	10 19 50.5	+3.9
PMR				*e*PKPab	PKPab	10 20 02.3	+8.0
ILAR	**Eielson Array**	**151.33**	**307**	PKPbc	PKPbc	10 19 44.5	-2.6
	comp=Z,18nm,0.8s,baz=150,slow=1.6,SNR=94						
MOY	**Mondy**	**151.64**	**84**	*e*PKIKP	PKPdf	10 19 46.0	+4.5
COLA	**College**	**151.75**	**307**	*e*PKPdf	PKPdf	10 19 39.9	-1.8
COLA				*e*PKPbc	PKPbc	10 19 45.4	-2.6
COLA				*e*PKPab	PKPab	10 19 53.4	-3.5
MCK	**McKinley**	**151.82**	**305**	*e*PKPdf	PKPdf	10 19 46.4	+4.6
SONM	**Songino Array**	**152.01**	**95**	PKPbc	PKPbc	10 19 46.2	-2.4
	comp=Z,2.5nm,0.8s,baz=212,slow=3.4,SNR=12						
ZAK	**Zakamensk**	**152.04**	**88**	⇑*i*PKIKP	PKPdf	10 19 46.2	+4.1
ZAK				pmax	pmax		
	comp=Z,34nm,1.7s						
ULN	**Ulaanbaatar**	**152.36**	**96**	PKIKP	PKPdf	10 19 49.5	+6.9
DL2	**Dalian**	**152.47**	**126**	*e*PKP	PKPdf	10 19 42.2	-0.6
DL2				*e*PP	PP	10 23 37.3	+5.1
DL2				PP	PP		
	comp=Z,230nm,8.6s						
DL2				LR	LR		
	comp=N,280nm,18.3s,MS5.2						
DL2				LR	LR		
	comp=E,240nm,19.8s,MS5.2						
DL2				LR	LR		
	comp=Z,580nm,18.8s,MS5.4						
MJAR	**Matsushiro Arr**	**155.66**	**156**	PKPab	PKPab	10 20 11.5	-2.0
	comp=Z,1.8nm,0.9s,baz=197,slow=4.1,SNR=4.2						
MDJ	**Mudanjiang**	**160.48**	**131**	PKP	PKPdf	10 19 52.2	-1.0
MDJ				SKS	SKSdf	10 26 55.5	-2.9
MDJ				SKKS	SKKSac	10 31 02.2	-3.2
MDJ				SS	SS	10 44 26.8	-1.3
MDJ				PP	PP		
	comp=Z,130nm,6.2s						
MDJ				LR	LR		
	comp=N,767nm,28.9s						
MDJ				LR	LR		
	comp=E,561nm,27.2s						
MDJ				LR	LR		
	comp=Z,1μm,23.8s						
BOD	**Bodaibo**	**161.19**	**79**	*e*PKIKP	PKPdf	10 19 56.0	+2.1
BOD				*e*		10 20 35.0	
BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s						
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLR	**Kul'dur**	**165.09**	**126**	*e*PKIKP	PKPdf	10 20 00.0	+2.3
BILL	**Bilibino**	**168.99**	**327**	⇑*e*PKP2	PKPab	10 21 12.8	+1.0
BILL				pmax	pmax		
	comp=Z,21nm,1.7s						
MA2	**Magadan**	**179.78**	**275**	*e*	PP	10 25 56.3	+3.0
MA2				*e*PPS		10 40 29.9	
MA2				*e*SS	SS	10 47 35.5	-3.8
MA2				*e*SSS		10 54 47.4	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.5s						

BJI 09 10:25:27.1, 3899N×10358E, h13km, ML3.6, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.91**	**176**	*e*P	Pn	10 26 13.3	+0.3
LZH				PG	Pg	10 26 17.9	-4.9
LZH				SG	Sg	10 26 53.5	-7.0
LZH				Smax			
	comp=N,290nm,0.8s						
LZH				Smax			
	comp=E,460nm,0.8s						
LZH				LR	LR		
	comp=N,236nm,6.7s						
LZH				LR	LR		
	comp=Z,563nm,7.6s						
GTA	**Gaotai**	**2.96**	**279**	P	Pn	10 26 10.3	-3.4
GTA				PG	Pg	10 26 15.3	-8.4
GTA				S	Sn	10 26 51.3	+2.3
GTA				SG	Sg	10 26 55.4	-6.7

*ISCJB **09** 10:25:35.9±1.0, 595S±01×294W±04, h10km, mb4.2/5, MS4.1/2, Error ellipse: s-maj=27.6km s-min=14.0km az=139.6*
*IDC **09** 10:25:35.4±1.0, 5958S×2954W, h0km, mb4.3/5, mb1 4.3/6, mb1mx4.1/16, mbtmp4.2/6, ML3.1/1, MS4.2/2, Ms1 4.3/2, ms1mx3.8/17, Error ellipse: s-maj=38.5km s-min=28.2km az=16.0*

ISC 09 10:25:37.5±1.0, 595S±01×294W±04, h10km, n15, σ0§95/9, mb4.2/5, MS4.1/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**14.27**	**154**	*e*	**Pn**	**10 28 58.3**	**-1.3**
VNA2	**Neumayer--Watz**	**14.59**	**151**	*e*	**Pn**	**10 29 05.3**	**+1.3**
SNAA	**Sanae**	**16.21**	**150**	Pn	**Pn**	**10 29 25.3**	**0.0**
	0.1nm,0.3s,baz=315,slow=14,SNR=5.4						
SNAA	**Sanae**	**16.21**	**150**	*e*	**Pn**	**10 29 27.3**	**+1.9**
USHA	**Ushuaia**	**21.44**	**265**	LR	LR	10 35 37.0	
	comp=Z,346nm,20.1s,MS3.8,baz=128,slow=28						
VNDA	**Vanda**	**43.07**	**184**	LR	LR	10 49 16.1	
	comp=Z,533nm,18.2s,MS4.5,baz=262,slow=33						
BOSA	**Boshof**	**47.99**	**75**	P	**P**	**10 34 16.4**	**-0.2**
	3.3nm,0.8s,mb4.4,baz=220,slow=10,SNR=3.1						
LBTB	**Lobatse**	**51.16**	**73**	P	**P**	**10 34 40.7**	**0.0**
	2.9nm,0.8s,mb4.3,baz=174,slow=9.2,SNR=2.5						
LPAZ	**La Paz**	**51.54**	**310**	P	**P**	**10 34 44.1**	**+0.6**
	2.7nm,1.1s,mb4.1,baz=167,slow=8.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**76.63**	**31**	P	**P**	**10 37 28.4**	**0.0**
	2.1nm,1.0s,mb4.0,baz=191,slow=5.5,SNR=6.6						
ASAR	**Alice Springs**	**96.02**	**165**	P	**P**	**10 39 03.6**	**-1.4**
	0.7nm,0.8s,mb4.2,baz=183,slow=4.1,SNR=5.0						
YKA	**Yellowknife Ar**	**137.89**	**316**	PKP	PKPdf	10 44 58.6	-3.7
	0.2nm,0.8s,baz=129,slow=2.5,SNR=5.4						
INK	**Inuvik**	**147.63**	**318**	PKPbc	PKPbc	10 45 19.2	-3.0
	3.2nm,0.9s,baz=84,slow=3.8,SNR=6.9						
ILAR	**Eielson Array**	**151.40**	**307**	PKPbc	PKPbc	10 45 28.7	-2.8
	2.0nm,1.0s,baz=150,slow=3.3,SNR=5.2						
SONM	**Songino Array**	**151.88**	**95**	PKPbc	PKPbc	10 45 31.1	-1.6
	0.5nm,0.8s,baz=64,slow=3.4,SNR=3.0						

GUC 09 10:42:54.3±1.0, 2638S×7075W, h35km±7km, MD3.8, ML3.0, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.12**	**76**	*e*P	Pb	10 43 00.6	+0.2
CRCH				*i* S	Sb	10 43 04.5	-0.1
CRCH				AMP		10 43 04.8	
	comp=E,6μm,0.2s						
CDCH	**Caldera**	**0.70**	**185**	⇑*i*P	Pn	10 43 07.8	+0.1
CDCH				*i* S	Sn	10 43 17.3	+0.1
CDCH				AMP		10 43 19.5	
	comp=N,582nm,0.2s						
CPCH	**Copiapo**	**1.04**	**160**	*e*P	Pn	10 43 12.7	+0.3
CPCH				*i* S	Sn	10 43 27.2	+1.5
CPCH				AMP		10 43 29.9	
	comp=N,4μm,0.1s						
CPN1	**Cerro Paranal**	**1.77**	**10**	*i* P	Pn	10 43 22.4	-0.1
CPN1				AMP		10 43 48.8	
	comp=E,172nm,0.6s						
CEN1	**Los Morros**	**3.02**	**10**	*e*P	Pn	10 43 36.8	-2.7
CEN1				*i* S	Sn	10 44 09.9	-4.5
CEN1				AMP		10 44 23.8	
	comp=N,22nm,0.8s						

*ISCJB **09** 10:49:52.4±0.6, 4195N±007×10542E±007, h10km, mb3.6/5, Error ellipse: s-maj=10.7km s-min=6.7km az=44.5*
*IDC **09** 10:49:53.1±2.1, 4202N×10549E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/23, mbtmp3.5/7, ML2.9/2, Error ellipse: s-maj=37.9km s-min=28.0km az=137.0*
*BJI **09** 10:49:54.6, 4239N×10554E, h15km, ML3.7, Ms3.5, Msz3.7*
*MOS **09** 10:50:14.2±0.2, 4576N×10492E, h10km, mb4.2/3, Error ellipse: s-maj=99.9km s-min=67.2km az=96.7*

ISC 09 10:49:55.2±0.5, 4208N±007×10536E±006, h10km, n14, σ1§38/23, mb3.6/5, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**3.81**	**111**	*e*P	**Pn**	**10 50 56.4**	**+2.5**
BTO				*e*PG	**Pg**	**10 51 04.3**	**-3.9**
BTO				S	**Sn**	**10 51 39.0**	**+0.3**
BTO				SG	**Sg**	**10 51 51.7**	**-5.8**
BTO				Smax			
	comp=N,69nm,0.5s						
BTO				Smax			
	comp=E,76nm,0.8s						
HHC	**Hu-ho-hao-te**	**4.82**	**103**	*e*P	**Pn**	**10 51 10.4**	**+2.5**
HHC				PG	**Pg**	**10 51 20.5**	**-7.1**
HHC				S	**Sn**	**10 52 03.2**	**-0.6**
HHC				SG	**Sg**	**10 52 21.3**	**-8.8**
HHC				Smax			
	comp=N,240nm,0.4s						
HHC				Smax			
	comp=E,177nm,0.4s						
GTA	**Gaotai**	**4.98**	**240**	P	**Pn**	**10 51 11.5**	**+1.5**
GTA				PG	**Pg**	**10 51 24.2**	**-6.4**
GTA				Smax			
	comp=N,94nm,0.7s						
GTA				Smax			
	comp=E,68nm,0.7s						
SONM	**Songino Array**	**5.81**	**7**	Pn	**Pn**	**10 51 22.6**	**+1.2**
	comp=E,0.4nm,0.3s,baz=185,slow=15,SNR=11						
SONM				Pg	**Pg**	**10 51 40.5**	**-5.9**
	comp=E,1.9nm,0.3s,baz=192,slow=17,SNR=18						
SONM				Lg		10 52 57.5	
	comp=E,4.1nm,0.3s,baz=181,slow=30,SNR=15						
LZH	**Lanzhou**	**6.09**	**192**	*e*PG	**Pg**	**10 51 51.1**	**-0.8**
LZH				Smax			
	comp=N,130nm,1.0s						
LZH				Smax			
	comp=E,120nm,1.0s						
LZH				LR	LR		
	comp=N,356nm,8.6s						
LZH				LR	LR		
	comp=Z,567nm,10.5s						
MKAR	**Makanchi Array**	**17.11**	**294**	P	**Pn**	**10 53 57.0**	**+2.5**
	comp=Z,0.0nm,0.3s,baz=101,slow=13,SNR=5.1						
MKAR				S	**Sn**	**10 57 03.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=219,slow=23,SNR=5.9						
BVAR	**Borovoye Array**	**25.76**	**307**	P	**P**	**10 55 26.3**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.2,baz=107,slow=9.8,SNR=2.9						
HFS	**Hagfors**	**55.45**	**323**	P	**P**	**10 59 28.3**	**-1.7**
	comp=Z,0.8nm,0.4s,mb4.1,baz=82,slow=10,SNR=3.6						
HFS	**Hagfors**	**55.45**	**323**	P	**P**	**10 59 28.3**	**-1.7**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**56.15**	**324**	P	**P**	**10 59 34.6**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=62,slow=7.1,SNR=2.8						
NOA	**NORSAR Array B**	**56.15**	**324**	P	**P**	**10 59 34.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**59.61**	**28**	P	**P**	**10 59 58.5**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.7,baz=288,slow=5.7,SNR=5.5						
ILAR	**Eielson Array**	**59.61**	**28**	P	**P**	**10 59 58.5**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**70.95**	**18**	P	**P**	**11 01 12.3**	**-0.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=332,slow=6.0,SNR=4.2						

*ISCJB **09** 11:12:36.9±1.9, 4194N±007×9001E±006, h19km±13km, mb4.2/26, MS4.0/2, Error ellipse: s-maj=12.1km s-min=6.0km az=42.0*
*NEIC **09** 11:12:38.6±0.5, 4182N×9002E, mb4.5/11, Error ellipse: s-maj=11.1km s-min=6.7km az=195.0*
*MOS **09** 11:12:38.9±0.9, 4197N×9002E, h33km, mb4.7/12, Error ellipse: s-maj=11.5km s-min=6.9km az=112.9*
*IDC **09** 11:12:38.3±0.8, 4183N×9003E, h21km±4km, mb3.8/8, mb1 4.0/12, mb1mx3.8/24, mbtmp4.0/12, ML4.0/4, Error ellipse: s-maj=25.4km s-min=14.9km az=57.0*
*BJI **09** 11:12:39.2, 4185N×8991E, h21km, mB4.7, mb4.5, ML4.5, Ms4.1, Msz3.9*
*NNC **09** 11:12:40.4±5.3, 4216N×8974E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=47.0km s-min=44.2km az=59.0*

ISC 09 11:12:41.5±0.8, 4201N±006×9003E±005, h37km±7km, h22km±1.9km: pP-P, n82, σ1§03/91, mb4.2/26, MS4.0/2, 7C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.49**	**317**	P	**Pn**	**11 13 22.0**	**+2.5**
WMQ				SG	**Sn**	**11 13 53.8**	**+5.1**
WMQ				Smax			
	comp=N,2μm,0.5s						
MK31	**Makanchi Array**	**7.32**	**313**	⇑Pn	**Pn**	**11 14 26.5**	**+0.7**
	comp=N,2.8nm,0.3s,baz=119,slow=12,SNR=264						
MK31				⇑Sn	**Sn**	**11 15 47.5**	**-0.1**
	comp=N,7.8nm,0.3s,baz=142,slow=23,SNR=4.4						
MK31	**Makanchi Array**	**7.32**	**313**	*i* P	**Pn**	**11 14 26.2**	**+0.4**
MK

comp=E,140nm,2.3s
AAK Ala-Archa 11.52 278 *e*Pn **Pn 11 15 20.0 -3.4**
comp=E,3.1nm,0.6s
AAK Ala-Archa 11.52 278⇑*e*P **Pn 11 15 27.1 +3.7**
AAK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 11.73 322 *e*Pn **Pn 11 15 25.1 -1.2**
comp=Z,5.4nm,0.7s
KURK Kurchatov 11.73 322 P **Pn 11 15 25.4 -0.9**
KURK 11 17 31.1
KURK pmax pmax
comp=Z,10.0nm,1.6s
LZH Lanzhou 12.26 114 *e*P **Pn 11 15 38.6 +5.2**
LZH AP 11 15 45.8
LZH XP 11 15 50.6
LZH *e*S **Sn 11 17 55.6 +6.9**
LZH XS 11 18 07.2
LZH *e*SS 11 18 10.2
LZH AMB AMB
comp=Z,22nm,1.6s
LZH AMB AMB
comp=Z,71nm,4.1s
LZH LR LR
comp=N,356nm,10.6s
LZH LR LR
comp=Z,536nm,11.5s
ZAK Zakamensk 12.41 43 *e*P **Pn 11 15 36.1 +0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.8s
ZAL Zalesovo 12.44 346 Pn **Pn 11 15 36.4 +0.5**
comp=Z,1.6nm,0.3s,baz=314,slow=9.2,SNR=10
ZAL Sn **Sn 11 17 50.2 -2.9**
comp=Z,1.1nm,0.3s,baz=284,slow=22,SNR=3.4
ZAL Lg 11 19 19.0
comp=Z,0.2nm,0.3s,baz=235,slow=21,SNR=2.5
ZAL Zalesovo 12.44 346 P **Pn 11 15 36.4 +0.5**
ZAL 11 17 50.2
SONM Songino Array 12.97 58 Pn **Pn 11 15 42.9 -0.3**
comp=Z,2.0nm,0.3s,baz=244,slow=15,SNR=42
SONM Lg 11 19 29.0
comp=Z,0.4nm,0.3s,baz=233,slow=29,SNR=4.8
ULN Ulaanbaatar 13.40 58 *e*Pn **Pn 11 15 48.7 -0.3**
comp=Z,2.1nm,0.9s
ULN Ulaanbaatar 13.40 58⇓*i*P **Pn 11 15 49.5 +0.5**
KK31 Karatay Array 14.43 281 *i*P **Pn 11 16 02.8 -0.3**
comp=Z,1.0nm,0.6s,baz=77,slow=13,SNR=9.6
KK31 Karatay Array 14.43 281 *i*P **Pn 11 16 08.3 +5.2**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 14.43 281 *i*P **Pn 11 16 08.3 +5.2**
KKAR pmax pmax
comp=Z,1.0nm,0.7s
VOSK Vostochnaya 16.72 316 ⇓P **Pn 11 16 33.4 +0.6**
comp=Z,2.8nm,1.0s
BVA0 Borovoye Array 17.18 317 ⇑P **Pn 11 16 37.7 -1.0**
comp=Z,0.3nm,0.5s,baz=118,slow=11,SNR=8.0
BVA0 Borovoye Array 17.18 317 *i*P **Pn 11 16 32.1 -6.5**
BVA0 pmax pmax
comp=Z,1.0nm,1.3s
BVAR Borovoye Array 17.18 317 P **Pn 11 16 38.1 -0.6**
comp=Z,0.3nm,0.3s,baz=122,slow=11,SNR=7.0
BVAR Lg 11 21 53.6
comp=Z,0.0nm,0.3s,baz=151,slow=25,SNR=2.6
BRVK Borovoye 17.26 317 *e*P **Pn 11 16 38.7 -0.9**
comp=Z,2.2nm,0.7s
BRVK Borovoye 17.26 317 *e*P **Pn 11 16 38.7 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
ZRNK Zerenda 17.87 315 ⇑P **Pn 11 16 45.5 -1.5**
comp=Z,1.6nm,0.5s
ZRNK Zerenda 17.87 315 *e*P **Pn 11 16 47.2 +0.1**
comp=Z,2.2nm,0.5s
ZRNK Zerenda 17.87 315 *e*P **Pn 11 16 47.2 +0.1**
ZRNK pmax pmax
comp=Z,2.0nm,0.5s
GYA Guiyang 20.67 133 P **P 11 17 16.8 -1.3**
GYA AMB AMB
comp=Z,10.0nm,0.9s
BOD Bodaibo 21.93 36 *e*P **P 11 17 31.7 +0.1**
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
AB31 Akbulak array 22.15 299 ⇑P **P 11 17 32.9 -1.0**
comp=Z,1.0nm,0.5s,mb3.5,baz=98,slow=10,SNR=8.6
AB31 Akbulak array 22.15 299 *i*P **P 11 17 32.9 -1.0**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb3.5
ARU Arti 24.83 316 *e*P **P 11 18 00.5 +0.2**
comp=Z,4.9nm,0.6s,mb4.2
ARU *e*pP 11 18 06.8
ARU Arti 24.83 316⇓*i*P **P 11 18 01.0 +0.8**
ARU *e* 11 18 30.2
ARU *e*S **S 11 22 20.4 -0.1**
ARU *e*SS 11 23 08.9
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
NJ2 Nanjing 24.96 104 *e*P **P 11 18 03.8 +2.4**
NJ2 AP 11 18 10.8
NJ2 XP sP 11 18 14.3 -1.9
NJ2 PP 11 18 42.2
NJ2 S **S 11 22 25.0 +2.4**
NJ2 XS sS 11 22 36.0 -3.8
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.6
NJ2 AMB AMB
comp=Z,70nm,3.5s
NJ2 LR LR
comp=Z,130nm,17.1s,MS3.5
YAK Yakutsk 30.85 36⇓*i*P **P 11 18 53.6 -0.5**
YAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
YAK MLR MLR
comp=Z,800nm,19.0s,MS4.4
TIXI Tiksi 35.28 20⇓*i*P **P 11 19 31.6 -1.1**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
OBN Obninsk 36.81 310 *e*P **P 11 19 48.4 +2.6**
OBN pmax pmax
comp=Z,22nm,1.4s,mb4.8
JOF Joensuu 39.65 322 *e*p **P 11 20 09.3 -0.4**
comp=Z,4.8nm,0.8s,mb4.3
MA2 Magadan 40.60 43 *e*P **P 11 20 18.1 +0.6**
comp=Z,10nm,1.0s,mb4.4
MA2 Magadan 40.60 43 *e*P **P 11 20 18.1 +0.6**
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
SEY Seymchan 41.32 38⇓*e*P **P 11 20 24.1 +0.6**
KAF Kangasniemi 41.96 321 *e*p **P 11 20 28.4 -0.3**
comp=Z,1.6nm,0.5s,mb3.9
KAF Kangasniemi 41.96 321 *e*P **P 11 20 28.4 -0.3**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
FINES FINESS Array B 42.10 320 P **P 11 20 30.0 +0.2**
comp=Z,0.9nm,0.5s,mb3.7,baz=62,slow=6.6,SNR=8.1
ARCES ARCESS Array B 42.53 332 P **P 11 20 33.5 +0.1**
comp=Z,1.5nm,0.8s,mb3.8,baz=99,slow=7.5,SNR=3.8
NOA NORSAR Array B 49.25 321 P **P 11 21 26.3 0.0**
comp=Z,1.1nm,1.0s,mb3.9,baz=74,slow=7.8,SNR=3.5
LPG La Plagne 57.63 304 *e*P **P 11 22 28.8 +0.9**
comp=Z,25nm,1.1s,mb4.8
LPG La Plagne 57.63 304 *e*P **P 11 22 28.8 +0.9**
comp=Z,12nm,1.1s,mb4.8
LPG La Plagne 57.63 304 *e*P **P 11 22 28.8 +0.9**
LPG pmax pmax
comp=Z,12nm,1.1s,mb4.8
LPL La Plagne 57.64 304 *e*P **P 11 22 28.6 +0.7**
MBDF Montbardon 57.99 303 *e*P **P 11 22 32.5 +2.1**
comp=Z,4.6nm,0.6s,mb4.4
MBDF Montbardon 57.99 303 *e*P **P 11 22 32.5 +2.1**
comp=Z,2.3nm,0.6s,mb4.4
MBDF Montbardon 57.99 303 *e*P **P 11 22 32.5 +2.1**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ORIF Oris-en-Rattie 58.45 304 *e*P **P 11 22 33.3 -0.3**
comp=Z,11nm,0.9s,mb4.6
ORIF Oris-en-Rattie 58.45 304 *e*P **P 11 22 33.3 -0.3**
comp=Z,5.6nm,0.9s,mb4.6
ORIF Oris-en-Rattie 58.45 304 *e*P **P 11 22 33.3 -0.3**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SMF Signal de Mont 58.84 307 *e*P **P 11 22 36.0 -0.3**
VIVF Saint-Julien-I 59.23 304 *e*P **P 11 22 39.9 +0.9**
comp=Z,7.6nm,0.8s,mb4.5
VIVF Saint-Julien-I 59.23 304 *e*P **P 11 22 39.9 +0.9**
comp=Z,3.8nm,0.8s,mb4.5
VIVF Saint-Julien-I 59.23 304 *e*P **P 11 22 39.9 +0.9**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
TCF Toulx Ste Croi 60.00 307 *e*P **P 11 22 44.2 -0.1**
LASF Ste Croix 60.13 304 *e*P **P 11 22 45.3 +0.1**
MTLF Montolieu 61.53 304 *e*P **P 11 22 55.3 +0.6**
EPF Esparros 62.85 305 *e*P **P 11 23 03.4 -0.1**
comp=Z,5.4nm,0.6s,mb4.6
EPF Esparros 62.85 305 *e*P **P 11 23 03.4 -0.1**
comp=Z,2.7nm,0.6s,mb4.5
EPF Esparros 62.85 305 *e*P **P 11 23 03.4 -0.1**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
ETSF Etsaut 63.47 305 *e*P **P 11 23 07.9 +0.2**
comp=Z,2.9nm,0.5s,mb4.4
ETSF Etsaut 63.47 305 *e*P **P 11 23 07.9 +0.2**
comp=Z,1.5nm,0.5s,mb4.4
ETSF Etsaut 63.47 305 *e*P **P 11 23 07.9 +0.2**
ETSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
COLA College 64.30 24 *e*P **P 11 23 12.9 -0.1**
comp=Z,4.3nm,0.7s,mb4.6
COLA College 64.30 24 *e*P **P 11 23 13.0 -0.1**
COLA pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ILAR Eielson Array 64.66 23 P **P 11 23 14.8 -0.6**
comp=Z,2.1nm,0.7s,mb4.3,baz=312,slow=5.2,SNR=34
YKA Yellowknife Ar 73.98 12 P **P 11 24 12.4 -0.7**
comp=Z,0.8nm,0.7s,mb3.8,baz=336,slow=5.8,SNR=17
YKA pP pP 11 24 19.1 -5.3
comp=Z,0.4nm,0.6s,baz=335,slow=5.7,SNR=4.4
WRA Warramunga Arr 74.00 137 P **P 11 24 11.6 -1.7**
comp=Z,0.2nm,0.4s,mb3.4,baz=336,slow=6.2,SNR=5.4
WRA pP pP 11 24 19.1 -5.5
comp=Z,0.7nm,0.8s,baz=338,slow=6.0,SNR=5.2
ASAR Alice Springs 76.91 139 P **P 11 24 28.7 -1.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=321,slow=5.7,SNR=6.8
TORD Torodi Ar. Bea 80.11 279 P **P 11 24 46.1 -1.5**
comp=Z,0.2nm,0.4s,mb3.4,baz=40,slow=5.6,SNR=7.2
TORD pP pP 11 24 53.7 -5.3
comp=Z,0.5nm,0.5s,baz=40,slow=5.0,SNR=4.5
STKA Stephens Creek 87.49 138 P **P 11 25 21.2 -4.0**
comp=Z,1.1nm,0.8s,mb4.2,baz=137,slow=14,SNR=5.3

ISCJB ***09*** *11:26:15.6±0.5,5146N±003×1605E±002,h0km, Error ellipse: s-maj=3.9km s-min=2.0km az=28.0*
IPEC ***09*** *11:26:15.9±0.3,5159N×1616E,h1km±1km,ML2.4/3, Error ellipse: s-maj=2.2km s-min=0.9km az=21.0*
MOS ***09*** *11:26:16.8±1.9,5151N×1611E,h8km,mb3.7/1, Error ellipse: s-maj=11.5km s-min=6.1km az=84.1*
WAR ***09*** *11:26:17.7,5154N×1606E,ML2.8, Mining Induced*
BGR ***09*** *11:26:17.0±0.6,5145N×1615E,h1km,ML3.1/12, Error ellipse: s-maj=5.6km s-min=3.3km az=162.0*
CSEM ***09*** *11:26:17.9±0.1,5149N×1606E,h0km,ML3.5/7, Error ellipse: s-maj=2.3km s-min=1.2km az=13.0*
NEIC ***09*** *11:26:17.0,5145N×1615E,h1km,ML3.1(SZGRF), After SZGRF.*
PRU ***09*** *11:26:18.1,5149N×1603E,h0km*
IDC ***09*** *11:26:18.4±1.2,5145N×1610E,h0km,mb1 3.1/4, mb1mx3.0/21,mbtmp3.0/4,ML2.9/4, Error ellipse: s-maj=18.3km s-min=9.3km az=128.0*
ISC 09 11:26:16.2±0.4,5154N±002×1607E±002,h0km,n66, σ0°99/123,2C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**169**	*e*Pg	**Pg**	**11 26 30.7**	**+0.9**
KSP				*e*Sg	**Sg**	11 26 40.2	+1.1
KSP	**Ksiaz**	**0.71**	**169**	*e*Pg	**Pg**	**11 26 30.7**	**+0.9**
KSP				*e*Sg	**Sg**	11 26 39.9	+0.8
UPC	**Upice**	**1.03**	**182**	*e*PG	**Pg**	**11 26 36.8**	**+0.8**
UPC	**Upice**	**1.03**	**182**	*e*Pg	**Pg**	**11 26 36.7**	**+0.7**
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*PG	**Pg**	**11 26 39.4**	**+0.2**
DPC				*e*SG	**Sg**	**11 26 54.8**	**0.0**
73nm,0.3s							
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*Pg	**Pg**	**11 26 39.4**	**+0.2**
DPC				*e*Sg	**Sg**	11 26 54.6	-0.2
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*P	**Pg**	**11 26 39.4**	**+0.2**
DPC				*e*		11 26 54.8	
DPC				smax			
comp=N,73nm,0.3s							
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG	**Pg**	**11 26 43.1**	**+0.3**
PVCC				*e*SG	**Sg**	**11 27 02.0**	**+1.2**
comp=N,137nm,0.3s							
PVCC	**Panska Ves**	**1.39**	**224**	*e*P	**Pg**	**11 26 43.1**	**+0.3**
PVCC				*e*		11 27 02.0	
PVCC				smax			
comp=N,137nm,0.3s							
BRG	**Berggiesshubel**	**1.50**	**244**	*e*Pn	**Pn**	**11 26 45.2**	**+0.8**
BRG				*e*Sg	**Sg**	**11 27 05.5**	**+1.2**
BRG	**Berggiesshubel**	**1.50**	**244**	Pg	**Pg**	**11 26 45.5**	**+0.6**
BRG				*e*Sg	**Sg**	**11 27 04.8**	**+0.5**
BRG				S	**Sg**	**11 27 05.3**	**+1.0**
comp=N,49nm,0.5s							
BRG	**Berggiesshubel**	**1.50**	**244**	P	**Pn**	**11 26 44.8**	**+0.5**
BRG						11 27 05.3	
BRG				smax			
comp=N,49nm,0.5s							
BRG	**Berggiesshubel**	**1.50**	**244**	PN	**Pn**	**11 26 44.9**	**+0.5**
BRG				PG	**Pg**	**11 26 45.5**	**+0.6**
BRG				SG	**Sg**	**11 27 05.3**	**+1.0**
comp=N,49nm,0.5s							
FBE	**Freiberg**	**1.82**	**251**	*e*Pn	**Pn**	**11 26 50.1**	**+1.4**
FBE				*e*Sg	**Sg**	**11 27 15.1**	**+0.5**
FBE	**Freiberg**	**1.82**	**251**	Pn	**Pn**	**11 26 50.1**	**+1.3**
FBE				Sg	**Sg**	**11 27 15.1**	**+0.4**
PRU	**Pruhonice**	**1.83**	**213**	*e*PG	**Pg**	**11 26 50.8**	**-0.6**
PRU				*e*SG	**Sg**	**11 27 14.8**	**-0.3**
comp=N,64nm,0.4s							
PRU	**Pruhonice**	**1.83**	**213**	*e*Pn	**Pn**	**11 26 48.8**	**-0.1**
PRU	**Pruhonice**	**1.83**	**213**	*e*Pg	**Pg**	**11 26 50.8**	**-0.6**
PRU				*e*Sg	**Sg**	**11 27 14.8**	**-0.3**
comp=N,64nm,0.4s							
PRU	**Pruhonice**	**1.83**	**213**	*e*P	**Pg**	**11 26 50.8**	**-0.6**
PRU				*e*		11 27 14.8	
PRU				smax			
comp=N,64nm,0.4s							
CLL	**Collm**	**1.94**	**264**	*e*Pn	**Pn**	**11 26 51.3**	**+0.9**
CLL				*e*Sg	**Sg**	**11 27 19.2**	**+0.7**
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**11 26 49.9**	**-0.5**
CLL				*e*Pg	**Pg**	**11 26 53.0**	**-0.4**
CLL				*ex*	x	11 26 57.0	
CLL				*e*Sg	**Sg**	**11 27 19.0**	**+0.5**
comp=Z,39nm,0.6s							
CLL	**Collm**	**1.94**	**264**	Pn	**Pn**	**11 26 51.3**	**+0.9**
CLL	**Collm**	**1.94**	**264**	*e*Pg	**Pg**	**11 26 53.0**	**-0.4**
CLL				Sg	**Sg**	**11 27 19.2**	**+0.7**
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**11 26 49.9**	**-0.5**
CLL				*e*Pg	**Pg**	**11 26 53.0**	**-0.4**
CLL				*e*Sg	**Sg**	**11 27 19.0**	**+0.5**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**11 26 51.0**	**-0.2**
MORC				*e*Sn	**Sn**	**11 27 12.9**	**-4.0**
MORC				*e*Sg	**Sg**	**11 27 18.9**	**-1.5**
comp=Z,31nm,0.5s							
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**11 26 51.0**	**-0.2**
MORC				*e*Sn	**Sn**	**11 27 12.9**	**-4.0**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PG	**Pg**	**11 26 57.4**	**-0.1**
OKC				*e*SG	**Sg**	**11 27 24.4**	**-1.1**
VRAC	**Vranov**	**2.26**	**171**	Pn	**Pn**	**11 26 55.2**	**+0.4**
comp=Z,0.8nm,0.3s,baz=192,slow=18,SNR=3.4							
VRAC				Lg		11 27 27.3	
comp=Z,8.8nm,0.3s,baz=61,slow=23,SNR=12							
VRAC	**Vranov**	**2.26**	**171**	Pn	**Pn**	**11 26 55.2**	**+0.4**
VRAC				*e*Sg	**Sg**	**11 27 27.8**	**-1.0**
comp=Z,26nm,0.4s							
KRUC	**Moravsky**	**2.49**	**175**	*e*Pn	**Pn**	**11 26 58.2**	**+0.2**
KRUC	**Moravsky**	**2.49**	**175**	*e*Pg	**Pg**	**11 27 02.3**	**-1.6**
KRUC				*e*Sg	**Sg**	**11 27 35.8**	**-0.4**
comp=Z,15nm,0.5s							
TANN	**Tannenbergstha**	**2.55**	**245**	*e*Pn	**Pn**	**11 26 59.2**	**+0.4**
TANN				*e*Sg	**Sg**	**11 27 38.4**	**+0.3**
WERD	**Werda**	**2.62**	**247**	*e*Pn	**Pn**	**11 26 60.0**	**+0.2**
WERD				*e*Sg	**Sg**	**11 27 39.4**	**-1.0**
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN	**Pn**	**11 27 00.8**	**+0.7**
NKC				*e*PG	**Pg**	**11 27 06.6**	**-0.3**
NKC				*e*SG	**Sg**	**11 27 41.1**	**0.0**
comp=Z,77nm,0.4s							
NKC	**Novy Kostel**	**2.64**	**242**	*e*Pg	**Pg**	**11 27 06.6**	**-0.3**
NKC				*e*Sg	**Sg**	**11 27 41.1**	**0.0**
comp=Z,77nm,0.4s							
NKC	**Novy Kostel**	**2.64**	**242**	*e*P	**Pn**	**11 27 00.8**	**+0.7**
NKC				*e*		11 27 41.1	
NKC				smax			
comp=N,77nm,0.4s							
WERN	**Wernitzgruen**	**2.66**	**243**	*e*Pn	**Pn**	**11 27 01.2**	**+0.9**
WERN				*e*Sg	**Sg**	**11 27 41.5**	**-0.1**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**11 27 08.4**	**+0.3**
OJC				*e*Sg	**Sg**	**11 27 44.2**	**+1.1**
NEUB	**Neuenburg**	**2.71**	**265**	*e*Sg	**Sg**	**11 27 44.3**	**+0.9**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**11 27 03.6**	**+0.1**
KHC				*e*PG	**Pg**	**11 27 09.8**	**-1.9**
KHC				*e*SN	**Sn**	**11 27 36.0**	**-3.0**
KHC				*e*SG	**Sg**	**11 27 48.2**	**-1.0**
comp=N,33nm,0.5s							
KHC	**Kasperske Hory**	**2.89**	**215**	*e*Pn	**Pn**	**11 27 03.5**	**0.0**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*Pg	**Pg**	**11 27 09.8**	**-1.9**
KHC				*e*S	**Sn**	**11 27 36.0**	**-3.0**
comp=N,33nm,0.5s							
KHC				*e*Sn	**Sn**	**11 27 36.0**	**-3.0**
KHC				*e*Sg	**Sg**	**11 27 48.2**	**-1.0**
comp=N,33nm,0.5s							
MOX	**Moxa**	**2.95**	**254**	*e*Pn	**Pn**	**11 27 04.6**	**+0.3**
MOX				*e*Sg	**Sg**	**11 27 51.7**	**+0.7**
MOX	**Moxa**	**2.95**	**254**	*e*PN	**Pn**	**11 27 04.6**	**+0.3**
MOX				*e*PG	**Pg**	**11 27 12.9**	**+0.1**
MOX				*e*SG	**Sg**	**11 27 52.4**	**+1.4**
MANZ	**Manzenberg**	**2.96**	**240**	*e*Pn	**Pn**	**11 27 05.0**	**+0.6**
MANZ				*e*Sg	**Sg**	**11 27 51.2**	**-0.1**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	*e*Pn	**Pn**	**11 27 06.2**	**+0.7**
ROTZ				*e*Sg	**Sg**	**11 27 53.1**	**-0.6**
GEC2	**GERESS Array S**	**3.10**	**210**	*e*Pn	**Pn**	**11 27 06.5**	**+0.2**
GEC2				*e*Sg	**Sg**	**11 27 53.0**	**-2.7**
GEC2	**GERESS Array S**	**3.10**	**210**	*e*Pn	**Pn**	**11 27 06.5**	**+0.1**
GEC2				*e*Sg	**Sg**	**11 27 53.0**	**-2.8**
GERES	**GERESS Array B**	**3.10**	**210**	Pn	**Pn**	**11 27 07.6**	**+1.2**
comp=N,1.0nm,0.3s,baz=29,slow=13,SNR=19							
GERES				Pg	**Pg**	**11 27 13.9**	**-1.7**
comp=N,2.2nm,0.3s,baz=35,slow=16,SNR=17							
GERES				Sn	**Sn**	**11 27 44.6**	**+0.5**
comp=N,1.9nm,0.3s,baz=36,slow=21,SNR=6.1							
GERES				Lg		11 27 53.8	
comp=N,4.8nm,0.3s,baz=34,slow=24,SNR=12							
GERES	**GERESS Array B**	**3.10**	**210**	Pg	**Pg**	**11 27 13.9**	**-1.7**
GERES				S	**Sn**	**11 27 44.6**	**+0.5**
GERES	**GERESS Array B**	**3.10**	**210**	P	**Pn**	**11 27 07.6**	**+1.2**
GERES						11 27 44.6	
WET	**Wettzell**	**3.15**	**222**	*e*Pn	**Pn**	**11 27 07.5**	**+0.4**
WET				*e*Sg	**Sg**	**11 27 55.7**	**-1.8**
WET	**Wettzell**	**3.15**	**222**	*e*Pn	**Pn**	**11 27 07.5**	**+0.4**
WET				*e*Sg	**Sg**	**11 27 55.7**	**-1.8**
ZST	**Bratislava**	**3.41**	**168**	*e*SG	**Sg**	**11 28 07.4**	**+1.5**
NIE	**Niedzica**	**3.44**	**126**	*e*P	**Pg**	**11 27 21.9**	**-0.3**
NIE				*e*S	**Sg**	**11 28 07.9**	**+1.1**
VYHS	**Vyhne**	**3.53**	**149**	*e*SG	**Sg**	**11 28 13.0**	**+3.3**
VYHS				*e*		12 00 04.2	
VYHS				*e*		12 00 08.9	
CLZ	**Clausthal**	**3.56**	**277**	*e*Pn	**Pn**	**11 27 13.3**	**+0.6**
GRA1	**Grafenberg Arr**	**3.60**	**241**	Sg	**Sg**	**11 28 11.6**	**-0.3**
GRF	**Grafenberg Arr**	**3.60**	**241**	*e*Sg	**Sg**	**11 28 11.6**	**-0.3**
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**11 27 12.7**	**-1.2**
BSD				*i* S	**Sn**	**11 27 53.2**	**-4.5**
MOA	**Molln**	**3.88**	**198**⇑*i*Pn		**Pn**	**11 27 17.7**	**+0.6**
MOA			⇓*i*Sg		**Sg**	**11 28 20.2**	**-0.6**
comp=N,31nm,0.8s							
MOA	**Molln**	**3.88**	**198**⇑*i*Pn		**Pn**	**11 27 17.7**	**+0.6**
MOA			Sg		**Sg**	**11 28 20.2**	**-0.6**
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PG	**Pg**	**11 27 31.7**	**+0.2**
STHS				*e*SG	**Sg**	**11 28 24.8**	**+2.4**
AKASG	**Malin Array Be**	**8.32**	**91**	Pn	**Pn**	**11 28 16.6**	**-1.4**
comp=N,0.9nm,0.3s,baz=280,slow=12,SNR=5.1							
AKASG	**Malin Array Be**	**8.32**	**91**	Pn	**Pn**	**11 28 16.6**	**-1.5**
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**11 28 57.3**	**-2.3**
comp=N,0.1nm,0.3s,baz=222,slow=12,SNR=3.7							
FINES				Sn	**Sn**	**11 31 04.1**	**-3.0**
comp=N,0.2nm,0.3s,baz=196,slow=20,SNR=4.2							

ISCJB ***09*** *11:34:19.6±2.1,32S±01×1367E±04,h33km,mb3.3/1, Error ellipse: s-maj=57.5km s-min=15.4km az=176.1*
IDC ***09*** *11:34:20.3±2.8,3125×13547E,h0km,mb3.6/2,mb1 4.0/3, mb1mx3.7/13,mbtmp3.8/3,ML3.6/1, Error ellipse: s-maj=108.7km s-min=30.8km az=79.0*
ISC 09 11:34:20.4±2.3,31S±01×1369E±04,h35km,n6,σ1°02/8, mb3.3/1,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.53**	**205**	*e*P	**Pn**	**11 36 49.3**	**+0.6**
8.5nm,0.3s							
WB2	**Warramunga Arr**	**16.93**	**188**	*e*P	**Pn**	**11 38 13.2**	**-1.3**
WRA	**Warramunga Arr**	**16.93**	**188**	Pn	**Pn**	**11 38 14.5**	**0.0**
0.2nm,0.3s,baz=5.3,slow=13,SNR=28							
WRA				Sn	**Sn**	**11 41 16.8**	**-4.8**
0.1nm,0.3s,baz=3.3,slow=23,SNR=5.5							
FITZ	**Fitzroy Crossi**	**18.55**	**216**	*e*P	**Pn**	**11 38 33.8**	**-0.7**
7.3nm,1.0s							
ASAR	**Alice Springs**	**20.66**	**188**	P	**P**	**11 39 00.8**	**+3.8**
4.0nm,0.7s,baz=12,slow=11,SNR=42							
ASAR				S	**S**	**11 42 48.2**	**+2.3**
0.6nm,0.8s,baz=6.5,slow=27,SNR=4.1							
MKAR	**Makanchi Array**	**69.00**	**323**	P	**P**	**11 45 22.5**	**+0.4**
0.2nm,0.5s,mb3.3,baz=111,slow=6.6,SNR=4.3							

ISCJB ***09*** *11:39:52.8±2.9,147N±04×514E±02,h10km, Error ellipse: s-maj=65.3km s-min=6.8km az=131.8*
CSEM ***09*** *11:39:55.6,1476N×5116E,h11km,ML3.6,After DHMR*
DHMR ***09*** *11:39:55.6±0.6,1476N×5116E,h11km±9km,ML3.6*
ISC 09 11:39:54.6±2.9,147N±04×514E±02,h10km,n6,σ0°37/8, 3C,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.27**	**264**⇑*i*P		**Pn**	**11 40 31.5**	**-0.7**
MUKL				*e*		11 40 31.6	
baz=82,slow=7.9							
MUKL				*i* S	**Sn**	**11 40 59.9**	**-0.3**
MUKL				AML	AML	11 41 00.5	
comp=N,563nm,0.5s							
ABTO	**Aybut**	**3.20**	**35**	P	**Pn**	**11 40 45.1**	**+0.2**
SNR=11							
RBK	**Rabkut**	**3.88**	**44**	P	**Pn**	**11 40 54.0**	**-0.2**
SNR=46							
WHFO	**Wadi Hawf**	**3.92**	**36**	P	**Pn**	**11 40 54.8**	**0.0**
SNR=8.5							
BDHA	**Al Bayda'**	**5.67**	**263**⇑*i*P		**Pn**	**11 41 19.5**	**+0.6**
BDHA				*i* S	**Sn**	**11 42 24.3**	**+0.2**
LBOS		**5.99**	**263**⇑*i*P		**Pn**	**11 41 23.4**	**+0.1**

MAN 09 11:48:38.9,918N×12544E,h1km,mb2.9,ML4.3,MS3.2, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.28**	**139**	*e*P	Pg	11 48 44.1	-0.1
BUTP				*e*S	Sg	11 48 49.3	+1.6
SCPH	**Surigao**	**0.60**	**5**	*e*P	Pg	11 48 50.2	-0.2
SCPH				*e*S	Sg	11 48 58.4	+0.2
CGP	**Cagayan de Oro**	**1.03**	**226**⇑*e*P		Pg	11 48 59.1	+0.5
CGP				*i* S	Sg	11 49 15.7	+3.8
MSLP	**Maasin**	**1.11**	**329**	*e*P	Pg	11 49 00.2	+0.1
BUKP	**Musuan**	**1.34**	**196**	*e*P	Pg	11 49 05.2	+0.6
PAGZ	**Pagadian**	**2.43**	**237**	*e*P	Pn	11 49 22.1	+2.4

ISCJB ***09*** *11:53:03.8±2.6,174S±02×1740W±02,h46km±21km, mb4.3/11, Error ellipse: s-maj=41.2km s-min=12.8km az=110.4*
NEIC ***09*** *11:53:10.7±0.7,1720S×17401W,mb4.3/5, Error ellipse: s-maj=39.3km s-min=12.7km az

CTAO	**Charters Tower**	**37.76 259**	P		**P**	**12 00 17.4**	**+0.3**
	1.4nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**42.68 242**	P		**P**	**12 00 55.9**	**-1.9**
	2.0nm,0.9s,mb3.9,baz=55,slow=12,SNR=3.5						
STKA	**Stephens Creek**	**42.68 242**	*e*P		**P**	**12 00 55.5**	**-2.3**
WB2	**Warramunga Arr**	**48.93 258**	*e*P		**P**	**12 01 47.3**	**+0.2**
WRAB	**Tennant Creek**	**48.94 258**	*e*P		**P**	**12 01 47.0**	**-0.2**
	2.1nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**48.95 258**	P		**P**	**12 01 47.3**	**+0.1**
	1.5nm,0.6s,mb4.2,baz=98,slow=6.9,SNR=37						
WRA			pP		pP	12 02 10.0	+10
	2.8nm,0.9s,baz=93,slow=6.9,SNR=7.1						
AS31	**Alice Springs**	**49.07 253**	⇓*i*P		**P**	**12 01 48.5**	**+0.4**
AS31			*e*			12 02 10.0	
ASAR	**Alice Springs**	**49.07 253**	P		**P**	**12 01 48.5**	**+0.4**
	16nm,0.7s,mb5.2,baz=89,slow=8.5,SNR=305						
ASAR			pP		pP	12 02 10.2	+8.9
	9.9nm,0.7s,baz=91,slow=7.8,SNR=8.1						
ASPA	**Alice Springs**	**49.07 253**	⇓*i*P		**P**	**12 01 48.5**	**+0.3**
ASPA			*e*			12 02 10.0	
QSPA	**South Pole Qui**	**72.77 180**	*e*P		**P**	**12 04 28.6**	**-0.5**
	5.9nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**76.06 42**	P		**P**	**12 04 48.9**	**+0.8**
	1.6nm,0.8s,mb4.0,baz=224,slow=8.4,SNR=7.7						
NVAR	**Mina Array Bea**	**76.06 42**	P		**P**	**12 04 48.9**	**+0.8**
PV10	**Paradox Valley**	**82.18 46**	*e*P		**P**	**12 05 22.1**	**+0.5**
PV01	**Paradox Valley**	**82.38 46**	*e*P		**P**	**12 05 23.0**	**+0.4**
MCK	**McKinley**	**83.06 11**	*e*P		**P**	**12 05 26.0**	**-0.2**
	2.5nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**84.00 42**	P		**P**	**12 05 30.6**	**-0.3**
	0.7nm,0.8s,mb3.8,baz=204,slow=3.3,SNR=5.2						
COLA	**College**	**84.29 11**	*e*P		**P**	**12 05 32.4**	**-0.1**
	6.9nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**84.38 11**	P		**P**	**12 05 32.6**	**-0.3**
	1.2nm,0.9s,mb4.0,baz=206,slow=5.6,SNR=7.0						
BVAR	**Borovoye Array**	**119.04 321**	PKP		PKPdf	12 11 47.6	-1.5
	0.9nm,0.7s,baz=90,slow=3.0,SNR=6.9						
BVAR			pPKP		pPKPdf	12 12 14.6	+11
	0.6nm,0.5s,baz=190,slow=1.2,SNR=5.1						
MALT	**Malatya**	**144.80 313**	*e*PKPdf		PKPdf	12 12 39.1	+1.8
CLL	**Collm**	**145.61 352**	⇑*i*P		PKPdf	12 12 39.8	+1.1
	comp=Z,14nm,1.3s						
CLL			*i* x		x	12 13 05.7	
BRTR	**Keskin Array B**	**147.26 319**	PKPbc		PKPbc	12 12 45.3	+1.4
	comp=Z,2.1nm,1.0s,baz=163,slow=8.7,SNR=4.2						
GERES	**GERESS Array B**	**147.91 350**	PKPbc		PKPbc	12 12 46.7	+1.1
	comp=Z,0.3nm,0.2s,baz=48,slow=2.0,SNR=6.8						
DAVOX	**Davos**	**150.42 355**	PKPbc		PKPbc	12 12 53.2	+1.3
	comp=Z,3.9nm,0.7s,baz=157,slow=21,SNR=4.0						
DAVOX	**Davos**	**150.42 355**	PKPbc		PKPbc	12 12 53.2	+1.3

*NAO **09** 11:54:41.9±1.9, 59.29N×26.87E, ML2.3*
*BER **09** 11:54:42.8±3.0, 59.27N×27.03E, h0km, ML2.3(NAO), Suspected explosion*
*IDC **09** 11:54:44.6±1.2, 59.46N×27.03E, h0km, mb1 3.3/4, mb1mx3.0/22, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=22.7km s-min=8.9km az=82.0*
HEL 09 11:54:41.7±0.1, 59.30N×27.08E, h0km, ML1.9, ML2.3(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.85**	**192**	*e*P	Pg	11 54 57.0	-1.1
VSU				*e*S	Sg	11 55 07.9	-1.3
VSU	**Vasula**	**0.85**	**192**	Pg	Pg	11 54 57.9	-0.2
VSU				Lg		11 55 08.9	
VJF	**Virojoki**	**1.27**	**11**	*e*P	Pg	11 55 04.8	-1.3
VJF				*e*S	Sg	11 55 20.1	-2.4
PVF	**Pernaja**	**1.40**	**334**	*e*P	Pn	11 55 06.6	-1.8
PVF				*e*S	Sg	11 55 24.5	-2.0
MEF	**Metsahovi**	**1.64**	**305**	*e*P	Pn	11 55 10.8	-1.0
MEF				*e*S	Sn	11 55 32.1	-1.5
FIA0	**FINESS Array S**	**2.21**	**347**	Pn	Pn	11 55 19.6	-0.1
	baz=163,slow=18						
FIA0				Sn	Sn	11 55 48.0	+0.4
	baz=169,slow=37						
FIA0	**FINESS Array S**	**2.21**	**347**	*e*P	Pn	11 55 19.4	-0.2
FIA0				*e*S	Sn	11 55 47.0	-0.6
FIA0				MSG		11 55 52.2	
	comp=Z,3.2nm,0.1s						
FINES	**FINESS Array B**	**2.21**	**347**	Pn	Pn	11 55 19.8	+0.1
	comp=Z,2.3nm,0.3s,baz=163,slow=15,SNR=59						
FINES				Pg	Pg	11 55 21.1	-3.0
	comp=Z,2.3nm,0.3s,baz=163,slow=15,SNR=60						
FINES				Lg		11 55 49.0	
	comp=Z,2.7nm,0.3s,baz=170,slow=28,SNR=17						
FINES				Rg		11 56 02.1	
	comp=Z,3.2nm,0.4s,baz=166,slow=28,SNR=5.6						
KAF	**Kangasniemi**	**2.85**	**353**	*e*P	Pn	11 55 28.2	-0.2
KAF				*e*S	Sn	11 56 02.3	-1.2
KAF				MSG		11 56 05.6	
	comp=Z,3.4nm,0.3s						
RAF	**Rauma**	**3.17**	**305**	*e*PB	Pb	11 55 34.6	-4.3
RAF				*e*SB	Sb	11 56 16.2	-1.9
RAF				MSG		11 56 19.1	
	comp=Z,2.7nm,0.2s						
SUF	**Sumiainen**	**3.46**	**353**	*e*P	Pn	11 55 37.0	+0.1
SUF				*e*SG	Sg	11 56 27.4	-5.7
SUF				MSG		11 56 33.3	
	comp=Z,3.1nm,0.3s						
HFS	**Hagfors**	**6.82**	**283**	*e*S	Sn	11 57 36.0	-5.4
HFS				*e*SG	Sg	11 58 12.2	-8.7
HFS	**Hagfors**	**6.82**	**283**	Sn	Sn	11 57 36.0	-5.4
	baz=106,slow=28						
HFS				Lg		11 58 12.2	
	baz=92,slow=28						
NB2	**NORSAR Subarra**	**8.10**	**289**	*e*P	Pn	11 56 38.7	-1.9
NOA	**NORSAR Array B**	**8.10**	**289**	Pn	Pn	11 56 39.3	-1.2
	comp=Z,0.2nm,0.3s,baz=346,slow=12,SNR=2.4						
AKASG	**Malin Array Be**	**8.70**	**171**	Pn	Pn	11 56 48.9	+0.1
	comp=Z,0.4nm,0.3s,baz=357,slow=14,SNR=3.5						
ARA0	**ARCESS Array S**	**10.30**	**357**	Pn	Pn	11 57 08.2	-2.6
	baz=173,slow=16						
ARA0				Sn	Sn	11 59 00.1	-6.9
	baz=169,slow=22						
ARA0				Lg		12 00 01.2	
	baz=165,slow=37						
ARA0	**ARCESS Array S**	**10.30**	**357**	*e*P	Pn	11 57 08.2	-2.6
ARA0				*e*S	Sn	11 59 00.1	-6.9
ARA0				*e*SG		12 00 01.2	
ARCES	**ARCESS Array B**	**10.30**	**357**	Pn	Pn	11 57 08.7	-2.1
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=6.9						

*LDG **09** 12:42:58.5±1.0, 31.27N×95.28E, h10km, Mb5.0/20, Ms3.8/6, Error ellipse: s-maj=45.1km s-min=16.4km az=139.0*
*IDC **09** 12:43:04.2±0.6, 31.77N×95.19E, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.3/27, mbtmp4.2/22, ML3.8/2, MS3.8/9, Ms1 3.8/9, ms1mx3.5/30, Error ellipse: s-maj=19.9km s-min=12.1km az=40.0*
*ISCJB **09** 12:43:08.8±0.7, 31.71N±0.03×95.06E±0.03, h49km±7km, mb4.5/64, MS3.9/19, Error ellipse: s-maj=4.9km s-min=4.1km az=19.8*
*MOS **09** 12:43:09.4±1.6, 31.76N×95.09E, h54km, mb4.9/34, Error ellipse: s-maj=8.7km s-min=5.1km az=114.5*
*BJI **09** 12:43:10.1, 31.74N×95.10E, h57km, mB4.8, mb4.6, ML4.1, Ms4.5, Msz4.3*
*NEIC **09** 12:43:12.0±1.4, 31.85N×95.03E, h62km±13km, mb4.6/32, MS4.2/1, Error ellipse: s-maj=10.7km s-min=7.8km az=207.0*
*SZGRF **09** 12:43:19.7, 31.75N×92.94E, h10km, mb4.5, Xizang*
ISC 09 12:43:11.5±0.5, 31.75N±0.03×95.03E±0.03, h57km±5km, h4km±8, 9km: pP-P, n180, σ19°43/191, mb4.5/64, MS3.9/19, 11C-10D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.92**	**240**	P	**Pn**	**12 44 12.0**	**+2.9**
LSA				S	**Sn**	**12 44 59.3**	**+5.5**
LSA				Smax			
	comp=N,100nm,1.0s						
LSA				Smax			
	comp=E,180nm,1.9s						
LSA	**Lhasa**	**3.92**	**240**	*e*Pn	**Pn**	**12 44 10.5**	**+1.4**
LSA				*e*Sn	**Sn**	**12 44 54.1**	**+0.3**
SHL	**Shillong**	**6.75**	**205**	*e*P	**Pn**	**12 44 46.0**	**-2.0**
SHL				*e*S	**Sn**	**12 46 03.0**	**-0.4**
CD2	**Chengdu**	**7.51**	**94**	P	**Pn**	**12 45 02.3**	**+4.0**
CD2				XP		12 45 16.7	
CD2				S	**Sn**	**12 46 27.7**	**+5.6**
CD2				XS		12 46 36.7	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,70nm,5.6s						
CD2				LR	LR		
	comp=N,2μm,11.2s						
CD2				LR	LR		
	comp=Z,1μm,10.5s						
LZH	**Lanzhou**	**8.50**	**57**	*e*P	**Pn**	**12 45 11.4**	**-0.5**
LZH				AP		12 45 14.5	
LZH				*e*S	**Sn**	**12 46 47.3**	**+0.9**
LZH				AMB	AMB		
	comp=Z,70nm,1.5s						
LZH				AMB	AMB		
	comp=Z,221nm,4.3s						
LZH				Smax			
	comp=N,56nm,1.5s						
LZH				Smax			
	comp=E,39nm,1.4s						
LZH				LR	LR		
	comp=N,356nm,8.9s						
LZH				LR	LR		
	comp=Z,452nm,10.5s						
GTA	**Gaotai**	**8.58**	**26**	*e*P	**Pn**	**12 45 11.0**	**-1.9**
GTA				AP		12 45 24.6	
GTA				XP		12 45 29.4	
GTA				S	**Sn**	**12 46 47.2**	**-1.0**
GTA				AMB	AMB		
	comp=Z,15nm,1.4s						
GTA				AMB	AMB		
	comp=Z,102nm,4.6s						
GTA				LR	LR		
	comp=N,822nm,9.7s						
GTA				LR	LR		
	comp=E,849nm,12.0s						
GTA				LR	LR		
	comp=Z,773nm,8.3s						
KMI	**Kunming**	**9.46**	**132**	P	**Pn**	**12 45 24.0**	**-1.0**
KMI				AP		12 45 29.1	
KMI				PP		12 45 32.1	
KMI				S	**Sn**	**12 47 11.8**	**+1.9**
KMI				XS		12 47 21.5	
KMI				SS		12 47 26.2	
KMI				AMB	AMB		
	comp=Z,12nm,0.7s						
KMI				AMB	AMB		
	comp=Z,69nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,10.0s						
KMI				LR	LR		
	comp=E,1μm,8.9s						
KMI				LR	LR		
	comp=Z,2μm,10.3s						
CAL	**Calcutta**	**10.94**	**215**	*ex*	x	12 49 15.4	
GYA	**Guiyang**	**11.45**	**114**	⇓*i*P	**Pn**	**12 45 49.8**	**-2.4**
GYA				XP		12 46 04.7	
GYA				S	**Sn**	**12 47 53.0**	**-5.6**
GYA				AMB	AMB		
	comp=Z,20nm,1.2s						
GYA				AMB	AMB		
	comp=Z,140nm,6.0s						
GYA				LR	LR		
	comp=N,990nm,10.2s						
GYA				LR	LR		
	comp=E,2μm,10.5s						
GYA				LR	LR		
	comp=Z,2μm,10.5s						
ENH	**Enshi**	**12.49**	**93**	⇑*e*P	**Pn**	**12 46 05.7**	**-0.7**
	comp=Z,34nm,1.1s						
WMQ	**Urumqi**	**13.37**	**336**	*e*P	**Pn**	**12 46 19.8**	**+1.5**
WMQ				AP		12 46 28.3	
WMQ				PP		12 46 31.3	
WMQ				XP		12 46 34.8	
WMQ				*e*S	**Sn**	**12 48 47.1**	**+1.9**
WMQ				SS		12 49 03.3	
WMQ				PCP	PcP	12 51 47.8	+4.6
WMQ				AMB	AMB		
	comp=Z,18nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,87nm,4.0s						
WMQ				LR	LR		
	comp=N,1μm,10.8s						
WMQ				LR	LR		
	comp=E,427nm,7.0s						
WMQ				LR	LR		
	comp=Z,846nm,8.8s						
KLP	**Kalpa**	**14.30**	**274**	*e*P	**Pn**	**12 46 25.5**	**-5.4**
KLP				AMb	AMB	12 46 40.2	
	comp=Z,18nm,1.7s						
KLP				*ex*	x	12 49 33.0	
BTO	**Baotou**	**14.97**	**50**	*e*P	**Pn**	**12 46 43.1**	**+3.5**
BTO				LR	LR		
	comp=N,546nm,6.1s						
BTO				LR	LR		
	comp=E,1μm,7.4s						
SMLA	**Simla**	**15.27**	**272**	*e*P	**Pn**	**12 46 35.7**	**-7.8**
SMLA				AMb	AMB	12 46 43.2	
	comp=Z,48nm,1.2s						
AYAN	**Aya Nagar**	**15.83**	**263**	*e*P	**Pn**	**12 46 45.0**	**-5.7**
JBP	**Jabalpur**	**15.85**	**241**	⇓*i*P	**Pn**	**12 46 48.9**	**-2.0**
JBP				*ex*	x	12 51 49.2	
HHC	**Hu-ho-hao-te**	**16.11**	**51**	*e*P	**Pn**	**12 46 56.3**	**+2.2**
HHC				AP	pP	12 47 05.1	-3.7
HHC				PP		12 47 10.0	
HHC				XP	sP	12 47 11.6	-4.4
HHC				S	**Sn**	**12 49 50.4**	**-1.4**
HHC				XS	**S**	**12 50 04.0**	**+1.6**
HHC				SS		12 50 09.7	
HHC				AMB	AMB		
	comp=Z,13nm,0.4s						
HHC				LR	LR		
	comp=N,1μm,12.3s						
HHC				LR	LR		
	comp=E,2μm,11.0s						
HHC				LR	LR		
	comp=Z,1μm,11.9s						
KUDL	**Kundal**	**16.47**	**262**	*e*P	**Pn**	**12 46 53.5**	**-5.2**
KUDL				AMb	AMB	12 47 05.9	
	comp=Z,17nm,1.1s						
WHN	**Wuhan**	**16.58**	**89**	⇑P	**Pn**	**12 47 01.2**	**+1.1**
WHN				LR	LR		
	comp=Z,2μm,9.3s						
KHET	**Khetri**	**17.07**	**263**	*e*P	**Pn**	**12 47 00.1**	**-6.0**
KHET				AMb	AMB	12 47 10.4	
	comp=Z,18nm,1.4s						
KSH	**Kashi**	**17.30**	**302**	*e*P	**Pn**	**12 47 11.9**	**+2.8**
KSH				AP	pP	12 47 21.7	-0.4
KSH				PP		12 47 28.1	
KSH				XP	sP	12 47 28.8	-0.5
KSH				S	**S**	**12 50 22.2**	**-4.7**
KSH				XS	sS	12 50 37.2	-10
KSH				SS		12 50 45.2	
KSH				*e*PCP	PcP	12 51 53.8	+4.9
KSH				*e*SCP	ScP	12 55 23.3	+4.3
KSH				AMB	AMB		
	comp=Z,14nm,0.3s						
KSH				LR	LR		
	comp=N,1μm,7.1s						
KSH				LR	LR		
	comp=E,922nm,8.3s						
KSH				LR	LR		
	comp=Z,469nm,7.6s						
NGP	**Nagpur**	**17.76**	**237**	*e*P	**Pn**	**12 47 13.4**	**-1.3**
NGP				AMb	AMB	12 47 21.7	
	comp=Z,44nm,1.4s						
MK31	**Makanchi Array**	**17.94**	**331**	*i* P	**Pn**	**12 47 16.6**	**-0.2**
MK31				pmax	pmax		
	comp=Z,17nm,1.0s						
MKAR	**Makanchi Array**	**17.94**	**331**	P	**Pn**	**12 47 15.5**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=143,slow=14,SNR=18						
MKAR	**Makanchi Array**	**17.94**	**331**	*i* P	**Pn**	**12 47 16.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,18nm,1.1s						
SONM	**Songino Array**	**18.25**	**25**	P	**Pn**	**12 47 18.6**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=12						
QIZ	**Qiongzhong**	**18.40**	**130**	⇓P	**Pn**	**12 47 23.3**	**+0.9**
QIZ				AP	pP	12 47 31.8	-2.4
QIZ				S	**S**	**12 50 39.4**	**-8.8**
QIZ				AMB	AMB		
	comp=Z,14nm,1.8s						
QIZ				AMB	AMB		
	comp=Z,139nm,5.9s						
QIZ				LR	LR		
	comp=N,697nm,10.4s						
QIZ				LR	LR		
	comp=Z,1μm,10.7s						
QIZ	**Qiongzhong**	**18.40**	**130**	*e*P	**Pn**	**12 47 24.2**	**+1.7**
	comp=Z,21nm,1.4s						
ULN	**Ulaanbaatar**	**18.52**	**26**	*e*P	**Pn**	**12 47 22.5**	**-1.4**
	comp=Z,3.6nm,0.8s						
ULN	**Ulaanbaatar**	**18.52**	**26**	⇑*e*P	**Pn**	**12 47 22.9**	**-1.0**
KZA	**Kyzart**	**18.84**	**309**	P	**Pn**	**12 47 29.3**	**+1.6**
	SNR=19						
UCH	**Uchtor**	**19.40**	**308**	P	**Pn**	**12 47 34.9**	**+0.5**
	SNR=13						
AAK	**Ala-Archa**	**19.59**	**309**	P	**Pn**	**12 47 37.0**	**+0.3**
	SNR=13						
AAK	**Ala-Archa**	**19.59**	**309**	*e*P	**Pn**	**12 47 35.5**	**-1.2**
	comp=Z,14nm,0.8s						
AAK	**Ala-Archa**	**19.59**	**309**	*d i*P	**Pn**	**12 47 36.1**	**-0.6**
AAK				pmax	pmax		
	comp=Z,59nm,2.5s						
AAK				MLR	MLR		
	comp=Z,300nm,17.0s						
FRU	**Bishkek**	**19.60**	**310**	*e*P	**Pn**	**12 47 37.0**	**+0.2**
FRU				pmax	pmax		
	comp=Z,90nm,2.0s						
ZAK	**Zakamensk**	**19.60**	**16**	*e*P	**Pn**	**12 47 34.7**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,21nm,1.5s						
AML	**Almayashu**	**19.91**	**307**	P	**Pn**	**12 47 40.3**	**-0.1**
	SNR=11						
EKS2	**Erkin-Say**	**20.08**	**309**	P	**P**	**12 47 42.0**	**+1.8**
	SNR=21						
NJ2	**Nanjing**	**20.22**	**83**	*e*P	**P**	**12 47 43.3**	**+1.6**
NJ2				PP		12 48 05.5	
NJ2				XS	sS	12 51 38.0	-7.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,70nm,3.5s						
NJ2				LR	LR		
	comp=N,180nm,18.4s,MS3.7						
NJ2				LR	LR		
	comp=E,200nm,15.4s,MS3.7						
MOY	**Mondy**	**20.38**	**11**	*e*P	**P**	**12 47 44.7**	**+1.3**
MOY				pmax	pmax		
	comp=Z,35nm,1.8s						
HYB	**Hyderabad**	**20.65**	**230**	*i* P	**P**	**12 47 48.0**	**+1.6**
HYB	**Hyderabad**	**20.65**	**230**	*e*P	**P**	**12 47 48.0**	**+1.6**
JASL	**Jaisalmer**	**21.56**	**263**	*e*P	**P**	**12 47 50.0**	**-6.2**
SSE	**Sheshan**	**22.32**	**85**	P	**P**	**12 48 04.8**	**+0.6**
SSE				AP		12 48 16.5	
SSE				XP	sP	12 48 22.9	-1.1
SSE				S	**S**	**12 52 01.3**	**-5.1**
SSE				XS	sS	12 52 21.0	-6.3
SSE				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.5						
SSE				AMB	AMB		
	comp=Z,116nm,4.2s						
SSE				LR	LR		
	comp=N,365nm,24.0s,MS3.8						
SSE				LR	LR		
	comp=E,143nm,24.0s,MS3.8						
SSE				LR	LR		
	comp=Z,217nm,18.1s						
KK31	**Karatay Array**	**22.45**	**307**	*i* P	**P**	**12 48 06.0**	**+0.4**
KK31				pmax	pmax		
	comp=Z,47nm,1.4s,mb4.7						
KKAR	**Karatay Array**	**22.45**	**307**	*i* P	**P**	**12 48 06.0**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,65nm,1.4s,mb4.9						
KURK	**Kurchatov**	**22.52**	**332**	*e*P	**P**	**12 48 05.4**	**-0.9**
	comp=Z,7.8nm,0.7s,mb4.2						
KURK	**Kurchatov**	**22.52**	**332**	⇑*e*P	**P**	**12 48 05.7**	**-0.7**
POO	**Poona**	**23.20**	**240**	*e*P	**P**	**12 48 10.0**	**-3.5**
ZAL	**Zalesovo**	**23.36**	**345**	P	**P**	**12 48 14.4**	**-0.5**
	comp=Z,3.3nm,1.0s,mb3.7,baz=153,slow=19,SNR=8.0						
YHNB	**Yeheng**	**24.22**	**100**	*e*P	**P**	**12 48 24.3**	**+1.5**
NVS	**Novosibirsk**	**24.56**	**343**	*e*P	**P**	**12 48 25.2**	**-0.7**
NVS				*e*S	**S**	**12 52 47.2**	**+4.4**
NVS				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.5						
NVS				pmax	pmax		
	comp=N,39nm,1.8s						
NVS				smax			
	comp=N,20nm,2.1s						
SNY	**Shenyang**	**24.88**	**58**	⇑P	**P**	**12 48 29.3**	**+0.5**
SNY				XS	sS	12 53 05.2	-6.4
SNY				SS		12 53 46.0	
SNY				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.5						
SNY				AMB	AMB		
	comp=Z,95nm,6.4s						
SNY				LR	LR		
	comp=E,384nm,13.5s						
SNY				LR	LR		
	comp=Z,477nm,18.6s						
HIA	**Hailar**	**25.49**	**40**	*e*P	**P**	**12 48 35.1**	**+0.7**
	comp=Z,31nm,1.5s,mb4.6						
HIA	**Hailar**	**25.49**	**40**	*e*P	**P**	**12 48 35.1**	**+0.7**
HIA				pmax	pmax		
	comp=Z,31nm,1.5s						
CN2	**Changchun**	**26.73**	**55**	*e*P	**P**	**12 48 45.6**	**0.0**
CN2				*e*S	**S**	**12 53 17.1**	**-0.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,700nm,11.0s,MS4.6						
CN2				LR	LR		
	comp=E,500nm,11.0s,MS4.6						
CN2				LR	LR		
	comp=Z,400nm,11.0s,MS4.2						
VOSK	**Vostochnaya**	**27.27**	**327**	P	**P**	**12 48 53.6**	**+3.2**
VOSK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
BVA0	**Borovoye Array**	**27.74**	**327**	*i* P	**P**	**12 48 55.1**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
BVAR	**Borovoye Array**	**27.74**	**327**	P	**P**	**12 48 54.8**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.1,baz=133,slow=10,SNR=22						
BRVK	**Borovoye**	**27.81**	**327**	*e*P	**P**	**12 48 58.3**	**+3.1**
	comp=Z,4.6nm,0.8s,mb4.2						
BRVK	**Borovoye**	**27.81**	**327**	*e*P	**P**	**12 48 58.3**	**+3.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**28.34**	**326**	*e*P	**P**	**12 49 00.2**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.6						
ZRNK	**Zerenda**	**28.34**	**326**	*e*P	**P**	**12 49 00.2**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
PSI	**Prapat**	**29.03**	**172**	LR	LR	13 02 01.5	
	comp=Z,129nm,19.5s,MS3.5,baz=176,slow=39						
BOD	**Bodaibo**	**29.13**	**21**	*e*P	**P**	**12 49 05.9**	**-1.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb3.9						
JOW	**Kunigami**	**29.33**	**91**	LR	LR	13 01 54.9	
	comp=Z,253nm,19.0s,MS3.9,baz=296,slow=39						
MDJ	**Mudanjiang**	**29.82**	**55**	P	**P**	**12 49 15.0**	**+1.9**
MDJ				AP	pP	12 49 23.5	-3.7
MDJ				S	**S**	**12 54 05.4**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,11nm,1.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,52nm,3.2s						
MDJ				LR	LR		
	comp=N,255nm,17.7s						
MDJ				LR	LR		
	comp=Z,134nm,12.8s,MS3.8						
AB31	**Akbulak array**	**31.53**	**314**	*i* P	**P**	**12 49 29.2**	**+1.0**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
KLR	**Kul'dur**	**32.53**	**47**	*e*P	**P**	**12 49 33.2**	**-3.7**
KLR				MLR	MLR		
	comp=E,700nm,11.0s						
KLR				MLR	MLR		
	comp=Z,2μm,11.0s,MS5.1						
AKTK	**Aktyubinsk**	**33.11**	**315**	P	**P**	**12 49 43.1**	**+1.0**
AKTK				LR	LR	13 04 51.3	
AKTO	**Aktyubinsk**	**33.11**	**315**	P	**P**	**12 49 43.1**	**+1.0**
	comp=Z,4.6nm,0.8s,mb4.5,baz=118,slow=8.5,SNR=17						
AKTO				LR	LR

SVE MLR MLR
comp=Z,400nm,8.0s
ARU Arti 35.31 325 *eP* **P 12 50 03.6 +2.6**
comp=Z,42nm,1.7s,mb5.1
ARU Arti 35.31 325⇓*iP* **P 12 50 03.9 +2.8**
ARU *e* 12 51 21.6
ARU *e*PPP 12 51 37.6
ARU *e*S **S 12 55 38.0 +6.9**
ARU *e*SS SS 12 58 18.2 +12
ARU *e* 13 00 19.4
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.7
ARU MLR MLR
comp=N,80nm,16.0s,MS3.8
ARU MLR MLR
comp=Z,200nm,16.0s,MS4.0
ARU MLR MLR
comp=E,100nm,15.0s,MS3.8
MJAR Matsushiro Arr 35.83 70 P **P 12 50 04.4 -1.1**
comp=E,2.8nm,1.0s,mb4.2,baz=288,slow=10,SNR=5.9
MJAR LR LR 13 06 36.1
comp=E,132nm,18.0s,MS3.7,baz=290,slow=40
YAK Yakutsk 37.61 26 *iP* **P 12 50 21.1 +0.5**
YAK pmax pmax
comp=Z,16nm,1.7s,mb4.5
YAK MLR MLR
comp=Z,200nm,18.0s,MS4.0
ASAJ Asahikawa 38.99 58 P **P 12 50 30.9 -1.4**
comp=Z,17nm,1.0s,mb4.7,baz=267,slow=7.0,SNR=11
ASAJ Asahikawa 38.99 58 P **P 12 50 30.9 -1.3**
ASAJ pmax pmax
comp=Z,17nm,1.0s
YSS Yuzh-Sakhalins 39.28 53 *eP* **P 12 50 32.5 -2.2**
comp=Z,19nm,1.1s,mb4.8
YSS Yuzh-Sakhalins 39.28 53 *eP* **P 12 50 33.3 -1.3**
GNI Garni 41.10 296 *deP* **P 12 50 51.6 +1.8**
GNI pmax pmax
comp=Z,19nm,1.3s
GNI MLR MLR
comp=Z,100nm,19.0s
GOF Gofitskoye 42.17 304 *eP* **P 12 51 01.1 +2.6**
TIXI Tiksi 43.88 15⇑*iP* **P 12 51 11.5 -0.8**
TIXI pmax pmax
comp=Z,11nm,1.7s,mb4.3
TIXI MLR MLR
comp=Z,100nm,15.0s,MS3.9
MA2 Magadan 45.98 36 *eP* **P 12 51 28.3 -0.7**
comp=Z,7.7nm,1.2s,mb4.5
MA2 Magadan 45.98 36 *eP* **P 12 51 28.9 -0.1**
MA2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
KLMR Klimovskoe 46.15 326 *eP* **P 12 51 29.6 -0.7**
KLMR pmax pmax
comp=Z,30nm,1.4s,mb5.0
OBN Obninsk 46.80 318⇓*iP* **P 12 51 37.6 +2.2**
OBN pmax pmax
comp=Z,29nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.8
SEY Seymchan 47.48 32⇑*eP* **P 12 51 41.7 +1.0**
BR131 Keskin Array S 49.62 297 *eP* **P 12 51 59.2 +2.1**
comp=Z,2.0nm,0.6s,mb4.3
BRTR Keskin Array B 49.62 297 P **P 12 51 58.2 +1.1**
comp=Z,4.0nm,0.9s,mb4.4,baz=105,slow=7.9,SNR=9.0
JOF Joensuu 50.34 328 *ep* **P 12 52 01.1 -1.5**
comp=Z,3.4nm,0.9s,mb4.4
AKASG Malin Array Be 51.23 312 P **P 12 52 09.5 +0.2**
comp=Z,7.7nm,0.7s,mb4.7,baz=78,slow=6.6,SNR=21
AKASG Malin Array Be 51.23 312 P **P 12 52 09.5 +0.2**
KAF Kangasniemi 52.59 327 *ep* **P 12 52 18.8 -0.6**
comp=Z,2.6nm,0.8s,mb4.2
KAF Kangasniemi 52.59 327 *eP* **P 12 52 18.8 -0.6**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
FINES FINESS Array B 52.68 326 P **P 12 52 20.5 +0.4**
comp=Z,1.5nm,0.6s,mb4.1,baz=87,slow=8.0,SNR=8.2
FINES LR LR 13 16 00.6
comp=Z,62nm,22.0s,MS3.6,baz=26,slow=38
ARCES ARCESS Array B 53.49 336 P **P 12 52 26.6 +0.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=82,slow=8.7,SNR=8.2
ARCES LR LR 13 17 07.4
comp=Z,113nm,18.7s,MS4.0,baz=276,slow=38
VRI Vrincioaia 53.51 306 ⇓P **P 12 52 30.6 +4.4**
BILL Bilibino 53.97 26 *eP* **P 12 52 29.6 0.0**
comp=Z,6.5nm,1.1s,mb4.5
BILL Bilibino 53.97 26⇑*eP* **P 12 52 30.1 +0.6**
BILL pmax pmax
comp=Z,13nm,1.6s,mb4.6
MLR Muntele Rosu 54.12 306 ⇓P **P 12 52 32.9 +2.2**
BURAR Bucovina Array 54.23 308 ⇑P **P 12 52 34.8 +3.3**
VOIR 54.75 306 ⇑P **P 12 52 42.3 +7.1**
NB2 NORSAR Subarra 59.86 326 P **P 12 53 13.8 +2.6**
comp=Z,0.3nm,0.7s,mb3.4,baz=80,slow=7.4
NOA NORSAR Array B 59.86 326 P **P 12 53 11.8 +0.5**
comp=Z,2.8nm,0.9s,mb4.3,baz=79,slow=6.8,SNR=6.3
NOA LR LR 13 18 36.7
comp=Z,52nm,20.6s,MS3.6,baz=305,slow=36
BRG Berggiesshubel 60.74 314 P **P 12 53 20.3 +3.1**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BRG Berggiesshubel 60.74 314 *e*(P) **P 12 53 20.3 +3.0**
comp=Z,3.2nm,0.8s,mb4.5
GERES GERESS Array B 61.45 312 P **P 12 53 23.3 +1.2**
comp=Z,2.7nm,0.7s,mb4.5,baz=68,slow=5.5,SNR=15
GERES LR LR 13 23 53.9
comp=Z,137nm,20.1s,MS4.1,baz=288,slow=40
GRA1 Grafenberg Arr 62.75 313 *eP* **P 12 53 32.2 +1.4**
comp=Z,8.0nm,1.0s,mb4.8
GRA1 *ep*P pP 12 53 35.1 -11
GRF Grafenberg Arr 62.75 313 *eP* **P 12 53 32.2 +1.4**
comp=Z,8.0nm,1.0s,mb4.8
GRF *ep*P pP 12 53 35.1 -11
comp=Z,8.0nm,1.0s
KMBO Kilima Mbogo 63.65 251 P **P 12 53 38.9 +2.2**
comp=Z,1.6nm,0.5s,mb4.3,baz=42,slow=9.1,SNR=5.6
WRAB Tennant Creek 63.73 138 *eP* **P 12 53 36.9 -0.3**
comp=Z,14nm,1.0s,mb5.0
WRAB Tennant Creek 63.73 138⇑*iP* **P 12 53 37.9 +0.7**
WRA Warramunga Arr 63.73 138 P **P 12 53 37.3 +0.1**
comp=Z,3.7nm,0.8s,mb4.5,baz=328,slow=7.2,SNR=21
WB2 Warramunga Arr 63.74 138 *eP* **P 12 53 37.7 +0.4**
PMG Port Moresby 64.46 120 P **P 12 53 43.1 +1.1**
comp=Z,13nm,0.8s,mb5.0,baz=310,slow=5.5,SNR=4.9
PMG Port Moresby 64.46 120 *eP* **P 12 53 45.3 +3.3**
comp=Z,12nm,0.8s,mb5.0
PMG Port Moresby 64.46 120 *d iP* **P 12 53 45.6 +3.6**
CDF Champ du Feu 65.63 313 *eP* **P 12 53 47.3 -2.3**
comp=Z,17nm,1.1s,mb4.7
CDF Champ du Feu 65.63 313 *eP* **P 12 53 47.3 -2.3**
comp=Z,8.6nm,1.0s,mb4.7
CDF Champ du Feu 65.63 313 *eP* **P 12 53 47.3 -2.3**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
HINF Hinteralfeld 66.11 313 *eP* **P 12 53 50.3 -2.3**
ASAR Alice Springs 66.47 141 P **P 12 53 55.6 +0.6**
comp=Z,2.3nm,0.6s,mb4.4,baz=329,slow=6.6,SNR=24
BAIF Baives 66.89 316 *eP* **P 12 53 55.8 -1.9**
comp=Z,7.5nm,0.6s,mb4.6
BAIF Baives 66.89 316 *eP* **P 12 53 55.8 -1.9**
comp=Z,3.8nm,0.6s,mb4.6
BAIF Baives 66.89 316 *eP* **P 12 53 55.8 -1.9**
BAIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LPG La Plagne 67.03 310 *eP* **P 12 53 57.3 -1.3**
comp=Z,18nm,0.8s,mb4.9
LPG La Plagne 67.03 310 *eP* **P 12 53 57.3 -1.3**
comp=Z,9.1nm,0.8s,mb4.9
LPG La Plagne 67.03 310 *eP* **P 12 53 57.3 -1.3**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CABF La Chapelle 67.04 312 *eP* **P 12 53 58.4 -0.2**
comp=Z,81nm,1.4s,mb5.3
CABF La Chapelle 67.04 312 *eP* **P 12 53 58.4 -0.2**
comp=Z,40nm,1.4s,mb5.3
CABF La Chapelle 67.04 312 *eP* **P 12 53 58.4 -0.2**
CABF pmax pmax
comp=Z,41nm,1.4s,mb5.3
LPL La Plagne 67.04 310 *eP* **P 12 53 57.2 -1.4**
comp=Z,25nm,0.8s,mb5.0
LPL La Plagne 67.04 310 *eP* **P 12 53 57.2 -1.4**
comp=Z,13nm,0.8s,mb5.0
LPL La Plagne 67.04 310 *eP* **P 12 53 57.2 -1.4**
LPL pmax pmax
comp=Z,13nm,0.8s,mb5.0
SBF Sospel 67.21 308 *eP* **P 12 53 57.7 -2.0**
comp=Z,31nm,0.8s,mb5.1
SBF Sospel 67.21 308 *eP* **P 12 53 57.7 -2.0**
SBF pmax pmax
comp=Z,16nm,0.8s,mb5.1
SBF Sospel 67.21 308 *eP* **P 12 53 57.7 -2.0**
comp=Z,16nm,0.8s,mb5.1
MBDF Montbardon 67.31 309 *eP* **P 12 53 59.5 -0.9**
comp=Z,8.7nm,0.7s,mb4.6
MBDF Montbardon 67.31 309 *eP* **P 12 53 59.5 -0.9**
comp=Z,4.3nm,0.7s,mb4.6
MBDF Montbardon 67.31 309 *eP* **P 12 53 59.5 -0.9**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ORIF Oris-en-Rattie 67.83 310 *eP* **P 12 54 01.4 -2.2**
ORIF *e*R
comp=Z,148nm,18.0s
LOR Lormes 68.19 313 *eP* **P 12 54 03.2 -2.7**
comp=Z,10nm,0.8s,mb4.6
LOR *e*R
comp=Z,139nm,18.5s
LOR Lormes 68.19 313 *eP* **P 12 54 03.2 -2.7**
comp=Z,5.2nm,0.8s,mb4.6
LOR LR LR
comp=Z,140nm,18.5s,MS4.2
LOR Lormes 68.19 313 *eP* **P 12 54 03.2 -2.7**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LOR MLR MLR
comp=Z,140nm,18.5s,MS4.2
SMF Signal de Mont 68.45 312 *eP* **P 12 54 05.1 -2.4**
comp=Z,17nm,0.8s,mb4.8
SMF Signal de Mont 68.45 312 *eP* **P 12 54 05.1 -2.4**
comp=Z,8.5nm,0.8s,mb4.8
SMF Signal de Mont 68.45 312 *eP* **P 12 54 05.1 -2.4**
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SSF Saint Saulge 68.49 313 *eP* **P 12 54 05.4 -2.4**
comp=Z,23nm,0.9s,mb4.9
SSF Saint Saulge 68.49 313 *eP* **P 12 54 05.4 -2.4**
comp=Z,11nm,0.9s,mb4.9
SSF Saint Saulge 68.49 313 *eP* **P 12 54 05.4 -2.4**
SSF pmax pmax
comp=Z,11nm,0.9s,mb4.9
VIVF Saint-Julien-I 68.64 310 *eP* **P 12 54 06.6 -2.1**
comp=Z,47nm,1.4s,mb4.9
VIVF Saint-Julien-I 68.64 310 *eP* **P 12 54 06.6 -2.1**
comp=Z,24nm,1.4s,mb4.9
VIVF Saint-Julien-I 68.64 310 *eP* **P 12 54 06.6 -2.1**
VIVF pmax pmax
comp=Z,24nm,1.4s,mb4.9
AVF Avril sur Loir 68.70 313 *eP* **P 12 54 06.6 -2.4**
comp=Z,20nm,0.9s,mb4.8
AVF Avril sur Loir 68.70 313 *eP* **P 12 54 06.6 -2.4**
comp=Z,10nm,0.9s,mb4.8
AVF Avril sur Loir 68.70 313 *eP* **P 12 54 06.6 -2.4**
AVF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LASF Ste Croix 69.49 310 *eP* **P 12 54 12.2 -1.7**
TCF Toulx Ste Croi 69.62 312 *eP* **P 12 54 12.8 -2.0**
comp=Z,32nm,1.0s,mb4.9
TCF Toulx Ste Croi 69.62 312 *eP* **P 12 54 12.8 -2.0**
comp=Z,16nm,1.0s,mb4.9
TCF Toulx Ste Croi 69.62 312 *eP* **P 12 54 12.8 -2.0**
TCF pmax pmax
comp=Z,16nm,1.0s,mb4.9
MTLF Montolieu 70.88 310 *eP* **P 12 54 20.6 -1.8**
comp=Z,19nm,1.1s,mb4.7
MTLF Montolieu 70.88 310 *eP* **P 12 54 20.6 -1.8**
comp=Z,9.6nm,1.1s,mb4.6
MTLF Montolieu 70.88 310 *eP* **P 12 54 20.6 -1.8**
MTLF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CTA Charters Tower 71.17 129 P **P 12 54 24.3 +0.1**
comp=Z,7.3nm,1.0s,mb4.6,baz=290,slow=6.1,SNR=4.5
CTAO Charters Tower 71.17 129 *eP* **P 12 54 28.3 +4.1**
ILAR Eielson Array 72.47 23 P **P 12 54 31.6 -0.3**
comp=Z,2.4nm,0.9s,mb4.1,baz=293,slow=5.5,SNR=22
ILAR Eielson Array 72.47 23 P **P 12 54 31.7 -0.3**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ETSF Etsaut 72.89 310 *eP* **P 12 54 33.2 -1.3**
comp=Z,26nm,0.9s,mb4.9
RES Resolute Bay 73.63 3 *eP* **P 12 54 39.3 +0.4**
comp=Z,4.1nm,1.2s,mb4.2
RES Resolute Bay 73.63 3 *eP* **P 12 54 39.3 +0.4**
RES pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
HNR Honiara 74.27 112 LR LR 13 29 19.2
comp=Z,48nm,18.4s,MS3.8,baz=356,slow=37
ESDC Sonseca Array 76.69 308 P **P 12 54 58.7 +2.2**
comp=Z,1.9nm,0.7s,mb4.1,baz=46,slow=9.0,SNR=5.9
YKA Yellowknife Ar 83.11 13 P **P 12 55 31.2 +0.1**
comp=Z,1.2nm,0.9s,mb3.9,baz=334,slow=4.7,SNR=10
YKA Yellowknife Ar 83.11 13 P **P 12 55 31.2 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 85.98 283 P **P 12 55 46.3 +0.6**
comp=Z,2.6nm,0.7s,mb4.6,baz=46,slow=4.7,SNR=11
OTAV Otavalo 147.59 348 *e*PKPbc PKPbc 13 02 52.1 +2.7
SAML Samuel 149.60 314 *e*PKPdf PKPdf 13 02 51.1 +1.1
LPAZ La Paz 158.29 311 *e*PKPdf PKPdf 13 03 03.8 +1.7

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*IDC **09** 12:51:44.8±12.0, 611N×12647E, h160km±115km, mb3.5/4, mb1 3.6/4, mb1mx3.3/18, mbtmp3.9/4, Error ellipse: s-maj=205.2km s-min=25.8km az=65.0*
*ISCJB **09** 12:51:45.9±0.8, 60N±01×126.1E±0.1, h188km±12km, mb3.9/5, Error ellipse: s-maj=22.4km s-min=18.4km az=18.4*
*MAN **09** 12:51:45.5, 607N×12603E, h201km, mb2.7, ML4.2, MS4.1*
ISC 09 12:51:47.2±0.8, 60N±01×1261E±01, h181km±13km, n12, σ0°79/14, mb3.9/5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.42**	**318**	⇓*iP*	**Pn**	**12 52 19.2**	**+0.7**
KCP				*i* S	**Sn**	**12 52 43.7**	**+1.1**
BUKP	**Musuan**	**2.15**	**333**	*eP*	**Pn**	**12 52 25.1**	**-0.9**
BUKP				*e*S	**Sn**	**12 52 55.4**	**-0.6**
BIPH	**Bislig**	**2.23**	**8**	⇑*eP*	**Pn**	**12 52 25.7**	**-1.2**
BIPH				*e*S	**Sn**	**12 52 58.0**	**+0.2**
BUTP	**Butuan**	**3.02**	**352**	*eP*	**Pn**	**12 52 37.6**	**+1.4**
PAGZ	**Pagadian**	**3.25**	**306**	*eP*	**Pn**	**12 52 37.6**	**-1.4**
WRA	**Warramunga Arr**	**27.00**	**163**	P	**P**	**12 57 12.1**	**-0.1**
0.4nm,0.3s,mb3.5,baz=344,slow=9.6,SNR=4.8							
ASAR	**Alice Springs**	**30.42**	**166**	P	**P**	**12 57 42.9**	**+0.4**
1.1nm,0.4s,mb4.0,baz=337,slow=7.4,SNR=11							
KLBR	**Kellerberrin**	**38.17**	**191**	*eP*	**P**	**12 58 48.8**	**-0.2**
4.9nm,0.3s,mb4.6							
MUN	**Mundaring**	**38.87**	**193**	*eP*	**P**	**12 58 55.2**	**+0.3**
STKA	**Stephens Creek**	**40.44**	**159**	P	**P**	**12 59 07.3**	**-0.5**
1.6nm,0.5s,mb3.9,baz=345,slow=9.4,SNR=5.2							
MKAR	**Makanchi Array**	**55.35**	**325**	P	**P**	**13 01 02.9**	**+0.6**
0.7nm,0.5s,mb3.7,baz=132,slow=8.0,SNR=5.6							
TORD	**Torodi Ar. Bea**	**121.57**	**289**	PKP	PKPdf	13 10 20.8	+1.7
0.3nm,0.5s,baz=67,slow=2.1,SNR=5.8							

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*IDC **09** 12:56:21.1±2.0, 3172N×9501E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/22, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=79.0km s-min=25.3km az=75.0*
*ISCJB **09** 12:56:26.9±2.8, 3181N±009×95.1E±02, h58km±30km, mb3.7/4, Error ellipse: s-maj=24.0km s-min=15.0km az=27.2*
*NEIC **09** 12:56:27.7±2.5, 3183N×95.11E, h45km±28km, mb3.8/2, Error ellipse: s-maj=24.0km s-min=12.1km az=82.0*
*BJI **09** 12:56:27.2, 3179N×9504E, h45km, Ms3.2, Msz3.1*
ISC 09 12:56:28.9±2.6, 3187N±009×950E±02, h59km±30km, n10, σ0°28/10, mb3.7/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.97**	**238**	P	**Pn**	**12 57 27.6**	**+0.3**
LSA	**Lhasa**	**3.97**	**238**	*e*Pn	**Pn**	**12 57 27.3**	**0.0**
LSA				*e*Sn	**Sn**	**12 58 12.6**	**0.0**
MKAR	**Makanchi Array**	**17.83**	**330**	P	**Pn**	**13 00 32.4**	**-0.4**
baz=146,slow=13,SNR=4.9							
SONM	**Songino Array**	**18.15**	**25**	P	**Pn**	**13 00 36.8**	**+0.1**
0.1nm,0.3s,baz=210,slow=13,SNR=4.8							
AAK	**Ala-Archa**	**19.51**	**309**	*eP*	**Pn**	**13 00 52.9**	**-0.1**
11nm,1.4s							
KURK	**Kurchatov**	**22.41**	**332**	*eP*	**P**	**13 01 22.6**	**+0.2**
2.4nm,0.8s,mb3.7							
WRA	**Warramunga Arr**	**63.82**	**138**	P	**P**	**13 06 54.5**	**-0.4**
1.0nm,0.8s,mb3.9,baz=327,slow=7.7,SNR=9.3							
DOU	**Dourbes**	**66.56**	**315**	S		13 16 17.8	
comp=Z,15nm,0.0s							
ASAR	**Alice Springs**	**66.57**	**141**	P	**P**	**13 07 12.8**	**+0.1**
comp=Z,0.6nm,0.6s,mb3.8,baz=324,slow=6.2,SNR=10							
ILAR	**Eielson Array**	**72.36**	**23**	P	**P**	**13 07 49.0**	**+0.5**
comp=Z,0.5nm,0.9s,mb3.4,baz=291,slow=7.5,SNR=4.2							

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*IDC **09** 13:00:06.9±6.4, 2213N×14481E, h53km±46km, mb3.6/4, mb1 3.8/5, mb1mx3.4/22, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=174.8km s-min=22.7km az=76.0*
*ISCJB **09** 13:00:07.6±4.6, 222N±03×1447E±09, h76km±38km, mb3.9/5, Error ellipse: s-maj=144.4km s-min=22.8km az=151.4*
ISC 09 13:00:08.1±4.3, 222N±02×1450E±08, h69km±35km, n8, σ0°92/9, mb3.9/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.47**	**333**	P	**Pn**	**13 01 28.1**	**+1.1**
7.2nm,0.3s,baz=345,slow=18,SNR=9.8							
CBIJ				S	**Sn**	**13 02 27.4**	**-1.1**
31nm,0.3s,baz=277,slow=23,SNR=11							
WB2	**Warramunga Arr**	**43.16**	**195**	*eP*	**P**	**13 08 02.1**	**+0.1**
WRA	**Warramunga Arr**	**43.16**	**195**	P	**P**	**13 08 02.4**	**+0.4**
1.7nm,0.5s,mb4.0,baz=14,slow=8.9,SNR=26							
FITZ	**Fitzroy Crossi**	**44.30**	**207**	*eP*	**P**	**13 08 11.5**	**+0.4**
5.0nm,0.6s,mb4.4							
ASAR	**Alice Springs**	**46.86**	**194**	P	**P**	**13 08 31.1**	**-0.2**
0.4nm,0.5s,mb3.4,baz=12,slow=6.6,SNR=14							
ASPA	**Alice Springs**	**46.86**	**194**	*eP*	**P**	**13 08 31.4**	**+0.1**
STKA	**Stephens Creek**	**53.88**	**184**	P	**P**	**13 09 22.1**	**-2.2**
0.9nm,0.4s,mb4.1,baz=18,slow=9.6,SNR=4.2							
BVAR	**Borovoye Array**	**63.35**	**319**	P	**P**	**13 10 31.0**	**+0.9**
0.5nm,0.5s,mb3.7,baz=90,slow=8.3,SNR=5.0							

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*IDC **09** 13:55:53.9±4.2, 3648N×13987E, h96km±48km, mb2.9/2, mb1 3.3/2, mb1mx2.8/20, mbtmp3.2/2, Error ellipse: s-maj=68.1km s-min=27.3km az=111.0*
*ISCJB **09** 13:55:54.1±0.7, 3654N±005×13963E±008, h117km±6km, mb3.4/2, Error ellipse: s-maj=11.7km s-min=5.9km az=64.0*
*JMA **09** 13:55:55.5±0.1, 3652N×13965E, h104km±1km, M2.9*
ISC 09 13:55:55.1±0.7, 3654N±005×13963E±008, h111km±6km, n16, σ0°32/26, mb3.4/2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.18**	**231**	P	**Pn**	**13 56 10.1**	**-0.5**
JKT	**Katashina**	**0.38**	**306**	P	**Pn**	**13 56 11.3**	**0.0**
JKT				S	**Sn**	**13 56 23.1**	**-0.4**
JRY	**Ryogami san**	**0.79**	**229**	P	**Pn**	**13 56 14.6**	**+0.3**
JHK	**Hiroka**	**0.86**	**325**	P	**Pn**	**13 56 15.0**	**0.0**
JHK				*e*S	**Sn**	**13 56 29.7**	**-0.3**
JFY	**Yanaizu**	**0.87**	**4**	P	**Pn**	**13 56 15.1**	**+0.1**
JFY				*e*S	**Sn**	**13 56 29.8**	**-0.3**
JFT	**Otama**	**1.13**	**30**	P	**Pn**	**13 56 18.2**	**+0.5**
JFT				*e*S	**Sn**	**13 56 35.1**	**+0.3**
MJAR	**Matsushiro Arr**	**1.15**	**270**	P	**Pn**	**13 56 17.7**	**-0.2**
8.7nm,0.3s,baz=88,slow=11,SNR=83							
MJAR				S	**Sn**	**13 56 35.5**	**+0.4**
4.9nm,0.3s,baz=14,slow=24,SNR=13							
MAT	**Matsushiro**	**1.15**	**270**	P	**Pn**	**13 56 18.0**	**+0.1**
MAT				*e*S	**Sn**	**13 56 35.1**	**-0.1**
MAT	**Matsushiro**	**1.15**	**270**	P	**Pn**	**13 56 18.0**	**+0.1**
MAT				S	**Sn**	**13 56 35.0**	**-0.2**
JNS	**Sasagawa**	**1.30**	**349**	P	**Pn**	**13 56 19.6**	**0.0**
JOD2	**Odawara 2**	**1.35**	**199**	P	**Pn**	**13 56 19.8**	**-0.4**
JOD2				*e*S	**Sn**	**13 56 38.9**	**-0.3**
JYN	**Shimob**	**1.36**	**221**	P	**Pn**	**13 56 20.8**	**+0.4**
JYN				*e*S	**Sn**	**13 56 40.2**	**+0.7**
JMM	**Marumori**	**1.61**	**35**	P	**Pn**	**13 56 23.7**	**+0.4**
JMM				*e*S	**Sn**	**13 56 44.9**	**+0.1**
JIM2	**Oshima 3**	**1.83**	**185**	P	**Pn**	**13 56 25.7**	**-0.2**
ILAR	**Eielson Array**	**50.67**	**32**	P	**P**	**14 04 42.7**	**-0.4**
0.3nm,0.8s,mb3.4,baz=272,slow=5.1,SNR=4.5							
WRA	**Warramunga Arr**	**56.40**	**186**	P	**P**	**14 05 24.8**	**0.0**
0.3nm,0.8s,mb3.4,baz=14,slow=7.1,SNR=3.3							

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*MOS **09** 14:11:25.0±1.9, 5458N×11089E, h18km, mb4.3/1, Error ellipse: s-maj=20.6km s-min=9.0km az=73.9*
BYKL 09 14:11:24.6±0.2, 5459N×11082E, h9km±5km, 3C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.35**	**35**	⇓*iPg*	Pg	14 11 31.3	-0.2
336nm,0.2s							
YLYR				⇓*iPg*	Pg	14 11 31.3	-0.2
234nm,0.2s							
YLYR				⇓*iPg*	Pg	14 11 31.3	-0.2
444nm,0.2s							
YLYR				*e*Sg	Sg	14 11 35.9	-0.2
YLYR				Pmax			
335nm,0.1s							
YLYR				Smax			
3μm,0.1s							
YLYR	**Ulyunkhan**	**0.35**	**35**	⇓*iPG*	Pg	14 11 31.3	-0.2
YLYR				*e*		14 11 36.1	
YLYR				pmax	pmax		
comp=Z,335nm,0.1s							
YLYR				smax			
comp=N,3μm,0.1s							
SYVR	**Suvo**	**1.05**	**208**	*ePg*	Pg	14 11 44.4	-0.4
SYVR				*e*Pb	Pb	14 11 45.8	+0.8
SYVR				*e*Sg	Sg	14 11 58.7	+0.2
SYVR				*e*Sb	Sb	14 12 02.3	+3.5
SYVR				max			
comp=N,88nm,0.5s							
SYVR				max			
comp=N,694nm,0.4s							
SYVR	**Suvo**	**1.05**	**208**	*ePG*	Pg	14 11 44.6	-0.2
SYVR				*e*		14 12 00.0	
SYVR				pmax	pmax		
comp=Z,89nm,0.4s							
SYVR				smax			
comp=E,708nm,0.5s							
KMO	**Kumora**	**1.32**	**9**	⇑*iPg*	Pg	14 11 48.2	-1.7
KMO				*e*Sg	Sg	14 12 05.7	-1.3
KMO				*e*		14 12 09.0	
KMO				Pmax			
comp=E,93nm,0.3s							
KMO				max			
comp=E,930nm,0.8s							
KMO	**Kumora**	**1.32**	**9**	*ePG*	Pg	14 11 48.1	-1.8
KMO				*e*		14 12 05.9	
KMO				pmax	pmax		
comp=Z,133nm,0.3s							
KMO				smax			
comp=E,800nm,0.4s							
NIZ	**Nizh Angarsk**	**1.40**	**329**	⇑*iPg*	Pg	14 11 50.1	-1.3
NIZ				*e*Sg	Sg	14 12 08.8	-0.7
NIZ				Pmax			
comp=E,169nm,0.2s							
NIZ				Smax			
comp=E,314nm,0.3s							
NIZ	**Nizh Angarsk**	**1.40**	**329**	*e*PN	Pn	14 11 50.1	-0.1
NIZ				*e*		14 12 09.1	
NIZ				pmax	pmax		
comp=Z,169nm,0.4s							
NIZ				smax			
comp=E,321nm,0.5s							
YOA	**Uoyan**	**1.63**	**18**	*ePg*	Pg	14 11 54.2	-1.7
YOA				*e*Sg	Sg	14 12 16.2	-0.8
YOA				Pmax			
comp=E,128nm,0.2s							
YOA				Smax			
comp=E,1μm,0.6s							
YOA	**Uoyan**	**1.63**	**18**	⇑*iPN*	Pn	14 11 54.2	+0.7
YOA				*i*		14 12 16.8	
YOA				pmax	pmax		
comp=Z,131nm,0.2s							
YOA				smax			
comp=N,1μm,0.4s							
MXMB	**Maximikha**	**1.81**	**224**	*ePn*	Pn	14 11 56.6	+0.7
MXMB				*ePg*	Pg	14 11 57.7	-1.6
MXMB				*e*Sg	Sg	14 12 22.5	-0.3
MXMB				Pmax			
comp=N,45nm,0.2s							
MXMB				Smax			
comp=N,450nm,0.4s							

UKT	**Uakit**	**1.85**	**60**	*e*	Pn	14 11 57.0	+0.5
UKT				*e*Pg	Pg	14 11 57.4	-2.7
UKT				*e*		14 12 00.6	
UKT				*e*Sg	Sg	14 12 21.8	-2.3
UKT				Pmax			
	comp=N,55nm,0.8s						
UKT				Smax			
	comp=N,358nm,0.5s						
UKT	**Uakit**	**1.85**	**60**	*e*PN	Pn	14 11 57.4	+0.9
UKT				*e*		14 12 21.9	
UKT				pmax	pmax		
	comp=Z,38nm,0.2s						
UKT				smax			
	comp=N,365nm,0.6s						
OGRR	**Ongureny**	**2.12**	**245**	*e*Pn	Pn	14 12 01.0	+0.8
OGRR				*e*Pg	Pg	14 12 03.1	-2.2
OGRR				*e*		14 12 06.2	
OGRR				*e*Sg	Sg	14 12 30.7	-2.1
OGRR				max			
	comp=N,53nm,0.3s						
OGRR				Smax			
	comp=N,238nm,1.0s						
OGRR	**Ongureny**	**2.12**	**245**	*e*PN	Pn	14 12 01.0	+0.8
OGRR				*e*		14 12 03.5	
OGRR				*e*		14 12 31.5	
OGRR				pmax	pmax		
	comp=Z,53nm,0.4s						
OGRR				smax			
	comp=N,233nm,0.9s						
SVKR	**Severomuysk**	**2.19**	**45**	*e*Pg	Pg	14 12 04.1	-2.4
SVKR				*e*		14 12 07.2	
SVKR				*e*Sg	Sg	14 12 33.2	-1.7
SVKR				max			
	comp=N,97nm,0.4s						
SVKR				Smax			
	comp=N,800nm,0.5s						
SVKR	**Severomuysk**	**2.19**	**45**	*e*PN	Pn	14 12 02.3	+1.2
SVKR				*e*S	Sn	14 12 33.5	+5.2
SVKR				smax			
	comp=N,800nm,0.7s						
KELR	**Kotokel**	**2.45**	**223**	*e*	Pn	14 12 13.3	+8.5
KELR				*e*Sg	Sg	14 12 41.6	-1.8
KELR				max			
	comp=N,28nm,0.3s						
KELR				Smax			
	comp=N,240nm,0.6s						
TRTB	**Turuntaevo**	**3.04**	**220**	*e*Pg	Pg	14 12 19.6	-3.2
TRTB				*e*Sg	Sg	14 12 58.6	-3.6
TRTB				Smax			
	comp=N,63nm,1.3s						
CIT	**Chita**	**3.05**	**146**	*e*Pg	Pg	14 12 18.8	-4.3
CIT				*e*Sg	Sg	14 12 57.8	-4.8
CIT				Pmax			
	comp=N,28nm,1.0s						
CIT				Smax			
	comp=N,130nm,0.7s						
CIT	**Chita**	**3.05**	**146**	*e*PN	Pn	14 12 18.8	+5.8
CIT				*e*S	Sn	14 12 46.1	-3.5
CIT				*e*		14 12 58.9	
CIT				pmax	pmax		
	comp=Z,27nm,1.0s						
CIT				smax			
	comp=N,129nm,0.6s						
TRG	**Tyrgan**	**3.23**	**237**	*e*Pn	Pn	14 12 16.3	+0.8
TRG				*e*Pg	Pg	14 12 22.2	-4.3
TRG				*e*Sg	Sg	14 13 03.3	-5.1
TRG				Pmax			
	comp=N,10.0nm,0.4s						
TRG				Smax			
	comp=N,80nm,0.5s						
NLYR	**Nelyaty**	**3.37**	**54**	*e*Pn	Pn	14 12 17.5	+0.2
NLYR				*e*Pg	Pg	14 12 25.2	-3.9
NLYR				*e*Sg	Sg	14 13 08.0	-4.7
NLYR				Pmax			
	comp=N,13nm,0.7s						
NLYR				Smax			
	comp=N,163nm,1.0s						
NLYR	**Nelyaty**	**3.37**	**54**	*e*PN	Pn	14 12 16.7	-0.6
NLYR				*e*		14 12 26.9	
NLYR				*e*		14 13 08.2	
NLYR				pmax	pmax		
	comp=Z,12nm,0.4s						
NLYR				smax			
	comp=N,162nm,1.0s						
BOD	**Bodaibo**	**3.69**	**27**	*e*	Pn	14 12 23.5	+1.7
BOD				*e*Pg	Pg	14 12 30.0	-5.4
BOD				*e*Sg	Sg	14 13 16.6	-6.6
BOD				Pmax			
	comp=N,6.0nm,0.2s						
BOD				Smax			
	comp=N,38nm,0.7s						
HRMR	**Khuramsha**	**3.77**	**220**	*e*Pn	Pn	14 12 23.6	+0.7
HRMR				*e*Pg	Pg	14 12 33.4	-3.5
HRMR				*e*Sg	Sg	14 13 23.1	-2.6
HRMR				Pmax			
	comp=N,26nm,0.5s						
HRMR				Smax			
	comp=N,210nm,0.7s						
LSTR	**Listvyanka**	**4.51**	**235**	*e*Pg	Pg	14 12 45.7	-5.4
LSTR				*e*Sg	Sg	14 13 43.3	-6.2
LSTR				Pmax			
	comp=N,4.0nm,0.6s						
LSTR				Smax			
	comp=N,34nm,0.9s						
IRK	**Irkutsk**	**4.57**	**242**	*e*Sg	Sg	14 13 44.7	-6.6
IRK				Smax			
	comp=N,161nm,0.4s						
CRS	**Chara**	**4.80**	**58**	*e*Pn	Pn	14 12 37.8	+0.7
CRS				*e*Pg	Pg	14 12 50.9	-5.7
CRS				*e*Sg	Sg	14 13 52.5	-6.3
CRS				Pmax			
	comp=N,9.0nm,0.8s						
CRS				Smax			
	comp=N,79nm,1.2s						
CRS	**Chara**	**4.80**	**58**	*e*PN	Pn	14 12 35.9	-1.2
CRS				*e*		14 12 49.2	
CRS				*e*		14 13 52.5	
CRS				pmax	pmax		
	comp=Z,31nm,2.0s						
CRS				smax			
	comp=E,79nm,1.4s						
KPC	**Khapcheranga**	**4.99**	**168**	*e*Pn	Pn	14 12 40.2	+0.6
KPC				*e*Pg	Pg	14 12 54.0	-6.1
KPC				*e*Sg	Sg	14 13 57.9	-6.8
KPC				Pmax			
	comp=E,2.0nm,0.5s						
KPC				Smax			
	comp=E,92nm,0.9s						
TLY	**Talaya**	**5.21**	**239**	*e*	Pn	14 12 42.3	-0.4
TLY				*e*		14 13 00.6	
TLY				*e*Sg	Sg	14 14 05.7	-6.2
TLY				max			
	comp=E,4.0nm,0.6s						
TLY				Smax			
	comp=E,26nm,1.0s						
TUP	**Tupik**	**5.33**	**88**	*e*Pg	Pg	14 13 00.9	-5.7
TUP				*e*		14 13 43.8	
TUP				*e*Sg	Sg	14 14 09.6	-6.0
TUP				Pmax			
	comp=E,4.0nm,0.6s						
TUP				Smax			
	comp=E,119nm,1.4s						
TUP	**Tupik**	**5.33**	**88**	*e*PN	Pn	14 12 43.8	-0.5
TUP				*e*		14 13 00.1	
TUP				*e*		14 14 09.7	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TUP				smax			
	comp=N,115nm,1.1s						
ARS	**Arshan**	**5.71**	**245**	*e*	Pn	14 13 15.6	+26
ARS				*e*Sg	Sg	14 14 19.3	-8.5
ARS				Smax			
	comp=N,132nm,0.7s						
ORL	**Orlik**	**6.87**	**257**	*e*Pn	Pn	14 13 05.7	+0.2
ORL				*e*		14 14 22.9	
ORL				*e*Sg	Sg	14 14 55.9	-9.3
ORL				Smax			
	comp=N,30nm,1.4s						

*IDC **09** 14:25:30.8±1.2, 1341N×11999E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.1/3, Error ellipse: s-maj=22.1km s-min=13.1km az=130.0*

*ISCJB **09** 14:25:32.8±1.2, 1344N±004×11999E±006, h20km±8km, mb4.0/6, Error ellipse: s-maj=10.2km s-min=6.1km az=21.1*

*NEIC **09** 14:25:32.0±0.6, 1339N×12004E, h10km, mb4.3/2, Error ellipse: s-maj=14.5km s-min=9.5km az=88.0*

*MAN **09** 14:25:33.6, 1339N×120.16E, h3km, mb2.7, ML4.2, MS1.9*

ISC 09 14:25:32.8±1.1, 1342N±004×12004E±006, h8km±6km, n26, σ1°09/32, mb4.0/6, 4C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**32**	*e*P	**Pg**	**14 25 40.3**	**+0.4**
LUBP				*e*S	**Sg**	**14 25 44.4**	**-0.4**
PGP	**Puerto Galera**	**0.89**	**85↑**	*i*P	**Pg**	**14 25 49.4**	**-0.5**
PGP				*i* S	**Sg**	**14 25 59.9**	**-1.5**
TGY	**Tagaytay City**	**1.10**	**52**	Pg	**Pg**	**14 25 53.7**	**-0.2**
	489nm,0.3s,baz=232,slow=3.4,SNR=26						
TGY				Lg		14 26 08.0	
	772nm,0.3s,baz=311,slow=21,SNR=23						
TGY	**Tagaytay City**	**1.10**	**52↑**	*e*P	**Pg**	**14 25 53.9**	**0.0**
TGY				*i* S	**Sg**	**14 26 08.3**	**+0.2**
BUSP	**Coron**	**1.42**	**174**	*e*P	**Pn**	**14 25 59.8**	**+0.9**
BUSP				*e*S	**Sn**	**14 26 17.8**	**+0.1**
LQP	**Lukban**	**1.61**	**65**	*e*P	**Pn**	**14 26 03.0**	**+1.5**
BOAC	**Boac**	**1.75**	**89**	*e*P	**Pn**	**14 26 02.0**	**-1.5**
OTRP	**Odiongan**	**2.20**	**118**	*e*P	**Pn**	**14 26 12.4**	**+2.9**
POLP	**Polillo Island**	**2.25**	**55**	*e*P	**Pn**	**14 26 10.7**	**+0.4**
ENPP	**El Nido**	**2.29**	**195**	*e*P	**Pn**	**14 26 12.4**	**+1.6**
SCZP	**Santa Cruz**	**2.34**	**357**	*e*P	**Pn**	**14 26 16.6**	**+5.0**
PCPH	**Palayan**	**2.36**	**25↑**	*e*P	**Pn**	**14 26 12.0**	**+0.2**
PCPH				*e*S	**Sn**	**14 26 39.8**	**-1.2**
GQP	**Guinayangan**	**2.38**	**78↑**	*e*P	**Pn**	**14 26 13.1**	**+1.0**
GQP				*e*S	**Sn**	**14 26 42.4**	**+0.8**
CUYO	**Cuyo Island**	**2.73**	**159**	*e*P	**Pn**	**14 26 17.4**	**+0.5**
BALP	**Baler**	**2.74**	**33**	*e*P	**Pn**	**14 26 18.6**	**+1.5**
CAUP	**Cauayan**	**3.90**	**26**	*e*P	**Pn**	**14 26 35.4**	**+2.4**
WRAB	**Tennant Creek**	**36.01**	**157**	*e*P	**P**	**14 32 33.1**	**-1.3**
	6.6nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**36.02**	**157**	P	**P**	**14 32 33.5**	**-0.9**
	4.3nm,0.6s,mb4.6,baz=336,slow=9.6,SNR=61						
WB2	**Warramunga Arr**	**36.02**	**157**	*e*P	**P**	**14 32 33.7**	**-0.7**
SONM	**Songino Array**	**36.15**	**344**	P	**P**	**14 32 35.1**	**-0.4**
	0.6nm,0.6s,mb3.7,baz=160,slow=9.5,SNR=7.2						
AS31	**Alice Springs**	**39.27**	**160**	*e*P	**P**	**14 33 01.7**	**-0.2**
ASPA	**Alice Springs**	**39.27**	**160**	*e*P	**P**	**14 33 01.7**	**-0.2**
ASAR	**Alice Springs**	**39.27**	**160**	P	**P**	**14 33 01.9**	**-0.1**
	1.9nm,0.5s,mb4.0,baz=337,slow=6.6,SNR=58						
MKAR	**Makanchi Array**	**45.88**	**324**	P	**P**	**14 33 54.2**	**-1.4**
	0.1nm,0.7s,mb2.9,baz=125,slow=9.7,SNR=3.4						
STKA	**Stephens Creek**	**49.55**	**156**	P	**P**	**14 34 21.4**	**-2.7**
KURK	**Kurchatov**	**50.07**	**327**	P	**P**	**14 34 27.6**	**-0.4**
	0.7nm,0.5s,mb4.0						

*IDC **09** 14:45:33.5±2.9, 1070N×9432E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=123.3km s-min=20.9km az=64.0*

*NEIC **09** 14:45:37.6±1.2, 1104N×9489E, h10km, mb4.2/3, Error ellipse: s-maj=44.3km s-min=13.4km az=56.0*

*ISCJB **09** 14:45:38.9±1.3, 110N±02×949E±03, h33km, mb3.9/8, Error ellipse: s-maj=45.3km s-min=13.2km az=114.5*

ISC 09 14:45:41.4±1.3, 111N±02×949E±03, h35km, n11, σ1°12/10, mb3.9/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.19**	**286**	*e*P	Px	14 46 22.7	
PBA				*ex*	x	14 46 36.7	
	comp=Z,304nm,1.1s						
PBA				*e*S	Sx	14 48 58.2	
KKM	**Kota Kinabalu**	**21.66**	**102**	*e*P	**P**	**14 50 29.0**	**+0.1**
AAK	**Ala-Archa**	**36.13**	**334**	*e*P	**P**	**14 52 42.2**	**+2.1**
	comp=Z,6.3nm,1.5s,mb4.3						
MKAR	**Makanchi Array**	**37.18**	**346**	P	**P**	**14 52 48.1**	**-0.9**
	comp=Z,1.2nm,0.9s,mb3.7,baz=166,slow=8.6,SNR=8.4						
SONM	**Songino Array**	**37.91**	**13**	P	**P**	**14 52 56.2**	**+1.0**
	comp=Z,1.4nm,1.0s,mb3.6,baz=210,slow=7.5,SNR=8.3						
ULN	**Ulaanbaatar**	**38.08**	**13**	P	**P**	**14 52 56.7**	**0.0**
	comp=Z,1.7nm,1.0s,mb3.7						
KURK	**Kurchatov**	**41.73**	**344**	*e*P	**P**	**14 53 25.6**	**-1.4**
	comp=Z,1.6nm,1.5s,mb4.4						
ZAL	**Zalesovo**	**43.51**	**351**	P	**P**	**14 53 41.1**	**-0.4**
	comp=Z,0.6nm,0.3s,mb3.8,baz=298,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**49.57**	**128**	P	**P**	**14 54 28.4**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=305,slow=8.6,SNR=9.5						
ASAR	**Alice Springs**	**51.45**	**132**	P	**P**	**14 54 41.9**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=306,slow=6.4,SNR=15						
STKA	**Stephens Creek**	**61.80**	**135**	*e*P	**P**	**14 55 58.5**	**+1.8**

IDC 09 14:45:59.7±3.1, 1097N×9459E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=133.9km s-min=22.1km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.20**	**346**	P	P	14 53 13.4	+0.9
	1.3nm,0.9s,baz=165,slow=8.1,SNR=5.0						
SONM	**Songino Array**	**38.06**	**13**	P	P	14 53 19.4	-0.5
	0.8nm,1.0s,baz=204,slow=6.3,SNR=3.8						
ZAL	**Zalesovo**	**43.56**	**352**	P	P	14 54 04.5	-0.7
	0.6nm,0.6s,baz=302,slow=24,SNR=3.7						
WRA	**Warramunga Arr**	**49.75**	**128**	P	P	14 54 53.7	-0.1
	0.6nm,0.9s,baz=300,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**51.60**	**132**	P	P	14 55 08.7	+1.0
	0.5nm,0.8s,baz=308,slow=6.1,SNR=2.8						

IDC 09 14:46:12.1±3.0, 1066N×9401E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/21, mbtmp4.0/5, Error ellipse: s-maj=126.9km s-min=21.8km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.36**	**347**	P	P	14 53 26.5	+0.1
	1.7nm,0.9s,baz=152,slow=7.7,SNR=6.0						
SONM	**Songino Array**	**38.49**	**13**	P	P	14 53 35.5	-0.4
	1.7nm,1.0s,baz=197,slow=7.5,SNR=6.8						
ZAL	**Zalesovo**	**43.78**	**352**	P	P	14 54 19.7	+0.2
	0.7nm,0.4s,baz=324,slow=24,SNR=4.1						
WRA	**Warramunga Arr**	**50.01**	**127**	P	P	14 55 09.1	+0.8
	2.1nm,0.8s,baz=304,slow=8.5,SNR=8.6						
ASAR	**Alice Springs**	**51.82**	**132**	P	P	14 55 21.9	0.0
	1.1nm,0.8s,baz=309,slow=6.1,SNR=7.4						

*IDC **09** 14:47:23.4±1.4, 1074N×9459E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/21, mbtmp4.0/5, Error ellipse: s-maj=66.7km s-min=21.9km az=67.0*

*ISCJB **09** 14:47:26.7±1.0, 108N±02×947E±02, h33km, mb4.0/5, Error ellipse: s-maj=32.2km s-min=16.8km az=93.6*

ISC 09 14:47:29.2±1.0, 108N±02×947E±02, h35km, n7, σ0°38/6, mb4.0/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**16.98**	**294**	*e*P	**Pn**	**14 51 24.0**	**+0.1**
HYB				*e*		14 51 54.0	
MKAR	**Makanchi Array**	**37.36**	**346**	P	**P**	**14 54 38.1**	**-0.3**
	3.6nm,0.9s,mb4.2,baz=159,slow=8.6,SNR=6.3						
SONM	**Songino Array**	**38.17**	**13**	P	**P**	**14 54 45.5**	**+0.3**
	2.1nm,1.1s,mb3.8,baz=202,slow=7.8,SNR=5.1						
ZAL	**Zalesovo**	**43.72**	**352**	P	**P**	**14 55 30.8**	**-0.1**
	1.7nm,0.9s,mb3.8,baz=298,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**51.42**	**132**	P	**P**	**14 56 30.9**	**+0.3**
	0.7nm,0.3s,mb4.0,baz=308,slow=6.8,SNR=30						
STKA	**Stephens Creek**	**61.76**	**135**	P	**P**	**14 57 43.8**	**-0.4**
	1.8nm,0.7s,mb4.3,baz=272,slow=5.9,SNR=3.1						
CPUP	**Villa Florida**	**149.44**	**236**	PKPbc	PKPbc	15 07 14.4	-0.1
	0.4nm,0.3s,baz=63,slow=6.3,SNR=3.3						

*IDC **09** 14:47:52.6±0.7, 1077N×9445E, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.1/23, mbtmp4.2/12, Error ellipse: s-maj=37.0km s-min=16.6km az=62.0*

*ISCJB **09** 14:47:56.0±3.0, 1071N±009×944E±0.1, h36km±26km, mb4.4/28, MS4.4/2, Error ellipse: s-maj=19.3km s-min=11.9km az=111.5*

*MOS **09** 14:47:55.7±0.8, 1077N×9446E, h33km, mb4.8/12, Error ellipse: s-maj=24.7km s-min=8.3km az=107.1*

*NEIC **09** 14:47:56.0±0.4, 1082N×9458E, mb4.7/13, Error ellipse: s-maj=20.7km s-min=7.3km az=61.0*

*BJI **09** 14:47:59.1, 1163N×9384E, h5km, mB4.9, mb4.2, Ms4.7, Ms2.4*

ISC 09 14:47:59.5±2.3, 1078N±009×944E±01, h49km±20km, h24km±4.6km: pP-P, n56, σ0°82/52, mb4.4/28, MS4.3/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**16.31**	**28**	P	**Pn**	**14 51 50.2**	**+5.1**
KMI				AMB	AMB		
	comp=Z,13nm,1.3s						
KSM	**Kuching**	**18.30**	**119**	*e*P	**Pn**	**14 52 17.2**	**+7.5**
JIRN	**Jiri**	**18.49**	**336**	*e*P	**Pn**	**14 52 12.2**	**+0.3**
	comp=Z,165nm,1.6s						
PKI	**Pulchoki**	**18.73**	**334**	*e*P	**Pn**	**14 52 15.2**	**+0.3**
	comp=Z,200nm,1.4s						
PKI	**Pulchoki**	**18.73**	**334**	*e*P	**Pn**	**14 52 15.2**	**+0.3**
PKI				pmax	pmax		
	comp=Z,100nm,1.4s						
GUN	**Gumba**	**18.83**	**336**	*e*P	**Pn**	**14 52 15.9**	**-0.2**
	comp=Z,345nm,1.9s						
DMN	**Daman**	**18.89**	**334**	*e*P	**Pn**	**14 52 17.3**	**+0.5**
KKN	**Kakani**	**18.97**	**334**	*e*P	**Pn**	**14 52 17.2**	**-0.6**
LSA	**Lhasa**	**19.07**	**351**	P	**Pn**	**14 52 11.0**	**-8.0**
LSA				AP	pP	14 52 19.0	-10
LSA				XP	sP	14 52 22.8	-12
LSA				AMB	AMB		
	comp=Z,310nm,5.2s						
LSA				LR	LR		
	comp=N,550nm,5.1s						
LSA				LR	LR		
	comp=E,460nm,3.8s						
LSA				LR	LR		
	comp=Z,1μm,5.5s						
LSA	**Lhasa**	**19.07**	**351**	P	**Pn**	**14 52 14.7**	**-4.3**
	comp=Z,14nm,1.0s						
LSA	**Lhasa**	**19.07**	**351**	P	**Pn**	**14 52 14.7**	**-4.3**
LSA				pmax	pmax		
	comp=Z,14nm,1.0s						
GYA	**Guiyang**	**19.42**	**35**	P	**Pn**	**14 52 23.9**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GKN	**Gorkha**	**19.44**	**333**	*e*P	**Pn**	**14 52 22.5**	**-0.8**
	comp=Z,109nm,1.2s						
KOLN	**Koldanda**	**19.72**	**330**	*e*P	**Pn**	**14 52 25.9**	**-0.8**
	comp=Z,150nm,1.1s						
LZH	**Lanzhou**	**26.61**	**17**	*e*P	**P**	**14 53 33.8**	**+0.6**
LZH				AP	pP	14 53 43.1	-2.7
LZH				XP	sP	14 53 47.2	-4.4
LZH				PP		14 54 15.8	
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.5						
LZH				AMB	AMB		
	comp=Z,71nm,4.2s						
LZH				LR	LR		
	comp=E,356nm,13.9s						
LZH				LR	LR		
	comp=Z,542nm,14.8s,MS4.2						
GTA	**Gaotai**	**28.92**	**9**	*e*P	**P**	**14 53 54.9**	**+1.1**
GTA				AP	pP	14 54 05.2	-1.3
GTA				AMB	AMB		
	comp=Z,6.0nm,2.0s,mb4.0						
HHC	**Hu-ho-hao-te**	**33.56**	**24**	*e*P	**P**	**14 54 35.1**	**+0.4**
HHC				AP	pP	14 54 43.0	-4.4
HHC				XP	sP	14 54 47.7	-5.5
HHC				S	**S**	**14 59 57.3**	**+3.8**
HHC				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,79nm,4.5s						
HHC				LR	LR		
	comp=N,421nm,12.9s,MS4.6						
HHC				LR	LR		
	comp=E,513nm,10.0s,MS4.6						
HHC				LR	LR		
	comp=Z,387nm,11.4s,MS4.4						
AAK	**Ala-Archa**	**36.18**	**335**	*e*P	**P**	**14 54 56.9**	**-0.3**
	comp=Z,12nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**36.18**	**335**	*e*P	**P**	**14 54 56.9**	**-0.4**
AAK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
FRU	**Bishkek**	**36.30**	**335**	*e*P	**P**	**14 55 00.0**	**+1.7**
FRU				pmax	pmax		
	comp=Z,70nm,2.0s,mb5.2						
MKAR	**Makanchi Array**	**37.34**	**346**	P	**P**	**14 55 07.3**	**+0.2**
	comp=Z,7.8nm,1.0s,mb4.5,baz=159,slow=8.8,SNR=9.8						
SONM	**Songino Array**	**38.29**	**13**	P	**P**	**14 55 15.2**	**+0.1**
	comp=Z,3.6nm,1.0s,mb4.0,baz=202,slow=7.7,SNR=8.6						
KKAR	**Karatay Array**	**38.33**	**331**	*i* P	**P**	**14 55 16.1**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.6						
ULN	**Ulaanbaatar**	**38.47**	**14**	*e*P	**P**	**14 55 17.0**	**+0.3**
	comp=Z,24nm,1.9s,mb4.6						
ULN	**Ulaanbaatar**	**38.47**	**14**	*e*P	**P**	**14 55 17.0**	**+0.4**
ULN				pmax	pmax		
	comp=Z,24nm,1.9s,mb4.6						
ZAK	**Zakamensk**	**40.16**	**9**	*e*P	**P**	**14 55 31.0**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,13nm,1.8s,mb4.4						
KURK	**Kurchatov**	**41.88**	**345**	*e*P	**P**	**14 55 44.7**	**-0.2**
	comp=Z,13nm,1.3s,mb4.4						
KURK	**Kurchatov**	**41.88**	**345**	*e*P	**P**	**14 55 44.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.4						
ZAL	**Zalesovo**	**43.73**	**352**	P	**P**	**14 56 00.4**	**+0.6**
	comp=Z,3.1nm,0.8s,mb4.1,baz=300,slow=10,SNR=7.4						
NVS	**Novosibirsk**	**44.83**	**351**	*e*P	**P**	**14 56 08.1**	**-0.6**
BVAR	**Borovoye Array**	**46.35**	**340**	P	**P**	**14 56 20.3**	**-0.4**
	comp=Z,2.0nm,0.9s,mb4.0,baz=145,slow=8.1,SNR=5.3						
ZRNK	**Zerenda**	**46.77**	**339**	*e*P	**P**	**14 56 23.5**	**-0.4**
	comp=Z,3.3nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**46.77**	**339**	*e*P	**P**	**14 56 23.5**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
AB31	**Akbulak array**	**47.84**	**330**	*i* P	**P**	**14 56 31.9**	**-0.4**
AB31				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
NWAO	**Narrogin (SRO)**	**48.61**	**154**	P	**P**	**14 56 38.5**	**+0.3**
	comp=Z,19nm,1.2s,mb5.0						
NWAO				*e*pP	pP	14 56 45.6	-5.9
NWAO	**Narrogin (SRO)**	**48.61**	**154**	P	**P**	**14 56 38.5**	**+0.3**
NWAO				*e**PP	pP	14 56 45.6	-5.9
NWAO				pmax	pmax		
	comp=Z,19nm,1.2s						
BOD	**Bodaibo**	**49.28**	**14**	*e*P	**P**	**14 56 42.1**	**-1.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
WRA	**Warramunga Arr**	**49.77**	**128**	P	**P**	**14 56 46.5**	**-0.6**
	comp=Z,2.2nm,0.9s,mb4.2,baz=304,slow=8.6,SNR=8.2						
ASAR	**Alice Springs**	**51.61**	**132**	P	**P**	**14 57 01.6**	**+0.8**
	comp=Z,2.9nm,0.8s,mb4.3,baz=306,slow=6.2,SNR=8.2						
KIV	**Kislovodsk**	**55.38**	**316**	P	**P**	**14 57 29.6**	**+1.0**
	comp=Z,10nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**55.38**	**316**	P	**P**	**14 57 29.6**	**+1.0**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
YAK	**Yakutsk**	**57.18**	**19**	*e*P	**P**	**14 57 40.6**	**-0.7**
	comp=Z,5.8nm,0.5s,mb4.9						
YAK				*e*pP	pP	14 57 46.5	-8.4
YAK	**Yakutsk**	**57.18**	**19**	*e*P	**P**	**14 57 40.6**	**-0.8**
YAK				*e**PP	pP	14 57 46.5	-8.4
YAK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
STKA	**Stephens Creek**	**61.93**	**135**	P	**P

NVAR Mina Array Bea 122.30 30 PKP PKPdf 15 06 50.8 +1.8
comp=Z,0.9nm,0.9s,baz=341,slow=1.4,SNR=5.1
PDAR Pinedale Array 122.38 21 PKP PKPdf 15 06 50.5 +1.3
comp=Z,0.9nm,0.9s,baz=284,slow=1.2,SNR=5.2
CPUP Villa Florida 149.16 236 PKPbc PKPbc 15 07 43.9 +1.4
comp=Z,1.8nm,0.6s,baz=263,slow=0.3,SNR=5.4
CFAA Coronel Fontan 153.78 215 PKPbc PKPbc 15 07 55.3 +2.2
comp=Z,0.2nm,0.5s,baz=90,slow=3.7,SNR=4.6

*IDC **09** 14:48:51.6±0.6, 1072N×9431E, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.3/23, mbtmp4.4/14, Error ellipse: s-maj=34.3km s-min=14.1km az=61.0*
*ISCJB **09** 14:48:52.0±3.9, 1068N±005×9426E±006, h16km±28km, mb4.7/37, MS4.5/4, Error ellipse: s-maj=10.7km s-min=8.6km az=120.6*
*NEIC **09** 14:48:54.9±0.3, 1075N×9440E, mb5.1/12, Error ellipse: s-maj=11.9km s-min=5.9km az=61.0*
*HRVD **09** 14:48:54.9±0.5, 1079N×9448E, h12km, MW4.9/67, Centroid moment Tensor Solution. LP body waves: s28,c32;Mantle waves: s67,c106; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.45±.13; Mθθ2.35±.11; Mφφ0.10±.15; Mrθ0.95±.40; Mφθ0.66±.11; Mφr0.77±.52; Best double couple: M0=2.77600×10^16 NP1:φs85.00000°, δ34.00000°, λ-73.00000°. NP2: φs245.00000°, δ58.00000°, λ-101.00000°. Principal axes: T 2.7730, Plg12.0000°, Azm343.0000°; N 0.0090, Plg10.0000°, Azm251.0000°; P -2.7790, Plg74.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 14:48:54.7±0.8, 1074N×9432E, h33km, mb5.2/14 Error ellipse: s-maj=17.7km s-min=8.4km az=99.7*
*BJI **09** 14:48:54.1, 1047N×9444E, h42km, mB5.0, mb4.5, Ms4.7, Msz4.4*

ISC 09 14:48:54.8±3.8, 1071N±005×9428E±006, h21km±27km, h25km±2.5km: pP-P, n70, σ1°00/68, mb4.7/37, MS4.5/4, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.29**	**130**	Pn	**Pn**	**14 50 51.4**	**-2.4**
KMI	**Kunming**	**16.43**	**28**	P	**Pn**	**14 52 45.6**	**+1.5**
KMI				AP	pP	14 52 55.0	+2.4
KMI				XP	sP	14 53 02.0	+6.7
KMI				AMB	AMB		
	comp=Z,31nm,1.4s						
KMI				AMB	AMB		
	comp=Z,201nm,3.2s						
KMI				LR	LR		
	comp=N,885nm,12.5s						
KMI				LR	LR		
	comp=E,1μm,9.4s						
KMI				LR	LR		
	comp=Z,907nm,10.5s						
HYB	**Hyderabad**	**16.64**	**295**	*i* P	**Pn**	**14 52 47.0**	**+0.3**
HYB	**Hyderabad**	**16.64**	**295**	*e*P	**Pn**	**14 52 53.0**	**+6.3**
QIZ	**Qiongzhong**	**17.16**	**59**	P	**Pn**	**14 52 53.5**	**+0.3**
QIZ				PP		14 53 03.8	
QIZ				S	**Sn**	**14 56 04.2**	**+0.8**
QIZ				AMB	AMB		
	comp=Z,14nm,1.9s						
QIZ				LR	LR		
	comp=E,2μm,9.1s						
QIZ				LR	LR		
	comp=Z,2μm,9.4s						
LSA	**Lhasa**	**19.12**	**352**	P	**Pn**	**14 53 10.9**	**-6.4**
	comp=Z,41nm,1.3s						
LSA	**Lhasa**	**19.12**	**352**	P	**Pn**	**14 53 10.9**	**-6.4**
LSA				pmax	pmax		
	comp=Z,41nm,1.3s						
KKM	**Kota Kinabalu**	**22.18**	**100**	*e*P	**P**	**14 53 49.3**	**-0.2**
ENH	**Enshi**	**24.07**	**34**	*e*P	**P**	**14 54 07.3**	**-1.3**
	comp=Z,100nm,1.4s,mb5.0						
ENH				*e*pP		14 54 13.0	
LZH	**Lanzhou**	**26.71**	**17**	*e*P	**P**	**14 54 32.4**	**-0.2**
LZH				AP	pP	14 54 42.3	+3.3
LZH				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,340nm,4.2s						
LZH				LR	LR		
	comp=N,1μm,11.0s						
LZH				LR	LR		
	comp=Z,2μm,13.4s,MS4.9						
XAN	**Xi'an**	**26.82**	**28**	P	**P**	**14 54 32.0**	**-1.5**
XAN				S	**S**	**14 59 00.5**	**-8.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
XAN				LR	LR		
	comp=N,375nm,15.2s,MS4.4						
XAN				LR	LR		
	comp=E,618nm,14.7s,MS4.4						
XAN				LR	LR		
	comp=Z,524nm,15.5s,MS4.2						
GTA	**Gaotai**	**29.01**	**9**	*e*P	**P**	**14 54 54.2**	**+1.1**
GTA				AP	pP	14 55 00.7	+1.2
GTA				PP	PP	14 55 44.2	-14
GTA				S	**S**	**14 59 35.3**	**-7.8**
GTA				AMB	AMB		
	comp=Z,15nm,2.4s,mb4.3						
GTA				AMB	AMB		
	comp=Z,102nm,4.6s						
GTA				LR	LR		
	comp=N,430nm,17.8s,MS4.3						
GTA				LR	LR		
	comp=E,393nm,15.8s,MS4.3						
GTA				LR	LR		
	comp=Z,575nm,20.5s,MS4.2						
BTO	**Baotou**	**32.87**	**22**	*e*P	**P**	**14 55 26.8**	**-0.4**
WMQ	**Urumqi**	**33.48**	**351**	P	**P**	**14 55 34.5**	**+2.0**
WMQ				AP	pP	14 55 44.5	+5.6
WMQ				XP	sP	14 55 48.5	+6.9
WMQ				AMB	AMB		
	comp=Z,37nm,1.4s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,287nm,5.0s						
WMQ				LR	LR		
	comp=N,886nm,24.0s,MS4.5						
WMQ				LR	LR		
	comp=E,882nm,24.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,856nm,24.0s,MS4.4						
BJT	**Baijiatuau**	**35.06**	**30**	P	**P**	**14 55 46.6**	**+0.5**
	comp=Z,19nm,1.2s,mb4.9						
BJT	**Baijiatuau**	**35.06**	**30**	P	**P**	**14 55 46.6**	**+0.4**
BJT				pmax	pmax		
	comp=Z,19nm,1.2s						
AAK	**Ala-Archa**	**36.19**	**335**	*e*P	**P**	**14 55 56.5**	**+0.5**
	comp=Z,61nm,1.8s,mb5.2						
AAK	**Ala-Archa**	**36.19**	**335**	*e*P	**P**	**14 55 56.5**	**+0.6**
AAK				pmax	pmax		
	comp=Z,61nm,1.8s,mb5.2						
FRU	**Bishkek**	**36.31**	**335**	*e*P	**P**	**14 55 59.0**	**+2.1**
MKAR	**Makanchi Array**	**37.38**	**346**	P	**P**	**14 56 06.8**	**+0.8**
	comp=Z,9.4nm,0.9s,mb4.6,baz=162,slow=8.6,SNR=11						
MKAR				PcP	PcP	14 58 25.2	+0.5
	comp=Z,3.1nm,1.0s,baz=150,slow=6.0,SNR=3.3						
SONM	**Songino Array**	**38.39**	**13**	P	**P**	**14 56 15.1**	**+0.6**
	comp=Z,8.0nm,1.0s,mb4.4,baz=200,slow=8.5,SNR=14						
SONM				PcP	PcP	14 58 29.0	+1.2
	comp=Z,1.6nm,0.8s,baz=184,slow=3.2,SNR=3.7						
ULN	**Ulaanbaatar**	**38.57**	**14**	*e*P	**P**	**14 56 15.8**	**-0.3**
	comp=Z,45nm,1.8s,mb4.9						
ULN	**Ulaanbaatar**	**38.57**	**14**	*e*P	**P**	**14 56 15.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,45nm,1.8s,mb4.9						
ZAK	**Zakamensk**	**40.25**	**9**	*e*P	**P**	**14 56 30.1**	**0.0**
KURK	**Kurchatov**	**41.92**	**345**	P	**P**	**14 56 43.6**	**-0.2**
	comp=Z,137nm,1.4s,mb5.4,SNR=5.4						
KURK	**Kurchatov**	**41.92**	**345**	*e*P	**P**	**14 56 43.5**	**-0.3**
	comp=Z,82nm,1.6s,mb5.1						
KURK				*e*pP	pP	14 56 49.9	-0.4
KURK	**Kurchatov**	**41.92**	**345**	*e*P	**P**	**14 56 43.5**	**-0.3**
KURK				*e**PP	pP	14 56 49.9	-0.4
KURK				pmax	pmax		
	comp=Z,82nm,1.6s,mb5.1						
CN2	**Changchun**	**42.59**	**34**	*e*P	**P**	**14 56 49.5**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
ZAL	**Zalesovo**	**43.78**	**352**	P	**P**	**14 56 59.2**	**+0.4**
	comp=Z,5.4nm,0.8s,mb4.3,baz=299,slow=8.3,SNR=8.1						
NVS	**Novosibirsk**	**44.88**	**351**	*e*P	**P**	**14 57 07.0**	**-0.7**
NVS				pmax	pmax		
	comp=Z,54nm,2.1s,mb5.0						
NVS				pmax	pmax		
	comp=N,43nm,1.9s						
BVAR	**Borovoye Array**	**46.38**	**340**	P	**P**	**14 57 18.5**	**-1.1**
	comp=N,2.3nm,0.7s,mb4.2,baz=141,slow=7.6,SNR=5.4						
MUN	**Mundaring**	**47.35**	**154**	*e*P	**P**	**14 57 28.5**	**+1.4**
KLBR	**Kellerberrin**	**47.70**	**153**	*e*P	**P**	**14 57 30.2**	**+0.4**
	comp=N,25nm,1.0s,mb5.2						
NWAO	**Narrogin (SRO)**	**48.60**	**154**	P	**P**	**14 57 37.9**	**+1.0**
	comp=N,11nm,0.9s,mb4.9,baz=322,slow=7.4,SNR=6.6						
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P	**P**	**14 57 36.4**	**-0.4**
	comp=N,59nm,1.3s,mb5.5						
NWAO				*e*pP	pP	14 57 44.0	+0.5
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P	**P**	**14 57 36.4**	**-0.4**
NWAO				*e**PP	pP	14 57 44.0	+0.5
NWAO				pmax	pmax		
	comp=Z,59nm,1.3s						
BOD	**Bodaibo**	**49.38**	**14**	*e*P	**P**	**14 57 42.6**	**-0.2**
BOD				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.8						
KLR	**Kul'dur**	**49.40**	**32**	*e*P	**P**	**14 57 39.7**	**-3.3**
WRA	**Warramunga Arr**	**49.83**	**128**	P	**P**	**14 57 46.4**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=310,slow=8.0,SNR=6.2						
WRA				PcP	PcP	14 59 06.3	-0.4
	comp=Z,0.9nm,0.8s,baz=325,slow=3.4,SNR=6.4						
WRAB	**Tennant Creek**	**49.83**	**128**	*e*P	**P**	**14 57 46.4**	**+0.1**
	comp=Z,21nm,1.1s,mb5.1						
WRAB				*e*pP	pP	14 57 52.7	-0.2
WRAB	**Tennant Creek**	**49.83**	**128**	*e*P	**P**	**14 57 46.4**	**+0.2**
WRAB				*e**PP	pP	14 57 52.7	-0.2
WRAB				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
WB2	**Warramunga Arr**	**49.84**	**128**	*e*P	**P**	**14 57 46.9**	**+0.6**
ASAR	**Alice Springs**	**51.65**	**132**	P	**P**	**14 58 00.7**	**+0.7**
	comp=Z,4.9nm,0.9s,mb4.4,baz=308,slow=6.3,SNR=8.0						
CLNS	**Chul'man**	**51.75**	**21**	*e*P	**P**	**14 58 00.9**	**+0.2**
CLNS				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
CLNS				pmax	pmax		
	comp=N,13nm,1.1s						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
SVE	**Sverdlovsk**	**52.84**	**338**	*e*P	**P**	**14 58 07.0**	**-1.8**
SVE				*e*		14 59 16.0	
SVE				*e*PPP		15 01 14.0	
SVE				*e*S	**S**	**15 05 52.0**	**+16**
SVE				*e*		15 09 11.0	
SVE				pmax	pmax		
	comp=Z,60nm,2.3s,mb5.1						
YSS	**Yuzh-Sakhalins**	**54.49**	**39**	*e*P	**P**	**14 58 22.0**	**+1.1**
KIV	**Kislovodsk**	**55.34**	**317**	*e*P	**P**	**14 58 24.9**	**-2.2**
KIV				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
YAK	**Yakutsk**	**57.28**	**19**	*e*P	**P**	**14 58 39.8**	**-1.1**
	comp=Z,29nm,1.0s,mb5.3						
YAK				*e*pP	pP	14 58 45.4	-2.2
YAK	**Yakutsk**	**57.28**	**19**	*e*P	**P**	**14 58 39.8**	**-1.1**
YAK				*e**PP	pP	14 58 45.4	-2.2
YAK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3						
STKA	**Stephens Creek**	**61.97**	**135**	P	**P**	**14 59 11.9**	**-1.3**
	comp=Z,6.7nm,0.9s,mb4.8,baz=342,slow=6.4,SNR=6.6						
STKA	**Stephens Creek**	**61.97**	**135**	*e*P	**P**	**14 59 11.7**	**-1.5**
	comp=Z,10nm,1.0s,mb4.9						
STKA				*e*pP	pP	14 59 18.1	-1.9
OBN	**Obninsk**	**63.08**	**327**	*e*P	**P**	**14 59 20.3**	**-0.3**
OBN				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.8						
MA2	**Magadan**	**64.21**	**28**	*e*P	**P**	**14 59 28.0**	**-0.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
AKASG	**Malin Array Be**	**66.04**	**321**	P	**P**	**14 59 39.2**	**-0.8**
	comp=Z,0.1nm,0.3s,mb3.4,baz=87,slow=5.5,SNR=4.6						
AKASG	**Malin Array Be**	**66.04**	**321**	P	**P**	**14 59 39.2**	**-0.8**
FINES	**FINESS Array B**	**70.29**	**332**	P	**P**	**15 00 06.1**	**-0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=131,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**72.67**	**340**	P	**P**	**15 00 20.9**	**0.0**
	comp=Z,6.9nm,0.9s,mb4.6,baz=88,slow=7.4,SNR=7.7						
BILL	**Bilibino**	**73.42**	**22**	*e*P	**P**	**15 00 24.6**	**-0.8**
BILL				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.8						
LBTB	**Lobatse**	**75.73**	**241**	*e*P	**P**	**15 00 41.1**	**+2.3**
	comp=Z,12nm,1.3s,mb4.7						
LBTB	**Lobatse**	**75.73**	**241**	*e*P	**P**	**15 00 41.1**	**+2.3**
LBTB				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
GERES	**GERESS Array B**	**75.83**	**318**	P	**P**	**15 00 39.6**	**+0.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=75,slow=5.7,SNR=4.0						
EKA	**Eskdalemuir Ar**	**85.48**	**325**	P	**P**	**15 01 30.5**	**-0.5**
	comp=Z,3.6nm,1.0s,mb4.5,baz=98,slow=6.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**90.08**	**283**	P	**P**	**15 01 54.3**	**+1.2**
	comp=Z,0.8nm,0.7s,mb4.2,baz=83,slow=3.8,SNR=4.7						
ILAR	**Eielson Array**	**92.08**	**22**	P	**P**	**15 02 01.8**	**-0.6**
	comp=Z,1.1nm,0.8s,mb4.2,baz=296,slow=3.8,SNR=6.6						
ULM	**Lac du Bonnet**	**118.66**	**7**	PKP	PKPdf	15 07 40.9	-0.3
	comp=Z,1.2nm,0.4s,baz=309,slow=1.9,SNR=3.6						
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP	PKPdf	15 07 50.3	+1.9
	comp=Z,1.4nm,0.7s,baz=341,slow=1.2,SNR=8.8						
PDAR	**Pinedale Array**	**122.49**	**21**	PKP	PKPdf	15 07 49.5	+1.0
	comp=Z,1.5nm,0.7s,baz=85,slow=1.1,SNR=11						
PLCA	**Paso Flores**	**147.23**	**202**	PKPbc	PKPbc	15 08 37.8	+1.3
	comp=Z,7.9nm,1.2s,baz=185,slow=2.3,SNR=4.1						
CPUP	**Villa Florida**	**149.02**	**236**	PKPbc	PKPbc	15 08 43.2	+1.9
	comp=Z,3.6nm,0.8s,baz=167,slow=1.3,SNR=6.5						
CPUP	**Villa Florida**	**149.02**	**236**	PKPbc	PKPbc	15 08 43.2	+1.9

*BJI **09** 14:49:32.3, 3881S×17523E, h215km, mB5.3, mb4.8*
*NEIC **09** 14:49:33.3, 3876S×17522E, h214km, MG4.3(WEL), After WEL.*

WEL 09 14:49:33.4±0.2, 3873S×17525E, h212km±2km, ML4.3/17, 11C-16D, Error ellipse: s-maj=2.6km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.37**	**157**	⇓PN	Pn	14 50 01.3	-0.1
TWVZ				SN	S	14 50 22.5	-0.7
TWVZ	**Taurewa**	**0.37**	**157**	P	Pn	14 50 01.3	-0.1
TWVZ				S	S	14 50 22.3	-0.9
WATZ	**Wairara**	**0.38**	**87**	⇓PN	Pn	14 50 01.5	+0.1
WATZ				SN	S	14 50 23.2	0.0
WATZ	**Wairara**	**0.38**	**87**	P	Pn	14 50 01.6	+0.2
HIZ	**Hauiti**	**0.38**	**305**	⇓PN	Pn	14 50 01.3	-0.2
HIZ				SN	S	14 50 22.9	-0.3
HIZ	**Hauiti**	**0.38**	**305**	P	Pn	14 50 01.3	-0.1
HIZ				S	S	14 50 22.9	-0.3
KATZ	**Kakaramea**	**0.42**	**125**	PN	Pn	14 50 01.6	+0.1
KATZ	**Kakaramea**	**0.42**	**125**	P	Pn	14 50 01.6	0.0
RATZ	**Rangitukua**	**0.43**	**109**	PN	Pn	14 50 01.6	+0.1
RATZ				SN	S	14 50 23.1	-0.3
RATZ	**Rangitukua**	**0.43**	**109**	P	Pn	14 50 01.7	+0.1
WTVZ	**West Tongariro**	**0.47**	**146**	PN	Pn	14 50 01.8	+0.1
WTVZ				SN	S	14 50 23.1	-0.6
WTVZ	**West Tongariro**	**0.47**	**146**	P	Pn	14 50 01.8	+0.1
WTVZ				S	S	14 50 23.1	-0.6
KRVZ	**Karewarewa**	**0.47**	**140**	PN	Pn	14 50 01.8	+0.1
KRVZ				SN	S	14 50 22.9	-0.9
NGZ	**Ngauruhoe**	**0.52**	**149**	PN	Pn	14 50 01.9	0.0
NGZ				SN	S	14 50 23.4	-0.6
NGZ	**Ngauruhoe**	**0.52**	**149**	P	Pn	14 50 01.9	0.0
NGZ				S	S	14 50 23.8	-0.2
WPVZ	**Whakapapa**	**0.53**	**154**	⇓PN	Pn	14 50 02.1	+0.1
WPVZ	**Whakapapa**	**0.53**	**154**	P	Pn	14 50 02.1	+0.2
RITZ	**Rihia Road**	**0.53**	**118**	PN	Pn	14 50 02.1	+0.1
RITZ	**Rihia Road**	**0.53**	**118**	P	Pn	14 50 02.1	+0.2
OTVZ	**Oturere**	**0.54**	**143**	PN	Pn	14 50 02.1	+0.1
VRZ	**Vera Road**	**0.55**	**224**	⇑PN	Pn	14 50 01.6	-0.4
VRZ				SN	S	14 50 23.0	-1.3
VRZ	**Vera Road**	**0.55**	**224**	P	Pn	14 50 01.6	-0.4
WHTZ	**Whakaora**	**0.56**	**84**	PN	Pn	14 50 02.5	+0.4
WHTZ	**Whakaora**	**0.56**	**84**	P	Pn	14 50 02.0	0.0
PKVZ	**Pokaka**	**0.56**	**173**	⇓PN	Pn	14 50 02.0	-0.1
FWVZ	**Far West T-bar**	**0.57**	**156**	⇑PN	Pn	14 50 02.3	+0.2
FWVZ	**Far West T-bar**	**0.57**	**156**	P	Pn	14 50 02.3	+0.2
TRVZ	**Turoa**	**0.61**	**158**	⇓PN	Pn	14 50 02.5	+0.3
TUVZ	**Tukino**	**0.62**	**150**	PN	Pn	14 50 02.6	+0.3
TUVZ	**Tukino**	**0.62**	**150**	P	Pn	14 50 02.6	+0.3
WNVZ	**Wahianoa**	**0.65**	**156**	PN	Pn	14 50 02.6	+0.2
HATZ	**Hinemaiaia**	**0.68**	**104**	⇓PN	Pn	14 50 02.3	-0.2
HATZ	**Hinemaiaia**	**0.68**	**104**	P	Pn	14 50 02.3	-0.2
MTVZ	**Mangateitei**	**0.68**	**165**	⇓PN	Pn	14 50 02.6	+0.1
MOVZ	**Moawhango**	**0.78**	**150**	⇓PN	Pn	14 50 02.8	-0.3
MOVZ	**Moawhango**	**0.78**	**150**	P	Pn	14 50 02.8	-0.2
PATZ	**Paeroa**	**0.86**	**66**	PN	Pn	14 50 03.6	+0.1
PATZ	**Paeroa**	**0.86**	**66**	P	Pn	14 50 03.6	+0.1
RAEZ	**Rainy Point**	**0.87**	**230**	PN	Pn	14 50 03.2	-0.4
RAEZ	**Rainy Point**	**0.87**	**230**	P	Pn	14 50 03.2	-0.3
WAZ	**Wanganui**	**1.04**	**191**	⇑PN	Pn	14 50 04.5	-0.1
WAZ	**Wanganui**	**1.04**	**191**	P	Pn	14 50 04.5	-0.1
NEZ	**North Egmont**	**1.05**	**239**	⇓PN	Pn	14 50 04.6	0.0
NEZ	**North Egmont**	**1.05**	**239**	P	Pn	14 50 04.6	-0.1
BKZ	**Black Stump Fm**	**1.06**	**115**	⇓PN	Pn	14 50 04.6	-0.1
BKZ	**Black Stump Fm**	**1.06**	**115**	P	Pn	14 50 04.6	-0.1
PKE	**Pukeiti**	**1.09**	**244**	⇑PN	Pn	14 50 04.6	-0.3
PKE	**Pukeiti**	**1.09**	**244**	P	Pn	14 50 04.6	-0.3
TAZ	**Tarawera**	**1.10**	**64**	PN	Pn	14 50 05.1	+0.1
TAZ	**Tarawera**	**1.10**	**64**	P	Pn	14 50 05.1	+0.1
NRZ	**Ngariki Road**	**1.19**	**239**	PN	Pn	14 50 05.4	-0.3
NRZ	**Ngariki Road**	**1.19**	**239**	P	Pn	14 50 05.2	-0.4
NWEZ	**Newall Road**	**1.21**	**243**	⇑PN	Pn	14 50 05.5	-0.2
NWEZ	**Newall Road**	**1.21**	**243**	P	Pn	14 50 05.5	-0.3
MARZ	**Manawahe**	**1.34**	**57**	P	Pn	14 50 06.7	-0.1
TSZ	**Takapari Road**	**1.44**	**158**	PN	Pn	14 50 07.3	-0.2
TSZ	**Takapari Road**	**1.44**	**158**	P	Pn	14 50 07.3	-0.3
URZ	**Urewera**	**1.53**	**73**	⇓PN	Pn	14 50 07.6	-0.8
URZ	**Urewera**	**1.53**	**73**	P	Pn	14 50 07.6	-0.8
PXZ	**Pawanui**	**1.80**	**137**	⇓PN	Pn	14 50 10.6	-0.2
MWZ	**Matawai**	**1.83**	**78**	⇓PN	Pn	14 50 10.5	-0.5
MWZ	**Matawai**	**1.83**	**78**	P	Pn	14 50 10.5	-0.6
KNZ	**Kokohu**	**1.91**	**99**	PN	Pn	14 50 11.7	-0.2
KNZ	**Kokohu**	**1.91**	**99**	P	Pn	14 50 11.7	-0.2
MRZ	**Mangatainoka R**	**1.94**	**173**	⇑PN	Pn	14 50 11.2	-1.0
MRZ	**Mangatainoka R**	**1.94**	**173**	P	Pn	14 50 11.2	-1.0
BFZ	**Birch Farm**	**2.09**	**159**	PN	Pn	14 50 12.7	-0.9
BFZ	**Birch Farm**	**2.09**	**159**	P	Pn	14 50 12.8	-0.9
KIW	**Kapiti Island**	**2.14**	**187**	⇑PN	Pn	14 50 12.8	-1.4
DUWZ	**D'Urville Isla**	**2.31**	**206**	PN	Pn	14 50 14.2	-1.7
CAW	**Cannon Point**	**2.38**	**183**	⇑PN	Pn	14 50 15.3	-1.4
CAW	**Cannon Point**	**2.38**	**183**	P	Pn	14 50 15.3	-1.4
MTW	**Mount Morrison**	**2.43**	**176**	⇑PN	Pn	14 50 15.5	-1.7
MTW	**Mount Morrison**	**2.43**	**176**	P	Pn	14 50 15.5	-1.8
PUZ	**Puketiti**	**2.45**	**75**	⇓PN	Pn	14 50 16.5	-0.9
PUZ	**Puketiti**	**2.45**	**75**	P	Pn	14 50 16.5	-1.0
MRW	**Makara Radio**	**2.53**	**189**	⇑PN	Pn	14 50 16.7	-1.6
MRW	**Makara Radio**	**2.53**	**189**	P	Pn	14 50 16.7	-1.6
WEL	**Wellington**	**2.58**	**188**	P	Pn	14 50 17.0	-1.8
TCW	**Tory Channel**	**2.59**	**197**	P	Pn	14 50 17.4	-1.6
SNZO	**South Karori**	**2.61**	**189**	P	Pn	14 50 17.3	-1.9
PAWZ	**Paruwai Farm**	**2.65**	**177**	P	Pn	14 50 17.9	-1.8
MXZ	**Matakaoa Point**	**2.68**	**65**	P	Pn	14 50 19.1	-0.8
MSWZ	**Moikau Station**	**2.68**	**180**	P	Pn	14 50 18.1	-1.9
BHW	**Baring Head**	**2.69**	**186**	P	Pn	14 50 17.1	-3.0
NNZ	**Nelson**	**2.87**	**209**	P	Pn	14 50 19.7	-2.4
QRZ	**Quartz Range**	**2.96**	**224**	P	Pn	14 50 20.2	-3.0
CMWZ	**Cape Campbell**	**3.12**	**194**	P	Pn	14 50 22.5	-2.5
BSWZ	**Blackbirch Sta**	**3.16**	**199**	P	Pn	14 50 22.7	-2.8
THZ	**Tophouse**	**3.52**	**210**	*e*P	Pn	14 50 26.7	-3.1
DSZ	**Denniston Nort**	**4.00**	**220**	*e*P	Pn	14 50 32.0	-3.6
LTZ	**Lake Taylor**	**4.64**	**208**	P	Pn	14 50 40.2	-3.3
CRLZ	**Canterbury Las**	**5.23**	**201**	*e*P	Pn	14 50 46.8	-4.2
MQZ	**McQueen's Vall**	**5.34**	**201**	*e*P	Pn	14 50 48.0	-4.4
WVZ	**Waitaha Valley**	**5.53**	**217**	*e*P	Pn	14 50 50.5	-4.2
RPZ	**Rata Peaks**	**5.90**	**211**	*e*P	Pn	14 50 55.0	-4.5
FOZ	**Fox Glacier**	**6.40**	**219**	*e*P	Pn	14 51 00.4	-5.5
LBZ	**Lake Benmore**	**6.81**	**212**	*e*P	Pn	14 51 06.4	-4.8
ODZ	**Otahua Downs**	**7.18**	**207**	*e*P	Pn	14 51 12.2	-3.8
JCZ	**Jackson Bay**	**7.23**	**220**	*e*P	Pn	14 51 11.2	-5.5
WKZ	**Wanaka**	**7.67**	**215**	*e*P	Pn	14 51 16.4	-5.9
EAZ	**Earnscleugh**	**7.86**	**212**	*e*P	Pn	14 51 19.7	-5.1
TUZ	**Tuapeka**	**8.33**	**208**	*e*P	Pn	14 51 27.5	-3.4
SYO	**Syowa Base**	**67.69**	**196**	*e*P	P	15 00 09.1	+1.3
SYO	**Syowa Base**	**67.69**	**196**	*e*PP	PP	15 02 37.5	-2.3
NJ2	**Nanjing**	**87.79**	**315**	*e*P	P	15 01 57.4	-1.1
NJ2				AP	pP	15 02 54.0	+3.7
NJ2				PP	PP	15 05 28.6	+1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,270nm,6.8s						
NJ2				LR	LR		
	comp=N,2μm,24.2s						
NJ2				LR	LR		
	comp=E,730nm,24

2.0nm,0.8s,baz=305,slow=8.6,SNR=2.9
ASAR Alice Springs 52.29 132 P P 15 01 21.1 +1.2
3.0nm,0.8s,baz=308,slow=7.0,SNR=4.5
STKA Stephens Creek 62.61 135 P P 15 02 32.4 -0.3
3.6nm,0.8s,baz=325,slow=12,SNR=3.3

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*IDC **09** 14:54:08.3±2.0, 1077N×9444E, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.0/21, mbtmp4.3/7, Error ellipse: s-maj=95.4km s-min=19.8km az=69.0*
*ISCJB **09** 14:54:10.5±1.1, 107N±0.1×944E±03, h33km, mb4.4/13, Error ellipse: s-maj=38.4km s-min=11.0km az=135.7*
*NEIC **09** 14:54:10.8±1.0, 1072N×9447E, mb4.7/7, Error ellipse: s-maj=37.6km s-min=10.1km az=68.0*

ISC 09 14:54:13.0±1.1, 108N±01×944E±03, h35km, n16, σ0°90/16, mb4.4/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**19.10**	**351**	P			**Pn**	**14 58 33.2**	**-0.5**
	10nm,0.8s								
LSA				e	p	P	pP	14 58 40.4	-1.5
ENH	**Enshi**	**23.96**	**34**	e	P		**P**	**14 59 23.9**	**-0.1**
	26nm,1.1s,mb4.6								
ENH				e	p	P		14 59 29.8	
MKAR	**Makanchi Array**	**37.37**	**346**	P			**P**	**15 01 22.2**	**-0.1**
	6.1nm,1.0s,mb4.4,baz=162,slow=8.8,SNR=4.9								
SONM	**Songino Array**	**38.32**	**13**	P			**P**	**15 01 30.7**	**+0.4**
	4.3nm,1.0s,mb4.1,baz=200,slow=9.4,SNR=4.7								
ULN	**Ulaanbaatar**	**38.50**	**14**	P			**P**	**15 01 31.6**	**-0.2**
	3.1nm,0.9s,mb4.0								
ULN				e				15 01 36.1	
KURK	**Kurchatov**	**41.91**	**345**	P			**P**	**15 02 00.1**	**0.0**
	22nm,1.4s,mb4.6								
ZAL	**Zalesovo**	**43.76**	**352**	P			**P**	**15 02 15.8**	**+0.8**
	2.0nm,0.8s,mb3.9,baz=292,slow=7.1,SNR=4.0								
NWAO	**Narrogin (SRO)**	**48.58**	**154**	P			**P**	**15 02 53.7**	**+0.8**
	12nm,1.1s,mb4.9,baz=339,slow=8.6,SNR=3.6								
NWAO	**Narrogin (SRO)**	**48.58**	**154**	e	P		**P**	**15 02 53.5**	**+0.5**
	15nm,1.1s,mb5.0								
NWAO				e	p	P	pP	15 02 58.3	-5.1
WRA	**Warramunga Arr**	**49.75**	**128**	P			**P**	**15 03 02.9**	**+1.0**
	5.8nm,1.1s,mb4.5,baz=310,slow=8.3,SNR=4.5								
WRAB	**Tennant Creek**	**49.75**	**128**	e	P		**P**	**15 02 59.7**	**-2.3**
	11nm,1.1s,mb4.8								
ASAR	**Alice Springs**	**51.59**	**132**	P			**P**	**15 03 16.4**	**+0.7**
	3.4nm,0.9s,mb4.3,baz=313,slow=7.2,SNR=4.8								
PMG	**Port Moresby**	**56.16**	**109**	P			**P**	**15 03 50.2**	**+1.0**
	15nm,1.2s,mb4.9								
STKA	**Stephens Creek**	**61.91**	**135**	P			**P**	**15 04 27.2**	**-1.8**
	6.1nm,1.0s,mb4.7,baz=288,slow=5.0,SNR=4.0								
STKA	**Stephens Creek**	**61.91**	**135**	e	P		**P**	**15 04 27.0**	**-2.0**
STKA				e	p	P	pP	15 04 32.4	-7.3
ILAR	**Eielson Array**	**92.00**	**22**	P			**P**	**15 07 17.9**	**-0.2**
	0.5nm,0.8s,mb3.9,baz=295,slow=4.8,SNR=4.1								

IDC 09 14:56:15.1±2.1, 1070N×9410E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/21, mbtmp4.2/4, Error ellipse: s-maj=101.1km s-min=30.0km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.34**	**347**	P			P	15 03 29.4	+0.2
	5.1nm,0.8s,baz=158,slow=7.8,SNR=4.4								
SONM	**Songino Array**	**38.43**	**13**	P			P	15 03 38.5	+0.1
	2.7nm,0.8s,baz=191,slow=8.5,SNR=4.1								
ASAR	**Alice Springs**	**51.78**	**132**	P			P	15 05 25.1	+0.5
	2.0nm,0.8s,baz=308,slow=6.6,SNR=4.3								
ARCES	**ARCESS Array B**	**72.61**	**340**	P			P	15 07 44.1	-0.2
	1.6nm,0.7s,baz=79,slow=4.9,SNR=3.8								
PDAR	**Pinedale Array**	**122.55**	**21**	PKP			PKPdf	15 15 12.8	+0.3
	0.5nm,0.8s,baz=204,slow=2.9,SNR=4.3								

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*BJI **09** 14:57:05.5, 1030N×9385E, h37km, mB5.2, mb4.4, Ms4.8, Msz4.2*
*IDC **09** 14:57:08.4±1.0, 1092N×9431E, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.2/23, mbtmp4.4/10, Error ellipse: s-maj=52.8km s-min=16.4km az=62.0*
*NEIC **09** 14:57:09.4±0.6, 1070N×9390E, mb4.9/8, Error ellipse: s-maj=21.3km s-min=9.2km az=62.0*
*HRVD **09** 14:57:09.4±1.0, 1080N×9414E, h12km, MW5.1/40, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s40,c56; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.80±.22; $M_{\theta\theta}$1.92±.16; $M_{\phi\phi}$-0.12±.25; $M_{r\theta}$1.01±.58; $M_{r\phi}$-0.07±.17; $M_{\theta\phi}$/4.80±.75; Best double couple: $M_0$5.00000×10^{16} NP1:ϕ_s63.00000°, δ8.00000°, λ-43.00000°. NP2: ϕ_s196.00000°, δ85.00000°, λ-96.00000°. Principal axes: T 4.0790, Plg40.0000°, Azm291.0000°; N 1.8370, Plg6.0000°, Azm196.0000°; P -5.9210, Plg50.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 14:57:11.6±1.4, 1098N×9449E, h33km, mb5.1/8 Error ellipse: s-maj=23.7km s-min=11.0km az=117.5*
*ISCJB **09** 14:57:15.7±3.1, 1103N±009×9449E±010, h70km±29km, mb4.6/21, Error ellipse: s-maj=18.3km s-min=12.2km az=104.7*

ISC 09 14:57:15.6±2.6, 1101N±008×9439E±008, h49km±25km, n36, σ1°17/36, mb4.6/21, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMI	**Kunming**	**16.11**	**28**	P			**Pn**	**15 00 58.3**	**-0.5**
HYB	**Hyderabad**	**16.62**	**294**	e	P		**Pn**	**15 01 07.0**	**+1.9**
QIZ	**Qiongzhong**	**16.91**	**60**	⇓P			**Pn**	**15 01 14.7**	**+5.9**
QIZ				S			**S**	**15 04 26.7**	**+2.8**
QIZ				AMB			AMB		
	comp=Z,27nm,1.7s								
QIZ				LR			LR		
	comp=E,1μm,8.1s								
QIZ				LR			LR		
	comp=Z,1μm,9.9s								
QIZ	**Qiongzhong**	**16.91**	**60**	e	P		**Pn**	**15 01 13.8**	**+5.1**
	comp=Z,54nm,2.0s								
LSA	**Lhasa**	**18.84**	**351**	P			**Pn**	**15 01 32.1**	**-0.2**
	comp=Z,79nm,1.7s								
LSA	**Lhasa**	**18.84**	**351**	P			**Pn**	**15 01 32.1**	**-0.3**
LSA				pmax			pmax		
	comp=Z,79nm,1.7s								
KKM	**Kota Kinabalu**	**22.13**	**101**	P			**P**	**15 02 12.1**	**+5.1**
ENH	**Enshi**	**23.76**	**34**	e	P		**P**	**15 02 22.4**	**-1.1**
	comp=Z,129nm,1.6s,mb5.1								
GTA	**Gaotai**	**28.69**	**9**	e	P		**P**	**15 03 08.1**	**+0.1**
GTA				AMB			AMB		
	comp=Z,8.0nm,1.3s,mb4.3								
AAK	**Ala-Archa**	**35.97**	**335**	e	P		**P**	**15 04 11.1**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8								
AAK	**Ala-Archa**	**35.97**	**335**	e	P		**P**	**15 04 11.1**	**-0.5**
AAK				pmax			pmax		
	comp=Z,14nm,1.1s,mb4.8								
MKAR	**Makanchi Array**	**37.11**	**346**	P			**P**	**15 04 21.1**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.3,baz=170,slow=8.8,SNR=4.5								
SONM	**Songino Array**	**38.07**	**13**	P			**P**	**15 04 30.2**	**+0.8**
	comp=Z,4.1nm,1.1s,mb4.1,baz=207,slow=9.6,SNR=4.2								
ULN	**Ulaanbaatar**	**38.25**	**14**	e	P		**P**	**15 04 30.7**	**-0.2**
	comp=Z,37nm,1.8s,mb4.8								
ULN				e	p	P	pP	15 04 35.6	-8.2
ULN	**Ulaanbaatar**	**38.25**	**14**	e	P		**P**	**15 04 30.7**	**-0.2**
ULN				pmax			pmax		
	comp=Z,37nm,1.8s,mb4.8								
SNY	**Shenyang**	**39.94**	**35**	⇑P			**P**	**15 04 43.9**	**-1.2**
SNY				AMB			AMB		
	comp=Z,16nm,1.6s,mb4.5								
ZAL	**Zalesovo**	**43.49**	**352**	P			**P**	**15 05 14.8**	**+0.6**
	comp=Z,2.7nm,1.0s,mb4.0,baz=287,slow=8.1,SNR=3.6								
BVAR	**Borovoye Array**	**46.13**	**340**	P			**P**	**15 05 35.1**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.0,baz=153,slow=7.4,SNR=3.0								
NWAO	**Narrogin (SRO)**	**48.83**	**154**	P			**P**	**15 05 54.9**	**-1.1**
	comp=Z,18nm,1.1s,mb5.0,baz=331,slow=12,SNR=4.4								
NWAO	**Narrogin (SRO)**	**48.83**	**154**	P			**P**	**15 05 53.1**	**-2.9**
	comp=Z,94nm,1.6s,mb5.6								
NWAO				e	p	P		15 05 57.5	
NWAO	**Narrogin (SRO)**	**48.83**	**154**	P			**P**	**15 05 53.1**	**-2.9**
NWAO				pmax			pmax		
	comp=Z,94nm,1.6s								
BOD	**Bodaibo**	**49.06**	**14**	e	P		**P**	**15 05 53.4**	**-4.4**
BOD				pmax			pmax		
	comp=Z,9.0nm,1.6s,mb4.5								
WRA	**Warramunga Arr**	**49.92**	**128**	P			**P**	**15 06 04.9**	**+0.5**
	comp=Z,9.8nm,1.0s,mb4.8,baz=309,slow=8.1,SNR=9.5								
WRAB	**Tennant Creek**	**49.93**	**128**	e	P		**P**	**15 06 05.1**	**+0.6**
	comp=Z,30nm,1.2s,mb5.2								
WRAB	**Tennant Creek**	**49.93**	**128**	e	P		**P**	**15 06 05.1**	**+0.7**
WRAB				pmax			pmax		
	comp=Z,31nm,1.2s,mb5.2								
ASAR	**Alice Springs**	**51.77**	**132**	P			**P**	**15 06 18.9**	**+0.7**
	comp=Z,6.9nm,0.8s,mb4.6,baz=309,slow=6.2,SNR=9.1								
KIV	**Kislovodsk**	**55.20**	**316**	e	P		**P**	**15 06 44.5**	**+1.1**
KIV				pmax			pmax		
	comp=Z,17nm,1.2s,mb5.0								
PMG	**Port Moresby**	**56.26**	**109**	P			**P**	**15 06 50.7**	**-0.3**
	comp=Z,19nm,1.3s,mb5.0								
PMG	**Port Moresby**	**56.26**	**109**	P			**P**	**15 06 50.7**	**-0.3**
PMG				pmax			pmax		
	comp=Z,19nm,1.3s								
YAK	**Yakutsk**	**56.96**	**19**	e	P		**P**	**15 07 04.4**	**+8.4**
YAK				pmax			pmax		
	comp=Z,10.0nm,0.9s,mb4.8								
YAK				pmax			pmax		
	comp=N,6.0nm,1.3s								
YAK				pmax			pmax		
	comp=E,5.0nm,1.2s								
STKA	**Stephens Creek**	**62.11**	**135**	P			**P**	**15 07 30.7**	**-0.8**
	comp=E,14nm,1.1s,mb5.0,baz=303,slow=5.7,SNR=8.5								
STKA	**Stephens Creek**	**62.11**	**135**	e	P		**P**	**15 07 30.9**	**-0.6**
STKA				e	p	P	pP	15 07 35.2	-10
APA	**Apatity**	**69.03**	**339**	e	P		**P**	**15 08 13.7**	**-2.4**
APA				i				15 08 36.6	
APA				pmax			pmax		
	comp=Z,27nm,1.4s,mb5.0								
ARCES	**ARCESS Array B**	**72.42**	**340**	P			**P**	**15 08 34.8**	**-1.9**
	comp=Z,1.5nm,0.7s,mb4.0,baz=96,slow=6.4,SNR=4.2								
TORD	**Torodi Ar. Bea**	**90.12**	**283**	P			**P**	**15 10 12.5**	**+2.1**
	comp=Z,1.9nm,1.1s,mb4.3,baz=64,slow=3.4,SNR=3.5								
PDAR	**Pinedale Array**	**122.17**	**21**	PKP			PKPdf	15 16 04.9	0.0
	comp=Z,0.3nm,0.6s,baz=248,slow=6.2,SNR=3.9								

HLW 09 14:59:07.2, 3236N×3079E, h33km, Mb3.7, 22C-4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SQR		**2.50**	**172**	⇑P			Pn	14 59 45.7	+0.3
KOT	**Kottamia**	**2.58**	**160**	⇑e	P		Pn	14 59 46.8	+0.1
KOT					S		Sn	15 00 15.1	-1.8
HHAG	**Hagoal**	**2.65**	**155**	⇑e	P		Pn	14 59 48.0	+0.4
HHAG					S		Sn	15 00 16.7	-1.9
AYT	**Al 'Ayyat**	**2.67**	**173**	⇑e	P		Pn	14 59 48.1	+0.4
HNAT	**Natroun**	**2.72**	**183**	⇑e	P		Pn	14 59 48.6	0.0
HSAF	**As Saff**	**2.81**	**166**	⇑e	P		Pn	14 59 49.9	+0.1
GLL	**Jalalah**	**2.88**	**164**	⇓iP			Pn	14 59 51.0	+0.2
SUZ		**3.06**	**145**	⇓e	P		Pn	14 59 53.4	+0.2
HMAT	**Matruh**	**3.39**	**249**	⇑e	P		Pn	14 59 57.5	-0.2
HBNS	**Bani Suwayf**	**3.42**	**174**	⇑e	P		Pn	14 59 58.1	0.0
ZAF		**3.42**	**153**	⇑e	P		Pn	14 59 58.2	0.0
ZNM		**3.47**	**148**	⇑iP			Pn	14 59 59.4	+0.5
ZNM					S		Sn	15 00 36.6	-2.3
ZNM		**3.47**	**148**	P			Pn	14 59 59.3	+0.4
HNKL	**Nakhl**	**3.65**	**131**	⇑e	P		Pn	15 00 01.1	-0.3
HNKL					S		Sn	15 00 40.8	-2.5
HRDS	**Abu Rudays**	**4.23**	**149**	⇑e	P		Pn	15 00 09.6	+0.3
AWBH		**4.34**	**203**	⇑e	P		Pn	15 00 11.0	+0.1
GRB	**Gharib**	**4.43**	**157**	⇑e	P		Pn	15 00 11.8	-0.2
HBST	**Basata**	**4.62**	**132**	⇑e	P		Pn	15 00 14.9	+0.3
TR2		**4.70**	**147**	⇑e	P		Pn	15 00 15.6	-0.2
SLUM		**4.82**	**261**	⇑e	P		Pn	15 00 17.6	+0.1
HDHB	**Dhahab**	**4.90**	**137**	⇑iP			Pn	15 00 18.6	0.0
SWA1		**5.35**	**236**	⇑e	P		Pn	15 00 24.8	+0.1
SWA2		**5.54**	**237**	⇑iP			Pn	15 00 27.1	-0.2
HFRF	**Wahat Farafira**	**5.62**	**203**	⇓iP			Pn	15 00 28.4	0.0
HHRG	**Al Ghardaqah**	**5.66**	**154**	⇑P			Pn	15 00 29.2	+0.2
HHRG	**Al Ghardaqah**	**5.66**	**154**	P			Pn	15 00 29.2	+0.2
HSFG		**6.39**	**154**	⇑P			Pn	15 00 39.1	+0.1
HDK1	**Dakhla**	**6.90**	**190**	⇓P			Pn	15 00 46.1	+0.1

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*IDC **09** 15:00:26.5±1.1, 1065N×9419E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.0/22, mbtmp4.2/9, Error ellipse: s-maj=56.7km s-min=17.9km az=61.0*
*ISCJB **09** 15:00:31.6±2.8, 108N±0.1×945E±0.1, h46km±28km, mb4.4/12, Error ellipse: s-maj=28.6km s-min=10.1km az=107.2*

ISC 09 15:00:33.7±2.1, 108N±01×945E±01, h47km±22km, n26, σ1°04/24, mb4.4/12, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**16.80**	**295**	e	P		**Pn**	**15 04 26.0**	**+0.5**
KSM	**Kuching**	**18.23**	**119**	e	P		**Pn**	**15 04 42.0**	**-1.1**
KSM				e	p	P	pP	15 04 50.0	-3.8
JIRN	**Jiri**	**18.51**	**336**	e	P		**Pn**	**15 04 47.8**	**+1.3**
PKI	**Pulchoki**	**18.75**	**334**	e	P		**Pn**	**15 04 50.8**	**+1.4**
GUN	**Gumba**	**18.85**	**336**	e	P		**Pn**	**15 04 50.1**	**-0.6**
DMN	**Daman**	**18.91**	**333**	e	P		**Pn**	**15 04 52.6**	**+1.2**
KKN	**Kakani**	**19.00**	**334**	e	P		**Pn**	**15 04 52.3**	**-0.1**
GKN	**Gorkha**	**19.46**	**333**	e	P		**Pn**	**15 04 56.3**	**-1.6**
KOLN	**Koldanda**	**19.75**	**330**	e	P		**Pn**	**15 05 00.3**	**-1.1**
KKM	**Kota Kinabalu**	**21.99**	**101**	e	P		**P**	**15 05 30.6**	**+6.9**
KKM				e				15 05 34.0	
KKM				e				15 05 37.6	
MKAR	**Makanchi Array**	**37.34**	**346**	P			**P**	**15 07 40.6**	**-0.9**
	2.9nm,0.8s,mb4.1,baz=165,slow=7.1,SNR=4.7								
SONM	**Songino Array**	**38.25**	**13**	P			**P**	**15 07 50.3**	**+1.1**
	4.0nm,1.0s,mb4.1,baz=202,slow=8.8,SNR=6.9								
ZAL	**Zalesovo**	**43.72**	**352**	P			**P**	**15 08 34.2**	**0.0**
	2.0nm,0.7s,mb4.0,baz=304,slow=9.1,SNR=3.3								
BVAR	**Borovoye Array**	**46.37**	**340**	P			**P**	**15 08 54.3**	**-0.9**
	1.1nm,0.7s,mb3.9,baz=162,slow=10,SNR=3.6								
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P			**P**	**15 09 10.3**	**-2.2**
	34nm,1.5s,mb5.2								
WRA	**Warramunga Arr**	**49.71**	**128**	P			**P**	**15 09 22.5**	**+1.4**
	3.2nm,0.8s,mb4.4,baz=303,slow=8.4,SNR=5.5								
WRAB	**Tennant Creek**	**49.71**	**128**	e	P		**P**	**15 09 22.0**	**+1.0**
	14nm,1.0s,mb5.0								
WRAB				e	p	P	pP	15 09 27.6	-6.4
ASAR	**Alice Springs**	**51.55**	**132**	P			**P**	**15 09 35.4**	**+0.5**
	4.5nm,0.9s,mb4.4,baz=310,slow=6.8,SNR=7.8								
CTAO	**Charters Tower**	**59.46**	**121**	e	P		**P**	**15 10 38.8**	**+7.1**
	14nm,1.1s,mb4.9								
STKA	**Stephens Creek**	**61.88**	**135**	P			**P**	**15 10 47.7**	**-0.5**
	2.9nm,0.8s,mb4.5,baz=326,slow=9.6,SNR=3.4								
STKA	**Stephens Creek**	**61.88**	**135**	e	P		**P**	**15 10 48.1**	**-0.1**
STKA				e	p	P	pP	15 10 53.7	-7.8
FINES	**FINESS Array B**	**70.31**	**332**	P			**P**	**15 11 41.1**	**-1.1**
	1.1nm,0.8s,mb3.8,baz=98,slow=10,SNR=3.7								
ARCES	**ARCESS Array B**	**72.66**	**340**	P			**P**	**15 11 56.5**	**+0.1**
	2.4nm,0.9s,mb4.2,baz=81,slow=5.8,SNR=6.2								
SYO	**Syowa Base**	**88.28**	**197**	⇑e	P		**P**	**15 13 21.0**	**+0.9**
NVAR	**Mina Array Bea**	**122.24**	**30**	PKP			PKPdf	15 19 25.5	+2.2
	0.6nm,0.6s,baz=28,slow=0.2,SNR=4.8								
CPUP	**Villa Florida**	**149.25**	**236**	PKPbc			PKPbc	15 20 16.8	-0.3
	0.9nm,0.6s,baz=184,slow=13,SNR=3.0								

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*NEIC **09** 15:00:40.8±0.8, 892N×9460E, mb5.1/23, Error ellipse: s-maj=28.7km s-min=10.5km az=52.0*
*BJI **09** 15:00:41.5, 890N×9425E, h24km, mB5.3, mb4.7, Ms4.9, Msz4.7*
*IDC **09** 15:00:50.9±0.6, 1070N×9419E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/24, mbtmp4.2/15, Error ellipse: s-maj=36.3km s-min=15.1km az=60.0*
*ISCJB **09** 15:00:52.3±0.5, 1057N±007×9419E±006, h19km, mb4.8/58, MS4.8/5, Error ellipse: s-maj=11.3km s-min=7.8km az=49.7*
*MOS **09** 15:00:56.2±1.8, 1092N×9431E, h33km, mb5.4/26, Error ellipse: s-maj=15.9km s-min=6.8km az=102.4*

ISC 09 15:00:54.7±0.5, 1062N±007×9420E±006, h20km, h20km±.9km: pP-P, n119, σ1°61/116, mb4.8/58, MS4.8/5, 7C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**12.68**	**305**	e	P		**Pn**	**15 03 56.2**	**+2.3**
VIS				AMb			AMB	15 03 58.5	
	comp=Z,100nm,1.2s								
VIS				e	x		x	15 06 05.5	
SHL	**Shillong**	**15.03**	**352**	e	P		**Pn**	**15 04 32.4**	**+6.5**
BOK	**Bokaro**	**15.31**	**330**	e	P		**Pn**	**15 04 34.9**	**+5.3**
BOK				AMb			AMB	15 04 40.1	
	comp=Z,94nm,1.2s								
KMI	**Kunming**	**16.54**	**28**	P			**Pn**	**15 04 53.3**	**+7.9**
KMI				AMB			AMB		
	comp=Z,58nm,1.7s								
HYB	**Hyderabad**	**16.61**	**296**	i P			**Pn**	**15 04 54.0**	**+7.7**
HYB	**Hyderabad**	**16.61**	**296**	e	P		**Pn**	**15 04 54.0**	**+7.7**
QIZ	**Qiongzhong**	**17.27**	**59**	⇓P			**Pn**	**15 04 55.5**	**+1.0**
QIZ				AP			pP	15 05 00.8	-0.7
QIZ				AMB			AMB		
	comp=Z,25nm,1.4s								
QIZ				LR			LR		
	comp=E,2μm,9.5s								
QIZ				LR			LR		
	comp=Z,2μm,10.3s								
QIZ	**Qiongzhong**	**17.27**	**59**	e	P		**Pn**	**15 04 55.2**	**+0.7**
	comp=Z,7.7nm,1.1s								
QIZ				e	p	P	pP	15 05 00.8	-0.7
LSA	**Lhasa**	**19.20**	**352**	e	P		**Pn**	**15 05 20.8**	**+2.7**
	comp=Z,83nm,1.3s								
LSA	**Lhasa**	**19.20**	**352**	e	P		**Pn**	**15 05 20.8**	**+2.7**
LSA				pmax			pmax		
	comp=Z,83nm,1.3s								
GYA	**Guiyang**	**19.66**	**35**	P			**Pn**	**15 05 27.8**	**+4.0**
GYA				AP			pP	15 05 33.3	+5.4
GYA				XP			sP	15 05 36.6	+6.1
GYA				PP				15 05 48.3	
GYA				S			**Sn**	**15 09 17.8**	**+14**
GYA				AMB			AMB		
	comp=Z,20nm,0.8s								
GYA				AMB			AMB		
	comp=Z,130nm,3.0s								
GYA				LR			LR		
	comp=N,970nm,15.2s								
GYA				LR			LR		
	comp=E,2μm,16.8s								
GYA				LR			LR		
	comp=Z,2μm,17.0s								
BHPL	**Bhopal**	**20.34**	**310**	e	P		**P**	**15 05 28.9**	**-0.8**
BHPL				AMb			AMB	15 05 39.0	
	comp=Z,88nm,1.7s								
KAD	**Karad**	**20.52**	**291**	e	P		**P**	**15 05 29.6**	**-2.1**
KAD				⇓ix			x	15 05 43.0	
KAD				AMb			AMB	15 05 46.6	
	comp=Z,115nm,1.5s								
CD2	**Chengdu**	**22.05**	**22**	e	P		**P**	**15 05 52.6**	**+4.5**
CD2				AP				15 05 56.8	
CD2				PP				15 06 25.9	
CD2				S			**S**	**15 10 04.5**	**+14**
CD2				SS				15 10 54.0	
CD2				AMB			AMB		
	comp=Z,10.0nm,0.8s,mb4.3								
CD2				AMB			AMB		
	comp=Z,60nm,5.3s								
CD2				LR			LR		
	comp=E,960nm,12.0s								
CD2				LR			LR		
	comp=Z,710nm,9.6s								
NDI	**New Delhi**	**24.00**	**321**	e	P		**P**	**15 06 08.8**	**+0.8**
NDI				AMb			AMB	15 06 18.1	
	comp=Z,198nm,1.6s,mb5.3								
AJM	**Ajmer**	**24.29**	**313**	e	P		**P**	**15 06 08.7**	**-1.9**
AJM				AMb			AMB	15 06 20.8	
	comp=Z,87nm,1.3s,mb5.0								
LZH	**Lanzhou**	**26.82**	**18**	e	P		**P**	**15 06 37.9**	**+4.4**
LZH				AP			pP	15 06 47.5	+7.9
LZH				XP			sP	15 06 51.3	+9.2
LZH				PP				15 07 25.5	
LZH				AMB			AMB		
	comp=Z,40nm,1.6s,mb4.7								
LZH				AMB			AMB		
	comp=Z,168nm,4.7s								
LZH				LR			LR		
	comp=N,2μm,14.0s								
LZH				LR			LR		
	comp=Z,3μm,15.0s,MS5.0								
WHN	**Wuhan**	**27.27**	**40**	e	P		**P**	**15 06 39.5**	**+1.9**
GTA	**Gaotai**	**29.10**	**9**	e	P		**P**	**15 06 53.4**	**-0.5**
GTA				AMB			AMB		
	comp=Z,14nm,2.1s,mb4.3								
NJ2	**Nanjing**	**31.19**	**43**	e	P		**P**	**15 07 11.5**	**-0.9**
NJ2				AP			pP	15 07 17.3	-1.2
NJ2				XP			sP	15 07 20.3	-0.7
NJ2				PP			PP	15 08 20.4	-2.5
NJ2				AMB			AMB		
	comp=Z,10.0nm,0.5s,mb4.9								
NJ2				AMB			AMB		
	comp=Z,270nm,6.8s								
NJ2				LR			LR		
	comp=N,2μm,24.2s,MS4.8								
NJ2				LR			LR		
	comp=E,2μm,24.2s,MS4.8								
NJ2				LR			LR		
	comp=Z,860nm,22.9s,MS4.3								
BTO	**Baotou**	**32.98**	**22**	e	P		**P**	**15 07 31.5**	**+3.4**
KSH	**Kashi**	**33.03**	**334**	P			**P**	**15 07 35.0**	**+6.4**
KSH				AP			pP	15 07 40.0	+5.3
KSH				XP			sP	15 07 43.7	+6.5
KSH				AMB			AMB		
	comp=Z,35nm,0.9s,mb5.3								
KSH				AMB			AMB		
	comp=Z,267nm,5.8s								
KSH				LR			LR		
	comp=N,984nm,12.0s								
KSH				LR			LR		
	comp=E,638nm,8.8s	

HIA	**Hailar**	**43.99**	**24**	*eP*	**P**	**15 09 00.3**	**-0.3**
HIA				pmax	pmax		
	comp=Z,24nm,1.1s						
NVS	**Novosibirsk**	**44.95**	**351**	*eP*	**P**	**15 09 06.8**	**-1.5**
NVS				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.1						
NVS				pmax	pmax		
	comp=N,74nm,2.2s						
KRAR	**Krasnoyarsk**	**45.29**	**359⇑**	*eP*	**P**	**15 09 11.5**	**+0.5**
KRAR				pmax	pmax		
	comp=Z,72nm,1.7s,mb5.2						
MDJ	**Mudanjiang**	**45.53**	**35**	P	**P**	**15 09 11.2**	**-1.6**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
VOSK	**Vostochnaya**	**45.98**	**341**	P	**P**	**15 09 14.7**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,83nm,1.9s,mb5.3						
BVA0	**Borovoye Array**	**46.43**	**340**	P	**P**	**15 09 20.2**	**+0.2**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
BVAR	**Borovoye Array**	**46.43**	**340**	P	**P**	**15 09 18.6**	**-1.3**
	comp=Z,2.0nm,0.8s,mb4.1,baz=150,slow=12,SNR=3.7						
BRVK	**Borovoye**	**46.49**	**340⇑**	*iP*	**P**	**15 09 21.0**	**+0.5**
ZRNK	**Zerenda**	**46.84**	**339**	*eP*	**P**	**15 09 20.8**	**-2.3**
	comp=Z,59nm,1.8s,mb5.2						
ZRNK				*e*pP	pP	15 09 26.9	-2.5
ZRNK	**Zerenda**	**46.84**	**339**	P	**P**	**15 09 21.0**	**-2.2**
ZRNK				pmax	pmax		
	comp=Z,81nm,2.5s,mb5.2						
MAJO	**Matsushiro**	**47.31**	**50**	P	**P**	**15 09 28.9**	**+2.0**
	comp=Z,39nm,1.5s,mb5.1						
MAJO	**Matsushiro**	**47.31**	**50**	P	**P**	**15 09 28.9**	**+2.1**
MAJO				pmax	pmax		
	comp=Z,39nm,1.5s,mb5.1						
NWAO	**Narrogin (SRO)**	**48.56**	**154**	P	**P**	**15 09 37.5**	**+1.0**
	comp=Z,11nm,0.8s,mb4.9,baz=332,slow=9.8,SNR=5.9						
BOD	**Bodaibo**	**49.48**	**14**	*eP*	**P**	**15 09 40.8**	**-2.8**
AKTK	**Aktyubinsk**	**49.59**	**330**	P	**P**	**15 09 44.5**	**0.0**
AKTO	**Aktyubinsk**	**49.59**	**330**	P	**P**	**15 09 44.5**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=143,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**49.84**	**127**	P	**P**	**15 09 46.4**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.3,baz=305,slow=8.7,SNR=4.4						
HABR	**Khabarovsk**	**50.83**	**34**	*eP*	**P**	**15 09 58.5**	**+4.7**
HABR				*e*S	**S**	**15 17 00.0**	**-8.8**
HABR				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.2						
ASAR	**Alice Springs**	**51.65**	**132**	P	**P**	**15 10 00.4**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.3,baz=309,slow=6.5,SNR=5.2						
GNI	**Garni**	**52.60**	**313**	P	**P**	**15 10 09.6**	**+2.6**
GNI				*e*pP	pP	15 10 15.2	+1.8
SVE	**Sverdlovsk**	**52.89**	**338**	*eP*	**P**	**15 10 07.5**	**-1.7**
SVE				*e*		15 11 23.0	
SVE				pmax	pmax		
	comp=Z,80nm,2.4s,mb5.2						
ARU	**Arti**	**53.41**	**336**	*eP*	**P**	**15 10 11.6**	**-1.4**
	comp=Z,24nm,1.3s,mb5.0						
ARU				*e*pP	pP	15 10 18.1	-1.2
ARU	**Arti**	**53.41**	**336⇓**	*iP*	**P**	**15 10 17.8**	**+4.8**
ARU				*e*		15 11 25.3	
ARU				*e*		15 12 14.2	
ARU				*e*S	**S**	**15 17 38.3**	**-5.8**
ARU				*e*SS	SS	15 21 13.8	-10
ARU				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
ARU				MLR	MLR		
	comp=Z,800nm,22.0s,MS4.7						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS4.7						
ARU				MLR	MLR		
	comp=E,700nm,22.0s,MS4.7						
ZEI	**Tsey**	**54.11**	**316**	*eP*	**P**	**15 10 21.8**	**+3.7**
YSS	**Yuzh-Sakhalins**	**54.61**	**39**	*eP*	**P**	**15 10 21.5**	**-0.3**
	comp=E,37nm,1.4s,mb5.2						
YSS	**Yuzh-Sakhalins**	**54.61**	**39**	*eP*	**P**	**15 10 22.0**	**+0.3**
YSS				*e*	pP	15 10 27.4	-0.7
YSS				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.4						
KIV	**Kislovodsk**	**55.35**	**317**	*eP*	**P**	**15 10 28.8**	**+1.7**
	comp=Z,38nm,1.2s,mb5.3						
KIV				*e*pP	pP	15 10 33.6	+0.1
KIV	**Kislovodsk**	**55.35**	**317**	*eP*	**P**	**15 10 28.8**	**+1.7**
KIV				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.3						
GOF	**Gofitskoye**	**55.52**	**318**	*eP*	**P**	**15 10 35.1**	**+6.8**
MALT	**Malatya**	**56.77**	**309**	P	**P**	**15 10 40.0**	**+2.8**
	comp=Z,3.9nm,0.9s,mb4.4						
MALT	**Malatya**	**56.77**	**309**	P	**P**	**15 10 40.0**	**+2.8**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SOC	**Sochi**	**57.26**	**315**	*eP*	**P**	**15 10 42.8**	**+2.1**
SOC				*e**PP	pP	15 10 58.2	+11
SOC				*e*		15 11 35.1	
SOC				*e*S	**S**	**15 18 29.5**	**-6.2**
SOC				*e*SS	SS	15 22 23.2	-1.7
SOC				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
SOC				MLR	MLR		
	comp=Z,370nm,21.0s,MS4.5						
YAK	**Yakutsk**	**57.39**	**19**	*eP*	**P**	**15 10 40.0**	**-1.7**
	comp=Z,46nm,1.0s,mb5.5						
YAK				*e*pP	pP	15 10 45.6	-2.4
YAK	**Yakutsk**	**57.39**	**19**	*eP*	**P**	**15 10 40.0**	**-1.6**
YAK				*e**PP	pP	15 10 45.6	-2.4
YAK				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.5						
STKA	**Stephens Creek**	**61.97**	**135**	P	**P**	**15 11 12.1**	**-1.1**
	comp=Z,5.0nm,0.9s,mb4.6,baz=315,slow=9.6,SNR=4.6						
OBN	**Obninsk**	**63.11**	**327**	*eP*	**P**	**15 11 21.9**	**+1.1**
	comp=Z,64nm,1.7s,mb5.5						
OBN				*e*pP	pP	15 11 26.9	-0.3
OBN	**Obninsk**	**63.11**	**327**	*d iP*	**P**	**15 11 27.1**	**+6.3**
OBN				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.3						
KLMR	**Klimovskoe**	**64.03**	**334**	*eP*	**P**	**15 11 31.8**	**+4.9**
KLMR				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
MA2	**Magadan**	**64.32**	**28**	*eP*	**P**	**15 11 26.5**	**-2.3**
	comp=Z,26nm,1.2s,mb5.1						
MA2				*e*pP	pP	15 11 33.3	-2.0
MA2	**Magadan**	**64.32**	**28**	*eP*	**P**	**15 11 26.5**	**-2.3**
MA2				*e**PP	pP	15 11 33.3	-2.0
MA2				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.1						
TIXI	**Tiksi**	**64.54**	**12⇑**	*eP*	**P**	**15 11 33.3**	**+3.1**
TIXI				pmax	pmax		
	comp=Z,35nm,2.1s,mb5.0						
AKASG	**Malin Array Be**	**66.06**	**321**	P	**P**	**15 11 38.5**	**-1.6**
	comp=Z,1.9nm,0.9s,mb4.1,baz=95,slow=5.0,SNR=4.1						
AKASG	**Malin Array Be**	**66.06**	**321**	P	**P**	**15 11 38.5**	**-1.6**
SEY	**Seymchan**	**66.42**	**25⇑**	*iP*	**P**	**15 11 45.4**	**+3.0**
LVZ	**Lovozero**	**69.02**	**340**	*i P*	**P**	**15 12 02.0**	**+3.2**
LVZ				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
LVZ				pmax	pmax		
	comp=N,8.0nm,1.5s						
LVZ				pmax	pmax		
	comp=E,15nm,1.4s						
APA	**Apatity**	**69.32**	**339⇑**	*iP*	**P**	**15 12 06.4**	**+5.8**
APA				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
APA				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
FINES	**FINESS Array B**	**70.33**	**332**	P	**P**	**15 12 04.5**	**-2.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=85,slow=4.7,SNR=3.7						
ARCES	**ARCESS Array B**	**72.72**	**340**	P	**P**	**15 12 19.2**	**-2.0**
	comp=Z,2.9nm,0.8s,mb4.3,baz=74,slow=4.4,SNR=4.8						
BILL	**Bilibino**	**73.53**	**22**	*eP*	**P**	**15 12 24.6**	**-1.4**
	comp=Z,44nm,1.6s,mb5.1						
BILL				*e*pP	pP	15 12 30.1	-2.5
BILL	**Bilibino**	**73.53**	**22**	*eP*	**P**	**15 12 24.6**	**-1.4**
BILL				*e**PP	pP	15 12 30.1	-2.5
BILL				pmax	pmax		
	comp=Z,44nm,1.6s,mb5.1						
BRG	**Berggiesshubel**	**75.70**	**320**	*eP*	**P**	**15 12 45.7**	**+7.1**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BRG				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.7						
BRG	**Berggiesshubel**	**75.70**	**320**	*eP*	**P**	**15 12 45.7**	**+7.0**
	comp=Z,2.7nm,1.0s,mb4.1						
NB2	**NORSAR Subarra**	**77.39**	**330**	P	**P**	**15 12 45.8**	**-2.4**
	comp=Z,37nm,1.4s,mb5.1,baz=91,slow=5.9						
NB2	**NORSAR Subarra**	**77.39**	**330**	P	**P**	**15 12 45.8**	**-2.4**
NB2				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.1						
NOA	**NORSAR Array B**	**77.39**	**330**	P	**P**	**15 12 46.0**	**-2.1**
	comp=Z,1.9nm,1.1s,mb4.0,baz=90,slow=5.8,SNR=2.8						
GRA1	**Grafenberg Arr**	**77.45**	**319**	*eP*	**P**	**15 12 51.2**	**+2.7**
	comp=Z,32nm,2.2s,mb4.9						
GRF	**Grafenberg Arr**	**77.45**	**319**	*eP*	**P**	**15 12 51.2**	**+2.7**
	comp=Z,32nm,2.2s,mb4.9						
GRF	**Grafenberg Arr**	**77.45**	**319**	*eP*	**P**	**15 12 51.2**	**+2.7**
GRF				pmax	pmax		
	comp=Z,32nm,2.2s,mb4.9						
TNA	**Tin City**	**83.66**	**24**	P	**P**	**15 13 20.8**	**-1.1**
	comp=Z,8.7nm,1.1s,mb4.8						
TNA				*e*pP	pP	15 13 26.2	-2.2
EKA	**Eskdalemuir Ar**	**85.51**	**325**	P	**P**	**15 13 31.0**	**-0.2**
	comp=Z,1.5nm,0.7s,mb4.3,baz=104,slow=4.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**90.03**	**283**	P	**P**	**15 13 52.8**	**-0.1**
	comp=Z,1.6nm,1.1s,mb4.3,baz=76,slow=6.5,SNR=4.8						
MCK	**McKinley**	**91.93**	**23**	*eP*	**P**	**15 14 01.7**	**0.0**
	comp=Z,32nm,1.7s,mb5.4						
MCK				*e*pP	pP	15 14 06.8	-1.5
MCK	**McKinley**	**91.93**	**23**	*eP*	**P**	**15 14 01.7**	**0.0**
MCK				pmax	pmax		
	comp=Z,32nm,1.7s,mb5.4						
ILAR	**Eielson Array**	**92.19**	**22**	P	**P**	**15 13 59.5**	**-3.4**
	comp=Z,1.4nm,0.8s,mb4.3,baz=294,slow=3.5,SNR=4.5						
YKA	**Yellowknife Ar**	**103.76**	**13**	PP	PP	15 19 09.1	-2.7
	comp=Z,0.7nm,0.9s,baz=336,slow=7.6,SNR=4.1						
NVAR	**Mina Array Bea**	**122.53**	**30**	PKP	PKPdf	15 19 49.0	+0.3
	comp=Z,0.6nm,0.8s,baz=338,slow=2.6,SNR=4.0						
NVAR	**Mina Array Bea**	**122.53**	**30**	PKP	PKPdf	15 19 49.0	+0.3
PDAR	**Pinedale Array**	**122.59**	**21**	PKP	PKPdf	15 19 48.6	-0.1
	comp=Z,0.7nm,0.7s,baz=90,slow=0.1,SNR=3.9						
PDAR	**Pinedale Array**	**122.59**	**21**	PKP	PKPdf	15 19 48.6	-0.1
ANMO	**Albuquerque**	**130.63**	**22**	PKP	PKPdf	15 20 05.6	+1.5
	comp=Z,1.4nm,0.8s,baz=53,slow=4.6,SNR=3.6						
CPUP	**Villa Florida**	**148.91**	**236**	PKPbc	PKPbc	15 20 41.5	+0.5
	comp=Z,2.1nm,0.8s,baz=94,slow=6.0,SNR=3.3						
LPAZ	**La Paz**	**161.92**	**250**	PKPab	PKPab	15 21 42.4	+2.0
	comp=Z,0.5nm,0.4s,baz=78,slow=8.1,SNR=2.4						

*IDC **09** 15:03:09.9±0.6, 1079N×9436E, h0km, mb4.1/21, mb1 4.2/21, mb1mx4.2/26, mbtmp4.1/21, Error ellipse: s-maj=28.9km s-min=15.3km az=60.0*

*HRVD **09** 15:03:12.6±0.5, 1087N×9455E, h17km±1km, MW5.1/71, Centroid moment Tensor Solution. LP body waves: s28,c33;Mantle waves: s71,c120; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.38±.40; $M_{\theta\theta}$4.04±.26; $M_{\phi\phi}$1.34±.25; $M_{r\theta}$2.14±.63; $M_{\theta\phi}$1.41±.16; $M_{\phi r}$-0.40±.70; Best double couple: $M_0$5.44000×10^{16} NP1:ϕ_s58.00000°, δ36.00000°, λ-106.00000°. NP2: ϕ_s258.00000°, δ56.00000°, λ-79.00000°. Principal axes: T 4.9700, Plg10.0000°, Azm340.0000°; N 0.9390, Plg9.0000°, Azm72.0000°; P -5.9100, Plg76.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 15:03:12.6±0.4, 1074N×9428E, mb5.1/29 Error ellipse: s-maj=13.2km s-min=8.1km az=54.0*

*ISCJB **09** 15:03:15.5±0.4, 1107N±005×9445E±004, h17km, mb4.8/64, MS4.5/4, Error ellipse: s-maj=7.8km s-min=5.8km az=34.1*

*MOS **09** 15:03:16.1±2.8, 1089N×9436E, h33km, mb5.3/27, Error ellipse: s-maj=11.5km s-min=5.7km az=110.8*

*BJI **09** 15:03:17.0, 1121N×9443E, h15km, mB5.4, mb4.8, Ms5.0, Msz4.7*

*SZGRF **09** 15:03:30.3, 1287N×9278E, h33km, mb4.6, Andaman Islands, India, region*

ISC 09 15:03:18.2±0.4, 1113N±005×9446E±004, h18km, h18km±1.0km: pP-P, n141, σ1.973/141, mb4.8/64, MS4.5/4, 5C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.76**	**287**	*eP*	Px	15 04 02.9	
PBA				*e*S	Sx	15 04 21.1	
VIS	**Vishakhapatnam**	**12.61**	**303**	*eP*	**Pn**	**15 06 15.1**	**-1.5**
VIS				AMb	AMB	15 06 20.2	
	comp=Z,93nm,1.2s						
VIS				*e*S	**Sn**	**15 08 26.3**	**-10**
PALK	**Pallekele**	**14.11**	**255**	P	**Pn**	**15 06 37.9**	**+0.8**
	comp=Z,17nm,0.9s						
SHL	**Shillong**	**14.57**	**351**	*eP*	**Pn**	**15 06 46.7**	**+3.4**
BOK	**Bokaro**	**15.01**	**328**	*eP*	**Pn**	**15 06 49.9**	**+0.6**
BOK				AMb	AMB	15 07 02.0	
	comp=Z,116nm,1.0s						
KMI	**Kunming**	**15.98**	**28**	P	**Pn**	**15 07 04.9**	**+2.9**
KMI				AMB	AMB		
	comp=Z,41nm,1.4s						
HYB	**Hyderabad**	**16.63**	**294**	*i* P	**Pn**	**15 07 12.0**	**+1.7**
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	**16.63**	**294**	*eP*	**Pn**	**15 07 12.0**	**+1.7**
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	**16.63**	**294**	*eP*	**Pn**	**15 07 12.0**	**+1.7**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
QIZ	**Qiongzhong**	**16.79**	**60**	⇓P	**Pn**	**15 07 11.3**	**-1.0**
QIZ				XP	sP	15 07 19.1	-2.7
QIZ				S	**Sn**	**15 10 18.2**	**-0.2**
QIZ				AMB	AMB		
	comp=Z,15nm,2.3s						
QIZ				LR	LR		
	comp=E,2μm,8.7s						
QIZ				LR	LR		
	comp=Z,3μm,8.5s						
QIZ	**Qiongzhong**	**16.79**	**60**	P	**Pn**	**15 07 15.8**	**+3.4**
	comp=Z,33nm,1.3s						
NGP	**Nagpur**	**17.83**	**306**	*eP*	**Pn**	**15 07 25.6**	**+0.4**
KSM	**Kuching**	**18.43**	**120**	P	**Pn**	**15 07 33.7**	**+1.1**
LSA	**Lhasa**	**18.73**	**351**	*eP*	**Pn**	**15 07 37.0**	**+0.6**
	comp=Z,54nm,1.0s						
LSA				*e*pP	pP	15 07 41.2	+0.2
LSA	**Lhasa**	**18.73**	**351**	*eP*	**Pn**	**15 07 37.0**	**+0.7**
LSA				pmax	pmax		
	comp=Z,54nm,1.0s						
BHPL	**Bhopal**	**20.22**	**309**	*eP*	**P**	**15 07 51.2**	**-0.9**
BHPL				AMb	AMB	15 07 57.5	
	comp=Z,75nm,1.4s						
GZH	**Guangzhou**	**21.58**	**54**	P	**P**	**15 08 12.6**	**+5.8**
GZH				LR	LR		
	comp=N,829nm,11.2s						
GZH				LR	LR		
	comp=E,697nm,8.2s						
GZH				LR	LR		
	comp=Z,792nm,11.2s,MS4.4						
KKM	**Kota Kinabalu**	**22.09**	**101**	P	**P**	**15 08 09.5**	**-2.7**
ENH	**Enshi**	**23.62**	**34**	*eP*	**P**	**15 08 26.9**	**-1.4**
	comp=Z,244nm,1.5s,mb5.4						
ENH				*e*pP		15 08 30.7	
NDI	**New Delhi**	**23.77**	**320**	*eP*	**P**	**15 08 29.0**	**-0.6**
AJM	**Ajmer**	**24.13**	**312**	*eP*	**P**	**15 08 34.0**	**+1.0**
AJM				AMb	AMB	15 08 39.5	
	comp=Z,67nm,1.0s,mb5.0						
SMLA	**Simla**	**25.55**	**324**	*eP*	**P**	**15 08 46.5**	**+0.6**
LZH	**Lanzhou**	**26.26**	**17**	*eP*	**P**	**15 08 52.0**	**-0.3**
LZH				AP	pP	15 08 57.1	-0.6
LZH				XP	sP	15 09 02.8	+2.8
LZH				AMB	AMB		
	comp=Z,180nm,1.6s,mb5.3						
LZH				AMB	AMB		
	comp=Z,469nm,5.1s						
XAN	**Xi'an**	**26.36**	**28**	P	**P**	**15 08 55.3**	**+2.1**
XAN				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.4						
GTA	**Gaotai**	**28.57**	**9**	*eP*	**P**	**15 09 12.9**	**-0.1**
GTA				AP	pP	15 09 17.5	-0.9
GTA				XP	sP	15 09 20.0	-0.7
GTA				AMB	AMB		
	comp=Z,16nm,2.4s,mb4.3						
NJ2	**Nanjing**	**30.65**	**43**	*eP*	**P**	**15 09 31.6**	**+0.2**
NJ2				AP	pP	15 09 36.0	-0.9
NJ2				XP	sP	15 09 38.6	-0.6
NJ2				PP	PP	15 10 31.5	-9.2
NJ2				S	**S**	**15 14 31.0**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
NJ2				LR	LR		
	comp=N,1μm,23.2s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,24.2s,MS4.7						
NJ2				LR	LR		
	comp=Z,1μm,22.9s,MS4.4						
KSH	**Kashi**	**32.70**	**333**	P	**P**	**15 09 53.4**	**+4.0**
KSH				AP	pP	15 09 59.2	+4.3
KSH				XP	sP	15 10 02.0	+4.8
KSH				S	**S**	**15 15 10.7**	**+5.8**
KSH				XS	sS	15 15 20.4	+6.4
KSH				SCP	ScP	15 16 20.3	+2.3
KSH				PCS	PcS	15 16 21.7	+1.6
KSH				SCS	ScS	15 20 20.7	+3.1
KSH				AMB	AMB		
	comp=Z,49nm,1.0s,mb5.4						
KSH				LR	LR		
	comp=N,984nm,12.0s						
KSH				LR	LR		
	comp=E,638nm,8.8s						
KSH				LR	LR		
	comp=Z,1μm,19.1s						
BJT	**Baijiatuau**	**34.61**	**30**	P	**P**	**15 10 08.6**	**+2.6**
	comp=Z,32nm,1.3s,mb5.1						
BJT	**Baijiatuau**	**34.61**	**30**	P	**P**	**15 10 08.6**	**+2.6**
BJT				pmax	pmax		
	comp=Z,32nm,1.3s						
KZA	**Kyzart**	**35.11**	**335**	P	**P**	**15 10 15.3**	**+4.9**
	SNR=8.0						
KBK	**Karagaybulak**	**35.72**	**335**	P	**P**	**15 10 20.7**	**+5.1**
	SNR=6.0						
AML	**Almayashu**	**35.83**	**333**	P	**P**	**15 10 21.1**	**+4.6**
	SNR=7.6						
AAK	**Ala-Archa**	**35.89**	**335**	P	**P**	**15 10 22.1**	**+5.0**
	SNR=5.1						
AAK	**Ala-Archa**	**35.89**	**335**	*eP*	**P**	**15 10 16.3**	**-0.7**
	comp=Z,23nm,1.1s,mb5.0						
AAK	**Ala-Archa**	**35.89**	**335**	*eP*	**P**	**15 10 16.3**	**-0.8**
AAK				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
CHMS	**Chumysh**	**36.08**	**335**	P	**P**	**15 10 22.3**	**+3.6**
	SNR=6.0						
EKS2	**Erkin-Say**	**36.22**	**334**	P	**P**	**15 10 24.4**	**+4.5**
	SNR=6.3						
USP	**Ospenovka**	**36.41**	**335**	P	**P**	**15 10 25.5**	**+4.0**
	SNR=7.7						
MK31	**Makanchi Array**	**37.01**	**346**	*i* P	**P**	**15 10 24.6**	**-2.1**
MK31				pmax	pmax		
	comp=Z,67nm,1.0s,mb5.4						
MKAR	**Makanchi Array**	**37.01**	**346**	P	**P**	**15 10 24.1**	**-2.6**
	comp=Z,6.0nm,0.9s,mb4.4,baz=159,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**37.01**	**346**	*i* P	**P**	**15 10 24.6**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,70nm,1.1s						
SONM	**Songino Array**	**37.94**	**13**	P	**P**	**15 10 32.3**	**-2.3**
	comp=Z,19nm,1.1s,mb4.8,baz=193,slow=5.9,SNR=5.9						
KK31	**Karatay Array**	**38.05**	**331**	*i* P	**P**	**15 10 33.3**	**-2.1**
KK31				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
KKAR	**Karatay Array**	**38.05**	**331**	*i* P	**P**	**15 10 33.3**	**-2.1**
KKAR				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**38.12**	**14**	*eP*	**P**	**15 10 34.8**	**-1.3**
	comp=Z,21nm,1.3s,mb4.7						
ULN				*e*pP	pP	15 10 39.7	-1.9
ULN				*e*		15 10 43.3	
ULN	**Ulaanbaatar**	**38.12**	**14**	*eP*	**P**	**15 10 34.8**	**-1.2**
ULN				*e*		15 10 43.3	
ULN				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.7						
SNY	**Shenyang**	**39.81**	**35**	⇑P	**P**	**15 10 53.5**	**+3.3**
SNY				AMB	AMB		
	comp=Z,27nm,1.5s,mb4.8						
KURK	**Kurchatov**	**41.56**	**345**	P	**P**	**15 11 04.1**	**-0.6**
	comp=Z,277nm,1.1s,mb5.8,SNR=5.3						
KURK	**Kurchatov**	**41.56**	**345**	*eP*	**P**	**15 11 04.4**	**-0.2**
	comp=Z,82nm,1.3s,mb5.2						
KURK				*e*pP	pP	15 11 08.5	-1.7
KURK	**Kurchatov**	**41.56**	**345**	*i* P	**P**	**15 11 08.2**	**+3.5**
CN2	**Changchun**	**42.14**	**34**	*eP*	**P**	**15 11 12.9**	**+3.5**
CN2				AMB	AMB		
	comp=Z,40nm,1.3s,mb4.9						
ZAL	**Zalesovo**	**43.39**	**352**	P	**P**	**15 11 17.4**	**-2.1**
	comp=Z,12nm,0.9s,mb4.6,baz=281,slow=10,SNR=3.9						
HIA	**Hailar**	**43.43**	**24**	*eP*	**P**	**15 11 18.5**	**-1.4**
	comp=Z,44nm,1.5s,mb5.0						
HIA				*e*pP	pP	15 11 23.6	-1.9
HIA	**Hailar**	**43.43**	**24**	*eP*	**P**	**15 11 18.5**	**-1.4**
HIA				*e**PP	pP	15 11 23.6	-1.9
HIA				pmax	pmax		
	comp=Z,44nm,1.5s						
NVS	**Novosibirsk**	**44.50**	**351**	*eP*	**P**	**15 11 25.1**	**-3.3**
KRAR	**Krasnoyarsk**	**44.79**	**359⇓**	*iP*	**P**	**15 11 35.4**	**+4.6**
KRAR				pmax	pmax		
	comp=Z,172nm,1.7s,mb5.6						
MDJ	**Mudanjiang**	**44.97**	**36**	P	**P**	**15 11 32.2**	**0.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,116nm,4.4s						
VOSK	**Vostochnaya**	**45.59**	**340**	P	**P**	**15 11 35.3**	**-1.9**
VOSK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
BVA0	**Borovoye Array**	**46.04**	**340**	P	**P**	**15 11 38.8**	**-1.9**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**46.04**	**340**	P	**P**	**15 11 37.8**	**-2.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=128,slow=9.3,SNR=2.7						
BRVK	**Borovoye**	**46.11**	**340**	*eP*	**P**	**15 11 43.7**	**+2.5**
	comp=Z,6.1nm,1.0s,mb4.5						
BRVK	**Borovoye**	**46.11**	**340**	*eP*	**P**	**15 11 43.7**	**+2.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**46.46**	**339**	*eP*	**P**	**15 11 46.3**	**+2.3**
	comp=Z,8.1nm,1.0s,mb4.6						
ZRNK	**Zerenda**	**46.46**	**339**	P	**P**	**15 11 39.6**	**-4.4**
ZRNK				pmax	pmax		
	comp=Z,66nm,2.3s,mb5.2						
MUN	**Mundaring**	**47.65**	**155**	*eP*	**P**	**15 11 52.8**

PMG pmax pmax
comp=Z,8.0nm,0.9s
YAK Yakutsk 56.83 19 *eP* **P 15 12 58.8 -2.7**
comp=Z,79nm,1.4s,mb5.5
YAK *epP* pP 15 13 03.6 -3.7
YAK ⇑*iP* pP 15 13 03.8 -3.4
YAK Yakutsk 56.83 19 *eP* **P 15 13 04.4 +2.9**
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=Z,27nm,1.2s,mb5.2
YAK pmax pmax
comp=E,19nm,1.5s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=Z,16nm,1.2s,mb4.9
YAK pmax pmax
comp=E,8.0nm,1.5s
SOC Sochi 57.08 315 *eP* **P 15 13 07.8 +4.5**
ANN Anapa 59.01 316 *eP* **P 15 13 22.7 +6.0**
ANN *eS* **S 15 21 32.9 +10**
ANN pmax pmax
comp=Z,75nm,1.2s,mb5.6
CTA Charters Tower 59.66 121 *eP* **P 15 13 21.3 0.0**
comp=Z,8.8nm,1.0s,mb4.7
CTA Charters Tower 59.66 121 *eP* **P 15 13 21.3 0.0**
CTA pmax pmax
comp=Z,9.0nm,1.0s
CTAO Charters Tower 59.66 121 *eP* **P 15 13 21.4 +0.1**
comp=Z,30nm,1.3s,mb5.2
CTAO Charters Tower 59.66 121 *eP* **P 15 13 21.4 +0.1**
CTAO pmax pmax
comp=Z,30nm,1.3s,mb5.2
BRTR Keskin Array B 60.59 309 P **P 15 13 22.0 -5.6**
comp=Z,1.1nm,0.8s,mb4.1,baz=118,slow=6.1,SNR=2.3
STKA Stephens Creek 62.15 135 *eP* **P 15 13 36.5 -1.7**
comp=Z,13nm,0.9s,mb5.1
STKA Stephens Creek 62.15 135 P **P 15 13 30.6 -7.6**
comp=Z,15nm,0.8s,mb5.1,baz=311,slow=6.4,SNR=2.9
STKA Stephens Creek 62.15 135 P **P 15 13 30.6 -7.6**
STKA *eP* pP 15 13 36.5 -7.5
MOS Moscow 62.50 328 *eP* **P 15 13 38.8 -1.7**
OBN Obninsk 62.83 327 P **P 15 13 42.9 +0.2**
comp=Z,64nm,1.6s,mb5.5
OBN Obninsk 62.83 327 *d iP* **P 15 13 42.8 +0.1**
OBN *e* 15 14 21.9
OBN *e*SS SS 15 26 22.4 +6.2
OBN pmax pmax
comp=Z,49nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,300nm,21.0s,MS4.4
KLMR Klimovskoe 63.69 333 *eP* **P 15 13 48.3 -0.2**
KLMR pmax pmax
comp=Z,40nm,1.9s,mb5.1
MA2 Magadan 63.76 28 *eP* **P 15 13 46.1 -2.8**
comp=Z,44nm,1.5s,mb5.3
MA2 *epP* pP 15 13 51.3 -3.4
MA2 Magadan 63.76 28 *eP* **P 15 13 46.1 -2.8**
MA2 *e**PP pP 15 13 51.3 -3.4
MA2 pmax pmax
comp=Z,44nm,1.5s,mb5.3
TIXI Tiksi 64.00 11 ⇓*iP* **P 15 13 52.1 +1.6**
AKASG Malin Array Be 65.83 321 P **P 15 13 57.7 -4.7**
comp=Z,0.2nm,0.3s,mb3.6,baz=86,slow=6.1,SNR=2.2
SEY Seymchan 65.86 25 ⇓*iP* **P 15 14 04.8 +2.2**
HNR Honiara 68.25 105 P **P 15 14 18.1 +0.3**
comp=Z,26nm,0.8s,mb5.3
HNR Honiara 68.25 105 P **P 15 14 18.1 +0.3**
HNR pmax pmax
comp=Z,26nm,0.8s,mb5.3
LVZ Lovozero 68.64 339⇑*eP* **P 15 14 22.1 +1.9**
APA Apatity 68.94 339 *eP* **P 15 14 24.4 +2.3**
VSU Vasula 68.98 329 ⇑*iP* **P 15 14 23.7 +1.4**
FINES FINESS Array B 70.01 332 P **P 15 14 24.4 -4.3**
comp=Z,3.4nm,1.0s,mb4.2,baz=84,slow=5.9,SNR=4.8
LSZ Lusaka 70.67 249 *eP* **P 15 14 34.0 +1.2**
comp=Z,7.0nm,1.1s,mb4.5
LSZ Lusaka 70.67 249 *eP* **P 15 14 34.0 +1.3**
LSZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ARCES ARCESS Array B 72.33 340 P **P 15 14 39.2 -3.6**
comp=Z,7.2nm,0.9s,mb4.6,baz=97,slow=6.3,SNR=5.6
BILL Bilibino 72.97 22 *eP* **P 15 14 47.8 +1.2**
comp=Z,36nm,1.7s,mb5.0
BILL Bilibino 72.97 22 ⇓*iP* **P 15 14 48.9 +2.4**
BILL pmax pmax
comp=Z,29nm,1.5s,mb5.0
BRG Berggiesshubel 75.47 320 *eP* **P 15 15 06.1 +5.0**
GERES GERESS Array B 75.64 318 P **P 15 14 58.0 -4.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=88,slow=7.2,SNR=3.2
CLL Collm 76.07 320 *i P* **P 15 15 05.3 +0.8**
CLL LmV 15 52 00.0
comp=Z,300nm,21.6s
NB2 NORSAR Subarra 77.07 330 P **P 15 15 05.7 -4.5**
comp=Z,22nm,1.2s,mb5.0,baz=90,slow=5.9
NB2 NORSAR Subarra 77.07 330 P **P 15 15 05.7 -4.5**
NB2 pmax pmax
comp=Z,23nm,1.2s,mb5.0
NOA NORSAR Array B 77.07 330 P **P 15 15 06.2 -4.1**
comp=Z,1.7nm,0.9s,mb4.0,baz=91,slow=5.6,SNR=2.8
GRA1 Grafenberg Arr 77.24 319 *eP* **P 15 15 07.6 -3.6**
comp=Z,9.0nm,1.4s,mb4.5
GRF Grafenberg Arr 77.24 319 *eP* **P 15 15 07.6 -3.6**
comp=Z,9.0nm,1.4s,mb4.5
GRF Grafenberg Arr 77.24 319 *eP* **P 15 15 07.6 -3.6**
GRF pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
BOSA Boshof 77.58 237 P **P 15 15 07.2 -5.9**
comp=Z,2.2nm,0.7s,mb4.2,baz=71,slow=5.2,SNR=3.0
TNA Tin City 83.09 25 *eP* **P 15 15 44.5 +1.8**
comp=Z,12nm,1.3s,mb4.8
EKA Eskdalemuir Ar 85.24 325 P **P 15 15 50.0 -3.6**
comp=Z,2.8nm,0.8s,mb4.4,baz=93,slow=5.8,SNR=4.4
SYO Syowa Base 88.59 197⇑*e*PcP PcP 15 16 14.2 +2.7
ESDC Sonseca Array 89.37 310 P **P 15 16 09.6 -4.0**
comp=Z,0.2nm,0.3s,mb4.0,baz=88,slow=2.4,SNR=2.5
TORD Torodi Ar. Bea 90.16 283 P **P 15 16 12.7 -4.6**
comp=Z,0.5nm,1.0s,mb3.8,baz=58,slow=7.1,SNR=2.5
TORD PP PP 15 19 48.7 -2.1
comp=Z,2.7nm,1.1s,baz=126,slow=1.8,SNR=4.5
ILAR Eielson Array 91.63 22 P **P 15 16 18.9 -5.2**
comp=Z,0.4nm,0.8s,mb3.8,baz=306,slow=6.1,SNR=3.0
ILAR PP PP 15 19 58.5 -3.9
comp=Z,0.7nm,1.0s,baz=318,slow=7.8,SNR=3.4
INK Inuvik 93.80 16 P **P 15 16 29.7 -4.4**
comp=Z,0.8nm,0.9s,mb4.2,baz=0.0,slow=5.1,SNR=2.3
YKA Yellowknife Ar 103.21 13 PP PP 15 21 25.4 -6.0
comp=Z,0.5nm,0.9s,baz=335,slow=7.8,SNR=3.0
NVAR Mina Array Bea 121.97 30 PKP PKPdf 15 22 09.2 -2.2
comp=Z,0.7nm,0.7s,baz=263,slow=1.5,SNR=4.1
PDAR Pinedale Array 122.03 21 PKP PKPdf 15 22 06.8 -4.8
comp=Z,0.5nm,0.8s,baz=116,slow=2.1,SNR=3.1
CPUP Villa Florida 149.40 236 PKPbc PKPbc 15 23 00.6 -5.4
comp=Z,1.2nm,0.6s,baz=135,slow=8.6,SNR=2.2
LPAZ La Paz 162.33 251 PKPab PKPab 15 24 02.5 -3.5
comp=Z,0.5nm,0.6s,baz=158,slow=3.3,SNR=2.3

*IDC **09** 15:04:25.8±0.8, 1074N×9435E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.2/24, mbtmp4.3/12, ML4.1/1, Error ellipse: s-maj=49.6km s-min=17.5km az=63.0*
*ISCJB **09** 15:04:27.1±0.5, 1068N±007×944E±0.1, h23km, mb4.5/17, Error ellipse: s-maj=14.9km s-min=9.3km az=133.1*
*NEIC **09** 15:04:28.8±0.4, 1067N×9432E, mb4.7/4, Error ellipse: s-maj=12.2km s-min=8.8km az=66.0*
*MOS **09** 15:04:28.2±2.6, 1037N×9376E, h33km, mb5.2/6, Error ellipse: s-maj=24.8km s-min=9.9km az=101.6*
ISC 09 15:04:29.4±0.5, 1072N±007×9435E±009, h25km, h25km±1.4km:pP-P, n38, σ1°11/29, mb4.5/17, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.09**	**150**	Pn		**Pn**	**15 06 39.3**	**+0.3**
	2.0nm,0.3s,baz=343,slow=18,SNR=3.3							
PALK	**Pallekele**	**13.91**	**257**	P		**Pn**	**15 07 43.0**	**-2.0**
	9.3nm,0.8s							
PALK					*ep*P		15 07 48.6	
QIZ	**Qiongzhong**	**17.09**	**59**	P		**Pn**	**15 08 25.4**	**-1.1**
	28nm,1.4s							
AAK	**Ala-Archa**	**36.21**	**335**	P		**P**	**15 11 30.1**	**-0.1**
	20nm,1.2s,mb4.9							
AAK					*ep*P	pP	15 11 37.6	+0.1
AAK	**Ala-Archa**	**36.21**	**335**	P		**P**	**15 11 30.1**	**-0.1**
AAK					*e**PP	pP	15 11 37.6	0.0
AAK					pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9							
MKAR	**Makanchi Array**	**37.38**	**346**	P		**P**	**15 11 40.0**	**-0.1**
	comp=Z,8.1nm,0.8s,mb4.6,baz=153,slow=8.2,SNR=4.1							
SONM	**Songino Array**	**38.35**	**13**	P		**P**	**15 11 48.8**	**+0.4**
	comp=Z,4.5nm,0.9s,mb4.2,baz=199,slow=3.8,SNR=2.8							
SONM				PcP		PcP	15 14 02.8	+1.0
	comp=Z,1.7nm,0.8s,baz=209,slow=4.5,SNR=3.1							
ULN	**Ulaanbaatar**	**38.53**	**14**	*eP*		**P**	**15 11 49.5**	**-0.4**
	comp=Z,12nm,1.1s,mb4.5							
ULN					*ep*P	pP	15 11 56.9	-0.5
ULN					*es*P	sP	15 12 00.7	+0.3
ULN	**Ulaanbaatar**	**38.53**	**14**	*eP*		**P**	**15 11 49.5**	**-0.4**
ULN					*e**SP	sP	15 12 00.7	+0.3
ULN					pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5							
KURK	**Kurchatov**	**41.92**	**345**	*eP*		**P**	**15 12 19.0**	**+1.1**
	comp=Z,41nm,1.2s,mb4.9							
KURK					*ep*P	pP	15 12 25.2	-0.3
KURK	**Kurchatov**	**41.92**	**345**	*eP*		**P**	**15 12 19.0**	**+1.1**
KURK					*e**PP	pP	15 12 25.2	-0.3
KURK					pmax	pmax		
	comp=Z,41nm,1.2s,mb4.9							
ZAL	**Zalesovo**	**43.77**	**352**	P		**P**	**15 12 33.5**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.2,baz=298,slow=8.6,SNR=4.3							
NVS	**Novosibirsk**	**44.88**	**351**	*eP*		**P**	**15 12 41.1**	**-0.7**
NVS					pmax	pmax		
	comp=Z,28nm,1.2s,mb5.0							
NVS					pmax	pmax		
	comp=N,13nm,1.0s							
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P		**P**	**15 13 11.7**	**+0.9**
	comp=N,12nm,1.0s,mb4.9,baz=326,slow=13,SNR=3.5							
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P		**P**	**15 13 11.7**	**+0.9**
NWAO					*e**PP	pP	15 13 19.6	+1.1
BOD	**Bodaibo**	**49.35**	**14**	*eP*		pP	15 13 23.5	-0.8
ASAR	**Alice Springs**	**51.61**	**132**	P		**P**	**15 13 35.2**	**+1.5**
	comp=N,3.4nm,0.7s,mb4.4,baz=308,slow=6.1,SNR=4.7							
SVE	**Sverdlovsk**	**52.85**	**337**	*eP*		**P**	**15 13 46.0**	**+3.0**
ARU	**Arti**	**53.37**	**336**	*eP*		**P**	**15 13 40.0**	**-6.8**
YSS	**Yuzh-Sakhalins**	**54.44**	**39**	*eP*		pP	15 14 03.0	+0.7
YAK	**Yakutsk**	**57.25**	**19**	*eP*		pP	15 14 21.2	-1.3
SOC	**Sochi**	**57.29**	**315**	*eP*		**P**	**15 14 20.0**	**+5.0**
STKA	**Stephens Creek**	**61.94**	**135**	P		**P**	**15 14 46.8**	**-0.3**
	comp=N,4.4nm,0.8s,mb4.6,baz=295,slow=11,SNR=2.9							
STKA	**Stephens Creek**	**61.94**	**135**	P		**P**	**15 14 46.0**	**-1.1**
STKA					*ep*P	pP	15 14 52.4	-2.5
TIXI	**Tiksi**	**64.42**	**11**	*eP*		**P**	**15 15 01.9**	**-1.6**
TIXI					pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2							
APA	**Apatity**	**69.28**	**339**	*eP*		**P**	**15 15 35.0**	**+0.6**
FINES	**FINESS Array B**	**70.31**	**332**	P		**P**	**15 15 40.4**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=116,slow=6.3,SNR=2.8							
ARCES	**ARCESS Array B**	**72.67**	**340**	P		**P**	**15 15 53.9**	**-1.1**
	comp=Z,2.6nm,0.7s,mb4.3,baz=99,slow=7.5,SNR=4.0							
BILL	**Bilibino**	**73.38**	**22**⇓	*eP*		pP	15 16 05.8	-1.4
BILL					pmax	pmax		
	comp=Z,20nm,1.6s,mb4.8							
GERES	**GERESS Array B**	**75.86**	**318**	P		**P**	**15 16 14.8**	**+1.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=93,slow=5.3,SNR=3.7							
CASY	**Casey**	**77.72**	**173**	P		**P**	**15 16 22.1**	**-1.9**
TORD	**Torodi Ar. Bea**	**90.15**	**283**	P		**P**	**15 17 29.3**	**+1.8**
	comp=Z,0.9nm,0.9s,mb4.1,baz=88,slow=3.9,SNR=2.7							
INK	**Inuvik**	**94.21**	**16**	P		**P**	**15 17 46.1**	**-0.1**
	comp=Z,0.7nm,0.6s,mb4.3,baz=302,slow=2.0,SNR=2.6							
ULM	**Lac du Bonnet**	**118.63**	**7**	PKP		PKPdf	15 23 15.0	-0.2
	comp=Z,0.6nm,0.3s,baz=63,slow=2.3,SNR=2.2							
NVAR	**Mina Array Bea**	**122.37**	**30**	PKP		PKPdf	15 23 23.8	+1.4
	comp=Z,0.4nm,0.6s,baz=304,slow=1.6,SNR=2.7							
NVAR	**Mina Array Bea**	**122.37**	**30**	PKP		PKPdf	15 23 23.8	+1.4
PDAR	**Pinedale Array**	**122.45**	**21**	PKP		PKPdf	15 23 23.2	+0.7
	comp=Z,1.1nm,0.8s,baz=315,slow=2.0,SNR=4.8							
PDAR	**Pinedale Array**	**122.45**	**21**	PKP		PKPdf	15 23 23.2	+0.7

IDC 09 15:07:35.0±1.1, 1073N×9432E, h0km, mb4.2/6, mb1 4.2/6, mb1mx3.9/22, mbtmp4.2/6, Error ellipse: s-maj=63.6km s-min=22.8km az=71.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.37**	**346**	P		P	15 14 49.8	+0.4
	4.2nm,0.9s,baz=162,slow=8.9,SNR=4.8							
SONM	**Songino Array**	**38.36**	**13**	P		P	15 14 57.2	-0.5
	3.0nm,1.0s,baz=198,slow=8.1,SNR=4.3							
ZAL	**Zalesovo**	**43.76**	**352**	P		P	15 15 42.9	+0.7
	1.4nm,0.8s,baz=313,slow=14,SNR=3.2							
NWAO	**Narrogin (SRO)**	**48.61**	**154**	P		P	15 16 20.5	+0.1
	7.8nm,1.1s,baz=11,slow=5.2,SNR=2.7							
ASAR	**Alice Springs**	**51.64**	**132**	P		P	15 16 43.9	+0.5
	1.4nm,0.9s,baz=306,slow=6.4,SNR=3.4							
NOA	**NORSAR Array B**	**77.35**	**330**	P		P	15 19 30.8	-0.8
	2.3nm,0.9s,baz=90,slow=5.9,SNR=2.9							
PDAR	**Pinedale Array**	**122.46**	**21**	PKP		PKPdf	15 26 33.1	+0.8
	0.8nm,0.9s,baz=107,slow=1.5,SNR=4.3							
CPUP	**Villa Florida**	**149.06**	**236**	PKPbc		PKPbc	15 27 25.5	+0.4
	0.4nm,0.3s,baz=102,slow=2.3,SNR=3.1							

IDC 09 15:09:18.6±3.5, 1094N×9467E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.9/4, Error ellipse: s-maj=145.2km s-min=31.4km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.24**	**346**	P		P	15 16 32.1	+0.2
	2.0nm,0.8s,baz=164,slow=7.5,SNR=3.4							
SONM	**Songino Array**	**38.08**	**13**	P		P	15 16 39.1	+0.2
	1.8nm,1.1s,baz=198,slow=9.3,SNR=3.6							
ZAL	**Zalesovo**	**43.60**	**352**	P		P	15 17 24.1	-0.5
	0.8nm,0.5s,baz=325,slow=18,SNR=1.9							
ASAR	**Alice Springs**	**51.53**	**132**	P		P	15 18 26.6	+0.4
	1.0nm,0.8s,baz=321,slow=7.2,SNR=3.0							

IDC 09 15:11:08.7±3.4, 1079N×9446E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=145.6km s-min=29.1km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.34**	**346**	P		P	15 18 22.4	-0.4
	2.0nm,1.0s,baz=169,slow=6.9,SNR=3.8							
SONM	**Songino Array**	**38.27**	**13**	P		P	15 18 30.7	0.0
	1.0nm,1.1s,baz=196,slow=9.0,SNR=3.6							
ZAL	**Zalesovo**	**43.73**	**352**	P		P	15 19 16.1	+0.5
	0.6nm,0.4s,baz=318,slow=15,SNR=2.3							
ASAR	**Alice Springs**	**51.58**	**132**	P		P	15 20 17.0	+0.4
	0.4nm,0.6s,baz=309,slow=5.9,SNR=5.0							

*IDC **09** 15:11:59.4±0.5, 1082N×9441E, h0km, mb4.2/21, mb1 4.4/22, mb1mx4.4/26, mbtmp4.2/22, ML3.9/1, Error ellipse: s-maj=23.3km s-min=12.4km az=57.0*
*BJI **09** 15:12:00.7, 1074N×9446E, h22km, mB5.3, mb4.8, Ms5.0, Msz4.8*
*ISCJB **09** 15:12:01.3±0.2, 1083N±003×9452E±003, h20km, mb4.9/87, MS4.8/9, Error ellipse: s-maj=5.1km s-min=4.3km az=81.9*
*HRVD **09** 15:12:02.6±0.3, 1078N×9451E, h12km, MW5.2/83, Centroid moment Tensor Solution. LP body waves: s44,c54;Mantle waves: s83,c144; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.79±.19; $M_{\theta\theta}$5.28±.16; $M_{\phi\phi}$0.50±.21; $M_{r\theta}$1.65±.59; $M_{r\phi}$1.75±.16; $M_{\theta\phi}$3.14±.75; Best double couple: $M_0$6.78900×10^{16} NP1:ϕ_s89.00000°, δ36.00000°, λ-59.00000°. NP2: ϕ_s232.00000°, δ60.00000°, λ-110.00000°. Principal axes: T 6.4270, Plg13.0000°, Azm337.0000°; N 0.7200, Plg17.0000°, Azm243.0000°; P -7.1500, Plg68.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 15:12:02.9±1.1, 1081N×9443E, h33km, mb5.4/42 Error ellipse: s-maj=11.0km s-min=5.3km az=107.0*
*NEIC **09** 15:12:02.6±0.2, 1079N×9445E, mb5.2/42, Error ellipse: s-maj=8.4km s-min=4.6km az=55.0*
*SZGRF **09** 15:12:12.9, 1145N×9463E, h33km, mb5.0, Andaman Islands, India, region*
ISC 09 15:12:03.8±0.2, 1090N±003×9457E±003, h21km, h21km±.7km:pP-P, n244, σ1°30/233, mb4.9/87, MS4.8/9,

11C-9D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.94**	**293**	*eP*		Px	15 12 49.5	
PBA					*eS*	Sx	15 13 13.3	
KULM	**Kulim**	**8.20**	**132**	*eP*n		**Pn**	**15 13 58.6**	**-3.0**
KULM					*eS*n	**Sn**	**15 15 14.4**	**-19**
PSI	**Prapat**	**9.13**	**151**	Pn		**Pn**	**15 14 12.7**	**-1.7**
	1.3nm,0.3s,baz=333,slow=17,SNR=5.4							
VIS	**Vishakhapatnam**	**12.82**	**303**	*eP*		**Pn**	**15 15 04.5**	**-0.3**
VIS					AMb	AMB	15 15 06.3	
	comp=Z,41nm,0.9s							
VIS					*eS*	**Sn**	**15 17 15.3**	**-12**
PALK	**Pallekele**	**14.16**	**256**	*eP*n		**Pn**	**15 15 32.5**	**+10**
SHL	**Shillong**	**14.81**	**350**	*eP*		**Pn**	**15 15 30.0**	**-1.9**
BOK	**Bokaro**	**15.26**	**328**	*eP*		**Pn**	**15 15 43.1**	**+5.2**
BOK					AMb	AMB	15 15 51.3	
	comp=Z,142nm,1.4s							
BOK					*eS*	**Sn**	**15 18 31.1**	**+4.9**
KMI	**Kunming**	**16.13**	**28**	P		**Pn**	**15 15 51.9**	**+2.7**
KMI					AP	pP	15 15 57.2	-1.0
KMI					XP	sP	15 16 01.3	+0.3
KMI					PP		15 16 06.3	
KMI					S	**Sn**	**15 18 56.6**	**+9.2**
KMI					AMB	AMB		
	comp=Z,14nm,1.7s							
KMI					AMB	AMB		
	comp=Z,2μm,7.6s							
KMI					LR	LR		
	comp=N,3μm,12.5s							
KMI					LR	LR		
	comp=E,2μm,8.9s							
KMI					LR	LR		
	comp=Z,3μm,12.5s							
QIZ	**Qiongzhong**	**16.82**	**59**	P		**Pn**	**15 16 01.2**	**+3.3**
QIZ					S	**Sn**	**15 19 05.6**	**+1.6**
QIZ					AMB	AMB		
	comp=Z,21nm,1.6s							
QIZ					LR	LR		
	comp=E,4μm,9.3s							
QIZ					LR	LR		
	comp=Z,4μm,8.7s							
QIZ	**Qiongzhong**	**16.82**	**59**	Pn		**Pn**	**15 15 53.5**	**-4.4**
QIZ					*ep*P	pP	15 16 01.0	-4.9
HYB	**Hyderabad**	**16.82**	**294**	*i* P		**Pn**	**15 16 01.5**	**+3.6**
	comp=Z,70nm,1.0s							
HYB					*eS*	**Sn**	**15 19 07.0**	**+2.9**
HYB	**Hyderabad**	**16.82**	**294**	*eP*		**Pn**	**15 16 01.5**	**+3.6**
	comp=Z,70nm,1.0s							
HYB					*eS*	**Sn**	**15 19 07.0**	**+2.9**
HYB	**Hyderabad**	**16.82**	**294**	*eP*		**Pn**	**15 16 01.5**	**+3.6**
HYB					*eS*	**Sn**	**15 19 07.0**	**+2.9**
HYB					pmax	pmax		
	comp=Z,70nm,1.0s							
KSM	**Kuching**	**18.22**	**120**	*eP*n		**Pn**	**15 16 17.7**	**+2.4**
JIRN	**Jiri**	**18.44**	**336**	*eP*		**Pn**	**15 16 18.4**	**+0.4**
	comp=Z,489nm,1.3s							
JBP	**Jabalpur**	**18.50**	**313**⇓	*iP*		**Pn**	**15 16 18.7**	**-0.1**
JBP					*ex*	x	15 16 26.0	
	comp=Z,122nm,1.1s							
JBP					*ex*	x	15 20 06.4	
PKI	**Pulchoki**	**18.69**	**334**	*eP*		**Pn**	**15 16 21.2**	**+0.2**
	comp=Z,720nm,1.2s							
PKI	**Pulchoki**	**18.69**	**334**	*eP*		**Pn**	**15 16 21.2**	**+0.2**
PKI					pmax	pmax		
	comp=Z,360nm,1.2s							
ALBI	**Allahabad**	**18.75**	**322**	*eP*		**Pn**	**15 16 22.0**	**+0.2**
DMN	**Daman**	**18.85**	**333**	*eP*		**Pn**	**15 16 22.9**	**-0.1**
	comp=Z,312nm,0.9s							
KKN	**Kakani**	**18.93**	**334**	*eP*		**Pn**	**15 16 23.6**	**-0.4**
	comp=Z,472nm,1.2s							
KKN	**Kakani**	**18.93**	**334**	*eP*		**Pn**	**15 16 23.6**	**-0.4**
KKN					pmax	pmax		
	comp=Z,236nm,1.2s							
LSA	**Lhasa**	**18.98**	**351**	*eP*n		**Pn**	**15 16 24.3**	**-0.2**
LSA					*ep*P	pP	15 16 31.0	+1.3
GYA	**Guiyang**	**19.23**	**35**⇑	*iP*		**Pn**	**15 16 29.6**	**+2.0**
GYA					AP	pP	15 16 34.4	+1.9
GYA					XP	sP	15 16 38.2	+3.0
GYA					PP		15 16 49.8	
GYA					S	**Sn**	**15 20 00.1**	**-2.4**
GYA					AMB	AMB		
	comp=Z,20nm,1.0s							
GYA					AMB	AMB		
	comp=Z,1μm,9.0s							
GYA					LR	LR		
	comp=N,830nm,15.3s							
GYA					LR	LR		
	comp=E,2μm,17.7s							
GYA					LR	LR		
	comp=Z,2μm,17.1s							
GKN	**Gorkha**	**19.40**	**333**	*eP*		**Pn**	**15 16 28.8**	**-0.8**
	comp=Z,1μm,1.4s							
KOLN	**Koldanda**	**19.69**	**330**	*eP*		**Pn**	**15 16 32.4**	**-0.7**
	comp=Z,619nm,1.1s							
KAD	**Karad**	**20.76**	**290**	*eP*		**P**	**15 16 45.0**	**+1.8**
KAD					*eP*		15 16 45.0	
KAD					AMb	AMB	15 16 54.7	
	comp=Z,112nm,1.1s							
POO	**Poona**	**21.41**	**293**	*i* PP			15 17 22.0	
POO					*i* S	**S**	**15 21 00.0**	**+13**
POO					x	x	15 24 19.0	
CD2	**Chengdu**	**21.66**	**22**	P		**P**	**15 16 53.6**	**+0.7**
CD2					PP		15 17 15.2	
CD2					S	**S**	**15 20 44.2**	**-7.4**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5							
CD2					H			
	comp=Z,460nm,5.1s							
CD2					LR	LR		
	comp=E,890nm,16.2s							
CD2					LR	LR		
	comp=Z,810nm,14.4s,MS4.3							
KKM	**Kota Kinabalu**	**21.94**	**101**	*eP*		**P**	**15 16 57.5**	**+1.6**
PTH	**Pithoragarh**	**22.88**	**326**	*eP*		**P**	**15 17 08.0**	**+2.1**
PTH					*ex*	x	15 18 05.0	
COCO	**West Island**	**23.05**	**174**	*eP*		**P**	**15 17 12.0**	**+4.4**
	comp=Z,305nm,1.4s,mb5.5							
COCO					*ep*P		15 17 19.7	
ENH	**Enshi**	**23.75**	**34**	*eP*		**P**	**15 17 14.2**	**-0.5**
	comp=Z,254nm,1.3s,mb5.5							
ENH					*ep*P		15 17 20.3	
AJM	**Ajmer**	**24.36**	**312**	*eP*		**P**	**15 17 21.1**	**+0.9**
AJM					AMb	AMB	15 17 28.6	
	comp=Z,80nm,1.0s,mb5.1							
DDI	**Dehra Dun**	**24.68**	**324**	*eP*		**P**	**15 17 23.2**	**+0.1**
DDI					*ex*	x	15 24 37.2	
LZH	**Lanzhou**	**26.45**	**17**	*eP*		**P**	**15 17 39.1**	**0.0**
LZH					AP	pP	15 17 45.1	-0.5
LZH					XP	sP	15 17 48.1	-0.1
LZH					PP		15 18 20.9	
LZH					*eS*	**S**	**15 22 07.1**	**-4.6**
LZH					AMB	AMB		
	comp=Z,70nm,1.2s,mb5.1							
LZH					AMB	AMB		
	comp=Z,234nm,4.5s							
LZH					LR	LR		
	comp=N,4μm,12.0s							
LZH					LR	LR		
	comp=Z,5μm,18.2s							
XAN	**Xi'an**	**26.51**	**27**	P		**P**	**15 17 38.6**	**-1.1**
XAN					A

NJ2 S **S** **15 23 21.0 +1.7**
NJ2 XS sS 15 23 31.0 +1.1
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
NJ2 AMB AMB
comp=Z,20nm,3.5s
NJ2 LR LR
comp=N,2μm,27.6s
NJ2 LR LR
comp=E,2μm,11.4s
NJ2 LR LR
comp=Z,1μm,11.6s
SSE Sheshan 31.81 47 P **P** **15 18 24.2 -2.6**
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,374nm,10.0s
WMQ Urumqi 33.34 351 *e*P **P** **15 18 38.0 -2.2**
WMQ AP pP 15 18 43.8 -2.9
WMQ XP sP 15 18 46.8 -2.5
WMQ PP PP 15 19 49.1 -6.6
WMQ AMB AMB
comp=Z,73nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,584nm,5.0s
WMQ LR LR
comp=N,3μm,24.0s,MS5.1
WMQ LR LR
comp=E,3μm,26.0s,MS5.1
WMQ LR LR
comp=Z,3μm,22.2s,MS5.0
HHC Hu-ho-hao-te 33.39 24 *e*P **P** **15 18 40.5 -0.1**
HHC AP pP 15 18 46.2 -0.9
HHC XP sP 15 18 49.3 -0.5
HHC PP PP 15 19 50.9 -5.4
HHC PCP PcP 15 21 24.2 +2.3
HHC S **S** **15 23 57.1 -3.4**
HHC AMB AMB
comp=Z,5.0nm,0.3s,mb4.9
HHC AMB AMB
comp=Z,346nm,4.7s
HHC LR LR
comp=N,990nm,12.2s,MS4.8
HHC LR LR
comp=E,929nm,13.7s,MS4.8
HHC LR LR
comp=Z,1μm,11.5s,MS4.8
BJI Beijing 34.77 30 P **P** **15 18 53.3 +0.7**
BJI AMB AMB
comp=Z,15nm,1.0s,mb4.9
ULHL Ulahol 35.10 336 P **P** **15 19 02.0 +6.6**
SNR=7.4
KZA Kyzart 35.37 335 P **P** **15 18 57.7 -0.1**
SNR=8.1
UCH Uchtor 35.80 334 P **P** **15 19 08.1 +6.6**
SNR=7.8
TKM2 Tokmak 2 35.92 336 P **P** **15 19 08.7 +6.1**
SNR=5.3
TKM2 Tokmak 2 35.92 336 *i* P **P** **15 19 02.9 +0.3**
KBK Karagaybulak 35.97 335 P **P** **15 19 10.2 +7.3**
SNR=6.3
AML Almayashu 36.08 333 P **P** **15 19 04.7 +0.8**
SNR=13
AAK Ala-Archa 36.14 335 P **P** **15 19 11.6 +7.2**
SNR=7.7
AAK Ala-Archa 36.14 335 P **P** **15 19 04.1 -0.3**
comp=Z,157nm,1.1s,mb5.8,SNR=5.3
AAK Ala-Archa 36.14 335 P **P** **15 19 03.7 -0.7**
comp=Z,32nm,1.1s,mb5.2
AAK *e*pP pP 15 19 10.1 -0.8
AAK *e*PP PP 15 20 20.9 -5.8
AAK Ala-Archa 36.14 335*c i*P **P** **15 19 04.2 -0.2**
AAK pmax pmax
comp=Z,20nm,1.7s,mb4.8
FRU Bishkek 36.25 335 *e*P **P** **15 19 07.0 +1.6**
FRU pmax pmax
comp=Z,60nm,1.7s,mb5.2
CHMS Chumysh 36.33 335 P **P** **15 19 12.1 +6.0**
SNR=7.0
EKS2 Erkin-Say 36.47 334 P **P** **15 19 09.6 +2.4**
SNR=11
JMDO Jabal Madar 36.65 293 P **P** **15 19 17.4 +8.6**
SNR=6.3
USP Ospenovka 36.66 335 P **P** **15 19 15.0 +6.2**
SNR=8.1
BIDO Bidbid 36.89 295 P **P** **15 19 19.4 +8.6**
SNR=6.5
MK31 Makanchi Array 37.26 346 *i* P **P** **15 19 14.0 +0.1**
MKAR Makanchi Array 37.26 346 P **P** **15 19 13.2 -0.8**
comp=Z,5.1nm,0.7s,mb4.5,baz=162,slow=8.4,SNR=18
MKAR Makanchi Array 37.26 346 *i* P **P** **15 19 14.0 +0.1**
MKAR pmax pmax
comp=Z,81nm,1.0s
HOQ Hoqain 37.63 295 P **P** **15 19 25.2 +8.1**
SNR=7.4
SONM Songino Array 38.14 13 P **P** **15 19 21.6 +0.3**
comp=Z,13nm,1.1s,mb4.6,baz=201,slow=7.9,SNR=25
KK31 Karatay Array 38.30 331 *i* P **P** **15 19 21.7 -1.0**
KKAR Karatay Array 38.30 331 *i* P **P** **15 19 21.6 -1.1**
KKAR pmax pmax
comp=Z,32nm,1.1s,mb5.0
ULN Ulaanbaatar 38.31 14 *i* P **P** **15 19 20.9 -1.9**
RBK Rabkut 39.62 284 P **P** **15 19 36.3 +2.5**
SNR=8.1
KS15 Wonju Array Si 39.91 43 *e*P **P** **15 19 35.9 -0.4**
KS15 *e*pP pP 15 19 42.6 -0.2
SNY Shenyang 39.93 34 ⇑P **P** **15 19 37.0 +0.6**
SNY AP pP 15 19 49.6 +6.7
SNY XP sP 15 19 52.1 +6.5
SNY S **S** **15 25 37.9 -2.4**
SNY AMB AMB
comp=Z,14nm,1.4s,mb4.5
SNY AMB AMB
comp=Z,300nm,11.8s
SNY LR LR
comp=N,803nm,20.8s,MS4.6
SNY LR LR
comp=E,560nm,24.7s,MS4.6
SNY LR LR
comp=Z,886nm,13.7s
ZAK Zakamensk 40.01 9 *e*P **P** **15 19 37.2 +0.1**
ZAK pmax pmax
comp=Z,25nm,1.8s,mb4.6
WHFO Wadi Hawf 40.06 285 P **P** **15 19 39.1 +1.7**
SNR=46
ABTO Aybut 40.47 284 P **P** **15 19 42.2 +1.3**
SNR=20
KURK Kurchatov 41.81 345 P **P** **15 19 51.7 -0.1**
comp=Z,397nm,1.1s,mb6.0,SNR=8.9
KURK Kurchatov 41.81 345 *e*P **P** **15 19 51.1 -0.7**
comp=Z,135nm,1.3s,mb5.4
KURK *e*pP pP 15 19 57.6 -0.8
KURK Kurchatov 41.81 345 P **P** **15 19 51.8 0.0**
KURK pmax pmax
comp=Z,77nm,1.3s,mb5.2
IRK Irkutsk 41.97 9 *e*P **P** **15 19 53.6 +0.4**
IRK *e* 15 21 36.2
IRK *e* 15 21 59.0
IRK pmax pmax
comp=Z,44nm,2.4s,mb4.7
CN2 Changchun 42.27 34 *e*P **P** **15 19 57.0 +1.4**
CN2 *e*AP pP 15 20 02.1 -0.1
CN2 *e*S **S** **15 26 14.5 -0.6**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.6
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,800nm,11.0s,MS5.0
CN2 LR LR
comp=E,800nm,11.0s,MS5.0
CN2 LR LR
comp=Z,600nm,12.0s,MS4.7
ABKT Ailbek 42.29 316 P **P** **15 19 56.7 +0.9**
comp=Z,927nm,0.6s,SNR=15
HIA Hailar 43.59 24 *e*P **P** **15 20 06.7 +0.3**
comp=Z,56nm,1.4s,mb5.1
HIA *e*pP pP 15 20 12.3 -0.6
HIA Hailar 43.59 24 *e*P **P** **15 20 06.7 +0.4**
HIA *e**PP pP 15 20 12.4 -0.5
HIA pmax pmax
comp=Z,56nm,1.4s
ZAL Zalesovo 43.63 352 P **P** **15 20 06.4 -0.2**
comp=Z,5.4nm,1.0s,mb4.2,baz=306,slow=8.1,SNR=14
KRAR Krasnoyarsk 45.02 359⇑*i*P **P** **15 20 18.4 +0.6**
KRAR pmax pmax
comp=Z,64nm,1.3s,mb5.3
MDJ Mudanjiang 45.09 35 P **P** **15 20 16.7 -1.6**
MDJ AMB AMB
comp=Z,8.0nm,1.2s,mb4.4
MDJ AMB AMB
comp=Z,215nm,4.6s
VOSK Vostochnaya 45.84 340 P **P** **15 20 23.4 -0.9**
VOSK pmax pmax
comp=Z,33nm,1.1s,mb5.2
BVA0 Borovoye Array 46.29 340 *i* P **P** **15 20 26.4 -1.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BVAR Borovoye Array 46.29 340 P **P** **15 20 26.4 -1.5**
comp=Z,8.3nm,0.9s,mb4.7,baz=152,slow=13,SNR=11
BRVK Borovoye 46.36 340 P **P** **15 20 27.0 -1.3**
BRVK *e*pP pP 15 20 33.3 -1.7
ZRNK Zerenda 46.71 339 *e*P **P** **15 20 29.5 -1.6**
comp=Z,15nm,1.0s,mb4.9
ZRNK *e*pP pP 15 20 36.1 -1.6
ZRNK Zerenda 46.71 339 P **P** **15 20 31.0 -0.1**
ZRNK pmax pmax
comp=Z,44nm,1.8s,mb5.1
MAT Matsushiro 46.86 50 P **P** **15 20 33.8 +1.6**
MAT Matsushiro 46.86 50 *e*P **P** **15 20 34.0 +1.8**
comp=Z,25nm,1.5s,mb4.9
MAT Matsushiro 46.86 50 *e*P **P** **15 20 34.0 +1.8**
MAT pmax pmax
comp=Z,25nm,1.5s,mb4.9
MJAR Matsushiro Arr 46.86 50 P **P** **15 20 33.3 +1.1**
comp=Z,2.3nm,1.0s,mb4.1,baz=236,slow=13,SNR=5.2
MJAR PcP PcP 15 22 05.8 +0.9
comp=Z,0.8nm,0.5s,baz=231,slow=1.7,SNR=2.9
MUN Mundaring 47.40 155 *e*P **P** **15 20 36.8 +0.3**
MUN *e*pP pP 15 20 42.5 -0.6
KLBR Kellerberrin 47.74 153 *e*P **P** **15 20 39.4 +0.3**
comp=Z,6.2nm,0.6s,mb4.8
KLBR *e*pP pP 15 20 44.5 -1.2
AB31 Akbulak array 47.82 330 *i* P **P** **15 20 38.4 -1.3**
AB31 pmax pmax
comp=Z,24nm,1.0s,mb5.2
NWAO Narrogin (SRO) 48.65 154 P **P** **15 20 45.3 -0.8**
comp=Z,13nm,0.9s,mb5.0,baz=333,slow=9.3,SNR=6.7
NWAO Narrogin (SRO) 48.65 154 *e*P **P** **15 20 45.6 -0.5**
comp=Z,89nm,1.1s,mb5.7
NWAO *e*pP pP 15 20 51.4 -1.4
NWAO Narrogin (SRO) 48.65 154 *e*P **P** **15 20 45.6 -0.6**
NWAO *e**PP pP 15 20 51.4 -1.4
NWAO pmax pmax
comp=Z,89nm,1.1s
KLR Kul'dur 49.09 32 *e*P **P** **15 20 53.8 +4.3**
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,63nm,2.0s,mb5.3
BOD Bodaibo 49.13 14 *e*P **P** **15 20 49.4 -0.4**
BOD pmax pmax
comp=Z,32nm,1.4s,mb5.2
AKTK Aktyubinsk 49.53 330 P **P** **15 20 51.6 -1.3**
AKTO Aktyubinsk 49.53 330 P **P** **15 20 51.6 -1.3**
comp=Z,1.7nm,0.8s,mb4.1,baz=127,slow=13,SNR=4.1
WRA Warramunga Arr 49.72 128 P **P** **15 20 54.7 +0.4**
comp=Z,14nm,1.0s,mb4.9,baz=306,slow=8.5,SNR=13
WRAB Tennant Creek 49.73 128 *e*P **P** **15 20 54.9 +0.6**
comp=Z,72nm,1.4s,mb5.5
WRAB *e*pP pP 15 20 59.8 -1.2
WRAB Tennant Creek 49.73 128 *e*P **P** **15 20 54.9 +0.5**
WRAB pmax pmax
comp=Z,72nm,1.4s,mb5.5
WB2 Warramunga Arr 49.73 128 *e*P **P** **15 20 54.6 +0.2**
HABR Khabarovsk 50.40 34 *e*P **P** **15 21 06.4 +6.9**
HABR *e*S **S** **15 28 13.6 +1.9**
HABR pmax pmax
comp=Z,48nm,1.2s,mb5.4
CLNS Chul'man 51.47 21 *e*P **P** **15 21 07.8 +0.3**
CLNS pmax pmax
comp=Z,59nm,1.3s,mb5.4
CLNS pmax pmax
comp=N,38nm,1.5s
CLNS pmax pmax
comp=E,36nm,1.4s
ASPA Alice Springs 51.57 132 *e*P **P** **15 21 09.1 +0.8**
ASPA *e*pP pP 15 21 13.9 -1.1
AS31 Alice Springs 51.57 132 *e*P **P** **15 21 09.1 +0.8**
AS31 *e*pP pP 15 21 13.9 -1.1
ASAR Alice Springs 51.57 132 P **P** **15 21 09.0 +0.7**
comp=E,15nm,0.8s,mb5.0,baz=310,slow=5.9,SNR=20
GNI Garni 52.67 313 *e*P **P** **15 21 15.1 -1.4**
comp=E,80nm,1.3s,mb5.5
GNI *e*pP pP 15 21 22.5 -0.7
GNI Garni 52.67 313 *e*P **P** **15 21 15.1 -1.4**
GNI *e**PP pP 15 21 22.5 -0.7
GNI pmax pmax
comp=Z,80nm,1.3s
SVE Sverdlovsk 52.77 337 *e*P **P** **15 21 17.0 -0.2**
SVE pmax pmax
comp=Z,60nm,2.2s,mb5.1
ARU Arti 53.30 336 P **P** **15 21 20.2 -0.9**
comp=Z,27nm,1.3s,mb5.0
ARU *e*pP pP 15 21 26.0 -1.9
ARU Arti 53.30 336⇑*i*P **P** **15 21 23.0 +1.9**
ARU *e* 15 22 29.8
ARU *e* 15 23 21.7
ARU *e*PPP 15 24 28.7
ARU *e*S **S** **15 28 49.9 -1.6**
ARU *e*SS SS 15 32 23.8 -7.5
ARU pmax pmax
comp=Z,18nm,1.2s,mb4.9
ARU MLR MLR
comp=Z,1μm,21.0s,MS4.9
ARU MLR MLR
comp=N,500nm,20.0s,MS4.7
ARU MLR MLR
comp=E,500nm,20.0s,MS4.7
ZEI Tsey 54.16 315 *i* P **P** **15 21 28.5 +1.1**
ZEI *i* *PP pP 15 21 36.5 +2.3
ZEI *i* 15 22 34.6
ZEI pmax pmax
comp=Z,16nm,1.3s,mb4.8
YSS Yuzh-Sakhalins 54.16 39 *e*P **P** **15 21 28.0 +0.5**
comp=Z,72nm,1.4s,mb5.4
YSS *e*pP pP 15 21 34.2 0.0
YSS Yuzh-Sakhalins 54.16 39 *e*P **P** **15 21 29.0 +1.5**
YSS *i* pP 15 21 35.0 +0.8
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.3
YSS MLR MLR
comp=Z,400nm,15.0s,MS4.6
KIV Kislovodsk 55.40 316 *e*P **P** **15 21 35.9 -0.6**
comp=Z,30nm,1.0s,mb5.3
KIV *e*pP pP 15 21 41.9 -1.2
KIV Kislovodsk 55.40 316*de*P **P** **15 21 38.0 +1.6**
KIV pmax pmax
comp=Z,32nm,1.7s,mb5.1
GOF Gofitskoye 55.56 318 *e*P **P** **15 21 41.5 +4.0**
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.4
PMG Port Moresby 56.06 109 *e*P **P** **15 21 39.0 -2.2**
PMG *e*pP pP 15 21 47.6 -0.3
SOKR Solikamsk 56.16 338⇑*i*P **P** **15 21 42.6 +0.8**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
MALT Malatya 56.87 309 *e*P **P** **15 21 47.7 +0.8**
comp=Z,9.4nm,1.1s,mb4.7
MALT *e*pP pP 15 21 52.6 -1.1
MALT Malatya 56.87 309 *e*P **P** **15 21 47.7 +0.8**
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
YAK Yakutsk 57.01 19 P **P** **15 21 46.6 -1.3**
comp=Z,60nm,1.3s,mb5.5
YAK *e*pP pP 15 21 53.4 -1.3
YAK Yakutsk 57.01 19 *e*P **P** **15 21 48.4 +0.5**
YAK *e* pP 15 21 53.5 -1.2
YAK pmax pmax
comp=Z,16nm,1.1s,mb5.0
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,33nm,1.1s,mb5.3
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,24nm,1.4s
KMBO Kilima Mbogo 58.22 262 P **P** **15 21 56.1 -0.3**
comp=E,1.0nm,0.5s,mb4.1,baz=35,slow=20,SNR=3.5
ANN Anapa 59.24 316 *e*P **P** **15 22 15.0 +11**
ANN *e*S **S** **15 30 28.2 +18**
ANN pmax pmax
comp=Z,61nm,1.2s,mb5.5
CTAO Charters Tower 59.46 121 *e*P **P** **15 22 05.7 +0.7**
comp=Z,42nm,1.6s,mb5.2
CTAO *e* pP 15 22 11.1 -0.7
CTAO Charters Tower 59.46 121 *e*P **P** **15 22 05.7 +0.7**
CTAO *e* pP 15 22 11.1 -0.7
CTAO pmax pmax
comp=Z,42nm,1.6s,mb5.2
VOR Voronezh 60.38 324 P **P** **15 22 14.0 +2.7**
VOR pmax pmax
comp=Z,170nm,1.5s,mb5.8
BR131 Keskin Array S 60.81 309 *e*P **P** **15 22 10.5 -3.8**
comp=Z,3.8nm,0.8s,mb4.6
BRTR Keskin Array B 60.81 309 P **P** **15 22 13.8 -0.6**
comp=Z,3.2nm,0.8s,mb4.5,baz=77,slow=5.3,SNR=4.7
BRTR PcP PcP 15 22 56.9 -1.1
comp=Z,4.9nm,1.0s,baz=108,slow=4.7,SNR=3.9
STKA Stephens Creek 61.91 135 *e*P **P** **15 22 20.2 -1.5**
comp=Z,6.1nm,0.9s,mb4.7
STKA *e*pP pP 15 22 25.7 -2.8
STKA Stephens Creek 61.91 135 P **P** **15 22 20.5 -1.2**
comp=Z,8.5nm,1.0s,mb4.8,baz=317,slow=4.7,SNR=11
MOS Moscow 62.74 328 *e*P **P** **15 22 27.1 -0.2**
MOS pmax pmax
comp=Z,61nm,1.0s,mb5.7
OBN Obninsk 63.08 327 *e*P **P** **15 22 28.9 -0.6**
comp=Z,68nm,1.5s,mb5.6
OBN Obninsk 63.08 327⇑*i*P **P** **15 22 32.5 +3.0**
OBN *e* 15 24 48.6
OBN *e*S **S** **15 31 17.5 +18**
OBN pmax pmax
comp=Z,53nm,1.6s,mb5.4
MA2 Magadan 63.91 28 P **P** **15 22 35.2 +0.2**
comp=Z,35nm,1.2s,mb5.3
MA2 Magadan 63.91 28 *e*P **P** **15 22 35.7 +0.7**
MA2 pmax pmax
comp=Z,20nm,1.2s,mb5.0
MA2 pmax pmax
comp=N,7.0nm,1.3s
MA2 pmax pmax
comp=E,10.0nm,1.6s
KLMR Klimovskoe 63.94 333 *i* P **P** **15 22 38.8 +3.6**
KLMR pmax pmax
comp=Z,60nm,1.9s,mb5.3
TIXI Tiksi 64.20 11⇓*i*P **P** **15 22 35.1 -1.8**
TIXI pmax pmax
comp=Z,36nm,1.3s,mb5.2
SEY Seymchan 66.02 25⇑*e*P **P** **15 22 49.3 +0.5**
AKASG Malin Array Be 66.07 321 P **P** **15 22 47.4 -1.7**
comp=Z,2.1nm,0.8s,mb4.2,baz=92,slow=4.4,SNR=4.6
AKASG Malin Array Be 66.07 321 P **P** **15 22 47.4 -1.7**
SANT Santorini 66.82 305 P **P** **15 22 53.4 -0.4**
VRI Vrincioaia 66.84 315⇑P **P** **15 23 00.1 +6.1**
MLR Muntele Rosu 67.33 315⇓P **P** **15 23 03.1 +6.0**
HNR Honiara 68.09 105 *e*P **P** **15 23 00.7 -1.2**
comp=Z,42nm,1.0s,mb5.4
HNR *e*pP pP 15 23 07.3 -1.5
HNR *e* pP 15 23 07.5 -1.3
HNR Honiara 68.09 105 *e*P **P** **15 23 00.7 -1.2**
HNR *e* pP 15 23 07.5 -1.3
HNR pmax pmax
comp=Z,42nm,1.0s,mb5.4
BURAR Bucovina Array 68.12 317⇓P **P** **15 23 07.6 +5.5**
BURAR Bucovina Array 68.12 317⇓P **P** **15 23 07.6 +5.5**
JOF Joensuu 68.33 334 *e*p **P** **15 23 03.2 -0.2**
comp=Z,12nm,1.0s,mb4.9
LVZ Lovozero 68.89 339⇑*i*P **P** **15 23 06.9 0.0**
LVZ Lovozero 68.89 339 *i* P **P** **15 23 07.7 +0.8**
LVZ pmax pmax
comp=Z,26nm,1.1s,mb5.1
LVZ pmax pmax
comp=N,8.0nm,1.2s
LVZ pmax pmax
comp=E,24nm,1.5s
APA Apatity 69.19 339⇓*i*P **P** **15 23 10.2 +1.4**
APA *i* pP 15 23 18.4 +2.8
APA pmax pmax
comp=Z,45nm,1.1s,mb5.3
APA MLR MLR
comp=Z,1μm,18.0s,MS5.2
KOLS Kolonicke sedl 70.23 318 *e*pP pP 15 23 20.8 -1.3
KOLS *e* 15 23 39.5
FINES FINESS Array B 70.26 332 P **P** **15 23 13.6 -1.7**
comp=Z,1.6nm,0.8s,mb4.0,baz=92,slow=5.9,SNR=8.5
KAF Kangasniemi 70.31 332 *e*p **P** **15 23 12.9 -2.8**
baz=101,slow=5.6
LSZ Lusaka 70.69 250 P **P** **15 23 17.3 -0.7**
comp=Z,5.5nm,1.0s,mb4.4
LSZ *e*pP pP 15 23 23.9 -1.0
LSZ Lusaka 70.69 250 P **P** **15 23 17.3 -0.7**
LSZ *e**PP pP 15 23 24.0 -0.9
LSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CRVS Cervenica-Dubn 70.76 318 *e*pP pP 15 23 24.8 -0.5
STHS Stebnicka Huta 70.95 319 *e*P **P** **15 23 17.0 -2.6**
STHS *e* 15 23 36.3
KECS Kecovo 71.37 318 *e*pP pP 15 23 26.3 -2.7
KECS *e* 15 23 41.4
KECS *e*PP PP 15 25 53.2 -7.2
KECS Kecovo 71.37 318 *e*P **P** **15 23 26.3 +4.2**
KECS *e* 15 23 41.4
OJC Ojcow 71.96 319 *e*P **P** **15 23 30.3 +4.7**
VYHS Vyhne 72.46 317 *e* **P** **15 23 33.0 +4.3**
ARCES ARCESS Array B 72.58 340 P **P** **15 23 28.6 -0.8**
comp=Z,5.1nm,1.0s,mb4.4,baz=94,slow=7.7,SNR=10
ARE0 ARCESS Array S 72.58 340 P **P** **15 23 35.5 +6.1**
OKC Ostrava-Krasne 72.99 319 *e*P **P** **15 23 26.9 -4.9**
BILL Bilibino 73.14 22 *e*P **P** **15 23 32.3 -0.4**
comp=Z,39nm,1.5s,mb5.1
BILL *e*pP pP 15 23 38.0 -1.6
BILL Bilibino 73.14 22*de*P **P** **15 23 33.5 +0.8**
BILL pmax pmax
comp=Z,15nm,1.5s,mb4.7
MORC Moravsky Berou 73.38 319 P **P** **15 23 35.4 +1.3**
ZST Bratislava 73.61 317 *e* **P** **15 23 39.8 +4.4**
DPC Dobruska-Polom 74.19 319 *e*P **P** **15 23 43.8 +5.0**
KSP Ksiaz 74.23 320 *e*P **P** **15 23 43.6 +4.5**
UPC Upice 74.39 319 *e*P **P** **15 23 45.4 +5.4**
TREC Trest 74.70 318 *e*P **P** **15 23 48.2 +6.4**
PRU Pruhonice 75.33 319 *e*P **P** **15 23 49.1 +3.7**
BRG Berggiesshubel 75.72 320 *e*P **P** **15 23 50.7 +3.0**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG Berggiesshubel 75.72 320 *e*P **P** **15 23 50.7 +3.1**
comp=Z,4.1nm,1.1s,mb4.3
GERES GERESS Array B 75.88 318 P **P** **15 23 47.2 -1.4**
comp=Z,0.3nm,0.3s,baz=69,slow=5.4,SNR=3.4
KHC Kasperske Hory 75.95 318 *e*P **P** **15 23 53.2 +4.2**
LBTB Lobatse 76.07 241 *e*Pn **P** **15 23 46.1 -3.6**
comp=Z,18nm,0.5s,mb5.3
LBTB Lobatse 76.07 241 *e*P **P** **15 23 46.1 -3.6**
LBTB pmax pmax
comp=Z,18nm,0.5s,mb5.3
CLL Collm 76.31 320 *e*(pP) pP 15 23 55.0 -3.0
comp=Z,18nm,1.8s
CLL LmV 16 02 00.0
comp=Z,300nm,19.5s
NB2 NORSAR Subarra 77.32 330 P **P** **15 23 54.7 -2.1**
comp=Z,34nm,1.2s,mb5.2,baz=90,slow=5.9
NB2 NORSAR Subarra 77.32 330 P **P** **15 23 54.7 -2.1**
NB2 pmax pmax
comp=Z,34nm,1.2s,mb5.2
NOA NORSAR Array B 77.32 330 P **P** **15 23 56.2 -0.6**
comp=Z,10nm,1.0s,mb4.7,baz=90,slow=5.8,SNR=9.7
GRA1 Grafenberg Arr 77.48 319 *e*P **P** **15 24 03.1 +5.5**
comp=Z,16nm,1.4s,mb4.8
GRF Grafenberg Arr 77.48 319 *e*P **P** **15 24 03.1 +5.5**
comp=Z,16nm,1.4s,mb4.8
GRF Grafenberg Arr 77.48 319 *e*P **P** **15 24 03.1 +5.5**
GRF pmax pmax
comp=Z,16nm,1.4s,mb4.8
BOSA Boshof 77.55 237 *e*Pn **P** **15 23 57.4 -0.6**
comp=Z,26nm,1.4s,mb5.0
BOSA *e*Pn tx 15 24 15.5
BOSA Boshof 77.55 237 *e*P **P** **15 23 57.4 -0.6**
BOSA *e* 15 24 15.5
BOSA pmax pmax
comp=Z,26nm,1.4s,mb5.0
CASY Casey 77.86 173 P **P** **15 24 00.4 +0.6**
comp=Z,15nm,1.2s,mb4.8
LPG La Plagne 80.80 315 *e*P **P** **15 24 15.4 -0.4**

comp=Z,23nm,0.9s,mb4.8
LPG La Plagne 80.80 315 *e*P **P 15 24 15.4 -0.4**
comp=Z,11nm,0.9s,mb4.8
LPG La Plagne 80.80 315 *e*P **P 15 24 15.4 -0.4**
LPG pmax pmax
comp=Z,11nm,0.9s,mb4.8
TSUM Tsumeb 81.51 249 Pn **P 15 24 18.0 -1.6**
comp=Z,14nm,1.3s,mb4.7
UCC Uccle 81.78 320 P **P 15 24 19.7 -1.3**
TNA Tin City 83.25 25 P **P 15 24 29.5 +0.8**
SYO Syowa Base 88.40 197⇑ *e*P **P 15 24 51.1 -3.1**
SYO Syowa Base 88.40 197‖ *e*pP pP 15 25 00.6 -0.6
ESDC Sonseca Array 89.60 310 P **P 15 24 59.3 -0.5**
comp=Z,0.2nm,0.3s,mb3.9,baz=109,slow=7.2,SNR=2.4
TORD Torodi Ar. Bea 90.31 283 P **P 15 25 02.4 -0.7**
comp=Z,3.6nm,1.1s,mb4.6,baz=71,slow=3.4,SNR=4.2
TORD PP PP 15 28 37.5 +0.2
comp=Z,4.0nm,1.1s,baz=71,slow=5.1,SNR=9.1
MCK McKinley 91.53 23 *e*P **P 15 25 07.9 -0.9**
comp=Z,23nm,1.3s,mb5.3
MCK *e*pP pP 15 25 14.7 -1.2
MCK McKinley 91.53 23 *e*P **P 15 25 07.9 -0.9**
MCK *e**PP pP 15 25 14.7 -1.2
MCK pmax pmax
comp=Z,23nm,1.3s,mb5.3
ILAR Eielson Array 91.80 22 P **P 15 25 08.7 -1.3**
comp=Z,0.6nm,0.8s,mb4.0,baz=301,slow=4.8,SNR=4.8
ILAR PP PP 15 28 47.8 -1.2
comp=Z,1.5nm,1.1s,baz=307,slow=7.4,SNR=6.3
PMR Palmer 92.47 25 P **P 15 25 14.6 +1.4**
PMR *e*pP pP 15 25 28.4 +8.2
INK Inuvik 93.99 16 P **P 15 25 17.9 -2.2**
comp=Z,1.0nm,0.6s,mb4.4,baz=306,slow=7.7,SNR=5.9
RES Resolute Bay 94.38 3 P **P 15 25 21.8 -0.1**
comp=Z,13nm,1.1s,mb5.3
RES Resolute Bay 94.38 3 P **P 15 25 21.8 -0.1**
RES pmax pmax
comp=Z,13nm,1.1s,mb5.3
YKA Yellowknife Ar 103.40 13 PP PP 15 30 14.8 -3.2
comp=Z,0.1nm,0.3s,baz=333,slow=6.9,SNR=5.3
CHMT Chamberlain Mo 117.31 21 PKPdf PKPdf 15 30 45.2 -2.3
HLID Hailey 119.71 24 PKPdf PKPdf 15 30 59.6 +7.5
LAO LASA Array 119.73 16 PKPdf PKPdf 15 30 59.4 +7.2
SNOW Snow King Moun 121.18 21 PKPdf PKPdf 15 31 02.9 +7.9
ELK Elko 121.69 26 PKPdf PKPdf 15 31 03.3 +7.4
NVAR Mina Array Bea 122.11 30 PKP PKPdf 15 30 57.5 +0.7
comp=Z,4.8nm,1.0s,baz=337,slow=1.3,SNR=6.8
BW06 Boulder Array 122.21 21 PKPdf PKPdf 15 31 03.4 +6.5
PDAR Pinedale Array 122.21 21 PKP PKPdf 15 30 56.8 -0.2
comp=Z,1.7nm,0.9s,baz=124,slow=1.0,SNR=8.5
DAC Darwin (Calif) 124.14 31 PKPdf PKPdf 15 31 08.4 +7.8
MSU Marysvale 124.86 25 PKPdf PKPdf 15 31 04.8 +2.8
GSC Goldstone 125.30 31 PKPdf PKPdf 15 31 11.3 +8.4
WUAZ Wupatki 127.72 27 PKPdf PKPdf 15 31 16.1 +8.6
GLA Glamis 128.08 32 PKPdf PKPdf 15 31 16.9 +8.8
ANMO Albuquerque 130.24 23 *e*PKPdf PKPdf 15 31 10.8 -1.4
TUC Tucson 130.67 29 PKPdf PKPdf 15 31 21.4 +8.3
MNTX Cornudas Mount 133.53 24 PKPdf PKPdf 15 31 25.9 +7.4
CBYP Canovanas 145.16 326 PKPab PKPbc 15 31 41.6 +2.3
TRQA Tornquist 145.75 214 PKPdf PKPdf 15 31 40.6 -0.1
PLCA Paso Flores 147.51 201 PKPab PKPab 15 31 53.5 +5.2
CPUP Villa Florida 149.36 236 PKPbc PKPbc 15 31 50.7 -0.3
comp=Z,16nm,1.0s,baz=33,slow=2.0,SNR=5.4
CPUP Villa Florida 149.36 236 PKP2 PKPab 15 31 52.1 -3.6
CFAA Coronel Fontan 153.97 215 PKPbc PKPbc 15 32 00.4 -1.2
comp=Z,0.3nm,0.7s,baz=205,slow=3.4,SNR=4.2
SDV Santo Domingo 155.44 323 PKPab PKPab 15 32 27.9 +6.7
LPAZ La Paz 162.35 250 PKPab PKPab 15 32 56.2 +5.0

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*IDC **09** 15:16:41.0±1.4, 1074N×9454E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, Error ellipse: s-maj=68.6km s-min=23.7km az=68.0*
*NEIC **09** 15:16:42.3±0.8, 1074N×9450E, h10km, mb4.6/1, Error ellipse: s-maj=40.5km s-min=13.4km az=68.0*
*ISCJB **09** 15:16:43.1±2.1, 106N±03×943E±06, h33km, mb4.0/6, Error ellipse: s-maj=100.4km s-min=18.1km az=128.4*
ISC 09 15:16:45.6±2.1, 107N±03×943E±06, h35km, n8, σ0°30/6, mb4.0/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.42**	**346**	P	**P**	**15 23 55.1**	**-0.2**
	1.5nm,0.9s,mb3.8,baz=172,slow=9.5,SNR=3.7						
SONM	**Songino Array**	**38.44**	**13**	P	**P**	**15 24 03.8**	**-0.1**
	0.8nm,0.9s,mb3.5,baz=201,slow=7.7,SNR=4.3						
KURK	**Kurchatov**	**41.96**	**345**	P	**P**	**15 24 32.9**	**-0.1**
	20nm,1.7s,mb4.5						
ZAL	**Zalesovo**	**43.82**	**352**	P	**P**	**15 24 48.5**	**+0.4**
	0.7nm,0.6s,mb3.6,baz=318,slow=14,SNR=2.4						
ASAR	**Alice Springs**	**51.63**	**132**	P	**P**	**15 25 48.9**	**+0.2**
	1.1nm,0.8s,mb3.8,baz=314,slow=7.8,SNR=4.7						
STKA	**Stephens Creek**	**61.95**	**135**	P	**P**	**15 27 01.7**	**-0.2**
	5.2nm,0.9s,mb4.6,baz=311,slow=12,SNR=3.5						
PDAR	**Pinedale Array**	**122.54**	**21**	PKP	PKPdf	15 35 37.7	+0.4
	0.4nm,0.8s,baz=22,slow=3.3,SNR=2.6						
CPUP	**Villa Florida**	**148.98**	**236**	PKPbc	PKPbc	15 36 32.5	+2.7
	0.2nm,0.4s,baz=90,slow=1.0,SNR=1.8						

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*IDC **09** 15:19:11.9±0.6, 1074N×9433E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.3/27, mbtmp4.3/21, ML4.0/1, MS4.5/11, Ms1 4.5/11, ms1mx4.2/34, Error ellipse: s-maj=25.8km s-min=12.5km az=59.0*
*ISCJB **09** 15:19:13.7±0.3, 1077N±003×9447E±003, h21km, mb4.8/76, MS4.6/19, Error ellipse: s-maj=5.2km s-min=4.6km az=73.6*
*BJI **09** 15:19:14.3, 1063N×9443E, h33km, mB5.4, mb4.7, Ms5.0, Msz4.7*
*MOS **09** 15:19:15.6±1.0, 1085N×9447E, h33km, mb5.2/35, Error ellipse: s-maj=12.2km s-min=5.5km az=107.3*
*HRVD **09** 15:19:15.5±0.3, 1089N×9468E, h12km, MW5.2/91, Centroid moment Tensor Solution. LP body waves: s38,c50;Mantle waves: s91,c156; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}~6.43±.18; $M_{\theta\theta}$5.92±.14; $M_{\phi\phi}$0.50±.19; $M_{r\theta}$3.76±.52; $M_{\theta\phi}$2.12±.13; $M_{\phi r}$~0.20±.63; Best double couple: $M_0$7.54900×10^{16} NP1:ϕ_s60.00000°, δ32.00000°, λ-108.00000°. NP2: ϕ_s262.00000°, δ60.00000°, λ-79.00000°. Principal axes: T 7.5400, Plg14.0000°, Azm344.0000°; N 0.0130, Plg10.0000°, Azm76.0000°; P -7.5590, Plg73.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 15:19:15.5±0.2, 1080N×9451E, mb5.1/34 Error ellipse: s-maj=9.8km s-min=4.6km az=57.0*
*SZGRF **09** 15:19:18.0, 1237N×9679E, h33km, mb4.6, Andaman Islands, India, region*
ISC 09 15:19:16.3±0.3, 1084N±003×9451E±003, h22km, h22km±.5km: pP-P, n184, σ1°25/173, mb4.8/76, MS4.6/19, 7C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.92**	**295**	*e*P	P*x*	15 20 01.6	
PBA				*e*S	S*x*	15 20 11.3	
KULM	**Kulim**	**8.21**	**132**	*e*Pn	**Pn**	**15 21 11.7**	**-2.3**
KULM				*e*Sn	**Sn**	**15 22 36.9**	**-9.1**
PSI	**Prapat**	**9.11**	**151**	Pn	**Pn**	**15 21 25.3**	**-1.1**
	1.5nm,0.3s,baz=339,slow=14,SNR=5.7						
PSI				LR	LR	15 25 09.0	
	comp=Z,5μm,21.1s,baz=308,slow=39						
VIS	**Vishakhapatnam**	**12.81**	**304**	*i* P	**Pn**	**15 22 18.6**	**+1.5**
VIS				*e*P		15 22 18.8	
VIS				AMb	AMB	15 22 23.0	
	comp=Z,80nm,0.9s						
VIS				*e*S	**Sn**	**15 24 29.5**	**-10**
PALK	**Pallekele**	**14.09**	**257**	*e*Pn	**Pn**	**15 22 39.2**	**+4.7**
SHL	**Shillong**	**14.86**	**351**	*e*P	**Pn**	**15 22 43.0**	**-2.0**
BOK	**Bokaro**	**15.28**	**329**	*e*P	**Pn**	**15 22 56.9**	**+6.3**
BOK				AMb	AMB	15 23 04.7	
	comp=Z,128nm,1.2s						
KMI	**Kunming**	**16.21**	**28**	P	**Pn**	**15 23 04.2**	**+1.6**
KMI				AP	pP	15 23 10.5	-1.2
KMI				PP		15 23 15.3	
KMI				S	**Sn**	**15 26 03.9**	**+2.2**
KMI				AMB	AMB		
	comp=Z,16nm,1.5s						
KMI				AMB	AMB		
	comp=Z,544nm,5.4s						
KMI				LR	LR		
	comp=N,3μm,13.0s						
KMI				LR	LR		
	comp=E,2μm,11.1s						
KMI				LR	LR		
	comp=Z,2μm,12.1s						
HYB	**Hyderabad**	**16.80**	**295**	*i* P	**Pn**	**15 23 14.0**	**+3.9**
HYB				*e*S	**Sn**	**15 26 14.0**	**-2.0**
HYB	**Hyderabad**	**16.80**	**295**	*e*P	**Pn**	**15 23 14.0**	**+3.9**
HYB				*e*S	**Sn**	**15 26 14.0**	**-2.0**
QIZ	**Qiongzhong**	**16.89**	**59**	⇑P	**Pn**	**15 23 15.0**	**+3.7**
QIZ				XP	sP	15 23 21.7	-0.5
QIZ				PP		15 23 30.0	
QIZ				S	**Sn**	**15 26 20.8**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,27nm,2.3s						
QIZ				LR	LR		
	comp=E,3μm,9.1s						
QIZ				LR	LR		
	comp=Z,4μm,9.1s						
QIZ	**Qiongzhong**	**16.89**	**59**	*e*Pn	**Pn**	**15 23 13.6**	**+2.3**
	comp=Z,43nm,1.3s						
QIZ				*e*pP	pP	15 23 21.8	+2.4
TRD	**Trivandrum**	**17.46**	**264**	*e*P	**Pn**	**15 23 23.1**	**+4.7**
TRD				AMb	AMB	15 23 26.4	
	comp=Z,52nm,1.8s						
KSM	**Kuching**	**18.24**	**120**	Pn	**Pn**	**15 23 30.8**	**+2.8**
JIRN	**Jiri**	**18.47**	**336**	*e*P	**Pn**	**15 23 31.5**	**+0.7**
	comp=Z,326nm,1.2s						
PKI	**Pulchoki**	**18.72**	**334**	*e*P	**Pn**	**15 23 34.3**	**+0.5**
	comp=Z,466nm,1.2s						
PKI	**Pulchoki**	**18.72**	**334**	*e*P	**Pn**	**15 23 34.3**	**+0.5**
PKI				pmax	pmax		
	comp=Z,233nm,1.2s						
GUN	**Gumba**	**18.82**	**336**	*e*P	**Pn**	**15 23 34.9**	**-0.1**
	comp=Z,406nm,1.3s						
DMN	**Daman**	**18.88**	**333**	*e*P	**Pn**	**15 23 36.2**	**+0.4**
	comp=Z,277nm,0.9s						
KKN	**Kakani**	**18.96**	**334**	*e*P	**Pn**	**15 23 36.8**	**0.0**
	comp=Z,144nm,1.0s						
KKN	**Kakani**	**18.96**	**334**	*e*P	**Pn**	**15 23 36.8**	**0.0**
KKN				pmax	pmax		
	comp=Z,72nm,1.0s						
LSA	**Lhasa**	**19.02**	**351**	Pn	**Pn**	**15 23 37.4**	**-0.1**
	comp=Z,78nm,1.2s						
LSA				*e*pP	pP	15 23 44.0	+1.2
LSA	**Lhasa**	**19.02**	**351**	P	**Pn**	**15 23 37.4**	**-0.1**
LSA				pmax	pmax		
	comp=Z,78nm,1.2s						
GYA	**Guiyang**	**19.31**	**35**	‖*i* P	**Pn**	**15 23 41.2**	**+0.2**
GYA				AP	pP	15 23 46.8	+0.8
GYA				XP	sP	15 23 49.7	+0.8
GYA				PP		15 24 02.4	
GYA				S	**Sn**	**15 27 15.1**	**-1.7**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s						
GYA				AMB	AMB		
	comp=Z,150nm,8.4s						
GYA				LR	LR		
	comp=N,1μm,14.6s						
GYA				LR	LR		
	comp=E,3μm,12.9s						
GYA				LR	LR		
	comp=Z,2μm,11.6s						
GKN	**Gorkha**	**19.43**	**333**	*e*P	**Pn**	**15 23 41.9**	**-0.5**
	comp=Z,469nm,1.2s						
KOLN	**Koldanda**	**19.72**	**330**	*e*P	**Pn**	**15 23 45.5**	**-0.3**
	comp=Z,534nm,1.1s						
BHPL	**Bhopal**	**20.44**	**309**	*e*P	**P**	**15 23 54.6**	**+2.5**
BHPL				AMb	AMB	15 24 06.1	
	comp=Z,105nm,1.0s						
KAD	**Karad**	**20.73**	**290**	*e*P	**P**	**15 23 58.0**	**+2.7**
KAD				*e*P		15 24 00.1	
KAD				AMb	AMB	15 24 07.8	
	comp=Z,73nm,1.2s						
POO	**Poona**	**21.39**	**293**	*i* PP		15 24 35.5	
POO				*i* S	**S**	**15 28 14.0**	**+15**
CD2	**Chengdu**	**21.73**	**22**	P	**P**	**15 24 06.6**	**+0.5**
CD2				XP	sP	15 24 16.4	+1.2
CD2				PP		15 24 31.3	
CD2				S	**S**	**15 28 00.3**	**-5.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,460nm,5.0s						
CD2				LR	LR		
	comp=E,1μm,15.6s						
CD2				LR	LR		
	comp=Z,1μm,12.0s,MS4.5						
KKM	**Kota Kinabalu**	**21.98**	**101**	Pn	**P**	**15 24 04.0**	**-4.7**
KKM				*e*pP		15 24 12.3	
ENH	**Enshi**	**23.83**	**34**	*e*P	**P**	**15 24 27.1**	**-0.7**
	comp=Z,201nm,1.3s,mb5.4						
ENH				*e*pP		15 24 33.1	
AJM	**Ajmer**	**24.36**	**312**	*e*P	**P**	**15 24 35.5**	**+2.9**
AJM				AMb	AMB	15 24 43.1	
	comp=Z,60nm,1.0s,mb5.0						
LZH	**Lanzhou**	**26.52**	**17**	*e*P	**P**	**15 24 53.2**	**+1.0**
LZH				AP	pP	15 24 59.2	+0.4
LZH				XP	sP	15 25 02.2	+0.6
LZH				PP		15 25 37.2	
LZH				*e*S	**S**	**15 29 25.1**	**-0.1**
LZH				*e*SS		15 30 36.1	
LZH				AMB	AMB		
	comp=Z,120nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,391nm,4.6s						
LZH				LR	LR		
	comp=N,3μm,12.0s						
LZH				LR	LR		
	comp=Z,5μm,15.0s,MS5.2						
XAN	**Xi'an**	**26.59**	**27**	P	**P**	**15 24 51.5**	**-1.4**
XAN				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.3						
GTA	**Gaotai**	**28.84**	**9**	*e*P	**P**	**15 25 13.8**	**+0.8**
GTA				AP	pP	15 25 20.5	+0.8
GTA				XP	sP	15 25 23.7	+1.3
GTA				PP	PP	15 26 08.2	-10
GTA				PCP	PcP	15 28 23.0	+0.8
GTA				S	**S**	**15 30 01.2**	**-0.6**
GTA				XS	sS	15 30 20.7	+7.9
GTA				PCS	PcS	15 32 00.6	-4.2
GTA				AMB	AMB		
	comp=Z,13nm,2.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,584nm,8.1s						
GTA				LR	LR		
	comp=N,1μm,17.8s,MS4.6						
GTA				LR	LR		
	comp=E,618nm,15.1s,MS4.6						
GTA				LR	LR		
	comp=Z,1μm,20.5s						
YHNB	**Yeheng**	**28.97**	**58**	P	**P**	**15 25 11.4**	**-2.7**
NJ2	**Nanjing**	**30.82**	**43**	*e*P	**P**	**15 25 32.1**	**+1.5**
NJ2				AP	pP	15 25 37.9	+0.7
NJ2				XP	sP	15 25 40.9	+0.9
NJ2				PP	PP	15 26 33.0	-7.2
NJ2				S	**S**	**15 30 34.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,440nm,7.2s						
NJ2				LR	LR		
	comp=N,970nm,12.4s						
NJ2				LR	LR		
	comp=E,2μm,18.5s						
NJ2				LR	LR		
	comp=Z,700nm,18.6s						
SSE	**Sheshan**	**31.89**	**47**	P	**P**	**15 25 40.8**	**+0.9**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,279nm,7.1s						
WMQ	**Urumqi**	**33.38**	**351**	*e*P	**P**	**15 25 54.4**	**+1.4**
WMQ				AP	pP	15 26 00.2	+0.5
WMQ				XP	sP	15 26 03.2	+0.7
WMQ				PP	PP	15 27 05.5	-3.2
WMQ				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,184nm,5.0s						
WMQ				LR	LR		
	comp=N,2μm,24.0s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,26.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,22.2s,MS4.9						
HHC	**Hu-ho-hao-te**	**33.46**	**24**	*e*P	**P**	**15 25 55.4**	**+1.7**
HHC				AP	pP	15 26 01.3	+0.9
HHC				XP	sP	15 26 04.1	+0.9
HHC				PP	PP	15 27 07.5	-2.0
HHC				PCP	PcP	15 28 35.9	+1.4
HHC				S	**S**	**15 31 14.7**	**+0.7**
HHC				SS	SS	15 33 17.4	-21
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,747nm,8.7s						
HHC				LR	LR		
	comp=N,911nm,10.4s						
HHC				LR	LR		
	comp=E,2μm,16.3s						
HHC				LR	LR		
	comp=Z,833nm,18.0s						
BJT	**Baijiatuau**	**34.83**	**30**	*e*P	**P**	**15 26 06.3**	**+0.8**
	comp=Z,30nm,1.2s,mb5.1						
BJT				*e*pP	pP	15 26 12.9	+0.6
BJT	**Baijiatuau**	**34.83**	**30**	*e*P	**P**	**15 26 06.3**	**+0.8**
BJT				*e**PP	pP	15 26 12.9	+0.6
BJT				pmax	pmax		
	comp=Z,30nm,1.2s						
BJI	**Beijing**	**34.85**	**30**	P	**P**	**15 26 06.2**	**+0.5**
BJI				AMB	AMB		
	comp=Z,15nm,1.9s,mb4.6						
KZA	**Kyzart**	**35.40**	**335**	P	pP	15 26 18.0	+0.8
	SNR=7.6						
JOW	**Kunigami**	**35.54**	**59**	LR	LR	15 41 53.1	
	comp=Z,317nm,19.7s,MS4.1,baz=285,slow=38						
UCH	**Uchtor**	**35.83**	**334**	P	pP	15 26 21.2	+0.3
	SNR=9.2						
TKM2	**Tokmak 2**	**35.96**	**336**	P	**P**	**15 26 17.5**	**+2.2**
TKM2				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
KBK	**Karagaybulak**	**36.00**	**335**	P	pP	15 26 23.0	+0.6
	SNR=5.9						
AML	**Almayashu**	**36.11**	**333**	P	**P**	**15 26 17.0**	**+0.4**
	SNR=9.4						
AAK	**Ala-Archa**	**36.17**	**335**	P	pP	15 26 24.8	+1.0
	SNR=7.6						
AAK	**Ala-Archa**	**36.17**	**335**	P	**P**	**15 26 16.9**	**-0.2**
	comp=Z,32nm,1.1s,mb5.2						
AAK				pP	pP	15 26 23.0	-0.8
AAK	**Ala-Archa**	**36.17**	**335**	P	**P**	**15 26 16.9**	**-0.2**
AAK				*PP	pP	15 26 23.0	-0.8
AAK				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2						
CHMS	**Chumysh**	**36.36**	**335**	P	pP	15 26 25.2	-0.3
	SNR=7.5						
EKS2	**Erkin-Say**	**36.50**	**334**	P	**P**	**15 26 21.1**	**+1.2**
	SNR=6.7						
USP	**Ospenovka**	**36.69**	**335**	P	pP	15 26 28.1	-0.2
	SNR=8.8						
MK31	**Makanchi Array**	**37.30**	**346**	*i* P	**P**	**15 26 26.2**	**-0.5**
MK31				pmax	pmax		
	comp=Z,89nm,1.2s,mb5.5						
MKAR	**Makanchi Array**	**37.30**	**346**	P	**P**	**15 26 26.8**	**0.0**
	comp=Z,9.4nm,0.8s,mb4.7,baz=162,slow=7.9,SNR=20						
BSY	**Bisya**	**37.52**	**293**	P	pP	15 26 37.9	+2.6
	SNR=9.4						
HOQ	**Hoqain**	**37.60**	**295**	P	pP	15 26 38.4	+2.3
	SNR=5.4						
SONM	**Songino Array**	**38.21**	**13**	P	**P**	**15 26 34.6**	**+0.3**
	comp=Z,7.1nm,1.0s,mb4.4,baz=197,slow=4.6,SNR=18						
SONM				LR	LR	15 43 57.3	
	comp=Z,2μm,18.2s,MS4.9,baz=195,slow=39						
KK31	**Karatay Array**	**38.32**	**331**	*i* P	**P**	**15 26 34.2**	**-1.1**
KK31				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
KKAR	**Karatay Array**	**38.32**	**331**	*i* P	**P**	**15 26 34.2**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**38.38**	**14**	P	**P**	**15 26 36.0**	**+0.1**
ULN				pP	pP	15 26 42.3	-0.3
WHFO	**Wadi Hawf**	**40.02**	**285**	P	**P**	**15 26 52.0**	**+2.4**
	SNR=38						
ZAK	**Zakamensk**	**40.08**	**9**	*e*P	**P**	**15 26 49.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.5						
KURK	**Kurchatov**	**41.85**	**345**	P	**P**	**15 27 04.3**	**-0.3**
	comp=Z,325nm,1.1s,mb5.9,SNR=14						
KURK	**Kurchatov**	**41.85**	**345**	*e*P	**P**	**15 27 04.0**	**-0.6**
	comp=Z,86nm,1.2s,mb5.3						
KURK				*e*pP	pP	15 27 10.8	-0.6
KURK	**Kurchatov**	**41.85**	**345**	*i* P	**P**	**15 27 04.5**	**-0.1**
IRK	**Irkutsk**	**42.04**	**9**	*e*P	**P**	**15 26 55.5**	**-11**
IRK				*e*		15 27 06.7	
IRK				*e*		15 28 49.7	
IRK				pmax	pmax		
	comp=Z,37nm,1.5s,mb4.8						
ABKT	**Ailbek**	**42.29**	**316**	P	**P**	**15 27 09.8**	**+1.6**
	comp=Z,741nm,0.9s,SNR=10						
CN2	**Changchun**	**42.35**	**34**	*e*P	**P**	**15 27 08.9**	**+0.2**
CN2				*e*AP	pP	15 27 15.3	-0.2
CN2				*e*S	**S**	**15 33 26.0**	**-2.6**
CN2				AMB	AMB		
	comp=Z,40nm,1.3s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s,MS4.9						
CN2				LR	LR		
	comp=E,800nm,14.0s,MS4.9						
CN2				LR	LR		
	comp=Z,600nm,14.0s,MS4.6						
HIA	**Hailar**	**43.67**	**24**⇑	*e*P	**P**	**15 27 18.9**	**-0.5**
ZAL	**Zalesovo**	**43.68**	**352**	P	**P**	**15 27 19.9**	**+0.5**
	comp=Z,5.0nm,0.9s,mb4.2,baz=293,slow=6.4,SNR=15						
NVS	**Novosibirsk**	**44.79**	**351**	*e*P	**P**	**15 27 27.2**	**-1.1**
NVS				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.1						
NVS				pmax	pmax		
	comp=N,22nm,1.2s						
KRAR	**Krasnoyarsk**	**45.08**	**359**⇑	*e*P	**P**	**15 27 28.7**	**-2.0**
KRAR				pmax	pmax		
	comp=Z,14nm,0.3s,mb5.3						
MDJ	**Mudanjiang**	**45.17**	**35**	P	**P**	**15 27 30.4**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,14nm,1.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,91nm,3.1s						
VOSK	**Vostochnaya**	**45.88**	**340**	P	**P**	**15 27 36.4**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
BVAR	**Borovoye Array**	**46.33**	**340**	P	**P**	**15 27 39.9**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=133,slow=10,SNR=7.6						
BRVK	**Borovoye**	**46.39**	**340**	*e*P	**P**	**15 27 39.3**	**-1.7**
	comp=Z,13nm,1.1s,mb4.8						
BRVK				*e*pP	pP	15 27 46.7	-1.2
BRVK	**Borovoye**	**46.39**	**340**	*e*P	**P**	**15 27 39.3**	**-1.7**
BRVK				*e**PP	pP	15 27 46.7	-1.2
BRVK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
ZRNK	**Zerenda**	**46.74**	**339**	*e*P	**P**	**15 27 41.9**	**-1.9**
ZRNK				*e*pP	pP	15 27 49.2	-1.5
MJAR	**Matsushiro Arr**	**46.94**	**50**	P	**P**	**15 27 46.1**	**+0.8**
	comp=Z,1.2nm,0.9s,mb3.8,baz=232,slow=4.8,SNR=4.3						
MJAR				LR	LR	15 46 31.5	
	comp=Z,357nm,21.1s,MS4.3,baz=255,slow=35						
MUN	**Mundaring**	**47.37**	**155**	*e*P	**P**	**15 27 49.1**	**+0.4**
MUN				*e*pP	pP	15 27 55.5	-0.1
KLBR	**Kellerberrin**	**47.71**	**153**	*e*P	**P**	**15 27 51.6**	**+0.3**
	comp=Z,20nm,0.9s,mb5.2						
KLBR				*e*pP	pP	15 27 57.4	-0.8
AB31	**Akbulak array**	**47.84**	**330**	P	**P**	**15 27 51.8**	**-0.5**
AB31				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
NWAO	**Narrogin (SRO)**	**48.62**	**154**	P	**P**	**15 27 58.6**	**+0.2**
	comp=Z,13nm,0.8s,mb5.0,baz=322,slow=8.6,SNR=8.6						
NWAO				LR	LR	15 49 34.9	
	comp=Z,610nm,19.

AKTO Aktyubinsk 49.56 330 P **P 15 28 04.8 -0.7**
comp=Z,1.0nm,0.6s,mb4.0,baz=343,slow=20,SNR=4.4
WRA Warramunga Arr 49.73 128 P **P 15 28 06.9 +0.1**
comp=Z,6.9nm,1.0s,mb4.6,baz=309,slow=7.9,SNR=10.0
WRAB Tennant Creek 49.73 128 *eP* **P 15 28 06.8 0.0**
comp=Z,29nm,1.1s,mb5.2
WRAB *epP* pP 15 28 13.0 -0.8
WRAB Tennant Creek 49.73 128⇑ *eP* **P 15 28 08.3 +1.5**
WB2 Warramunga Arr 49.74 128 *eP* **P 15 28 06.9 0.0**
HABR Khabarovsk 50.48 34 *eP* **P 15 28 09.3 -3.2**
HABR *eS* **S 15 35 19.7 -5.4**
ATD Arta Tunnel 50.63 276 LR LR 15 47 48.0
comp=Z,152nm,18.1s,MS4.0,baz=78,slow=34
ASAR Alice Springs 51.57 132 P **P 15 28 20.9 +0.2**
comp=Z,2.8nm,0.7s,mb4.3,baz=306,slow=6.7,SNR=18
GNI Garni 52.67 313 *eP* **P 15 28 31.2 +2.3**
comp=Z,76nm,1.3s,mb5.5
GNI Garni 52.67 313 *eP* **P 15 28 31.2 +2.3**
GNI pmax pmax
comp=Z,76nm,1.3s
SVE Sverdlovsk 52.81 337 *eP* **P 15 28 29.0 -0.9**
SVE pmax pmax
comp=Z,105nm,3.6s
ASAJ Asahikawa 52.96 42 P **P 15 28 32.2 +1.2**
comp=Z,4.2nm,0.9s,mb4.4,baz=219,slow=14,SNR=3.6
ARU Arti 53.33 336 *eP* **P 15 28 32.4 -1.4**
comp=Z,9.3nm,0.9s,mb4.7
ARU *epP* pP 15 28 39.2 -1.5
ARU Arti 53.33 336⇓ *iP* **P 15 28 32.9 -0.9**
ARU *e* 15 30 31.5
ARU *ePPP* 15 31 36.6
ARU *eS* **S 15 36 01.9 -2.4**
ARU *eSS* SS 15 39 41.6 -2.6
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.7
ARU MLR MLR
comp=Z,1μm,22.0s,MS4.9
ARU MLR MLR
comp=N,500nm,24.0s,MS4.8
ARU MLR MLR
comp=E,700nm,21.0s,MS4.8
ZEI Tsey 54.16 315 *eP* **P 15 28 41.9 +2.0**
ZEI *e*PP* pP 15 28 50.4 +3.6
ZEI pmax pmax
comp=Z,13nm,1.2s,mb4.7
YSS Yuzh-Sakhalins 54.24 39 *eP* **P 15 28 40.9 +0.5**
comp=Z,56nm,1.2s,mb5.4
YSS *epP* pP 15 28 47.7 +0.2
YSS Yuzh-Sakhalins 54.24 39 *eP* **P 15 28 42.1 +1.6**
YSS *e* pP 15 28 48.0 +0.6
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.3
YSS MLR MLR
comp=Z,300nm,14.0s,MS4.5
KIV Kislovodsk 55.41 316 *eP* **P 15 28 48.4 -0.5**
comp=Z,31nm,1.0s,mb5.3
KIV *epP* pP 15 28 55.5 -0.3
KIV Kislovodsk 55.41 316 *eP* **P 15 28 48.8 -0.1**
KIV pmax pmax
comp=Z,45nm,1.2s,mb5.4
GOF Gofitskoye 55.56 318 *eP* **P 15 28 54.8 +4.8**
GOF pmax pmax
comp=Z,20nm,1.0s,mb5.1
PMG Port Moresby 56.10 109 P **P 15 28 54.3 +0.5**
comp=Z,8.7nm,1.0s,mb4.7
PMG *epP* pP 15 29 00.3 -0.5
PMG Port Moresby 56.10 109 P **P 15 28 54.3 +0.5**
PMG *e*PP* pP 15 29 00.4 -0.4
PMG pmax pmax
comp=Z,9.0nm,1.0s
SOKR Solikamsk 56.19 338 *eP* **P 15 28 55.2 +0.7**
SOKR pmax pmax
comp=Z,20nm,1.2s,mb5.0
SOKR MLR MLR
comp=Z,2μm,37.0s,MS4.8
MALT Malatya 56.87 309 *eP* **P 15 28 58.5 -0.8**
comp=Z,7.0nm,1.2s,mb4.6
MALT *epP* pP 15 29 05.3 -1.0
MALT Malatya 56.87 309 *eP* **P 15 28 58.5 -0.8**
MALT *e*PP* pP 15 29 05.4 -0.9
MALT pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
YAK Yakutsk 57.08 19 pP pP 15 29 06.0 -1.8
YAK Yakutsk 57.08 19 *eP* **P 15 29 00.6 -0.2**
YAK *e* pP 15 29 06.6 -1.2
YAK pmax pmax
comp=Z,12nm,1.2s,mb4.8
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,36nm,1.4s,mb5.2
YAK pmax pmax
comp=N,24nm,1.5s
YAK pmax pmax
comp=E,20nm,1.4s
KMBO Kilima Mbogo 58.16 262 LR LR 15 51 58.2
comp=E,283nm,18.4s,MS4.4,baz=93,slow=34
EIL Elat 58.32 298 *eP* **P 15 29 10.9 +1.3**
comp=E,328nm,1.2s
EIL *epP* pP 15 29 15.2 -1.4
CTA Charters Tower 59.47 121 *eP* **P 15 29 24.1 +6.6**
comp=E,12nm,1.0s,mb4.9
CTA Charters Tower 59.47 121 LR LR 15 58 04.3
comp=E,404nm,18.9s,MS4.6,baz=284,slow=39
CTA Charters Tower 59.47 121 *eP* **P 15 29 24.1 +6.6**
CTA pmax pmax
comp=Z,12nm,1.0s
CTAO Charters Tower 59.47 121 P **P 15 29 17.9 +0.4**
comp=Z,21nm,1.0s,mb5.1
CTAO *epP* pP 15 29 23.9 -0.6
CTAO Charters Tower 59.47 121 P **P 15 29 17.9 +0.4**
CTAO *e*PP* pP 15 29 23.9 -0.7
CTAO pmax pmax
comp=Z,21nm,1.0s,mb5.1
BRTR Keskin Array B 60.81 309 P **P 15 29 25.9 -0.7**
comp=Z,4.2nm,0.9s,mb4.5,baz=86,slow=5.3,SNR=4.3
STKA Stephens Creek 61.91 135 P **P 15 29 32.8 -1.3**
comp=Z,6.0nm,0.9s,mb4.7,baz=307,slow=7.3,SNR=8.1
STKA LR LR 15 57 02.3
comp=Z,510nm,18.6s,MS4.7,baz=236,slow=37
STKA Stephens Creek 61.91 135 *eP* **P 15 29 32.4 -1.7**
STKA *epP* pP 15 29 38.8 -2.4
STKA *e* 15 29 42.7
OBN Obninsk 63.09 327 P **P 15 29 43.7 +1.6**
OBN Obninsk 63.09 327 *eP* **P 15 29 45.5 +3.4**
OBN *e* 15 30 24.5
OBN pmax pmax
comp=Z,34nm,1.6s,mb5.2
KLMR Klimovskoe 63.97 333 *eP* **P 15 29 50.9 +3.1**
KLMR pmax pmax
comp=Z,40nm,1.7s,mb5.2
MA2 Magadan 63.99 28 *eP* **P 15 29 47.7 -0.2**
comp=Z,22nm,1.0s,mb5.1
MA2 *epP* pP 15 29 54.1 -0.9
MA2 Magadan 63.99 28 *eP* **P 15 29 47.7 -0.2**
MA2 *e*PP* pP 15 29 54.1 -0.9
MA2 pmax pmax
comp=Z,22nm,1.0s,mb5.1
TIXI Tiksi 64.27 11 P **P 15 29 47.6 -2.1**
TIXI pP pP 15 29 55.2 -1.7
TIXI Tiksi 64.27 11 *d iP* **P 15 29 48.3 -1.5**
TIXI pmax pmax
comp=Z,24nm,1.3s,mb5.1
AKASG Malin Array Be 66.08 321 P **P 15 29 59.2 -2.4**
comp=Z,0.4nm,0.4s,mb3.8,baz=62,slow=2.2,SNR=2.9
AKASG Malin Array Be 66.08 321 P **P 15 29 59.2 -2.4**
SEY Seymchan 66.10 25⇓ *iP* **P 15 30 01.2 -0.5**
JOF Joensuu 68.35 334 *ep* **P 15 30 16.3 +0.3**
comp=Z,10nm,1.0s,mb4.8
LVZ Lovozero 68.92 339 *i P* **P 15 30 19.3 -0.2**
LVZ pmax pmax
comp=Z,30nm,1.4s,mb5.0
LVZ pmax pmax
comp=N,10.0nm,1.5s
LVZ pmax pmax
comp=E,17nm,1.5s
APA Apatity 69.22 339⇓ *iP* **P 15 30 21.6 +0.2**
APA *i* pP 15 30 28.0 -0.5
APA pmax pmax
comp=Z,34nm,1.0s,mb5.2
APA MLR MLR
comp=Z,1μm,19.0s,MS5.2
FINES FINESS Array B 70.28 332 P **P 15 30 26.5 -1.4**
comp=Z,1.4nm,0.9s,mb3.9,baz=104,slow=8.0,SNR=4.7
KAF Kangasniemi 70.34 332 *ep* **P 15 30 24.5 -3.8**
comp=Z,9.1nm,1.0s,mb4.7
KAF Kangasniemi 70.34 332 *eP* **P 15 30 24.5 -3.8**
KAF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LSZ Lusaka 70.62 250 LR LR 15 57 34.6
comp=Z,224nm,18.1s,MS4.5,baz=336,slow=33
OJC Ojcow 71.37 319 *eP* **P 15 30 43.1 +5.0**
ARCES ARCESS Array B 72.62 340 P **P 15 30 41.3 -0.7**
comp=Z,4.7nm,0.9s,mb4.4,baz=46,slow=5.2,SNR=9.3
ARCES LR LR 16 05 32.7
comp=Z,591nm,18.4s,MS4.9,baz=113,slow=38
BILL Bilibino 73.21 22 *eP* **P 15 30 44.7 -0.9**
comp=Z,29nm,1.4s,mb5.0
BILL *epP* pP 15 30 50.9 -1.8
BILL Bilibino 73.21 22⇑ *eP* **P 15 30 44.8 -0.7**
BILL *i* pP 15 30 51.5 -1.2
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
MORC Moravsky Berou 73.39 319 P **P 15 30 51.9 +5.3**
comp=Z,20nm,1.5s,mb4.8
MORC Moravsky Berou 73.39 319 P **P 15 30 51.9 +5.3**
MORC pmax pmax
comp=Z,20nm,1.5s,mb4.8
GERES GERESS Array B 75.88 318 P **P 15 31 00.1 -1.0**
comp=Z,2.0nm,0.9s,mb4.1,baz=80,slow=7.3,SNR=5.1
HFS Hagfors 76.10 329 P **P 15 31 00.7 -1.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=113,slow=9.6,SNR=3.2
CLL Collm 76.32 320 *epP* pP 15 31 09.0 -1.7
NB2 NORSAR Subarra 77.35 330 P **P 15 31 08.0 -1.3**
comp=Z,20nm,1.2s,mb4.9,baz=90,slow=6.2
NB2 NORSAR Subarra 77.35 330 P **P 15 31 08.0 -1.3**
NB2 pmax pmax
comp=Z,21nm,1.2s,mb4.9
NOA NORSAR Array B 77.35 330 P **P 15 31 07.8 -1.5**
comp=Z,2.7nm,0.9s,mb4.2,baz=91,slow=5.8,SNR=4.2
BOSA Boshof 77.47 237 P **P 15 31 09.5 -0.6**
comp=Z,12nm,1.0s,mb4.8
BOSA Boshof 77.47 237 P **P 15 31 09.5 -0.5**
BOSA pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRA1 Grafenberg Arr 77.49 319 *eP* **P 15 31 12.2 +2.1**
comp=Z,6.0nm,1.0s,mb4.5
GRF Grafenberg Arr 77.49 319 *eP* **P 15 31 12.2 +2.1**
comp=Z,6.0nm,1.0s,mb4.5
GRF Grafenberg Arr 77.49 319 *eP* **P 15 31 12.2 +2.1**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LPG La Plagne 80.80 315 *eP* **P 15 31 27.8 -0.4**
comp=Z,22nm,1.0s,mb4.8
LPG La Plagne 80.80 315 *eP* **P 15 31 27.8 -0.4**
comp=Z,11nm,1.0s,mb4.8
LPG La Plagne 80.80 315 *eP* **P 15 31 27.8 -0.4**
LPG pmax pmax
comp=Z,11nm,1.0s,mb4.7
TNA Tin City 83.33 25 P **P 15 31 42.3 +0.8**
TNA pP pP 15 31 47.3 -1.5
SYO Syowa Base 88.33 197⇑ *eP* **P 15 32 10.0 +3.8**
TORD Torodi Ar. Bea 90.28 283 P **P 15 32 15.1 -0.2**
comp=Z,3.5nm,1.0s,mb4.6,baz=72,slow=3.0,SNR=4.0
TORD PP PP 15 35 50.7 +1.4
comp=Z,1.5nm,1.1s,baz=59,slow=5.6,SNR=4.2
COLA College 91.47 22⇑ *eP* **P 15 32 22.7 +1.8**
ILAR Eielson Array 91.88 22 P **P 15 32 21.4 -1.4**
comp=Z,0.8nm,0.9s,mb4.1,baz=287,slow=3.7,SNR=6.2
ILAR PP PP 15 35 59.2 -2.8
comp=Z,1.1nm,1.1s,baz=300,slow=9.0,SNR=4.1
INK Inuvik 94.06 16 P **P 15 32 32.0 -0.8**
comp=Z,1.2nm,0.6s,mb4.5,baz=304,slow=8.4,SNR=6.4
RES Resolute Bay 94.44 2 P **P 15 32 34.9 +0.3**
comp=Z,12nm,1.1s,mb5.2
RES pP pP 15 32 40.8 -1.2
RES Resolute Bay 94.44 2 P **P 15 32 34.9 +0.3**
RES *PP pP 15 32 40.8 -1.1
RES pmax pmax
comp=Z,12nm,1.1s,mb5.2
YKA Yellowknife Ar 103.47 13 PP PP 15 37 26.9 -4.1
comp=Z,0.5nm,0.9s,baz=331,slow=7.3,SNR=4.7
NVAR Mina Array Bea 122.19 30 PKP PKPdf 15 38 10.7 +1.4
comp=Z,1.0nm,0.6s,baz=303,slow=0.6,SNR=6.8
PDAR Pinedale Array 122.28 21 PKP PKPdf 15 38 09.6 +0.1
comp=Z,1.2nm,0.8s,baz=30,slow=1.3,SNR=6.3
ANMO Albuquerque 130.31 23 PKP PKPdf 15 38 25.4 +0.6
comp=Z,3.7nm,0.9s,baz=32,slow=3.3,SNR=3.4
TRQA Tornquist 145.68 214 *e*PKPdf PKPdf 15 38 53.6 +0.7
TRQA *ep*PKPdf pPKPdf 15 38 59.6 -0.8
CPUP Villa Florida 149.29 236 PKPbc PKPbc 15 39 02.8 -0.5
comp=Z,0.4nm,0.4s,baz=242,slow=5.7,SNR=3.3
CPUP Villa Florida 149.29 236 *e*PKPdf PKPdf 15 39 02.4 +3.5
CPUP *ep*PKPdf pPKPdf 15 39 10.1 +3.7
CFAA Coronel Fontan 153.89 215 PKPbc PKPbc 15 39 14.1 +0.2
comp=Z,0.1nm,0.4s,baz=333,slow=6.8,SNR=2.6
SDV Santo Domingo 155.46 322 *e*PKPab PKPab 15 39 34.0 +0.4
SDV *ep*PKPab pPKPab 15 39 40.6 -0.4
SIV San Ignacio 155.72 255 PKPbc pPKPdf 15 39 18.3 +2.4
comp=Z,1.8nm,1.0s,baz=122,slow=6.7,SNR=4.0

PRE 09 15:21:51.2±1.4, 2187S×3338E, h5km, ML4.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.05**	**230**	*eS*	Sn	15 24 29.0	-2.0
SLR				AML	AML	15 25 16.7	
comp=Z,126nm,0.5s							
KSR	**Koster**	**7.14**	**235**	*eP*	Pn	15 23 38.0	+1.8
KSR				*eS*	Sn	15 24 54.1	-3.7
KSR				AML	AML	15 25 05.1	
comp=Z,107nm,0.7s							
LBTB	**Lobatse**	**7.80**	**245**	*eP*	Pn	15 23 46.0	+0.6
LBTB				*eS*	Sn	15 25 11.4	-2.7
LBTB				AML	AML	15 26 05.0	
comp=Z,76nm,0.6s							
LBTB	**Lobatse**	**7.80**	**245**	*e*Sn	Sn	15 25 10.0	-4.1
SWZ	**Schweizer**	**9.04**	**233**	*eP*	Pn	15 24 03.7	+1.3
SWZ				*eS*	Sn	15 25 39.7	-4.7
BOSA	**Boshof**	**9.96**	**226**	*eP*	Pn	15 24 16.4	+1.5
BOSA				*eS*	Sn	15 26 02.9	-4.1
BOSA				AML	AML	15 27 37.6	
comp=Z,31nm,0.7s							
PKA	**Prieska**	**12.32**	**229**	*eP*	Pn	15 24 48.0	+0.7

IDC ***09*** *15:24:31.4±0.8, 1076N×9444E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/24, mbtmp4.0/13, Error ellipse: s-maj=44.5km s-min=16.0km az=61.0*
ISCJB ***09*** *15:24:32.4±0.5, 1080N±008×945E±0.1, h19km, mb4.3/32, Error ellipse: s-maj=18.2km s-min=6.7km az=107.8*
NEIC ***09*** *15:24:35.1±0.4, 1090N×9468E, mb4.6/7, Error ellipse: s-maj=14.4km s-min=6.4km az=53.0*
MOS ***09*** *15:24:36.6±2.3, 1095N×9442E, h33km, mb4.8/14, Error ellipse: s-maj=18.8km s-min=8.2km az=107.4*
ISC 09 15:24:34.8±0.5, 1086N±008×945E±01, h21km, h21km±.9km: pP-P, n60, σ0§94/58, mb4.3/32, 4C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.91**	**295**	*eP*	Px	15 25 26.6	
PBA				*eS*	Sx	15 25 48.1	
PBA				*ex*	x	15 25 59.4	
comp=E,1μm,0.7s							
PBA				*ex*	x	15 25 59.8	
comp=N,1μm,0.7s							
KULM	**Kulim**	**8.22**	**132**	Pn	**Pn**	**15 26 31.8**	**-1.0**
KULM				*e*Sn	**Sn**	**15 28 00.3**	**-4.8**
HYB	**Hyderabad**	**16.79**	**295**	*i P*	**Pn**	**15 28 33.0**	**+4.4**
HYB	**Hyderabad**	**16.79**	**295**	*eP*	**Pn**	**15 28 33.0**	**+4.4**
JIRN	**Jiri**	**18.45**	**336**	*eP*	**Pn**	**15 28 48.5**	**-0.8**
PKI	**Pulchoki**	**18.70**	**334**	*eP*	**Pn**	**15 28 53.2**	**+1.0**
comp=N,145nm,1.2s							
GUN	**Gumba**	**18.80**	**336**	*eP*	**Pn**	**15 28 50.2**	**-3.3**
comp=N,261nm,1.7s							
DMN	**Daman**	**18.86**	**333**	*eP*	**Pn**	**15 28 55.4**	**+1.2**
comp=N,79nm,0.9s							
KKN	**Kakani**	**18.94**	**334**	*eP*	**Pn**	**15 28 54.0**	**-1.2**
LSA	**Lhasa**	**19.01**	**351**	*e*Pn	**Pn**	**15 28 56.8**	**+0.8**
comp=N,17nm,1.0s							
LSA	**Lhasa**	**19.01**	**351**	*eP*	**Pn**	**15 28 56.8**	**+0.8**
LSA				pmax	pmax		
comp=Z,17nm,1.0s							
GKN	**Gorkha**	**19.41**	**333**	*eP*	**Pn**	**15 28 58.2**	**-2.6**
comp=Z,67nm,0.8s							
KOLN	**Koldanda**	**19.70**	**330**	*eP*	**Pn**	**15 29 04.3**	**0.0**
comp=Z,93nm,1.0s							
KKM	**Kota Kinabalu**	**21.99**	**101**	P	**P**	**15 29 28.2**	**+0.7**
KKM				*ep*P		15 29 37.3	
ENH	**Enshi**	**23.82**	**34**	*eP*	**P**	**15 29 45.3**	**-1.0**
comp=Z,14nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**36.15**	**335**	*eP*	**P**	**15 31 35.5**	**-0.1**
comp=Z,6.9nm,1.0s,mb4.5							
AAK	**Ala-Archa**	**36.15**	**335**	*c iP*	**P**	**15 31 36.1**	**+0.5**
AAK				pmax	pmax		
comp=Z,10.0nm,1.7s,mb4.5							
AAK	**Ala-Archa**	**36.15**	**335**	*ep*P	pP	15 31 41.7	-0.3
MK31	**Makanchi Array**	**37.28**	**346**	*i P*	**P**	**15 31 46.0**	**+0.7**
MK31				pmax	pmax		
comp=Z,12nm,0.8s,mb4.8							
MKAR	**Makanchi Array**	**37.28**	**346**	P	**P**	**15 31 46.0**	**+0.7**
comp=Z,4.7nm,0.9s,mb4.3,baz=163,slow=8.7,SNR=9.3							
SONM	**Songino Array**	**38.19**	**13**	P	**P**	**15 31 53.8**	**+0.8**
comp=Z,2.9nm,1.0s,mb4.0,baz=196,slow=8.9,SNR=7.7							
KK31	**Karatay Array**	**38.30**	**331**	*i P*	**P**	**15 31 54.5**	**+0.6**
KK31				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
KKAR	**Karatay Array**	**38.30**	**331**	*i P*	**P**	**15 31 54.5**	**+0.6**
KKAR				pmax	pmax		
comp=Z,2.0nm,0.9s,mb3.9							
ULN	**Ulaanbaatar**	**38.37**	**14**	*eP*	**P**	**15 31 54.9**	**+0.4**
comp=Z,4.0nm,0.9s,mb4.2							
ULN				*ep*P	pP	15 32 00.7	-0.1
ULN	**Ulaanbaatar**	**38.37**	**14**	*eP*	**P**	**15 31 54.9**	**+0.5**
ULN				*e*PP*	pP	15 32 00.7	-0.1
ULN				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.2							
KURK	**Kurchatov**	**41.83**	**345**	*eP*	**P**	**15 32 23.3**	**+0.1**
comp=Z,19nm,1.2s,mb4.6							
KURK				*ep*P	pP	15 32 29.7	+0.1
KURK	**Kurchatov**	**41.83**	**345**	*eP*	**P**	**15 32 23.3**	**+0.1**
KURK				*e*PP*	pP	15 32 29.7	+0.1
KURK				pmax	pmax		
comp=Z,19nm,1.2s,mb4.6							
HIA	**Hailar**	**43.65**	**24⇑**	*eP*	**P**	**15 32 39.9**	**+1.9**
ZAL	**Zalesovo**	**43.66**	**352**	P	**P**	**15 32 38.8**	**+0.8**
comp=Z,2.5nm,0.9s,mb3.9,baz=284,slow=9.7,SNR=7.0							
NVS	**Novosibirsk**	**44.77**	**351**	*eP*	**P**	**15 32 44.8**	**-2.1**
VOSK	**Vostochnaya**	**45.86**	**340**	P	**P**	**15 32 55.3**	**-0.3**
VOSK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
BVA0	**Borovoye Array**	**46.31**	**340**	P	**P**	**15 32 57.4**	**-1.7**
BVA0				pmax	pmax		
comp=Z,3.0nm,1.8s,mb3.9							
BVAR	**Borovoye Array**	**46.31**	**340**	P	**P**	**15 32 59.1**	**0.0**
comp=Z,0.9nm,0.8s,mb3.7,baz=131,slow=4.5,SNR=3.6							
ZRNK	**Zerenda**	**46.73**	**339**	P	**P**	**15 33 02.2**	**-0.1**
ZRNK				pmax	pmax		
comp=Z,14nm,1.9s,mb4.6							
AB31	**Akbulak array**	**47.82**	**330**	*i P*	**P**	**15 33 11.0**	**+0.1**
AB31				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.3							
NWAO	**Narrogin (SRO)**	**48.64**	**154**	P	**P**	**15 33 17.8**	**+0.5**
comp=Z,5.5nm,0.7s,mb4.7,baz=322,slow=8.1,SNR=3.1							
NWAO	**Narrogin (SRO)**	**48.64**	**154**	P	**P**	**15 33 17.8**	**+0.6**
NWAO				*e*PP*	pP	15 33 23.0	-0.7
BOD	**Bodaibo**	**49.18**	**14**	*eP*	**P**	**15 33 20.2**	**-1.1**
BOD				pmax	pmax		
comp=Z,7.0nm,1.3s,mb4.5							
WRA	**Warramunga Arr**	**49.74**	**128**	P	**P**	**15 33 26.0**	**+0.4**
comp=Z,1.0nm,0.9s,mb3.9,baz=304,slow=8.4,SNR=3.4							
WRAB	**Tennant Creek**	**49.74**	**128**	P	**P**	**15 33 25.6**	**0.0**
comp=Z,17nm,1.2s,mb5.0							
WRAB				*ep*P	pP	15 33 32.0	-0.1
WRAB	**Tennant Creek**	**49.74**	**128**	P	**P**	**15 33 25.6**	**-0.1**
WRAB				*e*PP*	pP	15 33 32.0	-0.2
WRAB				pmax	pmax		
comp=Z,17nm,1.2s,mb5.0							
ASAR	**Alice Springs**	**51.59**	**132**	P	**P**	**15 33 39.9**	**+0.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=306,slow=6.4,SNR=10							
ARU	**Arti**	**53.31**	**336⇓**	*iP*	**P**	**15 33 52.1**	**-0.3**
ARU				*e*		15 35 49.8	
ARU				*eS*	**S**	**15 41 11.3**	**-12**
ARU				*eSS*	SS	15 44 52.3	-10
ARU				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.4							
YSS	**Yuzh-Sakhalins**	**54.23**	**39⇑**	*eP*	**P**	**15 34 05.1**	**+6.0**
YSS				pmax	pmax		
comp=Z,24nm,2.5s,mb4.7							
KIV	**Kislovodsk**	**55.39**	**316**	*eP*	**P**	**15 34 12.9**	**+5.4**
KIV				pmax	pmax		
comp=Z,16nm,1.2s,mb4.9							
YAK	**Yakutsk**	**57.07**	**19**	*eP*	**P**	**15 34 18.8**	**-0.6**
comp=Z,9.5nm,1.0s,mb4.8							
YAK				*ep*P	pP	15 34 25.1	-1.0
YAK	**Yakutsk**	**57.07**	**19⇑**	*eP*	**P**	**15 34 25.0**	**+5.6**
YAK				pmax	pmax		
comp=Z,31nm,1.8s,mb5.0							
STKA	**Stephens Creek**	**61.92**	**135**	P	**P**	**15 34 51.9**	**-1.1**
comp=Z,3.4nm,0.9s,mb4.5,baz=329,slow=8.8,SNR=5.3							
STKA	**Stephens Creek**	**61.92**	**135**	P	**P**	**15 34 51.9**	**-1.1**
STKA				*ep*P	pP	15 34 57.4	-2.2
MA2	**Magadan**	**63.97**	**28**	*eP*	**P**	**15 35 12.9**	**+6.3**
MA2				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
TIXI	**Tiksi**	**64.25**	**11**	*d iP*	**P**	**15 35 12.9**	**+4.5**
TIXI				pmax	pmax		
comp=Z,13nm,1.0s,mb4.9							
SEY	**Seymchan**	**66.08**	**25⇓**	*eP*	**P**	**15 35 26.3**	**+6.0**
LVZ	**Lovozero**	**68.90**	**339**	*i P*	**P**	**15 35 42.1**	**+4.0**
FINES	**FINESS Array B**	**70.27**	**332**	P	**P**	**15 35 45.9**	**-0.6**
comp=Z,0.4nm,0.5s,mb3.6,baz=206,slow=9.1,SNR=2.5							
GERES	**GERESS Array B**	**75.87**	**318**	P	**P**	**15 36 19.9**	**+0.3**
comp=Z,0.3nm,0.5s,mb3.5,baz=114,slow=3.3,SNR=3.2							
EKA	**Eskdalemuir Ar**	**85.49**	**325**	P	**P**	**15 37 11.3**	**+0.2**
comp=Z,1.8nm,0.9s,mb4.2,baz=120,slow=5.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**90.27**	**283**	P	**P**	**15 37 34.9**	**+0.8**
comp=Z,1.0nm,1.1s,mb4.1,baz=72,slow=4.7,SNR=2.3							
ILAR	**Eielson Array**	**91.86**	**22**	P	**P**	**15 37 41.5**	**+0.1**
comp=Z,0.6nm,0.9s,mb3.9,baz=296,slow=4.1,SNR=3.6							
NVAR	**Mina Array Bea**	**122.18**	**30**	PKP	PKPdf	15 43 28.8	+0.8
comp=Z,0.3nm,0.4s,baz=304,slow=1.6,SNR=3.2							
PDAR	**Pinedale Array**	**122.27**	**21**	PKP	PKPdf	15 43 29.1	+0.9
comp=Z,0.9nm,0.8s,baz=54,slow=2.8,SNR=5.4							

IDC ***09*** *15:26:36.2±1.0, 1063N×9435E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/22, mbtmp4.1/9, Error ellipse: s-maj=49.2km s-min=18.8km az=63.0*
ISCJB ***09*** *15:26:39.9±0.7, 106N±0.1×945E±02, h33km, mb4.2/15, Error ellipse: s-maj=24.7km s-min=12.3km az=122.3*
NEIC ***09*** *15:26:39.9±0.9, 1093N×9511E, h10km, mb4.4/5, Error ellipse: s-maj=29.5km s-min=14.3km az=54.0*
MOS ***09*** *15:26:41.2±1.6, 1092N×9506E, h33km, mb4.7/6, Error ellipse: s-maj=24.2km s-min=13.7km az=114.5*
ISC 09 15:26:42.0±0.7, 107N±01×946E±02, h35km, n25, σ1§19/24, mb4.2/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**16.88**	**295**	*i P*	**Pn**	**15 30 43.0**	**+7.5**
HYB	**Hyderabad**	**16.88**	**295**	*eP*	**Pn**	**15 30 43.0**	**+7.5**
ENH	**Enshi**	**23.91**	**33**	P	**P**	**15 31 53.7**	**+1.2**
ENH				*ep*P		15 31 58.7	
AAK	**Ala-Archa**	**36.29**	**335**	P	**P**	**15 33 39.3**	**-2.8**
2.9nm,0.9s,mb4.2							
AAK	**Ala-Archa**	**36.29**	**335**	P	**P**	**15 33 39.3**	**-2.8**
AAK				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
MKAR	**Makanchi Array**	**37.43**	**346**	P	**P**	**15 33 50.9**	**-0.9**
comp=Z,3.3nm,1.0s,mb4.1,baz=160,slow=9.2,SNR=3.3							
SONM	**Songino Array**	**38.32**	**13**	P	**P**	**15 33 59.7**	**+0.4**
comp=Z,2.2nm,1.1s,mb3.8,baz=194,slow=7.9,SNR=3.5							
ULN	**Ulaanbaatar**	**38.49**	**14**	*eP*	**P**	**15 34 01.1**	**+0.3**
comp=Z,3.1nm,1.0s,mb4.0							
ULN	**Ulaanbaatar**	**38.49**	**14**	*eP*	**P**	**15 34 01.1**	**+0.3**
ULN				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.0							
KURK	**Kurchatov**	**41.98**	**345**	P	**P**	**15 34 30.0**	**+0.4**
comp=Z,15nm,1.4s,mb4.4							
KURK				*e*		15 34 34.7	
KURK	**Kurchatov**	**41.98**	**345**	P	**P**	**15 34 30.0**	**+0.4**
KURK				pmax	pmax		
comp=Z,15nm,1.4s,mb4.4							
ZAL	**Zalesovo**	**43.80**	**352**	P	**P**	**15 34 45.1**	**+0.7**
comp=Z,1.6nm,0.8s,mb3.8,baz=303,slow=11,SNR=4.0							
BVAR	**Borovoye Array**	**46.46**	**340**	P	**P**	**15 35 05.2**	**-0.2**
comp=Z,1.3nm,

comp=Z,3.4nm,0.9s,mb4.4,baz=310,slow=8.6,SNR=5.2
WRAB Tennant Creek 49.63 128 P **P** **15 35 27.6 -2.4**
comp=Z,6.3nm,0.8s,mb4.7
WRAB Tennant Creek 49.63 128 P **P** **15 35 27.6 -2.4**
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ASAR Alice Springs 51.46 132 P **P** **15 35 45.0 +1.1**
comp=Z,4.8nm,0.8s,mb4.5,baz=308,slow=6.8,SNR=10
KIV Kislovodsk 55.52 316 *e*P **P** **15 36 15.7 +2.1**
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.8
YAK Yakutsk 57.19 19 P **P** **15 36 22.9 -2.6**
comp=Z,17nm,1.0s,mb5.0
YAK Yakutsk 57.19 19 P **P** **15 36 22.9 -2.6**
YAK pmax pmax
comp=Z,17nm,1.0s,mb5.0
STKA Stephens Creek 61.80 135 P **P** **15 36 57.0 -0.2**
comp=Z,3.9nm,0.9s,mb4.5,baz=339,slow=11,SNR=4.6
MA2 Magadan 64.08 28 P **P** **15 37 12.6 +0.2**
TORD Torodi Ar. Bea 90.34 283 P **P** **15 39 39.2 -0.2**
comp=Z,0.6nm,0.9s,mb3.9,baz=81,slow=4.8,SNR=3.0
ILAR Eielson Array 91.97 22 P **P** **15 39 46.3 -0.7**
comp=Z,0.1nm,0.3s,mb3.6,baz=348,slow=20,SNR=4.9
PLCA Paso Flores 147.34 201 PKPbc PKPbc 15 46 20.9 -0.9
comp=Z,2.5nm,1.0s,baz=94,slow=5.9,SNR=2.9

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*IDC **09** 15:27:10.6±1.8, 1063N×9456E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.0/23, mbtmp4.3/8, Error ellipse: s-maj=78.5km s-min=17.6km az=67.0*
*NEIC **09** 15:27:11.3±1.3, 1047N×9424E, h10km, mb4.8/1, Error ellipse: s-maj=46.2km s-min=14.1km az=71.0*
*ISCJB **09** 15:27:12.5±1.3, 104N±0.1×942E±0.3, h33km, mb4.3/9, Error ellipse: s-maj=46.9km s-min=14.6km az=141.1*
ISC 09 15:27:15.0±1.3, 105N±01×942E±03, h35km, n10, σ0§91/10, mb4.3/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**24.29**	**34**	*e*P	**P**	**15 32 30.5**	**+1.4**
	37nm,1.3s,mb4.7						
MKAR	**Makanchi Array**	**37.57**	**347**	P	**P**	**15 34 26.3**	**+0.4**
	4.3nm,1.0s,mb4.1,baz=168,slow=7.1,SNR=3.4						
SONM	**Songino Array**	**38.62**	**13**	P	**P**	**15 34 34.0**	**-0.8**
	1.3nm,0.9s,mb3.7,baz=192,slow=8.8,SNR=2.4						
ZAL	**Zalesovo**	**43.98**	**352**	P	**P**	**15 35 18.4**	**-0.4**
	1.0nm,0.7s,mb3.6,baz=306,slow=14,SNR=2.1						
NWAO	**Narrogin (SRO)**	**48.45**	**154**	P	**P**	**15 35 54.8**	**+0.8**
	16nm,0.9s,mb5.0,baz=314,slow=7.5,SNR=5.6						
WRA	**Warramunga Arr**	**49.76**	**127**	P	**P**	**15 36 04.2**	**+0.2**
	3.7nm,1.0s,mb4.4,baz=307,slow=8.1,SNR=4.9						
ASAR	**Alice Springs**	**51.57**	**132**	P	**P**	**15 36 18.6**	**+0.9**
	4.3nm,0.9s,mb4.4,baz=308,slow=7.1,SNR=5.9						
PMG	**Port Moresby**	**56.28**	**109**	P	**P**	**15 36 50.7**	**-1.4**
	3.7nm,0.7s,mb4.5,baz=275,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**61.88**	**135**	P	**P**	**15 37 29.8**	**-1.1**
	5.4nm,0.9s,mb4.7,baz=332,slow=9.2,SNR=6.2						
STKA	**Stephens Creek**	**61.88**	**135**	P	**P**	**15 37 29.8**	**-1.1**

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*ISCJB **09** 15:30:08.9±6.2, 110N±0.1×948E±0.2, h15km±46km, mb4.1/11, Error ellipse: s-maj=27.7km s-min=15.8km az=133.0*
*IDC **09** 15:30:08.4±1.3, 1101N×9474E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/22, mbtmp3.9/7, Error ellipse: s-maj=55.3km s-min=22.1km az=60.0*
*NEIC **09** 15:30:10.2±0.6, 1099N×9483E, h10km, mb4.4/11, Error ellipse: s-maj=19.1km s-min=8.1km az=55.0*
ISC 09 15:30:14.4±2.9, 1112N±009×949E±02, h37km±29km, n25, σ1§06/24, mb4.1/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.17**	**285**	*e*P	Px	15 30 56.1	
PBA				*e*S	Sx	15 31 18.2	
PBA				*e*x	x	15 31 44.3	
	comp=N,775nm,0.3s						
PBA				*e*x	x	15 31 44.7	
	comp=E,930nm,0.7s						
PALK	**Pallekele**	**14.51**	**256**	P	**Pn**	**15 33 41.2**	**+4.1**
	comp=E,15nm,1.0s						
HYB	**Hyderabad**	**17.01**	**293**	*i* P	**Pn**	**15 34 09.0**	**-0.4**
HYB	**Hyderabad**	**17.01**	**293**	*e*P	**Pn**	**15 34 09.0**	**-0.4**
KSM	**Kuching**	**18.07**	**121**	*e*P	**Pn**	**15 34 30.6**	**+8.2**
JIRN	**Jiri**	**18.37**	**335**	*e*P	**Pn**	**15 34 26.7**	**+0.5**
	comp=E,80nm,1.6s						
PKI	**Pulchoki**	**18.63**	**333**	*e*P	**Pn**	**15 34 29.2**	**-0.1**
	comp=E,87nm,1.2s						
GUN	**Gumba**	**18.72**	**334**	*e*P	**Pn**	**15 34 30.4**	**0.0**
	comp=E,195nm,1.7s						
DMN	**Daman**	**18.80**	**332**	*e*P	**Pn**	**15 34 31.2**	**-0.2**
	comp=E,38nm,0.9s						
LSA	**Lhasa**	**18.82**	**350**	P	**Pn**	**15 34 32.5**	**+1.0**
	comp=E,6.7nm,0.8s						
KKN	**Kakani**	**18.88**	**333**	*e*P	**Pn**	**15 34 31.8**	**-0.5**
GKN	**Gorkha**	**19.36**	**332**	*e*P	**Pn**	**15 34 37.0**	**-1.0**
	comp=E,99nm,1.3s						
KOLN	**Koldanda**	**19.66**	**329**	*e*P	**Pn**	**15 34 40.1**	**-1.6**
	comp=E,46nm,0.8s						
AAK	**Ala-Archa**	**36.08**	**334**	*e*P	**P**	**15 37 15.4**	**+2.9**
	comp=E,3.6nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**37.13**	**346**	P	**P**	**15 37 20.6**	**-0.8**
	comp=E,4.6nm,0.8s,mb4.3,baz=170,slow=8.1,SNR=4.7						
SONM	**Songino Array**	**37.86**	**13**	P	**P**	**15 37 28.8**	**+1.2**
	comp=E,0.7nm,0.8s,mb3.4,baz=190,slow=7.3,SNR=3.9						
ULN	**Ulaanbaatar**	**38.03**	**13**	P	**P**	**15 37 30.5**	**+1.4**
	comp=E,3.3nm,1.0s,mb4.0						
KURK	**Kurchatov**	**41.68**	**344**	*e*P	**P**	**15 37 58.8**	**-0.6**
	comp=E,13nm,1.3s,mb4.4						
ZAL	**Zalesovo**	**43.46**	**351**	P	**P**	**15 38 13.9**	**+0.1**
	comp=E,2.2nm,0.7s,mb4.0,baz=318,slow=24,SNR=3.4						
BVAR	**Borovoye Array**	**46.20**	**340**	P	**P**	**15 38 35.1**	**-0.5**
	comp=E,0.9nm,0.7s,mb3.8,baz=169,slow=17,SNR=2.6						
NWAO	**Narrogin (SRO)**	**48.71**	**155**	P	**P**	**15 38 54.0**	**-1.2**
	comp=E,14nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**49.61**	**128**	P	**P**	**15 39 02.4**	**+0.4**
	comp=E,1.3nm,1.0s,mb3.9,baz=306,slow=8.7,SNR=4.8						
ASAR	**Alice Springs**	**51.49**	**132**	P	**P**	**15 39 15.8**	**-0.3**
	comp=E,1.2nm,0.9s,mb3.8,baz=312,slow=7.4,SNR=4.5						
STKA	**Stephens Creek**	**61.84**	**135**	*e*P	**P**	**15 40 26.0**	**-3.7**
TORD	**Torodi Ar. Bea**	**90.56**	**283**	P	**P**	**15 43 13.2**	**+0.6**
	comp=E,0.9nm,0.9s,mb4.1,baz=93,slow=3.1,SNR=4.8						

IDC 09 15:31:52.8±3.6, 1084N×9449E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=150.6km s-min=31.6km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.30**	**346**	P	P	15 39 06.0	-0.6
	1.1nm,0.9s,baz=168,slow=7.4,SNR=2.4						
SONM	**Songino Array**	**38.21**	**13**	P	P	15 39 14.3	0.0
	0.7nm,0.9s,baz=198,slow=9.1,SNR=2.5						
ZAL	**Zalesovo**	**43.68**	**352**	P	P	15 39 59.9	+0.6
	0.7nm,0.5s,baz=317,slow=16,SNR=2.2						
ASAR	**Alice Springs**	**51.59**	**132**	P	P	15 41 01.2	+0.4
	0.6nm,0.7s,baz=309,slow=7.0,SNR=2.4						

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*IDC **09** 15:36:33.2±2.1, 1063N×9441E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=101.7km s-min=18.8km az=63.0*
*ISCJB **09** 15:36:34.3±6.8, 107N±0.1×946E±0.2, h15km±51km, mb3.7/7, Error ellipse: s-maj=35.0km s-min=17.6km az=153.9*
*NEIC **09** 15:36:35.2±0.6, 1074N×9461E, h10km, mb4.2/1, Error ellipse: s-maj=20.0km s-min=8.3km az=65.0*
ISC 09 15:36:37.4±6.9, 108N±01×947E±02, h21km±52km, n11, σ0§59/12, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.06**	**132**	Pn	**Pn**	**15 38 32.6**	**-0.6**
KULM				*e*Sn	**Sn**	**15 39 51.9**	**-12**
PSI	**Prapat**	**8.99**	**152**	Pn	**Pn**	**15 38 46.5**	**+0.6**
	0.6nm,0.3s,baz=340,slow=19,SNR=3.4						
PSI	**Prapat**	**8.99**	**152**	Pn	**Pn**	**15 38 46.5**	**+0.5**
ENH	**Enshi**	**23.80**	**33**	P	**P**	**15 41 48.8**	**+0.1**
MKAR	**Makanchi Array**	**37.39**	**346**	P	**P**	**15 43 49.1**	**+0.4**
	1.3nm,0.7s,mb3.9,baz=161,slow=8.2,SNR=10						
SONM	**Songino Array**	**38.23**	**13**	P	**P**	**15 43 56.2**	**+0.4**
	0.6nm,0.9s,mb3.3,baz=194,slow=6.4,SNR=3.9						
ZAL	**Zalesovo**	**43.76**	**352**	P	**P**	**15 44 41.7**	**+0.4**
	0.9nm,0.6s,mb3.7,baz=129,slow=23,SNR=5.2						
BVAR	**Borovoye Array**	**46.43**	**340**	P	**P**	**15 45 01.2**	**-1.4**
	0.4nm,0.8s,mb3.4,baz=156,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**49.58**	**128**	P	**P**	**15 45 26.3**	**-0.5**
	0.6nm,0.7s,mb3.7,baz=304,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**51.43**	**132**	P	**P**	**15 45 41.3**	**+0.5**
	0.9nm,0.8s,mb3.7,baz=314,slow=6.7,SNR=5.4						
LBTB	**Lobatse**	**76.09**	**241**	P	**P**	**15 48 23.5**	**+0.1**
	1.8nm,0.7s,mb4.1						

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*IDC **09** 15:37:45.1±1.9, 1068N×9417E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.0/22, mbtmp4.2/7, Error ellipse: s-maj=92.5km s-min=18.7km az=68.0*
*BJI **09** 15:37:47.2, 1025N×9397E, h31km, mB4.6, mb4.1, Ms4.4, Msz4.3*
*ISCJB **09** 15:37:48.3±0.7, 1056N±007×941E±0.1, h33km, mb4.4/12, Error ellipse: s-maj=17.0km s-min=9.9km az=160.2*
*NEIC **09** 15:37:48.1±0.9, 1062N×9421E, mb4.5/5, Error ellipse: s-maj=32.8km s-min=11.9km az=62.0*
*MOS **09** 15:37:49.3±1.9, 1083N×9477E, h33km, mb4.7/4, Error ellipse: s-maj=89.1km s-min=19.6km az=97.5*
ISC 09 15:37:51.4±0.8, 1069N±007×943E±01, h35km, (h11km±4.7km:pP-P), n24, σ1§35/24, mb4.4/12, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**16.45**	**28**	P	**Pn**	**15 41 45.3**	**+5.8**
KMI				AMB	AMB		
	comp=Z,12nm,1.3s						
LSA	**Lhasa**	**19.14**	**352**	P	**Pn**	**15 42 11.9**	**-0.7**
	comp=Z,6.6nm,0.9s						
LSA	**Lhasa**	**19.14**	**352**	P	**Pn**	**15 42 11.9**	**-0.7**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GYA	**Guiyang**	**19.57**	**35**	*i* P	**Pn**	**15 42 23.3**	**+5.6**
GYA				AP	pP	15 42 28.2	+2.8
GYA				XP	sP	15 42 31.6	+1.7
GYA				S	**S**	**15 45 54.4**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,200nm,6.0s						
GYA				LR	LR		
	comp=N,230nm,9.6s						
GYA				LR	LR		
	comp=E,570nm,10.8s						
GYA				LR	LR		
	comp=Z,690nm,10.2s						
KKM	**Kota Kinabalu**	**22.18**	**100**	*e*P	**P**	**15 42 45.8**	**+1.3**
KKM				*e*pP		15 42 50.3	
ENH	**Enshi**	**24.09**	**34**	*e*P	**P**	**15 43 03.6**	**0.0**
	comp=Z,43nm,1.4s,mb4.7						
LZH	**Lanzhou**	**26.73**	**17**	*e*P	**P**	**15 43 29.2**	**+1.6**
LZH				AP	pP	15 43 35.2	-2.4
LZH				AMB	AMB		
	comp=Z,22nm,1.6s,mb4.4						
GTA	**Gaotai**	**29.03**	**9**	*e*P	**P**	**15 43 50.3**	**+2.2**
GTA				AP	pP	15 43 54.9	-3.2
GTA				XP	sP	15 43 58.4	-4.0
AAK	**Ala-Archa**	**36.21**	**335**	P	**P**	**15 44 52.1**	**+1.3**
	comp=Z,5.6nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**36.21**	**335**	P	**P**	**15 44 52.1**	**+1.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**15 44 58.6**	**-2.3**
	comp=Z,1.4nm,0.7s,mb3.9,baz=156,slow=6.1,SNR=3.7						
SONM	**Songino Array**	**38.41**	**13**	P	**P**	**15 45 08.8**	**-0.6**
	comp=Z,4.6nm,1.1s,mb4.1,baz=205,slow=7.6,SNR=7.3						
KURK	**Kurchatov**	**41.94**	**345**	*e*P	**P**	**15 45 41.0**	**+2.3**
	comp=Z,10nm,1.2s,mb4.3						
KURK				*e*pP	pP	15 45 45.2	-3.7
KURK	**Kurchatov**	**41.94**	**345**	*e*P	**P**	**15 45 41.0**	**+2.3**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.3						
ZAL	**Zalesovo**	**43.80**	**352**	P	**P**	**15 45 52.7**	**-1.1**
	comp=Z,0.9nm,0.5s,mb3.8,baz=293,slow=9.6,SNR=2.6						
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P	**P**	**15 46 31.1**	**-0.3**
	comp=Z,12nm,1.0s,mb4.9,baz=324,slow=9.5,SNR=3.7						
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P	**P**	**15 46 30.5**	**-0.9**
	comp=Z,22nm,1.2s,mb5.1						
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P	**P**	**15 46 30.5**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,22nm,1.2s						
BOD	**Bodaibo**	**49.40**	**14**	*e*P	**P**	**15 46 34.6**	**-3.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
WRA	**Warramunga Arr**	**49.82**	**128**	P	**P**	**15 46 40.9**	**+0.1**
	comp=Z,5.5nm,1.2s,mb4.5,baz=305,slow=8.4,SNR=7.8						
ASAR	**Alice Springs**	**51.64**	**132**	P	**P**	**15 46 54.6**	**+0.1**
	comp=Z,3.8nm,1.0s,mb4.3,baz=304,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**61.96**	**135**	P	**P**	**15 48 06.7**	**-1.0**
	comp=Z,5.5nm,0.9s,mb4.7,baz=288,slow=6.3,SNR=8.6						
STKA	**Stephens Creek**	**61.96**	**135**	P	**P**	**15 48 06.7**	**-1.0**
STKA				*e*pP	pP	15 48 11.6	-6.8
PDAR	**Pinedale Array**	**122.51**	**21**	PKP	PKPdf	15 56 44.2	+1.1
	comp=Z,0.4nm,0.9s,baz=332,slow=3.1,SNR=2.9						

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*ISCJB **09** 15:40:08.0±7.0, 108N±0.1×944E±0.1, h6km±45km, mb4.2/18, Error ellipse: s-maj=26.3km s-min=11.0km az=105.6*
*IDC **09** 15:40:09.0±0.8, 1075N×9439E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/24, mbtmp4.1/12, Error ellipse: s-maj=47.3km s-min=14.9km az=60.0*
*NEIC **09** 15:40:10.6±0.5, 1084N×9448E, h10km, mb4.4/5, Error ellipse: s-maj=18.4km s-min=7.8km az=58.0*
*BJI **09** 15:40:11.6, 1080N×9450E, h10km, mb4.3*
ISC 09 15:40:11.6±6.6, 108N±01×944E±01, h15km±42km, n36, σ0§78/34, mb4.2/18, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.83**	**297**	*e*P	Px	15 41 03.2	
PBA				*e*S	Sx	15 41 24.7	
PBA				*e*x	x	15 41 45.9	
	comp=E,1μm,1.0s						
PBA				*e*x	x	15 41 48.2	
	comp=N,1μm,0.7s						
VIS	**Vishakhapatnam**	**12.73**	**304**	*i* P	**Pn**	**15 43 03.9**	**-8.2**
VIS				*i* S	**Sn**	**15 45 24.1**	**-9.4**
HYB	**Hyderabad**	**16.70**	**295**	*i* P	**Pn**	**15 44 10.5**	**+5.4**
HYB	**Hyderabad**	**16.70**	**295**	*e*P	**Pn**	**15 44 10.5**	**+5.4**
JIRN	**Jiri**	**18.44**	**336**	*e*P	**Pn**	**15 44 27.2**	**+0.6**
	comp=N,69nm,1.2s						
PKI	**Pulchoki**	**18.68**	**334**	*e*P	**Pn**	**15 44 30.6**	**+1.0**
	comp=N,126nm,1.3s						
GUN	**Gumba**	**18.79**	**336**	*e*P	**Pn**	**15 44 29.8**	**-1.0**
	comp=N,254nm,1.7s						
DMN	**Daman**	**18.85**	**334**	*e*P	**Pn**	**15 44 32.1**	**+0.5**
	comp=N,160nm,1.6s						
KKN	**Kakani**	**18.93**	**334**	*e*P	**Pn**	**15 44 31.9**	**-0.7**
LSA	**Lhasa**	**19.02**	**351**	P	**Pn**	**15 44 40.0**	**+6.3**
LSA	**Lhasa**	**19.02**	**351**	*e*P	**Pn**	**15 44 26.8**	**-6.9**
	comp=N,9.8nm,1.1s						
GKN	**Gorkha**	**19.39**	**333**	*e*P	**Pn**	**15 44 36.8**	**-1.3**
KOLN	**Koldanda**	**19.68**	**330**	*e*P	**Pn**	**15 44 41.8**	**+0.3**
KKM	**Kota Kinabalu**	**22.09**	**101**	*e*P	**P**	**15 45 06.5**	**+0.4**
ENH	**Enshi**	**23.90**	**34**	*e*P	**P**	**15 45 23.5**	**-1.3**
	comp=N,73nm,1.6s,mb4.9						
ENH				*e*pP		15 45 30.2	
LZH	**Lanzhou**	**26.56**	**17**	*e*P	**P**	**15 45 49.8**	**+0.8**
LZH				AMB	AMB		
	comp=Z,23nm,1.6s,mb4.5						
GTA	**Gaotai**	**28.87**	**9**	*e*P	**P**	**15 46 10.5**	**+0.9**
GTA				AP	pP	15 46 17.0	+3.0
GTA				XP	sP	15 46 20.5	+4.6
GTA				AMB	AMB		
	comp=Z,5.0nm,1.7s,mb4.0						
AAK	**Ala-Archa**	**36.14**	**335**	*e*P	**P**	**15 47 13.4**	**+0.2**
	comp=Z,11nm,1.5s,mb4.5						
MKAR	**Makanchi Array**	**37.29**	**346**	P	**P**	**15 47 23.5**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.3,baz=163,slow=7.7,SNR=9.4						
SONM	**Songino Array**	**38.24**	**13**	P	**P**	**15 47 31.6**	**+0.5**
	comp=Z,2.5nm,0.9s,mb3.9,baz=189,slow=6.8,SNR=7.4						
ULN	**Ulaanbaatar**	**38.42**	**14**	*e*P	**P**	**15 47 30.4**	**-2.2**
	comp=Z,3.3nm,0.9s,mb4.1						
KURK	**Kurchatov**	**41.84**	**345**	*e*P	**P**	**15 48 01.0**	**+0.2**
	comp=Z,21nm,1.4s,mb4.6						
ZAL	**Zalesovo**	**43.68**	**352**	P	**P**	**15 48 16.3**	**+0.5**
	comp=Z,2.1nm,0.5s,mb4.1,baz=298,slow=4.9,SNR=7.2						
BVAR	**Borovoye Array**	**46.31**	**340**	P	**P**	**15 48 36.6**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=134,slow=8.3,SNR=3.6						
NWAO	**Narrogin (SRO)**	**48.66**	**154**	P	**P**	**15 48 55.0**	**-0.1**
	comp=Z,3.9nm,1.0s,mb4.4,baz=356,slow=8.8,SNR=3.5						
WRA	**Warramunga Arr**	**49.80**	**128**	P	**P**	**15 49 03.9**	**+0.1**
	comp=Z,1.4nm,0.9s,mb4.0,baz=301,slow=9.6,SNR=5.3						
WRAB	**Tennant Creek**	**49.81**	**128**	P	**P**	**15 49 04.5**	**+0.7**
ASAR	**Alice Springs**	**51.64**	**132**	P	**P**	**15 49 17.9**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.1,baz=306,slow=6.4,SNR=10						
CTA	**Charters Tower**	**59.56**	**121**	P	**P**	**15 50 14.8**	**+0.3**
	comp=Z,8.0nm,1.1s,mb4.7,baz=185,slow=4.7,SNR=3.4						
STKA	**Stephens Creek**	**61.97**	**135**	P	**P**	**15 50 29.6**	**-1.4**
	comp=Z,2.2nm,0.7s,mb4.4,baz=344,slow=6.8,SNR=4.4						
STKA	**Stephens Creek**	**61.97**	**135**	*e*P	**P**	**15 50 28.9**	**-2.0**
FINES	**FINESS Array B**	**70.25**	**332**	P	**P**	**15 51 23.9**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=88,slow=33,SNR=5.0						
ARCES	**ARCESS Array B**	**72.60**	**340**	P	**P**	**15 51 38.2**	**-0.1**
	comp=Z,5.5nm,1.1s,mb4.4,baz=65,slow=3.2,SNR=5.3						
GERES	**GERESS Array B**	**75.82**	**318**	P	**P**	**15 51 57.3**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.6,baz=120,slow=4.8,SNR=3.5						
PDAR	**Pinedale Array**	**122.33**	**21**	PKP	PKPdf	15 59 06.4	+0.3
	comp=Z,1.0nm,1.0s,baz=141,slow=0.9,SNR=4.4						
CPUP	**Villa Florida**	**149.19**	**236**	PKPbc	PKPbc	16 00 00.2	+0.8
	comp=Z,1.4nm,0.7s,baz=40,slow=8.0,SNR=3.3						

IDC 09 15:43:35.4±2.3, 1082N×9460E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=114.0km s-min=22.3km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.35**	**346**	P	P	15 50 49.4	-0.1
	1.2nm,0.8s,baz=162,slow=7.6,SNR=4.5						
SONM	**Songino Array**	**38.21**	**13**	P	P	15 50 56.7	-0.1
	0.7nm,0.8s,baz=204,slow=7.7,SNR=4.0						
ZAL	**Zalesovo**	**43.72**	**352**	P	P	15 51 42.6	+0.4
	0.9nm,0.4s,baz=305,slow=8.4,SNR=3.4						
BVAR	**Borovoye Array**	**46.38**	**340**	P	P	15 52 03.1	-0.3
	0.4nm,0.7s,baz=134,slow=8.3,SNR=2.6						
WB2	**Warramunga Arr**	**49.65**	**128**	*e*P	P	15 52 34.4	+5.7
ASAR	**Alice Springs**	**51.49**	**132**	P	P	15 52 43.8	+1.2
	0.8nm,0.7s,baz=314,slow=7.1,SNR=5.7						
STKA	**Stephens Creek**	**61.83**	**135**	P	P	15 53 55.5	-0.6
	1.2nm,0.7s,baz=302,slow=7.7,SNR=2.9						

IDC 09 15:45:44.4±3.0, 1091N×9441E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, Error ellipse: s-maj=130.6km s-min=21.3km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.21**	**346**	P	P	15 52 57.0	-0.4
	0.8nm,0.7s,baz=164,slow=7.4,SNR=4.1						
SONM	**Songino Array**	**38.16**	**13**	P	P	15 53 05.4	0.0
	1.1nm,1.0s,baz=200,slow=8.8,SNR=5.1						
ZAL	**Zalesovo**	**43.59**	**352**	P	P	15 53 50.5	+0.3
	0.9nm,0.4s,baz=308,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**49.85**	**128**	P	P	15 54 37.8	-1.4
	0.6nm,0.8s,baz=300,slow=8.7,SNR=2.5						
ASAR	**Alice Springs**	**51.69**	**132**	P	P	15 54 55.3	+2.2
	0.9nm,0.8s,baz=310,slow=7.5,SNR=3.4						

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*ISCJB **09** 15:46:47.5±1.4, 1065N±004×9427E±005, h7km±9km, mb4.5/52, MS4.5/9, Error ellipse: s-maj=9.0km s-min=6.4km az=106.6*
*IDC **09** 15:46:48.0±0.5, 1074N×9441E, h0km, mb4.1/18, mb1 4.2/19, mb1mx4.2/25, mbtmp4.1/19, ML4.0/1, Error ellipse: s-maj=22.7km s-min=13.2km az=59.0*
*BJI **09** 15:46:50.8, 1063N×9423E, h30km, mB5.1, mb4.6, Ms4.7, Msz4.5*
*MOS **09** 15:46:51.0±1.0, 1070N×9436E, h33km, mb4.9/19, Error ellipse: s-maj=13.0km s-min=5.9km az=105.2*
*HRVD **09** 15:46:51.6±0.3, 1081N×9449E, h12km, MW5.0/79, Centroid moment Tensor Solution. LP body waves: s25,c30;Mantle waves: s79,c127; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.44±.11; $M_{\theta\theta}$3.26±.09; $M_{\phi\phi}$0.18±.12; $M_{r\theta}$1.22±.36; $M_{\theta\phi}$0.70±.09; $M_{r\phi}$0.64±.48; Best double couple: $M_0$3.69300×10^{16} NP1:ϕ_S83.00000°,δ35.00000°,λ-81.00000°. NP2: ϕ_S252.00000°,δ56.00000°,λ-96.00000°. Principal axes: T 3.6630, Plg11.0000°, Azm347.0000°; N 0.0670, Plg5.0000°, Azm256.0000°; P -3.7220, Plg78.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 15:46:51.6±0.3, 1073N×9436E, mb4.9/19 Error ellipse: s-maj=11.2km s-min=5.2km az=58.0*
ISC 09 15:46:51.8±1.5, 1070N±005×9429E±005, h21km±10km, h21km±1.1km:pP-P, n111, σ1§15/113, mb4.5/52, MS4.5/9, 4C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.28**	**130**	*e*Pn	**Pn**	**15 48 50.3**	**-0.4**
KULM				*e*Sn	**Sn**	**15 50 09.2**	**-15**
PSI	**Prapat**	**9.10**	**149**	Pn	**Pn**	**15 49 02.9**	**+1.0**
	1.4nm,0.3s,baz=336,slow=20,SNR=4.4						
SHL	**Shillong**	**14.96**	**352**	*e*P	**Pn**	**15 50 19.0**	**-

GYA					LR	LR		
	comp=N,760nm,12.6s							
GYA					LR	LR		
	comp=E,810nm,11.7s							
GYA					LR	LR		
	comp=Z,820nm,15.3s							
KOLN	**Koldanda**	**19.73**	**331**	*e*P		**Pn**	**15 51 21.3**	**-0.3**
	comp=Z,79nm,0.8s							
CD2	**Chengdu**	**21.95**	**22**	P		**P**	**15 51 45.0**	**+1.0**
CD2				XP		sP	15 51 55.1	+2.5
CD2				PP			15 52 11.0	
CD2				S		**S**	**15 55 43.4**	**-2.0**
CD2				XS		sS	15 55 52.4	-2.4
CD2				SS			15 56 19.3	
CD2				AMB		AMB		
	comp=Z,20nm,0.5s,mb4.8							
CD2				LR		LR		
	comp=E,660nm,9.6s							
CD2				LR		LR		
	comp=Z,500nm,12.0s,MS4.2							
GZH	**Guangzhou**	**21.97**	**53**	P		**P**	**15 51 48.6**	**+4.3**
GZH				LR		LR		
	comp=N,672nm,8.7s							
GZH				LR		LR		
	comp=E,324nm,9.2s							
GZH				LR		LR		
	comp=Z,665nm,8.1s							
KKM	**Kota Kinabalu**	**22.18**	**100**	*e*P		**P**	**15 51 47.4**	**+0.9**
KKM				*e*pP			15 51 55.5	
ENH	**Enshi**	**24.07**	**34**	P		**P**	**15 52 05.0**	**-0.7**
	comp=Z,130nm,1.4s,mb5.2							
ENH				*e*pP			15 52 10.9	
LZH	**Lanzhou**	**26.72**	**17**	*e*P		**P**	**15 52 31.1**	**+1.4**
LZH				AP		pP	15 52 36.4	+0.5
LZH				XP		sP	15 52 40.1	+1.6
LZH				PP			15 53 16.1	
LZH				*e*S		**S**	**15 57 04.5**	**+0.4**
LZH				XS		sS	15 57 14.1	-0.4
LZH				*e*SS			15 58 17.1	
LZH				AMB		AMB		
	comp=Z,60nm,1.7s,mb4.8							
LZH				AMB		AMB		
	comp=Z,211nm,4.2s							
LZH				LR		LR		
	comp=N,2μm,14.6s							
LZH				LR		LR		
	comp=Z,3μm,17.2s,MS4.9							
XAN	**Xi'an**	**26.82**	**28**	P		**P**	**15 52 30.0**	**-0.6**
XAN				AMB		AMB		
	comp=Z,7.0nm,1.5s,mb4.0							
GTA	**Gaotai**	**29.01**	**9**	*e*P		**P**	**15 52 51.6**	**+1.4**
GTA				AP		pP	15 52 57.1	+0.6
GTA				XP		sP	15 52 59.8	+0.7
GTA				PP		PP	15 53 49.3	-6.5
GTA				S		**S**	**15 57 42.8**	**+2.6**
GTA				XS		sS	15 57 59.4	+8.8
GTA				AMB		AMB		
	comp=Z,10.0nm,1.9s,mb4.2							
GTA				AMB		AMB		
	comp=Z,191nm,6.9s							
GTA				LR		LR		
	comp=N,431nm,19.3s							
GTA				LR		LR		
	comp=E,481nm,11.2s							
GTA				LR		LR		
	comp=Z,551nm,19.7s,MS4.2							
NJ2	**Nanjing**	**31.08**	**43**	*e*P		**P**	**15 53 11.2**	**+2.7**
NJ2				S		**S**	**15 58 15.0**	**+2.3**
NJ2				XS		sS	15 58 25.0	+1.9
NJ2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.6							
NJ2				AMB		AMB		
	comp=Z,190nm,9.0s							
NJ2				LR		LR		
	comp=N,840nm,24.0s,MS4.5							
NJ2				LR		LR		
	comp=E,1μm,25.3s,MS4.5							
NJ2				LR		LR		
	comp=Z,280nm,15.7s							
SSE	**Sheshan**	**32.15**	**47**	P		**P**	**15 53 19.0**	**+1.1**
SSE				AMB		AMB		
	comp=Z,16nm,0.9s,mb4.8							
SSE				AMB		AMB		
	comp=Z,109nm,3.7s							
WMQ	**Urumqi**	**33.49**	**351**	*e*P		**P**	**15 53 30.2**	**+0.6**
WMQ				AP		pP	15 53 36.0	+0.1
WMQ				XP		sP	15 53 39.0	+0.5
WMQ				PP		PP	15 54 41.3	-4.2
WMQ				AMB		AMB		
	comp=Z,23nm,1.4s,mb4.9							
WMQ				AMB		AMB		
	comp=Z,184nm,6.0s							
WMQ				LR		LR		
	comp=N,2μm,24.2s,MS4.9							
WMQ				LR		LR		
	comp=E,2μm,26.0s,MS4.9							
WMQ				LR		LR		
	comp=Z,2μm,22.2s,MS4.8							
HHC	**Hu-ho-hao-te**	**33.68**	**24**	*e*P		**P**	**15 53 31.9**	**+0.6**
HHC				AP		pP	15 53 37.7	+0.1
HHC				XP		sP	15 53 40.7	+0.5
HHC				PP		PP	15 54 45.3	-2.3
HHC				PCP		PcP	15 56 11.1	+0.2
HHC				S		**S**	**15 58 54.3**	**+1.1**
HHC				XS		sS	15 59 04.3	+0.7
HHC				SS		SS	16 00 59.6	-19
HHC				AMB		AMB		
	comp=Z,6.0nm,0.4s,mb4.9							
HHC				AMB		AMB		
	comp=Z,235nm,9.0s							
HHC				LR		LR		
	comp=N,530nm,13.3s,MS4.6							
HHC				LR		LR		
	comp=E,511nm,12.6s,MS4.6							
HHC				LR		LR		
	comp=Z,467nm,11.4s,MS4.5							
BJT	**Baijiatuau**	**35.06**	**30**	P		**P**	**15 53 41.4**	**-1.8**
BJT				*e*pP		pP	15 53 45.7	-3.8
BJI	**Beijing**	**35.08**	**30**	P		**P**	**15 53 41.2**	**-2.2**
BJI				AMB		AMB		
	comp=Z,6.0nm,1.9s,mb4.2							
AAK	**Ala-Archa**	**36.20**	**335**	*e*P		**P**	**15 53 53.9**	**+0.9**
	comp=Z,8.2nm,1.1s,mb4.6							
AAK				*e*pP		pP	15 53 59.0	-0.3
AAK	**Ala-Archa**	**36.20**	**335**	*e*P		**P**	**15 53 53.9**	**+0.9**
AAK				*e**PP		pP	15 53 59.0	-0.4
AAK				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.6							
MK31	**Makanchi Array**	**37.38**	**346**	*i* P		**P**	**15 54 02.9**	**-0.2**
MK31				pmax		pmax		
	comp=Z,25nm,1.1s,mb5.0							
MKAR	**Makanchi Array**	**37.38**	**346**	P		**P**	**15 54 02.5**	**-0.7**
	comp=Z,3.7nm,0.7s,mb4.3,baz=165,slow=7.9,SNR=12							
MKAR	**Makanchi Array**	**37.38**	**346**	*i* P		**P**	**15 54 02.9**	**-0.2**
MKAR				pmax		pmax		
	comp=Z,27nm,1.1s							
KK31	**Karatay Array**	**38.34**	**332**	*i* P		**P**	**15 54 12.5**	**+1.3**
KK31				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.2							
KKAR	**Karatay Array**	**38.34**	**332**	*i* P		**P**	**15 54 12.5**	**+1.3**
KKAR				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.3							
SONM	**Songino Array**	**38.39**	**13**	P		**P**	**15 54 11.4**	**-0.2**
	comp=Z,11nm,1.2s,mb4.5,baz=197,slow=7.4,SNR=18							
ULN	**Ulaanbaatar**	**38.57**	**14**	*e*P		**P**	**15 54 12.8**	**-0.3**
	comp=Z,21nm,1.6s,mb4.6							
ULN	**Ulaanbaatar**	**38.57**	**14**	*e*P		**P**	**15 54 12.8**	**-0.3**
ULN				pmax		pmax		
	comp=Z,21nm,1.6s,mb4.6							
KS15	**Wonju Array Si**	**40.25**	**43**	P		**P**	**15 54 26.9**	**-0.2**
KS15				*e*pP		pP	15 54 32.6	-0.9
ZAK	**Zakamensk**	**40.25**	**9**	*e*P		**P**	**15 54 24.5**	**-2.6**
ZAK				pmax		pmax		
	comp=Z,13nm,2.0s,mb4.3							
KURK	**Kurchatov**	**41.92**	**345**	*e*P		**P**	**15 54 41.4**	**+0.4**
	comp=Z,26nm,1.2s,mb4.7							
KURK				*e*		pP	15 54 46.5	-0.8
KURK	**Kurchatov**	**41.92**	**345**	*e*P		**P**	**15 54 41.4**	**+0.5**
KURK				*e*		pP	15 54 46.5	-0.8
KURK				pmax		pmax		
	comp=Z,26nm,1.2s,mb4.7							
IRK	**Irkutsk**	**42.21**	**9**	*e*P		**P**	**15 54 39.0**	**-4.2**
IRK				pmax		pmax		
	comp=Z,38nm,2.5s,mb4.6							
CN2	**Changchun**	**42.59**	**34**	*e*P		**P**	**15 54 47.4**	**+1.1**
CN2				*e*AP		pP	15 54 52.3	-0.5
CN2				*e*S		**S**	**16 01 01.3**	**-6.7**
CN2				AMB		AMB		
	comp=Z,20nm,1.3s,mb4.7							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,300nm,17.0s,MS4.5							
CN2				LR		LR		
	comp=E,400nm,17.0s,MS4.5							
CN2				LR		LR		
	comp=Z,300nm,17.0s,MS4.2							
ZAL	**Zalesovo**	**43.78**	**352**	P		**P**	**15 54 55.4**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.0,baz=300,slow=7.6,SNR=9.0							
HIA	**Hailar**	**43.89**	**24**	P		**P**	**15 54 53.5**	**-3.4**
HIA				*e*pP		pP	15 54 58.5	-4.7
HIA	**Hailar**	**43.89**	**24⇑**	*e*P		**P**	**15 54 57.5**	**+0.7**
NVS	**Novosibirsk**	**44.89**	**351**	*e*P		**P**	**15 55 04.1**	**-0.7**
KRAR	**Krasnoyarsk**	**45.21**	**359⇑**	*i* P		**P**	**15 55 07.5**	**+0.1**
KRAR				pmax		pmax		
	comp=Z,140nm,2.5s,mb5.3							
MDJ	**Mudanjiang**	**45.42**	**35**	P		**P**	**15 55 09.5**	**+0.5**
MDJ				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,86nm,3.4s							
VOSK	**Vostochnaya**	**45.94**	**340**	P		**P**	**15 55 12.0**	**-1.1**
VOSK				pmax		pmax		
	comp=Z,22nm,2.0s,mb4.7							
BVA0	**Borovoye Array**	**46.38**	**340**	*i* P		**P**	**15 55 16.0**	**-0.6**
BVA0				pmax		pmax		
	comp=Z,4.0nm,2.1s,mb4.0							
BVAR	**Borovoye Array**	**46.38**	**340**	P		**P**	**15 55 15.8**	**-0.8**
	comp=Z,1.5nm,0.8s,mb4.0,baz=128,slow=9.6,SNR=7.4							
BRVK	**Borovoye**	**46.45**	**340**	*e*P		**P**	**15 55 14.8**	**-2.3**
	comp=Z,5.6nm,1.2s,mb4.4							
BRVK				*e*pP		pP	15 55 22.2	-1.4
BRVK	**Borovoye**	**46.45**	**340**	*e*P		**P**	**15 55 14.9**	**-2.2**
BRVK				*e**PP		pP	15 55 22.2	-1.4
BRVK				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.4							
ZRNK	**Zerenda**	**46.79**	**339**	P		**P**	**15 55 18.4**	**-1.5**
ZRNK				*e*pP		pP	15 55 24.9	-1.4
MJAR	**Matsushiro Arr**	**47.20**	**50**	P		**P**	**15 55 21.1**	**-1.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=255,slow=9.6,SNR=3.1							
MJAR				PcP		PcP	15 56 54.3	+0.1
	comp=Z,1.6nm,0.7s,baz=242,slow=2.1,SNR=3.3							
MUN	**Mundaring**	**47.34**	**154**	*e*P		**P**	**15 55 30.3**	**+6.2**
KLBR	**Kellerberrin**	**47.69**	**153**	*e*P		**P**	**15 55 27.3**	**+0.5**
	comp=Z,28nm,1.2s,mb5.2							
AB31	**Akbulak array**	**47.85**	**330**	*i* P		**P**	**15 55 27.8**	**-0.3**
AB31				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
NWAO	**Narrogin (SRO)**	**48.60**	**154**	P		**P**	**15 55 33.8**	**-0.1**
	comp=Z,11nm,1.1s,mb4.8,baz=320,slow=5.5,SNR=3.2							
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P		**P**	**15 55 33.5**	**-0.4**
	comp=Z,70nm,1.5s,mb5.5							
NWAO				*e*pP		pP	15 55 40.6	+0.3
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P		**P**	**15 55 33.5**	**-0.3**
NWAO				*e**PP		pP	15 55 40.6	+0.3
NWAO				pmax		pmax		
	comp=Z,70nm,1.5s							
BOD	**Bodaibo**	**49.38**	**14**	*e*P		**P**	**15 55 40.3**	**+0.4**
BOD				pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.7							
KLR	**Kul'dur**	**49.41**	**32**	*e*P		**P**	**15 55 37.7**	**-2.3**
AKTK	**Aktyubinsk**	**49.56**	**330**	P		**P**	**15 55 41.8**	**+0.5**
AKTO	**Aktyubinsk**	**49.56**	**330**	P		**P**	**15 55 41.8**	**+0.5**
	comp=Z,1.8nm,0.8s,mb4.2,baz=126,slow=15,SNR=4.1							
WRA	**Warramunga Arr**	**49.82**	**128**	P		**P**	**15 55 43.3**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.4,baz=302,slow=8.8,SNR=9.9							
WRAB	**Tennant Creek**	**49.82**	**128**	*e*P		**P**	**15 55 42.5**	**-0.7**
	comp=Z,28nm,1.3s,mb5.1							
WRAB				*e*pP		pP	15 55 49.7	-0.1
WRAB	**Tennant Creek**	**49.82**	**128**	*e*P		**P**	**15 55 42.5**	**-0.7**
WRAB				*e**PP		pP	15 55 49.7	-0.1
WRAB				pmax		pmax		
	comp=Z,27nm,1.3s,mb5.1							
ASAR	**Alice Springs**	**51.65**	**132**	P		**P**	**15 55 56.0**	**-0.9**
	comp=Z,4.1nm,0.7s,mb4.5,baz=309,slow=6.8,SNR=20							
GNI	**Garni**	**52.60**	**313**	*i* P		**P**	**15 56 04.4**	**+0.3**
SVE	**Sverdlovsk**	**52.85**	**338**	*e*P		**P**	**15 56 09.0**	**+3.1**
SVE				MLR		MLR		
	comp=N,300nm,13.0s,MS4.6							
SVE				MLR		MLR		
	comp=E,200nm,13.0s,MS4.6							
SVE				MLR		MLR		
	comp=Z,400nm,13.0s,MS4.7							
ARU	**Arti**	**53.37**	**336⇓**	*i* P		**P**	**15 56 10.0**	**+0.3**
ARU				*e*			15 58 08.4	
ARU				*e*PPP			15 59 12.0	
ARU				*e*S		**S**	**16 03 41.4**	**+0.8**
ARU				*e*SS		SS	16 07 24.8	+4.3
ARU				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.4							
ARU				MLR		MLR		
	comp=N,200nm,20.0s,MS4.3							
ARU				MLR		MLR		
	comp=Z,500nm,20.0s,MS4.6							
ARU				MLR		MLR		
	comp=E,200nm,23.0s,MS4.3							
YSS	**Yuzh-Sakhalins**	**54.49**	**39**	P		**P**	**15 56 19.4**	**+1.4**
YSS	**Yuzh-Sakhalins**	**54.49**	**39**	*ce*P		**P**	**15 56 19.3**	**+1.3**
YSS				pmax		pmax		
	comp=Z,30nm,1.7s,mb5.0							
KIV	**Kislovodsk**	**55.35**	**317⇓**	*i* P		**P**	**15 56 25.0**	**+0.8**
KIV				pmax		pmax		
	comp=Z,19nm,1.7s,mb4.8							
YAK	**Yakutsk**	**57.29**	**19**	*e*P		**P**	**15 56 34.9**	**-3.1**
	comp=Z,14nm,0.8s,mb5.0							
YAK				*e*pP		pP	15 56 42.6	-2.0
YAK	**Yakutsk**	**57.29**	**19⇑**	*e*P		**P**	**15 56 36.9**	**-1.1**
YAK				pmax		pmax		
	comp=Z,34nm,1.7s,mb5.1							
KMBO	**Kilima Mbogo**	**57.92**	**262**	P		**P**	**15 56 43.6**	**+1.2**
	comp=Z,0.4nm,0.2s,mb4.0,baz=37,slow=20,SNR=2.1							
ANN	**Anapa**	**59.19**	**316**	*e*P		**P**	**15 56 59.5**	**+8.2**
CTAO	**Charters Tower**	**59.59**	**121**	P		**P**	**15 56 55.3**	**+1.2**
BRTR	**Keskin Array B**	**60.73**	**310**	P		**P**	**15 57 01.7**	**-0.1**
	comp=Z,1.6nm,1.0s,mb4.1,baz=110,slow=9.6,SNR=3.7							
STKA	**Stephens Creek**	**61.97**	**135**	P		**P**	**15 57 08.3**	**-1.9**
	comp=Z,5.0nm,1.0s,mb4.6,baz=335,slow=5.9,SNR=5.9							
STKA	**Stephens Creek**	**61.97**	**135**	*e*P		**P**	**15 57 08.8**	**-1.5**
MA2	**Magadan**	**64.21**	**28**	*e*P		**P**	**15 57 24.5**	**-0.6**
	comp=Z,40nm,1.8s,mb5.2							
MA2	**Magadan**	**64.21**	**28**	*e*P		**P**	**15 57 24.5**	**-0.6**
MA2				pmax		pmax		
	comp=Z,40nm,1.8s,mb5.2							
TIXI	**Tiksi**	**64.45**	**11**	P		**P**	**15 57 26.4**	**-0.3**
SEY	**Seymchan**	**66.32**	**25**	*i*,*i* P		**P**	**15 57 39.4**	**+0.6**
FINES	**FINESS Array B**	**70.30**	**332**	P		**P**	**15 58 02.4**	**-1.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=109,slow=10,SNR=4.7							
ARCES	**ARCESS Array B**	**72.67**	**340**	P		**P**	**15 58 17.6**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.2,baz=93,slow=6.1,SNR=5.7							
BILL	**Bilibino**	**73.42**	**22**	*e*P		**P**	**15 58 21.4**	**-1.1**
	comp=Z,13nm,1.5s,mb4.6							
BILL	**Bilibino**	**73.42**	**22⇓**	*e*P		**P**	**15 58 23.0**	**+0.5**
BILL				*i*			15 58 41.6	
BILL				pmax		pmax		
	comp=Z,16nm,1.9s,mb4.6							
GERES	**GERESS Array B**	**75.83**	**318**	P		**P**	**15 58 35.1**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=122,slow=5.0,SNR=4.0							
NOA	**NORSAR Array B**	**77.36**	**330**	P		**P**	**15 58 45.6**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.7,baz=126,slow=15,SNR=3.3							
SYO	**Syowa Base**	**88.13**	**197⇓**	*e*pP		pP	15 59 50.2	+2.3
TORD	**Torodi Ar. Bea**	**90.09**	**283**	P		**P**	**15 59 51.1**	**+0.9**
	comp=Z,0.5nm,0.7s,mb4.0,baz=103,slow=3.1,SNR=3.6							
TORD				PP		PP	16 03 24.4	+0.9
	comp=Z,0.4nm,0.8s,baz=64,slow=6.6,SNR=3.1							
ILAR	**Eielson Array**	**92.09**	**22**	P		**P**	**15 59 57.1**	**-2.4**
	comp=Z,0.6nm,0.9s,mb3.9,baz=302,slow=4.5,SNR=4.3							
YKA	**Yellowknife Ar**	**103.66**	**13**	PP		PP	16 05 02.7	-5.4
	comp=Z,0.1nm,0.4s,baz=304,slow=7.5,SNR=4.1							
ULM	**Lac du Bonnet**	**118.66**	**7**	PKP		PKPdf	16 05 38.4	+0.1
	comp=Z,0.6nm,0.3s,baz=74,slow=1.9,SNR=3.8							
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP		PKPdf	16 05 46.7	+1.2
	comp=Z,0.7nm,0.6s,baz=41,slow=2.1,SNR=5.4							
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP		PKPdf	16 05 46.7	+1.2
PDAR	**Pinedale Array**	**122.49**	**21**	PKP		PKPdf	16 05 44.8	-0.8
	comp=Z,0.6nm,0.6s,baz=349,slow=1.5,SNR=5.0							
PLCA	**Paso Flores**	**147.22**	**202**	PKPbc		PKPbc	16 06 33.3	-0.2
	comp=Z,1.8nm,0.6s,baz=235,slow=18,SNR=5.0							
CPUP	**Villa Florida**	**149.02**	**236**	PKPbc		PKPbc	16 06 39.3	+1.0
	comp=Z,0.8nm,0.4s,baz=335,slow=1.9,SNR=3.8							

IDC 09 15:47:03.7±1.0, 1087N×9467E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/23, mbtmp4.2/6, MS4.0/1, Ms1 4.0/1, ms1mx3.4/18, Error ellipse: s-maj=53.6km s-min=21.0km az=74.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.31**	**346**	P	P	15 54 17.6	0.0
	7.7nm,1.0s,baz=163,slow=7.9,SNR=7.1						
SONM	**Songino Array**	**38.15**	**13**	P	P	15 54 25.0	+0.4
	2.2nm,0.9s,baz=195,slow=8.5,SNR=4.7						
ZAL	**Zalesovo**	**43.67**	**352**	LR	LR	16 15 48.9	
	comp=Z,192nm,20.7s,baz=287,slow=40						
BVAR	**Borovoye Array**	**46.36**	**340**	P	P	15 55 31.3	-0.3
	1.3nm,0.8s,baz=155,slow=7.4,SNR=4.3						
NWAO	**Narrogin (SRO)**	**48.58**	**155**	P	P	15 55 48.6	-0.3
	19nm,1.0s,baz=319,slow=6.8,SNR=3.3						
ASAR	**Alice Springs**	**51.48**	**132**	P	P	15 56 11.3	+0.5
	3.2nm,0.8s,baz=309,slow=7.7,SNR=6.7						
ILAR	**Eielson Array**	**91.79**	**22**	P	P	16 00 12.9	-0.5
	0.3nm,0.7s,baz=295,slow=4.9,SNR=3.3						
PLCA	**Paso Flores**	**147.52**	**201**	PKPbc	PKPbc	16 06 50.4	+0.7
	12nm,1.2s,baz=156,slow=8.6,SNR=4.5						
CPUP	**Villa Florida**	**149.43**	**236**	PKPbc	PKPbc	16 06 54.7	0.0
	0.7nm,0.4s,baz=61,slow=5.4,SNR=4.0						

IDC 09 15:53:06.1±3.0, 1090N×9466E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, Error ellipse: s-maj=136.9km s-min=22.1km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.28**	**346**	P	P	16 00 18.8	-0.9
	1.1nm,0.9s,baz=165,slow=9.8,SNR=4.1						
SONM	**Songino Array**	**38.11**	**13**	P	P	16 00 27.3	+0.5
	0.9nm,1.0s,baz=208,slow=8.4,SNR=3.7						
ZAL	**Zalesovo**	**43.64**	**352**	P	P	16 01 12.8	+0.4
	0.9nm,0.3s,baz=300,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**49.65**	**128**	P	P	16 01 58.5	-1.0
	0.4nm,0.8s,baz=309,slow=7.8,SNR=2.9						
ASAR	**Alice Springs**	**51.51**	**132**	P	P	16 02 13.4	0.0
	0.6nm,0.7s,baz=302,slow=6.6,SNR=3.4						
STKA	**Stephens Creek**	**61.85**	**135**	P	P	16 03 29.0	+1.9
	0.8nm,0.7s,baz=313,slow=9.4,SNR=2.8						

IDC 09 15:54:51.6±2.9, 1084N×9454E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=133.4km s-min=23.9km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.31**	**346**	P	P	16 02 05.3	-0.1
	1.4nm,0.9s,baz=159,slow=8.7,SNR=4.5						
SONM	**Songino Array**	**38.20**	**13**	P	P	16 02 13.1	+0.1
	1.0nm,1.0s,baz=201,slow=7.8,SNR=5.4						
ZAL	**Zalesovo**	**43.68**	**352**	P	P	16 02 58.2	+0.1
	1.2nm,0.3s,baz=146,slow=18,SNR=2.6						
ASAR	**Alice Springs**	**51.56**	**132**	P	P	16 03 59.6	+0.3
	0.3nm,0.6s,baz=306,slow=6.3,SNR=4.3						
STKA	**Stephens Creek**	**61.89**	**135**	P	P	16 05 13.3	+0.4
	1.1nm,0.7s,baz=292,slow=11,SNR=2.2						

IDC 09 15:55:47.1±3.1, 1065N×9444E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=146.6km s-min=24.4km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.47**	**346**	P	P	16 03 01.9	-0.3
	0.3nm,0.6s,baz=162,slow=7.4,SNR=2.4						
SONM	**Songino Array**	**38.41**	**13**	P	P	16 03 10.0	-0.1
	0.6nm,0.9s,baz=189,slow=8.3,SNR=3.0						
ZAL	**Zalesovo**	**43.85**	**352**	P	P	16 03 55.4	+0.4
	0.7nm,0.4s,baz=142,slow=19,SNR=2.3						
ASAR	**Alice Springs**	**51.50**	**132**	P	P	16 04 55.4	+1.0
	1.1nm,0.9s,baz=306,slow=6.9,SNR=4.9						
STKA	**Stephens Creek**	**61.82**	**135**	P	P	16 06 07.5	-0.3
	0.9nm,0.6s,baz=324,slow=16,SNR=2.6						

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*IDC **09** 15:59:02.7±0.7, 1049N×9402E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/23, mbtmp4.0/12, Error ellipse: s-maj=33.9km s-min=15.8km az=62.0*

*ISCJB **09** 15:59:04.0±2.5, 1053N±007×9429E±009, h22km±18km, mb4.2/22, MS4.5/1, Error ellipse: s-maj=16.3km s-min=9.0km az=110.6*

*BJI **09** 15:59:03.0, 1029N×9432E, h30km, mB5.1, mb4.4, Ms4.3, Msz4.0*

*NEIC **09** 15:59:05.4±0.4, 1054N×9430E, mb4.3/9, Error ellipse: s-maj=17.4km s-min=6.6km az=57.0*

*MOS **09** 15:59:05.6±0.8, 1051N×9412E, h33km, mb4.5/4, Error ellipse: s-maj=26.9km s-min=9.7km az=109.2*

ISC 09 15:59:07.6±2.4, 1053N±006×9421E±007, h34km±18km, h24km±3.2km: pP-P, n44, σ0°98/44, mb4.2/22, MS4.5/1, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.82**	**308**	*e*P	Px	15 59 53.9	
PBA				*e*S	Sx	16 00 20.3	
PBA				*e*x	x	16 00 23.0	
	comp=N,1μm,1.1s						
PBA				*e*x	x	16 00 28.5	
	comp=E,1μm,0.9s						
KULM	**Kulim**	**8.23**	**129**	*e*Pn	**Pn**	**16 01 02.7**	**-1.9**
KULM				*e*Sn	**Sn**	**16 02 29.4**	**-6.9**
SHL	**Shillong**	**15.12**	**352**	*e*P	**Pn**	**16 02 36.0**	**-2.6**

comp=Z,2.0nm,1.1s,mb3.8
NJ2 Nanjing 31.25 43 *e*P **P 16 05 23.4 -0.6**
NJ2 AP pP 16 05 29.2 -4.6
NJ2 XP sP 16 05 32.2 -5.8
NJ2 PP PP 16 06 24.4 -10
NJ2 S **S 16 10 27.0 -1.3**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
NJ2 AMB AMB
comp=Z,190nm,9.0s
NJ2 LR LR
comp=N,840nm,24.1s,MS4.5
NJ2 LR LR
comp=E,1μm,23.3s,MS4.5
NJ2 LR LR
comp=Z,1μm,15.2s
AAK Ala-Archa 36.32 335 *e*P **P 16 06 07.7 -0.4**
comp=Z,8.6nm,1.5s,mb4.5
AAK Ala-Archa 36.32 335 *e*P **P 16 06 07.7 -0.4**
AAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
MKAR Makanchi Array 37.53 347 P **P 16 06 18.6 +0.3**
comp=Z,2.7nm,0.8s,mb4.0,baz=162,slow=8.6,SNR=15
SONM Songino Array 38.57 13 P **P 16 06 27.4 +0.2**
comp=Z,1.8nm,1.1s,mb3.7,baz=200,slow=7.9,SNR=11
ULN Ulaanbaatar 38.75 14 *e*P **P 16 06 27.1 -1.6**
comp=Z,4.6nm,1.3s,mb4.0
ULN Ulaanbaatar 38.75 14 *e*P **P 16 06 27.1 -1.6**
ULN pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
KURK Kurchatov 42.07 345 *e*P **P 16 06 56.3 +0.2**
comp=Z,5.1nm,1.1s,mb4.1
KURK *e*pP pP 16 07 01.4 -4.7
ZAL Zalesovo 43.94 352 P **P 16 07 12.3 +1.1**
comp=Z,1.8nm,0.8s,mb3.8,baz=270,slow=7.7,SNR=8.9
MDJ Mudanjiang 45.59 35 P **P 16 07 23.3 -1.1**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.5
MDJ AMB AMB
comp=Z,43nm,3.8s
BVAR Borovoye Array 46.52 340 P **P 16 07 32.1 +0.4**
comp=Z,0.8nm,0.8s,mb3.7,baz=140,slow=9.4,SNR=5.8
BRVK Borovoye 46.58 340 P **P 16 07 32.1 -0.1**
ZRNK Zerenda 46.93 339 P **P 16 07 34.5 -0.3**
comp=Z,2.9nm,1.0s,mb4.2
ZRNK Zerenda 46.93 339 P **P 16 07 34.6 -0.3**
ZRNK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
WRA Warramunga Arr 49.77 127 P **P 16 07 58.8 +2.0**
comp=Z,2.2nm,0.8s,mb4.3,baz=303,slow=8.8,SNR=15
WRAB Tennant Creek 49.78 127 *e*P **P 16 07 56.9 0.0**
comp=Z,4.8nm,0.8s,mb4.6
WRAB Tennant Creek 49.78 127 *e*P **P 16 07 56.9 +0.1**
WRAB pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ASAR Alice Springs 51.59 132 P **P 16 08 12.4 +2.0**
comp=Z,4.0nm,0.7s,mb4.4,baz=311,slow=6.7,SNR=37
STKA Stephens Creek 61.90 135 P **P 16 09 24.4 +0.7**
comp=Z,2.8nm,0.8s,mb4.5,baz=309,slow=6.9,SNR=7.1
STKA Stephens Creek 61.90 135 *e*P **P 16 09 24.1 +0.4**
STKA *e*pP pP 16 09 29.3 -4.7
LSZ Lusaka 70.24 250 P **P 16 10 17.0 -0.2**
comp=Z,1.3nm,0.4s,mb4.3,baz=208,slow=15,SNR=3.9
FINES FINESS Array B 70.41 332 P **P 16 10 17.6 -0.7**
comp=Z,0.4nm,0.5s,mb3.6,baz=112,slow=14,SNR=2.8
ARCES ARCESS Array B 72.81 340 P **P 16 10 32.7 0.0**
comp=Z,3.3nm,1.0s,mb4.2,baz=46,slow=8.7,SNR=4.0
NOA NORSAR Array B 77.47 330 P **P 16 10 59.5 0.0**
comp=Z,2.1nm,1.1s,mb4.0,baz=85,slow=5.4,SNR=2.7
ILAR Eielson Array 92.27 22 P **P 16 12 13.9 -0.2**
comp=Z,0.6nm,0.8s,mb4.0,baz=245,slow=4.4,SNR=5.4
PDAR Pinedale Array 122.67 21 PKP PKPdf 16 18 01.2 +1.5
comp=Z,0.5nm,0.7s,baz=33,slow=5.4,SNR=3.1
PLCA Paso Flores 147.04 202 PKPbc PKPbc 16 18 47.2 +0.4
comp=Z,1.2nm,0.8s,baz=45,slow=2.9,SNR=3.2

*IDC **09** 15:59:30.7±1.0, 164N×7696W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.8/23, mbtmp3.7/8, ML2.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/32, Error ellipse: s-maj=25.4km s-min=19.3km az=84.0*
*ISCJB **09** 15:59:35.2±1.3, 152N±008×7656W±008, h64km±15km, mb3.8/6, Error ellipse: s-maj=15.7km s-min=11.2km az=92.8*
*NEIC **09** 15:59:36.3±1.1, 154N×7664W, h49km±12km, mb3.7/3, Error ellipse: s-maj=14.6km s-min=11.3km az=94.0*
ISC 09 15:59:36.6±1.2, 144N±008×7654W±009, h62km±14km, n16, σ1§12/16, mb3.8/6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**2.25**	**238**	*e*Pn	**Pn**	**16 00 11.3**	**-0.2**
ROSC	**El Rosal**	**4.05**	**33**	Pn	**Pn**	**16 00 35.7**	**-0.3**
	4.6nm,0.3s,baz=94,slow=14,SNR=5.8						
ROSC				Pg	**Pn**	**16 00 42.1**	**+6.1**
	14nm,0.3s,baz=290,slow=0.9,SNR=26						
ROSC				Lg		16 01 41.5	
	13nm,0.3s,baz=90,slow=20,SNR=3.0						
ROSC				LR	LR	16 02 02.9	
	comp=Z,121nm,20.5s,baz=206,slow=37						
SDV	**Santo Domingo**	**9.45**	**38**	Pn	**Pn**	**16 01 50.8**	**+0.9**
	2.8nm,0.3s,baz=81,slow=6.4,SNR=11						
SDV	**Santo Domingo**	**9.45**	**38**	*e*Pn	**Pn**	**16 01 50.3**	**+0.4**
NNA	**Nana**	**13.34**	**181**	P	**Pn**	**16 02 35.0**	**-8.0**
SAML	**Samuel**	**16.84**	**128**	*e*Pn	**Pn**	**16 03 28.6**	**+0.4**
	4.0nm,0.8s						
SAML				*e*Sn	**Sn**	**16 06 33.0**	**-1.4**
LPAZ	**La Paz**	**19.47**	**155**	P	**Pn**	**16 04 05.0**	**+5.0**
	0.0nm,0.3s,baz=354,slow=11,SNR=3.9						
LPAZ	**La Paz**	**19.47**	**155**	*e*Pn	**Pn**	**16 04 02.7**	**+2.6**
	3.5nm,1.2s						
SIV	**San Ignacio**	**23.10**	**139**	P	**P**	**16 04 42.2**	**+5.1**
	3.0nm,0.8s,mb3.8,baz=315,slow=13,SNR=11						
WMOK	**Wichita Mounta**	**39.09**	**330**	P	**P**	**16 06 54.5**	**-3.2**
	5.6nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**50.64**	**329**	P	**P**	**16 08 29.1**	**-0.3**
	0.3nm,0.8s,mb3.2,baz=123,slow=5.7,SNR=2.6						
ULM	**Lac du Bonnet**	**51.34**	**344**	P	**P**	**16 08 34.4**	**-0.3**
	0.8nm,0.3s,mb4.1,baz=149,slow=5.9,SNR=2.3						
YKA	**Yellowknife Ar**	**67.20**	**342**	P	**P**	**16 10 24.2**	**+0.1**
	0.6nm,0.7s,mb3.8,baz=136,slow=5.9,SNR=11						
ILAR	**Eielson Array**	**80.41**	**336**	P	**P**	**16 11 42.4**	**+1.0**
	0.4nm,0.7s,mb3.5,baz=103,slow=3.3,SNR=3.5						
ASAR	**Alice Springs**	**143.15**	**231**	PKP	PKPdf	16 19 04.8	+1.3
	0.5nm,0.8s,baz=114,slow=3.9,SNR=5.4						
WRA	**Warramunga Arr**	**144.65**	**237**	PKP	PKPdf	16 19 09.2	+3.1
	1.1nm,0.7s,baz=112,slow=3.1,SNR=12						

*ISCJB **09** 16:06:54.8±0.6, 2376N±005×7094E±005, h10km, Error ellipse: s-maj=7.6km s-min=5.1km az=107.5*
*NDI **09** 16:06:56.9±1.7, 2381N×7074E, h5km±18km, ML3.3*
ISC 09 16:06:57.1±2.2, 2378N±005×7084E±006, h17km±17km, n14, σ1§27/19, 3C, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**1.21**	**245⇑**	*e*P	**Pn**	**16 07 18.5**	**-0.7**
BHJ				*e*S	**Sb**	**16 07 35.2**	**+0.3**
BHJ				*e*x	x	16 07 35.4	
	comp=N,119nm,0.1s						
BHJ				*e*x	x	16 07 35.5	
	comp=E,156nm,0.1s						
AJM	**Ajmer**	**4.37**	**51**	*e*P	**Pn**	**16 08 04.6**	**+2.0**
AJM				*e*S	**Sn**	**16 08 54.4**	**+1.2**
AJM				AML	AML	16 09 20.1	
	comp=N,92nm,0.4s						
AJM				AML	AML	16 09 21.2	
	comp=E,146nm,0.4s						
BOM	**Bombay**	**5.20**	**159⇑**	*e*x	**Pb**	**16 08 28.0**	**+0.5**
BOM				*e*S	**Sn**	**16 09 14.0**	**+0.5**
BOM				*e*x	x	16 09 17.4	
	comp=N,103nm,0.3s						
BOM				*e*x	x	16 09 19.9	
	comp=E,96nm,0.3s						
POO	**Poona**	**5.93**	**151**	*e*P	**Pn**	**16 08 27.0**	**+2.9**
POO				*e*x	x	16 09 24.0	
POO				*i*S	**Sn**	**16 09 32.0**	**+0.3**
POO				*i*x	x	16 09 40.0	
POO				x	x	16 09 47.0	
POO				x	x	16 09 58.0	
BHPL	**Bhopal**	**6.07**	**94**	*e*P	**Pn**	**16 08 28.3**	**+2.3**
BHPL				*e*S	**Sn**	**16 09 35.1**	**+0.1**
BHPL				AML	AML	16 10 26.1	
	comp=N,79nm,0.9s						
BHPL				AML	AML	16 10 27.1	
	comp=E,48nm,1.0s						
KAD	**Karad**	**7.16**	**153**	*e*S	**Sn**	**16 09 59.5**	**-2.4**
KAD				⇑*i*S	**Sn**	**16 10 00.0**	**-1.9**
KAD				AML	AML	16 10 43.9	
	comp=E,24nm,0.6s						
KAD				AML	AML	16 10 46.0	
	comp=N,11nm,0.6s						
ALBI	**Allahabad**	**10.10**	**79**	*e*x	x	16 12 05.0	
KOLN	**Koldanda**	**12.16**	**68**	*e*P	**Pn**	**16 09 49.7**	**+0.2**
	comp=N,8.3nm,0.3s						
GKN	**Gorkha**	**13.11**	**68**	*e*P	**Pn**	**16 10 01.3**	**-1.2**
	comp=N,7.4nm,0.5s						
DMN	**Daman**	**13.41**	**70**	*e*P	**Pn**	**16 10 06.9**	**+0.3**
	comp=N,6.0nm,0.4s						
KKN	**Kakani**	**13.61**	**70**	*e*P	**Pn**	**16 10 08.2**	**-1.1**
	comp=N,9.4nm,0.5s						
PKI	**Pulchoki**	**13.67**	**71**	*e*P	**Pn**	**16 10 09.8**	**-0.3**
	comp=N,14nm,0.5s						
GUN	**Gumba**	**14.15**	**70**	*e*P	**Pn**	**16 10 14.9**	**-1.8**
	comp=N,19nm,0.6s						
JIRN	**Jiri**	**14.36**	**71**	*e*P	**Pn**	**16 10 17.5**	**-2.1**
	comp=N,4.9nm,0.3s						

*IDC **09** 16:07:53.0±0.7, 1080N×9454E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.1/25, mbtmp4.1/14, ML4.0/1, Error ellipse: s-maj=37.5km s-min=14.2km az=62.0*
*ISCJB **09** 16:07:53.2±2.5, 1077N±006×9456E±007, h15km±18km, mb4.4/33, MS4.4/1, Error ellipse: s-maj=13.4km s-min=7.4km az=113.9*
*MOS **09** 16:07:55.8±0.9, 1077N×9451E, h33km, mb4.8/18, Error ellipse: s-maj=16.4km s-min=6.4km az=106.2*
*BJI **09** 16:07:55.6, 1068N×9441E, h34km, mB4.8, mb4.3, Ms4.3, Msz4.0*
*NEIC **09** 16:07:56.5±0.3, 1080N×9461E, mb4.6/14, Error ellipse: s-maj=9.6km s-min=4.7km az=60.0*
ISC 09 16:07:56.6±2.4, 1082N±006×9457E±007, h22km±18km, n72, σ0§89/68, mb4.4/33, MS4.4/1, 5C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.15**	**132**	*e*Pn	**Pn**	**16 09 51.6**	**-2.0**
PSI	**Prapat**	**9.06**	**151**	Pn	**Pn**	**16 10 06.5**	**+0.4**
	1.4nm,0.3s,baz=351,slow=11,SNR=3.8						
PALK	**Pallekele**	**14.14**	**257**	P	**Pn**	**16 11 16.0**	**+0.6**
	17nm,1.2s						
KMI	**Kunming**	**16.20**	**28**	P	**Pn**	**16 11 46.8**	**+4.0**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.6s						
KMI				LR	LR		
	comp=N,704nm,12.9s						
KMI				LR	LR		
	comp=E,657nm,12.1s						
KMI				LR	LR		
	comp=Z,429nm,12.9s						
JIRN	**Jiri**	**18.51**	**336**	*e*P	**Pn**	**16 12 12.2**	**+0.7**
	comp=Z,54nm,1.1s						
PKI	**Pulchoki**	**18.76**	**334**	*e*P	**Pn**	**16 12 15.3**	**+0.8**
	comp=Z,163nm,1.4s						
PKI	**Pulchoki**	**18.76**	**334**	*e*P	**Pn**	**16 12 15.3**	**+0.8**
PKI				pmax	pmax		
	comp=Z,82nm,1.4s						
GUN	**Gumba**	**18.86**	**336**	*e*P	**Pn**	**16 12 16.2**	**+0.4**
DMN	**Daman**	**18.92**	**333**	*e*P	**Pn**	**16 12 16.7**	**+0.2**
	comp=Z,49nm,0.9s						
KKN	**Kakani**	**19.00**	**334**	*e*P	**Pn**	**16 12 17.3**	**-0.2**
LSA	**Lhasa**	**19.05**	**351**	P	**Pn**	**16 12 18.0**	**-0.1**
LSA	**Lhasa**	**19.05**	**351**	*e*Pn	**Pn**	**16 12 16.8**	**-1.3**
	comp=Z,7.9nm,0.8s						
LSA	**Lhasa**	**19.05**	**351**	*e*P	**Pn**	**16 12 16.8**	**-1.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GKN	**Gorkha**	**19.47**	**333**	*e*P	**Pn**	**16 12 22.3**	**-0.8**
	comp=Z,57nm,1.0s						
KOLN	**Koldanda**	**19.76**	**330**	*e*P	**Pn**	**16 12 26.1**	**-0.5**
	comp=Z,67nm,0.9s						
ENH	**Enshi**	**23.82**	**33**	*e*P	**P**	**16 13 07.4**	**-0.5**
	comp=Z,28nm,1.1s,mb4.6						
ENH				*e*pP		16 13 14.2	
LZH	**Lanzhou**	**26.52**	**17**	*e*P	**P**	**16 13 34.0**	**+1.5**
LZH				AP	pP	16 13 42.0	+2.8
LZH				XP	sP	16 13 46.0	+4.0
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,71nm,4.3s						
LZH				LR	LR		
	comp=N,670nm,12.0s						
LZH				LR	LR		
	comp=Z,910nm,16.6s,MS4.4						
BJT	**Baijiatuau**	**34.82**	**30**	P	**P**	**16 14 47.5**	**+1.7**
	comp=Z,12nm,1.2s,mb4.7						
BJT	**Baijiatuau**	**34.82**	**30**	P	**P**	**16 14 47.5**	**+1.8**
BJT				pmax	pmax		
	comp=Z,12nm,1.2s						
AAK	**Ala-Archa**	**36.21**	**335**	*e*P	**P**	**16 14 57.6**	**-0.1**
	comp=Z,3.9nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**36.21**	**335⇑**	*i*P	**P**	**16 14 57.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
MK31	**Makanchi Array**	**37.33**	**346**	*i*P	**P**	**16 15 07.2**	**-0.1**
MK31				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**37.33**	**346**	P	**P**	**16 15 07.3**	**0.0**
	comp=Z,5.4nm,0.9s,mb4.4,baz=163,slow=8.9,SNR=23						
SONM	**Songino Array**	**38.21**	**13**	P	**P**	**16 15 15.3**	**+0.6**
	comp=Z,3.6nm,1.0s,mb4.1,baz=198,slow=8.3,SNR=19						
ULN	**Ulaanbaatar**	**38.39**	**14**	*e*P	**P**	**16 15 16.6**	**+0.5**
	comp=Z,4.3nm,1.1s,mb4.1						
ULN	**Ulaanbaatar**	**38.39**	**14**	*e*P	**P**	**16 15 16.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
KURK	**Kurchatov**	**41.88**	**345**	*e*P	**P**	**16 15 45.2**	**0.0**
	comp=Z,16nm,1.3s,mb4.5						
KURK	**Kurchatov**	**41.88**	**345**	P	**P**	**16 15 45.3**	**+0.2**
KURK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.3						
CN2	**Changchun**	**42.34**	**33**	*e*P	**P**	**16 15 49.9**	**+1.0**
HIA	**Hailar**	**43.67**	**24⇑**	*e*P	**P**	**16 16 00.0**	**+0.4**
ZAL	**Zalesovo**	**43.71**	**352**	P	**P**	**16 16 00.2**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.0,baz=289,slow=13,SNR=15						
NVS	**Novosibirsk**	**44.82**	**351**	*e*P	**P**	**16 16 07.3**	**-1.5**
KRAR	**Krasnoyarsk**	**45.10**	**359**	*i*P	**P**	**16 16 10.7**	**-0.4**
VOSK	**Vostochnaya**	**45.92**	**340**	P	**P**	**16 16 17.0**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,17nm,1.9s,mb4.7						
BVA0	**Borovoye Array**	**46.37**	**340**	*i*P	**P**	**16 16 20.9**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.8						
BVAR	**Borovoye Array**	**46.37**	**340**	P	**P**	**16 16 20.6**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.8,baz=138,slow=9.1,SNR=5.4						
ZRNK	**Zerenda**	**46.78**	**339**	P	**P**	**16 16 23.0**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
AB31	**Akbulak array**	**47.88**	**330**	*i*P	**P**	**16 16 32.5**	**-0.4**
AB31				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
NWAO	**Narrogin (SRO)**	**48.58**	**154**	P	**P**	**16 16 39.1**	**+0.9**
	comp=Z,10nm,0.9s,mb4.9,baz=342,slow=5.5,SNR=5.1						
NWAO	**Narrogin (SRO)**	**48.58**	**154**	*e*P	**P**	**16 16 38.8**	**+0.5**
	comp=Z,15nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**48.58**	**154**	*e*P	**P**	**16 16 38.8**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,15nm,1.1s						
BOD	**Bodaibo**	**49.20**	**14**	*e*P	**P**	**16 16 40.0**	**-3.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
WRA	**Warramunga Arr**	**49.67**	**128**	P	**P**	**16 16 46.8**	**+0.1**
	comp=Z,3.5nm,1.1s,mb4.3,baz=307,slow=8.3,SNR=6.8						
WRAB	**Tennant Creek**	**49.68**	**128**	*e*P	**P**	**16 16 46.5**	**-0.2**
	comp=Z,15nm,1.4s,mb4.8						
WRAB				*e*pP	pP	16 16 53.2	-0.5
WRAB	**Tennant Creek**	**49.68**	**128**	*e*P	**P**	**16 16 46.5**	**-0.2**
WRAB				*e**PP	pP	16 16 53.2	-0.5
WRAB				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
ASAR	**Alice Springs**	**51.52**	**132**	P	**P**	**16 17 01.6**	**+1.0**
	comp=Z,0.2nm,0.8s,baz=86,slow=8.7,SNR=4.3						
SVE	**Sverdlovsk**	**52.85**	**337**	*e*P	**P**	**16 17 12.5**	**+2.1**
ARU	**Arti**	**53.37**	**336**	*i*P	**P**	**16 17 14.2**	**-0.1**
YSS	**Yuzh-Sakhalins**	**54.23**	**39⇑**	*e*P	**P**	**16 17 21.4**	**+0.8**
YSS				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.8						
KIV	**Kislovodsk**	**55.46**	**316**	*e*P	**P**	**16 17 29.3**	**-0.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
GOF	**Gofitskoye**	**55.62**	**318**	*e*P	**P**	**16 17 28.9**	**-1.7**
YAK	**Yakutsk**	**57.09**	**19***c*	*i*P	**P**	**16 17 41.0**	**-0.1**
YAK				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.8						
ANN	**Anapa**	**59.30**	**316**	*e*P	**P**	**16 17 58.3**	**+1.7**
ANN				pmax	pmax		
	comp=Z,100nm,1.6s						
STKA	**Stephens Creek**	**61.85**	**135**	P	**P**	**16 18 13.2**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.3,baz=305,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**61.85**	**135**	*e*P	**P**	**16 18 12.9**	**-1.1**
MOS	**Moscow**	**62.81**	**328**	*e*P	**P**	**16 18 11.0**	**-9.4**
OBN	**Obninsk**	**63.14**	**327**	*e*P	**P**	**16 18 22.4**	**-0.2**
OBN				*e*		16 19 00.7	
OBN				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.0						
MA2	**Magadan**	**63.98**	**28**	*e*P	**P**	**16 18 28.4**	**+0.3**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
TIXI	**Tiksi**	**64.28**	**11***d*	*i*P	**P**	**16 18 29.0**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
SEY	**Seymchan**	**66.09**	**25⇓**	*i*P	**P**	**16 18 42.3**	**+0.4**
FINES	**FINESS Array B**	**70.33**	**332**	P	**P**	**16 19 08.1**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=92,slow=9.7,SNR=3.7						
BILL	**Bilibino**	**73.21**	**22⇑**	*e*P	**P**	**16 19 24.7**	**-1.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
GERES	**GERESS Array B**	**75.93**	**318**	P	**P**	**16 19 41.2**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=60,slow=5.8,SNR=3.3						
EKA	**Eskdalemuir Ar**	**85.55**	**325**	P	**P**	**16 20 33.3**	**+0.3**
	comp=Z,1.6nm,0.9s,mb4.2,baz=98,slow=6.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**90.33**	**283**	P	**P**	**16 20 57.4**	**+1.5**
	comp=Z,0.6nm,0.8s,mb4.0,baz=96,slow=4.7,SNR=3.6						
ILAR	**Eielson Array**	**91.87**	**22**	P	**P**	**16 21 02.2**	**-0.8**
	comp=Z,0.6nm,0.8s,mb4.0,baz=290,slow=4.9,SNR=5.6						
RES	**Resolute Bay**	**94.46**	**3**	*e*P	**P**	**16 21 14.6**	**-0.3**
	comp=Z,4.5nm,1.2s,mb4.8						
RES	**Resolute Bay**	**94.46**	**3**	*e*P	**P**	**16 21 14.6**	**-0.3**
RES				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.8						
ANMO	**Albuquerque**	**130.31**	**23⇓**	*i*PKIKP	PKPdf	16 27 08.0	+2.9
TRQA	**Tornquist**	**145.69**	**214**	*e*PKPdf	PKPdf	16 27 34.5	+1.3
PLCA	**Paso Flores**	**147.44**	**201**	P	PKPdf	16 27 36.5	+0.3
CPUP	**Villa Florida**	**149.32**	**236**	PKPbc	PKPbc	16 27 43.9	+0.3
	comp=Z,1.5nm,0.7s,baz=83,slow=6.5,SNR=4.2						

*BJI **09** 16:10:25.1, 1000N×9398E, h10km, mB5.6, mb4.5, Ms4.8, Msz4.8*
*ISCJB **09** 16:10:30.7±0.4, 1066N±006×9435E±008, h10km, mb4.2/24, Error ellipse: s-maj=12.8km s-min=7.7km az=124.3*
*IDC **09** 16:10:31.6±0.7, 1074N×9448E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.1/25, mbtmp4.1/16, ML3.9/1, Error ellipse: s-maj=43.4km s-min=13.9km az=58.0*
*NEIC **09** 16:10:32.6±0.4, 1069N×9436E, h10km, mb4.3/8, Error ellipse: s-maj=12.1km s-min=6.7km az=60.0*
*MOS **09** 16:10:34.3±0.9, 1072N×9453E, h33km, mb4.4/6, Error ellipse: s-maj=27.9km s-min=9.5km az=109.4*
ISC 09 16:10:32.6±4.5, 1071N±007×9433E±008, h9km±29km, n41, σ0§97/42, mb4.2/24, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.25**	**130**	*e*Pn	**Pn**	**16 12 32.8**	**+0.3**
KULM				*e*Sn	**Sn**	**16 13 59.7**	**-6.1**
PSI	**Prapat**	**9.08**	**150**	Pn	**Pn**	**16 12 44.7**	**+0.8**
	1.1nm,0.3s,baz=334,slow=13,SNR=5.4						
PALK	**Pallekele**	**13.89**	**257**	*e*Pn	**Pn**	**16 13 48.4**	**-1.2**
KMI	**Kunming**	**16.41**	**28**	P	**Pn**	**16 14 29.6**	**+6.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.5s						
LSA	**Lhasa**	**19.13**	**352**	*e*Pn	**Pn**	**16 14 57.1**	**+0.3**
GYA	**Guiyang**	**19.52**	**35**	P	**Pn**	**16 15 07.8**	**+6.3**
GYA				AP	pP	16 15 13.2	+10
GYA				XP	sP	16 15 16.4	+13
GYA				PP		16 15 27.9	
GYA				S	**Sn**	**16 18 46.7**	**+6.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
GYA				AMB	AMB		
	comp=Z,60nm,3.1s						
GYA				LR	LR		
	comp=N,380nm,12.4s						
GYA				LR	LR		
	comp=E,410nm,12.0s						
GYA				LR	LR		
	comp=Z,400nm,13.0s						
ENH	**Enshi**	**24.04**	**34**	*e*P	**P**	**16 15 46.8**	**-1.2**
	comp=Z,38nm,1.4s,mb4.6						
NJ2	**Nanjing**	**31.04**	**43**	*e*P	**P**	**16 16 52.4**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
AAK	**Ala-Archa**	**36.22**	**335**	*e*P	**P**	**16 17 36.0**	**+0.2**
	comp=Z,2.6nm,1.0s,mb4.1						
AAK	**Ala-Archa**	**36.22**	**335**	*e*P	**P**	**16 17 36.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**37.39**	**346**	P	**P**	**16 17 46.4**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.2,baz=161,slow=7.7,SNR=7.3						
SONM	**Songino Array**	**38.38**	**13**	P	**P**	**16 17 54.3**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=196,slow=10,SNR=4.7						
ULN	**Ulaanbaatar**	**38.56**	**14**	*e*P	**P**	**16 17 54.2**	**-1.4**
	comp=Z,2.5nm,0.8s,mb4.0						
ULN				*e*pP	pP	16 18 00.9	+2.6
ULN	**Ulaanbaatar**	**38.56**	**14**	*e*P	**P**	**16 17 54.2**	**-1.4**
ULN				*e**PP	pP	16 18 00.9	+2.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**41.93**	**345**	*e*P	**P**	**16 18 22.0**	**-1.6**
	comp=Z,5.6nm,0.9s,mb4.2						
KURK	**Kurchatov**	**41.93**	**345**	*e*P	**P**	**16 18 22.0**	**-1.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**43.79**	**352**	P	**P**	**16 18 39.4**	**+0.8**
	comp=Z,1.9nm,0.6s,mb4.0,baz=294,slow=6.9,SNR=6.6						
MDJ	**Mudanjiang**	**45.38**	**35**	P	**P**	**16 18 50.2**	**

NOA	NORSAR Array B	77.38	330	P	P	16 22 28.0	+0.1
	comp=Z,1.2nm,0.9s,mb3.8,baz=92,slow=5.9,SNR=2.9						
EKA	Eskdalemuir Ar	85.51	325	P	P	16 23 12.6	+1.6
	comp=Z,2.3nm,0.8s,mb4.5,baz=76,slow=5.2,SNR=4.1						
SYO	Syowa Base	88.15	197	‖eP	P	16 23 22.6	-1.3
ILAR	Eielson Array	92.07	22	P	P	16 23 41.0	-1.2
	comp=Z,0.3nm,0.7s,mb3.7,baz=288,slow=4.1,SNR=5.3						
PDAR	Pinedale Array	122.47	21	PKP	PKPdf	16 29 29.2	+0.8
	comp=Z,0.4nm,0.7s,baz=352,slow=3.8,SNR=3.1						

*NEIC **09** 16:10:41.2, 44.22S×167.70E, h12km, ML3.7(WEL), After WEL.*

WEL 09 16:10:41.6±0.2, 44.24S×167.22E, h12km, ML3.7/10, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.46	161	P*	Pg	16 10 50.8	+0.2
MSZ				S*	Sg	16 10 56.9	+0.3
MSZ	Milford Sound	0.46	161	P	Pg	16 10 50.8	+0.2
MSZ				S	Sg	16 10 56.9	+0.2
JCZ	Jackson Bay	0.77	78	P*	Pb	16 10 55.8	-1.0
JCZ				S*	Sb	16 11 06.4	-0.8
JCZ	Jackson Bay	0.77	78	P	Pg	16 10 55.8	-0.6
WKZ	Wanaka	1.10	123	P*	Pb	16 11 01.8	-0.8
WKZ				S*	Sb	16 11 16.2	-0.6
WKZ	Wanaka	1.10	123	P	Pb	16 11 01.8	-0.7
MLZ	Mavora Lakes	1.15	164	P*	Pb	16 11 02.5	-0.9
MLZ				S*	Sb	16 11 17.9	-0.5
MLZ	Mavora Lakes	1.15	164	P	Pb	16 11 02.5	-0.9
EAZ	Earnscleugh	1.50	132	PN	Pn	16 11 07.8	-0.5
FOZ	Fox Glacier	1.58	65	PN	Pn	16 11 07.3	-2.0
WHZ	Wether Hill Ro	1.66	175	PN	Pn	16 11 09.6	-0.9
WHZ				SN	Sn	16 11 30.4	-1.4
LBZ	Lake Benmore	1.78	96	PN	Pn	16 11 11.5	-0.6
TUZ	Tuapeka	2.19	142	PN	Pn	16 11 15.6	-2.2
ODZ	Otahua Downs	2.24	112	PN	Pn	16 11 17.3	-1.1
RPZ	Rata Peaks	2.46	79	PN	Pn	16 11 20.0	-1.6
WVZ	Waitaha Valley	2.48	63	PN	Pn	16 11 19.3	-2.5

IDC 09 16:10:57.6±3.2, 1085N×9448E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/21, mbtmp4.0/4, Error ellipse: s-maj=136.7km s-min=27.1km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.29	346	P	P	16 18 10.8	-0.4
	2.8nm,0.9s,baz=162,slow=8.4,SNR=4.2						
SONM	Songino Array	38.20	13	P	P	16 18 19.0	0.0
	2.2nm,1.0s,baz=200,slow=8.1,SNR=5.3						
ZAL	Zalesovo	43.67	352	P	P	16 19 04.3	+0.3
	1.6nm,0.9s,baz=317,slow=11,SNR=4.1						
ASAR	Alice Springs	51.60	132	P	P	16 20 06.0	+0.4
	2.0nm,1.0s,baz=307,slow=6.6,SNR=2.7						

IDC 09 16:14:18.5±20.0, 1076N×9493E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=731.2km s-min=29.8km az=73.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	38.19	13	P	P	16 21 40.0	+0.1
	0.5nm,0.9s,baz=189,slow=8.2,SNR=2.4						
WRA	Warramunga Arr	49.35	128	P	P	16 23 10.0	+0.4
	1.4nm,1.1s,baz=310,slow=6.3,SNR=3.3						
ASAR	Alice Springs	51.21	132	P	P	16 23 24.1	+0.4
	1.3nm,0.7s,baz=308,slow=6.5,SNR=11						

*BJI **09** 16:14:25.7, 1004N×9440E, h33km, mB4.8, mb4.0, Ms4.2, Msz3.8*
*IDC **09** 16:14:27.6±0.8, 1063N×9430E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/23, mbtmp3.9/12, Error ellipse: s-maj=46.3km s-min=16.1km az=57.0*
*ISCJB **09** 16:14:29.2±0.6, 1064N±008×944E±0.1, h21km, mb4.1/20, MS3.9/1, Error ellipse: s-maj=16.5km s-min=8.0km az=112.8*
*NEIC **09** 16:14:30.9±0.6, 1064N×9439E, mb4.6/8, Error ellipse: s-maj=22.1km s-min=7.8km az=55.0*
*MOS **09** 16:14:30.9±0.8, 1070N×9440E, h33km, mb4.4/3, Error ellipse: s-maj=34.7km s-min=13.7km az=105.9*

ISC 09 16:14:31.4±0.6, 1066N±008×944E±0.1, h23km, h23km±3.4km: pP-P, n40, σ0.9 99/36, mb4.1/20, MS3.9/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.86	302	eP	Px	16 15 17.6	
PBA				eS	Sx	16 15 55.0	
PBA				ex	x	16 16 03.5	
	comp=N,721nm,1.1s						
PBA				ex	x	16 16 04.1	
	comp=E,899nm,0.8s						
KMI	Kunming	16.44	28	P	Pn	16 18 24.3	+3.6
KMI				AMB	AMB		
	comp=Z,7.0nm,1.6s						
JIRN	Jiri	18.57	337	eP	Pn	16 18 47.5	+0.4
PKI	Pulchoki	18.81	335	eP	Pn	16 18 50.6	+0.6
GUN	Gumba	18.92	336	eP	Pn	16 18 51.7	+0.4
	comp=Z,235nm,1.8s						
DMN	Daman	18.97	334	eP	Pn	16 18 52.3	+0.4
KKN	Kakani	19.06	335	eP	Pn	16 18 52.8	-0.1
LSA	Lhasa	19.18	352	P	Pn	16 18 55.0	+0.5
	comp=Z,4.3nm,0.7s						
LSA	Lhasa	19.18	352	P	Pn	16 18 55.0	+0.6
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GKN	Gorkha	19.52	333	eP	Pn	16 18 58.0	-0.5
GYA	Guiyang	19.55	35	P	Pn	16 18 57.6	-1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s						
KOLN	Koldanda	19.80	331	eP	Pn	16 19 01.9	+0.1
	comp=Z,30nm,0.6s						
KKM	Kota Kinabalu	22.11	100	eP	P	16 19 27.1	+1.9
KKM				epP		16 19 32.0	
ENH	Enshi	24.07	34	eP	P	16 19 44.0	-1.0
	comp=Z,47nm,1.4s,mb4.7						
ENH				epP		16 19 50.4	
LZH	Lanzhou	26.74	17	eP	P	16 20 09.5	+0.3
LZH				AP	pP	16 20 14.0	-2.0
LZH				XP	sP	16 20 18.5	-0.3
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
GTA	Gaotai	29.04	9	eP	P	16 20 30.6	+0.8
GTA				AP	pP	16 20 40.0	+3.4
GTA				XP	sP	16 20 44.5	+5.1
GTA				AMB	AMB		
	comp=Z,3.0nm,2.2s,mb3.6						
WMQ	Urumqi	33.54	351	eP	P	16 21 11.3	+1.9
WMQ				AP	pP	16 21 17.1	+0.9
WMQ				XP	sP	16 21 20.1	+1.1
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,81nm,4.8s						
WMQ				LR	LR		
	comp=N,214nm,22.3s,MS4.0						
WMQ				LR	LR		
	comp=E,321nm,24.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,225nm,24.0s,MS3.8						
MKAR	Makanchi Array	37.44	346	P	P	16 21 43.1	+0.1
	comp=Z,1.1nm,0.7s,mb3.8,baz=166,slow=7.7,SNR=6.1						
SONM	Songino Array	38.42	13	P	P	16 21 51.6	+0.4
	comp=Z,0.7nm,0.9s,mb3.4,baz=201,slow=8.4,SNR=4.8						
ULN	Ulaanbaatar	38.60	14	eP	P	16 21 50.4	-2.3
	comp=Z,4.6nm,1.3s,mb4.0						
ULN	Ulaanbaatar	38.60	14	eP	P	16 21 50.4	-2.3
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
KURK	Kurchatov	41.98	345	eP	P	16 22 20.3	-0.4
	comp=Z,16nm,1.6s,mb4.4						
KURK				epP	pP	16 22 26.2	-1.4
KURK	Kurchatov	41.98	345	eP	P	16 22 20.3	-0.4
KURK				e*PP	pP	16 22 26.2	-1.5
KURK				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.4						
ZAL	Zalesovo	43.84	352	P	P	16 22 36.0	+0.3
	comp=Z,0.7nm,0.6s,mb3.6,baz=295,slow=14,SNR=3.4						
BVAR	Borovoye Array	46.45	340	P	P	16 22 55.7	-0.7
	comp=Z,0.4nm,0.7s,mb3.5,baz=139,slow=7.3,SNR=3.6						
WRA	Warramunga Arr	49.74	128	P	P	16 23 22.4	+0.4
	comp=Z,1.9nm,0.7s,mb4.3,baz=303,slow=8.8,SNR=11						
WRAB	Tennant Creek	49.75	128	eP	P	16 23 22.4	+0.4
	comp=Z,11nm,1.1s,mb4.8						
WRAB	Tennant Creek	49.75	128	eP	P	16 23 22.4	+0.4
WRAB				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
ASAR	Alice Springs	51.57	132	P	P	16 23 36.7	+0.9
	comp=Z,4.2nm,0.7s,mb4.5,baz=309,slow=6.7,SNR=26						
STKA	Stephens Creek	61.89	135	P	P	16 24 47.9	-1.2
	comp=Z,2.4nm,0.8s,mb4.4,baz=311,slow=6.8,SNR=5.4						
STKA	Stephens Creek	61.89	135	eP	P	16 24 46.4	-2.7
FINES	FINESS Array B	70.37	332	P	P	16 25 42.6	-0.8
	comp=Z,0.5nm,0.6s,mb3.6,baz=107,slow=8.9,SNR=2.3						
ARCES	ARCESS Array B	72.73	340	P	P	16 25 57.9	+0.1
	comp=Z,4.5nm,1.1s,mb4.3,baz=119,slow=8.6,SNR=3.5						
HFS	Hagfors	76.17	329	P	P	16 26 16.6	-1.1
	comp=Z,1.5nm,0.8s,mb4.0,baz=335,slow=17,SNR=2.5						
CASY	Casey	77.65	173	P	P	16 26 25.2	-0.8
	comp=Z,6.5nm,0.9s,mb4.6						
TORD	Torodi Ar. Bea	90.16	283	P	P	16 27 31.1	+1.2
	comp=Z,0.6nm,0.7s,mb4.0,baz=62,slow=4.5,SNR=3.1						
ILAR	Eielson Array	92.10	22	P	P	16 27 37.3	-1.6
	comp=Z,0.3nm,0.7s,mb3.8,baz=301,slow=4.2,SNR=4.3						
NVAR	Mina Array Bea	122.43	30	PKP	PKPdf	16 33 26.7	+1.9
	comp=Z,0.4nm,0.6s,baz=225,slow=0.4,SNR=4.6						
NVAR	Mina Array Bea	122.43	30	PKP	PKPdf	16 33 26.7	+1.8
PDAR	Pinedale Array	122.51	21	PKP	PKPdf	16 33 25.4	+0.5
	comp=Z,0.7nm,0.8s,baz=222,slow=2.0,SNR=4.5						

*ISCJB **09** 16:17:34.5±4.0, 1071N±008×946E±0.1, h7km±26km, mb4.3/19, MS4.1/10, Error ellipse: s-maj=21.3km s-min=7.2km az=113.6*
*IDC **09** 16:17:35.4±0.7, 1079N×9463E, h0km, mb4.2/11, mb1 4.2/12, mb1mx4.0/25, mbtmp4.1/12, ML3.4/1, MS4.0/11, Ms1 4.1/11, ms1mx3.7/32, Error ellipse: s-maj=39.4km s-min=14.6km az=62.0*
*BJI **09** 16:17:35.4, 1025N×9434E, h36km, mB4.9, mb5.0, Ms4.1, Msz4.3*
*NEIC **09** 16:17:37.0±0.4, 1076N×9468E, h10km, mb4.5/14, Error ellipse: s-maj=16.8km s-min=5.2km az=56.0*
*MOS **09** 16:17:38.8±1.2, 1088N×9490E, h33km, mb4.6/6, Error ellipse: s-maj=24.2km s-min=9.0km az=113.7*

ISC 09 16:17:37.7±4.0, 1077N±008×946E±0.1, h14km±26km, n54, σ1.9 01/43, mb4.3/19, MS4.1/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	2.05	296	eP	Px	16 18 26.1	
PBA				eS	Sx	16 18 53.6	
PBA				ex	x	16 19 01.4	
	comp=N,1μm,0.7s						
PBA				ex	x	16 19 10.0	
	comp=E,2μm,0.9s						
KULM	Kulim	8.07	132	Pn	Pn	16 19 32.4	-2.2
PSI	Prapat	8.99	151	Pn	Pn	16 19 48.1	+0.9
	comp=E,0.4nm,0.3s,baz=341,slow=20,SNR=2.2						
PSI				LR	LR	16 23 41.6	
	comp=E,1μm,21.1s,baz=315,slow=40						
HYB	Hyderabad	16.93	295	i P	Pn	16 21 39.0	+4.8
HYB	Hyderabad	16.93	295	eP	Pn	16 21 39.0	+4.8
KSM	Kuching	18.11	120	P	Pn	16 21 47.5	-1.3
JIRN	Jiri	18.58	336	eP	Pn	16 21 55.5	+0.8
	comp=E,118nm,1.5s						
PKI	Pulchoki	18.83	334	eP	Pn	16 21 58.3	+0.6
	comp=E,293nm,2.1s						
PKI	Pulchoki	18.83	334	eP	Pn	16 21 58.3	+0.6
PKI				pmax	pmax		
	comp=Z,147nm,2.1s						
GUN	Gumba	18.93	335	eP	Pn	16 21 59.3	+0.4
	comp=Z,269nm,1.8s						
DMN	Daman	19.00	333	eP	Pn	16 22 00.5	+0.8
	comp=Z,173nm,1.8s						
KKN	Kakani	19.08	334	eP	Pn	16 22 00.8	+0.2
	comp=Z,66nm,1.4s						
KKN	Kakani	19.08	334	eP	Pn	16 22 00.8	+0.2
KKN				pmax	pmax		
	comp=Z,33nm,1.4s						
LSA	Lhasa	19.12	351	P	Pn	16 22 01.2	+0.1
	comp=Z,5.6nm,0.7s						
LSA	Lhasa	19.12	351	P	Pn	16 22 01.2	+0.1
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GKN	Gorkha	19.55	333	eP	Pn	16 22 05.1	-1.2
	comp=Z,32nm,0.8s						
KOLN	Koldanda	19.84	330	eP	Pn	16 22 09.3	-0.4
	comp=Z,29nm,0.8s						
KKM	Kota Kinabalu	21.86	101	P	P	16 22 31.4	+1.4
ENH	Enshi	23.83	33	eP	P	16 22 50.2	-0.3
	comp=Z,68nm,1.7s,mb4.8						
LZH	Lanzhou	26.56	17	eP	P	16 23 17.0	+1.8
LZH				AP	pP	16 23 31.0	+12
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,124nm,4.3s						
GTA	Gaotai	28.90	8	eP	P	16 23 38.5	+2.3
GTA				AP	pP	16 23 44.7	+4.4
GTA				XP	sP	16 23 48.1	+6.1
GTA				AMB	AMB		
	comp=Z,6.0nm,2.1s,mb4.0						
JOW	Kunigami	35.49	59	LR	LR	16 38 45.7	
	comp=Z,153nm,19.1s,MS3.8,baz=316,slow=36						
AAK	Ala-Archa	36.28	335	eP	P	16 24 39.1	-1.6
	comp=Z,2.7nm,0.9s,mb4.2						
AAK	Ala-Archa	36.28	335	eP	P	16 24 39.1	-1.6
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MKAR	Makanchi Array	37.40	346	P	P	16 24 48.8	-1.5
	comp=Z,2.8nm,0.8s,mb4.1,baz=163,slow=8.9,SNR=7.7						
MKAR				LR	LR	16 44 39.0	
	comp=Z,228nm,18.5s,MS4.0,baz=191,slow=43						
SONM	Songino Array	38.26	13	P	P	16 24 57.1	-0.4
	comp=Z,1.8nm,1.0s,mb3.8,baz=185,slow=8.6,SNR=6.8						
SONM				LR	LR	16 42 21.1	
	comp=Z,412nm,19.0s,MS4.3,baz=187,slow=39						
ULN	Ulaanbaatar	38.43	13	P	P	16 24 58.1	-0.8
	comp=Z,3.9nm,1.0s,mb4.1						
ULN	Ulaanbaatar	38.43	13	P	P	16 24 58.1	-0.8
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
KURK	Kurchatov	41.95	345	eP	P	16 25 27.6	-0.5
	comp=Z,15nm,1.3s,mb4.5						
KURK	Kurchatov	41.95	345	eP	P	16 25 27.6	-0.5
KURK				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.5						
ZAL	Zalesovo	43.77	352	P	P	16 25 43.4	+0.5
	comp=Z,1.7nm,0.7s,mb3.9,baz=280,slow=8.7,SNR=6.6						
BVAR	Borovoye Array	46.44	340	P	P	16 26 03.7	-0.3
	comp=Z,0.6nm,0.7s,mb3.6,baz=134,slow=8.5,SNR=3.4						
MJAR	Matsushiro Arr	46.90	49	LR	LR	16 45 49.9	
	comp=Z,120nm,21.4s,MS3.8,baz=215,slow=36						
NWAO	Narrogin (SRO)	48.51	154	P	P	16 26 21.9	+1.7
	comp=Z,11nm,0.9s,mb4.9,baz=331,slow=7.9,SNR=5.2						
NWAO	Narrogin (SRO)	48.51	154	eP	P	16 26 21.3	+1.1
	comp=Z,18nm,1.1s,mb5.0						
NWAO	Narrogin (SRO)	48.51	154	eP	P	16 26 21.3	+1.1
NWAO				pmax	pmax		
	comp=Z,18nm,1.1s						
BOD	Bodaibo	49.24	14	eP	P	16 26 24.7	-1.1
BOD				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.3						
WRA	Warramunga Arr	49.59	128	P	P	16 26 28.7	+0.2
	comp=Z,1.7nm,0.9s,mb4.0,baz=305,slow=9.1,SNR=4.6						
WRAB	Tennant Creek	49.60	128	P	P	16 26 29.3	+0.8
	comp=Z,6.6nm,0.9s,mb4.7						
WRAB	Tennant Creek	49.60	128	P	P	16 26 29.3	+0.8
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
ATD	Arta Tunnel	50.75	276	LR	LR	16 45 35.6	
	comp=Z,63nm,18.3s,MS3.7,baz=70,slow=33						
ASAR	Alice Springs	51.44	132	P	P	16 26 43.1	+0.7
	comp=Z,3.4nm,0.8s,mb4.3,baz=309,slow=7.4,SNR=12						
KMBO	Kilima Mbogo	58.26	262	LR	LR	16 49 07.7	
	comp=Z,85nm,19.9s,MS3.9,baz=95,slow=32						
CTA	Charters Tower	59.34	121	LR	LR	16 54 57.8	
	comp=Z,188nm,21.1s,MS4.2,baz=132,slow=38						
STKA	Stephens Creek	61.77	135	P	P	16 27 54.6	-1.4
	comp=Z,4.0nm,0.8s,mb4.6,baz=313,slow=11,SNR=8.4						
STKA	Stephens Creek	61.77	135	eP	P	16 27 54.5	-1.4
ARCES	ARCESS Array B	72.73	340	P	P	16 29 05.5	+0.1
	comp=Z,1.2nm,0.7s,mb3.9,baz=98,slow=5.5,SNR=4.2						
NOA	NORSAR Array B	77.47	330	LR	LR	17 05 08.2	
	comp=Z,77nm,18.0s,MS4.1,baz=50,slow=37						
JMIC	Jan Mayen	84.14	341	LR	LR	17 10 08.5	
	comp=Z,145nm,18.9s,MS4.4,baz=87,slow=38						
TORD	Torodi Ar. Bea	90.40	283	P	P	16 30 38.9	+0.1
	comp=Z,0.6nm,0.8s,mb4.0,baz=72,slow=3.2,SNR=3.2						
BORG	Borgarnes	90.96	337	LR	LR	17 16 33.8	
	comp=Z,178nm,18.6s,MS4.5,baz=41,slow=39						
MDT	Midelt	91.88	304	P	P	16 30 45.6	0.0
	comp=Z,2.5nm,0.8s,mb4.6,baz=101,slow=5.2,SNR=4.2						
PDAR	Pinedale Array	122.31	21	PKP	PKPdf	16 36 32.6	+0.2
	comp=Z,0.3nm,0.8s,baz=207,slow=2.9,SNR=4.2						
CPUP	Villa Florida	149.34	236	PKPbc	PKPbc	16 37 27.2	+1.1
	comp=Z,0.5nm,0.5s,baz=86,slow=4.8,SNR=2.9						

*BJI **09** 16:23:30.5, 4230N×12600W, h10km, mB5.1, mb4.7, Ms4.8, Msz4.4*
*ISCJB **09** 16:23:34.6±0.6, 4230N±004×12644W±006, h10km, mb4.4/9, MS4.8/2, Error ellipse: s-maj=7.4km s-min=5.5km az=110.5*
*NEIC **09** 16:23:40.5±1.0, 4230N×12596W, h10km, mb4.6/3, Error ellipse: s-maj=12.3km s-min=6.2km az=79.0*
*IDC **09** 16:23:40.6±1.8, 4246N×12577W, h0km, mb3.9/4, mb1 4.1/9, mb1mx3.8/26, mbtmp3.8/9, ML3.7/4, MS3.6/2, Ms1 3.7/2, ms1mx3.2/34, Error ellipse: s-maj=28.2km s-min=10.6km az=49.0*

ISC 09 16:23:36.9±0.7, 4222N±004×12634W±008, h10km, (h16km±.1km: pP-P), n60, σ1.9 36/65, mb4.4/9, MS4.8/2, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	Bosley Butte	1.57	90	ePn	Pn	16 24 03.1	-1.8
KSXB	Camp Six Broad	1.88	101	P	Pn	16 24 07.9	-1.1
KTRM	Thompson Ridge	2.23	97	P	Pn	16 24 12.6	-1.3
KHMM	Horse Mountain	2.38	124	ePn	Pn	16 24 15.7	-0.3
DBO	Dodson Butte	2.45	68	P	Pn	16 24 15.9	-1.1
HUMO	Hull Mountain	2.53	80	P	Pn	16 24 17.1	-1.0
RNO	Roman Nose	2.54	48	P	Pn	16 24 17.2	-1.1
HSO	Harness Mounta	2.72	60	P	Pn	16 24 19.6	-1.1
YBH	Yreka Blue Hor	2.75	99	Pn	Pn	16 24 21.3	+0.3
	11nm,0.3s,baz=289,slow=14,SNR=146						
YBH				Sn	Sn	16 24 52.5	-1.8
	14nm,0.3s,baz=192,slow=17,SNR=7.1						
BBOR	Butler Butte	2.78	75	P	Pn	16 24 21.2	-0.3
EUO	Eugene	3.00	52	P	Pn	16 24 23.4	-1.0
BUOR	Burton Butte	3.04	88	P	Pn	16 24 25.5	+0.5
LHEM	Herd Peak	3.13	100	P	Pn	16 24 26.7	+0.4
KIPM	Iron Peak	3.24	137	ePn	Pn	16 24 29.0	+1.2
KCPM	Cahto Peak	3.28	140	ePn	Pn	16 24 29.1	+0.7
KCPM				eSn	Sn	16 25 04.8	-2.6
WDC	Whiskeytown Da	3.29	119	ePn	Pn	16 24 28.6	+0.1
HBO	Huckleberry Mo	3.36	60	P	Pn	16 24 29.1	-0.3
FRIS	Frissel Point	3.68	56	P	Pn	16 24 33.6	-0.2
HOPS	Hopland	4.07	141	ePn	Pn	16 24 40.7	+1.5
HOPS				eSn	Sn	16 25 22.3	-4.6
GT2	Goat Mountain	4.16	44	P	Pn	16 24 40.6	+0.2
TDH	Tom, Dick, Har	4.50	46	P	Pn	16 24 45.2	+0.1
MOD	Modoc	4.50	92	ePn	Pn	16 24 44.5	-0.7
OHCM	Honcut	4.68	126	ePn	Pn	16 24 49.9	+2.3
OHCM				eSn	Sn	16 25 40.8	-1.2
WVOR	Wild Horse Val	5.71	85	ePn	Pn	16 25 00.3	-1.5
	13nm,0.6s						
CMB	Columbia Colle	6.19	131	ePn	Pn	16 25 12.1	+3.8
	5.8nm,0.8s						
CMB				eSn	Sn	16 26 19.2	+0.1
HAWA	Hanford	6.42	47	ePn	Pn	16 25 11.1	-0.4
	0.9nm,0.6s						
BMO	Blue Mountains	7.07	65	ePn	Pn	16 25 20.4	0.0
	28nm,0.8s						
NVAR	Mina Array Bea	7.21	119	Pn	Pn	16 25 25.1	+2.7
	0.5nm,0.3s,baz=302,slow=13,SNR=9.0						
NVAR				Sn	Sn	16 26 43.0	-1.4
	0.1nm,0.3s,baz=217,slow=44,SNR=2.2						
NVAR				LR	LR	16 28 25.4	
	comp=Z,324nm,18.1s,baz=320,slow=41						
ELK	Elko	8.46	96	Pn	Pn	16 25 41.9	+2.3
	0.2nm,0.3s,baz=282,slow=14,SNR=12						
NEW	Newport	8.87	44	Pn	Pn	16 25 45.1	0.0
	0.2nm,0.3s,baz=201,slow=16,SNR=3.4						
MSO	Missoula	9.98	58	ePn	Pn	16 26 01.1	+0.9
	24nm,1.3s						
BGU	Big Grassy Mou	10.06	93	ePn	Pn	16 26 08.4	+7.0
MCMT	McKenzie Canyo	10.14	71	ePn	Pn	16 26 04.4	+1.9
DLMT	Dillon	10.42	68	ePn	Pn	16 26 06.6	+0.2
	53nm,1.3s						
CHMT	Chamberlain Mo	10.45	59	ePn	Pn	16 26 07.7	+1.0
ARUT	Antelope Range	10.84	110	ePn	Pn	16 26 15.8	+3.7
ARUT				e		16 26 31.9	
HWUT	Hardware Ranch	11.03	88	ePn	Pn	16 26 16.5	+1.8
	21nm,1.3s						
BOZ	Bozeman (W)	11.14	67	ePn	Pn	16 26 16.9	+0.6
	18nm,0.8s						
MSU	Marysvale	11.42	104	ePn	Pn	16 26 23.8	+3.7
DAU	Daniels Canyon	11.49	94	Pn	Pn	16 26 24.6	+3.6
PDAR	Pinedale Array	12.40	82	Pn	Pn	16 26 36.3	+2.8
	0.2nm,0.3s,baz=286,slow=15,SNR=10						
PV10	Paradox Valley	13.75	100	Pn	Pn	16 26 50.0	-1.9
PV01	Paradox Valley	14.18	101	ePn	Pn	16 26 59.6	+1.8
ISCO	Idaho Springs	15.83	92	ePn	Pn	16 27 19.0	-0.9
	7.7nm,0.8s						
SDCO	Great Sand Dun	16.58	99	ePn	Pn	16 27 31.3	+1.9
	181nm,1.2s						
ANMO	Albuquerque	17.13	109	LR	LR	16 35 07.5	
	comp=Z,337nm,20.0s,baz=174,slow=41						
FFC	Flin Flon	20.30	44	ePn	P	16 28 13.9	+1.0
	22nm,0.8s						
YKA	Yellowknife Ar	21.46	15	P	P	16 28 27.0	+1.6
	3.4nm,0.8s,mb3.7,baz=204,slow=12,SNR=27						
ULM	Lac du Bonnet

comp=Z,210nm,19.9s
WMQ Urumqi 89.06 336 eP P 16 36 30.6 -1.6
WMQ AP pP 16 36 35.4 -0.2
WMQ XP sP 16 36 37.6 +0.8
WMQ AMB AMB
comp=Z,4.0nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,29nm,4.2s
WMQ LR LR
comp=N,276nm,28.0s,MS4.7
WMQ LR LR
comp=E,284nm,27.4s,MS4.7
WMQ LR LR
comp=Z,272nm,26.0s,MS4.6
LZH Lanzhou 89.58 322 eP P 16 36 31.6 -3.1
LZH AP pP 16 36 36.4 -1.6
LZH XP sP 16 36 38.7 -0.5
LZH PP PP 16 40 03.8 -2.4
LZH AMB AMB
comp=Z,21nm,1.4s,mb5.3

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*IDC **09** 16:24:27.8±0.9, 1079N×9458E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, ML3.5/1, Error ellipse: s-maj=47.8km s-min=15.8km az=63.0*
*BJI **09** 16:24:28.9, 1090N×9480E, h10km, mB5.0, mb4.6, Ms4.3, Msz4.1*
*NEIC **09** 16:24:29.0±0.4, 1085N×9475E, h10km, mb4.5/14, Error ellipse: s-maj=14.3km s-min=5.8km az=57.0*
*ISCJB **09** 16:24:30.3±0.5, 1083N±007×9467E±010, h33km, mb4.0/17, Error ellipse: s-maj=16.1km s-min=7.0km az=115.2*
*MOS **09** 16:24:30.1±1.3, 1083N×9472E, h33km, mb4.8/5, Error ellipse: s-maj=26.2km s-min=9.4km az=116.8*

ISC 09 16:24:32.8±0.5, 1088N±007×947E±01, h35km, (h27km±2.4km:pP-P), n41, σ0§97/40, mb4.0/17, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.04**	**292**	*e*P	Px	16 25 05.8	
PBA				*e*S	Sx	16 25 56.5	
PBA				*e*x	x	16 25 57.8	
	comp=E,1μm,0.8s						
PBA				*e*x	x	16 25 58.1	
	comp=N,626nm,1.0s						
PSI	**Prapat**	**9.06**	**152**	Pn	**Pn**	**16 26 40.0**	**-1.2**
	comp=N,0.5nm,0.3s,baz=324,slow=12,SNR=2.3						
HYB	**Hyderabad**	**16.92**	**294**	*i* P	**Pn**	**16 28 28.0**	**+1.2**
HYB	**Hyderabad**	**16.92**	**294**	*e*P	**Pn**	**16 28 28.0**	**+1.2**
JIRN	**Jiri**	**18.50**	**336**	*e*P	**Pn**	**16 28 46.1**	**-0.2**
	comp=N,92nm,1.6s						
PKI	**Pulchoki**	**18.75**	**334**	*e*P	**Pn**	**16 28 49.1**	**-0.2**
	comp=N,149nm,1.6s						
PKI	**Pulchoki**	**18.75**	**334**	*e*P	**Pn**	**16 28 49.1**	**-0.2**
PKI				pmax	pmax		
	comp=Z,75nm,1.6s						
GUN	**Gumba**	**18.85**	**335**	*e*P	**Pn**	**16 28 50.1**	**-0.4**
	comp=Z,210nm,1.9s						
DMN	**Daman**	**18.92**	**333**	*e*P	**Pn**	**16 28 51.4**	**+0.1**
	comp=Z,26nm,1.0s						
KKN	**Kakani**	**19.00**	**334**	*e*P	**Pn**	**16 28 51.1**	**-1.2**
	comp=Z,53nm,1.5s						
KKN	**Kakani**	**19.00**	**334**	*e*P	**Pn**	**16 28 51.1**	**-1.2**
KKN				pmax	pmax		
	comp=Z,26nm,1.5s						
LSA	**Lhasa**	**19.01**	**351**	P	**Pn**	**16 28 52.1**	**-0.4**
	comp=Z,3.2nm,0.6s						
LSA	**Lhasa**	**19.01**	**351**	P	**Pn**	**16 28 52.1**	**-0.4**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GKN	**Gorkha**	**19.47**	**332**	*e*P	**Pn**	**16 28 56.9**	**-1.0**
	comp=Z,93nm,1.5s						
KOLN	**Koldanda**	**19.76**	**330**	*e*P	**Pn**	**16 29 00.1**	**-1.3**
	comp=Z,77nm,1.3s						
ENH	**Enshi**	**23.71**	**33**	*e*P	**P**	**16 29 40.8**	**-0.8**
	comp=Z,8.8nm,0.9s,mb4.2						
LZH	**Lanzhou**	**26.44**	**17**	*e*P	**P**	**16 30 10.1**	**+3.8**
LZH				AP	pP	16 30 18.2	+1.9
LZH				XP	sP	16 30 21.5	+1.0
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.5						
GTA	**Gaotai**	**28.78**	**8**	*e*P	**P**	**16 30 28.9**	**+1.6**
GTA				AP	pP	16 30 36.4	-0.9
GTA				XP	sP	16 30 39.8	-1.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.7s,mb3.8						
NACB	**Ninganchiao**	**28.81**	**59**	P	**P**	**16 30 27.1**	**-0.4**
AAK	**Ala-Archa**	**36.20**	**334**	*e*P	**P**	**16 31 31.8**	**-0.4**
	comp=Z,15nm,1.8s,mb4.6						
AAK	**Ala-Archa**	**36.20**	**334**	*e*P	**P**	**16 31 31.8**	**-0.3**
AAK				pmax	pmax		
	comp=Z,15nm,1.8s,mb4.6						
MKAR	**Makanchi Array**	**37.30**	**346**	P	**P**	**16 31 41.8**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.8,baz=163,slow=8.6,SNR=8.7						
SONM	**Songino Array**	**38.14**	**13**	P	**P**	**16 31 49.5**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.5,baz=188,slow=5.8,SNR=9.1						
ULN	**Ulaanbaatar**	**38.31**	**13**	*e*P	**P**	**16 31 50.5**	**+0.5**
	comp=Z,4.6nm,1.2s,mb4.1						
ULN	**Ulaanbaatar**	**38.31**	**13**	*e*P	**P**	**16 31 50.5**	**+0.5**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
KURK	**Kurchatov**	**41.85**	**345**	*e*P	**P**	**16 32 17.4**	**-2.0**
	comp=Z,15nm,1.4s,mb4.4						
KURK				*e*pP	pP	16 32 26.0	-3.7
KURK	**Kurchatov**	**41.85**	**345**	*e*P	**P**	**16 32 17.4**	**-2.0**
KURK				*e**PP	pP	16 32 26.0	-3.7
KURK				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.4						
ZAL	**Zalesovo**	**43.66**	**352**	P	**P**	**16 32 34.9**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.6,baz=320,slow=18,SNR=4.3						
NVS	**Novosibirsk**	**44.78**	**351**	*e*P	**P**	**16 32 44.1**	**+1.1**
BVAR	**Borovoye Array**	**46.35**	**340**	P	**P**	**16 32 55.1**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=153,slow=8.3,SNR=3.6						
NWAO	**Narrogin (SRO)**	**48.59**	**155**	P	**P**	**16 33 12.6**	**-0.2**
	comp=Z,4.2nm,0.7s,mb4.6,baz=357,slow=12,SNR=3.7						
NWAO	**Narrogin (SRO)**	**48.59**	**155**	*e*P	**P**	**16 33 11.5**	**-1.3**
	comp=Z,13nm,1.2s,mb4.8						
NWAO	**Narrogin (SRO)**	**48.59**	**155**	*e*P	**P**	**16 33 11.5**	**-1.3**
NWAO				pmax	pmax		
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**49.63**	**128**	P	**P**	**16 33 21.1**	**+0.4**
	comp=Z,0.7nm,0.9s,mb3.7,baz=304,slow=8.8,SNR=4.5						
WRAB	**Tennant Creek**	**49.63**	**128**	*e*P	**P**	**16 33 20.8**	**0.0**
	comp=Z,17nm,1.4s,mb4.9						
WRAB	**Tennant Creek**	**49.63**	**128**	*e*P	**P**	**16 33 20.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
ASAR	**Alice Springs**	**51.48**	**132**	P	**P**	**16 33 35.9**	**+1.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=311,slow=7.7,SNR=9.0						
STKA	**Stephens Creek**	**61.82**	**135**	P	**P**	**16 34 49.2**	**+1.0**
	comp=Z,1.3nm,0.7s,mb4.2,baz=268,slow=4.5,SNR=4.2						
STKA	**Stephens Creek**	**61.82**	**135**	*e*P	**P**	**16 34 46.9**	**-1.3**
GERES	**GERESS Array B**	**75.96**	**318**	P	**P**	**16 36 18.3**	**+2.3**
	comp=Z,0.2nm,0.3s,mb3.6,baz=46,slow=2.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**90.42**	**283**	P	**P**	**16 37 30.8**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.8,baz=23,slow=1.8,SNR=2.8						

IGQ 09 16:25:35.2, 351S×7818W, h12km±6km, Mb4.0, Ms3.8, 5C-2D, Error ellipse: s-maj=25.5km s-min=6.5km az=172.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**2.01**	**352**	⇑P	Pn	16 26 11.6	+2.7
ARRY				S	Sn	16 26 37.1	+3.1
PATA	**Patacocha**	**2.01**	**353**	⇓P	Pn	16 26 12.5	+3.6
PATA				S	Sn	16 26 38.3	+4.4
IGUA	**Igualata**	**2.06**	**347**	P	Pn	16 26 11.7	+2.1
ULBA	**Ulba**	**2.06**	**354**	⇓P	Pn	16 26 12.4	+2.9
ULBA				S	Sn	16 26 40.0	+4.8
TAMB	**Tambo**	**2.80**	**356**	⇑P	Pn	16 26 23.8	+3.9
CAMI	**Rancho Maria**	**2.83**	**353**	⇑P	Pn	16 26 23.9	+3.7
VC1	**Cotopaxi 1**	**2.86**	**356**	⇑P	Pn	16 26 24.5	+4.0
NAS1	**Nasa**	**2.87**	**354**	P	Pn	16 26 25.0	+4.2
ANTI	**Antisana**	**3.04**	**0**	⇑P	Pn	16 26 25.0	+1.9
GGP	**Refugio Guagua**	**3.34**	**353**	P	Pn	16 26 34.8	+7.6
ANGU	**Angureal**	**3.54**	**3**	P	Pn	16 26 33.4	+3.5

IDC 09 16:26:24.3±3.5, 1088N×9457E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=140.7km s-min=29.0km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.28**	**346**	P	P	16 33 37.9	0.0
	1.1nm,0.8s,baz=161,slow=8.7,SNR=3.8						
SONM	**Songino Array**	**38.16**	**13**	P	P	16 33 45.4	+0.1
	0.6nm,0.9s,baz=199,slow=6.9,SNR=2.9						
ASAR	**Alice Springs**	**51.55**	**132**	P	P	16 35 32.4	+0.4
	0.9nm,0.8s,baz=309,slow=7.7,SNR=3.4						

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*IDC **09** 16:28:46.2±0.6, 1078N×9453E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.1/26, mbtmp4.1/16, ML3.6/1, MS4.2/1, Ms1 4.2/1, ms1mx3.1/30, Error ellipse: s-maj=25.0km s-min=14.1km az=63.0*
*ISCJB **09** 16:28:47.5±0.3, 1080N±004×9454E±005, h21km, mb4.5/54, MS4.3/5, Error ellipse: s-maj=7.2km s-min=5.3km az=98.5*
*BJI **09** 16:28:47.9, 1060N×9450E, h33km, mB5.1, mb4.4, Ms4.5, Msz4.2*
*NEIC **09** 16:28:49.3±0.3, 1079N×9451E, mb4.7/26, Error ellipse: s-maj=9.4km s-min=4.6km az=57.0*
*MOS **09** 16:28:49.2±0.9, 1084N×9447E, h33km, mb4.9/20, Error ellipse: s-maj=14.4km s-min=6.4km az=104.2*

ISC 09 16:28:50.0±0.3, 1083N±005×9455E±005, h22km, h22km±1.3km:pP-P, n113, σ1§08/107, mb4.5/54, MS4.3/5, 9C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.17**	**132**	*e*Pn	**Pn**	**16 30 45.3**	**-1.9**
KULM				*e*Sn	**Sn**	**16 32 12.4**	**-6.4**
PSI	**Prapat**	**9.08**	**151**	Pn	**Pn**	**16 30 59.3**	**-0.4**
	0.7nm,0.3s,baz=340,slow=14,SNR=3.2						
VIS	**Vishakhapatnam**	**12.85**	**303**	*e*P	**Pn**	**16 31 50.3**	**-1.0**
VIS				AMb	AMB	16 32 00.0	
	comp=Z,36nm,1.4s						
VIS				*e*S	**Sn**	**16 34 03.7**	**-10**
BOK	**Bokaro**	**15.31**	**328**	*e*P	**Pn**	**16 32 27.1**	**+2.5**
BOK				AMb	AMB	16 32 37.8	
	comp=Z,50nm,0.5s						
KMI	**Kunming**	**16.20**	**28**	P	**Pn**	**16 32 38.6**	**+2.5**
KMI				XP	sP	16 32 48.1	-0.1
KMI				AMB	AMB		
	comp=Z,7.0nm,1.7s						
KMI				LR	LR		
	comp=N,620nm,10.8s						
KMI				LR	LR		
	comp=E,697nm,8.6s						
KMI				LR	LR		
	comp=Z,431nm,16.2s						
HYB	**Hyderabad**	**16.84**	**295**	*i* P	**Pn**	**16 32 48.0**	**+3.8**
HYB	**Hyderabad**	**16.84**	**295**	*e*P	**Pn**	**16 32 48.0**	**+3.8**
QIZ	**Qiongzhong**	**16.86**	**59**	P	**Pn**	**16 32 49.2**	**+4.7**
	comp=Z,16nm,1.1s						
NGP	**Nagpur**	**18.08**	**306**	*e*P	**Pn**	**16 33 00.8**	**+1.1**
NGP				AMb	AMB	16 33 06.7	
	comp=Z,41nm,1.9s						
KSM	**Kuching**	**18.20**	**120**	P	**Pn**	**16 33 03.3**	**+2.1**
JIRN	**Jiri**	**18.49**	**336**	*e*P	**Pn**	**16 33 05.5**	**+0.8**
	comp=Z,92nm,1.1s						
PKI	**Pulchoki**	**18.74**	**334**	*e*P	**Pn**	**16 33 08.2**	**+0.5**
	comp=Z,198nm,1.2s						
PKI	**Pulchoki**	**18.74**	**334**	*e*P	**Pn**	**16 33 08.2**	**+0.5**
PKI				pmax	pmax		
	comp=Z,99nm,1.2s						
GUN	**Gumba**	**18.84**	**336**	*e*P	**Pn**	**16 33 09.1**	**+0.1**
	comp=Z,520nm,1.9s						
DMN	**Daman**	**18.91**	**333**	*e*P	**Pn**	**16 33 09.9**	**+0.2**
	comp=Z,89nm,0.9s						
KKN	**Kakani**	**18.99**	**334**	*e*P	**Pn**	**16 33 10.1**	**-0.6**
	comp=Z,72nm,1.2s						
KKN	**Kakani**	**18.99**	**334**	*e*P	**Pn**	**16 33 10.1**	**-0.6**
KKN				pmax	pmax		
	comp=Z,36nm,1.2s						
LSA	**Lhasa**	**19.04**	**351**	P	**Pn**	**16 33 11.4**	**+0.1**
LSA	**Lhasa**	**19.04**	**351**	*e*Pn	**Pn**	**16 33 11.8**	**+0.5**
	comp=Z,25nm,1.1s						
LSA	**Lhasa**	**19.04**	**351**	*e*P	**Pn**	**16 33 11.8**	**+0.5**
LSA				pmax	pmax		
	comp=Z,25nm,1.1s						
GYA	**Guiyang**	**19.29**	**35**	P	**Pn**	**16 33 14.7**	**+0.3**
GYA				AP	pP	16 33 19.9	+0.4
GYA				XP	sP	16 33 23.4	+1.0
GYA				PP		16 33 31.8	
GYA				S	**Sn**	**16 36 44.8**	**-5.3**
GYA				AMB	AMB		
	comp=Z,20nm,1.4s						
GYA				AMB	AMB		
	comp=Z,110nm,3.6s						
GYA				LR	LR		
	comp=N,670nm,11.8s						
GYA				LR	LR		
	comp=E,730nm,12.0s						
GYA				LR	LR		
	comp=Z,680nm,12.4s						
GKN	**Gorkha**	**19.45**	**333**	*e*P	**Pn**	**16 33 15.8**	**-0.5**
	comp=Z,105nm,1.0s						
KOLN	**Koldanda**	**19.74**	**330**	*e*P	**Pn**	**16 33 19.3**	**-0.5**
	comp=Z,184nm,1.2s						
BHPL	**Bhopal**	**20.48**	**309**	*e*P	**P**	**16 33 28.3**	**+2.1**
BHPL				AMb	AMB	16 33 33.4	
	comp=Z,34nm,1.9s						
KAD	**Karad**	**20.77**	**290**	*e*P	**P**	**16 33 31.6**	**+2.2**
KAD				AMb	AMB	16 33 41.2	
	comp=Z,44nm,1.5s						
CD2	**Chengdu**	**21.73**	**22**	P	**P**	**16 33 40.4**	**+0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,50nm,5.9s						
KKM	**Kota Kinabalu**	**21.94**	**101**	P	**P**	**16 33 43.4**	**+1.5**
ENH	**Enshi**	**23.82**	**34**	*e*P	**P**	**16 34 00.9**	**-0.4**
	comp=Z,110nm,1.6s,mb5.0						
ENH				*e*pP		16 34 07.1	
ENH				*e*sP	sP	16 34 11.1	+0.3
NDI	**New Delhi**	**24.06**	**320**	*e*P	**P**	**16 34 05.2**	**+1.7**
NDI				AMb	AMB	16 34 11.0	
	comp=Z,76nm,1.4s,mb4.9						
AJM	**Ajmer**	**24.40**	**312**	*e*P	**P**	**16 34 08.1**	**+1.4**
AJM				AMb	AMB	16 34 23.6	
	comp=Z,21nm,1.3s,mb4.4						
LZH	**Lanzhou**	**26.51**	**17**	*e*P	**P**	**16 34 27.0**	**+1.2**
LZH				AP	pP	16 34 37.0	+4.5
LZH				XP	sP	16 34 42.0	+6.7
LZH				PP		16 35 13.0	
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,170nm,5.0s						
LZH				LR	LR		
	comp=N,2μm,14.0s						
LZH				LR	LR		
	comp=Z,2μm,15.9s,MS4.8						
XAN	**Xi'an**	**26.58**	**27**	P	**P**	**16 34 25.6**	**-0.8**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.1						
BHJ	**Bhuj**	**26.77**	**301**	*e*x	x	16 32 56.3	
GTA	**Gaotai**	**28.84**	**8**	*e*P	**P**	**16 34 47.6**	**+0.9**
GTA				AP	pP	16 34 54.4	+1.0
GTA				XP	sP	16 34 57.6	+1.5
GTA				AMB	AMB		
	comp=Z,6.0nm,2.3s,mb3.9						
NJ2	**Nanjing**	**30.80**	**43**	*e*P	**P**	**16 35 07.3**	**+3.3**
NJ2				AP	pP	16 35 13.1	+2.4
NJ2				XP	sP	16 35 16.1	+2.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,190nm,7.8s						
NJ2				LR	LR		
	comp=N,410nm,10.7s,MS4.4						
NJ2				LR	LR		
	comp=E,320nm,12.3s,MS4.4						
NJ2				LR	LR		
	comp=Z,210nm,11.4s,MS4.0						
WMQ	**Urumqi**	**33.40**	**351**	*e*P	**P**	**16 35 28.4**	**+1.6**
WMQ				AP	pP	16 35 34.2	+0.6
WMQ				XP	sP	16 35 37.2	+0.9
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,79nm,4.8s						
WMQ				LR	LR		
	comp=N,284nm,22.3s,MS4.1						
WMQ				LR	LR		
	comp=E,291nm,24.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,265nm,24.0s,MS3.9						
BJI	**Beijing**	**34.83**	**30**	P	**P**	**16 35 46.2**	**+7.0**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**36.19**	**335**	*e*P	**P**	**16 35 50.1**	**-0.8**
	comp=Z,10nm,1.2s,mb4.6						
AAK				*e*pP	pP	16 35 55.8	-1.9
AAK	**Ala-Archa**	**36.19**	**335**	*d* iP	**P**	**16 35 50.4**	**-0.5**
AAK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.5						
MK31	**Makanchi Array**	**37.32**	**346**	*i* P	**P**	**16 36 00.4**	**-0.1**
MK31				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.9						
MKAR	**Makanchi Array**	**37.32**	**346**	P	**P**	**16 36 00.5**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.2,baz=163,slow=8.9,SNR=11						
SONM	**Songino Array**	**38.20**	**13**	P	**P**	**16 36 08.8**	**+0.8**
	comp=Z,2.5nm,0.9s,mb3.9,baz=197,slow=8.7,SNR=15						
SONM				LR	LR	16 53 30.4	
	comp=Z,340nm,18.6s,MS4.2,baz=188,slow=39						
KK31	**Karatay Array**	**38.35**	**331**	*i* P	**P**	**16 36 08.5**	**-0.7**
KK31				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
KKAR	**Karatay Array**	**38.35**	**331**	*i* P	**P**	**16 36 08.5**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**38.38**	**14**	*e*P	**P**	**16 36 08.7**	**-0.8**
	comp=Z,9.0nm,1.3s,mb4.3						
ULN				*e*pP	pP	16 36 15.4	-0.8
ULN	**Ulaanbaatar**	**38.38**	**14**	*d* iP	**P**	**16 36 09.8**	**+0.3**
KURK	**Kurchatov**	**41.87**	**345**	*e*P	**P**	**16 36 37.9**	**-0.5**
	comp=Z,26nm,1.2s,mb4.7						
KURK				*e*pP	pP	16 36 43.8	-1.5
KURK	**Kurchatov**	**41.87**	**345**	P	**P**	**16 36 38.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.6						
CN2	**Changchun**	**42.34**	**34**	*e*P	**P**	**16 36 43.1**	**+0.9**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.6						
HIA	**Hailar**	**43.66**	**24**	*e*P	**P**	**16 36 53.4**	**+0.5**
	comp=Z,15nm,1.2s,mb4.6						
HIA				*e*pP	pP	16 36 59.7	-0.1
HIA	**Hailar**	**43.66**	**24**	⇑*i* P	**P**	**16 36 53.6**	**+0.7**
ZAL	**Zalesovo**	**43.69**	**352**	P	**P**	**16 36 53.4**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.0,baz=301,slow=8.3,SNR=9.4						
NVS	**Novosibirsk**	**44.80**	**351**	*e*P	**P**	**16 37 00.8**	**-1.3**
KRAR	**Krasnoyarsk**	**45.09**	**359**	⇑*i* P	**P**	**16 37 05.3**	**+0.9**
KRAR				pmax	pmax		
	comp=Z,61nm,2.5s,mb5.0						
MDJ	**Mudanjiang**	**45.16**	**35**	P	**P**	**16 37 04.1**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,107nm,3.0s						
VOSK	**Vostochnaya**	**45.90**	**340**	P	**P**	**16 37 09.6**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.8						
BVA0	**Borovoye Array**	**46.35**	**340**	P	**P**	**16 37 11.3**	**-3.0**
BVA0				pmax	pmax		
	comp=Z,6.0nm,2.6s,mb4.1						
BVAR	**Borovoye Array**	**46.35**	**340**	P	**P**	**16 37 13.9**	**-0.4**
	comp=Z,1.5nm,0.9s,mb3.9,baz=133,slow=6.5,SNR=3.6						
BRVK	**Borovoye**	**46.41**	**340**	P	**P**	**16 37 13.3**	**-1.5**
	comp=Z,5.6nm,1.2s,mb4.4						
BRVK	**Borovoye**	**46.41**	**340**	P	**P**	**16 37 13.4**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
ZRNK	**Zerenda**	**46.77**	**339**	P	**P**	**16 37 16.4**	**-1.1**
	comp=Z,4.4nm,1.2s,mb4.3						
ZRNK	**Zerenda**	**46.77**	**339**	P	**P**	**16 37 16.4**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
AB31	**Akbulak array**	**47.87**	**330**	*i* P	**P**	**16 37 24.4**	**-1.8**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
NWAO	**Narrogin (SRO)**	**48.60**	**154**	P	**P**	**16 37 31.9**	**0.0**
	comp=Z,34nm,0.9s,mb5.4,baz=311,slow=9.1,SNR=7.1						
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P	**P**	**16 37 31.7**	**-0.1**
	comp=Z,36nm,1.0s,mb5.4						
NWAO				*e*pP	pP	16 37 37.0	-1.8
NWAO				*e*sP	sP	16 37 42.1	+0.6
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P	**P**	**16 37 31.7**	**-0.1**
NWAO				*e**SP	sP	16 37 42.1	+0.6
NWAO				pmax	pmax		
	comp=Z,36nm,1.0s						
KLR	**Kul'dur**	**49.16**	**32**	*e*P	**P**	**16 37 34.8**	**-1.3**
BOD	**Bodaibo**	**49.19**	**14**	*e*P	**P**	**16 37 35.2**	**-1.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
WRA	**Warramunga Arr**	**49.69**	**128**	P	**P**	**16 37 40.4**	**+0.3**
	comp=Z,3.3nm,1.1s,mb4.3,baz=306,slow=8.7,SNR=7.8						
WRAB	**Tennant Creek**	**49.69**	**128**	*e*P	**P**	**16 37 41.4**	**+1.2**
	comp=Z,17nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**49.69**	**128**	*e*P	**P**	**16 37 41.4**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
ASAR	**Alice Springs**	**51.54**	**132**	P	**P**	**16 37 54.5**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.3,baz=308,slow=6.5,SNR=27						
SVE	**Sverdlovsk**	**52.83**	**337**	⇑*e*P	**P**	**16 38 02.8**	**-0.9**
SVE				pmax	pmax		
	comp=Z,40nm,2.3s,mb4.9						
SVE				MLR	MLR		
	comp=N,100nm,14.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,200nm,14.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.3						
ARU	**Arti**	**53.35**	**336**	⇓*i* P	**P**	**16 38 06.7**	**-0.9**
ARU				*e*		16 40 03.6	
ARU				*e*S	**S**	**16 45 32.9**	**-5.3**
ARU				*e*SS	SS	16 49 11.4	-6.8
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
YSS	**Yuzh-Sakhalins**	**54.23**	**39**	P	**P**	**16 38 14.8**	**+0.8**
	comp=Z,33nm,1.5s,mb5.0						
YSS	**Yuzh-Sakhalins**	**54.23**	**39**	P	**P**	**16 38 14.8**	**+0.8**
YSS				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.0						
KIV	**Kislovodsk**	**55.44**	**316**	*e*P	**P**	**16 38 20.9**	**-1.8**
	comp=Z,14nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**55.44**	**316**	⇓*i* P	**P**	**16 38 21.4**	**-1.4**
KIV				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.8						
YAK	**Yakutsk**	**57.08**	**19**	*e* iP	**P**	**16 38 33.5**	**-0.9**
	comp=Z,31nm,1.2s,mb5.2						
YAK	**Yakutsk**	**57.08**	**19**	*c* iP	**P**	**16 38 33.9**	**-0.5**
KMBO	**Kilima Mbogo**	**58.20**	**

BILL *e*pP pP 16 40 24.0 -2.4
BILL Bilibino 73.20 22 P **P 16 40 18.2 -0.9**
BILL *e**PP pP 16 40 24.0 -2.4
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GERES GERESS Array B 75.92 318 P **P 16 40 35.1 +0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=79,slow=9.7,SNR=5.0
NOA NORSAR Array B 77.37 330 P **P 16 40 42.0 -1.1**
comp=Z,1.1nm,0.8s,mb3.8,baz=92,slow=5.0,SNR=3.4
BOSA Boshof 77.50 237 P **P 16 40 44.2 +0.4**
comp=Z,10nm,1.3s,mb4.6
BOSA Boshof 77.50 237 P **P 16 40 44.3 +0.5**
BOSA pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
SYO Syowa Base 88.33 197⇑ *e*pP pP 16 41 44.3 -3.0
TORD Torodi Ar. Bea 90.32 283 P **P 16 41 49.8 +0.6**
comp=Z,1.0nm,0.9s,mb4.1,baz=79,slow=4.4,SNR=4.7
MCK McKinley 91.60 23 P **P 16 41 55.0 -0.1**
comp=Z,6.4nm,1.2s,mb4.8
MCK McKinley 91.60 23 P **P 16 41 55.0 -0.1**
MCK pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
ILAR Eielson Array 91.87 22 P **P 16 41 55.9 -0.5**
comp=Z,0.5nm,0.8s,mb3.9,baz=292,slow=4.7,SNR=5.8
INK Inuvik 94.06 16 P **P 16 42 07.1 +0.6**
comp=Z,1.9nm,1.0s,mb4.5,baz=10,slow=4.3,SNR=3.1
NVAR Mina Array Bea 122.18 30 PKP PKPdf 16 47 44.2 +1.2
comp=Z,0.5nm,0.6s,baz=221,slow=0.7,SNR=4.0
NVAR Mina Array Bea 122.18 30 PKP PKPdf 16 47 44.2 +1.2
PDAR Pinedale Array 122.28 21 PKP PKPdf 16 47 43.5 +0.3
comp=Z,0.7nm,0.9s,baz=124,slow=0.5,SNR=4.4
ANMO Albuquerque 130.31 23⇑ *i*PKIKP PKPdf 16 48 02.2 +3.7
BDFB Brasilia 143.28 258 PKP PKPdf 16 48 24.1 +1.7
comp=Z,0.9nm,0.3s,baz=63,slow=4.5,SNR=3.0
PLCA Paso Flores 147.44 201 PKPbc PKPbc 16 48 32.5 +0.4
comp=Z,2.9nm,0.8s,baz=200,slow=5.0,SNR=3.0
CPUP Villa Florida 149.31 236 PKPbc PKPbc 16 48 37.0 +0.1
comp=Z,3.4nm,0.9s,baz=106,slow=1.7,SNR=6.0
CPUP Villa Florida 149.31 236 *e*PKP2 PKPbc 16 48 36.8 -0.1

IDC 09 16:33:34.8±1.7, 271S×14690E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.6/4, ML2.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/19, Error ellipse: s-maj=92.9km s-min=28.4km az=113.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.66**	**178**	Pn	Pn	16 35 14.1	+0.3
	0.4nm,0.3s,baz=0.0,slow=12,SNR=2.5						
PMG				LR	LR	16 37 45.8	
	comp=Z,96nm,18.5s,baz=201,slow=38						
WRA	**Warramunga Arr**	**21.07**	**215**	P	P	16 38 20.9	+0.4
	3.7nm,1.1s,baz=41,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**24.34**	**210**	P	P	16 38 54.4	+0.2
	3.8nm,1.1s,baz=38,slow=7.0,SNR=8.7						
ILAR	**Eielson Array**	**82.51**	**23**	P	P	16 45 59.2	-0.1
	0.5nm,0.9s,baz=237,slow=6.3,SNR=4.2						

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*ISCJB **09** 16:34:01.1±0.6, 1073N±010×946E±02, h10km, mb4.0/16, Error ellipse: s-maj=24.5km s-min=8.6km az=122.0*
*IDC **09** 16:34:01.5±0.8, 1068N×9442E, h0km, mb4.0/12, mb1 4.1/13, mb1mx4.0/24, mbtmp4.0/13, ML3.9/1, Error ellipse: s-maj=44.6km s-min=14.6km az=59.0*
*NEIC **09** 16:34:05.0±0.5, 1077N×9464E, mb4.0/5, Error ellipse: s-maj=20.9km s-min=7.1km az=61.0*
ISC 09 16:34:03.2±7.7, 108N±01×946E±02, h9km±49km, n23, σ0°80/23, mb4.0/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.11**	**132**	*e*Pn	**Pn**	**16 35 59.7**	**-1.4**
KULM				*e*Sn	**Sn**	**16 37 27.8**	**-5.1**
PSI	**Prapat**	**9.03**	**151**	Pn	**Pn**	**16 36 14.9**	**+1.1**
	1.2nm,0.3s,baz=341,slow=13,SNR=3.6						
LSA	**Lhasa**	**19.07**	**351**	P	**Pn**	**16 38 20.1**	**-6.5**
	9.4nm,1.0s						
ENH	**Enshi**	**23.80**	**33**	*e*P	**P**	**16 39 15.7**	**-0.6**
	15nm,1.0s,mb4.4						
ENH				*e*pP		16 39 23.3	
AAK	**Ala-Archa**	**36.24**	**335**	P	**P**	**16 41 05.8**	**-0.7**
	1.7nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**37.35**	**346**	P	**P**	**16 41 16.6**	**+0.6**
	3.3nm,0.8s,mb4.2,baz=162,slow=8.1,SNR=21						
SONM	**Songino Array**	**38.21**	**13**	P	**P**	**16 41 24.2**	**+0.9**
	1.1nm,0.9s,mb3.6,baz=187,slow=7.4,SNR=8.0						
SONM				PcP	PcP	16 43 38.8	+1.1
	0.2nm,0.7s,baz=223,slow=3.2,SNR=3.6						
ULN	**Ulaanbaatar**	**38.39**	**14**	*e*P	**P**	**16 41 24.9**	**+0.2**
	1.9nm,0.8s,mb3.9						
KURK	**Kurchatov**	**41.90**	**345**	*e*P	**P**	**16 41 53.9**	**0.0**
	4.3nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**43.72**	**352**	P	**P**	**16 42 09.6**	**+1.0**
	1.7nm,0.7s,mb3.9,baz=295,slow=7.9,SNR=11						
BVAR	**Borovoye Array**	**46.39**	**340**	P	**P**	**16 42 29.4**	**-0.5**
	0.5nm,0.5s,mb3.7,baz=148,slow=8.5,SNR=3.7						
NWAO	**Narrogin (SRO)**	**48.55**	**154**	P	**P**	**16 42 47.2**	**+0.6**
	15nm,1.0s,mb5.0,baz=324,slow=6.1,SNR=4.0						
NWAO	**Narrogin (SRO)**	**48.55**	**154**	P	**P**	**16 42 47.2**	**+0.6**
NWAO				*e*pP	pP	16 42 53.3	+3.6
WRA	**Warramunga Arr**	**49.63**	**128**	P	**P**	**16 42 55.5**	**+0.6**
	2.0nm,1.0s,mb4.1,baz=305,slow=8.6,SNR=4.8						
ASAR	**Alice Springs**	**51.48**	**132**	P	**P**	**16 43 09.3**	**+0.4**
	1.8nm,1.0s,mb4.0,baz=308,slow=7.0,SNR=5.7						
BRTR	**Keskin Array B**	**60.91**	**309**	P	**P**	**16 44 15.3**	**-0.9**
	0.7nm,0.7s,mb3.9,baz=111,slow=3.7,SNR=2.9						
STKA	**Stephens Creek**	**61.81**	**135**	P	**P**	**16 44 21.8**	**-0.6**
	1.8nm,0.6s,mb4.3,baz=314,slow=7.2,SNR=3.8						
STKA	**Stephens Creek**	**61.81**	**135**	*e*P	**P**	**16 44 20.2**	**-2.2**
FINES	**FINESS Array B**	**70.36**	**332**	P	**P**	**16 45 17.1**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=90,slow=8.3,SNR=3.8						
GERES	**GERESS Array B**	**75.97**	**318**	P	**P**	**16 45 51.2**	**+0.8**
	0.4nm,0.5s,mb3.6,baz=35,slow=4.9,SNR=4.0						
NB2	**NORSAR Subarra**	**77.42**	**330**	P	**P**	**16 45 57.6**	**-1.1**
	comp=Z,3.1nm,1.0s,mb4.2,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**77.42**	**330**	P	**P**	**16 45 58.1**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=90,slow=5.8,SNR=4.1						
PDAR	**Pinedale Array**	**122.28**	**21**	PKP	PKPdf	16 52 59.3	+0.8
	comp=Z,0.5nm,0.8s,baz=329,slow=1.1,SNR=3.4						

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*IDC **09** 16:36:53.2±3.7, 965N×9108E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=150.0km s-min=23.6km az=64.0*
*ISCJB **09** 16:37:05.4±1.8, 102N±03×935E±04, h33km, mb3.5/5, Error ellipse: s-maj=73.3km s-min=16.3km az=109.4*
ISC 09 16:37:07.9±1.9, 103N±03×935E±04, h35km, n12, σ0°34/12, mb3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**18.63**	**339**	*e*P	**Pn**	**16 41 23.2**	**+0.3**
	83nm,1.5s						
PKI	**Pulchoki**	**18.83**	**337**	*e*P	**Pn**	**16 41 25.7**	**+0.4**
GUN	**Gumba**	**18.96**	**339**	*e*P	**Pn**	**16 41 26.7**	**-0.2**
	30nm,1.1s						
DMN	**Daman**	**18.98**	**337**	*e*P	**Pn**	**16 41 27.4**	**+0.3**
	37nm,1.0s						
KKN	**Kakani**	**19.07**	**337**	*e*P	**Pn**	**16 41 28.1**	**-0.2**
	47nm,1.3s						
GKN	**Gorkha**	**19.52**	**336**	*e*P	**Pn**	**16 41 33.0**	**-0.6**
	10nm,0.6s						
KOLN	**Koldanda**	**19.75**	**333**	*e*P	**Pn**	**16 41 36.3**	**0.0**
	25nm,0.9s						
MKAR	**Makanchi Array**	**37.64**	**347**	P	**P**	**16 44 10.1**	**-9.3**
	0.3nm,0.8s,mb3.1,baz=153,slow=8.0,SNR=2.7						
SONM	**Songino Array**	**39.01**	**14**	P	**P**	**16 44 30.9**	**-0.1**
	1.0nm,1.1s,mb3.5,baz=193,slow=5.9,SNR=3.1						
ZAL	**Zalesovo**	**44.12**	**353**	P	**P**	**16 45 07.4**	**-5.3**
	0.7nm,0.9s,mb3.4,baz=148,slow=24,SNR=3.2						
WRA	**Warramunga Arr**	**50.18**	**127**	P	**P**	**16 46 04.6**	**+4.5**
	0.9nm,0.8s,mb3.9,baz=303,slow=8.9,SNR=5.1						
ASAR	**Alice Springs**	**51.95**	**131**	P	**P**	**16 46 13.2**	**0.0**
	0.6nm,0.7s,mb3.6,baz=312,slow=7.0,SNR=5.1						

IDC 09 16:37:19.0±8.3, 1022N×9346E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/21, mbtmp4.0/3, Error ellipse: s-maj=450.8km s-min=29.0km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.66**	**347**	P	P	16 44 35.9	0.0
	2.2nm,0.9s,baz=165,slow=8.2,SNR=5.1						
WRA	**Warramunga Arr**	**50.18**	**127**	P	P	16 46 16.3	-0.1
	1.6nm,0.9s,baz=306,slow=8.4,SNR=4.8						
ASAR	**Alice Springs**	**51.94**	**131**	P	P	16 46 30.5	+0.9
	2.3nm,0.8s,baz=308,slow=7.5,SNR=7.2						

IDC 09 16:42:17.3±4.1, 5959S×3004W, h0km, mb4.2/2, mb1 4.4/2, mb1mx3.9/15, mbtmp4.2/2, Error ellipse: s-maj=167.7km s-min=40.2km az=167.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**31.40**	**289**	P	P	16 48 40.0	0.0
	2.9nm,0.8s,baz=126,slow=8.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**76.88**	**32**	P	P	16 54 11.1	-0.2
	2.2nm,0.8s,baz=196,slow=5.4,SNR=10						
INK	**Inuvik**	**147.49**	**318**	PKPbc	PKPbc	17 02 01.4	-1.9
	0.9nm,0.8s,baz=146,slow=3.6,SNR=2.6						
ILAR	**Eielson Array**	**151.20**	**307**	PKPbc	PKPbc	17 02 10.4	-2.1
	1.1nm,1.0s,baz=128,slow=1.5,SNR=3.2						
ILAR				PKPab	PKPab	17 02 17.6	-2.7
	1.5nm,0.8s,baz=149,slow=2.3,SNR=4.5						

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*IDC **09** 16:42:28.5±0.5, 1072N×9444E, h0km, mb4.3/16, mb1 4.3/17, mb1mx4.2/27, mbtmp4.2/17, ML3.6/1, MS4.0/3, Ms1 4.0/3, ms1mx3.4/24, Error ellipse: s-maj=22.8km s-min=13.0km az=59.0*
*BJI **09** 16:42:30.5, 1085N×9429E, h15km, mB5.1, mb4.2, Ms4.6, Msz4.1*
*ISCJB **09** 16:42:31.3±1.9, 1067N±005×9448E±005, h33km±14km, mb4.5/38, MS4.2/7, Error ellipse: s-maj=9.2km s-min=6.7km az=101.2*
*MOS **09** 16:42:31.6±0.8, 1073N×9439E, h33km, mb5.1/12, Error ellipse: s-maj=15.3km s-min=7.3km az=102.5*
*NEIC **09** 16:42:31.8±0.3, 1073N×9453E, mb4.9/16, Error ellipse: s-maj=11.8km s-min=5.2km az=57.0*
*HRVD **09** 16:42:31.8±0.5, 1073N×9448E, h21km±1km, MW5.0/61, Centroid moment Tensor Solution. LP body waves: s19,c20;Mantle waves: s61,c90; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.52±.31; $M_{\theta\theta}$2.81±.19; $M_{\phi\phi}$0.71±.19; $M_{r\theta}$0.26±.30; $M_{\theta\phi}$0.51±.12; $M_{\phi r}$-0.20±.46; Best double couple: $M_0$3.23800×10^16^ NP1:ϕ_s74.00000°, δ43.00000°, λ-95.00000°. NP2: ϕ_s261.00000°, δ47.00000°, λ-85.00000°. Principal axes: T 2.9330, Plg2.0000°, Azm347.0000°; N 0.6160, Plg4.0000°, Azm77.0000°; P -3.5430, Plg86.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 16:42:34.7±1.0, 1078N±005×9456E±005, h40km±10km, h15km±5.8km: pP-P, n89, σ1°95/86, mb4.5/38, MS4.2/7, 8C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.98**	**296**	*e*P	Px	16 43 02.9	
PBA				*e*S	Sx	16 43 24.1	
PSI	**Prapat**	**9.03**	**151**	Pn	**Pn**	**16 44 40.9**	**-1.6**
	0.6nm,0.3s,baz=343,slow=17,SNR=3.6						
PSI				LR	LR	16 48 54.4	
	comp=Z,2μm,18.4s,baz=316,slow=42						
VIS	**Vishakhapatnam**	**12.88**	**304**	*e*P	**Pn**	**16 45 31.1**	**-4.1**
VIS				AMb	AMB	16 45 47.4	
	comp=Z,69nm,1.1s						
VIS				*i* S	**Sn**	**16 47 41.6**	**-16**
VIS				*e*S	**Sn**	**16 47 42.5**	**-15**
BOK	**Bokaro**	**15.36**	**329**	*e*P	**Pn**	**16 46 11.1**	**+2.6**
BOK				AMb	AMB	16 46 22.0	
	comp=Z,44nm,1.5s						
KMI	**Kunming**	**16.25**	**27**	P	**Pn**	**16 46 22.7**	**+2.8**
KMI				AP	pP	16 46 26.9	-5.4
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s						
KMI				LR	LR		
	comp=N,689nm,12.1s						
KMI				LR	LR		
	comp=E,868nm,9.7s						
KMI				LR	LR		
	comp=Z,574nm,13.3s						
HYB	**Hyderabad**	**16.86**	**295**	*i* P	**Pn**	**16 46 29.0**	**+1.4**
HYB	**Hyderabad**	**16.86**	**295**	*e*P	**Pn**	**16 46 29.0**	**+1.4**
QIZ	**Qiongzhong**	**16.89**	**59**	P	**Pn**	**16 46 24.1**	**-3.9**
NGP	**Nagpur**	**18.11**	**307**	*e*P	**Pn**	**16 46 43.8**	**+0.7**
NGP				AMb	AMB	16 46 53.1	
	comp=Z,34nm,1.1s						
KSM	**Kuching**	**18.17**	**120**	*e*P	**Pn**	**16 46 42.1**	**-1.8**
JIRN	**Jiri**	**18.55**	**336**	*e*P	**Pn**	**16 46 48.2**	**-0.2**
	comp=Z,281nm,1.6s						
PKI	**Pulchoki**	**18.79**	**334**	*e*P	**Pn**	**16 46 51.1**	**-0.3**
	comp=Z,312nm,1.6s						
PKI	**Pulchoki**	**18.79**	**334**	*e*P	**Pn**	**16 46 51.1**	**-0.3**
PKI				pmax	pmax		
	comp=Z,156nm,1.6s						
GUN	**Gumba**	**18.89**	**336**	*e*P	**Pn**	**16 46 52.4**	**-0.2**
	comp=Z,765nm,2.1s						
DMN	**Daman**	**18.96**	**333**	*e*P	**Pn**	**16 46 52.8**	**-0.6**
	comp=Z,428nm,2.1s						
KKN	**Kakani**	**19.04**	**334**	*e*P	**Pn**	**16 46 53.4**	**-0.9**
	comp=Z,113nm,1.3s						
KKN	**Kakani**	**19.04**	**334**	*e*P	**Pn**	**16 46 53.4**	**-0.9**
KKN				pmax	pmax		
	comp=Z,57nm,1.3s						
LSA	**Lhasa**	**19.09**	**351**	P	**Pn**	**16 46 52.8**	**-2.2**
LSA	**Lhasa**	**19.09**	**351**	*e*P	**Pn**	**16 46 52.6**	**-2.4**
	comp=Z,84nm,1.6s						
LSA	**Lhasa**	**19.09**	**351**	*e*P	**Pn**	**16 46 52.6**	**-2.4**
LSA				pmax	pmax		
	comp=Z,84nm,1.6s						
GYA	**Guiyang**	**19.34**	**35**⇓	*i*P	**Pn**	**16 46 58.7**	**+0.8**
GYA				AP	pP	16 47 03.8	-2.7
GYA				XP	sP	16 47 07.6	-4.0
GYA				PP		16 47 19.4	
GYA				S	**S**	**16 50 32.3**	**-1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.5s						
GYA				AMB	AMB		
	comp=Z,120nm,6.2s						
GYA				LR	LR		
	comp=N,360nm,15.5s						
GYA				LR	LR		
	comp=E,720nm,14.1s						
GYA				LR	LR		
	comp=Z,600nm,12.6s						
GKN	**Gorkha**	**19.50**	**333**	*e*P	**Pn**	**16 46 58.8**	**-1.1**
	comp=Z,127nm,1.2s						
KOLN	**Koldanda**	**19.79**	**330**	*e*P	**Pn**	**16 47 02.2**	**-1.1**
	comp=Z,187nm,1.3s						
BHPL	**Bhopal**	**20.51**	**309**	*e*P	**P**	**16 47 12.3**	**+2.9**
KAD	**Karad**	**20.79**	**290**	*e*P	**P**	**16 47 13.4**	**+1.0**
POO	**Poona**	**21.45**	**293**	*e*P	**P**	**16 47 21.0**	**+1.5**
GZH	**Guangzhou**	**21.71**	**53**	P	**P**	**16 47 28.4**	**+6.1**
GZH				LR	LR		
	comp=N,579nm,11.7s,MS4.3						
GZH				LR	LR		
	comp=E,413nm,13.6s,MS4.3						
GZH				LR	LR		
	comp=Z,294nm,13.3s,MS3.9						
CD2	**Chengdu**	**21.78**	**22**	P	**P**	**16 47 23.3**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
KKM	**Kota Kinabalu**	**21.93**	**101**	P	**P**	**16 47 24.7**	**+0.1**
ENH	**Enshi**	**23.86**	**33**	*e*P	**P**	**16 47 44.5**	**+0.2**
	comp=Z,86nm,1.4s,mb5.0						
ENH				*e*pP		16 47 51.6	
ENH				*e*sP	sP	16 47 55.4	-4.6
NDI	**New Delhi**	**24.10**	**320**	*e*P	**P**	**16 47 48.1**	**+1.6**
NDI				AMb	AMB	16 47 49.6	
	comp=Z,57nm,1.1s,mb4.9						
AJM	**Ajmer**	**24.44**	**312**	*e*P	**P**	**16 47 54.0**	**+4.4**
AJM				AMb	AMB	16 47 55.3	
	comp=Z,32nm,1.9s,mb4.4						
LZH	**Lanzhou**	**26.57**	**17**	*e*P	**P**	**16 48 10.5**	**+1.6**
LZH				AP	pP	16 48 15.0	-4.8
LZH				XP	sP	16 48 19.5	-5.1
LZH				PP		16 48 57.0	
LZH				*e*S	**S**	**16 52 45.0**	**+4.3**
LZH				XS	sS	16 52 58.0	-0.9
LZH				AMB	AMB		
	comp=Z,60nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,340nm,4.5s						
LZH				LR	LR		
	comp=N,2μm,12.0s						
LZH				LR	LR		
	comp=Z,2μm,15.0s,MS4.8						
GTA	**Gaotai**	**28.90**	**8**	*e*P	**P**	**16 48 31.3**	**+1.6**
GTA				AP	pP	16 48 38.3	-2.4
GTA				XP	sP	16 48 41.7	-3.8
GTA				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.0						
JOW	**Kunigami**	**35.54**	**59**	LR	LR	17 06 29.4	
	comp=Z,172nm,20.4s,MS3.8,baz=272,slow=40						
AAK	**Ala-Archa**	**36.24**	**335**	*e*P	**P**	**16 49 33.1**	**-0.8**
	comp=Z,13nm,1.5s,mb4.6						
AAK	**Ala-Archa**	**36.24**	**335**	*c i*P	**P**	**16 49 33.5**	**-0.4**
AAK				pmax	pmax		
	comp=Z,17nm,2.5s,mb4.5						
FRU	**Bishkek**	**36.36**	**335**	*e*P	**P**	**16 49 35.0**	**+0.1**
FRU				pmax	pmax		
	comp=Z,60nm,2.2s,mb5.1						
MKAR	**Makanchi Array**	**37.38**	**346**	P	**P**	**16 49 42.8**	**-0.7**
	comp=Z,4.8nm,0.9s,mb4.3,baz=161,slow=8.7,SNR=14						
SONM	**Songino Array**	**38.26**	**13**	P	**P**	**16 49 51.2**	**+0.2**
	comp=Z,4.1nm,1.1s,mb4.1,baz=201,slow=6.8,SNR=14						
ULN	**Ulaanbaatar**	**38.44**	**14**	*e*P	**P**	**16 49 52.0**	**-0.5**
	comp=Z,12nm,1.5s,mb4.4						
ULN	**Ulaanbaatar**	**38.44**	**14**⇑	*i*P	**P**	**16 49 53.4**	**+0.9**
ZAK	**Zakamensk**	**40.14**	**9**	*e*P	**P**	**16 50 07.8**	**+1.1**
KURK	**Kurchatov**	**41.92**	**345**	P	**P**	**16 50 20.4**	**-1.0**
	comp=Z,50nm,1.8s,mb4.8						
KURK	**Kurchatov**	**41.92**	**345**	*c i*P	**P**	**16 50 21.4**	**+0.1**
CN2	**Changchun**	**42.38**	**33**	*e*P	**P**	**16 50 25.0**	**-0.1**
HIA	**Hailar**	**43.71**	**24**	*d i*P	**P**	**16 50 36.7**	**+0.9**
ZAL	**Zalesovo**	**43.75**	**352**	P	**P**	**16 50 36.6**	**+0.5**
	comp=Z,2.5nm,0.9s,mb3.9,baz=298,slow=9.4,SNR=12						
NVS	**Novosibirsk**	**44.86**	**351**	*e*P	**P**	**16 50 44.2**	**-0.8**
NVS				*e*		16 53 10.1	
NVS				pmax	pmax		
	comp=Z,46nm,2.4s,mb4.9						
NVS				pmax	pmax		
	comp=N,25nm,2.1s						
KRAR	**Krasnoyarsk**	**45.15**	**359**⇓	*i*P	**P**	**16 50 47.1**	**-0.2**
KRAR				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.2						
BVAR	**Borovoye Array**	**46.41**	**340**	P	**P**	**16 50 56.6**	**-0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=144,slow=13,SNR=6.0						
MJAR	**Matsushiro Arr**	**46.95**	**50**	LR	LR	17 14 22.2	
	comp=Z,131nm,18.2s,MS3.9,baz=285,slow=41						
NWAO	**Narrogin (SRO)**	**48.55**	**154**	P	**P**	**16 51 14.8**	**+0.9**
	comp=Z,18nm,1.1s,mb5.0,baz=288,slow=8.5,SNR=4.7						
NWAO	**Narrogin (SRO)**	**48.55**	**154**	*e*P	**P**	**16 51 14.2**	**+0.3**
	comp=Z,36nm,1.3s,mb5.2						
NWAO	**Narrogin (SRO)**	**48.55**	**154**	*e*P	**P**	**16 51 14.2**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,36nm,1.3s						
BOD	**Bodaibo**	**49.25**	**14**	*e*P	**P**	**16 51 18.1**	**-1.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
AKTK	**Aktyubinsk**	**49.63**	**330**	P	**P**	**16 51 21.1**	**-1.0**
AKTO	**Aktyubinsk**	**49.63**	**330**	P	**P**	**16 51 21.1**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=133,slow=9.0,SNR=2.4						
WRA	**Warramunga Arr**	**49.66**	**128**	P	**P**	**16 51 23.1**	**+0.7**
	comp=Z,9.2nm,1.1s,mb4.7,baz=310,slow=8.0,SNR=13						
WRAB	**Tennant Creek**	**49.66**	**128**	*e*P	**P**	**16 51 23.4**	**+1.0**
	comp=Z,16nm,0.9s,mb5.1						
WRAB				*e*pP	pP	16 51 30.3	-3.5
WRAB	**Tennant Creek**	**49.66**	**128**	*e*P	**P**	**16 51 23.4**	**+1.0**
WRAB				*e**PP	pP	16 51 30.3	-3.5
WRAB				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**51.50**	**132**	P	**P**	**16 51 36.8**	**+0.6**
	comp=Z,9.5nm,1.0s,mb4.7,baz=305,slow=7.1,SNR=26						
ARU	**Arti**	**53.41**	**336**⇓	*i*P	**P**	**16 51 48.3**	**-2.1**
ARU				*e*		16 53 47.6	
ARU				*e*S	**S**	**16 59 18.4**	**-1.4**
ARU				*e*SS	SS	17 02 59.5	-0.6
ARU				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
ARU				MLR	MLR		
	comp=N,300nm,21.0s,MS4.5						
ARU				MLR	MLR		
	comp=Z,500nm,21.0s,MS4.5						
ARU				MLR	MLR		
	comp=E,300nm,23.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	**54.27**	**39**⇑	*i*P	**P**	**16 51 58.5**	**+1.8**
YSS				pmax	pmax		
	comp=Z,34nm,1.7s,mb5.0						
KIV	**Kislovodsk**	**55.48**	**316**	*d i*P	**P**	**16 52 05.3**	**-0.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
PMG	**Port Moresby**	**56.04**	**109**	P	**P**	**16 52 09.4**	**0.0**
	comp=Z,10nm,1.1s,mb4.8,baz=350,slow=3.9,SNR=4.8						
PMG	**Port Moresby**	**56.04**	**109**	*e*P	**P**	**16 52 08.6**	**-0.8**
	comp=Z,24nm,1.4s,mb5.0						
PMG	**Port Moresby**	**56.04**	**109**	*c i*P	**P**	**16 52 10.0**	**+0.6**
YAK	**Yakutsk**	**57.13**	**19**	*c i*P	**P**	**16 52 17.3**	**+0.1**
YAK				pmax	pmax		
	comp=Z,27nm,1.7s,mb5.0						
KMBO	**Kilima Mbogo**	**58.19**	**262**	P	**P**	**16 52 24.0**	**-0.6**
	comp=Z,0.5nm,0.3s,mb4.0,baz=40,slow=22,SNR=5.1						
STKA	**Stephens Creek**	**61.83**	**135**	P	**P**	**16 52 48.7**	**-0.9**
	comp=Z,8.7nm,1.0s,mb4.8,baz=303,slow=7.4,SNR=8.2						
STKA	**Stephens Creek**	**61.83**	**135**	*e*P	**P**	**16 52 48.9**	**-0.7**
STKA				*e*pP	pP	16 52 53.3	-8.1
MOS	**Moscow**	**62.84**	**328**	*e*P	**P**	**16 53 06.3**	**+10**
OBN	**Obninsk**	**63.17**	**327**⇑	*i*P	**P**	**16 52 57.2**	**-1.4**
OBN				*e*		16 53 39.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.5						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.3						
MA2	**Magadan**	**64.02**	**28**	*e*P	**P**

s-min=18.9km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.44**	**346**	P	P	16 51 16.3	+0.2
	1.8nm,0.8s,baz=152,slow=9.5,SNR=2.8						
SONM	**Songino Array**	**38.39**	**13**	P	P	16 51 24.0	-0.3
	1.9nm,1.0s,baz=195,slow=8.8,SNR=2.9						
ZAL	**Zalesovo**	**43.83**	**352**	P	P	16 52 09.5	+0.6
	1.5nm,0.8s,baz=286,slow=10.0,SNR=2.1						
NWAO	**Narrogin (SRO)**	**48.52**	**154**	P	P	16 52 47.1	+1.2
	7.1nm,0.9s,baz=311,slow=9.3,SNR=3.4						
ASAR	**Alice Springs**	**51.55**	**132**	P	P	16 53 09.1	+0.1
	2.3nm,0.7s,baz=309,slow=6.7,SNR=2.8						
STKA	**Stephens Creek**	**61.87**	**135**	P	P	16 54 21.9	-0.4
	2.6nm,0.7s,baz=312,slow=8.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**90.20**	**283**	P	P	16 57 03.9	+0.2
	0.7nm,1.0s,baz=59,slow=0.8,SNR=2.4						

*IDC **09** 16:44:42.5±1.1, 269N×12769E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, Error ellipse: s-maj=109.7km s-min=16.3km az=68.0*
*ISCJB **09** 16:44:46.1±0.7, 26N±01×1272E±02, h33km, mb4.1/12, Error ellipse: s-maj=26.9km s-min=11.8km az=130.3*
*NEIC **09** 16:44:47.9±0.6, 254N×12727E, h35km, mb4.4/6, Error ellipse: s-maj=25.7km s-min=10.8km az=64.0*

ISC 09 16:44:48.1±0.7, 26N±01×1273E±02, h35km, n15, σ0°83/15, mb4.1/12, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**16.97**	**267**	*e*Pn	**Pn**	**16 48 42.6**	**-0.1**
WRAB	**Tennant Creek**	**23.41**	**163**	*e*P	**P**	**16 49 54.3**	**+0.3**
	15nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**23.42**	**163**	P	**P**	**16 49 54.5**	**+0.4**
	4.7nm,0.8s,mb4.0,baz=344,slow=11,SNR=61						
ASAR	**Alice Springs**	**26.86**	**166**	P	**P**	**16 50 26.0**	**+0.6**
	0.4nm,0.5s,mb3.2,baz=348,slow=7.5,SNR=14						
ASAR				PcP	PcP	16 53 48.9	+1.6
	1.8nm,0.8s,baz=349,slow=2.0,SNR=8.0						
STKA	**Stephens Creek**	**36.86**	**159**	P	**P**	**16 51 50.5**	**-2.5**
	3.8nm,0.4s,mb4.5,baz=338,slow=9.1,SNR=19						
STKA	**Stephens Creek**	**36.86**	**159**	*e*P	**P**	**16 51 50.3**	**-2.7**
SONM	**Songino Array**	**48.57**	**341**	P	**P**	**16 53 28.8**	**+0.8**
	0.3nm,0.6s,mb3.5,baz=146,slow=7.8,SNR=4.2						
MKAR	**Makanchi Array**	**58.81**	**325**	P	**P**	**16 54 43.6**	**+0.7**
	1.5nm,0.6s,mb4.2,baz=119,slow=8.1,SNR=20						
MA2	**Magadan**	**59.71**	**14**	*e*P	**P**	**16 54 43.8**	**-5.3**
	6.3nm,1.0s,mb4.6						
KURK	**Kurchatov**	**63.00**	**328**	*e*P	**P**	**16 55 11.6**	**+0.2**
	2.3nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**68.58**	**327**	P	**P**	**16 55 47.4**	**0.0**
	0.7nm,0.7s,mb3.7,baz=118,slow=5.7,SNR=3.2						
BVAR	**Borovoye Array**	**68.58**	**327**	P	**P**	**16 55 47.4**	**0.0**
BRVK	**Borovoye**	**68.65**	**327**	P	**P**	**16 55 46.9**	**-0.9**
	1.2nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**69.31**	**327**	P	**P**	**16 55 50.8**	**-1.0**
	1.7nm,0.9s,mb4.0						
CASY	**Casey**	**69.72**	**187**	*e*P	**P**	**16 55 54.9**	**+0.5**
	4.7nm,0.6s,mb4.6						

IDC 09 16:50:19.7±2.9, 1048N×9414E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, Error ellipse: s-maj=134.2km s-min=20.3km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.56**	**347**	P	P	16 57 35.5	-0.1
	1.1nm,1.0s,baz=161,slow=9.2,SNR=5.1						
SONM	**Songino Array**	**38.64**	**13**	P	P	16 57 44.6	-0.1
	1.2nm,1.0s,baz=219,slow=6.9,SNR=3.7						
ZAL	**Zalesovo**	**43.98**	**352**	P	P	16 58 29.0	+0.3
	1.6nm,1.0s,baz=312,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**49.80**	**127**	P	P	16 59 14.8	+0.6
	1.9nm,1.0s,baz=304,slow=8.6,SNR=5.5						
ASAR	**Alice Springs**	**51.61**	**132**	P	P	16 59 28.6	+0.8
	1.5nm,0.8s,baz=309,slow=6.8,SNR=11						
STKA	**Stephens Creek**	**61.92**	**135**	P	P	17 00 40.8	-0.3
	1.8nm,0.9s,baz=302,slow=4.7,SNR=3.9						

*IDC **09** 16:51:20.2±0.8, 1075N×9446E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/24, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=44.4km s-min=15.6km az=65.0*
*ISCJB **09** 16:51:23.1±4.5, 1083N±009×947E±0.1, h31km±34km, mb4.1/15, Error ellipse: s-maj=24.2km s-min=11.0km az=129.4*
*NEIC **09** 16:51:24.0±0.5, 1086N×9475E, mb4.5/5, Error ellipse: s-maj=17.8km s-min=8.1km az=64.0*
*MOS **09** 16:51:23.6±1.1, 1086N×9477E, h33km, mb4.3/3, Error ellipse: s-maj=26.1km s-min=11.1km az=111.0*

ISC 09 16:51:25.0±4.7, 1088N±009×947E±02, h28km±35km, n25, σ0°86/23, mb4.1/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.07**	**152**	Pn	**Pn**	**16 53 33.5**	**-0.5**
	1.0nm,0.3s,baz=304,slow=15,SNR=2.8						
HYB	**Hyderabad**	**16.91**	**294**	*i* P	**Pn**	**16 55 22.0**	**+2.6**
HYB	**Hyderabad**	**16.91**	**294**	*e*P	**Pn**	**16 55 22.0**	**+2.6**
LSA	**Lhasa**	**19.01**	**351**	P	**Pn**	**16 55 44.3**	**-1.0**
	40nm,1.6s						
LSA	**Lhasa**	**19.01**	**351**	P	**Pn**	**16 55 44.3**	**-1.0**
LSA				pmax	pmax		
	comp=Z,41nm,1.6s						
ENH	**Enshi**	**23.73**	**33**	*e*P	**P**	**16 56 34.8**	**+0.1**
	comp=Z,55nm,1.6s,mb4.7						
ENH				*e*pP		16 56 40.8	
AAK	**Ala-Archa**	**36.20**	**334**	P	**P**	**16 58 20.9**	**-4.2**
	comp=Z,4.6nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**36.20**	**334**	P	**P**	**16 58 20.9**	**-4.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**37.30**	**346**	P	**P**	**16 58 34.9**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.2,baz=162,slow=8.1,SNR=9.5						
SONM	**Songino Array**	**38.14**	**13**	P	**P**	**16 58 42.4**	**+0.8**
	comp=Z,2.3nm,1.0s,mb3.9,baz=197,slow=8.4,SNR=9.8						
ULN	**Ulaanbaatar**	**38.32**	**13**	*e*P	**P**	**16 58 43.3**	**+0.2**
	comp=Z,2.3nm,0.9s,mb3.9						
ULN	**Ulaanbaatar**	**38.32**	**13**	*e*P	**P**	**16 58 43.3**	**+0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
KURK	**Kurchatov**	**41.85**	**345**	*e*P	**P**	**16 59 12.0**	**-0.4**
	comp=Z,36nm,1.9s,mb4.7						
KURK				*e*pP	pP	16 59 19.0	-1.9
ZAL	**Zalesovo**	**43.66**	**352**	P	**P**	**16 59 27.9**	**+0.8**
	comp=Z,1.8nm,0.8s,mb3.9,baz=289,slow=7.4,SNR=7.1						
BVAR	**Borovoye Array**	**46.34**	**340**	P	**P**	**16 59 47.5**	**-0.9**
	comp=Z,0.4nm,0.6s,mb3.5,baz=149,slow=9.4,SNR=2.6						
NWAO	**Narrogin (SRO)**	**48.60**	**154**	P	**P**	**17 00 05.8**	**-0.1**
	comp=Z,6.4nm,0.7s,mb4.8,baz=2.6,slow=5.5,SNR=5.2						
BOD	**Bodaibo**	**49.13**	**14**	*e*P	**P**	**17 00 10.2**	**+0.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.1						
WRA	**Warramunga Arr**	**49.64**	**128**	P	**P**	**17 00 15.5**	**+1.5**
	comp=Z,1.1nm,1.0s,mb3.8,baz=303,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**51.49**	**132**	P	**P**	**17 00 28.5**	**+0.6**
	comp=Z,1.7nm,0.9s,mb4.0,baz=309,slow=7.8,SNR=6.5						
STKA	**Stephens Creek**	**61.83**	**135**	P	**P**	**17 01 40.1**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.2,baz=345,slow=8.2,SNR=4.3						
STKA	**Stephens Creek**	**61.83**	**135**	P	**P**	**17 01 40.1**	**-1.3**
STKA				*e*pP	pP	17 01 46.5	-3.7
ARCES	**ARCESS Array B**	**72.63**	**340**	P	**P**	**17 02 49.0**	**-0.8**
	comp=Z,2.2nm,0.9s,mb4.1,baz=90,slow=3.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**90.40**	**283**	P	**P**	**17 04 23.4**	**-0.3**
	comp=Z,1.1nm,1.1s,mb4.1,baz=66,slow=3.6,SNR=3.5						
PDAR	**Pinedale Array**	**122.20**	**21**	PKP	PKPdf	17 10 17.8	+0.7
	comp=Z,0.8nm,0.8s,baz=112,slow=1.6,SNR=5.1						
CPUP	**Villa Florida**	**149.42**	**236**	PKPbc	PKPbc	17 11 11.4	+0.1
	comp=Z,0.3nm,0.3s,baz=55,slow=7.7,SNR=4.1						

IDC 09 16:54:08.2±2.6, 1065N×9424E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=106.6km s-min=27.6km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.43**	**346**	P	P	17 01 23.1	+0.1
	1.0nm,0.7s,baz=159,slow=7.6,SNR=4.5						
SONM	**Songino Array**	**38.46**	**13**	P	P	17 01 31.9	+0.2
	0.4nm,0.8s,baz=188,slow=8.7,SNR=3.1						
ZAL	**Zalesovo**	**43.83**	**352**	P	P	17 02 15.3	-0.6
	0.5nm,0.4s,baz=252,slow=8.6,SNR=3.0						
BVAR	**Borovoye Array**	**46.42**	**340**	P	P	17 02 36.7	+0.2
	0.2nm,0.3s,baz=165,slow=6.0,SNR=3.6						
ASAR	**Alice Springs**	**51.65**	**132**	P	P	17 03 16.9	+0.4
	0.5nm,0.8s,baz=307,slow=6.6,SNR=4.8						

IDC 09 16:56:02.7±3.4, 1074N×9451E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=144.3km s-min=28.6km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.96**	**298**	*e*P		16 55 05.7	
PBA				*e*S		16 55 28.4	
PBA				*e*x	x	16 55 31.4	
	comp=E,1μm,0.8s						
PBA				*e*x	x	16 55 31.8	
	comp=N,824nm,0.8s						
MKAR	**Makanchi Array**	**37.40**	**346**	P	P	17 03 17.3	0.0
	comp=N,1.3nm,0.9s,baz=158,slow=8.1,SNR=3.4						
SONM	**Songino Array**	**38.30**	**13**	P	P	17 03 25.1	+0.2
	comp=N,1.0nm,0.9s,baz=200,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**51.51**	**132**	P	P	17 05 10.5	+0.4
	comp=N,0.8nm,0.8s,baz=318,slow=6.8,SNR=3.4						

IDC 09 16:56:37.5±1.4, 1087N×9470E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, MS3.8/1, Ms1 3.8/1, ms1mx2.7/35, Error ellipse: s-maj=50.0km s-min=25.9km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.07**	**292**	*e*P	Pn	16 57 15.4	+1.9
PBA				*e*S	Sn	16 57 58.4	+18
PBA				*e*x	x	16 58 05.8	
	comp=N,1μm,1.1s						
PBA				*e*x	x	16 58 14.7	
	comp=E,2μm,1.0s						
MKAR	**Makanchi Array**	**37.32**	**346**	P	P	17 03 50.9	-0.5
	comp=E,1.2nm,0.7s,baz=166,slow=8.4,SNR=4.3						
MKAR				LR	LR	17 23 39.4	
	comp=E,122nm,19.2s,baz=232,slow=44						
SONM	**Songino Array**	**38.14**	**13**	P	P	17 03 58.8	+0.5
	comp=E,0.6nm,0.7s,baz=189,slow=8.6,SNR=4.0						
ZAL	**Zalesovo**	**43.68**	**352**	P	P	17 04 44.4	+0.4
	comp=E,0.6nm,0.5s,baz=305,slow=17,SNR=2.1						
BVAR	**Borovoye Array**	**46.37**	**340**	P	P	17 05 04.4	-1.0
	comp=E,0.3nm,0.6s,baz=134,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**49.60**	**128**	P	P	17 05 30.6	+0.2
	comp=E,1.0nm,0.8s,baz=305,slow=8.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**90.45**	**283**	P	P	17 09 42.4	+1.4
	comp=E,0.6nm,1.1s,baz=52,slow=9.3,SNR=2.3						

*IDC **09** 17:03:28.7±0.8, 1050N×9480E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/23, mbtmp3.9/10, Error ellipse: s-maj=29.3km s-min=17.8km az=70.0*
*BJI **09** 17:03:29.7, 1038N×9395E, h27km, mB4.7, mb3.8, Ms4.4, Msz4.2*
*NEIC **09** 17:03:30.5±0.5, 1053N×9468E, h10km, mb4.2/11, Error ellipse: s-maj=17.4km s-min=8.3km az=64.0*
*ISCJB **09** 17:03:35.6±1.8, 1071N±008×947E±0.1, h59km±19km, mb4.1/16, Error ellipse: s-maj=22.0km s-min=7.9km az=123.2*

ISC 09 17:03:37.0±1.2, 1077N±008×946E±01, h48km±15km, n30, σ0°96/30, mb4.1/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.01**	**296**	*e*P	**Pn**	**17 04 20.5**	**+12**
PBA				*e*S	**Sn**	**17 04 39.5**	**+7.2**
PBA				*e*x	x	17 04 58.6	
	comp=N,596nm,0.5s						
PBA				*e*x	x	17 05 01.9	
	comp=E,668nm,1.0s						
PSI	**Prapat**	**9.01**	**151**	Pn	**Pn**	**17 05 44.5**	**+0.1**
	comp=E,0.7nm,0.3s,baz=293,slow=15,SNR=3.3						
PSI				Sn	**Sn**	**17 07 25.5**	**+1.0**
	comp=E,0.4nm,0.3s,baz=134,slow=18,SNR=2.6						
JIRN	**Jiri**	**18.56**	**336**	*e*P	**Pn**	**17 07 50.8**	**+0.4**
	comp=E,35nm,1.4s						
PKI	**Pulchoki**	**18.81**	**334**	*e*P	**Pn**	**17 07 53.7**	**+0.3**
GUN	**Gumba**	**18.91**	**336**	*e*P	**Pn**	**17 07 54.2**	**-0.4**
DMN	**Daman**	**18.98**	**333**	*e*P	**Pn**	**17 07 55.5**	**+0.1**
	comp=E,23nm,0.9s						
KKN	**Kakani**	**19.06**	**334**	*e*P	**Pn**	**17 07 56.0**	**-0.3**
LSA	**Lhasa**	**19.11**	**351**	P	**Pn**	**17 07 55.4**	**-1.5**
	comp=E,5.3nm,1.0s						
GYA	**Guiyang**	**19.33**	**35**	P	**Pn**	**17 08 03.6**	**+4.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
GKN	**Gorkha**	**19.52**	**333**	*e*P	**Pn**	**17 08 01.2**	**-0.7**
	comp=Z,16nm,0.8s						
KOLN	**Koldanda**	**19.81**	**330**	*e*P	**Pn**	**17 08 04.8**	**-0.5**
	comp=Z,37nm,1.1s						
ENH	**Enshi**	**23.85**	**33**	*e*P	**P**	**17 08 45.8**	**0.0**
	comp=Z,23nm,1.4s,mb4.4						
BJT	**Baijiatuau**	**34.86**	**30**	P	**P**	**17 10 23.4**	**0.0**
	comp=Z,7.1nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**36.26**	**335**	*e*P	**P**	**17 10 34.5**	**-1.0**
	comp=Z,4.1nm,1.2s,mb4.2						
MKAR	**Makanchi Array**	**37.39**	**346**	P	**P**	**17 10 45.9**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.2,baz=162,slow=8.2,SNR=30						
SONM	**Songino Array**	**38.26**	**13**	P	**P**	**17 10 53.7**	**+1.3**
	comp=Z,1.5nm,0.9s,mb3.7,baz=192,slow=8.9,SNR=11						
SONM				PcP	PcP	17 13 03.4	-2.4
	comp=Z,0.5nm,0.8s,baz=194,slow=2.9,SNR=2.3						
ULN	**Ulaanbaatar**	**38.44**	**14**	P	**P**	**17 10 55.4**	**+1.5**
	comp=Z,8.7nm,1.8s,mb4.2						
KURK	**Kurchatov**	**41.94**	**345**	*e*P	**P**	**17 11 23.3**	**+0.4**
	comp=Z,6.4nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**43.76**	**352**	P	**P**	**17 11 38.6**	**+1.0**
	comp=Z,1.8nm,0.7s,mb3.9,baz=292,slow=7.5,SNR=10						
BVAR	**Borovoye Array**	**46.42**	**340**	P	**P**	**17 11 58.8**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=126,slow=7.3,SNR=4.8						
BVAR	**Borovoye Array**	**46.42**	**340**	P	**P**	**17 11 58.8**	**0.0**
NWAO	**Narrogin (SRO)**	**48.53**	**154**	P	**P**	**17 12 13.9**	**-1.3**
	comp=Z,21nm,1.4s,mb5.0						
WRA	**Warramunga Arr**	**49.63**	**128**	P	**P**	**17 12 20.0**	**-3.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=299,slow=9.0,SNR=3.3						
ASAR	**Alice Springs**	**51.47**	**132**	P	**P**	**17 12 34.0**	**-3.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=308,slow=6.7,SNR=7.4						
ASAJ	**Asahikawa**	**52.97**	**42**	P	**P**	**17 12 47.5**	**-1.1**
	comp=Z,11nm,1.2s,mb4.7,baz=321,slow=14,SNR=2.3						
FINES	**FINESS Array B**	**70.38**	**332**	P	**P**	**17 14 46.2**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=91,slow=5.6,SNR=2.7						
ARCES	**ARCESS Array B**	**72.71**	**340**	P	**P**	**17 15 00.6**	**+0.8**
	comp=Z,4.1nm,1.0s,mb4.3,baz=57,slow=4.5,SNR=4.9						
BOSA	**Boshof**	**77.49**	**237**	P	**P**	**17 15 28.0**	**+0.6**
	comp=Z,1.7nm,0.9s,mb4.0,baz=62,slow=7.8,SNR=3.1						
PDAR	**Pinedale Array**	**122.33**	**21**	PKP	PKPdf	17 22 25.4	-1.2
	comp=Z,0.5nm,0.8s,baz=48,slow=2.2,SNR=4.0						
PLCA	**Paso Flores**	**147.39**	**201**	PKPbc	PKPbc	17 23 12.9	-2.5
	comp=Z,1.3nm,0.8s,baz=232,slow=6.3,SNR=2.5						

*IDC **09** 17:08:48.6±0.5, 1076N×9441E, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.3/26, mbtmp4.3/19, ML3.9/1, Error ellipse: s-maj=22.3km s-min=12.6km az=62.0*
*ISCJB **09** 17:08:50.0±0.3, 1068N±004×9444E±004, h21km, mb4.6/61, MS4.4/11, Error ellipse: s-maj=5.8km s-min=5.4km az=84.2*
*BJI **09** 17:08:50.2, 1058N×9443E, h29km, mB5.0, mb4.4, Ms4.7, Msz4.3*
*NEIC **09** 17:08:51.9±0.3, 1073N×9451E, mb4.8/26, Error ellipse: s-maj=12.1km s-min=5.8km az=56.0*
*MOS **09** 17:08:51.4±1.0, 1072N×9445E, h33km, mb5.0/21, Error ellipse: s-maj=12.9km s-min=5.8km az=107.2*
*HRVD **09** 17:09:11.4±0.5, 1083N×9447E, h18km±1km, MW4.9/60, Centroid moment Tensor Solution. LP body waves: s18,c20;Mantle waves: s60,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.10±.28; $M_{\theta\theta}$2.19±.16; $M_{\phi\phi}$0.90±.17; $M_{r\theta}$0.70±.31; $M_{\theta\phi}$0.90±.10; $M_{r\phi}$0.87±.54; Best double couple: $M_0$3.07800×10^{16} NP1:ϕ_s69.00000°, δ36.00000°, λ-79.00000°. NP2: ϕ_s235.00000°, δ55.00000°, λ-98.00000°. Principal axes: T 2.8290, Plg10.0000°, Azm331.0000°; N 0.4940, Plg6.0000°, Azm240.0000°; P -3.3270, Plg78.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 09 17:08:52.5±0.3, 1074N±004×9445E±004, h22km, h22km±1.3km: pP-P, n137, σ1°17/140, mb4.6/61, MS4.4/11, 8C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.91**	**299**	*ex*	x	17 09 35.5	
PBA				*e*S	Sx	17 09 48.3	
KULM	**Kulim**	**8.18**	**131**	*e*Pn	**Pn**	**17 10 45.7**	**-4.2**
KULM				*e*Sn	**Sn**	**17 12 15.1**	**-6.5**
PSI	**Prapat**	**9.05**	**150**	Pn	**Pn**	**17 11 02.0**	**+0.2**
	1.1nm,0.3s,baz=333,slow=14,SNR=9.6						
VIS	**Vishakhapatnam**	**12.82**	**304**	*e*P	**Pn**	**17 11 51.7**	**-1.7**
VIS				*i* P		17 11 53.1	
VIS				AMb	AMB	17 12 00.1	
	comp=Z,36nm,1.3s						
VIS				*e*S	**Sn**	**17 14 02.1**	**-13**
VIS				*i* S	**Sn**	**17 14 04.2**	**-11**
SHL	**Shillong**	**14.95**	**351**	*e*P	**Pn**	**17 12 26.5**	**+4.1**
BOK	**Bokaro**	**15.34**	**329**	*e*P	**Pn**	**17 12 29.0**	**+1.5**
BOK				AMb	AMB	17 12 36.8	
	comp=Z,44nm,1.4s						
KMI	**Kunming**	**16.32**	**28**	P	**Pn**	**17 12 42.7**	**+2.4**
KMI				AP	pP	17 12 46.5	-2.7
KMI				XP	sP	17 12 49.3	-2.8
KMI				PP		17 12 55.3	
KMI				S	**Sn**	**17 15 43.2**	**+2.5**
KMI				SS		17 16 00.9	
KMI				AMB	AMB		
	comp=Z,17nm,1.6s						
KMI				AMB	AMB		
	comp=Z,98nm,3.9s						
KMI				LR	LR		
	comp=N,1μm,10.1s						
KMI				LR	LR		
	comp=E,567nm,12.8s						
KMI				LR	LR		
	comp=Z,692nm,11.9s						
HYB	**Hyderabad**	**16.78**	**295⇑**	*i* P	**Pn**	**17 12 51.5**	**+5.4**
HYB				*e*		17 13 15.0	
HYB	**Hyderabad**	**16.78**	**295⇑**	*e*P	**Pn**	**17 12 51.5**	**+5.4**
HYB				*e*		17 13 15.0	
QIZ	**Qiongzhong**	**16.99**	**59**	*e*P	**Pn**	**17 12 51.3**	**+2.6**
QIZ				S	**Sn**	**17 16 02.6**	**+5.6**
QIZ				AMB	AMB		
	comp=Z,11nm,1.4s						
QIZ				LR	LR		
	comp=E,1μm,8.9s						
QIZ				LR	LR		
	comp=Z,2μm,9.1s						
NGP	**Nagpur**	**18.05**	**307**	AMb	AMB	17 13 08.1	
	comp=Z,30nm,2.8s						
KSM	**Kuching**	**18.24**	**119**	*e*Pn	**Pn**	**17 13 07.2**	**+3.0**
JIRN	**Jiri**	**18.54**	**336**	*e*P	**Pn**	**17 13 08.5**	**+0.7**
	comp=Z,146nm,1.5s						
PKI	**Pulchoki**	**18.78**	**334**	*e*P	**Pn**	**17 13 11.5**	**+0.8**
	comp=Z,214nm,1.5s						
PKI	**Pulchoki**	**18.78**	**334**	*e*P	**Pn**	**17 13 11.5**	**+0.8**
PKI				pmax	pmax		
	comp=Z,107nm,1.5s						
GUN	**Gumba**	**18.89**	**336**	*e*P	**Pn**	**17 13 12.4**	**+0.4**
	comp=Z,452nm,1.9s						
DMN	**Daman**	**18.94**	**334**	*e*P	**Pn**	**17 13 12.9**	**+0.2**
	comp=Z,65nm,1.1s						
KKN	**Kakani**	**19.03**	**334**	*e*P	**Pn**	**17 13 13.7**	**0.0**
	comp=Z,64nm,1.3s						
KKN	**Kakani**	**19.03**	**334**	*e*P	**Pn**	**17 13 13.7**	**0.0**
KKN				pmax	pmax		
	comp=Z,32nm,1.3s						
LSA	**Lhasa**	**19.11**	**351**	P	**Pn**	**17 13 13.4**	**-1.4**
LSA	**Lhasa**	**19.11**	**351**	*e*Pn	**Pn**	**17 13 13.0**	**-1.8**
	comp=Z,22nm,1.4s						
LSA	**Lhasa**	**19.11**	**351**	*e*P	**Pn**	**17 13 13.0**	**-1.8**
LSA				pmax	pmax		
	comp=Z,23nm,1.4s						
GYA	**Guiyang**	**19.43**	**35⇑**	*i* P	**Pn**	**17 13 17.9**	**-0.6**
GYA				AP	pP	17 13 23.4	-0.1
GYA				XP	sP	17 13 26.7	+0.3
GYA				PP		17 13 38.9	
GYA				S	**Sn**	**17 16 52.2**	**-3.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,700nm,12.0s						
GYA				LR	LR		
	comp=E,870nm,12.9s						
GYA				LR	LR		
	comp=Z,550nm,12.0s						
GKN	**Gorkha**	**19.49**	**333**	*e*P	**Pn**	**17 13 19.0**	**-0.3**
	comp=Z,132nm,1.3s						
KOLN	**Koldanda**	**19.77**	**330**	*e*P	**Pn**	**17 13 22.5**	**-0.2**
	comp=Z,183nm,1.3s						
BHPL	**Bhopal**	**20.46**	**310**	*e*P	**P**	**17 13 31.9**	**+3.4**
KAD	**Karad**	**20.71**	**291**	*e*P	**P**	**17 13 33.3**	**+2.0**
KAD				*e*P		17 13 34.0	
KAD				AMb	AMB	17 13 38.2	
	comp=Z,58nm,1.4s						
CD2	**Chengdu**	**21.85**	**22**	P	**P**	**17 13 42.9**	**-0.6**
CD2				PP		17 14 05.9	
CD2				S	**S**	**17 17 36.8**	**-7.1**
CD2				SS		17 18 14.2	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,5.4s						
CD2				LR	LR		
	comp=N,290nm,10.2s						
CD2				LR	LR		
	comp=Z,330nm

comp=E,236nm,16.6s,MS4.1
GTA LR LR
comp=Z,452nm,22.0s
NJ2 Nanjing 30.94 43 *e*P **P 17 15 08.2 +0.5**
NJ2 AP pP 17 15 14.0 -0.5
NJ2 XP sP 17 15 17.0 -0.2
NJ2 PP PP 17 16 09.2 -8.5
NJ2 S **S 17 20 09.0 -1.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,50nm,6.3s
NJ2 LR LR
comp=N,1μm,23.2s
NJ2 LR LR
comp=E,670nm,13.1s
NJ2 LR LR
comp=Z,240nm,14.2s
SSE Sheshan 32.00 47 P **P 17 15 18.6 +1.5**
SSE AP pP 17 15 26.7 +2.9
SSE XP sP 17 15 31.4 +4.8
SSE S **S 17 20 27.8 +0.4**
SSE XS sS 17 20 42.9 +4.3
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,59nm,3.2s
SSE LR LR
comp=N,201nm,20.6s,MS3.8
SSE LR LR
comp=E,95nm,20.6s,MS3.8
SSE LR LR
comp=Z,104nm,25.7s
WMQ Urumqi 33.48 351 P **P 17 15 31.4 +1.4**
WMQ AP pP 17 15 37.2 +0.4
WMQ XP sP 17 15 40.2 +0.7
WMQ PP PP 17 16 42.5 -3.3
WMQ AMB AMB
comp=Z,21nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,164nm,4.6s
WMQ LR LR
comp=N,2μm,24.2s,MS4.9
WMQ LR LR
comp=E,2μm,26.0s,MS4.9
WMQ LR LR
comp=Z,2μm,22.4s,MS4.8
HHC Hu-ho-hao-te 33.58 24 *e*P **P 17 15 33.1 +2.2**
HHC AP pP 17 15 39.0 +1.3
HHC XP sP 17 15 42.0 +1.6
HHC PP PP 17 16 46.2 -0.8
HHC PCP PcP 17 18 13.2 +2.2
HHC S **S 17 20 56.5 +4.5**
HHC XS sS 17 21 03.1 0.0
HHC PCS PcS 17 21 57.8 +1.0
HHC SS SS 17 22 58.6 -19
HHC AMB AMB
comp=Z,73nm,4.0s
HHC LR LR
comp=N,358nm,13.7s,MS4.5
HHC LR LR
comp=E,621nm,15.1s,MS4.5
HHC LR LR
comp=Z,342nm,17.6s,MS4.1
BJI Beijing 34.96 30 P **P 17 15 43.8 +0.9**
BJI AMB AMB
comp=Z,9.0nm,1.4s,mb4.5
KZA Kyzart 35.46 335 P **P 17 15 48.6 +1.4**
SNR=6.0
KBK Karagaybulak 36.07 335 P **P 17 15 53.9 +1.5**
SNR=6.5
AML Almayashu 36.17 333 P **P 17 15 54.3 +1.0**
SNR=12
AAK Ala-Archa 36.23 335 P **P 17 15 54.8 +1.0**
SNR=6.3
AAK Ala-Archa 36.23 335 P **P 17 15 53.8 0.0**
comp=Z,19nm,1.5s,mb4.8
AAK Ala-Archa 36.23 335 *d i*P **P 17 15 53.6 -0.2**
AAK pmax pmax
comp=Z,15nm,1.7s,mb4.7
FRU Bishkek 36.35 335 *e*P **P 17 15 56.0 +1.2**
FRU pmax pmax
comp=Z,60nm,2.3s,mb5.1
EKS2 Erkin-Say 36.56 334 P **P 17 15 57.8 +1.2**
SNR=5.5
USP Ospenovka 36.76 335 P **P 17 15 58.7 +0.5**
SNR=7.2
MK31 Makanchi Array 37.39 346 *i*P **P 17 16 03.3 -0.3**
MK31 pmax pmax
comp=Z,46nm,1.4s,mb5.1
MKAR Makanchi Array 37.39 346 P **P 17 16 03.4 -0.2**
comp=Z,5.7nm,0.8s,mb4.5,baz=163,slow=7.7,SNR=52
MKAR PcP PcP 17 18 21.3 -0.9
comp=Z,0.8nm,0.8s,baz=152,slow=6.5,SNR=3.3
MKAR Makanchi Array 37.39 346 P **P 17 16 03.4 -0.2**
MKAR 17 18 21.4
SONM Songino Array 38.32 13 P **P 17 16 11.0 -0.5**
comp=Z,8.2nm,1.2s,mb4.3,baz=200,slow=7.4,SNR=28
SONM PcP PcP 17 18 25.0 -0.1
comp=Z,0.8nm,0.8s,baz=191,slow=6.0,SNR=2.2
ULN Ulaanbaatar 38.49 14 P **P 17 16 13.0 +0.1**
comp=Z,16nm,1.4s,mb4.5
ULN Ulaanbaatar 38.49 14 *c i*P **P 17 16 13.2 +0.2**
ZAK Zakamensk 40.19 9 *e*P **P 17 16 27.1 0.0**
ZAK pmax pmax
comp=Z,9.0nm,2.3s,mb4.1
KURK Kurchatov 41.93 345 P **P 17 16 41.5 0.0**
comp=Z,36nm,1.3s,mb4.8
KURK Kurchatov 41.93 345 P **P 17 16 41.5 +0.1**
KURK pmax pmax
comp=Z,36nm,1.3s,mb4.8
CN2 Changchun 42.47 34 *e*P **P 17 16 46.0 +0.2**
CN2 *e*AP pP 17 16 51.3 -1.4
CN2 PCP PcP 17 18 42.3 +3.8
CN2 SS SS 17 26 06.1 -10
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.6
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,15.0s,MS4.5
CN2 LR LR
comp=E,400nm,15.0s,MS4.5
CN2 LR LR
comp=Z,300nm,15.0s,MS4.3
ZAL Zalesovo 43.77 352 P **P 17 16 56.6 +0.3**
comp=Z,2.6nm,0.7s,mb4.1,baz=296,slow=9.4,SNR=18
HIA Hailar 43.78 24 *e*P **P 17 16 55.8 -0.6**
comp=Z,5.6nm,1.1s,mb4.2
HIA Hailar 43.78 24 ⇑*i*P **P 17 16 56.8 +0.3**
NVS Novosibirsk 44.88 351 *e*P **P 17 17 04.3 -0.9**
NVS pmax pmax
comp=Z,25nm,1.9s,mb4.7
NVS pmax pmax
comp=N,16nm,1.6s
KRAR Krasnoyarsk 45.18 359⇑ *e*P **P 17 17 07.9 +0.3**
KRAR pmax pmax
comp=Z,54nm,1.7s,mb5.1
MDJ Mudanjiang 45.29 35 P **P 17 17 07.2 -1.3**
MDJ AMB AMB
comp=Z,8.0nm,1.1s,mb4.5
MDJ AMB AMB
comp=Z,75nm,3.4s
VOSK Vostochnaya 45.95 340 P **P 17 17 13.3 -0.5**
VOSK pmax pmax
comp=Z,11nm,1.1s,mb4.7
BVA0 Borovoye Array 46.40 340 *i*P **P 17 17 17.0 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
BVAR Borovoye Array 46.40 340 P **P 17 17 16.1 -1.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=134,slow=8.5,SNR=11
BRVK Borovoye 46.47 340 *e*P **P 17 17 16.0 -1.7**
comp=Z,2.1nm,0.8s,mb4.1
BRVK Borovoye 46.47 340 *e*P **P 17 17 16.0 -1.8**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ZRNK Zerenda 46.82 339 P **P 17 17 19.8 -0.8**
MJAR Matsushiro Arr 47.05 50 P **P 17 17 23.7 +1.3**
comp=Z,1.0nm,0.8s,mb3.8,baz=210,slow=11,SNR=3.0
AB31 Akbulak array 47.90 330 *i*P **P 17 17 28.7 -0.2**
AB31 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
NWAO Narrogin (SRO) 48.56 154 P **P 17 17 34.8 +0.7**
comp=Z,14nm,0.7s,mb5.1,baz=324,slow=7.4,SNR=12
NWAO Narrogin (SRO) 48.56 154 *e*P **P 17 17 35.2 +1.2**
comp=Z,96nm,2.0s,mb5.5
NWAO *e*pP pP 17 17 40.3 -0.7
NWAO Narrogin (SRO) 48.56 154 *e*P **P 17 17 35.2 +1.2**
NWAO *e**PP pP 17 17 40.3 -0.7
NWAO pmax pmax
comp=Z,96nm,2.0s
KLR Kul'dur 49.28 32 *e*P **P 17 17 37.2 -2.4**
BOD Bodaibo 49.31 14 *e*P **P 17 17 38.9 -0.9**
BOD pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
AKTK Aktyubinsk 49.61 330 P **P 17 17 41.4 -0.8**
AKTO Aktyubinsk 49.61 330 P **P 17 17 41.4 -0.8**
comp=Z,1.2nm,0.7s,mb4.1,baz=108,slow=7.5,SNR=5.5
WRA Warramunga Arr 49.71 128 P **P 17 17 43.2 +0.3**
comp=Z,3.0nm,1.1s,mb4.2,baz=305,slow=8.4,SNR=9.4
WRAB Tennant Creek 49.72 128 *e*P **P 17 17 41.0 -1.9**
comp=Z,17nm,1.2s,mb5.0
WRAB *e*pP pP 17 17 49.2 -0.7
WRAB Tennant Creek 49.72 128 *e*P **P 17 17 41.0 -1.9**
WRAB *e**PP pP 17 17 49.2 -0.7
WRAB pmax pmax
comp=Z,17nm,1.2s,mb5.0
HABR Khabarovsk 50.60 34 *e*P **P 17 17 49.0 -0.6**
HABR *e*S **S 17 25 03.0 +0.1**
ASAR Alice Springs 51.55 132 P **P 17 17 57.0 +0.2**
comp=Z,3.1nm,0.7s,mb4.3,baz=312,slow=7.0,SNR=34
GNI Garni 52.70 313 *i*P **P 17 18 05.0 -0.3**
ARU Arti 53.40 336 *e*P **P 17 18 08.5 -2.0**
comp=Z,41nm,2.1s,mb5.0
ARU Arti 53.40 336⇓ *i*P **P 17 18 10.0 -0.4**
ARU *e* 17 20 10.2
ARU *e*PPP 17 21 22.2
ARU *e*S **S 17 25 43.0 +1.7**
ARU *e*SS SS 17 29 22.4 +1.0
ARU pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
ARU MLR MLR
comp=Z,600nm,22.0s,MS4.6
ARU MLR MLR
comp=N,300nm,21.0s,MS4.5
ARU MLR MLR
comp=E,300nm,22.0s,MS4.5
ZEI Tsey 54.20 315 *i*P **P 17 18 16.6 +0.3**
ZEI pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
YSS Yuzh-Sakhalins 54.36 39 P **P 17 18 18.0 +0.6**
comp=Z,18nm,1.2s,mb4.9
YSS Yuzh-Sakhalins 54.36 39⇑ *i*P **P 17 18 18.3 +0.8**
YSS pmax pmax
comp=Z,15nm,1.3s,mb4.8
OPO Ambohidratompo 54.97 238 P **P 17 18 22.6 +0.7**
comp=Z,1.7nm,0.8s,mb4.1,baz=98,slow=22,SNR=3.0
KIV Kislovodsk 55.44 316 P **P 17 18 26.1 +0.8**
comp=Z,26nm,1.3s,mb5.1
KIV Kislovodsk 55.44 316 P **P 17 18 26.1 +0.8**
KIV pmax pmax
comp=Z,26nm,1.3s,mb5.1
PMG Port Moresby 56.12 109 P **P 17 18 31.6 +1.5**
comp=Z,7.6nm,1.0s,mb4.7
PMG Port Moresby 56.12 109 P **P 17 18 31.6 +1.4**
PMG pmax pmax
comp=Z,8.0nm,1.0s
MALT Malatya 56.89 309 *e*P **P 17 18 32.3 -3.3**
comp=Z,9.1nm,1.4s,mb4.6
MALT Malatya 56.89 309 *e*P **P 17 18 32.3 -3.3**
MALT pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
YAK Yakutsk 57.20 19 P **P 17 18 36.9 -0.9**
comp=Z,25nm,1.2s,mb5.1
YAK *e*pP pP 17 18 42.9 -1.9
YAK Yakutsk 57.20 19 P **P 17 18 36.9 -0.9**
YAK *e**PP pP 17 18 42.9 -2.0
YAK pmax pmax
comp=Z,25nm,1.2s,mb5.1
ANN Anapa 59.28 316 *e*P **P 17 18 51.5 -0.9**
ANN pmax pmax
comp=Z,60nm,1.2s,mb5.5
BRTR Keskin Array B 60.83 310 P **P 17 19 02.0 -1.0**
comp=Z,1.0nm,0.7s,mb4.0,baz=147,slow=7.3,SNR=4.9
STKA Stephens Creek 61.88 135 P **P 17 19 09.0 -1.1**
comp=Z,4.1nm,0.8s,mb4.6,baz=324,slow=8.8,SNR=10
STKA Stephens Creek 61.88 135 *e*P **P 17 19 09.0 -1.1**
MOS Moscow 62.82 328 *e*P **P 17 19 15.2 -1.2**
OBN Obninsk 63.15 327⇓ *i*P **P 17 19 17.9 -0.7**
OBN *e* 17 19 53.7
OBN *e*S **S 17 28 03.3 +15**
OBN pmax pmax
comp=Z,26nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
MA2 Magadan 64.10 28 P **P 17 19 25.0 +0.2**
comp=Z,7.1nm,1.0s,mb4.7
MA2 *e*pP pP 17 19 31.1 -0.9
MA2 Magadan 64.10 28 P **P 17 19 25.0 +0.1**
MA2 *e**PP pP 17 19 31.1 -0.9
MA2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
TIXI Tiksi 64.38 11 P **P 17 19 25.1 -1.6**
TIXI Tiksi 64.38 11⇓ *i*P **P 17 19 25.2 -1.5**
TIXI pmax pmax
comp=Z,24nm,1.3s,mb5.1
SEY Seymchan 66.21 25⇓ *e*P **P 17 19 36.3 -2.3**
APA Apatity 69.30 339⇑ *i*P **P 17 19 57.6 -0.4**
APA *i* pP 17 20 04.0 -1.2
APA pmax pmax
comp=Z,22nm,1.3s,mb4.9
APA MLR MLR
comp=Z,500nm,18.0s,MS4.8
APA Apatity 69.30 339 *e*P **P 17 20 04.0 +6.0**
FINES FINESS Array B 70.34 332 P **P 17 20 03.5 -0.9**
comp=Z,1.3nm,0.8s,mb3.9,baz=64,slow=8.7,SNR=4.7
ARCES ARCESS Array B 72.69 340 P **P 17 20 17.5 -1.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=83,slow=2.9,SNR=6.4
BILL Bilibino 73.33 22 *e*P **P 17 20 21.5 -0.8**
comp=Z,8.3nm,1.4s,mb4.5
BILL *e*pP pP 17 20 27.6 -2.0
BILL Bilibino 73.33 22 *e*P **P 17 20 21.5 -0.9**
BILL *e**PP pP 17 20 27.6 -2.0
BILL pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
GERES GERESS Array B 75.92 318 P **P 17 20 37.0 -0.4**
comp=Z,0.9nm,0.8s,mb3.8,baz=70,slow=4.4,SNR=4.4
CLL Collm 76.36 320 *e*P **P 17 20 41.0 +1.1**
comp=Z,18nm,1.7s,mb4.7
CLL Collm 76.36 320 *e*P **P 17 20 41.0 +1.1**
CLL pmax pmax
comp=Z,18nm,1.7s,mb4.7
NOA NORSAR Array B 77.41 330 P **P 17 20 44.0 -1.8**
comp=Z,4.1nm,1.1s,mb4.3,baz=93,slow=5.6,SNR=3.5
SYO Syowa Base 88.22 197⇓ *e*P **P 17 21 40.3 -1.6**
SYO Syowa Base 88.22 197⇓ *e*PcP PcP 17 21 43.8 +0.2
TORD Torodi Ar. Bea 90.24 283 P **P 17 21 52.5 +1.1**
comp=Z,1.8nm,1.0s,mb4.4,baz=80,slow=3.0,SNR=6.9
TORD PP PP 17 25 25.8 +0.5
comp=Z,0.8nm,0.9s,baz=86,slow=6.9,SNR=3.7
RES Resolute Bay 94.54 2 P **P 17 22 10.5 -0.7**
comp=Z,3.6nm,1.0s,mb4.8
RES Resolute Bay 94.54 2 P **P 17 22 10.5 -0.8**
RES pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
DBIC Dimbokro 97.85 278 P **P 17 22 27.7 +1.4**
comp=Z,5.0nm,1.2s,mb4.9,baz=150,slow=8.1,SNR=3.1
YKA Yellowknife Ar 103.58 13 PP PP 17 27 04.1 -3.9
comp=Z,0.1nm,0.3s,baz=322,slow=4.5,SNR=3.6
NVAR Mina Array Bea 122.31 30 PKP PKPdf 17 27 45.8 +0.1
comp=Z,0.2nm,0.3s,baz=242,slow=1.2,SNR=6.4
NVAR Mina Array Bea 122.31 30 PKP PKPdf 17 27 45.8 +0.1
PDAR Pinedale Array 122.40 21 PKP PKPdf 17 27 46.0 +0.2
comp=Z,1.2nm,0.8s,baz=53,slow=0.7,SNR=10
PDAR Pinedale Array 122.40 21 PKP PKPdf 17 27 46.0 +0.2
PLCA Paso Flores 147.32 201 PKPbc PKPbc 17 28 35.6 +1.3
comp=Z,2.9nm,0.8s,baz=136,slow=7.8,SNR=5.3
CPUP Villa Florida 149.18 236 PKPbc PKPbc 17 28 38.8 -0.3
comp=Z,3.4nm,0.9s,baz=86,slow=3.3,SNR=6.8
LPAZ La Paz 162.20 250 PKPab PKPab 17 29 40.5 +1.4
comp=Z,1.2nm,0.7s,baz=43,slow=5.2,SNR=4.5

ISCJB ***09*** *17:09:08.3±8.7, 106N±0.1×94.1E±0.2, h1km±55km, mb4.2/14, MS4.6/1, Error ellipse: s-maj=31.9km s-min=14.0km az=128.4*
IDC ***09*** *17:09:10.2±0.8, 1050N×9403E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.1/23, mbtmp4.1/12, ML3.8/1, MS4.5/1, Ms1 4.5/1, ms1mx3.2/31, Error ellipse: s-maj=42.4km s-min=17.4km az=58.0*
MOS ***09*** *17:09:10.4±2.2, 1002N×9326E, h33km, mb4.2/1, Error ellipse: s-maj=31.2km s-min=11.6km az=124.5*
NEIC ***09*** *17:09:11.4±0.6, 1056N×9415E, h10km, mb4.9/3, Error ellipse: s-maj=25.7km s-min=9.9km az=62.0*
ISC 09 17:09:11.0±9.0, 106N±01×941E±02, h4km±57km, n26, σ1°07/20, mb4.2/14, MS4.6/1, Andaman Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PSI Prapat 9.13 148 Pn **Pn 17 11 24.0 +0.5**
1.0nm,0.3s,baz=303,slow=10,SNR=4.1
ENH Enshi 24.20 34 P **P 17 14 27.7 -0.9**
84nm,1.3s,mb5.0
FRU Bishkek 36.30 335 *e*P **P 17 16 13.0 -2.7**
MKAR Makanchi Array 37.40 347 P **P 17 16 25.9 +0.8**
2.9nm,0.8s,mb4.2,baz=166,slow=7.6,SNR=4.2
SONM Songino Array 38.48 13 P **P 17 16 35.0 +0.9**
1.5nm,0.8s,mb3.8,baz=196,slow=5.7,SNR=3.7
SONM PcP PcP 17 18 48.5 +1.3
0.8nm,0.8s,baz=198,slow=4.4,SNR=2.8
ULN Ulaanbaatar 38.66 14 *e*P **P 17 16 42.0 +6.3**
3.3nm,0.8s,mb4.1
ZAL Zalesovo 43.82 352 P **P 17 17 19.1 +1.0**
4.4nm,0.7s,mb4.3,baz=295,slow=12,SNR=4.9
HIA Hailar 44.00 24 *e*P **P 17 17 25.7 +6.2**
BVAR Borovoye Array 46.39 340 P **P 17 17 38.1 -0.4**
1.1nm,0.7s,mb3.9,baz=147,slow=8.8,SNR=4.7
NWAO Narrogin (SRO) 48.61 154 *e*P **P 17 18 03.6 +7.8**
WRA Warramunga Arr 49.90 127 P **P 17 18 04.7 -1.0**
2.6nm,0.7s,mb4.4,baz=303,slow=8.8,SNR=5.2
WRAB Tennant Creek 49.91 127 P **P 17 18 04.8 -0.9**
24nm,1.3s,mb5.1
WRAB Tennant Creek 49.91 127 P **P 17 18 04.9 -0.8**
WRAB pmax pmax
comp=Z,24nm,1.3s,mb5.1
ASAR Alice Springs 51.72 132 P **P 17 18 18.7 -0.7**
comp=Z,4.2nm,0.6s,mb4.5,baz=308,slow=6.9,SNR=7.2
BRTR Keskin Array B 60.65 310 P **P 17 19 21.8 -1.4**
comp=Z,2.2nm,1.0s,mb4.2,baz=101,slow=5.1,SNR=4.2
STKA Stephens Creek 62.03 135 P **P 17 19 34.5 +1.9**
FINES FINESS Array B 70.28 332 P **P 17 20 24.9 -0.7**
comp=Z,0.7nm,0.6s,mb3.7,baz=90,slow=9.5,SNR=2.0
ARCES ARCESS Array B 72.67 340 P **P 17 20 41.5 +1.5**
comp=Z,2.5nm,0.9s,mb4.1,baz=66,slow=2.9,SNR=1.8
NOA NORSAR Array B 77.33 330 P **P 17 21 07.2 +0.3**
comp=Z,1.0nm,0.8s,mb3.8,baz=89,slow=5.7,SNR=2.1
TORD Torodi Ar. Bea 89.96 283 P **P 17 22 12.2 +0.6**
comp=Z,0.2nm,0.6s,mb3.6,baz=73,slow=4.8,SNR=2.6
URZ Urewera 91.06 129 LR LR 18 00 56.8
comp=Z,262nm,21.9s,MS4.6,baz=339,slow=34
NVAR Mina Array Bea 122.55 30 PKP PKPdf 17 28 09.9 +2.1
comp=Z,0.7nm,0.6s,baz=327,slow=2.2,SNR=3.2
NVAR Mina Array Bea 122.55 30 PKP PKPdf 17 28 09.9 +2.1
PDAR Pinedale Array 122.60 21 PKP PKPdf 17 28 09.2 +1.3
comp=Z,0.7nm,0.7s,baz=111,slow=1.1,SNR=3.4
PDAR Pinedale Array 122.60 21 PKP PKPdf 17 28 09.2 +1.3
PLCA Paso Flores 147.12 202 PKPbc PKPbc 17 28 55.5 +0.2
comp=Z,2.1nm,0.7s,baz=355,slow=6.4,SNR=4.2

IDC ***09*** *17:14:32.9±1.0, 1070N×9439E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/23, mbtmp3.7/11, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx3.3/40, Error ellipse: s-maj=60.2km s-min=15.7km az=59.0*
NEIC ***09*** *17:14:34.4±0.5, 1074N×9445E, h10km, mb4.2/5, Error ellipse: s-maj=25.4km s-min=7.8km az=62.0*
ISCJB ***09*** *17:14:35.8±0.7, 107N±0.1×944E±0.2, h33km, mb3.9/15, MS4.0/1, Error ellipse: s-maj=30.7km s-min=9.8km az=123.5*
ISC 09 17:14:38.3±0.7, 108N±01×945E±02, h35km, n23, σ0°75/19, mb3.9/15, MS4.0/1, Andaman Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PBA Port Blair 1.89 298 *e*P Px 17 15 23.6
PBA *e*S Sx 17 15 47.2
PBA *e*x x 17 16 03.4
comp=E,484nm,1.1s
PBA *e*x x 17 16 08.8
comp=N,487nm,0.6s
PSI Prapat 9.08 150 Pn **Pn 17 16 45.9 -0.9**
comp=N,0.8nm,0.3s,baz=333,slow=14,SNR=3.6
PSI Prapat 9.08 150 Pn **Pn 17 16 45.9 -0.9**
ENH Enshi 23.92 34 P **P 17 19 48.1 -0.9**
comp=N,14nm,1.1s,mb4.3
AAK Ala-Archa 36.20 335 P **P 17 21 36.1 -1.6**
comp=N,1.7nm,1.0s,mb3.9
MKAR Makanchi Array 37.35 346 P **P 17 21 47.2 -0.2**
comp=N,1.5nm,0.8s,mb3.9,baz=165,slow=8.1,SNR=12
MKAR Makanchi Array 37.35 346 P **P 17 21 47.2 -0.2**
SONM Songino Array 38.29 13 P **P 17 21 55.6 +0.3**
comp=N,1.3nm,1.0s,mb3.6,baz=196,slow=7.7,SNR=6.1
ULN Ulaanbaatar 38.47 14 P **P 17 22 01.1 +4.3**
comp=N,1.9nm,1.0s,mb3.8
KURK Kurchatov 41.90 345 *e*P **P 17 22 25.8 +0.5**
comp=N,10nm,1.4s,mb4.3
ZAL Zalesovo 43.74 352 P **P 17 22 41.0 +0.8**
comp=N,1.1nm,0.7s,mb3.7,baz=144,slow=22,SNR=4.2
ZAL Zalesovo 43.74 352 P **P 17 22 41.0 +0.8**
BVAR Borovoye Array 46.37 340 P **P 17 23 00.3 -0.8**
comp=N,0.2nm,0.4s,mb3.4,baz=137,slow=14,SNR=2.8
WRA Warramunga Arr 49.74 128 P **P 17 23 27.2 +0.2**
comp=N,0.6nm,0.8s,mb3.7,baz=306,slow=8.9,SNR=6.8
WRAB Tennant Creek 49.74 128 P **P 17 23 27.9 +0.8**
comp=N,5.0nm,1.0s,mb4.5
ASAR Alice Springs 51.57 132 P **P 17 23 41.5 +0.6**
comp=N,0.5nm,0.8s,mb3.5,baz=310,slow=7.1,SNR=7.7
ASAJ Asahikawa 53.06 42 LR LR 17 46 33.2
comp=N,142nm,19.3s,MS4.0,baz=182,slow=36
STKA Stephens Creek 61.90 135 P **P 17 24 53.8 -0.5**
comp=N,0.9nm,0.6s,mb4.1,baz=165,slow=17,SNR=3.3
FINES FINESS Array B 70.31 332 P **P 17 25 48.1 -0.1**
comp=N,0.6nm,0.7s,mb3.6,baz=91,slow=5.6,SNR=2.5
ARCES ARCESS Array B 72.66 340 P **P 17 26 03.4 +1.0**
comp=N,3.2nm,1.0s,mb4.2,baz=104,slow=5.9,SNR=3.2
GERES GERESS Array B 75.89 318 P **P 17 26 21.7 +0.5**
comp=N,0.4nm,0.5s,mb3.6,baz=150,slow=16,SNR=4.0
NVAR Mina Array Bea 122.28 30 PKP PKPdf 17 33 30.7 +1.2
comp=N,0.6nm,0.8s,baz=316,slow=3.8,SNR=2.9
PDAR Pinedale Array 122.37 21 PKP PKPdf 17 33 30.7 +1.0
comp=N,0.7nm,1.1s,baz=75,slow=1.7,SNR=3.5

IDC ***09*** *17:20:39.0±0.7, 1059N×9444E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/24, mbtmp4.0/13, ML3.6/1, Error ellipse: s-maj=39.6km s-min=14.0km az=64.0*
BJI ***09*** *17:20:41.7, 1033N×9452E, h49km, mB5.1, mb4.5, Ms4.6, Msz4.4*
ISCJB ***09*** *17:20:42.2±2.2, 1070N±005×9452E±007, h33km±17km, mb4.3/28, MS4.1/1, Error ellipse: s-maj=12.7km s-min=7.9km az=124.5*
MOS ***09*** *17:20:43.0±0.8, 1084N×9467E, h33km, mb4.7/10, Error ellipse: s-maj=24.1km s-min=9.2km az=101.1*
NEIC ***09*** *17:20:43.1±0.5, 1069N×9450E, mb4.6/11, Error ellipse: s-maj=20.9km s-min=7.5km az=65.0*
ISC 09 17:20:44.7±2.2, 1075N±006×9451E±008, h35km±16km, h30km±4.1km: pP-P, n61, σ1°08/56, mb4.3/28, MS4.1/1, 1C-3D, Andaman Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PBA Port Blair 1.95 298 *e*P Px 17 21 29.8
PBA *e*S Sx 17 21 52.7
PBA *e*x x 17 22 13.9
comp=N,543nm,0.6s
PBA *e*x x 17 22 14.2
comp=E,643nm,0.4s
KULM Kulim 8.15 131 *e*Pn **Pn 17 22 41.3 +0.9**
KULM *e*Sn **Sn 17 24 07.4 -3.9**
PSI Prapat 9.03 151 Pn **Pn 17 22 51.8 -0.8**
comp=E,0.6nm,0.3s,baz=355,slow=20,SNR=3.6
KMI Kunming 16.29 28 P **Pn 17 24 33.1 +2.4**
KMI AMB AMB
comp=Z,10.0nm,1.2s
JIRN Jiri 18.55 336 *e*P **Pn 17 24 59.2 +0.4**
comp=Z,92nm,1.7s
PKI Pulchoki 18.80 334 *e*P **Pn 17 25 03.3 +1.5**
GUN Gumba 18.90 336 *e*P **Pn 17 25 01.4 -1.6**
DMN Daman 18.96 333 *e*P **Pn 17 25 04.2 +0.5**
comp=Z,46nm,1.1s
KKN Kakani 19.04 334 *e*P **Pn 17 25 04.5 -0.2**
comp=Z,24nm,1.1s
LSA Lhasa 19.11 351 *e*P **Pn 17 25 05.2 -0.4**
comp=Z,7.7nm,1.1s

LSA	**Lhasa**	**19.11**	**351**	*e*P	**Pn**	**17 25 05.2**	**-0.4**
LSA				pmax	pmax		
comp=Z,8.0nm,1.1s							
GYA	**Guiyang**	**19.39**	**35**	P	**Pn**	**17 25 09.5**	**+0.6**
GYA				PP		17 25 29.7	
GYA				S	**Sn**	**17 28 39.6**	**-5.7**
GYA				AMB	AMB		
comp=Z,20nm,1.3s							
GYA				AMB	AMB		
comp=Z,90nm,4.0s							
GYA				LR	LR		
comp=N,760nm,12.2s							
GYA				LR	LR		
comp=E,860nm,12.8s							
GYA				LR	LR		
comp=Z,940nm,12.2s							
GKN	**Gorkha**	**19.51**	**333**	*e*P	**Pn**	**17 25 09.0**	**-1.3**
comp=Z,21nm,0.9s							
KOLN	**Koldanda**	**19.80**	**330**	*e*P	**Pn**	**17 25 13.2**	**-0.5**
comp=Z,95nm,1.4s							
ENH	**Enshi**	**23.91**	**33**	*e*P	**P**	**17 25 54.6**	**-0.6**
comp=Z,24nm,1.1s,mb4.5							
ENH				*ep*P		17 26 01.2	
LZH	**Lanzhou**	**26.61**	**17**	*e*P	**P**	**17 26 22.0**	**+2.3**
LZH				AP	pP	17 26 31.0	+1.4
LZH				XP	sP	17 26 35.0	+1.2
LZH				AMB	AMB		
comp=Z,30nm,1.4s,mb4.6							
LZH				AMB	AMB		
comp=Z,108nm,4.6s							
GTA	**Gaotai**	**28.93**	**9**	*e*P	**P**	**17 26 39.7**	**-0.8**
GTA				AMB	AMB		
comp=Z,3.0nm,2.0s,mb3.7							
NJ2	**Nanjing**	**30.89**	**43**	*e*P	**P**	**17 26 58.6**	**+0.7**
NJ2				PP	PP	17 27 59.6	-8.3
NJ2				S	**S**	**17 32 00.0**	**+0.4**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.9							
NJ2				AMB	AMB		
comp=Z,50nm,3.5s							
NJ2				LR	LR		
comp=N,560nm,23.2s,MS4.5							
NJ2				LR	LR		
comp=E,1μm,22.1s,MS4.5							
NJ2				LR	LR		
comp=Z,240nm,24.2s,MS3.8							
BJT	**Baijiatuau**	**34.91**	**30**	P	**P**	**17 27 32.8**	**-0.1**
comp=Z,10nm,1.1s,mb4.7							
BJT	**Baijiatuau**	**34.91**	**30**	P	**P**	**17 27 32.8**	**-0.1**
BJT				pmax	pmax		
comp=Z,10.0nm,1.1s							
AAK	**Ala-Archa**	**36.25**	**335**	*e*P	**P**	**17 27 44.5**	**+0.1**
comp=Z,3.7nm,1.1s,mb4.2							
AAK	**Ala-Archa**	**36.25**	**335**	*e*P	**P**	**17 27 44.5**	**0.0**
AAK				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.3							
MKAR	**Makanchi Array**	**37.39**	**346**	P	**P**	**17 27 53.7**	**-0.5**
comp=Z,3.9nm,0.9s,mb4.2,baz=162,slow=7.6,SNR=26							
SONM	**Songino Array**	**38.30**	**13**	P	**P**	**17 28 01.8**	**0.0**
comp=Z,2.7nm,0.9s,mb4.0,baz=194,slow=5.4,SNR=19							
SONM				PcP	PcP	17 30 17.0	+1.7
comp=Z,0.7nm,0.9s,baz=201,slow=2.8,SNR=3.6							
ULN	**Ulaanbaatar**	**38.47**	**14**	*e*P	**P**	**17 28 01.3**	**-2.0**
comp=Z,2.9nm,1.0s,mb4.0							
ULN	**Ulaanbaatar**	**38.47**	**14**	*e*P	**P**	**17 28 01.3**	**-2.0**
ULN				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.0							
MBWA	**Marble Bar**	**40.24**	**142**	P	**P**	**17 28 22.7**	**+4.7**
comp=Z,192nm,2.0s,mb5.5							
KURK	**Kurchatov**	**41.94**	**345**	*e*P	**P**	**17 28 32.0**	**0.0**
comp=Z,17nm,1.4s,mb4.5							
KURK	**Kurchatov**	**41.94**	**345**	*e*P	**P**	**17 28 32.0**	**0.0**
KURK				pmax	pmax		
comp=Z,17nm,1.4s,mb4.5							
CN2	**Changchun**	**42.43**	**33**	*e*P	**P**	**17 28 36.5**	**+0.5**
ZAL	**Zalesovo**	**43.77**	**352**	P	**P**	**17 28 47.6**	**+0.8**
comp=Z,1.9nm,0.8s,mb3.9,baz=302,slow=9.7,SNR=12							
MDJ	**Mudanjiang**	**45.25**	**35**	P	**P**	**17 28 56.1**	**-2.5**
MDJ				AMB	AMB		
comp=Z,12nm,1.7s,mb4.5							
MDJ				AMB	AMB		
comp=Z,195nm,3.3s							
BVAR	**Borovoye Array**	**46.41**	**340**	P	**P**	**17 29 09.1**	**+1.3**
comp=Z,0.9nm,0.9s,mb3.7,baz=123,slow=10,SNR=3.4							
BVAR				PcP	PcP	17 30 43.2	+0.9
comp=Z,0.6nm,0.7s,baz=172,slow=4.1,SNR=3.2							
NWAO	**Narrogin (SRO)**	**48.54**	**154**	P	**P**	**17 29 21.4**	**-2.9**
comp=Z,2.9nm,0.9s,mb4.3,baz=352,slow=14,SNR=2.3							
NWAO	**Narrogin (SRO)**	**48.54**	**154**	P	**P**	**17 29 21.4**	**-3.0**
NWAO				*e*PP	pP	17 29 32.0	-2.7
BOD	**Bodaibo**	**49.29**	**14**	*e*P	**P**	**17 29 29.8**	**-0.3**
BOD				pmax	pmax		
comp=Z,4.0nm,1.5s,mb4.2							
WRA	**Warramunga Arr**	**49.67**	**128**	P	**P**	**17 29 33.3**	**+0.3**
comp=Z,1.4nm,1.1s,mb3.9,baz=301,slow=9.0,SNR=5.7							
WRAB	**Tennant Creek**	**49.68**	**128**	P	**P**	**17 29 38.8**	**+5.7**
comp=Z,9.0nm,1.2s,mb4.7							
WRAB	**Tennant Creek**	**49.68**	**128**	P	**P**	**17 29 38.8**	**+5.7**
WRAB				pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.7							
ASAR	**Alice Springs**	**51.51**	**132**	P	**P**	**17 29 47.8**	**+0.8**
comp=Z,0.7nm,0.6s,mb3.8,baz=307,slow=7.0,SNR=11							
ARU	**Arti**	**53.41**	**336**	P	**P**	**17 30 01.6**	**+0.6**
comp=Z,11nm,1.4s,mb4.6							
ARU	**Arti**	**53.41**	**336**	P	**P**	**17 30 01.6**	**+0.6**
ARU				pmax	pmax		
comp=Z,11nm,1.4s,mb4.6							
YAK	**Yakutsk**	**57.17**	**19**	*e*P	**P**	**17 30 27.6**	**-0.4**
comp=Z,16nm,1.1s,mb5.0							
YAK	**Yakutsk**	**57.17**	**19**	*e*P	**P**	**17 30 27.6**	**-0.5**
YAK				pmax	pmax		
comp=Z,16nm,1.1s,mb5.0							
STKA	**Stephens Creek**	**61.84**	**135**	P	**P**	**17 30 58.6**	**-1.7**
comp=Z,1.5nm,0.9s,mb4.1,baz=308,slow=12,SNR=2.8							
STKA	**Stephens Creek**	**61.84**	**135**	*e*P	**P**	**17 30 59.6**	**-0.7**
STKA				*ep*P	pP	17 31 05.9	-5.0
STKA				*es*P	sP	17 31 10.7	-4.2
MA2	**Magadan**	**64.07**	**28**	*e*P	**P**	**17 31 15.1**	**0.0**
comp=Z,3.3nm,0.8s,mb4.4							
MA2	**Magadan**	**64.07**	**28**	*e*P	**P**	**17 31 15.1**	**0.0**
MA2				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
TIXI	**Tiksi**	**64.36**	**11**	*e*P	**P**	**17 31 15.4**	**-1.6**
TIXI				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.8							
FINES	**FINESS Array B**	**70.36**	**332**	P	**P**	**17 31 54.0**	**-1.0**
comp=Z,2.1nm,1.0s,mb4.0,baz=15,slow=8.7,SNR=4.1							
ARCES	**ARCESS Array B**	**72.70**	**340**	P	**P**	**17 32 09.9**	**+0.8**
comp=Z,3.2nm,0.9s,mb4.2,baz=81,slow=8.3,SNR=4.2							
SYO	**Syowa Base**	**88.24**	**197**	*e*P	**P**	**17 33 34.4**	**+2.1**
SYO	**Syowa Base**	**88.24**	**197**	*ep*P	pP	17 33 40.0	-3.4
SYO	**Syowa Base**	**88.24**	**197**	*es*P	sP	17 33 47.3	0.0
SYO	**Syowa Base**	**88.24**	**197**	*e*PP	PP	17 37 06.0	+6.3
TORD	**Torodi Ar. Bea**	**90.30**	**283**	P	**P**	**17 33 42.8**	**+0.8**
comp=Z,0.7nm,1.0s,mb4.0,baz=72,slow=5.1,SNR=3.9							
ILAR	**Eielson Array**	**91.96**	**22**	P	**P**	**17 33 49.6**	**-0.1**
comp=Z,0.4nm,0.8s,mb3.8,baz=309,slow=4.0,SNR=5.5							
PPT	**Papeete**	**117.73**	**104**	*e*LR	LR	17 38 37.5	
comp=Z,159nm,25.5s							
NVAR	**Mina Array Bea**	**122.27**	**30**	PKP	PKPdf	17 39 37.6	+1.7
comp=Z,0.9nm,0.9s,baz=253,slow=1.7,SNR=4.1							
PDAR	**Pinedale Array**	**122.37**	**21**	PKP	PKPdf	17 39 36.8	+0.6
comp=Z,1.0nm,0.9s,baz=18,slow=0.5,SNR=6.0							
CPUP	**Villa Florida**	**149.23**	**236**	PKPbc	PKPbc	17 40 29.3	-0.3
comp=Z,0.5nm,0.5s,baz=132,slow=12,SNR=2.4							

MEX 09 17:21:06.4±0.7, 1603N×9720W, h11km±21km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.96**	**292**	*i* P	Pg	17 21 22.2	-2.8
PNIG				*i* S	Sg	17 21 33.8	-3.7
VHO	**Vista Hermosa**	**1.13**	**23**	*e*P	Pb	17 21 24.2	-3.7
VHO				*i* S	Sb	17 21 38.1	-4.4
OXX	**Oaxaca**	**1.14**	**24**	*e*P	Pb	17 21 25.0	-3.1
OXX				*i* S	Sb	17 21 39.2	-3.7
CMIG	**Matias Romero**	**2.46**	**64**	*e*P	Pn	17 21 43.5	-2.9
CMIG				*i* S	Sn	17 22 12.2	-4.1

*IDC **09** 17:24:33.6±0.9, 1078N×9465E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.8/9, Error ellipse: s-maj=57.5km s-min=16.3km az=63.0*

*ISCJB **09** 17:24:36.1±0.8, 106N±0.1×943E±0.2, h33km, mb4.0/14, Error ellipse: s-maj=32.1km s-min=11.6km az=126.6*

*NEIC **09** 17:24:36.1±0.7, 1062N×9433E, mb4.3/5, Error ellipse: s-maj=29.0km s-min=11.3km az=66.0*

ISC 09 17:24:38.6±0.8, 107N±01×943E±02, h35km, n20, σ1§05/16, mb4.0/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.82**	**304**	*e*P	Px	17 25 28.6	
PBA				*e*S	Sx	17 25 53.6	
PBA				*ex*	x	17 26 03.9	
PBA				*ex*	x	17 26 10.5	
comp=E,1μm,0.8s							
ENH	**Enshi**	**24.11**	**34**	*e*P	**P**	**17 29 51.9**	**+1.0**
comp=E,13nm,1.2s,mb4.2							
ENH				*ep*P		17 29 56.3	
AAK	**Ala-Archa**	**36.25**	**335**	*e*P	**P**	**17 31 39.1**	**+0.8**
comp=E,4.1nm,1.2s,mb4.2							
MKAR	**Makanchi Array**	**37.44**	**346**	P	**P**	**17 31 47.6**	**-0.8**
comp=E,0.3nm,0.6s,mb3.3,baz=164,slow=8.8,SNR=4.0							
SONM	**Songino Array**	**38.44**	**13**	P	**P**	**17 31 55.2**	**-1.7**
comp=E,1.5nm,1.2s,mb3.6,baz=199,slow=8.1,SNR=4.1							
SONM				PcP	PcP	17 34 10.1	+0.5
comp=E,0.8nm,1.0s,baz=213,slow=5.9,SNR=2.7							
ULN	**Ulaanbaatar**	**38.62**	**14**	P	**P**	**17 31 59.9**	**+1.5**
comp=E,1.4nm,0.9s,mb3.7							
KURK	**Kurchatov**	**41.98**	**345**	*e*P	**P**	**17 32 25.3**	**-0.9**
comp=E,8.7nm,1.4s,mb4.2							
KURK				*ep*P	pP	17 32 31.9	-4.5
ZAL	**Zalesovo**	**43.84**	**352**	P	**P**	**17 32 40.9**	**-0.3**
comp=E,1.0nm,0.5s,mb3.8,baz=137,slow=23,SNR=3.8							
ZAL	**Zalesovo**	**43.84**	**352**	P	**P**	**17 32 40.9**	**-0.3**
BVAR	**Borovoye Array**	**46.44**	**340**	P	**P**	**17 33 00.3**	**-1.6**
comp=E,0.6nm,0.7s,mb3.6,baz=129,slow=10,SNR=3.6							
NWAO	**Narrogin (SRO)**	**48.54**	**154**	P	**P**	**17 33 18.4**	**+0.2**
comp=E,8.9nm,1.1s,mb4.7,baz=187,slow=6.5,SNR=3.6							
NWAO	**Narrogin (SRO)**	**48.54**	**154**	*e*P	**P**	**17 33 18.5**	**+0.3**
WRA	**Warramunga Arr**	**49.78**	**128**	P	**P**	**17 33 27.1**	**-0.6**
comp=E,1.6nm,0.9s,mb4.1,baz=304,slow=8.8,SNR=9.4							
WRAB	**Tennant Creek**	**49.78**	**128**	*e*P	**P**	**17 33 27.8**	**+0.1**
comp=E,18nm,1.4s,mb4.9							
ASAR	**Alice Springs**	**51.60**	**132**	P	**P**	**17 33 41.2**	**-0.3**
comp=E,1.9nm,0.7s,mb4.1,baz=310,slow=6.8,SNR=17							
FINES	**FINESS Array B**	**70.35**	**332**	P	**P**	**17 35 50.9**	**+2.2**
comp=E,0.5nm,0.7s,mb3.6,baz=106,slow=10,SNR=3.0							
ARCES	**ARCESS Array B**	**72.73**	**340**	P	**P**	**17 36 03.6**	**+0.6**
comp=E,3.2nm,1.0s,mb4.2,baz=104,slow=7.5,SNR=2.7							
PLCA	**Paso Flores**	**147.18**	**202**	PKPbc	PKPbc	17 44 18.5	+0.5
comp=E,3.2nm,1.0s,baz=156,slow=4.4,SNR=2.9							
PLCA	**Paso Flores**	**147.18**	**202**	PKPbc	PKPbc	17 44 18.5	+0.5
RPN	**Rapa Nui**	**152.36**	**130**	PKPbc	PKPbc	17 44 30.4	-0.4
comp=E,20nm,0.6s,baz=35,slow=2.1,SNR=3.7							

*IDC **09** 17:25:38.6±1.2, 1076N×9457E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, ML3.6/1, Error ellipse: s-maj=60.0km s-min=17.6km az=68.0*

*NEIC **09** 17:25:39.6±0.6, 1072N×9440E, h10km, mb4.6/2, Error ellipse: s-maj=24.0km s-min=11.0km az=73.0*

*ISCJB **09** 17:25:43.4±3.5, 107N±0.1×944E±0.2, h54km±32km, mb4.1/10, Error ellipse: s-maj=34.2km s-min=16.0km az=156.0*

ISC 09 17:25:45.4±2.6, 107N±01×944E±02, h53km±25km, n14, σ0§76/13, mb4.1/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.04**	**150**	Pn	**Pn**	**17 27 52.9**	**-0.2**
0.7nm,0.3s,baz=315,slow=10.0,SNR=2.5							
PSI	**Prapat**	**9.04**	**150**	Pn	**Pn**	**17 27 52.9**	**-0.3**
ENH	**Enshi**	**23.97**	**34**	P	**P**	**17 30 54.3**	**-0.4**
29nm,1.3s,mb4.5							
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**17 32 53.0**	**0.0**
1.4nm,0.8s,mb3.8,baz=160,slow=7.5,SNR=4.4							
SONM	**Songino Array**	**38.34**	**13**	P	**P**	**17 33 01.2**	**+0.2**
1.6nm,1.0s,mb3.7,baz=193,slow=8.9,SNR=4.0							
ZAL	**Zalesovo**	**43.78**	**352**	P	**P**	**17 33 46.9**	**+1.1**
0.9nm,0.6s,mb3.6,baz=131,slow=22,SNR=3.1							
NWAO	**Narrogin (SRO)**	**48.55**	**154**	P	**P**	**17 34 23.4**	**+0.3**
9.8nm,0.9s,mb4.8,baz=349,slow=6.9,SNR=5.3							
NWAO	**Narrogin (SRO)**	**48.55**	**154**	P	**P**	**17 34 23.4**	**+0.3**
WRA	**Warramunga Arr**	**49.71**	**128**	P	**P**	**17 34 33.3**	**+1.3**
1.7nm,1.0s,mb4.0,baz=308,slow=7.8,SNR=4.0							
ASAR	**Alice Springs**	**51.55**	**132**	P	**P**	**17 34 46.3**	**+0.4**
2.6nm,0.8s,mb4.2,baz=309,slow=7.6,SNR=8.8							
STKA	**Stephens Creek**	**61.87**	**135**	P	**P**	**17 35 58.1**	**-1.0**
2.4nm,0.8s,mb4.4,baz=348,slow=11,SNR=4.7							
LBTB	**Lobatse**	**75.87**	**241**	*e*P	**P**	**17 37 25.8**	**-0.2**
6.1nm,1.2s,mb4.4							
ILAR	**Eielson Array**	**92.01**	**22**	P	**P**	**17 38 47.0**	**-1.4**
0.5nm,0.9s,mb3.8,baz=287,slow=3.6,SNR=4.6							
CPUP	**Villa Florida**	**149.16**	**236**	PKPbc	PKPbc	17 45 29.8	+2.1
2.3nm,0.9s,baz=141,slow=5.9,SNR=3.6							

*IDC **09** 17:26:48.5±1.3, 2678S×176.17W, h0km, mb4.1/4, mb1 4.3/6, mb1mx4.1/15, mbtmp4.2/6, ML4.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/33, Error ellipse: s-maj=36.2km s-min=26.5km az=127.0*

*ISCJB **09** 17:26:51.5±1.5, 2668S×009×176.1W±0.2, h33km, mb4.2/6, Error ellipse: s-maj=26.5km s-min=12.0km az=19.8*

*NEIC **09** 17:26:54.1±1.0, 2683S×176.22W, h35km, mb4.5/3, Error ellipse: s-maj=21.3km s-min=18.9km az=95.0*

ISC 09 17:26:53.8±1.5, 2670S±009×1761W±01, h35km, n14, σ1§20/13, mb4.2/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.99**	**211**	Pn	**Pn**	**17 27 36.3**	**-2.4**
154nm,0.3s,baz=83,slow=20,SNR=6.3							
RAO				Sn	**Sn**	**17 28 14.2**	**+0.9**
86nm,0.3s,baz=90,slow=20,SNR=3.4							
RAO	**Raoul Island**	**2.99**	**211**	*e*Pn	**Pn**	**17 27 36.0**	**-2.7**
RAO				Pn	**Pn**	**17 27 36.4**	**-2.4**
RAO				Sn	**Sn**	**17 28 14.2**	**+0.9**
DZM	**Mont Dzumac**	**16.52**	**282**	Pn	**Pn**	**17 30 43.7**	**+1.0**
0.2nm,0.3s,baz=81,slow=19,SNR=2.0							
DZM				LR	LR	17 35 46.8	
comp=Z,224nm,19.3s,baz=18,slow=33							
CTA	**Charters Tower**	**35.04**	**273**	P	**P**	**17 33 44.4**	**+1.2**
4.5nm,0.8s,mb4.5,baz=118,slow=12,SNR=7.4							
CTAO	**Charters Tower**	**35.04**	**273**	*e*P	**P**	**17 33 44.7**	**+1.5**
7.0nm,0.9s,mb4.6							
ASAR	**Alice Springs**	**45.08**	**262**	P	**P**	**17 35 05.2**	**-1.3**
0.4nm,0.4s,mb3.6,baz=100,slow=7.4,SNR=25							
WRAB	**Tennant Creek**	**45.74**	**268**	*e*P	**P**	**17 35 10.8**	**-0.8**
3.4nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**45.74**	**268**	P	**P**	**17 35 10.7**	**-0.9**
1.7nm,0.5s,mb4.2,baz=104,slow=8.6,SNR=34							
QSPA	**South Pole Qui**	**63.40**	**180**	*e*P	**P**	**17 37 21.0**	**+1.3**
2.8nm,0.8s,mb4.4							
MJAR	**Matsushiro Arr**	**76.19**	**324**	P	**P**	**17 38 38.6**	**+0.2**
1.4nm,0.8s,mb4.0,baz=166,slow=6.2,SNR=4.2							
NOA	**NORSAR Array B**	**145.30**	**354**	PKPbc	PKPbc	17 46 27.8	+0.1
2.7nm,0.9s,baz=4.1,slow=2.4,SNR=4.3							
AKASG	**Malin Array Be**	**149.19**	**328**	PKPbc	PKPbc	17 46 38.4	-0.2
1.0nm,0.3s,baz=43,slow=1.6,SNR=3.2							
BRTR	**Keskin Array B**	**152.04**	**305**	PKPbc	PKPbc	17 46 45.5	+0.2
0.7nm,0.9s,baz=88,slow=2.9,SNR=2.2							
TORD	**Torodi Ar. Bea**	**166.37**	**171**	PKPab	PKPab	17 47 57.0	+0.1
0.9nm,0.9s,baz=182,slow=3.0,SNR=3.7							

IDC 09 17:30:45.8±2.9, 1088N×9461E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/21, mbtmp3.8/6, Error ellipse: s-maj=134.0km s-min=20.9km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.99**	**293**	*e*P	Pn	17 31 40.1	+19
PBA				*e*S	Sn	17 32 02.4	+16
PBA				*ex*	x	17 32 47.3	
comp=N,614nm,0.5s							
PBA				*ex*	x	17 32 49.3	
comp=E,1μm,0.8s							
MKAR	**Makanchi Array**	**37.28**	**346**	P	P	17 37 59.1	-0.3
comp=E,0.6nm,0.7s,baz=171,slow=8.6,SNR=4.7							
SONM	**Songino Array**	**38.14**	**13**	P	P	17 38 06.9	+0.2
comp=E,0.7nm,1.0s,baz=207,slow=7.0,SNR=4.0							
ZAL	**Zalesovo**	**43.65**	**352**	P	P	17 38 52.1	0.0
comp=E,0.7nm,0.8s,baz=156,slow=22,SNR=3.0							
WRA	**Warramunga Arr**	**49.68**	**128**	P	P	17 39 39.6	+0.2
comp=E,0.9nm,1.1s,baz=301,slow=9.8,SNR=3.7							
ASAR	**Alice Springs**	**51.53**	**132**	P	P	17 39 53.4	0.0
comp=E,0.7nm,0.8s,baz=313,slow=8.2,SNR=5.6							
STKA	**Stephens Creek**	**61.87**	**135**	P	P	17 41 07.8	+1.0
comp=E,1.2nm,0.7s,baz=260,slow=3.4,SNR=2.9							

*IDC **09** 17:38:21.9±1.0, 1084N×9457E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/24, mbtmp3.9/11, ML3.8/1, Error ellipse: s-maj=58.3km s-min=14.7km az=63.0*

*ISCJB **09** 17:38:23.7±3.0, 1073N±009×946E±0.1, h27km±23km, mb4.1/18, Error ellipse: s-maj=26.1km s-min=7.4km az=116.2*

*NEIC **09** 17:38:23.6±0.5, 1083N×9472E, h10km, mb4.5/9, Error ellipse: s-maj=21.8km s-min=5.8km az=60.0*

*MOS **09** 17:38:24.5±0.9, 1078N×9459E, h33km, mb4.7/5, Error ellipse: s-maj=33.3km s-min=9.2km az=109.0*

*BJI **09** 17:38:24.1, 1052N×9431E, h35km, mB5.1, mb4.2, Ms4.3, Msz3.8*

ISC 09 17:38:27.0±3.0, 1079N±009×946E±01, h35km±23km, n40, σ0§91/38, mb4.1/18, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.05**	**295**	*e*P	Px	17 39 12.4	
PBA				*e*S	Sx	17 39 39.5	
PBA				*ex*	x	17 40 06.1	
comp=N,1μm,0.6s							
PBA				*ex*	x	17 40 10.6	
comp=E,2μm,1.0s							
KULM	**Kulim**	**8.08**	**132**	*e*Pn	**Pn**	**17 40 21.0**	**-0.8**
KULM				*e*Sn	**Sn**	**17 41 50.2**	**-1.6**
PSI	**Prapat**	**9.00**	**152**	Pn	**Pn**	**17 40 35.4**	**+0.9**
comp=E,0.9nm,0.3s,baz=310,slow=9.4,SNR=5.9							
KMI	**Kunming**	**16.20**	**27**	P	**Pn**	**17 42 17.7**	**+5.9**
KMI				AP	pP	17 42 29.7	+6.0
KMI				AMB	AMB		
comp=Z,11nm,1.5s							
JIRN	**Jiri**	**18.57**	**336**	*e*P	**Pn**	**17 42 41.5**	**+0.2**
comp=Z,111nm,1.5s							
PKI	**Pulchoki**	**18.82**	**334**	*e*P	**Pn**	**17 42 44.8**	**+0.5**
GUN	**Gumba**	**18.92**	**335**	*e*P	**Pn**	**17 42 45.7**	**+0.2**
comp=Z,380nm,2.2s							
DMN	**Daman**	**18.98**	**333**	*e*P	**Pn**	**17 42 46.6**	**+0.3**
KKN	**Kakani**	**19.06**	**334**	*e*P	**Pn**	**17 42 47.0**	**-0.2**
LSA	**Lhasa**	**19.09**	**351**	*e*Pn	**Pn**	**17 42 46.5**	**-1.2**
comp=Z,34nm,1.6s							
LSA	**Lhasa**	**19.09**	**351**	*e*P	**Pn**	**17 42 46.5**	**-1.1**
LSA				pmax	pmax		
comp=Z,34nm,1.6s							
GKN	**Gorkha**	**19.53**	**333**	*e*P	**Pn**	**17 42 52.3**	**-0.5**
KOLN	**Koldanda**	**19.82**	**330**	*e*P	**Pn**	**17 42 55.7**	**-0.6**
comp=Z,93nm,1.4s							
ENH	**Enshi**	**23.80**	**33**	*e*P	**P**	**17 43 36.8**	**+0.3**
comp=Z,32nm,1.4s,mb4.6							
LZH	**Lanzhou**	**26.53**	**17**	*e*P	**P**	**17 44 03.0**	**+1.7**
LZH				XP	sP	17 44 14.5	-0.9
LZH				AMB	AMB		
comp=Z,30nm,1.5s,mb4.6							
GTA	**Gaotai**	**28.87**	**8**	*e*P	**P**	**17 44 24.4**	**+2.1**
GTA				AP	pP	17 44 35.0	+2.8
GTA				XP	sP	17 44 40.1	+3.7
GTA				AMB	AMB		
comp=Z,4.0nm,1.4s,mb4.0							
AAK	**Ala-Archa**	**36.27**	**335**	*e*P	**P**	**17 45 25.6**	**-1.3**
comp=Z,3.6nm,1.2s,mb4.2							
AAK	**Ala-Archa**	**36.27**	**335**	*e*P	**P**	**17 45 25.6**	**-1.3**
AAK				pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.2							
MKAR	**Makanchi Array**	**37.38**	**346**	P	**P**	**17 45 35.8**	**-0.6**
comp=Z,2.8nm,0.9s,mb4.1,baz=159,slow=7.8,SNR=18							
SONM	**Songino Array**	**38.23**	**13**	P	**P**	**17 45 43.0**	**-0.5**
comp=Z,2.8nm,1.1s,mb3.9,baz=199,slow=7.9,SNR=16							
ULN	**Ulaanbaatar**	**38.40**	**13**	*e*P	**P**	**17 45 45.0**	**+0.1**
comp=Z,2.1nm,0.8s,mb3.9							
ULN				*e*	pP	17 45 56.9	+1.8
ULN				*e*		17 46 03.5	
ULN	**Ulaanbaatar**	**38.40**	**13**	*e*P	**P**	**17 45 45.0**	**0.0**
ULN				*e*	pP	17 45 56.9	+1.8
ULN				*e*		17 46 03.5	
ULN				pmax	pmax		
comp=Z,2.0nm,0.8s,mb3.9							
ZAK	**Zakamensk**	**40.11**	**9**	*e*P	**P**	**17 45 48.7**	**-11**
ZAK				pmax	pmax		
comp=Z,5.0nm,2.0s,mb3.9							
KURK	**Kurchatov**	**41.93**	**345**	*e*P	**P**	**17 46 14.9**	**+0.7**
comp=Z,13nm,1.3s,mb4.4							
KURK	**Kurchatov**	**41.93**	**345**	*e*P	**P**	**17 46 14.9**	**+0.7**
KURK				pmax	pmax		
comp=Z,13nm,1.3s,mb4.4							
ZAL	**Zalesovo**	**43.75**	**352**	P	**P**	**17 46 29

comp=Z,49nm,1.0s
KOLN Koldanda 19.87 330 *e*P **Pn 17 45 54.7 -3.7**
comp=Z,113nm,1.4s
ENH Enshi 23.98 33 *e*P **P 17 46 38.1 -1.8**
comp=Z,32nm,1.1s,mb4.7
ENH *e*pP 17 46 45.1
ENH *e* 17 46 52.8
LZH Lanzhou 26.68 17 *e*P **P 17 47 06.1 +1.6**
LZH AP pP 17 47 13.2 +1.1
LZH XP sP 17 47 17.3 +2.0
LZH AMB AMB
comp=Z,22nm,1.6s,mb4.4
GTA Gaotai 29.01 8 *e*P **P 17 47 26.6 +1.3**
GTA AP pP 17 47 33.6 +0.7
GTA XP sP 17 47 37.6 +1.5
GTA AMB AMB
comp=Z,5.0nm,1.9s,mb3.9
AAK Ala-Archa 36.33 335 *e*P **P 17 48 28.5 -0.6**
comp=Z,3.1nm,1.0s,mb4.2
AAK Ala-Archa 36.33 335 *e*P **P 17 48 28.5 -0.7**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MKAR Makanchi Array 37.47 346 P **P 17 48 39.1 +0.2**
comp=Z,2.9nm,0.8s,mb4.2,baz=161,slow=8.5,SNR=11
MKAR Makanchi Array 37.47 346 *i* P **P 17 48 39.6 +0.7**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 38.38 13 P **P 17 48 45.2 -1.4**
comp=Z,1.8nm,1.0s,mb3.8,baz=199,slow=8.6,SNR=7.6
ULN Ulaanbaatar 38.55 14 *e*P **P 17 48 46.2 -1.8**
comp=Z,2.1nm,0.8s,mb3.9
ULN *e*pP pP 17 48 54.0 -1.8
ULN *e* 17 49 01.8
ULN Ulaanbaatar 38.55 14 *e*P **P 17 48 46.2 -1.8**
ULN *e**PP pP 17 48 54.0 -1.8
ULN *e* 17 49 01.8
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KURK Kurchatov 42.02 345 *e*P **P 17 49 17.3 +0.6**
comp=Z,16nm,1.2s,mb4.5
KURK *e*pP pP 17 49 22.7 -1.8
KURK Kurchatov 42.02 345 *e*P **P 17 49 17.3 +0.6**
KURK *e**PP pP 17 49 22.7 -1.8
KURK pmax pmax
comp=Z,16nm,1.2s,mb4.5
HIA Hailar 43.83 24 P **P 17 49 31.2 -0.2**
comp=Z,8.3nm,1.2s,mb4.3
HIA *e*pP pP 17 49 37.8 -1.5
HIA Hailar 43.83 24 P **P 17 49 31.2 -0.2**
HIA *e**PP pP 17 49 37.8 -1.5
HIA pmax pmax
comp=Z,8.0nm,1.2s
ZAL Zalesovo 43.85 352 P **P 17 49 32.4 +0.8**
comp=Z,0.9nm,0.8s,mb3.5,baz=313,slow=13,SNR=4.8
VOSK Vostochnaya 46.04 340 P **P 17 49 48.6 -0.4**
VOSK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BVAR Borovoye Array 46.49 340 P **P 17 49 52.2 -0.3**
comp=Z,0.6nm,0.6s,mb3.7,baz=126,slow=7.3,SNR=3.5
ZRNK Zerenda 46.91 339 P **P 17 49 55.5 -0.3**
comp=Z,3.3nm,1.1s,mb4.2
ZRNK Zerenda 46.91 339 P **P 17 49 55.5 -0.3**
ZRNK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
AB31 Akbulak array 47.99 330 *i* P **P 17 50 04.9 +0.7**
AB31 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
NWAO Narrogin (SRO) 48.47 154 P **P 17 50 08.3 +0.4**
comp=Z,6.0nm,0.9s,mb4.6,baz=299,slow=8.3,SNR=3.0
NWAO Narrogin (SRO) 48.47 154 P **P 17 50 08.3 +0.4**
NWAO *e**PP pP 17 50 24.1 +8.3
WRA Warramunga Arr 49.62 128 P **P 17 50 16.0 -0.8**
comp=Z,0.9nm,0.7s,mb3.9,baz=303,slow=8.7,SNR=5.4
ASAR Alice Springs 51.46 132 P **P 17 50 30.8 +0.1**
comp=Z,1.7nm,0.6s,mb4.1,baz=308,slow=6.4,SNR=13
SVE Sverdlovsk 52.97 337 *e*P **P 17 50 41.5 -0.3**
ASAJ Asahikawa 53.09 42 LR LR 18 11 42.5
comp=Z,94nm,20.1s,MS3.8,baz=16,slow=34
YSS Yuzh-Sakhalins 54.38 39 *e*P **P 17 50 53.2 +1.0**
comp=Z,43nm,1.5s,mb5.2
YSS Yuzh-Sakhalins 54.38 39 *e*P **P 17 50 53.2 +1.0**
YSS pmax pmax
comp=Z,43nm,1.5s,mb5.2
CTAO Charters Tower 59.39 121 P **P 17 51 29.9 +2.3**
comp=Z,14nm,1.2s,mb4.9
CTAO *e*pP pP 17 51 39.8 +4.1
CTAO Charters Tower 59.39 121 P **P 17 51 29.9 +2.2**
CTAO *e**PP pP 17 51 39.8 +4.1
CTAO pmax pmax
comp=Z,14nm,1.2s,mb4.9
STKA Stephens Creek 61.78 135 P **P 17 51 43.5 -0.6**
comp=Z,2.4nm,0.8s,mb4.3,baz=302,slow=11,SNR=4.4
STKA Stephens Creek 61.78 135 P **P 17 51 43.5 -0.6**
MA2 Magadan 64.14 28 P **P 17 51 59.1 -0.6**
comp=Z,4.7nm,1.0s,mb4.5
MA2 Magadan 64.14 28 P **P 17 51 59.1 -0.6**
MA2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
TIXI Tiksi 64.44 11 *e*P **P 17 51 58.8 -2.8**
TIXI pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
FINES FINESS Array B 70.43 332 P **P 17 52 39.2 -0.3**
comp=Z,1.0nm,0.7s,mb3.8,baz=72,slow=12,SNR=5.2
ARCES ARCESS Array B 72.78 340 P **P 17 52 52.1 -1.6**
comp=Z,3.4nm,0.9s,mb4.3,baz=54,slow=4.7,SNR=3.2
NOA NORSAR Array B 77.50 330 P **P 17 53 20.3 -0.5**
comp=Z,1.1nm,0.8s,mb3.8,baz=92,slow=5.3,SNR=3.3
EKA Eskdalemuir Ar 85.64 325 P **P 17 54 05.3 +1.4**
comp=Z,2.2nm,0.8s,mb4.4,baz=87,slow=8.4,SNR=3.8
SYO Syowa Base 88.16 197⇑ *e*P **P 17 54 21.3 +5.1**
SYO Syowa Base 88.16 197⇑ *e*PcP PcP 17 54 27.1 +9.2

*ISCJB **09** 17:43:15.9±4.8, 1079N±007×945E±0.1, h17km±35km, mb4.2/23, MS4.5/1, Error ellipse: s-maj=21.2km s-min=10.8km az=145.2*
*IDC **09** 17:43:15.1±0.7, 1079N×9446E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/26, mbtmp4.1/15, ML3.9/1, Error ellipse: s-maj=28.7km s-min=14.4km az=63.0*
*BJI **09** 17:43:16.0, 1030N×9464E, h40km, mB5.0, mb4.2, Ms4.7, Msz4.5*
*NEIC **09** 17:43:18.2±0.4, 1082N×9448E, mb4.5/5, Error ellipse: s-maj=15.2km s-min=7.7km az=69.0*
*MOS **09** 17:43:18.4±1.0, 1082N×9444E, h33km, mb4.6/5, Error ellipse: s-maj=21.7km s-min=10.2km az=99.6*
ISC 09 17:43:19.7±4.8, 1085N±007×945E±01, h28km±35km, h27km±5.0km:pP-P, n38, σ0s87/37, mb4.2/23, MS4.5/1, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.12**	**151**	Pn		**Pn**	**17 45 29.5**	**0.0**
1.1nm,0.3s,baz=329,slow=18,SNR=2.3								
LSA	**Lhasa**	**19.02**	**351**	P		**Pn**	**17 47 39.2**	**-1.0**
14nm,1.0s								
LSA	**Lhasa**	**19.02**	**351**	P		**Pn**	**17 47 39.2**	**-1.0**
LSA				pmax		pmax		
comp=Z,14nm,1.0s								
ENH	**Enshi**	**23.84**	**34**	*e*P		**P**	**17 48 29.7**	**-0.8**
comp=Z,46nm,1.3s,mb4.8								
ENH				*e*pP			17 48 35.7	
ENH				*e*sP		sP	17 48 40.0	-2.0
LZH	**Lanzhou**	**26.52**	**17**	*e*P		**P**	**17 48 59.5**	**+4.6**
LZH				AP		pP	17 49 12.5	+10
LZH				AMB		AMB		
comp=Z,19nm,1.6s,mb4.4								
GTA	**Gaotai**	**28.84**	**9**	*e*P		**P**	**17 49 16.3**	**+0.7**
GTA				AP		pP	17 49 26.2	+2.5
GTA				AMB		AMB		
comp=Z,5.0nm,2.1s,mb3.9								
MKAR	**Makanchi Array**	**37.29**	**346**	P		**P**	**17 50 30.1**	**+0.8**
comp=Z,2.6nm,0.7s,mb4.2,baz=166,slow=8.8,SNR=14								
SONM	**Songino Array**	**38.21**	**13**	P		**P**	**17 50 37.6**	**+0.6**
comp=Z,3.7nm,1.1s,mb4.0,baz=192,slow=7.6,SNR=5.9								
ULN	**Ulaanbaatar**	**38.39**	**14**	*e*P		**P**	**17 50 38.9**	**+0.4**
comp=Z,4.0nm,1.0s,mb4.1								
ULN				*e*pP		pP	17 50 44.7	-2.0
ULN	**Ulaanbaatar**	**38.39**	**14**	*e*P		**P**	**17 50 38.9**	**+0.4**
ULN				*e**PP		pP	17 50 44.7	-2.0
ULN				pmax		pmax		
comp=Z,4.0nm,1.0s,mb4.1								
ZAK	**Zakamensk**	**40.08**	**9**	*e*P		**P**	**17 50 54.6**	**+2.0**
ZAK				pmax		pmax		
comp=Z,8.0nm,1.9s,mb4.1								
CN2	**Changchun**	**42.37**	**34**	*e*P		**P**	**17 51 11.9**	**+0.5**
ZAL	**Zalesovo**	**43.67**	**352**	P		**P**	**17 51 22.8**	**+0.9**
comp=Z,2.2nm,0.6s,mb4.1,baz=309,slow=12,SNR=3.0								
BVAR	**Borovoye Array**	**46.32**	**340**	P		**P**	**17 51 41.8**	**-1.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=141,slow=10,SNR=5.4								
MJAR	**Matsushiro Arr**	**46.96**	**50**	P		**P**	**17 51 48.8**	**+0.8**
comp=Z,1.1nm,0.6s,mb4.0,baz=265,slow=8.7,SNR=4.1								
AB31	**Akbulak array**	**47.82**	**330**	*e*P		**P**	**17 51 55.3**	**+0.5**
AB31				pmax		pmax		
comp=Z,1.0nm,0.7s,mb4.0								
NWAO	**Narrogin (SRO)**	**48.64**	**154**	P		**P**	**17 52 01.7**	**+0.6**
comp=Z,14nm,1.1s,mb4.9,baz=302,slow=12,SNR=3.6								
NWAO	**Narrogin (SRO)**	**48.64**	**154**	P		**P**	**17 52 01.7**	**+0.6**
NWAO				*e*P			17 52 07.0	
NWAO				*e*pP		pP	17 52 12.2	+2.7
BOD	**Bodaibo**	**49.20**	**14**	*e*P		**P**	**17 52 04.8**	**-0.6**
BOD				pmax		pmax		
comp=Z,5.0nm,1.6s,mb4.3								
WRA	**Warramunga Arr**	**49.75**	**128**	P		**P**	**17 52 09.6**	**0.0**
comp=Z,1.3nm,0.7s,mb4.0,baz=305,slow=8.9,SNR=4.7								
ASAR	**Alice Springs**	**51.60**	**132**	P		**P**	**17 52 23.6**	**+0.1**
comp=Z,1.8nm,0.8s,mb4.1,baz=307,slow=7.1,SNR=7.2								
SVE	**Sverdlovsk**	**52.79**	**337**	*e*P		**P**	**17 52 31.0**	**-1.4**
ARU	**Arti**	**53.32**	**336**	*e*P		**P**	**17 52 27.4**	**-8.8**
STKA	**Stephens Creek**	**61.93**	**135**	P		**P**	**17 53 35.1**	**-1.7**
comp=Z,5.4nm,1.0s,mb4.6,baz=298,slow=8.6,SNR=2.8								
MA2	**Magadan**	**64.00**	**28**	*e*P		**P**	**17 53 50.6**	**0.0**
comp=Z,30nm,1.6s,mb5.1								
MA2				*e*pP		pP	17 53 56.5	-2.7
MA2	**Magadan**	**64.00**	**28**	*e*P		**P**	**17 53 50.6**	**0.0**
MA2				*e**PP		pP	17 53 56.5	-2.7
MA2				pmax		pmax		
comp=Z,31nm,1.6s,mb5.1								
TIXI	**Tiksi**	**64.27**	**11⇑**	*i*P		**P**	**17 53 50.7**	**-1.7**
TIXI				pmax		pmax		
comp=Z,12nm,1.3s,mb4.8								
TIXI				MLR		MLR		
comp=Z,271nm,18.0s,MS4.5								
FINES	**FINESS Array B**	**70.27**	**332**	P		**P**	**17 54 29.8**	**-0.5**
comp=Z,1.0nm,0.7s,mb3.9,baz=120,slow=7.5,SNR=6.0								
LSZ	**Lusaka**	**70.60**	**250**	P		**P**	**17 54 33.2**	**+0.9**
comp=Z,1.2nm,0.4s,mb4.2,baz=64,slow=4.1,SNR=4.7								
ARCES	**ARCESS Array B**	**72.61**	**340**	P		**P**	**17 54 44.9**	**+0.4**
comp=Z,1.8nm,0.8s,mb4.1,baz=79,slow=6.3,SNR=6.7								
BILL	**Bilibino**	**73.22**	**22**	*e*P		**P**	**17 54 47.7**	**-0.4**
BILL				*e*pP		pP	17 54 53.5	-3.4
BILL	**Bilibino**	**73.22**	**22**	*e*P		**P**	**17 54 47.7**	**-0.4**
BILL				*e**PP		pP	17 54 53.5	-3.4
NB2	**NORSAR Subarra**	**77.33**	**330**	P		**P**	**17 55 11.2**	**-0.5**
comp=Z,5.1nm,1.0s,mb4.4,baz=90,slow=5.3								
NB2	**NORSAR Subarra**	**77.33**	**330**	P		**P**	**17 55 11.2**	**-0.5**
NB2				pmax		pmax		
comp=Z,5.0nm,1.0s,mb4.4								
NOA	**NORSAR Array B**	**77.33**	**330**	P		**P**	**17 55 10.7**	**-1.0**
comp=Z,2.4nm,1.0s,mb4.1,baz=91,slow=5.7,SNR=3.3								
NOA	**NORSAR Array B**	**77.33**	**330**	P		**P**	**17 55 10.7**	**-1.0**
EKA	**Eskdalemuir Ar**	**85.48**	**325**	P		**P**	**17 55 55.5**	**+0.6**
comp=Z,2.1nm,0.9s,mb4.3,baz=85,slow=8.7,SNR=2.9								
PDAR	**Pinedale Array**	**122.29**	**21**	PKP		PKPdf	18 02 10.8	-1.2
comp=Z,1.2nm,1.0s,baz=48,slow=2.2,SNR=3.9								

*IDC **09** 17:46:47.8±2.3, 1040N×9429E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=105.2km s-min=20.3km az=61.0*
*NEIC **09** 17:46:50.6±1.3, 1057N×9467E, h10km, mb4.1/4, Error ellipse: s-maj=53.9km s-min=14.2km az=61.0*
*ISCJB **09** 17:46:51.9±1.5, 105N±02×946E±04, h33km, mb3.9/9, Error ellipse: s-maj=59.1km s-min=15.1km az=121.7*
ISC 09 17:46:54.4±1.5, 106N±02×946E±04, h35km, n12, σ0s97/11, mb3.9/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.11**	**300**	*e*P		Px	17 47 43.8	
PBA				*e*S		Sx	17 48 03.6	
PBA				*e*x		x	17 48 26.8	
comp=E,458nm,0.5s								
PBA				*e*x		x	17 48 28.0	
comp=N,488nm,0.7s								
LSA	**Lhasa**	**19.28**	**351**	*e*P		**Pn**	**17 51 16.3**	**-0.9**
comp=N,12nm,1.2s								
AAK	**Ala-Archa**	**36.42**	**335**	P		**P**	**17 53 58.1**	**+2.5**
comp=N,3.1nm,0.9s,mb4.2								
MKAR	**Makanchi Array**	**37.56**	**346**	P		**P**	**17 54 05.2**	**0.0**
comp=N,1.8nm,0.8s,mb3.9,baz=163,slow=8.2,SNR=6.4								
MKAR	**Makanchi Array**	**37.56**	**346**	P		**P**	**17 54 05.2**	**0.0**
SONM	**Songino Array**	**38.42**	**13**	P		**P**	**17 54 12.6**	**+0.1**
comp=N,2.3nm,1.0s,mb3.9,baz=188,slow=8.7,SNR=5.4								
ULN	**Ulaanbaatar**	**38.60**	**13**	*e*P		**P**	**17 54 14.7**	**+0.8**
comp=N,4.7nm,1.2s,mb4.1								
KURK	**Kurchatov**	**42.10**	**345**	*e*P		**P**	**17 54 42.9**	**-0.1**
comp=N,11nm,1.3s,mb4.3								
ZAL	**Zalesovo**	**43.93**	**352**	P		**P**	**17 54 57.5**	**-0.2**
comp=N,1.1nm,0.3s,mb4.0,baz=152,slow=16,SNR=4.2								
BVAR	**Borovoye Array**	**46.59**	**340**	P		**P**	**17 55 17.9**	**-0.9**
comp=N,0.5nm,0.7s,mb3.6,baz=134,slow=10,SNR=3.6								
WRA	**Warramunga Arr**	**49.51**	**128**	P		**P**	**17 55 42.5**	**+1.1**
comp=N,1.0nm,1.0s,mb3.8,baz=303,slow=8.9,SNR=3.6								
ASAR	**Alice Springs**	**51.34**	**132**	P		**P**	**17 55 54.0**	**-1.3**
comp=N,0.5nm,1.1s,mb3.4,baz=308,slow=6.2,SNR=2.6								

*ISCJB **09** 17:46:52.8±0.4, 1.15N±008×28.14W±006, h10km, mb4.5/50, MS5.2/9, Error ellipse: s-maj=12.4km s-min=6.7km az=112.7*
*MOS **09** 17:46:52.8±0.9, 108N×28.10W, h10km, mb5.0/15, Error ellipse: s-maj=17.9km s-min=9.8km az=55.3*
*IDC **09** 17:46:53.0±0.5, 1.15N×28.14W, h0km, mb4.2/26, mb1 4.3/26, mb1mx4.3/31, mbtmp4.2/26, MS5.1/6, Ms1 5.1/6, ms1mx4.7/41, Error ellipse: s-maj=18.9km s-min=11.3km az=146.0*
*BJI **09** 17:46:54.4, 1.10N×2820W, h10km, mB5.4, Ms5.5, Msz5.3*
*NEIC **09** 17:46:54.4±0.3, 108N×28.18W, h10km, mb4.8/31, Error ellipse: s-maj=11.3km s-min=6.2km az=141.0*
*SZGRF **09** 17:46:55.4, 089N×2855W, h33km, mb4.6, Central Mid-Atlantic Ridge*
ISC 09 17:46:55.0±0.4, 117N±008×2815W±006, h10km, n114, σ0s87/102, mb4.5/50, MS5.2/9, 4C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.40**	**228**	*e*P		**Pn**	**17 49 20.2**	**-4.0**
RCBR				*e*S		**Sn**	**17 51 00.7**	**-20**
DBIC	**Dimbokro**	**23.87**	**76**	P		**P**	**17 52 07.8**	**-0.8**
19nm,0.8s,mb4.6,baz=244,slow=12,SNR=20								
DBIC	**Dimbokro**	**23.87**	**76**	*e*P		**P**	**17 52 07.7**	**-0.9**
22nm,0.9s,mb4.6								
DBIC	**Dimbokro**	**23.87**	**76**	*e*P		**P**	**17 52 07.7**	**-0.9**
DBIC				pmax		pmax		
comp=Z,22nm,0.9s								
BAO	**Brasilia Array**	**25.75**	**229**	P		**P**	**17 52 27.0**	**+1.2**
BDFB	**Brasilia**	**25.77**	**229**	P		**P**	**17 52 25.3**	**-0.7**
comp=Z,5.3nm,0.8s,mb4.1,baz=52,slow=5.1,SNR=5.3								
TORD	**Torodi Ar. Bea**	**31.86**	**67**	P		**P**	**17 53 18.2**	**-2.0**
comp=Z,4.6nm,0.5s,mb4.5,baz=254,slow=9.5,SNR=38								
SAML	**Samuel**	**36.32**	**253**	*e*P		**P**	**17 53 58.2**	**-0.7**
comp=Z,28nm,1.4s,mb5.0								
SIV	**San Ignacio**	**36.71**	**241**	P		**P**	**17 54 02.0**	**-0.2**
comp=Z,3.2nm,0.9s,mb4.1,baz=84,slow=11,SNR=10								
MDT	**Midelt**	**38.48**	**33**	P		**P**	**17 54 17.7**	**+0.4**
comp=Z,2.2nm,0.8s,mb3.9,baz=260,slow=11,SNR=2.0								
CPUP	**Villa Florida**	**39.24**	**224**	P		**P**	**17 54 23.8**	**+0.2**
comp=Z,1.0nm,0.6s,mb3.7,baz=37,slow=8.4,SNR=5.1								
CPUP	**Villa Florida**	**39.24**	**224**	*e*P		**P**	**17 54 24.0**	**+0.4**
comp=Z,38nm,1.3s,mb5.0								
CPUP	**Villa Florida**	**39.24**	**224**	*e*P		**P**	**17 54 24.0**	**+0.4**
CPUP				pmax		pmax		
comp=Z,38nm,1.3s								
SFS	**San Fernando**	**40.58**	**28**	P		**P**	**17 54 35.2**	**+0.6**
comp=Z,267nm,1.4s								
SFS	**San Fernando**	**40.58**	**28**	P		**P**	**17 54 35.2**	**+0.5**
SFS				pmax		pmax		
comp=Z,267nm,1.4s								
SDV	**Santo Domingo**	**42.97**	**282**	P		**P**	**17 54 54.7**	**+0.5**
comp=Z,6.6nm,0.7s,mb4.5,baz=98,slow=7.5,SNR=7.9								
SDV	**Santo Domingo**	**42.97**	**282**	*e*P		**P**	**17 54 55.9**	**+1.6**
comp=Z,17nm,1.1s,mb4.7								
LPAZ	**La Paz**	**43.10**	**245**	P		**P**	**17 54 55.6**	**+0.3**
comp=Z,5.8nm,1.0s,mb4.3,baz=72,slow=10,SNR=12								
LPAZ	**La Paz**	**43.10**	**245**	*e*P		**P**	**17 54 55.3**	**0.0**
comp=Z,31nm,1.4s,mb4.8								
LPAZ	**La Paz**	**43.10**	**245**	*e*P		**P**	**17 54 55.3**	**0.0**
LPAZ				pmax		pmax		
comp=Z,31nm,1.4s								
ESLA	**Sonseca Array**	**44.21**	**27**	P		**P**	**17 55 04.8**	**+0.5**
comp=Z,4.6nm,1.2s,mb4.1								
ESDC	**Sonseca Array**	**44.21**	**27**	P		**P**	**17 55 04.3**	**0.0**
comp=Z,1.9nm,0.8s,mb3.9,baz=219,slow=9.0,SNR=6.9								
ROSC	**El Rosal**	**46.25**	**276**	P		**P**	**17 55 21.2**	**+0.8**
comp=Z,4.5nm,0.5s,mb4.7,baz=99,slow=22,SNR=7.1								
ROSC				LR		LR	18 14 01.4	
comp=Z,6μm,18.5s,MS5.6,baz=324,slow=35								
TSUM	**Tsumeb**	**49.24**	**117**	LR		LR	18 12 16.8	
comp=Z,2μm,20.8s,MS5.0,baz=81,slow=31								
CFAA	**Coronel Fontan**	**50.05**	**226**	P		**P**	**17 55 50.9**	**+1.1**
comp=Z,0.3nm,0.4s,baz=333,slow=4.5,SNR=3.0								
CFAA				LR		LR	18 17 09.6	
comp=Z,1μm,18.5s,baz=54,slow=36								
CFAA	**Coronel Fontan**	**50.05**	**226**	P		**P**	**17 55 50.9**	**+1.1**
CFAA				LR		LR	18 17 09.6	
OTAV	**Otavalo**	**50.30**	**269**	P		**P**	**17 55 51.6**	**-0.2**
comp=Z,42nm,1.8s,mb5.2								
DAVOX	**Davos**	**56.23**	**31**	P		**P**	**17 56 35.2**	**-0.1**
comp=Z,2.6nm,0.6s,mb4.4,baz=248,slow=11,SNR=2.9								
DAVOX	**Davos**	**56.23**	**31**	P		**P**	**17 56 35.2**	**-0.1**
SUR	**Sutherland**	**57.00**	**130**	LR		LR	18 15 08.0	
comp=Z,1μm,19.0s,MS5.0,baz=17,slow=30								
DWPF	**Disney**	**57.48**	**303**	P		**P**	**17 56 43.6**	**-0.6**
comp=Z,131nm,1.4s								
LSZ	**Lusaka**	**58.03**	**109**	P		**P**	**17 56 54.7**	**+6.6**
comp=Z,22nm,1.5s,mb5.0								
LSZ	**Lusaka**	**58.03**	**109**	P		**P**	**17 56 54.7**	**+6.6**
LSZ				pmax		pmax		
comp=Z,22nm,1.5s,mb5.0								
LBTB	**Lobatse**	**58.14**	**121**	P		**P**	**17 56 48.1**	**-0.7**
comp=Z,26nm,1.6s,mb5.0								
LBTB	**Lobatse**	**58.14**	**121**	P		**P**	**17 56 48.1**	**-0.8**
LBTB				pmax		pmax		
comp=Z,26nm,1.6s,mb5.0								
GRA1	**Grafenberg Arr**	**58.85**	**29**	*e*P		**P**	**17 56 54.9**	**+1.1**
comp=Z,7.0nm,1.2s,mb4.6								
GRF	**Grafenberg Arr**	**58.85**	**29**	*e*P		**P**	**17 56 54.9**	**+1.1**
comp=Z,7.0nm,1.2s,mb4.6								
GRF	**Grafenberg Arr**	**58.85**	**29**	*e*P		**P**	**17 56 54.9**	**+1.1**
GRF				pmax		pmax		
comp=Z,7.0nm,1.2s,mb4.6								
BOSA	**Boshof**	**59.05**	**125**	P		**P**	**17 56 56.2**	**+1.1**
comp=Z,5.3nm,1.1s,mb4.5,baz=321,slow=7.1,SNR=4.7								
BOSA	**Boshof**	**59.05**	**125**	*e*P		**P**	**17 56 56.0**	**+0.8**
GERES	**GERESS Array B**	**59.52**	**31**	P		**P**	**17 56 58.3**	**-0.2**
comp=Z,1.9nm,0.8s,mb4.2,baz=228,slow=3.4,SNR=6.5								
KHC	**Kasperske Hory**	**59.64**	**30**	*e*P		**P**	**17 57 00.0**	**+0.7**
MOX	**Moxa**	**59.67**	**28**	*e*(P)		**P**	**17 56 59.7**	**+0.2**
comp=Z,23nm,1.9s,mb4.9								
CLL	**Collm**	**60.77**	**28**	*e*(P)		**P**	**17 57 07.0**	**0.0**
CLL				*e*S		**S**	**18 05 33.0**	**+8.9**
CLL				*e*SS		SS	18 09 47.0	+24
CLL				*e*SSS			18 12 18.0	
ZST	**Bratislava**	**60.92**	**33**	*e*P		**P**	**17 57 08.4**	**+0.3**
BRG	**Berggiesshubel**	**60.94**	**29**	*e*P		**P**	**17 57 09.8**	**+1.6**
BRG				S		**S**	**18 05 39.0**	**+13**
BRG				pmax		pmax		
comp=Z,4.0nm,1.2s,mb4.4								
BRG	**Berggiesshubel**	**60.94**	**29**	*e*P		**P**	**17 57 09.8**	**+1.6**
comp=Z,3.8nm,1.2s,mb4.4								
BRG				S		**S**	**18 05 39.0**	**+13**
VRAC	**Vranov**	**61.31**	**32**	P		**P**	**17 57 09.9**	**-0.8**
comp=Z,2.6nm,0.7s,mb4.5,baz=217,slow=22,SNR=3.2								
VYHS	**Vyhne**	**62.04**	**33**	*e*P		**P**	**17 57 15.3**	**-0.3**
MORC	**Moravsky Berou**	**62.09**	**32**	*e*P		**P**	**17 57 16.6**	**+0.7**
comp=Z,24nm,1.6s,mb5.1								
MORC	**Moravsky Berou**	**62.09**	**32**	*e*P		**P**	**17 57 16.6**	**+0.7**
MORC				pmax		pmax		
comp=Z,24nm,1.6s,mb5.1								
SCHQ	**Schefferville**	**62.09**	**336**	P		**P**	**17 57 16.1**	**+0.2**
comp=Z,3.2nm,0.8s,mb4.5,baz=123,slow=5.4,SNR=6.8								
SCHQ	**Schefferville**	**62.09**	**336**	*e*P		**P**	**17 57 16.2**	**+0.3**
comp=Z,7.6nm,1.0s,mb4.8								
PSZ	**Piszkesteto**	**62.32**	**34**	*e*P		**P**	**17 57 18.4**	**+0.9**
comp=Z,8.6nm,0.8s,mb4.9								
PSZ	**Piszkesteto**	**62.32**	**34**	*e*P		**P**	**17 57 18.4**	**+0.9**
PSZ				pmax		pmax		
comp=Z,9.0nm,0.8s,mb5.0								
SADO	**Sadowa**	**62.45**	**321**	P		**P**	**17 57 17.2**	**-1.1**
comp=Z,3.0nm,0.7s,mb4.5,baz=95,slow=4.8,SNR=3.8								
KECS	**Kecovo**	**62.95**	**34**	*e*P		**P**	**17 57 21.3**	**-0.4**
ACSO	**Alum Creek Sta**	**63.00**	**315**	P		**P**	**17 57 22.1**	**+0.1**
comp=Z,52nm,2.1s,mb5.3								
SWET	**Sewanee**	**63.38**	**309**	*e*P		**P**	**17 57 25.3**	**+0.8**
OJC	**Ojcow**	**63.53**	**32**	*e*P		**P**	**17 57 26.9**	**+1.4**
BORG	**Borgarnes**	**63.63**	**3**	P		**P**	**17 57 26.9**	**+0.7**
comp=Z,73nm,1.3s,mb5.5,baz=212,slow=4.0,SNR=3.3								
BORG	**Borgarnes**	**63.63**	**3**	P		**P**	**17 57 26.9**	**+0.7**
STHS	**Stebnicka Huta**	**63.88**	**34**	*e*		**P**	**17 57 17.4**	**-10**
KOLS	**Kolonicke sedl**	**64.20**	**34**	*e*P		**P**	**17 57 20.5**	**-9.4**
AAM	**Ann Arbor**	**64.30**	**317**	*e*P		**P**	**17 57 36.5**	**+5.9**
comp=Z,34nm,0.9s,mb5.4								
AAM	**Ann Arbor**	**64.30**	**317**	*e*P		**P**	**17 57 36

comp=Z,16nm,1.8s,mb5.0
ELK Elko 87.03 311 P **P 17 59 41.0 +0.3**
comp=Z,0.7nm,0.5s,mb4.1,baz=156,slow=7.2,SNR=3.5
ELK Elko 87.03 311 *e*P **P 17 59 41.4 +0.7**
comp=Z,10nm,1.6s,mb4.8
ELK Elko 87.03 311 *e*P **P 17 59 41.4 +0.7**
ELK pmax pmax
comp=Z,10.0nm,1.6s
YKA Yellowknife Ar 87.32 332 P **P 17 59 40.9 -1.2**
comp=Z,0.4nm,0.8s,mb3.7,baz=115,slow=5.4,SNR=3.7
YKA Yellowknife Ar 87.32 332 P **P 17 59 40.9 -1.2**
NEW Newport 88.45 318 LR LR 18 34 45.4
comp=Z,1μm,21.7s,MS5.3,baz=64,slow=32
YBH Yreka Blue Hor 92.64 312 LR LR 18 39 20.7
comp=Z,464nm,21.0s,MS4.9,baz=274,slow=34
RKT Rikitea 105.92 246 *e*PS PS 18 14 44.7 -2.0
comp=Z,369nm,30.2s
RKT Rikitea 105.92 246 *e*SS SS 18 20 31.4 +1.9
comp=Z,351nm,28.5s
RKT *e*LR LR 18 36 00.6
comp=Z,946nm,23.5s
WMQ Urumqi 107.55 43 *e*PDIF Pdif 18 01 14.8 +0.8
WMQ PP PP 18 05 46.5 +4.7
WMQ PP PP
comp=Z,39nm,10.0s
WMQ LR LR
comp=N,367nm,28.0s,MS5.0
WMQ LR LR
comp=E,418nm,23.2s,MS5.0
WMQ LR LR
comp=Z,443nm,24.0s,MS4.9
TBI Tubuai 119.04 244 *e*SS SS 18 23 32.4 +8.6
comp=Z,350nm,36.0s
TBI *e*LR LR 18 42 03.6
comp=Z,824nm,27.2s
PPT Papeete 120.22 250 *e*SS SS 18 23 36.6 -2.4
comp=Z,841nm,32.0s
PPT *e*LR LR 18 42 37.8
comp=Z,1μm,24.0s
CD2 Chengdu 124.31 51 *e*PKP PKPdf 18 05 51.5 -2.6
HHC Hu-ho-hao-te 124.43 36 *e*PKP PKPdf 18 05 52.1 -2.2
HHC PP PP 18 07 42.6 +2.4
HHC PKS 18 09 27.5
HHC SKS SKSdf 18 13 02.1 -4.2
HHC LR LR
comp=N,2μm,18.6s,MS5.8
HHC LR LR
comp=E,1μm,18.6s,MS5.8
HHC LR LR
comp=Z,2μm,20.2s,MS5.7
BJI Beijing 127.63 34 PKP PKPdf 18 05 57.1 -3.4
CN2 Changchun 129.38 25 *e*PKP PKPdf 18 06 04.7 +0.9
NJ2 Nanjing 134.54 40 *e*PKP PKPdf 18 06 09.4 -4.1
NJ2 PP PP 18 08 47.0 +0.9
NJ2 PKS 18 09 44.0
NJ2 PP PP
comp=Z,140nm,11.1s
NJ2 LR LR
comp=Z,620nm,25.4s,MS5.2
SSE Sheshan 136.66 40 PKP PKPdf 18 06 18.5 +1.0
SSE PP PP 18 09 04.3 +4.8
SSE PP PP
comp=Z,130nm,8.4s
SSE LR LR
comp=N,840nm,23.7s,MS5.5
SSE LR LR
comp=E,848nm,23.7s,MS5.5
SSE LR LR
comp=Z,615nm,22.0s,MS5.3
ASAR Alice Springs 151.67 143 PKPbc PKPbc 18 06 48.4 -1.2
comp=Z,0.5nm,0.7s,baz=211,slow=3.1,SNR=2.9
ASAR PKPab PKPab 18 06 59.2 +0.8
comp=Z,1.7nm,1.1s,baz=223,slow=2.4,SNR=3.7

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*IDC **09** 17:48:37.9±2.6, 1070N×9440E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=117.0km s-min=23.3km az=61.0*
*ISCJB **09** 17:48:40.6±1.4, 107N±02×943E±03, h33km, mb3.8/8, Error ellipse: s-maj=44.6km s-min=16.5km az=122.9*
*NEIC **09** 17:48:41.2±1.0, 1072N×9444E, mb4.5/2, Error ellipse: s-maj=34.3km s-min=11.9km az=61.0*
ISC 09 17:48:43.4±1.4, 108N±02×944E±03, h35km, n8, σ0§19/8, mb3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**23.96**	**34**	*e*P	**P**	**17 53 54.3**	**-0.1**
	24nm,1.1s,mb4.5						
ENH				*e*pP		17 54 00.5	
ENH				*e*		17 54 07.1	
MKAR	**Makanchi Array**	**37.37**	**346**	P	**P**	**17 55 52.5**	**-0.1**
	1.9nm,1.1s,mb3.8,baz=167,slow=8.9,SNR=3.3						
SONM	**Songino Array**	**38.32**	**13**	P	**P**	**17 56 00.9**	**+0.3**
	1.0nm,1.0s,mb3.5,baz=201,slow=7.7,SNR=3.9						
KURK	**Kurchatov**	**41.92**	**345**	*e*P	**P**	**17 56 30.6**	**+0.1**
	7.9nm,1.3s,mb4.2						
KURK				*e*pP	pP	17 56 36.5	-4.2
ZAL	**Zalesovo**	**43.76**	**352**	P	**P**	**17 56 45.0**	**-0.3**
	1.0nm,0.8s,mb3.6,baz=159,slow=24,SNR=3.4						
BVAR	**Borovoye Array**	**46.39**	**340**	P	**P**	**17 57 06.4**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=134,slow=4.2,SNR=2.4						
WRA	**Warramunga Arr**	**49.75**	**128**	P	**P**	**17 57 32.1**	**-0.1**
	1.0nm,1.0s,mb3.8,baz=308,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**	**17 57 46.1**	**+0.1**
	0.8nm,0.9s,mb3.7,baz=304,slow=7.2,SNR=3.1						

IDC 09 17:49:15.3±4.2, 5611S×14439W, h0km, mb3.9/3, mb1 4.2/3, mb1mx4.0/13, mbtmp3.9/3, Error ellipse: s-maj=110.5km s-min=50.9km az=74.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.29**	**202**	P	P	17 55 09.8	-0.5
	1.1nm,0.6s,baz=76,slow=3.7,SNR=6.2						
ASAR	**Alice Springs**	**66.13**	**263**	P	P	18 00 04.0	-0.3
	1.1nm,0.8s,baz=145,slow=6.7,SNR=11						
WRA	**Warramunga Arr**	**68.85**	**266**	P	P	18 00 21.9	+0.3
	0.8nm,0.8s,baz=148,slow=5.7,SNR=6.9						
MKAR	**Makanchi Array**	**149.99**	**272**	PKPbc	PKPbc	18 09 06.2	-1.5
	0.6nm,0.7s,baz=142,slow=4.1,SNR=4.1						

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*IDC **09** 17:52:08.3±0.8, 1071N×9445E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.1/25, mbtmp4.2/13, ML3.7/1, Error ellipse: s-maj=47.0km s-min=14.1km az=63.0*
*ISCJB **09** 17:52:09.6±0.5, 1073N±008×945E±0.1, h21km, mb4.3/24, Error ellipse: s-maj=18.6km s-min=7.4km az=121.1*
*NEIC **09** 17:52:11.6±0.6, 1083N×9479E, mb4.6/17, Error ellipse: s-maj=27.0km s-min=8.8km az=59.0*
*MOS **09** 17:52:12.2±2.2, 1099N×9524E, h33km, mb4.9/9, Error ellipse: s-maj=17.9km s-min=8.1km az=110.7*
*BJI **09** 17:52:12.2, 1080N×9480E, h20km, mB4.9, mb4.1, Ms4.1, Msz4.0*
ISC 09 17:52:12.0±0.5, 1076N±008×945E±01, h23km, h23km±.9km: pP-P, n53, σ0§83/50, mb4.3/24, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.05**	**151**	Pn	**Pn**	**17 54 21.9**	**+0.6**
	0.7nm,0.3s,baz=347,slow=16,SNR=2.5						
KMI	**Kunming**	**16.28**	**28**	P	**Pn**	**17 56 05.2**	**+6.0**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.5s						
HYB	**Hyderabad**	**16.81**	**295**	*e*P	**Pn**	**17 56 18.0**	**+12**
JIRN	**Jiri**	**18.53**	**336**	*e*P	**Pn**	**17 56 27.7**	**+0.5**
	comp=Z,126nm,1.6s						
PKI	**Pulchoki**	**18.78**	**334**	*e*P	**Pn**	**17 56 30.4**	**+0.3**
GUN	**Gumba**	**18.88**	**336**	*e*P	**Pn**	**17 56 32.1**	**+0.7**
	comp=Z,190nm,1.8s						
DMN	**Daman**	**18.94**	**334**	*e*P	**Pn**	**17 56 31.6**	**-0.5**
	comp=Z,48nm,1.1s						
KKN	**Kakani**	**19.02**	**334**	*e*P	**Pn**	**17 56 33.6**	**+0.5**
	comp=Z,59nm,1.2s						
KKN	**Kakani**	**19.02**	**334**	*e*P	**Pn**	**17 56 33.6**	**+0.5**
KKN				pmax	pmax		
	comp=Z,29nm,1.2s						
GYA	**Guiyang**	**19.38**	**35**	P	**Pn**	**17 56 37.4**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
GKN	**Gorkha**	**19.49**	**333**	*e*P	**Pn**	**17 56 38.6**	**-0.1**
	comp=Z,33nm,0.9s						
KOLN	**Koldanda**	**19.77**	**330**	*e*P	**Pn**	**17 56 42.4**	**+0.3**
	comp=Z,79nm,1.2s						
LZH	**Lanzhou**	**26.60**	**17**	*e*P	**P**	**17 57 50.0**	**+1.5**
LZH				AP	pP	17 57 57.5	+2.2
LZH				XP	sP	17 58 01.5	+3.4
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.6						
GTA	**Gaotai**	**28.92**	**9**	*e*P	**P**	**17 58 10.3**	**+1.0**
GTA				AP	pP	17 58 16.1	0.0
GTA				XP	sP	17 58 20.1	+1.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
MKAR	**Makanchi Array**	**37.37**	**346**	P	**P**	**17 59 23.6**	**+0.7**
	comp=Z,5.3nm,0.9s,mb4.4,baz=161,slow=8.7,SNR=18						
SONM	**Songino Array**	**38.28**	**13**	P	**P**	**17 59 30.6**	**0.0**
	comp=Z,3.4nm,1.0s,mb4.0,baz=190,slow=8.7,SNR=17						
SONM				PcP	PcP	18 01 45.5	+1.0
	comp=Z,0.9nm,1.0s,baz=174,slow=5.7,SNR=3.2						
ULN	**Ulaanbaatar**	**38.46**	**14**	*e*P	**P**	**17 59 32.9**	**+0.7**
	comp=Z,2.1nm,0.9s,mb3.9						
ULN				*e*pP	pP	17 59 38.5	-0.5
ULN	**Ulaanbaatar**	**38.46**	**14**	*e*P	**P**	**17 59 32.9**	**+0.8**
ULN				*e**PP	pP	17 59 38.5	-0.5
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
ZAK	**Zakamensk**	**40.16**	**9**	*e*P	**P**	**17 59 40.6**	**-5.7**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.0						
KURK	**Kurchatov**	**41.92**	**345**	*e*P	**P**	**18 00 01.2**	**+0.4**
	comp=Z,16nm,1.3s,mb4.5						
KURK				*e*pP	pP	18 00 07.7	0.0
KURK	**Kurchatov**	**41.92**	**345**	*e*P	**P**	**18 00 01.2**	**+0.4**
KURK				*e**PP	pP	18 00 07.7	0.0
KURK				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.5						
ZAL	**Zalesovo**	**43.75**	**352**	P	**P**	**18 00 16.7**	**+1.1**
	comp=Z,1.8nm,0.8s,mb3.8,baz=296,slow=9.2,SNR=11						
BVAR	**Borovoye Array**	**46.40**	**340**	P	**P**	**18 00 36.1**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=95,slow=7.4,SNR=4.5						
ZRNK	**Zerenda**	**46.81**	**339**	P	**P**	**18 00 40.0**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0						
ZRNK				*e*pP	pP	18 00 45.9	-1.0
ZRNK	**Zerenda**	**46.81**	**339**	P	**P**	**18 00 40.0**	**+0.1**
ZRNK				*e**PP	pP	18 00 45.9	-1.0
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NWAO	**Narrogin (SRO)**	**48.56**	**154**	P	**P**	**18 00 53.9**	**+0.4**
	comp=Z,9.6nm,0.9s,mb4.8,baz=326,slow=5.8,SNR=4.8						
NWAO	**Narrogin (SRO)**	**48.56**	**154**	*e*P	**P**	**18 00 54.6**	**+1.1**
	comp=Z,14nm,1.0s,mb4.9						
NWAO				*e*pP	pP	18 01 00.9	+0.4
NWAO	**Narrogin (SRO)**	**48.56**	**154**	*e*P	**P**	**18 00 54.6**	**+1.1**
NWAO				*e**PP	pP	18 01 00.9	+0.4
NWAO				pmax	pmax		
	comp=Z,14nm,1.0s						
BOD	**Bodaibo**	**49.27**	**14**	*e*P	**P**	**18 00 58.1**	**-0.9**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.2						
WRA	**Warramunga Arr**	**49.69**	**128**	P	**P**	**18 01 02.8**	**+0.6**
	comp=Z,3.0nm,1.1s,mb4.2,baz=305,slow=8.4,SNR=5.1						
ASAR	**Alice Springs**	**51.53**	**132**	P	**P**	**18 01 15.4**	**-0.6**
	comp=Z,1.9nm,0.9s,mb4.0,baz=312,slow=7.3,SNR=8.8						
ARU	**Arti**	**53.40**	**336**	P	**P**	**18 01 29.2**	**-0.6**
ARU	**Arti**	**53.40**	**336**	P	**P**	**18 01 29.2**	**-0.6**
PMG	**Port Moresby**	**56.09**	**109**	P	**P**	**18 01 42.7**	**-6.6**
	comp=Z,16nm,1.3s,mb4.9						
PMG	**Port Moresby**	**56.09**	**109**	P	**P**	**18 01 42.7**	**-6.6**
PMG				pmax	pmax		
	comp=Z,16nm,1.3s						
YAK	**Yakutsk**	**57.16**	**19**	*e*P	**P**	**18 01 55.9**	**-1.1**
	comp=Z,12nm,1.0s,mb4.9						
YAK				*e*pP	pP	18 02 02.4	-1.7
YAK	**Yakutsk**	**57.16**	**19**	*e*P	**P**	**18 01 55.9**	**-1.1**
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
YAK	**Yakutsk**	**57.16**	**19**	*e*P	**P**	**18 01 55.9**	**-1.1**
YAK				*e**PP	pP	18 02 02.4	-1.7
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**61.86**	**135**	P	**P**	**18 02 29.2**	**-0.2**
	comp=Z,3.5nm,0.9s,mb4.5,baz=334,slow=7.3,SNR=5.5						
MA2	**Magadan**	**64.06**	**28**	*e*P	**P**	**18 02 44.1**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.3						
MA2	**Magadan**	**64.06**	**28**	*e*P	**P**	**18 02 44.1**	**+0.1**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
TIXI	**Tiksi**	**64.35**	**11**	*e*P	**P**	**18 02 43.7**	**-2.2**
TIXI				*e*	pP	18 02 50.9	-2.2
TIXI				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
FINES	**FINESS Array B**	**70.34**	**332**	P	**P**	**18 03 23.2**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.8,baz=126,slow=9.7,SNR=4.5						
ARCES	**ARCESS Array B**	**72.69**	**340**	P	**P**	**18 03 38.1**	**+0.1**
	comp=Z,2.9nm,0.9s,mb4.2,baz=76,slow=10,SNR=4.7						
BILL	**Bilibino**	**73.29**	**22**	*e*P	**P**	**18 03 38.8**	**-2.8**
	comp=Z,8.6nm,1.3s,mb4.5						
BILL	**Bilibino**	**73.29**	**22**	*e*P	**P**	**18 03 38.8**	**-2.8**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
NB2	**NORSAR Subarra**	**77.41**	**330**	P	**P**	**18 04 04.4**	**-0.8**
	comp=Z,5.9nm,1.1s,mb4.4,baz=93,slow=5.3						
NB2	**NORSAR Subarra**	**77.41**	**330**	P	**P**	**18 04 04.4**	**-0.8**
NB2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
NOA	**NORSAR Array B**	**77.41**	**330**	P	**P**	**18 04 04.6**	**-0.6**
	comp=Z,1.7nm,0.9s,mb4.0,baz=90,slow=5.9,SNR=3.4						
EKA	**Eskdalemuir Ar**	**85.56**	**325**	P	**P**	**18 04 47.6**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.5,baz=119,slow=5.4,SNR=3.6						
PDAR	**Pinedale Array**	**122.36**	**21**	PKP	PKPdf	18 11 06.3	+1.1
	comp=Z,1.2nm,1.0s,baz=58,slow=3.4,SNR=3.3						
OXF	**Oxford**	**134.82**	**5**	P	Pdif	18 08 30.5	+0.4
CPUP	**Villa Florida**	**149.23**	**236**	PKPbc	PKPbc	18 12 00.1	+1.4
	comp=Z,1.2nm,0.7s,baz=139,slow=11,SNR=3.0						

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*ISCJB **09** 17:54:02.0±1.3, 4343N±006×1273W±0.1, h10km, mb3.7/2, Error ellipse: s-maj=14.8km s-min=7.2km az=135.2*
*NEIC **09** 17:54:02.9±1.2, 4339N×12731W, h10km, mb3.8/2, Error ellipse: s-maj=14.3km s-min=7.6km az=68.0*
*IDC **09** 17:54:02.7±2.2, 4357N×12701W, h0km, mb3.3/2, mb1 3.9/6, mb1mx3.6/25, mbtmp3.5/6, ML4.0/3, Error ellipse: s-maj=34.2km s-min=15.2km az=54.0*
ISC 09 17:54:03.4±1.4, 4344N±007×1273W±01, h10km, n38, σ0§90/40, mb3.7/2, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.24**	**104**	*e*Pn	**Pn**	**17 54 37.7**	**-2.8**
KEBM				*e*Sn	**Sn**	**17 55 00.6**	**-7.6**
MPOR	**Mary's Peak**	**2.90**	**67**	P	**Pn**	**17 54 48.2**	**-1.5**
HSO	**Harness Mounta**	**3.06**	**87**	P	**Pn**	**17 54 50.1**	**-1.7**
HBO	**Huckleberry Mo**	**3.63**	**82**	P	**Pn**	**17 54 59.6**	**-0.1**
IRO	**Indian Ridge**	**3.70**	**80**	P	**Pn**	**17 55 00.1**	**-0.5**
SSOR	**Sweet Springs**	**3.75**	**66**	P	**Pn**	**17 55 01.6**	**+0.2**
YBH	**Yreka Blue Hor**	**3.79**	**115**	Pn	**Pn**	**17 55 01.2**	**-0.7**
	2.3nm,0.3s,baz=303,slow=12,SNR=20						
YBH				Sn	**Sn**	**17 55 46.5**	**0.0**
	0.6nm,0.3s,baz=153,slow=18,SNR=4.1						
NLO	**Nicolai Mounta**	**3.81**	**45**	P	**Pn**	**17 55 02.0**	**-0.1**
WPO	**West Portland**	**3.86**	**55**	P	**Pn**	**17 55 03.2**	**+0.3**
GT2	**Goat Mountain**	**3.99**	**63**	P	**Pn**	**17 55 04.8**	**+0.2**
HUOR	**Husband**	**4.00**	**78**	P	**Pn**	**17 55 04.9**	**+0.1**
PGO	**Gresham**	**4.01**	**58**	P	**Pn**	**17 55 05.7**	**+0.7**
BKCOR	**Black Crater**	**4.14**	**76**	P	**Pn**	**17 55 06.7**	**0.0**
BMW	**Boistfort Moun**	**4.18**	**42**	P	**Pn**	**17 55 06.7**	**-0.6**
RVW	**Rose Valley**	**4.22**	**49**	P	**Pn**	**17 55 07.7**	**-0.1**
VLMM	**Larch Mountain**	**4.30**	**59**	P	**Pn**	**17 55 09.3**	**+0.3**
LVP	**Lakeview Peak**	**4.36**	**51**	P	**Pn**	**17 55 10.0**	**+0.3**
MTMW	**Mount Mitchell**	**4.45**	**53**	P	**Pn**	**17 55 11.1**	**+0.2**
FL2	**Flat Top 2**	**4.47**	**50**	P	**Pn**	**17 55 11.8**	**+0.6**
JLK	**June Lake**	**4.55**	**52**	P	**Pn**	**17 55 12.7**	**+0.4**
ESD	**East Dome**	**4.58**	**51**	P	**Pn**	**17 55 13.6**	**+0.9**
LCW	**Lucas Creek**	**4.58**	**44**	P	**Pn**	**17 55 12.7**	**-0.1**
CDFW	**Cedar Flats**	**4.59**	**53**	P	**Pn**	**17 55 13.2**	**+0.3**
TDL	**Tradedollar La**	**4.63**	**49**	P	**Pn**	**17 55 13.9**	**+0.4**
ASR	**Mount Adams--S**	**4.88**	**54**	P	**Pn**	**17 55 17.5**	**+0.7**
HAWA	**Hanford**	**6.25**	**59**	*e*Pn	**Pn**	**17 55 35.6**	**-0.1**
	1.4nm,0.6s						
BMO	**Blue Mountains**	**7.32**	**75**	*e*Pn	**Pn**	**17 55 49.7**	**-0.7**
	7.6nm,0.7s						
CMB	**Columbia Colle**	**7.53**	**134**	*e*Pn	**Pn**	**17 55 56.0**	**+2.8**
	4.5nm,0.7s						
NVAR	**Mina Array Bea**	**8.45**	**123**	Pn	**Pn**	**17 56 07.4**	**+1.6**
	0.2nm,0.3s,baz=303,slow=13,SNR=4.3						
NEW	**Newport**	**8.58**	**52**	Pn	**Pn**	**17 56 07.0**	**-0.6**
	2.2nm,0.3s,baz=254,slow=12,SNR=7.2						
HLID	**Hailey**	**9.36**	**85**	Pn	**Pn**	**17 56 17.2**	**-1.2**
HWUT	**Hardware Ranch**	**11.75**	**94**	Pn	**Pn**	**17 56 52.4**	**+1.3**
PDAR	**Pinedale Array**	**12.98**	**87**	Pn	**Pn**	**17 57 08.8**	**+0.9**
	baz=279,slow=12,SNR=7.5						
SDCO	**Great Sand Dun**	**17.48**	**102**	*e*Pn	**Pn**	**17 58 07.7**	**+0.4**
	1.8nm,0.7s						
YKA	**Yellowknife Ar**	**20.48**	**17**	P	**P**	**17 58 41.5**	**+0.2**
	0.8nm,0.7s,baz=204,slow=11,SNR=13						
YKA	**Yellowknife Ar**	**20.48**	**17**	P	**P**	**17 58 41.5**	**+0.2**
WMOK	**Wichita Mounta**	**23.69**	**102**	*e*P	**P**	**17 59 12.8**	**-2.5**
	10nm,1.3s,mb4.1						
ILAR	**Eielson Array**	**24.05**	**339**	P	**P**	**17 59 18.1**	**-0.6**
	1.0nm,0.8s,mb3.3,baz=154,slow=8.8,SNR=11						

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*BJI **09** 17:55:31.5, 985N×9401E, h19km, mB5.0, mb4.2, Ms4.6, Msz4.5*
*IDC **09** 17:55:37.2±0.6, 1074N×9435E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.1/24, mbtmp4.1/14, ML3.4/1, Error ellipse: s-maj=27.8km s-min=13.7km az=61.0*
*ISCJB **09** 17:55:38.5±0.3, 1068N±005×9432E±006, h21km, mb4.3/31, Error ellipse: s-maj=11.0km s-min=4.8km az=103.5*
*NEIC **09** 17:55:40.4±0.3, 1074N×9441E, mb4.5/18, Error ellipse: s-maj=11.2km s-min=4.4km az=55.0*
*MOS **09** 17:55:40.2±0.9, 1071N×9434E, h33km, mb4.9/7, Error ellipse: s-maj=18.7km s-min=7.3km az=117.0*
ISC 09 17:55:41.1±0.3, 1075N±005×9436E±006, h22km, h22km±2.5km: pP-P, n75, σ0§89/73, mb4.3/31, 3C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.82**	**300**	*e*P	**Px**	17 56 33.8	
PBA				*e*S	Sx	17 56 51.9	
KULM	**Kulim**	**8.26**	**131**	*e*Pn	**Pn**	**17 57 37.2**	**-2.3**
KULM				*e*Sn	**Sn**	**17 59 07.2**	**-4.9**
PSI	**Prapat**	**9.11**	**150**	Pn	**Pn**	**17 57 51.0**	**-0.1**
	0.4nm,0.3s,baz=335,slow=12,SNR=8.3						
VIS	**Vishakhapatnam**	**12.74**	**304**	*e*P	**Pn**	**17 58 39.6**	**-1.2**
VIS				AMb	AMB	17 58 46.8	
	comp=Z,14nm,1.0s						
VIS				*e*S	**Sn**	**18 00 51.4**	**-10**
SHL	**Shillong**	**14.92**	**351**	*e*P	**Pn**	**17 59 11.1**	**+0.5**
KMI	**Kunming**	**16.36**	**28**	P	**Pn**	**17 59 34.7**	**+5.5**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.8s						
HYB	**Hyderabad**	**16.70**	**295**	*i* P	**Pn**	**17 59 34.0**	**+0.5**
HYB	**Hyderabad**	**16.70**	**295**	*e*P	**Pn**	**17 59 34.0**	**+0.5**
KSM	**Kuching**	**18.33**	**119**	P	**Pn**	**17 59 53.0**	**-0.7**
JIRN	**Jiri**	**18.49**	**337**	*e*P	**Pn**	**17 59 56.4**	**+0.6**
	comp=Z,24nm,0.9s						
PKI	**Pulchoki**	**18.73**	**335**	*e*P	**Pn**	**17 59 59.3**	**+0.6**
	comp=Z,74nm,1.6s						
PKI	**Pulchoki**	**18.73**	**335**	*e*P	**Pn**	**17 59 59.3**	**+0.6**
PKI				pmax	pmax		
	comp=Z,37nm,1.6s						
GUN	**Gumba**	**18.84**	**336**	*e*P	**Pn**	**18 00 00.4**	**+0.4**
	comp=Z,348nm,2.1s						
DMN	**Daman**	**18.89**	**334**	*e*P	**Pn**	**18 00 01.1**	**+0.5**
	comp=Z,54nm,1.4s						
KKN	**Kakani**	**18.98**	**335**	*e*P	**Pn**	**18 00 02.3**	**+0.6**
LSA	**Lhasa**	**19.09**	**351**	P	**Pn**	**18 00 03.2**	**+0.1**
	comp=Z,14nm,0.8s						
LSA	**Lhasa**	**19.09**	**351**	P	**Pn**	**18 00 03.2**	**+0.2**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s						
GKN	**Gorkha**	**19.44**	**333**	*e*P	**Pn**	**18 00 06.3**	**-0.9**
	comp=Z,22nm,0.5s						
GYA	**Guiyang**	**19.47**	**35**	P	**Pn**	**18 00 13.3**	**+5.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
KOLN	**Koldanda**	**19.72**	**331**	*e*P	**Pn**	**18 00 09.9**	**-0.7**
	comp=Z,35nm,0.8s						
BHPL	**Bhopal**	**20.38**	**310**	*e*P	**P**	**18 00 15.5**	**-0.7**
KAD	**Karad**	**20.62**	**291**	*e*P	**P**	**18 00 18.7**	**-0.1**
KAD				AMb	AMB	18 00 26.9	
	comp=Z,22nm,1.8s						
CD2	**Chengdu**	**21.88**	**22**	*e*P	**P**	**18 00 33.3**	**+1.0**
KKM	**Kota Kinabalu**	**22.11**	**100**	P	**P**	**18 00 33.5**	**-1.3**
ENH	**Enshi**	**23.99**	**34**	*e*P	**P**	**18 00 53.1**	**-0.8**
	comp=Z,10.0nm,0.8s,mb4.3						
NDI	**New Delhi**	**24.00**	**320**	*e*P	**P**	**18 00 53.7**	**-0.3**
NDI				AMb	AMB	18 00 59.0	
	comp=Z,32nm,1.1s,mb4.7						
AJM	**Ajmer**	**24.31**	**313**	*e*P	**P**	**18 00 58.0**	**+1.1**
AJM				AMb	AMB	18 01 06.8	
	comp=Z,17nm,1.0s,mb4.4						
SMLA	**Simla**	**25.79**	**324**	*e*P	**P**	**18 01 11.3**	**+1.0**
SMLA				AMb	AMB	18 01 39.1	
	comp=Z,47nm,1.2s,mb4.9						
LZH	**Lanzhou**	**26.65**	**17**	*e*P	**P**	**18 01 19.0**	**+0.9**
LZH				AP	pP	18 01 29.2	+4.4
LZH				XP	sP	18 01 34.1	+6.6
LZH				AMB	AMB		
	comp=Z,22nm,1.7s,mb4.4						
GTA	**Gaotai**	**28.95**	**9**	*e*P	**P**	**18 01 41.8**	**+3.1**
GTA				AP	pP	18 01 51.5	+6.1
GTA				XP	sP	18 01 56.1	+8.0
GTA				AMB	AMB		
	comp=Z,5.0nm,1.9s,mb3.9						
AAK	**Ala-Archa**	**36.19**	**335**	*e*P	**P**	**18 02 41.9**	**-0.1**
	comp=Z,4.7nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**36.19**	**335**	*e*P	**P**	**18 02 41.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**37.35**	**346**	P	**P**	**18 02 51.8**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.1,baz=164,slow=5.9,SNR=11						
MKAR	**Makanchi Array**	**37.35**	**346**	*i* P	**P**	**18 02 52.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**38.33**	**13**	P	**P**	**18 03 00.6**	**+0.5**
	comp=Z,1.

WB2 *e*pP pP 18 04 38.5 -0.5
ASPA Alice Springs 51.62 132 ⇑ *i*P **P 18 04 46.7 +0.9**
ASPA *e*pP pP 18 04 51.9 -0.9
AS31 Alice Springs 51.62 132 ⇑ *i*P **P 18 04 46.7 +0.9**
AS31 *e*pP pP 18 04 51.9 -0.9
ASAR Alice Springs 51.62 132 P **P 18 04 46.6 +0.8**
comp=Z,6.5nm,0.7s,mb4.7,baz=308,slow=6.7,SNR=46
KIV Kislovodsk 55.37 316 *e*P **P 18 05 10.5 -2.8**
comp=Z,14nm,1.0s,mb5.0
KIV Kislovodsk 55.37 316 *e*P **P 18 05 11.4 -1.9**
KIV pmax pmax
comp=Z,14nm,1.0s,mb5.0
KMBO Kilima Mbogo 58.00 262 P **P 18 05 32.5 +0.5**
comp=Z,0.2nm,0.3s,mb3.7,baz=101,slow=5.2,SNR=4.0
CTAO Charters Tower 59.55 121 *e*P **P 18 05 43.6 +0.7**
comp=Z,21nm,1.2s,mb5.0
CTAO Charters Tower 59.55 121 *e*P **P 18 05 43.6 +0.8**
CTAO pmax pmax
comp=Z,21nm,1.2s,mb5.0
BRTR Keskin Array B 60.75 310 P **P 18 05 51.0 -0.1**
comp=Z,1.1nm,0.7s,mb4.1,baz=122,slow=6.4,SNR=4.7
STKA Stephens Creek 61.95 135 *e*P **P 18 05 58.1 -1.0**
comp=Z,4.5nm,0.9s,mb4.6
STKA Stephens Creek 61.95 135 P **P 18 05 57.8 -1.3**
comp=Z,5.3nm,1.0s,mb4.6,baz=302,slow=9.5,SNR=6.3
VRI Vrincioaia 66.80 315 ⇑P **P 18 06 31.5 +0.6**
MLR Muntele Rosu 67.29 315 ⇓P **P 18 06 26.1 -7.9**
FINES FINESS Array B 70.29 332 P **P 18 06 51.2 -1.5**
comp=Z,0.4nm,0.7s,mb3.5,baz=97,slow=11,SNR=2.4
ARCES ARCESS Array B 72.65 340 P **P 18 07 06.8 -0.1**
comp=Z,3.3nm,0.8s,mb4.1,baz=79,slow=6.4,SNR=5.0
BILL Bilibino 73.35 22 P **P 18 07 10.3 -0.7**
comp=Z,4.2nm,1.2s,mb4.2
BILL *e*pP pP 18 07 17.9 -0.4
BILL Bilibino 73.35 22 P **P 18 07 10.3 -0.8**
BILL *e**PP pP 18 07 17.9 -0.4
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
ILAR Eielson Array 92.01 22 P **P 18 08 47.1 -1.0**
comp=Z,0.3nm,0.8s,mb3.7,baz=294,slow=3.5,SNR=4.8
PLCA Paso Flores 147.30 201 PKPbc PKPbc 18 15 22.1 -0.6
comp=Z,3.2nm,0.8s,baz=257,slow=2.0,SNR=5.6
CPUP Villa Florida 149.11 236 PKP PKPdf 18 15 23.2 -0.2
comp=Z,0.4nm,0.3s,baz=193,slow=9.0,SNR=3.4
CPUP PKPbc PKPbc 18 15 28.4 +0.9
comp=Z,0.4nm,0.3s,baz=77,slow=6.3,SNR=4.5
CFAA Coronel Fontan 153.73 215 PKP PKPdf 18 15 32.5 +2.2
comp=Z,0.1nm,0.4s,baz=152,slow=1.6,SNR=3.6
CFAA PKPbc PKPbc 18 15 39.9 +1.7
comp=Z,0.5nm,0.8s,baz=239,slow=2.2,SNR=5.8

SZGRF ***09*** *17:55:43.5, 143S×2548W, h7km, mb5.3, MS5.5, Central Mid-Atlantic Ridge*
IGIL ***09*** *17:55:53.3, 060N×26.10W, h10km, MS5.3*
IDC ***09*** *17:55:53.3±0.4, 082N×2622W, h0km, mb4.8/38, mb1 4.9/38, mb1mx4.9/39, mbtmp4.8/38, MS5.5/29, Ms1 5.5/29, ms1mx5.5/33, Error ellipse: s-maj=11.9km s-min=9.8km az=143.0*
ISCJB ***09*** *17:55:54.1±0.2, 076N±004×2608W±003, h10km, mb5.3/193, MS5.6/184, Error ellipse: s-maj=6.0km s-min=3.9km az=129.0*
CRAAG ***09*** *17:55:54.2, 062N×2607W, Mw5.8*
NEIC ***09*** *17:55:55.4±0.2, 079N×26.13W, h10km, mb5.4/123, MS5.6/144, MW5.9, Error ellipse: s-maj=7.8km s-min=5.1km az=151.0, Moment Tensor Solution. s9 Moment tensor: Scale 1018Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M0 1.00000×1018 NP1:φs163.00000°, δ81.00000°, λ9.00000°. NP2:φs72.00000°, δ81.00000°, λ171.00000°. Principal axes: T 1.0900, Plg13.0000°, Azm28.0000°; N -0.1300, Plg77.0000°, Azm207.0000°; P -0.9600, Plg0.0000°, Azm298.0000°;*
HRVD ***09*** *17:55:55.3±0.1, 079N×25.97W, h17km, MW6.0/100, Centroid moment Tensor Solution. LP body waves: s85,c176; Mantle waves: s100,c348; Half duration: 2s4 Moment tensor: Scale 1018Nm; Mrr0.01±.01; Mθθ0.23±.01; Mφφ-0.23±.01; Mrθ-0.04±.03; Mθφ-1.09±.01; Mφr0.12±.03; Best double couple: M0 1.12000×1018 NP1:φs264.00000°, δ84.00000°, λ179.00000°. NP2:φs354.00000°, δ89.00000°, λ6.00000°. Principal axes: T 1.1210, Plg5.0000°, Azm219.0000°; N -0.0010, Plg84.0000°, Azm6.0000°; P -1.1200, Plg3.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI ***09*** *17:55:55.3, 080N×26.10W, h10km, mB5.7, Ms6.0, Msz5.6*
MOS ***09*** *17:55:58.2±1.2, 164N×26.12W, h10km, mb5.5/96, MS5.5/53, Error ellipse: s-maj=10.0km s-min=3.4km az=61.2*

ISC 09 17:55:56.3±0.2,**077N**±004×**2611W**±003,**h10**km, **(h11**km±1.6km:**pP-P), n740,**σ1§**45**/644,**mb5.3**/193, **MS5.6**/184,**38C-19D, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.77**	**236**	Pn	**Pn**	**17 58 39.7**	**-4.5**
395nm,1.9s							
ASCN	**Ascension**	**14.56**	**127**	Pn	**Pn**	**17 59 22.9**	**+0.5**
4μm,1.8s,SNR=30							
ASCN	**Ascension**	**14.56**	**127**	*e*Pn	**Pn**	**17 59 21.3**	**-1.1**
5μm,1.9s							
DBIC	**Dimbokro**	**22.00**	**74**	P	**P**	**18 00 49.0**	**-1.5**
449nm,1.1s,mb5.8,baz=239,slow=12,SNR=86							
DBIC				LR	LR	18 07 13.0	
comp=Z,15μm,20.2s,MS5.4,baz=237,slow=31							
DBIC	**Dimbokro**	**22.00**	**74**	*e*P	**P**	**18 00 48.7**	**-1.8**
372nm,0.7s,mb5.9							
DBIC				*e*S	**S**	**18 04 44.1**	**-9.1**
DBIC				LR	LR		
comp=Z,13μm,19.0s,MS5.4							
DBIC	**Dimbokro**	**22.00**	**74**	*e*P	**P**	**18 00 48.7**	**-1.8**
DBIC				*e*S	**S**	**18 04 44.2**	**-9.0**
DBIC				pmax	pmax		
comp=Z,372nm,0.7s							
DBIC				MLR	MLR		
comp=Z,13μm,19.0s							
SHEL	**Horse Pasture**	**26.09**	**130**	PFAKE		18 01 40.0	+10
SHEL				LR	LR		
comp=Z,13μm,19.0s,MS5.5							
BDFB	**Brasilia**	**27.10**	**232**	P	**P**	**18 01 36.9**	**-2.3**
comp=Z,6.7nm,0.7s,mb4.3,baz=53,slow=15,SNR=1.9							
BDFB				LR	LR	18 11 17.3	
comp=Z,31μm,20.2s,MS5.9,baz=67,slow=34							
TORD	**Torodi Ar. Bea**	**30.16**	**65**	P	**P**	**18 02 05.2**	**-1.3**
comp=Z,41nm,0.5s,mb5.3,baz=250,slow=6.0,SNR=146							
PDA	**Ponta Delgada**	**36.79**	**1**	*i* LR	LR	18 13 30.0	
PSET	**Sete Cidades**	**36.87**	**1**	*e*P	**P**	**18 03 05.2**	**+0.4**
PPNO	**Prainha do Nor**	**37.57**	**357**	*e*P	**P**	**18 03 06.3**	**-4.5**
PICO	**Pico**	**37.60**	**357**	*e*P	**P**	**18 03 07.9**	**-3.2**
HOR	**Horta**	**37.64**	**357**	*e*P	**P**	**18 03 10.8**	**-0.6**
ADH	**Angra Heroismo**	**37.71**	**359**	*i* LR	LR	18 13 22.5	
MDT	**Midelt**	**37.75**	**30**	P	**P**	**18 03 11.8**	**-0.5**
comp=Z,18nm,0.8s,mb4.8,baz=216,slow=6.8,SNR=31							
ROSA	**Rosais**	**37.81**	**357**	*e*P	**P**	**18 03 10.9**	**-1.9**
SAML	**Samuel**	**38.17**	**255**	P	**P**	**18 03 16.1**	**+0.2**
comp=Z,38nm,1.1s,mb5.0							
SAML				LR	LR		
comp=Z,5μm,19.0s,MS5.4							
SIV	**San Ignacio**	**38.33**	**243**	P	**P**	**18 03 15.7**	**-1.5**
comp=Z,5.5nm,0.9s,mb4.3,baz=114,slow=18,SNR=3.5							
MORF	**Marmelete**	**39.77**	**22**	*e*P	**P**	**18 03 28.0**	**-1.2**
MORF				*e*S	**S**	**18 09 33.6**	**+0.5**
MORF				*e*S	**S**	**18 09 33.6**	**+0.5**
MORF				AMS	AMS	18 17 55.3	
comp=E,3μm,16.3s							
MORF	**Marmelete**	**39.77**	**22**	*e*P	**P**	**18 03 28.0**	**-1.2**
MORF				*e*S	**S**	**18 09 33.6**	**+0.4**
SFS	**San Fernando**	**40.02**	**25**	*e*P	**P**	**18 03 19.8**	**-12**
CPUP	**Villa Florida**	**40.40**	**226**	P	**P**	**18 03 32.7**	**-1.8**
comp=E,16nm,1.2s,mb4.6,baz=44,slow=8.8,SNR=9.3							
CPUP				LR	LR	18 19 56.0	
comp=E,11μm,18.9s,MS5.7,baz=41,slow=36							
CPUP	**Villa Florida**	**40.40**	**226**	*e*P	**P**	**18 03 32.7**	**-1.8**
comp=E,111nm,1.3s,mb5.4							
CPUP				LR	LR		
comp=Z,2μm,21.0s,MS4.9							
PBEJ	**Beja**	**40.70**	**22**	*e*P	**P**	**18 03 39.7**	**+2.8**
comp=Z,39nm,1.9s,mb4.7							
LIS	**Lisbon**	**40.84**	**20**	*e*P	**P**	**18 03 36.7**	**-1.4**
LIS				*e*S	**S**	**18 09 49.9**	**+0.7**
LIS				*e*S	**S**	**18 09 50.1**	**+1.0**
LIS				AMS	AMS	18 19 33.9	
comp=E,5μm,17.3s							
LIS	**Lisbon**	**40.84**	**20**	*e*P	**P**	**18 03 36.7**	**-1.4**
LIS				*e*S	**S**	**18 09 49.9**	**+0.7**
MOE	**Montemor**	**40.95**	**21**	*e*P	**P**	**18 03 42.1**	**+3.1**
PTOM	**Tomar**	**41.90**	**21**	*e*P	**P**	**18 03 47.4**	**+0.6**
PCBR	**Castelo Branco**	**42.43**	**21**	*e*P	**P**	**18 03 53.0**	**+1.8**
PCBR	**Castelo Branco**	**42.43**	**21**	*e*PP	PP	18 05 29.4	0.0
ETRT	**Tiaret**	**42.86**	**34**	P	**P**	**18 03 55.0**	**+0.3**
MTE	**Manteigas**	**42.90**	**21**	*e*P	**P**	**18 03 57.8**	**+2.8**
comp=E,44nm,1.1s,mb5.1							
MTE				*e*LQ		18 13 51.6	
MTE							
comp=E,4μm,18.0s							
SJG	**San Juan**	**42.93**	**296**	LR	LR	18 18 06.6	
comp=E,2μm,19.9s,MS5.0,baz=331,slow=31							
SJG	**San Juan**	**42.93**	**296**	P	**P**	**18 03 51.0**	**-4.2**
SJG				LR	LR		
comp=Z,2μm,21.0s,MS5.0							
PVIS	**Viseu**	**43.06**	**20**	*e*P	**P**	**18 03 58.4**	**+2.2**
EANR	**'Ain N'Sour**	**43.17**	**33**	P	**P**	**18 04 00.0**	**+2.9**
ECHA	**Ech Chlef**	**43.46**	**33**	P	**P**	**18 04 05.0**	**+5.5**
EBNR	**Beni Rached**	**43.65**	**33**	P	**P**	**18 04 06.0**	**+5.0**
ESDC	**Sonseca Array**	**43.67**	**25**	P	**P**	**18 03 60.0**	**-1.2**
comp=Z,9.8nm,0.8s,mb4.6,baz=220,slow=8.4,SNR=25							
ESLA	**Sonseca Array**	**43.67**	**25**	*e*P	**P**	**18 04 01.6**	**+0.4**
comp=Z,3.6nm,0.8s,mb4.2							
ESLA				LR	LR		
comp=Z,21μm,21.0s,MS6.0							
PCAB	**Cabril**	**43.90**	**20**	*e*P	**P**	**18 04 05.1**	**+2.1**
comp=Z,44nm,1.1s,mb5.1							
EMHD	**Djebel Mahouad**	**44.37**	**34**	P	**P**	**18 04 09.0**	**+2.2**
ADJB	**Djebel Djouab**	**44.62**	**35**	P	**P**	**18 04 20.6**	**+12**
LPAZ	**La Paz**	**44.79**	**246**	P	**P**	**18 04 09.0**	**-1.2**
comp=Z,18nm,1.1s,mb4.8,baz=81,slow=6.9,SNR=4.0							
LPAZ				LR	LR	18 22 17.4	
comp=Z,11μm,18.5s,MS5.8,baz=74,slow=35							
LPAZ	**La Paz**	**44.79**	**246**	*e*P	**P**	**18 04 09.4**	**-0.7**
comp=Z,32nm,0.9s,mb5.2							
LPAZ				LR	LR		
comp=Z,9μm,21.0s,MS5.7							
LPAZ	**La Paz**	**44.79**	**246**	*e*P	**P**	**18 04 09.4**	**-0.8**
LPAZ				pmax	pmax		
comp=Z,32nm,0.9s							
LPAZ				MLR	MLR		
comp=Z,9μm,21.0s							
AKET	**Djebel Ketaf**	**44.79**	**35**	P	**P**	**18 04 20.8**	**+11**
ABA	**Alger-Bouzarea**	**44.85**	**34**	P	**P**	**18 04 13.4**	**+2.8**
SDV	**Santo Domingo**	**45.05**	**282**	P	**P**	**18 04 11.0**	**-1.2**
comp=Z,3.7nm,0.9s,mb4.2,baz=40,slow=8.6,SNR=2.0							
SDV				LR	LR	18 22 00.2	
comp=Z,3μm,18.9s,MS5.2,baz=113,slow=35							
SDV	**Santo Domingo**	**45.05**	**282**	*e*P	**P**	**18 04 10.4**	**-1.7**
comp=Z,50nm,1.6s,mb5.1							
SDV				LR	LR		
comp=Z,3μm,20.0s,MS5.2							
CMER	**Merouana**	**45.69**	**37**	P	**P**	**18 04 21.0**	**+3.7**
CKHR	**Kef el Ahmar**	**45.72**	**36**	P	**P**	**18 04 21.0**	**+3.4**
SET	**Setif**	**45.78**	**36**	P	**P**	**18 04 23.0**	**+5.0**
CTEI	**Djebel Teioual**	**46.29**	**37**	P	**P**	**18 04 21.0**	**-1.0**
DFRA	**Djebel Bou Aff**	**46.30**	**36**	P	**P**	**18 04 24.0**	**+1.9**
CASM	**Ain Smara**	**46.47**	**37**	P	**P**	**18 04 27.0**	**+3.5**
EBR	**Ebro Roquetas**	**46.59**	**28**	*e*P	**P**	**18 04 27.3**	**+2.9**
CKFL	**Kef-Lekhel**	**46.70**	**37**	P	**P**	**18 04 29.0**	**+3.7**
CAEH	**'Ain El Ouahch**	**47.03**	**37**	P	**P**	**18 04 31.0**	**+3.1**
ABSA	**Djebel Ababsia**	**47.08**	**38**	P	**P**	**18 04 31.0**	**+2.8**
TSUM	**Tsumeb**	**47.25**	**117**	P	**P**	**18 04 30.3**	**+0.8**
comp=Z,41nm,0.8s,mb5.4,baz=280,slow=8.6,SNR=50							
TSUM	**Tsumeb**	**47.25**	**117**	*e*P	**P**	**18 04 28.2**	**-1.3**
comp=Z,42nm,0.8s,mb5.4							
TSUM				LR	LR		
comp=Z,10μm,21.0s,MS5.8							
CMAH	**Djebel Manchou**	**47.27**	**37**	P	**P**	**18 04 32.0**	**+2.3**
SJPF	**Ste Jean**	**47.67**	**25**	*e*P	**P**	**18 04 30.1**	**-2.7**
comp=Z,64nm,0.8s,mb5.4							
SJPF	**Ste Jean**	**47.67**	**25**	*e*P	**P**	**18 04 30.1**	**-2.7**
comp=Z,32nm,0.8s,mb5.4							
SJPF	**Ste Jean**	**47.67**	**25**	*e*P	**P**	**18 04 30.1**	**-2.7**
SJPF				pmax	pmax		
comp=Z,32nm,0.8s,mb5.4							
ETSF	**Etsaut**	**47.78**	**25**	*e*P	**P**	**18 04 31.1**	**-2.6**
comp=Z,110nm,1.2s,mb5.5							
ETSF	**Etsaut**	**47.78**	**25**	*e*P	**P**	**18 04 31.1**	**-2.6**
comp=Z,55nm,1.2s,mb5.5							
ETSF	**Etsaut**	**47.78**	**25**	*e*P	**P**	**18 04 31.1**	**-2.6**
ETSF				pmax	pmax		
comp=Z,55nm,1.2s,mb5.5							
BBSR	**BB Station**	**48.04**	**315**	PFAKE		18 04 50.0	+14
BBSR				LR	LR		
comp=Z,3μm,20.0s,MS5.3							
EPF	**Esparros**	**48.27**	**26**	*e*P	**P**	**18 04 34.9**	**-2.6**
comp=Z,168nm,1.3s,mb5.6							
EPF	**Esparros**	**48.27**	**26**	*e*P	**P**	**18 04 34.9**	**-2.6**
comp=Z,84nm,1.3s,mb5.6							
EPF	**Esparros**	**48.27**	**26**	*e*P	**P**	**18 04 34.9**	**-2.6**
EPF				pmax	pmax		
comp=Z,84nm,1.3s,mb5.6							
ROSC	**El Rosal**	**48.32**	**276**	P	**P**	**18 04 37.1**	**-0.7**
comp=Z,2.5nm,0.3s,mb4.7,baz=107,slow=19,SNR=2.1							
ROSC				LR	LR	18 24 19.4	
comp=Z,4μm,18.9s,MS5.5,baz=310,slow=35							
SALF	**Salau**	**48.44**	**27**	*e*P	**P**	**18 04 40.3**	**+1.6**
MLS	**Moulis**	**48.55**	**27**	*e*P	**P**	**18 04 41.1**	**+1.5**
MTLF	**Montolieu**	**49.36**	**27**	*e*P	**P**	**18 04 43.3**	**-2.5**
comp=Z,23nm,1.0s,mb4.9							
MTLF	**Montolieu**	**49.36**	**27**	*e*P	**P**	**18 04 43.3**	**-2.5**
comp=Z,12nm,1.0s,mb4.9							
MTLF	**Montolieu**	**49.36**	**27**	*e*P	**P**	**18 04 43.3**	**-2.5**
MTLF				pmax	pmax		
comp=Z,12nm,1.0s,mb4.9							
MTLF	**Montolieu**	**49.36**	**27**	*e*P	**P**	**18 04 43.3**	**-2.5**
MTLF				pmax	pmax		
comp=Z,12nm,1.0s,mb4.9							
LFF	**La Frestale**	**49.98**	**25**	*e*P	**P**	**18 04 48.4**	**-2.2**
comp=Z,53nm,0.8s,mb5.3							
LFF	**La Frestale**	**49.98**	**25**	*e*P	**P**	**18 04 48.4**	**-2.2**
comp=Z,26nm,0.8s,mb5.3							
LFF	**La Frestale**	**49.98**	**25**	*e*P	**P**	**18 04 48.4**	**-2.2**
LFF				pmax	pmax		
comp=Z,26nm,0.8s,mb5.3							
LFF	**La Frestale**	**49.98**	**25**	*e*P	**P**	**18 04 48.4**	**-2.2**
LFF				pmax	pmax		
comp=Z,26nm,0.8s,mb5.3							
CAF	**Calviac**	**50.54**	**26**	*e*P	**P**	**18 04 52.3**	**-2.5**
comp=Z,46nm,1.1s,mb5.0							
CAF	**Calviac**	**50.54**	**26**	*e*P	**P**	**18 04 52.3**	**-2.5**
comp=Z,23nm,1.1s,mb5.0							
CAF	**Calviac**	**50.54**	**26**	*e*P	**P**	**18 04 52.3**	**-2.5**
CAF				pmax	pmax		
comp=Z,23nm,1.1s,mb5.0							
LASF	**Ste Croix**	**50.68**	**28**	*e*P	**P**	**18 04 53.3**	**-2.6**
comp=Z,181nm,1.5s,mb5.5							
TRQA	**Tornquist**	**50.84**	**217**	*e*P	**P**	**18 04 58.0**	**+0.9**
comp=Z,72nm,1.5s,mb5.4							
TRQA				LR	LR		
comp=Z,4μm,21.0s,MS5.4							
MFF	**Saint Martin d**	**50.98**	**23**	*e*P	**P**	**18 04 55.9**	**-2.2**
comp=Z,206nm,1.3s,mb5.6							
MFF	**Saint Martin d**	**50.98**	**23**	*e*P	**P**	**18 04 55.9**	**-2.2**
comp=Z,103nm,1.3s,mb5.6							
MFF	**Saint Martin d**	**50.98**	**23**	*e*P	**P**	**18 04 55.9**	**-2.2**
MFF				pmax	pmax		
comp=Z,103nm,1.3s							
MFF	**Saint Martin d**	**50.98**	**23**	*e*P	**P**	**18 04 55.9**	**-2.2**
MFF				pmax	pmax		
comp=Z,103nm,1.3s,mb5.6							
CFAA	**Coronel Fontan**	**51.26**	**227**	P	**P**	**18 04 59.8**	**-0.4**
comp=Z,2.4nm,1.1s,baz=68,slow=11,SNR=6.0							
LBL	**Lubilhac**	**51.30**	**26**	*e*P	**P**	**18 05 00.9**	**+0.4**
ROSF	**Rostrenen**	**51.33**	**19**	*e*P	**P**	**18 04 57.8**	**-2.9**
comp=Z,166nm,1.4s,mb5.5							
ROSF	**Rostrenen**	**51.33**	**19**	*e*P	**P**	**18 04 57.8**	**-2.9**
comp=Z,83nm,1.4s							
ROSF	**Rostrenen**	**51.33**	**19**	*e*P	**P**	**18 04 57.8**	**-2.9**
ROSF				pmax	pmax		
comp=Z,83nm,1.4s							
ROSF	**Rostrenen**	**51.33**	**19**	*e*P	**P**	**18 04 57.8**	**-2.9**
ROSF				pmax	pmax		
comp=Z,83nm,1.4s,mb5.5							
LMR	**La Mourre**	**51.41**	**30**	*e*P	**P**	**18 04 58.3**	**-3.1**
comp=Z,98nm,1.3s,mb5.3							
LMR	**La Mourre**	**51.41**	**30**	*e*P	**P**	**18 04 58.3**	**-3.1**
comp=Z,49nm,1.3s,mb5.3							
LMR	**La Mourre**	**51.41**	**30**	*e*P	**P**	**18 04 58.3**	**-3.1**
LMR				pmax	pmax		
comp=Z,49nm,1.3s,mb5.3							
SMRF	**Simiane la Rot**	**51.42**	**29**	*e*P	**P**	**18 04 58.4**	**-3.0**
CLTB	**Caltabellotta**	**51.49**	**40**	P	**P**	**18 05 04.9**	**+3.0**
comp=Z,135nm,1.2s,mb5.8							
SGMF	**Saint Gilles**	**51.50**	**20**	*e*P	**P**	**18 04 59.3**	**-2.7**
comp=Z,154nm,0.9s,mb5.6							
SGMF	**Saint Gilles**	**51.50**	**20**	*e*P	**P**	**18 04 59.3**	**-2.7**
comp=Z,77nm,0.9s							
SGMF	**Saint Gilles**	**51.50**	**20**	*e*P	**P**	**18 04 59.3**	**-2.7**
SGMF				pmax	pmax		
comp=Z,77nm,0.9s							
SGMF	**Saint Gilles**	**51.50**	**20**	*e*P	**P**	**18 04 59.3**	**-2.7**
SGMF				pmax	pmax		
comp=Z,77nm,0.9s,mb5.6							
VIVF	**Saint-Julien-l**	**51.65**	**28**	*e*P	**P**	**18 05 01.1**	**-2.1**
comp=Z,46nm,1.0s,mb5.1							
VIVF	**Saint-Julien-l**	**51.65**	**28**	*e*P	**P**	**18 05 01.1**	**-2.1**
comp=Z,23nm,1.0s,mb5.1							
VIVF	**Saint-Julien-l**	**51.65**	**28**	*e*P	**P**	**18 05 01.1**	**-2.1**
VIVF				pmax	pmax		
comp=Z,23nm,1.0s,mb5.1							
TCF	**Toulx Ste Croi**	**51.68**	**25**	*e*P	**P**	**18 05 01.0**	**-2.4**
comp=Z,134nm,1.6s,mb5.3							
TCF	**Toulx Ste Croi**	**51.68**	**25**	*e*P	**P**	**18 05 01.0**	**-2.4**
comp=Z,67nm,1.6s,mb5.3							
TCF	**Toulx Ste Croi**	**51.68**	**25**	*e*P	**P**	**18 05 01.0**	**-2.4**
TCF				pmax	pmax		
comp=Z,67nm,1.6s,mb5.3							
NNA	**Nana**	**51.94**	**254**	*e*P	**P**	**18 05 03.2**	**-2.1**
comp=Z,52nm,1.3s,mb5.3							
NNA				LR	LR		
comp=Z,2μm,21.0s,MS5.0							
PLDF	**La Plantade**	**52.03**	**26**	*e*P	**P**	**18 05 05.8**	**-0.2**
PGF	**Pioggiola**	**52.16**	**33**	*e*P	**P**	**18 05 04.3**	**-2.6**
BGF	**Bois d'Agland**	**52.16**	**25**	*e*P	**P**	**18 05 05.1**	**-1.9**
comp=Z,79nm,1.0s,mb5.3							
BGF	**Bois d'Agland**	**52.16**	**25**	*e*P	**P**	**18 05 05.1**	**-1.9**
comp=Z,39nm,1.0s,mb5.3							
BGF	**Bois d'Agland**	**52.16**	**25**	*e*P	**P**	**18 05 05.1**	**-1.9**
BGF				pmax	pmax		
comp=Z,39nm,1.0s,mb5.3							
GRR	**Gorron**	**52.21**	**21**	*e*P	**P**	**18 05 04.9**	**-2.4**
comp=Z,107nm,0.9s,mb5.5							
GRR	**Gorron**	**52.21**	**21**	*e*P	**P**	**18 05 04.9**	**-2.4**
comp=Z,53nm,0.9s,mb5.5							
GRR	**Gorron**	**52.21**	**21**	*e*P	**P**	**18 05 04.9**	**-2.4**
GRR				pmax	pmax		
comp=Z,53nm,0.9s,mb5.5							
CSLB	**Castelbuono**	**52.24**	**40**	P	**P**	**18 05 10.4**	**+2.9**
SBF	**Sospel**	**52.26**	**30**	*e*P	**P**	**18 05 05.6**	**-2.1**
comp=Z,244nm,1.4s,mb5.7							
SBF	**Sospel**	**52.26**	**30**	*e*P	**P**	**18 05 05.6**	**-2.1**
comp=Z,122nm,1.4s,mb5.6							
SBF	**Sospel**	**52.26**	**30**	*e*P	**P**	**18 05 05.6**	**-2.1**
SBF				pmax	pmax		
comp=Z,122nm,1.4s,mb5.6							
ORIF	**Oris-en-Rattie**	**52.27**	**28**	*e*P	**P**	**18 05 04.9**	**-2.8**
comp=Z,26nm,0.9s,mb4.8							
ORIF				*e*R			
comp=Z,5μm,20.2s							
ORIF	**Oris-en-Rattie**	**52.27**	**28**	*e*P	**P**	**18 05 04.9**	**-2.8**
comp=Z,13nm,0.9s,mb4.8							
ORIF	**Oris-en-Rattie**	**52.27**	**28**	*e*P	**P**	**18 05 04.9**	**-2.8**
ORIF				pmax	pmax		
comp=Z,13nm,0.9s,mb4.9							
OTAV	**Otavalo**	**52.34**	**270**	P	**P**	**18 05 08.5**	**+0.2**
comp=Z,25nm,1.4s,mb5.0							
OTAV				LR	LR		
comp=Z,3μm,22.0s,MS5.3							
SURF	**Saint Ours**	**52.40**	**29**	*e*P	**P**	**18 05 10.1**	**+1.4**
GRN	**Grenoble**	**52.45**	**28**	*e*P	**P**	**18 05 10.8**	**+1.7**
MBDF	**Montbardon**	**52.56**	**29**	*e*P	**P**	**18 05 07.3**	**-2.6**
comp=Z,58nm,0.9s,mb5.2							
MBDF	**Montbardon**	**52.56**	**29**	*e*P	**P**	**18 05 07.3**	**-2.6**
comp=Z,29nm,0.9s,mb5.2							
MBDF	**Montbardon**	**52.56**	**29**	*e*P	**P**	**18 05 07.3**	**-2.6**
MBDF				pmax	pmax		
comp=Z,29nm,0.9s,mb5.2							
AVF	**Avril sur Loir**	**52.56**	**25**	*e*P	**P**	**18 05 07.4**	**-2.5**
comp=Z,142nm,1.7s,mb5.3							
AVF	**Avril sur Loir**	**52.56**	**25**	*e*P	**P**	**18 05 07.4**	**-2.5**
comp=Z,71nm,1.7s,mb5.3							
AVF	**Avril sur Loir**	**52.56**	**25**	*e*P	**P**	**18 05 07.4**	**-2.5**
AVF				pmax	pmax		
comp=Z,71nm,1.7s,mb5.3							
LDF	**La Druitiere**	**52.65**	**21**	*e*P	**P**	**18 05 07.9**	**-2.6**
comp=Z,42nm,0.8s,mb5.1							
LDF	**La Druitiere**	**52.65**	**21**	*e*P	**P**	**18 05 07.9**	**-2.6**
comp=Z,21nm,0.8s,mb5.1							
LDF	**La Druitiere**	**52.65**	**21**	*e*P	**P**	**18 05 07.9**	**-2.6**
LDF				pmax	pmax		
comp=Z,21nm,0.8s,mb5.1							
SMF	**Signal de Mont**	**52.66**	**26**	*e*P	**P**	**18 05 08.7**	**-1.9**
comp=Z,91nm,1.1s,mb5.3							
SMF	**Signal de Mont**	**52.66**	**26**	*e*P	**P**	**18 05 08.7**	**-1.9**
comp=Z,45n

comp=Z,112nm,1.4s,mb5.6
PII Pisa 53.77 32 P **P 18 05 20.8 +1.9**
PII pmax pmax
comp=Z,112nm,1.4s,mb5.6
BDI Bagni Di Lucca 54.04 32 P **P 18 05 22.5 +1.7**
GSCL Gusciola 54.23 32 P **P 18 05 23.8 +1.6**
ZCCA Zocca 54.44 32 P **P 18 05 26.6 +2.9**
VMG Vicchio 54.48 33 P **P 18 05 25.3 +1.3**
AQU L'Aquila 54.49 35 *eP* **P 18 05 25.2 +1.1**
comp=Z,63nm,1.0s,mb5.5
AQU L'Aquila 54.49 35 *eP* **P 18 05 25.2 +1.1**
AQU pmax pmax
comp=Z,63nm,1.0s,mb5.5
LOMF Lomont 54.52 27 *eP* **P 18 05 25.4 +1.1**
MIDA Miranda 54.56 37 P **P 18 05 26.7 +2.1**
HTR Trewern Hill 54.60 17 *eP* **P 18 05 26.2 +1.3**
HTR Trewern Hill 54.60 17 *eP* **P 18 05 26.2 +1.3**
MEZF Maizieres J'vi 54.61 25 *eP* **P 18 05 22.4 -2.6**
comp=Z,66nm,1.0s,mb5.3
MEZF Maizieres J'vi 54.61 25 *eP* **P 18 05 22.4 -2.6**
comp=Z,66nm,1.0s,mb5.6
NRCA Norcia 54.63 35 P **P 18 05 26.8 +1.7**
CII Carovilli 54.63 37 P **P 18 05 26.9 +1.8**
DCN Croghan 54.68 14⇓ *iP* **P 18 05 27.8 +2.4**
TIP Timpagrande 54.69 40 P **P 18 05 23.1 -2.4**
HAU Haudompre 54.80 26 *eP* **P 18 05 24.0 -2.3**
comp=Z,72nm,0.8s,mb5.4
HAU *eR*
comp=Z,5μm,19.5s
HAU Haudompre 54.80 26 *eP* **P 18 05 24.0 -2.3**
comp=Z,36nm,0.8s,mb5.5
HAU LR LR
comp=Z,5μm,19.5s,MS5.6
HAU Haudompre 54.80 26 *eP* **P 18 05 24.0 -2.3**
HAU pmax pmax
comp=Z,36nm,0.8s,mb5.5
HAU MLR MLR
comp=Z,5μm,19.5s,MS5.6
DLF Lyons Farm 54.81 14⇓ *iP* **P 18 05 28.7 +2.3**
HINF Hinteralfeld 54.88 27 *eP* **P 18 05 24.2 -2.7**
comp=Z,27nm,0.9s,mb5.0
HINF Hinteralfeld 54.88 27 *eP* **P 18 05 24.2 -2.7**
comp=Z,14nm,0.9s,mb5.0
HINF Hinteralfeld 54.88 27 *eP* **P 18 05 24.2 -2.7**
HINF pmax pmax
comp=Z,14nm,0.9s,mb5.0
MOF Molkenrain 55.03 27 *eP* **P 18 05 28.9 +0.9**
SUR Sutherland 55.20 131 P **P 18 05 30.5 +1.3**
comp=Z,211nm,0.8s,mb6.2,SNR=8.6
SUR Sutherland 55.20 131 P **P 18 05 29.7 +0.4**
comp=Z,26nm,0.8s,mb5.3,baz=291,slow=6.4,SNR=15
SUR Sutherland 55.20 131 *eP* **P 18 05 29.8 +0.6**
comp=Z,22nm,0.8s,mb5.2
SUR LR LR
comp=Z,6μm,19.0s,MS5.7
DMUB Kingscourt 55.28 14⇓ *iP* **P 18 05 27.2 -2.6**
ECH Echery 55.31 27 *eP* **P 18 05 28.9 -1.1**
BAIF Baives 55.49 23 *eP* **P 18 05 28.9 -2.4**
comp=Z,50nm,0.9s,mb5.2
BAIF Baives 55.49 23 *eP* **P 18 05 28.9 -2.4**
comp=Z,25nm,0.9s,mb5.2
BAIF Baives 55.49 23 *eP* **P 18 05 28.9 -2.4**
BAIF pmax pmax
comp=Z,25nm,0.9s,mb5.2
CDF Champ du Feu 55.51 26 *eP* **P 18 05 28.7 -2.8**
comp=Z,79nm,1.2s,mb5.3
CDF Champ du Feu 55.51 26 *eP* **P 18 05 28.7 -2.8**
comp=Z,39nm,1.2s,mb5.3
CDF Champ du Feu 55.51 26 *eP* **P 18 05 28.7 -2.8**
CDF pmax pmax
comp=Z,39nm,1.2s,mb5.3
HOPE Hope Point 55.54 187 P **P 18 05 41.2 +10**
comp=Z,240nm,1.3s,mb6.1,SNR=5.0
HOPE Hope Point 55.54 187 PFAKE 18 05 40.0 +8.4
HOPE LR LR
comp=Z,4μm,20.0s,MS5.5
DAVOX Davos 55.55 29 P **P 18 05 29.9 -1.8**
comp=Z,22nm,0.9s,mb5.2,baz=229,slow=7.6,SNR=14
DAVOX LR LR 18 28 23.4
comp=Z,4μm,19.4s,MS5.5,baz=237,slow=35
DOU Dourbes 55.67 23 P **P 18 05 30.0 -2.6**
DOU AP pP 18 05 34.6 -1.2
GIVF Givet 55.77 24 *eP* **P 18 05 30.3 -3.0**
DAVA Damuels 55.90 29⇑ *iP* **P 18 05 32.9 -1.4**
comp=Z,62nm,1.5s,mb5.4
DAVA Damuels 55.90 29⇑ *iP* **P 18 05 32.9 -1.4**
comp=Z,62nm,1.5s,mb5.4
BFO Black Forest 55.92 27 *eP* **P 18 05 34.1 -0.3**
comp=Z,42nm,1.3s,mb5.3
BFO *eS* **S 18 13 28.9 +6.7**
BFO Black Forest 55.92 27 P **P 18 05 34.7 +0.3**
comp=Z,107nm,1.0s,mb5.8,SNR=5.5
BFO Black Forest 55.92 27 *eP* **P 18 05 34.1 -0.3**
BFO *eS* **S 18 13 28.9 +6.7**
BFO pmax pmax
comp=Z,42nm,1.3s,mb5.3
CTI Castel Tesino 55.93 31 P **P 18 05 33.9 -0.6**
comp=Z,37nm,0.7s,mb5.5
CTI Castel Tesino 55.93 31 P **P 18 05 33.9 -0.6**
CTI pmax pmax
comp=Z,37nm,0.7s,mb5.5
LSZ Lusaka 55.97 109 LR LR 18 25 03.4
comp=Z,4μm,20.0s,MS5.5,baz=284,slow=31
LSZ Lusaka 55.97 109 *eP* **P 18 05 34.5 -0.2**
comp=Z,28nm,0.9s,mb5.3
LSZ LR LR
comp=Z,5μm,22.0s,MS5.5
LSZ Lusaka 55.97 109 *eP* **P 18 05 34.6 -0.2**
LSZ pmax pmax
comp=Z,27nm,0.9s,mb5.3
LSZ MLR MLR
comp=Z,5μm,22.0s,MS5.5
WLF Walferdange 55.97 25 *eP* **P 18 05 35.6 +0.8**
comp=Z,80nm,1.6s,mb5.5
WLF *eS* **S 18 13 32.6 +10**
WLF Walferdange 55.97 25 P **P 18 05 34.5 -0.2**
WLF AP pP 18 05 42.1 +4.1
LANF Langenberg 56.17 26 *eP* **P 18 05 37.3 +1.1**
LBTB Lobatse 56.19 121 *eP* **P 18 05 35.9 -0.4**
comp=Z,96nm,1.5s,mb5.6
LBTB LR LR
comp=Z,6μm,19.0s,MS5.7
LBTB Lobatse 56.19 121 *eP* **P 18 05 35.9 -0.4**
LBTB pmax pmax
comp=Z,97nm,1.5s,mb5.6
LBTB MLR MLR
comp=Z,6μm,19.0s,MS5.7
RUP Ruppelstein 56.38 25 *eP* **P 18 05 38.6 +0.9**
SQTA Sankt Quirin 56.51 30⇑ *iP* **P 18 05 37.1 -1.5**
comp=Z,36nm,1.0s,mb5.4,SNR=19
SQTA Sankt Quirin 56.51 30⇑ *iP* **P 18 05 37.1 -1.5**
SQTA pmax pmax
comp=Z,36nm,1.0s,mb5.4
MOTA Moosalm 56.54 30⇑ *iP* **P 18 05 37.6 -1.2**
comp=Z,23nm,0.9s,mb5.2,SNR=21
MOTA Moosalm 56.54 30⇑ *iP* **P 18 05 37.6 -1.2**
comp=Z,23nm,0.9s,mb5.2
MOTA Moosalm 56.54 30⇑ *iP* **P 18 05 37.6 -1.2**
MOTA pmax pmax
comp=Z,23nm,0.9s,mb5.2
MEM Membach 56.64 24 P **P 18 05 40.2 +0.7**
STU Stuttgart 56.64 27 *eP* **P 18 05 40.5 +1.0**
STU *eS* **S 18 13 40.7 +9.0**
SEST Monte Rota 56.69 31 P **P 18 05 41.0 +1.1**
ABH Alteburg 56.73 25 *eP* **P 18 05 40.1 -0.1**
HGN Heimansgroeve 56.73 24 *eP* **P 18 05 39.6 -0.6**
comp=Z,37nm,0.9s,mb5.4
HGN *eS* PKiKP 18 13 00.4 -3.7
CKE Keswick 56.87 16 *eP* **P 18 05 42.9 +1.8**
CKE Keswick 56.87 16 *eP* **P 18 05 42.9 +1.8**
BBO1 Bothel 56.96 16 *eP* **P 18 05 42.5 +0.7**
BBO1 Bothel 56.96 16 *eP* **P 18 05 42.5 +0.7**
TOD Tromm 57.07 26 *eP* **P 18 05 42.3 -0.3**
VOY Vojsko 57.10 32 *eP* **P 18 05 42.5 -0.3**
VOY *e* pP 18 05 44.2 -1.8
VOY *e* 18 05 49.2
VOY *e* 18 06 10.3
VOY *e* 18 07 53.4
BDL Dobcross Hall 57.10 16 *eP* **P 18 05 44.8 +1.9**
BDL Dobcross Hall 57.10 16 *eP* **P 18 05 44.8 +1.9**
CADS Cadrg 57.14 32 *eP* **P 18 05 44.2 +1.2**
CADS *eS* **S 18 13 43.9 +5.6**
BOSA Boshof 57.15 125 P **P 18 05 41.4 -1.8**
comp=Z,18nm,0.8s,mb5.1,baz=293,slow=6.6,SNR=22
BOSA LR LR 18 25 35.3
comp=Z,8μm,19.9s,MS5.8,baz=278,slow=31
BOSA Boshof 57.15 125 *eP* **P 18 05 41.2 -1.9**
comp=Z,15nm,0.7s,mb5.1
BOSA LR LR
comp=Z,8μm,20.0s,MS5.8
BOSA Boshof 57.15 125 *eP* **P 18 05 41.2 -1.9**
BOSA pmax pmax
comp=Z,15nm,0.7s,mb5.1
BOSA MLR MLR
comp=Z,8μm,20.0s,MS5.8
FUR Furstenfeldbru 57.19 29 *eP* **P 18 05 42.3 -1.1**
comp=Z,55nm,0.9s,mb5.6
FUR Furstenfeldbru 57.19 29 *eP* **P 18 05 42.3 -1.1**
FUR pmax pmax
comp=Z,55nm,0.9s,mb5.6
TNS Taunus Mts 57.37 26 *eP* **P 18 05 43.8 -0.9**
comp=Z,38nm,0.8s,mb5.5
TNS *eS* **S 18 13 54.0 +13**
TNS Taunus Mts 57.37 26 *eP* **P 18 05 43.8 -0.9**
TNS *eS* 18 13 54.0
TNS pmax pmax
comp=Z,38nm,0.8s,mb5.5
LJU Ljubljana 57.45 33 *eP* **P 18 05 46.9 +1.6**
VISS Visnje 57.46 33 *eP* **P 18 05 46.8 +1.4**
ESK Eskdalemuir 57.49 15 *eP* **P 18 05 47.4 +1.9**
ESK AMb AMB 18 05 55.0
comp=Z,83nm,1.4s,mb5.6
ESK Eskdalemuir 57.49 15 *eP* **P 18 05 47.4 +1.9**
ESK AMb AMB 18 05 55.0
comp=Z,83nm,1.4s,mb5.6
ESK Eskdalemuir 57.49 15 *eP* **P 18 05 46.5 +0.9**
comp=Z,92nm,1.4s,mb5.6
ESK LR LR
comp=Z,5μm,19.0s,MS5.7
ESK Eskdalemuir 57.49 15 *eP* **P 18 05 46.5 +1.0**
ESK pmax pmax
comp=Z,93nm,1.4s,mb5.6
ESK MLR MLR
comp=Z,5μm,19.0s,MS5.7
KBA Koelnbreinsper 57.49 31⇑ *iP* **P 18 05 46.8 +1.2**
comp=Z,23nm,1.0s,mb5.2,SNR=7.2
KBA Koelnbreinsper 57.49 31⇑ *iP* **P 18 05 46.8 +1.2**
KBA pmax pmax
comp=Z,23nm,1.0s,mb5.2
EKA Eskdalemuir Ar 57.51 15 P **P 18 05 44.6 -1.1**
comp=Z,14nm,0.8s,mb5.0,baz=210,slow=7.7,SNR=21
PLCA Paso Flores 57.73 219 P **P 18 05 47.1 -0.1**
comp=Z,8.3nm,1.2s,mb4.7,baz=109,slow=7.9,SNR=4.6
PLCA LR LR 18 31 33.8
comp=Z,5μm,18.4s,MS5.6,baz=51,slow=37
BUG Bochum--Univer 57.79 24 *eP* **P 18 05 47.4 -0.3**
comp=Z,29nm,1.0s,mb5.3
BUG *eS* **S 18 14 00.2 +13**
EAU Auchinoon 57.89 15 *eP* **P 18 05 50.7 +2.3**
EAU AMb AMB 18 05 58.9
comp=Z,198nm,1.6s,mb5.9
EAU Auchinoon 57.89 15 *eP* **P 18 05 50.7 +2.3**
EAU AMb AMB 18 05 58.9
comp=Z,198nm,1.6s,mb5.9
WES Weston 57.93 322 PFAKE 18 06 00.0 +11
WES LR LR
comp=Z,2μm,19.0s,MS5.3
EBL Broad Law 57.93 15 *eP* **P 18 05 49.2 +0.5**
EBL AMb AMB 18 05 58.9
comp=Z,107nm,1.6s,mb5.6
EBL Broad Law 57.93 15 *eP* **P 18 05 49.2 +0.5**
EBL AMb AMB 18 05 58.9
comp=Z,107nm,1.6s,mb5.6
EAB Aberfoyle 57.98 14 *eP* **P 18 05 50.2 +1.2**
EAB Aberfoyle 57.98 14 *eP* **P 18 05 50.2 +1.2**
WTSB Winterswijk 58.00 23 *eP* **P 18 05 48.5 -0.6**
comp=Z,46nm,1.2s,mb5.4
SISC Sisak 58.10 34 *iP* **P 18 05 51.9 +2.0**
PERS Pernice 58.14 32 *eP* **P 18 05 50.9 +0.8**
PERS *ePP* PP 18 07 59.7 +0.9
PERS *ePPP* 18 09 29.9
HRV Harvard--Oak R 58.15 322 *eP* **P 18 05 48.4 -1.8**
comp=Z,95nm,1.3s,mb5.7
HRV LR LR
comp=Z,3μm,20.0s,MS5.5
HRV Harvard--Oak R 58.15 322 *eP* **P 18 05 48.4 -1.8**
HRV pmax pmax
comp=Z,95nm,1.3s,mb5.7
HRV MLR MLR
comp=Z,3μm,20.0s,MS5.5
GRA1 Grafenberg Arr 58.23 28 *eP* **P 18 05 50.0 -0.7**
comp=Z,35nm,0.9s,mb5.4
GRA1 *epP* pP 18 05 51.8 -2.2
GRA1 *ePP* PP 18 08 03.4 +3.8
GRA1 *ePPP* 18 09 26.9
GRA1 *eS* **S 18 14 01.7 +9.1**
GRA1 LR LR
comp=Z,3μm,19.8s,MS5.5
GRF Grafenberg Arr 58.23 28 *eP* **P 18 05 50.0 -0.7**
comp=Z,35nm,0.9s,mb5.4
GRF *epP* pP 18 05 51.8 -2.2
GRF *ePP* PP 18 08 03.4 +3.8
GRF *ePPP* 18 09 26.9
GRF *eS* **S 18 14 01.7 +9.1**
GRF *eL* 18 31 04.6
comp=Z,3μm,19.8s
GRF Grafenberg Arr 58.23 28 *eP* **P 18 05 50.0 -0.7**
GRF *e*PP* pP 18 05 51.8 -2.2
GRF *e* 18 08 03.4
GRF *ePPP* 18 09 26.9
GRF *eS* **S 18 14 01.7 +9.1**
GRF pmax pmax
comp=Z,35nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,3μm,19.8s,MS5.5
MOA Molln 58.47 31⇑ *iP* **P 18 05 50.6 -1.9**
comp=Z,31nm,0.7s,mb5.4,SNR=32
UBBA Unterbreizbach 58.48 26 *eS* **S 18 14 08.1 +12**
WET Wettzell 58.64 29 *eP* **P 18 05 52.2 -1.4**
comp=Z,22nm,0.9s,mb5.2
WET *eS* **S 18 14 08.3 +10**
WET Wettzell 58.64 29 *eP* **P 18 05 52.2 -1.4**
WET *eS* **S 18 14 08.3 +10**
WET pmax pmax
comp=Z,22nm,0.9s,mb5.2
IBBN Ibbenburen 58.64 24 *eP* **P 18 05 54.0 +0.4**
comp=Z,47nm,0.8s,mb5.6
ROTZ Rotzenmuhle 58.74 28 *eP* **P 18 05 52.9 -1.4**
comp=Z,23nm,0.9s,mb5.2
ROTZ *eS* **S 18 14 10.1 +11**
EFI East Falkland 58.81 203 PFAKE 18 06 10.0 +15
EFI LR LR
comp=Z,5μm,20.0s,MS5.6
GEC2 GERESS Array S 58.84 30 *eP* **P 18 05 53.7 -1.3**
comp=Z,26nm,0.9s,mb5.3
GEC2 *eS* **S 18 14 09.5 +9.0**
GEC2 GERESS Array S 58.84 30 *eP* **P 18 05 53.7 -1.3**
GEC2 *eS* **S 18 14 09.5 +9.0**
GEC2 pmax pmax
comp=Z,26nm,0.9s,mb5.3
GERES GERESS Array B 58.84 30 P **P 18 05 53.6 -1.4**
comp=Z,19nm,0.8s,mb5.2,baz=222,slow=6.8,SNR=50
GERES PP PP 18 08 06.4 +1.3
comp=Z,4.2nm,0.8s,baz=219,slow=10,SNR=4.2
GERES LR LR 18 30 59.9
comp=Z,3μm,19.7s,MS5.5,baz=237,slow=36
GERES GERESS Array B 58.84 30 P **P 18 05 53.6 -1.4**
GERES 18 08 06.4
PAL Palisades 58.86 319 *eP* **P 18 05 57.4 +2.3**
comp=Z,35nm,1.0s,mb5.3
PAL Palisades 58.86 319 *eP* **P 18 05 57.4 +2.3**
PAL pmax pmax
comp=Z,35nm,1.0s,mb5.3
KHC Kasperske Hory 58.97 29 *eP* **P 18 05 54.2 -1.7**
KHC *eS* **S 18 14 05.2 +3.0**
KHC AMS AMS 18 36 30.0
comp=Z,4μm,10.7s
KHC Kasperske Hory 58.97 29⇑ *iP* **P 18 05 54.1 -1.8**
MOX Moxa 59.08 27 *eP* **P 18 05 55.5 -1.2**
comp=Z,21nm,0.9s,mb5.2
MOX *eS* **S 18 14 15.3 +12**
MOX Moxa 59.08 27 *eP* **P 18 05 55.6 -1.1**
comp=Z,74nm,1.8s,mb5.4
MOX
comp=Z,3μm,17.0s
MOX Moxa 59.08 27 *eP* **P 18 05 55.6 -1.1**
MOX pmax pmax
comp=Z,74nm,1.8s,mb5.4
MOX MLR MLR
comp=Z,3μm,17.0s,MS5.5
RRR Rubha Reidh 59.16 12 *eP* **P 18 05 58.5 +1.3**
RRR Rubha Reidh 59.16 12 *eP* **P 18 05 58.5 +1.3**
NKC Novy Kostel 59.17 28 *eS* **S 18 14 09.0 +4.1**
NKC AMS AMS 18 37 00.0
comp=Z,3μm,14.9s
JTS JuntasAbangare 59.23 281 LR LR 18 32 01.1
comp=Z,684nm,19.0s,MS4.8,baz=271,slow=37
JTS JuntasAbangare 59.23 281 PFAKE 18 06 10.0 +12
JTS LR LR
comp=Z,2μm,21.0s,MS5.2
HNH Hanover 59.24 322 *eP* **P 18 05 56.7 -1.1**
comp=Z,5.3nm,1.2s,mb4.5
HNH *e* pP 18 06 00.8 -0.2
TANN Tannenbergstha 59.31 28 *eP* **P 18 05 57.2 -1.0**
comp=Z,28nm,0.9s,mb5.3
TANN *eS* **S 18 14 18.9 +12**
LBNH Lisbon 59.32 323 *eP* **P 18 06 00.0 +1.7**
comp=Z,16nm,1.0s,mb5.0
LBNH LR LR
comp=Z,6μm,20.0s,MS5.7
LBNH Lisbon 59.32 323 *eP* **P 18 06 00.0 +1.7**
LBNH pmax pmax
comp=Z,16nm,1.0s,mb5.0
LBNH MLR MLR
comp=Z,6μm,20.0s,MS5.7
CLZ Clausthal 59.38 25 *eP* **P 18 05 58.7 -0.1**
comp=Z,35nm,1.7s,mb5.1
CLZ *eS* **S 18 14 19.9 +12**
CLZ Clausthal 59.38 25 *eP* **P 18 05 58.7 -0.1**
CLZ *eS* **S 18 14 19.9 +12**
CLZ pmax pmax
comp=Z,35nm,1.7s,mb5.1
DWPF Disney 59.41 302 PFAKE 18 06 10.0 +11
DWPF LR LR
comp=Z,4μm,20.0s,MS5.6
DIVS Divcibare 59.42 37 *iP* **P 18 05 58.9 -0.1**
MCD Coleburn Disti 59.49 14 *eP* **P 18 06 00.9 +1.3**
MCD Coleburn Disti 59.49 14 *eP* **P 18 06 00.9 +1.3**
GRUS Gruza 59.74 38 *iP* **P 18 06 02.7 +1.5**
PKSM Moragy 59.82 34 P **P 18 06 01.2 -0.5**
PKSM ⇑P pP 18 06 05.9 +0.9
CBN Corbin 59.92 315 PFAKE 18 06 10.0 +7.5
CBN LR LR
comp=Z,4μm,19.0s,MS5.5
PRU Pruhonice 60.01 29 *eP* **P 18 06 01.8 -1.3**
PRU *eS* **S 18 14 19.4 +3.8**
PRU AMS AMS 18 38 20.0
comp=Z,3μm,15.0s
NHSC New Hope 60.01 308 PFAKE 18 06 10.0 +6.9
NHSC LR LR
comp=Z,3μm,20.0s,MS5.5
TREC Trest 60.02 30 *eP* **P 18 06 02.0 -1.2**
BEO Belgrade 60.09 37 *iP* **P 18 06 04.5 +0.9**
ZST Bratislava 60.16 32 *eP* **P 18 06 03.3 -0.8**
ZST *epP* pP 18 06 05.5 -1.9
ZST *ePP* PP 18 08 15.8 -0.9
CLL Collm 60.17 27 *eP* **P 18 06 04.3 +0.1**
comp=Z,16nm,0.6s,mb5.2
CLL *ePP* PP 18 08 15.4 -1.4
CLL *ePPP* 18 09 45.1
CLL *eS* **S 18 14 19.1 +1.4**
CLL *eSS* SS 18 18 16.0 +1.3
CLL *eSSS* 18 21 10.8
CLL *eLR* LR 18 24 11.9
CLL *ePKKPdf* PKKPdf 18 27 07.9 -0.5
CLL *eL* 18 29 34.5
comp=Z,3μm,18.0s
CLL Collm 60.17 27 *iP* **P 18 06 05.4 +1.2**
comp=Z,22nm,1.1s,mb5.1
CLL *ix* x 18 06 11.8
CLL *ex* x 18 06 28.0
CLL *ePP* PP 18 08 15.0 -1.8
CLL *eS* **S 18 14 19.0 +1.3**
comp=N,3μm,21.0s
CLL *eS* **S 18 14 19.0 +1.3**
comp=E,3μm,18.7s
CLL *eSSS* 18 20 54.0
CLL Collm 60.17 27 *iP* **P 18 06 05.4 +1.2**
comp=E,22nm,1.1s,mb5.1
CLL *i* 18 06 11.8
CLL *eS* **S 18 14 19.0 +1.3**
CLL Collm 60.17 27 *iP* **P 18 06 05.4 +1.2**
CLL *i* 18 06 11.8
CLL *eS* **S 18 14 19.0 +1.3**
CLL pmax pmax
comp=Z,22nm,1.1s,mb5.1
BRG Berggiesshubel 60.31 28 *eP* **P 18 06 04.3 -0.8**
comp=Z,19nm,0.9s,mb5.1
BRG *eS* **S 18 14 32.2 +13**
BRG Berggiesshubel 60.31 28 *eP* **P 18 06 05.9 +0.7**
comp=Z,6.7nm,0.8s,mb4.7
BRG *i* pP 18 06 08.2 -0.2
BRG *ePcP* PcP 18 06 53.2 +2.9
BRG PP PP 18 08 18.0 -0.1
BRG *e* 18 08 21.0
BRG S **S 18 14 17.0 -2.5**
BRG *ePKKP* 18 27 11.1
BRG *eSKKP* 18 30 24.2
BRG Berggiesshubel 60.31 28 *eP* **P 18 06 05.9 +0.8**
BRG *i* pP 18 06 08.2 -0.2
BRG *e* 18 06 53.2
BRG 18 08 18.0
BRG S **S 18 14 17.0 -2.5**
BRG pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BRG Berggiesshubel 60.31 28 *eP* **P 18 06 05.9 +0.7**
comp=Z,6.7nm,0.8s,mb4.7
BRG *i* pP 18 06 08.2 -0.2
comp=Z,12nm,0.9s
BRG *ePCP* PcP 18 06 53.2 +2.9
comp=Z,16nm,1.5s
BRG PP PP 18 08 18.0 -0.1
BRG *e* 18 08 21.0
comp=Z,36nm,2.0s
BRG S **S 18 14 17.0 -2.5**
BRG *ePKKP* 18 27 11.1
comp=Z,13nm,1.9s
BRG *eSKKP* 18 30 24.2
BRG *ePKPPKP* 18 35 23.3
comp=Z,1.3nm,1.0s
BRG
comp=N,947nm,14.6s
BRG
comp=E,1μm,16.6s
BRG
comp=Z,3μm,15.9s
PVCC Panska Ves 60.38 29 *eP* **P 18 06 04.8 -0.8**
PVCC AMS AMS 18 38 50.0
comp=Z,2μm,14.3s
BOLS Boljevac 60.48 38⇑ *iP* **P 18 06 06.7 +0.5**
MMB Musomiste 60.49 41 *eP* **P 18 06 06.8 +0.4**
SRO1 Iza 60.51 33 *eP* **P 18 06 06.0 -0.5**
SRO1 *epP* pP 18 06 08.6 -1.1
SMOL Smolenice 60.53 32 *eP* **P 18 06 07.5 +0.9**
NCB Newcomb 60.57 322 PFAKE 18 06 20.0 +13
NCB LR LR
comp=Z,4μm,21.0s,MS5.5
SRO Srobarova 60.58 33 *eP* **P 18 06 07.8 +0.8**
VRAC Vranov 60.59 31 P **P 18 06 04.8 -2.2**
comp=Z,19nm,0.9s,mb5.2,baz=223,slow=5.5,SNR=13
VRAC LR LR 18 34 00.1
comp=Z,3μm,19.1s,MS5.5,baz=234,slow=38
VRAC Vranov 60.59 31 P **P 18 06 06.0 -1.1**
VRAC Vranov 60.59 31 ⇑P **P 18 06 06.6 -0.5**
VTS Vitosha 60.64 40 *eP* **P 18 06 08.0 +0.6**
VTS Vitosha 60.64 40 P **P 18 06 09.9 +2.5**
BINY Binghamton 60.80 319 PFAKE 18 06 20.0 +11
BINY LR LR
comp=Z,5μm,22.0s,MS5.6
BSEG Bad Segeberg 60.89 24 *eP* **P 18 06 08.5 -0.6**
comp=Z,70nm,0.9s,mb5.8
BSEG *eS* **S 18 14 37.6 +11**
UPC Upice 61.06 29 *eP* **P 18 06 08.6 -1.7**
DPC Dobruska-Polom 61.11 30 *eP* **P 18 06 09.3 -1.3**
DPC AMS AMS 18 37 50.0
comp=Z,4μm,15.2s
RZN Rozhen 61.19 42 *eP* **P 18 06 11.0 -0.1**
BZS Buzias 61.21 36 ⇑P **P 18 06 12.6 +1.3**
BZS Buzias 61.21 36 P **P 18 06 11.1 -0.2**
PGB Panagyurishte 61.23 40 *eP* **P 18 06 11.5 +0.1**
DJES Djerdap 61.24 38 *iP* **P 18 06 11.4 0.0**
VYHS Vyhne 61.27 32 *eP* **P 18 06 10.4 -1.2**
VYHS *ePP* PP 18 08 26.6 +0.1
JSC Jenkinsville 61.27 309 *eP* **P 18 06 13.7 +2.0**

RUE Ruedersdorf 61.33 27 *eP* **P 18 06 11.5 -0.6**
RUE Ruedersdorf 61.33 27 *eP* **P 18 06 12.2 +0.2**
comp=Z,66nm,1.0s,mb5.7
MORC Moravsky Berou 61.37 31 *eP* **P 18 06 11.1 -1.3**
comp=Z,23nm,0.8s,mb5.4
MORC *e*PP PP 18 08 26.0 -1.4
MORC Moravsky Berou 61.37 31 ⇓P **P 18 06 12.0 -0.3**
PLD Plovdiv 61.37 41 *eP* **P 18 06 12.0 -0.4**
KSP Ksiaz 61.41 29 *eP* **P 18 06 13.6 +0.9**
KSP *e*S **S 18 14 41.2 +7.6**
KSP Ksiaz 61.41 29 *eP* **P 18 06 12.1 -0.6**
KSP *e*PPP 18 09 58.0
KSP *e*S **S 18 14 38.0 +4.4**
AYVA Ayvalik 61.48 45 *i* P **P 18 06 11.9 -1.2**
PSZ Piszkesteto 61.50 33⇓*eP* **P 18 06 13.0 -0.3**
PSZ Piszkesteto 61.50 33 *eP* **P 18 06 12.5 -0.7**
comp=Z,92nm,0.9s,mb5.9
KDAG Bornova 61.51 46 *i* P **P 18 06 14.4 +1.1**
OKC Ostrava-Krasne 61.71 31 *eP* **P 18 06 13.9 -0.8**
DIM Dimitrovgrad 61.90 41 *eP* **P 18 06 16.0 +0.1**
ELN Prospectdale 61.97 312 *eP* **P 18 06 19.1 +2.7**
FWV Forest Hill 62.15 313 *eP* **P 18 06 19.0 +1.4**
KECS Kecovo 62.15 33 *eP* **P 18 06 16.7 -0.9**
KECS *e*pP pP 18 06 19.6 -1.3
KECS *e*PP PP 18 08 34.1 -0.2
KECS *e* 18 34 15.3
KECS Kecovo 62.15 33 *eP* **P 18 06 16.7 -0.9**
KECS *e* pP 18 06 19.6 -1.3
KECS *e* 18 08 34.1
MCWV Mont Chateau 62.28 315 PFAKE 18 06 30.0 +12
MCWV LR LR
comp=Z,3μm,19.0s,MS5.4
MUD Monsted U'grnd 62.34 21 *i* P **P 18 06 20.8 +1.9**
comp=Z,60nm,1.1s,mb5.6
MUD *i* S **S 18 14 54.8 +10**
MUD
comp=Z,2μm,20.0s
MUD Monsted U'grnd 62.34 21 *i* P **P 18 06 20.8 +1.9**
comp=Z,60nm,1.1s,mb5.6
MUD *i* S **S 18 14 54.8 +10**
SART Tekirdag 62.41 43 *i* P **P 18 06 14.8 -4.6**
NIE Niedzica 62.60 32 *eP* **P 18 06 20.7 +0.1**
BTOK Tokmak 62.61 45 *i* P **P 18 06 20.7 0.0**
OJC Ojcow 62.79 31 *eP* **P 18 06 21.2 -0.7**
OJC *e*S **S 18 15 01.7 +11**
OJC *e*SS SS 18 18 52.5 -3.3
OJC L 18 35 26.7
comp=Z,17nm,19.9s
CRVS Cervenica-Dubn 62.92 33 *e*pP pP 18 06 25.4 -0.6
CRVS *e*PP PP 18 08 30.2 -11
COP Copenhagen 63.00 23 *i* P **P 18 06 23.6 +0.3**
COP *i* S **S 18 15 03.1 +9.5**
COP
comp=Z,1μm,20.0s
COP Copenhagen 63.00 23 *eP* **P 18 06 23.6 +0.3**
COP *i* S **S 18 15 03.1 +9.5**
COP MLR MLR
comp=Z,1μm,20.0s,MS5.1
STHS Stebnicka Huta 63.09 33 *eP* **P 18 06 24.3 +0.4**
MTUR Matau 63.09 38 ⇓P **P 18 06 25.1 +1.2**
MTUR Matau 63.09 38 P **P 18 06 24.1 +0.2**
VOIR 63.19 38 ⇑P **P 18 06 25.8 +1.2**
UZH Uzhgorod 63.23 34*c i* P **P 18 06 24.0 -0.8**
UZH *e*S **S 18 14 59.0 +2.5**
UZH MLR MLR
comp=Z,1μm,12.0s,MS5.2
SCHQ Schefferville 63.30 335 P **P 18 06 23.4 -1.9**
comp=Z,9.8nm,1.0s,mb4.9,baz=138,slow=6.5,SNR=12
SCHQ LR LR 18 30 23.0
comp=Z,3μm,19.1s,MS5.5,baz=136,slow=33
SCHQ Schefferville 63.30 335 *eP* **P 18 06 23.9 -1.4**
comp=Z,54nm,1.5s,mb5.5
KOLS Kolonicke sedl 63.38 33 *eP* **P 18 06 26.7 +0.9**
KOLS *e* 18 06 37.6
KMBO Kilima Mbogo 63.39 92 P **P 18 06 27.8 +1.9**
comp=Z,8.4nm,0.9s,mb4.9,baz=282,slow=3.8,SNR=21
KMBO LR LR 18 31 01.5
comp=Z,5μm,18.5s,MS5.8,baz=259,slow=33
ERPA Erie 63.41 318 PFAKE 18 06 40.0 +14
ERPA LR LR
comp=Z,4μm,21.0s,MS5.6
GKP Gorka Klasztor 63.42 27 *eP* **P 18 06 26.1 0.0**
GKP *e*S **S 18 15 13.0 +14**
BSD Bornholm Skovb 63.62 25 *i* P **P 18 06 28.7 +1.3**
comp=Z,42nm,0.9s,mb5.5
BSD *i* 18 10 24.4
BSD *i* S **S 18 15 14.8 +13**
BSD
comp=Z,3μm,18.0s
BSD Bornholm Skovb 63.62 25 *eP* **P 18 06 28.7 +1.3**
comp=Z,42nm,0.9s,mb5.5
BSD *i* 18 10 24.4
BSD *i* S **S 18 15 14.8 +13**
BSD Bornholm Skovb 63.62 25 *eP* **P 18 06 28.7 +1.3**
BSD *i* 18 10 24.4
BSD *i* S **S 18 15 14.8 +13**
BSD pmax pmax
comp=Z,42nm,0.9s,mb5.5
PRD Provadia 63.64 41 *eP* **P 18 06 26.0 -1.6**
ISP Isparta 63.66 48⇑*i* P **P 18 06 27.8 +0.1**
TEIG Tepich 63.70 292 P **P 18 06 29.6 +1.7**
TEIG LR LR
comp=Z,193nm,22.0s
MYNC Murphy 63.76 309 *eP* **P 18 06 29.2 +0.9**
comp=Z,28nm,0.9s,mb5.3
MYNC Murphy 63.76 309 *eP* **P 18 06 29.2 +0.9**
MYNC pmax pmax
comp=Z,28nm,0.9s,mb5.3
MLR Muntele Rosu 63.77 38 LR LR 18 37 23.9
comp=Z,8μm,18.6s,MS5.9,baz=243,slow=39
MLR Muntele Rosu 63.77 38 P **P 18 06 28.3 -0.1**
MLR Muntele Rosu 63.77 38 P **P 18 06 28.3 -0.1**
BORG Borgarnes 63.92 2 LR LR 18 26 56.1
comp=Z,2μm,19.9s,MS5.2,baz=179,slow=29
BORG Borgarnes 63.92 2 PFAKE 18 06 40.0 +11
BORG LR LR
comp=Z,3μm,22.0s,MS5.4
KWP Kalwaria 64.01 33 *eP* **P 18 06 29.1 -0.8**
KWP L 18 37 43.0
comp=Z,5.8nm,18.2s
SADO Sadowa 64.04 321 P **P 18 06 27.4 -2.8**
comp=Z,7.3nm,1.0s,mb4.7,baz=132,slow=8.6,SNR=2.7
SADO LR LR 18 28 23.4
comp=Z,4μm,20.9s,MS5.5,baz=129,slow=30
PAYG Puerto Ayora 64.19 269 PFAKE 18 06 40.0 +8.9
PAYG LR LR
comp=Z,2μm,21.0s,MS5.3
CPCT Cooper Cave 64.19 309 *eP* **P 18 06 32.5 +1.4**
BER Bergen 64.19 17 *e* **S 18 15 08.3 -0.2**
BER AMS AMS 18 30 17.8
comp=Z,4μm,21.4s,MS5.6
BURAR Bucovina Array 64.37 36 ⇑P **P 18 06 33.3 +1.0**
BURAR Bucovina Array 64.37 36 ⇑P **P 18 06 33.3 +1.0**
PSN Preselentsi 64.37 41 *eP* **P 18 06 32.0 -0.3**
VRI Vrincioaia 64.43 38 P **P 18 06 32.1 -0.6**
WAR Warsaw 64.61 30 *eP* **P 18 06 39.5 +5.6**
WAR *e*S **S 18 15 19.5 +5.9**
HARR Harsova 64.65 40 ⇑P **P 18 06 34.8 +0.7**
EIL Elat 64.68 57 *eP* **P 18 06 33.9 -0.5**
comp=Z,452nm,1.1s
ACSO Alum Creek Sta 64.72 315 *eP* **P 18 06 36.9 +2.3**
comp=Z,23nm,0.9s,mb5.2
ACSO LR LR
comp=Z,2μm,19.0s,MS5.2
LVV L'vov 64.83 33 *i* P **P 18 06 34.4 -0.9**
LVV *e* 18 07 04.4
LVV MLR MLR
comp=Z,2μm,17.0s,MS5.3
LVV L'vov 64.83 33 *i* P **P 18 06 34.4 -0.9**
LVV *e* 18 07 04.4
LVV *e* 18 08 58.4
LVV *i* S **S 18 15 15.0 -1.3**
LVV MLR MLR
comp=Z,2μm,17.0s,MS5.3
TIRR Tirgusor 64.85 40 ⇑P **P 18 06 34.5 -1.0**
KONO Kongsberg 64.92 19 *eP* **P 18 06 28.1 -7.8**
KONO *e*S **S 18 15 18.9 +1.4**
KONO Kongsberg 64.92 19 *eP* **P 18 06 37.0 +1.0**
comp=Z,46nm,1.1s,mb5.4
KONO LR LR
comp=Z,3μm,20.0s,MS5.5
KONO Kongsberg 64.92 19 *eP* **P 18 06 37.0 +1.1**
KONO pmax pmax
comp=Z,46nm,1.1s,mb5.4
KONO MLR MLR
comp=Z,3μm,20.0s,MS5.5
CFR Carcaliu 65.00 39 ⇓P **P 18 06 36.8 +0.4**
HENT Hendek 65.05 45 *i* P **P 18 06 34.0 -2.7**
SWET Sewanee 65.21 309 *eP* **P 18 06 40.7 +2.9**
LRAL Lakeview Retre 65.42 306 PFAKE 18 06 50.0 +11
LRAL LR LR
comp=Z,3μm,20.0s,MS5.5
SGKT Sivrigoynuk 65.77 45 *i* P **P 18 06 43.3 +1.8**
AAM Ann Arbor 65.98 317 PFAKE 18 06 50.0 +7.2
AAM LR LR
comp=Z,3μm,21.0s,MS5.4
ANTO Ankara 66.05 46 *eP* **P 18 06 43.0 -0.2**
comp=Z,62nm,0.8s,mb5.7
ANTO LR LR
comp=Z,6μm,20.0s,MS5.8
ANTO Ankara 66.05 46 *eP* **P 18 06 43.0 -0.2**
ANTO pmax pmax
comp=Z,62nm,0.8s,mb5.7
ANTO MLR MLR
comp=Z,6μm,20.0s,MS5.8
KIS Kishinev 66.23 38 *eP* **P 18 06 43.0 -1.4**
KIS *e* 18 09 08.0
KIS *e*PPP 18 10 38.0
KIS *e* 18 16 30.0
KIS MLR MLR
comp=N,3μm,20.0s,MS5.6
KIS MLR MLR
comp=E,2μm,20.0s,MS5.6
KIS MLR MLR
comp=Z,4μm,20.0s,MS5.6
KIS MLR MLR
comp=Z,3μm,20.0s
NAO01 NORSAR Array S 66.25 19 PFAKE 18 07 00.0 +15
NAO01 LR LR
comp=Z,5μm,21.0s,MS5.7
WCI Wyandotte Cave 66.43 312 PFAKE 18 07 00.0 +14
WCI LR LR
comp=Z,5μm,22.0s,MS5.7
NB2 NORSAR Subarra 66.50 19 P **P 18 06 45.0 -1.1**
comp=Z,55nm,1.4s,mb5.4,baz=221,slow=6.5
NB2 NORSAR Subarra 66.50 19 P **P 18 06 45.0 -1.1**
NB2 pmax pmax
comp=Z,55nm,1.4s,mb5.4
NOA NORSAR Array B 66.50 19 P **P 18 06 45.2 -0.9**
comp=Z,14nm,0.8s,mb5.0,baz=222,slow=6.3,SNR=32
NOA LR LR 18 36 12.6
comp=Z,3μm,18.6s,MS5.5,baz=245,slow=36
BR131 Keskin Array S 66.61 47 *eP* **P 18 06 45.8 -1.0**
comp=Z,44nm,0.8s,mb5.5
BR131 LR LR
comp=Z,4μm,21.0s,MS5.6
BRTR Keskin Array B 66.61 47 P **P 18 06 46.0 -0.8**
comp=Z,60nm,0.8s,mb5.7,baz=236,slow=4.6,SNR=78
HFS Hagfors 66.67 20 LR LR 18 32 03.0
comp=Z,3μm,21.4s,MS5.5,baz=229,slow=32
SUW Suwalki 66.69 29 *eP* **P 18 06 46.9 -0.4**
SUW *e*S S 18 15 31.0 -8.0
SUW L 18 30 20.1
comp=Z,3.1nm,28.3s
SUW Suwalki 66.69 29 *eP* **P 18 06 46.6 -0.7**
comp=Z,189nm,0.9s,mb6.1
SUW Suwalki 66.69 29 *eP* **P 18 06 46.9 -0.4**
SUW *e*S S 18 15 31.0 -8.0
SUW Suwalki 66.69 29 *eP* **P 18 06 46.7 -0.6**
SUW pmax pmax
comp=Z,150nm,0.9s,mb6.0
SUW Suwalki 66.69 29 *eP* **P 18 06 46.9 -0.4**
SUW *e*S S 18 15 31.0 -8.0
ELDT Eldivan 66.72 46 *i* P **P 18 06 45.5 -2.0**
PLAL Pickwick Lake 66.82 308 PFAKE 18 07 00.0 +12
PLAL LR LR
comp=Z,2μm,22.0s,MS5.3
WVT Waverly 66.96 309 PFAKE 18 07 00.0 +11
WVT LR LR
comp=Z,3μm,19.0s,MS5.5
COBT Iskenderun 67.57 51 *i* P **P 18 06 54.4 +1.5**
CTKT Corum 67.74 46 *i* P **P 18 06 54.9 +0.9**
OXF Oxford 67.75 307 PFAKE 18 07 10.0 +16
OXF LR LR
comp=Z,3μm,22.0s,MS5.4
BOYT Boyabat 68.08 45 *i* P **P 18 06 54.1 -2.0**
AKASG Malin Array Be 68.16 34 P **P 18 06 55.1 -1.5**
comp=Z,142nm,0.7s,mb6.1,baz=240,slow=6.6,SNR=88
SFJD Kangerlussuaq 68.29 350 P **P 18 06 56.9 -0.5**
comp=Z,9.9nm,0.8s,mb4.9,baz=159,slow=9.2,SNR=4.4
SFJD LR LR 18 29 21.2
comp=Z,2μm,19.3s,MS5.4,baz=141,slow=29
SFJD Kangerlussuaq 68.29 350 *i* P **P 18 07 00.1 +2.6**
comp=Z,16nm,0.9s,mb5.1
SFJD *i* S S 18 15 56.8 -1.5
SFJD
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 68.29 350 *eP* **P 18 06 56.8 -0.7**
SFJD *i* S S 18 15 56.8 -1.5
SFJD LR LR
comp=Z,2μm,19.0s,MS5.3
SFJD Kangerlussuaq 68.29 350 *i* P **P 18 07 00.1 +2.6**
SFJD *i* S S 18 15 56.8 -1.5
SFJD pmax pmax
comp=Z,16nm,0.9s,mb5.0
SFJD MLR MLR
comp=Z,2μm,19.0s,MS5.3
SIUC Southern Illin 68.48 311 *eP* **P 18 07 00.2 +1.6**
SIM Simferopol' 68.78 41 *eP* **P 18 07 07.0 +6.5**
SIM pmax pmax
comp=Z,200nm,9.3s
SIM MLR MLR
comp=Z,2μm,16.0s,MS5.5
GZT Gaziantep 68.81 50 *i* P **P 18 07 00.7 0.0**
MNK Minsk 69.26 30 *eP* **P 18 07 01.0 -2.5**
NSS Namsos 69.36 17 *e*S S 18 16 13.9 +2.9
NSS AMS AMS 18 32 48.7
comp=Z,3μm,16.9s,MS5.6
FVM French Village 69.47 311 P **P 18 07 03.2 -1.6**
comp=Z,13nm,0.9s,mb4.9
FVM French Village 69.47 311 P **P 18 07 03.2 -1.6**
FVM pmax pmax
comp=Z,13nm,0.9s,mb4.9
SCO Scoresbysund 69.65 1 *i* P **P 18 07 08.2 +2.3**
comp=Z,7.4nm,0.8s,mb4.7
SCO Scoresbysund 69.65 1 *i* P **P 18 07 08.2 +2.3**
SCO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MALT Malatya 69.73 49 *eP* **P 18 07 05.2 -1.2**
comp=Z,80nm,0.7s,mb5.8
MALT Malatya 69.73 49 P **P 18 07 06.2 -0.2**
CCM Cathedral Cave 70.11 310 PFAKE 18 07 20.0 +11
CCM LR LR
comp=Z,3μm,20.0s,MS5.5
UALR University of 70.16 307 *eP* **P 18 07 10.7 +1.6**
comp=Z,36nm,1.1s,mb5.2
ELZG Elazig 70.20 49 *i* P **P 18 07 09.0 -0.3**
VSU Vasula 70.80 26⇑*eP* **P 18 07 13.8 +0.8**
KELT Kelkit 70.85 48 *i* P **P 18 07 14.6 +1.3**
ANN Anapa 70.94 42 *eP* **P 18 07 13.1 -0.7**
ANN *e**PP pP 18 07 18.4 +1.3
ANN *e*S S 18 16 27.4 -2.1
ANN *e*SS SS 18 20 56.8 -5.3
ANN pmax pmax
comp=Z,55nm,0.7s,mb5.6
ANN MLR MLR
comp=N,966nm,22.0s,MS5.2
ANN MLR MLR
comp=E,995nm,22.0s,MS5.2
ANN MLR MLR
comp=Z,2μm,22.0s,MS5.4
PMSA Palmer Station 70.98 196 PFAKE 18 07 20.0 +5.9
PMSA LR LR
comp=Z,2μm,21.0s,MS5.4
JMIC Jan Mayen 71.03 6 AMS AMS 18 32 19.9
comp=Z,2μm,18.7s,MS5.5
JMIC Jan Mayen 71.03 6 LR LR 18 32 02.0
comp=Z,3μm,18.3s,MS5.5,baz=10,slow=30
MIAR Mount Ida 71.10 306 P **P 18 07 15.6 +0.8**
comp=Z,7.1nm,0.9s,mb4.6
MIAR LR LR
comp=Z,1μm,20.0s,MS5.1
MIAR Mount Ida 71.10 306 P **P 18 07 15.6 +0.8**
MIAR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MIAR MLR MLR
comp=Z,1μm,20.0s,MS5.1
NATX Nacogdoches 71.43 303 PFAKE 18 07 30.0 +13
NATX LR LR
comp=Z,4μm,20.0s,MS5.7
HKT Hockley 72.09 301 PFAKE 18 07 30.0 +9.2
HKT LR LR
comp=Z,3μm,21.0s,MS5.6
SUMG Summit 72.12 356 *eP* **P 18 07 22.2 +1.3**
comp=Z,25nm,0.9s,mb5.2
SOC Sochi 72.14 44 *eP* **P 18 07 23.6 +2.6**
SOC *e* 18 07 30.2
SOC *e*S S 18 16 44.2 +0.9
SOC *e*SSS 18 24 22.0
SOC pmax pmax
comp=Z,58nm,0.9s,mb5.5
SOC pmax pmax
comp=Z,157nm,2.2s,mb5.5
SOC MLR MLR
comp=Z,2μm,20.0s,MS5.3
FINES FINESS Array B 72.16 24 P **P 18 07 20.1 -1.0**
comp=Z,31nm,0.8s,mb5.3,baz=211,slow=2.2,SNR=60
FINES LR LR 18 37 26.5
comp=Z,3μm,18.6s,MS5.5,baz=239,slow=35
ERZM Erzurum 72.35 48 *i* P **P 18 07 21.1 -1.2**
VNA2 Neumayer--Watz 72.62 174⇑*i* P **P 18 07 25.7 +1.8**
baz=324,slow=4.9
VNA2 *e* pP 18 07 28.7 +1.5
VNA2 *e* pP 18 07 30.1 +2.9
VNA2 *e* 18 07 33.5
VNA2 *e* 18 07 43.6
VNA2 *e* 18 07 51.8
KAF Kangasniemi 72.63 23 *ep* **P 18 07 21.6 -2.4**
comp=Z,26nm,0.9s,mb5.2,baz=238,slow=5.8
KAF Kangasniemi 72.63 23 *eP* **P 18 07 21.6 -2.4**
KAF pmax pmax
comp=Z,26nm,0.9s,mb5.2
MSL Mosul 72.86 52 *ex* x 18 07 21.5
EYMN Ely 73.14 320 PFAKE 18 07 40.0 +13
EYMN LR LR
comp=Z,3μm,21.0s,MS5.6
BHD Baghdad 73.32 56 *ex* x 18 07 22.0
SNAA Sanae 73.86 173 P **P 18 07 30.9 -0.3**
comp=Z,6.7nm,1.0s,mb4.5,baz=314,slow=7.2,SNR=8.7
SNAA Sanae 73.86 173⇑*i* P **P 18 07 29.4 -1.9**
SNAA *e* 18 07 36.2
SNAA *e* 18 07 48.1
SNAA Sanae 73.86 173 *eP* **P 18 07 31.7 +0.4**
comp=Z,30nm,1.1s,mb5.1
SNAA Sanae 73.86 173⇓*i* P **P 18 07 32.9 +1.6**
DIGO Kars 73.97 48 *i* P **P 18 07 32.4 +0.6**
OBN Obninsk 74.06 32 P **P 18 07 31.6 -0.8**
comp=Z,34nm,1.0s,mb5.2
OBN LR LR
comp=Z,2μm,19.0s,MS5.5
OBN Obninsk 74.06 32 *eP* **P 18 07 32.0 -0.4**
OBN *i* 18 07 47.7
OBN *e* 18 10 16.1
OBN *i* SS SS 18 21 50.8 +0.9
OBN pmax pmax
comp=Z,30nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,2μm,17.0s,MS5.5
VORD Divnogorie 74.12 37 *eP* **P 18 07 31.5 -1.3**
VORD pmax pmax
comp=Z,50nm,0.8s,mb5.5
VORD pmax pmax
comp=E,130nm,1.0s
VRSR Storozhevoye 74.14 36*c i* P **P 18 07 33.0 +0.1**
VRSR *e* 18 07 48.6
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=E,9.0nm,0.8s
KIV Kislovodsk 74.31 44 P **P 18 07 34.4 +0.5**
comp=E,214nm,1.0s,mb6.0,SNR=5.7
KIV Kislovodsk 74.31 44 *eP* **P 18 07 33.8 -0.1**
comp=E,49nm,1.0s,mb5.4
KIV LR LR
comp=Z,2μm,20.0s,MS5.3
KIV Kislovodsk 74.31 44 *eP* **P 18 07 33.6 -0.3**
KIV *e* 18 07 48.8
KIV *e* 18 10 17.4
KIV *e*S S 18 17 03.3 -4.6
KIV *e*SS SS 18 21 53.0 -0.7
KIV pmax pmax
comp=Z,39nm,0.8s,mb5.4
KIV pmax pmax
comp=Z,385nm,3.9s
VOR Voronezh 74.32 36 *eP* **P 18 07 34.0 +0.1**
VOR *e* 18 10 17.0
VOR pmax pmax
comp=Z,120nm,2.0s,mb5.5
VOR pmax pmax
comp=N,40nm,1.7s
VOR pmax pmax
comp=E,60nm,2.0s
OPO Ambohidratompo 74.44 109 P **P 18 07 35.3 +0.7**
comp=E,2.6nm,0.6s,mb4.4,baz=0.0,slow=1.0,SNR=2.9
KSU1 Kansas State U 74.44 310 *eP* **P 18 07 34.8 +0.1**
GOF Gofitskoye 74.83 43 *eP* **P 18 07 36.5 -0.4**
GOF pmax pmax
comp=Z,53nm,0.8s,mb5.5
MOS Moscow 74.85 32 *eP* **P 18 07 35.4 -1.6**
MOS *e* 18 07 53.4
MOS *e* 18 10 21.7
MOS *e*SS SS 18 21 53.7 -8.2
MOS pmax pmax
comp=Z,152nm,1.1s,mb5.8
MOS pmax pmax
comp=Z,900nm,3.8s
MOS MLR MLR
comp=Z,3μm,19.0s,MS5.6
ZEI Tsey 74.88 46 *i* P **P 18 07 34.6 -2.6**
GNI Garni 74.93 49 *eP* **P 18 07 37.6 +0.2**
comp=Z,65nm,1.0s,mb5.5
GNI LR LR
comp=Z,2μm,19.0s,MS5.4
GNI Garni 74.93 49⇑*eP* **P 18 07 37.8 +0.3**
GNI pmax pmax
comp=Z,35nm,1.0s
GNI MLR MLR
comp=Z,2μm,19.0s
JOF Joensuu 75.03 24 *ep* **P 18 07 34.0 -4.0**
comp=Z,26nm,0.8s,mb5.2
NAY Al-Naaiem 75.12 60 *eP* **P 18 07 39.0 +0.5**
NAY AMb AMB 18 07 40.6
comp=Z,49nm,0.6s,mb5.6
TBLG Delisi 75.26 47 P **P 18 07 41.6 +2.2**
TBLG Delisi 75.26 47 *eP* **P 18 07 41.6 +2.2**
MIB Mutribah 75.28 59 *eP* **P 18 07 38.3 -1.1**
MIB AMb AMB 18 07 43.3
comp=Z,85nm,1.2s,mb5.6
MTA Mtatsminda 75.29 47 P **P 18 07 41.7 +2.2**
DUS Dusheti 75.31 47 P **P 18 07 40.2 +0.5**
WMOK Wichita Mounta 75.35 306 *eP* **P 18 07 40.5 +0.6**
comp=Z,6.3nm,0.8s,mb4.6
WMOK LR LR
comp=Z,3μm,22.0s,MS5.5
WMOK Wichita Mounta 75.35 306 *eP* **P 18 07 40.5 +0.6**
WMOK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WMOK MLR MLR
comp=Z,3μm,22.0s,MS5.5
VRHR Novokhopersk 75.56 37 *eP* **P 18 07 39.5 -1.6**
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.5
VRHR pmax pmax
comp=N,7.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.6s
UMR Umm Al-Rimmam 75.57 60 *eP* **P 18 07 42.4 +1.3**
UMR AMb AMB 18 07 43.3
comp=Z,105nm,0.7s,mb5.9
JCT Junction City 75.57 301 *eP* **P 18 07 42.9 +1.7**
comp=Z,26nm,0.9s,mb5.2
JCT LR LR
comp=Z,2μm,22.0s,MS5.4
JCT Junction City 75.57 301 *eP* **P 18 07 42.9 +1.8**
JCT pmax pmax
comp=Z,26nm,0.9s,mb5.2
JCT MLR MLR
comp=Z,2μm,22.0s,MS5.4
DGRG David-gareji 75.67 47 P **P 18 07 43.7 +2.0**
DAG Danmarks Havn 76.03 2⇓*i* P **P 18 07 44.2 +0.4**
comp=Z,32nm,1.0s,mb5.2
DAG Danmarks Havn 76.03 2⇓*eP* **P 18 07 44.2 +0.4**

comp=Z,32nm,1.0s,mb5.2
DAG Danmarks Havn 76.03 2⇓ *e*P P **18 07 44.2 +0.4**
DAG pmax pmax
comp=Z,32nm,1.0s,mb5.2
ULM Lac du Bonnet 76.57 322 P P **18 07 43.8 -3.0**
comp=Z,13nm,1.1s,mb4.8,baz=95,slow=3.9,SNR=3.9
ULM LR LR 18 35 14.8
comp=Z,3μm,21.9s,MS5.6,baz=104,slow=31
ARCES ARCESS Array B 76.65 16 P P **18 07 46.8 -0.5**
comp=Z,6.9nm,0.7s,mb4.7,baz=237,slow=6.7,SNR=19
CBKS Cedar Bluff 76.79 310 *e*P P **18 07 50.0 +2.0**
comp=Z,65nm,1.3s,mb5.4
CBKS LR LR
comp=Z,3μm,21.0s,MS5.5
CBKS Cedar Bluff 76.79 310 *e*P P **18 07 50.0 +1.9**
CBKS pmax pmax
comp=Z,65nm,1.3s,mb5.4
CBKS MLR MLR
comp=Z,3μm,21.0s,MS5.5
KEV Kevo 77.20 17 *e*p P **18 07 44.3 -6.1**
comp=Z,25nm,0.8s,mb5.2
KEV Kevo 77.20 17 *e*P P **18 07 44.3 -6.1**
KEV *e*P 18 07 51.0
KEV LR LR
comp=Z,3μm,21.0s,MS5.6
KEV Kevo 77.20 17 *e*P P **18 07 51.0 +0.6**
KEV pmax pmax
comp=Z,28nm,0.9s,mb5.2
KEV MLR MLR
comp=Z,3μm,21.0s,MS5.6
MAK Makhachkala 77.52 46 *e*P P **18 07 49.4 -2.8**
MAK *e* 18 10 42.8
MAK *e*SS SS 18 22 36.6 -5.7
MAK pmax pmax
comp=Z,367nm,1.6s,mb6.1
KLMR Klimovskoe 77.66 27*d i*P P **18 07 52.1 -0.9**
KLMR *e*S S 18 17 48.5 +3.6
KLMR pmax pmax
comp=Z,120nm,1.5s,mb5.6
KLMR pmax pmax
comp=Z,8μm,0.2s
KLMR smax
comp=E,920nm,4.9s
KLMR MLR MLR
comp=Z,4μm,24.0s,MS5.6
APA Apatity 78.05 20⇑ *i*P P **18 07 55.0 -0.1**
APA *i* 18 08 07.7
APA *i* PS 18 18 42.0
APA pmax pmax
comp=Z,65nm,1.0s,mb5.5
APA MLR MLR
comp=Z,6μm,17.0s,MS6.0
FCC Fort Churchill 78.06 330 *e*P P **18 07 52.8 -2.4**
comp=Z,32nm,1.1s,mb5.2
FCC Fort Churchill 78.06 330 *e*P P **18 07 52.8 -2.4**
FCC pmax pmax
comp=Z,32nm,1.1s,mb5.2
BJO Bjornoya 78.35 11 AMS AMS 18 35 47.0
comp=Z,2μm,22.1s,MS5.5
PECR Pechory 78.47 32 *e*P P **18 07 58.6 +1.1**
PECR *e* 18 18 05.0
PECR *e*PPS 18 18 34.0
PECR *e*SS SS 18 22 44.0 -13
PECR pmax pmax
comp=Z,140nm,2.0s,mb5.5
LVZ Lovozero 78.62 20⇓ *i*P P **18 07 57.0 -1.3**
LVZ LR LR
comp=Z,4μm,20.0s,MS5.8
LVZ Lovozero 78.62 20 *i* P P **18 07 57.9 -0.4**
LVZ *i* S S 18 17 54.0 -1.2
LVZ *i* SS SS 18 22 56.5 -2.5
LVZ pmax pmax
comp=N,6.0nm,1.0s
LVZ pmax pmax
comp=Z,65nm,1.0s,mb5.5
LVZ pmax pmax
comp=E,21nm,0.9s
LVZ pmax pmax
comp=Z,87nm,1.2s,mb5.6
LVZ pmax pmax
comp=E,21nm,1.1s
LVZ smax
comp=N,1μm,14.3s
LVZ smax
comp=Z,325nm,16.1s
LVZ smax
comp=E,526nm,12.3s
LVZ smax
comp=N,438nm,6.0s
LVZ smax
comp=Z,413nm,4.9s
LVZ smax
comp=E,309nm,4.6s
LTX Lajitas 78.77 300 *e*P P **18 08 00.3 +1.2**
comp=E,13nm,0.9s,mb4.9
LTX LR LR
comp=Z,2μm,22.0s,MS5.4
LTX Lajitas 78.77 300 *e*P P **18 08 00.3 +1.2**
LTX pmax pmax
comp=Z,13nm,0.9s,mb4.9
LTX MLR MLR
comp=Z,2μm,22.0s,MS5.4
ABTO Aybut 79.66 73 P P **18 08 05.7 +1.7**
SNR=6.3
WHFO Wadi Hawf 80.14 72 P P **18 08 08.0 +1.5**
SNR=23
MNTX Cornudas Mount 80.46 302 *e*P P **18 08 09.5 +1.2**
comp=Z,16nm,1.1s,mb4.9
MNTX LR LR
comp=Z,2μm,20.0s,MS5.5
KBS Kingsbay 80.48 7 *e*SKSa 18 18 38.1
KBS AMS AMS 18 37 44.7
comp=Z,2μm,22.1s,MS5.4
KBS Kingsbay 80.48 7 PFAKE 18 08 20.0 +12
KBS LR LR
comp=Z,4μm,19.0s,MS5.8
RBK Rabkut 80.53 72 ⇓P P **18 08 09.1 +0.5**
SNR=33
SDCO Great Sand Dun 81.13 308 *e*P P **18 08 11.3 -0.6**
comp=Z,34nm,1.2s,mb5.2
SDCO LR LR
comp=Z,2μm,19.0s,MS5.5
FFC Flin Flon 81.22 325 *e*P P **18 08 13.3 +1.0**
comp=Z,23nm,1.3s,mb4.9
FFC LR LR
comp=Z,3μm,20.0s,MS5.7
FFC Flin Flon 81.22 325 *e*P P **18 08 13.4 +1.0**
FFC pmax pmax
comp=Z,23nm,1.3s,mb5.0
FFC MLR MLR
comp=Z,3μm,20.0s,MS5.7
ISCO Idaho Springs 81.44 310 *e*P P **18 08 12.7 -0.8**
comp=Z,31nm,1.3s,mb5.1
ISCO LR LR
comp=Z,3μm,20.0s,MS5.6
ISCO Idaho Springs 81.44 310 *e*P P **18 08 12.7 -0.8**
ISCO pmax pmax
comp=Z,31nm,1.3s,mb5.1
ISCO MLR MLR
comp=Z,3μm,20.0s,MS5.6
ANMO Albuquerque 81.64 305 P P **18 08 12.6 -2.0**
comp=Z,1.0nm,0.4s,baz=89,slow=11,SNR=4.2
ANMO Albuquerque 81.64 305 *e*P P **18 08 15.1 +0.5**
comp=Z,13nm,1.0s,mb4.8
ANMO LR LR
comp=Z,3μm,22.0s,MS5.5
ANMO Albuquerque 81.64 305 *e*P P **18 08 15.1 +0.5**
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO MLR MLR
comp=Z,3μm,22.0s
ANMO Albuquerque 81.64 305 *e*P P **18 08 15.1 +0.5**
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO MLR MLR
comp=Z,3μm,22.0s
SYO Syowa Base 82.20 161⇑ *e*P P **18 08 12.8 -4.7**
SMCO Snowmass 82.42 309 *e*P P **18 08 19.1 +0.4**
comp=Z,50nm,1.3s,mb5.3
ASHO Ashiyiah 82.56 65 P P **18 08 20.7 +1.3**
SNR=14
LAO LASA Array 82.65 317 *e*P P **18 08 22.1 +2.2**
comp=Z,67nm,1.0s,mb5.6
LAO LR LR
comp=Z,3μm,21.0s,MS5.6
BANOM Banah 82.83 64 P P **18 08 21.9 +1.1**
SNR=7.1

ARQ Araqi 82.93 67 P P **18 08 23.1 +1.8**
SNR=13
BSY Bisya 83.53 67 ⇓P P **18 08 25.4 +1.0**
SNR=6.9
PV01 Paradox Valley 83.58 308 *e*P P **18 08 27.2 +2.5**
RES Resolute Bay 83.74 346 *e*P P **18 08 23.8 -1.8**
comp=Z,40nm,1.1s,mb5.5
RES Resolute Bay 83.74 346 *e*P P **18 08 23.8 -1.7**
RES pmax pmax
comp=Z,40nm,1.1s,mb5.5
JMDO Jabal Madar 84.36 68 P P **18 08 29.0 +0.3**
SNR=6.0
BW06 Boulder Array 84.66 313 PFAKE 18 08 40.0 +10
BW06 LR LR
comp=Z,4μm,21.0s,MS5.8
PDAR Pinedale Array 84.66 313 P P **18 08 28.5 -1.7**
comp=Z,4.5nm,1.0s,mb4.5,baz=90,slow=6.2,SNR=12
PDAR LR LR 18 40 31.6
comp=Z,4μm,21.9s,MS5.7,baz=106,slow=32
TUC Tucson 85.08 302 PFAKE 18 08 40.0 +7.7
TUC LR LR
comp=Z,2μm,21.0s,MS5.5
EGMT Eagleton 85.17 318 PFAKE 18 08 40.0 +7.3
EGMT LR LR
comp=Z,2μm,19.0s,MS5.6
SRU San Rafael 85.17 309 *e*P P **18 08 35.7 +3.0**
comp=Z,79nm,1.7s,mb5.6
SRU San Rafael 85.17 309 *e*P P **18 08 35.7 +2.9**
SRU pmax pmax
comp=Z,79nm,1.7s,mb5.6
LKWY Lake 85.38 314 PFAKE 18 08 40.0 +6.2
LKWY LR LR
comp=Z,3μm,19.0s,MS5.8
LOHW Long Hollow 85.47 314 *e*P P **18 08 35.8 +1.6**
comp=Z,61nm,1.3s,mb5.6
FLWY Flagg Ranch 85.57 314 *e*P P **18 08 36.6 +1.8**
comp=Z,190nm,1.6s,mb6.1
SNOW Snow King Moun 85.58 313 *e*P P **18 08 37.6 +2.9**
comp=Z,58nm,1.1s,mb5.7
REDW Red Top Meadow 85.64 313 *e*P P **18 08 33.6 -1.5**
comp=Z,128nm,1.6s,mb5.9
AKTK Aktyubinsk 85.66 40 P P **18 08 34.8 -0.4**
AKTK LR LR 18 48 32.4
AKTO Aktyubinsk 85.66 40 P P **18 08 34.8 -0.4**
comp=Z,15nm,0.9s,mb5.2,baz=257,slow=4.7,SNR=32
AKTO LR LR 18 48 32.4
comp=Z,2μm,21.8s,MS5.5,baz=0.0,slow=37
YFT Old Faithful 85.69 314 *e*P P **18 08 35.9 +0.6**
WUAZ Wupatki 85.69 305 *e*P P **18 08 34.8 -0.5**
comp=Z,17nm,0.9s,mb5.3
WUAZ LR LR
comp=Z,3μm,22.0s,MS5.7
TMUT Trail Mountain 85.71 309 P P **18 08 34.0 -1.5**
SOKR Solikamsk 85.73 30*c i*P P **18 08 37.2 +1.6**
SOKR 18 11 56.5
SOKR S 18 19 09.9
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,3μm,29.0s,MS5.6
AHID Auburn Hatcher 85.79 313 PFAKE 18 08 50.0 +14
AHID LR LR
comp=Z,5μm,22.0s,MS5.9
YMR Madison River 85.79 315 *e*P P **18 08 35.2 -0.6**
comp=Z,47nm,1.0s,mb5.7
YMR LR LR
comp=Z,2μm,22.0s,MS5.5
DAU Daniels Canyon 85.80 310 *e*P P **18 08 33.9 -2.0**
TCUT Toone Canyon 85.94 311 *e*P P **18 08 35.9 -0.7**
MPU Maple Canyon 86.07 310 PFAKE 18 08 50.0 +13
MPU LR LR
comp=Z,3μm,21.0s,MS5.6
HWUT Hardware Ranch 86.08 311 *e*P P **18 08 35.3 -2.0**
comp=Z,92nm,1.5s,mb5.8
HWUT LR LR
comp=Z,5μm,20.0s,MS5.9
QLMT Earthquake Lak 86.13 315 *e*P P **18 08 37.2 -0.4**
ARU Arti 86.41 34 P P **18 08 38.2 -0.7**
comp=Z,284nm,0.7s,SNR=9.6
ARU Arti 86.41 34 *e*P P **18 08 38.1 -0.7**
comp=Z,34nm,0.8s,mb5.6
ARU LR LR
comp=Z,3μm,19.0s,MS5.7
ARU Arti 86.41 34⇑ *i*P P **18 08 38.6 -0.3**
ARU *e* 18 11 57.7
ARU *e*PPP 18 13 50.5
ARU *e*S 18 19 03.4
ARU *e*PS 18 20 03.8
ARU *e*SS SS 18 24 48.0 -6.5
ARU pmax pmax
comp=Z,38nm,0.8s,mb5.7
NLU North Lily Min 86.41 310 *e*P P **18 08 39.2 +0.3**
MSU Marysvale 86.44 308 *e*P P **18 08 38.4 -0.7**
MVU Marysvale 86.47 308 *e*P P **18 08 45.9 +6.7**
comp=Z,18nm,1.1s,mb5.2
MVU LR LR
comp=Z,2μm,21.0s,MS5.5
AB31 Akbulak array 86.84 41 *i* P P **18 08 39.7 -1.3**
AB31 pmax pmax
comp=Z,108nm,1.9s,mb5.8
DLMT Dillon 86.98 315 P P **18 08 41.0 -0.7**
comp=Z,70nm,1.5s,mb5.7
DUG Dugway 86.98 310 *e*P P **18 08 39.3 -2.4**
comp=Z,29nm,1.3s,mb5.3
DUG LR LR
comp=Z,2μm,21.0s,MS5.4
DUG Dugway 86.98 310 *e*P P **18 08 39.3 -2.4**
DUG pmax pmax
comp=Z,29nm,1.3s,mb5.3
DUG MLR MLR
comp=Z,2μm,21.0s,MS5.4
HVU Hansel Valley 87.00 312 *e*P P **18 08 41.0 -0.8**
comp=Z,43nm,1.3s,mb5.5
HVU Hansel Valley 87.00 312 *e*P P **18 08 41.0 -0.8**
HVU pmax pmax
comp=Z,43nm,1.3s,mb5.5
MCMT McKenzie Canyo 87.14 315 *e*P P **18 08 41.8 -0.7**
BGU Big Grassy Mou 87.16 311 *e*P P **18 08 44.8 +2.2**
CCUT Cedar City 87.35 307 *e*P P **18 08 42.8 -0.7**
CHMT Chamberlain Mo 87.48 317 *e*P P **18 08 46.6 +2.5**
SVE Sverdlovsk 87.57 33⇑ *e*P P **18 08 45.0 +0.4**
SVE *e* 18 12 07.0
SVE *e*PPP 18 14 04.0
SVE *e*S 18 19 26.0
SVE *e*PS 18 20 24.0
SVE *e*SSS 18 28 36.0
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.7
SVE MLR MLR
comp=N,500nm,15.0s,MS5.4
SVE MLR MLR
comp=E,1μm,15.0s,MS5.4
SVE MLR MLR
comp=Z,2μm,15.0s,MS5.8
EDM Edmonton 87.73 323 *e*P P **18 08 44.4 -0.9**
MSO Missoula 87.95 317 PFAKE 18 09 00.0 +14
MSO LR LR
comp=Z,2μm,21.0s,MS5.5
HLID Hailey 88.24 313 *e*P P **18 08 48.1 +0.4**
comp=Z,106nm,2.1s,mb5.7
HLID LR LR
comp=Z,4μm,22.0s,MS5.8
YKA Yellowknife Ar 88.62 332 P P **18 08 47.1 -2.4**
comp=Z,2.2nm,0.7s,mb4.6,baz=94,slow=5.3,SNR=12
YKA LR LR 18 43 57.2
comp=Z,4μm,20.0s,MS5.8,baz=90,slow=33
YKW3 Yellowknife Ar 88.63 332 *e*P P **18 08 50.4 +0.8**
ELK Elko 88.84 311 P P **18 08 51.2 +0.7**
comp=Z,2.4nm,1.0s,mb4.5,baz=1.2,slow=0.3,SNR=5.4
ELK Elko 88.84 311 P P **18 08 51.3 +0.7**
ELK MLR MLR
comp=Z,2μm,21.0s
PFO Pinyon Flat Ob 89.86 303 PFAKE 18 09 10.0 +15
PFO LR LR
comp=Z,2μm,19.0s,MS5.4
BMO Blue Mountains 90.31 315 *e*P P **18 08 59.5 +2.0**
comp=Z,40nm,1.4s,mb5.5
BMO LR LR
comp=Z,3μm,21.0s,MS5.7
BMO Blue Mountains 90.31 315 *e*P P **18 08 59.5 +2.0**
BMO pmax pmax
comp=Z,40nm,1.4s,mb5.6
BMO MLR MLR
comp=Z,3μm,21.0s,MS5.7
BMN Battle Mountai 90.35 310 PFAKE 18 09 10.0 +12
BMN LR LR

comp=Z,1μm,20.0s,MS5.4
TPH Tonopah 90.41 308 P P **18 09 01.0 +3.1**
TPH LR LR
comp=Z,2μm,20.0s,MS5.6
DAC Darwin (Calif) 90.75 306 PFAKE 18 09 10.0 +11
DAC LR LR
comp=Z,2μm,22.0s,MS5.4
QSPA South Pole Qui 90.84 180 *e*P P **18 09 01.0 +1.1**
comp=Z,69nm,1.1s,mb5.9
NVAR Mina Array Bea 91.25 308 P P **18 08 59.4 -2.4**
comp=Z,0.2nm,0.3s,baz=106,slow=6.7,SNR=3.1
NVAR LR LR 18 45 16.9
comp=Z,1μm,21.5s,MS5.3,baz=50,slow=32
WVOR Wild Horse Val 91.35 312 PFAKE 18 09 10.0 +7.7
WVOR LR LR
comp=Z,5μm,21.0s,MS5.9
ISA Isabella 91.48 306 PFAKE 18 09 10.0 +7.1
ISA LR LR
comp=Z,644nm,22.0s,MS5.0
HAWA Hanford 91.81 316 PFAKE 18 09 10.0 +5.6
HAWA LR LR
comp=Z,167nm,20.0s,MS4.5
ZRNK Zerenda 92.48 37 *e*P P **18 09 08.7 +1.2**
comp=Z,20nm,1.6s,mb5.2
ZRNK Zerenda 92.48 37 *e*P P **18 09 08.7 +1.2**
ZRNK pmax pmax
comp=Z,20nm,1.6s,mb5.2
MOD Modoc 92.61 312 PFAKE 18 09 20.0 +12
MOD LR LR
comp=Z,3μm,20.0s,MS5.7
CMB Columbia Colle 92.90 308 PFAKE 18 09 20.0 +11
CMB LR LR
comp=Z,2μm,22.0s,MS5.6
BRVK Borovoye 93.24 37 *e*P P **18 09 12.8 +1.7**
comp=Z,5.3nm,1.2s,mb4.8
BRVK LR LR
comp=Z,2μm,21.0s,MS5.4
BRVK Borovoye 93.24 37 *e*P P **18 09 12.8 +1.8**
BRVK pmax pmax
comp=Z,5.0nm,1.2s,mb4.8
BRVK MLR MLR
comp=Z,2μm,21.0s,MS5.4
BVA0 Borovoye Array 93.31 37 *i* P P **18 09 11.6 +0.3**
BVA0 pmax pmax
comp=Z,4.0nm,1.8s,mb4.5
BVAR Borovoye Array 93.31 37 P P **18 09 10.9 -0.4**
comp=Z,3.3nm,0.9s,mb4.8,baz=274,slow=4.0,SNR=14
VOSK Vostochnaya 93.69 37 P P **18 09 12.0 -1.1**
VOSK pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
SAO San Andreas Ge 93.82 307 PFAKE 18 09 20.0 +6.3
SAO LR LR
comp=Z,2μm,22.0s,MS5.6
KK31 Karatay Array 94.32 47 *i* P P **18 09 16.0 0.0**
KK31 Karatay Array 94.32 47 *i* P P **18 09 16.9 +0.9**
KK31 pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
KKAR Karatay Array 94.32 47 *i* P P **18 09 16.9 +0.9**
KKAR pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
WDC Whiskeytown Da 94.39 311 PFAKE 18 09 30.0 +14
WDC LR LR
comp=Z,2μm,20.0s,MS5.5
YBH Yreka Blue Hor 94.42 312 PFAKE 18 09 30.0 +14
YBH LR LR
comp=Z,3μm,20.0s,MS5.7
HUMO Hull Mountain 94.53 313 PFAKE 18 09 30.0 +13
HUMO LR LR
comp=Z,3μm,21.0s,MS5.7
HOPS Hopland 94.94 309 PFAKE 18 09 30.0 +11
HOPS LR LR
comp=Z,2μm,20.0s,MS5.6
INK Inuvik 95.67 339 P P **18 09 19.8 -2.4**
comp=Z,4.0nm,1.2s,mb4.7,baz=70,slow=4.7,SNR=2.4
INK Inuvik 95.67 339 P P **18 09 19.8 -2.4**
INK Inuvik 95.67 339 *e*P P **18 09 23.4 +1.2**
INK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 97.28 47 P P **18 09 27.9 -1.6**
comp=Z,5.6nm,1.2s,mb4.9
AAK LR LR
comp=Z,3μm,21.0s,MS5.8
AAK Ala-Archa 97.28 47⇓ *e*P P **18 09 30.5 +1.0**
AAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.7
DGAR Diego Garcia 98.59 97 PFAKE 18 09 50.0 +15
DGAR LR LR
comp=Z,2μm,20.0s,MS5.6
KURK Kurchatov 98.70 38 *e*P P **18 09 36.2 +0.3**
comp=Z,8.4nm,1.3s,mb5.1
KURK LR LR
comp=Z,2μm,19.0s,MS5.7
KURK Kurchatov 98.70 38⇓ *i*P P **18 09 36.6 +0.7**
SIT Sitka 99.70 328 PFAKE 18 09 50.0 +10
SIT LR LR
comp=Z,4μm,19.0s,MS6.0
NVS Novosibirsk 100.41 34 *e*P Pdif 18 09 45.5 +2.0
NVS pmax pmax
comp=Z,68nm,2.7s
ZAL Zalesovo 101.55 34 P Pdif 18 09 48.8 +0.2
comp=Z,0.5nm,0.3s,baz=139,slow=20,SNR=2.2
MKAR Makanchi Array 101.95 42 P Pdif 18 09 47.3 -3.0
comp=Z,0.7nm,0.9s,baz=316,slow=4.0,SNR=3.1
ILAR Eielson Array 101.96 338 P Pdif 18 09 47.1 -3.2
comp=Z,0.5nm,1.1s,baz=70,slow=3.2,SNR=3.4
ILAR PP PP 18 13 53.1 -8.4
comp=Z,0.6nm,1.1s,baz=62,slow=4.2,SNR=4.3
COLA College 102.27 338 PFAKE 18 10 00.0 +8.3
COLA LR LR
comp=Z,2μm,20.0s,MS5.7
DIV Divide 103.20 334 PFAKE 18 10 10.0 +14
DIV LR LR
comp=Z,8μm,19.0s,MS6.3
VNDA Vanda 103.21 182 PFAKE 18 10 10.0 +14
VNDA LR LR
comp=Z,1μm,21.0s,MS5.4
MCK McKinley 103.25 337 PFAKE 18 10 10.0 +14
MCK LR LR
comp=Z,1μm,19.0s,MS5.4
PMR Palmer 104.41 336 PFAKE 18 10 10.0 +8.8
PMR LR LR
comp=Z,3μm,21.0s,MS5.8
FIB Fire Island 105.06 335 PFAKE 18 14 30.0 +11
FIB LR LR
comp=Z,3μm,22.0s,MS5.8
TIXI Tiksi 105.92 8 PFAKE 18 14 30.0 +10
TIXI LR LR
comp=Z,1μm,20.0s,MS5.5
WMQ Urumqi 106.43 44 *e*PDIF Pdif 18 10 10.6 +0.3
WMQ PP PP 18 14 42.3 +7.5
WMQ PP PP
comp=Z,169nm,10.0s
WMQ LR LR
comp=N,2μm,28.0s,MS5.8
WMQ LR LR
comp=E,3μm,23.2s,MS5.8
WMQ LR LR
comp=Z,3μm,24.0s,MS5.8
PALK Pallekele 106.57 82 PFAKE 18 14 30.0 +8.4
PALK LR LR
comp=Z,1μm,20.0s,MS5.4
RKT Rikitea 107.63 246 *e*LQ 18 41 00.1
comp=Z,2μm,31.2s
RKT Rikitea 107.63 246 *e*PP PP 18 14 44.0 +0.4
comp=Z,369nm,30.2s
RKT Rikitea 107.63 246 *e*PS PS 18 24 02.1 -3.5
comp=Z,1μm,29.0s
RKT Rikitea 107.63 246 *e*SS SS 18 29 53.2 -0.8
comp=Z,503nm,29.8s
RKT *e*LR LR 18 45 47.6
comp=Z,1μm,25.2s
CASY Casey 107.84 163 PFAKE 18 14 30.0 +6.1
CASY LR LR
comp=Z,2μm,21.0s,MS5.6
TNA Tin City 108.35 344 PFAKE 18 14 40.0 +15
TNA LR LR
comp=Z,875nm,19.0s,MS5.3
BILL Bilibino 110.79 355 PFAKE 18 14 40.0 +11
BILL LR LR
comp=Z,1μm,21.0s,MS5.4
LSA Lhasa 113.07 57 PFAKE 18 14 50.0 +16
LSA LR LR
comp=Z,2μm,19.0s,MS5.6
LSA Lhasa 113.07 57 *e*PKIKP PKiKP 18 14 24.4 -9.4
LSA MLR MLR
comp=Z,2μm,19.0s,MS5.6

ZAK Zakamensk 113.33 33 *e*P Pdif 18 10 38.1 -2.8
ZAK pmax pmax
comp=Z,7.0nm,2.0s
TAOE Nuku Hiva Isla 113.86 261 *e*LR LR 18 48 57.9
comp=Z,3μm,32.4s
YAK Yakutsk 114.72 12⇑*i*PKP PKiKP 18 14 37.2 +0.3
YAK LR LR
comp=Z,2μm,19.0s,MS5.7
YAK Yakutsk 114.72 12⇑*i*PKIKP PKiKP 18 14 37.1 +0.2
SONM Songino Array 116.44 34 PKP PKPdf 18 14 41.1 +0.8
comp=Z,1.6nm,0.9s,baz=260,slow=2.1,SNR=8.7
SONM PP PP 18 15 33.5 -13
comp=Z,1.1nm,0.9s,baz=308,slow=7.1,SNR=2.4
SEY Seymchan 116.45 1⇑*i*PKIKP PKPdf 18 14 41.4 +1.1
UNV Unalaska Valle 116.47 335 PFAKE 18 14 50.0 +10
UNV LR LR
comp=Z,8μm,20.0s,MS6.4
ULN Ulaanbaatar 116.79 33 *e*PKPdf PKPdf 18 14 36.3 -4.6
ULN ⇑*i*PKP PKPdf 18 14 41.0 +0.1
ULN LR LR
comp=Z,2μm,20.0s,MS5.7
ULN Ulaanbaatar 116.79 33⇑*i*PKIKP PKPdf 18 14 41.9 +1.0
MA2 Magadan 119.78 2⇑*e*PKP PKPdf 18 14 49.9 +3.2
MA2 LR LR
comp=Z,1μm,20.0s,MS5.5
TBI Tubuai 120.70 243 *e*SS SS 18 33 01.1 +15
comp=Z,2μm,34.2s
TBI *e*LQ 18 46 47.6
comp=Z,3μm,38.2s
TBI *e*LR LR 18 51 58.7
comp=Z,2μm,22.5s
ADK Adak 121.96 339 PFAKE 18 15 00.0 +9.1
ADK LR LR
comp=Z,2μm,20.0s,MS5.7
PPT Papeete 122.00 250 *e*SS SS 18 33 10.4 +7.3
comp=Z,740nm,24.5s
PPT *e*LQ 18 46 52.3
comp=Z,8μm,31.8s
PPT *e*LR LR 18 52 25.7
comp=Z,1μm,25.2s
HIA Hailar 122.14 26⇓*i*PKP PKPdf 18 14 53.0 +1.8
HIA LR LR
comp=Z,4μm,21.0s,MS6.0
COCO West Island 122.31 104 PFAKE 18 15 00.0 +8.5
COCO LR LR
comp=Z,2μm,21.0s,MS5.7
CHTO Chiang Mai 122.67 67 PFAKE 18 15 00.0 +7.8
CHTO LR LR
comp=Z,1.0nm,21.0s
HHC Hu-ho-hao-te 123.51 38 *e*PKP PKPdf 18 14 52.1 -1.7
HHC PP PP 18 16 37.7 +2.5
HHC PKS 18 27.5
HHC SKS SKSdf 18 22 01.9 -3.9
HHC SKKS SKKSac 18 23 30.5 -3.8
HHC LR LR
comp=N,2μm,19.4s,MS5.8
HHC LR LR
comp=E,1μm,17.6s,MS5.8
HHC LR LR
comp=Z,2μm,23.5s
KMI Kunming 124.26 59 PKP PKPdf 18 14 55.5 +0.2
KMI XPKP 18 15 03.7
KMI PP PP 18 16 45.3 +5.0
KMI LR LR
comp=N,678nm,18.4s,MS5.5
KMI LR LR
comp=E,828nm,20.1s,MS5.5
KMI LR LR
comp=Z,965nm,22.6s,MS5.4
XAN Xi'an 125.45 46 PKP PKPdf 18 15 02.2 +4.6
PET Petropavlovsk 126.25 356 PFAKE 18 15 10.0 +11
PET LR LR
comp=Z,1μm,19.0s,MS5.6
KLR Kul'dur 126.66 18 *e*PKIKP PKPdf 18 15 00.0 +0.1
BJI Beijing 126.78 36 PKP PKPdf 18 14 55.2 -4.9
BJI LR LR
comp=N,3μm,14.5s,MS6.2
BJI LR LR
comp=E,2μm,15.3s,MS6.2
BJI LR LR
comp=Z,2μm,34.4s
BJT Baijiatuau 126.79 36 PFAKE 18 15 10.0 +10
BJT LR LR
comp=Z,3μm,20.0s,MS6.0
ENH Enshi 127.69 50 PFAKE 18 15 10.0 +8.2
ENH LR LR
comp=Z,1μm,20.0s,MS5.6
CN2 Changchun 128.86 26 *e*PKP PKPdf 18 15 08.6 +4.5
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,900nm,21.0s,MS5.6
CN2 LR LR
comp=E,800nm,21.0s,MS5.6
CN2 LR LR
comp=Z,800nm,22.0s,MS5.4
MDJ Mudanjiang 129.90 23 PKP PKPdf 18 15 02.7 -3.4
MDJ PKS 18 18 36.3
MDJ SKS SKSdf 18 22 13.4 -4.3
MDJ PP PP
comp=Z,195nm,5.8s
MDJ LR LR
comp=N,2μm,30.4s,MS5.6
MDJ LR LR
comp=E,992nm,30.4s,MS5.6
MDJ LR LR
comp=Z,1μm,32.9s,MS5.4
MDJ Mudanjiang 129.90 23 PFAKE 18 15 20.0 +14
MDJ LR LR
comp=Z,2μm,19.0s,MS5.8
RAR Rarotonga 130.46 243 PFAKE 18 15 20.0 +13
RAR LR LR
comp=Z,2.0nm,20.0s
DL2 Dalian 130.64 33 PKP PKPdf 18 15 07.4 -0.1
DL2 PP PP 18 17 27.2 +4.8
DL2 PP PP
comp=Z,170nm,8.3s
DL2 LR LR
comp=N,590nm,17.9s,MS5.5
DL2 LR LR
comp=E,710nm,18.7s,MS5.5
DL2 LR LR
comp=Z,1μm,19.5s,MS5.6
YSS Yuzh-Sakhalins 131.48 10⇓*e*PKP PKPdf 18 15 11.9 +2.9
YSS LR LR
comp=Z,1μm,19.0s,MS5.7
QIZ Qiongzhong 132.50 63 PFAKE 18 15 20.0 +9.0
QIZ LR LR
comp=Z,1μm,20.0s,MS5.6
NWAO Narrogin (SRO) 132.99 137 PFAKE 18 15 20.0 +8.1
NWAO LR LR
comp=Z,1μm,20.0s,MS5.6
NJ2 Nanjing 133.49 42 *e*PKP PKPdf 18 15 08.6 -4.2
NJ2 PP PP 18 17 41.0 +0.3
NJ2 PKS 18 18 43.0
NJ2 PP PP
comp=Z,210nm,10.8s
NJ2 LR LR
comp=N,4μm,28.8s
NJ2 LR LR
comp=E,3μm,12.3s
NJ2 LR LR
comp=Z,2μm,11.4s
INCN Inchon 134.35 31 PFAKE 18 15 30.0 +16
INCN LR LR
comp=Z,1μm,22.0s,MS5.7
SNZO South Karori 135.47 202 PFAKE 18 15 30.0 +13
SNZO LR LR
comp=Z,2μm,21.0s,MS5.7
SSE Sheshan 135.64 42 PKP PKPdf 18 15 17.5 +0.6
SSE PP PP 18 17 58.6 +4.3
SSE SS SS 18 35 54.2 +2.6
SSE PP PP
comp=Z,208nm,8.4s
SSE LR LR
comp=N,602nm,25.1s,MS5.6
SSE LR LR
comp=E,1μm,25.1s,MS5.6
SSE LR LR
comp=Z,1μm,22.1s,MS5.5
ERM Erimo 136.32 12 PFAKE 18 15 30.0 +12
ERM LR LR
comp=Z,5.0nm,19.0s
TATO Taipei 139.52 49 PFAKE 18 15 40.0 +16
TATO LR LR
comp=Z,1μm,19.0s,MS5.7

MAJO Matsushiro 140.12 20 PFAKE 18 15 40.0 +15
MAJO LR LR
comp=Z,2μm,21.0s,MS5.8
MJAR Matsushiro Arr 140.12 20 PKhKP 18 15 19.1
comp=Z,1.1nm,0.7s,baz=4.3,slow=0.6,SNR=2.8
MBWA Marble Bar 141.00 124 PFAKE 18 15 40.0 +13
MBWA LR LR
comp=Z,2μm,20.0s,MS5.8
AFI Afiamalu 143.61 247 PFAKE 18 15 40.0 +8.7
AFI LR LR
comp=Z,2μm,21.0s,MS5.9
CNB Canberra Magne 145.38 173 *e*PKP PKPdf 18 15 37.4 +3.0
comp=Z,47nm,1.0s
STKA Stephens Creek 146.96 161 *e*PKP PKPdf 18 15 38.6 +1.5
comp=Z,21nm,0.9s
STKA Stephens Creek 146.96 161 PKPbc PKPbc 18 15 36.8 -2.3
comp=Z,19nm,1.0s,baz=189,slow=2.6,SNR=9.7
FITZ Fitzroy Crossi 147.34 123 *e*PKP PKPbc 18 15 45.9 +5.8
comp=Z,38nm,1.0s
ASPA Alice Springs 150.10 141 *e*PKP PKPbc 18 15 47.9 +0.7
ASAR Alice Springs 150.11 141 PKPbc PKPbc 18 15 46.6 -0.6
comp=Z,6.5nm,0.8s,baz=202,slow=1.9,SNR=29
AS31 Alice Springs 150.11 141 *e*PKP PKPbc 18 15 47.9 +0.7
ARMA Armidale 150.44 176 *e*PKP PKPab 18 15 56.1 +1.6
DAV Davao City (W) 150.70 74 PFAKE 18 15 50.0 +6.9
DAV LR LR
comp=Z,655nm,21.0s,MS5.4
WRA Warramunga Arr 153.00 136 PKPbc PKPbc 18 15 51.6 -2.3
comp=Z,2.6nm,1.0s,baz=241,slow=1.6,SNR=8.2
WB2 Warramunga Arr 153.01 136 *e*PKP pPKPbc 18 15 59.1 +1.8
WRAB Tennant Creek 153.01 136 *e*PKPdf PKPdf 18 15 48.0 +1.4
WRAB LR LR
comp=Z,2μm,20.0s,MS5.9
FUNA Funafuti 153.64 252 PFAKE 18 16 00.0 +12
FUNA LR LR
comp=Z,7μm,19.0s,MS6.5
WAKE Wake Island 156.46 328 PFAKE 18 16 00.0 +8.6
WAKE LR LR
comp=Z,1μm,19.0s,MS5.8
CTAO Charters Tower 159.40 159 PFAKE 18 16 10.0 +15
CTAO LR LR
comp=Z,2μm,20.0s,MS5.9
GUMO Guam 163.16 32 PFAKE 18 16 10.0 +11
GUMO LR LR
comp=Z,1μm,19.0s
KWAJ Kwajalein Atol 163.34 305 PFAKE 18 16 10.0 +11
KWAJ LR LR
comp=Z,735nm,19.0s
PMG Port Moresby 169.12 142 PFAKE 18 16 10.0 +6.3
PMG LR LR
comp=Z,2μm,22.0s
HNR Honiara 169.50 215 PFAKE 18 16 10.0 +6.1
HNR LR LR
comp=Z,1μm,21.0s

*IDC **09** 18:02:19.2±2.8, 1065N×9434E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, Error ellipse: s-maj=124.6km s-min=19.6km az=65.0*
*NEIC **09** 18:02:21.3±0.7, 1076N×9455E, h10km, mb4.2/4, Error ellipse: s-maj=24.9km s-min=7.5km az=55.0*
*ISCJB **09** 18:02:22.0±1.0, 107N±0.1×944E±0.2, h33km, mb3.9/7, Error ellipse: s-maj=34.5km s-min=10.4km az=110.1*
ISC 09 18:02:24.8±1.0, 108N±02×944E±02, h35km, n15, σ0°60/15, mb3.9/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**18.50**	**336**	*e*P		**Pn**	**18 06 38.9**	**+0.7**
PKI	**Pulchoki**	**18.74**	**334**	*e*P		**Pn**	**18 06 41.9**	**+0.8**
GUN	**Gumba**	**18.84**	**336**	*e*P		**Pn**	**18 06 42.3**	**-0.1**
DMN	**Daman**	**18.90**	**334**	*e*P		**Pn**	**18 06 43.3**	**+0.2**
	25nm,1.0s							
KKN	**Kakani**	**18.99**	**334**	*e*P		**Pn**	**18 06 43.0**	**-1.1**
LSA	**Lhasa**	**19.08**	**351**	*e*P		**Pn**	**18 06 44.0**	**-1.2**
GKN	**Gorkha**	**19.45**	**333**	*e*P		**Pn**	**18 06 49.2**	**-0.5**
	27nm,1.1s							
KOLN	**Koldanda**	**19.74**	**330**	*e*P		**Pn**	**18 06 53.2**	**+0.1**
	22nm,0.8s							
ENH	**Enshi**	**23.93**	**34**	P		**P**	**18 07 35.3**	**-0.2**
	14nm,1.1s,mb4.3							
MKAR	**Makanchi Array**	**37.35**	**346**	P		**P**	**18 09 33.8**	**0.0**
	1.5nm,0.8s,mb3.9,baz=153,slow=8.2,SNR=7.1							
SONM	**Songino Array**	**38.28**	**13**	P		**P**	**18 09 42.5**	**+0.8**
	0.9nm,0.9s,mb3.5,baz=199,slow=7.6,SNR=6.8							
ZAL	**Zalesovo**	**43.73**	**352**	P		**P**	**18 10 27.4**	**+0.8**
	1.2nm,0.9s,mb3.6,baz=314,slow=14,SNR=5.0							
WRA	**Warramunga Arr**	**49.75**	**128**	P		**P**	**18 11 13.3**	**-0.3**
	1.5nm,0.9s,mb4.0,baz=303,slow=8.5,SNR=7.4							
ASAR	**Alice Springs**	**51.59**	**132**	P		**P**	**18 11 27.9**	**+0.4**
	1.5nm,0.7s,mb4.0,baz=306,slow=6.6,SNR=14							
STKA	**Stephens Creek**	**61.91**	**135**	P		**P**	**18 12 40.5**	**-0.3**
	1.2nm,0.7s,mb4.1,baz=347,slow=16,SNR=3.3							

*IDC **09** 18:02:57.5±2.0, 1058N×9417E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.9/23, mbtmp4.1/8, ML4.0/1, Error ellipse: s-maj=95.2km s-min=17.4km az=68.0*
*NEIC **09** 18:02:58.9±0.9, 1055N×9402E, h10km, mb4.5/1, Error ellipse: s-maj=41.5km s-min=10.6km az=69.0*
*BJI **09** 18:02:58.8, 1060N×9400E, h10km, mB5.3, mb4.8*
*ISCJB **09** 18:02:59.3±0.9, 103N±0.1×937E±0.2, h33km, mb4.2/10, Error ellipse: s-maj=33.6km s-min=10.1km az=140.3*
ISC 09 18:03:02.0±0.9, 104N±01×937E±02, h35km, n20, σ1°39/18, mb4.2/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.56**	**322**	*e*P		Px	18 03 12.5	
PBA				*e*S		Sx	18 03 32.8	
PBA				*e*x		x	18 03 38.7	
	comp=E,306nm,0.7s							
PBA				*e*x		x	18 03 39.1	
	comp=N,489nm,0.7s							
PSI	**Prapat**	**9.17**	**145**	Pn		**Pn**	**18 05 09.9**	**-1.7**
	comp=N,1.5nm,0.3s,baz=293,slow=12,SNR=4.2							
SHL	**Shillong**	**15.16**	**354**	*e*P		**Pn**	**18 06 30.0**	**-3.4**
HYB	**Hyderabad**	**16.27**	**297**	*e*P		pP	18 07 03.0	+3.4
ENH	**Enshi**	**24.61**	**34**	*e*P		**P**	**18 08 18.2**	**-0.6**
	comp=N,13nm,1.0s,mb4.4							
LZH	**Lanzhou**	**27.15**	**18**	*e*P		**P**	**18 08 44.5**	**+2.7**
LZH					AMB	AMB		
	comp=Z,26nm,1.5s,mb4.5							
GTA	**Gaotai**	**29.37**	**10**	*e*P		**P**	**18 09 05.3**	**+3.7**
GTA					AP	pP	18 09 14.0	+2.3
GTA					AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3							
MKAR	**Makanchi Array**	**37.52**	**347**	P		**P**	**18 10 12.6**	**+0.1**
	comp=Z,6.0nm,0.8s,mb4.3,baz=161,slow=7.7,SNR=8.1							
SONM	**Songino Array**	**38.79**	**14**	P		**P**	**18 10 21.9**	**-1.3**
	comp=Z,1.8nm,1.1s,mb3.7,baz=198,slow=4.6,SNR=4.5							
KURK	**Kurchatov**	**42.05**	**346**	*e*P		**P**	**18 10 49.0**	**-1.1**
CN2	**Changchun**	**43.13**	**34**	*e*P		**P**	**18 11 01.0**	**+2.1**
ZAL	**Zalesovo**	**43.98**	**352**	P		**P**	**18 11 05.8**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.5,baz=311,slow=14,SNR=3.4							
BRVK	**Borovoye**	**46.52**	**341**	*e*P		**P**	**18 11 26.1**	**+0.2**
MUN	**Mundaring**	**47.34**	**154**	*e*P		**P**	**18 11 35.3**	**+3.0**
NWAO	**Narrogin (SRO)**	**48.59**	**153**	P		**P**	**18 11 43.1**	**+1.1**
	comp=Z,8.9nm,1.0s,mb4.8,baz=306,slow=11,SNR=3.8							
NWAO	**Narrogin (SRO)**	**48.59**	**153**	*e*P		**P**	**18 11 43.6**	**+1.6**
WRA	**Warramunga Arr**	**50.09**	**127**	P		**P**	**18 11 52.8**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=308,slow=8.4,SNR=3.7							
ASAR	**Alice Springs**	**51.88**	**131**	P		**P**	**18 12 07.2**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.0,baz=310,slow=7.3,SNR=7.4							
STKA	**Stephens Creek**	**62.17**	**134**	P		**P**	**18 13 18.5**	**-1.1**
	comp=Z,3.4nm,0.8s,mb4.5,baz=320,slow=9.6,SNR=6.0							
STKA	**Stephens Creek**	**62.17**	**134**	*e*P		**P**	**18 13 19.0**	**-0.7**

*IDC **09** 18:08:27.9±1.4, 1630N×10570W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.0/21, mbtmp4.1/7, Error ellipse: s-maj=37.4km s-min=28.5km az=67.0*
*ISCJB **09** 18:08:28.2±1.5, 164N±0.1×1055W±0.2, h10km, mb4.1/6, Error ellipse: s-maj=23.5km s-min=18.9km az=105.2*
*NEIC **09** 18:08:29.4±0.9, 1626N×10569W, h10km, mb4.6/2, Error ellipse: s-maj=21.1km s-min=15.2km az=79.0*
ISC 09 18:08:30.1±1.5, 164N±01×1056W±02, h10km, n19, σ1°11/17, mb4.1/6, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	**4.76**	**30**	*i*P		**Pn**	**18 09 40.5**	**-1.4**
MOIG	**Morelia**	**5.34**	**51**	*i*P		**Pn**	**18 09 42.9**	**-6.8**

LNIG Linares 10.25 33 *i*P **Pn 18 10 56.6 -0.5**
LTX Lajitas 13.03 8 *e*P **Pn 18 11 35.7 +0.6**
22nm,1.2s
JCT Junction City 15.02 20 *e*P **Pn 18 12 04.1 +1.9**
61nm,1.2s
JCT Junction City 15.02 20 *e*P **Pn 18 12 04.1 +1.8**
JCT pmax pmax
comp=Z,61nm,1.2s
WMOK Wichita Mounta 19.29 17 *e*P **Pn 18 12 55.3 -0.7**
comp=Z,25nm,1.2s
JTS JuntasAbangare 20.98 104 P **P 18 13 14.2 +0.8**
comp=Z,6.6nm,0.9s,baz=276,slow=4.4,SNR=5.3
PV10 Paradox Valley 22.13 353 *e*P **P 18 13 29.0 +3.3**
PDAR Pinedale Array 26.52 353 P **P 18 14 09.2 +1.4**
comp=Z,2.3nm,1.0s,mb3.7,baz=168,slow=7.6,SNR=7.0
ULM Lac du Bonnet 34.70 11 P **P 18 15 20.1 +0.1**
comp=Z,0.7nm,0.3s,mb4.0,baz=194,slow=13,SNR=2.6
SADO Sadowa 36.03 33 P **P 18 15 30.7 -0.7**
comp=Z,5.8nm,0.8s,mb4.6,baz=263,slow=9.4,SNR=4.0
SADO Sadowa 36.03 33 P **P 18 15 30.7 -0.7**
YKA Yellowknife Ar 46.50 354 P **P 18 16 57.5 0.0**
comp=Z,1.6nm,1.0s,mb3.9,baz=167,slow=7.5,SNR=14
YKA Yellowknife Ar 46.50 354 P **P 18 16 57.5 0.0**
INK Inuvik 54.87 348 P **P 18 17 59.6 -1.0**
comp=Z,4.0nm,1.1s,mb4.4,baz=142,slow=6.3,SNR=5.9
ILAR Eielson Array 55.78 340 P **P 18 18 05.9 -1.3**
comp=Z,1.8nm,1.0s,mb4.0,baz=149,slow=7.4,SNR=7.8
WRA Warramunga Arr 123.18 257 PKP PKPdf 18 27 27.6 +0.6
comp=Z,0.4nm,0.7s,baz=78,slow=2.4,SNR=6.2
ASAR Alice Springs 123.34 252 PKP PKPdf 18 27 28.0 -0.4
comp=Z,0.2nm,0.5s,baz=90,slow=2.5,SNR=6.6

*IDC **09** 18:09:58.8±0.9, 1083N×9474E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/24, mbtmp4.0/10, ML3.5/1, Error ellipse: s-maj=51.4km s-min=16.1km az=65.0*
*ISCJB **09** 18:10:00.9±0.6, 1074N±009×945E±0.1, h33km, mb4.0/11, MS4.1/1, Error ellipse: s-maj=22.8km s-min=8.2km az=122.9*
*NEIC **09** 18:10:00.0±0.4, 1082N×9465E, h10km, mb4.4/6, Error ellipse: s-maj=27.3km s-min=6.1km az=62.0*
*BJI **09** 18:10:00.0, 1080N×9460E, h10km, mB5.1, mb4.0, Ms4.2, Msz3.9*
ISC 09 18:10:03.4±0.6, 1079N±009×945E±01, h35km, n26, σ0°67/23, mb4.0/11, MS4.1/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.90**	**297**	*e*P		Px	18 10 51.0	
PBA				*e*S		Sx	18 11 22.9	
PBA				*e*x		x	18 11 36.4	
	comp=E,951nm,0.5s							
PBA				*e*x		x	18 11 37.1	
	comp=N,1μm,0.9s							
PSI	**Prapat**	**9.09**	**151**	Pn		**Pn**	**18 12 11.6**	**-0.4**
	comp=N,0.5nm,0.3s,baz=310,slow=17,SNR=4.0							
KMI	**Kunming**	**16.27**	**28**	P		**Pn**	**18 13 53.5**	**+4.3**
KMI					AMB	AMB		
	comp=Z,8.0nm,1.5s							
JIRN	**Jiri**	**18.50**	**336**	*e*P		**Pn**	**18 14 17.3**	**+0.5**
PKI	**Pulchoki**	**18.74**	**334**	*e*P		**Pn**	**18 14 19.6**	**-0.2**
GUN	**Gumba**	**18.84**	**336**	*e*P		**Pn**	**18 14 21.1**	**+0.1**
	comp=Z,146nm,1.7s							
DMN	**Daman**	**18.91**	**334**	*e*P		**Pn**	**18 14 21.8**	**0.0**
	comp=Z,52nm,1.0s							
KKN	**Kakani**	**18.99**	**334**	*e*P		**Pn**	**18 14 22.2**	**-0.6**
GYA	**Guiyang**	**19.38**	**35**	P		**Pn**	**18 14 27.4**	**0.0**
GYA					AMB	AMB		
	comp=Z,10.0nm,1.2s							
GKN	**Gorkha**	**19.45**	**333**	*e*P		**Pn**	**18 14 27.9**	**-0.4**
	comp=Z,29nm,0.9s							
KOLN	**Koldanda**	**19.74**	**330**	*e*P		**Pn**	**18 14 30.8**	**-0.9**
	comp=Z,47nm,1.0s							
CD2	**Chengdu**	**21.80**	**22**	*e*PKP		**P**	**18 14 51.9**	**-0.4**
CD2				PP			18 16 35.7	
CD2				SKS			18 21 58.8	
CD2				SKKS			18 23 23.7	
CD2				PP		PP		
	comp=Z,170nm,11.9s							
CD2				LR		LR		
	comp=N,600nm,20.4s							
CD2				LR		LR		
	comp=Z,600nm,16.8s,MS4.1							
MKAR	**Makanchi Array**	**37.34**	**346**	P		**P**	**18 17 13.0**	**+0.6**
	comp=Z,4.7nm,1.1s,mb4.2,baz=160,slow=7.8,SNR=11							
SONM	**Songino Array**	**38.26**	**13**	P		**P**	**18 17 20.9**	**+0.6**
	comp=Z,2.6nm,1.0s,mb3.9,baz=193,slow=6.2,SNR=7.2							
KURK	**Kurchatov**	**41.88**	**345**	*e*P		**P**	**18 17 50.4**	**+0.1**
	comp=Z,6.7nm,1.0s,mb4.2							
ZAL	**Zalesovo**	**43.72**	**352**	P		**P**	**18 18 05.0**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.8,baz=299,slow=12,SNR=7.2							
BVAR	**Borovoye Array**	**46.36**	**340**	P		**P**	**18 18 25.9**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=148,slow=8.7,SNR=4.8							
NWAO	**Narrogin (SRO)**	**48.60**	**154**	P		**P**	**18 18 44.0**	**+0.5**
	comp=Z,4.8nm,0.6s,mb4.7,baz=57,slow=6.6,SNR=3.3							
ASAR	**Alice Springs**	**51.57**	**132**	P		**P**	**18 19 06.5**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=306,slow=6.9,SNR=5.2							
STKA	**Stephens Creek**	**61.90**	**135**	P		**P**	**18 20 18.3**	**-1.1**
	comp=Z,2.1nm,0.9s,mb4.3,baz=326,slow=11,SNR=2.1							
STKA	**Stephens Creek**	**61.90**	**135**	P		**P**	**18 20 18.3**	**-1.1**
FINES	**FINESS Array B**	**70.31**	**332**	P		**P**	**18 21 14.2**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=165,slow=5.8,SNR=3.1							
GERES	**GERESS Array B**	**75.89**	**318**	P		**P**	**18 21 49.5**	**+3.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=134,slow=7.6,SNR=3.7							
NB2	**NORSAR Subarra**	**77.37**	**330**	P		**P**	**18 21 54.1**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=94,slow=5.6							
NVAR	**Mina Array Bea**	**122.26**	**30**	PKP		PKPdf	18 28 55.9	+1.3
	comp=Z,0.4nm,0.4s,baz=293,slow=1.0,SNR=3.7							
CPUP	**Villa Florida**	**149.22**	**236**	PKPbc		PKPbc	18 29 50.2	+2.0
	comp=Z,0.2nm,0.3s,baz=202,slow=5.4,SNR=3.5							

*IDC **09** 18:20:22.0±0.5, 1080N×9449E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.3/28, mbtmp4.3/20, ML3.8/1, MS5.1/3, Ms1 5.1/3, ms1mx4.3/21, Error ellipse: s-maj=27.1km s-min=12.3km az=60.0*
*BJI **09** 18:20:22.6, 1057N×9450E, h26km, mB5.4, mb4.4, Ms4.7, Msz4.6*
*ISCJB **09** 18:20:23.8±2.9, 1074N±006×9449E±007, h26km±20km, mb4.4/41, MS4.9/5, Error ellipse: s-maj=12.8km s-min=7.1km az=112.8*
*NEIC **09** 18:20:23.6±0.3, 1077N×9456E, h10km, mb4.5/18, Error ellipse: s-maj=11.1km s-min=4.6km az=61.0*
*MOS **09** 18:20:24.9±0.7, 1078N×9446E, h33km, mb4.8/11, Error ellipse: s-maj=17.7km s-min=7.2km az=105.4*
ISC 09 18:20:27.5±1.3, 1080N±005×9450E±007, h36km±12km, n97, σ0°83/86, mb4.4/41, MS4.9/5, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.08**	**151**	Pn		**Pn**	**18 22 34.3**	**-1.7**
	1.0nm,0.3s,baz=336,slow=14,SNR=11							
KMI	**Kunming**	**16.25**	**28**	P		**Pn**	**18 24 15.9**	**+2.9**
KMI					AP	pP	18 24 18.8	-6.2
KMI					AMB	AMB		
	comp=Z,10.0nm,1.2s							
HYB	**Hyderabad**	**16.80**	**295**	*i*P		**Pn**	**18 24 24.0**	**+4.1**
HYB	**Hyderabad**	**16.80**	**295**	*e*P		**Pn**	**18 24 24.0**	**+4.1**
JIRN	**Jiri**	**18.50**	**336**	*e*P		**Pn**	**18 24 41.5**	**+0.5**
	comp=Z,111nm,1.5s							
PKI	**Pulchoki**	**18.75**	**334**	*e*P		**Pn**	**18 24 44.3**	**+0.4**
	comp=Z,62nm,1.3s							
PKI	**Pulchoki**	**18.75**	**334**	*e*P		**Pn**	**18 24 44.3**	**+0.4**
PKI					pmax	pmax		
	comp=Z,31nm,1.3s							
GUN	**Gumba**	**18.85**	**336**	*e*P		**Pn**	**18 24 45.2**	**0.0**
	comp=Z,441nm,2.1s							
DMN	**Daman**	**18.91**	**333**	*e*P		**Pn**	**18 24 46.2**	**+0.3**
	comp=Z,78nm,1.1s							
KKN	**Kakani**	**19.00**	**334**	*e*P		**Pn**	**18 24 46.8**	**-0.1**
	comp=Z,74nm,1.4s							
KKN	**Kakani**	**19.00**	**334**	*e*P		**Pn**	**18 24 46.8**	**-0.1**
KKN					pmax	pmax		
	comp=Z,37nm,1.4s							
LSA	**Lhasa**	**19.07**	**351**	*e*P		**Pn**	**18 24 47.7**	**0.0**
	comp=Z,51nm,1.8s							
LSA	**Lhasa**	**19.07**	**351**	*e*P		**Pn**	**18 24 47.7**	**0.0**
LSA					pmax	pmax		
	comp=Z,51nm,1.8s							
GYA	**Guiyang**	**19.36**	**35**	P		**Pn**	**18 24 51.0**	**-0.2**
GYA					AMB	AMB		
	comp=Z,10.0nm,1.0s							

GKN	Gorkha	19.46	333	eP	Pn	18 24 52.0	-0.5
	comp=Z,58nm,1.1s						
KOLN	Koldanda	19.75	330	eP	Pn	18 24 55.6	-0.3
	comp=Z,141nm,1.3s						
CD2	Chengdu	21.78	22	P	P	18 25 15.3	-0.9
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
ENH	Enshi	23.88	34	eP	P	18 25 36.6	-1.0
	comp=Z,118nm,1.6s,mb5.1						
LZH	Lanzhou	26.56	17	eP	P	18 26 01.7	-0.3
LZH				AP	pP	18 26 11.1	-1.2
LZH				XP	sP	18 26 15.1	-1.6
LZH				PP		18 26 47.0	
LZH				AMB	AMB		
	comp=Z,32nm,1.6s,mb4.6						
LZH				AMB	AMB		
	comp=Z,129nm,4.3s						
LZH				LR	LR		
	comp=N,1μm,14.6s						
LZH				LR	LR		
	comp=Z,2μm,15.4s,MS4.7						
XAN	Xi'an	26.64	27	P	P	18 26 01.1	-1.6
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
WHN	Wuhan	26.95	40	P	P	18 26 05.5	0.0
GTA	Gaotai	28.89	9	eP	P	18 26 23.9	+1.1
GTA				AP	pP	18 26 29.5	-3.6
GTA				XP	sP	18 26 33.0	-4.5
GTA				PP	PP	18 27 13.7	-15
GTA				AMB	AMB		
	comp=Z,10.0nm,2.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,407nm,6.2s						
GTA				LR	LR		
	comp=N,726nm,17.0s,MS4.5						
GTA				LR	LR		
	comp=E,1μm,21.6s,MS4.5						
GTA				LR	LR		
	comp=Z,1μm,18.2s,MS4.5						
WMQ	Urumqi	33.43	351	eP	P	18 27 04.0	+1.2
KBK	Karagaybulak	36.03	335	P	P	18 27 26.8	+1.5
	SNR=5.2						
AML	Almayashu	36.14	333	P	P	18 27 27.5	+1.4
	SNR=10						
AAK	Ala-Archa	36.20	335	P	P	18 27 28.4	+1.7
	SNR=5.4						
AAK	Ala-Archa	36.20	335	eP	P	18 27 27.3	+0.5
	comp=Z,13nm,1.4s,mb4.7						
AAK	Ala-Archa	36.20	335	eP	P	18 27 27.3	+0.6
AAK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
FRU	Bishkek	36.32	335	eP	P	18 27 26.0	-1.7
FRU				pmax	pmax		
	comp=Z,50nm,2.5s,mb5.0						
EKS2	Erkin-Say	36.53	334	P	P	18 27 30.9	+1.4
	SNR=6.2						
USP	Ospenovka	36.72	335	P	P	18 27 31.6	+0.4
	SNR=9.3						
MKAR	Makanchi Array	37.34	346	P	P	18 27 36.3	-0.1
	comp=Z,7.7nm,0.9s,mb4.5,baz=162,slow=8.4,SNR=60						
MKAR	Makanchi Array	37.34	346	i P	P	18 27 36.8	+0.4
MKAR				pmax	pmax		
	comp=Z,17nm,1.0s						
SONM	Songino Array	38.25	13	P	P	18 27 44.5	+0.4
	comp=Z,6.1nm,1.0s,mb4.3,baz=191,slow=8.2,SNR=39						
ULN	Ulaanbaatar	38.43	14	eP	P	18 27 45.5	-0.1
	comp=Z,13nm,1.7s,mb4.4						
ULN	Ulaanbaatar	38.43	14	eP	P	18 27 45.5	-0.1
ULN				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.4						
SNY	Shenyang	40.06	34	⇑P	P	18 27 59.9	+0.7
SNY				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.6						
KURK	Kurchatov	41.89	345	eP	P	18 28 14.4	+0.1
	comp=Z,29nm,1.3s,mb4.7						
KURK	Kurchatov	41.89	345	eP	P	18 28 14.4	+0.1
KURK				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.8						
CN2	Changchun	42.40	34	eP	P	18 28 18.8	+0.4
HIA	Hailar	43.72	24	eP	P	18 28 28.1	-1.0
	comp=Z,4.4nm,1.0s,mb4.1						
HIA	Hailar	43.72	24	eP	P	18 28 28.1	-1.0
HIA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZAL	Zalesovo	43.72	352	P	P	18 28 29.9	+0.8
	comp=Z,5.0nm,1.0s,mb4.2,baz=294,slow=8.7,SNR=24						
NVS	Novosibirsk	44.83	351	eP	P	18 28 37.1	-0.9
NVS				pmax	pmax		
	comp=Z,28nm,2.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,13nm,1.7s						
VOSK	Vostochnaya	45.92	340	P	P	18 28 46.0	-0.6
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
BVA0	Borovoye Array	46.37	340	i P	P	18 28 49.1	-1.0
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1						
BVAR	Borovoye Array	46.37	340	P	P	18 28 49.2	-0.9
	comp=Z,2.3nm,0.9s,mb4.1,baz=134,slow=8.6,SNR=10						
BRVK	Borovoye	46.43	340	eP	P	18 28 50.8	+0.2
	comp=Z,4.6nm,1.1s,mb4.3						
BRVK	Borovoye	46.43	340	eP	P	18 28 50.8	+0.2
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
ZRNK	Zerenda	46.78	339	eP	P	18 28 53.1	-0.3
	comp=Z,3.6nm,1.3s,mb4.1						
ZRNK	Zerenda	46.78	339	eP	P	18 28 53.1	-0.3
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
MAT	Matsushiro	46.98	50	X		18 28 30.0	
AB31	Akbulak array	47.87	330	i P	P	18 29 01.0	-0.9
AB31				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
NWAO	Narrogin (SRO)	48.59	154	P	P	18 29 07.9	+0.5
	comp=Z,4.1nm,0.8s,mb4.5,baz=323,slow=9.5,SNR=11						
NWAO	Narrogin (SRO)	48.59	154	eP	P	18 29 06.7	-0.7
BOD	Bodaibo	49.24	14	eP	P	18 29 12.6	+0.2
BOD				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
AKTK	Aktyubinsk	49.59	330	P	P	18 29 14.0	-1.0
AKTO	Aktyubinsk	49.59	330	P	P	18 29 14.0	-1.0
	comp=Z,1.6nm,0.9s,mb4.1,baz=126,slow=8.9,SNR=5.6						
WRA	Warramunga Arr	49.71	128	P	P	18 29 16.5	+0.6
	comp=Z,1.9nm,0.8s,mb4.2,baz=304,slow=9.0,SNR=16						
WRAB	Tennant Creek	49.72	128	eP	P	18 29 16.4	+0.4
WB2	Warramunga Arr	49.72	128	eP	P	18 29 16.8	+0.8
ATD	Arta Tunnel	50.62	276	LR	LR	18 46 32.3	
	comp=Z,871nm,19.1s,MS4.8,baz=198,slow=31						
ASPA	Alice Springs	51.55	132	eP	P	18 29 30.6	+0.8
ASAR	Alice Springs	51.55	132	P	P	18 29 30.4	+0.5
	comp=Z,2.5nm,0.7s,mb4.2,baz=310,slow=6.9,SNR=33						
AS31	Alice Springs	51.55	132	eP	P	18 29 30.6	+0.7
YSS	Yuzh-Sakhalins	54.29	39	eP	P	18 29 51.4	+1.4
YAK	Yakutsk	57.13	19	eP	P	18 30 10.2	-0.2
YAK	Yakutsk	57.13	19	eP	P	18 30 10.1	-0.3
YAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
KMBO	Kilima Mbogo	58.14	262	P	P	18 30 18.5	+1.0
	comp=E,0.4nm,0.3s,mb4.0,baz=229,slow=23,SNR=3.6						
BRTR	Keskin Array B	60.83	310	P	P	18 30 35.5	-0.6
	comp=E,1.4nm,0.8s,mb4.1,baz=132,slow=7.5,SNR=4.6						
STKA	Stephens Creek	61.88	135	eP	P	18 30 42.6	-0.6
	comp=E,3.6nm,0.7s,mb4.6						
STKA	Stephens Creek	61.88	135	P	P	18 30 42.0	-1.2
	comp=E,4.8nm,0.8s,mb4.7,baz=309,slow=5.3,SNR=11						
MA2	Magadan	64.03	28	eP	P	18 30 57.0	-0.5
	comp=E,8.1nm,0.9s,mb4.8						
MA2	Magadan	64.03	28	eP	P	18 30 57.4	-0.1
MA2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
TIXI	Tiksi	64.32	11	eP	P	18 30 54.5	-4.8
TIXI				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
FINES	FINESS Array B	70.31	332	P	P	18 31 37.2	-0.1
	comp=Z,2.2nm,0.9s,mb4.1,baz=98,slow=14,SNR=7.3						
ARCES	ARCESS Array B	72.66	340	P	P	18 31 51.5	+0.1
	comp=Z,9.2nm,1.1s,mb4.6,baz=72,slow=4.0,SNR=6.1						
BILL	Bilibino	73.26	22	P	P	18 31 54.7	-0.2
BILL	Bilibino	73.26	22	eP	P	18 31 54.6	-0.4
BILL				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.6						
HFS	Hagfors	76.13	329	P	P	18 32 11.0	-0.6
	comp=Z,11nm,1.2s,mb4.7,baz=117,slow=5.2,SNR=4.0						
HFS	Hagfors	76.13	329	P	P	18 32 11.0	-0.6
NB2	NORSAR Subarra	77.38	330	P	P	18 32 18.2	-0.5
	comp=Z,1.0nm,0.7s,mb3.9,baz=88,slow=5.9						
NB2	NORSAR Subarra	77.38	330	P	P	18 32 18.2	-0.5
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	NORSAR Array B	77.38	330	P	P	18 32 17.8	-0.9
	comp=Z,3.5nm,0.9s,mb4.3,baz=90,slow=5.8,SNR=5.2						
EKA	Eskdalemuir Ar	85.53	325	P	P	18 33 02.1	+0.4
	comp=Z,6.1nm,1.0s,mb4.8,baz=74,slow=6.2,SNR=5.8						
TORD	Torodi Ar. Bea	90.27	283	P	P	18 33 24.8	+0.3
	comp=Z,1.3nm,1.0s,mb4.2,baz=99,slow=5.3,SNR=5.1						
URZ	Urewera	90.88	129	LR	LR	19 12 57.2	
	comp=Z,1μm,20.2s,MS5.4,baz=298,slow=35						
ILAR	Eielson Array	91.92	22	P	P	18 33 30.9	-1.3
	comp=Z,0.8nm,0.8s,mb4.1,baz=290,slow=4.5,SNR=9.8						
RAO	Raoul Island	93.11	119	LR	LR	19 09 54.0	
	comp=Z,942nm,21.9s,MS5.2,baz=137,slow=32						
INK	Inuvik	94.11	16	P	P	18 33 42.0	-0.3
	comp=Z,1.3nm,0.7s,mb4.5,baz=324,slow=3.6,SNR=3.2						
ULM	Lac du Bonnet	118.54	8	PKP	PKPdf	18 39 12.2	+0.8
	comp=Z,1.0nm,0.5s,baz=270,slow=2.0,SNR=3.2						
NVAR	Mina Array Bea	122.24	30	PKP	PKPdf	18 39 20.2	+1.8
	comp=Z,0.7nm,0.6s,baz=276,slow=1.6,SNR=4.5						
PDAR	Pinedale Array	122.33	21	PKP	PKPdf	18 39 19.7	+1.0
	comp=Z,1.5nm,0.9s,baz=45,slow=2.3,SNR=8.2						
JCT	Junction City	136.72	18	ePKPdf	PKPdf	18 39 48.7	+2.7
PLCA	Paso Flores	147.39	201	PKPbc	PKPbc	18 40 09.5	+2.1
	comp=Z,4.6nm,1.0s,baz=160,slow=7.8,SNR=4.7						
CPUP	Villa Florida	149.25	236	PKPbc	PKPbc	18 40 14.0	+1.8
	comp=Z,0.4nm,0.4s,baz=95,slow=3.9,SNR=5.3						
CPUP	Villa Florida	149.25	236	ePKP2	PKPab	18 40 13.9	-2.9

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*IDC **09** 18:21:49.7±0.4, 1085N×9453E, h0km, mb4.6/29, mb1 4.7/30, mb1mx4.7/32, mbtmp4.6/30, ML4.1/1, MS4.9/4, Ms1 4.9/4, ms1mx4.4/21, Error ellipse: s-maj=17.1km s-min=11.1km az=57.0*

*BJI **09** 18:21:50.3, 1059N×9456E, h24km, mB5.3, mb4.7, Ms5.2, Msz5.0*

*HRVD **09** 18:21:51.6±0.3, 1082N×9469E, h12km, MW5.4/88, Centroid moment Tensor Solution. LP body waves: s53,c68;Mantle waves: s88,c156; Half duration: 1±2 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.40±.04; $M_{\theta\theta}$1.32±.03; $M_{\phi\phi}$0.07±.04; $M_{r\theta}$0.29±.12; $M_{\theta\phi}$0.29±.03; $M_{r\phi}$0.17±.13; Best double couple: $M_0$1.43100×10^{17} NP1:ϕ_s81.00000°,δ39.00000°,λ-84.00000°. NP2: ϕ_s254.00000°,δ52.00000°,λ-95.00000°. Principal axes: T 1.4200, Plg6.0000°, Azm347.0000°; N 0.0210, Plg4.0000°, Azm257.0000°; P -1.4430, Plg83.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **09** 18:21:51.7±1.2, 1081N±003×9465E±003, h22km±8km, mb4.9/86, MS5.0/20 Error ellipse: s-maj=6.6km s-min=4.5km az=83.6*

*NEIC **09** 18:21:51.6±0.2, 1084N×9458E, h10km, mb5.1/28, Error ellipse: s-maj=8.1km s-min=4.4km az=52.0*

*MOS **09** 18:21:52.9±1.1, 1086N×9463E, h33km, mb5.3/32, Error ellipse: s-maj=10.4km s-min=5.0km az=112.4*

*SZGRF **09** 18:22:01.6, 1185N×9441E, h33km, mb4.8, Andaman Islands, India, region*

ISC 09 18:21:55.3±1.2, 1085N±003×9464E±003, h32km±8km, h21km±2.3km:pP-P, n212, σ1§23/210, mb4.9/86, MS5.0/20, 12C-14D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PBA	Port Blair	2.03	293	eP		Px	18 22 46.4	
PBA				eS		Sx	18 23 08.7	
SNG	Songkhla	6.94	121	P		Pn	18 23 33.0	-1.7
	412nm,1.0s							
NST	Nakhon Sawan	7.18	48	P		Pn	18 23 36.8	-1.2
	160nm,0.7s							
KULM	Kulim	8.12	132	eP		Pn	18 23 49.7	-1.2
PSI	Prapat	9.05	152	Pn		Pn	18 24 03.5	-0.2
	1.7nm,0.3s,baz=332,slow=14,SNR=11							
PSI				LR		LR	18 27 57.0	
	comp=Z,10μm,20.8s,baz=311,slow=40							
KKTK	Khon Kaen	9.64	55	P		Pn	18 24 18.0	+6.3
	370nm,0.5s							
VIS	Vishakhapatnam	12.91	303	eP		Pn	18 24 54.1	-2.4
VIS				i P			18 24 57.4	
VIS				AMb		AMB	18 25 06.9	
	comp=Z,79nm,1.4s							
VIS				eS		Sn	18 27 06.1	-13
CAL	Calcutta	13.10	333	ex		x	18 25 15.7	
CAL				ex		x	18 27 40.2	
AGT	Agartala	13.36	346	eP		Pn	18 25 05.0	+2.4
SHL	Shillong	14.87	350	ex		Pn	18 25 14.0	-9.2
BOK	Bokaro	15.34	328	eP		Pn	18 25 33.2	+3.9
BOK				AMb		AMB	18 25 44.9	
	comp=Z,112nm,1.4s							
BOK				eS		Sn	18 28 22.2	+4.0
KMI	Kunming	16.14	27	P		Pn	18 25 42.4	+2.7
KMI				AP		pP	18 25 46.8	-4.2
KMI				XP		sP	18 25 49.5	-5.6
KMI				PP			18 25 56.1	
KMI				S		Sn	18 28 48.3	+11
KMI				XS		sS	18 28 55.3	-8.1
KMI				SS			18 29 06.1	
KMI				AMB		AMB		
	comp=Z,10.0nm,1.2s							
KMI				AMB		AMB		
	comp=Z,247nm,3.5s							
KMI				LR		LR		
	comp=N,5μm,13.0s							
KMI				LR		LR		
	comp=E,4μm,10.6s							
KMI				LR		LR		
	comp=Z,4μm,11.6s							
QIZ	Qiongzhong	16.78	59	P		Pn	18 25 50.1	+2.3
QIZ				AMB		AMB		
	comp=Z,27nm,1.2s							
QIZ				LR		LR		
	comp=N,5μm,9.3s							
QIZ				LR		LR		
	comp=Z,6μm,9.9s							
QIZ	Qiongzhong	16.78	59	eP		Pn	18 25 49.6	+1.9
	comp=Z,55nm,1.4s							
HYB	Hyderabad	16.91	295	i P		Pn	18 25 50.0	+0.6
HYB				eS		Sn	18 28 57.0	+0.7
HYB	Hyderabad	16.91	295	eP		Pn	18 25 50.0	+0.6
HYB				eS		Sn	18 28 46.0	-10
TRD	Trivandrum	17.59	264	eP		Pn	18 25 58.4	+0.5
TRD				AMb		AMB	18 26 12.1	
	comp=Z,132nm,1.8s							
TRD				ex		x	18 29 01.1	
KSM	Kuching	18.13	120	eP		Pn	18 26 05.8	+1.2
NGP	Nagpur	18.14	306	eP		Pn	18 26 07.5	+2.9
NGP				AMb		AMB	18 26 15.1	
	comp=Z,97nm,1.9s							
JIRN	Jiri	18.51	336	eP		Pn	18 26 09.3	+0.1
	comp=Z,563nm,1.7s							
JBP	Jabalpur	18.59	313	⇑eP		Pn	18 26 11.4	+1.2
JBP				ex		x	18 26 23.6	
	comp=Z,87nm,1.7s							
JBP				ex		x	18 29 48.9	
PKI	Pulchoki	18.76	334	eP		Pn	18 26 12.1	-0.1
	comp=Z,694nm,2.1s							
PKI	Pulchoki	18.76	334	eP		Pn	18 26 12.1	-0.1
PKI				pmax		pmax		
	comp=Z,347nm,2.1s							
GUN	Gumba	18.86	335	eP		Pn	18 26 14.1	+0.7
	comp=Z,2μm,2.1s							
DMN	Daman	18.93	333	eP		Pn	18 26 13.4	-0.8
	comp=Z,960nm,1.9s							
KKN	Kakani	19.01	334	eP		Pn	18 26 15.2	0.0
	comp=Z,374nm,1.7s							
KKN	Kakani	19.01	334	eP		Pn	18 26 15.2	0.0
KKN				pmax		pmax		
	comp=Z,187nm,1.7s							
LSA	Lhasa	19.04	351	eP		Pn	18 26 13.3	-2.2
GYA	Guiyang	19.23	35	⇓iP		Pn	18 26 20.7	+2.8
GYA				AP		pP	18 26 24.8	-0.4
GYA				XP		sP	18 26 28.9	-0.3
GYA				PP			18 26 41.2	
GYA				AMB		AMB		
	comp=Z,30nm,1.4s							
GYA				AMB		AMB		
	comp=Z,830nm,5.7s							
GYA				LR		LR		
	comp=N,3μm,11.7s							
GYA				LR		LR		
	comp=E,2μm,13.1s							
GYA				LR		LR		
	comp=Z,3μm,11.1s							
GKN	Gorkha	19.48	333	eP		Pn	18 26 19.7	-1.1
	comp=Z,196nm,1.1s							
KOLN	Koldanda	19.77	330	eP		Pn	18 26 22.6	-1.7
	comp=Z,259nm,1.2s							
BHPL	Bhopal	20.53	309	eP		P	18 26 33.1	+2.2
BHPL				eS		S	18 30 23.2	+4.3
KAD	Karad	20.85	290	eP		P	18 26 35.9	+1.6
KAD				AMb		AMB	18 26 47.0	
	comp=Z,180nm,2.2s							
KAD				eS		S	18 30 29.5	+4.4
POO	Poona	21.50	293	i x		x	18 27 12.0	
POO				i x		x	18 27 23.0	
POO				i x		x	18 30 29.0	
POO				i x		x	18 30 52.0	
CD2	Chengdu	21.68	22	P		P	18 26 42.5	-0.8
CD2				XP		sP	18 26 56.3	+0.5
CD2				PP			18 27 09.4	
CD2				S		S	18 30 32.0	-9.4
CD2				XS		sS	18 30 48.4	-6.7
CD2				SS			18 31 14.4	
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.5							
CD2				AMB		AMB		
	comp=Z,310nm,5.8s							
CD2				LR		LR		
	comp=E,2μm,15.0s							
CD2				LR		LR		
	comp=Z,2μm,14.4s,MS4.7							
KKM	Kota Kinabalu	21.86	101	eP		P	18 26 43.6	-1.5
BOM	Bombay	22.55	293	eP		P	18 26 55.1	+2.6
BOM				ex		x	18 27 05.8	
	comp=Z,152nm,2.1s							
BOM				ex		x	18 30 41.5	
LGTI	Lohaghat	22.87	326	eP		P	18 26 58.0	+2.1
ENH	Enshi	23.75	33	eP		P	18 27 04.2	-0.5
	comp=Z,526nm,2.0s,mb5.6							
NDI	New Delhi	24.10	320	eP		P	18 27 09.0	+1.1
NDI				eP			18 27 09.2	
NDI				AMb		AMB	18 27 17.5	
	comp=Z,125nm,2.5s,mb4.9							
NDI				ex		x	18 31 22.0	
AJM	Ajmer	24.45	312	eP		P	18 27 13.0	+1.9
AJM				AMb		AMB	18 27 18.4	
	comp=Z,63nm,1.9s,mb4.7							
DDI	Dehra Dun	24.77	324	ex		P	18 27 14.8	+0.8
SMLA	Simla	25.88	324	eP		P	18 27 25.0	+0.9
SMLA				AMb		AMB	18 27 45.1	
	comp=Z,149nm,2.3s,mb5.1							
LZH	Lanzhou	26.47	17	⇓P		P	18 27 32.1	+2.7
LZH				AP		pP	18 27 41.6	+3.0
LZH				XP		sP	18 27 45.5	+3.0
LZH				PP			18 28 17.3	
LZH				eS		S	18 32 05.1	+3.9
LZH				AMB		AMB		
	comp=Z,127nm,1.6s,mb5.2							
LZH				AMB		AMB		
	comp=Z,432nm,4.5s							
LZH				LR		LR		
	comp=N,4μm,15.2s							
LZH				LR		LR		
	comp=Z,6μm,16.2s,MS5.2							
XAN	Xi'an	26.52	27	P		P	18 27 29.2	-0.7
XAN				S		S	18 32 07.2	+5.1
XAN				AMB		AMB		
	comp=Z,11nm,1.0s,mb4.3							
XAN				LR		LR		
	comp=N,2μm,14.4s,MS5.1							
XAN				LR		LR		
	comp=E,4μm,18.3s,MS5.1							
XAN				LR		LR		
	comp=Z,2μm,14.7s,MS4.9							
BHK	Bhakra	26.52	323	ex		x	18 27 36.1	
QZH	Quanzhou	26.69	55	eP		P	18 27 31.4	0.0
QZH				eS		S	18 32 05.4	+0.7
QZH				LR		LR		
	comp=N,3μm,10.2s							
QZH				LR		LR		
	comp=E,2μm,8.0s							
QZH				LR		LR		
	comp=Z,3μm,10.2s,MS5.1							
WHN	Wuhan	26.82	40	P		P	18 27 32.5	-0.1
WHN				LR		LR		
	comp=Z,5μm,12.0s,MS5.3							
BHJ	Bhuj	26.83	301	eP		P	18 27 35.2	+2.5
GTA	Gaotai	28.81	8	eP		P	18 27 50.3	-0.1
GTA				AP		pP	18 27 58.4	-1.2
GTA				XP		sP	18 28 02.5	-1.0
GTA				AMB		AMB		
	comp=Z,21nm,2.1s,mb4.5							
GTA				AMB		AMB		
	comp=Z,407nm,6.2s							
GTA				LR		LR		
	comp=N,2μm,18.5s							
GTA				LR		LR		
	comp=E,1μm,12.4s							
GTA				LR		LR		
	comp=Z,3μm,21.6s,MS4.8							
NJ2	Nanjing	30.73	43	eP		P	18 28 09.6	+2.2
NJ2				AP		pP	18 28 14.0	-2.6
NJ2				XP		sP	18 28 16.6	-3.9
NJ2				PP		PP	18 29 10.6	-6.4
NJ2				S		S	18 33 11.0	+2.8
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.0							
NJ2				AMB		AMB		
	comp=Z,30nm,3.5s							
NJ2				LR		LR		
	comp=N,2μm,24.3s							
NJ2				LR		LR		
	comp=E,2μm,13.3s							
NJ2				LR		LR		
	comp=Z,1μm,10.1s							
BTO	Baotou	32.60	22	eP		P	18 28 25.9	+2.0
BTO				LR		LR		
	comp=N,673nm,9.4s							
BTO				LR		LR		
	comp=E,2μm,10.6s							
KSH	Kashi	33.02	333	P		P	18 28 28.9	+1.4
KSH				AP		pP	18 28 33.8	-3.0
KSH				XP		sP	18 28 36.0	-4.7
KSH				PP		PP	18 29 39.0	-3.5
KSH				PCP		PcP	18 31 12.4	+1.6
KSH				S		S	18 33 45.5	+1.5
KSH				SCP		ScP	18 34 55.2	+2.6
KSH				PCS		PcS	18 34 57.4	+1.2
KSH				SS		SS	18 35 45.7	-21
KSH				SCS		ScS	18 38 54.8	+2.0
KSH				AMB		AMB		
	comp=Z,330nm,5.9s							
KSH				LR		LR		
	comp=N,4μm,15.0s,MS5.3							
KSH				LR		LR		
	comp=E,2μm,11.6s,MS5.3							
KSH				LR		LR		
	comp=Z,3μm,19.4s							
WMQ	Urumqi	33.40	351	P		P	18 28 31.7	+0.9
WMQ				AP		pP	18 28 36.1	-3.9
WMQ				XP		sP	18 28 38.7	-5.2
WMQ				PP		PP	18 29 42.9	-3.7
WMQ				PCP		PcP	18 31 13.2	+1.4
WMQ				S		S	18 33 51.3	+1.5
WMQ				SS		SS	18 35 54.0	-20
WMQ				AMB		AMB		
	comp=Z,41nm,0.9s,mb5.4							
WMQ				AMB		AMB		
	comp=Z,282nm,4.8s							
WMQ				LR		LR		
	comp=N,3μm,24.0s,MS5.0							
WMQ				LR		LR		
	comp=E,2μm,24.4s,MS5.0							
WMQ				L

HHC SCP ScP 18 34 56.4 +2.5
HHC SS SS 18 35 56.2 -18
HHC SCS ScS 18 38 55.1 +0.3
HHC AMB AMB
comp=Z,12nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,198nm,3.7s
HHC LR LR
comp=N,2μm,13.7s,MS5.1
HHC LR LR
comp=E,2μm,14.5s,MS5.1
HHC LR LR
comp=Z,2μm,12.0s,MS5.0
BJT Baijiatuau 34.76 30 *e*P **P 18 28 43.9 +1.3**
comp=Z,15nm,0.8s,mb5.0
BJT Baijiatuau 34.76 30 *e*P **P 18 28 43.9 +1.3**
BJT pmax pmax
comp=Z,15nm,0.8s
KBK Karagaybulak 36.04 335 P **P 18 28 55.6 +1.9**
SNR=5.8
AML Almayashu 36.15 333 P **P 18 28 55.1 +0.6**
SNR=9.0
AAK Ala-Archa 36.22 335 P **P 18 28 56.2 +1.1**
SNR=6.9
AAK Ala-Archa 36.22 335 P **P 18 28 55.7 +0.6**
comp=Z,66nm,1.3s,mb5.4,SNR=5.2
AAK Ala-Archa 36.22 335 *e*P **P 18 28 55.0 -0.1**
AAK Ala-Archa 36.22 335⇓ *i*P **P 18 28 54.2 -0.9**
AAK pmax pmax
comp=Z,50nm,2.5s,mb5.0
FRU Bishkek 36.33 335 *e*P **P 18 28 56.0 -0.1**
FRU pmax pmax
comp=Z,220nm,2.6s,mb5.6
CHMS Chumysh 36.41 335 P **P 18 28 56.5 -0.2**
SNR=6.0
EKS2 Erkin-Say 36.55 334 P **P 18 28 56.7 -1.3**
SNR=7.7
USP Ospenovka 36.73 335 P **P 18 28 59.0 -0.5**
SNR=10
DL2 Dalian 36.87 36⇑ P **P 18 29 02.8 +2.1**
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
DL2 AMB AMB
comp=Z,220nm,5.7s
DL2 LR LR
comp=N,770nm,12.8s,MS4.7
DL2 LR LR
comp=E,550nm,15.8s,MS4.7
DL2 LR LR
comp=Z,760nm,14.7s,MS4.6
MK31 Makanchi Array 37.32 346 *i*P **P 18 29 04.2 -0.3**
MK31 Makanchi Array 37.32 346 *i*P **P 18 29 04.1 -0.4**
MK31 pmax pmax
comp=Z,79nm,1.3s,mb5.4
MKAR Makanchi Array 37.32 346 P **P 18 29 03.6 -0.9**
comp=Z,22nm,0.8s,mb5.0,baz=158,slow=6.6,SNR=29
SONM Songino Array 38.17 13 P **P 18 29 11.5 -0.1**
comp=Z,15nm,1.0s,mb4.7,baz=197,slow=8.0,SNR=26
SONM PcP PcP 18 31 27.3 +1.4
comp=Z,2.4nm,0.9s,baz=205,slow=3.2,SNR=3.0
SONM LR LR 18 46 33.8
comp=Z,3μm,18.5s,MS5.2,baz=306,slow=39
SONM Songino Array 38.17 13 P **P 18 29 11.5 -0.2**
SONM 18 31 27.3
ULN Ulaanbaatar 38.34 13 *e*P **P 18 29 12.0 -1.1**
comp=Z,28nm,1.4s,mb4.8
ULN Ulaanbaatar 38.34 13 *e*P **P 18 29 12.0 -1.2**
ULN pmax pmax
comp=Z,28nm,1.4s,mb4.8
KK31 Karatay Array 38.38 331 *i*P **P 18 29 11.1 -2.3**
KK31 Karatay Array 38.38 331 *i*P **P 18 29 11.0 -2.4**
KK31 pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
KKAR Karatay Array 38.38 331 *i*P **P 18 29 11.0 -2.4**
KKAR pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
SNY Shenyang 39.93 34⇑ P **P 18 29 26.8 +0.4**
SNY AMB AMB
comp=Z,23nm,2.0s,mb4.6
SNY AMB AMB
comp=Z,323nm,12.3s
SNY LR LR
comp=N,982nm,19.4s,MS4.9
SNY LR LR
comp=E,1μm,16.9s,MS4.9
SNY LR LR
comp=Z,1μm,14.7s,MS4.9
ZAK Zakamensk 40.05 9 *e*P **P 18 29 28.1 +0.7**
ZAK pmax pmax
comp=Z,21nm,2.1s,mb4.5
KURK Kurchatov 41.87 345 P **P 18 29 42.4 0.0**
comp=Z,207nm,1.0s,mb5.7,SNR=11
KURK Kurchatov 41.87 345 *e*P **P 18 29 42.1 -0.3**
KURK Kurchatov 41.87 345 *d*i P **P 18 29 41.9 -0.5**
IRK Irkutsk 42.01 9 *e*P **P 18 29 43.0 -0.5**
IRK *e* 18 31 25.5
IRK pmax pmax
comp=Z,52nm,2.3s,mb4.8
CN2 Changchun 42.27 33 *e*P **P 18 29 46.3 +0.6**
CN2 *e*AP pP 18 29 52.4 -2.7
CN2 PCP PcP 18 31 40.0 +0.9
CN2 AMB AMB
comp=Z,30nm,1.2s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,17.0s,MS4.9
CN2 LR LR
comp=E,800nm,17.0s,MS4.9
CN2 LR LR
comp=Z,800nm,16.0s,MS4.7
ABKT Aiibek 42.38 316 P **P 18 29 47.3 +0.8**
comp=Z,458nm,0.7s,SNR=7.0
HIA Hailar 43.61 24 *e*P **P 18 29 56.6 +0.2**
comp=Z,19nm,1.1s,mb4.7
HIA Hailar 43.61 24 *e*P **P 18 29 56.7 +0.2**
HIA pmax pmax
comp=Z,19nm,1.1s
ZAL Zalesovo 43.69 352 P **P 18 29 56.8 -0.3**
comp=Z,10nm,0.9s,mb4.5,baz=300,slow=7.7,SNR=23
NVS Novosibirsk 44.80 351 *e*P **P 18 30 05.0 -1.0**
NVS pmax pmax
comp=Z,132nm,2.5s,mb5.3
NVS pmax pmax
comp=N,95nm,2.1s
KRAR Krasnoyarsk 45.07 359⇓ *i*P **P 18 30 06.1 -2.1**
KRAR pmax pmax
comp=Z,23nm,0.6s,mb5.2
MDJ Mudanjiang 45.09 35 P **P 18 30 09.9 +1.6**
MDJ AMB AMB
comp=Z,17nm,1.7s,mb4.6
MDJ AMB AMB
comp=Z,148nm,3.4s
VOSK Vostochnaya 45.91 340 P **P 18 30 14.3 -0.6**
VOSK pmax pmax
comp=Z,128nm,2.2s,mb5.5
BVA0 Borovoye Array 46.36 340 *i*P **P 18 30 17.8 -0.6**
BVA0 pmax pmax
comp=Z,24nm,2.4s,mb4.7
BVAR Borovoye Array 46.36 340 P **P 18 30 18.3 -0.1**
comp=Z,4.5nm,0.8s,mb4.5,baz=137,slow=8.7,SNR=11
BRVK Borovoye 46.43 340 P **P 18 30 18.2 -0.7**
comp=Z,65nm,1.4s,mb5.4,SNR=7.0
BRVK Borovoye 46.43 340 *e*P **P 18 30 17.9 -1.0**
ZRNK Zerenda 46.78 339 *e*P **P 18 30 20.5 -1.2**
comp=Z,103nm,2.1s,mb5.4
ZRNK Zerenda 46.78 339 *e*P **P 18 30 20.5 -1.2**
ZRNK pmax pmax
comp=Z,103nm,2.1s,mb5.4
MJAR Matsushiro Arr 46.83 50 P **P 18 30 21.6 -0.5**
comp=Z,2.8nm,0.9s,mb4.2,baz=247,slow=12,SNR=5.5
MJAR PcP PcP 18 31 55.9 +1.2
comp=Z,4.2nm,1.0s,baz=250,slow=4.0,SNR=5.1
MUN Mundaring 47.33 155 *e*P **P 18 30 26.6 +0.7**
KLBR Kellerberrin 47.66 153 *e*P **P 18 30 28.7 +0.2**
comp=Z,16nm,0.8s,mb5.1
KLBR *i*pP pP 18 30 34.5 -3.6
AB31 Akbulak array 47.90 330 *i*P **P 18 30 28.8 -1.6**
NWAO Narrogin (SRO) 48.58 154 P **P 18 30 36.0 +0.5**
comp=Z,30nm,0.8s,mb5.4,baz=326,slow=6.4,SNR=20
NWAO Narrogin (SRO) 48.58 154 *e*P **P 18 30 35.5 -0.1**
comp=Z,148nm,1.4s,mb5.8
BOD Bodaibo 49.16 14 *e*P **P 18 30 38.1 -1.9**
BOD pmax pmax
comp=Z,18nm,2.1s,mb4.7
AKTK Aktyubinsk 49.61 330 P **P 18 30 42.9 -0.6**
AKTO Aktyubinsk 49.61 330 P **P 18 30 42.9 -0.6**
comp=Z,3.2nm,0.8s,mb4.4,baz=131,slow=11,SNR=9.1
WRA Warramunga Arr 49.63 128 P **P 18 30 44.2 +0.5**
comp=Z,7.7nm,0.7s,mb4.8,baz=304,slow=9.0,SNR=14
WRAB Tennant Creek 49.64 128 *e*P **P 18 30 44.2 +0.5**
comp=Z,16nm,0.8s,mb5.1
WRAB Tennant Creek 49.64 128 *e*P **P 18 30 44.2 +0.5**
WRAB pmax pmax
comp=Z,17nm,0.8s,mb5.1
WB2 Warramunga Arr 49.64 128 *e*P **P 18 30 44.2 +0.4**
HABR Khabarovsk 50.40 34 *e*P **P 18 30 49.4 -0.1**
ATD Arta Tunnel 50.76 276 P **P 18 30 51.3 -0.9**
comp=Z,15nm,1.0s,mb4.9,baz=253,slow=19,SNR=2.8
ASPA Alice Springs 51.48 132⇓ *i*P **P 18 30 58.7 +1.1**
ASAR Alice Springs 51.48 132 P **P 18 30 56.6 -1.0**
comp=Z,5.8nm,0.8s,mb4.6,baz=306,slow=7.4,SNR=11
AS31 Alice Springs 51.48 132⇓ *i*P **P 18 30 58.7 +1.1**
CLNS Chul'man 51.49 21 *e*P **P 18 30 57.7 0.0**
CLNS pmax pmax
comp=Z,21nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.1s
GNI Garni 52.76 313 *e*P **P 18 31 08.0 +0.8**
comp=E,26nm,1.1s,mb5.1
GNI Garni 52.76 313⇑ *e*P **P 18 31 08.1 +0.9**
GNI pmax pmax
comp=Z,50nm,1.7s
SVE Sverdlovsk 52.85 337 *e*P **P 18 31 07.0 -0.8**
ARU Arti 53.38 336 P **P 18 31 11.8 +0.1**
comp=Z,74nm,1.5s,mb5.4,SNR=5.6
ARU Arti 53.38 336 *e*P **P 18 31 10.8 -0.9**
comp=Z,88nm,1.9s,mb5.4
ARU Arti 53.38 336⇓ *i*P **P 18 31 11.1 -0.6**
ARU *e* 18 32 13.7
ARU *e* 18 33 11.2
ARU *e*S **S 18 38 42.6 +1.1**
ARU pmax pmax
comp=Z,21nm,1.6s,mb4.8
YSS Yuzh-Sakhalins 54.16 39⇓ *i*P **P 18 31 17.9 +0.5**
YSS Yuzh-Sakhalins 54.16 39⇓ *i*P **P 18 31 17.8 +0.4**
YSS pmax pmax
comp=Z,28nm,1.3s,mb5.0
ZEI Tsey 54.25 315 *e*P **P 18 31 19.4 +1.3**
ZEI *i* 18 32 25.6
ZEI pmax pmax
comp=Z,11nm,1.0s,mb4.7
OPO Ambohidratompo 55.19 238 P **P 18 31 25.6 +0.7**
comp=Z,2.1nm,0.7s,mb4.3,baz=94,slow=16,SNR=2.6
KIV Kislovodsk 55.49 316 *e*P **P 18 31 26.2 -0.9**
comp=Z,38nm,1.3s,mb5.3
KIV Kislovodsk 55.49 316 *e*P **P 18 31 26.2 -0.8**
KIV pmax pmax
comp=Z,38nm,1.3s,mb5.3
PMG Port Moresby 55.98 109 P **P 18 31 31.9 +1.3**
comp=Z,9.0nm,0.9s,mb4.8,baz=254,slow=13,SNR=4.1
YAK Yakutsk 57.03 19 *e*P **P 18 31 36.5 -1.5**
comp=Z,15nm,0.8s,mb5.1
YAK Yakutsk 57.03 19 *ce*P **P 18 31 36.3 -1.7**
YAK pmax pmax
comp=Z,29nm,1.0s,mb5.3
KMBO Kilima Mbogo 58.29 262 P **P 18 31 47.1 +0.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=34,slow=7.1,SNR=6.6
CTA Charters Tower 59.37 121 *e*P **P 18 31 54.9 +0.5**
comp=Z,7.0nm,1.4s,mb4.5
CTA Charters Tower 59.37 121 *e*P **P 18 31 54.9 +0.5**
CTA pmax pmax
comp=Z,7.0nm,1.4s
CTAO Charters Tower 59.37 121 *e*P **P 18 31 54.8 +0.5**
PECR Pechory 59.80 330 *e*P **P 18 31 56.0 -1.3**
VOR Voronezh 60.46 324 P **P 18 32 03.0 +1.1**
VOR pmax pmax
comp=Z,70nm,1.8s,mb5.4
BR131 Keskin Array S 60.90 309 *e*P **P 18 31 59.9 -5.0**
BRTR Keskin Array B 60.90 309 P **P 18 32 02.9 -2.0**
comp=Z,2.4nm,0.9s,mb4.3,baz=126,slow=7.6,SNR=6.6
STKA Stephens Creek 61.82 135 *e*P **P 18 32 09.9 -1.2**
comp=Z,8.7nm,0.8s,mb4.9
STKA Stephens Creek 61.82 135 P **P 18 32 10.1 -1.0**
comp=Z,13nm,0.9s,mb5.1,baz=321,slow=7.7,SNR=13
MOS Moscow 62.83 328 *e*P **P 18 32 15.2 -2.6**
MOS pmax pmax
comp=Z,700nm,4.0s
MOS pmax pmax
comp=Z,76nm,2.0s,mb5.5
MOS MLR MLR
comp=Z,2μm,18.0s,MS5.2
OBN Obninsk 63.16 327⇑ *i*P **P 18 32 18.2 -1.8**
OBN *e* 18 33 00.0
OBN *e* 18 34 43.4
OBN pmax pmax
comp=Z,65nm,2.5s,mb5.3
OBN MLR MLR
comp=Z,800nm,17.0s,MS5.0
MA2 Magadan 63.92 28 *e*P **P 18 32 25.1 0.0**
comp=Z,13nm,0.9s,mb5.0
MA2 Magadan 63.92 28 *e*P **P 18 32 25.0 0.0**
MA2 *e* 18 32 57.0
MA2 *e* 18 34 48.0
MA2 S **S 18 40 55.8 -2.8**
MA2 SS SS 18 45 03.7 -3.5
MA2 SSS 18 47 50.6
MA2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KLMR Klimovskoe 64.02 333 *e*P **P 18 32 20.6 -5.1**
KLMR pmax pmax
comp=Z,50nm,2.3s,mb5.1
TIXI Tiksi 64.23 11⇓ *i*P **P 18 32 25.1 -2.0**
TIXI Tiksi 64.23 11 *e*P **P 18 32 23.8 -3.3**
TIXI pmax pmax
comp=Z,31nm,1.0s,mb5.3
TIXI MLR MLR
comp=Z,940nm,19.0s,MS5.0
SEY Seymchan 66.03 25⇓ *e*P **P 18 32 37.8 -1.0**
SEY Seymchan 66.03 25 *e*P **P 18 32 38.0 -0.8**
SEY *e* 18 35 01.5
SEY *e*S S 18 41 27.3 +2.7
SEY pmax pmax
comp=Z,36nm,2.7s,mb4.9
SEY smax
comp=N,25nm,12.0s
SEY smax
comp=E,229nm,19.5s
SEY MLR MLR
comp=Z,3μm,25.0s,MS5.3
SEY MLR MLR
comp=N,669nm,19.0s
SEY MLR MLR
comp=E,2μm,22.0s
AKASG Malin Array Be 66.16 321 P **P 18 32 35.7 -3.9**
comp=E,0.4nm,0.5s,baz=90,slow=5.6,SNR=5.5
AKASG Malin Array Be 66.16 321 P **P 18 32 35.7 -3.9**
VRI Vrincioaia 66.93 315⇑ P **P 18 32 44.7 +0.2**
MLR Muntele Rosu 67.42 315 P **P 18 32 45.6 -2.1**
comp=E,5.2nm,0.9s,mb4.6,baz=61,slow=2.6,SNR=5.1
MLR Muntele Rosu 67.42 315⇓ P **P 18 32 46.9 -0.7**
BURAR Bucovina Array 68.20 317⇑ P **P 18 32 53.8 +1.2**
BURAR Bucovina Array 68.20 317⇑ P **P 18 32 53.8 +1.2**
ARMA Armidale 68.40 129 *e*P **P 18 32 56.5 +2.7**
JOF Joensuu 68.40 334 *ep* **P 18 32 51.0 -2.8**
comp=E,12nm,0.8s,mb5.0
LVZ Lovozero 68.96 339⇑ *i*P **P 18 32 56.8 -0.5**
LVZ Lovozero 68.96 339 *i*P **P 18 32 56.7 -0.6**
LVZ pmax pmax
comp=Z,19nm,1.0s,mb5.0
LVZ pmax pmax
comp=N,7.0nm,1.1s
LVZ pmax pmax
comp=E,4.0nm,0.9s
APA Apatity 69.26 339⇑ *i*P **P 18 32 59.0 -0.2**
APA pmax pmax
comp=Z,58nm,1.2s,mb5.4
APA MLR MLR
comp=Z,2μm,18.0s,MS5.4
KOLS Kolonicke sedl 70.32 318 *e*P **P 18 33 06.5 +0.8**
KOLS *e* 18 33 28.6
KOLS *e* 18 34 09.6
KOLS Kolonicke sedl 70.32 318 *e*P **P 18 33 06.5 +0.8**
KOLS *e* 18 33 28.6
FINES FINESS Array B 70.33 332 P **P 18 33 05.2 -0.6**
comp=Z,4.9nm,0.8s,mb4.5,baz=103,slow=8.4,SNR=18
FINES LR LR 19 10 46.9
comp=Z,468nm,18.8s,MS4.8,baz=323,slow=42
KAF Kangasniemi 70.39 332 *ep* **P 18 33 02.0 -4.1**
comp=Z,8.7nm,0.9s,mb4.7
KAF Kangasniemi 70.39 332 *e*P **P 18 33 02.0 -4.1**
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CRVS Cervenica-Dubn 70.85 318 *e*P **P 18 33 09.9 +1.0**
CRVS *e* 18 34 15.4
STHS Stebnicka Huta 71.04 319 *e*P **P 18 33 11.1 +1.1**
STHS *e* 18 34 10.4
OJC Ojcow 72.04 319 *e*P **P 18 33 16.5 +0.4**
VYHS Vyhne 72.55 317 *e*P **P 18 33 18.7 -0.4**
VYHS *e* 18 34 21.1
ARCES ARCESS Array B 72.66 340 P **P 18 33 18.8 -1.0**
comp=Z,8.1nm,0.9s,mb4.7,baz=106,slow=2.6,SNR=10
BILL Bilibino 73.16 22 *e*P **P 18 33 21.9 -0.8**
comp=Z,10nm,1.0s,mb4.7
BILL Bilibino 73.16 22 *e*P **P 18 33 21.9 -0.8**
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ZST Bratislava 73.69 317 *e*P **P 18 33 26.8 +0.9**
ZST *e* 18 34 29.2
GERES GERESS Array B 75.96 318 P **P 18 33 37.4 -1.6**
comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=6.2
GERES LR LR 19 13 54.9
comp=Z,403nm,20.6s,MS4.7,baz=224,slow=41
KHC Kasperske Hory 76.04 318 *ex* x 18 34 02.0
HFS Hagfors 76.16 329 P **P 18 33 39.6 -0.5**
comp=Z,7.0nm,0.7s,mb4.7,baz=96,slow=3.0,SNR=12
CLL Collm 76.39 320⇑ *i*P **P 18 33 41.6 +0.1**
CLL *e*(sP) sP 18 33 47.0 -8.2
CLL *ex* x 18 34 44.0
NB2 NORSAR Subarra 77.40 330 P **P 18 33 45.4 -1.7**
comp=Z,12nm,0.9s,mb4.8,baz=91,slow=5.9
NB2 NORSAR Subarra 77.40 330 P **P 18 33 45.4 -1.7**
NB2 pmax pmax
comp=Z,12nm,0.9s,mb4.8
NOA NORSAR Array B 77.40 330 P **P 18 33 45.2 -2.0**
comp=Z,9.1nm,0.9s,mb4.7,baz=90,slow=5.8,SNR=15
GRA1 Grafenberg Arr 77.57 319 *e*P **P 18 33 49.3 +1.3**
comp=Z,15nm,1.7s,mb4.7
GRF Grafenberg Arr 77.57 319 *e*P **P 18 33 49.3 +1.3**
comp=Z,15nm,1.7s,mb4.7
BOSA Boshof 77.59 237 P **P 18 33 46.0 -2.1**
comp=Z,3.7nm,0.8s,mb4.4,baz=227,slow=4.8,SNR=4.3
DAVOX Davos 78.61 316 P **P 18 33 51.8 -2.0**
comp=Z,2.8nm,0.6s,mb4.3,baz=11,slow=16,SNR=3.1
LPG La Plagne 80.89 315 *e*P **P 18 34 05.6 -0.6**
comp=Z,25nm,1.0s,mb4.8
LPG La Plagne 80.89 315 *e*P **P 18 34 05.6 -0.6**
comp=Z,12nm,1.0s,mb4.8
LPG La Plagne 80.89 315 *e*P **P 18 34 05.6 -0.6**
LPG pmax pmax
comp=Z,12nm,1.0s,mb4.8
EKA Eskdalemuir Ar 85.57 325 P **P 18 34 29.6 -0.7**
comp=Z,10nm,0.8s,mb5.1,baz=94,slow=6.1,SNR=14
SYO Syowa Base 88.38 197⇓ *e*P **P 18 34 45.5 +1.5**
ESDC Sonseca Array 89.69 310 P **P 18 34 50.0 -0.1**
comp=Z,0.5nm,0.5s,mb4.1,baz=60,slow=4.4,SNR=7.0
TORD Torodi Ar. Bea 90.40 283 P **P 18 34 53.2 -0.2**
comp=Z,2.3nm,0.9s,mb4.5,baz=82,slow=4.5,SNR=9.5
TORD PP PP 18 38 28.2 +0.3
comp=Z,1.1nm,1.0s,baz=69,slow=2.6,SNR=4.1
ILAR Eielson Array 91.82 22 P **P 18 34 58.5 -1.5**
comp=Z,1.9nm,0.8s,mb4.5,baz=296,slow=4.3,SNR=15
ILAR PP PP 18 38 36.5 -2.6
comp=Z,1.2nm,1.1s,baz=301,slow=6.5,SNR=5.0
INK Inuvik 94.01 16 P **P 18 35 09.1 -1.1**
comp=Z,3.5nm,1.0s,mb4.7,baz=14,slow=0.8,SNR=4.5
VNDA Vanda 95.73 168 P **P 18 35 17.8 -0.2**
comp=Z,1.8nm,0.8s,mb4.5,baz=290,slow=5.6,SNR=3.5
YKA Yellowknife Ar 103.43 13 Pdiff Pdif 18 35 52.4 -0.1
comp=Z,0.2nm,0.9s,baz=198,slow=8.4,SNR=3.7
YKA PP PP 18 40 01.6 -6.7
comp=Z,0.2nm,0.6s,baz=336,slow=7.4,SNR=2.8
ULM Lac du Bonnet 118.47 8 PKP PKPdf 18 40 38.3 -1.3
comp=Z,2.1nm,0.7s,baz=281,slow=2.5,SNR=6.0
NVAR Mina Array Bea 122.12 30 PKP PKPdf 18 40 47.6 +1.0
comp=Z,3.9nm,1.0s,baz=275,slow=1.9,SNR=11
PDAR Pinedale Array 122.23 21 PKP PKPdf 18 40 46.5 -0.3
comp=Z,4.1nm,0.9s,baz=43,slow=2.0,SNR=17
HWUT Hardware Ranch 122.50 23 *e*PKPdf PKPdf 18 40 47.6 +0.2
DUG Dugway 123.19 25 *e*PKPdf PKPdf 18 40 51.0 +2.3
ANMO Albuquerque 130.25 23 *e*PKPdf PKPdf 18 41 04.3 +2.1
ANMO Albuquerque 130.25 23⇑ *i*PKIKP PKPdf 18 41 03.7 +1.5
JCT Junction City 136.62 18 *e*PKPdf PKPdf 18 41 16.4 +2.3
BDFB Brasilia 143.37 258 PKP PKPdf 18 41 24.9 -1.5
comp=Z,2.5nm,0.6s,baz=135,slow=4.3,SNR=3.3
PLCA Paso Flores 147.49 201 PKPbc PKPbc 18 41 37.7 +1.7
comp=Z,9.1nm,1.1s,baz=146,slow=8.7,SNR=6.6
CPUP Villa Florida 149.40 236 PKPbc PKPbc 18 41 41.4 +0.5
comp=Z,7.2nm,1.0s,baz=59,slow=3.5,SNR=8.3
CPUP Villa Florida 149.40 236 *e*PKP2 PKPab 18 41 41.9 -3.9
LPAZ La Paz 162.41 250 PKPab PKPab 18 42 41.8 +0.4
comp=Z,2.0nm,0.8s,baz=122,slow=6.9,SNR=3.7

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*IDC **09** 18:23:20.1±0.9, 67.11N×21.03E, h0km, mb1 2.9/4, mb1mx2.9/22, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=15.4km s-min=6.5km az=114.0*
*NAO **09** 18:23:20.7±1.0, 67.07N×21.02E, ML2.0*
*BER **09** 18:23:22.3±3.8, 67.09N×20.89E, h0km, ML1.7, ML2.0(NAO), Suspected explosion*
HEL 09 18:23:20.8±0.1, 67.07N×20.92E, h0km, ML1.9, ML2.4(UPP), **ML1.7**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**290**	*i* P		Pg	18 23 23.1	-0.5
MASU	**Masugnsbyn**	**0.57**	**47**	*i* P		Pg	18 23 30.9	-0.8
ERTU	**Ertsjaerv**	**0.72**	**135**	*i* P		Pg	18 23 33.5	-1.2
PAJU	**Pajala**	**0.86**	**92**	*i* P		Pg	18 23 35.9	-1.4
KUA	**Kurravaara**	**0.91**	**346**	*e*P		Pg	18 23 36.9	-1.5
SALU	**Saltolukta**	**0.99**	**289**	*e*P		Pg	18 23 38.5	-1.3
LANU	**Lannavaara**	**1.06**	**22**	*e*P		Pg	18 23 39.4	-1.8
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P		Pg	18 23 39.9	-1.6
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P		Pn	18 23 49.2	-1.1
LILU	**Lilltraesk**	**1.85**	**194**	*e*P		Pn	18 23 53.2	-0.6
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P		Pn	18 23 56.2	+1.2
KIF				*e*SG		Sg	18 24 23.1	-0.1
KIF				MSG			18 24 27.8	
KTK1	**Kautokeino**	**2.13**	**23**	*e*P		Pn	18 23 57.8	+0.1
KTK1				*e*SG		Sg	18 24 27.1	-2.2
KTK1				AML		AML	18 24 31.9	
SGF	**Sodankyl**	**2.21**	**78**	*e*P		Pn	18 23 58.5	-0.2
SGF				*e*S		Sn	18 24 27.6	+0.9
BURU	**Burvik**	**2.51**	**175**	*e*P		Pn	18 24 02.9	+0.1
MOR8	**Moi Rana**	**2.74**	**254**	*e*P		Pn	18 24 04.4	-1.5
MOR8				*e*SG		Sg	18 24 40.4	-8.3
MOR8				AML		AML	18 24 43.3	
OUL	**Oulu**	**2.84**	**132**	*e*P		Pn	18 24 08.6	+1.2
OUL				*e*SG		Sg	18 24 47.4	-4.8
OUL				MSG			18 24 48.5	
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn		Pn	18 24 08.8	-0.8
ARA0				Sn		Sn	18 24 46.0	-0.3
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P		Pn	18 24 08.8	-0.8
ARA0				*e*S		Sn	18 24 46.0	-0.3
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn		Pn	18 24 09.0	-0.6
ARCES				Sn		Sn	18 24 46.2	-0.1
ARCES				Lg			18 24 50.5	
LOF	**Lofoten**	**3.02**	**294**	*e*P		Pn	18 24 10.8	+0.9
UMAU	**Umeaa**	**3.21**	**182**	*e*P		Pn	18 24 12.2	-0.2
BREU	**Bredtraesk**	**3.34**	**198**	*e*P		Pn	18 24 13.8	-0.4
KEV	**Kevo**	**3.51**	**37**	*e*P		Pn	18 24 15.1	-1.5
KU4	**Liikasenvaara**	**3.51**	**98**	*e*P		Pn	18 24 16.7	+0.1
KU4				*e*S		Sn	18 24 58.4	-0.5
HUSU	**Husum**	**3.81**	**192**	*e*P		Pn	18 24 20.8	0.0
VAF	**Ylistaro**	**4.11**	**169**	*e*P		Pn	18 24 25.7	+0.8
VAF				*e*S		Sn	18 25 12.7	-1.0
KJN	**Kajaani**	**4.12**	**134**	*e*P		Pn	18 24 24.9	0.0
KJN				*e*S		Sn	18 25 12.8	-1.0
SOLU	**Sollefteaa**	**4.14**	**204**	*e*P		Pn	18 24 25.4	+0.2
APA0	**Apatity Array**	**4.70**	**78**	Pn		Pn	18 24 31.4	-1.5
APA0				Sn		Sn	18 25 26.6	-1.6
APA0				Lg			18 25 44.7	

baz=278,slow=28
APA0 Apatity Array 4.70 78 *e*P Pn 18 24 31.4 -1.5
APA0 *e*S Sn 18 25 26.6 -1.6
APA0 *e*SG Sg 18 25 44.7 -7.1
SUF Sumiainen 4.90 151 *e*P Pn 18 24 35.7 -0.1
KEF Keuruu 5.21 159 *e*P Pn 18 24 40.1 +0.2
KEF MSG 18 25 44.4
comp=Z,1.0nm,0.2s
KAF Kangasniemi 5.49 153 *e*P Pn 18 24 43.8 0.0
KAF MSG 18 25 52.3
comp=Z,1.3nm,0.2s
ARNU Arnoeviken 5.62 198 *e*P Pn 18 24 45.1 -0.5
JOF Joensuu 6.06 129 *e*P Pn 18 24 51.1 -0.6
JOF *e*S Sn 18 25 59.3 -2.4
JOF MSG 18 26 03.6
comp=Z,0.8nm,0.2s
FIA0 FINESS Array S 6.08 156 Pn Pn 18 24 51.9 0.0
baz=346,slow=16
FIA0 Sn Sn 18 25 58.8 -3.4
baz=355,slow=28
FIA0 Lg 18 26 31.3
baz=338,slow=28
FIA0 FINESS Array S 6.08 156 *e*P Pn 18 24 52.0 +0.1
FINES FINESS Array B 6.08 156 Pn Pn 18 24 52.0 +0.1
comp=Z,0.2nm,0.3s,baz=349,slow=14,SNR=9.1
FINES Sn Sn 18 26 00.9 -1.3
comp=Z,0.3nm,0.3s,baz=349,slow=23,SNR=6.3
FINES Lg 18 26 31.3
comp=Z,0.3nm,0.3s,baz=339,slow=30,SNR=3.7
RAF Rauma 6.08 176 *e*P Pn 18 24 51.1 -0.9
IGGU Iggoen 6.42 196 *e*P Pn 18 24 55.8 -0.8
NB2 NORSAR Subarra 7.39 220 Pn Pn 18 25 08.4 -1.5
baz=27,slow=14
NB2 Sn Sn 18 26 31.2 -3.3
NB2 NORSAR Subarra 7.39 220 *e*P Pn 18 25 08.4 -1.5
NB2 *e*S Sn 18 26 31.2 -3.3
NOA NORSAR Array B 7.39 220 Pn Pn 18 25 08.2 -1.7
comp=Z,0.1nm,0.3s,baz=65,slow=14,SNR=2.7
NOA Sn Sn 18 26 28.7 -5.8
comp=Z,0.1nm,0.3s,baz=296,slow=17,SNR=2.7
NOA Lg 18 27 12.1
comp=Z,0.1nm,0.3s,baz=9.2,slow=17,SNR=3.2
HFS Hagfors 7.67 208 Pn Pn 18 25 11.6 -2.1
baz=33,slow=14
HFS Hagfors 7.67 208 *e*P Pn 18 25 11.6 -2.1
HFS Hagfors 7.67 208 Pn Pn 18 25 12.9 -0.8
comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=6.5

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*BJI **09** 18:26:19.3, 983N×94.19E, h10km, mB5.4, mb4.3, Ms5.3, Msz5.4*
*IDC **09** 18:26:25.5±0.7, 1067N×9433E, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.2/25, mbtmp4.3/15, Error ellipse: s-maj=38.3km s-min=13.4km az=59.0*
*NEIC **09** 18:26:27.3±0.4, 1066N×9424E, h10km, mb5.0/16, Error ellipse: s-maj=14.3km s-min=6.1km az=54.0*
*HRVD **09** 18:26:27.3±0.7, 1079N×9451E, h12km, MW5.3/52, Centroid moment Tensor Solution. LP body waves: s24,c29;Mantle waves: s52,c75; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.54±.05; $M_{\theta\theta}$=0.68±.04; $M_{\phi\phi}$=-0.14±.07; $M_{r\theta}$=0.61±.14; $M_{\theta\phi}$=0.05±.04; $M_{r\phi}$=0.53±.22; Best double couple: M_0=1.02400×10^{17} NP1:ϕ_s=111.00000°, δ=27.00000°, λ=-40.00000°. NP2: ϕ_s=238.00000°, δ=73.00000°, λ=-111.00000°. Principal axes: T 0.9980, Plg=25.0000°, Azm=344.0000°; N 0.0500, Plg=20.0000°, Azm=244.0000°; P -1.0490, Plg=57.0000°, Azm=121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 18:26:29.1±0.9, 1079N×9445E, h33km, mb5.0/10 Error ellipse: s-maj=17.6km s-min=8.1km az=113.6*
*ISCJB **09** 18:26:32.3±2.0, 1071N±006×9429E±007, h65km±19km, mb4.5/29, Error ellipse: s-maj=13.4km s-min=7.3km az=100.1*

ISC 09 18:26:33.5±1.6, 1076N±006×9431E±007, h57km±15km, n69, σ1§05/63, mb4.5/29, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**16.38**	**28**	P	**Pn**	**18 30 22.3**	**+2.8**
KMI				AP	pP	18 30 30.4	-3.4
KMI				AMB	AMB		
comp=Z,20nm,1.6s							
HYB	**Hyderabad**	**16.65**	**295**	*i* P	**Pn**	**18 30 24.0**	**+1.1**
HYB	**Hyderabad**	**16.65**	**295**	*e*P	**Pn**	**18 30 24.0**	**+1.1**
QIZ	**Qiongzhong**	**17.11**	**59**	*e*P	**Pn**	**18 30 30.1**	**+1.5**
comp=Z,129nm,2.0s							
KSM	**Kuching**	**18.38**	**119**	*e*P	**Pn**	**18 30 42.2**	**-1.9**
JIRN	**Jiri**	**18.46**	**337**	*e*P	**Pn**	**18 30 45.2**	**0.0**
comp=Z,210nm,1.3s							
PKI	**Pulchoki**	**18.70**	**335**	*e*P	**Pn**	**18 30 48.2**	**+0.1**
comp=Z,224nm,1.5s							
PKI	**Pulchoki**	**18.70**	**335**	*e*P	**Pn**	**18 30 48.2**	**+0.1**
PKI				pmax	pmax		
comp=Z,112nm,1.5s							
GUN	**Gumba**	**18.81**	**336**	*e*P	**Pn**	**18 30 49.3**	**-0.1**
comp=Z,526nm,1.7s							
DMN	**Daman**	**18.86**	**334**	*e*P	**Pn**	**18 30 50.4**	**+0.4**
comp=Z,112nm,1.0s							
KKN	**Kakani**	**18.95**	**335**	*e*P	**Pn**	**18 30 50.4**	**-0.6**
comp=Z,156nm,1.2s							
KKN	**Kakani**	**18.95**	**335**	*e*P	**Pn**	**18 30 50.4**	**-0.6**
KKN				pmax	pmax		
comp=Z,78nm,1.2s							
GKN	**Gorkha**	**19.41**	**333**	*e*P	**Pn**	**18 30 55.8**	**-0.7**
comp=Z,170nm,1.1s							
GYA	**Guiyang**	**19.50**	**35**	P	**Pn**	**18 30 55.4**	**-2.1**
GYA				AMB	AMB		
comp=Z,10.0nm,1.3s							
KOLN	**Koldanda**	**19.69**	**331**	*e*P	**Pn**	**18 30 59.1**	**-0.7**
comp=Z,289nm,1.4s							
CD2	**Chengdu**	**21.89**	**22**	P	**P**	**18 31 21.8**	**+0.1**
CD2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.3							
KKM	**Kota Kinabalu**	**22.17**	**100**	*e*P	**P**	**18 31 25.1**	**+0.4**
ENH	**Enshi**	**24.01**	**34**	*e*P	**P**	**18 31 41.1**	**-1.8**
comp=Z,132nm,1.4s,mb5.2							
LZH	**Lanzhou**	**26.66**	**17**	*e*P	**P**	**18 32 09.1**	**+2.2**
LZH				AP	pP	18 32 15.2	-5.7
LZH				XP	sP	18 32 18.6	-9.0
LZH				AMB	AMB		
comp=Z,82nm,1.6s,mb5.0							
LZH				AMB	AMB		
comp=Z,321nm,4.6s							
GTA	**Gaotai**	**28.95**	**9**	*e*P	**P**	**18 32 29.6**	**+2.2**
GTA				AP	pP	18 32 35.4	-6.1
GTA				XP	sP	18 32 38.4	-10
GTA				AMB	AMB		
comp=Z,9.0nm,2.2s,mb4.1							
AAK	**Ala-Archa**	**36.16**	**335**	*e*P	**P**	**18 33 29.0**	**-1.4**
comp=Z,10nm,1.2s,mb4.6							
AAK	**Ala-Archa**	**36.16**	**335**	*e*P	**P**	**18 33 29.0**	**-1.3**
AAK				pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.6							
MKAR	**Makanchi Array**	**37.34**	**346**	P	**P**	**18 33 40.4**	**0.0**
comp=Z,2.5nm,0.6s,mb4.2,baz=172,slow=8.6,SNR=10							
SONM	**Songino Array**	**38.33**	**13**	P	**P**	**18 33 49.4**	**+0.6**
comp=Z,1.4nm,0.9s,mb3.7,baz=193,slow=6.7,SNR=3.8							
ZAK	**Zakamensk**	**40.19**	**9**	*e*P	**P**	**18 34 05.2**	**+0.9**
ZAK				pmax	pmax		
comp=Z,13nm,1.9s,mb4.3							
ZAK				pmax	pmax		
comp=Z,14nm,1.9s,mb4.4							
KURK	**Kurchatov**	**41.88**	**345**	*e*P	**P**	**18 34 16.4**	**-1.7**
CN2	**Changchun**	**42.53**	**34**	*e*P	**P**	**18 34 24.6**	**+1.2**
ZAL	**Zalesovo**	**43.73**	**352**	P	**P**	**18 34 33.2**	**+0.1**
comp=Z,1.7nm,0.6s,mb4.0,baz=300,slow=10,SNR=4.9							
HIA	**Hailar**	**43.83**	**24**	*e*P	**P**	**18 34 34.3**	**+0.5**
comp=Z,44nm,1.6s,mb4.9							
HIA	**Hailar**	**43.83**	**24**	*e*P	**P**	**18 34 34.3**	**+0.4**
HIA				pmax	pmax		
comp=Z,43nm,1.6s							
BVAR	**Borovoye Array**	**46.34**	**340**	P	**P**	**18 34 53.1**	**-0.7**
comp=Z,1.1nm,0.9s,mb3.8,baz=108,slow=9.3,SNR=3.8							
BRVK	**Borovoye**	**46.40**	**340**	*e*P	**P**	**18 34 53.8**	**-0.5**
ZRNK	**Zerenda**	**46.75**	**339**	*e*P	**P**	**18 34 57.4**	**+0.3**
MJAR	**Matsushiro Arr**	**47.15**	**50**	PcP	PcP	18 36 31.5	+0.5
comp=Z,1.5nm,0.8s,baz=258,slow=5.7,SNR=4.9							
MUN	**Mundaring**	**47.38**	**154**	*e*P	**P**	**18 35 02.9**	**+1.0**
KLBR	**Kellerberrin**	**47.73**	**153**	*e*P	**P**	**18 35 05.1**	**+0.5**
comp=Z,34nm,1.1s,mb5.3							
NWAO	**Narrogin (SRO)**	**48.64**	**154**	P	**P**	**18 35 11.1**	**-0.6**
comp=Z,15nm,0.9s,mb5.0,baz=307,slow=9.5,SNR=6.3							
NWAO	**Narrogin (SRO)**	**48.64**	**154**	*e*P	**P**	**18 35 11.6**	**0.0**
comp=Z,50nm,1.7s,mb5.3							
NWAO	**Narrogin (SRO)**	**48.64**	**154**	*e*P	**P**	**18 35 11.6**	**0.0**
NWAO				pmax	pmax		
comp=Z,50nm,1.7s							
BOD	**Bodaibo**	**49.33**	**14**	*e*P	**P**	**18 35 15.8**	**-1.1**
BOD				pmax	pmax		
comp=Z,9.0nm,1.5s,mb4.6							
KLR	**Kul'dur**	**49.35**	**32**	*e*P	**P**	**18 35 15.7**	**-1.4**
AKTK	**Aktyubinsk**	**49.53**	**330**	P	**P**	**18 35 18.5**	**0.0**
AKTO	**Aktyubinsk**	**49.53**	**330**	P	**P**	**18 35 18.5**	**0.0**
comp=Z,1.2nm,0.8s,mb4.0,baz=120,slow=17,SNR=3.4							
WRA	**Warramunga Arr**	**49.84**	**128**	P	**P**	**18 35 20.3**	**-0.5**
comp=Z,9.8nm,0.9s,mb4.8,baz=304,slow=8.6,SNR=17							
WRAB	**Tennant Creek**	**49.84**	**128**	*e*P	**P**	**18 35 21.4**	**+0.6**
comp=Z,64nm,1.5s,mb5.4							
WRAB	**Tennant Creek**	**49.84**	**128**	*e*P	**P**	**18 35 21.4**	**+0.6**
WRAB				pmax	pmax		
comp=Z,65nm,1.5s,mb5.4							
WB2	**Warramunga Arr**	**49.85**	**128**	*e*P	**P**	**18 35 20.7**	**-0.2**
ASAR	**Alice Springs**	**51.67**	**132**	P	**P**	**18 35 33.4**	**-1.2**
comp=Z,13nm,0.8s,mb4.9,baz=311,slow=7.5,SNR=32							
GNI	**Garni**	**52.58**	**313**	P	**P**	**18 35 42.4**	**+1.0**
KIV	**Kislovodsk**	**55.33**	**316**	P	**P**	**18 35 59.0**	**-2.4**
KIV	**Kislovodsk**	**55.33**	**316**	*e*P	**P**	**18 36 05.7**	**+4.3**
KIV				pmax	pmax		
comp=Z,14nm,1.0s,mb5.0							
YAK	**Yakutsk**	**57.23**	**19**	*e*P	**P**	**18 36 15.0**	**+0.1**
comp=Z,16nm,0.8s,mb5.1							
YAK	**Yakutsk**	**57.23**	**19**	*e*P	**P**	**18 36 15.0**	**+0.1**
YAK				pmax	pmax		
comp=Z,16nm,0.8s,mb5.1							
CTA	**Charters Tower**	**59.60**	**121**	P	**P**	**18 36 31.9**	**+0.4**
comp=Z,4.8nm,0.8s,mb4.6,baz=298,slow=6.3,SNR=3.6							
BRTR	**Keskin Array B**	**60.70**	**310**	P	**P**	**18 36 40.0**	**+1.0**
comp=Z,2.4nm,1.1s,mb4.2,baz=354,slow=6.2,SNR=4.2							
STKA	**Stephens Creek**	**61.99**	**135**	*e*P	**P**	**18 36 46.7**	**-1.0**
comp=Z,9.7nm,0.9s,mb4.9							
STKA	**Stephens Creek**	**61.99**	**135**	P	**P**	**18 36 46.6**	**-1.1**
comp=Z,9.3nm,0.9s,mb4.9,baz=330,slow=6.8,SNR=12							
TIXI	**Tiksi**	**64.39**	**11**	*e*P	**P**	**18 37 02.1**	**-1.5**
TIXI				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.8							
ARMA	**Armidale**	**68.60**	**129**	‖ *i*P	**P**	**18 37 33.3**	**+2.9**
FINES	**FINESS Array B**	**70.26**	**332**	P	**P**	**18 37 40.5**	**-0.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=108,slow=4.5,SNR=3.2							
ARCES	**ARCESS Array B**	**72.63**	**340**	P	**P**	**18 37 55.7**	**+0.8**
comp=Z,1.4nm,0.7s,mb4.0,baz=79,slow=7.5,SNR=11							
BILL	**Bilibino**	**73.36**	**22**	*e*P	**P**	**18 38 04.7**	**+5.4**
BILL				pmax	pmax		
comp=Z,14nm,1.7s,mb4.6							
TORD	**Torodi Ar. Bea**	**90.10**	**283**	PP	PP	18 43 03.9	+2.8
comp=Z,1.6nm,1.1s,baz=64,slow=7.1,SNR=6.6							
ILAR	**Eielson Array**	**92.03**	**22**	P	**P**	**18 39 36.2**	**0.0**
comp=Z,0.5nm,0.9s,mb3.8,baz=258,slow=4.5,SNR=3.5							
INK	**Inuvik**	**94.19**	**16**	P	**P**	**18 39 46.5**	**+0.3**
comp=Z,1.1nm,0.5s,mb4.5,baz=338,slow=7.1,SNR=3.8							
NVAR	**Mina Array Bea**	**122.37**	**30**	PKP	PKPdf	18 45 23.1	+0.9
comp=Z,0.4nm,0.5s,baz=248,slow=1.6,SNR=3.5							
PDAR	**Pinedale Array**	**122.43**	**21**	PKP	PKPdf	18 45 23.4	+1.1
comp=Z,0.7nm,0.7s,baz=140,slow=1.7,SNR=3.7							
PLCA	**Paso Flores**	**147.28**	**202**	PKPbc	PKPbc	18 46 11.6	+1.1
comp=Z,6.9nm,1.1s,baz=100,slow=4.6,SNR=5.2							
CPUP	**Villa Florida**	**149.07**	**236**	PKPbc	PKPbc	18 46 15.1	-0.2
comp=Z,1.9nm,0.7s,baz=284,slow=0.9,SNR=5.6							

IDC 09 18:30:33.1±3.5, 1074N×9445E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, Error ellipse: s-maj=144.3km s-min=26.4km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.91**	**299**	*e*P	Pn	18 31 15.2	+8.4
PBA				*e*S	Sn	18 31 27.9	-3.6
PBA				*ex*	x	18 31 28.9	
comp=E,192nm,0.2s							
PBA				*ex*	x	18 31 29.6	
comp=N,208nm,0.2s							
MKAR	**Makanchi Array**	**37.38**	**346**	P	P	18 37 47.8	+0.3
comp=N,1.7nm,0.8s,baz=158,slow=7.8,SNR=4.4							
SONM	**Songino Array**	**38.32**	**13**	P	P	18 37 55.2	-0.2
comp=N,1.1nm,1.0s,baz=198,slow=6.4,SNR=3.9							
WRA	**Warramunga Arr**	**49.72**	**128**	P	P	18 39 27.3	+0.4
comp=N,0.7nm,0.8s,baz=304,slow=8.9,SNR=1.5							
ASAR	**Alice Springs**	**51.55**	**132**	P	P	18 39 41.3	+0.5
comp=N,1.2nm,0.9s,baz=309,slow=7.2,SNR=4.1							

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*ISCJB **09** 18:36:27.5±4.8, 107N±0.1×946E±0.2, h5km±31km, mb4.0/13, MS4.9/1, Error ellipse: s-maj=37.4km s-min=8.8km az=123.4*
*IDC **09** 18:36:28.7±0.7, 1075N×9458E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/25, mbtmp4.0/13, ML4.0/1, MS4.9/1, Ms1 4.9/1, ms1mx3.6/29, Error ellipse: s-maj=38.5km s-min=13.7km az=61.0*
*NEIC **09** 18:36:30.5±0.4, 1080N×9469E, h10km, mb4.4/7, Error ellipse: s-maj=24.8km s-min=5.7km az=63.0*

ISC 09 18:36:30.9±4.8, 108N±01×946E±02, h12km±31km, n30, σ0§63/26, mb4.0/13, MS4.9/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.99**	**297**	*e*P	Px	18 37 19.4	
PBA				*e*S	Sx	18 37 46.4	
PBA				*ex*	x	18 38 09.3	
comp=E,1μm,0.7s							
PBA				*ex*	x	18 38 13.7	
comp=N,849nm,0.7s							
PSI	**Prapat**	**9.02**	**151**	Pn	**Pn**	**18 38 40.4**	**-0.5**
comp=N,1.4nm,0.3s,baz=316,slow=8.6,SNR=3.7							
JIRN	**Jiri**	**18.56**	**336**	*e*P	**Pn**	**18 40 48.3**	**+0.6**
comp=N,104nm,1.6s							
PKI	**Pulchoki**	**18.80**	**334**	*e*P	**Pn**	**18 40 51.3**	**+0.6**
comp=N,56nm,1.5s							
GUN	**Gumba**	**18.91**	**336**	*e*P	**Pn**	**18 40 52.5**	**+0.6**
comp=N,166nm,1.7s							
DMN	**Daman**	**18.97**	**333**	*e*P	**Pn**	**18 40 52.0**	**-0.7**
KKN	**Kakani**	**19.05**	**334**	*e*P	**Pn**	**18 40 53.8**	**+0.1**
LSA	**Lhasa**	**19.11**	**351**	*e*P	**Pn**	**18 40 54.8**	**+0.4**
comp=N,3.6nm,0.8s							
GKN	**Gorkha**	**19.52**	**333**	*e*P	**Pn**	**18 40 58.7**	**-0.6**
comp=N,40nm,1.0s							
KOLN	**Koldanda**	**19.81**	**330**	*e*P	**Pn**	**18 41 02.1**	**-0.6**
MKAR	**Makanchi Array**	**37.39**	**346**	P	**P**	**18 43 43.9**	**+0.4**
comp=N,2.4nm,0.7s,mb4.1,baz=162,slow=7.5,SNR=21							
SONM	**Songino Array**	**38.27**	**13**	P	**P**	**18 43 51.2**	**+0.3**
comp=N,2.8nm,1.0s,mb4.0,baz=196,slow=9.2,SNR=12							
KURK	**Kurchatov**	**41.94**	**345**	*e*P	**P**	**18 44 21.1**	**-0.3**
comp=N,9.3nm,1.1s,mb4.3							
ZAL	**Zalesovo**	**43.76**	**352**	P	**P**	**18 44 35.9**	**-0.3**
comp=N,1.3nm,0.7s,mb3.8,baz=295,slow=4.7,SNR=9.4							
BVAR	**Borovoye Array**	**46.42**	**340**	P	**P**	**18 44 55.1**	**-2.2**
comp=N,0.1nm,0.3s,mb3.2,baz=184,slow=39,SNR=3.3							
MUN	**Mundaring**	**47.28**	**155**	*e*P	**P**	**18 45 04.6**	**+0.6**
MUN				*i* pP	pP	18 45 11.4	+3.5
NWAO	**Narrogin (SRO)**	**48.53**	**154**	P	**P**	**18 45 14.3**	**+0.5**
comp=N,13nm,0.9s,mb4.9,baz=319,slow=7.4,SNR=7.4							
NWAO				LR	LR	19 05 51.7	
comp=N,1μm,18.3s,MS4.9,baz=56,slow=36							
NWAO	**Narrogin (SRO)**	**48.53**	**154**	P	**P**	**18 45 14.3**	**+0.5**
NWAO				LR	LR	19 05 51.8	
WRA	**Warramunga Arr**	**49.64**	**128**	P	**P**	**18 45 23.0**	**+0.7**
comp=N,1.0nm,0.8s,mb3.9,baz=304,slow=9.0,SNR=7.7							
AKTK	**Aktyubinsk**	**49.65**	**330**	P	**P**	**18 45 22.6**	**+0.4**
AKTO	**Aktyubinsk**	**49.65**	**330**	P	**P**	**18 45 22.6**	**+0.4**
comp=N,0.5nm,0.4s,mb3.9,baz=110,slow=6.2,SNR=4.0							
ASAR	**Alice Springs**	**51.49**	**132**	P	**P**	**18 45 35.9**	**-0.3**
comp=N,1.6nm,0.8s,mb4.0,baz=309,slow=7.1,SNR=17							
STKA	**Stephens Creek**	**61.82**	**135**	*e*P	**P**	**18 46 48.9**	**-0.7**
comp=N,2.6nm,0.8s,mb4.4							
STKA				*e*pP	pP	18 46 55.6	+2.0
STKA	**Stephens Creek**	**61.82**	**135**	P	**P**	**18 46 48.4**	**-1.2**
comp=N,3.0nm,0.8s,mb4.5,baz=313,slow=8.8,SNR=6.7							
ARCES	**ARCESS Array B**	**72.71**	**340**	P	**P**	**18 47 58.5**	**-0.2**
comp=N,3.1nm,1.0s,mb4.2,baz=68,slow=3.3,SNR=4.0							
GERES	**GERESS Array B**	**75.97**	**318**	P	**P**	**18 48 17.7**	**+0.1**
comp=N,0.6nm,0.6s,mb3.7,baz=96,slow=9.0,SNR=2.7							
TORD	**Torodi Ar. Bea**	**90.34**	**283**	P	**P**	**18 49 32.1**	**+0.3**
comp=N,0.8nm,0.9s,mb4.1,baz=124,slow=1.6,SNR=5.2							
PDAR	**Pinedale Array**	**122.34**	**21**	PKP	PKPdf	18 55 26.1	+0.2
comp=N,0.4nm,0.7s,baz=281,slow=2.4,SNR=4.3							
PLCA	**Paso Flores**	**147.38**	**201**	PKPbc	PKPbc	18 56 17.1	+2.6
comp=N,2.8nm,1.1s,baz=76,slow=4.2,SNR=3.2							
CPUP	**Villa Florida**	**149.28**	**236**	PKPbc	PKPbc	18 56 20.9	+1.5
comp=N,0.5nm,0.4s,baz=128,slow=5.3,SNR=5.7							

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*IDC **09** 18:40:40.8±0.8, 1080N×9460E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, Error ellipse: s-maj=41.3km s-min=16.8km az=61.0*
*BJI **09** 18:40:41.9, 1070N×9450E, h10km, mb4.2*
*NEIC **09** 18:40:42.0±0.5, 1074N×9445E, h10km, mb4.5/11, Error ellipse: s-maj=21.5km s-min=5.9km az=58.0*
*ISCJB **09** 18:40:43.1±0.6, 1071N±008×944E±0.1, h33km, mb4.2/17, Error ellipse: s-maj=18.6km s-min=8.1km az=114.9*
*MOS **09** 18:40:43.9±0.9, 1087N×9450E, h33km, mb4.6/4, Error ellipse: s-maj=30.2km s-min=8.4km az=110.0*

ISC 09 18:40:45.7±0.6, 1077N±008×944E±01, h35km, n43, σ0§84/39, mb4.2/17, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.83**	**299**	*e*P	Px	18 41 30.6	
PBA				*e*S	Sx	18 41 55.5	
PBA				*ex*	x	18 42 16.0	
comp=N,1μm,0.3s							
PBA				*ex*	x	18 42 17.9	
comp=E,2μm,0.7s							
PSI	**Prapat**	**9.11**	**150**	Pn	**Pn**	**18 42 59.7**	**+5.1**
comp=E,0.8nm,0.3s,baz=163,slow=17,SNR=2.4							
KMI	**Kunming**	**16.34**	**28**	P	**Pn**	**18 44 38.5**	**+6.2**
KMI				AMB	AMB		
comp=Z,9.0nm,1.2s							
JIRN	**Jiri**	**18.48**	**337**	*e*P	**Pn**	**18 45 00.0**	**+1.1**
comp=Z,80nm,1.3s							
PKI	**Pulchoki**	**18.72**	**334**	*e*P	**Pn**	**18 45 02.5**	**+0.7**
comp=Z,168nm,1.6s							
PKI	**Pulchoki**	**18.72**	**334**	*e*P	**Pn**	**18 45 02.5**	**+0.7**
PKI				pmax	pmax		
comp=Z,84nm,1.6s							
GUN	**Gumba**	**18.83**	**336**	*e*P	**Pn**	**18 45 03.3**	**+0.2**
comp=Z,117nm,1.4s							
DMN	**Daman**	**18.89**	**334**	*e*P	**Pn**	**18 45 04.2**	**+0.4**
comp=Z,42nm,0.9s							
KKN	**Kakani**	**18.97**	**334**	*e*P	**Pn**	**18 45 04.0**	**-0.8**
comp=Z,60nm,1.1s							
KKN	**Kakani**	**18.97**	**334**	*e*P	**Pn**	**18 45 04.0**	**-0.8**
KKN				pmax	pmax		
comp=Z,30nm,1.1s							
LSA	**Lhasa**	**19.08**	**351**	*e*P	**Pn**	**18 45 05.9**	**-0.1**
comp=Z,14nm,1.1s							
LSA	**Lhasa**	**19.08**	**351**	*e*P	**Pn**	**18 45 05.9**	**-0.2**
LSA				pmax	pmax		
comp=Z,14nm,1.1s							
GKN	**Gorkha**	**19.43**	**333**	*e*P	**Pn**	**18 45 09.8**	**-0.5**
comp=Z,31nm,0.8s							
GYA	**Guiyang**	**19.45**	**35**	P	**Pn**	**18 45 10.7**	**+0.2**
GYA				AMB	AMB		
comp=Z,10.0nm,1.2s							
KOLN	**Koldanda**	**19.71**	**331**	*e*P	**Pn**	**18 45 12.6**	**-1.1**
comp=Z,53nm,0.8s							
ENH	**Enshi**	**23.97**	**34**	*e*P	**P**	**18 45 56.5**	**-0.2**
comp=Z,57nm,1.4s,mb4.8							
LZH	**Lanzhou**	**26.63**	**17**	*e*P	**P**	**18 46 21.7**	**+0.8**
LZH				AP	pP	18 46 27.9	-3.0
LZH				XP	sP	18 46 32.1	-3.0
LZH				AMB	AMB		
comp=Z,42nm,1.5s,mb4.8							
GTA	**Gaotai**	**28.93**	**9**	*e*P	**P**	**18 46 43.2**	**+1.7**
GTA				AP	pP	18 46 49.4	-2.1
GTA				XP	sP	18 46 53.0	-2.8
GTA				AMB	AMB		
comp=Z,4.0nm,2.7s,mb3.7							
MKAR	**Makanchi Array**	**37.34**	**346**	P	**P**	**18 47 54.9**	**+0.2**
comp=Z,2.3nm,0.9s,mb4.0,baz=168,slow=7.9,SNR=11							
SONM	**Songino Array**	**38.31**	**13**	P	**P**	**18 48 03.7**	**+0.8**
comp=Z,2.5nm,1.0s,mb3.9,baz=194,slow=7.7,SNR=11							
SONM				PcP	PcP	18 50 17.0	+0.7
comp=Z,0.6nm,0.8s,baz=180,slow=2.9,SNR=3.8							
KURK	**Kurchatov**	**41.88**	**345**	*e*P	**P**	**18 48 32.0**	**-0.5**
comp=Z,12nm,1.4s,mb4.3							
KURK	**Kurchatov**	**41.88**	**345**	*e*P	**P**	**18 48 32.0**	**-0.5**
KURK				pmax	pmax		
comp=Z,12nm,1.4s,mb4.3							
ZAL	**Zalesovo**	**43.73**	**352**	P	**P**	**18 48 48.1**	**+0.6**
comp=Z,2.1nm,1.0s,mb3.8,baz=306,slow=11,SNR=9.4							
NVS	**Novosibirsk**	**44.84**	**351**	*e*P	**P**	**18 48 56.0**	**-0.3**
BVAR	**Borovoye Array**	**46.35**	**340**	P	**P**	**18 49 08.1**	**-0.2**
comp=Z,1.1nm,0.9s,mb3.8,baz=134,slow=8.2,SNR=4.6							
BRVK	**Borovoye**	**46.41**	**340**	*e*P	**P**	**18 49 08.4**	**-0.4**
ZRNK	**Zerenda**	**46.76**	**339**	*e*P	**P**	**18 49 11.2**	**-0.3**
comp=Z,2.8nm,0.9s,mb4.2							
ZRNK	**Zerenda**	**46.76**	**339**	*e*P	**P**	**18 49 11.2**	**-0.3**
ZRNK				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
NWAO	**Narrogin (SRO)**	**48.62**	**154**	*e*P	**P**	**18 49 27.3**	**+1.4**
BOD	**Bodaibo**	**49.30**	**14**	*e*P	**P**	**18 49 30.7**	**-0.4**
BOD				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.

AKTK	Aktyubinsk	40.04	1	P	P	18 56 26.5 +0.8
AKTK	Aktyubinsk	40.04	1	P	P	18 56 26.5 +0.8
AKTO	Aktyubinsk	40.04	1	P	P	18 56 26.5 +0.8
	5.1nm,0.7s,mb4.4,baz=178,slow=8.6,SNR=30					
MKAR	Makanchi Array	42.32	26	P	P	18 56 44.8 +0.3
	1.2nm,0.6s,mb3.7,baz=218,slow=10,SNR=8.7					
AKASG	Malin Array Be	46.25	336	P	P	18 57 15.5 -0.5
	0.4nm,0.6s,mb3.5,baz=133,slow=7.2,SNR=5.1					
LBTB	Lobatse	46.46	220	P	P	18 57 17.9 +0.3
	3.7nm,0.9s,mb4.3,baz=22,slow=11,SNR=3.8					
LBTB	Lobatse	46.46	220	eP	P	18 57 18.0 +0.4
	6.3nm,1.1s,mb4.5					
LBTB	Lobatse	46.46	220	eP	P	18 57 18.0 +0.3
	6.3nm,1.1s,mb4.5					
TORD	Torodi Ar. Bea	53.98	279	P	P	18 58 14.4 -0.2
	1.2nm,1.0s,mb3.8,baz=85,slow=7.7,SNR=5.3					
FINES	FINESS Array B	55.81	343	P	P	18 58 26.4 -1.5
	0.8nm,0.8s,mb3.8,baz=108,slow=4.5,SNR=3.7					
SONM	Songino Array	55.87	38	P	P	18 58 28.2 -0.1
	0.9nm,0.7s,mb3.9,baz=226,slow=7.8,SNR=7.8					
ARCES	ARCESS Array B	62.50	348	P	P	18 59 13.0 -1.3
	2.1nm,0.8s,mb4.3,baz=140,slow=7.8,SNR=9.5					

IDC 09 18:49:17.3±3.2,1051N×9396E,h0km,mb3.8/5,mb1 4.0/5, mb1mx3.6/21,mbtmp3.8/5,Error ellipse: s-maj=138.2km s-min=22.1km az=64.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.65	314	eP	Pn	18 49 37.5	-10
PBA				eS	Sn	18 50 31.0	+22
PBA				ex	x	18 50 49.8	
	comp=E,633nm,0.5s						
PBA				ex	x	18 50 49.8	
	comp=N,443nm,0.4s						
MKAR	Makanchi Array	37.50	347	P	P	18 56 33.0	+0.3
	comp=N,0.8nm,0.6s,baz=159,slow=7.8,SNR=5.0						
SONM	Songino Array	38.66	13	P	P	18 56 42.0	-0.5
	comp=N,1.0nm,1.0s,baz=190,slow=10,SNR=3.7						
ZAL	Zalesovo	43.93	352	P	P	18 57 25.9	0.0
	comp=N,0.8nm,0.7s,baz=309,slow=15,SNR=3.9						
WRA	Warramunga Arr	49.96	127	P	P	18 58 13.3	+0.2
	comp=N,1.4nm,0.7s,baz=302,slow=8.9,SNR=9.4						
ASAR	Alice Springs	51.76	131	P	P	18 58 27.2	+0.7
	comp=N,1.4nm,0.7s,baz=310,slow=6.8,SNR=9.0						

*IDC **09** 18:51:48.7±1.0, 1081N×9458E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.9/23, mbtmp3.9/11, Error ellipse: s-maj=50.6km s-min=16.7km az=62.0*
*NEIC **09** 18:51:51.2±0.5, 1097N×9486E, h10km, mb4.6/10, Error ellipse: s-maj=17.4km s-min=7.0km az=57.0*
*ISCJB **09** 18:51:52.6±2.0, 1076N±009×945E±0.1, h42km±20km, mb4.2/18, MS5.0/1, Error ellipse: s-maj=21.8km s-min=9.6km az=112.7*
*MOS **09** 18:51:52.2±1.4, 1102N×9492E, h33km, mb4.6/5, Error ellipse: s-maj=25.2km s-min=8.7km az=113.8*
*BJI **09** 18:51:52.5, 1086N×9399E, h27km, mB5.3, mb4.8, Ms4.8, Msz4.7*

ISC 09 18:51:55.3±1.4,1082N±008×945E±01,h46km±14km,n41, σ0°92/39,mb4.2/18,MS5.0/1,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.91	296	eP	Px	18 52 48.7	
PBA				eS	Sx	18 53 04.8	
PBA				ex	x	18 53 26.9	
	comp=E,1μm,0.3s						
PBA				ex	x	18 53 27.9	
	comp=N,1μm,1.4s						
PSI	Prapat	9.10	151	Pn	Pn	18 54 04.1	+0.1
	baz=7.6,slow=21,SNR=2.1						
KMI	Kunming	16.23	28	P	Pn	18 55 45.0	+5.0
KMI				AP	pP	18 55 51.1	-2.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s						
HYB	Hyderabad	16.79	295	i P	Pn	18 55 51.0	+4.0
HYB	Hyderabad	16.79	295	eP	Pn	18 55 51.0	+4.0
JIRN	Jiri	18.48	336	eP	Pn	18 56 08.1	+0.3
	comp=Z,110nm,1.5s						
PKI	Pulchoki	18.72	334	eP	Pn	18 56 10.5	-0.3
	comp=Z,132nm,1.3s						
PKI	Pulchoki	18.72	334	eP	Pn	18 56 10.5	-0.3
PKI				pmax	pmax		
	comp=Z,66nm,1.3s						
GUN	Gumba	18.83	336	eP	Pn	18 56 12.3	+0.3
	comp=Z,234nm,1.7s						
DMN	Daman	18.89	333	eP	Pn	18 56 12.5	-0.2
	comp=Z,52nm,1.0s						
KKN	Kakani	18.97	334	eP	Pn	18 56 14.1	+0.4
	comp=Z,81nm,1.3s						
KKN	Kakani	18.97	334	eP	Pn	18 56 14.1	+0.4
KKN				pmax	pmax		
	comp=Z,40nm,1.3s						
LSA	Lhasa	19.04	351	eP	Pn	18 56 10.8	-3.7
	comp=Z,7.8nm,0.9s						
LSA	Lhasa	19.04	351	eP	Pn	18 56 10.8	-3.7
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GYA	Guiyang	19.33	35	P	Pn	18 56 20.0	+1.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GKN	Gorkha	19.44	333	eP	Pn	18 56 18.4	-0.9
	comp=Z,82nm,1.2s						
KOLN	Koldanda	19.72	330	eP	Pn	18 56 21.7	-1.0
	comp=Z,117nm,1.2s						
ENH	Enshi	23.85	34	eP	P	18 57 03.3	-0.9
	comp=Z,24nm,1.1s,mb4.5						
LZH	Lanzhou	26.54	17	eP	P	18 57 35.0	+6.4
LZH				AP	pP	18 57 39.0	-1.7
LZH				XP	sP	18 57 42.5	-3.7
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
MKAR	Makanchi Array	37.31	346	P	P	18 59 03.5	+0.5
	comp=Z,3.4nm,0.9s,mb4.2,baz=162,slow=8.4,SNR=14						
MKAR	Makanchi Array	37.31	346	i P	P	18 59 03.2	+0.2
MKAR				pmax	pmax		
	comp=Z,11nm,1.0s						
SONM	Songino Array	38.23	13	P	P	18 59 09.9	-0.7
	comp=Z,2.5nm,1.0s,mb3.9,baz=202,slow=2.3,SNR=8.1						
KKAR	Karatay Array	38.33	331	i P	P	18 59 11.5	0.0
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
KURK	Kurchatov	41.86	345	eP	P	18 59 41.0	+0.2
	comp=Z,22nm,1.3s,mb4.6						
KURK	Kurchatov	41.86	345	eP	P	18 59 41.0	+0.2
KURK				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.6						
CN2	Changchun	42.37	34	eP	P	18 59 45.2	+0.2
ZAL	Zalesovo	43.69	352	P	P	18 59 55.6	0.0
	comp=Z,1.6nm,0.9s,mb3.8,baz=294,slow=9.2,SNR=7.0						
VLA	Vladivostok	45.69	38	eP	P	19 00 11.6	+0.1
VLA				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.5						
VLA				MLR	MLR		
	comp=Z,2μm,20.5s,MS5.0						
BVAR	Borovoye Array	46.34	340	P	P	19 00 16.2	-0.5
	comp=Z,0.2nm,0.3s,mb3.5,baz=166,slow=6.7,SNR=3.5						
ZRNK	Zerenda	46.75	339	eP	P	19 00 21.6	+1.7
AB31	Akbulak array	47.85	330	i P	P	19 00 28.0	-0.4
AB31				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
BOD	Bodaibo	49.22	14	e	P	19 00 44.6	+5.7
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
WRA	Warramunga Arr	49.73	128	P	P	19 00 43.0	+0.2
	comp=Z,1.4nm,1.1s,mb3.9,baz=308,slow=8.4,SNR=4.1						
ASAR	Alice Springs	51.57	132	P	P	19 00 56.9	+0.1
	comp=Z,1.3nm,0.9s,mb3.9,baz=302,slow=6.2,SNR=6.1						
STKA	Stephens Creek	61.90	135	P	P	19 02 08.2	-1.9
	comp=Z,3.0nm,0.9s,mb4.4,baz=279,slow=4.3,SNR=4.9						
STKA	Stephens Creek	61.90	135	eP	P	19 02 08.6	-1.4
TIXI	Tiksi	64.29	11	eP	P	19 02 23.0	-2.8
TIXI				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
FINES	FINESS Array B	70.29	332	P	P	19 03 03.7	-0.1
	comp=Z,0.6nm,0.8s,mb3.6,baz=134,slow=12,SNR=3.7						
TORD	Torodi Ar. Bea	90.27	283	P	P	19 04 52.7	+1.6
	comp=Z,0.6nm,1.1s,mb3.9,baz=78,slow=4.5,SNR=3.6						
ILAR	Eielson Array	91.90	22	P	P	19 04 59.5	+0.9
	comp=Z,0.2nm,0.9s,mb3.4,baz=243,slow=2.9,SNR=2.8						
PDAR	Pinedale Array	122.30	21	PKP	PKPdf	19 10 46.5	+1.4
	comp=Z,1.0nm,1.0s,baz=270,slow=1.5,SNR=3.8						

*ISCJB **09** 19:01:15.1±0.6, 4376N±004×10507W±007, h0km, mb4.3/1, Error ellipse: s-maj=6.9km s-min=5.1km az=159.0*
*IDC **09** 19:01:15.8±2.1, 4357N×10540W, h0km, mb4.1/1, mb1 4.0/4, mb1mx3.6/24, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=54.1km s-min=8.1km az=151.0*
*NEIC **09** 19:01:17.1±0.8, 4370N×105.15W, h0km, ML3.3, Error ellipse: s-maj=9.9km s-min=7.5km az=83.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.

ISC 09 19:01:16.9±0.6,4375N±003×10513W±007,h0km,n26, σ1°12/33,mb4.3/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	Pilot Hill	2.46	186	eP	Pn	19 01 57.9	-0.3
LAO	LASA Array	3.04	346	eP	Pn	19 02 06.7	+0.5
PDAR	Pinedale Array	3.38	255	Pn	Pn	19 02 10.1	-0.8
	5.0nm,0.3s,baz=71,slow=15,SNR=85						
PDAR				Pg	Pb	19 02 15.8	-1.9
	9.1nm,0.3s,baz=76,slow=19,SNR=48						
PDAR				Lg		19 02 54.2	
	4.3nm,0.3s,baz=91,slow=18,SNR=3.9						
ISCO	Idaho Springs	3.96	185	eP	Pn	19 02 18.7	-0.3
ISCO				eS	Sb	19 03 18.0	+1.9
LOHW	Long Hollow	3.97	270	eP	Pn	19 02 19.3	+0.3
FLWY	Flagg Ranch	4.04	277	eP	Pn	19 02 20.2	+0.2
SNOW	Snow King Moun	4.09	268	eP	Pn	19 02 22.7	+2.0
YFT	Old Faithful	4.17	282	eP	Pn	19 02 23.7	+2.0
REDW	Red Top Meadow	4.18	267	P	Pn	19 02 20.8	-1.1
REDW				S	Sb	19 03 21.2	-1.0
YMR	Madison River	4.29	284	eP	Pn	19 02 25.6	+2.1
QLMT	Earthquake Lak	4.65	286	ePg	Pb	19 02 39.7	+0.4
SMCO	Snowmass	4.77	197	ePg	Pb	19 02 41.2	-0.2
SMCO				eS	Sb	19 03 39.7	+0.3
BOZ	Bozeman (W)	5.01	295	eP	Pn	19 02 32.5	-0.8
	6.8nm,0.5s						
BOZ				eS	Sb	19 03 48.4	+2.3
HWUT	Hardware Ranch	5.20	248	eP	Pn	19 02 34.9	-1.1
	14nm,0.7s						
TCUT	Toone Canyon	5.34	243	eP	Pn	19 02 38.1	+0.3
TCUT				S	Sb	19 03 50.4	-5.3
DAU	Daniels Canyon	5.64	236	P	Pn	19 02 34.6	-7.5
SDCO	Great Sand Dun	6.00	183	eP	Pn	19 02 47.4	+0.4
	6.2nm,0.9s						
PV10	Paradox Valley	6.12	210	eP	Pn	19 02 49.6	+0.9
SRU	San Rafael	6.16	223	eP	Pn	19 02 47.5	-1.5
	12nm,0.4s						
SRU				eS	Sb	19 04 23.2	+4.0
PV01	Paradox Valley	6.18	206	eP	Pn	19 02 50.2	+0.7
DUG	Dugway	6.74	241	eP	Pn	19 02 55.8	-1.2
	3.3nm,0.3s						
MSU	Marysvale	7.46	228	eP	Pn	19 03 05.6	-1.4
ULM	Lac du Bonnet	9.07	41	Pn	Pn	19 03 29.3	+0.2
	2.8nm,0.3s,baz=234,slow=11,SNR=15						
ULM				Lg		19 06 04.1	
	0.5nm,0.3s,baz=340,slow=18,SNR=2.3						
ULM	Lac du Bonnet	9.07	41	Pn	Pn	19 03 29.3	+0.2
ULM				Lg		19 06 04.1	
YKA	Yellowknife Ar	19.58	347	P	Pn	19 05 46.8	-0.9
	baz=162,slow=12,SNR=6.1						
ARCES	ARCESS Array B	61.38	18	P	P	19 11 34.0	-0.7
	1.5nm,0.6s,mb4.3,baz=335,slow=7.3,SNR=9.1						

*IDC **09** 19:03:18.3±2.5, 1065N×9412E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/22, mbtmp3.8/6, Error ellipse: s-maj=112.6km s-min=19.6km az=61.0*
*ISCJB **09** 19:03:19.1±1.3, 108N±02×945E±03, h10km, mb3.9/7, Error ellipse: s-maj=51.7km s-min=11.7km az=105.7*
*NEIC **09** 19:03:21.2±0.9, 1085N×9455E, h10km, mb4.3/6, Error ellipse: s-maj=41.4km s-min=8.5km az=54.0*
*BJI **09** 19:03:21.1, 1080N×9450E, h10km, mb4.3, Msz4.5*

ISC 09 19:03:21.3±1.3,109N±02×945E±03,h10km,n16,σ0°54/16, mb3.9/7,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	18.45	336	eP	Pn	19 07 37.6	+0.5
	37nm,1.0s						
PKI	Pulchoki	18.70	334	eP	Pn	19 07 40.0	-0.1
	47nm,1.0s						
GUN	Gumba	18.80	336	eP	Pn	19 07 42.1	+0.8
DMN	Daman	18.86	333	eP	Pn	19 07 43.0	+0.9
	47nm,1.0s						
KKN	Kakani	18.94	334	eP	Pn	19 07 43.3	+0.2
	36nm,1.2s						
GKN	Gorkha	19.41	333	eP	Pn	19 07 48.1	-0.6
	36nm,0.9s						
KOLN	Koldanda	19.70	330	eP	Pn	19 07 51.4	-0.7
	41nm,0.8s						
LZH	Lanzhou	26.50	17	eP	P	19 09 06.6	+7.8
LZH				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.6						
MKAR	Makanchi Array	37.28	346	P	P	19 10 33.2	-0.1
	comp=Z,0.9nm,0.7s,mb3.7,baz=158,slow=7.8,SNR=7.0						
MKAR	Makanchi Array	37.28	346	P	P	19 10 33.2	-0.1
SONM	Songino Array	38.19	13	P	P	19 10 41.4	+0.4
	comp=Z,0.4nm,0.9s,mb3.1,baz=187,slow=7.0,SNR=3.5						
ZAL	Zalesovo	43.66	352	P	P	19 11 25.8	-0.3
	comp=Z,0.8nm,0.7s,mb3.5,baz=141,slow=23,SNR=4.7						
BVAR	Borovoye Array	46.31	340	P	P	19 11 46.3	-0.9
	comp=Z,0.6nm,0.4s,mb3.9,baz=142,slow=7.3,SNR=3.4						
WRA	Warramunga Arr	49.74	128	P	P	19 12 14.0	+0.2
	comp=Z,1.9nm,0.7s,mb4.2,baz=303,slow=9.0,SNR=20						
ASAR	Alice Springs	51.59	132	P	P	19 12 27.9	+0.2
	comp=Z,2.5nm,0.7s,mb4.3,baz=308,slow=6.6,SNR=45						
YAK	Yakutsk	57.06	19	eP	P	19 13 07.0	-0.6

*IDC **09** 19:03:32.4±2.2, 1056N×9424E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/22, mbtmp4.0/7, Error ellipse: s-maj=102.7km s-min=18.7km az=63.0*
*NEIC **09** 19:03:33.9±0.9, 1062N×9431E, h10km, mb4.3/2, Error ellipse: s-maj=35.8km s-min=11.4km az=62.0*
*ISCJB **09** 19:03:35.1±1.1, 106N±02×942E±03, h33km, mb4.0/9, Error ellipse: s-maj=41.0km s-min=14.0km az=123.6*

ISC 09 19:03:37.8±1.2,107N±02×943E±03,h35km,n11,σ0°66/10, mb4.1/9,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.82	303	eP	Px	19 04 23.4	
PBA				eS	Sx	19 04 31.3	
PBA				ex	x	19 04 39.7	
	comp=E,1μm,0.2s						
PBA				ex	x	19 04 47.0	
	comp=N,2μm,0.8s						
ENH	Enshi	24.11	34	eP	P	19 08 49.6	-0.5
	comp=N,12nm,1.0s,mb4.3						
MKAR	Makanchi Array	37.43	346	P	P	19 10 47.6	0.0
	comp=N,4.0nm,1.1s,mb4.2,baz=167,slow=6.4,SNR=5.7						
SONM	Songino Array	38.44	13	P	P	19 10 56.3	+0.3
	comp=N,2.0nm,1.0s,mb3.8,baz=185,slow=5.0,SNR=8.1						
KURK	Kurchatov	41.98	345	eP	P	19 11 24.9	-0.4
	comp=N,5.6nm,1.3s,mb4.0						
ZAL	Zalesovo	43.83	352	P	P	19 11 41.3	+0.9
	comp=N,1.8nm,1.0s,mb3.8,baz=294,slow=7.6,SNR=6.9						
BVAR	Borovoye Array	46.43	340	P	P	19 12 01.4	+0.3
	comp=N,0.4nm,0.4s,mb3.8,baz=118,slow=5.9,SNR=4.1						
ZRNK	Zerenda	46.84	339	P	P	19 12 03.7	-0.6
WRA	Warramunga Arr	49.78	128	P	P	19 12 27.7	+0.8
	comp=N,2.2nm,0.9s,mb4.2,baz=303,slow=8.5,SNR=5.2						
ASAR	Alice Springs	51.61	132	P	P	19 12 41.2	+0.5
	comp=N,2.5nm,0.9s,mb4.1,baz=305,slow=7.1,SNR=7.9						
STKA	Stephens Creek	61.93	135	P	P	19 13 52.5	-1.3
	comp=N,3.3nm,1.0s,mb4.4,baz=344,slow=8.4,SNR=3.5						

CASC 09 19:07:54.4±3.8,1337N×8916W,h84km±43km,MD3.7, 3C-3D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.27	21	eP	Pn	19 08 10.3	+3.4
LFRS				eS	Sn	19 08 19.5	+3.3
LCBS	La Ceiba	0.34	32	eP	Pn	19 08 10.8	+3.5
LCBS				eS	Sn	19 08 20.4	+3.6
LFU	La Fuente	0.38	7	↑iP	Pn	19 08 11.7	+4.1
LFU				eS	Sn	19 08 22.5	+5.1
BOQS	Boqueron	0.38	342	↓eP	Pn	19 08 11.3	+3.7
BOQS				eS	Sn	19 08 21.7	+4.4
LBRS	Las Brisas	0.39	17	eP	Pn	19 08 11.1	+3.5
LBRS				eS	Sn	19 08 22.2	+4.9
SNVI	San Vicente	0.40	52	eP	Pn	19 08 11.6	+3.9
SNVI				eS	Sn	19 08 22.2	+4.7
SBLS	San Blas	0.65	316	eP	Pn	19 08 12.9	+3.1
SBLS				eS	Sn	19 08 24.3	+3.0
SNJE	San Jose	0.66	319	eP	Pn	19 08 12.9	+3.0
SNJE				eS	Sn	19 08 28.2	+6.7
RTR	El Retiro	0.71	318	eP	Pn	19 08 13.9	+3.5
RTR				eS	Sn	19 08 27.3	+5.0
VSM	San Miguel	0.86	86	eP	Pn	19 08 17.7	+5.6
VSM				eS	Sn	19 08 30.4	+5.1
BLLM	Bellamira	0.90	85	↑eP	Pn	19 08 18.6	+6.1
BLLM				eS	Sn	19 08 32.2	+6.2
MTO2	Montecristo 2	1.04	349	↓iP	Pn	19 08 18.1	+3.9
MTO2				eS	Sn	19 08 33.6	+4.6
CNCH	Conchagua	1.29	94	↓eP	Pn	19 08 22.1	+4.8
IXG	Ixpaco	1.49	303	↑eP	Pn	19 08 20.6	+0.9
IXG				eS	Sn	19 08 39.5	+0.6

*ISCJB **09** 19:15:24.6±4.7, 1065N±008×9445E±009, h12km±30km, mb4.1/8, Error ellipse: s-maj=19.1km s-min=8.7km az=100.6*
*IDC **09** 19:15:24.9±1.3, 1059N×9448E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=55.6km s-min=20.1km az=57.0*
*NEIC **09** 19:15:26.7±0.6, 1071N×9454E, h10km, mb5.0/8, Error ellipse: s-maj=24.6km s-min=7.1km az=56.0*
*MOS **09** 19:15:27.6±1.0, 1069N×9453E, h33km, mb4.5/1, Error ellipse: s-maj=31.2km s-min=10.2km az=112.1*

ISC 09 19:15:28.9±3.5,1072N±009×945E±01,h25km±26km,n31, σ1°01/33,mb4.1/8,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	Nakhon Sawan	7.38	48	P	Pn	19 17 15.0	-0.1
	190nm,1.4s						
KULM	Kulim	8.14	131	eP	Pn	19 17 25.9	+0.4
HYB	Hyderabad	16.82	295	i P	Pn	19 19 20.0	-2.7
HYB				eS	Sn	19 22 44.0	+15
HYB	Hyderabad	16.82	295	eP	Pn	19 19 20.0	-2.7
HYB				eS	Sn	19 22 44.0	+15
JIRN	Jiri	18.57	336	eP	Pn	19 19 45.2	+0.9
	229nm,1.2s						
PKI	Pulchoki	18.82	334	eP	Pn	19 19 49.1	+1.8
	280nm,1.2s						
PKI	Pulchoki	18.82	334	eP	Pn	19 19 49.1	+1.8
PKI				pmax	pmax		
	comp=Z,140nm,1.2s						
GUN	Gumba	18.92	336	eP	Pn	19 19 48.1	-0.4
	comp=Z,270nm,1.2s						
DMN	Daman	18.98	334	eP	Pn	19 19 50.1	+0.9
	comp=Z,250nm,1.2s						
KKN	Kakani	19.06	334	eP	Pn	19 19 50.8	+0.6
	comp=Z,262nm,1.2s						
KKN	Kakani	19.06	334	eP	Pn	19 19 50.8	+0.6
KKN				pmax	pmax		
	comp=Z,131nm,1.2s						
LSA	Lhasa	19.14	351	P	Pn	19 19 50.4	-0.9
GKN	Gorkha	19.53	333	eP	Pn	19 19 54.5	-1.3
	comp=Z,202nm,1.1s						
KOLN	Koldanda	19.81	330	eP	Pn	19 19 58.9	-0.3
	comp=Z,153nm,0.8s						
ENH	Enshi	23.95	33	eP	P	19 20 41.0	-0.1
AAK	Ala-Archa	36.27	335	eP	P	19 22 29.3	-0.8
MKAR	Makanchi Array	37.42	346	P	P	19 22 40.1	+0.2
	comp=Z,1.0nm,0.8s,mb3.7,baz=161,slow=7.6,SNR=8.3						
SONM	Songino Array	38.34	13	P	P	19 22 48.8	+1.1
	comp=Z,0.8nm,1.0s,mb3.4,baz=191,slow=4.1,SNR=5.3						
ULN	Ulaanbaatar	38.51	14	eP	P	19 22 48.2	-0.9
KURK	Kurchatov	41.96	345	eP	P	19 23 16.6	-1.2
ZAL	Zalesovo	43.80	352	P	P	19 23 33.4	+0.8
	comp=Z,0.8nm,0.6s,mb3.6,baz=140,slow=22,SNR=6.4						
ZRNK	Zerenda	46.85	339	eP	P	19 23 54.8	-2.0
NWAO	Narrogin (SRO)	48.52	154	eP	P	19 24 09.2	-0.6
	comp=Z,9.3nm,1.2s,mb4.7						
NWAO	Narrogin (SRO)	48.52	154	eP	P	19 24 09.2	-0.6
NWAO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WRA	Warramunga Arr	49.67	128	P	P	19 24 17.5	-1.1
	comp=Z,1.4nm,0.9s,mb4.0,baz=306,slow=8.4,SNR=6.2						
WRAB	Tennant Creek	49.68	128	eP	P	19 24 18.8	+0.2
ASAR	Alice Springs	51.51	132	P	P	19 24 32.6	+0.2
	comp=Z,1.8nm,0.9s,mb4.0,baz=311,slow=7.3,SNR=14						
ANN	Anapa	59.32	316	eP	P	19 25 30.5	+1.9
ANN	Anapa	59.32	316	eP	P	19 25 30.5	+1.9
ANN				pmax	pmax		
	comp=Z,74nm,1.1s,mb5.6						
BRTR	Keskin Array B	60.87	310	P	P	19 25 40.2	+1.0
	comp=Z,1.1nm,0.9s,mb4.0,baz=39,slow=18,SNR=3.1						
STKA	Stephens Creek	61.84	135	eP	P	19 25 46.5	+0.7

*IDC **09** 19:15:40.1±0.5, 1072N×9432E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.4/26, mbtmp4.3/22, ML3.7/1, MS4.7/5, Ms1 4.7/5, ms1mx4.1/23, Error ellipse: s-maj=20.6km s-min=12.5km az=61.0*
*ISCJB **09** 19:15:41.4±0.3, 1069N±003×9436E±004, h20km, mb4.7/67, MS4.7/21, Error ellipse: s-maj=5.6km s-min=4.4km az=97.5*
*BJI **09** 19:15:41.5, 1053N×9430E, h32km, mB5.3, mb4.7, Ms4.9, Msz4.7*
*HRVD **09** 19:15:43.7±0.4, 1079N×9455E, h12km±1km, MW5.2/80, Centroid moment Tensor Solution. LP body waves: s28,c33;Mantle waves: s80,c131; Half duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.74± .05; $M_{\theta\theta}$0.65±.03; $M_{\phi\phi}$0.08±.03; $M_{r\theta}$0.16±.08; $M_{\theta\phi}$0.15±.02; $M_{\phi r}$-0.02±.10; Best double couple: $M_0$0.73100×10^{17} NP1:ϕ_s72.00000°,δ39.00000°,λ-96.00000°. NP2: ϕ_s260.00000°,δ51.00000°,λ-85.00000°. Principal axes: T 0.7050, Plg6.0000°, Azm346.0000°; N 0.0520, Plg4.0000°, Azm77.0000°; P -0.7570, Plg83.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 19:15:43.7±0.3, 1072N×9434E, mb5.0/12 Error ellipse: s-maj=9.7km s-min=5.4km az=56.0*
*MOS **09** 19:15:43.4±0.9, 1077N×9433E, h33km, mb5.2/18, Error ellipse: s-maj=12.3km s-min=5.8km az=103.6*

**ISC 09 19:15:43.9±0.2,1072N±003×9436E±003,h22km, h22km±1.1km:

KMI LR LR
comp=E,2μm,10.2s
KMI LR LR
comp=Z,2μm,13.0s
QIZ Qiongzhong 17.08 59 P **Pn 19 19 43.2 +2.0**
QIZ AMB AMB
comp=Z,31nm,2.0s
QIZ LR LR
comp=E,3μm,9.5s
QIZ LR LR
comp=Z,4μm,9.2s
QIZ Qiongzhong 17.08 59 *e*P **Pn 19 19 42.6 +1.3**
comp=Z,184nm,1.9s
NGP Nagpur 17.99 307 *e*P **Pn 19 19 53.1 +0.5**
KSM Kuching 18.31 119 P **Pn 19 19 56.3 -0.1**
KSM *e* 19 20 03.3
JBP Jabalpur 18.48 314⇑ *e*P **Pn 19 19 58.4 -0.1**
JBP *ex* x 19 23 48.7
LSA Lhasa 19.12 351 P **Pn 19 20 06.0 -0.3**
LSA Lhasa 19.12 351 *e*P **Pn 19 20 05.8 -0.4**
LSA *e*pP pP 19 20 12.8 +1.4
LSA *e*sP sP 19 20 15.6 +1.4
GYA Guiyang 19.49 35⇑ *i*P **Pn 19 20 10.6 -0.1**
GYA AP pP 19 20 15.2 -0.3
GYA XP sP 19 20 18.7 +0.4
GYA PP 19 20 31.4
GYA S **Sn 19 23 50.7 +1.9**
GYA AMB AMB
comp=Z,20nm,1.6s
GYA AMB AMB
comp=Z,150nm,6.3s
GYA LR LR
comp=N,1μm,13.8s
GYA LR LR
comp=E,1μm,12.9s
GYA LR LR
comp=Z,2μm,16.2s
BHPL Bhopal 20.40 310 *e*P **P 19 20 21.2 +1.9**
BHPL AMb AMB 19 20 27.2
comp=Z,43nm,1.1s
KAD Karad 20.63 291 *e*P **P 19 20 23.7 +1.9**
POO Poona 21.30 294 *i* x x 19 21 02.5
POO *i* PP 19 21 02.5
POO *i* S **S 19 24 40.0 +15**
CD2 Chengdu 21.90 22 P **P 19 20 35.6 +0.1**
CD2 XP sP 19 20 47.9 +3.5
CD2 PP 19 21 04.1
CD2 S **S 19 24 32.2 -4.1**
CD2 XS sS 19 24 42.8 -3.4
CD2 SS 19 25 11.4
CD2 AMB AMB
comp=Z,30nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,150nm,5.2s
CD2 LR LR
comp=E,990nm,15.0s
CD2 LR LR
comp=Z,1μm,14.4s,MS4.4
KKM Kota Kinabalu 22.11 100 P **P 19 20 39.3 +1.6**
ENH Enshi 24.01 34 *e*P **P 19 20 55.9 -1.2**
NDI New Delhi 24.02 320 *e*P **P 19 20 57.0 -0.2**
NDI *e*P 19 20 57.3
NDI AMb AMB 19 21 01.1
comp=Z,104nm,1.4s,mb5.1
NDI *e*x x 19 25 07.0
AJM Ajmer 24.33 313 *e*P **P 19 21 02.0 +2.0**
DDI Dehra Dun 24.71 324 *e*x x 19 20 53.5
DDI *e*x x 19 30 29.8
SMLA Simla 25.82 324 *e*P **P 19 21 13.7 +0.2**
SMLA AMb AMB 19 21 14.9
comp=Z,72nm,1.5s,mb5.0
LZH Lanzhou 26.68 17 *e*P **P 19 21 21.1 -0.1**
LZH AP pP 19 21 28.9 +1.1
LZH XP sP 19 21 33.3 +2.8
LZH PP 19 22 08.0
LZH S **S 19 25 54.0 -1.3**
LZH XS sS 19 26 08.0 +1.9
LZH *e*SS 19 27 10.0
LZH AMB AMB
comp=Z,120nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,350nm,4.6s
LZH LR LR
comp=N,5μm,16.8s
LZH LR LR
comp=Z,5μm,17.0s,MS5.2
XAN Xi'an 26.76 28 P **P 19 21 20.7 -1.3**
XAN S **S 19 25 58.8 +2.1**
XAN AMB AMB
comp=Z,12nm,1.5s,mb4.2
XAN LR LR
comp=N,995nm,13.8s,MS4.8
XAN LR LR
comp=E,2μm,16.7s,MS4.8
XAN LR LR
comp=Z,1μm,13.8s,MS4.7
WHN Wuhan 27.09 40 ⇑P **P 19 21 25.5 +0.5**
WHN LR LR
comp=Z,2μm,16.4s,MS4.8
GTA Gaotai 28.98 9 *e*P **P 19 21 42.4 +0.6**
GTA AP pP 19 21 46.9 -1.5
GTA PP PP 19 22 36.4 -11
GTA PCP PcP 19 24 51.7 +1.5
GTA S **S 19 26 32.0 +0.4**
GTA SS SS 19 27 59.6 -35
GTA AMB AMB
comp=Z,13nm,2.1s,mb4.3
GTA AMB AMB
comp=Z,301nm,6.2s
GTA LR LR
comp=N,1μm,17.4s,MS4.7
GTA LR LR
comp=E,662nm,13.9s,MS4.7
GTA LR LR
comp=Z,1μm,22.8s
NJ2 Nanjing 31.01 43 *e*P **P 19 22 01.6 +1.8**
NJ2 AP pP 19 22 07.4 +1.0
NJ2 XP sP 19 22 10.4 +1.3
NJ2 PP PP 19 23 02.6 -7.3
NJ2 S **S 19 27 03.0 -0.5**
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb4.9
NJ2 AMB AMB
comp=Z,30nm,3.5s
NJ2 LR LR
comp=N,5μm,23.9s
NJ2 LR LR
comp=E,2μm,11.8s
NJ2 LR LR
comp=Z,950nm,12.2s
SSE Sheshan 32.08 47 P **P 19 22 10.1 +0.9**
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,888nm,11.3s
BTO Baotou 32.83 22 *e*P **P 19 22 14.1 -1.7**
KSH Kashi 33.02 333 *e*P **P 19 22 18.0 +0.6**
KSH AP pP 19 22 25.2 +1.2
KSH XP sP 19 22 28.7 +2.0
KSH S **S 19 27 35.3 +0.6**
KSH XS sS 19 27 46.3 +0.7
KSH SCP ScP 19 28 42.9 -0.9
KSH PCS PcS 19 28 46.8 +0.5
KSH SS SS 19 29 35.1 -22
KSH SCS ScS 19 32 44.4 +0.4
KSH AMB AMB
comp=Z,12nm,0.7s,mb4.9
KSH AMB AMB
comp=Z,358nm,11.0s
KSH LR LR
comp=N,879nm,14.0s
KSH LR LR
comp=E,556nm,8.0s
KSH LR LR
comp=Z,1μm,24.8s
WMQ Urumqi 33.48 351 P **P 19 22 23.8 +2.3**
WMQ AP pP 19 22 29.6 +1.5
WMQ XP sP 19 22 32.6 +1.8
WMQ PP PP 19 23 34.9 -2.4
WMQ AMB AMB
comp=Z,23nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,184nm,4.0s
WMQ LR LR
comp=N,3μm,24.2s,MS5.0
WMQ LR LR
comp=E,3μm,26.0s,MS5.0
WMQ LR LR
comp=Z,3μm,22.2s,MS5.0
HHC Hu-ho-hao-te 33.63 24 *e*P **P 19 22 23.3 +0.5**
HHC AP pP 19 22 28.9 -0.5
HHC XP sP 19 22 31.9 -0.2
HHC PP PP 19 23 36.5 -2.5
HHC PCP PcP 19 25 03.7 +1.1
HHC S **S 19 27 43.5 -0.8**
HHC SS SS 19 29 48.0 -22
HHC SCS ScS 19 32 44.8 -2.4
HHC AMB AMB
comp=Z,14nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,441nm,6.9s
HHC LR LR
comp=N,920nm,13.5s,MS4.8
HHC LR LR
comp=E,913nm,13.5s,MS4.8
HHC LR LR
comp=Z,694nm,21.4s
BJT Baijiatuau 35.00 30 *e*P **P 19 22 35.7 +1.0**
BJI Beijing 35.02 30 P **P 19 22 35.1 +0.2**
BJI S **S 19 28 02.4 -3.4**
BJI AMB AMB
comp=Z,14nm,1.0s,mb4.8
BJI LR LR
comp=N,826nm,20.3s
BJI LR LR
comp=E,690nm,13.4s
BJI LR LR
comp=Z,534nm,38.7s
ULHL Ulahol 35.18 336 P **P 19 22 36.6 +0.4**
SNR=6.2
KZA Kyzart 35.44 335 P **P 19 22 39.4 +0.9**
SNR=7.3
UCH Uchtor 35.87 335 P **P 19 22 43.1 +1.0**
SNR=5.7
TKM2 Tokmak 2 36.01 336 P **P 19 22 43.1 -0.2**
TKM2 pmax pmax
comp=Z,36nm,1.9s,mb5.0
KBK Karagaybulak 36.05 335 P **P 19 22 44.9 +1.2**
SNR=6.5
AML Almayashu 36.15 334 P **P 19 22 45.6 +1.1**
SNR=10
AAK Ala-Archa 36.21 335 P **P 19 22 46.2 +1.1**
SNR=7.6
AAK Ala-Archa 36.21 335 P **P 19 22 44.0 -1.1**
comp=Z,65nm,1.2s,mb5.4,SNR=5.9
AAK Ala-Archa 36.21 335 *e*P **P 19 22 44.6 -0.5**
comp=Z,23nm,1.3s,mb5.0
AAK Ala-Archa 36.21 335⇑ *i*P **P 19 22 45.0 -0.1**
AAK pmax pmax
comp=Z,18nm,1.3s,mb4.8
FRU Bishkek 36.33 335 *e*P **P 19 22 46.0 -0.1**
FRU pmax pmax
comp=Z,60nm,2.2s,mb5.1
FRU MLR MLR
comp=Z,1μm,24.0s,MS4.7
EKS2 Erkin-Say 36.54 334 P **P 19 22 49.0 +1.1**
SNR=7.5
USP Ospenovka 36.73 335 P **P 19 22 50.0 +0.4**
SNR=9.9
DL2 Dalian 37.13 36 P **P 19 22 53.5 +0.6**
DL2 *e*S **S 19 28 43.5 +5.4**
DL2 AMB AMB
comp=Z,20nm,1.2s,mb4.8
DL2 AMB AMB
comp=Z,230nm,3.6s
DL2 LR LR
comp=N,390nm,12.0s,MS4.4
DL2 LR LR
comp=E,130nm,11.9s,MS4.4
DL2 LR LR
comp=Z,360nm,11.3s,MS4.4
MK31 Makanchi Array 37.38 346 *i*P **P 19 22 55.0 0.0**
MK31 pmax pmax
comp=Z,45nm,1.2s,mb5.2
MKAR Makanchi Array 37.38 346 P **P 19 22 54.6 -0.4**
comp=Z,10.0nm,0.9s,mb4.7,baz=166,slow=8.3,SNR=38
MKAR Makanchi Array 37.38 346 *i*P **P 19 22 55.0 0.0**
MKAR pmax pmax
comp=Z,54nm,1.2s
SONM Songino Array 38.35 13 P **P 19 23 03.8 +0.5**
comp=Z,13nm,1.1s,mb4.6,baz=199,slow=8.1,SNR=43
SONM PcP PcP 19 25 15.4 -1.3
comp=Z,2.6nm,0.9s,baz=200,slow=3.9,SNR=3.9
SONM LR LR 19 40 27.5
comp=Z,2μm,18.7s,MS4.8,baz=189,slow=39
SONM Songino Array 38.35 13 P **P 19 23 03.8 +0.5**
SONM PcP PcP 19 25 15.3 -1.3
SONM LR LR 19 40 27.5
SONM Songino Array 38.35 13 P **P 19 23 03.8 +0.6**
SONM 19 25 15.4
KK31 Karatay Array 38.36 331 *i*P **P 19 23 03.0 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
KKAR Karatay Array 38.36 331 *i*P **P 19 23 03.0 -0.2**
KKAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
ULN Ulaanbaatar 38.53 14 *e*P **P 19 23 05.0 +0.2**
SNY Shenyang 40.19 34 ⇑P **P 19 23 19.2 +0.6**
SNY AMB AMB
comp=Z,23nm,1.9s,mb4.6
ZAK Zakamensk 40.22 9⇓ *i*P **P 19 23 18.5 -0.3**
ZAK *e* 19 24 56.7
ZAK pmax pmax
comp=Z,17nm,2.0s,mb4.4
ZAK pmax pmax
comp=Z,13nm,1.7s,mb4.4
KURK Kurchatov 41.92 345 P **P 19 23 32.3 -0.5**
comp=Z,120nm,1.4s,mb5.3,SNR=10
KURK Kurchatov 41.92 345 *e*P **P 19 23 32.3 -0.6**
KURK Kurchatov 41.92 345 *c i*P **P 19 23 33.0 +0.2**
ABKT Ailbek 42.28 316 P **P 19 23 37.9 +2.2**
comp=Z,507nm,0.5s,SNR=7.5
CN2 Changchun 42.53 34 *e*P **P 19 23 38.2 +0.4**
CN2 *e*AP pP 19 23 44.8 +0.3
CN2 *e*S **S 19 29 58.5 -0.4**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,800nm,16.0s,MS4.9
CN2 LR LR
comp=E,1μm,16.0s,MS4.9
CN2 LR LR
comp=Z,700nm,16.0s,MS4.6
ZAL Zalesovo 43.77 352 P **P 19 23 48.4 +0.6**
comp=Z,6.7nm,0.9s,mb4.4,baz=297,slow=9.8,SNR=32
ZAL LR LR 19 46 05.3
comp=Z,228nm,18.4s,MS4.1,baz=308,slow=42
ZAL Zalesovo 43.77 352 P **P 19 23 48.4 +0.6**
ZAL LR LR 19 46 05.3
HIA Hailar 43.84 24 P **P 19 23 49.0 +0.7**
comp=Z,42nm,1.4s,mb5.0
HIA Hailar 43.84 24 P **P 19 23 49.0 +0.7**
HIA pmax pmax
comp=Z,42nm,1.4s
NVS Novosibirsk 44.88 351 *e*P **P 19 23 55.1 -1.6**
NVS pmax pmax
comp=N,35nm,1.7s
NVS pmax pmax
comp=Z,32nm,1.7s,mb4.9
KRAR Krasnoyarsk 45.20 359⇓ *e*P **P 19 23 58.2 -1.0**
KRAR pmax pmax
comp=Z,73nm,1.3s,mb5.3
MDJ Mudanjiang 45.35 35 P **P 19 23 59.1 -1.4**
MDJ AMB AMB
comp=Z,12nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,203nm,3.7s
VOSK Vostochnaya 45.94 340 P **P 19 24 03.5 -1.6**
VOSK pmax pmax
comp=Z,13nm,1.0s,mb4.8
BVA0 Borovoye Array 46.39 340 *i*P **P 19 24 07.7 -0.9**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
BVAR Borovoye Array 46.39 340 P **P 19 24 08.2 -0.5**
comp=Z,4.3nm,0.8s,mb4.4,baz=138,slow=9.0,SNR=13
BRVK Borovoye 46.45 340 *e*P **P 19 24 07.7 -1.5**
comp=Z,2.3nm,0.6s,mb4.3
BRVK Borovoye 46.45 340 *e*P **P 19 24 07.7 -1.4**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda 46.80 339 *e*P **P 19 24 11.1 -0.8**
comp=Z,6.4nm,0.9s,mb4.5
ZRNK Zerenda 46.80 339 *e*P **P 19 24 11.1 -0.8**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MJAR Matsushiro Arr 47.13 50 P **P 19 24 14.7 +0.3**
comp=Z,2.0nm,0.9s,mb4.0,baz=238,slow=10.0,SNR=5.6
MJAR PcP PcP 19 25 46.5 +0.6
comp=Z,6.3nm,1.1s,baz=245,slow=4.2,SNR=8.7
MUN Mundaring 47.33 155 *e*P **P 19 24 17.4 +1.5**
KLBR Kellerberrin 47.67 153 *e*P **P 19 24 19.4 +0.8**
comp=Z,112nm,1.9s,mb5.6
AB31 Akbulak array 47.87 330 *i*P **P 19 24 19.8 -0.4**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
NWAO Narrogin (SRO) 48.58 154 P **P 19 24 26.4 +0.8**
comp=Z,11nm,0.9s,mb4.9,baz=335,slow=8.5,SNR=5.8
NWAO Narrogin (SRO) 48.58 154 *e*P **P 19 24 26.0 +0.3**
BOD Bodaibo 49.35 14 *e*P **P 19 24 29.6 -1.9**
BOD pmax pmax
comp=Z,14nm,1.6s,mb4.7
KLR Kul'dur 49.35 32 *e*P **P 19 24 26.8 -4.7**
AKTK Aktyubinsk 49.59 330 P **P 19 24 32.8 -0.6**
AKTO Aktyubinsk 49.59 330 P **P 19 24 32.8 -0.6**
comp=Z,3.0nm,0.8s,mb4.4,baz=117,slow=7.4,SNR=5.9
WRA Warramunga Arr 49.77 128 P **P 19 24 34.8 0.0**
comp=Z,7.3nm,0.8s,mb4.8,baz=304,slow=7.7,SNR=4.8
WRAB Tennant Creek 49.77 128 *e*P **P 19 24 34.6 -0.2**
comp=Z,47nm,1.4s,mb5.3
WRAB Tennant Creek 49.77 128 ⇓*i*P **P 19 24 36.3 +1.5**
WB2 Warramunga Arr 49.78 128 *e*P **P 19 24 34.3 -0.5**
HABR Khabarovsk 50.66 34 *e*P **P 19 24 39.9 -1.6**
ASPA Alice Springs 51.60 132 *e*P **P 19 24 48.6 0.0**
AS31 Alice Springs 51.60 132 *e*P **P 19 24 48.6 0.0**
ASAR Alice Springs 51.60 132 P **P 19 24 48.7 +0.1**
comp=Z,11nm,0.9s,mb4.8,baz=309,slow=6.8,SNR=44
CLNS Chul'man 51.71 21 *e*P **P 19 24 48.4 -1.0**
CLNS pmax pmax
comp=Z,37nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,18nm,1.1s
CLNS pmax pmax
comp=E,20nm,1.2s
GNI Garni 52.65 313 P **P 19 24 57.9 +1.6**
comp=E,34nm,1.2s,mb5.2
GNI Garni 52.65 313 *c i*P **P 19 24 57.8 +1.5**
GNI pmax pmax
comp=Z,38nm,1.3s
SVE Sverdlovsk 52.86 337 *e*P **P 19 24 57.4 -0.5**
SVE *e*S **S 19 32 16.0 -9.5**
SVE MLR MLR
comp=N,300nm,16.0s,MS4.6
SVE MLR MLR
comp=E,300nm,16.0s,MS4.6
SVE MLR MLR
comp=Z,500nm,16.0s,MS4.7
ARU Arti 53.38 336 *e*P **P 19 25 01.0 -0.8**
ARU *e*pP pP 19 25 06.7 -1.9
ARU Arti 53.38 336⇓ *i*P **P 19 25 00.6 -1.1**
ARU *e* 19 26 07.9
ARU *e* 19 27 00.0
ARU *e*PPP 19 28 09.2
ARU *e*S **S 19 32 30.7 -1.9**
ARU *e*SS SS 19 36 15.4 +2.8
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ARU MLR MLR
comp=Z,1μm,21.0s,MS4.8
ARU MLR MLR
comp=N,400nm,20.0s,MS4.7
ARU MLR MLR
comp=E,600nm,21.0s,MS4.7
YSS Yuzh-Sakhalins 54.43 39 P **P 19 25 09.5 +0.1**
YSS Yuzh-Sakhalins 54.43 39⇑ *e*P **P 19 25 11.0 +1.6**
YSS *e* pP 19 25 16.0 -0.3
YSS MLR MLR
comp=Z,300nm,15.0s,MS4.5
KIV Kislovodsk 55.39 316 P **P 19 25 17.1 +0.8**
comp=Z,26nm,1.2s,mb5.1
KIV Kislovodsk 55.39 316 *e*P **P 19 25 17.0 +0.6**
KIV pmax pmax
comp=Z,24nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,175nm,15.0s,MS4.3
GOF Gofitskoye 55.55 318 *e*P **P 19 25 19.2 +1.7**
YAK Yakutsk 57.24 19 P **P 19 25 27.4 -2.2**
YAK *e*pP pP 19 25 34.3 -2.2
KMBO Kilima Mbogo 58.00 262 P **P 19 25 34.5 -0.4**
comp=Z,0.6nm,0.5s,mb3.9,baz=42,slow=14,SNR=4.5
BRTR Keskin Array B 60.77 310 P **P 19 25 53.3 -0.8**
comp=Z,1.1nm,0.6s,mb4.2,baz=132,slow=10,SNR=7.3
STKA Stephens Creek 61.93 135 *e*P **P 19 26 01.0 -0.9**
comp=Z,7.0nm,0.9s,mb4.8
STKA Stephens Creek 61.93 135 P **P 19 26 01.1 -0.7**
comp=Z,8.3nm,0.9s,mb4.9,baz=324,slow=8.5,SNR=13
MOS Moscow 62.79 328 *e*P **P 19 26 12.0 +4.4**
OBN Obninsk 63.11 327 *e*P **P 19 26 09.1 -0.7**
OBN *e* 19 26 47.1
OBN pmax pmax
comp=Z,41nm,2.5s,mb5.1
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.7
MA2 Magadan 64.16 28 P **P 19 26 16.5 -0.2**
comp=Z,25nm,1.4s,mb5.1
MA2 Magadan 64.16 28 *e*P **P 19 26 16.4 -0.3**
MA2 pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
TIXI Tiksi 64.42 11 P **P 19 26 16.6 -1.8**
TIXI Tiksi 64.42 11 *d i*P **P 19 26 16.8 -1.6**
TIXI pmax pmax
comp=Z,40nm,1.3s,mb5.3
AKASG Malin Array Be 66.08 321 P **P 19 26 27.1 -2.1**
comp=Z,0.3nm,0.5s,baz=89,slow=6.0,SNR=4.3
SEY Seymchan 66.27 25⇑ *i*P **P 19 26 29.6 -0.8**
JOF Joensuu 68.39 334 *e*p **P 19 26 42.1 -1.8**
comp=Z,1.7nm,0.6s,mb4.2
ARMA Armidale 68.53 129 *e*P **P 19 26 47.6 +2.9**
LVZ Lovozero 68.98 340⇓ *i*P **P 19 26 46.3 -1.2**
LVZ pmax pmax
comp=Z,19nm,1.3s,mb4.9
APA Apatity 69.28 339⇓ *i*P **P 19 26 48.6 -0.8**
APA *i* 19 26 58.7
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
APA MLR MLR
comp=Z,1μm,18.0s,MS5.1
FINES FINESS Array B 70.32 332 P **P 19 26 54.8 -0.9**
comp=Z,1.6nm,0.7s,mb4.1,baz=97,slow=4.6,SNR=6.6
ARCES ARCESS Array B 72.68 340 P **P 19 27 09.6 -0.4**
comp=Z,6.8nm,0.8s,mb4.6,baz=90,slow=5.9,SNR=20
ARCES LR LR 20 02 19.9
comp=Z,721nm,20.1s,MS4.9,baz=94,slow=38
ARCES ARCESS Array B 72.68 340 P **P 19 27 09.6 -0.4**
ARCES LR LR 20 02 19.9
BILL Bilibino 73.38 22 *c i*P **P 19 27 13.5 -0.6**
BILL *i* pP 19 27 20.4 -0.8
BILL pmax pmax
comp=Z,17nm,1.2s,mb4.8
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.8
GERES GERESS Array B 75.87 318 P **P 19 27 28.7 +0.1**
comp=Z,0.4nm,0.3s,mb3.8,baz=352,slow=8.2,SNR=3.6
CLL Collm 76.32 320 *e*sP sP 19 27 40.0 -0.8
BOSA Boshof 77.29 237 P **P 19 27 37.6 +1.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=65,slow=5.1,SNR=5.1
NOA NORSAR Array B 77.38 330 P **P 19 27 36.2 -0.9**
comp=Z,1.0nm,0.8s,mb3.8,baz=94,slow=5.7,SNR=2.9
LPG La Plagne 80.78 315 *e*P **P 19 27 55.2 -0.5**
comp=Z,5.5nm,0.8s,mb4.2
LPG La Plagne 80.78 315 *e*P **P 19 27 55.2 -0.5**
comp=Z,2.8nm,0.8s,mb4.2
LPG La Plagne 80.78 315 *e*P **P 19 27 55.2 -0.5**
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SYO Syowa Base 88.17 197⇓ *e*P **P 19 28 34.7 +1.6**
TORD Torodi Ar. Bea 90.16 283 P **P 19 28 43.4 +1.0**
comp=Z,1.3nm,0.8s,mb4.3,baz=92,slow=3.9,SNR=8.7
TORD PP PP 19 32 18.3 +2.3
comp=Z,2.3nm,1.1s,baz=68,slow=8.2,SNR=6.9
BORG Borgarnes 90.90 337 LR LR 20 11 16.5
comp=Z,437nm,20.1s,MS4.9,baz=8.7,slow=37
ILAR Eielson Array 92.04 22 P **P 19 28 50.3 -0.9**
comp=Z,1.4nm,0.8s,mb4.3,baz=304,slow=4.4,SNR=16
ILAR PP PP 19 32 23.6 -7.3

comp=Z,0.7nm,1.0s,baz=304,slow=6.9,SNR=4.4
INK Inuvik 94.21 16 P **P 19 29 00.8 -0.4**
comp=Z,1.8nm,0.7s,mb4.6,baz=308,slow=5.4,SNR=7.8
INK Inuvik 94.21 16 *eP* **P 19 29 00.2 -1.0**
RES Resolute Bay 94.56 2 *eP* **P 19 29 02.5 -0.3**
YKA Yellowknife Ar 103.62 13 PP PP 19 33 56.5 -3.3
comp=Z,0.9nm,1.0s,baz=331,slow=7.9,SNR=4.9
ULM Lac du Bonnet 118.63 7 PKP PKPdf 19 34 29.1 -1.0
comp=Z,0.8nm,0.3s,baz=211,slow=4.4,SNR=3.6
ELK Elko 121.94 26 PKP PKPdf 19 34 37.4 +0.9
comp=Z,0.4nm,0.4s,baz=222,slow=4.9,SNR=4.6
PDAR Pinedale Array 122.45 21 PKP PKPdf 19 34 37.2 -0.2
comp=Z,2.2nm,0.9s,baz=49,slow=1.0,SNR=14
DAC Darwin (Calif) 124.40 31 PKPdf PKPdf 19 34 43.3 +2.1
MSU Marysvale 125.11 25 PKPdf PKPdf 19 34 45.2 +2.6
ANMO Albuquerque 130.48 23 ⇑*i*PKIKP PKPdf 19 34 55.1 +2.3
JCT Junction City 136.83 18 PKPdf PKPdf 19 35 06.6 +1.9
BDFB Brasilia 143.08 258 PKP PKPdf 19 35 18.2 +2.2
comp=Z,2.9nm,0.7s,baz=153,slow=4.5,SNR=3.8
HUMP Col San Antoni 145.30 326 PKPdf PKPdf 19 35 21.6 +1.7
PLCA Paso Flores 147.27 201 PKPbc PKPbc 19 35 26.4 +0.9
comp=Z,7.3nm,1.0s,baz=195,slow=8.0,SNR=8.1
CPUP Villa Florida 149.10 236 PKPbc PKPbc 19 35 30.4 0.0
comp=Z,5.4nm,1.0s,baz=91,slow=5.7,SNR=3.3
CPUP Villa Florida 149.10 236 PKIKP PKPdf 19 35 28.1 +1.9
LPAZ La Paz 162.11 250 PKP PKPdf 19 35 46.9 +3.3
comp=Z,1.3nm,0.3s,baz=0.0,slow=5.1,SNR=12

*IDC **09** 19:25:00.3±0.5, 1081N×9461E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.1/25, mbtmp4.1/18, ML3.8/1, MS4.0/1, Ms1 4.0/1, ms1mx3.1/30, Error ellipse: s-maj=24.8km s-min=13.0km az=60.0*
*ISCJB **09** 19:25:01.7±2.1, 1083N±006×9464E±007, h21km±15km, mb4.5/48, MS4.0/1, Error ellipse: s-maj=12.8km s-min=7.6km az=115.8*
*NEIC **09** 19:25:01.9±0.3, 1087N×9470E, h10km, mb4.8/16, Error ellipse: s-maj=10.2km s-min=4.8km az=61.0*
*MOS **09** 19:25:03.5±0.9, 1090N×9468E, h33km, mb5.0/20, Error ellipse: s-maj=16.3km s-min=6.2km az=111.9*
*BJI **09** 19:25:03.9, 11.19N×94.19E, h10km, mB5.0, mb4.5, Ms4.6, Msz4.2*

ISC 09 19:25:05.3±2.0, 1089N±006×9466E±007, h31km±14km, h22km±.8km: pP-P, n100, σ1°03/92, mb4.5/48, MS4.0/1, 8C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.03**	**292**	*ex*	x	19 25 50.4	
PBA				*eS*	Sx	19 26 04.5	
PSI	**Prapat**	**9.08**	**152**	Pn	**Pn**	**19 27 13.4**	**-0.8**
	0.9nm,0.3s,baz=344,slow=12,SNR=3.8						
PSI				LR	LR	19 30 33.2	
	comp=Z,954nm,18.9s,baz=346,slow=36						
PSI	**Prapat**	**9.08**	**152**	Pn	**Pn**	**19 27 13.4**	**-0.8**
PSI				LR	LR	19 30 33.2	
VIS	**Vishakhapatnam**	**12.91**	**303**	*i* P	**Pn**	**19 28 05.9**	**-0.7**
VIS				*eP*		19 28 06.7	
VIS				AMb	AMB	19 28 11.0	
	comp=Z,59nm,1.0s						
VIS				*i* x	x	19 30 13.7	
VIS				*eS*	**Sn**	**19 30 18.3**	**-11**
SHL	**Shillong**	**14.84**	**350**	*eP*	**Pn**	**19 28 34.0**	**+1.1**
SHL				*ex*	x	19 31 00.0	
BOK	**Bokaro**	**15.32**	**328**	*eP*	**Pn**	**19 28 41.8**	**+2.5**
BOK				AMb	AMB	19 28 53.7	
	comp=Z,47nm,1.2s						
KMI	**Kunming**	**16.10**	**27**	P	**Pn**	**19 28 55.3**	**+6.0**
KMI				AMB	AMB		
	comp=Z,15nm,1.6s						
HYB	**Hyderabad**	**16.91**	**294**	*i* P	**Pn**	**19 29 01.0**	**+1.4**
HYB	**Hyderabad**	**16.91**	**294**	*eP*	**Pn**	**19 29 01.0**	**+1.4**
JIRN	**Jiri**	**18.49**	**336**	*eP*	**Pn**	**19 29 18.6**	**-0.5**
	comp=Z,179nm,1.4s						
PKI	**Pulchoki**	**18.74**	**334**	*eP*	**Pn**	**19 29 22.2**	**+0.1**
	comp=Z,244nm,1.3s						
PKI	**Pulchoki**	**18.74**	**334**	*eP*	**Pn**	**19 29 22.2**	**+0.1**
PKI				pmax	pmax		
	comp=Z,122nm,1.3s						
GUN	**Gumba**	**18.84**	**335**	*eP*	**Pn**	**19 29 22.4**	**-0.9**
	comp=Z,380nm,1.7s						
DMN	**Daman**	**18.91**	**333**	*eP*	**Pn**	**19 29 23.6**	**-0.5**
	comp=Z,108nm,1.0s						
KKN	**Kakani**	**18.99**	**334**	*eP*	**Pn**	**19 29 24.3**	**-0.8**
	comp=Z,175nm,1.3s						
KKN	**Kakani**	**18.99**	**334**	*eP*	**Pn**	**19 29 24.3**	**-0.8**
KKN				pmax	pmax		
	comp=Z,88nm,1.3s						
LSA	**Lhasa**	**19.00**	**351**	P	**Pn**	**19 29 25.0**	**-0.3**
LSA	**Lhasa**	**19.00**	**351**	*eP*	**Pn**	**19 29 24.6**	**-0.7**
	comp=Z,50nm,1.4s						
LSA	**Lhasa**	**19.00**	**351**	*eP*	**Pn**	**19 29 24.6**	**-0.7**
LSA				pmax	pmax		
	comp=Z,50nm,1.4s						
GKN	**Gorkha**	**19.46**	**332**	*eP*	**Pn**	**19 29 29.3**	**-1.4**
	comp=Z,175nm,1.3s						
KOLN	**Koldanda**	**19.75**	**330**	*eP*	**Pn**	**19 29 31.8**	**-2.4**
	comp=Z,245nm,1.2s						
BHPL	**Bhopal**	**20.53**	**309**	*eP*	**P**	**19 29 44.0**	**+3.0**
BHPL				AMb	AMB	19 29 54.8	
	comp=Z,47nm,1.4s						
KAD	**Karad**	**20.85**	**290**	*eP*	**P**	**19 29 48.4**	**+3.8**
KAD				AMb	AMB	19 29 55.9	
	comp=Z,52nm,0.9s						
CD2	**Chengdu**	**21.64**	**22**	P	**P**	**19 29 54.2**	**+1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
CD2				AMB	AMB		
	comp=Z,50nm,5.6s						
ENH	**Enshi**	**23.71**	**33**	*eP*	**P**	**19 30 14.0**	**-0.6**
	comp=Z,56nm,1.2s,mb4.9						
AJM	**Ajmer**	**24.44**	**312**	*eP*	**P**	**19 30 21.7**	**+0.5**
AJM				AMb	AMB	19 30 31.1	
	comp=Z,24nm,1.3s,mb4.5						
LZH	**Lanzhou**	**26.43**	**17**	*eP*	**P**	**19 30 40.5**	**+1.2**
LZH				AP	pP	19 30 47.5	-0.8
LZH				XP	sP	19 30 51.0	-1.1
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,109nm,4.6s						
XAN	**Xi'an**	**26.48**	**27**	P	**P**	**19 30 44.7**	**+5.0**
GTA	**Gaotai**	**28.78**	**8**	*eP*	**P**	**19 31 01.6**	**+1.4**
GTA				AP	pP	19 31 07.8	-1.5
GTA				XP	sP	19 31 11.2	-1.9
GTA				AMB	AMB		
	comp=Z,6.0nm,2.2s,mb3.9						
WMQ	**Urumqi**	**33.37**	**351**	*eP*	**P**	**19 31 42.3**	**+1.6**
WMQ				AP	pP	19 31 48.1	-1.7
WMQ				XP	sP	19 31 51.1	-2.4
WMQ				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,168nm,4.2s						
WMQ				LR	LR		
	comp=N,162nm,21.2s,MS4.0						
WMQ				LR	LR		
	comp=E,298nm,20.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,299nm,22.0s,MS4.0						
AAK	**Ala-Archa**	**36.19**	**334**	*eP*	**P**	**19 32 04.5**	**-0.5**
	comp=Z,18nm,1.4s,mb4.8						
AAK	**Ala-Archa**	**36.19**	**334**	*eP*	**P**	**19 32 04.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
MK31	**Makanchi Array**	**37.30**	**346**	*i* P	**P**	**19 32 13.2**	**-1.3**
MK31				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**37.30**	**346**	P	**P**	**19 32 14.6**	**+0.1**
	comp=Z,5.1nm,0.8s,mb4.4,baz=164,slow=8.6,SNR=57						
MKAR	**Makanchi Array**	**37.30**	**346**	P	**P**	**19 32 14.6**	**+0.1**
MKAR	**Makanchi Array**	**37.30**	**346**	*i* P	**P**	**19 32 13.2**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,19nm,0.9s						
SONM	**Songino Array**	**38.13**	**13**	P	**P**	**19 32 22.7**	**+1.1**
	comp=Z,3.2nm,1.0s,mb4.0,baz=196,slow=8.5,SNR=19						
SONM				PcP	PcP	19 34 36.7	+0.7
	comp=Z,0.8nm,0.8s,baz=186,slow=5.1,SNR=3.3						
ULN	**Ulaanbaatar**	**38.31**	**13**	*eP*	**P**	**19 32 23.1**	**+0.1**
	comp=Z,11nm,1.3s,mb4.4						
ULN	**Ulaanbaatar**	**38.31**	**13**	*eP*	**P**	**19 32 23.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
KK31	**Karatay Array**	**38.35**	**331**	*i* P	**P**	**19 32 22.7**	**-0.7**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
KKAR	**Karatay Array**	**38.35**	**331**	*i* P	**P**	**19 32 22.7**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
SNY	**Shenyang**	**39.89**	**34**	⇑P	**P**	**19 32 43.5**	**+7.2**
SNY				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.5						
KURK	**Kurchatov**	**41.84**	**345**	*eP*	**P**	**19 32 51.9**	**-0.5**
	comp=Z,44nm,1.3s,mb4.9						
KURK	**Kurchatov**	**41.84**	**345**	*eP*	**P**	**19 32 51.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,44nm,1.3s,mb4.9						
CN2	**Changchun**	**42.23**	**33**	*eP*	**P**	**19 32 56.2**	**+0.7**
ZAL	**Zalesovo**	**43.66**	**352**	P	**P**	**19 33 07.9**	**+0.9**
	comp=Z,2.2nm,0.8s,mb4.0,baz=286,slow=6.3,SNR=14						
NVS	**Novosibirsk**	**44.77**	**351**	*eP*	**P**	**19 33 14.9**	**-1.1**
KRAR	**Krasnoyarsk**	**45.04**	**359**	⇑*i*P	**P**	**19 33 19.7**	**+1.6**
KRAR				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.8						
VOSK	**Vostochnaya**	**45.89**	**340**	P	**P**	**19 33 23.9**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
BVA0	**Borovoye Array**	**46.34**	**340**	*i* P	**P**	**19 33 28.4**	**0.0**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
BVAR	**Borovoye Array**	**46.34**	**340**	P	**P**	**19 33 28.2**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=156,slow=11,SNR=5.0						
ZRNK	**Zerenda**	**46.76**	**339**	*eP*	**P**	**19 33 31.1**	**-0.6**
	comp=Z,7.7nm,1.3s,mb4.5						
ZRNK	**Zerenda**	**46.76**	**339**	*eP*	**P**	**19 33 31.1**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
MUN	**Mundaring**	**47.35**	**155**	*eP*	**P**	**19 33 36.7**	**+0.4**
AB31	**Akbulak array**	**47.88**	**330**	*i* P	**P**	**19 33 39.8**	**-0.6**
AB31				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**48.60**	**155**	P	**P**	**19 33 46.2**	**+0.3**
	comp=Z,10nm,1.0s,mb4.8,baz=307,slow=7.0,SNR=4.9						
BOD	**Bodaibo**	**49.12**	**14**	*eP*	**P**	**19 33 49.7**	**-0.2**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
AKTK	**Aktyubinsk**	**49.59**	**330**	P	**P**	**19 33 54.7**	**+1.2**
AKTO	**Aktyubinsk**	**49.59**	**330**	P	**P**	**19 33 54.7**	**+1.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=117,slow=4.5,SNR=2.8						
WRA	**Warramunga Arr**	**49.64**	**128**	P	**P**	**19 33 54.0**	**+0.1**
	comp=Z,1.8nm,1.0s,mb4.1,baz=304,slow=9.0,SNR=6.7						
WRAB	**Tennant Creek**	**49.64**	**128**	⇑*eP*	pP	19 34 05.2	+1.9
HABR	**Khabarovsk**	**50.36**	**34**	*eP*	**P**	**19 34 07.0**	**+7.6**
ASAR	**Alice Springs**	**51.49**	**132**	P	**P**	**19 34 08.4**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=312,slow=7.0,SNR=12						
GNI	**Garni**	**52.75**	**313**	*c i*P	**P**	**19 34 17.3**	**0.0**
GNI				pmax	pmax		
	comp=Z,31nm,1.7s						
SVE	**Sverdlovsk**	**52.82**	**337**	*eP*	**P**	**19 34 15.0**	**-2.8**
ARU	**Arti**	**53.35**	**336**	⇑*i*P	**P**	**19 34 23.2**	**+1.5**
ARU				*e*		19 36 21.3	
ARU				*eS*	**S**	**19 41 51.2**	**-0.3**
ARU				*e*SS	SS	19 45 28.5	-3.0
ARU				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.5						
YSS	**Yuzh-Sakhalins**	**54.12**	**39**	⇑*eP*	**P**	**19 34 34.4**	**+7.1**
YSS				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
KIV	**Kislovodsk**	**55.48**	**316**	*d i*P	**P**	**19 34 36.6**	**-0.5**
KIV				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
GOF	**Gofitskoye**	**55.63**	**318**	*eP*	**P**	**19 34 44.2**	**+6.0**
GOF				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
YAK	**Yakutsk**	**57.00**	**19**	*eP*	**P**	**19 34 47.3**	**-0.6**
	comp=Z,12nm,0.9s,mb4.9						
YAK				*e*pP	pP	19 34 53.7	-3.8
YAK	**Yakutsk**	**57.00**	**19**	*eP*	**P**	**19 34 47.3**	**-0.7**
YAK				*e**PP	pP	19 34 53.7	-3.8
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
KMBO	**Kilima Mbogo**	**58.31**	**262**	P	**P**	**19 34 57.9**	**+0.7**
	comp=Z,1.4nm,1.0s,mb3.9,baz=34,slow=7.3,SNR=3.1						
VOR	**Voronezh**	**60.45**	**324**	P	**P**	**19 35 13.0**	**+1.1**
VOR				pmax	pmax		
	comp=Z,70nm,2.4s,mb5.3						
BRTR	**Keskin Array B**	**60.89**	**309**	P	**P**	**19 35 15.2**	**+0.2**
	comp=Z,1.4nm,0.8s,mb4.2,baz=142,slow=7.3,SNR=3.3						
STKA	**Stephens Creek**	**61.83**	**135**	P	**P**	**19 35 20.2**	**-1.2**
	comp=Z,3.9nm,1.0s,mb4.5,baz=6.0,slow=2.6,SNR=6.0						
STKA	**Stephens Creek**	**61.83**	**135**	P	**P**	**19 35 20.2**	**-1.2**
OBN	**Obninsk**	**63.14**	**327**	⇓*i*P	**P**	**19 35 33.1**	**+3.0**
OBN				pmax	pmax		
	comp=Z,28nm,1.6s,mb5.1						
MA2	**Magadan**	**63.88**	**28**	*eP*	**P**	**19 35 35.4**	**+0.5**
	comp=Z,4.7nm,1.0s,mb4.5						
MA2				*e*pP	pP	19 35 41.6	-2.9
MA2	**Magadan**	**63.88**	**28**	*eP*	**P**	**19 35 35.4**	**+0.4**
MA2				*e**PP	pP	19 35 41.7	-2.9
MA2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KLMR	**Klimovskoe**	**64.00**	**333**	*eP*	**P**	**19 35 39.8**	**+4.1**
KLMR				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.9						
TIXI	**Tiksi**	**64.20**	**11**	*eP*	**P**	**19 35 34.9**	**-2.2**
TIXI				*e*		19 35 41.5	
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
SEY	**Seymchan**	**66.00**	**25**	⇑*i*P	**P**	**19 35 55.6**	**+6.9**
APA	**Apatity**	**69.24**	**339**	⇓*i*P	**P**	**19 36 09.0**	**-0.2**
APA				*i*		19 36 15.0	
APA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
FINES	**FINESS Array B**	**70.31**	**332**	P	**P**	**19 36 15.4**	**-0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=86,slow=5.9,SNR=6.5						
ARCES	**ARCESS Array B**	**72.63**	**340**	P	**P**	**19 36 29.9**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=95,slow=6.6,SNR=5.7						
BILL	**Bilibino**	**73.12**	**22**	*eP*	**P**	**19 36 39.4**	**+6.7**
BILL				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.6						
GERES	**GERESS Array B**	**75.95**	**318**	P	**P**	**19 36 48.8**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=9.7,slow=9.5,SNR=2.8						
NB2	**NORSAR Subarra**	**77.38**	**330**	P	**P**	**19 36 55.6**	**-1.6**
	comp=Z,1.1nm,1.1s,mb4.7,baz=89,slow=6.2						
NB2	**NORSAR Subarra**	**77.38**	**330**	P	**P**	**19 36 55.6**	**-1.6**
NB2				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
NOA	**NORSAR Array B**	**77.38**	**330**	P	**P**	**19 36 56.4**	**-0.8**
	comp=Z,2.6nm,0.9s,mb4.2,baz=90,slow=6.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**90.41**	**283**	P	**P**	**19 38 04.0**	**+0.4**
	comp=Z,1.2nm,1.0s,mb4.2,baz=90,slow=5.4,SNR=4.9						
TORD				PP	PP	19 41 41.8	+3.7
	comp=Z,1.3nm,1.1s,baz=71,slow=7.1,SNR=5.6						
ILAR	**Eielson Array**	**91.78**	**22**	P	**P**	**19 38 09.0**	**-1.0**
	comp=Z,0.7nm,0.9s,mb4.0,baz=301,slow=4.2,SNR=6.7						
YKA	**Yellowknife Ar**	**103.40**	**13**	PP	PP	19 43 21.1	+2.9
	comp=Z,0.1nm,0.5s,baz=334,slow=8.2,SNR=4.3						
ULM	**Lac du Bonnet**	**118.43**	**8**	PKP	PKPdf	19 43 49.2	-0.5
	comp=Z,0.7nm,0.3s,baz=340,slow=3.7,SNR=3.3						
NVAR	**Mina Array Bea**	**122.08**	**30**	PKP	PKPdf	19 43 57.5	+0.8
	comp=Z,0.7nm,0.6s,baz=276,slow=1.4,SNR=3.5						
PDAR	**Pinedale Array**	**122.19**	**21**	PKP	PKPdf	19 43 57.5	+0.5
	comp=Z,1.0nm,0.8s,baz=342,slow=1.0,SNR=7.7						
ANMO	**Albuquerque**	**130.22**	**23**	⇑*i*PKIKP	PKPdf	19 44 18.5	+6.2
PLCA	**Paso Flores**	**147.53**	**201**	PKPbc	PKPbc	19 44 47.4	+1.1
	comp=Z,1.8nm,0.9s,baz=167,slow=7.7,SNR=2.7						
CPUP	**Villa Florida**	**149.43**	**236**	PKPbc	PKPbc	19 44 51.5	+0.2
	comp=Z,3.0nm,0.9s,baz=142,slow=1.8,SNR=3.2						
LPAZ	**La Paz**	**162.44**	**250**	PKPab	PKPab	19 45 52.1	+0.5
	comp=Z,0.7nm,0.6s,baz=112,slow=9.2,SNR=3.7						

IDC 09 19:25:53.6±11.0, 644S×12731E, h278km±131km, mb2.8/1, mb1 2.6/3, mb1mx2.5/14, mbtmp3.2/3, Error ellipse: s-maj=118.4km s-min=42.8km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.06**	**154**	P	Pn	19 29 13.8	+0.3
	0.1nm,0.3s,baz=337,slow=11,SNR=6.1						
WRA				S	S	19 31 58.4	+0.9
	0.1nm,0.3s,baz=320,slow=21,SNR=3.8						
ASAR	**Alice Springs**	**18.27**	**160**	P	P	19 29 46.9	-0.4
	0.1nm,0.3s,baz=335,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	**66.31**	**328**	P	P	19 36 12.7	+0.1
	0.2nm,0.4s,baz=119,slow=8.3,SNR=5.5						

IDC 09 19:36:37.4±8.2, 988N×9293E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/21, mbtmp3.5/3, Error ellipse: s-maj=432.8km s-min=27.1km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.77**	**354**	*eP*	Pn	19 37 29.3	+20
PBA				*eS*	Sn	19 37 54.7	+22
PBA				*ex*	x	19 38 04.4	
	comp=N,375nm,0.5s						
PBA				*ex*	x	19 38 06.1	
	comp=E,267nm,0.4s						
MKAR	**Makanchi Array**	**37.89**	**348**	P	P	19 43 56.1	0.0
	comp=E,0.4nm,0.6s,baz=166,slow=9.3,SNR=8.2						
WRA	**Warramunga Arr**	**50.40**	**126**	P	P	19 45 36.0	-0.5
	comp=E,0.3nm,0.7s,baz=304,slow=8.9,SNR=6.6						
ASAR	**Alice Springs**	**52.12**	**130**	P	P	19 45 50.5	+1.2
	comp=E,0.8nm,0.8s,baz=306,slow=6.7,SNR=11						

*ISCJB **09** 19:39:22.2±3.4, 1067N±008×944E±0.1, h16km±25km, mb4.3/19, MS4.0/1, Error ellipse: s-maj=22.5km s-min=8.9km az=121.4*
*IDC **09** 19:39:22.4±1.0, 1077N×9460E, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/24, mbtmp4.1/10, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/27, Error ellipse: s-maj=55.0km s-min=14.7km az=65.0*
*NEIC **09** 19:39:23.6±0.3, 1077N×9459E, h10km, mb4.6/13, Error ellipse: s-maj=15.8km s-min=4.7km az=62.0*
*MOS **09** 19:39:24.7±0.6, 1071N×9442E, h33km, mb4.7/4, Error ellipse: s-maj=32.5km s-min=9.2km az=107.8*
*BJI **09** 19:39:29.6, 1138N×9396E, h10km, mB5.1, mb4.1, Ms4.2, Msz4.0*

ISC 09 19:39:25.7±3.2, 1073N±008×944E±01, h25km±24km, n47, σ0°54/44, mb4.3/19, MS4.0/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.88**	**300**	*eP*	Px	19 39 56.9	
PBA				*eS*	Sx	19 40 38.1	
PBA				*ex*	x	19 40 54.1	
	comp=E,2μm,0.5s						
PBA				*ex*	x	19 40 54.9	
	comp=N,846nm,0.3s						
PSI	**Prapat**	**9.06**	**150**	Pn	**Pn**	**19 41 34.9**	**0.0**
	comp=N,0.3nm,0.3s,baz=326,slow=18,SNR=4.3						
PSI				LR	LR	19 45 16.1	
	comp=N,652nm,20.3s,baz=192,slow=39						
KMI	**Kunming**	**16.36**	**28**	P	**Pn**	**19 43 17.7**	**+4.1**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s						
HYB	**Hyderabad**	**16.75**	**295**	*eP*	**Pn**	**19 43 30.0**	**+11**
JIRN	**Jiri**	**18.54**	**336**	*eP*	**Pn**	**19 43 41.1**	**+0.5**
	comp=Z,95nm,1.2s						
PKI	**Pulchoki**	**18.77**	**334**	*eP*	**Pn**	**19 43 43.7**	**+0.2**
	comp=Z,141nm,1.3s						
PKI	**Pulchoki**	**18.77**	**334**	*eP*	**Pn**	**19 43 43.7**	**+0.2**
PKI				pmax	pmax		
	comp=Z,71nm,1.3s						
GUN	**Gumba**	**18.88**	**336**	*eP*	**Pn**	**19 43 45.1**	**+0.3**
	comp=Z,264nm,1.8s						
DMN	**Daman**	**18.94**	**334**	*eP*	**Pn**	**19 43 45.5**	**0.0**
	comp=Z,54nm,1.0s						
KKN	**Kakani**	**19.02**	**334**	*eP*	**Pn**	**19 43 46.3**	**-0.2**
	comp=Z,78nm,1.2s						
KKN	**Kakani**	**19.02**	**334**	*eP*	**Pn**	**19 43 46.3**	**-0.2**
KKN				pmax	pmax		
	comp=Z,39nm,1.2s						
LSA	**Lhasa**	**19.12**	**351**	P	**Pn**	**19 43 46.4**	**-1.3**
LSA	**Lhasa**	**19.12**	**351**	*eP*	**Pn**	**19 43 46.8**	**-1.0**
	comp=Z,9.9nm,0.8s						
LSA	**Lhasa**	**19.12**	**351**	*eP*	**Pn**	**19 43 46.8**	**-0.9**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA	**Guiyang**	**19.46**	**35**	P	**Pn**	**19 43 52.3**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.6s						
GKN	**Gorkha**	**19.48**	**333**	*eP*	**Pn**	**19 43 51.8**	**-0.3**
	comp=Z,81nm,1.2s						
KOLN	**Koldanda**	**19.77**	**331**	*eP*	**Pn**	**19 43 55.3**	**-0.1**
	comp=Z,139nm,1.4s						
ENH	**Enshi**	**23.98**	**34**	*eP*	**P**	**19 44 37.0**	**-1.2**
	comp=Z,36nm,1.4s,mb4.6						
LZH	**Lanzhou**	**26.66**	**17**	*eP*	**P**	**19 45 08.5**	**+6.0**
LZH				XP	sP	19 45 18.5	+5.6
LZH				AMB	AMB		
	comp=Z,32nm,1.6s,mb4.6						
GTA	**Gaotai**	**28.97**	**9**	*eP*	**P**	**19 45 24.0**	**+0.9**
GTA				AP	pP	19 45 29.7	-0.8
GTA				XP	sP	19 45 33.1	-0.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb3.9						
WMQ	**Urumqi**	**33.48**	**351**	*eP*	**P**	**19 46 09.7**	**+6.8**
WMQ				AP	pP	19 46 15.5	+5.2
WMQ				XP	sP	19 46 18.5	+5.2
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,75nm,4.2s						
WMQ				LR	LR		
	comp=N,168nm,21.3s,MS4.1						
WMQ				LR	LR		
	comp=E,305nm,20.1s,MS4.1						
WMQ				LR	LR		
	comp=Z,300nm,22.1s,MS4.0						
AAK	**Ala-Archa**	**36.23**	**335**	*eP*	**P**	**19 46 27

ellipse: s-maj=65.6km s-min=21.0km az=92.0
*IDC **09** 19:50:45.2±0.7, 6517S×17682W, h0km, mb4.4/5, mb1 4.5/6, mb1mx4.4/12, mbtmp4.3/6, ML3.5/1, MS4.5/13, Ms1 4.5/13, ms1mx4.3/20, Error ellipse: s-maj=47.2km s-min=20.7km az=30.0*
*NEIC **09** 19:50:46.3±0.3, 6502S×17680W, h10km, mb4.8/4, Error ellipse: s-maj=13.9km s-min=10.6km az=63.0*

ISC 09 19:50:46.4±0.8, 650S±01×1767W±03, h10km, n39, σ0§71/11, mb4.5/8, MS4.5/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.13**	**199**	Pn	**Pn**	**19 54 05.9**	**-0.7**
VNDA	0.2nm,0.3s,baz=51,slow=18,SNR=18			LR	LR	19 58 18.0	
VNDA	comp=Z,2μm,21.4s,baz=356,slow=32			LR	LR	19 58 18.0	
VNDA	**Vanda**	**14.13**	**199**	Pn	**Pn**	**19 54 05.9**	**-0.6**
VNDA				LR	LR	19 58 18.0	
QSPA	**South Pole Qui**	**25.05**	**180**	*eP*	**P**	**19 56 11.5**	**+0.7**
URZ	44nm,1.5s,mb4.8 **Urewera**	**27.07**	**349**	LR	LR	20 05 09.4	
RAO	comp=Z,857nm,21.8s,MS4.3,baz=125,slow=32 **Raoul Island**	**35.81**	**358**	LR	LR	20 08 53.1	
MAW	comp=Z,474nm,18.9s,MS4.3,baz=288,slow=30 **Mawson**	**41.05**	**210**	LR	LR	20 15 17.1	
STKA	comp=Z,755nm,18.3s,MS4.6,baz=126,slow=36 **Stephens Creek**	**41.80**	**302**	*eP*	**P**	**19 58 35.5**	**-0.6**
STKA	3.7nm,0.9s,mb4.0 **Stephens Creek**	**41.80**	**302**	P	**P**	**19 58 36.2**	**0.0**
STKA	3.3nm,0.8s,mb4.0,baz=168,slow=8.4,SNR=7.5			LR	LR	20 13 07.6	
SNAA	comp=Z,434nm,20.1s,MS4.3,baz=293,slow=32 **Sanae**	**43.49**	**177**	*eP*	**P**	**19 58 50.3**	**+0.5**
TBI	16nm,1.3s,mb4.6 **Tubuai**	**45.29**	**36**	*eLR*	LR	20 11 06.9	
RKT	974nm,28.8s **Rikitea**	**49.84**	**53**	*eLR*	LR	20 13 14.7	
NWAO	618nm,28.5s **Narrogin (SRO)**	**50.60**	**276**	LR	LR	20 16 20.8	
PPT	comp=Z,498nm,19.6s,MS4.5,baz=142,slow=30 **Papeete**	**50.81**	**34**	*eLR*	LR	20 13 40.5	
PPT	903nm,29.5s **Papeete**	**50.81**	**34**	LR	LR	20 16 45.1	
CTA	comp=Z,445nm,18.8s,MS4.5,baz=310,slow=31 **Charters Tower**	**51.13**	**313**	LR	LR	20 18 09.5	
ASAR	comp=Z,578nm,18.7s,MS4.6,baz=182,slow=32 **Alice Springs**	**52.07**	**298**	P	**P**	**19 59 56.7**	**+0.3**
PLCA	4.6nm,0.8s,mb4.5,baz=155,slow=7.5,SNR=20 **Paso Flores**	**60.08**	**123**	P	**P**	**20 00 53.0**	**-0.7**
PLCA	4.3nm,1.0s,mb4.4,baz=244,slow=14,SNR=2.9			LR	LR	20 20 07.0	
TAOE	comp=Z,350nm,21.5s,MS4.5,baz=201,slow=29 **Nuku Hiva Isla**	**61.63**	**42**	*eLR*	LR	20 18 42.3	
CPUP	2μm,32.0s **Villa Florida**	**77.73**	**127**	P	**P**	**20 02 43.3**	**-0.1**
CPUP	3.7nm,0.9s,mb4.3,baz=184,slow=5.7,SNR=5.7			LR	LR	20 33 51.6	
LPAZ	comp=Z,500nm,19.0s,MS4.9,baz=180,slow=33 **La Paz**	**82.96**	**113**	P	**P**	**20 03 12.9**	**+1.3**
LPAZ	4.5nm,0.8s,mb4.5,baz=189,slow=5.6,SNR=17			LR	LR	20 31 02.6	
BOSA	comp=Z,224nm,20.2s,MS4.5,baz=124,slow=29 **Boshof**	**85.10**	**199**	LR	LR	20 38 24.3	
SAML	comp=Z,263nm,18.0s,MS4.7,baz=163,slow=34 **Samuel**	**91.57**	**115**	*eP*	**P**	**20 03 52.4**	**-1.1**
LSZ	9.8nm,1.1s,mb5.0 **Lusaka**	**97.72**	**204**	LR	LR	20 44 12.5	
TORD	comp=Z,261nm,19.2s,MS4.7,baz=323,slow=33 **Torodi Ar. Bea**	**128.16**	**178**	PKP	PKPdf	20 09 51.8	-1.1
ILAR	0.4nm,0.8s,baz=158,slow=2.3,SNR=3.1 **Eielson Array**	**131.33**	**16**	PKP	PKPdf	20 09 57.8	-1.1
YKA	1.9nm,0.9s,baz=230,slow=2.7,SNR=15 **Yellowknife Ar**	**135.22**	**36**	PKP	PKPdf	20 10 04.2	-2.0
MKAR	0.4nm,0.7s,baz=204,slow=2.2,SNR=6.8 **Makanchi Array**	**135.52**	**286**	PKP	PKPdf	20 10 05.6	-1.2
VOSK	0.9nm,1.1s,baz=122,slow=2.2,SNR=3.6 **Vostochnaya**	**144.75**	**283**	PKIKP	PKPdf	20 10 19.8	-3.7
VOSK	comp=Z,17nm,1.3s			pmax	pmax		
BVA0	**Borovoye Array**	**145.22**	**283**	*i* PKIKP	PKPdf	20 10 21.8	-2.5
BVAR	**Borovoye Array**	**145.22**	**283**	PKPbc	PKPbc	20 10 22.4	-1.6
BRVK	comp=Z,7.3nm,0.8s,baz=134,slow=4.3,SNR=36 **Borovoye**	**145.29**	**283**	*eP*	PKPbc	20 10 21.8	-2.4
SCHQ	**Schefferville**	**145.29**	**73**	PKPbc	PKPbc	20 10 23.1	-1.1
ZRNK	comp=Z,7.9nm,1.0s,baz=15,slow=2.4,SNR=4.9 **Zerenda**	**145.74**	**282**	*eP*	PKPdf	20 10 23.4	-1.8
AKTK	**Aktyubinsk**	**148.52**	**269**	PKPbc	PKPbc	20 10 31.5	-1.9
AKTO	**Aktyubinsk**	**148.52**	**269**	PKPbc	PKPbc	20 10 31.5	-1.9
BRTR	comp=Z,2.0nm,0.8s,baz=162,slow=5.7,SNR=4.3 **Keskin Array B**	**149.18**	**230**	PKPbc	PKPbc	20 10 33.5	-1.6
BR131	comp=Z,2.9nm,0.8s,baz=149,slow=5.4,SNR=12 **Keskin Array S**	**149.18**	**230**	*e*PKPbc	PKPbc	20 10 33.7	-1.4
KIV	**Kislovodsk**	**149.67**	**245**	*e*PKPbc	PKPbc	20 10 33.5	-2.8
KIV	**Kislovodsk**	**149.67**	**245**	*e*PKHKP	PKPbc	20 10 33.5	-2.8

*IDC **09** 19:53:13.9±35.0, 1078N×9401E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=644.5km s-min=101.9km az=175.0*
*NEIC **09** 19:53:23.8±4.4, 1192N×9412E, h10km, mb4.2/2, Error ellipse: s-maj=74.7km s-min=36.7km az=182.0*
*ISCJB **09** 19:53:25.2±4.5, 119N×05×940E±03, h33km, mb3.7/5, Error ellipse: s-maj=74.2km s-min=38.5km az=16.9*

ISC 09 19:53:27.5±4.6, 119N±05×941E±03, h35km, n8, σ0§96/7, mb3.7/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.38**	**259**	*eP*	Px	19 53 49.9	
PBA				*eS*	Sx	19 54 24.5	
PBA				*ex*	x	19 54 43.6	
PBA	comp=E,795nm,0.8s			*ex*	x	19 54 47.3	
LSA	comp=N,704nm,1.0s **Lhasa**	**17.90**	**352**	*eP*	**Pn**	**19 57 33.4**	**-0.1**
ENH	comp=N,28nm,1.8s **Enshi**	**23.16**	**36**	*eP*	**P**	**19 58 30.1**	**-0.7**
MKAR	comp=N,8.1nm,0.9s,mb4.2 **Makanchi Array**	**36.16**	**346**	P	**P**	**20 00 26.6**	**+0.2**
SONM	comp=N,1.1nm,0.7s,mb3.9,baz=160,slow=7.6,SNR=9.7 **Songino Array**	**37.24**	**14**	P	**P**	**20 00 36.5**	**+0.8**
KURK	comp=N,0.9nm,1.1s,mb3.5,baz=201,slow=7.9,SNR=5.5 **Kurchatov**	**40.70**	**345**	*eP*	**P**	**20 01 03.4**	**-1.2**
ZAL	**Zalesovo**	**42.55**	**352**	P	**P**	**20 01 21.6**	**+1.9**
BVAR	comp=N,1.0nm,0.9s,mb3.5,baz=320,slow=22,SNR=5.6 **Borovoye Array**	**45.18**	**340**	P	**P**	**20 01 40.1**	**-0.8**
	comp=N,0.8nm,1.0s,mb3.5,baz=156,slow=11,SNR=3.8						

*ISCJB **09** 19:54:27.0±2.3, 642S±008×12990E±0.10, h231km±24km, mb4.2/8, Error ellipse: s-maj=16.7km s-min=11.5km az=113.5*
*NEIC **09** 19:54:30.5±2.3, 659S×12982E, h256km±27km, mb4.1/6, Error ellipse: s-maj=19.7km s-min=12.4km az=215.0*
*IDC **09** 19:54:31.3±6.4, 630S×13003E, h251km±69km, mb3.5/4, mb1 3.6/6, mb1mx3.4/15, mbtmp4.3/6, Error ellipse: s-maj=43.4km s-min=14.9km az=75.0*

ISC 09 19:54:33.4±2.2, 678S±009×12984E±010, h288km±26km, n21, σ0§82/26, mb4.1/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.97**	**200**	*eP*	**Pn**	**19 57 17.0**	**+1.2**
FITZ	12nm,1.2s			*eS*	**S**	**19 59 29.0**	**-0.2**
WRAB	**Tennant Creek**	**13.79**	**162**	*eP*	**Pn**	**19 57 37.4**	**-0.4**
WRAB	12nm,0.4s			*e*		19 57 42.2	
WRAB				*eS*	**S**	**20 00 08.8**	**-1.2**
WRA	**Warramunga Arr**	**13.80**	**162**	P	**Pn**	**19 57 37.6**	**-0.3**
WRA	0.8nm,0.3s,baz=347,slow=13,SNR=28			S	**S**	**20 00 10.0**	**-0.1**
WB2	2.4nm,0.3s,baz=336,slow=24,SNR=13 **Warramunga Arr**	**13.80**	**162**	*eP*	**Pn**	**19 57 37.7**	**-0.2**
WB2				*eS*	**S**	**20 00 10.1**	**-0.1**
ASAR	**Alice Springs**	**17.24**	**167**	P	**P**	**19 58 20.7**	**+5.2**
ASAR	3.1nm,0.3s,baz=343,slow=9.2,SNR=142			S	**S**	**20 01 32.3**	**+12**
MBWA	0.4nm,0.3s,baz=352,slow=26,SNR=5.9 **Marble Bar**	**17.32**	**213**	P	**P**	**19 58 22.4**	**+6.0**
PMG	**Port Moresby**	**17.35**	**100**	P	**P**	**19 58 16.2**	**-0.5**
CTA	0.5nm,0.3s,baz=291,slow=9.9,SNR=4.2 **Charters Tower**	**20.71**	**131**	P	**P**	**19 58 54.9**	**+2.5**
	2.0nm,0.3s,baz=315,slow=10,SNR=5.8						

STKA	**Stephens Creek**	**27.28**	**158**	*eP*	**P**	**19 59 54.6**	**+2.9**
STKA	2.7nm,0.8s,mb3.7 **Stephens Creek**	**27.28**	**158**	P	**P**	**19 59 55.2**	**+3.4**
STKA	1.1nm,0.3s,mb3.8,baz=323,slow=6.2,SNR=12 **Stephens Creek**	**27.28**	**158**	*eP*	**P**	**19 59 54.5**	**+2.8**
JIRN	**Jiri**	**54.32**	**311**	*eP*	**P**	**20 03 30.7**	**+0.2**
GUN	10nm,0.7s,mb4.3 **Gumba**	**54.68**	**311**	*eP*	**P**	**20 03 33.3**	**+0.2**
PKI	13nm,0.6s,mb4.5 **Pulchoki**	**54.86**	**311**	*eP*	**P**	**20 03 33.8**	**-0.5**
KKN	**Kakani**	**55.07**	**311**	*eP*	**P**	**20 03 35.5**	**-0.3**
DMN	8.0nm,0.7s,mb4.2 **Daman**	**55.11**	**310**	*eP*	**P**	**20 03 36.1**	**0.0**
GKN	7.0nm,0.7s,mb4.2 **Gorkha**	**55.67**	**311**	*eP*	**P**	**20 03 40.0**	**-0.1**
KOLN	4.8nm,0.3s,mb4.5 **Koldanda**	**56.33**	**310**	*eP*	**P**	**20 03 45.0**	**+0.2**
SONM	**Songino Array**	**58.18**	**342**	P	**P**	**20 03 56.3**	**-1.3**
MKAR	0.3nm,0.3s,mb3.1,baz=171,slow=5.4,SNR=7.6 **Makanchi Array**	**67.95**	**327**	P	**P**	**20 05 01.7**	**+0.2**
QSPA	1.9nm,0.6s,mb4.0,baz=112,slow=8.8,SNR=35 **South Pole Qui**	**83.20**	**180**	*eP*	**P**	**20 06 27.7**	**+0.1**

*IDC **09** 20:00:16.6±1.1, 1067N×9427E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/22, mbtmp3.9/10, MS3.8/2, Ms1 3.8/2, ms1mx3.2/36, Error ellipse: s-maj=51.1km s-min=18.2km az=59.0*
*NEIC **09** 20:00:18.1±0.6, 1068N×9442E, h10km, mb4.3/8, Error ellipse: s-maj=23.7km s-min=6.7km az=55.0*
*BJI **09** 20:00:18.0, 1070N×9440E, h10km, mB4.7, mb4.0, Ms4.1, Msz3.7*
*ISCJB **09** 20:00:19.7±3.8, 107N±0.1×943E±0.2, h37km±34km, mb3.9/13, MS3.8/2, Error ellipse: s-maj=30.6km s-min=13.4km az=102.8*

ISC 09 20:00:22.9±2.8, 108N±01×944E±02, h44km±25km, n28, σ0§64/27, mb3.9/13, MS3.8/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.83**	**299**	*eP*	Px	20 01 05.0	
PBA				*eS*	Sx	20 01 29.7	
PBA				*ex*	x	20 01 41.5	
PBA	comp=E,914nm,0.5s			*ex*	x	20 01 41.8	
KMI	comp=N,1μm,0.2s **Kunming**	**16.34**	**28**	P	**Pn**	**20 04 13.5**	**+4.4**
KMI				AMB	AMB		
KMI	comp=Z,7.0nm,0.9s			LR	LR		
KMI	comp=N,342nm,13.5s			LR	LR		
KMI	comp=E,264nm,11.6s			LR	LR		
KMI	comp=Z,190nm,12.9s			LR	LR		
JIRN	**Jiri**	**18.49**	**337**	*eP*	**Pn**	**20 04 36.6**	**+1.0**
PKI	**Pulchoki**	**18.73**	**334**	*eP*	**Pn**	**20 04 38.6**	**+0.1**
GUN	**Gumba**	**18.84**	**336**	*eP*	**Pn**	**20 04 39.9**	**+0.1**
DMN	**Daman**	**18.89**	**334**	*eP*	**Pn**	**20 04 40.6**	**+0.1**
KKN	comp=Z,108nm,1.7s **Kakani**	**18.97**	**334**	*eP*	**Pn**	**20 04 41.2**	**-0.3**
LSA	comp=Z,21nm,0.9s **Lhasa**	**19.08**	**351**	*eP*	**Pn**	**20 04 42.9**	**+0.1**
GKN	comp=Z,43nm,1.7s **Gorkha**	**19.44**	**333**	*eP*	**Pn**	**20 04 46.3**	**-0.7**
KOLN	comp=Z,23nm,0.7s **Koldanda**	**19.72**	**331**	*eP*	**Pn**	**20 04 49.7**	**-0.7**
ENH	comp=Z,28nm,0.7s **Enshi**	**23.97**	**34**	*eP*	**P**	**20 05 32.6**	**-0.5**
AAK	comp=Z,6.2nm,0.8s,mb4.1 **Ala-Archa**	**36.18**	**335**	*eP*	**P**	**20 07 21.3**	**+0.2**
MKAR	comp=Z,1.8nm,0.8s,mb4.0 **Makanchi Array**	**37.35**	**346**	P	**P**	**20 07 31.4**	**+0.4**
MKAR	comp=Z,1.9nm,0.7s,mb4.0,baz=165,slow=8.0,SNR=22			LR	LR	20 23 28.8	
MKAR	comp=Z,140nm,21.3s,MS3.7,baz=225,slow=37 **Makanchi Array**	**37.35**	**346**	P	**P**	**20 07 31.4**	**+0.4**
MKAR				LR	LR	20 23 28.8	
SONM	**Songino Array**	**38.31**	**13**	P	**P**	**20 07 40.0**	**+0.8**
SONM	comp=Z,1.0nm,0.9s,mb3.6,baz=193,slow=7.1,SNR=8.2			PcP	PcP	20 09 53.7	+1.3
SONM	comp=Z,0.6nm,0.8s,baz=200,slow=3.7,SNR=3.5			LR	LR	20 25 36.6	
KURK	comp=Z,179nm,20.2s,MS3.9,baz=356,slow=40 **Kurchatov**	**41.89**	**345**	*eP*	**P**	**20 08 08.1**	**-0.8**
ZAL	comp=Z,8.4nm,1.4s,mb4.2 **Zalesovo**	**43.74**	**352**	P	**P**	**20 08 24.7**	**+0.9**
ZAL	comp=Z,1.3nm,0.8s,mb3.7,baz=278,slow=8.6,SNR=8.7 **Zalesovo**	**43.74**	**352**	P	**P**	**20 08 24.7**	**+0.9**
BVAR	**Borovoye Array**	**46.36**	**340**	P	**P**	**20 08 44.8**	**+0.2**
BRVK	comp=Z,0.6nm,0.7s,mb3.7,baz=140,slow=7.6,SNR=5.8 **Borovoye**	**46.42**	**340**	P	**P**	**20 08 44.0**	**-1.1**
WRA	**Warramunga Arr**	**49.79**	**128**	P	**P**	**20 09 11.2**	**+0.1**
WRAB	comp=Z,1.3nm,0.7s,mb4.1,baz=303,slow=8.9,SNR=13 **Tennant Creek**	**49.79**	**128**	*eP*	**P**	**20 09 10.7**	**-0.4**
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**20 09 25.6**	**+0.8**
STKA	comp=Z,2.1nm,0.7s,mb4.2,baz=314,slow=7.3,SNR=25 **Stephens Creek**	**61.95**	**135**	*eP*	**P**	**20 10 37.3**	**-0.8**
FINES	**FINESS Array B**	**70.29**	**332**	P	**P**	**20 11 30.9**	**-0.6**
ARCES	comp=Z,1.0nm,0.8s,mb3.8,baz=108,slow=6.2,SNR=3.7 **ARCESS Array B**	**72.65**	**340**	P	**P**	**20 11 45.9**	**+0.1**
TORD	comp=Z,3.0nm,0.8s,mb4.3,baz=66,slow=5.9,SNR=4.2 **Torodi Ar. Bea**	**90.16**	**283**	P	**P**	**20 13 19.5**	**+1.1**
ILAR	comp=Z,0.4nm,0.7s,mb3.9,baz=81,slow=4.2,SNR=3.0 **Eielson Array**	**92.00**	**22**	P	**P**	**20 13 26.6**	**-0.3**
	comp=Z,0.4nm,0.9s,mb3.8,baz=289,slow=3.8,SNR=5.6						

PRE 09 20:11:11.1±1.4, 2180S×3343E, h5km, ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.21**	**260**	*eP*		20 03 45.5	
MSNA				*eS*		20 04 22.7	
MSNA				AML	AML	20 04 40.2	
SLR	comp=Z,264nm,0.3s **Silverton**	**6.13**	**229**	*eS*	Sn	20 13 50.8	-2.0
SLR				AML	AML	20 14 49.7	
KSR	comp=Z,94nm,0.7s **Koster**	**7.21**	**235**	*eP*	Pn	20 12 58.8	+1.6
LBTB	**Lobatse**	**7.88**	**245**	*eP*	Pn	20 13 07.0	+0.7
LBTB				*eS*	Sn	20 14 33.0	-2.8
LBTB				AML	AML	20 15 29.4	
SWZ	comp=Z,46nm,0.5s **Schweizer**	**9.12**	**232**	*eP*	Pn	20 13 25.3	+2.1
SWZ				*eS*	Sn	20 15 02.1	-4.1
SWZ				AML	AML	20 16 21.6	
BOSA	comp=Z,27nm,0.6s **Boshof**	**10.04**	**226**	*eP*	Pn	20 13 36.5	+0.6
BOSA				*eS*	Sn	20 15 24.2	-4.7
BOSA				AML	AML	20 16 41.4	
PKA	comp=Z,20nm,0.8s **Prieska**	**12.40**	**229**	*eP*	Pn	20 14 09.8	+1.6

*ISCJB **09** 20:14:32.9±0.3, 4895N±002×18.18E±002, h10km, Error ellipse: s-maj=2.6km s-min=2.1km az=44.9*
*IPEC **09** 20:14:33.5±0.1, 4891N×1822E, h0km, ML2.7/4, Error ellipse: s-maj=0.8km s-min=0.6km az=57.0*
*MOS **09** 20:14:34.4±1.1, 4889N×1816E, h10km, mb3.7/1, Error ellipse: s-maj=10.4km s-min=6.4km az=100.2*
*PRU **09** 20:14:34.5, 4891N×1820E, h0km, Felt In Slovakia*
*NEIC **09** 20:14:34.1±0.8, 4888N×1815E, h5km, ML3.1(CLL), Error ellipse: s-maj=10.8km s-min=8.2km az=210.0*
*CSEM **09** 20:14:34.1±0.2, 4891N×1820E, h0km, ML3.3/6, Error ellipse: s-maj=2.5km s-min=2.0km az=33.0*

ISC 09 20:14:34.0±0.3, 4892N±002×1819E±002, h10km, n48, σ1§14/95, 2C-4D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.35**	**261**	*e*PG	**Pg**	**20 14 41.2**	**+0.3**
JAVC				*e*Sg	**Sg**	**20 14 47.5**	**+1.9**
VYHS	654nm,0.7s **Vyhne**	**0.60**	**135**	*i* PG	**Pg**	**20 14 44.6**	**-1.0**
VYHS				*e*SG	**Sg**	**20 14 52.8**	**-0.7**
VYHS	**Vyhne**	**0.60**	**135**	*e*Pg	**Pg**	**20 14 44.5**	**-1.1**
VYHS				*e*Sg	**Sg**	**20 14 51.8**	**-1.7**
SMOL	**Smolenice**	**0.65**	**232**	*e*PG	**Pg**	**20 14 46.2**	**-0.3**
SMOL				*e*SG	**Sg**	**20 14 56.5**	**+1.5**
OKC	**Ostrava-Krasne**	**0.92**	**358**	*e*PG	**Pg**	**20 14 51.9**	**+0.1**
OKC				*e*SG	**Sg**	**20 15 03.7**	**-0.1**
	85nm,0.6s						
OKC	**Ostrava-Krasne**	**0.92**	**358**	*e*P	**Pg**	**20 14 51.9**	**+0.1**
OKC				*e*		20 15 03.7	
OKC				smax			
	comp=N,85nm,0.6s						
MORC	**Moravsky Berou**	**0.96**	**334**	*e*Pg	**Pg**	**20 14 51.9**	**-0.6**
MORC				*e*Sg	**Sg**	**20 15 04.3**	**-0.7**
	comp=N,199nm,0.7s						
MORC				*e*S	**Sg**	**20 15 05.5**	**+0.5**
MORC	**Moravsky Berou**	**0.96**	**334**	*e*P	**Pg**	**20 14 51.7**	**-0.8**
MORC				*e*S	**Sg**	**20 15 05.5**	**+0.5**
ZST	**Bratislava**	**1.02**	**226**	*e*PG	**Pg**	**20 14 54.0**	**+0.3**
ZST				*e*SG	**Sg**	**20 15 08.0**	**+1.0**
ZST	**Bratislava**	**1.02**	**226**	*e*Pg	**Pg**	**20 14 53.2**	**-0.5**
ZST				*e*Sg	**Sg**	**20 15 05.8**	**-1.2**
ZST				*e*S	**Sg**	**20 15 08.0**	**+1.0**
SRO	**Srobarova**	**1.11**	**176**	*e*Pg	**Pg**	**20 14 54.7**	**-0.6**
SRO	**Srobarova**	**1.11**	**176**	*e*Pn	**Pn**	**20 14 55.8**	**+0.2**
SRO				*e*Sg	**Sg**	**20 15 08.0**	**-1.7**
VRAC	**Vranov**	**1.12**	**291**	*e*Pg	**Pg**	**20 14 54.9**	**-0.7**
VRAC				*e*Sg	**Sg**	**20 15 09.6**	**-0.6**
	comp=N,116nm,0.6s						
SRO1	**Iza**	**1.16**	**179**	*e*PN	**Pn**	**20 14 57.4**	**+1.2**
RAC	**Raciborz**	**1.17**	**0**	*e*Pg	**Pg**	**20 14 57.5**	**+1.0**
RAC				*e*Sg	**Sg**	**20 15 15.5**	**+3.9**
KRUC	**Moravsky**	**1.19**	**278**	*e*Pg	**Pg**	**20 14 56.2**	**-0.7**
KRUC				*e*Sg	**Sg**	**20 15 11.2**	**-1.2**
	comp=N,42nm,0.7s						
NIE	**Niedzica**	**1.48**	**69**	*e*Pg	**Pg**	**20 15 02.1**	**-0.3**
NIE				*e*Sg	**Sg**	**20 15 23.4**	**+1.8**
PSZ	**Piszkesteto**	**1.51**	**131**	⇓*e*	**Pn**	**20 15 01.0**	**-0.1**
PSZ				*e*		20 15 21.5	
BUD	**Budapest**	**1.54**	**159**	*e*	**Pn**	**20 15 01.9**	**+0.4**
KECS	**Kecovo**	**1.58**	**105**	*e*PN	**Pn**	**20 15 01.6**	**-0.5**
KECS				*e*PG	**Pg**	**20 15 03.2**	**-1.1**
KECS				*e*SN	**Sn**	**20 15 22.6**	**+0.1**
KECS				*e*SG	**Sg**	**20 15 24.5**	**-0.3**
OJC	**Ojcow**	**1.67**	**38**	*e*Pg	**Pn**	**20 15 04.6**	**+1.3**
OJC				*e*Sg	**Sg**	**20 15 27.5**	**-0.3**
OJC	**Ojcow**	**1.67**	**38**	*e*Pn	**Pn**	**20 15 03.5**	**+0.2**
OJC	**Ojcow**	**1.67**	**38**	*e*P	**Pn**	**20 15 04.6**	**+1.3**
OJC				*e*S	**Sg**	**20 15 27.5**	**-0.3**
DPC	**Dobruska-Polom**	**1.88**	**320**	*e*PG	**Pg**	**20 15 08.4**	**-1.7**
DPC				*e*SG	**Sg**	**20 15 33.8**	**-0.7**
	comp=N,40nm,0.4s						
DPC	**Dobruska-Polom**	**1.88**	**320**	*e*Pn	**Pn**	**20 15 07.4**	**+1.2**
DPC	**Dobruska-Polom**	**1.88**	**320**	*e*P	**Pg**	**20 15 08.4**	**-1.7**
	comp=N,40nm,0.4s						
DPC				*e*S	**Sg**	**20 15 33.8**	**-0.7**
DPC	**Dobruska-Polom**	**1.88**	**320**	*e*P	**Pg**	**20 15 08.4**	**-1.7**
DPC				*e*		20 15 33.8	
DPC				smax			
	comp=N,40nm,0.4s						
STHS	**Stebnicka Huta**	**2.06**	**75**	*e*PN	**Pn**	**20 15 10.8**	**+2.1**
UPC	**Upice**	**2.13**	**319**	*e*PG	**Pg**	**20 15 13.2**	**-1.7**
CRVS	**Cervenica-Dubn**	**2.16**	**89**	*e*PG	**Pg**	**20 15 14.8**	**-0.5**
KSP	**Ksiaz**	**2.29**	**328**	*e*Pn	**Pn**	**20 15 14.3**	**+2.5**
KSP				*e*Pg	**Pg**	**20 15 19.9**	**+2.1**
KSP				*e*Sn	**Sn**	**20 15 47.2**	**+7.2**
KSP				*e*Sg	**Sg**	**20 15 53.7**	**+6.2**
KSP	**Ksiaz**	**2.29**	**328**	*e*Pn	**Pn**	**20 15 14.1**	**+2.3**
KSP				e		20 15 16.6	
KSP				*e*Pg	**Pg**	**20 15 19.0**	**+1.2**
KSP				*e*Sg	**Sg**	**20 15 47.1**	**-0.4**
KSP	**Ksiaz**	**2.29**	**328**	*e*Pg	**Pg**	**20 15 19.0**	**+1.2**
KSP				*e*Sg	**Sg**	**20 15 47.1**	**-0.4**
KSP	**Ksiaz**	**2.29**	**328**	*e*Pn	**Pn**	**20 15 14.1**	**+2.3**
KSP				*e*		20 15 16.6	
KSP				*e*Pg	**Pg**	**20 15 19.0**	**+1.2**
KSP				*e*Sg	**Sg**	**20 15 47.1**	**-0.4**
ARSA	**Arzberg**	**2.45**	**228**	*e*Pn	**Pn**	**20 15 14.5**	**+0.5**
PRU	**Pruhonice**	**2.61**	**296**	*e*PN	**Pn**	**20 15 17.4**	**+1.1**
PRU				*e*PG	**Pg**	**20 15 22.8**	**-1.3**
PRU				*e*SG	**Sg**	**20 15 57.2**	**-0.8**
	comp=N,44nm,1.3s						
PRU	**Pruhonice**	**2.61**	**296**	*e*Pg	**Pg**	**20 15 22.8**	**-1.3**
PRU				*e*Sg	**Sg**	**20 15 57.2**	**-0.8**
	comp=N,44nm,1.3s						
PRU	**Pruhonice**	**2.61**	**296**	*e*P	**Pn**	**20 15 17.4**	**+1.1**
PRU				*e*		20 15 57.2	
PRU				smax			
	comp=N,44nm,1.3s						
MOA	**Molln**	**2.83**	**249**	⇓*i*Pn	**Pn**	**20 15 19.8**	**+0.6**
MOA				⇑*i*Sn	**Sn**	**20 15 56.0**	**+2.7**
MOA				⇑*i*Sg	**Sg**	**20 16 07.7**	**+2.9**
	comp=N,6.6nm,0.5s						
MOA	**Molln**	**2.83**	**249**	⇓*i*Pn	**Pn**	**20 15 19.8**	**+0.6**
MOA				Sn	**Sn**	**20 15 56.0**	**+2.7**
MOA	**Molln**	**2.83**	**249**	⇓*i*Pn	**Pn**	**20 15 19.8**	**+0.6**
MOA				Sn	**Sn**	**20 15 56.0**	**+2.7**
MOA				Sg	**Sg**	**20 16 07.7**	**+2.9**
KHC	**Kasperske Hory**	**3.04**	**276**	*e*PN	**Pn**	**20 15 23.2**	**+1.0**
KHC				*e*PG	**Pg**	**20 15 30.7**	**-1.7**
KHC				*e*SG	**Sg**	**20 16 10.9**	**-0.9**
	comp=N,38nm,1.0s						
KHC	**Kasperske Hory**	**3.04**	**276**	*e*Pg	**Pg**	**20 15 30.7**	**-1.7**
KHC				*e*Sg	**Sg**	**20 16 10.9**	**-0.9**
	comp=N,38nm,1.0s						
BRG	**Berggiesshubel**	**3.38**	**307**	Pg	**Pg**	**20 15 37.3**	**-1.4**
BRG				Sg	**Sg**	**20 16 22.4**	**0.0**
BRG				SG	**Sg**	**20 16 22.4**	**0.0**
	comp=N,8.7nm,0.5s						
BRG	**Berggiesshubel**	**3.38**	**307**	PG	**Pg**	**

ENH	**Enshi**	**23.87**	**34**	*e*P	**P**	**20 28 18.2**	**-0.2**
	2.2nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**37.28**	**346**	P	**P**	**20 30 16.6**	**-0.3**
	1.0nm,0.6s,mb3.8,baz=162,slow=7.6,SNR=16						
SONM	**Songino Array**	**38.22**	**13**	P	**P**	**20 30 24.9**	**+0.1**
	0.6nm,1.0s,mb3.3,baz=192,slow=11,SNR=4.9						
KURK	**Kurchatov**	**41.83**	**345**	*e*P	**P**	**20 30 54.6**	**-0.1**
BVAR	**Borovoye Array**	**46.30**	**340**	P	**P**	**20 31 29.5**	**-1.0**
	0.3nm,0.4s,mb3.5,baz=126,slow=9.1,SNR=3.5						
BRVK	**Borovoye**	**46.36**	**340**	P	**P**	**20 31 30.4**	**-0.7**
WRA	**Warramunga Arr**	**49.79**	**128**	P	**P**	**20 31 57.6**	**+0.1**
	1.3nm,0.8s,mb4.0,baz=304,slow=9.0,SNR=14						
WRAB	**Tennant Creek**	**49.79**	**128**	*e*P	**P**	**20 31 57.7**	**+0.2**
	4.7nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**51.63**	**132**	P	**P**	**20 32 11.6**	**+0.2**
	1.3nm,0.7s,mb4.0,baz=306,slow=7.1,SNR=14						

IDC ***09*** *20:25:43.0±0.5, 1066N×9434E, h0km, mb4.5/18, mb1 4.6/19, mb1mx4.4/26, mbtmp4.4/19, ML3.9/1, MS4.6/18, Ms1 4.6/18, ms1mx4.3/31, Error ellipse: s-maj=21.4km s-min=11.9km az=54.0*

BJI ***09*** *20:25:44.3, 1060N×9433E, h27km, mB5.1, mb4.6, Ms4.8, Msz4.5*

ISCJB ***09*** *20:25:44.2±0.2, 1069N±003×9442E±003, h20km, mb4.7/70, MS4.6/40, Error ellipse: s-maj=5.2km s-min=4.0km az=81.3*

HRVD ***09*** *20:25:46.1±0.3, 1079N×9452E, h12km, MW5.2/85, Centroid moment Tensor Solution. LP body waves: s43,c59;Mantle waves: s85,c139; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr~5.34±.16; Mθθ4.91±.13; Mφφ0.42±.18; Mrθ4.69±.49; Mrφ1.64±.12; Mθφ~0.18±.55; Best double couple: M0 7.14800×1016 NP1:φs60.00000°, δ26.00000°, λ-113.00000°. NP2: φs265.00000°, δ66.00000°, λ-79.00000°. Principal axes: T 7.0570, Plg20.0000°, Azm347.0000°; N 0.1740, Plg10.0000°, Azm80.0000°; P -7.2390, Plg67.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***09*** *20:25:46.1±0.2, 1071N×9443E, mb4.9/29 Error ellipse: s-maj=10.1km s-min=4.2km az=55.0*

MOS ***09*** *20:25:46.3±1.1, 1075N×9437E, h33km, mb5.1/27, Error ellipse: s-maj=11.1km s-min=5.5km az=109.6*

ISC 09 20:25:46.7±0.2, 1073N±003×9443E±003, h21km, h21km±.5km:pP-P,n185,σ1§12/180, mb4.7/70, MS4.6/40, 14C-10D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.90**	**299**	*e*P	Px	20 26 31.9	
PBA				*e*S	Sx	20 27 00.3	
NNT	**Nongplab**	**5.51**	**70**	P	**Pn**	**20 27 06.0**	**-1.5**
SNG	**Songkhla**	**7.05**	**120**	P	**Pn**	**20 27 34.0**	**+5.3**
	352nm,1.0s						
NST	**Nakhon Sawan**	**7.41**	**48**	P	**Pn**	**20 27 30.5**	**-3.1**
	142nm,0.7s						
KULM	**Kulim**	**8.19**	**131**	*e*P	**Pn**	**20 27 40.9**	**-3.4**
PSI	**Prapat**	**9.05**	**150**	Pn	**Pn**	**20 27 55.4**	**-0.7**
	1.2nm,0.3s,baz=305,slow=16,SNR=5.0						
PSI				LR	LR	20 32 08.8	
	comp=Z,4μm,18.8s,baz=308,slow=42						
PSI	**Prapat**	**9.05**	**150**	Pn	**Pn**	**20 27 55.4**	**-0.7**
PSI				LR	LR	20 32 08.8	
KKTK	**Khon Kaen**	**9.88**	**55**	P	**Pn**	**20 28 14.0**	**+6.6**
	370nm,0.7s						
VIS	**Vishakhapatnam**	**12.81**	**304**	*e*P	**Pn**	**20 28 46.0**	**-1.5**
VIS				AMb	AMB	20 28 48.8	
	comp=Z,48nm,1.4s						
CAL	**Calcutta**	**13.11**	**334**	⇓*e*x	x	20 28 57.7	
	baz=182,slow=16						
CAL				*e*x	x	20 28 57.8	
CAL				*e*x	x	20 32 20.5	
PALK	**Pallekele**	**13.99**	**257**	P	**Pn**	**20 29 08.3**	**+4.6**
	comp=Z,24nm,1.3s						
SHL	**Shillong**	**14.95**	**351**	*e*P	**Pn**	**20 29 17.7**	**+0.9**
SHL				*e*x	x	20 32 10.0	
BOK	**Bokaro**	**15.34**	**329**	*e*P	**Pn**	**20 29 21.9**	**0.0**
BOK				AMb	AMB	20 29 29.8	
	comp=Z,52nm,1.6s						
KMI	**Kunming**	**16.34**	**28**	P	**Pn**	**20 29 36.7**	**+1.9**
KMI				AP	pP	20 29 41.4	-2.0
KMI				XP	sP	20 29 44.2	-2.0
KMI				PP		20 29 46.4	
KMI				S	**Sn**	**20 32 37.5**	**+2.0**
KMI				XS	sS	20 32 45.7	-11
KMI				SS		20 32 56.4	
KMI				AMB	AMB		
	comp=Z,12nm,1.5s						
KMI				AMB	AMB		
	comp=Z,309nm,5.3s						
KMI				LR	LR		
	comp=N,2μm,12.5s						
KMI				LR	LR		
	comp=E,1μm,11.6s						
KMI				LR	LR		
	comp=Z,1μm,11.6s						
HYB	**Hyderabad**	**16.77**	**295**	*i*P	**Pn**	**20 29 40.0**	**-0.3**
HYB				*e*S	**Sn**	**20 32 40.0**	**-5.9**
HYB	**Hyderabad**	**16.77**	**295**	*e*P	**Pn**	**20 29 40.0**	**-0.3**
HYB				*e*S	**Sn**	**20 32 40.0**	**-5.9**
QIZ	**Qiongzhong**	**17.01**	**59**	P	**Pn**	**20 29 45.0**	**+1.7**
QIZ				XP	sP	20 29 53.4	-0.2
QIZ				LR	LR		
	comp=E,2μm,8.8s						
QIZ				LR	LR		
	comp=Z,3μm,9.2s						
NGP	**Nagpur**	**18.04**	**307**	*e*P	**Pn**	**20 29 55.9**	**-0.2**
NGP				AMb	AMB	20 30 00.8	
	comp=Z,36nm,1.5s						
KSM	**Kuching**	**18.25**	**119**	P	**Pn**	**20 29 59.0**	**+0.3**
KSM				*e*		20 30 05.0	
JBP	**Jabalpur**	**18.53**	**314**	⇑*e*P	**Pn**	**20 30 01.7**	**-0.3**
JBP				*e*x	x	20 30 27.7	
	comp=Z,50nm,1.3s						
JBP				*e*x	x	20 33 47.7	
JIRN	**Jiri**	**18.54**	**336**	*e*P	**Pn**	**20 30 01.6**	**-0.6**
	comp=Z,173nm,1.2s						
PKI	**Pulchoki**	**18.78**	**334**	*e*P	**Pn**	**20 30 04.1**	**-1.0**
	comp=Z,211nm,1.2s						
PKI	**Pulchoki**	**18.78**	**334**	*e*P	**Pn**	**20 30 04.1**	**-1.0**
PKI				pmax	pmax		
	comp=Z,106nm,1.2s						
GUN	**Gumba**	**18.89**	**336**	*e*P	**Pn**	**20 30 04.6**	**-1.8**
	comp=Z,595nm,1.8s						
DMN	**Daman**	**18.95**	**334**	*e*P	**Pn**	**20 30 06.4**	**-0.7**
	comp=Z,144nm,1.0s						
KKN	**Kakani**	**19.03**	**334**	*e*P	**Pn**	**20 30 06.4**	**-1.7**
	comp=Z,186nm,1.2s						
KKN	**Kakani**	**19.03**	**334**	*e*P	**Pn**	**20 30 06.4**	**-1.7**
KKN				pmax	pmax		
	comp=Z,93nm,1.2s						
LSA	**Lhasa**	**19.12**	**351**	P	**Pn**	**20 30 08.0**	**-1.2**
LSA	**Lhasa**	**19.12**	**351**	*e*P	**Pn**	**20 30 08.4**	**-0.8**
	comp=Z,105nm,1.5s						
LSA	**Lhasa**	**19.12**	**351**	*e*P	**Pn**	**20 30 08.4**	**-0.8**
LSA				pmax	pmax		
	comp=Z,105nm,1.5s						
GYA	**Guiyang**	**19.45**	**35**	⇓*i*P	**Pn**	**20 30 13.4**	**+0.3**
GYA				AP	pP	20 30 18.2	+0.5
GYA				XP	sP	20 30 21.6	+1.2
GYA				PP		20 30 34.2	
GYA				S	**Sn**	**20 33 51.8**	**+1.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.4s						
GYA				AMB	AMB		
	comp=Z,350nm,6.0s						
GYA				LR	LR		
	comp=N,1μm,16.8s						
GYA				LR	LR		
	comp=E,1μm,13.8s						
GYA				LR	LR		
	comp=Z,1μm,16.8s						
GKN	**Gorkha**	**19.49**	**333**	*e*P	**Pn**	**20 30 12.3**	**-1.3**
	comp=Z,158nm,1.0s						
KOLN	**Koldanda**	**19.77**	**331**	*e*P	**Pn**	**20 30 15.1**	**-1.9**
	comp=Z,129nm,0.9s						
BHPL	**Bhopal**	**20.45**	**310**	*e*P	**P**	**20 30 23.3**	**+0.5**
BHPL				AMb	AMB	20 30 36.1	
	comp=Z,62nm,1.4s						
KAD	**Karad**	**20.70**	**291**	*e*P	**P**	**20 30 26.9**	**+1.4**
POO	**Poona**	**21.36**	**294**	*e*x	x	20 30 45.4	
POO				*i*x	x	20 31 03.0	
POO				*i*x	x	20 31 13.5	
POO				*e*x	x	20 34 27.0	
POO				*i*x	x	20 34 40.0	
CD2	**Chengdu**	**21.87**	**22**	P	**P**	**20 30 38.7**	**+0.7**
CD2				XP	sP	20 30 47.3	+0.6
CD2				PP		20 31 04.7	
CD2				S	**S**	**20 34 34.4**	**-4.3**
CD2				SS		20 35 13.2	
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
CD2				AMB	AMB		
	comp=Z,90nm,5.0s						
CD2				LR	LR		
	comp=E,590nm,12.6s						
CD2				LR	LR		
	comp=Z,640nm,12.0s,MS4.2						
KKM	**Kota Kinabalu**	**22.04**	**100**	*e*P	**P**	**20 30 41.0**	**+1.1**
BOM	**Bombay**	**22.41**	**294**	*e*P	**P**	**20 30 44.1**	**+0.3**
ENH	**Enshi**	**23.96**	**34**	*e*P	**P**	**20 30 58.5**	**-1.1**
	comp=Z,88nm,1.0s,mb5.2						
NDI	**New Delhi**	**24.06**	**320**	*e*P	**P**	**20 31 01.0**	**+0.6**
NDI				*e*P		20 31 01.1	
NDI				AMb	AMB	20 31 04.0	
	comp=Z,90nm,1.2s,mb5.1						
NDI				*e*x	x	20 35 13.5	
AJM	**Ajmer**	**24.38**	**313**	*e*P	**P**	**20 31 04.7**	**+1.3**
AJM				*i*P		20 31 05.0	
AJM				AMb	AMB	20 31 11.4	
	comp=Z,54nm,1.6s,mb4.7						
SMLA	**Simla**	**25.85**	**324**	*e*P	**P**	**20 31 15.1**	**-1.7**
LZH	**Lanzhou**	**26.65**	**17**	*e*P	**P**	**20 31 25.3**	**+1.4**
LZH				AP	pP	20 31 29.2	-1.0
LZH				XP	sP	20 31 32.0	-0.8
LZH				PP		20 32 12.0	
LZH				S	**S**	**20 35 58.0**	**+0.2**
LZH				XS	sS	20 36 11.0	+2.7
LZH				*e*SS		20 37 12.0	
LZH				AMB	AMB		
	comp=Z,100nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,330nm,4.4s						
LZH				LR	LR		
	comp=N,3μm,14.1s						
LZH				LR	LR		
	comp=Z,4μm,17.8s,MS5.0						
XAN	**Xi'an**	**26.72**	**28**	P	**P**	**20 31 23.7**	**-0.9**
XAN				S	**S**	**20 35 55.3**	**-3.8**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.1						
XAN				LR	LR		
	comp=N,995nm,13.8s,MS4.7						
XAN				LR	LR		
	comp=E,1μm,14.5s,MS4.7						
XAN				LR	LR		
	comp=Z,1μm,13.7s,MS4.6						
WHN	**Wuhan**	**27.04**	**40**	⇑P	**P**	**20 31 29.0**	**+1.5**
WHN				LR	LR		
	comp=Z,2μm,19.9s,MS4.6						
GTA	**Gaotai**	**28.96**	**9**	*e*P	**P**	**20 31 45.3**	**+0.7**
GTA				AP	pP	20 31 51.0	0.0
GTA				XP	sP	20 31 53.3	-0.3
GTA				PP	PP	20 32 39.1	-11
GTA				S	**S**	**20 36 34.3**	**0.0**
GTA				XS	sS	20 36 43.9	-0.9
GTA				SS	SS	20 38 03.5	-34
GTA				SCP	ScP	20 38 34.4	+1.1
GTA				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb4.1						
GTA				AMB	AMB		
	comp=Z,268nm,5.4s						
GTA				LR	LR		
	comp=N,680nm,19.3s,MS4.4						
GTA				LR	LR		
	comp=E,452nm,14.7s,MS4.4						
GTA				LR	LR		
	comp=Z,1μm,21.6s						
NJ2	**Nanjing**	**30.96**	**43**	*e*P	**P**	**20 32 03.8**	**+1.5**
NJ2				AP	pP	20 32 09.6	+1.0
NJ2				XP	sP	20 32 12.6	+1.4
NJ2				PP	PP	20 33 04.8	-7.5
NJ2				S	**S**	**20 37 04.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,170nm,4.1s						
NJ2				LR	LR		
	comp=N,2μm,19.5s,MS5.0						
NJ2				LR	LR		
	comp=E,3μm,18.6s,MS5.0						
NJ2				LR	LR		
	comp=Z,640nm,16.1s,MS4.4						
SSE	**Sheshan**	**32.02**	**47**	P	**P**	**20 32 11.6**	**0.0**
SSE				XP	sP	20 32 24.4	+3.8
SSE				PCP	PcP	20 35 02.4	+1.3
SSE				S	**S**	**20 37 20.0**	**-2.2**
SSE				XS	sS	20 37 35.4	+2.7
SSE				SCS	ScS	20 42 41.7	-0.3
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,38nm,3.4s						
SSE				LR	LR		
	comp=N,408nm,19.8s,MS4.2						
SSE				LR	LR		
	comp=E,177nm,19.8s,MS4.2						
SSE				LR	LR		
	comp=Z,205nm,17.9s,MS3.9						
KSH	**Kashi**	**33.04**	**333**	*e*P	**P**	**20 32 21.7**	**+1.1**
KSH				AP	pP	20 32 28.7	+1.8
KSH				XP	sP	20 32 32.1	+2.6
KSH				PP	PP	20 33 32.4	-3.0
KSH				PCP	PcP	20 35 05.0	+1.1
KSH				S	**S**	**20 37 37.8**	**-0.3**
KSH				XS	sS	20 37 49.8	+1.2
KSH				SCP	ScP	20 38 46.8	-0.1
KSH				PCS	PcS	20 38 49.5	+0.2
KSH				SS	SS	20 39 37.5	-23
KSH				SCS	ScS	20 42 44.8	-2.4
KSH				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
KSH				AMB	AMB		
	comp=Z,156nm,5.1s						
KSH				LR	LR		
	comp=N,369nm,5.3s						
KSH				LR	LR		
	comp=E,499nm,6.0s						
KSH				LR	LR		
	comp=Z,909nm,18.3s,MS4.5						
WMQ	**Urumqi**	**33.48**	**351**	*e*P	**P**	**20 32 25.6**	**+1.2**
WMQ				AP	pP	20 32 31.4	+0.6
WMQ				XP	sP	20 32 34.4	+1.0
WMQ				PP	PP	20 33 36.7	-3.6
WMQ				AMB	AMB		
	comp=Z,24nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,183nm,5.8s						
WMQ				LR	LR		
	comp=N,2μm,24.2s,MS4.9						
WMQ				LR	LR		
	comp=E,2μm,26.2s,MS4.9						
WMQ				LR	LR		
	comp=Z,2μm,22.2s,MS4.8						
HHC	**Hu-ho-hao-te**	**33.59**	**24**	*e*P	**P**	**20 32 27.1**	**+1.7**
HHC				AP	pP	20 32 32.8	+1.0
HHC				XP	sP	20 32 35.9	+1.5
HHC				PP	PP	20 33 39.7	-1.8
HHC				PCP	PcP	20 35 07.0	+1.5
HHC				S	**S**	**20 37 48.3**	**+1.6**
HHC				XS	sS	20 37 57.0	-0.2
HHC				SCP	ScP	20 38 49.9	+1.1
HHC				SS	SS	20 39 51.8	-20
HHC				SCS	ScS	20 42 49.1	-0.9
HHC				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,169nm,5.5s						
HHC				LR	LR		
	comp=N,696nm,14.5s,MS4.6						
HHC				LR	LR		
	comp=E,619nm,14.7s,MS4.6						
HHC				LR	LR		
	comp=Z,575nm,19.0s,MS4.3						
BJT	**Baijiatuau**	**34.96**	**30**	*e*P	**P**	**20 32 35.7**	**-1.6**
	comp=Z,9.6nm,0.9s,mb4.7						
BJT				*e*		20 32 44.5	
BJT	**Baijiatuau**	**34.96**	**30**	*e*P	**P**	**20 32 35.7**	**-1.5**
BJT				*e*		20 32 44.5	
BJT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BJI	**Beijing**	**34.98**	**30**	P	**P**	**20 32 38.1**	**+0.7**
BJI				S	**S**	**20 38 06.5**	**-1.6**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
BJI				LR	LR		
	comp=N,490nm,13.1s,MS4.7						
BJI				LR	LR		
	comp=E,849nm,13.1s,MS4.7						
BJI				LR	LR		
	comp=Z,444nm,19.9s						
KZA	**Kyzart**	**35.46**	**335**	P	**P**	**20 32 43.0**	**+1.4**
	SNR=10						
JOW	**Kunigami**	**35.67**	**59**	LR	LR	20 49 43.2	
	comp=Z,370nm,18.2s,MS4.2,baz=290,slow=40						
UCH	**Uchtor**	**35.90**	**334**	P	**P**	**20 32 45.4**	**+0.2**
	SNR=5.5						
AML	**Almayashu**	**36.17**	**333**	P	**P**	**20 32 48.6**	**+1.0**
	SNR=18						
AAK	**Ala-Archa**	**36.24**	**335**	P	**P**	**20 32 49.2**	**+1.0**
	SNR=9.0						
AAK	**Ala-Archa**	**36.24**	**335**	*e*P	**P**	**20 32 47.9**	**-0.3**
	comp=Z,12nm,1.1s,mb4.7						
AAK	**Ala-Archa**	**36.24**	**335**	*e*P	**P**	**20 32 47.9**	**-0.3**
AAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
FRU	**Bishkek**	**36.35**	**335**	*e*P	**P**	**20 32 51.0**	**+1.8**
FRU				pmax	pmax		
	comp=Z,50nm,2.1s,mb5.1						
FRU				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.6						
EKS2	**Erkin-Say**	**36.56**	**334**	P	**P**	**20 32 51.9**	**+0.9**
	SNR=8.1						
USP	**Ospenovka**	**36.76**	**335**	P	**P**	**20 32 53.0**	**+0.3**
	SNR=12						
SMDO	**Samad**	**36.80**	**294**	P	**P**	**20 32 56.2**	**+3.2**
	SNR=5.8						
BIDO	**Bidbid**	**36.84**	**295**	P	**P**	**20 32 56.6**	**+3.2**
	SNR=5.5						
MK31	**Makanchi Array**	**37.39**	**346**	*i*P	**P**	**20 32 57.5**	**-0.5**
MK31				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**37.39**	**346**	P	**P**	**20 32 57.7**	**-0.3**
	comp=Z,9.2nm,1.0s,mb4.6,baz=161,slow=8.7,SNR=38						
MKAR				LR	LR	20 52 25.9	
	comp=Z,463nm,19.7s,MS4.3,baz=170,slow=43						
BSY	**Bisya**	**37.49**	**293**	P	**P**	**20 33 01.8**	**+2.9**
	SNR=12						
HOQ	**Hoqain**	**37.58**	**295**	P	**P**	**20 33 02.6**	**+3.0**
	SNR=7.3						
SONM	**Songino Array**	**38.33**	**13**	P	**P**	**20 33 06.9**	**+0.9**
	comp=Z,7.8nm,1.1s,mb4.4,baz=199,slow=8.1,SNR=35						
SONM				PcP	PcP	20 35 20.5	+0.9
	comp=Z,2.3nm,0.9s,baz=219,slow=2.6,SNR=3.1						
SONM				LR	LR	20 50 31.4	
	comp=Z,1μm,18.8s,MS4.7,baz=196,slow=39						
SONM	**Songino Array**	**38.33**	**13**	P	**P**	**20 33 06.9**	**+0.9**
SONM						20 35 20.5	
KK31	**Karatay Array**	**38.38**	**331**	*i*P	**P**	**20 33 06.0**	**-0.4**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
KKAR	**Karatay Array**	**38.38**	**331**	*i*P	**P**	**20 33 06.0**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**38.51**	**14**	*e*P	**P**	**20 33 07.2**	**-0.3**
	comp=Z,12nm,1.3s,mb4.5						
ULN	**Ulaanbaatar**	**38.51**	**14**	*c i*P	**P**	**20 33 08.1**	**+0.6**
ASHO	**Ashiyiah**	**38.95**	**296**	P	**P**	**20 33 14.3**	**+3.1**
	SNR=7.0						
WHFO	**Wadi Hawf**	**39.98**	**285**	P	**P**	**20 33 21.7**	**+2.0**
	SNR=22						
SNY	**Shenyang**	**40.15**	**34**	⇑P	**P**	**20 33 20.8**	**-0.3**
SNY				AP	pP	20 33 33.3	+5.7
SNY				XP	sP	20 33 38.4	+8.2
SNY				PP	PP	20 35 00.3	+6.7
SNY				S	**S**	**20 39 33.4**	**+6.9**
SNY				AMB	AMB		
	comp=Z,168nm,12.9s						
SNY				LR	LR		
	comp=N,530nm,13.8s,MS4.8						
SNY				LR	LR		
	comp=E,650nm,13.8s,MS4.8						
SNY				LR	LR		
	comp=Z,478nm,12.8s,MS4.5						
ZAK	**Zakamensk**	**40.20**	**9**	*e*P	**P**	**20 33 21.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.3						
ABTO	**Aybut**	**40.39**	**284**	P	**P**	**20 33 25.3**	**+2.2**
	SNR=5.7						
KURK	**Kurchatov**	**41.94**	**345**	*e*P	**P**	**20 33 35.2**	**-0.7**
	comp=Z,30nm,1.3s,mb4.8						
KURK	**Kurchatov**	**41.94**	**345**	*e*P	**P**	**20 33 35.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**42.07**	**133**	*e*P	**P**	**20 33 36.0**	**-0.9**
	comp=Z,17nm,1.2s,mb4.6						
CN2	**Changchun**	**42.49**	**34**	*e*P	**P**	**20 33 39.9**	**-0.5**
CN2				*e*AP	pP	20 33 46.5	-0.3
CN2				*e*S	**S**	**20 39 55.0**	**-6.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,700nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,600nm,16.0s,MS4.6						
HIA	**Hailar**	**43.80**	**24**	*e*P	**P**	**20 33 51.8**	**+0.9**
	comp=Z,34nm,1.4s,mb4.9						
HIA	**Hailar**	**43.80**	**24**	*e*P	**P**	**20 33 51.8**	**+0.8**
HIA				pmax	pmax		
	comp=Z,34nm,1.4s						
NVS	**Novosibirsk**	**44.88**	**351**	*e*P	**P**	**20 33 57.9**	**-1.7**
NVS				*e*S	**S**	**20 40 31.6**	**-4.7**
NVS				pmax	pmax		
	comp=Z,33nm,2.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,29nm,1.9s						
NVS				smax			
	comp=E,26nm,2.2s						
KRAR	**Krasnoyarsk**	**45.19**	**359**	⇑*i*P	**P**	**20 34 03.0**	**+0.9**
KRAR				pmax	pmax		
	comp=Z,64nm,1.7s,mb5.2						
MDJ	**Mudanjiang**	**45.31**	**35**	P	**P**	**20 34 01.9**	**-1.1**
MDJ				AP	pP	20 34 09.3	-0.2
MDJ				XP	sP	20 34 12.3	+0.2
MDJ				PP	PP	20 35 48.4	-0.7
MDJ				SCP	ScP	20 39 36.8	+2.9
MDJ				S	**S**	**20 40 41.7**	**-0.7**
MDJ				XS	sS	20 40 53.4	+0.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,52nm,3.1s						
MDJ				LR	LR		
	comp=N,248nm,21.3s,MS4.2						
MDJ				LR	LR		
	comp=E,171nm,19.2s,MS4.2						
MDJ				LR	LR		
	comp=Z,333nm,14.9s,MS4.4						
VOSK	**Vostochnaya**	**45.96**	**340**	P	**P**	**20 34 07.0**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BVA0	**Borovoye Array**	**46.41**	**340**	*i*P	**P**	**20 34 11.3**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**46.41**	**340**	P	**P**	**20 34 11.1**	**-0.6**
	comp=Z,5.2nm,1.0s,mb4.4,baz=146,slow=8.2,SNR=18						
BRVK	**Borovoye**	**46.47**	**340**	*e*P	**P**	**20 34 11.6**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.3						
BRVK	**Borovoye**	**46.47**	**340**	*e*P	**P**	**20 34 11.6**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**46.82**	**339**	*e*P	**P**	**20 34 14.3**	**-0.7**
	comp=Z,7.6nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**46.82**	**339**	*e*P	**P**	**20 34 14.3**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MJAR	**Matsushiro Arr**	**47.07**	**50**	P	**P**	**20 34 19.5**	**+2.6**

comp=Z,1.8nm,0.9s,mb4.0,baz=250,slow=10,SNR=5.4
MJAR PcP PcP 20 35 50.4 +1.7
comp=Z,4.9nm,1.0s,baz=246,slow=5.0,SNR=7.0
MJAR LR LR 20 57 36.9
comp=Z,236nm,18.3s,MS4.2,baz=245,slow=40
MJAR Matsushiro Arr 47.07 50 P **P** **20 34 19.5 +2.6**
MJAR 20 35 50.4
MUN Mundaring 47.30 155 *e*P **P** **20 34 18.6 -0.1**
MUN *e*pP pP 20 34 25.1 -0.1
KLBR Kellerberrin 47.65 153 *e*P **P** **20 34 20.5 -0.9**
comp=Z,36nm,1.0s,mb5.3
KLBR *e*pP pP 20 34 26.9 -1.0
AB31 Akbulak array 47.90 330 *e*P **P** **20 34 23.0 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
NWAO Narrogin (SRO) 48.56 154 P **P** **20 34 28.2 -0.2**
comp=Z,34nm,1.0s,mb5.3,baz=311,slow=7.8,SNR=10
NWAO LR LR 20 55 44.7
comp=Z,477nm,18.6s,MS4.5,baz=329,slow=37
NWAO Narrogin (SRO) 48.56 154 *e*P **P** **20 34 27.8 -0.6**
NWAO *e**PP pP 20 34 33.9 -1.1
KLR Kul'dur 49.30 32 *e*P **P** **20 34 33.8 -0.3**
BOD Bodaibo 49.32 14 *e*P **P** **20 34 33.0 -1.3**
BOD pmax pmax
comp=Z,11nm,1.3s,mb4.7
AKTK Aktyubinsk 49.61 330 P **P** **20 34 35.2 -1.3**
AKTO Aktyubinsk 49.61 330 P **P** **20 34 35.2 -1.3**
comp=Z,2.4nm,0.9s,mb4.2,baz=136,slow=13,SNR=6.3
WRA Warramunga Arr 49.72 128 P **P** **20 34 37.2 -0.1**
comp=Z,17nm,1.0s,mb5.0,baz=305,slow=8.5,SNR=33
WRAB Tennant Creek 49.73 128 *e*P **P** **20 34 36.9 -0.5**
comp=Z,42nm,1.0s,mb5.4
WRAB *e*pP pP 20 34 43.5 -0.5
WRAB Tennant Creek 49.73 128 *e*P **P** **20 34 36.9 -0.4**
WRAB *e**PP pP 20 34 43.5 -0.4
WRAB pmax pmax
comp=Z,42nm,1.0s,mb5.4
WB2 Warramunga Arr 49.73 128 *e*P **P** **20 34 37.1 -0.3**
WB2 *e*pP pP 20 34 43.3 -0.7
ASPA Alice Springs 51.55 132⇑ *i*P **P** **20 34 51.1 0.0**
ASPA *i* pP pP 20 34 57.2 -0.5
ASAR Alice Springs 51.55 132 P **P** **20 34 51.0 -0.2**
comp=Z,21nm,1.0s,mb5.0,baz=306,slow=6.9,SNR=48
AS31 Alice Springs 51.56 132⇑ *i*P **P** **20 34 51.1 -0.1**
AS31 *i* pP pP 20 34 57.2 -0.6
CLNS Chul'man 51.67 21 *e*P **P** **20 34 52.7 +0.6**
CLNS pmax pmax
comp=Z,30nm,1.4s,mb5.0
CLNS pmax pmax
comp=N,18nm,1.1s
CLNS pmax pmax
comp=E,16nm,1.2s
GNI Garni 52.69 313 *e*P **P** **20 35 00.5 +0.9**
comp=E,34nm,1.0s,mb5.2
GNI Garni 52.69 313⇑ *i*P **P** **20 34 59.9 +0.3**
GNI pmax pmax
comp=Z,39nm,1.7s
SVE Sverdlovsk 52.88 337 *e*P **P** **20 35 00.0 -1.0**
SVE *e* 20 36 04.0
SVE MLR MLR
comp=N,400nm,18.0s,MS4.6
SVE MLR MLR
comp=E,200nm,18.0s,MS4.6
SVE MLR MLR
comp=Z,400nm,18.0s,MS4.5
ARU Arti 53.40 336⇓ *i*P **P** **20 35 04.1 -0.7**
ARU *e* 20 36 08.3
ARU *e* 20 37 02.0
ARU *e*S **S** **20 42 36.4 +0.5**
ARU *e*SS SS 20 46 15.8 -0.1
ARU *e*SSS 20 48 08.8
ARU pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ARU MLR MLR
comp=Z,1μm,21.0s,MS4.8
ARU MLR MLR
comp=N,500nm,20.0s,MS4.8
ARU MLR MLR
comp=E,700nm,22.0s,MS4.8
ZEI Tsey 54.19 315 *e*P **P** **20 35 11.4 +0.8**
ZEI *i* 20 37 10.1
ZEI pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
YSS Yuzh-Sakhalins 54.38 39⇑ *e*P **P** **20 35 13.0 +1.0**
YSS *e* pP 20 35 19.1 +0.5
YSS MLR MLR
comp=Z,300nm,15.0s,MS4.5
KIV Kislovodsk 55.43 316 *e*P **P** **20 35 19.9 +0.3**
comp=Z,29nm,1.1s,mb5.2
KIV Kislovodsk 55.43 316 *e*P **P** **20 35 20.1 +0.5**
KIV *e* 20 36 19.0
KIV *e*S **S** **20 43 04.6 +1.4**
KIV pmax pmax
comp=Z,18nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,162nm,15.0s,MS4.2
GOF Gofitskoye 55.59 318 *e*P **P** **20 35 24.6 +3.8**
PMG Port Moresby 56.13 109 P **P** **20 35 26.3 +1.7**
comp=Z,4.2nm,0.5s,mb4.7,baz=315,slow=11,SNR=2.8
YAK Yakutsk 57.21 19 *e*P **P** **20 35 32.1 -0.2**
comp=Z,44nm,1.0s,mb5.4
YAK *e*pP pP 20 35 36.8 -2.1
YAK Yakutsk 57.21 19 *e*P **P** **20 35 32.1 -0.2**
YAK pmax pmax
comp=Z,44nm,1.0s,mb5.4
KMBO Kilima Mbogo 58.07 262 P **P** **20 35 39.4 +1.0**
comp=Z,0.6nm,0.4s,mb4.0,baz=42,slow=12,SNR=4.3
CTA Charters Tower 59.48 121⇓ *i*P **P** **20 35 49.0 +0.8**
comp=Z,14nm,1.1s,mb4.9
CTA *i* pP pP 20 35 54.8 0.0
CTA Charters Tower 59.48 121 P **P** **20 35 48.6 +0.5**
comp=Z,23nm,1.0s,mb5.2,baz=284,slow=7.4,SNR=5.0
CTA LR LR 21 03 05.9
comp=Z,254nm,21.8s,MS4.3,baz=281,slow=38
CTA Charters Tower 59.48 121⇓ *i*P **P** **20 35 49.0 +0.8**
CTA *i* *PP pP 20 35 54.8 0.0
CTA pmax pmax
comp=Z,14nm,1.1s
CTAO Charters Tower 59.48 121 *e*P **P** **20 35 49.2 +1.0**
comp=Z,43nm,1.5s,mb5.3
CTAO *e*pP pP 20 35 54.8 0.0
CTAO Charters Tower 59.48 121 *e*P **P** **20 35 49.2 +1.0**
CTAO *e**PP pP 20 35 54.8 0.0
CTAO pmax pmax
comp=Z,43nm,1.5s,mb5.3
VOR Voronezh 60.44 324 P **P** **20 35 53.0 -1.7**
VOR pmax pmax
comp=Z,50nm,2.0s,mb5.2
BRTR Keskin Array B 60.82 310 P **P** **20 35 56.2 -1.1**
comp=Z,3.2nm,1.0s,mb4.4,baz=98,slow=5.1,SNR=7.0
STKA Stephens Creek 61.88 135 *e*P **P** **20 36 02.5 -2.0**
comp=Z,12nm,1.0s,mb5.0
STKA *e*pP pP 20 36 09.1 -2.1
STKA Stephens Creek 61.88 135 P **P** **20 36 02.8 -1.8**
comp=Z,17nm,1.0s,mb5.1,baz=308,slow=7.1,SNR=15
STKA LR LR 21 03 00.6
comp=Z,549nm,21.9s,MS4.7,baz=107,slow=36
MOS Moscow 62.82 328 *e*P pP 20 36 24.1 +6.6
MOS *e* 20 36 50.3
MOS MLR MLR
comp=Z,1μm,19.0s,MS5.2
ISP Isparta 62.94 307 *i*P **P** **20 36 10.6 -1.0**
OBN Obninsk 63.15 327⇓ *e*P **P** **20 36 11.4 -1.5**
OBN *i* 20 36 47.3
OBN pmax pmax
comp=Z,16nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.7
MA2 Magadan 64.12 28 *e*P **P** **20 36 19.1 -0.2**
comp=Z,17nm,1.2s,mb5.0
MA2 Magadan 64.12 28 *e*P **P** **20 36 19.1 -0.3**
MA2 pmax pmax
comp=Z,17nm,1.2s,mb5.0
TIXI Tiksi 64.39 11⇓ *e*P **P** **20 36 19.5 -1.7**
TIXI pmax pmax
comp=Z,23nm,1.3s,mb5.0
SEY Seymchan 66.23 25⇑ *i*P **P** **20 36 32.9 -0.2**
VRI Vrincioaia 66.87 315⇑ P **P** **20 36 37.3 +0.1**
MLR Muntele Rosu 67.36 315 LR LR 21 10 37.0
comp=Z,566nm,20.7s,MS4.8,baz=277,slow=40
MLR Muntele Rosu 67.36 315⇑ P **P** **20 36 41.0 +0.7**
BURAR Bucovina Array 68.15 317⇓ P **P** **20 36 46.4 +1.1**
JOF Joensuu 68.42 334 *e*p **P** **20 36 51.0 +4.1**
comp=Z,2.2nm,0.8s,mb4.2
ARMA Armidale 68.48 129 *e*P **P** **20 36 49.1 +1.8**
ARMA *i* pP pP 20 36 55.7 +1.6
APA Apatity 69.30 339⇑ *i*P **P** **20 36 51.4 -1.0**
APA *i* pP 20 36 57.0 -2.2
APA *i* 20 37 05.5
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
APA MLR MLR
comp=Z,1μm,18.0s,MS5.1
FINES FINESS Array B 70.34 332 P **P** **20 36 58.4 -0.4**
comp=Z,1.9nm,0.9s,mb4.0,baz=316,slow=11,SNR=3.7
FINES LR LR 21 14 37.1
comp=Z,314nm,18.2s,MS4.6,baz=105,slow=42
ARCES ARCESS Array B 72.70 340 P **P** **20 37 12.0 -1.0**
comp=Z,4.3nm,0.8s,mb4.4,baz=98,slow=6.4,SNR=8.0
ARCES LR LR 21 12 23.4
comp=Z,650nm,20.1s,MS4.9,baz=113,slow=38
ARCES ARCESS Array B 72.70 340 P **P** **20 37 12.0 -1.0**
ARCES LR LR 21 12 23.4
BILL Bilibino 73.34 22⇑ *i*P **P** **20 37 16.2 -0.7**
BILL *i* pP 20 37 22.0 -1.7
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,200nm,20.0s,MS4.4
GERES GERESS Array B 75.91 318 P **P** **20 37 31.6 -0.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=98,slow=6.9,SNR=4.0
GERES LR LR 21 16 19.2
comp=Z,238nm,19.5s,MS4.5,baz=106,slow=40
CLL Collm 76.36 320 *e*P **P** **20 37 34.0 -0.3**
comp=Z,29nm,1.9s,mb4.9
CLL *e* 20 37 52.0
CLL Collm 76.36 320 *e*P **P** **20 37 34.0 -0.3**
CLL *e* 20 37 52.0
CLL pmax pmax
comp=Z,29nm,1.9s,mb4.9
LPG La Plagne 80.83 315 *e*P **P** **20 38 04.1 +5.2**
comp=Z,5.4nm,0.8s,mb4.2
LPG La Plagne 80.83 315 *e*P **P** **20 38 04.1 +5.2**
comp=Z,2.7nm,0.8s,mb4.2
LPG La Plagne 80.83 315 *e*P **P** **20 38 04.1 +5.2**
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MAW Mawson 81.37 192 LR LR 21 08 24.2
comp=Z,407nm,18.2s,MS4.8,baz=98,slow=32
TNA Tin City 83.46 25 *e*P **P** **20 38 12.6 -0.1**
comp=Z,6.9nm,1.1s,mb4.6
TNA *e*pP pP 20 38 18.4 -1.2
JMIC Jan Mayen 84.11 341 LR LR 21 18 04.1
comp=Z,291nm,18.8s,MS4.7,baz=91,slow=37
SYO Syowa Base 88.20 197⇓ *e*pP pP 20 38 46.3 +3.1
TORD Torodi Ar. Bea 90.23 283 P **P** **20 38 46.4 +0.7**
comp=Z,2.4nm,1.0s,mb4.5,baz=96,slow=3.7,SNR=11
TORD PP PP 20 42 20.1 +0.7
comp=Z,2.2nm,1.1s,baz=72,slow=5.7,SNR=7.4
BORG Borgarnes 90.92 337 LR LR 21 21 31.8
comp=Z,458nm,21.4s,MS4.9,baz=35,slow=37
ILAR Eielson Array 92.01 22 P **P** **20 38 53.7 -0.3**
comp=Z,1.6nm,0.9s,mb4.3,baz=296,slow=4.4,SNR=12
ILAR PP PP 20 42 36.8 +3.2
comp=Z,1.0nm,1.0s,baz=292,slow=5.7,SNR=4.7
ILAR LR LR 21 24 59.8
comp=Z,334nm,18.8s,MS4.8,baz=170,slow=39
ILAR Eielson Array 92.01 22 P **P** **20 38 53.7 -0.3**
ILAR 20 42 36.8
KDAK Kodiak Island 92.83 30 LR LR 21 27 01.6
comp=Z,176nm,21.3s,MS4.5,baz=81,slow=40
VNDA Vanda 95.65 168 LR LR 21 22 18.6
comp=Z,260nm,18.4s,MS4.7,baz=324,slow=36
YKA Yellowknife Ar 103.60 13 PP PP 20 44 01.4 -1.1
comp=Z,0.5nm,0.9s,baz=331,slow=7.5,SNR=4.1
ULM Lac du Bonnet 118.61 8 PKP PKPdf 20 44 33.3 +0.3
comp=Z,2.1nm,0.6s,baz=48,slow=1.7,SNR=6.9
NVAR Mina Array Bea 122.33 30 PKP PKPdf 20 44 41.2 +1.0
comp=Z,1.5nm,0.8s,baz=258,slow=1.9,SNR=6.5
PDAR Pinedale Array 122.41 21 PKP PKPdf 20 44 39.2 -1.1
comp=Z,2.5nm,1.0s,baz=343,slow=1.3,SNR=12
MSU Marysvale 125.07 25 *e*PKPdf PKPdf 20 44 46.7 +1.3
MSU *ep*PKPdf pPKPdf 20 44 53.0 +0.5
ANMO Albuquerque 130.44 23⇓ *i*PKIKP PKPdf 20 44 56.3 +0.6
JCT Junction City 136.80 18 *e*PKPdf PKPdf 20 45 08.7 +1.1
BDFB Brasilia 143.15 258 PKP PKPdf 20 45 21.7 +2.6
comp=Z,2.8nm,0.6s,baz=94,slow=2.5,SNR=3.2
PLCA Paso Flores 147.31 201 PKPbc PKPbc 20 45 30.1 +1.5
comp=Z,12nm,1.0s,baz=140,slow=6.5,SNR=10
CPUP Villa Florida 149.16 236 PKPbc PKPbc 20 45 33.6 +0.1
comp=Z,6.6nm,0.9s,baz=87,slow=3.9,SNR=10
CPUP Villa Florida 149.16 236 *e*PKIKP PKPdf 20 45 30.3 +1.0
LPAZ La Paz 162.18 250 PKP PKPdf 20 45 48.3 +1.7
comp=Z,0.4nm,0.5s,baz=336,slow=5.4,SNR=2.6
LPAZ PKPab PKPab 20 46 34.2 +0.8
comp=Z,1.7nm,1.0s,baz=52,slow=9.7,SNR=3.9

IDC 09 20:26:38.0±2.2, 888S×10594E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=104.8km s-min=21.1km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.57**	**115**	P	P		20 32 45.5	+1.1
	0.7nm,0.4s,baz=289,slow=11,SNR=11							
STKA	**Stephens Creek**	**40.21**	**130**	P	P		20 34 15.5	-0.6
	0.9nm,0.5s,baz=316,slow=8.8,SNR=7.3							
SONM	**Songino Array**	**56.46**	**0**	P	P		20 36 22.6	+1.0
	0.3nm,0.4s,baz=182,slow=9.0,SNR=5.7							
MKAR	**Makanchi Array**	**59.30**	**341**	P	P		20 36 41.5	0.0
	0.9nm,0.4s,baz=151,slow=8.3,SNR=16							
BVAR	**Borovoye Array**	**68.69**	**338**	P	P		20 37 42.7	-0.5
	0.6nm,0.5s,baz=126,slow=7.3,SNR=3.4							

*ISCJB **09** 20:35:00.8±0.8, 3927N±003×2622E±006, h7km±3km, Error ellipse: s-maj=7.8km s-min=5.4km az=178.6*
*CSEM **09** 20:35:00.4±0.2, 3922N×2627E, h8km, MD3.1, Error ellipse: s-maj=4.3km s-min=2.2km az=94.0*
*ISK **09** 20:35:01.6, 3922N×2610E, h33km, MD3.1*
*ATH **09** 20:35:01.5, 3925N×2628E, h3km, MD3.1/3*

ISC 09 20:35:01.0±0.7, 3926N±003×2621E±006, h9km±3km, n20, σ1°07/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.05**	**107**	*e*PG	**Pg**		**20 35 02.0**	**-0.8**
PRK				*e*SG	**Sg**		**20 35 02.6**	**-1.4**
AYVA	**Ayvalik**	**0.37**	**82**	*i* P	**Pg**		**20 35 08.1**	**-0.2**
AYVA				*i* S	**Sg**		**20 35 14.2**	**+0.9**
URLA	**Izmir**	**0.95**	**162**	*i* P	**Pg**		**20 35 18.7**	**-0.6**
URLA				*i* S	**Sg**		**20 35 33.5**	**+2.0**
LIA	**Limnos Island**	**1.02**	**309**	*e*PG	**Pg**		**20 35 21.7**	**+1.1**
BLCB	**Balcova**	**1.09**	**143**	PN	**Pn**		**20 35 21.6**	**-0.9**
BLCB				SN	**Sn**		**20 35 36.3**	**-1.3**
KDAG	**Bornova**	**1.19**	**136**	*i* P	**Pb**		**20 35 23.7**	**0.0**
KDAG				*i* S	**Sb**		**20 35 41.6**	**+2.4**
IZM	**Izmir**	**1.19**	**136**	PN	**Pn**		**20 35 23.0**	**-0.9**
IZM				SN	**Sn**		**20 35 38.3**	**-1.9**
AKS	**Akhisar**	**1.30**	**106**	PN	**Pn**		**20 35 25.0**	**-0.4**
AKS				SN	**Sn**		**20 35 42.8**	**-0.2**
BALB	**Balikesir**	**1.34**	**73**	PN	**Pn**		**20 35 25.5**	**-0.5**
BALB				SN	**Sn**		**20 35 43.4**	**-0.6**
BTOK	**Tokmak**	**1.49**	**70**	*i* P	**Pn**		**20 35 27.6**	**-0.4**
BTOK				*i* S	**Sn**		**20 35 52.0**	**+4.4**
BTOK	**Tokmak**	**1.49**	**70**	*i* P	**Pn**		**20 35 27.6**	**-0.4**
BTOK				*i* S	**Sn**		**20 35 52.0**	**+4.3**
SMG	**Samos**	**1.62**	**162**	*e*PB	**Pb**		**20 35 31.6**	**+0.4**
SMG				*e*SB	**Sb**		**20 35 53.5**	**+1.7**
EDC	**Edincik**	**1.67**	**49**	PN	**Pn**		**20 35 30.9**	**+0.4**
BNT	**Bandirma**	**1.71**	**50**	PN	**Pn**		**20 35 31.3**	**+0.3**
MRMT	**Marmara Adasi**	**1.71**	**38**	*e*PN	**Pn**		**20 35 31.4**	**+0.4**
MFT	**Murefte**	**1.73**	**28**	*e*PN	**Pn**		**20 35 31.4**	**+0.1**
KCT	**Karacabey**	**1.93**	**58**	*e*PN	**Pn**		**20 35 34.6**	**+0.5**
MANT	**Manisa**	**1.98**	**112**	*i* P	**Pn**		**20 35 36.5**	**+1.7**
MANT				*i* S	**Sn**		**20 36 06.1**	**+6.3**
ORLT	**Orhaneli**	**2.21**	**68**	*e*PN	**Pn**		**20 35 38.8**	**+0.8**
APE	**Apeiranthos**	**2.25**	**194**	*e*PN	**Pn**		**20 35 36.2**	**-2.3**

SKHL 09 20:41:13.3±0.3, 4859N×13194E, h8km±1km, mb3.5/3, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**0.65**	**349**	*i* Pg	Pg		20 41 25.2	-0.7
KLR				*e*Sg	Sg		20 41 34.2	-0.2
GRNR	**Gornyy**	**3.64**	**51**	*e*rx	rx		20 42 15.0	
GRNR				*e*Pg	Pg		20 42 19.0	-4.0
GRNR				AMB	AMB		20 42 20.1	
	8.0nm,0.5s							
GRNR				pPg			20 42 21.5	
GRNR				*e*Sg	Sg		20 43 07.0	-3.1
GRNR				A			20 43 09.8	
	34nm,0.5s							
EKMR	**Ekimchan**	**4.53**	**8**	*e*Pn	Pn		20 42 23.2	+1.0
EKMR				*e*Pg	Pg		20 42 34.5	-5.6
EKMR				pPg			20 42 38.9	
EKMR				AMB	AMB		20 42 39.3	
	5.0nm,0.3s							
EKMR				*e*Sg	Sg		20 43 33.6	-5.2
EKMR				A			20 43 41.9	
	8.0nm,0.5s							
EKMR				A			20 43 41.9	
	7.0nm,0.5s							
ZEA	**Zeya**	**5.94**	**332**	*e*Sg	Sg		20 44 18.5	-5.4
BMKR	**Bomnak**	**6.42**	**344**	*e*Sg	Sg		20 44 33.9	-5.7
BMKR				A			20 44 41.8	
	3.0nm,0.5s							
KROS	**Kirovskiy**	**6.62**	**334**	*e*Pg	Pg		20 43 12.3	-7.8
KROS				AMB	AMB		20 43 14.4	
	1.0nm,0.5s							
KROS				*e*Sn	Sn		20 44 06.0	-0.5
KROS				*e*Sg	Sg		20 44 40.0	-5.8
KROS				A			20 44 46.0	
	3.0nm,0.5s							

GUC 09 20:46:15.8±0.8, 3324S×7133W, h47km±1km, MD3.5, ML2.5, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.31**	**221**⇑	*i*P	Pn		20 46 24.9	+0.1
LCCH				*i* S	Sn		20 46 31.6	+0.4
ROCH	**El Roble**	**0.37**	**45**⇓	*i*P	Pn		20 46 26.2	+0.8
ROCH				*i* S	Sn		20 46 33.8	+1.6
RCDM	**Rinconada Maip**	**0.50**	**120**⇓	*i*P	Pn		20 46 27.2	+0.3
RCDM				*i* S	Sn		20 46 35.3	+0.5
RCDM				AMP			20 46 37.0	
	comp=E,628nm,0.1s							
TACH	**Talagante**	**0.53**	**142**⇑	*i*P	Pn		20 46 27.5	+0.3
TACH				*i* S	Sn		20 46 36.6	+1.3
PEL	**Peldehue**	**0.55**	**80**⇓	*i*P	Pn		20 46 28.3	+0.9
PEL				*i* S	Sn		20 46 37.1	+1.4
PEL				AMP			20 46 38.5	
	comp=E,286nm,0.4s							
SAN	**Santiago**	**0.59**	**111**	*i* S	Sn		20 46 38.0	+1.2
SAN				AMP			20 46 38.5	
	comp=N,805nm,0.2s							
ANTU	**Antumapu**	**0.67**	**120**	*e*P	Pn		20 46 29.6	+0.7
ANTU				*i* S	Sn		20 46 39.9	+1.4
ANTU				AMP			20 46 40.3	
	comp=N,261nm,0.2s							
PACH	**Papudo**	**0.70**	**352**⇑	*i*P	Pn		20 46 29.9	+0.5
LNV	**Longovilo**	**0.72**	**186**⇑	*i*P	Pn		20 46 30.1	+0.5
LNV				*i* S	Sn		20 46 40.5	+0.8
PCH	**Pirque**	**0.78**	**120**⇓	*i*P	Pn		20 46 31.5	+1.0
PCH				*i* S	Sn		20 46 42.4	+1.3
JACH	**Jahuel**	**0.83**	**48**⇑	*i*P	Pn		20 46 31.6	+0.5
FCH	**Farellones**	**0.87**	**96**⇑	*i*P	Pn		20 46 32.5	+0.8
FCH				*i* S	Sn		20 46 44.6	+1.3
FCH				AMP			20 46 45.3	
	comp=N,141nm,0.4s							
CHCH	**Chadas Angostu**	**0.89**	**141**⇑	*i*P	Pn		20 46 32.5	+0.5
CHCH				*i* S	Sn		20 46 45.0	+1.2
CACH	**El Canelo**	**1.06**	**146**⇓	*i*P	Pn		20 46 35.8	+1.4
CACH				*i* S	Sn		20 46 50.4	+2.4
LMEL	**Las Melosas**	**1.12**	**123**⇑	*i*P	Pn		20 46 36.0	+1.0
LMEL				*i* S	Sn		20 46 51.2	+1.9
LMEL				AMP			20 46 51.9	
	comp=N,292nm,0.2s							
CICH	**Cipreses**	**1.32**	**145**⇓	*i*P	Pn		20 46 39.1	+1.4
CICH				*i* S	Sn		20 46 56.5	+2.4
SFDO	**San Fernando**	**1.40**	**169**	*e*P	Pn		20 46 40.0	+1.2
SFDO				*i* S	Sn		20 46 57.4	+1.3

*IDC **09** 20:47:57.0±0.8, 1074N×9450E, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/23, mbtmp4.1/10, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/33, Error ellipse: s-maj=43.8km s-min=16.4km az=60.0*
*ISCJB **09** 20:47:57.6±4.9, 1076N±007×946E±0.1, h14km±32km, mb4.2/10, Error ellipse: s-maj=19.3km s-min=9.3km az=122.6*
*BJI **09** 20:47:57.0, 1074N×9455E, h17km, mB5.1, mb4.1*
*NEIC **09** 20:47:58.9±0.4, 1080N×9467E, h10km, mb4.4/9, Error ellipse: s-maj=19.9km s-min=5.4km az=61.0*

ISC 09 20:48:01.2±3.5, 1082N±007×946E±01, h24km±26km, n25, σ0°62/24, mb4.2/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.99**	**295**	*e*P	Px		20 48 31.8	
PBA				*e*S	Sx		20 49 14.2	
PBA				*e*x	x		20 49 35.4	
	comp=E,1μm,1.3s							
PBA				*e*x	x		20 49 36.5	
	comp=N,491nm,0.4s							
PSI	**Prapat**	**9.05**	**151**	Pn	**Pn**		**20 50 10.1**	**-0.2**
	comp=N,0.6nm,0.3s,baz=327,slow=19,SNR=4.1							
PSI				LR	LR		20 54 04.2	
	comp=N,227nm,21.7s,baz=338,slow=40							
KMI	**Kunming**	**16.20**	**27**	P	**Pn**		**20 51 47.8**	**+0.7**
KMI				AMB	AMB			
	comp=Z,5.0nm,1.4s							
JIRN	**Jiri**	**18.52**	**336**	*e*P	**Pn**		**20 52 16.6**	**+0.5**
	comp=Z,101nm,1.7s							
PKI	**Pulchoki**	**18.77**	**334**	*e*P	**Pn**		**20 52 19.9**	**+0.8**
	comp=Z,54nm,1.2s							
GUN	**Gumba**	**18.87**	**336**	*e*P	**Pn**		**20 52 20.5**	**+0.2**
	comp=Z,118nm,1.7s							
DMN	**Daman**	**18.94**	**333**	*e*P	**Pn**		**20 52 21.9**	**+0.8**
	comp=Z,31nm,1.0s							
KKN	**Kakani**	**19.02**	**334**	*e*P	**Pn**		**20 52 21.8**	**-0.2**
	comp=Z,43nm,1.3s							
GYA	**Guiyang**	**19.29**	**35**	P	**Pn**		**20 52 24.9**	**-0.4**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.2s							
GKN	**Gorkha**	**19.48**	**333**	*e*P	**Pn**		**20 52 26.4**	**-1.3**
	comp=Z,42nm,1.2s							
KOLN	**Koldanda**	**19.78**	**330**	*e*P	**Pn**		**20 52 29.9**	**-1.2**
	comp=Z,50nm,1.1s							
ENH	**Enshi**	**23.81**	**33**	*e*P	**P**		**20 53 11.5**	**-0.7**
	comp=Z,7.5nm,0.8s,mb4.2							
MKAR	**Makanchi Array**	**37.34**	**346**	P	**P**		**20 55 11.7**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.2,baz=163,slow=8.3,SNR=27							
SONM	**Songino Array**	**38.22**	**13**	P	**P**		**20 55 19.5**	**+0.5**
	comp=Z,2.1nm,0.9s,mb3.8,baz=194,slow=7.0,SNR=14							
SONM				PcP	PcP		20 57 33.3	+0.2
	comp=Z,0.4nm,0.8s,baz=207,slow=6.1,SNR=3.1							
CN2	**Changchun**	**42.33**	**33**	*e*P	**P**		**20 55 53.3**	**+0.2**
MUN	**Mundaring**	**47.32**	**155**	*e*P	**P**		**20 56 33.5**	**+0.7**
MUN				*e*pP	pP		20 56 40.0	-0.2
NWAO	**Narrogin (SRO)**	**48.57**	**154**	*e*P	**P**		**20 56 42.6**	**+0.1**
	comp=Z,44nm,1.1s,mb5.4							
NWAO				*e*pP	pP		20 56 48.3	-1.6
NWAO	**Narrogin (SRO)**	**48.57**	**154**	P	**P**		**20 56 42.8**	**+0.3**
	comp=Z,9.5nm,1.1s,mb4.7,baz=83,slow=0.4,SNR=3.7							
NWAO	**Narrogin (SRO)**	**48.57**	**154**	*e*P	**P**		**20 56 42.6**	**+0.1**
	comp=Z,11nm,1.2s,mb4.8							
NWAO				*e*	pP		20 56 49.2	-0.7
WRA	**Warramunga Arr**	**49.66**	**128**	P	**P**		**20 56 51.1**	**+0.2**
	comp=Z,1.3nm,1.0s,mb3.9,baz=304,slow=9.0,SNR=6.5							
ASAR	**Alice Springs**	**51.50**	**132**	P	**P**		**20 57 05.0**	**+0.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=306,slow=7.3,SNR=8.2							
STKA	**Stephens Creek**	**61.84**	**135**	P	**P**		**20 58 17.0**	**-1.2**
	comp=Z,2.8nm,0.9s,mb4.4,baz=325,slow=7.6,SNR=4.0							
GERES	**GERESS Array B**	**75.95**	**318**	P	**P**		**20 59 45.7**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=111,slow=2.2,SNR=3.7							
EKA	**Eskdalemuir Ar**	**85.56**	**325**	P	**P**		**21 00 37.4**	**0.0**
	comp=Z,4.2nm,1.0s,mb4.6,baz=75,slow=9.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**90.35**	**283**	P	**P**		**21 01 00.7**	**+0.4**
	comp=Z,0.8nm,0.9s,mb4.0,baz=96,slow=3.3,SNR=3.8							

IGQ 09 20:48:52.5, 467S×7607W, h15km, Mb4.2, Ms4.0, 2C-1D, Error ellipse: s-maj=29.4km s-min=15.8km az=62.0, Northern Peru

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

PATA	**Patacocha**	**3.93 323**	P	Pn	20 49 56.1	+3.8
PATA			S	Sn	20 50 16.6	-22
ARRY	**Arrayan**	**3.94 323**	⇑P	Pn	20 49 53.1	+0.6
ARRY			S	Sn	20 50 15.2	-23
ULBA	**Ulba**	**3.96 324**	P	Pn	20 49 55.4	+2.7
ULBA			S	Sn	20 50 15.2	-24
CUSU	**Cusua**	**4.01 323**	P	Pn	20 49 57.2	+3.8
JUIV	**Juive**	**4.01 323**	P	Pn	20 49 56.6	+3.1
JUIV			S	Sn	20 50 17.0	-23
PISA	**Pisayambo**	**4.27 327**	P	Pn	20 49 59.5	+2.6
TAMB	**Tambo**	**4.57 330**	P	Pn	20 50 05.5	+4.4
VC1	**Cotopaxi 1**	**4.63 330**	⇓P	Pn	20 50 05.3	+3.4
CAMI	**Rancho Maria**	**4.65 328**	P	Pn	20 50 05.1	+2.8
CAMI			S	Sn	20 50 34.0	-22
ANTI	**Antisana**	**4.68 333**	⇑P	Pn	20 50 04.7	+2.0
ANTI			S	Sn	20 50 32.1	-25
LAV3	**Lava3-Reventad**	**4.80 341**	P	Pn	20 50 06.2	+1.9
LAV3			S	Sn	20 50 35.9	-24
CONE	**Cono NE Rev Vo**	**4.83 341**	P	Pn	20 50 08.5	+3.8
CONE			S	Sn	20 50 37.3	-23
CAYR	**Refugio Cayamb**	**5.04 337**	P	Pn	20 50 14.2	+6.6
ANGU	**Angureal**	**5.07 337**	P	Pn	20 50 13.1	+5.1
ANGU			S	Sn	20 50 43.1	-23
PINO	**Pino**	**5.15 330**	P	Pn	20 50 19.3	+10

*IDC **09** 20:53:10.3±1.8, 1251N×12646E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=244.4km s-min=26.6km az=72.0*
*MAN **09** 20:53:12.2, 1270N×12603E, h13km, mb3.2, ML4.5, MS7.1*
*ISCJB **09** 20:53:13.3±2.2, 1266N±006×1261E±02, h54km±25km, mb3.8/4, Error ellipse: s-maj=32.4km s-min=9.7km az=164.0*

ISC 09 20:53:14.0±3.4, 1260N±006×1261E±01, h28km±26km, n15, σ1°25/17, mb3.8/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.39**	**266**	*eP*	**Pn**	**20 53 36.5**	**-0.9**
PLP	**Palo**	**1.79**	**217**	*eP*	**Pn**	**20 53 42.5**	**-0.5**
PLP				*i* S	**Sn**	**20 54 02.9**	**-1.8**
OCLP	**Ormoc**	**2.11**	**223**	*eP*	**Pn**	**20 53 48.2**	**+0.9**
PVCP	**Virac**	**2.12**	**298**	*eP*	**Pn**	**20 53 45.7**	**-1.9**
MSLP	**Maasin**	**2.73**	**206**	*eP*	**Pn**	**20 53 58.3**	**+2.4**
MSLP				*eS*	**Sn**	**20 54 29.8**	**+1.9**
SCPH	**Surigao**	**2.86**	**192**	*eP*	**Pn**	**20 53 57.1**	**-0.6**
AUQP	**San Andres**	**3.40**	**283**	*eP*	**Sb**	**20 54 53.9**	**-0.4**
RCP	**Roxas**	**3.42**	**253**	⇑*eP*	**Pn**	**20 54 06.2**	**+0.7**
GUIM	**Jordan**	**3.95**	**241**	*eP*	**Pn**	**20 54 13.2**	**+0.6**
POLP	**Polilio Island**	**4.55**	**298**	*eP*	**Pn**	**20 54 21.2**	**+0.3**
APYP	**Conner**	**7.01**	**319**	*eP*	**Pn**	**20 54 55.4**	**+0.6**
WRA	**Warramunga Arr**	**33.34**	**166**	P	**P**	**20 59 48.3**	**-1.2**
	0.4nm,0.4s,mb3.7,baz=346,slow=9.1,SNR=16						
ASAR	**Alice Springs**	**36.85**	**168**	P	**P**	**21 00 19.8**	**+0.1**
	1.2nm,0.4s,mb4.1,baz=350,slow=7.4,SNR=32						
SONM	**Songino Array**	**38.79**	**339**	P	**P**	**21 00 38.6**	**+2.5**
	0.3nm,0.7s,mb3.1,baz=146,slow=8.2,SNR=2.8						
STKA	**Stephens Creek**	**46.66**	**162**	P	**P**	**21 01 38.3**	**-1.5**
	1.6nm,0.6s,mb4.2,baz=332,slow=12,SNR=6.4						

*JMA **09** 20:57:11.9±0.4, 3327N×12686E, h0km, M3.2*
*ISCJB **09** 20:57:17.1±0.6, 3328N±005×12709E±004, h10km, Error ellipse: s-maj=7.0km s-min=4.1km az=30.9*
*KMA **09** 20:57:17.8±0.8, 3330N×127.15E, ML2.5*

ISC 09 20:57:17.3±0.6, 3328N±005×12712E±004, h10km, n12, σ0°92/20, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSGP	**Seogwipo**	**0.52**	**268**	P	**Pg**	**20 57 27.8**	**+0.5**
KSSGP				S	**Sg**	**20 57 35.0**	**+0.8**
KSGOS	**Gosan**	**0.80**	**271**	P	**Pg**	**20 57 32.8**	**+0.1**
KSHAN	**Haenam**	**1.37**	**341**	P	**Pn**	**20 57 41.0**	**-1.4**
JFU	**Fukue jima 2**	**1.51**	**114**	P	**Pn**	**20 57 43.5**	**-0.8**
JFU				S	**Sn**	**20 58 04.6**	**+0.6**
KSMOP	**Mokpo**	**1.65**	**338**	P	**Pn**	**20 57 46.0**	**-0.2**
KSMOP				S	**Sn**	**20 58 07.2**	**-0.2**
KSKWJ	**Gwangju**	**1.88**	**357**	P	**Pn**	**20 57 49.9**	**+0.5**
KSKWJ				S	**Sn**	**20 58 14.4**	**+1.2**
KSHUK	**Heuksando**	**1.97**	**316**	P	**Pn**	**20 57 50.2**	**-0.5**
KSJEU	**Jeongeup**	**2.21**	**356**	P	**Pn**	**20 57 53.5**	**-0.6**
JII	**Iki**	**2.24**	**76**	P	**Pn**	**20 57 53.7**	**-0.7**
JII				S	**Sn**	**20 58 25.5**	**+3.3**
JTU	**Tsushima**	**2.27**	**56**	P	**Pn**	**20 57 54.3**	**-0.5**
JTU				S	**Sn**	**20 58 26.7**	**+3.9**
NGSJ	**Nagasakinomoza**	**2.34**	**105**	P	**Pn**	**20 57 55.7**	**-0.1**
NGSJ				S	**Sn**	**20 58 29.4**	**+4.7**
JUR	**Ureshino**	**2.38**	**94**	P	**Pn**	**20 57 55.8**	**-0.5**
JUR				S	**Sn**	**20 58 29.8**	**+4.2**

IDC 09 20:58:18.1±12.0, 1084N×9460E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, Error ellipse: s-maj=703.6km s-min=27.3km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.99**	**294**	*eP*	Pn	20 59 08.0	+15
PBA				*eS*	Sn	20 59 30.6	+12
PBA				*ex*	x	20 59 46.4	
	comp=N,148nm,0.7s						
PBA				*ex*	x	20 59 46.8	
	comp=E,107nm,0.3s						
MKAR	**Makanchi Array**	**37.32**	**346**	P	P	21 05 32.1	0.0
	comp=E,0.2nm,0.6s,baz=166,slow=8.8,SNR=3.7						
WRA	**Warramunga Arr**	**49.66**	**128**	P	P	21 07 11.9	+0.3
	comp=E,0.4nm,1.1s,baz=309,slow=7.8,SNR=3.2						
ASAR	**Alice Springs**	**51.51**	**132**	P	P	21 07 26.0	+0.5
	comp=E,0.3nm,0.5s,baz=305,slow=7.9,SNR=4.7						

*IDC **09** 21:11:10.4±0.6, 1053N×9423E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML3.6/1, MS4.0/2, Ms1 4.0/2, ms1mx3.3/34, Error ellipse: s-maj=34.8km s-min=14.2km az=57.0*
*ISCJB **09** 21:11:11.6±0.3, 1054N±004×94.19E±005, h20km, mb4.4/40, MS4.4/6, Error ellipse: s-maj=8.5km s-min=5.3km az=113.6*
*MOS **09** 21:11:13.4±1.1, 1060N×9429E, h33km, mb4.8/15, Error ellipse: s-maj=18.1km s-min=6.9km az=109.2*
*NEIC **09** 21:11:14.6±0.4, 1080N×9458E, mb4.7/18, Error ellipse: s-maj=15.6km s-min=5.5km az=55.0*
*BJI **09** 21:11:15.2, 1077N×9393E, h31km, mB4.9, mb4.4, Ms4.6, Msz4.2*

ISC 09 21:11:14.4±0.3, 1067N±004×9433E±005, h21km, h21km±.8km: pP-P, n85, σ1°16/85, mb4.4/40, MS4.4/6, 6C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.05**	**149**	Pn	**Pn**	**21 13 23.8**	**0.0**
	0.6nm,0.3s,baz=348,slow=16,SNR=2.7						
VIS	**Vishakhapatnam**	**12.76**	**305**	*eP*	**Pn**	**21 14 15.0**	**+0.4**
VIS				AMb	AMB	21 14 30.5	
	comp=Z,69nm,1.9s						
VIS				*i* S	**Sn**	**21 16 24.6**	**-11**
SHL	**Shillong**	**15.00**	**351**	*ex*	x	21 14 29.0	
SHL				*ex*	x	21 17 40.0	
BOK	**Bokaro**	**15.34**	**329**	*eP*	**Pn**	**21 14 51.3**	**+1.8**
BOK				AMb	AMB	21 14 58.6	
	comp=Z,23nm,1.2s						
BOK				*eS*	**Sn**	**21 17 45.8**	**+7.0**
KMI	**Kunming**	**16.44**	**28**	P	**Pn**	**21 15 06.9**	**+3.1**
KMI				AP	pP	21 15 10.9	-1.4
KMI				PP		21 15 20.2	
KMI				S	**Sn**	**21 18 13.4**	**+7.8**
KMI				XS	sS	21 18 19.3	-7.5
KMI				SS		21 18 31.8	
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s						
KMI				LR	LR		
	comp=N,646nm,12.7s						
KMI				LR	LR		
	comp=E,581nm,9.9s						
KMI				LR	LR		
	comp=Z,678nm,12.7s						
HYB	**Hyderabad**	**16.71**	**295**	*i* P	**Pn**	**21 15 12.0**	**+4.8**
HYB	**Hyderabad**	**16.71**	**295**	*eP*	**Pn**	**21 15 12.0**	**+4.8**
JIRN	**Jiri**	**18.56**	**337**	*eP*	**Pn**	**21 15 28.0**	**-2.1**
	comp=Z,146nm,1.3s						
PKI	**Pulchoki**	**18.79**	**335**	*eP*	**Pn**	**21 15 32.5**	**-0.4**
	comp=Z,170nm,1.1s						
PKI	**Pulchoki**	**18.79**	**335**	*eP*	**Pn**	**21 15 32.5**	**-0.4**
PKI				pmax	pmax		
	comp=Z,85nm,1.1s						
GUN	**Gumba**	**18.90**	**336**	*eP*	**Pn**	**21 15 34.0**	**-0.3**
	comp=Z,87nm,1.0s						
DMN	**Daman**	**18.95**	**334**	*eP*	**Pn**	**21 15 34.5**	**-0.4**
	comp=Z,112nm,1.0s						
KKN	**Kakani**	**19.04**	**335**	*eP*	**Pn**	**21 15 35.2**	**-0.7**
	comp=Z,136nm,1.3s						
KKN	**Kakani**	**19.04**	**335**	*eP*	**Pn**	**21 15 35.2**	**-0.7**
KKN				pmax	pmax		
	comp=Z,68nm,1.3s						
LSA	**Lhasa**	**19.17**	**352**	P	**Pn**	**21 15 35.0**	**-2.4**
LSA	**Lhasa**	**19.17**	**352**	*eP*	**Pn**	**21 15 35.9**	**-1.5**
	comp=Z,50nm,1.4s						
LSA	**Lhasa**	**19.17**	**352**	*eP*	**Pn**	**21 15 35.9**	**-1.5**
LSA				pmax	pmax		
	comp=Z,50nm,1.4s						
GKN	**Gorkha**	**19.50**	**334**	*eP*	**Pn**	**21 15 40.3**	**-1.2**
	comp=Z,85nm,1.0s						
GYA	**Guiyang**	**19.55**	**35**	P	**Pn**	**21 15 42.4**	**+0.3**
GYA				PP		21 16 02.6	
GYA				S	**Sn**	**21 19 20.8**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
GYA				AMB	AMB		
	comp=Z,280nm,6.6s						
GYA				LR	LR		
	comp=N,570nm,12.0s						
GYA				LR	LR		
	comp=E,630nm,12.0s						
GYA				LR	LR		
	comp=Z,890nm,11.7s						
KOLN	**Koldanda**	**19.78**	**331**	*eP*	**Pn**	**21 15 43.7**	**-1.1**
	comp=Z,118nm,1.0s						
BHPL	**Bhopal**	**20.41**	**310**	*eP*	**P**	**21 15 52.5**	**+2.5**
BHPL				AMb	AMB	21 16 05.9	
	comp=Z,40nm,1.3s						
KAD	**Karad**	**20.62**	**291**	*eP*	**P**	**21 15 56.1**	**+3.7**
KAD				AMb	AMB	21 16 06.0	
	comp=Z,47nm,0.9s						
POO	**Poona**	**21.29**	**294**	*eP*	**P**	**21 16 02.0**	**+2.4**
CD2	**Chengdu**	**21.96**	**22**	P	**P**	**21 16 10.5**	**+3.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
KKM	**Kota Kinabalu**	**22.13**	**100**	*eP*	**P**	**21 16 08.3**	**-0.2**
ENH	**Enshi**	**24.07**	**34**	*eP*	**P**	**21 16 26.7**	**-1.6**
	comp=Z,24nm,0.9s,mb4.6						
AJM	**Ajmer**	**24.35**	**313**	*ex*	x	21 16 34.1	
AJM				AMb	AMB	21 16 49.6	
	comp=Z,32nm,2.0s,mb4.4						
LZH	**Lanzhou**	**26.73**	**17**	*eP*	**P**	**21 16 54.6**	**+2.2**
LZH				AP	pP	21 16 59.2	+0.4
LZH				PP		21 17 41.0	
LZH				S	**S**	**21 21 28.2**	**+1.3**
LZH				XS	sS	21 21 40.0	+2.6
LZH				*e*SS		21 22 42.0	
LZH				AMB	AMB		
	comp=Z,50nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,240nm,4.8s						
LZH				LR	LR		
	comp=N,1μm,14.6s						
LZH				LR	LR		
	comp=Z,3μm,17.0s,MS4.9						
GTA	**Gaotai**	**29.04**	**9**	*eP*	**P**	**21 17 14.6**	**+1.6**
GTA				AP	pP	21 17 19.5	+0.1
GTA				XP	sP	21 17 23.7	+1.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb3.9						
HHC	**Hu-ho-hao-te**	**33.69**	**24**	*eP*	**P**	**21 17 58.0**	**+4.1**
HHC				AP	pP	21 18 03.6	+3.2
HHC				XP	sP	21 18 06.6	+3.6
HHC				PP	PP	21 19 07.5	-2.8
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,165nm,6.5s						
HHC				LR	LR		
	comp=N,376nm,13.9s,MS4.4						
HHC				LR	LR		
	comp=E,297nm,12.0s,MS4.4						
HHC				LR	LR		
	comp=Z,261nm,10.3s,MS4.2						
AAK	**Ala-Archa**	**36.25**	**335**	*eP*	**P**	**21 18 15.3**	**-0.7**
	comp=Z,5.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**36.25**	**335**	⇓*iP*	**P**	**21 18 16.8**	**+0.8**
AAK				pmax	pmax		
	comp=Z,12nm,2.5s,mb4.4						
FRU	**Bishkek**	**36.36**	**335**	*eP*	**P**	**21 18 25.0**	**+8.0**
MK31	**Makanchi Array**	**37.43**	**346**	*i* P	**P**	**21 18 25.0**	**-1.0**
MK31				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**37.43**	**346**	P	**P**	**21 18 25.6**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.2,baz=162,slow=7.1,SNR=19						
SONM	**Songino Array**	**38.41**	**13**	P	**P**	**21 18 34.9**	**+0.5**
	comp=Z,3.1nm,1.0s,mb4.0,baz=203,slow=6.5,SNR=15						
SONM				PcP	PcP	21 20 49.6	+2.1
	comp=Z,1.3nm,1.0s,baz=189,slow=4.7,SNR=2.9						
ULN	**Ulaanbaatar**	**38.59**	**14**	*eP*	**P**	**21 18 35.1**	**-0.7**
	comp=Z,4.5nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**38.59**	**14**	*eP*	**P**	**21 18 35.1**	**-0.8**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
KURK	**Kurchatov**	**41.97**	**345**	*eP*	**P**	**21 19 02.2**	**-1.6**
	comp=Z,13nm,1.2s,mb4.4						
KURK	**Kurchatov**	**41.97**	**345**	⇓*iP*	**P**	**21 19 03.6**	**-0.2**
CN2	**Changchun**	**42.59**	**34**	*eP*	**P**	**21 19 10.5**	**+1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
NVS	**Novosibirsk**	**44.93**	**351**	*eP*	**P**	**21 19 27.2**	**-0.5**
NVS				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.5						
NVS				pmax	pmax		
	comp=N,48nm,2.5s						
KRAR	**Krasnoyarsk**	**45.25**	**359**	⇑*eP*	**P**	**21 19 31.8**	**+1.6**
KRAR				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	**46.43**	**340**	P	**P**	**21 19 39.0**	**-0.6**
	comp=Z,3.2nm,0.8s,mb4.3,baz=120,slow=8.8,SNR=8.8						
ZRNK	**Zerenda**	**46.84**	**339**	*eP*	**P**	**21 19 43.4**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**46.84**	**339**	*eP*	**P**	**21 19 43.4**	**+0.6**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MUN	**Mundaring**	**47.29**	**154**	*eP*	**P**	**21 19 47.1**	**+0.8**
MUN				*i* pP	pP	21 19 52.8	-0.1
KLBR	**Kellerberrin**	**47.64**	**153**	*eP*	**P**	**21 19 49.2**	**+0.2**
	comp=Z,14nm,0.9s,mb5.0						
KLBR				*i* pP	pP	21 19 55.5	-0.1
BOD	**Bodaibo**	**49.40**	**14**	*eP*	**P**	**21 20 01.1**	**-1.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.4						
AKTK	**Aktyubinsk**	**49.62**	**330**	P	**P**	**21 20 05.0**	**+0.7**
AKTO	**Aktyubinsk**	**49.62**	**330**	P	**P**	**21 20 05.0**	**+0.7**
	comp=Z,1.5nm,0.5s,mb4.2,baz=125,slow=9.0,SNR=3.8						
WRA	**Warramunga Arr**	**49.76**	**128**	P	**P**	**21 20 05.1**	**-0.3**
	comp=Z,4.6nm,0.8s,mb4.5,baz=304,slow=8.6,SNR=25						
WRAB	**Tennant Creek**	**49.77**	**128**	*eP*	**P**	**21 20 04.6**	**-0.8**
	comp=Z,18nm,0.9s,mb5.1						
WRAB	**Tennant Creek**	**49.77**	**128**	*eP*	**P**	**21 20 04.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
WB2	**Warramunga Arr**	**49.77**	**128**	*eP*	**P**	**21 20 05.2**	**-0.2**
WB2				*e*pP	pP	21 20 11.2	-0.8
ATD	**Arta Tunnel**	**50.48**	**276**	LR	LR	21 38 08.5	
	comp=Z,75nm,19.4s,MS3.7,baz=57,slow=32						
ASPA	**Alice Springs**	**51.59**	**132**	*eP*	**P**	**21 20 18.9**	**-0.2**
ASPA				*e*pP	pP	21 20 25.9	+0.2
AS31	**Alice Springs**	**51.59**	**132**	*eP*	**P**	**21 20 18.9**	**-0.2**
AS31				*e*pP	pP	21 20 25.9	+0.2
ASAR	**Alice Springs**	**51.59**	**132**	P	**P**	**21 20 19.1**	**-0.1**
	comp=Z,7.4nm,0.8s,mb4.7,baz=308,slow=7.4,SNR=46						
GNI	**Garni**	**52.66**	**313**	*eP*	**P**	**21 20 29.8**	**+2.8**
	comp=Z,32nm,1.1s,mb5.2						
GNI	**Garni**	**52.66**	**313**	⇑*iP*	**P**	**21 20 28.6**	**+1.5**
GNI				pmax	pmax		
	comp=Z,15nm,1.7s						
ARU	**Arti**	**53.42**	**336**	⇑*iP*	**P**	**21 20 32.4**	**-0.2**
ARU				*e*		21 21 38.6	
ARU				*e*		21 22 34.1	
ARU				*e*S	**S**	**21 28 04.9**	**+1.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ARU				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.6						
ARU				MLR	MLR		
	comp=N,200nm,21.0s,MS4.4						
ARU				MLR	MLR		
	comp=E,300nm,22.0s,MS4.4						
YSS	**Yuzh-Sakhalins**	**54.49**	**39**	⇑*iP*	**P**	**21 20 40.3**	**-0.2**
YSS				pmax	pmax		
	comp=Z,25nm,1.7s,mb4.9						
KIV	**Kislovodsk**	**55.41**	**317**	*eP*	**P**	**21 20 48.4**	**+1.3**
	comp=Z,21nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**55.41**	**317**	*eP*	**P**	**21 20 47.1**	**0.0**
KIV				*e*		21 21 47.1	
KIV				*e*S	**S**	**21 28 26.6**	**-4.0**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
GOF	**Gofitskoye**	**55.57**	**318**	*eP*	**P**	**21 20 46.1**	**-2.2**
YAK	**Yakutsk**	**57.30**	**19**	*d iP*	**P**	**21 21 00.9**	**+0.3**
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
BRTR	**Keskin Array B**	**60.78**	**310**	P	**P**	**21 21 22.6**	**-2.2**
	comp=Z,1.1nm,0.9s,mb4.0,baz=111,slow=6.7,SNR=2.9						
STKA	**Stephens Creek**	**61.91**	**135**	⇑*iP*	**P**	**21 21 31.0**	**-1.4**
	comp=Z,5.5nm,0.9s,mb4.7						
STKA				*i* pP	pP	21 21 37.1	-2.0
STKA	**Stephens Creek**	**61.91**	**135**	P	**P**	**21 21 30.7**	**-1.7**
	comp=Z,6.0nm,0.9s,mb4.7,baz=299,slow=5.5,SNR=11						
OBN	**Obninsk**	**63.14**	**327**	*eP*	**P**	**21 21 39.4**	**-1.2**
OBN				*e*		21 22 16.4	
OBN				*e*		21 23 59.6	
OBN				pmax	pmax		
	comp=Z,20nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.4						
MA2	**Magadan**	**64.22**	**28**	*eP*	**P**	**21 21 49.3**	**+1.6**
MA2				*e*		21 30 43.8	
MA2				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
TIXI	**Tiksi**	**64.47**	**11**	⇑*iP*	**P**	**21 21 48.4**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ARMA	**Armidale**	**68.52**	**129**	*eP*	**P**	**21 22 17.7**	**+2.4**
ARMA				*e*pP	pP	21 22 24.5	+2.4
FINES	**FINESS Array B**	**70.35**	**332**	P	**P**	**21 22 27.4**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.7,baz=99,slow=9.0,SNR=3.5						
ARCES	**ARCESS Array B**	**72.72**	**340**	P	**P**	**21 22 40.0**	**-0.9**
	comp=Z,4.3nm,0.9s,mb4.4,baz=92,slow=6.3,SNR=4.3						
BILL	**Bilibino**	**73.44**	**22**	*eP*	**P**	**21 22 44.4**	**-0.7**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.4						
GERES	**GERESS Array B**	**75.89**	**318**	P	**P**	**21 22 59.3**	**0.0**
	comp=Z,0.6nm,0.9s,mb3.5,baz=250,slow=3.8,SNR=3.7						
NOA	**NORSAR Array B**	**77.41**	**330**	P	**P**	**21 23 08.6**	**+0.7**
	comp=Z,1.9nm,1.1s,mb3.9,baz=90,slow=2.8,SNR=2.5						
DAVOX	**Davos**	**78.53**	**316**	LR	LR	22 00 57.6	
	comp=Z,169nm,19.6s,MS4.4,baz=77,slow=38						
TORD	**Torodi Ar. Bea**	**90.14**	**283**	P	**P**	**21 24 12.7**	**-0.3**
	comp=Z,0.9nm,0.9s,mb4.1,baz=86,slow=3.5,SNR=5.3						
TORD				PP	PP	21 27 47.6	+1.1
	comp=Z,0.8nm,1.1s,baz=43,slow=2.2,SNR=4.7						
ILAR	**Eielson Array**	**92.10**	**22**	P	**P**	**21 24 21.8**	**-0.3**
	comp=Z,0.6nm,0.9s,mb3.9,baz=281,slow=3.4,SNR=5.5						
PDAR	**Pinedale Array**	**122.50**	**21**	PKP	PKPdf	21 30 08.1	-0.1
	comp=Z,1.1nm,0.8s,baz=0.0,slow=1.8,SNR=5.5						
PLCA	**Paso Flores**	**147.21**	**201**	PKPbc	PKPbc	21 30 55.4	-0.7
	comp=Z,3.1nm,1.0s,baz=56,slow=2.0,SNR=3.7						
CPUP	**Villa Florida**	**149.04**	**236**	PKPbc	PKPbc	21 31 01.1	+0.1
	comp=Z,1.0nm,0.6s,baz=120,slow=0.8,SNR=3.9						

IDC 09 21:17:55.3±3.2, 1021N×9344E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=129.3km s-min=22.4km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.67**	**347**	P	P	21 25 12.6	+0.4
	0.4nm,0.7s,baz=163,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**39.06**	**14**	P	P	21 25 23.6	-0.3
	0.5nm,1.1s,baz=218,slow=9.1,SNR=3.6						
WRA	**Warramunga Arr**	**50.18**	**127**	P	P	21 26 53.0	+0.3
	1.3nm,0.7s,baz=304,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**51.94**	**131**	P	P	21 27 07.0	+1.1
	1.6nm,0.7s,baz=310,slow=7.4,SNR=16						
STKA	**Stephens Creek**	**62.21**	**134**	P	P	21 28 18.1	-0.5
	0.9nm,0.7s,baz=326,slow=11,SNR=3.1						

*IDC **09** 21:18:51.5±0.5, 1081N×9457E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.4/25, mbtmp4.3/21, ML3.9/1, MS4.2/2, Ms1 4.2/2, ms1mx3.2/31, Error ellipse: s-maj=24.2km s-min=12.1km az=59.0*
*BJI **09** 21:18:53.4, 1041N×9456E, h36km, mB5.0, mb4.6, Ms4.6, Msz4.4*
*MOS **09** 21:18:54.8±1.0, 1081N×9454E, h33km, mb5.1/17, Error ellipse: s-maj=14.1km s-min=6.8km az=104.3*
*ISCJB **09** 21:18:54.7±2.4, 1073N±004×9455E±005, h33km±17km, mb4.6/51, MS4.4/2, Error ellipse: s-maj=9.9km s-min=5.7km az=114.1*
*HRVD **09** 21:18:55.5±0.4, 1086N×9466E, h12km, MW5.0/71, Centroid moment Tensor Solution. LP body waves: s18,c19; Mantle waves: s71,c102; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.91±.12; $M_{\theta\theta}$2.62±.09; $M_{\phi\phi}$0.28±.13; $M_{r\theta}$1.47±.43; $M_{\theta\phi}$0.68±.10; $M_{r\phi}$0.67±.63; Best double couple: $M_0$3.28200×10^{16} NP1:ϕ_s79.00000°, δ31.00000°, λ,-82.00000°. NP2: ϕ_s250.00000°, δ60.00000°, λ,-94.00000°. Principal axes: T 3.2200, Plg15.0000°, Azm344.0000°; N 0.1230, Plg4.0000°, Azm253.0000°; P -3.3440, Plg75.0000°, Azm148.0000°; nsta1 refers to body waves, cuto

PKI pmax pmax
comp=Z,174nm,1.3s
GUN Gumba 18.90 336 *e*P **Pn 21 23 15.8 +0.4**
comp=Z,582nm,1.7s
DMN Daman 18.96 333 *e*P **Pn 21 23 16.8 +0.7**
comp=Z,114nm,1.0s
KKN Kakani 19.04 334 *e*P **Pn 21 23 17.3 +0.2**
comp=Z,24nm,0.7s
KKN Kakani 19.04 334 *e*P **Pn 21 23 17.3 +0.2**
KKN pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 19.11 351 P **Pn 21 23 16.6 -1.3**
LSA Lhasa 19.11 351 *e*P **Pn 21 23 16.1 -1.8**
comp=Z,15nm,0.8s
LSA Lhasa 19.11 351 *e*P **Pn 21 23 16.1 -1.8**
LSA pmax pmax
comp=Z,15nm,0.8s
GYA Guiyang 19.36 35 P **Pn 21 23 21.4 +0.5**
GYA AMB AMB
comp=Z,10.0nm,1.2s
GYA AMB AMB
comp=Z,200nm,6.0s
GYA LR LR
comp=N,700nm,11.4s
GYA LR LR
comp=E,740nm,10.8s
GYA LR LR
comp=Z,1μm,11.1s
GKN Gorkha 19.51 333 *e*P **Pn 21 23 21.4 -1.3**
comp=Z,136nm,1.2s
KOLN Koldanda 19.80 330 *e*P **Pn 21 23 24.9 -1.2**
comp=Z,294nm,1.4s
BHPL Bhopal 20.51 309 *e*P **P 21 23 36.1 +4.0**
BHPL AMb AMB 21 23 44.4
comp=Z,66nm,1.7s
KAD Karad 20.78 291 *e*P **P 21 23 39.0 +4.0**
KAD AMb AMB 21 23 49.5
comp=Z,74nm,1.9s
POO Poona 21.44 293 *e*P **P 21 23 45.0 +2.9**
CD2 Chengdu 21.80 22 P **P 21 23 46.2 +0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.5
CD2 AMB AMB
comp=Z,50nm,5.6s
ENH Enshi 23.88 33 *e*P **P 21 24 05.6 -1.8**
comp=Z,81nm,1.3s,mb5.0
NDI New Delhi 24.10 320 *e*P **P 21 24 10.0 +0.6**
AJM Ajmer 24.43 312 *e*P **P 21 24 16.0 +3.6**
AJM AMb AMB 21 24 27.8
comp=Z,33nm,3.1s
LZH Lanzhou 26.59 17 *e*P **P 21 24 35.7 +3.8**
LZH AP pP 21 24 42.9 +0.8
LZH XP sP 21 24 47.9 +1.4
LZH PP 21 25 23.0
LZH *e*S **S 21 29 10.0 +5.9**
LZH XS sS 21 29 23.0 +2.0
LZH *e*SS 21 30 25.0
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.5
LZH AMB AMB
comp=Z,80nm,4.2s
LZH LR LR
comp=N,2μm,16.0s
LZH LR LR
comp=Z,2μm,17.2s,MS4.7
XAN Xi'an 26.65 27 P **P 21 24 32.5 0.0**
XAN AMB AMB
comp=Z,8.0nm,1.4s,mb4.1
BJT Baijiatuau 34.88 30 P **P 21 25 44.1 -0.9**
BJI Beijing 34.90 30 P **P 21 25 47.1 +1.9**
BJI AMB AMB
comp=Z,7.0nm,0.7s,mb4.7
AAK Ala-Archa 36.25 335 *e*P **P 21 25 57.0 +0.2**
comp=Z,16nm,1.3s,mb4.8
AAK Ala-Archa 36.25 335 *e*P **P 21 25 57.0 +0.2**
AAK pmax pmax
comp=Z,16nm,1.3s,mb4.8
FRU Bishkek 36.36 335 *e*P **P 21 26 05.0 +7.2**
FRU pmax pmax
comp=Z,50nm,2.1s,mb5.1
MKAR Makanchi Array 37.38 346 P **P 21 26 06.5 +0.1**
comp=Z,7.9nm,0.7s,mb4.6,baz=163,slow=7.5,SNR=40
SONM Songino Array 38.28 13 P **P 21 26 14.1 +0.1**
comp=Z,3.3nm,0.9s,mb4.1,baz=198,slow=8.9,SNR=20
ULN Ulaanbaatar 38.45 14 *e*P **P 21 26 16.1 +0.6**
comp=Z,34nm,1.8s,mb4.8
ULN Ulaanbaatar 38.45 14 *e*P **P 21 26 16.1 +0.6**
ULN pmax pmax
comp=Z,34nm,1.8s,mb4.8
SNY Shenyang 40.06 34 ⇑P **P 21 26 31.0 +2.1**
SNY AMB AMB
comp=Z,15nm,1.6s,mb4.5
ZAK Zakamensk 40.15 9 *e*P **P 21 26 33.6 +3.9**
ZAK *e* 21 28 05.4
ZAK pmax pmax
comp=Z,10.0nm,2.0s,mb4.2
ZAK pmax pmax
comp=Z,10.0nm,2.0s,mb4.2
KURK Kurchatov 41.93 345 *e*P **P 21 26 43.8 -0.5**
comp=Z,52nm,1.4s,mb5.0
KURK *e*pP pP 21 26 51.9 -2.9
KURK Kurchatov 41.93 345 *e*P **P 21 26 43.8 -0.5**
KURK *e**PP pP 21 26 51.9 -2.9
KURK pmax pmax
comp=Z,52nm,1.4s,mb5.0
CN2 Changchun 42.40 33 *e*P **P 21 26 49.7 +1.6**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
HIA Hailar 43.73 24 *e*P **P 21 26 59.5 +0.7**
NVS Novosibirsk 44.87 351 *e*P **P 21 27 08.2 +0.2**
KRAR Krasnoyarsk 45.16 359 *e*P **P 21 27 15.2 +4.9**
KRAR pmax pmax
comp=Z,61nm,1.9s,mb5.1
BVAR Borovoye Array 46.41 340 P **P 21 27 19.3 -0.9**
comp=Z,1.7nm,0.7s,mb4.1,baz=131,slow=9.0,SNR=10.0
BRVK Borovoye 46.47 340 *e*P **P 21 27 20.7 0.0**
comp=Z,1.2nm,0.6s,mb4.0
BRVK *e*pP pP 21 27 26.5 -4.8
BRVK Borovoye 46.47 340 *e*P **P 21 27 20.7 0.0**
BRVK *e**PP pP 21 27 26.5 -4.8
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ZRNK Zerenda 46.83 339 *e*P **P 21 27 21.9 -1.5**
comp=Z,41nm,1.9s,mb5.0
ZRNK Zerenda 46.83 339 *e*P **P 21 27 21.9 -1.5**
ZRNK pmax pmax
comp=Z,41nm,1.9s,mb5.0
MUN Mundaring 47.29 155 *e*P **P 21 27 27.7 +0.7**
MUN *e*pP pP 21 27 35.6 -2.0
KLBR Kellerberrin 47.63 153 *e*P **P 21 27 29.5 -0.2**
comp=Z,18nm,1.0s,mb5.0
KLBR *e*pP pP 21 27 36.7 -3.6
AB31 Akbulak array 47.92 330 *i*P **P 21 27 31.7 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
NWAO Narrogin (SRO) 48.54 154 P **P 21 27 37.2 +0.5**
comp=Z,24nm,0.8s,mb5.3,baz=322,slow=7.3,SNR=13
NWAO Narrogin (SRO) 48.54 154 *e*P **P 21 27 37.9 +1.2**
NWAO *e**PP pP 21 27 44.8 -2.6
KLR Kul'dur 49.22 32 *e*P **P 21 27 40.7 -1.2**
BOD Bodaibo 49.27 14 *e*P **P 21 27 41.7 -0.6**
BOD pmax pmax
comp=Z,11nm,1.5s,mb4.7
AKTK Aktyubinsk 49.64 330 P **P 21 27 44.6 -0.5**
AKTK LR LR 21 52 06.8
AKTO Aktyubinsk 49.64 330 P **P 21 27 44.6 -0.5**
comp=Z,1.7nm,0.7s,mb4.2,baz=128,slow=5.8,SNR=6.6
AKTO LR LR 21 52 06.8
comp=Z,196nm,18.9s,MS4.1,baz=79,slow=40
WRA Warramunga Arr 49.66 128 P **P 21 27 44.8 -0.5**
comp=Z,5.0nm,1.1s,mb4.5,baz=303,slow=9.9,SNR=22
WRAB Tennant Creek 49.66 128 *e*P **P 21 27 46.8 +1.5**
comp=Z,34nm,1.4s,mb5.2
WRAB Tennant Creek 49.66 128 *d*i P **P 21 27 45.9 +0.6**
WB2 Warramunga Arr 49.67 128 *e*P **P 21 27 46.5 +1.2**
HABR Khabarovsk 50.53 34 *e*P **P 21 27 46.5 -5.4**
HABR *e*S **S 21 34 55.9 -7.6**
ASAR Alice Springs 51.50 132 P **P 21 27 59.1 0.0**
comp=Z,3.1nm,0.7s,mb4.3,baz=310,slow=6.7,SNR=18
GNI Garni 52.74 313 P **P 21 28 08.3 -0.1**
comp=Z,31nm,1.3s,mb5.1
GNI Garni 52.74 313 P **P 21 28 08.3 -0.1**
GNI pmax pmax
comp=Z,31nm,1.3s
ARU Arti 53.41 336⇓*i*P **P 21 28 19.0 +5.7**
ARU *e* 21 29 15.1
ARU *e* 21 30 19.5
ARU *e*PPP 21 31 25.5
ARU *e*S **S 21 35 56.0 +13**
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
YSS Yuzh-Sakhalins 54.29 39⇑*e*P **P 21 28 19.3 -0.4**
YSS pmax pmax
comp=Z,18nm,1.3s,mb4.8
KIV Kislovodsk 55.48 316 *e*P **P 21 28 35.5 +7.2**
KIV pmax pmax
comp=Z,20nm,1.2s,mb5.0
YAK Yakutsk 57.15 19⇓*i*P **P 21 28 39.9 -0.3**
YAK pmax pmax
comp=Z,12nm,0.7s,mb5.0
KMBO Kilima Mbogo 58.17 262 P **P 21 28 47.8 +0.4**
comp=Z,0.9nm,0.8s,mb3.9,baz=138,slow=16,SNR=2.5
BRTR Keskin Array B 60.88 310 P **P 21 29 05.0 -1.1**
comp=Z,1.2nm,0.8s,mb4.1,baz=111,slow=6.7,SNR=5.3
STKA Stephens Creek 61.83 135 *e*P **P 21 29 11.3 -1.2**
comp=Z,5.9nm,0.8s,mb4.8
STKA *e*pP pP 21 29 19.0 -4.5
STKA Stephens Creek 61.83 135 P **P 21 29 11.2 -1.4**
comp=Z,8.8nm,0.9s,mb4.9,baz=318,slow=5.4,SNR=13
MOS Moscow 62.84 328 *e*P **P 21 29 24.6 +5.3**
MOS pmax pmax
comp=Z,40nm,1.5s,mb5.3
OBN Obninsk 63.17 327⇓*i*P **P 21 29 28.6 +7.1**
OBN *e* 21 29 59.5
OBN pmax pmax
comp=Z,55nm,2.5s,mb5.2
MA2 Magadan 64.04 28 *e*P **P 21 29 29.2 +2.0**
MA2 pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
KLMR Klimovskoe 64.05 334 *e*P **P 21 29 32.8 +5.5**
KLMR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TIXI Tiksi 64.34 11⇑*i*P **P 21 29 27.7 -1.5**
TIXI pmax pmax
comp=Z,12nm,1.3s,mb4.8
SEY Seymchan 66.16 25⇓*i*P **P 21 29 39.4 -1.5**
AKASG Malin Array Be 66.16 321 P **P 21 29 39.1 -1.9**
comp=Z,0.2nm,0.2s,mb3.7,baz=85,slow=5.7,SNR=3.1
JOF Joensuu 68.44 334 *e*p **P 21 29 55.4 0.0**
comp=Z,4.4nm,0.8s,mb4.5
FINES FINESS Array B 70.36 332 P **P 21 30 05.7 -1.6**
comp=Z,2.5nm,0.7s,mb4.2,baz=94,slow=6.3,SNR=11
ARCES ARCESS Array B 72.70 340 P **P 21 30 20.3 -1.1**
comp=Z,3.2nm,0.8s,mb4.3,baz=81,slow=7.5,SNR=8.8
BILL Bilibino 73.28 22 *e*P **P 21 30 24.8 0.0**
BILL pmax pmax
comp=Z,12nm,1.8s,mb4.5
GERES GERESS Array B 75.96 318 P **P 21 30 40.6 +0.2**
comp=Z,0.7nm,0.7s,mb3.7,baz=85,slow=4.2,SNR=5.0
NB2 NORSAR Subarra 77.43 330 P **P 21 30 47.8 -0.8**
comp=Z,1.3nm,0.6s,mb4.0,baz=90,slow=5.6
NB2 NORSAR Subarra 77.43 330 P **P 21 30 47.8 -0.8**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 77.43 330 P **P 21 30 48.2 -0.4**
comp=Z,3.1nm,0.9s,mb4.3,baz=90,slow=5.8,SNR=7.2
BOSA Boshof 77.45 237 P **P 21 30 50.2 +1.4**
comp=Z,7.5nm,1.2s,mb4.5,baz=288,slow=5.7,SNR=4.1
EKA Eskdalemuir Ar 85.58 325 P **P 21 31 32.7 +1.0**
comp=Z,3.4nm,0.7s,mb4.7,baz=99,slow=5.4,SNR=9.3
TORD Torodi Ar. Bea 90.32 283 P **P 21 31 55.5 +1.1**
comp=Z,0.9nm,0.8s,mb4.2,baz=106,slow=4.0,SNR=5.4
ILAR Eielson Array 91.94 22 P **P 21 32 01.2 -0.7**
comp=Z,0.7nm,0.8s,mb4.0,baz=297,slow=4.7,SNR=6.5
VNDA Vanda 95.66 168 P **P 21 32 19.5 +0.5**
comp=Z,1.9nm,1.0s,mb4.5,baz=324,slow=5.1,SNR=3.6
VNDA Vanda 95.66 168 *e*P **P 21 32 19.9 +0.9**
NVAR Mina Array Bea 122.25 30 PKP PKPdf 21 37 50.0 +1.9
comp=Z,0.9nm,0.6s,baz=296,slow=3.1,SNR=3.6
PDAR Pinedale Array 122.35 21 PKP PKPdf 21 37 49.5 +1.2
comp=Z,1.1nm,0.6s,baz=162,slow=0.8,SNR=9.2
ANMO Albuquerque 130.38 23 PKP PKPdf 21 38 05.6 +1.9
comp=Z,0.9nm,0.4s,baz=214,slow=2.9,SNR=4.0
ANMO Albuquerque 130.38 23 PKP PKPdf 21 38 05.6 +1.9
ANMO Albuquerque 130.38 23⇓*i*PKIKP PKPdf 21 38 03.2 -0.5
PLCA Paso Flores 147.37 201 PKPbc PKPbc 21 38 38.8 +1.8
comp=Z,5.4nm,1.1s,baz=129,slow=0.7,SNR=4.4
CPUP Villa Florida 149.26 236 PKPbc PKPbc 21 38 43.5 +1.6
comp=Z,1.6nm,0.8s,baz=135,slow=1.4,SNR=2.9
LPAZ La Paz 162.28 250 PKPab PKPab 21 39 44.4 +2.3
comp=Z,0.7nm,0.7s,baz=153,slow=4.5,SNR=5.1

NEIC ***09*** *21:36:04.3±1.2, 1086N×9448E, h10km, mb3.8/1, Error ellipse: s-maj=54.6km s-min=13.8km az=61.0*
IDC 09 21:36:02.3±1.6, 1073N×9431E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/22, mbtmp3.6/8, MS4.3/1, Ms1 4.3/1, ms1mx3.0/24, Error ellipse: s-maj=81.3km s-min=19.8km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.37**	**346**	P	P		21 43 16.6	-0.1
	0.6nm,0.4s,baz=165,slow=9.2,SNR=24							
SONM	**Songino Array**	**38.36**	**13**	P	P		21 43 24.7	-0.4
	0.3nm,0.7s,baz=198,slow=9.3,SNR=4.5							
ZAL	**Zalesovo**	**43.76**	**352**	P	P		21 44 10.2	+0.7
	0.8nm,0.5s,baz=315,slow=8.2,SNR=5.3							
BVAR	**Borovoye Array**	**46.37**	**340**	P	P		21 44 30.8	+0.6
	0.2nm,0.5s,baz=144,slow=10.0,SNR=3.0							
WRA	**Warramunga Arr**	**49.81**	**128**	P	P		21 44 57.1	+0.2
	0.5nm,0.6s,baz=303,slow=9.0,SNR=5.5							
ASAR	**Alice Springs**	**51.64**	**132**	P	P		21 45 11.4	+0.7
	0.5nm,0.5s,baz=309,slow=7.1,SNR=7.8							
FINES	**FINESS Array B**	**70.29**	**332**	P	P		21 47 17.0	-0.5
	0.4nm,0.7s,baz=116,slow=13,SNR=3.2							
ARCES	**ARCESS Array B**	**72.66**	**340**	P	P		21 47 31.2	-0.5
	1.0nm,0.6s,baz=79,slow=6.3,SNR=9.1							

IDC ***09*** *21:36:57.9±0.5, 1072N×9429E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.4/26, mbtmp4.3/21, ML4.0/1, MS4.9/14, Ms1 4.9/14, ms1mx4.5/26, Error ellipse: s-maj=22.4km s-min=12.5km az=58.0*
ISCJB ***09*** *21:36:59.3±0.3, 1064N±003×9437E±004, h19km, mb4.8/78, MS4.9/41, Error ellipse: s-maj=5.8km s-min=4.1km az=100.7*
BJI ***09*** *21:36:59.7, 1053N×9423E, h31km, mB5.4, mb4.7, Ms5.2, Msz4.9*
NEIC ***09*** *21:37:00.9±0.2, 1071N×9436E, mb5.1/27, Error ellipse: s-maj=9.0km s-min=4.4km az=56.0*
HRVD ***09*** *21:37:00.9±0.2, 1076N×9449E, h12km, MW5.3/92, Centroid moment Tensor Solution. LP body waves: s72,c115;Mantle waves: s92,c172; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.02±.02; $M_{\theta\theta}$0.97±.02; $M_{\phi\phi}$0.05±.02; $M_{r\theta}$0.40±.06; $M_{\theta\phi}$0.27±.02; $M_{\phi r}$-0.05±.06; Best double couple: $M_0$1.10900×10^{17} NP1:ϕ_s67.00000°, δ56.00000°, λ-103.00000°. NP2: ϕ_s263.00000°, δ56.00000°, λ-81.00000°. Principal axes: T 1.1110, Plg10.0000°, Azm346.0000°; N -0.0030, Plg7.0000°, Azm77.0000°; P -1.1060, Plg77.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***09*** *21:37:01.6±1.2, 1075N×9432E, h33km, mb5.3/24, MS5.0/12 Error ellipse: s-maj=11.8km s-min=5.6km az=103.8*
SZGRF ***09*** *21:37:52.1, 1096N×9386E, h33km, mb4.8, Andaman Islands, India, region*
ISC 09 21:37:01.8±0.3, 1067N±003×9439E±003, h20km, h20km±1.0km: pP-P, n201, σ1§31/200, mb4.8/78, MS4.9/41, 10C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.89**	**301**	*e*P	Px		21 36 50.7	
PBA				*e*S	Sx		21 37 15.2	
KULM	**Kulim**	**8.19**	**130**	*e*Pn	**Pn**		**21 38 58.0**	**-1.4**
PSI	**Prapat**	**9.02**	**150**	Pn	**Pn**		**21 39 11.0**	**+0.1**
	1.5nm,0.3s,baz=312,slow=15,SNR=3.6							
PSI				LR	LR		21 43 25.7	
	comp=Z,8μm,18.8s,baz=309,slow=42							
VIS	**Vishakhapatnam**	**12.81**	**304**	*i* P	**Pn**		**21 40 02.0**	**-0.6**
VIS				*e*P			21 40 03.4	
VIS				AMb	AMB		21 40 07.8	
	comp=Z,68nm,1.1s							
VIS				*e*S	**Sn**		**21 42 12.5**	**-12**

CAL Calcutta 13.15 335 *ex* x 21 42 04.3
CAL *ex* x 21 43 36.7
SHL Shillong 15.00 351 *e*P **Pn 21 40 33.5 +0.9**
SHL *e*S **Sn 21 43 20.0 +1.8**
BOK Bokaro 15.36 329 *e*P **Pn 21 40 37.9 +0.6**
BOK AMb AMB 21 40 50.1
comp=Z,80nm,1.8s
KMI Kunming 16.41 28 P **Pn 21 40 53.9 +3.0**
KMI AP pP 21 41 02.5 +3.3
KMI XP sP 21 41 08.0 +6.2
KMI S **Sn 21 44 01.9 +9.5**
KMI AMB AMB
comp=Z,21nm,2.0s
KMI AMB AMB
comp=Z,906nm,5.1s
KMI LR LR
comp=N,5μm,11.1s
KMI LR LR
comp=E,5μm,9.8s
KMI LR LR
comp=Z,4μm,11.1s
HYB Hyderabad 16.76 295 *i* P **Pn 21 41 00.0 +4.8**
HYB Hyderabad 16.76 295 *e*P **Pn 21 41 00.0 +4.8**
QIZ Qiongzhong 17.08 59⇓P **Pn 21 41 02.0 +2.7**
QIZ XP sP 21 41 09.5 +0.3
QIZ S **Sn 21 44 19.4 +11**
QIZ XS sS 21 44 25.6 -1.4
QIZ AMB AMB
comp=Z,44nm,2.1s
QIZ LR LR
comp=E,6μm,9.2s
QIZ LR LR
comp=Z,9μm,8.9s
QIZ Qiongzhong 17.08 59 *e*P **Pn 21 41 02.2 +2.9**
NGP Nagpur 18.04 307 *e*P **Pn 21 41 13.5 +2.3**
NGP AMb AMB 21 41 19.0
comp=Z,42nm,1.4s
KSM Kuching 18.26 119 Pn **Pn 21 41 11.7 -2.2**
JBP Jabalpur 18.53 314⇑*e*P **Pn 21 41 17.7 +0.5**
JBP *ex* x 21 41 42.7
comp=Z,67nm,1.4s
JBP *e*S **Sn 21 44 46.3 +2.5**
JIRN Jiri 18.58 337 *e*P **Pn 21 41 17.3 -0.4**
comp=Z,441nm,1.5s
JIRN Jiri 18.58 337 *e*P **Pn 21 41 17.4 -0.3**
comp=Z,441nm,1.5s
PKI Pulchoki 18.81 335 *e*P **Pn 21 41 19.8 -0.8**
comp=Z,190nm,1.1s
PKI Pulchoki 18.81 335 *e*P **Pn 21 41 19.7 -0.9**
comp=Z,190nm,1.1s
PKI Pulchoki 18.81 335 *e*P **Pn 21 41 19.7 -0.9**
comp=Z,95nm,1.1s
PKI Pulchoki 18.81 335 *e*P **Pn 21 41 19.7 -0.9**
PKI pmax pmax
comp=Z,95nm,1.1s
GUN Gumba 18.92 336 *e*P **Pn 21 41 20.8 -1.1**
comp=Z,407nm,1.3s
GUN Gumba 18.92 336 *e*P **Pn 21 41 20.9 -1.0**
comp=Z,407nm,1.3s
DMN Daman 18.98 334 *e*P **Pn 21 41 22.0 -0.6**
comp=Z,262nm,1.0s
DMN Daman 18.98 334 *e*P **Pn 21 41 22.0 -0.6**
comp=Z,262nm,1.0s
KKN Kakani 19.06 335 *e*P **Pn 21 41 22.1 -1.5**
comp=Z,149nm,1.0s
KKN Kakani 19.06 335 *e*P **Pn 21 41 22.0 -1.6**
comp=Z,149nm,1.0s
KKN Kakani 19.06 335 *e*P **Pn 21 41 22.0 -1.6**
comp=Z,75nm,1.0s
KKN Kakani 19.06 335 *e*P **Pn 21 41 22.0 -1.6**
KKN pmax pmax
comp=Z,75nm,1.0s
LSA Lhasa 19.17 351 P **Pn 21 41 26.0 +1.1**
LSA Lhasa 19.17 351 *e*P **Pn 21 41 23.8 -1.2**
comp=Z,42nm,1.1s
LSA Lhasa 19.17 351 *e*P **Pn 21 41 23.8 -1.1**
LSA pmax pmax
comp=Z,42nm,1.1s
GYA Guiyang 19.52 35⇑*i*P **Pn 21 41 29.5 +0.4**
GYA AP pP 21 41 34.6 +1.2
GYA XP sP 21 41 37.8 +1.8
GYA PP 21 41 49.7
GYA S **Sn 21 45 10.6 +3.0**
GYA AMB AMB
comp=Z,30nm,1.4s
GYA AMB AMB
comp=Z,910nm,5.8s
GYA LR LR
comp=N,3μm,12.6s
GYA LR LR
comp=E,3μm,12.0s
GYA LR LR
comp=Z,4μm,11.3s
GKN Gorkha 19.52 333 *e*P **Pn 21 41 27.2 -2.0**
comp=Z,408nm,1.3s
GKN Gorkha 19.52 333 *e*P **Pn 21 41 27.2 -2.0**
comp=Z,408nm,1.3s
KOLN Koldanda 19.80 331 *e*P **Pn 21 41 30.6 -1.9**
comp=Z,261nm,1.0s
KOLN Koldanda 19.80 331 *e*P **Pn 21 41 30.5 -2.0**
comp=Z,261nm,1.0s
KOLN Koldanda 19.80 331 *e*P **Pn 21 41 30.5 -2.0**
comp=Z,130nm,1.0s
BHPL Bhopal 20.45 310 *e*P **P 21 41 39.9 +1.9**
KAD Karad 20.68 291 *e*P **P 21 41 42.5 +2.2**
KAD AMb AMB 21 41 51.8
comp=Z,53nm,1.9s
POO Poona 21.34 294 *i* x x 21 42 26.5
POO *i* x x 21 45 52.0
POO *i* x x 21 46 32.5
CD2 Chengdu 21.94 22 P **P 21 41 54.2 +0.3**
CD2 XP sP 21 42 03.7 +1.5
CD2 PP 21 42 19.9
CD2 S **S 21 45 51.8 -3.4**
CD2 SS 21 46 28.7
CD2 AMB AMB
comp=Z,60nm,1.8s,mb4.7
CD2 AMB AMB
comp=Z,340nm,5.2s
CD2 LR LR
comp=E,2μm,14.4s
CD2 LR LR
comp=Z,2μm,12.6s,MS4.7
KKM Kota Kinabalu 22.07 100 P **P 21 41 55.8 +0.4**
BOM Bombay 22.39 294 *e*P **P 21 42 01.2 +2.4**
BOM AMb AMB 21 42 08.9
comp=Z,100nm,1.8s,mb5.0
LGTI Lohaghat 22.88 327 *e*P **P 21 42 06.0 +2.0**
PTH Pithoragarh 22.98 327 *ex* x 21 42 13.5
PTH *ex* x 21 43 01.8
ENH Enshi 24.04 34 *e*P **P 21 42 14.2 -1.2**
comp=Z,362nm,1.8s,mb5.5
NDI New Delhi 24.08 321 *e*P **P 21 42 15.7 -0.1**
NDI AMb AMB 21 42 23.7
comp=Z,161nm,0.8s,mb5.5
AJM Ajmer 24.39 313 *e*P **P 21 42 20.6 +2.1**
AJM AMb AMB 21 42 28.2
comp=Z,66nm,1.1s,mb5.0
SMLA Simla 25.87 324 *e*P **P 21 42 32.1 0.0**
SMLA AMb AMB 21 42 44.4
comp=Z,119nm,1.2s,mb5.3
LZH Lanzhou 26.71 17 P **P 21 42 40.0 +0.3**
LZH AP pP 21 42 46.8 +1.0
LZH XP sP 21 42 51.7 +3.4
LZH PP 21 43 27.0
LZH S **S 21 47 15.0 +0.8**
LZH XS sS 21 47 28.0 +3.8
LZH *e*SS 21 48 31.0
LZH AMB AMB
comp=Z,160nm,1.6s,mb5.3
LZH AMB AMB
comp=Z,1μm,6.0s
LZH LR LR
comp=N,7μm,14.6s
LZH LR LR
comp=Z,11μm,17.0s,MS5.5
XAN Xi'an 26.80 28 P **P 21 42 39.6 -0.8**
XAN S **S 21 47 13.7 -1.7**
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb4.2
XAN LR LR
comp=N,2μm,13.5s,MS5.0
XAN LR LR
comp=E,3μm,17.3s,MS5.0
XAN LR LR

comp=Z,3μm,14.6s,MS5.0
WHN Wuhan 27.11 40 P **P 21 42 44.6 +1.3**
WHN LR LR
comp=Z,4μm,12.6s,MS5.2
GTA Gaotai 29.02 9 P **P 21 43 01.5 +1.2**
GTA AP pP 21 43 06.4 0.0
GTA XP sP 21 43 08.9 0.0
GTA PP PP 21 43 57.0 -8.9
GTA PCP PcP 21 46 06.2 -2.2
GTA S **S 21 47 52.9 +2.3**
GTA XS sS 21 48 02.2 +1.6
GTA AMB AMB
comp=Z,17nm,2.2s,mb4.4
GTA AMB AMB
comp=Z,440nm,6.6s
GTA LR LR
comp=N,2μm,17.0s,MS4.9
GTA LR LR
comp=E,1μm,14.3s,MS4.9
GTA LR LR
comp=Z,3μm,22.0s
NJ2 Nanjing 31.03 43 *e*P **P 21 43 19.6 +1.5**
NJ2 AP pP 21 43 25.4 +1.2
NJ2 XP sP 21 43 28.4 +1.7
NJ2 PP PP 21 44 20.6 -7.6
NJ2 S **S 21 48 22.0 0.0**
NJ2 XS sS 21 48 33.0 +0.9
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,390nm,7.7s
NJ2 LR LR
comp=N,3μm,16.0s,MS5.2
NJ2 LR LR
comp=E,3μm,15.2s,MS5.2
NJ2 LR LR
comp=Z,2μm,10.0s
SSE Sheshan 32.09 47 P **P 21 43 28.3 +0.9**
SSE AP pP 21 43 37.1 +3.6
SSE XP sP 21 43 40.4 +4.4
SSE PP PP 21 44 39.7 -0.3
SSE S **S 21 48 38.6 0.0**
SSE XS sS 21 48 53.8 +5.1
SSE SCS ScS 21 53 56.4 -1.2
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,291nm,5.3s
SSE LR LR
comp=N,855nm,20.2s,MS4.5
SSE LR LR
comp=E,254nm,20.2s,MS4.5
SSE LR LR
comp=Z,409nm,16.2s,MS4.2
BTO Baotou 32.86 22 *e*P **P 21 43 33.0 -1.2**
KSH Kashi 33.07 333 P **P 21 43 36.6 +0.6**
KSH AP pP 21 43 41.5 -0.6
KSH XP sP 21 43 44.5 -0.1
KSH PCP PcP 21 46 19.7 +0.5
KSH S **S 21 48 52.2 -1.6**
KSH SCP ScP 21 50 01.5 -0.8
KSH PCS PcS 21 50 04.1 -0.5
KSH SS SS 21 50 52.4 -24
KSH SCS ScS 21 54 00.0 -2.6
KSH AMB AMB
comp=Z,18nm,0.5s,mb5.3
KSH AMB AMB
comp=Z,273nm,6.0s
KSH LR LR
comp=N,1μm,12.0s,MS4.9
KSH LR LR
comp=E,893nm,11.7s,MS4.9
KSH LR LR
comp=Z,2μm,24.0s
WMQ Urumqi 33.53 351 P **P 21 43 40.6 +0.6**
WMQ AP pP 21 43 46.4 +0.2
WMQ XP sP 21 43 49.4 +0.7
WMQ PP PP 21 44 51.7 -4.3
WMQ PCP PcP 21 46 21.6 +1.1
WMQ S **S 21 49 00.4 -0.6**
WMQ SS SS 21 51 04.2 -22
WMQ AMB AMB
comp=Z,44nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,283nm,5.8s
WMQ LR LR
comp=N,2μm,24.2s,MS4.8
WMQ LR LR
comp=E,2μm,26.2s,MS4.8
WMQ LR LR
comp=Z,2μm,22.2s,MS4.7
HHC Hu-ho-hao-te 33.67 24 *e*P **P 21 43 42.0 +0.8**
HHC AP pP 21 43 47.9 +0.6
HHC XP sP 21 43 50.9 +1.1
HHC PP PP 21 44 54.3 -3.2
HHC PCP PcP 21 46 22.6 +1.7
HHC S **S 21 49 03.3 +0.2**
HHC SS SS 21 51 07.1 -22
HHC SCS ScS 21 54 04.2 -1.5
HHC AMB AMB
comp=Z,18nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,559nm,4.8s
HHC LR LR
comp=N,2μm,12.9s,MS5.1
HHC LR LR
comp=E,2μm,14.1s,MS5.1
HHC LR LR
comp=Z,1μm,15.5s,MS4.8
BJT Baijiatuau 35.03 30 *e*P **P 21 43 53.0 0.0**
comp=Z,14nm,0.9s,mb4.9
BJT Baijiatuau 35.03 30 *e*P **P 21 43 53.0 0.0**
BJT pmax pmax
comp=Z,14nm,0.9s
BJI Beijing 35.05 30 P **P 21 43 53.7 +0.5**
BJI S **S 21 49 21.9 -2.6**
BJI AMB AMB
comp=Z,19nm,2.1s,mb4.7
BJI AMB AMB
comp=Z,717nm,4.9s
BJI LR LR
comp=N,1μm,18.5s,MS5.0
BJI LR LR
comp=E,2μm,14.2s,MS5.0
BJI LR LR
comp=Z,1μm,18.5s,MS4.6
ULHL Ulahol 35.24 336 P **P 21 44 00.2 +5.5**
SNR=6.5
KZA Kyzart 35.50 335 P **P 21 43 58.5 +1.5**
SNR=10
UCH Uchtor 35.93 335 P **P 21 44 04.9 +4.2**
SNR=6.7
TKM2 Tokmak 2 36.06 336 P **P 21 44 00.6 -1.3**
TKM2 pmax pmax
comp=Z,12nm,1.1s,mb4.7
KBK Karagaybulak 36.10 335 P **P 21 44 03.5 +1.3**
SNR=5.5
AML Almayashu 36.20 334 P **P 21 44 02.4 -0.7**
SNR=6.3
AAK Ala-Archa 36.27 335 P **P 21 44 10.2 +6.5**
SNR=7.7
AAK Ala-Archa 36.27 335 P **P 21 44 03.2 -0.4**
comp=Z,97nm,1.0s,mb5.7,SNR=5.2
AAK Ala-Archa 36.27 335 *e*P **P 21 44 03.0 -0.6**
comp=Z,18nm,1.0s,mb5.0
AAK Ala-Archa 36.27 335 *e*P **P 21 44 03.0 -0.6**
AAK pmax pmax
comp=Z,18nm,1.0s,mb5.0
FRU Bishkek 36.38 335 *e*P **P 21 44 06.0 +1.4**
FRU *e* 21 45 33.0
FRU pmax pmax
comp=Z,65nm,2.0s,mb5.2
FRU MLR MLR
comp=Z,2μm,22.0s,MS5.0
CHMS Chumysh 36.47 335 P **P 21 44 10.2 +4.9**
SNR=5.7
EKS2 Erkin-Say 36.60 334 P **P 21 44 07.6 +1.2**
SNR=8.5
SMDO Samad 36.78 294 P **P 21 44 11.8 +3.7**
SNR=7.1
USP Ospenovka 36.79 335 P **P 21 44 08.5 +0.4**
SNR=8.1
DL2 Dalian 37.16 36 P **P 21 44 15.9 +4.7**
DL2 S **S 21 50 04.2 +7.5**
DL2 AMB AMB
comp=Z,20nm,1.5s,mb4.7
DL2 AMB AMB
comp=Z,270nm,7.4s
DL2 LR LR
comp=N,720nm,12.2s,MS4.7
DL2 LR LR
comp=E,340nm,14.5s,MS4.7
DL2 LR LR
comp=Z,670nm,13.1s,MS4.6
MKAR Makanchi Array 37.44 346 P **P 21 44 11.9 -1.7**
comp=Z,5.7nm,0.6s,mb4.5,baz=161,slow=6.9,SNR=28
MKAR LR LR 22 03 41.0
comp=Z,1μm,19.4s,MS4.7,baz=169,slow=43
MKAR Makanchi Array 37.44 346 *i* P **P 21 44 12.4 -1.2**
MKAR pmax pmax
comp=Z,35nm,1.0s
BSY Bisya 37.48 293 P **P 21 44 17.8 +3.8**
SNR=16
HOQ Hoqain 37.56 295 P **P 21 44 18.1 +3.4**
SNR=11
SONM Songino Array 38.40 13 P **P 21 44 20.8 -0.9**
comp=Z,5.1nm,1.0s,mb4.2,baz=199,slow=8.4,SNR=25
SONM PcP PcP 21 46 35.6 +0.6
comp=Z,1.3nm,0.7s,baz=199,slow=4.4,SNR=4.2
SONM LR LR 22 01 46.3
comp=Z,3μm,19.0s,MS5.1,baz=191,slow=39
SONM Songino Array 38.40 13 P **P 21 44 20.8 -0.9**
SONM 21 46 35.6
KKAR Karatay Array 38.41 331 *i* P **P 21 44 21.6 -0.2**
KKAR pmax pmax
comp=Z,36nm,1.3s,mb4.9
ULN Ulaanbaatar 38.58 14 *e*P **P 21 44 21.5 -1.7**
comp=Z,79nm,2.0s,mb5.1
ULN Ulaanbaatar 38.58 14 ⇓ *i*P **P 21 44 22.5 -0.7**
WHFO Wadi Hawf 39.95 285 P **P 21 44 38.1 +3.4**
SNR=18
KS15 Wonju Array Si 40.20 43 P **P 21 44 36.8 +0.1**
SNY Shenyang 40.22 34 ⇑ P **P 21 44 36.4 -0.5**
SNY AP pP 21 44 48.2 +5.1
SNY XP sP 21 44 52.1 +6.5
SNY PP PP 21 46 14.0 +4.5
SNY S **S 21 50 43.1 +0.2**
SNY AMB AMB
comp=Z,35nm,2.0s,mb4.7
SNY AMB AMB
comp=Z,352nm,11.0s
SNY LR LR
comp=N,895nm,15.7s,MS5.0
SNY LR LR
comp=E,1μm,15.2s,MS5.0
SNY LR LR
comp=Z,1μm,14.2s,MS4.9
ZAK Zakamensk 40.27 9 *e*P **P 21 44 34.4 -2.9**
ZAK pmax pmax
comp=Z,23nm,2.0s,mb4.6
ABTO Aybut 40.36 284 P **P 21 44 41.4 +3.4**
SNR=10
KURK Kurchatov 41.98 345 P **P 21 44 51.6 +0.2**
comp=Z,159nm,1.3s,mb5.5,SNR=10
KURK Kurchatov 41.98 345 *e*P **P 21 44 48.8 -2.6**
KURK *e*pP pP 21 44 55.8 -1.8
KURK Kurchatov 41.98 345 *d i*P **P 21 44 50.8 -0.6**
FITZ Fitzroy Crossi 42.06 133 *e*P **P 21 44 52.1 0.0**
comp=Z,19nm,1.5s,mb4.5
IRK Irkutsk 42.22 9 *e*P **P 21 44 53.6 +0.2**
IRK pmax pmax
comp=Z,45nm,2.3s,mb4.7
ABKT Ailbek 42.33 316 P **P 21 44 54.9 +0.7**
comp=Z,788nm,0.6s,SNR=20
CN2 Changchun 42.56 34 *e*P **P 21 44 56.1 0.0**
CN2 *e*AP pP 21 45 02.1 -0.2
CN2 *e*S **S 21 51 13.9 -3.7**
CN2 SS SS 21 54 24.9 -2.7
CN2 AMB AMB
comp=Z,30nm,1.3s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,15.0s,MS5.2
CN2 LR LR
comp=E,2μm,15.0s,MS5.2
CN2 LR LR
comp=Z,1μm,16.0s,MS4.9
ZAL Zalesovo 43.83 352 P **P 21 45 06.5 +0.1**
comp=Z,4.3nm,0.7s,mb4.3,baz=308,slow=6.7,SNR=18
HIA Hailar 43.87 24 *e*P **P 21 45 06.8 +0.1**
comp=Z,156nm,2.1s,mb5.4
HIA Hailar 43.87 24 *e*P **P 21 45 06.8 +0.1**
HIA pmax pmax
comp=Z,156nm,2.1s
NVS Novosibirsk 44.94 351 *e*P **P 21 45 13.9 -1.3**
NVS pmax pmax
comp=Z,72nm,2.0s,mb5.2
NVS pmax pmax
comp=N,48nm,1.9s
KRAR Krasnoyarsk 45.25 359 *c i*P **P 21 45 18.7 +1.0**
KRAR pmax pmax
comp=Z,97nm,2.5s,mb5.2
MDJ Mudanjiang 45.38 35 P **P 21 45 20.0 +1.2**
MDJ AP pP 21 45 24.0 -1.0
MDJ PP PP 21 47 05.7 +0.7
MDJ S **S 21 52 01.6 +2.9**
MDJ AMB AMB
comp=Z,20nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,229nm,3.1s
MDJ LR LR
comp=N,507nm,20.6s,MS4.5
MDJ LR LR
comp=E,184nm,19.8s,MS4.5
MDJ LR LR
comp=Z,626nm,19.8s,MS4.5
VOSK Vostochnaya 46.00 340 P **P 21 45 23.1 -0.5**
VOSK pmax pmax
comp=Z,25nm,1.1s,mb5.1
BVA0 Borovoye Array 46.45 340 P **P 21 45 26.6 -0.6**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BVAR Borovoye Array 46.45 340 P **P 21 45 25.5 -1.7**
comp=Z,3.5nm,0.8s,mb4.3,baz=142,slow=7.7,SNR=15
BRVK Borovoye 46.51 340 P **P 21 45 27.2 -0.4**
BRVK *e*pP pP 21 45 31.5 -2.5
ZRNK Zerenda 46.86 339 *e*P **P 21 45 29.6 -0.8**
comp=Z,11nm,0.9s,mb4.8
ZRNK *e*pP pP 21 45 34.5 -2.2
ZRNK Zerenda 46.86 339 *e*P **P 21 45 29.6 -0.8**
ZRNK pmax pmax
comp=Z,11nm,0.9s,mb4.8
MJAR Matsushiro Arr 47.14 50 P **P 21 45 33.6 +1.0**
comp=Z,1.7nm,0.8s,mb4.0,baz=192,slow=11,SNR=7.1
MUN Mundaring 47.27 155 *e*P **P 21 45 35.1 +1.5**
KLBR Kellerberrin 47.62 153 *e*P **P 21 45 38.1 +1.8**
comp=Z,46nm,1.3s,mb5.3
AB31 Akbulak array 47.93 330 *i* P **P 21 45 37.5 -1.2**
AB31 pmax pmax
comp=Z,12nm,0.9s,mb4.9
NWAO Narrogin (SRO) 48.52 154 P **P 21 45 42.6 -0.7**
comp=Z,7.2nm,0.9s,mb4.7,baz=313,slow=12,SNR=3.9
NWAO LR LR 22 07 11.6
comp=Z,958nm,19.4s,MS4.8,baz=330,slow=37
NWAO Narrogin (SRO) 48.52 154 *e*P **P 21 45 42.8 -0.5**
comp=Z,80nm,1.4s,mb5.6
NWAO Narrogin (SRO) 48.52 154 *e*P **P 21 45 42.8 -0.5**
NWAO pmax pmax
comp=Z,80nm,1.4s
KLR Kul'dur 49.38 32 *e*P **P 21 45 47.2 -2.7**
KLR pmax pmax
comp=E,50nm,2.0s
KLR pmax pmax
comp=Z,80nm,2.0s,mb5.4
KLR MLR MLR
comp=N,1μm,14.0s,MS5.2
KLR MLR MLR
comp=E,1μm,14.0s,MS5.2
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.3
BOD Bodaibo 49.39 14 *e*P **P 21 45 48.6 -1.3**
BOD pmax pmax
comp=Z,14nm,1.9s,mb4.7
AKTK Aktyubinsk 49.64 330 P **P 21 45 51.1 -0.7**
AKTO Aktyubinsk 49.64 330 P **P 21 45 51.1 -0.7**
comp=Z,2.0nm,0.5s,mb4.4,baz=116,slow=7.1,SNR=7.8
WRA Warramunga Arr 49.72 128 P **P 21 45 52.5 0.0**
comp=Z,6.0nm,0.9s,mb4.6,baz=305,slow=8.5,SNR=19
WRAB Tennant Creek 49.72 128 *e*P **P 21 45 52.9 +0.4**
comp=Z,95nm,1.6s,mb5.6
WRAB *e*pP pP 21 45 59.0 +0.1
WRAB Tennant Creek 49.72 128 *e*P **P 21 45 52.9 +0.4**
WRAB *e*PP pP 21 45 59.0 +0.2
WRAB pmax pmax
comp=Z,95nm,1.6s,mb5.6
WB2 Warramunga Arr 49.73 128 *e*P **P 21 45 52.6 0.0**
HABR Khabarovsk 50.69 34 *e*P **P 21 45 56.2 -3.6**
ASAR Alice Springs 51.55 132 P **P 21 46 06.3 0.0**
comp=Z,6.6nm,0.8s,mb4.6,baz=305,slow=7.3,SNR=28
CLNS Chul'man 51.74 21 *e*P **P 21 46 07.8 +0.1**
CLNS pmax pmax
comp=Z,30nm,1.4s,mb5.0
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,21nm,1.2s
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.2
CLNS MLR MLR
comp=N,200nm,12.0s,MS5.1
CLNS MLR MLR
comp=E,1μm,14.0s,MS5.1
GNI Garni 52.70 313 P **P 21 46 16.1 +1.3**
comp=E,49nm,1.1s,mb5.3
GNI *e*pP pP 21 46 21.6 +0.4
GNI Garni 52.70 313 P **P 21 46 16.1 +1.3**
GNI *e*PP pP 21 46 21.6 +0.4
GNI pmax pmax
comp=Z,49nm,1.1s
ARU Arti 53.44 336 P **P 21 46 19.3 -1.0**
comp=Z,12nm,1.0s,mb4.8
ARU *e*pP pP 21 46 24.5 -2.1
ARU Arti 53.44 336 ⇓ *i*P **P 21 46 23.7 +3.4**
ARU *e* 21 47 33.6
ARU *e* 21 48 25.5
ARU *e*PPP 21 49 33.8
ARU *e*S **S 21 53 54.3 +2.7**
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.2
ARU MLR MLR
comp=N,900nm,20.0s,MS5.1
ARU MLR MLR
comp=E,1μm,21.0s,MS5.1
ZEI Tsey 54.20 316 *e*P **P 21 46 23.9 -2.0**
ZEI pmax pmax
comp=Z,17nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 54.45 39 ⇑ *i*P **P 21 46 28.7 +1.0**
YSS Yuzh-Sakhalins 54.45 39 ⇑ *e*P **P 21 46 29.4 +1.7**
YSS *e* pP 21 46 35.3 +1.2
YSS *e* 21 47 31.2
YSS pmax pmax
comp=Z,110nm,1.8s,mb5.5
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.7
YSS MLR MLR
comp=E,400nm,13.0s
KIV Kislovodsk 55.45 317 P **P 21 46 33.6 -1.3**
comp=E,36nm,1.1s,mb5.3
KIV *e*pP pP 21 46 39.9 -1.3
KIV *e* 21 46 51.3
KIV Kislovodsk 55.45 317 P **P 21 46 33.6 -1.3**
KIV *e*PP pP 21 46 39.9 -1.4
KIV *e* 21 46 51.3
KIV pmax pmax
comp=Z,36nm,1.1s,mb5.3
GOF Gofitskoye 55.61 318 *e*P **P 21 46 40.9 +4.9**
YAK Yakutsk 57.28 19 P **P 21 46 47.7 -0.3**
comp=Z,67nm,0.9s,mb5.7
YAK *e*pP pP 21 46 51.9 -2.4
YAK Yakutsk 57.28 19 P **P 21 46 47.7 -0.3**
YAK pmax pmax
comp=Z,67nm,0.9s,mb5.7
SOC Sochi 57.36 315 *e*P **P 21 46 44.0 -4.5**
SOC *e*S **S 21 54 43.6 -0.4**
SOC MLR MLR
comp=Z,710nm,21.0s,MS4.8
KMBO Kilima Mbogo 58.02 262 LR LR 22 09 10.1
comp=Z,241nm,19.2s,MS4.3,baz=92,slow=34
KMBO Kilima Mbogo 58.02 262 P **P 21 46 53.6 +0.5**
comp=Z,1.3nm,0.9s,mb4.0,baz=55,slow=10.0,SNR=5.4
ANN Anapa 59.28 316 *e*P **P 21 46 57.8 -4.2**
CTA Charters Tower 59.49 121 *e*P **P 21 47 05.2 +1.8**
comp=Z,9.1nm,1.1s,mb4.7
CTA Charters Tower 59.49 121 *e*P **P 21 47 05.2 +1.8**
CTA pmax pmax
comp=Z,9.0nm,1.1s
VRSR Storozhevoye 60.27 324 *e*P **P 21 47 12.3 +3.5**
VRSR pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,1.0s
BRTR Keskin Array B 60.82 310 P **P 21 47 10.7 -1.9**
comp=E,1.2nm,0.6s,mb4.2,baz=134,slow=6.2,SNR=6.6
BR131 Keskin Array S 60.82 310 P **P 21 47 11.4 -1.1**
comp=E,3.1nm,0.8s,mb4.5
STKA Stephens Creek 61.87 135 *e*P **P 21 47 19.2 -0.4**
comp=E,14nm,1.4s,mb4.9
STKA Stephens Creek 61.87 135 P **P 21 47 19.5 -0.1**
comp=E,5.7nm,1.0s,mb4.7,baz=289,slow=4.5,SNR=7.0
STKA LR LR 22 13 41.4
comp=E,1μm,21.9s,MS5.0,baz=304,slow=36
MOS Moscow 62.84 328 *e*P **P 21 47 24.6 -1.5**
MOS MLR MLR
comp=Z,1μm,18.0s,MS5.1
MOS MLR MLR
comp=E,400nm,15.0s
OBN Obninsk 63.17 327 *c i*P **P 21 47 33.0 +4.7**
OBN pmax pmax
comp=Z,30nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,1μm,17.0s,MS5.1
KLMR Klimovskoe 64.07 334 *e*P **P 21 47 36.7 +2.5**
KLMR pmax pmax
comp=Z,30nm,1.9s,mb5.0
KLMR MLR MLR
comp=Z,990nm,20.0s,MS5.0
MA2 Magadan 64.19 28 *e*P **P 21 47 35.1 +0.1**
MA2 Magadan 64.19 28 *ce*P **P 21 47 35.4 +0.4**
MA2 *e* 21 49 56.0
MA2 *e*PPP 21 51 32.0
MA2 S **S 21 56 05.8 -5.5**
MA2 pmax pmax
comp=Z,30nm,2.3s,mb4.9
MA2 MLR MLR
comp=Z,900nm,20.0s,MS5.0
TIXI Tiksi 64.46 11 ⇓ *i*P **P 21 47 35.8 -1.0**
TIXI Tiksi 64.46 11 *e*P **P 21 47 33.8 -3.0**
TIXI *e* 21 47 42.7
TIXI *e*S **S 21 56 04.6 -10**
TIXI pmax pmax
comp=Z,20nm,1.1s,mb5.1
TIXI MLR MLR
comp=Z,627nm,15.0s,MS4.9
AKASG Malin Array Be 66.14 321 P **P 21 47 46.0 -1.6**
comp=Z,0.3nm,0.3s,mb3.9,baz=81,slow=6.0,SNR=3.9
SEY Seymchan 66.30 25 ⇑ *i*P **P 21 47 48.2 -0.5**
SEY Seymchan 66.30 25 *e*P **P 21 47 48.4 -0.3**
SEY *e* 21 51 58.2
SEY pmax pmax
comp=Z,33nm,1.2s,mb5.2
SEY pmax pmax
comp=E,251nm,1.9s
JOF Joensuu 68.45 334 *ep* **P 21 48 00.4 -1.9**
comp=E,3.0nm,0.7s,mb4.4
ARMA Armidale 68.48 129 *e*P **P 21 48 04.4 +1.9**
APA Apatity 69.34 339 ⇑ *i*P **P 21 48 09.0 +1.2**
APA *e*S S 21 57 13.0 -0.5
APA pmax pmax
comp=Z,32nm,1.2s,mb5.1
APA MLR MLR
comp=Z,2μm,19.0s,MS5.2
FINES FINESS Array B 70.37 332 P **P 21 48 11.8 -2.4**
comp=Z,1.9nm,0.7s,mb4.2,baz=84,slow=7.9,SNR=10.0
FINES LR LR 22 25 43.4
comp=Z,669nm,18.3s,MS4.9,baz=106,slow=42
LSZ Lusaka 70.45 250 P **P 21 48 16.4 +1.8**
ARCES ARCESS Array B 72.74 340 P **P 21 48 26.4 -2.0**
comp=Z,2.7nm,0.5s,mb4.4,baz=86,slow=5.5,SNR=23
ARCES LR LR 22 23 39.2
comp=Z,1μm,20.5s,MS5.2,baz=112,slow=39
BILL Bilibino 73.41 22 *e*P **P 21 48 31.5 -1.0**

comp=Z,9.6nm,1.0s,mb4.7
BILL *e*pP pP 21 48 37.0 -2.0
BILL Bilibino 73.41 22 *e*P **P 21 48 31.5 -1.0**
BILL *e**PP pP 21 48 37.0 -2.0
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GERES GERESS Array B 75.92 318 P **P 21 48 45.5 -1.5**
comp=Z,0.8nm,0.6s,mb3.8,baz=77,slow=5.8,SNR=5.7
GERES LR LR 22 25 28.0
comp=Z,360nm,21.1s,MS4.7,baz=225,slow=38
BOSA Boshof 77.28 237 LR LR 22 17 58.1
comp=Z,327nm,18.6s,MS4.7,baz=254,slow=32
NB2 NORSAR Subarra 77.43 330 P **P 21 48 54.3 -1.2**
comp=Z,0.9nm,0.7s,baz=92,slow=5.9
NB2 NORSAR Subarra 77.43 330 P **P 21 48 54.3 -1.2**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 77.43 330 P **P 21 48 54.1 -1.5**
comp=Z,1.4nm,0.8s,mb4.0,baz=90,slow=5.8,SNR=4.2
NOA LR LR 22 28 54.4
comp=Z,499nm,19.0s,MS4.9,baz=85,slow=40
MAW Mawson 81.31 192 LR LR 22 20 11.6
comp=Z,800nm,19.3s,MS5.1,baz=198,slow=32
TNA Tin City 83.53 25 P **P 21 49 29.0 +0.7**
JMIC Jan Mayen 84.15 341 LR LR 22 29 20.5
comp=Z,621nm,21.4s,MS5.0,baz=92,slow=37
SYO Syowa Base 88.13 197‖ *e*PcP PcP 21 49 54.9 +2.1
TORD Torodi Ar. Bea 90.20 283 P **P 21 49 59.8 -1.0**
comp=Z,1.4nm,0.7s,mb4.4,baz=84,slow=4.5,SNR=9.4
MCK McKinley 91.81 23 P **P 21 50 08.5 +0.3**
comp=Z,7.8nm,1.0s,mb5.0
MCK McKinley 91.81 23 P **P 21 50 08.5 +0.3**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
ILAR Eielson Array 92.08 22 P **P 21 50 08.6 -0.9**
comp=Z,1.2nm,0.8s,mb4.3,baz=298,slow=4.7,SNR=12
ILAR LR LR 22 36 05.5
comp=Z,474nm,19.5s,MS5.0,baz=73,slow=38
INK Inuvik 94.25 16 P **P 21 50 17.7 -1.8**
comp=Z,2.9nm,0.9s,mb4.7,baz=267,slow=4.7,SNR=5.6
VNDA Vanda 95.60 168 LR LR 22 28 20.5
comp=Z,486nm,19.7s,MS5.0,baz=302,slow=32
YKA Yellowknife Ar 103.66 13 Pdiff Pdif 21 51 01.7 0.0
comp=Z,0.1nm,0.3s,baz=277,slow=7.4,SNR=2.8
YKA PP PP 21 55 18.8 +0.7
comp=Z,1.0nm,1.0s,baz=332,slow=8.0,SNR=5.6
YKA Yellowknife Ar 103.66 13 P Pdif 21 51 01.8 +0.1
YKA 21 55 18.8
PPT Papeete 117.82 104 *e*LR LR 22 31 35.8
comp=Z,328nm,25.2s
TBI Tubuai 118.08 111 *e*LR LR 22 31 42.8
comp=Z,483nm,26.2s
NVAR Mina Array Bea 122.40 30 PKP PKPdf 21 55 57.5 +2.1
comp=Z,0.9nm,0.5s,baz=347,slow=2.8,SNR=3.9
PDAR Pinedale Array 122.48 21 PKP PKPdf 21 55 56.4 +0.8
comp=Z,1.3nm,0.7s,baz=218,slow=0.6,SNR=8.3
DAC Darwin (Calif) 124.42 31 PKPdf PKPdf 21 55 59.1 -0.2
MSU Marysvale 125.14 25 *e*PKPdf PKPdf 21 56 01.7 +0.9
RKT Rikitea 131.39 111 *e*LR LR 22 37 53.0
comp=Z,386nm,35.8s
BDFB Brasilia 143.09 258 PKP PKPdf 21 56 35.5 +1.4
comp=Z,2.9nm,0.9s,baz=66,slow=6.4,SNR=3.0
CPD Cerro la Pandu 145.47 326 *e*PKPdf PKPdf 21 56 39.5 +1.2
PLCA Paso Flores 147.24 201 PKPbc PKPbc 21 56 45.0 +1.4
comp=Z,6.8nm,0.9s,baz=152,slow=2.5,SNR=8.9
CPUP Villa Florida 149.09 236 PKPbc PKPbc 21 56 49.6 +1.1
comp=Z,3.6nm,0.8s,baz=127,slow=3.7,SNR=8.4
CPUP Villa Florida 149.09 236 *e*PKP2 PKPab 21 56 49.2 -3.6
LPAZ La Paz 162.11 250 PKPdf PKPdf 21 57 08.4 +6.7

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*IDC **09** 21:54:32.8±1.2, 565N×1254.5E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=76.2km s-min=24.4km az=74.0*
*ISCJB **09** 21:54:37.3±0.9, 529N±006×1252E±02, h33km, mb3.4/4, Error ellipse: s-maj=24.0km s-min=7.5km az=164.6*
*MAN **09** 21:54:43.0, 576N×12479E, h3km, mb3.2, ML4.5, MS7.5*
ISC 09 21:54:39.5±0.9, 533N±006×1251E±02, h35km, n9, σ1§03/12, mb3.4/4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.66**	**359**	‖ *i*P	**Pn**	**21 55 07.1**	**+0.9**
KCP				*i* S	**Sn**	**21 55 25.4**	**-0.9**
BUKP	**Musuan**	**2.53**	**359**	*e*P	**Pn**	**21 55 16.8**	**-1.3**
BUKP				*e*S	**Sn**	**21 55 48.1**	**+0.4**
PAGZ	**Pagadian**	**3.04**	**325**	*e*P	**Pn**	**21 55 24.1**	**-0.9**
CGP	**Cagayan de Oro**	**3.13**	**352**‖	*e*P	**Pn**	**21 55 27.3**	**+1.0**
CGP				*e*S	**Sn**	**21 56 03.3**	**+0.8**
IPIL	**Ipil**	**3.52**	**314**	*e*P	**Pn**	**21 55 32.7**	**+1.1**
WRA	**Warramunga Arr**	**26.70**	**160**	P	**P**	**22 00 15.9**	**+0.5**
	0.4nm,0.3s,mb3.4,baz=339,slow=10,SNR=15						
ASAR	**Alice Springs**	**30.07**	**164**	P	**P**	**22 00 45.7**	**+0.3**
	0.3nm,0.4s,mb3.4,baz=345,slow=6.9,SNR=4.6						
MKAR	**Makanchi Array**	**55.33**	**325**	P	**P**	**22 04 08.1**	**-1.7**
	0.1nm,0.4s,mb3.2,baz=115,slow=7.3,SNR=4.4						
ILAR	**Eielson Array**	**84.35**	**25**	P	**P**	**22 07 04.3**	**-3.7**
	0.5nm,0.6s,mb3.8,baz=249,slow=5.3,SNR=8.6						

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*ISCJB **09** 21:56:38.1±1.6, 54S±0.1×147.4E±0.2, h174km±16km, mb4.0/9, Error ellipse: s-maj=26.8km s-min=13.7km az=48.7*
*IDC **09** 21:56:40.0±1.6, 554S×147.4E, h182km±15km, mb3.6/7, mb1 3.9/9, mb1mx3.8/13, mbtmp4.2/9, Error ellipse: s-maj=29.0km s-min=10.6km az=108.0*
*NEIC **09** 21:56:41.2±1.9, 556S×147.52E, h196km±17km, mb4.9/5, Error ellipse: s-maj=24.3km s-min=15.2km az=113.0*
ISC 09 21:56:40.6±1.4, 550S±009×1474E±01, h183km±13km, n23, σ1§11/25, mb4.0/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.89**	**184**	P	**Pn**	**21 57 41.1**	**+0.7**
	18nm,0.3s,baz=41,slow=5.6,SNR=48						
PMG				S	**Sn**	**21 58 25.7**	**-1.5**
	46nm,0.3s,baz=269,slow=23,SNR=5.6						
HNR	**Honiara**	**13.00**	**108**	P	**Pn**	**21 59 44.1**	**+5.5**
	14nm,0.3s,baz=270,slow=5.1,SNR=3.0						
CTA	**Charters Tower**	**14.54**	**184**	P	**Pn**	**21 59 60.0**	**+2.1**
	1.0nm,0.3s,baz=3.2,slow=13,SNR=15						
CTA	**Charters Tower**	**14.54**	**184**	P	**Pn**	**21 59 60.0**	**+2.1**
KAKA	**Kakadu**	**16.45**	**243**	*e*P	**Pn**	**22 00 20.7**	**-0.3**
	40nm,0.6s						
WRAB	**Tennant Creek**	**19.18**	**220**	*e*P	**P**	**22 00 50.6**	**+0.3**
	50nm,0.8s						
WB2	**Warramunga Arr**	**19.19**	**220**	*e*P	**P**	**22 00 50.9**	**+0.6**
WRA	**Warramunga Arr**	**19.20**	**220**	P	**P**	**22 00 49.7**	**-0.7**
	6.4nm,0.3s,baz=48,slow=12,SNR=125						
WRA				S	**S**	**22 04 16.3**	**-1.7**
	baz=50,slow=18,SNR=4.5						
AS31	**Alice Springs**	**22.27**	**214**	*e*P	**P**	**22 01 23.8**	**+1.2**
ASAR	**Alice Springs**	**22.27**	**214**	P	**P**	**22 01 23.6**	**+1.0**
	18nm,0.6s,mb4.7,baz=47,slow=8.9,SNR=192						
ASAR				S	**S**	**22 05 16.4**	**+2.4**
	1.1nm,0.8s,baz=22,slow=20,SNR=6.6						
ASPA	**Alice Springs**	**22.28**	**214**	*e*P	**P**	**22 01 23.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**24.70**	**238**	*e*P	**P**	**22 01 44.9**	**+0.2**
	33nm,0.5s,mb5.1						
STKA	**Stephens Creek**	**26.80**	**191**	*e*P	**P**	**22 02 00.6**	**-3.0**
	2.1nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**26.80**	**191**	P	**P**	**22 02 01.7**	**-1.9**
	2.7nm,0.5s,mb4.1,baz=358,slow=7.7,SNR=12						
KLBR	**Kellerberrin**	**38.03**	**223**	*e*P	**P**	**22 03 40.7**	**-0.4**
	6.3nm,0.5s,mb4.5						
SONM	**Songino Array**	**64.19**	**331**	P	**P**	**22 06 56.2**	**+0.6**
	0.6nm,0.7s,mb3.5,baz=144,slow=4.3,SNR=4.9						
VNDA	**Vanda**	**72.38**	**177**	P	**P**	**22 07 45.9**	**-0.6**
	1.8nm,0.7s,mb3.9,baz=329,slow=6.4,SNR=7.9						
VNDA	**Vanda**	**72.38**	**177**	P	**P**	**22 07 45.9**	**-0.6**
MKAR	**Makanchi Array**	**77.39**	**320**	P	**P**	**22 08 15.7**	**+0.4**
	0.4nm,0.4s,mb3.4,baz=111,slow=6.3,SNR=17						
ZAL	**Zalesovo**	**78.83**	**328**	P	**P**	**22 08 21.7**	**-1.5**
	0.6nm,0.6s,mb3.4,baz=52,slow=5.5,SNR=5.5						
ZAL	**Zalesovo**	**78.83**	**328**	P	**P**	**22 08 21.7**	**-1.5**
ILAR	**Eielson Array**	**84.85**	**23**	P	**P**	**22 08 53.6**	**-0.9**
	0.7nm,0.6s,mb3.6,baz=251,slow=5.0,SNR=11						
TORD	**Torodi Ar. Bea**	**145.39**	**285**	PKPbc	PKPbc	22 15 56.6	-0.3
	1.0nm,0.5s,baz=78,slow=2.8,SNR=24						

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*NIED **09** 22:20:00, 44.30N×148.50E, h32km, Mw4.0 Best double couple: M0 1.32000×10^15 NP1:ϕs237.00000°, δ73.00000°, λ-148.00000°. NP2:ϕs137.00000°, δ59.00000°, λ-19.00000°.*
*SKHL **09** 22:20:19.4±0.1, 44.12N×148.76E, h30km±9km, mb4.8/4*
*JMA **09** 22:20:20.8±0.6, 44.32N×148.52E, h30km, M4.5*
*MOS **09** 22:20:21.4±1.1, 44.14N×148.39E, h40km, mb4.3/4, Error ellipse: s-maj=14.4km s-min=9.5km az=124.3*
*ISCJB **09** 22:20:22.1±1.0, 4383N±006×148.48E±008, h56km±8km, mb4.2/28, Error ellipse: s-maj=11.3km s-min=9.0km az=114.4*
*NEIC **09** 22:20:23.3±0.8, 44.17N×148.29E, h35km, mb4.0/4, Error ellipse: s-maj=20.7km s-min=9.8km az=147.0*
*IDC **09** 22:20:25.9±3.2, 44.12N×148.27E, h62km±33km, mb3.7/13, mb1 3.8/15, mb1mx3.7/23, mbtmp3.9/15, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/31, Error ellipse: s-maj=51.9km s-min=19.3km az=165.0*
ISC 09 22:20:23.3±0.9, 4396N±006×14847E±008, h46km±7km, n87, σ1§22/103, mb4.2/28, 5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.34**	**341**‖	*i*P	**Pn**	**22 20 39.7**	**-5.9**
KUR				*i* P		22 20 39.7	
KUR				AMB	AMB	22 20 40.3	
	380nm,0.5s						
KUR				AMB	AMB	22 20 40.3	
	840nm,0.5s						
KUR				AMB	AMB	22 20 41.0	
	2μm,1.0s						
KUR				*e*S	**Sn**	**22 20 55.0**	**-7.3**
KUR				A		22 20 57.0	
	3μm,1.0s						
KUR				A		22 20 57.0	
	2μm,1.0s						
KUR				A		22 21 01.0	
	2μm,0.5s						
KUR				A		22 21 01.0	
	430nm,0.5s						
KUR	**Kuril'sk**	**1.34**	**341**k	*i*PN	**Pn**	**22 20 39.7**	**-5.9**
KUR				*e*S	**Sn**	**22 20 55.0**	**-7.3**
KUR				pmax	pmax		
	comp=N,380nm,0.5s						
KUR				pmax	pmax		
	comp=E,380nm,0.5s						
KUR				pmax	pmax		
	comp=Z,840nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,3μm,1.0s						
KUR				smax			
	comp=E,2μm,1.0s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,430nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.89**	**273**	*e*P	**Pn**	**22 20 51.5**	**-1.6**
YUK				AMB	AMB	22 20 53.7	
	comp=E,2μm,0.3s						
YUK				AMB	AMB	22 20 56.5	
	comp=E,480nm,0.4s						
YUK				AMB	AMB	22 20 56.5	
	comp=E,640nm,0.4s						
YUK				AMB	AMB	22 20 56.5	
	comp=E,910nm,0.4s						
YUK				*i* S	**Sn**	**22 21 15.5**	**-0.1**
YUK				A		22 21 21.2	
	comp=E,3μm,0.5s						
YUK				A		22 21 21.2	
	comp=E,2μm,0.5s						
YUK				A		22 21 21.5	
	comp=E,5μm,1.0s						
YUK				A		22 21 21.5	
	comp=E,3μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**1.89**	**273**	*e*PN	**Pn**	**22 20 51.5**	**-1.6**
YUK				*i* S	**Sn**	**22 21 15.5**	**-0.1**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=Z,910nm,0.3s						
YUK				pmax	pmax		
	comp=N,480nm,0.4s						
YUK				pmax	pmax		
	comp=E,640nm,0.4s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,2μm,0.4s						
YUK				smax			
	comp=N,5μm,0.8s						
YUK				smax			
	comp=E,3μm,1.0s						
NEM2	**Nemuro 2**	**2.07**	**254**	P	**Pn**	**22 20 53.9**	**-1.6**
NEM2				*e*S	**Sn**	**22 21 19.2**	**-0.9**
JRA	**Rausu**	**2.42**	**271**	P	**Pn**	**22 20 59.8**	**-0.6**
JRA				*e*S	**Sn**	**22 21 30.7**	**+1.9**
JNK	**Nakash**	**2.74**	**263**	P	**Pn**	**22 21 04.1**	**-0.7**
JAK	**Akkeshi**	**2.91**	**252**	P	**Pn**	**22 21 06.0**	**-1.1**
JAK				*e*S	**Sn**	**22 21 40.2**	**-0.7**
JTKR	**Abashiri--Toko**	**3.29**	**272**	P	**Pn**	**22 21 12.4**	**0.0**
JOB	**Onbets**	**3.54**	**254**	P	**Pn**	**22 21 15.6**	**-0.1**
JOB				*e*S	**Sn**	**22 21 53.9**	**-2.4**
JMP	**Maruseppu**	**3.69**	**273**	P	**Pn**	**22 21 18.2**	**+0.4**
JCH	**Churui**	**3.97**	**252**	P	**Pn**	**22 21 21.7**	**+0.1**
JCH				*e*S	**Sn**	**22 22 06.2**	**-0.6**
JKK2	**Kamakawa 2**	**4.14**	**271**	P	**Pn**	**22 21 26.0**	**+2.1**
ASAJ	**Asahikawa**	**4.24**	**274**	P	**Pn**	**22 21 26.7**	**+1.3**
	comp=E,3.5nm,0.3s,baz=74,slow=18,SNR=18						
ASAJ				LR	LR	22 23 09.9	
	comp=E,324nm,18.1s,baz=148,slow=40						
ASAJ	**Asahikawa**	**4.24**	**274**	P	**Pn**	**22 21 27.3**	**+1.9**
ASAJ	**Asahikawa**	**4.24**	**274**	PN	**Pn**	**22 21 26.7**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,324nm,18.1s						
JSE	**Soyaes**	**4.33**	**285**	P	**Pn**	**22 21 27.1**	**+0.5**
JFR	**Furan**	**4.35**	**261**	P	**Pn**	**22 21 29.2**	**+2.4**
JNBK	**Urakawa-nobuka**	**4.51**	**250**	P	**Pn**	**22 21 29.4**	**+0.3**
JAB	**Ashibetsu**	**4.55**	**266**	P	**Pn**	**22 21 32.7**	**+3.1**
JBT2	**Biratori 2**	**4.61**	**257**	P	**Pn**	**22 21 31.7**	**+1.3**
JSS	**Shosan**	**4.78**	**278**	P	**Pn**	**22 21 35.8**	**+3.0**
JHR	**Hokuryu**	**4.88**	**270**	P	**Pn**	**22 21 36.9**	**+2.7**
YSS	**Yuzh-Sakhalins**	**5.01**	**309**	*e*P	**Pn**	**22 21 35.0**	**-1.0**
YSS	**Yuzh-Sakhalins**	**5.01**	**309**	PN	**Pn**	**22 21 35.0**	**-1.0**
YSS				*e*		22 22 29.0	
JEW	**Eniwo**	**5.24**	**260**	P	**Pn**	**22 21 41.7**	**+2.6**
JNB	**Noboribetsu**	**5.63**	**257**	P	**Pn**	**22 21 46.0**	**+1.5**
JNB				*e*S	**Sn**	**22 22 47.4**	**-0.5**
JKB	**Kayabe**	**5.84**	**252**	P	**Pn**	**22 21 48.2**	**+0.9**
JKB				*e*S	**Sn**	**22 22 50.5**	**-2.5**
JYM2	**Yakumo 2**	**6.22**	**256**	P	**Pn**	**22 21 53.3**	**+0.8**
JANG	**Nango**	**6.29**	**238**	P	**Pn**	**22 21 51.2**	**-2.3**
JANG				*e*S	**Sn**	**22 22 58.6**	**-5.4**
JSH	**Shimam**	**6.29**	**261**	P	**Pn**	**22 21 55.2**	**+1.7**
JTM	**Tenmabayashi**	**6.33**	**242**	P	**Pn**	**22 21 54.4**	**+0.3**
JTM				*e*S	**Sn**	**22 23 01.3**	**-3.8**
JTH	**Tanohata**	**6.36**	**233**	P	**Pn**	**22 21 53.4**	**-1.0**
JTH				*e*S	**Sn**	**22 22 59.7**	**-6.0**
JSR	**Shiriuchi**	**6.41**	**250**	P	**Pn**	**22 21 55.6**	**+0.5**
JOSM	**Okushiri--Mats**	**6.86**	**257**	P	**Pn**	**22 22 02.9**	**+1.6**
OFUJ	**Ofunato**	**7.06**	**229**	P	**Pn**	**22 22 03.3**	**-0.7**
OFUJ				*e*S	**Sn**	**22 23 16.8**	**-6.1**
JRG	**Rokugo**	**7.43**	**235**	P	**Pn**	**22 22 09.4**	**+0.3**
JRG				*e*S	**Sn**	**22 23 27.8**	**-4.2**
JIO	**Ouri**	**7.69**	**227**	P	**Pn**	**22 22 11.7**	**-0.9**
JIO				*e*S	**Sn**	**22 23 31.8**	**-6.5**
SKR	**Severo-Kuril's**	**8.49**	**35**	*e*P	**Pn**	**22 22 19.2**	**-4.5**
JFK	**Kawauchi**	**8.76**	**224**	P	**Pn**	**22 22 26.0**	**-1.3**
MJAR	**Matsushiro Arr**	**10.78**	**230**	P	**Pn**	**22 22 55.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=33,slow=13,SNR=5.8						
MJAR				LR	LR	22 27 17.3	
	comp=Z,129nm,20.1s,baz=220,slow=38						
EKMR	**Ekimchan**	**13.72**	**317**	*e*P	**Pn**	**22 23 32.5**	**-2.6**
EKMR				AMB	AMB	22 23 35.0	
	comp=Z,5.0nm,0.7s						
YASR	**Yasnyy**	**16.40**	**312**	*e*P	**Pn**	**22 24 07.9**	**-2.3**
YASR				AMB	AMB	22 24 09.6	
	comp=Z,7.0nm,0.8s						
ULN	**Ulaanbaatar**	**28.83**	**293**	*e*P	**P**	**22 26 17.7**	**+0.5**
	comp=Z,0.9nm,0.4s,mb3.9						
ULN	**Ulaanbaatar**	**28.83**	**293**	*e*P	**P**	**22 26 17.7**	**+0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
SONM	**Songino Array**	**29.27**	**293**	P	**P**	**22 26 21.4**	**+0.3**
	comp=Z,0.7nm,0.4s,mb3.7,baz=83,slow=8.4,SNR=8.9						
ILAR	**Eielson Array**	**40.75**	**36**	P	**P**	**22 28 00.2**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.3,baz=288,slow=9.9,SNR=6.3						
ZAL	**Zalesovo**	**41.65**	**307**	PcP	PcP	22 30 03.6	+0.3
	comp=Z,0.9nm,0.6s,baz=72,slow=4.1,SNR=4.5						
MKAR	**Makanchi Array**	**45.33**	**298**	P	**P**	**22 28 36.8**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.2,baz=77,slow=8.3,SNR=44						
MKAR				PcP	PcP	22 30 15.9	+0.1
	comp=Z,0.5nm,0.5s,baz=68,slow=2.4,SNR=4.5						
INK	**Inuvik**	**45.74**	**31**	P	**P**	**22 28 40.3**	**+0.3**
	comp=Z,1.1nm,0.4s,mb4.1,baz=270,slow=6.9,SNR=9.8						
KURK	**Kurchatov**	**46.20**	**304**	*e*P	**P**	**22 28 42.8**	**-0.8**
	comp=Z,2.4nm,0.5s,mb4.4						
KURK	**Kurchatov**	**46.20**	**304**	*e*P	**P**	**22 28 42.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**50.11**	**310**	P	**P**	**22 29 12.1**	**-1.6**
	comp=Z,0.6nm,0.4s,mb4.0,baz=72,slow=9.0,SNR=5.5						
BRVK	**Borovoye**	**50.15**	**310**	P	**P**	**22 29 11.9**	**-2.3**
ZRNK	**Zerenda**	**50.91**	**310**	*e*P	**P**	**22 29 19.4**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**50.91**	**310**	*e*P	**P**	**22 29 19.4**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ULHL	**Ulahol**	**51.17**	**295**	P	**P**	**22 29 22.8**	**+1.0**
	SNR=7.9						
TKM2	**Tokmak 2**	**51.28**	**296**	P	**P**	**22 29 23.4**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
USP	**Ospenovka**	**51.83**	**297**	P	**P**	**22 29 26.7**	**0.0**
	SNR=5.5						
JIRN	**Jiri**	**51.88**	**274**	*e*P	**P**	**22 29 28.3**	**+1.2**
	comp=Z,6.5nm,0.4s,mb4.9						
KZA	**Kyzart**	**51.90**	**295**	P	**P**	**22 29 29.0**	**+1.7**
	SNR=14						
GUN	**Gumba**	**51.96**	**274**	*e*P	**P**	**22 29 28.9**	**+1.3**
	comp=Z,15nm,0.5s,mb5.1						
AAK	**Ala-Archa**	**52.13**	**296**	*e*P	**P**	**22 29 28.6**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1						
AAK	**Ala-Archa**	**52.13**	**296**	*e*P	**P**	**22 29 28.6**	**-0.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
KKN	**Kakani**	**52.46**	**274**	*e*P	**P**	**22 29 32.7**	**+1.3**
	comp=Z,7.7nm,0.7s,mb4.7						
EKS2	**Erkin-Say**	**52.58**	**296**	P	**P**	**22 29 33.1**	**+0.8**
	SNR=6.1						
DMN	**Daman**	**52.69**	**274**	*e*P	**P**	**22 29 34.3**	**+1.2**
	comp=Z,9.8nm,0.5s,mb5.0						
GKN	**Gorkha**	**52.80**	**275**	*e*P	**P**	**22 29 34.7**	**+0.8**
	comp=Z,17nm,0.7s,mb5.1						
AML	**Almayashu**	**52.89**	**296**	P	**P**	**22 29 35.8**	**+1.2**
	SNR=6.1						
KOLN	**Koldanda**	**53.68**	**275**	*e*P	**P**	**22 29 41.5**	**+1.1**
	comp=Z,6.6nm,0.5s,mb4.8						
KKAR	**Karatay Array**	**54.46**	**298**	*i* P	**P**	**22 29 45.8**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
YKA	**Yellowknife Ar**	**55.09**	**34**	P	**P**	**22 29 50.8**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=302,slow=7.4,SNR=13						
AB31	**Akbulak array**	**57.68**	**309**	P	**P**	**22 30 08.6**	**-0.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**59.38**	**340**	P	**P**	**22 30 19.9**	**-1.0**
	comp=Z,2.3nm,0.9s,mb4.2,baz=46,slow=6.6,SNR=4.7						
ARCES				PcP	PcP	22 31 07.6	-0.8
	comp=Z,2.4nm,0.8s,baz=66,slow=4.1,SNR=5.7						
JOF	**Joensuu**	**62.35**	**333**	*e*p	**P**	**22 30 40.0**	**-1.0**
	comp=Z,0.9nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**65.12**	**333**	P	**P**	**22 30 56.8**	**-2.6**
	comp=Z,0.9nm,0.5s,mb4.1,baz=46,slow=8.2,SNR=13						
NB2	**NORSAR Subarra**	**69.75**	**339**	P	**P**	**22 31 27.0**	**-1.6**
	comp=Z,1.6nm,0.5s,mb4.2,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.75**	**339**	P	**P**	**22 31 27.4**	**-1.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=31,slow=6.2,SNR=11						
CCUT	**Cedar City**	**70.23**	**57**	*e*P	**P**	**22 31 38.5**	**+7.0**
AKASG	**Malin Array Be**	**71.97**	**324**	P	**P**	**22 31 40.9**	**-1.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=39,slow=6.5,SNR=6.2						
AKASG	**Malin Array Be**	**71.97**	**324**	P	**P**	**22 31 40.9**	**-1.1**
SCHQ	**Schefferville**	**77.10**	**20**	P	**P**	**22 32 11.7**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=302,slow=9.5,SNR=5.8						
CLL	**Collm**	**77.57**	**333**‖	*i*P	**P**	**22 32 13.7**	**-0.7**
	comp=Z,11nm,1.0s,mb4.7						
CLL	**Collm**	**77.57**	**333**‖	*i*P	**P**	**22 32 13.7**	**-0.7**
CLL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**78.09**	**314**	P	**P**	**22 32 17.3**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=54,slow=5.5,SNR=2.7						
KHC	**Kasperske Hory**	**79.23**	**332**	*e*P	**P**	**22 32 23.5**	**-0.1**
GERES	**GERESS Array B**	**79.44**	**332**	P	**P**	**22 32 24.7**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=51,slow=6.4,SNR=3.7						

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*IDC **09** 22:30:44.1±0.4, 1076N×94.46E, h0km, mb4.4/23, mb1 4.5/24, mb1mx4.4/28, mbtmp4.3/24, ML3.4/1, MS4.5/4, Ms1 4.5/4, ms1mx4.0/14, Error ellipse: s-maj=17.2km s-min=12.1km az=57.0*
*BJI **09** 22:30:45.1, 1064N×94.13E, h18km, mB5.3, mb4.7, Ms5.0, Msz4.7*
*NEIC **09** 22:30:46.6±0.3, 1073N×94.36E, h10km, mb5.0/27, Error ellipse: s-maj=10.4km s-min=5.9km az=52.0*
*HRVD **09** 22:30:46.6±0.3, 1075N×94.46E, h12km, MW5.2/86, Centroid moment Tensor Solution. LP body waves: s63,c101;Mantle waves: s86,c153; Half duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr-0.78±.02; Mθθ0.76±.02; Mϕϕ0.01±.02; Mrθ0.36±.05; Mϕϕ0.20±.02; Mθr0.10±.06; Best double couple: M0 0.87500×10^17 NP1:ϕs76.00000°, δ32.00000°, λ-90.00000°. NP2: ϕs255.00000°, δ58.00000°, λ-90.00000°. Principal axes: T 0.8910, Plg13.

KMI				LR	LR	
	comp=E,3μm,10.9s					
KMI				LR	LR	
	comp=Z,2μm,11.7s					
HYB	**Hyderabad**	**16.68**	**295**	*i* P	**Pn**	**22 34 40.0 -1.6**
HYB	**Hyderabad**	**16.68**	**295**	*e*P	**Pn**	**22 34 40.0 -1.6**
QIZ	**Qiongzhong**	**17.09**	**59**	⇑P	**Pn**	**22 34 47.3 +0.6**
QIZ				AMB	AMB	
	comp=Z,18nm,2.1s					
QIZ				LR	LR	
	comp=N,4μm,9.0s					
QIZ				LR	LR	
	comp=Z,5μm,9.9s					
QIZ	**Qiongzhong**	**17.09**	**59**	*e*Pn	**Pn**	**22 34 46.6 -0.1**
	comp=Z,52nm,1.4s					
NGP	**Nagpur**	**17.96**	**307**	*e*P	**Pn**	**22 35 00.8 +3.3**
NGP				AMb	AMB	22 35 08.9
	comp=Z,75nm,1.4s					
KSM	**Kuching**	**18.34**	**119**	*e*P	**Pn**	**22 35 02.4 +0.4**
JIRN	**Jiri**	**18.50**	**337**	*e*P	**Pn**	**22 35 04.0 0.0**
	comp=Z,272nm,1.1s					
PKI	**Pulchoki**	**18.73**	**335**	*e*P	**Pn**	**22 35 06.7 -0.2**
	comp=Z,171nm,1.1s					
PKI	**Pulchoki**	**18.73**	**335**	*e*P	**Pn**	**22 35 06.7 -0.2**
PKI				pmax	pmax	
	comp=Z,86nm,1.1s					
GUN	**Gumba**	**18.84**	**336**	*e*P	**Pn**	**22 35 07.8 -0.4**
	comp=Z,189nm,0.8s					
DMN	**Daman**	**18.90**	**334**	*e*P	**Pn**	**22 35 09.1 +0.3**
	comp=Z,217nm,1.0s					
KKN	**Kakani**	**18.98**	**335**	*e*P	**Pn**	**22 35 08.8 -1.0**
	comp=Z,160nm,1.1s					
KKN	**Kakani**	**18.98**	**335**	*e*P	**Pn**	**22 35 08.8 -1.0**
KKN				pmax	pmax	
	comp=Z,4.0nm,0.7s					
LSA	**Lhasa**	**19.10**	**351**	P	**Pn**	**22 35 11.4 +0.1**
LSA	**Lhasa**	**19.10**	**351**	*e*Pn	**Pn**	**22 35 10.3 -1.0**
	comp=Z,222nm,1.6s					
LSA	**Lhasa**	**19.10**	**351**	*e*P	**Pn**	**22 35 10.3 -1.0**
LSA				pmax	pmax	
	comp=Z,222nm,1.6s					
GKN	**Gorkha**	**19.44**	**333**	*e*P	**Pn**	**22 35 13.7 -1.7**
	comp=Z,192nm,0.9s					
GYA	**Guiyang**	**19.49**	**35**	P	**Pn**	**22 35 15.6 -0.4**
GYA				AP	pP	22 35 20.7 -2.5
GYA				XP	sP	22 35 23.8 -3.5
GYA				PP		22 35 35.9
GYA				S	**Sn**	**22 38 56.6 +2.9**
GYA				AMB	AMB	
	comp=Z,20nm,1.2s					
GYA				AMB	AMB	
	comp=Z,530nm,5.1s					
GYA				LR	LR	
	comp=N,2μm,14.5s					
GYA				LR	LR	
	comp=E,2μm,13.5s					
GYA				LR	LR	
	comp=Z,2μm,15.9s					
KOLN	**Koldanda**	**19.72**	**331**	*e*P	**Pn**	**22 35 17.9 -0.8**
	comp=Z,324nm,0.8s					
BHPL	**Bhopal**	**20.38**	**310**	*e*P	**P**	**22 35 29.8 +5.6**
BHPL				AMb	AMB	22 35 39.0
	comp=Z,111nm,1.4s					
KAD	**Karad**	**20.61**	**291**	*e*P	**P**	**22 35 32.6 +5.9**
KAD				AMb	AMB	22 35 39.3
	comp=Z,95nm,1.6s					
POO	**Poona**	**21.27**	**294**	*e*P	**P**	**22 35 40.6 +6.7**
POO				AMb	AMB	22 35 58.9
	comp=Z,67nm,0.9s,mb5.0					
POO				*i* PP		22 36 01.0
POO				*i* x	x	22 36 14.0
POO				*i* x	x	22 39 30.5
POO				*i* S	**S**	**22 39 40.0 +12**
CD2	**Chengdu**	**21.89**	**22**	P	**P**	**22 35 40.4 -0.1**
CD2				XP	sP	22 35 53.6 +0.3
CD2				PP		22 36 07.3
CD2				S	**S**	**22 39 33.0 -7.6**
CD2				XS	sS	22 39 49.8 -4.7
CD2				SS		22 40 12.0
CD2				AMB	AMB	
	comp=Z,10.0nm,0.6s,mb4.4					
CD2				AMB	AMB	
	comp=Z,260nm,5.7s					
CD2				LR	LR	
	comp=E,1μm,15.6s					
CD2				LR	LR	
	comp=Z,1μm,14.4s,MS4.5					
KKM	**Kota Kinabalu**	**22.13**	**100**	*e*P	**P**	**22 35 51.6 +8.6**
KKM				*e*		22 37 43.0
BOM	**Bombay**	**22.32**	**294**	*e*P	**P**	**22 35 48.2 +3.1**
BOM				AMb	AMB	22 35 59.0
	comp=Z,116nm,0.5s,mb5.6					
LGTI	**Lohaghat**	**22.80**	**327**	*ex*	**P**	**22 35 51.5 +1.3**
LGTI				*ex*	x	22 37 33.5
PTH	**Pithoragarh**	**22.89**	**327**	*ex*	**P**	**22 36 01.5 +10**
PTH				*ex*	x	22 38 02.0
NDI	**New Delhi**	**24.00**	**320**	*ex*	**P**	**22 36 00.5 -1.5**
NDI				*e*P		22 36 03.3
NDI				AMb	AMB	22 36 05.8
	comp=Z,105nm,1.1s,mb5.2					
NDI				*e*S	**S**	**22 40 25.0 +8.3**
ENH	**Enshi**	**24.01**	**34**	*e*P	**P**	**22 36 01.4 -0.6**
	comp=Z,106nm,1.0s,mb5.2					
ENH				*e*		22 37 44.5
AJM	**Ajmer**	**24.31**	**313**	*e*P	**P**	**22 36 10.0 +5.2**
AJM				AMb	AMB	22 36 15.7
	comp=Z,57nm,0.8s,mb5.1					
DDI	**Dehra Dun**	**24.68**	**325**	*e*P	**P**	**22 36 13.9 +5.7**
SMLA	**Simla**	**25.79**	**324**	*e*P	**P**	**22 36 20.4 +2.1**
SMLA				AMb	AMB	22 36 47.6
	comp=Z,127nm,1.2s,mb5.3					
BHK	**Bhakra**	**26.44**	**324**	*ex*	x	22 36 55.0
LZH	**Lanzhou**	**26.66**	**17**	P	**P**	**22 36 28.1 +1.9**
LZH				AP	pP	22 36 37.2 +1.7
LZH				XP	sP	22 36 39.9 +0.4
LZH				PP		22 37 15.0
LZH				S	**S**	**22 41 01.0 +1.8**
LZH				XS	sS	22 41 18.0 +3.3
LZH				*e*SS		22 42 17.0
LZH				AMB	AMB	
	comp=Z,90nm,1.5s,mb5.1					
LZH				AMB	AMB	
	comp=Z,530nm,5.0s					
LZH				LR	LR	
	comp=N,6μm,14.0s					
LZH				LR	LR	
	comp=Z,7μm,16.2s,MS5.3					
XAN	**Xi'an**	**26.76**	**28**	P	**P**	**22 36 27.2 +0.2**
XAN				S	**S**	**22 41 01.9 +1.2**
XAN				AMB	AMB	
	comp=Z,8.0nm,0.8s,mb4.3					
XAN				LR	LR	
	comp=N,1μm,14.6s,MS4.9					
XAN				LR	LR	
	comp=E,2μm,15.1s,MS4.9					
XAN				LR	LR	
	comp=Z,2μm,15.5s,MS4.8					
QZH	**Quanzhou**	**27.00**	**55**	P	**P**	**22 36 30.4 +1.2**
QZH				S	**S**	**22 41 09.0 +4.5**
QZH				LR	LR	
	comp=N,2μm,10.6s					
QZH				LR	LR	
	comp=E,820nm,8.8s					
QZH				LR	LR	
	comp=Z,2μm,10.1s,MS5.0					
WHN	**Wuhan**	**27.09**	**40**	P	**P**	**22 36 33.0 +3.0**
WHN				S	**S**	**22 41 01.6 -4.4**
WHN				LR	LR	
	comp=Z,3μm,14.4s,MS5.0					
GTA	**Gaotai**	**28.97**	**9**	P	**P**	**22 36 45.9 -0.8**
GTA				AP	pP	22 36 54.8 -1.3
GTA				XP	sP	22 36 58.5 -1.6
GTA				PP	PP	22 37 37.7 -15
GTA				PCP	PcP	22 39 59.2 +4.2
GTA				S	**S**	**22 41 31.7 -3.8**
GTA				AMB	AMB	
	comp=Z,8.0nm,2.6s,mb4.0					
GTA				AMB	AMB	
	comp=Z,440nm,6.6s					
GTA				LR	LR	
	comp=N,1μm,18.5s,MS4.8					
GTA				LR	LR	
	comp=E,1μm,15.8s,MS4.8					
GTA				LR	LR	
	comp=Z,2μm,19.7s,MS4.7					
NJ2	**Nanjing**	**31.01**	**43**	*e*P	**P**	**22 37 06.6 +1.8**
NJ2				AP	pP	22 37 16.0 +1.8
NJ2				XP	sP	22 37 20.0 +1.8
NJ2				PP	PP	22 38 08.1 -7.0
NJ2				S	**S**	**22 42 05.0 -2.6**
NJ2				XS	sS	22 42 20.0 -3.1
NJ2				AMB	AMB	
	comp=Z,10.0nm,0.5s,mb4.9					
NJ2				AMB	AMB	
	comp=Z,640nm,5.1s					
NJ2				LR	LR	
	comp=N,3μm,20.4s					
NJ2				LR	LR	
	comp=E,3μm,14.8s					
NJ2				LR	LR	
	comp=Z,1μm,16.4s,MS4.6					
SSE	**Sheshan**	**32.08**	**47**	P	**P**	**22 37 16.6 +2.4**
SSE				AP	pP	22 37 25.3 +1.6
SSE				XP	sP	22 37 30.0 +2.4
SSE				S	**S**	**22 42 24.3 0.0**
SSE				XS	sS	22 42 39.5 -0.3
SSE				AMB	AMB	
	comp=Z,24nm,0.7s,mb5.1					
SSE				AMB	AMB	
	comp=Z,271nm,4.4s					
SSE				LR	LR	
	comp=N,656nm,20.4s,MS4.3					
SSE				LR	LR	
	comp=E,142nm,20.4s,MS4.3					
SSE				LR	LR	
	comp=Z,300nm,23.3s,MS3.9					
BTO	**Baotou**	**32.82**	**22**	*e*P	**P**	**22 37 21.9 +1.2**
KSH	**Kashi**	**32.99**	**333**	P	**P**	**22 37 23.7 +1.5**
KSH				AP	pP	22 37 33.3 +1.7
KSH				XP	sP	22 37 37.4 +1.8
KSH				PP	PP	22 38 35.7 -1.4
KSH				PCP	PcP	22 40 09.0 +3.4
KSH				S	**S**	**22 42 39.2 +0.8**
KSH				XS	sS	22 42 54.7 +0.7
KSH				SCP	ScP	22 43 48.7 +1.4
KSH				PCS	PcS	22 43 50.9 -0.1
KSH				SS	SS	22 44 40.8 -20
KSH				SCS	ScS	22 47 44.2 -3.3
KSH				AMB	AMB	
	comp=Z,14nm,0.4s,mb5.2					
KSH				AMB	AMB	
	comp=Z,119nm,3.3s					
KSH				LR	LR	
	comp=N,1μm,15.0s,MS4.8					
KSH				LR	LR	
	comp=E,870nm,14.2s,MS4.8					
KSH				LR	LR	
	comp=Z,2μm,21.7s					
WMQ	**Urumqi**	**33.46**	**351**	*e*P	**P**	**22 37 28.0 +1.7**
WMQ				AP	pP	22 37 37.6 +1.9
WMQ				XP	sP	22 37 41.5 +1.8
WMQ				PP	PP	22 38 39.2 -3.1
WMQ				PCP	PcP	22 40 11.0 +4.1
WMQ				S	**S**	**22 42 43.8 -1.9**
WMQ				SS	SS	22 44 45.4 -25
WMQ				AMB	AMB	
	comp=Z,61nm,0.9s,mb5.5					
WMQ				AMB	AMB	
	comp=Z,452nm,4.6s					
WMQ				LR	LR	
	comp=N,769nm,24.0s,MS4.5					
WMQ				LR	LR	
	comp=E,546nm,20.4s,MS4.5					
WMQ				LR	LR	
	comp=Z,874nm,22.6s,MS4.4					
HHC	**Hu-ho-hao-te**	**33.62**	**24**	*e*P	**P**	**22 37 29.5 +1.8**
HHC				AP	pP	22 37 38.9 +1.7
HHC				XP	sP	22 37 42.8 +1.7
HHC				PP	PP	22 38 41.5 -2.6
HHC				PCP	PcP	22 40 09.9 +2.5
HHC				S	**S**	**22 42 50.0 +1.8**
HHC				XS	sS	22 43 03.3 -0.5
HHC				SS	SS	22 44 51.6 -22
HHC				SCS	ScS	22 47 50.4 -0.4
HHC				AMB	AMB	
	comp=Z,15nm,0.3s,mb5.4					
HHC				AMB	AMB	
	comp=Z,128nm,5.2s					
HHC				LR	LR	
	comp=N,1μm,13.5s,MS5.0					
HHC				LR	LR	
	comp=E,1μm,13.3s,MS5.0					
HHC				LR	LR	
	comp=Z,1μm,23.8s					
BJT	**Baijiatuau**	**35.00**	**30**	P	pP	22 37 48.0 -1.1
BJI	**Beijing**	**35.02**	**30**	P	**P**	**22 37 38.9 -0.9**
BJI				S	**S**	**22 43 16.6 +6.8**
BJI				AMB	AMB	
	comp=Z,6.0nm,0.5s,mb4.8					
BJI				AMB	AMB	
	comp=Z,342nm,5.7s					
BJI				LR	LR	
	comp=N,1μm,15.6s,MS4.8					
BJI				LR	LR	
	comp=E,896nm,18.5s,MS4.8					
BJI				LR	LR	
	comp=Z,699nm,26.3s					
KZA	**Kyzart**	**35.42**	**335**	P	**P**	**22 37 43.2 0.0**
	SNR=7.2					
UCH	**Uchtor**	**35.85**	**335**	P	**P**	**22 37 53.5 +6.5**
	SNR=5.4					
TKM2	**Tokmak 2**	**35.98**	**336**	P	**P**	**22 37 49.5 +1.4**
TKM2				pmax	pmax	
	comp=Z,7.0nm,0.8s,mb4.6					
AML	**Almayashu**	**36.12**	**334**	P	**P**	**22 37 49.5 +0.2**
	SNR=14					
AAK	**Ala-Archa**	**36.19**	**335**	P	**P**	**22 37 50.0 +0.1**
	SNR=7.0					
AAK	**Ala-Archa**	**36.19**	**335**	*e*P	**P**	**22 37 44.6 -5.2**
	comp=Z,18nm,1.0s,mb5.0					
AAK	**Ala-Archa**	**36.19**	**335**	*e*P	**P**	**22 37 44.7 -5.2**
AAK				pmax	pmax	
	comp=Z,18nm,1.0s,mb5.0					
FRU	**Bishkek**	**36.30**	**335**	*e*P	**P**	**22 37 53.0 +2.2**
FRU				pmax	pmax	
	comp=Z,70nm,2.0s,mb5.2					
FRU				MLR	MLR	
	comp=Z,2μm,22.0s,MS4.8					
EKS2	**Erkin-Say**	**36.52**	**334**	P	**P**	**22 37 52.4 -0.2**
	SNR=13					
USP	**Ospenovka**	**36.71**	**335**	P	**P**	**22 37 53.4 -0.9**
	SNR=6.2					
BIDO	**Bidbid**	**36.75**	**295**	P	**P**	**22 37 57.5 +2.9**
	SNR=8.7					
DL2	**Dalian**	**37.13**	**36**	*e*P	**P**	**22 37 59.9 +2.0**
DL2				*e*S	**S**	**22 43 48.7 +6.6**
DL2				AMB	AMB	
	comp=Z,20nm,0.8s,mb5.0					
DL2				AMB	AMB	
	comp=Z,180nm,5.5s					
DL2				LR	LR	
	comp=N,450nm,15.3s,MS4.5					
DL2				LR	LR	
	comp=E,350nm,13.2s,MS4.5					
DL2				LR	LR	
	comp=Z,600nm,10.3s,MS4.7					
MK31	**Makanchi Array**	**37.36**	**346**	*i* P	**P**	**22 37 58.9 -0.9**
MK31				pmax	pmax	
	comp=Z,26nm,0.7s,mb5.2					
MKAR	**Makanchi Array**	**37.36**	**346**	P	**P**	**22 37 58.4 -1.5**
	comp=Z,3.3nm,0.8s,mb4.2,baz=162,slow=8.0,SNR=11					
MKAR	**Makanchi Array**	**37.36**	**346**	*i* P	**P**	**22 37 58.9 -0.9**
MKAR				pmax	pmax	
	comp=Z,20nm,0.8s					
BSY	**Bisya**	**37.41**	**293**	P	**P**	**22 38 03.3 +3.1**
	SNR=22					
HOQ	**Hoqain**	**37.49**	**295**	P	**P**	**22 38 03.7 +2.8**
	SNR=12					
KK31	**Karatay Array**	**38.33**	**332**	*i* P	**P**	**22 38 07.4 -0.6**
KK31				pmax	pmax	
	comp=Z,23nm,1.1s,mb4.8					
KKAR	**Karatay Array**	**38.33**	**332**	*i* P	**P**	**22 38 07.4 -0.6**
KKAR				pmax	pmax	
	comp=Z,26nm,1.1s,mb4.9					
SONM	**Songino Array**	**38.34**	**13**	P	**P**	**22 38 07.8 -0.3**
	comp=Z,0.8nm,0.8s,baz=207,slow=6.6,SNR=3.9					
SONM				PcP	PcP	22 40 21.6 +0.2
	comp=Z,6.7nm,1.1s,baz=188,slow=5.9,SNR=3.7					
ULN	**Ulaanbaatar**	**38.52**	**14**	P	**P**	**22 38 09.0 -0.7**
	comp=Z,12nm,0.9s,mb4.6					
ULN	**Ulaanbaatar**	**38.52**	**14**	P	**P**	**22 38 09.0 -0.6**
ULN				pmax	pmax	
	comp=Z,12nm,0.9s,mb4.6					
ASHO	**Ashiyiah**	**38.87**	**296**	P	**P**	**22 38 16.3 +3.8**
	SNR=12					
SNY	**Shenyang**	**40.19**	**34**	⇑P	**P**	**22 38 23.6 +0.1**
SNY				AP	pP	22 38 34.9 +1.8
SNY				XP	sP	22 38 39.6 +2.6
SNY				PP	PP	22 40 03.3 +7.0
SNY				PCP	PcP	22 40 28.3 +1.0
SNY				S	**S**	**22 44 35.0 +6.8**
SNY				AMB	AMB	
	comp=Z,15nm,2.0s,mb4.4					
SNY				AMB	AMB	
	comp=Z,112nm,7.3s					
SNY				LR	LR	
	comp=N,893nm,15.9s,MS4.9					
SNY				LR	LR	
	comp=E,972nm,15.9s,MS4.9					
SNY				LR	LR	
	comp=Z,1μm,14.2s,MS4.8					
ZAK	**Zakamensk**	**40.21**	**9**	*e*P	**P**	**22 38 22.8 -0.9**
ZAK				*e*		22 40 04.8
ZAK				pmax	pmax	
	comp=Z,19nm,1.7s,mb4.5					
ZAK				pmax	pmax	
	comp=Z,23nm,1.7s,mb4.6					
ABTO	**Aybut**	**40.30**	**284**	P	**P**	**22 38 29.0 +4.6**
	SNR=9.5					
KURK	**Kurchatov**	**41.90**	**345**	P	**P**	**22 38 36.7 -1.0**
IRK	**Irkutsk**	**42.17**	**9**	*e*P	**P**	**22 38 40.6 +0.8**
IRK				*e*		22 40 20.9
IRK				pmax	pmax	
	comp=Z,31nm,2.4s,mb4.5					
ABKT	**Ailbek**	**42.25**	**316**	P	**P**	**22 38 41.7 +1.2**
	comp=Z,994nm,1.0s,SNR=9.4					
CN2	**Changchun**	**42.53**	**34**	*e*P	**P**	**22 38 43.7 +1.0**
CN2				*e*AP	pP	22 38 49.3 -3.1
CN2				*e*S	**S**	**22 45 04.3 +1.4**
CN2				AMB	AMB	
	comp=Z,30nm,1.0s,mb5.0					
CN2				AMB	AMB	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,700nm,16.0s,MS4.7					
CN2				LR	LR	
	comp=E,500nm,16.0s,MS4.7					
CN2				LR	LR	
	comp=Z,500nm,16.0s,MS4.5					
ZAL	**Zalesovo**	**43.76**	**352**	P	**P**	**22 38 51.5 -1.1**
	comp=Z,7.4nm,0.9s,mb4.4,baz=295,slow=7.5,SNR=21					
HIA	**Hailar**	**43.83**	**24**	*e*P	**P**	**22 38 54.4 +1.2**
	comp=Z,51nm,1.5s,mb5.0					
HIA	**Hailar**	**43.83**	**24**	*e*P	**P**	**22 38 54.4 +1.2**
HIA				pmax	pmax	
	comp=Z,51nm,1.5s					
NVS	**Novosibirsk**	**44.86**	**351**	*e*P	**P**	**22 38 59.5 -2.0**
NVS				*i*		22 40 42.3
NVS				pmax	pmax	
	comp=Z,71nm,2.2s,mb5.1					
NVS				pmax	pmax	
	comp=N,56nm,1.8s					
KRAR	**Krasnoyarsk**	**45.18**	**359⇓**	*i* P	**P**	**22 39 03.7 -0.3**
KRAR				pmax	pmax	
	comp=Z,61nm,1.7s,mb5.2					
MDJ	**Mudanjiang**	**45.35**	**35**	P	**P**	**22 39 03.5 -1.9**
MDJ				AP	pP	22 39 14.6 -0.5
MDJ				XP	sP	22 39 18.4 -0.5
MDJ				PP	PP	22 40 51.6 -0.2
MDJ				S	**S**	**22 45 46.4 +2.3**
MDJ				XS	sS	22 45 58.5 -1.5
MDJ				SS	SS	22 49 07.1 -0.8
MDJ				AMB	AMB	
	comp=Z,12nm,1.3s,mb4.6					
MDJ				AMB	AMB	
	comp=Z,183nm,4.3s					
MDJ				LR	LR	
	comp=N,444nm,18.1s,MS4.5					
MDJ				LR	LR	
	comp=E,91nm,16.3s,MS4.5					
MDJ				LR	LR	
	comp=Z,425nm,17.2s,MS4.4					
VOSK	**Vostochnaya**	**45.92**	**340**	P	**P**	**22 39 08.3 -1.6**
VOSK				pmax	pmax	
	comp=Z,19nm,0.9s,mb5.0					
BVA0	**Borovoye Array**	**46.37**	**340**	*i* P	**P**	**22 39 11.9 -1.5**
BVA0				pmax	pmax	
	comp=Z,2.0nm,1.1s,mb4.0					
BVAR	**Borovoye Array**	**46.37**	**340**	P	**P**	**22 39 12.1 -1.3**
	comp=Z,3.6nm,0.8s,mb4.3,baz=126,slow=7.5,SNR=11					
BRVK	**Borovoye**	**46.43**	**340**	*e*P	**P**	**22 39 06.8 -7.1**
	comp=Z,8.2nm,0.8s,mb4.7					
BRVK	**Borovoye**	**46.43**	**340**	*e*P	**P**	**22 39 06.8 -7.1**
BRVK				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.7					
ZRNK	**Zerenda**	**46.78**	**339**	P	**P**	**22 39 15.0 -1.6**
MJAR	**Matsushiro Arr**	**47.13**	**50**	P	**P**	**22 39 19.5 +0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=245,slow=7.6,SNR=5.5					
MJAR				PcP	PcP	22 40 50.2 -0.6
	comp=Z,5.4nm,0.9s,baz=252,slow=4.2,SNR=7.7					
MUN	**Mundaring**	**47.35**	**155**	*e*P	**P**	**22 39 21.7 +0.6**
KLBR	**Kellerberrin**	**47.70**	**153**	*e*P	**P**	**22 39 24.1 +0.3**
	comp=Z,90nm,1.8s,mb5.5					
AB31	**Akbulak array**	**47.84**	**330**	P	**P**	**22 39 23.4 -1.5**
AB31				pmax	pmax	
	comp=Z,37nm,1.1s,mb5.3					
NWAO	**Narrogin (SRO)**	**48.60**	**154**	P	**P**	**22 39 29.7 -1.1**
	comp=Z,12nm,0.9s,mb4.9,baz=299,slow=8.5,SNR=6.0					
NWAO				PP	PP	22 41 22.9 -0.9
	comp=Z,9.5nm,0.8s,baz=343,slow=13,SNR=3.1					
NWAO				LR	LR	22 59 40.9
	comp=Z,552nm,19.2s,MS4.6,baz=326,slow=36					
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P	**P**	**22 39 31.2 +0.5**
	comp=Z,9.7nm,0.9s,mb4.8					
NWAO				*e*		22 39 38.2
NWAO				*e*		22 41 10.4
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P	**P**	**22 39 31.3 +0.5**
NWAO				*e*		22 39 38.2
NWAO				pmax	pmax	
	comp=Z,10.0nm,0.9s					
BOD	**Bodaibo**	**49.34**	**14**	*e*P	**P**	**22 39 34.9 -1.5**
BOD				pmax	pmax	
	comp=Z,17nm,1.2s,mb5.0					
BOD				pmax	pmax	
	comp=Z,12nm,1.6s,mb4.7					
KLR	**Kul'dur**	**49.34**	**32**	*e*P	**P**	**22 39 31.7 -4.7**
KLR				MLR	MLR	
	comp=N,900nm,13.0s					
KLR				MLR	MLR	
	comp=Z,2μm,13.0s,MS5.4					
GUMO	**Guam**	**49.41**	**81**	LR	LR	23 01 50.4
	comp=Z,174nm,18.7s,MS4.1,baz=266,slow=38					
AKTK	**Aktyubinsk**	**49.56**	**330**	P	**P**	**22 39 36.1 -2.0**
AKTO	**Aktyubinsk**	**49.56**	**330**	P	**P**	**22 39 36.1 -2.0**
	comp=Z,3.1nm,0.7s,mb4.4,baz=119,slow=8.5,SNR=10					
WRA	**Warramunga Arr**	**49.80**	**128**	P	**P**	**22 39 37.2 -2.7**
	comp=Z,3.6nm,0.6s,mb4.5,baz=304,slow=9.0,SNR=17					
WRAB	**Tennant Creek**	**49.80**	**128**	P	**P**	**22 39 40.9 +1.0**
	comp=Z,97nm,0.8s,SNR=5.7					
WRAB	**Tennant Creek**	**49.80**	**128**	*e*P	**P**	**22 39 40.3 +0.4**
	comp=Z,70nm,1.4s,mb5.5					
WRAB	**Tennant Creek**	**49.80**	**128⇑**	*i* P	**P**	**22 39 40.5 +0.6**
WB2	**Warramunga Arr**	**49.81**	**128**	*e*P	**P**	**22 39 39.0 -1.0**
WB2				*e*pP	pP	22 39 47.3 -2.4
ATD	**Arta Tunnel**	**50.48**	**276**	P	**P**	**22 39 45.1 +0.1**
	comp=Z,4.4nm,0.6s,mb4.7,baz=236,slow=19,SNR=7.2					
ATD				LR	LR	22 58 58.5
	comp=Z,306nm,19.4s,MS4.3,baz=324,slow=34					
ASAR	**Alice Springs**	**51.63**	**132**	P	**P**	**22 39 51.1 -2.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=307,slow=6.4,SNR=10					
CLNS	**Chul'man**	**51.70**	**21**	*e*P	**P**	**22 39 54.6 +0.4**
CLNS				pmax	pmax	
	comp=Z,24nm,0.7s,mb5.2					
CLNS				pmax	pmax	
	comp=N,20nm,1.1s					
CLNS				pmax	pmax	
	comp=E,21nm,1.4s					
GNI	**Garni**	**52.62**	**313**	P	**P**	**22 40 00.9 -0.1**
	comp=E,34nm,1.1s,mb5.2					
GNI	**Garni**	**52.62**	**313⇓**	*e*P	**P**	**22 40 00.8 -0.3**
GNI				pmax	pmax	
	comp=Z,45nm,1.7s					
DGRG	**David-gareji**	**52.62**	**314**	P	pP	22 40 08.2 -2.7
MTA	**Mtatsminda**	**53.12**	**315**	P	**P**	**22 40 05.3 +0.5**
ASAJ	**Asahikawa**	**53.15**	**42**	P	**P**	**22 40 02.4 -2.6**
	comp=Z,1.7nm,0.4s,mb4.3,baz=304,slow=29,SNR=3.0					

TBLG Delisi 53.17 315 P **P** **22 40 06.3 +1.2**
ARU Arti 53.36 336 P **P** **22 40 05.8 -0.7**
comp=Z,17nm,1.1s,mb4.9
ARU Arti 53.36 336⇑ *i*P **P** **22 40 04.9 -1.6**
ARU *e* 22 42 05.8
ARU *e*PPP 22 43 09.4
ARU *e*S **S** **22 47 36.0 -0.2**
ARU *e* 22 49 51.4
ARU pmax pmax
comp=Z,15nm,1.2s,mb4.8
ARU MLR MLR
comp=Z,2μm,22.0s,MS5.1
ARU MLR MLR
comp=N,1μm,20.0s,MS5.0
ARU MLR MLR
comp=E,1μm,21.0s,MS5.0
AKH Akhalkalaki 53.94 314 P **P** **22 40 13.5 +2.7**
ZEI Tsey 54.12 316 *i* P **P** **22 40 11.3 -0.8**
ZEI *i* *PP pP 22 40 22.4 +0.5
ZEI pmax pmax
comp=Z,17nm,1.5s,mb4.8
YSS Yuzh-Sakhalins 54.43 39 *e*P **P** **22 40 16.7 +2.4**
YSS MLR MLR
comp=E,600nm,15.0s
YSS MLR MLR
comp=Z,600nm,15.0s,MS4.8
KIV Kislovodsk 55.36 316 P **P** **22 40 22.6 +1.5**
comp=Z,47nm,1.3s,mb5.4
KIV Kislovodsk 55.36 316 *e*P **P** **22 40 20.9 -0.2**
KIV pmax pmax
comp=Z,37nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,388nm,17.0s,MS4.5
GOF Gofitskoye 55.53 318 *e*P **P** **22 40 25.7 +3.4**
GOF pmax pmax
comp=Z,30nm,1.0s,mb5.3
PMG Port Moresby 56.22 109 *de*P **P** **22 40 29.7 +2.5**
MALT Malatya 56.80 309 P **P** **22 40 32.3 +1.0**
YAK Yakutsk 57.23 19 P **P** **22 40 33.1 -1.3**
YAK Yakutsk 57.23 19 *e*P **P** **22 40 33.3 -1.1**
YAK *e* 22 40 40.4
YAK pmax pmax
comp=Z,14nm,1.1s,mb4.9
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,46nm,1.0s,mb5.5
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,12nm,1.4s
SOC Sochi 57.27 315 *e*P **P** **22 40 30.5 -4.2**
SOC *e* 22 42 44.5
SOC *e*S **S** **22 48 26.8 -1.8**
SOC *e*SS SS 22 52 15.9 -2.1
SOC MLR MLR
comp=Z,697nm,21.0s,MS4.7
KMBO Kilima Mbogo 57.98 262 P **P** **22 40 41.9 +2.2**
comp=Z,0.5nm,0.5s,mb3.8,baz=50,slow=13,SNR=6.2
VRHR Novokhopersk 58.73 324 *e*P **P** **22 40 44.4 -0.5**
VRHR pmax pmax
comp=Z,20nm,1.2s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,30nm,1.8s
CTA Charters Tower 59.56 121 *e*P **P** **22 40 52.8 +2.1**
comp=E,9.7nm,0.9s,mb4.8
CTA Charters Tower 59.56 121 *e*P **P** **22 40 52.8 +2.1**
CTA pmax pmax
comp=Z,10.0nm,0.9s
VOR Voronezh 60.38 324 P **P** **22 40 56.0 -0.3**
VOR pmax pmax
comp=Z,40nm,2.0s,mb5.1
BRTR Keskin Array B 60.74 310 P **P** **22 40 57.0 -1.7**
comp=Z,2.6nm,0.9s,mb4.4,baz=134,slow=6.6,SNR=9.5
STKA Stephens Creek 61.95 135 *e*P **P** **22 41 05.6 -1.3**
comp=Z,8.2nm,0.9s,mb4.9
STKA Stephens Creek 61.95 135 P **P** **22 41 05.1 -1.8**
comp=Z,10nm,0.9s,mb5.0,baz=310,slow=6.8,SNR=17
MOS Moscow 62.76 328 *e*P pP 22 41 24.0 +1.6
MOS *e* 22 41 43.4
MOS MLR MLR
comp=N,600nm,19.0s,MS4.9
MOS MLR MLR
comp=E,400nm,19.0s,MS4.9
MOS MLR MLR
comp=Z,1μm,19.0s,MS5.1
OBN Obninsk 63.09 327⇑ *i*P **P** **22 41 13.3 -1.2**
OBN *e* 22 41 47.2
OBN *e* 22 43 39.9
OBN *e*S **S** **22 49 37.7 -5.5**
OBN pmax pmax
comp=Z,17nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,700nm,17.0s,MS4.9
KLMR Klimovskoe 63.99 334 *e*P **P** **22 41 25.3 +4.8**
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.9
KLMR MLR MLR
comp=Z,900nm,18.0s,MS5.0
MA2 Magadan 64.16 28 *e*P **P** **22 41 20.9 -0.7**
comp=Z,65nm,1.5s,mb5.4
MA2 *e*pP pP 22 41 28.6 -3.0
MA2 Magadan 64.16 28 *e*P **P** **22 41 20.9 -0.7**
MA2 *e**PP pP 22 41 28.6 -3.0
MA2 pmax pmax
comp=Z,65nm,1.5s,mb5.4
TIXI Tiksi 64.40 11 P **P** **22 41 22.0 -1.1**
AKASG Malin Array Be 66.06 321 P **P** **22 41 32.9 -1.0**
comp=Z,0.2nm,0.3s,mb3.7,baz=90,slow=30,SNR=4.4
SEY Seymchan 66.26 25⇑ *i*P **P** **22 41 34.6 -0.6**
VRI Vrincioaia 66.80 315⇓ P **P** **22 41 40.4 +1.7**
MLR Muntele Rosu 67.29 315⇓ P **P** **22 41 43.5 +1.7**
BURAR Bucovina Array 68.08 317⇑ P **P** **22 41 47.6 +0.8**
JOF Joensuu 68.37 334 *ep* **P** **22 41 46.3 -2.3**
comp=Z,2.8nm,0.6s,mb4.5
APA Apatity 69.26 339⇑ *i*P **P** **22 41 53.7 -0.4**
APA *i* 22 42 08.6
APA pmax pmax
comp=Z,38nm,1.5s,mb5.1
APA MLR MLR
comp=Z,1μm,18.0s,MS5.2
KOLS Kolonicke sedl 70.20 318 *e* pP 22 42 07.1 -2.9
FINES FINESS Array B 70.29 332 P **P** **22 41 57.9 -2.5**
comp=Z,3.0nm,0.8s,mb4.3,baz=87,slow=5.6,SNR=10
CRVS Cervenica-Dubn 70.73 318 *e* pP 22 42 11.5 -1.8
STHS Stebnicka Huta 70.93 319 *e* sP 22 42 18.6 +0.4
STHS *e* 22 44 13.0
KECS Kecovo 71.34 318 *es*P **P** **22 42 12.8 +6.0**
KECS *e* 22 44 19.5
OJC Ojcow 71.93 319 *e*P **P** **22 42 11.2 +0.8**
VYHS Vyhne 72.43 318 *e*P **P** **22 42 12.4 -1.0**
ARCES ARCESS Array B 72.66 340 P **P** **22 42 13.6 -1.1**
comp=Z,3.7nm,0.7s,mb4.4,baz=96,slow=6.0,SNR=25
MORC Moravsky Berou 73.36 319 P **P** **22 42 20.3 +1.5**
BILL Bilibino 73.37 22⇑ *i*P **P** **22 42 19.0 +0.1**
BILL pmax pmax
comp=Z,16nm,1.0s,mb4.9
BILL MLR MLR
comp=Z,800nm,18.0s,MS5.0
DPC Dobruska-Polom 74.17 319 *e*P sP 22 42 40.7 +3.1
BRG Berggiesshubel 75.70 320 *e*(P) **P** **22 42 39.0 +6.6**
comp=Z,2.0nm,0.9s,mb4.0
BRG *e* 22 44 49.4
comp=Z,5.7nm,1.3s
GERES GERESS Array B 75.84 318 P **P** **22 42 32.2 -1.1**
comp=Z,1.6nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=8.8
CLL Collm 76.29 320 *e**SP sP 22 42 48.0 -1.8
BOSA Boshof 77.28 237 P **P** **22 42 41.9 +0.5**
comp=Z,3.7nm,0.9s,mb4.3,baz=100,slow=8.4,SNR=7.3
NB2 NORSAR Subarra 77.35 330 P **P** **22 42 41.8 0.0**
comp=Z,7.1nm,0.9s,mb4.6,baz=90,slow=5.9
NB2 NORSAR Subarra 77.35 330 P **P** **22 42 41.8 0.0**
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
NOA NORSAR Array B 77.35 330 P **P** **22 42 41.8 0.0**
comp=Z,1.2nm,0.7s,mb3.9,baz=133,slow=2.6,SNR=4.0
GRA1 Grafenberg Arr 77.45 319 *e*P **P** **22 42 41.7 -0.7**
comp=Z,5.0nm,1.2s,mb4.3
GRF Grafenberg Arr 77.45 319 *e*P **P** **22 42 41.7 -0.7**
comp=Z,5.0nm,1.2s,mb4.3
GRF Grafenberg Arr 77.45 319 *e*P **P** **22 42 41.7 -0.7**
GRF pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
LPG La Plagne 80.75 315 *e*P **P** **22 43 01.8 +1.4**
comp=Z,21nm,0.9s,mb4.8
LPG La Plagne 80.75 315 *e*P **P** **22 43 01.8 +1.4**
comp=Z,10nm,0.9s,mb4.8
LPG La Plagne 80.75 315 *e*P **P** **22 43 01.8 +1.4**
LPG pmax pmax
comp=Z,11nm,0.9s,mb4.8
TNA Tin City 83.49 25 P **P** **22 43 15.5 +0.7**
DAG Danmarks Havn 84.74 348⇑ *i*P **P** **22 43 20.1 -1.0**
comp=Z,11nm,1.5s,mb4.8
DAG Danmarks Havn 84.74 348⇑ *e*P **P** **22 43 20.1 -1.0**
comp=Z,11nm,1.5s,mb4.8
DAG Danmarks Havn 84.74 348⇑ *e*P **P** **22 43 20.1 -1.0**
DAG pmax pmax
comp=Z,11nm,1.5s,mb4.8
SYO Syowa Base 88.18 197⇓ *e*P **P** **22 43 43.9 +5.9**
TORD Torodi Ar. Bea 90.14 283 P **P** **22 43 47.5 +0.3**
comp=Z,2.2nm,0.9s,mb4.5,baz=73,slow=4.4,SNR=10
TORD PP PP 22 47 23.5 +2.7
comp=Z,2.2nm,1.1s,baz=82,slow=8.6,SNR=6.2
MCK McKinley 91.77 23 P **P** **22 43 55.5 +0.8**
comp=Z,8.4nm,1.0s,mb5.0
MCK McKinley 91.77 23 P **P** **22 43 55.6 +0.9**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
ILAR Eielson Array 92.03 22 P **P** **22 43 54.0 -2.0**
comp=Z,1.4nm,0.8s,mb4.3,baz=307,slow=4.1,SNR=11
INK Inuvik 94.20 16 P **P** **22 44 05.0 -0.9**
comp=Z,1.9nm,0.5s,mb4.8,baz=343,slow=1.2,SNR=9.4
RES Resolute Bay 94.55 2 P **P** **22 44 07.1 -0.5**
YKA Yellowknife Ar 103.61 13 Pdiff Pdif 22 44 46.9 -1.3
comp=Z,0.2nm,0.7s,baz=328,slow=4.4,SNR=4.3
YKA PP PP 22 49 02.3 -2.3
comp=Z,0.6nm,0.8s,baz=332,slow=8.1,SNR=4.9
YKA Yellowknife Ar 103.61 13 P Pdif 22 44 46.9 -1.3
YKA 22 49 02.4
PPT Papeete 117.89 104 *e*LR LR 23 25 40.1
comp=Z,255nm,25.0s
TBI Tubuai 118.14 111 *e*LR LR 23 25 47.7
comp=Z,536nm,31.2s
ULM Lac du Bonnet 118.62 7 PKP PKPdf 22 49 34.1 -0.8
comp=Z,2.0nm,0.7s,baz=315,slow=5.7,SNR=3.6
NVAR Mina Array Bea 122.37 30 PKP PKPdf 22 49 42.2 +0.2
comp=Z,1.9nm,0.6s,baz=347,slow=3.7
NVAR Mina Array Bea 122.37 30 PKP PKPdf 22 49 42.2 +0.2
PDAR Pinedale Array 122.44 21 PKP PKPdf 22 49 42.0 -0.2
comp=Z,1.9nm,0.9s,baz=204,slow=0.6,SNR=11
HWUT Hardware Ranch 122.72 23 PKPdf PKPdf 22 49 43.6 +0.9
DUG Dugway 123.42 25 PKPdf PKPdf 22 49 46.2 +2.1
TMUT Trail Mountain 124.83 24 PP PP 22 51 36.0 +1.2
PHWY Pilot Hill 125.09 18 PP PP 22 51 47.6 +11
MSU Marysvale 125.10 25 PKPdf PKPdf 22 49 50.7 +3.4
RKT Rikitea 131.46 111 *e*LR LR 23 31 57.8
comp=Z,276nm,33.5s
MNTX Cornudas Mount 133.77 23 PKPdf PKPdf 22 50 06.1 +2.3
MIAR Mount Ida 134.34 9 PKPdf PKPdf 22 50 00.3 -4.5
JCT Junction City 136.82 18 PKPdf PKPdf 22 50 13.1 +3.6
BDFB Brasilia 143.06 258 PKP PKPdf 22 50 19.8 -1.0
comp=Z,2.5nm,0.8s,baz=212,slow=8.0,SNR=2.8
MTP Monte Pirata 145.15 325 PKPdf PKPdf 22 50 26.1 +1.7
CPD Cerro la Pandu 145.39 326 PKPdf PKPdf 22 50 27.0 +2.2
CPD PP PP 22 53 45.3 +0.6
PLCA Paso Flores 147.28 201 PKPbc PKPbc 22 50 31.1 +0.7
comp=Z,9.4nm,1.0s,baz=138,slow=7.8,SNR=7.6
CPUP Villa Florida 149.09 236 PKPbc PKPbc 22 50 34.1 -1.0
comp=Z,4.7nm,0.9s,baz=41,slow=4.2,SNR=6.2
CPUP Villa Florida 149.09 236 PKP2 PKPbc 22 50 33.9 -1.3
LPAZ La Paz 162.09 250 PKP PKPdf 22 50 50.2 +1.9
comp=Z,0.7nm,0.7s,baz=52,slow=6.8,SNR=4.0
LPAZ PKPab PKPab 22 51 37.0 +2.1
comp=Z,0.7nm,0.7s,baz=61,slow=5.4,SNR=5.3
LPAZ La Paz 162.09 250 PKP PKPdf 22 50 50.2 +1.9
LPAZ PKPab PKPab 22 51 37.0 +2.1

SZGRF ***09*** *22:32:16.9, 1275N×9633E, h33km, mb4.7, Andaman Islands, India, region*
BJI ***09*** *22:32:19.8, 984N×9408E, h10km, mB5.0, mb4.9, Ms5.0, Msz4.9*
IDC ***09*** *22:32:26.4±0.5, 1068N×9424E, h0km, mb4.6/19, mb1 4.7/20, mb1mx4.6/25, mbtmp4.6/20, ML3.6/1, MS4.5/2, Ms1 4.5/2, ms1mx3.7/15, Error ellipse: s-maj=20.1km s-min=14.1km az=62.0*
NEIC ***09*** *22:32:28.0±0.3, 1065N×9413E, h10km, mb4.9/17, Error ellipse: s-maj=10.2km s-min=6.0km az=59.0*
ISCJB ***09*** *22:32:29.8±0.3, 1067N±006×9420E±007, h33km, mb4.7/35, MS4.8/3, Error ellipse: s-maj=11.2km s-min=6.5km az=117.6*
MOS ***09*** *22:32:29.8±0.9, 1070N×9425E, h33km, mb5.1/13, Error ellipse: s-maj=15.5km s-min=7.7km az=112.1*
ISC 09 22:32:32.3±0.3, 1074N±006×9423E±007, h35km, (h20km±2.9km: pP-P), n79, σ0s75/67, mb4.7/35, MS4.8/3, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.16**	**149**	Pn	**Pn**	**22 34 41.3**	**-0.6**
	0.6nm,0.3s,baz=258,slow=17,SNR=2.1						
KMI	**Kunming**	**16.43**	**28**	P	**Pn**	**22 36 24.9**	**+4.8**
KMI				AMB	AMB		
	comp=Z,46nm,1.2s						
HYB	**Hyderabad**	**16.58**	**295**	*i* P	**Pn**	**22 36 26.0**	**+4.0**
HYB	**Hyderabad**	**16.58**	**295**	*e*P	**Pn**	**22 36 26.0**	**+4.0**
QIZ	**Qiongzhong**	**17.19**	**60**	*e*Pn	**Pn**	**22 36 31.1**	**+1.5**
LSA	**Lhasa**	**19.09**	**352**	*e*P	**Pn**	**22 36 53.5**	**+0.7**
	comp=Z,11nm,0.7s						
LSA	**Lhasa**	**19.09**	**352**	*e*P	**Pn**	**22 36 53.5**	**+0.7**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s						
KKM	**Kota Kinabalu**	**22.24**	**100**	*e*P	**P**	**22 37 26.8**	**+0.9**
ENH	**Enshi**	**24.07**	**34**	*e*P	**P**	**22 37 44.7**	**+0.4**
	comp=Z,60nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**37.34**	**346**	P	**P**	**22 39 41.7**	**+0.5**
	comp=Z,16nm,0.7s,mb5.0,baz=165,slow=8.8,SNR=11						
SONM	**Songino Array**	**38.37**	**13**	P	**P**	**22 39 49.6**	**-0.4**
	comp=Z,12nm,1.2s,mb4.5,baz=193,slow=6.7,SNR=5.3						
SONM				PcP	PcP	22 42 03.6	+0.5
	comp=Z,2.7nm,0.7s,baz=190,slow=3.7,SNR=3.9						
JNU	**Nakatsue**	**40.34**	**51**	P	**P**	**22 40 07.0**	**+0.6**
	comp=Z,9.6nm,0.7s,mb4.6,baz=222,slow=2.3,SNR=3.8						
KURK	**Kurchatov**	**41.88**	**345**	*e*P	**P**	**22 40 19.6**	**+0.5**
	comp=Z,10nm,0.7s,mb4.6						
KURK	**Kurchatov**	**41.88**	**345**	*e*P	**P**	**22 40 19.6**	**+0.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**42.22**	**132**	*e*P	**P**	**22 40 20.9**	**-1.0**
	comp=Z,13nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**43.74**	**352**	P	**P**	**22 40 34.7**	**+0.6**
	comp=Z,9.7nm,0.8s,mb4.6,baz=297,slow=8.0,SNR=6.8						
ZAL				LR	LR	23 01 50.4	
	comp=Z,470nm,18.9s,MS4.4,baz=295,slow=40						
ZAL	**Zalesovo**	**43.74**	**352**	P	**P**	**22 40 34.7**	**+0.6**
ZAL				LR	LR	23 01 50.4	
HIA	**Hailar**	**43.88**	**24**	*e*P	**P**	**22 40 35.8**	**+0.6**
	comp=Z,4.0nm,0.3s,mb4.6						
HIA	**Hailar**	**43.88**	**24**	*e*P	**P**	**22 40 35.8**	**+0.5**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
BVAR	**Borovoye Array**	**46.33**	**340**	P	**P**	**22 40 54.1**	**-0.6**
	comp=Z,7.5nm,0.9s,mb4.6,baz=145,slow=9.0,SNR=4.5						
BVAR				PcP	PcP	22 42 30.6	+1.1
	comp=Z,2.4nm,0.8s,baz=180,slow=4.2,SNR=2.6						
BRVK	**Borovoye**	**46.40**	**340**	*e*P	**P**	**22 40 54.8**	**-0.4**
	comp=Z,5.9nm,0.7s,mb4.6						
BRVK	**Borovoye**	**46.40**	**340**	*e*P	**P**	**22 40 54.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**46.74**	**339**	*e*P	**P**	**22 40 57.7**	**-0.3**
	comp=Z,7.2nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**46.74**	**339**	*e*P	**P**	**22 40 57.7**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MJAR	**Matsushiro Arr**	**47.22**	**50**	PcP	PcP	22 42 33.7	+1.1
	comp=Z,9.1nm,0.8s,baz=244,slow=3.3,SNR=12						
MUN	**Mundaring**	**47.40**	**154**	*e*P	**P**	**22 41 04.0**	**+0.9**
KLBR	**Kellerberrin**	**47.74**	**153**	*e*P	**P**	**22 41 05.1**	**-0.7**
	comp=Z,22nm,1.0s,mb5.2						
NWAO	**Narrogin (SRO)**	**48.65**	**154**	*e*P	**P**	**22 41 13.8**	**+1.0**
	comp=Z,8.0nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**48.65**	**154**	*e*P	**P**	**22 41 13.8**	**+1.0**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AKTK	**Aktyubinsk**	**49.51**	**330**	P	**P**	**22 41 18.8**	**-0.5**
AKTK				PcP	PcP	22 42 41.5	+0.6
AKTO	**Aktyubinsk**	**49.51**	**330**	P	**P**	**22 41 18.8**	**-0.5**
	comp=Z,7.1nm,0.7s,mb4.8,baz=100,slow=6.7,SNR=4.2						
AKTO				PcP	PcP	22 42 41.5	+0.6
	comp=Z,6.3nm,0.8s,baz=151,slow=6.4,SNR=3.3						
WRA	**Warramunga Arr**	**49.89**	**128**	P	**P**	**22 41 21.5**	**-0.7**
	comp=Z,9.1nm,0.6s,mb5.0,baz=304,slow=8.9,SNR=9.1						
WRAB	**Tennant Creek**	**49.89**	**128**	*e*P	**P**	**22 41 22.4**	**+0.2**
	comp=Z,17nm,0.6s,mb5.3						
WRAB				*e*		22 41 29.3	
WRAB	**Tennant Creek**	**49.89**	**128**	*e*P	**P**	**22 41 22.4**	**+0.2**
WRAB				*e*	pP	22 41 29.3	-3.4
WRAB				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**49.90**	**128**	*e*P	**P**	**22 41 22.4**	**+0.1**
WB2				*e*pP	pP	22 41 29.2	-3.5
ASAR	**Alice Springs**	**51.71**	**132**	P	**P**	**22 41 35.8**	**-0.2**
	comp=Z,14nm,0.8s,mb5.0,baz=307,slow=6.6,SNR=13						
KIV	**Kislovodsk**	**55.29**	**317**	*e*P	**P**	**22 42 02.9**	**+0.7**
KIV				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.5						
YAK	**Yakutsk**	**57.27**	**19**	*e*P	**P**	**22 42 15.9**	**-0.4**
	comp=Z,31nm,0.7s,mb5.4						
YAK	**Yakutsk**	**57.27**	**19**	*e*P	**P**	**22 42 16.1**	**-0.2**
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
YAK				pmax	pmax		
	comp=N,15nm,1.6s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
KMBO	**Kilima Mbogo**	**57.87**	**262**	P	**P**	**22 42 22.4**	**+1.9**
	comp=E,0.9nm,0.5s,mb4.0,baz=89,slow=9.1,SNR=3.1						
CTA	**Charters Tower**	**59.66**	**121**	*e*P	**P**	**22 42 33.4**	**+0.4**
	comp=E,11nm,1.0s,mb4.8						
CTA				*e*pP	pP	22 42 39.5	-4.1
CTA	**Charters Tower**	**59.66**	**121**	*e*P	**P**	**22 42 33.4**	**+0.4**
CTA				*e**PP	pP	22 42 39.5	-4.1
CTA				pmax	pmax		
	comp=Z,11nm,1.0s						
CTAO	**Charters Tower**	**59.66**	**121**	*e*P	**P**	**22 42 33.7**	**+0.7**
	comp=Z,14nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**59.66**	**121**	*e*P	**P**	**22 42 33.7**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
BR131	**Keskin Array S**	**60.66**	**310**	pP	**P**	**22 42 39.5**	**-0.3**
BRTR	**Keskin Array B**	**60.66**	**310**	P	**P**	**22 42 38.7**	**-1.1**
	comp=Z,6.7nm,0.8s,mb4.8,baz=132,slow=5.9,SNR=7.9						
STKA	**Stephens Creek**	**62.03**	**135**	*e*P	**P**	**22 42 47.0**	**-2.1**
	comp=Z,7.3nm,0.9s,mb4.8						
STKA				*e*		22 43 01.6	
STKA	**Stephens Creek**	**62.03**	**135**	P	**P**	**22 42 47.9**	**-1.2**
	comp=Z,5.9nm,0.8s,mb4.8,baz=324,slow=5.4,SNR=3.8						
MA2	**Magadan**	**64.21**	**28**	*e*P	**P**	**22 43 03.6**	**0.0**
	comp=Z,16nm,1.0s,mb5.0						
MA2	**Magadan**	**64.21**	**28**	*e*P	**P**	**22 43 03.6**	**+0.1**
MA2				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
TIXI	**Tiksi**	**64.43**	**12**	pP	**P**	**22 43 04.2**	**-0.8**
SEY	**Seymchan**	**66.31**	**25**	*e*P	**P**	**22 43 16.9**	**-0.2**
SEY				*e*		22 45 41.7	
SEY				*e*		22 53 02.7	
SEY				pmax	pmax		
	comp=E,13nm,1.7s						
SEY				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
SEY				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.3						
SEY				MLR	MLR		
	comp=N,1μm,23.0s,MS5.1						
SEY				MLR	MLR		
	comp=E,760nm,20.0s,MS5.1						
HNR	**Honiara**	**68.37**	**105**	*e*P	**P**	**22 43 30.3**	**+0.1**
FINES	**FINESS Array B**	**70.24**	**332**	P	**P**	**22 43 41.2**	**-0.5**
	comp=E,1.8nm,0.6s,mb4.2,baz=102,slow=6.5,SNR=4.7						
ARCES	**ARCESS Array B**	**72.62**	**340**	P	**P**	**22 43 56.1**	**0.0**
	comp=E,7.0nm,0.8s,mb4.7,baz=100,slow=5.4,SNR=8.3						
BILL	**Bilibino**	**73.42**	**22**⇑ *i*P		**P**	**22 44 00.4**	**-0.4**
BILL				*i*		22 44 07.3	
BILL				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
GERES	**GERESS Array B**	**75.77**	**318**	P	**P**	**22 44 14.9**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=93,slow=6.7,SNR=3.6						
CLL	**Collm**	**76.22**	**320**	*ex*	x	22 43 49.0	
BOSA	**Boshof**	**77.18**	**237**	P	**P**	**22 44 23.1**	**+0.6**
	comp=Z,1.6nm,0.4s,mb4.3,baz=90,slow=17,SNR=7.5						
NB2	**NORSAR Subarra**	**77.30**	**330**	P	**P**	**22 44 22.3**	**-0.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=91,slow=5.9						
NB2	**NORSAR Subarra**	**77.30**	**330**	P	**P**	**22 44 22.3**	**-0.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**77.30**	**330**	P	**P**	**22 44 21.8**	**-1.3**
	comp=Z,1.8nm,0.8s,mb4.1,baz=90,slow=5.8,SNR=4.1						
DZM	**Mont Dzumac**	**77.92**	**115**	LR	LR	23 18 42.8	
	comp=Z,424nm,20.7s,MS4.8,baz=194,slow=36						
LPG	**La Plagne**	**80.68**	**315**	*e*P	**P**	**22 44 41.1**	**-0.5**
	comp=Z,24nm,0.9s,mb4.8						
LPG	**La Plagne**	**80.68**	**315**	*e*P	**P**	**22 44 41.1**	**-0.5**
	comp=Z,12nm,0.9s,mb4.8						
LPG	**La Plagne**	**80.68**	**315**	*e*P	**P**	**22 44 41.1**	**-0.5**
LPG				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
TNA	**Tin City**	**83.54**	**25**	pP	**P**	**22 44 56.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**90.03**	**283**	P	**P**	**22 45 29.4**	**+1.1**
	comp=Z,3.8nm,0.9s,mb4.7,baz=86,slow=4.4,SNR=10						
TORD				PP	PP	22 49 03.4	+1.9
	comp=Z,3.5nm,1.1s,baz=50,slow=6.0,SNR=5.5						
ILAR	**Eielson Array**	**92.08**	**22**	P	**P**	**22 45 36.9**	**-0.9**
	comp=Z,1.7nm,0.7s,mb4.5,baz=301,slow=4.6,SNR=8.9						
ILAR				PKKPbc	PKKPbc	23 02 53.4	-0.3
	comp=Z,0.2nm,0.6s,baz=141,slow=1.6,SNR=4.4						
INK	**Inuvik**	**94.24**	**16**	P	**P**	**22 45 46.6**	**-1.1**
	comp=Z,2.5nm,0.6s,mb4.8,baz=317,slow=5.0,SNR=6.9						
YKA	**Yellowknife Ar**	**103.64**	**13**	Pdiff	Pdif	22 46 29.6	-0.3
	comp=Z,0.1nm,0.6s,baz=332,slow=4.4,SNR=3.9						
ULM	**Lac du Bonnet**	**118.64**	**7**	PKP	PKPdf	22 51 14.8	-1.7
	comp=Z,0.8nm,0.3s,baz=244,slow=1.6,SNR=3.0						
PDAR	**Pinedale Array**	**122.48**	**21**	PKP	PKPdf	22 51 23.8	-0.1
	comp=Z,1.5nm,0.8s,baz=2.5,slow=0.5,SNR=6.7						
BDFB	**Brasilia**	**142.95**	**258**	PKP	PKPdf	22 52 00.6	-1.6
	comp=Z,3.2nm,0.8s,baz=2.0,slow=2.6,SNR=2.5						
MTP	**Monte Pirata**	**145.09**	**325**	*e*PKP	PKPdf	22 52 06.6	+0.7
CPD	**Cerro la Pandu**	**145.33**	**325**	PKP	PKPdf	22 52 07.8	+1.4
PLCA	**Paso Flores**	**147.24**	**202**	PKPbc	PKPbc	22 52 12.2	+0.3
	comp=Z,16nm,1.1s,baz=160,slow=3.2,SNR=8.9						
CPUP	**Villa Florida**	**148.99**	**236**	PKPbc	PKPbc	22 52 14.3	-2.2
	comp=Z,5.7nm,1.0s,baz=354,slow=2.1,SNR=3.4						
LPAZ	**La Paz**	**161.98**	**250**	PKP	PKPdf	22 52 32.5	+2.7
	comp=Z,1.7nm,0.8s,baz=22,slow=1.6,SNR=4.0						
LPAZ				PKPab	PKPab	22 53 16.5	+0.5
	comp=Z,1.3nm,0.7s,baz=119,slow=7.6,SNR=4.5						

IDC ***09*** *22:39:08.1±1.2, 1079N×9425E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, Error ellipse: s-maj=87.0km s-min=19.7km az=50.0*
NEIC ***09*** *22:39:09.5±0.7, 1073N×9418E, h10km, mb4.2/2, Error ellipse: s-maj=27.9km s-min=11.7km az=53.0*
ISCJB ***09*** *22:39:10.9±0.9, 107N±02×94.1E±02, h33km, mb3.9/8, Error ellipse: s-maj=35.1km s-min=15.7km az=106.9*
ISC 09 22:39:13.5±0.9, 108N±02×942E±02, h35km, n9, σ0s33/8, mb3.9/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.67**	**302**	*e*P	Px	22 40 07.8	
PB

comp=E,1.9nm,0.9s,mb4.0,baz=104,slow=7.5,SNR=3.8

*IDC **09** 22:52:55.6±56.0, 1939S×17878W, h0km, mb4.3/3, mb1 4.5/3, mb1mx4.0/12, mbtmp4.3/3, MS4.2/1, Ms1 4.2/1, ms1mx2.8/23, Error ellipse: s-maj=1029.0km s-min=154.5km az=81.0*

NEIC 09 22:53:55.2±2.2, 2095S×17983E, h500km, mb4.3/2, Error ellipse: s-maj=110.0km s-min=36.9km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**31.42**	**266**	*eP*	P	22 59 36.7	+2.0
	3.5nm,0.6s						
PMG	**Port Moresby**	**33.48**	**285**	LR	LR	23 11 48.0	
	comp=Z,333nm,19.3s,baz=88,slow=33						
STKA	**Stephens Creek**	**35.76**	**244**	P	P	23 00 11.8	+0.4
	2.0nm,0.7s,baz=74,slow=7.4,SNR=4.5						
STKA	**Stephens Creek**	**35.76**	**244**	P	P	23 00 11.8	+0.4
ASAR	**Alice Springs**	**42.44**	**257**	P	P	23 01 06.0	+0.7
	6.0nm,0.8s,baz=88,slow=8.5,SNR=58						
WB2	**Warramunga Arr**	**42.52**	**263**	*eP*	P	23 01 05.5	-0.4
WRAB	**Tennant Creek**	**42.52**	**263**	*eP*	P	23 01 05.8	-0.2
	4.8nm,0.3s						
WRA	**Warramunga Arr**	**42.53**	**263**	P	P	23 01 05.5	-0.5
	2.0nm,0.3s,baz=96,slow=7.5,SNR=121						

*ISCJB **09** 22:59:51.7±0.7, 1058N±007×94.13E±0.10, h10km, mb4.0/14, Error ellipse: s-maj=13.9km s-min=9.9km az=141.4*

*IDC **09** 22:59:52.1±1.2, 1061N×9408E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.7/7, Error ellipse: s-maj=55.9km s-min=18.4km az=56.0*

*NEIC **09** 22:59:54.1±0.7, 1067N×9421E, h10km, mb4.2/7, Error ellipse: s-maj=28.2km s-min=8.9km az=55.0*

*BJI **09** 22:59:54.1, 1070N×9420E, h10km, mb4.5, Ms4.7, Msz4.3*

ISC 09 22:59:54.9±5.1, 1074N±007×9427E±009, h12km±33km, n19, σ0s74/20, mb4.0/14, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**7.52**	**49**	P	**Pn**	**23 01 44.0**	**-0.3**
	135nm,0.4s						
KULM	**Kulim**	**8.32**	**130**	*e*Pn	**Pn**	**23 01 55.1**	**-0.2**
KMI	**Kunming**	**16.40**	**28**	P	**Pn**	**23 03 49.9**	**+5.0**
KMI				AP	pP	23 03 57.3	+6.2
KMI				AMB	AMB		
	comp=Z,7.0nm,1.5s						
LSA	**Lhasa**	**19.09**	**352**	*e*P	**Pn**	**23 04 26.2**	**+8.2**
	comp=Z,204nm,1.8s						
GYA	**Guiyang**	**19.52**	**35⇑**	*i*P	**Pn**	**23 04 24.1**	**+0.8**
GYA				AP	pP	23 04 33.2	+7.6
GYA				XP	sP	23 04 37.6	+10
GYA				S	**Sn**	**23 08 02.2**	**-0.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				LR	LR		
	comp=N,1μm,17.4s						
GYA				LR	LR		
	comp=E,1μm,14.4s						
GYA				LR	LR		
	comp=Z,1μm,17.7s						
ENH	**Enshi**	**24.04**	**34**	*e*P	**P**	**23 05 09.9**	**+0.2**
	comp=Z,41nm,0.8s,mb4.9						
LZH	**Lanzhou**	**26.68**	**17**	*e*P	**P**	**23 05 32.1**	**-1.6**
LZH				AP	pP	23 05 38.5	+1.0
LZH				XP	sP	23 05 41.3	+2.3
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.4						
AAK	**Ala-Archa**	**36.16**	**335**	*e*P	**P**	**23 07 03.8**	**+6.8**
	comp=Z,3.1nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**37.34**	**346**	P	**P**	**23 07 07.0**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.7,baz=165,slow=7.9,SNR=14						
SONM	**Songino Array**	**38.35**	**13**	P	**P**	**23 07 15.7**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.4,baz=202,slow=6.4,SNR=4.7						
KURK	**Kurchatov**	**41.88**	**345**	*e*P	**P**	**23 07 44.4**	**-0.5**
	comp=Z,7.8nm,1.6s,mb4.1						
ZAL	**Zalesovo**	**43.74**	**352**	P	**P**	**23 08 00.6**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.6,baz=320,slow=14,SNR=3.9						
BVAR	**Borovoye Array**	**46.34**	**340**	P	**P**	**23 08 20.0**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=156,slow=7.9,SNR=2.5						
BRVK	**Borovoye**	**46.40**	**340**	*e*P	**P**	**23 08 23.2**	**+2.0**
	comp=Z,1.0nm,0.8s,mb3.8						
ZRNK	**Zerenda**	**46.75**	**339**	*e*P	**P**	**23 08 24.4**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.7						
WRA	**Warramunga Arr**	**49.85**	**128**	P	**P**	**23 08 47.8**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.2,baz=304,slow=8.9,SNR=25						
WRAB	**Tennant Creek**	**49.86**	**128**	*e*P	**P**	**23 08 48.2**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**51.68**	**132**	P	**P**	**23 09 01.7**	**+0.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=311,slow=7.3,SNR=17						
BRTR	**Keskin Array B**	**60.69**	**310**	P	**P**	**23 10 04.9**	**-1.1**
	comp=Z,0.7nm,0.8s,mb3.8,baz=94,slow=3.9,SNR=3.2						

*ISCJB **09** 23:00:08.7±0.6, 1371N±005×12054E±009, h133km±5km, mb3.5/3, Error ellipse: s-maj=14.5km s-min=8.5km az=24.1*

*MAN **09** 23:00:09.9, 1372N×12054E, h112km, mb2.7, ML4.1, MS3.3*

*IDC **09** 23:00:09.1±1.0, 1375N×12098E, h136km±10km, mb3.3/3, mb1 3.4/3, mb1mx3.1/19, mbtmp3.7/3, Error ellipse: s-maj=142.6km s-min=20.9km az=66.0*

ISC 09 23:00:09.6±0.6, 1370N±005×12056E±009, h130km±5km, n16, σ0s78/21, mb3.5/3, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.31**	**276**	*e*P	**Pn**	**23 00 27.1**	**-0.6**
LUBP				*e*S	**Sn**	**23 00 40.0**	**-1.3**
PGP	**Puerto Galera**	**0.43**	**118⇓**	*i*P	**Pn**	**23 00 28.0**	**-0.2**
PGP				*i* S	**Sn**	**23 00 41.4**	**-0.8**
TGY	**Tagaytay City**	**0.54**	**42**	P	**Pn**	**23 00 29.6**	**+0.8**
	141nm,0.3s,baz=247,slow=3.3,SNR=7.6						
TGY				S	**Sn**	**23 00 44.1**	**+0.7**
	574nm,0.3s,baz=341,slow=21,SNR=37						
TGY	**Tagaytay City**	**0.54**	**42⇓**	*e*P	**Pn**	**23 00 29.5**	**+0.7**
TGY				*e*S	**Sn**	**23 00 44.3**	**+0.9**
LQP	**Lukban**	**1.03**	**67**	*e*P	**Pn**	**23 00 33.0**	**+0.3**
BOAC	**Boac**	**1.27**	**101**	*e*P	**Pn**	**23 00 34.3**	**-0.8**
POLP	**Polilio Island**	**1.68**	**52**	*e*P	**Pn**	**23 00 40.3**	**+0.6**
BUSP	**Coron**	**1.73**	**192**	*e*P	**Pn**	**23 00 40.7**	**+0.4**
BUSP				*e*S	**Sn**	**23 01 03.8**	**+0.1**
OTRP	**Odiongan**	**1.95**	**133**	*e*P	**Pn**	**23 00 42.9**	**+0.1**
BALP	**Baler**	**2.25**	**26**	*e*P	**Pn**	**23 00 46.8**	**+0.2**
ENPP	**El Nido**	**2.72**	**204**	*e*P	**Pn**	**23 00 53.9**	**+1.4**
BOLP	**Bolinao**	**2.74**	**347**	*e*P	**Pn**	**23 00 52.6**	**-0.2**
CUYO	**Cuyo Island**	**2.87**	**171**	*e*P	**Pn**	**23 00 55.2**	**+0.7**
SONM	**Songino Array**	**36.02**	**344**	P	**P**	**23 06 57.9**	**-0.3**
	0.6nm,0.6s,mb3.4,baz=162,slow=7.8,SNR=5.2						
WRA	**Warramunga Arr**	**36.08**	**158**	P	**P**	**23 06 56.7**	**-2.0**
	0.2nm,0.5s,mb3.0,baz=338,slow=9.3,SNR=4.7						
MKAR	**Makanchi Array**	**45.95**	**324**	P	**P**	**23 08 19.9**	**+0.4**
	6.4nm,1.1s,mb4.2,baz=108,slow=8.4,SNR=5.3						

*IDC **09** 23:00:19.9±0.5, 1079N×9421E, h0km, mb4.4/18, mb1 4.5/19, mb1mx4.5/23, mbtmp4.4/19, ML3.9/1, MS4.6/11, Ms1 4.6/11, ms1mx4.3/22, Error ellipse: s-maj=20.0km s-min=13.5km az=60.0*

*BJI **09** 23:00:21.3, 1038N×9413E, h30km, mB5.1, mb4.7, Ms4.9, Msz4.6*

*NEIC **09** 23:00:22.1±0.3, 1072N×9417E, h10km, mb4.8/23, Error ellipse: s-maj=14.4km s-min=6.4km az=56.0*

*ISCJB **09** 23:00:23.3±0.3, 1068N±004×94.16E±004, h31km, mb4.6/65, MS4.6/30, Error ellipse: s-maj=6.9km s-min=4.6km az=106.9*

*MOS **09** 23:00:24.0±1.6, 1078N×9424E, h33km, mb5.0/19, Error ellipse: s-maj=13.4km s-min=5.9km az=111.8*

ISC 09 23:00:25.9±0.3, 1073N±004×9415E±004, h32km, h32km±2.1km: pP-P, n154, σ1s28/148, mb4.6/65, MS4.6/30, 9C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.66**	**304**	*e*P	Px	23 00 55.9	
PBA				*ex*	x	23 01 34.0	
NNT	**Nongplab**	**5.77**	**71**	P	**Pn**	**23 01 45.2**	**-4.1**
SNG	**Songkhla**	**7.30**	**118**	P	**Pn**	**23 02 09.0**	**-1.2**
	414nm,1.0s						
KULM	**Kulim**	**8.40**	**130**	*e*Pn	**Pn**	**23 02 20.9**	**-4.5**
PSI	**Prapat**	**9.19**	**149**	Pn	**Pn**	**23 02 36.8**	**+0.6**
	1.3nm,0.3s,baz=335,slow=12,SNR=3.6						
PSI				LR	LR	23 06 48.9	
	comp=Z,6μm,18.3s,baz=305,slow=42						
KKTK	**Khon Kaen**	**10.11**	**56**	P	**Pn**	**23 02 54.0**	**+5.3**
	432nm,0.5s						
VIS	**Vishakhapatnam**	**12.58**	**305**	*e*P	**Pn**	**23 03 27.3**	**+4.8**
VIS				AMb	AMB	23 03 49.1	
	comp=Z,128nm,2.0s						
VIS				*i* S	**Sn**	**23 05 33.5**	**-7.9**
VIS				*ex*	x	23 06 10.9	
CAL	**Calcutta**	**13.00**	**335**	*e*S	**Sn**	**23 05 50.1**	**-1.5**
SHL	**Shillong**	**14.91**	**352**	*e*P	**Pn**	**23 04 01.0**	**+6.7**
SHL				*ex*	x	23 06 52.0	
BOK	**Bokaro**	**15.19**	**330**	*e*P	**Pn**	**23 04 03.3**	**+5.3**
BOK				AMb	AMB	23 04 17.0	
	comp=Z,36nm,1.2s						
KMI	**Kunming**	**16.47**	**29**	P	**Pn**	**23 04 16.2**	**+1.7**
KMI				AP	pP	23 04 20.6	-4.8
KMI				XP	sP	23 04 24.9	-4.6
KMI				S	**Sn**	**23 07 23.2**	**+6.9**
KMI				XS	sS	23 07 38.0	-2.9
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s						
KMI				AMB	AMB		
	comp=Z,123nm,3.2s						
KMI				LR	LR		
	comp=N,2μm,14.1s						
KMI				LR	LR		
	comp=E,2μm,11.3s						
KMI				LR	LR		
	comp=Z,2μm,11.3s						
HYB	**Hyderabad**	**16.52**	**295**	*i* P	**Pn**	**23 04 21.0**	**+5.9**
HYB	**Hyderabad**	**16.52**	**295**	*e*P	**Pn**	**23 04 21.0**	**+5.9**
QIZ	**Qiongzhong**	**17.25**	**60**	P	**Pn**	**23 04 25.2**	**+0.9**
QIZ				AMB	AMB		
	comp=Z,16nm,1.7s						
QIZ				LR	LR		
	comp=E,3μm,9.0s						
QIZ				LR	LR		
	comp=Z,4μm,9.9s						
NGP	**Nagpur**	**17.82**	**307**	*e*P	**Pn**	**23 04 37.4**	**+6.1**
NGP				AMb	AMB	23 04 39.0	
	comp=Z,22nm,0.9s						
JBP	**Jabalpur**	**18.32**	**314⇓**	*i*P	**Pn**	**23 04 42.5**	**+5.1**
JBP				*ex*	x	23 05 12.2	
	comp=Z,52nm,1.4s						
JBP				*ex*	x	23 07 50.3	
JIRN	**Jiri**	**18.43**	**337**	*e*P	**Pn**	**23 04 38.5**	**-0.2**
	comp=Z,219nm,1.2s						
PKI	**Pulchoki**	**18.66**	**335**	*e*P	**Pn**	**23 04 42.6**	**+1.0**
	comp=Z,73nm,1.2s						
PKI	**Pulchoki**	**18.66**	**335**	*e*P	**Pn**	**23 04 42.6**	**+1.0**
PKI				pmax	pmax		
	comp=Z,37nm,1.2s						
GUN	**Gumba**	**18.77**	**337**	*e*P	**Pn**	**23 04 41.6**	**-1.3**
	comp=Z,259nm,1.3s						
DMN	**Daman**	**18.82**	**334**	*e*P	**Pn**	**23 04 44.3**	**+0.8**
	comp=Z,256nm,1.3s						
KKN	**Kakani**	**18.91**	**335**	*e*P	**Pn**	**23 04 44.4**	**-0.1**
	comp=Z,231nm,1.3s						
KKN	**Kakani**	**18.91**	**335**	*e*P	**Pn**	**23 04 44.4**	**-0.1**
KKN				pmax	pmax		
	comp=Z,116nm,1.3s						
GKN	**Gorkha**	**19.37**	**334**	*e*P	**Pn**	**23 04 49.2**	**-0.8**
	comp=Z,124nm,1.0s						
KOLN	**Koldanda**	**19.64**	**331**	*e*P	**Pn**	**23 04 53.3**	**0.0**
	comp=Z,142nm,1.0s						
BHPL	**Bhopal**	**20.24**	**310**	*e*P	**P**	**23 05 04.5**	**+6.3**
BHPL				AMb	AMB	23 05 10.6	
	comp=Z,54nm,2.3s						
KAD	**Karad**	**20.44**	**291**	*e*P	**P**	**23 05 04.4**	**+4.0**
KAD				AMb	AMB	23 05 16.4	
	comp=Z,30nm,2.2s						
CD2	**Chengdu**	**21.97**	**23**	P	**P**	**23 05 15.8**	**-1.1**
CD2				XP	sP	23 05 27.9	-1.8
CD2				PP		23 05 43.6	
CD2				S	**S**	**23 09 09.7**	**-8.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,130nm,5.9s						
CD2				LR	LR		
	comp=E,910nm,13.8s						
CD2				LR	LR		
	comp=Z,840nm,13.2s,MS4.3						
BOM	**Bombay**	**22.15**	**294**	*e*P	**P**	**23 05 24.8**	**+5.9**
BOM				AMb	AMB	23 05 28.9	
	comp=Z,51nm,1.1s,mb4.8						
KKM	**Kota Kinabalu**	**22.31**	**100**	*e*P	**P**	**23 05 21.0**	**+0.5**
KKM				*e*pP		23 05 29.4	
NDI	**New Delhi**	**23.89**	**321**	*e*P	**P**	**23 05 39.9**	**+3.4**
NDI				AMb	AMB	23 05 42.3	
	comp=Z,62nm,1.2s,mb4.9						
AJM	**Ajmer**	**24.18**	**313**	*e*P	**P**	**23 05 44.0**	**+4.9**
AJM				*e*P		23 05 44.6	
SMLA	**Simla**	**25.69**	**325**	*e*P	**P**	**23 05 57.0**	**+4.1**
SMLA				AMb	AMB	23 06 05.6	
	comp=Z,59nm,0.9s,mb5.1						
LZH	**Lanzhou**	**26.73**	**18**	*e*P	**P**	**23 06 02.5**	**+0.2**
LZH				AP	pP	23 06 14.6	+3.0
LZH				XP	sP	23 06 19.6	+4.0
LZH				PP		23 06 51.0	
LZH				S	**S**	**23 10 38.0**	**+2.2**
LZH				XS	sS	23 10 55.0	+3.7
LZH				*e*SS		23 11 53.0	
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,190nm,4.0s						
LZH				LR	LR		
	comp=N,4μm,15.3s						
LZH				LR	LR		
	comp=Z,5μm,15.6s,MS5.2						
XAN	**Xi'an**	**26.86**	**28**	P	**P**	**23 06 03.2**	**-0.2**
XAN				S	**S**	**23 10 38.8**	**+1.0**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.2						
XAN				LR	LR		
	comp=N,684nm,14.2s,MS4.7						
XAN				LR	LR		
	comp=E,2μm,16.5s,MS4.7						
XAN				LR	LR		
	comp=Z,1μm,14.2s,MS4.5						
WHN	**Wuhan**	**27.22**	**41**	P	**P**	**23 06 10.7**	**+3.9**
WHN				LR	LR		
	comp=Z,2μm,12.9s,MS4.9						
GTA	**Gaotai**	**29.00**	**9**	*e*P	**P**	**23 06 24.9**	**+2.3**
GTA				AP	pP	23 06 34.7	+2.7
GTA				XP	sP	23 06 38.8	+2.9
GTA				PP	PP	23 07 20.5	-7.9
GTA				S	**S**	**23 11 14.9**	**+3.3**
GTA				XS	sS	23 11 25.7	-1.4
GTA				SS	SS	23 12 45.6	-30
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.4						
GTA				AMB	AMB		
	comp=Z,226nm,7.3s						
GTA				LR	LR		
	comp=N,883nm,23.2s						
GTA				LR	LR		
	comp=E,624nm,17.0s						
GTA				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
NJ2	**Nanjing**	**31.15**	**43**	*e*P	**P**	**23 06 42.9**	**+1.3**
NJ2				AP	pP	23 06 52.4	+1.4
NJ2				XP	sP	23 06 56.4	+1.5
NJ2				PP	PP	23 07 44.5	-7.7
NJ2				S	**S**	**23 11 44.0**	**-1.3**
NJ2				XS	sS	23 12 01.0	+0.2
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,350nm,10.8s						
NJ2				LR	LR		
	comp=N,2μm,17.7s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,14.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,850nm,10.8s,MS4.7						
SSE	**Sheshan**	**32.23**	**47**	P	**P**	**23 06 52.2**	**+1.1**
SSE				XP	sP	23 07 05.0	+0.6
SSE				PP	PP	23 08 03.9	-0.2
SSE				S	**S**	**23 12 01.6**	**-0.5**
SSE				XS	sS	23 12 15.6	-2.0
SSE				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,204nm,5.3s						
SSE				LR	LR		
	comp=N,499nm,20.1s,MS4.2						
SSE				LR	LR		
	comp=E,140nm,20.2s,MS4.2						
SSE				LR	LR		
	comp=Z,181nm,16.4s,MS3.9						
KSH	**Kashi**	**32.91**	**334**	*e*P	**P**	**23 06 58.9**	**+1.8**
KSH				*e*AP	pP	23 07 08.4	+1.9
KSH				*e*XP	sP	23 07 12.3	+1.9
KSH				*e*PP	PP	23 08 08.9	-2.9
KSH				*e*PCP	PcP	23 09 41.8	+0.8
KSH				S	**S**	**23 12 14.0**	**+1.2**
KSH				XS	sS	23 12 30.0	+1.7
KSH				*e*SCP	ScP	23 13 21.4	-1.2
KSH				PCS	PcS	23 13 27.7	+1.4
KSH				SS	SS	23 14 14.6	-21
KSH				SCS	ScS	23 17 21.0	-1.7
KSH				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
KSH				AMB	AMB		
	comp=Z,318nm,6.4s						
KSH				LR	LR		
	comp=N,592nm,11.0s,MS4.7						
KSH				LR	LR		
	comp=E,692nm,12.7s,MS4.7						
KSH				LR	LR		
	comp=Z,1μm,23.7s						
WMQ	**Urumqi**	**33.44**	**352**	*e*P	**P**	**23 07 03.7**	**+2.0**
WMQ				AP	pP	23 07 13.3	+2.2
WMQ				XP	sP	23 07 17.2	+2.2
WMQ				PP	PP	23 08 14.9	-2.7
WMQ				PCP	PcP	23 09 46.7	+4.2
WMQ				*e*S	**S**	**23 12 19.5**	**-1.5**
WMQ				AMB	AMB		
	comp=Z,41nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,282nm,4.8s						
WMQ				LR	LR		
	comp=N,669nm,24.0s,MS4.4						
WMQ				LR	LR		
	comp=E,446nm,20.4s,MS4.4						
WMQ				LR	LR		
	comp=Z,774nm,22.6s,MS4.4						
HHC	**Hu-ho-hao-te**	**33.71**	**24**	*e*P	**P**	**23 07 06.2**	**+2.2**
HHC				AP	pP	23 07 15.9	+2.4
HHC				XP	sP	23 07 19.8	+2.4
HHC				PP	PP	23 08 19.9	-0.7
HHC				PCP	PcP	23 09 43.9	+0.7
HHC				S	**S**	**23 12 27.0**	**+1.9**
HHC				XS	sS	23 12 43.5	+2.8
HHC				SS	SS	23 14 33.1	-18
HHC				SCS	ScS	23 17 26.7	-0.2
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,152nm,6.1s						
HHC				LR	LR		
	comp=N,897nm,11.6s,MS4.8						
HHC				LR	LR		
	comp=E,970nm,15.3s,MS4.8						
HHC				LR	LR		
	comp=Z,995nm,11.0s,MS4.8						
BJI	**Beijing**	**35.12**	**30**	P	**P**	**23 07 17.5**	**+1.2**
BJI				S	**S**	**23 12 42.3**	**-4.6**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=Z,444nm,20.6s,MS4.2						
AAK	**Ala-Archa**	**36.12**	**335**	*e*P	**P**	**23 07 24.0**	**-0.8**
	comp=Z,12nm,1.1s,mb4.8						
FRU	**Bishkek**	**36.23**	**335**	*e*P	**P**	**23 07 28.0**	**+2.2**
FRU				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.7						
MK31	**Makanchi Array**	**37.33**	**347**	*i* P	**P**	**23 07 33.5**	**-1.6**
MK31				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**37.33**	**347**	P	**P**	**23 07 33.6**	**-1.5**
	comp=Z,6.0nm,0.6s,mb4.6,baz=163,slow=8.1,SNR=20						
MKAR	**Makanchi Array**	**37.33**	**347**	*i* P	**P**	**23 07 33.5**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,15nm,1.0s						
KK31	**Karatay Array**	**38.25**	**332**	*i* P	**P**	**23 07 43.7**	**+0.8**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
KKAR	**Karatay Array**	**38.25**	**332**	*i* P	**P**	**23 07 43.7**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
SONM	**Songino Array**	**38.40**	**13**	P	**P**	**23 07 42.6**	**-1.5**
	comp=Z,4.1nm,0.9s,mb4.1,baz=195,slow=12,SNR=14						
SONM				PcP	PcP	23 09 57.2	+0.1
	comp=Z,2.2nm,0.8s,baz=186,slow=4.1,SNR=4.1						
SONM				LR	LR	23 25 10.5	
	comp=Z,1μm,18.9s,MS4.8,baz=194,slow=39						
ULN	**Ulaanbaatar**	**38.58**	**14**	*e*P	**P**	**23 07 44.7**	**-0.9**
	comp=Z,5.5nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**38.58**	**14**	*e*P	**P**	**23 07 44.7**	**-0.9**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
ZAK	**Zakamensk**	**40.24**	**9**	*e*P	**P**	**23 07 53.3**	**-6.3**
KURK	**Kurchatov**	**41.86**	**345**	*e*P	**P**	**23 08 13.2**	**+0.3**
	comp=Z,8.7nm,0.6s,mb4.6						
KURK				*e*		23 08 32.9	
IRK	**Irkutsk**	**42.20**	**9**	*e*P	pP	23 08 23.9	-1.3
IRK				*e*		23 08 40.3	
IRK				pmax	pmax		
	comp=Z,32nm,2.2s,mb4.6						
FITZ	**Fitzroy Crossi**	**42.27**	**132⇑**	*i*P	**P**	**23 08 16.7**	**+0.5**
	comp=Z,9.0nm,1.0s,mb4.3						
CN2	**Changchun**	**42.64**	**34**	*e*P	**P**	**23 08 19.8**	**+0.6**
CN2				*e*AP	pP	23 08 25.7	-3.1
CN2				PCP	PcP	23 10 14.3	+3.4
CN2				*e*S	**S**	**23 14 39.1**	**-1.0**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,14.0s,MS4.9						
CN2				LR	LR		
	comp=E,900nm,14.0s,MS4.9						
CN2				LR	LR		
	comp=Z,700nm,14.0s,MS4.7						
ZAL	**Zalesovo**	**43.74**	**352**	P	**P**	**23 08 27.8**	**-0.2**
	comp=Z,6.6nm,0.9s,mb4.4,baz=296,slow=7.4,SNR=21						
ZAL				LR	LR	23 30 59.0	
	comp=Z,282nm,20.6s,MS4.2,baz=289,slow=42						
NVS	**Novosibirsk**	**44.84**	**351**	*e*P	**P**	**23 08 36.0**	**-0.9**
NVS				*e*		23 08 54.7	
NVS				pmax	pmax		
	comp=N,18nm,1.6s						
NVS				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.7						
KRAR	**Krasnoyarsk**	**45.18**	**359⇑**	*e*P	**P**	**23 08 40.1**	**+0.5**
KRAR				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.2						
MDJ	**Mudanjiang**	**45.47**	**36**	P	**P**	**23 08 41.6**	**-0.3**
MDJ				S	**S**	**23 15 21.1**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,54nm,3.2s						
MDJ				LR	LR		
	comp=N,252nm,19.2s,MS4.2						
MDJ				LR	LR		
	comp=E,144nm,22.6s,MS4.2						
MDJ				LR	LR		
	comp=Z,285nm,17.5s						
VOSK	**Vostochnaya**	**45.87**	**341**	P	**P**	**23 08 43.4**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BVA0	**Borovoye Array**	**46.31**	**340**	*i* P	**P**	**23

MJAR PcP PcP 23 10 26.1 -0.7
comp=Z,9.3nm,0.9s,baz=231,slow=2.0,SNR=13
MUN Mundaring 47.42 154 *e*P **P 23 08 58.3 +1.1**
AB31 Akbulak array 47.76 330 *i* P **P 23 08 58.8 -1.0**
AB31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
KLBR Kellerberrin 47.77 153 *e*P **P 23 09 00.8 +0.9**
comp=Z,15nm,1.0s,mb5.0
KLBR *e*pP pP 23 09 08.5 -1.1
NWAO Narrogin (SRO) 48.68 154 P **P 23 09 08.8 +1.9**
comp=Z,17nm,1.1s,mb5.0
NWAO Narrogin (SRO) 48.68 154 P **P 23 09 08.8 +1.9**
NWAO pmax pmax
comp=Z,17nm,1.1s
BOD Bodaibo 49.39 14 *e*P **P 23 09 11.3 -1.0**
BOD pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
AKTK Aktyubinsk 49.48 330 P **P 23 09 13.1 +0.1**
AKTO Aktyubinsk 49.48 330 P **P 23 09 13.1 +0.1**
comp=Z,2.2nm,0.7s,mb4.3,baz=132,slow=6.2,SNR=6.5
GUMO Guam 49.59 81 LR LR 23 27 21.4
comp=Z,158nm,21.8s,MS4.0,baz=307,slow=33
WRA Warramunga Arr 49.94 128 P **P 23 09 15.0 -1.6**
comp=Z,17nm,0.9s,mb5.0,baz=304,slow=8.6,SNR=32
WRAB Tennant Creek 49.95 128 P **P 23 09 15.5 -1.1**
comp=Z,19nm,0.8s,mb5.2
WRAB Tennant Creek 49.95 128 *e*P **P 23 09 15.6 -1.0**
WB2 Warramunga Arr 49.95 128 *e*P **P 23 09 14.9 -1.7**
ASPA Alice Springs 51.76 132 *e*P **P 23 09 29.4 -0.9**
ASAR Alice Springs 51.76 132 P **P 23 09 29.0 -1.3**
comp=Z,18nm,0.9s,mb5.0,baz=311,slow=7.1,SNR=43
AS31 Alice Springs 51.76 132 *e*P **P 23 09 29.4 -0.9**
CLNS Chul'man 51.77 21 *e*P **P 23 09 31.6 +1.2**
CLNS pmax pmax
comp=Z,24nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.9s
GNI Garni 52.49 313 P **P 23 09 38.2 +2.5**
GNI Garni 52.49 313 *c i*P **P 23 09 37.5 +1.9**
GNI pmax pmax
comp=Z,27nm,1.3s
ARU Arti 53.29 336 P **P 23 09 42.2 +0.7**
comp=Z,8.7nm,1.0s,mb4.6
ARU Arti 53.29 336⇑ *i*P **P 23 09 43.0 +1.4**
ARU *e* 23 10 50.0
ARU *e* 23 11 42.2
ARU *e*PPP 23 12 50.6
ARU *e*S **S 23 17 16.0 +5.2**
ARU pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ARU MLR MLR
comp=Z,1μm,21.0s,MS4.9
ARU MLR MLR
comp=N,500nm,20.0s,MS4.8
ARU MLR MLR
comp=E,800nm,20.0s,MS4.8
ZEI Tsey 53.99 316 *i* P **P 23 09 45.6 -1.1**
ZEI *i* *PP pP 23 09 53.6 -3.0
ZEI *i* 23 10 49.9
YSS Yuzh-Sakhalins 54.56 39 *e*P **P 23 09 49.4 -1.4**
KIV Kislovodsk 55.24 317 P **P 23 09 58.0 +2.3**
comp=E,31nm,1.2s,mb5.2
KIV Kislovodsk 55.24 317 *e*P **P 23 09 56.5 +0.7**
KIV pmax pmax
comp=Z,26nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,297nm,18.0s,MS4.4
PMG Port Moresby 56.40 109⇓ *i*P pP 23 10 11.3 -2.6
SOC Sochi 57.15 315 *e*P **P 23 10 04.4 -5.0**
SOC *e* 23 12 23.5
SOC *e*S **S 23 17 52.2 -10**
SOC *e**SS sS 23 18 26.9 +8.1
SOC MLR MLR
comp=Z,541nm,20.0s,MS4.7
YAK Yakutsk 57.30 19 P **P 23 10 10.6 +0.1**
YAK Yakutsk 57.30 19 *d i*P **P 23 10 10.7 +0.2**
YAK pmax pmax
comp=Z,41nm,0.8s,mb5.5
KMBO Kilima Mbogo 57.79 262 P **P 23 10 16.1 +2.2**
comp=Z,0.4nm,0.4s,mb3.8,baz=48,slow=10,SNR=2.0
VRHR Novokhopersk 58.63 324 *e*P **P 23 10 20.7 +0.9**
VRHR pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.9s
CTA Charters Tower 59.72 121 *e*P **P 23 10 18.1 -9.2**
comp=E,9.0nm,1.1s,mb4.7
CTA Charters Tower 59.72 121 *e*P **P 23 10 18.1 -9.2**
CTA pmax pmax
comp=Z,9.0nm,1.1s
BRTR Keskin Array B 60.60 310 P **P 23 10 32.4 -1.0**
comp=Z,2.9nm,0.8s,mb4.5,baz=119,slow=7.4,SNR=10
BR131 Keskin Array S 60.60 310 P **P 23 10 32.7 -0.7**
STKA Stephens Creek 62.08 135⇑ *i*P **P 23 10 42.9 -0.5**
comp=Z,8.8nm,1.0s,mb4.8
STKA Stephens Creek 62.08 135 P **P 23 10 42.7 -0.7**
comp=Z,10nm,0.9s,mb4.9,baz=310,slow=8.0,SNR=2.9
OBN Obninsk 62.99 327⇓ *i*P **P 23 10 51.1 +1.6**
OBN *i* 23 11 30.4
OBN pmax pmax
comp=Z,14nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,700nm,18.0s,MS4.9
MA2 Magadan 64.25 28 P **P 23 10 58.3 +0.6**
comp=Z,7.3nm,0.8s,mb4.8
MA2 Magadan 64.25 28 *e*P **P 23 10 57.2 -0.6**
MA2 *e* 23 20 43.8
MA2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
TIXI Tiksi 64.45 12 P **P 23 10 59.1 0.0**
TIXI Tiksi 64.45 12 *e*P **P 23 10 55.9 -3.2**
TIXI pmax pmax
comp=Z,11nm,1.0s,mb4.8
TIXI MLR MLR
comp=Z,418nm,17.0s,MS4.7
AKASG Malin Array Be 65.95 321 P **P 23 11 07.0 -1.7**
comp=Z,0.4nm,0.5s,mb3.7,baz=96,slow=4.5,SNR=4.1
SEY Seymchan 66.35 25⇑ *e*P **P 23 11 10.7 -0.6**
VRI Vrincioaia 66.67 315⇑ P **P 23 11 14.2 +0.7**
BURAR Bucovina Array 67.96 317⇑ P **P 23 11 20.1 -1.4**
JOF Joensuu 68.30 334 *e*p **P 23 11 21.0 -2.7**
comp=Z,3.3nm,0.7s,mb4.5
HNR Honiara 68.44 105 P **P 23 11 25.9 +1.3**
ARMA Armidale 68.70 129⇑ *i*P **P 23 11 29.6 +3.4**
APA Apatity 69.20 339⇓ *i*P **P 23 11 30.0 +0.7**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
APA MLR MLR
comp=Z,1μm,20.0s,MS5.0
FINES FINESS Array B 70.21 332 P **P 23 11 32.9 -2.6**
comp=Z,1.7nm,0.8s,mb4.1,baz=114,slow=2.3,SNR=6.4
FINES LR LR 23 49 05.3
comp=Z,431nm,18.3s,MS4.7,baz=109,slow=42
ARCES ARCESS Array B 72.60 340 P **P 23 11 48.3 -1.7**
comp=Z,3.8nm,0.7s,mb4.4,baz=93,slow=6.3,SNR=7.0
ARCES LR LR 23 47 01.6
comp=Z,857nm,20.6s,MS5.0,baz=110,slow=39
BILL Bilibino 73.45 22 *e*P **P 23 11 55.6 +0.6**
comp=Z,8.5nm,0.9s,mb4.7
BILL Bilibino 73.45 22 *e*P **P 23 11 55.6 +0.6**
BILL pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GERES GERESS Array B 75.72 318 P **P 23 12 06.6 -1.6**
comp=Z,1.4nm,0.7s,mb4.0,baz=89,slow=6.0,SNR=8.0
GERES LR LR 23 50 54.3
comp=Z,210nm,19.7s,MS4.5,baz=118,slow=40
CLL Collm 76.18 320 *e*P **P 23 12 12.0 +1.3**
BOSA Boshof 77.11 237 P **P 23 12 16.5 +0.4**
comp=Z,3.7nm,0.9s,mb4.3,baz=190,slow=6.4,SNR=10
NB2 NORSAR Subarra 77.27 330 P **P 23 12 15.2 -1.7**
comp=Z,3.4nm,0.9s,mb4.3,baz=91,slow=5.6
NB2 NORSAR Subarra 77.27 330 P **P 23 12 15.2 -1.7**
NB2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
NOA NORSAR Array B 77.27 330 P **P 23 12 14.6 -2.4**
comp=Z,1.3nm,0.7s,mb3.9,baz=91,slow=5.7,SNR=3.7
LPG La Plagne 80.63 315 *e*P **P 23 12 34.8 -0.5**
comp=Z,14nm,0.8s,mb4.7
LPG La Plagne 80.63 315 *e*P **P 23 12 34.8 -0.5**
comp=Z,6.9nm,0.8s,mb4.6
LPG La Plagne 80.63 315 *e*P **P 23 12 34.8 -0.5**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MAW Mawson 81.31 192 LR LR 23 45 20.8
comp=Z,363nm,18.3s,MS4.8,baz=107,slow=33
TNA Tin City 83.58 24 P **P 23 12 51.2 +0.4**
RPZ Rata Peaks 88.05 135 LR LR 23 49 04.8
comp=Z,589nm,21.2s,MS5.0,baz=281,slow=33
SYO Syowa Base 88.12 197⇓ *e*pP pP 23 13 21.8 -1.8
TORD Torodi Ar. Bea 89.95 283 P **P 23 13 22.1 +0.2**
comp=Z,1.1nm,0.8s,mb4.2,baz=90,slow=4.5,SNR=6.9
TORD PP PP 23 16 58.0 +3.1
comp=Z,2.7nm,1.3s,baz=76,slow=7.9,SNR=4.0
URZ Urewera 91.10 129 LR LR 23 53 07.5
comp=Z,436nm,21.2s,MS4.9,baz=191,slow=35
ILAR Eielson Array 92.11 22 P **P 23 13 29.5 -2.4**
comp=Z,1.2nm,0.7s,mb4.3,baz=297,slow=4.3,SNR=12
RES Resolute Bay 94.57 2 P **P 23 13 44.9 +1.7**
comp=Z,1.4nm,0.5s,mb4.7
RES Resolute Bay 94.57 2 P **P 23 13 44.9 +1.7**
RES pmax pmax
comp=Z,1.0nm,0.5s,mb4.5
VNDA Vanda 95.71 168 LR LR 23 51 42.3
comp=Z,300nm,18.1s,MS4.8,baz=311,slow=32
YKA Yellowknife Ar 103.66 13 PP PP 23 18 38.6 -2.0
comp=Z,0.2nm,0.7s,baz=333,slow=8.2,SNR=3.8
PPT Papeete 118.06 104 *e*LR LR 23 55 12.7
comp=Z,210nm,24.5s
TBI Tubuai 118.32 111 *e*LR LR 23 55 21.3
comp=Z,300nm,30.0s
ELK Elko 122.03 26 PKP PKPdf 23 19 17.8 +0.8
comp=Z,0.7nm,0.7s,baz=288,slow=3.2,SNR=4.8
PDAR Pinedale Array 122.51 21 PKP PKPdf 23 19 17.9 -0.1
comp=Z,1.3nm,0.8s,baz=115,slow=1.1,SNR=8.8
DUG Dugway 123.51 25 PKPdf PKPdf 23 19 21.6 +1.8
MSU Marysvale 125.19 25 PKPdf PKPdf 23 19 24.6 +1.6
PV01 Paradox Valley 126.95 22 PKPdf PKPdf 23 19 25.3 -1.1
RKT Rikitea 131.63 111 *e*LR LR 00 01 31.6
comp=Z,230nm,35.5s
BDFB Brasilia 142.88 258 PKP PKPdf 23 19 56.9 +0.9
comp=Z,1.2nm,0.6s,baz=135,slow=5.4,SNR=3.4
PLCA Paso Flores 147.20 202 PKPbc PKPbc 23 20 04.8 -0.9
comp=Z,7.7nm,1.1s,baz=197,slow=5.0,SNR=7.1
CPUP Villa Florida 148.93 236 PKPbc PKPbc 23 20 10.0 -0.3
comp=Z,0.9nm,0.4s,baz=87,slow=6.1,SNR=4.0
LPAZ La Paz 161.91 250 PKP PKPdf 23 20 26.5 +2.8
comp=Z,0.8nm,0.9s,baz=190,slow=9.7,SNR=3.0
LPAZ PKPab PKPab 23 21 10.8 +1.2
comp=Z,1.1nm,0.9s,baz=341,slow=7.4,SNR=2.6

MEX 09 23:08:08.4±1.2, 1596N×9859W, h19km±60km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.62**	**46**	*e*P		Pb	23 08 18.3	-2.4
PNIG				*i* S		Sb	23 08 25.7	-3.3
ACX	**Acapulco**	**1.56**	**306**	*i* P		Pn	23 08 31.8	-3.3
CAIG	**El Cayaco**	**1.94**	**304**	*e*P		Pn	23 08 37.5	-2.8
CAIG				*e*S		Sn	23 08 59.2	-4.9
VHO	**Vista Hermosa**	**2.10**	**58**	*e*P		Pn	23 08 40.5	-2.0
VHO				*e*S		Sn	23 09 04.8	-3.3
OXX	**Oaxaca**	**2.12**	**58**	*i* P		Pn	23 08 41.8	-0.9
MEIG	**Mezcala**	**2.19**	**334**	*e*P		Pn	23 08 43.1	-0.6
MEIG				*e*S		Sn	23 09 07.2	-3.2
PLIG	**Platanillo**	**2.58**	**340**	*e*P		Pn	23 08 48.5	-0.5
PLIG				*e*S		Sn	23 09 17.8	-2.0
TPIG	**Tehuac#an**	**2.72**	**25**	*e*P		Pn	23 08 48.9	-2.1
TPIG				*i* S		Sn	23 09 21.8	-1.5
YAIG	**Yautepec**	**2.93**	**351**	*e*P		Pn	23 08 50.7	-3.1
YAIG				*i* S		Sn	23 09 28.2	-0.3
PPM	**Popocatepetl**	**3.10**	**359**	*e*P		Pn	23 08 56.9	+0.8
PPM				*e*S		Sn	23 09 34.0	+1.4
CMIG	**Matias Romero**	**3.73**	**72**	*e*P		Pn	23 09 02.8	-2.2

*MOS **09** 23:10:41.5±0.7, 3180N×9510E, h10km, mb4.3/3, Error ellipse: s-maj=53.5km s-min=13.1km az=123.5*
*IDC **09** 23:10:41.7±0.9, 3172N×9507E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.7/23, mbtmp3.6/10, ML3.3/2, Error ellipse: s-maj=35.6km s-min=20.5km az=47.0*
*NEIC **09** 23:10:43.5±0.5, 3174N×9502E, h10km, mb3.9/5, Error ellipse: s-maj=10.6km s-min=9.5km az=65.0*
*BJI **09** 23:10:44.8, 3172N×9522E, h10km, mb4.3, ML4.2*
*ISCJB **09** 23:10:46.0±1.6, 3183N±008×9518E±009, h43km±16km, mb3.8/11, Error ellipse: s-maj=14.6km s-min=11.7km az=85.9*

ISC 09 23:10:47.8±1.3, 3188N±008×9514E±009, h39km±14km, n23, σ0°65/23, mb3.8/11, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.06**	**239**	P		**Pn**	**23 11 48.0**	**+0.6**
GYA	**Guiyang**	**11.43**	**115**	P		**Pn**	**23 13 27.7**	**-0.7**
GYA					AMB	AMB		
comp=Z,10.0nm,0.8s								
MKAR	**Makanchi Array**	**17.86**	**330**	P		**Pn**	**23 14 53.8**	**+0.6**
comp=Z,0.1nm,0.3s,baz=145,slow=13,SNR=8.2								
SONM	**Songino Array**	**18.09**	**25**	P		**Pn**	**23 14 56.6**	**+0.6**
comp=Z,0.1nm,0.3s,baz=212,slow=13,SNR=6.0								
SONM	**Songino Array**	**18.09**	**25**	P		**Pn**	**23 14 56.6**	**+0.5**
ULN	**Ulaanbaatar**	**18.36**	**26**	P		**Pn**	**23 14 59.6**	**+0.3**
AAK	**Ala-Archa**	**19.57**	**309**	*e*P		**Pn**	**23 15 12.9**	**-1.0**
comp=Z,6.7nm,1.2s								
AAK	**Ala-Archa**	**19.57**	**309**	*e*P		**Pn**	**23 15 12.9**	**-1.0**
AAK					pmax	pmax		
comp=Z,7.0nm,1.2s								
KURK	**Kurchatov**	**22.45**	**332**	*e*P		**P**	**23 15 43.0**	**-0.3**
comp=Z,6.6nm,1.4s,mb3.9								
KURK	**Kurchatov**	**22.45**	**332**	*e*P		**P**	**23 15 43.0**	**-0.3**
KURK					pmax	pmax		
comp=Z,7.0nm,1.4s,mb3.9								
BVAR	**Borovoye Array**	**27.68**	**327**	P		**P**	**23 16 31.7**	**-0.3**
comp=Z,0.2nm,0.4s,mb3.1,baz=129,slow=11,SNR=3.1								
BRVK	**Borovoye**	**27.75**	**327**	*e*P		**P**	**23 16 32.4**	**-0.3**
comp=Z,0.9nm,0.7s,mb3.5								
BRVK	**Borovoye**	**27.75**	**327**	*e*P		**P**	**23 16 32.4**	**-0.3**
BRVK					pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.5								
BR131	**Keskin Array S**	**49.63**	**297**	*e*P		**P**	**23 19 35.4**	**-0.1**
comp=Z,0.8nm,0.6s,mb3.9								
BRTR	**Keskin Array B**	**49.63**	**297**	P		**P**	**23 19 35.5**	**0.0**
comp=Z,1.0nm,0.7s,mb4.0,baz=72,slow=7.5,SNR=5.3								
AKASG	**Malin Array Be**	**51.21**	**312**	P		**P**	**23 19 47.0**	**-0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=75,slow=6.8,SNR=6.7								
GERES	**GERESS Array B**	**61.43**	**312**	P		**P**	**23 21 00.8**	**+0.7**
comp=Z,0.6nm,0.7s,mb3.9,baz=54,slow=6.8,SNR=4.0								
WRAB	**Tennant Creek**	**63.77**	**138**	*e*P		**P**	**23 21 17.5**	**+1.7**
comp=Z,3.3nm,0.7s,mb4.5								
WRAB	**Tennant Creek**	**63.77**	**138**	*e*P		**P**	**23 21 17.5**	**+1.7**
WRAB					pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4								
WRA	**Warramunga Arr**	**63.77**	**138**	P		**P**	**23 21 15.2**	**-0.6**
comp=Z,0.5nm,0.8s,mb3.6,baz=324,slow=7.4,SNR=5.0								
ASAR	**Alice Springs**	**66.52**	**141**	P		**P**	**23 21 33.0**	**-0.6**
comp=Z,0.2nm,0.3s,mb3.6,baz=321,slow=6.6,SNR=3.2								
ILAR	**Eielson Array**	**72.31**	**23**	P		**P**	**23 22 09.6**	**+0.2**
comp=Z,0.5nm,0.8s,mb3.5,baz=293,slow=5.2,SNR=5.6								
TORD	**Torodi Ar. Bea**	**86.04**	**283**	P		**P**	**23 23 24.1**	**-0.2**
comp=Z,1.2nm,0.7s,mb4.2,baz=52,slow=4.6,SNR=13								

*ISCJB **09** 23:39:20.9±0.4, 549S±007×6864E±006, h10km, mb4.2/15, MS3.9/8, Error ellipse: s-maj=11.2km s-min=7.8km az=50.2*
*IDC **09** 23:39:21.4±0.8, 550S×6856E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/22, mbtmp4.0/9, MS3.9/8, Ms1 3.9/8, ms1mx3.6/28, Error ellipse: s-maj=25.5km s-min=21.1km az=16.0*
*NEIC **09** 23:39:23.0±0.3, 552S×6861E, h10km, mb4.3/7, Error ellipse: s-maj=8.3km s-min=7.4km az=155.0*

ISC 09 23:39:22.1±6.5, 549S±008×6865E±006, h3km±40km, n33, σ0°64/26, mb4.2/15, MS3.9/8, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.24**	**117**	*e*Pn		**Pn**	**23 40 27.0**	**-0.6**
DGAR				*e*Sn		**Sn**	**23 41 16.6**	**-0.9**
ATD	**Arta Tunnel**	**30.74**	**303**	LR		LR	23 55 13.6	
comp=Z,122nm,21.3s,MS3.5,baz=100,slow=31								
PSI	**Prapat**	**31.34**	**75**	LR		LR	23 56 50.1	
comp=Z,335nm,18.7s,MS4.0,baz=227,slow=33								
KMBO	**Kilima Mbogo**	**31.63**	**277**	LR		LR	23 56 06.0	
comp=Z,231nm,21.4s,MS3.8,baz=269,slow=32								
LSZ	**Lusaka**	**40.90**	**253**	P		**P**	**23 47 05.4**	**-0.2**
1.1nm,0.6s,mb3.7,baz=67,slow=16,SNR=4.0								
LSZ	**Lusaka**	**40.90**	**253**	*e*P		**P**	**23 47 05.5**	**-0.1**
0.7nm,0.6s,mb3.5								
LSA	**Lhasa**	**41.12**	**30**	*e*P		**P**	**23 47 08.5**	**+1.0**
LBTB	**Lobatse**	**45.57**	**240**	LR		LR	00 03 26.8	
comp=Z,253nm,21.1s,MS4.1,baz=89,slow=32								
LBTB	**Lobatse**	**45.57**	**240**	*e*P		**P**	**23 47 43.2**	**-0.2**
BOSA	**Boshof**	**47.05**	**236**	LR		LR	00 06 07.7	
comp=Z,163nm,18.2s,MS4.0,baz=116,slow=34								
BOSA	**Boshof**	**47.05**	**236**	*e*P		**P**	**23 47 55.1**	**+0.1**
3.6nm,0.9s,mb4.3								
AAK	**Ala-Archa**	**48.19**	**6**	*e*P		**P**	**23 48 04.8**	**+0.9**
11nm,1.6s,mb4.6								
TSUM	**Tsumeb**	**51.51**	**250**	*e*P		**P**	**23 48 28.9**	**-0.2**
SUR	**Sutherland**	**51.97**	**233**	*e*P		**P**	**23 48 33.0**	**+0.5**
MKAR	**Makanchi Array**	**53.45**	**12**	P		**P**	**23 48 42.6**	**-0.9**
0.6nm,0.7s,mb3.6,baz=196,slow=7.5,SNR=11								
MKAR				PcP		PcP	23 49 51.3	+0.7
0.5nm,0.8s,baz=204,slow=4.7,SNR=2.5								
AKTK	**Aktyubinsk**	**56.46**	**352**	P		**P**	**23 49 04.7**	**-0.6**
AKTK				LR		LR	00 12 16.5	
AKTO	**Aktyubinsk**	**56.46**	**352**	P		**P**	**23 49 04.7**	**-0.6**
1.7nm,0.9s,mb4.1,baz=180,slow=8.0,SNR=4.3								
AKTO				LR		LR	00 12 16.5	
comp=Z,62nm,20.4s,MS3.7,baz=0.0,slow=35								
KURK	**Kurchatov**	**56.64**	**8**	*e*P		**P**	**23 49 06.3**	**-0.3**
1.2nm,0.6s,mb4.1								
ZRNK	**Zerenda**	**58.22**	**0**	*e*P		**P**	**23 49 17.7**	**-0.1**
2.0nm,0.5s,mb4.4								
BRVK	**Borovoye**	**58.35**	**1**	*e*P		**P**	**23 49 18.6**	**0.0**
ZAL	**Zalesovo**	**60.75**	**11**	P		**P**	**23 49 34.3**	**-0.9**
1.1nm,0.5s,mb4.2,baz=246,slow=1.0,SNR=7.2								
SONM	**Songino Array**	**62.61**	**28**	P		**P**	**23 49 48.2**	**+0.5**
1.9nm,0.9s,mb4.2,baz=223,slow=7.3,SNR=12								
KAKA	**Kakadu**	**63.27**	**101**	*e*P		**P**	**23 49 42.0**	**-10**
9.4nm,0.9s,mb4.9								
ASAR	**Alice Springs**	**65.17**	**113**	P		**P**	**23 50 05.0**	**+0.4**
1.2nm,0.8s,mb4.0,baz=283,slow=6.1,SNR=13								
WRA	**Warramunga Arr**	**65.31**	**109**	P		**P**	**23 50 06.2**	**+0.7**
4.3nm,0.8s,mb4.5,baz=284,slow=6.2,SNR=27								
WRAB	**Tennant Creek**	**65.32**	**109**	*e*P		**P**	**23 50 07.1**	**+1.5**
7.1nm,0.7s,mb4.8								
WB2	**Warramunga Arr**	**65.32**	**109**	*e*P		**P**	**23 50 06.0**	**+0.4**
JOW	**Kunigami**	**65.98**	**58**	LR		LR	00 15 12.4	
comp=Z,99nm,21.4s,MS4.0,baz=326,slow=33								
TORD	**Torodi Ar. Bea**	**69.01**	**286**	P		**P**	**23 50 28.6**	**-0.4**
1.8nm,1.1s,mb3.9,baz=93,slow=3.9,SNR=5.4								
GERES	**GERESS Array B**	**72.16**	**325**	LR		LR	00 24 12.8	
comp=Z,99nm,18.6s,MS4.1,baz=34,slow=37								
DBIC	**Dimbokro**	**74.35**	**278**	P		**P**	**23 51 00.6**	**-0.5**
4.1nm,1.2s,mb4.2,baz=99,slow=5.4,SNR=3.6								
DBIC	**Dimbokro**	**74.35**	**278**	*e*P		**P**	**23 51 01.1**	**0.0**
1.1nm,0.6s,mb4.0								
NVAR	**Mina Array Bea**	**146.61**	**10**	PKPbc		PKPbc	23 59 07.0	+1.9
1.0nm,0.6s,baz=18,slow=3.1,SNR=2.6								

*IDC **09** 23:42:42.5±0.8, 6006S×2639W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, ML4.6/1, Error ellipse: s-maj=31.1km s-min=18.6km az=14.0*
*ISCJB **09** 23:42:43.0±0.6, 6003S±010×264W±02, h10km, mb4.2/10, Error ellipse: s-maj=16.7km s-min=12.2km az=96.6*
*NEIC **09** 23:42:52.4±3.2, 5992S×2660W, h70km±27km, mb4.4/4, Error ellipse: s-maj=13.5km s-min=11.5km az=51.0*

ISC 09 23:42:44.5±0.5, 6005S±010×264W±02, h10km, n28, σ1°15/19, mb4.2/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**14.96**	**151**	P		**Pn**	**23 46 13.3**	**-2.7**
2.5nm,0.3s,baz=312,slow=14,SNR=74								
SNAA					Sn	**Sn**	**23 48 44.3**	**-17**
0.1nm,0.3s,baz=231,slow=15,SNR=3.7								
SNAA	**Sanae**	**14.96**	**151**	*e*Pn		**Pn**	**23 46 13.2**	**-2.8**
17nm,0.4s								
USHA	**Ushuaia**	**22.91**	**264**	P		**P**	**23 47 49.6**	**+1.2**
13nm,0.8s,mb4.4,baz=107,slow=12,SNR=8.2								
TRIS	**Tristan da Cun**	**24.71**	**28**	*e*P		**P**	**23 48 06.5**	**+0.7**
QSPA	**South Pole Qui**	**30.19**	**180**	*e*P		**P**	**23 48 56.4**	**+1.6**
1.1nm,0.5s,mb3.8								
PLCA	**Paso Flores**	**33.30**	**285**	P		**P**	**23 49 21.6**	**-0.6**
2.1nm,0.5s,mb4.4,baz=119,slow=8.0,SNR=15								
CFAA	**Coronel Fontan**	**39.64**	**297**	P		**P**	**23 50 15.4**	**-1.0**
0.4nm,0.4s,mb3.5,baz=157,slow=6.1,SNR=8.6								
CPUP	**Villa Florida**	**39.84**	**314**	P		**P**	**23 50 17.8**	**-0.2**
0.6nm,0.3s,mb3.8,baz=132,slow=8.3,SNR=6.7								
CPUP	**Villa Florida**	**39.84**	**314**	*e*P		**P**	**23 50 17.9**	**-0.1**
7.5nm,0.3s,mb4.9								
BDFB	**Brasilia**	**47.07**	**331**	P		**P**	**23 51 14.7**	**-1.6**
1.9nm,0.7s,mb4.2,baz=46,slow=4.7,SNR=3.9								
LPAZ	**La Paz**	**53.08**	**307**	P		**P**	**23 52 02.1**	**+0.1**
1.9nm,0.6s,mb4.2,baz=144,slow=3.4,SNR=12								
LPAZ	**La Paz**	**53.08**	**307**	*e*P		**P**	**23 52 02.4**	**+0.5**
2.4nm,0.9s,mb4.1								
LSZ	**Lusaka**	**59.53**	**66**	P		**P**	**23 52 48.1**	**+0.1**
1.8nm,0.8s,mb4.1,baz=194,slow=5.8,SNR=3.4								
LSZ	**Lusaka**	**59.53**	**66**	P		**P**	**23 52 48.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.37**	**28**	P		**P**	**23 54 34.0**	**+0.2**
6.1nm,0.6s,mb4.7,baz=199,slow=6.3,SNR=135								
MBWA	**Marble Bar**	**94.50**	**149**	P		**P**	**23 56 06.8**	**+1.8**
COCO	**West Island**	**95.01**	**125**	*e*P		**P**	**23 56 08.0**	**+0.6**
14nm,0.3s								
ASAR	**Alice Springs**	**95.04**	**162**	P		**P**	**23 56 06.8**	**-0.6**
0.6nm,0.5s,mb4.3,baz=155,slow=3.7,SNR=5.6								
SCHQ	**Schefferville**	**118.99**	**335**	PKP		PKPdf	00 01 30.6	-2.8
1.5nm,1.0s,baz=68,slow=5.4,SNR=3.2								
NOA	**NORSAR Array B**	**124.21**	**21**	PKP		PKPdf	00 01 41.6	-1.7
0.8nm,0.8s,baz=204,slow=1.3,SNR=2.3								
FINES	**FINESS Array B**	**127.72**	**29**	PKP		PKPdf	00 01 47.9	-2.2
0.7nm,0.5s,baz=183,slow=3.6,SNR=8.2								
ARCES	**ARCESS Array B**	**134.50**	**23**	PKP		PKPdf	00 02 00.3	-2.6
1.9nm,0.8s,baz=172,slow=1.8,SNR=8.3								
BVAR	**Borovoye Array**	**136.48**	**61**	PKP		PKPdf	00 02 04.7	-1.9
0.7nm,0.5s,baz=193,slow=5.8,SNR=4.0								
YKA	**Yellowknife Ar**	**139.36**	**315**	PKP		PKPdf	00 02 09.6	-2.3
0.7nm,0.6s,baz=125,slow=2.2,SNR=13								
INK	**Inuvik**	**149.09**	**316**	PKPbc		PKPbc	00 02 29.6	-3.3
1.9nm,0.5s,baz=85,slow=3.1,SNR=8.2								
SONM	**Songino Array**	**150.33**	**93**	PKPbc		PKPbc	00 02 34.6	-1.3
2.4nm,0.9s,baz=235,slow=2.6,SNR=11								
ULN	**Ulaanbaatar**	**150.68**	**93**	*e*PKPdf		PKPdf	00 02

AAK Ala-Archa 6.38 20 *e*Pn **Pn 23 59 28.0 -1.2**
7.4nm,0.3s
AAK *e*Sn **Sn 00 00 38.7 -2.4**
AAK Ala-Archa 6.38 20 *e*PN **Pn 23 59 28.0 -1.1**
AAK pmax pmax
comp=Z,7.0nm,0.3s
KKAR Karatay Array 6.50 353 PN **Pn 23 59 29.6 -1.1**
KKAR pmax pmax
comp=Z,3.0nm,0.2s
ULHL Ulahol 6.65 31 P **Pn 23 59 33.1 +0.4**
SNR=5.5
CHMS Chumysh 6.79 20 P **Pn 23 59 34.8 +0.2**
SNR=5.6
SDNR Sundarnagar 6.81 137 *e*P **Pn 23 59 34.9 +0.1**
SDNR *e*S **Sn 00 00 47.6 -3.6**
USP Ospenovka 6.98 18 P **Pn 23 59 37.1 +0.1**
SNR=14
TKM2 Tokmak 2 6.98 25 P **Pn 23 59 44.6 +7.5**
SNR=7.5
MKAR Makanchi Array 12.90 35 P **Pn 00 00 54.5 -0.6**
comp=Z,0.1nm,0.3s,baz=217,slow=13,SNR=5.2
KOLN Koldanda 13.48 128 *e*Pn **Pn 00 01 00.7 -1.8**
KOLN *e*Sn **Sn 00 03 22.8 -8.8**
comp=Z,18nm,0.5s
GKN Gorkha 13.99 124 *e*Pn **Pn 00 01 09.0 0.0**
GKN *e*Sn **Sn 00 03 35.5 -8.6**
comp=Z,49nm,0.6s
KKN Kakani 14.56 123 *e*Pn **Pn 00 01 16.6 +0.5**
KKN *e*Sn **Sn 00 03 48.9 -8.8**
comp=Z,25nm,0.6s
DMN Daman 14.56 124 *e*Pn **Pn 00 01 15.9 -0.3**
DMN *e*Sn **Sn 00 03 48.6 -9.2**
comp=Z,29nm,0.7s
PKI Pulchoki 14.79 124 *e*Pn **Pn 00 01 20.0 +1.0**
GUN Gumba 14.89 122 *e*Pn **Pn 00 01 20.3 +0.1**
JIRN Jiri 15.26 122 *e*Pn **Pn 00 01 25.0 +0.2**
JIRN *e*Sn **Sn 00 04 05.2 -9.3**
comp=Z,18nm,0.4s
ZRNK Zerenda 16.40 354 *e*Pn **Pn 00 01 39.5 +0.7**
comp=Z,1.2nm,0.4s
ZRNK Zerenda 16.40 354 *e*P **Pn 00 01 39.5 +0.7**
ZRNK pmax pmax
comp=Z,1.0nm,0.4s
BRVK Borovoye 16.43 357 *e*P **Pn 00 01 40.1 +1.0**
AKTK Aktyubinsk 16.89 329 P **Pn 00 01 44.4 -0.3**
AKTK S **S 00 04 41.8 -11**
AKTO Aktyubinsk 16.89 329 P **Pn 00 01 44.4 -0.3**
comp=Z,0.7nm,0.3s,baz=132,slow=9.0,SNR=15
AKTO S **S 00 04 41.8 -11**
comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=4.1
AKTO Aktyubinsk 16.89 329 P **Pn 00 01 44.4 -0.3**
AKTO S **S 00 04 41.8 -11**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
ZAL Zalesovo 19.57 24 P **P 00 02 14.8 +1.3**
comp=Z,1.2nm,0.3s,baz=260,slow=7.8,SNR=7.4
ZAL Zalesovo 19.57 24 P **P 00 02 14.8 +1.3**
ZAL Zalesovo 19.57 24 P **P 00 02 14.8 +1.4**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
SONM Songino Array 27.86 55 P **P 00 03 33.8 +1.1**
comp=Z,0.5nm,0.6s,mb3.4,baz=265,slow=9.6,SNR=2.2
SONM Songino Array 27.86 55 P **P 00 03 33.8 +1.1**
SONM pmax pmax
comp=Z,1.0nm,0.6s
MOS Moscow 29.84 321 *e*P **P 00 03 58.7 +8.5**
MOS pmax pmax
comp=Z,39nm,1.2s,mb5.0
AKASG Malin Array Be 33.22 309 P **P 00 04 18.5 -1.3**
comp=Z,0.2nm,0.4s,mb3.2,baz=107,slow=11,SNR=4.0
JOF Joensuu 35.98 330 *e*p **P 00 04 44.3 +0.9**
FINES FINESS Array B 37.62 326 P **P 00 04 57.7 +0.3**
comp=Z,0.6nm,0.4s,mb3.6,baz=119,slow=9.2,SNR=13
FINES FINESS Array B 37.62 326 P **P 00 04 57.7 +0.3**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 41.19 337 P **P 00 05 27.3 +0.5**
comp=Z,1.6nm,0.7s,mb3.7,baz=118,slow=8.5,SNR=9.3
ARCES ARCESS Array B 41.19 337 P **P 00 05 27.3 +0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
VRAC Vranov 41.29 306 LR LR 00 25 53.3
comp=Z,97nm,19.1s,baz=319,slow=41
NB2 NORSAR Subarra 44.54 323 P **P 00 05 53.6 -0.3**
comp=Z,1.2nm,0.4s,mb3.9,baz=97,slow=7.9
NOA NORSAR Array B 44.54 323 P **P 00 05 53.8 -0.1**
comp=Z,1.4nm,0.5s,mb3.9,baz=96,slow=7.7,SNR=7.1
NOA NORSAR Array B 44.54 323 P **P 00 05 53.8 -0.1**
NOA pmax pmax
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 66.19 269 P **P 00 08 26.9 -1.7**
comp=Z,0.3nm,0.5s,mb3.4,baz=52,slow=5.7,SNR=13
GUMO Guam 68.67 89 LR LR 00 40 27.8
comp=Z,53nm,21.6s,baz=93,slow=37
INK Inuvik 73.68 9 P **P 00 09 14.8 +0.4**
comp=Z,0.5nm,0.5s,mb3.5,baz=99,slow=3.9,SNR=3.8
INK Inuvik 73.68 9 P **P 00 09 14.8 +0.5**
INK pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 81.08 3 P **P 00 09 55.1 -0.3**
comp=Z,0.2nm,0.4s,mb3.1,baz=350,slow=5.3,SNR=4.3
YKA LR LR 00 46 25.8
comp=Z,78nm,20.9s,baz=250,slow=36
WRA Warramunga Arr 81.67 122 P **P 00 09 58.3 -0.3**
comp=Z,0.6nm,0.5s,mb3.5,baz=324,slow=4.9,SNR=22
WRA Warramunga Arr 81.67 122 P **P 00 09 58.3 -0.3**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRAB Tennant Creek 81.67 122 *e*P **P 00 09 57.3 -1.3**
comp=Z,0.9nm,0.4s,mb3.8
WRAB Tennant Creek 81.67 122 *e*P **P 00 09 57.3 -1.3**
WRAB pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
ASAR Alice Springs 83.95 125 P **P 00 10 10.3 0.0**
comp=Z,0.7nm,0.6s,mb3.6,baz=307,slow=5.1,SNR=8.8
ASAR Alice Springs 83.95 125 P **P 00 10 10.4 0.0**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
CTAO Charters Tower 90.18 115 P **P 00 10 41.0 +0.6**

IDC 10 00:07:36.7±8.3, 977N×9299E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=441.7km s-min=27.4km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.01**	**348**	P	P	00 14 56.5	0.0
	0.4nm,0.9s,baz=167,slow=7.2,SNR=3.8						
WRA	**Warramunga Arr**	**50.28**	**126**	P	P	00 16 34.6	-0.3
	0.4nm,0.8s,baz=304,slow=8.7,SNR=5.0						
ASAR	**Alice Springs**	**52.00**	**130**	P	P	00 16 48.7	+1.0
	1.0nm,0.8s,baz=312,slow=7.6,SNR=11						

*IDC **10** 00:14:32.1±0.6, 1073N×9420E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/26, mbtmp4.1/17, MS4.1/8, Ms1 4.1/8, ms1mx3.6/30, Error ellipse: s-maj=25.6km s-min=14.1km az=57.0*
*ISCJB **10** 00:14:34.1±0.4, 1068N±005×9432E±005, h22km, mb4.4/45, MS4.1/12, Error ellipse: s-maj=7.7km s-min=5.9km az=92.4*
*BJI **10** 00:14:34.9, 1055N×94.19E, h33km, mB4.8, mb4.5, Ms4.2, Msz3.9*
*MOS **10** 00:14:35.6±0.9, 1077N×9431E, h33km, mb4.9/17, Error ellipse: s-maj=20.3km s-min=7.6km az=109.4*
*NEIC **10** 00:14:36.2±0.4, 1073N×9437E, mb4.5/16, Error ellipse: s-maj=14.4km s-min=6.9km az=55.0*
ISC 10 00:14:36.8±0.4, 1074N±005×9436E±005, h24km, h24km±1.1km: pP-P, n90, σ1°12/87, mb4.4/45, MS4.1/12, 6C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.82**	**300**	*e*P	Px	00 15 28.0	
PBA				*e*S	Sx	00 15 46.5	
PSI	**Prapat**	**9.10**	**150**	Pn	**Pn**	**00 16 45.9**	**-0.7**
	0.5nm,0.3s,baz=330,slow=18,SNR=2.5						
PSI				LR	LR	00 20 51.9	
	comp=Z,538nm,20.5s,baz=295,slow=41						
VIS	**Vishakhapatnam**	**12.74**	**304**	*e*P	**Pn**	**00 17 36.3**	**-0.1**
VIS				AMb	AMB	00 18 01.2	
	comp=Z,118nm,1.4s						
VIS				*e*S	**Sn**	**00 19 47.0**	**-10**
SHL	**Shillong**	**14.93**	**351**	*e*P	**Pn**	**00 18 06.7**	**+0.4**
BOK	**Bokaro**	**15.28**	**329**	*e*P	**Pn**	**00 18 12.2**	**+1.3**
BOK				AMb	AMB	00 18 20.3	
	comp=Z,18nm,1.7s						
KMI	**Kunming**	**16.36**	**28**	P	**Pn**	**00 18 31.9**	**+7.0**
KMI				AP	pP	00 18 38.0	+3.9
KMI				S	**Sn**	**00 21 36.7**	**+11**
KMI				AMB	AMB		
	comp=Z,16nm,1.4s						
KMI				AMB	AMB		
	comp=Z,80nm,4.0s						
KMI				LR	LR		
	comp=N,248nm,13.4s						
KMI				LR	LR		
	comp=E,135nm,12.9s						
KMI				LR	LR		
	comp=Z,157nm,13.9s						
HYB	**Hyderabad**	**16.70**	**295**	*i* P	**Pn**	**00 18 32.0**	**+2.9**
HYB	**Hyderabad**	**16.70**	**295**	*e*P	**Pn**	**00 18 32.0**	**+2.9**
TRD	**Trivandrum**	**17.30**	**264**	*ex*	x	00 23 20.3	
NGP	**Nagpur**	**17.97**	**307**	*e*P	**Pn**	**00 18 46.5**	**+1.5**
NGP				AMb	AMB	00 18 59.6	
	comp=Z,18nm,2.0s						
JIRN	**Jiri**	**18.50**	**337**	*e*P	**Pn**	**00 18 51.7**	**+0.3**
	comp=Z,51nm,1.0s						
PKI	**Pulchoki**	**18.74**	**335**	*e*P	**Pn**	**00 18 55.3**	**+1.0**
	comp=Z,56nm,1.1s						
PKI	**Pulchoki**	**18.74**	**335**	*e*P	**Pn**	**00 18 55.3**	**+1.0**
PKI				pmax	pmax		
	comp=Z,28nm,1.1s						
DMN	**Daman**	**18.90**	**334**	*e*P	**Pn**	**00 18 56.3**	**0.0**
	comp=Z,55nm,1.0s						
KKN	**Kakani**	**18.98**	**335**	*e*P	**Pn**	**00 18 56.7**	**-0.6**
	comp=Z,48nm,1.1s						
KKN	**Kakani**	**18.98**	**335**	*e*P	**Pn**	**00 18 56.7**	**-0.6**
KKN				pmax	pmax		
	comp=Z,24nm,1.1s						
LSA	**Lhasa**	**19.10**	**351**	P	**Pn**	**00 18 58.0**	**-0.7**
LSA	**Lhasa**	**19.10**	**351**	*e*P	**Pn**	**00 18 58.1**	**-0.6**
	comp=Z,2.9nm,0.7s						
LSA				*e*pP	pP	00 19 07.1	+2.9
LSA	**Lhasa**	**19.10**	**351**	*e*P	**Pn**	**00 18 58.1**	**-0.6**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GKN	**Gorkha**	**19.45**	**333**	*e*P	**Pn**	**00 19 02.4**	**-0.4**
	comp=Z,44nm,0.8s						
GYA	**Guiyang**	**19.48**	**35⇑**	*i*P	**Pn**	**00 19 04.4**	**+1.2**
GYA				AP	pP	00 19 09.7	+1.3
GYA				PP		00 19 24.7	
GYA				S	**Sn**	**00 22 36.7**	**-4.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,60nm,3.9s						
GYA				LR	LR		
	comp=N,480nm,12.8s						
GYA				LR	LR		
	comp=E,430nm,12.0s						
GYA				LR	LR		
	comp=Z,380nm,11.9s						
KOLN	**Koldanda**	**19.73**	**331**	*e*P	**Pn**	**00 19 05.4**	**-0.8**
	comp=Z,49nm,0.8s						
BHPL	**Bhopal**	**20.38**	**310**	*e*P	**P**	**00 19 14.0**	**+2.2**
BHPL				AMb	AMB	00 19 26.4	
	comp=Z,23nm,1.3s						
BHPL				*e*S	**S**	**00 23 04.1**	**+5.1**
POO	**Poona**	**21.28**	**294**	*e*P	**P**	**00 19 22.0**	**+0.5**
CD2	**Chengdu**	**21.88**	**22**	*e*P	**P**	**00 19 29.3**	**+1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				AMB	AMB		
	comp=Z,80nm,7.9s						
KKM	**Kota Kinabalu**	**22.12**	**100**	*e*P	**P**	**00 19 30.7**	**+0.2**
KKM				*e*pP		00 19 40.8	
ENH	**Enshi**	**24.00**	**34**	*e*P	**P**	**00 19 50.7**	**+1.1**
	comp=Z,34nm,1.0s,mb4.7						
ENH				*e*pP		00 19 56.9	
NDI	**New Delhi**	**24.00**	**320**	*e*P	**P**	**00 19 49.8**	**+0.2**
NDI				AMb	AMB	00 19 53.1	
	comp=Z,28nm,0.8s,mb4.7						
AJM	**Ajmer**	**24.31**	**313**	*e*P	**P**	**00 19 54.1**	**+1.6**
AJM				AMb	AMB	00 19 58.4	
	comp=Z,15nm,1.5s,mb4.2						
SMLA	**Simla**	**25.80**	**324**	*e*P	**P**	**00 20 06.0**	**+0.1**
LZH	**Lanzhou**	**26.66**	**17**	*e*P	**P**	**00 20 14.5**	**+0.8**
LZH				AP	pP	00 20 21.0	+0.3
LZH				XP	sP	00 20 25.0	+1.4
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,109nm,4.3s						
LZH				LR	LR		
	comp=N,223nm,10.2s						
LZH				LR	LR		
	comp=Z,347nm,13.5s,MS4.1						
GTA	**Gaotai**	**28.96**	**9**	*e*P	**P**	**00 20 35.7**	**+1.4**
GTA				AP	pP	00 20 42.2	+0.9
GTA				XP	sP	00 20 46.3	+2.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.0						
NJ2	**Nanjing**	**31.00**	**43**	*e*P	**P**	**00 20 54.5**	**+2.1**
NJ2				AP	pP	00 21 00.3	+0.9
NJ2				XP	sP	00 21 03.3	+1.0
NJ2				PP	PP	00 21 56.5	-6.0
NJ2				S	**S**	**00 25 56.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,70nm,8.4s						
NJ2				LR	LR		
	comp=N,530nm,17.7s						
NJ2				LR	LR		
	comp=E,610nm,25.9s						
NJ2				LR	LR		
	comp=Z,260nm,16.7s,MS4.0						
WMQ	**Urumqi**	**33.46**	**351**	*e*P	**P**	**00 21 15.4**	**+1.5**
WMQ				AP	pP	00 21 21.2	+0.2
WMQ				XP	sP	00 21 24.2	+0.3
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,74nm,4.6s						
WMQ				LR	LR		
	comp=N,95nm,20.0s,MS3.6						
WMQ				LR	LR		
	comp=E,99nm,22.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,102nm,22.0s,MS3.5						
AAK	**Ala-Archa**	**36.19**	**335**	*e*P	**P**	**00 21 37.3**	**-0.2**
	comp=Z,7.3nm,1.0s,mb4.6						
AAK				*e*pP	pP	00 21 43.5	-1.1
AAK	**Ala-Archa**	**36.19**	**335**	*e*P	**P**	**00 21 37.3**	**-0.2**
AAK				*e**PP	pP	00 21 43.5	-1.1
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
FRU	**Bishkek**	**36.30**	**335**	*e*P	**P**	**00 21 47.0**	**+8.5**
MKAR	**Makanchi Array**	**37.36**	**346**	P	**P**	**00 21 46.4**	**-1.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=167,slow=8.4,SNR=20						
SONM	**Songino Array**	**38.34**	**13**	P	**P**	**00 21 55.0**	**-0.7**
	comp=Z,2.3nm,1.1s,mb3.8,baz=195,slow=4.6,SNR=11						
SONM				LR	LR	00 39 23.0	
	comp=Z,120nm,18.4s,MS3.7,baz=220,slow=39						
ULN	**Ulaanbaatar**	**38.51**	**14⇑**	*i*P	**P**	**00 21 55.9**	**-1.3**
JNU	**Nakatsue**	**40.23**	**51**	P	**P**	**00 22 11.6**	**0.0**
	comp=Z,8.4nm,0.4s,mb4.8,baz=270,slow=16,SNR=4.3						
KURK	**Kurchatov**	**41.90**	**345**	*e*P	**P**	**00 22 25.2**	**-0.1**
	comp=Z,18nm,1.3s,mb4.5						
KURK				*e*pP	pP	00 22 31.6	-0.8
KURK	**Kurchatov**	**41.90**	**345**	*e*P	**P**	**00 22 25.2**	**-0.1**
KURK				*e**PP	pP	00 22 31.6	-0.9
KURK				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.5						
ZAL	**Zalesovo**	**43.75**	**352**	P	**P**	**00 22 40.4**	**+0.1**
	comp=Z,2.4nm,0.9s,mb4.0,baz=292,slow=11,SNR=15						
NVS	**Novosibirsk**	**44.86**	**351**	*e*P	**P**	**00 22 47.9**	**-1.2**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
KRAR	**Krasnoyarsk**	**45.17**	**359⇓**	*e*P	**P**	**00 22 50.6**	**-1.0**
KRAR				pmax	pmax		
	comp=Z,54nm,0.6s,mb5.5						
MDJ	**Mudanjiang**	**45.34**	**35**	P	**P**	**00 22 52.4**	**-0.6**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,59nm,3.4s						
BVAR	**Borovoye Array**	**46.37**	**340**	P	**P**	**00 22 59.9**	**-1.2**
	comp=Z,1.8nm,0.9s,mb4.0,baz=156,slow=7.6,SNR=11						
BRVK	**Borovoye**	**46.43**	**340**	*e*P	**P**	**00 23 00.8**	**-0.8**
	comp=Z,4.6nm,1.0s,mb4.4						
BRVK				*e*pP	pP	00 23 07.5	-1.3
BRVK	**Borovoye**	**46.43**	**340**	*e*P	**P**	**00 23 00.8**	**-0.8**
BRVK				*e**PP	pP	00 23 07.5	-1.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**46.78**	**339**	*e*P	**P**	**00 23 03.2**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.9						
ZRNK				*e*pP	pP	00 23 10.2	-1.3
ZRNK	**Zerenda**	**46.78**	**339**	*e*P	**P**	**00 23 03.2**	**-1.1**
ZRNK				*e**PP	pP	00 23 10.2	-1.4
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P	**P**	**00 23 19.0**	**+0.6**
	comp=Z,7.4nm,1.0s,mb4.7						
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P	**P**	**00 23 19.0**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BOD	**Bodaibo**	**49.33**	**14**	*e*P	**P**	**00 23 22.9**	**-1.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.1						
AKTK	**Aktyubinsk**	**49.56**	**330**	P	**P**	**00 23 24.9**	**-0.9**
AKTO	**Aktyubinsk**	**49.56**	**330**	P	**P**	**00 23 24.9**	**-0.9**
	comp=Z,0.6nm,0.4s,mb3.9,baz=90,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**49.79**	**128**	P	**P**	**00 23 28.3**	**+0.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=304,slow=8.9,SNR=22						
WRAB	**Tennant Creek**	**49.79**	**128**	*e*P	**P**	**00 23 28.4**	**+0.9**
	comp=Z,7.8nm,0.6s,mb4.9						
WRAB				*e*pP	pP	00 23 35.5	+0.6
WRAB	**Tennant Creek**	**49.79**	**128**	*e*P	**P**	**00 23 28.4**	**+0.8**
WRAB				*e**PP	pP	00 23 35.5	+0.6
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**00 23 42.0**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.1,baz=308,slow=7.0,SNR=19						
CLNS	**Chul'man**	**51.69**	**21**	*e*P	**P**	**00 23 35.3**	**-6.5**
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.7s						
GNI	**Garni**	**52.63**	**313**	*e*P	**P**	**00 23 49.9**	**+1.1**
	comp=E,20nm,1.0s,mb5.0						
GNI				*e*pP	pP	00 23 57.1	+0.9
GNI	**Garni**	**52.63**	**313**	*e*P	**P**	**00 23 49.9**	**+1.1**
GNI				*e**PP	pP	00 23 57.1	+1.0
GNI				pmax	pmax		
	comp=Z,20nm,1.0s						
ARU	**Arti**	**53.36**	**336⇓**	*i*P	**P**	**00 23 57.4**	**+3.2**
ARU				*e*		00 25 52.0	
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
ZEI	**Tsey**	**54.13**	**316**	*e*P	**P**	**00 23 59.9**	**+0.1**
ZEI				*i* *PP	pP	00 24 10.3	+3.1
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
YSS	**Yuzh-Sakhalins**	**54.42**	**39⇑**	*e*P	**P**	**00 24 10.2**	**+8.3**
YSS				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.0						
KIV	**Kislovodsk**	**55.37**	**316⇓**	*e*P	**P**	**00 24 16.0**	**+7.2**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
YAK	**Yakutsk**	**57.23**	**19**	*d*iP	**P**	**00 24 27.1**	**+5.0**
YAK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
KMBO	**Kilima Mbogo**	**57.99**	**262**	LR	LR	00 48 25.4	
	comp=Z,56nm,18.9s,MS3.7,baz=81,slow=35						
BR131	**Keskin Array S**	**60.75**	**310**	*e*P	**P**	**00 24 45.2**	**-1.4**
	comp=Z,3.1nm,0.9s,mb4.4						
BR131				*e*pP	pP	00 24 51.8	-2.2
BRTR	**Keskin Array B**	**60.75**	**310**	P	**P**	**00 24 45.0**	**-1.6**
	comp=Z,1.9nm,0.8s,mb4.2,baz=128,slow=8.5,SNR=7.6						
STKA	**Stephens Creek**	**61.95**	**135**	P	**P**	**00 24 53.8**	**-0.9**
	comp=Z,2.8nm,0.9s,mb4.4,baz=320,slow=4.0,SNR=4.8						
STKA				LR	LR	00 52 13.6	
	comp=Z,171nm,20.2s,MS4.2,baz=341,slow=36						
OBN	**Obninsk**	**63.09**	**327⇑**	*e*P	**P**	**00 25 08.5**	**+6.2**
OBN				*e*		00 25 26.9	
OBN				*e*		00 25 46.6	
OBN				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
MA2	**Magadan**	**64.14**	**28⇑**	*e*P	**P**	**00 25 15.9**	**+6.7**
MA2				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
TIXI	**Tiksi**	**64.39**	**11**	*e*P	**P**	**00 25 08.7**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
SEY	**Seymchan**	**66.25**	**25⇑**	*e*P	**P**	**00 25 29.0**	**+6.1**
MLR	**Muntele Rosu**	**67.30**	**315**	P	**P**	**00 25 28.9**	**-0.6**
	comp=Z,2.3nm,1.0s,mb4.2,baz=135,slow=8.0,SNR=2.3						
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**00 25 45.4**	**-2.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=139,slow=35,SNR=3.2						
ARCES	**ARCESS Array B**	**72.66**	**340**	LR	LR	01 01 22.5	
	comp=Z,141nm,18.5s,MS4.3,baz=90,slow=39						
BILL	**Bilibino**	**73.36**	**22**	*e*P	**P**	**00 26 06.9**	**+0.3**
BILL				*e*	pP	00 26 12.6	-1.6
BILL				*e*		00 28 52.0	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
GERES	**GERESS Array B**	**75.85**	**318**	P	**P**	**00 26 19.0**	**-2.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=101,slow=6.9,SNR=4.7						
BOSA	**Boshof**	**77.29**	**237**	P	**P**	**00 26 28.8**	**-0.5**
	comp=Z,4.4nm,1.1s,mb4.3,baz=159,slow=8.6,SNR=2.9						
NOA	**NORSAR Array B**	**77.36**	**330**	LR	LR	01 03 23.5	
	comp=Z,87nm,18.9s,MS4.1,baz=265,slow=38						
SYO	**Syowa Base**	**88.19**	**197⇓**	*e*P	**P**	**00 27 28.6**	**+2.8**
TORD	**Torodi Ar. Bea**	**90.15**	**283**	P	**P**	**00 27 34.2**	**-0.8**
	comp=Z,0.5nm,0.7s,mb4.0,baz=64,slow=3.8,SNR=5.0						
BORG	**Borgarnes**	**90.88**	**337**	LR	LR	01 08 10.8	
	comp=Z,235nm,18.7s,MS4.7,baz=199,slow=35						
ILAR	**Eielson Array**	**92.02**	**22**	P	**P**	**00 27 42.1**	**-1.5**
	comp=Z,0.2nm,0.7s,mb3.6,baz=302,slow=4.9,SNR=4.2						
ILAR				LR	LR	01 16 26.0	
	comp=Z,150nm,18.3s,MS4.5,baz=357,slow=40						
PLCA	**Paso Flores**	**147.29**	**201**	PKPbc	PKPbc	00 34 18.5	+0.3
	comp=Z,2.2nm,0.8s,baz=56,slow=3.3,SNR=3.5						
CPUP	**Villa Florida**	**149.10**	**236**	PKPbc	PKPbc	00 34 25.9	+2.9
	comp=Z,0.7nm,0.5s,baz=326,slow=3.0,SNR=3.3						

*ISCJB **10** 00:22:18.5±0.9, 1082N±004×6230W±004, h104km±8km, Error ellipse: s-maj=7.6km s-min=5.4km az=96.2*
*FUNV **10** 00:22:19.8, 1089N×6232W, h103km, MW2.6*
*TRN **10** 00:22:20.9, 1085N×6209W, h106km, MD3.0*
ISC 10 00:22:19.1±0.9, 1083N±004×6230W±004, h102km±8km, n13, σ1°09/25, 3C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.20**	**157⇑**	*i*P	**Pn**	**00 22 34.4**	**+0.9**
GUIV				*e*S	**Sn**	**00 22 44.4**	**+0.1**
TRN	**Trinidad (W)**	**0.90**	**102⇑**	*i*P	**Pn**	**00 22 39.2**	**+0.5**
TRN				*e*S	**Sn**	**00 22 51.9**	**-1.4**
GUNV	**Guanoco**	**0.92**	**224**	*e*P	**Pn**	**00 22 40.6**	**+1.8**
GUNV				*e*S	**Sn**	**00 22 54.9**	**+1.3**
CRUV	**Carupano**	**0.93**	**260**	*e*P	**Pn**	**00 22 39.3**	**+0.3**

*IDC **10** 00:26:25.4±0.9, 1078N×9423E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/22, mbtmp4.0/11, MS3.7/1, Ms1 3.7/1, ms1mx2.7/32, Error ellipse: s-maj=45.1km s-min=16.1km az=56.0*

*ISCJB **10** 00:26:26.5±0.6, 1041N±006×9396E±007, h21km, mb4.2/19, Error ellipse: s-maj=11.5km s-min=7.7km az=107.3*

*NEIC **10** 00:26:27.2±0.6, 1051N×9412E, h10km, mb4.3/12, Error ellipse: s-maj=19.7km s-min=8.5km az=52.0*

*BJI **10** 00:26:33.1, 1069N×9447E, h13km, mB4.6, mb4.2, Ms4.0, Msz3.7*

ISC 10 00:26:29.6±0.5, 1058N±006×9411E±007, h23km, h23km±1.4km:pP-P, n40, σ1§13/37, mb4.2/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.72**	**309**	*e*P	Px	00 27 15.3	
PBA				*e*S	Sx	00 27 30.1	
PBA				*e*x	x	00 27 42.9	
	comp=E,428nm,0.4s						
PBA				*e*x	x	00 27 43.3	
	comp=N,644nm,1.2s						
PSI	**Prapat**	**9.08**	**148**	LR	LR	00 32 52.9	
	comp=N,389nm,18.4s,baz=292,slow=42						
HYB	**Hyderabad**	**16.55**	**296**	*e*P	**Pn**	**00 30 32.0**	**+12**
KMI	**Kunming**	**16.62**	**28**	P	**Pn**	**00 30 22.7**	**+1.6**
KMI				AMB	AMB		
	comp=Z,11nm,1.0s						
QIZ	**Qiongzhong**	**17.36**	**59**	*e*Pn	**Pn**	**00 30 32.1**	**+1.7**
JIRN	**Jiri**	**18.56**	**337**	*e*P	**Pn**	**00 30 45.6**	**+0.5**
	comp=Z,29nm,1.0s						
PKI	**Pulchoki**	**18.79**	**335**	*e*P	**Pn**	**00 30 48.5**	**+0.7**
	comp=Z,40nm,1.1s						
GUN	**Gumba**	**18.90**	**337**	*e*P	**Pn**	**00 30 48.6**	**-0.6**
	comp=Z,47nm,0.9s						
DMN	**Daman**	**18.95**	**335**	*e*P	**Pn**	**00 30 51.1**	**+1.3**
KKN	**Kakani**	**19.03**	**335**	*e*P	**Pn**	**00 30 51.1**	**+0.3**
LSA	**Lhasa**	**19.23**	**352**	*e*P	**Pn**	**00 30 53.5**	**+0.3**
	comp=Z,15nm,1.1s						
GKN	**Gorkha**	**19.49**	**334**	*e*P	**Pn**	**00 30 56.3**	**0.0**
GYA	**Guiyang**	**19.75**	**35**	P	**Pn**	**00 31 02.5**	**+3.1**
GYA				AP	pP	00 31 07.4	+3.3
GYA				XP	sP	00 31 10.8	+3.7
GYA				PP		00 31 22.6	
GYA				S	**Sn**	**00 34 39.2**	**-1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
GYA				AMB	AMB		
	comp=Z,50nm,3.6s						
GYA				LR	LR		
	comp=N,390nm,12.0s						
GYA				LR	LR		
	comp=E,360nm,12.2s						
GYA				LR	LR		
	comp=Z,410nm,12.8s						
KOLN	**Koldanda**	**19.75**	**331**	*e*P	**Pn**	**00 30 59.4**	**-0.1**
	comp=Z,14nm,0.7s						
ENH	**Enshi**	**24.27**	**34**	*e*P	**P**	**00 31 44.3**	**-0.7**
	comp=Z,31nm,1.2s,mb4.6						
ENH				*e*pP		00 31 50.8	
GTA	**Gaotai**	**29.16**	**9**	*e*P	**P**	**00 32 36.4**	**+7.4**
GTA				AP	pP	00 32 42.3	+6.5
GTA				XP	sP	00 32 46.5	+7.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
WMQ	**Urumqi**	**33.59**	**352**	*e*P	**P**	**00 33 13.8**	**+5.8**
WMQ				AP	pP	00 33 19.6	+4.8
WMQ				XP	sP	00 33 22.6	+5.0
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,44nm,4.6s						
WMQ				LR	LR		
	comp=N,75nm,20.0s						
WMQ				LR	LR		
	comp=E,89nm,22.0s						
WMQ				LR	LR		
	comp=Z,92nm,22.0s						
AAK	**Ala-Archa**	**36.24**	**335**	*e*P	**P**	**00 33 32.0**	**+1.1**
	comp=Z,7.2nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	**37.47**	**347**	P	**P**	**00 33 37.5**	**-3.8**
	comp=Z,0.4nm,0.9s,mb3.2,baz=133,slow=46,SNR=3.3						
MKAR	**Makanchi Array**	**37.47**	**347**	P	**P**	**00 33 37.5**	**-3.8**
SONM	**Songino Array**	**38.55**	**13**	P	**P**	**00 33 48.6**	**-1.8**
	comp=Z,0.2nm,0.5s,mb3.1,baz=270,slow=2.4,SNR=4.1						
KURK	**Kurchatov**	**42.00**	**345**	*e*P	**P**	**00 34 18.4**	**-0.6**
	comp=Z,8.8nm,1.2s,mb4.3						
KURK				*e*pP	pP	00 34 25.7	-0.3
ZAL	**Zalesovo**	**43.88**	**352**	P	**P**	**00 34 33.0**	**-1.2**
	comp=Z,0.7nm,0.2s,mb4.0,baz=152,slow=23,SNR=3.9						
BVAR	**Borovoye Array**	**46.44**	**340**	P	**P**	**00 34 52.1**	**-2.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=81,slow=18,SNR=2.7						
BRVK	**Borovoye**	**46.51**	**340**	*e*P	**P**	**00 35 01.3**	**+6.2**
	comp=Z,2.8nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**46.85**	**339**	*e*P	**P**	**00 34 59.5**	**+1.8**
	comp=Z,2.4nm,0.9s,mb4.1						
MJAR	**Matsushiro Arr**	**47.41**	**50**	PcP	PcP	00 36 32.0	-0.5
	comp=Z,2.4nm,0.5s,baz=250,slow=2.6,SNR=6.1						
WRA	**Warramunga Arr**	**49.88**	**127**	P	**P**	**00 35 21.2**	**+0.1**
	comp=Z,4.8nm,0.8s,mb4.6,baz=304,slow=8.6,SNR=28						
WRAB	**Tennant Creek**	**49.88**	**127**	*e*P	**P**	**00 35 21.7**	**+0.5**
	comp=Z,7.0nm,0.6s,mb4.9						
ASAR	**Alice Springs**	**51.69**	**132**	P	**P**	**00 35 35.2**	**+0.5**
	comp=Z,5.7nm,0.8s,mb4.5,baz=310,slow=7.3,SNR=46						
CTA	**Charters Tower**	**59.67**	**121**	P	**P**	**00 36 32.2**	**+0.1**
	comp=Z,14nm,1.1s,mb4.9,baz=323,slow=7.3,SNR=4.0						
CTA	**Charters Tower**	**59.67**	**121**	P	**P**	**00 36 32.2**	**+0.1**
CTAO	**Charters Tower**	**59.67**	**121**	*e*P	**P**	**00 36 31.4**	**-0.7**
	comp=Z,27nm,1.3s,mb5.1						
BRTR	**Keskin Array B**	**60.67**	**310**	P	**P**	**00 36 38.6**	**-0.4**
	comp=Z,1.2nm,1.0s,mb4.0,baz=139,slow=9.6,SNR=4.6						
STKA	**Stephens Creek**	**62.00**	**135**	P	**P**	**00 36 47.0**	**-0.9**
	comp=Z,3.2nm,1.0s,mb4.4,baz=309,slow=5.2,SNR=5.3						
STKA	**Stephens Creek**	**62.00**	**135**	P	**P**	**00 36 47.0**	**-0.9**
HNR	**Honiara**	**68.44**	**105**	*e*P	**P**	**00 37 30.1**	**+0.4**
GERES	**GERESS Array B**	**75.81**	**318**	P	**P**	**00 38 13.4**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=44,slow=12,SNR=2.4						
ILAR	**Eielson Array**	**92.27**	**22**	P	**P**	**00 39 35.6**	**-2.1**
	comp=Z,0.7nm,1.1s,mb3.9,baz=185,slow=18,SNR=3.2						
PLCA	**Paso Flores**	**147.05**	**202**	PKPbc	PKPbc	00 46 11.2	+0.7
	comp=Z,3.2nm,1.0s,baz=170,slow=7.8,SNR=3.8						

*IDC **10** 00:28:58.8±0.9, 1591S×17276W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.2/17, mbtmp4.1/8, MS3.8/3, Ms1 3.8/3, ms1mx3.0/28, Error ellipse: s-maj=41.0km s-min=19.8km az=128.0*

*ISCJB **10** 00:29:01.2±0.6, 158S±0.1×1728W±02, h33km, mb4.2/10, MS4.0/2, Error ellipse: s-maj=27.8km s-min=7.6km az=64.7*

*NEIC **10** 00:29:04.3±0.5, 1594S×17281W, h35km, mb4.4/2, Error ellipse: s-maj=22.9km s-min=11.4km az=122.0*

ISC 10 00:29:03.2±0.6, 158S±01×1727W±02, h35km, n23, σ0§95/16, mb4.2/10, MS4.0/2, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.04**	**25**	Pn	**Pn**	**00 29 33.2**	**-1.8**
	23nm,0.3s,baz=265,slow=2.3,SNR=12						
AFI				Sn	**Sn**	**00 29 58.5**	**-0.7**
	147nm,0.3s,baz=188,slow=21,SNR=13						
AFI				LR	LR	00 30 06.4	
	comp=Z,406nm,19.4s,baz=76,slow=31						
AFI				T		00 31 58.8	
	27nm,0.3s,baz=172,slow=23,SNR=5.3						
AFI	**Afiamalu**	**2.04**	**25**	Pn	**Pn**	**00 29 33.2**	**-1.8**
AFI				Sn	**Sn**	**00 29 58.5**	**-0.7**
AFI				LR	LR	00 30 06.4	
DZM	**Mont Dzumac**	**20.72**	**249**	LR	LR	00 40 10.7	
	comp=Z,369nm,18.4s,MS3.8,baz=204,slow=33						
URZ	**Urewera**	**24.15**	**200**	P	**P**	**00 34 15.2**	**-0.6**
	7.8nm,0.5s,mb4.4,baz=323,slow=4.9,SNR=5.8						
SNZO	**South Karori**	**27.70**	**201**	P	**P**	**00 34 47.2**	**-0.8**
TAU	**Tasmania Unive**	**43.53**	**223**	P	**P**	**00 37 03.2**	**-0.2**
STKA	**Stephens Creek**	**44.47**	**240**	P	**P**	**00 37 09.7**	**-1.1**
	2.2nm,0.8s,mb4.0,baz=50,slow=12,SNR=3.3						
WRAB	**Tennant Creek**	**50.44**	**257**	*e*P	**P**	**00 37 57.7**	**+0.5**
	1.3nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**50.45**	**257**	P	**P**	**00 37 57.7**	**+0.3**
	0.6nm,0.7s,mb3.8,baz=95,slow=6.9,SNR=13						
ASAR	**Alice Springs**	**50.67**	**252**	P	**P**	**00 37 58.9**	**-0.1**
	2.6nm,0.7s,mb4.3,baz=86,slow=8.7,SNR=25						

2006 MAR

VNDA	**Vanda**	**63.09**	**186**	P	**P**	**00 39 27.1**	**0.0**
	2.4nm,0.9s,mb4.3,baz=153,slow=4.7,SNR=3.6						
NWAO	**Narrogin (SRO)**	**65.05**	**241**	*e*P	**P**	**00 39 39.8**	**-0.1**
	7.6nm,1.2s,mb4.6						
PDAR	**Pinedale Array**	**82.07**	**42**	P	**P**	**00 41 21.3**	**+1.4**
	1.2nm,0.9s,mb3.8,baz=212,slow=4.2,SNR=8.6						
ILAR	**Eielson Array**	**82.67**	**11**	P	**P**	**00 41 24.6**	**+1.7**
	1.8nm,0.7s,mb4.2,baz=224,slow=6.3,SNR=24						
YKA	**Yellowknife Ar**	**90.15**	**23**	P	**P**	**00 42 01.1**	**+1.4**
	0.8nm,0.9s,mb4.0,baz=234,slow=4.7,SNR=10						
YKA				LR	LR	01 15 00.6	
	comp=Z,123nm,21.8s,MS4.3,baz=275,slow=31						
STHS	**Stebnicka Huta**	**144.57**	**344**	*e*PKP	PKPdf	00 48 38.4	+2.5
KOLS	**Kolonicke sedl**	**144.73**	**343**	*e*PKP	PKPdf	00 48 37.7	+1.5
NIE	**Niedzica**	**144.81**	**345**	*e*PX		00 48 38.7	
KECS	**Kecovo**	**145.63**	**344**	*e*PKP	PKPdf	00 48 39.9	+2.2
SMOL	**Smolenice**	**146.30**	**348**	*e*	PKPdf	00 48 43.8	+5.0
KHC	**Kasperske Hory**	**146.34**	**353**	*e*PKP	PKPdf	00 48 42.5	+3.6
GERES	**GERESS Array B**	**146.60**	**352**	PKPbc	PKPbc	00 48 42.3	+1.4
	1.5nm,0.8s,baz=18,slow=1.7,SNR=8.2						
BRTR	**Keskin Array B**	**146.88**	**321**	PKPbc	PKPbc	00 48 45.0	+3.2
	2.9nm,0.9s,baz=89,slow=2.6,SNR=8.9						

CASC 10 00:32:31.1±2.4, 1607N×8843W, h0km±33km, MD4.0, 1D, Belize

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTO2	**Montecristo 2**	**1.89**	**208**	*e*P	Pn	00 33 06.1	+1.5
MTO2				*e*S	Sn	00 33 31.1	+1.9
LBRS	**Las Brisas**	**2.40**	**194**	*e*P	Pn	00 33 16.8	+5.2
LBRS				*e*S	Sn	00 33 47.3	+5.6
LCBS	**La Ceiba**	**2.46**	**192**	*e*P	Pn	00 33 15.8	+3.3
LCBS				*e*S	Sn	00 33 48.0	+4.8
BOQS	**Boqueron**	**2.47**	**200**	*e*P	Pn	00 33 17.4	+4.9
BOQS				*e*S	Sn	00 33 50.6	+7.2
SNJE	**San Jose**	**2.47**	**208**	*e*P	Pn	00 33 15.8	+3.2
SNJE				*e*S	Sn	00 33 49.0	+5.6
SNVI	**San Vicente**	**2.48**	**189**	*e*P	Pn	00 33 17.3	+4.6
SNVI				*e*S	Sn	00 33 49.4	+5.7
SBLS	**San Blas**	**2.50**	**208**	*e*P	Pn	00 33 16.5	+3.5
SBLS				*e*S	Sn	00 33 50.4	+6.2
LFRS	**El Faro**	**2.51**	**194**	*e*P	Pn	00 33 18.8	+5.6
LFRS				*e*S	Sn	00 33 51.6	+7.1
IXG	**Ixpaco**	**2.72**	**226**	*e*P	Pn	00 33 16.2	+0.3
IXG				*e*S	Sn	00 33 51.4	+1.8
TP2	**Tecpan 2**	**2.81**	**243**	*e*P	Pn	00 33 18.3	+1.1
TP2				*e*S	Sn	00 33 55.0	+3.2
CNCH	**Conchagua**	**2.84**	**168**	*e*P	Pn	00 33 22.8	+5.1
CNCH				*e*S	Sn	00 34 00.9	+8.3

IDC 10 00:41:54.8±8.2, 915N×9261E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=422.4km s-min=29.4km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.53**	**349**	P	P	00 49 18.9	0.0
	0.2nm,0.6s,baz=160,slow=7.4,SNR=4.3						
WRA	**Warramunga Arr**	**50.23**	**125**	P	P	00 50 52.0	-0.6
	0.6nm,0.6s,baz=304,slow=8.7,SNR=7.2						
ASAR	**Alice Springs**	**51.89**	**130**	P	P	00 51 06.3	+1.3
	0.9nm,0.5s,baz=297,slow=6.6,SNR=11						

*NIED **10** 00:46:00, 4550N×15130E, h20km, Mw4.1 Best double couple: M0=1.78000×10^15 NP1:φ=266.00000°, δ=89.00000°, λ=53.00000°. NP2:φ=175.00000°, δ=37.00000°, λ=178.00000°.*

*IDC **10** 00:46:07.9±0.7, 4502N×15189E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/22, mbtmp4.0/15, ML3.6/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/34, Error ellipse: s-maj=20.1km s-min=16.7km az=137.0*

*BJI **10** 00:46:10.8, 4441N×15188E, h44km, mB4.6, mb4.3, Ms4.2, Msz3.6*

*MOS **10** 00:46:11.7±1.1, 4504N×15174E, h33km, mb4.5/5, Error ellipse: s-maj=19.0km s-min=12.2km az=99.3*

*ISCJB **10** 00:46:12.5±1.3, 4491N±008×15161E±0.10, h43km±11km, mb4.1/22, MS3.9/4, Error ellipse: s-maj=14.0km s-min=10.2km az=118.7*

*JMA **10** 00:46:13.8±0.8, 4553N×15135E, h30km, M4.2*

*NEIC **10** 00:46:13.3±0.5, 4499N×15192E, h35km, mb4.6/4, Error ellipse: s-maj=15.5km s-min=12.0km az=124.0*

ISC 10 00:46:13.8±1.2, 4496N±008×1517E±01, h39km±10km, n62, σ1§17/63, mb4.1/22, MS3.9/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.57**	**252**	P	**Pn**	**00 47 19.5**	**-0.8**
NEM2				*e*S	**Sn**	**00 48 09.6**	**-2.5**
JRA	**Rausu**	**4.81**	**260**	P	**Pn**	**00 47 24.8**	**+1.1**
JRA				*e*S	**Sn**	**00 48 17.9**	**-0.3**
JNK	**Nakash**	**5.19**	**257**	P	**Pn**	**00 47 29.4**	**+0.5**
JNK				*e*S	**Sn**	**00 48 27.4**	**-0.1**
JAK	**Akkeshi**	**5.42**	**251**	P	**Pn**	**00 47 31.3**	**-0.7**
JAK				*e*S	**Sn**	**00 48 31.0**	**-2.0**
JTKR	**Abashiri--Toko**	**5.66**	**263**	P	**Pn**	**00 47 36.5**	**+1.2**
JAR	**Ashorobuto**	**5.94**	**257**	P	**Pn**	**00 47 40.0**	**+0.8**
JOB	**Onbets**	**6.03**	**253**	P	**Pn**	**00 47 40.7**	**+0.2**
JMP	**Maruseppu**	**6.04**	**264**	P	**Pn**	**00 47 42.1**	**+1.6**
JCH	**Churui**	**6.47**	**252**	P	**Pn**	**00 47 46.5**	**+0.1**
JKK2	**Kamakawa 2**	**6.50**	**264**	P	**Pn**	**00 47 47.7**	**+0.9**
ASAJ	**Asahikawa**	**6.55**	**266**	Pn	**Pn**	**00 47 49.4**	**+1.8**
	1.2nm,0.3s,baz=110,slow=18,SNR=7.9						
ASAJ				LR	LR	00 51 03.6	
	comp=Z,295nm,18.1s,baz=9.4,slow=44						
ASAJ	**Asahikawa**	**6.55**	**266**	PN	**Pn**	**00 47 49.4**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,295nm,18.1s						
JNBK	**Urakawa-nobuka**	**7.02**	**251**	P	**Pn**	**00 47 53.4**	**-0.6**
JBT2	**Biratori 2**	**7.08**	**255**	P	**Pn**	**00 47 55.1**	**+0.2**
JNB	**Noboribetsu**	**8.11**	**256**	P	**Pn**	**00 48 09.7**	**+0.8**
JKB	**Kayabe**	**8.34**	**252**	P	**Pn**	**00 48 11.3**	**-0.8**
JTM	**Tenmabayashi**	**8.84**	**246**	P	**Pn**	**00 48 18.6**	**-0.4**
JTM				*e*S	**Sn**	**00 49 51.7**	**-5.6**
OFUJ	**Ofunato**	**9.49**	**235**	P	**Pn**	**00 48 25.3**	**-2.6**
KLR	**Kul'dur**	**14.23**	**295**	*e*P	**Pn**	**00 49 38.8**	**+6.1**
MDJ	**Mudanjiang**	**15.69**	**277**	P	**Pn**	**00 49 56.0**	**+4.0**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,79nm,3.3s						
MDJ				LR	LR		
	comp=N,92nm,17.9s						
MDJ				LR	LR		
	comp=Z,103nm,17.9s						
YAK	**Yakutsk**	**21.35**	**331**	*e*P	**P**	**00 51 09.5**	**+12**
YAK				*e**PP		00 51 22.9	
YAK				*e*S	**S**	**00 54 46.9**	**-5.6**
YAK				*e**SS	sS	00 55 00.1	-8.2
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.4						
YAK				pmax	pmax		
	comp=N,11nm,1.4s						
YAK				pmax	pmax		
	comp=E,16nm,1.6s						
YAK				smax			
	comp=N,9.0nm,1.2s						
YAK				smax			
	comp=E,5.0nm,1.0s						
BILL	**Bilibino**	**24.36**	**13**	*e*P	**P**	**00 51 28.3**	**+0.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
SONM	**Songino Array**	**31.03**	**292**	P	**P**	**00 52 29.7**	**+1.9**
	comp=Z,0.5nm,0.7s,mb3.4,baz=69,slow=9.4,SNR=2.3						
GUMO	**Guam**	**31.80**	**193**	LR	LR	01 04 34.9	
	comp=Z,86nm,18.3s,MS3.5,baz=58,slow=35						
YHNB	**Yeheng**	**31.80**	**241**	*e*P	**P**	**00 52 33.2**	**-1.3**
NACB	**Ninganchiao**	**32.03**	**240**	P	**P**	**00 52 38.9**	**+2.4**
ZAK	**Zakamensk**	**32.58**	**297**	*e*P	**P**	**00 52 48.5**	**+7.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1						
LZH	**Lanzhou**	**36.97**	**273**	*e*P	**P**	**00 53 16.5**	**-2.8**
LZH				AP	pP	00 53 29.0	-1.2
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,52nm,4.8s						
LZH				LR	LR		
	comp=N,178nm,10.2s						
LZH				LR	LR		
	comp=Z,317nm,13.3s,MS4.3						
ILAR	**Eielson Array**	**38.58**	**37**	P	**P**	**00 53 31.7**	**-1.1**
	comp=Z,6.9nm,1.2s,mb4.2,baz=262,slow=6.9,SNR=19						
ZAL	**Zalesovo**	**42.89**	**307**	LR	LR	01 14 17.8	
	comp=Z,139nm,18.0s,MS3.9,baz=314,slow=39						
INK	**Inuvik**	**43.70**	**31**	P	**P**	**00 54 14.5**	**-0.4**
	comp=Z,5.3nm,0.8s,mb4.3,baz=288,slow=6.0,SNR=19						
WMQ	**Urumqi**	**44.67**	**292**	*e*P	**P**	**00 54 28.0**	**+5.3**
WMQ				AP	pP	00 54 33.8	0.0
WMQ				XP	sP	00 54 36.8	-1.6
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,72nm,4.6s						
WMQ				LR	LR		
	comp=N,75nm,20.0s,MS3.8						
WMQ				LR	LR		
	comp=E,82nm,18.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,72nm,24.0s						
MKAR	**Makanchi Array**	**46.90**	**298**	P	**P**	**00 54 40.0**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=72,slow=7.6,SNR=8.8						
BRVK	**Borovoye**	**51.28**	**310**	*e*P	**P**	**00 55 17.4**	**+3.6**
ZRNK	**Zerenda**	**52.02**	**310**	*e*P	**P**	**00 55 20.7**	**+1.4**
YKA	**Yellowknife Ar**	**52.96**	**35**	P	**P**	**00 55 24.8**	**-1.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=296,slow=7.0,SNR=18						
AAK	**Ala-Archa**	**53.75**	**297**	*e*P	**P**	**00 55 31.6**	**-0.5**
	comp=Z,5.1nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**53.75**	**297**	*e*P	**P**	**00 55 31.6**	**-0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ARU	**Arti**	**55.67**	**318**	*e*P	**P**	**00 55 45.8**	**-0.2**
AKTK	**Aktyubinsk**	**59.19**	**312**	P	**P**	**00 56 10.7**	**-0.1**
AKTO	**Aktyubinsk**	**59.19**	**312**	P	**P**	**00 56 10.7**	**-0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=69,slow=7.5,SNR=4.6						
JOF	**Joensuu**	**62.50**	**334**	*e*p	**P**	**00 56 33.1**	**-0.2**
SUMG	**Summit**	**62.56**	**3**	*e*P	**P**	**00 56 34.2**	**+0.6**
	comp=Z,14nm,1.0s,mb5.0						
FINES	**FINESS Array B**	**65.24**	**335**	P	**P**	**00 56 49.9**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=29,slow=9.7,SNR=5.2						
WRAB	**Tennant Creek**	**66.48**	**198**	*e*P	**P**	**00 57 00.7**	**+1.3**
	comp=Z,6.4nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**66.48**	**198**	*e*P	**P**	**00 57 00.7**	**+1.4**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**66.50**	**198**	P	**P**	**00 56 59.0**	**-0.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=18,slow=7.0,SNR=9.0						
PDAR	**Pinedale Array**	**66.62**	**52**	P	**P**	**00 56 58.4**	**-1.8**
	comp=Z,1.0nm,0.9s,mb3.9,baz=300,slow=2.9,SNR=5.9						
NB2	**NORSAR Subarra**	**69.60**	**341**	P	**P**	**00 57 18.6**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=29,slow=6.2						
NB2	**NORSAR Subarra**	**69.60**	**341**	P	**P**	**00 57 18.6**	**-0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**69.60**	**341**	P	**P**	**00 57 18.5**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.3,baz=30,slow=6.3,SNR=5.5						
ASAR	**Alice Springs**	**70.19**	**197**	P	**P**	**00 57 24.1**	**+1.6**
	comp=Z,2.4nm,0.9s,mb4.1,baz=12,slow=6.0,SNR=20						
AKASG	**Malin Array Be**	**72.48**	**326**	P	**P**	**00 57 35.4**	**-0.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=34,slow=6.0,SNR=7.1						
AKASG	**Malin Array Be**	**72.48**	**326**	P	**P**	**00 57 35.4**	**-0.9**
CLL	**Collm**	**77.68**	**335**	*i* P	**P**	**00 58 08.3**	**+2.0**
BRTR	**Keskin Array B**	**79.00**	**316**	P	**P**	**00 58 14.6**	**+1.0**
	comp=Z,1.7nm,1.1s,mb3.9,baz=215,slow=3.9,SNR=3.7						
KHC	**Kasperske Hory**	**79.41**	**334**	*e*P	**P**	**00 58 16.0**	**+0.1**
GERES	**GERESS Array B**	**79.62**	**333**	P	**P**	**00 58 15.9**	**-1.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=7.6,slow=4.0,SNR=5.3						
NWAO	**Narrogin (SRO)**	**83.60**	**209**	*e*P	**P**	**00 58 39.4**	**+1.4**
BDFB	**Brasilia**	**146.38**	**36**	PKPbc	PKPbc	01 05 49.4	-1.0
	comp=Z,1.9nm,0.7s,baz=324,slow=4.0,SNR=3.2						
PLCA	**Paso Flores**	**149.00**	**97**	PKPbc	PKPbc	01 05 56.4	-1.2
	comp=Z,3.6nm,0.7s,baz=299,slow=2.7,SNR=8.8						
CPUP	**Villa Florida**	**150.21**	**61**	PKPbc	PKPbc	01 05 59.6	-0.9
	comp=Z,2.4nm,0.7s,baz=348,slow=3.6,SNR=6.5						

*IDC **10** 00:48:37.3±2.3, 1115N×9407E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/21, mbtmp4.0/5, MS3.9/2, Ms1 3.9/2, ms1mx3.1/33, Error ellipse: s-maj=101.3km s-min=21.0km az=62.0*

*BJI **10** 00:48:38.3, 1098N×9439E, h9km, mB4.1, mb4.1*

*NEIC **10** 00:48:38.6±1.0, 1106N×9389E, h10km, mb4.3/5, Error ellipse: s-maj=27.8km s-min=14.6km az=54.0*

*ISCJB **10** 00:48:40.9±0.8, 110N±0.1×94.1E±0.1, h33km, mb4.2/12, MS4.3/1, Error ellipse: s-maj=19.0km s-min=9.1km az=88.3*

ISC 10 00:48:43.1±0.6, 109N±01×9397E±010, h35km, n31, σ1§44/26, mb4.2/12, MS4.3/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.40**	**301**	*e*P	Px	00 49 23.1	
PBA				*e*S	Sx	00 49 48.0

Error ellipse: s-maj=84.3km s-min=13.3km az=112.0

ISC 10 00:49:24.9±2.0, 102N±03×933E±05, h35km, n7, σ§25/7, mb4.0/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	8.79	124	*e*Pn	Pn	00 51 29.5	+0.2
LSA	Lhasa	19.46	354	*e*P	Pn	00 53 49.8	0.0
	3.0nm,0.2s						
MKAR	Makanchi Array	37.61	348	P	P	00 56 35.9	-0.2
	2.2nm,0.8s,mb3.9,baz=171,slow=8.7,SNR=5.1						
ZRNK	Zerenda	46.88	340	*e*P	P	00 57 52.0	+0.4
	1.7nm,0.8s,mb4.0						
WRA	Warramunga Arr	50.32	127	P	P	00 58 17.7	-0.3
	1.2nm,0.8s,mb4.0,baz=305,slow=8.4,SNR=3.0						
WRAB	Tennant Creek	50.32	127	P	P	00 58 18.4	+0.3
ASAR	Alice Springs	52.07	131	P	P	00 58 31.1	-0.2
	1.7nm,0.8s,mb4.0,baz=309,slow=7.9,SNR=5.8						

*ISCJB **10** 00:52:58.6±0.5, 3874N±002×2349E±003, h1km±4km, Error ellipse: s-maj=4.4km s-min=2.8km az=143.4*
*NEIC **10** 00:52:59.2, 3874N×2352E, h22km, ML3.1(THE), ML3.8(ATH), After ATH.*
*ATH **10** 00:52:59.2, 3874N×2352E, h22km, ML3.8*
*CSEM **10** 00:52:59.6±0.1, 3871N×2352E, h2km, ML3.0, Error ellipse: s-maj=2.9km s-min=1.3km az=79.0*
*THE **10** 00:53:02.2, 3885N×2345E, h1km, ML3.0*

ISC 10 00:52:59.5±0.4, 3872N±002×2349E±003, h2km±4km, n44, σ§06/62, 2C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	Parnis Oros	0.60	161	*e*PB	Pg	00 53 11.0	0.0
NEO	Neokhori	0.62	341	*e*PN	Pg	00 53 11.8	+0.4
NEO				*e*SB	Sg	00 53 20.3	+0.9
XOR	Xorichti	0.69	341	*e*Pg	Pg	00 53 12.9	+0.3
XOR				*e*Sg	Sg	00 53 21.1	-0.4
PTL	Penteli	0.73	156	*e*PB	Pb	00 53 13.0	-1.9
MGER	Gerania Oros	0.75	194	*e*PB	Pb	00 53 13.5	-1.7
MGER				*e*SB	Sb	00 53 24.8	-1.1
ATH	Athens Observa	0.77	166	*e*PN	Pg	00 53 14.2	0.0
ATH				*e*SN	Sg	00 53 25.5	+1.4
KVR	Kavouri	0.92	166	*e*PN	Pg	00 53 17.5	+0.4
AGG	Agios Georgios	0.95	289	*e*Pg	Pg	00 53 18.7	+1.0
AGG				*e*Sg	Sg	00 53 31.9	+1.9
NAIG	Nisos Aigina	0.96	180	*e*PN	Pg	00 53 18.0	+0.2
PAIG	Paliouri	1.22	7	*e*Pg	Pg	00 53 22.4	-0.4
PAIG				*e*Sg	Sg	00 53 38.9	+0.4
EVR	Evrytania	1.32	279	*e*PN	Pn	00 53 24.8	-0.1
LIT	Litokhoron	1.58	331	*e*Pg	Pg	00 53 28.5	-1.2
LIT				*e*Sg	Sg	00 53 48.5	-1.8
PLG	Polygyros	1.65	359	*e*PN	Pn	00 53 28.6	-0.8
PLG				*e*SN	Sn	00 53 49.5	-1.7
OUR	Ouranopolis	1.66	13	*e*Pg	Pg	00 53 28.9	-2.4
RLS	Riolos of Patr	1.72	248	*e*PN	Pn	00 53 30.5	+0.2
LOS	Limnos	1.73	45	*e*Pb	Pb	00 53 31.8	-0.2
LOS				*e*Sb	Sb	00 53 55.6	+1.4
LIA	Limnos Island	1.77	48	*e*PN	Pn	00 53 30.1	-0.9
ITM	Ithomi	1.97	219	*e*PN	Pn	00 53 34.1	+0.3
MEV	Metsovon	2.05	302	*e*Pb	Pb	00 53 36.0	-1.4
KZN	Kozani	2.07	321	*e*PN	Pn	00 53 35.1	0.0
PRK	Paraskevi	2.23	76	*e*PB	Pn	00 53 37.0	-0.4
APE	Apeiranthos	2.31	135	*e*Pn	Pb	00 53 41.9	+0.1
APE				*e*Sn	Sg	00 54 13.9	+0.3
APE	Apeiranthos	2.31	135	*e*Pn	Pn	00 53 38.0	-0.5
APE				P	Pb	00 53 41.9	+0.1
APE				S	Sg	00 54 13.9	+0.3
VLS	Valsamata	2.34	258	*e*PB	Pb	00 53 39.6	-2.7
GRG	Griva	2.39	340	*e*Pn	Pn	00 53 39.7	+0.2
SRS	Serrai	2.40	2	*e*Pn	Pn	00 53 39.1	-0.5
URLA	Izmir	2.47	97	*i*P	Pn	00 53 41.8	+1.1
URLA				*i*S	Sn	00 54 25.6	+14
KNT	Kendrikon	2.48	350	*e*Pn	Pn	00 53 40.8	-0.1
KNT				*e*Sn	Sn	00 54 11.7	0.0
KNT	Kendrikon	2.48	350	*e*Pn	Pn	00 53 40.8	0.0
KNT				*e*Sn	Sn	00 54 11.6	-0.1
IGT	Igoumenitsa	2.58	289	*e*Pn	Pn	00 53 44.1	+1.9
IGT				*e*Sn	Sn	00 54 15.9	+1.8
FNA	Florina	2.63	322	*e*Pn	Pn	00 53 43.1	+0.3
FNA				*e*Sn	Sn	00 54 15.7	+0.4
NVR	Nevrokopi	2.64	6	*e*PN	Pn	00 53 42.5	-0.6
VAY	Valandovo	2.69	345	*e*Pn	Pn	00 53 43.4	-0.3
SMG	Samos	2.83	110	*e*PN	Pn	00 53 45.6	0.0
MMB	Musomiste	2.87	4	P	Pn	00 53 45.5	-0.7
RDO	Rodhopi	2.89	32	*e*PN	Pn	00 53 45.5	-1.0
ALN	Alexandroupoli	2.94	41	*e*Pn	Pn	00 53 48.5	+1.4
KDAG	Bornova	2.98	95	*i*P	Pg	00 54 00.2	+3.6
KDAG				*i*S	Sg	00 54 45.8	+10
RZN	Rozhen	3.11	17	P	Pn	00 53 49.2	-0.3
KKB	Krupnik	3.16	355	P	Pn	00 53 50.0	-0.2
VTS	Vitosha	3.88	357	P	Pn	00 54 01.0	+1.0
VOIR		6.81	9	⇓P	Pn	00 54 40.9	+0.5
MLR	Muntele Rosu	7.01	14	⇑P	Pn	00 54 45.0	+1.9
PLOR	Plostina	7.50	17	⇑P	Pn	00 54 52.5	+2.7

IDC 10 01:02:08.4±10.0, 988N×9288E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=569.5km s-min=29.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.87	348	P	P	01 09 27.0	0.0
	0.3nm,0.8s,baz=161,slow=7.7,SNR=4.1						
WRA	Warramunga Arr	50.44	126	P	P	01 11 07.7	0.0
	0.4nm,0.7s,baz=303,slow=9.0,SNR=3.3						
ASAR	Alice Springs	52.16	130	P	P	01 11 21.6	+0.9
	0.5nm,0.5s,baz=305,slow=7.2,SNR=5.8						

*IDC **10** 01:03:13.3±6.9, 978N×9285E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/21, mbtmp4.0/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/35, Error ellipse: s-maj=359.0km s-min=26.3km az=59.0*
*ISCJB **10** 01:03:17.2±0.9, 98N±0.1×93.1E±02, h33km, mb3.9/6, Error ellipse: s-maj=35.6km s-min=8.3km az=110.2*
*NEIC **10** 01:03:19.0±0.7, 982N×93.11E, h30km, mb3.9/4, Error ellipse: s-maj=29.8km s-min=6.8km az=55.0*

ISC 10 01:03:19.5±0.9, 98N±02×931E±02, h35km, n17, σ§57/15, mb3.9/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.83	351	*e*P	Px	01 04 04.5	
PBA				*e*S	Sx	01 04 27.4	
PBA				*ex*	x	01 04 36.8	
	comp=E,742nm,0.5s						
PBA				*ex*	x	01 04 36.9	
	comp=N,528nm,0.5s						
KULM	Kulim	8.78	120	Pn	Pn	01 05 23.7	-0.3
PSI	Prapat	9.11	140	LR	LR	01 09 22.6	
	comp=N,110nm,18.1s,baz=170,slow=40						
JIRN	Jiri	18.87	341	*e*P	Pn	01 07 36.9	-0.5
PKI	Pulchoki	19.05	339	*e*P	Pn	01 07 40.1	+0.5
DMN	Daman	19.20	338	*e*P	Pn	01 07 42.3	+0.9
GUN	Gumba	19.20	340	*e*P	Pn	01 07 41.0	-0.4
KKN	Kakani	19.30	339	*e*P	Pn	01 07 43.0	+0.4
GKN	Gorkha	19.73	337	*e*P	Pn	01 07 47.2	-0.5
KOLN	Koldanda	19.94	335	*e*P	Pn	01 07 50.4	+0.3
	comp=N,9.6nm,0.6s						
ENH	Enshi	25.46	35	*e*P	P	01 08 44.2	0.0
MKAR	Makanchi Array	37.95	348	P	P	01 10 32.6	-1.0
	comp=N,0.5nm,0.5s,mb3.5,baz=163,slow=8.9,SNR=9.2						
KURK	Kurchatov	42.46	346	*e*P	P	01 11 11.0	0.0
	comp=N,0.5nm,0.6s,mb3.3						
NWAO	Narrogin (SRO)	48.38	153	*e*P	P	01 11 57.1	-0.7
	comp=N,0.2nm,0.3s,mb3.6						
WRA	Warramunga Arr	50.28	126	P	P	01 12 12.2	-0.1
	comp=N,2.2nm,0.7s,mb4.3,baz=304,slow=8.9,SNR=21						
WRAB	Tennant Creek	50.28	126	*e*P	P	01 12 12.8	+0.4
	comp=N,3.3nm,0.6s,mb4.5						
ASAR	Alice Springs	52.00	130	P	P	01 12 26.2	+1.0
	comp=N,3.0nm,0.8s,mb4.3,baz=311,slow=7.3,SNR=21						

IDC 10 01:05:21.7±2.0, 108N×12747E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, MS4.1/1, Ms1 4.1/1, ms1mx2.9/14, Error ellipse: s-maj=141.8km s-min=26.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.95	162	P	P	01 10 17.3	+0.4
	1.4nm,0.8s,baz=342,slow=10,SNR=11						
ASAR	Alice Springs	25.38	166	P	P	01 10 50.9	+0.3
	0.8nm,0.9s,baz=358,slow=8.4,SNR=5.4						
JHJ	Hachijo jima 2	33.91	19	LR	LR	01 24 49.5	
	comp=Z,278nm,19.3s,baz=17,slow=34						
MKAR	Makanchi Array	60.14	326	P	P	01 15 31.1	+0.1
	0.4nm,0.7s,baz=107,slow=7.5,SNR=5.4						

*IDC **10** 01:13:36.6±0.5, 1065N×9414E, h0km, mb4.4/19, mb1 4.5/19, mb1mx4.4/24, mbtmp4.4/19, MS4.0/17, Ms1 4.0/17, ms1mx3.8/36, Error ellipse: s-maj=21.6km s-min=12.9km az=57.0*
*BJI **10** 01:13:38.7, 1064N×9428E, h25km, mB5.1, mb4.6, Ms4.4, Msz4.1*
*ISCJB **10** 01:13:39.5±0.3, 1076N±004×9441E±004, h23km, mb4.7/65, MS4.0/30, Error ellipse: s-maj=6.2km s-min=4.8km az=68.5*
*MOS **10** 01:13:40.8±0.9, 1079N×9433E, h33km, mb5.1/24, Error ellipse: s-maj=13.2km s-min=5.5km az=108.8*
*HRVD **10** 01:13:41.4±0.6, 1072N×9467E, h18km±2km, MW4.9/56, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s56,c75; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.83±.27; $M_{\theta\theta}$1.63±.18; $M_{\phi\phi}$0.19±.15; $M_{r\theta}$-1.12±.32; $M_{\phi\theta}$0.51±.09; $M_{\phi r}$-1.10±.43; Best double couple: $M_0$2.39300×10^{16} NP1:ϕ_s266.00000°, δ28.00000°, λ-63.00000°. NP2: ϕ_s56.00000°, δ66.00000°, λ-103.00000°. Principal axes: T 2.2990, Plg20.0000°, Azm156.0000°; N 0.1860, Plg12.0000°, Azm61.0000°; P -2.4870, Plg67.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 01:13:41.4±0.3, 1079N×9437E, mb4.9/21 Error ellipse: s-maj=9.8km s-min=4.5km az=58.0*

ISC 10 01:13:41.8±0.3, 1078N±004×9442E±004, h24km, h24km±.8km: pP-P, n170, σ1§15/164, mb4.7/65, MS4.0/30, 4C-11D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.86	298	*e*P	Px	01 14 25.4	
PBA				*e*S	Sx	01 14 46.5	
NNT	Nongplab	5.51	70	P	Pn	01 15 01.3	-1.0
SNG	Songkhla	7.09	120	P	Pn	01 15 32.0	+7.9
NST	Nakhon Sawan	7.39	48	P	Pn	01 15 27.0	-1.2
	100nm,0.5s						
PSI	Prapat	9.10	150	Pn	Pn	01 15 55.4	+3.8
	0.9nm,0.3s,baz=346,slow=7.5,SNR=3.8						
PSI				LR	LR	01 19 44.2	
	comp=Z,900nm,21.1s,baz=311,slow=40						
VIS	Vishakhapatnam	12.77	304	*i*P	Pn	01 16 39.5	-2.3
VIS				*e*P		01 16 39.8	
VIS				AMb	AMB	01 16 56.3	
	comp=Z,83nm,1.5s						
VIS				*i*S	Sn	01 18 50.6	-12
SHL	Shillong	14.90	351	*e*P	Pn	01 17 12.6	+1.7
BOK	Bokaro	15.28	329	*e*P	Pn	01 17 17.2	+1.3
BOK				AMb	AMB	01 17 24.1	
	comp=Z,48nm,1.5s						
KMI	Kunming	16.31	28	P	Pn	01 17 31.5	+2.4
KMI				AP	pP	01 17 35.7	-2.9
KMI				XP	sP	01 17 39.0	-2.7
KMI				PP		01 17 45.8	
KMI				S	Sn	01 20 37.0	+7.7
KMI				XS	sS	01 20 43.6	-8.4
KMI				SS		01 20 56.8	
KMI				AMB	AMB		
	comp=Z,17nm,0.9s						
KMI				AMB	AMB		
	comp=Z,125nm,3.1s						
KMI				LR	LR		
	comp=N,439nm,12.4s						
KMI				LR	LR		
	comp=E,440nm,9.5s						
KMI				LR	LR		
	comp=Z,349nm,10.9s						
HYB	Hyderabad	16.73	295	*i*P	Pn	01 17 38.0	+3.5
HYB				*e*S	Sn	01 20 32.0	-7.6
HYB	Hyderabad	16.73	295	*e*P	Pn	01 17 38.0	+3.5
HYB				*e*S	Sn	01 20 32.0	-7.6
QIZ	Qiongzhong	17.01	59	P	Pn	01 17 42.0	+4.0
QIZ				AMB	AMB		
	comp=Z,17nm,1.4s						
QIZ				LR	LR		
	comp=E,516nm,9.2s						
QIZ				LR	LR		
	comp=Z,649nm,8.7s						
QIZ	Qiongzhong	17.01	59	*e*Pn	Pn	01 17 42.5	+4.5
NGP	Nagpur	18.00	307	*e*P	Pn	01 17 50.5	+0.2
NGP				AMb	AMB	01 18 01.1	
	comp=Z,43nm,1.6s						
KSM	Kuching	18.29	119	*e*P	Pn	01 17 55.4	+1.5
JIRN	Jiri	18.49	336	*e*P	Pn	01 17 57.0	+0.7
	comp=Z,254nm,1.2s						
PKI	Pulchoki	18.73	334	*e*P	Pn	01 17 59.6	+0.4
	comp=Z,311nm,1.3s						
PKI	Pulchoki	18.73	334	*e*P	Pn	01 17 59.6	+0.4
PKI				pmax	pmax		
	comp=Z,155nm,1.3s						
GUN	Gumba	18.83	336	*e*P	Pn	01 18 00.9	+0.4
	comp=Z,321nm,1.4s						
DMN	Daman	18.89	334	*e*P	Pn	01 18 01.6	+0.4
	comp=Z,134nm,1.0s						
KKN	Kakani	18.98	334	*e*P	Pn	01 18 02.1	-0.1
	comp=Z,153nm,1.3s						
KKN	Kakani	18.98	334	*e*P	Pn	01 18 02.1	-0.1
KKN				pmax	pmax		
	comp=Z,76nm,1.3s						
LSA	Lhasa	19.07	351	P	Pn	01 18 03.0	-0.3
LSA	Lhasa	19.07	351	Pn	Pn	01 18 03.6	+0.3
LSA				*e*		01 18 25.1	
GYA	Guiyang	19.42	35	⇓*i*P	Pn	01 18 07.7	+0.2
GYA				AP	pP	01 18 12.6	-0.3
GYA				XP	sP	01 18 16.4	+0.4
GYA				PP		01 18 28.6	
GYA				S	Sn	01 21 51.3	+6.7
GYA				AMB	AMB		
	comp=Z,20nm,1.1s						
GYA				AMB	AMB		
	comp=Z,180nm,4.5s						
GYA				LR	LR		
	comp=N,2μm,13.8s						
GYA				LR	LR		
	comp=E,330nm,12.9s						
GYA				LR	LR		
	comp=Z,490nm,11.1s						
GKN	Gorkha	19.44	333	*e*P	Pn	01 18 07.5	-0.2
	comp=Z,162nm,1.0s						
KOLN	Koldanda	19.72	330	*e*P	Pn	01 18 10.3	-0.8
	comp=Z,192nm,1.0s						
BHPL	Bhopal	20.41	310	*e*P	P	01 18 19.1	+2.2
BHPL				AMb	AMB	01 18 24.6	
	comp=Z,66nm,1.0s						
KAD	Karad	20.66	291	*e*P	P	01 18 20.3	+0.6
KAD				AMb	AMB	01 18 32.2	
	comp=Z,49nm,1.9s						
GZH	Guangzhou	21.82	53	P	P	01 18 37.5	+5.2
GZH				LR	LR		
	comp=N,194nm,8.3s						
GZH				LR	LR		
	comp=E,259nm,15.1s						
GZH				LR	LR		
	comp=Z,182nm,13.6s,MS3.6						
CD2	Chengdu	21.83	22	⇑*i*P	P	01 18 32.9	+0.6
CD2				AP		01 18 39.8	
CD2				XP	sP	01 18 42.7	+0.5
CD2				PP		01 18 57.8	
CD2				S	S	01 22 26.1	-6.3
CD2				XS	sS	01 22 37.5	-5.7
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
CD2				AMB	AMB		
	comp=Z,80nm,5.6s						
CD2				LR	LR		
	comp=N,170nm,13.8s						
CD2				LR	LR		
	comp=Z,250nm,9.8s						
ENH	Enshi	23.93	34	P	P	01 18 53.4	-0.6
	comp=Z,109nm,1.3s,mb5.1						
NDI	New Delhi	24.01	320	*e*P	P	01 18 54.5	-0.2
NDI				*e*P		01 18 54.8	
NDI				AMb	AMB	01 19 04.3	
	comp=Z,125nm,1.5s,mb5.1						
AJM	Ajmer	24.33	313	*e*P	P	01 18 59.0	+1.4
AJM				AMb	AMB	01 19 08.0	
	comp=Z,53nm,1.1s,mb4.9						
SMLA	Simla	25.80	324	*e*P	P	01 19 11.4	+0.4
LZH	Lanzhou	26.61	17	*e*P	P	01 19 19.5	+1.3
LZH				AP	pP	01 19 29.0	+3.6
LZH				XP	sP	01 19 32.9	+4.5
LZH				*e*PP		01 20 03.5	
LZH				*e*S	S	01 23 49.4	-2.2
LZH				XS	sS	01 24 05.6	+2.1
LZH				*e*SS		01 25 01.7	
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,83nm,4.5s						
LZH				LR	LR		
	comp=N,475nm,10.1s						
LZH				LR	LR		
	comp=Z,638nm,13.3s,MS4.3						
XAN	Xi'an	26.69	28	P	P	01 19 18.3	-0.7
XAN				S	S	01 23 59.6	+6.7
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.1						
XAN				LR	LR		
	comp=N,211nm,14.5s,MS4.0						
XAN				LR	LR		
	comp=E,306nm,17.5s,MS4.0						
XAN				LR	LR		
	comp=Z,303nm,14.2s,MS4.0						
WHN	Wuhan	27.02	40	*e*P	P	01 19 23.0	+1.1
GTA	Gaotai	28.91	9	*e*P	P	01 19 39.6	+0.7
GTA				AP	pP	01 19 46.2	+0.1
GTA				XP	sP	01 19 49.5	+0.4
GTA				PP	PP	01 20 34.4	-10
GTA				S	S	01 24 27.6	-0.3
GTA				XS	sS	01 24 44.5	+4.6
GTA				SS	SS	01 26 00.2	-31
GTA				AMB	AMB		
	comp=Z,11nm,2.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,118nm,5.4s						
GTA				LR	LR		
	comp=N,193nm,17.8s,MS4.0						
GTA				LR	LR		
	comp=E,189nm,14.3s,MS4.0						
GTA				LR	LR		
	comp=Z,278nm,19.7s						
NJ2	Nanjing	30.93	43	*e*P	P	01 19 59.1	+2.4
NJ2				AP	pP	01 20 04.9	+0.9
NJ2				XP	sP	01 20 07.9	+0.9
NJ2				PP	PP	01 21 00.0	-6.7
NJ2				S	S	01 25 00.0	+0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,180nm,10.6s						
NJ2				LR	LR		
	comp=N,930nm,21.4s						
NJ2				LR	LR		
	comp=E,380nm,15.8s						
NJ2				LR	LR		
	comp=Z,160nm,13.2s						
SSE	Sheshan	32.00	47	*e*P	P	01 20 05.5	-0.6
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,152nm,4.1s						
SSE				LR	LR		
	comp=N,81nm,22.7s,MS3.4						
SSE				LR	LR		
	comp=E,21nm,22.7s,MS3.4						
SSE				LR	LR		
	comp=Z,43nm,21.8s,MS3.1						
WMQ	Urumqi	33.43	351	P	P	01 20 20.0	+1.4
WMQ				AP	pP	01 20 27.3	+1.4
WMQ				XP	sP	01 20 30.6	+1.7
WMQ				PP	PP	01 21 31.4	-3.0
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,222nm,4.6s						
WMQ				LR	LR		
	comp=N,1μm,24.0s,MS4.7						
WMQ				LR	LR		
	comp=E,1μm,24.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,24.0s,MS4.5						
HHC	Hu-ho-hao-te	33.56	24	*e*P	P	01 20 21.2	+1.5
HHC				AP	pP	01 20 27.4	+0.4
HHC				XP	sP	01 20 30.1	+0.1
HHC				PP	PP	01 21 33.7	-2.1
HHC				PCP	PcP	01 23 02.2	+2.2
HHC				S	S	01 25 40.9	+0.4
HHC				XS	sS	01 25 51.9	-0.6
HHC				SS	SS	01 27 43.2	-23
HHC				SCS	ScS	01 30 43.8	-0.3
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,154nm,5.6s						
HHC				LR	LR		
	comp=N,212nm,8.4s						
HHC				LR	LR		
	comp=E,296nm,7.5s						
HHC				LR	LR		
	comp=Z,174nm,11.8s,MS4.0						
BJI	Beijing	34.95	30	P	P	01 20 33.5	+1.7
BJI				S	S	01 26 06.5	+4.5
BJI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
BJI				LR	LR		
	comp=N,244nm,17.7s,MS4.1						
BJI				LR	LR		
	comp=E,217nm,16.9s,MS4.1						
BJI				LR	LR		
	comp=Z,122nm,19.0s,MS3.7						
ULHL	Ulahol	35.15	336	P	P	01 20 34.1	+0.6
	SNR=8.5						
KZA	Kyzart	35.41	335	P	P	01 20 36.4	+0.6
	SNR=12						
WBK	Wadi Bani Khal	35.83	294	⇑P	P	01 20 42.7	+3.3
	SNR=6.0						
UCH	Uchtor	35.84	334	P	P	01 20 40.3	+0.8
	SNR=8.6						
KBK	Karagaybulak	36.02	335	P	P	01 20 42.4	+1.4
	SNR=6.6						
AML	Almayashu	36.12	333	P	P	01 20 42.7	+0.9
	SNR=23						
AAK	Ala-Archa	36.18	335	P	P	01 20 43.6	+1.2
	SNR=9.5						
AAK	Ala-Archa	36.18	335	*e*P	P	01 20 41.6	-0.8
	comp=Z,15nm,1.1s,mb4.8						
AAK	Ala-Archa	36.18	335	*d*iP	P	01 20 41.8	-0.6
AAK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
FRU	Bishkek	36.30	335	*e*P	P	01 20 45.0	+1.6
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb5.0						
EKS2	Erkin-Say	36.51	334	P	P	01 20 46.1	+0.9
	SNR=14						
USP	Ospenovka	36.70	335	P	P	01 20 47.1	+0.2
	SNR=17						
SMDO	Samad	36.76	294	P	P	01 20 50.3	+3.0
	SNR=8.0						
BIDO	Bidbid	36.80	295	P	P	01 20 51.0	+3.3
	SNR=7.2						
MK31	Makanchi Array	37.34	346	*i*P	P	01 20 52.1	-0.1
MK31				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
MKAR	Makanchi Array	37.34	346	P	P	01 20 51.5	-0.8
	comp=Z,10nm,0.8s,mb4.7,baz=164,slow=8.4,SNR=105						
MKAR				LR	LR	01 40 49.2	
	comp=Z,110nm,18.2s,MS3.7,baz=178,slow=44						
MKAR	Makanchi Array	37.34	346	P	P	01 20 51.5	-0.8
MKAR				LR	LR	01 40 49.2	
MKAR	Makanchi Array	37.34	346	*i*P	P	01 20 52.1	-0.1
MKAR				pmax	pmax		
	comp=Z,30nm,1.1s						
BSY	Bisya	37.46	293	P	P	01 20 56.7	+3.5
	SNR=19						
HOQ	Hoqain	37.54	295	P	P	01 20 56.9	+3.0

SNR=7.6
SONM Songino Array 38.29 13 P **P 01 21 00.4 +0.2**
comp=Z,9.0nm,1.0s,mb4.5,baz=199,slow=8.8,SNR=37
SONM PcP PcP 01 23 14.0 0.0
comp=Z,2.3nm,0.9s,baz=198,slow=3.4,SNR=4.2
SONM LR LR 01 38 34.2
comp=Z,284nm,18.2s,MS4.1,baz=35,slow=39
SONM Songino Array 38.29 13 P **P 01 21 00.4 +0.2**
SONM 01 23 14.0
KK31 Karatay Array 38.33 331 *i* P **P 01 20 59.8 -0.8**
KK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
KKAR Karatay Array 38.33 331 *i* P **P 01 20 59.8 -0.8**
KKAR pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ULN Ulaanbaatar 38.47 14 P **P 01 21 01.8 0.0**
comp=Z,10nm,1.0s,mb4.5
ULN *e*pP pP 01 21 08.8 -0.3
ULN Ulaanbaatar 38.47 14 P **P 01 21 01.8 +0.1**
ULN *e**PP pP 01 21 08.8 -0.3
ULN pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
ASHO Ashiyiah 38.91 296 P **P 01 21 08.3 +2.8**
SNR=15
WHFO Wadi Hawf 39.95 285 P **P 01 21 16.5 +2.4**
SNR=23
SNY Shenyang 40.12 34 ⇓P **P 01 21 15.8 +0.3**
SNY AP pP 01 21 22.5 -0.4
SNY XP sP 01 21 27.1 +1.2
SNY AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
SNY AMB AMB
comp=Z,178nm,5.7s
SNY LR LR
comp=E,268nm,15.7s
SNY LR LR
comp=Z,187nm,13.3s,MS4.1
ZAK Zakamensk 40.16 9 *e*P **P 01 21 12.2 -3.7**
ZAK pmax pmax
comp=Z,10.0nm,1.9s,mb4.2
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.0
JNU Nakatsue 40.16 51 P **P 01 21 17.4 +1.5**
comp=Z,8.4nm,0.8s,mb4.5,baz=143,slow=14,SNR=3.7
KURK Kurchatov 41.88 345 P **P 01 21 29.1 -1.0**
KURK *e*pP pP 01 21 37.1 -0.3
CN2 Changchun 42.46 34 *e*P **P 01 21 35.8 +1.1**
CN2 *e*AP pP 01 21 42.2 0.0
CN2 AMB AMB
comp=Z,30nm,0.9s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
ZAL Zalesovo 43.73 352 P **P 01 21 45.2 +0.2**
comp=Z,6.9nm,0.9s,mb4.4,baz=296,slow=9.5,SNR=42
ZAL LR LR 01 43 12.3
comp=Z,89nm,21.4s,MS3.6,baz=98,slow=40
ZAL Zalesovo 43.73 352 P **P 01 21 45.2 +0.2**
ZAL LR LR 01 43 12.3
HIA Hailar 43.77 24 P **P 01 21 45.5 +0.2**
comp=Z,24nm,1.4s,mb4.7
HIA Hailar 43.77 24 P **P 01 21 45.5 +0.2**
HIA pmax pmax
comp=Z,24nm,1.4s
NVS Novosibirsk 44.83 351 *i* P **P 01 21 52.9 -1.0**
NVS pmax pmax
comp=Z,52nm,2.3s,mb5.0
NVS pmax pmax
comp=N,24nm,1.8s
KRAR Krasnoyarsk 45.14 359 *i* P **P 01 21 54.9 -1.4**
MDJ Mudanjiang 45.28 35 P **P 01 21 56.0 -1.4**
MDJ PP PP 01 23 45.4 +1.9
MDJ S **S 01 28 35.6 -0.7**
MDJ SS SS 01 31 56.0 -3.8
MDJ AMB AMB
comp=Z,13nm,1.3s,mb4.6
MDJ AMB AMB
comp=Z,53nm,3.2s
MDJ LR LR
comp=N,43nm,19.2s,MS3.6
MDJ LR LR
comp=E,55nm,18.3s,MS3.6
MDJ LR LR
comp=Z,59nm,15.7s,MS3.6
VOSK Vostochnaya 45.91 340 P **P 01 22 01.8 -0.6**
VOSK pmax pmax
comp=Z,11nm,0.9s,mb4.8
BVA0 Borovoye Array 46.35 340 P **P 01 22 05.3 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
BVAR Borovoye Array 46.35 340 P **P 01 22 04.7 -1.2**
comp=Z,4.7nm,0.8s,mb4.4,baz=140,slow=7.8,SNR=19
BRVK Borovoye 46.42 340 *e*P **P 01 22 06.0 -0.4**
comp=Z,3.2nm,0.9s,mb4.2
BRVK *e*pP pP 01 22 12.2 -1.7
BRVK Borovoye 46.42 340 *e*P **P 01 22 06.0 -0.4**
BRVK *e**PP pP 01 22 12.2 -1.7
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ZRNK Zerenda 46.77 339 P **P 01 22 08.5 -0.6**
ZRNK *e*pP pP 01 22 15.1 -1.5
MAJO Matsushiro 47.05 50 *e*P **P 01 22 11.8 +0.4**
MJAR Matsushiro Arr 47.05 50 P **P 01 22 11.9 +0.5**
comp=Z,1.1nm,0.5s,mb4.0,baz=244,slow=13,SNR=6.3
MJAR PcP PcP 01 23 43.8 +0.6
comp=Z,5.1nm,0.9s,baz=248,slow=4.4,SNR=7.5
MJAR LR LR 01 44 51.2
comp=Z,103nm,20.7s,MS3.8,baz=280,slow=40
MJAR Matsushiro Arr 47.05 50 P **P 01 22 11.9 +0.5**
MJAR 01 23 43.8
MUN Mundaring 47.36 155 *e*P **P 01 22 14.0 +0.3**
KLBR Kellerberrin 47.70 153 *e*P **P 01 22 16.8 +0.4**
comp=Z,16nm,0.9s,mb5.0
AB31 Akbulak array 47.85 330 *i* P **P 01 22 17.1 -0.4**
AB31 pmax pmax
comp=Z,12nm,1.0s,mb4.9
NWAO Narrogin (SRO) 48.61 154 P **P 01 22 22.8 -0.6**
comp=Z,17nm,1.1s,mb5.0,baz=296,slow=6.2,SNR=4.3
NWAO LR LR 01 43 27.7
comp=Z,98nm,20.2s,MS3.8,baz=23,slow=37
NWAO Narrogin (SRO) 48.61 154 *e*P **P 01 22 24.2 +0.7**
comp=Z,39nm,1.4s,mb5.2
NWAO *e*pP pP 01 22 30.0 -0.9
NWAO LR LR 01 43 27.7
NWAO Narrogin (SRO) 48.61 154 *e*P **P 01 22 24.2 +0.8**
NWAO *e**PP pP 01 22 30.0 -1.0
NWAO pmax pmax
comp=Z,39nm,1.4s
BOD Bodaibo 49.28 14 *e*P **P 01 22 27.7 -0.9**
BOD pmax pmax
comp=Z,11nm,1.1s,mb4.8
AKTK Aktyubinsk 49.56 330 P **P 01 22 29.6 -1.2**
AKTO Aktyubinsk 49.56 330 P **P 01 22 29.6 -1.2**
comp=Z,2.9nm,0.8s,mb4.3,baz=118,slow=8.9,SNR=6.5
WRA Warramunga Arr 49.77 128 P **P 01 22 32.1 -0.2**
comp=Z,9.3nm,1.1s,mb4.7,baz=306,slow=8.4,SNR=30
WRAB Tennant Creek 49.77 128 P **P 01 22 33.5 +1.2**
comp=Z,30nm,1.4s,mb5.1
WRAB *e*pP pP 01 22 39.3 -0.5
WRAB Tennant Creek 49.77 128 P **P 01 22 33.5 +1.2**
WRAB *e**PP pP 01 22 39.3 -0.5
WRAB pmax pmax
comp=Z,30nm,1.4s,mb5.1
WB2 Warramunga Arr 49.78 128 *e*P **P 01 22 32.3 -0.1**
ASAR Alice Springs 51.60 132 P **P 01 22 46.5 +0.4**
comp=Z,7.4nm,0.9s,mb4.6,baz=306,slow=6.9,SNR=56
CLNS Chul'man 51.64 21 *e*P **P 01 22 41.7 -4.7**
CLNS pmax pmax
comp=Z,24nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
GNI Garni 52.65 313 P **P 01 22 54.9 +1.0**
GNI *e*pP pP 01 23 02.1 +0.7
GNI *e* 01 23 21.6
GNI Garni 52.65 313 P **P 01 22 54.9 +1.0**
GNI *e**PP pP 01 23 02.1 +0.6
ARU Arti 53.35 336 P **P 01 22 58.2 -0.9**
comp=E,8.0nm,1.1s,mb4.6
ARU *e*pP pP 01 23 04.9 -1.8
ARU Arti 53.35 336 ⇓*i*P **P 01 22 58.1 -1.0**
ARU *e* 01 24 57.1
ARU *e*PPP 01 26 07.7
ARU *e*S **S 01 30 29.3 -0.2**
ARU *e*SS SS 01 34 12.2 +2.8
ARU pmax pmax
comp=Z,11nm,1.1s,mb4.7
ARU MLR MLR
comp=Z,200nm,21.0s,MS4.2
ARU MLR MLR
comp=N,100nm,17.0s,MS4.0
ARU MLR MLR
comp=E,100nm,20.0s,MS4.0
ZEI Tsey 54.14 315 *i* P **P 01 23 02.9 -2.0**
ZEI *i* *PP pP 01 23 11.5 -1.0
ZEI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
YSS Yuzh-Sakhalins 54.35 39 *e*P **P 01 23 06.6 +0.2**
YSS Yuzh-Sakhalins 54.35 39 ⇑*i*P **P 01 23 07.3 +0.9**
YSS *e* 01 24 13.3
KIV Kislovodsk 55.38 316 P **P 01 23 14.0 +0.1**
comp=Z,23nm,1.1s,mb5.1
KIV *e*pP pP 01 23 21.6 +0.1
KIV Kislovodsk 55.38 316 *d i*P **P 01 23 13.9 0.0**
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.0
GOF Gofitskoye 55.55 318 *e*P **P 01 23 20.9 +5.9**
MALT Malatya 56.83 309 *e*P **P 01 23 24.1 -0.1**
comp=Z,4.0nm,1.0s,mb4.4
MALT Malatya 56.83 309 *e*P **P 01 23 24.1 -0.1**
MALT pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
YAK Yakutsk 57.17 19 P **P 01 23 26.2 -0.5**
YAK Yakutsk 57.17 19 *e*P **P 01 23 26.3 -0.3**
YAK pmax pmax
comp=Z,15nm,0.8s,mb5.1
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.1s
SOC Sochi 57.30 315 *e*P **P 01 23 25.0 -2.5**
SOC *e* 01 24 24.8
SOC *e* 01 25 28.9
SOC *e*S **S 01 31 24.2 +1.9**
SOC pmax pmax
comp=Z,23nm,0.7s,mb5.3
KMBO Kilima Mbogo 58.06 262 LR LR 01 47 57.9
comp=Z,55nm,18.7s,MS3.7,baz=122,slow=36
VRHR Novokhopersk 58.74 324 *e*P **P 01 23 36.5 -1.1**
VRHR pmax pmax
comp=Z,20nm,1.7s,mb4.9
VRHR pmax pmax
comp=N,40nm,2.6s
VRHR pmax pmax
comp=E,20nm,1.0s
ANN Anapa 59.23 316 *e*P **P 01 23 41.7 +0.7**
ANN pmax pmax
comp=Z,36nm,1.0s,mb5.4
BRTR Keskin Array B 60.77 310 P **P 01 23 48.3 -3.3**
comp=Z,2.1nm,0.9s,mb4.3,baz=120,slow=8.0,SNR=8.2
STKA Stephens Creek 61.93 135 *e*P **P 01 23 58.0 -1.5**
comp=Z,7.2nm,0.9s,mb4.8
STKA Stephens Creek 61.93 135 P **P 01 23 58.5 -1.0**
comp=Z,7.9nm,1.0s,mb4.8,baz=319,slow=6.1,SNR=10
STKA LR LR 01 48 39.2
comp=Z,203nm,21.6s,MS4.2,baz=320,slow=34
OBN Obninsk 63.09 327⇓*e*P **P 01 24 07.0 -0.2**
OBN *e* pP 01 24 13.2 -1.7
OBN *e* 01 24 22.8
OBN *e* 01 24 46.5
OBN pmax pmax
comp=Z,15nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
MA2 Magadan 64.08 28 P **P 01 24 14.0 +0.2**
comp=Z,12nm,1.0s,mb4.9
MA2 *e*pP pP 01 24 20.8 -0.7
MA2 Magadan 64.08 28 *e*P **P 01 24 12.8 -1.0**
MA2 *e*PPP 01 28 04.0
MA2 *e*S **S 01 32 43.8 -5.2**
MA2 *e* 01 33 59.8
MA2 pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
TIXI Tiksi 64.35 11 P **P 01 24 13.7 -1.8**
TIXI *e* pP 01 24 21.8 -1.5
TIXI Tiksi 64.35 11 *d i*P **P 01 24 14.1 -1.4**
TIXI pmax pmax
comp=Z,28nm,1.3s,mb5.1
AKASG Malin Array Be 66.07 321 P **P 01 24 23.5 -3.2**
comp=Z,0.2nm,0.4s,mb3.5,baz=90,slow=4.7,SNR=5.7
SEY Seymchan 66.19 25⇓*i*P **P 01 24 25.2 -2.3**
JOF Joensuu 68.37 334 *ep* **P 01 24 40.9 -0.3**
APA Apatity 69.25 339⇓*i*P **P 01 24 46.0 -0.7**
APA *i* pP 01 24 52.7 -1.8
APA pmax pmax
comp=Z,16nm,1.0s,mb4.9
FINES FINESS Array B 70.29 332 P **P 01 24 51.8 -1.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=116,slow=4.4,SNR=8.7
FINES LR LR 02 02 19.6
comp=Z,82nm,18.7s,MS4.0,baz=276,slow=42
KAF Kangasniemi 70.35 332 *ep* **P 01 24 57.5 +4.0**
ARCES ARCESS Array B 72.64 340 P **P 01 25 06.8 -0.6**
comp=Z,4.8nm,0.8s,mb4.5,baz=99,slow=5.4,SNR=11
ARCES LR LR 02 00 06.8
comp=Z,178nm,19.0s,MS4.4,baz=84,slow=38
BILL Bilibino 73.31 22 P **P 01 25 10.3 -0.9**
comp=Z,3.2nm,0.3s,mb4.7
BILL Bilibino 73.31 22 *c i*P **P 01 25 10.6 -0.6**
BILL pmax pmax
comp=Z,18nm,1.7s,mb4.7
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.2
GERES GERESS Array B 75.86 318 P **P 01 25 25.1 -1.0**
comp=Z,1.1nm,0.7s,mb3.9,baz=76,slow=5.6,SNR=9.7
HFS Hagfors 76.10 329 LR LR 02 03 02.2
comp=Z,116nm,19.1s,MS4.2,baz=239,slow=39
NOA NORSAR Array B 77.35 330 P **P 01 25 32.7 -1.8**
comp=Z,2.4nm,1.1s,mb4.0,baz=339,slow=4.8,SNR=3.2
NOA LR LR 02 02 14.4
comp=Z,82nm,19.8s,MS4.0,baz=125,slow=38
BOSA Boshof 77.36 237 P **P 01 25 33.8 -0.7**
comp=Z,3.0nm,1.0s,mb4.2,baz=70,slow=12,SNR=2.9
BOSA LR LR 01 55 17.4
comp=Z,127nm,18.6s,MS4.3,baz=345,slow=32
TNA Tin City 83.43 25 P **P 01 26 05.5 -1.6**
TNA *e* pP 01 26 13.2 -1.8
JMIC Jan Mayen 84.06 341 LR LR 02 05 36.9
comp=Z,122nm,20.6s,MS4.3,baz=81,slow=37
SYO Syowa Base 88.24 197⇓*ep*P pP 01 26 42.5 +3.5
TORD Torodi Ar. Bea 90.20 283 P **P 01 26 38.9 -1.3**
comp=Z,1.8nm,0.9s,mb4.4,baz=89,slow=4.1,SNR=9.6
BORG Borgarnes 90.87 337 LR LR 02 13 35.9
comp=Z,16nm,18.9s,MS3.5,baz=352,slow=40
URZ Urewera 90.93 129 LR LR 02 06 52.7
comp=Z,157nm,19.5s,MS4.5,baz=166,slow=35
ILAR Eielson Array 91.97 22 P **P 01 26 46.9 -1.5**
comp=Z,1.5nm,0.9s,mb4.3,baz=291,slow=4.7,SNR=16
RES Resolute Bay 94.50 2 P **P 01 27 00.4 +0.3**
SFJD Kangerlussuaq 98.37 347 LR LR 02 24 05.7
comp=Z,122nm,19.0s,MS4.4,baz=284,slow=43
YKA Yellowknife Ar 103.56 13 PP PP 01 31 53.5 -3.3
comp=Z,0.5nm,0.9s,baz=332,slow=7.9,SNR=5.3
BW06 Boulder Array 122.37 21 PKPdf PKPdf 01 32 35.5 +0.6
BW06 *e* 01 32 42.6
PDAR Pinedale Array 122.37 21 PKP PKPdf 01 32 34.7 -0.1
comp=Z,1.4nm,0.8s,baz=71,slow=0.9,SNR=14
MSU Marysvale 125.04 25 *e*PKPdf PKPdf 01 32 41.4 +1.5
ANMO Albuquerque 130.41 23 PKPdf PKPdf 01 32 52.9 +2.7
ANMO Albuquerque 130.41 23⇓*i*PKIKP PKPdf 01 32 50.8 +0.6
JCT Junction City 136.76 18 PKPdf PKPdf 01 33 04.0 +1.9
MTP Monte Pirata 145.16 325 PKPdf PKPdf 01 33 18.9 +1.8
MTP *e* 01 33 25.4
CPD Cerro la Pandu 145.40 326 *e*PKP PKPdf 01 33 18.3 +0.7
PLCA Paso Flores 147.34 201 PKPbc PKPbc 01 33 19.4 -4.0
comp=Z,2.7nm,1.0s,baz=173,slow=18,SNR=3.0
PLCA Paso Flores 147.34 201 PKIKP PKPdf 01 33 19.4 -1.5
PLCA 01 33 24.3
PLCA *e* 01 33 31.1
CPUP Villa Florida 149.17 236 PKPbc PKPbc 01 33 27.3 -0.8
comp=Z,5.3nm,0.9s,baz=25,slow=3.4,SNR=6.5
CPUP Villa Florida 149.17 236 PKPdf PKPdf 01 33 28.6 +4.7
CPUP *e* 01 33 35.4
SDV Santo Domingo 155.44 322 PKPdf PKPdf 01 33 31.7 -1.5

IDC 10 01:23:13.9±8.2, 960N×9260E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse:
s-maj=425.5km s-min=28.1km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.05**	**4**	*e*P		01 21 51.7	
PBA				*e*S		01 21 59.2	
PBA				*ex*	x	01 22 00.2	
	comp=E,558nm,0.4s						
PBA				*ex*	x	01 22 00.4	
	comp=N,511nm,0.3s						
MKAR	**Makanchi Array**	**38.09 349**		P	P	01 30 34.3	0.0
	comp=N,0.7nm,0.7s,baz=165,slow=8.9,SNR=7.2						
WRA	**Warramunga Arr**	**50.50 126**		P	P	01 32 13.8	+0.1
	comp=N,0.3nm,0.6s,baz=304,slow=8.9,SNR=6.0						
ASAR	**Alice Springs**	**52.18 130**		P	P	01 32 27.0	+0.7
	comp=N,0.3nm,0.6s,baz=313,slow=6.9,SNR=5.7						

IDC 10 01:26:32.7±7.8, 987N×9290E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse:
s-maj=407.8km s-min=29.3km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.78**	**355**	*e*P	Pn	01 27 22.8	+18
PBA				*e*S	Sn	01 27 47.5	+19
PBA				*ex*	x	01 28 07.9	
	comp=N,376nm,0.7s						
PBA				*ex*	x	01 28 08.4	
	comp=E,514nm,1.1s						
MKAR	**Makanchi Array**	**37.89 348**		P	P	01 33 51.4	0.0
	comp=E,0.7nm,0.9s,baz=168,slow=7.4,SNR=4.0						
WRA	**Warramunga Arr**	**50.41 126**		P	P	01 35 31.4	-0.5
	comp=E,1.2nm,0.7s,baz=304,slow=8.9,SNR=9.5						
ASAR	**Alice Springs**	**52.13 130**		P	P	01 35 46.0	+1.2
	comp=E,1.6nm,0.8s,baz=310,slow=7.1,SNR=15						

*IDC **10** 01:35:46.1±1.6, 706S×12104E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=151.4km s-min=22.3km az=57.0*
*ISCJB **10** 01:35:49.3±0.6, 68S±03×1214E±04, h33km, mb4.0/9, Error ellipse: s-maj=64.9km s-min=7.8km az=109.6*
*NEIC **10** 01:35:51.2±0.5, 6.94S×12127E, h35km, mb3.9/6, Error ellipse: s-maj=47.6km s-min=6.4km az=54.0*
ISC 10 01:35:51.3±0.6, 69S±03×1213E±04, h35km, n16, σ0°70/18, mb4.0/9, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**13.86**	**338**	*e*Pn	**Pn**	**01 39 04.4**	**-0.7**
WRA	**Warramunga Arr**	**18.09**	**137**	P	**Pn**	**01 39 59.0**	**-0.8**
	0.4nm,0.3s,baz=308,slow=14,SNR=17						
WRA				S	**S**	**01 43 10.3**	**-15**
	baz=313,slow=20,SNR=3.5						
WRAB	**Tennant Creek**	**18.09**	**137**	*e*P	**Pn**	**01 40 00.3**	**+0.5**
	2.8nm,0.6s						
WB2	**Warramunga Arr**	**18.10**	**137**	*e*P	**Pn**	**01 40 00.0**	**+0.1**
ASAR	**Alice Springs**	**20.58**	**145**	P	**P**	**01 40 28.2**	**+1.2**
	5.0nm,0.9s,baz=327,slow=13,SNR=26						
ASAR				S	**S**	**01 44 13.7**	**-1.6**
	0.4nm,0.7s,baz=328,slow=21,SNR=4.2						
LSA	**Lhasa**	**46.54**	**323**	*e*P	**P**	**01 44 16.2**	**+0.8**
	2.7nm,0.3s,mb4.7						
SONM	**Songino Array**	**56.10**	**348**	P	**P**	**01 45 28.2**	**+1.1**
	1.5nm,0.7s,mb4.1,baz=161,slow=7.3,SNR=6.9						
MKAR	**Makanchi Array**	**63.71**	**331**	P	**P**	**01 46 20.0**	**+0.7**
	0.6nm,0.6s,mb3.8,baz=143,slow=7.2,SNR=16						
AAK	**Ala-Archa**	**65.13**	**324**	*e*P	**P**	**01 46 28.6**	**0.0**
	0.6nm,0.5s,mb3.9						
ZAL	**Zalesovo**	**67.97**	**338**	P	**P**	**01 46 46.0**	**-0.7**
	1.1nm,0.5s,mb4.1,baz=322,slow=7.7,SNR=5.6						
KURK	**Kurchatov**	**68.20**	**332**	*e*P	**P**	**01 46 48.2**	**0.0**
	2.0nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**73.59**	**331**	P	**P**	**01 47 20.4**	**-0.4**
	0.8nm,0.6s,mb3.8,baz=116,slow=6.8,SNR=5.1						
BRVK	**Borovoye**	**73.66**	**331**	*e*P	**P**	**01 47 20.4**	**-0.9**
	0.4nm,0.5s,mb3.6						
ZRNK	**Zerenda**	**74.22**	**330**	*e*P	**P**	**01 47 24.6**	**0.0**
	0.5nm,0.4s,mb3.8						
ARU	**Arti**	**81.20**	**330**	P	**P**	**01 48 03.7**	**+0.2**
GNI	**Garni**	**84.26**	**311**	*e*P	**P**	**01 48 18.8**	**-0.5**

*IDC **10** 01:44:50.4±1.4, 368S×15139E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/14, mbtmp3.9/6, ML4.0/1, MS3.8/8, Ms1 3.8/8, ms1mx3.6/20, Error ellipse: s-maj=65.8km s-min=21.8km az=118.0*
*ISCJB **10** 01:44:55.3±4.2, 37S±02×1513E±03, h44km±38km, mb3.9/8, MS4.0/6, Error ellipse: s-maj=48.2km s-min=25.4km az=66.9*
*NEIC **10** 01:44:57.9±3.4, 378S×15137E, h56km±32km, mb4.2/5, Error ellipse: s-maj=35.7km s-min=21.3km az=125.0*
ISC 10 01:44:57.6±3.6, 38S±02×1514E±02, h54km±34km, n22, σ0°92/14, mb3.9/8, MS4.0/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.02**	**217**	Pn	**Pn**	**01 46 38.0**	**+0.2**
	0.8nm,0.3s,baz=3.7,slow=11,SNR=5.0						
PMG				LR	LR	01 49 18.5	
	comp=Z,386nm,18.8s,baz=197,slow=38						
CTA	**Charters Tower**	**16.99**	**197**	P	**Pn**	**01 48 51.1**	**-0.3**
	0.3nm,0.3s,baz=16,slow=7.4,SNR=2.3						
CTAO	**Charters Tower**	**16.99**	**197**	*e*P	**Pn**	**01 48 58.7**	**+7.2**
	14nm,1.0s						
GUMO	**Guam**	**18.42**	**339**	LR	LR	01 54 54.9	
	comp=Z,42nm,20.6s,baz=100,slow=33						
KAKA	**Kakadu**	**20.76**	**244**	*e*P	**P**	**01 49 33.5**	**-0.4**
	13nm,0.6s						
WRAB	**Tennant Creek**	**23.13**	**225**	*e*P	**P**	**01 50 01.6**	**+2.4**
	16nm,1.1s,mb4.4						
WB2	**Warramunga Arr**	**23.14**	**225**	*e*P	**P**	**01 49 58.4**	**-0.8**
WRA	**Warramunga Arr**	**23.15**	**225**	P	**P**	**01 49 57.8**	**-1.5**
	3.6nm,0.7s,mb3.9,baz=49,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**26.03**	**219**	P	**P**	**01 50 26.3**	**+0.7**
	2.2nm,0.7s,mb3.8,baz=52,slow=8.3,SNR=13						
STKA	**Stephens Creek**	**29.45**	**197**	LR	LR	02 01 56.6	
	comp=Z,146nm,18.3s,MS3.6,baz=24,slow=35						
JOW	**Kunigami**	**37.75**	**325**	LR	LR	02 03 41.2	
	comp=Z,140nm,21.7s,MS3.7,baz=194,slow=30						
PPT	**Papeete**	**59.36**	**108**	LR	LR	02 16 26.4	
	comp=Z,271nm,21.4s,MS4.3,baz=5.0,slow=32						
SONM	**Songino Array**	**64.72**	**328**	LR	LR	02 19 21.5	
	comp=Z,66nm,21.3s,MS3.8,baz=256,slow=32						
MKAR	**Makanchi Array**	**78.64**	**319**	P	**P**	**01 56 54.0**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=103,slow=6.8,SNR=12						
ZAL	**Zalesovo**	**79.54**	**327**	LR	LR	02 33 31.6	
	comp=Z,59nm,19.1s,MS3.9,baz=162,slow=37						
ILAR	**Eielson Array**	**81.73**	**22**	P	**P**	**01 57 09.6**	**-0.8**
	0.6nm,0.6s,mb3.7,baz=249,slow=5.6,SNR=14						
KURK	**Kurchatov**	**82.11**	**322**	*e*P	**P**	**01 57 13.2**	**+0.9**
	1.1nm,0.6s,mb4.0						
BRVK	**Borovoye**	**87.66**	**323**	*e*P	**P**	**01 57 40.4**	**+0.1**
ZRNK	**Zerenda**	**88.41**	**323**	*e*P	**P**	**01 57 42.9**	**-0.9**
	1.0nm,0.6s,mb4.2						
YKA	**Yellowknife Ar**	**95.16**	**28**	P	**P**	**01 58 15.6**	**+0.6**
	0.1nm,0.5s,mb3.5,baz=268,slow=4.8,SNR=4.2						
PDAR	**Pinedale Array**	**99.17**	**47**	LR	LR	02 35 07.2	
	comp=Z,116nm,20.0s,MS4.4,baz=151,slow=30						
TORD	**Torodi Ar. Bea**	**148.67**	**289**	PKPbc	PKPbc	02 04 40.8	+2.1
	1.5nm,0.7s,baz=118,slow=3.4,SNR=5.4						

IDC 10 01:45:35.2±7.8, 931N×9195E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=388.6km s-min=28.7km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.46**	**18**	*e*P	Pn	01 46 31.5	+15
PBA				*e*S	Sn	01 46 48.2	+0.9
PBA				*ex*	x	01 47 10.7	
	comp=N,736nm,0.8s						
PBA				*ex*	x	01 47 13.1	
	comp=E,547nm,0.8s						
PSI	**Prapat**	**9.48**	**133**	LR	LR	01 51 58.9	
	comp=E,123nm,20.4s,baz=76,slow=40						
MKAR	**Makanchi Array**	**38.25**	**349**	P	P	01 52 57.0	0.0
	comp=E,0.3nm,0.5s,baz=167,slow=7.8,SNR=5.1						
WRA	**Warramunga Arr**	**50.85**	**125**	P	P	01 54 37.5	-0.2
	comp=E,0.9nm,0.7s,baz=302,slow=8.9,SNR=10.0						

ASAR Alice Springs 52.49 129 P P 01 54 51.0 +1.1
comp=E,1.0nm,0.7s,baz=315,slow=7.4,SNR=9.6

IDC 10 02:28:38.2±8.3, 1017N×9302E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=441.2km s-min=28.4km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.50**	**350**	*e*P	Pn	02 29 24.8	+18
PBA				*e*S	Sg	02 29 45.0	+18
PBA				*e*x	x	02 29 56.6	
	comp=E,120nm,0.7s						
PBA				*e*x	x	02 29 58.0	
	comp=N,127nm,0.7s						
MKAR	**Makanchi Array**	**37.62**	**348**	P	P	02 35 54.7	0.0
	comp=N,0.3nm,0.6s,baz=174,slow=8.4,SNR=5.5						
WRA	**Warramunga Arr**	**50.50**	**126**	P	P	02 37 37.9	-0.1
	comp=N,0.3nm,0.6s,baz=305,slow=9.0,SNR=3.4						
ASAR	**Alice Springs**	**52.24**	**131**	P	P	02 37 52.0	+1.0
	comp=N,0.4nm,0.6s,baz=313,slow=8.3,SNR=3.2						

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*ISCJB **10** 02:41:45.1±0.8, 1549N×0069W×003, h20km, mb3.6/8, Error ellipse: s-maj=9.0km s-min=4.4km az=1.4*
*MEX **10** 02:41:47.7±1.4, 1541N×9468W, h20km±24km, MD4.5*
*NEIC **10** 02:42:17.8±2.4, 1714N×9491W, h193km±26km, mb3.9/8, Error ellipse: s-maj=48.7km s-min=14.6km az=50.0*
*IDC **10** 02:42:22.2±4.2, 1744N×9431W, h241km±59km, mb2.9/5, mb1 3.1/5, mb1mx2.9/21, mbtmp3.5/5, Error ellipse: s-maj=147.3km s-min=25.3km az=44.0*

ISC 10 02:41:47.2±0.8, 1555N±007×9466W±003, h20km, n30, σ1§33/39, mb3.6/8, 1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.41**	**279**	*i* P	**Pn**	**02 42 09.1**	**-2.5**
HUIG				*i* S	**Sn**	**02 42 25.1**	**-4.6**
CMIG	**Matias Romero**	**1.55**	**352**	*i* P	**Pn**	**02 42 12.9**	**-0.6**
CMIG				*i* S	**Sn**	**02 42 32.4**	**-0.6**
SCX	**San Cristobal**	**2.28**	**59**	*i* P	**Pn**	**02 42 23.5**	**-0.1**
SCX				*i* S	**Sn**	**02 42 51.3**	**+0.3**
TUIG	**Tuzandepetl**	**2.48**	**5**	⇓*i* P	**Pn**	**02 42 26.8**	**+0.4**
TUIG				*i* S	**Sn**	**02 42 56.0**	**0.0**
OXX	**Oaxaca**	**2.50**	**308**	*i* P	**Pn**	**02 42 28.2**	**+1.6**
OXX				*i* S	**Sn**	**02 42 55.5**	**-0.9**
VHO	**Vista Hermosa**	**2.50**	**308**	*e*P	**Pn**	**02 42 27.3**	**+0.7**
VHO				*i* S	**Sn**	**02 42 56.8**	**+0.3**
CCIG	**Comitan**	**2.54**	**73**	*e*P	**Pn**	**02 42 27.2**	**0.0**
CCIG				*e*S	**Sn**	**02 42 55.6**	**-1.9**
EVV	**El Vigia**	**2.96**	**347**	*e*P	**Pn**	**02 42 31.0**	**-2.0**
PNIG	**Pinotepa**	**3.44**	**285**	*i* P	**Pn**	**02 42 38.4**	**-1.1**
PNIG				*i* S	**Sn**	**02 43 15.8**	**-3.8**
TPIG	**Tehuac#an**	**3.85**	**318**	*e*P	**Pn**	**02 42 44.1**	**-1.0**
TPIG				*e*S	**Sn**	**02 43 30.0**	**+0.2**
PPM	**Popocatepetl**	**5.15**	**313**	*e*P	**Pn**	**02 43 05.5**	**+2.4**
PPM				*i* P		02 43 06.0	
PPM				*e*S	**Sn**	**02 44 05.6**	**+3.6**
ACX	**Acapulco**	**5.21**	**285**	*e*P	**Pn**	**02 43 03.0**	**-1.0**
MEIG	**Mezcala**	**5.30**	**297**	*i* S	**Sn**	**02 44 05.8**	**+0.1**
PLIG	**Platanillo**	**5.43**	**302**	*i* S	**Sn**	**02 44 06.0**	**-2.7**
JTS	**JuntasAbangare**	**10.81**	**118**	P	Px	02 45 00.8	
	6.2nm,0.3s,baz=283,slow=16,SNR=20						
JTS				S	Sx	02 47 08.2	
	baz=238,slow=14,SNR=4.0						
JCT	**Junction City**	**15.59**	**343**	*e*Pn	**Pn**	**02 45 29.5**	**+3.9**
	9.1nm,0.5s						
LTX	**Lajitas**	**16.03**	**330**	*e*Pn	**Pn**	**02 45 32.9**	**+1.5**
MNTX	**Cornudas Mount**	**18.82**	**331**	*e*P	**Pn**	**02 46 06.7**	**+0.7**
	3.4nm,0.9s						
MIAR	**Mount Ida**	**18.94**	**3**	*e*P	**Pn**	**02 46 07.0**	**-0.5**
	7.6nm,1.0s						
WMOK	**Wichita Mounta**	**19.46**	**350**	*e*P	**Pn**	**02 46 12.0**	**-1.8**
	3.0nm,0.6s						
ANMO	**Albuquerque**	**22.03**	**333**	P	**P**	**02 46 42.2**	**+1.9**
	2.3nm,0.7s,mb3.7,baz=146,slow=14,SNR=7.2						
ANMO	**Albuquerque**	**22.03**	**333**	*e*P	**P**	**02 46 42.2**	**+1.9**
	2.3nm,0.8s,mb3.7						
SDCO	**Great Sand Dun**	**24.10**	**339**	*e*P	**P**	**02 47 02.9**	**+1.6**
	2.9nm,0.7s,mb3.8						
SMCO	**Snowmass**	**25.90**	**338**	*e*P	**P**	**02 47 20.1**	**+2.4**
	6.1nm,1.2s,mb4.0						
PDAR	**Pinedale Array**	**29.98**	**338**	P	**P**	**02 47 55.5**	**+1.3**
	0.3nm,0.9s,mb3.0,baz=134,slow=10,SNR=2.7						
ELK	**Elko**	**30.82**	**329**	P	**P**	**02 48 03.5**	**+2.0**
	0.7nm,0.8s,mb3.5,baz=143,slow=11,SNR=4.0						
HLID	**Hailey**	**32.61**	**333**	*e*P	**P**	**02 48 18.0**	**+0.7**
	1.6nm,0.8s,mb4.0						
YKA	**Yellowknife Ar**	**48.96**	**348**	P	**P**	**02 50 30.3**	**-1.6**
	0.5nm,0.7s,mb3.6,baz=153,slow=7.1,SNR=9.5						
YKA	**Yellowknife Ar**	**48.96**	**348**	P	**P**	**02 50 30.3**	**-1.6**
ILAR	**Eielson Array**	**60.41**	**337**	P	**P**	**02 51 54.9**	**-0.2**
	0.3nm,0.8s,mb3.4,baz=166,slow=5.4,SNR=3.7						

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*ISCJB **10** 02:49:52.4±3.7, 37S±0.1×151.1E±0.1, h60km±33km, mb4.1/14, Error ellipse: s-maj=24.6km s-min=21.4km az=87.7*
*IDC **10** 02:49:54.2±4.9, 383S×15125E, h65km±46km, mb3.8/10, mb1 4.1/12, mb1mx4.0/17, mbtmp4.2/12, ML3.8/2, MS3.9/14, Ms1 3.9/14, ms1mx3.8/23, Error ellipse: s-maj=27.2km s-min=24.5km az=96.0*
*NEIC **10** 02:49:56.9±2.6, 390S×15105E, h84km±22km, mb4.5/5, Error ellipse: s-maj=20.0km s-min=16.3km az=70.0*

ISC 10 02:49:55.4±3.0, 38S±01×1512E±01, h77km±28km, n31, σ0§99/22, mb4.0/14, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.83**	**215**	P	**Pn**	**02 51 33.0**	**+0.1**
	5.3nm,0.3s,baz=31,slow=6.5,SNR=21						
PMG				LR	LR	02 54 21.9	
	comp=Z,1μm,20.7s,baz=12,slow=39						
PMG	**Port Moresby**	**6.83**	**215**	*e*Pn	**Pn**	**02 51 32.4**	**-0.5**
	59nm,0.7s						
HNR	**Honiara**	**10.36**	**123**	LR	LR	02 55 05.1	
	comp=Z,146nm,19.7s,baz=353,slow=30						
CTA	**Charters Tower**	**16.87**	**196**	*e*P	**Pn**	**02 53 51.2**	**+4.6**
	12nm,0.8s						
CTA	**Charters Tower**	**16.87**	**196**	P	**Pn**	**02 53 46.9**	**+0.3**
	0.4nm,0.3s,baz=8.1,slow=7.1,SNR=2.5						
CTA				LR	LR	02 59 27.6	
	comp=Z,406nm,21.1s,baz=33,slow=34						
CTA	**Charters Tower**	**16.87**	**196**	P	**Pn**	**02 53 46.9**	**+0.3**
CTA				*e*P		02 53 51.2	
CTA				LR	LR	02 59 27.6	
CTAO	**Charters Tower**	**16.87**	**196**	*e*P	**Pn**	**02 53 51.1**	**+4.5**
	47nm,1.3s						
GUMO	**Guam**	**18.38**	**340**	LR	LR	02 59 32.8	
	comp=Z,202nm,20.6s,baz=81,slow=31						
WRAB	**Tennant Creek**	**22.92**	**224**	*e*P	**P**	**02 54 52.7**	**-0.2**
	16nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**22.93**	**224**	*e*P	**P**	**02 54 52.9**	**-0.1**
WRA	**Warramunga Arr**	**22.94**	**224**	P	**P**	**02 54 53.0**	**-0.1**
	3.7nm,0.6s,mb3.9,baz=48,slow=9.9,SNR=36						
DZM	**Mont Dzumac**	**23.44**	**142**	P	**P**	**02 54 59.4**	**+1.6**
	18nm,0.9s,mb4.4,baz=322,slow=17,SNR=4.3						
DZM				LR	LR	03 03 12.7	
	comp=Z,441nm,18.6s,baz=202,slow=34						
ASAR	**Alice Springs**	**25.83**	**219**	P	**P**	**02 55 20.4**	**+0.9**
	1.4nm,0.7s,mb3.5,baz=53,slow=7.8,SNR=19						
FITZ	**Fitzroy Crossi**	**28.74**	**238**	*e*P	**P**	**02 55 45.5**	**0.0**
	11nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**29.33**	**197**	P	**P**	**02 55 49.1**	**-1.7**
	3.1nm,0.8s,mb4.0,baz=20,slow=12,SNR=8.8						
STKA				LR	LR	03 06 56.6	
	comp=Z,232nm,21.6s,baz=20,slow=35						
JOW	**Kunigami**	**37.65**	**325**	LR	LR	03 09 23.3	
	comp=Z,167nm,20.1s,baz=27,slow=31						
NWAO	**Narrogin (SRO)**	**42.94**	**224**	LR	LR	03 16 35.6	
	comp=Z,266nm,18.0s,baz=32,slow=37						
FX1	**Attu Island--F**	**59.46**	**15**	LR	LR	03 23 18.8	
	comp=Z,10nm,18.2s,baz=208,slow=34						
PPT	**Papeete**	**59.59**	**108**	*e*LR	LR	03 17 37.5	
	226nm,29.8s						
TBI	**Tubuai**	**60.46**	**115**	*e*LR	LR	03 18 00.9	
	260nm,31.8s						
SONM	**Songino Array**	**64.62**	**328**	P	**P**	**03 00 25.6**	**+0.8**
	0.7nm,0.6s,mb3.7,baz=131,slow=4.0,SNR=3.3						
SONM				LR	LR	03 25 18.3	
	comp=Z,112nm,19.1s,baz=229,slow=33						
LSA	**Lhasa**	**66.33**	**305**	P	**P**	**03 00 32.4**	**-3.4**
	4.1nm,0.4s,mb4.6						
RKT	**Rikitea**	**73.68**	**113**	*e*LR	LR	03 24 08.9	
	165nm,28.8s						
MKAR	**Makanchi Array**	**78.51**	**319**	P	**P**	**03 01 49.7**	**+1.5**
	1.0nm,0.6s,mb3.8,baz=102,slow=6.8,SNR=12						
MKAR				LR	LR	03 35 04.6	
	comp=Z,105nm,18.3s,baz=270,slow=34						
MKAR	**Makanchi Array**	**78.51**	**319**	P	**P**	**03 01 49.7**	**+1.5**
MKAR				LR	LR	03 35 04.6	
ILAR	**Eielson Array**	**81.87**	**22**	P	**P**	**03 02 05.8**	**-0.4**
	1.7nm,0.7s,mb4.0,baz=247,slow=5.7,SNR=20						
ILAR				LR	LR	03 39 18.5	
	comp=Z,138nm,18.1s,baz=356,slow=36						
BVAR	**Borovoye Array**	**87.47**	**323**	P	**P**	**03 02 35.0**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=114,slow=7.8,SNR=4.6						
ZRNK	**Zerenda**	**88.29**	**323**	*e*P	**P**	**03 02 38.5**	**+0.2**
	1.5nm,0.9s,mb4.0						
YKA	**Yellowknife Ar**	**95.32**	**28**	P	**P**	**03 03 09.0**	**-1.9**
	0.2nm,0.6s,mb3.7,baz=269,slow=4.7,SNR=4.7						
YKA				LR	LR	03 43 49.6	
	comp=Z,121nm,21.3s,baz=280,slow=34						
PDAR	**Pinedale Array**	**99.39**	**47**	P	**P**	**03 03 28.9**	**-0.4**
	0.2nm,0.6s,mb3.8,baz=231,slow=0.6,SNR=2.3						
PDAR				LR	LR	03 49 19.6	
	comp=Z,90nm,18.6s,baz=277,slow=36						
TORD	**Torodi Ar. Bea**	**148.44**	**289**	PKPbc	PKPbc	03 09 35.8	+2.6
	3.1nm,0.7s,baz=70,slow=1.1,SNR=16						

IDC 10 02:50:14.2±8.7, 1019N×9342E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=475.2km s-min=27.0km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.69**	**347**	P	P	02 57 31.2	0.0
	0.2nm,0.7s,baz=168,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	**50.19**	**127**	P	P	02 59 11.9	+0.2
	1.2nm,0.8s,baz=305,slow=8.9,SNR=6.8						
ASAR	**Alice Springs**	**51.95**	**131**	P	P	02 59 25.5	+0.6
	1.9nm,0.8s,baz=308,slow=7.7,SNR=13						

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*NNC **10** 03:00:01.2±4.0, 4125N×7268E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=42.8km s-min=11.2km az=3.0*
*ISCJB **10** 03:00:03.7±1.4, 4133N±010×7289E±008, h5km, Error ellipse: s-maj=13.9km s-min=8.0km az=160.5*
*KNET **10** 03:00:03.9±0.5, 4139N×7306E, h5km±2km, ml2.4, Error ellipse: s-maj=3.3km s-min=2.3km az=135.0*

ISC 10 03:00:04.9±1.3, 4136N±009×7295E±007, h5km, n10, σ1§32/17, 9C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.95**	**35**	P	**Pg**	**03 00 21.0**	**-2.2**
	13nm,0.2s,SNR=45						
AML				⇓S	**Sg**	**03 00 34.5**	**-0.9**
	56nm,0.3s						
EKS2	**Erkin-Say**	**1.44**	**25**	⇓P	**Pn**	**03 00 29.6**	**-2.0**
	3.7nm,0.1s,SNR=11						
EKS2				⇑S	**Sb**	**03 00 50.7**	**-0.1**
	14nm,0.2s						
UCH	**Uchtor**	**1.45**	**53**	⇑P	**Pn**	**03 00 30.2**	**-1.6**
	6.7nm,0.1s,SNR=37						
UCH				⇑S	**Sb**	**03 00 51.4**	**+0.2**
	82nm,0.3s						
AAK	**Ala-Archa**	**1.71**	**42**	⇓P	**Pn**	**03 00 35.2**	**-0.2**
	10nm,0.3s,SNR=22						
AAK				⇑S	**Sn**	**03 00 59.0**	**+1.3**
	40nm,0.5s						
KZA	**Kyzart**	**1.86**	**67**	⇑P	**Pn**	**03 00 37.3**	**-0.2**
	5.4nm,0.2s,SNR=14						
KZA				⇑S	**Sn**	**03 01 03.0**	**+1.7**
	14nm,0.2s						
CHMS	**Chumysh**	**2.11**	**39**	⇓P	**Pn**	**03 00 41.9**	**+1.0**
	7.3nm,0.2s,SNR=5.9						
USP	**Ospenovka**	**2.22**	**31**	⇓P	**Pn**	**03 00 43.0**	**+0.6**
	8.8nm,0.2s,SNR=16						
TKM2	**Tokmak 2**	**2.51**	**51**	⇑P	**Pn**	**03 00 47.4**	**+1.1**
	10nm,0.3s,SNR=13						
TKM2	**Tokmak 2**	**2.51**	**51**	⇓Pn	**Pn**	**03 00 47.3**	**+0.9**
	5.5nm,0.4s						
TKM2				⇑Sn	**Sn**	**03 01 21.4**	**+4.2**
	19nm,0.8s						
KK31	**Karatay Array**	**2.51**	**315**	⇓Pn	**Pn**	**03 00 45.1**	**-1.3**
	2.3nm,0.4s,baz=135,slow=12,SNR=53						
KK31				⇑Sn	**Sn**	**03 01 20.3**	**+2.9**
	11nm,0.5s,baz=156,slow=24,SNR=21						

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*IDC **10** 03:05:16.9±2.4, 1057N×9405E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/22, mbtmp3.8/6, MS3.7/3, Ms1 3.7/3, ms1mx3.2/26, Error ellipse: s-maj=110.5km s-min=19.7km az=61.0*
*NEIC **10** 03:05:18.2±1.1, 1057N×9404E, h10km, mb4.1/4, Error ellipse: s-maj=52.4km s-min=9.9km az=58.0*
*ISCJB **10** 03:05:19.6±1.5, 105N±03×940E±04, h33km, mb3.9/10, MS3.9/2, Error ellipse: s-maj=70.5km s-min=13.2km az=115.4*

ISC 10 03:05:22.2±1.4, 106N±03×940E±04, h35km, n15, σ0§41/11, mb3.9/10, MS3.9/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.64**	**310**	*e*P	Px	03 06 06.1	
PBA				*e*S	Sx	03 06 26.2	
PBA				*e*x	x	03 06 41.0	
	comp=E,1μm,0.7s						
PBA				*e*x	x	03 06 41.0	
	comp=N,806nm,0.8s						
PSI	**Prapat**	**9.15**	**148**	LR	LR	03 11 24.6	
	comp=N,197nm,20.7s,baz=303,slow=40						
AAK	**Ala-Archa**	**36.18**	**335**	*e*P	**P**	**03 12 21.1**	**-0.2**
	comp=N,3.6nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**37.42**	**347**	P	**P**	**03 12 32.3**	**+0.5**
	comp=N,1.1nm,0.6s,mb3.8,baz=167,slow=8.7,SNR=17						
SONM	**Songino Array**	**38.54**	**13**	P	**P**	**03 12 40.9**	**-0.4**
	comp=N,0.9nm,0.8s,mb3.5,baz=191,slow=6.8,SNR=4.0						
KURK	**Kurchatov**	**41.95**	**345**	P	**P**	**03 13 10.1**	**+0.5**
	comp=N,1.4nm,0.4s,mb3.9						
ZAL	**Zalesovo**	**43.84**	**352**	P	**P**	**03 13 25.4**	**+0.6**
	comp=N,0.9nm,0.4s,mb3.9,baz=319,slow=10,SNR=7.2						
ZAL	**Zalesovo**	**43.84**	**352**	P	**P**	**03 13 25.4**	**+0.6**
BVAR	**Borovoye Array**	**46.39**	**340**	P	**P**	**03 13 44.8**	**-0.3**
	comp=N,0.9nm,0.9s,mb3.7,baz=148,slow=8.7,SNR=4.3						
ZRNK	**Zerenda**	**46.79**	**339**	*e*P	**P**	**03 13 47.6**	**-0.7**
	comp=N,1.7nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**49.96**	**127**	P	**P**	**03 14 12.5**	**-0.2**
	comp=N,0.9nm,0.7s,mb3.9,baz=304,slow=8.7,SNR=7.0						
WRAB	**Tennant Creek**	**49.97**	**127**	*e*P	**P**	**03 14 12.7**	**0.0**
	comp=N,4.1nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**51.77**	**132**	P	**P**	**03 14 26.6**	**+0.3**
	comp=N,1.5nm,0.8s,mb4.0,baz=313,slow=7.0,SNR=15						
STKA	**Stephens Creek**	**62.08**	**135**	LR	LR	03 43 01.2	
	comp=N,60nm,19.5s,MS3.8,baz=205,slow=36						
ARCES	**ARCESS Array B**	**72.67**	**340**	LR	LR	03 53 30.5	
	comp=N,92nm,18.4s,MS4.1,baz=257,slow=40						

NEIC 10 03:05:23.9, 5260N×16888W, h23km, ML3.6(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.38**	**2**	P	Pb	03 05 30.9	-1.0
NIKO				S	Sb	03 05 36.7	-0.7
OKCE	**Okmok Cone E**	**0.94**	**27**	P	Pb	03 05 39.6	-1.7
OKCE				S	Sb	03 05 53.0	-0.3
OKCD	**Okmok Cone D**	**0.95**	**29**	P	Pb	03 05 40.1	-1.6
UNV	**Unalaska Valle**	**1.90**	**48**	P	Pn	03 05 53.7	-1.1
UNV				S	Sn	03 06 16.5	-1.4
AKLV	**Akutan Long Va**	**2.35**	**47**	P	Pn	03 06 01.0	0.0
ATKA	**Atka Island**	**3.28**	**265**	P	Pn	03 06 11.9	-1.9
ADK	**Adak**	**4.85**	**265**	P	Pn	03 06 33.9	-1.5

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*ISCJB **10** 03:14:07.5±0.5, 466N±01×1448E±01, h422km±10km, mb3.1/9, Error ellipse: s-maj=18.9km s-min=13.1km az=98.5*
*IDC **10** 03:14:08.8±1.7, 4700N×14469E, h393km±21km, mb2.8/7, mb1 3.0/9, mb1mx2.8/22, mbtmp3.5/9, Error ellipse: s-maj=23.3km s-min=16.6km az=123.0*
*MOS **10** 03:14:08.1±0.6, 4702N×14450E, h406km, mb3.5/2, Error ellipse: s-maj=36.8km s-min=15.1km az=72.6*
*NEIC **10** 03:14:09.3±0.6, 4702N×14470E, h399km±7km, mb3.4/2, Error ellipse: s-maj=15.9km s-min=9.7km az=130.0*
*JMA **10** 03:14:09.3±0.5, 4651N×14479E, h413km, M3.2*

ISC 10 03:14:08.3±0.5, 465N±01×1448E±01, h424km±10km, n26, σ1§12/32, mb3.1/9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.50**	**290**	*e*Pn	**P**	**03 15 01.5**	**-2.3**
JWK2	**Keihoku**	**2.34**	**242**	P	**P**	**03 15 09.0**	**+0.5**
JRA	**Rausu**	**2.54**	**175**	P	**P**	**03 15 11.2**	**+1.3**
JTKR	**Abashiri--Toko**	**2.58**	**195**	P	**P**	**03 15 11.6**	**+1.5**
ASAJ	**Asahikawa**	**2.83**	**214**	P	**P**	**03 15 13.2**	**+1.3**
	0.6nm,0.3s,baz=331,slow=32,SNR=4.3						
ASAJ	**Asahikawa**	**2.83**	**214**	PN	**P**	**03 15 13.2**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NEM2	**Nemuro 2**	**3.17**	**168**	P	**P**	**03 15 14.5**	**-0.1**
NEM2				*e*S	**S**	**03 16 07.0**	**-1.5**
JAR	**Ashorobuto**	**3.26**	**194**	P	**P**	**03 15 17.1**	**+1.8**
JAK	**Akkeshi**	**3.47**	**181**	P	**P**	**03 15 17.7**	**+0.6**
JAK				*e*S	**S**	**03 16 12.0**	**-1.0**
JCH	**Churui**	**3.99**	**196**	P	**P**	**03 15 22.5**	**+0.8**
JCH				*e*S	**S**	**03 16 19.8**	**-1.6**
JNBK	**Urakawa-nobuka**	**4.44**	**200**	P	**P**	**03 15 26.9**	**+1.0**
JNBK				*e*S	**S**	**03 16 28.0**	**-1.0**
JKB	**Kayabe**	**5.33**	**212**	P	**P**	**03 15 35.7**	**+1.1**
JKB				*e*S	**S**	**03 16 44.0**	**-1.1**
JOT	**Ohata**	**5.77**	**210**	P	**P**	**03 15 40.6**	**+1.4**
JOT				*e*S	**S**	**03 16 51.9**	**-1.5**
JANG	**Nango**	**6.55**	**203**	P	**P**	**03 15 48.7**	**+1.2**
MJAR	**Matsushiro Arr**	**11.08**	**209**	P	**P**	**03 16 44.2**	**+6.9**
	comp=Z,0.3nm,0.3s,baz=12,slow=11,SNR=5.2						
FX1	**Attu Island--F**	**19.35**	**60**	*e*P	**P**	**03 18 05.7**	**+0.5**
ILAR	**Eielson Array**	**40.32**	**38**	P	**P**	**03 21 05.8**	**-1.0**
	comp=Z,0.3nm,0.6s,mb2.8,baz=253,slow=6.3,SNR=5.9						
MKAR	**Makanchi Array**	**41.91**	**294**	P	**P**	**03 21 20.2**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.1,baz=72,slow=7.1,SNR=9.9						
INK	**Inuvik**	**44.92**	**31**	P	**P**	**03 21 42.5**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.2,baz=250,slow=7.5,SNR=7.1						
RES	**Resolute Bay**	**52.84**	**17**	*e*P	**P**	**03 22 41.0**	**-1.5**
	comp=Z,1.4nm,0.7s,mb3.3						
RES	**Resolute Bay**	**52.84**	**17**	*e*P	**P**	**03 22 41.0**	**-1.5**
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.1						
YKA	**Yellowknife Ar**	**54.47**	**34**	P	**P**	**03 22 54.7**	**+0.6**
	comp=Z,0.2nm,0.6s,mb2.5,baz=305,slow=7.0,SNR=4.9						
FINES	**FINESS Array B**	**61.70**	**331**	P	**P**	**03 23 42.8**	**-0.7**
	comp=Z,0.8nm,0.8s,mb3.3,baz=48,slow=11,SNR=6.9						
FCC	**Fort Churchill**	**64.49**	**30**	P	**P**	**03 24 01.7**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.3						
NOA	**NORSAR Array B**	**66.47**	**337**	P	**P**	**03 24 13.7**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.4,baz=34,slow=6.4,SNR=2.6						
WRA	**Warramunga Arr**	**66.77**	**191**	P	**P**	**03 24 22.3**	**+6.4**
	comp=Z,0.2nm,0.4s,mb3.1,baz=7.9,slow=6.6,SNR=2.7						

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*IDC **10** 03:36:21.5±0.8, 1125N×9531E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/22, mbtmp3.9/10, MS3.5/2, Ms1 3.5/2, ms1mx2.9/36, Error ellipse: s-maj=40.3km s-min=17.4km az=56.0*
*ISCJB **10** 03:36:23.4±0.7, 107N±01×948E±01, h33km, mb4.1/19, MS3.3/1, Error ellipse: s-maj=22.1km s-min=8.0km az=106.8*
*NEIC **10** 03:36:25.7±0.6, 1097N×9510E, mb4.3/8, Error ellipse: s-maj=25.6km s-min=9.0km az=54.0*
*BJI **10** 03:36:25.4, 1076N×9459E, h39km, mB4.7, mb4.5, Ms4.5, Msz4.1*

ISC 10 03:36:26.4±0.6, 109N±01×949E±01, h35km, (h26km±2.4km·pP-P), n37, σ1§57/34, mb4.1/19, MS3.3/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.27**	**290**	*e*P	Px	03 37 05.2	
PBA				*e*S	Sx	03 37 16.6	
PBA				*e*x	x	03 37 39.7	
	comp=E,1μm,0.7s						
PBA				*e*x	x	03 37 39.9	
	comp=N,996nm,0.6s						
KULM	**Kulim**	**7.94**	**134**	*e*Pn	**Pn**	**03 38 18.0**	**-1.3**
KULM				*ep*Pn		03 38 25.4	
PSI	**Prapat**	**8.96**	**153**	LR	LR	03 42 34.0	
	comp=N,365nm,18.8s,baz=281,slow=40						
KMI	**Kunming**	**15.98**	**27**	P	**Pn**	**03 40 14.4**	**+5.9**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s						
JIRN	**Jiri**	**18.59**	**335**	*e*P	**Pn**	**03 40 40.6**	**-0.4**
PKI	**Pulchoki**	**18.85**	**333**	*e*P	**Pn**	**03 40 43.6**	**-0.5**
GUN	**Gumba**	**18.94**	**335**	*e*P	**Pn**	**03 40 42.0**	**-3.2**
DMN	**Daman**	**19.02**	**332**	*e*P	**Pn**	**03 40 45.6**	**-0.6**
LSA	**Lhasa**	**19.05**	**350**	P	**Pn**	**03 40 46.0**	**-0.4**
KKN	**Kakani**	**19.10**	**333**	*e*P	**Pn**	**03 40 45.3**	**-1.8**
GKN	**Gorkha**	**19.57**	**332**	*e*P	**Pn**	**03 40 47.8**	**-5.0**
KOLN	**Koldanda**	**19.88**	**329**	*e*P	**Pn**	**03 40 51.0**	**-5.4**
	comp=Z,22nm,0.7s						
CD2	**Chengdu**	**21.54**	**21**	*e*P	**P**	**03 41 17.7**	**+5.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6

mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=152.5km s-min=23.6km az=63.0
ISCJB ***10*** *03:42:43.4±0.7, 78N±01×920E±01, h33km, mb3.9/8, Error ellipse: s-maj=20.5km s-min=12.1km az=75.0*
NEIC ***10*** *03:42:45.2±0.6, 791N×9205E, h30km, mb4.2/3, Error ellipse: s-maj=16.7km s-min=9.9km az=218.0*

ISC 10 03:42:44.9±0.7, 77N±01×9164E±007, h35km, n12, σ0564/12, mb3.9/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.08**	**15**	*eP*	Px	03 44 25.3	
PBA				*eS*	Sx	03 44 34.4	
PBA				*ex*	x	03 44 38.4	
	comp=N,216nm,0.5s						
PBA				*ex*	x	03 44 38.5	
	comp=E,210nm,0.5s						
PALK	**Pallekele**	**10.85**	**268**	*e*Pn	**Pn**	**03 45 24.4**	**+6.7**
PALK				*e*Sn	**Sn**	**03 47 17.8**	**-0.1**
KSM	**Kuching**	**19.60**	**107**	*eP*	**Pn**	**03 47 07.2**	**-4.4**
AAK	**Ala-Archa**	**37.93**	**339**	*eP*	**P**	**03 49 59.3**	**+0.4**
	comp=E,2.2nm,1.0s,mb3.8						
MKAR	**Makanchi Array**	**39.77**	**350**	P	**P**	**03 50 14.1**	**-0.1**
	comp=E,0.6nm,0.5s,mb3.5,baz=167,slow=8.5,SNR=8.0						
SONM	**Songino Array**	**41.92**	**15**	P	**P**	**03 50 31.3**	**-0.7**
	comp=E,1.3nm,0.7s,mb3.7,baz=215,slow=8.8,SNR=4.4						
ZAL	**Zalesovo**	**46.43**	**354**	P	**P**	**03 51 08.8**	**+0.7**
	comp=E,0.7nm,0.3s,mb4.1,baz=310,slow=9.3,SNR=3.4						
ZAL	**Zalesovo**	**46.43**	**354**	P	**P**	**03 51 08.8**	**+0.7**
ZRNK	**Zerenda**	**48.74**	**342**	*eP*	**P**	**03 51 25.9**	**-0.2**
	comp=E,1.5nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**50.20**	**124**	P	**P**	**03 51 37.9**	**+0.7**
	comp=E,1.1nm,0.8s,mb4.0,baz=308,slow=8.3,SNR=5.6						
WRAB	**Tennant Creek**	**50.21**	**124**	*eP*	**P**	**03 51 36.1**	**-1.1**
	comp=E,7.2nm,1.3s,mb4.5						
ASAR	**Alice Springs**	**51.73**	**128**	P	**P**	**03 51 49.3**	**+0.6**
	comp=E,0.4nm,0.7s,mb3.5,baz=316,slow=6.6,SNR=4.4						

CSEM ***10*** *03:50:19.6±0.5, 3848N×2838W, h5km±4km, ML1.0, Error ellipse: s-maj=3.2km s-min=2.9km az=57.0, After PDA*
PDA ***10*** *03:50:19.6±0.5, 3848N×2838W, h5km±4km, MD2.9, ML1.0, Error ellipse: s-maj=3.2km s-min=2.9km az=57.0*

SVSA 10 03:50:19.6±0.5, 3848N×2838W, h5km±4km, MD2.9, ML1.0, Error ellipse: s-maj=3.2km s-min=2.9km az=57.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBOI	**Pico dos Bois**	**0.04**	**177**	*i* P	Pg	03 50 21.0	+0.2
PBOI				*i* S	Sg	03 50 21.7	0.0
PBOI							
	96nm,0.1s						
PICO	**Pico**	**0.04**	**301**	*i* P	Pg	03 50 20.8	0.0
PICO				*i* S	Sg	03 50 21.9	+0.2
PICO	**Pico**	**0.04**	**301**	*i* S	Sg	03 50 21.9	+0.2
PCND	**Candelaria**	**0.07**	**262**	*eP*	Pg	03 50 21.2	0.0
PCND				*e*S	Sg	03 50 22.4	+0.1
PCND							
	12nm,0.1s						

IDC 10 04:03:45.1±1.3, 1042N×9401E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=58.1km s-min=26.3km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.59**	**347**	P	P	04 11 01.3	-0.1
	0.8nm,0.7s,baz=168,slow=8.1,SNR=13						
ZAL	**Zalesovo**	**44.02**	**352**	P	P	04 11 54.5	+0.1
	1.3nm,0.4s,baz=287,slow=3.9,SNR=5.6						
ASAR	**Alice Springs**	**51.66**	**131**	P	P	04 12 54.0	+0.3
	0.9nm,0.7s,baz=307,slow=7.1,SNR=5.2						
BRTR	**Keskin Array B**	**60.70**	**310**	P	P	04 13 58.2	0.0
	0.8nm,0.8s,baz=116,slow=8.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**89.89**	**283**	P	P	04 16 47.4	+1.4
	0.9nm,1.2s,baz=76,slow=4.2,SNR=3.8						

IDC 10 04:04:52.5±0.9, 1073N×9420E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/22, mbtmp4.0/9, Error ellipse: s-maj=44.5km s-min=20.4km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.34**	**346**	P	P	04 12 07.0	+0.4
	1.4nm,0.6s,baz=165,slow=8.1,SNR=12						
ZAL	**Zalesovo**	**43.74**	**352**	P	P	04 13 00.5	+0.9
	2.4nm,0.3s,baz=301,slow=5.8,SNR=3.4						
WRA	**Warramunga Arr**	**49.90**	**128**	P	P	04 13 48.1	+0.4
	1.4nm,0.6s,baz=305,slow=8.9,SNR=5.0						
ASAR	**Alice Springs**	**51.73**	**132**	P	P	04 14 01.9	+0.5
	1.6nm,0.7s,baz=310,slow=6.6,SNR=8.7						
BRTR	**Keskin Array B**	**60.64**	**310**	P	P	04 15 04.5	-0.8
	0.7nm,0.7s,baz=118,slow=7.7,SNR=3.8						
ARCES	**ARCESS Array B**	**72.62**	**340**	P	P	04 16 21.8	0.0
	4.2nm,1.0s,baz=90,slow=7.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**90.00**	**283**	P	P	04 17 55.1	+1.2
	0.5nm,1.1s,baz=91,slow=4.8,SNR=3.9						
ILAR	**Eielson Array**	**92.09**	**22**	P	P	04 18 02.7	-0.9
	0.3nm,0.8s,baz=298,slow=4.2,SNR=4.9						
INK	**Inuvik**	**94.25**	**16**	P	P	04 18 12.3	-1.3
	0.3nm,0.5s,baz=320,slow=3.4,SNR=4.2						
PLCA	**Paso Flores**	**147.22**	**202**	PKPbc	PKPbc	04 24 38.0	+0.3
	1.0nm,0.6s,baz=90,slow=2.0,SNR=5.1						

IDC ***10*** *04:05:38.8±0.4, 1068N×9419E, h0km, mb4.8/32, mb1 4.9/32, mb1mx4.9/35, mbtmp4.8/32, MS4.8/3, Ms1 4.8/3, ms1mx4.3/13, Error ellipse: s-maj=14.3km s-min=10.5km az=47.0*
BJI ***10*** *04:05:39.5, 1058N×9412E, h23km, mB5.4, mb4.9, Ms5.3, Msz5.0*
ISCJB ***10*** *04:05:40.7±0.2, 1069N±003×9432E±002, h23km, mb5.1/118, MS5.0/34, Error ellipse: s-maj=4.2km s-min=3.3km az=48.9*
MOS ***10*** *04:05:42.6±1.0, 1078N×9421E, h33km, mb5.4/46, Error ellipse: s-maj=9.3km s-min=4.3km az=116.0*
NEIC ***10*** *04:05:42.7±0.1, 1072N×9426E, mb5.2/53, Error ellipse: s-maj=5.2km s-min=3.4km az=49.0*
HRVD ***10*** *04:05:42.7±0.2, 1073N×9437E, h12km, MW5.4/98, Centroid moment Tensor Solution. LP body waves: s85,c151;Mantle waves: s98,c192; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}~1.62±.03; $M_{\theta\theta}$1.37±.03; $M_{\phi\phi}$0.25±.03; $M_{r\theta}$0.61±.07; $M_{r\phi}$0.55±.02; $M_{\theta\phi}$0.17±.08; Best double couple: $M_0$1.72800×10^{17} NP1:ϕ_s66.00000°,δ34.00000°,λ-94.00000°. NP2: ϕ_s250.00000°,δ56.00000°,λ-87.00000°. Principal axes: T 1.7130, Plg11.0000°, Azm338.0000°; N 0.0310, Plg2.0000°, Azm69.0000°; P -1.7430, Plg79.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***10*** *04:05:50.1, 1192N×9413E, h33km, mb5.0, MS4.8, Andaman Islands, India, region*

ISC 10 04:05:43.1±0.2, 1072N±003×9432E±002, h24km, h24km±.7km: pP-P, n356, σ1s09/350, mb5.1/118, MS5.0/34, 16C-19D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.81**	**301**	*eP*	Pn	04 05 51.8	-21
PBA				*e*S	**Sn**	**04 06 44.2**	**+9.4**
NNT	**Nongplab**	**5.62**	**70**	P	**Pn**	**04 07 04.0**	**-1.1**
SNG	**Songkhla**	**7.14**	**119**	P	**Pn**	**04 07 26.0**	**-0.1**
	606nm,1.0s						
NST	**Nakhon Sawan**	**7.50**	**48**	⇑P	**Pn**	**04 07 30.5**	**-0.4**
	275nm,0.5s						
KULM	**Kulim**	**8.27**	**130**	*e*Pn	**Pn**	**04 07 40.5**	**-0.9**
PSI	**Prapat**	**9.10**	**150**	Pn	**Pn**	**04 07 58.3**	**+5.5**
	2.2nm,0.3s,baz=317,slow=15,SNR=9.8						
PSI				Sn	**Sn**	**04 09 49.5**	**+15**
	0.9nm,0.3s,baz=278,slow=17,SNR=1.4						
PSI				LR	LR	04 12 07.2	
	comp=Z,18μm,18.6s,baz=303,slow=42						
PSI	**Prapat**	**9.10**	**150**	Pn	**Pn**	**04 07 58.3**	**+5.5**
PSI				Sn	**Sn**	**04 09 49.5**	**+15**
PSI				LR	LR	04 12 07.2	
PSI	**Prapat**	**9.10**	**150**	P	**Pn**	**04 07 58.3**	**+5.5**
PSI						04 09 49.5	
KKTK	**Khon Kaen**	**9.97**	**55**	P	**Pn**	**04 08 06.0**	**+1.2**
VIS	**Vishakhapatnam**	**12.72**	**304**	*i* P	**Pn**	**04 08 43.7**	**+1.2**
VIS				*i* S	**Sn**	**04 10 53.0**	**-10**
CAL	**Calcutta**	**13.08**	**335**	*eP*	**Pn**	**04 08 48.5**	**+1.2**
CAL				*ex*	x	04 11 16.4	
AGT	**Agartala**	**13.41**	**348**	*eP*	**Pn**	**04 08 54.0**	**+2.1**
AGT				*ex*	x	04 09 15.0	
PALK	**Pallekele**	**13.88**	**257**	*e*Pn	**Pn**	**04 08 58.7**	**+0.4**
	49nm,1.2s						
IMP	**Imphal**	**13.99**	**359**	*eP*	**Pn**	**04 08 59.0**	**-0.8**
SHL	**Shillong**	**14.95**	**351**	*eP*	**Pn**	**04 09 14.5**	**+1.7**
SHL				*ex*	x	04 12 08.0	
BOK	**Bokaro**	**15.29**	**329**	*eP*	**Pn**	**04 09 18.0**	**+0.8**
BOK				AMb	AMB	04 09 25.2	
	comp=Z,129nm,2.2s						
KMI	**Kunming**	**16.40**	**28**	P	**Pn**	**04 09 34.5**	**+2.9**
KMI				AP	pP	04 09 38.0	-2.9
KMI				XP	sP	04 09 40.1	-3.9
KMI				PP		04 09 47.8	
KMI				S	**Sn**	**04 12 43.4**	**+10**
KMI				AMB	AMB		
	comp=Z,25nm,1.2s						
KMI				AMB	AMB		
	comp=Z,373nm,3.5s						
KMI				LR	LR		
	comp=N,6μm,14.2s						
KMI				LR	LR		
	comp=E,3μm,12.1s						
KMI				LR	LR		
	comp=Z,4μm,15.2s						
HYB	**Hyderabad**	**16.68**	**295**	*i* P	**Pn**	**04 09 39.0**	**+3.9**
	comp=Z,60nm,1.0s						
HYB				*e*S	**Sn**	**04 12 40.0**	**+0.4**
HYB				LR	LR	04 18 18.0	
	comp=Z,4.0nm,16.0s						
HYB	**Hyderabad**	**16.68**	**295**	*eP*	**Pn**	**04 09 39.0**	**+3.9**
	comp=Z,60nm,1.0s						
HYB				*e*S	**Sn**	**04 12 48.0**	**+8.4**
HYB	**Hyderabad**	**16.68**	**295**	*eP*	**Pn**	**04 09 39.0**	**+3.9**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s						
QIZ	**Qiongzhong**	**17.11**	**59**	P	**Pn**	**04 09 42.4**	**+1.8**
QIZ				AMB	AMB		
	comp=Z,39nm,2.2s						
QIZ				LR	LR		
	comp=E,6μm,9.7s						
QIZ				LR	LR		
	comp=Z,7μm,10.6s						
QIZ	**Qiongzhong**	**17.11**	**59**	*eP*	**Pn**	**04 09 42.3**	**+1.6**
	comp=Z,228nm,1.9s						
GTK	**Gangtok**	**17.38**	**343**	*ex*	x	04 09 40.0	
NGP	**Nagpur**	**17.96**	**307**	*eP*	**Pn**	**04 09 52.0**	**+0.9**
NGP				AMb	AMB	04 09 56.5	
	comp=Z,72nm,1.4s						
NGP				*e*S	**Sn**	**04 13 10.2**	**-0.5**
JBP	**Jabalpur**	**18.45**	**314**	⇑*eP*	**Pn**	**04 09 58.0**	**+0.9**
JBP				*ex*	x	04 10 41.5	
	comp=Z,134nm,1.6s						
JBP				*e*S	**Sn**	**04 13 23.7**	**+1.1**
JIRN	**Jiri**	**18.51**	**337**	*eP*	**Pn**	**04 09 58.3**	**+0.5**
	comp=Z,304nm,1.2s						
PKI	**Pulchoki**	**18.74**	**335**	*eP*	**Pn**	**04 10 01.1**	**+0.4**
	comp=Z,333nm,1.1s						
PKI	**Pulchoki**	**18.74**	**335**	*eP*	**Pn**	**04 10 01.1**	**+0.4**
PKI				pmax	pmax		
	comp=Z,166nm,1.1s						
LATR	**Latur**	**18.81**	**296**	*eP*	**Pn**	**04 10 02.5**	**+1.1**
GUN	**Gumba**	**18.85**	**336**	*eP*	**Pn**	**04 10 02.6**	**+0.6**
DMN	**Daman**	**18.91**	**334**	*eP*	**Pn**	**04 10 02.7**	**+0.1**
	comp=Z,280nm,1.2s						
KKN	**Kakani**	**18.99**	**335**	*eP*	**Pn**	**04 10 03.7**	**+0.1**
LSA	**Lhasa**	**19.12**	**352**	P	**Pn**	**04 10 05.1**	**-0.1**
LSA				AP	pP	04 10 13.6	+2.7
LSA				XP	sP	04 10 17.6	+3.6
LSA				AMB	AMB		
	comp=Z,30nm,1.7s						
LSA				AMB	AMB		
	comp=Z,2μm,9.2s						
LSA				LR	LR		
	comp=N,2μm,27.3s						
LSA				LR	LR		
	comp=E,3μm,27.3s						
LSA				LR	LR		
	comp=Z,4μm,27.3s						
LSA	**Lhasa**	**19.12**	**352**	*eP*	**Pn**	**04 10 04.5**	**-0.7**
	comp=Z,372nm,1.5s						
LSA	**Lhasa**	**19.12**	**352**	*eP*	**Pn**	**04 10 04.5**	**-0.7**
LSA				pmax	pmax		
	comp=Z,372nm,1.5s						
GKN	**Gorkha**	**19.45**	**333**	*eP*	**Pn**	**04 10 08.7**	**-0.5**
	comp=Z,506nm,1.2s						
GYA	**Guiyang**	**19.52**	**35**	⇓*i*P	**Pn**	**04 10 09.3**	**-0.7**
GYA				AP	pP	04 10 14.6	-0.7
GYA				XP	sP	04 10 17.8	-0.6
GYA				PP		04 10 29.5	
GYA				S	**Sn**	**04 13 48.1**	**-0.2**
GYA				AMB	AMB		
	comp=Z,50nm,1.3s						
GYA				AMB	AMB		
	comp=Z,920nm,7.2s						
GYA				LR	LR		
	comp=N,3μm,12.9s						
GYA				LR	LR		
	comp=E,3μm,13.1s						
GYA				LR	LR		
	comp=Z,4μm,13.4s						
KOLN	**Koldanda**	**19.73**	**331**	*eP*	**Pn**	**04 10 12.0**	**-0.5**
	comp=Z,676nm,1.4s						
BHPL	**Bhopal**	**20.37**	**310**	*eP*	**P**	**04 10 19.1**	**+1.2**
BHPL				AMb	AMB	04 10 27.2	
	comp=Z,171nm,1.2s						
KAD	**Karad**	**20.60**	**291**	*eP*	**P**	**04 10 20.8**	**+0.5**
POO	**Poona**	**21.26**	**294**	*i* PP		04 10 56.5	
POO				AMb	AMB	04 11 04.6	
	comp=Z,125nm,1.0s,mb5.2						
POO				*i* S	**S**	**04 14 32.0**	**+9.4**
POO				*ex*	x	04 15 12.5	
CD2	**Chengdu**	**21.92**	**22**	P	**P**	**04 10 34.5**	**-0.1**
CD2				AP		04 10 41.4	
CD2				XP	sP	04 10 48.0	+3.6
CD2				PP		04 11 00.9	
CD2				S	**S**	**04 14 31.3**	**-4.1**
CD2				XS	sS	04 14 42.3	-3.9
CD2				SS		04 15 07.6	
CD2				AMB	AMB		
	comp=Z,50nm,1.3s,mb4.8						
CD2				AMB	AMB		
	comp=Z,160nm,5.1s						
CD2				LR	LR		
	comp=E,2μm,12.6s						
CD2				LR	LR		
	comp=Z,2μm,13.2s,MS4.7						
GZH	**Guangzhou**	**21.93**	**53**	P	**P**	**04 10 38.6**	**+3.9**
GZH				LR	LR		
	comp=N,1μm,9.9s						
GZH				LR	LR		
	comp=E,1μm,8.6s						
GZH				LR	LR		
	comp=Z,2μm,15.7s,MS4.7						
KKM	**Kota Kinabalu**	**22.14**	**100**	*eP*	**P**	**04 10 37.4**	**+0.4**
KKM				*e*pP		04 10 44.9	
BOM	**Bombay**	**22.31**	**294**	*eP*	**P**	**04 10 41.2**	**+2.5**
BOM				*ex*	x	04 11 20.5	
	comp=Z,194nm,1.5s						
BOM				*e*S	**S**	**04 14 43.5**	**+0.5**
PTH	**Pithoragarh**	**22.90**	**327**	*eP*	**P**	**04 10 47.0**	**+2.0**
PTH				*ex*	x	04 12 05.7	
NDI	**New Delhi**	**24.00**	**321**	*eP*	**P**	**04 10 55.6**	**-0.2**
NDI				*eP*		04 10 59.0	
NDI				AMb	AMB	04 10 59.6	
	comp=Z,243nm,0.9s,mb5.6						
NDI				*ex*	x	04 15 17.0	
ENH	**Enshi**	**24.04**	**34**	*eP*	**P**	**04 10 55.5**	**-0.7**
	comp=Z,208nm,1.1s,mb5.5						
ENH				*e*pP		04 11 02.5	
AJM	**Ajmer**	**24.31**	**313**	*i* P	**P**	**04 11 00.0**	**+1.4**
SMLA	**Simla**	**25.80**	**324**	*eP*	**P**	**04 11 11.6**	**-0.6**
SMLA				AMb	AMB	04 11 39.0	
	comp=Z,317nm,2.2s,mb5.5						
BHK	**Bhakra**	**26.44**	**324**	*ex*	x	04 11 41.8	
LZH	**Lanzhou**	**26.69**	**17**	⇓P	**P**	**04 11 20.2**	**0.0**
LZH				AP	pP	04 11 27.5	0.0
LZH				XP	sP	04 11 30.8	+0.3
LZH				PP		04 12 05.3	
LZH				*e*S	**S**	**04 15 53.0**	**-1.2**
LZH				XS	sS	04 16 04.9	-1.2
LZH				SS		04 17 05.6	
LZH				AMB	AMB		
	comp=Z,87nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,237nm,4.7s						
LZH				LR	LR		
	comp=N,2μm,10.1s						
LZH				LR	LR		
	comp=Z,5μm,13.5s,MS5.2						
XAN	**Xi'an**	**26.79**	**28**	P	**P**	**04 11 20.0**	**-1.1**
XAN				S	**S**	**04 15 53.6**	**-2.1**
XAN				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.5						
XAN				LR	LR		
	comp=N,1μm,15.2s,MS5.0						
XAN				LR	LR		
	comp=E,4μm,17.1s,MS5.0						
XAN				LR	LR		
	comp=Z,3μm,13.1s,MS5.1						
WHN	**Wuhan**	**27.12**	**40**	P	**P**	**04 11 25.0**	**+0.9**
WHN				LR	LR		
	comp=N,2μm,16.7s						
WHN				LR	LR		
	comp=E,5μm,8.2s						
WHN				LR	LR		
	comp=Z,5μm,17.0s,MS5.1						
GTA	**Gaotai**	**28.99**	**9**	*eP*	**P**	**04 11 41.5**	**+0.7**
GTA				AP	pP	04 11 47.8	-0.2
GTA				XP	sP	04 11 51.0	0.0
GTA				PP	PP	04 12 39.0	-7.4
GTA				PCP	PcP	04 14 48.9	-0.1
GTA				S	**S**	**04 16 32.6**	**+2.2**
GTA				XS	sS	04 16 49.6	+7.3
GTA				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.8						
GTA				AMB	AMB		
	comp=Z,479nm,5.8s						
GTA				LR	LR		
	comp=N,2μm,18.1s,MS5.0						
GTA				LR	LR		
	comp=E,1μm,14.7s,MS5.0						
GTA				LR	LR		
	comp=Z,3μm,21.6s						
NJ2	**Nanjing**	**31.04**	**43**	*eP*	**P**	**04 12 00.1**	**+1.1**
NJ2				AP	pP	04 12 07.3	+1.1
NJ2				XP	sP	04 12 10.7	+1.5
NJ2				PP	PP	04 13 02.2	-7.0
NJ2				S	**S**	**04 17 03.0**	**+0.4**
NJ2				XS	sS	04 17 15.0	+0.4
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,810nm,4.1s						
NJ2				LR	LR		
	comp=N,6μm,18.5s,MS5.3						
NJ2				LR	LR		
	comp=E,5μm,22.6s,MS5.3						
NJ2				LR	LR		
	comp=Z,2μm,15.5s						
TIY	**Taiyuan**	**31.42**	**28**	*eP*	**P**	**04 12 06.0**	**+3.7**
TIY				S	**S**	**04 17 17.0**	**+8.5**
TIY				LR	LR		
	comp=N,3μm,10.0s						
SSE	**Sheshan**	**32.11**	**47**	*eP*	**P**	**04 12 08.8**	**+0.5**
SSE				AP	pP	04 12 14.4	-1.2
SSE				XP	sP	04 12 17.0	-1.6
SSE				PP	PP	04 13 21.9	+0.9
SSE				PCP	PcP	04 15 02.0	+4.8
SSE				S	**S**	**04 17 17.8**	**-1.5**
SSE				AMB	AMB		
	comp=Z,48nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,42nm,3.5s						
SSE				LR	LR		
	comp=N,2μm,13.6s,MS5.0						
SSE				LR	LR		
	comp=E,575nm,13.6s,MS5.0						
SSE				LR	LR		
	comp=Z,2μm,12.5s,MS5.0						
BTO	**Baotou**	**32.84**	**22**	*eP*	**P**	**04 12 13.2**	**-1.6**
BTO				S	**S**	**04 17 28.1**	**-2.6**
BTO				LR	LR		
	comp=N,735nm,10.8s,MS5.1						
BTO				LR	LR		
	comp=E,2μm,10.8s,MS5.1						
KSH	**Kashi**	**33.00**	**333**	P	**P**	**04 12 16.8**	**+0.6**
KSH				*e*AP	pP	04 12 24.1	+0.7
KSH				*e*XP	sP	04 12 27.2	+0.8
KSH				PP	PP	04 13 26.2	-4.7
KSH				PCP	PcP	04 15 00.9	+1.2
KSH				S	**S**	**04 17 31.6**	**-1.5**
KSH				XS	sS	04 17 43.1	-2.0
KSH				*e*SCP	ScP	04 18 42.4	+0.1
KSH				PCS	PcS	04 18 45.3	+0.2
KSH				SS	SS	04 19 30.5	-25
KSH				SCS	ScS	04 22 40.7	-1.8
KSH				AMB	AMB		
	comp=Z,58nm,0.9s,mb5.5						
KSH				AMB	AMB		
	comp=Z,160nm,4.2s						
KSH				LR	LR		
	comp=N,2μm,14.3s,MS5.1						
KSH				LR	LR		
	comp=E,2μm,13.9s,MS5.1						
KSH				LR	LR		
	comp=Z,4μm,24.0s						
WMQ	**Urumqi**	**33.48**	**351**	P	**P**	**04 12 21.0**	**+0.7**
WMQ				AP	pP	04 12 28.3	+0.7
WMQ				XP	sP	04 12 31.6	+1.0
WMQ				PP	PP	04 13 33.4	-2.8
WMQ				PCP	PcP	04 15 01.8	+0.8
WMQ				S	**S**	**04 17 40.4**	**-0.1**
WMQ				SS	SS	04 19 44.2	-21
WMQ				AMB	AMB		
	comp=Z,52nm,1.0s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,364nm,5.0s						
WMQ				LR	LR		
	comp=N,2μm,24.0s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,24.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,24.0s,MS4.8						
HHC	**Hu-ho-hao-te**	**33.65**	**24**	*eP*	**P**	**04 12 22.3**	**+0.5**
HHC				AP	pP	04 12 28.5	-0.6
HHC				XP	sP	04 12 31.5	-0.6
HHC				PP	PP	04 13 35.5	-2.6
HHC				PCP	PcP	04 15 01.1	-0.4
HHC				S	**S**	**04 17 43.6**	**+0.4**
HHC				XS	sS	04 17 55.6	+0.4
HHC				SS	SS	04 19 50.6	-18
HHC				SCS	ScS	04 22 43.1	-2.7
HHC				AMB	AMB		
	comp=Z,24nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,382nm,5.6s						
HHC				LR	LR		
	comp=N,2μm,11.8s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,11.4s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,26.8s						
BJT	**Baijiatuau**	**35.03**	**30**	*eP*	**P**	**04 12 34.6**	**+0.8**
	comp=Z,42nm,1.3s,mb5.2						
BJT	**Baijiatuau**	**35.03**	**30**	*eP*	**P**	**04 12 34.6**	**+0.9**
BJT				pmax	pmax		
	comp=Z,42nm,1.3s						
BJI	**Beijing**	**35.05**	**30**	P	**P**	**04 12 34.7**	**+0.8**
BJI				S	**S**	**04 18 06.9**	**+2.1**
BJI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
BJI				LR	LR		
	comp=N,2μm,15.2s,MS5.2						
BJI				LR	LR		
	comp=E,2μm,15.8s,MS5.2						
BJI				LR	LR		
	comp=Z,1μm,19.4s,MS4.7						
ULHL	**Ulahol**	**35.17**	**336**	P	**P**	**04 12 35.0**	**0.0**
	SNR=12						
KZA	**Kyzart**	**35.43**	**335**	P	**P**	**04 12 37.9**	**+0.7**
	SNR=21						
WBK	**Wadi Bani Khal**	**35.77**	**294**	P	**P**	**04 12 43.9**	**+3.7**
	SNR=15						
UCH	**Uchtor**	**35.86**	**335**	P	**P**	**04 12 41.6**	**+0.8**

SNR=13
TKM2 Tokmak 2 35.99 336 P **P** **04 12 42.7 +0.7**
SNR=9.0
KBK Karagaybulak 36.03 335 P **P** **04 12 43.4 +1.0**
SNR=11
AML Almayashu 36.13 334 P **P** **04 12 44.2 +1.0**
SNR=24
AAK Ala-Archa 36.20 335 P **P** **04 12 44.7 +0.9**
SNR=16
AAK Ala-Archa 36.20 335 P **P** **04 12 43.0 -0.8**
comp=Z,173nm,1.2s,mb5.9,SNR=11
AAK Ala-Archa 36.20 335 *e*P **P** **04 12 43.3 -0.5**
comp=Z,45nm,1.2s,mb5.3
AAK Ala-Archa 36.20 335 *e*P **P** **04 12 43.3 -0.5**
AAK pmax pmax
comp=Z,45nm,1.2s,mb5.3
FRU Bishkek 36.31 335 *e*P **P** **04 12 46.0 +1.2**
FRU pmax pmax
comp=Z,136nm,1.8s,mb5.6
CHMS Chumysh 36.40 336 P **P** **04 12 45.6 +0.2**
SNR=10
EKS2 Erkin-Say 36.52 334 P **P** **04 12 47.5 +0.9**
SNR=13
SMDO Samad 36.70 294 P **P** **04 12 51.6 +3.5**
SNR=17
USP Ospenovka 36.72 336 P **P** **04 12 48.5 +0.2**
SNR=20
BIDO Bidbid 36.74 295 P **P** **04 12 52.1 +3.6**
SNR=15
DL2 Dalian 37.16 36 PR 04 12 53.7
DL2 *e*S **S** **04 18 47.8 +11**
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.2
DL2 AMB AMB
comp=Z,140nm,3.8s
DL2 LR LR
comp=N,930nm,12.0s,MS4.8
DL2 LR LR
comp=E,570nm,13.1s,MS4.8
DL2 LR LR
comp=Z,990nm,13.9s,MS4.8
MK31 Makanchi Array 37.38 346 *i* P **P** **04 12 53.4 -0.4**
MKAR Makanchi Array 37.38 346 P **P** **04 12 53.8 -0.1**
comp=Z,21nm,0.8s,mb5.0,baz=162,slow=8.4,SNR=38
BSY Bisya 37.40 293 P **P** **04 12 57.5 +3.4**
SNR=28
HOQ Hoqain 37.49 295 P **P** **04 12 57.9 +3.1**
SNR=19
SHAO Shalim 38.12 286 P **P** **04 13 03.7 +3.5**
SNR=5.5
ARQ Araqi 38.14 294 P **P** **04 13 03.3 +3.0**
SNR=10.0
KK31 Karatay Array 38.34 332 *i* P **P** **04 13 01.6 -0.4**
KKAR Karatay Array 38.34 332 *i* P **P** **04 13 01.5 -0.5**
KKAR pmax pmax
comp=Z,21nm,0.9s,mb4.9
SONM Songino Array 38.37 13 P **P** **04 13 02.7 +0.5**
comp=Z,17nm,1.1s,mb4.7,baz=199,slow=7.3,SNR=31
ASHO Ashiyiah 38.86 296 P **P** **04 13 09.3 +3.0**
SNR=22
BANOM Banah 38.97 298 P **P** **04 13 10.0 +2.8**
SNR=7.6
RBK Rabkut 39.43 284 P **P** **04 13 14.0 +2.9**
SNR=7.3
WHFO Wadi Hawf 39.87 285 P **P** **04 13 17.6 +2.8**
SNR=26
KS15 Wonju Array Si 40.21 43 *e*P **P** **04 13 16.5 -1.1**
KS15 *e*pP pP 04 13 24.4 -0.6
SNY Shenyang 40.22 34 ||P **P** **04 13 17.9 +0.2**
SNY AP pP 04 13 26.3 +1.3
SNY XP sP 04 13 29.5 +1.5
SNY PP PP 04 14 59.6 +9.3
SNY S **S** **04 19 31.1 +7.9**
SNY XS sS 04 19 41.4 +6.0
SNY AMB AMB
comp=Z,30nm,1.4s,mb4.8
SNY AMB AMB
comp=Z,360nm,4.8s
SNY LR LR
comp=N,1μm,16.9s,MS5.1
SNY LR LR
comp=E,2μm,17.4s,MS5.1
SNY LR LR
comp=Z,1μm,14.5s,MS5.0
ZAK Zakamensk 40.23 9||*i*P **P** **04 13 17.3 -0.5**
ZAK pmax pmax
comp=Z,28nm,1.9s,mb4.7
ZAK pmax pmax
comp=Z,28nm,1.6s,mb4.7
JNU Nakatsue 40.27 51 P **P** **04 13 18.6 +0.5**
comp=Z,7.8nm,0.3s,mb4.9,baz=217,slow=5.8,SNR=4.9
ABTO Aybut 40.28 284 P **P** **04 13 21.3 +3.1**
SNR=9.9
MBWA Marble Bar 40.33 142 *e*P **P** **04 13 18.2 -0.4**
comp=Z,58nm,1.6s,mb5.1
MBWA *e*pP pP 04 13 25.3 -0.7
MOY Mondy 41.19 6 *e*P **P** **04 13 22.6 -3.1**
KURK Kurchatov 41.92 345 P **P** **04 13 31.3 -0.3**
comp=Z,224nm,1.1s,mb5.7,SNR=13
KURK Kurchatov 41.92 345 *e*P **P** **04 13 31.1 -0.6**
comp=Z,100nm,1.5s,mb5.2
KURK *e*pP pP 04 13 38.2 -0.9
KURK Kurchatov 41.92 345 *e*P **P** **04 13 31.1 -0.5**
KURK *e**PP pP 04 13 38.2 -0.8
KURK pmax pmax
comp=Z,100nm,1.5s,mb5.2
FITZ Fitzroy Crossi 42.14 133 *e*P **P** **04 13 33.2 -0.3**
comp=Z,31nm,1.2s,mb4.8
FITZ *e*S **S** **04 19 48.0 -3.8**
FITZ *e*SS SS 04 23 13.3 +13
IRK Irkutsk 42.19 9 *e*P **P** **04 13 34.4 +0.5**
IRK pmax pmax
comp=Z,50nm,2.3s,mb4.7
ABKT Ailbek 42.25 316 P **P** **04 13 36.2 +1.8**
comp=Z,1μm,0.9s,SNR=12
CN2 Changchun 42.56 34 ||P **P** **04 13 37.2 +0.3**
CN2 *e*AP pP 04 13 43.0 -1.3
CN2 PCP PcP 04 15 27.5 -1.5
CN2 *e*S **S** **04 20 00.4 +2.5**
CN2 AMB AMB
comp=Z,40nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.3
CN2 LR LR
comp=E,3μm,15.0s,MS5.3
CN2 LR LR
comp=Z,2μm,16.0s,MS5.1
ZAL Zalesovo 43.77 352 P **P** **04 13 47.0 +0.4**
comp=Z,14nm,0.8s,mb4.8,baz=302,slow=9.1,SNR=37
ZAL LR LR 04 35 15.4
comp=Z,1μm,21.9s,MS4.7,baz=290,slow=41
HIA Hailar 43.86 24 *e*P **P** **04 13 47.6 +0.2**
comp=Z,58nm,1.4s,mb5.1
HIA Hailar 43.86 24*d i*P **P** **04 13 47.8 +0.4**
NVS Novosibirsk 44.88 351 *e*P **P** **04 13 54.6 -0.9**
NVS *e* 04 14 13.0
NVS *e*S **S** **04 20 31.2 -0.6**
NVS pmax pmax
comp=Z,66nm,1.3s,mb5.3
NVS pmax pmax
comp=N,57nm,1.5s
NVS smax
comp=N,43nm,1.8s
MDJ Mudanjiang 45.38 35 P **P** **04 14 00.5 +1.0**
MDJ AP pP 04 14 07.8 +0.8
MDJ XP sP 04 14 12.1 +2.2
MDJ PP PP 04 15 46.9 +1.1
MDJ S **S** **04 20 41.2 +2.1**
MDJ XS sS 04 20 52.0 +0.6
MDJ AMB AMB
comp=Z,13nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,287nm,4.1s
MDJ LR LR
comp=N,672nm,21.9s
MDJ LR LR
comp=E,424nm,27.0s
MDJ LR LR
comp=Z,823nm,18.6s,MS4.7
BVAR Borovoye Array 46.38 340 P **P** **04 14 07.0 -0.4**
comp=Z,13nm,0.9s,mb4.8,baz=142,slow=7.5,SNR=28
BRVK Borovoye 46.44 340 P **P** **04 14 07.1 -0.8**
comp=Z,121nm,1.0s,mb5.8,SNR=6.9
BRVK Borovoye 46.44 340 *e*P **P** **04 14 07.3 -0.6**
comp=Z,11nm,0.9s,mb4.8
BRVK Borovoye 46.44 340 *e*P **P** **04 14 07.3 -0.6**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.8
ZRNK Zerenda 46.79 339 *e*P **P** **04 14 09.4 -1.2**
comp=Z,11nm,0.8s,mb4.8
ZRNK Zerenda 46.79 339 *i* P **P** **04 14 09.7 -0.9**
ZRNK pmax pmax
comp=Z,13nm,1.0s,mb4.8
MAT Matsushiro 47.16 50 P **P** **04 14 12.3 -1.2**
MAT *e*S **S** **04 21 11.0 +6.4**
MAT Matsushiro 47.16 50 *e*P **P** **04 14 12.0 -1.5**
comp=Z,19nm,1.1s,mb4.9
MAT S **S** **04 21 11.0 +6.4**
MAT Matsushiro 47.16 50 *e*P **P** **04 14 12.0 -1.5**
MAT S **S** **04 21 11.0 +6.4**
MAT pmax pmax
comp=Z,19nm,1.1s,mb4.9
MJAR Matsushiro Arr 47.16 50 P **P** **04 14 14.6 +1.1**
comp=Z,7.4nm,0.9s,mb4.6,baz=244,slow=9.3,SNR=10
MJAR PcP PcP 04 15 46.1 +1.3
comp=Z,31nm,1.1s,baz=250,slow=4.1,SNR=17
MUN Mundaring 47.34 154 *e*P **P** **04 14 16.2 +1.3**
MUN *e*S **S** **04 21 12.5 +5.3**
MUN *e*SS SS 04 24 52.2 +17
MUN Mundaring 47.34 154 *e*P **P** **04 14 16.2 +1.3**
MUN *e*S **S** **04 21 12.5 +5.3**
KLBR Kellerberrin 47.69 153 *e*P **P** **04 14 18.0 +0.4**
comp=Z,40nm,1.0s,mb5.4
KLBR *e*pP pP 04 14 24.6 -0.5
AB31 Akbulak array 47.85 330 *i* P **P** **04 14 18.2 -0.7**
AB31 pmax pmax
comp=Z,49nm,1.1s,mb5.5
NWAO Narrogin (SRO) 48.59 154 P **P** **04 14 24.8 +0.2**
comp=Z,44nm,1.1s,mb5.4,baz=316,slow=9.7,SNR=10
NWAO Narrogin (SRO) 48.59 154 *e*P **P** **04 14 24.8 +0.2**
comp=Z,42nm,1.1s,mb5.4
NWAO *e*pP pP 04 14 32.2 +0.1
NWAO Narrogin (SRO) 48.59 154 *e*P **P** **04 14 24.8 +0.2**
NWAO *e**PP pP 04 14 32.2 +0.1
NWAO pmax pmax
comp=Z,42nm,1.1s
BOD Bodaibo 49.36 14 *e*P **P** **04 14 29.5 -1.0**
BOD pmax pmax
comp=Z,21nm,1.2s,mb5.0
KLR Kul'dur 49.37 32 *e*P **P** **04 14 25.7 -4.9**
KLR *e*S **S** **04 21 38.5 +2.6**
KLR pmax pmax
comp=E,75nm,2.4s
KLR pmax pmax
comp=Z,120nm,2.4s,mb5.5
KLR MLR MLR
comp=N,2μm,13.5s,MS5.3
KLR MLR MLR
comp=E,1μm,13.5s,MS5.3
KLR MLR MLR
comp=Z,4μm,13.5s,MS5.5
AKTK Aktyubinsk 49.57 330 P **P** **04 14 31.3 -0.8**
AKTK PcP PcP 04 15 53.8 +0.3
AKTO Aktyubinsk 49.57 330 P **P** **04 14 31.3 -0.8**
comp=Z,9.9nm,1.0s,mb4.8,baz=125,slow=7.6,SNR=14
AKTO PcP PcP 04 15 53.8 +0.3
comp=Z,9.1nm,0.9s,baz=137,slow=5.2,SNR=3.9
WRA Warramunga Arr 49.80 128 P **P** **04 14 34.6 +0.7**
comp=Z,34nm,1.0s,mb5.3,baz=310,slow=8.1,SNR=41
WRAB Tennant Creek 49.80 128 P **P** **04 14 34.0 +0.1**
comp=Z,246nm,1.0s,mb6.2,SNR=7.5
WRAB Tennant Creek 49.80 128 *e*P **P** **04 14 34.4 +0.5**
comp=Z,65nm,1.0s,mb5.6
WRAB *e*pP pP 04 14 41.3 -0.1
WRAB Tennant Creek 49.80 128 *e*P **P** **04 14 34.4 +0.5**
WRAB *e**PP pP 04 14 41.3 -0.1
WRAB pmax pmax
comp=Z,65nm,1.0s,mb5.6
WB2 Warramunga Arr 49.81 128 *e*P **P** **04 14 34.5 +0.6**
WB2 *e*S **S** **04 21 43.5 +1.5**
WB2 *e*SS SS 04 25 25.0 +10
ATD Arta Tunnel 50.46 276 P **P** **04 14 38.7 -0.1**
comp=Z,15nm,0.8s,mb5.1,baz=209,slow=20,SNR=5.7
HABR Khabarovsk 50.69 34 *e*P **P** **04 14 43.3 +2.7**
HABR *e*S **S** **04 21 56.4 +2.2**
ASAR Alice Springs 51.63 132 P **P** **04 14 48.4 +0.7**
comp=Z,34nm,0.9s,mb5.3,baz=306,slow=7.1,SNR=54
CLNS Chul'man 51.73 21*d i*P **P** **04 14 48.0 -0.3**
CLNS *e**PP pP 04 14 54.7 -1.2
CLNS *e* 04 24 31.6
CLNS pmax pmax
comp=Z,73nm,1.0s,mb5.6
CLNS pmax pmax
comp=N,48nm,1.1s
CLNS pmax pmax
comp=E,44nm,1.1s
CLNS pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,8.0nm,1.4s
CLNS pmax pmax
comp=E,7.0nm,1.5s
CLNS MLR MLR
comp=N,200nm,13.0s,MS5.3
CLNS MLR MLR
comp=E,2μm,13.0s,MS5.3
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.3
MAK Makhachkala 51.74 317*d i*P **P** **04 14 51.2 +2.7**
MAK *e* 04 16 42.3
MAK *e*PPP 04 17 52.1
MAK *e*S **S** **04 22 08.0 -0.8**
MAK *e*SSS 04 27 22.8
MAK pmax pmax
comp=Z,344nm,1.8s,mb6.0
MAK MLR MLR
comp=Z,2μm,18.0s,MS5.1
GNI Garni 52.62 313 *e*P **P** **04 14 56.4 +1.4**
comp=Z,175nm,1.3s,mb5.8
GNI Garni 52.62 313*d i*P **P** **04 14 55.8 +0.8**
GNI pmax pmax
comp=Z,119nm,1.3s
DGRG David-gareji 52.62 314 P **P** **04 14 56.5 +1.5**
MTA Mtatsminda 53.12 315 P **P** **04 14 59.3 +0.6**
TBLG Delisi 53.17 315 P **P** **04 14 59.8 +0.8**
ASAJ Asahikawa 53.18 42 P **P** **04 14 59.3 +0.2**
comp=Z,16nm,0.9s,mb4.9,baz=266,slow=8.2,SNR=5.4
ARU Arti 53.37 336 *e*P **P** **04 14 59.7 -0.8**
comp=Z,20nm,1.0s,mb5.0
ARU Arti 53.37 336⇑*i*P **P** **04 15 00.0 -0.5**
ARU pmax pmax
comp=Z,27nm,1.0s,mb5.1
AKH Akhalkalaki 53.94 314 P **P** **04 15 05.8 +1.2**
ZEI Tsey 54.12 316 *i* P **P** **04 15 03.5 -2.5**
ZEI *i* *PP pP 04 15 10.4 -3.2
ZEI *i* 04 16 07.8
ZEI pmax pmax
comp=Z,29nm,1.3s,mb5.0
YSS Yuzh-Sakhalins 54.46 39 *e*P **P** **04 15 09.1 +0.7**
comp=Z,98nm,1.4s,mb5.5
YSS *e*pP pP 04 15 15.8 -0.3
YSS Yuzh-Sakhalins 54.46 39*ce*P **P** **04 15 09.0 +0.5**
YSS *e* pP 04 15 14.2 -1.8
YSS S **S** **04 22 43.0 -2.7**
YSS *e*SS SS 04 26 32.0 +3.8
YSS pmax pmax
comp=Z,80nm,1.2s,mb5.5
YSS pmax pmax
comp=Z,400nm,3.0s
OPO Ambohidratompo 54.85 238 P **P** **04 15 11.0 -0.3**
comp=Z,6.1nm,0.8s,mb4.7,baz=43,slow=6.9,SNR=6.1
KIV Kislovodsk 55.37 317 *e*P **P** **04 15 15.1 +0.1**
comp=Z,117nm,1.3s,mb5.8
KIV Kislovodsk 55.37 317*d i*P **P** **04 15 15.2 +0.2**
KIV pmax pmax
comp=Z,80nm,1.0s,mb5.7
KIV MLR MLR
comp=Z,900nm,22.0s,MS4.8
GOF Gofitskoye 55.53 318⇑*i*P **P** **04 15 15.6 -0.6**
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.4
PMG Port Moresby 56.23 109 P **P** **04 15 22.2 +0.9**
comp=Z,23nm,1.0s,mb5.2,baz=253,slow=4.2,SNR=4.0
PMG Port Moresby 56.23 109 *e*P **P** **04 15 22.2 +0.9**
comp=Z,57nm,1.4s,mb5.4
PMG Port Moresby 56.23 109 *e*P **P** **04 15 22.2 +0.9**
PMG pmax pmax
comp=Z,57nm,1.4s
SOKR Solikamsk 56.23 338⇑*i*P **P** **04 15 21.4 +0.1**
SOKR pmax pmax
comp=Z,40nm,1.4s,mb5.3
SOKR MLR MLR
comp=Z,6μm,40.0s,MS5.3
MALT Malatya 56.80 309 *e*P **P** **04 15 24.9 -0.3**
comp=Z,23nm,1.2s,mb5.1
MALT Malatya 56.80 309 *e*P **P** **04 15 25.0 -0.3**
MALT pmax pmax
comp=Z,23nm,1.2s,mb5.1
YAK Yakutsk 57.26 19 *e*P **P** **04 15 28.0 -0.6**
comp=Z,59nm,0.8s,mb5.7
YAK Yakutsk 57.26 19*d i*P **P** **04 15 27.9 -0.6**
YAK *e**PP pP 04 15 36.3 +0.1
YAK *e* 04 16 18.3
YAK *e*PPP 04 18 59.1
YAK *e*S **S** **04 23 22.6 -0.5**
YAK *e**SS sS 04 23 38.7 +3.1
YAK *e* 04 25 09.0
YAK *e*SS SS 04 27 12.6 +0.2
YAK pmax pmax
comp=Z,49nm,1.0s,mb5.5
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,23nm,1.4s
YAK pmax pmax
comp=Z,46nm,9.7s
YAK smax
comp=E,194nm,13.1s
YAK smax
comp=N,25nm,10.4s
YAK MLR MLR
comp=Z,1μm,19.0s,MS5.0
YAK MLR MLR
comp=N,516nm,16.0s,MS5.0
YAK MLR MLR
comp=E,759nm,18.0s,MS5.0
SOC Sochi 57.28 315 *e*P **P** **04 15 28.2 -0.5**
SOC *e* 04 16 17.6
SOC *e* 04 17 34.4
SOC *e*PPP 04 18 52.3
SOC *e*S **S** **04 23 21.9 -1.4**
SOC *e* 04 25 04.7
SOC *e*SS SS 04 27 09.8 -2.8
SOC pmax pmax
comp=Z,67nm,1.2s,mb5.5
SOC MLR MLR
comp=Z,1μm,21.0s,MS5.0
KMBO Kilima Mbogo 57.96 262 P **P** **04 15 33.7 +0.2**
comp=Z,5.5nm,1.1s,mb4.5,baz=35,slow=8.0,SNR=9.0
EIL Elat 58.21 298 *e*P **P** **04 15 35.3 0.0**
comp=Z,618nm,1.2s
VRHR Novokhopersk 58.74 324 *e*P **P** **04 15 38.0 -0.9**
VRHR pmax pmax
comp=Z,50nm,1.1s,mb5.5
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,70nm,1.8s
CTA Charters Tower 59.57 121 *e*P **P** **04 15 45.7 +1.0**
comp=E,23nm,1.1s,mb5.1
CTA Charters Tower 59.57 121 P **P** **04 15 45.1 +0.5**
comp=E,35nm,1.1s,mb5.3,baz=293,slow=8.1,SNR=11
CTA Charters Tower 59.57 121 *e*P **P** **04 15 45.7 +1.0**
CTA pmax pmax
comp=Z,23nm,1.1s
CTAO Charters Tower 59.57 121 *e*P **P** **04 15 45.8 +1.1**
comp=Z,38nm,1.1s,mb5.3
CTAO *e*pP pP 04 15 52.5 +0.2
CTAO Charters Tower 59.57 121 *e*P **P** **04 15 45.8 +1.1**
CTAO *e**PP pP 04 15 52.5 +0.2
CTAO pmax pmax
comp=Z,38nm,1.1s,mb5.3
VRSR Storozhevoye 60.20 324 *e*P **P** **04 15 47.1 -1.9**
VRSR *e*S **S** **04 23 58.9 -2.3**
VRSR pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
VRSR pmax pmax
comp=N,3.0nm,3.0s
VRSR pmax pmax
comp=E,5.0nm,1.4s
VRSR smax
comp=N,6.0nm,1.6s
VRSR smax
comp=Z,1.0nm,1.6s
VRSR smax
comp=E,3.0nm,2.9s
VRSR MLR MLR
comp=Z,200nm,22.0s,MS4.2
VRSR MLR MLR
comp=N,150nm,21.0s,MS4.2
VRSR MLR MLR
comp=E,120nm,20.0s,MS4.2
VOR Voronezh 60.38 324 *e*P **P** **04 15 50.0 -0.2**
VOR *e**PP pP 04 15 56.0 -1.9
VOR pmax pmax
comp=N,40nm,1.2s
VOR pmax pmax
comp=E,60nm,1.2s
VOR pmax pmax
comp=Z,80nm,1.2s,mb5.6
BR131 Keskin Array S 60.74 310 *e*P **P** **04 15 51.4 -1.3**
comp=Z,13nm,0.9s,mb5.1
BRTR Keskin Array B 60.74 310 P **P** **04 15 51.2 -1.4**
comp=Z,13nm,1.0s,mb5.0,baz=121,slow=6.5,SNR=25
ANTO Ankara 61.41 310 *e*P **P** **04 15 56.0 -1.2**
comp=Z,19nm,1.0s,mb5.2
ANTO *e*pP pP 04 16 03.0 -1.9
ANTO Ankara 61.41 310 *e*P **P** **04 15 56.0 -1.2**
ANTO *e**PP pP 04 16 03.0 -1.9
ANTO pmax pmax
comp=Z,19nm,1.0s,mb5.2
SIM Simferopol' 61.52 315*de*P **P** **04 15 57.5 -0.5**
SIM *e*S **S** **04 24 17.0 -1.1**
SIM *e*PS 04 24 41.0
SIM pmax pmax
comp=Z,20nm,1.2s,mb5.1
STKA Stephens Creek 61.95 135 *e*P **P** **04 15 59.6 -1.3**
comp=Z,20nm,1.0s,mb5.2
STKA *e*S **S** **04 24 25.2 +1.6**
STKA Stephens Creek 61.95 135 P **P** **04 15 59.8 -1.1**
comp=Z,26nm,1.0s,mb5.3,baz=313,slow=6.4,SNR=21
MOS Moscow 62.77 328 *e*P **P** **04 16 04.3 -2.1**
MOS pmax pmax
comp=Z,71nm,0.8s,mb5.8
ISP Isparta 62.85 307⇑*i*P **P** **04 16 06.0 -0.9**
OBN Obninsk 63.09 327⇑*i*P **P** **04 16 07.9 -0.6**
OBN LR LR
comp=Z,2μm,18.0s,MS5.3
OBN Obninsk 63.09 327⇑*e*P **P** **04 16 07.8 -0.7**
OBN *e* pP 04 16 14.7 -1.5
OBN *i* 04 16 43.2
OBN *e*S **S** **04 24 46.1 +8.2**
OBN *e*PS 04 24 55.8
OBN *e* 04 25 53.7
OBN pmax pmax
comp=Z,49nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.3
KLMR Klimovskoe 64.00 334 *e*P **P** **04 16 11.1 -3.4**
KLMR *i* S **S** **04 24 50.0 +0.8**
KLMR pmax pmax
comp=Z,30nm,1.4s,mb5.1
KLMR smax
comp=N,10.0nm,3.2s
KLMR smax
comp=E,490nm,4.7s
KLMR MLR MLR
comp=Z,2μm,21.0s,MS5.2
MA2 Magadan 64.18 28 *e*P **P** **04 16 15.5 -0.1**
comp=Z,32nm,1.1s,mb5.3
MA2 Magadan 64.18 28*de*P **P** **04 16 15.4 -0.3**
MA2 *e* 04 18 43.9
MA2 *e*PPP 04 20 13.4
MA2 *e*S **S** **04 24 52.6 +1.1**
MA2 *e*PS 04 25 07.8
MA2 SS SS 04 29 03.7 +2.9
MA2 pmax pmax
comp=Z,30nm,1.4s,mb5.1
MA2 pmax pmax
comp=N,5.0nm,1.2s
MA2 pmax pmax
comp=E,10.0nm,1.4s
TIXI Tiksi 64.43 11 *i* Pr 04 16 16.0
AKASG Malin Array Be 66.06 321 P **P** **04 16 25.5 -2.4**
comp=E,0.6nm,0.5s,baz=90,slow=4.8,SNR=15

PET	**Petropavlovsk**	**66.14**	**37**	*eP*	**P**	**04 16 30.4**	**+2.0**
PET				*e*		04 25 37.5	
PET				pmax	pmax		
	comp=Z,100nm,10.4s						
PET				MLR	MLR		
	comp=Z,800nm,19.0s,MS5.0						
PET				MLR	MLR		
	comp=N,1μm,20.0s,MS5.1						
PET				MLR	MLR		
	comp=E,1μm,23.0s,MS5.1						
SEY	**Seymchan**	**66.29**	**25**	⇓*iP*	**P**	**04 16 27.3**	**-2.0**
SEY	**Seymchan**	**66.29**	**25**	*eP*	**P**	**04 16 29.2**	**-0.1**
SEY				*e*		04 16 55.3	
SEY				*e*		04 18 57.9	
SEY				*e*S	S	04 25 17.4	+0.1
SEY				*e*SS	SS	04 29 40.5	+6.9
SEY				pmax	pmax		
	comp=Z,200nm,1.2s,mb6.0						
SEY				pmax	pmax		
	comp=N,8.0nm,1.4s						
SEY				pmax	pmax		
	comp=E,10.0nm,1.4s						
SEY				smax			
	comp=N,240nm,26.5s						
SEY				smax			
	comp=E,290nm,29.8s						
VRI	**Vrincioaia**	**66.80**	**315**	⇓P	**P**	**04 16 32.7**	**+0.1**
PLOR	**Plostina**	**66.85**	**315**	⇓P	**P**	**04 16 32.9**	**0.0**
IDI	**Anoyia**	**67.12**	**304**	LR	LR	04 51 27.0	
	comp=E,240nm,20.8s,MS4.4,baz=79,slow=41						
MLR	**Muntele Rosu**	**67.29**	**315**	P	**P**	**04 16 34.6**	**-1.1**
	comp=E,23nm,1.2s,mb5.1,baz=88,slow=3.5,SNR=10						
MLR	**Muntele Rosu**	**67.29**	**315**	⇓P	**P**	**04 16 35.3**	**-0.4**
TOO	**Toolangi**	**67.82**	**138**	*eP*	**P**	**04 16 44.0**	**+4.9**
	comp=E,14nm,1.0s,mb5.0						
TOO	**Toolangi**	**67.82**	**138**	*eP*	**P**	**04 16 44.0**	**+4.9**
TOO				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
JOF	**Joensuu**	**68.38**	**334**	*ep*	**P**	**04 16 41.9**	**-0.7**
ARMA	**Armidale**	**68.56**	**129**	*eP*	**P**	**04 16 46.6**	**+2.9**
LVV	**L'vov**	**69.18**	**319**	*eP*	**P**	**04 16 46.6**	**-1.0**
LVV				*e*		04 17 15.8	
LVV				*e*S	S	04 25 45.4	-6.5
LVV				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
VSU	**Vasula**	**69.26**	**329**	⇑*iP*	**P**	**04 16 47.3**	**-0.8**
APA	**Apatity**	**69.27**	**339**	⇓*iP*	**P**	**04 16 47.6**	**-0.5**
APA				*i*		04 17 15.0	
APA				*e*S	S	04 25 55.0	+2.0
APA				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.2						
APA				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.5						
VAY	**Valandovo**	**69.31**	**310**	*iP*	**P**	**04 16 45.8**	**-2.6**
STIP	**Stip**	**69.62**	**310**	*iP*	**P**	**04 16 48.4**	**-1.9**
BOLS	**Boljevac**	**69.94**	**313**	⇑*iP*	**P**	**04 16 51.4**	**-0.8**
KWP	**Kalwaria**	**70.00**	**319**	*eP*	**P**	**04 16 52.0**	**-0.7**
KOLS	**Kolonicke sedl**	**70.20**	**318**	*eP*	**P**	**04 16 54.5**	**+0.6**
KOLS				*e*		04 17 15.3	
KOLS				*e*		04 17 28.8	
KOLS	**Kolonicke sedl**	**70.20**	**318**	*eP*	**P**	**04 16 54.5**	**+0.6**
KOLS				*e*		04 17 15.3	
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**04 16 53.8**	**-0.7**
	comp=Z,2.8nm,0.7s,mb4.3,baz=98,slow=5.8,SNR=10						
SUW	**Suwalki**	**70.33**	**324**	*eP*	**P**	**04 16 53.0**	**-1.6**
KAF	**Kangasniemi**	**70.36**	**332**	*ep*	**P**	**04 16 53.3**	**-1.6**
OHR	**Ohrid**	**70.63**	**310**	*iP*	**P**	**04 16 52.7**	**-3.8**
CRVS	**Cervenica-Dubn**	**70.73**	**318**	*eP*	**P**	**04 16 58.7**	**+1.6**
CRVS				*e*sP	sP	04 17 09.4	+1.6
CRVS				*e*		04 17 37.1	
CRVS	**Cervenica-Dubn**	**70.73**	**318**	*eP*	**P**	**04 16 58.7**	**+1.6**
CRVS				*e*		04 17 09.4	
GRUS	**Gruza**	**70.84**	**313**	*iP*	**P**	**04 16 50.9**	**-6.9**
STHS	**Stebnicka Huta**	**70.93**	**319**	*eP*	**P**	**04 16 58.9**	**+0.6**
STHS				*e*		04 17 20.6	
KECS	**Kecovo**	**71.34**	**318**	*eP*	**P**	**04 17 00.3**	**-0.5**
KECS				*e*		04 17 32.1	
KECS				*e*		04 45 14.1	
NIE	**Niedzica**	**71.53**	**319**	*eP*	**P**	**04 17 02.2**	**+0.2**
PSZ	**Piszkesteto**	**71.69**	**317**	*eP*	**P**	**04 17 01.8**	**-1.1**
	comp=Z,14nm,1.3s,mb4.7						
PSZ	**Piszkesteto**	**71.69**	**317**	*eP*	**P**	**04 17 01.8**	**-1.1**
PSZ				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
OJC	**Ojcow**	**71.94**	**319**	*eP*	**P**	**04 17 04.1**	**-0.3**
VYHS	**Vyhne**	**72.43**	**318**	*eP*	**P**	**04 17 06.8**	**-0.6**
VYHS				*e*		04 17 37.4	
ARCES	**ARCESS Array B**	**72.67**	**340**	P	**P**	**04 17 08.4**	**-0.3**
	comp=Z,9.5nm,0.8s,mb4.8,baz=50,slow=2.3,SNR=17						
SRO	**Srobarova**	**72.74**	**317**	*eP*	**P**	**04 17 07.6**	**-1.6**
SRO				*e*		04 17 38.6	
OKC	**Ostrava-Krasne**	**72.97**	**319**	*eP*	**P**	**04 17 10.1**	**-0.4**
MORC	**Moravsky Berou**	**73.36**	**319**	*eP*	**P**	**04 17 12.2**	**-0.6**
	comp=Z,15nm,1.3s,mb4.8						
MORC				*ep*P	pP	04 17 19.2	-1.4
MORC	**Moravsky Berou**	**73.36**	**319**	*eP*	**P**	**04 17 12.2**	**-0.6**
MORC				*e**PP	pP	04 17 19.2	-1.4
MORC				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
BILL	**Bilibino**	**73.40**	**22**	*eP*	**P**	**04 17 12.2**	**-0.9**
	comp=Z,29nm,1.2s,mb5.1						
BILL				*ep*P	pP	04 17 18.8	-2.0
BILL	**Bilibino**	**73.40**	**22**	*eP*	**P**	**04 17 12.2**	**-0.9**
BILL				*e**PP	pP	04 17 18.8	-2.1
BILL				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
ZST	**Bratislava**	**73.57**	**317**	*eP*	**P**	**04 17 13.0**	**-1.1**
ZST				*e*		04 17 45.1	
DPC	**Dobruska-Polom**	**74.17**	**319**	*eP*	**P**	**04 17 17.1**	**-0.5**
DPC				*ex*	x	04 17 48.7	
KSP	**Ksiaz**	**74.21**	**320**	*eP*	**P**	**04 17 18.6**	**+0.8**
KSP	**Ksiaz**	**74.21**	**320**	*eP*	**P**	**04 17 17.0**	**-0.8**
KSP				*e*S	S	04 26 52.0	+2.1
KSP				MLR	MLR		
	comp=Z,1μm,21.3s,MS5.1						
UPC	**Upice**	**74.37**	**320**	*eP*	**P**	**04 17 18.3**	**-0.5**
DOBS	**Dobrina**	**74.64**	**315**	*eP*	**P**	**04 17 21.3**	**+1.0**
TREC	**Trest**	**74.68**	**318**	*eP*	**P**	**04 17 20.0**	**-0.5**
BOJS	**Bojanci**	**74.79**	**314**	*eP*	**P**	**04 17 20.6**	**-0.6**
PERS	**Pernice**	**74.89**	**315**	*eP*	**P**	**04 17 20.5**	**-1.3**
PVCC	**Panska Ves**	**75.30**	**320**	*eP*	**P**	**04 17 23.8**	**-0.3**
PVCC				*ex*	x	04 17 54.0	
PRU	**Pruhonice**	**75.31**	**319**	*eP*	**P**	**04 17 23.3**	**-0.9**
PRU				*ex*	x	04 17 54.9	
BRG	**Berggiesshubel**	**75.70**	**320**	*eP*	**P**	**04 17 26.4**	**0.0**
	comp=Z,19nm,1.5s,mb4.8						
BRG	**Berggiesshubel**	**75.70**	**320**	*eP*	**P**	**04 17 25.0**	**-1.5**
	comp=Z,11nm,1.5s,mb4.6						
BRG				*e*		04 17 57.2	
BRG	**Berggiesshubel**	**75.70**	**320**	*eP*	**P**	**04 17 25.0**	**-1.4**
BRG				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6						
VOY	**Vojsko**	**75.73**	**315**	*eP*	**P**	**04 17 24.4**	**-2.2**
VOY				*e*		04 17 46.7	
RUE	**Ruedersdorf**	**75.82**	**322**	*eP*	**P**	**04 17 26.7**	**-0.4**
	comp=Z,16nm,0.6s,mb5.1						
GEC2	**GERESS Array S**	**75.85**	**318**	*eP*	**P**	**04 17 27.1**	**-0.2**
	comp=Z,21nm,1.6s,mb4.8						
GERES	**GERESS Array B**	**75.85**	**318**	P	**P**	**04 17 27.1**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.3,baz=76,slow=5.6,SNR=12						
KHC	**Kasperske Hory**	**75.93**	**318**	*eP*	**P**	**04 17 26.5**	**-1.2**
KHC				*e*x	x	04 17 48.5	
KHC	**Kasperske Hory**	**75.93**	**318**	⇑*iP*	**P**	**04 17 27.2**	**-0.5**
CLL	**Collm**	**76.29**	**320**	*eP*	**P**	**04 17 29.3**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8						
CLL	**Collm**	**76.29**	**320**	*iP*	**P**	**04 17 28.4**	**-1.4**
	comp=Z,29nm,1.6s,mb5.0						
CLL				*i*pP	pP	04 17 37.7	0.0
CLL				*i*sP	sP	04 17 40.3	-0.2
CLL				*i*x	x	04 17 59.5	
CLL				LmV		04 57 00.0	
	comp=Z,1μm,21.8s						
CLL	**Collm**	**76.29**	**320**	*iP*	**P**	**04 17 28.4**	**-1.4**
	comp=Z,29nm,1.6s,mb5.0						
CLL				*i*pP	pP	04 17 37.7	0.0
CLL				LR	LR		
	comp=Z,1μm,21.8s,MS5.1						
CLL	**Collm**	**76.29**	**320**	*iP*	**P**	**04 17 28.4**	**-1.4**
CLL				*i**pP	pP	04 17 37.7	0.0
CLL				pmax	pmax		
	comp=Z,29nm,1.6s,mb5.0						
CLL				MLR	MLR		
	comp=Z,1μm,21.8s,MS5.1						
WET	**Wettzell**	**76.39**	**318**	*eP*	**P**	**04 17 30.0**	**-0.3**
	comp=Z,24nm,1.6s,mb4.9						
WERD	**Werda**	**76.74**	**319**	*eP*	**P**	**04 17 33.1**	**+0.7**
	comp=Z,6.0nm,1.0s,mb4.5						
ROTZ	**Rotzenmuhle**	**76.81**	**319**	*eP*	**P**	**04 17 33.1**	**+0.3**
	comp=Z,27nm,1.7s,mb4.9						
MANZ	**Manzenberg**	**76.88**	**319**	*eP*	**P**	**04 17 33.7**	**+0.6**
	comp=Z,11nm,1.2s,mb4.7						
MOX	**Moxa**	**77.18**	**320**	*eP*	**P**	**04 17 35.9**	**+1.1**
	comp=Z,45nm,2.0s,mb5.0						
MOX	**Moxa**	**77.18**	**320**	*eP*	**P**	**04 17 35.4**	**+0.6**
MOX							
	comp=Z,700nm,19.0s						
BOSA	**Boshof**	**77.25**	**237**	P	**P**	**04 17 35.0**	**-0.2**
	comp=Z,6.0nm,0.9s,mb4.5,baz=43,slow=9.9,SNR=5.9						
NB2	**NORSAR Subarra**	**77.36**	**330**	P	**P**	**04 17 34.1**	**-1.7**
	comp=Z,10nm,1.0s,mb4.7,baz=91,slow=5.6						
NB2	**NORSAR Subarra**	**77.36**	**330**	P	**P**	**04 17 34.1**	**-1.7**
NB2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
NOA	**NORSAR Array B**	**77.36**	**330**	P	**P**	**04 17 34.5**	**-1.4**
	comp=Z,3.0nm,0.8s,mb4.3,baz=90,slow=5.7,SNR=6.8						
GRA1	**Grafenberg Arr**	**77.46**	**319**	*eP*	**P**	**04 17 36.5**	**+0.1**
GRF	**Grafenberg Arr**	**77.46**	**319**	*eP*	**P**	**04 17 36.5**	**+0.1**
	comp=Z,7.0nm,0.7s,mb4.7						
GRF				*eL*		04 54 28.5	
	comp=Z,478nm,21.8s						
CASY	**Casey**	**77.71**	**173**	*eP*	**P**	**04 17 37.4**	**-0.4**
	comp=Z,7.9nm,1.0s,mb4.6						
DZM	**Mont Dzumac**	**77.83**	**115**	P	**P**	**04 17 39.4**	**+1.0**
	comp=Z,24nm,1.2s,mb5.0,baz=74,slow=7.4,SNR=3.0						
BSEG	**Bad Segeberg**	**77.89**	**323**	*eP*	**P**	**04 17 39.0**	**+0.2**
	comp=Z,17nm,1.1s,mb4.9						
TNS	**Taunus Mts**	**79.22**	**319**	*eP*	**P**	**04 17 46.0**	**-0.1**
	comp=Z,26nm,1.7s,mb4.9						
IBBN	**Ibbenburen**	**79.51**	**321**	*eP*	**P**	**04 17 47.7**	**0.0**
	comp=Z,64nm,1.4s,mb5.4						
LPG	**La Plagne**	**80.75**	**315**	*eP*	**P**	**04 17 53.7**	**-0.7**
	comp=Z,29nm,1.1s,mb4.8						
LPG	**La Plagne**	**80.75**	**315**	*eP*	**P**	**04 17 53.7**	**-0.7**
	comp=Z,15nm,1.1s,mb4.8						
LPG	**La Plagne**	**80.75**	**315**	*eP*	**P**	**04 17 53.7**	**-0.7**
LPG				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
BNI	**Bardonecchia**	**80.85**	**314**	*eP*	**P**	**04 17 55.9**	**+1.0**
	comp=Z,36nm,1.5s,mb5.1						
BNI	**Bardonecchia**	**80.85**	**314**	*eP*	**P**	**04 17 55.9**	**+1.0**
BNI				pmax	pmax		
	comp=Z,36nm,1.5s,mb5.1						
TSUM	**Tsumeb**	**81.22**	**249**	*eP*	**P**	**04 17 55.6**	**-1.3**
	comp=Z,8.1nm,1.1s,mb4.6						
TNA	**Tin City**	**83.52**	**25**	*eP*	**P**	**04 18 08.4**	**-0.5**
	comp=Z,12nm,1.0s,mb5.0						
TNA				*ep*P	pP	04 18 14.8	-2.0
DAG	**Danmarks Havn**	**84.75**	**348**	⇑*iP*	**P**	**04 18 13.5**	**-1.7**
	comp=Z,13nm,1.1s,mb5.0						
DAG	**Danmarks Havn**	**84.75**	**348**	⇑*eP*	**P**	**04 18 13.5**	**-1.7**
	comp=Z,13nm,1.1s,mb5.0						
DAG	**Danmarks Havn**	**84.75**	**348**	⇑*eP*	**P**	**04 18 13.5**	**-1.7**
DAG				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
EKA	**Eskdalemuir Ar**	**85.50**	**325**	P	**P**	**04 18 16.6**	**-2.3**
	comp=Z,3.0nm,0.8s,mb4.5,baz=97,slow=5.5,SNR=4.4						
SYO	**Syowa Base**	**88.16**	**197**	⇓*eP*	**P**	**04 18 33.0**	**+1.1**
ESDC	**Sonseca Array**	**89.53**	**310**	P	**P**	**04 18 37.9**	**-0.4**
	comp=Z,3.6nm,0.9s,mb4.7,baz=68,slow=5.5,SNR=7.2						
TORD	**Torodi Ar. Bea**	**90.12**	**283**	P	**P**	**04 18 41.4**	**+0.3**
	comp=Z,6.8nm,1.0s,mb4.9,baz=82,slow=4.1,SNR=27						
SUMG	**Summit**	**91.43**	**347**	*eP*	**P**	**04 18 47.1**	**0.0**
	comp=Z,16nm,1.1s,mb5.3						
COLA	**College**	**91.65**	**22**	*eP*	**P**	**04 18 47.6**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.7						
COLA	**College**	**91.65**	**22**	⇑*iP*	**P**	**04 18 48.0**	**-0.2**
MCK	**McKinley**	**91.79**	**23**	*eP*	**P**	**04 18 48.6**	**-0.3**
	comp=Z,84nm,2.2s,mb5.7						
MCK	**McKinley**	**91.79**	**23**	*eP*	**P**	**04 18 48.6**	**-0.3**
MCK				pmax	pmax		
	comp=Z,83nm,2.2s,mb5.7						
ILAR	**Eielson Array**	**92.06**	**22**	P	**P**	**04 18 48.7**	**-1.4**
	comp=Z,3.2nm,0.9s,mb4.6,baz=301,slow=4.1,SNR=16						
KDAK	**Kodiak Island**	**92.89**	**30**	P	**P**	**04 18 52.5**	**-1.5**
	comp=Z,33nm,1.1s,mb5.7,baz=343,slow=5.6,SNR=4.1						
KDAK	**Kodiak Island**	**92.89**	**30**	P	**P**	**04 18 52.5**	**-1.5**
INK	**Inuvik**	**94.23**	**16**	P	**P**	**04 18 59.6**	**-0.5**
	comp=Z,6.4nm,1.0s,mb5.0,baz=343,slow=3.1,SNR=14						
INK	**Inuvik**	**94.23**	**16**	*eP*	**P**	**04 18 59.4**	**-0.7**
	comp=Z,12nm,1.2s,mb5.2						
INK	**Inuvik**	**94.23**	**16**	*eP*	**P**	**04 18 59.4**	**-0.7**
INK				pmax	pmax		
	comp=Z,12nm,1.2s						
RES	**Resolute Bay**	**94.57**	**2**	*eP*	**P**	**04 19 00.8**	**-0.8**
	comp=Z,9.2nm,1.1s,mb5.1						
RES	**Resolute Bay**	**94.57**	**2**	*eP*	**P**	**04 19 00.8**	**-0.9**
RES				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.1						
VNDA	**Vanda**	**95.66**	**168**	P	**P**	**04 19 06.3**	**-0.4**
	comp=Z,16nm,1.5s,mb5.2						
VNDA	**Vanda**	**95.66**	**168**	P	**P**	**04 19 06.3**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,15nm,1.5s						
YKA	**Yellowknife Ar**	**103.63**	**13**	Pdiff	Pdif	04 19 41.9	-0.4
	comp=Z,0.8nm,1.1s,baz=331,slow=5.2,SNR=7.1						
PPT	**Papeete**	**117.90**	**104**	*ePS*	PS	04 35 25.0	-1.8
	comp=Z,105nm,25.8s						
PPT	**Papeete**	**117.90**	**104**	*eSS*	SS	04 41 56.7	+3.3
	comp=Z,158nm,26.5s						
PPT				*eLR*	LR	05 00 26.3	
	comp=Z,578nm,24.5s						
TBI	**Tubuai**	**118.15**	**111**	*ePS*	PS	04 35 31.1	+2.0
	comp=Z,121nm,27.0s						
TBI	**Tubuai**	**118.15**	**111**	*eSS*	SS	04 42 08.5	+12
	comp=Z,189nm,32.2s						
TBI				*eLR*	LR	05 00 32.9	
	comp=Z,834nm,25.5s						
ULM	**Lac du Bonnet**	**118.64**	**7**	PKP	PKPdf	04 24 28.4	-0.5
	comp=Z,1.2nm,0.7s,baz=287,slow=1.8,SNR=4.4						
BOZ	**Bozeman (W)**	**119.22**	**21**	*e*PKPdf	PKPdf	04 24 30.7	+0.7
HLID	**Hailey**	**119.97**	**24**	*e*PKPdf	PKPdf	04 24 32.8	+1.3
LOHW	**Long Hollow**	**121.36**	**21**	*e*PKPdf	PKPdf	04 24 35.0	+0.9
SNOW	**Snow King Moun**	**121.43**	**21**	*e*PKPdf	PKPdf	04 24 35.5	+1.2
NVAR	**Mina Array Bea**	**122.39**	**30**	PKP	PKPdf	04 24 37.6	+1.5
	comp=Z,2.9nm,0.8s,baz=285,slow=1.8,SNR=13						
BW06	**Boulder Array**	**122.46**	**21**	*e*PKPdf	PKPdf	04 24 36.4	+0.2
PDAR	**Pinedale Array**	**122.46**	**21**	PKP	PKPdf	04 24 37.0	+0.7
	comp=Z,4.3nm,1.0s,baz=11,slow=1.5,SNR=19						
HWUT	**Hardware Ranch**	**122.74**	**23**	*e*PKPdf	PKPdf	04 24 37.7	+0.8
DUG	**Dugway**	**123.45**	**25**	*e*PKPdf	PKPdf	04 24 39.0	+0.8
MSU	**Marysvale**	**125.13**	**25**	*e*PKPdf	PKPdf	04 24 43.1	+1.7
PV10	**Paradox Valley**	**126.50**	**23**	*e*PKPdf	PKPdf	04 24 44.0	-0.1
SMCO	**Snowmass**	**126.55**	**21**	*e*PKPdf	PKPdf	04 24 45.4	+1.2
PV01	**Paradox Valley**	**126.89**	**23**	*e*PKPdf	PKPdf	04 24 45.9	+1.2
SDCO	**Great Sand Dun**	**128.34**	**20**	*e*PKPdf	PKPdf	04 24 48.0	+0.5
ANMO	**Albuquerque**	**130.50**	**23**	PKP	PKPdf	04 24 53.4	+1.7
	comp=Z,4.4nm,1.0s,baz=284,slow=1.4,SNR=11						
ANMO	**Albuquerque**	**130.50**	**23**	*e*PKIKP	PKPdf	04 24 52.8	+1.2
LAZ	**Ladron**	**130.72**	**24**	*e*PKPdf	PKPdf	04 24 54.0	+2.0
TUC	**Tucson**	**130.94**	**28**	*e*PKPdf	PKPdf	04 24 54.5	+2.0
BNM	**Barren Site**	**131.14**	**23**	*e*PKPdf	PKPdf	04 24 54.7	+1.9
RKT	**Rikitea**	**131.47**	**111**	*ePS*	PS	04 37 14.5	-12
	comp=Z,118nm,38.2s						
RKT	**Rikitea**	**131.47**	**111**	*eLR*	LR	05 06 36.7	
	comp=Z,550nm,34.5s						
WMOK	**Wichita Mounta**	**133.12**	**15**	*e*PKPdf	PKPdf	04 24 57.0	+0.4
WVT	**Waverly**	**133.36**	**2**	*e*PKPdf	PKPdf	04 24 56.9	-0.2
MNTX	**Cornudas Mount**	**133.79**	**23**	*e*PKPdf	PKPdf	04 24 58.7	+0.8
HKT	**Hockley**	**138.40**	**13**	*e*PKPdf	PKPdf	04 25 07.5	+1.1
BDFB	**Brasilia**	**143.04**	**258**	PKP	PKPdf	04 25 16.0	+1.2
	comp=Z,6.2nm,0.9s,baz=85,slow=8.4,SNR=4.7						
MTP	**Monte Pirata**	**145.15**	**325**	*e*PKPbc	PKPbc	04 25 19.1	+1.0
CPD	**Cerro la Pandu**	**145.40**	**325**	*e*PKPbc	PKPbc	04 25 19.8	+1.0
SJG	**San Juan**	**145.47**	**326**	*e*PKPbc	PKPbc	04 25 19.8	+0.7
TRQA	**Tornquist**	**145.47**	**214**	*e*PKPbc	PKPbc	04 25 18.9	-0.2
PLCA	**Paso Flores**	**147.25**	**202**	PKPbc	PKPbc	04 25 24.5	+0.2
	comp=Z,37nm,1.1s,baz=150,slow=8.2,SNR=24						
PLCA	**Paso Flores**	**147.25**	**202**	*e*PKIKP	PKPdf	04 25 22.2	+0.2
PLCA				*e*		04 25 24.7	
CPUP	**Villa Florida**	**149.06**	**236**	PKPbc	PKPbc	04 25 26.6	-2.5
	comp=Z,8.4nm,0.8s,baz=47,slow=1.5,SNR=9.2						
CPUP	**Villa Florida**	**149.06**	**236**	*e*PKIKP	PKPdf	04 25 25.7	+0.7
CPUP				*e*		04 25 30.2	
RPN	**Rapa Nui**	**152.39**	**130**	PKP	PKPdf	04 25 30.2	+0.1
	comp=Z,28nm,0.7s,baz=319,slow=11,SNR=3.0						
SDV	**Santo Domingo**	**155.44**	**322**	*e*PKPdf	PKPdf	04 25 35.5	+1.1
SAML	**Samuel**	**157.77**	**273**	*e*PKPdf	PKPdf	04 25 38.4	+0.9
SAML				*e*PKPab	PKPab	04 26 11.2	+1.1
ROSC	**El Rosal**	**160.84**	**323**	PKP	PKPdf	04 25 42.7	+1.7
	comp=Z,2.6nm,0.4s,baz=310,slow=2.5,SNR=6.4						
ROSC				PKPab	PKPab	04 26 25.3	+1.9
	comp=Z,11nm,1.0s,baz=230,slow=2.0,SNR=6.3						
LPAZ	**La Paz**	**162.07**	**250**	PKP	PKPdf	04 25 44.6	+2.2
	comp=Z,4.8nm,1.0s,baz=38,slow=3.6,SNR=7.2						
LPAZ				PKPab	PKPab	04 26 28.4	-0.4
	comp=Z,4.1nm,1.1s,baz=89,slow=6.1,SNR=3.6						
LPAZ	**La Paz**	**162.07**	**250**	*e*PKIKP	PKPdf	04 25 44.2	+1.9
OTAV	**Otavalo**	**166.96**	**326**	*e*PKPdf	PKPdf	04 25 48.5	+1.9
OTAV				*e*PKPab	PKPab	04 26 52.0	+1.6

*IDC **10** 04:05:41.5±1.5, 4.95S×129.89E, h0km, mb4.2/3, mb1 4.4/4, mb1mx4.1/14, mbtmp4.4/4, ML4.4/1, Error ellipse: s-maj=67.4km s-min=15.8km az=73.0*
*ISCJB **10** 04:05:46.7±3.0, 54S±0.1×129.6E±0.2, h59km±30km, mb4.2/5, Error ellipse: s-maj=41.4km s-min=14.8km az=125.0*
*NEIC **10** 04:05:49.2±3.3, 5.37S×129.57E, h67km±33km, mb4.3/3, Error ellipse: s-maj=38.8km s-min=16.3km az=223.0*
ISC 10 04:05:49.3±3.2, 54S±02×129.6E±02, h66km±32km, n13, σ0.74/17, mb4.1/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.81**	**159**	*eP*	**Pn**	**04 07 40.2**	**-0.1**
	13nm,0.6s						
KAKA				*e*S	**Sn**	**04 09 07.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**13.21**	**197**	*eP*	**Pn**	**04 08 55.0**	**+1.1**
	10nm,1.7s						
WRAB	**Tennant Creek**	**15.19**	**163**	*eP*	**Pn**	**04 09 18.8**	**-1.1**
	3.4nm,0.6s						
WRAB				*e*Sn	**Sn**	**04 12 06.5**	**-0.6**
WRA	**Warramunga Arr**	**15.20**	**163**	Pn	**Pn**	**04 09 19.5**	**-0.5**
	0.3nm,0.3s,baz=344,slow=13,SNR=9.2						
WRA				Sn	**Sn**	**04 12 02.2**	**-5.0**
	0.2nm,0.3s,baz=345,slow=19,SNR=3.9						
WB2	**Warramunga Arr**	**15.20**	**163**	*eP*	**Pn**	**04 09 20.0**	**0.0**
ASAR	**Alice Springs**	**18.65**	**167**	P	**Pn**	**04 10 07.0**	**+4.3**
	1.3nm,0.3s,baz=350,slow=10,SNR=142						
ASAR				S	**S**	**04 13 40.5**	**+10**
	baz=354,slow=25,SNR=5.3						
CTA	**Charters Tower**	**21.84**	**133**	P	**P**	**04 10 37.6**	**+1.3**
	2.6nm,0.5s,mb3.8,baz=294,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**28.66**	**158**	*eP*	**P**	**04 11 40.8**	**+1.0**
	4.7nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**28.66**	**158**	P	**P**	**04 11 40.9**	**+1.2**
	4.4nm,0.7s,mb4.2,baz=330,slow=9.3,SNR=9.4						
STKA	**Stephens Creek**	**28.66**	**158**	*eP*	**P**	**04 11 40.2**	**+0.5**
MKAR	**Makanchi Array**	**66.65**	**327**	P	**P**	**04 16 33.0**	**+0.1**
	1.9nm,0.7s,mb4.1,baz=133,slow=6.8,SNR=5.8						
KURK	**Kurchatov**	**70.92**	**329**	P	**P**	**04 16 59.0**	**-0.5**
	3.5nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**77.18**	**327**	P	**P**	**04 17 35.4**	**-0.6**
	2.5nm,0.5s,mb4.2						

MEX 10 04:09:57.8±0.7, 1597N×9695W, h16km±7km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.83**	**104**	*eP*	Pb	04 10 11.3	-2.6
H

KAD Karad 20.69 291 *e*P **P 04 28 38.5 +1.6**
KAD AMb AMB 04 28 49.2
comp=Z,18nm,1.1s
POO Poona 21.36 294 *e*P **P 04 28 45.0 +0.9**
CD2 Chengdu 21.97 22 *e*P **P 04 28 51.8 +1.1**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
CD2 AMB AMB
comp=Z,60nm,5.6s
ENH Enshi 24.07 34 *e*P **P 04 29 12.4 +0.4**
comp=Z,23nm,0.8s,mb4.7
LZH Lanzhou 26.75 17 *e*P **P 04 29 38.0 +1.7**
LZH AP pP 04 29 47.3 +3.6
LZH XP sP 04 29 51.5 +4.7
LZH PP 04 30 21.6
LZH *e*S **S 04 34 08.5 -2.1**
LZH XS sS 04 34 24.1 +1.3
LZH AMB AMB
comp=Z,35nm,1.4s,mb4.7
LZH AMB AMB
comp=Z,102nm,4.6s
LZH LR LR
comp=N,671nm,10.3s
LZH LR LR
comp=Z,1μm,13.2s,MS4.6
GTA Gaotai 29.06 9 *e*P **P 04 29 58.3 +1.3**
GTA AP pP 04 30 05.5 +1.1
GTA XP sP 04 30 09.6 +2.1
GTA AMB AMB
comp=Z,6.0nm,1.9s,mb4.0
NJ2 Nanjing 31.05 43 *e*P **P 04 30 19.1 +4.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
AAK Ala-Archa 36.30 335 *e*P **P 04 30 58.8 -1.5**
comp=Z,6.3nm,1.3s,mb4.4
AAK Ala-Archa 36.30 335 *e*P **P 04 30 58.8 -1.5**
AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
MKAR Makanchi Array 37.47 346 P **P 04 31 10.1 -0.2**
comp=Z,3.1nm,0.7s,mb4.3,baz=162,slow=8.2,SNR=48
SONM Songino Array 38.43 13 P **P 04 31 18.5 +0.2**
comp=Z,3.3nm,1.1s,mb4.0,baz=196,slow=9.2,SNR=12
JNU Nakatsue 40.27 51 PcP PcP 04 33 38.5 +1.4
comp=Z,6.0nm,0.5s,baz=249,slow=3.2,SNR=4.8
KURK Kurchatov 42.02 345 *e*P **P 04 31 47.3 -0.7**
comp=Z,8.5nm,1.3s,mb4.2
KURK Kurchatov 42.02 345 *e*P **P 04 31 47.3 -0.7**
KURK pmax pmax
comp=Z,8.0nm,1.3s,mb4.2
ZAL Zalesovo 43.86 352 P **P 04 32 03.2 +0.2**
comp=Z,3.1nm,0.8s,mb4.1,baz=298,slow=8.0,SNR=11
MDJ Mudanjiang 45.41 35 P **P 04 32 16.9 +1.6**
MDJ AMB AMB
comp=Z,9.0nm,1.1s,mb4.5
BVAR Borovoye Array 46.48 340 P **P 04 32 22.3 -1.5**
comp=Z,1.0nm,0.7s,mb3.8,baz=140,slow=9.5,SNR=4.8
BVAR PcP PcP 04 33 58.4 +0.4
comp=Z,1.2nm,0.6s,baz=150,slow=3.3,SNR=3.6
ZRNK Zerenda 46.89 339 *e*P **P 04 32 26.3 -0.7**
comp=Z,1.4nm,0.8s,mb3.9
ZRNK Zerenda 46.89 339 *e*P **P 04 32 26.3 -0.7**
ZRNK pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BOD Bodaibo 49.42 14 *e*P **P 04 32 45.5 -1.0**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.4
AKTO Aktyubinsk 49.67 330 PcP PcP 04 34 09.2 -0.3
comp=Z,2.4nm,0.7s,baz=137,slow=5.2,SNR=4.8
WRA Warramunga Arr 49.70 128 P **P 04 32 49.5 +0.9**
comp=Z,2.1nm,0.7s,mb4.3,baz=304,slow=9.0,SNR=15
WRAB Tennant Creek 49.70 128 *e*P **P 04 32 49.3 +0.7**
comp=Z,5.4nm,0.6s,mb4.8
WRAB *e*pP pP 04 32 55.8 -0.5
WRAB Tennant Creek 49.70 128 *e*P **P 04 32 49.3 +0.7**
WRAB *e**PP pP 04 32 55.8 -0.5
WRAB pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
WB2 Warramunga Arr 49.71 128 *e*P **P 04 32 48.8 +0.1**
WB2 *i* pP 04 32 55.6 -0.8
ASAR Alice Springs 51.52 132 P **P 04 33 03.2 +0.9**
comp=Z,2.0nm,0.8s,mb4.1,baz=309,slow=6.8,SNR=22
KIV Kislovodsk 55.47 317 P **P 04 33 31.0 -0.4**
KIV *e* 04 33 47.0
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.9
BR131 Keskin Array S 60.85 310 *e*P **P 04 34 06.8 -2.2**
comp=Z,2.3nm,0.8s,mb4.4
BRTR Keskin Array B 60.85 310 P **P 04 34 07.1 -1.9**
comp=Z,2.6nm,0.7s,mb4.5,baz=119,slow=7.5,SNR=13
STKA Stephens Creek 61.84 135 *e*P **P 04 34 14.3 -1.4**
STKA *e*pP pP 04 34 20.3 -3.3
OBN Obninsk 63.20 327 P **P 04 34 32.0 +7.2**
MA2 Magadan 64.22 28 *e*P **P 04 34 32.0 +0.5**
comp=Z,3.8nm,0.6s,mb4.6
MA2 Magadan 64.22 28 *e*P **P 04 34 32.0 +0.5**
MA2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TIXI Tiksi 64.49 11 *e*P **P 04 34 29.8 -3.5**
TIXI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
FINES FINESS Array B 70.41 332 P **P 04 35 08.9 -1.8**
comp=Z,2.3nm,1.1s,mb4.0,baz=85,slow=4.8,SNR=3.8
ARCES ARCESS Array B 72.77 340 P **P 04 35 24.7 -0.3**
comp=Z,9.6nm,1.1s,mb4.7,baz=96,slow=6.6,SNR=7.7
GERES GERESS Array B 75.95 318 P **P 04 35 42.9 -0.5**
comp=Z,1.2nm,0.7s,mb3.9,baz=97,slow=4.4,SNR=6.6
BOSA Boshof 77.26 237 P **P 04 35 50.5 -0.4**
comp=Z,0.7nm,0.4s,mb4.0,baz=34,slow=11,SNR=3.4
NB2 NORSAR Subarra 77.47 330 P **P 04 35 50.4 -1.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=91,slow=5.1
NB2 NORSAR Subarra 77.47 330 P **P 04 35 50.4 -1.6**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 77.47 330 P **P 04 35 51.4 -0.6**
comp=Z,0.9nm,0.7s,mb3.8,baz=89,slow=5.9,SNR=4.4
TORD Torodi Ar. Bea 90.21 283 P **P 04 36 56.5 -0.6**
comp=Z,0.6nm,0.7s,mb4.0,baz=84,slow=4.2,SNR=4.9
INK Inuvik 94.29 16 P **P 04 37 15.7 -0.2**
comp=Z,2.5nm,0.9s,mb4.6,baz=337,slow=2.0,SNR=7.0
PLCA Paso Flores 147.20 201 PKPbc PKPbc 04 43 39.0 -0.8
comp=Z,3.4nm,0.9s,baz=201,slow=4.8,SNR=6.9
CFAA Coronel Fontan 153.66 215 PKPbc PKPbc 04 43 56.2 +0.9
comp=Z,0.3nm,0.3s,baz=158,slow=3.8,SNR=20

IDC ***10*** *04:34:02.6±0.5, 1059N×9416E, h0km, mb4.4/21, mb1 4.4/22, mb1mx4.4/27, mbtmp4.3/22, ML3.8/1, MS4.3/1, Ms1 4.3/1, ms1mx3.0/35, Error ellipse: s-maj=19.2km s-min=13.1km az=55.0*

BJI ***10*** *04:34:02.8, 1024N×9421E, h29km, mB5.2, mb4.6, Ms4.9, Msz4.7*

ISCJB ***10*** *04:34:04.0±0.3, 1049N±004×9420E±004, h23km, mb4.6/69, MS4.7/6, Error ellipse: s-maj=6.9km s-min=5.4km az=89.2*

NEIC ***10*** *04:34:05.9±0.2, 1053N×9426E, mb4.8/30, Error ellipse: s-maj=8.3km s-min=4.6km az=56.0*

MOS ***10*** *04:34:05.3±1.0, 1051N×9424E, h33km, mb5.0/30, Error ellipse: s-maj=12.9km s-min=5.7km az=110.0*

ISC 10 04:34:06.7±0.3, 1058N±004×9429E±004, h24km, h24km±1.1km; pP-P, n150, σ1§01/146, mb4.6/69, MS4.7/6, 12C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.86**	**305**	*e*P	Px	04 34 51.0	
PBA				*e*S	Sx	04 35 14.3	
KULM	**Kulim**	**8.20**	**129**	*e*Pn	**Pn**	**04 36 02.9**	**-1.2**
KULM				*e*Sn	**Sn**	**04 37 30.9**	**-5.1**
PSI	**Prapat**	**8.99**	**149**	Pn	**Pn**	**04 36 15.4**	**+0.4**
PSI				LR	LR	04 40 17.7	
VIS	**Vishakhapatnam**	**12.78**	**305**	*e*P	**Pn**	**04 37 06.2**	**-0.6**
VIS				AMb	AMB	04 37 08.6	
BOK	**Bokaro**	**15.39**	**330**	*e*P	**Pn**	**04 37 42.1**	**-0.1**
BOK				AMb	AMB	04 37 57.1	
KMI	**Kunming**	**16.54**	**28**	P	**Pn**	**04 38 00.5**	**+3.5**
KMI				AP	pP	04 38 06.9	+0.9
HYB	**Hyderabad**	**16.71**	**296**	*i* P	**Pn**	**04 38 01.0**	**+1.9**
HYB				*e*S	**Sn**	**04 41 07.0**	**+3.1**
HYB	**Hyderabad**	**16.71**	**296**	*e*P	**Pn**	**04 38 03.0**	**+3.9**
HYB				*e*S	**Sn**	**04 41 07.0**	**+3.1**
HYB	**Hyderabad**	**16.71**	**296**	*e*P	**Pn**	**04 38 03.0**	**+3.9**
HYB				*e*S	**Sn**	**04 41 07.0**	**+3.1**
HYB				pmax	pmax		
JIRN	**Jiri**	**18.62**	**337**	*e*P	**Pn**	**04 38 23.1**	**+0.3**
PKI	**Pulchoki**	**18.86**	**335**	*e*P	**Pn**	**04 38 26.1**	**+0.5**
PKI	**Pulchoki**	**18.86**	**335**	*e*P	**Pn**	**04 38 26.1**	**+0.5**
PKI				pmax	pmax		
GUN	**Gumba**	**18.97**	**337**	*e*P	**Pn**	**04 38 27.0**	**+0.1**
DMN	**Daman**	**19.02**	**334**	*e*P	**Pn**	**04 38 27.4**	**-0.1**
KKN	**Kakani**	**19.10**	**335**	*e*P	**Pn**	**04 38 28.8**	**+0.2**
LSA	**Lhasa**	**19.25**	**352**	P	**Pn**	**04 38 30.4**	**+0.1**
LSA	**Lhasa**	**19.25**	**352**	*e*P	**Pn**	**04 38 30.2**	**-0.2**
LSA	**Lhasa**	**19.25**	**352**	*e*P	**Pn**	**04 38 30.2**	**-0.1**
LSA				pmax	pmax		
GKN	**Gorkha**	**19.56**	**334**	*e*P	**Pn**	**04 38 33.6**	**-0.5**
GYA	**Guiyang**	**19.65**	**35**	⇑*i*P	**Pn**	**04 38 35.7**	**+0.6**
GYA				AP	pP	04 38 40.9	+0.6
GYA				XP	sP	04 38 44.2	+0.8
GYA				PP		04 38 56.4	
GYA				S	**Sn**	**04 42 13.9**	**-1.1**
GYA				AMB	AMB		
GYA				AMB	AMB		
GYA				LR	LR		
GYA				LR	LR		
GYA				LR	LR		
GYA				LR	LR		
KOLN	**Koldanda**	**19.84**	**331**	*e*P	**Pn**	**04 38 36.6**	**-0.7**
BHPL	**Bhopal**	**20.44**	**310**	*e*P	**P**	**04 38 41.3**	**-0.9**
BHPL				AMb	AMB	04 38 50.2	
KAD	**Karad**	**20.62**	**291**	*e*P	**P**	**04 38 40.9**	**-3.2**
KAD				AMb	AMB	04 38 58.4	
POO	**Poona**	**21.29**	**294**	*e*x	x	04 37 08.7	
POO				AMb	AMB	04 37 10.7	
CD2	**Chengdu**	**22.06**	**22**	P	**P**	**04 39 00.4**	**+0.8**
CD2				AMB	AMB		
CD2				AMB	AMB		
ENH	**Enshi**	**24.17**	**34**	*e*P	**P**	**04 39 20.7**	**-0.2**
LZH	**Lanzhou**	**26.83**	**17**	*e*P	**P**	**04 39 46.5**	**+1.4**
LZH				AP	pP	04 39 55.8	+3.5
LZH				XP	sP	04 40 00.1	+4.8
LZH				PP		04 40 30.7	
LZH				*e*S	**S**	**04 44 17.2**	**-2.8**
LZH				XS	sS	04 44 32.5	+0.6
LZH				AMB	AMB		
LZH				AMB	AMB		
LZH				LR	LR		
LZH				LR	LR		
LZH				LR	LR		
XAN	**Xi'an**	**26.92**	**28**	P	**P**	**04 39 45.7**	**-0.2**
XAN				AMB	AMB		
XAN				LR	LR		
XAN				LR	LR		
XAN				LR	LR		
GTA	**Gaotai**	**29.13**	**9**	*e*P	**P**	**04 40 06.8**	**+1.2**
GTA				AP	pP	04 40 13.4	+0.5
GTA				XP	sP	04 40 17.0	+1.2
GTA				AMB	AMB		
NJ2	**Nanjing**	**31.16**	**43**	*e*P	**P**	**04 40 25.4**	**+1.8**
NJ2				AP	pP	04 40 32.6	+1.8
NJ2				XP	sP	04 40 36.0	+2.2
NJ2				PP	PP	04 41 28.5	-5.6
NJ2				S	**S**	**04 45 28.0**	**-0.1**
NJ2				XS	sS	04 45 40.0	0.0
NJ2				AMB	AMB		
NJ2				AMB	AMB		
NJ2				LR	LR		
NJ2				LR	LR		
NJ2				LR	LR		
WMQ	**Urumqi**	**33.61**	**351**	*e*P	**P**	**04 40 46.4**	**+1.4**
WMQ				AP	pP	04 40 53.7	+1.4
WMQ				XP	sP	04 40 57.1	+1.8
WMQ				PP	PP	04 41 58.9	-2.3
WMQ				AMB	AMB		
WMQ				AMB	AMB		
WMQ				LR	LR		
WMQ				LR	LR		
WMQ				LR	LR		
HHC	**Hu-ho-hao-te**	**33.79**	**24**	*e*P	**P**	**04 40 48.1**	**+1.5**
HHC				AP	pP	04 40 57.7	+3.8
HHC				XP	sP	04 41 01.6	+4.7
HHC				PP	PP	04 41 58.5	-4.7
HHC				S	**S**	**04 46 04.3**	**-4.7**
HHC				AMB	AMB		
HHC				AMB	AMB		
HHC				LR	LR		
HHC				LR	LR		
HHC				LR	LR		
ULHL	**Ulahol**	**35.28**	**337**	P	**P**	**04 41 00.8**	**+1.3**
SNR=6.1							
KZA	**Kyzart**	**35.54**	**335**	P	**P**	**04 41 03.0**	**+1.3**
SNR=10							
UCH	**Uchtor**	**35.97**	**335**	P	**P**	**04 41 06.5**	**+1.0**
SNR=7.5							
AML	**Almayashu**	**36.24**	**334**	P	**P**	**04 41 08.9**	**+1.1**
SNR=20							
AAK	**Ala-Archa**	**36.31**	**335**	P	**P**	**04 41 10.3**	**+2.0**
SNR=9.4							
AAK	**Ala-Archa**	**36.31**	**335**	*e*P	**P**	**04 41 08.0**	**-0.3**
AAK	**Ala-Archa**	**36.31**	**335**	⇑*i*P	**P**	**04 41 08.2**	**-0.2**
AAK				pmax	pmax		
FRU	**Bishkek**	**36.43**	**335**	*e*P	**P**	**04 41 11.5**	**+2.2**
FRU				*i*	pP	04 41 16.8	+0.2
FRU				pmax	pmax		
EKS2	**Erkin-Say**	**36.63**	**334**	P	**P**	**04 41 12.2**	**+1.1**
SNR=11							
USP	**Ospenovka**	**36.83**	**336**	P	**P**	**04 41 13.7**	**+0.9**
SNR=11							
MK31	**Makanchi Array**	**37.50**	**346**	*i* P	**P**	**04 41 18.2**	**-0.3**
MK31				pmax	pmax		
MKAR	**Makanchi Array**	**37.50**	**346**	P	**P**	**04 41 18.5**	**0.0**
KK31	**Karatay Array**	**38.45**	**332**	*i* P	**P**	**04 41 26.2**	**-0.2**
KK31				pmax	pmax		
KKAR	**Karatay Array**	**38.45**	**332**	*i* P	**P**	**04 41 26.2**	**-0.2**
KKAR				pmax	pmax		
SONM	**Songino Array**	**38.51**	**13**	P	**P**	**04 41 27.5**	**+0.5**
SNY	**Shenyang**	**40.35**	**34**	⇑P	**P**	**04 41 38.9**	**-3.4**
SNY				AMB	AMB		
ZAK	**Zakamensk**	**40.37**	**9**	*e*P	**P**	**04 41 37.2**	**-5.3**
ZAK				pmax	pmax		
KURK	**Kurchatov**	**42.04**	**345**	*e*P	**P**	**04 41 56.1**	**-0.1**
KURK	**Kurchatov**	**42.04**	**345**	⇑*i*P	**P**	**04 41 56.3**	**+0.1**
CN2	**Changchun**	**42.69**	**34**	⇑P	**P**	**04 42 02.5**	**+1.0**
CN2				*e*AP	pP	04 42 08.1	-0.8
CN2				*e*S	**S**	**04 48 29.1**	**+5.6**
CN2				AMB	AMB		
CN2				AMB	AMB		
CN2				LR	LR		
CN2				LR	LR		
CN2				LR	LR		
ZAL	**Zalesovo**	**43.90**	**352**	P	**P**	**04 42 11.1**	**-0.2**
HIA	**Hailar**	**43.99**	**24**	*e*P	**P**	**04 42 12.7**	**+0.6**
HIA	**Hailar**	**43.99**	**24**	*c i*P	**P**	**04 42 13.1**	**+1.1**
NVS	**Novosibirsk**	**45.01**	**351**	*e*P	**P**	**04 42 20.0**	**-0.1**
NVS				pmax	pmax		
NVS				pmax	pmax		
MDJ	**Mudanjiang**	**45.51**	**35**	P	**P**	**04 42 25.2**	**+1.1**
MDJ				AMB	AMB		
MDJ				AMB	AMB		
VOSK	**Vostochnaya**	**46.05**	**340**	P	**P**	**04 42 28.0**	**-0.4**
VOSK				pmax	pmax		
BVA0	**Borovoye Array**	**46.50**	**340**	*i* P	**P**	**04 42 30.9**	**-1.0**
BVA0				pmax	pmax		
BVAR	**Borovoye Array**	**46.50**	**340**	P	**P**	**04 42 30.7**	**-1.2**
BVAR				PcP	PcP	04 44 06.6	+0.5
BRVK	**Borovoye**	**46.56**	**340**	*e*P	**P**	**04 42 32.0**	**-0.4**
BRVK	**Borovoye**	**46.56**	**340**	*e*P	**P**	**04 42 32.0**	**-0.4**
BRVK				pmax	pmax		
ZRNK	**Zerenda**	**46.91**	**339**	*e*P	**P**	**04 42 34.4**	**-0.8**
ZRNK				*e*	pP	04 42 40.6	-1.9
ZRNK				*e*		04 42 48.0	
ZRNK	**Zerenda**	**46.91**	**339**	*e*P	**P**	**04 42 34.4**	**-0.7**
ZRNK				*e*	pP	04 42 40.6	-2.0
ZRNK				*e*		04 42 48.0	
ZRNK				pmax	pmax		
MJAR	**Matsushiro Arr**	**47.27**	**50**	P	**P**	**04 42 39.5**	**+1.6**
MJAR				PcP	PcP	04 44 09.2	+0.4
AB31	**Akbulak array**	**47.96**	**330**	*i* P	**P**	**04 42 42.7**	**-0.6**
AB31				pmax	pmax		
BOD	**Bodaibo**	**49.50**	**14**	*e*P	**P**	**04 42 54.9**	**-0.2**
BOD				pmax	pmax		
KLR	**Kul'dur**	**49.50**	**32**	*e*P	**P**	**04 42 51.5**	**-3.7**
AKTK	**Aktyubinsk**	**49.67**	**330**	P	**P**	**04 42 55.1**	**-1.3**
AKTO	**Aktyubinsk**	**49.67**	**330**	P	**P**	**04 42 55.1**	**-1.3**
WRA	**Warramunga Arr**	**49.74**	**128**	P	**P**	**04 42 57.5**	**+0.5**
WRAB	**Tennant Creek**	**49.75**	**127**	*e*P	**P**	**04 42 57.2**	**+0.2**
WRAB				*e*pP	pP	04 43 04.2	-0.3
WRAB	**Tennant Creek**	**49.75**	**127**	*e*P	**P**	**04 42 57.2**	**+0.2**
WRAB				*e**PP	pP	04 43 04.2	-0.3
WRAB				pmax	pmax		
WB2	**Warramunga Arr**	**49.75**	**128**	⇓*i*P	**P**	**04 42 57.4**	**+0.3**
WB2				*i*	pP	04 43 04.0	-0.6
ATD	**Arta Tunnel**	**50.44**	**276**	P	**P**	**04 43 03.1**	**+0.9**
ASAR	**Alice Springs**	**51.56**	**132**	P	**P**	**04 43 11.5**	**+0.8**
CLNS	**Chul'man**	**51.86**	**21**	*e*P	**P**	**04 43 10.7**	**-2.3**
CLNS				pmax	pmax		
CLNS				pmax	pmax		
CLNS				pmax	pmax		
GNI	**Garni**	**52.69**	**313**	*e*P	**P**	**04 43 20.6**	**+1.5**
GNI				*e*pP	pP	04 43 27.2	+0.6
GNI	**Garni**	**52.69**	**313**	*e*P	**P**	**04 43 20.6**	**+1.5**
GNI				*e**PP	pP	04 43 27.2	+0.6
GNI				pmax	pmax		
ARU	**Arti**	**53.48**	**336**	⇓*i*P	**P**	**04 43 24.3**	**-0.6**
ARU				*e*		04 45 28.9	
ARU				*e*S	**S**	**04 50 53.1**	**-3.0**
ARU				*e*SS	SS	04 54 32.3	-4.1
ARU				pmax	pmax		
ZEI	**Tsey**	**54.20**	**316**	*i* P	**P**	**04 43 30.4**	**+0.2**
ZEI				*i **PP	pP	04 43 38.9	+1.2
ZEI				pmax	pmax		
YSS	**Yuzh-Sakhalins**	**54.58**	**39**	⇑*i*P	**P**	**04 43 34.7**	**+1.7**
YSS				pmax	pmax		
KIV	**Kislovodsk**	**55.44**	**317**	*e*P	**P**	**04 43 39.9**	**+0.7**
KIV	**Kislovodsk**	**55.44**	**317**	*c i*P	**P**	**04 43 40.2**	**+1.0**
KIV				pmax	pmax		
MALT	**Malatya**	**56.86**	**309**	*e*P	**P**	**04 43 48.6**	**-0.7**
MALT				*e*pP	pP	04 43 56.1	-0.8
MALT	**Malatya**	**56.86**	**309**	*e*P	**P**	**04 43 48.7**	**-0.6**
MALT				*e**PP	pP	04 43 56.1	-0.8
MALT				pmax	pmax		
YAK	**Yakutsk**	**57.40**	**19**	*e*P	**P**	**04 43 51.6**	**-1.5**
YAK	**Yakutsk**	**57.40**	**19**	*e*P	**P**	**04 43 51.6**	**-1.5**
YAK				pmax	pmax		
KMBO	**Kilima Mbogo**	**57.91**	**262**	P	**P**	**04 43 57.4**	**+0.7**
EIL	**Elat**	**58.25**	**298**	*e*P	**P**	**04 43 58.9**	**-0.2**
EIL				*e*pP	pP	04 44 07.0	+0.3
CTAO	**Charters Tower**	**59.53**	**121**	P	**P**	**04 44 05.9**	**-2.1**
CTAO	**Charters Tower**	**59.53**	**121**	P	**P**	**04 44 05.9**	**-2.1**
CTAO				pmax	pmax		
BR131	**Keskin Array S**	**60.80**	**310**	*e*P	**P**	**04 44 14.9**	**-1.8**
BR131				*e*pP	pP	04 44 21.6	-2.8
BRTR	**Keskin Array B**	**60.80**	**310**	P	**P**	**04 44 15.2**	**-1.6**
SIM	**Simferopol'**	**61.59**	**316**	*e*P	**P**	**04 44 26.4**	**+4.3**
SIM				pmax	pmax		
STKA	**Stephens Creek**	**61.88**	**135**	*e*P	**P**	**04 44 23.4**	**-0.6**
STKA	**Stephens Creek**	**61.88**	**135**	P	**P**	**04 44 23.9**	**-0.1**
OBN	**Obninsk**	**63.19**	**327**	⇓*e*P	**P**	**04 44 33.0**	**+0.2**
OBN				*e*	pP	04 44 38.3	-2.1
OBN				*e*		04 45 07.4	
OBN				*e*S	**S**	**04 53 08.2**	**+5.4**
OBN				pmax	pmax		
KLMR	**Klimovskoe**	**64.11**	**334**	*e*P	**P**	**04 44 38.3**	**-0.5**

KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
MA2 Magadan 64.32 28 *e*P **P 04 44 41.0 +0.9**
comp=Z,14nm,1.0s,mb4.9
MA2 *e*pP pP 04 44 46.9 -1.0
MA2 Magadan 64.32 28 *e*P **P 04 44 41.0 +0.8**
MA2 *e**PP pP 04 44 46.9 -0.9
MA2 pmax pmax
comp=Z,14nm,1.0s,mb5.0
TIXI Tiksi 64.57 11 *c i*P **P 04 44 41.2 -0.6**
TIXI pmax pmax
comp=Z,17nm,1.3s,mb4.9
AKASG Malin Array Be 66.15 321 P **P 04 44 50.5 -1.5**
comp=Z,0.7nm,0.6s,mb3.9,baz=83,slow=6.0,SNR=7.2
SEY Seymchan 66.42 25⇓*i*P **P 04 44 53.2 -0.6**
VRI Vrincioaia 66.88 315⇑P **P 04 44 57.2 +0.5**
PLOR Plostina 66.93 315⇑P **P 04 44 57.6 +0.6**
MLR Muntele Rosu 67.36 315⇑P **P 04 45 00.3 +0.5**
JOF Joensuu 68.49 334 *e*p **P 04 45 06.6 -0.3**
LVV L'vov 69.26 319 *e*P **P 04 45 07.2 -4.5**
FINES FINESS Array B 70.41 332 P **P 04 45 17.2 -1.5**
comp=Z,1.4nm,0.7s,mb4.0,baz=102,slow=8.0,SNR=8.3
KAF Kangasniemi 70.47 332 *e*p **P 04 45 17.6 -1.5**
ARCES ARCESS Array B 72.79 340 P **P 04 45 31.2 -1.9**
comp=Z,7.3nm,1.1s,mb4.5,baz=46,slow=5.2,SNR=5.5
BILL Bilibino 73.53 22 *e*P **P 04 45 36.8 -0.7**
comp=Z,11nm,1.4s,mb4.6
BILL *e*pP pP 04 45 43.1 -2.2
BILL Bilibino 73.53 22 *e*P **P 04 45 36.9 -0.6**
BILL *e* pP 04 45 43.6 -1.7
BILL pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BOJS Bojanci 74.86 314 *e*P **P 04 45 44.6 -0.6**
GERES GERESS Array B 75.93 318 P **P 04 45 50.8 -0.6**
comp=Z,2.1nm,0.8s,mb4.1,baz=85,slow=7.2,SNR=9.8
ROBS Robic 76.07 315 *e*P **P 04 45 44.8 -7.4**
CLL Collm 76.38 320 *e*pP pP 04 45 59.0 -2.7
CLL *i* x x 04 46 10.5
CLL Collm 76.38 320 *e*pP pP 04 45 59.0 -2.7
BOSA Boshof 77.15 237 P **P 04 45 58.6 +0.4**
comp=Z,1.7nm,0.6s,mb4.2,baz=39,slow=5.9,SNR=4.4
NB2 NORSAR Subarra 77.46 330 P **P 04 45 59.1 -0.9**
comp=Z,1.3nm,0.8s,mb3.9,baz=91,slow=5.9
NB2 NORSAR Subarra 77.46 330 P **P 04 45 59.1 -0.9**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
NOA NORSAR Array B 77.46 330 P **P 04 45 59.4 -0.6**
comp=Z,1.8nm,0.8s,mb4.1,baz=91,slow=5.6,SNR=6.9
LPG La Plagne 80.83 315 *e*P **P 04 46 18.1 -0.3**
comp=Z,27nm,1.0s,mb4.8
LPG La Plagne 80.83 315 *e*P **P 04 46 18.1 -0.3**
comp=Z,14nm,1.0s,mb4.8
LPG La Plagne 80.83 315 *e*P **P 04 46 18.1 -0.3**
LPG pmax pmax
comp=Z,14nm,1.0s,mb4.8
TSUM Tsumeb 81.14 249 *e*P **P 04 46 21.2 +1.1**
comp=Z,5.2nm,1.0s,mb4.4
DRV Dumont d'Urvil 83.91 163 R 04 46 00.0
DAG Danmarks Havn 84.88 348⇓*i*P **P 04 46 38.8 -0.6**
comp=Z,5.9nm,0.9s,mb4.7
DAG Danmarks Havn 84.88 348⇓*e*P **P 04 46 38.8 -0.6**
comp=Z,5.9nm,0.9s,mb4.7
DAG Danmarks Havn 84.88 348⇓*e*P **P 04 46 38.8 -0.6**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
TORD Torodi Ar. Bea 90.12 283 P **P 04 47 04.7 0.0**
comp=Z,1.5nm,0.8s,mb4.4,baz=78,slow=3.7,SNR=9.5
MCK McKinley 91.93 23 *e*P **P 04 47 12.7 -0.4**
comp=Z,2.9nm,0.8s,mb4.7
MCK McKinley 91.93 23 *e*P **P 04 47 12.7 -0.4**
MCK pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
KDAK Kodiak Island 93.03 30 P **P 04 47 19.4 +1.2**
comp=Z,8.1nm,0.9s,mb5.2,baz=105,slow=16,SNR=2.4
INK Inuvik 94.37 16 P **P 04 47 23.9 -0.4**
comp=Z,2.4nm,0.8s,mb4.7,baz=310,slow=4.0,SNR=10.0
INK Inuvik 94.37 16 *e*P **P 04 47 23.5 -0.8**
comp=Z,2.9nm,0.9s,mb4.7
INK Inuvik 94.37 16 *e*P **P 04 47 23.5 -0.8**
INK pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 94.71 2 *e*P **P 04 47 25.4 -0.5**
comp=Z,2.7nm,0.9s,mb4.7
RES Resolute Bay 94.71 2 *e*P **P 04 47 25.4 -0.5**
RES pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
YKA Yellowknife Ar 103.78 13 Pdiff Pdif 04 48 07.4 +0.9
comp=Z,0.4nm,1.0s,baz=318,slow=3.4,SNR=5.5
PDAR Pinedale Array 122.60 21 PKP PKPdf 04 53 01.2 +1.1
comp=Z,0.6nm,0.8s,baz=38,slow=2.6,SNR=5.2
TRQA Tornquist 145.34 214 *e*PKPbc PKPbc 04 53 42.3 0.0
CPD Cerro la Pandu 145.49 325 *e*PKPbc PKPbc 04 53 44.3 +1.5
PLCA Paso Flores 147.12 201 PKPbc PKPbc 04 53 47.8 +0.3
comp=Z,6.0nm,0.8s,baz=159,slow=3.2,SNR=13
PLCA Paso Flores 147.12 201 *e*PKP2 PKPab 04 53 48.8 -0.4
CPUP Villa Florida 148.96 236 PKPbc PKPbc 04 53 52.4 0.0
comp=Z,4.6nm,1.1s,baz=44,slow=13,SNR=3.4
SAML Samuel 157.74 272 *e*PKPab PKPab 04 54 33.8 +0.2
LPAZ La Paz 161.99 250 *e*PKPdf PKPdf 04 54 07.5 +1.6
OTAV Otavalo 167.05 326 *e*PKPdf PKPdf 04 54 10.8 +0.5

NEIC ***10*** *04:43:01.7±3.3, 36.30N×71.12E, h200km±24km, mb3.6/3, Error ellipse: s-maj=30.7km s-min=16.0km az=212.0*
IDC ***10*** *04:43:01.1±5.4, 36.25N×71.06E, h196km±48km, mb3.4/8, mb1 3.5/11, mb1mx3.3/25, mbtmp4.0/11, Error ellipse: s-maj=27.7km s-min=20.5km az=5.0*
MOS ***10*** *04:43:03.0±1.6, 36.63N×70.63E, h194km, mb5.1/2, Error ellipse: s-maj=22.7km s-min=9.6km az=87.7*
ISCJB ***10*** *04:43:05.0±0.5, 36.59N±004×71.1E±0.1, h237km±7km, mb3.5/7, Error ellipse: s-maj=13.5km s-min=5.9km az=16.9*
NNC ***10*** *04:43:12.4±5.3, 37.20N×70.97E, h244km±57km, mb2.7, mpv3.7, Error ellipse: s-maj=51.6km s-min=29.6km az=20.0*

ISC 10 04:43:05.9±0.5, 36.60N±004×71.2E±01, h231km±8km, n36, σ0.96/41, mb3.5/7, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.83**	**167**	P	**Pn**	**04 43 56.1**	**+0.8**
CHCP	**Chirah Chowk**	**3.40**	**149**	P	**Pn**	**04 44 02.0**	**+0.3**
CHCP				S	**S**	**04 44 42.0**	**-3.8**
THW	**Thamme Wali**	**3.82**	**173**	P	**Pn**	**04 44 07.2**	**+0.5**
SBDP	**Sheikh Budin**	**4.29**	**184**	⇑P	**Pn**	**04 44 11.0**	**-1.4**
SARP	**Sargodha**	**4.83**	**165**	P	**Pn**	**04 44 18.4**	**-0.5**
DRP	**Derazinda**	**4.91**	**190**	P	**Pn**	**04 44 20.3**	**+0.4**
AML	**Almayashu** SNR=83	**5.86**	**19**	P	**Pn**	**04 44 32.4**	**+0.5**
UCH	**Uchtor** SNR=36	**6.19**	**24**	P	**Pn**	**04 44 36.9**	**+0.8**
KZA	**Kyzart** SNR=19	**6.32**	**29**	P	**Pn**	**04 44 38.1**	**+0.4**
EKS2	**Erkin-Say** SNR=12	**6.38**	**18**	P	**Pn**	**04 44 39.2**	**+0.7**
KK31	**Karatay Array** 2.2nm,0.4s,baz=175,slow=12,SNR=13	**6.52**	**356**	⇑P	**Pn**	**04 44 40.5**	**+0.3**
KK31	4.9nm,0.4s,baz=183,slow=19,SNR=6.5			⇓S	**S**	**04 45 48.0**	**-7.5**
AAK	**Ala-Archa** SNR=11	**6.55**	**22**	P	**Pn**	**04 44 41.5**	**+0.8**
AAK	**Ala-Archa** 7.2nm,0.4s	**6.55**	**22**	*e*Pn	**Pn**	**04 44 40.2**	**-0.4**
AAK				*e*Sn	**S**	**04 45 54.2**	**-2.1**
AAK	**Ala-Archa**	**6.55**	**22**	*e*PN	**Pn**	**04 44 40.2**	**-0.4**
AAK				*e*		04 45 54.2	
AAK				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ULHL	**Ulahol** SNR=9.3	**6.87**	**33**	P	**Pn**	**04 44 45.5**	**+0.8**
TKM2	**Tokmak 2** SNR=6.4	**7.18**	**27**	P	**Pn**	**04 44 49.8**	**+1.2**
TKM2	**Tokmak 2** comp=Z,3.2nm,0.5s	**7.18**	**27**	⇑P	**Pn**	**04 44 49.4**	**+0.8**
TKM2				⇑S	**S**	**04 46 08.9**	**-1.9**
	comp=Z,15nm,0.8s						
MK31	**Makanchi Array** comp=Z,4.3nm,0.9s,baz=220,slow=10,SNR=31	**13.13**	**36**	P	**Pn**	**04 46 03.8**	**-0.2**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.3s,baz=224,slow=11,SNR=18	**13.13**	**36**	P	**Pn**	**04 46 04.4**	**+0.4**
AB31	**Akbulak array** comp=Z,0.8nm,0.5s,baz=140,slow=13,SNR=32	**15.07**	**331**	⇑P	**Pn**	**04 46 24.9**	**-2.7**
AB31				⇓S	**S**	**04 49 09.0**	**-5.2**
	comp=Z,1.1nm,0.8s						
KURK	**Kurchatov** comp=Z,1.6nm,0.8s	**15.10**	**18**	P	**Pn**	**04 46 27.0**	**-0.9**
KURK	**Kurchatov**	**15.10**	**18**	P	**Pn**	**04 46 27.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZRNK	**Zerenda** comp=Z,0.6nm,0.5s	**16.43**	**355**	*e*P	**P**	**04 46 43.0**	**+0.5**
ZRNK	**Zerenda**	**16.43**	**355**	*e*P	**P**	**04 46 43.0**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array** comp=Z,0.4nm,0.3s,baz=159,slow=12,SNR=5.2	**16.44**	**358**	P	**P**	**04 46 44.1**	**+1.5**
AKTO	**Aktyubinsk** comp=Z,1.2nm,0.3s,baz=139,slow=9.9,SNR=29	**16.77**	**330**	P	**P**	**04 46 46.7**	**+0.5**
AKTO	**Aktyubinsk**	**16.77**	**330**	P	**P**	**04 46 46.7**	**+0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo** comp=Z,4.7nm,0.3s,baz=260,slow=7.1,SNR=8.6	**19.75**	**24**	P	**P**	**04 47 19.2**	**+0.7**
JOF	**Joensuu**	**35.85**	**330**	*e*p	**P**	**04 49 44.5**	**+0.8**
FINES	**FINESS Array B** comp=Z,0.6nm,0.4s,mb3.5,baz=122,slow=8.7,SNR=9.2	**37.48**	**326**	P	**P**	**04 49 57.2**	**-0.2**
ARCES	**ARCESS Array B** comp=Z,3.4nm,0.9s,mb3.8,baz=109,slow=6.6,SNR=5.5	**41.11**	**338**	P	**P**	**04 50 27.5**	**+0.2**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.9s,mb3.1,baz=23,slow=7.8,SNR=2.1	**44.39**	**323**	P	**P**	**04 50 53.3**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.4s,mb3.6,baz=51,slow=5.9,SNR=29	**65.86**	**269**	P	**P**	**04 53 25.2**	**-1.5**
INK	**Inuvik** comp=Z,0.8nm,0.5s,mb3.6,baz=8.7,slow=8.2,SNR=8.1	**73.79**	**9**	P	**P**	**04 54 15.7**	**+0.7**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.4s,mb3.4,baz=351,slow=5.4,SNR=8.7	**81.14**	**3**	P	**P**	**04 54 55.8**	**+0.2**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.4s,mb3.5,baz=328,slow=4.9,SNR=6.5	**81.92**	**122**	P	**P**	**04 54 58.4**	**-1.3**

SZGRF ***10*** *04:43:24.2, 9.66N×96.29E, h33km, mb5.0, Nicobar Islands, India, region*
IDC ***10*** *04:43:30.2±0.4, 1062N×94.21E, h0km, mb4.6/25, mb1 4.7/26, mb1mx4.7/28, mbtmp4.6/26, ML4.2/1, MS4.5/24, Ms1 4.5/24, ms1mx4.4/36, Error ellipse: s-maj=15.6km s-min=11.2km az=58.0*
BJI ***10*** *04:43:30.5, 1034N×94.12E, h31km, mB5.3, mb5.0, Ms5.1, Msz4.8*
ISCJB ***10*** *04:43:31.7±0.2, 1059N±003×94.29E±003, h22km, mb5.0/108, MS4.7/49, Error ellipse: s-maj=4.5km s-min=3.6km az=78.6*
MOS ***10*** *04:43:33.8±1.0, 1068N×94.18E, h33km, mb5.4/49, Error ellipse: s-maj=8.9km s-min=4.6km az=114.4*
NEIC ***10*** *04:43:33.6±0.1, 1063N×94.28E, mb5.2/52, Error ellipse: s-maj=5.1km s-min=3.3km az=51.0*
HRVD ***10*** *04:43:33.6±0.2, 1064N×94.35E, h12km, MW5.2/83, Centroid moment Tensor Solution. LP body waves: s45,c63; Mantle waves: s83,c143; Half duration: 1.0 Moment tensor: Scale 10^{16}Nm; M_{rr}=7.00±.17; $M_{\theta\theta}$=5.02±.14; $M_{\phi\phi}$=1.97±.21; $M_{r\theta}$=2.45±.56; $M_{\theta\phi}$=2.72±.13; $M_{\phi r}$=1.26±.66; Best double couple: M_0=7.34300×10^{16} NP1:ϕ_s=59.00000°, δ=34.00000°, λ=-92.00000°. NP2: ϕ_s=241.00000°, δ=56.00000°, λ=-89.00000°. Principal axes: T 7.1480, Plg=11.0000°, Azm=330.0000°; N 0.3790, Plg=1.0000°, Azm=60.0000°; P -7.5380, Plg=79.0000°, Azm=155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 04:43:34.1±0.2, 1062N±003×9431E±003, h24km, h24km±.4km:pP-P, n317, σ1.908/294, mb5.0/108, MS4.7/49, 12C-18D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.85**	**304**	*e*P	Px	04 44 17.9	
PBA				*e*S	Sx	04 44 30.8	
SNG	**Songkhla** 562nm,1.0s	**7.11**	**118**	P	**Pn**	**04 45 17.0**	**+0.4**
NST	**Nakhon Sawan** 225nm,0.5s	**7.58**	**48**	P	**Pn**	**04 45 23.5**	**+0.4**
KULM	**Kulim**	**8.21**	**130**	*e*Pn	**Pn**	**04 45 29.9**	**-1.8**
KULM				*e*Sn	**Sn**	**04 46 58.6**	**-5.1**
PSI	**Prapat** 2.6nm,0.3s,baz=337,slow=13,SNR=9.5	**9.01**	**149**	Pn	**Pn**	**04 45 42.9**	**+0.2**
PSI	baz=286,slow=17,SNR=1.5			Lg		04 48 26.1	
PSI				LR	LR	04 49 54.3	
	comp=Z,8μm,18.8s,baz=297,slow=42						
PSI	**Prapat**	**9.01**	**149**	Pn	**Pn**	**04 45 42.9**	**+0.2**
PSI				Lg		04 48 26.1	
PSI				LR	LR	04 49 54.3	
KKTK	**Khon Kaen** 370nm,1.0s	**10.04**	**55**	P	**Pn**	**04 46 03.0**	**+6.1**
VIS	**Vishakhapatnam**	**12.77**	**305**	*e*P	**Pn**	**04 46 33.6**	**-0.6**
VIS				AMb	AMB	04 46 41.9	
	comp=Z,330nm,1.3s						
VIS				*e*S	**Sn**	**04 48 44.0**	**-12**
VIS				*i* S	**Sn**	**04 48 45.2**	**-10**
VIS				*e*S	**Sn**	**04 48 45.3**	**-10**
CAL	**Calcutta**	**13.16**	**335**	*e*P	**Pn**	**04 46 39.4**	**-0.2**
CAL				*e*x	x	04 48 59.9	
AGT	**Agartala**	**13.51**	**348**	*i* x	x	04 46 55.0	
AGT				*i* x	x	04 47 24.0	
PALK	**Pallekele** comp=Z,39nm,1.4s	**13.85**	**257**	*e*Pn	**Pn**	**04 46 48.8**	**0.0**
PALK				*e*Sn	**Sn**	**04 49 16.3**	**-5.5**
SHL	**Shillong**	**15.05**	**352**	*e*P	**Pn**	**04 47 07.2**	**+2.0**
BOK	**Bokaro**	**15.37**	**330**	*e*P	**Pn**	**04 47 11.4**	**+2.0**
BOK				AMb	AMB	04 47 18.1	
	comp=Z,114nm,1.4s						
BOK				*e*S	**Sn**	**04 49 58.3**	**-0.6**
KMI	**Kunming**	**16.50**	**28**	P	**Pn**	**04 47 27.9**	**+4.0**
KMI				AP	pP	04 47 31.1	-1.8
KMI				XP	sP	04 47 33.4	-2.6
KMI				PP		04 47 41.9	
KMI				S	**Sn**	**04 50 35.1**	**+8.7**
KMI				SS		04 50 53.9	
KMI				AMB	AMB		
	comp=Z,42nm,1.8s						
KMI				AMB	AMB		
	comp=Z,732nm,3.1s						
KMI				LR	LR		
	comp=N,3μm,12.6s						
KMI				LR	LR		
	comp=E,1μm,9.1s						
HYB	**Hyderabad** comp=E,100nm,1.0s	**16.71**	**296**	*i* P	**Pn**	**04 47 25.0**	**-1.6**
HYB				*e*S	**Sn**	**04 50 35.0**	**+3.5**
HYB	**Hyderabad** comp=E,100nm,1.0s	**16.71**	**296**	*e*P	**Pn**	**04 47 25.0**	**-1.6**
HYB				*e*S	**Sn**	**04 50 35.0**	**+3.5**
HYB	**Hyderabad**	**16.71**	**296**	*e*P	**Pn**	**04 47 25.0**	**-1.6**
HYB				*e*S	**Sn**	**04 50 35.0**	**+3.5**
HYB				pmax	pmax		
	comp=Z,100nm,1.0s						
QIZ	**Qiongzhong**	**17.18**	**59**	P	**Pn**	**04 47 35.1**	**+2.6**
QIZ				AMB	AMB		
	comp=Z,34nm,2.0s						
QIZ				LR	LR		
	comp=E,3μm,11.1s						
QIZ				LR	LR		
	comp=Z,3μm,10.0s						
QIZ	**Qiongzhong** comp=Z,53nm,1.1s	**17.18**	**59**	*e*Pn	**Pn**	**04 47 31.3**	**-1.2**
NGP	**Nagpur**	**18.01**	**307**	*e*P	**Pn**	**04 47 44.8**	**+2.0**
NGP				*e*x	x	04 47 54.2	
	comp=Z,140nm,1.0s						
NGP				*e*x	x	04 51 10.2	
JBP	**Jabalpur**	**18.52**	**314**	⇓*i*P	**Pn**	**04 47 49.5**	**+0.5**
JBP				*e*x	x	04 47 58.4	
	comp=Z,109nm,1.3s						
JBP				*e*x	x	04 51 23.4	
JIRN	**Jiri** comp=Z,921nm,1.5s	**18.60**	**337**	*e*P	**Pn**	**04 47 50.6**	**+0.7**
PKI	**Pulchoki** comp=Z,615nm,1.2s	**18.83**	**335**	*e*P	**Pn**	**04 47 53.0**	**+0.2**
PKI	**Pulchoki** comp=Z,307nm,1.2s	**18.83**	**335**	*e*P	**Pn**	**04 47 53.0**	**+0.2**
PKI				pmax	pmax		
GUN	**Gumba**	**18.94**	**336**	*e*P	**Pn**	**04 47 54.6**	**+0.5**
DMN	**Daman** comp=Z,390nm,1.2s	**18.99**	**334**	*e*P	**Pn**	**04 47 54.9**	**+0.2**
KKN	**Kakani**	**19.08**	**335**	*e*P	**Pn**	**04 47 55.7**	**-0.1**
LSA	**Lhasa**	**19.22**	**352**	P	**Pn**	**04 47 54.3**	**-3.1**
LSA				AP	pP	04 48 02.0	-0.9
LSA				XP	sP	04 48 06.6	+0.6
LSA				LR	LR		
	comp=N,450nm,17.4s						
LSA				LR	LR		
	comp=E,770nm,23.2s						
LSA				LR	LR		
	comp=Z,1μm,19.3s						
LSA	**Lhasa** comp=Z,129nm,1.1s	**19.22**	**352**	*e*P	**Pn**	**04 47 56.7**	**-0.7**
LSA	**Lhasa**	**19.22**	**352**	*e*P	**Pn**	**04 47 56.7**	**-0.7**
LSA				pmax	pmax		
	comp=Z,129nm,1.1s						
GKN	**Gorkha** comp=Z,164nm,0.7s	**19.54**	**334**	*e*P	**Pn**	**04 48 00.7**	**-0.6**
GYA	**Guiyang**	**19.61**	**35**⇓*i*P		**Pn**	**04 48 02.4**	**+0.3**
GYA				AP	pP	04 48 07.8	+0.6
GYA				XP	sP	04 48 10.6	+0.3
GYA				PP		04 48 22.9	
GYA				S	**Sn**	**04 51 47.5**	**+5.9**
GYA				AMB	AMB		
	comp=Z,80nm,1.1s						
GYA				AMB	AMB		
	comp=Z,630nm,5.0s						
GYA				LR	LR		
	comp=N,2μm,10.5s						
GYA				LR	LR		
	comp=E,2μm,10.5s						
GYA				LR	LR		
	comp=Z,2μm,11.1s						
KOLN	**Koldanda**	**19.81**	**331**	*e*P	**Pn**	**04 48 04.2**	**-0.4**
BHPL	**Bhopal**	**20.43**	**310**	*e*P	**P**	**04 48 11.6**	**+2.0**
BHPL				AMb	AMB	04 48 24.9	
	comp=Z,228nm,1.4s						
KAD	**Karad**	**20.62**	**291**	*e*P	**P**	**04 48 13.7**	**+2.0**
KAD				AMb	AMB	04 48 24.6	
	comp=Z,149nm,2.0s						
POO	**Poona**	**21.29**	**294**	*e*x	pP	04 48 28.5	+3.0
POO				AMb	AMB	04 48 40.6	
	comp=Z,135nm,1.5s,mb5.1						
POO				*e*x	x	04 48 45.5	
POO				*e*x	x	04 48 55.5	
POO				*i* x	x	04 52 20.0	
CD2	**Chengdu**	**22.02**	**22**	P	**P**	**04 48 27.1**	**+0.4**
CD2				XP	sP	04 48 38.2	+1.9
CD2				PP		04 48 54.0	
CD2				S	**S**	**04 52 23.4**	**-5.1**
CD2				SS		04 53 05.6	
CD2				AMB	AMB		
	comp=Z,60nm,1.3s,mb4.9						
CD2				AMB	AMB		
	comp=Z,160nm,6.2s						
CD2				LR	LR		
	comp=E,1μm,11.1s						
CD2				LR	LR		
	comp=Z,980nm,10.6s,MS4.5						
KKM	**Kota Kinabalu**	**22.14**	**100**	*e*P	**P**	**04 48 28.6**	**+0.6**
KKM				*e*pP		04 48 35.6	
BOM	**Bombay**	**22.34**	**294**	*e*P	**P**	**04 48 30.6**	**+0.4**
BOM				AMb	AMB	04 48 39.6	
	comp=Z,140nm,0.7s,mb5.5						
PTH	**Pithoragarh**	**22.98**	**327**	*e*P	**P**	**04 48 38.5**	**+1.6**
PTH				*e*x	x	04 49 41.0	
NDI	**New Delhi**	**24.07**	**321**	*e*P	**P**	**04 48 48.9**	**+1.3**
NDI				*e*P		04 48 49.0	
NDI				AMb	AMB	04 48 57.8	
	comp=Z,327nm,1.8s,mb5.5						
NDI				*e*S	**S**	**04 53 07.0**	**+3.4**
ENH	**Enshi** comp=Z,257nm,1.1s,mb5.6	**24.13**	**34**	*e*P	**P**	**04 48 47.4**	**-0.7**
ENH				*e*pP		04 48 55.5	
AJM	**Ajmer**	**24.37**	**313**	*i* P	**P**	**04 48 52.0**	**+1.7**
AJM				*e*P		04 48 52.7	
AJM				AMb	AMB	04 48 57.4	
	comp=Z,113nm,2.1s,mb4.9						
SMLA	**Simla**	**25.87**	**325**	*e*P	**P**	**04 49 04.1**	**+0.2**
BHJ	**Bhuj**	**26.67**	**301**	*e*P	**P**	**04 49 12.4**	**+1.3**
BHJ				AMb	AMB	04 49 18.8	
	comp=Z,79nm,2.0s,mb4.9						
LZH	**Lanzhou**	**26.79**	**17**⇓P		**P**	**04 49 13.1**	**+0.8**
LZH				AP	pP	04 49 22.5	+3.2
LZH				XP	sP	04 49 26.7	+4.5
LZH				PP		04 49 59.2	
LZH				S	**S**	**04 53 46.3**	**-0.6**
LZH				XS	sS	04 54 01.2	+2.6
LZH				SS		04 55 00.6	
LZH				AMB	AMB		
	comp=Z,87nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,279nm,5.1s						
LZH				LR	LR		
	comp=N,1μm,10.2s						
LZH				LR	LR		
	comp=Z,2μm,13.5s,MS4.9						
XAN	**Xi'an**	**26.88**	**28**	P	**P**	**04 49 12.4**	**-0.7**
XAN				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.3						
XAN				LR	LR		
	comp=N,1μm,14.8s,MS4.8						
XAN				LR	LR		
	comp=E,1μm,14.8s,MS4.8						
XAN				LR	LR		
	comp=Z,1μm,10.8s,MS4.8						
QZH	**Quanzhou**	**27.09**	**55**	P	**P**	**04 49 12.0**	**-3.0**
QZH				LR	LR		
	comp=N,2μm,13.0s						
QZH				LR	LR		
	comp=E,2μm,9.8s						
WHN	**Wuhan**	**27.21**	**40**⇓P		**P**	**04 49 16.5**	**+0.5**
WHN				LR	LR		
	comp=Z,3μm,10.8s,MS5.1						
GTA	**Gaotai**	**29.09**	**9**	*e*P	**P**	**04 49 33.7**	**+0.9**
GTA				AP	pP	04 49 40.6	+0.7
GTA				XP	sP	04 49 43.7	+0.9
GTA				PP	PP	04 50 31.5	-7.1
GTA				PCP	PcP	04 52 39.6	-0.8
GTA				S	**S**	**04 54 25.1**	**+1.9**
GTA				XS	sS	04 54 42.1	+7.3
GTA				SS	SS	04 56 00.1	-27
GTA				AMB	AMB		
	comp=Z,27nm,2.4s,mb4.5						
GTA				AMB	AMB		
	comp=Z,461nm,6.2s						
GTA				LR	LR		
	comp=N,847nm,18.9s,MS4.5						
GTA				LR	LR		
	comp=E,814nm,21.2s,MS4.5						
GTA				LR	LR		
	comp=Z,1μm,22.8s,MS4.4						
NJ2	**Nanjing**	**31.12**	**43**	*e*P	**P**	**04 49 52.3**	**+1.5**
NJ2				AP	pP	04 49 59.5	+1.6
NJ2				XP	sP	04 50 02.9	+2.1
NJ2				PP	PP	04 50 54.5	-6.7
NJ2				S	**S**	**04 54 55.0**	**0.0**
NJ2				XS	sS	04 55 07.0	+0.3
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,510nm,4.5s						
NJ2				LR	LR		
	comp=N,1μm,28.5s,MS4.7						
NJ2				LR	LR		
	comp=E,2μm,23.6s,MS4.7						
NJ2				LR	LR		
	comp=Z,2μm,25.5s,MS4.6						
SSE	**Sheshan**	**32.19**	**47**	*e*P	**P**	**04 50 00.0**	**-0.1**
SSE				AP	pP	04 50 06.0	-1.2
SSE				PP	PP	04 51 11.2	-1.8
SSE				PCP	PcP	04 52 50.9	+2.4
SSE				S	**S**	**04 55 10.4**	**-1.2**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,342nm,6.9s						
SSE				LR	LR		
	comp=N,563nm,8.5s						
SSE				LR	LR		
	comp=E,1μm,8.5s						
SSE				LR	LR		
	comp=Z,1μm,8.9s						
BTO	**Baotou**	**32.94**	**22**	*e*P	**P**	**04 50 06.6**	**-0.2**
BTO				LR	LR		
	comp=N,552nm,8.0s						
BTO				LR	LR		
	comp=E,1μm,10.2s						
WMQ	**Urumqi**	**33.58**	**351**	P	**P**	**04 50 13.0**	**+0.7**

WMQ AP pP 04 50 20.3 +0.9
WMQ XP sP 04 50 23.7 +1.4
WMQ PP PP 04 51 25.5 -2.9
WMQ AMB AMB
comp=Z,20nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,149nm,4.5s
WMQ LR LR
comp=N,814nm,23.4s,MS4.5
WMQ LR LR
comp=E,784nm,24.2s,MS4.5
WMQ LR LR
comp=Z,854nm,24.1s,MS4.4
HHC Hu-ho-hao-te 33.75 24 *e*P **P 04 50 14.6 +0.8**
HHC AP pP 04 50 21.1 +0.2
HHC XP sP 04 50 23.6 -0.2
HHC PP PP 04 51 27.7 -2.6
HHC PCP PcP 04 52 53.4 +0.5
HHC S **S 04 55 36.1 +0.2**
HHC SS SS 04 57 42.0 -20
HHC SCS ScS 05 00 35.2 -2.3
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,436nm,4.9s
HHC LR LR
comp=N,1μm,10.8s,MS5.0
HHC LR LR
comp=E,864nm,11.2s,MS5.0
HHC LR LR
comp=Z,1μm,11.6s,MS4.8
BJT Baijiatuau 35.12 30 *e*P **P 04 50 25.7 0.0**
comp=Z,29nm,1.1s,mb5.1
BJT Baijiatuau 35.12 30 *e*P **P 04 50 25.7 +0.1**
BJT pmax pmax
comp=Z,29nm,1.1s
ULHL Ulahol 35.26 336 P **P 04 50 26.3 -0.6**
SNR=8.9
KZA Kyzart 35.52 335 P **P 04 50 30.2 +1.2**
SNR=11
JOW Kunigami 35.83 59 LR LR 05 08 56.6
comp=Z,381nm,18.6s,MS4.2,baz=283,slow=42
UCH Uchtor 35.95 335 P **P 04 50 33.5 +0.8**
SNR=9.8
TKM2 Tokmak 2 36.08 336 P **P 04 50 35.6 +1.7**
SNR=5.9
KBK Karagaybulak 36.12 335 P **P 04 50 34.9 +0.7**
SNR=7.5
AML Almayashu 36.22 334 P **P 04 50 36.0 +0.9**
SNR=25
AAK Ala-Archa 36.29 335 P **P 04 50 36.4 +0.7**
SNR=11
AAK Ala-Archa 36.29 335 P **P 04 50 35.0 -0.7**
comp=Z,155nm,1.3s,mb5.8,SNR=9.1
AAK Ala-Archa 36.29 335 *e*P **P 04 50 34.7 -1.0**
AAK *ep*P pP 04 50 41.7 -1.1
AAK Ala-Archa 36.29 335*d i*P **P 04 50 35.3 -0.4**
AAK pmax pmax
comp=Z,39nm,1.7s,mb5.1
FRU Bishkek 36.40 335⇓*i*P **P 04 50 37.5 +0.9**
FRU *i* pP 04 50 44.5 +0.7
FRU pmax pmax
comp=Z,160nm,2.2s,mb5.6
CHMS Chumysh 36.48 336 P **P 04 50 37.9 +0.6**
SNR=5.1
EKS2 Erkin-Say 36.61 334 P **P 04 50 39.3 +0.9**
SNR=18
SMDO Samad 36.73 294 P **P 04 50 42.9 +3.4**
SNR=14
BIDO Bidbid 36.78 295 P **P 04 50 43.2 +3.4**
SNR=11
USP Ospenovka 36.81 336 P **P 04 50 40.3 +0.2**
SNR=12
DL2 Dalian 37.25 36 P **P 04 50 46.0 +2.1**
DL2 AP pP 04 50 51.8 +0.8
DL2 *e*S **S 04 56 38.1 +8.4**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
DL2 AMB AMB
comp=Z,110nm,2.7s,mb5.2
DL2 LR LR
comp=N,460nm,11.0s,MS4.7
DL2 LR LR
comp=E,380nm,10.5s,MS4.7
DL2 LR LR
comp=Z,570nm,11.4s,MS4.6
BSY Bisya 37.43 294 P **P 04 50 48.5 +3.2**
SNR=30
MK31 Makanchi Array 37.47 346 *i* P **P 04 50 45.6 -0.1**
MKAR Makanchi Array 37.47 346 P **P 04 50 45.6 -0.1**
comp=Z,9.3nm,0.7s,mb4.7,baz=164,slow=7.9,SNR=95
MKAR LR LR 05 10 24.6
comp=Z,567nm,18.7s,MS4.4,baz=93,slow=43
HOQ Hoqain 37.52 295 P **P 04 50 49.0 +2.9**
SNR=17
KK31 Karatay Array 38.42 332 *i* P **P 04 50 53.3 -0.5**
KKAR Karatay Array 38.42 332 P **P 04 50 53.3 -0.5**
KKAR pmax pmax
comp=Z,25nm,1.0s,mb4.9
SONM Songino Array 38.47 13 P **P 04 50 54.9 +0.8**
comp=Z,15nm,1.2s,mb4.6,baz=197,slow=5.8,SNR=42
SONM LR LR 05 08 24.3
comp=Z,1μm,18.4s,MS4.7,baz=203,slow=39
ASHO Ashiyiah 38.89 296 P **P 04 51 00.6 +2.9**
SNR=19
BANOM Banah 39.00 298 P **P 04 51 01.9 +3.3**
SNR=7.5
WHFO Wadi Hawf 39.89 285 P **P 04 51 08.7 +2.7**
SNR=29
MBWA Marble Bar 40.26 142 *e*P **P 04 51 08.8 -0.3**
comp=Z,291nm,2.4s,mb5.6
MBWA *ep*P pP 04 51 15.9 -0.4
SNY Shenyang 40.31 34⇓P **P 04 51 10.3 +0.8**
SNY AP pP 04 51 16.7 0.0
SNY XP sP 04 51 20.5 +0.9
SNY PP PP 04 52 47.5 +5.1
SNY S **S 04 57 15.6 -0.2**
SNY SS SS 05 00 13.8 -0.8
SNY AMB AMB
comp=Z,40nm,1.9s,mb4.8
SNY AMB AMB
comp=Z,451nm,3.1s
SNY LR LR
comp=N,486nm,13.3s,MS4.8
SNY LR LR
comp=E,787nm,15.0s,MS4.8
SNY LR LR
comp=Z,819nm,13.7s,MS4.7
ZAK Zakamensk 40.33 9 *e*P **P 04 51 09.9 +0.2**
ZAK pmax pmax
comp=Z,44nm,1.9s,mb4.9
ZAK pmax pmax
comp=Z,37nm,1.8s,mb4.8
ZAK pmax pmax
comp=Z,33nm,1.9s,mb4.7
MOY Mondy 41.30 6 *e*P **P 04 51 18.6 +1.0**
MOY pmax pmax
comp=Z,52nm,3.1s
KURK Kurchatov 42.01 345 P **P 04 51 21.1 -2.4**
comp=Z,177nm,1.5s,mb5.5,SNR=11
KURK Kurchatov 42.01 345 *e*P **P 04 51 21.1 -2.4**
comp=Z,48nm,1.1s,mb5.0
KURK *ep*P pP 04 51 29.6 -1.1
KURK Kurchatov 42.01 345*d i*P **P 04 51 23.2 -0.3**
FITZ Fitzroy Crossi 42.08 132 *e*P **P 04 51 24.2 +0.1**
comp=Z,15nm,1.2s,mb4.5
FITZ *ep*P pP 04 51 30.7 -0.6
IRK Irkutsk 42.29 9 *e*P **P 04 51 26.8 +1.0**
IRK *e* 04 53 06.2
IRK pmax pmax
comp=Z,87nm,2.5s,mb4.9
ABKT Ailbek 42.32 316 P **P 04 51 27.8 +1.8**
comp=Z,862nm,0.6s,SNR=26
CN2 Changchun 42.65 34⇓P **P 04 51 29.2 +0.5**
CN2 *e*AP pP 04 51 36.1 +0.2
CN2 PCP PcP 04 53 18.4 -2.0
CN2 *e*S **S 04 57 57.6 +7.2**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.1
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,14.0s,MS5.2
CN2 LR LR
comp=E,1μm,14.0s,MS5.2
CN2 LR LR
comp=Z,900nm,12.0s,MS4.9
ZAL Zalesovo 43.87 352 P **P 04 51 39.0 +0.5**
comp=Z,7.8nm,0.8s,mb4.5,baz=300,slow=8.0,SNR=46
ZAL LR LR 05 14 12.4
comp=Z,226nm,19.7s,MS4.1,baz=287,slow=42
HIA Hailar 43.96 24 *e*P **P 04 51 40.0 +0.7**
comp=Z,98nm,1.5s,mb5.3
HIA *ep*P pP 04 51 46.8 +0.3
HIA Hailar 43.96 24 *e*P **P 04 51 40.0 +0.8**
HIA *e**PP pP 04 51 46.8 +0.3
HIA pmax pmax
comp=Z,98nm,1.5s
KAKA Kakadu 44.39 121 *e*P **P 04 51 42.1 -0.6**
comp=Z,15nm,1.0s,mb4.7
NVS Novosibirsk 44.98 351 *e*P **P 04 51 46.4 -1.0**
NVS *e*S **S 04 58 28.3 +3.9**
NVS pmax pmax
comp=Z,116nm,2.0s,mb5.4
NVS pmax pmax
comp=N,161nm,2.5s
NVS pmax pmax
comp=E,41nm,1.7s
NVS smax
comp=N,38nm,2.0s
MDJ Mudanjiang 45.47 35 P **P 04 51 51.7 +0.4**
MDJ AMB AMB
comp=Z,13nm,1.1s,mb4.7
MDJ LR LR
comp=Z,295nm,20.3s,MS4.2
MDJ LR LR
comp=N,221nm,18.2s,MS4.2
MDJ LR LR
comp=E,183nm,22.3s,MS4.2
VOSK Vostochnaya 46.02 340 P **P 04 51 54.9 -0.8**
VOSK pmax pmax
comp=Z,48nm,1.4s,mb5.2
BVA0 Borovoye Array 46.47 340 P **P 04 51 58.6 -0.6**
BVA0 pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BVAR Borovoye Array 46.47 340 P **P 04 51 58.6 -0.6**
comp=Z,5.9nm,0.9s,mb4.5,baz=140,slow=7.8,SNR=19
BVAR PcP PcP 04 53 33.8 +0.2
comp=Z,5.3nm,0.8s,baz=149,slow=3.1,SNR=3.5
BRVK Borovoye 46.54 340 P **P 04 51 59.3 -0.4**
comp=Z,95nm,1.1s,mb5.6,SNR=5.2
BRVK Borovoye 46.54 340 *e*P **P 04 51 58.6 -1.1**
comp=Z,13nm,1.1s,mb4.8
BRVK *ep*P pP 04 52 05.8 -1.2
BRVK Borovoye 46.54 340 *e*P **P 04 51 58.6 -1.1**
BRVK *e**PP pP 04 52 05.8 -1.2
BRVK pmax pmax
comp=Z,13nm,1.1s,mb4.8
ZRNK Zerenda 46.88 339 *e*P **P 04 52 01.2 -1.2**
comp=Z,16nm,1.0s,mb4.9
ZRNK *ep*P pP 04 52 08.2 -1.5
ZRNK Zerenda 46.88 339 *i* P **P 04 52 01.7 -0.7**
ZRNK pmax pmax
comp=Z,32nm,2.4s,mb4.8
MAT Matsushiro 47.23 50 P **P 04 52 05.2 0.0**
MAT Matsushiro 47.23 50 P **P 04 52 05.0 -0.2**
comp=Z,43nm,1.6s,mb5.1
MAT Matsushiro 47.23 50 P **P 04 52 05.0 -0.2**
MAT pmax pmax
comp=Z,43nm,1.6s,mb5.1
MAT Matsushiro 47.23 50 P **P 04 52 05.0 -0.2**
MAT pmax pmax
comp=Z,43nm,1.6s,mb5.1
MJAR Matsushiro Arr 47.24 50 P **P 04 52 05.9 +0.7**
comp=Z,2.9nm,0.8s,mb4.2,baz=238,slow=9.8,SNR=7.9
MJAR PcP PcP 04 53 37.2 +0.9
comp=Z,8.1nm,1.0s,baz=259,slow=5.0,SNR=7.4
MJAR LR LR 05 14 55.9
comp=Z,183nm,18.1s,MS4.1,baz=250,slow=40
MJAR Matsushiro Arr 47.24 50 P **P 04 52 05.9 +0.7**
MJAR 04 53 37.2
MUN Mundaring 47.25 154 *e*P **P 04 52 06.7 +1.4**
MUN *ep*P pP 04 52 12.8 +0.2
KLBR Kellerberrin 47.60 153 *e*P **P 04 52 08.3 +0.3**
comp=Z,18nm,0.9s,mb5.1
KLBR *ep*P pP 04 52 14.7 -0.6
AB31 Akbulak array 47.94 330 P **P 04 52 10.2 -0.4**
AB31 pmax pmax
comp=Z,59nm,1.2s,mb5.5
NWAO Narrogin (SRO) 48.51 154 P **P 04 52 15.3 +0.3**
comp=Z,33nm,1.0s,mb5.3,baz=329,slow=7.3,SNR=4.1
NWAO LR LR 05 12 31.1
comp=Z,689nm,18.9s,MS4.7,baz=140,slow=36
NWAO Narrogin (SRO) 48.51 154 *e*P **P 04 52 15.8 +0.8**
comp=Z,48nm,1.1s,mb5.4
NWAO *ep*P pP 04 52 21.7 -0.6
NWAO Narrogin (SRO) 48.51 154 *e*P **P 04 52 15.8 +0.8**
NWAO *e**PP pP 04 52 21.7 -0.7
NWAO pmax pmax
comp=Z,48nm,1.1s
GUMO Guam 49.46 81 LR LR 05 15 28.6
comp=Z,119nm,18.1s,MS3.9,baz=249,slow=39
BOD Bodaibo 49.46 14 *e*P **P 04 52 21.6 -0.7**
BOD *e* pP 04 52 28.1 -1.6
BOD pmax pmax
comp=Z,25nm,1.6s,mb5.0
BOD pmax pmax
comp=Z,27nm,1.5s,mb5.1
KLR Kul'dur 49.47 32 *e*P **P 04 52 19.8 -2.6**
KLR pmax pmax
comp=E,130nm,2.4s
KLR pmax pmax
comp=Z,150nm,2.4s,mb5.6
KLR MLR MLR
comp=N,1μm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.4
AKTK Aktyubinsk 49.65 330 P **P 04 52 23.0 -0.8**
AKTO Aktyubinsk 49.65 330 P **P 04 52 23.0 -0.8**
comp=Z,4.5nm,0.9s,mb4.5,baz=124,slow=9.6,SNR=11
WRA Warramunga Arr 49.75 128 P **P 04 52 25.0 +0.5**
comp=Z,16nm,0.9s,mb5.0,baz=304,slow=9.0,SNR=51
WRAB Tennant Creek 49.75 128 P **P 04 52 25.9 +1.3**
comp=Z,359nm,0.7s,SNR=9.4
WRAB Tennant Creek 49.75 128 *e*P **P 04 52 25.2 +0.6**
comp=Z,71nm,0.8s,mb5.8
WRAB *ep*P pP 04 52 31.7 -0.2
WRAB Tennant Creek 49.75 128 *e*P **P 04 52 25.2 +0.6**
WRAB *e**PP pP 04 52 31.7 -0.2
WRAB pmax pmax
comp=Z,71nm,0.8s,mb5.8
WB2 Warramunga Arr 49.76 128⇓*i*P **P 04 52 25.0 +0.4**
WB2 *i* pP pP 04 52 31.7 -0.2
ATD Arta Tunnel 50.46 276 P **P 04 52 28.9 -1.0**
comp=Z,3.4nm,0.4s,mb4.7,baz=281,slow=18,SNR=2.3
ATD LR LR 05 11 42.9
comp=Z,298nm,18.1s,MS4.3,baz=78,slow=34
HABR Khabarovsk 50.78 34 *e*P **P 04 52 32.9 +0.6**
HABR *e*S **S 04 59 44.5 -2.2**
HABR pmax pmax
comp=Z,85nm,1.2s,mb5.5
ASAR Alice Springs 51.57 132 P **P 04 52 38.8 +0.5**
comp=Z,13nm,0.8s,mb4.9,baz=309,slow=6.7,SNR=55
ASAR PcP PcP 04 53 53.0 +1.0
comp=Z,4.3nm,0.8s,baz=316,slow=5.2,SNR=2.4
CLNS Chul'man 51.83 21*d i*P **P 04 52 41.2 +1.0**
CLNS *e**PP pP 04 52 47.1 -0.4
CLNS *e*PPP 04 55 47.6
CLNS *e*S **S 05 00 12.6 +12**
CLNS *e* 05 02 19.3
CLNS *e*SS SS 05 03 27.4 -10
CLNS pmax pmax
comp=Z,48nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,31nm,0.9s
CLNS pmax pmax
comp=E,29nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CLNS MLR MLR
comp=N,200nm,12.0s,MS4.5
CLNS MLR MLR
comp=E,200nm,12.0s,MS4.5
CLNS MLR MLR
comp=Z,500nm,12.0s,MS4.8
GNI Garni 52.68 313 *e*P **P 04 52 47.3 +0.8**
comp=Z,105nm,1.1s,mb5.7
GNI *ep*P pP 04 52 54.6 +0.7
GNI Garni 52.68 313 *e*P **P 04 52 47.3 +0.8**
GNI *e**PP pP 04 52 54.6 +0.7
GNI pmax pmax
comp=Z,105nm,1.1s
DGRG David-gareji 52.69 315 P **P 04 52 48.0 +1.4**
MTA Mtatsminda 53.18 315 P **P 04 52 50.4 +0.2**
TBLG Delisi 53.23 315 P **P 04 52 51.6 +1.0**
ASAJ Asahikawa 53.26 42 P **P 04 52 52.0 +1.2**
comp=Z,9.3nm,0.8s,mb4.8,baz=274,slow=9.8,SNR=5.1
ARU Arti 53.46 336 *e*P **P 04 52 51.3 -0.9**
comp=Z,18nm,1.0s,mb5.0
ARU Arti 53.46 336⇓*i*P **P 04 52 51.8 -0.4**
ARU *e* 04 54 51.2
ARU *e*S **S 05 00 22.1 -1.3**
ARU *e*SS SS 05 03 56.5 -7.1
ARU pmax pmax
comp=Z,22nm,1.3s,mb4.9
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.0
ARU MLR MLR
comp=N,800nm,20.0s,MS5.0
ARU MLR MLR
comp=E,1μm,20.5s,MS5.0
AKH Akhalkalaki 54.00 314 P **P 04 52 56.8 +0.5**
ZEI Tsey 54.19 316 *i* P **P 04 52 57.5 -0.1**
ZEI *i* *PP pP 04 53 05.2 +0.2
ZEI pmax pmax
comp=Z,17nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 54.55 39⇑*i*P **P 04 53 02.0 +1.8**
YSS *e* pP 04 53 08.8 +1.2
YSS S **S 05 00 42.0 +3.9**
YSS *e*SSS 05 06 13.0
YSS pmax pmax
comp=Z,80nm,1.2s,mb5.6
YSS pmax pmax
comp=Z,110nm,1.3s,mb5.7
OPO Ambohidratompo 54.79 238 P **P 04 53 03.5 +1.5**
comp=Z,4.6nm,0.8s,mb4.6,baz=74,slow=8.4,SNR=5.2
KIV Kislovodsk 55.43 317 P **P 04 53 07.7 +1.1**
comp=Z,322nm,1.1s,SNR=7.6
KIV Kislovodsk 55.43 317 *e*P **P 04 53 06.9 +0.3**
comp=Z,88nm,1.1s,mb5.7
KIV *ep*P pP 04 53 13.9 -0.2
KIV Kislovodsk 55.43 317*k i*P **P 04 53 07.2 +0.6**
KIV *e* 04 53 17.1
KIV 04 54 08.0
KIV *e*S **S 05 00 56.1 +6.1**
KIV pmax pmax
comp=Z,67nm,1.7s,mb5.4
KIV MLR MLR
comp=Z,300nm,18.0s,MS4.4
PMG Port Moresby 56.21 109 *e*P **P 04 53 12.7 +0.5**
comp=Z,52nm,1.4s,mb5.4
PMG *ep*P pP 04 53 19.7 +0.1
PMG Port Moresby 56.21 109*c i*P **P 04 53 16.6 +4.4**
SOKR Solikamsk 56.33 338*c i*P **P 04 53 13.1 +0.1**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.2
SOKR MLR MLR
comp=Z,2μm,33.0s,MS4.9
MALT Malatya 56.85 309 *e*P **P 04 53 16.5 -0.3**
comp=Z,17nm,1.1s,mb5.0
MALT *ep*P pP 04 53 23.4 -0.8
MALT Malatya 56.85 309 *e*P **P 04 53 16.5 -0.3**
MALT *e**PP pP 04 53 23.4 -0.8
MALT pmax pmax
comp=Z,17nm,1.1s,mb5.0
SOC Sochi 57.34 315 *e*P **P 04 53 18.8 -1.4**
SOC *e*S **S 05 01 14.1 -1.2**
SOC *e*SS SS 05 05 08.3 +3.5
SOC pmax pmax
comp=Z,39nm,0.8s,mb5.5
SOC MLR MLR
comp=Z,541nm,21.0s,MS4.6
YAK Yakutsk 57.36 19 *e*P **P 04 53 19.7 -0.7**
comp=Z,74nm,0.9s,mb5.7
YAK *ep*P pP 04 53 26.1 -1.7
YAK Yakutsk 57.36 19*d i*P **P 04 53 20.0 -0.4**
YAK *i* *PP pP 04 53 26.3 -1.5
YAK *e*S **S 05 01 19.8 +4.3**
YAK pmax pmax
comp=Z,40nm,1.1s,mb5.4
YAK pmax pmax
comp=N,17nm,1.5s
YAK pmax pmax
comp=E,18nm,1.5s
YAK smax
comp=E,22nm,6.9s
YAK MLR MLR
comp=Z,343nm,13.0s,MS4.6
YAK MLR MLR
comp=N,381nm,21.0s
YAK MLR MLR
comp=E,262nm,13.0s
KMBO Kilima Mbogo 57.93 262 P **P 04 53 25.5 +1.1**
comp=E,0.7nm,0.5s,mb4.0,baz=71,slow=14,SNR=12
KMBO LR LR 05 18 20.3
comp=E,200nm,18.7s,MS4.2,baz=274,slow=36
EIL Elat 58.25 298 *e*P **P 04 53 26.0 -0.6**
comp=E,378nm,1.2s
EIL *ep*P pP 04 53 33.5 -0.5
CTA Charters Tower 59.53 121 *e*P **P 04 53 36.4 +0.9**
comp=E,7.7nm,1.2s,mb4.6
CTA *i* pP pP 04 53 43.3 +0.4
CTA Charters Tower 59.53 121 LR LR 05 21 38.4
comp=E,386nm,21.1s,MS4.5,baz=123,slow=38
CTA Charters Tower 59.53 121 *e*P **P 04 53 36.4 +0.9**
CTA *i* *PP pP 04 53 43.3 +0.4
CTA pmax pmax
comp=Z,8.0nm,1.2s
CTAO Charters Tower 59.53 121 *e*P **P 04 53 36.4 +1.0**
comp=Z,16nm,1.3s,mb4.9
CTAO *ep*P pP 04 53 43.2 +0.3
CTAO Charters Tower 59.53 121 *e*P **P 04 53 36.4 +0.9**
CTAO *e**PP pP 04 53 43.2 +0.3
CTAO pmax pmax
comp=Z,16nm,1.3s,mb4.9
VRSR Storozhevoye 60.27 324 *e*P **P 04 53 39.0 -1.6**
VRSR pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
VRSR pmax pmax
comp=N,2.0nm,1.6s
VRSR pmax pmax
comp=E,1.0nm,0.9s
VOR Voronezh 60.46 324 P **P 04 53 41.0 -0.9**
VOR pmax pmax
comp=Z,60nm,1.7s,mb5.3
BR131 Keskin Array S 60.80 310 *e*P **P 04 53 42.7 -1.5**
comp=Z,7.9nm,0.8s,mb4.9
BR131 *ep*P pP 04 53 49.3 -2.3
BRTR Keskin Array B 60.80 310 P **P 04 53 42.9 -1.3**
comp=Z,7.7nm,0.8s,mb4.9,baz=122,slow=7.3,SNR=50
ANTO Ankara 61.47 310 *e*P **P 04 53 47.2 -1.5**
comp=Z,45nm,1.4s,mb5.4
ANTO *ep*P pP 04 53 54.1 -2.1
ANTO Ankara 61.47 310 *e*P **P 04 53 47.2 -1.5**
ANTO *e**PP pP 04 53 54.1 -2.1
ANTO pmax pmax
comp=Z,45nm,1.4s,mb5.4
SIM Simferopol' 61.58 316*c e*P **P 04 53 48.8 -0.7**
SIM pmax pmax
comp=Z,27nm,1.2s,mb5.2
SIM MLR MLR
comp=Z,400nm,20.0s,MS4.6
STKA Stephens Creek 61.89 135 *e*P **P 04 53 50.2 -1.3**
comp=Z,18nm,1.0s,mb5.2
STKA Stephens Creek 61.89 135 P **P 04 53 50.8 -0.7**
comp=Z,9.1nm,1.1s,mb4.8,baz=283,slow=4.2,SNR=9.8
STKA LR LR 05 20 57.7
comp=Z,728nm,21.6s,MS4.8,baz=108,slow=36
MOS Moscow 62.85 328 *e*P **P 04 53 55.8 -2.2**
MOS *i* pP 04 54 02.5 -3.0
MOS *e* 04 56 16.6
MOS *e*S **S 05 02 28.9 +2.9**
MOS pmax pmax
comp=Z,50nm,0.9s,mb5.6
MOS MLR MLR
comp=Z,900nm,19.2s,MS5.0
OBN Obninsk 63.17 327 *e*P **P 04 53 58.9 -1.2**
comp=Z,54nm,1.3s,mb5.5
OBN *ep*P pP 04 54 06.4 -1.3
OBN Obninsk 63.17 327*de*P **P 04 53 59.1 -1.0**
OBN *i* pP 04 54 05.5 -2.1
OBN *i* 04 54 14.5
OBN *e* 04 54 36.6
OBN *e*S **S 05 02 32.0 +1.9**
OBN *e*SS SS 05 06 34.1 -2.2
OBN pmax pmax
comp=Z,50nm,1.7s,mb5.4

OBN MLR MLR
comp=Z,800nm,17.0s,MS5.0
KLMR Klimovskoe 64.08 334 *e*P **P 04 54 10.2 +4.1**
KLMR pmax pmax
comp=Z,20nm,1.3s,mb5.0
MA2 Magadan 64.28 28 *d i*P **P 04 54 07.6 +0.2**
MA2 pmax pmax
comp=Z,105nm,2.5s,mb5.4
TIXI Tiksi 64.53 11 *i* Pr 04 54 07.5
TIXI Tiksi 64.53 11 *e*P **P 04 54 05.0 -4.1**
TIXI *e* pP 04 54 13.5 -3.1
TIXI *e* 04 54 21.3
TIXI pmax pmax
comp=Z,23nm,1.0s,mb5.2
TIXI MLR MLR
comp=Z,308nm,15.0s,MS4.6
CFR Carcaliu 65.78 315 ⇑P **P 04 54 11.4 -5.8**
AKASG Malin Array Be 66.13 321 P **P 04 54 17.6 -1.9**
comp=Z,1.9nm,0.7s,mb4.2,baz=89,slow=5.1,SNR=11
PET Petropavlovsk 66.23 37 *e*P **P 04 54 19.2 -0.9**
comp=Z,39nm,1.1s,mb5.3
PET Petropavlovsk 66.23 37 *e*P **P 04 54 19.2 -0.9**
PET pmax pmax
comp=Z,39nm,1.1s,mb5.3
SEY Seymchan 66.39 25 ⇑*i*P **P 04 54 18.7 -2.4**
SEY Seymchan 66.39 25 *e*P **P 04 54 20.3 -0.8**
SEY *e* 04 56 48.7
SEY *e*PPP 04 58 33.0
SEY *e*S S 05 03 12.8 +3.2
SEY *e* 05 04 17.0
SEY pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
SEY pmax pmax
comp=E,23nm,1.6s
SEY smax
comp=N,112nm,4.7s
SEY smax
comp=E,80nm,5.3s
SEY MLR MLR
comp=Z,869nm,16.0s,MS5.1
SEY MLR MLR
comp=N,243nm,10.0s
SEY MLR MLR
comp=E,292nm,10.0s
VRI Vrincioaia 66.86 315 ⇑P **P 04 54 24.3 +0.2**
PLOR Plostina 66.92 315 ⇑P **P 04 54 24.9 +0.4**
MLR Muntele Rosu 67.35 315 ⇑P **P 04 54 27.2 0.0**
JOF Joensuu 68.47 334 *e*p **P 04 54 34.1 -0.1**
ARMA Armidale 68.51 129 *e*P **P 04 54 37.6 +3.1**
LVV L'vov 69.25 319 *e*P sP 04 54 52.2 +2.7
APA Apatity 69.36 339 ⇓*i*P **P 04 54 39.0 -0.8**
APA *i* pP 04 54 45.4 -2.0
APA pmax pmax
comp=Z,160nm,20.0s
APA MLR MLR
comp=Z,2μm,19.0s,MS5.2
VAY Valandovo 69.36 310 *e*P **P 04 54 37.7 -2.1**
STIP Stip 69.68 311 *e*P **P 04 54 46.9 +5.1**
SKO Skopje 70.25 311 *e*P **P 04 54 44.1 -1.2**
KOLS Kolonicke sedl 70.27 318 *e*P **P 04 54 43.7 -1.7**
KOLS *e* 04 55 14.7
LSZ Lusaka 70.36 250 *e*P **P 04 54 46.3 +0.4**
comp=Z,14nm,1.1s,mb4.8
LSZ Lusaka 70.36 250 *e*P **P 04 54 46.3 +0.4**
LSZ pmax pmax
comp=Z,14nm,1.1s,mb4.8
FINES FINESS Array B 70.39 332 P **P 04 54 45.4 -0.7**
comp=Z,3.0nm,0.7s,mb4.3,baz=98,slow=5.8,SNR=12
FINES LR LR 05 32 25.6
comp=Z,426nm,18.4s,MS4.7,baz=106,slow=42
KAF Kangasniemi 70.45 332 *e*p **P 04 54 44.1 -2.4**
baz=110,slow=7.1
CRVS Cervenica-Dubn 70.80 318 *e*P **P 04 54 50.6 +2.0**
STHS Stebnicka Huta 71.00 319 *e*P **P 04 54 49.5 -0.3**
STHS *e* 04 55 01.7
STHS *e* 04 55 12.4
KECS Kecovo 71.41 318 *e*P **P 04 54 49.7 -2.6**
KECS *e* 04 55 23.4
NIE Niedzica 71.60 319 *e*P **P 04 54 53.3 -0.2**
PSZ Piszkesteto 71.75 317 *e*P **P 04 54 53.7 -0.7**
comp=Z,10nm,1.0s,mb4.7
PSZ Piszkesteto 71.75 317 *e*P **P 04 54 53.7 -0.7**
PSZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
OJC Ojcow 72.01 319 *e*P **P 04 54 55.3 -0.6**
VYHS Vyhne 72.50 318 *e*P **P 04 54 58.1 -0.8**
ARCES ARCESS Array B 72.76 340 P **P 04 54 59.0 -1.4**
comp=Z,2.3nm,0.6s,mb4.3,baz=92,slow=5.3,SNR=14
ARCES LR LR 05 30 11.9
comp=Z,1μm,19.6s,MS5.1,baz=109,slow=38
SRO Srobarova 72.81 317 *e*P **P 04 55 00.7 0.0**
OKC Ostrava-Krasne 73.04 319 *e*P **P 04 55 01.6 -0.5**
OKC *e*pP pP 04 55 07.9 -1.8
MORC Moravsky Berou 73.43 319 *e*P **P 04 55 03.1 -1.2**
comp=Z,47nm,1.7s,mb5.1
MORC *e*pP pP 04 55 10.0 -1.9
MORC Moravsky Berou 73.43 319 *e*P **P 04 55 03.1 -1.2**
MORC *e**PP pP 04 55 10.0 -2.0
MORC pmax pmax
comp=Z,47nm,1.7s,mb5.1
BILL Bilibino 73.50 22 *e*P **P 04 55 03.9 -0.9**
comp=Z,51nm,1.5s,mb5.2
BILL *e*pP pP 04 55 10.9 -1.5
BILL Bilibino 73.50 22 *e*P **P 04 55 03.9 -0.8**
BILL *e**PP pP 04 55 10.9 -1.5
BILL pmax pmax
comp=Z,51nm,1.5s,mb5.2
ZST Bratislava 73.64 317 *e*P **P 04 55 04.4 -1.2**
TIP Timpagrande 73.75 308 *e*P **P 04 55 05.5 -0.7**
DPC Dobruska-Polom 74.24 319 *e*P **P 04 55 08.8 -0.3**
KSP Ksiaz 74.28 320 *e*P **P 04 55 08.7 -0.6**
KSP *e*pP pP 04 55 14.9 -2.1
UPC Upice 74.44 320 *e*P **P 04 55 06.4 -3.9**
BOJS Bojanci 74.85 314 *i* P **P 04 55 12.0 -0.6**
PERS Pernice 74.95 316 *e*P **P 04 55 12.7 -0.5**
PVCC Panska Ves 75.37 320 *e*P **P 04 55 15.1 -0.5**
PVCC *e*pP pP 04 55 21.8 -1.5
PRU Pruhonice 75.37 319 *e*P **P 04 55 12.9 -2.8**
LBTB Lobatse 75.71 241 *e*P **P 04 55 18.4 +0.8**
comp=Z,10nm,1.0s,mb4.7
LBTB Lobatse 75.71 241 *e*P **P 04 55 18.4 +0.8**
LBTB pmax pmax
comp=Z,11nm,1.0s,mb4.7
BRG Berggiesshubel 75.77 320 *e*P **P 04 55 17.1 -0.8**
comp=Z,4.2nm,1.0s,mb4.3
BRG *e* pP 04 55 23.5 -2.1
BRG LR LR
comp=Z,580nm,14.9s,MS5.0
BRG Berggiesshubel 75.77 320 *e*P **P 04 55 17.1 -0.8**
BRG *e* pP 04 55 23.5 -2.1
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BRG MLR MLR
comp=Z,580nm,14.9s,MS5.0
GERES GERESS Array B 75.91 318 P **P 04 55 18.6 -0.1**
comp=Z,3.9nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=20
GERES LR LR 05 31 52.2
comp=Z,288nm,19.8s,MS4.6,baz=109,slow=38
KHC Kasperske Hory 76.00 318 *e*P **P 04 55 18.0 -1.2**
KHC Kasperske Hory 76.00 318 *e*P **P 04 55 18.7 -0.5**
ROBS Robic 76.06 315 *e*P **P 04 55 18.7 -0.9**
CLL Collm 76.36 320 *e*P **P 04 55 21.0 -0.3**
CLL *e*pP pP 04 55 27.0 -2.0
CLL *e*x x 04 55 34.0
CLL Collm 76.36 320 *e*P **P 04 55 21.0 -0.3**
CLL *e**PP pP 04 55 27.0 -2.0
BOSA Boshof 77.18 237 P **P 04 55 25.9 -0.1**
comp=Z,3.5nm,0.6s,mb4.5,baz=85,slow=6.8,SNR=12
BOSA LR LR 05 26 14.2
comp=Z,124nm,18.2s,MS4.3,baz=269,slow=33
BOSA Boshof 77.18 237 *e*P **P 04 55 26.1 +0.2**
comp=Z,5.2nm,0.7s,mb4.6
BOSA Boshof 77.18 237 *e*P **P 04 55 26.1 +0.2**
BOSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NB2 NORSAR Subarra 77.44 330 P **P 04 55 26.1 -1.3**
comp=Z,116nm,2.5s,mb5.4,baz=90,slow=5.9
NB2 NORSAR Subarra 77.44 330 P **P 04 55 26.1 -1.3**
NB2 pmax pmax
comp=Z,117nm,2.5s,mb5.4
NOA NORSAR Array B 77.44 330 P **P 04 55 26.4 -1.0**
comp=Z,3.0nm,0.8s,mb4.3,baz=90,slow=5.9,SNR=13
NOA LR LR 05 35 17.9
comp=Z,338nm,19.1s,MS4.7,baz=80,slow=40
GRA1 Grafenberg Arr 77.53 319 *e*P **P 04 55 27.8 -0.1**
GRF Grafenberg Arr 77.53 319 *e*P **P 04 55 27.8 -0.1**
comp=Z,34nm,1.7s,mb5.0
NAO01 NORSAR Array S 77.60 330 *e*P **P 04 55 26.9 -1.4**
comp=Z,5.3nm,0.8s,mb4.5
CASY Casey 77.61 173 *e*P **P 04 55 26.6 -1.7**
comp=Z,7.9nm,1.0s,mb4.6
CASY *e*pP pP 04 55 34.3 -1.7
DZM Mont Dzumac 77.80 115 LR LR 05 31 58.6
comp=Z,365nm,18.4s,MS4.7,baz=19,slow=37
LPG La Plagne 80.82 315 *e*P **P 04 55 45.6 -0.3**
comp=Z,30nm,0.8s,mb5.0
LPG La Plagne 80.82 315 *e*P **P 04 55 45.6 -0.3**
comp=Z,15nm,0.8s,mb5.0
LPG La Plagne 80.82 315 *e*P **P 04 55 45.6 -0.3**
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.0
TSUM Tsumeb 81.17 249 *e*P **P 04 55 48.8 +1.0**
comp=Z,5.4nm,0.9s,mb4.5
MAW Mawson 81.23 192 LR LR 05 23 02.8
comp=Z,436nm,20.6s,MS4.8,baz=298,slow=29
SUR Sutherland 82.03 235 *e*P **P 04 55 52.8 +0.5**
comp=Z,31nm,1.1s,mb5.2
TNA Tin City 83.62 25 *e*P **P 04 56 00.1 -0.4**
comp=Z,18nm,1.2s,mb5.1
TNA *e*pP pP 04 56 06.9 -1.3
JMIC Jan Mayen 84.18 341 LR LR 05 34 59.8
comp=Z,349nm,21.0s,MS4.7,baz=84,slow=37
DAG Danmarks Havn 84.85 348 ⇑*i*P **P 04 56 05.1 -1.7**
comp=Z,8.9nm,0.7s,mb5.0
DAG Danmarks Havn 84.85 348 ⇑*e*P **P 04 56 05.1 -1.7**
comp=Z,8.9nm,0.7s,mb5.0
DAG Danmarks Havn 84.85 348 ⇑*e*P **P 04 56 05.1 -1.7**
DAG pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
ALE Alert 86.39 357 P **P 04 56 14.0 -0.5**
comp=Z,68nm,1.9s,mb5.5,SNR=5.5
RPZ Rata Peaks 87.86 135 LR LR 05 36 17.2
comp=Z,531nm,20.7s,MS4.9,baz=210,slow=36
ESDC Sonseca Array 89.59 310 P **P 04 56 30.0 +0.3**
comp=Z,0.9nm,0.6s,mb4.3,baz=62,slow=4.5,SNR=5.4
TORD Torodi Ar. Bea 90.13 283 P **P 04 56 32.8 +0.6**
comp=Z,2.4nm,0.8s,mb4.5,baz=81,slow=4.2,SNR=15
URZ Urewera 90.91 129 LR LR 05 36 00.5
comp=Z,530nm,21.8s,MS4.9,baz=307,slow=35
SUMG Summit 91.52 347 *e*P **P 04 56 39.0 +0.2**
comp=Z,176nm,2.3s,mb6.0
SUMG *e*pP pP 04 56 45.9 -0.6
MCK McKinley 91.89 23 *e*P **P 04 56 40.2 -0.2**
comp=Z,16nm,1.4s,mb5.1
MCK McKinley 91.89 23 *e*P **P 04 56 40.2 -0.2**
MCK pmax pmax
comp=Z,15nm,1.4s,mb5.1
ILAR Eielson Array 92.16 22 P **P 04 56 40.8 -0.9**
comp=Z,2.8nm,0.8s,mb4.7,baz=297,slow=4.2,SNR=33
ILAR LR LR 05 42 43.8
comp=Z,217nm,21.4s,MS4.6,baz=181,slow=38
RAO Raoul Island 93.19 119 P **P 04 56 47.6 +1.2**
baz=351,slow=19
INK Inuvik 94.33 16 P **P 04 56 51.0 -0.6**
comp=Z,3.9nm,0.8s,mb4.9,baz=329,slow=7.1,SNR=14
INK Inuvik 94.33 16 *e*P **P 04 56 50.7 -0.9**
comp=Z,9.9nm,1.2s,mb5.1
INK *e*pP pP 04 56 58.0 -1.4
INK Inuvik 94.33 16 *e*P **P 04 56 50.7 -0.9**
INK *e**PP pP 04 56 58.0 -1.4
INK pmax pmax
comp=Z,10.0nm,1.2s
RES Resolute Bay 94.67 2 *e*P **P 04 56 52.9 -0.3**
comp=Z,25nm,1.5s,mb5.4
RES *e*pP pP 04 56 59.9 -1.1
RES Resolute Bay 94.67 2 *e*P **P 04 56 52.9 -0.3**
RES *e**PP pP 04 56 59.9 -1.1
RES pmax pmax
comp=Z,25nm,1.5s,mb5.4
VNDA Vanda 95.56 168 P **P 04 56 56.7 -0.6**
comp=Z,1.3nm,0.8s,mb4.4,baz=255,slow=6.7,SNR=2.3
VNDA LR LR 05 37 48.2
comp=Z,329nm,18.7s,MS4.8,baz=314,slow=34
VNDA Vanda 95.56 168 P **P 04 56 56.7 -0.6**
VNDA LR LR 05 37 48.2
YKA Yellowknife Ar 103.74 13 Pdiff Pdif 04 57 32.8 -1.1
comp=Z,0.3nm,0.8s,baz=326,slow=4.3,SNR=7.7
YKA PP PP 05 01 46.5 -4.0
comp=Z,0.8nm,1.0s,baz=329,slow=7.5,SNR=5.6
YKA Yellowknife Ar 103.74 13 P Pdif 04 57 32.8 -1.1
YKA 05 01 46.5
PPT Papeete 117.89 104 *e*LR LR 05 38 14.9
comp=Z,227nm,24.2s
TBI Tubuai 118.13 111 *e*LR LR 05 38 19.3
comp=Z,318nm,24.8s
HLID Hailey 120.07 24 *e*PKPdf PKPdf 05 02 23.5 +0.7
LOHW Long Hollow 121.45 21 *e*PKPdf PKPdf 05 02 26.4 +1.0
SNOW Snow King Moun 121.53 21 *e*PKPdf PKPdf 05 02 26.6 +1.0
ELK Elko 122.06 26 *e*PKPdf PKPdf 05 02 26.7 +0.1
NVAR Mina Array Bea 122.49 30 PKP PKPdf 05 02 29.5 +2.1
comp=Z,0.8nm,0.6s,baz=316,slow=2.5,SNR=6.5
NVAR Mina Array Bea 122.49 30 PKP PKPdf 05 02 29.5 +2.1
BW06 Boulder Array 122.56 21 *e*PKPdf PKPdf 05 02 27.7 +0.1
PDAR Pinedale Array 122.56 21 PKP PKPdf 05 02 28.2 +0.6
comp=Z,1.4nm,0.9s,baz=301,slow=0.9,SNR=8.7
HWUT Hardware Ranch 122.84 23 *e*PKPdf PKPdf 05 02 28.5 +0.4
DUG Dugway 123.55 25 *e*PKPdf PKPdf 05 02 29.7 +0.2
MSU Marysvale 125.23 25 *e*PKPdf PKPdf 05 02 34.8 +2.1
ISCO Idaho Springs 126.54 19 *e*PKPdf PKPdf 05 02 36.1 +0.9
SMCO Snowmass 126.65 21 *e*PKPdf PKPdf 05 02 36.7 +1.3
SDCO Great Sand Dun 128.44 20 *e*PKPdf PKPdf 05 02 38.9 +0.1
RCBR Riachuelo 130.54 271 PKPdf PKPdf 05 02 44.0 +1.2
ANMO Albuquerque 130.60 23 PKP PKPdf 05 02 44.5 +1.6
comp=Z,0.8nm,0.8s,baz=20,slow=2.5,SNR=5.6
ANMO Albuquerque 130.60 23 *e*PKIKP PKPdf 05 02 44.6 +1.7
LAZ Ladron 130.82 24 *e*PKPdf PKPdf 05 02 45.4 +2.1
TUC Tucson 131.04 28 *e*PKPdf PKPdf 05 02 44.8 +1.0
LPM Los Pinos Moun 131.10 23 *e*PKPdf PKPdf 05 02 45.4 +1.5
RKT Rikitea 131.44 111 *e*LR LR 05 44 29.0
comp=Z,243nm,32.5s
WMOK Wichita Mounta 133.22 15 *e*PKPdf PKPdf 05 02 48.4 +0.5
MNTX Cornudas Mount 133.89 23 *e*PKPdf PKPdf 05 02 49.9 +0.7
JCT Junction City 136.95 18 *e*PKPdf PKPdf 05 02 56.0 +1.1
MTP Monte Pirata 145.23 325 *e*PKPbc PKPbc 05 03 10.2 +0.8
TRQA Tornquist 145.38 214 *e*PKPbc PKPbc 05 03 09.8 -0.1
CPD Cerro la Pandu 145.48 325 *e*PKPdf PKPdf 05 03 11.2 +1.1
SJG San Juan 145.55 326 *e*PKPbc PKPbc 05 03 10.9 +0.5
PLCA Paso Flores 147.15 201 PKPbc PKPbc 05 03 16.0 +0.9
comp=Z,12nm,0.9s,baz=135,slow=2.5,SNR=25
PLCA Paso Flores 147.15 201 *e*PKPbc PKPbc 05 03 16.1 +0.9
PLCA *e*pPKPdf pPKPdf 05 03 22.7 +1.8
CPUP Villa Florida 148.99 236 PKPbc PKPbc 05 03 20.1 +0.1
comp=Z,3.3nm,0.8s,baz=82,slow=3.7,SNR=5.5
CPUP Villa Florida 148.99 236 *e*PKIKP PKPdf 05 03 16.6 +0.6
CPUP *e* 05 03 20.2
SDV Santo Domingo 155.51 322 *e*PKPdf PKPdf 05 03 27.0 +1.4
SDV *e*PKPab PKPab 05 03 52.2 +0.8
SAML Samuel 157.76 272 *e*PKPdf PKPdf 05 03 29.7 +1.1
SAML *e*PKPab PKPab 05 04 02.1 +0.9
LPAZ La Paz 162.02 250 PKP PKPdf 05 03 34.9 +1.5
comp=Z,1.9nm,1.0s,baz=74,slow=4.4,SNR=6.6
LPAZ La Paz 162.02 250 *e*PKIKP PKPdf 05 03 34.9 +1.5
OTAV Otavalo 167.04 326 *e*PKPdf PKPdf 05 03 40.0 +2.2
OTAV *e*PKPab PKPab 05 04 43.2 +1.4

IDC 10 04:51:32.4±7.8, 249N×9780E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=416.3km s-min=27.4km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.23**	**124**	P	P	04 59 28.2	+1.0
	0.8nm,0.8s,baz=303,slow=9.1,SNR=3.5						
ASAR	**Alice Springs**	**43.71**	**129**	P	P	04 59 38.9	-0.3
	0.5nm,0.8s,baz=306,slow=6.8,SNR=2.7						
MKAR	**Makanchi Array**	**46.15**	**345**	P	P	04 59 58.6	0.0
	0.3nm,0.8s,baz=168,slow=10,SNR=4.3						

IDC 10 04:57:30.5±7.8, 983N×9304E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse: s-maj=413.5km s-min=27.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.95**	**348**	P	P	05 04 49.8	0.0
	0.2nm,0.6s,baz=156,slow=9.4,SNR=3.5						
WRA	**Warramunga Arr**	**50.28**	**126**	P	P	05 06 28.4	-0.3
	0.5nm,0.9s,baz=304,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**52.00**	**130**	P	P	05 06 42.6	+1.1
	0.3nm,0.8s,baz=316,slow=7.1,SNR=6.1						

IDC ***10*** *05:06:06.1±0.4, 1063N×9420E, h0km, mb4.4/23, mb1 4.5/24, mb1mx4.5/27, mbtmp4.3/24, ML3.8/1, MS4.3/19, Ms1 4.3/19, ms1mx4.1/30, Error ellipse: s-maj=17.6km s-min=12.0km az=56.0*
BJI ***10*** *05:06:06.6, 10.14N×9407E, h38km, mB5.3, mb4.7, Ms4.8, Msz4.5*
ISCJB ***10*** *05:06:07.9±0.3, 1053N±004×9437E±003, h24km, mb4.7/73, MS4.4/33, Error ellipse: s-maj=6.0km s-min=4.4km az=65.1*
MOS ***10*** *05:06:08.8±0.9, 1053N×94.18E, h33km, mb5.0/30, Error ellipse: s-maj=11.8km s-min=5.5km az=110.3*
HRVD ***10*** *05:06:09.4±0.3, 1069N×9441E, h12km, MW5.1/79, Centroid moment Tensor Solution. LP body waves: s31,c38;Mantle waves: s79,c133; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.52±.14; Mθθ3.06±.12; Mφφ1.46±.16; Mrθ3.10±.48; Mrφ1.94±.10; Mθφ-0.27±.52; Best double couple: M0 5.38700×10^16 NP1:φs41.00000°, δ33.00000°, λ-120.00000°. NP2: φs255.00000°, δ62.00000°, λ-72.00000°. Principal axes: T 5.0310, Plg15.0000°, Azm333.0000°; N 0.7140, Plg16.0000°, Azm67.0000°; P -5.7440, Plg68.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***10*** *05:06:09.4±0.2, 1055N×9426E, mb4.9/27 Error ellipse: s-maj=9.0km s-min=4.7km az=57.0*

ISC 10 05:06:10.4±0.3, 1059N±004×9437E±003, h25km, h25km±1.2km: pP-P, n175, σ1§25/169, mb4.7/73, MS4.4/33, 12C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.92**	**304**	⇓*e*P	Px	05 06 30.2	
PBA				*e*S	Sx	05 06 59.6	
NNT	**Nongplab**	**5.62**	**69**	P	**Pn**	**05 07 32.2**	**-0.2**
NST	**Nakhon Sawan**	**7.56**	**47**	P	**Pn**	**05 08 00.0**	**+1.1**
	100nm,0.5s						
KULM	**Kulim**	**8.15**	**130**	*e*Pn	**Pn**	**05 08 06.0**	**-1.0**
KULM				*e*Sn	**Sn**	**05 09 33.4**	**-4.9**
PSI	**Prapat**	**8.96**	**149**	Pn	**Pn**	**05 08 18.9**	**+0.8**
	1.0nm,0.3s,baz=344,slow=8.1,SNR=4.6						
PSI				LR	LR	05 12 30.3	
	comp=Z,5μm,18.6s,baz=299,slow=42						
KKTK	**Khon Kaen**	**10.02**	**54**	P	**Pn**	**05 08 32.0**	**-0.6**
VIS	**Vishakhapatnam**	**12.84**	**305**	*i* P	**Pn**	**05 09 09.4**	**-1.8**
VIS				*e*P		05 09 10.1	
VIS				*i* S	**Sn**	**05 11 23.5**	**-10**
SHL	**Shillong**	**15.09**	**351**	*ex*	**Pn**	**05 09 32.9**	**-8.9**
BOK	**Bokaro**	**15.43**	**329**	*e*P	**Pn**	**05 09 47.7**	**+1.4**
BOK				AMb	AMB	05 10 01.1	
	comp=Z,95nm,1.5s						
KMI	**Kunming**	**16.50**	**28**	P	**Pn**	**05 10 05.5**	**+5.4**
KMI				AP	pP	05 10 11.9	+2.5
KMI				XP	sP	05 10 15.7	+3.1
KMI				PP		05 10 22.4	
KMI				S	**Sn**	**05 13 16.4**	**+14**
KMI				XS	sS	05 13 30.2	+5.5
KMI				AMB	AMB		
	comp=Z,41nm,1.2s						
KMI				AMB	AMB		
	comp=Z,352nm,4.2s						
KMI				LR	LR		
	comp=N,2μm,14.3s						
KMI				LR	LR		
	comp=E,778nm,11.0s						
KMI				LR	LR		
	comp=Z,1μm,14.3s						
HYB	**Hyderabad**	**16.77**	**296**	*i* P	**Pn**	**05 10 05.0**	**+1.5**
	comp=Z,50nm,1.0s						
HYB				*e*S	**Sn**	**05 13 11.0**	**+1.9**
HYB	**Hyderabad**	**16.77**	**296**	*e*P	**Pn**	**05 10 07.0**	**+3.5**
	comp=Z,50nm,1.0s						
HYB				*e*S	**Sn**	**05 13 11.0**	**+1.9**
HYB	**Hyderabad**	**16.77**	**296**	*e*P	**Pn**	**05 10 07.0**	**+3.5**
HYB				*e*S	**Sn**	**05 13 11.0**	**+1.9**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
QIZ	**Qiongzhong**	**17.14**	**59**	P	**Pn**	**05 10 14.6**	**+6.4**
QIZ				AMB	AMB		
	comp=Z,16nm,1.3s						
QIZ				LR	LR		
	comp=N,2μm,10.0s						
QIZ				LR	LR		
	comp=Z,2μm,10.4s						
NGP	**Nagpur**	**18.08**	**307**	⇓*e*P	**Pn**	**05 10 21.7**	**+2.0**
NGP				*e*S	**Sn**	**05 13 40.8**	**+0.1**
JBP	**Jabalpur**	**18.58**	**314**	*e*P	**Pn**	**05 10 27.3**	**+1.5**
JBP				*ex*	x	05 10 34.3	
	comp=Z,56nm,1.4s						
JBP				*ex*	x	05 13 59.6	
JIRN	**Jiri**	**18.65**	**337**	*e*P	**Pn**	**05 10 26.9**	**+0.2**
	comp=Z,304nm,1.2s						
PKI	**Pulchoki**	**18.88**	**335**	*e*P	**Pn**	**05 10 29.7**	**+0.2**
	comp=Z,423nm,1.2s						
PKI	**Pulchoki**	**18.88**	**335**	*e*P	**Pn**	**05 10 29.7**	**+0.2**
PKI				pmax	pmax		
	comp=Z,212nm,1.2s						
GUN	**Gumba**	**18.99**	**336**	*e*P	**Pn**	**05 10 30.8**	**-0.1**
	comp=Z,249nm,1.0s						
DMN	**Daman**	**19.05**	**334**	*e*P	**Pn**	**05 10 32.0**	**+0.5**
	comp=Z,221nm,1.2s						
KKN	**Kakani**	**19.13**	**335**	*e*P	**Pn**	**05 10 31.0**	**-1.5**
LSA	**Lhasa**	**19.25**	**351**	P	**Pn**	**05 10 34.0**	**0.0**
LSA	**Lhasa**	**19.25**	**351**	*e*P	**Pn**	**05 10 34.1**	**+0.1**
	comp=Z,69nm,1.0s						
LSA	**Lhasa**	**19.25**	**351**	*e*P	**Pn**	**05 10 34.1**	**+0.1**
LSA				pmax	pmax		
	comp=Z,69nm,1.0s						
GKN	**Gorkha**	**19.59**	**334**	*e*P	**Pn**	**05 10 37.2**	**-0.8**
GYA	**Guiyang**	**19.60**	**35**	⇑*i*P	**Pn**	**05 10 39.1**	**+0.9**
GYA				AP	pP	05 10 44.8	+1.2
GYA				PP		05 10 59.7	
GYA				AMB	AMB		
	comp=Z,20nm,1.2s						
GYA				AMB	AMB		
	comp=Z,170nm,7.4s						
GYA				LR	LR		
	comp=N,1μm,14.9s						
GYA				LR	LR		
	comp=E,1μm,11.0s						
GYA				LR	LR		
	comp=Z,1μm,12.8s						
KOLN	**Koldanda**	**19.87**	**331**	*e*P	**Pn**	**05 10 40.1**	**-1.2**
BHPL	**Bhopal**	**20.49**	**310**	*e*P	**P**	**05 10 46.8**	**+0.4**
BHPL				AMb	AMB	05 10 56.8	
	comp=Z,98nm,1.3s						
KAD	**Karad**	**20.69**	**291**	*e*P	**P**	**05 10 49.9**	**+1.4**
KAD				AMb	AMB	05 11 00.3	
	comp=Z,97nm,2.0s						
CD2	**Chengdu**	**22.02**	**22**	P	**P**	**05 11 04.5**	**+1.6**
CD2				XP	sP	05 11 14.9	+1.8
CD2				PP		05 11 31.4	
CD2				S	**S**	**05 15 03.6**	**-1.0**
CD2				SS		05 15 42.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.6						
CD2				AMB	AMB		
	comp=Z,280nm,6.6s						
CD2				LR	LR		
	comp=E,610nm,11.6s						
CD2				LR	LR		
	comp=Z,550nm,9.6s						
BOM	**Bombay**	**22.40**	**294**	*e*P	**P**	**05 11 08.7**	**+1.8**
BOM				AMb	AMB	05 11 16.2	
	comp=Z,109nm,0.9s,mb5.3						
ENH	**Enshi**	**24.12**	**34**	*e*P	**P**	**05 11 23.4**	**-0.7**
	comp=Z,83nm,1.1s,mb5.1						
NDI	**New Delhi**	**24.13**	**321**	*e*P	**P**	**05 11 24.8**	**+0.6**
NDI				AMb	AMB	05 11 33.9	
	comp=Z,204nm,1.3s,mb5.4						
AJM	**Ajmer**	**24.43**	**313**	*e*P	**P**	**05 11 28.3**	**+1.3**
AJM				AMb	AMB	05 11 38.7	
	comp=Z,74nm,1.4s,mb4.9						
SMLA	**Simla**	**25.93**	**325**	*e*P	**P**	**05 11 41.8**	**+1.2**
LZH	**Lanzhou**	**26.80**	**17**	⇑P	**P**	**05 11 51.5**	**+3.1**

LZH AP pP 05 12 01.1 +5.2
LZH XP sP 05 12 04.9 +5.9
LZH PP 05 12 37.5
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,185nm,4.8s
LZH LR LR
comp=E,903nm,10.3s
LZH LR LR
comp=Z,2μm,13.2s,MS4.8
XAN Xi'an 26.88 27 P P 05 11 48.2 -1.0
XAN S **S 05 16 19.5 -4.8**
XAN AMB AMB
comp=Z,9.0nm,1.3s,mb4.1
XAN LR LR
comp=N,494nm,10.2s,MS4.6
XAN LR LR
comp=E,681nm,10.9s,MS4.6
XAN LR LR
comp=Z,674nm,12.0s,MS4.4
GTA Gaotai 29.11 9 eP P 05 12 10.6 +1.5
GTA AP pP 05 12 18.4 +1.8
GTA XP sP 05 12 22.5 +2.9
GTA PP PP 05 13 07.5 -7.5
GTA AMB AMB
comp=Z,10.0nm,1.3s,mb4.4
GTA AMB AMB
comp=Z,265nm,6.5s
GTA LR LR
comp=N,396nm,19.8s
GTA LR LR
comp=E,488nm,12.6s
GTA LR LR
comp=Z,402nm,19.8s,MS4.0
SSE Sheshan 32.17 47 eP P 05 12 36.6 +0.6
SSE PP PP 05 13 49.1 +0.2
SSE PCP PcP 05 15 27.0 +2.5
SSE S **S 05 17 47.0 -0.3**
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,237nm,3.9s
SSE LR LR
comp=N,261nm,10.1s,MS4.6
SSE LR LR
comp=E,629nm,10.1s,MS4.6
SSE LR LR
comp=Z,769nm,8.8s
KSH Kashi 33.14 333 eP P 05 12 45.5 +1.0
KSH eAP pP 05 12 52.1 +0.1
KSH eXP sP 05 12 55.6 +0.5
KSH PP PP 05 13 54.4 -5.2
KSH PCP PcP 05 15 28.7 +1.5
KSH S **S 05 18 00.7 -1.7**
KSH SCP ScP 05 19 10.1 +0.3
KSH PCS PcS 05 19 12.9 +0.2
KSH SS SS 05 20 00.8 -25
KSH SCS ScS 05 23 08.5 -1.8
KSH AMB AMB
comp=Z,20nm,0.3s,mb5.5
KSH AMB AMB
comp=Z,273nm,6.8s
KSH LR LR
comp=N,497nm,13.2s
KSH LR LR
comp=E,520nm,6.7s
KSH LR LR
comp=Z,917nm,23.8s
WMQ Urumqi 33.62 351 P P 05 12 50.1 +1.4
WMQ AP pP 05 12 55.9 -0.3
WMQ PP PP 05 14 02.7 -2.2
WMQ AMB AMB
comp=Z,27nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,157nm,4.2s
WMQ LR LR
comp=N,1μm,26.0s,MS4.7
WMQ LR LR
comp=E,1μm,24.0s,MS4.7
WMQ LR LR
comp=Z,2μm,24.0s,MS4.6
HHC Hu-ho-hao-te 33.75 24 eP P 05 12 52.4 +2.5
HHC AP pP 05 12 58.8 +1.4
HHC XP sP 05 13 01.5 +1.0
HHC PP PP 05 14 05.7 -0.8
HHC PCP PcP 05 15 31.5 +2.5
HHC S **S 05 18 14.9 +3.0**
HHC SS SS 05 20 20.9 -17
HHC SCS ScS 05 23 13.4 -0.1
HHC AMB AMB
comp=Z,16nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,407nm,8.6s
HHC LR LR
comp=N,727nm,11.2s,MS4.7
HHC LR LR
comp=E,558nm,13.3s,MS4.7
HHC LR LR
comp=Z,520nm,11.4s,MS4.5
BJI Beijing 35.14 30 P P 05 13 04.7 +2.8
BJI S **S 05 18 29.5 -3.8**
BJI AMB AMB
comp=Z,13nm,1.3s,mb4.7
BJI LR LR
comp=N,492nm,18.8s,MS4.5
BJI LR LR
comp=E,532nm,14.7s,MS4.5
BJI LR LR
comp=Z,431nm,20.6s
ULHL Ulahol 35.31 336 P P 05 13 04.4 +1.1
SNR=7.3
KZA Kyzart 35.57 335 P P 05 13 06.2 +0.7
SNR=8.3
JOW Kunigami 35.80 58 LR LR 05 28 28.2
comp=Z,257nm,21.2s,MS4.0,baz=298,slow=37
UCH Uchtor 36.00 335 P P 05 13 05.8 -3.5
SNR=6.2
AML Almayashu 36.27 334 P P 05 13 12.1 +0.5
SNR=20
AAK Ala-Archa 36.34 335 P P 05 13 09.1 -3.1
SNR=7.9
AAK Ala-Archa 36.34 335 eP P 05 13 11.2 -1.0
comp=Z,30nm,1.4s,mb5.0
AAK Ala-Archa 36.34 335 *d iP* **P 05 13 11.4 -0.8**
AAK pmax pmax
comp=Z,20nm,1.7s,mb4.8
FRU Bishkek 36.45 335 eP P 05 13 16.0 +2.8
JMDO Jabal Madar 36.59 293 P P 05 13 16.5 +2.1
EKS2 Erkin-Say 36.66 334 P P 05 13 15.3 +0.4
SNR=9.3
SMDO Samad 36.80 294 P P 05 13 18.7 +2.6
SNR=5.2
USP Ospenovka 36.86 336 P P 05 13 17.8 +1.1
SNR=7.3
BSY Bisya 37.49 294 P P 05 13 24.8 +2.8
SNR=10
MK31 Makanchi Array 37.52 346 *i P* **P 05 13 21.8 -0.4**
MK31 pmax pmax
comp=Z,21nm,1.0s,mb4.8
MKAR Makanchi Array 37.52 346 P P 05 13 22.0 -0.2
comp=Z,5.2nm,0.7s,mb4.4,baz=164,slow=8.0,SNR=27
MKAR LR LR 05 32 52.3
comp=Z,386nm,19.7s,MS4.2,baz=123,slow=43
MKAR Makanchi Array 37.52 346 P P 05 13 22.0 -0.2
MKAR LR LR 05 32 52.3
KK31 Karatay Array 38.48 332 *i P* **P 05 13 29.9 -0.4**
KK31 pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
KKAR Karatay Array 38.48 332 *i P* **P 05 13 29.9 -0.4**
KKAR pmax pmax
comp=Z,11nm,1.1s,mb4.5
SONM Songino Array 38.49 13 P P 05 13 30.9 +0.5
comp=Z,8.6nm,1.1s,mb4.4,baz=193,slow=6.1,SNR=21
SONM LR LR 05 31 01.5
comp=Z,645nm,19.5s,MS4.5,baz=203,slow=39
ULN Ulaanbaatar 38.66 14 eP P 05 13 32.2 +0.4
comp=Z,20nm,1.5s,mb4.6
ULN Ulaanbaatar 38.66 14 eP P 05 13 32.2 +0.3
ULN pmax pmax
comp=Z,20nm,1.5s,mb4.6
ASHO Ashiyiah 38.96 296 ⇑P **P 05 13 37.3 +2.9**
SNR=6.9
WHFO Wadi Hawf 39.95 285 ⇓P **P 05 13 44.1 +1.5**
SNR=10
MBWA Marble Bar 40.20 142 *eP* **P 05 13 44.5 -0.2**
comp=Z,33nm,1.4s,mb4.9
MBWA *e*pP pP 05 13 52.3 0.0
SNY Shenyang 40.30 34 ⇑P **P 05 13 46.7 +1.2**
SNY AP pP 05 13 54.5 +1.4
SNY XP sP 05 13 57.2 +1.0
SNY AMB AMB
comp=Z,20nm,2.0s,mb4.5
SNY AMB AMB
comp=Z,446nm,8.8s
SNY LR LR
comp=N,507nm,14.5s,MS4.6
SNY LR LR
comp=E,396nm,15.5s,MS4.6
SNY LR LR
comp=Z,493nm,19.8s,MS4.4
JNU Nakatsue 40.32 50 LR LR 05 32 45.0
comp=Z,412nm,18.1s,MS4.3,baz=179,slow=40
ZAK Zakamensk 40.35 9 *eP* **P 05 13 46.5 +0.5**
ZAK *e* 05 15 26.5
ZAK pmax pmax
comp=Z,9.0nm,2.0s,mb4.2
ZAK pmax pmax
comp=Z,10.0nm,2.0s,mb4.2
FITZ Fitzroy Crossi 42.02 132 *eP* **P 05 14 00.0 +0.4**
comp=Z,15nm,0.9s,mb4.6
KURK Kurchatov 42.06 345 *eP* **P 05 13 59.5 -0.5**
comp=Z,40nm,1.4s,mb4.8
KURK *e*pP pP 05 14 06.6 -1.0
KURK Kurchatov 42.06 345 *eP* **P 05 13 59.5 -0.5**
KURK *e**PP pP 05 14 06.6 -1.0
KURK pmax pmax
comp=Z,40nm,1.4s,mb4.9
CN2 Changchun 42.64 33 *eP* **P 05 14 05.9 +1.2**
CN2 *e*AP pP 05 14 12.3 -0.1
CN2 PCP PcP 05 15 59.8 +3.3
CN2 *e*S **S 05 20 31.7 +5.4**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,14.0s,MS4.7
CN2 LR LR
comp=E,400nm,14.0s,MS4.7
CN2 LR LR
comp=Z,300nm,13.0s,MS4.4
ZAL Zalesovo 43.91 352 P **P 05 14 15.1 +0.2**
comp=Z,3.2nm,0.7s,mb4.2,baz=297,slow=10,SNR=21
ZAL LR LR 05 34 44.3
comp=Z,270nm,21.1s,MS4.1,baz=284,slow=39
HIA Hailar 43.96 24 *eP* **P 05 14 15.9 +0.5**
comp=Z,30nm,1.4s,mb4.8
HIA Hailar 43.96 24 *eP* **P 05 14 15.9 +0.5**
HIA pmax pmax
comp=Z,30nm,1.4s
NVS Novosibirsk 45.02 351 *eP* **P 05 14 23.1 -0.7**
NVS pmax pmax
comp=Z,55nm,2.0s,mb5.0
NVS pmax pmax
comp=N,59nm,2.1s
MDJ Mudanjiang 45.46 35 P **P 05 14 25.7 -1.6**
MDJ AMB AMB
comp=Z,16nm,2.0s,mb4.5
MDJ AMB AMB
comp=Z,247nm,3.4s
BVA0 Borovoye Array 46.52 340 *i* P **P 05 14 34.9 -0.8**
BVA0 pmax pmax
comp=Z,3.0nm,1.5s,mb4.0
BVAR Borovoye Array 46.52 340 P **P 05 14 33.9 -1.7**
comp=Z,4.1nm,0.9s,mb4.3,baz=145,slow=8.1,SNR=16
BVAR PcP PcP 05 16 10.0 +0.2
comp=Z,2.2nm,0.6s,baz=184,slow=6.5,SNR=5.1
BRVK Borovoye 46.58 340 *eP* **P 05 14 34.9 -1.3**
comp=Z,6.7nm,1.1s,mb4.5
BRVK *e*pP pP 05 14 41.6 -2.3
BRVK Borovoye 46.58 340 *eP* **P 05 14 34.9 -1.3**
BRVK *e**PP pP 05 14 41.6 -2.3
BRVK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ZRNK Zerenda 46.93 339 *eP* **P 05 14 37.4 -1.5**
comp=Z,4.1nm,0.8s,mb4.4
ZRNK *e*pP pP 05 14 44.4 -2.2
ZRNK Zerenda 46.93 339 *eP* **P 05 14 37.4 -1.5**
ZRNK *e**PP pP 05 14 44.4 -2.2
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MJAR Matsushiro Arr 47.21 49 P **P 05 14 42.5 +1.4**
comp=Z,0.4nm,0.3s,mb3.8,baz=268,slow=6.2,SNR=3.9
MJAR PcP PcP 05 16 13.2 +1.0
comp=Z,3.5nm,0.8s,baz=248,slow=3.7,SNR=7.6
AB31 Akbulak array 47.99 330 P **P 05 14 46.1 -1.0**
AB31 pmax pmax
comp=Z,14nm,1.0s,mb5.0
NWAO Narrogin (SRO) 48.46 154 LR LR 05 36 16.2
comp=Z,445nm,19.5s,MS4.5,baz=115,slow=37
GUMO Guam 49.41 81 LR LR 05 37 00.8
comp=Z,132nm,19.7s,MS3.9,baz=265,slow=37
KLR Kul'dur 49.46 32 *eP* **P 05 14 58.2 -0.2**
BOD Bodaibo 49.48 14 *eP* **P 05 14 58.4 -0.1**
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
WRA Warramunga Arr 49.69 128 P **P 05 15 01.0 +0.9**
comp=Z,6.3nm,0.5s,mb4.9,baz=305,slow=9.0,SNR=89
WRAB Tennant Creek 49.69 128 *eP* **P 05 15 00.8 +0.7**
comp=Z,25nm,0.6s,mb5.4
WRAB *e*pP pP 05 15 07.3 -0.6
WRAB Tennant Creek 49.69 128 *eP* **P 05 15 00.8 +0.6**
WRAB *e**PP pP 05 15 07.3 -0.6
WRAB pmax pmax
comp=Z,25nm,0.6s,mb5.4
WB2 Warramunga Arr 49.70 128 *eP* **P 05 15 01.1 +0.9**
WB2 *i* pP pP 05 15 07.7 -0.3
WB2 *i* sP sP 05 15 12.4 +1.4
AKTK Aktyubinsk 49.71 330 P **P 05 14 58.9 -1.4**
AKTK LR LR 05 40 40.3
AKTO Aktyubinsk 49.71 330 P **P 05 14 58.9 -1.4**
comp=Z,3.7nm,1.0s,mb4.4,baz=126,slow=8.5,SNR=6.9
AKTO LR LR 05 40 40.3
comp=Z,286nm,18.6s,MS4.3,baz=65,slow=42
ATD Arta Tunnel 50.52 276 LR LR 05 34 18.8
comp=Z,182nm,18.9s,MS4.1,baz=55,slow=34
ASAR Alice Springs 51.51 132 P **P 05 15 14.8 +0.9**
comp=Z,7.2nm,0.8s,mb4.6,baz=305,slow=6.8,SNR=47
ASAR PcP PcP 05 16 29.1 +1.3
comp=Z,2.1nm,0.7s,baz=314,slow=3.8,SNR=4.3
GNI Garni 52.74 313 *eP* **P 05 15 23.5 +0.4**
comp=Z,48nm,1.1s,mb5.3
GNI Garni 52.74 313 ⇑*iP* **P 05 15 22.7 -0.4**
GNI pmax pmax
comp=Z,37nm,1.3s
ASAJ Asahikawa 53.25 42 LR LR 05 38 35.1
comp=Z,179nm,20.5s,MS4.1,baz=30,slow=36
ARU Arti 53.51 336 ⇓*iP* **P 05 15 28.6 -0.1**
ARU *e* 05 17 28.8
ARU *e*S **S 05 23 00.6 +0.6**
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
ARU MLR MLR
comp=Z,900nm,21.0s,MS4.8
ARU MLR MLR
comp=N,500nm,19.0s,MS4.7
ARU MLR MLR
comp=E,400nm,20.0s,MS4.7
ZEI Tsey 54.25 316 *i P* **P 05 15 31.3 -2.8**
ZEI *i* *PP pP 05 15 43.1 +1.2
ZEI pmax pmax
comp=Z,16nm,1.1s,mb4.9
YSS Yuzh-Sakhalins 54.53 39 P **P 05 15 38.3 +2.1**
OPO Ambohidratompo 54.82 238 P **P 05 15 39.2 +0.9**
comp=Z,1.7nm,0.5s,mb4.4,baz=81,slow=5.2,SNR=6.6
KIV Kislovodsk 55.49 317 *eP* **P 05 15 42.7 -0.4**
comp=Z,32nm,0.9s,mb5.3
KIV Kislovodsk 55.49 317 *αeP* **P 05 15 43.1 0.0**
KIV *e* 05 15 53.2
KIV *e* 05 15 57.1
KIV pmax pmax
comp=Z,38nm,1.3s,mb5.3
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.2
GOF Gofitskoye 55.66 318 *eP* **P 05 15 43.8 -0.5**
SOKR Solikamsk 56.38 338 ⇓*iP* **P 05 15 50.5 +1.1**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOKR MLR MLR
comp=Z,1μm,36.0s,MS4.7
MALT Malatya 56.92 309 *eP* **P 05 15 52.0 -1.3**
comp=Z,7.9nm,1.1s,mb4.7
MALT Malatya 56.92 309 *eP* **P 05 15 52.0 -1.3**
MALT pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
YAK Yakutsk 57.37 19 ⇑*iP* **P 05 15 56.2 -0.3**
YAK pmax pmax
comp=Z,48nm,1.3s,mb5.4
KMBO Kilima Mbogo 57.98 262 P **P 05 16 01.1 +0.3**
comp=Z,0.7nm,0.4s,mb4.0,baz=70,slow=19,SNR=4.9
KMBO LR LR 05 36 15.8
comp=Z,133nm,19.8s,MS4.0,baz=91,slow=31
CTA Charters Tower 59.46 121 *eP* **P 05 16 12.8 +1.7**
comp=Z,8.0nm,1.1s,mb4.7
CTA Charters Tower 59.46 121 P **P 05 16 12.8 +1.6**
comp=Z,3.0nm,0.3s,mb4.7,baz=318,slow=16,SNR=3.5
CTA LR LR 05 44 15.9
comp=Z,195nm,21.6s,MS4.2,baz=126,slow=38
CTA Charters Tower 59.46 121 *eP* **P 05 16 12.8 +1.7**
CTA pmax pmax
comp=Z,8.0nm,1.1s
BR131 Keskin Array S 60.86 310 *eP* **P 05 16 18.3 -2.4**
comp=Z,5.0nm,0.8s,mb4.7
BRTR Keskin Array B 60.86 310 P **P 05 16 18.6 -2.1**
comp=Z,4.1nm,0.8s,mb4.6,baz=129,slow=6.4,SNR=15
STKA Stephens Creek 61.83 135 *eP* **P 05 16 26.4 -0.8**
comp=Z,6.7nm,1.1s,mb4.7
STKA Stephens Creek 61.83 135 P **P 05 16 26.4 -0.8**
comp=Z,12nm,1.1s,mb4.9,baz=308,slow=8.3,SNR=8.0
STKA LR LR 05 42 47.3
comp=Z,494nm,20.8s,MS4.7,baz=110,slow=36
OBN Obninsk 63.23 327 ⇓P **P 05 16 35.0 -1.6**
OBN *e* pP 05 16 42.3 -2.2
OBN *e* 05 16 51.7
OBN pmax pmax
comp=Z,18nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.7
KLMR Klimovskoe 64.14 334 *eP* **P 05 16 40.9 -1.6**
KLMR pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
MA2 Magadan 64.28 28 *eP* **P 05 16 43.2 -0.3**
comp=Z,26nm,1.2s,mb5.1
MA2 Magadan 64.28 28 ⇑*iP* **P 05 16 43.4 -0.1**
MA2 pmax pmax
comp=Z,24nm,1.3s,mb5.1
TIXI Tiksi 64.55 11 *eP* **P 05 16 43.1 -2.1**
TIXI *e* 05 16 57.2
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TIXI MLR MLR
comp=Z,186nm,15.0s,MS4.4
AKASG Malin Array Be 66.19 321 P **P 05 16 52.8 -3.1**
comp=Z,0.4nm,0.4s,mb3.8,baz=96,slow=5.2,SNR=4.8
SEY Seymchan 66.39 25 *eP* **P 05 16 57.0 -0.2**
SEY pmax pmax
comp=Z,15nm,1.4s,mb4.8
JOF Joensuu 68.52 334 *ep* **P 05 17 08.3 -2.3**
LVV L'vov 69.31 319 *eP* **P 05 17 18.8 +3.3**
APA Apatity 69.41 339 *eP* **P 05 17 16.0 -0.2**
APA MLR MLR
comp=Z,1μm,18.0s,MS5.1
LSZ Lusaka 70.40 250 *eP* **P 05 17 22.2 -0.1**
comp=Z,4.5nm,0.6s,mb4.6
LSZ Lusaka 70.40 250 *eP* **P 05 17 22.2 0.0**
LSZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
FINES FINESS Array B 70.44 332 P **P 05 17 20.8 -1.7**
comp=Z,1.9nm,0.6s,mb4.2,baz=96,slow=6.6,SNR=9.1
FINES LR LR 05 55 02.7
comp=Z,183nm,20.0s,MS4.3,baz=338,slow=42
KAF Kangasniemi 70.50 332 *ep* **P 05 17 20.2 -2.7**
CRVS Cervenica-Dubn 70.86 318 *eS*P sP 05 17 37.0 +0.9
STHS Stebnicka Huta 71.06 319 *eP* **P 05 17 26.0 -0.3**
STHS *e* 05 17 38.1
KECS Kecovo 71.47 318 *eP* **P 05 17 27.4 -1.3**
OJC Ojcow 72.07 319 *eP* **P 05 17 30.9 -1.4**
ARCES ARCESS Array B 72.81 340 P **P 05 17 35.9 -0.8**
comp=Z,2.4nm,0.7s,mb4.2,baz=91,slow=6.2,SNR=13
ARCES LR LR 05 52 17.5
comp=Z,679nm,21.4s,MS4.9,baz=110,slow=38
ARCES ARCESS Array B 72.81 340 P **P 05 17 35.9 -0.8**
ARCES LR LR 05 52 17.5
BILL Bilibino 73.50 22 *eP* **P 05 17 40.4 -0.4**
comp=Z,17nm,1.4s,mb4.8
BILL Bilibino 73.50 22 ⇑*iP* **P 05 17 40.6 -0.3**
BILL pmax pmax
comp=Z,13nm,1.3s,mb4.7
GERES GERESS Array B 75.97 318 P **P 05 17 53.6 -1.5**
comp=Z,1.4nm,0.6s,mb4.0,baz=91,slow=5.5,SNR=7.6
KHC Kasperske Hory 76.06 318 ⇑*iP* **P 05 17 54.3 -1.3**
CLL Collm 76.42 320 *eP* **P 05 17 58.0 +0.3**
CLL *e*pP pP 05 18 04.0 -1.8
BOSA Boshof 77.22 237 P **P 05 18 01.6 -0.6**
comp=Z,4.0nm,0.7s,mb4.5,baz=48,slow=5.6,SNR=8.1
BOSA LR LR 05 51 27.2
comp=Z,114nm,19.4s,MS4.2,baz=348,slow=35
NOA NORSAR Array B 77.50 330 P **P 05 18 01.2 -2.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=93,slow=5.8,SNR=4.1
NOA LR LR 05 55 21.2
comp=Z,208nm,21.9s,MS4.4,baz=75,slow=38
NOA NORSAR Array B 77.50 330 P **P 05 18 01.2 -2.6**
NOA LR LR 05 55 21.2
GRF Grafenberg Arr 77.59 319 *eP* **P 05 18 09.5 +5.2**
GRF pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
LPG La Plagne 80.88 315 *eP* **P 05 18 21.8 -0.5**
comp=Z,14nm,0.9s,mb4.6
LPG La Plagne 80.88 315 *eP* **P 05 18 21.8 -0.5**
comp=Z,6.9nm,0.9s,mb4.6
LPG La Plagne 80.88 315 *eP* **P 05 18 21.8 -0.5**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MAW Mawson 81.22 192 LR LR 05 48 15.5
comp=Z,323nm,18.3s,MS4.7,baz=117,slow=31
SYO Syowa Base 88.05 197 ⇑*eP* **P 05 18 55.9 -2.6**
ESDC Sonseca Array 89.65 310 P **P 05 19 05.5 -0.5**
comp=Z,0.9nm,0.6s,mb4.3,baz=56,slow=4.4,SNR=4.4
TORD Torodi Ar. Bea 90.20 283 P **P 05 19 08.3 -0.3**
comp=Z,1.4nm,0.7s,mb4.4,baz=82,slow=3.7,SNR=16
ILAR Eielson Array 92.17 22 P **P 05 19 16.3 -1.4**
comp=Z,1.2nm,0.6s,mb4.4,baz=285,slow=4.2,SNR=26
INK Inuvik 94.34 16 P **P 05 19 27.2 -0.5**
comp=Z,1.7nm,0.5s,mb4.7,baz=324,slow=5.2,SNR=15
RES Resolute Bay 94.70 2 *eP* **P 05 19 29.0 -0.4**
comp=Z,5.7nm,1.2s,mb4.9
RES Resolute Bay 94.70 2 *eP* **P 05 19 29.0 -0.4**
RES pmax pmax
comp=Z,6.0nm,1.2s,mb4.9
YKA Yellowknife Ar 103.75 13 PP PP 05 24 23.6 -3.2
comp=Z,0.1nm,0.4s,baz=326,slow=6.3,SNR=4.2
YKA PKKPbc PKKPbc 05 35 59.4 -1.6
comp=Z,0.3nm,0.6s,baz=148,slow=3.5,SNR=6.5
NVAR Mina Array Bea 122.48 30 PKP PKPdf 05 25 05.0 +1.5
comp=Z,0.7nm,0.7s,baz=354,slow=2.7,SNR=4.4
BW06 Boulder Array 122.57 21 *e*PKPdf PKPdf 05 25 03.4 -0.3
PDAR Pinedale Array 122.57 21 PKP PKPdf 05 25 03.2 -0.4
comp=Z,1.0nm,1.0s,baz=198,slow=0.5,SNR=4.8
DUG Dugway 123.55 25 *e*PKPdf PKPdf 05 25 06.2 +0.6
SMCO Snowmass 126.66 21 PKPdf PKPdf 05 25 12.3 +0.8
TRQA Tornquist 145.38 214 *e*PKPbc PKPbc 05 25 45.6 -0.4
PLCA Paso Flores 147.15 201 PKPbc PKPbc 05 25 51.8 +0.6
comp=Z,14nm,1.0s,baz=161,slow=6.5,SNR=23
PLCA Paso Flores 147.15 201 *e*PKP2 PKPab 05 25 51.6 -1.3
CPUP Villa Florida 149.02 236 PKPbc PKPbc 05 25 57.7 +1.5
comp=Z,1.6nm,0.7s,baz=98,slow=7.1,SNR=2.9
SAML Samuel 157.82 272 *e*PKPab PKPab 05 26 37.6 +0.1
LPAZ La Paz 162.06 250 *e*PKPdf PKPdf 05 26 10.8 +1.3
LPAZ *e*PKPab PKPab 05 26 56.4 +0.5

*BJI **10** 05:09:33.7, 981N×9371E, h10km, mB5.2, mb4.4, Ms4.9, Msz4.7*
*IDC **10** 05:09:39.9±0.7, 1051N×9424E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/22, mbtmp4.0/10, Error ellipse: s-maj=37.8km s-min=15.9km az=57.0*
*ISCJB **10** 05:09:40.7±0.6, 1046N±008×942E±0.1, h21km, mb4.2/18, MS4.9/1, Error ellipse: s-maj=17.1km s-min=9.9km az=122.1*
*NEIC **10** 05:09:41.1±0.5, 1053N×9421E, h10km, mb4.1/5, Error ellipse: s-maj=21.5km s-min=8.7km az=61.0*
ISC 10 05:09:43.3±0.6, 1051N±008×942E±01, h22km, h22km±.9km:pP-P, n29, σ0§93/29, mb4.2/18, MS4.9/1, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HYB	**Hyderabad**	**16.63**	**296**	*i* P		**Pn**	**05 13 40.0**	**+5.0**
HYB	**Hyderabad**	**16.63**	**296**	*e*P		**Pn**	**05 13 40.0**	**+5.0**
HYB				*e*S		**Sn**	**05 16 45.0**	**+6.0**
KMI	**Kunming**	**16.65**	**28**	P		**Pn**	**05 13 40.8**	**+5.6**
KMI				AP		pP	05 13 47.1	+3.5
KMI				AMB		AMB		
	comp=Z,18nm,1.2s							
LSA	**Lhasa**	**19.30**	**352**	P		**Pn**	**05 14 07.8**	**+0.1**
LSA	**Lhasa**	**19.30**	**352**	*e*P		**Pn**	**05 14 07.2**	**-0.6**
GYA	**Guiyang**	**19.77**	**35⇓**	*i* P		**Pn**	**05 14 19.8**	**+6.4**
GYA				AMB		AMB		
	comp=Z,20nm,1.3s							
ENH	**Enshi**	**24.29**	**34**	*e*P		**P**	**05 14 58.9**	**-0.1**
LZH	**Lanzhou**	**26.93**	**17**	*e*P		**P**	**05 15 28.3**	**+5.4**
LZH				AP		pP	05 15 33.9	+4.4
LZH				XP		sP	05 15 38.1	+5.8
LZH				AMB		AMB		
	comp=Z,29nm,1.5s,mb4.6							
GTA	**Gaotai**	**29.21**	**9**	*e*P		**P**	**05 15 45.5**	**+2.2**
GTA				AP		pP	05 15 51.8	+1.9
GTA				XP		sP	05 15 55.4	+2.7
GTA				AMB		AMB		
	comp=Z,2.0nm,0.7s,mb4.0							
NJ2	**Nanjing**	**31.29**	**43**	*e*P		**P**	**05 16 03.1**	**+1.5**
NJ2				AP		pP	05 16 08.9	+0.6
NJ2				XP		sP	05 16 13.7	+2.6
NJ2				PP		PP	05 17 05.3	-7.1
NJ2				S		**S**	**05 21 06.0**	**-1.1**
NJ2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,810nm,4.1s							
NJ2				LR		LR		
	comp=N,2μm,23.5s,MS4.9							
NJ2				LR		LR		
	comp=E,3μm,22.6s,MS4.9							
NJ2				LR		LR		
	comp=Z,2μm,13.5s							
AAK	**Ala-Archa**	**36.32**	**335**	*e*P		**P**	**05 16 44.7**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.1							
MKAR	**Makanchi Array**	**37.54**	**347**	P		**P**	**05 16 55.5**	**-0.2**
	comp=Z,1.2nm,0.7s,mb3.7,baz=164,slow=7.7,SNR=4.4							
SONM	**Songino Array**	**38.60**	**13**	P		**P**	**05 17 04.3**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.6,baz=201,slow=7.7,SNR=2.6							
ULN	**Ulaanbaatar**	**38.78**	**14**	*e*P		**P**	**05 17 05.6**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.0							
KURK	**Kurchatov**	**42.08**	**345**	*e*P		**P**	**05 17 30.7**	**-2.8**
	comp=Z,4.1nm,0.9s,mb4.1							
ZAL	**Zalesovo**	**43.95**	**352**	P		**P**	**05 17 48.7**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.9,baz=269,slow=5.6							
BVAR	**Borovoye Array**	**46.52**	**340**	P		**P**	**05 18 09.6**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=136,slow=6.2,SNR=3.1							
BVAR				PcP		PcP	05 19 43.9	+0.8
	comp=Z,1.5nm,0.9s,baz=127,slow=3.8,SNR=3.2							
ZRNK	**Zerenda**	**46.93**	**339**	*e*P		**P**	**05 18 11.5**	**-0.7**
	comp=Z,2.4nm,1.0s,mb4.1							
WRA	**Warramunga Arr**	**49.79**	**127**	P		**P**	**05 18 34.1**	**-0.2**
	comp=Z,5.9nm,0.7s,mb4.7,baz=304,slow=9.0,SNR=16							
WRAB	**Tennant Creek**	**49.80**	**127**	*e*P		**P**	**05 18 34.1**	**-0.2**
	comp=Z,7.9nm,0.7s,mb4.8							
WB2	**Warramunga Arr**	**49.80**	**127**	*e*P		**P**	**05 18 34.6**	**+0.2**
WB2				*e*pP		pP	05 18 41.7	+0.4
WB2				*e*sP		sP	05 18 46.8	+2.8
ASAR	**Alice Springs**	**51.60**	**132**	P		**P**	**05 18 48.4**	**+0.4**
	comp=Z,5.5nm,0.8s,mb4.5,baz=311,slow=7.5,SNR=14							
ASAR				PcP		PcP	05 20 02.9	+1.3
	comp=Z,1.3nm,1.1s,baz=297,slow=2.1,SNR=4.3							
BRTR	**Keskin Array B**	**60.76**	**310**	P		**P**	**05 19 52.9**	**-0.4**
	comp=Z,1.2nm,0.8s,mb4.1,baz=119,slow=7.7,SNR=3.8							
STKA	**Stephens Creek**	**61.91**	**135**	P		**P**	**05 19 59.9**	**-1.2**
	comp=Z,1.9nm,0.9s,mb4.2,baz=280,slow=8.2,SNR=3.2							
STKA	**Stephens Creek**	**61.91**	**135**	P		**P**	**05 19 59.9**	**-1.2**
GERES	**GERESS Array B**	**75.90**	**318**	P		**P**	**05 21 29.7**	**+1.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=59,slow=7.9,SNR=3.6							
TORD	**Torodi Ar. Bea**	**90.03**	**283**	P		**P**	**05 22 41.5**	**+0.4**
	comp=Z,1.3nm,0.9s,mb4.2,baz=67,slow=4.9,SNR=5.4							
YKA	**Yellowknife Ar**	**103.87**	**13**	PKKPbc		PKKPbc	05 39 32.5	-1.5
	comp=Z,0.2nm,0.8s,baz=156,slow=1.9,SNR=4.0							
PLCA	**Paso Flores**	**147.01**	**202**	PKPbc		PKPbc	05 29 25.3	+1.1
	comp=Z,5.6nm,0.9s,baz=190,slow=3.2,SNR=9.2							

IDC 10 05:23:41.6±36.0, 925S×15296E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=585.2km s-min=92.9km az=23.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.90**	**237**	P		P	05 28 26.3	+0.8
	3.1nm,0.9s,baz=63,slow=11,SNR=7.9							
ASAR	**Alice Springs**	**23.19**	**229**	P		P	05 28 49.6	-0.3
	1.2nm,1.0s,baz=59,slow=11,SNR=5.7							
STKA	**Stephens Creek**	**24.87**	**203**	P		P	05 29 06.2	+0.4
	1.7nm,0.7s,baz=32,slow=8.0,SNR=4.5							

*IDC **10** 05:27:43.6±0.5, 1062N×9424E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.3/26, mbtmp4.3/21, ML3.9/1, MS4.3/18, Ms1 4.3/18, ms1mx4.2/30, Error ellipse: s-maj=20.7km s-min=11.9km az=58.0*

*BJI **10** 05:27:43.4, 1026N×9405E, h29km, mB5.2, mb4.7, Ms4.8, Msz4.5*

*ISCJB **10** 05:27:44.7±0.3, 1048N±004×9422E±004, h22km, mb4.6/65, MS4.5/29, Error ellipse: s-maj=6.3km s-min=4.8km az=97.0*

*NEIC **10** 05:27:46.5±0.2, 1052N×9421E, mb4.7/29, Error ellipse: s-maj=7.9km s-min=4.2km az=56.0*

*MOS **10** 05:27:46.0±0.9, 1052N×9418E, h33km, mb4.8/27, Error ellipse: s-maj=12.9km s-min=5.9km az=111.6*

ISC 10 05:27:47.3±0.3, 1053N±004×9423E±004, h24km, h24km±.8km: pP-P, n145, σ1.9/12/147, mb4.6/65, MS4.5/29, 7C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PBA	**Port Blair**	**1.84**	**308**	*e*P		Px	05 28 31.7	
PBA				*e*S		Sx	05 28 57.5	
KULM	**Kulim**	**8.22**	**129**	*e*Pn		**Pn**	**05 29 43.5**	**-1.5**
KULM				*e*Sn		**Sn**	**05 31 09.3**	**-7.8**
PSI	**Prapat**	**8.98**	**148**	Pn		**Pn**	**05 29 56.8**	**+1.3**
	1.1nm,0.3s,baz=320,slow=17,SNR=3.8							
PSI				LR		LR	05 34 07.7	
	comp=Z,4μm,18.4s,baz=299,slow=42							
VIS	**Vishakhapatnam**	**12.76**	**305**	*i* P		**Pn**	**05 30 47.0**	**-0.2**
VIS				*e*P			05 30 47.2	
VIS				AMb		AMB	05 31 01.9	
	comp=Z,94nm,1.6s							
VIS				*i* S		**Sn**	**05 33 01.3**	**-7.1**
VIS				*e*S		**Sn**	**05 33 01.6**	**-6.9**
SHL	**Shillong**	**15.12**	**352**	*e*P		**Pn**	**05 31 17.9**	**-1.5**
BOK	**Bokaro**	**15.40**	**330**	*e*P		**Pn**	**05 31 23.7**	**+0.7**
BOK				AMb		AMB	05 31 41.8	
	comp=Z,38nm,1.7s							
KMI	**Kunming**	**16.61**	**28**	P		**Pn**	**05 31 40.9**	**+2.4**
KMI				AP		pP	05 31 49.0	+1.7
KMI				XP		sP	05 31 53.8	+3.5
KMI				PP			05 31 57.3	
KMI				S		**Sn**	**05 34 49.0**	**+6.7**
KMI				XS		sS	05 35 01.7	-1.8
KMI				AMB		AMB		
	comp=Z,31nm,1.8s							
KMI				AMB		AMB		
	comp=Z,357nm,3.6s							
KMI				LR		LR		
	comp=N,2μm,13.1s							
KMI				LR		LR		
	comp=E,581nm,9.6s							
KMI				LR		LR		
	comp=Z,940nm,13.1s							
HYB	**Hyderabad**	**16.68**	**296**	*i* P		**Pn**	**05 31 43.5**	**+4.2**
HYB				*e*S		**Sn**	**05 34 49.0**	**+5.2**
HYB	**Hyderabad**	**16.68**	**296**	*e*P		**Pn**	**05 31 43.5**	**+4.2**
HYB				*e*S		**Sn**	**05 34 49.0**	**+5.2**
QIZ	**Qiongzhong**	**17.29**	**59**	P		**Pn**	**05 31 49.9**	**+2.9**
QIZ				AMB		AMB		
	comp=Z,21nm,2.1s							
QIZ				LR		LR		
	comp=E,1μm,10.3s							
QIZ				LR		LR		
	comp=Z,1μm,9.8s							
QIZ	**Qiongzhong**	**17.29**	**59**	*e*P		**Pn**	**05 31 46.7**	**-0.3**
	comp=Z,112nm,2.0s							
NGP	**Nagpur**	**18.00**	**308**	*e*P		**Pn**	**05 31 58.4**	**+2.5**
NGP				AMb		AMB	05 32 01.6	
	comp=Z,23nm,1.5s							
JBP	**Jabalpur**	**18.52**	**315⇑**	*e*P		**Pn**	**05 32 03.4**	**+1.2**
JBP				*ex*		x	05 32 10.6	
	comp=Z,21nm,1.3s							
JBP				*ex*		x	05 35 58.3	
JIRN	**Jiri**	**18.64**	**337**	*e*P		**Pn**	**05 32 03.6**	**-0.1**
	comp=Z,115nm,1.1s							
PKI	**Pulchoki**	**18.88**	**335**	*e*P		**Pn**	**05 32 06.7**	**+0.2**
	comp=Z,125nm,1.1s							
PKI	**Pulchoki**	**18.88**	**335**	*e*P		**Pn**	**05 32 06.7**	**+0.2**
PKI				pmax		pmax		
	comp=Z,63nm,1.1s							
GUN	**Gumba**	**18.99**	**337**	*e*P		**Pn**	**05 32 07.8**	**-0.1**
DMN	**Daman**	**19.04**	**334**	*e*P		**Pn**	**05 32 08.6**	**+0.2**
	comp=Z,105nm,1.0s							
KKN	**Kakani**	**19.12**	**335**	*e*P		**Pn**	**05 32 09.0**	**-0.5**
LSA	**Lhasa**	**19.29**	**352**	P		**Pn**	**05 32 12.0**	**+0.5**
LSA	**Lhasa**	**19.29**	**352**	*e*P		**Pn**	**05 32 10.7**	**-0.8**
	comp=Z,37nm,1.1s							
LSA	**Lhasa**	**19.29**	**352**	*e*P		**Pn**	**05 32 10.7**	**-0.8**
LSA				pmax		pmax		
	comp=Z,37nm,1.1s							
GKN	**Gorkha**	**19.58**	**334**	*e*P		**Pn**	**05 32 14.3**	**-0.7**
	comp=Z,66nm,0.7s							
GYA	**Guiyang**	**19.73**	**35⇓**	*i* P		**Pn**	**05 32 16.6**	**-0.1**
GYA				AP		pP	05 32 21.6	0.0
GYA				XP		sP	05 32 24.9	+0.3
GYA				PP			05 32 36.4	
GYA				S		**Sn**	**05 36 02.1**	**+4.6**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.3s							
GYA				AMB		AMB		
	comp=Z,340nm,5.0s							
GYA				LR		LR		
	comp=N,1μm,13.2s							
GYA				LR		LR		
	comp=E,1μm,10.8s							
GYA				LR		LR		
	comp=Z,980nm,11.7s							
KOLN	**Koldanda**	**19.85**	**331**	*e*P		**Pn**	**05 32 17.2**	**-1.0**
	comp=Z,47nm,0.7s							
BHPL	**Bhopal**	**20.43**	**310**	*e*P		**P**	**05 32 24.4**	**+1.7**
BHPL				AMb		AMB	05 32 37.5	
	comp=Z,45nm,1.8s							
KAD	**Karad**	**20.58**	**291**	*e*P		**P**	**05 32 27.0**	**+2.6**
KAD				AMb		AMB	05 32 32.5	
	comp=Z,35nm,1.1s							
POO	**Poona**	**21.26**	**294**	*e*P		**P**	**05 32 34.0**	**+2.3**
CD2	**Chengdu**	**22.13**	**22**	P		**P**	**05 32 41.8**	**+0.8**
CD2				XP		sP	05 32 52.1	+1.5
CD2				PP			05 33 08.1	
CD2				S		**S**	**05 36 37.9**	**-5.9**
CD2				SS			05 37 19.3	
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.5							
CD2				AMB		AMB		
	comp=Z,210nm,6.4s							
CD2				LR		LR		
	comp=E,610nm,8.9s							
CD2				LR		LR		
	comp=Z,510nm,9.4s							
LGTI	**Lohaghat**	**22.91**	**327**	*e*P		**P**	**05 32 51.3**	**+1.9**
NDI	**New Delhi**	**24.09**	**321**	*e*P		**P**	**05 33 01.9**	**+1.0**
NDI				AMb		AMB	05 33 05.5	
	comp=Z,69nm,1.8s,mb4.8							
ENH	**Enshi**	**24.24**	**34**	*e*P		**P**	**05 33 02.3**	**0.0**
	comp=Z,31nm,1.0s,mb4.7							
ENH				*e*S		**S**	**05 37 22.2**	**+2.6**
AJM	**Ajmer**	**24.37**	**313**	*e*P		**P**	**05 33 05.3**	**+1.8**
AJM				AMb		AMB	05 33 10.7	
	comp=Z,40nm,1.9s,mb4.5							
SMLA	**Simla**	**25.90**	**325**	*e*P		**P**	**05 33 18.7**	**+1.3**
SMLA				AMb		AMB	05 33 28.6	
	comp=Z,87nm,0.9s,mb5.3							
LZH	**Lanzhou**	**26.90**	**17**	*e*P		**P**	**05 33 27.0**	**+0.6**
LZH				AP		pP	05 33 36.1	+2.7
LZH				XP		sP	05 33 40.2	+3.9
LZH				PP			05 34 13.2	
LZH				*e*S		**S**	**05 38 00.3**	**-1.5**
LZH				XS		sS	05 38 16.2	+2.8
LZH				SS			05 39 15.0	
LZH				AMB		AMB		
	comp=Z,68nm,1.5s,mb5.0							
LZH				AMB		AMB		
	comp=Z,187nm,4.7s							
LZH				LR		LR		
	comp=N,739nm,10.0s							
LZH				LR		LR		
	comp=Z,1μm,13.1s,MS4.7							
XAN	**Xi'an**	**27.00**	**28**	P		**P**	**05 33 24.0**	**-3.2**
XAN				AMB		AMB		
	comp=Z,4.0nm,1.1s,mb3.9							
XAN				LR		LR		
	comp=N,503nm,13.2s,MS4.5							
XAN				LR		LR		
	comp=E,692nm,13.5s,MS4.5							
XAN				LR		LR		
	comp=Z,662nm,12.1s,MS4.4							
WHN	**Wuhan**	**27.32**	**40**	*e*P		**P**	**05 33 30.2**	**0.0**
GTA	**Gaotai**	**29.19**	**9**	*e*P		**P**	**05 33 47.2**	**+0.4**
GTA				AP		pP	05 33 54.1	+0.2
GTA				XP		sP	05 33 57.4	+0.6
GTA				PP		PP	05 34 45.1	-7.8
GTA				S		**S**	**05 38 39.3**	**+1.4**
GTA				XS		sS	05 38 55.7	+6.2
GTA				SS		SS	05 40 13.2	-29
GTA				AMB		AMB		
	comp=Z,10.0nm,2.0s,mb4.2							
GTA				AMB		AMB		
	comp=Z,201nm,4.9s							
GTA				LR		LR		
	comp=N,531nm,19.0s,MS4.4							
GTA				LR		LR		
	comp=E,733nm,18.6s,MS4.4							
GTA				LR		LR		
	comp=Z,568nm,21.3s,MS4.2							
NJ2	**Nanjing**	**31.24**	**43**	*e*P		**P**	**05 34 07.6**	**+2.6**
NJ2				AP		pP	05 34 13.4	+1.4
NJ2				XP		sP	05 34 16.4	+1.5
NJ2				PP		PP	05 35 10.6	-5.0
NJ2				S		**S**	**05 39 12.0**	**+2.0**
NJ2				XS		sS	05 39 22.0	+0.3
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,130nm,4.3s							
NJ2				LR		LR		
	comp=N,2μm,18.5s,MS5.0							
NJ2				LR		LR		
	comp=E,3μm,17.6s,MS5.0							
NJ2				LR		LR		
	comp=Z,2μm,21.5s,MS4.7							
SSE	**Sheshan**	**32.30**	**47**	*e*P		**P**	**05 34 14.4**	**+0.1**
SSE				AP		pP	05 34 21.0	-0.4
SSE				XP		sP	05 34 23.1	-1.2
SSE				PP		PP	05 35 29.0	+1.6
SSE				S		**S**	**05 39 26.2**	**-0.4**
SSE				SCS		ScS	05 44 44.4	+1.1
SSE				AMB		AMB		
	comp=Z,29nm,0.6s,mb5.3							
SSE				AMB		AMB		
	comp=Z,209nm,8.5s							
SSE				LR		LR		
	comp=N,303nm,9.6s							
SSE				LR		LR		
	comp=E,592nm,9.7s							
SSE				LR		LR		
	comp=Z,652nm,8.9s							
KSH	**Kashi**	**33.13**	**334**	*e*P		**P**	**05 34 20.7**	**-0.8**
KSH				AP		pP	05 34 27.2	-1.4
KSH				XP		sP	05 34 30.4	-1.1
KSH				PP		PP	05 35 29.7	-6.9
KSH				PCP		PcP	05 37 04.3	0.0
KSH				S		**S**	**05 39 34.4**	**-5.1**
KSH				SCP		ScP	05 40 46.5	-0.6
KSH				PCS		PcS	05 40 49.1	-0.7
KSH				SCS		ScS	05 44 44.3	-3.2
KSH				AMB		AMB		
	comp=Z,16nm,0.2s,mb5.6							
KSH				AMB		AMB		
	comp=Z,131nm,4.6s							
KSH				LR		LR		
	comp=N,291nm,5.4s							
KSH				LR		LR		
	comp=E,295nm,5.4s							
KSH				LR		LR		
	comp=Z,823nm,19.7s,MS4.4							
WMQ	**Urumqi**	**33.65**	**351**	P		**P**	**05 34 26.8**	**+0.7**
WMQ				AP		pP	05 34 32.6	-0.6
WMQ				XP		sP	05 34 35.6	-0.5
WMQ				PP		PP	05 35 39.4	-3.0
WMQ				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.0							
WMQ				AMB		AMB		
	comp=Z,98nm,4.6s							
WMQ				LR		LR		
	comp=N,1μm,26.0s,MS4.7							
WMQ				LR		LR		
	comp=E,1μm,24.0s,MS4.7							
WMQ				LR		LR		
	comp=Z,2μm,24.0s,MS4.7							
HHC	**Hu-ho-hao-te**	**33.86**	**24**	*e*P		**P**	**05 34 29.1**	**+1.2**
HHC				AP		pP	05 34 35.6	+0.6
HHC				XP		sP	05 34 38.2	+0.3
HHC				PP		PP	05 35 43.1	-1.6
HHC				PCP		PcP	05 37 07.3	+0.9
HHC				S		**S**	**05 39 52.3**	**+1.5**
HHC				XS		sS	05 40 04.4	+1.9
HHC				SS		SS	05 41 59.2	-18
HHC				SCS		ScS	05 44 49.2	-2.1
HHC				AMB		AMB		
	comp=Z,18nm,0.3s,mb5.5							
HHC				AMB		AMB		
	comp=Z,316nm,6.3s							
HHC				LR		LR		
	comp=N,607nm,9.8s							
HHC				LR		LR		
	comp=E,509nm,12.9s							
HHC				LR		LR		
	comp=Z,533nm,11.2s,MS4.5							
BJI	**Beijing**	**35.26**	**30**	P		**P**	**05 34 41.8**	**+1.8**
BJI				AMB		AMB		
	comp=Z,10.0nm,1.4s,mb4.5							
BJI				LR		LR		
	comp=N,446nm,17.1s,MS4.4							
BJI				LR		LR		
	comp=E,460nm,21.3s,MS4.4							
BJI				LR		LR		
	comp=Z,298nm,20.7s,MS4.0							
JOW	**Kunigami**	**35.94**	**58**	LR		LR	05 52 39.0	
	comp=Z,166nm,18.1s,MS3.8,baz=116,slow=42							
AAK	**Ala-Archa**	**36.33**	**335**	*e*P		**P**	**05 34 48.6**	**-0.6**
	comp=Z,16nm,1.4s,mb4.8							
AAK	**Ala-Archa**	**36.33**	**335**	*e*P		**P**	**05 34 48.6**	**-0.6**
AAK				pmax		pmax		
	comp=Z,16nm,1.4s,mb4.8							
MK31	**Makanchi Array**	**37.54**	**347**	*i* P		**P**	**05 34 59.1**	**-0.4**
MK31				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.5							
MKAR	**Makanchi Array**	**37.54**	**347**	P		**P**	**05 34 59.1**	**-0.4**
	comp=Z,3.5nm,0.7s,mb4.2,baz=164,slow=7.5,SNR=44							
MKAR				LR		LR	05 54 00.3	
	comp=Z,297nm,18.3s,MS4.1,baz=172,slow=42							
KK31	**Karatay Array**	**38.46**	**332**	*i* P		**P**	**05 35 07.5**	**+0.2**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.2							
KKAR	**Karatay Array**	**38.46**	**332**	*i* P		**P**	**05 35 07.5**	**+0.2**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.0							
SONM	**Songino Array**	**38.57**	**13**	P		**P**	**05 35 07.1**	**-1.1**
	comp=Z,2.1nm,1.0s,mb3.8,baz=193,slow=6.1,SNR=10							
SONM				LR		LR	05 52 38.6	
	comp=Z,592nm,18.7s,MS4.4,baz=28,slow=39							
ULN	**Ulaanbaatar**	**38.75**	**14**	*e*P		**P**	**05 35 08.8**	**-0.8**
	comp=Z,76nm,2.3s,mb5.0							
ULN	**Ulaanbaatar**	**38.75**	**14**	*e*P		**P**	**05 35 08.8**	**-0.9**
ULN				pmax		pmax		
	comp=Z,76nm,2.3s,mb5.0							
MBWA	**Marble Bar**	**40.24**	**142**	*e*P		**P**	**05 35 21.4**	**-0.7**
	comp=Z,32nm,1.3s,mb4.9							
ZAK	**Zakamensk**	**40.43**	**9**	*e*P		**P**	**05 35 19.3**	**-4.4**
ZAK				pmax		pmax		
	comp=Z,16nm,2.0s,mb4.4							
KURK	**Kurchatov**	**42.08**	**345**	*e*P		**P**	**05 35 36.3**	**-0.9**
	comp=Z,20nm,1.4s,mb4.6							
KURK				*e*pP		pP	05 35 43.2	-1.2
KURK	**Kurchatov**	**42.08**	**345**	*e*P		**P**	**05 35 36.3**	**-0.9**
KURK				*e**PP		pP	05 35 43.2	-1.2
KURK				pmax		pmax		
	comp=Z,20nm,1.4s,mb4.5							
CN2	**Changchun**	**42.77**	**34**	*e*P		**P**	**05 35 43.5**	**+0.7**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.5							
ZAL	**Zalesovo**	**43.95**	**352**	P		**P**	**05 35 52.7**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.0,baz=304,slow=10,SNR=15							
HIA	**Hailar**	**44.07**	**24**	*e*P		**P**	**05 35 54.0**	**+0.7**
	comp=Z,25nm,1.3s,mb4.8							
HIA				*e*pP		pP	05 36 00.1	-0.5
HIA	**Hailar**	**44.07**	**24**	*e*P		**P**	**05 35 54.0**	**+0.7**
HIA				*e**PP		pP	05 36 00.1	-0.4
HIA				pmax		pmax		
	comp=Z,25nm,1.3s							
NVS	**Novosibirsk**	**45.05**	**351**	*e*P		**P**	**05 35 59.8**	**-1.4**
NVS				pmax		pmax		
	comp=N,68nm,2.3s							
NVS				pmax		pmax		
	comp=Z,37nm,2.3s,mb4.8							
MDJ	**Mudanjiang**	**45.59**	**35**	P		**P**	**05 36 05.7**	**+0.3**
MDJ				AMB		AMB		
	comp=Z,16nm,1.7s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,198nm,3.6s							
VOSK	**Vostochnaya**	**46.08**	**341**	P		**P**	**05 36 07.9**	**-1.4**
VOSK				pmax		pmax		
	comp=Z,10.0nm,1.2s,mb4.6							
BVAR	**Borovoye Array**	**46.53**	**340**	P		**P**	**05 36 12.4**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.1,baz=134,slow=6.4,SNR=8.6							
BVAR				PcP		PcP	05 37 48.1	+1.2
	comp=Z,2.3nm,0.8s,baz=130,slow=2.3,SNR=5.3							
BRVK	**Borovoye**	**46.59**	**340**	*e*P		**P**	**05 36 12.6**	**-0.8**
	comp=Z,3.9nm,1.0s,mb4.3							
BRVK				*e*pP		pP	05 36 18.6	-2.0
BRVK	**Borovoye**	**46.59**	**340**	*e*P		**P**	**05 36 12.6**	**-0.7**
BRVK				*e**PP		pP	05 36 18.6	-2.0
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
ZRNK	**Zerenda**	**46.94**	**339**	*e*P		**P**	**05 36 14.9**	**-1.1**
	comp=Z,4.4nm,1.0s,mb4.3							
ZRNK				*e*pP		pP	05 36 21.5	-1.7
ZRNK	**Zerenda**	**46.94**	**339**	*e*P		**P**	**05 36 14.9**	**-1.1**
ZRNK				*e**PP		pP	05 36 21.5	-1.8
ZRNK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
MJAR	**Matsushiro Arr**	**47.35**	**49**	PcP		PcP	05 37 51.5	+1.6
	comp=Z,2.3nm,0.8s,baz=255,slow=5.3,SNR=5.0							
MJAR				LR		LR	05 59 28.8	
	comp=Z,282nm,18.

ATD	**Arta Tunnel**	**50.39 276**	LR	LR	05 55 07.2	
	comp=Z,184nm,18.9s,MS4.1,baz=62,slow=33					
ASAR	**Alice Springs**	**51.57 132**	P	**P**	**05 36 52.0**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8,baz=311,slow=7.4,SNR=98					
ASAR			PcP	PcP	05 38 06.3	+1.1
	comp=Z,2.8nm,0.8s,baz=303,slow=3.2,SNR=7.1					
CLNS	**Chul'man**	**51.93 21**	*e*P	**P**	**05 36 52.5**	**-1.7**
CLNS			pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9					
CLNS			pmax	pmax		
	comp=N,8.0nm,0.7s					
CLNS			pmax	pmax		
	comp=E,6.0nm,0.7s					
GNI	**Garni**	**52.68 313**	*e*P	**P**	**05 36 59.4**	**-0.3**
	comp=E,18nm,0.9s,mb5.0					
GNI			*e*pP	pP	05 37 06.8	-0.2
GNI	**Garni**	**52.68 313**	*e*P	**P**	**05 36 59.4**	**-0.3**
GNI			*e**PP	pP	05 37 06.8	-0.2
GNI			pmax	pmax		
	comp=Z,18nm,0.9s					
ARU	**Arti**	**53.50 336**	⇑*i*P	**P**	**05 37 07.0**	**+1.2**
ARU			*e*		05 39 06.7	
ARU			*e*S	**S**	**05 44 40.9**	**+3.7**
ARU			*e*SS	SS	05 48 18.5	+1.0
ARU			pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.4					
ARU			MLR	MLR		
	comp=Z,800nm,22.0s,MS4.7					
ARU			MLR	MLR		
	comp=N,400nm,20.0s,MS4.7					
ARU			MLR	MLR		
	comp=E,500nm,20.0s,MS4.7					
ZEI	**Tsey**	**54.19 316**	*i* P	**P**	**05 37 08.4**	**-2.4**
ZEI			*i* *PP	pP	05 37 23.4	+5.2
ZEI			*i*		05 38 13.0	
ZEI			*i*		05 39 08.2	
ZEI			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6					
KIV	**Kislovodsk**	**55.44 317**	P	**P**	**05 37 18.7**	**-1.1**
	comp=Z,9.0nm,0.6s,mb5.0					
KIV	**Kislovodsk**	**55.44 317**	⇑*e*P	**P**	**05 37 18.8**	**-1.0**
KIV			pmax	pmax		
	comp=Z,41nm,2.4s,mb5.0					
PMG	**Port Moresby**	**56.26 109**	P	**P**	**05 37 24.9**	**-0.8**
	comp=Z,14nm,1.1s,mb4.9					
PMG	**Port Moresby**	**56.26 109**	P	**P**	**05 37 24.9**	**-0.8**
PMG			pmax	pmax		
	comp=Z,14nm,1.1s					
KMBO	**Kilima Mbogo**	**57.84 262**	P	**P**	**05 37 38.6**	**+1.7**
	comp=Z,0.5nm,0.4s,mb3.9,baz=218,slow=23,SNR=7.3					
KMBO			LR	LR	05 57 29.8	
	comp=Z,129nm,21.2s,MS4.0,baz=92,slow=31					
ANN	**Anapa**	**59.28 316**	*e*P	**P**	**05 37 45.6**	**-1.3**
CTA	**Charters Tower**	**59.55 121**	P	**P**	**05 37 50.3**	**+1.5**
	comp=Z,7.2nm,0.7s,mb4.8,baz=305,slow=6.3,SNR=3.9					
CTAO	**Charters Tower**	**59.55 121**	P	**P**	**05 37 48.7**	**-0.1**
	comp=Z,12nm,1.0s,mb4.9					
CTAO	**Charters Tower**	**59.55 121**	P	**P**	**05 37 48.7**	**-0.1**
CTAO			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9					
BR131	**Keskin Array S**	**60.79 310**	*e*P	**P**	**05 37 55.6**	**-1.7**
	comp=Z,2.0nm,0.7s,mb4.4					
BR131			*e*pP	pP	05 38 02.5	-2.2
BRTR	**Keskin Array B**	**60.79 310**	P	**P**	**05 37 56.3**	**-1.0**
	comp=Z,3.2nm,0.7s,mb4.5,baz=123,slow=7.5,SNR=20					
STKA	**Stephens Creek**	**61.88 135**	*e*P	**P**	**05 38 04.3**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.6					
STKA	**Stephens Creek**	**61.88 135**	P	**P**	**05 38 04.4**	**-0.3**
	comp=Z,6.1nm,0.9s,mb4.7,baz=308,slow=8.3,SNR=7.8					
STKA			LR	LR	06 04 47.6	
	comp=Z,449nm,21.9s,MS4.6,baz=111,slow=36					
MOS	**Moscow**	**62.88 328**	*e*P	**P**	**05 38 07.7**	**-3.7**
OBN	**Obninsk**	**63.20 327**	⇑P	**P**	**05 38 13.2**	**-0.3**
OBN			*e*	pP	05 38 20.2	-0.8
OBN					05 38 43.0	
OBN			pmax	pmax		
	comp=Z,29nm,2.4s,mb5.0					
OBN			MLR	MLR		
	comp=Z,500nm,18.0s,MS4.7					
MA2	**Magadan**	**64.39 28**	*e*P	**P**	**05 38 21.2**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.5					
MA2			*e*pP	pP	05 38 27.2	-1.6
MA2	**Magadan**	**64.39 28**	*e*P	**P**	**05 38 21.7**	**+0.4**
MA2			pmax	pmax		
	comp=Z,10.0nm,2.1s,mb4.5					
TIXI	**Tiksi**	**64.63 11**	⇑*e*P	**P**	**05 38 21.6**	**-1.3**
TIXI			pmax	pmax		
	comp=Z,27nm,2.1s,mb4.9					
SEY	**Seymchan**	**66.50 25**	⇑*e*P	**P**	**05 38 34.5**	**-0.4**
JOF	**Joensuu**	**68.51 334**	*e*p	**P**	**05 38 47.8**	**+0.1**
ARMA	**Armidale**	**68.52 129**	*e*P	**P**	**05 38 51.9**	**+4.2**
APA	**Apatity**	**69.41 339**	⇑*e*P	**P**	**05 38 55.5**	**+2.2**
APA			MLR	MLR		
	comp=Z,800nm,18.0s,MS5.0					
LSZ	**Lusaka**	**70.25 250**	P	**P**	**05 39 00.5**	**+2.1**
	comp=Z,2.6nm,0.7s,mb4.3,baz=352,slow=7.2,SNR=3.4					
LSZ			LR	LR	06 07 55.8	
	comp=Z,149nm,18.1s,MS4.3,baz=143,slow=34					
LSZ	**Lusaka**	**70.25 250**	*e*P	**P**	**05 38 57.6**	**-0.9**
	comp=Z,2.7nm,0.7s,mb4.3					
LSZ	**Lusaka**	**70.25 250**	*e*P	**P**	**05 38 57.6**	**-0.8**
LSZ			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3					
FINES	**FINESS Array B**	**70.42 332**	P	**P**	**05 38 58.6**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.0,baz=96,slow=4.2,SNR=5.9					
FINES			LR	LR	06 16 39.4	
	comp=Z,209nm,18.5s,MS4.4,baz=343,slow=42					
FINES	**FINESS Array B**	**70.42 332**	P	**P**	**05 38 58.6**	**-0.9**
FINES			LR	LR	06 16 39.4	
KAF	**Kangasniemi**	**70.49 332**	*e*p	**P**	**05 38 52.5**	**-7.4**
ARCES	**ARCESS Array B**	**72.82 340**	P	**P**	**05 39 13.6**	**-0.3**
	comp=Z,3.9nm,0.9s,mb4.3,baz=76,slow=5.1,SNR=7.9					
ARCES			LR	LR	06 14 25.8	
	comp=Z,585nm,20.1s,MS4.8,baz=107,slow=38					
ARCES	**ARCESS Array B**	**72.82 340**	P	**P**	**05 39 13.6**	**-0.3**
ARCES			LR	LR	06 14 25.9	
BILL	**Bilibino**	**73.61 22**	*e*P	**P**	**05 39 18.0**	**-0.6**
BILL			*e*		05 39 31.3	
BILL			pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1					
BILL			MLR	MLR		
	comp=Z,200nm,16.0s,MS4.5					
TIP	**Timpagrande**	**73.74 308**	*e*P	**P**	**05 39 19.2**	**-0.1**
LBTB	**Lobatse**	**75.60 241**	P	**P**	**05 39 29.5**	**-0.6**
	comp=Z,3.2nm,0.6s,mb4.4					
LBTB	**Lobatse**	**75.60 241**	P	**P**	**05 39 29.5**	**-0.6**
LBTB			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4					
GERES	**GERESS Array B**	**75.92 318**	P	**P**	**05 39 32.3**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=81,slow=4.2,SNR=6.3					
BOSA	**Boshof**	**77.07 237**	P	**P**	**05 39 38.6**	**+0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=78,slow=8.4,SNR=4.8					
BOSA	**Boshof**	**77.07 237**	*e*P	**P**	**05 39 38.3**	**-0.2**
	comp=Z,3.5nm,0.7s,mb4.4					
BOSA	**Boshof**	**77.07 237**	*e*P	**P**	**05 39 38.3**	**-0.2**
BOSA			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5					
NB2	**NORSAR Subarra**	**77.48 330**	P	**P**	**05 39 38.5**	**-2.3**
	comp=Z,3.2nm,1.0s,mb4.2,baz=91,slow=5.1					
NB2	**NORSAR Subarra**	**77.48 330**	P	**P**	**05 39 38.5**	**-2.3**
NB2			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2					
NOA	**NORSAR Array B**	**77.48 330**	P	**P**	**05 39 39.0**	**-1.7**
	comp=Z,1.1nm,0.8s,mb3.8,baz=98,slow=5.1,SNR=3.1					
NOA			LR	LR	06 19 31.5	
	comp=Z,171nm,18.9s,MS4.4,baz=90,slow=40					
RPZ	**Rata Peaks**	**87.85 135**	LR	LR	06 18 02.8	
	comp=Z,304nm,20.2s,MS4.7,baz=56,slow=34					
TORD	**Torodi Ar. Bea**	**90.08 283**	P	**P**	**05 40 45.5**	**+0.4**
	comp=Z,0.9nm,0.7s,mb4.2,baz=83,slow=4.1,SNR=7.2					
URZ	**Urewera**	**90.92 129**	LR	LR	06 19 39.1	
	comp=Z,304nm,21.7s,MS4.7,baz=240,slow=34					
ILAR	**Eielson Array**	**92.27 22**	P	**P**	**05 40 54.4**	**-1.0**
	comp=Z,0.7nm,0.7s,mb4.1,baz=300,slow=4.9,SNR=11					
INK	**Inuvik**	**94.43 16**	*e*P	**P**	**05 41 03.5**	**-1.8**
	comp=Z,3.1nm,1.0s,mb4.7					
INK	**Inuvik**	**94.43 16**	*e*P	**P**	**05 41 03.5**	**-1.8**
INK			pmax	pmax		
	comp=Z,3.0nm,1.0s					
RES	**Resolute Bay**	**94.76 2**	P	**P**	**05 41 06.5**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.5					
RES	**Resolute Bay**	**94.76 2**	P	**P**	**05 41 06.5**	**-0.3**
RES			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6					
VNDA	**Vanda**	**95.49 168**	LR	LR	06 20 21.1	
	comp=Z,254nm,18.5s,MS4.7,baz=350,slow=33					
YKA	**Yellowknife Ar**	**103.84 13**	PKKPbc	PKKPbc	05 57 37.0	-0.8
	comp=Z,0.1nm,0.4s,baz=146,slow=2.6,SNR=5.4					
PDAR	**Pinedale Array**	**122.67 21**	PKP	PKPdf	05 46 41.9	+0.9
	comp=Z,0.3nm,0.9s,baz=5.7,slow=4.5,SNR=2.7					
PLCA	**Paso Flores**	**147.04 202**	PKPbc	PKPbc	05 47 30.1	+2.0
	comp=Z,7.0nm,0.9s,baz=181,slow=3.8,SNR=16					
PLCA	**Paso Flores**	**147.04 202**	*e*PKP2	PKPab	05 47 29.5	-0.1
CPUP	**Villa Florida**	**148.88 236**	PKPbc	PKPbc	05 47 32.8	-0.1
	comp=Z,2.4nm,0.9s,baz=145,slow=3.5,SNR=3.6					
SAML	**Samuel**	**157.68 272**	*e*PKPab	PKPab	05 48 15.4	+1.4

GUC 10 05:28:26.9±0.9,3403S×7010W,h16km±3km,MD3.5, ML2.7,9C-6D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.20**	**334**	⇑*i*P	Pg	05 28 31.3	-0.3
LMEL				*i* S	Sg	05 28 34.7	-0.2
LMEL				AMP		05 28 35.0	
	comp=N,11μm,0.3s						
CICH	**Cipreses**	**0.40**	**222**	⇑*i*P	Pg	05 28 34.8	-0.2
CICH				*i* S	Sg	05 28 40.4	0.0
CACH	**El Canelo**	**0.42**	**258**	⇓*i*P	Pg	05 28 35.3	-0.2
CACH				*i* S	Sg	05 28 41.3	0.0
CHCH	**Chadas Angostu**	**0.47**	**281**	⇓*i*P	Pg	05 28 36.3	0.0
CHCH				*i* S	Sg	05 28 42.7	+0.1
PCH	**Pirque**	**0.53**	**320**	⇓*i*P	Pg	05 28 37.4	-0.1
PCH				*i* S	Sg	05 28 45.1	+0.6
FCH	**Farellones**	**0.71**	**347**	⇓*i*P	Pg	05 28 40.4	-0.5
FCH				*i* S	Sg	05 28 51.4	+1.1
FCH				AMP		05 28 51.9	
	comp=N,476nm,0.2s						
CLCH	**Cerro Calan**	**0.73**	**330**	⇑*i*P	Pg	05 28 40.9	-0.2
CLCH				*i* S	Sg	05 28 51.2	+0.5
CLCH				AMP		05 28 52.7	
	comp=N,719nm,1.0s						
CLCH				AMP		05 28 53.5	
	comp=N,1μm,0.4s						
DSCH	**Colegio Aleman**	**0.74**	**328**	⇓*i*P	Pg	05 28 40.4	-0.9
DSCH				*i* S	Sg	05 28 50.8	-0.3
DSCH				AMP		05 28 51.4	
	comp=E,116nm,0.3s						
SAN	**Santiago**	**0.74**	**321**	⇑*i*P	Pg	05 28 40.9	-0.4
SAN				*i* S	Sg	05 28 51.4	+0.3
TACH	**Talagante**	**0.79**	**298**	⇓*i*P	Pb	05 28 41.8	-0.4
TACH				*i* S	Sb	05 28 52.5	-0.1
RCDM	**Rinconada Maip**	**0.80**	**312**	⇑*i*P	Pb	05 28 42.0	-0.3
RCDM				*i* S	Sb	05 28 53.3	+0.5
RCDM				AMP		05 28 53.6	
	comp=E,1μm,0.3s						
SFDO	**San Fernando**	**0.96**	**232**	⇑*i*P	Pb	05 28 44.7	-0.4
SFDO				*i* S	Sb	05 28 58.0	+0.5
PEL	**Peldehue**	**1.01**	**331**	⇑*i*P	Pb	05 28 45.8	-0.1
PEL				*i* S	Sb	05 28 59.6	+0.7
PEL				AMP		05 29 00.4	
	comp=E,380nm,0.4s						
LNV	**Longovilo**	**1.09**	**273**	⇑*i*P	Pb	05 28 46.7	-0.6
LNV				*i* S	Sb	05 29 01.4	+0.1
ROCH	**El Roble**	**1.30**	**324**	*i* P	Pn	05 28 50.9	+0.6
LCCH	**Las Cruces**	**1.34**	**294**	⇑*i*P	Pn	05 28 51.2	+0.3
LCCH				*i* S	Sn	05 29 09.1	+0.8
JACH	**Jahuel**	**1.40**	**343**	*i* P	Pn	05 28 52.2	+0.5
JACH				*i* S	Sn	05 29 11.3	+1.4

IDC 10 05:29:43.4±1.9,374S×15129E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.6/13,mbtmp3.4/4,Error ellipse: s-maj=79.4km s-min=25.7km az=118.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.08**	**224**	P	P	05 34 50.1	-0.5
	1.0nm,0.9s,baz=49,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**25.97**	**219**	P	P	05 35 18.5	+0.9
	0.3nm,0.5s,baz=57,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	**78.55**	**319**	P	P	05 41 47.4	+0.8
	0.2nm,0.6s,baz=103,slow=6.5,SNR=3.2						
ILAR	**Eielson Array**	**81.75**	**22**	P	P	05 42 03.2	-0.7
	0.4nm,0.7s,baz=260,slow=5.6,SNR=5.3						

NNC 10 05:35:12.1±12.0,3742N×7148E,h0km,mb3.7,mpv3.5, 4C-1D,Error ellipse: s-maj=101.1km s-min=71.2km az=172.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.72**	**353**	⇓P	Pn	05 36 40.4	+2.1
	1.9nm,0.2s,baz=179,slow=13,SNR=108						
KK31				⇑S	Sn	05 37 45.0	+0.4
	0.9nm,0.3s,baz=168,slow=25,SNR=4.2						
TKM2	**Tokmak 2**	**6.33**	**29**	⇑P	Pn	05 36 45.8	-0.9
	1.6nm,0.5s						
TKM2				⇑S	Sn	05 38 02.3	+2.6
	0.8nm,0.4s						
AB31	**Akbulak array**	**14.48**	**328**	⇑P	Pn	05 38 34.8	-3.4
	0.2nm,0.3s,baz=172,slow=9.6,SNR=17						

IDC 10 05:46:58.2±3.4,1005N×9318E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.6/21,mbtmp3.8/4,Error ellipse: s-maj=138.5km s-min=23.3km az=65.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.66**	**345**	*e*P	Pn	05 47 38.0	+9.4
PBA				*e*S	Sn	05 48 01.1	+11
PBA				*ex*	x	05 48 37.8	
	comp=E,615nm,0.7s						
PBA				*ex*	x	05 48 39.0	
	comp=N,710nm,1.0s						
MKAR	**Makanchi Array**	**37.77**	**348**	P	P	05 54 16.2	+0.2
	comp=N,0.6nm,0.7s,baz=170,slow=8.1,SNR=7.5						
SONM	**Songino Array**	**39.28**	**14**	P	P	05 54 28.4	-0.3
	comp=N,1.3nm,0.9s,baz=198,slow=9.3,SNR=4.1						
WRA	**Warramunga Arr**	**50.30**	**126**	P	P	05 55 56.5	0.0
	comp=N,1.4nm,0.7s,baz=303,slow=9.0,SNR=16						
ASAR	**Alice Springs**	**52.03**	**131**	P	P	05 56 10.4	+0.9
	comp=N,1.9nm,0.8s,baz=310,slow=7.1,SNR=20						

*NEIC **10** 05:48:08.1,4123S×17263E,h203km,MG3.7(WEL),After WEL.*

WEL 10 05:48:08.3±0.4,4123S×17259E,h201km±2km,ML3.6/9, 3C,Error ellipse: s-maj=3.0km s-min=2.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.41**	**354**	PN	Pn	05 48 35.1	-0.1
QRZ				SN	Sn	05 48 55.1	-1.0
QRZ	**Quartz Range**	**0.41**	**354**	*e*P	Pn	05 48 35.1	-0.1
QRZ				S	Sn	05 48 55.2	-0.9
THZ	**Tophouse**	**0.58**	**156**	PN	Pn	05 48 36.1	+0.2
THZ				SN	Sn	05 48 57.2	0.0
THZ	**Tophouse**	**0.58**	**156**	P	Pn	05 48 36.2	+0.3
NNZ	**Nelson**	**0.60**	**89**	PN	Pn	05 48 35.9	0.0
NNZ				SN	Sn	05 48 56.2	-1.1
NNZ	**Nelson**	**0.60**	**89**	P	Pn	05 48 35.9	0.0
NNZ				S	Sn	05 48 56.3	-1.1
DSZ	**Denniston Nort**	**0.78**	**229**	PN	Pn	05 48 36.2	-0.6
DSZ	**Denniston Nort**	**0.78**	**229**	P	Pn	05 48 36.5	-0.4
TUWZ	**Tuamarina**	**1.04**	**102**	PN	Pn	05 48 38.7	+0.2
BSWZ	**Blackbirch Sta**	**1.08**	**117**	PN	Pn	05 48 38.9	+0.2
DUWZ	**D'Urville Isla**	**1.09**	**68**	PN	Pn	05 48 38.7	-0.1
TCW	**Tory Channel**	**1.27**	**90**	PN	Pn	05 48 40.3	+0.1
TCW				SN	Sn	05 49 03.7	-1.2
TCW	**Tory Channel**	**1.27**	**90**	P	Pn	05 48 40.3	+0.1
KHZ	**Kahutara**	**1.38**	**149**	⇑PN	Pn	05 48 41.1	0.0
KHZ	**Kahutara**	**1.38**	**149**	P	Pn	05 48 41.1	0.0
LTZ	**Lake Taylor**	**1.57**	**189**	PN	Pn	05 48 42.5	-0.2
LTZ				SN	Sn	05 49 07.7	-1.8
LTZ	**Lake Taylor**	**1.57**	**189**	P	Pn	05 48 42.6	-0.1
MRW	**Makara Radio**	**1.59**	**91**	PN	Pn	05 48 42.7	-0.2
MRW	**Makara Radio**	**1.59**	**91**	P	Pn	05 48 42.8	-0.1
SNZO	**South Karori**	**1.60**	**94**	PN	Pn	05 48 42.7	-0.3
SNZO	**South Karori**	**1.60**	**94**	P	Pn	05 48 42.8	-0.2
BHW	**Baring Head**	**1.73**	**97**	⇑PN	Pn	05 48 43.9	-0.3
BHW	**Baring Head**	**1.73**	**97**	P	Pn	05 48 43.0	-1.2
KIW	**Kapiti Island**	**1.79**	**79**	PN	Pn	05 48 44.6	-0.2
KIW	**Kapiti Island**	**1.79**	**79**	P	Pn	05 48 44.6	-0.2
CAW	**Cannon Point**	**1.88**	**87**	PN	Pn	05 48 45.4	-0.3
CAW	**Cannon Point**	**1.88**	**87**	P	Pn	05 48 45.4	-0.2
MSWZ	**Moikau Station**	**2.01**	**96**	PN	Pn	05 48 46.7	-0.3
MSWZ	**Moikau Station**	**2.01**	**96**	P	Pn	05 48 46.8	-0.2
MTW	**Mount Morrison**	**2.20**	**89**	⇑PN	Pn	05 48 48.7	-0.3
MTW	**Mount Morrison**	**2.20**	**89**	P	Pn	05 48 48.7	-0.3
WVZ	**Waitaha Valley**	**2.30**	**216**	PN	Pn	05 48 48.8	-1.3
WVZ	**Waitaha Valley**	**2.30**	**216**	*e*P	Pn	05 48 48.9	-1.2
MQZ	**McQueen's Vall**	**2.48**	**179**	PN	Pn	05 48 50.5	-1.5
MQZ	**McQueen's Vall**	**2.48**	**179**	*e*P	Pn	05 48 50.7	-1.3
PXZ	**Pawanui**	**3.46**	**71**	PN	Pn	05 49 02.8	-0.7

IDC 10 05:50:17.5±7.4,958N×9248E,h0km,mb3.8/3,mb1 4.0/3, mb1mx3.5/21,mbtmp3.8/3,MS3.3/1,Ms1 3.3/1, ms1mx2.7/20,Error ellipse: s-maj=378.5km s-min=30.0km az=60.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.08**	**7**	*e*P	Pn	05 51 15.4	+22
PBA				*e*S	Sn	05 51 34.6	+14
PBA				*ex*	x	05 51 52.8	
	comp=E,380nm,0.8s						
PBA				*ex*	x	05 51 53.0	
	comp=N,381nm,0.7s						
PSI	**Prapat**	**9.29**	**136**	LR	LR	05 56 29.3	
	comp=N,199nm,20.5s,baz=342,slow=40						
MKAR	**Makanchi Array**	**38.09**	**349**	P	P	05 57 37.9	-0.1
	comp=N,0.5nm,0.7s,baz=153,slow=6.6,SNR=3.5						
WRA	**Warramunga Arr**	**50.58**	**126**	P	P	05 59 17.4	-0.5
	comp=N,1.2nm,0.7s,baz=303,slow=8.9,SNR=9.1						
ASAR	**Alice Springs**	**52.26**	**130**	P	P	05 59 31.8	+1.3
	comp=N,1.8nm,0.7s,baz=311,slow=7.2,SNR=14						

*KNET **10** 05:53:56.6±0.5,4303N×7489E,h13km±2km,ml1.5,Error ellipse: s-maj=3.0km s-min=2.3km az=17.0*
*ISCJB **10** 05:53:57.2±0.7,4306N±004×7492E±004,h6km±5km, Error ellipse: s-maj=7.0km s-min=4.5km az=19.0*
*NNC **10** 05:53:58.6±2.9,4283N×7499E,h0km,mb2.5,mpv2.4, Error ellipse: s-maj=94.7km s-min=13.3km az=173.0*

ISC 10 05:53:57.4±0.7,4306N±004×7492E±004,h9km±6km,n12, σ0°39/23,13C-8D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.14**	**245**	⇑P	**Pg**	**05 54 00.0**	**-0.4**
	84nm,0.2s,SNR=145						
CHMS				⇑S	**Sg**	**05 54 02.0**	**-0.6**
	261nm,0.3s						
USP	**Ospenovka**	**0.37**	**304**	⇑P	**Pg**	**05 54 04.9**	**+0.1**
	21nm,0.1s,SNR=30						
USP				⇑S	**Sg**	**05 54 10.3**	**+0.6**
	48nm,0.2s						
KBK	**Karagaybulak**	**0.40**	**177**	P	**Pg**	**05 54 05.5**	**+0.2**
	111nm,0.2s,SNR=61						
KBK				⇓S	**Sg**	**05 54 11.4**	**+0.9**
	151nm,0.2s						
TKM2	**Tokmak 2**	**0.52**	**105**	⇑P	**Pg**	**05 54 07.2**	**-0.2**
	11nm,0.2s,SNR=36						
TKM2				⇓S	**Sg**	**05 54 14.5**	**+0.3**
	30nm,0.1s						
TKM2	**Tokmak 2**	**0.52**	**105**	⇓P	**Pg**	**05 54 07.1**	**-0.3**
	11nm,0.6s						
TKM2				⇓S	**Sg**	**05 54 14.3**	**+0.2**
	23nm,0.6s						
AAK	**Ala-Archa**	**0.53**	**217**	⇑P	**Pg**	**05 54 07.4**	**-0.3**
	SNR=28						
AAK				⇑S	**Sg**	**05 54 14.6**	**0.0**
	44nm,0.3s						
UCH	**Uchtor**	**0.88**	**200**	⇑P	**Pg**	**05 54 13.9**	**-0.5**
	4.5nm,0.3s,SNR=17						
UCH				⇓S	**Sg**	**05 54 25.9**	**0.0**
	5.1nm,0.2s						
EKS2	**Erkin-Say**	**0.93**	**245**	P	**Pg**	**05 54 15.0**	**-0.2**
	6.3nm,0.2s,SNR=23						
EKS2				⇓S	**Sg**	**05 54 28.0**	**+0.7**
	9.9nm,0.3s						
KZA	**Kyzart**	**1.01**	**166**	⇑P	**Pg**	**05 54 16.6**	**-0.2**
	6.2nm,0.3s,SNR=19						
ULHL	**Ulahol**	**1.27**	**129**	⇑P	**Pn**	**05 54 20.9**	**-0.4**
	3.6nm,0.2s,SNR=18						
ULHL				⇑S	**Sb**	**05 54 38.2**	**+0.3**
	3.7nm,0.2s						
AML	**Almayashu**	**1.29**	**225**	⇑P	**Pn**	**05 54 21.6**	**-0.1**
	2.6nm,0.2s,SNR=13						
AML				⇓S	**Sb**	**05 54 38.6**	**-0.1**
	8.1nm,0.2s						
KK31	**Karatay Array**	**3.23**	**272**	⇑Pn	**Pn**	**05 54 56.5**	**+8.3**
	0.2nm,0.2s,baz=91,slow=15,SNR=36						
KK31				⇓Sn	**Sn**	**05 55 37.6**	**+11**
	1.0nm,0.3s,baz=92,slow=31,SNR=6.3						

IDC 10 05:58:14.9±7.6,988N×9330E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/21,mbtmp3.4/3,Error ellipse: s-maj=405.3km s-min=27.7km az=59.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.96**	**348**	P	P	06 05 34.2	0.0
	0.2nm,0.7s,baz=164,slow=7.0,SNR=3.3						
WRA	**Warramunga Arr**	**50.10**	**126**	P	P	06 07 11.3	-0.4
	0.8nm,0.8s,baz=304,slow=9.1,SNR=6.4						
ASAR	**Alice Springs**	**51.84**	**131**	P	P	06 07 26.1	+1.3
	0.5nm,0.8s,baz=312,slow=6.7,SNR=5.4						

**IDC 10 06:02:22.8±9.1,989N×9303E,h0km,mb3

comp=N,0.5nm,0.3s,baz=234,slow=13,SNR=14
PLCA Paso Flores 16.90 190 P **Pn 06 15 48.5 +0.8**
comp=N,0.1nm,0.3s,baz=29,slow=18,SNR=3.9
BDFB Brasilia 19.51 68 P **P 06 16 15.5 +0.6**
comp=N,0.4nm,0.3s,baz=248,slow=12,SNR=8.9
TORD Torodi Ar. Bea 76.39 69 P **P 06 23 29.9 -0.7**
comp=N,0.4nm,0.5s,mb3.3,baz=266,slow=6.0,SNR=9.8
WRA Warramunga Arr 131.65 207 PKP PKPdf 06 30 52.6 +0.1
comp=N,0.1nm,0.3s,baz=157,slow=1.8,SNR=5.3
MKAR Makanchi Array 146.45 40 PKPbc PKPbc 06 31 20.7 -0.3
comp=N,0.4nm,0.6s,baz=301,slow=2.9,SNR=5.7

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*IDC **10** 06:28:58.4±1.7, 140N×9641E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.9/5, Error ellipse: s-maj=74.5km s-min=21.6km az=54.0*
*ISCJB **10** 06:29:01.7±1.7, 14N±03×965E±04, h33km, mb3.9/5, Error ellipse: s-maj=68.5km s-min=18.9km az=113.9*
ISC 10 06:29:03.7±1.7, 14N±03×964E±04, h35km, n6, σ1§30/6, mb3.9/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**24.42**	**350**	*eP*	**P**	**06 34 18.5**	**-0.4**
WRA	**Warramunga Arr**	**42.83**	**122**	P	**P**	**06 36 56.6**	**-1.6**
	1.4nm,0.7s,mb3.8,baz=303,slow=9.1,SNR=9.2						
ASAR	**Alice Springs**	**44.16**	**127**	P	**P**	**06 37 10.5**	**+1.5**
	1.9nm,0.8s,mb3.9,baz=311,slow=7.5,SNR=20						
MKAR	**Makanchi Array**	**46.86**	**347**	P	**P**	**06 37 30.6**	**+0.3**
	2.3nm,0.6s,mb4.3,baz=166,slow=9.1,SNR=10						
SONM	**Songino Array**	**47.07**	**9**	P	**P**	**06 37 32.2**	**+0.3**
	0.4nm,0.4s,mb3.7,baz=188,slow=9.9,SNR=2.4						
GERES	**GERESS Array B**	**84.13**	**319**	P	**P**	**06 41 30.9**	**-0.2**
	0.4nm,0.4s,mb3.9,baz=126,slow=1.8,SNR=2.9						

IDC 10 06:29:07.4±3.6, 179N×9712E, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/20, mbtmp4.2/5, Error ellipse: s-maj=150.3km s-min=21.1km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.42**	**122**	P	P	06 37 03.1	-0.6
	2.7nm,0.9s,baz=302,slow=8.6,SNR=10						
ASAR	**Alice Springs**	**43.81**	**128**	P	P	06 37 16.1	+1.2
	3.1nm,0.8s,baz=314,slow=7.8,SNR=16						
SONM	**Songino Array**	**46.56**	**9**	P	P	06 37 37.8	+0.9
	1.1nm,0.7s,baz=195,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**46.65**	**346**	P	P	06 37 37.2	-0.3
	5.8nm,0.7s,baz=164,slow=7.9,SNR=24						
ZAL	**Zalesovo**	**52.96**	**351**	P	P	06 38 25.0	-0.5
	1.7nm,0.6s,baz=311,slow=11,SNR=4.6						

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*IDC **10** 06:29:13.5±0.8, 128N×95.12E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.3/23, mbtmp4.3/15, ML4.1/1, Error ellipse: s-maj=29.5km s-min=14.4km az=46.0*
*BJI **10** 06:29:16.8, 140N×95.10E, h30km, mb4.7*
*ISCJB **10** 06:29:17.0±0.7, 15N±01×95.14E±006, h33km, mb4.4/22, Error ellipse: s-maj=15.7km s-min=8.8km az=12.6*
*NEIC **10** 06:29:17.8±0.7, 135N×95.13E, h30km, mb4.4/7, Error ellipse: s-maj=22.3km s-min=11.2km az=222.0*
ISC 10 06:29:19.3±0.7, 14N±01×9514E±006, h35km, n28, σ1§20/30, mb4.4/22, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.02**	**70**	Pn	**Pn**	**06 30 16.3**	**-2.0**
	12nm,0.3s,baz=278,slow=6.4,SNR=76						
PSI				Sn	**Sn**	**06 31 04.8**	**+0.6**
	7.8nm,0.3s,baz=87,slow=14,SNR=7.9						
PSI	**Prapat**	**4.02**	**70**	Pn	**Pn**	**06 30 16.3**	**-2.0**
PSI				Sn	**Sn**	**06 31 04.8**	**+0.6**
KULM	**Kulim**	**6.71**	**55**	*eP*	**Pn**	**06 30 48.7**	**-6.5**
LSA	**Lhasa**	**28.37**	**353**	*eP*	**P**	**06 35 10.8**	**+0.7**
	6.2nm,0.7s,mb4.3						
XAN	**Xi'an**	**34.91**	**20**	P	**P**	**06 36 08.4**	**+0.8**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**43.91**	**121**	P	**P**	**06 37 22.9**	**+0.4**
	comp=Z,4.2nm,0.8s,mb4.2,baz=300,slow=8.9,SNR=18						
AAK	**Ala-Archa**	**45.01**	**338**	P	**P**	**06 37 30.1**	**-1.2**
	comp=Z,3.6nm,1.1s,mb4.1						
ASAR	**Alice Springs**	**45.18**	**126**	P	**P**	**06 37 33.4**	**+0.7**
	comp=Z,1.9nm,0.5s,mb4.2,baz=294,slow=7.7,SNR=14						
ASAR				PcP	PcP	06 39 09.9	-2.6
	comp=Z,1.3nm,0.8s,baz=290,slow=3.4,SNR=6.8						
MKAR	**Makanchi Array**	**46.56**	**348**	P	**P**	**06 37 43.8**	**+0.3**
	comp=Z,14nm,0.7s,mb5.0,baz=166,slow=9.3,SNR=34						
SONM	**Songino Array**	**47.25**	**10**	P	**P**	**06 37 50.5**	**+1.6**
	comp=Z,5.7nm,0.7s,mb4.6,baz=193,slow=8.0,SNR=14						
ULN	**Ulaanbaatar**	**47.40**	**11**	*eP*	**P**	**06 37 51.1**	**+1.1**
	comp=Z,1.9nm,0.7s,mb4.1						
KURK	**Kurchatov**	**51.07**	**347**	P	**P**	**06 38 16.9**	**-1.2**
	comp=Z,7.1nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**53.03**	**352**	P	**P**	**06 38 33.7**	**+1.0**
	comp=Z,3.6nm,0.4s,mb4.6,baz=295,slow=6.3,SNR=12						
ZAL	**Zalesovo**	**53.03**	**352**	P	**P**	**06 38 33.7**	**+1.0**
STKA	**Stephens Creek**	**55.04**	**131**	P	**P**	**06 38 45.0**	**-2.4**
	comp=Z,5.9nm,0.7s,mb4.7,baz=297,slow=7.9,SNR=15						
STKA	**Stephens Creek**	**55.04**	**131**	P	**P**	**06 38 45.0**	**-2.4**
BVAR	**Borovoye Array**	**55.38**	**342**	P	**P**	**06 38 49.3**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.6,baz=132,slow=8.9,SNR=12						
BRVK	**Borovoye**	**55.45**	**342**	P	**P**	**06 38 48.8**	**-1.5**
	comp=Z,1.2nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**55.76**	**341**	*eP*	**P**	**06 38 51.8**	**-0.8**
	comp=Z,3.5nm,0.8s,mb4.4						
AKTK	**Aktyubinsk**	**58.08**	**333**	P	**P**	**06 39 07.7**	**-1.3**
AKTO	**Aktyubinsk**	**58.08**	**333**	P	**P**	**06 39 07.7**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=102,slow=3.4,SNR=5.2						
ARU	**Arti**	**62.19**	**338**	*eP*	**P**	**06 39 36.4**	**-0.7**
	comp=Z,5.9nm,0.9s,mb4.7						
BRTR	**Keskin Array B**	**67.44**	**313**	P	**P**	**06 40 11.7**	**+0.3**
	comp=Z,1.3nm,0.8s,mb4.0,baz=128,slow=8.2,SNR=5.6						
AKASG	**Malin Array Be**	**73.83**	**323**	P	**P**	**06 40 49.4**	**-0.9**
	comp=Z,1.1nm,0.6s,mb4.0,baz=91,slow=4.9,SNR=5.4						
FINES	**FINESS Array B**	**78.85**	**333**	P	**P**	**06 41 19.4**	**+0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=92,slow=13,SNR=4.0						
ARCES	**ARCESS Array B**	**81.64**	**341**	P	**P**	**06 41 34.8**	**+1.1**
	comp=Z,5.1nm,1.0s,mb4.4,baz=102,slow=5.4,SNR=5.1						
GERES	**GERESS Array B**	**83.29**	**319**	P	**P**	**06 41 44.6**	**+2.2**
	comp=Z,0.8nm,0.4s,mb4.2,baz=90,slow=2.7,SNR=8.8						
TORD	**Torodi Ar. Bea**	**93.03**	**283**	P	**P**	**06 42 31.3**	**+2.1**
	comp=Z,0.9nm,1.1s,mb4.1,baz=67,slow=4.8,SNR=4.8						

IDC 10 06:46:05.7±7.4, 1027N×9373E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/22, Error ellipse: s-maj=406.8km s-min=28.3km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.68**	**325**	*eP*	Pn	06 46 55.9	+19
PBA				*eS*	Sn	06 47 19.4	+21
PBA				*ex*	x	06 47 30.2	
	comp=N,389nm,0.5s						
PBA				*ex*	x	06 47 30.5	
	comp=E,247nm,0.6s						
PSI	**Prapat**	**9.04**	**145**	LR	LR	06 52 03.3	
	comp=E,92nm,19.7s,baz=216,slow=39						
MKAR	**Makanchi Array**	**37.67**	**347**	P	P	06 53 22.6	0.0
	comp=E,0.3nm,0.6s,baz=172,slow=8.3,SNR=5.1						
WRA	**Warramunga Arr**	**50.00**	**127**	P	P	06 55 00.3	-1.4
	comp=E,0.8nm,0.7s,baz=304,slow=9.0,SNR=7.2						
ASAR	**Alice Springs**	**51.77**	**131**	P	P	06 55 16.9	+1.9
	comp=E,0.9nm,0.7s,baz=307,slow=6.9,SNR=14						

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*CSEM **10** 06:57:20.3±0.1, 3876N×2101E, h2km, MD3.5, Error ellipse: s-maj=3.2km s-min=2.4km az=100.0*
*NEIC **10** 06:57:20.4, 3876N×2095E, h8km, MD3.5(ATH), After ATH.*
*ATH **10** 06:57:20.4, 3876N×2095E, h8km±4km, MD3.5/5*
*ISCJB **10** 06:57:21.3±0.5, 3868N±003×2097E±004, h10km, Error ellipse: s-maj=5.2km s-min=4.3km az=61.1*
ISC 10 06:57:21.7±0.5, 3870N±003×2098E±004, h10km, n36, σ1§57/52, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.60**	**210**	*eP*G	**Pg**	**06 57 32.5**	**-0.8**
VLS				*e*SB	**Sg**	**06 57 42.7**	**+1.5**
EVR	**Evrytania**	**0.69**	**71**	*e*PB	**Pg**	**06 57 32.9**	**-2.1**
EVR				*e*SB	**Sg**	**06 57 43.6**	**-0.4**
RLS	**Riolos of Patr**	**0.74**	**149**	*e*PB	**Pg**	**06 57 35.8**	**-0.3**
JAN	**Janina**	**0.96**	**354**	*e*PB	**Pg**	**06 57 37.2**	**-3.1**
IGT	**Igoumenitsa**	**0.97**	**329**	*eP*	**Pg**	**06 57 38.0**	**-2.5**
IGT	**Igoumenitsa**	**0.97**	**329**	P	**Pg**	**06 57 38.0**	**-2.4**
IGT				S	**Sg**	**06 57 54.9**	**+1.8**
IGT	**Igoumenitsa**	**0.97**	**329**	P	**Pg**	**06 57 38.0**	**-2.5**
IGT				S	**Sg**	**06 57 54.9**	**+1.7**
MEV	**Metsovon**	**1.11**	**10**	*eP*	**Pb**	**06 57 42.3**	**-0.6**
MEV	**Metsovon**	**1.11**	**10**	P	**Pb**	**06 57 42.3**	**-0.6**
MEV				S	**Sb**	**06 58 01.8**	**+4.4**
MEV	**Metsovon**	**1.11**	**10**	P	**Pb**	**06 57 42.3**	**-0.6**
MEV				S	**Sb**	**06 58 01.8**	**+4.4**
AGG	**Agios Georgios**	**1.11**	**72**	*eP*	**Pb**	**06 57 40.8**	**-2.2**
AGG	**Agios Georgios**	**1.11**	**72**	P	**Pb**	**06 57 40.8**	**-2.1**
AGG				S	**Sg**	**06 57 59.5**	**+2.1**
AGG	**Agios Georgios**	**1.11**	**72**	P	**Pb**	**06 57 40.8**	**-2.2**
AGG				S	**Sg**	**06 57 59.5**	**+2.1**
KEK	**Kerkira**	**1.37**	**318**	*e*PB	**Pb**	**06 57 45.0**	**-2.4**
LKR	**Lokris**	**1.58**	**91**	*e*PB	**Pb**	**06 57 50.6**	**-0.5**
ITM	**Ithomi**	**1.69**	**153**	*e*PN	**Pn**	**06 57 53.3**	**+2.0**
LIT	**Litokhoron**	**1.83**	**39**	*eP*	**Pn**	**06 57 52.3**	**-0.9**
LIT	**Litokhoron**	**1.83**	**39**	P	**Pn**	**06 57 52.3**	**-0.9**
LIT				S	**Sn**	**06 58 20.2**	**+3.8**
LIT	**Litokhoron**	**1.83**	**39**	P	**Pn**	**06 57 52.3**	**-0.9**
LIT				S	**Sn**	**06 58 20.2**	**+3.8**
FNA	**Florina**	**2.11**	**8**	*eP*	**Pn**	**06 57 56.7**	**-0.3**
FNA	**Florina**	**2.11**	**8**	P	**Pn**	**06 57 56.7**	**-0.3**
FNA				S	**Sn**	**06 58 27.0**	**+3.7**
FNA	**Florina**	**2.11**	**8**	P	**Pn**	**06 57 56.7**	**-0.3**
FNA				S	**Sn**	**06 58 27.0**	**+3.7**
BIA	**Bitola**	**2.34**	**6**	*e*Pn	**Pn**	**06 58 00.2**	**+0.1**
BIA	**Bitola**	**2.34**	**6**	*e*Pn	**Pn**	**06 58 00.2**	**0.0**
OHR	**Ohrid**	**2.42**	**357**	*e*Pn	**Pn**	**06 58 02.6**	**+1.3**
GRG	**Griva**	**2.51**	**25**	*eP*	**Pn**	**06 58 01.9**	**-0.7**
OUR	**Ouranopolis**	**2.84**	**54**	*eP*	**Pn**	**06 58 06.0**	**-1.1**
OUR	**Ouranopolis**	**2.84**	**54**	P	**Pn**	**06 58 06.0**	**-1.1**
OUR				S	**Sn**	**06 58 45.0**	**+3.6**
OUR	**Ouranopolis**	**2.84**	**54**	P	**Pn**	**06 58 06.0**	**-1.1**
OUR				S	**Sn**	**06 58 45.0**	**+3.6**
KNT	**Kendrikon**	**2.87**	**30**	*eP*	**Pn**	**06 58 07.3**	**-0.3**
KNT	**Kendrikon**	**2.87**	**30**	P	**Pn**	**06 58 07.3**	**-0.2**
KNT				S	**Sn**	**06 58 46.2**	**+4.0**
KNT	**Kendrikon**	**2.87**	**30**	P	**Pn**	**06 58 07.3**	**-0.3**
KNT				S	**Sn**	**06 58 46.2**	**+4.0**
VAY	**Valandovo**	**2.90**	**25**	*e*Pn	**Pn**	**06 58 10.7**	**+2.8**
VAY	**Valandovo**	**2.90**	**25**	*e*Pn	**Pn**	**06 58 10.6**	**+2.8**
STIP	**Stip**	**3.14**	**17**	*e*Pn	**Pn**	**06 58 11.6**	**+0.4**
STIP	**Stip**	**3.14**	**17**	*e*Pn	**Pn**	**06 58 11.5**	**+0.3**

IDC 10 07:00:32.9±5.2, 959N×9322E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=291.5km s-min=28.5km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.10**	**347**	*eP*	Px	07 01 15.1	
PBA				*eS*	Sx	07 01 41.9	
PBA				*ex*	x	07 02 08.8	
	comp=E,290nm,0.4s						
PBA				*ex*	x	07 02 08.8	
	comp=N,340nm,0.7s						
MKAR	**Makanchi Array**	**38.23**	**348**	P	P	07 07 54.4	0.0
	comp=N,0.6nm,0.6s,baz=167,slow=7.9,SNR=3.8						
WRA	**Warramunga Arr**	**50.00**	**126**	P	P	07 09 29.0	+0.1
	comp=N,0.7nm,0.7s,baz=305,slow=9.0,SNR=9.7						
ASAR	**Alice Springs**	**51.71**	**130**	P	P	07 09 42.8	+1.0
	comp=N,1.1nm,0.7s,baz=309,slow=6.8,SNR=14						
STKA	**Stephens Creek**	**61.95**	**134**	P	P	07 10 54.4	0.0
	comp=N,0.6nm,0.5s,baz=318,slow=15,SNR=2.7						

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*IDC **10** 07:04:35.6±1.3, 1046N×9397E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/22, mbtmp3.9/9, MS4.0/3, Ms1 4.0/3, ms1mx3.3/28, Error ellipse: s-maj=58.4km s-min=18.0km az=59.0*
*BJI **10** 07:04:35.5, 1008N×9402E, h41km, mB4.5, mb4.3, Ms4.1, Msz3.8*
*NEIC **10** 07:04:37.9±0.6, 1053N×9422E, h10km, mb4.4/5, Error ellipse: s-maj=25.8km s-min=7.8km az=54.0*
*ISCJB **10** 07:04:39.9±0.6, 1068N±007×9441E±007, h33km, mb4.1/12, MS4.1/3, Error ellipse: s-maj=11.1km s-min=8.0km az=72.9*
ISC 10 07:04:41.8±0.7, 1065N±010×943E±01, h35km, n30, σ0§66/29, mb4.1/12, MS4.1/3, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.79**	**304**	*eP*	Px	07 05 26.8	
PBA				*eS*	Sx	07 05 47.0	
PBA				*ex*	x	07 06 04.2	
	comp=N,2μm,1.1s						
PBA				*ex*	x	07 06 08.4	
	comp=E,2μm,0.9s						
PSI	**Prapat**	**9.06**	**149**	LR	LR	07 10 43.3	
	comp=E,610nm,18.4s,baz=313,slow=40						
KMI	**Kunming**	**16.49**	**28**	P	**Pn**	**07 08 35.5**	**+5.1**
KMI				AP	pP	07 08 42.1	+0.2
KMI				AMB	AMB		
	comp=Z,19nm,1.2s						
KMI				LR	LR		
	comp=N,219nm,12.3s						
KMI				LR	LR		
	comp=E,211nm,11.7s						
KMI				LR	LR		
	comp=Z,268nm,11.2s						
HYB	**Hyderabad**	**16.65**	**296**	*i* P	**Pn**	**07 08 37.0**	**+4.6**
HYB				*e*S	**S**	**07 11 40.0**	**-6.6**
HYB	**Hyderabad**	**16.65**	**296**	*eP*	**Pn**	**07 08 44.0**	**+12**
HYB				*e*S	**S**	**07 11 40.0**	**-6.6**
JIRN	**Jiri**	**18.55**	**337**	*eP*	**Pn**	**07 08 56.3**	**+0.5**
	comp=Z,52nm,1.1s						
PKI	**Pulchoki**	**18.78**	**335**	*eP*	**Pn**	**07 08 59.2**	**+0.5**
	comp=Z,74nm,1.2s						
GUN	**Gumba**	**18.89**	**337**	*eP*	**Pn**	**07 09 00.3**	**+0.3**
DMN	**Daman**	**18.94**	**334**	*eP*	**Pn**	**07 09 01.7**	**+1.1**
KKN	**Kakani**	**19.03**	**335**	*eP*	**Pn**	**07 09 01.6**	**0.0**
LSA	**Lhasa**	**19.18**	**352**	P	**Pn**	**07 09 03.0**	**-0.4**
GKN	**Gorkha**	**19.49**	**334**	*eP*	**Pn**	**07 09 06.7**	**-0.4**
	comp=Z,24nm,0.8s						
GYA	**Guiyang**	**19.61**	**35**	*i P*	**Pn**	**07 09 07.8**	**-0.8**
GYA				S	**S**	**07 12 39.8**	**-6.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
GYA				AMB	AMB		
	comp=Z,110nm,5.4s						
KOLN	**Koldanda**	**19.76**	**331**	*eP*	**Pn**	**07 09 09.9**	**-0.5**
ENH	**Enshi**	**24.13**	**34**	*eP*	**P**	**07 09 54.4**	**+0.1**
	comp=Z,30nm,1.4s,mb4.5						
LZH	**Lanzhou**	**26.77**	**17**	*eP*	**P**	**07 10 18.0**	**-0.3**
LZH				AP	pP	07 10 35.4	+7.1
LZH				XP	sP	07 10 40.1	+7.5
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,53nm,4.7s						
LZH				LR	LR		
	comp=E,256nm,13.5s						
LZH				LR	LR		
	comp=Z,325nm,17.4s,MS3.9						
MKAR	**Makanchi Array**	**37.43**	**346**	P	**P**	**07 11 51.6**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.1,baz=166,slow=8.0,SNR=9.6						
SONM	**Songino Array**	**38.45**	**13**	P	**P**	**07 12 01.3**	**+1.1**
	comp=Z,2.5nm,1.1s,mb3.9,baz=201,slow=7.8,SNR=5.9						
ZAL	**Zalesovo**	**43.83**	**352**	P	**P**	**07 12 45.0**	**+0.6**
	comp=Z,1.8nm,0.3s,mb4.3,baz=332,slow=17,SNR=7.5						
ZAL	**Zalesovo**	**43.83**	**352**	P	**P**	**07 12 45.0**	**+0.6**
BVAR	**Borovoye Array**	**46.43**	**340**	P	**P**	**07 13 04.7**	**-0.3**
	comp=Z,1.8nm,1.0s,mb4.0,baz=139,slow=7.0,SNR=5.2						
JHJ	**Hachijo jima 2**	**47.33**	**55**	LR	LR	07 35 09.1	
	comp=Z,372nm,19.1s,MS4.4,baz=35,slow=38						
WRA	**Warramunga Arr**	**49.81**	**128**	P	**P**	**07 13 32.0**	**+0.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=304,slow=9.0,SNR=6.7						
WRAB	**Tennant Creek**	**49.81**	**128**	*eP*	**P**	**07 13 31.1**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**51.63**	**132**	P	**P**	**07 13 45.5**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=308,slow=6.2,SNR=7.4						

CTA	**Charters Tower**	**59.59**	**121**	LR	LR	07 39 36.1	
	comp=Z,85nm,20.1s,MS3.9,baz=39,slow=35						
BRTR	**Keskin Array B**	**60.74**	**310**	P	**P**	**07 14 48.7**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.9,baz=285,slow=26,SNR=3.7						
STKA	**Stephens Creek**	**61.95**	**135**	P	**P**	**07 14 57.2**	**-0.8**
	comp=Z,0.5nm,0.3s,mb4.1,baz=322,slow=19,SNR=1.9						
STKA	**Stephens Creek**	**61.95**	**135**	P	**P**	**07 14 57.2**	**-0.9**
ILAR	**Eielson Array**	**92.15**	**22**	P	**P**	**07 17 46.6**	**-1.0**
	comp=Z,0.3nm,0.7s,mb3.8,baz=301,slow=5.3,SNR=4.2						

CASC 10 07:06:36.4±3.2, 1501N×8856W, h5km±28km, MD4.1, 1C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBRS	**Las Brisas**	**1.35**	**200**	*eP*	Pn	07 07 06.1	+4.3
LBRS				*e*S	Sb	07 07 25.2	+5.5
LCBS	**La Ceiba**	**1.41**	**197**	*eP*	Pn	07 07 04.8	+2.1
LCBS				*e*S	Sb	07 07 23.9	+2.5
SNVI	**San Vicente**	**1.41**	**191**	*eP*	Pn	07 07 05.6	+2.8
SNVI				*e*S	Sb	07 07 26.2	+4.6
BOQS	**Boqueron**	**1.45**	**209**	*eP*	Pn	07 07 05.2	+1.9
BOQS				*e*S	Sb	07 07 25.1	+2.5
LFRS	**El Faro**	**1.46**	**199**	*eP*	Pn	07 07 04.0	+0.5
LFRS				*e*S	Sb	07 07 24.9	+2.0
SNJE	**San Jose**	**1.52**	**222**	*eP*	Pn	07 07 08.4	+4.1
SNJE				*e*S	Sn	07 07 30.4	+5.9
RTR	**El Retiro**	**1.52**	**224**	*eP*	Pn	07 07 08.5	+4.2
RTR				*e*S	Sn	07 07 29.8	+5.3
SBLS	**San Blas**	**1.55**	**222**	*eP*	Pn	07 07 07.7	+3.0
SBLS				*e*S	Sn	07 07 30.0	+4.7
CNCH	**Conchagua**	**1.86**	**158**	*eP*	Pn	07 07 11.7	+2.8
CNCH				*e*S	Sn	07 07 38.1	+5.3
IXG	**Ixpaco**	**2.01**	**246**	*eP*	Pn	07 07 09.6	-1.5
IXG				*e*S	Sn	07 07 39.0	+2.4

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*IDC **10** 07:19:23.4±0.5, 1068N×9422E, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.3/25, mbtmp4.3/19, ML3.7/1, MS4.2/11, Ms1 4.3/11, ms1mx4.0/26, Error ellipse: s-maj=20.2km s-min=12.8km az=58.0*
*BJI **10** 07:19:23.6, 10.19N×9426E, h35km, mB4.8, mb4.3, Ms4.6, Msz4.3*
*NEIC **10** 07:19:25.0±0.3, 1062N×9421E, h10km, mb4.6/12, Error ellipse: s-maj=9.8km s-min=5.2km az=59.0*
*ISCJB **10** 07:19:26.0±0.4, 1071N±005×9439E±005, h24km, mb4.5/42, MS4.3/18, Error ellipse: s-maj=8.7km s-min=5.9km az=91.1*
*MOS **10** 07:19:27.2±1.2, 1077N×9451E, h33km, mb4.8/13, Error ellipse: s-maj=15.8km s-min=6.4km az=109.8*
ISC 10 07:19:28.4±0.4, 1075N±005×9439E±005, h26km, h26km±2.7km: pP-P, n106, σ1§21/101, mb4.5/42, MS4.3/18, 2C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.85**	**299**	*eP*	Px	07 20 14.7	
PBA				*e*S	Sx	07 20 32.2	
PSI	**Prapat**	**9.09**	**150**	Pn	**Pn**	**07 21 39.0**	**+1.1**
	0.8nm,0.3s,baz=353,slow=12,SNR=3.5						
PSI				LR	LR	07 25 53.0	
	comp=Z,2μm,18.8s,baz=304,slow=42						
PSI	**Prapat**	**9.09**	**150**	Pn	**Pn**	**07 21 39.0**	**+1.1**
PSI				LR	LR	07 25 53.0	
VIS	**Vishakhapatnam**	**12.76**	**304**	*eP*	**Pn**	**07 22 28.4**	**+0.3**
VIS				*i* P		07 22 28.8	
VIS				*e*S	**Sn**	**07 24 38.9**	**-10**
VIS				*i* S	**Sn**	**07 24 40.4**	**-8.9**
BOK	**Bokaro**	**15.29**	**329**	*eP*	**Pn**	**07 23 07.5**	**+5.1**
BOK				AMb	AMB	07 23 19.6	
	comp=Z,34nm,1.3s						
KMI	**Kunming**	**16.34**	**28**	P	**Pn**	**07 23 20.4**	**+4.4**
KMI				AP	pP	07 23 25.6	-0.1
KMI				XP	sP	07 23 28.7	-0.3
KMI				PP		07 23 32.9	
KMI				S	**Sn**	**07 26 27.5**	**+11**
KMI				XS	sS	07 26 35.4	-4.1
KMI				SS		07 26 48.3	
KMI				AMB	AMB		
	comp=Z,11nm,1.3s						
KMI				AMB	AMB		
	comp=Z,101nm,3.7s						
KMI				LR	LR		
	comp=N,1μm,11.9s						
KMI				LR	LR		
	comp=E,847nm,9.1s						
KMI				LR	LR		
	comp=Z,762nm,10.5s						
HYB	**Hyderabad**	**16.72**	**295**	*i* P	**Pn**	**07 23 19.0**	**-1.8**
HYB				*e*S	**Sn**	**07 26 30.0**	**+4.2**
HYB	**Hyderabad**	**16.72**	**295**	*eP*	**Pn**	**07 23 28.0**	**+7.2**
HYB				*e*S	**Sn**	**07 26 30.0**	**+4.2**
QIZ	**Qiongzhong**	**17.04**	**59**	Pn	**Pn**	**07 23 27.2**	**+2.4**
	comp=Z,8.8nm,1.0s						
JIRN	**Jiri**	**18.50**	**336**	*eP*	**Pn**	**07 23 42.4**	**-0.5**
PKI	**Pulchoki**	**18.74**	**334**	*eP*	**Pn**	**07 23 46.0**	**+0.2**
	comp=Z,130nm,1.1s						
PKI	**Pulchoki**	**18.74**	**334**	*eP*	**Pn**	**07 23 46.0**	**+0.2**
PKI				pmax	pmax		
	comp=Z,65nm,1.1s						
GUN	**Gumba**	**18.85**	**336**	*eP*	**Pn**	**07 23 46.8**	**-0.2**

GTA	**Gaotai**	**28.94**	**9**	*eP*	**P**	**07 25 25.9**	**+0.4**
GTA				AP	pP	07 25 32.0	-1.1
GTA				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.2							
WMQ	**Urumqi**	**33.45**	**351**	*eP*	**P**	**07 26 06.4**	**+1.2**
WMQ				AP	pP	07 26 13.7	+0.8
WMQ				XP	sP	07 26 17.0	+0.9
WMQ				PP	PP	07 27 18.8	-2.2
WMQ				PCP	PcP	07 28 47.2	+1.2
WMQ				S	**S**	**07 31 25.8**	**+0.7**
WMQ				AMB	AMB		
comp=Z,14nm,1.0s,mb4.8							
WMQ				AMB	AMB		
comp=Z,87nm,5.0s							
WMQ				LR	LR		
comp=N,454nm,24.0s,MS4.3							
WMQ				LR	LR		
comp=E,469nm,24.0s,MS4.3							
WMQ				LR	LR		
comp=Z,459nm,24.0s,MS4.1							
HHC	**Hu-ho-hao-te**	**33.59**	**24**	*eP*	**P**	**07 26 10.2**	**+3.8**
HHC				AP	pP	07 26 16.2	+2.1
HHC				XP	sP	07 26 19.2	+1.9
HHC				PP	PP	07 27 23.5	+0.9
HHC				PCP	PcP	07 28 42.8	-3.6
HHC				S	**S**	**07 31 33.9**	**+6.6**
HHC				XS	sS	07 31 44.0	+4.1
HHC				SS	SS	07 33 36.1	-17
HHC				AMB	AMB		
comp=Z,7.0nm,0.5s,mb4.8							
HHC				AMB	AMB		
comp=Z,130nm,5.1s							
HHC				LR	LR		
comp=N,453nm,13.7s,MS4.4							
HHC				LR	LR		
comp=E,433nm,17.8s,MS4.4							
HHC				LR	LR		
comp=Z,338nm,18.6s,MS4.1							
JOW	**Kunigami**	**35.69**	**59**	LR	LR	07 42 29.2	
comp=Z,129nm,21.5s,MS3.6,baz=135,slow=39							
AAK	**Ala-Archa**	**36.20**	**335**	*eP*	**P**	**07 26 28.2**	**-0.7**
comp=Z,21nm,1.5s,mb4.8							
AAK	**Ala-Archa**	**36.20**	**335**	*c iP*	**P**	**07 26 28.5**	**-0.4**
AAK				pmax	pmax		
comp=Z,13nm,1.4s,mb4.7							
FRU	**Bishkek**	**36.31**	**335**	*eP*	**P**	**07 26 32.5**	**+2.6**
SMDO	**Samad**	**36.75**	**294**	P	**P**	**07 26 36.4**	**+2.8**
SNR=6.8							
MK31	**Makanchi Array**	**37.36**	**346**	*i* P	**P**	**07 26 38.4**	**-0.4**
MK31				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.7							
MKAR	**Makanchi Array**	**37.36**	**346**	P	**P**	**07 26 38.0**	**-0.8**
comp=Z,5.9nm,0.8s,mb4.5,baz=167,slow=7.8,SNR=18							
MKAR				LR	LR	07 46 08.0	
comp=Z,333nm,19.3s,MS4.2,baz=90,slow=43							
MKAR	**Makanchi Array**	**37.36**	**346**	*i* P	**P**	**07 26 38.4**	**-0.4**
MKAR				pmax	pmax		
comp=Z,8.0nm,0.9s							
BSY	**Bisya**	**37.45**	**293**	⇓P	**P**	**07 26 42.4**	**+2.8**
SNR=12							
SONM	**Songino Array**	**38.32**	**13**	P	**P**	**07 26 47.2**	**+0.3**
comp=Z,2.5nm,0.9s,mb3.9,baz=193,slow=12,SNR=8.4							
SONM				LR	LR	07 44 14.0	
comp=Z,718nm,19.0s,MS4.5,baz=298,slow=39							
KK31	**Karatay Array**	**38.34**	**331**	*i* P	**P**	**07 26 46.9**	**-0.2**
KK31				pmax	pmax		
comp=Z,1.0nm,0.4s,mb3.9							
KKAR	**Karatay Array**	**38.34**	**331**	*i* P	**P**	**07 26 46.9**	**-0.2**
KKAR				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.8							
ULN	**Ulaanbaatar**	**38.49**	**14**	*eP*	**P**	**07 26 48.3**	**-0.1**
ASHO	**Ashiyiah**	**38.91**	**296**	P	**P**	**07 26 54.5**	**+2.7**
SNR=12							
WHFO	**Wadi Hawf**	**39.93**	**285**	⇓P	**P**	**07 27 02.2**	**+1.8**
SNR=16							
ZAK	**Zakamensk**	**40.18**	**9**	*eP*	**P**	**07 26 58.1**	**-4.4**
ZAK				pmax	pmax		
comp=Z,7.0nm,2.0s,mb4.0							
KURK	**Kurchatov**	**41.90**	**345**	*eP*	**P**	**07 27 15.9**	**-0.7**
CN2	**Changchun**	**42.49**	**34**	*eP*	**P**	**07 27 22.0**	**+0.6**
ZAL	**Zalesovo**	**43.75**	**352**	P	**P**	**07 27 31.2**	**-0.4**
comp=Z,2.8nm,0.6s,mb4.2,baz=298,slow=9.2,SNR=12							
NVS	**Novosibirsk**	**44.85**	**351**	*eP*	**P**	**07 27 39.2**	**-1.2**
NVS				pmax	pmax		
comp=Z,22nm,1.6s,mb4.7							
NVS				pmax	pmax		
comp=N,24nm,1.9s							
BVAR	**Borovoye Array**	**46.37**	**340**	P	**P**	**07 27 51.1**	**-1.3**
comp=N,3.3nm,0.9s,mb4.3,baz=134,slow=8.4,SNR=10							
BRVK	**Borovoye**	**46.43**	**340**	*eP*	**P**	**07 27 51.6**	**-1.3**
comp=N,4.0nm,1.0s,mb4.3							
BRVK	**Borovoye**	**46.43**	**340**	*eP*	**P**	**07 27 51.6**	**-1.3**
BRVK				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
ZRNK	**Zerenda**	**46.78**	**339**	*eP*	**P**	**07 27 54.5**	**-1.1**
comp=Z,3.5nm,0.8s,mb4.3							
ZRNK	**Zerenda**	**46.78**	**339**	*eP*	**P**	**07 27 54.5**	**-1.1**
ZRNK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
MJAR	**Matsushiro Arr**	**47.08**	**50**	P	**P**	**07 27 58.1**	**+0.1**
comp=Z,0.5nm,0.3s,mb3.9,baz=268,slow=6.1,SNR=3.1							
MJAR				PcP	PcP	07 29 30.5	+0.9
comp=Z,3.5nm,0.8s,baz=234,slow=2.4,SNR=8.0							
MJAR				LR	LR	07 50 59.7	
comp=Z,212nm,19.2s,MS4.1,baz=290,slow=40							
MJAR	**Matsushiro Arr**	**47.08**	**50**	P	**P**	**07 27 58.1**	**+0.1**
MJAR				PcP	PcP	07 29 30.5	+0.8
MJAR				LR	LR	07 50 59.7	
MJAR	**Matsushiro Arr**	**47.08**	**50**	P	**P**	**07 27 58.1**	**+0.1**
MJAR						07 29 30.5	
NWAO	**Narrogin (SRO)**	**48.60**	**154**	LR	LR	07 49 28.4	
comp=Z,211nm,19.3s,MS4.1,baz=200,slow=37							
BOD	**Bodaibo**	**49.31**	**14**	*eP*	**P**	**07 28 14.3**	**-0.9**
BOD				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
WRA	**Warramunga Arr**	**49.77**	**128**	P	**P**	**07 28 18.8**	**+0.1**
comp=Z,9.1nm,0.7s,mb4.9,baz=303,slow=8.9,SNR=45							
WRAB	**Tennant Creek**	**49.77**	**128**	*eP*	**P**	**07 28 18.8**	**0.0**
comp=Z,15nm,0.7s,mb5.1							
WRAB	**Tennant Creek**	**49.77**	**128**	*eP*	**P**	**07 28 18.8**	**+0.1**
WRAB				pmax	pmax		
comp=Z,15nm,0.7s,mb5.1							
WB2	**Warramunga Arr**	**49.78**	**128**	*eP*	**P**	**07 28 18.9**	**+0.1**
WB2				*e*		07 28 22.7	
ATD	**Arta Tunnel**	**50.52**	**276**	LR	LR	07 45 58.9	
comp=Z,123nm,21.5s,MS3.9,baz=62,slow=32							
HABR	**Khabarovsk**	**50.62**	**34**	*eP*	**P**	**07 28 19.9**	**-5.2**
HABR				*e*S	**S**	**07 35 29.1**	**-9.1**
ASAR	**Alice Springs**	**51.60**	**132**	P	**P**	**07 28 32.8**	**+0.3**
comp=Z,14nm,0.7s,mb5.0,baz=308,slow=7.3,SNR=34							
GNI	**Garni**	**52.65**	**313**	*eP*	**P**	**07 28 42.1**	**+1.8**
GNI				pmax	pmax		
comp=Z,28nm,1.5s							
ARU	**Arti**	**53.36**	**336**	*eP*	**P**	**07 28 40.7**	**-4.9**
ARU				*e*S	**S**	**07 36 06.8**	**-9.1**
ARU				*e*SS	SS	07 39 48.2	-7.7
ARU				MLR	MLR		
comp=N,200nm,21.0s,MS4.5							
ARU				MLR	MLR		
comp=E,400nm,21.0s,MS4.5							
ARU				MLR	MLR		
comp=Z,600nm,21.0s,MS4.6							
OPO	**Ambohidratompo**	**54.93**	**238**	P	**P**	**07 28 53.7**	**-3.3**
comp=Z,1.6nm,0.3s,mb4.5,baz=40,slow=6.8,SNR=6.0							
KIV	**Kislovodsk**	**55.39**	**316⇑**	*eP*	**P**	**07 29 03.5**	**+3.2**
KIV						07 29 59.0	
KIV				pmax	pmax		
comp=Z,21nm,1.2s,mb5.0							
KIV				MLR	MLR		
comp=Z,100nm,15.0s,MS4.0							
GOF	**Gofitskoye**	**55.55**	**318**	*eP*	**P**	**07 29 04.7**	**+3.3**
YAK	**Yakutsk**	**57.20**	**19**	*eP*	**P**	**07 29 12.6**	**-0.6**
YAK				pmax	pmax		
comp=Z,26nm,0.6s,mb5.4							
SOC	**Sochi**	**57.30**	**315**	*eP*	**P**	**07 29 12.7**	**-1.2**
SOC				*e*		07 30 08.8	
SOC				*e*		07 31 19.5	
SOC				*e*S	**S**	**07 37 04.6**	**-3.9**
SOC				*e*		07 38 55.5	
SOC				*e*SS	SS	07 41 00.7	+2.8
SOC				pmax	pmax		
comp=Z,55nm,1.0s,mb5.5							
SOC				MLR	MLR		
comp=Z,271nm,17.0s,MS4.4							
KMBO	**Kilima Mbogo**	**58.03**	**262**	LR	LR	07 51 26.0	
comp=Z,95nm,20.2s,MS3.9,baz=89,slow=33							
CTA	**Charters Tower**	**59.53**	**121**	P	**P**	**07 29 29.0**	**-0.5**
comp=Z,2.8nm,0.8s,mb4.3,baz=288,slow=14,SNR=2.0							
BRTR	**Keskin Array B**	**60.77**	**310**	P	**P**	**07 29 35.7**	**-2.3**
comp=Z,2.1nm,0.9s,mb4.3,baz=115,slow=7.2,SNR=5.5							
STKA	**Stephens Creek**	**61.93**	**135**	*eP*	**P**	**07 29 43.7**	**-2.1**
comp=Z,2.9nm,1.0s,mb4.4							
STKA				*e*		07 29 48.1	
STKA	**Stephens Creek**	**61.93**	**135**	P	**P**	**07 29 44.8**	**-1.0**
comp=Z,6.2nm,0.8s,mb4.8,baz=322,slow=8.1,SNR=10							
STKA				LR	LR	07 56 43.6	
comp=Z,357nm,20.0s,MS4.5,baz=109,slow=36							
OBN	**Obninsk**	**63.10**	**327**	P	**P**	**07 29 55.0**	**+1.4**
OBN						07 30 29.0	
OBN				MLR	MLR		
comp=Z,300nm,17.0s,MS4.5							
MA2	**Magadan**	**64.12**	**28**	*eP*	**P**	**07 29 59.9**	**-0.5**
MA2				pmax	pmax		
comp=Z,20nm,2.0s,mb4.8							
TIXI	**Tiksi**	**64.38**	**11**	*eP*	**P**	**07 29 59.0**	**-3.1**
TIXI				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.7							
SEY	**Seymchan**	**66.23**	**25**	*eP*	**P**	**07 30 14.1**	**+0.1**
JOF	**Joensuu**	**68.38**	**334**	*ep*	**P**	**07 30 29.9**	**+2.2**
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**07 30 38.1**	**-1.5**
comp=Z,1.6nm,0.7s,mb4.0,baz=89,slow=13,SNR=4.8							
KAF	**Kangasniemi**	**70.36**	**332**	*ep*	sP	07 30 59.7	+8.5
ARCES	**ARCESS Array B**	**72.66**	**340**	P	**P**	**07 30 53.2**	**-0.6**
comp=Z,3.5nm,0.7s,mb4.4,baz=86,slow=5.1,SNR=12							
ARCES				LR	LR	08 06 15.3	
comp=Z,416nm,18.4s,MS4.7,baz=121,slow=39							
ARCES	**ARCESS Array B**	**72.66**	**340**	P	**P**	**07 30 53.2**	**-0.6**
ARCES				LR	LR	08 06 15.3	
BILL	**Bilibino**	**73.34**	**22**	*eP*	**P**	**07 30 57.2**	**-0.6**
BILL				pmax	pmax		
comp=Z,8.0nm,1.9s,mb4.3							
GERES	**GERESS Array B**	**75.87**	**318**	P	**P**	**07 31 11.5**	**-0.9**
comp=Z,1.1nm,0.7s,mb3.9,baz=104,slow=2.0,SNR=3.7							
BOSA	**Boshof**	**77.33**	**237**	P	**P**	**07 31 20.4**	**-0.3**
comp=Z,1.4nm,0.5s,mb4.1,baz=11,slow=1.5,SNR=4.2							
NOA	**NORSAR Array B**	**77.36**	**330**	P	**P**	**07 31 20.1**	**-0.9**
comp=Z,0.8nm,0.7s,mb3.8,baz=95,slow=4.7,SNR=3.9							
TNA	**Tin City**	**83.46**	**25**	*eP*	**P**	**07 31 53.2**	**-0.5**
comp=Z,2.7nm,1.1s,mb4.2							
TORD	**Torodi Ar. Bea**	**90.18**	**283**	P	**P**	**07 32 26.5**	**+0.1**
comp=Z,2.0nm,0.9s,mb4.5,baz=85,slow=4.6,SNR=11							
TORD				PP	PP	07 35 59.9	-0.2
comp=Z,0.8nm,0.8s,baz=63,slow=7.0,SNR=2.9							
ILAR	**Eielson Array**	**92.00**	**22**	P	**P**	**07 32 33.5**	**-1.3**
comp=Z,1.1nm,0.8s,mb4.2,baz=317,slow=5.1,SNR=9.7							
VNDA	**Vanda**	**95.68**	**168**	LR	LR	08 13 22.5	
comp=Z,231nm,18.2s,MS4.7,baz=101,slow=34							
PPT	**Papeete**	**117.84**	**104**	*e*LR	LR	08 12 49.3	
comp=Z,87nm,22.5s							
TBI	**Tubuai**	**118.10**	**111**	*e*LR	LR	08 12 58.8	
comp=Z,154nm,30.8s							
NVAR	**Mina Array Bea**	**122.33**	**30**	PKP	PKPdf	07 38 22.1	+1.0
comp=Z,1.2nm,0.6s,baz=342,slow=1.0,SNR=9.6							
PDAR	**Pinedale Array**	**122.41**	**21**	PKP	PKPdf	07 38 21.4	+0.2
comp=Z,1.2nm,0.8s,baz=90,slow=1.5,SNR=4.9							
ANMO	**Albuquerque**	**130.44**	**23**	*i* PKIKP	PKPdf	07 38 39.0	+2.4
RKT	**Rikitea**	**131.42**	**111**	*e*LR	LR	08 19 09.3	
comp=Z,114nm,30.8s							
BDFB	**Brasilia**	**143.11**	**258**	PKP	PKPdf	07 39 00.2	+0.2
comp=Z,2.3nm,0.7s,baz=170,slow=6.1,SNR=2.8							
PLCA	**Paso Flores**	**147.31**	**201**	PKPbc	PKPbc	07 39 09.2	-0.4
comp=Z,6.5nm,0.9s,baz=165,slow=2.2,SNR=15							
CPUP	**Villa Florida**	**149.14**	**236**	PKPbc	PKPbc	07 39 14.0	-0.4
comp=Z,3.2nm,0.8s,baz=100,slow=2.9,SNR=5.6							

*IDC **10** 07:23:22.9±1.6, 4361N×13872E, h239km±22km, mb2.8/3, mb1 3.0/5, mb1mx2.8/23, mbtmp3.3/5, Error ellipse: s-maj=45.1km s-min=19.9km az=142.0*
*ISCJB **10** 07:23:23.1±0.8, 435N±0.1×1390E±0.1, h263km±10km, mb2.9/3, Error ellipse: s-maj=19.4km s-min=12.4km az=109.3*
*JMA **10** 07:23:25.4±0.5, 4356N×13895E, h232km±5km, M2.9*

ISC 10 07:23:23.9±0.8, 435N±01×1390E±01, h257km±10km, n14, σ0.98/20, mb2.9/3, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**1.07**	**97**	P	**Pn**	**07 23 59.4**	**-0.6**
JOSM	**Okushiri--Mats**	**1.45**	**166**	P	**Pn**	**07 24 02.4**	**0.0**
JKB	**Kayabe**	**2.18**	**136**	P	**Pn**	**07 24 08.9**	**+0.3**
JSS	**Shosan**	**2.24**	**65**	P	**Pn**	**07 24 09.3**	**+0.2**
ASAJ	**Asahikawa**	**2.67**	**75**	P	**Pn**	**07 24 11.1**	**-2.2**
1.9nm,0.3s,baz=274,slow=16,SNR=7.3							
ASAJ				S	**S**	**07 24 53.5**	**+1.1**
0.3nm,0.3s,baz=319,slow=18,SNR=2.8							
JKK2	**Kamakawa 2**	**2.73**	**81**	P	**Pn**	**07 24 14.4**	**+0.4**
JKK2				*e*S	**S**	**07 24 54.1**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.00**	**112**	P	**Pn**	**07 24 17.6**	**+0.9**
JNBK				*e*S	**S**	**07 24 58.4**	**-0.3**
JCH	**Churui**	**3.30**	**104**	P	**Pn**	**07 24 20.1**	**+0.1**
JCH				*e*S	**S**	**07 25 02.4**	**-2.2**
JAR	**Ashorobuto**	**3.47**	**92**	P	**Pn**	**07 24 22.7**	**+0.8**
JAR				*e*S	**S**	**07 25 08.5**	**+0.5**
JAK	**Akkeshi**	**4.18**	**95**	P	**Pn**	**07 24 30.7**	**+0.7**
JAK				*e*S	**S**	**07 25 19.8**	**-2.9**
MJAR	**Matsushiro Arr**	**6.97**	**185**	P	**Pn**	**07 25 04.9**	**+0.8**
0.6nm,0.3s,baz=2.8,slow=12,SNR=4.7							
MKAR	**Makanchi Array**	**39.41**	**295**	P	**P**	**07 30 27.6**	**-1.4**
0.4nm,0.5s,mb3.1,baz=86,slow=10.0,SNR=4.6							
ILAR	**Eielson Array**	**45.17**	**36**	P	**P**	**07 31 15.7**	**+0.5**
0.5nm,0.7s,mb2.8,baz=282,slow=9.4,SNR=8.1							
YKA	**Yellowknife Ar**	**59.20**	**31**	P	**P**	**07 32 58.3**	**+0.2**
0.1nm,0.3s,mb2.7,baz=310,slow=7.5,SNR=4.4							

BJI 10 07:24:16.5, 2764N×11995E, h22km, ML4.0, Ms4.0, Msz4.0, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.95**	**205**	P	Pn	07 25 03.4	+1.4
QZH				S	Sn	07 25 39.5	+2.8
QZH				Smax			
comp=N,680nm,0.4s							
QZH				Smax			
comp=E,910nm,0.8s							
NJ2	**Nanjing**	**4.50**	**348**	*eP*	Pn	07 25 26.0	+2.7
NJ2				SG	Sn	07 26 40.5	+26
NJ2				Smax			
comp=N,440nm,0.7s							
NJ2				Smax			
comp=E,230nm,0.5s							
LZH	**Lanzhou**	**16.05**	**306**	*eP*	Pn	07 27 58.5	-2.3
LZH				*e*PP		07 28 11.7	
LZH				LR	LR		
comp=E,226nm,6.5s							
LZH				LR	LR		
comp=Z,457nm,10.3s							

IDC 10 07:24:35.4±7.4, 981N×9308E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/21, mbtmp3.5/3, Error ellipse: s-maj=389.6km s-min=27.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.99**	**348**	P	P	07 31 54.9	-0.1
0.3nm,0.7s,baz=161,slow=8.2,SNR=2.8							
WRA	**Warramunga Arr**	**50.24**	**126**	P	P	07 33 32.5	-0.7
0.6nm,0.6s,baz=304,slow=9.1,SNR=5.9							
ASAR	**Alice Springs**	**51.96**	**130**	P	P	07 33 47.8	+1.6
0.6nm,0.8s,baz=308,slow=6.9,SNR=5.4							

IDC 10 07:26:00.4±8.4, 930N×9155E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse: s-maj=415.0km s-min=28.0km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.19**	**350**	P	P	07 33 21.6	0.0
0.6nm,0.9s,baz=152,slow=6.5,SNR=2.7							
WRA	**Warramunga Arr**	**51.17**	**125**	P	P	07 35 05.0	-0.3
0.7nm,0.7s,baz=302,slow=6.9,SNR=5.8							
ASAR	**Alice Springs**	**52.79**	**129**	P	P	07 35 18.6	+1.2
0.5nm,0.6s,baz=313,slow=7.1,SNR=6.4							

*IDC **10** 07:33:26.5±1.4, 1047N×9392E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, MS3.5/1, Ms1 3.5/1, ms1mx2.7/29, Error ellipse: s-maj=60.6km s-min=18.9km az=57.0*
*NEIC **10** 07:33:28.5±0.9, 1053N×9415E, h10km, mb4.3/6, Error ellipse: s-maj=29.0km s-min=11.4km az=54.0*
*ISCJB **10** 07:33:33.2±5.6, 106N±02×941E±02, h67km±52km, mb3.9/9, Error ellipse: s-maj=37.9km s-min=19.3km az=98.2*

ISC 10 07:33:35.1±3.9, 107N±02×941E±02, h61km±36km, n16, σ0.63/15, mb3.9/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.14**	**148**	LR	LR	07 39 34.3	
comp=Z,330nm,20.6s,baz=159,slow=40							
JIRN	**Jiri**	**18.49**	**337**	*eP*	**Pn**	**07 37 47.5**	**+0.7**
45nm,1.0s							
PKI	**Pulchoki**	**18.72**	**335**	*eP*	**Pn**	**07 37 50.0**	**+0.4**
64nm,1.1s							
GUN	**Gumba**	**18.83**	**337**	*eP*	**Pn**	**07 37 51.3**	**+0.3**
DMN	**Daman**	**18.88**	**335**	*eP*	**Pn**	**07 37 52.0**	**+0.5**
42nm,1.0s							
KKN	**Kakani**	**18.96**	**335**	*eP*	**Pn**	**07 37 51.8**	**-0.7**
LSA	**Lhasa**	**19.15**	**352**	P	**Pn**	**07 37 53.6**	**-1.1**
6.0nm,0.7s							
ENH	**Enshi**	**24.19**	**34**	*eP*	**P**	**07 38 45.2**	**-0.5**
8.5nm,0.9s,mb4.2							
AAK	**Ala-Archa**	**36.17**	**335**	*eP*	**P**	**07 40 30.8**	**-0.9**
4.1nm,1.1s,mb4.3							
MKAR	**Makanchi Array**	**37.39**	**347**	P	**P**	**07 40 41.9**	**-0.1**
1.7nm,0.8s,mb3.9,baz=164,slow=8.6,SNR=16							
SONM	**Songino Array**	**38.47**	**13**	P	**P**	**07 40 52.5**	**+1.5**
0.7nm,0.7s,mb3.5,baz=166,slow=14,SNR=3.7							
ZAL	**Zalesovo**	**43.80**	**352**	P	**P**	**07 41 35.1**	**+0.3**
1.3nm,0.8s,mb3.7,baz=293,slow=7.7,SNR=7.1							
BVAR	**Borovoye Array**	**46.37**	**340**	P	**P**	**07 41 55.0**	**-0.2**
0.9nm,0.8s,mb3.8,baz=150,slow=6.3,SNR=4.3							
WRA	**Warramunga Arr**	**49.92**	**127**	P	**P**	**07 42 22.4**	**-0.2**
1.0nm,0.7s,mb4.0,baz=304,slow=8.8,SNR=14							
ASAR	**Alice Springs**	**51.73**	**132**	P	**P**	**07 42 36.4**	**+0.2**
0.8nm,0.7s,mb3.8,baz=311,slow=7.7,SNR=10							
BRTR	**Keskin Array B**	**60.63**	**310**	P	**P**	**07 43 39.5**	**-0.1**
0.8nm,0.7s,mb4.0,baz=120,slow=7.3,SNR=4.4							

IDC 10 07:34:46.8±5.1, 1034N×9355E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/20, mbtmp4.1/4, Error ellipse: s-maj=289.6km s-min=25.8km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.57**	**347**	P	P	07 42 02.7	-0.1
0.6nm,0.7s,baz=152,slow=7.7,SNR=2.7							
WRA	**Warramunga Arr**	**50.18**	**127**	P	P	07 43 43.7	-0.5
2.7nm,0.7s,baz=303,slow=9.0,SNR=12							
ASAR	**Alice Springs**	**51.95**	**131**	P	P	07 43 57.7	+0.2
4.0nm,0.8s,baz=308,slow=6.7,SNR=15							
STKA	**Stephens Creek**	**62.23**	**134**	P	P	07 45 12.4	+2.1
2.3nm,0.8s,baz=293,slow=13,SNR=3.1							

MAN 10 07:35:10.4, 1737N×11983E, h19km, mb2.4, ML4.0, MS1.8, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.89**	**72**	*eP*	Pb	07 35 26.4	-0.8
BOLP	**Bolinao**	**0.99**	**175**	*eP*	Pb	07 35 25.6	-3.4
BOLP				*e*S	Sb	07 35 34.1	-7.5
PIP	**Pasuquin**	**1.21**	**38**	⇓*i P*	Pn	07 35 31.6	-0.7
PIP				*e*S	Sb	07 35 48.5	+0.6
BCPH	**Baguio City Da**	**1.22**	**144⇑**	*eP*	Pn	07 35 28.6	-3.8
BCPH				*e*S	Sb	07 35 45.4	-2.9
APYP	**Conner**	**1.43**	**70**	*eP*	Pn	07 35 34.6	-0.7
APYP				*e*S	Sn	07 35 51.9	-1.7
SCZP	**Santa Cruz**	**1.59**	**177**	*eP*	Sn	07 35 51.6	-6.0
CAUP	**Cauayan**	**1.95**	**102**	*eP*	Pn	07 35 43.5	+1.0
BALP	**Baler**	**2.33**	**134**	*eP*	Pn	07 35 47.9	+0.1

BJI 10 07:35:25.9, 2765N×11994E, h23km, ML3.9, Ms4.0, Msz4.0, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.96**	**204**	P	Pn	07 36 12.8	+1.4
QZH				S	Sn	07 36 47.3	+1.2
QZH				Smax			
comp=N,1μm,1.2s							
QZH				Smax			
comp=E,530nm,0.5s							
NJ2	**Nanjing**	**4.49**	**348**	*eP*	Pn	07 36 36.1	+3.7
NJ2				SG	Sn	07 37 53.4	+29
NJ2				Smax			
comp=N,500nm,0.8s							
NJ2				Smax			
comp=E,360nm,1.0s							
LZH	**Lanzhou**	**16.04**	**306**	*eP*	Pn	07 39 09.1	-0.8
LZH				*e*PP		07 39 22.4	
LZH				LR	LR		
comp=E,219nm,6.9s							
LZH				LR	LR		
comp=Z,448nm,10.5s							

*IDC **10** 07:40:12.2±0.7, 3517N×8958E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/23, mbtmp3.9/12, ML3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/23, Error ellipse: s-maj=31.6km s-min=16.2km az=51.0*
*MOS **10** 07:40:16.5±1.4, 3551N×8990E, h33km, mb4.4/3, Error ellipse: s-maj=24.5km s-min=10.2km az=110.3*
*NEIC **10** 07:40:19.5±1.4, 3542N×8962E, h46km±15km, mb4.3/4, Error ellipse: s-maj=21.0km s-min=10.9km az=60.0*
*ISCJB **10** 07:40:20.4±1.7, 3528N±009×896E±01, h76km±17km, mb3.9/14, Error ellipse: s-maj=19.8km s-min=11.0km az=107.4

comp=Z,5.0nm,1.2s,mb4.4
GERES **GERESS Array B 55.67 309** P **P** **07 49 51.4 +0.8**
comp=Z,0.2nm,0.3s,mb3.6,baz=46,slow=7.6,SNR=3.8
WRAB **Tennant Creek 69.45 135** *e*P **P** **07 51 21.5 -0.9**
comp=Z,18nm,1.1s,mb4.8
WRA **Warramunga Arr 69.45 135** P **P** **07 51 22.4 0.0**
comp=Z,5.6nm,1.0s,mb4.4,baz=327,slow=6.2,SNR=34
ILAR **Eielson Array 70.89 22** P **P** **07 51 31.9 +0.7**
comp=Z,0.9nm,0.9s,mb3.6,baz=288,slow=4.6,SNR=7.0
ASAR **Alice Springs 72.15 138** P **P** **07 51 38.6 -0.2**
comp=Z,2.2nm,0.9s,mb4.0,baz=325,slow=5.6,SNR=17
YKA **Yellowknife Ar 80.54 11** P **P** **07 52 26.4 +0.1**
comp=Z,0.8nm,0.9s,mb3.6,baz=338,slow=5.1,SNR=12
YKA **Yellowknife Ar 80.54 11** P **P** **07 52 26.4 +0.1**
TORD **Torodi Ar. Bea 80.85 280** P **P** **07 52 28.2 +0.3**
comp=Z,1.8nm,1.0s,mb3.9,baz=46,slow=5.6,SNR=6.7
STKA **Stephens Creek 82.79 138** P **P** **07 52 35.6 -2.5**
comp=Z,1.5nm,0.9s,mb3.8,baz=318,slow=12,SNR=3.2
STKA **Stephens Creek 82.79 138** *e*P **P** **07 52 35.7 -2.4**
CPUP **Villa Florida 150.34 278** PKPbc PKPbc 08 00 05.3 +0.4
comp=Z,1.7nm,0.6s,baz=39,slow=2.1,SNR=6.3

NDI ***10*** *07:50:11.6±3.9,3320N×7341E,h10km,ML4.8, mb4.9(NEIC)*
ISCJB ***10*** *07:50:13.2±0.1,3308N±002×7386E±002,h13km, mb4.9/118,MS4.5/38,Error ellipse: s-maj=2.7km s-min=2.0km az=101.6*
BJI ***10*** *07:50:13.1,3326N×7360E,h19km,mB5.0,mb4.8,ML4.9, Ms5.1,Ms24.8*
NEIC ***10*** *07:50:14.4±0.2,3313N×7389E,h10km,mb4.9/57,Error ellipse: s-maj=5.8km s-min=3.3km az=209.0*
NEIC One person killed and 22 injured in Mirpur District. Felt at Islamabad, Jhelum, Lahore and Peshawar.
HRVD ***10*** *07:50:14.4±0.6,3262N×7351E,h25km±2km,MW4.9/53, Centroid moment Tensor Solution. LP body waves: s21,c23;Mantle waves: s53,c69; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.79±.21; $M_{\theta\theta}$-2.07±.16; $M_{\phi\phi}$0.28±.15; $M_{r\theta}$2.45±.25; $M_{\theta\phi}$-0.32±.08; $M_{\phi r}$-0.41±.21; Best double couple: M=3.16700×10^{16} NP1:ϕ_s=246.00000°,δ21.00000°,λ61.00000°. NP2: ϕ_s=96.00000°,δ71.00000°,λ101.00000°. Principal axes: T 3.0710, Plg62.0000°, Azm22.0000°; N 0.1960, Plg10.0000°, Azm273.0000°; P -3.2630, Plg26.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***10*** *07:50:16.4±2.0,3319N×7378E,h24km±12km,mb4.7/27, mb1 4.8/29,mb1mx4.8/29,mbtmp4.8/29,ML4.8/1,MS4.3/15, Ms1 4.3/15,ms1mx4.1/27 Error ellipse: s-maj=11.1km s-min=9.5km az=67.0*
MOS ***10*** *07:50:16.1±1.1,3316N×7392E,h33km,mb5.1/60, MS4.4/12,Error ellipse: s-maj=6.2km s-min=3.6km az=117.9*
NNC ***10*** *07:50:23.3±7.7,3334N×7334E,h76km±59km,mb4.9, Error ellipse: s-maj=103.3km s-min=45.6km az=62.0*
SZGRF ***10*** *07:50:34.1,34.12N×7179E,h33km,mb5.0,Pakistan*
ISC 10 07:50:15.2±0.1,3306N±002×7383E±002,h14km, h14km±2.3km:pP-P,n366,σ1°18/418,mb4.9/118,MS4.5/38, 25C-11D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.76**	**322**	⇑P	**Pg**	**07 50 26.6**	**-3.4**
CHCP				S	**Sg**	**07 50 37.0**	**-3.0**
SRNI	**Srinagar**	**1.34**	**39**	*e*P	**Pn**	**07 50 40.5**	**+1.0**
SRNI				*ex*	x	07 51 04.0	
SARP	**Sargodha**	**1.50**	**221**	P	**Pn**	**07 50 41.4**	**-0.4**
THW	**Thamme Wali**	**1.78**	**262**	P	**Pn**	**07 50 45.3**	**-0.2**
CEP	**Cherat**	**1.78**	**296**	P	**Pn**	**07 50 45.3**	**-0.2**
DLH	**Dalhousie**	**1.87**	**106**	*e*P	**Pn**	**07 50 50.0**	**+3.1**
DLH				*ex*	x	07 51 35.0	
PONG	**Pong**	**2.10**	**121**	*e*P	**Pn**	**07 50 54.0**	**+3.9**
PONG				*e*S	**Sn**	**07 51 24.0**	**+7.9**
SBDP	**Sheikh Budin**	**2.66**	**254**	P	**Pn**	**07 50 57.1**	**-0.6**
BHK	**Bhakra**	**2.74**	**126**	*e*P	**Pn**	**07 51 08.2**	**+9.4**
BHK				*e*S	**Sn**	**07 51 45.6**	**+14**
SDNR	**Sundarnagar**	**3.08**	**120**	*e*P	**Pn**	**07 51 05.5**	**+2.0**
SDNR				*e*S	**Sn**	**07 51 46.5**	**+6.3**
DRP	**Derazinda**	**3.34**	**248**	P	**Pn**	**07 51 08.4**	**+1.4**
SMLA	**Simla**	**3.43**	**123**	*e*P	**Pn**	**07 51 10.9**	**+2.7**
SMLA				*e*P		07 51 11.1	
SMLA				*e*S	**Sn**	**07 51 52.3**	**+3.6**
SMLA				AML	AML	07 52 05.0	
	comp=E,10μm,0.7s						
SMLA				AML	AML	07 52 16.8	
	comp=N,10μm,0.5s						
DDI	**Dehra Dun**	**4.52**	**126**	*e*P	**Pn**	**07 51 25.0**	**+1.7**
DDI				*ex*	x	07 52 57.0	
NDI	**New Delhi**	**5.25**	**145**	*e*P	**Pn**	**07 51 34.5**	**+1.2**
NDI				*e*P		07 51 53.0	
NDI				*e*S	**Sb**	**07 52 56.5**	**+6.9**
KHET	**Khetri**	**5.26**	**161**	*e*P	**Pn**	**07 51 33.4**	**0.0**
KHET				*e*S	**Sn**	**07 52 33.5**	**-0.3**
KHET				AML	AML	07 53 14.6	
	comp=N,1μm,0.4s						
KHET				AML	AML	07 53 18.2	
	comp=E,1μm,0.5s						
KUDL	**Kundal**	**5.41**	**154**	*e*P	**Pn**	**07 51 35.9**	**+0.4**
KUDL				*e*S	**Sn**	**07 52 36.6**	**-1.0**
KUDL				AML	AML	07 53 17.8	
	comp=N,815nm,0.9s						
KUDL				AML	AML	07 53 23.7	
	comp=E,2μm,0.5s						
SONA	**Sohna**	**5.55**	**149**	*e*P	**Pn**	**07 51 38.6**	**+1.1**
SONA				*e*S	**Sn**	**07 52 40.9**	**-0.2**
SONA				AML	AML	07 53 19.3	
	comp=E,1μm,0.1s						
SONA				AML	AML	07 53 23.7	
	comp=N,1μm,0.3s						
PTH	**Pithoragarh**	**6.49**	**121**	*e*P	**Pn**	**07 51 53.0**	**+2.7**
PTH				*e*S	**Sn**	**07 53 04.0**	**-0.2**
LGTI	**Lohaghat**	**6.57**	**122**	*e*P	**Pn**	**07 51 53.3**	**+1.9**
LGTI				*ex*	x	07 53 38.5	
AJM	**Ajmer**	**6.60**	**174**	*e*P	**Pn**	**07 51 51.7**	**-0.1**
AJM				*i* P		07 51 52.0	
AJM				*e*S	**Sn**	**07 53 04.6**	**-2.3**
JASL	**Jaisalmer**	**6.62**	**203**	*e*P	**Pn**	**07 51 50.4**	**-1.8**
JHNI	**Jhansi**	**8.61**	**150**	*ex*	**Sn**	**07 54 00.0**	**+3.6**
AML	**Almayashu**	**9.05**	**359**	P	**Pn**	**07 52 26.9**	**+1.4**
	SNR=137						
KZA	**Kyzart**	**9.07**	**7**	P	**Pn**	**07 52 27.2**	**+1.4**
	SNR=747						
UCH	**Uchtor**	**9.16**	**3**	P	**Pn**	**07 52 28.6**	**+1.6**
	SNR=461						
ULHL	**Ulahol**	**9.36**	**11**	P	**Pn**	**07 52 31.4**	**+1.6**
	SNR=165						
AAK	**Ala-Archa**	**9.57**	**3**	P	**Pn**	**07 52 33.9**	**+1.3**
	SNR=266						
AAK	**Ala-Archa**	**9.57**	**3**	*e*Pn	**Pn**	**07 52 32.7**	**+0.1**
	comp=N,160nm,0.6s						
AAK				*e*Sn	**Sn**	**07 54 23.3**	**+3.4**
AAK	**Ala-Archa**	**9.57**	**3**	*e*P	**Pn**	**07 52 32.7**	**+0.1**
AAK				*e*		07 54 23.3	
AAK				pmax	pmax		
	comp=Z,160nm,0.6s						
EKS2	**Erkin-Say**	**9.58**	**360**	P	**Pn**	**07 52 34.0**	**+1.2**
	SNR=266						
KBK	**Karagaybulak**	**9.62**	**5**	P	**Pn**	**07 52 35.1**	**+1.8**
	SNR=106						
FRU	**Bishkek**	**9.78**	**3**	*e*P	**Pn**	**07 52 37.8**	**+2.4**
FRU				*e*S	**Sn**	**07 54 33.0**	**+8.0**
FRU				pmax	pmax		
	comp=Z,740nm,2.0s						
FRU				pmax	pmax		
	comp=Z,1μm,4.0s						
FRU				smax			
	comp=N,2μm,4.0s						
TKM2	**Tokmak 2**	**9.94**	**8**	P	**Pn**	**07 52 38.9**	**+1.3**
	SNR=205						
TKM2	**Tokmak 2**	**9.94**	**8**	⇑Pn	**Pn**	**07 52 38.9**	**+1.3**
	comp=N,196nm,0.6s						
TKM2				⇓Sn	**Sn**	**07 54 31.3**	**+2.2**
	comp=N,188nm,0.7s						
TKM2				⇑Rg		07 56 31.3	
	comp=N,4μm,8.8s						
TKM2	**Tokmak 2**	**9.94**	**8**	*i* P	**Pn**	**07 52 38.9**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,266nm,0.5s						
KOLN	**Koldanda**	**9.95**	**119**	*e*Pn	**Pn**	**07 52 39.2**	**+1.5**
KOLN				*e*Sn	**Sn**	**07 54 27.4**	**-1.7**
	comp=Z,2μm,1.0s						
KOLN	**Koldanda**	**9.95**	**119**	*e*Pn	**Pn**	**07 52 39.2**	**+1.5**
	comp=Z,768nm,1.0s						
KOLN				*e*Sn	**Sn**	**07 54 27.4**	**-1.7**
CHMS	**Chumysh**	**9.95**	**4**	P	**Pn**	**07 52 39.0**	**+1.3**
	SNR=18						
USP	**Ospenovka**	**10.20**	**3**	P	**Pn**	**07 52 42.8**	**+1.6**
	SNR=75						
BHPL	**Bhopal**	**10.28**	**161**	*e*P	**Pn**	**07 52 41.7**	**-0.6**
BHPL				*e*S	**Sn**	**07 54 29.8**	**-7.7**
KK31	**Karatay Array**	**10.36**	**346**	⇑Pn	**Pn**	**07 52 42.7**	**-0.7**
	comp=Z,194nm,0.5s,baz=169,slow=11,SNR=2729						
KK31				⇑Sn	**Sn**	**07 54 33.9**	**-5.4**
	comp=Z,221nm,0.7s,baz=172,slow=26,SNR=7.1						
KK31				⇑Rg		07 56 22.9	
	comp=Z,5μm,7.3s,baz=160,slow=12,SNR=5.8						
KK31	**Karatay Array**	**10.36**	**346**	*i* P	**Pn**	**07 52 42.7**	**-0.7**
KK31				pmax	pmax		
	comp=Z,153nm,0.3s						
KKAR	**Karatay Array**	**10.36**	**346**	*i* P	**Pn**	**07 52 42.7**	**-0.7**
KKAR				S	**Sn**	**07 54 33.8**	**-5.5**
KKAR				pmax	pmax		
	comp=Z,54nm,0.4s						
BHJ	**Bhuj**	**10.44**	**202**	*e*P	**Pn**	**07 52 40.5**	**-4.1**
AAA	**Alma-Ata**	**10.48**	**13**	*i* P	**Pn**	**07 52 47.3**	**+2.2**
AAA				*i* S	**Sn**	**07 54 42.6**	**+0.3**
AAA				pmax	pmax		
	comp=Z,963nm,2.8s						
AAA				smax			
	comp=N,1μm,5.5s						
AAA				MLR	MLR		
	comp=Z,9μm,9.7s						
GKN	**Gorkha**	**10.59**	**116**	*e*Pn	**Pn**	**07 52 46.0**	**-0.6**
GKN				*e*Sn	**Sn**	**07 54 41.2**	**-3.8**
	comp=Z,1μm,0.7s						
GKN	**Gorkha**	**10.59**	**116**	*e*Pn	**Pn**	**07 52 46.0**	**-0.6**
	comp=Z,508nm,0.7s						
GKN				*e*Sn	**Sn**	**07 54 41.2**	**-3.8**
DMN	**Daman**	**11.15**	**116**	*e*Pn	**Pn**	**07 52 54.2**	**0.0**
DMN				*e*Sn	**Sn**	**07 54 55.0**	**-3.7**
	comp=Z,2μm,1.2s						
DMN	**Daman**	**11.15**	**116**	*e*Pn	**Pn**	**07 52 54.2**	**0.0**
	comp=Z,1μm,1.2s						
DMN				*e*Sn	**Sn**	**07 54 55.0**	**-3.7**
KKN	**Kakani**	**11.19**	**115**	*e*Pn	**Pn**	**07 52 54.5**	**-0.3**
KKN				*e*Sn	**Sn**	**07 54 56.1**	**-3.6**
	comp=Z,658nm,0.6s						
KKN	**Kakani**	**11.19**	**115**	*e*Pn	**Pn**	**07 52 54.5**	**-0.3**
	comp=Z,329nm,0.6s						
KKN				*e*Sn	**Sn**	**07 54 56.1**	**-3.6**
KKN	**Kakani**	**11.19**	**115**	*e*P	**Pn**	**07 52 54.5**	**-0.3**
KKN				*e*		07 54 56.1	
KKN				pmax	pmax		
	comp=Z,329nm,0.6s						
JBP	**Jabalpur**	**11.25**	**150**	⇑*e*P	**Pn**	**07 52 53.9**	**-1.8**
JBP				*e*S	**Sn**	**07 54 55.6**	**-5.5**
BHV	**Bhavnagar**	**11.37**	**188**	*ex*	x	07 53 58.0	
PKI	**Pulchoki**	**11.40**	**116**	*e*Pn	**Pn**	**07 52 57.8**	**+0.2**
PKI				*e*Sn	**Sn**	**07 55 00.6**	**-4.2**
	comp=Z,639nm,0.8s						
PKI	**Pulchoki**	**11.40**	**116**	*e*Pn	**Pn**	**07 52 57.8**	**+0.2**
	comp=Z,319nm,0.8s						
PKI				*e*Sn	**Sn**	**07 55 00.6**	**-4.2**
PKI	**Pulchoki**	**11.40**	**116**	*e*P	**Pn**	**07 52 57.8**	**+0.2**
PKI				*e*		07 55 00.6	
PKI				pmax	pmax		
	comp=Z,319nm,0.8s						
GUN	**Gumba**	**11.59**	**113**	*e*Pn	**Pn**	**07 53 00.2**	**0.0**
GUN				*e*Sn	**Sn**	**07 55 04.8**	**-4.6**
	comp=Z,830nm,0.8s						
GUN	**Gumba**	**11.59**	**113**	*e*Pn	**Pn**	**07 53 00.2**	**0.0**
	comp=Z,415nm,0.8s						
GUN				*e*Sn	**Sn**	**07 55 04.8**	**-4.6**
JIRN	**Jiri**	**11.95**	**114**	*e*Pn	**Pn**	**07 53 04.9**	**-0.3**
JIRN				*e*Sn	**Sn**	**07 55 13.8**	**-4.5**
	comp=Z,576nm,0.7s						
JIRN	**Jiri**	**11.95**	**114**	*e*Pn	**Pn**	**07 53 04.9**	**-0.3**
	comp=Z,288nm,0.7s						
JIRN				*e*Sn	**Sn**	**07 55 13.8**	**-4.5**
NGP	**Nagpur**	**12.74**	**157**	*e*P	**Pn**	**07 53 15.4**	**-0.6**
NGP				*e*S	**Sn**	**07 55 29.4**	**-8.2**
GTK	**Gangtok**	**14.00**	**110**	*e*P	**Pn**	**07 53 34.0**	**+0.8**
BOK	**Bokaro**	**14.05**	**128**	*e*P	**Pn**	**07 53 33.1**	**-0.7**
BOM	**Bombay**	**14.14**	**184**	*e*P	**Pn**	**07 53 32.5**	**-2.5**
BOM				*ex*	x	07 56 02.7	
POO	**Poona**	**14.47**	**180**	*e*P	**Pn**	**07 53 45.5**	**+5.9**
POO				*e*PP		07 53 48.0	
POO				*e*S	**Sn**	**07 56 29.5**	**+10**
LATR	**Latur**	**14.79**	**170**	*ex*	**Pn**	**07 53 39.6**	**-4.3**
MK31	**Makanchi Array**	**15.16**	**23**	⇓P	**Pn**	**07 53 47.1**	**-1.8**
	comp=Z,29nm,0.6s,baz=210,slow=13,SNR=358						
MK31	**Makanchi Array**	**15.16**	**23**	*i* P	**Pn**	**07 53 47.1**	**-1.8**
MK31				pmax	pmax		
	comp=Z,29nm,0.5s						
MKAR	**Makanchi Array**	**15.16**	**23**	Pn	**Pn**	**07 53 46.1**	**-2.7**
	comp=Z,4.4nm,0.3s,baz=209,slow=12,SNR=107						
MKAR				Sn	**Sn**	**07 56 35.4**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=195,slow=22,SNR=2.9						
MKAR				LR	LR	07 59 41.4	
	comp=Z,496nm,20.0s,baz=95,slow=38						
MKAR	**Makanchi Array**	**15.16**	**23**	P	**Pn**	**07 53 46.2**	**-2.7**
MKAR				*e*P		07 56 35.4	
LSA	**Lhasa**	**15.17**	**98**	*e*Pn	**Pn**	**07 53 48.2**	**-0.8**
	comp=Z,36nm,0.9s						
LSA	**Lhasa**	**15.17**	**98**	*e*P	**Pn**	**07 53 48.2**	**-0.8**
LSA				pmax	pmax		
	comp=Z,35nm,0.9s						
WMQ	**Urumqi**	**15.26**	**41**	P	**Pn**	**07 53 49.0**	**-1.2**
WMQ				AP	pP	07 53 52.4	-6.5
WMQ				XP	sP	07 53 56.0	-4.6
WMQ				PP		07 54 01.3	
WMQ				S	**Sn**	**07 56 38.0**	**-0.9**
WMQ				SS		07 56 55.6	
WMQ				PCP	PcP	07 58 55.9	+0.3
WMQ				AMB	AMB		
	comp=Z,97nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,756nm,3.6s						
WMQ				LR	LR		
	comp=N,7μm,9.0s						
WMQ				LR	LR		
	comp=E,4μm,9.8s						
WMQ				LR	LR		
	comp=Z,6μm,11.0s						
KAD	**Karad**	**15.69**	**179**	*e*P	**Pn**	**07 53 54.1**	**-1.8**
KAD				*ex*	x	07 55 42.1	
HYB	**Hyderabad**	**16.15**	**164**	*i* P	**Pn**	**07 53 56.5**	**-5.3**
HYB				*e*S	**Sn**	**07 56 50.0**	**-11**
HYB				LR	LR	08 00 12.0	
	comp=Z,26nm,10.0s						
HYB	**Hyderabad**	**16.15**	**164**	*e*P	**Pn**	**07 53 56.5**	**-5.3**
HYB				*e*S	**Sn**	**07 56 50.0**	**-11**
CAL	**Calcutta**	**16.55**	**126**	*e*P	**Pn**	**07 54 07.0**	**+0.1**
CAL				*e*S	**Sn**	**07 57 16.5**	**+6.1**
WBK	**Wadi Bani Khal**	**16.75**	**235**	P	**Pn**	**07 54 08.8**	**-0.6**
	SNR=10.0						
SHL	**Shillong**	**17.41**	**111**	*ex*	**Pn**	**07 54 16.1**	**-1.6**
SHL				*ex*	**Sn**	**07 57 21.0**	**-10**
VIS	**Vishakhapatnam**	**17.50**	**148**	*e*P	**Pn**	**07 54 18.1**	**-0.8**
VIS				*i* P		07 54 20.5	
JMDO	**Jabal Madar**	**17.51**	**237**	⇓P	**Pn**	**07 54 19.6**	**+0.7**
ASHO	**Ashiyiah**	**17.65**	**246**	P	**Pn**	**07 54 23.5**	**+2.9**
	SNR=14						
BSY	**Bisya**	**17.91**	**239**	P	**Pn**	**07 54 27.0**	**+3.1**
	SNR=8.3						
KURK	**Kurchatov**	**17.99**	**10**	⇑P	**Pn**	**07 54 21.4**	**-3.5**
	comp=Z,56nm,0.8s						
KURK	**Kurchatov**	**17.99**	**10**	*e*P	**Pn**	**07 54 21.4**	**-3.5**
	comp=Z,84nm,0.8s						
KURK	**Kurchatov**	**17.99**	**10**	*c iP*	**Pn**	**07 54 21.3**	**-3.6**
ARQ	**Araqi**	**18.05**	**242**	P	**Pn**	**07 54 29.2**	**+3.6**
	SNR=11						
AB31	**Akbulak array**	**19.21**	**331**	⇓P	**Pn**	**07 54 36.6**	**-3.1**
	comp=Z,30nm,0.6s,baz=142,slow=9.5,SNR=616						
AB31				⇓S	**Sn**	**07 58 06.9**	**-7.9**
	comp=Z,18nm,0.8s,baz=151,slow=24,SNR=2.5						
VOSK	**Vostochnaya**	**19.76**	**355**	⇑P	**Pn**	**07 54 43.8**	**-2.5**
	comp=Z,42nm,0.6s						
VOSK	**Vostochnaya**	**19.76**	**355**	P	**Pn**	**07 54 43.8**	**-2.5**
VOSK				pmax	pmax		
	comp=Z,23nm,0.6s						
BVA0	**Borovoye Array**	**20.11**	**354**	P	**P**	**07 54 47.5**	**-1.1**
	comp=Z,12nm,0.7s,baz=166,slow=9.1,SNR=338						
BVA0	**Borovoye Array**	**20.11**	**354**	*i* P	**P**	**07 54 47.4**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**20.11**	**354**	P	**P**	**07 54 46.5**	**-2.0**
	comp=Z,13nm,0.3s,baz=157,slow=7.3,SNR=152						
BRVK	**Borovoye**	**20.15**	**354**	*e*P	**P**	**07 54 47.9**	**-1.1**
	comp=Z,35nm,0.6s						
BRVK	**Borovoye**	**20.15**	**354**	*e*P	**P**	**07 54 47.9**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,35nm,0.6s						
ZRNK	**Zerenda**	**20.18**	**352**	⇑P	**P**	**07 54 48.9**	**-0.5**
	comp=Z,38nm,0.7s						
ZRNK	**Zerenda**	**20.18**	**352**	*e*P	**P**	**07 54 48.0**	**-1.3**
	comp=Z,50nm,0.6s						
ZRNK	**Zerenda**	**20.18**	**352**	*i* P	**P**	**07 54 48.8**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,38nm,0.6s						
AKTK	**Aktyubinsk**	**20.91**	**331**	P	**P**	**07 54 55.5**	**-1.7**
AKTK				S	**S**	**07 58 44.6**	**-5.5**
AKTK				LR	LR	08 02 46.4	
AKTO	**Aktyubinsk**	**20.91**	**331**	P	**P**	**07 54 55.5**	**-1.7**
	comp=Z,143nm,0.7s,baz=141,slow=8.5,SNR=238						
AKTO				S	**S**	**07 58 44.6**	**-5.5**
	comp=Z,7.7nm,0.8s,baz=216,slow=19,SNR=2.6						
AKTO				LR	LR	08 02 46.4	
	comp=Z,544nm,20.4s,MS3.9,baz=0.0,slow=36						
AKTO	**Aktyubinsk**	**20.91**	**331**	P	**P**	**07 54 55.6**	**-1.7**
AKTO				S	**S**	**07 58 44.6**	**-5.5**
SALM	**Salem**	**21.69**	**168**	*e*P	**P**	**07 55 06.0**	**+0.4**
GTA	**Gaotai**	**21.86**	**66**	*e*P	**P**	**07 55 08.7**	**+1.3**
GTA				AP		07 55 14.7	
GTA				XP	sP	07 55 17.1	+4.0
GTA				S	**S**	**07 59 12.6**	**+4.0**
GTA				AMB	AMB		
	comp=Z,13nm,1.7s,mb4.1						
GTA				AMB	AMB		
	comp=Z,697nm,4.6s						
GTA				LR	LR		
	comp=N,2μm,12.9s,MS4.9						
GTA				LR	LR		
	comp=E,1μm,10.6s,MS4.9						
GTA				LR	LR		
	comp=Z,1μm,10.7s,MS4.5						
ZAL	**Zalesovo**	**22.28**	**17**	P	**P**	**07 55 10.8**	**-1.2**
	comp=Z,38nm,0.5s,mb5.1,baz=259,slow=9.2,SNR=57						
ZAL				S	**S**	**07 59 14.7**	**-2.1**
	comp=Z,2.3nm,0.4s,baz=72,slow=20,SNR=2.9						
NVS	**Novosibirsk**	**22.76**	**14**	*i* P	**P**	**07 55 15.6**	**-1.5**
NVS				*e*S	**S**	**07 59 24.6**	**-1.2**
NVS				pmax	pmax		
	comp=Z,99nm,1.1s,mb5.2						
NVS				pmax	pmax		
	comp=N,162nm,1.8s						
NVS				smax			
	comp=N,239nm,1.9s						
RBK	**Rabkut**	**23.49**	**234**	P	**P**	**07 55 26.0**	**+1.2**
	SNR=13						
WHFO	**Wadi Hawf**	**23.50**	**235**	P	**P**	**07 55 25.5**	**+0.6**
	SNR=27						
GNI	**Garni**	**24.33**	**295**	*e*P	**P**	**07 55 35.6**	**+3.2**
	comp=N,33nm,0.8s,mb4.8						
GNI	**Garni**	**24.33**	**295**	*e*P	**P**	**07 55 35.4**	**+2.9**
GNI				pmax	pmax		
	comp=Z,31nm,1.2s						
GNI				MLR	MLR		
	comp=Z,500nm,14.0s						
BHD	**Baghdad**	**24.62**	**279**	*ex*	x	07 55 48.0	
LZH	**Lanzhou**	**24.85**	**75**	⇑P	**P**	**07 55 37.5**	**+0.3**
LZH				AP		07 55 41.7	
LZH				XP	sP	07 55 44.5	+1.5
LZH				PP		07 56 14.2	
LZH				*e*S	**S**	**07 59 55.6**	**-4.1**
LZH				SS		08 00 53.4	
LZH				AMB	AMB		
	comp=Z,71nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,193nm,4.6s						
LZH				LR	LR		
	comp=E,975nm,10.0s						
LZH				LR	LR		
	comp=Z,2μm,13.2s,MS4.8						
ZEI	**Tsey**	**25.41**	**301**	*e*P	**P**	**07 55 43.5**	**+1.2**
ZEI				*i*		07 56 17.5	
ZEI				pmax	pmax		
	comp=Z,52nm,0.6s,mb5.2						
MSL	**Mosul**	**25.43**	**286**	*ex*	x	07 55 53.5	
CD2	**Chengdu**	**25.44**	**87**	P	**P**	**07 55 44.7**	**+2.1**
CD2				XP	sP	07 55 52.3	+3.9
CD2				PP		07 56 26.7	
CD2				S	**S**	**08 00 10.7**	**+1.7**
CD2				XS	sS	08 00 20.1	+4.3
CD2				SS		08 01 14.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CD2				AMB	AMB		
	comp=Z,70nm,6.2s						
CD2				LR	LR		
	comp=N,2μm,12.6s						
CD2				LR	LR		
	comp=Z,1μm,12.4s,MS4.7						
ARU	**Arti**	**25.64**	**340**	*e*P	**P**	**07 55 43.0**	**-1.4**
	comp=Z,42nm,0.6s,mb5.1						
ARU	**Arti**	**25.64**	**340**	⇓*i* P	**P**	**07 55 42.9**	**-1.5**
ARU				*e*PPP		07 56 26.6	
ARU				*e*S	**S**	**08 00 08.0**	**-4.3**
ARU				*e*SSS		08 01 20.9	
ARU				pmax	pmax		
	comp=Z,25nm,0.6s,mb4.9						
ARU				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,400nm,14.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,400nm,14.0s,MS4.2						
KMI	**Kunming**	**26.41**	**100**	P	**P**	**07 55 53.0**	**+1.6**
KMI				AP	pP	07 55 57.6	+2.1
KMI				XP	sP	07 56 00.4	+3.2
KMI				PP		07 56 35.9	
KMI				S	**S**	**08 00 24.3**	**-0.2**
KMI				XS	sS	08 00 32.3	+1.0
KMI				SS		08 01 36.2	
KMI				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,129nm,3.9s						
KMI				LR	LR		
	comp=N,1μm,13.8s,MS4.7						
KMI				LR	LR		
	comp=E,713nm,15.4s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,14.2s,MS4.7						
PALK	**Pallekele**	**26.44**	**165**	P	**P**	**07 55 51.5**	**-0.2**
	comp=Z,25nm,1.1s,mb4.7						
**KI

IRK pmax pmax
comp=Z,45nm,2.6s,mb4.7
GYA Guiyang 29.17 94 P **P 07 56 17.6 +1.5**
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
BTO Baotou 29.77 65 *e*P **P 07 56 23.0 +1.6**
BTO LR LR
comp=N,543nm,6.3s
BTO LR LR
comp=E,1µm,11.8s
ANN Anapa 30.40 303 *e*P **P 07 56 27.4 +0.4**
ANN *e*S **S 08 01 26.6 -0.6**
ANN pmax pmax
comp=Z,79nm,0.7s,mb5.5
ANN MLR MLR
comp=Z,868nm,15.0s,MS4.5
HHC Hu-ho-hao-te 30.95 65 *e*P **P 07 56 32.0 +0.2**
HHC AP pP 07 56 36.2 +0.2
HHC XP sP 07 56 38.9 +1.2
HHC PP PP 07 57 33.4 -8.3
HHC PCP PcP 07 59 29.2 +1.2
HHC S **S 08 01 34.4 -1.5**
HHC SS SS 08 03 16.3 -32
HHC AMB AMB
comp=Z,7.0nm,0.3s,mb5.0
HHC AMB AMB
comp=Z,257nm,8.6s
HHC LR LR
comp=N,1µm,13.3s,MS4.8
HHC LR LR
comp=E,890nm,12.9s,MS4.8
HHC LR LR
comp=Z,820nm,11.8s,MS4.6
VRSR Storozhevoye 31.05 316 *e*P **P 07 56 33.0 +0.3**
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
VRSR pmax pmax
comp=E,3.0nm,1.0s
SIM Simferopol' 32.75 303 *e*P **P 07 56 49.1 +1.4**
SIM *e*S **S 08 02 06.0 +2.0**
SIM pmax pmax
comp=Z,16nm,0.5s,mb5.2
SIM MLR MLR
comp=Z,500nm,17.0s,MS4.3
BR131 Keskin Array S 32.82 293 *e*P **P 07 56 48.3 0.0**
comp=Z,8.0nm,0.6s,mb4.8
BRTR Keskin Array B 32.82 293 P **P 07 56 48.6 +0.3**
comp=Z,12nm,0.7s,mb4.9,baz=113,slow=10,SNR=47
MOS Moscow 33.80 323 *e*P **P 07 56 56.9 +0.1**
MOS *i* 07 58 13.4
MOS pmax pmax
comp=Z,46nm,0.7s,mb5.5
MOS MLR MLR
comp=Z,500nm,16.0s,MS4.3
OBN Obninsk 34.07 322 *e*P **P 07 56 58.5 -0.6**
comp=Z,16nm,0.5s,mb5.2
OBN Obninsk 34.07 322⇓*e*P **P 07 56 58.4 -0.7**
OBN 07 57 14.1
OBN 07 58 15.0
OBN pmax pmax
comp=Z,23nm,0.7s,mb5.2
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.2
BJI Beijing 34.47 66 P **P 07 57 03.5 +0.9**
BJI S **S 08 02 30.2 -0.4**
BJI AMB AMB
comp=Z,14nm,1.6s,mb4.6
BJI LR LR
comp=N,941nm,14.5s,MS4.9
BJI LR LR
comp=E,1µm,11.6s,MS4.9
BJI LR LR
comp=Z,560nm,13.8s,MS4.5
QIZ Qiongzhong 35.06 104 *e*P **P 07 57 10.3 +2.6**
QIZ S **S 08 02 38.4 -1.2**
QIZ LR LR
comp=N,616nm,14.5s
QIZ LR LR
comp=Z,666nm,16.1s,MS4.5
KLMR Klimovskoe 35.61 332 *e*P **P 07 57 09.7 -2.7**
KLMR pmax pmax
comp=Z,40nm,1.9s,mb5.0
KLMR MLR MLR
comp=Z,260nm,16.0s,MS4.1
BOD Bodaibo 36.67 35 *e*P **P 07 57 20.6 -0.9**
BOD pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
AKASG Malin Array Be 36.94 312 P **P 07 57 22.6 -1.3**
comp=Z,16nm,0.7s,mb5.0,baz=80,slow=8.3,SNR=5.2
AKASG PP PP 07 58 44.8 -3.2
comp=Z,2.6nm,0.6s,baz=86,slow=9.2,SNR=4.2
CFR Carcaliu 36.99 303 ⇓P **P 07 57 25.4 +1.1**
NJ2 Nanjing 37.74 79 *e*P **P 07 57 30.8 +0.2**
NJ2 AP pP 07 57 35.3 +0.5
NJ2 XP sP 07 57 37.8 +1.3
NJ2 PP PP 07 59 00.0 +3.2
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,210nm,11.6s
NJ2 LR LR
comp=N,3µm,16.2s,MS5.3
NJ2 LR LR
comp=E,950nm,11.6s,MS5.3
NJ2 LR LR
comp=Z,530nm,15.4s,MS4.5
VRI Vrincioaia 38.02 304 ⇓P **P 07 57 35.2 +2.3**
PLOR Plostina 38.07 304 ⇓P **P 07 57 34.7 +1.3**
PSI Prapat 38.19 137 P **P 07 57 34.2 -0.1**
comp=Z,14nm,0.6s,mb4.9,baz=350,slow=6.7,SNR=11
PSI LR LR 08 13 56.4
comp=Z,436nm,19.4s,MS4.3,baz=314,slow=37
MLR Muntele Rosu 38.55 303 ⇑P **P 07 57 39.3 +1.9**
BURAR Bucovina Array 39.15 306 ⇑P **P 07 57 43.1 +0.6**
BURAR Bucovina Array 39.15 306 ⇑P **P 07 57 43.1 +0.7**
VOIR 39.18 303 ⇑P **P 07 57 43.7 +1.0**
APE Apeiranthos 39.40 290 ⇑P **P 07 57 45.0 +0.4**
SSE Sheshan 39.91 80 *e*P **P 07 57 47.0 -1.8**
SSE PCP PcP 07 59 50.9 -3.3
SSE S **S 08 03 49.3 -4.0**
SSE AMB AMB
comp=Z,33nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,127nm,3.6s
SSE LR LR
comp=N,1µm,14.8s,MS4.9
SSE LR LR
comp=E,359nm,14.8s,MS4.9
SSE LR LR
comp=Z,944nm,15.6s,MS4.7
JOF Joensuu 40.00 331 *e*p **P 07 57 48.8 -0.7**
IDI Anoyia 40.23 287 P **P 07 57 50.4 -1.0**
comp=Z,7.5nm,0.5s,mb4.7,baz=30,slow=12,SNR=8.8
VSU Vasula 40.32 323 *e*P **P 07 57 51.1 -1.1**
VTS Vitosha 40.58 299 ⇑P **P 07 57 55.6 +1.3**
KWP Kalwaria 40.95 309 *e*P **P 07 57 58.1 +0.7**
KOLS Kolonicke sedl 41.20 308 *e*P **P 07 57 59.2 -0.2**
CN2 Changchun 41.23 59 *e*P **P 07 58 01.2 +1.5**
CN2 *e*AP pP 07 58 07.4 +3.5
CN2 PCP PcP 07 59 57.1 -1.4
CN2 *e*S **S 08 04 13.7 +0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,900nm,15.0s,MS4.9
CN2 LR LR
comp=E,800nm,15.0s,MS4.9
CN2 LR LR
comp=Z,700nm,13.0s,MS4.7
BZS Buzias 41.59 303 ⇑P **P 07 58 03.6 +0.9**
FINES FINESS Array B 41.63 328 P **P 07 58 01.1 -1.9**
comp=Z,9.7nm,0.7s,mb4.5,baz=101,slow=10,SNR=38
FINES LR LR 08 18 43.7
comp=Z,159nm,19.0s,MS3.9,baz=106,slow=41
CRVS Cervenica-Dubn 41.73 308 *e*P **P 07 58 05.8 +2.0**
KAF Kangasniemi 41.77 329 *e*p **P 07 58 02.3 -1.8**
comp=Z,4.7nm,0.6s,mb4.3,baz=111,slow=8.2
KAF Kangasniemi 41.77 329 *e*P **P 07 58 02.3 -1.8**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
STHS Stebnicka Huta 41.89 309 *i* P **P 07 58 05.5 +0.4**

CLNS Chul'man 41.95 40 *e*P **P 07 58 07.1 +1.5**
CLNS pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=E,2.0nm,0.6s
CLNS MLR MLR
comp=Z,700nm,16.0s,MS4.6
CLNS MLR MLR
comp=N,200nm,14.0s,MS4.6
CLNS MLR MLR
comp=E,500nm,14.0s,MS4.6
KECS Kecovo 42.36 308 *e*P **P 07 58 10.0 +1.0**
NIE Niedzica 42.50 309 *e*P **P 07 58 11.3 +1.2**
PSZ Piszkesteto 42.75 307 P **P 07 58 10.9 -1.2**
comp=E,12nm,0.7s,mb4.7
PSZ Piszkesteto 42.75 307 P **P 07 58 10.9 -1.2**
PSZ pmax pmax
comp=Z,12nm,0.7s,mb4.7
OJC Ojcow 42.87 310 *e*P **P 07 58 13.1 +0.1**
VYHS Vyhne 43.46 308 *e*P **P 07 58 18.7 +0.8**
PKSM Moragy 43.65 304 ⇓P **P 07 58 20.0 +0.6**
SRO Srobarova 43.82 307 *e*P **P 07 58 20.6 -0.1**
MDJ Mudanjiang 44.15 58 P **P 07 58 24.4 +1.0**
MDJ AP pP 07 58 26.4 -1.3
MDJ XP sP 07 58 29.0 -0.3
MDJ S **S 08 04 55.7 -0.3**
MDJ AMB AMB
comp=Z,18nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,126nm,3.1s
MDJ LR LR
comp=N,246nm,18.6s
MDJ LR LR
comp=Z,211nm,16.5s,MS4.1
MORC Moravsky Berou 44.31 309 *e*P **P 07 58 24.5 -0.1**
comp=Z,20nm,0.6s,mb5.0
MORC Moravsky Berou 44.31 309 *e*P **P 07 58 24.5 -0.2**
MORC pmax pmax
comp=Z,20nm,0.6s,mb5.0
GKP Gorka Klasztor 44.62 314 *e*P **P 07 58 27.5 +0.4**
KEV Kevo 44.84 339 *e*p **P 07 58 26.2 -2.8**
DPC Dobruska-Polom 45.10 310 *e*P **P 07 58 30.8 -0.2**
KSP Ksiaz 45.12 311 *e*P **P 07 58 31.9 +0.8**
ARCES ARCESS Array B 45.20 338 P **P 07 58 30.4 -1.4**
comp=Z,16nm,0.5s,mb5.1,baz=114,slow=8.1,SNR=105
ARCES LR LR 08 18 36.6
comp=Z,687nm,18.0s,MS4.6,baz=122,slow=38
ARE0 ARCESS Array S 45.20 338 *e*P **P 07 58 30.6 -1.1**
UPC Upice 45.30 311 *e*P **P 07 58 32.4 -0.1**
KLR Kul'dur 45.38 51 *e*P **P 07 58 30.2 -3.0**
KLR *e*S **S 08 05 05.5 -8.3**
KLR *e*SS SS 08 08 26.0 -11
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,72nm,2.0s,mb5.2
KLR MLR MLR
comp=N,1µm,12.0s,MS5.2
KLR MLR MLR
comp=E,1µm,12.0s,MS5.2
KLR MLR MLR
comp=Z,7µm,12.0s,MS5.8
YAK Yakutsk 45.49 33 *e*P **P 07 58 33.4 -0.7**
comp=Z,45nm,0.6s,mb5.5
YAK Yakutsk 45.49 33 *e*P **P 07 58 33.4 -0.7**
YAK pmax pmax
comp=Z,45nm,0.6s,mb5.5
PRU Pruhonice 46.25 310 *e*P **P 07 58 40.2 +0.1**
BRG Berggiesshubel 46.61 311 *e*P **P 07 58 43.0 +0.1**
comp=Z,14nm,0.8s,mb4.9
BRG Berggiesshubel 46.61 311 *i* P **P 07 58 43.0 +0.1**
comp=Z,10nm,0.5s,mb5.0
BRG LR LR
comp=Z,390nm,11.0s,MS4.6
BRG Berggiesshubel 46.61 311 *i* P **P 07 58 43.0 +0.1**
BRG pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
BRG MLR MLR
comp=Z,390nm,11.0s,MS4.6
RUE Ruedersdorf 46.69 313 *e*P **P 07 58 43.0 -0.5**
comp=Z,20nm,0.7s,mb5.2
GERES GERESS Array B 46.85 308 P **P 07 58 44.5 -0.2**
comp=Z,1.8nm,0.6s,mb4.2,baz=68,slow=7.4,SNR=7.3
GERES LR LR 08 19 25.9
comp=Z,283nm,18.1s,MS4.3,baz=284,slow=37
KHC Kasperske Hory 46.91 309 *e*P **P 07 58 46.9 +1.6**
JOW Kunigami 47.15 83 P **P 07 58 47.2 +0.1**
comp=Z,13nm,0.9s,mb4.9,baz=299,slow=19,SNR=2.0
CLL Collm 47.19 312 *e*P **P 07 58 48.0 +0.6**
comp=Z,11nm,1.1s,mb4.7
CLL *e*pP pP 07 58 49.0 -2.7
CLL Collm 47.19 312 *e*P **P 07 58 48.0 +0.6**
CLL pmax pmax
comp=Z,11nm,1.1s,mb4.7
HABR Khabarovsk 47.60 52 *e*P **P 07 58 51.3 +0.7**
HABR *e*S **S 08 05 43.1 -2.5**
HABR pmax pmax
comp=Z,65nm,2.4s,mb5.2
HABR MLR MLR
comp=Z,598nm,13.9s,MS4.7
WERD Werda 47.66 311 *e*P **P 07 58 51.5 +0.4**
comp=Z,7.0nm,0.9s,mb4.7
MANZ Manzenberg 47.82 310 *e*P **P 07 58 53.5 +1.2**
comp=Z,12nm,1.2s,mb4.8
MOX Moxa 48.09 311 *e*P **P 07 58 53.9 -0.6**
comp=Z,9.0nm,1.0s,mb4.8
MOX Moxa 48.09 311 *e*P **P 07 58 53.8 -0.7**
comp=Z,8.0nm,0.9s,mb4.8
MOX Moxa 48.09 311 *e*P **P 07 58 53.8 -0.7**
MOX pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TIXI Tiksi 48.13 20 *e*P **P 07 58 52.6 -2.1**
TIXI pmax pmax
comp=Z,13nm,0.8s,mb5.0
TIXI MLR MLR
comp=Z,1µm,15.0s,MS5.0
GRA1 Grafenberg Arr 48.41 310 *e*P **P 07 58 56.8 -0.1**
comp=Z,11nm,1.2s,mb4.8
GRF Grafenberg Arr 48.41 310 *e*P **P 07 58 56.8 -0.1**
comp=Z,11nm,1.2s,mb4.8
GRF Grafenberg Arr 48.41 310 *e*P **P 07 58 56.8 -0.1**
GRF pmax pmax
comp=Z,11nm,1.2s,mb4.8
KMBO Kilima Mbogo 48.42 233 P **P 07 58 56.6 -0.4**
comp=Z,2.2nm,0.7s,mb4.3,baz=40,slow=12,SNR=6.7
KMBO LR LR 08 20 44.1
comp=Z,342nm,18.1s,MS4.4,baz=87,slow=38
NB2 NORSAR Subarra 48.52 325 P **P 07 58 55.0 -2.8**
comp=Z,29nm,0.6s,mb5.5,baz=98,slow=7.9
NB2 NORSAR Subarra 48.52 325 P **P 07 58 55.0 -2.8**
NB2 pmax pmax
comp=Z,29nm,0.6s,mb5.5
NOA NORSAR Array B 48.52 325 P **P 07 58 54.5 -3.2**
comp=Z,25nm,0.6s,mb5.4,baz=97,slow=7.6,SNR=112
NOA LR LR 08 22 02.5
comp=Z,344nm,18.8s,MS4.4,baz=280,slow=39
SQTA Sankt Quirin 48.66 306⇑*i*P **P 07 58 58.7 -0.1**
comp=Z,2.9nm,0.9s,mb4.3
NAO01 NORSAR Array S 48.66 324 *e*P **P 07 58 57.0 -1.9**
comp=Z,7.7nm,0.7s,mb4.8
MOTA Moosalm 48.72 306⇑*i*P **P 07 58 58.6 -0.7**
comp=Z,5.5nm,0.8s,mb4.6
BSEG Bad Segeberg 48.75 315 *e*P **P 07 58 59.7 +0.2**
comp=Z,37nm,1.2s,mb5.3
CLZ Clausthal 48.80 312 *e*P **P 07 59 01.1 +1.2**
comp=Z,18nm,0.9s,mb5.1
CLZ Clausthal 48.80 312 *e*P **P 07 59 01.1 +1.2**
CLZ pmax pmax
comp=Z,18nm,0.9s,mb5.1
UBBA Unterbreizbach 49.10 311 *e*P **P 07 59 03.0 +0.8**
comp=Z,6.0nm,0.7s,mb4.7
DAVA Damuels 49.55 307⇑*i*P **P 07 59 05.1 -0.6**
comp=Z,32nm,0.7s,mb5.5
STU Stuttgart 49.82 309 *e*P **P 07 59 07.3 -0.4**
comp=Z,18nm,0.4s,mb5.5
IBBN Ibbenburen 50.38 313 *e*P **P 07 59 12.6 +0.6**
comp=Z,21nm,0.7s,mb5.3
PGF Pioggiola 50.97 301 *e*P **P 07 59 16.2 -0.2**
comp=Z,28nm,0.6s,mb5.1
PGF Pioggiola 50.97 301 *e*P **P 07 59 16.2 -0.2**
comp=Z,14nm,0.6s,mb5.1
PGF Pioggiola 50.97 301 *e*P **P 07 59 16.2 -0.2**
PGF pmax pmax
comp=Z,14nm,0.6s,mb5.1

HINF Hinteralfeld 51.50 308 *e*P **P 07 59 19.9 -0.5**
comp=Z,9.9nm,0.6s,mb4.7
HINF Hinteralfeld 51.50 308 *e*P **P 07 59 19.9 -0.5**
comp=Z,4.9nm,0.6s,mb4.6
HINF Hinteralfeld 51.50 308 *e*P **P 07 59 19.9 -0.5**
HINF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
WLF Walferdange 51.69 310 *e*P **P 07 59 23.0 +1.2**
comp=Z,21nm,1.1s,mb5.0
HAU Haudompre 51.81 308 *e*P **P 07 59 22.9 +0.2**
comp=Z,13nm,0.6s,mb4.7
HAU Haudompre 51.81 308 *e*P **P 07 59 22.9 +0.2**
comp=Z,6.6nm,0.6s,mb4.7
HAU Haudompre 51.81 308 *e*P **P 07 59 22.9 +0.2**
HAU pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SBF Sospel 51.82 303 *e*P **P 07 59 23.0 +0.2**
comp=Z,72nm,0.8s,mb5.4
SBF Sospel 51.82 303 *e*P **P 07 59 23.0 +0.2**
comp=Z,36nm,0.8s,mb5.3
SBF Sospel 51.82 303 *e*P **P 07 59 23.0 +0.2**
SBF pmax pmax
comp=Z,36nm,0.8s,mb5.3
LPG La Plagne 51.98 305 *e*P **P 07 59 24.7 +0.8**
comp=Z,22nm,0.7s,mb4.9
LPG La Plagne 51.98 305 *e*P **P 07 59 24.7 +0.8**
comp=Z,11nm,0.7s,mb4.9
LPG La Plagne 51.98 305 *e*P **P 07 59 24.7 +0.8**
LPG pmax pmax
comp=Z,11nm,0.7s,mb4.9
LPL La Plagne 51.98 305 *e*P **P 07 59 24.3 +0.3**
comp=Z,24nm,0.6s,mb5.0
LPL La Plagne 51.98 305 *e*P **P 07 59 24.3 +0.3**
comp=Z,12nm,0.6s,mb5.0
LPL La Plagne 51.98 305 *e*P **P 07 59 24.3 +0.3**
LPL pmax pmax
comp=Z,12nm,0.6s,mb5.0
MAJO Matsushiro 52.10 67 *e*P **P 07 59 25.1 +0.3**
comp=Z,14nm,0.8s,mb5.0
MAJO Matsushiro 52.10 67 *e*P **P 07 59 25.1 +0.3**
MAJO pmax pmax
comp=Z,14nm,0.8s,mb4.9
MAT Matsushiro 52.10 67 P **P 07 59 24.0 -0.8**
comp=Z,6.7nm,0.8s,mb4.6
MAT *e*S **S 08 06 43.0 -5.4**
MAT Matsushiro 52.10 67 P **P 07 59 24.0 -0.8**
MAT *e*S **S 08 06 43.0 -5.4**
MAT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MJAR Matsushiro Arr 52.10 67 P **P 07 59 23.7 -1.1**
comp=Z,4.9nm,0.7s,mb4.5,baz=291,slow=9.3,SNR=9.0
MBDF Montbardon 52.11 304 *e*P **P 07 59 24.9 0.0**
comp=Z,13nm,0.6s,mb4.8
MBDF Montbardon 52.11 304 *e*P **P 07 59 24.9 0.0**
comp=Z,6.7nm,0.6s,mb4.8
MBDF Montbardon 52.11 304 *e*P **P 07 59 24.9 0.0**
MBDF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
CABF La Chapelle 52.22 306 *e*P **P 07 59 26.5 +0.7**
comp=Z,15nm,0.6s,mb4.8
CABF La Chapelle 52.22 306 *e*P **P 07 59 26.5 +0.7**
comp=Z,7.4nm,0.6s,mb4.8
CABF La Chapelle 52.22 306 *e*P **P 07 59 26.5 +0.7**
CABF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
FRF La Foret Royal 52.44 302 *e*P **P 07 59 27.2 -0.2**
comp=Z,15nm,0.6s,mb4.8
FRF La Foret Royal 52.44 302 *e*P **P 07 59 27.2 -0.2**
comp=Z,7.6nm,0.6s,mb4.8
FRF La Foret Royal 52.44 302 *e*P **P 07 59 27.2 -0.2**
FRF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ORIF Oris-en-Rattie 52.69 304 *e*P **P 07 59 28.7 -0.6**
YSS Yuzh-Sakhalins 52.96 53 *e*P **P 07 59 30.8 -0.4**
YSS pmax pmax
comp=Z,26nm,1.2s,mb5.0
YSS MLR MLR
comp=Z,300nm,13.0s,MS4.5
SMRF Simiane la Rot 53.11 303 *e*P **P 07 59 31.8 -0.5**
VIVF Saint-Julien-l 53.55 304 *e*P **P 07 59 35.8 +0.3**
comp=Z,5.3nm,0.5s,mb4.4
VIVF Saint-Julien-l 53.55 304 *e*P **P 07 59 35.8 +0.3**
comp=Z,2.7nm,0.5s,mb4.4
VIVF Saint-Julien-l 53.55 304 *e*P **P 07 59 35.8 +0.3**
VIVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LOR Lormes 53.60 307 *e*P **P 07 59 35.3 -0.6**
SMF Signal de Mont 53.73 307 *e*P **P 07 59 36.6 -0.3**
comp=Z,26nm,0.6s,mb5.0
SMF Signal de Mont 53.73 307 *e*P **P 07 59 36.6 -0.3**
comp=Z,13nm,0.6s,mb5.0
SMF Signal de Mont 53.73 307 *e*P **P 07 59 36.6 -0.3**
SMF pmax pmax
comp=Z,13nm,0.6s,mb5.0
SSF Saint Saulge 53.88 307 *e*P **P 07 59 37.5 -0.5**
comp=Z,17nm,0.7s,mb4.8
SSF Saint Saulge 53.88 307 *e*P **P 07 59 37.5 -0.5**
comp=Z,8.7nm,0.7s,mb4.8
SSF Saint Saulge 53.88 307 *e*P **P 07 59 37.5 -0.5**
SSF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
AVF Avril sur Loir 54.03 307 *e*P **P 07 59 38.7 -0.4**
comp=Z,14nm,0.6s,mb4.8
AVF Avril sur Loir 54.03 307 *e*P **P 07 59 38.7 -0.4**
comp=Z,6.9nm,0.6s,mb4.8
AVF Avril sur Loir 54.03 307 *e*P **P 07 59 38.7 -0.4**
AVF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LASF Ste Croix 54.29 303 *e*P **P 07 59 40.9 -0.1**
TCF Toulx Ste Croi 54.91 306 *e*P **P 07 59 45.6 +0.1**
comp=Z,16nm,0.7s,mb4.9
TCF Toulx Ste Croi 54.91 306 *e*P **P 07 59 45.6 +0.1**
comp=Z,8.3nm,0.7s,mb4.9
TCF Toulx Ste Croi 54.91 306 *e*P **P 07 59 45.6 +0.1**
TCF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
CAF Calviac 55.33 305 *e*P **P 07 59 48.2 -0.3**
comp=Z,6.6nm,0.5s,mb4.6
CAF Calviac 55.33 305 *e*P **P 07 59 48.2 -0.3**
comp=Z,3.3nm,0.5s,mb4.6
CAF Calviac 55.33 305 *e*P **P 07 59 48.2 -0.3**
CAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
RJF Les Rejaudoux 55.62 305 *e*P **P 07 59 50.4 -0.2**
MTLF Montolieu 55.63 303 *e*P **P 07 59 50.5 -0.2**
comp=Z,8.4nm,0.5s,mb4.7
MTLF Montolieu 55.63 303 *e*P **P 07 59 50.5 -0.2**
comp=Z,4.2nm,0.5s,mb4.7
MTLF Montolieu 55.63 303 *e*P **P 07 59 50.5 -0.2**
MTLF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
MA2 Magadan 55.67 37 *e*P **P 07 59 50.4 -0.6**
comp=Z,8.8nm,0.8s,mb4.8
MA2 Magadan 55.67 37 *e*P **P 07 59 51.1 +0.1**
MA2 *e* 08 11 15.7
MA2 pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
SEY Seymchan 56.01 33 *e*P **P 07 59 54.0 +0.6**
SEY PPP 08 03 17.8
SEY *e*S **S 08 07 41.0 -0.3**
SEY 08 09 42.5
SEY SS SS 08 11 26.5 -0.8
SEY *e*SSS 08 13 29.9
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SEY pmax pmax
comp=E,10.0nm,1.5s
SEY smax
comp=N,110nm,16.6s
SEY smax
comp=E,169nm,26.3s
SEY MLR MLR
comp=Z,230nm,13.0s,MS4.5
SEY MLR MLR
comp=N,142nm,21.0s
SEY MLR MLR
comp=E,137nm,12.0s
FLN La Foliniere 56.13 310 *e*P **P 07 59 52.7 -1.5**
comp=E,8.0nm,0.5s,mb4.7
FLN La Foliniere 56.13 310 *e*P **P 07 59 52.7 -1.5**
comp=E,4.0nm,0.5s,mb4.7
FLN La Foliniere 56.13 310 *e*P **P 07 59 52.7 -1.5**
FLN pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
LFF La Frestale 56.24 305 *e*P **P 07 59 55.1 +0.1**
MFF Saint Martin d 56.42 307 *e*P **P 07 59 55.6 -0.7**

comp=Z,24nm,0.8s,mb5.0
MFF Saint Martin d 56.42 307 *e*P **P 07 59 55.6 -0.7**
comp=Z,12nm,0.8s,mb5.0
MFF Saint Martin d 56.42 307 *e*P **P 07 59 55.6 -0.7**
MFF pmax pmax
comp=Z,12nm,0.8s,mb5.0
GRR Gorron 56.46 310 *e*P **P 07 59 55.7 -0.9**
EPF Esparros 57.03 303 *e*P **P 08 00 00.6 -0.1**
comp=Z,12nm,0.7s,mb4.7
EPF Esparros 57.03 303 *e*P **P 08 00 00.6 -0.1**
comp=Z,6.3nm,0.7s,mb4.8
EPF Esparros 57.03 303 *e*P **P 08 00 00.6 -0.1**
EPF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
OPO Ambohidratompo 57.31 210 P **P 08 00 02.7 +0.1**
comp=Z,6.9nm,0.8s,mb4.7,baz=43,slow=7.3,SNR=7.4
ETSF Etsaut 57.70 303 *e*P **P 08 00 05.4 0.0**
comp=Z,48nm,0.5s,mb5.5
ETSF Etsaut 57.70 303 *e*P **P 08 00 05.4 0.0**
comp=Z,24nm,0.5s,mb5.5
ETSF Etsaut 57.70 303 *e*P **P 08 00 05.4 0.0**
ETSF pmax pmax
comp=Z,24nm,0.5s,mb5.5
ROSF Rostrenen 58.03 310 *e*P **P 08 00 06.4 -1.3**
comp=Z,42nm,0.8s,mb5.2
ROSF Rostrenen 58.03 310 *e*P **P 08 00 06.4 -1.3**
comp=Z,21nm,0.8s,mb5.2
ROSF Rostrenen 58.03 310 *e*P **P 08 00 06.4 -1.3**
ROSF pmax pmax
comp=Z,21nm,0.8s,mb5.2
QUIF Quistinic 58.07 309 *e*P **P 08 00 07.1 -0.9**
comp=Z,69nm,1.0s,mb5.3
QUIF Quistinic 58.07 309 *e*P **P 08 00 07.1 -0.9**
comp=Z,34nm,1.0s,mb5.3
QUIF Quistinic 58.07 309 *e*P **P 08 00 07.1 -0.9**
QUIF pmax pmax
comp=Z,34nm,1.0s,mb5.3
SJPF Ste Jean 58.11 304 *e*P **P 08 00 08.3 +0.1**
DAG Danmarks Havn 58.67 344⇑ *i*P **P 08 00 10.2 -2.0**
comp=Z,4.8nm,0.7s,mb4.6
DAG Danmarks Havn 58.67 344⇑ *e*P **P 08 00 10.2 -2.0**
comp=Z,4.8nm,0.7s,mb4.6
DAG Danmarks Havn 58.67 344⇑ *e*P **P 08 00 10.2 -2.0**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BILL Bilibino 60.68 26 *e*P **P 08 00 26.4 +0.4**
comp=Z,5.5nm,0.6s,mb4.9
BILL Bilibino 60.68 26 *e*P **P 08 00 26.4 +0.3**
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
SCO Scoresbysund 61.12 338 *i*P **P 08 00 29.4 +0.4**
comp=Z,7.1nm,0.8s,mb4.8
SCO Scoresbysund 61.12 338 *i*P **P 08 00 29.4 +0.4**
SCO pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ESDC Sonseca Array 61.16 301 P **P 08 00 28.7 -0.6**
comp=Z,9.0nm,0.8s,mb5.0,baz=62,slow=7.2,SNR=19
ESLA Sonseca Array 61.16 301 *e*P **P 08 00 29.3 -0.1**
comp=Z,2.9nm,0.8s,mb4.5
MTE Manteigas 63.47 302 *e*P **P 08 00 46.1 +1.4**
comp=Z,49nm,1.6s,mb5.4
MTE Manteigas 63.47 302 *e*P **P 08 00 43.9 -0.9**
comp=Z,23nm,0.8s,mb5.4
PVIS Viseu 63.60 303 *e*P **P 08 00 46.9 +1.3**
comp=Z,37nm,1.4s,mb5.2
PCBR Castelo Branco 63.63 302 *e*P **P 08 00 47.5 +1.7**
PTOM Tomar 64.38 302 *e*P **P 08 00 51.8 +1.1**
comp=Z,47nm,0.5s,mb5.8
PBEJ Beja 64.61 300 *e*P **P 08 00 53.1 +0.9**
SUMG Summit 65.05 342 *e*P **P 08 00 54.4 -0.7**
comp=Z,13nm,0.6s,mb5.1
PLOU Loures 65.19 301 *e*P **P 08 00 57.7 +1.6**
TORD Torodi Ar. Bea 68.06 272 P **P 08 01 13.3 -1.0**
comp=Z,6.5nm,0.5s,mb5.0,baz=44,slow=5.6,SNR=51
TNA Tin City 70.83 23 *e*P **P 08 01 30.6 -0.9**
comp=Z,6.8nm,1.0s,mb4.5
LBTB Lobatse 73.79 225 LR LR 08 37 12.3
comp=Z,228nm,18.3s,MS4.5,baz=56,slow=38
BOSA Boshof 76.71 223 P **P 08 02 05.9 -0.1**
comp=Z,7.6nm,0.4s,mb5.0,baz=38,slow=4.8,SNR=35
BOSA LR LR 08 32 50.2
comp=Z,223nm,18.8s,MS4.5,baz=353,slow=33
BOSA Boshof 76.71 223 *e*P **P 08 02 05.7 -0.3**
comp=Z,11nm,0.8s,mb4.8
BOSA Boshof 76.71 223 *e*P **P 08 02 05.7 -0.3**
BOSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
DBIC Dimbokro 76.92 269 P **P 08 02 06.6 -0.6**
comp=Z,5.5nm,0.8s,mb4.5,baz=46,slow=8.4,SNR=7.8
DBIC LR LR 08 40 14.1
comp=Z,253nm,18.4s,MS4.6,baz=35,slow=39
DBIC Dimbokro 76.92 269 P **P 08 02 06.6 -0.6**
DBIC LR LR 08 40 14.1
COLA College 77.10 17 *e*P **P 08 02 06.8 -1.4**
NWAO Narrogin (SRO) 77.33 144 LR LR 08 35 59.2
comp=Z,184nm,20.4s,MS4.4,baz=192,slow=35
ILAR Eielson Array 77.42 17 P **P 08 02 08.1 -1.9**
comp=Z,6.2nm,0.5s,mb4.8,baz=300,slow=4.7,SNR=128
ILAR PP PP 08 05 04.5 +0.1
comp=Z,1.4nm,0.7s,baz=309,slow=5.7,SNR=4.4
ILAR LR LR 08 43 16.2
comp=Z,183nm,18.5s,MS4.4,baz=356,slow=41
ILAR Eielson Array 77.42 17 P **P 08 02 08.1 -1.9**
ILAR 08 05 04.5
WRA Warramunga Arr 78.18 123 P **P 08 02 14.6 +0.4**
comp=Z,6.7nm,0.4s,mb4.9,baz=322,slow=5.1,SNR=263
WRA PKKPbc PKKPbc 08 21 12.7 -0.1
comp=Z,0.4nm,0.6s,baz=122,slow=2.2,SNR=12
WRAB Tennant Creek 78.18 123 *e*P **P 08 02 15.0 +0.8**
comp=Z,15nm,0.4s,mb5.3
WRAB Tennant Creek 78.18 123 *e*P **P 08 02 14.9 +0.7**
WB2 Warramunga Arr 78.19 123 *e*P **P 08 02 14.6 +0.4**
PMR Palmer 79.46 19 *e*P **P 08 02 20.9 -0.3**
comp=Z,13nm,0.6s,mb5.0
PMR Palmer 79.46 19 *e*P **P 08 02 20.9 -0.3**
PMR pmax pmax
comp=Z,13nm,0.6s,mb5.0
ASAR Alice Springs 80.36 126 P **P 08 02 26.4 +0.2**
comp=Z,3.3nm,0.5s,mb4.5,baz=310,slow=4.8,SNR=37
ASAR PKKPbc PKKPbc 08 21 07.7 -0.3
comp=Z,0.3nm,0.6s,baz=123,slow=2.4,SNR=5.9
YKW3 Yellowknife Ar 84.47 4 *e*P **P 08 02 45.7 -1.9**
YKA Yellowknife Ar 84.54 4 P **P 08 02 46.7 -1.2**
comp=Z,4.7nm,0.6s,mb4.8,baz=347,slow=5.3,SNR=111
YKA LR LR 08 44 35.7
comp=Z,158nm,20.8s,MS4.4,baz=0.0,slow=39
YKA Yellowknife Ar 84.54 4 P **P 08 02 46.7 -1.2**
YKA LR LR 08 44 35.7
SCHQ Schefferville 86.15 338 P **P 08 02 54.9 -1.1**
comp=Z,1.7nm,0.6s,mb4.4,baz=36,slow=6.5,SNR=8.2
CTA Charters Tower 86.96 116 P **P 08 03 00.7 +0.7**
comp=Z,5.5nm,0.5s,mb5.0,baz=312,slow=3.8,SNR=7.6
CTA Charters Tower 86.96 116 P **P 08 03 00.7 +0.7**
CTA pmax pmax
comp=Z,6.0nm,0.5s
STKA Stephens Creek 90.86 128 P **P 08 03 16.9 -1.4**
comp=Z,4.0nm,0.6s,mb5.0,baz=334,slow=7.3,SNR=18
EDM Edmonton 93.85 4 *e*P **P 08 03 31.7 -0.5**
ULM Lac du Bonnet 96.55 353 P **P 08 03 43.8 -0.7**
comp=Z,0.8nm,0.3s,mb4.6,baz=84,slow=3.7,SNR=3.2
ULM LR LR 08 49 31.2
comp=Z,175nm,21.3s,MS4.5,baz=358,slow=37
ROSC El Rosal 131.70 315 PKP PKPdf 08 09 29.4 +1.6
comp=Z,1.8nm,0.5s,baz=108,slow=20,SNR=3.7
ROSC SKPbc SKPbc 08 12 51.5 -1.5
comp=Z,4.9nm,0.7s,baz=82,slow=12,SNR=7.4
SIV San Ignacio 135.96 282 PKP PKPdf 08 09 35.2 -0.6
comp=Z,0.9nm,0.8s,baz=94,slow=7.6,SNR=4.3
SIV SKPbc SKPbc 08 13 05.5 -1.6
comp=Z,0.8nm,0.7s,baz=109,slow=7.8,SNR=5.7
CPUP Villa Florida 137.35 266 PKP PKPdf 08 09 36.9 -1.4
comp=Z,1.8nm,0.7s,baz=21,slow=5.9,SNR=5.2
TRQA Tornquist 143.96 249 *e*PKPdf PKPdf 08 09 48.8 -1.5
CFAA Coronel Fontan 148.03 262 PKP PKPdf 08 09 56.4 -0.8
comp=Z,0.6nm,0.4s,baz=346,slow=4.2,SNR=14
CFAA PKPbc PKPbc 08 10 01.1 +0.8
comp=Z,0.8nm,0.5s,baz=84,slow=3.8,SNR=12
PLCA Paso Flores 150.66 245 PKPbc PKPbc 08 10 07.2 +0.3
comp=Z,3.3nm,0.5s,baz=7.8,slow=2.5,SNR=28
PLCA Paso Flores 150.66 245 *e*PKPbc PKPbc 08 10 07.5 +0.6
PLCA Paso Flores 150.66 245 PKIKP PKPdf 08 10 07.2 +5.8
PLCA pmax pmax
comp=Z,3.0nm,0.5s

IDC 10 07:59:48.2±8.5, 567S×14597E, h86km±58km, mb3.5/2, mb1 3.7/4, mb1mx3.4/14, mbtmp3.9/4, ML3.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/15, Error ellipse: s-maj=89.9km s-min=52.2km az=47.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.90**	**162**	P	Pn	08 00 46.2	+0.4
	10nm,0.3s,baz=350,slow=11,SNR=26						
PMG				S	Sn	08 01 31.0	+0.6
	10.0nm,0.3s,baz=257,slow=23,SNR=8.6						
PMG				LR	LR	08 02 20.6	
	comp=Z,107nm,18.1s,baz=221,slow=39						
WRA	**Warramunga Arr**	**18.14**	**218**	P	Pn	08 03 54.4	0.0
	0.6nm,0.3s,baz=39,slow=10,SNR=12						
GUMO	**Guam**	**19.16**	**357**	LR	LR	08 10 47.3	
	comp=Z,60nm,20.8s,baz=123,slow=34						
ASAR	**Alice Springs**	**21.33**	**212**	P	P	08 04 27.4	-0.8
	2.1nm,0.7s,baz=48,slow=8.1,SNR=9.9						
STKA	**Stephens Creek**	**26.39**	**188**	P	P	08 05 17.2	+0.7
	1.0nm,0.4s,baz=2.9,slow=10,SNR=3.2						

PRE 10 08:13:59.7±1.4, 2168S×3362E, h5km, ML4.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.41**	**258**	*e*P		08 06 33.7	
MSNA				*e*S		08 07 13.2	
MSNA				AML	AML	08 07 28.2	
	comp=Z,177nm,0.1s						
BFT	**Belfast (SA)**	**5.16**	**219**	*e*P	Pn	08 15 19.3	+1.7
LBTB	**Lobatse**	**8.09**	**244**	*e*P	Pn	08 15 58.4	+0.6
LBTB				*e*S	Sn	08 17 26.8	-2.8
LBTB				AML	AML	08 18 20.5	
	comp=Z,18nm,0.7s						
SWZ	**Schweizer**	**9.33**	**232**	*e*P	Pn	08 16 16.0	+1.2
SWZ				*e*S	Sn	08 17 55.9	-4.1
SWZ				AML	AML	08 19 01.3	
	comp=Z,14nm,0.6s						
BOSA	**Boshof**	**10.25**	**226**	*e*P	Pn	08 16 28.9	+1.5
BOSA				*e*S	Sn	08 18 17.2	-5.4
BOSA				AML	AML	08 19 29.4	
	comp=Z,8.0nm,0.5s						
PKA	**Prieska**	**12.61**	**229**	*e*P	Pn	08 17 01.0	+1.2
SUR	**Sutherland**	**15.60**	**224**	*e*P	Pn	08 17 43.2	+3.0

IDC 10 08:14:50.4±3.5, 1042N×9370E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.6/4, Error ellipse: s-maj=144.9km s-min=24.2km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.55**	**323**	*e*P	Pn	08 15 20.3	+1.0
PBA				*e*S	Sn	08 16 04.5	+25
PBA				*ex*	x	08 16 16.8	
	comp=E,216nm,0.5s						
PBA				*ex*	x	08 16 18.1	
	comp=N,296nm,0.6s						
MKAR	**Makanchi Array**	**37.52**	**347**	P	P	08 22 06.3	+0.2
	comp=N,0.4nm,0.7s,baz=167,slow=8.5,SNR=5.1						
SONM	**Songino Array**	**38.80**	**14**	P	P	08 22 16.5	-0.3
	comp=N,0.4nm,0.5s,baz=211,slow=8.1,SNR=2.1						
WRA	**Warramunga Arr**	**50.11**	**127**	P	P	08 23 47.5	+0.3
	comp=N,0.9nm,0.6s,baz=304,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**51.89**	**131**	P	P	08 24 01.3	+0.6
	comp=N,1.2nm,0.8s,baz=309,slow=6.5,SNR=15						

*IDC **10** 08:20:25.4±1.2, 1060N×94.18E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, MS4.0/4, Ms1 4.0/4, ms1mx3.3/27, Error ellipse: s-maj=59.3km s-min=18.2km az=64.0*
*NEIC **10** 08:20:29.7±0.8, 1089N×9484E, h10km, mb4.3/3, Error ellipse: s-maj=32.6km s-min=9.8km az=50.0*
*ISCJB **10** 08:20:30.7±0.7, 109N±0.1×94.9E±0.1, h33km, mb4.1/8, MS4.0/5, Error ellipse: s-maj=20.2km s-min=7.7km az=83.2*
*BJI **10** 08:20:33.2, 1103N×9387E, h8km, mB4.8, mb4.3, Ms4.1, Msz3.8*

ISC 10 08:20:31.1±0.7, 1039N±009×9399E±009, h35km, n29, σ1§17/24, mb4.1/8, MS4.0/5, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.76**	**316**	*e*P	Px	08 21 19.1	
PBA				*e*S	Sx	08 21 44.8	
PBA				*ex*	x	08 21 52.8	
	comp=N,2μm,0.9s						
PBA				*ex*	x	08 21 55.3	
	comp=E,2μm,0.6s						
PSI	**Prapat**	**8.99**	**147**	LR	LR	08 26 36.8	
	comp=E,588nm,20.5s,baz=163,slow=41						
HYB	**Hyderabad**	**16.52**	**297**	*i*P	**Pn**	**08 24 30.0**	**+10**
HYB	**Hyderabad**	**16.52**	**297**	*e*P	**Pn**	**08 24 30.0**	**+10**
HYB				*e*S	**S**	**08 27 34.0**	**+0.7**
KMI	**Kunming**	**16.85**	**28**	P	**Pn**	**08 24 23.8**	**-0.4**
KMI				AMB	AMB		
	comp=Z,11nm,0.8s						
JIRN	**Jiri**	**18.68**	**338**	*e*P	**Pn**	**08 24 47.3**	**+0.5**
PKI	**Pulchoki**	**18.91**	**336**	*e*P	**Pn**	**08 24 49.9**	**+0.4**
	comp=Z,50nm,1.1s						
GUN	**Gumba**	**19.03**	**337**	*e*P	**Pn**	**08 24 51.0**	**+0.1**
DMN	**Daman**	**19.06**	**335**	*e*P	**Pn**	**08 24 51.9**	**+0.5**
	comp=Z,36nm,0.9s						
KKN	**Kakani**	**19.15**	**336**	*e*P	**Pn**	**08 24 52.4**	**0.0**
GKN	**Gorkha**	**19.61**	**335**	*e*P	**Pn**	**08 24 57.4**	**-0.5**
	comp=Z,21nm,0.5s						
KOLN	**Koldanda**	**19.86**	**332**	*e*P	**Pn**	**08 25 00.8**	**-0.1**
GYA	**Guiyang**	**19.98**	**35⇑**	*i*P	**Pn**	**08 25 03.3**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NDI	**New Delhi**	**24.05**	**322**	*e*P	**P**	**08 25 52.0**	**+9.1**
LZH	**Lanzhou**	**27.10**	**18**	*e*P	**P**	**08 26 13.5**	**+2.9**
LZH				XP	sP	08 26 25.1	+0.2
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,93nm,4.6s						
LZH				LR	LR		
	comp=N,372nm,14.7s						
LZH				LR	LR		
	comp=Z,419nm,18.3s,MS4.0						
WMQ	**Urumqi**	**33.75**	**352**	*e*P	**P**	**08 27 13.2**	**+3.9**
WMQ				AP	pP	08 27 20.5	+1.0
WMQ				XP	sP	08 27 23.8	+0.1
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,72nm,4.3s						
WMQ				LR	LR		
	comp=N,180nm,22.4s,MS3.9						
WMQ				LR	LR		
	comp=E,159nm,22.4s,MS3.9						
WMQ				LR	LR		
	comp=Z,103nm,24.0s,MS3.5						
MKAR	**Makanchi Array**	**37.62**	**347**	P	**P**	**08 27 40.4**	**-2.1**
	comp=Z,1.7nm,0.6s,mb3.9,baz=166,slow=8.5,SNR=12						
SONM	**Songino Array**	**38.76**	**13**	P	**P**	**08 27 50.0**	**-2.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=201,slow=7.7,SNR=3.2						
BVAR	**Borovoye Array**	**46.58**	**341**	P	**P**	**08 28 52.7**	**-2.9**
	comp=Z,0.1nm,0.3s,mb3.2,baz=155,slow=4.1,SNR=2.5						
WRA	**Warramunga Arr**	**49.86**	**127**	P	**P**	**08 29 20.0**	**-0.9**
	comp=Z,2.4nm,0.7s,mb4.3,baz=303,slow=8.8,SNR=25						
WB2	**Warramunga Arr**	**49.87**	**127**	*e*P	**P**	**08 29 22.5**	**+1.6**
ASAR	**Alice Springs**	**51.66**	**131**	P	**P**	**08 29 33.8**	**-0.6**
	comp=Z,3.1nm,0.7s,mb4.4,baz=309,slow=6.6,SNR=36						
PMG	**Port Moresby**	**56.44**	**109**	*e*P	**P**	**08 30 10.1**	**+0.8**
STKA	**Stephens Creek**	**61.95**	**135**	P	**P**	**08 30 47.9**	**+0.5**
	comp=Z,3.7nm,1.0s,mb4.5,baz=317,slow=9.4,SNR=5.5						
STKA				LR	LR	08 57 10.8	
	comp=Z,134nm,19.6s,MS4.1,baz=344,slow=36						
STKA	**Stephens Creek**	**61.95**	**135**	*e*P	**P**	**08 30 46.4**	**-1.0**
STKA				P		08 30 47.9	
ARCES	**ARCESS Array B**	**72.87**	**340**	LR	LR	09 06 05.6	
	comp=Z,111nm,20.0s,MS4.1,baz=297,slow=38						
NOA	**NORSAR Array B**	**77.48**	**330**	LR	LR	09 09 46.6	
	comp=Z,66nm,18.2s,MS4.0,baz=210,slow=38						
PDAR	**Pinedale Array**	**122.89**	**21**	PKP	PKPdf	08 39 24.7	+1.2
	comp=Z,0.2nm,0.7s,baz=316,slow=2.5,SNR=2.4						
PLCA	**Paso Flores**	**146.83**	**202**	PKPbc	PKPbc	08 40 10.2	+0.6
	comp=Z,1.4nm,1.0s,baz=162,slow=0.9,SNR=2.4						

*NIED **10** 08:28:00, 26.10N×127.90E, h32km, Mw4.1 Best double couple: M0 1.76000×10^15 NP1: φ0 3.00000°, δ84.00000°, λ173.00000°. NP2: φ0 94.00000°, δ83.00000°, λ6.00000°.*
*MOS **10** 08:28:49.8±0.7, 26.17N×127.66E, h33km, mb4.7/6, Error ellipse: s-maj=23.5km s-min=13.6km az=100.3*
*JMA **10** 08:28:51.7±0.2, 26.12N×127.88E, h46km±2km, M4.1*
JMA Felt II J1.
*ISCJB **10** 08:28:51.0±0.5, 26.12N±004×127.91E±004, h49km±3km, mb4.2/13, MS3.6/1, Error ellipse: s-maj=9.0km s-min=4.3km az=100.4*
*NEIC **10** 08:28:52.6±0.4, 26.21N×127.80E, mb4.6/6, MW4.1(NIED), Error ellipse: s-maj=11.2km s-min=7.5km az=126.0*
NEIC Recorded [2 JMA] on Okinawa.
*IDC **10** 08:28:52.5±0.7, 2623N×12772E, h39km±6km, mb3.7/8, mb1 3.8/10, mb1mx3.7/22, mbtmp3.9/10, ML3.9/2, MS3.7/1, Ms1 3.7/1, ms1mx2.5/32, Error ellipse: s-maj=19.1km s-min=13.7km az=103.0*

ISC 10 08:28:52.4±0.4, 2616N±004×12789E±004, h43km±4km, h41km±2.1km: pP-P, n45, σ0§79/55, mb4.2/13, MS3.6/1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.12**	**263**	P	**Pn**	**08 28 59.2**	**-0.3**
JJT2				S	**Sn**	**08 29 04.8**	**+0.4**
NAH1	**Naha**	**0.18**	**285**	P	**Pn**	**08 28 59.3**	**-0.5**
NAH1				S	**Sn**	**08 29 05.1**	**+0.1**
JAGN	**Aguni-jima**	**0.72**	**307**	P	**Pn**	**08 29 06.3**	**+0.1**
JAGN				S	**Sn**	**08 29 17.0**	**+0.9**
JOW	**Kunigami**	**0.76**	**27**	Pn	**Pn**	**08 29 06.8**	**+0.1**
	939nm,0.3s,baz=209,slow=12,SNR=2156						
JOW				Sn	**Sn**	**08 29 17.1**	**0.0**
	960nm,0.3s,baz=142,slow=19,SNR=42						
JOW	**Kunigami**	**0.76**	**27**	P	**Pn**	**08 29 06.8**	**+0.1**
JOW				S	**Sn**	**08 29 17.2**	**+0.2**
JIH	**Iheya**	**0.88**	**5**	P	**Pn**	**08 29 08.8**	**+0.5**
JIH				S	**Sn**	**08 29 20.2**	**+0.2**
JKE	**Kume jima 2**	**1.00**	**280**	P	**Pn**	**08 29 09.9**	**-0.1**
JKE				*e*S	**Sn**	**08 29 22.9**	**-0.1**
JTK	**Tokunoshima**	**1.88**	**30**	P	**Pn**	**08 29 21.6**	**-0.5**
JOGS	**Gusukube**	**2.64**	**239**	P	**Pn**	**08 29 33.0**	**+0.6**
JMJ	**Miyako jima 2**	**2.70**	**241**	P	**Pn**	**08 29 33.9**	**+0.6**
JAM	**Amami Oshima**	**2.72**	**34**	P	**Pn**	**08 29 33.0**	**-0.6**
JAM				*e*S	**Sn**	**08 30 03.3**	**-1.9**
JZK	**Kikaishima**	**2.84**	**40**	P	**Pn**	**08 29 35.9**	**+0.6**
JZK				*e*S	**Sn**	**08 30 07.7**	**-0.5**
JMZ	**Minamidaito 2**	**3.02**	**96**	P	**Pn**	**08 29 35.4**	**-2.3**
JMZ				*e*S	**Sn**	**08 30 07.4**	**-5.2**
JTJ	**Tarama**	**3.25**	**243**	P	**Pn**	**08 29 40.4**	**-0.5**
JTJ				*e*S	**Sn**	**08 30 16.8**	**-1.5**
JIJ	**Ishigaki jima**	**3.83**	**243**	P	**Pn**	**08 29 47.6**	**-1.2**
JKRS	**Kuro-shima**	**4.00**	**242**	P	**Pn**	**08 29 51.0**	**-1.1**
JNN	**Nakanoshima**	**4.07**	**25**	P	**Pn**	**08 29 52.7**	**+0.5**
JKC	**Kuchinoerabu**	**4.75**	**25**	P	**Pn**	**08 30 02.1**	**+0.6**
JTN	**Tanegashima 3**	**5.25**	**31**	P	**Pn**	**08 30 08.6**	**+0.3**
YHNB	**Yeheng**	**6.07**	**257**	*e*Pn	**Pn**	**08 30 21.0**	**+1.4**
JNU	**Nakatsue**	**7.42**	**20**	Pn	**Pn**	**08 30 38.6**	**+0.6**
	3.0nm,0.3s,baz=185,slow=14,SNR=8.5						
MAT	**Matsushiro**	**13.59**	**38**	P	**Pn**	**08 32 03.8**	**+1.3**
MAT	**Matsushiro**	**13.59**	**38**	*e*P	**Pn**	**08 32 13.0**	**+10**
MJAR	**Matsushiro Arr**	**13.59**	**38**	Pn	**Pn**	**08 32 03.2**	**+0.6**
	0.2nm,0.3s,baz=222,slow=18,SNR=2.9						
YSS	**Yuzh-Sakhalins**	**23.87**	**26**	*e*P	**P**	**08 34 02.8**	**+0.9**
	9.4nm,0.5s,mb4.5						
YSS	**Yuzh-Sakhalins**	**23.87**	**26**	*e*P	**P**	**08 34 02.8**	**+0.9**
YSS				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.5						
SONM	**Songino Array**	**27.45**	**328**	LR	LR	08 44 47.1	
	comp=Z,178nm,20.4s,MS3.6,baz=218,slow=35						
MKAR	**Makanchi Array**	**41.35**	**312**	P	**P**	**08 36 33.0**	**-1.2**
	comp=Z,2.1nm,0.6s,mb4.0,baz=100,slow=10,SNR=38						
KURK	**Kurchatov**	**44.66**	**317**	*e*P	**P**	**08 37 00.1**	**-0.8**
	comp=Z,1.8nm,0.4s,mb4.2						
KURK	**Kurchatov**	**44.66**	**317**	*e*P	**P**	**08 37 00.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**46.25**	**172**	P	**P**	**08 37 14.2**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=349,slow=8.3,SNR=12						
WRA				pP	pP	08 37 26.7	+1.3
	comp=Z,0.9nm,0.6s,baz=353,slow=8.5,SNR=6.3						
ASAR	**Alice Springs**	**49.87**	**173**	P	**P**	**08 37 42.7**	**+1.2**
	comp=Z,0.4nm,0.6s,mb3.6,baz=2.1,slow=12,SNR=11						
BVAR	**Borovoye Array**	**50.12**	**318**	P	**P**	**08 37 43.1**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.5,baz=78,slow=9.1,SNR=18						
BVAR				pP	pP	08 37 53.8	-1.6
	comp=Z,1.1nm,0.6s,baz=105,slow=7.2,SNR=4.2						
BRVK	**Borovoye**	**50.19**	**318**	*e*P	**P**	**08 37 43.5**	**-0.3**
	comp=Z,3.8nm,0.5s,mb4.7						
BRVK	**Borovoye**	**50.19**	**318**	*e*P	**P**	**08 37 43.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ZRNK	**Zerenda**	**50.94**	**318**	*e*P	**P**	**08 37 49.4**	**-0.1**
	comp=Z,8.6nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**50.94**	**318**	*e*P	**P**	**08 37 49.4**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
NWAO	**Narrogin (SRO)**	**59.62**	**190**	*e*P	**P**	**08 38 53.2**	**+1.2**
	comp=Z,21nm,1.2s,mb5.0						
NWAO	**Narrogin (SRO)**	**59.62**	**190**	*e*P	**P**	**08 38 53.2**	**+1.2**
NWAO				pmax	pmax		
	comp=Z,21nm,1.2s						
FINES	**FINESS Array B**	**72.78**	**330**	P	**P**	**08 40 15.9**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=64,slow=4.4,SNR=5.6						
FINES				pP	pP	08 40 26.5	-2.4
	comp=Z,1.4nm,0.8s,baz=66,slow=4.3,SNR=2.4						
BRTR	**Keskin Array B**	**76.84**	**308**	P	**P**	**08 40 39.2**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=96,slow=5.0,SNR=4.4						
YKA	**Yellowknife Ar**	**78.72**	**25**	P	**P**	**08 40 51.0**	**+0.7**
	comp=Z,0.1nm,0.6s,mb3.0,baz=303,slow=5.9,SNR=3.9						
YKA				pP	pP	08 41 02.9	-0.1
	comp=Z,0.3nm,0.6s,baz=302,slow=5.7,SNR=5.4						
NB2	**NORSAR Subarra**	**79.24**	**334**	P	**P**	**08 40 52.3**	**-0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=54,slow=5.9						
NB2	**NORSAR Subarra**	**79.24**	**334**	P	**P**	**08 40 52.3**	**-0.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**79.24**	**334**	P	**P**	**08 40 52.9**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=52,slow=5.7,SNR=4.7						

IDC 10 08:36:43.6±64.0, 2058S×17844E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=1147.0km s-min=154.4km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.75**	**243**	P	P	08 43 34.6

comp=E,1μm,0.3s
PBA ex x 08 47 58.6
comp=N,615nm,0.3s
PSI Prapat 9.10 149 LR LR 08 54 05.7
comp=N,223nm,18.9s,baz=276,slow=42
MKAR Makanchi Array 37.41 346 P P 08 54 54.7 -0.2
comp=N,0.5nm,0.6s,baz=161,slow=7.5,SNR=8.1
WRA Warramunga Arr 49.84 128 P P 08 56 35.2 +0.2
comp=N,2.8nm,0.8s,baz=304,slow=8.9,SNR=26
ASAR Alice Springs 51.66 132 P P 08 56 48.8 -0.1
comp=N,3.7nm,0.8s,baz=308,slow=6.7,SNR=42
STKA Stephens Creek 61.98 135 P P 08 58 03.3 +1.2
comp=N,1.9nm,0.9s,baz=327,slow=11,SNR=3.1
PLCA Paso Flores 147.17 202 PKPbc PKPbc 09 07 25.6 +0.2
comp=N,1.5nm,0.8s,baz=124,slow=7.9,SNR=3.4

*ISCJB **10** 08:49:42.5±0.5, 3851N±002×2682E±003, h12km±4km, Error ellipse: s-maj=4.5km s-min=4.1km az=167.3*
*CSEM **10** 08:49:42.2±0.1, 3854N×2688E, h15km, MD3.3, Error ellipse: s-maj=2.9km s-min=1.5km az=82.0*
*ATH **10** 08:49:42.8, 3844N×2676E, h32km±2km, MD3.4/4*
*NEIC **10** 08:49:42.0, 3850N×2694E, h25km, MD3.3(ISK), MD3.4(ATH), After ISK.*
*ISK **10** 08:49:43.0, 3850N×2694E, h25km, MD3.3*
ISC 10 08:49:42.8±0.5, 3850N±002×2682E±004, h14km±3km, n30, σ0°97/43, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.20**	**123**	*i* PG	**Pg**	**08 49 47.5**	**0.0**
URLA	**Izmir**	**0.23**	**233**	*i* P	**Pg**	**08 49 48.0**	**+0.2**
URLA				*i* S	**Sg**	**08 49 51.4**	**+0.2**
IZM	**Izmir**	**0.36**	**106**	*i* PG	**Pg**	**08 49 50.4**	**+0.2**
IZM				*i* SG	**Sg**	**08 49 55.5**	**+0.5**
KDAG	**Bornova**	**0.36**	**105**	*i* P	**Pg**	**08 49 50.4**	**+0.2**
KDAG				*i* S	**Sg**	**08 49 54.8**	**-0.3**
SMG	**Samos**	**0.79**	**179**	*e*PN	**Pn**	**08 49 57.6**	**-1.9**
SMG				*e*SN	**Sn**	**08 50 08.2**	**-2.9**
AYVA	**Ayvalik**	**0.82**	**353**	*i* P	**Pg**	**08 49 58.4**	**-0.3**
AYVA				*i* S	**Sg**	**08 50 10.4**	**+1.0**
PRK	**Paraskevi**	**0.86**	**330**	*e*PN	**Pn**	**08 50 00.0**	**-0.5**
AKS	**Akhisar**	**0.86**	**64**	*i* PG	**Pg**	**08 49 59.5**	**0.0**
AKS				*i* SG	**Sg**	**08 50 09.7**	**-1.2**
AYDN	**Tasoluk**	**1.18**	**135**	*i* P	**Pn**	**08 50 04.7**	**-0.2**
AYDN				*i* S	**Sb**	**08 50 20.1**	**0.0**
AYDN	**Tasoluk**	**1.18**	**135**	*i* P	**Pn**	**08 50 04.7**	**-0.2**
AYDN				*i* S	**Sb**	**08 50 20.1**	**0.0**
MANT	**Manisa**	**1.36**	**90**	*i* P	**Pn**	**08 50 08.1**	**+0.7**
MANT				*i* S	**Sn**	**08 50 25.9**	**+0.7**
EZN	**Ezine**	**1.38**	**344**	PN	**Pn**	**08 50 07.5**	**-0.2**
BALB	**Balikesir**	**1.41**	**35**	PN	**Pn**	**08 50 06.9**	**-1.1**
BODT	**Bodrum**	**1.48**	**165**	PN	**Pn**	**08 50 09.1**	**0.0**
BDRM	**Kayabasi**	**1.51**	**161**	*i* P	**Pn**	**08 50 11.2**	**+1.7**
BDRM				*i* S	**Sn**	**08 50 30.9**	**+1.9**
BDRM	**Kayabasi**	**1.51**	**161**	*i* S	**Sn**	**08 50 30.9**	**+1.9**
BTOK	**Tokmak**	**1.57**	**36**	*i* P	**Pn**	**08 50 09.1**	**-1.3**
BTOK				*i* S	**Sn**	**08 50 32.0**	**+1.6**
APE	**Apeiranthos**	**1.76**	**216**	PN	**Pn**	**08 50 13.5**	**+0.7**
APE	**Apeiranthos**	**1.76**	**216**	*e*Pn	**Pn**	**08 50 12.0**	**-0.8**
YER	**Yerkesik**	**1.79**	**139**	PN	**Pn**	**08 50 11.8**	**-1.4**
DST	**Dursunbey**	**1.79**	**51**	PN	**Pn**	**08 50 11.8**	**-1.4**
DAT	**Datca**	**1.86**	**161**	*e*PN	**Pn**	**08 50 14.0**	**-0.3**
LIA	**Limnos Island**	**1.89**	**318**	*e*PN	**Pn**	**08 50 15.2**	**+0.5**
EDC	**Edincik**	**2.02**	**23**	*e*PN	**Pn**	**08 50 15.7**	**-0.7**
BNT	**Bandirma**	**2.04**	**24**	*e*PN	**Pn**	**08 50 16.2**	**-0.5**
MRMT	**Marmara Adasi**	**2.19**	**16**	*e*PN	**Pn**	**08 50 18.4**	**-0.3**
SART	**Tekirdag**	**2.21**	**7**	*i* P	**Pn**	**08 50 19.9**	**+0.9**
SART				*i* S	**Sn**	**08 50 54.1**	**+8.0**
TKTP	**Tekketepe**	**2.79**	**98**	*i* P	**Pn**	**08 50 29.2**	**+2.2**
TKTP				*i* S	**Sn**	**08 51 18.4**	**+18**
RDO	**Rodhopi**	**2.82**	**340**	*e*PN	**Pn**	**08 50 28.5**	**+1.0**
YLV	**Yalova**	**2.86**	**43**	*e*PN	**Pn**	**08 50 27.7**	**-0.2**

IDC 10 08:51:14.7±7.2, 1029N×9350E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=392.9km s-min=26.9km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.61**	**347**	P	P	08 58 31.0	0.0
	0.1nm,0.5s,baz=162,slow=8.2,SNR=3.1						
WRA	**Warramunga Arr**	**50.19**	**127**	P	P	09 00 11.8	-0.3
	0.6nm,0.6s,baz=306,slow=8.9,SNR=8.2						
ASAR	**Alice Springs**	**51.95**	**131**	P	P	09 00 26.4	+1.0
	0.8nm,0.7s,baz=304,slow=6.5,SNR=11						

IDC 10 08:51:17.8±1.3, 662N×12599E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.4/4, Error ellipse: s-maj=78.4km s-min=24.8km az=75.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.64**	**163**	P	P	08 57 07.6	+0.4
	0.2nm,0.4s,baz=340,slow=8.4,SNR=7.4						
ASAR	**Alice Springs**	**31.08**	**166**	P	P	08 57 37.9	+0.2
	0.3nm,0.3s,baz=349,slow=7.3,SNR=8.1						
MKAR	**Makanchi Array**	**54.78**	**324**	P	P	09 00 49.8	+0.5
	0.1nm,0.3s,baz=123,slow=6.8,SNR=4.2						
ILAR	**Eielson Array**	**82.83**	**26**	P	P	09 03 43.6	-0.4
	0.3nm,0.7s,baz=247,slow=4.0,SNR=5.7						

IDC 10 08:54:58.6±6.6, 2377S×17964W, h486km±41km, mb3.2/3, mb1 3.4/3, mb1mx3.2/12, mbtmp4.1/3, Error ellipse: s-maj=139.6km s-min=43.6km az=141.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.71**	**190**	P	P	08 58 10.7	+4.8
	3.9nm,0.3s,baz=13,slow=1.4,SNR=18						
URZ				S	S	09 00 43.3	+2.9
	1.2nm,0.3s,baz=49,slow=23,SNR=9.4						
STKA	**Stephens Creek**	**35.08**	**248**	P	P	09 01 09.6	-0.3
	1.1nm,0.6s,baz=101,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**42.38**	**260**	P	P	09 02 09.7	+0.4
	1.7nm,0.7s,baz=95,slow=7.7,SNR=23						
ASAR				ScP	ScP	09 06 55.5	0.0
	1.2nm,0.7s,baz=102,slow=4.3,SNR=6.7						
WB2	**Warramunga Arr**	**42.73**	**266**	*e*P	P	09 02 12.2	+0.2
WRA	**Warramunga Arr**	**42.74**	**266**	P	P	09 02 12.3	+0.2
	2.9nm,0.6s,baz=103,slow=8.2,SNR=33						
AKASG	**Malin Array Be**	**145.04**	**328**	PKPbc	PKPbc	09 13 39.5	-1.1
	0.4nm,0.3s,baz=40,slow=3.8,SNR=7.9						

*BJI **10** 08:55:44.8, 3696N×14123E, h56km, mB4.7, mb4.8, Ms4.4, Msz3.8*
*ISCJB **10** 08:55:47.8±0.4, 3674N±003×141.16E±005, h83km±3km, mb4.3/48, Error ellipse: s-maj=6.9km s-min=4.5km az=81.4*
*JMA **10** 08:55:48.6±0.1, 3673N×141.18E, h75km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs37.00000°, δ18.00000°, λ-43.00000°. NP2:φs168.00000°, δ78.00000°, λ-103.00000°. Principal axes: T Plg32.0000°, Azm269.0000°; N Plg13.0000°, Azm171.0000°; P Plg55.0000°, Azm62.0000°;*
JMA Felt II J1.
*NEIC **10** 08:55:48.5±0.4, 3738N×14103E, mb4.5/22, MW4.3(NIED) Error ellipse: s-maj=12.1km s-min=4.6km az=157.0*
NEIC Felt at Misawa. Recorded [2 JMA] in Fukushima, Gumma, Ibaraki, Saitama and Tochigi; [1 JMA] in Chiba and Miyagi Prefectures.
*MOS **10** 08:55:49.5±1.0, 3700N×14100E, h89km, mb4.3/15, Error ellipse: s-maj=10.5km s-min=8.1km az=85.9*
*IDC **10** 08:55:51.1±1.8, 3668N×14107E, h101km±17km, mb4.0/16, mb1 4.2/19, mb1mx4.1/25, mbtmp4.4/19, Error ellipse: s-maj=16.1km s-min=13.3km az=91.0*
*NIED **10** 08:56:00, 36.70N×14120E, h74km, Mw4.3 Best double couple: M0:3.73000×10^15 NP1:φs196.00000°, δ69.00000°, λ-88.00000°. NP2:φs11.00000°, δ21.00000°, λ-95.00000°.*
ISC 10 08:55:48.8±0.4, 3676N±003×14119E±005, h76km±3km, h49km±8km: pP-P, n120, σ1°90/120, mb4.3/48, 4C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**318**	⇓P	**Pn**	**08 56 01.7**	**-0.1**
ONAJ				S	**Sn**	**08 56 11.1**	**-0.3**
JHO	**Hitachi**	**0.52**	**254**	⇓P	**Pn**	**08 56 01.9**	**-0.4**
JHO				*e*S	**Sn**	**08 56 11.6**	**-0.7**
JFK	**Kawauchi**	**0.66**	**338**	⇓P	**Pn**	**08 56 03.5**	**-0.2**
JFK				S	**Sn**	**08 56 14.3**	**-0.4**
JFT	**Otama**	**1.02**	**318**	⇓P	**Pn**	**08 56 08.2**	**+0.4**
JFT				S	**Sn**	**08 56 22.4**	**+0.4**
JMM	**Marumori**	**1.15**	**344**	⇓P	**Pn**	**08 56 09.3**	**-0.1**
JMM				S	**Sn**	**08 56 25.0**	**+0.1**
JFY	**Yanaizu**	**1.35**	**299**	⇓P	**Pn**	**08 56 12.4**	**+0.4**
JFY				S	**Sn**	**08 56 30.4**	**+0.9**
JAG	**Ashikaga**	**1.43**	**257**	⇓P	**Pn**	**08 56 13.1**	**0.0**
JAG				S	**Sn**	**08 56 30.7**	**-0.7**
JKT	**Katashina**	**1.56**	**271**	⇑P	**Pn**	**08 56 15.2**	**+0.5**
JKT				S	**Sn**	**08 56 34.8**	**+0.6**
JOU	**Okura**	**1.66**	**346**	P	**Pn**	**08 56 15.8**	**-0.2**
JOU				S	**Sn**	**08 56 36.5**	**-0.1**
JIO	**Ouri**	**1.70**	**4**	P	**Pn**	**08 56 16.3**	**-0.2**
JIO				S	**Sn**	**08 56 36.5**	**-1.1**
JYS	**Shiratake**	**1.71**	**329**	P	**Pn**	**08 56 17.0**	**+0.3**
JHK	**Hiroka**	**1.81**	**286**	⇑P	**Pn**	**08 56 18.3**	**+0.4**
JNS	**Sasagawa**	**1.83**	**306**	P	**Pn**	**08 56 18.1**	**-0.2**
MJAR	**Matsushiro Arr**	**2.40**	**266**	P	**Pn**	**08 56 26.4**	**+0.4**
	94nm,0.3s,baz=88,slow=15,SNR=684						
MJAR				S	**Sn**	**08 56 56.0**	**+1.6**
	113nm,0.3s,baz=136,slow=17,SNR=8.7						
MJAR	**Matsushiro Arr**	**2.40**	**266**	P		08 56 46.8	
	176nm,0.3s,baz=88,slow=16,SNR=18						
MAJO	**Matsushiro**	**2.41**	**266**	⇑*e*Pn	**Pn**	**08 56 26.9**	**+0.9**
MAT	**Matsushiro**	**2.41**	**266**	P	**Pn**	**08 56 26.8**	**+0.8**
MAT				*e*S	**Sn**	**08 56 56.3**	**+1.8**
MAT	**Matsushiro**	**2.41**	**266**	*e*P	**Pn**	**08 56 27.0**	**+1.0**
MAT				*e*S	**Sn**	**08 56 47.0**	**-7.5**
JHJ	**Hachijo jima 2**	**3.81**	**198**	P	**Pn**	**08 56 45.5**	**+0.5**
	54nm,0.3s,baz=50,slow=17,SNR=3.2						
JHJ				S	**Sn**	**08 57 26.8**	**-1.9**
	170nm,0.3s,baz=71,slow=23,SNR=9.8						
ASAJ	**Asahikawa**	**7.43**	**8**	P	**Pn**	**08 57 32.3**	**-2.1**
	4.9nm,0.3s,baz=218,slow=10,SNR=26						
ASAJ	**Asahikawa**	**7.43**	**8**	P	**Pn**	**08 57 32.3**	**-2.1**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JNU	**Nakatsue**	**9.21**	**250**	P	**Pn**	**08 57 59.9**	**+1.1**
	comp=Z,2.2nm,0.3s,baz=56,slow=14,SNR=31						
YSS	**Yuzh-Sakhalins**	**10.26**	**6**	*e*Pn	**Pn**	**08 58 05.1**	**-7.9**
YSS	**Yuzh-Sakhalins**	**10.26**	**6**	⇓*i*P	**Pn**	**08 58 12.0**	**-1.0**
KS15	**Wonju Array Si**	**10.65**	**278**	*e*Pn	**Pn**	**08 58 13.7**	**-4.7**
MDJ	**Mudanjiang**	**11.78**	**315**	P	**Pn**	**08 58 35.3**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,56nm,3.3s						
CN2	**Changchun**	**13.91**	**305**	*e*P	**Pn**	**08 58 59.0**	**-3.3**
SSE	**Sheshan**	**17.52**	**257**	*e*P	**Pn**	**08 59 47.1**	**-0.9**
SSE				AP	pP	08 59 59.5	-3.8
SSE				XP	sP	09 00 06.4	-6.5
SSE				S	**S**	**09 03 01.7**	**-4.4**
SSE				SCS	ScS	09 11 27.9	-4.6
SSE				AMB	AMB		
	comp=Z,61nm,0.7s						
SSE				AMB	AMB		
	comp=Z,107nm,5.4s						
NJ2	**Nanjing**	**19.00**	**262**	*e*P	**Pn**	**09 00 07.2**	**+1.4**
NJ2				AP	pP	09 00 16.8	-2.8
NJ2				XP	sP	09 00 23.0	-6.2
NJ2				PP		09 00 24.2	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,70nm,7.4s						
NJ2				LR	LR		
	comp=N,1μm,22.8s						
NJ2				LR	LR		
	comp=E,460nm,19.2s						
NJ2				LR	LR		
	comp=Z,130nm,16.3s						
BJI	**Beijing**	**19.86**	**287**	P	**Pn**	**09 00 11.8**	**-4.0**
BJI				AMB	AMB		
	comp=Z,14nm,0.8s						
BJT	**Baijiatuau**	**19.86**	**287**	*e*P	**Pn**	**09 00 11.3**	**-4.6**
	comp=Z,9.5nm,0.6s						
BJT				*e*pP	pP	09 00 21.6	-7.4
BJT	**Baijiatuau**	**19.86**	**287**	*e*P	**Pn**	**09 00 11.3**	**-4.6**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**23.39**	**289**	*e*P	**P**	**09 00 48.7**	**-2.0**
HHC				AP		09 01 00.2	
HHC				XP	sP	09 01 05.7	-11
HHC				PP		09 01 19.8	
HHC				PCP	PcP	09 04 39.4	+4.3
HHC				S	**S**	**09 04 51.9**	**-6.0**
HHC				SS		09 05 39.0	
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.4						
HHC				AMB	AMB		
	comp=Z,119nm,6.2s						
HHC				LR	LR		
	comp=N,175nm,6.3s						
HHC				LR	LR		
	comp=E,209nm,5.7s						
HHC				LR	LR		
	comp=Z,136nm,6.5s						
MA2	**Magadan**	**23.66**	**12**	P	**P**	**09 00 48.3**	**-4.9**
	comp=Z,10nm,0.8s,mb4.2						
MA2	**Magadan**	**23.66**	**12**	*e*P	**P**	**09 00 53.2**	**0.0**
MA2				pmax	pmax		
	comp=N,7.0nm,1.3s						
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb3.9						
XAN	**Xi'an**	**26.38**	**274**	P	**P**	**09 01 16.5**	**-1.3**
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.4						
SEY	**Seymchan**	**27.10**	**11**	*e*P	**P**	**09 01 24.7**	**+0.4**
ENH	**Enshi**	**27.13**	**266**	*e*P	**P**	**09 01 23.6**	**-1.0**
	comp=Z,42nm,0.7s,mb5.1						
ULN	**Ulaanbaatar**	**27.36**	**305**	*e*P	**P**	**09 01 25.2**	**-1.5**
ULN	**Ulaanbaatar**	**27.36**	**305**	*c*iP	**P**	**09 01 26.1**	**-0.6**
BOD	**Bodaibo**	**27.67**	**328**	*e*P	**P**	**09 01 29.6**	**+0.2**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
SONM	**Songino Array**	**27.79**	**304**	P	**P**	**09 01 29.8**	**-0.7**
	comp=Z,5.0nm,0.5s,mb4.3,baz=101,slow=7.9,SNR=18						
LZH	**Lanzhou**	**29.93**	**280**	*e*P	**P**	**09 01 48.5**	**-1.0**
LZH				AP	pP	09 02 01.2	-6.2
LZH				XP	sP	09 02 05.9	-10
LZH				PP	PP	09 02 44.7	-14
LZH				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,79nm,5.3s						
LZH				LR	LR		
	comp=E,335nm,12.3s						
LZH				LR	LR		
	comp=Z,418nm,16.5s						
ZAK	**Zakamensk**	**30.30**	**309**	*e*P	**P**	**09 01 50.9**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
GYA	**Guiyang**	**31.00**	**261**	⇓*i*P	**P**	**09 01 58.1**	**-0.8**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
CD2	**Chengdu**	**31.49**	**270**	*e*P	**P**	**09 02 02.4**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
GTA	**Gaotai**	**32.47**	**287**	P	**P**	**09 02 11.2**	**-0.7**
GTA				S	**S**	**09 07 19.9**	**-1.2**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.6						
GTA				AMB	AMB		
	comp=Z,108nm,3.4s						
GTA				LR	LR		
	comp=N,223nm,18.6s						
GTA				LR	LR		
	comp=E,219nm,22.1s						
GTA				LR	LR		
	comp=Z,106nm,12.6s						
BILL	**Bilibino**	**34.34**	**16**	*e*P	**P**	**09 02 27.3**	**-0.8**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.2						
KMI	**Kunming**	**34.74**	**262**	P	**P**	**09 02 32.0**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.8						
WMQ	**Urumqi**	**40.80**	**297**	*e*P	**P**	**09 03 24.0**	**+1.4**
WMQ				AP	pP	09 03 36.3	-4.8
WMQ				XP	sP	09 03 41.7	-8.1
WMQ				PP	PP	09 05 01.5	+3.5
WMQ				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,87nm,4.2s						
WMQ				LR	LR		
	comp=N,853nm,20.2s						
WMQ				LR	LR		
	comp=E,735nm,22.0s						
WMQ				LR	LR		
	comp=Z,929nm,22.6s						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**09 03 49.0**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.2,baz=85,slow=8.7,SNR=42						
KURK	**Kurchatov**	**45.96**	**308**	*e*P	**P**	**09 04 03.1**	**-1.0**
	comp=Z,16nm,0.8s,mb4.8						
KURK	**Kurchatov**	**45.96**	**308**	*e*P	**P**	**09 04 03.2**	**-0.9**
JIRN	**Jiri**	**46.86**	**275**	*e*P	**P**	**09 04 12.0**	**+0.8**
	comp=Z,16nm,0.6s,mb4.9						
GUN	**Gumba**	**47.00**	**276**	*e*P	**P**	**09 04 12.8**	**+0.5**
	comp=Z,16nm,0.4s,mb5.1						
KDAK	**Kodiak Island**	**47.43**	**42**	P	**P**	**09 04 15.5**	**-0.1**
	comp=Z,14nm,0.7s,mb4.8,baz=233,slow=12,SNR=7.4						
PKI	**Pulchoki**	**47.52**	**276**	*e*P	**P**	**09 04 18.4**	**+2.1**
KKN	**Kakani**	**47.53**	**276**	*e*P	**P**	**09 04 17.7**	**+1.3**
DMN	**Daman**	**47.75**	**276**	*e*P	**P**	**09 04 19.6**	**+1.5**
GKN	**Gorkha**	**47.95**	**277**	*e*P	**P**	**09 04 19.6**	**-0.1**
	comp=Z,33nm,0.7s,mb5.2						
COLA	**College**	**49.41**	**32**	P	**P**	**09 04 30.4**	**-0.4**
	comp=Z,3.9nm,0.6s,mb4.5						
COLA	**College**	**49.41**	**32**	P	**P**	**09 04 30.4**	**-0.4**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**49.83**	**32**	P	**P**	**09 04 34.0**	**0.0**
	comp=Z,5.2nm,0.7s,mb4.6,baz=267,slow=6.0,SNR=77						
AAK	**Ala-Archa**	**50.46**	**298**	P	**P**	**09 04 38.2**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.3						
AAK				*e*pP	pP	09 04 50.9	-6.9
AAK	**Ala-Archa**	**50.46**	**298**	P	**P**	**09 04 38.3**	**-0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**50.62**	**312**	P	**P**	**09 04 39.4**	**-0.6**
	comp=Z,1.4nm,0.6s,mb4.2,baz=80,slow=7.4,SNR=7.4						
ZRNK	**Zerenda**	**51.46**	**313**	*e*P	**P**	**09 04 45.3**	**-0.9**
	comp=Z,5.8nm,0.6s,mb4.8						
ZRNK				*e*pP	pP	09 04 58.3	-7.0
ZRNK	**Zerenda**	**51.46**	**313**	*e*P	**P**	**09 04 45.3**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
INK	**Inuvik**	**54.72**	**27**	P	**P**	**09 05 10.5**	**+0.3**
	comp=Z,3.7nm,0.5s,mb4.6,baz=303,slow=6.8,SNR=18						
WB2	**Warramunga Arr**	**56.76**	**188**	*e*P	**P**	**09 05 23.9**	**-0.9**
WRA	**Warramunga Arr**	**56.76**	**188**	P	**P**	**09 05 23.9**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.5,baz=6.2,slow=7.3,SNR=55						
WRA	**Warramunga Arr**	**56.76**	**188**	P	pP	09 05 45.1	+0.9
	comp=Z,1.8nm,0.6s,baz=6.2,slow=7.5,SNR=6.3						
WRA	**Warramunga Arr**	**56.76**	**188**	P	**P**	**09 05 23.9**	**-0.9**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**60.49**	**188**	P	**P**	**09 05 50.1**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.1,baz=11,slow=7.0,SNR=19						
ASAR	**Alice Springs**	**60.49**	**188**	P	pP	09 06 08.3	-1.9
	comp=Z,1.0nm,0.5s,baz=1.8,slow=6.0,SNR=5.1						
ASAR	**Alice Springs**	**60.49**	**188**	P	**P**	**09 05 50.1**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RES	**Resolute Bay**	**62.91**	**14**	*e*P	**P**	**09 06 05.4**	**-1.5**
	comp=Z,1.7nm,0.6s,mb4.2						
RES	**Resolute Bay**	**62.91**	**14**	*e*P	**P**	**09 06 05.4**	**-1.6**
RES				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
YKA	**Yellowknife Ar**	**64.14**	**30**	P	**P**	**09 06 14.5**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=304,slow=6.8,SNR=29						
YKA	**Yellowknife Ar**	**64.14**	**30**	P	pP	09 06 35.6	+0.9
	comp=Z,0.4nm,0.9s,baz=303,slow=6.5,SNR=5.7						
ARCES	**ARCESS Array B**	**64.19**	**339**	P	pP	09 06 34.9	-0.3
	comp=Z,6.8nm,1.0s,baz=64,slow=5.5,SNR=4.3						
STKA	**Stephens Creek**	**68.28**	**180**	P	**P**	**09 06 39.2**	**-2.4**
	comp=Z,1.6nm,0.8s,mb3.9,baz=316,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**68.28**	**180**	P	pP	09 07 00.5	-0.9
	comp=Z,1.9nm,0.7s,baz=334,slow=7.7,SNR=5.8						
FINES	**FINESS Array B**	**68.97**	**332**	P	**P**	**09 06 44.5**	**-1.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=78,slow=7.3,SNR=3.0						
FINES	**FINESS Array B**	**68.97**	**332**	P	pP	09 07 04.5	-1.3
	comp=Z,1.1nm,0.6s,baz=36,slow=7.8,SNR=4.5						
MTA	**Mtatsminda**	**70.86**	**308**	S	S	09 15 55.1	-12
TBLG	**Delisi**	**70.88**	**308**	S	S	09 15 55.2	-12
CMB	**Columbia Colle**	**74.18**	**54**	*e*P	**P**	**09 07 18.5**	**+1.4**
	comp=Z,9.0nm,1.2s,mb4.4						
CMB				*e*pP	pP	09 07 32.5	-4.8
CMB	**Columbia Colle**	**74.18**	**54**	*e*P	**P**	**09 07 18.5**	**+1.4**
CMB				*e**PP	pP	09 07 32.5	-4.8
CMB				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
HRY	**Holter Researc**	**74.28**	**43**	*e*P	**P**	**09 07 18.4**	**+0.7**
FCC	**Fort Churchill**	**74.33**	**26**	*e*P	**P**	**09 07 17.6**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.2						
FCC	**Fort Churchill**	**74.33**	**26**	*e*P	**P**	**09 07 17.6**	**-0.4**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
NB2	**NORSAR Subarra**	**74.37**	**337**	P	**P**	**09 07 17.5**	**-0.8**
	comp=Z,1.1nm,0.8s,mb3.6,baz=37,slow=5.9						
NB2	**NORSAR Subarra**	**74.37**	**337**	P	**P**	**09 07 17.5**	**-0.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
NOA	**NORSAR Array B**	**74.37**	**337**

s-min=21.8km az=49.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.70**	**322**	*e*P	Pn	09 10 39.2	-3.5
PBA				*e*S	Sn	09 11 32.6	+27
PBA				*e*x	x	09 11 49.5	
	comp=N,676nm,1.4s						
PBA				*e*x	x	09 11 50.2	
	comp=E,654nm,0.9s						
MKAR	**Makanchi Array**	**37.65**	**347**	P	P	09 17 28.3	-0.3
	comp=E,0.7nm,0.8s,baz=168,slow=7.8,SNR=6.1						
WRA	**Warramunga Arr**	**49.95**	**127**	P	P	09 19 07.7	+0.3
	comp=E,1.4nm,0.6s,baz=304,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**51.73**	**131**	P	P	09 19 21.4	+0.6
	comp=E,1.7nm,0.8s,baz=305,slow=6.7,SNR=20						
BRTR	**Keskin Array B**	**60.62**	**310**	P	P	09 20 25.0	+0.6
	comp=E,0.4nm,0.4s,baz=109,slow=7.9,SNR=2.8						

BJI ***10*** *09:13:07.0, 1037N×94.13E, h20km, mB4.9, mb4.6, Ms4.5, Msz4.1*
IDC ***10*** *09:13:08.3±0.6, 1064N×9407E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.3/22, mbtmp4.2/15, ML4.1/1, MS4.0/10, Ms1 4.0/10, ms1mx3.8/27, Error ellipse: s-maj=28.1km s-min=13.6km az=53.0*
NEIC ***10*** *09:13:09.3±0.4, 1053N×94.17E, h10km, mb4.7/16, Error ellipse: s-maj=13.5km s-min=5.5km az=52.0*
ISCJB ***10*** *09:13:10.2±0.3, 1052N±004×9424E±004, h30km, mb4.6/50, MS4.1/23, Error ellipse: s-maj=6.9km s-min=4.2km az=93.7*
MOS ***10*** *09:13:10.4±0.9, 1055N×94.14E, h33km, mb4.9/13, Error ellipse: s-maj=15.8km s-min=6.5km az=110.1*
ISC 10 09:13:13.0±0.3, 1059N±004×9426E±004, h32km, h32km±1.5km: pP-P, n121, σ1§12/122, mb4.6/50, MS4.1/23, 10C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.82**	**306**	*e*P	Px	09 13 54.8	
PBA				*e*S	Sx	09 14 21.3	
NNT	**Nongplab**	**5.72**	**69**	P	**Pn**	**09 14 42.0**	**+6.2**
SNG	**Songkhla**	**7.14**	**118**	P	**Pn**	**09 14 56.0**	**+0.8**
KULM	**Kulim**	**8.23**	**129**	*e*Pn	**Pn**	**09 15 08.7**	**-1.5**
PSI	**Prapat**	**9.02**	**149**	Pn	**Pn**	**09 15 22.4**	**+1.3**
	1.8nm,0.3s,baz=323,slow=12,SNR=4.6						
PSI				Sn	**Sn**	**09 17 00.9**	**-0.5**
	2.0nm,0.3s,baz=83,slow=23,SNR=6.4						
PSI				LR	LR	09 19 34.6	
	comp=Z,1μm,18.7s,baz=309,slow=42						
PSI	**Prapat**	**9.02**	**149**	P	**Pn**	**09 15 22.4**	**+1.4**
PSI						09 17 01.0	
VIS	**Vishakhapatnam**	**12.74**	**305**	*e*P	**Pn**	**09 16 11.7**	**-0.3**
VIS				*e*S	**Sn**	**09 18 23.6**	**-9.1**
SHL	**Shillong**	**15.06**	**352**	*e*P	**Pn**	**09 16 45.3**	**+1.8**
BOK	**Bokaro**	**15.37**	**330**	*e*P	**Pn**	**09 16 50.2**	**+2.7**
BOK				AMb	AMB	09 16 54.9	
	comp=Z,32nm,1.1s						
BOK				*e*S	**Sn**	**09 19 40.0**	**+3.4**
KMI	**Kunming**	**16.54**	**28**	P	**Pn**	**09 17 05.1**	**+2.5**
KMI				AP	pP	09 17 08.0	-5.2
KMI				XP	sP	09 17 10.3	-7.0
KMI				PP		09 17 18.9	
KMI				S	**Sn**	**09 20 17.2**	**+12**
KMI				XS	sS	09 20 23.2	-6.2
KMI				AMB	AMB		
	comp=Z,15nm,1.5s						
KMI				AMB	AMB		
	comp=Z,112nm,3.1s						
KMI				LR	LR		
	comp=N,604nm,12.7s						
KMI				LR	LR		
	comp=E,395nm,10.0s						
KMI				LR	LR		
	comp=Z,515nm,12.1s						
HYB	**Hyderabad**	**16.67**	**296**	*i* P	**Pn**	**09 17 04.5**	**+0.3**
HYB				*e*		09 19 57.0	
HYB				*e*S	**Sn**	**09 20 11.0**	**+2.6**
HYB	**Hyderabad**	**16.67**	**296**	*e*P	**Pn**	**09 17 08.5**	**+4.3**
HYB				*e*S	**Sn**	**09 20 11.0**	**+2.6**
TRD	**Trivandrum**	**17.18**	**265**	*e*x	x	09 17 34.4	
QIZ	**Qiongzhong**	**17.23**	**59**	P	**Pn**	**09 17 13.8**	**+2.5**
QIZ				S	**Sn**	**09 20 28.2**	**+6.2**
QIZ				XS	sS	09 20 37.9	-5.6
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.6s						
QIZ				LR	LR		
	comp=N,740nm,15.3s						
QIZ				LR	LR		
	comp=E,567nm,19.0s						
QIZ				LR	LR		
	comp=Z,429nm,14.1s						
QIZ	**Qiongzhong**	**17.23**	**59**	*e*Pn	**Pn**	**09 17 12.1**	**+0.8**
	comp=Z,17nm,1.3s						
NGP	**Nagpur**	**17.99**	**308**	*e*P	**Pn**	**09 17 23.4**	**+2.9**
NGP				AMb	AMB	09 17 32.6	
	comp=Z,34nm,1.4s						
JIRN	**Jiri**	**18.60**	**337**	*e*P	**Pn**	**09 17 28.1**	**+0.1**
	comp=Z,163nm,1.3s						
PKI	**Pulchoki**	**18.83**	**335**	*e*P	**Pn**	**09 17 30.9**	**+0.1**
	comp=Z,129nm,1.2s						
PKI	**Pulchoki**	**18.83**	**335**	*e*P	**Pn**	**09 17 30.9**	**+0.1**
PKI				pmax	pmax		
	comp=Z,65nm,1.2s						
GUN	**Gumba**	**18.94**	**337**	*e*P	**Pn**	**09 17 32.1**	**-0.1**
	comp=Z,140nm,1.2s						
DMN	**Daman**	**18.99**	**334**	*e*P	**Pn**	**09 17 32.7**	**-0.1**
	comp=Z,68nm,0.9s						
KKN	**Kakani**	**19.08**	**335**	*e*P	**Pn**	**09 17 33.2**	**-0.6**
	comp=Z,58nm,1.0s						
KKN	**Kakani**	**19.08**	**335**	*e*P	**Pn**	**09 17 33.2**	**-0.6**
KKN				pmax	pmax		
	comp=Z,29nm,1.0s						
LSA	**Lhasa**	**19.23**	**352**	P	**Pn**	**09 17 35.6**	**-0.1**
LSA	**Lhasa**	**19.23**	**352**	*e*P	**Pn**	**09 17 34.2**	**-1.4**
	comp=Z,36nm,1.1s						
LSA				*e*pP	pP	09 17 41.6	-1.3
LSA	**Lhasa**	**19.23**	**352**	*e*P	**Pn**	**09 17 34.2**	**-1.5**
LSA				pmax	pmax		
	comp=Z,36nm,1.1s						
GKN	**Gorkha**	**19.54**	**334**	*e*P	**Pn**	**09 17 38.3**	**-1.0**
	comp=Z,159nm,1.2s						
GYA	**Guiyang**	**19.66**	**35**	⇑*i*P	**Pn**	**09 17 40.3**	**-0.4**
GYA				AP	pP	09 17 45.6	-2.0
GYA				XP	sP	09 17 48.8	-2.8
GYA				PP		09 18 01.4	
GYA				S	**Sn**	**09 21 25.1**	**+4.6**
GYA				AMB	AMB		
	comp=Z,20nm,1.4s						
GYA				AMB	AMB		
	comp=Z,150nm,5.4s						
GYA				LR	LR		
	comp=N,280nm,9.9s						
GYA				LR	LR		
	comp=E,490nm,11.7s						
GYA				LR	LR		
	comp=Z,380nm,9.3s						
KOLN	**Koldanda**	**19.81**	**331**	*e*P	**Pn**	**09 17 42.4**	**-0.1**
	comp=Z,90nm,0.8s						
BHPL	**Bhopal**	**20.41**	**310**	*e*P	**P**	**09 17 49.2**	**+1.8**
BHPL				AMb	AMB	09 17 55.1	
	comp=Z,37nm,1.4s						
KAD	**Karad**	**20.58**	**291**	*e*P	**P**	**09 17 52.0**	**+2.7**
KAD				AMb	AMB	09 18 03.3	
	comp=Z,52nm,2.2s						
POO	**Poona**	**21.25**	**294**	*e*P	**P**	**09 17 58.5**	**+2.0**
POO				*e*x	x	09 18 16.4	
POO				AMb	AMB	09 18 17.8	
	comp=Z,50nm,0.7s,mb5.0						
CD2	**Chengdu**	**22.06**	**22**	P	**P**	**09 18 04.6**	**-0.5**
CD2				XP	sP	09 18 18.7	+1.1
CD2				PP		09 18 31.3	
CD2				S	**S**	**09 22 02.1**	**-4.6**
CD2				XS	sS	09 22 16.5	-3.8
CD2				SS		09 22 48.8	
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
CD2				AMB	AMB		
	comp=Z,70nm,6.1s						
CD2				LR	LR		
	comp=E,280nm,10.8s						
CD2				LR	LR		
	comp=Z,210nm,13.7s,MS3.7						
NDI	**New Delhi**	**24.06**	**321**	*e*P	**P**	**09 18 25.5**	**+0.2**
NDI				AMb	AMB	09 18 29.1	
	comp=Z,68nm,1.2s,mb5.0						
ENH	**Enshi**	**24.18**	**34**	*e*P	**P**	**09 18 25.6**	**-0.7**
	comp=Z,109nm,1.4s,mb5.1						
AJM	**Ajmer**	**24.35**	**313**	*e*P	**P**	**09 18 30.1**	**+2.2**
AJM				AMb	AMB	09 18 38.5	
	comp=Z,43nm,0.7s,mb5.0						
SMLA	**Simla**	**25.86**	**325**	*e*P	**P**	**09 18 42.1**	**+0.4**
LZH	**Lanzhou**	**26.83**	**17**	*e*P	**P**	**09 18 50.0**	**-0.5**
LZH				AP	pP	09 18 59.5	-0.1
LZH				XP	sP	09 19 03.5	+0.1
LZH				PP		09 19 36.2	
LZH				*e*S	**S**	**09 23 23.4**	**-1.3**
LZH				XS	sS	09 23 39.2	-0.6
LZH				SS		09 24 38.5	
LZH				AMB	AMB		
	comp=Z,34nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,159nm,4.6s						
LZH				LR	LR		
	comp=N,667nm,10.2s						
LZH				LR	LR		
	comp=Z,1μm,13.3s,MS4.7						
XAN	**Xi'an**	**26.93**	**28**	P	**P**	**09 18 50.2**	**-1.1**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.0						
XAN				LR	LR		
	comp=N,264nm,14.7s,MS4.2						
XAN				LR	LR		
	comp=E,365nm,13.8s,MS4.2						
XAN				LR	LR		
	comp=Z,339nm,14.7s,MS4.0						
WHN	**Wuhan**	**27.26**	**40**	*e*P	**P**	**09 18 55.0**	**+0.7**
GTA	**Gaotai**	**29.12**	**9**	*e*P	**P**	**09 19 11.6**	**+0.7**
GTA				AP	pP	09 19 19.8	-0.3
GTA				XP	sP	09 19 24.5	+0.5
GTA				PP	PP	09 20 08.1	-8.8
GTA				S	**S**	**09 24 02.7**	**+1.9**
GTA				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.4						
GTA				AMB	AMB		
	comp=Z,108nm,6.1s						
GTA				LR	LR		
	comp=N,158nm,13.3s,MS3.9						
GTA				LR	LR		
	comp=E,143nm,14.1s,MS3.9						
GTA				LR	LR		
	comp=Z,129nm,16.7s,MS3.6						
NJ2	**Nanjing**	**31.18**	**43**	*e*P	**P**	**09 19 30.4**	**+1.3**
NJ2				AP	pP	09 19 39.9	+1.6
NJ2				XP	sP	09 19 43.9	+1.8
NJ2				PP	PP	09 20 34.5	-5.2
NJ2				S	**S**	**09 24 34.0**	**+1.0**
NJ2				XS	sS	09 24 50.0	+1.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,50nm,6.4s						
NJ2				LR	LR		
	comp=N,1μm,22.2s,MS4.6						
NJ2				LR	LR		
	comp=E,260nm,19.2s,MS4.6						
NJ2				LR	LR		
	comp=Z,130nm,16.1s,MS3.7						
SSE	**Sheshan**	**32.24**	**47**	*e*P	**P**	**09 19 38.2**	**-0.3**
SSE				AP	pP	09 19 46.8	-0.8
SSE				XP	sP	09 19 50.8	-0.7
SSE				PP	PP	09 20 50.5	-1.1
SSE				PCP	PcP	09 22 28.4	+2.0
SSE				S	**S**	**09 24 48.3**	**-1.3**
SSE				XS	sS	09 25 04.1	-0.7
SSE				SCS	ScS	09 30 02.9	-3.7
SSE				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,71nm,6.6s						
SSE				LR	LR		
	comp=N,133nm,22.2s,MS3.7						
SSE				LR	LR		
	comp=E,93nm,22.2s,MS3.7						
SSE				LR	LR		
	comp=Z,74nm,15.6s						
WMQ	**Urumqi**	**33.59**	**351**	P	**P**	**09 19 50.8**	**+0.5**
WMQ				AP	pP	09 20 00.5	+1.0
WMQ				XP	sP	09 20 04.4	+1.1
WMQ				PP	PP	09 21 04.0	-2.5
WMQ				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,159nm,4.2s						
WMQ				LR	LR		
	comp=N,1μm,21.4s,MS4.7						
WMQ				LR	LR		
	comp=E,1μm,21.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,24.0s,MS4.5						
HHC	**Hu-ho-hao-te**	**33.79**	**24**	*e*P	**P**	**09 19 53.5**	**+1.5**
HHC				AP	pP	09 20 03.2	+2.0
HHC				XP	sP	09 20 07.1	+2.1
HHC				PP	PP	09 21 08.1	-0.6
HHC				PCP	PcP	09 22 31.6	+0.9
HHC				S	**S**	**09 25 15.7**	**+2.0**
HHC				XS	sS	09 25 31.8	+2.9
HHC				SS	SS	09 27 23.9	-16
HHC				SCS	ScS	09 30 12.4	-2.2
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,84nm,4.6s						
HHC				LR	LR		
	comp=N,236nm,10.3s						
HHC				LR	LR		
	comp=E,423nm,16.7s						
HHC				LR	LR		
	comp=Z,264nm,11.2s,MS4.2						
KZA	**Kyzart**	**35.52**	**335**	P	**P**	**09 20 07.6**	**+0.7**
SNR=8.3							
UCH	**Uchtor**	**35.95**	**335**	P	**P**	**09 20 11.1**	**+0.6**
SNR=5.5							
AML	**Almayashu**	**36.22**	**334**	P	**P**	**09 20 13.4**	**+0.6**
SNR=21							
AAK	**Ala-Archa**	**36.29**	**335**	P	**P**	**09 20 14.3**	**+0.8**
SNR=9.8							
AAK	**Ala-Archa**	**36.29**	**335**	*e*P	**P**	**09 20 12.8**	**-0.8**
	comp=Z,14nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**36.29**	**335**	⇑*i*P	**P**	**09 20 12.7**	**-0.8**
AAK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
FRU	**Bishkek**	**36.40**	**335**	*e*P	**P**	**09 20 14.0**	**-0.5**
EKS2	**Erkin-Say**	**36.61**	**334**	P	**P**	**09 20 17.3**	**+1.0**
SNR=6.8							
USP	**Ospenovka**	**36.81**	**336**	P	**P**	**09 20 18.0**	**0.0**
SNR=8.6							
MKAR	**Makanchi Array**	**37.48**	**346**	P	**P**	**09 20 23.2**	**-0.5**
	comp=Z,6.7nm,0.7s,mb4.6,baz=164,slow=8.2,SNR=53						
MKAR				PcP	PcP	09 22 40.4	-1.2
	comp=Z,1.0nm,1.0s,baz=173,slow=8.9,SNR=3.4						
MKAR				LR	LR	09 40 10.8	
	comp=Z,163nm,19.9s,MS3.8,baz=220,slow=43						
MKAR	**Makanchi Array**	**37.48**	**346**	P	**P**	**09 20 23.2**	**-0.4**
MKAR				PcP	PcP	09 22 40.4	-1.2
MKAR				LR	LR	09 40 10.8	
MKAR	**Makanchi Array**	**37.48**	**346**	P	**P**	**09 20 23.2**	**-0.5**
MKAR						09 22 40.4	
KKAR	**Karatay Array**	**38.42**	**332**	*i* P	**P**	**09 20 31.3**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**38.51**	**13**	P	**P**	**09 20 32.7**	**+0.4**
	comp=Z,6.4nm,1.2s,mb4.2,baz=205,slow=4.7,SNR=15						
ULN	**Ulaanbaatar**	**38.68**	**14**	⇑*e*P	**P**	**09 20 32.8**	**-1.0**
SNY	**Shenyang**	**40.36**	**34**	⇑P	**P**	**09 20 48.0**	**+0.3**
SNY				AP	pP	09 20 55.4	-1.7
SNY				XP	sP	09 21 02.0	+1.1
SNY				PP	PP	09 22 19.8	-1.1
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
SNY				AMB	AMB		
	comp=Z,235nm,5.0s						
SNY				LR	LR		
	comp=N,251nm,15.5s						
SNY				LR	LR		
	comp=Z,267nm,14.9s,MS4.2						
ZAK	**Zakamensk**	**40.36**	**9**	*e*P	**P**	**09 20 43.4**	**-4.4**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.2						
KURK	**Kurchatov**	**42.02**	**345**	*e*P	**P**	**09 21 00.8**	**-0.6**
	comp=Z,21nm,1.3s,mb4.6						
KURK	**Kurchatov**	**42.02**	**345**	⇑*e*P	**P**	**09 21 00.2**	**-1.2**
CN2	**Changchun**	**42.70**	**34**	*e*P	**P**	**09 21 07.0**	**+0.1**
NVS	**Novosibirsk**	**44.99**	**351**	*e*P	**P**	**09 21 24.1**	**-1.3**
NVS				pmax	pmax		
	comp=N,29nm,1.9s						
NVS				pmax	pmax		
	comp=Z,34nm,1.9s,mb4.8						
MDJ	**Mudanjiang**	**45.52**	**35**	P	**P**	**09 21 29.9**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,99nm,2.9s,mb5.2						
BVA0	**Borovoye Array**	**46.48**	**340**	*i* P	**P**	**09 21 35.9**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
BVAR	**Borovoye Array**	**46.48**	**340**	P	**P**	**09 21 36.4**	**-0.7**
	comp=Z,4.6nm,0.9s,mb4.4,baz=145,slow=8.1,SNR=16						
BVAR				PcP	PcP	09 23 11.9	+0.7
	comp=Z,1.8nm,0.7s,baz=145,slow=5.4,SNR=4.1						
ZRNK	**Zerenda**	**46.89**	**339**	*e*P	**P**	**09 21 39.0**	**-1.3**
	comp=Z,5.4nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**46.89**	**339**	*e*P	**P**	**09 21 39.0**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
MJAR	**Matsushiro Arr**	**47.29**	**50**	P	**P**	**09 21 44.9**	**+1.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=224,slow=8.8,SNR=5.8						
MJAR				PcP	PcP	09 23 15.3	+1.2
	comp=Z,5.1nm,0.9s,baz=256,slow=3.2,SNR=9.7						
AB31	**Akbulak array**	**47.93**	**330**	*i* P	**P**	**09 21 47.8**	**-0.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BOD	**Bodaibo**	**49.50**	**14**	*e*P	**P**	**09 21 59.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
AKTK	**Aktyubinsk**	**49.65**	**330**	P	**P**	**09 22 01.0**	**-0.6**
AKTK				PcP	PcP	09 23 22.5	-0.2
AKTK				LR	LR	09 46 31.8	
AKTO	**Aktyubinsk**	**49.65**	**330**	P	**P**	**09 22 01.0**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.3,baz=118,slow=6.7,SNR=5.3						
AKTO				PcP	PcP	09 23 22.5	-0.2
	comp=Z,3.7nm,0.9s,baz=38,slow=2.9,SNR=3.6						
AKTO				LR	LR	09 46 31.8	
	comp=Z,98nm,18.2s,MS3.8,baz=140,slow=40						
AKTO	**Aktyubinsk**	**49.65**	**330**	P	**P**	**09 22 01.0**	**-0.6**
AKTO						09 23 22.5	
WRA	**Warramunga Arr**	**49.77**	**127**	P	**P**	**09 22 03.7**	**+1.1**
	comp=Z,2.2nm,0.7s,mb4.3,baz=303,slow=9.4,SNR=15						
WRAB	**Tennant Creek**	**49.78**	**127**	*e*P	**P**	**09 22 01.6**	**-0.9**
WB2	**Warramunga Arr**	**49.78**	**127**	*e*P	**P**	**09 22 03.5**	**+0.9**
ATD	**Arta Tunnel**	**50.41**	**276**	LR	LR	09 39 27.5	
	comp=Z,117nm,20.4s,MS3.9,baz=84,slow=31						
ASAR	**Alice Springs**	**51.59**	**132**	P	**P**	**09 22 17.4**	**+1.2**
	comp=Z,3.7nm,0.9s,mb4.3,baz=308,slow=7.3,SNR=22						
CLNS	**Chul'man**	**51.87**	**21**	*e*P	**P**	**09 22 11.6**	**-6.7**
CLNS				pmax	pmax		
	comp=N,20nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=E,16nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,200nm,12.0s,MS4.4						
CLNS				MLR	MLR		
	comp=E,100nm,16.0s						
ARU	**Arti**	**53.46**	**336**	⇓*i*P	**P**	**09 22 29.3**	**-0.8**
ARU				*e*		09 24 25.9	
ARU				*e*S	**S**	**09 30 00.6**	**+0.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ARU				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,100nm,19.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,200nm,21.0s,MS4.2						
ZEI	**Tsey**	**54.17**	**316**	*i* P	**P**	**09 22 32.9**	**-2.3**
ZEI				*i* *PP	pP	09 22 42.8	-2.0
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
YSS	**Yuzh-Sakhalins**	**54.60**	**39**	⇑*e*P	**P**	**09 22 39.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
KIV	**Kislovodsk**	**55.41**	**317**	κ*e*P	**P**	**09 22 44.6**	**+0.3**
KIV				*e*	pP	09 22 53.0	-0.9
KIV				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
SOC	**Sochi**	**57.32**	**315**	*c i*P	**P**	**09 22 56.1**	**-1.8**
SOC				*e**PP	pP	09 23 10.2	+2.7
SOC				*e*		09 23 49.5	
SOC				*e*		09 25 05.3	
SOC				*e*PPP		09 26 21.1	
SOC				*e*S	**S**	**09 30 51.5**	**-0.6**
SOC				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.3						
SOC				MLR	MLR		
	comp=Z,177nm,16.0s,MS4.3						
YAK	**Yakutsk**	**57.40**	**19**	⇑*e*P	**P**	**09 22 57.5**	**-0.9**
YAK				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.4						
ANN	**Anapa**	**59.25**	**316**	*e*P	**P**	**09 23 07.1**	**-4.3**
BR131	**Keskin Array S**	**60.77**	**310**	*e*P	**P**	**09 23 21.0**	**-0.8**
	comp=Z,5.1nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**60.77**	**310**	P	**P**	**09 23 20.9**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.6,baz=121,slow=7.7,SNR=17						
STKA	**Stephens Creek**	**61.91**	**135**	P	**P**	**09 23 31.7**	**+2.2**
	comp=Z,6.1nm,1.0s,mb4.7,baz=330,slow=4.5,SNR=7.4						
STKA	**Stephens Creek**	**61.91**	**135**	*e*P	**P**	**09 23 29.1**	**-0.3**
OBN	**Obninsk**	**63.17**	**327**	⇓P	**P**	**09 23 37.0**	**-0.9**
OBN						09 24 15.0	
OBN				pmax	pmax		
	comp=Z,23nm,1.6s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
MA2	**Magadan**	**64.32**	**28**	*e*P	**P**	**09 23 45.2**	**-0.3**
	comp=Z,26nm,1.4s,mb5.1						
MA2				*e*pP	pP	09 23 54.0	-1.3
MA2	**Magadan**	**64.32**	**28**	*e*P	**P**	**09 23 45.6**	**+0.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
TIXI	**Tiksi**	**64.56**	**11**	⇑*i*P	**P**	**09 23 45.1**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.9						
AKASG	**Malin Array Be**	**66.12**	**321**	P	**P**	**09 23 55.1**	**-2.0**
	comp=Z,0.4nm,0.3s,mb3.9,baz=94,slow=4.2,SNR=6.0						
SEY	**Seymchan**	**66.43**	**25**	⇑*i*P	**P**	**09 23 57.7**	**-1.4**
IDI	**Anoyia**	**67.14**	**304**	LR	LR	09 56 14.3	
	comp=Z,68nm,21.7s,MS3.8,baz=84,slow=39						
MLR	**Muntele Rosu**	**67.33**	**315**	LR	LR	09 58 02.5	
	comp=Z,201nm,19.5s,MS4.3,baz=230,slow=40						
LSZ	**Lusaka**	**70.30**	**250**	LR	LR	09 51 45.7	
	comp=Z,113nm,20.0s,MS4.1,baz=329,slow=33						
FINES	**FINESS Array B**	**70.38**	**332**	P	**P**	**09 24 22.9**	**-0.9**
	comp=Z,1.9nm,0.9s,mb4.0,baz=123,slow=7.0,SNR=5.1						
FINES				LR	LR	10 02 01.3	
	comp=Z,146nm,18.1s,MS4.3,baz=158,slow=42						
FINES	**FINESS Array B**	**70.38**	**332**	P	**P**	**09 24 22.9**	**-0.9**
FINES				LR	LR	10 02 01.3	
ARCES	**ARCESS Array B**	**72.77**	**340**	P	**P**	**09 24 38.0**	**-0.2**
	comp=Z,4.7nm,0.9s,mb4.4,baz=90,slow=5.1,SNR=6.5						
ARCES				LR	LR	09 58 55.4	
	comp=Z,199nm,20.3s,MS4.4,baz=104,slow=38						
BILL	**Bilibino**	**73.54**	**22**	*e*P	**P**	**09 24 42.1**	**-0.6**
BILL				*e*S	S	09 34

YKA 09 31 24.8
PPT Papeete 117.93 104 *e*LR LR 10 07 56.2
comp=Z,84nm,22.5s
TBI Tubuai 118.17 111 *e*LR LR 10 08 02.2
comp=Z,128nm,24.5s
NVAR Mina Array Bea 122.53 30 PKP PKPdf 09 32 07.4 +2.2
comp=Z,0.7nm,0.6s,baz=322,slow=1.7,SNR=6.1
PDAR Pinedale Array 122.60 21 PKP PKPdf 09 32 06.0 +0.7
comp=Z,0.8nm,0.9s,baz=304,slow=1.1,SNR=5.5
RKT Rikitea 131.48 111 *e*LR LR 10 14 12.2
comp=Z,141nm,34.5s
PLCA Paso Flores 147.11 202 PKPbc PKPbc 09 32 54.7 +1.9
comp=Z,4.5nm,1.0s,baz=115,slow=4.0,SNR=6.4
CPUP Villa Florida 148.94 236 PKPbc PKPbc 09 32 57.9 +0.3
comp=Z,0.4nm,0.4s,baz=354,slow=3.6,SNR=2.9

IDC 10 09:17:21.2±9.3, 1007N×9338E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.5/3, Error ellipse: s-maj=506.8km s-min=27.4km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.79 348**		P	P	09 24 39.1	0.0
	0.4nm,0.8s,baz=158,slow=5.9,SNR=2.8						
WRA	**Warramunga Arr**	**50.15 127**		P	P	09 26 18.3	0.0
	0.8nm,0.6s,baz=305,slow=8.9,SNR=6.3						
ASAR	**Alice Springs**	**51.90 131**		P	P	09 26 32.3	+0.8
	0.7nm,0.8s,baz=305,slow=6.2,SNR=8.2						

IDC 10 09:18:46.5±1.4, 1052N×9399E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=59.9km s-min=22.4km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.49 347**		P	P	09 26 01.9	0.0
	2.1nm,0.7s,baz=165,slow=8.1,SNR=12						
SONM	**Songino Array**	**38.64 13**		P	P	09 26 11.5	0.0
	0.7nm,0.7s,baz=187,slow=9.0,SNR=4.0						
WRA	**Warramunga Arr**	**49.94 127**		P	P	09 27 42.2	+0.1
	0.7nm,0.7s,baz=306,slow=8.8,SNR=4.9						
ASAR	**Alice Springs**	**51.74 131**		P	P	09 27 56.2	+0.7
	1.0nm,0.8s,baz=311,slow=8.1,SNR=6.3						
BRTR	**Keskin Array B**	**60.62 310**		P	P	09 28 59.5	+0.4
	1.0nm,0.8s,baz=97,slow=6.5,SNR=5.3						

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*MOS **10** 09:25:54.4±1.0, 772S×10770E, h10km, mb5.1/26, Error ellipse: s-maj=12.9km s-min=6.9km az=119.9*
*ISCJB **10** 09:26:01.3±0.2, 779S±004×10776E±005, h63km, mb4.8/61, Error ellipse: s-maj=8.2km s-min=4.9km az=110.4*
*IDC **10** 09:26:03.7±0.5, 772S×10781E, h66km±4km, mb4.5/23, mb1 4.6/23, mb1mx4.5/27, mbtmp4.8/23, MS3.9/3, Ms1 3.9/3, ms1mx3.4/19, Error ellipse: s-maj=13.5km s-min=10.0km az=42.0*
*NEIC **10** 09:26:03.5±0.2, 776S×10776E, mb4.9/27, Error ellipse: s-maj=8.8km s-min=5.0km az=51.0*
NEIC Felt [III] at Bandung and Tasikmalaya.
*HRVD **10** 09:26:03.5±0.5, 794S×10787E, h60km±4km, MW5.0/54, Centroid moment Tensor Solution. LP body waves: s19,c21;Mantle waves: s54,c74; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.85±.25; $M_{\theta\theta}$1.34±.21; $M_{\phi\phi}$-3.19±.20; $M_{r\theta}$-1.20±.10; $M_{\theta\phi}$-1.36±.16; $M_{\phi r}$-0.43±.16; Best double couple: $M_0$3.27100×10^16^ NP1:ϕ_s340.00000°, δ52.00000°, λ33.00000°. NP2:ϕ_s228.00000°, δ65.00000°, λ137.00000°. Principal axes: T 2.8720, Plg48.0000°, Azm188.0000°; N 0.7970, Plg41.0000°, Azm24.0000°; P -3.6690, Plg8.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **10** 09:26:03.5, 780S×10780E, h69km, mB5.0, mb4.7, Ms4.9, Msz4.5*

ISC 10 09:26:03.4±0.2, 779S±004×10774E±005, h65km, h65km±2.4km: pP-P, n168, σ1§12/127, mb4.7/61, 10C-5D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi**	**1.39**	**22**	P	**Pn**	**09 26 27.3**	**+0.5**
	0.0nm,0.0s						
BJII	**Banjamegara**	**2.01**	**77**	P	**Pn**	**09 26 36.2**	**+1.2**
	0.0nm,0.0s						
KSI	**Kapahiang**	**6.56**	**308**	P	**Pn**	**09 27 39.3**	**+2.0**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**10.32**	**315**	P	**Pn**	**09 28 34.2**	**+5.5**
	0.0nm,0.0s						
PSI	**Prapat**	**13.71**	**320**	P	**Pn**	**09 29 10.1**	**-4.6**
	1.4nm,0.3s,baz=134,slow=14,SNR=5.7						
KULM	**Kulim**	**14.79**	**331**	*e*Pn	**Pn**	**09 29 28.3**	**-0.6**
KKM	**Kota Kinabalu**	**16.13**	**32**	P	**Pn**	**09 29 49.8**	**+3.8**
MBWA	**Marble Bar**	**17.63**	**140**	*e*P	**Pn**	**09 30 01.1**	**-3.5**
	19nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.21**	**122**	⇑*i*P	**P**	**09 30 33.7**	**+0.8**
	123nm,0.7s						
FITZ				*e*S	**S**	**09 34 05.2**	**-11**
SWI	**Sorong**	**24.43**	**75**	P	**P**	**09 31 18.3**	**+2.4**
	80nm,0.5s,mb5.3						
KAKA	**Kakadu**	**24.79**	**103**	*e*P	**P**	**09 31 18.5**	**-0.6**
	38nm,0.6s,mb5.0						
MUN	**Mundaring**	**25.33**	**163**	*e*P	**P**	**09 31 23.3**	**-0.7**
KLBR	**Kellerberrin**	**25.46**	**160**	*e*P	**P**	**09 31 24.0**	**-1.2**
	16nm,0.9s,mb4.5						
NWAO	**Narrogin (SRO)**	**26.52**	**162**	P	**P**	**09 31 33.8**	**-1.0**
	15nm,0.9s,mb4.5,baz=329,slow=5.5,SNR=9.1						
NWAO	**Narrogin (SRO)**	**26.52**	**162**	*e*P	**P**	**09 31 32.7**	**-2.1**
	9.9nm,0.8s,mb4.4						
NWAO	**Narrogin (SRO)**	**26.52**	**162**	*e*P	**P**	**09 31 32.7**	**-2.1**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**28.46**	**118**	P	**P**	**09 31 52.0**	**-0.1**
	comp=Z,9.4nm,0.5s,mb4.6,baz=289,slow=12,SNR=83						
WRA				PcP	PcP	09 35 03.2	+0.5
	comp=Z,4.4nm,0.5s,baz=313,slow=1.9,SNR=11						
WRAB	**Tennant Creek**	**28.46**	**118**	*e*P	**P**	**09 31 52.0**	**-0.2**
	comp=Z,27nm,0.8s,mb4.8						
WRAB				*e*PcP	PcP	09 35 03.3	+0.6
WRAB	**Tennant Creek**	**28.46**	**118**	*e*P	**P**	**09 31 52.0**	**-0.2**
WRAB				*e*		09 35 03.3	
WRAB				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**28.47**	**118**	⇑*i*P	**P**	**09 31 52.1**	**-0.1**
WB2				*e*PCP	PcP	09 35 03.2	+0.5
ASPA	**Alice Springs**	**29.64**	**125**	⇓*i*P	**P**	**09 32 02.7**	**+0.1**
AS31	**Alice Springs**	**29.64**	**125**	⇓*i*P	**P**	**09 32 02.7**	**+0.1**
ASAR	**Alice Springs**	**29.64**	**125**	P	**P**	**09 32 02.5**	**-0.1**
	comp=Z,13nm,1.0s,mb4.5,baz=302,slow=8.5,SNR=58						
ASAR				PcP	PcP	09 35 06.5	+0.8
	comp=Z,9.6nm,0.8s,baz=305,slow=2.1,SNR=13						
ASAR				ScP	ScP	09 38 42.8	+0.8
	comp=Z,2.1nm,0.8s,baz=296,slow=1.7,SNR=7.3						
ASAR	**Alice Springs**	**29.64**	**125**	P	**P**	**09 32 02.6**	**0.0**
ASAR						09 35 06.5	
KMI	**Kunming**	**33.07**	**352**	P	**P**	**09 32 35.1**	**+2.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
HYB	**Hyderabad**	**38.20**	**311**	*i*P	**P**	**09 33 16.5**	**-0.2**
HYB	**Hyderabad**	**38.20**	**311**	*e*P	**P**	**09 33 16.5**	**-0.2**
CD2	**Chengdu**	**38.66**	**355**	*e*P	**P**	**09 33 24.7**	**+4.1**
CD2				AP	pP	09 33 36.9	+0.1
CD2				PP	PP	09 34 59.1	+8.9
CD2				S	**S**	**09 39 20.2**	**+7.7**
CD2				XS	sS	09 39 40.8	+0.8
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
CD2				AMB	AMB		
	comp=Z,80nm,7.6s						
CD2				LR	LR		
	comp=Z,120nm,10.8s						
PMG	**Port Moresby**	**39.00**	**95**	P	**P**	**09 33 24.5**	**+1.1**
	comp=Z,26nm,0.8s,mb5.1,baz=268,slow=5.2,SNR=6.6						
PMG				LR	LR	09 50 58.7	
	comp=Z,156nm,20.5s,baz=61,slow=38						
PMG	**Port Moresby**	**39.00**	**95**	*e*P	**P**	**09 33 23.8**	**+0.4**
	comp=Z,25nm,0.8s,mb5.1						
PMG	**Port Moresby**	**39.00**	**95**	*e*P	**P**	**09 33 24.2**	**+0.8**
CTA	**Charters Tower**	**39.22**	**112**	⇑*i*P	**P**	**09 33 26.7**	**+1.4**
	comp=Z,32nm,0.9s,mb5.2						
CTA				*es*P	sP	09 33 46.9	-2.1
CTA				*e*PCP	PcP	09 35 34.1	+0.8
CTA	**Charters Tower**	**39.22**	**112**	P	**P**	**09 33 26.7**	**+1.4**
	comp=Z,41nm,0.8s,mb5.3,baz=278,slow=11,SNR=23						
CTA	**Charters Tower**	**39.22**	**112**	⇑*i*P	**P**	**09 33 26.7**	**+1.4**
CTA				*e*		09 35 34.1	
CTA				pmax	pmax		
	comp=Z,32nm,0.9s						
CTAO	**Charters Tower**	**39.22**	**112**	*e*P	**P**	**09 33 24.1**	**-1.1**
	comp=Z,53nm,1.0s,mb5.3						
CTAO				*e*pP	pP	09 33 38.5	-3.0
CTAO	**Charters Tower**	**39.22**	**112**	*e*P	**P**	**09 33 24.2**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.3						
STKA	**Stephens Creek**	**39.57**	**132**	⇑*i*P	**P**	**09 33 26.7**	**-1.5**
	comp=Z,100nm,0.6s,mb5.8						
STKA				*e*PCP	PcP	09 35 32.9	-1.5
STKA	**Stephens Creek**	**39.57**	**132**	P	**P**	**09 33 26.9**	**-1.3**
	comp=Z,144nm,0.7s,mb6.0,baz=306,slow=8.0,SNR=279						
STKA				PcP	PcP	09 35 33.0	-1.4
	comp=Z,16nm,0.7s,baz=310,slow=2.9,SNR=4.4						
SSE	**Sheshan**	**40.75**	**18**	*e*P	**P**	**09 33 40.5**	**+2.6**
SSE				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,202nm,10.4s						
LZH	**Lanzhou**	**43.79**	**355**	*e*P	**P**	**09 34 06.5**	**+3.8**
LZH				AP	pP	09 34 21.1	+2.0
LZH				XP	sP	09 34 27.6	+1.0
LZH				*e*PP	PP	09 35 50.6	+5.0
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,72nm,6.7s						
LZH				LR	LR		
	comp=E,426nm,15.2s						
LZH				LR	LR		
	comp=Z,679nm,18.5s						
TOO	**Toolangi**	**45.23**	**137**	*e*P	**P**	**09 34 16.0**	**+1.9**
	comp=Z,11nm,1.0s,mb4.5						
TOO				*e*PCP	PcP	09 35 54.8	+1.6
TOO	**Toolangi**	**45.23**	**137**	*e*P	**P**	**09 34 16.0**	**+1.9**
TOO				*e*		09 35 54.8	
TOO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
CNB	**Canberra Magne**	**46.90**	**132**	*e*P	**P**	**09 34 28.6**	**+1.3**
	comp=Z,52nm,1.7s,mb5.0						
GTA	**Gaotai**	**47.53**	**352**	*e*P	**P**	**09 34 33.3**	**+1.2**
GTA				AP	pP	09 34 47.0	-1.7
GTA				PP	PP	09 36 25.6	+1.6
GTA				S	**S**	**09 41 27.5**	**+5.2**
GTA				XS	sS	09 41 52.2	+1.8
GTA				SS	SS	09 44 47.5	-3.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,125nm,6.1s						
GTA				LR	LR		
	comp=N,144nm,18.3s						
GTA				LR	LR		
	comp=E,286nm,20.5s						
GTA				LR	LR		
	comp=Z,213nm,13.7s						
HHC	**Hu-ho-hao-te**	**48.52**	**4**	*e*P	**P**	**09 34 42.2**	**+2.4**
HHC				AP	pP	09 34 57.9	+1.5
HHC				XP	sP	09 35 04.8	+0.9
HHC				PCP	PcP	09 36 06.3	+1.5
HHC				PP	PP	09 36 36.2	+3.2
HHC				S	**S**	**09 41 40.6**	**+4.3**
HHC				XS	sS	09 42 07.3	+2.8
HHC				SCS	ScS	09 44 26.4	+0.1
HHC				SS	SS	09 45 06.5	-0.4
HHC				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,192nm,8.4s						
HHC				LR	LR		
	comp=Z,149nm,13.2s						
MJAR	**Matsushiro Arr**	**52.55**	**31**	P	**P**	**09 35 08.1**	**-2.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=212,slow=7.5,SNR=4.3						
MJAR				PcP	PcP	09 36 20.5	+0.8
	comp=Z,4.9nm,0.7s,baz=200,slow=4.3,SNR=9.5						
MJAR				LR	LR	10 01 51.9	
	comp=Z,62nm,18.0s,baz=260,slow=41						
MJAR	**Matsushiro Arr**	**52.55**	**31**	P	**P**	**09 35 08.1**	**-2.1**
MJAR						09 36 20.5	
WMQ	**Urumqi**	**54.48**	**342**	*e*P	**P**	**09 35 25.2**	**+0.9**
WMQ				AP	pP	09 35 41.1	-0.1
WMQ				XP	sP	09 35 48.1	-0.5
WMQ				PCP	PcP	09 36 27.5	+0.4
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,82nm,4.6s						
WMQ				LR	LR		
	comp=N,424nm,20.7s						
WMQ				LR	LR		
	comp=E,441nm,20.7s						
WMQ				LR	LR		
	comp=Z,421nm,20.7s						
SONM	**Songino Array**	**55.39**	**359**	P	**P**	**09 35 31.2**	**+0.3**
	comp=Z,3.9nm,0.6s,mb4.6,baz=175,slow=8.4,SNR=15						
SONM				PcP	PcP	09 36 30.7	+0.2
	comp=Z,9.1nm,0.6s,baz=176,slow=3.4,SNR=15						
SONM				ScP	ScP	09 40 22.5	-1.1
	comp=Z,2.4nm,0.7s,baz=176,slow=3.7,SNR=5.0						
SONM				LR	LR	10 01 38.4	
	comp=Z,168nm,18.7s,baz=238,slow=39						
SONM	**Songino Array**	**55.39**	**359**	P	**P**	**09 35 31.2**	**+0.3**
SONM						09 36 30.7	
ULN	**Ulaanbaatar**	**55.41**	**359**	*e*P	**P**	**09 35 31.0**	**0.0**
	comp=Z,4.3nm,0.4s,mb4.8						
ULN	**Ulaanbaatar**	**55.41**	**359**	*e*P	**P**	**09 35 31.0**	**0.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
MDJ	**Mudanjiang**	**55.76**	**19**	P	**P**	**09 35 34.5**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,38nm,3.1s						
CASY	**Casey**	**58.43**	**179**	*e*P	**P**	**09 35 51.5**	**-0.9**
AAK	**Ala-Archa**	**58.62**	**332**	*e*P	**P**	**09 35 53.3**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**58.62**	**332**	*e*P	**P**	**09 35 53.3**	**-0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**58.87**	**340**	*i*P	**P**	**09 35 54.5**	**-0.9**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**58.87**	**340**	P	**P**	**09 35 53.9**	**-1.5**
	comp=Z,5.7nm,0.6s,mb4.8,baz=151,slow=8.0,SNR=60						
MKAR				PcP	PcP	09 36 44.5	+0.3
	comp=Z,3.2nm,0.6s,baz=144,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**58.87**	**340**	P	**P**	**09 35 54.5**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OPO	**Ambohidratompo**	**59.69**	**253**	P	**P**	**09 36 02.8**	**+1.7**
	comp=Z,6.9nm,0.8s,mb4.7,baz=78,slow=4.7,SNR=7.7						
OPO				pP	pP	09 36 20.7	+2.5
	comp=Z,2.0nm,0.6s,baz=42,slow=6.3,SNR=3.5						
KLR	**Kul'dur**	**60.55**	**18**	*e*P	**P**	**09 36 03.2**	**-3.7**
KK31	**Karatay Array**	**60.91**	**330**	*i*P	**P**	**09 36 09.8**	**+0.4**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KKAR	**Karatay Array**	**60.91**	**330**	*i*P	**P**	**09 36 09.8**	**+0.4**
YSS	**Yuzh-Sakhalins**	**62.75**	**26**	P	**P**	**09 36 21.3**	**-0.5**
	comp=Z,28nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**62.75**	**26**	⇑*i*P	**P**	**09 36 22.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
KURK	**Kurchatov**	**63.49**	**340**	*e*P	**P**	**09 36 25.2**	**-1.4**
	comp=Z,12nm,0.9s,mb4.8						
KURK	**Kurchatov**	**63.49**	**340**	*e*P	**P**	**09 36 25.2**	**-1.4**
KURK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
BOD	**Bodaibo**	**65.58**	**4**	*e*P	**P**	**09 36 38.6**	**-1.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
VOSK	**Vostochnaya**	**67.91**	**337**	P	**P**	**09 36 54.4**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.6						
BVA0	**Borovoye Array**	**68.37**	**337**	*i*P	**P**	**09 36 57.3**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
BVAR	**Borovoye Array**	**68.37**	**337**	P	**P**	**09 36 57.3**	**-0.7**
	comp=Z,7.0nm,0.6s,mb4.7,baz=139,slow=9.2,SNR=34						
BRVK	**Borovoye**	**68.44**	**337**	*e*P	**P**	**09 36 57.5**	**-1.0**
	comp=Z,6.2nm,1.0s,mb4.4						
BRVK	**Borovoye**	**68.44**	**337**	*e*P	**P**	**09 36 57.5**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**68.87**	**336**	*e*P	**P**	**09 36 59.0**	**-2.1**
	comp=Z,12nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**68.87**	**336**	*i*P	**P**	**09 37 00.5**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
AB31	**Akbulak array**	**70.46**	**329**	*e*P	**P**	**09 37 10.4**	**-0.5**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
KMBO	**Kilima Mbogo**	**70.52**	**272**	P	**P**	**09 37 11.8**	**+0.6**
	comp=Z,4.0nm,0.9s,mb4.2,baz=54,slow=9.4,SNR=10						
KMBO				pP	pP	09 37 30.9	+2.1
	comp=Z,2.9nm,0.7s,baz=53,slow=10.0,SNR=4.8						
YAK	**Yakutsk**	**71.66**	**11**	*e*P	**P**	**09 37 17.0**	**-1.1**
	comp=Z,21nm,0.5s,mb5.2						
YAK	**Yakutsk**	**71.66**	**11**	*e*P	**P**	**09 37 17.2**	**-0.9**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
AKTK	**Aktyubinsk**	**72.17**	**329**	P	**P**	**09 37 21.4**	**+0.2**
AKTO	**Aktyubinsk**	**72.17**	**329**	P	**P**	**09 37 21.4**	**+0.2**
	comp=Z,2.8nm,0.4s,mb4.5,baz=114,slow=4.8,SNR=12						
SYO	**Syowa Base**	**75.02**	**200**	⇑*e*P	**P**	**09 37 37.4**	**-0.5**
VNDA	**Vanda**	**75.06**	**169**	P	**P**	**09 37 37.6**	**-0.5**
	comp=Z,17nm,0.9s,mb4.8,baz=311,slow=6.2,SNR=27						
VNDA				pP	pP	09 37 57.2	+1.3
	comp=Z,4.7nm,0.8s,baz=268,slow=3.1,SNR=3.3						
MA2	**Magadan**	**75.36**	**21**	*e*P	**P**	**09 37 39.2**	**-0.6**
	comp=Z,6.2nm,0.8s,mb4.4						
MA2	**Magadan**	**75.36**	**21**	*d*iP	**P**	**09 37 39.3**	**-0.5**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
ARU	**Arti**	**75.64**	**334**	*e*P	**P**	**09 37 40.7**	**-0.8**
	comp=Z,12nm,0.3s,mb5.1						
ARU	**Arti**	**75.64**	**334**	*e*P	**P**	**09 37 41.4**	**-0.1**
ARU				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
SBA	**Scott Base**	**76.14**	**169**	*e*P	**P**	**09 37 44.1**	**-0.1**
	comp=Z,16nm,0.8s,mb4.8						
SBA	**Scott Base**	**76.14**	**169**	*e*P	**P**	**09 37 44.1**	**-0.2**
SBA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**77.95**	**318**	P	**P**	**09 37 53.0**	**-1.5**
KIV				*e*	pP	09 38 11.6	-0.7
LSZ	**Lusaka**	**77.95**	**256**	P	**P**	**09 37 56.1**	**+1.7**
	comp=Z,13nm,0.6s,mb4.8,baz=86,slow=5.7,SNR=15						
LSZ				pP	pP	09 38 15.6	+3.3
	comp=Z,11nm,0.5s,baz=82,slow=5.3,SNR=6.8						
LSZ	**Lusaka**	**77.95**	**256**	P	**P**	**09 37 56.1**	**+1.6**
	comp=Z,1.0nm,0.6s,mb3.7						
LSZ				pP	pP	09 38 15.6	+3.3
SEY	**Seymchan**	**78.30**	**19**	*d*iP	**P**	**09 37 55.9**	**-0.5**
LBTB	**Lobatse**	**79.66**	**246**	P	**P**	**09 38 05.3**	**+1.5**
	comp=Z,7.9nm,0.6s,mb4.7,baz=113,slow=5.8,SNR=14						
LBTB	**Lobatse**	**79.66**	**246**	P	**P**	**09 38 04.9**	**+1.1**
	comp=Z,8.3nm,0.7s,mb4.7						
LBTB	**Lobatse**	**79.66**	**246**	P	**P**	**09 38 04.9**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
BOSA	**Boshof**	**79.74**	**242**	P	**P**	**09 38 05.1**	**+0.8**
	comp=Z,4.5nm,0.4s,mb4.6,baz=109,slow=5.0,SNR=25						
BOSA	**Boshof**	**79.74**	**242**	*e*P	**P**	**09 38 02.6**	**-1.6**
	comp=Z,6.5nm,0.8s,mb4.5						
BOSA	**Boshof**	**79.74**	**242**	*e*P	**P**	**09 38 02.6**	**-1.7**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
SOC	**Sochi**	**79.80**	**317**	*e*P	**P**	**09 38 04.1**	**-0.5**
SOC				*e*S	S	09 48 00.9	-1.6
SOC				*e*		09 48 22.3	
SOC				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.1						
TIXI	**Tiksi**	**80.50**	**7**	*e*P	**P**	**09 38 07.0**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**82.21**	**180**	*e*P	**P**	**09 38 17.3**	**-0.1**
	comp=Z,28nm,0.8s,mb5.1						
BR131	**Keskin Array S**	**82.89**	**312**	*e*P	**P**	**09 38 21.0**	**+0.1**
	comp=Z,3.6nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**82.89**	**312**	P	**P**	**09 38 20.8**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.4,baz=130,slow=6.5,SNR=20						
BRTR				pP	pP	09 38 39.1	+0.2
	comp=Z,4.3nm,0.8s,baz=139,slow=6.6,SNR=6.0						
VRSR	**Storozhevoye**	**82.92**	**324**	*e*P	**P**	**09 38 20.2**	**-0.9**
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
VRSR				pmax	pmax		
	comp=N,2.0nm,1.2s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.8s						
SUR	**Sutherland**	**83.30**	**238**	P	**P**	**09 38 25.3**	**+2.3**
	comp=E,24nm,0.9s,mb5.0,baz=91,slow=7.4,SNR=7.1						
OBN	**Obninsk**	**85.78**	**327**	P	**P**	**09 38 35.0**	**-0.6**
OBN				*e*S		09 49 00.5	
OBN				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s						
BILL	**Bilibino**	**86.00**	**19**	*e*P	**P**	**09 38 36.2**	**-0.4**
BILL				pmax	pmax		
	comp=Z,16nm,2.6s,mb4.5						
KLMR	**Klimovskoe**	**86.41**	**333**	*e*P	**P**	**09 38 36.6**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.1						
TSUM	**Tsumeb**	**87.62**	**251**	P	**P**	**09 38 46.0**	**+1.4**
	comp=Z,8.9nm,0.9s,mb4.8,baz=78,slow=2.3,SNR=9.3						
TIRR	**Tirgusor**	**87.85**	**315**	⇑P	**P**	**09 38 46.4**	**+0.8**
IDI	**Anoyia**	**88.65**	**306**	P	**P**	**09 38 51.5**	**+2.0**
	comp=Z,4.7nm,0.5s,mb4.8,baz=343,slow=9.5,SNR=3.6						
AKASG	**Malin Array Be**	**88.76**	**321**	P	**P**	**09 38 49.4**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.4,baz=88,slow=4.7,SNR=11						
AKASG				pP	pP	09 39 07.2	-0.9

CPUP	**Villa Florida**	**143.12**	**203**	PKP	PKPdf	09 45 28.1	-1.8
	comp=Z,3.0nm,0.6s,baz=114,slow=3.5,SNR=9.0						
CPUP	**Villa Florida**	**143.12**	**203**	*e*PKIKP	PKPdf	09 45 27.2	-2.7
WMOK	**Wichita Mounta**	**143.76**	**38**	*e*PKPdf	PKPdf	09 45 29.8	-1.2
MIV	**Mineville/With**	**143.84**	**2**	*e*PKPdf	PKPdf	09 45 28.8	-2.4
NCB	**Newcomb**	**143.92**	**2**	*e*PKPdf	PKPdf	09 45 29.4	-1.8
ACCN	**Adirondack Com**	**144.52**	**2**	*e*PKPdf	PKPdf	09 45 31.0	-1.3
ERPA	**Erie**	**145.13**	**10**	*e*PKPbc	PKPbc	09 45 33.3	+0.3
SLM	**Saint Louis**	**145.27**	**25**	*e*PKPdf	PKPdf	09 45 33.8	+0.2
CCM	**Cathedral Cave**	**145.32**	**27**	*e*PKPdf	PKPdf	09 45 34.1	+0.4
BINY	**Binghamton**	**145.57**	**5**	*e*PKPbc	PKPbc	09 45 34.7	+0.3
JCT	**Junction City**	**145.74**	**45**	*e*PKPbc	PKPbc	09 45 36.1	+1.2
FVM	**French Village**	**145.74**	**26**	*e*PKPbc	PKPbc	09 45 35.2	+0.3
BLO	**Bloomington**	**146.22**	**20**	*e*PKPbc	PKPbc	09 45 36.9	+0.5
ACSO	**Alum Creek Sta**	**146.30**	**15**	*e*PKPdf	PKPdf	09 45 30.1	-5.3
ACSO				*e*PKPab	PKPab	09 45 37.2	-0.3
BDFB	**Brasilia**	**146.55**	**226**	PKPbc	PKPbc	09 45 39.6	+2.2
	comp=Z,23nm,0.6s,baz=162,slow=2.0,SNR=32						
PARMO	**Parma**	**147.13**	**26**	*e*PKPbc	PKPbc	09 45 39.7	+0.7
WCI	**Wyandotte Cave**	**147.15**	**21**	*e*PKPbc	PKPbc	09 45 39.4	+0.3
UALR	**University of**	**147.41**	**32**	*e*PKPbc	PKPbc	09 45 40.4	+0.6
MCWV	**Mont Chateau**	**147.55**	**11**	*e*PKPbc	PKPbc	09 45 40.7	+0.5
MCWV				*e*PKPab	PKPab	09 45 43.2	+0.8
HBAR	**Harrisburg**	**147.63**	**29**	*e*PKPbc	PKPbc	09 45 41.6	+1.2
MVL	**Millersville**	**147.72**	**6**	*e*PKPbc	PKPbc	09 45 41.1	+0.5
MVL				*e*PKPab	PKPab	09 45 43.6	+0.5
WVT	**Waverly**	**148.41**	**25**	*e*PKPbc	PKPbc	09 45 43.3	+0.8
PLAL	**Pickwick Lake**	**149.28**	**26**	*e*PKPbc	PKPbc	09 45 44.8	+0.1
FWV	**Forest Hill**	**149.34**	**13**	*e*PKPbc	PKPbc	09 45 44.9	+0.1
FWV				*e*PKPab	PKPab	09 45 49.6	-0.1
TZTN	**Tazewell**	**149.58**	**18**	*e*PKPbc	PKPbc	09 45 46.3	+0.9
TZTN				*e*PKPab	PKPab	09 45 50.8	+0.1
ELN	**Prospectdale**	**149.69**	**14**	*e*PKPbc	PKPbc	09 45 46.1	+0.4
ELN				*e*PKPab	PKPab	09 45 51.5	+0.4
SWET	**Sewanee**	**149.96**	**23**	*e*PKPbc	PKPbc	09 45 46.5	+0.1
SWET				*e*PKPab	PKPab	09 45 52.5	+0.3
CPCT	**Cooper Cave**	**150.26**	**20**	*e*PKPbc	PKPbc	09 45 47.6	+0.5
CPCT				*e*PKPab	PKPab	09 45 53.9	+0.5
LRAL	**Lakeview Retre**	**151.41**	**27**	*e*PKPbc	PKPbc	09 45 50.2	+0.5
LPAZ	**La Paz**	**155.73**	**190**	PKP	PKPdf	09 45 53.4	+3.6
	comp=Z,2.0nm,0.9s,baz=173,slow=12,SNR=4.1						
LPAZ				PKPab	PKPab	09 46 18.9	+2.4
	comp=Z,3.8nm,0.8s,baz=193,slow=6.6,SNR=6.8						
OTAV	**Otavalo**	**170.29**	**140**	*e*PKPdf	PKPdf	09 46 05.8	+2.0

*IDC **10** 09:31:38.4±1.0, 1070N×9426E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/21, mbtmp4.1/8, MS3.8/3, Ms1 3.8/3, ms1mx3.3/22, Error ellipse: s-maj=47.6km s-min=18.3km az=59.0*
*BJI **10** 09:31:39.1, 1048N×9435E, h25km, mB4.6, mb4.3, Ms4.0, Msz3.7*
*NEIC **10** 09:31:40.1±0.5, 1073N×9437E, h10km, mb4.8/3, Error ellipse: s-maj=21.1km s-min=9.2km az=60.0*
*ISCJB **10** 09:31:41.1±0.7, 1068N±006×943E±0.1, h33km, mb4.3/13, MS3.9/4, Error ellipse: s-maj=15.9km s-min=8.6km az=169.8*
ISC 10 09:31:43.8±0.7, 1075N±008×944E±01, h35km, n21, σ0°96/18, mb4.3/13, MS3.9/4, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.85**	**299**	*e*P	Px	09 32 27.1	
PBA				*e*S	Sx	09 32 44.0	
PBA				*e*x	x	09 33 15.9	
	comp=E,3μm,1.0s						
PBA				*e*x	x	09 33 16.1	
	comp=N,2μm,0.7s						
KULM	**Kulim**	**8.24**	**131**	*e*Pn	**Pn**	**09 33 38.8**	**-1.9**
PSI	**Prapat**	**9.09**	**150**	LR	LR	09 38 05.1	
	comp=N,480nm,18.8s,baz=87,slow=42						
KMI	**Kunming**	**16.35**	**28**	P	**Pn**	**09 35 28.8**	**-1.7**
KMI				AP	pP	09 35 35.2	-7.0
KMI				PP		09 35 40.9	
KMI				S	**S**	**09 38 31.9**	**-10**
KMI				SS		09 38 54.3	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s						
KMI				AMB	AMB		
	comp=Z,119nm,4.8s						
KMI				LR	LR		
	comp=N,151nm,15.5s						
KMI				LR	LR		
	comp=E,424nm,15.5s						
KMI				LR	LR		
	comp=Z,283nm,15.5s						
GYA	**Guiyang**	**19.46**	**35**	⇓*i*P	**Pn**	**09 36 10.1**	**+1.4**
GYA				S	**S**	**09 39 36.9**	**-8.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.4s						
GYA				AMB	AMB		
	comp=Z,250nm,7.8s						
GYA				LR	LR		
	comp=N,480nm,8.1s						
GYA				LR	LR		
	comp=E,210nm,9.6s						
GYA				LR	LR		
	comp=Z,350nm,9.0s						
ENH	**Enshi**	**23.98**	**34**	*e*P	**P**	**09 36 55.3**	**+0.4**
	comp=Z,37nm,1.3s,mb4.7						
LZH	**Lanzhou**	**26.64**	**17**	*e*P	**P**	**09 37 18.1**	**-1.0**
LZH				AP	pP	09 37 28.0	-1.1
LZH				XP	sP	09 37 32.3	-1.0
LZH				PP		09 38 05.6	
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,64nm,4.5s						
LZH				LR	LR		
	comp=E,337nm,10.3s						
LZH				LR	LR		
	comp=Z,582nm,13.5s,MS4.3						
WMQ	**Urumqi**	**33.46**	**351**	*e*P	**P**	**09 38 20.2**	**+0.8**
WMQ				AP	pP	09 38 27.5	-2.0
WMQ				XP	sP	09 38 30.8	-2.9
WMQ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
WMQ				LR	LR		
	comp=N,111nm,22.0s,MS3.7						
WMQ				LR	LR		
	comp=E,133nm,21.2s,MS3.7						
WMQ				LR	LR		
	comp=Z,122nm,22.3s,MS3.6						
MKAR	**Makanchi Array**	**37.36**	**346**	P	**P**	**09 38 53.1**	**+0.2**
	comp=Z,1.0nm,0.3s,mb4.1,baz=167,slow=3.8,SNR=32						
SONM	**Songino Array**	**38.32**	**13**	P	**P**	**09 39 01.9**	**+0.8**
	comp=Z,4.1nm,1.1s,mb4.0,baz=195,slow=9.2,SNR=5.1						
BVAR	**Borovoye Array**	**46.37**	**340**	P	**P**	**09 40 05.8**	**-0.8**
	comp=Z,2.6nm,1.0s,mb4.1,baz=157,slow=8.0,SNR=4.2						
NWAO	**Narrogin (SRO)**	**48.60**	**154**	*e*P	**P**	**09 40 24.3**	**+0.5**
	comp=Z,14nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**49.77**	**128**	P	**P**	**09 40 33.7**	**+0.9**
	comp=Z,1.8nm,0.7s,mb4.2,baz=306,slow=8.7,SNR=7.2						
WRAB	**Tennant Creek**	**49.77**	**128**	*e*P	**P**	**09 40 33.3**	**+0.5**
	comp=Z,5.7nm,0.7s,mb4.7						
ATD	**Arta Tunnel**	**50.52**	**276**	LR	LR	09 57 45.4	
	comp=Z,80nm,19.9s,MS3.7,baz=90,slow=31						
ASAR	**Alice Springs**	**51.60**	**132**	P	**P**	**09 40 47.5**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.2,baz=314,slow=7.0,SNR=9.7						
BRTR	**Keskin Array B**	**60.77**	**310**	P	**P**	**09 41 51.1**	**-0.9**
	comp=Z,1.7nm,0.8s,mb4.2,baz=116,slow=7.1,SNR=5.3						
STKA	**Stephens Creek**	**61.93**	**135**	P	**P**	**09 41 59.3**	**-0.6**
	comp=Z,0.7nm,0.3s,mb4.2,baz=312,slow=12,SNR=2.9						
STKA				LR	LR	10 08 34.3	
	comp=Z,118nm,20.1s,MS4.0,baz=356,slow=36						
ILAR	**Eielson Array**	**92.01**	**22**	P	**P**	**09 44 49.2**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.9,baz=286,slow=3.8,SNR=4.6						
BDFB	**Brasilia**	**143.10**	**258**	PKP	PKPdf	09 51 17.0	+3.1
	comp=Z,1.4nm,0.5s,baz=177,slow=8.4,SNR=3.3						
PLCA	**Paso Flores**	**147.30**	**201**	PKPbc	PKPbc	09 51 24.7	+1.2
	comp=Z,2.1nm,1.1s,baz=53,slow=10,SNR=3.2						

CASC 10 09:40:59.8±2.4, 1435N×9155W, h96km±15km, MD3.7, ML4.3, 4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.09**	**252**	⇓*e*P	Pn	09 41 14.2	+1.0
TP2	**Tecpan 2**	**0.67**	**49**	⇓*e*P	Pn	09 41 17.4	+0.9
TP2				*e*S	Sn	09 41 31.6	+2.5
FUG	**Fuego 3**	**0.69**	**81**	⇓*i*P	Pn	09 41 17.4	+0.7
IXG	**Ixpaco**	**1.07**	**99**	*e*P	Pn	09 41 19.9	-0.8
IXG				*e*S	Sn	09 41 37.7	+1.3
IXG				AML	AML	09 41 42.5	
	comp=E,9μm,0.4s						
RTR	**El Retiro**	**1.90**	**103**	*e*P	Pn	09 41 38.7	+7.9
RTR				*e*S	Sn	09 42 04.1	+10
MRL	**Marmol**	**1.93**	**68**	⇓*e*P	Pn	09 41 32.5	+1.1
SBLS	**San Blas**	**1.93**	**105**	*e*P	Pn	09 41 39.8	+8.4
SBLS				*e*S	Sn	09 42 04.5	+9.2
BOQS	**Boqueron**	**2.28**	**105**	*e*P	Pn	09 41 45.0	+9.1
BOQS				*e*S	Sn	09 42 13.3	+10
LBRS	**Las Brisas**	**2.50**	**104**	*e*P	Pn	09 41 47.5	+8.8
LBRS				*e*S	Sn	09 42 16.8	+8.1
LFRS	**El Faro**	**2.52**	**106**	*e*P	Pn	09 41 47.7	+8.8
LFRS				*e*S	Sn	09 42 20.5	+11
LCBS	**La Ceiba**	**2.58**	**105**	*e*P	Pn	09 41 48.5	+8.7
LCBS				*e*S	Sn	09 42 19.9	+9.2

*IDC **10** 09:41:46.6±0.8, 2804N×5677E, h18km±4km, mb4.1/19, mb1 4.2/19, mb1mx4.1/25, mbtmp4.2/19, Error ellipse: s-maj=17.9km s-min=13.3km az=96.0*
*TEH **10** 09:41:46.6, 2792N×57.11E, h18km, Mn4.1*
*MOS **10** 09:41:47.1±1.0, 2804N×5679E, h33km, mb4.7/15, Error ellipse: s-maj=12.8km s-min=7.7km az=124.4*
*THR **10** 09:41:47.4±0.5, 2817N×5680E, h14km±4km, ML4.0*
*OMAN **10** 09:41:47.8, 2810N×5701E, h27km, Error ellipse: s-maj=36.4km s-min=3.0km az=0.0*
*NEIC **10** 09:41:47.4, 2817N×5680E, h14km, mb4.5/22, ML4.2(THR), After THR.*
*CSEM **10** 09:41:48.2±0.1, 2802N×5697E, h50km, mb4.3/5, Error ellipse: s-maj=3.2km s-min=1.6km az=80.0*
*ISCJB **10** 09:41:48.9±0.4, 2801N±003×5681E±004, h53km±5km, mb4.4/40, Error ellipse: s-maj=6.7km s-min=4.5km az=137.2*
ISC 10 09:41:50.4±0.4, 2801N±003×5681E±004, h50km±4km, h13km±4.7km: pP-P, n125, σ0°93/130, mb4.4/40, 3C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.83**	**223**	*e*PG	**Pn**	**09 42 05.2**	**-0.5**
BNDS				*e*SG	**Sn**	**09 42 18.7**	**+1.7**
BNDS				AML	AML	09 42 23.7	
	comp=N,6μm,0.3s						
BNDS	**Bandar-Abbas**	**0.83**	**223**	*e*Pg	**Pn**	**09 42 05.2**	**-0.5**
	SNR=90						
BNDS				*e*Sg	**Sn**	**09 42 18.7**	**+1.7**
	SNR=90						
BNDS	**Bandar-Abbas**	**0.83**	**223**	*e*Pg	**Pn**	**09 42 05.0**	**-0.7**
BNDS				*e*Sg	**Sn**	**09 42 18.0**	**+1.0**
KRBR	**Kerman**	**1.97**	**359**	*e*PG	**Pn**	**09 42 20.4**	**-0.9**
KRBR	**Kerman**	**1.97**	**359**	*e*Pg	**Pn**	**09 42 20.0**	**-1.3**
BANOM	**Banah**	**2.12**	**192**	P	**Pn**	**09 42 23.2**	**-0.1**
	SNR=194						
BANOM				⇑S	**Sn**	**09 42 55.0**	**+6.5**
ASHO	**Ashiyiah**	**3.38**	**192**	P	**Pn**	**09 42 41.0**	**+0.5**
	SNR=20						
GHIR	**Ghir-Karzin**	**3.38**	**276**	*e*PN	**Pn**	**09 42 41.7**	**+1.0**
GHIR				AML	AML	09 44 02.5	
	comp=N,230nm,0.7s						
GHIR				AML	AML	09 44 04.3	
	comp=E,276nm,0.7s						
GHIR	**Ghir-Karzin**	**3.38**	**276**	*e*Pn	**Pn**	**09 42 41.0**	**+0.4**
IBAF	**Bafgh**	**3.73**	**344**	*e*Pn	**Pn**	**09 42 45.2**	**-0.2**
IBAF				*e*Sn	**Sn**	**09 43 28.6**	**+0.6**
IMOK	**Mook**	**3.75**	**287**	*e*Pn	**Pn**	**09 42 46.7**	**+1.1**
IPAR	**Pars**	**3.77**	**300**	*e*Pn	**Pn**	**09 42 47.5**	**+1.6**
ZHSF	**Zahedan**	**3.83**	**64**	*e*PN	**Pn**	**09 42 47.4**	**+0.6**
ZHSF	**Zahedan**	**3.83**	**64**	*e*Pn	**Pn**	**09 42 47.0**	**+0.2**
IMEH	**Mehriz**	**3.88**	**331**	*e*Pn	**Pn**	**09 42 47.7**	**+0.3**
HOQ	**Hoqain**	**4.43**	**174**	P	**Pn**	**09 42 53.9**	**-1.0**
	SNR=14						
BIDO	**Bidbid**	**4.62**	**165**	P	**Pn**	**09 42 55.5**	**-2.1**
	SNR=46						
BIDO	**Bidbid**	**4.62**	**165**	P	**Pn**	**09 42 55.5**	**-2.1**
	SNR=46						
ARQ	**Araqi**	**4.66**	**183**	P	**Pn**	**09 42 58.6**	**+0.6**
	SNR=32						
ICHK	**Chekchek**	**4.71**	**334**	*e*Pn	**Pn**	**09 42 58.8**	**0.0**
SMDO	**Samad**	**5.05**	**167**	P	**Pn**	**09 43 03.0**	**-0.5**
	SNR=54						
BSY	**Bisya**	**5.25**	**176**	P	**Pn**	**09 43 06.5**	**+0.2**
	SNR=26						
BSYO	**Bisya**	**5.27**	**176**	P	**Pn**	**09 43 06.4**	**-0.1**
	SNR=26						
WBK	**Wadi Bani Khal**	**5.72**	**160**	P	**Pn**	**09 43 11.7**	**-1.0**
	SNR=29						
JMDO	**Jabal Madar**	**5.73**	**168**	P	**Pn**	**09 43 13.2**	**+0.3**
	SNR=20						
NASN	**Na'in**	**5.89**	**325**	*e*PN	**Pn**	**09 43 15.1**	**0.0**
NASN	**Na'in**	**5.89**	**325**	*e*Pn	**Pn**	**09 43 15.0**	**-0.1**
ASAO	**Ashtian**	**8.73**	**320**	*e*PN	**Pn**	**09 43 54.4**	**+0.5**
ASAO	**Ashtian**	**8.73**	**320**	*e*Pn	**Pn**	**09 43 54.0**	**+0.1**
CHTH	**Charan**	**9.24**	**330**	*e*PN	**Pn**	**09 44 00.8**	**-0.1**
WHFO	**Wadi Hawf**	**10.42**	**196**	⇓P	**Pn**	**09 44 14.6**	**-2.5**
	SNR=17						
RBK	**Rabkut**	**10.72**	**193**	P	**Pn**	**09 44 19.3**	**-1.9**
	SNR=6.9						
MALT	**Malatya**	**18.47**	**308**	*e*P	**Pn**	**09 46 03.8**	**+1.2**
	comp=E,6.1nm,0.8s						
MALT	**Malatya**	**18.47**	**308**	*e*P	**Pn**	**09 46 03.8**	**+1.3**
	comp=E,6.1nm,0.8s						
MALT	**Malatya**	**18.47**	**308**	*e*P	**Pn**	**09 46 03.8**	**+1.2**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIV	**Kislovodsk**	**19.55**	**328**	*e*P	**Pn**	**09 46 16.4**	**+1.0**
	comp=Z,10.0nm,0.7s						
KIV	**Kislovodsk**	**19.55**	**328**	⇓*e*P	**Pn**	**09 46 16.4**	**+1.0**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AAK	**Ala-Archa**	**20.47**	**40**	*e*P	**P**	**09 46 23.0**	**-0.7**
	comp=Z,8.4nm,0.9s						
AAK	**Ala-Archa**	**20.47**	**40**	*e*P	**P**	**09 46 23.0**	**-0.8**
	comp=Z,8.4nm,0.9s						
AAK	**Ala-Archa**	**20.47**	**40**	*e*P	**P**	**09 46 23.0**	**-0.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AKTK	**Aktyubinsk**	**22.42**	**2**	P	**P**	**09 46 44.7**	**+0.1**
AKTK	**Aktyubinsk**	**22.42**	**2**	P	**P**	**09 46 44.7**	**+0.1**
AKTO	**Aktyubinsk**	**22.42**	**2**	P	**P**	**09 46 44.7**	**+0.1**
	comp=Z,6.8nm,0.7s,mb4.2,baz=193,slow=9.5,SNR=11						
BR131	**Keskin Array S**	**22.44**	**307**	*e*P	**P**	**09 46 45.2**	**+0.3**
	comp=Z,6.0nm,0.8s,mb4.1						
BR131	**Keskin Array S**	**22.44**	**307**	*e*P	**P**	**09 46 45.2**	**+0.3**
	comp=Z,6.0nm,0.8s,mb4.1						
BRTR	**Keskin Array B**	**22.44**	**307**	P	**P**	**09 46 45.5**	**+0.7**
	comp=Z,2.4nm,0.4s,mb4.0,baz=129,slow=14,SNR=16						
BRTR	**Keskin Array B**	**22.44**	**307**	P	**P**	**09 46 45.5**	**+0.6**
GKN	**Gorkha**	**24.55**	**83**	*e*P	**P**	**09 47 07.4**	**+2.1**
	comp=Z,4.9nm,0.3s,mb4.6						
DMN	**Daman**	**25.02**	**84**	*e*P	**P**	**09 47 12.1**	**+2.6**
	comp=Z,9.7nm,0.6s,mb4.5						
KKN	**Kakani**	**25.15**	**84**	*e*P	**P**	**09 47 11.7**	**+1.0**
	comp=Z,18nm,0.5s,mb4.9						
KKN	**Kakani**	**25.15**	**84**	*e*P	**P**	**09 47 11.7**	**+1.0**
KKN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.6						
PKI	**Pulchoki**	**25.29**	**84**	*e*P	**P**	**09 47 14.0**	**+2.0**
GUN	**Gumba**	**25.66**	**83**	*e*P	**P**	**09 47 16.0**	**+0.7**
	comp=Z,17nm,0.6s,mb4.8						
JIRN	**Jiri**	**25.96**	**84**	*e*P	**P**	**09 47 18.9**	**+0.8**
	comp=Z,7.3nm,0.4s,mb4.6						
ZRNK	**Zerenda**	**26.51**	**17**	*e*P	**P**	**09 47 21.9**	**-1.2**
	comp=Z,2.8nm,0.9s,mb3.8						
ZRNK	**Zerenda**	**26.51**	**17**	*e*P	**P**	**09 47 21.9**	**-1.2**
	comp=Z,2.8nm,0.9s,mb3.8						
ZRNK	**Zerenda**	**26.51**	**17**	*e*P	**P**	**09 47 21.9**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
BRVK	**Borovoye**	**26.95**	**18**	*e*P	**P**	**09 47 26.5**	**-0.5**
	comp=Z,6.3nm,1.3s,mb4.0						
BRVK	**Borovoye**	**26.95**	**18**	*e*P	**P**	**09 47 26.4**	**-0.5**
	comp=Z,6.3nm,1.3s,mb4.0						
BRVK	**Borovoye**	**26.95**	**18**	*e*P	**P**	**09 47 26.5**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.0						
BVAR	**Borovoye Array**	**26.95**	**18**	P	**P**	**09 47 26.5**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.0,baz=198,slow=9.3,SNR=12						
BVAR				PcP	PcP	09 50 48.1	+0.3
	comp=Z,0.6nm,0.4s,baz=193,slow=3.7,SNR=4.1						
MKAR	**Makanchi Array**	**27.40**	**40**	P	**P**	**09 47 31.1**	**+0.1**
	comp=Z,0.8nm,0.4s,mb3.6,baz=226,slow=9.3,SNR=20						
IDI	**Anoyia**	**28.04**	**293**	P	**P**	**09 47 36.8**	**+0.1**
	comp=Z,4.5nm,0.5s,mb4.4,baz=75,slow=9.9,SNR=6.2						
OBN	**Obninsk**	**30.80**	**337**	*e*P	**P**	**09 48 01.0**	**-0.2**
	comp=Z,14nm,0.5s,mb5.0						
OBN	**Obninsk**	**30.80**	**337**	P	**P**	**09 48 00.4**	**-0.8**
	comp=Z,15nm,0.5s,mb5.1						
OBN	**Obninsk**	**30.80**	**337**	*ae*P	**P**	**09 48 01.0**	**-0.2**
OBN				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.0						
AKASG	**Malin Array Be**	**30.81**	**325**	P	**P**	**09 47 59.3**	**-2.0**
	comp=Z,1.0nm,0.4s,mb4.0,baz=111,slow=6.8,SNR=7.2						
KOLS	**Kolonicke sedl**	**33.75**	**318**	*e*P	**P**	**09 48 28.2**	**+1.2**
JOF	**Joensuu**	**38.69**	**342**	*e*p	**P**	**09 49 07.9**	**-1.3**
GERES	**GERESS Array B**	**39.00**	**314**	P	**P**	**09 49 11.8**	**0.0**
	comp=Z,1.7nm,0.6s,mb3.9,baz=109,slow=7.5,SNR=9.0						
KHC	**Kasperske Hory**	**39.16**	**315**	*e*P	**P**	**09 49 12.8**	**-0.4**
FINES	**FINESS Array B**	**39.21**	**337**	P	**P**	**09 49 13.1**	**-0.5**
	comp=Z,6.2nm,0.6s,mb4.5,baz=133,slow=10.0,SNR=40						
FINES				pP	pP	09 49 19.3	-7.5
	comp=Z,6.8nm,0.6s,baz=133,slow=11,SNR=13						
KAF	**Kangasniemi**	**39.60**	**338**	*e*p	**P**	**09 49 15.2**	**-1.7**
CLL	**Collm**	**40.17**	**318**	*e*P	**P**	**09 49 23.0**	**+1.5**
MBDF	**Montbardon**	**42.91**	**307**	*e*P	**P**	**09 49 44.0**	**0.0**
	comp=Z,5.8nm,0.5s,mb4.3						
MBDF	**Montbardon**	**42.91**	**307**	*e*P	**P**	**09 49 44.0**	**0.0**
	comp=Z,2.9nm,0.5s,mb4.3						
MBDF	**Montbardon**	**42.91**	**307**	*e*P	**P**	**09 49 44.0**	**0.0**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
ULN	**Ulaanbaatar**	**43.44**	**49**	*e*P	**P**	**09 49 47.8**	**-0.5**
	comp=Z,1.1nm,0.5s,mb3.8						
ULN	**Ulaanbaatar**	**43.44**	**49**	*e*P	**P**	**09 49 47.8**	**-0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
HAU	**Haudompre**	**43.60**	**311**	*e*P	**P**	**09 49 49.0**	**-0.6**
NB2	**NORSAR Subarra**	**44.83**	**330**	P	**P**	**09 49 58.2**	**-1.2**
	comp=Z,1.3nm,0.6s,mb3.9,baz=115,slow=7.9						
NB2	**NORSAR Subarra**	**44.83**	**330**	P	**P**	**09 49 58.2**	**-1.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	**NORSAR Array B**	**44.83**	**330**	P	**P**	**09 49 58.2**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.1,baz=116,slow=7.9,SNR=7.9						
SMF	**Signal de Mont**	**45.13**	**309**	*e*P	**P**	**09 50 01.2**	**-0.6**
	comp=Z,34nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**45.13**	**309**	*e*P	**P**	**09 50 01.2**	**-0.6**
	comp=Z,17nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**45.13**	**309**	*e*P	**P**	**09 50 01.2**	**-0.6**
SMF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
LOR	**Lormes**	**45.18**	**310**	*e*P	**P**	**09 50 01.0**	**-1.2**
	comp=Z,16nm,0.9s,mb4.5						
LOR	**Lormes**	**45.18**	**310**	*e*P	**P**	**09 50 01.0**	**-1.2**
	comp=Z,7.8nm,0.9s,mb4.5						
LOR	**Lormes**	**45.18**	**310**	*e*P	**P**	**09 50 01.0**	**-1.2**
LOR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**45.33**	**345**	P	**P**	**09 50 03.4**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.2,baz=141,slow=8.4,SNR=11						
SSF	**Saint Saulge**	**45.40**	**310**	*e*P	**P**	**09 50 03.6**	**-0.3**
	comp=Z,16nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**45.40**	**310**	*e*P	**P**	**09 50 03.6**	**-0.3**
	comp=Z,8.1nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**45.40**	**310**	*e*P	**P**	**09 50 03.6**	**-0.3**
SSF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
AVF	**Avril sur Loir**	**45.48**	**309**	*e*P	**P**	**09 50 03.8**	**-0.7**
	comp=Z,9.9nm,0.7s,mb4.5						
AVF	**Avril sur Loir**	**45.48**	**309**	*e*P	**P**	**09 50 03.8**	**-0.7**
	comp=Z,4.9nm,0.7s,mb4.5						
AVF	**Avril sur Loir**	**45.48**	**309**	*e*P	**P**	**09 50 03.8**	**-0.7**
AVF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BGF	**Bois d'Agland**	**45.81**	**309**	*e*P	**P**	**09 50 06.7**	**-0.4**
	comp=Z,20nm,0.7s,mb4.9						
BGF	**Bois d'Agland**	**45.81**	**309**	*e*P	**P**	**09 50 06.7**	**-0.4**
	comp=Z,10nm,0.7s,mb4.9						
BGF	**Bois d'Agland**	**45.81**	**309**	*e*P	**P**	**09 50 06.7**	**-0.4**
BGF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
TCF	**Toulx

THW	**Thamme Wali**	**1.68 261**	⇑P		**Pn**	**09 47 38.8**	**+1.5**
THW			S		**Sg**	**09 48 10.0**	**+8.2**
CEP	**Cherat**	**1.68 297**	⇑P		**Pn**	**09 47 38.8**	**+1.5**
THN	**Thein Dam**	**1.81 110**	*e*P		**Pn**	**09 47 41.0**	**+1.9**
THN			*e*S		**Sn**	**09 48 07.6**	**+5.6**
DLH	**Dalhousie**	**1.97 105**	*e*P		**Pn**	**09 47 44.0**	**+2.7**
DLH			*e*x		**Sn**	**09 48 14.0**	**+7.9**
PONG	**Pong**	**2.20 120**	*e*P		**Pn**	**09 47 47.0**	**+2.6**
PONG			*e*S		**Sn**	**09 48 17.0**	**+5.4**
SBDP	**Sheikh Budin**	**2.57 253**	P		**Pn**	**09 47 50.7**	**+1.2**
BHK	**Bhakra**	**2.83 125**	*e*x		**Sn**	**09 48 40.0**	**+13**
SDNR	**Sundarnagar**	**3.17 119**	*e*P		**Pn**	**09 47 59.5**	**+1.6**
SDNR			*e*S		**Sn**	**09 48 36.7**	**+0.9**
DRP	**Derazinda**	**3.25 247**	⇑P		**Pn**	**09 48 01.7**	**+2.8**
SMLA	**Simla**	**3.52 123**	*e*P		**Pn**	**09 48 03.6**	**+1.1**
SMLA			*e*P			09 48 04.1	
SMLA			*e*S		**Sn**	**09 48 45.5**	**+1.3**
SMLA			AML		AML	09 49 07.9	
	comp=N,468nm,0.4s						
SMLA			AML		AML	09 49 09.3	
	comp=E,526nm,0.6s						
DDI	**Dehra Dun**	**4.61 125**	*e*x		x	09 48 30.1	
DDI			*e*x		x	09 49 38.1	
RTK	**Rohtak**	**4.65 149**	*e*P		**Pn**	**09 48 18.0**	**-0.1**
KHET	**Khetri**	**5.30 160**	*e*P		**Pn**	**09 48 27.3**	**+0.3**
KHET			*e*S		**Sn**	**09 49 24.5**	**-3.7**
NDI	**New Delhi**	**5.31 145**	*e*P		**Pn**	**09 48 28.0**	**+0.8**
NDI			*e*x		x	09 49 51.0	
KUDL	**Kundal**	**5.46 153**	*e*P		**Pn**	**09 48 29.5**	**+0.1**
KUDL			*e*S		**Sn**	**09 49 29.2**	**-3.1**
KUDL			AML		AML	09 50 06.1	
	comp=N,55nm,0.6s						
KUDL			AML		AML	09 50 14.1	
	comp=E,65nm,0.6s						
KALG	**Kalgarh**	**5.59 128**	*e*x		x	09 48 45.8	
KALG			*e*x		x	09 49 57.3	
SONA	**Sohna**	**5.62 148**	*e*P		**Pn**	**09 48 32.8**	**+1.3**
SONA			*e*S		**Sn**	**09 49 34.3**	**-1.7**
AJM	**Ajmer**	**6.62 173**	*e*P		**Pn**	**09 48 45.3**	**+0.1**
AJM			*e*S		**Sn**	**09 49 56.2**	**-4.5**
AJM			AML		AML	09 49 58.9	
	comp=E,44nm,0.2s						
AJM			AML		AML	09 49 59.8	
	comp=N,45nm,0.3s						
LGTI	**Lohaghat**	**6.66 121**	*e*P		**Pn**	**09 48 46.0**	**+0.3**
LGTI			*e*x		x	09 50 38.0	
AML	**Almayashu**	**9.04 360**	P		**Pn**	**09 49 20.3**	**+1.8**
	SNR=54						
KZA	**Kyzart**	**9.07 7**	P		**Pn**	**09 49 20.5**	**+1.6**
	SNR=49						
UCH	**Uchtor**	**9.16 4**	P		**Pn**	**09 49 21.9**	**+1.9**
	SNR=28						
ULHL	**Ulahol**	**9.38 12**	P		**Pn**	**09 49 25.1**	**+2.1**
	SNR=14						
AAK	**Ala-Archa**	**9.57 3**	P		**Pn**	**09 49 28.4**	**+2.7**
	SNR=14						
AAK	**Ala-Archa**	**9.57 3**	*e*Pn		**Pn**	**09 49 26.0**	**+0.4**
	comp=N,8.7nm,0.6s						
AAK	**Ala-Archa**	**9.57 3**	*e*P		**Pn**	**09 49 26.0**	**+0.4**
AAK			pmax		pmax		
	comp=Z,9.0nm,0.6s						
EKS2	**Erkin-Say**	**9.57 0**	P		**Pn**	**09 49 28.3**	**+2.6**
	SNR=29						
KBK	**Karagaybulak**	**9.62 5**	P		**Pn**	**09 49 29.2**	**+2.9**
	SNR=18						
CHMS	**Chumysh**	**9.94 4**	P		**Pn**	**09 49 32.3**	**+1.5**
	SNR=8.6						
TKM2	**Tokmak 2**	**9.94 8**	P		**Pn**	**09 49 32.5**	**+1.6**
	SNR=15						
TKM2	**Tokmak 2**	**9.94 8**	⇑P		**Pn**	**09 49 32.5**	**+1.7**
	comp=Z,14nm,0.8s						
TKM2			⇑S		**Sn**	**09 51 24.6**	**+2.1**
	comp=Z,13nm,0.8s						
TKM2	**Tokmak 2**	**9.94 8**	*i* P		**Pn**	**09 49 32.5**	**+1.7**
TKM2			pmax		pmax		
	comp=Z,10.0nm,0.3s						
KOLN	**Koldanda**	**10.04 119**	*e*Pn		**Pn**	**09 49 31.7**	**-0.4**
BHPL	**Bhopal**	**10.33 161**	*e*P		**Pn**	**09 49 35.2**	**-0.8**
BHPL			*e*S		**Sn**	**09 51 25.1**	**-6.7**
BHPL			AML		AML	09 51 31.1	
	comp=E,15nm,0.3s						
BHPL			AML		AML	09 51 31.6	
	comp=N,12nm,0.4s						
KK31	**Karatay Array**	**10.33 347**	P		**Pn**	**09 49 36.2**	**+0.2**
	comp=N,5.0nm,0.3s,baz=146,slow=9.6,SNR=162						
KK31			⇑S		**Sn**	**09 51 24.9**	**-6.9**
	comp=N,8.2nm,0.5s,baz=174,slow=23,SNR=9.3						
KKAR	**Karatay Array**	**10.33 347**	P		**Pn**	**09 49 36.2**	**+0.2**
KKAR			S		**Sn**	**09 51 28.4**	**-3.4**
KKAR			pmax		pmax		
	comp=Z,3.0nm,0.3s						
GKN	**Gorkha**	**10.69 115**	*e*Pn		**Pn**	**09 49 40.6**	**-0.4**
GKN			*e*Sn		**Sn**	**09 51 34.2**	**-6.5**
DMN	**Daman**	**11.25 116**	*e*Pn		**Pn**	**09 49 47.4**	**-1.2**
DMN			*e*Sn		**Sn**	**09 51 47.9**	**-6.5**
	comp=Z,35nm,0.6s						
DMN	**Daman**	**11.25 116**	*e*Pn		**Pn**	**09 49 47.4**	**-1.2**
	comp=Z,18nm,0.6s						
DMN			*e*Sn		**Sn**	**09 51 47.9**	**-6.5**
KKN	**Kakani**	**11.29 115**	*e*Pn		**Pn**	**09 49 47.9**	**-1.3**
KKN			*e*Sn		**Sn**	**09 51 48.8**	**-6.5**
	comp=Z,41nm,0.7s						
KKN	**Kakani**	**11.29 115**	*e*Pn		**Pn**	**09 49 47.9**	**-1.3**
	comp=Z,20nm,0.7s						
KKN			*e*Sn		**Sn**	**09 51 48.8**	**-6.5**
KKN	**Kakani**	**11.29 115**	*e*P		**Pn**	**09 49 47.9**	**-1.3**
KKN			*e*			09 51 48.8	
KKN			pmax		pmax		
	comp=Z,20nm,0.7s						
PKI	**Pulchoki**	**11.50 115**	*e*Pn		**Pn**	**09 49 51.0**	**-1.0**
PKI			*e*Sn		**Sn**	**09 51 54.7**	**-5.8**
	comp=Z,13nm,0.3s						
PKI	**Pulchoki**	**11.50 115**	*e*Pn		**Pn**	**09 49 51.0**	**-1.0**
	comp=Z,6.3nm,0.3s						
PKI			*e*Sn		**Sn**	**09 51 54.7**	**-5.8**
PKI	**Pulchoki**	**11.50 115**	*e*P		**Pn**	**09 49 51.0**	**-1.0**
PKI			*e*			09 51 54.7	
PKI			pmax		pmax		
	comp=Z,6.0nm,0.3s						
GUN	**Gumba**	**11.69 113**	*e*Pn		**Pn**	**09 49 53.1**	**-1.5**
JIRN	**Jiri**	**12.05 113**	*e*Pn		**Pn**	**09 49 58.2**	**-1.4**
JIRN			*e*Sn		**Sn**	**09 52 06.5**	**-7.5**
	comp=Z,26nm,0.4s						
JIRN	**Jiri**	**12.05 113**	*e*Pn		**Pn**	**09 49 58.2**	**-1.4**
	comp=Z,13nm,0.4s						
JIRN			*e*Sn		**Sn**	**09 52 06.5**	**-7.5**
MK31	**Makanchi Array**	**15.19 23**	⇑P		**Pn**	**09 50 39.6**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=205,slow=12,SNR=26						
MKAR	**Makanchi Array**	**15.19 23**	Pn		**Pn**	**09 50 40.2**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=207,slow=14,SNR=14						
KURK	**Kurchatov**	**18.00 10**	⇑P		**Pn**	**09 51 14.5**	**-3.6**
	comp=Z,1.2nm,0.6s						
KURK	**Kurchatov**	**18.00 10**	*e*P		**Pn**	**09 51 14.9**	**-3.2**
	comp=Z,3.9nm,0.8s						
KURK	**Kurchatov**	**18.00 10**	*e*P		**Pn**	**09 51 14.9**	**-3.2**
KURK			pmax		pmax		
	comp=Z,4.0nm,0.8s						
AB31	**Akbulak array**	**19.15 332**	⇑P		**Pn**	**09 51 30.8**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=139,slow=10.0,SNR=24						
AB31	**Akbulak array**	**19.15 332**	P		**Pn**	**09 51 30.8**	**-1.4**
AB31			pmax		pmax		
	comp=Z,1.0nm,0.5s						
VOSK	**Vostochnaya**	**19.74 355**	⇑P		**Pn**	**09 51 37.6**	**-1.6**
	comp=Z,2.2nm,0.6s						
VOSK	**Vostochnaya**	**19.74 355**	P		**Pn**	**09 51 37.6**	**-1.6**
VOSK			pmax		pmax		
	comp=Z,1.0nm,0.6s						
BVA0	**Borovoye Array**	**20.09 354**	P		**P**	**09 51 41.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=165,slow=9.3,SNR=15						
BVAR	**Borovoye Array**	**20.09 354**	P		**P**	**09 51 41.0**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=165,slow=9.6,SNR=8.4						
BRVK	**Borovoye**	**20.13 354**	*e*P		**P**	**09 51 40.5**	**-1.4**
	comp=Z,1.5nm,0.5s						
BRVK	**Borovoye**	**20.13 354**	*e*P		**P**	**09 51 40.6**	**-1.4**
BRVK			pmax		pmax		
	comp=Z,2.0nm,0.5s						
ZRNK	**Zerenda**	**20.16 352**	⇑P		**P**	**09 51 41.6**	**-0.7**
	comp=Z,3.5nm,1.0s						
ZRNK	**Zerenda**	**20.16 352**	*i* P		**P**	**09 51 41.5**	**-0.8**
ZRNK			pmax		pmax		
	comp=Z,4.0nm,1.0s						
AKTK	**Aktyubinsk**	**20.86 331**	P		**P**	**09 51 49.1**	**-0.7**
AKTO	**Aktyubinsk**	**20.86 331**	P		**P**	**09 51 49.1**	**-0.7**
	comp=Z,9.1nm,0.8s,baz=143,slow=9.3,SNR=25						
BRTR	**Keskin Array B**	**32.73 293**	P		**P**	**09 53 41.9**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=110,slow=11,SNR=4.0						
MLR	**Muntele Rosu**	**38.46 303**	P		**P**	**09 54 29.8**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.3,baz=138,slow=12,SNR=4.5						
JOF	**Joensuu**	**39.94 331**	*e*p		**P**	**09 54 40.9**	**-1.4**
KAF	**Kangasniemi**	**41.71 329**	*e*p		**P**	**09 54 53.2**	**-3.6**
ARCES	**ARCESS Array B**	**45.15 338**	P		**P**	**09 55 22.9**	**-1.7**
	comp=Z,3.1nm,0.9s,mb4.1,baz=116,slow=8.4,SNR=6.5						
NB2	**NORSAR Subarra**	**48.46 325**	P		**P**	**09 55 48.5**	**-2.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=95,slow=7.9						
NB2	**NORSAR Subarra**	**48.46 325**	P		**P**	**09 55 48.5**	**-2.0**
NB2			pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**48.46 325**	P		**P**	**09 55 48.7**	**-1.8**
	comp=Z,1.1nm,0.6s,mb4.0,baz=97,slow=7.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**67.96 272**	P		**P**	**09 58 06.5**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.8,baz=51,slow=6.0,SNR=7.3						
ILAR	**Eielson Array**	**77.44 17**	P		**P**	**09 59 01.9**	**-1.4**
	comp=Z,0.2nm,0.8s,mb3.1,baz=306,slow=5.0,SNR=4.3						
WRA	**Warramunga Arr**	**78.27 123**	P		**P**	**09 59 07.9**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=323,slow=5.2,SNR=22						
ASAR	**Alice Springs**	**80.45 126**	P		**P**	**09 59 19.6**	**-0.2**
	comp=Z,0.4nm,0.8s,mb3.4,baz=305,slow=5.0,SNR=4.7						
YKA	**Yellowknife Ar**	**84.53 4**	P		**P**	**09 59 39.9**	**-1.2**
	comp=Z,0.1nm,0.3s,mb3.4,baz=349,slow=5.0,SNR=3.7						
STKA	**Stephens Creek**	**90.94 128**	P		**P**	**10 00 09.5**	**-2.5**
	comp=Z,0.7nm,0.5s,mb4.3,baz=310,slow=7.9,SNR=3.3						
STKA	**Stephens Creek**	**90.94 128**	P		**P**	**10 00 09.5**	**-2.5**

TIF ***10*** *09:54:45.0, 4339N×4642E, h32km±3km*
CSEM ***10*** *09:54:45.7, 4307N×4625E, h10km, mb3.9, After OBN*
MOS ***10*** *09:54:45.7±3.0, 4307N×4625E, h10km, mb3.9/1, Error ellipse: s-maj=32.7km s-min=9.5km az=6.7*
ISCJB ***10*** *09:54:48.1±0.5, 4307N±004×4626E±003, h10km, Error ellipse: s-maj=5.4km s-min=2.8km az=11.6*
ISC 10 09:54:48.7±0.6, 4310N±004×4628E±003, h10km, n23, σ1§63/40, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.26**	**97**	*e*Pg	**Pg**	**09 54 49.3**	**-4.7**
	350nm,0.2s						
DLMR				*e*Sg	**Sg**	**09 54 55.3**	**-2.2**
DLMR	**Dylym**	**0.26**	**97**	*e*PG	**Pg**	**09 54 49.3**	**-4.7**
DLMR				*e*S	**Sg**	**09 54 55.3**	**-2.2**
DLMR				pmax	pmax		
	comp=Z,350nm,0.2s						
DBC	**Dubki**	**0.41**	**101**	*i* Pg	**Pg**	**09 54 51.0**	**-5.8**
	comp=Z,309nm,0.1s						
DBC	**Dubki**	**0.41**	**101**	‖*i*PG	**Pg**	**09 54 51.0**	**-5.8**
DBC				pmax	pmax		
	comp=Z,309nm,0.1s						
KRNR	**Karanay**	**0.54**	**121**	*e*Pg	**Pg**	**09 54 58.0**	**-1.2**
	comp=Z,65nm,0.2s						
KRNR				*i* Sg	**Sg**	**09 55 07.7**	**+1.4**
KRNR	**Karanay**	**0.54**	**121**	*e*PG	**Pg**	**09 54 58.0**	**-1.2**
KRNR				*i* S	**Sg**	**09 55 07.7**	**+1.4**
KRNR				pmax	pmax		
	comp=Z,65nm,0.2s						
BUJR	**Buynaksk**	**0.67**	**114**	*e*Pg	**Pg**	**09 55 01.2**	**-0.5**
	comp=Z,69nm,0.1s						
BUJR				*e*Sg	**Sg**	**09 55 11.0**	**+0.5**
BUJR	**Buynaksk**	**0.67**	**114**	*e*PG	**Pg**	**09 55 01.2**	**-0.5**
BUJR				*e*S	**Sg**	**09 55 11.0**	**+0.5**
BUJR				pmax	pmax		
	comp=Z,69nm,0.1s						
MAK	**Makhachkala**	**0.91**	**99**	*e*Pg	**Pg**	**09 55 09.1**	**+2.9**
MAK				*e*Sg	**Sg**	**09 55 19.9**	**+1.8**
MAK	**Makhachkala**	**0.91**	**99**	*e*PG	**Pg**	**09 55 09.1**	**+2.9**
MAK				*e*		09 55 19.9	
MAK				pmax	pmax		
	comp=E,643nm,0.5s						
LACR	**Lac**	**1.48**	**260**	*i* Pg	**Pg**	**09 55 12.6**	**-4.5**
LACR				*i* Sg	**Sg**	**09 55 32.9**	**-3.4**
DUS	**Dusheti**	**1.54**	**229**	P	**Pg**	**09 55 16.6**	**-1.7**
DUS				S	**Sg**	**09 55 39.1**	**+0.9**
KORR	**Kora**	**1.62**	**270**	*e*Pg	**Pg**	**09 55 13.1**	**-6.6**
ZEI	**Tsey**	**1.78**	**260**	*i* Pn	**Pn**	**09 55 17.6**	**-1.8**
	comp=E,16nm,0.1s						
ZEI				*e*Sg	**Sg**	**09 55 41.1**	**-4.7**
ZEI	**Tsey**	**1.78**	**260**	*i* PN	**Pn**	**09 55 17.6**	**-1.8**
ZEI				*e*		09 55 41.1	
ZEI				pmax	pmax		
	comp=Z,16nm,0.1s						
ZEI				smax			
	comp=E,388nm,0.3s						
DGRG	**David-gareji**	**1.78**	**202**	P	**Pg**	**09 55 22.2**	**-0.7**
DGRG				S	**Sg**	**09 55 50.1**	**+4.1**
TBLG	**Delisi**	**1.78**	**220**	P	**Pg**	**09 55 20.8**	**-2.0**
TBLG				S	**Sg**	**09 55 48.2**	**+2.2**
MTA	**Mtatsminda**	**1.79**	**218**	P	**Pg**	**09 55 20.9**	**-2.0**
MTA				S	**Sg**	**09 55 47.4**	**+1.3**
DIGR	**Digorskoe uzhe**	**1.99**	**265**	*e*Pn	**Pn**	**09 55 18.6**	**-3.7**
KIV	**Kislovodsk**	**2.75**	**289**	*e*Pn	**Pn**	**09 55 34.5**	**+1.8**
	comp=E,3.0nm,0.4s						
KIV	**Kislovodsk**	**2.75**	**289**	*e*Pb	**Pb**	**09 55 38.5**	**+0.7**
	comp=E,23nm,0.8s						
KIV	**Kislovodsk**	**2.75**	**289**	*e*Pg	**Pg**	**09 55 42.3**	**+1.0**
KIV				*e*Sn	**Sn**	**09 56 07.8**	**+1.8**
KIV				*e*Sb	**Sb**	**09 56 11.0**	**-0.5**
KIV				*e*Sg	**Sg**	**09 56 20.4**	**+3.5**
KIV	**Kislovodsk**	**2.75**	**289**	*ce*PN	**Pn**	**09 55 34.5**	**+1.8**
KIV				*e*		09 55 38.5	
KIV				*e*		09 55 42.3	
KIV				*e*S	**Sn**	**09 56 07.8**	**+1.8**
KIV				*e*		09 56 11.0	
KIV				*e*		09 56 20.4	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KIV				pmax	pmax		
	comp=Z,23nm,0.8s						
KIV				smax			
	comp=E,45nm,0.7s						
KIV				smax			
	comp=E,76nm,0.8s						

ISCJB ***10*** *09:59:29.3±0.8, 6483N±004×307E±0.1, h0km, Error ellipse: s-maj=9.5km s-min=4.8km az=34.6*
IDC ***10*** *09:59:30.1±2.6, 6465N×3139E, h0km, mb1 3.0/3, mb1mx2.9/20, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=36.2km s-min=8.4km az=100.0*
NAO ***10*** *09:59:31.1±1.7, 6477N×3095E, ML2.0*
HEL ***10*** *09:59:31.0±0.2, 6473N×3071E, h0km, ML1.9, ML2.0(NAO), Explosion*
BER ***10*** *09:59:32.8±3.0, 6478N×3093E, h0km, ML2.0(NAO), Suspected explosion*
ISC 10 09:59:30.4±0.8, 6480N±004×308E±02, h0km, n17, σ0§89/28, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.50**	**243**	*e*P	**Pn**	**09 59 56.8**	**-1.9**
KJN				*e*S	**Sg**	**10 00 15.2**	**-3.6**
KU4	**Liikasenvaara**	**1.64**	**343**	*e*P	**Pn**	**10 00 01.6**	**+1.0**
JOF	**Joensuu**	**1.91**	**172**	*e*P	**Pn**	**10 00 03.4**	**-0.9**
JOF				MSG		10 00 31.1	
	comp=Z,9.7nm,0.1s						
OUL	**Oulu**	**2.09**	**280**	*e*P	**Pn**	**10 00 07.2**	**+0.5**
OUL				*e*S	**Sn**	**10 00 33.5**	**+0.2**
OUL				MSG		10 00 39.5	
	comp=Z,8.2nm,0.1s						
SUF	**Sumiainen**	**2.93**	**226**	*e*P	**Pn**	**10 00 18.5**	**+0.3**
SUF				MSG		10 00 58.3	
	comp=Z,4.0nm,0.1s						
APA0	**Apatity Array**	**2.96**	**17**	*e*P	**Pn**	**10 00 19.6**	**+1.0**
APA0				*e*SG	**Sg**	**10 01 04.4**	**-1.1**
APA0	**Apatity Array**	**2.96**	**17**	Pn	**Pn**	**10 00 19.6**	**+1.0**
	baz=194,slow=14						
APA0				Lg		10 01 04.4	
	baz=184,slow=28						
FIA0	**FINESS Array S**	**3.99**	**214**	Pn	**Pn**	**10 00 32.6**	**-0.2**
	baz=28,slow=12						
FIA0				Sn	**Sn**	**10 01 21.2**	**+1.0**
	baz=35,slow=28						
FIA0				Lg		10 01 36.0	
	baz=26,slow=37						
FIA0	**FINESS Array S**	**3.99**	**214**	*e*P	**Pn**	**10 00 32.6**	**-0.2**
FIA0				*e*S	**Sn**	**10 01 21.2**	**+1.0**
FIA0				*e*		10 01 36.0	
FINES	**FINESS Array B**	**3.99**	**214**	Pn	**Pn**	**10 00 32.8**	**0.0**
	comp=Z,0.0nm,0.3s,baz=34,slow=13,SNR=3.2						
FINES				Pg	**Pg**	**10 00 39.6**	**-7.2**
	comp=Z,0.2nm,0.3s,baz=35,slow=16,SNR=7.2						
FINES				Sn	**Sn**	**10 01 24.6**	**+4.3**
	comp=Z,0.3nm,0.3s,baz=43,slow=25,SNR=2.6						
FINES				Lg		10 01 35.0	
	comp=Z,0.8nm,0.3s,baz=38,slow=29,SNR=8.1						
ARA0	**ARCESS Array S**	**5.17**	**339**	Pn	**Pn**	**10 00 49.7**	**+0.6**
	baz=152,slow=14						
ARA0				Sn	**Sn**	**10 01 49.3**	**-0.1**
	baz=154,slow=28						
ARA0				Lg		10 02 12.6	
	baz=152,slow=37						
ARA0	**ARCESS Array S**	**5.17**	**339**	*e*P	**Pn**	**10 00 49.7**	**+0.6**
ARA0				*e*S	**Sn**	**10 01 49.3**	**-0.1**
ARA0				*e*SG		10 02 12.6	
ARCES	**ARCESS Array B**	**5.17**	**339**	Pn	**Pn**	**10 00 49.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=151,slow=13,SNR=12						
ARCES				Pg	**Pg**	**10 01 01.6**	**-8.0**
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=13						
ARCES				Sn	**Sn**	**10 01 48.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=162,slow=21,SNR=3.2						
ARCES				Lg		10 02 22.5	
	comp=Z,0.7nm,0.3s,baz=157,slow=29,SNR=4.0						
HFS	**Hagfors**	**9.17**	**247**	Pn	**Pn**	**10 01 44.0**	**+0.1**
	baz=62,slow=14						
HFS	**Hagfors**	**9.17**	**247**	*e*P	**Pn**	**10 01 44.0**	**+0.1**
NB2	**NORSAR Subarra**	**9.66**	**256**	*e*P	**Pn**	**10 01 51.3**	**+0.6**
NOA	**NORSAR Array B**	**9.66**	**256**	Pn	**Pn**	**10 01 50.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=71,slow=14,SNR=2.6						

BJI ***10*** *10:12:16.8, 5981S×4572W, h10km, mB5.7, Ms5.7, Msz5.5*
ISCJB ***10*** *10:12:17.4±0.2, 6042S±004×4645W±009, h10km, mb5.5/42, MS5.4/39, Error ellipse: s-maj=6.7km s-min=5.0km az=137.6*
MOS ***10*** *10:12:17.7±1.1, 6042S×4665W, h10km, mb5.7/26, MS5.4/8, Error ellipse: s-maj=27.0km s-min=9.7km az=97.9*
IDC ***10*** *10:12:17.2±0.4, 6041S×4653W, h0km, mb5.2/20, mb1 5.3/20, mb1mx5.2/21, mbtmp5.2/20, MS5.4/21, Ms1 5.4/21, ms1mx5.3/24, Error ellipse: s-maj=16.0km s-min=9.8km az=60.0*
NEIC ***10*** *10:12:18.6±0.2, 6042S×4651W, h10km, mb5.6/33, MS5.5/3, MW6.1, Error ellipse: s-maj=7.8km s-min=6.3km az=70.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.10; $M_{\theta\theta}$0.30; $M_{\phi\phi}$-0.19; $M_{r\theta}$0.01; $M_{\theta\phi}$1.65; $M_{\phi r}$0.26; Best double couple: $M_0$1.70000×10^{18} NP1:ϕ_s184.00000°, δ89.00000°, λ-171.00000°. NP2: ϕ_s94.00000°, δ81.00000°, λ-1.00000°. Principal axes: T 1.7400, Plg5.0000°, Azm319.0000°; N -0.1000, Plg81.0000°, Azm192.0000°; P -1.6400, Plg7.0000°, Azm50.0000°;*
HRVD ***10*** *10:12:18.6±0.1, 6067S×4662W, h16km, MW5.8/98, Centroid moment Tensor Solution. LP body waves: s90,c180; Mantle waves: s98,c290; Half duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.60±.05; $M_{\theta\theta}$0.43±.05; $M_{\phi\phi}$0.17±.06; $M_{r\theta}$1.62±.15; $M_{\theta\phi}$5.51±.05; $M_{\phi r}$1.74±.17; Best double couple: $M_0$5.90500×10^{17} NP1:ϕ_s92.00000°, δ76.00000°, λ12.00000°. NP2: ϕ_s359.00000°, δ78.00000°, λ166.00000°. Principal axes: T 6.5960, Plg18.0000°, Azm316.0000°; N -1.3840, Plg72.0000°, Azm141.0000°; P -5.2130, Plg2.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF ***10*** *10:12:20.3, 6041S×4657W, h20km, mb5.6, MS5.2, Scotia Sea*
ISC 10 10:12:18.1±2.2, 6044S±004×4656W±010, h5km±14km, n262, σ1§09/115, mb5.5/41, MS5.4/39, 15C-15D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.22**	**46**	Pn	**Pn**	**10 14 15.5**	**-2.5**
	24μm,0.8s						
HOPE	**Hope Point**	**8.22**	**46**	*e*Pn	**Pn**	**10 14 15.8**	**-2.1**
	2μm,0.6s						
HOPE				*e*Sn	**Sn**	**10 15 42.0**	**-9.2**
PMSA	**Palmer Station**	**9.15**	**234**	*e*Pn	**Pn**	**10 14 30.0**	**-0.7**
	1μm,1.2s						
PMSA				*e*Sn	**Sn**	**10 16 18.8**	**+4.8**
EFI	**East Falkland**	**10.87**	**319**	Pn	**Pn**	**10 14 56.4**	**+2.1**
	5μm,1.3s,SNR=11						
EFI	**East Falkland**	**10.87**	**319**	*e*Pn	**Pn**	**10 14 54.8**	**+0.5**
	1μm,1.1s						
EFI				*e*Sn	**Sn**	**10 16 55.0**	**-1.3**
EFI	**East Falkland**	**10.87**	**319**	*e*P	**Pn**	**10 14 54.8**	**+0.5**
EFI				*e*		10 16 55.0	
EFI				pmax	pmax		
	comp=Z,1μm,1.1s						
USHA	**Ushuaia**	**12.96**	**286**	Pn	**Pn**	**10 15 25.7**	**+2.8**
	comp=Z,3.1nm,0.3s,baz=104,slow=14,SNR=45						
USHA				Sn	**Sn**	**10 17 56.7**	**+9.2**
	comp=Z,0.7nm,0.3s,baz=89,slow=19,SNR=2.6						
USHA				LR	LR	10 18 52.6	
	comp=Z,21μm,20.1s,baz=97,slow=30						
VNA3	**Neumayer Olymp**	**18.20**	**142**	⇑*i*Pn	**Pn**	**10 16 31.1**	**-0.3**
VNA3				*e*		10 16 34.6	
VNA3				*e*		10 16 37.5	
VNA3				*e*		10 16 40.9	
VNA3				*e*		10 16 43.3	
VNA3				*e*		10 16 45.9	
VNA3				*e*		10 16 50.6	
VNA

SNAA eS S 10 20 43.3 -1.8
SNAA eS S 10 20 47.3 +2.2
SNAA eS S 10 20 50.9 +5.8
SNAA e 10 20 54.9
SNAA e 10 21 00.1
SNAA Sanae 20.42 141 eP P **10 16 56.9 +0.9**
comp=Z,1µm,1.4s
SNAA Sanae 20.42 141 eP P **10 16 56.9 +0.9**
SNAA pmax pmax
comp=Z,1µm,1.4s
TRQA Tornquist 24.43 329 eP P **10 17 38.3 +0.7**
comp=Z,715nm,1.2s,mb6.0
PLCA Paso Flores 24.67 312 P P **10 17 38.7 -1.1**
comp=Z,56nm,0.9s,mb5.1,baz=157,slow=9.2,SNR=49
PLCA S S **10 22 04.9 +3.1**
comp=Z,4.8nm,1.0s,baz=9.0,slow=19,SNR=1.5
PLCA LR LR 10 27 46.9
comp=Z,6µm,18.9s,MS5.1,baz=178,slow=38
PLCA Paso Flores 24.67 312 eP P **10 17 38.7 -1.0**
comp=Z,434nm,1.4s,mb5.8
PLCA Paso Flores 24.67 312 eP P **10 17 38.7 -1.0**
PLCA pmax pmax
comp=Z,434nm,1.4s
MAIT Maitri 25.08 138 eP P **10 17 46.8 +3.3**
MAIT eS S **10 22 15.1 +6.7**
LPA La Plata 26.59 339 ceP P **10 17 57.0 -0.1**
LPA epP pP 10 18 02.0 +3.4
LPA ePP 10 18 36.0
LPA ePCP PcP 10 21 23.0 +1.6
LPA eS S **10 22 31.0 -1.3**
QSPA South Pole Qui 29.80 180 eP P **10 18 26.4 +0.6**
comp=Z,203nm,0.9s,mb5.8
CLCH Cerro Calan 31.27 319 eP P **10 18 37.7 -1.0**
PEL Peldehue 31.55 319 eP P **10 18 40.0 -1.2**
TRIS Tristan da Cun 31.89 58 eP P **10 18 45.8 +1.5**
comp=Z,134nm,0.9s,mb5.8
SYO Syowa Base 34.71 141⇑ eP P **10 19 03.1 -5.8**
SYO Syowa Base 34.71 141⇓ epP pP 10 19 10.7 +0.3
SYO Syowa Base 34.71 141⇓ ePcP PcP 10 21 43.0 +0.3
CPUP Villa Florida 34.89 343 P P **10 19 10.3 -0.1**
comp=Z,12nm,0.6s,mb5.0,baz=152,slow=7.8,SNR=25
CPUP LR LR 10 33 47.5
comp=Z,1µm,18.9s,MS4.7,baz=153,slow=37
CPUP Villa Florida 34.89 343 eP P **10 19 10.2 -0.2**
comp=Z,94nm,0.8s,mb5.8
CPUP Villa Florida 34.89 343 eP P **10 19 10.2 -0.2**
CPUP pmax pmax
comp=Z,94nm,0.8s
CAM4 Nova Friburgo 38.15 6⇓ iP P **10 19 39.0 +0.7**
CAM4 i pP 10 19 40.6 +0.8
CAM4 i 10 19 47.9
CAM4 i 10 20 21.7
CAM4 i 10 20 21.7
CAM4 i 10 20 33.0
CAM4 i 10 21 15.3
CAM3 Guarapari 39.90 9⇓ iP P **10 19 48.7 -4.2**
CAM3 i 10 19 53.9
CAM3 i 10 20 12.1
CAM3 i 10 20 19.5
CAM3 i 10 20 24.5
SBA Scott Base 40.46 190 eP P **10 19 58.4 +0.9**
comp=Z,94nm,0.8s,mb5.6
SBA Scott Base 40.46 190 eP P **10 19 58.4 +0.9**
SBA pmax pmax
comp=Z,94nm,0.8s,mb5.6
VNDA Vanda 41.18 189 P P **10 20 03.8 +0.3**
comp=Z,9.3nm,0.7s,mb4.5,baz=145,slow=6.3,SNR=16
VNDA LR LR 10 38 59.9
comp=Z,7µm,18.2s,MS5.6,baz=342,slow=39
VNDA Vanda 41.18 189 eP P **10 20 03.8 +0.4**
comp=Z,19nm,0.8s,mb4.8
VNDA Vanda 41.18 189 eP P **10 20 03.8 +0.4**
VNDA pmax pmax
comp=Z,19nm,0.8s
MAW Mawson 42.36 148 P P **10 20 14.1 +0.9**
comp=Z,29nm,0.8s,mb4.9,baz=270,slow=8.2,SNR=2.2
MAW LR LR 10 37 18.7
comp=Z,15µm,18.4s,MS5.9,baz=240,slow=35
BDFB Brasilia 44.74 358 P P **10 20 32.5 +0.2**
comp=Z,87nm,1.0s,mb5.5,baz=195,slow=4.7,SNR=42
BDFB LR LR 10 37 53.8
comp=Z,4µm,19.1s,MS5.4,baz=176,slow=34
SIV San Ignacio 45.62 340 P P **10 20 38.9 -0.4**
comp=Z,109nm,1.0s,mb5.7,baz=171,slow=7.7,SNR=135
LPAZ La Paz 46.77 331 P P **10 20 48.7 +0.3**
comp=Z,25nm,0.7s,mb5.2,baz=158,slow=6.9,SNR=42
LPAZ LR LR 10 40 48.9
comp=Z,2µm,19.5s,MS5.0,baz=14,slow=37
LPAZ La Paz 46.77 331 eP P **10 20 49.6 +1.2**
comp=Z,36nm,0.7s,mb5.4
LPAZ La Paz 46.77 331 eP P **10 20 49.6 +1.2**
LPAZ pmax pmax
comp=Z,36nm,0.7s
ARE Arequipa 47.47 327 eP P **10 20 54.0 +0.2**
SUR Sutherland 51.37 89 P P **10 21 24.6 +1.0**
comp=Z,265nm,1.2s,mb6.0,SNR=9.8
SUR Sutherland 51.37 89 P P **10 21 24.0 +0.4**
comp=Z,12nm,0.5s,mb5.1,baz=215,slow=7.9,SNR=17
SUR LR LR 10 38 05.9
comp=Z,3µm,19.1s,MS5.4,baz=83,slow=30
SUR Sutherland 51.37 89 eP P **10 21 24.1 +0.5**
comp=Z,73nm,1.1s,mb5.5
CASY Casey 52.46 169 eP P **10 21 31.4 -0.3**
comp=Z,112nm,1.3s,mb5.6
DRV Dumont d'Urvil 53.11 183 S S **10 29 04.0 -3.4**
DRV SS SS 10 32 44.0 -2.7
DRV R 10 38 00.0
NNA Nana 53.26 322 eP P **10 21 37.2 -0.4**
comp=Z,192nm,1.1s,mb5.9
RCBR Riachuelo 55.08 13 eP P **10 21 50.7 -0.2**
comp=Z,64nm,1.0s,mb5.6
BOSA Boshof 56.65 90 P P **10 22 01.7 -0.5**
comp=Z,23nm,0.6s,mb5.4,baz=209,slow=7.2,SNR=43
BOSA LR LR 10 42 15.4
comp=Z,3µm,18.3s,MS5.5,baz=216,slow=32
BOSA Boshof 56.65 90 eP P **10 22 01.6 -0.6**
comp=Z,52nm,1.0s,mb5.5
BOSA Boshof 56.65 90 eP P **10 22 01.6 -0.6**
BOSA pmax pmax
comp=Z,52nm,1.0s,mb5.5
ASCN Ascension 57.67 39 eP P **10 22 10.0 +0.5**
comp=Z,82nm,0.8s,mb5.8
LBTB Lobatse 59.80 88 eP P **10 22 23.6 -0.7**
comp=Z,57nm,0.8s,mb5.7
LBTB Lobatse 59.80 88 eP P **10 22 23.6 -0.6**
LBTB pmax pmax
comp=Z,57nm,0.8s,mb5.7
TSUM Tsumeb 60.77 77 eP P **10 22 30.5 -0.4**
comp=Z,62nm,1.4s,mb5.5
OTAV Otavalo 65.33 324 eP P **10 23 01.9 +0.7**
comp=Z,199nm,1.3s,mb6.0
ROSC El Rosal 68.64 330 P P **10 23 23.1 +0.9**
comp=Z,11nm,0.5s,mb5.0,baz=98,slow=18,SNR=14
LSZ Lusaka 69.31 84 eP P **10 23 26.5 +0.1**
comp=Z,73nm,1.1s,mb5.5
LSZ Lusaka 69.31 84 eP P **10 23 26.5 +0.1**
LSZ pmax pmax
comp=Z,73nm,1.1s,mb5.5
RKT Rikitea 69.41 259 eP P **10 23 26.8 -0.3**
comp=Z,166nm,1.1s,mb5.9
RKT Rikitea 69.41 259 eS S 10 32 31.8 -2.9
comp=Z,2µm,28.0s
RKT eLQ 10 41 36.7
comp=Z,3µm,35.0s
RKT eLR LR 10 43 47.6
comp=Z,3µm,26.2s,baz=151
SDV Santo Domingo 71.69 335 eP P **10 23 40.2 -0.7**
comp=Z,31nm,0.8s,mb5.3
RPZ Rata Peaks 71.75 208 P P **10 23 41.6 +0.3**
comp=Z,30nm,0.9s,mb5.2,baz=171,slow=8.2,SNR=5.0
RPZ LR LR 10 53 15.5
comp=Z,2µm,18.5s,MS5.5,baz=272,slow=34
DBIC Dimbokro 74.48 43 P P **10 23 57.2 -0.2**
comp=Z,23nm,0.6s,mb5.3,baz=182,slow=6.3,SNR=30
DBIC LR LR 10 50 28.8
comp=Z,2µm,19.2s,MS5.4,baz=183,slow=31
DBIC Dimbokro 74.48 43 eP P **10 23 57.3 -0.1**
comp=Z,42nm,0.8s,mb5.4
DBIC Dimbokro 74.48 43 eP P **10 23 57.3 -0.2**
DBIC pmax pmax
comp=Z,42nm,0.8s
URZ Urewera 75.34 214 P P **10 24 02.6 +0.2**
comp=Z,20nm,0.8s,mb5.1,baz=165,slow=1.3,SNR=9.8
URZ LR LR 10 51 45.6
comp=Z,2µm,20.0s,MS5.4,baz=154,slow=31
TBI Tubuai 76.09 247 eS S 10 33 47.6 -3.3
comp=Z,1µm,27.0s
TBI eLQ 10 44 11.0
comp=Z,2µm,31.5s
TBI eLR LR 10 47 10.4
comp=Z,7µm,22.0s,baz=151
JTS JuntasAbangare 76.80 321 P P **10 24 10.6 -0.1**
comp=Z,311nm,1.2s,mb6.1,SNR=8.5
JTS JuntasAbangare 76.80 321 eP P **10 24 10.4 -0.4**
comp=Z,45nm,0.9s,mb5.4
JTS JuntasAbangare 76.80 321 eP P **10 24 10.4 -0.3**
JTS pmax pmax
comp=Z,45nm,0.9s
TBG Guadaloupe-3 76.99 345 eP P **10 24 12.6 +0.8**
MGG Marie-Galante 77.02 345 eP PcP 10 24 23.6 +0.6
LZG Guadaloupe-1 77.29 345 eP P **10 24 14.3 +0.8**
TVO Taravao 80.81 250 eP P **10 24 34.3 +1.5**
comp=Z,127nm,1.0s,mb5.8
PPT Papeete 81.15 250 eS S 10 34 39.1 -5.9
comp=Z,2µm,24.5s
PPT eSS SS 10 39 56.8 -3.0
comp=Z,973nm,25.8s
PPT eLQ 10 46 18.9
comp=Z,5µm,35.5s
PPT eLR LR 10 49 45.1
comp=Z,6µm,25.2s,baz=155
PPT Papeete 81.15 250 LR LR 10 50 51.0
comp=Z,3µm,21.3s,MS5.6,baz=152,slow=28
TOO Toolangi 81.84 190 eP P **10 24 37.1 -1.2**
comp=Z,18nm,0.7s,mb5.1
TOO Toolangi 81.84 190 eP P **10 24 37.1 -1.2**
TOO pmax pmax
comp=Z,18nm,0.7s,mb5.1
GWJ Greenwich 81.95 331⇓ eP P **10 24 40.5 +1.7**
STH Stony Hill 81.97 331⇓ iP P **10 24 40.7 +1.8**
RAO Raoul Island 82.20 221 LR LR 10 52 29.7
comp=Z,989nm,21.4s,MS5.1,baz=168,slow=29
CVJ Coleyville 82.29 330⇓ iP P **10 24 42.0 +1.3**
BBJ Bamboo Saint A 82.38 331⇓ eP P **10 24 40.0 -1.0**
TORD Torodi Ar. Bea 82.80 47 P P **10 24 43.2 -0.1**
comp=Z,37nm,1.0s,mb5.4,baz=215,slow=4.0,SNR=80
TORD PKKPbc PKKPbc 10 43 10.7 +4.0
comp=Z,0.6nm,0.7s,baz=13,slow=2.9,SNR=3.9
CNB Canberra Magne 83.70 193 eP P **10 24 47.3 -0.6**
comp=Z,25nm,1.0s,mb5.3
LMGC Las Mercedes 83.93 331 eP P **10 24 51.6 +2.5**
TAOE Nuku Hiva Isla 84.14 263 eS 10 35 08.7
comp=Z,4µm,27.5s
TAOE eLQ 10 47 41.2
comp=Z,7µm,29.9s
TAOE eLR LR 10 51 17.4
comp=Z,4µm,21.8s
HLGC Holguin 84.51 332 eP P **10 24 52.2 +0.2**
CCCC Cccc 85.21 331 eP P **10 24 54.2 -1.4**
KMBO Kilima Mbogo 85.96 85 P P **10 25 01.2 +1.9**
comp=Z,6.4nm,1.0s,mb4.8,baz=218,slow=6.8,SNR=16
KMBO LR LR 10 59 13.8
comp=Z,2µm,18.6s,MS5.5,baz=93,slow=33
NWAO Narrogin (SRO) 86.03 166 LR LR 11 02 01.3
comp=Z,4µm,18.1s,MS5.9,baz=166,slow=35
NWAO Narrogin (SRO) 86.03 166 eP P **10 24 59.4 -0.2**
comp=Z,36nm,1.1s,mb5.5
NWAO Narrogin (SRO) 86.03 166 eP P **10 24 59.4 -0.2**
NWAO pmax pmax
comp=Z,37nm,1.1s
MUN Mundaring 86.84 165 eP P **10 25 03.1 -0.5**
TEIG Tepich 87.18 321 eP P **10 25 04.8 -0.5**
comp=Z,6.1nm,0.6s,mb5.0
KLBR Kellerberrin 87.41 167 eP P **10 25 06.0 -0.4**
comp=Z,40nm,0.9s,mb5.7
STKA Stephens Creek 87.78 187 eP P **10 25 04.6 -3.6**
comp=Z,7.0nm,0.8s,mb4.9
STKA Stephens Creek 87.78 187 P P **10 25 06.3 -1.9**
comp=Z,12nm,0.9s,mb5.1,baz=144,slow=5.7,SNR=12
STKA LR LR 11 00 23.0
comp=Z,2µm,21.6s,MS5.5,baz=174,slow=33
AFI Afiamalu 94.03 233 LR LR 11 01 41.6
comp=Z,2µm,18.1s,MS5.6,baz=156,slow=32
ASPA Alice Springs 96.20 180 eP P **10 25 45.5 -1.7**
ASAR Alice Springs 96.20 180 P P **10 25 45.8 -1.4**
comp=Z,6.7nm,1.0s,mb5.0,baz=166,slow=4.5,SNR=20
ASAR PP PP 10 29 29.1 -11
comp=Z,2.2nm,0.8s,baz=182,slow=7.3,SNR=4.6
ASAR PKiKP PKiKP 10 30 26.0 +0.5
comp=Z,1.2nm,0.9s,baz=154,slow=1.6,SNR=3.4
ASAR PKKPbc PKKPbc 10 42 30.7 -2.8
comp=Z,1.2nm,0.5s,baz=8.4,slow=2.4,SNR=18
ASAR Alice Springs 96.20 180 P P **10 25 45.9 -1.4**
ASAR PP PP 10 29 29.1 -11
AS31 Alice Springs 96.20 180 eP P **10 25 45.5 -1.7**
LRAL Lakeview Retre 98.87 327 eP P **10 25 58.0 -1.2**
comp=Z,6nm,1.1s,mb5.5
CTA Charters Tower 99.09 192 eP P **10 25 58.7 -1.5**
comp=Z,7.4nm,1.1s,mb5.1
CTA Charters Tower 99.09 192 P P **10 25 59.2 -1.0**
comp=Z,5.9nm,0.9s,mb5.1,baz=180,slow=4.0,SNR=3.6
CTA LR LR 11 11 08.4
comp=Z,2µm,18.8s,MS5.7,baz=180,slow=36
CTA Charters Tower 99.09 192 eP P **10 25 58.7 -1.5**
CTA pmax pmax
comp=Z,7.0nm,1.1s
CTAO Charters Tower 99.09 192 eP P **10 25 58.6 -1.7**
comp=Z,15nm,1.1s,mb5.4
CTAO Charters Tower 99.09 192 eP P **10 25 58.6 -1.6**
CTAO pmax pmax
comp=Z,15nm,1.1s,mb5.4
ATD Arta Tunnel 99.64 84 LR LR 11 10 41.1
comp=Z,913nm,18.3s,MS5.3,baz=194,slow=35
WB2 Warramunga Arr 99.91 181 ePDIF Pdif 10 26 01.6 -2.3
WRA Warramunga Arr 99.91 181 P Pdif 10 26 04.2 +0.4
comp=Z,7.4nm,0.8s,baz=183,slow=4.2,SNR=19
WRA PP PP 10 30 00.5 -8.1
comp=Z,2.9nm,0.8s,baz=187,slow=6.0,SNR=5.7
WRA PKiKP PKiKP 10 30 31.2 -0.8
comp=Z,2.3nm,0.9s,baz=202,slow=1.3,SNR=4.5
WRA PKKPbc PKKPbc 10 42 21.3 -1.9
comp=Z,0.8nm,0.5s,baz=354,slow=3.0,SNR=13
WRA Warramunga Arr 99.91 181 P Pdif 10 26 04.2 +0.4
WRA PP PP 10 30 00.5 -8.1
WRAB Tennant Creek 99.92 181 ePdif Pdif 10 26 02.7 -1.2
comp=Z,15nm,0.8s
WRAB Tennant Creek 99.92 181 eP Pdif 10 26 02.7 -1.2
WRAB pmax pmax
comp=Z,15nm,0.8s,mb5.5
JCT Junction City 100.49 315 ePdif Pdif 10 26 05.3 -1.2
comp=Z,13nm,1.1s
JCT Junction City 100.49 315 eP Pdif 10 26 05.3 -1.2
JCT pmax pmax
comp=Z,13nm,1.1s
MSU Marysvale 112.20 309 ePKPdf PKiKP 10 30 55.5 +0.7
NVAR Mina Array Bea 114.55 305 PKP PKiKP 10 30 58.8 -0.5
comp=Z,1.7nm,0.9s,baz=156,slow=2.1,SNR=8.4
NVAR PP PP 10 31 56.7 +0.7
comp=Z,1.0nm,0.8s,baz=163,slow=6.2,SNR=4.6
PDAR Pinedale Array 114.94 314 PKP PKiKP 10 30 58.8 -1.2
comp=Z,1.6nm,1.1s,baz=177,slow=3.0,SNR=6.3
PDAR PKKPbc PKKPbc 10 41 40.7 +4.6
comp=Z,0.6nm,0.8s,baz=60,slow=1.8,SNR=3.7
SCHQ Schefferville 116.05 347 PKP PKPdf 10 30 58.8 -3.4
comp=Z,3.0nm,0.6s,baz=210,slow=3.2,SNR=8.0
PSI Prapat 116.76 141 PKP PKPdf 10 31 02.9 -0.6
comp=Z,5.1nm,0.8s,baz=224,slow=4.2,SNR=5.1
SQTA Sankt Quirin 117.07 40⇑ iP PKPdf 10 31 01.8 -2.3
comp=Z,50nm,2.2s
ULM Lac du Bonnet 117.28 327 PKP PKPdf 10 31 02.0 -2.5
comp=Z,1.8nm,0.8s,baz=331,slow=0.6,SNR=4.5
ULM PP PP 10 32 12.4 -2.7
comp=Z,2.5nm,0.9s,baz=141,slow=4.6,SNR=3.5
ULM PKKPab PKKPab 10 41 31.4 -0.4
comp=Z,0.8nm,0.3s,baz=321,slow=5.4,SNR=4.0
MOA Molln 118.62 42⇑ iP PKPdf 10 31 05.0 -2.1
comp=Z,6.2nm,1.0s
HRY Holter Researc 119.17 314 ePKPdf PKPdf 10 31 06.9 -1.3
BR131 Keskin Array S 119.19 61 ePKPdf PKPdf 10 31 05.5 -2.7
BRTR Keskin Array B 119.19 61 PKP PKPdf 10 31 05.3 -2.9
comp=Z,2.5nm,0.7s,baz=236,slow=0.9,SNR=9.0
BRTR PP PP 10 32 34.7 +6.3
comp=Z,2.0nm,0.9s,baz=224,slow=5.2,SNR=4.0
GRA1 Grafenberg Arr 119.25 39 ePKP PKPdf 10 31 10.3 +2.0
GRF Grafenberg Arr 119.25 39 ePKP PKPdf 10 31 10.3 +2.0
BZS Buzias 119.28 48 ⇓P PKPdf 10 31 07.3 -1.1
GERES GERESS Array B 119.30 41 PKP PKPdf 10 31 05.5 -2.9
comp=Z,2.6nm,0.6s,baz=222,slow=1.8,SNR=10.0
KHC Kasperske Hory 119.51 41 ePKP PKPdf 10 31 07.4 -1.4
CHMT Chamberlain Mo 119.85 313 ePKPdf PKPdf 10 31 08.8 -0.6
MALT Malatya 120.13 65 ePKPdf PKPdf 10 31 08.9 -1.1
VOIR 120.43 51 ⇑P PKPdf 10 31 06.6 -4.0
PRU Pruhonice 120.57 41 ePKP PKPdf 10 31 09.1 -1.7
VYHS Vyhne 120.73 45 ePKP PKPdf 10 31 09.2 -2.0
MLR Muntele Rosu 120.82 51 ⇑P PKPdf 10 31 09.5 -1.8
TIRR Tirgusor 120.93 54 ⇓P PKPdf 10 31 08.9 -2.6
PVCC Panska Ves 121.04 41 ePKP PKPdf 10 31 10.4 -1.4
BRG Berggiesshubel 121.14 40 ePKP PKPdf 10 31 10.7 -1.2
BRG e 10 49 30.0
BRG LR LR
comp=Z,683µm,19.8s
CLL Collm 121.22 39 ePKPdf PKPdf 10 31 11.0 -1.1
CLL eSPKPdf 10 31 21.8
CLL ePS PS 10 42 49.3 +15
CLL ePPS 10 44 06.0
CLL eSS SS 10 49 46.4 +30
CLL eSSS 10 53 49.6
CLL eLR LR 11 10 38.9
CLL eL 11 22 44.5
comp=Z,844nm,20.0s
CLL Collm 121.22 39 ePKPdf PKPdf 10 31 12.0 -0.1
comp=Z,8.0nm,0.7s
CLL epPKPdf pPKPdf 10 31 18.0 +4.2
CLL i sPKPdf 10 31 21.1
CLL eSS SS 10 49 51.0 +35
CLL eSSS 10 53 54.0
CLL Lm 11 22 00.0
comp=Z,1µm,18.0s
CLL Collm 121.22 39 ePKIKP PKPdf 10 31 12.0 -0.1
CLL e 10 31 18.0
CLL MLR MLR
comp=Z,1µm,18.0s,MS5.6
KECS Kecovo 121.30 46 ePKP PKPdf 10 31 10.4 -1.9
MORC Moravsky Berou 121.38 43 ePKPdf PKPdf 10 31 10.8 -1.6
CFR Carcaliu 121.42 53 ⇓P PKPdf 10 31 10.3 -2.2
VRI Vrincioaia 121.44 52 ⇑P PKPdf 10 31 04.1 -8.4
DPC Dobruska-Polom 121.46 42 ePKP PKPdf 10 31 10.1 -2.5
UPC Upice 121.50 42 ePKP PKPdf 10 31 11.0 -1.6
OKC Ostrava-Krasne 121.64 43 ePKP PKPdf 10 31 11.6 -1.3
KSP Ksiaz 121.88 42 ePKP PKPdf 10 31 12.6 -0.8
KSP Ksiaz 121.88 42 ePKIKP PKPdf 10 31 12.7 -0.7
KSP eSS SS 10 49 27.0 +2.4
KSP MLR MLR
comp=Z,1µm,21.1s,MS5.6
BURAR Bucovina Array 122.31 49 ⇓P PKPdf 10 31 13.2 -1.0
STHS Stebnicka Huta 122.36 46 ePKP PKPdf 10 31 10.5 -3.8
OJC Ojcow 122.53 44 ePKP PKPdf 10 31 13.9 -0.7
KIS Kishinev 123.19 52 ePKIKP PKPdf 10 31 14.0 -1.9
KIS e 10 31 20.0
SIM Simferopol' 123.67 57 i PKIKP PKPdf 10 31 15.0 -1.8
SIM ePPP 10 35 46.0
SIM pmax pmax
comp=Z,25nm,1.1s
SIM MLR MLR
comp=Z,600nm,20.0s,MS5.2
LVV L'vov 123.70 47 ePKIKP PKPdf 10 31 16.8 -0.1
LVV e 10 32 58.2
LVV e 10 38 26.0
GNI Garni 124.49 68 ePKPdf PKPdf 10 31 18.4 0.0
GNI Garni 124.49 68 i PKIKP PKPdf 10 31 16.9 -1.5
GNI MLR MLR
comp=Z,700nm,19.0s
ANN Anapa 124.95 60 i PKIKP PKPdf 10 31 17.5 -1.8
ANN pmax pmax
comp=Z,31nm,1.6s
ANN MLR MLR
comp=Z,585nm,25.0s,MS5.2
EDM Edmonton 125.19 317 ePKPdf PKPdf 10 31 17.4 -2.3
ZEI Tsey 126.19 66 ePKIKP PKPdf 10 31 20.1 -1.5
ZEI i 10 33 16.9
AKASG Malin Array Be 126.35 50 PKP PKPdf 10 31 18.7 -3.2
comp=Z,11nm,0.8s,baz=246,slow=1.9,SNR=24
AKASG PP PP 10 33 15.3 -1.5
comp=Z,2.6nm,0.8s,baz=223,slow=7.6,SNR=6.6
KIV Kislovodsk 126.58 64 i PKP PKPdf 10 31 17.7 -4.7
KIV Kislovodsk 126.58 64 c i PKIKP PKPdf 10 31 21.7 -0.7
KIV e 10 31 28.7
KIV eSSS 10 55 12.6
KIV pmax pmax
comp=Z,21nm,1.1s
GOF Gofitskoye 127.59 63 ePKIKP PKPdf 10 31 21.6 -2.7
MNK Minsk 128.87 46 ePKIKP PKPdf 10 31 24.0 -2.7
NB2 NORSAR Subarra129.04 32 PKPd PKPdf 10 31 24.8 -2.3
comp=Z,44nm,1.7s,baz=202,slow=1.9
NB2 NORSAR Subarra129.04 32 PKPd PKPdf 10 31 24.8 -2.3
baz=202,slow=1.9
NOA NORSAR Array B 129.04 32 PKP PKPdf 10 31 24.6 -2.5
comp=Z,12nm,1.0s,baz=210,slow=2.0,SNR=13
VRSR Storozhevoye 130.69 56 i PKIKP PKPdf 10 31 28.3 -1.9
VRSR pmax pmax
comp=Z,6.0nm,1.1s
VRSR pmax pmax
comp=N,2.0nm,1.3s
VRSR pmax pmax
comp=E,2.0nm,1.7s
VOR Voronezh 131.09 55 PKIKP PKPdf 10 31 29.0 -1.9
VOR pmax pmax
comp=Z,130nm,1.7s
VRHR Novokhopersk 131.61 57 ePKIKP PKPdf 10 31 29.9 -2.0
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.5s
OBN Obninsk 132.58 51 i PKP PKPdf 10 31 28.3 -5.5
OBN LR LR
comp=Z,500nm,17.0s,MS5.3
OBN Obninsk 132.58 51 d i PKIKP PKPdf 10 31 31.5 -2.3
OBN e 10 31 37.4
OBN pmax pmax
comp=Z,44nm,1.3s
OBN MLR MLR
comp=Z,500nm,17.0s,MS5.3
SUMG Summit 132.85 3 ePKPdf PKPdf 10 31 32.3 -2.0
YKA Yellowknife Ar 133.08 324 PKP PKPdf 10 31 31.8 -2.9
comp=Z,10nm,1.0s,baz=134,slow=2.1,SNR=32
YKA PP PP 10 34 04.9 +4.2
comp=Z,3.4nm,1.0s,baz=118,slow=5.9,SNR=6.5
YKA Yellowknife Ar 133.08 324 PKIKP PKPdf 10 31 31.8 -2.9
YKA 10 34 04.9
YKW3 Yellowknife Ar 133.14 324 ePKPdf PKPdf 10 31 32.1 -2.7
MOS Moscow 133.45 51 ePKIKP PKPdf 10 31 36.7 +1.3
MOS e 10 34 02.3
MOS pmax pmax
comp=Z,49nm,0.7s
MOS MLR MLR
comp=Z,900nm,18.5s,MS5.5
FINES FINESS Array B 133.66 39 PKhKP 10 31 19.3
comp=Z,0.7nm,0.6s,baz=330,slow=33,SNR=3.5
FINES PKP PKPdf 10 31 31.6 -4.2
comp=Z,5.9nm,0.7s,baz=129,slow=5.2,SNR=17
FINES SKPbc SKPbc 10 34 58.8 -6.3
comp=Z,5.2nm,0.8s,baz=243,slow=1.6,SNR=5.5
FINES FINESS Array B 133.66 39 PKP PKPdf 10 31 31.6 -4.2
FINES SKPbc SKPbc 10 34 58.8 -6.3
SHL Shillong 135.06 122 eP PKPdf 10 31 32.5 -5.9
QIZ Qiongzhong 135.34 147 PKP PKPdf 10 31 41.3 +2.3
QIZ PP PP 10 34 17.5 +2.4
QIZ PKS 10 35 12.5
QIZ PP PP
comp=Z,164nm,7.0s
QIZ LR LR
comp=N,787nm,22.1s
QIZ LR LR
comp=Z,1µm,20.8s,MS5.6
KLMR Klimovskoe 137.78 47 i PKIKP PKPdf 10 31 41.8 -1.7
KLMR eSS SS 10 53 12.7 +32
KLMR pmax pmax
comp=Z,40nm,1.3s
KLMR MLR MLR
comp=Z,1µm,24.0s,MS5.6
DAG Danmarks Havn 138.08 9⇑ iP PKPdf 10 31 41.7 -2.3
comp=Z,13nm,1.0s
DAG Danmarks Havn 138.08 9⇑ ePKIKP PKPdf 10 31 41.7 -2.3
AKTK Aktyubinsk 138.36 69 PKP 10 31 32.0
AKTK PKP PKPdf 10 31 44.4 -0.1
AKTO Aktyubinsk 138.36 69 PKhKP 10 31 32.0
comp=Z,0.9nm,0.6s,baz=106,slow=0.8,SNR=4.3
AKTO PKP PKPdf 10 31 44.4 -0.1
comp=Z,3.5nm,0.7s,baz=272,slow=2.8,SNR=8.3
AB31 Akbulak array 138.44 71 i PKHKP 10 31 32.0
AB31 pmax pmax
comp=Z,2.0nm,0.5s
KMI Kunming 138.87 135 PKP PKPdf 10 31 44.0 -1.5
KMI PP PP 10 34 39.3 +2.2

KMI PP PP
comp=Z,241nm,5.9s
KMI LR LR
comp=N,669nm,19.1s,MS5.5
KMI LR LR
comp=E,562nm,17.2s,MS5.5
KMI LR LR
comp=Z,865nm,19.1s,MS5.5
KK31 Karatay Array 139.16 86 *i* PKHKP 10 31 37.9
KK31 pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 139.16 86 *i* PKHKP 10 31 37.9
KKAR pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 139.39 31 PKhKP 10 31 33.5
comp=Z,3.6nm,0.4s,baz=203,slow=2.8,SNR=48
APA Apatity 140.24 36 ⇓*i* PKHKP 10 31 38.0
APA pmax pmax
comp=Z,18nm,1.2s
APA MLR MLR
comp=Z,1μm,20.0s,MS5.7
AAK Ala-Archa 140.78 90 *e*PKPdf PKPdf 10 31 43.3 -5.6
AAK Ala-Archa 140.78 90 *e*PKHKP 10 31 42.5
LVZ Lovozero 140.81 36 *i* PKIKP PKPdf 10 31 42.3 -6.7
FRU Bishkek 140.99 90 *e*PKIKP PKPdf 10 31 46.0 -3.3
GYA Guiyang 141.41 140 PKP PKPdf 10 31 45.0 -5.1
GYA PKS 10 35 19.8
GYA SKS SKSdf 10 38 54.6 -6.2
GYA PP PP
comp=Z,180nm,8.9s
GYA LR LR
comp=N,2μm,20.4s,MS6.0
GYA LR LR
comp=E,2μm,21.6s,MS6.0
GYA LR LR
comp=Z,2μm,20.8s,MS5.8
ARU Arti 142.55 62 *e*PKPdf PKPdf 10 31 46.0 -6.1
ARU Arti 142.55 62 *i* PKHKP 10 31 45.8
YHNB Yeheng 143.29 161 *e*PKPdf PKPdf 10 31 57.3 +3.9
SOKR Solikamsk 143.68 57 ⇑*i* PKIKP PKPdf 10 31 48.8 -5.3
SOKR pmax pmax
comp=Z,40nm,0.8s
KDAK Kodiak Island 143.77 299 PKP PKPdf 10 31 51.0 -3.3
comp=Z,31nm,1.1s,baz=20,slow=6.6,SNR=5.0
SML Sawmill 144.32 307 *e*PKPdf PKPdf 10 31 51.3 -4.0
SLKM Skilak Lake 144.35 304 *e*PKPdf PKPdf 10 31 51.2 -4.1
CD2 Chengdu 144.50 133 PKP PKPdf 10 31 53.1 -2.4
CD2 PP PP 10 35 13.0 +1.6
CD2 SKS SKSdf 10 38 57.1 -8.5
CD2 SKKS SKKSac 10 41 58.5 -6.3
CD2 SS SS 10 53 55.6 -3.1
CD2 LR LR
comp=N,400nm,19.2s
CD2 LR LR
comp=Z,560nm,19.2s,MS5.3
PMR Palmer 144.52 306 *e*PKPdf PKPdf 10 31 51.7 -3.9
FIB Fire Island 144.70 305 *e*PKPdf PKPdf 10 31 53.0 -2.9
ZRNK Zerenda 145.17 73 *e*PKPbc PKPbc 10 31 53.7 -2.6
ILAR Eielson Array 145.36 312 PKPbc PKPbc 10 31 54.0 -2.9
comp=Z,113nm,0.9s,baz=138,slow=2.7,SNR=228
MCK McKinley 145.59 310 *e*PKPbc PKPbc 10 31 55.3 -2.3
COLA College 145.76 312 *e*PKPdf PKPdf 10 31 55.4 -2.3
BRVK Borovoye 145.84 74 *e*PKPdf PKPdf 10 31 56.0 -1.9
BVA0 Borovoye Array 145.87 74 *i* PKP2 PKPab 10 31 55.8 -3.1
BVA0 pmax pmax
comp=Z,67nm,1.7s
BVAR Borovoye Array 145.87 74 PKPbc PKPbc 10 31 56.1 -2.4
comp=Z,74nm,0.9s,baz=243,slow=4.4,SNR=87
VOSK Vostochnaya 145.97 75 PKIKP PKPdf 10 31 55.9 -2.2
VOSK pmax pmax
comp=Z,129nm,1.2s
CBIJ Chichi jima 146.14 194 PKPbc PKPbc 10 31 57.4 -1.9
comp=Z,202nm,0.8s,baz=272,slow=5.8,SNR=4.6
JOW Kunigami 146.22 172 PKPbc PKPbc 10 31 59.1 -0.4
comp=Z,47nm,0.7s,baz=240,slow=3.8,SNR=6.9
WHN Wuhan 147.50 148 ⇓PKP PKPdf 10 32 01.5 +0.9
MKAR Makanchi Array 147.63 91 PKPbc PKPbc 10 32 00.9 -2.6
comp=Z,29nm,0.9s,baz=228,slow=1.6,SNR=46
MKAR Makanchi Array 147.63 91 PKP2 PKPbc 10 32 00.7 -2.9
MKAR pmax pmax
comp=Z,77nm,1.0s
UNV Unalaska Valle 147.80 286 *e*PKPbc PKPbc 10 32 03.1 -0.9
WMQ Urumqi 148.17 101 PKP PKPdf 10 32 02.6 +0.8
WMQ PP PP 10 35 38.5 +5.4
WMQ SKS SKSdf 10 39 05.7 -5.1
WMQ SS SS 10 54 39.7 -0.7
WMQ PP PP
comp=Z,412nm,5.2s
WMQ LR LR
comp=N,555nm,24.0s,MS5.5
WMQ LR LR
comp=E,580nm,21.0s,MS5.5
WMQ LR LR
comp=Z,633nm,22.2s,MS5.4
KURK Kurchatov 148.42 83 *e*PKPdf PKPdf 10 31 59.5 -2.6
KURK *e*PKPbc PKPbc 10 32 03.3 -2.3
LZH Lanzhou 149.15 129 *e*PKP PKPdf 10 32 02.3 -1.0
LZH APKP 10 32 09.8
LZH PKP2 PKPab 10 32 13.4 +1.6
LZH PKS 10 35 35.8
LZH *e*PP PP 10 35 41.3 +2.5
LZH SKS SKSdf 10 39 06.4 -5.8
LZH SKKS SKKSac 10 42 27.6 -3.3
LZH PP PP
comp=Z,367nm,8.2s
LZH LR LR
comp=N,679nm,18.1s
LZH LR LR
comp=Z,1μm,20.2s,MS5.7
SSE Sheshan 149.54 159 *e*PKP PKPdf 10 32 01.6 -2.4
SSE LR LR
comp=N,325nm,24.3s,MS5.0
SSE LR LR
comp=E,94nm,24.4s,MS5.0
SSE LR LR
comp=Z,604nm,29.6s
NJ2 Nanjing 150.01 155 *e*PKP PKPdf 10 32 07.3 +2.6
NJ2 PKP2 PKPab 10 32 21.3 +5.9
NJ2 PKS 10 35 40.0
NJ2 PP PP 10 35 52.0 +8.2
NJ2 SKS SKSdf 10 39 10.0 -3.3
NJ2 SKKS SKKSac 10 42 37.0 +1.3
NJ2 PP PP
comp=Z,390nm,7.8s
NJ2 LR LR
comp=N,2μm,29.1s,MS5.7
NJ2 LR LR
comp=E,630nm,31.3s,MS5.7
NJ2 LR LR
comp=Z,580nm,25.5s
ADK Adak 151.59 275 *e*PKPbc PKPbc 10 32 11.1 -2.3
ADK Adak 151.59 275 *e*PKIKP PKPdf 10 32 10.0 +2.8
JNU Nakatsue 152.62 175 PKPbc PKPbc 10 32 15.7 -0.1
comp=Z,18nm,0.8s,baz=127,slow=5.0,SNR=7.5
NVS Novosibirsk 153.12 79 *e*PKIKP PKPdf 10 32 11.4 +2.0
NVS *e* 10 36 06.4
NVS pmax pmax
comp=Z,94nm,1.9s
NVS pmax pmax
comp=N,35nm,1.7s
NVS pmax pmax
comp=E,23nm,1.4s
TIA Tai'an 153.59 149 *e*PKP PKPdf 10 32 12.0 +1.9
TNA Tin City 153.77 307 *e*PKPbc PKPbc 10 32 16.6 -1.6
TNA *e*PKPab PKPab 10 32 30.4 -0.8
MJAR Matsushiro Arr 155.89 189 PKP PKPdf 10 32 12.7 -0.6
comp=E,2.2nm,0.9s,baz=198,slow=1.7,SNR=5.7
MJAR PKPab PKPab 10 32 38.4 -1.7
comp=E,5.9nm,0.8s,baz=173,slow=3.5,SNR=5.1
MAJO Matsushiro 155.89 189 *e*PKPdf PKPdf 10 32 13.2 -0.1
MAT Matsushiro 155.89 189 *e*PKP PKPdf 10 32 14.9 +1.6
MAT Matsushiro 155.89 189 PKIKP PKPdf 10 32 15.0 +1.7
MAT MLR MLR
comp=Z,370nm,22.0s,MS5.2
HHC Hu-ho-hao-te 156.19 136 *e*PKP PKPdf 10 32 10.7 -3.0
HHC PKS 10 35 43.4
HHC PP PP 10 36 19.6 +0.9
HHC SKS SKSdf 10 39 11.6 -9.0
HHC SKKS SKKSac 10 43 02.9 -6.3
HHC LR LR
comp=N,296nm,11.3s
HHC LR LR
comp=E,510nm,19.1s
HHC LR LR
comp=Z,444nm,24.5s

BJI Beijing 156.93 144 PKP PKPdf 10 32 17.1 +2.5
BJI SS SS 10 56 16.0 -0.6
BJI LR LR
comp=N,585nm,17.9s,MS5.6
BJI LR LR
comp=E,557nm,20.2s,MS5.6
BJI LR LR
comp=Z,707nm,19.7s,MS5.5
DL2 Dalian 157.20 156 PKP PKPdf 10 32 14.0 -1.0
DL2 PP PP 10 36 30.8 +6.5
DL2 PP PP
comp=Z,240nm,8.7s
DL2 LR LR
comp=N,420nm,19.0s,MS5.3
DL2 LR LR
comp=E,160nm,17.8s,MS5.3
DL2 LR LR
comp=Z,460nm,18.2s,MS5.3
SONM Songino Array 159.93 117 PKP PKPdf 10 32 15.9 -2.4
comp=Z,0.5nm,0.4s,baz=135,slow=30,SNR=4.5
SONM PKPab PKPab 10 32 56.1 -1.5
comp=Z,9.7nm,1.0s,baz=224,slow=4.7,SNR=8.4
MOY Mondy 160.06 102 *e*PKIKP PKPdf 10 32 14.5 -3.9
ZAK Zakamensk 160.32 107 *e*PKIKP PKPdf 10 32 15.0 -3.7
ZAK pmax pmax
comp=Z,30nm,1.6s
ASAJ Asahikawa 162.75 203 PKPab PKPab 10 33 09.2 -0.8
comp=Z,8.4nm,0.9s,baz=159,slow=12,SNR=2.7
MDJ Mudanjiang 163.99 170 PKP PKPdf 10 32 22.6 +0.2
MDJ PP PP 10 37 01.9 +1.0
MDJ PP PP
comp=Z,172nm,6.0s
MDJ LR LR
comp=E,715nm,26.0s
MDJ LR LR
comp=Z,561nm,28.9s
MDJ Mudanjiang 163.99 170 *e*PKPdf PKPdf 10 32 25.2 +2.8
BILL Bilibino 164.02 312 *e*PKPdf PKPdf 10 32 15.2 -7.2
BILL Bilibino 164.02 312 *e*PKIKP PKPdf 10 32 14.4 -8.0
BILL *e* 10 37 07.8
BILL pmax pmax
comp=Z,11nm,1.4s
YSS Yuzh-Sakhalins 165.43 206 *i* PKIKP PKPdf 10 32 14.0 -10
YSS *e* 10 39 22.0
TIXI Tiksi 168.59 7 *i* PKIKP PKPdf 10 32 24.2 -1.8
TIXI *e* 10 37 18.7
TIXI *e*SS SS 10 58 08.3 -9.3
TIXI *e*SSS 11 04 49.2
TIXI pmax pmax
comp=Z,7.0nm,1.4s
KLR Kul'dur 168.73 174 *e*PKIKP PKPdf 10 32 21.5 -4.6
KLR *e* 10 33 34.2
BOD Bodaibo 169.68 96 *e*PKIKP PKPdf 10 32 22.9 -3.8
BOD pmax pmax
comp=Z,12nm,0.9s
CLNS Chul'man 174.26 125 *e*PKIKP PKPdf 10 32 22.6 -6.2
CLNS pmax pmax
comp=Z,12nm,1.0s
CLNS pmax pmax
comp=N,5.0nm,1.6s

IDC 10 10:22:41.4±1.8,1162N×14328E,h0km,mb4.0/4, mb1 4.4/5,mb1mx4.0/20,mbtmp4.0/5,ML4.0/1,MS4.7/2, Ms1 4.7/2,ms1mx3.3/30,Error ellipse: s-maj=132.3km s-min=19.1km az=118.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.50**	**38**	Pn	Pn	10 23 23.8	+0.4
	33nm,0.3s,baz=201,slow=5.0,SNR=14						
GUMO				LR	LR	10 23 51.9	
	comp=Z,220nm,18.4s,baz=250,slow=28						
GUMO				Sn	Sn	10 23 56.3	+1.8
	27nm,0.3s,baz=358,slow=22,SNR=8.2						
WB2	**Warramunga Arr**	**32.57**	**196**	*e*P	P	10 29 13.9	-0.4
WRA	**Warramunga Arr**	**32.57**	**196**	P	P	10 29 14.0	-0.4
	2.5nm,0.6s,baz=19,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**36.25**	**195**	P	P	10 29 47.3	+1.1
	0.7nm,0.6s,baz=23,slow=11,SNR=9.6						
YKA	**Yellowknife Ar**	**85.31**	**27**	P	P	10 35 19.5	-0.7
	2.1nm,1.0s,baz=286,slow=4.9,SNR=4.6						
NVAR	**Mina Array Bea**	**89.36**	**51**	P	P	10 35 40.7	+0.8
	1.2nm,0.7s,baz=255,slow=5.1,SNR=6.4						
NOA	**NORSAR Array B**	**98.32**	**339**	LR	LR	11 23 18.2	
	comp=Z,157nm,21.7s,baz=250,slow=37						
ULM	**Lac du Bonnet**	**99.73**	**34**	LR	LR	11 20 53.4	
	comp=Z,676nm,20.4s,baz=140,slow=35						

*ISCJB **10** 10:40:46.0±2.0,1140S×009×1663E±0.1,h195km±17km, mb4.0/10,Error ellipse: s-maj=22.5km s-min=12.3km az=130.5*
*NEIC **10** 10:40:46.0±1.6,1135S×16638E,h181km±14km,mb4.2/1, Error ellipse: s-maj=15.6km s-min=11.2km az=62.0*
*IDC **10** 10:40:46.5±2.6,1139S×16642E,h184km±22km,mb3.8/9, mb1 3.9/11,mb1mx3.8/17,mbtmp4.3/11,Error ellipse: s-maj=21.1km s-min=13.4km az=62.0*
ISC 10 10:40:46.6±1.9,1143S±009×1665E±01,h186km±15km, n17,σ1s12/17,mb4.1/10,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.71**	**287**	P	**Pn**	**10 42 21.0**	**-2.0**
	12nm,0.3s,baz=95,slow=12,SNR=3.8						
HNR				S	**Sn**	**10 43 41.0**	**+2.0**
	11nm,0.3s,baz=272,slow=21,SNR=2.8						
DZM	**Mont Dzumac**	**10.58**	**180**	P	**Pn**	**10 43 14.1**	**+0.6**
	1.1nm,0.3s,baz=159,slow=14,SNR=7.6						
DZM				S	**Sn**	**10 45 10.8**	**-0.6**
	0.5nm,0.3s,baz=293,slow=23,SNR=4.0						
URZ	**Urewera**	**28.36**	**162**	P	**P**	**10 46 23.7**	**+0.4**
	4.2nm,0.3s,mb4.7,baz=273,slow=3.4,SNR=12						
STKA	**Stephens Creek**	**30.66**	**225**	P	**P**	**10 46 42.5**	**-1.0**
	2.3nm,0.7s,mb4.0,baz=63,slow=8.8,SNR=8.7						
WRAB	**Tennant Creek**	**32.01**	**251**	*e*P	**P**	**10 46 57.0**	**+1.6**
	4.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**32.02**	**251**	P	**P**	**10 46 55.0**	**-0.4**
	1.2nm,0.7s,mb3.8,baz=84,slow=8.9,SNR=11						
WRA				PcP	PcP	10 49 41.9	+1.3
	0.7nm,0.7s,baz=76,slow=3.3,SNR=6.3						
RPZ	**Rata Peaks**	**32.41**	**174**	P	**P**	**10 47 00.1**	**+1.2**
	23nm,0.6s,mb5.1,baz=99,slow=5.3,SNR=12						
ASAR	**Alice Springs**	**33.26**	**244**	P	**P**	**10 47 06.0**	**-0.2**
	1.9nm,0.8s,mb3.9,baz=69,slow=9.7,SNR=22						
ASAR				PcP	PcP	10 49 44.9	+0.9
	0.9nm,0.6s,baz=73,slow=2.5,SNR=11						
NWAO	**Narrogin (SRO)**	**49.84**	**236**	P	**P**	**10 49 19.8**	**-0.9**
VNDA	**Vanda**	**66.12**	**181**	P	**P**	**10 51 13.8**	**0.0**
	2.1nm,0.8s,mb4.0,baz=339,slow=7.5,SNR=5.5						
VNDA	**Vanda**	**66.12**	**181**	P	**P**	**10 51 13.8**	**0.0**
ILAR	**Eielson Array**	**83.65**	**18**	P	**P**	**10 52 52.6**	**-1.6**
	1.1nm,1.0s,mb3.5,baz=221,slow=5.5,SNR=8.7						
NVAR	**Mina Array Bea**	**85.73**	**50**	P	**P**	**10 53 06.2**	**+1.5**
	0.4nm,0.6s,mb3.4,baz=240,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**94.28**	**317**	P	**P**	**10 53 44.5**	**-0.2**
	1.5nm,0.7s,mb4.2,baz=90,slow=6.9,SNR=20						
MKAR	**Makanchi Array**	**94.28**	**317**	P	**P**	**10 53 44.5**	**-0.2**
ARCES	**ARCESS Array B**	**116.88**	**346**	PKP	PKPdf	10 59 08.1	-0.9
	4.0nm,0.9s,baz=78,slow=2.0,SNR=14						
FINES	**FINESS Array B**	**122.38**	**339**	PKP	PKPdf	10 59 18.9	-0.6
	1.0nm,0.8s,baz=28,slow=4.5,SNR=4.4						

IDC 10 10:48:53.9±1.4,1057N×9396E,h0km,mb3.6/4,mb1 3.8/4, mb1mx3.5/20,mbtmp3.6/4,Error ellipse: s-maj=88.1km s-min=24.1km az=50.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.61**	**312**	*e*P	Pn	10 49 23.4	-0.1
PBA				*e*S	Sn	10 50 06.0	+21
PBA				*e*x	x	10 50 16.3	
	comp=N,775nm,0.0s						
PBA				*e*x	x	10 50 22.2	
	comp=E,616nm,0.0s						
MKAR	**Makanchi Array**	**37.44**	**347**	P	P	10 56 08.7	-0.1
	comp=E,0.8nm,0.7s,baz=170,slow=8.7,SNR=8.7						
WRA	**Warramunga Arr**	**50.00**	**127**	P	P	10 57 50.0	+0.2
	comp=E,0.6nm,0.7s,baz=305,slow=8.7,SNR=3.1						
ASAR	**Alice Springs**	**51.80**	**131**	P	P	10 58 04.0	+0.6
	comp=E,0.3nm,0.5s,baz=311,slow=6.0,SNR=4.5						
BRTR	**Keskin Array B**	**60.56**	**310**	P	P	10 59 06.6	+0.5
	comp=E,0.6nm,0.7s,baz=140,slow=7.6,SNR=2.9						

IDC 10 10:52:04.9±10.0,940N×9239E,h0km,mb3.6/3,mb1 3.9/3, mb1mx3.5/20,mbtmp3.6/3,Error ellipse: s-maj=521.2km s-min=27.7km az=60.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.25**	**349**	P	P	10 59 26.7	0.0
	0.2nm,0.6s,baz=169,slow=8.5,SNR=2.8						
WRA	**Warramunga Arr**	**50.55**	**125**	P	P	11 01 04.9	-0.2
	0.8nm,0.7s,baz=303,slow=8.8,SNR=5.5						
ASAR	**Alice Springs**	**52.21**	**130**	P	P	11 01 18.6	+1.0
	1.3nm,0.7s,baz=307,slow=7.2,SNR=12						

*BJI **10** 10:52:36.2,974N×9398E,h10km,mB4.6,mb4.4,Ms4.2, Msz3.9*
*IDC **10** 10:52:43.6±0.8,1064N×9427E,h0km,mb4.3/10, mb1 4.4/10,mb1mx4.1/23,mbtmp4.3/10,MS4.1/1, Ms1 4.1/1,ms1mx3.1/30,Error ellipse: s-maj=42.8km s-min=15.9km az=55.0*
*ISCJB **10** 10:52:46.8±0.5,1057N±007×9425E±0.10,h33km, mb4.4/22,MS4.7/1,Error ellipse: s-maj=15.6km s-min=7.1km az=115.5*
*NEIC **10** 10:52:46.0±0.5,1070N×9452E,h10km,mb4.6/11,Error ellipse: s-maj=19.7km s-min=6.9km az=54.0*
*MOS **10** 10:52:46.5±1.0,1064N×9429E,h33km,mb4.8/7,Error ellipse: s-maj=30.9km s-min=9.6km az=113.0*
ISC 10 10:52:49.3±0.5,1062N±007×9425E±009,h35km, (h23km±3.1km:pP-P),n46,σ0s96/47,mb4.5/22,MS4.7/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.05**	**149**	LR	LR	10 59 10.6	
	comp=Z,1μm,19.9s,baz=160,slow=42						
HYB	**Hyderabad**	**16.65**	**296**	*i* P	**Pn**	**10 56 44.5**	**+4.6**
HYB				*e*S	**S**	**10 59 49.5**	**-4.6**
HYB	**Hyderabad**	**16.65**	**296**	*e*P	**Pn**	**10 56 44.5**	**+4.6**
HYB				*e*S	**S**	**10 59 49.5**	**-4.6**
JIRN	**Jiri**	**18.57**	**337**	*e*P	**Pn**	**10 57 03.8**	**+0.3**
	293nm,1.8s						
PKI	**Pulchoki**	**18.80**	**335**	*e*P	**Pn**	**10 57 06.6**	**+0.2**
	119nm,1.1s						
PKI	**Pulchoki**	**18.80**	**335**	*e*P	**Pn**	**10 57 06.6**	**+0.2**
PKI				pmax	pmax		
	comp=Z,60nm,1.1s						
GUN	**Gumba**	**18.91**	**337**	*e*P	**Pn**	**10 57 07.8**	**+0.1**
	comp=Z,71nm,1.0s						
DMN	**Daman**	**18.96**	**334**	*e*P	**Pn**	**10 57 09.2**	**+0.9**
	comp=Z,82nm,1.1s						
KKN	**Kakani**	**19.05**	**335**	*e*P	**Pn**	**10 57 09.2**	**-0.1**
LSA	**Lhasa**	**19.20**	**352**	P	**Pn**	**10 57 11.3**	**+0.1**
	comp=Z,9.2nm,0.8s						
LSA	**Lhasa**	**19.20**	**352**	P	**Pn**	**10 57 11.3**	**+0.1**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GKN	**Gorkha**	**19.50**	**334**	*e*P	**Pn**	**10 57 14.1**	**-0.7**
	comp=Z,34nm,0.6s						
GYA	**Guiyang**	**19.64**	**35**	P	**Pn**	**10 57 18.4**	**+2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
KOLN	**Koldanda**	**19.78**	**331**	*e*P	**Pn**	**10 57 17.5**	**-0.6**
CD2	**Chengdu**	**22.04**	**22**	*e*P	**P**	**10 57 41.7**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,5.6s						
NDI	**New Delhi**	**24.03**	**321**	*e*P	**P**	**10 58 02.0**	**+1.1**
ENH	**Enshi**	**24.16**	**34**	*e*P	**P**	**10 58 01.1**	**-0.9**
	comp=Z,45nm,1.4s,mb4.7						
DDI	**Dehra Dun**	**24.72**	**325**	*e*P	**P**	**10 58 08.1**	**+0.9**
LZH	**Lanzhou**	**26.80**	**17**	*e*P	**P**	**10 58 26.9**	**+0.8**
LZH				AP	pP	10 58 33.5	-2.6
LZH				XP	sP	10 58 36.6	-3.7
LZH				PP		10 59 11.0	
LZH				*e*S	**S**	**11 02 58.5**	**-1.3**
LZH				AMB	AMB		
	comp=Z,32nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,97nm,4.7s						
LZH				LR	LR		
	comp=N,703nm,10.0s						
LZH				LR	LR		
	comp=Z,1μm,13.2s,MS4.7						
WMQ	**Urumqi**	**33.56**	**351**	*e*P	**P**	**10 59 26.6**	**+0.8**
WMQ				AP	pP	10 59 33.9	-2.0
WMQ				XP	sP	10 59 37.2	-3.0
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**36.25**	**335**	*e*P	**P**	**10 59 49.2**	**+0.1**
	comp=Z,12nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**36.25**	**335**	*e*P	**P**	**10 59 49.2**	**+0.1**
AAK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
FRU	**Bishkek**	**36.37**	**335**	*e*P	**P**	**10 59 50.0**	**-0.1**
MKAR	**Makanchi Array**	**37.45**	**346**	P	**P**	**10 59 58.8**	**-0.4**
	comp=Z,1.5nm,0.7s,mb3.9,baz=169,slow=7.5,SNR=8.3						
SONM	**Songino Array**	**38.48**	**13**	P	**P**	**11 00 06.5**	**-1.4**
	comp=Z,2.5nm,1.0s,mb3.9,baz=220,slow=3.9,SNR=5.9						
ZAK	**Zakamensk**	**40.34**	**9**	*e*P	**P**	**11 00 28.5**	**+5.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,2.0s,mb4.0						
KURK	**Kurchatov**	**41.99**	**345**	*e*P	**P**	**11 00 36.6**	**-0.4**
	comp=Z,24nm,1.4s,mb4.6						
KURK	**Kurchatov**	**41.99**	**345**	*e*P	**P**	**11 00 36.6**	**-0.4**
KURK				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.6						
NVS	**Novosibirsk**	**44.96**	**351**	*e*P	**P**	**11 01 00.3**	**-0.6**
NVS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.5						
NVS				pmax	pmax		
	comp=N,8.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
BVAR	**Borovoye Array**	**46.45**	**340**	P	**P**	**11 01 12.6**	**0.0**
	comp=E,1.1nm,0.7s,mb3.9,baz=145,slow=9.0,SNR=4.3						
ZRNK	**Zerenda**	**46.85**	**339**	P	**P**	**11 01 13.1**	**-2.7**
	comp=E,5.0nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**46.85**	**339**	P	**P**	**11 01 13.1**	**-2.8**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
NWAO	**Narrogin (SRO)**	**48.54**	**154**	P	**P**	**11 01 27.7**	**-1.3**
	comp=Z,3.2nm,0.8s,mb4.4,baz=333,slow=4.5,SNR=3.6						
WRA	**Warramunga Arr**	**49.80**	**128**	P	**P**	**11 01 39.2**	**+0.6**
	comp=Z,5.2nm,0.7s,mb4.7,baz=304,slow=8.9,SNR=36						
WRAB	**Tennant Creek**	**49.81**	**127**	*e*P	**P**	**11 01 38.6**	**0.0**
	comp=Z,7.1nm,0.6s,mb4.9						
WRAB				*e*pP	pP	11 01 46.2	-2.8
WRAB	**Tennant Creek**	**49.81**	**127**	*e*P	**P**	**11 01 38.6**	**0.0**
WRAB				*e*PP	pP	11 01 46.3	-2.8
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**49.81**	**128**	*e*P	**P**	**11 01 39.4**	**+0.7**
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**11 01 53.2**	**+0.9**
	comp=Z,7.9nm,0.7s,mb4.8,baz=309,slow=6.8,SNR=9.0						
CLNS	**Chul'man**	**51.84**	**21**	*e*P	**P**	**11 01 47.2**	**-6.7**
CLNS				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.8s						
CTA	**Charters Tower**	**59.59**	**121**	P	**P**	**11 02 49.5**	**0.0**
	comp=N,5.1nm,0.8s,mb4.6,baz=113,slow=7.7,SNR=3.8						
BRTR	**Keskin Array B**	**60.74**	**310**	P	**P**	**11 02 57.2**	**-0.2**
	comp=N,0.6nm,0.6s,mb3.9,baz=100,slow=7.9,SNR=3.0						
STKA	**Stephens Creek**	**61.94**	**135**	P	**P**	**11 03 04.2**	**-1.3**
	comp=N,4.5nm,1.0s,mb4.5,baz=308,slow=7.1,SNR=7.0						
STKA	**Stephens Creek**	**61.94**	**135**	P	**P**	**11 03 04.2**	**-1.3**
TIXI	**Tiksi**	**64.53**	**11**	*e*P	**P**	**11 03 19.9**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
TORD	**Torodi Ar. Bea**	**90.07**	**283**	P	**P**	**11 05 47.0**	**+1.5**
	comp=Z,1.2nm,1.1s,mb4.2,baz=69,slow=3.5,SNR=4.2						
PDAR	**Pinedale Array**	**122.58**	**21**	PKP	PKPdf	11 11 41.7	+0.6
	comp=Z,0.4nm,0.7s,baz=318,slow=2.0,SNR=4.0						

IDC 10 10:53:54.8±1.2,1078N×9432E,h0km,mb4.0/6,mb1 4.2/6, mb1mx3.9/20,mbtmp4.0/6,Error ellipse: s-maj=55.0km s-min=20.5km az=56.0,Andaman Islands region

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

MKAR	Makanchi Array	37.32 346	P	P	11 01 10.2	+1.6
	1.4nm,0.6s,baz=163,slow=8.3,SNR=4.1					
SONM	Songino Array	38.31 13	P	P	11 01 16.3	-0.8
	1.0nm,0.7s,baz=194,slow=8.9,SNR=2.7					
WRA	Warramunga Arr	49.84 128	P	P	11 02 50.4	+0.9
	2.8nm,0.7s,baz=304,slow=8.9,SNR=6.3					
ASAR	Alice Springs	51.67 132	P	P	11 03 04.2	+0.9
	3.9nm,0.8s,baz=309,slow=6.9,SNR=5.5					
BRTR	Keskin Array B	60.71 310	P	P	11 04 08.0	0.0
	0.9nm,0.9s,baz=115,slow=8.9,SNR=2.4					
STKA	Stephens Creek	61.99 135	P	P	11 04 16.1	-0.6
	2.4nm,0.9s,baz=306,slow=8.1,SNR=3.1					

*ISCJB **10** 11:02:20.3±0.9,569S±02×1409W±02,h10km,mb4.3/8, MS4.4/14,Error ellipse: s-maj=28.7km s-min=17.3km az=21.9*
*IDC **10** 11:02:21.2±0.8,57.17S×14087W,h0km,mb4.1/6, mb1 4.2/6,mb1mx4.1/14,mbtmp4.1/6,MS4.4/14, Ms1 4.4/14,ms1mx4.2/29,Error ellipse: s-maj=40.7km s-min=20.1km az=4.0*
*NEIC **10** 11:02:22.8±0.7,5693S×14075W,h10km,mb4.5/1,Error ellipse: s-maj=29.5km s-min=18.3km az=186.0*

ISC 10 11:02:22.3±0.9,570S±02×1408W±02,h10km,n31, σ1§08/11,mb4.3/8,MS4.4/14,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	28.24 203		LR	LR	11 16 12.3	
	comp=Z,496nm,20.6s,MS4.1,baz=82,slow=30						
RPZ	Rata Peaks	32.74 273		LR	LR	11 18 37.8	
	comp=Z,812nm,18.7s,MS4.5,baz=129,slow=30						
QSPA	South Pole Qui	33.19 180		eP	P	11 09 00.8	+1.7
	43nm,1.1s,mb5.3						
URZ	Urewera	33.29 286		LR	LR	11 19 06.8	
	comp=Z,748nm,19.2s,MS4.4,baz=191,slow=30						
RPN	Rapa Nui	37.27 50		LR	LR	11 20 37.6	
	comp=Z,530nm,20.5s,MS4.3,baz=14,slow=29						
RAO	Raoul Island	37.97 301		LR	LR	11 20 11.0	
	comp=Z,340nm,20.0s,MS4.2,baz=219,slow=28						
RAR	Rarotonga	38.35 331		LR	LR	11 22 18.7	
	comp=Z,388nm,19.2s,MS4.2,baz=166,slow=31						
RAR				T		11 50 38.0	
	13nm,0.3s,baz=9.0,slow=21,SNR=6.1						
USHA	Ushuaia	38.88 119		LR	LR	11 21 37.7	
	comp=Z,440nm,18.1s,MS4.3,baz=36,slow=30						
PPT	Papeete	39.89 347		LR	LR	11 24 00.9	
	comp=Z,335nm,19.1s,MS4.2,baz=166,slow=32						
PLCA	Paso Flores	46.80 101		P	P	11 10 52.1	+0.1
	5.0nm,1.0s,mb4.4,baz=223,slow=10.0,SNR=7.0						
PLCA				PcP	PcP	11 12 26.8	+1.7
	4.2nm,1.0s,baz=256,slow=4.2,SNR=3.7						
PLCA				LR	LR	11 25 11.2	
	comp=Z,370nm,18.2s,MS4.4,baz=46,slow=29						
VNA2	Neumayer--Watz	48.20 161		e	P	11 11 02.2	-0.8
VNA2				e	pP	11 11 05.0	-1.1
VNA2				e		11 11 12.1	
VNA2				e		11 11 24.2	
SNAA	Sanae	48.31 164		P	P	11 11 02.7	-1.1
	14nm,1.3s,mb4.8,baz=212,slow=5.4,SNR=25						
SNAA	Sanae	48.31 164		e	P	11 11 02.8	-1.0
SNAA				e	pP	11 11 05.7	-1.3
SNAA				e		11 11 12.7	
AFI	Afiamalu	49.02 319		LR	LR	11 27 59.9	
	comp=Z,386nm,19.1s,MS4.4,baz=145,slow=31						
AFI				T		12 04 10.2	
	11nm,0.4s,baz=257,slow=24,SNR=5.5						
MAW	Mawson	54.51 191		LR	LR	11 35 28.9	
	comp=Z,337nm,19.3s,MS4.4,baz=316,slow=37						
STKA	Stephens Creek	57.34 261		P	P	11 12 09.5	-0.9
	1.5nm,1.0s,mb4.0,baz=138,slow=15,SNR=2.6						
STKA	Stephens Creek	57.34 261		P	P	11 12 09.5	-0.9
LPAZ	La Paz	67.05 85		P	P	11 13 15.9	+0.3
	8.4nm,1.1s,mb4.7,baz=214,slow=5.8,SNR=7.7						
ASAR	Alice Springs	67.97 260		P	P	11 13 21.3	-0.1
	0.5nm,0.6s,mb3.8,baz=142,slow=6.4,SNR=12						
NWAO	Narrogin (SRO)	69.08 242		LR	LR	11 36 26.4	
	comp=Z,338nm,18.1s,MS4.6,baz=6.4,slow=30						
WRA	Warramunga Arr	70.74 263		P	P	11 13 38.1	-0.5
	0.8nm,1.0s,mb3.6,baz=145,slow=5.4,SNR=4.8						
WRAB	Tennant Creek	70.74 263		P	P	11 13 41.5	+2.9
	3.5nm,0.9s,mb4.3						
BOSA	Boshof	93.94 168		LR	LR	11 57 47.7	
	comp=Z,271nm,19.0s,MS4.7,baz=186,slow=36						
SJG	San Juan	96.93 68		LR	LR	11 51 22.5	
	comp=Z,152nm,20.1s,MS4.5,baz=191,slow=30						
ILAR	Eielson Array	121.51 357		PKP	PKPdf	11 21 14.8	-1.1
	0.6nm,0.8s,baz=211,slow=1.7,SNR=4.8						
TORD	Torodi Ar. Bea	127.76 131		PKP	PKPdf	11 21 29.4	+1.4
	0.8nm,1.0s,baz=217,slow=2.5,SNR=3.2						
ESDC	Sonseca Array	147.18 103		PKPbc	PKPbc	11 22 06.0	+0.3
	0.3nm,0.3s,baz=241,slow=4.9,SNR=5.3						
MKAR	Makanchi Array	151.97 267		PKPbc	PKPbc	11 22 18.3	+0.7
	1.2nm,0.8s,baz=116,slow=2.8,SNR=7.3						
MKAR	Makanchi Array	151.97 267		PKPbc	PKPbc	11 22 18.3	+0.7
BRTR	Keskin Array B	162.36 166		PKPab	PKPab	11 23 09.2	-2.4
	0.5nm,0.4s,baz=188,slow=7.3,SNR=3.4						
AKASG	Malin Array Be	171.39 133		PKPab	PKPab	11 23 49.0	-2.4
	0.2nm,0.3s,baz=218,slow=5.0,SNR=6.2						

*CSEM **10** 11:05:10.7±0.3,3232N×646W,h2km,MD3.6,Error ellipse: s-maj=9.2km s-min=5.9km az=122.0*
*MDD **10** 11:05:12.3±0.4,3226N×641W,h0km,mb4.3/3,Error ellipse: s-maj=8.8km s-min=2.9km az=126.0,PRXIMO*
*CNRM **10** 11:05:12.3,3229N×644W,h0km,MD3.6*
*ISCJB **10** 11:05:14.5±1.5,3243N±003×649W±004,h15km±10km, Error ellipse: s-maj=6.0km s-min=4.9km az=52.5*

ISC 10 11:05:12.1±0.8,3235N±003×647W±004,h7km±5km,n28, σ1§51/45,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZC	Tazercounte	0.21 185		P	Pg	11 05 14.5	-1.8
TZC				S	Sg	11 05 17.0	-2.0
TZC	Tazercounte	0.21 185		i P	Pg	11 05 14.5	-1.8
KIB	El Ksiba	0.43 59		P	Pg	11 05 20.0	-0.4
KIB				S	Sg	11 05 27.0	+1.0
KIB	El Ksiba	0.43 59		i P	Pg	11 05 20.0	-0.4
AVE	Averroes	1.23 320		S	Sg	11 05 57.0	+5.3
CZD	Col de Zad	1.38 60		i P	Pn	11 05 38.0	+0.3
CZD				i S	Sb	11 05 55.0	-1.0
MIF	Mishlifen	1.48 44		i P	Pn	11 05 40.0	+0.9
MIF				eS	Sn	11 05 58.0	-0.7
TIO	Tiouine	1.57 206		P	Pn	11 05 42.0	+1.6
TIO				S	Sn	11 06 03.0	+2.0
IFR	Ifrane	1.62 44		P	Pn	11 05 43.0	+2.0
IFR				S	Sn	11 06 05.0	+2.9
OUK	Oukaimeden	1.65 227		P	Pn	11 05 41.0	-0.4
OUK				P		11 05 47.0	
OUK				S	Sn	11 06 01.0	-1.9
OUK				S	Sn	11 06 13.5	+11
OUK	Oukaimeden	1.65 227		i P	Pn	11 05 41.0	-0.4
OUK				i S	Sn	11 06 01.0	-1.9
ZFT	Errachidia	1.82 100		i P	Pn	11 05 44.0	+0.2
ZFT				i S	Sn	11 06 06.0	-1.2
EGRO	El Granado	5.23 351		P	Pn	11 06 33.6	+2.9
	1.6nm,0.1s,SNR=9.1						
EGRO				S	Sn	11 07 30.3	-1.0
	3.0nm,0.1s,SNR=7.9						
EGRO	El Granado	5.23 351		P	Pn	11 06 33.6	+2.9
	1.6nm,0.1s,SNR=9.1						
EGRO				S	Sn	11 07 30.3	-1.0
	3.0nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	5.40 358		P	Pn	11 06 34.6	+1.5
	1.2nm,0.1s,SNR=15						
EMIN				S	Sn	11 07 33.0	-2.5
	0.2nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	5.40 358		P	Pn	11 06 34.6	+1.6
	1.2nm,0.1s,SNR=15						
EBER	Berja	5.41 32		P	Pn	11 06 32.8	-0.3
	0.8nm,0.1s,SNR=7.9						
EBER	Berja	5.41 32		P	Pn	11 06 32.8	-0.3
	0.8nm,0.1s,SNR=7.9						
PTEO	Sao Teotonio	5.50 341		ePn	Pn	11 06 36.7	+2.3
PTEO				eSn	Sn	11 07 38.2	+0.4
PTEO							
	3.5nm,0.1s						
ECAB	El Cabril	5.77 8		P	Pn	11 06 40.2	+2.0
	0.5nm,0.1s,SNR=7.9						
ECAB				S	Sn	11 07 42.0	-2.6
	0.6nm,0.2s,SNR=4.0						
ECAB	El Cabril	5.77 8		P	Pn	11 06 40.2	+2.1
	0.5nm,0.1s,SNR=7.9						
PBEJ	Beja	5.77 349		eSn	Sn	11 07 43.8	-0.8
EADA	Adamuz	6.00 14		P	Pn	11 06 42.0	+0.7
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	11 07 47.5	-2.8
	0.0nm,0.1s,SNR=7.9						
EADA	Adamuz	6.00 14		P	Pn	11 06 42.0	+0.7
	0.3nm,0.1s,SNR=7.9						
EQES	Quesada	6.11 26		P	Pn	11 06 41.5	-1.2
	2.7nm,0.2s,SNR=7.9						
MOE	Montemor	6.34 347		eSn	Sn	11 07 57.7	-0.9
EBAD	Badajoz	6.40 356		P	Pn	11 06 48.6	+1.8
	1.7nm,0.1s,SNR=8.2						
EBAD				S	Sn	11 07 58.2	-1.9
	1.9nm,0.4s,SNR=4.9						
EBAD	Badajoz	6.40 356		P	Pn	11 06 48.6	+1.8
	1.7nm,0.1s,SNR=8.2						

*NIED **10** 11:07:00,2440N×12300E,h41km,Mw4.7 Best double couple: M0:1.16000×10^16 NP1:φ=67.00000°,δ=66.00000°, λ=73.00000°. NP2:φ=284.00000°,δ=29.00000°,λ=123.00000°.*
*MOS **10** 11:07:14.6±1.0,2447N×12299E,h33km,mb4.5/15,Error ellipse: s-maj=15.1km s-min=7.4km az=112.6*
*ISCJB **10** 11:07:17.1±0.3,2433N±003×12295E±002,h56km±3km, mb4.5/45,MS4.3/6,Error ellipse: s-maj=4.9km s-min=3.2km az=170.1*
*IDC **10** 11:07:17.8±2.9,2436N×12289E,h48km±27km,mb4.2/19, mb1 4.3/21,mb1mx4.3/24,mbtmp4.4/21,ML3.7/1,MS4.1/1, Ms1 4.1/1,ms1mx2.9/40,Error ellipse: s-maj=18.3km s-min=13.4km az=71.0*
*JMA **10** 11:07:18.4±0.1,2436N×12298E,h48km±1km,M4.8*
JMA Felt II J1.
*NEIC **10** 11:07:18.9±0.8,2438N×12294E,h56km±7km,mb4.6/19, Error ellipse: s-maj=9.0km s-min=7.2km az=179.0*
NEIC Recorded [2 JMA] on Yonaguni-jima and [1 JMA] on Iriomote-jima and Ishigaki-jima, Ryukyu Islands.
*BJI **10** 11:07:18.6,2435N×12296E,h67km,mB4.6,mb4.5,ML4.4, Ms4.1,Msz4.0*

ISC 10 11:07:18.4±0.3,2431N±003×12294E±002,h51km±3km, n120,σ1§16/142,mb4.5/45,MS4.3/6,2C-4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.16 23		P	Pn	11 07 26.0	-0.6
YOJ				S	Sn	11 07 31.4	-1.0
IRIF	Iriomote-Funau	0.72 88		P	Pn	11 07 31.9	-0.5
IRIF				S	Sn	11 07 42.0	-0.6
HATJ	Hateruma jima	0.83 108		P	Pn	11 07 33.5	-0.3
HATJ				S	Sn	11 07 44.9	-0.2
JKRS	Kuro-shima	0.98 94		P	Pn	11 07 35.5	-0.3
JKRS				S	Sn	11 07 48.6	0.0
JIJ	Ishigaki jima	1.10 87		P	Pn	11 07 36.8	-0.6
JIJ				S	Sn	11 07 50.1	-1.4
NACB	Ninganchiao	1.24 264		ePn	Pn	11 07 39.4	+0.1
YHNB	Yeheng	1.47 284		ePn	Pn	11 07 43.5	+1.0
YHNB				eSn	Sn	11 07 58.6	-1.9
TATO	Taipei	1.48 297		ePn	Pn	11 07 42.4	-0.2
JTJ	Tarama	1.64 78		P	Pn	11 07 44.8	+0.1
JTJ				eS	Sn	11 08 04.1	-0.5
JMJ	Miyako jima 2	2.20 76		P	Pn	11 07 53.0	+0.6
JMJ				eS	Sn	11 08 17.8	-0.6
JOGS	Gusukube	2.29 78		P	Pn	11 07 54.4	+0.8
JOGS				eS	Sn	11 08 21.2	+0.6
QZH	Quanzhou	4.01 280		P	Pn	11 08 17.7	+0.5
QZH				S	Sn	11 09 00.5	-2.4
QZH				Smax			
	comp=N,720nm,0.9s						
QZH				Smax			
	comp=E,470nm,0.7s						
JKE	Kume jima 2	4.01 59		P	Pn	11 08 18.2	+0.9
JKE				eS	Sn	11 09 03.1	0.0
JAGN	Aguni-jima	4.50 59		P	Pn	11 08 25.9	+1.9
JAGN				eS	Sn	11 09 15.3	+0.3
JIH	Iheya	5.28 58		P	Pn	11 08 35.3	+0.6
JOW	Kunigami	5.43 61		P	Pn	11 08 36.4	-0.3
	comp=E,5.1nm,0.3s,baz=136,slow=16,SNR=30						
JOW				S	Sn	11 09 39.3	+1.4
	comp=E,3.0nm,0.3s,baz=119,slow=19,SNR=2.6						
JOW	Kunigami	5.43 61		P	Pn	11 08 37.5	+0.8
JOW				eS	Sn	11 09 38.8	+0.9
JTK	Tokunoshima	6.42 56		P	Pn	11 08 49.4	-0.8
JTK				eS	Sn	11 10 03.9	+1.8
APYP	Conner	6.61 194		eP	Pn	11 08 52.7	-0.2
APYP				eS	Sn	11 10 04.3	-2.6
CVP	Callao Caves	6.66 189		eP	Pn	11 08 54.0	+0.4
	comp=E,17μm,0.5s						
SSE	Sheshan	6.93 347		⇓P	Pn	11 08 57.7	+0.4
SSE				S	Sn	11 10 16.5	+1.7
SSE				AMB	AMB		
	comp=Z,193nm,4.5s						
SSE				LR	LR		
	comp=N,904nm,19.0s						
SSE				LR	LR		
	comp=E,255nm,19.0s						
SSE				LR	LR		
	comp=Z,1μm,19.0s						
PALP	Palanan	7.23 184		eP	Pn	11 09 01.1	-0.4
JAM	Amami Oshima	7.24 54		P	Pn	11 09 00.5	-1.0
JAM				eS	Sn	11 10 22.8	+0.5
BCPH	Baguio City Da	8.20 196		eP	Pn	11 09 15.5	+0.8
NJ2	Nanjing	8.51 336		eP	Pn	11 09 25.7	+6.8
NJ2				XP		11 09 45.7	
NJ2				S	Sn	11 11 00.7	+7.2
NJ2				AMB	AMB		
	comp=Z,70nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,20nm,3.5s						
NJ2				Smax			
	comp=N,140nm,0.6s						
NJ2				Smax			
	comp=E,240nm,1.0s						
NJ2				LR	LR		
	comp=Z,3μm,11.0s						
BALP	Baler	8.62 189		eP	Pn	11 09 21.2	+0.7
WHN	Wuhan	9.83 311		eP	Pn	11 09 37.5	+0.4
INCN	Inchon	13.50 13		Pn	Pn	11 10 32.0	+4.8
	comp=Z,21nm,0.6s						
INCN				e		11 10 36.4	
KS15	Wonju Array Si	13.75 17		ePn	Pn	11 10 35.0	+4.4
XAN	Xi'an	15.60 312		P	Pn	11 10 56.6	+1.7
XAN				AMB	AMB		
	comp=Z,24nm,0.8s						
XAN				LR	LR		
	comp=N,516nm,18.9s						
XAN				LR	LR		
	comp=E,597nm,18.9s						
XAN				LR	LR		
	comp=Z,1μm,20.2s						
BJI	Beijing	16.68 342		P	Pn	11 11 13.1	+4.5
BJI				AMB	AMB		
	comp=Z,25nm,1.2s						
SNY	Shenyang	17.48 2		⇑P	Pn	11 11 21.2	+2.8
SNY				AP	pP	11 11 33.8	+3.3
SNY				PP		11 11 37.4	
SNY				S	S	11 14 24.0	-14
SNY				SS		11 14 47.4	
SNY				AMB	AMB		
	comp=Z,16nm,0.7s						
SNY				AMB	AMB		
	comp=Z,395nm,14.1s						
SNY				LR	LR		
	comp=N,334nm,18.6s						
SNY				LR	LR		
	comp=Z,386nm,16.8s						
MJAR	Matsushiro Arr	17.91 44		P	Pn	11 11 25.3	+1.6
	baz=229,slow=9.4,SNR=3.6						
CD2	Chengdu	18.22 295		⇑iP	Pn	11 11 29.5	+2.1
CD2				AP	pP	11 11 44.7	+6.0
CD2				XP	sP	11 11 52.7	+7.6
CD2				S	S	11 14 46.4	-6.5
CD2				XS	sS	11 15 07.3	-4.1
CD2				SS		11 15 15.8	
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
CD2				AMB	AMB		
	comp=Z,150nm,5.5s						
CD2				LR	LR		
	comp=N,330nm,19.8s						
CD2				LR	LR		
	comp=Z,370nm,27.6s						
KMI	Kunming	18.37 277		P	Pn	11 11 32.4	+3.1
KMI				AMB	AMB		
	comp=Z,21nm,1.0s						
HHC	Hu-ho-hao-te	19.04 333		eP	Pn	11 11 38.3	+0.9
HHC				AP	pP	11 11 52.2	+4.4
HHC				PP		11 11 57.6	
HHC				XP	sP	11 12 02.6	+8.4
HHC				S	S	11 15 04.1	-5.5
HHC				XS	sS	11 15 24.6	-3.6
HHC				PCP	PcP	11 16 00.8	+1.4
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s						
HHC				LR	LR		
	comp=N,298nm,16.0s						
HHC				LR	LR		
	comp=E,502nm,18.1s						
HHC				LR	LR		
	comp=Z,449nm,23.8s						
BTO	Baotou	19.53 329		eP	Pn	11 11 42.8	-0.4
CN2	Changchun	19.55 5		eP	Pn	11 11 42.7	-0.7
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH	Lanzhou	20.21 310		eP	P	11 11 51.3	+2.4
LZH				AP		11 12 03.5	
LZH				XP	sP	11 12 11.0	+4.0
LZH				PP		11 12 12.5	
LZH				eS	S	11 15 29.4	-3.5
LZH				XS	sS	11 15 48.3	-3.5
LZH				SS		11 15 59.8	
LZH				AMB	AMB		
	comp=Z,37nm,1.2s						
LZH				AMB	AMB		
	comp=Z,134nm,4.6s						
LZH				LR	LR		
	comp=N,838nm,12.3s						
LZH				LR	LR		
	comp=Z,1μm,13.9s,MS4.4						
MDJ	Mudanjiang	20.97 13		P	P	11 11 57.3	+0.2
MDJ				AP		11 12 14.2	
MDJ				XP	sP	11 12 23.5	+8.3
MDJ				S	S	11 15 51.3	+3.4
MDJ				AMB	AMB		
	comp=Z,17nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,118nm,3.5s						
MDJ				LR	LR		
	comp=N,366nm,38.2s						
MDJ				LR	LR		
	comp=E,521nm,28.6s						
MDJ				LR	LR		
	comp=E,521nm,28.6s						
GTA	Gaotai	24.65 313		eP	P	11 12 33.5	-0.6
GTA				AP		11 12 50.0	
GTA				XP	sP	11 12 59.2	+6.0
GTA				PP		11 13 14.9	
GTA				S	S	11 16 50.5	-1.5
GTA				XS	sS	11 17 20.1	+6.2
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,197nm,6.5s						
GTA				LR	LR		
	comp=N,530nm,23.6s,MS4.0						
GTA				LR	LR		
	comp=E,237nm,20.2s,MS4.0						
GTA				LR	LR		
	comp=Z,319nm,22.4s,MS3.8						
HIA	Hailar	25.03 355		eP	P	11 12 36.1	-1.5
ASAJ	Asahikawa	25.46 34		P	P	11 12 40.5	-1.1
	comp=Z,3.5nm,0.4s,mb4.3,baz=227,slow=16,SNR=9.5						
KLR	Kul'dur	25.81 13		eP	P	11 12 40.7	-4.0
KLR				MLR	MLR		
	comp=N,500nm,11.5s,MS4.4						
KLR				MLR	MLR		
	comp=E,500nm,11.5s,MS4.4						
KLR				MLR	MLR		
	comp=Z,2μm,11.5s,MS4.8						
SONM	Songino Array	26.90 335		P	P	11 12 53.3	-1.2
	comp=Z,10nm,1.0s,mb4.3,baz=150,slow=8.2,SNR=16						
SONM				LR	LR	11 24 46.0	
	comp=Z,361nm,18.8s,MS4.0,baz=110,slow=39						
LSA	Lhasa	28.77 288		P	P	11 13 13.4	+2.2
ZAK	Zakamensk	30.17 335		eP	P	11 13 21.6	-2.0
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb3.8						
JIRN	Jiri	33.13 284		eP	P	11 13 51.3	+1.7
	comp=Z,39nm,1.2s,mb5.2						
GUN	Gumba	33.39 284		eP	P	11 13 53.5	+1.6
PKI	Pulchoki	33.82 284		eP	P	11 13 56.9	+1.3
KKN	Kakani	33.93 284		eP	P	11 13 57.6	+1.1
DMN	Daman	34.09 284		eP	P	11 13 59.3	+1.4
	comp=Z,29nm,0.9s,mb5.2						
GKN	Gorkha	34.48 285		eP	P	11 14 02.4	+1.0
	comp=Z,97nm,1.3s,mb5.6						
WMQ	Urumqi	34.73 313		eP	P	11 14 02.3	-1.2
WMQ				AP	pP	11 14 20.4	+3.7
WMQ				XP	sP	11 14 29.4	+6.6
WMQ				PP	PP	11 15 20.8	-2.1
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,48nm,4.1s						
WMQ				LR	LR		
	comp=N,365nm,22.1s,MS4.2						
WMQ				LR	LR		
	comp=E,412nm,22.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,401nm,22.0s,MS4.1						
KOLN	Koldanda	35.41 284		eP	P	11 14 10.6	+1.2
YAK	Yakutsk	37.98 5		eP	P	11 14 29.3	-1.9
	comp=Z,22nm,1.0s,mb4.8						
YAK	Yakutsk	37.98 5		d iP	P	11 14 29.6	-1.6
YAK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
MK31	Makanchi Array	39.37 315		i P	P	11 14 42.0	-0.8
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
MKAR	Makanchi Array	39.37 315		P	P	11 14 42.3	-0.6
	comp=Z,2.7nm,0.6s,mb4.2,baz=101,slow=10,SNR=36						
MKAR				PcP	PcP	11 16 50.3	-0.1
	comp=Z,2.3nm,0.7s,baz=89,slow=4.5,SNR=9.1						
KURK	Kurchatov	43.03 319		eP	P	11 15 11.3	-1.6
	comp=Z,4.7nm,1.0s,mb4.2						
KURK	Kurchatov	43.03 319		eP	P	11 15 11.7	-1.2
SEY	Seymchan	43.32 19		d iP	P	11 15 14.0	-1.2
AAK	Ala-Archa	43.71 307		eP	P	11 15 18.0	-0.4
	comp=Z,1.6nm,0.8s,mb3.8						
AAK				ePcP	PcP	11 17 03.1	-1.5
AAK	Ala-Archa	43.71 307		eP	P	11 15 18.0	-0.3
AAK				e		11 17 03.1	
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
WRAB	Tennant Creek	45.36 165		eP	P	11 15 32.1	+0.6
	comp=Z,33nm,0.9s,mb5.2						
WRAB	Tennant Creek	45.36 165		eP	P	11 15 32.1	+0.6
WRAB				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.2						
WRA	Warramunga Arr	45.37 165		P	P	11 15 32.0	+0.4
	comp=Z,18nm,0.7s,mb5.0,baz=346,slow=8.8,SNR=102						
WB2	Warramunga Arr	45.37 165		⇓iP	P	11 15 32.2	+0.6
KK31	Karatay Array	46.67 307		i P	P	11 15 41.9	+0.1
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
KKAR	Karatay Array	46.67 307		eP	P	11 15 41.9	+0.1
TIXI	Tiksi	47.48 3		eP	P	11 15 45.7	-2.5
TIXI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
BVAR	Borovoye Array	48.59 320		P	P	11 15 55.7	-1.1
	comp=Z,2.3nm,0.5s,mb4.4,baz=103,slow=8.2,SNR=15						
BVAR				PcP	PcP	11 17 21.3	-0.5
	comp=Z,2.6nm,0.6s,baz=109,slow=3.6,SNR=11						
BRVK	Borovoye	48.66 320		eP	P	11 15 55.9	-1.4
	comp=Z,1.3nm,0.6s,mb4.1						
BRVK	Borovoye	48.66 320		eP	P	11 15 55.9	-1.4
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ASAR	Alice Springs	48.87 167		P	P	11 15 60.0	+1.1
	comp=Z,3.3nm,0.

BILL	**Bilibino**	**51.02**	**19**	*eP*	**P**		**11 16 13.4**	**-1.8**
BILL				pmax	pmax			
comp=Z,2.0nm,0.5s,mb4.3								
AB31	**Akbulak array**	**54.50**	**314**	*i* P	**P**		**11 16 40.4**	**-0.5**
AB31				pmax	pmax			
comp=Z,1.0nm,0.5s,mb4.1								
STKA	**Stephens Creek**	**58.65**	**161**	P	**P**		**11 17 08.8**	**-1.6**
comp=Z,3.4nm,0.6s,mb4.6,baz=337,slow=4.0,SNR=9.7								
STKA	**Stephens Creek**	**58.65**	**161**	*eP*	**P**		**11 17 09.1**	**-1.3**
KIV	**Kislovodsk**	**66.75**	**309**	P	**P**		**11 18 06.0**	**+1.7**
KDAK	**Kodiak Island**	**66.87**	**35**	P	**P**		**11 18 04.9**	**-0.2**
comp=Z,8.2nm,0.5s,mb5.0,baz=329,slow=22,SNR=8.6								
LVZ	**Lovozero**	**67.09**	**336**	*eP*	**P**		**11 18 05.8**	**-0.6**
LVZ				pmax	pmax			
comp=Z,50nm,1.7s,mb5.3								
COLA	**College**	**67.94**	**27**	*eP*	**P**		**11 18 12.0**	**+0.2**
comp=Z,2.7nm,0.5s,mb4.5								
COLA	**College**	**67.94**	**27**	*eP*	**P**		**11 18 12.0**	**+0.2**
COLA				pmax	pmax			
comp=Z,3.0nm,0.5s,mb4.6								
ILAR	**Eielson Array**	**68.36**	**27**	P	**P**		**11 18 12.8**	**-1.6**
comp=Z,1.3nm,0.5s,mb4.3,baz=270,slow=4.6,SNR=53								
OBN	**Obninsk**	**68.39**	**322**	P	**P**		**11 18 15.0**	**+0.4**
OBN				MLR	MLR			
comp=Z,300nm,16.0s,MS4.6								
JOF	**Joensuu**	**69.38**	**331**	*ep*	**P**		**11 18 18.8**	**-2.0**
ARCES	**ARCESS Array B**	**70.02**	**338**	P	**P**		**11 18 24.6**	**-0.1**
comp=Z,6.1nm,1.0s,mb4.5,baz=50,slow=8.4,SNR=3.4								
MALT	**Malatya**	**71.25**	**304**	*eP*	**P**		**11 18 33.6**	**+1.4**
comp=Z,5.5nm,1.1s,mb4.4								
MALT	**Malatya**	**71.25**	**304**	*eP*	**P**		**11 18 33.6**	**+1.4**
MALT				pmax	pmax			
comp=Z,5.0nm,1.1s,mb4.4								
FINES	**FINESS Array B**	**72.14**	**330**	P	**P**		**11 18 36.4**	**-1.2**
comp=Z,1.7nm,0.5s,mb4.2,baz=72,slow=6.4,SNR=11								
INK	**Inuvik**	**72.50**	**22**	*eP*	**P**		**11 18 38.5**	**-1.2**
comp=Z,3.4nm,0.7s,mb4.4								
INK	**Inuvik**	**72.50**	**22**	*eP*	**P**		**11 18 38.5**	**-1.2**
INK				pmax	pmax			
comp=Z,3.0nm,0.7s								
AKASG	**Malin Array Be**	**73.84**	**319**	P	**P**		**11 18 46.2**	**-1.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=61,slow=5.9,SNR=7.2								
AKASG	**Malin Array Be**	**73.84**	**319**	P	**P**		**11 18 46.2**	**-1.4**
BRTR	**Keskin Array B**	**74.38**	**307**	P	**P**		**11 18 50.9**	**+0.1**
comp=Z,1.5nm,0.7s,mb4.0,baz=106,slow=5.9,SNR=6.7								
RES	**Resolute Bay**	**78.27**	**10**	*eP*	**P**		**11 19 12.0**	**-0.8**
comp=Z,2.7nm,0.9s,mb4.2								
RES	**Resolute Bay**	**78.27**	**10**	*eP*	**P**		**11 19 12.0**	**-0.8**
RES				pmax	pmax			
comp=Z,3.0nm,0.9s,mb4.2								
NB2	**NORSAR Subarra**	**78.86**	**333**	P	**P**		**11 19 14.2**	**-1.8**
comp=Z,3.8nm,0.8s,mb4.4,baz=61,slow=5.6								
NB2	**NORSAR Subarra**	**78.86**	**333**	P	**P**		**11 19 14.2**	**-1.8**
NB2				pmax	pmax			
comp=Z,4.0nm,0.8s,mb4.4								
NOA	**NORSAR Array B**	**78.86**	**333**	P	**P**		**11 19 14.3**	**-1.7**
comp=Z,4.2nm,0.9s,mb4.4,baz=58,slow=5.4,SNR=8.4								
YKW3	**Yellowknife Ar**	**82.18**	**23**	*eP*	**P**		**11 19 33.5**	**-0.3**
YKA	**Yellowknife Ar**	**82.22**	**23**	P	**P**		**11 19 33.5**	**-0.6**
comp=Z,6.6nm,0.7s,mb4.7,baz=311,slow=5.0,SNR=140								
GERES	**GERESS Array B**	**83.76**	**321**	P	**P**		**11 19 42.1**	**+0.1**
comp=Z,1.7nm,0.6s,mb4.3,baz=63,slow=6.1,SNR=11								
KMBO	**Kilima Mbogo**	**86.53**	**267**	P	**P**		**11 19 57.1**	**+1.3**
comp=Z,2.6nm,1.0s,mb4.4,baz=50,slow=17,SNR=4.9								
EDM	**Edmonton**	**88.70**	**30**	*eP*	**P**		**11 20 06.9**	**+0.6**
FCC	**Fort Churchill**	**91.73**	**18**	*eP*	**P**		**11 20 19.6**	**-0.8**
comp=Z,26nm,1.3s,mb5.4								
FCC	**Fort Churchill**	**91.73**	**18**	*eP*	**P**		**11 20 19.6**	**-0.8**
FCC				pmax	pmax			
comp=Z,26nm,1.3s,mb5.4								
CMB	**Columbia Colle**	**94.14**	**45**	*eP*	**P**		**11 20 32.9**	**+1.4**
comp=Z,1.5nm,0.6s,mb4.6								
CMB	**Columbia Colle**	**94.14**	**45**	*eP*	**P**		**11 20 32.9**	**+1.4**
CMB				pmax	pmax			
comp=Z,2.0nm,0.6s,mb4.7								
DLMT	**Dillon**	**94.22**	**36**	*eP*	**P**		**11 20 33.1**	**+1.3**
comp=Z,6.0nm,1.0s,mb5.0								
HLID	**Hailey**	**94.39**	**38**	*eP*	**P**		**11 20 35.4**	**+2.7**
comp=Z,3.4nm,0.9s,mb4.8								
NVAR	**Mina Array Bea**	**95.24**	**44**	P	**P**		**11 20 37.9**	**+1.4**
comp=Z,1.5nm,0.7s,mb4.5,baz=309,slow=4.1,SNR=14								
PDAR	**Pinedale Array**	**97.59**	**36**	P	**P**		**11 20 47.5**	**+0.4**
comp=Z,0.2nm,0.4s,mb4.0,baz=100,slow=2.0,SNR=4.2								
DBIC	**Dimbokro**	**120.54**	**294**	PKP	PKPdf		11 26 04.9	+0.6
comp=Z,2.3nm,0.6s,baz=17,slow=7.9,SNR=5.7								
SDV	**Santo Domingo**	**144.44**	**24**	*e*PKPdf	PKPdf		11 26 47.8	-1.1
SIV	**San Ignacio**	**170.90**	**25**	PKPab	PKPab		11 28 38.9	-0.6
comp=Z,1.9nm,0.7s,baz=288,slow=3.4,SNR=6.2								

*IDC **10** 11:26:07.0±1.0, 1075N×9412E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, Error ellipse: s-maj=47.7km s-min=17.9km az=59.0*
*NEIC **10** 11:26:09.5±0.9, 1061N×9430E, h10km, mb4.2/2, Error ellipse: s-maj=37.1km s-min=12.3km az=56.0*
*BJI **10** 11:26:09.4, 1060N×9430E, h10km, mb3.9*
*ISCJB **10** 11:26:10.7±0.8, 106N±01×942E±0.1, h33km, mb3.9/10, Error ellipse: s-maj=24.3km s-min=9.4km az=106.0*
ISC 10 11:26:13.2±0.8, 106N±01×943E±0.1, h35km, n21, σ1§12/19, mb4.0/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.80**	**304**	*eP*	Px	11 27 02.4	
PBA				*eS*	Sx	11 27 34.7	
PBA				*ex*	x	11 27 56.1	
comp=N,749nm,0.6s							
PBA				*ex*	x	11 27 56.8	
comp=E,747nm,0.7s							
JIRN	**Jiri**	**18.56**	**337**	*eP*	**Pn**	**11 30 28.6**	**+1.3**
PKI	**Pulchoki**	**18.79**	**335**	*eP*	**Pn**	**11 30 31.3**	**+1.1**
GUN	**Gumba**	**18.90**	**337**	*eP*	**Pn**	**11 30 32.2**	**+0.7**
DMN	**Daman**	**18.95**	**334**	*eP*	**Pn**	**11 30 33.7**	**+1.6**
KKN	**Kakani**	**19.04**	**335**	*eP*	**Pn**	**11 30 33.3**	**+0.2**
GKN	**Gorkha**	**19.50**	**334**	*eP*	**Pn**	**11 30 38.6**	**0.0**
GYA	**Guiyang**	**19.62**	**35**	P	**Pn**	**11 30 40.1**	**0.0**
GYA				AMB	AMB		
comp=Z,10.0nm,1.4s							
KOLN	**Koldanda**	**19.77**	**331**	*eP*	**Pn**	**11 30 41.9**	**0.0**
ENH	**Enshi**	**24.14**	**34**	*eP*	**P**	**11 31 26.0**	**+0.2**
comp=Z,10nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**36.25**	**335**	P	**P**	**11 33 12.7**	**-0.2**
comp=Z,2.0nm,0.9s,mb4.0							
MKAR	**Makanchi Array**	**37.44**	**346**	P	**P**	**11 33 20.1**	**-2.9**
comp=Z,1.1nm,0.8s,mb3.8,baz=164,slow=8.2,SNR=12							
SONM	**Songino Array**	**38.46**	**13**	P	**P**	**11 33 30.7**	**-0.9**
comp=Z,0.8nm,0.9s,mb3.5,baz=190,slow=7.3,SNR=2.4							
BVAR	**Borovoye Array**	**46.44**	**340**	P	**P**	**11 34 35.0**	**-1.5**
comp=Z,0.7nm,0.9s,mb3.6,baz=125,slow=7.4,SNR=3.5							
WRA	**Warramunga Arr**	**49.80**	**128**	P	**P**	**11 35 02.4**	**-0.1**
comp=Z,1.7nm,0.8s,mb4.1,baz=305,slow=9.1,SNR=14							
WRAB	**Tennant Creek**	**49.80**	**128**	*eP*	**P**	**11 35 02.8**	**+0.3**
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**11 35 16.3**	**+0.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=311,slow=7.4,SNR=23							
BRTR	**Keskin Array B**	**60.75**	**310**	P	**P**	**11 36 19.1**	**-2.2**
comp=Z,1.4nm,0.8s,mb4.1,baz=119,slow=7.2,SNR=5.1							
STKA	**Stephens Creek**	**61.94**	**135**	P	**P**	**11 36 31.9**	**+2.5**
comp=Z,1.5nm,0.8s,mb4.2,baz=330,slow=7.4,SNR=3.1							
ILAR	**Eielson Array**	**92.16**	**22**	P	**P**	**11 39 17.8**	**-1.3**
comp=Z,0.4nm,0.8s,mb3.8,baz=298,slow=4.7,SNR=4.6							
PLCA	**Paso Flores**	**147.16**	**202**	PKPbc	PKPbc	11 45 53.0	+0.5
comp=Z,4.0nm,1.2s,baz=353,slow=17,SNR=3.1							

IDC 10 11:26:48.1±57.0, 2291S×17303W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.1/3, Error ellipse: s-maj=1084.0km s-min=178.4km az=88.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.02**	**247**	P	P	11 34 31.4	-1.5
1.5nm,0.5s,baz=90,slow=9.3,SNR=6.1							
ASAR	**Alice Springs**	**48.51**	**258**	P	P	11 35 33.4	+0.7
0.7nm,0.5s,baz=96,slow=8.3,SNR=19							
WRA	**Warramunga Arr**	**48.88**	**263**	P	P	11 35 36.8	+1.3
1.1nm,0.3s,baz=98,slow=6.8,SNR=75							

*ISCJB **10** 11:30:22.0±7.1, 104N±0.1×94DE±0.1, h10km±44km, mb4.2/19, MS4.4/5, Error ellipse: s-maj=21.2km s-min=11.8km az=92.8*
*IDC **10** 11:30:22.5±0.7, 1037N×9397E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/23, mbtmp4.0/13, MS4.3/5, Ms1 4.3/5, ms1mx3.8/35, Error ellipse: s-maj=30.5km s-min=16.3km az=57.0*
*NEIC **10** 11:30:23.9±0.5, 1035N×9403E, h10km, mb4.3/12, Error ellipse: s-maj=19.3km s-min=8.0km az=58.0*
*BJI **10** 11:30:23.9, 1040N×9400E, h10km, mB4.6, mb4.1, Ms4.2, Ms2.4.2*
ISC 10 11:30:26.8±5.0, 105N±01×941E±01, h25km±35km, n40, σ0§97/31, mb4.2/19, MS4.4/5, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.79**	**311**	*eP*	Px	11 31 05.6	
PBA				*eS*	Sx	11 31 35.3	
PBA				*ex*	x	11 31 46.9	
comp=N,1μm,0.5s							
PBA				*ex*	x	11 31 53.5	
comp=E,1μm,1.0s							
PSI	**Prapat**	**8.99**	**148**	LR	LR	11 36 38.7	
comp=E,826nm,18.1s,baz=348,slow=42							
HYB	**Hyderabad**	**16.59**	**296**	*eP*	**Pn**	**11 34 25.0**	**+7.4**
JIRN	**Jiri**	**18.65**	**338**	*eP*	**Pn**	**11 34 43.9**	**+0.8**
comp=E,42nm,0.9s							
PKI	**Pulchoki**	**18.88**	**335**	*eP*	**Pn**	**11 34 46.0**	**+0.1**
comp=E,33nm,0.9s							
GUN	**Gumba**	**19.00**	**337**	*eP*	**Pn**	**11 34 48.9**	**+1.6**
comp=E,52nm,0.9s							
DMN	**Daman**	**19.04**	**335**	*eP*	**Pn**	**11 34 48.1**	**+0.3**
comp=E,40nm,0.9s							
KKN	**Kakani**	**19.13**	**335**	*eP*	**Pn**	**11 34 48.5**	**-0.3**
comp=E,32nm,1.0s							
LSA	**Lhasa**	**19.33**	**352**	P	**Pn**	**11 34 58.0**	**+6.7**
GKN	**Gorkha**	**19.58**	**334**	*eP*	**Pn**	**11 34 54.3**	**0.0**
comp=E,20nm,0.5s							
GYA	**Guiyang**	**19.84**	**35⇑**	*iP*	**Pn**	**11 34 56.3**	**-1.1**
GYA				AMB	AMB		
comp=Z,10.0nm,1.2s							
KOLN	**Koldanda**	**19.85**	**332**	*eP*	**Pn**	**11 34 55.7**	**-1.7**
comp=Z,29nm,0.8s							
ENH	**Enshi**	**24.36**	**34**	*eP*	**P**	**11 35 41.5**	**-1.1**
comp=Z,17nm,1.0s,mb4.4							
LZH	**Lanzhou**	**26.99**	**18**	*eP*	**P**	**11 36 10.2**	**+3.7**
LZH				AP	pP	11 36 19.5	+5.6
LZH				PP		11 36 57.0	
LZH				AMB	AMB		
comp=Z,19nm,1.1s,mb4.5							
LZH				AMB	AMB		
comp=Z,62nm,4.4s							
LZH				LR	LR		
comp=E,285nm,10.5s							
LZH				LR	LR		
comp=Z,435nm,13.4s,MS4.2							
AAK	**Ala-Archa**	**36.34**	**335**	*eP*	**P**	**11 37 28.8**	**+0.3**
comp=Z,3.7nm,0.9s,mb4.3							
MKAR	**Makanchi Array**	**37.57**	**347**	P	**P**	**11 37 38.7**	**-0.3**
comp=Z,1.5nm,0.6s,mb3.9,baz=170,slow=9.4,SNR=17							
SONM	**Songino Array**	**38.66**	**13**	P	**P**	**11 37 49.9**	**+1.7**
comp=Z,0.7nm,0.7s,mb3.5,baz=196,slow=9.9,SNR=3.3							
BVAR	**Borovoye Array**	**46.54**	**340**	P	**P**	**11 38 51.7**	**-0.5**
comp=Z,0.7nm,0.8s,mb3.6,baz=152,slow=6.6,SNR=4.2							
BRVK	**Borovoye**	**46.60**	**340**	P	**P**	**11 38 52.4**	**-0.3**
comp=Z,2.9nm,1.2s,mb4.1							
ZRNK	**Zerenda**	**46.95**	**339**	P	**P**	**11 38 53.7**	**-1.7**
comp=Z,2.9nm,1.0s,mb4.2							
NWAO	**Narrogin (SRO)**	**48.47**	**154**	LR	LR	11 59 00.0	
comp=Z,230nm,18.3s,MS4.2,baz=10.0,slow=36							
AKTK	**Aktyubinsk**	**49.68**	**330**	P	**P**	**11 39 17.8**	**+1.4**
AKTO	**Aktyubinsk**	**49.68**	**330**	P	**P**	**11 39 17.8**	**+1.4**
comp=Z,0.7nm,0.6s,mb3.9,baz=130,slow=16,SNR=2.3							
WRA	**Warramunga Arr**	**49.82**	**127**	P	**P**	**11 39 17.8**	**+0.3**
comp=Z,2.2nm,0.6s,mb4.4,baz=304,slow=8.9,SNR=31							
WRAB	**Tennant Creek**	**49.82**	**127**	*eP*	**P**	**11 39 17.8**	**+0.2**
comp=Z,4.9nm,0.6s,mb4.7							
WB2	**Warramunga Arr**	**49.83**	**127**	*eP*	**P**	**11 39 17.9**	**+0.3**
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**11 39 31.6**	**+0.5**
comp=Z,2.9nm,0.7s,mb4.3,baz=308,slow=6.7,SNR=10							
OPO	**Ambohidratompo**	**54.54**	**238**	P	**P**	**11 39 50.4**	**-2.2**
comp=Z,2.9nm,1.0s,mb4.3,baz=207,slow=1.4,SNR=3.2							
BRTR	**Keskin Array B**	**60.74**	**310**	P	**P**	**11 40 35.5**	**-0.7**
comp=Z,1.6nm,0.8s,mb4.2,baz=121,slow=7.4,SNR=8.8							
STKA	**Stephens Creek**	**61.93**	**135**	P	**P**	**11 40 44.2**	**0.0**
comp=Z,2.7nm,0.8s,mb4.4,baz=330,slow=4.0,SNR=3.0							
FINES	**FINESS Array B**	**70.42**	**332**	P	**P**	**11 41 38.3**	**-0.5**
comp=Z,1.9nm,0.9s,mb4.0,baz=73,slow=6.1,SNR=3.2							
ARCES	**ARCESS Array B**	**72.83**	**340**	P	**P**	**11 41 53.5**	**+0.2**
comp=Z,4.8nm,0.9s,mb4.4,baz=224,slow=3.3,SNR=4.4							
VRAC	**Vranov**	**74.00**	**318**	LR	LR	12 20 19.7	
comp=Z,306nm,20.0s,MS4.6,baz=171,slow=40							
GERES	**GERESS Array B**	**75.89**	**318**	LR	LR	12 16 29.3	
comp=Z,252nm,20.6s,MS4.5,baz=212,slow=36							
RPZ	**Rata Peaks**	**87.89**	**135**	LR	LR	12 24 07.3	
comp=Z,194nm,20.0s,MS4.5,baz=358,slow=37							
TORD	**Torodi Ar. Bea**	**89.97**	**283**	P	**P**	**11 43 25.1**	**+1.2**
comp=Z,0.4nm,0.8s,mb3.8,baz=74,slow=2.1,SNR=3.2							
ILAR	**Eielson Array**	**92.37**	**22**	P	**P**	**11 43 34.1**	**-0.9**
comp=Z,0.5nm,0.7s,mb3.9,baz=303,slow=4.2,SNR=8.4							
PDAR	**Pinedale Array**	**122.77**	**21**	PKP	PKPdf	11 49 19.0	-1.4
comp=Z,0.6nm,0.9s,baz=251,slow=2.8,SNR=3.2							
PLCA	**Paso Flores**	**146.95**	**202**	PKPbc	PKPbc	11 50 08.3	+1.3
comp=Z,4.2nm,1.0s,baz=166,slow=3.4,SNR=6.4							
PLCA	**Paso Flores**	**146.95**	**202**	PKPbc	PKPbc	11 50 08.3	+1.3

PRE 10 11:34:50.3±1.1, 2409S×3382E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.90**	**296**	*eP*		11 27 14.5	
MSNA				*eS*		11 27 58.1	
MSNA				AML	AML	11 28 10.9	
comp=Z,71nm,0.3s							
LBTB	**Lobatse**	**7.54**	**261**	*eP*	Pn	11 36 42.1	+1.2
LBTB				*eS*	Sn	11 38 03.9	-2.8
LBTB				AML	AML	11 39 06.0	
comp=Z,8.9nm,0.7s							
SUR	**Sutherland**	**14.12**	**231**	*eP*	Pn	11 38 12.7	+1.8

IDC 10 11:39:14.5±6.8, 1004N×9416E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, Error ellipse: s-maj=370.7km s-min=28.3km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.99**	**347**	P	P	11 46 34.1	0.0
0.7nm,0.8s,baz=152,slow=8.0,SNR=5.1							
WRA	**Warramunga Arr**	**49.52**	**127**	P	P	11 48 06.8	0.0
0.8nm,0.6s,baz=306,slow=9.1,SNR=14							
ASAR	**Alice Springs**	**51.30**	**131**	P	P	11 48 21.3	+1.0
1.1nm,0.8s,baz=309,slow=6.8,SNR=7.1							

*IDC **10** 11:40:44.1±1.6, 1043N×9390E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/31, Error ellipse: s-maj=94.8km s-min=22.8km az=52.0*
*NEIC **10** 11:40:45.9±0.9, 1058N×9408E, h10km, mb4.3/1, Error ellipse: s-maj=31.2km s-min=14.5km az=55.0*
*ISCJB **10** 11:40:47.2±1.1, 105N±02×940E±02, h33km, mb3.6/6, Error ellipse: s-maj=36.6km s-min=18.0km az=110.3*
ISC 10 11:40:50.0±1.1, 106N±02×941E±02, h35km, n8, σ0§40/6, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.68**	**308**	*eP*	Px	11 41 32.6	
PBA				*eS*	Sx	11 42 02.5	
PBA				*ex*	x	11 42 15.5	
comp=N,853nm,1.1s							
PBA				*ex*	x	11 42 21.7	
comp=E,923nm,1.0s							
PSI	**Prapat**	**9.13**	**148**	LR	LR	11 46 52.2	
comp=E,289nm,18.8s,baz=119,slow=40							
ENH	**Enshi**	**24.23**	**34**	*eP*	**P**	**11 46 03.5**	**0.0**
comp=E,4.7nm,0.6s,mb4.1							
MKAR	**Makanchi Array**	**37.41**	**347**	P	**P**	**11 48 00.0**	**+0.4**
comp=E,0.5nm,0.6s,mb3.5,baz=168,slow=7.5,SNR=5.9							
BVAR	**Borovoye Array**	**46.39**	**340**	P	**P**	**11 49 12.4**	**-0.5**
comp=E,0.5nm,0.7s,mb3.6,baz=134,slow=8.3,SNR=3.2							
WRA	**Warramunga Arr**	**49.92**	**127**	P	**P**	**11 49 40.3**	**+0.1**
comp=E,0.3nm,0.6s,mb3.5,baz=303,slow=9.3,SNR=4.3							
ASAR	**Alice Springs**	**51.73**	**132**	P	**P**	**11 49 53.7**	**-0.1**
comp=E,0.4nm,0.7s,mb3.4,baz=303,slow=6.6,SNR=5.4							
BRTR	**Keskin Array B**	**60.63**	**310**	P	**P**	**11 50 57.5**	**+0.1**
comp=E,0.7nm,0.9s,mb3.8,baz=104,slow=6.1,SNR=3.3							

*CASC **10** 11:43:51.4±3.4, 1260N×8913W, h20km±23km, MD4.3, ML3.6, mb4.4(NEIC)*
*ISCJB **10** 11:43:52.1±0.8, 1257N±009×8911W±007, h87km±6km, mb4.2/15, Error ellipse: s-maj=17.5km s-min=4.8km az=73.2*
*IDC **10** 11:43:52.5±4.2, 1288N×8891W, h54km±39km, mb3.8/8, mb1 4.0/10, mb1mx3.8/23, mbtmp4.1/10, ML3.9/2, Error ellipse: s-maj=41.7km s-min=18.0km az=57.0*
*NEIC **10** 11:43:53.3±1.7, 1279N×8899W, h67km±19km, mb4.4/8, Error ellipse: s-maj=24.4km s-min=9.9km az=45.0*
ISC 10 11:43:53.5±0.8, 1261N±009×8909W±007, h81km±6km, n51, σ1§08/49, mb4.2/15, 3C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.01**	**2**	*eP*	Px	11 44 17.4	
LFRS				*eS*	Sx	11 44 30.1	
SNVI	**San Vicente**	**1.03**	**14**	*eP*	Px	11 44 19.1	
SNVI				*eS*	Sx	11 44 34.9	
LCBS	**La Ceiba**	**1.05**	**6**	*eP*	Px	11 44 18.0	
LCBS				*eS*	Sx	11 44 30.0	
LBRS	**Las Brisas**	**1.13**	**2**	*eP*	Px	11 44 19.4	
LBRS				*eS*	Sx	11 44 34.7	
BOQS	**Boqueron**	**1.14**	**351**	*eP*	Px	11 44 19.0	
BOQS				*eS*	Sx	11 44 36.0	
VSM	**San Miguel**	**1.14**	**44**	*eP*	Px	11 44 20.9	
VSM				*eS*	Sx	11 44 37.6	
BLLM	**Bellamira**	**1.18**	**45**	*eP*	Px	11 44 21.6	
BLLM				*eS*	Sx	11 44 38.5	
CNCH	**Conchagua**	**1.39**	**61**	*eP*	Px	11 44 24.3	
CNCH				*eS*	Sx	11 44 44.5	
MTO2	**Montecristo 2**	**1.80**	**352**	*eP*	Px	11 44 28.5	
MTO2				*eS*	Sx	11 44 54.4	
CRIN	**San Cristobal**	**1.99**	**87**	*eP*	**Pn**	**11 44 25.8**	**+0.5**
IXG	**Ixpaco**	**2.05**	**320**	*eP*	**Pn**	**11 44 19.6**	**-6.4**
IXG				*eS*	**Sn**	**11 44 51.1**	**+0.3**
LEON	**Leon**	**2.15**	**95⇑**	*eP*	**Pn**	**11 44 25.5**	**-1.9**
LEON				*eS*	**Sn**	**11 44 54.4**	**+1.1**
TEL3	**Telica 3**	**2.19**	**91**	*eP*	**Pn**	**11 44 27.5**	**-0.4**
TELN	**Telica**	**2.21**	**90**	*eP*	**Pn**	**11 44 26.9**	**-1.2**
MIRN	**Miramar**	**2.33**	**94**	*eP*	**Pn**	**11 44 28.4**	**-1.3**
CNGN	**Cerro Negro**	**2.34**	**92**	*eP*	**Pn**	**11 44 30.0**	**+0.1**
COPN	**Copaltepe**	**2.48**	**100**	*eP*	**Pn**	**11 44 30.6**	**-1.1**
COPN				*eS*	**Sn**	**11 45 00.8**	**-0.3**
MRL	**Marmol**	**2.51**	**347**	*eP*	**Pn**	**11 44 29.9**	**-2.4**
APYN	**Apoyeque**	**2.70**	**98**	*eP*	**Pn**	**11 44 34.3**	**-0.5**
APYN				*eS*	**Sn**	**11 45 06.6**	**+0.1**
XAVN	**Gruta Xavier**	**2.74**	**99**	*eP*	**Pn**	**11 44 37.5**	**+2.3**
MGAN	**Managua**	**2.81**	**99⇓**	*eP*	**Pn**	**11 44 36.4**	**+0.1**
MGAN				*eS*	**Sn**	**11 45 10.6**	**+1.4**
MGAN				*i*		11 45 14.3	
comp=N,319nm,0.3s							
TICN	**Ticuantepe**	**2.85**	**101**	*eP*	**Pn**	**11 44 36.7**	**-0.1**
TICN				*eS*	**Sn**	**11 45 12.2**	**+2.1**
TP2	**Tecpan 2**	**2.87**	**319**	*eS*	**Sn**	**11 45 11.4**	**+1.0**
MADN	**Villa Maderas**	**3.68**	**109⇑**	*eP*	**Pn**	**11 44 47.0**	**-1.0**
JTS	**JuntasAbangare**	**4.66**	**119**	P	**Pn**	**11 45 00.8**	**-0.6**
comp=N,4.0nm,0.3s,baz=302,slow=19,SNR=10							
JTS				S	**Sn**	**11 45 53.4**	**-0.8**
comp=N,5.3nm,0.3s,baz=246,slow=20,SNR=3.0							
PRS1	**Puriscal**	**5.36**	**119**	*eP*	**Pn**	**11 45 09.9**	**-1.0**
LAJ	**Bijagual**	**5.58**	**119**	*eP*	**Pn**	**11 45 09.8**	**-4.1**
LCR2	**La Lucha 2**	**5.75**	**119**	*eP*	**Pn**	**11 45 16.5**	**+0.3**
BUS	**Buena Vista**	**6.05**	**120⇑**	*eP*	**Pn**	**11 45 21.2**	**+0.9**
TEIG	**Tepich**	**7.62**	**6**	*eP*	**Pn**	**11 45 43.5**	**+1.8**
SDV	**Santo Domingo**	**18.50**	**100**	P	**Pn**	**11 48 05.2**	**+0.9**
comp=N,0.5nm,0.3s,baz=308,slow=9.3,SNR=6.0							
JCT	**Junction City**	**20.36**	**333**	*eP*	**P**	**11 48 22.7**	**-0.7**
comp=N,9.9nm,0.8s							
LTX	**Lajitas**	**21.46**	**323**	*eP*	**P**	**11 48 36.2**	**+1.0**
comp

SNJE	**San Jose**	**1.06 320**	*e*P	Px	11 52 28.4	
SNJE			*e*S	Sx	11 52 51.4	
CRIN	**San Cristobal**	**1.84 101**	*e*P	**Pn**	**11 52 33.9**	**+0.4**
TEL3	**Telica 3**	**2.06 103**	⇑*e*P	**Pn**	**11 52 35.4**	**-1.0**
TELN	**Telica**	**2.07 102**	*e*P	**Pn**	**11 52 37.3**	**+0.8**
MRL	**Marmol**	**2.15 339**	*e*P	**Pn**	**11 52 43.3**	**+5.7**
APYN	**Apoyeque**	**2.62 108**	*e*P	**Pn**	**11 52 42.3**	**-1.6**
APYN			*e*S	**Sn**	**11 53 14.5**	**-0.3**
MGAN	**Managua**	**2.74 109**	*e*S	**Sn**	**11 53 18.5**	**+0.8**
MGAN			*i*		11 53 22.3	
	comp=N,276nm,0.3s					
TICN	**Ticuantepe**	**2.80 111**	*e*P	Px	11 52 47.6	
TICN			*e*S	Sx	11 53 21.4	
JTS	**JuntasAbangare**	**4.74 125**	Pn	**Pn**	**11 53 08.7**	**-4.1**
	comp=N,2.5nm,0.3s,baz=310,slow=22,SNR=21					
JTS			Sn	**Sn**	**11 53 59.7**	**-6.8**
	comp=N,3.8nm,0.3s,baz=234,slow=15,SNR=4.8					
JTS	**JuntasAbangare**	**4.74 125**	*e*P	**Pn**	**11 53 08.1**	**-4.8**
JTS			Sn	**Sn**	**11 53 59.7**	**-6.8**
TEIG	**Tepich**	**7.16 5**	*e*P	**Pn**	**11 53 51.4**	**+5.6**
OTAV	**Otavalo**	**16.41 140**	P	**Pn**	**11 55 50.1**	**+0.7**
SDV	**Santo Domingo**	**18.41 101**	P	**Pn**	**11 56 13.1**	**-0.6**
	comp=N,0.1nm,0.3s,baz=290,slow=8.3,SNR=4.4					
JCT	**Junction City**	**20.06 332**	*e*P	**P**	**11 56 29.2**	**-1.7**
	comp=N,5.3nm,0.6s					
LTX	**Lajitas**	**21.22 322**	*e*P	**P**	**11 56 43.5**	**+0.1**
	comp=N,5.8nm,1.2s,mb3.8					
CCM	**Cathedral Cave**	**24.99 356**	*e*P	**P**	**11 57 21.3**	**+0.9**
	comp=N,11nm,0.6s,mb4.5					
SADO	**Sadowa**	**32.69 13**	P	**P**	**11 58 29.2**	**+0.3**
	comp=N,14nm,1.2s,mb4.7,baz=187,slow=4.8,SNR=3.7					
SADO	**Sadowa**	**32.69 13**	P	**P**	**11 58 29.2**	**+0.3**
PDAR	**Pinedale Array**	**34.59 333**	P	**P**	**11 58 45.6**	**+0.3**
	comp=N,0.4nm,0.8s,mb3.3,baz=138,slow=8.3,SNR=2.7					
NVAR	**Mina Array Bea**	**36.32 319**	P	**P**	**11 59 00.9**	**+0.7**
	comp=N,0.8nm,0.9s,mb3.7,baz=126,slow=9.4,SNR=4.1					
ULM	**Lac du Bonnet**	**37.53 353**	P	**P**	**11 59 09.6**	**-0.9**
	comp=N,1.8nm,0.6s,mb4.1,baz=166,slow=8.6,SNR=6.6					
ULM	**Lac du Bonnet**	**37.53 353**	P	**P**	**11 59 09.6**	**-0.9**
MCMT	**McKenzie Canyo**	**37.68 332**	*e*P	**P**	**11 59 13.3**	**+1.6**
SIV	**San Ignacio**	**39.88 136**	P	**P**	**11 59 31.9**	**+1.8**
	comp=N,1.2nm,0.7s,mb3.8,baz=293,slow=8.0,SNR=7.8					
SCHQ	**Schefferville**	**45.13 18**	P	**P**	**12 00 12.9**	**+0.3**
	comp=N,3.8nm,0.8s,mb4.2,baz=200,slow=15,SNR=8.5					
YKA	**Yellowknife Ar**	**52.67 345**	P	**P**	**12 01 09.3**	**-1.0**
	comp=N,1.1nm,0.8s,mb3.9,baz=144,slow=7.7,SNR=19					
ILAR	**Eielson Array**	**64.90 336**	P	**P**	**12 02 33.9**	**-1.2**
	comp=N,0.5nm,0.8s,mb3.4,baz=171,slow=4.2,SNR=6.3					
WRA	**Warramunga Arr**	**138.07 255**	PKP	PKPdf	12 11 22.1	+2.2
	comp=N,0.7nm,1.1s,baz=88,slow=2.4,SNR=2.9					

*NEIC **10** 11:55:12.5, 40.13S×17489E, h29km, ML4.1(WEL), After WEL.*
NEIC Felt at Marton and Wanganui.

WEL 10 11:55:12.9±0.3, 4012S×17495E, h12km±3km, ML4.1/40, 3C-5D, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.36**	**4**	⇑P*	Pg	11 55 21.0	+0.9
WAZ				S*	Sg	11 55 26.0	+1.0
WAZ	**Wanganui**	**0.36**	**4**	P	Pg	11 55 21.0	+0.9
MRZ	**Mangatainoka R**	**0.72**	**139**	⇑P*	Pb	11 55 26.9	-0.5
MRZ				S*	Sb	11 55 36.1	-1.2
MRZ	**Mangatainoka R**	**0.72**	**139**	P	Pg	11 55 26.9	0.0
KIW	**Kapiti Island**	**0.74**	**182**	⇓P*	Pb	11 55 26.4	-1.4
KIW				S*	Sb	11 55 35.5	-2.3
KIW	**Kapiti Island**	**0.74**	**182**	P	Pg	11 55 26.4	-0.8
TSZ	**Takapari Road**	**0.78**	**86**	⇓P*	Pb	11 55 27.7	-0.6
TSZ				S*	Sb	11 55 37.2	-1.6
MTVZ	**Mangateitei**	**0.83**	**29**	P*	Pb	11 55 28.2	-1.2
PKVZ	**Pokaka**	**0.88**	**20**	P*	Pb	11 55 28.8	-1.3
WNVZ	**Wahianoa**	**0.94**	**32**	P*	Pb	11 55 29.8	-1.2
WNVZ	**Wahianoa**	**0.94**	**32**	P	Pg	11 55 29.8	-1.1
RAEZ	**Rainy Point**	**0.94**	**332**	P*	Pb	11 55 31.4	+0.3
RAEZ				S*	Sb	11 55 44.9	+1.5
TRVZ	**Turoa**	**0.94**	**30**	⇓P*	Pb	11 55 29.8	-1.3
MOVZ	**Moawhango**	**0.94**	**41**	⇓P*	Pb	11 55 29.4	-1.7
MOVZ	**Moawhango**	**0.94**	**41**	P	Pg	11 55 29.4	-1.6
DRZ	**Dome Shelter**	**0.97**	**29**	P*	Pb	11 55 30.2	-1.3
FWVZ	**Far West T-bar**	**0.98**	**28**	⇑P*	Pb	11 55 30.4	-1.3
CAW	**Cannon Point**	**0.99**	**175**	P*	Pb	11 55 31.2	-0.8
VRZ	**Vera Road**	**1.00**	**351**	P*	Pb	11 55 31.6	-0.6
TUVZ	**Tukino**	**1.01**	**33**	P*	Pb	11 55 30.9	-1.4
WPVZ	**Whakapapa**	**1.02**	**27**	P*	Pb	11 55 31.2	-1.3
DUWZ	**D'Urville Isla**	**1.04**	**229**	P*	Pb	11 55 31.1	-1.7
NGZ	**Ngauruhoe**	**1.07**	**28**	P*	Pb	11 55 31.9	-1.4
OTVZ	**Oturere**	**1.10**	**30**	P*	Pb	11 55 32.7	-1.2
NRZ	**Ngariki Road**	**1.11**	**315**	P*	Pb	11 55 33.8	-0.2
TWVZ	**Taurewa**	**1.11**	**20**	P*	Pb	11 55 32.4	-1.7
WTVZ	**West Tongariro**	**1.12**	**26**	P*	Pb	11 55 32.5	-1.6
MTW	**Mount Morrison**	**1.12**	**158**	P*	Pb	11 55 33.8	-0.4
MRW	**Makara Radio**	**1.12**	**190**	P*	Pb	11 55 32.9	-1.4
KRVZ	**Karewarewa**	**1.15**	**28**	P*	Pb	11 55 33.1	-1.6
NWEZ	**Newall Road**	**1.19**	**315**	P*	Pb	11 55 35.3	0.0
SNZO	**South Karori**	**1.20**	**189**	*e*P	Pn	11 55 34.0	-1.5
SNZO				*e*S	Sb	11 55 49.2	-1.9
TCW	**Tory Channel**	**1.21**	**205**	⇓P*	Pb	11 55 33.8	-1.9
KATZ	**Kakaramea**	**1.28**	**27**	PN	Pn	11 55 35.3	-1.2
BHW	**Baring Head**	**1.29**	**183**	PN	Pn	11 55 36.1	-0.6
PAWZ	**Paruwai Farm**	**1.31**	**164**	PN	Pn	11 55 36.9	-0.1
MSWZ	**Moikau Station**	**1.31**	**170**	PN	Pn	11 55 36.3	-0.7
RITZ	**Rihia Road**	**1.34**	**32**	PN	Pn	11 55 36.4	-1.0
TRWZ	**Traveller**	**1.40**	**157**	PN	Pn	11 55 38.1	-0.1
RATZ	**Rangitukua**	**1.40**	**27**	PN	Pn	11 55 37.3	-0.9
PXZ	**Pawanui**	**1.47**	**87**	PN	Pn	11 55 38.7	-0.5
TUWZ	**Tuamarina**	**1.52**	**210**	PN	Pn	11 55 38.8	-1.0
BKZ	**Black Stump Fm**	**1.52**	**52**	PN	Pn	11 55 39.5	-0.5
WATZ	**Wairara**	**1.53**	**24**	PN	Pn	11 55 38.9	-1.1
NNZ	**Nelson**	**1.62**	**227**	PN	Pn	11 55 40.5	-0.8

IDC 10 11:56:29.2±7.4, 1006N×9325E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=394.7km s-min=28.8km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.66**	**343**	*e*P	Pn	11 57 28.9	+29
PBA				*e*S	Sn	11 57 54.8	+33
PBA				*e*x	x	11 58 07.5	
	comp=N,473nm,0.7s						
PBA				*e*x	x	11 58 09.2	
	comp=E,725nm,1.0s						
MKAR	**Makanchi Array**	**37.78**	**348**	P	P	12 03 47.0	0.0
	comp=E,0.5nm,0.6s,baz=153,slow=8.2,SNR=4.7						
WRA	**Warramunga Arr**	**50.25**	**126**	P	P	12 05 27.0	-0.2
	comp=E,0.6nm,0.7s,baz=305,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**51.99**	**131**	P	P	12 05 41.3	+1.0
	comp=E,0.4nm,0.6s,baz=310,slow=7.1,SNR=7.3						

*IDC **10** 12:03:54.4±0.4, 1068N×9439E, h0km, mb4.3/23, mb1 4.5/24, mb1mx4.4/29, mbtmp4.3/24, ML3.9/1, MS4.6/9, Ms1 4.6/9, ms1mx4.3/18, Error ellipse: s-maj=18.2km s-min=11.8km az=57.0*
*ISCJB **10** 12:03:56.5±0.2, 1070N±003×9446E±003, h23km, mb4.7/76, MS4.7/26, Error ellipse: s-maj=4.9km s-min=3.8km az=92.4*
*BJI **10** 12:03:56.8, 1066N×9429E, h25km, mB5.2, mb4.7, Ms5.0, Msz4.7*
*NEIC **10** 12:03:58.2±0.2, 1069N×9440E, mb5.0/34, Error ellipse: s-maj=9.0km s-min=4.2km az=56.0*
*MOS **10** 12:03:58.2±0.9, 1077N×9443E, h33km, mb5.0/30, Error ellipse: s-maj=11.4km s-min=5.8km az=112.8*
*HRVD **10** 12:03:58.2±0.2, 1079N×9453E, h12km, MW5.2/94, Centroid moment Tensor Solution. LP body waves: s65,c96;Mantle waves: s94,c164; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.13±.15; $M_{\theta\theta}$5.98±.13; $M_{\phi\phi}$0.15±.17; $M_{r\theta}$4.03±.41; $M_{\theta\phi}$1.92±.12; $M_{\phi r}$0.81±.47; Best double couple: $M_0$7.55900×10^{16} NP1:ϕ_s70.00000°, δ29.00000°, λ-96.00000°. NP2: ϕ_s256.00000°, δ61.00000°, λ-87.00000°. Principal axes: T 7.7630, Plg16.0000°, Azm344.0000°; N -0.4070, Plg3.0000°, Azm75.0000°; P -7.3550, Plg73.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s.

ISC 10 12:03:59.0±0.2, 1073N±003×9446E±003, h24km, h24km±1.0km: pP-P, n191, σ1s20/191, mb4.7/76, MS4.7/26, 10C-9D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.92**	**299**	*e*x	x	12 04 43.1	
PBA				*e*x	x	12 05 23.4	
NNT	**Nongplab**	**5.49**	**70**	P	**Pn**	**12 05 18.8**	**-0.5**
SNG	**Songkhla**	**7.03**	**120**	P	**Pn**	**12 05 41.0**	**+0.5**
	616nm,1.0s						
NST	**Nakhon Sawan**	**7.40**	**48**	P	**Pn**	**12 05 46.0**	**+0.5**
	133nm,0.5s						
KULM	**Kulim**	**8.17**	**131**	*e*Pn	**Pn**	**12 05 54.9**	**-1.2**
KULM				*e*Sn	**Sn**	**12 07 25.9**	**-1.8**
PSI	**Prapat**	**9.04**	**150**	Pn	**Pn**	**12 06 07.6**	**-0.4**
	1.2nm,0.3s,baz=336,slow=9.8,SNR=5.1						
PSI				LR	LR	12 10 21.3	
	comp=Z,6μm,18.8s,baz=310,slow=42						
PSI	**Prapat**	**9.04**	**150**	Pn	**Pn**	**12 06 07.6**	**-0.4**
PSI				LR	LR	12 10 21.3	
VIS	**Vishakhapatnam**	**12.83**	**304**	*e*P	**Pn**	**12 06 59.0**	**-0.9**
VIS				AMb	AMB	12 07 06.8	
	comp=Z,113nm,1.4s						
VIS				*i* S	**Sn**	**12 09 09.6**	**-12**
VIS				*e*S	**Sn**	**12 09 09.9**	**-12**
CAL	**Calcutta**	**13.13**	**334**	*e*x	x	12 06 53.2	
CAL				*e*x	x	12 09 52.0	
PALK	**Pallekele**	**14.01**	**257**	*e*P	**Pn**	**12 07 24.7**	**+8.7**
	comp=Z,59nm,1.3s						
SHL	**Shillong**	**14.96**	**351**	*e*P	**Pn**	**12 07 28.1**	**-0.8**
SHL				*e*x	x	12 10 43.0	
BOK	**Bokaro**	**15.35**	**329**	*e*P	**Pn**	**12 07 34.4**	**+0.4**
BOK				AMb	AMB	12 07 42.1	
	comp=Z,58nm,1.4s						
BOK				*e*x	x	12 10 35.7	
SALM	**Salem**	**15.97**	**275**	*e*x	**Pn**	**12 07 47.0**	**+4.9**
KMI	**Kunming**	**16.33**	**28**	P	**Pn**	**12 07 49.5**	**+2.8**
KMI				AP	pP	12 07 55.5	-0.5
KMI				XP	sP	12 07 59.6	+0.5
KMI				S	**Sn**	**12 10 47.0**	**-0.2**
KMI				SS		12 11 08.5	
KMI				AMB	AMB		
	comp=Z,14nm,2.0s						
KMI				AMB	AMB		
	comp=Z,530nm,6.2s						
KMI				LR	LR		
	comp=N,2μm,12.3s						
KMI				LR	LR		
	comp=E,2μm,9.4s						
KMI				LR	LR		
	comp=Z,2μm,11.5s						
HYB	**Hyderabad**	**16.79**	**295**	*i* P	**Pn**	**12 07 53.0**	**+0.5**
	comp=Z,70nm,1.0s						
HYB				*e*S	**Sn**	**12 10 50.0**	**-8.3**
HYB	**Hyderabad**	**16.79**	**295**	*e*P	**Pn**	**12 07 53.0**	**+0.5**
	comp=Z,70nm,1.0s						
HYB				*e*S	**Sn**	**12 10 50.0**	**-8.3**
HYB	**Hyderabad**	**16.79**	**295**	*e*P	**Pn**	**12 07 53.0**	**+0.5**
HYB				*e*S	**Sn**	**12 10 50.0**	**-8.3**
HYB				pmax	pmax		
	comp=Z,70nm,1.0s						
QIZ	**Qiongzhong**	**17.00**	**59**	⇓P	**Pn**	**12 07 58.2**	**+3.1**
QIZ				XP	sP	12 08 06.8	+0.3
QIZ				S	**Sn**	**12 11 12.0**	**+8.7**
QIZ				XS	sS	12 11 16.5	-6.7
QIZ				AMB	AMB		
	comp=Z,21nm,2.4s						
QIZ				AMB	AMB		
	comp=Z,497nm,8.3s						
QIZ				LR	LR		
	comp=E,4μm,9.6s						
QIZ				LR	LR		
	comp=Z,5μm,8.7s						
NGP	**Nagpur**	**18.06**	**307**	⇑*e*P	**Pn**	**12 08 08.2**	**-0.1**
NGP				*e*x	x	12 08 18.1	
	comp=Z,74nm,1.7s						
NGP				*e*x	x	12 11 23.9	
JBP	**Jabalpur**	**18.54**	**314**	⇑*e*P	**Pn**	**12 08 13.9**	**-0.3**
JBP				*e*x	x	12 08 33.9	
	comp=Z,75nm,1.5s						
JBP				*e*x	x	12 11 59.9	
JIRN	**Jiri**	**18.55**	**336**	*e*P	**Pn**	**12 08 14.5**	**+0.2**
	comp=Z,1μm,2.0s						
PKI	**Pulchoki**	**18.79**	**334**	*e*P	**Pn**	**12 08 17.2**	**0.0**
	comp=Z,924nm,1.8s						
PKI	**Pulchoki**	**18.79**	**334**	*e*P	**Pn**	**12 08 17.2**	**0.0**
PKI				pmax	pmax		
	comp=Z,462nm,1.8s						
GUN	**Gumba**	**18.90**	**336**	*e*P	**Pn**	**12 08 18.4**	**-0.1**
	comp=Z,2μm,2.4s						
DMN	**Daman**	**18.96**	**334**	*e*P	**Pn**	**12 08 18.9**	**-0.3**
	comp=Z,263nm,1.1s						
KKN	**Kakani**	**19.04**	**334**	*e*P	**Pn**	**12 08 19.7**	**-0.5**
	comp=Z,224nm,1.2s						
KKN	**Kakani**	**19.04**	**334**	*e*P	**Pn**	**12 08 19.7**	**-0.5**
KKN				pmax	pmax		
	comp=Z,112nm,1.2s						
LSA	**Lhasa**	**19.13**	**351**	P	**Pn**	**12 08 20.2**	**-1.1**
LSA				AP	pP	12 08 26.7	-0.2
LSA				XP	sP	12 08 30.8	+0.8
LSA				AMB	AMB		
	comp=Z,1μm,9.1s						
LSA				LR	LR		
	comp=N,810nm,30.3s						
LSA				LR	LR		
	comp=E,970nm,30.3s						
LSA				LR	LR		
	comp=Z,1μm,24.3s						
MNGI	**Mangalore**	**19.34**	**278**	*e*x	**Pn**	**12 08 19.1**	**-4.7**
GYA	**Guiyang**	**19.44**	**35**	⇑*i*P	**Pn**	**12 08 25.7**	**+0.8**
GYA				AP	pP	12 08 30.8	+0.5
GYA				XP	sP	12 08 34.1	+0.8
GYA				PP		12 08 45.6	
GYA				S	**Sn**	**12 12 06.1**	**+3.8**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s						
GYA				AMB	AMB		
	comp=Z,530nm,6.3s						
GYA				LR	LR		
	comp=N,1μm,11.4s						
GYA				LR	LR		
	comp=E,2μm,12.3s						
GYA				LR	LR		
	comp=Z,2μm,10.2s						
GKN	**Gorkha**	**19.50**	**333**	*e*P	**Pn**	**12 08 24.8**	**-1.0**
	comp=Z,217nm,1.3s						
KOLN	**Koldanda**	**19.79**	**330**	*e*P	**Pn**	**12 08 28.4**	**-0.7**
	comp=Z,217nm,0.8s						
BHPL	**Bhopal**	**20.47**	**310**	*e*P	**P**	**12 08 36.7**	**+1.8**
BHPL				AMb	AMB	12 08 42.6	
	comp=Z,60nm,0.9s						
KAD	**Karad**	**20.72**	**291**	*e*P	**P**	**12 08 39.3**	**+1.7**
KAD				AMb	AMB	12 08 42.9	
	comp=Z,59nm,1.5s						
POO	**Poona**	**21.38**	**294**	*e*x	x	12 08 57.4	
POO				*i* x	x	12 08 58.5	
POO				AMb	AMB	12 09 04.9	
	comp=Z,56nm,0.9s,mb4.9						
POO				*i* x	x	12 09 06.5	
POO				*e*x	x	12 13 39.0	
CD2	**Chengdu**	**21.86**	**22**	P	**P**	**12 08 50.8**	**+0.9**
CD2				XP	sP	12 09 00.9	+1.3
CD2				PP		12 09 16.5	
CD2				S	**S**	**12 12 45.9**	**-4.4**
CD2				SS		12 13 24.9	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				AMB	AMB		
	comp=Z,90nm,5.7s						
CD2				LR	LR		
	comp=E,910nm,14.4s						
CD2				LR	LR		
	comp=Z,850nm,10.8s,MS4.4						
KKM	**Kota Kinabalu**	**22.02**	**100**	*e*P	**P**	**12 09 00.1**	**+8.5**
BOM	**Bombay**	**22.43**	**294**	*e*P	**P**	**12 08 55.5**	**-0.5**
BOM				*e*x	x	12 08 59.5	
	comp=Z,181nm,1.8s						
BOM				*e*x	x	12 12 22.6	
COCO	**West Island**	**22.89**	**174**	*e*P	**P**	**12 09 07.8**	**+7.0**
	comp=Z,168nm,1.0s,mb5.4						
PTH	**Pithoragarh**	**22.96**	**327**	*e*x	x	12 09 30.0	
NDI	**New Delhi**	**24.08**	**320**	*e*P	**P**	**12 09 13.4**	**+0.9**
NDI				AMb	AMB	12 09 21.6	
	comp=Z,159nm,1.7s,mb5.2						
NDI				*e*x	x	12 13 21.0	
AJM	**Ajmer**	**24.40**	**313**	*e*P	**P**	**12 09 16.5**	**+1.1**
AJM				AMb	AMB	12 09 25.9	
	comp=Z,50nm,1.5s,mb4.7						
DDI	**Dehra Dun**	**24.76**	**324**	*e*P	**P**	**12 09 18.2**	**-0.5**
DDI				*e*x	x	12 10 40.2	
SMLA	**Simla**	**25.87**	**324**	*e*P	**P**	**12 09 28.1**	**-0.7**
SMLA				AMb	AMB	12 09 55.0	
	comp=Z,177nm,2.0s,mb5.2						
LZH	**Lanzhou**	**26.64**	**17**	*e*P	**P**	**12 09 37.0**	**+1.2**
LZH				AP	pP	12 09 43.8	+0.9
LZH				XP	sP	12 09 47.2	+1.3
LZH				PP		12 10 22.1	
LZH				*e*S	**S**	**12 14 07.0**	**-2.4**
LZH				XS	sS	12 14 21.5	+0.3
LZH				SS		12 15 22.3	
LZH				AMB	AMB		
	comp=Z,72nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,236nm,4.9s						
LZH				LR	LR		
	comp=N,2μm,10.0s						
LZH				LR	LR		
	comp=Z,2μm,13.2s,MS4.9						
XAN	**Xi'an**	**26.72**	**27**	P	**P**	**12 09 35.6**	**-0.9**
XAN				S	**S**	**12 14 16.0**	**+5.4**
XAN				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb3.9						
XAN				LR	LR		
	comp=N,1μm,14.9s,MS4.7						
XAN				LR	LR		
	comp=E,1μm,13.6s,MS4.7						
XAN				LR	LR		
	comp=Z,1μm,14.4s,MS4.7						
BHJ	**Bhuj**	**26.74**	**301**	*e*P	**P**	**12 09 37.7**	**+1.1**
BHJ				AMb	AMB	12 09 39.9	
	comp=Z,66nm,1.6s,mb4.9						
QZH	**Quanzhou**	**26.91**	**55**	*e*P	**P**	**12 09 40.4**	**+2.2**
QZH				S	**S**	**12 14 15.0**	**+1.3**
QZH				LR	LR		
	comp=N,2μm,10.0s						
QZH				LR	LR		
	comp=E,1μm,6.6s						
QZH				LR	LR		
	comp=Z,2μm,10.6s,MS5.0						
WHN	**Wuhan**	**27.03**	**40**	P	**P**	**12 09 37.2**	**-2.1**
WHN				LR	LR		
	comp=Z,2μm,12.0s,MS5.0						
GTA	**Gaotai**	**28.96**	**9**	P	**P**	**12 09 57.6**	**+1.1**
GTA				AP	pP	12 10 04.1	+0.4
GTA				XP	sP	12 10 06.5	-0.1
GTA				PP	PP	12 10 54.7	-7.3
GTA				S	**S**	**12 14 49.3**	**+3.3**
GTA				XS	sS	12 15 04.9	+7.2
GTA				AMB	AMB		
	comp=Z,10.0nm,2.6s,mb4.1						
GTA				AMB	AMB		
	comp=Z,287nm,5.7s						
GTA				LR	LR		
	comp=N,1μm,21.3s						
GTA				LR	LR		
	comp=E,470nm,13.7s						
GTA				LR	LR		
	comp=Z,1μm,24.3s,MS4.4						
NJ2	**Nanjing**	**30.95**	**43**	*e*P	**P**	**12 10 15.1**	**+1.0**
NJ2				AP	pP	12 10 22.3	+1.1
NJ2				XP	sP	12 10 25.7	+1.5
NJ2				PP	PP	12 11 17.1	-7.0
NJ2				S	**S**	**12 15 15.0**	**-2.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,310nm,10.5s						
NJ2				LR	LR		
	comp=N,3μm,21.9s						
NJ2				LR	LR		
	comp=E,2μm,15.3s						
NJ2				LR	LR		
	comp=Z,950nm,19.0s,MS4.5						
SSE	**Sheshan**	**32.01**	**47**	*e*P	**P**	**12 10 23.4**	**0.0**
SSE				AP	pP	12 10 29.7	-0.9
SSE				XP	sP	12 10 32.2	-1.3
SSE				PP	PP	12 11 34.8	-1.1
SSE				PCP	PcP	12 13 15.5	+2.6
SSE				S	**S**	**12 15 32.2**	**-1.5**
SSE				XS	sS	12 15 45.1	-0.4
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,78nm,3.5s						
SSE				LR	LR		
	comp=N,922nm,13.5s,MS4.7						
SSE				LR	LR		
	comp=E,253nm,13.4s,MS4.7						
SSE				LR	LR		
	comp=Z,917nm,8.4s						
BTO	**Baotou**	**32.79**	**22**	*e*P	**P**	**12 10 31.8**	**+1.5**
KSH	**Kashi**	**33.05**	**333**	P	**P**	**12 10 35.0**	**+2.4**
KSH				*e*AP	pP	12 10 42.1	+2.4
KSH				XP	sP	12 10 45.9	+3.2
KSH				PP	PP	12 11 46.7	-0.8
KSH				PCP	PcP	12 13 17.5	+1.7
KSH				S	**S**	**12 15 52.9**	**+3.0**
KSH				XS	sS	12 16 04.7	+2.9
KSH				SCP	ScP	12 16 59.2	+0.7
KSH				PCS	PcS	12 17 01.4	+0.2
KSH				SS	SS	12 17 54.1	-19
KSH				SCS	ScS	12 20 58.8	0.0
KSH				AMB	AMB		
	comp=Z,13nm,0.2s,mb5.5						
KSH				AMB	AMB		
	comp=Z,161nm,6.6s						
KSH				LR	LR		
	comp=N,558nm,9.3s						
KSH				LR	LR		
	comp=E,550nm,6.8s						
KSH				LR	LR		
	comp=Z,1μm,23.8s,MS4.6						
WMQ	**Urumqi**	**33.49**	**351**	*e*P	**P**	**12 10 36.9**	**+0.5**
WMQ				AP	pP	12 10 42.8	-0.8
WMQ				XP	sP	12 10 45.7	-0.8
WMQ				PP	PP	12 11 49.2	-3.1
WMQ				PCP	PcP	12 13 17.9	+0.9
WMQ				*e*S	**S**	**12 15 56.8**	**+0.1**
WMQ				SS	SS	12 18 00.5	-21
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,168nm,5.0s						
WMQ				LR	LR		
	comp=N,922nm,18.0s,MS4.7						
WMQ				LR	LR		
	comp=E,968nm,19.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,901nm,19.8s,MS4.5						
HHC	**Hu-ho-hao-te**	**33.59**	**24**	*e*P	**P**	**12 10 39.7**	**+2.4**
HHC				AP	pP	12 10 46.1	+1.7
HHC				XP	sP	12 10 48.9	+1.5
HHC				PP	PP	12 11 52.6	-0.8
HHC				S	**S**	**12 16 00.9**	**+2.6**
HHC				XS	sS	12 16 13.4

comp=Z,15nm,1.2s,mb4.8
FRU Bishkek 36.36 335 *e*P P **12 11 01.0 -0.2**
FRU *e* 12 11 10.5
FRU pmax pmax
comp=Z,36nm,2.0s,mb5.0
FRU MLR MLR
comp=Z,2μm,22.0s,MS4.8
SMDO Samad 36.82 294 P P **12 11 08.0 +2.9**
SNR=12
BIDO Bidbid 36.86 295 P P **12 11 08.1 +2.7**
SNR=8.3
DL2 Dalian 37.08 36 P P **12 11 09.4 +2.1**
DL2 S S **12 16 58.6 +6.7**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
DL2 AMB AMB
comp=Z,150nm,4.3s
DL2 LR LR
comp=N,390nm,11.1s,MS4.5
DL2 LR LR
comp=E,250nm,11.7s,MS4.5
DL2 LR LR
comp=Z,480nm,10.5s,MS4.6
MKAR Makanchi Array 37.40 346 P P **12 11 09.7 -0.3**
comp=Z,19nm,1.2s,mb4.8,baz=153,slow=8.2,SNR=41
MKAR LR LR 12 31 07.5
comp=Z,564nm,19.3s,MS4.4,baz=180,slow=44
BSY Bisya 37.52 293 P P **12 11 13.9 +3.0**
SNR=23
SONM Songino Array 38.33 13 P P **12 11 18.3 +0.4**
comp=Z,4.8nm,1.0s,mb4.2,baz=197,slow=7.5,SNR=15
SONM PcP PcP 12 13 31.1 -0.3
comp=Z,2.2nm,0.9s,baz=193,slow=5.9,SNR=2.1
SONM LR LR 12 28 43.8
comp=Z,1μm,19.5s,MS4.8,baz=198,slow=39
SONM Songino Array 38.33 13 P P **12 11 18.3 +0.4**
SONM 12 13 31.1
KK31 Karatay Array 38.40 331 *i* P P **12 11 17.6 -0.8**
KK31 pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
KKAR Karatay Array 38.40 331 *i* P P **12 11 17.6 -0.8**
KKAR pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
ULN Ulaanbaatar 38.51 14 *e*P P **12 11 19.9 +0.5**
comp=Z,126nm,2.3s,mb5.2
ULN *e*pP pP 12 11 25.5 -1.1
ULN Ulaanbaatar 38.51 14 *c i*P P **12 11 19.0 -0.3**
ASHO Ashiyiah 38.97 296 ⇑P P **12 11 26.1 +2.9**
BANOM Banah 39.08 298 P P **12 11 26.9 +2.8**
SNR=6.6
WHFO Wadi Hawf 40.00 285 P P **12 11 33.3 +1.5**
SNR=19
SNY Shenyang 40.14 34 ⇑P P **12 11 32.5 -0.5**
SNY AP pP 12 11 40.4 +0.2
SNY XP sP 12 11 43.1 0.0
SNY PP PP 12 13 11.6 +6.2
SNY S S **12 17 45.3 +7.3**
SNY XS sS 12 17 56.5 +6.5
SNY AMB AMB
comp=Z,14nm,1.3s,mb4.5
SNY AMB AMB
comp=Z,368nm,6.0s
SNY LR LR
comp=N,700nm,18.4s,MS4.8
SNY LR LR
comp=E,966nm,15.9s,MS4.8
SNY LR LR
comp=Z,735nm,14.3s,MS4.7
ZAK Zakamensk 40.20 9 *e*P P **12 11 34.4 +0.9**
ZAK pmax pmax
comp=Z,15nm,2.0s,mb4.4
ZAK pmax pmax
comp=Z,13nm,2.0s,mb4.3
MBWA Marble Bar 40.26 142 *e*P P **12 11 33.7 -0.3**
comp=Z,34nm,1.5s,mb4.9
MOY Mondy 41.17 6 *e*P P **12 11 49.1 +7.6**
KURK Kurchatov 41.94 345 P P **12 11 47.7 -0.1**
comp=Z,123nm,1.4s,mb5.3,SNR=9.2
KURK Kurchatov 41.94 345 *e*P P **12 11 47.4 -0.4**
comp=Z,33nm,1.3s,mb4.8
KURK *e*pP pP 12 11 53.4 -1.7
KURK Kurchatov 41.94 345 *e*P P **12 11 47.4 -0.4**
KURK *e**PP pP 12 11 53.4 -1.7
KURK pmax pmax
comp=Z,33nm,1.3s,mb4.8
FITZ Fitzroy Crossi 42.05 133 *e*P P **12 11 48.6 -0.1**
comp=Z,14nm,1.1s,mb4.5
ABKT Ailbek 42.34 316 P P **12 11 52.8 +1.8**
comp=Z,524nm,0.7s,SNR=9.2
CN2 Changchun 42.48 34 *e*P P **12 11 52.2 0.0**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
NVS Novosibirsk 44.89 351 *e*P P **12 12 10.5 -1.1**
NVS *e*S S **12 18 44.4 -3.6**
NVS pmax pmax
comp=N,68nm,2.5s
NVS pmax pmax
comp=Z,88nm,2.5s,mb5.2
NVS pmax pmax
comp=E,25nm,2.1s
NVS smax
comp=N,28nm,2.1s
NVS smax
comp=E,23nm,2.1s
MDJ Mudanjiang 45.30 35 P P **12 12 15.2 +0.4**
MDJ AP pP 12 12 23.9 +1.7
MDJ XP sP 12 12 27.6 +2.5
MDJ S S **12 18 58.4 +4.5**
MDJ AMB AMB
comp=Z,10.0nm,1.3s,mb4.5
MDJ AMB AMB
comp=Z,97nm,3.2s
MDJ LR LR
comp=N,348nm,18.4s,MS4.3
MDJ LR LR
comp=E,99nm,18.4s,MS4.3
MDJ LR LR
comp=Z,361nm,16.4s,MS4.4
VOSK Vostochnaya 45.97 340 P P **12 12 19.2 -0.9**
VOSK pmax pmax
comp=Z,12nm,0.9s,mb4.8
BVA0 Borovoye Array 46.42 340 P P **12 12 22.5 -1.2**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BVAR Borovoye Array 46.42 340 P P **12 12 22.7 -0.9**
comp=Z,1.9nm,0.8s,mb4.0,baz=147,slow=8.8,SNR=10.0
BRVK Borovoye 46.48 340 *e*P P **12 12 23.6 -0.6**
comp=Z,9.1nm,1.2s,mb4.6
BRVK *e*pP pP 12 12 29.3 -2.3
BRVK Borovoye 46.48 340 *e*P P **12 12 23.6 -0.6**
BRVK *e**PP pP 12 12 29.3 -2.2
BRVK pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
ZRNK Zerenda 46.83 339 *e*P P **12 12 25.4 -1.4**
comp=Z,8.7nm,0.9s,mb4.7
ZRNK *e*pP pP 12 12 31.9 -2.4
ZRNK Zerenda 46.83 339 *e*P P **12 12 25.5 -1.4**
ZRNK *e**PP pP 12 12 31.9 -2.4
ZRNK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MAJO Matsushiro 47.05 50 *e*P P **12 12 27.9 -0.7**
MJAR Matsushiro Arr 47.05 50 P P **12 12 29.7 +1.0**
comp=Z,4.2nm,1.2s,mb4.2,baz=238,slow=11,SNR=4.8
MJAR PcP PcP 12 14 00.8 +0.3
comp=Z,2.9nm,0.8s,baz=242,slow=3.5,SNR=6.0
MUN Mundaring 47.29 155 ⇑*i*P P **12 12 31.5 +1.0**
MUN *e*pP pP 12 12 37.1 -0.8
KLBR Kellerberrin 47.63 153 *e*P P **12 12 33.4 +0.2**
comp=Z,19nm,0.8s,mb5.2
KLBR *e*pP pP 12 12 39.9 -0.6
AB31 Akbulak array 47.91 330 *i* P P **12 12 34.3 -1.0**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
NWAO Narrogin (SRO) 48.55 154 P P **12 12 40.0 -0.3**
comp=Z,25nm,0.9s,mb5.2,baz=342,slow=3.9,SNR=6.7
NWAO Narrogin (SRO) 48.55 154 *e*P P **12 12 40.4 +0.2**
comp=Z,50nm,1.4s,mb5.4
NWAO *e*pP pP 12 12 47.1 -0.5
NWAO Narrogin (SRO) 48.55 154 *e*P P **12 12 40.4 +0.2**
NWAO *e**PP pP 12 12 47.1 -0.5
NWAO pmax pmax
comp=Z,50nm,1.4s
BOD Bodaibo 49.32 14 *e*P P **12 12 45.5 -0.6**
BOD pmax pmax
comp=Z,12nm,1.8s,mb4.6
AKTK Aktyubinsk 49.63 330 P P **12 12 47.0 -1.5**
AKTO Aktyubinsk 49.63 330 P P **12 12 47.0 -1.5**
comp=Z,1.5nm,0.7s,mb4.1,baz=113,slow=8.4,SNR=6.5
WRA Warramunga Arr 49.70 128 P P **12 12 49.2 +0.1**
comp=Z,9.6nm,0.7s,mb5.0,baz=303,slow=8.9,SNR=104
WRAB Tennant Creek 49.71 128 P P **12 12 50.0 +0.9**
comp=Z,118nm,0.6s,SNR=9.4
WRAB Tennant Creek 49.71 128 *e*P P **12 12 49.6 +0.5**
comp=Z,26nm,1.0s,mb5.2
WRAB Tennant Creek 49.71 128 *e*P P **12 12 49.8 +0.7**
WB2 Warramunga Arr 49.71 128 ⇓*i*P P **12 12 49.8 +0.7**
ATD Arta Tunnel 50.59 276 LR LR 12 33 08.1
comp=Z,271nm,18.0s,MS4.3,baz=49,slow=35
ASPA Alice Springs 51.53 132 ⇓*i*P P **12 13 03.5 +0.6**
AS31 Alice Springs 51.54 132 ⇓*i*P P **12 13 03.5 +0.6**
ASAR Alice Springs 51.54 132 P P **12 13 03.1 +0.2**
comp=Z,17nm,0.7s,mb5.1,baz=309,slow=6.8,SNR=235
CLNS Chul'man 51.67 21 *e*P P **12 13 03.6 -0.3**
CLNS *e**PP pP 12 13 10.3 -1.0
CLNS *e* 12 15 02.9
CLNS *e*S S **12 20 37.8 +14**
CLNS *e* 12 22 50.1
CLNS pmax pmax
comp=Z,25nm,1.2s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,0.7s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CLNS smax
comp=N,112nm,13.8s
CLNS smax
comp=E,183nm,15.6s
CLNS MLR MLR
comp=N,100nm,13.0s,MS4.5
CLNS MLR MLR
comp=Z,700nm,13.0s,MS4.9
CLNS MLR MLR
comp=E,300nm,12.0s,MS4.5
GNI Garni 52.71 313 *e*P P **12 13 12.5 +0.8**
comp=E,116nm,1.3s,mb5.7
GNI Garni 52.71 313 *e*P P **12 13 11.7 +0.1**
GNI pmax pmax
comp=Z,43nm,1.2s
ARU Arti 53.41 336 *e*P P **12 13 16.5 -0.3**
comp=Z,6.2nm,1.1s,mb4.5
ARU Arti 53.41 336 ⇓*i*P P **12 13 15.6 -1.2**
ARU *e* 12 14 22.3
ARU *e* 12 15 14.6
ARU *e*PPP 12 16 24.3
ARU *e*S S **12 20 46.1 -1.5**
ARU *e*SS SS 12 24 28.6 +0.9
ARU pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ARU MLR MLR
comp=Z,1μm,20.5s,MS5.0
ARU MLR MLR
comp=N,500nm,22.0s,MS4.8
ARU MLR MLR
comp=E,700nm,20.0s,MS4.8
ARU Arti 53.41 336 *e*P P **12 13 16.5 -0.3**
ARU pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ZEI Tsey 54.21 315 *i* P P **12 13 20.7 -1.9**
ZEI *i* *PP pP 12 13 28.9 -1.2
ZEI *i* 12 14 24.5
ZEI pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
YSS Yuzh-Sakhalins 54.37 39 *e*P P **12 13 22.2 -1.6**
YSS pmax pmax
comp=Z,15nm,1.4s,mb4.7
OPO Ambohidratompo 54.97 238 P P **12 13 28.9 +0.8**
comp=Z,1.7nm,0.6s,mb4.2,baz=62,slow=6.4,SNR=3.3
KIV Kislovodsk 55.45 316 *e*P P **12 13 32.3 +0.7**
comp=Z,26nm,1.0s,mb5.2
KIV Kislovodsk 55.45 316 *k i*P P **12 13 32.4 +0.8**
KIV *e* 12 13 42.0
KIV *i* 12 14 30.0
KIV *e* 12 21 26.1
KIV pmax pmax
comp=Z,34nm,1.5s,mb5.2
MALT Malatya 56.90 309 *e*P P **12 13 41.9 -0.1**
comp=Z,6.1nm,1.0s,mb4.6
MALT *e*pP pP 12 13 51.1 +1.7
MALT Malatya 56.90 309 *e*P P **12 13 41.9 0.0**
MALT *e**PP pP 12 13 51.2 +1.8
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
YAK Yakutsk 57.21 19 *e*P P **12 13 43.8 -0.4**
comp=Z,25nm,0.9s,mb5.2
YAK Yakutsk 57.21 19 *e*P P **12 13 43.9 -0.3**
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ANN Anapa 59.29 316 *e*P P **12 14 01.3 +2.6**
ANN pmax pmax
comp=Z,20nm,1.2s,mb5.0
CTA Charters Tower 59.46 121 *e*P P **12 14 01.2 +1.3**
comp=Z,9.5nm,1.0s,mb4.8
CTA Charters Tower 59.46 121 P P **12 13 58.0 -1.9**
comp=Z,12nm,1.1s,mb4.8,baz=292,slow=6.8,SNR=5.2
CTA Charters Tower 59.46 121 *e*P P **12 14 01.2 +1.3**
CTA pmax pmax
comp=Z,10.0nm,1.0s
CTAO Charters Tower 59.46 121 *e*P P **12 14 00.7 +0.8**
comp=Z,13nm,0.8s,mb5.0
CTAO *e*pP pP 12 14 06.9 -0.5
CTAO Charters Tower 59.46 121 *e*P P **12 14 00.7 +0.8**
CTAO *e**PP pP 12 14 06.9 -0.5
CTAO pmax pmax
comp=Z,13nm,0.8s,mb5.0
BR131 Keskin Array S 60.84 310 *e*P P **12 14 08.1 -1.2**
comp=Z,3.9nm,0.8s,mb4.6
BRTR Keskin Array B 60.84 310 P P **12 14 06.8 -2.5**
comp=Z,2.0nm,0.9s,mb4.3,baz=142,slow=8.9,SNR=9.7
STKA Stephens Creek 61.86 135 *e*P P **12 14 15.0 -1.3**
comp=Z,11nm,1.0s,mb4.9
STKA Stephens Creek 61.86 135 P P **12 14 14.3 -1.9**
comp=Z,9.7nm,0.8s,mb5.0,baz=308,slow=7.5,SNR=20
STKA LR LR 12 41 11.6
comp=Z,692nm,21.4s,MS4.8,baz=303,slow=36
MOS Moscow 62.83 328 *e*P P **12 14 22.2 -0.5**
MOS *e* 12 14 58.5
OBN Obninsk 63.16 327 ⇓*e*P P **12 14 24.3 -0.6**
OBN *e* 12 14 39.0
OBN *e* 12 15 02.1
OBN 12 16 43.0
OBN *e*S S **12 23 00.6 +5.8**
OBN pmax pmax
comp=Z,49nm,2.0s,mb5.3
OBN MLR MLR
comp=Z,700nm,19.0s,MS4.9
MA2 Magadan 64.11 28 *e*P P **12 14 30.7 -0.5**
comp=Z,15nm,1.1s,mb5.0
MA2 Magadan 64.11 28 *e*P P **12 14 30.6 -0.6**
MA2 *e* 12 23 15.8
MA2 pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
TIXI Tiksi 64.39 11 *c i*P P **12 14 31.9 -1.1**
TIXI pmax pmax
comp=Z,29nm,1.7s,mb5.0
AKASG Malin Array Be 66.14 321 P P **12 14 42.1 -2.3**
comp=Z,0.2nm,0.3s,mb3.7,baz=82,slow=4.4,SNR=5.6
SEY Seymchan 66.22 25 ⇑*i*P P **12 14 44.4 -0.5**
MLR Muntele Rosu 67.38 315 P P **12 14 51.3 -0.9**
comp=Z,1.2nm,0.5s,mb4.2,baz=129,slow=9.1,SNR=4.5
ARMA Armidale 68.47 129 *e*P P **12 15 01.8 +2.7**
FINES FINESS Array B 70.36 332 P P **12 15 09.2 -1.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=92,slow=7.0,SNR=3.7
FINES LR LR 12 52 49.4
comp=Z,374nm,18.6s,MS4.7,baz=154,slow=42
LSZ Lusaka 70.53 250 P P **12 15 11.7 -0.2**
comp=Z,1.7nm,0.5s,mb4.3,baz=73,slow=9.7,SNR=6.2
ARCES ARCESS Array B 72.71 340 P P **12 15 23.8 -1.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=93,slow=8.5,SNR=7.8
BILL Bilibino 73.34 22 *e*P P **12 15 27.9 -0.8**
comp=Z,13nm,1.3s,mb4.7
BILL *e*pP pP 12 15 36.9 +0.5
BILL Bilibino 73.34 22 *e*P P **12 15 27.9 -0.8**
BILL *e**PP pP 12 15 36.9 +0.5
BILL pmax pmax
comp=Z,13nm,1.3s,mb4.7
LBTB Lobatse 75.89 241 P P **12 15 43.2 -0.2**
comp=Z,4.2nm,1.0s,mb4.3,baz=129,slow=6.5,SNR=3.0
GERES GERESS Array B 75.93 318 P P **12 15 45.2 +1.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=40,slow=6.9,SNR=4.0
CLL Collm 76.37 320 *e*(P) P **12 15 48.0 +1.8**
CLL Collm 76.37 320 *e*P P **12 15 46.0 -0.2**
CLL *e**PP pP 12 15 52.0 -2.0
BOSA Boshof 77.36 237 P P **12 15 50.8 -1.1**
comp=Z,3.6nm,0.9s,mb4.3,baz=110,slow=2.2,SNR=5.2
BOSA LR LR 12 44 33.9
comp=Z,318nm,19.5s,MS4.7,baz=254,slow=32
BOSA Boshof 77.36 237 *e*P P **12 15 51.8 -0.1**
comp=Z,33nm,1.8s,mb5.0
BOSA *e*pP pP 12 15 58.2 -1.4
BOSA Boshof 77.36 237 *e*P P **12 15 51.8 0.0**
BOSA *e**PP pP 12 15 58.2 -1.4
BOSA pmax pmax
comp=Z,33nm,1.8s,mb5.0
NB2 NORSAR Subarra 77.42 330 P P **12 15 50.6 -1.5**
comp=Z,6.6nm,1.1s,mb4.5,baz=92,slow=5.6
NB2 NORSAR Subarra 77.42 330 P P **12 15 50.6 -1.5**
NB2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
NOA NORSAR Array B 77.42 330 P P **12 15 53.0 +0.9**
comp=Z,1.6nm,0.8s,mb4.0,baz=91,slow=5.6,SNR=4.9
CASY Casey 77.71 173 P P **12 15 50.1 -3.7**
comp=Z,1.3nm,0.4s,mb4.2
MAW Mawson 81.37 192 LR LR 12 47 08.0
comp=Z,572nm,21.2s,MS4.9,baz=287,slow=32
JMIC Jan Mayen 84.12 341 LR LR 12 56 05.7
comp=Z,389nm,18.6s,MS4.8,baz=246,slow=37
SYO Syowa Base 88.21 197 ⇑*e*P P **12 16 45.6 -2.5**
SYO Syowa Base 88.21 197 ⇓*e*PcP PcP 12 16 51.5 +1.7
TORD Torodi Ar. Bea 90.25 283 P P **12 16 57.5 -0.2**
comp=Z,1.5nm,0.9s,mb4.3,baz=96,slow=4.7,SNR=6.9
MCK McKinley 91.73 23 *e*P P **12 17 04.9 +0.4**
comp=Z,8.1nm,1.3s,mb4.9
MCK McKinley 91.73 23 *e*P P **12 17 04.9 +0.3**
MCK pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
ILAR Eielson Array 92.00 22 P P **12 17 04.4 -1.4**
comp=Z,0.7nm,0.8s,mb4.0,baz=293,slow=5.3,SNR=6.1
YKA Yellowknife Ar 103.60 13 PP PP 12 22 09.3 -5.1
comp=Z,0.3nm,0.9s,baz=316,slow=9.3,SNR=4.7
PPT Papeete 117.77 104 *e*LR LR 12 58 42.9
comp=Z,230nm,25.2s
TBI Tubuai 118.03 111 *e*LR LR 12 58 49.7
comp=Z,308nm,25.5s
ULM Lac du Bonnet 118.61 8 PKP PKPdf 12 22 44.1 -0.7
comp=Z,0.5nm,0.4s,baz=27,slow=2.3,SNR=2.5
NVAR Mina Array Bea 122.32 30 PKP PKPdf 12 22 53.0 +1.0
comp=Z,1.1nm,0.6s,baz=356,slow=2.4,SNR=9.9
PDAR Pinedale Array 122.41 21 PKP PKPdf 12 22 52.4 +0.2
comp=Z,1.3nm,0.7s,baz=176,slow=0.7,SNR=11
HWUT Hardware Ranch 122.68 23 *e*PKPdf PKPdf 12 22 52.8 +0.2
DAU Daniels Canyon 123.83 24 *e*PKPdf PKPdf 12 22 55.7 +0.8
MSU Marysvale 125.06 25 *e*PKPdf PKPdf 12 22 59.7 +2.4
RKT Rikitea 131.35 111 *e*LR LR 13 04 59.6
comp=Z,216nm,37.0s
JCT Junction City 136.80 18 *e*PKPdf PKPdf 12 23 18.9 -0.6
CPD Cerro la Pandu 145.47 326 *e*PKPdf PKPdf 12 23 36.1 +1.2
PLCA Paso Flores 147.31 201 PKPbc PKPbc 12 23 40.6 +0.1
comp=Z,6.5nm,0.8s,baz=153,slow=4.9,SNR=10
PLCA Paso Flores 147.31 201 *e*PKP2 PKPab 12 23 41.6 -0.7
CPUP Villa Florida 149.18 236 PKPbc PKPbc 12 23 45.0 -0.4
comp=Z,6.0nm,1.0s,baz=24,slow=6.4,SNR=4.3
CPUP Villa Florida 149.18 236 *e*PKPbc PKPbc 12 23 45.5 +0.1
CPUP *e*PKPab PKPab 12 23 50.6 +0.8
SDV Santo Domingo 155.51 322 *e*PKPab PKPab 12 24 16.6 +0.2
LPAZ La Paz 162.19 250 PKP PKPdf 12 24 00.1 +1.6
comp=Z,0.8nm,0.7s,baz=175,slow=2.5,SNR=3.7

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*NEIC **10** 12:04:45.4, 40.13S×17489E, h28km, ML4.3(WEL), After WEL.*
NEIC Felt at Wanganui.
WEL 10 12:04:45.8±0.3, 4013S×17497E, h12km±2km, ML4.3/45, 4C-6D, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.37**	**1**	⇑P*	Pg	12 04 54.0	+0.7
WAZ				S*	Sg	12 04 58.1	-0.2
WAZ	**Wanganui**	**0.37**	**1**	P	Pg	12 04 54.0	+0.8
MRZ	**Mangatainoka R**	**0.71**	**139**	⇑P*	Pb	12 04 59.9	-0.2
MRZ				S*	Sb	12 05 09.3	-0.5
MRZ	**Mangatainoka R**	**0.71**	**139**	P	Pg	12 04 59.9	+0.4
KIW	**Kapiti Island**	**0.73**	**184**	⇓P*	Pb	12 04 59.3	-1.3
KIW				S*	Sb	12 05 08.5	-2.1
TSZ	**Takapari Road**	**0.76**	**85**	P*	Pb	12 05 00.6	-0.3
TSZ				S*	Sb	12 05 10.5	-0.8
TSZ	**Takapari Road**	**0.76**	**85**	P	Pg	12 05 00.6	+0.1
MTVZ	**Mangateitei**	**0.83**	**27**	P*	Pb	12 05 00.9	-1.3
PKVZ	**Pokaka**	**0.88**	**19**	P*	Pb	12 05 01.8	-1.3
WNVZ	**Wahianoa**	**0.93**	**31**	P*	Pb	12 05 02.6	-1.3
MOVZ	**Moawhango**	**0.94**	**40**	⇓P*	Pb	12 05 02.3	-1.7
TRVZ	**Turoa**	**0.94**	**28**	⇓P*	Pb	12 05 02.8	-1.2
FWVZ	**Far West T-bar**	**0.98**	**27**	⇑P*	Pb	12 05 03.4	-1.3
CAW	**Cannon Point**	**0.98**	**176**	P*	Pb	12 05 04.0	-0.8
TUVZ	**Tukino**	**1.01**	**32**	P*	Pb	12 05 03.9	-1.3
VRZ	**Vera Road**	**1.01**	**350**	P*	Pb	12 05 04.6	-0.8
WPVZ	**Whakapapa**	**1.02**	**26**	⇓P*	Pb	12 05 04.2	-1.3
DUWZ	**D'Urville Isla**	**1.05**	**230**	P*	Pb	12 05 04.1	-1.8
NGZ	**Ngauruhoe**	**1.07**	**27**	P*	Pb	12 05 04.9	-1.3
NEZ	**North Egmont**	**1.09**	**321**	P*	Pb	12 05 06.2	-0.4
OTVZ	**Oturere**	**1.10**	**29**	P*	Pb	12 05 05.6	-1.2
MTW	**Mount Morrison**	**1.10**	**159**	P*	Pb	12 05 06.7	-0.2
TWVZ	**Taurewa**	**1.11**	**19**	P*	Pb	12 05 05.3	-1.7
WTVZ	**West Tongariro**	**1.12**	**25**	⇓P*	Pb	12 05 05.7	-1.4
MRW	**Makara Radio**	**1.12**	**191**	P*	Pb	12 05 05.9	-1.2
NRZ	**Ngariki Road**	**1.13**	**314**	P*	Pb	12 05 06.9	-0.3
KRVZ	**Karewarewa**	**1.15**	**27**	P*	Pb	12 05 06.2	-1.5
SNZO	**South Karori**	**1.20**	**190**	P*	Pb	12 05 07.3	-1.1
SNZO	**South Karori**	**1.20**	**190**	*e*P	Pn	12 05 07.2	-1.2
SNZO				*e*S	Sb	12 05 21.6	-2.3
PKE	**Pukeiti**	**1.20**	**320**	P*	Pb	12 05 08.1	-0.5
NWEZ	**Newall Road**	**1.21**	**315**	P*	Pb	12 05 08.3	-0.3
TCW	**Tory Channel**	**1.21**	**206**	⇓P*	Pb	12 05 06.7	-1.9
KATZ	**Kakaramea**	**1.28**	**26**	PN	Pn	12 05 08.2	-1.3
BHW	**Baring Head**	**1.28**	**183**	PN	Pn	12 05 08.9	-0.7
PAWZ	**Paruwai Farm**	**1.30**	**165**	PN	Pn	12 05 09.0	-0.8
MSWZ	**Moikau Station**	**1.30**	**171**	PN	Pn	12 05 09.3	-0.5
RITZ	**Rihia Road**	**1.34**	**31**	PN	Pn	12 05 09.5	-0.8
TRWZ	**Traveller**	**1.38**	**157**	PN	Pn	12 05 10.7	-0.2
RATZ	**Rangitukua**	**1.40**	**26**	PN	Pn	12 05 10.3	-0.9
PXZ	**Pawanui**	**1.45**	**87**	PN	Pn	12 05 11.8	-0.1
HATZ	**Hinemaiaia**	**1.51**	**35**	PN	Pn	12 05 12.0	-0.6
BKZ	**Black Stump Fm**	**1.52**	**51**	PN	Pn	12 05 12.3	-0.4
TUWZ	**Tuamarina**	**1.52**	**211**	PN	Pn	12 05 11.6	-1.2
WATZ	**Wairara**	**1.53**	**23**	PN	Pn	12 05 12.1	-0.9
HIZ	**Hauiti**	**1.61**	**357**	PN	Pn	12 05 13.2	-0.9
NNZ	**Nelson**	**1.63**	**228**	PN	Pn	12 05 13.3	-1.1
BSWZ	**Blackbirch Sta**	**1.79**	**207**	PN	Pn	12 05 16.8	+0.3
QRZ	**Quartz Range**	**1.99**	**249**	PN	Pn	12 05 18.9	-0.4
TAZ	**Tarawera**	**2.24**	**33**	PN	Pn	12 05 22.7	0.0
KNZ	**Kokohu**	**2.36**	**63**	PN	Pn	12 05 23.9	-0.5
URZ	**Urewera**	**2.50**	**42**	PN	Pn	12 05 25.0	-1.3
KHZ	**Kahutara**	**2.53**	**205**	⇑PN	Pn	12 05 26.2	-0.5

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*IDC **10** 12:06:41.7±1.1, 1060N×94.16E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/21, mbtmp4.1/9, Error ellipse: s-maj=53.0km s-min=18.9km az=53.0*
*NEIC **10** 12:06:43.3±0.7, 1061N×9420E, h10km, Error ellipse: s-maj=35.2km s-min=11.8km az=55.0*
*ISCJB **10** 12:06:44.8±0.9, 106N±02×942E±03, h33km, mb4.1/9, Error ellipse: s-maj=43.6km s-min=14.4km az=109.3*
ISC 10 12:06:47.4±0.9, 107N±02×942E±03, h35km, n10, σ0=71/10, mb4.1/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.41**	**346**	P	P	**12 13 57.0**	**0.0**
	2.8nm,0.7s,mb4.2,baz=161,slow=9.2,SNR=5.0						
SONM	**Songino Array**	**38.44**	**13**	P	P	**12 14 06.4**	**+0.7**
	1.7nm,0.9s,mb3.8,baz=205,slow=6.4,SNR=2.6						
WRA	**Warramunga Arr**	**49.83**	**128**	P	P	**12 15 37.2**	**+0.3**
	2.2nm,0.8s,mb4.2,baz=306,slow=8.8,SNR=5.9						
WRAB	**Tennant Creek**	**49.84**	**128**	*e*P	P	**12 15 36.9**	**0.0**
WRAB				*e*	pP	12 15 45.0	-2.3
ASAR	**Alice Springs**	**51.65**	**132**	P	P	**12 15 51.0**	**+0.3**
	3.2nm,0.9s,mb4.2,baz=308,slow=6.0,SNR=9.1						
BRTR	**Keskin Array B**	**60.71**	**310**	P	P	**12 16 54.6**	**-0.7**
	1.7nm,0.8s,mb4.2,baz=134,slow=5.0,SNR=3.6						
STKA	**Stephens Creek**	**61.97**	**135**	P	P	**12 17 03.5**	**-0.3**
	6.5nm,1.1s,mb4.7,baz=316,slow=11,SNR=2.1						

ARCES	**ARCESS Array B**	**72.70**	**340**	P	**P**	**12 18 11.5**	**-0.2**
	5.7nm,1.1s,mb4.4,baz=108,slow=9.0,SNR=2.9						
GERES	**GERESS Array B**	**75.83**	**318**	P	**P**	**12 18 31.2**	**+1.2**
	0.5nm,0.6s,mb3.6,baz=118,slow=5.8,SNR=2.5						
ILAR	**Eielson Array**	**92.14**	**22**	P	**P**	**12 19 51.6**	**-1.5**
	0.4nm,0.8s,mb3.8,baz=302,slow=4.4,SNR=5.3						

IDC 10 12:07:04.9±4.6, 1036N×9412E, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.9/20, mbtmp4.1/3, Error ellipse: s-maj=113.9km s-min=66.8km az=179.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.68**	**347**	P	P	12 14 21.9	0.0
	5.0nm,0.9s,baz=158,slow=9.7,SNR=3.9						
BRTR	**Keskin Array B**	**60.82**	**310**	P	P	12 17 19.3	+0.5
	1.8nm,0.8s,baz=139,slow=7.7,SNR=3.4						
ILAR	**Eielson Array**	**92.47**	**22**	P	P	12 20 17.6	-0.2
	0.9nm,1.1s,baz=304,slow=4.2,SNR=3.4						

IDC 10 12:07:36.3±1.5, 1061N×9406E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/19, mbtmp4.1/5, Error ellipse: s-maj=81.3km s-min=23.0km az=52.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.42**	**347**	P	P	12 14 51.0	0.0
	3.2nm,0.7s,baz=162,slow=8.7,SNR=3.4						
MJAR	**Matsushiro Arr**	**47.43**	**50**	PcP	PcP	12 17 44.3	+1.3
	2.8nm,0.9s,baz=271,slow=3.5,SNR=4.5						
WRA	**Warramunga Arr**	**49.94**	**127**	P	P	12 16 33.0	+1.1
	2.2nm,0.8s,baz=304,slow=8.8,SNR=2.7						
ASAR	**Alice Springs**	**51.75**	**132**	P	P	12 16 45.3	-0.2
	1.7nm,0.8s,baz=311,slow=7.4,SNR=2.7						
BRTR	**Keskin Array B**	**60.61**	**310**	P	P	12 17 49.5	+0.7
	2.2nm,0.8s,baz=104,slow=5.7,SNR=3.6						
ILAR	**Eielson Array**	**92.26**	**22**	P	P	12 20 47.6	-0.6
	0.5nm,0.7s,baz=304,slow=5.0,SNR=5.9						

*ISCJB **10** 12:13:54.3±0.6, 3175S×1008E×280E±02, h10km, mb4.0/11, Error ellipse: s-maj=22.3km s-min=11.2km az=29.5*
*IDC **10** 12:13:54.6±0.9, 3175S×2808E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/23, mbtmp4.0/12, ML1.9/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/31, Error ellipse: s-maj=29.1km s-min=17.9km az=106.0*
*NEIC **10** 12:13:55.8±0.6, 3255S×2810E, h10km, mb4.1/1, Error ellipse: s-maj=25.7km s-min=9.8km az=98.0*
ISC 10 12:13:56.1±0.6, 3255S±007×2811E±01, h10km, n17, σ0:99/17, mb4.0/11, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.37**	**77**	LR	LR	12 19 17.8	
	comp=Z,451nm,21.2s,baz=131,slow=34						
LSZ	**Lusaka**	**11.95**	**180**	Pn	**Pn**	**12 16 44.2**	**-2.3**
	1.0nm,0.3s,baz=4.3,slow=12,SNR=9.0						
LSZ				Sn	**Sn**	**12 18 45.9**	**-14**
	1.6nm,0.3s,baz=328,slow=17,SNR=7.6						
LSZ				Lg		12 20 05.8	
	2.3nm,0.3s,baz=282,slow=24,SNR=9.8						
LSZ				LR	LR	12 21 42.0	
	comp=Z,137nm,18.8s,baz=52,slow=39						
TSUM	**Tsumeb**	**18.91**	**212**	P	**Pn**	**12 18 17.7**	**+0.3**
	0.2nm,0.3s,baz=354,slow=15,SNR=2.9						
LBTB	**Lobatse**	**21.78**	**186**	P	**P**	**12 18 49.2**	**+1.3**
	5.8nm,0.9s,mb4.0,baz=36,slow=12,SNR=4.5						
BOSA	**Boshof**	**25.37**	**186**	P	**P**	**12 19 24.3**	**+0.9**
	6.5nm,1.1s,mb4.0,baz=359,slow=7.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.88**	**302**	P	**P**	**12 20 13.2**	**+0.6**
	1.1nm,0.6s,mb3.9,baz=109,slow=8.2,SNR=12						
DBIC	**Dimbokro**	**34.36**	**287**	P	**P**	**12 20 42.6**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=109,slow=8.7,SNR=3.4						
BRTR	**Keskin Array B**	**43.06**	**6**	P	**P**	**12 21 56.3**	**+0.2**
	3.2nm,0.8s,mb4.1,baz=182,slow=9.2,SNR=12						
GERES	**GERESS Array B**	**53.38**	**348**	P	**P**	**12 23 15.4**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=168,slow=6.8,SNR=3.6						
AKTK	**Aktyubinsk**	**59.32**	**22**	P	**P**	**12 23 58.9**	**+0.8**
AKTO	**Aktyubinsk**	**59.32**	**22**	P	**P**	**12 23 58.9**	**+0.8**
	0.5nm,0.4s,mb3.9,baz=238,slow=7.3,SNR=3.8						
FINES	**FINESS Array B**	**64.53**	**359**	P	**P**	**12 24 30.8**	**-2.4**
	0.9nm,0.8s,mb3.9,baz=294,slow=1.9,SNR=4.1						
NB2	**NORSAR Subarra**	**65.43**	**351**	P	**P**	**12 24 39.3**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=163,slow=6.2						
NOA	**NORSAR Array B**	**65.43**	**351**	P	**P**	**12 24 38.4**	**-0.7**
	comp=Z,2.3nm,0.9s,mb4.2,baz=164,slow=6.1,SNR=3.6						
BVAR	**Borovoye Array**	**66.33**	**26**	P	**P**	**12 24 44.6**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=198,slow=4.2,SNR=4.3						
MKAR	**Makanchi Array**	**68.86**	**37**	P	**P**	**12 25 01.0**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=246,slow=5.4,SNR=27						
MKAR	**Makanchi Array**	**68.86**	**37**	P	**P**	**12 25 01.0**	**+0.2**

*IDC **10** 12:31:10.0±0.8, 1085N×9464E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/21, mbtmp3.9/11, ML2.9/1, MS3.9/2, Ms1 3.9/2, ms1mx3.1/30, Error ellipse: s-maj=40.2km s-min=15.6km az=56.0*
*ISCJB **10** 12:31:10.6±0.5, 1050N±006×9420E±008, h21km, mb4.4/33, MS4.3/5, Error ellipse: s-maj=13.1km s-min=6.4km az=114.3*
*NEIC **10** 12:31:12.9±0.6, 1065N×9437E, mb4.4/12, Error ellipse: s-maj=23.9km s-min=6.3km az=57.0*
*BJI **10** 12:31:12.9, 1060N×9440E, h21km, mB5.0, mb4.4, Ms4.5, Msz4.3*
*MOS **10** 12:31:15.5±3.0, 1074N×9447E, h33km, mb4.7/12, Error ellipse: s-maj=31.1km s-min=10.6km az=105.9*
ISC 10 12:31:13.2±0.5, 1056N±006×9419E±008, h22km, h22km±1.7km: pP-P, n65, σ1:38/68, mb4.4/33, MS4.3/5, 2C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.79**	**308**	*e*P	Px	12 31 55.8	
PBA				*e*S	Sx	12 32 18.5	
PBA				*e*x	x	12 32 50.3	
	comp=N,1μm,0.9s						
PBA				*e*x	x	12 32 52.6	
	comp=E,2μm,0.9s						
KULM	**Kulim**	**8.27**	**129**	*e*Pn	**Pn**	**12 33 09.7**	**-2.1**
KULM				*e*pP		12 33 16.2	
KULM				*e*Sn	**Sn**	**12 34 39.0**	**-5.4**
PSI	**Prapat**	**9.03**	**148**	Pn	**Pn**	**12 33 22.8**	**+0.7**
	comp=E,0.1nm,0.3s,baz=293,slow=9.6,SNR=1.7						
PSI				LR	LR	12 36 54.5	
	comp=E,353nm,21.0s,baz=156,slow=38						
PSI	**Prapat**	**9.03**	**148**	*e*P	**Pn**	**12 33 22.8**	**+0.6**
KMI	**Kunming**	**16.61**	**28**	P	**Pn**	**12 35 05.4**	**+0.8**
KMI				AP	pP	12 35 10.7	-2.3
KMI				XP	sP	12 35 13.4	-2.4
KMI				AMB	AMB		
	comp=Z,7.0nm,1.4s						
JIRN	**Jiri**	**18.60**	**337**	*e*P	**Pn**	**12 35 28.8**	**-0.5**
	comp=Z,64nm,1.3s						
PKI	**Pulchoki**	**18.83**	**335**	*e*P	**Pn**	**12 35 31.3**	**-0.8**
GUN	**Gumba**	**18.95**	**337**	*e*P	**Pn**	**12 35 32.5**	**-1.0**
	comp=Z,236nm,2.0s						
DMN	**Daman**	**18.99**	**335**	*e*P	**Pn**	**12 35 32.9**	**-1.1**
	comp=Z,56nm,1.4s						
KKN	**Kakani**	**19.08**	**335**	*e*P	**Pn**	**12 35 33.5**	**-1.6**
LSA	**Lhasa**	**19.26**	**352**	*e*P	**Pn**	**12 35 36.5**	**-0.7**
	comp=Z,28nm,1.4s						
LSA				*e*pP	pP	12 35 43.2	+1.0
LSA	**Lhasa**	**19.26**	**352**	*e*P	**Pn**	**12 35 36.5**	**-0.7**
LSA				pmax	pmax		
	comp=Z,28nm,1.4s						
GKN	**Gorkha**	**19.54**	**334**	*e*P	**Pn**	**12 35 38.8**	**-1.8**
	comp=Z,66nm,1.2s						
GYA	**Guiyang**	**19.72**	**35**	⇑*i*P	**Pn**	**12 35 47.8**	**+5.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
KOLN	**Koldanda**	**19.81**	**331**	*e*P	**Pn**	**12 35 42.6**	**-1.2**
CD2	**Chengdu**	**22.12**	**22**	*e*P	**P**	**12 36 08.7**	**+1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
ENH	**Enshi**	**24.24**	**34**	*e*P	**P**	**12 36 26.8**	**-1.6**
	comp=Z,20nm,0.9s,mb4.5						
ENH				*e*pP		12 36 33.9	
LZH	**Lanzhou**	**26.88**	**17**	*e*P	**P**	**12 36 57.5**	**+5.1**
LZH				*e*S	**S**	**12 41 29.4**	**+1.6**
LZH				XS	sS	12 41 44.5	+5.8
LZH				SS		12 42 42.6	
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,95nm,4.5s						
LZH				LR	LR		
	comp=N,475nm,10.2s						
LZH				LR	LR		
	comp=Z,1μm,13.3s,MS4.6						
GTA	**Gaotai**	**29.17**	**9**	*e*P	**P**	**12 37 18.8**	**+6.0**
GTA				AP	pP	12 37 24.6	+5.2
GTA				XP	sP	12 37 27.9	+5.8
GTA				S	**S**	**12 42 13.0**	**+9.2**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
GTA				AMB	AMB		
	comp=Z,108nm,5.3s						
GTA				LR	LR		
	comp=N,159nm,14.1s,MS4.0						
GTA				LR	LR		
	comp=E,198nm,13.7s,MS4.0						
GTA				LR	LR		
	comp=Z,137nm,15.2s,MS3.7						
NJ2	**Nanjing**	**31.25**	**43**	*e*P	**P**	**12 37 32.5**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
SSE	**Sheshan**	**32.31**	**47**	*e*P	**P**	**12 37 38.9**	**-1.7**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,243nm,7.6s						
KSH	**Kashi**	**33.09**	**334**	P	**P**	**12 37 49.6**	**+2.3**
KSH				*e*AP	pP	12 37 56.9	+3.0
KSH				XP	sP	12 38 00.4	+3.8
KSH				PP	PP	12 39 01.3	-1.0
KSH				PCP	PcP	12 40 33.4	+3.0
KSH				S	**S**	**12 43 05.6**	**+0.5**
KSH				XS	sS	12 43 18.9	+2.9
KSH				SCP	ScP	12 44 15.8	+2.5
KSH				PCS	PcS	12 44 17.3	+1.5
KSH				SS	SS	12 45 06.4	-22
KSH				SCS	ScS	12 48 13.4	-0.2
KSH				AMB	AMB		
	comp=Z,9.0nm,0.3s,mb5.2						
KSH				AMB	AMB		
	comp=Z,133nm,5.7s						
KSH				LR	LR		
	comp=N,280nm,5.3s						
KSH				LR	LR		
	comp=E,400nm,6.7s						
KSH				LR	LR		
	comp=Z,207nm,7.2s						
WMQ	**Urumqi**	**33.62**	**351**	*e*P	**P**	**12 37 54.1**	**+2.1**
WMQ				AP	pP	12 38 00.0	+1.4
WMQ				XP	sP	12 38 02.9	+1.6
WMQ				PP	PP	12 39 06.7	-1.4
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,65nm,4.2s						
WMQ				LR	LR		
	comp=N,456nm,18.0s,MS4.4						
WMQ				LR	LR		
	comp=E,546nm,18.9s,MS4.4						
WMQ				LR	LR		
	comp=Z,489nm,18.4s,MS4.3						
HHC	**Hu-ho-hao-te**	**33.85**	**24**	*e*P	**P**	**12 37 54.4**	**+0.4**
HHC				AP	pP	12 38 00.2	-0.4
HHC				XP	sP	12 38 03.4	+0.1
HHC				PP	PP	12 39 06.8	-3.9
HHC				PCP	PcP	12 40 34.2	+1.6
HHC				S	**S**	**12 43 16.0**	**-1.0**
HHC				XS	sS	12 43 24.6	-3.3
HHC				SS	SS	12 45 19.0	-25
HHC				SCS	ScS	12 48 17.0	-0.6
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,214nm,5.0s						
HHC				LR	LR		
	comp=N,191nm,8.8s						
HHC				LR	LR		
	comp=E,473nm,23.5s						
HHC				LR	LR		
	comp=Z,120nm,8.3s						
BJI	**Beijing**	**35.25**	**30**	P	**P**	**12 38 08.0**	**+1.9**
AAK	**Ala-Archa**	**36.29**	**335**	*e*P	**P**	**12 38 13.6**	**-1.4**
	comp=Z,6.6nm,1.1s,mb4.5						
AAK				*e*pP	pP	12 38 21.1	-0.6
AAK	**Ala-Archa**	**36.29**	**335**	*e*P	**P**	**12 38 13.6**	**-1.4**
AAK				*e**PP	pP	12 38 21.1	-0.6
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**36.29**	**335**	*e*P	**P**	**12 38 19.0**	**+4.0**
AAK				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.5						
MKAR	**Makanchi Array**	**37.50**	**347**	P	**P**	**12 38 23.2**	**-2.1**
	comp=Z,1.5nm,0.7s,mb3.8,baz=164,slow=7.7,SNR=14						
SONM	**Songino Array**	**38.55**	**13**	P	**P**	**12 38 31.4**	**-2.8**
	comp=Z,0.5nm,0.5s,mb3.5,baz=198,slow=9.1,SNR=2.7						
ULN	**Ulaanbaatar**	**38.73**	**14**	*e*P	**P**	**12 38 41.4**	**+5.7**
	comp=Z,22nm,2.0s,mb4.5						
ULN	**Ulaanbaatar**	**38.73**	**14**	*e*P	**P**	**12 38 38.5**	**+2.8**
ULN	**Ulaanbaatar**	**38.73**	**14**	*e*P	**P**	**12 38 41.4**	**+5.7**
ULN				pmax	pmax		
	comp=Z,22nm,2.0s,mb4.5						
KURK	**Kurchatov**	**42.04**	**345**	*e*P	**P**	**12 39 03.8**	**+0.7**
	comp=Z,9.2nm,1.1s,mb4.3						
KURK				*e*pP	pP	12 39 09.0	-0.8
KURK	**Kurchatov**	**42.04**	**345**	*e*P	**P**	**12 39 03.8**	**+0.7**
KURK				*e**PP	pP	12 39 09.0	-0.8
KURK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
KURK	**Kurchatov**	**42.04**	**345**	*e*P	**P**	**12 39 04.0**	**+0.9**
NVS	**Novosibirsk**	**45.02**	**351**	*e*P	**P**	**12 39 27.3**	**+0.2**
MDJ	**Mudanjiang**	**45.59**	**35**	P	**P**	**12 39 31.6**	**0.0**
MDJ				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,88nm,3.4s						
BVAR	**Borovoye Array**	**46.49**	**340**	P	**P**	**12 39 38.7**	**+0.1**
	comp=Z,4.3nm,1.1s,mb4.3,baz=132,slow=8.2,SNR=4.2						
BVAR				PcP	PcP	12 41 17.2	+4.3
	comp=Z,1.6nm,0.9s,baz=106,slow=3.8,SNR=5.1						
BRVK	**Borovoye**	**46.55**	**340**	*e*P	**P**	**12 39 40.3**	**+1.1**
	comp=Z,2.8nm,0.9s,mb4.2						
BRVK				*e*pP	pP	12 39 44.2	-1.7
BRVK	**Borovoye**	**46.55**	**340**	*e*P	**P**	**12 39 40.3**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**46.90**	**339**	*e*P	**P**	**12 39 47.3**	**+5.4**
	comp=Z,2.5nm,1.0s,mb4.1						
ZRNK				*e*pP	pP	12 39 55.1	+6.4
ZRNK	**Zerenda**	**46.90**	**339**	*e*P	**P**	**12 39 47.3**	**+5.4**
ZRNK				*e**PP	pP	12 39 55.1	+6.4
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
MJAR	**Matsushiro Arr**	**47.36**	**50**	PcP	PcP	12 41 16.9	+0.8
	comp=Z,1.2nm,0.8s,baz=251,slow=3.4,SNR=3.1						
WRA	**Warramunga Arr**	**49.81**	**127**	P	**P**	**12 40 04.2**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.4,baz=304,slow=8.9,SNR=30						
WB2	**Warramunga Arr**	**49.82**	**127**	*e*P	**P**	**12 40 04.3**	**-0.1**
WB2				*e*pP	pP	12 40 11.7	+0.5
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**12 40 17.7**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.3,baz=312,slow=6.9,SNR=34						
ARU	**Arti**	**53.46**	**336**	⇓*i*P	**P**	**12 40 36.4**	**+4.8**
ARU				*e*		12 42 34.6	
ARU				*e*PPP		12 43 41.9	
ARU				*e*S	**S**	**12 48 02.2**	**-0.7**
ARU				*e*SS	SS	12 51 41.0	-2.1
ARU				*e*SSS		12 53 34.0	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
YSS	**Yuzh-Sakhalins**	**54.66**	**39**	*e*P	**P**	**12 40 45.6**	**+5.2**
YSS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
KIV	**Kislovodsk**	**55.39**	**317**	⇑*e*P	**P**	**12 40 53.3**	**+7.6**
KIV				*e*		12 41 07.5	
KIV				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,13.0s,MS4.1						
YAK	**Yakutsk**	**57.45**	**19**	*e*P	**P**	**12 41 04.5**	**+4.1**
YAK				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1						
ANN	**Anapa**	**59.23**	**316**	*e*P	**P**	**12 41 20.0**	**+7.2**
BRTR	**Keskin Array B**	**60.74**	**310**	P	**P**	**12 41 24.8**	**+1.6**
	comp=Z,2.5nm,0.8s,mb4.4,baz=128,slow=8.0,SNR=3.6						
STKA	**Stephens Creek**	**61.93**	**135**	P	**P**	**12 41 30.4**	**-0.7**
	comp=Z,0.9nm,0.7s,mb4.0,baz=315,slow=8.6,SNR=3.2						
OBN	**Obninsk**	**63.16**	**327**	P	**P**	**12 41 45.0**	**+5.6**
OBN						12 42 25.0	
OBN				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.0						
MA2	**Magadan**	**64.39**	**28**	*e*P	**P**	**12 41 48.3**	**+0.8**
	comp=Z,11nm,1.2s,mb4.8						
MA2				*e*pP	pP	12 41 53.3	-1.1
MA2	**Magadan**	**64.39**	**28**	*e*P	**P**	**12 41 52.7**	**+5.2**
MA2				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
TIXI	**Tiksi**	**64.61**	**12**	*e*P	**P**	**12 41 49.7**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
SEY	**Seymchan**	**66.49**	**25**	*e*P	**P**	**12 42 05.9**	**+4.8**
BILL	**Bilibino**	**73.59**	**22**	*e*P	**P**	**12 42 50.4**	**+5.7**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
GERES	**GERESS Array B**	**75.88**	**318**	P	**P**	**12 42 58.9**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=91,slow=7.9,SNR=2.0						
BOSA	**Boshof**	**77.05**	**237**	LR	LR	13 13 39.9	
	comp=Z,193nm,20.3s,MS4.4,baz=351,slow=33						
TORD	**Torodi Ar. Bea**	**90.03**	**283**	P	**P**	**12 44 14.3**	**+3.2**
	comp=Z,0.5nm,0.7s,mb4.0,baz=48,slow=4.5,SNR=2.4						
TORD				PP	PP	12 47 45.1	+0.9
	comp=Z,0.3nm,0.8s,baz=74,slow=5.1,SNR=2.0						
ILAR	**Eielson Array**	**92.26**	**22**	P	**P**	**12 44 18.9**	**-2.5**
	comp=Z,0.7nm,1.0s,mb3.9,baz=228,slow=3.8,SNR=4.1						
ILAR	**Eielson Array**	**92.26**	**22**	P	**P**	**12 44 18.9**	**-2.6**

GUC 10 12:32:42.5±1.0, 2524S×7059W, h41km±3km, MD4.1, ML3.3, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.63**	**16**	*e*P	Pn	12 32 55.9	+0.9
CPN1				*i* S	Sn	12 33 05.5	+1.5
CPN1				AMP		12 33 10.1	
	comp=N,1μm,0.3s						
CRCH	**Chaqaral**	**1.10**	**181**	*e*P	Pn	12 33 02.6	+1.1
CRCH				*i* S	Sn	12 33 16.7	+1.2
CRCH				AMP		12 33 18.6	
	comp=N,1μm,0.4s						
ANCH	**Antofagasta**	**1.56**	**6**	*e*P	Pn	12 33 05.5	-2.2
ANCH				*i* S	Sn	12 33 25.9	-0.7
ANCH				AMP		12 33 31.8	
	comp=N,586nm,0.3s						
CDCH	**Caldera**	**1.84**	**187**	*e*P	Pn	12 33 11.2	-0.4
CDCH				*i* S	Sn	12 33 35.0	+1.3
CEN1	**Los Morros**	**1.87**	**11**	⇓*i*P	Pn	12 33 10.3	-1.7
CEN1				*i* S	Sn	12 33 32.0	-2.4
CEN1				AMP		12 33 38.0	
	comp=N,203nm,0.2s						
CPCH	**Copiapo**	**2.12**	**174**	*e*P	Pn	12 33 17.1	+1.6
CPCH				*i* S	Sn	12 33 43.4	+2.8
CPCH				AMP		12 33 47.3	
	comp=E,3μm,0.0s						

IDC 10 12:32:48.4±1.4, 1043N×9388E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, MS3.9/2, Ms1 3.9/2, ms1mx3.1/33, Error ellipse: s-maj=95.7km s-min=24.0km az=47.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.56**	**347**	P	P	12 40 03.8	-0.5
	0.6nm,0.7s,baz=173,slow=9.0,SNR=2.4						
SONM	**Songino Array**	**38.75**	**13**	LR	LR	12 57 08.7	
	comp=Z,123nm,19.5s,baz=225,slow=38						
WRA	**Warramunga Arr**	**49.97**	**127**	P	P	12 41 44.5	+0.4
	1.4nm,0.6s,baz=304,slow=8.9,SNR=6.3						
ASAR	**Alice Springs**	**51.76**	**131**	P	P	12 41 58.1	+0.5
	1.5nm,0.8s,baz=309,slow=6.6,SNR=5.3						
CTA	**Charters Tower**	**59.80**	**121**	LR	LR	13 09 04.9	
	comp=Z,107nm,19.5s,baz=257,slow=36						
BRTR	**Keskin Array B**	**60.59**	**310**	P	P	12 43 01.5	+0.7
	0.8nm,0.8s,baz=99,slow=9.2,SNR=3.1						

MEX 10 12:33:02.6±1.5, 1720N×9460W, h133km±23km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.85**	**12**	*e*P	Pn	12 33 22.4	-2.0
TUIG				*i* S	Sn	12 33 39.4	-1.7
HUIG	**Huatulco**	**2.03**	**226**	*e*P	Pn	12 33 34.5	-2.6
HUIG				*e*S	Sn	12 34 02.4	-1.0
OXX	**Oaxaca**	**2.03**	**267**	*i* P	Pn	12 33 36.8	-0.3
OXX				*i* S	Sn	12 34 03.2	-0.3
VHO	**Vista Hermosa**	**2.04**	**267**	*e*P	Pn	12 33 36.2	-1.1
VHO				*e*S	Sn	12 34 02.8	-0.9
CCIG	**Comitan**	**2.53**	**111**	*e*P	Pn	12 33 43.4	+0.1
CCIG				*e*S	Sn	12 34 13.6	-1.1
PPM	**Popocatepetl**	**4.25**	**297**	*e*P	Pn	12 34 05.3	-0.4
PPM				*i* S	Sn	12 34 54.4	-0.4

IDC 10 12:45:42.6±7.7, 986N×9292E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=402.7km s-min=27.5km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.90**	**348**	P	P	12 53 01.4	-0.1
	0.2nm,0.7s,baz=146,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**50.40**	**126**	P	P	12 54 41.3	-0.2
	0.5nm,0.6s,baz=303,slow=9.1,SNR=6.5						
ASAR	**Alice Springs**	**52.11**	**130**	P	P	12 54 55.5	+1.1
	0.4nm,0.7s,baz=318,slow=7.3,SNR=7.1						

*ISCJB **10** 12:49:23.4±0.8, 5515S×02×290W±03, h10km, mb4.3/7, MS3.5/1, Error ellipse: s-maj=26.7km s-min=18.0km az=84.6*
*IDC **10** 12:49:23.5±1.3, 5516S×2906W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.1/15, mbtmp4.1/5, MS3.6/1, Ms1 3.6/1, ms1mx3.3/14, Error ellipse: s-maj=52.6km s-min=25.0km az=20.0*
*NEIC **10** 12:49:24.7±0.5, 5518S×2899W, h10km, mb4.5/3, Error ellipse: s-maj=23.9km s-min=11.7km az=52.0*
ISC 10 12:49:24.7±0.8, 5525S±01×2900W±03, h10km, n16, σ0:95/11, mb4.3/7, MS3.5/1, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**18.11**	**160**	*e*P	**Pn**	**12 53 47.0**	**+11**
VNA3				*e*		12 53 59.4	

Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**151.70**	**86**	PKPbc	PKPbc	13 09 18.1	-1.3
	1.7nm,0.8s,baz=224,slow=4.1,SNR=3.6						

IDC 10 12:56:01.3±4.7,1172N×14329E,h67km±44km,mb3.1/3, mb1 3.5/4,mb1mx3.2/20,mbtmp3.4/4,ML3.5/1,MS3.9/1, Ms1 3.9/1,ms1mx2.7/12,Error ellipse: s-maj=108.0km s-min=20.5km az=113.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.41**	**39**	P	Pn	12 56 38.0	-0.5
	11nm,0.3s,baz=215,slow=16,SNR=4.1						
GUMO				S	Sn	12 57 07.9	+0.9
	9.1nm,0.3s,baz=163,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**32.67**	**196**	P	P	13 02 27.1	+0.1
	0.8nm,0.7s,baz=18,slow=9.7,SNR=8.9						
ASAR	**Alice Springs**	**36.34**	**195**	P	P	13 02 59.3	+0.6
	0.2nm,0.6s,baz=21,slow=12,SNR=5.0						
PSI	**Prapat**	**44.84**	**262**	LR	LR	13 21 16.9	
	comp=Z,138nm,19.7s,baz=66,slow=34						
ILAR	**Eielson Array**	**70.91**	**25**	P	P	13 07 11.0	-0.3
	0.3nm,0.7s,baz=241,slow=6.8,SNR=5.5						

*IDC **10** 12:57:05.5±0.9,548S×8103W,h36km±6km,mb3.7/7, mb1 4.0/8,mb1mx3.8/18,mbtmp4.0/8,ML4.3/1,MS3.6/1, Ms1 3.5/1,ms1mx2.7/26,Error ellipse: s-maj=29.8km s-min=18.0km az=60.0*

*NEIC **10** 12:57:09.5±2.7,543S×8094W,h69km±24km,mb4.4/13, Error ellipse: s-maj=25.7km s-min=8.8km az=63.0*

*BJI **10** 12:57:09.5,540S×8090W,h68km,mB5.3,Ms5.4,Msz5.2*

*ISCJB **10** 12:57:11.3±2.0,526S±008×808W±0.1,h94km±19km, mb4.2/17,Error ellipse: s-maj=23.8km s-min=10.0km az=135.8*

ISC 10 12:57:10.1±2.6,538S±009×809W±02,h67km±23km,n42, σ1§10/31,mb4.2/17,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.10**	**24**	*e*Pn	**Pn**	**12 58 36.3**	**-1.4**
	17nm,0.7s						
NNA	**Nana**	**7.70**	**149**	Pn	**Pn**	**12 59 04.7**	**+5.2**
LPAZ	**La Paz**	**16.58**	**132**	Pn	**Pn**	**13 00 59.8**	**+1.6**
	0.1nm,0.3s,baz=291,slow=8.6,SNR=1.9						
SDV	**Santo Domingo**	**17.50**	**36**	P	**Pn**	**13 01 10.6**	**+1.1**
	1.0nm,0.3s,baz=268,slow=21,SNR=5.5						
SDV	**Santo Domingo**	**17.50**	**36**	*e*P	**Pn**	**13 01 09.8**	**+0.3**
	6.4nm,0.8s						
SAML	**Samuel**	**17.95**	**102**	*e*P	**Pn**	**13 01 12.4**	**-2.6**
	6.6nm,0.9s						
SIV	**San Ignacio**	**22.15**	**120**	P	**P**	**13 02 00.5**	**+0.3**
	1.2nm,0.5s,mb3.5,baz=307,slow=11,SNR=6.7						
TEIG	**Tepich**	**26.45**	**344**	*e*P	**P**	**13 02 42.7**	**+1.9**
	6.7nm,1.3s,mb3.9						
SJG	**San Juan**	**27.52**	**32**	P	**P**	**13 02 50.5**	**+0.2**
	14nm,0.5s,mb4.8,baz=190,slow=6.1,SNR=3.0						
SJG	**San Juan**	**27.52**	**32**	*e*P	**P**	**13 02 51.7**	**+1.4**
	97nm,1.8s,mb5.0						
CPUP	**Villa Florida**	**30.69**	**135**	*e*P	**P**	**13 03 20.0**	**+1.6**
	31nm,1.5s,mb4.8						
BDFB	**Brasilia**	**33.87**	**110**	LR	LR	13 17 23.6	
	comp=Z,93nm,19.6s,baz=91,slow=36						
PLCA	**Paso Flores**	**36.41**	**167**	P	**P**	**13 04 06.2**	**-1.9**
	2.5nm,0.9s,mb4.1,baz=331,slow=11,SNR=4.5						
PLCA	**Paso Flores**	**36.41**	**167**	*e*P	**P**	**13 04 06.0**	**-2.0**
	4.0nm,0.9s,mb4.3						
WMOK	**Wichita Mounta**	**43.31**	**338**	*e*P	**P**	**13 05 04.9**	**-0.5**
	1.8nm,0.6s,mb4.0						
SIUC	**Southern Illin**	**43.57**	**350**	P	**P**	**13 05 07.1**	**-0.2**
	15nm,0.4s,mb5.1						
FVM	**French Village**	**44.04**	**349**	P	**P**	**13 05 12.4**	**+1.2**
ANMO	**Albuquerque**	**46.78**	**331**	P	**P**	**13 05 33.4**	**+0.5**
ISCO	**Idaho Springs**	**50.39**	**335**	P	**P**	**13 06 01.4**	**+0.9**
	3.5nm,0.8s,mb4.3						
DAU	**Daniels Canyon**	**53.42**	**331**	*e*P	**P**	**13 06 23.6**	**+0.6**
HWUT	**Hardware Ranch**	**54.49**	**332**	P	**P**	**13 06 30.8**	**-0.1**
	7.6nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**54.52**	**334**	P	**P**	**13 06 30.6**	**-0.5**
	1.8nm,0.7s,mb4.2,baz=128,slow=8.4,SNR=17						
NVAR	**Mina Array Bea**	**55.69**	**325**	P	**P**	**13 06 39.8**	**+0.3**
	0.8nm,0.6s,mb3.9,baz=131,slow=7.5,SNR=7.3						
ULM	**Lac du Bonnet**	**56.90**	**349**	P	**P**	**13 06 46.6**	**-1.5**
	2.9nm,0.8s,mb4.4,baz=173,slow=7.1,SNR=8.9						
HLID	**Hailey**	**57.34**	**332**	P	**P**	**13 06 51.7**	**+0.5**
	2.9nm,0.9s,mb4.3						
BOZ	**Bozeman (W)**	**57.72**	**335**	P	**P**	**13 06 54.0**	**+0.1**
MSO	**Missoula**	**59.64**	**334**	P	**P**	**13 07 07.4**	**+0.2**
	8.6nm,1.3s,mb4.6						
FCC	**Fort Churchill**	**64.80**	**352**	*e*P	**P**	**13 07 40.6**	**-1.2**
	1.9nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**72.41**	**344**	P	**P**	**13 08 27.4**	**-1.7**
	0.6nm,0.9s,mb3.4,baz=135,slow=5.5,SNR=12						
YKA				pP	pP	13 08 40.1	-7.0
	0.4nm,0.7s,baz=132,slow=3.5,SNR=6.0						
YKA	**Yellowknife Ar**	**72.41**	**344**	P	**P**	**13 08 27.4**	**-1.7**
YKA				pP	pP	13 08 40.1	-7.0
TORD	**Torodi Ar. Bea**	**84.06**	**76**	P	**P**	**13 09 33.3**	**-0.2**
	0.5nm,0.6s,mb3.5,baz=288,slow=6.1,SNR=3.2						
TORD				pP	pP	13 09 43.8	-8.0
	1.7nm,0.8s,baz=297,slow=7.3,SNR=7.6						
QSPA	**South Pole Qui**	**84.70**	**180**	P	**P**	**13 09 35.8**	**-0.9**
ASAR	**Alice Springs**	**135.41**	**228**	PKP	PKPdf	13 16 21.4	-1.0
	0.5nm,0.7s,baz=113,slow=1.9,SNR=7.1						
ASAR				pPKP	pPKPdf	13 16 34.3	-7.4
	0.8nm,1.0s,baz=143,slow=1.9,SNR=4.1						
MKAR	**Makanchi Array**	**136.27**	**17**	PKP	PKPdf	13 16 22.9	-1.1
	0.4nm,0.6s,baz=350,slow=2.5,SNR=7.4						
WRA	**Warramunga Arr**	**137.16**	**233**	PKP	PKPdf	13 16 24.8	-0.8
	0.9nm,0.6s,baz=119,slow=2.1,SNR=14						
WRA				pPKP	pPKPdf	13 16 36.8	-8.1
	1.3nm,1.1s,baz=117,slow=1.8,SNR=3.7						
SONM	**Songino Array**	**137.24**	**353**	PKP	PKPdf	13 16 23.7	-2.0
	0.8nm,0.6s,baz=330,slow=2.1,SNR=3.6						
WMQ	**Urumqi**	**140.43**	**13**	*e*PKP	PKPdf	13 16 32.4	+0.8
WMQ				LR	LR		
	comp=N,55nm,23.0s						
WMQ				LR	LR		
	comp=E,61nm,22.0s						
WMQ				LR	LR		
	comp=Z,52nm,24.0s						
HHC	**Hu-ho-hao-te**	**142.95**	**344**	*e*PKP	PKPdf	13 16 33.7	-2.4
HHC				PP	PP	13 19 45.1	-0.8
HHC				PKS		13 20 08.0	
HHC				SKS	SKSdf	13 23 38.4	-1.5
HHC				SKKS	SKKSac	13 26 31.2	-1.8
HHC				SS	SS	13 38 15.5	-3.5
HHC				LR	LR		
	comp=N,374nm,11.6s						
HHC				LR	LR		
	comp=E,369nm,13.3s						
HHC				LR	LR		
	comp=Z,252nm,11.8s						
FITZ	**Fitzroy Crossi**	**144.91**	**228**	*e*P	PKPdf	13 16 38.0	-1.5
	comp=Z,12nm,0.8s						
NJ2	**Nanjing**	**147.65**	**328**	*e*PKP	PKPdf	13 16 42.8	-1.3
NJ2				PKP2	PKPab	13 16 49.4	+0.1
NJ2				XPKP		13 17 09.4	
NJ2				PP	PP	13 20 15.0	+1.1
NJ2				PKS		13 20 16.0	
NJ2				SKS	SKSdf	13 23 39.0	-7.8
NJ2				SKKS	SKKSac	13 26 53.0	-6.6
NJ2				PP	PP		
	comp=Z,390nm,6.8s						
NJ2				LR	LR		
	comp=N,950nm,14.5s						
NJ2				LR	LR		
	comp=E,1μm,22.0s						
NJ2				LR	LR		
	comp=Z,280nm,13.0s						
LZH	**Lanzhou**	**149.13**	**352**	*e*PKP	PKPdf	13 16 46.0	-0.6
LZH				PKP2	PKPab	13 16 56.2	+0.9
LZH				APKP		13 17 07.1	
LZH				XPKP		13 17 15.2	
LZH				LR	LR		
	comp=N,159nm,18.5s						
LZH				LR	LR		
	comp=Z,297nm,20.3s						
CD2	**Chengdu**	**154.23**	**351**	*e*PKP	PKPdf	13 16 51.4	-2.8

IDC 10 13:03:39.4±2.0,182N×12539E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.4/17,mbtmp3.3/3,Error ellipse: s-maj=186.8km s-min=25.6km az=64.0,Northern

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**158**	P	P	13 08 48.5	-0.8
	0.3nm,0.3s,baz=336,slow=10,SNR=13						
ASAR	**Alice Springs**	**26.65**	**162**	P	P	13 09 21.1	+1.3
	0.1nm,0.3s,baz=347,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**58.38**	**327**	P	P	13 13 36.6	+0.1
	0.1nm,0.3s,baz=112,slow=8.9,SNR=5.3						

*IDC **10** 13:11:48.4±0.7,426N×12821E,h0km,mb4.2/11, mb1 4.3/11,mb1mx4.2/18,mbtmp4.2/11,MS3.8/9, Ms1 3.8/9,ms1mx3.6/30,Error ellipse: s-maj=40.9km s-min=14.4km az=85.0*

*MOS **10** 13:11:53.0±0.8,431N×128.12E,h48km,mb4.7/9,Error ellipse: s-maj=29.0km s-min=9.9km az=104.7*

*BJI **10** 13:11:56.1,420N×12849E,h97km,mB4.9,mb4.7*

*ISCJB **10** 13:11:58.2±1.4,427N±007×1282E±0.1,h96km±13km, mb4.3/27,Error ellipse: s-maj=23.7km s-min=7.6km az=138.1*

*NEIC **10** 13:11:58.5±1.5,427N×12824E,h83km±14km,mb4.5/8, Error ellipse: s-maj=23.2km s-min=6.5km az=74.0*

*MAN **10** 13:12:47.2,714N×12541E,h77km,mb3.2,ML4.5,MS5.1*

ISC 10 13:11:59.5±1.3,428N±007×1282E±0.1,h91km±12km,n60, σ0§90/52,mb4.3/27,3C-3D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.82**	**317**	P	**Pn**	**13 12 55.6**	**-0.4**
KCP	**Kidapawan**	**4.13**	**311⇓**	*e*P	**Pn**	**13 13 01.1**	**+0.9**
BUKP	**Musuan**	**4.76**	**319**	*e*P	**Pn**	**13 13 05.7**	**-3.1**
BUKP				*e*S	**Sn**	**13 14 03.9**	**+1.3**
CGP	**Cagayan de Oro**	**5.43**	**320⇓**	*e*P	**Pn**	**13 13 11.8**	**-6.1**
CGP				*i* S	**Sn**	**13 14 26.1**	**+7.1**
PAGZ	**Pagadian**	**5.97**	**307**	*e*P	**Pn**	**13 13 21.9**	**-3.5**
KAKA	**Kakadu**	**17.40**	**166**	*e*P	**Pn**	**13 15 58.2**	**+1.9**
	9.0nm,0.6s						
GUMO	**Guam**	**18.85**	**60**	LR	LR	13 22 02.8	
	comp=Z,167nm,20.8s,baz=255,slow=33						
JOW	**Kunigami**	**22.42**	**0**	LR	LR	13 24 48.1	
	comp=Z,183nm,18.5s,baz=124,slow=35						
PMG	**Port Moresby**	**23.26**	**126**	LR	LR	13 26 50.4	
	comp=Z,141nm,18.0s,baz=110,slow=39						
GZH	**Guangzhou**	**23.59**	**324**	P	**P**	**13 17 00.8**	**-1.1**
GZH				S	**S**	**13 21 14.6**	**+5.2**
GZH				LR	LR		
	comp=N,189nm,11.1s						
GZH				LR	LR		
	comp=E,172nm,9.3s						
GZH				LR	LR		
	comp=Z,272nm,16.5s						
WRAB	**Tennant Creek**	**24.81**	**166**	*e*P	**P**	**13 17 13.0**	**0.0**
	comp=Z,12nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**24.81**	**166**	*e*P	**P**	**13 17 13.0**	**0.0**
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**24.81**	**166**	P	**P**	**13 17 12.8**	**-0.3**
	comp=Z,3.0nm,0.6s,mb3.9,baz=344,slow=11,SNR=29						
WB2	**Warramunga Arr**	**24.82**	**166**	*e*P	**P**	**13 17 13.5**	**+0.4**
ASAR	**Alice Springs**	**28.33**	**169**	P	**P**	**13 17 44.5**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.2,baz=352,slow=7.7,SNR=13						
PSI	**Prapat**	**29.28**	**268**	LR	LR	13 30 25.5	
	comp=Z,116nm,19.2s,baz=256,slow=38						
CTA	**Charters Tower**	**30.01**	**144**	LR	LR	13 30 54.2	
	comp=Z,146nm,19.7s,baz=322,slow=38						
ENH	**Enshi**	**31.32**	**328**	*e*P	**P**	**13 18 10.8**	**-0.3**
	comp=Z,8.7nm,0.8s,mb4.5						
MJAR	**Matsushiro Ar**	**33.39**	**15**	P	**P**	**13 18 27.9**	**-1.3**
	comp=Z,1.9nm,0.7s,mb4.0,baz=183,slow=9.9,SNR=6.1						
HNR	**Honiara**	**34.43**	**113**	LR	LR	13 30 09.8	
	comp=Z,121nm,18.1s,baz=358,slow=32						
XAN	**Xi'an**	**34.62**	**331**	P	**P**	**13 18 38.8**	**-1.0**
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**38.15**	**161**	*e*P	**P**	**13 19 08.6**	**-1.2**
	comp=Z,6.7nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**38.15**	**161**	P	**P**	**13 19 08.0**	**-1.8**
	comp=Z,1.9nm,0.5s,mb4.2,baz=336,slow=9.5,SNR=7.7						
NWAO	**Narrogin (SRO)**	**38.45**	**195**	P	**P**	**13 19 12.2**	**-0.2**
	comp=Z,8.0nm,0.9s,mb4.5,baz=31,slow=5.9,SNR=2.7						
LZH	**Lanzhou**	**38.81**	**328**	*e*P	**P**	**13 19 16.9**	**+1.6**
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,83nm,4.6s						
LZH				LR	LR		
	comp=N,479nm,10.0s						
LZH				LR	LR		
	comp=Z,894nm,13.2s						
SHL	**Shillong**	**40.76**	**305**	*e*P	**P**	**13 19 31.3**	**-0.3**
ASAJ	**Asahikawa**	**41.65**	**16**	P	**P**	**13 19 40.0**	**+1.2**
	comp=Z,5.4nm,0.8s,mb4.3,baz=231,slow=10,SNR=8.3						
ASAJ				LR	LR	13 35 08.9	
	comp=Z,96nm,19.1s,baz=192,slow=34						
GTA	**Gaotai**	**43.41**	**328**	*e*P	**P**	**13 19 53.9**	**+0.8**
GTA				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7						
HABR	**Khabarovsk**	**44.41**	**6**	*e*P	**P**	**13 19 56.4**	**-4.7**
ULN	**Ulaanbaatar**	**47.07**	**341**	*e*P	**P**	**13 20 22.4**	**+0.3**
	comp=Z,15nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**47.07**	**341**	*e*P	**P**	**13 20 22.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
SONM	**Songino Array**	**47.27**	**340**	P	**P**	**13 20 24.0**	**+0.4**
	comp=Z,3.2nm,0.7s,mb4.2,baz=161,slow=7.8,SNR=10						
ZAK	**Zakamensk**	**50.51**	**340**	*e*P	**P**	**13 20 47.5**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.5						
MOY	**Mondy**	**52.39**	**339**	*e*P	**P**	**13 21 03.1**	**+0.8**
WMQ	**Urumqi**	**53.14**	**324**	*e*P	**P**	**13 21 08.8**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,75nm,4.4s						
WMQ				LR	LR		
	comp=N,45nm,16.0s						
WMQ				LR	LR		
	comp=E,176nm,25.6s						
WMQ				LR	LR		
	comp=Z,46nm,18.4s						
BOD	**Bodaibo**	**54.55**	**351**	*e*P	**P**	**13 21 10.8**	**-7.3**
MK31	**Makanchi Array**	**57.96**	**324**	*i* P	**P**	**13 21 42.5**	**+0.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
MKAR	**Makanchi Array**	**57.96**	**324**	P	**P**	**13 21 42.7**	**+0.3**
	comp=Z,3.7nm,0.5s,mb4.7,baz=112,slow=7.8,SNR=101						
MKAR	**Makanchi Array**	**57.96**	**324**	P	**P**	**13 21 42.7**	**+0.3**
MKAR	**Makanchi Array**	**57.96**	**324**	*e*P	**P**	**13 21 42.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**60.96**	**317⇓**	*i* P	**P**	**13 22 02.8**	**-0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.2s,mb4.2						
SEY	**Seymchan**	**61.17**	**12⇑**	*i* P	**P**	**13 22 03.8**	**-0.6**
RPZ	**Rata Peaks**	**61.37**	**146**	LR	LR	13 46 22.9	
	comp=Z,143nm,19.2s,baz=8.2,slow=34						
KURK	**Kurchatov**	**62.09**	**327**	*e*P	**P**	**13 22 10.4**	**-0.2**
	comp=Z,6.0nm,0.6s,mb4.8						
KURK	**Kurchatov**	**62.09**	**327**	*c i* P	**P**	**13 22 10.7**	**+0.1**
TIXI	**Tiksi**	**67.28**	**0**	*e*P	**P**	**13 22 43.7**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**67.75**	**326**	*e*P	**P**	**13 22 47.4**	**0.0**
	comp=Z,3.1nm,0.8s,mb4.2						
BRVK	**Borovoye**	**67.75**	**326**	*e*P	**P**	**13 22 47.4**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**68.41**	**326**	*e*P	**P**	**13 22 51.2**	**-0.3**
	comp=Z,3.3nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**68.41**	**326**	*i* P	**P**	**13 22 51.3**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
BILL	**Bilibino**	**68.64**	**14**	*e*P	**P**	**13 22 53.2**	**+0.3**
BILL				*e*	pP	13 23 17.1	+1.0
BILL				*e*		13 25 27.4	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s						
ARU	**Arti**	**75.27**	**327⇑**	*i* P	**P**	**13 23 32.2**	**-0.3**
ARU				*e*		13 26 20.5	
ARU				*e*PPP		13 28 03.2	
ARU				*e*S	S	13 33 09.2	+4.8
ARU				*e*SS	SS	13 38 02.4	+6.6
ARU				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
VNDA	**Vanda**	**83.79**	**173**	LR	LR	14 01 57.6	
	comp=Z,195nm,19.4s,baz=73,slow=36						
ILAR	**Eielson Array**	**83.97**	**25**	P	**P**	**13 24 20.1**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.7,baz=249,slow=5.1,SNR=14						
ARCES	**ARCESS Array B**	**90.44**	**340**	P	**P**	**13 24 50.2**	**-0.7**
	comp=Z,3.3nm,0.9s,mb4.5,baz=77,slow=7.6,SNR=3.8						
YKA	**Yellowknife Ar**	**98.38**	**25**	P	**P**	**13 25 28.3**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.9,baz=300,slow=4.4,SNR=7.6						
YKA	**Yellowknife Ar**	**98.38**	**25**	P	**P**	**13 25 28.3**	**+1.1**
VNA2	**Neumayer--Watz**	**107.72**	**194**	*e*	Pdif	13 26 13.7	+5.0
VNA3	**Neumayer Olymp**	**108.03**	**193**	*e*	Pdif	13 26 09.9	-0.2
TORD	**Torodi Ar. Bea**	**124.15**	**289**	PKP	PKPdf	13 30 49.7	+2.3
	comp=Z,0.5nm,0.6s,baz=52,slow=1.9,SNR=4.0						

*ISCJB **10** 13:16:20.6±1.2,201S±02×1777W±02,h533km±27km, mb4.0/7,Error ellipse: s-maj=37.2km s-min=16.6km az=70.8*

*NEIC **10** 13:16:21.8±1.0,201.8S×17765W,h536km±14km,mb4.2/3, Error ellipse: s-maj=23.8km s-min=11.9km az=138.0*

*IDC **10** 13:16:22.6±1.8,2022S×17764W,h546km±23km,mb3.4/5, mb1 3.7/7,mb1mx3.5/15,mbtmp4.5/7,Error ellipse: s-maj=31.8km s-min=14.4km az=139.0*

ISC 10 13:16:22.5±1.3,202S±02×1776W±02,h550km±26km,n18, σ0§82/16,mb4.0/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.36**	**43**	P	**P**	**13 18 23.2**	**-0.5**
	8.7nm,0.3s,baz=352,slow=6.1,SNR=21						
AFI				S	**S**	**13 19 57.9**	**-5.3**
	3.6nm,0.3s,baz=71,slow=19,SNR=7.2						
URZ	**Urewera**	**18.58**	**193**	P	**P**	**13 20 05.7**	**+0.1**
	2.7nm,0.3s,baz=296,slow=2.1,SNR=22						
CTA	**Charters Tower**	**33.91**	**264**	*e*P	**P**	**13 22 21.4**	**+1.3**
	3.2nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**38.28**	**244**	*e*P	**P**	**13 22 55.7**	**-0.4**
	2.8nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**38.28**	**244**	P	**P**	**13 22 55.8**	**-0.3**
	3.1nm,0.5s,mb4.1,baz=90,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**44.97**	**256**	P	**P**	**13 23 49.4**	**+0.5**
	2.4nm,0.5s,mb4.0,baz=89,slow=8.2,SNR=62						
ASAR				S	**S**	**13 29 47.0**	**-0.3**
	1.8nm,0.9s,baz=95,slow=15,SNR=12						
WB2	**Warramunga Arr**	**45.02**	**262**	*e*P	**P**	**13 23 48.2**	**-1.1**
WRAB	**Tennant Creek**	**45.02**	**262**	*e*P	**P**	**13 23 48.0**	**-1.3**
WRA	**Warramunga Arr**	**45.03**	**262**	P	**P**	**13 23 50.1**	**+0.7**
	2.8nm,0.3s,mb4.3,baz=97,slow=7.1,SNR=76						
WRA				S	**S**	**13 29 46.1**	**-2.1**
	0.7nm,0.8s,baz=94,slow=13,SNR=6.4						
KAKA	**Kakadu**	**48.36**	**271**	*e*P	**P**	**13 24 15.1**	**+0.6**
	6.0nm,0.6s,mb4.3						
MBWA	**Marble Bar**	**58.30**	**257**	*e*P	**P**	**13 25 25.4**	**+0.5**
MJAR	**Matsushiro Ar**	**70.20**	**323**	P	**P**	**13 26 40.8**	**+0.6**
	2.3nm,0.5s,mb4.0,baz=150,slow=5.5,SNR=9.9						
ILAR	**Eielson Array**	**87.33**	**13**	P	**P**	**13 28 13.9**	**-0.1**
	0.7nm,0.6s,mb3.5,baz=217,slow=5.7,SNR=12						
ZRNK	**Zerenda**	**119.94**	**320**	*e*P	PKPdf	13 34 10.5	-0.2
AKASG	**Malin Array Be**	**142.93**	**332**	PKP	PKPdf	13 34 51.2	-2.5
	3.7nm,0.6s,baz=43,slow=4.3,SNR=18						
AKASG	**Malin Array Be**	**142.93**	**332**	PKP	PKPdf	13 34 51.2	-2.5
BRTR	**Keskin Array B**	**146.92**	**313**	PKPbc	PKPbc	13 35 04.6	+1.2
	1.1nm,0.5s,baz=136,slow=5.3,SNR=6.0						
GERES	**GERESS Array B**	**150.01**	**345**	PKPbc	PKPbc	13 35 12.2	+1.1
	1.8nm,0.8s,baz=5.7,slow=1.3,SNR=8.6						

*IDC **10** 13:18:04.9±1.1,5537N×16296E,h0km,mb3.5/4, mb1 3.9/5,mb1mx3.6/21,mbtmp3.6/5,ML3.4/1,MS3.8/1, Ms1 3.8/1,ms1mx2.8/27,Error ellipse: s-maj=29.2km s-min=17.3km az=5.0*

*MOS **10** 13:18:06.9±0.8,5527N×16335E,h17km,mb4.3/2,Error ellipse: s-maj=22.4km s-min=15.7km az=88.8*

*KRSC **10** 13:18:08.9±1.3,5527N×16322E,h33km±5km,ML4.0*

*ISCJB **10** 13:18:09.0±0.4,5525N±002×16326E±005,h44km±10km, mb3.4/4,MS3.8/1,Error ellipse: s-maj=4.8km s-min=3.6km az=53.5*

ISC 10 13:18:10.2±0.4,5527N±002×16326E±005,h37km±11km, n46,σ1§05/73,mb3.4/4,MS3.8/1,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.97**	**345**	P	**Pn**	**13 18 25.9**	**-1.4**
KBTR				S	**Sn**	**13 18 38.5**	**-1.4**
KBTR	**Krutoberegovo**	**0.97**	**345**	*i* P	**Pn**	**13 18 25.9**	**-1.4**
KBTR				*e*S	**Sn**	**13 18 38.8**	**-1.1**
MKZ	**Mys Kozlova**	**1.14**	**232**	P	**Pn**	**13 18 27.8**	**-1.7**
MKZ				S	**Sn**	**13 18 41.8**	**-2.1**
MKZ	**Mys Kozlova**	**1.14**	**232**	*i* P	**Pn**	**13 18 27.9**	**-1.6**
MKZ				*e*S	**Sn**	**13 18 42.3**	**-1.6**
BKI	**Bering**	**1.56**	**91**	*i* P	**Pn**	**13 18 35.3**	**0.0**
BKI				*i* S	**Sn**	**13 18 54.0**	**-0.3**
BKI				Smax			
	260nm,0.7s						
ZLN	**Zelenaya**	**1.58**	**299**	*i* P	**Pn**	**13 18 35.2**	**-0.4**
ZLN				*e*S	**Sn**	**13 18 54.1**	**-0.7**
CIRR	**Tsirk**	**1.

comp=Z,5.5nm,0.3s,baz=151,slow=14,SNR=7.9
FX1 Attu Island--F 6.30 108 PN **Pn 13 19 40.8 +0.2**
FX1 pmax pmax
comp=Z,3.0nm,0.3s
KAMR Kamenskoye 7.37 11 *i* P **Pn 13 19 56.9 +1.7**
MJAR Matsushiro Arr 25.35 233 P **P 13 23 33.5 -0.1**
comp=Z,4.3nm,1.0s,mb4.0,baz=27,slow=9.0,SNR=9.7
MJAR Matsushiro Arr 25.35 233 P **P 13 23 33.5 -0.2**
MJAR pmax pmax
comp=Z,4.0nm,1.0s
ILAR Eielson Array 25.97 48 P **P 13 23 39.2 0.0**
comp=Z,0.2nm,0.7s,mb2.7,baz=268,slow=10,SNR=3.8
YKA Yellowknife Ar 40.30 45 P **P 13 25 44.6 +0.8**
comp=Z,0.3nm,0.6s,mb3.2,baz=299,slow=8.1,SNR=5.3
MKAR Makanchi Array 48.88 296 P **P 13 26 49.2 -3.1**
comp=Z,0.4nm,0.6s,mb3.6,baz=56,slow=6.9,SNR=4.1
FINES FINESS Array B 58.84 338 LR LR 13 59 42.2
comp=Z,70nm,18.1s,MS3.8,baz=36,slow=43

IDC 10 13:28:46.9±7.4, 1029N×9357E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=402.7km s-min=26.9km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.62**	**347**	P	P	13 36 03.3	0.0
	0.1nm,0.4s,baz=168,slow=7.4,SNR=2.4						
WRA	**Warramunga Arr**	**50.13**	**127**	P	P	13 37 43.9	0.0
	0.7nm,0.7s,baz=306,slow=9.1,SNR=8.7						
ASAR	**Alice Springs**	**51.90**	**131**	P	P	13 37 58.0	+0.8
	0.7nm,0.7s,baz=307,slow=6.7,SNR=11						

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*IDC **10** 13:47:01.7±1.5, 328S×13578E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.9/11, mbtmp3.8/4, Error ellipse: s-maj=69.3km s-min=32.3km az=84.0*
*NEIC **10** 13:47:01.8±0.9, 357S×13590E, h10km, mb3.9/2, Error ellipse: s-maj=33.1km s-min=11.4km az=95.0*
*ISCJB **10** 13:47:04.2±1.0, 374S±007×1356E±02, h33km, mb3.7/3, Error ellipse: s-maj=33.7km s-min=8.9km az=10.8*
ISC 10 13:47:05.8±1.0, 372S±007×1358E±02, h35km, n10, σ1§27/14, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.53**	**200**	*e*P	**Pn**	**13 49 23.3**	**+2.8**
	21nm,0.3s						
KAKA				*e*S	**Sn**	**13 51 05.5**	**-0.9**
WRAB	**Tennant Creek**	**16.18**	**185**	*e*P	**Pn**	**13 50 51.2**	**+0.8**
	9.9nm,0.8s						
WB2	**Warramunga Arr**	**16.19**	**185**	*e*P	**Pn**	**13 50 51.2**	**+0.7**
WB2				*e*S	**S**	**13 53 44.8**	**-16**
WRA	**Warramunga Arr**	**16.19**	**185**	Pn	**Pn**	**13 50 51.3**	**+0.8**
	0.4nm,0.3s,baz=2.6,slow=13,SNR=36						
WRA				Sn	**Sn**	**13 53 46.8**	**-2.2**
	0.3nm,0.3s,baz=3.2,slow=23,SNR=4.7						
FITZ	**Fitzroy Crossi**	**17.41**	**214**	*e*P	**Pn**	**13 51 05.8**	**-0.1**
	3.3nm,0.4s						
FITZ				*e*S	**S**	**13 54 07.3**	**-19**
ASAR	**Alice Springs**	**19.92**	**185**	P	**Pn**	**13 51 39.8**	**+3.6**
	4.5nm,0.7s,baz=9.7,slow=10,SNR=9.4						
MBWA	**Marble Bar**	**23.34**	**221**	P	**P**	**13 52 13.6**	**+2.6**
MKAR	**Makanchi Array**	**68.84**	**324**	P	**P**	**13 58 06.0**	**-0.6**
	0.5nm,0.5s,mb3.7,baz=110,slow=8.2,SNR=14						
BVAR	**Borovoye Array**	**78.49**	**326**	P	**P**	**13 59 02.4**	**-0.8**
	0.4nm,0.6s,mb3.5,baz=126,slow=9.7,SNR=3.5						
ILAR	**Eielson Array**	**87.95**	**25**	P	**P**	**13 59 51.4**	**-0.6**
	0.4nm,0.5s,mb4.0,baz=267,slow=4.5,SNR=9.5						

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*IDC **10** 13:51:04.4±0.7, 1070N×9448E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/22, mbtmp4.1/13, ML3.3/1, MS4.2/19, Ms1 4.2/19, ms1mx4.1/29, Error ellipse: s-maj=28.7km s-min=15.2km az=56.0*
*ISCJB **10** 13:51:05.6±1.7, 1053N±006×9435E±005, h20km±12km, mb4.3/35, MS4.3/25, Error ellipse: s-maj=10.8km s-min=6.8km az=73.9*
*BJI **10** 13:51:05.5, 1047N×9408E, h23km, mB4.7, mb4.1, Ms4.4, Msz4.2*
*NEIC **10** 13:51:06.2±0.4, 1060N×9435E, h10km, mb4.7/15, Error ellipse: s-maj=17.3km s-min=6.8km az=58.0*
*MOS **10** 13:51:07.4±1.2, 1066N×9443E, h33km, mb4.8/11, Error ellipse: s-maj=18.4km s-min=7.3km az=110.8*
ISC 10 13:51:09.3±1.7, 1055N±005×9432E±005, h31km±12km, h30km±3.5km: pP-P, n96, σ1§26/90, mb4.3/35, MS4.3/25, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.89**	**306**	*e*P	Px	13 51 52.2	
PBA				*e*S	Sx	13 52 16.1	
KULM	**Kulim**	**8.17**	**129**	*e*P	**Pn**	**13 53 05.5**	**-0.2**
KULM				*e*S	**Sn**	**13 54 31.6**	**-5.3**
PSI	**Prapat**	**8.96**	**149**	Pn	**Pn**	**13 53 19.2**	**+2.7**
	0.3nm,0.3s,baz=309,slow=6.5,SNR=3.8						
PSI				LR	LR	13 57 32.3	
	comp=Z,3μm,18.2s,baz=298,slow=43						
VIS	**Vishakhapatnam**	**12.81**	**305**	*i* P	**Pn**	**13 54 07.5**	**-1.7**
VIS				*e*P		13 54 08.3	
VIS				AMb	AMB	13 54 28.3	
	comp=Z,156nm,1.8s						
VIS				*i* S	**Sn**	**13 56 18.4**	**-12**
VIS				*ex*	x	13 56 24.4	
CAL	**Calcutta**	**13.22**	**335**	*ex*	x	13 57 57.5	
CAL				*ex*	x	14 02 59.4	
SHL	**Shillong**	**15.11**	**352**	*ex*	**Pn**	**13 54 34.3**	**-6.2**
BOK	**Bokaro**	**15.43**	**330**	*e*P	**Pn**	**13 54 46.6**	**+2.0**
BOK				AMb	AMB	13 54 53.5	
	comp=Z,35nm,1.6s						
KMI	**Kunming**	**16.55**	**28**	P	**Pn**	**13 55 04.5**	**+5.5**
KMI				AP	pP	13 55 10.8	+1.3
KMI				XP	sP	13 55 15.3	+1.8
KMI				S	**Sn**	**13 58 10.5**	**+8.7**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.3s						
KMI				AMB	AMB		
	comp=Z,138nm,4.6s						
KMI				LR	LR		
	comp=N,498nm,11.5s						
KMI				LR	LR		
	comp=E,786nm,10.3s						
KMI				LR	LR		
	comp=Z,613nm,14.7s						
HYB	**Hyderabad**	**16.74**	**296**	*i* P	**Pn**	**13 55 06.0**	**+4.6**
HYB				*e*S	**Sn**	**13 58 07.0**	**+0.6**
HYB	**Hyderabad**	**16.74**	**296**	*e*P	**Pn**	**13 55 06.0**	**+4.6**
HYB				*e*S	**Sn**	**13 58 07.0**	**+0.6**
NGP	**Nagpur**	**18.06**	**308**	*e*P	**Pn**	**13 55 18.7**	**+0.9**
NGP				*ex*	x	13 55 23.9	
	comp=Z,43nm,1.9s						
NGP				*ex*	x	13 58 50.7	
JBP	**Jabalpur**	**18.56**	**314⇑**	*e*P	**Pn**	**13 55 23.9**	**-0.1**
JBP				*ex*	x	13 55 51.8	
	comp=Z,81nm,1.8s						
JBP				*ex*	x	13 59 04.2	
JIRN	**Jiri**	**18.66**	**337**	*e*P	**Pn**	**13 55 24.9**	**-0.2**
	comp=Z,520nm,2.1s						
PKI	**Pulchoki**	**18.89**	**335**	*e*P	**Pn**	**13 55 27.6**	**-0.3**
	comp=Z,188nm,1.4s						
PKI	**Pulchoki**	**18.89**	**335**	*e*P	**Pn**	**13 55 27.6**	**-0.3**
PKI				pmax	pmax		
	comp=Z,94nm,1.4s						
GUN	**Gumba**	**19.00**	**336**	*e*P	**Pn**	**13 55 29.0**	**-0.2**
	comp=Z,560nm,2.0s						
DMN	**Daman**	**19.05**	**334**	*e*P	**Pn**	**13 55 29.4**	**-0.4**
	comp=Z,412nm,2.0s						
KKN	**Kakani**	**19.14**	**335**	*e*P	**Pn**	**13 55 30.0**	**-0.9**
LSA	**Lhasa**	**19.28**	**352**	P	**Pn**	**13 55 31.0**	**-1.6**
LSA	**Lhasa**	**19.28**	**352**	*e*P	**Pn**	**13 55 33.0**	**+0.4**
	comp=Z,20nm,0.9s						
LSA	**Lhasa**	**19.28**	**352**	*e*P	**Pn**	**13 55 33.0**	**+0.4**
LSA				pmax	pmax		
	comp=Z,20nm,0.9s						
GKN	**Gorkha**	**19.60**	**334**	*e*P	**Pn**	**13 55 35.4**	**-1.0**
GYA	**Guiyang**	**19.66**	**35⇑**	*i*P	**Pn**	**13 55 37.0**	**-0.1**
GYA				S	**Sn**	**13 59 18.9**	**+2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,130nm,5.6s						
GYA				LR	LR		
	comp=N,600nm,15.0s						
GYA				LR	LR		
	comp=E,310nm,15.0s						
GYA				LR	LR		
	comp=Z,660nm,13.5s						
KOLN	**Koldanda**	**19.87**	**331**	*e*P	**Pn**	**13 55 45.8**	**-1.1**
	comp=Z,55nm,1.0s						
BHPL	**Bhopal**	**20.47**	**310**	*e*P	**P**	**13 55 45.8**	**+1.4**
BHPL				AMb	AMB	13 55 50.3	
	comp=Z,38nm,1.9s						
BHPL				*ex*	x	13 59 39.3	
KAD	**Karad**	**20.65**	**291**	*e*P	**P**	**13 55 45.8**	**-0.5**
KAD				AMb	AMB	13 56 05.7	
KAD				*ex*	x	13 59 41.6	
POO	**Poona**	**21.32**	**294**	*e*P	**P**	**13 55 56.0**	**+2.4**
GZH	**Guangzhou**	**22.04**	**53**	P	**P**	**13 56 03.9**	**+2.7**
GZH				LR	LR		
	comp=N,604nm,10.9s,MS4.4						
GZH				LR	LR		
	comp=E,522nm,12.7s,MS4.4						
GZH				LR	LR		
	comp=Z,497nm,10.1s,MS4.2						
NDI	**New Delhi**	**24.12**	**321**	*e*P	**P**	**13 56 23.4**	**+1.2**
NDI				AMb	AMB	13 56 26.4	
	comp=Z,66nm,1.4s,mb4.9						
ENH	**Enshi**	**24.18**	**34**	*e*P	**P**	**13 56 22.9**	**+0.2**
	comp=Z,140nm,1.9s,mb5.1						
AJM	**Ajmer**	**24.41**	**313**	*e*P	**P**	**13 56 26.9**	**+2.0**
AJM				AMb	AMB	13 56 32.1	
	comp=Z,45nm,2.1s,mb4.5						
DDI	**Dehra Dun**	**24.82**	**325**	*e*P	**P**	**13 56 30.7**	**+2.1**
LZH	**Lanzhou**	**26.85**	**17**	*e*P	**P**	**13 56 47.5**	**+0.5**
LZH				AP	pP	13 56 57.1	+1.1
LZH				XP	sP	13 57 00.2	+0.5
LZH				PP		13 57 33.5	
LZH				*e*S	**S**	**14 01 20.9**	**-0.5**
LZH				XS	sS	14 01 36.5	+0.2
LZH				SS		14 02 35.7	
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,96nm,4.6s						
LZH				LR	LR		
	comp=N,497nm,10.3s						
LZH				LR	LR		
	comp=Z,899nm,13.3s,MS4.5						
XAN	**Xi'an**	**26.93**	**28**	P	**P**	**13 56 48.4**	**+0.6**
XAN				S	**S**	**14 01 24.8**	**+2.0**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.8						
XAN				LR	LR		
	comp=N,380nm,16.6s,MS4.2						
XAN				LR	LR		
	comp=E,425nm,13.9s,MS4.2						
XAN				LR	LR		
	comp=Z,422nm,14.2s,MS4.2						
GTA	**Gaotai**	**29.15**	**9**	*e*P	**P**	**13 57 08.4**	**+0.8**
GTA				AP	pP	13 57 15.4	-1.2
GTA				XP	sP	13 57 18.9	-1.4
GTA				AMB	AMB		
	comp=Z,6.0nm,2.0s,mb4.0						
WMQ	**Urumqi**	**33.64**	**351**	P	**P**	**13 57 48.2**	**+1.2**
WMQ				AP	pP	13 57 54.1	-2.0
WMQ				XP	sP	13 57 57.0	-2.8
WMQ				PP	PP	13 59 00.5	-2.9
WMQ				PCP	PcP	14 00 29.2	+2.5
WMQ				*e*S	**S**	**14 03 08.1**	**+0.3**
WMQ				SS	SS	14 05 11.8	-22
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,78nm,4.8s						
WMQ				LR	LR		
	comp=N,267nm,24.2s,MS4.1						
WMQ				LR	LR		
	comp=E,393nm,24.4s,MS4.1						
WMQ				LR	LR		
	comp=Z,373nm,24.0s,MS4.0						
AAK	**Ala-Archa**	**36.35**	**335**	*e*P	**P**	**13 58 10.0**	**-0.4**
	comp=Z,18nm,1.3s,mb4.8						
AAK	**Ala-Archa**	**36.35**	**335**	*e*P	**P**	**13 58 09.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.5						
FRU	**Bishkek**	**36.46**	**335**	*e*P	**P**	**13 58 11.2**	**-0.2**
MKAR	**Makanchi Array**	**37.53**	**346**	P	**P**	**13 58 18.6**	**-1.8**
	comp=Z,2.3nm,0.8s,mb4.0,baz=132,slow=6.9,SNR=21						
MKAR				LR	LR	14 17 48.2	
	comp=Z,251nm,18.7s,MS4.0,baz=180,slow=43						
SONM	**Songino Array**	**38.53**	**13**	P	**P**	**13 58 28.0**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.7,baz=205,slow=6.4,SNR=5.6						
SONM				LR	LR	14 15 57.1	
	comp=Z,378nm,18.4s,MS4.2,baz=342,slow=39						
ULN	**Ulaanbaatar**	**38.71**	**14**	*e*P	**P**	**13 58 30.4**	**0.0**
	comp=Z,7.6nm,1.8s,mb4.1						
ULN	**Ulaanbaatar**	**38.71**	**14**	*e*P	**P**	**13 58 28.8**	**-1.6**
ZAK	**Zakamensk**	**40.39**	**9**	*e*P	**P**	**13 58 41.4**	**-3.0**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.2						
KURK	**Kurchatov**	**42.08**	**345**	*e*P	**P**	**13 58 58.4**	**+0.2**
	comp=Z,28nm,1.8s,mb4.6						
KURK	**Kurchatov**	**42.08**	**345**	*e*P	**P**	**13 58 57.9**	**-0.3**
CN2	**Changchun**	**42.70**	**34**	*e*P	**P**	**13 59 03.8**	**+0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
NVS	**Novosibirsk**	**45.04**	**351**	*e*P	**P**	**13 59 21.0**	**-1.1**
NVS				*e*S	**S**	**14 05 48.6**	**-10**
NVS				pmax	pmax		
	comp=N,16nm,2.0s						
NVS				pmax	pmax		
	comp=E,8.0nm,2.0s						
NVS				pmax	pmax		
	comp=Z,16nm,2.0s,mb4.5						
NVS				smax			
	comp=N,17nm,2.2s						
NVS				smax			
	comp=E,17nm,2.5s						
BVAR	**Borovoye Array**	**46.53**	**340**	P	**P**	**13 59 33.2**	**-0.7**
	comp=E,1.1nm,0.8s,mb3.9,baz=146,slow=8.2,SNR=7.8						
BRVK	**Borovoye**	**46.60**	**340**	*e*P	**P**	**13 59 33.0**	**-1.4**
	comp=E,3.4nm,1.1s,mb4.2						
BRVK	**Borovoye**	**46.60**	**340**	*e*P	**P**	**13 59 33.0**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
ZRNK	**Zerenda**	**46.94**	**339**	*e*P	**P**	**13 59 35.2**	**-1.8**
	comp=Z,17nm,1.7s,mb4.7						
ZRNK	**Zerenda**	**46.94**	**339**	*e*P	**P**	**13 59 35.3**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
MJAR	**Matsushiro Arr**	**47.27**	**49**	PcP	PcP	14 01 11.5	+1.0
	comp=Z,2.6nm,0.9s,baz=251,slow=3.3,SNR=6.9						
MJAR				LR	LR	14 23 28.4	
	comp=Z,162nm,18.8s,MS4.0,baz=250,slow=41						
NWAO	**Narrogin (SRO)**	**48.45**	**154**	LR	LR	14 19 59.4	
	comp=Z,268nm,18.2s,MS4.3,baz=141,slow=36						
GUMO	**Guam**	**49.46**	**81**	LR	LR	14 18 06.1	
	comp=Z,110nm,19.1s,MS3.9,baz=92,slow=33						
WRA	**Warramunga Arr**	**49.71**	**128**	P	**P**	**13 59 58.1**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.5,baz=304,slow=8.7,SNR=26						
AKTO	**Aktyubinsk**	**49.71**	**330**	LR	LR	14 21 55.2	
	comp=Z,164nm,21.3s,MS4.0,baz=347,slow=37						
WRAB	**Tennant Creek**	**49.71**	**127**	*e*P	**P**	**13 59 58.1**	**-0.3**
ASAR	**Alice Springs**	**51.53**	**132**	P	**P**	**14 00 12.1**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.5,baz=312,slow=7.3,SNR=35						
GNI	**Garni**	**52.73**	**313**	*e*P	**P**	**14 00 22.4**	**+1.4**
GNI				pmax	pmax		
	comp=Z,36nm,1.8s						
ARU	**Arti**	**53.52**	**336**	*e*P	**P**	**14 00 30.0**	**+3.2**
ARU				*e*S	**S**	**14 08 03.5**	**+5.8**
ARU				*e*SS	SS	14 11 41.1	+3.0
ARU				MLR	MLR		
	comp=Z,600nm,21.0s,MS4.6						
ARU				MLR	MLR		
	comp=N,300nm,20.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,400nm,21.0s,MS4.6						
ZEI	**Tsey**	**54.23**	**316**	*i* P	**P**	**14 00 30.0**	**-2.1**
ZEI				*i*		14 01 34.2	
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
KIV	**Kislovodsk**	**55.48**	**317**	P	**P**	**14 00 42.0**	**+0.9**
KIV				*e*	pP	14 00 52.7	+2.1
KIV				*e*		14 00 57.0	
KIV						14 02 41.0	
KIV				pmax	pmax		
	comp=Z,26nm,1.6s,mb5.0						
SOC	**Sochi**	**57.39**	**315**	*e*P	**P**	**14 00 44.8**	**-10**
SOC				*e**PP	pP	14 01 03.6	-0.6
SOC				*e*S	**S**	**14 08 39.5**	**-10**
SOC				*e*		14 10 36.4	
SOC				*e*SSS		14 14 47.1	
SOC				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
SOC				MLR	MLR		
	comp=Z,228nm,18.0s,MS4.3						
YAK	**Yakutsk**	**57.42**	**19**	*e*P	**P**	**14 00 52.7**	**-2.2**
KMBO	**Kilima Mbogo**	**57.93**	**262**	LR	LR	14 20 54.1	
	comp=Z,102nm,21.4s,MS3.9,baz=70,slow=31						
CTA	**Charters Tower**	**59.49**	**121**	LR	LR	14 29 04.9	
	comp=Z,206nm,20.0s,MS4.3,baz=289,slow=38						
BR131	**Keskin Array S**	**60.84**	**310**	*e*P	**P**	**14 01 17.4**	**-1.2**
	comp=Z,3.5nm,0.9s,mb4.5						
BRTR	**Keskin Array B**	**60.84**	**310**	P	**P**	**14 01 17.9**	**-0.7**
	comp=Z,1.8nm,0.8s,mb4.3,baz=117,slow=6.9,SNR=10						
STKA	**Stephens Creek**	**61.84**	**135**	P	**P**	**14 01 23.6**	**-1.8**
	comp=Z,1.6nm,0.5s,mb4.4,baz=335,slow=8.0,SNR=3.8						
STKA				LR	LR	14 27 48.3	
	comp=Z,328nm,21.1s,MS4.5,baz=109,slow=36						
OBN	**Obninsk**	**63.23**	**327**	P	**P**	**14 01 32.0**	**-2.7**
OBN						14 02 05.0	
OBN				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.5						
MA2	**Magadan**	**64.33**	**28**	*e*P	**P**	**14 01 43.0**	**+1.1**
MA2				*e*		14 04 08.0	
MA2				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.4						
TIXI	**Tiksi**	**64.59**	**11**	*e*P	**P**	**14 01 41.9**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,13nm,2.1s,mb4.6						
MLR	**Muntele Rosu**	**67.40**	**315**	LR	LR	14 35 09.1	
	comp=Z,175nm,19.5s,MS4.3,baz=303,slow=39						
LSZ	**Lusaka**	**70.34**	**250**	P	**P**	**14 02 22.7**	**+2.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=72,slow=5.6,SNR=3.5						
FINES	**FINESS Array B**	**70.44**	**332**	LR	LR	14 39 59.8	
	comp=Z,166nm,19.6s,MS4.3,baz=228,slow=42						
ARCES	**ARCESS Array B**	**72.82**	**340**	P	**P**	**14 02 34.9**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.1,baz=77,slow=6.4,SNR=4.9						
ARCES				LR	LR	14 37 35.9	
	comp=Z,407nm,20.1s,MS4.7,baz=88,slow=38						
ARCES	**ARCESS Array B**	**72.82**	**340**	P	**P**	**14 02 34.9**	**0.0**
ARCES				LR	LR	14 37 35.9	
BILL	**Bilibino**	**73.55**	**22**	*e*P	**P**	**14 02 38.3**	**-0.9**
BILL				*e*S	S	14 12 03.8	-3.3
BILL				*e*SS	SS	14 16 43.8	-6.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
GERES	**GERESS Array B**	**75.96**	**318**	P	**P**	**14 02 53.3**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=83,slow=4.2,SNR=5.2						
GERES				LR	LR	14 39 46.6	
	comp=Z,134nm,20.5s,MS4.2,baz=109,slow=38						
NB2	**NORSAR Subarra**	**77.50**	**330**	P	**P**	**14 03 00.7**	**-1.1**
	comp=Z,2.0nm,0.9s,mb4.0,baz=91,slow=5.1						
NB2	**NORSAR Subarra**	**77.50**	**330**	P	**P**	**14 03 00.7**	**-1.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
NOA	**NORSAR Array B**	**77.50**	**330**	LR	LR	14 39 43.6	
	comp=Z,177nm,21.7s,MS4.3,baz=85,slow=38						
LPG	**La Plagne**	**80.87**	**315**	*e*P	**P**	**14 03 21.7**	**+1.5**
	comp=Z,20nm,1.0s,mb4.7						
LPG	**La Plagne**	**80.87**	**315**	*e*P	**P**	**14 03 21.7**	**+1.5**
	comp=Z,10nm,1.0s,mb4.7						
LPG	**La Plagne**	**80.87**	**315**	*e*P	**P**	**14 03 21.7**	**+1.5**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
RPZ	**Rata Peaks**	**87.81**	**135**	LR	LR	14 40 25.0	
	comp=Z,296nm,21.2s,MS4.7,baz=97,slow=34						
TORD	**Torodi Ar. Bea**	**90.15**	**283**	P	**P**	**14 04 07.6**	**+1.2**
	comp=Z,1.0nm,0.8s,mb4.2,baz=67,slow=4.3,SNR=4.9						
ILAR	**Eielson Array**	**92.21**	**22**	P	**P**	**14 04 16.1**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.8,baz=300,slow=4.4,SNR=5.7						
ILAR				LR	LR	14 46 46.7	
	comp=Z,124nm,20.4s,MS4.3,baz=181,slow=36						
VNDA	**Vanda**	**95.50**	**168**	LR	LR	14 47 58.0	
	comp=Z,197nm,18.3s,MS4.6,baz=328,slow=36						
DBIC	**Dimbokro**	**97.74**	**278**	LR	LR	14 46 11.6	
	comp=Z,63nm,19.1s,MS4.1,baz=50,slow=34						
PPT	**Papeete**	**117.86**	**104**	*e*LR	LR	14 45 36.2	
	comp=Z,101nm,23.0s						
TBI	**Tubuai**	**118.10**	**111**	*e*LR	LR	14 45 43.4	
	comp=Z,141nm,30.8s						
RKT	**Rikitea**	**131.41**	**111**	*e*LR	LR	14 51 53.5	
	comp=Z,127nm,38.0s						
PLCA	**Paso Flores**	**147.10**	**201**	PKPbc	PKPbc	14 10 50.9	+1.8
	comp=Z,2.7nm,0.8s,baz=17,slow=3.0,SNR=4.9						

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*ISCJB **10** 14:00:26.5±1.7, 55S±0.1×1479E±02, h132km±16km, mb4.1/9, Error ellipse: s-maj=28.3km s-min=13.6km az=49.9*
*IDC **10** 14:00:28.8±1.6, 562S×14792E, h144km±18km, mb3.7/6, mb1 4.0/8, mb1mx3.9/14, mbtmp4.3/8, MS3.9/2, Ms1 3.9/2, ms1mx2.9/26, Error ellipse: s-maj=43.8km s-min=10.6km az=112.0*
*NEIC **10** 14:00:30.6±1.6, 561S×14786E, h160km±15km, mb4.8/5, Error ellipse: s-maj=21.6km s-min=12.5km az=115.0*
ISC 10 14:00:29.9±1.5, 56S±01×1479E±02, h151km±14km, n21, σ0§89/23, mb4.1/9, 3C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.82**	**191**	P	**Pn**	**14 01 28.8**	**+1.0**
	30nm,0.3s,baz=2.2,slow=4.6,SNR=172						
PMG				S	**Sn**	**14 02 11.8**	**-1.0**
	66nm,0.3s,baz=192,slow=23,SNR=18						
PMG	**Port Moresby**	**3.82**	**191**	P	**Pn**	**14 01 28.9**	**+1.0**
PMG				*e*		14 01 33.8	
PMG				*e*Sn	**Sn**	**14 02 11.0**	**-1.8**
KAKA	**Kakadu**	**16.80**	**244**	*e*P	**Pn**	**14 04 15.3**	**-0.9**
	18nm,0.3s						
WRAB	**Tennant Creek**	**19.38**	**222**	*e*P	**P**	**14 04 44.6**	**+0.6**
	62nm,0.8s						
WRAB				*e*		14 04 48.1	
WB2	**Warramunga Arr**	**19.39**	**222⇑**	*i*P	**P**	**14 04 45.1**	**+1.0**
WRA	**Warramunga Arr**	**19.40**	**222**	P	**P**	**14 04 45.2**	**+1.0**
	4.5nm,0.3s,baz=41,slow=12,SNR=214						
WRA				S	**S**	**14 08 14.6**	**-0.7**
	0.0nm,0.3s,baz=39,slow=20,SNR=3.4						
AS31	**Alice Springs**	**22.43**	**216⇑**	*i*P	**P**	**14 05 17.3**	**+1.1**
ASAR	**Alice Springs**	**22.43**	**216**	P	**P**	**14 05 17.2**	**+1.0**
	14nm,0.4s,mb4.7,baz=47,slow=8.8,SNR=424						
ASAR				S	**S**	**14 09 15.1**	**+4.1**
	1.5nm,0.8s,baz=27,slow=22,SNR=9.1						
ASPA	**Alice Springs**	**22.43**	**216⇑**	*i*P	**P**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.07**	**203**	Sn	**Sn**	**14 18 09.2**	**-0.5**
	41nm,0.3s,baz=339,slow=22,SNR=3.5						
AFI	**Afiamalu**	**9.25**	**18**	Pn	**Pn**	**14 17 17.1**	**-2.2**
	4.2nm,0.3s,baz=236,slow=14,SNR=9.2						
AFI				Sn	**Sn**	**14 18 52.8**	**-11**
	2.7nm,0.3s,baz=221,slow=19,SNR=4.1						
AFI	**Afiamalu**	**9.25**	**18**	*e*Pn	**Pn**	**14 17 16.4**	**-2.9**
AFI				*e*Sn	**Sn**	**14 18 50.3**	**-13**
RAR	**Rarotonga**	**13.95**	**86**	Pn	**Pn**	**14 18 23.7**	**+0.2**
	4.8nm,0.3s,baz=252,slow=10,SNR=17						
RAR				Sn	**Sn**	**14 20 45.6**	**-13**
	1.4nm,0.3s,baz=320,slow=11,SNR=4.8						
RAR				LR	LR	14 21 53.1	
	comp=Z,171nm,21.8s,baz=166,slow=28						
RAR				T		14 33 36.9	
	3.1nm,0.3s,baz=238,slow=16,SNR=2.6						
RAR	**Rarotonga**	**13.95**	**86**	Pn	**Pn**	**14 18 23.8**	**+0.2**
RAR				Sn	**Sn**	**14 20 45.6**	**-13**
RAR				LR	LR	14 21 53.1	
TBI	**Tubuai**	**23.23**	**96**	*e*LR	LR	14 25 38.1	
	202nm,29.2s						
PPT	**Papeete**	**24.14**	**82**	*e*LQ		14 25 00.4	
	256nm,22.2s						
PPT				*e*LR	LR	14 26 08.6	
	154nm,22.5s						
PPT	**Papeete**	**24.14**	**82**	LR	LR	14 27 06.2	
	comp=Z,189nm,19.5s,MS3.6,baz=150,slow=29						
HNR	**Honiara**	**27.66**	**295**	LR	LR	14 30 30.1	
	comp=Z,192nm,18.5s,MS3.7,baz=178,slow=34						
CTA	**Charters Tower**	**36.37**	**267**	*e*P	**P**	**14 22 11.0**	**+0.8**
	3.8nm,0.8s,mb4.4						
CTA	**Charters Tower**	**36.37**	**267**	P	**P**	**14 22 10.6**	**+0.5**
	2.2nm,0.3s,mb4.5,baz=94,slow=9.7,SNR=8.5						
CTAO	**Charters Tower**	**36.37**	**267**	*e*P	**P**	**14 22 11.2**	**+1.0**
	7.4nm,0.8s,mb4.7						
RKT	**Rikitea**	**36.52**	**98**	*e*LR	LR	14 31 46.1	
	162nm,29.5s						
STKA	**Stephens Creek**	**39.64**	**247**	*e*P	**P**	**14 22 38.6**	**+0.8**
	1.2nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**39.64**	**247**	P	**P**	**14 22 37.0**	**-0.8**
	1.4nm,0.6s,mb3.9,baz=70,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**39.64**	**247**	P	**P**	**14 22 38.6**	**+0.7**
AS31	**Alice Springs**	**47.02**	**258**	*e*P	**P**	**14 23 37.4**	**0.0**
ASAR	**Alice Springs**	**47.02**	**258**	P	**P**	**14 23 37.2**	**-0.2**
	8.6nm,1.0s,mb4.6,baz=92,slow=8.3,SNR=51						
ASPA	**Alice Springs**	**47.02**	**258**	*e*P	**P**	**14 23 37.4**	**0.0**
WB2	**Warramunga Arr**	**47.34**	**263**	*e*P	**P**	**14 23 39.3**	**-0.6**
WRAB	**Tennant Creek**	**47.34**	**263**	*e*P	**P**	**14 23 39.1**	**-0.8**
	6.1nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**47.35**	**263**	P	**P**	**14 23 39.5**	**-0.5**
	1.3nm,0.4s,mb4.3,baz=96,slow=8.2,SNR=36						
MBWA	**Marble Bar**	**60.36**	**258**	*e*P	**P**	**14 25 15.0**	**-0.1**
	8.6nm,1.1s,mb4.7						
QSPA	**South Pole Qui**	**67.31**	**180**	P	**P**	**14 26 06.0**	**+5.1**
	5.9nm,1.1s,mb4.5						
MJAR	**Matsushiro Arr**	**73.86**	**322**	P	**P**	**14 26 42.2**	**+1.4**
	1.3nm,0.6s,mb4.0,baz=158,slow=6.3,SNR=5.0						
MJAR	**Matsushiro Arr**	**73.86**	**322**	P	**P**	**14 26 42.2**	**+1.4**
NIKO	**Nikolski**	**75.60**	**4**	*e*P	**P**	**14 26 52.9**	**+2.0**
ASAJ	**Asahikawa**	**77.19**	**330**	LR	LR	14 57 43.0	
	comp=Z,99nm,18.8s,MS4.2,baz=219,slow=33						
PMSA	**Palmer Station**	**77.98**	**156**	*e*P	**P**	**14 27 04.2**	**-0.3**
	71nm,0.8s,mb5.7						
YSS	**Yuzh-Sakhalins**	**79.31**	**332**	P	**P**	**14 27 14.7**	**+3.0**
NVAR	**Mina Array Bea**	**80.63**	**42**	P	**P**	**14 27 24.1**	**+5.3**
	0.6nm,0.6s,mb3.7,baz=211,slow=6.3,SNR=3.3						
PLCA	**Paso Flores**	**85.49**	**132**	P	**P**	**14 27 48.8**	**+4.8**
ILAR	**Eielson Array**	**89.88**	**12**	P	**P**	**14 28 07.7**	**+2.6**
	1.2nm,0.9s,mb4.2,baz=220,slow=5.7,SNR=6.2						
BVAR	**Borovoye Array**	**122.78**	**319**	PKP	PKPdf	14 34 04.4	+2.3
	0.4nm,0.7s,baz=111,slow=2.1,SNR=3.8						
AKASG	**Malin Array Be**	**146.46**	**332**	PKPbc	PKPbc	14 34 49.1	+1.8
	5.0nm,0.8s,baz=42,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**150.63**	**312**	PKPbc	PKPbc	14 35 01.3	+3.2
	1.9nm,0.8s,baz=116,slow=2.9,SNR=7.5						

*IDC **10** 14:17:47.6±1.3,4061S×17570E,h0km,mb3.4/1,*
mb1 3.9/3,mb1mx3.7/13,mbtmp3.7/3,ML3.7/2,MS3.1/1,
Ms1 3.1/1,ms1mx2.9/15,Error ellipse: s-maj=45.7km
s-min=23.7km az=122.0
*ISCJB **10** 14:17:51.5±0.4,4012S±002×17496E±004,h21km±5km,*
mb3.4/1,Error ellipse: s-maj=4.9km s-min=3.1km az=33.2
*WEL **10** 14:17:51.9±0.1,4012S×17497E,h19km±2km,ML4.5/47,*
Error ellipse: s-maj=1.6km s-min=0.7km az=90.0
WEL Felt from Taranaki to Wellington, maximum reported intensity MM 5.
*NEIC **10** 14:17:51.4,4013S×17489E,h28km,ML4.5(WEL),After WEL.*
NEIC Felt at Marton and Wanganui.

ISC 10 14:17:51.3±0.6,4013S±002×17496E±004,h16km±5km,
n73,σ0°72/76,mb3.4/1,5C-5D,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.37**	**3**	⇑P*	**Pg**	**14 17 59.9**	**+1.0**
WAZ	**Wanganui**	**0.37**	**3**	P	**Pg**	**14 17 59.9**	**+1.0**
MRZ	**Mangatainoka R**	**0.71**	**139**	⇑P*	**Pb**	**14 18 05.8**	**+0.4**
MRZ				S*	**Sb**	**14 18 14.9**	**0.0**
MRZ	**Mangatainoka R**	**0.71**	**139**	P	**Pg**	**14 18 05.8**	**+0.5**
KIW	**Kapiti Island**	**0.74**	**183**	⇓P*	**Pb**	**14 18 05.3**	**-0.5**
KIW	**Kapiti Island**	**0.74**	**183**	P	**Pg**	**14 18 05.3**	**-0.3**
TSZ	**Takapari Road**	**0.77**	**85**	P*	**Pb**	**14 18 06.5**	**+0.2**
TSZ	**Takapari Road**	**0.77**	**85**	P	**Pg**	**14 18 06.6**	**+0.3**
MTVZ	**Mangateitei**	**0.84**	**28**	P*	**Pb**	**14 18 07.0**	**-0.5**
PKVZ	**Pokaka**	**0.89**	**20**	P*	**Pb**	**14 18 07.7**	**-0.6**
WNVZ	**Wahianoa**	**0.94**	**32**	P*	**Pb**	**14 18 08.5**	**-0.6**
TRVZ	**Turoa**	**0.94**	**29**	⇓P*	**Pb**	**14 18 08.7**	**-0.5**
MOVZ	**Moawhango**	**0.94**	**41**	⇓P*	**Pb**	**14 18 08.3**	**-1.0**
RAEZ	**Rainy Point**	**0.94**	**332**	⇑P*	**Pb**	**14 18 10.4**	**+1.1**
FWVZ	**Far West T-bar**	**0.98**	**28**	P*	**Pb**	**14 18 09.3**	**-0.6**
CAW	**Cannon Point**	**0.98**	**175**	P*	**Pb**	**14 18 10.1**	**+0.1**
TUVZ	**Tukino**	**1.01**	**32**	P*	**Pb**	**14 18 09.8**	**-0.6**
VRZ	**Vera Road**	**1.01**	**351**	⇑P*	**Pb**	**14 18 10.5**	**+0.1**
WPVZ	**Whakapapa**	**1.02**	**26**	P*	**Pb**	**14 18 10.1**	**-0.6**
DUWZ	**D'Urville Isla**	**1.04**	**229**	⇓P*	**Pb**	**14 18 10.2**	**-0.7**
NGZ	**Ngauruhoe**	**1.07**	**28**	P*	**Pb**	**14 18 10.8**	**-0.6**
NEZ	**North Egmont**	**1.08**	**322**	PN	**Pn**	**14 18 12.2**	**+0.4**
NEZ	**North Egmont**	**1.08**	**322**	P	**Pb**	**14 18 12.4**	**+0.8**
OTVZ	**Oturere**	**1.10**	**30**	PN	**Pn**	**14 18 11.6**	**-0.6**
MTW	**Mount Morrison**	**1.11**	**158**	⇑PN	**Pn**	**14 18 12.7**	**+0.5**
NRZ	**Ngariki Road**	**1.12**	**315**	PN	**Pn**	**14 18 12.8**	**+0.6**
TWVZ	**Taurewa**	**1.12**	**20**	PN	**Pn**	**14 18 11.2**	**-1.0**
MRW	**Makara Radio**	**1.12**	**190**	PN	**Pn**	**14 18 11.9**	**-0.5**
WTVZ	**West Tongariro**	**1.12**	**26**	⇓PN	**Pn**	**14 18 11.6**	**-0.7**
BFZ	**Birch Farm**	**1.13**	**120**	PN	**Pn**	**14 18 13.1**	**+0.6**
BFZ				SN	**Sn**	**14 18 29.2**	**+1.6**
KRVZ	**Karewarewa**	**1.16**	**27**	PN	**Pn**	**14 18 12.2**	**-0.6**
WEL	**Wellington**	**1.17**	**187**	PN	**Pn**	**14 18 12.9**	**-0.1**
PKE	**Pukeiti**	**1.19**	**321**	PN	**Pn**	**14 18 13.8**	**+0.5**
NWEZ	**Newall Road**	**1.20**	**315**	PN	**Pn**	**14 18 14.3**	**+0.9**
SNZO	**South Karori**	**1.20**	**189**	PN	**Pn**	**14 18 13.2**	**-0.2**
SNZO	**South Karori**	**1.20**	**189**	*e*Pn	**Pn**	**14 18 13.0**	**-0.4**
SNZO				*e*Sn	**Sn**	**14 18 28.4**	**-0.9**
TCW	**Tory Channel**	**1.20**	**205**	PN	**Pn**	**14 18 12.7**	**-0.8**
KATZ	**Kakaramea**	**1.28**	**27**	PN	**Pn**	**14 18 14.2**	**-0.3**
BHW	**Baring Head**	**1.28**	**183**	PN	**Pn**	**14 18 14.5**	**0.0**
PAWZ	**Paruwai Farm**	**1.30**	**164**	PN	**Pn**	**14 18 14.9**	**+0.1**
MSWZ	**Moikau Station**	**1.31**	**170**	PN	**Pn**	**14 18 15.2**	**+0.3**
RITZ	**Rihia Road**	**1.34**	**32**	PN	**Pn**	**14 18 15.2**	**-0.2**
TRWZ	**Traveller**	**1.39**	**157**	PN	**Pn**	**14 18 17.0**	**+1.0**
RATZ	**Rangitukua**	**1.41**	**27**	PN	**Pn**	**14 18 15.6**	**-0.6**
PXZ	**Pawanui**	**1.46**	**87**	PN	**Pn**	**14 18 16.9**	**-0.1**
HATZ	**Hinemaiaia**	**1.51**	**36**	PN	**Pn**	**14 18 17.7**	**0.0**
HATZ	**Hinemaiaia**	**1.51**	**36**	P	**Pn**	**14 18 18.0**	**+0.3**
TUWZ	**Tuamarina**	**1.51**	**210**	PN	**Pn**	**14 18 17.7**	**0.0**
BKZ	**Black Stump Fm**	**1.52**	**52**	PN	**Pn**	**14 18 17.9**	**0.0**
HIZ	**Hauiti**	**1.61**	**357**	PN	**Pn**	**14 18 19.4**	**-0.4**
NNZ	**Nelson**	**1.62**	**227**	PN	**Pn**	**14 18 19.3**	**+0.1**
WHTZ	**Whakaora**	**1.65**	**28**	P	**Pn**	**14 18 20.8**	**+1.2**
BSWZ	**Blackbirch Sta**	**1.79**	**207**	PN	**Pn**	**14 18 22.7**	**+1.2**
QRZ	**Quartz Range**	**1.98**	**249**	PN	**Pn**	**14 18 24.5**	**+0.3**
TAZ	**Tarawera**	**2.24**	**33**	PN	**Pn**	**14 18 28.3**	**+0.5**
THZ	**Tophouse**	**2.26**	**223**	*e*PN	**Pn**	**14 18 28.6**	**+0.6**
KNZ	**Kokohu**	**2.37**	**63**	PN	**Pn**	**14 18 29.3**	**-0.2**
URZ	**Urewera**	**2.50**	**43**	Pn	**Pn**	**14 18 31.1**	**-0.2**
	55nm,0.3s,baz=239,slow=8.3,SNR=147						
URZ				Sn	**Sn**	**14 19 02.9**	**+1.3**
	18nm,0.3s,baz=49,slow=11,SNR=4.9						
URZ	**Urewera**	**2.50**	**43**	PN	**Pn**	**14 18 31.0**	**-0.4**
KHZ	**Kahutara**	**2.53**	**205**	PN	**Pn**	**14 18 32.1**	**+0.4**
TGRZ	**Tauranga**	**2.60**	**23**	PN	**Pn**	**14 18 35.2**	**+2.6**
TGRZ	**Tauranga**	**2.60**	**23**	P	**Pn**	**14 18 35.7**	**+3.0**
MWZ	**Matawai**	**2.68**	**49**	PN	**Pn**	**14 18 33.8**	**+0.1**
DSZ	**Denniston Nort**	**2.89**	**235**	PN	**Pn**	**14 18 37.2**	**+0.6**
PUZ	**Puketiti**	**3.29**	**52**	PN	**Pn**	**14 18 41.3**	**-0.8**
LTZ	**Lake Taylor**	**3.34**	**216**	PN	**Pn**	**14 18 43.1**	**+0.3**
KUZ	**Kuaotunu**	**3.43**	**10**	*e*PN	**Pn**	**14 18 43.3**	**-0.7**
MXZ	**Matakaoa Point**	**3.66**	**47**	PN	**Pn**	**14 18 47.2**	**-0.1**
CRLZ	**Canterbury Las**	**3.86**	**206**	*e*PN	**Pn**	**14 18 48.2**	**-1.8**
RPZ	**Rata Peaks**	**4.62**	**218**	Pn	**Pn**	**14 18 59.6**	**-0.8**
	1.0nm,0.3s,baz=39,slow=6.2,SNR=5.4						
RPZ				Sn	**Sn**	**14 19 50.5**	**-3.3**
	5.8nm,0.3s,baz=57,slow=13,SNR=6.3						
RPZ				LR	LR	14 21 05.8	
	comp=Z,222nm,18.8s,baz=100,slow=43						
WRA	**Warramunga Arr**	**40.08**	**288**	P	**P**	**14 25 30.2**	**+4.3**
	0.4nm,0.5s,mb3.4,baz=126,slow=8.3,SNR=3.5						
ARCES	**ARCESS Array B**	**146.43**	**341**	PKPbc	PKPbc	14 37 30.8	-0.7
	1.9nm,0.7s,baz=53,slow=3.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**152.48**	**194**	PKPbc	PKPbc	14 37 45.7	-1.1
	0.5nm,0.8s,baz=158,slow=3.3,SNR=6.4						
TORD				PKPab	PKPab	14 37 53.5	-3.5
	1.2nm,0.8s,baz=161,slow=2.7,SNR=6.3						

*ISCJB **10** 14:21:09.5±4.4,1056N±009×9434E±010,h12km±28km,*
mb4.2/28,MS4.0/3,Error ellipse: s-maj=20.4km
s-min=7.6km az=98.3
*IDC **10** 14:21:09.6±0.7,1061N×9427E,h0km,mb4.0/11,*
mb1 4.1/11,mb1mx3.9/21,mbtmp3.9/11,MS3.8/2,
Ms1 3.8/2,ms1mx3.0/30,Error ellipse: s-maj=46.1km
s-min=16.2km az=52.0
*NEIC **10** 14:21:11.0±0.4,1058N×9433E,h10km,mb4.5/14,Error ellipse: s-maj=16.1km s-min=5.2km az=54.0*
*BJI **10** 14:21:11.0,1060N×9430E,h10km,mB4.8,mb4.3,Ms4.4,*
Msz4.4
*MOS **10** 14:21:12.2±0.6,1055N×9422E,h33km,mb4.6/9,Error ellipse: s-maj=27.4km s-min=9.3km az=114.7*

ISC 10 14:21:13.2±3.2,1063N±009×9436E±010,h22km±23km,
h26km±2.5km:pP-P,n63,σ0°81/62,mb4.2/28,MS4.0/3,
Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.89**	**303**	*e*P	Px	14 22 03.9	
PBA				*e*S	Sx	14 22 23.4	
KULM	**Kulim**	**8.18**	**130**	*e*Pn	**Pn**	**14 23 08.9**	**-1.7**
KULM				*e*Sn	**Sn**	**14 24 32.9**	**-9.4**
PSI	**Prapat**	**9.00**	**149**	LR	LR	14 27 24.2	
	comp=Z,385nm,19.3s,baz=305,slow=41						
SHL	**Shillong**	**15.04**	**351**	*ex*	**Pn**	**14 24 50.0**	**+5.7**
HYB	**Hyderabad**	**16.75**	**295**	*i* P	**Pn**	**14 25 10.0**	**+3.6**
HYB	**Hyderabad**	**16.75**	**295**	*e*P	**Pn**	**14 25 10.0**	**+3.6**
JIRN	**Jiri**	**18.60**	**337**	*e*P	**Pn**	**14 25 30.1**	**+0.8**
	80nm,1.4s						
PKI	**Pulchoki**	**18.84**	**335**	*e*P	**Pn**	**14 25 32.8**	**+0.6**
	97nm,1.2s						
PKI	**Pulchoki**	**18.84**	**335**	*e*P	**Pn**	**14 25 32.8**	**+0.6**
PKI				pmax	pmax		
	comp=Z,49nm,1.2s						
GUN	**Gumba**	**18.95**	**336**	*e*P	**Pn**	**14 25 34.0**	**+0.5**
DMN	**Daman**	**19.00**	**334**	*e*P	**Pn**	**14 25 34.4**	**+0.3**
KKN	**Kakani**	**19.09**	**335**	*e*P	**Pn**	**14 25 35.1**	**0.0**
LSA	**Lhasa**	**19.21**	**351**	*e*Pn	**Pn**	**14 25 35.9**	**-0.8**
	comp=Z,25nm,1.5s						
LSA				*e*Sn	**Sn**	**14 29 26.4**	**+15**
LSA	**Lhasa**	**19.21**	**351**	*e*P	**Pn**	**14 25 35.9**	**-0.7**
LSA				pmax	pmax		
	comp=Z,25nm,1.5s						
GKN	**Gorkha**	**19.55**	**333**	*e*P	**Pn**	**14 25 40.3**	**-0.4**
KOLN	**Koldanda**	**19.82**	**331**	*e*P	**Pn**	**14 25 43.5**	**-0.5**
BHPL	**Bhopal**	**20.46**	**310**	*e*P	**P**	**14 25 50.2**	**+0.9**
BHPL				AMb	AMB	14 25 57.0	
	comp=Z,12nm,0.8s						
SONA	**Sohna**	**23.87**	**320**	*e*P	**P**	**14 26 25.4**	**+0.3**
SONA				AMb	AMB	14 26 28.8	
	comp=Z,20nm,1.5s,mb4.3						
ENH	**Enshi**	**24.08**	**34**	*e*P	**P**	**14 26 26.6**	**-0.4**
	comp=Z,14nm,1.1s,mb4.3						
NDI	**New Delhi**	**24.09**	**321**	*e*P	**P**	**14 26 27.0**	**-0.1**
KUDL	**Kundal**	**24.18**	**319**	*e*P	**P**	**14 26 28.6**	**+0.7**
AJM	**Ajmer**	**24.39**	**313**	*ex*	**P**	**14 26 27.6**	**-2.2**
KHET	**Khetri**	**24.59**	**317**	*e*P	**P**	**14 26 33.0**	**+1.4**
KHET				AMb	AMB	14 26 34.6	
	comp=Z,13nm,0.9s,mb4.5						
LZH	**Lanzhou**	**26.76**	**17**	*e*P	**P**	**14 26 56.0**	**+4.7**
LZH				PP		14 27 42.3	
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,73nm,4.7s						
LZH				LR	LR		
	comp=E,376nm,10.2s						
LZH				LR	LR		
	comp=Z,747nm,13.4s,MS4.4						
GTA	**Gaotai**	**29.07**	**9**	*e*P	**P**	**14 27 13.1**	**+1.2**
GTA				AP	pP	14 27 21.7	+3.1
GTA				XP	sP	14 27 25.9	+4.6
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.8						
WMQ	**Urumqi**	**33.57**	**351**	*e*P	**P**	**14 27 51.4**	**-0.1**
WMQ				AP	pP	14 27 57.3	-0.9
WMQ				XP	sP	14 28 00.2	-0.7
WMQ				PP	PP	14 29 04.0	-3.6
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,65nm,4.4s						
WMQ				LR	LR		
	comp=N,46nm,16.0s,MS3.5						
WMQ				LR	LR		
	comp=E,76nm,20.6s,MS3.5						
AAK	**Ala-Archa**	**36.29**	**335**	*e*P	**P**	**14 28 14.8**	**-0.2**
	comp=E,7.7nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**36.29**	**335**	*e*P	**P**	**14 28 14.8**	**-0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
MKAR	**Makanchi Array**	**37.47**	**346**	P	**P**	**14 28 25.4**	**+0.4**
	comp=Z,1.2nm,0.6s,mb3.9,baz=164,slow=8.1,SNR=20						
ULN	**Ulaanbaatar**	**38.62**	**14**	P	**P**	**14 28 38.7**	**+3.9**
	comp=Z,1.0nm,0.7s,mb3.6						
ULN	**Ulaanbaatar**	**38.62**	**14**	P	**P**	**14 28 38.7**	**+4.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
KURK	**Kurchatov**	**42.01**	**345**	*e*P	**P**	**14 29 02.6**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.7						
KURK				*e*pP	pP	14 29 10.0	+0.4
KURK	**Kurchatov**	**42.01**	**345**	*e*P	**P**	**14 29 02.6**	**-0.2**
KURK				*e*PP	pP	14 29 10.0	+0.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
BVAR	**Borovoye Array**	**46.47**	**340**	P	**P**	**14 29 38.3**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=120,slow=8.8,SNR=4.8						
BVAR				PcP	PcP	14 31 12.7	-0.2
	comp=Z,0.3nm,0.5s,baz=176,slow=4.0,SNR=2.1						
BRVK	**Borovoye**	**46.54**	**340**	*e*P	**P**	**14 29 38.5**	**-0.5**
	comp=Z,1.7nm,0.9s,mb4.0						
BRVK	**Borovoye**	**46.54**	**340**	*e*P	**P**	**14 29 38.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**46.88**	**339**	P	**P**	**14 29 41.5**	**-0.2**
	comp=Z,4.5nm,1.2s,mb4.3						
ZRNK	**Zerenda**	**46.88**	**339**	P	**P**	**14 29 41.6**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
WRA	**Warramunga Arr**	**49.72**	**128**	P	**P**	**14 30 04.4**	**+0.8**
	comp=Z,2.8nm,0.7s,mb4.4,baz=304,slow=9.0,SNR=30						
WRAB	**Tennant Creek**	**49.72**	**128**	*e*P	**P**	**14 30 03.1**	**-0.6**
	comp=Z,7.4nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**49.72**	**128**	*e*P	**P**	**14 30 03.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**49.73**	**128**	*e*P	**P**	**14 30 04.4**	**+0.7**
ASPA	**Alice Springs**	**51.54**	**132**	*e*P	**P**	**14 30 18.3**	**+0.9**
AS31	**Alice Springs**	**51.54**	**132**	*e*P	**P**	**14 30 18.3**	**+0.9**
ASAR	**Alice Springs**	**51.54**	**132**	P	**P**	**14 30 18.4**	**+1.0**
	comp=Z,4.2nm,0.8s,mb4.4,baz=310,slow=6.8,SNR=41						
GNI	**Garni**	**52.71**	**313**	P	**P**	**14 30 24.6**	**-1.4**
	comp=Z,18nm,1.1s,mb4.9						
GNI	**Garni**	**52.71**	**313**	P	**P**	**14 30 24.6**	**-1.5**
GNI				pmax	pmax		
	comp=Z,18nm,1.1s						
MALT	**Malatya**	**56.88**	**309**	P	**P**	**14 30 56.0**	**-0.3**
	comp=Z,9.4nm,1.7s,mb4.5						
MALT	**Malatya**	**56.88**	**309**	P	**P**	**14 30 56.0**	**-0.3**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
YAK	**Yakutsk**	**57.33**	**19**	P	**P**	**14 30 59.7**	**+0.2**
	comp=Z,12nm,1.0s,mb4.9						
YAK	**Yakutsk**	**57.33**	**19**	P	**P**	**14 30 59.7**	**+0.2**
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
BRTR	**Keskin Array B**	**60.83**	**310**	P	**P**	**14 31 22.7**	**-1.0**
	comp=Z,1.0nm,0.7s,mb4.1,baz=118,slow=7.0,SNR=5.0						
STKA	**Stephens Creek**	**61.86**	**135**	P	**P**	**14 31 30.0**	**-0.7**
	comp=Z,2.4nm,0.9s,mb4.3,baz=30,slow=5.8,SNR=4.8						
STKA	**Stephens Creek**	**61.86**	**135**	P	**P**	**14 31 30.0**	**-0.8**
MA2	**Magadan**	**64.24**	**28**	P	**P**	**14 31 46.6**	**+0.1**
	comp=Z,8.4nm,1.2s,mb4.7						
MA2	**Magadan**	**64.24**	**28**	P	**P**	**14 31 46.6**	**+0.1**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
TIXI	**Tiksi**	**64.50**	**11**	*e*P	**P**	**14 31 44.5**	**-3.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
FINES	**FINESS Array B**	**70.39**	**332**	P	**P**	**14 32 24.7**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.6,baz=91,slow=7.1,SNR=4.0						
ARCES	**ARCESS Array B**	**72.76**	**340**	P	**P**	**14 32 39.7**	**-0.1**
	comp=Z,3.3nm,1.0s,mb4.2,baz=61,slow=3.0,SNR=3.6						
ARCES				LR	LR	15 07 51.4	
	comp=Z,72nm,18.9s,MS4.0,baz=234,slow=38						
GERES	**GERESS Array B**	**75.94**	**318**	P	**P**	**14 32 58.0**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=145,slow=4.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**90.18**	**283**	P	**P**	**14 34 12.3**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.9,baz=90,slow=4.3,SNR=3.2						
ILAR	**Eielson Array**	**92.12**	**22**	P	**P**	**14 34 20.6**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.7,baz=306,slow=5.2,SNR=5.8						
PLCA	**Paso Flores**	**147.19**	**201**	PKPbc	PKPbc	14 40 55.8	+1.2
	comp=Z,2.8nm,0.9s,baz=133,slow=5.7,SNR=6.5						

*LDG **10** 14:25:13.5±2.1,4284N×156W,h2km,Md2.0/2,Ml2.6/1,*
Error ellipse: s-maj=37.0km s-min=24.0km az=57.0
*CSEM **10** 14:25:13.5±2.1,4284N×156W,h2km,MD2.0/2,ML2.6/1,*
Error ellipse: s-maj=37.0km s-min=24.0km az=57.0,After LDG

MDD 10 14:25:14.8±0.1,4284N×145W,h0km,mbLg1.8/14,1C-1D,
Error ellipse: s-maj=1.7km s-min=1.1km az=120.0,
PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.07**	**114**	Pg	Pg	14 25 15.9	-0.2
	0.2nm,0.2s,SNR=7.9						
IPRE				Lg		14 25 16.7	
	35nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.09**	**206**	⇓Pg	Pg	14 25 16.3	-0.1
	30nm,0.1s,SNR=18						
IUNC				Lg		14 25 18.1	
	263nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.12**	**238**	⇑Pg	Pg	14 25 16.8	-0.2
	24nm,0.1s,SNR=18						
EARA				Lg		14 25 19.1	
	243nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.14**	**326**	Pg	Pg	14 25 17.5	+0.1
	8.5nm,0.1s,

comp=Z,9.7nm,0.6s,mb4.6
HHC Hu-ho-hao-te 41.72 342 *e*P **P 14 36 30.8 +3.9**
HHC AMB AMB
comp=Z,7.0nm,0.4s,mb4.6
HHC AMB AMB
comp=Z,126nm,5.1s
LSA Lhasa 44.47 313 *e*P **P 14 36 50.3 +1.3**
comp=Z,4.1nm,0.6s,mb4.2
GTA Gaotai 45.37 330 *e*P **P 14 36 56.6 +0.5**
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.0
JIRN Jiri 47.29 307 *e*P **P 14 37 11.3 +0.3**
comp=Z,13nm,0.6s,mb4.8
GUN Gumba 47.65 307 *e*P **P 14 37 14.5 +0.7**
comp=Z,28nm,0.8s,mb4.9
TAU Tasmania Unive 47.70 160 *e*P **P 14 37 08.0 -6.2**
comp=Z,25nm,1.0s,mb4.8
PKI Pulchoki 47.88 307 *e*P **P 14 37 16.3 +0.8**
KKN Kakani 48.07 307 *e*P **P 14 37 17.4 +0.4**
DMN Daman 48.14 307 *e*P **P 14 37 18.3 +0.8**
GKN Gorkha 48.68 307 *e*P **P 14 37 22.2 +0.6**
comp=Z,5.2nm,0.3s,mb4.6
KOLN Koldanda 49.42 306 *e*P **P 14 37 28.3 +1.1**
comp=Z,32nm,0.5s,mb5.2
ULN Ulaanbaatar 49.44 342 *e*P **P 14 37 27.7 +0.3**
comp=Z,3.9nm,1.0s,mb4.0
SONM Songino Array 49.62 341 P **P 14 37 29.2 +0.5**
comp=Z,2.1nm,0.5s,mb4.0,baz=157,slow=9.4,SNR=6.5
HYB Hyderabad 50.60 291 *i* P **P 14 37 36.5 +0.3**
HYB Hyderabad 50.60 291 *e*P **P 14 37 36.5 +0.3**
MKAR Makanchi Array 59.79 326 P **P 14 38 42.4 +0.5**
comp=Z,5.7nm,0.4s,mb4.7,baz=119,slow=8.6,SNR=51
YAK Yakutsk 60.38 1 *e*P **P 14 38 45.5 -0.2**
comp=Z,10.0nm,0.6s,mb4.8
AAK Ala-Archa 62.50 318 *e*P **P 14 38 59.9 -0.1**
KURK Kurchatov 64.00 328 *e*P **P 14 39 09.6 -0.3**
comp=Z,8.2nm,0.7s,mb4.7
BVAR Borovoye Array 69.58 327 P **P 14 39 45.0 -0.1**
comp=Z,1.9nm,0.6s,mb4.0,baz=106,slow=5.3,SNR=17
BRVK Borovoye 69.65 327 *e*P **P 14 39 45.0 -0.5**
comp=Z,2.9nm,1.0s,mb4.0
ZRNK Zerenda 70.30 327 *e*P **P 14 39 49.0 -0.4**
comp=Z,2.2nm,0.6s,mb4.1
AKTK Aktyubinsk 75.85 322 P **P 14 40 22.1 +0.1**
AKTO Aktyubinsk 75.85 322 P **P 14 40 22.1 +0.1**
comp=Z,2.2nm,0.6s,mb4.0,baz=106,slow=8.6,SNR=8.4
ARU Arti 77.20 328 P **P 14 40 28.9 -0.7**
comp=Z,3.0nm,0.7s,mb4.0
VNDA Vanda 81.16 173 P **P 14 40 50.5 -0.5**
comp=Z,0.8nm,0.5s,mb3.6,baz=326,slow=7.9,SNR=5.1
ARCES ARCESS Array B 92.77 340 P **P 14 41 46.1 -1.4**
comp=Z,6.2nm,1.2s,mb4.6,baz=84,slow=4.7,SNR=4.0

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*ISCJB **10** 14:29:44.1±1.0, 222S±0.1×1750W±02, h33km, mb4.0/4, Error ellipse: s-maj=29.1km s-min=10.0km az=58.3*
*IDC **10** 14:29:45.9±2.4, 2177S×17568W, h0km, mb4.0/4, mb1 4.2/5, mb1mx4.0/16, mbtmp4.0/5, ML2.0/1, Error ellipse: s-maj=90.5km s-min=22.5km az=143.0*
ISC 10 14:29:45.8±1.0, 224S±01×1749W±02, h35km, n8, σ0§36/8, mb4.0/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.90**	**20**	P	**Pn**	**14 31 51.1**	**-0.7**
	1.1nm,0.3s,baz=156,slow=20,SNR=2.9						
AFI				Sn	**Sn**	**14 33 31.3**	**+0.5**
	2.0nm,0.3s,baz=71,slow=22,SNR=3.6						
CTA	**Charters Tower**	**36.24**	**266**	P	**P**	**14 36 45.2**	**-0.2**
	1.7nm,0.5s,mb4.2,baz=106,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**46.96**	**258**	P	**P**	**14 38 13.4**	**+0.3**
	2.1nm,0.8s,mb4.2,baz=100,slow=7.5,SNR=18						
WRA	**Warramunga Arr**	**47.25**	**263**	P	**P**	**14 38 15.4**	**0.0**
	1.0nm,0.6s,mb3.9,baz=103,slow=7.8,SNR=7.1						
NVAR	**Mina Array Bea**	**80.42**	**42**	P	**P**	**14 41 60.0**	**+6.2**
	0.3nm,0.5s,mb3.5,baz=225,slow=8.4,SNR=3.9						
VNA3	**Neumayer Olymp**	**86.09**	**175**	*e*	**P**	**14 42 23.1**	**+0.2**
VNA2	**Neumayer--Watz**	**86.56**	**176**	*e*	**P**	**14 42 25.3**	**0.0**
	baz=212,slow=2.2						
AKASG	**Malin Array Be**	**146.02**	**332**	PKPbc	PKPbc	14 49 25.2	+3.3
	0.7nm,0.5s,baz=42,slow=4.0,SNR=11						

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*THR **10** 14:30:47.9±0.5, 3083N×5673E, h14km±5km, ML3.1*
*ISCJB **10** 14:30:48.2±0.9, 3081N±006×5670E±009, h10km, Error ellipse: s-maj=13.0km s-min=5.2km az=109.3*
*CSEM **10** 14:30:48.5±0.1, 3080N×5668E, h16km, ML3.1, Error ellipse: s-maj=3.3km s-min=2.4km az=58.0*
*TEH **10** 14:30:51.0, 3097N×5666E, h8km, Mn3.6*
ISC 10 14:30:49.3±0.9, 3080N±006×5668E±009, h10km, n10, σ0§88/16, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.82**	**175**	*e*PG	**Pg**	**14 31 04.1**	**-1.0**
KRBR				*e*SG	**Sg**	**14 31 15.7**	**-0.1**
KRBR				AML	AML	14 31 16.2	
	comp=N,645nm,0.6s						
KRBR				AML	AML	14 31 19.8	
	comp=E,749nm,0.4s						
KRBR	**Kerman**	**0.82**	**175**	*e*Pg	**Pg**	**14 31 04.1**	**-1.0**
	SNR=90						
KRBR				*e*Sg	**Sg**	**14 31 15.7**	**-0.1**
	SNR=90						
IBAF	**Bafgh**	**1.24**	**310**	*e*Pg	**Pg**	**14 31 11.2**	**-1.8**
IMEH	**Mehriz**	**1.87**	**289**	*e*Pn	**Pn**	**14 31 22.3**	**+1.0**
IMEH				*e*Sn	**Sn**	**14 31 45.1**	**+0.2**
ICHK	**Chekchek**	**2.42**	**307**	*e*Pn	**Pn**	**14 31 29.2**	**+0.4**
ISAD	**Sadrabad**	**2.79**	**294**	*e*Pn	**Pn**	**14 31 34.6**	**+0.6**
ISAD				*e*Sn	**Sn**	**14 32 06.8**	**-0.9**
BNDS	**Bandar-Abbas**	**3.42**	**188**	*e*Pn	**Pn**	**14 31 43.5**	**+0.9**
BNDS				AML	AML	14 32 41.8	
	comp=N,30nm,0.4s						
ZHSF	**Zahedan**	**3.74**	**107**	*e*PN	**Pn**	**14 31 46.8**	**-0.2**
NASN	**Na'in**	**3.85**	**302**	*e*Pn	**Pn**	**14 31 49.6**	**+1.0**
NASN				*e*SG	**Sg**	**14 32 48.4**	**-4.6**
NASN				AML	AML	14 32 51.3	
	comp=E,29nm,0.7s						
NASN	**Na'in**	**3.85**	**302**	*e*Pn	**Pn**	**14 31 49.6**	**+1.0**
	SNR=52						
NASN				*e*Sg	**Sg**	**14 32 48.4**	**-4.6**
	SNR=90						

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*IDC **10** 14:37:19.2±0.9, 5522N×165.11E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=23.2km s-min=16.6km az=20.0*
*ISCJB **10** 14:37:22.4±0.8, 5493N±003×16558E±006, h22km±8km, mb3.5/7, Error ellipse: s-maj=6.1km s-min=5.2km az=117.6*
*KRSC **10** 14:37:23.0±1.1, 5500N×16563E, h27km±5km, ML4.1*
*MOS **10** 14:37:24.3±0.9, 5495N×16552E, h42km, mb4.0/4, Error ellipse: s-maj=16.9km s-min=16.1km az=171.7*
ISC 10 14:37:23.7±0.8, 5496N±004×16560E±007, h19km±6km, n53, σ1§14/83, mb3.5/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.33**	**41**	*e*P	**Pg**	**14 37 28.6**	**-2.1**
BKI				*i* S	**Sg**	**14 37 33.9**	**-1.6**
BKI				Smax			
	20μm,0.4s						
KBTR	**Krutoberegovo**	**2.01**	**310**	P	**Pn**	**14 37 53.8**	**-2.8**
KBTR				S	**Sn**	**14 38 15.5**	**-5.7**
KBTR	**Krutoberegovo**	**2.01**	**310**	*e*P	**Pn**	**14 37 53.8**	**-2.8**
KBTR				*e*S	**Sn**	**14 38 18.6**	**-2.6**
MKZ	**Mys Kozlova**	**2.28**	**261**	P	**Pn**	**14 37 59.5**	**-0.7**
MKZ				S	**Sn**	**14 38 25.1**	**-2.6**
MKZ	**Mys Kozlova**	**2.28**	**261**	*e*P	**Pn**	**14 37 59.5**	**-0.7**
MKZ				*e*S	**Sn**	**14 38 26.3**	**-1.4**
SMKR	**Semkarok**	**2.84**	**307**	*e*P	**Pn**	**14 38 07.4**	**-0.6**
SMKR				*e*S	**Sn**	**14 38 40.1**	**-1.6**
ZLN	**Zelenaya**	**2.93**	**293**	*e*P	**Pn**	**14 38 09.6**	**+0.5**
ZLN				*e*S	**Sn**	**14 38 42.8**	**-0.9**
BDR	**Baidarnaya**	**2.96**	**305**	*e*P	**Pn**	**14 38 09.3**	**-0.3**
CIRR	**Tsirk**	**2.99**	**295**	*e*P	**Pn**	**14 38 10.4**	**+0.4**
LGNR	**Loginova**	**3.01**	**294**	*e*P	**Pn**	**14 38 10.9**	**+0.6**
SRKR	**Sorokina**	**3.02**	**306**	*e*P	**Pn**	**14 38 10.1**	**-0.3**
KLY	**Klyuchi**	**3.11**	**298**	P	**Pn**	**14 38 10.3**	**-1.4**
KLY				S	**Sn**	**14 38 44.0**	**-4.4**
KLY	**Klyuchi**	**3.11**	**298**	*e*P	**Pn**	**14 38 11.1**	**-0.6**
KLY				*e*S	**Sn**	**14 38 45.3**	**-3.1**
KRSR	**Krestovskiy**	**3.12**	**296**	P	**Pn**	**14 38 12.3**	**+0.5**

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KRSR				*e*S	**Sn**	**14 38 50.0**	**+1.5**
TUMR	**Tumrok**	**3.15**	**278**	*i* P	**Pn**	**14 38 13.0**	**+0.8**
TUMR				*e*S	**Sn**	**14 38 50.4**	**+1.2**
KPT	**Kopyto**	**3.22**	**290**	*e*P	**Pn**	**14 38 13.9**	**+0.7**
KPT				*e*S	**Sn**	**14 38 50.6**	**-0.4**
KOZR	**Kozyr**	**3.43**	**291**	PN	**Pn**	**14 38 17.4**	**+1.4**
KOZR				S	**Sn**	**14 38 56.4**	**+0.3**
KOZ	**Kozyrevsk**	**3.44**	**291**	P	**Pn**	**14 38 17.4**	**+1.3**
KOZ				S	**Sn**	**14 38 56.4**	**+0.1**
KOZ	**Kozyrevsk**	**3.44**	**291**	*e*P	**Pn**	**14 38 17.5**	**+1.4**
KOZ				*e*S	**Sn**	**14 38 57.8**	**+1.5**
SRDR	**Sredinnyy**	**3.60**	**295**	*e*P	**Pn**	**14 38 20.1**	**+1.7**
SRDR				*e*S	**Sn**	**14 39 02.5**	**+2.2**
KII	**Karymskiy**	**3.70**	**258**	*e*S	**Sn**	**14 39 02.2**	**-0.7**
ESO	**Esso**	**4.05**	**287**	P	**Pn**	**14 38 24.5**	**0.0**
ESO				Smax			
	20nm,0.9s						
NLC	**Nalytchevo**	**4.10**	**247**	P	**Pn**	**14 38 24.8**	**-0.4**
NLC				S	**Sn**	**14 39 09.5**	**-3.1**
NLC	**Nalytchevo**	**4.10**	**247**	*i* P	**Pn**	**14 38 24.9**	**-0.3**
NLC				*i* S	**Sn**	**14 39 10.4**	**-2.2**
SMAR	**Somma**	**4.35**	**250**	*e*P	**Pn**	**14 38 29.4**	**+0.8**
SMAR				*e*S	**Sn**	**14 39 17.8**	**-0.9**
UGLR	**Uglovaya**	**4.36**	**249**	*e*P	**Pn**	**14 38 29.5**	**+0.7**
UGLR				*e*S	**Sn**	**14 39 18.7**	**-0.3**
AVH	**Avacha**	**4.38**	**250**	*e*P	**Pn**	**14 38 30.0**	**+0.9**
AVH				*e*S	**Sn**	**14 39 18.7**	**-0.9**
KOK	**Koryaka**	**4.42**	**251**	*e*P	**Pn**	**14 38 30.6**	**+0.9**
KOK				*e*S	**Sn**	**14 39 19.5**	**-1.1**
PET	**Petropavlovsk**	**4.53**	**248**	P	**Pn**	**14 38 31.6**	**+0.4**
PET				S	**Sn**	**14 39 20.7**	**-2.7**
PET	**Petropavlovsk**	**4.53**	**248**	*e*P	**Pn**	**14 38 32.0**	**+0.8**
PET				*e*S	**Sn**	**14 39 20.9**	**-2.5**
PET	**Petropavlovsk**	**4.53**	**248**	*e*PN	**Pn**	**14 38 32.1**	**+0.9**
GNL	**Ganaly**	**4.66**	**257**	*e*P	**Pn**	**14 38 34.4**	**+1.5**
KRMR	**Karymshinskiy**	**4.91**	**247**	*e*P	**Pn**	**14 38 37.2**	**+0.9**
KRMR				*e*S	**Sn**	**14 39 31.0**	**-1.5**
RUS	**Russkaya**	**4.91**	**242**	P	**Pn**	**14 38 36.0**	**-0.4**
RUS				S	**Sn**	**14 39 28.5**	**-4.2**
RUS	**Russkaya**	**4.91**	**242**	*e*P	**Pn**	**14 38 36.1**	**-0.3**
RUS				*e*S	**Sn**	**14 39 29.0**	**-3.7**
FX1	**Attu Island--F**	**4.93**	**112**	Pn	**Pn**	**14 38 36.5**	**-0.2**
	3.6nm,0.3s,baz=198,slow=3.2,SNR=13						
FX1				Sn	**Sn**	**14 39 28.8**	**-4.4**
	8.1nm,0.3s,baz=179,slow=14,SNR=12						
GRL	**Gorelyy**	**5.07**	**245**	P	**Pn**	**14 38 40.0**	**+1.4**
GRL				*e*S	**Sn**	**14 39 36.0**	**-0.7**
APC	**Apacha**	**5.39**	**251**	*e*P	**Pn**	**14 38 44.8**	**+1.9**
APC				*e*S	**Sn**	**14 39 44.6**	**+0.2**
APC				Smax			
	50nm,0.8s						
MIPR	**Malaya Ipel'ka**	**5.91**	**247**	*e*P	**Pn**	**14 38 51.9**	**+1.8**
PAU	**Pauzhetka**	**6.33**	**240**	*e*P	**Pn**	**14 38 56.2**	**+0.3**
KAMR	**Kamenskoye**	**7.53**	**2**	*e*P	**Pn**	**14 39 12.8**	**+0.5**
ILAR	**Eielson Array**	**25.17**	**48**	P	**P**	**14 42 47.8**	**0.0**
	0.5nm,0.8s,mb3.1,baz=243,slow=9.2,SNR=4.9						
ILAR	**Eielson Array**	**25.17**	**48**	P	**P**	**14 42 47.8**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**39.56**	**46**	P	**P**	**14 44 53.3**	**-0.1**
	comp=Z,0.1nm,0.4s,mb2.9,baz=297,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	**50.23**	**297**	P	**P**	**14 46 12.3**	**-6.0**
	comp=Z,0.3nm,0.5s,mb3.6,baz=56,slow=5.6,SNR=3.3						
BVAR	**Borovoye Array**	**51.73**	**310**	P	**P**	**14 46 29.0**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=52,slow=9.6,SNR=4.3						
BVAR	**Borovoye Array**	**51.73**	**310**	P	**P**	**14 46 29.0**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**62.58**	**346**	P	**P**	**14 47 40.5**	**-5.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=19,slow=6.8,SNR=2.7						
NOA	**NORSAR Array B**	**62.58**	**346**	P	**P**	**14 47 40.5**	**-5.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**79.23**	**210**	P	**P**	**14 49 27.3**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=19,slow=5.8,SNR=5.7						
WRA	**Warramunga Arr**	**79.23**	**210**	P	**P**	**14 49 27.3**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**82.88**	**209**	P	**P**	**14 49 47.0**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.8,baz=16,slow=5.5,SNR=11						
ASAR	**Alice Springs**	**82.88**	**209**	P	**P**	**14 49 47.1**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 10 14:41:01.5±7.4, 917N×9389E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, Error ellipse: s-maj=399.5km s-min=28.9km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.71**	**336**	*e*P	Pn	14 41 48.7	+2.4
PBA				*e*S	Sn	14 42 12.3	-7.5
PBA				*ex*	x	14 42 41.6	
	comp=E,389nm,1.1s						
PBA				*ex*	x	14 42 43.7	
	comp=N,485nm,1.1s						
MKAR	**Makanchi Array**	**38.78**	**347**	P	P	14 48 27.7	0.0
	comp=N,0.4nm,0.7s,baz=166,slow=8.6,SNR=4.6						
WRA	**Warramunga Arr**	**49.22**	**126**	P	P	14 49 51.5	0.0
	comp=N,0.6nm,0.7s,baz=305,slow=8.8,SNR=7.6						
ASAR	**Alice Springs**	**50.94**	**131**	P	P	14 50 05.3	+0.8
	comp=N,0.8nm,0.8s,baz=305,slow=6.7,SNR=11						

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*TIF **10** 14:51:06.1, 4268N×4346E, h38km±1km*
*ISCJB **10** 14:51:07.1±0.7, 4264N±004×4347E±004, h13km±7km, Error ellipse: s-maj=7.0km s-min=4.1km az=70.4*
*CSEM **10** 14:51:09.5, 4279N×4367E, h10km, mb4.1, Error ellipse: s-maj=13.0km s-min=8.4km az=27.0, After OBN*
*MOS **10** 14:51:09.5±1.8, 4279N×4367E, h10km, mb4.1/38, Error ellipse: s-maj=13.0km s-min=8.4km az=92.7*
ISC 10 14:51:07.7±1.0, 4261N±005×4350E±005, h14km±10km, n21, σ1§09/41, 1C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.30**	**12**	*i* Pg	**Pg**	**14 51 13.0**	**-0.8**
DIGR				*i* Sg	**Sg**	**14 51 17.4**	**-0.5**
ZEI	**Tsey**	**0.34**	**61**	*e*Pg	**Pg**	**14 51 15.1**	**+0.6**
ZEI				*e*Sg	**Sg**	**14 51 20.7**	**+1.6**
LACR	**Lac**	**0.63**	**70**	*i* Pg	**Pg**	**14 51 19.9**	**0.0**
LACR				*i* Sg	**Sg**	**14 51 29.1**	**+0.9**
KORR	**Kora**	**0.63**	**41**	*e*Pg	**Pg**	**14 51 19.1**	**-0.9**
KORR				*i* Sg	**Sg**	**14 51 28.1**	**-0.3**
LSNR	**Lesken**	**0.70**	**19**	*e*Pg	**Pg**	**14 51 19.8**	**-1.5**
LSNR				*e*Sg	**Sg**	**14 51 29.1**	**-1.5**
ARNR	**Ardon**	**0.81**	**44**	*e*PG	**Pg**	**14 51 22.3**	**-1.2**
ARNR				*e*S	**Sg**	**14 51 33.5**	**-0.7**
VLKR	**Vladikavkaz**	**0.97**	**63**	*e*Pg	**Pg**	**14 51 25.4**	**-1.0**
VLKR				*e*Sg	**Sg**	**14 51 38.7**	**-0.4**
DUS	**Dusheti**	**1.03**	**120**	P	**Pb**	**14 51 27.3**	**0.0**
DUS				S	**Sb**	**14 51 41.7**	**+0.9**
KUBR	**Kubataba**	**1.19**	**357**	Pg	**Pg**	**14 51 32.3**	**+1.7**
	164nm,0.2s						
KUBR				Sg	**Sg**	**14 51 50.8**	**+4.7**
	276nm,0.3s						
KUBR	**Kubataba**	**1.19**	**357**	PG	**Pg**	**14 51 32.3**	**+1.7**
KUBR				S	**Sg**	**14 51 50.8**	**+4.7**
KUBR				pmax	pmax		
	comp=Z,164nm,0.2s						
KUBR				smax			
	comp=N,276nm,0.3s						
AKH	**Akhalkalaki**	**1.20**	**180**	P	**Pn**	**14 51 28.9**	**-1.1**
AKH				S	**Sn**	**14 51 44.6**	**-1.4**
TBLG	**Delisi**	**1.27**	**133**	P	**Pn**	**14 51 31.3**	**+0.3**
TBLG				S	**Sb**	**14 51 47.8**	**+0.2**
SHAR	**Shatzhatmas**	**1.28**	**332**	Pg	**Pg**	**14 51 32.4**	**0.0**
	comp=N,39nm,0.2s						
SHAR				Sg	**Sg**	**14 51 50.3**	**+1.2**
	comp=N,189nm,0.4s						
SHAR	**Shatzhatmas**	**1.28**	**332**	PG	**Pg**	**14 51 32.4**	**0.0**
SHAR				S	**Sg**	**14 51 50.3**	**+1.2**
SHAR				pmax	pmax		
	comp=Z,39nm,0.2s						
SHAR				smax			
	comp=N,189nm,0.4s						
MTA	**Mtatsminda**	**1.33**	**133**	P	**Pn**	**14 51 32.6**	**+0.8**
MTA				S	**Sb**	**14 51 49.6**	**+0.4**
PYA	**Pyatigorsk**	**1.46**	**347**	Pg	**Pg**	**14 51 37.5**	**-0.4**
PYA				Sg	**Sg**	**14 51 57.1**	**+2.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	**Kislovodsk**	**1.47**	**336**	*e*Pg	**Pg**	**14 51 35.4**	**-0.5**
	comp=N,33nm,0.7s						
KIV				*e*Sg	**Sg**	**14 51 55.5**	**+0.5**
KIV	**Kislovodsk**	**1.47**	**336**	*ce*PG	**Pg**	**14 51 35.4**	**-0.5**
KIV				*e*		14 51 55.5	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,33nm,0.7s						
KIV				smax			
	comp=E,52nm,0.6s						
DGRG	**David-gareji**	**1.81**	**129**	P	**Pn**	**14 51 40.8**	**+2.4**
DGRG				S	**Sn**	**14 52 06.1**	**+4.8**
GOF	**Gofitskoye**	**2.47**	**352**	*e*Pn	**Pn**	**14 51 45.0**	**-2.5**
	comp=E,10.0nm,0.5s						
GOF				*i* Sg	**Sg**	**14 52 28.1**	**+1.1**
GOF	**Gofitskoye**	**2.47**	**352**	*e*PN	**Pn**	**14 51 45.0**	**-2.5**
GOF				*i* S	**Sg**	**14 52 28.1**	**+1.1**
GOF				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GOF				smax			
	comp=N,110nm,0.8s						
GOF				smax			
	comp=E,210nm,0.8s						

IDC 10 14:58:48.3±7.7, 961N×9337E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=412.0km s-min=27.2km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.24**	**348**	P	P	15 06 09.9	0.0
	1.0nm,0.9s,baz=156,slow=7.4,SNR=6.5						
WRA	**Warramunga Arr**	**49.89**	**126**	P	P	15 07 43.2	-0.2
	0.7nm,0.8s,baz=304,slow=9.1,SNR=7.9						
ASAR	**Alice Springs**	**51.61**	**131**	P	P	15 07 57.4	+1.0
	0.5nm,0.8s,baz=310,slow=6.8,SNR=8.7						

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*CSEM **10** 15:04:23.6, 4051N×5672E, h0km, mb3.6, After NNC*
NNC 10 15:04:23.6±16.0, 4051N×5672E, h0km, mb3.6, 7C-1D, Error ellipse: s-maj=139.4km s-min=90.2km az=46.0, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AB31	**Akbulak array**	**9.04**	**14**	⇑P	Pn	15 06 31.5	-3.8
	0.7nm,0.2s,baz=197,slow=13,SNR=78						
AB31				⇑S	Sn	15 08 18.0	+0.2
	0.1nm,0.1s,baz=182,slow=24,SNR=13						
AB31	**Akbulak array**	**9.04**	**14**	P	Pn	15 06 31.5	-3.9
	0.7nm,0.2s,baz=197,SNR=78						
AB31				S	Sn	15 08 18.0	+0.1
	0.1nm,0.1s,baz=182,SNR=13						
KK31	**Karatay Array**	**10.62**	**71**	⇑P	Pn	15 06 57.7	+0.7
	1.9nm,0.7s,baz=250,slow=14,SNR=10.0						
KK31				⇑S	Sn	15 09 02.5	+5.9
	0.7nm,0.5s,baz=335,slow=37,SNR=4.2						
ZRNK	**Zerenda**	**15.00**	**30**	⇑P	Pn	15 07 58.3	+1.5
	3.3nm,1.4s						
ZRNK				⇓S	Sn	15 10 45.6	+1.9
	5.8nm,2.2s						
BVA0	**Borovoye Array**	**15.60**	**32**	⇑P	Pn	15 08 04.5	-0.2
	1.5nm,2.5s,baz=221,slow=6.2,SNR=9.9						
BVA0				⇑S	Sn	15 11 03.1	+4.8
	0.3nm,0.7s,baz=230,slow=24,SNR=5.6						
BVAR	**Borovoye Array**	**15.60**	**32**	P	Pn	15 08 04.5	-0.3
	1.5nm,2.5s,SNR=9.9						
BVAR				S	Sn	15 11 03.1	+4.8
	0.3nm,0.7s,SNR=5.6						
MK31	**Makanchi Array**	**19.49**	**63**	P	Pn	15 08 50.7	-2.6
	0.7nm,0.7s,baz=264,slow=7.1,SNR=3.7						

PRE 10 15:08:13.6±1.4, 2117S×3312E, h5km, ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.11**	**247**	*e*P		15 00 43.3	
MSNA				*e*S		15 01 20.1	
MSNA				AML	AML	15 01 32.2	
	comp=Z,369nm,0.3s						
BFT	**Belfast (SA)**	**5.31**	**212**	*e*P	Pn	15 09 34.8	+1.2
BFT				*e*S	Sn	15 10 34.1	-1.0
BFT				AML	AML	15 10 58.3	
	comp=Z,63nm,0.6s						
SLR	**Silverton**	**6.35**	**223**	*e*S	Sn	15 10 58.7	-2.2
SLR				AML	AML	15 11 43.6	
	comp=Z,89nm,0.6s						
LBTB	**Lobatse**	**7.91**	**240**	*e*P	Pn	15 10 10.9	+1.6
LBTB				*e*S	Sn	15 11 35.9	-3.3
LBTB				AML	AML	15 12 29.1	
	comp=Z,58nm,0.7s						
BOSA	**Boshof**	**10.29**	**222**	*e*P	Pn	15 10 42.5	+0.6
BOSA				*e*S	Sn	15 12 32.0	-5.4
BOSA				AML	AML	15 13 45.4	
	comp=Z,20nm,0.7s						
PKA	**Prieska**	**12.62**	**226**	*e*P	Pn	15 11 12.5	-1.2

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*IDC **10** 15:08:19.6±0.5, 1070N×94.10E, h0km, mb4.4/21, mb1 4.6/22, mb1mx4.5/25, mbtmp4.4/22, ML3.8/1, MS4.2/19, Ms1 4.2/19, ms1mx4.1/27, Error ellipse: s-maj=21.7km s-min=13.0km az=55.0*
*BJI **10** 15:08:19.8, 1040N×94.19E, h30km, mB5.1, mb4.7, Ms4.7, Msz4.3*
*ISCJB **10** 15:08:21.2±0.3, 1067N±004×9432E±003, h20km, mb4.7/80, MS4.3/34, Error ellipse: s-maj=5.4km s-min=4.4km az=53.4*
*NEIC **10** 15:08:22.7±0.2, 1067N×9426E, mb4.8/40, Error ellipse: s-maj=8.4km s-min=5.2km az=57.0*
*MOS **10** 15:08:23.2±1.0, 1075N×9424E, h33km, mb5.0/38, Error ellipse: s-maj=11.3km s-min=5.6km az=108.6*
ISC 10 15:08:23.5±0.3, 1069N±004×9429E±003, h22km, h22km±1.2km: pP-P, n200, σ1§15/202, mb4.7/80, MS4.3/34, 5C-5D, Andaman Islands region

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

QIZ	**Qiongzhong**	**17.16**	**59**	P	**Pn**	**15 12 21.9**	**0.0**
QIZ				S	**Sn**	**15 15 33.4**	**+1.4**
QIZ				XS	sS	15 15 42.5	-8.1
QIZ				AMB	AMB		
	comp=Z,18nm,1.7s						
QIZ				AMB	AMB		
	comp=Z,193nm,8.4s						
QIZ				LR	LR		
	comp=N,767nm,9.2s						
QIZ				LR	LR		
	comp=E,884nm,9.5s						
QIZ				LR	LR		
	comp=Z,1μm,9.8s						
QIZ	**Qiongzhong**	**17.16**	**59**	P	**Pn**	**15 12 21.7**	**-0.2**
	comp=Z,38nm,1.4s						
NGP	**Nagpur**	**17.95**	**307**	*e*P	**Pn**	**15 12 36.2**	**+4.4**
NGP				*ex*	x	15 12 43.3	
	comp=Z,24nm,1.5s						
NGP				*ex*	x	15 15 55.2	
KSM	**Kuching**	**18.36**	**119**	*e*P	**Pn**	**15 12 40.5**	**+3.8**
JIRN	**Jiri**	**18.52**	**337**	*e*P	**Pn**	**15 12 39.7**	**+1.0**
	comp=Z,239nm,1.1s						
PKI	**Pulchoki**	**18.76**	**335**	*e*P	**Pn**	**15 12 42.3**	**+0.8**
	comp=Z,238nm,1.1s						
PKI	**Pulchoki**	**18.76**	**335**	*e*P	**Pn**	**15 12 42.3**	**+0.8**
PKI				pmax	pmax		
	comp=Z,119nm,1.1s						
GUN	**Gumba**	**18.87**	**336**	*e*P	**Pn**	**15 12 43.6**	**+0.7**
	comp=Z,283nm,1.2s						
DMN	**Daman**	**18.92**	**334**	*e*P	**Pn**	**15 12 43.9**	**+0.4**
	comp=Z,103nm,0.9s						
KKN	**Kakani**	**19.00**	**335**	*e*P	**Pn**	**15 12 44.7**	**+0.2**
	comp=Z,84nm,1.1s						
KKN	**Kakani**	**19.00**	**335**	*e*P	**Pn**	**15 12 44.7**	**+0.2**
KKN				pmax	pmax		
	comp=Z,42nm,1.1s						
LSA	**Lhasa**	**19.14**	**352**	P	**Pn**	**15 12 45.0**	**-1.2**
LSA	**Lhasa**	**19.14**	**352**	*e*Pn	**Pn**	**15 12 45.4**	**-0.7**
	comp=Z,82nm,1.4s						
LSA				*e*Sn	**Sn**	**15 16 37.5**	**+17**
LSA	**Lhasa**	**19.14**	**352**	*e*P	**Pn**	**15 12 45.4**	**-0.8**
LSA				pmax	pmax		
	comp=Z,83nm,1.4s						
GKN	**Gorkha**	**19.47**	**334**	*e*P	**Pn**	**15 12 49.9**	**-0.1**
	comp=Z,189nm,1.2s						
GYA	**Guiyang**	**19.56**	**35⇓**	*i*P	**Pn**	**15 12 51.1**	**-0.1**
GYA				AP	pP	15 12 56.8	+1.0
GYA				XP	sP	15 12 59.4	+0.8
GYA				PP		15 13 11.3	
GYA				AMB	AMB		
	comp=Z,30nm,1.4s						
GYA				AMB	AMB		
	comp=Z,210nm,4.8s						
GYA				LR	LR		
	comp=N,600nm,11.1s						
GYA				LR	LR		
	comp=E,780nm,10.2s						
GYA				LR	LR		
	comp=Z,580nm,11.9s						
KOLN	**Koldanda**	**19.74**	**331**	*e*P	**Pn**	**15 12 53.3**	**0.0**
	comp=Z,70nm,0.7s						
BHPL	**Bhopal**	**20.37**	**310**	*e*P	**P**	**15 13 04.3**	**+5.7**
BHPL				AMb	AMB	15 13 07.0	
	comp=Z,39nm,0.8s						
KAD	**Karad**	**20.58**	**291**	*e*P	**P**	**15 13 04.2**	**+3.3**
KAD				AMb	AMB	15 13 13.9	
	comp=Z,28nm,1.1s						
CD2	**Chengdu**	**21.96**	**22**	P	**P**	**15 13 15.6**	**-0.1**
CD2				XP	sP	15 13 24.5	-0.1
CD2				PP		15 13 42.0	
CD2				S	**S**	**15 17 10.5**	**-6.6**
CD2				SS		15 17 49.3	
CD2				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.0						
CD2				AMB	AMB		
	comp=Z,160nm,5.7s						
CD2				LR	LR		
	comp=N,310nm,12.6s						
CD2				LR	LR		
	comp=Z,400nm,9.6s						
KKM	**Kota Kinabalu**	**22.17**	**100**	*e*P	**P**	**15 13 25.3**	**+7.3**
KKM				*ep*P		15 13 31.8	
LGTI	**Lohaghat**	**22.81**	**327**	*e*P	**P**	**15 13 29.0**	**+4.2**
NDI	**New Delhi**	**24.00**	**321**	*e*P	**P**	**15 13 38.8**	**+2.2**
NDI				AMb	AMB	15 13 40.5	
	comp=Z,88nm,0.9s,mb5.2						
ENH	**Enshi**	**24.08**	**34**	*e*P	**P**	**15 13 37.0**	**-0.3**
DDI	**Dehra Dun**	**24.70**	**325**	*e*P	**P**	**15 13 46.2**	**+3.3**
DDI				*ex*	x	15 14 38.2	
SMLA	**Simla**	**25.80**	**325**	*e*P	**P**	**15 13 54.9**	**+1.9**
LZH	**Lanzhou**	**26.73**	**17**	*e*P	**P**	**15 14 01.5**	**+0.1**
LZH				AP	pP	15 14 10.0	+2.2
LZH				XP	sP	15 14 14.2	+3.7
LZH				PP		15 14 46.5	
LZH				*e*S	**S**	**15 18 33.6**	**-2.2**
LZH				XS	sS	15 18 48.5	+2.0
LZH				SS		15 19 45.3	
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,105nm,4.8s						
LZH				LR	LR		
	comp=N,579nm,10.3s						
LZH				LR	LR		
	comp=Z,957nm,13.1s,MS4.5						
XAN	**Xi'an**	**26.83**	**28**	P	**P**	**15 14 00.9**	**-1.4**
XAN				S	**S**	**15 18 44.7**	**+7.3**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
XAN				LR	LR		
	comp=N,365nm,11.8s,MS4.4						
XAN				LR	LR		
	comp=E,553nm,13.8s,MS4.4						
XAN				LR	LR		
	comp=Z,450nm,13.8s,MS4.2						
WHN	**Wuhan**	**27.17**	**40**	P	**P**	**15 14 06.6**	**+1.3**
WHN				LR	LR		
	comp=N,740nm,9.4s						
WHN				LR	LR		
	comp=E,1μm,12.4s						
WHN				LR	LR		
	comp=Z,850nm,10.0s,MS4.6						
GTA	**Gaotai**	**29.02**	**9**	*e*P	**P**	**15 14 23.1**	**+1.2**
GTA				AP	pP	15 14 27.8	-0.6
GTA				XP	sP	15 14 31.2	+0.1
GTA				PP	PP	15 15 20.3	-7.2
GTA				S	**S**	**15 19 14.9**	**+2.9**
GTA				XS	sS	15 19 30.9	+8.2
GTA				SS	SS	15 20 48.8	-26
GTA				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.2						
GTA				AMB	AMB		
	comp=Z,146nm,3.8s						
GTA				LR	LR		
	comp=N,336nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=E,279nm,12.5s,MS4.2						
GTA				LR	LR		
	comp=Z,299nm,15.2s,MS4.0						
NJ2	**Nanjing**	**31.09**	**43**	*e*P	**P**	**15 14 42.4**	**+2.3**
NJ2				AP	pP	15 14 48.2	+1.6
NJ2				XP	sP	15 14 51.2	+1.9
NJ2				PP	PP	15 15 45.4	-5.0
NJ2				S	**S**	**15 19 46.0**	**+1.7**
NJ2				XS	sS	15 19 56.0	+1.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,150nm,8.8s						
NJ2				LR	LR		
	comp=N,880nm,14.2s,MS4.7						
NJ2				LR	LR		
	comp=E,730nm,13.9s,MS4.7						
NJ2				LR	LR		
	comp=Z,380nm,12.6s,MS4.3						
SSE	**Sheshan**	**32.15**	**47**	*e*P	**P**	**15 14 48.5**	**-1.0**
SSE				AP	pP	15 14 54.7	-1.3
SSE				PP	PP	15 16 00.4	-1.8
SSE				PCP	PcP	15 17 35.6	-2.6
SSE				S	**S**	**15 19 59.1**	**-1.9**
SSE				SCS	ScS	15 25 19.3	0.0
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,100nm,4.2s						
SSE				LR	LR		
	comp=N,432nm,14.7s,MS4.3						
SSE				LR	LR		
	comp=E,191nm,14.7s,MS4.3						
SSE				LR	LR		
	comp=Z,573nm,10.9s,MS4.5						
BTO	**Baotou**	**32.89**	**22**	*e*P	**P**	**15 14 52.0**	**-3.9**
KSH	**Kashi**	**33.01**	**334**	*e*P	**P**	**15 14 58.0**	**+1.0**
KSH				*e*AP	pP	15 15 05.2	+1.6
KSH				XP	sP	15 15 08.6	+2.4
KSH				PP	PP	15 16 08.7	-3.1
KSH				PCP	PcP	15 17 41.8	+1.3
KSH				S	**S**	**15 20 14.5**	**+0.1**
KSH				XS	sS	15 20 26.1	+1.0
KSH				SCP	ScP	15 21 23.4	0.0
KSH				PCS	PcS	15 21 24.9	-1.0
KSH				SS	SS	15 22 15.3	-22
KSH				SCS	ScS	15 25 22.3	-1.4
KSH				AMB	AMB		
	comp=Z,18nm,0.4s,mb5.3						
KSH				AMB	AMB		
	comp=Z,149nm,4.7s						
KSH				LR	LR		
	comp=N,251nm,5.3s						
KSH				LR	LR		
	comp=E,345nm,6.3s						
KSH				LR	LR		
	comp=Z,618nm,25.0s,MS4.2						
WMQ	**Urumqi**	**33.50**	**351**	P	**P**	**15 15 02.2**	**+0.9**
WMQ				AP	pP	15 15 08.1	+0.2
WMQ				XP	sP	15 15 11.0	+0.5
WMQ				PP	PP	15 16 14.5	-2.7
WMQ				PCP	PcP	15 17 43.2	+1.3
WMQ				*e*S	**S**	**15 20 22.1**	**+0.2**
WMQ				SS	SS	15 22 25.8	-21
WMQ				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,178nm,4.8s						
WMQ				LR	LR		
	comp=N,2μm,24.2s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,24.4s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,24.0s,MS4.8						
HHC	**Hu-ho-hao-te**	**33.69**	**24**	*e*P	**P**	**15 15 04.0**	**+1.0**
HHC				AP	pP	15 15 09.9	+0.4
HHC				XP	sP	15 15 12.8	+0.6
HHC				PP	PP	15 16 17.3	-2.0
HHC				PCP	PcP	15 17 44.2	+1.8
HHC				S	**S**	**15 20 26.2**	**+1.3**
HHC				SS	SS	15 22 32.3	-18
HHC				SCS	ScS	15 25 26.1	-1.1
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,112nm,3.4s						
HHC				LR	LR		
	comp=N,472nm,10.3s,MS4.5						
HHC				LR	LR		
	comp=E,371nm,12.9s,MS4.5						
HHC				LR	LR		
	comp=Z,292nm,10.6s,MS4.3						
BJT	**Baijiatuau**	**35.07**	**30**	P	**P**	**15 15 11.9**	**-3.0**
	comp=Z,22nm,1.2s,mb5.0						
BJT				*ep*P	pP	15 15 16.5	-4.9
BJT	**Baijiatuau**	**35.07**	**30**	P	**P**	**15 15 11.9**	**-3.0**
BJT				pmax	pmax		
	comp=Z,22nm,1.2s						
BJI	**Beijing**	**35.09**	**30**	P	**P**	**15 15 16.6**	**+1.5**
BJI				S	**S**	**15 20 55.3**	**+8.9**
BJI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
BJI				LR	LR		
	comp=N,208nm,19.2s,MS4.2						
BJI				LR	LR		
	comp=E,356nm,17.8s,MS4.2						
BJI				LR	LR		
	comp=Z,208nm,19.2s,MS3.9						
ULHL	**Ulahol**	**35.18**	**336**	P	**P**	**15 15 15.3**	**-0.6**
	SNR=5.8						
KZA	**Kyzart**	**35.44**	**335**	P	**P**	**15 15 19.2**	**+1.1**
	SNR=11						
WBK	**Wadi Bani Khal**	**35.76**	**294**	⇓P	**P**	**15 15 24.9**	**+4.1**
UCH	**Uchtor**	**35.87**	**335**	P	**P**	**15 15 22.8**	**+1.0**
	SNR=9.0						
KBK	**Karagaybulak**	**36.05**	**335**	P	**P**	**15 15 24.1**	**+0.9**
	SNR=8.6						
AML	**Almayashu**	**36.15**	**334**	P	**P**	**15 15 25.0**	**+0.9**
	SNR=31						
AAK	**Ala-Archa**	**36.21**	**335**	P	**P**	**15 15 25.9**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**36.21**	**335**	P	**P**	**15 15 24.8**	**+0.1**
	comp=Z,14nm,1.0s,mb4.9						
AAK				*e*PP	PP	15 16 51.4	+4.2
AAK				*e*PcP	PcP	15 17 48.9	-0.9
AAK	**Ala-Archa**	**36.21**	**335**	P	**P**	**15 15 24.8**	**+0.1**
AAK				*e*		15 16 51.4	
AAK				*e*		15 17 48.9	
AAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
FRU	**Bishkek**	**36.33**	**335**	*e*P	**P**	**15 15 25.5**	**-0.2**
CHMS	**Chumysh**	**36.41**	**336**	P	**P**	**15 15 26.7**	**+0.3**
	SNR=6.3						
EKS2	**Erkin-Say**	**36.54**	**334**	P	**P**	**15 15 28.7**	**+1.2**
	SNR=8.9						
SMDO	**Samad**	**36.69**	**294**	P	**P**	**15 15 32.8**	**+4.1**
	SNR=7.8						
USP	**Ospenovka**	**36.74**	**336**	P	**P**	**15 15 29.3**	**+0.1**
	SNR=7.2						
BSY	**Bisya**	**37.38**	**294**	P	**P**	**15 15 38.3**	**+3.7**
	SNR=12						
MK31	**Makanchi Array**	**37.40**	**346**	*i* P	**P**	**15 15 34.6**	**-0.2**
MK31				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**15 15 34.6**	**-0.2**
	comp=Z,9.4nm,0.7s,mb4.7,baz=164,slow=6.4,SNR=70						
MKAR				LR	LR	15 35 12.3	
	comp=Z,288nm,18.8s,MS4.1,baz=180,slow=43						
HOQ	**Hoqain**	**37.47**	**295**	⇓P	**P**	**15 15 39.5**	**+4.1**
KK31	**Karatay Array**	**38.35**	**332**	*i* P	**P**	**15 15 42.8**	**0.0**
KK31				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
KKAR	**Karatay Array**	**38.35**	**332**	*i* P	**P**	**15 15 42.8**	**0.0**
KKAR				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
SONM	**Songino Array**	**38.41**	**13**	P	**P**	**15 15 43.7**	**+0.4**
	comp=Z,13nm,1.2s,mb4.5,baz=196,slow=5.9,SNR=22						
SONM				LR	LR	15 33 43.5	
	comp=Z,225nm,19.3s,MS4.0,baz=27,slow=40						
ULN	**Ulaanbaatar**	**38.58**	**14**	*e*P	**P**	**15 15 45.1**	**+0.3**
	comp=Z,19nm,1.4s,mb4.6						
ULN				*ep*P	pP	15 15 53.1	+1.7
ULN	**Ulaanbaatar**	**38.58**	**14**	*e*P	**P**	**15 15 45.1**	**+0.3**
ULN				*e**PP	pP	15 15 53.1	+1.7
ULN				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.6						
ASHO	**Ashiyiah**	**38.84**	**296**	⇑P	**P**	**15 15 50.2**	**+3.2**
BANOM	**Banah**	**38.95**	**298**	⇑P	**P**	**15 15 50.8**	**+3.0**
WHFO	**Wadi Hawf**	**39.85**	**285**	P	**P**	**15 15 58.7**	**+3.4**
	SNR=8.5						
KS15	**Wonju Array Si**	**40.25**	**43**	*e*P	**P**	**15 15 58.0**	**-0.8**
KS15				*ep*P	pP	15 16 10.0	+4.7
SNY	**Shenyang**	**40.26**	**34**	⇓P	**P**	**15 15 58.8**	**0.0**
SNY				AP	pP	15 16 03.0	-2.4
SNY				XP	sP	15 16 07.2	-0.9
SNY				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.4						
SNY				AMB	AMB		
	comp=Z,234nm,5.6s						
SNY				LR	LR		
	comp=E,366nm,14.0s						
SNY				LR	LR		
	comp=Z,305nm,17.8s,MS4.2						
ZAK	**Zakamensk**	**40.27**	**9**	*e*P	**P**	**15 15 58.9**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,12nm,1.9s,mb4.3						
KURK	**Kurchatov**	**41.94**	**345**	P	**P**	**15 16 12.4**	**-0.2**
	comp=Z,13nm,1.0s,mb4.5						
KURK	**Kurchatov**	**41.94**	**345**	P	**P**	**15 16 12.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**42.14**	**132**	*e*P	**P**	**15 16 20.6**	**+6.3**
	comp=Z,13nm,1.1s,mb4.5						
CN2	**Changchun**	**42.60**	**34**	*e*P	**P**	**15 16 19.0**	**+1.0**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
HIA	**Hailar**	**43.90**	**24**	P	**P**	**15 16 29.2**	**+0.7**
	comp=Z,33nm,1.4s,mb4.9						
HIA	**Hailar**	**43.90**	**24**	P	**P**	**15 16 29.2**	**+0.7**
HIA				pmax	pmax		
	comp=Z,33nm,1.4s						
NVS	**Novosibirsk**	**44.90**	**351**	*e*P	**P**	**15 16 35.3**	**-1.2**
NVS				*e*S	**S**	**15 23 02.3**	**-11**
NVS				pmax	pmax		
	comp=N,13nm,1.3s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.7						
NVS				smax			
	comp=N,13nm,1.9s						
NVS				smax			
	comp=E,7.0nm,1.8s						
KRAR	**Krasnoyarsk**	**45.23**	**359**	*e*P	**P**	**15 16 39.0**	**-0.1**
KRAR				pmax	pmax		
	comp=Z,64nm,1.1s,mb5.4						
MDJ	**Mudanjiang**	**45.42**	**35**	P	**P**	**15 16 37.9**	**-2.7**
MDJ				S	**S**	**15 23 21.7**	**+0.9**
MDJ				SS	SS	15 26 37.3	-7.3
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,87nm,3.2s						
MDJ				LR	LR		
	comp=N,57nm,16.8s,MS3.9						
MDJ				LR	LR		
	comp=E,96nm,18.1s,MS3.9						
MDJ				LR	LR		
	comp=Z,115nm,16.2s,MS3.9						
VOSK	**Vostochnaya**	**45.95**	**340**	P	**P**	**15 16 43.8**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
BVA0	**Borovoye Array**	**46.40**	**340**	*i* P	**P**	**15 16 47.4**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**46.40**	**340**	P	**P**	**15 16 47.8**	**-0.5**
	comp=Z,6.0nm,0.9s,mb4.5,baz=145,slow=5.8,SNR=26						
BVAR				PcP	PcP	15 18 22.2	-0.8
	comp=Z,2.9nm,0.8s,baz=145,slow=5.4,SNR=4.6						
BRVK	**Borovoye**	**46.46**	**340**	P	**P**	**15 16 48.4**	**-0.4**
	comp=Z,7.2nm,1.0s,mb4.6						
BRVK	**Borovoye**	**46.46**	**340**	P	**P**	**15 16 48.4**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**46.81**	**339**	*e*P	**P**	**15 16 50.5**	**-1.1**
	comp=Z,8.7nm,1.0s,mb4.6						
ZRNK	**Zerenda**	**46.81**	**339**	*e*P	**P**	**15 16 50.5**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**47.20**	**50**	P	**P**	**15 16 55.4**	**+0.8**
	comp=Z,3.5nm,1.0s,mb4.2,baz=244,slow=9.1,SNR=7.0						
MJAR				PcP	PcP	15 18 26.8	+1.0
	comp=Z,11nm,1.1s,baz=249,slow=4.1,SNR=15						
MJAR				LR	LR	15 38 07.9	
	comp=Z,122nm,21.2s,MS3.8,baz=255,slow=38						
MJAR	**Matsushiro Arr**	**47.20**	**50**	P	**P**	**15 16 55.4**	**+0.8**
MJAR						15 18 26.8	
NWAO	**Narrogin (SRO)**	**48.58**	**154**	P	**P**	**15 17 05.6**	**+0.3**
	comp=Z,16nm,1.0s,mb5.0,baz=107,slow=14,SNR=3.7						
NWAO				LR	LR	15 37 12.4	
	comp=Z,209nm,19.8s,MS4.1,baz=127,slow=36						
BOD	**Bodaibo**	**49.40**	**14**	*e*P	**P**	**15 17 10.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
AKTK	**Aktyubinsk**	**49.58**	**330**	P	**P**	**15 17 12.1**	**-0.9**
AKTK				LR	LR	15 42 42.9	
AKTO	**Aktyubinsk**	**49.58**	**330**	P	**P**	**15 17 12.1**	**-0.9**
	comp=Z,4.5nm,0.9s,mb4.5,baz=135,slow=6.8,SNR=8.2						
AKTO				LR	LR	15 42 42.9	
	comp=Z,187nm,18.4s,MS4.1,baz=283,slow=42						
WRA	**Warramunga Arr**	**49.81**	**128**	P	**P**	**15 17 15.3**	**+0.7**
	comp=Z,5.8nm,0.6s,mb4.8,baz=304,slow=8.9,SNR=68						
WRAB	**Tennant Creek**	**49.81**	**128**	*e*P	**P**	**15 17 15.4**	**+0.7**
	comp=Z,8.6nm,0.6s,mb5.0						
WRAB				*ep*P	pP	15 17 22.5	+1.0
WRAB	**Tennant Creek**	**49.81**	**128**	*e*P	**P**	**15 17 15.4**	**+0.7**
WRAB				*e**PP	pP	15 17 22.5	+1.1
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**49.82**	**128**	*e*P	**P**	**15 17 15.2**	**+0.5**
WB2				*i* pP	pP	15 17 22.2	+0.7
ATD	**Arta Tunnel**	**50.43**	**276**	LR	LR	15 34 50.5	
	comp=Z,188nm,21.7s,MS4.1,baz=145,slow=32						
HABR	**Khabarovsk**	**50.73**	**34**	*e*P	**P**	**15 17 20.9**	**-0.8**
ASPA	**Alice Springs**	**51.63**	**132**	*e*P	**P**	**15 17 29.4**	**+1.0**
ASPA				*i* pP	pP	15 17 35.5	+0.3
AS31	**Alice Springs**	**51.63**	**132**	*e*P	**P**	**15 17 29.4**	**+1.0**
AS31				*i* pP	pP	15 17 35.5	+0.3
ASAR	**Alice Springs**	**51.63**	**132**	P	**P**	**15 17 29.2**	**+0.8**
	comp=Z,6.0nm,0.8s,mb4.6,baz=310,slow=6.8,SNR=63						
GNI	**Garni**	**52.62**	**313**	*e*P	**P**	**15 17 32.8**	**-3.0**
	comp=Z,30nm,1.0s,mb5.2						
GNI				*ep*P	pP	15 17 37.3	-5.2
GNI	**Garni**	**52.62**	**313**	*e*P	**P**	**15 17 36.8**	**+1.0**
GNI				pmax	pmax		
	comp=Z,36nm,1.2s						
ARU	**Arti**	**53.38**	**336**	*e*P	**P**	**15 17 40.8**	**-0.6**
	comp=Z,15nm,1.2s,mb4.8						
ARU				*e*		15 17 58.7	
ARU	**Arti**	**53.38**	**336⇑**	*i* P	**P**	**15 17 40.7**	**-0.7**
ARU				*e*		15 18 45.3	
ARU				*e*		15 19 42.2	
ARU				*e*PPP		15 20 48.5	
ARU				*e*S	**S**	**15 25 11.8**	**-0.5**
ARU				*e*SS	SS	15 28 48.8	-3.5
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
ARU				MLR	MLR		
	comp=Z,700nm,21.0s,MS4.7						
ARU				MLR	MLR		
	comp=N,400nm,22.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,400nm,20.0s,MS4.6						
ZEI	**Tsey**	**54.12**	**316**	*i* P	**P**	**15 17 44.0**	**-2.8**
ZEI				*i* *PP	pP	15 17 51.9	-1.7
ZEI				*i*		15 19 47.3	
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
YSS	**Yuzh-Sakhalins**	**54.50**	**39**	P	**P**	**15 17 45.9**	**-3.7**
	comp=Z,40nm,1.2s,mb5.3						
YSS				*ep*P	pP	15 17 50.4	-6.0
YSS	**Yuzh-Sakhalins**	**54.50**	**39**	*e*P	**P**	**15 17 47.8**	**-1.8**
YSS				*e*		15 18 06.3	
KIV	**Kislovodsk**	**55.37**	**317**	*e*P	**P**	**15 17 55.5**	**-0.4**
	comp=Z,53nm,1.1s,mb5.5						
KIV	**Kislovodsk**	**55.37**	**317***c*	*i*P	**P**	**15 17 56.4**	**+0.6**
KIV				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
GOF	**Gofitskoye**	**55.53**	**318**	*e*P	**P**	**15 17 56.7**	**-0.3**
MALT	**Malatya**	**56.79**	**309**	*e*P	**P**	**15 18 04.9**	**-1.1**
	comp=Z,11nm,1.1s,mb4.8						
MALT	**Malatya**	**56.79**	**309**	*e*P	**P**	**15 18 04.9**	**-1.1**
MALT				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
SOC	**Sochi**	**57.28**	**315**	*e*P	**P**	**15 18 06.1**	**-3.4**
SOC				*e*		15 19 01.9	
SOC				*e*		15 20 19.9	
SOC				*e*S	**S**	**15 25 58.9**	**-5.4**
SOC				*e*		15 27 52.6	
SOC				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
SOC				MLR	MLR		
	comp=Z,353nm,21.0s,MS4.4						
YAK	**Yakutsk**	**57.30**	**19**	P	**P**	**15 18 08.2**	**-1.4**
	comp=Z,20nm,0.8s,mb5.2						
YAK				*ep*P	pP	15 18 15.7	-0.7
YAK	**Yakutsk**	**57.30**	**19**	P	**P**	**15 18 08.3**	**-1.3**
YAK				*e**PP	pP	15 18 15.7	-0.8
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,

CTA	Charters Tower	59.58 121	eP	P	15 18 32.6	+7.1
	comp=Z,10.0nm,1.1s,mb4.8					
CTA	Charters Tower	59.58 121	eP	P	15 18 32.6	+7.1
CTA			pmax	pmax		
	comp=Z,10.0nm,1.1s					
CTAO	Charters Tower	59.58 121	P	P	15 18 28.7	+3.1
	comp=Z,17nm,1.1s,mb5.0					
CTAO			epP	pP	15 18 33.3	+0.9
CTAO	Charters Tower	59.58 121	P	P	15 18 28.7	+3.2
CTAO			pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0					
BRTR	Keskin Array B	60.74 310	P	P	15 18 32.4	-1.1
	comp=Z,6.3nm,0.9s,mb4.8,baz=130,slow=5.9,SNR=25					
STKA	Stephens Creek	61.95 135	eP	P	15 18 41.0	-0.7
	comp=Z,7.5nm,1.0s,mb4.8					
STKA	Stephens Creek	61.95 135	P	P	15 18 39.8	-1.9
	comp=Z,3.1nm,0.8s,mb4.5,baz=328,slow=11,SNR=6.2					
STKA			LR	LR	15 45 49.1	
	comp=Z,346nm,20.9s,MS4.5,baz=107,slow=36					
OBN	Obninsk	63.10 327	P	P	15 18 48.4	-1.0
	comp=Z,16nm,0.9s,mb5.2					
OBN	Obninsk	63.10 327	eP	P	15 18 48.9	-0.5
OBN			e		15 19 27.4	
OBN			pmax	pmax		
	comp=Z,30nm,1.9s,mb5.1					
OBN			MLR	MLR		
	comp=Z,300nm,17.0s,MS4.5					
KLMR	Klimovskoe	64.01 334	eP	P	15 18 52.0	-3.4
KLMR			pmax	pmax		
	comp=Z,30nm,2.2s,mb4.9					
MA2	Magadan	64.22 28	P	P	15 18 55.9	-0.8
	comp=Z,20nm,1.1s,mb5.1					
MA2	Magadan	64.22 28	eP	P	15 18 56.7	-0.1
MA2			pmax	pmax		
	comp=Z,28nm,1.6s,mb5.0					
TIXI	Tiksi	64.46 11	P	P	15 18 56.8	-1.5
TIXI	Tiksi	64.46 11	eP	P	15 18 57.1	-1.2
TIXI			pmax	pmax		
	comp=Z,21nm,1.3s,mb5.0					
AKASG	Malin Array Be	66.06 321	P	P	15 19 05.8	-2.9
	comp=Z,0.2nm,0.3s,mb3.7,baz=86,slow=5.4,SNR=7.1					
SEY	Seymchan	66.33 25	eP	P	15 19 09.9	-0.5
MLR	Muntele Rosu	67.29 315	P	P	15 19 14.0	-2.5
	comp=Z,5.8nm,0.9s,mb4.6,baz=129,slow=6.9,SNR=3.8					
ARMA	Armidale	68.57 129	eP	P	15 19 28.2	+3.6
ARMA			epP	pP	15 19 33.4	+1.9
APA	Apatity	69.29 339	eP	P	15 19 33.4	+4.4
APA			pmax	pmax		
	comp=Z,76nm,1.4s,mb5.4					
APA			MLR	MLR		
	comp=Z,800nm,18.0s,MS5.0					
FINES	FINESS Array B	70.31 332	P	P	15 19 33.3	-2.0
	comp=Z,1.5nm,0.7s,mb4.0,baz=77,slow=8.4,SNR=4.7					
FINES			LR	LR	15 57 04.3	
	comp=Z,192nm,20.3s,MS4.3,baz=241,slow=42					
LSZ	Lusaka	70.36 250	P	P	15 19 36.5	+0.9
	comp=Z,3.4nm,0.6s,mb4.5					
LSZ			epP	pP	15 19 43.4	+0.8
LSZ	Lusaka	70.36 250	P	P	15 19 36.6	+0.9
LSZ			e*PP	pP	15 19 43.4	+0.8
LSZ			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4					
ARCES	ARCESS Array B	72.69 340	P	P	15 19 49.4	-0.3
	comp=Z,6.9nm,0.9s,mb4.6,baz=101,slow=6.3,SNR=5.9					
ARCES			LR	LR	15 55 19.2	
	comp=Z,396nm,18.1s,MS4.7,baz=85,slow=39					
BILL	Bilibino	73.44 22	eP	P	15 19 53.1	-1.0
	comp=Z,14nm,1.3s,mb4.7					
BILL	Bilibino	73.44 22	eP	P	15 19 53.1	-1.0
BILL			pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7					
LBTB	Lobatse	75.73 241	eP	P	15 20 08.0	+0.6
	comp=Z,11nm,1.2s,mb4.7					
LBTB	Lobatse	75.73 241	eP	P	15 20 08.0	+0.6
LBTB			pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7					
GERES	GERESS Array B	75.85 318	P	P	15 20 07.6	-0.5
	comp=Z,1.7nm,0.8s,mb4.0,baz=98,slow=4.0,SNR=12					
GERES			LR	LR	15 56 49.6	
	comp=Z,130nm,20.3s,MS4.2,baz=230,slow=38					
HFS	Hagfors	76.12 329	P	P	15 20 07.9	-1.8
	comp=Z,1.6nm,0.6s,mb4.1,baz=68,slow=9.7,SNR=3.7					
HFS			LR	LR	15 59 22.9	
	comp=Z,130nm,19.4s,MS4.2,baz=326,slow=40					
CLL	Collm	76.30 320	i P	P	15 20 10.8	+0.2
	comp=Z,9.0nm,0.6s,mb4.9					
CLL	Collm	76.30 320	i P	P	15 20 10.8	+0.2
CLL			pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9					
BOSA	Boshof	77.21 237	LR	LR	15 49 03.1	
	comp=Z,141nm,19.1s,MS4.3,baz=194,slow=32					
BOSA	Boshof	77.21 237	eP	P	15 20 15.8	0.0
	comp=Z,7.9nm,1.1s,mb4.6					
BOSA	Boshof	77.21 237	eP	P	15 20 15.8	0.0
BOSA			pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6					
NB2	NORSAR Subarra	77.37 330	P	P	15 20 15.1	-1.6
	comp=Z,1.0nm,0.8s,mb3.8,baz=91,slow=5.9					
NB2	NORSAR Subarra	77.37 330	P	P	15 20 15.1	-1.6
NB2			pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8					
NOA	NORSAR Array B	77.37 330	P	P	15 20 14.8	-1.9
	comp=Z,1.7nm,0.8s,mb4.0,baz=91,slow=5.7,SNR=5.0					
NOA			LR	LR	15 57 33.1	
	comp=Z,180nm,21.6s,MS4.4,baz=95,slow=38					
NOA	NORSAR Array B	77.37 330	P	P	15 20 14.8	-1.9
NOA			LR	LR	15 57 33.1	
LPG	La Plagne	80.75 315	eP	P	15 20 35.1	-0.1
	comp=Z,14nm,0.8s,mb4.6					
LPG	La Plagne	80.75 315	eP	P	15 20 35.1	-0.1
	comp=Z,6.8nm,0.8s,mb4.6					
LPG	La Plagne	80.75 315	eP	P	15 20 35.1	-0.1
LPG			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6					
TNA	Tin City	83.56 25	P	P	15 20 49.8	-0.1
	comp=Z,7.2nm,1.2s,mb4.7					
EKA	Eskdalemuir Ar	85.50 325	P	P	15 20 59.8	0.0
	comp=Z,4.4nm,1.2s,mb4.6,baz=66,slow=4.9,SNR=4.3					
ESDC	Sonseca Array	89.53 310	P	P	15 21 19.3	+0.1
	comp=Z,0.4nm,0.3s,mb4.3,baz=91,slow=6.4,SNR=4.3					
TORD	Torodi Ar. Bea	90.10 283	P	P	15 21 22.5	+0.7
	comp=Z,1.7nm,0.9s,mb4.4,baz=87,slow=4.4,SNR=9.9					
TORD			PP	PP	15 24 57.4	+2.2
	comp=Z,1.7nm,1.0s,baz=60,slow=5.5,SNR=6.4					
URZ	Urewera	90.97 129	LR	LR	16 00 52.0	
	comp=Z,241nm,20.5s,MS4.6,baz=341,slow=35					
MCK	McKinley	91.83 23	eP	P	15 21 29.5	-0.4
	comp=Z,5.1nm,1.1s,mb4.8					
MCK	McKinley	91.83 23	eP	P	15 21 29.5	-0.4
MCK			pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.8					
ILAR	Eielson Array	92.10 22	P	P	15 21 30.1	-1.0
	comp=Z,1.6nm,0.7s,mb4.4,baz=296,slow=4.6,SNR=18					
ILAR			PP	PP	15 25 14.4	+3.4
	comp=Z,0.9nm,1.1s,baz=302,slow=7.7,SNR=5.3					
INK	Inuvik	94.27 16	P	P	15 21 40.6	-0.5
	comp=Z,6.5nm,1.2s,mb4.9					
INK	Inuvik	94.27 16	P	P	15 21 40.6	-0.5
INK			pmax	pmax		
	comp=Z,6.0nm,1.2s					
RES	Resolute Bay	94.60 2	P	P	15 21 42.4	-0.2
	comp=Z,4.8nm,1.0s,mb4.9					
RES	Resolute Bay	94.60 2	P	P	15 21 42.4	-0.2
RES			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9					
VNDA	Vanda	95.64 168	P	P	15 21 47.4	+0.1
	comp=Z,1.8nm,1.0s,mb4.5,baz=29,slow=4.8,SNR=3.6					
VNDA			LR	LR	16 03 26.3	
	comp=Z,154nm,18.1s,MS4.5,baz=110,slow=35					
AFI	Afiamalu	96.28 103	LR	LR	15 59 58.5	
	comp=Z,94nm,19.2s,MS4.3,baz=283,slow=32					
DBIC	Dimbokro	97.70 278	LR	LR	16 04 13.3	
	comp=Z,88nm,19.3s,MS4.3,baz=59,slow=34					
YKA	Yellowknife Ar	103.67 13	Pdiff	Pdif	15 22 23.0	-0.3
	comp=Z,0.1nm,0.4s,baz=336,slow=4.3,SNR=4.5					
YKA			PP	PP	15 26 32.7	-7.0
	comp=Z,0.1nm,0.3s,baz=340,slow=5.7,SNR=3.6					
YKA	Yellowknife Ar	103.67 13	Pdif	Pdif	15 22 23.0	-0.3
YKA			PP	PP	15 26 32.7	-7.0
PPT	Papeete	117.92 104	eLR	LR	16 03 00.9	
	comp=Z,104nm,24.8s					
TBI	Tubuai	118.17 111	eLR	LR	16 03 07.8	
	comp=Z,159nm,25.5s					
NVAR	Mina Array Bea	122.44 30	PKP	PKPdf	15 27 18.1	+1.1
	comp=Z,0.7nm,0.6s,baz=340,slow=2.2,SNR=6.9					
PDAR	Pinedale Array	122.50 21	PKP	PKPdf	15 27 17.6	+0.5
	comp=Z,1.1nm,0.9s,baz=101,slow=1.5,SNR=5.6					
RKT	Rikitea	131.49 111	eLR	LR	16 09 17.9	
	comp=Z,162nm,35.0s					
JCT	Junction City	136.89 18	ePKPdf	PKPdf	15 27 45.2	+0.8
BDFB	Brasilia	143.00 258	PKP	PKPdf	15 27 55.7	+0.2
	comp=Z,1.1nm,0.4s,baz=120,slow=2.1,SNR=3.2					
CPD	Cerro la Pandu	145.41 325	ePKPdf	PKPdf	15 28 00.8	+1.0
PLCA	Paso Flores	147.21 202	PKPbc	PKPbc	15 28 05.1	+0.1
	comp=Z,9.3nm,1.0s,baz=140,slow=5.6,SNR=14					
PLCA	Paso Flores	147.21 202	ePKP2	PKPab	15 28 06.0	-0.8
CPUP	Villa Florida	149.02 236	PKPbc	PKPbc	15 28 07.8	-2.0
	comp=Z,0.7nm,0.5s,baz=34,slow=11,SNR=2.9					
LPAZ	La Paz	162.03 250	PKP	PKPdf	15 28 26.2	+3.1
	comp=Z,1.6nm,0.8s,baz=149,slow=12,SNR=3.6					

*ISCJB **10** 15:19:50.6±0.2,4936N×001×680E±002,h0km, Error ellipse: s-maj=1.8km s-min=1.5km az=54.0*
*MOS **10** 15:19:51.8±0.7,4938N×670E,h10km,mb4.0/1, Error ellipse: s-maj=7.2km s-min=4.6km az=85.0*
*STR **10** 15:19:52.9±0.2,4936N×691E,h1km±1km,Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **10** 15:19:53.2±0.2,4938N×688E,h1km,ML2.7/6, Error ellipse: s-maj=3.3km s-min=3.3km az=113.0*
*CSEM **10** 15:19:53.1±0.0,4938N×688E,h1km,ML3.4/19, Error ellipse: s-maj=0.8km s-min=0.6km az=113.0*
*NEIC **10** 15:19:53.0,4936N×691E,h1km,ML2.7(STR), ML3.4(LDG), After STR.*
*LDG **10** 15:19:53.0±0.1,4939N×687E,h1km,Md3.1/1,Ml3.4/20, Error ellipse: s-maj=1.2km s-min=1.0km az=179.0, Suspected Mining induced.*
*BNS **10** 15:19:54.6±1.0,4944N×694E,h1km,ML2.3*
*PRU **10** 15:19:54.4,4922N×701E,h0km*

ISC 10 15:19:51.8±0.2,4937N±001×683E±002,h0km,n130,
σ1§20/250,7C-5D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.36	25	ePg	Pg	15 19 59.8	+1.0
	SNR=28						
RUP	Ruppelstein	0.36	25	Pg	Pg	15 19 59.8	+1.0
	SNR=28						
RUP				Sg	Sg	15 20 04.4	+0.9
WLF	Walferdange	0.53	304	ePg	Pg	15 20 04.2	+2.2
	SNR=15						
WLF				eSg	Sg	15 20 10.5	+1.7
WLF	Walferdange	0.53	304	ePg	Pg	15 20 04.1	+2.2
WLF				Sg	Sg	15 20 10.5	+1.7
ABH	Alteburg	0.69	42	ePg	Pg	15 20 05.5	+0.4
	SNR=9.5						
ABH	Alteburg	0.69	42	Pg	Pg	15 20 05.4	+0.3
LANF	Langenberg	0.75	121	Pg	Pg	15 20 06.7	+0.5
LANF	Langenberg	0.75	121	ePg	Pg	15 20 06.6	+0.4
	SNR=18						
BGG	Burgeitz	0.90	21	ePg	Pg	15 20 10.1	+1.0
BGG				eSg	Sg	15 20 21.0	+0.3
	139nm,0.5s						
HILG	Hillesheim	0.93	354	ePg	Pg	15 20 10.4	+0.8
CDF	Champ du Feu	1.00	163	ePn	Pn	15 20 12.7	-0.4
CDF				eSg	Sg	15 20 25.5	+1.5
	106nm,0.3s,SNR=1.0						
CDF	Champ du Feu	1.00	163	ePn	Pn	15 20 12.7	-0.4
CDF				eSg	Sg	15 20 25.5	+1.5
	53nm,0.3s,SNR=1.0						
CDF	Champ du Feu	1.00	163	ePg	Pg	15 20 11.8	+0.8
CDF				ePn	Pn	15 20 12.7	-0.4
CDF				eSg	Sg	15 20 25.5	+1.5
WLS	Welschbruch	1.02	160	ePg	Pg	15 20 12.1	+0.7
	SNR=24						
WLS	Welschbruch	1.02	160	Pg	Pg	15 20 12.2	+0.9
RFYF	Reffroy	1.16	231	ePg	Pg	15 20 15.7	+1.7
	baz=50						
RFYF				eSg	Sg	15 20 31.0	+2.0
	187nm,0.3s						
RFYF	Reffroy	1.16	231	ePg	Pg	15 20 15.7	+1.7
RFYF				eSg	Sg	15 20 31.0	+2.0
	93nm,0.3s						
ECH	Echery	1.18	169	Pg	Pg	15 20 15.3	+1.0
ECH				Sg	Sg	15 20 30.5	+0.9
ECH	Echery	1.18	169	ePg	Pg	15 20 14.9	+0.6
	SNR=24						
STB	Steinbach	1.23	0	ePg	Pg	15 20 16.3	+1.0
STB				eSg	Sg	15 20 32.6	+1.4
	67nm,0.4s						
THEF	They Montfort	1.27	206	Pg	Pg	15 20 17.0	+0.8
THEF				Sg	Sg	15 20 34.4	+1.7
THEF	They Montfort	1.27	206	ePg	Pg	15 20 17.2	+1.0
	SNR=26						
THEF	They Montfort	1.27	206	Pg	Pg	15 20 17.2	+1.0
	SNR=26						
THEF				Sg	Sg	15 20 34.4	+1.7
TOD	Tromm	1.31	79	ePg	Pg	15 20 16.5	-0.4
	SNR=16						
TOD	Tromm	1.31	79	Pg	Pg	15 20 16.5	-0.4
	SNR=16						
TOD				Sg	Sg	15 20 34.0	+0.1
KLL	Kalltalsperre	1.32	346	ePg	Pg	15 20 17.6	+0.5
KLL				eSg	Sg	15 20 34.9	+0.7
	41nm,0.6s						
LIBD	Limburg	1.32	157	Pg	Pg	15 20 17.3	+0.1
TNS	Taunus Mts	1.35	50	ePg	Pg	15 20 17.3	-0.4
	SNR=14						
TNS				eSg	Sg	15 20 35.6	+0.3
TNS	Taunus Mts	1.35	50	ePg	Pg	15 20 17.4	-0.3
TNS				Sg	Sg	15 20 35.6	+0.3
TNS				eS	Sg	15 20 36.5	+1.2
HAU	Haudompre	1.40	193	ePg	Pg	15 20 19.9	+1.2
HAU				eSn	Sn	15 20 36.5	-1.3
	SNR=1.0						
HAU				eSg	Sg	15 20 38.5	+1.7
	109nm,0.2s						
HAU	Haudompre	1.40	193	ePg	Pg	15 20 19.9	+1.2
HAU				eSn	Sn	15 20 36.5	-1.3
	SNR=1.0						
HAU				eSg	Sg	15 20 38.5	+1.7
	54nm,0.2s						
HAU	Haudompre	1.40	193	ePn	Pn	15 20 18.6	0.0
HAU				ePg	Pg	15 20 19.9	+1.2
HAU				eSn	Sn	15 20 36.5	-1.3
HAU				eSg	Sg	15 20 38.5	+1.7
HAU	Haudompre	1.40	193	eP	Pn	15 20 18.6	0.0
HAU				e		15 20 36.5	
BFO	Black Forest	1.44	136	ePg	Pg	15 20 20.0	+0.6
	SNR=13						
BFO				eSg	Sg	15 20 38.2	+0.1
BFO	Black Forest	1.44	136	Pg	Pg	15 20 20.0	+0.6
	SNR=13						
BFO				eSn	Sn	15 20 37.5	-1.2
BFO				Sg	Sg	15 20 38.2	+0.2
BFO	Black Forest	1.44	136	ePn	Pn	15 20 20.1	+1.0
BFO				eSn	Sn	15 20 37.5	-1.1
BFO	Black Forest	1.44	136	eP	Pg	15 20 20.0	+0.6
BFO				e		15 20 38.7	
BFO	Black Forest	1.44	136	eP	Pn	15 20 20.1	+1.0
BFO				e		15 20 37.5	
BFO	Black Forest	1.44	136	eP	Pg	15 20 20.0	+0.6
BFO				e		15 20 38.7	
BFO	Black Forest	1.44	136	eP	Pn	15 20 20.1	+1.0
BFO				e		15 20 37.5	
MEZF	Maizieres J'vi	1.46	234	ePn	Pn	15 20 19.4	0.0
	baz=51,SNR=1.0						
MEZF	Maizieres J'vi	1.46	234	ePg	Pg	15 20 20.9	+1.2
	baz=51						
MEZF				eSn	Sn	15 20 37.3	-1.8
	SNR=1.0						
MEZF				eSg	Sg	15 20 40.4	+1.8
	62nm,0.3s,SNR=1.0						
MEZF	Maizieres J'vi	1.46	234	ePg	Pg	15 20 20.9	+1.2
MEZF				eSn	Sn	15 20 37.3	-1.8
	SNR=1.0						
MEZF				eSg	Sg	15 20 40.4	+1.8
	31nm,0.3s,SNR=1.0						
MEZF	Maizieres J'vi	1.46	234	ePn	Pn	15 20 19.4	0.0
MEZF				ePg	Pg	15 20 20.9	+1.2
MEZF				eSn	Sn	15 20 37.3	-1.8
MEZF				eSg	Sg	15 20 40.4	+1.8
GIVF	Givet	1.49	300	ePg	Pg	15 20 20.5	+0.1
	SNR=1.0						
GIVF				eSn	Sn	15 20 38.5	-1.5
	SNR=1.0						
GIVF				eSg	Sg	15 20 40.9	+1.2
	118nm,0.4s,SNR=1.0						
GIVF	Givet	1.49	300	ePg	Pg	15 20 20.5	+0.1
	SNR=1.0						
GIVF				eSn	Sn	15 20 38.5	-1.5
	SNR=1.0						
GIVF				eSg	Sg	15 20 40.9	+1.2
	59nm,0.4s,SNR=1.0						
GIVF	Givet	1.49	300	eP	Pg	15 20 20.5	+0.1
GIVF				e		15 20 38.5	
HGN	Heimansgroeve	1.51	338	ePg	Pg	15 20 20.2	-0.5
	16nm,0.2s,baz=150						
HGN				eSg	Sg	15 20 40.4	+0.1
MOF	Molkenrain	1.53	172	Pg	Pg	15 20 21.6	+0.4
MOF				Sg	Sg	15 20 42.5	+1.4
MOF	Molkenrain	1.53	172	ePg	Pg	15 20 22.0	+0.8
	SNR=19						
MOF	Molkenrain	1.53	172	Pg	Pg	15 20 22.0	+0.8
	SNR=19						
MOF				Sg	Sg	15 20 42.5	+1.4
HINF	Hinteralfeld	1.56	179	ePg	Pg	15 20 22.5	+0.9
	SNR=1.0						
HINF				eSn	Sn	15 20 40.1	-1.5
	SNR=1.0						
HINF				eSg	Sg	15 20 42.8	+1.0
	224nm,0.2s						
HINF	Hinteralfeld	1.56	179	ePg	Pg	15 20 22.5	+0.9
	SNR=1.0						
HINF				eSn	Sn	15 20 40.1	-1.5
	SNR=1.0						
HINF				eSg	Sg	15 20 42.8	+1.0
	112nm,0.2s						
HINF	Hinteralfeld	1.56	179	ePn	Pn	15 20 20.8	+0.1
HINF				ePg	Pg	15 20 22.5	+0.9
HINF				eSn	Sn	15 20 40.1	-1.5
HINF				eSg	Sg	15 20 42.8	+1.0
HINF	Hinteralfeld	1.56	179	eP	Pn	15 20 20.8	+0.1
HINF				e		15 20 40.1	
BNS	Bensberg	1.61	8	eSg	Sg	15 20 40.6	-3.0
HOBG	Hohbusch	1.65	11	ePg	Pg	15 20 22.5	-0.9
HOBG				eSg	Sg	15 20 41.5	-3.3
SFTF	Sexfontaines	1.66	226	ePn	Pn	15 20 22.2	+0.1
	baz=50						
SFTF	Sexfontaines	1.66	226	ePg	Pg	15 20 24.4	+0.8
	baz=48						
SFTF				eSn	Sn	15 20 43.3	-0.9
SFTF				eSg	Sg	15 20 46.8	+1.6
	43nm,0.2s						
SFTF	Sexfontaines	1.66	226	ePg	Pg	15 20 24.4	+0.8
SFTF				eSn	Sn	15 20 43.3	-0.9
SFTF				eSg	Sg	15 20 46.8	+1.6
	22nm,0.2s						
SFTF	Sexfontaines	1.66	226	ePn	Pn	15 20 22.2	+0.1
SFTF				ePg	Pg	15 20 24.4	+0.8
SFTF				eSn	Sn	15 20 43.3	-0.9
SFTF				eSg	Sg	15 20 46.8	+1.6
STU	Stuttgart	1.67	110	eSg	Sg	15 20 43.5	-2.0
FELD	Feldberg	1.69	152	Pg	Pg	15 20 24.4	+0.3
FELD				Sg	Sg	15 20 46.1	+0.1
BAIF	Baives	1.83	293	eP	Pn	15 20 25.4	+0.9
BAIF	Baives	1.83	293	ePg	Pg	15 20 27.9	+0.9
BAIF				eSg	Sg	15 20 51.4	+0.7
	37nm,0.4s,SNR=1.0						
BAIF	Baives	1.83	293	eP	Pn	15 20 25.4	+0.9
BAIF	Baives	1.83	293	ePg	Pg	15 20 27.9	+0.9
BAIF				eSg	Sg	15 20 51.4	+0.7
	18nm,0.4s,SNR=1.0						
BAIF	Baives	1.83	293	ePn	Pn	15 20 23.7	-0.8
BAIF				eP		15 20 25.4	
BAIF				ePg	Pg	15 20 27.9	+0.9
BAIF				eSg	Sg	15 20 51.4	+0.7
LOMF	Lomont	2.02	180	ePn	Pn	15 20 27.7	+0.6
	SNR=4.7						
LOMF				ePg	Pg	15 20 31.7	+1.1
	SNR=4.7						
LOMF	Lomont	2.02	180	Pg	Pg	15 20 31.4	+0.9
BUG	Bochum--Univer	2.09	8	eSg	Sg	15 20 58.7	-0.3
UBBA	Unterbreizbach	2.51	53	eSg	Sg	15 21 13.0	+0.7
CABF	La Chapelle	2.81	190	ePn	Pn	15 20 38.0	+0.1
	SNR=1.0						
CABF				eSn	Sn	15 21 10.7	-1.7
CABF				eSg	Sg	15 21 22.1	+0.2
	25nm,0.4s,SNR=1.0						
CABF	La Chapelle	2.81	190	ePn	Pn	15 20 38.0	+0.1
	SNR=1.0						
CABF				eSn	Sn	15 21 10.7	-1.7
CABF				eSg	Sg	15 21 22.1	+0.2
	13nm,0.4s,SNR=1.0						
CABF	La Chapelle	2.81	190	eP	Pn	15 20 38.0	+0.1
CABF				e		15 21 10.7	
GRA1	Grafenberg Arr	2.88	82	Sg	Sg	15 21 23.5	-0.9
GRF	Grafenberg Arr	2.88	82	eSg	Sg	15 21 23.5	-0.9
LOR	Lormes	2.89	224	ePn	Pn	15 20 38.7	-0.3
	baz=49,SNR=1.0						
LOR				eSn	Sn	15 21 12.7	-1.8
	SNR=1.0						
LOR				eSg	Sg	15 21 24.5	-0.1
	35nm,0.4s						
LOR	Lormes	2.89	224	ePn	Pn	15 20 38.7	-0.3
	SNR=1.0						
LOR				eSn	Sn	15 21 12.7	-1.8
	SNR=1.0						
LOR				eSg	Sg	15 21 24.5	-0.1
	18nm,0.4s						
LOR	Lormes	2.89	224	eP	Pn	15 20 38.7	-0.3
LOR				e		15 21 12.7	
DAVA	Damuels	2.92	135	‖ i Sn	Sn	15 21 19.1	+4.0
DAVA	Damuels	2.92	135	‖ i Pn	Pn	15 20 42.5	+3.1
DAVA				‖ i Sn	Sn	15 21 19.1	+4.0
DAVA	Damuels	2.92	135	Pn	Pn	15 20 42.5	+3.1
DAVA				Sn	Sn	15 21 19.1	+4.0
SSF	Saint Saulge	3.20	225	ePn	Pn	15 20 42.9	-0.5
	SNR=1.0						
SSF				eSn	Sn	15 21 20.5	-1.8
	SNR=1.0						
SSF				eSg	Sg	15 21 34.1	-0.6
	26nm,0.5s,SNR=1.0						
SSF	Saint Saulge	3.20	225	ePn	Pn	15 20 42.9	-0.5
	SNR=1.0						
SSF				eSn	Sn	15 21 20.5	-1.8
	SNR=1.0						
SSF				eSg	Sg	15 21 34.1	-0.6
	13nm,0.5s,SNR=1.0						
SSF	Saint Saulge	3.20	225	eP	Pn	15 20 42.9	-0.5
SSF				e		15 21 20.5	
MOX	Moxa	3.34	66	ePg	Pg	15 20 54.0	-1.9
	SNR=1.5						
MOX				eSn	Sn	15 21 22.8	-2.8
MOX				eSg	Sg	15 21 40.5	+1.3
MOX	Moxa	3.34	66	ePG	Pg	15 20 54.1	-1.8
MOX				eSG	Sg	15 21 40.5	+1.3
CLZ	Clausthal	3.35	41	eSg	Sg	15 21 38.5	-0.9
SMF	Signal de Mont	3.38	217	ePg	Pg	15 20 57.9	+1.3
	SNR=1.0						
SMF				eSn	Sn	15

MOTA ⇓iSn **Sn** **15 21 31.6 +2.0**
WERD Werda 3.70 71 ePn **Pn** **15 20 51.0 +0.7**
SNR=1.3
WERD ePg **Pg** **15 21 02.3 -0.5**
SNR=2.3
WERD eSg **Sg** **15 21 48.3 -2.5**
NKC Novy Kostel 3.74 75 eSG **Sg** **15 21 49.7 -2.3**
LPL La Plagne 3.86 181 ePn **Pn** **15 20 52.3 0.0**
LPL eSg **Sg** **15 21 54.7 -1.0**
4.2nm,0.3s
LPL La Plagne 3.86 181 ePn **Pn** **15 20 52.3 0.0**
LPL eSg **Sg** **15 21 54.7 -1.0**
2.1nm,0.3s
LPG La Plagne 3.88 181 ePn **Pn** **15 20 53.1 +0.5**
LPG eSg **Sg** **15 21 56.0 -0.3**
5.7nm,0.3s,SNR=1.0
LPG La Plagne 3.88 181 ePn **Pn** **15 20 53.1 +0.5**
LPG eSg **Sg** **15 21 56.0 -0.3**
2.8nm,0.3s,SNR=1.0
BGF Bois d'Agland 3.88 225 ePn **Pn** **15 20 52.1 -0.6**
SNR=1.0
BGF eSn **Sn** **15 21 36.3 -2.7**
SNR=1.0
BGF eSg **Sg** **15 21 56.1 -0.4**
73nm,0.6s,SNR=1.0
BGF Bois d'Agland 3.88 225 ePn **Pn** **15 20 52.1 -0.6**
SNR=1.0
BGF eSn **Sn** **15 21 36.3 -2.7**
SNR=1.0
BGF eSg **Sg** **15 21 56.1 -0.4**
37nm,0.6s,SNR=1.0
BGF Bois d'Agland 3.88 225 ePn **Pn** **15 20 52.1 -0.6**
BGF e 15 21 36.3
WET Wettzell 3.97 91 ePn **Pn** **15 20 54.7 +0.8**
SNR=5.1
WET eSn **Sn** **15 21 37.4 -3.8**
TCF Toulx Ste Croi 4.38 227 ePn **Pn** **15 20 58.6 -0.9**
TCF eSn **Sn** **15 21 48.3 -2.9**
TCF eSg **Sg** **15 22 11.6 -0.9**
8.9nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 4.38 227 ePn **Pn** **15 20 58.6 -0.9**
TCF eSn **Sn** **15 21 48.3 -2.9**
TCF eSg **Sg** **15 22 11.6 -0.9**
4.4nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 4.38 227 ePn **Pn** **15 20 58.6 -0.9**
TCF e 15 21 48.3
KHC Kasperske Hory 4.43 91 ePN **Pn** **15 21 00.2 0.0**
KHC eSN **Sn** **15 21 49.2 -3.3**
KHC eSG **Sg** **15 22 11.8 -2.3**
KHC Kasperske Hory 4.43 91 eP **Pn** **15 21 00.2 0.0**
KHC e 15 21 49.2
GEC2 GERESS Array S 4.55 94 ePn **Pn** **15 21 02.3 +0.5**
SNR=19
GEC2 eSn **Sn** **15 21 53.0 -2.4**
LDF La Druitiere 4.64 263 ePn **Pn** **15 21 03.2 +0.1**
SNR=1.0
LDF eSg **Sg** **15 22 19.6 -1.3**
6.2nm,0.3s
LDF La Druitiere 4.64 263 ePn **Pn** **15 21 03.2 +0.1**
SNR=1.0
LDF eSg **Sg** **15 22 19.6 -1.3**
3.1nm,0.3s
VIVF Saint-Julien-l 4.75 199 ePn **Pn** **15 21 04.0 -0.6**
FLN La Foliniere 4.84 266 ePn **Pn** **15 21 05.6 -0.3**
baz=88
KBA Koelnbreinsper 4.92 115⇑iSn **Sn** **15 22 05.2 +0.5**
KBA Koelnbreinsper 4.92 115⇑iPn **Pn** **15 21 09.0 +2.0**
KBA ⇑iSn **Sn** **15 22 05.2 +0.5**
MOA Molln 5.16 104⇑iSn **Sn** **15 22 09.7 -0.9**
MOA Molln 5.16 104⇑iPn **Pn** **15 21 11.2 +0.9**
MOA ⇑iSn **Sn** **15 22 09.7 -0.9**
GRR Gorron 5.17 262 ePn **Pn** **15 21 09.0 -1.3**
GRR eSn **Sn** **15 22 06.7 -3.9**
MFF Saint Martin d 5.44 242 ePn **Pn** **15 21 13.8 -0.3**
CAF Calviac 5.50 218 ePn **Pn** **15 21 14.1 -0.9**
TREC Trest 5.66 87 ePN **Pn** **15 21 20.4 +3.2**
SGMF Saint Gilles 6.30 263 ePn **Pn** **15 21 25.0 -0.9**
SNR=1.0
SGMF eSn **Sn** **15 22 33.7 -4.8**
ROSF Rostrenen 6.75 265 ePn **Pn** **15 21 31.4 -0.6**
QUIF Quistinic 6.78 261 ePn **Pn** **15 21 31.0 -1.5**
SNR=1.0
QUIF eSn **Sn** **15 22 45.2 -5.2**

IDC 10 15:21:00.0±8.6, 1050N×9391E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, Error ellipse: s-maj=480.7km s-min=26.1km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.62**	**315**	eP	Pn	15 21 55.7	+26
PBA				eS	Sn	15 22 10.5	+19
PBA				ex	x	15 22 31.0	
	comp=N,581nm,0.6s						
PBA				ex	x	15 22 32.3	
	comp=E,675nm,0.6s						
MKAR	**Makanchi Array**	**37.49**	**347**	P	P	15 28 15.4	0.0
	comp=E,0.9nm,0.7s,baz=162,slow=8.4,SNR=14						
WRA	**Warramunga Arr**	**49.99**	**127**	P	P	15 29 56.4	+0.5
	comp=E,0.5nm,0.9s,baz=307,slow=8.7,SNR=4.0						
ASAR	**Alice Springs**	**51.79**	**131**	P	P	15 30 09.8	+0.4
	comp=E,0.7nm,0.8s,baz=310,slow=8.3,SNR=6.9						

*IDC **10** 15:29:21.6±1.1, 1077N×9426E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.9/23, mbtmp3.9/10, ML3.5/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=51.9km s-min=16.7km az=56.0*
*ISCJB **10** 15:29:23.1±0.4, 1070N±006×9437E±007, h20km, mb4.3/30, MS4.1/3, Error ellipse: s-maj=12.2km s-min=6.3km az=100.5*
*BJI **10** 15:29:23.0, 1055N×9388E, h36km, mB5.0, mb4.3, Ms4.6, Msz4.3*
*NEIC **10** 15:29:24.7±0.5, 1065N×9433E, mb4.5/15, Error ellipse: s-maj=18.4km s-min=6.6km az=55.0*
*MOS **10** 15:29:24.6±1.3, 1071N×9426E, h33km, mb4.6/12, Error ellipse: s-maj=19.0km s-min=7.5km az=108.8*

ISC 10 15:29:25.5±0.4, 1074N±006×9437E±007, h22km, h22km±1.7km: pP-P, n66, σ1°19/65, mb4.3/30, MS4.1/3, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.84**	**300**	eP	Px	15 30 08.6	
PBA				eS	Sx	15 30 24.2	
KULM	**Kulim**	**8.24**	**131**	ePn	**Pn**	**15 31 21.6**	**-2.2**
KULM				eSn	**Sn**	**15 32 51.3**	**-4.9**
PSI	**Prapat**	**9.09**	**150**	Pn	**Pn**	**15 31 36.0**	**+0.6**
	0.5nm,0.3s,baz=22,slow=11,SNR=2.3						
PSI				LR	LR	15 35 48.3	
	comp=Z,322nm,18.4s,baz=296,slow=42						
VIS	**Vishakhapatnam**	**12.75**	**304**	eP	**Pn**	**15 32 26.5**	**+0.9**
VIS				AMb	AMB	15 32 39.6	
	comp=Z,28nm,1.4s						
VIS				eS	**Sn**	**15 34 36.4**	**-10**
NGP	**Nagpur**	**17.99**	**307**	eP	**Pn**	**15 33 34.5**	**+0.3**
NGP				AMb	AMB	15 34 03.0	
	comp=Z,15nm,1.3s						
JIRN	**Jiri**	**18.51**	**337**	eP	**Pn**	**15 33 42.0**	**+1.5**
	comp=Z,50nm,1.0s						
PKI	**Pulchoki**	**18.75**	**335**	eP	**Pn**	**15 33 44.5**	**+1.1**
GUN	**Gumba**	**18.85**	**336**	eP	**Pn**	**15 33 45.3**	**+0.6**
DMN	**Daman**	**18.91**	**334**	eP	**Pn**	**15 33 46.1**	**+0.7**
KKN	**Kakani**	**18.99**	**335**	eP	**Pn**	**15 33 46.6**	**+0.2**
LSA	**Lhasa**	**19.10**	**351**	P	**Pn**	**15 33 44.8**	**-2.9**
LSA	**Lhasa**	**19.10**	**351**	eP	**Pn**	**15 33 47.0**	**-0.7**
	comp=Z,12nm,0.9s						
LSA	**Lhasa**	**19.10**	**351**	eP	**Pn**	**15 33 47.0**	**-0.7**
LSA				pmax	pmax		
	comp=Z,12nm,0.9s						
GKN	**Gorkha**	**19.46**	**333**	eP	**Pn**	**15 33 51.4**	**-0.5**
GYA	**Guiyang**	**19.47**	**35**⇓iP		**Pn**	**15 33 53.1**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
KOLN	**Koldanda**	**19.74**	**331**	eP	**Pn**	**15 33 55.2**	**-0.1**
BHPL	**Bhopal**	**20.40**	**310**	eP	**P**	**15 34 03.9**	**+3.0**
BHPL				AMb	AMB	15 34 14.7	
	comp=Z,15nm,1.1s						
SONA	**Sohna**	**23.80**	**319**	AMb	AMB	15 34 38.6	
	comp=Z,6.7nm,0.4s,mb4.5						
SONA				eP		15 34 38.6	
ENH	**Enshi**	**23.99**	**34**	eP	**P**	**15 34 39.0**	**+0.5**
	comp=Z,16nm,1.0s,mb4.4						
ENH				epP		15 34 45.8	
NDI	**New Delhi**	**24.02**	**320**	eP	**P**	**15 34 38.0**	**-0.7**
NDI				eP		15 34 39.0	
NDI				AMb	AMB	15 34 47.4	
	comp=Z,22nm,0.7s,mb4.7						
NDI				ex	x	15 36 07.0	
KUDL	**Kundal**	**24.11**	**318**	eP	**P**	**15 34 40.6**	**+1.0**
KUDL				AMb	AMB	15 34 48.1	
	comp=Z,6.7nm,0.8s,mb4.1						
KHET	**Khetri**	**24.52**	**317**	eP	**P**	**15 34 44.3**	**+1.0**
KHET				AMb	AMB	15 34 45.8	
	comp=Z,8.2nm,1.0s,mb4.2						
SMLA	**Simla**	**25.81**	**324**	ex	x	15 34 37.6	
SMLA				AMb	AMB	15 34 49.8	
	comp=Z,22nm,0.8s,mb4.7						
LZH	**Lanzhou**	**26.66**	**17**	eP	**P**	**15 35 04.1**	**+1.4**
LZH				AP	pP	15 35 08.4	-0.8
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.6						
LZH				AMB	AMB		
	comp=Z,89nm,4.6s						
LZH				LR	LR		
	comp=N,217nm,10.0s						
LZH				LR	LR		
	comp=Z,405nm,13.3s,MS4.2						
BJT	**Baijiatuau**	**34.98**	**30**	P	**P**	**15 36 17.0**	**+0.8**
	comp=Z,15nm,1.5s,mb4.7						
BJT	**Baijiatuau**	**34.98**	**30**	P	**P**	**15 36 17.0**	**+0.9**
BJT				pmax	pmax		
	comp=Z,15nm,1.5s						
AAK	**Ala-Archa**	**36.20**	**335**	eP	**P**	**15 36 25.8**	**-0.8**
	comp=Z,4.7nm,1.0s,mb4.4						
AAK				epP	pP	15 36 32.7	-0.5
AAK	**Ala-Archa**	**36.20**	**335**	eP	**P**	**15 36 25.8**	**-0.8**
AAK				e*PP	pP	15 36 32.7	-0.5
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**37.37**	**346**	P	**P**	**15 36 36.6**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.1,baz=164,slow=8.2,SNR=36						
SONM	**Songino Array**	**38.34**	**13**	P	**P**	**15 36 43.0**	**-1.7**
	comp=Z,1.2nm,0.9s,mb3.6,baz=204,slow=10,SNR=3.7						
ULN	**Ulaanbaatar**	**38.51**	**14**	eP	**P**	**15 36 48.8**	**+2.6**
ULN				epP	pP	15 36 53.5	+0.6
KURK	**Kurchatov**	**41.91**	**345**	eP	**P**	**15 37 14.3**	**-0.1**
	comp=Z,6.4nm,1.1s,mb4.2						
KURK				e	pP	15 37 20.7	-0.4
KURK	**Kurchatov**	**41.91**	**345**	eP	**P**	**15 37 14.3**	**-0.1**
KURK				e	pP	15 37 20.7	-0.4
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.1						
HIA	**Hailar**	**43.82**	**24**	P	**P**	**15 37 30.4**	**+0.5**
	comp=Z,7.2nm,1.2s,mb4.3						
HIA	**Hailar**	**43.82**	**24**	P	**P**	**15 37 30.4**	**+0.6**
HIA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BVAR	**Borovoye Array**	**46.38**	**340**	P	**P**	**15 37 49.5**	**-0.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=134,slow=6.4,SNR=6.6						
BRVK	**Borovoye**	**46.44**	**340**	eP	**P**	**15 37 50.1**	**-0.5**
	comp=Z,2.7nm,1.1s,mb4.1						
BRVK				epP	pP	15 37 55.4	-2.0
BRVK	**Borovoye**	**46.44**	**340**	eP	**P**	**15 37 50.1**	**-0.6**
BRVK				e*PP	pP	15 37 55.4	-2.0
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
ZRNK	**Zerenda**	**46.79**	**339**	eP	**P**	**15 37 51.6**	**-1.8**
	comp=Z,2.7nm,1.0s,mb4.1						
ZRNK				epP	pP	15 37 58.9	-1.3
ZRNK	**Zerenda**	**46.79**	**339**	eP	**P**	**15 37 51.6**	**-1.8**
ZRNK				e*PP	pP	15 37 58.9	-1.2
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P	**P**	**15 38 10.2**	**+2.8**
AKTK	**Aktyubinsk**	**49.58**	**330**	P	**P**	**15 38 13.6**	**-1.3**
AKTO	**Aktyubinsk**	**49.58**	**330**	P	**P**	**15 38 13.6**	**-1.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=110,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**49.77**	**128**	P	**P**	**15 38 17.5**	**+1.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=305,slow=8.9,SNR=11						
WRAB	**Tennant Creek**	**49.78**	**128**	eP	**P**	**15 38 17.2**	**+0.7**
	comp=Z,5.5nm,0.8s,mb4.6						
WRAB				epP	pP	15 38 23.9	+0.6
WRAB				esP	sP	15 38 28.2	+2.3
WRAB	**Tennant Creek**	**49.78**	**128**	eP	**P**	**15 38 17.2**	**+0.7**
WRAB				e*SP	sP	15 38 28.2	+2.3
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**51.61**	**132**	P	**P**	**15 38 31.1**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=307,slow=7.0,SNR=15						
GNI	**Garni**	**52.64**	**313**	P	**P**	**15 38 38.8**	**+0.8**
	comp=Z,8.7nm,0.9s,mb4.7						
GNI	**Garni**	**52.64**	**313**	P	**P**	**15 38 38.8**	**+0.9**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	**Arti**	**53.37**	**336**	P	**P**	**15 38 40.8**	**-2.5**
	comp=Z,3.3nm,1.0s,mb4.2						
ARU	**Arti**	**53.37**	**336**	P	**P**	**15 38 40.8**	**-2.5**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
KIV	**Kislovodsk**	**55.38**	**316**	P	**P**	**15 38 57.3**	**-0.7**
	comp=Z,21nm,1.1s,mb5.1						
KIV	**Kislovodsk**	**55.38**	**316**	P	**P**	**15 38 57.3**	**-0.7**
KIV				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
YAK	**Yakutsk**	**57.22**	**19**	eP	**P**	**15 39 10.2**	**-0.9**
	comp=Z,13nm,0.8s,mb5.0						
YAK				epP	pP	15 39 17.7	-0.3
YAK	**Yakutsk**	**57.22**	**19**	eP	**P**	**15 39 10.2**	**-0.9**
YAK				e*PP	pP	15 39 17.7	-0.3
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
BRTR	**Keskin Array B**	**60.77**	**310**	P	**P**	**15 39 34.1**	**-1.6**
	comp=Z,1.1nm,0.8s,mb4.0,baz=125,slow=6.5,SNR=5.4						
STKA	**Stephens Creek**	**61.93**	**135**	P	**P**	**15 39 41.0**	**-2.6**
OBN	**Obninsk**	**63.10**	**327**	P	**P**	**15 39 58.0**	**+6.6**
MA2	**Magadan**	**64.14**	**28**	eP	**P**	**15 39 58.4**	**+0.2**
	comp=Z,6.0nm,1.1s,mb4.5						
MA2	**Magadan**	**64.14**	**28**	eP	**P**	**15 39 58.4**	**+0.2**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
TIXI	**Tiksi**	**64.39**	**11**	eP	**P**	**15 39 56.6**	**-3.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.4						
SEY	**Seymchan**	**66.25**	**25**	eP	**P**	**15 40 18.2**	**+6.3**
ARCES	**ARCESS Array B**	**72.67**	**340**	P	**P**	**15 40 50.5**	**-1.0**
	comp=Z,7.5nm,1.0s,mb4.6,baz=91,slow=7.4,SNR=4.0						
ARCES				LR	LR	16 15 15.9	
	comp=Z,64nm,18.1s,MS3.9,baz=64,slow=38						
BILL	**Bilibino**	**73.36**	**22**	eP	**P**	**15 41 01.6**	**+6.0**
BILL				e		15 43 43.5	
BILL				eS	S	15 50 27.4	+4.1
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
SYO	**Syowa Base**	**88.19**	**197**⇑eP		**P**	**15 42 15.4**	**+0.5**
ILAR	**Eielson Array**	**92.02**	**22**	P	**P**	**15 42 31.9**	**-0.8**
	comp=Z,0.3nm,0.8s,mb3.7,baz=314,slow=5.3,SNR=4.9						

*ISCJB **10** 15:38:40.1±1.4, 1875N±005×7587W±006, h29km±15km, Error ellipse: s-maj=11.6km s-min=5.5km az=71.0*
*JSN **10** 15:38:41.0±1.1, 1861N×7580W, h17km±11km, MD3.7*
*SSNC **10** 15:38:42.2, 1873N×7578W, h16km, MD3.3, ML2.6*

ISC 10 15:38:40.3±1.5, 1872N±005×7586W±006, h28km±15km, n13, σ0°96/19, 4C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJ	**Castle Mountai**	**0.76**	**220**⇑eP		**Pb**	**15 38 54.2**	**-0.8**
GWJ	**Greenwich**	**1.05**	**232**⇑eP		**Pn**	**15 38 58.8**	**-0.4**
HOJ	**Hope**	**1.11**	**230**	eP	**Pn**	**15 38 59.9**	**-0.1**
STH	**Stony Hill**	**1.11**	**235**⇓eP		**Pn**	**15 38 59.4**	**-0.6**
STH				eS	**Sn**	**15 39 13.6**	**-0.8**
BNJ	**Bonny Gate**	**1.11**	**249**⇓iP		**Pn**	**15 39 00.6**	**+0.5**
RCC	**Rio Carpintero**	**1.27**	**7**	ePG	**Pn**	**15 39 02.5**	**+0.2**
RCC				eSG	**Sn**	**15 39 20.1**	**+1.7**
	comp=N,1μm,0.2s						
RCC				e			
	comp=E,676nm,0.1s						
BBJ	**Bamboo Saint A**	**1.38**	**256**	eS	**Sn**	**15 39 22.5**	**+1.4**
PCJ	**Portland Cotta**	**1.58**	**232**⇑eP		**Pn**	**15 39 07.1**	**+0.6**
CVJ	**Coleyville**	**1.67**	**253**⇑eP		**Pn**	**15 39 07.8**	**+0.1**
LMGC	**Las Mercedes**	**1.72**	**321**	eP	**Pn**	**15 39 09.4**	**+1.0**
LMGC				eS	**Sn**	**15 39 29.0**	**-0.4**
	comp=N,803nm,0.1s						
LMGC				e			
	comp=E,484nm,0.1s						
MASC	**Masc**	**2.11**	**46**	eP	**Pn**	**15 39 15.2**	**+1.5**
MASC				eS	**Sn**	**15 39 37.3**	**-1.7**
	comp=N,1.8nm,0.1s						
MASC				e			
	comp=E,2.0nm,0.1s						
HLGC	**Holguin**	**2.16**	**355**	eP	**Pn**	**15 39 15.5**	**+1.0**
HLGC				eS	**Sn**	**15 39 38.8**	**-1.6**
	comp=N,183nm,0.2s						
HLGC				e			
	comp=E,187nm,0.2s						
CCCC	**Cccc**	**3.05**	**324**	eP	**Pn**	**15 39 26.1**	**-0.6**
CCCC				eS	**Sn**	**15 40 01.5**	**-0.8**
	comp=N,0.5nm,0.1s						
CCCC				e			
	comp=E,0.5nm,0.1s						

IDC 10 15:53:04.6±5.3, 590S×13215E, h143km±58km, mb2.9/1, mb1 2.9/3, mb1mx2.8/11, mbtmp3.2/3, Error ellipse: s-maj=261.2km s-min=17.4km az=77.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.12**	**172**	P	Pn	15 56 17.8	-0.4
	0.1nm,0.3s,baz=352,slow=13,SNR=6.9						
WRA				S	Sn	15 58 54.4	-0.2
	0.3nm,0.3s,baz=334,slow=24,SNR=6.7						
ASAR	**Alice Springs**	**17.75**	**175**	P	Pn	15 57 02.9	+0.2
	0.1nm,0.3s,baz=347,slow=13,SNR=11						
ASAR				S	S	16 00 19.2	+1.0
	0.1nm,0.3s,baz=356,slow=26,SNR=5.1						
MKAR	**Makanchi Array**	**68.50**	**326**	P	P	16 03 51.5	+0.1
	0.2nm,0.5s,baz=115,slow=7.8,SNR=4.1						

IDC 10 16:05:01.1±11.0, 164N×9925W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.5/3, MS3.5/2, Ms1 3.6/2, ms1mx2.9/23, Error ellipse: s-maj=405.6km s-min=185.9km az=103.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**16.61**	**58**	LR	LR	16 13 33.5	
	comp=Z,91nm,21.1s,baz=199,slow=31						
NVAR	**Mina Array Bea**	**40.57**	**337**	LR	LR	16 27 32.9	
	comp=Z,125nm,18.8s,baz=270,slow=33						
PDAR	**Pinedale Array**	**41.98**	**349**	P	P	16 12 54.3	+0.5
	1.0nm,0.9s,baz=152,slow=8.0,SNR=6.8						
YKA	**Yellowknife Ar**	**61.79**	**352**	P	P	16 15 21.5	-0.1
	0.2nm,0.6s,baz=162,slow=6.9,SNR=5.1						
ILAR	**Eielson Array**	**71.68**	**341**	P	P	16 16 24.4	-0.3
	0.7nm,0.8s,baz=153,slow=5.5,SNR=9.5						

IDC 10 16:13:04.5±9.2, 986N×9290E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=489.1km s-min=30.4km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.90**	**348**	P	P	16 20 23.3	0.0
	0.3nm,0.7s,baz=151,slow=6.6,SNR=3.7						
WRA	**Warramunga Arr**	**50.41**	**126**	P	P	16 22 03.4	-0.2
	0.5nm,0.7s,baz=303,slow=8.9,SNR=4.9						
ASAR	**Alice Springs**	**52.12**	**130**	P	P	16 22 17.4	+1.0
	0.5nm,0.8s,baz=326,slow=7.9,SNR=6.3						

IDC 10 16:18:19.9±7.5, 942N×9363E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=402.9km s-min=29.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.38**	**339**	eP	Pn	16 19 05.0	+4.8
PBA				eS	Sn	16 19 21.2	-8.9
PBA				ex	x	16 19 38.7	
	comp=N,184nm,0.4s						
PBA				ex	x	16 19 39.6	
	comp=E,146nm,0.6s						
MKAR	**Makanchi Array**	**38.48**	**347**	P	P	16 25 43.5	0.0
	comp=E,0.2nm,0.7s,baz=174,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**49.58**	**126**	P	P	16 27 12.5	-0.1
	comp=E,0.8nm,0.7s,baz=305,slow=8.8,SNR=8.3						
ASAR	**Alice Springs**	**51.30**	**131**	P	P	16 27 26.5	+0.8
	comp=E,1.0nm,0.8s,baz=313,slow=6.8,SNR=12						

*IDC **10** 16:25:51.5±0.8, 402N×8267W, h0km, mb4.0/11, mb1 4.3/14, mb1mx4.1/25, mbtmp4.1/14, ML3.7/3, MS3.7/6, Ms1 3.7/6, ms1mx3.5/17, Error ellipse: s-maj=34.9km s-min=13.8km az=58.0*
*NEIC **10** 16:25:52.1±0.4, 401N×8261W, h10km, mb4.5/17, Error ellipse: s-maj=12.6km s-min=7.9km az=52.0*
*CASC **10** 16:25:52.3±0.8, 400N×8280W, h35km±999km, MD4.7, mb4.5(NEIC)*
*ISCJB **10** 16:25:53.9±0.4, 4.17N±005×8262W±008, h33km, mb4.2/23, MS3.7/4, Error ellipse: s-maj=11.8km s-min=5.1km az=130.0*

ISC 10 16:25:56.2±0.4, 413N±004×8266W±007, h35km, n53, σ1°31/50, mb4.2/23, MS3.7/4, 2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**5.50**	**349**⇓eP		**Pn**	**16 27 14.7**	**-1.0**
BUS				eS	**Sn**	**16 28 18.7**	**+1.0**
OTAV	**Otavalo**	**5.71**	**132**	ePn	**Pn**	**16 27 13.4**	**-5.0**
	20nm,0.5s						
LCR2	**La Lucha 2**	**5.74**	**347**	eP	**Pn**	**16 27 17.5**	**-1.4**
ICR	**Volcan Irazu**	**5.93**	**349**	eP	**Pn**	**16 27 21.3**	**-0.3**
PRS1	**Puriscal**	**6.05**	**344**⇓eP		**Pn**	**16 27 20.1**	**-3.0**
PRS1				eS	**Sn**	**16 28 29.3**	**-1.8**
CGA2	**Cerro Gallo 2**	**6.12**	**343**	eP	**Pn**	**16 27 22.0**	**-2.1**
JTS	**JuntasAbangare**	**6.54**	**340**	Pn	**Pn**	**16 27 28.1**	**-1.7**
	7.2nm,0.3s,baz=153,slow=5.6,SNR=78						
JTS				Sn	**Sn**	**16 28 43.9**	**+0.8**
	1.9nm,0.3s,baz=319,slow=22,SNR=3.1						
JTS				LR	LR	16 29 52.4	
	comp=Z,444nm,19.0s,baz=327,slow=36						
JTS	**JuntasAbangare**	**6.54**	**340**	ePn	**Pn**	**16 27 26.2**	**-3.6**
JTS				eSn	**Sn**	**16 28 43.4**	**+0.3**
JTS				Sn	**Sn**	**16 28 43.9**	**+0.8**
ROSC	**El Rosal**	**8.33**	**85**	Pn	**Pn**	**16 27 54.3**	**-0.1**
	2.5nm,0.3s,baz=283,slow=16,SNR=4.7						
PAYG	**Puerto Ayora**	**8.99**	**238**	ePn	**Pn**	**16 28 02.2**	**-1.3**
SDV	**Santo Domingo**	**12.85**	**68**	Pn	**Pn**	**16 28 56.8**	**+0.5**
	2.2nm,0.3s,baz=255,slow=13,SNR=9.5						
SDV				LR	LR	16 33 49.4	
	comp=Z,388nm,20.0s,baz=1.9,slow=37						
SDV	**Santo Domingo**	**12.85**	**68**	ePn	**Pn**	**16 28 56.0**	**-0.2**
SDV				LR	LR	16 33 49.4	
TEIG	**Tepich**	**16.91**	**342**	Pn	**Pn**	**16 29 46.4**	**-3.7**
	5.3nm,1.2s						
NNA	**Nana**	**17.02**	**160**	ePn	**Pn**	**16 29 51.0**	**-0.4**
	32nm,1.0s						
SJG	**San Juan**	**21.31**	**48**	LR	LR	16 38 45.6	
	comp=Z,183nm,19.4s,MS3.5,baz=271,slow=36						
SJG	**San Juan**	**21.31**	**48**	P	**P**	**16 30 43.6**	**+3.7**
	41nm,1.0s,mb4.7						
SAML	**Samuel**	**23.36**	**124**	eP	**P**	**16 30 58.4**	**-3.2**
	24nm,

CPUP				LR	LR	16 49 52.7	
SDCO	**Great Sand Dun**	**39.45**	**331**	P	**P**	**16 33 24.1**	**+1.2**
	12nm,1.1s,mb4.5						
BDFB	**Brasilia**	**39.51**	**121**	LR	LR	16 50 20.8	
	comp=Z,172nm,21.0s,MS3.9,baz=297,slow=37						
PV01	**Paradox Valley**	**41.29**	**329**	*e*P	**P**	**16 33 42.7**	**+4.5**
RSSD	**Black Hills**	**44.07**	**338**	*e*P	**P**	**16 34 02.5**	**+1.8**
	4.3nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**45.30**	**332**	P	**P**	**16 34 12.8**	**+2.3**
	0.4nm,0.8s,mb3.3,baz=125,slow=13,SNR=3.8						
HWUT	**Hardware Ranch**	**45.41**	**329**	*e*P	**P**	**16 34 11.0**	**-0.3**
	3.6nm,0.7s,mb4.3						
HWUT				*e*PP	PP	16 35 56.9	-1.1
ISA	**Isabella**	**45.56**	**318**	P	**P**	**16 34 12.9**	**+0.3**
	2.3nm,0.6s,mb4.3						
PLCA	**Paso Flores**	**46.00**	**167**	P	**P**	**16 34 15.3**	**-0.7**
	3.0nm,1.1s,mb4.2,baz=332,slow=10,SNR=4.1						
PLCA	**Paso Flores**	**46.00**	**167**	*e*P	**P**	**16 34 13.8**	**-2.2**
	6.5nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**47.09**	**321**	P	**P**	**16 34 27.4**	**+2.7**
	1.1nm,0.7s,mb3.9,baz=126,slow=7.7,SNR=7.7						
ULM	**Lac du Bonnet**	**47.30**	**348**	P	**P**	**16 34 25.0**	**-1.2**
	1.2nm,0.5s,mb4.1,baz=165,slow=7.3,SNR=3.9						
HLID	**Hailey**	**48.27**	**329**	P	**P**	**16 34 35.2**	**+1.4**
	1.5nm,0.8s,mb4.1						
SCHQ	**Schefferville**	**52.16**	**12**	LR	LR	17 00 43.8	
	comp=Z,75nm,19.3s,MS3.7,baz=111,slow=40						
FCC	**Fort Churchill**	**55.22**	**353**	P	**P**	**16 35 25.0**	**-0.5**
	4.5nm,1.2s,mb4.4						
RKT	**Rikitea**	**57.76**	**239**	*e*LR	LR	16 53 15.2	
	113nm,31.8s						
FRB	**Frobisher Bay**	**60.38**	**7**	P	**P**	**16 36 03.5**	**+1.7**
	2.0nm,0.4s,mb4.5,baz=210,slow=8.1,SNR=4.3						
YKA	**Yellowknife Ar**	**62.85**	**344**	P	**P**	**16 36 18.9**	**+0.4**
	1.1nm,0.7s,mb4.1,baz=139,slow=6.3,SNR=23						
YKA	**Yellowknife Ar**	**62.85**	**344**	P	**P**	**16 36 18.9**	**+0.4**
PPT	**Papeete**	**69.42**	**250**	*e*LR	LR	16 58 39.9	
	153nm,25.0s						
TBI	**Tubuai**	**70.56**	**244**	*e*LR	LR	16 59 11.1	
	145nm,29.2s						
INK	**Inuvik**	**72.52**	**342**	P	**P**	**16 37 20.6**	**+1.2**
	1.9nm,0.7s,mb4.1,baz=103,slow=7.3,SNR=5.1						
INK	**Inuvik**	**72.52**	**342**	*e*P	**P**	**16 37 18.3**	**-1.1**
	9.0nm,1.4s,mb4.5						
SUMG	**Summit**	**73.53**	**13**	P	**P**	**16 37 25.4**	**0.0**
	12nm,1.3s,mb4.7						
ILAR	**Eielson Array**	**75.50**	**337**	P	**P**	**16 37 37.8**	**+0.9**
	0.6nm,0.9s,mb3.5,baz=130,slow=5.2,SNR=7.4						
MCK	**McKinley**	**75.96**	**335**	P	**P**	**16 37 41.2**	**+1.8**
	5.8nm,1.3s,mb4.3						
WRA	**Warramunga Arr**	**140.69**	**243**	PKhKP		16 45 17.2	
	0.4nm,0.8s,baz=108,slow=3.0,SNR=3.8						
WRA				PKP	PKPdf	16 45 22.2	+0.2
	0.5nm,0.7s,baz=113,slow=2.5,SNR=6.5						
ENH	**Enshi**	**143.88**	**342**	*e*PKPdf	PKPdf	16 45 31.4	+3.7

*NEIC **10** 16:27:27.8, 40.12S×17488E, h31km, ML3.8(WEL), After WEL.*
NEIC Felt at Marton and Wanganui.
WEL 10 16:27:28.2±0.1, 4013S×17498E, h12km, ML3.8/38, 3C-4D, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.37**	**0**	⇑P*	Pg	16 27 36.3	+0.7
WAZ				S*	Sg	16 27 42.4	+1.8
MRZ	**Mangatainoka R**	**0.70**	**140**	⇑P*	Pb	16 27 42.2	-0.2
MRZ				S*	Sb	16 27 51.1	-0.9
MRZ	**Mangatainoka R**	**0.70**	**140**	P	Pg	16 27 42.2	+0.3
KIW	**Kapiti Island**	**0.74**	**184**	⇓P*	Pb	16 27 41.6	-1.3
KIW				S*	Sb	16 27 50.7	-2.3
KIW	**Kapiti Island**	**0.74**	**184**	P	Pg	16 27 41.6	-0.9
TSZ	**Takapari Road**	**0.75**	**85**	⇓P*	Pb	16 27 42.9	-0.4
TSZ				S*	Sb	16 27 52.3	-1.2
MTVZ	**Mangateitei**	**0.83**	**27**	⇓P*	Pb	16 27 43.4	-1.2
PKVZ	**Pokaka**	**0.88**	**19**	P*	Pb	16 27 44.1	-1.3
WNVZ	**Wahianoa**	**0.93**	**31**	P*	Pb	16 27 45.0	-1.2
MOVZ	**Moawhango**	**0.93**	**40**	P*	Pb	16 27 44.6	-1.7
TRVZ	**Turoa**	**0.93**	**28**	P*	Pb	16 27 45.0	-1.3
RAEZ	**Rainy Point**	**0.95**	**331**	P*	Pb	16 27 46.7	+0.1
FWVZ	**Far West T-bar**	**0.97**	**27**	⇑P*	Pb	16 27 45.7	-1.4
CAW	**Cannon Point**	**0.98**	**176**	P*	Pb	16 27 46.3	-0.8
TUVZ	**Tukino**	**1.00**	**31**	P*	Pb	16 27 46.1	-1.3
VRZ	**Vera Road**	**1.01**	**350**	P*	Pb	16 27 46.9	-0.8
WPVZ	**Whakapapa**	**1.02**	**26**	P*	Pb	16 27 46.5	-1.3
DUWZ	**D'Urville Isla**	**1.05**	**230**	P*	Pb	16 27 46.5	-1.9
NGZ	**Ngauruhoe**	**1.06**	**27**	P*	Pb	16 27 47.1	-1.4
NEZ	**North Egmont**	**1.09**	**321**	P*	Pb	16 27 48.5	-0.5
OTVZ	**Oturere**	**1.10**	**29**	P*	Pb	16 27 47.8	-1.3
MTW	**Mount Morrison**	**1.10**	**159**	P*	Pb	16 27 49.0	-0.3
TWVZ	**Taurewa**	**1.11**	**19**	P*	Pb	16 27 47.6	-1.8
WTVZ	**West Tongariro**	**1.11**	**25**	P*	Pb	16 27 47.9	-1.5
BFZ	**Birch Farm**	**1.11**	**120**	S*	Sb	16 28 05.6	+1.7
MRW	**Makara Radio**	**1.12**	**191**	P*	Pb	16 27 48.2	-1.4
NRZ	**Ngariki Road**	**1.13**	**314**	P*	Pb	16 27 49.3	-0.4
SNZO	**South Karori**	**1.20**	**190**	P*	Pb	16 27 49.6	-1.3
SNZO	**South Karori**	**1.20**	**190**	*e*Pn	Pn	16 27 49.4	-1.4
SNZO				*e*Sn	Sn	16 28 04.7	-2.3
PKE	**Pukeiti**	**1.21**	**320**	P*	Pb	16 27 50.5	-0.4
NWEZ	**Newall Road**	**1.21**	**314**	P*	Pb	16 27 50.7	-0.4
TCW	**Tory Channel**	**1.21**	**206**	⇓P*	Pb	16 27 49.0	-2.0
KATZ	**Kakaramea**	**1.27**	**26**	*e*PN	Pn	16 27 50.5	-1.3
BHW	**Baring Head**	**1.28**	**184**	PN	Pn	16 27 51.2	-0.8
PAWZ	**Paruwai Farm**	**1.30**	**165**	PN	Pn	16 27 51.4	-0.8
MSWZ	**Moikau Station**	**1.30**	**171**	PN	Pn	16 27 51.7	-0.5
RITZ	**Rihia Road**	**1.33**	**31**	PN	Pn	16 27 51.8	-0.8
TRWZ	**Traveller**	**1.38**	**157**	PN	Pn	16 27 53.3	0.0
RATZ	**Rangitukua**	**1.40**	**26**	PN	Pn	16 27 52.5	-1.0
PXZ	**Pawanui**	**1.45**	**87**	PN	Pn	16 27 53.9	-0.3
BKZ	**Black Stump Fm**	**1.51**	**51**	PN	Pn	16 27 54.4	-0.7
TUWZ	**Tuamarina**	**1.52**	**211**	PN	Pn	16 27 53.6	-1.6
WATZ	**Wairara**	**1.53**	**23**	PN	Pn	16 27 54.1	-1.3
HIZ	**Hauiti**	**1.61**	**356**	PN	Pn	16 27 55.4	-1.1
NNZ	**Nelson**	**1.64**	**228**	*e*PN	Pn	16 27 55.6	-1.2
BSWZ	**Blackbirch Sta**	**1.79**	**207**	PN	Pn	16 27 59.0	+0.1
QRZ	**Quartz Range**	**2.00**	**249**	PN	Pn	16 28 01.2	-0.6
THZ	**Tophouse**	**2.27**	**223**	PN	Pn	16 28 05.3	-0.2
URZ	**Urewera**	**2.49**	**42**	PN	Pn	16 28 07.5	-1.1
KHZ	**Kahutara**	**2.53**	**205**	PN	Pn	16 28 08.3	-0.9
TGRZ	**Tauranga**	**2.59**	**23**	PN	Pn	16 28 12.2	+2.2
MWZ	**Matawai**	**2.67**	**49**	PN	Pn	16 28 10.3	-0.6
DSZ	**Denniston Nort**	**2.90**	**235**	PN	Pn	16 28 14.1	-0.1
LTZ	**Lake Taylor**	**3.35**	**217**	PN	Pn	16 28 19.3	-1.0
CRLZ	**Canterbury Las**	**3.87**	**206**	PN	Pn	16 28 24.7	-2.8
MQZ	**McQueen's Vall**	**3.98**	**205**	PN	Pn	16 28 25.7	-3.3
WCZ	**Waipu Caves**	**4.21**	**353**	*e*PN	Pn	16 28 31.8	-0.4
ODZ	**Otahua Downs**	**5.87**	**212**	*e*PN	Pn	16 28 51.8	-3.1

*IDC **10** 16:30:43.5±0.6, 1071N×9420E, h0km, mb4.0/18, mb1 4.1/19, mb1mx4.1/25, mbtmp4.0/19, ML3.2/1, MS4.1/11, Ms1 4.1/11, ms1mx3.8/23, Error ellipse: s-maj=24.7km s-min=13.7km az=54.0*
*ISCJB **10** 16:30:45.1±0.3, 1066N±004×9426E±004, h24km, mb4.5/57, MS4.2/21, Error ellipse: s-maj=6.4km s-min=4.7km az=77.8*
*BJI **10** 16:30:45.6, 1048N×9412E, h40km, mB4.9, mb4.5, Ms4.5, Msz4.2*
*MOS **10** 16:30:46.0±0.8, 1064N×9422E, h33km, mb4.9/22, Error ellipse: s-maj=13.9km s-min=6.1km az=108.8*
*NEIC **10** 16:30:47.2±0.3, 1070N×9432E, mb4.8/28, Error ellipse: s-maj=8.9km s-min=4.7km az=53.0*
ISC 10 16:30:47.8±0.3, 1071N±004×9430E±004, h26km, h26km±.9km: pP-P, n128, σ1.904/138, mb4.5/57, MS4.2/21, 3C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.79**	**302**	*e*P	Px	16 31 32.8	
PBA				*e*S	Sx	16 31 53.7	
NNT	**Nongplab**	**5.64**	**70**	P	**Pn**	**16 32 10.0**	**+0.1**
NST	**Nakhon Sawan**	**7.52**	**48**	P	**Pn**	**16 32 35.0**	**-0.7**
	8.3nm,0.5s						
KULM	**Kulim**	**8.28**	**130**	*e*Pn	**Pn**	**16 32 43.9**	**-2.2**
KULM				*e*pP		16 32 50.9	
KULM				*e*Sn	**Sn**	**16 34 07.7**	**-11**
PSI	**Prapat**	**9.10**	**149**	Pn	**Pn**	**16 32 57.4**	**0.0**
	0.2nm,0.3s,baz=326,slow=19,SNR=2.6						
PSI				LR	LR	16 37 10.1	
	comp=Z,2μm,18.6s,baz=297,slow=42						
KKTK	**Khon Kaen**	**9.99**	**55**	P	**Pn**	**16 33 12.0**	**+2.4**
VIS	**Vishakhapatnam**	**12.71**	**304**	*e*P	**Pn**	**16 33 45.4**	**-1.4**
VIS				*i* P		16 33 45.8	
VIS				AMb	AMB	16 34 01.5	
	comp=Z,94nm,1.2s						
VIS				*e*S	**Sn**	**16 35 56.6**	**-11**
PALK	**Pallekele**	**13.86**	**257**	Pn	**Pn**	**16 34 04.6**	**+2.1**
	comp=Z,32nm,1.3s						
PALK				*e*Sn	**Sn**	**16 36 20.6**	**-15**
SHL	**Shillong**	**14.95**	**352**	*e*P	**Pn**	**16 34 16.8**	**-0.6**
BOK	**Bokaro**	**15.28**	**329**	*e*P	**Pn**	**16 34 23.0**	**+1.3**
BOK				AMb	AMB	16 34 30.8	
	comp=Z,18nm,1.4s						
BOK				*e*S	**Sn**	**16 37 11.9**	**+1.7**
KMI	**Kunming**	**16.42**	**28**	P	**Pn**	**16 34 42.1**	**+5.8**
KMI				AP	pP	16 34 48.9	+3.0
KMI				XP	sP	16 34 52.9	+3.6
KMI				S	**Sn**	**16 37 51.0**	**+13**
KMI				XS	sS	16 38 02.0	+1.5
KMI				AMB	AMB		
	comp=Z,16nm,1.1s						
KMI				AMB	AMB		
	comp=Z,172nm,7.4s						
KMI				LR	LR		
	comp=N,741nm,14.2s						
KMI				LR	LR		
	comp=E,258nm,10.7s						
KMI				LR	LR		
	comp=Z,545nm,14.5s						
HYB	**Hyderabad**	**16.66**	**295**	*i* P	**Pn**	**16 34 43.0**	**+3.6**
HYB				*e*S	**Sn**	**16 37 46.0**	**+2.4**
HYB	**Hyderabad**	**16.66**	**295**	*e*P	**Pn**	**16 34 43.0**	**+3.6**
HYB				*e*S	**Sn**	**16 37 46.0**	**+2.4**
QIZ	**Qiongzhong**	**17.14**	**59**	*e*P	**Pn**	**16 34 48.7**	**+3.3**
QIZ				S	**Sn**	**16 38 06.6**	**+11**
QIZ				XS	sS	16 38 13.5	-1.6
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.9s						
QIZ				AMB	AMB		
	comp=Z,136nm,7.7s						
QIZ				LR	LR		
	comp=E,883nm,9.0s						
QIZ				LR	LR		
	comp=Z,863nm,8.6s						
KSM	**Kuching**	**18.36**	**119**	Pn	**Pn**	**16 35 01.2**	**+0.7**
JIRN	**Jiri**	**18.50**	**337**	*e*P	**Pn**	**16 35 03.3**	**+1.0**
	comp=Z,144nm,1.1s						
PKI	**Pulchoki**	**18.74**	**335**	*e*P	**Pn**	**16 35 06.0**	**+0.9**
	comp=Z,187nm,1.2s						
PKI	**Pulchoki**	**18.74**	**335**	*e*P	**Pn**	**16 35 06.0**	**+0.9**
PKI				pmax	pmax		
	comp=Z,93nm,1.2s						
GUN	**Gumba**	**18.85**	**336**	*e*P	**Pn**	**16 35 07.1**	**+0.7**
	comp=Z,155nm,1.2s						
DMN	**Daman**	**18.90**	**334**	*e*P	**Pn**	**16 35 07.5**	**+0.4**
	comp=Z,99nm,1.0s						
KKN	**Kakani**	**18.99**	**335**	*e*P	**Pn**	**16 35 08.3**	**+0.2**
	comp=Z,69nm,1.1s						
KKN	**Kakani**	**18.99**	**335**	*e*P	**Pn**	**16 35 08.3**	**+0.2**
KKN				pmax	pmax		
	comp=Z,35nm,1.1s						
LSA	**Lhasa**	**19.12**	**352**	P	**Pn**	**16 35 09.6**	**-0.1**
LSA	**Lhasa**	**19.12**	**352**	Pn	**Pn**	**16 35 09.8**	**+0.1**
	comp=Z,54nm,1.3s						
LSA				*e*S	**Sn**	**16 38 59.3**	**+16**
LSA	**Lhasa**	**19.12**	**352**	P	**Pn**	**16 35 09.8**	**+0.1**
LSA				pmax	pmax		
	comp=Z,54nm,1.3s						
GKN	**Gorkha**	**19.45**	**334**	*e*P	**Pn**	**16 35 13.4**	**-0.2**
	comp=Z,108nm,0.8s						
GYA	**Guiyang**	**19.53**	**35**	⇓*i* P	**Pn**	**16 35 14.8**	**+0.2**
GYA				PP		16 35 35.6	
GYA				AMB	AMB		
	comp=Z,20nm,1.2s						
GYA				AMB	AMB		
	comp=Z,400nm,6.0s						
GYA				LR	LR		
	comp=N,450nm,10.5s						
GYA				LR	LR		
	comp=E,390nm,9.9s						
GYA				LR	LR		
	comp=Z,510nm,9.9s						
KOLN	**Koldanda**	**19.73**	**331**	*e*P	**Pn**	**16 35 16.9**	**0.0**
	comp=Z,82nm,0.7s						
KAD	**Karad**	**20.58**	**291**	*e*P	**P**	**16 35 26.6**	**+2.0**
KAD				AMb	AMB	16 35 30.6	
	comp=Z,26nm,1.0s						
POO	**Poona**	**21.25**	**294**	*e*P	**P**	**16 35 32.5**	**+0.7**
CD2	**Chengdu**	**21.93**	**22**	P	**P**	**16 35 39.9**	**+0.7**
CD2				XP	sP	16 35 50.1	+0.5
CD2				PP		16 36 06.0	
CD2				S	**S**	**16 39 36.7**	**-3.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,120nm,5.3s						
CD2				LR	LR		
	comp=E,290nm,9.0s						
CD2				LR	LR		
	comp=Z,310nm,8.0s						
ENH	**Enshi**	**24.05**	**34**	P	**P**	**16 36 00.8**	**0.0**
	comp=Z,29nm,0.9s,mb4.7						
ENH				pP		16 36 08.0	
LZH	**Lanzhou**	**26.70**	**17**	*e*P	**P**	**16 36 25.0**	**+0.2**
LZH				AP	pP	16 36 32.5	+0.1
LZH				*e*S	**S**	**16 40 57.9**	**-0.8**
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,96nm,4.8s						
LZH				LR	LR		
	comp=N,576nm,10.5s						
LZH				LR	LR		
	comp=Z,891nm,13.1s,MS4.5						
XAN	**Xi'an**	**26.80**	**28**	P	**P**	**16 36 24.6**	**-1.1**
XAN				S	**S**	**16 41 00.9**	**+0.7**
XAN				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.8						
XAN				LR	LR		
	comp=N,212nm,12.4s,MS4.1						
XAN				LR	LR		
	comp=E,321nm,13.7s,MS4.1						
XAN				LR	LR		
	comp=Z,293nm,11.1s,MS4.1						
GTA	**Gaotai**	**29.00**	**9**	*e*P	**P**	**16 36 44.2**	**-1.1**
GTA				AP	pP	16 36 53.1	+0.1
GTA				PP	PP	16 37 36.6	-14
GTA				S	**S**	**16 41 30.9**	**-4.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb3.8						
GTA				AMB	AMB		
	comp=Z,101nm,6.5s						
GTA				LR	LR		
	comp=N,186nm,14.8s,MS4.0						
GTA				LR	LR		
	comp=E,178nm,12.9s,MS4.0						
GTA				LR	LR		
	comp=Z,177nm,15.2s,MS3.8						
NJ2	**Nanjing**	**31.06**	**43**	*e*P	**P**	**16 37 06.1**	**+2.5**
NJ2				AP	pP	16 37 11.9	+0.7
NJ2				XP	sP	16 37 14.9	+0.5
NJ2				PP	PP	16 38 09.1	-4.8
NJ2				S	**S**	**16 42 10.0**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,210nm,3.5s						
NJ2				LR	LR		
	comp=N,2μm,16.8s,MS4.8						
NJ2				LR	LR		
	comp=E,490nm,15.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,300nm,15.4s,MS4.1						
DAV	**Davao City (W)**	**31.10**	**94**	P	**P**	**16 37 10.3**	**+6.4**
SSE	**Sheshan**	**32.13**	**47**	*e*P	**P**	**16 37 13.0**	**0.0**
SSE				PP	PP	16 38 25.2	-0.5
SSE				PCP	PcP	16 40 04.8	+3.1
SSE				S	**S**	**16 42 22.0**	**-1.9**
SSE				SCS	ScS	16 47 42.8	+0.5
SSE				AMB	AMB		
	comp=Z,102nm,3.7s						
SSE				LR	LR		
	comp=N,250nm,13.8s,MS4.1						
SSE				LR	LR		
	comp=E,144nm,13.8s,MS4.1						
SSE				LR	LR		
	comp=Z,345nm,12.0s,MS4.3						
KSH	**Kashi**	**33.00**	**333**	*e*P	**P**	**16 37 21.3**	**+0.7**
KSH				AP	pP	16 37 28.6	+0.3
KSH				XP	sP	16 37 31.7	+0.3
KSH				PP	PP	16 38 31.5	-3.9
KSH				PCP	PcP	16 40 05.1	+1.0
KSH				S	**S**	**16 42 38.8**	**+1.4**
KSH				SCP	ScP	16 43 44.8	-1.7
KSH				PCS	PcS	16 43 49.5	0.0
KSH				SS	SS	16 44 38.3	-22
KSH				SCS	ScS	16 47 45.9	-0.8
KSH				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.1						
KSH				AMB	AMB		
	comp=Z,95nm,4.9s						
KSH				LR	LR		
	comp=N,191nm,4.4s						
KSH				LR	LR		
	comp=E,280nm,7.0s						
WMQ	**Urumqi**	**33.48**	**351**	P	**P**	**16 37 25.0**	**+0.2**
WMQ				AP	pP	16 37 32.3	-0.2
WMQ				XP	sP	16 37 35.6	-0.1
WMQ				PP	PP	16 38 37.4	-3.3
WMQ				PCP	PcP	16 40 05.8	+0.4
WMQ				*e*S	**S**	**16 42 44.4**	**-0.5**
WMQ				SS	SS	16 44 48.2	-22
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,87nm,5.0s						
WMQ				LR	LR		
	comp=N,2μm,24.0s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,24.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,24.0s,MS4.8						
HHC	**Hu-ho-hao-te**	**33.66**	**24**	*e*P	**P**	**16 37 28.5**	**+2.1**
HHC				AP	pP	16 37 35.7	+1.6
HHC				XP	sP	16 37 38.6	+1.3
HHC				PP	PP	16 38 41.1	-1.6
HHC				PCP	PcP	16 40 07.8	+1.8
HHC				S	**S**	**16 42 49.8**	**+2.1**
HHC				XS	sS	16 43 02.1	+1.6
HHC				SS	SS	16 44 56.7	-17
HHC				SCS	ScS	16 47 50.3	+0.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,161nm,4.9s						
HHC				LR	LR		
	comp=N,376nm,10.8s,MS4.5						
HHC				LR	LR		
	comp=E,317nm,10.2s,MS4.5						
HHC				LR	LR		
	comp=Z,275nm,9.2s						
AAK	**Ala-Archa**	**36.20**	**335**	*e*P	**P**	**16 37 47.4**	**-0.9**
	comp=Z,13nm,1.1s,mb4.8						
AAK				pP	pP	16 37 54.5	-1.5
AAK	**Ala-Archa**	**36.20**	**335**	*d i* P	**P**	**16 37 47.9**	**-0.3**
AAK				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.5						
FRU	**Bishkek**	**36.31**	**335**	*e*P	**P**	**16 37 49.5**	**+0.3**
FRU				*e*		16 39 17.5	
MK31	**Makanchi Array**	**37.38**	**346**	*i* P	**P**	**16 37 58.1**	**-0.2**
MK31				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**37.38**	**346**	P	**P**	**16 37 58.5**	**+0.2**
	comp=Z,4.9nm,0.7s,mb4.5,baz=164,slow=8.0,SNR=58						
MKAR				LR	LR	16 57 26.2	
	comp=Z,172nm,19.0s,MS3.9,baz=179,slow=43						
KK31	**Karatay Array**	**38.34**	**332**	*i* P	**P**	**16 38 06.0**	**-0.4**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
KKAR	**Karatay Array**	**38.34**	**332**	*i* P	**P**	**16 38 06.0**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**38.38**	**13**	P	**P**	**16 38 07.5**	**+0.8**
	comp=Z,1.4nm,0.8s,mb3.8,baz=202,slow=7.7,SNR=8.4						
SONM				LR	LR	16 55 25.3	
	comp=Z,165nm,20.1s,MS3.8,baz=218,slow=39						
ULN	**Ulaanbaatar**	**38.56**	**14**	P	**P**	**16 38 08.9**	**+0.7**
ULN	**Ulaanbaatar**	**38.56**	**14**	⇓*i* P	**P**	**16 38 07.9**	**-0.3**
ZAK	**Zakamensk**	**40.24**	**9**	*e*P	**P**	**16 38 20.0**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.2						
MBWA	**Marble Bar**	**40.34**	**142**	P	**P**	**16 38 23.9**	**+0.8**
	comp=Z,31nm,1.4s,mb4.8						
KURK	**Kurchatov**	**41.92**	**345**	*e*P	**P**	**16 38 35.4**	**-0.7**
	comp=Z,21nm,1.3s,mb4.6						
KURK				*e*pP	pP	16 38 42.5	-1.4
KURK	**Kurchatov**	**41.92**	**345**	*e*P	**P**	**16 38 35.4**	**-0.7**
KURK				*e**PP	pP	16 38 42.5	-1.4
KURK				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.6						
HIA	**Hailar**	**43.87**	**24**	*e*P	**P**	**16 38 52.4**	**+0.4**
	comp=Z,22nm,1.4s,mb4.7						
HIA				*e*pP	pP	16 38 59.4	-0.4
HIA	**Hailar**	**43.87**	**24**	*e*P	**P**	**16 38 52.4**	**+0.5**
HIA				*e**PP	pP	16 38 59.4	-0.4
HIA				pmax	pmax		
	comp=Z,22nm,1.4s						
NVS	**Novosibirsk**	**44.88**	**351**	*e*P	**P**	**16 38 58.8**	**-1.2**
NVS				*e*S	**S**	**16 45 31.8**	**-4.4**
NVS				pmax	pmax		
	comp=N,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
NVS				pmax	pmax		
	comp=E,4.0nm,1.2s						
NVS				smax			
	comp=N,7.0nm,2.0s						
NVS				smax			
	comp=E,16nm,2.3s						
MDJ	**Mudanjiang**	**45.40**	**35**	P	**P**	**16 39 04.0**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,98nm,3.2s						
MDJ				LR	LR		
	comp=N,176nm,24.8s						
MDJ				LR	LR		
	comp=Z,73nm,20.6s,MS3.6						
BVAR	**Borovoye Array**	**46.38**	**340**	P	**P**	**16 39 11.3**	**-0.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=147,slow=8.9,SNR=13						
BRVK	**Borovoye**	**46.44**	**340**	*e*P	**P**	**16 39 11.6**	**

WRAB				e*PP	pP	16 39 45.8	-0.6
WRAB				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**49.82**	**128**	e*P*	**P**	**16 39 39.1**	**+0.7**
WB2				*i* pP	pP	16 39 45.6	-0.8
ASAR	**Alice Springs**	**51.64**	**132**	P	**P**	**16 39 53.0**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.1,baz=308,slow=5.9,SNR=24						
CLNS	**Chul'man**	**51.74**	**21**	e*P*	**P**	**16 39 52.6**	**-0.3**
CLNS				pmax	pmax		
	comp=N,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
GNI	**Garni**	**52.61**	**313**	e*P*	**P**	**16 39 59.3**	**-0.1**
	comp=Z,39nm,1.1s,mb5.2						
GNI				epP	pP	16 40 08.0	+0.7
GNI	**Garni**	**52.61**	**313**	e*P*	**P**	**16 39 59.3**	**-0.1**
GNI				e*PP	pP	16 40 08.0	+0.7
GNI				pmax	pmax		
	comp=Z,39nm,1.1s						
ARU	**Arti**	**53.37**	**336**	⇓*iP*	**P**	**16 40 10.2**	**+5.3**
ARU				e		16 41 11.1	
ARU				e		16 42 11.7	
ARU				eS	**S**	**16 47 46.7**	**+11**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
ARU				MLR	MLR		
	comp=Z,400nm,20.5s,MS4.5						
ARU				MLR	MLR		
	comp=N,100nm,20.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,300nm,22.0s,MS4.3						
ZEI	**Tsey**	**54.11**	**316**	e*P*	**P**	**16 40 09.1**	**-1.3**
ZEI				*i* *PP	pP	16 40 20.0	+1.6
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**55.36**	**317**	P	**P**	**16 40 19.7**	**+0.3**
	comp=Z,23nm,1.0s,mb5.2						
KIV				epP	pP	16 40 27.3	-0.2
KIV	**Kislovodsk**	**55.36**	**317**	P	**P**	**16 40 19.7**	**+0.3**
KIV				e*PP	pP	16 40 27.3	-0.2
KIV				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
MALT	**Malatya**	**56.79**	**309**	e*P*	**P**	**16 40 29.8**	**+0.2**
	comp=Z,5.1nm,1.1s,mb4.5						
MALT				pP	pP	16 40 37.2	-0.5
MALT	**Malatya**	**56.79**	**309**	e*P*	**P**	**16 40 29.8**	**+0.2**
MALT				*PP	pP	16 40 37.2	-0.5
MALT				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
SOC	**Sochi**	**57.27**	**315**	e*P*	**P**	**16 40 31.1**	**-1.9**
SOC				e*PP	pP	16 40 42.2	+1.1
SOC				eS	**S**	**16 48 26.3**	**-1.2**
SOC				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
SOC				MLR	MLR		
	comp=Z,134nm,14.0s,MS4.2						
YAK	**Yakutsk**	**57.27**	**19**	e*P*	**P**	**16 40 31.4**	**-1.7**
	comp=Z,25nm,0.8s,mb5.3						
YAK				pP	pP	16 40 39.4	-1.8
YAK	**Yakutsk**	**57.27**	**19**	⇓*iP*	**P**	**16 40 32.8**	**-0.3**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.2						
KMBO	**Kilima Mbogo**	**57.94**	**262**	LR	LR	17 04 23.0	
	comp=Z,79nm,18.6s,MS3.9,baz=92,slow=35						
ANN	**Anapa**	**59.20**	**316**	e*P*	**P**	**16 40 42.2**	**-4.3**
CTA	**Charters Tower**	**59.58**	**121**	LR	LR	17 06 03.6	
	comp=Z,185nm,21.1s,MS4.2,baz=288,slow=36						
CTAO	**Charters Tower**	**59.58**	**121**	P	**P**	**16 40 56.9**	**+7.7**
	comp=Z,18nm,1.2s,mb5.0						
CTAO	**Charters Tower**	**59.58**	**121**	P	**P**	**16 40 56.9**	**+7.7**
CTAO				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
VRSR	**Storozhevoye**	**60.19**	**324**	e*P*	**P**	**16 40 58.7**	**+5.3**
VRSR				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
VRSR				pmax	pmax		
	comp=N,2.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.9s						
BR131	**Keskin Array S**	**60.73**	**310**	e*P*	**P**	**16 40 55.5**	**-1.6**
	comp=E,3.3nm,0.7s,mb4.6						
BR131				epP	pP	16 41 02.9	-2.3
BRTR	**Keskin Array B**	**60.73**	**310**	P	**P**	**16 40 55.9**	**-1.2**
	comp=E,1.8nm,0.8s,mb4.3,baz=122,slow=7.9,SNR=9.7						
STKA	**Stephens Creek**	**61.96**	**135**	e*P*	**P**	**16 41 10.8**	**+5.4**
	comp=E,4.1nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**61.96**	**135**	P	**P**	**16 41 04.9**	**-0.5**
	comp=E,1.0nm,0.7s,mb4.1,baz=321,slow=7.5,SNR=2.6						
STKA				LR	LR	17 08 01.5	
	comp=E,241nm,21.9s,MS4.3,baz=321,slow=36						
OBN	**Obninsk**	**63.09**	**327**	⇓*iP*	**P**	**16 41 12.0**	**-0.9**
OBN				*e*	pP	16 41 19.8	-1.3
OBN						16 41 50.0	
OBN				pmax	pmax		
	comp=Z,16nm,1.8s,mb4.8						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.4						
MA2	**Magadan**	**64.20**	**28**	P	**P**	**16 41 20.4**	**+0.2**
	comp=Z,17nm,1.3s,mb4.9						
MA2				pP	pP	16 41 27.3	-1.1
MA2	**Magadan**	**64.20**	**28**	⇑*iP*	**P**	**16 41 20.0**	**-0.2**
MA2				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.8						
TIXI	**Tiksi**	**64.44**	**11**	P	**P**	**16 41 20.3**	**-1.5**
TIXI				pP	pP	16 41 27.7	-2.3
AKASG	**Malin Array Be**	**66.05**	**321**	P	**P**	**16 41 30.9**	**-1.4**
	comp=Z,0.3nm,0.3s,mb3.8,baz=89,slow=5.8,SNR=4.4						
SEY	**Seymchan**	**66.30**	**25**	⇑*iP*	**P**	**16 41 33.6**	**-0.3**
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**16 41 58.3**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=106,slow=4.8,SNR=3.5						
LSZ	**Lusaka**	**70.38**	**250**	P	**P**	**16 42 00.3**	**+0.9**
	comp=Z,1.3nm,0.6s,mb4.1,baz=75,slow=6.4,SNR=4.4						
LSZ	**Lusaka**	**70.38**	**250**	e*P*	**P**	**16 41 59.8**	**+0.4**
	comp=Z,5.5nm,1.1s,mb4.4						
LSZ				epP	pP	16 42 07.5	-0.1
LSZ	**Lusaka**	**70.38**	**250**	e*P*	**P**	**16 41 59.8**	**+0.4**
LSZ				e*PP	pP	16 42 07.5	-0.1
LSZ				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**72.67**	**340**	P	**P**	**16 42 13.1**	**-0.1**
	comp=Z,2.5nm,0.8s,mb4.2,baz=358,slow=9.0,SNR=4.4						
BILL	**Bilibino**	**73.41**	**22**	e*P*	**P**	**16 42 16.8**	**-0.8**
	comp=Z,15nm,1.3s,mb4.8						
BILL				epP	pP	16 42 23.3	-2.5
BILL	**Bilibino**	**73.41**	**22**	⇑*iP*	**P**	**16 42 17.2**	**-0.4**
BILL				pmax	pmax		
	comp=Z,11nm,2.0s,mb4.4						
GERES	**GERESS Array B**	**75.84**	**318**	P	**P**	**16 42 31.3**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=91,slow=5.5,SNR=8.0						
NB2	**NORSAR Subarra**	**77.36**	**330**	P	**P**	**16 42 35.8**	**-4.4**
	comp=Z,5.2nm,1.1s,mb4.4,baz=91,slow=5.1						
NB2	**NORSAR Subarra**	**77.36**	**330**	P	**P**	**16 42 35.8**	**-4.4**
NB2				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
NOA	**NORSAR Array B**	**77.36**	**330**	P	**P**	**16 42 39.3**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.6,baz=81,slow=8.8,SNR=3.0						
NOA				LR	LR	17 19 33.4	
	comp=Z,141nm,22.0s,MS4.2,baz=125,slow=38						
CASY	**Casey**	**77.71**	**173**	P	**P**	**16 42 45.8**	**+3.6**
	comp=Z,15nm,1.4s,mb4.7						
TNA	**Tin City**	**83.53**	**25**	P	**P**	**16 43 13.4**	**0.0**
	comp=Z,7.2nm,1.2s,mb4.7						
TNA				pP	pP	16 43 19.7	-2.1
RPZ	**Rata Peaks**	**87.93**	**135**	LR	LR	17 25 41.8	
	comp=Z,107nm,22.0s,MS4.2,baz=92,slow=38						
SYO	**Syowa Base**	**88.15**	**197**	⇓*eP*	**P**	**16 43 40.7**	**+4.4**
TORD	**Torodi Ar. Bea**	**90.10**	**283**	P	**P**	**16 43 45.9**	**+0.5**
	comp=Z,0.6nm,0.6s,mb4.1,baz=70,slow=5.3,SNR=4.4						
ILAR	**Eielson Array**	**92.07**	**22**	P	**P**	**16 43 53.3**	**-1.3**
	comp=Z,0.6nm,0.7s,mb4.0,baz=296,slow=4.7,SNR=13						
INK	**Inuvik**	**94.24**	**16**	P	**P**	**16 44 04.2**	**-0.4**
	comp=Z,0.8nm,0.6s,mb4.3,baz=15,slow=11,SNR=4.2						
VNDA	**Vanda**	**95.66**	**168**	LR	LR	17 22 48.9	
	comp=Z,144nm,18.8s,MS4.5,baz=100,slow=33						
DBIC	**Dimbokro**	**97.71**	**279**	LR	LR	17 26 14.1	
	comp=Z,52nm,20.6s,MS4.0,baz=59,slow=34						
YKA	**Yellowknife Ar**	**103.64**	**13**	PP	PP	16 49 00.5	-2.8
	comp=Z,0.1nm,0.8s,baz=332,slow=7.7,SNR=2.7						
PPT	**Papeete**	**117.92**	**104**	eLR	LR	17 25 33.4	
	comp=Z,89nm,25.8s						
TBI	**Tubuai**	**118.17**	**111**	eLR	LR	17 25 40.4	
	comp=Z,86nm,25.0s						
PDAR	**Pinedale Array**	**122.48**	**21**	PKP	PKPdf	16 49 41.2	+0.5
	comp=Z,0.3nm,0.6s,baz=329,slow=1.6,SNR=3.0						
PLCA	**Paso Flores**	**147.24**	**202**	PKPbc	PKPbc	16 50 30.2	+1.4
	comp=Z,1.4nm,0.8s,baz=67,slow=7.0,SNR=2.8						

MEX 10 16:44:13.2±1.4, 1728N×9483W, h128km±22km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.84**	**27**	*i* P	Pn	16 44 33.9	-0.6
TUIG				*i* S	Sn	16 44 48.5	-2.1
OXX	**Oaxaca**	**1.82**	**264**	*i* P	Pn	16 44 44.3	-0.6
OXX				*i* S	Sn	16 45 08.5	-0.6
VHO	**Vista Hermosa**	**1.83**	**264**	e*P*	Pn	16 44 44.1	-0.9
VHO				*i* S	Sn	16 45 08.0	-1.3
HUIG	**Huatulco**	**1.94**	**219**	*i* P	Pn	16 44 43.7	-2.7
HUIG				*i* S	Sn	16 45 09.9	-1.8
TPIG	**Tehuac#an**	**2.66**	**295**	*i* P	Pn	16 44 54.9	-0.5
TPIG				*i* S	Sn	16 45 25.1	-2.8

IDC 10 16:54:08.9±1.2, 1050N×9397E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=70.5km s-min=22.9km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.67**	**314**	e*P*	Pn	16 55 02.5	+23
PBA				e*S*	Sn	16 55 24.1	+23
PBA				*ex*	x	16 55 39.3	
	comp=N,663nm,0.4s						
PBA				*ex*	x	16 55 41.1	
	comp=E,719nm,0.8s						
PSI	**Prapat**	**9.09**	**147**	LR	LR	16 59 54.3	
	comp=E,155nm,19.1s,baz=136,slow=38						
MKAR	**Makanchi Array**	**37.51**	**347**	P	P	17 01 24.4	-0.1
	comp=E,1.3nm,0.6s,baz=164,slow=8.1,SNR=20						
WRA	**Warramunga Arr**	**49.94**	**127**	P	P	17 03 04.4	0.0
	comp=E,0.7nm,0.9s,baz=304,slow=8.9,SNR=5.5						
ASAR	**Alice Springs**	**51.74**	**131**	P	P	17 03 18.8	+0.7
	comp=E,0.7nm,0.8s,baz=309,slow=6.7,SNR=8.4						
BRTR	**Keskin Array B**	**60.62**	**310**	P	P	17 04 21.9	+0.4
	comp=E,0.6nm,0.7s,baz=133,slow=8.6,SNR=3.6						
PLCA	**Paso Flores**	**146.93**	**202**	PKPbc	PKPbc	17 13 53.4	+0.1
	comp=E,0.3nm,0.3s,baz=198,slow=2.3,SNR=3.2						

*ISCJB **10** 17:01:07.5±0.8, 28S±0.1×1288E±03, h33km, mb4.1/6, MS2.8/1, Error ellipse: s-maj=42.7km s-min=7.8km az=137.3*
*IDC **10** 17:01:11.0±4.5, 3.16S×12827E, h40km±44km, mb3.8/4, mb1 4.1/5, mb1mx3.7/17, mbtmp4.1/5, ML4.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.1/24, Error ellipse: s-maj=120.6km s-min=12.9km az=70.0*
*NEIC **10** 17:01:12.4±2.9, 2.86S×12892E, h66km±29km, mb4.2/4, Error ellipse: s-maj=37.2km s-min=15.6km az=69.0*
ISC 10 17:01:13.2±1.8, 29S±01×1290E±03, h70km±17km, n17, σ0§88/21, mb3.9/6, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.34**	**161**	e*P*	**Pn**	**17 03 39.0**	**+0.4**
	8.4nm,0.8s						
KAKA				e*S*	**Sn**	**17 05 32.0**	**-0.8**
WRAB	**Tennant Creek**	**17.73**	**163**	e*P*n	**Pn**	**17 05 14.9**	**-0.3**
	15nm,0.8s						
WRA	**Warramunga Arr**	**17.74**	**163**	P	**Pn**	**17 05 14.6**	**-0.7**
	1.6nm,0.3s,baz=343,slow=12,SNR=80						
WRA				S	**S**	**17 08 30.6**	**-5.1**
	0.2nm,0.3s,baz=336,slow=22,SNR=3.5						
WB2	**Warramunga Arr**	**17.74**	**163**	e*P*	**Pn**	**17 05 15.1**	**-0.3**
WB2				e*S*	**S**	**17 08 34.4**	**-1.3**
MBWA	**Marble Bar**	**20.27**	**206**	e*P*	**P**	**17 05 42.7**	**-0.2**
	26nm,1.3s						
AS31	**Alice Springs**	**21.20**	**167**	e*P*	**P**	**17 05 53.8**	**+0.9**
ASAR	**Alice Springs**	**21.20**	**167**	P	**P**	**17 05 53.9**	**+1.1**
	12nm,0.6s,mb4.4,baz=349,slow=12,SNR=251						
ASAR				S	**S**	**17 09 45.6**	**+1.0**
	0.9nm,0.6s,baz=354,slow=24,SNR=7.1						
ASAR	**Alice Springs**	**21.20**	**167**	P	**P**	**17 05 53.9**	**+1.1**
ASAR				S	**S**	**17 09 45.6**	**+1.0**
ASPA	**Alice Springs**	**21.20**	**167**	e*P*	**P**	**17 05 53.8**	**+0.9**
GUMO	**Guam**	**22.73**	**44**	LR	LR	17 13 38.6	
	comp=Z,41nm,21.7s,baz=27,slow=32						
STKA	**Stephens Creek**	**31.18**	**159**	P	**P**	**17 07 26.4**	**+0.9**
	0.7nm,0.5s,mb3.7,baz=348,slow=9.3,SNR=2.5						
MKAR	**Makanchi Array**	**64.26**	**326**	P	**P**	**17 11 40.1**	**-0.8**
	0.6nm,0.7s,mb3.6,baz=123,slow=7.8,SNR=7.4						
KURK	**Kurchatov**	**68.50**	**328**	e*P*	**P**	**17 12 06.0**	**-2.0**
	2.1nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**74.78**	**327**	e*P*	**P**	**17 12 45.6**	**0.0**
	2.8nm,1.0s,mb4.0						
VNDA	**Vanda**	**76.62**	**173**	P	**P**	**17 12 51.4**	**-4.9**
AKTK	**Aktyubinsk**	**80.22**	**322**	P	**P**	**17 13 16.8**	**+0.7**
AKTO	**Aktyubinsk**	**80.22**	**322**	P	**P**	**17 13 16.8**	**+0.7**
	0.9nm,0.4s,mb3.9,baz=105,slow=4.1,SNR=4.4						

IDC 10 17:06:30.4±8.6, 1003N×9325E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=460.6km s-min=29.0km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.69**	**343**	e*P*	Pn	17 07 23.3	+22
PBA				e*S*	Sn	17 07 45.3	+22
PBA				*ex*	x	17 07 55.2	
	comp=E,206nm,0.8s						
PBA				*ex*	x	17 07 55.5	
	comp=N,345nm,0.5s						
MKAR	**Makanchi Array**	**37.80**	**348**	P	P	17 13 48.4	0.0
	comp=N,0.4nm,0.7s,baz=164,slow=8.4,SNR=5.2						
WRA	**Warramunga Arr**	**50.24**	**126**	P	P	17 15 27.9	-0.3
	comp=N,0.3nm,0.9s,baz=304,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**51.98**	**131**	P	P	17 15 42.6	+1.3
	comp=N,0.8nm,1.0s,baz=290,slow=6.4,SNR=4.7						

IDC 10 17:08:20.3±7.1, 993N×9301E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, MS3.6/2, Ms1 3.6/2, ms1mx2.8/22, Error ellipse: s-maj=372.1km s-min=27.5km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.74**	**351**	e*P*	Pn	17 09 13.4	+22
PBA				e*S*	Sn	17 09 26.0	+11
PBA				*ex*	x	17 09 41.0	
	comp=N,296nm,0.3s						
PBA				*ex*	x	17 09 42.0	
	comp=E,177nm,0.7s						
PSI	**Prapat**	**9.20**	**140**	LR	LR	17 14 06.9	
	comp=E,220nm,19.8s,baz=298,slow=37						
MKAR	**Makanchi Array**	**37.85**	**348**	P	P	17 15 38.6	0.0
	comp=E,1.1nm,0.7s,baz=164,slow=8.2,SNR=6.3						
WRA	**Warramunga Arr**	**50.36**	**126**	P	P	17 17 18.7	-0.3
	comp=E,1.1nm,0.6s,baz=304,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**52.09**	**130**	P	P	17 17 33.0	+1.1
	comp=E,1.1nm,0.7s,baz=309,slow=6.6,SNR=13						
STKA	**Stephens Creek**	**62.33**	**134**	LR	LR	17 45 40.8	
	comp=E,75nm,20.4s,baz=206,slow=36						

IDC 10 17:10:02.7±6.3, 1931S×17576W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/14, mbtmp4.0/2, Error ellipse: s-maj=338.0km s-min=52.1km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.85**	**255**	P	P	17 18 35.0	+0.6
	1.2nm,0.4s,baz=87,slow=8.3,SNR=66						
WRA	**Warramunga Arr**	**46.87**	**260**	P	P	17 18 34.6	+0.1
	1.0nm,0.6s,baz=97,slow=8.1,SNR=30						
GERES	**GERESS Array B**	**149.56**	**348**	PKPbc	PKPbc	17 29 53.7	-0.3
	0.3nm,0.5s,baz=37,slow=2.5,SNR=4.2						

IDC 10 17:24:15.8±7.2, 534N×9421E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/22, Error ellipse: s-maj=360.3km s-min=29.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.33**	**118**	LR	LR	17 27 44.8	
	comp=Z,67nm,20.5s,baz=36,slow=39						
MKAR	**Makanchi Array**	**42.56**	**348**	P	P	17 32 13.3	0.0
	0.2nm,0.6s,baz=170,slow=8.8,SNR=4.3						
WRA	**Warramunga Arr**	**46.77**	**124**	P	P	17 32 47.6	+0.7
	1.0nm,0.7s,baz=303,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**48.27**	**128**	P	P	17 32 58.8	+0.1
	0.7nm,0.8s,baz=301,slow=8.2,SNR=13						

GUC 10 17:48:22.3±0.8, 3104S×7138W, h53km±7km, MD3.9, ML3.1, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.35**	**113**	⇑*iP*	Pn	17 48 32.4	+0.2
CMCH				*i* S	Sn	17 48 40.2	+1.1
CMCH				AMP		17 48 40.9	
	comp=E,9μm,0.5s						
ILCH	**Illapel**	**0.62**	**163**	⇓*iP*	Pn	17 48 35.5	+0.3
ILCH				*i* S	Sn	17 48 45.7	+1.3
ILCH				AMP		17 48 46.4	
	comp=N,1μm,0.1s						
CHNG	**Los Chungos**	**0.85**	**187**	⇓*iP*	Pn	17 48 38.3	+0.2
CHNG				*i* S	Sn	17 48 50.5	+0.9
CHNG				AMP		17 48 52.6	
	comp=E,550nm,0.3s						
LSCH	**La Serena**	**1.13**	**6**	e*P*	Pn	17 48 42.4	+0.5
LSCH				*i* S	Sn	17 48 57.4	+1.0
LSCH				AMP		17 48 57.6	
	comp=N,246nm,0.3s						
JACH	**Jahuel**	**1.77**	**158**	e*P*	Pn	17 48 51.2	+0.7
PEL	**Peldehue**	**2.18**	**165**	*i* S	Sn	17 49 23.6	+1.7
PEL				AMP		17 49 30.9	
	comp=N,180nm,0.1s						
FCH	**Farellones**	**2.46**	**158**	*i* S	Sn	17 49 30.9	+2.1
FCH				AMP		17 49 37.3	
	comp=N,83nm,0.3s						
RCDM	**Rinconada Maip**	**2.49**	**169**	⇓*iP*	Pn	17 49 00.8	+0.4
RCDM				e*S*	Sn	17 49 29.8	+0.2
RCDM				AMP		17 49 40.3	
	comp=E,184nm,0.1s						

*ISCJB **10** 17:56:40.7±0.5, 3682N±005×45.18E±004, h10km, mb3.6/10, Error ellipse: s-maj=7.1km s-min=5.2km az=11.6*
*NEIC **10** 17:56:42.0±3.4, 3690N×45.18E, h13km±24km, mb3.8/4, MN3.8(TEH), Error ellipse: s-maj=9.1km s-min=7.7km az=106.0*
*TEH **10** 17:56:42.7, 3693N×4550E, h6km, Mn3.8*
*CSEM **10** 17:56:43.9±0.1, 3693N×4505E, h45km, mb3.7/3, Error ellipse: s-maj=2.6km s-min=1.9km az=152.0*
*MOS **10** 17:56:45.4±2.3, 3680N×4498E, h57km, mb3.9/3, Error ellipse: s-maj=14.0km s-min=10.7km az=80.1*
*IDC **10** 17:56:49.8±4.4, 3682N×4513E, h87km±41km, mb3.4/6, mb1 3.5/8, mb1mx3.3/20, mbtmp3.6/8, Error ellipse: s-maj=29.0km s-min=21.7km az=140.0*
ISC 10 17:56:41.9±0.5, 3688N±005×4522E±005, h10km, n46, σ1§21/47, mb3.6/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAZR	**Azarshahr**	**1.00**	**37**	Pn	**Pg**	**17 57 00.7**	**-0.5**
CUKT	**Cukurca**	**1.34**	**286**	*i* PG	**Pg**	**17 57 05.0**	**-2.7**
HKR	**Hakkari**	**1.37**	**301**	*i* PG	**Pg**	**17 57 06.3**	**-2.0**
ITBZ	**Tabriz**	**1.54**	**28**	Pn	**Pn**	**17 57 08.7**	**-0.7**
MSL	**Mosul**	**1.81**	**252**	*ex*	x	17 57 12.5	
MSL				*i* x	x	17 57 14.0	
MSL				*i* x	x	17 57 16.5	
MSL				*i* x	x	17 57 37.0	
MSL				*i* x	x	17 57 38.5	
MSL				*ex*	x	17 57 40.5	
IMRD	**Marand**	**1.87**	**12**	e*P*n	**Pn**	**17 57 14.1**	**+0.2**
VANT	**Van**	**2.13**	**318**	e*P*G	**Pn**	**17 57 18.1**	**+0.5**
TVAN	**Van**	**2.19**	**319**	*i* P	**Pn**	**17 57 21.0**	**+2.7**
TVAN				*i* S	**Sn**	**17 57 45.6**	**+0.2**
TVAN	**Van**	**2.19**	**319**	*i* S	**Sn**	**17 57 45.6**	**+0.2**
IDHR	**Dehrash**	**2.37**	**156**	e*P*n	**Pn**	**17 57 21.0**	**+0.1**
CLDR	**Caldiran**	**2.48**	**336**	e*P*G	**Pn**	**17 57 24.3**	**+1.9**
BTMT	**Batman**	**3.24**	**295**	e*P*G	**Pn**	**17 57 34.3**	**+1.5**
IKOM	**Komasi**	**3.28**	**145**	e*P*n	**Pn**	**17 57 33.4**	**0.0**
IKOM	**Komasi**	**3.28**	**145**	Pn	**Pn**	**17 57 33.3**	**-0.1**
GNI	**Garni**	**3.29**	**354**	e*P*n	**Pn**	**17 57 37.4**	**+4.0**
BEST	**Besiri**	**3.31**	**289**	*i* P	**Pg**	**17 57 39.1**	**-6.1**
BEST				*i* S	**Sg**	**17 58 23.6**	**-4.4**
MARD	**Mardin**	**3.58**	**278**	*i* P	**Pn**	**17 57 36.7**	**-0.7**
MARD				*i* S	**Sn**	**17 58 20.6**	**+0.8**
BHD	**Baghdad**	**3.67**	**191**	e*P*n	x	17 57 40.0	
BHD				e*S*n	x	17 58 18.5	
URFA	**Urfa**	**5.14**	**278**	e*P*G	**Pn**	**17 57 59.4**	**+0.5**
MALT	**Malatya**	**5.58**	**287**	e*P*n	**Pn**	**17 58 04.5**	**-0.5**
	8.8nm,0.7s						
MALT	**Malatya**	**5.58**	**287**	e*P*	**Pn**	**17 58 04.5**	**-0.5**
MALT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MYA	**Malataya**	**5.58**	**287**	e*P*	**Pn**	**17 58 06.5**	**+1.4**
KIV	**Kislovodsk**	**7.33**	**345**	P	**Pn**	**17 58 27.5**	**-1.4**
KIV	**Kislovodsk**	**7.33**	**345**	P	**Pn**	**17 58 27.5**	**-1.4**
BRTR	**Keskin Array B**	**9.54**	**291**	P	**Pn**	**17 59 03.8**	**+4.6**
	comp=Z,0.0nm,0.3s,baz=103,slow=12,SNR=3.9						
EIL	**Elat**	**11.20**	**233**	P	**Pn**	**17 59 23.0**	**+1.0**
	comp=Z,226nm,1.2s						
EIL	**Elat**	**11.20**	**233**	P	**Pn**	**17 59 23.0**	**+0.9**
	comp=Z,226nm,1.2s						
AKTK	**Aktyubinsk**	**16.38**	**30**	P	**Pn**	**18 00 36.0**	**+4.2**
AKTO	**Aktyubinsk**	**16.38**	**30**	P	**Pn**	**18 00 36.0**	**+4.2**
	comp=Z

*BJI **10** 17:59:14.0, 1086N×9434E, h23km, mB4.9, mb4.4, Ms4.5, Msz4.2*

ISC 10 17:59:15.3±0.4, 1073N±005×9437E±005, h26km, h26km±.9km:pP-P, n108, σ1§18/109, mb4.4/43, MS4.2/24, 2C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.84**	**300**		*e*P		Px	17 59 59.6	
PBA					*e*S		Sx	18 00 18.5	
KULM	**Kulim**	**8.24**	**131**		*e*Pn		**Pn**	**18 01 11.2**	**-1.9**
KULM					*ep*P			18 01 17.4	
KULM					*e*Sn		**Sn**	**18 02 39.7**	**-5.7**
PSI	**Prapat**	**9.08**	**150**	Pn			**Pn**	**18 01 28.1**	**+3.3**
	0.5nm,0.3s,baz=307,slow=13,SNR=3.6								
PSI					LR		LR	18 05 37.0	
	comp=Z,2μm,18.2s,baz=297,slow=42								
VIS	**Vishakhapatnam**	**12.75**	**304**	*i* P			**Pn**	**18 02 18.9**	**+3.9**
VIS				*e*P				18 02 20.0	
VIS					AMb		AMB	18 02 30.8	
	comp=Z,90nm,1.8s								
VIS				*e*S			**Sn**	**18 04 26.1**	**-10**
PALK	**Pallekele**	**13.93**	**257**	Pn			**Pn**	**18 02 40.2**	**+9.3**
PALK				*e*Sn			**Sn**	**18 04 46.7**	**-18**
MDRS	**Chennai**	**14.01**	**281**	*ex*			x	18 02 52.4	
SHL	**Shillong**	**14.94**	**351**	*ex*			**Pn**	**18 02 44.2**	**-0.6**
BOK	**Bokaro**	**15.30**	**329**	*e*P			**Pn**	**18 02 53.5**	**+4.1**
BOK					AMb		AMB	18 03 06.8	
	comp=Z,26nm,1.4s								
KMI	**Kunming**	**16.37**	**28**	P			**Pn**	**18 03 04.3**	**+1.0**
KMI					AP		pP	18 03 07.9	-5.1
KMI					XP		sP	18 03 10.6	-5.7
KMI					PP			18 03 17.1	
KMI				S			**Sn**	**18 06 10.0**	**+5.8**
KMI					SS			18 06 27.4	
KMI					AMB		AMB		
	comp=Z,4.0nm,0.6s								
KMI					AMB		AMB		
	comp=Z,65nm,3.4s								
KMI					LR		LR		
	comp=N,710nm,14.4s								
KMI					LR		LR		
	comp=E,267nm,12.1s								
KMI					LR		LR		
	comp=Z,547nm,12.1s								
HYB	**Hyderabad**	**16.71**	**295**	*i* P			**Pn**	**18 03 11.0**	**+3.4**
HYB				*e*S			**Sn**	**18 06 15.0**	**+2.6**
HYB	**Hyderabad**	**16.71**	**295**	*e*P			**Pn**	**18 03 11.0**	**+3.4**
HYB				*e*S			**Sn**	**18 06 15.0**	**+2.6**
JIRN	**Jiri**	**18.51**	**337**	*e*P			**Pn**	**18 03 31.3**	**+1.4**
	comp=Z,68nm,0.9s								
PKI	**Pulchoki**	**18.75**	**335**	*e*P			**Pn**	**18 03 33.4**	**+0.6**
	comp=Z,112nm,1.1s								
PKI	**Pulchoki**	**18.75**	**335**	*e*P			**Pn**	**18 03 33.4**	**+0.6**
PKI					pmax		pmax		
	comp=Z,56nm,1.1s								
GUN	**Gumba**	**18.86**	**336**	*e*P			**Pn**	**18 03 34.6**	**+0.5**
DMN	**Daman**	**18.91**	**334**	*e*P			**Pn**	**18 03 35.6**	**+0.8**
	comp=Z,55nm,1.0s								
KKN	**Kakani**	**19.00**	**335**	*e*P			**Pn**	**18 03 35.7**	**-0.1**
LSA	**Lhasa**	**19.11**	**351**	*e*Pn			**Pn**	**18 03 35.7**	**-1.4**
	comp=Z,29nm,1.3s								
LSA				*e*Sn			**Sn**	**18 07 15.8**	**+5.4**
LSA	**Lhasa**	**19.11**	**351**	*e*P			**Pn**	**18 03 35.7**	**-1.4**
LSA					pmax		pmax		
	comp=Z,29nm,1.3s								
GKN	**Gorkha**	**19.46**	**333**	*e*P			**Pn**	**18 03 40.9**	**-0.4**
	comp=Z,39nm,0.5s								
GYA	**Guiyang**	**19.48**	**35**	⇑*i*P			**Pn**	**18 03 42.8**	**+1.2**
GYA					AP		pP	18 03 47.6	+0.3
GYA					XP		sP	18 03 51.2	+0.6
GYA					PP			18 04 03.1	
GYA					AMB		AMB		
	comp=Z,10.0nm,1.3s								
GYA					AMB		AMB		
	comp=Z,200nm,5.1s								
GYA					LR		LR		
	comp=N,870nm,10.8s								
GYA					LR		LR		
	comp=E,470nm,11.4s								
GYA					LR		LR		
	comp=Z,580nm,10.8s								
KOLN	**Koldanda**	**19.74**	**331**	*e*P			**Pn**	**18 03 44.2**	**-0.5**
	comp=Z,78nm,1.1s								
BHPL	**Bhopal**	**20.40**	**310**	*e*P			**P**	**18 03 56.0**	**+5.7**
BHPL					AMb		AMB	18 04 02.4	
	comp=Z,28nm,1.4s								
KAD	**Karad**	**20.63**	**291**	*e*P			**P**	**18 03 58.7**	**+6.0**
KAD					AMb		AMB	18 04 06.4	
	comp=Z,63nm,1.6s								
POO	**Poona**	**21.30**	**294**	*e*P			**P**	**18 04 03.5**	**+3.6**
POO				*e*P				18 04 05.3	
POO					AMb		AMB	18 04 15.6	
	comp=Z,11nm,0.2s,mb4.9								
CD2	**Chengdu**	**21.89**	**22**	P			**P**	**18 04 07.9**	**+1.6**
CD2					XP		sP	18 04 16.2	-0.5
CD2					PP			18 04 29.2	
CD2				S			**S**	**18 07 58.5**	**-8.3**
CD2					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.4								
CD2					AMB		AMB		
	comp=Z,40nm,6.2s								
CD2					LR		LR		
	comp=N,190nm,10.8s								
CD2					LR		LR		
	comp=Z,220nm,10.8s,MS3.8								
ENH	**Enshi**	**24.00**	**34**	*e*P			**P**	**18 04 27.7**	**-0.1**
	comp=Z,18nm,0.8s,mb4.5								
LZH	**Lanzhou**	**26.67**	**17**	*e*P			**P**	**18 04 53.7**	**+1.7**
LZH					AP		pP	18 05 01.1	+1.4
LZH					XP		sP	18 05 04.3	+1.4
LZH					PP			18 05 37.2	
LZH				*e*S			**S**	**18 09 23.6**	**-2.1**
LZH					XS		sS	18 09 35.5	-2.8
LZH					SS			18 10 33.7	
LZH					AMB		AMB		
	comp=Z,28nm,1.5s,mb4.6								
LZH					AMB		AMB		
	comp=Z,89nm,4.7s								
LZH					LR		LR		
	comp=N,541nm,10.2s								
LZH					LR		LR		
	comp=Z,835nm,13.1s,MS4.5								
XAN	**Xi'an**	**26.75**	**28**	P			**P**	**18 04 52.8**	**0.0**
XAN				S			**S**	**18 09 33.0**	**+5.9**
XAN					AMB		AMB		
	comp=Z,4.0nm,0.8s,mb4.0								
XAN					LR		LR		
	comp=N,374nm,10.6s,MS4.3								
XAN					LR		LR		
	comp=E,321nm,13.7s,MS4.3								
XAN					LR		LR		
	comp=Z,290nm,10.3s,MS4.1								
YHNB	**Yeheng**	**29.15**	**58**	P			**P**	**18 05 16.4**	**+2.2**
NJ2	**Nanjing**	**31.00**	**43**	*e*P			**P**	**18 05 30.4**	**-0.2**
NJ2					AP		pP	18 05 37.6	-0.7
NJ2					XP		sP	18 05 40.6	-0.9
NJ2					PP		PP	18 06 32.6	-8.2
NJ2				S			**S**	**18 10 34.0**	**+0.2**
NJ2					XS		sS	18 10 44.0	-2.5
NJ2					AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7								
NJ2					AMB		AMB		
	comp=Z,210nm,3.5s								
NJ2					LR		LR		
	comp=N,400nm,10.7s								
NJ2					LR		LR		
	comp=E,570nm,18.7s								
NJ2					LR		LR		
	comp=Z,250nm,13.6s,MS4.0								
SSE	**Sheshan**	**32.07**	**47**	*e*P			**P**	**18 05 41.4**	**+1.4**
SSE					AP		pP	18 05 47.2	-0.5
SSE					XP		sP	18 05 50.0	-0.9
SSE					PP		PP	18 06 48.6	-4.0
SSE					PCP		PcP	18 08 34.4	+5.3
SSE				S			**S**	**18 10 45.5**	**-5.0**
SSE					AMB		AMB		
	comp=Z,73nm,4.8s								
SSE					LR		LR		
	comp=N,255nm,12.0s,MS4.2								
SSE					LR		LR		
	comp=E,120nm,12.0s,MS4.2								
SSE					LR		LR		
	comp=Z,300nm,10.2s,MS4.3								
KSH	**Kashi**	**33.01**	**333**	P			**P**	**18 05 50.0**	**+1.8**
KSH					AP		pP	18 05 58.8	+2.9
KSH					XP		sP	18 06 01.3	+2.2
KSH					PP		PP	18 07 00.4	-2.6
KSH					PCP		PcP	18 08 34.1	+2.4
KSH				S			**S**	**18 11 10.1**	**+5.0**
KSH					XS		sS	18 11 19.8	+2.0
KSH					SCP		ScP	18 12 16.7	+2.6
KSH					SS		SS	18 13 07.2	-21
KSH					SCS		ScS	18 16 14.9	+0.6
KSH					AMB		AMB		
	comp=Z,12nm,0.4s,mb5.2								
KSH					AMB		AMB		
	comp=Z,136nm,5.4s								
KSH					LR		LR		
	comp=N,248nm,5.0s								
KSH					LR		LR		
	comp=E,253nm,5.4s								
KSH					LR		LR		
	comp=Z,294nm,5.4s								
WMQ	**Urumqi**	**33.47**	**351**	P			**P**	**18 05 54.0**	**+1.7**
WMQ					AP		pP	18 06 01.3	+1.3
WMQ					XP		sP	18 06 04.6	+1.4
WMQ					PP		PP	18 07 06.4	-1.8
WMQ					PCP		PcP	18 08 34.8	+1.8
WMQ				*e*S			**S**	**18 11 13.4**	**+1.1**
WMQ					SS		SS	18 13 17.2	-20
WMQ					AMB		AMB		
	comp=Z,14nm,1.2s,mb4.8								
WMQ					AMB		AMB		
	comp=Z,87nm,5.0s								
WMQ					LR		LR		
	comp=N,2μm,24.2s,MS4.9								
WMQ					LR		LR		
	comp=E,2μm,24.3s,MS4.9								
WMQ					LR		LR		
	comp=Z,2μm,25.0s,MS4.7								
HHC	**Hu-ho-hao-te**	**33.62**	**24**	*e*P			**P**	**18 05 54.7**	**+1.1**
HHC					AP		pP	18 06 02.0	+0.7
HHC					XP		sP	18 06 05.2	+0.7
HHC					PP		PP	18 07 04.0	-5.8
HHC				S			**S**	**18 11 08.7**	**-5.9**
HHC					SCS		ScS	18 16 19.6	+2.1
HHC					AMB		AMB		
	comp=Z,10.0nm,0.4s,mb5.1								
HHC					AMB		AMB		
	comp=Z,152nm,5.7s								
HHC					LR		LR		
	comp=N,358nm,11.4s,MS4.6								
HHC					LR		LR		
	comp=E,661nm,15.7s,MS4.6								
HHC					LR		LR		
	comp=Z,327nm,10.7s,MS4.3								
BJI	**Beijing**	**35.01**	**30**	P			**P**	**18 06 04.4**	**-1.2**
BJI					AMB		AMB		
	comp=Z,7.0nm,2.8s,mb4.1								
BJI					LR		LR		
	comp=N,235nm,18.7s,MS4.1								
BJI					LR		LR		
	comp=E,184nm,14.9s,MS4.1								
BJI					LR		LR		
	comp=Z,150nm,20.1s								
AAK	**Ala-Archa**	**36.21**	**335**	P			**P**	**18 06 15.8**	**-0.1**
	comp=Z,5.8nm,1.1s,mb4.4								
AAK				*ep*P			pP	18 06 22.9	-0.7
AAK	**Ala-Archa**	**36.21**	**335**	P			**P**	**18 06 15.8**	**-0.1**
AAK				*e**PP			pP	18 06 22.9	-0.7
AAK					pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.4								
MKAR	**Makanchi Array**	**37.38**	**346**	P			**P**	**18 06 25.7**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.3,baz=165,slow=7.9,SNR=38								
MKAR					LR		LR	18 25 54.1	
	comp=Z,174nm,18.7s,MS3.9,baz=179,slow=43								
MKAR	**Makanchi Array**	**37.38**	**346**	P			**P**	**18 06 25.7**	**-0.1**
MKAR					LR		LR	18 25 54.1	
SONM	**Songino Array**	**38.35**	**13**	P			**P**	**18 06 34.4**	**+0.4**
	comp=Z,1.4nm,0.8s,mb3.8,baz=157,slow=9.6,SNR=7.4								
SONM					LR		LR	18 23 52.2	
	comp=Z,215nm,19.5s,MS4.0,baz=192,slow=39								
ULN	**Ulaanbaatar**	**38.52**	**14**	P			**P**	**18 06 36.0**	**+0.5**
ULN	**Ulaanbaatar**	**38.52**	**14**	*e*P			**P**	**18 06 36.3**	**+0.8**
ZAK	**Zakamensk**	**40.21**	**9**	*e*P			**P**	**18 06 48.4**	**-1.2**
ZAK					pmax		pmax		
	comp=Z,7.0nm,1.7s,mb4.1								
KURK	**Kurchatov**	**41.92**	**345**	*e*P			**P**	**18 07 03.3**	**-0.3**
	comp=Z,9.5nm,1.2s,mb4.3								
KURK	**Kurchatov**	**41.92**	**345**	*e*P			**P**	**18 07 03.4**	**-0.2**
NVS	**Novosibirsk**	**44.87**	**351**	*e*P			**P**	**18 07 25.9**	**-1.6**
NVS				*e*S			**S**	**18 13 55.3**	**-8.3**
NVS					pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.5								
NVS					pmax		pmax		
	comp=N,8.0nm,1.6s								
NVS					pmax		pmax		
	comp=E,3.0nm,1.3s								
NVS					smax				
	comp=N,16nm,2.3s								
NVS					smax				
	comp=E,25nm,3.2s								
BVAR	**Borovoye Array**	**46.38**	**340**	P			**P**	**18 07 38.8**	**-0.7**
	comp=E,1.7nm,0.8s,mb4.0,baz=152,slow=6.7,SNR=9.8								
BVAR					PcP		PcP	18 09 14.0	-0.1
	comp=E,0.8nm,0.6s,baz=159,slow=4.3,SNR=2.8								
BRVK	**Borovoye**	**46.45**	**340**	P			**P**	**18 07 39.4**	**-0.6**
	comp=E,3.2nm,1.1s,mb4.2								
BRVK					pP		pP	18 07 45.0	-2.9
BRVK	**Borovoye**	**46.45**	**340**	P			**P**	**18 07 39.4**	**-0.5**
BRVK					***PP		pP	18 07 45.0	-2.8
BRVK					pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.1								
ZRNK	**Zerenda**	**46.80**	**339**	*e*P			**P**	**18 07 41.6**	**-1.0**
	comp=Z,2.7nm,0.9s,mb4.2								
ZRNK				*ep*P			pP	18 07 48.8	-1.8
ZRNK	**Zerenda**	**46.80**	**339**	*e*P			**P**	**18 07 41.6**	**-1.0**
ZRNK				*e**PP			pP	18 07 48.8	-1.8
ZRNK					pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2								
MJAR	**Matsushiro Arr**	**47.12**	**50**	PcP			PcP	18 09 18.2	+1.5
	comp=Z,7.4nm,1.3s,baz=253,slow=3.4,SNR=4.9								
NWAO	**Narrogin (SRO)**	**48.59**	**154**	LR			LR	18 25 42.3	
	comp=Z,138nm,21.9s,MS3.9,baz=357,slow=33								
BOD	**Bodaibo**	**49.34**	**14**	*e*P			**P**	**18 07 59.4**	**-2.9**
GUMO	**Guam**	**49.38**	**81**	LR			LR	18 26 00.6	
	comp=Z,115nm,20.1s,MS3.9,baz=261,slow=32								
AKTK	**Aktyubinsk**	**49.58**	**330**	P			**P**	**18 08 03.1**	**-1.0**
AKTK					LR		LR	18 33 42.2	
AKTO	**Aktyubinsk**	**49.58**	**330**	P			**P**	**18 08 03.1**	**-1.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=139,slow=6.9,SNR=4.8								
AKTO					LR		LR	18 33 42.2	
	comp=Z,107nm,18.6s,MS3.9,baz=258,slow=42								
WRA	**Warramunga Arr**	**49.77**	**128**	P			**P**	**18 08 06.1**	**+0.5**
	comp=Z,3.2nm,0.6s,mb4.5,baz=304,slow=9.0,SNR=48								
WRAB	**Tennant Creek**	**49.78**	**128**	*e*P			**P**	**18 08 06.0**	**+0.4**
	comp=Z,9.5nm,0.8s,mb4.9								
WRAB				*ep*P			pP	18 08 13.2	-0.4
WRAB				*es*P			sP	18 08 16.8	+0.1
WRAB	**Tennant Creek**	**49.78**	**128**	*e*P			**P**	**18 08 06.0**	**+0.3**
WRAB				*e**SP			sP	18 08 16.8	+0.1
WRAB					pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8								
WB2	**Warramunga Arr**	**49.78**	**128**	*e*P			**P**	**18 08 06.1**	**+0.4**
WB2				*ep*P			pP	18 08 13.3	-0.4
ASPA	**Alice Springs**	**51.60**	**132**	*e*P			**P**	**18 08 20.1**	**+0.7**
ASPA				*i* pP			pP	18 08 26.8	-0.6
ASAR	**Alice Springs**	**51.60**	**132**	P			**P**	**18 08 20.4**	**+1.0**
	comp=Z,3.1nm,0.7s,mb4.4,baz=310,slow=6.8,SNR=52								
AS31	**Alice Springs**	**51.61**	**132**	*e*P			**P**	**18 08 20.1**	**+0.7**
AS31				*i* pP			pP	18 08 26.8	-0.6
GNI	**Garni**	**52.64**	**313**	*e*P			**P**	**18 08 28.0**	**+0.9**
	comp=Z,43nm,1.3s,mb5.2								
GNI					pP		pP	18 08 38.1	+3.0
GNI	**Garni**	**52.64**	**313**	*e*P			**P**	**18 08 28.0**	**+0.9**
GNI				***PP			pP	18 08 38.1	+3.0
GNI					pmax		pmax		
	comp=Z,43nm,1.3s								
ARU	**Arti**	**53.37**	**336**	⇓*i*P			**P**	**18 08 30.6**	**-1.9**
ARU				*e*				18 10 26.7	
ARU				*e*PPP				18 11 35.1	
ARU				*e*S			**S**	**18 15 59.9**	**-3.0**
ARU				*e*SS			SS	18 19 37.9	-5.1
ARU					pmax		pmax		
	comp=Z,6.0nm,1.8s,mb4.2								
ARU					MLR		MLR		
	comp=N,200nm,20.0s,MS4.4								
ARU					MLR		MLR		
	comp=Z,400nm,20.0s,MS4.5								
ARU					MLR		MLR		
	comp=E,300nm,21.0s,MS4.4								
ZEI	**Tsey**	**54.14**	**316**	*i* P			**P**	**18 08 35.7**	**-2.5**
ZEI					pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5								
KIV	**Kislovodsk**	**55.39**	**316**	*e*P			**P**	**18 08 46.7**	**-0.4**
	comp=Z,9.6nm,0.9s,mb4.8								
KIV	**Kislovodsk**	**55.39**	**316**	P			**P**	**18 08 47.0**	**-0.2**
KIV				*e*			pP	18 08 55.0	-0.2
KIV				*e*				18 08 59.3	
KIV					pmax		pmax		
	comp=Z,11nm,1.1s,mb4.8								
KIV					MLR		MLR		
	comp=Z,100nm,20.0s,MS3.9								
MALT	**Malatya**	**56.83**	**309**	P			**P**	**18 09 05.0**	**+7.5**
	comp=Z,5.1nm,1.2s,mb4.4								
MALT					pP		pP	18 09 13.6	+8.1
MALT	**Malatya**	**56.83**	**309**	P			**P**	**18 09 05.0**	**+7.5**
MALT				***PP			pP	18 09 13.6	+8.1
MALT					pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.4								
YAK	**Yakutsk**	**57.23**	**19**	P			**P**	**18 08 59.9**	**-0.4**
	comp=Z,17nm,0.8s,mb5.1								
YAK					pP		pP	18 09 07.2	-1.2
YAK	**Yakutsk**	**57.23**	**19**	P			**P**	**18 08 59.9**	**-0.5**
YAK				***PP			pP	18 09 07.3	-1.1
YAK					pmax		pmax		
	comp=Z,17nm,0.8s,mb5.1								
KMBO	**Kilima Mbogo**	**58.00**	**262**	LR			LR	18 28 45.7	
	comp=Z,86nm,21.9s,MS3.8,baz=82,slow=31								
CTA	**Charters Tower**	**59.54**	**121**	LR			LR	18 37 19.9	
	comp=Z,132nm,19.8s,MS4.1,baz=264,slow=38								
BR131	**Keskin Array S**	**60.77**	**310**	*e*P			**P**	**18 09 22.8**	**-2.1**
	comp=Z,2.4nm,0.8s,mb4.4								
BR131				*ep*P			pP	18 09 30.5	-2.5
BRTR	**Keskin Array B**	**60.77**	**310**	P			**P**	**18 09 23.4**	**-1.5**
	comp=Z,2.2nm,0.8s,mb4.3,baz=122,slow=8.5,SNR=13								
STKA	**Stephens Creek**	**61.93**	**135**	*e*P			**P**	**18 09 31.6**	**-1.1**
	comp=Z,1.3nm,0.9s,mb4.1								
STKA				*i* pP			pP	18 09 39.4	-1.4
STKA	**Stephens Creek**	**61.93**	**135**	P			**P**	**18 09 31.9**	**-0.8**
	comp=Z,2.7nm,1.0s,mb4.3,baz=197,slow=1.7,SNR=3.3								
STKA					LR		LR	18 36 51.2	
	comp=Z,253nm,20.5s,MS4.4,baz=112,slow=36								
OBN	**Obninsk**	**63.11**	**327**	⇓*e*P			**P**	**18 09 40.7**	**+0.1**
OBN				*e*			pP	18 09 49.8	+1.1
OBN					pmax		pmax		
	comp=Z,27nm,1.8s,mb5.1								
OBN					MLR		MLR		
	comp=Z,200nm,18.0s,MS4.3								
KLMR	**Klimovskoe**	**64.00**	**334**	*e*P			**P**	**18 09 40.7**	**-5.8**
KLMR					pmax		pmax		
	comp=Z,10.0nm,1.2s,mb4.7								
MA2	**Magadan**	**64.15**	**28**	P			**P**	**18 09 48.2**	**+0.7**
	comp=Z,9.8nm,1.3s,mb4.7								
MA2					pP		pP	18 09 54.6	-1.0
MA2	**Magadan**	**64.15**	**28**	*e*P			**P**	**18 09 48.1**	**+0.6**
MA2					pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.7								
TIXI	**Tiksi**	**64.41**	**11**	P			**P**	**18 09 47.9**	**-1.2**
TIXI					pP		pP	18 09 56.2	-1.1
TIXI	**Tiksi**	**64.41**	**11**	⇑*i*P			**P**	**18 09 46.5**	**-2.6**
TIXI					pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.6								
SEY	**Seymchan**	**66.26**	**25**	*e*P			**P**	**18 10 01.9**	**+0.8**
FINES	**FINESS Array B**	**70.31**	**332**	P			**P**	**18 10 25.4**	**-1.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=74,slow=4.9,SNR=2.9								
FINES					LR		LR	18 42 16.2	
	comp=Z,101nm,20.4s,MS4.1,baz=264,slow=37								
LSZ	**Lusaka**	**70.45**	**250**	P			**P**	**18 10 27.9**	**+0.6**
	comp=Z,1.2nm,0.4s,mb4.2,baz=105,slow=5.5,SNR=5.6								
ARCES	**ARCESS Array B**	**72.67**	**340**	P			**P**	**18 10 39.4**	**-1.4**
	comp=Z,2.7nm,0.8s,mb4.2,baz=27,slow=11,SNR=4.9								
ARCES					LR		LR	18 45 30.4	
	comp=Z,273nm,20.9s,MS4.5,baz=68,slow=38								
BILL	**Bilibino**	**73.37**	**22**	*e*P			**P**	**18 10 44.1**	**-0.7**
	comp=Z,11nm,1.4s,mb4.6								
BILL				*ep*P			pP	18 10 50.5	-2.6
BILL	**Bilibino**	**73.37**	**22**	*e*P			**P**	**18 10 44.2**	**-0.7**
BILL					pmax		pmax		
	comp=Z,8.0nm,1.5s,mb4.4								
GERES	**GERESS Array B**	**75.87**	**318**	P			**P**	**18 10 59.1**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=77,slow=5.9,SNR=8.3								
GERES					LR		LR	18 47 09.4	
	comp=Z,120nm,18.8s,MS4.2,baz=299,slow=38								
NOA	**NORSAR Array B**	**77.37**	**330**	LR			LR	18 48 12.0	
	comp=Z,142nm,20.3s,MS4.3,baz=85,slow=38								
SUR	**Sutherland**	**82.14**	**235**	*e*P			**P**	**18 11 44.7**	**+11**
TORD	**Torodi Ar. Bea**	**90.16**	**283**	P			**P**	**18 12 13.3**	**0.0**
	comp=Z,1.3nm,1.1s,mb4.2,baz=85,slow=4.6,SNR=4.0								
TORD					PP		PP	18 15 47.5	+0.6
	comp=Z,0.4nm,0.5s,baz=83,slow=5.8,SNR=3.5								
MDT	**Midelt**	**91.69**	**304**	LR			LR	18 57 59.0	
	comp=Z,120nm,18.1s,MS4.4,baz=223,slow=38								
MCK	**McKinley**	**91.77**	**23**	P			**P**	**18 12 21.0**	**+0.3**
	comp=Z,3.5nm,1.1s,mb4.6								
MCK	**McKinley**	**91.77**	**23**	P			**P**	**18 12 21.0**	**+0.3**
MCK					pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.5								
ILAR	**Eielson Array**	**92.03**	**22**	P			**P**	**18 12 20.7**	**-1.2**
	comp=Z,0.6nm,0.7s,mb4.0,baz=298,slow=4.9,SNR=10								
EDM	**Edmonton**	**112.05**	**18**	*e*P			Pdif	18 13 53.0	+1.3
PPT	**Papeete**	**117.86**	**104**	*e*LR			LR	18 53 56.8	
	comp=Z,86nm,24.8s								
TBI	**Tubuai**	**118.12**	**111**	*e*LR			LR	18 54 04.0	
	comp=Z,108nm,25.8s								
PDAR	**Pinedale Array**	**122.44**	**21**	PKP			PKPdf	18 18 08.6	+0.4
	comp=Z,0.4nm,0.8s,baz=72,slow=2.9,SNR=2.9								
RKT	**Rikitea**	**131.43**	**111**	*e*LR			LR	19 00 14.0	
	comp=Z,88nm,30.2s								
PLCA	**Paso Flores**	**147.

0.3nm,0.6s,mb3.6,baz=257,slow=4.8,SNR=4.3
YKA Yellowknife Ar 97.56 28 LR LR 19 16 18.9
comp=Z,135nm,18.9s,MS4.5,baz=110,slow=36
TORD Torodi Ar. Bea 148.60 285 PKP PKPdf 18 36 47.5 +1.1
0.3nm,0.3s,baz=53,slow=24,SNR=14
TORD PKPbc PKPbc 18 36 51.3 +1.2
1.8nm,0.3s,baz=94,slow=2.7,SNR=37

IDC 10 18:44:43.3±7.7, 1009N×9321E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=409.2km s-min=29.8km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.74 348**		P	P	18 52 00.8	0.0
	0.5nm,0.8s,baz=159,slow=7.5,SNR=3.9						
WRA	**Warramunga Arr**	**50.30 126**		P	P	18 53 41.3	-0.2
	0.5nm,0.7s,baz=305,slow=8.9,SNR=7.3						
ASAR	**Alice Springs**	**52.04 131**		P	P	18 53 55.6	+1.0
	0.6nm,0.7s,baz=311,slow=6.8,SNR=7.4						

*IDC **10** 18:46:30.6±0.8, 1065N×9418E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, MS3.3/1, Ms1 3.3/1, ms1mx2.5/31, Error ellipse: s-maj=38.1km s-min=19.1km az=54.0*
*NEIC **10** 18:46:32.0±0.5, 1057N×9427E, h10km, mb4.2/7, Error ellipse: s-maj=19.9km s-min=6.4km az=54.0*
*ISCJB **10** 18:46:33.8±0.7, 106N±0.1×942E±0.1, h33km, mb4.0/12, Error ellipse: s-maj=24.1km s-min=9.7km az=108.7*
ISC 10 18:46:32.5±5.0, 106N±01×943E±01, h11km±31km, n31, σ0§92/26, mb4.0/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.83 304**		*eP*	Px	18 47 20.7	
PBA				*eS*	Sx	18 47 52.7	
PBA				*ex*	x	18 48 04.2	
	comp=N,1μm,1.0s						
PBA				*ex*	x	18 48 06.4	
	comp=E,2μm,0.7s						
KULM	**Kulim**	**8.23 130**		*eP*	**Pn**	**18 48 29.6**	**-2.1**
KULM				*eS*	**Sn**	**18 49 58.8**	**-5.8**
PSI	**Prapat**	**9.03 149**		LR	LR	18 52 26.1	
	comp=E,219nm,21.8s,baz=161,slow=39						
JIRN	**Jiri**	**18.59 337**		*eP*	**Pn**	**18 50 51.4**	**+1.7**
	comp=E,36nm,1.1s						
PKI	**Pulchoki**	**18.82 335**		*eP*	**Pn**	**18 50 53.5**	**+0.9**
	comp=E,44nm,1.0s						
GUN	**Gumba**	**18.93 336**		*eP*	**Pn**	**18 50 54.4**	**+0.5**
DMN	**Daman**	**18.98 334**		*eP*	**Pn**	**18 50 55.2**	**+0.7**
	comp=E,22nm,0.8s						
KKN	**Kakani**	**19.07 335**		*eP*	**Pn**	**18 50 55.7**	**+0.2**
LSA	**Lhasa**	**19.21 352**		*eP*	**Pn**	**18 50 57.1**	**-0.2**
	comp=E,8.2nm,1.0s						
GKN	**Gorkha**	**19.53 334**		*eP*	**Pn**	**18 51 01.0**	**-0.1**
	comp=E,15nm,0.6s						
KOLN	**Koldanda**	**19.80 331**		*eP*	**Pn**	**18 51 02.8**	**-1.5**
ENH	**Enshi**	**24.14 34**		*eP*	**P**	**18 51 48.7**	**+0.4**
	comp=E,24nm,1.3s,mb4.5						
MKAR	**Makanchi Array**	**37.46 346**		P	**P**	**18 53 46.0**	**+0.1**
	comp=E,2.0nm,0.7s,mb4.1,baz=166,slow=8.0,SNR=26						
MKAR	**Makanchi Array**	**37.46 346**		P	**P**	**18 53 46.0**	**+0.1**
SONM	**Songino Array**	**38.47 13**		P	**P**	**18 53 54.6**	**+0.2**
	comp=E,0.7nm,0.6s,mb3.6,baz=204,slow=9.0,SNR=3.8						
KURK	**Kurchatov**	**42.01 345**		*eP*	**P**	**18 54 22.7**	**-1.0**
	comp=E,8.1nm,1.4s,mb4.2						
BVAR	**Borovoye Array**	**46.46 340**		P	**P**	**18 54 59.0**	**-0.4**
	comp=E,1.3nm,0.8s,mb3.9,baz=147,slow=6.9,SNR=4.8						
BRVK	**Borovoye**	**46.52 340**		*eP*	**P**	**18 54 59.2**	**-0.7**
ZRNK	**Zerenda**	**46.87 339**		*eP*	**P**	**18 55 02.2**	**-0.4**
WRA	**Warramunga Arr**	**49.77 128**		P	**P**	**18 55 25.9**	**+1.0**
	comp=E,1.6nm,0.9s,mb4.1,baz=304,slow=8.8,SNR=10						
WRAB	**Tennant Creek**	**49.77 128**		*eP*	**P**	**18 55 26.2**	**+1.3**
ASAR	**Alice Springs**	**51.59 132**		P	**P**	**18 55 39.9**	**+1.2**
	comp=E,1.5nm,0.8s,mb4.0,baz=310,slow=7.6,SNR=18						
BRTR	**Keskin Array B**	**60.78 310**		P	**P**	**18 56 43.0**	**-1.3**
	comp=E,1.2nm,0.8s,mb4.0,baz=124,slow=6.6,SNR=6.6						
GERES	**GERESS Array B**	**75.90 318**		P	**P**	**18 58 18.7**	**-0.3**
	comp=E,0.5nm,0.7s,mb3.5,baz=72,slow=4.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**90.11 283**		P	**P**	**18 59 33.4**	**+0.9**
	comp=E,0.4nm,0.8s,mb3.8,baz=56,slow=2.6,SNR=3.3						
ILAR	**Eielson Array**	**92.16 22**		P	**P**	**18 59 41.1**	**-0.9**
	comp=E,0.3nm,0.7s,mb3.7,baz=317,slow=6.2,SNR=4.9						
INK	**Inuvik**	**94.33 16**		P	**P**	**18 59 51.3**	**-0.7**
	comp=E,1.2nm,0.9s,mb4.3,baz=349,slow=5.2,SNR=3.5						
NVAR	**Mina Array Bea**	**122.49 30**		PKP	PKPdf	19 05 28.4	+0.5
	comp=E,0.4nm,0.6s,baz=297,slow=4.0,SNR=3.4						
PDAR	**Pinedale Array**	**122.57 21**		PKP	PKPdf	19 05 28.9	+0.9
	comp=E,0.4nm,0.8s,baz=318,slow=4.9,SNR=3.2						
PLCA	**Paso Flores**	**147.15 201**		PKPbc	PKPbc	19 06 16.0	+0.5
	comp=E,2.6nm,1.1s,baz=127,slow=7.4,SNR=3.3						
PLCA	**Paso Flores**	**147.15 201**		PKPbc	PKPbc	19 06 16.0	+0.5

IDC 10 18:47:29.8±7.8, 1024N×9365E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=423.5km s-min=28.2km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.69 347**		P	P	18 54 46.9	0.0
	0.9nm,1.0s,baz=164,slow=9.5,SNR=2.3						
WRA	**Warramunga Arr**	**50.04 127**		P	P	18 56 26.3	+0.1
	1.1nm,0.7s,baz=306,slow=8.5,SNR=4.5						
ASAR	**Alice Springs**	**51.81 131**		P	P	18 56 40.1	+0.7
	1.5nm,0.8s,baz=308,slow=7.7,SNR=4.1						

IDC 10 18:55:35.4±8.8, 1038N×9383E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.4/3, MS2.6/1, Ms1 2.6/1, ms1mx2.1/9, Error ellipse: s-maj=485.8km s-min=28.8km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.66 320**		*eP*	Pn	18 56 22.9	+17
PBA				*eS*	Sn	18 56 43.3	+16
PBA				*ex*	x	18 56 48.1	
	comp=E,420nm,0.9s						
PBA				*ex*	x	18 56 53.1	
	comp=N,466nm,1.0s						
PSI	**Prapat**	**9.07 146**		LR	LR	19 01 57.7	
	comp=N,31nm,18.3s,baz=72,slow=42						
MKAR	**Makanchi Array**	**37.59 347**		P	P	19 02 51.6	0.0
	comp=N,0.4nm,0.6s,baz=165,slow=8.3,SNR=4.7						
WRA	**Warramunga Arr**	**49.98 127**		P	P	19 04 31.6	+0.4
	comp=N,0.4nm,0.7s,baz=307,slow=8.8,SNR=3.9						
ASAR	**Alice Springs**	**51.77 131**		P	P	19 04 45.2	+0.5
	comp=N,0.2nm,0.6s,baz=307,slow=7.3,SNR=3.7						

IDC 10 19:05:16.1±4.2, 1570S×17636W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.8/3, Error ellipse: s-maj=200.6km s-min=35.5km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.00 257**		P	P	19 13 48.9	-0.2
	0.3nm,0.7s,baz=90,slow=7.7,SNR=5.2						
ASAR	**Alice Springs**	**47.31 252**		P	P	19 13 52.7	+1.3
	2.0nm,0.5s,baz=85,slow=8.4,SNR=80						
ASAR				PcP	PcP	19 15 21.6	-0.9
	0.2nm,0.6s,baz=99,slow=3.0,SNR=4.1						
ILAR	**Eielson Array**	**83.31 12**		P	P	19 17 44.8	0.0
	0.4nm,0.6s,baz=220,slow=5.9,SNR=7.3						

*ISCJB **10** 19:07:19.3±0.6, 7885N±007×195W±03, h10km, mb3.7/9, Error ellipse: s-maj=9.9km s-min=7.7km az=123.4*
*IDC **10** 19:07:21.6±1.1, 7876N×19.10W, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/24, mbtmp3.7/10, ML3.0/1, MS2.8/1, Ms1 2.9/1, ms1mx2.5/30, Error ellipse: s-maj=30.5km s-min=18.1km az=16.0*
*NEIC **10** 19:07:21.4±0.7, 7881N×1943W, h10km, mb3.7/3, Error ellipse: s-maj=14.0km s-min=9.4km az=192.0*
*CSEM **10** 19:07:22.9±0.1, 7858N×1921W, h30km, mb3.7/3, Error ellipse: s-maj=6.6km s-min=3.3km az=174.0*
*NAO **10** 19:07:24.0±11.0, 7881N×1867W, h21km±156km*

ISC 10 19:07:20.7±0.7, 7892N±007×193W±03, h10km, n27, σ1§23/33, mb3.7/9, 1D, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAG	**Danmarks Havn**	**2.17 176**		⇓*iP*	**Pn**	**19 07 56.1**	**-0.8**
	176nm,0.5s						
SPA0	**Spitsbergen Ar**	**7.05 78**		Pn	**Pn**	**19 09 03.1**	**-0.9**
	baz=285,slow=16						
SPA0				Sn	**Sn**	**19 10 20.0**	**-4.2**
SUMG	**Summit**	**7.88 226**		*eP*	**Pn**	**19 09 15.6**	**+0.3**
	27nm,0.6s						
SUMG	**Summit**	**7.88 226**		*eP*	**Pn**	**19 09 15.6**	**+0.3**
	27nm,0.6s						
SCO	**Scoresbysund**	**8.52 186**		*iP*	**Pn**	**19 09 23.1**	**-1.0**
	16nm,0.8s						
SCO				*eS*	**Sn**	**19 11 01.7**	**+1.5**
SFJD	**Kangerlussuaq**	**14.74 233**		Pn	**Pn**	**19 10 45.2**	**-4.0**
	1.6nm,0.3s,baz=1.2,slow=15,SNR=8.1						
SFJD				Sn	**Sn**	**19 13 18.7**	**-14**
	2.7nm,0.3s,baz=42,slow=21,SNR=6.3						
SFJD	**Kangerlussuaq**	**14.74 233**		*iP*	**Pn**	**19 10 45.4**	**-3.8**
SFJD				*i* S	**Sn**	**19 13 16.0**	**-17**
SFJD				*i* S	**Sn**	**19 13 19.9**	**-13**
ARA0	**ARCESS Array S**	**14.83 104**		P	**Pn**	**19 10 50.6**	**+0.2**
	baz=324,slow=8.6						
ARCES	**ARCESS Array B**	**14.83 104**		Pn	**Pn**	**19 10 51.2**	**+0.9**
	0.1nm,0.3s,baz=320,slow=9.6,SNR=2.5						
ARCES				LR	LR	19 16 45.2	
	comp=Z,39nm,19.4s,baz=309,slow=38						
ARCES	**ARCESS Array B**	**14.83 104**		Pn	**Pn**	**19 10 51.2**	**+0.8**
RES	**Resolute Bay**	**16.54 295**		*eP*	**Pn**	**19 11 11.6**	**-1.2**
	3.8nm,0.6s						
RES				*eS*	**Sn**	**19 14 04.6**	**-12**
NB2	**NORSAR Subarra**	**20.25 134**		P	**P**	**19 11 55.1**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=346,slow=11						
NOA	**NORSAR Array B**	**20.25 134**		P	**P**	**19 11 55.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=50,slow=13,SNR=3.3						
HFS	**Hagfors**	**21.48 132**		P	**P**	**19 12 08.3**	**-1.0**
	baz=324,slow=10						
HFS	**Hagfors**	**21.48 132**		P	**P**	**19 12 08.5**	**-0.9**
	comp=Z,1.4nm,0.4s,mb3.6,baz=341,slow=8.6,SNR=8.6						
KAF	**Kangasniemi**	**21.64 114**		*ep*	**P**	**19 12 09.5**	**-1.6**
JOF	**Joensuu**	**21.80 108**		*ep*	**P**	**19 12 12.0**	**-0.8**
FIA0	**FINESS Array S**	**22.22 115**		P	**P**	**19 12 17.3**	**-0.1**
	baz=346,slow=10						
FINES	**FINESS Array B**	**22.22 115**		P	**P**	**19 12 17.3**	**-0.1**
	comp=Z,4.5nm,0.5s,mb4.1,baz=345,slow=10,SNR=50						
EKA	**Eskdalemuir Ar**	**24.31 157**		P	**P**	**19 12 38.9**	**+0.5**
	comp=Z,2.0nm,0.9s,mb3.5,baz=351,slow=8.3,SNR=3.2						
SCHQ	**Schefferville**	**28.87 242**		P	**P**	**19 13 20.1**	**+0.6**
	comp=Z,0.8nm,0.4s,mb3.8,baz=11,slow=10,SNR=7.5						
SCHQ	**Schefferville**	**28.87 242**		P	**P**	**19 13 20.0**	**+0.6**
YKA	**Yellowknife Ar**	**30.61 295**		P	**P**	**19 13 37.7**	**+2.8**
	comp=Z,0.1nm,0.4s,mb3.0,baz=20,slow=8.5,SNR=3.6						
KURK	**Kurchatov**	**42.23 70**		*eP*	**P**	**19 15 15.8**	**+1.8**
	comp=Z,2.7nm,1.0s,mb3.8						
BRTR	**Keskin Array B**	**44.40 118**		P	**P**	**19 15 31.9**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.6,baz=352,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**46.67 68**		P	**P**	**19 15 51.4**	**+1.9**
	comp=Z,0.8nm,0.4s,mb4.0,baz=357,slow=5.7,SNR=50						
TORD	**Torodi Ar. Bea**	**66.57 158**		P	**P**	**19 18 13.8**	**+2.8**
	comp=Z,0.5nm,0.5s,mb3.8,baz=12,slow=6.5,SNR=5.7						

*IDC **10** 19:10:23.9±1.4, 4010S×17482E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.6/12, mbtmp3.4/3, ML4.0/1, Error ellipse: s-maj=42.5km s-min=24.7km az=154.0*
*ISCJB **10** 19:10:27.4±0.3, 4012S±002×17495E±004, h15km, mb3.1/2, Error ellipse: s-maj=4.4km s-min=2.4km az=29.3*
*WEL **10** 19:10:27.9±0.1, 4012S×17496E, h15km±3km, ML4.2/42, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0*
WEL Felt from Wanganui to Wellington, maximum reported intensity MM 5.
*NEIC **10** 19:10:27.6, 4013S×17489E, h30km, ML4.2(WEL), After WEL.*
NEIC Felt at Foxton, Levin, Marton and Wanganui.
ISC 10 19:10:27.3±0.3, 4013S±002×17495E±004, h15km, n63, σ0§76/70, mb3.1/2, 2D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.37 4**		⇑P*	**Pg**	**19 10 36.1**	**+1.2**
WAZ	**Wanganui**	**0.37 4**		P	**Pg**	**19 10 36.1**	**+1.2**
WAZ				S	**Sg**	**19 10 42.2**	**+2.3**
MRZ	**Mangatainoka R**	**0.72 139**		⇑P*	**Pb**	**19 10 41.9**	**+0.4**
MRZ				S*	**Sb**	**19 10 51.4**	**+0.2**
MRZ	**Mangatainoka R**	**0.72 139**		P	**Pg**	**19 10 42.0**	**+0.7**
MRZ				S	**Sg**	**19 10 51.6**	**+0.8**
KIW	**Kapiti Island**	**0.74 183**		⇓P*	**Pb**	**19 10 41.4**	**-0.4**
KIW				S*	**Sb**	**19 10 50.6**	**-1.2**
KIW	**Kapiti Island**	**0.74 183**		P	**Pg**	**19 10 41.4**	**-0.3**
TSZ	**Takapari Road**	**0.78 86**		P*	**Pb**	**19 10 42.6**	**+0.1**
TSZ				S*	**Sb**	**19 10 52.2**	**-0.6**
TSZ	**Takapari Road**	**0.78 86**		P	**Pg**	**19 10 42.7**	**+0.3**
MTVZ	**Mangateitei**	**0.84 29**		P*	**Pb**	**19 10 43.1**	**-0.5**
PKVZ	**Pokaka**	**0.89 20**		P*	**Pb**	**19 10 43.8**	**-0.6**
WNVZ	**Wahianoa**	**0.94 32**		P*	**Pb**	**19 10 44.7**	**-0.6**
TRVZ	**Turoa**	**0.94 29**		P*	**Pb**	**19 10 44.9**	**-0.5**
MOVZ	**Moawhango**	**0.94 41**		P*	**Pb**	**19 10 44.4**	**-1.0**
DRZ	**Dome Shelter**	**0.97 29**		P*	**Pb**	**19 10 45.3**	**-0.5**
FWVZ	**Far West T-bar**	**0.98 28**		P*	**Pb**	**19 10 45.5**	**-0.6**
CAW	**Cannon Point**	**0.99 175**		P*	**Pb**	**19 10 46.2**	**+0.1**
VRZ	**Vera Road**	**1.01 351**		P*	**Pb**	**19 10 46.7**	**+0.2**
TUVZ	**Tukino**	**1.01 32**		P*	**Pb**	**19 10 45.9**	**-0.6**
WPVZ	**Whakapapa**	**1.03 27**		P*	**Pb**	**19 10 46.3**	**-0.5**
DUWZ	**D'Urville Isla**	**1.04 229**		P*	**Pb**	**19 10 46.4**	**-0.6**
NGZ	**Ngauruhoe**	**1.07 28**		P*	**Pb**	**19 10 46.9**	**-0.6**
NEZ	**North Egmont**	**1.08 322**		P*	**Pb**	**19 10 48.3**	**+0.6**
NRZ	**Ngariki Road**	**1.11 315**		P*	**Pb**	**19 10 49.0**	**+0.7**
MTW	**Mount Morrison**	**1.11 158**		P*	**Pb**	**19 10 48.8**	**+0.6**
TWVZ	**Taurewa**	**1.12 20**		P*	**Pb**	**19 10 47.4**	**-1.0**
MRW	**Makara Radio**	**1.12 190**		P*	**Pb**	**19 10 48.0**	**-0.3**
WTVZ	**West Tongariro**	**1.12 26**		P*	**Pb**	**19 10 47.7**	**-0.7**
BFZ	**Birch Farm**	**1.13 120**		P*	**Pb**	**19 10 49.1**	**+0.5**
KRVZ	**Karewarewa**	**1.16 28**		P*	**Pb**	**19 10 48.3**	**-0.7**
NWEZ	**Newall Road**	**1.19 315**		PN	**Pn**	**19 10 50.5**	**+1.0**
SNZO	**South Karori**	**1.20 189**		*eP*	**Pn**	**19 10 49.3**	**-0.2**
SNZO				*eS*	**Sb**	**19 11 05.2**	**+0.2**
TCW	**Tory Channel**	**1.20 205**		PN	**Pn**	**19 10 48.9**	**-0.7**
KATZ	**Kakaramea**	**1.28 27**		PN	**Pn**	**19 10 50.4**	**-0.3**
BHW	**Baring Head**	**1.28 183**		PN	**Pn**	**19 10 51.0**	**+0.3**
PAWZ	**Paruwai Farm**	**1.31 164**		PN	**Pn**	**19 10 51.2**	**+0.2**
MSWZ	**Moikau Station**	**1.31 170**		PN	**Pn**	**19 10 51.2**	**+0.2**
RITZ	**Rihia Road**	**1.34 32**		PN	**Pn**	**19 10 51.7**	**+0.2**
RATZ	**Rangitukua**	**1.41 27**		PN	**Pn**	**19 10 52.2**	**-0.2**
PXZ	**Pawanui**	**1.47 87**		PN	**Pn**	**19 10 53.5**	**+0.3**
TUWZ	**Tuamarina**	**1.51 210**		PN	**Pn**	**19 10 53.9**	**+0.1**
HATZ	**Hinemaiaia**	**1.51 36**		PN	**Pn**	**19 10 54.0**	**+0.1**
BKZ	**Black Stump Fm**	**1.52 52**		PN	**Pn**	**19 10 54.3**	**+0.3**
WATZ	**Wairara**	**1.54 23**		PN	**Pn**	**19 10 53.8**	**-0.4**
HIZ	**Hauiti**	**1.61 357**		PN	**Pn**	**19 10 55.3**	**+0.1**
CMWZ	**Cape Campbell**	**1.72 199**		*e*PN	**Pn**	**19 10 58.2**	**+1.6**
BSWZ	**Blackbirch Sta**	**1.79 207**		PN	**Pn**	**19 10 58.7**	**+1.1**
QRZ	**Quartz Range**	**1.98 248**		PN	**Pn**	**19 11 00.8**	**+0.5**
PATZ	**Paeroa**	**2.02 31**		*e*PN	**Pn**	**19 11 01.6**	**+0.9**
TAZ	**Tarawera**	**2.24 33**		*e*PN	**Pn**	**19 11 04.7**	**+0.8**
KNZ	**Kokohu**	**2.37 63**		*e*PN	**Pn**	**19 11 05.7**	**0.0**
TOZ	**Tahuroa Road**	**2.43 10**		*e*PN	**Pn**	**19 11 05.9**	**-0.6**
URZ	**Urewera**	**2.50 43**		Pn	**Pn**	**19 11 07.3**	**-0.3**
	27nm,0.3s,baz=240,slow=8.4,SNR=78						
URZ				Sn	**Sn**	**19 11 38.5**	**+0.7**
	26nm,0.3s,baz=20,slow=13,SNR=5.5						
URZ	**Urewera**	**2.50 43**		PN	**Pn**	**19 11 07.4**	**-0.1**
KHZ	**Kahutara**	**2.53 204**		PN	**Pn**	**19 11 08.1**	**+0.3**
TGRZ	**Tauranga**	**2.60 23**		PN	**Pn**	**19 11 11.7**	**+2.9**
MWZ	**Matawai**	**2.68 49**		PN	**Pn**	**19 11 09.9**	**0.0**
LTZ	**Lake Taylor**	**3.33 216**		PN	**Pn**	**19 11 19.2**	**+0.3**
MXZ	**Matakaoa Point**	**3.66 47**		PN	**Pn**	**19 11 23.5**	**+0.1**
MQZ	**McQueen's Vall**	**3.97 205**		PN	**Pn**	**19 11 25.6**	**-2.1**
MQZ				SN	**Sn**	**19 12 08.2**	**-5.8**
WCZ	**Waipu Caves**	**4.21 353**		*e*PN	**Pn**	**19 11 31.1**	**+0.2**
ASAR	**Alice Springs**	**38.15 283**		P	**P**	**19 17 44.9**	**-1.0**
	0.1nm,0.3s,mb3.0,baz=123,slow=7.0,SNR=8.8						
WRA	**Warramunga Arr**	**40.07 288**		P	**P**	**19 17 59.3**	**-2.8**
	0.2nm,0.4s,mb3.2,baz=125,slow=8.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**152.48 194**		PKPbc	PKPbc	19 30 22.0	-1.0
	0.2nm,0.5s,baz=162,slow=3.1,SNR=4.1						
TORD				PKPab	PKPab	19 30 32.5	-0.7
	0.5nm,0.6s,baz=172,slow=3.4,SNR=4.4						

IDC 10 19:11:01.4±3.6, 2268S×17757W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=167.0km s-min=55.0km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.25 247**		P	P	19 18 13.1	-1.6
	1.1nm,0.5s,baz=88,slow=12,SNR=6.4						
STKA				LR	LR	19 30 05.4	
	comp=Z,60nm,19.4s,baz=14,slow=31						
ASAR	**Alice Springs**	**44.45 259**		P	P	19 19 14.9	+0.8
	0.3nm,0.4s,baz=96,slow=7.3,SNR=14						
WRA	**Warramunga Arr**	**44.73 264**		P	P	19 19 17.7	+1.3
	0.8nm,0.3s,baz=98,slow=8.4,SNR=26						
ARCES	**ARCESS Array B**	**131.13 349**		PKP	PKPdf	19 30 14.2	-1.0
	1.6nm,0.7s,baz=14,slow=4.0,SNR=4.5						

*ISCJB **10** 19:12:48.0±0.6, 4375N±003×10505W±006, h0km, mb4.5/1, Error ellipse: s-maj=6.5km s-min=4.9km az=20.9*
*IDC **10** 19:12:49.1±2.2, 4368N×10544W, h0km, mb4.4/1, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=57.2km s-min=8.9km az=151.0*
*NEIC **10** 19:12:50.4±0.5, 4370N×105.17W, h0km, ML3.3, Error ellipse: s-maj=7.9km s-min=6.0km az=127.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 10 19:12:50.1±0.5, 4372N±003×10512W±006, h0km, n33, σ1§23/40, mb4.5/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.88 63**		*eP*	**Pg**	**19 13 09.4**	**+2.4**
PHWY	**Pilot Hill**	**2.43 186**		*eP*	**Pn**	**19 13 31.3**	**+0.2**
RWWY	**Rawlins**	**2.55 218**		*eP*	**Pn**	**19 13 33.4**	**+0.7**
RWWY				*eS*	**Sn**	**19 14 04.2**	**-0.1**
LAO	**LASA Array**	**3.07 346**		*eP*	**Pn**	**19 13 40.5**	**+0.7**
PDAR	**Pinedale Array**	**3.38 255**		Pn	**Pn**	**19 13 43.6**	**-0.4**
	2.4nm,0.3s,baz=78,slow=16,SNR=47						
PDAR				Lg		19 14 26.8	
	3.7nm,0.3s,baz=72,slow=21,SNR=7.5						
BW06	**Boulder Array**	**3.38 255**		*eP*	**Pn**	**19 13 43.4**	**-0.8**
BW06				*eS*	**Sn**	**19 14 26.3**	**+1.4**
GCMT	**Greycliff**	**3.84 304**		*eP*	**Pn**	**19 13 51.2**	**+0.7**
LKWY	**Lake**	**3.89 284**		*eP*	**Pn**	**19 13 52.4**	**+1.2**
ISCO	**Idaho Springs**	**3.93 186**		*eP*	**Pn**	**19 13 52.1**	**+0.3**
ISCO				*eS*	**Sb**	**19 14 46.7**	**-1.8**
LOHW	**Long Hollow**	**3.98 270**		*eP*	**Pn**	**19 13 54.2**	**+1.8**
FLWY	**Flagg Ranch**	**4.05 277**		*eP*	**Pn**	**19 13 53.4**	**+0.1**
FLWY				*eS*	**Sb**	**19 14 50.6**	**-1.2**
SNOW	**Snow King Moun**	**4.10 268**		P	**Pb**	**19 14 00.8**	**-2.4**
REDW	**Red Top Meadow**	**4.18 267**		*e*Pn	**Pn**	**19 13 56.2**	**+1.0**
YFT	**Old Faithful**	**4.18 282**		P	**Pn**	**19 13 52.6**	**-2.5**
YMR	**Madison River**	**4.31 285**		*eP*	**Pn**	**19 13 57.9**	**+1.0**
AHID	**Auburn Hatcher**	**4.47 260**		P	**Pb**	**19 14 10.3**	**+0.8**
SMCO	**Snowmass**	**4.75 198**		*e*Pg	**Pb**	**19 14 15.6**	**+1.5**
SMCO				*eS*	**Sb**	**19 15 15.8**	**+3.9**
BOZ	**Bozeman (W)**	**5.03 295**		*eP*	**Pn**	**19 14 04.9**	**-1.8**
	6.2nm,0.6s						
HWUT	**Hardware Ranch**	**5.20 248**		*eP*	**Pn**	**19 14 08.4**	**-0.7**
	13nm,0.8s						
TCUT	**Toone Canyon**	**5.33 243**		*eP*	**Pn**	**19 14 10.2**	**-0.8**
TCUT				*eS*	**Sb**	**19 15 29.7**	**+1.1**
EGMT	**Eagleton**	**5.38 325**		*eP*	**Pn**	**19 14 11.8**	**+0.2**
	8.0nm,0.3s						
DLMT	**Dillon**	**5.59 290**		*e*Pg	**Pb**	**19 14 32.2**	**+3.7**
	5.3nm,0.7s						
HRY	**Holter Researc**	**5.60 305**		*eP*	**Pn**	**19 14 15.0**	**+0.3**
DAU	**Daniels Canyon**	**5.63 236**		*eP*	**Pn**	**19 14 16.7**	**+1.6**
MCMT	**McKenzie Canyo**	**5.66 284**		P	**Pn**	**19 14 19.9**	**+4.4**
SRU	**San Rafael**	**6.14 223**		*eP*	**Pn**	**19 14 20.1**	**-1.9**
	10nm,0.6s						
SRU				*eS*	**Sb**	**19 15 57.9**	**+6.0**
TMUT	**Trail Mountain**	**6.36 228**		*eP*	**Pn**	**19 14 24.6**	**-0.4**

DRGR		**149.31**	**335**	⇑P	PKPbc	PKPbc	19 34 35.6 +0.1
KHC	**Kasperske Hory**	**150.02**	**348**	*e*PKPbc	PKPbc	PKPbc	19 34 36.5 -0.8
GERES	**GERESS Array B**	**150.26**	**347**	PKPbc	PKPbc	PKPbc	19 34 37.4 -0.5
	2.3nm,0.8s,baz=38,slow=2.4,SNR=13						
BZS	**Buzias**	**150.71**	**334**	⇓P	PKPbc	PKPbc	19 34 38.5 -0.4
DAVOX	**Davos**	**152.93**	**351**	PKPbc	PKPbc	PKPbc	19 34 44.1 +0.2
	1.8nm,0.5s,baz=248,slow=15,SNR=4.1						

*IDC **10** 19:29:12.8±5.1, 1000N×993.8E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.9/22, Error ellipse: s-maj=294.9km s-min=21.9km az=58.0*
*NEIC **10** 19:29:15.1±3.2, 996N×933.2E, h10km, mb4.1/4, Error ellipse: s-maj=198.0km s-min=11.9km az=56.0*
*ISCJB **10** 19:29:21.5±3.7, 97N±08×93E±, h100km, mb3.8/4, Error ellipse: s-maj=212.9km s-min=12.8km az=113.0*
ISC 10 19:29:24.3±3.7, 98N±08×93E±, h100km, n13, σ0§64/11, mb3.8/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.82**	**355**	*e*P	Px	19 30 14.8	
PBA				*e*S	Sx	19 30 29.1	
PBA				*ex*	x	19 30 36.0	
	comp=E,622nm,0.6s						
PBA				*ex*	x	19 30 39.1	
	comp=N,1μm,0.6s						
PSI	**Prapat**	**9.20**	**139**	LR	LR	19 35 50.4	
	comp=N,134nm,19.0s,baz=330,slow=43						
JIRN	**Jiri**	**18.83**	**341**	*e*P	**P**	**19 33 36.2**	**+0.1**
	comp=N,50nm,1.4s						
PKI	**Pulchoki**	**19.01**	**339**	*e*P	**P**	**19 33 38.4**	**+0.3**
	comp=N,30nm,1.0s						
DMN	**Daman**	**19.15**	**339**	*e*P	**P**	**19 33 40.5**	**+0.9**
	comp=N,17nm,0.9s						
GUN	**Gumba**	**19.16**	**341**	*e*P	**P**	**19 33 40.2**	**+0.5**
KKN	**Kakani**	**19.25**	**339**	*e*P	**P**	**19 33 40.6**	**-0.1**
GKN	**Gorkha**	**19.68**	**338**	*e*P	**P**	**19 33 45.9**	**+0.5**
	comp=N,7.9nm,0.5s						
KOLN	**Koldanda**	**19.88**	**335**	*e*P	**P**	**19 33 46.2**	**-1.3**
MKAR	**Makanchi Array**	**37.93**	**348**	P	**P**	**19 36 30.9**	**-1.0**
	comp=N,1.1nm,0.7s,mb3.8,baz=163,slow=8.5,SNR=13						
BVAR	**Borovoye Array**	**46.75**	**341**	P	**P**	**19 37 43.3**	**-0.1**
	comp=N,0.6nm,0.8s,mb3.4,baz=134,slow=4.2,SNR=4.2						
WRA	**Warramunga Arr**	**50.40**	**126**	P	**P**	**19 38 11.0**	**-0.4**
	comp=N,1.3nm,0.7s,mb4.0,baz=305,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**52.11**	**130**	P	**P**	**19 38 24.6**	**+0.5**
	comp=N,1.7nm,0.8s,mb4.1,baz=308,slow=6.8,SNR=18						

*BJI **10** 19:33:14.7, 4000N×130W, h7km, mB4.7, mb4.6, Ms4.8, Msz4.5*
*MOS **10** 19:33:14.6±0.8, 4011N×144W, h10km, mb4.6/5, Error ellipse: s-maj=9.5km s-min=3.3km az=67.5*
*ISCJB **10** 19:33:14.3±0.2, 4010N±001×144W±001, h3km±2km, mb4.2/24, MS3.2/4, Error ellipse: s-maj=2.1km s-min=1.4km az=87.9*
*SFS **10** 19:33:17.0, 4003N×125W, h0km, ML4.3*
*CSEM **10** 19:33:17.3, 4006N×163W, h2km, ML4.5*
*NEIC **10** 19:33:17.9, 4003N×125W, h7km, mb4.4/7, ML4.4(STR), ML4.8(LDG), MN4.3(MDD), After MDD.*
NEIC Felt [V] at Ademuz, Arcos de Las Salinas, Casas Altas, Casas Bajas, Los Santos, Mas de Jacinto, Puebla de San Miguel, Torre Baja and Vallanca; [IV] Aras de Alpuente, Castielfabib, Landete, Mas del Olmo, Riodeva, Salvacanete, Santa Cruz de Moya, Santo Domingo de Moya, Sesga, Talayuelas and Tramacastiel; [III] at Alcala de La Vega, Alfambra, Aliaguilla, Camarena de La Sierra, Canete, Cella, Chelva, Cuevas Labradas, Henarejos, La Almeza, Rubiales, Teruel, Titaguas, Tormon and Torrijas.
*INMG **10** 19:33:17.1±1.2, 4002N×135W, h0km±3km, MD3.9, ML4.2, Error ellipse: s-maj=2.0km s-min=1.7km az=131.0*
*IDC **10** 19:33:18.8±2.7, 4009N×140W, h22km±19km, mb3.8/16, mb1 4.0/20, mb1mx3.9/31, mbtmp4.0/20, ML4.0/3, MS3.4/8, Ms1 3.4/8, ms1mx3.3/30, Error ellipse: s-maj=16.1km s-min=11.3km az=129.0*
*LDG **10** 19:33:18.8±0.1, 4006N×126W, h10km, Md4.4/2, Ml4.8/43, ms3.2/4, Error ellipse: s-maj=2.1km s-min=1.1km az=131.0*
*MDD **10** 19:33:18.1±0.2, 4003N×125W, h10km, mbLg4.2/45, Error ellipse: s-maj=2.5km s-min=1.7km az=110.0, PRXIMO V PUEBLA DE SAN MIGUEL TORREBAJA VALLANCA IV-V ADEMUZ LOS SANTOS MAS DE JACINTO IV ARAS DE ALPUENTE CASTIELFABIB LANDETE IV MAS DEL OLMO RIODEVA ETE IV SANTA CRUZ DE MOYA SANTO DOMINGO DE MOYA IV SESGA TRAMACASTIEL III-IV HUERTOS DE MOYA TALAYUELAS III CAMARENA DE LA SIERRA ETE CELLA III CHELVA LA ALMEZA RUBIALES III TERUEL TITAGUAS N TORRIJAS II-III ALCAL DE LA VEGA ALFAMBRA II-III ALIAGUILLA CUEVAS LABRADAS HENAREJOS II ALBACETE N CASTELLN DE LA PLANA II BONICHES CUENCA GEA DE N LA YESA II LLIRIA MADRID MANZANERA II PUERTO DE SAGUNTO SALINAS DEL MANZANO II SEGORBE TORRENT VALENCIA II EL VALLECILLO I ANDILLA BARRACAS BONICHES I CAMPILLOS SIERRA CAMPORROBLES CARDENETE I CASTELLAR CEDRILLAS CELADAS I FORMICHE ALTO GARABALLA I LA PUEBLA DE VALVERDE N I PERALES DE ALFAMBRA SAN N N I SINARCAS TERRIENTE TRAMACASTILLA I VALDECUENCA VILLAR DEL ARZOBISPO*
MDD EMS: V ARCOS DE LAS SALINAS CASAS ALTAS BAJAS.
*CRAAG **10** 19:33:19.9, 4004N×160W, Mb4.2*
*IGIL **10** 19:33:19.0, 3990N×140W, h0km, ML4.2*
*STR **10** 19:33:26.1±0.3, 4054N×1.11W, h10km±1km, Ml4.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 10 19:33:16.5±0.2, 4008N±001×139W±001, h6km±1km, n391, σ1§29/677, mb4.2/24, MS3.2/4, 15C-17D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHE	**Chera**	**0.59**	**147**	⇑Pg	**Pg**	**19 33 26.9**	**-0.9**
	710nm,0.5s,SNR=18						
ECHE				Lg		19 33 33.0	
	SNR=4.0						
EMOS	**Mosqueruela**	**0.75**	**68**	⇑Pg	**Pg**	**19 33 30.6**	**-0.3**
	3μm,0.2s,SNR=18						
EMOS				Lg		19 33 39.8	
	17μm,0.7s,SNR=5.0						
EMOS	**Mosqueruela**	**0.75**	**68**	Pg	**Pg**	**19 33 30.6**	**-0.3**
	3μm,0.2s,SNR=18						
EMOS	**Mosqueruela**	**0.75**	**68**	Pg	**Pg**	**19 33 30.6**	**-0.3**
EMOS				Lg		19 33 39.0	
ETOB	**Tobarra**	**1.44**	**185**	⇓Pn	**Pn**	**19 33 42.1**	**-1.0**
	45nm,0.5s,SNR=18						
ETOB				Pg	**Pg**	**19 33 43.7**	**-0.4**
	774nm,0.3s,SNR=471						
ETOB				Lg		19 34 01.7	
	2μm,0.4s,SNR=11						
ETOB	**Tobarra**	**1.44**	**185**	Pn	**Pn**	**19 33 42.1**	**-1.0**
	45nm,0.5s,SNR=18						
ETOB	**Tobarra**	**1.44**	**185**	Pg	**Pg**	**19 33 43.7**	**-0.4**
	774nm,0.3s,SNR=471						
ERTA	**Horta de San J**	**1.57**	**56**	Pg	**Pg**	**19 33 45.5**	**-1.2**
	565nm,0.2s,SNR=866						
ERTA				Lg		19 34 05.4	
	18μm,0.4s,SNR=67						
ERTA	**Horta de San J**	**1.57**	**56**	Pg	**Pg**	**19 33 45.5**	**-1.2**
	565nm,0.2s,SNR=866						
EBR	**Ebro Roquetas**	**1.61**	**62**	*i* PN	**Pn**	**19 33 45.5**	**0.0**
EBEN	**Beniarda**	**1.64**	**147**	Pn	**Pn**	**19 33 43.8**	**-2.1**
	9.7nm,0.1s,SNR=8.2						
EBEN				Pg	**Pg**	**19 33 46.4**	**-1.6**
	396nm,0.4s,SNR=62						
EBEN				Sn	**Sn**	**19 34 04.6**	**-2.8**
	612nm,0.5s,SNR=4.0						
EBEN				Lg		19 34 06.5	
	1μm,0.5s,SNR=4.0						
EBEN	**Beniarda**	**1.64**	**147**	Pn	**Pn**	**19 33 43.8**	**-2.1**
	9.7nm,0.1s,SNR=8.2						
EBEN	**Beniarda**	**1.64**	**147**	Pg	**Pg**	**19 33 46.4**	**-1.6**
	396nm,0.4s,SNR=62						
EBEN				Sn	**Sn**	**19 34 04.6**	**-2.8**
	612nm,0.5s,SNR=4.0						
ESAC	**San Caprasio**	**1.78**	**23**	Pn	**Pn**	**19 33 48.0**	**+0.3**
	219nm,0.3s,SNR=4.0						
ESAC				Pg	**Pg**	**19 33 50.8**	**+0.2**
	3μm,0.2s,SNR=7.9						
ESAC				Lg		19 34 12.9	
	18μm,0.3s,SNR=6.3						
ESAC	**San Caprasio**	**1.78**	**23**	Pn	**Pn**	**19 33 48.0**	**+0.2**
	219nm,0.3s,SNR=4.0						
ESAC	**San Caprasio**	**1.78**	**23**	Pg	**Pg**	**19 33 50.8**	**+0.2**
	3μm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.03**	**259**	Pn	**Pn**	**19 33 51.9**	**+0.7**
	105nm,0.3s,baz=78,slow=14,SNR=173						
ESDC				Pg	**Pg**	**19 33 56.3**	**+1.0**
	555nm,0.3s,baz=79,slow=18,SNR=756						
ESDC				Lg		19 34 21.7	
	304nm,0.3s,baz=79,slow=30,SNR=8.7						
ESDC	**Sonseca Array**	**2.03**	**259**	Pn	**Pn**	**19 33 52.1**	**+1.0**
	45nm,0.2s,baz=80,slow=14,SNR=170						
ESDC				Pg	**Pg**	**19 33 56.3**	**+1.0**
	1μm,0.3s,baz=80,slow=18,SNR=7.9						
ESDC				Sn	**Sn**	**19 34 16.2**	**-0.6**
	211nm,0.1s,baz=74,slow=15,SNR=7.9						
ESDC				Lg		19 34 21.8	
	842nm,0.5s,baz=83,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**2.03**	**259**	Pn	**Pn**	**19 33 52.1**	**+0.9**
	45nm,0.2s,SNR=170						
ESDC	**Sonseca Array**	**2.03**	**259**	Pg	**Pg**	**19 33 56.3**	**+1.0**
	1μm,0.3s,SNR=7.9						
ESDC				Sn	**Sn**	**19 34 16.2**	**-0.6**
	211nm,0.1s,SNR=7.9						
ESLA	**Sonseca Array**	**2.03**	**259**	*e*Pn	**Pn**	**19 33 51.8**	**+0.6**
ESLA	**Sonseca Array**	**2.03**	**259**	*e*Pg	**Pg**	**19 33 56.3**	**+1.0**
ESLA	**Sonseca Array**	**2.03**	**259**	*e*Pn	**Pn**	**19 33 51.9**	**+0.7**
ESLA				*e*Pg	**Pg**	**19 33 56.3**	**+1.0**
GUD	**Guadarrama**	**2.19**	**286**	⇑Pn	**Pn**	**19 33 54.8**	**+1.4**
	18nm,0.2s,SNR=18						
GUD				Pg	**Pg**	**19 33 59.6**	**+1.2**
	SNR=7.9						
GUD				Lg		19 34 28.4	
	SNR=7.9						
GUD	**Guadarrama**	**2.19**	**286**	Pg	**Pg**	**19 33 59.6**	**+1.2**
	SNR=7.9						
EMUR	**La Murta**	**2.24**	**177**	Pn	**Pn**	**19 33 53.4**	**-0.7**
	8.0nm,0.4s,SNR=7.9						
EMUR				Pg	**Pg**	**19 33 58.2**	**-1.3**
	256nm,0.4s,SNR=123						
EMUR				Lg		19 34 27.0	
	1μm,0.6s,SNR=7.9						
EMUR	**La Murta**	**2.24**	**177**	Pn	**Pn**	**19 33 53.4**	**-0.7**
	8.0nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**2.24**	**177**	Pg	**Pg**	**19 33 58.2**	**-1.2**
	256nm,0.4s,SNR=123						
EPOB	**Poblet**	**2.26**	**55**	⇑Pn	**Pn**	**19 33 54.3**	**-0.2**
	27nm,0.1s,SNR=18						
EPOB				Pg	**Pg**	**19 33 57.7**	**-2.1**
	1μm,0.7s,SNR=12						
EPOB				Sn	**Sn**	**19 34 21.1**	**-1.5**
	285nm,0.3s,SNR=4.0						
EPOB				Lg		19 34 25.0	
	4μm,0.9s,SNR=13						
EPOB	**Poblet**	**2.26**	**55**	Pn	**Pn**	**19 33 54.3**	**-0.1**
	27nm,0.1s,SNR=18						
EPOB	**Poblet**	**2.26**	**55**	Pg	**Pg**	**19 33 57.7**	**-2.1**
	1μm,0.7s,SNR=12						
EPOB				Sn	**Sn**	**19 34 21.1**	**-1.5**
	285nm,0.3s,SNR=4.0						
EIBI	**Ibiza**	**2.36**	**116**	⇓Pn	**Pn**	**19 33 53.8**	**-1.9**
	61nm,0.2s,SNR=18						
EIBI				Sn	**Sn**	**19 34 19.7**	**-5.3**
	451nm,0.2s,SNR=5.0						
EIBI	**Ibiza**	**2.36**	**116**	Pn	**Pn**	**19 33 53.8**	**-1.9**
	61nm,0.2s,SNR=18						
EIBI				Sn	**Sn**	**19 34 19.7**	**-5.3**
	451nm,0.2s,SNR=5.0						
EHUE	**Huescar**	**2.45**	**203**	Pn	**Pn**	**19 33 57.1**	**0.0**
	8.2nm,0.2s,SNR=7.9						
EHUE				Pg	**Pg**	**19 34 03.5**	**+0.1**
	86nm,0.3s,SNR=7.9						
EHUE				Sn	**Sn**	**19 34 27.3**	**-0.1**
	136nm,0.4s,SNR=7.9						
EHUE				Lg		19 34 35.9	
	494nm,0.6s,SNR=7.9						
EHUE	**Huescar**	**2.45**	**203**	Pg	**Pg**	**19 34 03.5**	**0.0**
	86nm,0.3s,SNR=7.9						
EHUE				Sn	**Sn**	**19 34 27.3**	**0.0**
	136nm,0.4s,SNR=7.9						
EGRA	**Graus**	**2.47**	**31**	Pn	**Pn**	**19 33 57.3**	**0.0**
	13nm,0.2s,SNR=64						
EGRA				Pg	**Pg**	**19 34 03.0**	**-0.8**
	365nm,0.4s,SNR=7.9						
EGRA				Sn	**Sn**	**19 34 27.4**	**-0.4**
	301nm,0.4s,SNR=5.0						
EGRA				Lg		19 34 33.3	
	SNR=7.9						
EGRA	**Graus**	**2.47**	**31**	Pg	**Pg**	**19 34 03.0**	**-0.8**
	365nm,0.4s,SNR=7.9						
EGRA				Sn	**Sn**	**19 34 27.4**	**-0.4**
	301nm,0.4s,SNR=5.0						
CART	**Cartagena**	**2.51**	**173**	P	**Pn**	**19 34 02.7**	**+4.9**
CART				S	**Sn**	**19 34 35.0**	**+6.2**
CART	**Cartagena**	**2.51**	**173**	*e*Pn	**Pn**	**19 33 57.0**	**-0.8**
CART	**Cartagena**	**2.51**	**173**	*e*Pn	**Pn**	**19 33 57.0**	**-0.8**
EQES	**Quesada**	**2.63**	**211**	Pn	**Pn**	**19 33 59.6**	**+0.1**
	62nm,0.3s,SNR=62						
EQES				Pg	**Pg**	**19 34 07.1**	**+0.3**
	298nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**19 34 31.6**	**-0.1**
	362nm,0.4s,SNR=7.9						
EQES				Lg		19 34 40.7	
	1μm,0.4s,SNR=7.4						
EQES	**Quesada**	**2.63**	**211**	Pn	**Pn**	**19 33 59.6**	**+0.1**
	62nm,0.3s,SNR=62						
EQES	**Quesada**	**2.63**	**211**	Pg	**Pg**	**19 34 07.1**	**+0.2**
	298nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**19 34 31.6**	**-0.1**
	362nm,0.4s,SNR=7.9						
IUNC	**Unciti**	**2.67**	**358**	Pn	**Pn**	**19 34 02.0**	**+1.9**
	13nm,0.2s,SNR=7.9						
IUNC				Pg	**Pg**	**19 34 08.8**	**+1.1**
	168nm,0.4s,SNR=7.9						
IUNC				Sn	**Sn**	**19 34 32.6**	**-0.1**
	205nm,0.3s,SNR=7.9						
IUNC				Lg		19 34 45.6	
	954nm,0.5s,SNR=7.9						
IUNC	**Unciti**	**2.67**	**358**	Pg	**Pg**	**19 34 08.8**	**+1.1**
	168nm,0.4s,SNR=7.9						
IUNC				Sn	**Sn**	**19 34 32.7**	**-0.1**
	205nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**2.67**	**225**	⇓Pn	**Pn**	**19 34 00.0**	**-0.1**
	27nm,0.1s,SNR=18						
EBAN				Pg	**Pg**	**19 34 08.0**	**+0.2**
	130nm,0.2s,SNR=19						
EBAN				Sn	**Sn**	**19 34 32.8**	**0.0**
	130nm,0.3s,SNR=7.9						
EBAN				Lg		19 34 43.0	
	SNR=7.9						
EBAN	**Banos Encina**	**2.67**	**225**	Pg	**Pg**	**19 34 08.0**	**+0.2**
	130nm,0.2s,SNR=19						
EBAN				Sn	**Sn**	**19 34 32.8**	**0.0**
	130nm,0.3s,SNR=7.9						
EARA	**Aranguren**	**2.69**	**357**	Pn	**Pn**	**19 34 01.6**	**+1.2**
	5.0nm,0.2s,SNR=7.9						
EARA				Pg	**Pg**	**19 34 09.1**	**+1.0**
	87nm,0.2s,SNR=7.9						
EARA				Sn	**Sn**	**19 34 33.5**	**+0.3**
	421nm,0.5s,SNR=7.9						
EARA				Lg		19 34 44.3	
	730nm,0.3s,SNR=7.9						
EARA	**Aranguren**	**2.69**	**357**	Pn	**Pn**	**19 34 01.5**	**+1.2**
	5.0nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**2.69**	**357**	Pg	**Pg**	**19 34 09.1**	**+1.0**
	87nm,0.2s,SNR=7.9						
EARA				Sn	**Sn**	**19 34 33.5**	**+0.3**
	421nm,0.5s,SNR=7.9						
IPRE	**Itoiz**	**2.72**	**0**	Pn	**Pn**	**19 34 03.1**	**+2.4**
	20nm,0.3s,SNR=4.0						
IPRE				Pg	**Pg**	**19 34 09.4**	**+0.8**
	85nm,0.4s,SNR=7.9						
IPRE				Lg		19 34 46.2	
	349nm,0.5s,SNR=7.9						
IPRE	**Itoiz**	**2.72**	**0**	Pn	**Pn**	**19 34 03.1**	**+2.4**
	20nm,0.3s,SNR=4.0						
IPRE	**Itoiz**	**2.72**	**0**	Pg	**Pg**	**19 34 09.4**	**+0.8**
	85nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**2.84**	**23**	Pn	**Pn**	**19 34 03.3**	**+0.9**
	17nm,0.3s,SNR=47						
EBIE				Pg	**Pg**	**19 34 10.1**	**-0.8**
	197nm,0.3s,SNR=32						
EBIE				Sn	**Sn**	**19 34 37.0**	**0.0**
	354nm,0.5s,SNR=7.9						
EBIE				Lg		19 34 45.0	
	960nm,0.5s,SNR=5.0						
EBIE	**Bielsa**	**2.84**	**23**	Pn	**Pn**	**19 34 03.3**	**+0.9**
	17nm,0.3s,SNR=47						
EBIE	**Bielsa**	**2.84**	**23**	Pg	**Pg**	**19 34 10.1**	**-0.9**
	197nm,0.3s,SNR=32						
EBIE				Sn	**Sn**	**19 34 37.0**	**0.0**
	354nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**2.86**	**49**	⇓Pn	**Pn**	**19 34 02.8**	**+0.1**
	444nm,0.4s,SNR=18						
EMIR				Pg	**Pg**	**19 34 10.0**	**-1.4**
	856nm,0.4s,SNR=15						
EMIR				Lg		19 34 43.3	
	5μm,0.5s,SNR=5.0						
EMIR	**Miracle**	**2.86**	**49**	Pn	**Pn**	**19 34 02.8**	**+0.1**
	444nm,0.4s,SNR=18						
EMIR	**Miracle**	**2.86**	**49**	Pg	**Pg**	**19 34 10.0**	**-1.4**
	856nm,0.4s,SNR=15						
IUSE	**Utxeti**	**2.86**	**358**	Pn	**Pn**	**19 34 04.7**	**+2.0**
	6.9nm,0.2s,SNR=7.9						
IUSE				Pg	**Pg**	**19 34 12.0**	**+0.6**
	235nm,0.5s,SNR=7.9						
IUSE				Sn	**Sn**	**19 34 36.2**	**-1.3**
	74nm,0.3s,SNR=7.9						
IUSE				Lg		19 34 49.8	
	630nm,0.7s,SNR=7.9						
IUSE	**Utxeti**	**2.86**	**358**	Pn	**Pn**	**19 34 04.7**	**+2.0**
	6.9nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**2.86**	**358**	Pg	**Pg**	**19 34 12.0**	**+0.6**
	235nm,0.5s,SNR=7.9						
IUSE				Sn	**Sn**	**19 34 36.2**	**-1.3**
	74nm,0.3s,SNR=7.9						
ETSF	**Étsaut**	**2.88**	**12**	*e*Pg	**Pg**	**19 34 12.5**	**+0.8**
ETSF				*e*Sn	**Sn**	**19 34 35.9**	**-2.0**
ETSF				*e*Sg	**Sg**	**19 34 50.4**	**+1.4**
	3μm,0.9s						
ETSF	**Étsaut**	**2.88**	**12**	Pn	**Pn**	**19 34 03.4**	**+0.5**
ETSF				Pg	**Pg**	**19 34 12.5**	**+0.8**
ETSF				Sn	**Sn**	**19 34 35.9**	**-2.0**
ETSF				Lg		19 34 50.4	
	2μm,0.9s						
ETSF	**Étsaut**	**2.88**	**12**	*e*Pg	**Pg**	**19 34 12.5**	**+0.8**
ETSF				*e*Sn	**Sn**	**19 34 35.9**	**-2.0**
ETSF				*e*Sg	**Sg**	**19 34 50.4**	**+1.4**
	2μm,0.9s						
ETSF	**Étsaut**	**2.88**	**12**	*e*Pn	**Pn**	**19 34 03.4**	**+0.5**
ETSF				*e*Pg	**Pg**	**19 34 12.5**	**+0.8**
ETSF				*e*Sn	**Sn**	**19 34 35.9**	**-2.0**
ETSF				*e*Sg	**Sg**	**19 34 50.4**	**+1.4**
ETSF	**Etsaut**	**2.88**	**12**	*e*P	**Pn**	**19 34 03.4**	**+0.5**
ETSF				*e*		19 34 35.9	
RESF	**Ens**	**3.02**	**25**	Pn	**Pn**	**19 34 05.1**	**+0.3**
SJPF	**Ste Jean**	**3.03**	**2**	*e*Pg	**Pg**	**19 34 14.6**	**0.0**
SJPF				*e*Sn	**Sn**	**19 34 39.0**	**-2.6**
SJPF				*e*Sg	**Sg**	**19 34 53.6**	**-0.2**
	956nm,0.5s,SNR=1.0						
SJPF	**Ste Jean**	**3.03**	**2**	Pn	**Pn**	**19 34 05.5**	**+0.5**
SJPF				Pg	**Pg**	**19 34 14.6**	**0.0**
SJPF				Sn	**Sn**	**19 34 39.0**	**-2.6**
SJPF				Lg		19 34 53.6	
	0.5nm,0.5s						
SJPF	**Ste Jean**	**3.03**	**2**	*e*Pg	**Pg**	**19 34 14.6**	**0.0**
SJPF				*e*Sn	**Sn**	**19 34 39.0**	**-2.6**
SJPF				*e*Sg	**Sg**	**19 34 53.6**	**-0.2**
	478nm,0.5s,SNR=1.0						
SJPF	**Ste Jean**	**3.03**	**2**	*e*Pn	**Pn**	**19 34 05.5**	**+0.5**
SJPF				*e*Pg	**Pg**	**19 34 14.6**	**0.0**
SJPF				*e*Sn	**Sn**	**19 34 39.0**	**-2.6**
SJPF				*e*Sg	**Sg**	**19 34 53.6**	**-0.2**
SJPF	**Ste Jean**	**3.03**	**2**	*e*P	**Pn**	**19 34 05.5**	**+0.5**
SJPF				*e*		19 34 39.0	
ELIZ	**Elizondo**	**3.08**	**358**	Pn	**Pn**	**19 34 06.9**	**+1.3**
	22nm,0.3s,SNR=7.9						
ELIZ				Pg	**Pg**	**19 34 15.8**	**+0.3**
	77nm,0.2s,SNR=7.9						
ELIZ				Sn	**Sn**	**19 34 43.2**	**+0.3**
	94nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**3.08**	**358**	Pg	**Pg**	**19 34 15.8**	**+0.3**
	77nm,0.2s,SNR=7.9						
ELIZ				Sn	**Sn**	**19 34 43.2**	**+0.4**
	94nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.13**	**233**	⇓Pn	**Pn**	**19 34 06.6**	**+0.2**
	34nm,0.2s,SNR=18						
EADA				Pg	**Pg**	**19 34 16.4**	**-0.1**
	155nm,0.3s,SNR=19						
EADA				Sn	**Sn**	**19 34 41.9**	**-2.2**
	375nm,0.4s,SNR=7.9						
EADA				Lg		19 34 57.5	
	1000nm,0.5s,SNR=5.0						
EADA	**Adamuz**	**3.13**	**233**	Pn	**Pn**	**19 34 06.6**	**+0.2**
	34nm,0.2s,SNR=18						
EADA	**Adamuz**	**3.13**	**233**	Pg	**Pg**	**19 34 16.4**	**-0.1**
	155nm,0.3s,SNR=19						
EADA				Sn	**Sn**	**19 34 41.9**	**-2.2**
	375nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**3.14**	**358**	Pn	**Pn**	**19 34 08.5**	**+2.1**
	16nm,0.2s,SNR=7.9						
EALK				Pg	**Pg**	**19 34 18.1**	**+1.5**
	435nm,0.5s,SNR=19						
EALK				Sn	**Sn**	**19 34 44.1**	**-0.1**
	524nm,0.4s,SNR=7.9						
EALK				Lg		19 34 59.3	
	4μm,0.9s,SNR=16						
EALK	**Alkurruntz**	**3.14**	**358**	Pg	**Pg**	**19 34 18.1**	**+1.5**
	435nm,0.5s,SNR=19						
EALK				Sn	**Sn**	**19 34 44.1**	**-0.1**
	524nm,0.4s,SNR=7.9						
LABF	**Labassere**	**3.16**	**20**	Pn	**Pn**	**19 34 07.9**	**+1.2**
ENIJ	**Nijar**	**3.17**	**192**	Pn	**Pn**	**19 34 07.0**	**+0.1**
	36nm,0.4s,SNR=7.9						
ENIJ				Pg	**Pg**	**19 34 16.4**	**-0.8**
	295nm,0.6s,SNR=23						
ENIJ				Sn	**Sn**	**19 34 42.3**	**-2.8**
	82nm,0.4s,SNR=7.9						
ENIJ				Lg		19 34 56.8	
	346nm,0.5s,SNR=7.9						
ENIJ	**Nijar**	**3.17**	**192**	Pg	**Pg**	**19 34 16.4**	**-0.9**
	295nm,0.6s,SNR=23						
ENIJ				Sn	**Sn**	**19 34 42.3**	**-2.8**
	82nm,0.4s,SNR=7.9						
OSSF

351nm,0.5s,SNR=7.9
EQUE Lg 19 35 01.7
1µm,0.5s,SNR=7.6
SALF Salau 3.30 35 Pn Pn 19 34 09.5 +0.8
ELUQ Luque 3.38 223 ⇑Pn Pn 19 34 10.3 +0.5
30nm,0.2s,SNR=18
ELUQ Pg **Pg 19 34 19.7 -1.5**
80nm,0.4s,SNR=4.0
ELUQ Sn **Sn 19 34 50.3 +0.2**
70nm,0.2s,SNR=7.9
ELUQ Lg 19 35 06.1
298nm,0.4s,SNR=5.0
ELUQ Luque 3.38 223 Pg Pg 19 34 19.7 -1.5
80nm,0.4s,SNR=4.0
ELUQ Sn **Sn 19 34 50.3 +0.1**
70nm,0.2s,SNR=7.9
EBER Berja 3.39 201 Pn Pn 19 34 11.3 +1.3
34nm,0.2s,SNR=7.9
EBER Pg **Pg 19 34 19.6 -1.8**
249nm,0.6s,SNR=9.4
EBER Sn **Sn 19 34 47.5 -3.0**
411nm,0.7s,SNR=4.0
EBER Lg 19 35 05.0
2µm,0.6s,SNR=7.9
EBER Berja 3.39 201 Pn Pn 19 34 11.3 +1.3
34nm,0.2s,SNR=7.9
EBER Berja 3.39 201 Pg Pg 19 34 19.6 -1.9
249nm,0.6s,SNR=9.4
EBER Sn **Sn 19 34 47.5 -3.0**
411nm,0.7s,SNR=4.0
VALF Valcebollere 3.46 47 Pn Pn 19 34 11.8 +1.0
ELAN Lanestosa 3.50 335 Pn Pn 19 34 13.1 +1.6
42nm,0.2s,SNR=54
ELAN Pg **Pg 19 34 24.2 +0.6**
102nm,0.4s,SNR=163
ELAN Sn **Sn 19 34 52.7 -0.5**
369nm,0.7s,SNR=7.9
ELAN Lg 19 35 11.8
1µm,0.8s,SNR=5.0
ELAN Lanestosa 3.50 335 Pn Pn 19 34 13.1 +1.6
42nm,0.2s,SNR=54
ELAN Lanestosa 3.50 335 Pg Pg 19 34 24.2 +0.6
102nm,0.4s,SNR=163
ELAN Sn **Sn 19 34 52.7 -0.5**
369nm,0.7s,SNR=7.9
ERON Agron 3.60 213 Pn Pn 19 34 14.0 +1.2
38nm,0.4s,SNR=39
ERON Pg **Pg 19 34 24.5 -1.0**
77nm,0.4s,SNR=13
ERON Sn **Sn 19 34 54.4 -1.2**
106nm,0.4s,SNR=7.9
ERON Lg 19 35 14.7
153nm,0.4s,SNR=5.0
ERON Agron 3.60 213 Pg Pg 19 34 24.5 -1.0
77nm,0.4s,SNR=13
ERON Sn **Sn 19 34 54.4 -1.3**
106nm,0.4s,SNR=7.9
ELOJ Sierra Loja 3.65 217 Pn Pn 19 34 14.2 +0.8
18nm,0.3s,SNR=16
ELOJ Pg **Pg 19 34 25.7 -0.6**
61nm,0.6s,SNR=8.9
ELOJ Sn **Sn 19 34 55.7 -1.1**
58nm,0.5s,SNR=7.9
ELOJ Lg 19 35 15.0
125nm,0.4s,SNR=5.4
ELOJ Sierra Loja 3.65 217 Pg Pg 19 34 25.7 -0.6
61nm,0.6s,SNR=8.9
ELOJ Sn **Sn 19 34 55.7 -1.1**
58nm,0.5s,SNR=7.9
EGUA Guajares 3.67 209 Pn Pn 19 34 14.7 +1.0
4.8nm,0.3s,SNR=7.9
EGUA Pg **Pg 19 34 25.7 -1.0**
30nm,0.6s,SNR=4.0
EGUA Lg 19 35 16.0
69nm,0.5s,SNR=7.9
EGUA Guajares 3.67 209 Pg Pg 19 34 25.7 -1.1
30nm,0.6s,SNR=4.0
CARF Carcanieres 3.72 44 Pn Pn 19 34 15.4 +1.0
CARF Sg **Sg 19 35 12.8 -3.1**
FILF Fillols 3.87 49 Pn Pn 19 34 16.4 -0.1
FILF Sg **Sg 19 35 15.0 -5.7**
EJON La Jonquera 4.00 52 Pn Pn 19 34 18.7 +0.4
58nm,0.3s,SNR=25
EJON Pg **Pg 19 34 30.3 -2.7**
64nm,0.4s,SNR=4.0
EJON Lg 19 35 19.7
3µm,1.1s,SNR=5.0
EJON La Jonquera 4.00 52 Pn Pn 19 34 18.7 +0.5
58nm,0.3s,SNR=25
EJON La Jonquera 4.00 52 Pg Pg 19 34 30.3 -2.7
64nm,0.4s,SNR=4.0
SJAF Saint Jean de 4.01 52 Pn Pn 19 34 19.6 +1.1
SJAF Sg **Sg 19 35 22.8 -2.5**
LRDF Laroque-de-Fa 4.10 45 Pn Pn 19 34 20.4 +0.7
LRDF Sg **Sg 19 35 24.5 -3.7**
MAL Malaga 4.11 216 *e*P **Pn 19 34 20.1 +0.3**
MTLF Montolieu 4.23 38 *e*Pg **Pg 19 34 35.6 -1.9**
MTLF *e*Sg **Sg 19 35 28.3 -3.9**
866nm,0.7s
MTLF Montolieu 4.23 38 Pn Pn 19 34 20.6 -0.8
MTLF Pg **Pg 19 34 35.6 -1.9**
MTLF Lg 19 35 28.3
433nm,0.7s
MTLF Montolieu 4.23 38 *e*Pg **Pg 19 34 35.6 -1.9**
MTLF *e*Sg **Sg 19 35 28.3 -3.9**
433nm,0.7s
MTLF Montolieu 4.23 38 *e*Pn **Pn 19 34 20.6 -0.8**
MTLF *e*Pg **Pg 19 34 35.6 -1.9**
MTLF *e*Sg **Sg 19 35 28.3 -3.9**
EARI Arriondas 4.31 320 ⇓Pn **Pn 19 34 24.1 +1.6**
74nm,0.6s,SNR=18
EARI Sn **Sn 19 35 13.9 +0.9**
91nm,0.5s,SNR=7.9
EARI Lg 19 35 35.5
698nm,0.8s,SNR=5.0
EARI Arriondas 4.31 320 Pn Pn 19 34 24.1 +1.6
74nm,0.6s,SNR=18
EARI Sn **Sn 19 35 13.9 +0.8**
91nm,0.5s,SNR=7.9
MAHO Mahon 4.34 91 *e*P **Pn 19 34 19.5 -3.6**
PBRG Braganca 4.41 295 *e*Pn **Pn 19 34 25.0 +1.1**
PBRG *e*Sn **Sn 19 35 16.1 +0.6**
PBRG *e*Sg **Sg 19 35 38.4 +0.4**
PBRG
371nm,0.4s
PBRG Braganca 4.41 295 *e*Pn **Pn 19 34 25.0 +1.1**
PBRG *e*Sn **Sn 19 35 16.1 +0.6**
PBRG *e*Sg **Sg 19 35 38.4 +0.4**
371nm,0.4s
EMIJ Mijas 4.41 218 Pn Pn 19 34 24.1 +0.2
18nm,0.4s,SNR=15
EMIJ Sn **Sn 19 35 14.7 -0.9**
105nm,0.6s,SNR=7.9
EMIJ Lg 19 35 40.1
450nm,0.7s,SNR=5.0
EMIJ Mijas 4.41 218 Pn Pn 19 34 24.1 +0.2
18nm,0.4s,SNR=15
EMIJ Sn **Sn 19 35 14.7 -0.9**
105nm,0.6s,SNR=7.9
EBNR Beni Rached 4.43 148 P Pn 19 34 27.0 +2.8
ECAL Calabor 4.46 296 ⇑Pn **Pn 19 34 25.8 +1.2**
159nm,0.3s,SNR=18
ECAL Sn **Sn 19 35 17.2 +0.5**
340nm,0.4s,SNR=7.9
ECAL Lg 19 35 40.0
956nm,0.7s,SNR=5.0
ECAL Calabor 4.46 296 Pn Pn 19 34 25.8 +1.2
159nm,0.3s,SNR=18
ECAL Sn **Sn 19 35 17.2 +0.5**
340nm,0.4s,SNR=7.9
ECHF Ech Chlef 4.47 150 P Pn 19 34 25.0 +0.2
LIJA Lijar 4.47 226 ⇑P **Pn 19 34 26.1 +1.3**
LIJA S **Sn 19 35 14.0 -3.2**
LIJA Lijar 4.47 226 *i* P **Pn 19 34 26.1 +1.3**
ECHA Ech Chlef 4.49 150 P Pn 19 34 25.0 0.0
EBAD Badajoz 4.56 255 Pn Pn 19 34 25.9 -0.1
17nm,0.2s,SNR=75
EBAD Sn **Sn 19 35 16.6 -2.6**
137nm,0.4s,SNR=7.9
EBAD Lg 19 35 42.4
515nm,0.5s,SNR=5.0
EBAD Badajoz 4.56 255 Pn Pn 19 34 25.9 -0.1
17nm,0.2s,SNR=75
EANR 'Ain N'Sour 4.57 154 P Pn 19 34 28.0 +1.9
PCBR Castelo Branco 4.69 269 *e*Pn **Pn 19 34 28.6 +0.8**
PCBR *e*Sn **Sn 19 35 19.9 -2.6**
PCBR *e*Sg **Sg 19 35 48.1 +1.1**

PCBR
212nm,0.8s
PCBR Castelo Branco 4.69 269 *e*Pn **Pn 19 34 28.6 +0.8**
PCBR *e*Sn **Sn 19 35 19.9 -2.6**
PCBR *e*Sg **Sg 19 35 48.1 +1.1**
212nm,0.8s
MTE Manteigas 4.72 276 *e*Pn **Pn 19 34 28.5 +0.2**
MTE *e*Sn **Sn 19 35 23.0 -0.4**
MTE *e*Sg **Sg 19 35 49.8 +1.6**
MTE
503nm,0.6s
MTE Manteigas 4.72 276 Pn **Pn 19 34 28.5 +0.2**
MTE Sn **Sn 19 35 23.0 -0.4**
MTE Lg 19 35 49.8
251nm,0.6s
MTE Manteigas 4.72 276 *e*Pg **Pg 19 34 47.8 +0.8**
MTE *e*Sn **Sn 19 35 23.0 -0.4**
MTE *e*Sg **Sg 19 35 49.8 +1.6**
503nm,0.6s
MTE Manteigas 4.72 276 *e*Pn **Pn 19 34 28.5 +0.2**
MTE *e*Pg **Pg 19 34 47.8 +0.8**
MTE *e*Sn **Sn 19 35 22.6 -0.7**
MTE *e*Sg **Sg 19 35 46.9 -1.3**
EMIN Mina Concepcio 4.73 242 Pn **Pn 19 34 28.4 +0.1**
17nm,0.3s,SNR=54
EMIN Sn **Sn 19 35 22.2 -1.2**
69nm,0.5s,SNR=4.0
EMIN Lg 19 35 47.4
597nm,0.7s,SNR=5.0
EMIN Mina Concepcio 4.73 242 Pn **Pn 19 34 28.4 +0.1**
17nm,0.3s,SNR=54
EMIN Sn **Sn 19 35 22.2 -1.2**
69nm,0.5s,SNR=4.0
ESPR Espera 4.75 229 ⇓Pn **Pn 19 34 29.2 +0.5**
26nm,0.2s,SNR=18
ESPR Sn **Sn 19 35 22.3 -1.9**
82nm,0.4s,SNR=5.0
ESPR Lg 19 35 50.6
474nm,0.8s,SNR=7.9
ESPR Espera 4.75 229 Pn **Pn 19 34 29.2 +0.5**
26nm,0.2s,SNR=18
ESPR Sn **Sn 19 35 22.3 -1.8**
82nm,0.4s,SNR=5.0
ABA Alger-Bouzarea 4.77 132 P **Pn 19 34 27.2 -1.7**
EJIF Jimena Fronter 4.84 223 Pn **Pn 19 34 30.9 +1.0**
8.9nm,0.3s,SNR=7.9
EJIF Lg 19 35 54.6
100nm,0.6s,SNR=7.9
GIBL Gibalbin 4.84 229 ⇓P **Pn 19 34 31.0 +1.1**
GIBL Gibalbin 4.84 229 *i* P **Pn 19 34 31.0 +1.1**
ERUA La Rua 4.92 300 ⇑Pn **Pn 19 34 32.1 +1.2**
95nm,0.2s,SNR=18
ERUA Lg 19 35 58.1
220nm,0.5s,SNR=7.9
PVRL Vila Real 4.96 286 *e*Pn **Pn 19 34 32.1 +0.6**
PVRL *e*Sn **Sn 19 35 28.6 -0.6**
PVRL *e*Sg **Sg 19 35 56.4 +0.7**
PVRL
339nm,0.4s
PVRL Vila Real 4.96 286 *e*Pn **Pn 19 34 32.1 +0.6**
PVRL *e*Sn **Sn 19 35 28.6 -0.6**
PVRL *e*Sg **Sg 19 35 56.4 +0.7**
339nm,0.4s
PVIS Viseu 5.01 279 *e*Pn **Pn 19 34 32.8 +0.6**
PVIS *e*Sn **Sn 19 35 29.4 -1.0**
PVIS *e*Sg **Sg 19 35 56.0 -1.4**
PVIS
267nm,0.6s
PVIS Viseu 5.01 279 *e*Pn **Pn 19 34 32.8 +0.6**
PVIS *e*Sn **Sn 19 35 29.4 -1.0**
PVIS *e*Sg **Sg 19 35 56.0 -1.4**
267nm,0.6s
MOMI Momias 5.07 224 P **Pn 19 34 35.1 +2.1**
MOMI Momias 5.07 224 *e*P **Pn 19 34 35.1 +2.1**
LFF La Frestale 5.10 17 *e*Pn **Pn 19 34 32.8 -0.7**
SNR=1.0
LFF *e*Sn **Sn 19 35 29.3 -3.4**
LFF *e*Sg **Sg 19 35 57.9 -2.4**
973nm,0.7s
LFF La Frestale 5.10 17 *e*Pn **Pn 19 34 32.8 -0.7**
SNR=1.0
LFF *e*Sn **Sn 19 35 29.3 -3.4**
LFF *e*Sg **Sg 19 35 57.9 -2.4**
486nm,0.7s
LFF La Frestale 5.10 17 *e*P **Pn 19 34 32.8 -0.7**
LFF *e* 19 35 29.3
SCRT Cerro San Cris 5.10 229 P **Pn 19 34 34.5 +1.1**
SCRT Cerro San Cris 5.10 229 *e*P **Pn 19 34 34.5 +1.1**
ETRT Tiaret 5.14 155 P **Pn 19 34 34.0 -0.1**
EMHD Djebel Mahouad 5.17 137 P **Pn 19 34 35.0 +0.6**
ERIP Rio Piedras 5.33 241 Pn **Pn 19 34 36.3 -0.2**
5.3nm,0.1s,SNR=7.9
ERIP Sn **Sn 19 35 36.5 -1.8**
63nm,0.5s,SNR=7.9
ERIP Lg 19 36 10.3
698nm,1.2s,SNR=7.9
ELOB Lobios 5.36 292 Pn **Pn 19 34 37.9 +0.9**
88nm,0.3s,SNR=75
ELOB Sn **Sn 19 35 37.5 -1.5**
133nm,0.4s,SNR=7.9
ELOB Lg 19 36 09.0
551nm,0.8s,SNR=5.0
EPON Pontenova 5.40 309 ⇓Pn **Pn 19 34 38.2 +0.7**
41nm,0.3s,SNR=18
EPON Pg **Pg 19 34 57.3 -2.5**
221nm,0.6s,SNR=4.0
EPON Sn **Sn 19 35 38.8 -1.1**
120nm,0.3s,SNR=7.9
EPON Lg 19 36 08.3
655nm,1.0s,SNR=5.0
EGRO El Granado 5.40 244 ⇓Pn **Pn 19 34 37.4 -0.1**
8.1nm,0.2s,SNR=18
EGRO Sn **Sn 19 35 38.4 -1.6**
50nm,0.3s,SNR=7.9
EGRO Lg 19 36 09.2
678nm,1.0s,SNR=5.0
PTOM Tomar 5.43 267 *e*Pn **Pn 19 34 38.3 +0.4**
PTOM *e*Sn **Sn 19 35 38.6 -2.1**
PTOM *e*Sg **Sg 19 36 09.9 -0.9**
PTOM
253nm,0.6s
PTOM Tomar 5.43 267 *e*Pn **Pn 19 34 38.3 +0.4**
PTOM *e*Sn **Sn 19 35 38.6 -2.1**
PTOM *e*Sg **Sg 19 36 09.9 -0.9**
253nm,0.6s
PBEJ Beja 5.45 250 *e*Pn **Pn 19 34 39.2 +1.0**
PBEJ *e*Sn **Sn 19 35 37.9 -3.3**
PBEJ *e*Sg **Sg 19 36 12.5 +1.1**
PBEJ
159nm,0.4s
PBEJ Beja 5.45 250 Pn **Pn 19 34 39.2 +1.0**
PBEJ Sn **Sn 19 35 37.9 -3.3**
PBEJ Lg 19 36 12.5
80nm,0.4s
PBEJ Beja 5.45 250 *e*Pn **Pn 19 34 39.2 +1.0**
PBEJ *e*Sn **Sn 19 35 37.9 -3.3**
CAF Calviac 5.47 27 *e*Pg **Pg 19 34 59.1 -2.2**
CAF *e*Sn **Sn 19 35 37.0 -4.8**
SNR=1.0
CAF *e*Sg **Sg 19 36 08.6 -3.5**
241nm,0.5s,SNR=1.0
CAF Calviac 5.47 27 Pn **Pn 19 34 37.8 -0.7**
CAF Pg **Pg 19 34 59.1 -2.2**
CAF Sn **Sn 19 35 37.0 -4.8**
CAF Lg 19 36 08.6
121nm,0.5s
CAF Calviac 5.47 27 *e*Pg **Pg 19 34 59.1 -2.2**
CAF *e*Sn **Sn 19 35 37.0 -4.8**
SNR=1.0
CAF *e*Sg **Sg 19 36 08.6 -3.5**
121nm,0.5s,SNR=1.0
CAF Calviac 5.47 27 *e*Pn **Pn 19 34 37.8 -0.7**
CAF *e*Pg **Pg 19 34 59.1 -2.2**
CAF *e*Sn **Sn 19 35 37.0 -4.8**
CAF *e*Sg **Sg 19 36 08.6 -3.5**
CAF Calviac 5.47 27 *e*P **Pn 19 34 37.8 -0.7**
CAF *e* 19 35 37.0
LASF Ste Croix 5.58 43 *e*Pg **Pg 19 35 00.3 -3.1**
LASF *e*Sg **Sg 19 36 11.5 -4.1**
2µm,1.2s
LASF Ste Croix 5.58 43 Pn **Pn 19 34 39.1 -0.9**
LASF Pg **Pg 19 35 00.3 -3.1**
LASF Lg 19 36 11.5
826nm,1.2s
LASF Ste Croix 5.58 43 *e*Pg **Pg 19 35 00.3 -3.1**

LASF *e*Sg **Sg 19 36 11.5 -4.1**
826nm,1.2s
LASF Ste Croix 5.58 43 *e*Pn **Pn 19 34 39.1 -0.9**
LASF *e*Pg **Pg 19 35 00.3 -3.1**
LASF *e*Sg **Sg 19 36 11.5 -4.1**
MOE Montemor 5.62 256 *e*Pn **Pn 19 34 40.4 -0.2**
MOE *e*Sn **Sn 19 35 42.5 -3.0**
RJF Les Rejaudoux 5.64 21 *e*Pn **Pn 19 34 39.7 -1.1**
RJF *e*Sn **Sn 19 35 40.5 -5.4**
RJF *e*Sg **Sg 19 36 15.1 -2.5**
345nm,0.7s,SNR=1.0
RJF *e*R
562nm,13.6s
RJF Les Rejaudoux 5.64 21 *e*Pn **Pn 19 34 39.7 -1.1**
RJF *e*Sn **Sn 19 35 40.5 -5.4**
RJF *e*Sg **Sg 19 36 15.1 -2.5**
172nm,0.7s,SNR=1.0
FRNF Fournols 6.04 27 Pn **Pn 19 34 46.8 +0.4**
STS Santiago 6.07 300 Pn **Pn 19 34 47.3 +0.6**
18nm,0.3s,SNR=7.9
STS Lg 19 36 31.4
341nm,1.0s,SNR=7.9
PLOU Loures 6.13 261 *e*Pn **Pn 19 34 48.1 +0.6**
PLOU *e*Sn **Sn 19 35 55.0 -2.9**
PLOU *e*Sg **Sg 19 36 35.7 +2.5**
PLOU
204nm,0.4s
PLOU Loures 6.13 261 *e*Pn **Pn 19 34 48.1 +0.6**
PLOU *e*Sn **Sn 19 35 55.0 -2.9**
LIS Lisbon 6.17 260 *e*P **Pn 19 34 48.0 0.0**
LIS *e*S **Sn 19 35 53.2 -5.7**
LIS *e*S **Sn 19 35 53.3 -5.7**
LIS AML AML 19 36 01.3
comp=E,277nm,0.3s
LIS Lisbon 6.17 260 *e*P **Pn 19 34 48.0 -0.1**
LIS *e*S **Sn 19 35 53.2 -5.7**
LBL Lubilhac 6.17 32 Pn **Pn 19 34 47.9 -0.3**
BERF Bertagne 6.20 56 Pn **Pn 19 34 50.2 +1.6**
PTEO Sao Teotonio 6.27 248 *e*Pn **Pn 19 34 49.5 0.0**
PTEO *e*Sn **Sn 19 36 00.2 -1.2**
PTEO *e*Sg **Sg 19 36 39.5 +1.8**
PTEO
comp=E,180nm,0.8s
PTEO Sao Teotonio 6.27 248 Pn **Pn 19 34 49.5 0.0**
PTEO Sn **Sn 19 36 00.2 -1.2**
PTEO Lg 19 36 39.5
comp=E,90nm,0.8s
MORF Marmelete 6.32 246 *e*P **Pn 19 34 50.0 -0.2**
MORF *e*S **Sn 19 35 56.6 -6.2**
MORF *e*S **Sn 19 35 56.6 -6.2**
EMAZ Mazaricos 6.38 299 Pn **Pn 19 34 51.7 +0.7**
comp=E,65nm,0.4s,SNR=24
EMAZ Sn **Sn 19 36 02.8 -1.3**
comp=E,49nm,0.4s,SNR=7.9
EMAZ Lg 19 36 41.1
comp=E,562nm,1.3s,SNR=5.0
SMRF Simiane la Rot 6.48 51 *e*Pg **Pg 19 35 17.4 -3.2**
SNR=1.0
SMRF *e*Sg **Sg 19 36 39.2 -5.3**
comp=E,1µm,1.4s
SMRF Simiane la Rot 6.48 51 *e*Pg **Pg 19 35 17.4 -3.2**
SNR=1.0
SMRF *e*Sg **Sg 19 36 39.2 -5.3**
comp=E,556nm,1.4s
SMRF Simiane la Rot 6.48 51 *e*P **Pn 19 34 55.4 +3.0**
SMRF *e*Pg **Pg 19 35 17.4 -3.2**
SMRF *e*Sg **Sg 19 36 39.2 -5.3**
PYM Petit Puy Mans 6.52 28 Pn **Pn 19 34 53.1 +0.2**
VIVF Saint-Julien-l 6.54 41 *e*Pg **Pg 19 35 18.3 -3.5**
VIVF *e*Sn **Sn 19 36 02.3 -5.9**
VIVF *e*Sg **Sg 19 36 40.6 -5.9**
comp=E,407nm,0.9s
VIVF Saint-Julien-l 6.54 41 Pn **Pn 19 34 52.6 -0.6**
VIVF Pg **Pg 19 35 18.3 -3.5**
VIVF Sn **Sn 19 36 02.3 -5.9**
VIVF Lg 19 36 40.6
comp=E,203nm,0.9s
VIVF Saint-Julien-l 6.54 41 *e*Pg **Pg 19 35 18.3 -3.5**
VIVF *e*Sn **Sn 19 36 02.3 -5.9**
VIVF *e*Sg **Sg 19 36 40.6 -5.9**
comp=E,203nm,0.9s
VIVF Saint-Julien-l 6.54 41 *e*Pn **Pn 19 34 52.6 -0.6**
VIVF *e*Pg **Pg 19 35 18.3 -3.5**
VIVF *e*Sn **Sn 19 36 02.3 -5.9**
VIVF *e*Sg **Sg 19 36 40.6 -5.9**
VIVF Saint-Julien-l 6.54 41 *e*P **Pn 19 34 52.6 -0.6**
VIVF *e* 19 36 02.3
MFF Saint Martin d 6.58 7 *e*Pn **Pn 19 34 53.4 -0.4**
SNR=1.0
MFF *e*Sn **Sn 19 36 04.4 -4.7**
MFF *e*Sg **Sg 19 36 42.7 -5.0**
comp=E,131nm,0.7s,SNR=1.0
MFF Saint Martin d 6.58 7 Pn **Pn 19 34 53.4 -0.4**
MFF Sn **Sn 19 36 04.4 -4.7**
MFF Lg 19 36 42.7
comp=E,66nm,0.7s
MFF Saint Martin d 6.58 7 *e*Pn **Pn 19 34 53.4 -0.4**
SNR=1.0
MFF *e*Sn **Sn 19 36 04.4 -4.7**
TAVF Tavernes 6.58 55 Pn **Pn 19 34 54.6 +0.8**
COLF Collangettes 6.59 33 Pn **Pn 19 34 53.0 -0.9**
SET Setif 6.60 124 P **Pn 19 35 03.0 +8.9**
STOF St-Etienne Org 6.69 52 Pn **Pn 19 34 55.4 +0.1**
DFRA Djebel Bou Aff 6.71 119 P **Pn 19 34 57.4 +1.8**
TCF Toulx Ste Croi 6.74 22 *e*Pn **Pn 19 34 56.4 +0.5**
SNR=1.0
TCF *e*Sn **Sn 19 36 07.0 -5.9**
TCF *e*Sg **Sg 19 36 47.0 -5.7**
comp=E,795nm,1.2s
TCF Toulx Ste Croi 6.74 22 *e*Pn **Pn 19 34 56.4 +0.5**
SNR=1.0
TCF *e*Sn **Sn 19 36 07.0 -5.9**
TCF *e*Sg **Sg 19 36 47.0 -5.7**
comp=E,398nm,1.2s
TCF Toulx Ste Croi 6.74 22 *e*P **Pn 19 34 56.4 +0.5**
TCF *e* 19 36 07.0
LMR La Mourre 6.74 59 *e*Pn **Pn 19 34 56.0 0.0**
SNR=1.0
LMR *e*Sn **Sn 19 36 05.6 -7.5**
LMR *e*Sg **Sg 19 36 46.2 -6.7**
comp=E,354nm,1.3s
LMR La Mourre 6.74 59 *e*Pn **Pn 19 34 56.0 0.0**
SNR=1.0
LMR *e*Sn **Sn 19 36 05.6 -7.5**
LMR *e*Sg **Sg 19 36 46.2 -6.7**
comp=E,177nm,1.3s
LMR La Mourre 6.74 59 *e*P **Pn 19 34 56.0 0.0**
LMR *e* 19 36 05.6
AGO Saint Agoulin 6.82 27 Pn **Pn 19 34 57.3 +0.2**
FRF La Foret Royal 6.93 57 *e*Pn **Pn 19 34 58.4 -0.2**
SNR=1.0
FRF *e*Sn **Sn 19 36 11.2 -6.6**
FRF *e*Sg **Sg 19 36 53.0 -6.0**
comp=E,398nm,1.1s
FRF La Foret Royal 6.93 57 *e*Pn **Pn 19 34 58.4 -0.2**
SNR=1.0
FRF *e*Sn **Sn 19 36 11.2 -6.6**
FRF *e*Sg **Sg 19 36 53.0 -6.0**
comp=E,199nm,1.1s
FRF La Foret Royal 6.93 57 *e*P **Pn 19 34 58.4 -0.2**
FRF *e* 19 36 11.2
PLDF La Plantade 6.93 30 Pn **Pn 19 34 58.2 -0.4**
BGF Bois d'Agland 7.17 24 *e*Pn **Pn 19 35 00.7 -1.1**
SNR=1.0
BGF *e*Sn **Sn 19 36 16.3 -7.3**
BGF *e*Sg **Sg 19 37 02.2 -4.4**
comp=E,472nm,0.7s
BGF Bois d'Agland 7.17 24 *e*Pn **Pn 19 35 00.7 -1.1**
SNR=1.0
BGF *e*Sn **Sn 19 36 16.3 -7.3**
BGF *e*Sg **Sg 19 37 02.2 -4.4**
comp=E,236nm,0.7s
BGF Bois d'Agland 7.17 24 *e*P **Pn 19 35 00.7 -1.1**
BGF *e* 19 36 16.3
ORIF Oris-en-Rattie 7.22 46 *e*Pn **Pn 19 35 03.1 +0.5**
SNR=1.0
ORIF *e*R
comp=E,578nm,22.7s
ORIF Oris-en-Rattie 7.22 46 *e*Pg **Pg 19 35 30.3 -4.5**
ORIF *e*Sn **Sn 19 36 18.4 -6.5**
comp=E,33nm,0.6s,SNR=1.0
ORIF *e*Sg **Sg 19 37 03.0 -5.3**
comp=E,294nm,1.2s
ORIF Oris-en-Rattie 7.22 46 *e*Pg **Pg 19 35 30.3 -4.5**

ORIF *e*Sn **Sn** **19 36 18.4 -6.5**
comp=E,17nm,0.6s,SNR=1.0
ORIF *e*Sg **Sg** **19 37 03.0 -5.3**
comp=E,147nm,1.2s
ORIF Oris-en-Rattie 7.22 46 *e*Pn **Pn** **19 35 03.1 +0.5**
ORIF *e*Pg **Pg** **19 35 30.3 -4.5**
ORIF *e*Sn **Sn** **19 36 18.4 -6.5**
ORIF *e*Sg **Sg** **19 37 03.0 -5.3**
CAEH 'Ain El Ouahch 7.25 114 P **Pn** **19 35 07.0 +4.0**
CASM Ain Smara 7.28 119 P **Pn** **19 35 06.0 +2.6**
GRN Grenoble 7.36 43 Pn **Pn** **19 35 06.3 +1.8**
SURF Saint Ours 7.50 51 Pn **Pn** **19 35 08.3 +1.9**
AVF Avril sur Loir 7.54 26 *e*Pn **Pn** **19 35 06.0 -0.9**
SNR=1.0
AVF *e*Sn **Sn** **19 36 24.4 -8.3**
SNR=1.0
AVF *e*Sg **Sg** **19 37 11.8 -6.6**
comp=E,202nm,0.8s
AVF Avril sur Loir 7.54 26 *e*Pn **Pn** **19 35 06.0 -0.9**
SNR=1.0
AVF *e*Sn **Sn** **19 36 24.4 -8.3**
SNR=1.0
AVF *e*Sg **Sg** **19 37 11.8 -6.6**
comp=E,101nm,0.8s
AVF Avril sur Loir 7.54 26 *e*P **Pn** **19 35 06.0 -0.9**
AVF *e* 19 36 24.4
SBF Sospel 7.58 57 *e*Pn **Pn** **19 35 08.5 +1.0**
SNR=1.0
SBF *e*Sn **Sn** **19 36 26.8 -6.9**
SNR=1.0
SBF *e*Sg **Sg** **19 37 13.5 -6.3**
comp=E,351nm,1.0s
SBF Sospel 7.58 57 *e*Pn **Pn** **19 35 08.5 +1.0**
SNR=1.0
SBF *e*Sn **Sn** **19 36 26.8 -6.9**
SNR=1.0
SBF *e*Sg **Sg** **19 37 13.5 -6.3**
comp=E,176nm,1.0s
SBF Sospel 7.58 57 *e*P **Pn** **19 35 08.5 +1.0**
SBF *e* 19 36 26.8
SMF Signal de Mont 7.58 28 *e*Pn **Pn** **19 35 06.8 -0.7**
SNR=1.0
SMF *e*Sn **Sn** **19 36 26.7 -7.1**
SMF *e*Sg **Sg** **19 37 15.1 -4.8**
comp=E,214nm,0.8s
SMF Signal de Mont 7.58 28 *e*Pn **Pn** **19 35 06.8 -0.7**
SNR=1.0
SMF *e*Sn **Sn** **19 36 26.7 -7.1**
SMF *e*Sg **Sg** **19 37 15.1 -4.8**
comp=E,107nm,0.8s
SMF Signal de Mont 7.58 28 *e*P **Pn** **19 35 06.8 -0.7**
SMF *e* 19 36 26.7
MBDF Montbardon 7.61 50 *e*P **Pn** **19 35 10.6 +2.7**
SNR=1.0
MBDF *e*Sn **Sn** **19 36 27.1 -7.4**
MBDF *e*Sg **Sg** **19 37 14.6 -6.2**
comp=E,154nm,1.2s
MBDF Montbardon 7.61 50 *e*P **Pn** **19 35 10.6 +2.7**
SNR=1.0
MBDF *e*Sn **Sn** **19 36 27.1 -7.4**
MBDF *e*Sg **Sg** **19 37 14.6 -6.2**
comp=E,77nm,1.2s
MBDF Montbardon 7.61 50 *e*Pn **Pn** **19 35 07.2 -0.7**
MBDF *e*P 19 35 10.6
MBDF *e*Sn **Sn** **19 36 27.1 -7.4**
MBDF *e*Sg **Sg** **19 37 14.6 -6.2**
MBDF Montbardon 7.61 50 *e*P **Pn** **19 35 07.2 -0.7**
MBDF *e* 19 36 27.1
CZD Col de Zad 7.63 204 *i*P **Pn** **19 35 13.0 +4.9**
AUTN L'Aution 7.63 56 Pn **Pn** **19 35 10.7 +2.5**
PZZ Prazzo 7.69 52 P **Pn** **19 35 11.8 +2.9**
STV Sta Anna Valdi 7.69 54 P **Pn** **19 35 10.8 +1.8**
STV2 Anna di Valdie 7.69 54 P **Pn** **19 35 11.0 +2.0**
MDT Midelt 7.70 201 Pn **Pn** **19 35 10.8 +1.7**
comp=E,0.7nm,0.3s,baz=22,slow=12,SNR=16
MDT Sn **Sn** **19 36 37.0 +0.3**
comp=E,0.5nm,0.3s,baz=60,slow=20,SNR=3.0
MDT LR LR 19 38 30.3
comp=E,95nm,20.0s,baz=202,slow=40
MDT Midelt 7.70 201 Pn **Pn** **19 35 10.8 +1.7**
MDT Sn **Sn** **19 36 37.0 +0.3**
MDT LR LR 19 38 30.3
SAOF Saorge 7.71 57 Pn **Pn** **19 35 13.0 +3.7**
CMAH Djebel Manchou 7.73 114 P **Pn** **19 35 10.8 +1.2**
RRL Cesana Torines 7.73 49 P **Pn** **19 35 13.1 +3.5**
ENR Entracque 7.74 55 P **Pn** **19 35 11.1 +1.4**
BNI Bardonecchia 7.75 48 *e*Pn **Pn** **19 35 12.5 +2.7**
comp=E,28nm,1.0s
BNI Bardonecchia 7.75 48 *e*Pn **Pn** **19 35 12.5 +2.7**
comp=E,28nm,1.0s
BNI Bardonecchia 7.75 48 *e*P **Pn** **19 35 12.5 +2.7**
BNI pmax pmax
comp=Z,28nm,1.0s
HYF Humbligny 7.75 21 *e*Pn **Pn** **19 35 08.7 -1.1**
HYF *e*Sg **Sg** **19 37 21.0 -4.3**
OG05 Jujurieux 7.78 38 Pn **Pn** **19 35 10.1 -0.1**
SSF Saint Saulge 7.83 25 *e*Pn **Pn** **19 35 10.9 0.0**
SNR=1.0
SSF *e*Sn **Sn** **19 36 32.4 -7.4**
SSF *e*Sg **Sg** **19 37 20.1 -7.6**
comp=Z,103nm,0.7s,SNR=1.0
SSF Saint Saulge 7.83 25 *e*Pn **Pn** **19 35 10.9 0.0**
SNR=1.0
SSF *e*Sn **Sn** **19 36 32.4 -7.4**
MONE Monesi 7.88 57 P **Pn** **19 35 13.0 +1.4**
IMI Imperia 7.89 58 P **Pn** **19 35 13.7 +1.9**
QUIF Quistinic 7.94 351 *e*Pn **Pn** **19 35 12.4 0.0**
SNR=1.0
QUIF *e*Sn **Sn** **19 36 36.5 -6.0**
comp=Z,94nm,0.8s
QUIF Quistinic 7.94 351 *e*Pn **Pn** **19 35 12.4 0.0**
SNR=1.0
QUIF *e*Sn **Sn** **19 36 36.5 -6.0**
comp=Z,47nm,0.8s
ABSA Djebel Ababsia 7.95 116 P **Pn** **19 35 14.0 +1.5**
FENE Fenestrelle 7.96 49 P **Pn** **19 35 15.4 +2.8**
ROB Roburent 8.06 55 P **Pn** **19 35 15.9 +1.9**
LPG La Plagne 8.06 45 *e*Pn **Pn** **19 35 14.2 +0.1**
SNR=1.0
LPG *e*Sg **Sg** **19 37 29.6 -5.7**
comp=Z,292nm,1.3s
LPL La Plagne 8.07 45 *e*Pn **Pn** **19 35 14.5 +0.3**
SNR=1.0
LPL *e*Sg **Sg** **19 37 28.9 -6.5**
comp=Z,423nm,1.6s
LPL La Plagne 8.07 45 *e*Pn **Pn** **19 35 14.5 +0.3**
SNR=1.0
LPL *e*Sg **Sg** **19 37 28.9 -6.5**
comp=Z,211nm,1.6s
RORO 8.10 57 P **Pn** **19 35 15.8 +1.2**
RSL Roselend 8.12 44 Pn **Pn** **19 35 16.2 +1.3**
LOR Lormes 8.12 26 *e*Pn **Pn** **19 35 14.8 -0.2**
baz=208
LOR *e*Sn **Sn** **19 36 40.8 -6.3**
baz=217
LOR *e*Sg **Sg** **19 37 31.7 -5.5**
comp=Z,127nm,0.8s,baz=218,SNR=1.0
LOR Lormes 8.12 26 *e*Pn **Pn** **19 35 14.8 -0.2**
LOR *e*Sn **Sn** **19 36 40.8 -6.3**
LOR *e*Sg **Sg** **19 37 31.7 -5.5**
comp=E,64nm,0.8s,SNR=1.0
LOR Lormes 8.12 26 *e*P **Pn** **19 35 14.8 -0.2**
LOR *e* 19 36 40.8
RSP Reno Superiore 8.14 49 P **Pn** **19 35 18.4 +3.2**
PGF Pioggiola 8.20 69 *e*Pn **Pn** **19 35 15.4 -0.5**
PGF *e*Sn **Sn** **19 36 39.8 -9.1**
comp=Z,43nm,0.5s
PGF Pioggiola 8.20 69 *e*Sn **Sn** **19 36 39.8 -9.1**
comp=Z,22nm,0.5s
SGMF Saint Gilles 8.21 355 *e*Pn **Pn** **19 35 15.9 -0.3**
SGMF *e*Sn **Sn** **19 36 45.8 -3.5**
FIN Finale Ligure 8.23 57 P **Pn** **19 35 19.3 +2.9**
CORF Corte 8.25 71 Pn **Pn** **19 35 17.7 +1.0**
VSL Villasalto 8.31 91 *e*Sn **Sn** **19 36 46.6 -5.0**
VSL Villasalto 8.31 91 *e*Pn **Pn** **19 35 19.0 +1.5**
comp=Z,64nm,0.8s
VSL *e*Sn **Sn** **19 36 46.6 -5.0**
GRR Gorron 8.31 2 *e*Pn **Pn** **19 35 17.7 +0.2**
SNR=1.0
GRR *e*Sn **Sn** **19 36 45.7 -6.0**
GRR *e*Sg **Sg** **19 37 38.9 -4.4**
comp=Z,180nm,1.0s
GRR Gorron 8.31 2 *e*Pn **Pn** **19 35 17.7 +0.2**
SNR=1.0
GRR *e*Sn **Sn** **19 36 45.7 -6.0**
GRR *e*Sg **Sg** **19 37 38.9 -4.4**
comp=Z,90nm,1.0s
GRR Gorron 8.31 2 *e*P **Pn** **19 35 17.7 +0.2**
GRR *e* 19 36 45.7
ROSF Rostrenen 8.36 351 *e*Pn **Pn** **19 35 17.4 -0.8**
SNR=1.0
ROSF *e*Sn **Sn** **19 36 46.7 -6.3**
comp=Z,61nm,0.8s,SNR=1.0
ROSF Rostrenen 8.36 351 *e*Pn **Pn** **19 35 17.4 -0.8**
SNR=1.0
ROSF *e*Sn **Sn** **19 36 46.7 -6.3**
comp=Z,30nm,0.8s,SNR=1.0
KIB El Ksiba 8.38 208 P **Pn** **19 35 18.0 -0.4**
CABF La Chapelle 8.49 37 *e*Pn **Pn** **19 35 19.9 -0.1**
SNR=1.0
CABF *e*Sg Sn 19 37 42.8 +47
comp=Z,678nm,1.0s
CABF La Chapelle 8.49 37 *e*Pn **Pn** **19 35 19.9 -0.1**
SNR=1.0
CABF *e*Sg Sn 19 37 42.8 +47
comp=Z,339nm,1.0s
LDF La Druitiere 8.56 6 *e*Pn **Pn** **19 35 21.0 +0.1**
SNR=1.0
LDF *e*Sn **Sn** **19 36 52.0 -5.8**
LDF *e*Sg Sn 19 37 46.4 +49
comp=Z,27nm,0.5s,SNR=1.0
LDF La Druitiere 8.56 6 *e*Pn **Pn** **19 35 21.0 +0.1**
SNR=1.0
LDF *e*Sn **Sn** **19 36 52.0 -5.8**
LDF *e*Sg Sn 19 37 46.4 +49
comp=Z,14nm,0.5s,SNR=1.0
LDF La Druitiere 8.56 6 *e*P **Pn** **19 35 21.0 +0.1**
LDF *e* 19 36 52.0
PCP Pian Castagno 8.60 56 P **Pn** **19 35 24.2 +2.7**
TRAV 8.63 48 P **Pn** **19 35 24.8 +2.9**
FLN La Foliniere 8.70 4 *e*Pn **Pn** **19 35 22.5 -0.4**
baz=183,SNR=1.0
FLN *e*Sn **Sn** **19 36 54.9 -6.4**
FLN *e*Sg Sn 19 37 51.3 +50
comp=Z,147nm,1.0s
FLN *e*R
comp=Z,316nm,17.1s
FLN La Foliniere 8.70 4 *e*Pn **Pn** **19 35 22.5 -0.4**
SNR=1.0
FLN *e*Sn **Sn** **19 36 54.9 -6.4**
FLN *e*Sg Sn 19 37 51.3 +50
comp=Z,73nm,1.0s
ORX Oropa 8.83 48 P **Pn** **19 35 27.3 +2.6**
SFTF Sexfontaines 9.34 27 *e*Pn **Pn** **19 35 30.4 -1.2**
SFTF *e*Sg Sn 19 38 09.4 +52
comp=Z,639nm,1.2s
SFTF Sexfontaines 9.34 27 *e*Pn **Pn** **19 35 30.4 -1.2**
SFTF *e*Sg Sn 19 38 09.4 +52
comp=Z,319nm,1.2s
MEZF Maizieres J'vi 9.60 27 *e*Pn **Pn** **19 35 34.1 -1.0**
MEZF *e*Sg Sn 19 38 16.2 +53
comp=Z,785nm,1.4s
MEZF Maizieres J'vi 9.60 27 *e*Pn **Pn** **19 35 34.1 -1.0**
MEZF *e*Sg Sn 19 38 16.2 +53
comp=Z,392nm,1.4s
HAU Haudompre 9.68 33 *e*Pn **Pn** **19 35 36.0 -0.2**
SNR=1.0
HAU *e*Sg Sn 19 38 19.9 +55
comp=Z,268nm,1.3s
HAU *e*R
comp=Z,394nm,15.4s
HAU Haudompre 9.68 33 *e*Pn **Pn** **19 35 36.0 -0.2**
SNR=1.0
HAU *e*Sg Sn 19 38 19.9 +55
comp=Z,134nm,1.3s
HINF Hinteralfeld 9.74 35 *e*Pn **Pn** **19 35 36.0 -1.2**
SNR=1.0
HINF *e*Sg Sn 19 38 22.2 +55
comp=Z,218nm,1.2s
HINF Hinteralfeld 9.74 35 *e*Pn **Pn** **19 35 36.0 -1.2**
SNR=1.0
HINF *e*Sg Sn 19 38 22.2 +55
comp=Z,109nm,1.2s
RFYF Reffroy 9.85 28 *e*Pn **Pn** **19 35 37.4 -1.2**
RFYF *e*Sg Sn 19 38 26.5 +57
comp=Z,578nm,1.4s
RFYF Reffroy 9.85 28 *e*Pn **Pn** **19 35 37.4 -1.2**
RFYF *e*Sg Sn 19 38 26.5 +57
comp=Z,289nm,1.4s
CDF Champ du Feu 10.38 34 *e*Pn **Pn** **19 35 46.0 +0.1**
SNR=1.0
CDF *e*Sg Sn 19 38 41.2 +59
comp=Z,369nm,1.5s
CDF Champ du Feu 10.38 34 *e*Pn **Pn** **19 35 46.0 +0.1**
SNR=1.0
CDF *e*Sg Sn 19 38 41.2 +59
comp=Z,184nm,1.5s
DAVOX Davos 10.57 47 Pn **Pn** **19 35 50.6 +2.1**
comp=Z,0.2nm,0.3s,baz=266,slow=15,SNR=4.2
DAVOX LR LR 19 39 39.2
comp=Z,318nm,19.2s,baz=249,slow=36
BAIF Baives 10.73 20 *e*Pn **Pn** **19 35 45.9 -4.7**
BAIF *e*Sn **Sn** **19 37 41.9 -9.1**
BAIF *e*Sg **Sn** 19 38 53.5 +62
comp=Z,219nm,1.2s
BAIF Baives 10.73 20 *e*Sn **Sn** **19 37 41.9 -9.1**
BAIF *e*Sg **Sn** 19 38 53.5 +62
comp=Z,110nm,1.2s
DAVA Damuels 10.87 45⇓*i*P **Pn** **19 35 54.9 +2.2**
comp=Z,4.5nm,0.4s
GIVF Givet 10.93 22 *e*Pn **Pn** **19 35 54.6 +1.1**
SNR=1.0
GIVF *e*Sn **Sn** **19 37 47.7 -8.4**
GIVF *e*Sg Sn 19 38 58.3 +62
comp=Z,246nm,1.1s
GIVF Givet 10.93 22 *e*Sn **Sn** **19 37 47.7 -8.4**
GIVF *e*Sg Sn 19 38 58.3 +62
comp=Z,123nm,1.1s
GIVF Givet 10.93 22 *e*P **Pn** **19 35 54.6 +1.1**
GIVF *e* 19 37 47.7
WLF Walferdange 10.96 27 *e*Pn **Pn** **19 35 55.6 +1.7**
SQTA Sankt Quirin 11.57 48⇓*i*P **Pn** **19 36 06.3 +4.1**
comp=Z,8.1nm,0.9s
MOTA Moosalm 11.58 47⇑*i*P **Pn** **19 36 05.5 +3.1**
comp=Z,9.9nm,1.2s
KBA Koelnbreinsper 12.75 52⇓*i*P **Pn** **19 36 22.1 +3.8**
comp=Z,5.4nm,0.6s
KBA Koelnbreinsper 12.75 52 Pn **Pn** **19 36 22.1 +3.7**
comp=Z,5.4nm,0.6s
MOA Molln 13.67 50⇑*i*P **Pn** **19 36 32.6 +1.7**
comp=Z,2.3nm,0.5s
GERES GERESS Array B 13.87 46 Pn **Pn** **19 36 35.0 +1.5**
comp=Z,1.0nm,0.3s,baz=239,slow=13,SNR=16
GERES Sn **Sn** **19 39 03.9 -3.9**
comp=Z,0.2nm,0.3s,baz=236,slow=21,SNR=4.2
GERES LR LR 19 41 38.4
comp=Z,275nm,19.1s,baz=70,slow=36
GERES GERESS Array B 13.87 46 Pn **Pn** **19 36 35.0 +1.5**
GERES Sn **Sn** **19 39 03.9 -3.9**
GERES LR LR 19 41 38.4
GERES GERESS Array B 13.87 46 P **Pn** **19 36 35.0 +1.5**
GERES 19 39 03.9
KHC Kasperske Hory 13.96 45 *e*P **Pn** **19 36 35.4 +0.6**
KHC x x 19 39 05.5
KHC *e*S Sx 19 40 49.9
KHC Kasperske Hory 13.96 45 *e*P **Pn** **19 36 35.4 +0.6**
KHC *e* 19 39 05.5
NKC Novy Kostel 14.06 39 *e*S Sx 19 40 50.7
EKA Eskdalemuir Ar 15.30 356 Pn **Pn** **19 36 50.8 -2.3**
comp=Z,0.4nm,0.3s,baz=177,slow=14,SNR=8.6
VRAC Vranov 15.73 48 LR LR 19 43 33.0
comp=Z,258nm,20.0s,baz=250,slow=39
DPC Dobruska-Polom 16.12 45 *e*P **Pn** **19 37 07.0 +3.4**
BZS Buzias 17.73 64⇓P **Pn** **19 37 27.2 +3.3**
DRGR 18.70 61⇑P **Pn** **19 37 39.0 +3.2**
VOIR 20.09 66⇓P **P** **19 37 54.5 +3.8**
BURAR Bucovina Array 20.54 60⇑P **P** **19 37 58.1 +2.5**
MLR Muntele Rosu 20.72 66 P **P** **19 37 57.7 +0.1**
comp=Z,6.3nm,0.7s,baz=199,slow=12,SNR=10
MLR LR LR 19 46 04.6
comp=Z,150nm,19.0s,MS3.4,baz=286,slow=37
MLR Muntele Rosu 20.72 66⇑P **P** **19 37 59.2 +1.6**
PLOR Plostina 21.25 65⇓P **P** **19 38 06.4 +3.1**
IDI Anoyia 21.30 95 P **P** **19 38 04.8 +0.9**
comp=Z,9.4nm,0.8s,mb4.2,baz=240,slow=14,SNR=6.4
IDI LR LR 19 46 44.4
comp=Z,63nm,20.4s,MS3.0,baz=272,slow=38
HFS Hagfors 22.18 20 P **P** **19 38 12.5 -0.8**
comp=Z,5.5nm,0.8s,mb4.0,baz=210,slow=8.6,SNR=5.6
HFS LR LR 19 47 24.6
comp=Z,107nm,18.6s,MS3.3,baz=241,slow=38
CFR Carcaliu 22.24 67⇓P **P** **19 38 15.1 +1.2**
NB2 NORSAR Subarra 22.38 16 P **P** **19 38 15.1 -0.3**
comp=Z,5.8nm,0.9s,mb4.0,baz=210,slow=9.3
NB2 NORSAR Subarra 22.38 16 P **P** **19 38 15.1 -0.3**
NB2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
NOA NORSAR Array B 22.38 16 P **P** **19 38 15.1 -0.3**
comp=Z,3.4nm,0.8s,mb3.8,baz=210,slow=9.0,SNR=4.7
NOA LR LR 19 48 03.3
comp=Z,74nm,18.7s,MS3.1,baz=235,slow=40
AKASG Malin Array Be 23.81 53 P **P** **19 38 29.8 -0.4**
comp=Z,1.0nm,0.5s,mb3.5,baz=246,slow=9.3,SNR=5.2
BR131 Keskin Array S 26.77 79 *e*P **P** **19 38 56.7 -0.4**
comp=Z,3.2nm,0.8s,mb3.9
BR131 Keskin Array S 26.77 79 *e*P **P** **19 38 56.7 -0.3**
comp=Z,3.2nm,0.8s,mb3.9
BRTR Keskin Array B 26.77 79 P **P** **19 38 57.1 0.0**
comp=Z,2.7nm,0.7s,mb3.9,baz=279,slow=7.2,SNR=12
TORD Torodi Ar. Bea 26.97 173 P **P** **19 38 58.4 -0.4**
comp=Z,2.9nm,1.0s,mb3.8,baz=350,slow=9.5,SNR=11
TORD PcP PcP 19 42 20.4 -0.1
comp=Z,0.3nm,0.6s,baz=345,slow=3.2,SNR=5.3
FINES FINESS Array B 27.18 29 P **P** **19 38 59.5 -1.3**
comp=Z,2.0nm,0.9s,mb3.6,baz=235,slow=6.7,SNR=5.0
MALT Malatya 30.73 80 *e*P **P** **19 39 32.3 0.0**
comp=Z,2.8nm,0.7s,mb4.2
MALT Malatya 30.73 80 *e*P **P** **19 39 32.3 0.0**
comp=Z,2.8nm,0.7s,mb4.2
MALT Malatya 30.73 80 *e*P **P** **19 39 32.3 0.0**
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ARCES ARCESS Array B 32.75 17 P **P** **19 39 50.2 +0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=213,slow=9.7,SNR=3.0
DBIC Dimbokro 33.41 186 P **P** **19 39 54.8 -1.1**
comp=Z,3.6nm,1.0s,mb4.2,baz=7.1,slow=8.1,SNR=3.4
ARU Arti 41.69 46 *e*P **P** **19 41 04.2 -1.8**
comp=Z,5.8nm,0.7s,mb4.3
ARU Arti 41.69 46 *e*P **P** **19 41 04.2 -1.8**
ARU pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
ZRNK Zerenda 48.21 50 *e*P **P** **19 41 56.8 -1.0**
comp=Z,7.8nm,1.3s,mb4.6
ZRNK Zerenda 48.21 50 *e*P **P** **19 41 56.8 -1.0**
ZRNK pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
BVAR Borovoye Array 49.00 49 P **P** **19 42 03.1 -0.9**
comp=Z,1.5nm,0.9s,mb4.0,baz=286,slow=7.1,SNR=7.0
KMBO Kilima Mbogo 54.08 130 P **P** **19 42 43.1 +1.2**
comp=Z,0.5nm,0.4s,mb3.8,baz=57,slow=23,SNR=3.1
KURK Kurchatov 54.57 50 *e*P **P** **19 42 43.9 -1.6**
comp=Z,7.9nm,1.0s,mb4.7
KURK Kurchatov 54.57 50 *e*P **P** **19 42 43.9 -1.6**
KURK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
NVS Novosibirsk 55.61 44 *e*P **P** **19 42 52.5 -0.6**
MKAR Makanchi Array 58.39 53 P **P** **19 43 11.4 -1.3**
comp=Z,1.6nm,0.9s,mb4.0,baz=296,slow=6.2,SNR=12
WMQ Urumqi 63.16 54 *e*P **P** **19 43 46.2 +0.9**
WMQ AP pP 19 43 50.9 +3.8
WMQ XP sP 19 43 53.2 +5.4
WMQ AMB AMB
comp=Z,4.0nm,1.2s,mb4.4
WMQ AMB AMB
comp=Z,25nm,5.0s
TIXI Tiksi 63.17 16 *e*P **P** **19 43 44.3 -1.0**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
YKW3 Yellowknife Ar 64.65 332 P **P** **19 43 53.8 -1.2**
YKA Yellowknife Ar 64.69 332 P **P** **19 43 54.0 -1.2**
comp=Z,1.3nm,0.8s,mb4.0,baz=53,slow=6.6,SNR=17
YKA Yellowknife Ar 64.69 332 P **P** **19 43 54.0 -1.3**
EDM Edmonton 70.13 324 P **P** **19 44 29.4 -0.4**
ILAR Eielson Array 72.03 345 P **P** **19 44 41.8 +0.5**
comp=Z,0.8nm,1.1s,mb3.6,baz=9.6,slow=5.9,SNR=6.3
DLMT Dillon 74.98 317 *e*P **P** **19 44 59.6 +1.0**
comp=Z,5.9nm,1.0s,mb4.5
LZH Lanzhou 77.71 53 *e*P **P** **19 45 12.5 -1.6**
LZH AP pP 19 45 15.7 -0.3
LZH *e*PP PP 19 48 09.6 +0.3
LZH AMB AMB
comp=Z,18nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,52nm,6.9s
LZH LR LR
comp=E,357nm,15.4s
LZH LR LR
comp=Z,539nm,18.3s
SIV San Ignacio 78.65 238 P **P** **19 45 20.4 +1.1**
comp=Z,0.4nm,0.4s,mb3.8,baz=42,slow=12,SNR=3.6
HHC Hu-ho-hao-te 78.99 45 *e*P **P** **19 45 20.0 -1.2**
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,128nm,6.6s
NJ2 Nanjing 89.39 47 *e*P **P** **19 46 15.4 +1.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
QSPA South Pole Qui 129.95 180 *e*P PKPdf 19 52 26.5 -0.6
STKA Stephens Creek 149.12 86 PKPbc PKPbc 19 53 02.9 -2.8
comp=Z,2.2nm,0.8s,baz=48,slow=2.5,SNR=4.8

IDC ***10*** *19:38:33.4±0.6, 1423N×9433W, h0km, mb4.5/26, mb1 4.6/26, mb1mx4.6/28, mbtmp4.5/26, MS3.8/11, Ms1 3.9/11, ms1mx3.7/20, Error ellipse: s-maj=24.1km s-min=11.3km az=63.0*

ISCJB ***10*** *19:38:34.2±1.2, 1447N±004×9433W±003, h4km±8km, mb4.8/72, MS4.1/16, Error ellipse: s-maj=7.3km s-min=3.9km az=53.1*

MOS ***10*** *19:38:36.0±1.2, 1460N×9425W, h10km, mb5.3/31, Error ellipse: s-maj=10.7km s-min=5.8km az=90.0*

CASC ***10*** *19:38:38.3±2.0, 1424N×9398W, h171km±43km, MD4.6, ML4.5, mb5.0(NEIC)*

HRVD ***10*** *19:38:39.8±0.5, 1442N×9436W, h12km, MW4.9/74, Centroid moment Tensor Solution. LP body waves: s30,c35;Mantle waves: s74,c103; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.77±.11; $M_{\theta\theta}$2.09±.10; $M_{\phi\phi}$0.68±.15; $M_{r\theta}$-0.51±.38; $M_{\theta\phi}$-1.22±.10; $M_{\phi r}$0.30±.45; Best double couple: $M_0$2.84400×10^16 NP1:ϕ_s300.00000°, δ39.00000°, λ-90.00000°. NP2: ϕ_s120.00000°, δ51.00000°, λ-90.00000°. Principal axes: T 2.8570, Plg6.0000°, Azm210.0000°; N -0.0210, Plg0.0000°, Azm300.0000°; P -2.8310, Plg84.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *19:38:39.8±0.4, 1439N×9421W, mb5.0/53 Error ellipse: s-maj=12.3km s-min=5.9km az=51.0*

MEX ***10*** *19:38:39.1±1.0, 1444N×9455W, h16km±20km, MD4.5*

BJI ***10*** *19:38:39.7, 1440N×9420W, h34km, mB5.5, Ms5.1, Msz4.8*

SZGRF ***10*** *19:38:40.3, 14.11N×9480W, h39km, mb5.2, Off coast of Chiapas, Mexico*

ISC 10 19:38:35.3±1.5, 1443N±004×9428W±003, h2km±9km, n235, σ1§42/229, mb4.8/72, MS4.1/16, 7C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**2.21**	**307**	*e*P	**Pn**	**19 39 09.0**	**-4.0**
HUIG				*i* S	**Sn**	**19 39 31.7**	**-9.3**
JAT	**Jato**	**2.56**	**92**⇑	*e*P	**Pn**	**19 39 18.8**	**+1.0**
JAT				*e*S	**Sn**	**19 39 49.7**	**+0.2**
CMIG	**Matias Romero**	**2.71**	**348**	*i* P	**Pn**	**19 39 18.6**	**-1.3**
CMIG				*i* S	**Sn**	**19 39 49.1**	**-4.1**
CCIG	**Comitan**	**2.77**	**48**⇑	*i*P	**Pn**	**19 39 21.9**	**+1.3**
CCIG				*i* S	**Sn**	**19 39 57.4**	**+2.8**
SCX	**San Cristobal**	**2.79**	**34**	*i* P	**Pn**	**19 39 22.8**	**+1.9**
SCX				*i* S	**Sn**	**19 39 56.8**	**+1.7**
TP2	**Tecpan 2**	**3.17**	**83**⇑	*e*P	**Pn**	**19 39 26.3**	**+0.1**
TP2				*e*S	**Sn**	**19 40 04.4**	**-0.2**
FUG	**Fuego 3**	**3.33**	**89**⇑	*e*P	**Pn**	**19 39 28.3**	**-0.1**
VHO	**Vista Hermosa**	**3.54**	**318**	*e*P	**Pn**	**19 39 30.5**	**-0.7**
VHO				*i* S	**Sn**	**19 40 08.1**	**-5.5**
OXX	**Oaxaca**	**3.54**	**319**	*i* P	**Pn**	**19 39 31.2**	**0.0**
OXX				*i* S	**Sn**	**19 40 08.8**	**-4.8**
PCG	**Pacaya**	**3.56**	**90**	*e*P	**Pn**	**19 39 32.7**	**+1.2**
TUIG	**Tuzandepetl**	**3.59**	**358**	*i* P	**Pn**	**19 39 31.9**	**0.0**
TUIG				*i* S	**Sn**	**19 40 13.1**	**-1.7**
IXG	**Ixpaco**	**3.71**	**93**⇑	*e*P	**Pn**	**19 39 32.7**	**-0.9**
IXG				*e*S	**Sn**	**19 40 16.0**	**-2.0**
IXG				AML	AML	19 40 19.1	
	comp=E,4μm,0.5s						
EVV	**El Vigia**	**4.13**	**346**	*e*P	**Pn**	**19 39 38.2**	**-1.2**

PNIG Pinotepa 4.20 298 *i* P **Pn 19 39 37.4 -2.8**
PNIG *i* S **Sn 19 40 19.3 -11**
MRL Marmol 4.48 81⇑ *eP* **Pn 19 39 44.7 +0.5**
SBLS San Blas 4.55 97 *eP* Px 19 39 55.6
SBLS *eS* Sx 19 40 47.2
SNJE San Jose 4.56 96 *eP* Px 19 39 57.0
ACX Acapulco 5.95 295 *eP* **Pn 19 40 02.5 -1.9**
MEIG Mezcala 6.20 305 *i P* **Pn 19 40 07.8 0.0**
MEIG *i* S **Sn 19 41 12.6 -6.7**
PPM Popocatepetl 6.21 318 *i P* **Pn 19 40 07.8 -0.2**
PPM *i* S **Sn 19 41 16.3 -3.4**
CAIG El Cayaco 6.33 295 *i P* **Pn 19 40 07.6 -2.0**
YAIG Yautepec 6.36 314 *i P* **Pn 19 40 11.2 +1.2**
YAIG *i* S **Sn 19 41 16.1 -7.2**
PLIG Platanillo 6.38 309 *i P* **Pn 19 40 11.3 +1.0**
PLIG *i* S **Sn 19 41 16.6 -7.0**
ZIIG Zihuatanejo 7.60 296 *i P* **Pn 19 40 26.0 -1.1**
TEIG Tepich 8.13 44 *eP* **Pn 19 40 32.5 -1.7**
comp=E,17nm,0.8s
MOIG Morelia 8.42 309 *i P* **Pn 19 40 40.9 +2.6**
JTS JuntasAbangare 9.99 113 Pn **Pn 19 41 03.0 +3.1**
comp=E,165nm,1.1s,SNR=5.6
JTS JuntasAbangare 9.99 113 Pn **Pn 19 41 01.1 +1.2**
comp=E,1.0nm,0.3s,baz=313,slow=19,SNR=9.4
JTS Sn **Sn 19 42 49.4 -3.2**
comp=E,0.7nm,0.3s,baz=287,slow=19,SNR=2.0
JTS JuntasAbangare 9.99 113 *eP* **Pn 19 41 02.5 +2.6**
comp=E,43nm,1.2s
JTS JuntasAbangare 9.99 113 *eP* **Pn 19 41 02.9 +3.0**
SFJM Santa Fe 10.30 307 *i P* **Pn 19 41 06.3 +2.2**
SOR Soroa 13.53 50 *eP* **Pn 19 41 44.9 -3.4**
HKT Hockley 15.51 355 *eP* **Pn 19 42 13.6 -1.5**
comp=E,54nm,1.6s
HKT Hockley 15.51 355 *eP* **Pn 19 42 13.6 -1.5**
HKT pmax pmax
comp=Z,54nm,1.6s
JCT Junction City 16.77 343 *eP* **Pn 19 42 30.4 -0.8**
comp=Z,45nm,0.9s
JCT Junction City 16.77 343 *eP* **Pn 19 42 30.5 -0.7**
JCT pmax pmax
comp=Z,45nm,0.9s
LTX Lajitas 17.19 331 *eP* **Pn 19 42 37.8 +1.2**
comp=Z,27nm,1.3s
LTX Lajitas 17.19 331 *eP* **Pn 19 42 37.8 +1.3**
LTX pmax pmax
comp=Z,27nm,1.3s
LRAL Lakeview Retre 19.67 18 *eP* **Pn 19 43 05.0 -1.9**
comp=Z,18nm,0.8s
GDL2 Guadalupe Moun 19.95 334 *eP* **Pn 19 43 10.2 +0.1**
MNTX Cornudas Mount 19.97 331 *eP* **Pn 19 43 11.5 +1.1**
comp=Z,7.4nm,0.9s
MIAR Mount Ida 20.04 2 *eP* **P 19 43 08.4 -1.1**
comp=Z,28nm,0.7s
MIAR Mount Ida 20.04 2 *eP* **P 19 43 08.4 -1.1**
MIAR pmax pmax
comp=Z,28nm,0.7s
UALR University of 20.33 5 *eP* **P 19 43 11.4 -1.4**
comp=Z,44nm,1.0s
CPRX Cap Rock 20.47 336 *eP* **P 19 43 15.3 +1.0**
PLAL Pickwick Lake 21.21 14 *eP* **P 19 43 19.9 -2.4**
comp=Z,34nm,1.2s,mb4.5
HBAR Harrisburg 21.29 8 *eP* **P 19 43 23.2 +0.1**
ROSC El Rosal 21.82 114 P **P 19 43 30.9 +2.1**
comp=Z,9.2nm,0.6s,mb4.4,baz=92,slow=22,SNR=4.3
SWET Sewanee 22.02 18 *eP* **P 19 43 28.9 -2.0**
SWET *epP* 19 43 37.3
WVT Waverly 22.37 14 *eP* **P 19 43 30.9 -3.8**
comp=Z,19nm,0.6s,mb4.7
WVT *epP* 19 43 42.1
WVT Waverly 22.37 14 *eP* **P 19 43 30.9 -3.8**
WVT pmax pmax
comp=Z,19nm,0.6s,mb4.7
CPCT Cooper Cave 22.70 21 *eP* **P 19 43 36.2 -1.9**
LPM Los Pinos Moun 22.73 333 *eP* **P 19 43 40.8 +2.3**
LENM Lemitar 22.76 332 *eP* **P 19 43 41.4 +2.5**
LAZ Ladron 23.03 332 *eP* **P 19 43 44.0 +2.3**
ANMO Albuquerque 23.20 334 P **P 19 43 44.2 +0.8**
comp=Z,6.1nm,0.9s,mb4.0,baz=158,slow=11,SNR=9.8
ANMO Albuquerque 23.20 334 *eP* **P 19 43 44.0 +0.5**
comp=Z,9.6nm,1.0s,mb4.2
ANMO Albuquerque 23.20 334 *eP* **P 19 43 44.0 +0.6**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
TUC Tucson 23.32 323 *eP* **P 19 43 45.8 +1.0**
comp=Z,28nm,1.3s,mb4.5
TUC Tucson 23.32 323 *eP* **P 19 43 45.8 +1.1**
TUC pmax pmax
comp=Z,28nm,1.3s,mb4.5
CCM Cathedral Cave 23.68 6 *eP* **P 19 43 45.5 -3.0**
comp=Z,80nm,1.1s,mb5.1
CCM Cathedral Cave 23.68 6 *eP* **P 19 43 45.5 -2.9**
CCM pmax pmax
comp=Z,80nm,1.1s,mb5.1
FVM French Village 23.71 8 *eP* **P 19 43 46.1 -2.5**
comp=Z,11nm,0.8s,mb4.3
FVM French Village 23.71 8 *eP* **P 19 43 46.1 -2.5**
FVM pmax pmax
comp=Z,11nm,0.8s,mb4.3
SDV Santo Domingo 23.79 101 P **P 19 43 48.6 -0.8**
comp=Z,4.7nm,0.6s,mb4.1,baz=322,slow=4.1,SNR=5.5
SDV Santo Domingo 23.79 101 *eP* **P 19 43 48.6 -0.8**
comp=Z,8.8nm,0.8s,mb4.2
TZTN Tazewell 24.02 22 *eP* **P 19 43 49.0 -2.5**
SLM Saint Louis 24.38 8 *eP* **P 19 43 52.8 -1.9**
comp=Z,54nm,0.6s,mb5.2
SLM Saint Louis 24.38 8 *eP* **P 19 43 52.8 -1.9**
SLM pmax pmax
comp=Z,55nm,0.6s,mb5.2
KSU1 Kansas State U 24.66 356 *eP* **P 19 43 56.5 -0.8**
WCI Wyandotte Cave 24.74 15 *eP* **P 19 43 56.0 -2.0**
comp=Z,85nm,0.8s,mb5.3
WCI Wyandotte Cave 24.74 15 *eP* **P 19 43 56.0 -2.0**
WCI pmax pmax
comp=Z,85nm,0.8s,mb5.3
CBKS Cedar Bluff 24.76 350 *eP* **P 19 43 58.5 +0.2**
comp=Z,173nm,1.3s,mb5.4
CBKS Cedar Bluff 24.76 350 *eP* **P 19 43 58.5 +0.2**
CBKS pmax pmax
comp=Z,173nm,1.3s,mb5.4
BLO Bloomington 25.58 14 *eP* **P 19 44 03.8 -1.9**
comp=Z,93nm,0.7s,mb5.4
BLO Bloomington 25.58 14 *eP* **P 19 44 03.8 -1.9**
BLO pmax pmax
comp=Z,93nm,0.7s,mb5.4
WUAZ Wupatki 26.02 327 *eP* **P 19 44 10.9 +1.3**
comp=Z,35nm,1.1s,mb4.8
ISCO Idaho Springs 27.16 341 *eP* **P 19 44 22.1 +2.1**
comp=Z,7.2nm,1.0s,mb4.2
ISCO Idaho Springs 27.16 341 *eP* **P 19 44 22.1 +2.1**
ISCO pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
SJG San Juan 27.23 78 LR LR 19 54 15.0
comp=Z,204nm,19.7s,MS3.7,baz=254,slow=34
NEN Nelson 28.06 323 *eP* **P 19 44 28.9 +0.9**
CCUT Cedar City 28.60 327 *eP* **P 19 44 34.6 +1.8**
MSU Marysvale 28.74 330 *eP* **P 19 44 35.4 +1.3**
ARUT Antelope Range 28.82 327 *eP* **P 19 44 36.6 +1.8**
RWWY Rawlins 29.39 340 *eP* **P 19 44 42.0 +2.1**
comp=Z,53nm,1.4s,mb5.1
DAU Daniels Canyon 29.84 333 *eP* **P 19 44 45.4 +1.5**
TCUT Toone Canyon 30.49 334 *eP* **P 19 44 51.5 +1.9**
HWUT Hardware Ranch 30.96 334 *eP* **P 19 44 54.7 +1.0**
comp=Z,9.4nm,1.2s,mb4.5
PDAR Pinedale Array 31.16 338 P **P 19 44 56.9 +1.4**
comp=Z,1.9nm,0.9s,mb3.9,baz=125,slow=6.0,SNR=11
PDAR PcP PcP 19 47 48.9 -1.7
comp=Z,1.1nm,1.0s,baz=121,slow=7.1,SNR=3.6
PDAR LR LR 19 57 39.1
comp=Z,94nm,20.1s,MS3.5,baz=142,slow=37
HVU Hansel Valley 31.62 333 *eP* **P 19 45 01.0 +1.5**
comp=Z,15nm,1.0s,mb4.8
HVU Hansel Valley 31.62 333 *eP* **P 19 45 01.0 +1.4**
HVU pmax pmax
comp=Z,15nm,1.0s,mb4.8
NVAR Mina Array Bea 31.97 323 P **P 19 45 04.2 +1.5**
comp=Z,6.5nm,0.9s,mb4.4,baz=134,slow=10.0,SNR=34
NVAR PcP PcP 19 47 52.8 0.0
comp=Z,1.7nm,0.8s,baz=117,slow=3.7,SNR=8.1
NVAR LR LR 19 59 27.3
comp=Z,199nm,20.3s,MS3.8,baz=115,slow=39
SNOW Snow King Moun 32.20 337 *eP* **P 19 45 06.1 +1.4**
comp=Z,26nm,1.0s,mb5.0
LOHW Long Hollow 32.27 338 *eP* **P 19 45 06.2 +1.0**
comp=Z,19nm,1.2s,mb4.8
FLWY Flagg Ranch 32.71 338 *eP* **P 19 45 09.7 +0.6**
comp=Z,12nm,1.0s,mb4.8
SADO Sadowa 32.86 20 P **P 19 45 09.3 -1.2**
comp=Z,14nm,1.0s,mb4.8,baz=234,slow=6.0,SNR=5.1
MCMT McKenzie Canyo 34.16 336 *eP* **P 19 45 23.7 +1.9**
MCMT *epP* 19 45 33.0
DLMT Dillon 34.51 337 *eP* **P 19 45 26.4 +1.6**
comp=Z,39nm,1.2s,mb5.2
ULM Lac du Bonnet 35.75 358 P **P 19 45 33.6 -1.9**
comp=Z,9.7nm,0.8s,mb4.8,baz=178,slow=8.9,SNR=21
CHMT Chamberlain Mo 36.06 338 *eP* **P 19 45 37.6 -0.5**
SAML Samuel 38.61 125 *eP* **P 19 45 57.3 -2.5**
comp=Z,12nm,1.1s,mb4.5
SAML *e* 19 46 05.1
LPAZ La Paz 39.98 139 P **P 19 46 09.4 -1.8**
comp=Z,3.2nm,0.9s,mb4.1,baz=331,slow=8.0,SNR=10
LPAZ LR LR 20 01 33.8
comp=Z,110nm,19.7s,MS3.7,baz=306,slow=35
LPAZ La Paz 39.98 139 *eP* **P 19 46 09.2 -2.1**
comp=Z,7.8nm,1.3s,mb4.3
LPAZ *e* 19 46 24.2
LPAZ LR LR 20 01 33.8
LPAZ La Paz 39.98 139 *eP* **P 19 46 09.2 -2.1**
LPAZ pmax pmax
comp=Z,8.0nm,1.3s
FFC Flin Flon 40.65 353 P **P 19 46 16.9 +0.1**
comp=Z,93nm,1.1s,mb5.3,SNR=8.8
FFC Flin Flon 40.65 353 *eP* **P 19 46 16.4 -0.5**
comp=Z,22nm,1.1s,mb4.7
FFC Flin Flon 40.65 353 *eP* **P 19 46 16.4 -0.4**
FFC pmax pmax
comp=Z,22nm,1.1s,mb4.7
EDM Edmonton 41.54 343 *eP* **P 19 46 24.3 +0.2**
EDM *epP* 19 46 35.1
SIV San Ignacio 44.61 131 P **P 19 46 47.2 -1.7**
comp=Z,5.8nm,1.1s,mb4.3,baz=313,slow=9.4,SNR=9.6
SCHQ Schefferville 45.62 22 P **P 19 46 55.7 -1.3**
comp=Z,5.1nm,0.8s,mb4.5,baz=226,slow=9.0,SNR=8.1
SCHQ LR LR 20 08 03.2
comp=Z,302nm,19.0s,MS4.3,baz=314,slow=39
SCHQ Schefferville 45.62 22 P **P 19 46 55.7 -1.3**
SCHQ LR LR 20 08 03.2
YKA Yellowknife Ar 50.12 348 P **P 19 47 31.1 -0.8**
comp=Z,4.9nm,0.8s,mb4.6,baz=151,slow=7.1,SNR=40
YKA PcP PcP 19 48 49.3 -2.2
comp=Z,0.8nm,0.8s,baz=150,slow=2.6,SNR=5.1
YKA PP PP 19 49 26.6 -0.3
comp=Z,2.4nm,1.1s,baz=148,slow=9.9,SNR=5.5
YKW3 Yellowknife Ar 50.19 348 *eP* **P 19 47 31.9 -0.5**
YKW3 *ePP* PP 19 49 28.3 +0.7
CFAA Coronel Fontan 52.15 152 P **P 19 47 45.2 -2.0**
comp=Z,1.4nm,0.9s,mb3.9,baz=333,slow=5.9,SNR=16
CFAA Coronel Fontan 52.15 152 P **P 19 47 45.2 -2.0**
CPUP Villa Florida 54.15 138 P **P 19 47 59.3 -2.6**
comp=Z,2.4nm,0.8s,mb4.2,baz=325,slow=9.4,SNR=4.2
CPUP LR LR 20 08 44.5
comp=Z,32nm,19.1s,MS3.4,baz=49,slow=34
RKT Rikitea 54.58 227 *eSS* SS 19 58 41.0 -47
comp=Z,90nm,33.0s
RKT *eLR* LR 20 03 26.9
comp=Z,395nm,27.0s
BDFB Brasilia 54.62 121 P **P 19 48 03.9 -1.4**
comp=Z,3.1nm,0.7s,mb4.4,baz=285,slow=5.2,SNR=3.4
PLCA Paso Flores 59.13 159 P **P 19 48 35.0 -2.3**
comp=Z,4.3nm,1.0s,mb4.4,baz=344,slow=6.9,SNR=7.5
PLCA LR LR 20 07 25.7
comp=Z,92nm,19.6s,MS3.9,baz=88,slow=29
PLCA Paso Flores 59.13 159 *eP* **P 19 48 34.7 -2.6**
PLCA LR LR 20 07 25.7
INK Inuvik 59.41 344 *eP* **P 19 48 38.5 -0.8**
comp=Z,8.9nm,1.0s,mb4.8
INK *epP* 19 48 49.9
INK Inuvik 59.41 344 *eP* **P 19 48 38.5 -0.8**
INK pmax pmax
comp=Z,9.0nm,1.0s
SFJD Kangerlussuaq 59.79 18 P **P 19 48 41.0 -0.8**
comp=Z,11nm,0.7s,mb5.0,baz=198,slow=8.1,SNR=4.9
SFJD Kangerlussuaq 59.79 18 *i P* **P 19 48 41.2 -0.7**
comp=Z,22nm,1.1s,mb5.1
SFJD Kangerlussuaq 59.79 18 *i P* **P 19 48 41.2 -0.7**
SFJD pmax pmax
comp=Z,23nm,1.1s,mb5.1
RES Resolute Bay 60.25 360 *eP* **P 19 48 44.2 -0.9**
comp=Z,9.8nm,1.0s,mb4.8
RES *epP* 19 48 53.7
RES Resolute Bay 60.25 360 *eP* **P 19 48 44.2 -0.9**
RES pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TRQA Tornquist 60.36 151 *eP* **P 19 48 43.6 -2.2**
TRQA *epP* 19 48 53.6
ILAR Eielson Array 61.58 337 P **P 19 48 52.9 -1.2**
comp=Z,7.0nm,0.9s,mb4.8,baz=143,slow=4.3,SNR=64
ILAR LR LR 20 20 05.5
comp=Z,149nm,18.1s,MS4.2,baz=0.3,slow=40
PPT Papeete 63.14 242 *eLR* LR 20 07 23.9
comp=Z,218nm,27.5s
PPT Papeete 63.14 242 LR LR 20 10 20.3
comp=Z,105nm,18.2s,MS4.0,baz=21,slow=30
TBI Tubuai 65.74 236 *eLR* LR 20 08 37.1
comp=Z,182nm,29.5s,baz=57
SUMG Summit 66.42 16 *eP* **P 19 49 26.6 +0.7**
comp=Z,49nm,1.3s,mb5.4
ALE Alert 69.30 4 P **P 19 49 44.8 +0.7**
comp=Z,79nm,0.9s,mb5.7,SNR=6.6
DAG Danmarks Havn 72.76 14 *i P* **P 19 50 04.0 -1.1**
comp=Z,47nm,1.1s,mb5.3
DAG Danmarks Havn 72.76 14 *eP* **P 19 50 04.0 -1.1**
comp=Z,47nm,1.1s,mb5.3
DAG Danmarks Havn 72.76 14 *eP* **P 19 50 04.0 -1.1**
DAG pmax pmax
comp=Z,47nm,1.1s,mb5.3
EKA Eskdalemuir Ar 78.91 36 P **P 19 50 40.6 +0.4**
comp=Z,7.0nm,0.8s,mb4.6,baz=278,slow=5.3,SNR=9.1
ROSF Rostrenen 80.03 43 *eP* **P 19 50 47.5 +1.2**
QUIF Quistinic 80.18 43 *eP* **P 19 50 47.7 +0.6**
BILL Bilibino 80.24 338 *eP* **P 19 50 45.7 -1.7**
comp=Z,14nm,1.3s,mb4.7
BILL Bilibino 80.24 338 *eP* **P 19 50 46.2 -1.2**
BILL pmax pmax
comp=Z,17nm,1.4s,mb4.8
SGMF Saint Gilles 80.52 43 *eP* **P 19 50 49.4 +0.5**
ESDC Sonseca Array 81.18 51 P **P 19 50 52.3 -0.2**
comp=Z,11nm,1.1s,mb4.7,baz=295,slow=5.3,SNR=15
GRR Gorron 81.60 42 *eP* **P 19 50 55.6 +0.9**
comp=Z,48nm,1.1s,mb5.0
GRR Gorron 81.60 42 *eP* **P 19 50 55.6 +0.9**
comp=Z,24nm,1.1s,mb5.0
GRR Gorron 81.60 42 *eP* **P 19 50 55.6 +0.9**
GRR pmax pmax
comp=Z,24nm,1.1s,mb5.0
FLN La Foliniere 81.77 42 *eP* **P 19 50 56.5 +0.9**
comp=Z,74nm,1.3s,mb5.2
FLN *eR*
comp=Z,301nm,19.6s
FLN La Foliniere 81.77 42 *eP* **P 19 50 56.5 +0.9**
comp=Z,37nm,1.3s,mb5.2
FLN LR LR
comp=Z,300nm,19.6s,MS4.7
FLN La Foliniere 81.77 42 *eP* **P 19 50 56.5 +0.9**
FLN pmax pmax
comp=Z,37nm,1.3s,mb5.2
FLN MLR MLR
comp=Z,300nm,19.6s,MS4.7
MDT Midelt 82.05 58 P **P 19 50 57.6 +0.5**
comp=Z,6.7nm,1.1s,mb4.5,baz=255,slow=4.0,SNR=4.2
MDT LR LR 20 26 41.4
comp=Z,44nm,18.1s,MS3.9,baz=308,slow=35
LFF La Frestale 83.45 45 *eP* **P 19 51 06.2 +1.8**
EPF Esparros 83.62 47 *eP* **P 19 51 06.9 +1.7**
CAF Calviac 84.36 45 *eP* **P 19 51 10.6 +1.6**
BGF Bois d'Agland 84.47 43 *eP* **P 19 51 09.4 -0.2**
comp=Z,38nm,1.0s,mb5.2
BGF Bois d'Agland 84.47 43 *eP* **P 19 51 09.4 -0.2**
comp=Z,19nm,1.0s,mb5.2
BGF Bois d'Agland 84.47 43 *eP* **P 19 51 09.4 -0.2**
BGF pmax pmax
comp=Z,19nm,1.0s,mb5.2
AVF Avril sur Loir 84.75 43 *eP* **P 19 51 10.5 -0.5**
SSF Saint Saulge 84.78 43 *eP* **P 19 51 09.9 -1.2**
comp=Z,63nm,1.4s,mb5.2
SSF Saint Saulge 84.78 43 *eP* **P 19 51 09.9 -1.2**
comp=Z,31nm,1.4s,mb5.2
SSF Saint Saulge 84.78 43 *eP* **P 19 51 09.9 -1.2**
SSF pmax pmax
comp=Z,31nm,1.4s,mb5.2
NB2 NORSAR Subarra 84.82 28 P **P 19 51 10.8 -0.5**
comp=Z,41nm,1.7s,mb5.3,baz=292,slow=5.1
NB2 NORSAR Subarra 84.82 28 P **P 19 51 10.8 -0.5**
NB2 pmax pmax
comp=Z,41nm,1.7s,mb5.3
NOA NORSAR Array B 84.82 28 P **P 19 51 11.4 0.0**
comp=Z,3.7nm,0.9s,mb4.5,baz=293,slow=4.9,SNR=6.3
NOA LR LR 20 27 21.5
comp=Z,60nm,18.5s,MS4.0,baz=80,slow=34
LOR Lormes 84.95 43 *eP* **P 19 51 11.9 -0.1**
comp=Z,46nm,1.2s,mb5.2
LOR *eR*
comp=Z,200nm,19.0s
LOR Lormes 84.95 43 *eP* **P 19 51 11.9 -0.1**
comp=Z,23nm,1.3s,mb5.2
LOR LR LR
comp=Z,200nm,19.0s,MS4.5
LOR Lormes 84.95 43 *eP* **P 19 51 11.9 -0.1**
LOR pmax pmax
comp=Z,23nm,1.3s,mb5.2
LOR MLR MLR
comp=Z,200nm,19.0s,MS4.5
SMF Signal de Mont 85.11 43 *eP* **P 19 51 12.2 -0.6**
comp=Z,122nm,1.6s,mb5.5
SMF Signal de Mont 85.11 43 *eP* **P 19 51 12.2 -0.6**
comp=Z,61nm,1.6s,mb5.5
SMF Signal de Mont 85.11 43 *eP* **P 19 51 12.2 -0.6**
SMF pmax pmax
comp=Z,61nm,1.6s,mb5.5
MEZF Maizieres J'vi 85.39 41 *eP* **P 19 51 14.4 +0.2**
VIVF Saint-Julien-I 86.17 45 *eP* **P 19 51 19.1 +1.0**
comp=Z,82nm,1.4s,mb5.5
VIVF Saint-Julien-I 86.17 45 *eP* **P 19 51 19.1 +1.0**
comp=Z,41nm,1.4s,mb5.5
VIVF Saint-Julien-I 86.17 45 *eP* **P 19 51 19.1 +1.0**
VIVF pmax pmax
comp=Z,41nm,1.4s,mb5.5
HFS Hagfors 86.29 28 P **P 19 51 19.3 +0.7**
comp=Z,4.4nm,0.9s,mb4.7,baz=190,slow=6.0,SNR=4.3
RUP Ruppelstein 86.29 40 *eP* **P 19 51 20.6 +1.9**
HAU Haudompre 86.36 41 *eP* **P 19 51 19.3 +0.3**
comp=Z,73nm,1.3s,mb5.4
HAU *eR*
comp=Z,250nm,18.0s
HAU Haudompre 86.36 41 *eP* **P 19 51 19.3 +0.3**
comp=Z,37nm,1.3s,mb5.5
HAU LR LR
comp=Z,250nm,18.0s,MS4.7
HAU Haudompre 86.36 41 *eP* **P 19 51 19.3 +0.3**
HAU pmax pmax
comp=Z,37nm,1.3s,mb5.5
HAU MLR MLR
comp=Z,250nm,18.0s,MS4.7
ARCES ARCESS Array B 86.42 18 P **P 19 51 20.3 +1.0**
comp=Z,4.6nm,0.9s,mb4.7,baz=306,slow=4.1,SNR=7.2
ABH Alteburg 86.54 39 *eP* **P 19 51 21.7 +1.8**
HINF Hinteralfeld 86.74 41 *eP* **P 19 51 21.1 +0.2**
comp=Z,74nm,1.6s,mb5.4
HINF Hinteralfeld 86.74 41 *eP* **P 19 51 21.1 +0.2**
comp=Z,37nm,1.6s,mb5.4
HINF Hinteralfeld 86.74 41 *eP* **P 19 51 21.1 +0.2**
HINF pmax pmax
comp=Z,37nm,1.6s,mb5.4
ECH Echery 86.81 41 *eP* **P 19 51 22.4 +1.2**
CDF Champ du Feu 86.83 41 *eP* **P 19 51 21.9 +0.6**
comp=Z,17nm,0.9s,mb5.0
CDF Champ du Feu 86.83 41 *eP* **P 19 51 21.9 +0.6**
comp=Z,8.6nm,0.9s,mb5.0
CDF Champ du Feu 86.83 41 *eP* **P 19 51 21.9 +0.6**
CDF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
LOMF Lomont 86.87 42 *eP* **P 19 51 22.8 +1.3**
ORIF Oris-en-Rattie 86.97 44 *eP* **P 19 51 22.2 +0.2**
comp=Z,26nm,1.1s,mb5.1
ORIF *eR*
comp=Z,172nm,21.5s
ORIF Oris-en-Rattie 86.97 44 *eP* **P 19 51 22.2 +0.2**
comp=Z,13nm,1.1s,mb5.1
ORIF Oris-en-Rattie 86.97 44 *eP* **P 19 51 22.2 +0.2**
ORIF pmax pmax
comp=Z,13nm,1.1s,mb5.1
LANF Langenberg 86.98 40 *eP* **P 19 51 23.7 +1.6**
SMRF Simiane la Rot 87.04 45 *eP* **P 19 51 22.4 +0.1**
comp=Z,113nm,1.3s,mb5.6
SMRF Simiane la Rot 87.04 45 *eP* **P 19 51 22.4 +0.1**
comp=Z,113nm,1.3s,mb5.9
LPL La Plagne 87.36 44 *eP* **P 19 51 25.2 +1.3**
comp=Z,52nm,1.4s,mb5.3
LPL La Plagne 87.36 44 *eP* **P 19 51 25.2 +1.3**
comp=Z,26nm,1.4s,mb5.3
LPL La Plagne 87.36 44 *eP* **P 19 51 25.2 +1.3**
LPL pmax pmax
comp=Z,26nm,1.4s,mb5.3
LPG La Plagne 87.38 44 *eP* **P 19 51 25.4 +1.4**
TOD Tromm 87.40 39 *eP* **P 19 51 25.5 +1.4**
SEY Seymchan 87.44 335⇑ *iP* **P 19 51 23.5 -0.8**
MBDF Montbardon 87.63 44 *eP* **P 19 51 25.3 +0.1**
comp=Z,23nm,0.9s,mb5.1
MBDF Montbardon 87.63 44 *eP* **P 19 51 25.3 +0.1**
comp=Z,12nm,0.9s,mb5.1
MBDF Montbardon 87.63 44 *eP* **P 19 51 25.3 +0.1**
MBDF pmax pmax
comp=Z,12nm,0.9s,mb5.1
DBIC Dimbokro 87.81 84 P **P 19 51 25.1 -0.9**
comp=Z,5.4nm,0.9s,mb4.8,baz=315,slow=10.0,SNR=3.2
LMR La Mourre 87.88 46 *eP* **P 19 51 26.0 -0.4**
comp=Z,64nm,1.1s,mb5.5
LMR La Mourre 87.88 46 *eP* **P 19 51 26.0 -0.4**
comp=Z,32nm,1.1s,mb5.5
LMR La Mourre 87.88 46 *eP* **P 19 51 26.0 -0.4**
LMR pmax pmax
comp=Z,32nm,1.1s,mb5.5
FRF La Foret Royal 87.91 46 *eP* **P 19 51 26.4 -0.1**
comp=Z,14nm,0.8s,mb5.0
FRF La Foret Royal 87.91 46 *eP* **P 19 51 26.4 -0.1**
comp=Z,7.2nm,0.8s,mb5.0
FRF La Foret Royal 87.91 46 *eP* **P 19 51 26.4 -0.1**
FRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
SBF Sospel 88.35 45 *eP* **P 19 51 27.0 -1.6**
GRA1 Grafenberg Arr 88.84 39 *eP* **P 19 51 32.6 +1.6**
GRA1 *epP* 19 51 43.9
GRF Grafenberg Arr 88.84 39 *eP* **P 19 51 32.6 +1.6**
comp=Z,20nm,1.3s,mb5.3
GRF *epP* 19 51 43.9
TIXI Tiksi 89.37 347 *eP* **P 19 51 30.5 -2.9**
TIXI pmax pmax
comp=Z,9.0nm,1.5s,mb4.9
MA2 Magadan 89.71 333 *eP* **P 19 51 33.7 -1.3**
MA2 pmax pmax
comp=Z,10.0nm,1.7s,mb4.9
KHC Kasperske Hory 90.48 39 *eP* **P 19 51 36.5 -2.1**
GERES GERESS Array B 90.67 39 P **P 19 51 40.5 +1.1**
comp=Z,2.4nm,0.9s,mb4.5,baz=298,slow=2.9,SNR=9.4
FINES FINESS Array B 91.04 25 P **P 19 51 42.1 +0.9**
comp=Z,2.0nm,0.9s,mb4.5,baz=316,slow=8.0,SNR=6.4
TORD Torodi Ar. Bea 92.42 76 P **P 19 51 45.9 -1.7**
comp=Z,0.8nm,0.9s,mb4.1,baz=325,slow=3.4,SNR=5.1
MKAR Makanchi Array 118.98 3 PKP PKPdf 19 57 22.8 -2.7
comp=Z,0.5nm,0.7s,baz=11,slow=1.9,SNR=6.4
HHC Hu-ho-hao-te 120.01 338 *ePKP* PKPdf 19 57 30.4 +2.9
HHC PP PP 19 58 57.3 +5.6
HHC PKS 20 01 05.8
HHC SKS SKSdf 20 04 37.7 -2.9
HHC SKKS SKKSac 20 05 45.7 -7.2
HHC LR LR
comp=N,300nm,11.6s
HHC LR LR
comp=E,495nm,19.6s
HHC LR LR
comp=Z,274nm,9.0s
WMQ Urumqi 122.01 358 *ePKP* PKPdf 19 57 32.9 +1.5
WMQ LR LR
comp=N,144nm,22.1s,MS4.8
WMQ LR LR
comp=E,169nm,22.6s,MS4.8
WMQ LR LR
comp=Z,152nm,22.0s,MS4.6
SSE Sheshan 123.35 323 *ePKP* PKPdf 19 57 37.5 +3.6
NJ2 Nanjing 123.93 326 *ePKP* PKPdf 19 57 37.4 +2.4
NJ2 XPKP 19 57 51.8
NJ2 PP PP 19 59 25.0 +6.6
NJ2 PKS 20 01 12.0
NJ2 SKS SKSdf 20 04 44.0 -4.0
NJ2 SKKS SKKSac 20 06 13.0 -5.3
NJ2 PP PP
comp=Z,390nm,5.8s
NJ2 LR LR

comp=N,270nm,15.2s
NJ2 LR LR
comp=E,450nm,30.6s
NJ2 LR LR
comp=Z,270nm,27.3s
STKA Stephens Creek 126.34 241 PKP PKPdf 19 57 36.1 -3.5
comp=Z,4.3nm,0.9s,baz=72,slow=1.5,SNR=6.7
LZH Lanzhou 126.92 342 *e*PKP PKPdf 19 57 41.0 +0.2
LZH XPKP 19 57 59.8
LZH LR LR
comp=N,189nm,18.3s
LZH LR LR
comp=Z,357nm,20.2s,MS5.0
CD2 Chengdu 131.70 339 *e*PKP PKPdf 19 57 52.9 +3.0
WB2 Warramunga Arr 133.34 256 *e*P PKPdf 19 57 51.5 -1.4
WRA Warramunga Arr 133.36 256 PKP PKPdf 19 57 51.6 -1.4
comp=Z,3.9nm,1.0s,baz=89,slow=2.5,SNR=29
ASAR Alice Springs 133.72 251 PKP PKPdf 19 57 52.4 -1.3
comp=Z,1.7nm,0.9s,baz=87,slow=2.0,SNR=12
MBWA Marble Bar 146.98 253 *e*PKPdf PKPdf 19 58 17.7 +0.1
HYB Hyderabad 147.58 13 *i* PKP PKPdf 19 58 20.0 +1.5
HYB Hyderabad 147.58 13 *e*PKIKP PKPdf 19 58 20.0 +1.5
KSM Kuching 150.98 301 *e*PKPbc PKPbc 19 58 29.3 -0.4

IDC 10 19:43:03.8±8.7, 974N×9275E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, MS3.5/1, Ms1 3.5/1, ms1mx3.1/5, Error ellipse: s-maj=451.8km s-min=28.0km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.91**	**360**	*e*P	Pn	19 43 57.3	+20
PBA				*e*S	Sn	19 44 25.7	+23
PBA				*e*x	x	19 44 38.0	
PBA	comp=N,117nm,0.8s			*e*x	x	19 44 44.5	
	comp=E,158nm,0.8s						
MKAR	**Makanchi Array**	**37.99**	**348**	P	P	19 50 23.4	0.0
	comp=E,0.1nm,0.6s,baz=165,slow=7.4,SNR=2.7						
MKAR				LR	LR	20 08 37.0	
	comp=E,61nm,19.1s,baz=358,slow=40						
WRA	**Warramunga Arr**	**50.46**	**126**	P	P	19 52 03.2	-0.1
	comp=E,0.2nm,0.6s,baz=304,slow=8.9,SNR=5.8						
ASAR	**Alice Springs**	**52.16**	**130**	P	P	19 52 16.9	+1.0
	comp=E,0.3nm,0.9s,baz=311,slow=7.1,SNR=4.8						

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*IDC **10** 20:04:05.1±0.5, 1067N×9408E, h0km, mb4.2/18, mb1 4.3/19, mb1mx4.2/26, mbtmp4.2/19, ML4.1/1, MS4.2/19, Ms1 4.2/19, ms1mx4.0/34, Error ellipse: s-maj=25.8km s-min=12.3km az=52.0*

*BJI **10** 20:04:06.0, 1043N×9414E, h32km, mB4.9, mb4.6, Ms4.6, Msz4.2*

*ISCJB **10** 20:04:07.1±0.3, 1062N±004×9420E±005, h25km, mb4.5/58, MS4.2/29, Error ellipse: s-maj=7.5km s-min=5.0km az=94.0*

*NEIC **10** 20:04:08.6±0.3, 1064N×9420E, mb4.6/23, Error ellipse: s-maj=13.0km s-min=5.0km az=55.0*

*MOS **10** 20:04:08.1±0.8, 1067N×9419E, h33km, mb4.8/19, Error ellipse: s-maj=14.5km s-min=6.0km az=111.5*

ISC 10 20:04:09.8±0.3, 1067N±004×9423E±005, h27km, h27km±1.5km: pP-P, n136, σ1§09/134, mb4.5/58, MS4.2/29, 3C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.75**	**304**	*e*P	Px	20 04 54.7	
PBA				*e*S	Sx	20 05 18.6	
KULM	**Kulim**	**8.31**	**130**	*e*P	**Pn**	**20 06 05.8**	**-2.7**
KULM				*e*		20 06 13.2	
PSI	**Prapat**	**9.10**	**149**	Pn	**Pn**	**20 06 21.4**	**+2.0**
	1.8nm,0.3s,baz=298,slow=9.2,SNR=4.5						
PSI				LR	LR	20 10 32.6	
	comp=Z,2μm,18.5s,baz=298,slow=42						
PSI	**Prapat**	**9.10**	**149**	Pn	**Pn**	**20 06 21.4**	**+2.0**
PSI				LR	LR	20 10 32.6	
VIS	**Vishakhapatnam**	**12.67**	**305**	*e*P	**Pn**	**20 07 09.0**	**+0.8**
VIS				AMb	AMB	20 07 16.2	
	comp=Z,14nm,0.3s						
VIS				*e*S	**Sn**	**20 09 19.8**	**-8.7**
BOK	**Bokaro**	**15.28**	**330**	*e*P	**Pn**	**20 07 48.4**	**+4.7**
BOK				AMb	AMB	20 07 59.3	
	comp=Z,24nm,1.6s						
BOK				*ex*	**Sn**	**20 10 49.2**	**+17**
KMI	**Kunming**	**16.49**	**28**	P	**Pn**	**20 08 01.8**	**+2.6**
KMI				AP	pP	20 08 08.9	+0.1
KMI				XP	sP	20 08 10.8	-1.4
KMI				PP		20 08 15.6	
KMI				S	**Sn**	**20 11 07.3**	**+5.9**
KMI				XS	sS	20 11 18.9	-5.2
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s						
KMI				AMB	AMB		
	comp=Z,124nm,4.5s						
KMI				LR	LR		
	comp=N,787nm,13.5s						
KMI				LR	LR		
	comp=E,437nm,12.0s						
KMI				LR	LR		
	comp=Z,549nm,13.5s						
HYB	**Hyderabad**	**16.61**	**296**	*i* P	**Pn**	**20 08 05.5**	**+4.8**
HYB				*e*S	**Sn**	**20 11 10.0**	**+5.7**
HYB	**Hyderabad**	**16.61**	**296**	*e*P	**Pn**	**20 08 05.5**	**+4.8**
HYB				*e*S	**Sn**	**20 11 10.0**	**+5.7**
QIZ	**Qiongzhong**	**17.22**	**59**	P	**Pn**	**20 08 10.2**	**+1.8**
QIZ				AMB	AMB		
	comp=Z,8.0nm,1.6s						
QIZ				AMB	AMB		
	comp=Z,129nm,5.9s						
QIZ				LR	LR		
	comp=E,1μm,9.2s						
QIZ				LR	LR		
	comp=Z,1μm,8.9s						
NGP	**Nagpur**	**17.91**	**307**	*e*P	**Pn**	**20 08 20.0**	**+3.0**
NGP				AMb	AMB	20 08 29.0	
	comp=Z,15nm,0.8s						
JIRN	**Jiri**	**18.51**	**337**	*e*P	**Pn**	**20 08 25.0**	**+0.7**
	comp=Z,100nm,1.0s						
PKI	**Pulchoki**	**18.75**	**335**	*e*P	**Pn**	**20 08 27.8**	**+0.7**
	comp=Z,136nm,1.1s						
PKI	**Pulchoki**	**18.75**	**335**	*e*P	**Pn**	**20 08 27.8**	**+0.7**
PKI				pmax	pmax		
	comp=Z,68nm,1.1s						
GUN	**Gumba**	**18.86**	**337**	*e*P	**Pn**	**20 08 29.0**	**+0.5**
	comp=Z,246nm,1.4s						
DMN	**Daman**	**18.91**	**334**	*e*P	**Pn**	**20 08 29.6**	**+0.5**
	comp=Z,69nm,0.9s						
KKN	**Kakani**	**18.99**	**335**	*e*P	**Pn**	**20 08 30.3**	**+0.2**
	comp=Z,71nm,1.1s						
KKN	**Kakani**	**18.99**	**335**	*e*P	**Pn**	**20 08 30.3**	**+0.2**
KKN				pmax	pmax		
	comp=Z,36nm,1.1s						
LSA	**Lhasa**	**19.15**	**352**	P	**Pn**	**20 08 31.4**	**-0.6**
LSA	**Lhasa**	**19.15**	**352**	*e*P	**Pn**	**20 08 31.3**	**-0.6**
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**19.15**	**352**	*e*P	**Pn**	**20 08 31.3**	**-0.7**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
GKN	**Gorkha**	**19.45**	**334**	*e*P	**Pn**	**20 08 35.3**	**-0.3**
	comp=Z,38nm,0.5s						
GYA	**Guiyang**	**19.61**	**35**	↓↓*i*P	**Pn**	**20 08 36.8**	**-0.7**
GYA				AP	pP	20 08 41.6	-1.6
GYA				XP	sP	20 08 45.2	-1.4
GYA				PP		20 08 57.8	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,220nm,4.5s						
GYA				LR	LR		
	comp=N,720nm,12.9s						
GYA				LR	LR		
	comp=E,700nm,10.8s						
GYA				LR	LR		
	comp=Z,680nm,10.8s						
KOLN	**Koldanda**	**19.73**	**331**	*e*P	**Pn**	**20 08 38.6**	**-0.3**
	comp=Z,69nm,0.8s						
BHPL	**Bhopal**	**20.33**	**310**	*e*P	**P**	**20 08 46.7**	**+2.9**
BHPL				AMb	AMB	20 08 52.4	
	comp=Z,25nm,1.0s						
POO	**Poona**	**21.19**	**294**	*e*P	**P**	**20 08 54.0**	**+0.8**
CD2	**Chengdu**	**22.00**	**22**	P	**P**	**20 09 01.7**	**-0.1**
CD2				XP	sP	20 09 12.2	-0.3
CD2				PP		20 09 28.1	
CD2				S	**S**	**20 12 55.4**	**-7.8**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=N,230nm,11.4s						
CD2				LR	LR		
	comp=Z,220nm,10.8s,MS3.8						
LGTI	**Lohaghat**	**22.79**	**327**	*e*P	**P**	**20 09 13.3**	**+3.0**
NDI	**New Delhi**	**23.98**	**321**	AMb	AMB	20 09 24.6	
	comp=Z,54nm,1.4s,mb4.8						
NDI				*e*P		20 09 24.7	
ENH	**Enshi**	**24.13**	**34**	*e*P	**P**	**20 09 22.4**	**-1.0**
	comp=Z,38nm,0.9s,mb4.8						
DDI	**Dehra Dun**	**24.67**	**325**	*e*P	**P**	**20 09 31.3**	**+3.0**
DDI				*ex*	x	20 10 17.8	
LZH	**Lanzhou**	**26.76**	**17**	*e*P	**P**	**20 09 47.9**	**+0.6**
LZH				AP	pP	20 09 55.2	+0.1
LZH				XP	sP	20 09 58.5	+0.1
LZH				PP		20 10 33.2	
LZH				*e*S	**S**	**20 14 21.2**	**-0.3**
LZH				XS	sS	20 14 33.0	-1.4
LZH				SS		20 15 33.6	
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,107nm,4.7s						
LZH				LR	LR		
	comp=N,523nm,10.2s						
LZH				LR	LR		
	comp=Z,1μm,13.4s,MS4.6						
XAN	**Xi'an**	**26.87**	**28**	P	**P**	**20 09 46.9**	**-1.4**
XAN				S	**S**	**20 14 19.7**	**-3.5**
XAN				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.9						
XAN				LR	LR		
	comp=N,283nm,10.9s,MS4.3						
XAN				LR	LR		
	comp=E,351nm,12.1s,MS4.3						
XAN				LR	LR		
	comp=Z,296nm,11.7s,MS4.1						
WHN	**Wuhan**	**27.22**	**40**	*e*P	**P**	**20 09 51.0**	**-0.4**
WHN				LR	LR		
	comp=Z,910nm,10.0s,MS4.6						
GTA	**Gaotai**	**29.05**	**9**	*e*P	**P**	**20 10 08.5**	**+0.8**
GTA				AP	pP	20 10 15.0	-0.6
GTA				XP	sP	20 10 19.5	+0.7
GTA				PP	PP	20 11 06.5	-7.0
GTA				S	**S**	**20 15 00.4**	**+2.9**
GTA				XS	sS	20 15 16.3	+5.8
GTA				SS	SS	20 16 33.5	-28
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,83nm,4.9s						
GTA				LR	LR		
	comp=N,231nm,19.0s,MS3.9						
GTA				LR	LR		
	comp=E,160nm,15.2s,MS3.9						
GTA				LR	LR		
	comp=Z,281nm,16.3s,MS4.0						
NJ2	**Nanjing**	**31.14**	**43**	*e*P	**P**	**20 10 27.5**	**+1.3**
NJ2				XP	sP	20 10 34.5	-2.8
NJ2				AP	pP	20 10 34.7	+0.6
NJ2				PP	PP	20 11 29.5	-7.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,90nm,10.2s						
NJ2				LR	LR		
	comp=N,440nm,19.0s,MS4.4						
NJ2				LR	LR		
	comp=E,710nm,18.8s,MS4.4						
NJ2				LR	LR		
	comp=Z,260nm,15.4s,MS4.0						
KSH	**Kashi**	**33.00**	**334**	*e*P	**P**	**20 10 42.7**	**+0.2**
KSH				*e*AP	pP	20 10 51.5	+1.1
KSH				XP	sP	20 10 54.5	+0.9
KSH				PP	PP	20 11 54.8	-2.5
KSH				PCP	PcP	20 13 27.1	+1.1
KSH				S	**S**	**20 15 58.7**	**-0.6**
KSH				XS	sS	20 16 12.3	0.0
KSH				SCP	ScP	20 17 09.3	+1.0
KSH				PCS	PcS	20 17 11.3	-0.1
KSH				SS	SS	20 18 00.1	-22
KSH				SCS	ScS	20 21 07.5	-1.1
KSH				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
KSH				AMB	AMB		
	comp=Z,180nm,3.6s						
KSH				LR	LR		
	comp=N,278nm,5.8s						
KSH				LR	LR		
	comp=E,316nm,5.0s						
KSH				LR	LR		
	comp=Z,307nm,6.5s						
WMQ	**Urumqi**	**33.51**	**351**	P	**P**	**20 10 48.5**	**+1.5**
WMQ				AP	pP	20 10 55.8	+1.0
WMQ				XP	sP	20 10 59.1	+1.0
WMQ				PP	PP	20 12 00.9	-2.1
WMQ				PCP	PcP	20 13 29.3	+1.9
WMQ				*e*S	**S**	**20 16 07.9**	**+0.7**
WMQ				SS	SS	20 18 11.7	-21
WMQ				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,87nm,4.6s						
WMQ				LR	LR		
	comp=N,2μm,24.0s,MS4.9						
WMQ				LR	LR		
	comp=E,2μm,24.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,2μm,25.0s,MS4.7						
HHC	**Hu-ho-hao-te**	**33.73**	**24**	*e*P	**P**	**20 10 51.1**	**+2.2**
HHC				AP	pP	20 10 58.4	+1.6
HHC				XP	sP	20 11 01.8	+1.8
HHC				PP	PP	20 12 04.5	-0.9
HHC				PCP	PcP	20 13 30.3	+2.2
HHC				S	**S**	**20 16 13.9**	**+3.2**
HHC				XS	sS	20 16 26.5	+2.8
HHC				SS	SS	20 18 19.4	-17
HHC				SCS	ScS	20 21 12.7	+0.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,134nm,4.1s						
HHC				LR	LR		
	comp=N,293nm,11.5s						
HHC				LR	LR		
	comp=E,495nm,17.9s						
HHC				LR	LR		
	comp=Z,274nm,9.0s						
BJI	**Beijing**	**35.13**	**30**	P	**P**	**20 11 01.6**	**+0.6**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
BJI				LR	LR		
	comp=N,268nm,13.3s,MS4.3						
BJI				LR	LR		
	comp=E,272nm,14.7s,MS4.3						
BJI				LR	LR		
	comp=Z,180nm,17.8s,MS3.9						
ULHL	**Ulahol**	**35.17**	**337**	P	**P**	**20 11 01.6**	**+0.2**
	SNR=6.1						
KZA	**Kyzart**	**35.43**	**335**	P	**P**	**20 11 04.1**	**+0.5**
	SNR=6.1						
UCH	**Uchtor**	**35.86**	**335**	P	**P**	**20 11 08.3**	**+1.1**
	SNR=5.5						
JOW	**Kunigami**	**35.87**	**59**	LR	LR	20 29 30.8	
	comp=Z,135nm,18.6s,MS3.7,baz=317,slow=42						
KBK	**Karagaybulak**	**36.04**	**336**	P	**P**	**20 11 09.6**	**+0.8**
	SNR=7.4						
AML	**Almayashu**	**36.13**	**334**	P	**P**	**20 11 10.6**	**+1.0**
	SNR=16						
AAK	**Ala-Archa**	**36.20**	**335**	P	**P**	**20 11 11.4**	**+1.2**
	SNR=7.0						
AAK	**Ala-Archa**	**36.20**	**335**	*e*P	**P**	**20 11 09.6**	**-0.7**
	comp=Z,14nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**36.20**	**335**	*d i*P	**P**	**20 11 09.9**	**-0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
FRU	**Bishkek**	**36.32**	**335**	*e*P	**P**	**20 11 12.0**	**+0.8**
EKS2	**Erkin-Say**	**36.53**	**334**	P	**P**	**20 11 14.2**	**+1.2**
	SNR=14						
USP	**Ospenovka**	**36.73**	**336**	P	**P**	**20 11 15.2**	**+0.5**
	SNR=6.3						
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**20 11 20.2**	**-0.2**
	comp=Z,10nm,0.9s,mb4.6,baz=165,slow=8.0,SNR=87						
MKAR				LR	LR	20 30 38.8	
	comp=Z,193nm,18.1s,MS3.9,baz=0.5,slow=43						
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**20 11 20.2**	**-0.2**
MKAR				LR	LR	20 30 38.8	
KKAR	**Karatay Array**	**38.34**	**332**	*i* P	**P**	**20 11 28.0**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
SONM	**Songino Array**	**38.44**	**13**	P	**P**	**20 11 28.3**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.7,baz=183,slow=5.9,SNR=6.8						
SONM				LR	LR	20 28 46.9	
	comp=Z,334nm,20.0s,MS4.2,baz=228,slow=38						
ULN	**Ulaanbaatar**	**38.62**	**14**	*e*P	**P**	**20 11 30.6**	**0.0**
	comp=Z,6.0nm,1.3s,mb4.2						
ULN	**Ulaanbaatar**	**38.62**	**14**	*e*P	**P**	**20 11 30.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
ZAK	**Zakamensk**	**40.29**	**9**	*e*P	**P**	**20 11 44.5**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.2						
KURK	**Kurchatov**	**41.94**	**345**	*e*P	**P**	**20 11 57.5**	**-0.6**
	comp=Z,11nm,1.0s,mb4.4						
KURK	**Kurchatov**	**41.94**	**345**	*d i*P	**P**	**20 11 57.7**	**-0.5**
CN2	**Changchun**	**42.65**	**34**	*e*P	**P**	**20 12 03.8**	**-0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NVS	**Novosibirsk**	**44.91**	**351**	*e*P	**P**	**20 12 20.8**	**-1.3**
NVS				*e*S	**S**	**20 18 59.4**	**+0.9**
NVS				pmax	pmax		
	comp=N,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.6						
NVS				smax			
	comp=N,13nm,2.0s						
NVS				smax			
	comp=E,11nm,2.0s						
MDJ	**Mudanjiang**	**45.48**	**35**	P	**P**	**20 12 27.1**	**+0.5**
MDJ				S	**S**	**20 19 07.3**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,14nm,1.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,47nm,3.0s						
MDJ				LR	LR		
	comp=N,75nm,21.2s,MS3.7						
MDJ				LR	LR		
	comp=E,41nm,17.0s,MS3.7						
MDJ				LR	LR		
	comp=Z,96nm,20.2s,MS3.7						
VOSK	**Vostochnaya**	**45.95**	**340**	P	**P**	**20 12 28.8**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BVA0	**Borovoye Array**	**46.39**	**340**	P	**P**	**20 12 32.3**	**-1.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**46.39**	**340**	P	**P**	**20 12 33.2**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.3,baz=140,slow=7.8,SNR=16						
BRVK	**Borovoye**	**46.46**	**340**	P	**P**	**20 12 33.8**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.4						
BRVK	**Borovoye**	**46.46**	**340**	P	**P**	**20 12 33.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**46.80**	**339**	*e*P	**P**	**20 12 36.1**	**-1.0**
	comp=Z,4.0nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**46.80**	**339**	*e*P	**P**	**20 12 36.1**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MJAR	**Matsushiro Arr**	**47.26**	**50**	P	**P**	**20 12 41.9**	**+1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=243,slow=8.0,SNR=3.9						
MJAR				PcP	PcP	20 14 12.0	+0.5
	comp=Z,5.0nm,0.9s,baz=252,slow=5.6,SNR=8.6						
JHJ	**Hachijo jima 2**	**47.34**	**55**	LR	LR	20 33 21.0	
	comp=Z,257nm,19.1s,MS4.2,baz=158,slow=37						
AB31	**Akbulak array**	**47.85**	**330**	*i* P	**P**	**20 12 44.7**	**-0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P	**P**	**20 12 51.2**	**+0.2**
	comp=Z,9.3nm,1.1s,mb4.8,baz=346,slow=8.3,SNR=3.2						
NWAO				LR	LR	20 34 09.2	
	comp=Z,167nm,21.3s,MS4.0,baz=264,slow=37						
NWAO	**Narrogin (SRO)**	**48.59**	**154**	P	**P**	**20 12 51.2**	**+0.2**
NWAO				LR	LR	20 34 09.2	
BOD	**Bodaibo**	**49.43**	**14**	*e*P	**P**	**20 12 55.4**	**-2.0**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
AKTK	**Aktyubinsk**	**49.56**	**330**	P	**P**	**20 12 57.7**	**-0.7**
AKTK				LR	LR	20 38 27.8	
AKTO	**Aktyubinsk**	**49.56**	**330**	P	**P**	**20 12 57.7**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=122,slow=11,SNR=3.1						
AKTO				LR	LR	20 38 27.8	
	comp=Z,135nm,19.8s,MS4.0,baz=138,slow=42						
WRA	**Warramunga Arr**	**49.85**	**128**	P	**P**	**20 13 01.0**	**+0.5**
	comp=Z,5.0nm,0.6s,mb4.7,baz=304,slow=8.9,SNR=85						
WRAB	**Tennant Creek**	**49.85**	**128**	*e*P	**P**	**20 13 01.3**	**+0.5**
	comp=Z,9.9nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**49.85**	**128**	*e*P	**P**	**20 13 01.3**	**+0.7**
WB2	**Warramunga Arr**	**49.86**	**128**	*e*P	**P**	**20 13 00.3**	**-0.3**
HABR	**Khabarovsk**	**50.78**	**34**	*e*P	**P**	**20 13 00.0**	**-7.6**
HABR				*e*S	**S**	**20 20 12.7**	**-9.0**
ASPA	**Alice Springs**	**51.67**	**132**	⇑*i*P	**P**	**20 13 14.8**	**+0.5**
AS31	**Alice Springs**	**51.67**	**132**	⇑*i*P	**P**	**20 13 14.8**	**+0.5**
ASAR	**Alice Springs**	**51.67**	**132**	P	**P**	**20 13 14.8**	**+0.5**
	comp=Z,4.7nm,0.8s,mb4.5,baz=310,slow=6.8,SNR=88						
CLNS	**Chul'man**	**51.80**	**21**	*e*P	**P**	**20 13 05.4**	**-10**
CLNS				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.0s						
GNI	**Garni**	**52.58**	**313**	*e*P	**P**	**20 13 22.7**	**+1.6**
	comp=N,30nm,1.0s,mb5.2						
GNI	**Garni**	**52.58**	**313**	*e*P	**P**	**20 13 21.6**	**+0.5**
GNI				pmax	pmax		
	comp=Z,18nm,1.1s						
ARU	**Arti**	**53.37**	**336**	*e*P	**P**	**20 13 25.8**	**-1.1**
	comp=Z,6.4nm,1.1s,mb4.5						
ARU	**Arti**	**53.37**	**336**	↓↓*i*P	**P**	**20 13 26.2**	**-0.7**
ARU				*e*		20 15 26.4	
ARU				*e*PPP		20 16 33.7	
ARU				*e*S	**S**	**20 20 56.7**	**-0.5**
ARU				*e*SS	SS	20 24 37.2	-0.1
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ARU				MLR	MLR		
	comp=Z,500nm,23.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS4.4						
ARU				MLR	MLR		
	comp=E,300nm,20.0s,MS4.4						
ZEI	**Tsey**	**54.09**	**316**	*e*P	**P**	**20 13 32.7**	**+0.6**
ZEI				*i* *PP	pP	20 13 43.1	+2.8
ZEI				*i*		20 15 33.9	
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
YSS	**Yuzh-Sakhalins**	**54.55**	**39**	*e*P	**P**	**20 13 34.7**	**-0.8**
YSS				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**55.34**	**317**	*e*P	**P**	**20 13 41.6**	**+0.4**
	comp=Z,19nm,0.9s,mb5.1						
KIV	**Kislovodsk**	**55.34**	**317**	*e*P	**P**	**20 13 41.7**	**+0.5**
KIV				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
MALT	**Malatya**	**56.76**	**309**	*e*P	**P**	**20 13 51.3**	**-0.1**
	comp=Z,3.5nm,1.1s,mb4.3						
MALT				*e*pP	pP	20 13 58.4	-1.2
MALT	**Malatya**	**56.76**	**309**	*e*P	**P**	**20 13 51.3**	**0.0**
MALT				*e**PP	pP	20 13 58.4	-1.2
MALT				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
SOC	**Sochi**	**57.24**	**315**	*e*P	**P**	**20 13 53.4**	**-1.4**
SOC				*e**PP	pP	20 14 02.7	-0.3
SOC				*e*		20 14 44.2	
SOC				*e*		20 15 56.9	
SOC				*e*S	**S**	**20 21 47.1**	**-1.9**
SOC				*e**SS	sS	20 22 10.4	+7.8
SOC				*e*		20 23 36.5	
SOC				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
YAK	**Yakutsk**	**57.34**	**19**	*e*P	**P**	**20 13 54.5**	**-0.9**
	comp=Z,25nm,0.8s,mb5.3	

YAK	**Yakutsk**	**57.34**	**19**	*e*P	**P**	**20 13 54.5**	**-0.9**
YAK				*e**PP	pP	20 14 00.1	-3.6
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
CTA	**Charters Tower**	**59.63**	**121**	P	**P**	**20 14 12.5**	**+1.1**
	comp=Z,3.4nm,0.7s,mb4.5,baz=297,slow=9.0,SNR=3.1						
CTA				LR	LR	20 40 54.2	
	comp=Z,156nm,20.3s,MS4.1,baz=293,slow=37						
BR131	**Keskin Array S**	**60.70**	**310**	*e*P	**P**	**20 14 16.7**	**-2.0**
	comp=Z,2.0nm,0.6s,mb4.4						
BR131				*e*pP	pP	20 14 24.1	-3.0
BRTR	**Keskin Array B**	**60.70**	**310**	P	**P**	**20 14 17.5**	**-1.3**
	comp=Z,2.8nm,0.8s,mb4.4,baz=128,slow=6.8,SNR=16						
SIM	**Simferopol'**	**61.49**	**316**	*de*P	**P**	**20 14 24.6**	**+0.5**
SIM				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**61.98**	**135**	*e*P	**P**	**20 14 27.3**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**61.98**	**135**	P	**P**	**20 14 26.4**	**-1.1**
	comp=Z,5.3nm,1.0s,mb4.6,baz=295,slow=7.0,SNR=4.3						
STKA				LR	LR	20 40 01.8	
	comp=Z,311nm,21.8s,MS4.4,baz=110,slow=35						
OBN	**Obninsk**	**63.08**	**327**	P	**P**	**20 14 34.0**	**-0.8**
OBN				*e*		20 15 12.0	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.3						
MA2	**Magadan**	**64.27**	**28**	*e*P	**P**	**20 14 42.4**	**-0.2**
	comp=Z,8.1nm,1.1s,mb4.7						
MA2				*e*pP	pP	20 14 49.3	-1.6
MA2	**Magadan**	**64.27**	**28**	*e*P	**P**	**20 14 42.4**	**-0.2**
MA2				*e**PP	pP	20 14 49.3	-1.6
MA2				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
TIXI	**Tiksi**	**64.49**	**12**	*e*P	**P**	**20 14 42.0**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
AKASG	**Malin Array Be**	**66.04**	**321**	P	**P**	**20 14 51.8**	**-2.3**
	comp=Z,0.2nm,0.2s,mb3.7,baz=147,slow=22,SNR=3.8						
SEY	**Seymchan**	**66.37**	**25**⇑	*i*P	**P**	**20 14 55.7**	**-0.5**
IDI	**Anoyia**	**67.07**	**304**	P	**P**	**20 15 00.1**	**-0.6**
	comp=Z,5.6nm,0.9s,mb4.6,baz=79,slow=10,SNR=2.3						
LVV	**L'vov**	**69.15**	**319**	*e*P	**P**	**20 15 08.8**	**-5.0**
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**20 15 19.7**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=127,slow=8.2,SNR=3.8						
FINES				LR	LR	20 52 59.0	
	comp=Z,172nm,18.1s,MS4.3,baz=270,slow=42						
ARCES	**ARCESS Array B**	**72.68**	**340**	LR	LR	20 50 35.7	
	comp=Z,322nm,19.4s,MS4.6,baz=88,slow=38						
BILL	**Bilibino**	**73.48**	**22**	*e*P	**P**	**20 15 38.6**	**-1.3**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
GERES	**GERESS Array B**	**75.82**	**318**	P	**P**	**20 15 52.7**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=84,slow=5.5,SNR=6.2						
GERES				LR	LR	20 52 25.9	
	comp=Z,115nm,21.4s,MS4.2,baz=301,slow=38						
BOSA	**Boshof**	**77.14**	**237**	LR	LR	20 44 29.4	
	comp=Z,102nm,19.0s,MS4.2,baz=279,slow=32						
NOA	**NORSAR Array B**	**77.36**	**330**	P	**P**	**20 16 00.3**	**-1.8**
	comp=Z,0.8nm,0.8s,mb3.7,baz=91,slow=5.7,SNR=3.5						
NOA				LR	LR	20 55 41.3	
	comp=Z,80nm,18.4s,MS4.1,baz=265,slow=40						
JMIC	**Jan Mayen**	**84.10**	**341**	LR	LR	20 55 09.8	
	comp=Z,141nm,19.8s,MS4.3,baz=78,slow=36						
TORD	**Torodi Ar. Bea**	**90.04**	**283**	P	**P**	**20 17 07.6**	**+0.6**
	comp=Z,0.7nm,0.6s,mb4.2,baz=82,slow=4.6,SNR=5.6						
TORD				PP	PP	20 20 41.2	+0.9
	comp=Z,1.1nm,1.1s,baz=54,slow=6.5,SNR=4.8						
BORG	**Borgarnes**	**90.90**	**337**	LR	LR	21 00 22.6	
	comp=Z,270nm,21.4s,MS4.7,baz=264,slow=37						
MDT	**Midelt**	**91.60**	**304**	LR	LR	21 03 02.4	
	comp=Z,109nm,18.1s,MS4.3,baz=256,slow=39						
ILAR	**Eielson Array**	**92.14**	**22**	P	**P**	**20 17 15.7**	**-1.1**
	comp=Z,0.9nm,0.9s,mb4.1,baz=304,slow=4.9,SNR=7.9						
DBIC	**Dimbokro**	**97.64**	**278**	LR	LR	20 59 47.5	
	comp=Z,59nm,19.4s,MS4.1,baz=56,slow=34						
SFJD	**Kangerlussuaq**	**98.44**	**347**	LR	LR	21 10 21.8	
	comp=Z,102nm,18.1s,MS4.4,baz=26,slow=40						
PPT	**Papeete**	**117.98**	**104**	*e*LR	LR	20 58 50.8	
	comp=Z,156nm,26.5s						
TBI	**Tubuai**	**118.23**	**111**	*e*LR	LR	20 58 57.4	
	comp=Z,111nm,27.0s						
NVAR	**Mina Array Bea**	**122.48**	**30**	PKP	PKPdf	20 23 04.2	+1.6
	comp=Z,0.4nm,0.6s,baz=357,slow=1.7,SNR=5.7						
NVAR	**Mina Array Bea**	**122.48**	**30**	PKP	PKPdf	20 23 04.2	+1.6
PDAR	**Pinedale Array**	**122.54**	**21**	PKP	PKPdf	20 23 03.7	+0.9
	comp=Z,1.1nm,1.1s,baz=347,slow=2.8,SNR=3.4						
RKT	**Rikitea**	**131.54**	**111**	*e*LR	LR	21 05 07.5	
	comp=Z,130nm,27.8s						
PLCA	**Paso Flores**	**147.18**	**202**	PKPbc	PKPbc	20 23 50.1	-0.3
	comp=Z,2.8nm,0.9s,baz=182,slow=1.5,SNR=6.0						
CPUP	**Villa Florida**	**148.96**	**236**	PKPbc	PKPbc	20 23 55.5	+0.3
	comp=Z,0.4nm,0.4s,baz=118,slow=5.2,SNR=3.0						

JMA 10 20:09:31.1±1.0, 4534N×15171E, h30km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.71**	**247**	P	Pn	20 10 38.9	-1.2
NEM2				*e*S	Sn	20 11 29.5	-4.2
JRA	**Rausu**	**4.91**	**256**	P	Pn	20 10 44.6	+1.8
JNK	**Nakash**	**5.30**	**253**	P	Pn	20 10 49.0	+0.8
JNK				*e*S	Sn	20 11 47.0	-1.3
JAK	**Akkeshi**	**5.56**	**248**	P	Pn	20 10 50.7	-1.1
JAK				*e*S	Sn	20 11 49.7	-5.0
JTKR	**Abashiri--Toko**	**5.73**	**259**	P	Pn	20 10 56.6	+2.5
JAR	**Ashorobuto**	**6.05**	**253**	P	Pn	20 10 59.7	+1.2
JAR				*e*S	Sn	20 12 06.9	+0.2
JMP	**Maruseppu**	**6.10**	**260**	P	Pn	20 11 01.9	+2.7
JOB	**Onbets**	**6.17**	**250**	P	Pn	20 11 00.7	+0.6
JOB				*e*S	Sn	20 12 06.9	-2.7
JKK2	**Kamakawa 2**	**6.56**	**260**	P	Pn	20 11 08.5	+3.0
JCH	**Churui**	**6.61**	**249**	P	Pn	20 11 05.7	-0.5
JCH				*e*S	Sn	20 12 15.7	-4.8
JFR	**Furan**	**6.90**	**255**	P	Pn	20 11 10.2	+0.1

*CSEM **10** 20:13:43.6, 3526N×4.17W, h10km, MD3.0, After CNRM*
*CNRM **10** 20:13:43.6, 3526N×4.17W, h10km, MD3.0*

MDD 10 20:13:44.0±1.1, 3521N×419W, h12km±10km, mbLg1.9/4, Error ellipse: s-maj=8.8km s-min=6.0km az=49.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPAL	**Palemas**	**0.20**	**86**	*i* P	Pg	20 13 47.5	-0.9
MPAL				*i* S	Sg	20 13 50.5	-0.9
TOU	**Touzarine**	**0.43**	**125**	*i* P	Pg	20 13 52.0	-0.6
TOU				*i* S	Sg	20 13 58.5	+0.1
ZAI	**Zaio**	**1.21**	**101**	*e*P	Pn	20 14 05.0	-1.7
ZAI				*e*S	Sb	20 14 20.5	-1.8
EMIJ	**Mijas**	**1.43**	**341**	P	Pn	20 14 07.9	-1.9
	1.0nm,0.2s,SNR=7.5						
EMIJ				S	Sn	20 14 25.2	-3.4
	3.1nm,0.1s,SNR=6.0						
EBER	**Berja**	**1.98**	**32**	P	Pn	20 14 15.5	-1.9
	0.7nm,0.2s,SNR=7.9						
EBER				S	Sn	20 14 41.5	-0.6
	3.0nm,0.3s,SNR=7.9						
CZD	**Col de Zad**	**2.29**	**198**	*e*P	Pn	20 14 21.0	-0.6
CZD				*e*S	Sn	20 14 49.0	-0.6
EQES	**Quesada**	**2.74**	**19**	P	Pn	20 14 28.4	+0.7
	0.4nm,0.1s,SNR=7.9						
EQES				S	Sn	20 15 00.7	-0.1
	1.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.97**	**354**	P	Pn	20 14 31.0	+0.1
	0.3nm,0.2s,SNR=7.9						
EADA				S	Sn	20 15 03.8	-2.6
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.24**	**323**	P	Pn	20 14 33.4	-1.3
	0.5nm,0.2s,SNR=7.6						
EMIN				S	Sn	20 15 09.1	-4.1
	0.3nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.53**	**312**	P	Pn	20 14 38.0	-0.7
	0.6nm,0.2s,SNR=7.9						
EGRO				S	Sn	20 15 16.8	-3.5
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.20**	**328**	P	Pn	20 14 46.7	-1.2
	0.3nm,0.2s,SNR=7.9						
EBAD				S	Sn	20 15 33.2	-3.6
	1.6nm,0.2s,SNR=7.9						

IDC 10 20:27:56.4±8.2, 987N×9312E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/10, Error ellipse: s-maj=435.1km s-min=27.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.09**	**140**	LR	LR	20 33 17.5	
	comp=Z,83nm,18.5s,baz=98,slow=35						
MKAR	**Makanchi Array**	**37.93**	**348**	P	P	20 35 15.4	0.0
	0.1nm,0.6s,baz=144,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**50.24**	**126**	P	P	20 36 54.1	-0.1
	0.3nm,0.5s,baz=304,slow=8.9,SNR=6.5						
ASAR	**Alice Springs**	**51.97**	**131**	P	P	20 37 08.2	+1.0
	0.5nm,0.8s,baz=305,slow=6.7,SNR=5.3						

GUC 10 20:38:25.0±0.6, 3145S×7143W, h49km±7km, MD3.7, ML2.9, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILCH	**Illapel**	**0.29**	**130**⇓	*i*P	Pn	20 38 34.4	+0.4
ILCH				AMP		20 38 41.6	
	comp=N,3μm,0.1s						
CHNG	**Los Chungos**	**0.44**	**188**⇓	*i*P	Pn	20 38 35.9	+0.4
CHNG				*i* S	Sn	20 38 43.6	+0.6
CHNG				AMP		20 38 44.6	
	comp=E,236nm,0.3s						
CMCH	**Combarbala**	**0.46**	**53**⇓	*i*P	Pn	20 38 36.0	+0.3
CMCH				*i* S	Sn	20 38 44.5	+1.2
CMCH				AMP		20 38 45.5	
	comp=E,3μm,0.2s						
PEL	**Peldehue**	**1.81**	**160**	AMP		20 39 19.4	
	comp=E,325nm,0.3s						
RCDM	**Rinconada Maip**	**2.10**	**166**	*i* S	Sn	20 39 23.3	+0.6
FCH	**Farellones**	**2.11**	**153**	*e*P	Pn	20 38 59.2	+1.4
FCH				*i* S	Sn	20 39 25.3	+2.5
FCH				AMP		20 39 30.0	
	comp=E,54nm,0.3s						

*IDC **10** 20:45:39.0±0.6, 1066N×94.14E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.1/24, mbtmp4.0/16, ML3.7/1, MS3.9/11, Ms1 3.9/11, ms1mx3.7/24, Error ellipse: s-maj=26.3km s-min=15.6km az=58.0*
*ISCJB **10** 20:45:40.9±0.5, 1063N±006×94.28E±006, h22km, mb4.3/33, MS4.0/14, Error ellipse: s-maj=9.0km s-min=7.7km az=78.3*
*BJI **10** 20:45:40.4, 1042N×94.18E, h30km, mB4.7, mb4.2, Ms4.2, Msz4.1*
*NEIC **10** 20:45:42.6±0.4, 1063N×9424E, mb4.6/13, Error ellipse: s-maj=13.3km s-min=7.4km az=60.0*
*MOS **10** 20:45:42.2±0.9, 1069N×9433E, h33km, mb4.8/8, Error ellipse: s-maj=15.8km s-min=7.6km az=110.2*

ISC 10 20:45:43.1±0.5, 1066N±006×9434E±005, h23km, h23km±1.1km: pP-P, n77, σ1.9±08/75, mb4.3/33, MS4.0/14, 3C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.85**	**302**⇓	*ex*	x	20 46 28.5	
PBA				*e*S	x	20 46 43.3	
PSI	**Prapat**	**9.04**	**149**	Pn	**Pn**	**20 47 55.4**	**+3.3**
	0.7nm,0.3s,baz=153,slow=16,SNR=2.4						
PSI				LR	LR	20 52 04.2	
	comp=Z,1μm,18.2s,baz=301,slow=42						
VIS	**Vishakhapatnam**	**12.77**	**305**	*i* P	**Pn**	**20 48 40.5**	**-2.7**
VIS				*e*P		20 48 41.5	
VIS				AMb	AMB	20 48 51.0	
	comp=Z,62nm,1.7s						
VIS				*i* S	**Sn**	**20 50 53.1**	**-12**
VIS				*e*S	**Sn**	**20 50 53.4**	**-11**
SHL	**Shillong**	**15.00**	**351**	*e*P	**Pn**	**20 49 20.0**	**+6.4**
BOK	**Bokaro**	**15.34**	**329**	*e*P	**Pn**	**20 49 24.3**	**+6.2**
BOK				AMb	AMB	20 49 24.9	
	comp=Z,4.1nm,0.5s						
KMI	**Kunming**	**16.44**	**28**	P	**Pn**	**20 49 35.8**	**+3.6**
KMI				XP	sP	20 49 46.4	+2.2
KMI				PP		20 49 51.5	
KMI				S	**Sn**	**20 52 41.8**	**+7.8**
KMI				SS		20 53 01.9	
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s						
KMI				AMB	AMB		
	comp=Z,43nm,3.5s						
KMI				LR	LR		
	comp=N,302nm,10.7s						
KMI				LR	LR		
	comp=E,201nm,12.3s						
KMI				LR	LR		
	comp=Z,312nm,13.8s						
HYB	**Hyderabad**	**16.72**	**295**	*i* P	**Pn**	**20 49 36.0**	**+0.3**
HYB				*e*S	**Sn**	**20 52 43.0**	**+2.3**
HYB	**Hyderabad**	**16.72**	**295**	*e*P	**Pn**	**20 49 36.0**	**+0.3**
HYB				*e*S	**Sn**	**20 52 43.0**	**+2.3**
JIRN	**Jiri**	**18.56**	**337**	*e*P	**Pn**	**20 49 59.9**	**+1.3**
	comp=Z,66nm,1.1s						
PKI	**Pulchoki**	**18.80**	**335**	*e*P	**Pn**	**20 50 01.7**	**+0.2**
	comp=Z,409nm,2.2s						
PKI	**Pulchoki**	**18.80**	**335**	*e*P	**Pn**	**20 50 01.7**	**+0.2**
PKI				pmax	pmax		
	comp=Z,205nm,2.2s						
GUN	**Gumba**	**18.91**	**336**	*e*P	**Pn**	**20 50 03.3**	**+0.5**
	comp=Z,366nm,2.0s						
DMN	**Daman**	**18.96**	**334**	*e*P	**Pn**	**20 50 03.7**	**+0.3**
	comp=Z,263nm,2.0s						
KKN	**Kakani**	**19.05**	**335**	*e*P	**Pn**	**20 50 04.1**	**-0.3**
	comp=Z,43nm,1.2s						
KKN	**Kakani**	**19.05**	**335**	*e*P	**Pn**	**20 50 04.1**	**-0.3**
KKN				pmax	pmax		
	comp=Z,22nm,1.2s						
LSA	**Lhasa**	**19.17**	**352**	*e*P	**Pn**	**20 50 05.1**	**-0.8**
	comp=Z,61nm,1.5s						
LSA	**Lhasa**	**19.17**	**352**	*e*P	**Pn**	**20 50 05.1**	**-0.8**
LSA				pmax	pmax		
	comp=Z,61nm,1.5s						
GKN	**Gorkha**	**19.51**	**333**	*e*P	**Pn**	**20 50 09.2**	**-0.8**
	comp=Z,38nm,0.7s						
GYA	**Guiyang**	**19.55**	**35**⇑	*i*P	**Pn**	**20 50 11.4**	**+0.9**
GYA				S	**Sn**	**20 53 57.6**	**+8.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s						
GYA				AMB	AMB		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=N,350nm,9.6s						
GYA				LR	LR		
	comp=E,330nm,9.3s						
GYA				LR	LR		
	comp=Z,380nm,9.0s						
BHPL	**Bhopal**	**20.42**	**310**	*e*P	**P**	**20 50 19.3**	**+0.7**
KAD	**Karad**	**20.64**	**291**	*e*P	**P**	**20 50 21.5**	**+0.6**
KAD				AMb	AMB	20 50 33.9	
	comp=Z,57nm,1.1s						
POO	**Poona**	**21.30**	**294**	*e*P	**P**	**20 50 29.5**	**+1.4**
CD2	**Chengdu**	**21.96**	**22**	*e*P	**P**	**20 50 36.8**	**+1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
SONA	**Sohna**	**23.84**	**320**	*e*P	**P**	**20 50 54.8**	**+0.3**
SONA				AMb	AMB	20 51 05.3	
	comp=Z,64nm,1.3s,mb4.9						
AYAN	**Aya Nagar**	**23.97**	**320**	*e*P	**P**	**20 50 55.3**	**-0.4**
AYAN				AMb	AMB	20 51 06.7	
	comp=Z,45nm,1.9s,mb4.6						
NDI	**New Delhi**	**24.05**	**321**	*e*P	**P**	**20 50 56.0**	**-0.5**
ENH	**Enshi**	**24.07**	**34**	*e*P	**P**	**20 50 56.8**	**+0.2**
	comp=Z,14nm,0.8s,mb4.5						
KUDL	**Kundal**	**24.15**	**319**	*e*P	**P**	**20 50 57.9**	**+0.6**
KUDL				AMb	AMB	20 51 08.4	
	comp=Z,41nm,1.8s,mb4.5						
KHET	**Khetri**	**24.55**	**317**	*e*P	**P**	**20 51 02.2**	**+1.2**
KHET				AMb	AMB	20 51 15.8	
	comp=Z,27nm,1.0s,mb4.7						
LZH	**Lanzhou**	**26.73**	**17**	*e*P	**P**	**20 51 21.7**	**+0.9**
LZH				AP	pP	20 51 27.5	-0.2
LZH				XP	sP	20 51 31.0	+0.4
LZH				PP		20 52 06.7	
LZH				*e*S	**S**	**20 55 54.8**	**-0.3**
LZH				SS		20 57 07.6	
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,78nm,4.8s						
LZH				LR	LR		
	comp=N,417nm,10.3s						
LZH				LR	LR		
	comp=Z,763nm,13.1s,MS4.4						
GTA	**Gaotai**	**29.04**	**9**	*e*P	**P**	**20 51 43.3**	**+1.9**
GTA				AP	pP	20 51 49.0	+0.7
GTA				XP	sP	20 51 52.8	+1.6
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.8						
WMQ	**Urumqi**	**33.53**	**351**	P	**P**	**20 52 21.8**	**+0.9**
WMQ				AP	pP	20 52 29.1	+1.2
WMQ				XP	sP	20 52 32.4	+1.6
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,75nm,4.2s						
AAK	**Ala-Archa**	**36.26**	**335**	*e*P	**P**	**20 52 44.4**	**0.0**
	comp=Z,4.9nm,0.4s,mb4.8						
AAK				*e*pP	pP	20 52 50.5	-1.0
AAK	**Ala-Archa**	**36.26**	**335**	*e*P	**P**	**20 52 44.4**	**0.0**
AAK				*e**PP	pP	20 52 50.5	-1.0
AAK				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
FRU	**Bishkek**	**36.37**	**335**	*e*P	sP	20 52 54.5	-0.8
MKAR	**Makanchi Array**	**37.43**	**346**	P	**P**	**20 52 54.5**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.0,baz=167,slow=8.5,SNR=25						
MKAR				LR	LR	21 12 31.4	
	comp=Z,114nm,18.4s,MS3.7,baz=173,slow=43						
MKAR	**Makanchi Array**	**37.43**	**346**	P	**P**	**20 52 54.5**	**0.0**
MKAR				LR	LR	21 12 31.4	
SONM	**Songino Array**	**38.41**	**13**	P	**P**	**20 53 04.0**	**+1.2**
	comp=Z,1.0nm,0.6s,mb3.7,baz=187,slow=10,SNR=4.1						
ULN	**Ulaanbaatar**	**38.59**	**14**⇑	*e*P	**P**	**20 53 04.4**	**+0.2**
ZAK	**Zakamensk**	**40.28**	**9**	*e*P	**P**	**20 53 11.7**	**-6.6**
ZAK				*e*		20 54 51.6	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,8.0nm,2.0s,mb4.1						
KURK	**Kurchatov**	**41.98**	**345**	*e*P	**P**	**20 53 31.8**	**-0.5**
	comp=Z,5.8nm,1.0s,mb4.2						
KURK	**Kurchatov**	**41.98**	**345**	*e*P	**P**	**20 53 31.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
NVS	**Novosibirsk**	**44.94**	**351**	*e*P	**P**	**20 53 55.4**	**-0.7**
NVS				pmax	pmax		
	comp=N,9.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.8s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.3						
BVAR	**Borovoye Array**	**46.44**	**340**	P	**P**	**20 54 07.6**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.8,baz=142,slow=7.4,SNR=6.1						
MJAR	**Matsushiro Arr**	**47.18**	**50**	LR	LR	21 14 05.0	
	comp=Z,98nm,19.1s,MS3.8,baz=285,slow=36						
BOD	**Bodaibo**	**49.41**	**14**	*e*P	**P**	**20 54 28.8**	**-2.2**
AKTO	**Aktyubinsk**	**49.62**	**330**	LR	LR	21 16 14.4	
	comp=Z,72nm,19.9s,MS3.7,baz=143,slow=37						
WRA	**Warramunga Arr**	**49.75**	**128**	P	**P**	**20 54 34.0**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.4,baz=304,slow=9.1,SNR=48						
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**	**20 54 48.0**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.1,baz=305,slow=6.5,SNR=26						
GNI	**Garni**	**52.67**	**313**	*i* P	**P**	**20 54 56.2**	**+0.7**
GNI				pmax	pmax		
	comp=Z,16nm,1.4s						
ARU	**Arti**	**53.42**	**336**	*e*P	**P**	**20 54 58.7**	**-2.4**
ARU				*e*		20 57 02.3	
ARU				*e*PPP		20 58 08.0	
ARU				*e*S	**S**	**21 02 28.4**	**-3.6**
ARU				*e*SS	SS	21 06 07.7	-4.4
ARU				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.2						
ARU				MLR	MLR		
	comp=N,100nm,20.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,100nm,20.5s,MS4.0						
KIV	**Kislovodsk**	**55.42**	**317**	*e*P	**P**	**20 55 15.7**	**+0.2**
	comp=E,11nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**55.42**	**317**	*e*P	**P**	**20 55 15.9**	**+0.3**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
GOF	**Gofitskoye**	**55.58**	**318**	*e*P	pP	20 55 23.5	-0.5
YAK	**Yakutsk**	**57.30**	**19**⇓	*e*P	**P**	**20 55 28.3**	**-0.7**
YAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
KMBO	**Kilima Mbogo**	**57.97**	**262**	LR	LR	21 17 25.4	
	comp=Z,71nm,18.7s,MS3.8,baz=93,slow=33						
CTA	**Charters Tower**	**59.53**	**121**	LR	LR	21 21 24.7	
	comp=Z,136nm,19.5s,MS4.1,baz=120,slow=36						
BR131	**Keskin Array S**	**60.79**	**310**	*e*P	**P**	**20 55 51.4**	**-1.8**
	comp=Z,2.0nm,0.9s,mb4.2						
BR131				*e*pP	pP	20 55 58.7	-1.8
BRTR	**Keskin Array B**	**60.79**	**310**	P	**P**	**20 55 51.7**	**-1.5**
	comp=Z,2.1nm,0.9s,mb4.3,baz=120,slow=6.8,SNR=12						
STKA	**Stephens Creek**	**61.90**	**135**	LR	LR	21 21 57.8	
	comp=Z,161nm,19.8s,MS4.2,baz=341,slow=35						
OBN	**Obninsk**	**63.15**	**327**	P	**P**	**20 56 09.0**	**0.0**
OBN				*e*		20 56 18.8	
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
MA2	**Magadan**	**64.22**	**28**	*e*P	**P**	**20 56 16.6**	**+0.5**
	comp=Z,15nm,1.3s,mb4.9						
MA2				*e*pP	pP	20 56 22.6	-0.9
MA2	**Magadan**	**64.22**	**28**	*e*P	**P**	**20 56 16.7**	**+0.6**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.5						
TIXI	**Tiksi**	**64.47**	**11**⇑	*e*P	**P**	**20 56 16.6**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
AKASG	**Malin Array Be**	**66.11**	**321**	P	**P**	**20 56 25.4**	**-3.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=42,slow=4.4,SNR=3.9						
SEY	**Seymchan**	**66.33**	**25**⇓	*i*P	**P**	**20 56 29.1**	**-0.6**
FINES

comp=Z,371nm,19.8s,baz=159,slow=30
MAW Mawson 36.70 220 LR LR 21 09 42.2
comp=Z,478nm,21.1s,baz=248,slow=34
ASAR Alice Springs 37.72 334 P P 20 56 12.9 +0.1
2.0nm,0.9s,baz=166,slow=9.9,SNR=10
WRA Warramunga Arr 41.23 336 P P 20 56 41.7 -0.5
4.2nm,1.0s,baz=166,slow=7.2,SNR=13
PMG Port Moresby 50.05 355 LR LR 21 16 21.2
comp=Z,187nm,18.4s,baz=64,slow=33
HNR Honiara 50.44 12 LR LR 21 15 02.0
comp=Z,260nm,20.2s,baz=175,slow=31
RAR Rarotonga 51.79 65 LR LR 21 15 18.5
comp=Z,167nm,20.2s,baz=292,slow=31
PSI Prapat 74.14 305 LR LR 21 27 56.9
comp=Z,133nm,20.2s,baz=224,slow=32
BOSA Boshof 81.40 226 LR LR 21 31 05.2
comp=Z,182nm,20.0s,baz=156,slow=31
MJAR Matsushiro Arr 96.25 350 LR LR 21 43 12.9
comp=Z,99nm,19.2s,baz=55,slow=34

IDC 10 20:51:16.3±10.0, 1032N×9365E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=557.0km s-min=28.2km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.61**	**347**	P	P	20 58 32.7	0.0
	0.5nm,0.7s,baz=159,slow=9.7,SNR=6.0						
WRA	**Warramunga Arr**	**50.09**	**127**	P	P	21 00 13.1	+0.1
	0.4nm,0.7s,baz=305,slow=8.7,SNR=4.0						
ASAR	**Alice Springs**	**51.86**	**131**	P	P	21 00 27.1	+0.7
	0.6nm,0.8s,baz=310,slow=7.6,SNR=5.5						

IDC 10 20:51:37.5±7.8, 1068N×9433E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.8/3, Error ellipse: s-maj=445.6km s-min=27.2km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.84**	**302**	*e*P	Pn	20 52 09.1	-1.2
PBA				*e*S	Sn	20 52 32.6	-1.6
PBA				*e*x	x	20 52 50.6	
	comp=N,704nm,1.0s						
PBA				*e*x	x	20 52 52.3	
	comp=E,842nm,0.5s						
MKAR	**Makanchi Array**	**37.41**	**346**	P	P	20 58 52.2	0.0
	comp=E,0.7nm,0.7s,baz=168,slow=8.2,SNR=7.1						
WRA	**Warramunga Arr**	**49.77**	**128**	P	P	21 00 32.1	+0.4
	comp=E,1.3nm,0.8s,baz=307,slow=8.5,SNR=7.0						
ASAR	**Alice Springs**	**51.60**	**132**	P	P	21 00 46.0	+0.4
	comp=E,1.6nm,0.8s,baz=313,slow=7.4,SNR=10						

IDC 10 20:55:40.1±11.0, 1160N×9582E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=714.3km s-min=27.9km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.02**	**271**	*e*P	Pn	20 56 24.3	-4.8
PBA				*e*S	Sn	20 56 46.7	-19
PBA				*e*x	x	20 56 56.9	
	comp=E,239nm,0.7s						
PBA				*e*x	x	20 56 58.4	
	comp=N,217nm,0.2s						
MKAR	**Makanchi Array**	**36.90**	**344**	P	P	21 02 50.5	0.0
	comp=N,0.6nm,0.8s,baz=161,slow=7.7,SNR=5.3						
WRA	**Warramunga Arr**	**49.19**	**129**	P	P	21 04 30.4	+0.5
	comp=N,0.5nm,0.9s,baz=310,slow=9.0,SNR=4.4						
ASAR	**Alice Springs**	**51.14**	**133**	P	P	21 04 45.0	+0.3
	comp=N,0.5nm,0.8s,baz=302,slow=7.2,SNR=5.6						

MAN 10 20:58:50.2, 822N×12628E, h7km, mb1.9, ML3.6, MS0.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.09**	**115**	⇓*e*P	Pg	20 58 52.1	-0.1
BIPH				*e*S	Sg	20 59 01.2	+7.6
BUTP	**Butuan**	**0.99**	**319**	*e*P	Pg	20 59 09.0	-0.2
BUTP				*e*S	Sg	20 59 31.3	+9.2
BUKP	**Musuan**	**1.25**	**254**	*e*P	Pn	20 59 13.2	-1.0

IDC 10 21:09:08.5±9.7, 844N×9165E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.9/19, Error ellipse: s-maj=478.9km s-min=27.9km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.38**	**19**	*e*P	Pn	21 10 15.4	+13
PBA				*e*S	Sn	21 10 34.3	-8.9
PBA				*e*x	x	21 10 39.5	
	comp=E,422nm,0.7s						
PBA				*e*x	x	21 10 44.1	
	comp=N,615nm,0.5s						
MKAR	**Makanchi Array**	**39.05**	**350**	P	P	21 16 37.0	0.0
	comp=N,0.9nm,0.7s,baz=163,slow=8.2,SNR=11						
AKTO	**Aktyubinsk**	**50.30**	**333**	LR	LR	21 42 00.8	
	comp=N,35nm,18.2s,baz=0.0,slow=39						
WRA	**Warramunga Arr**	**50.60**	**124**	P	P	21 18 08.5	-0.6
	comp=N,0.3nm,0.7s,baz=300,slow=9.2,SNR=4.9						
ASAR	**Alice Springs**	**52.18**	**129**	P	P	21 18 22.4	+1.5
	comp=N,0.3nm,0.9s,baz=309,slow=6.1,SNR=4.5						

IDC 10 21:17:58.6±7.4, 976N×9279E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=388.5km s-min=26.8km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.88**	**359**	*e*P	Pn	21 19 02.2	+30
PBA				*e*S	Sn	21 19 15.5	+19
PBA				*e*x	x	21 19 32.1	
	comp=E,337nm,0.9s						
PBA				*e*x	x	21 19 33.0	
	comp=N,262nm,0.8s						
MKAR	**Makanchi Array**	**37.97**	**348**	P	P	21 25 18.0	0.0
	comp=N,0.2nm,0.6s,baz=167,slow=8.0,SNR=3.3						
WRA	**Warramunga Arr**	**50.44**	**126**	P	P	21 26 57.8	-0.1
	comp=N,0.9nm,0.6s,baz=304,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**52.14**	**130**	P	P	21 27 11.7	+1.0
	comp=N,1.1nm,0.7s,baz=307,slow=6.5,SNR=15						

IDC 10 21:31:30.8±7.1, 992N×9301E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, MS3.4/2, Ms1 3.5/2, ms1mx2.9/24, Error ellipse: s-maj=374.1km s-min=28.5km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.74**	**352**	*e*P	Pn	21 32 21.9	+20
PBA				*e*S	Sn	21 32 44.8	+20
PBA				*e*x	x	21 33 11.3	
	comp=N,278nm,0.5s						
PBA				*e*x	x	21 33 12.3	
	comp=E,263nm,0.5s						
PSI	**Prapat**	**9.20**	**140**	LR	LR	21 36 50.1	
	comp=E,72nm,19.1s,baz=68,slow=34						
MKAR	**Makanchi Array**	**37.86**	**348**	P	P	21 38 49.2	0.0
	comp=E,0.8nm,0.7s,baz=157,slow=7.3,SNR=4.6						
WRA	**Warramunga Arr**	**50.36**	**126**	P	P	21 40 29.3	-0.2
	comp=E,1.2nm,0.7s,baz=304,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**52.08**	**130**	P	P	21 40 43.5	+1.0
	comp=E,1.5nm,0.8s,baz=311,slow=6.4,SNR=16						
ARCES	**ARCESS Array B**	**72.97**	**340**	LR	LR	22 16 52.2	
	comp=E,70nm,18.2s,baz=244,slow=37						

MAN 10 21:55:39.8, 1385N×12298E, h14km, mb1.9, ML3.6, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.52**	**276**	⇑*e*P	Pg	21 55 48.6	-1.3
GQP				*i* S	Sg	21 55 56.3	-0.5
AUQP	**San Andres**	**0.60**	**209**	*e*P	Pg	21 55 52.4	+0.8
BOAC	**Boac**	**1.17**	**251**	*e*P	Pn	21 55 59.9	-1.7
BOAC				*e*S	Sb	21 56 16.9	+0.2
PVCP	**Virac**	**1.17**	**102**	*e*P	Pn	21 56 00.0	-1.7
POLP	**Polillo Island**	**1.33**	**311**	*e*P	Pn	21 56 03.1	-0.8
POLP				*e*S	Sb	21 56 21.6	+0.2
BALP	**Baler**	**2.31**	**324**	*e*P	Pn	21 56 18.9	+1.4

*NEIC **10** 21:58:16.5, 4531S×167.17E, h86km, ML4.6(WEL), After WEL.*
WEL 10 21:58:16.5±0.3, 4529S×16718E, h85km±2km, ML4.6/15, 2C-6D, Error ellipse: s-maj=3.1km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.19**	**186**	⇑PN	Pn	21 58 28.6	-0.3
DCZ				SN	Sn	21 58 37.5	-0.5
DCZ	**Deep Cove**	**0.19**	**186**	P	Pn	21 58 28.6	-0.3
DCZ				S	Sn	21 58 37.5	-0.5
MLZ	**Mavora Lakes**	**0.70**	**95**	⇓PN	Pn	21 58 32.2	-0.4
MLZ				SN	Sn	21 58 43.8	-0.8
MLZ	**Mavora Lakes**	**0.70**	**95**	P	Pn	21 58 32.2	-0.4
MLZ				S	Sn	21 58 43.9	-0.7
WHZ	**Wether Hill Ro**	**0.81**	**139**	⇓PN	Pn	21 58 33.5	-0.2
WHZ				SN	Sn	21 58 45.9	-0.7
WHZ	**Wether Hill Ro**	**0.81**	**139**	P	Pn	21 58 33.5	-0.2
WHZ				S	Sn	21 58 45.9	-0.7
MSZ	**Milford Sound**	**0.81**	**41**	PN	Pn	21 58 33.8	0.0
MSZ	**Milford Sound**	**0.81**	**41**	P	Pn	21 58 34.0	+0.3
WKZ	**Wanaka**	**1.38**	**71**	⇓PN	Pn	21 58 40.5	+0.1
EAZ	**Earnscleugh**	**1.50**	**89**	PN	Pn	21 58 41.9	-0.2
JCZ	**Jackson Bay**	**1.65**	**43**	⇑PN	Pn	21 58 43.7	-0.3
TUZ	**Tuapeka**	**1.84**	**112**	⇓PN	Pn	21 58 45.8	-0.6
LBZ	**Lake Benmore**	**2.32**	**68**	⇓PN	Pn	21 58 51.1	-1.6
ODZ	**Otahua Downs**	**2.46**	**86**	⇓PN	Pn	21 58 53.2	-1.5
FOZ	**Fox Glacier**	**2.49**	**47**	PN	Pn	21 58 54.3	-0.7
RPZ	**Rata Peaks**	**3.18**	**62**	PN	Pn	21 59 01.9	-2.5
WVZ	**Waitaha Valley**	**3.38**	**50**	PN	Pn	21 59 04.3	-2.8
MQZ	**McQueen's Vall**	**4.22**	**70**	PN	Pn	21 59 15.2	-3.2
LTZ	**Lake Taylor**	**4.44**	**57**	PN	Pn	21 59 18.1	-3.4
DSZ	**Denniston Nort**	**4.88**	**45**	PN	Pn	21 59 24.2	-3.2
KHZ	**Kahutara**	**5.42**	**60**	*e*PN	Pn	21 59 31.4	-3.3
THZ	**Tophouse**	**5.45**	**52**	PN	Pn	21 59 31.3	-3.8
WCZ	**Waipu Caves**	**10.80**	**33**	PN	Pn	22 00 47.0	-1.1
OUZ	**Omahuta**	**11.18**	**28**	PN	Pn	22 00 52.5	-0.7

*IDC **10** 22:00:30.6±1.5, 1057N×9421E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, MS3.7/3, Ms1 3.7/3, ms1mx3.1/39, Error ellipse: s-maj=93.5km s-min=20.4km az=53.0*
*NEIC **10** 22:00:31.8±0.6, 1043N×9427E, h10km, mb4.1/7, Error ellipse: s-maj=26.2km s-min=9.6km az=63.0*
*ISCJB **10** 22:00:33.5±5.3, 105N±0.1×942E±0.2, h36km±52km, mb3.9/7, MS3.7/2, Error ellipse: s-maj=32.4km s-min=14.9km az=127.3*
ISC 10 22:00:31.6±8.8, 105N±01×942E±02, h8km±58km, n18, σ1º07/15, mb3.9/7, MS3.7/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.90**	**309**	*e*P	Px	22 01 26.7	
PBA				*e*S	Sx	22 01 44.5	
PBA				*e*x	x	22 02 05.2	
	comp=E,1μm,0.7s						
PBA				*e*x	x	22 02 06.1	
	comp=N,949nm,1.0s						
PSI	**Prapat**	**8.91**	**148**	LR	LR	22 06 58.0	
	comp=N,384nm,18.6s,baz=168,slow=42						
JIRN	**Jiri**	**18.72**	**337**	*e*P	**Pn**	**22 04 52.2**	**+1.2**
	comp=N,28nm,1.1s						
PKI	**Pulchoki**	**18.95**	**335**	*e*P	**Pn**	**22 04 54.9**	**+1.1**
GUN	**Gumba**	**19.06**	**337**	*e*P	**Pn**	**22 04 55.8**	**+0.6**
DMN	**Daman**	**19.11**	**335**	*e*P	**Pn**	**22 04 56.9**	**+1.2**
	comp=N,25nm,0.9s						
LSA	**Lhasa**	**19.37**	**352**	*e*P	**Pn**	**22 04 57.6**	**-1.2**
	comp=N,3.6nm,0.8s						
GKN	**Gorkha**	**19.65**	**334**	*e*P	**Pn**	**22 05 01.6**	**-0.7**
	comp=N,19nm,0.8s						
KOLN	**Koldanda**	**19.92**	**331**	*e*P	**Pn**	**22 05 04.4**	**-1.1**
	comp=N,22nm,0.8s						
COCO	**West Island**	**22.64**	**173**	*e*P	**P**	**22 05 31.5**	**-1.6**
	comp=N,75nm,0.6s						
ENH	**Enshi**	**24.30**	**34**	*e*P	**P**	**22 05 48.6**	**-0.9**
	comp=N,9.4nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**36.41**	**335**	*e*P	**P**	**22 07 37.1**	**+0.5**
	comp=N,3.4nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**37.61**	**347**	P	**P**	**22 07 46.0**	**-0.9**
	comp=N,0.8nm,0.7s,mb3.6,baz=163,slow=8.0,SNR=11						
MKAR				LR	LR	22 27 06.5	
	comp=N,61nm,18.9s,MS3.4,baz=190,slow=43						
BVAR	**Borovoye Array**	**46.60**	**340**	P	**P**	**22 08 59.0**	**-1.2**
	comp=N,0.7nm,1.0s,mb3.6,baz=133,slow=6.1,SNR=3.6						
WRA	**Warramunga Arr**	**49.70**	**127**	P	**P**	**22 09 25.0**	**+0.8**
	comp=N,1.9nm,0.7s,mb4.2,baz=304,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**51.51**	**132**	P	**P**	**22 09 39.6**	**+1.8**
	comp=N,2.3nm,0.8s,mb4.2,baz=310,slow=7.3,SNR=22						
BRTR	**Keskin Array B**	**60.85**	**310**	P	**P**	**22 10 45.0**	**+0.4**
	comp=N,0.2nm,0.4s,mb3.6,baz=50,slow=44,SNR=2.8						
VRAC	**Vranov**	**74.10**	**318**	LR	LR	22 45 56.9	
	comp=N,61nm,18.5s,MS3.9,baz=348,slow=37						

PRE 10 22:07:06.2±1.6, 2110S×3293E, h5km, ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.98**	**245**	*e*P		21 59 33.0	
MSNA				*e*S		22 00 08.8	
MSNA				AML	AML	22 00 24.8	
	comp=Z,329nm,0.4s						
BFT	**Belfast (SA)**	**5.28**	**210**	*e*P	Pn	22 08 26.7	+1.0
BFT				*e*S	Sn	22 09 26.2	-0.8
BFT				AML	AML	22 10 00.3	
	comp=Z,53nm,0.9s						
SLR	**Silverton**	**6.29**	**222**	*e*S	Sn	22 09 48.9	-2.9
SLR				AML	AML	22 10 30.4	
	comp=Z,70nm,0.5s						
KSR	**Koster**	**7.28**	**228**	*e*P	Pn	22 08 54.9	+1.7
KSR				*e*S	Sn	22 10 12.7	-3.6
KSR				AML	AML	22 10 54.0	
	comp=Z,132nm,0.7s						
LBTB	**Lobatse**	**7.80**	**239**	*e*P	Pn	22 09 01.6	+1.4
LBTB				*e*S	Sn	22 10 26.0	-2.9
LBTB				AML	AML	22 11 18.0	
	comp=Z,50nm,0.6s						
SWZ	**Schweizer**	**9.21**	**227**	*e*P	Pn	22 09 21.6	+2.0
SWZ				*e*S	Sn	22 10 59.1	-4.5
SWZ				AML	AML	22 12 14.9	
	comp=Z,20nm,0.5s						
BOSA	**Boshof**	**10.22**	**221**	*e*P	Pn	22 09 34.3	+0.8
BOSA				*e*S	Sn	22 11 23.9	-4.5
BOSA				AML	AML	22 12 29.9	
	comp=Z,13nm,0.6s						
PKA	**Prieska**	**12.54**	**225**	*e*P	Pn	22 10 03.9	-1.3
SUR	**Sutherland**	**15.59**	**221**	*e*P	Pn	22 10 48.5	+1.9

*IDC **10** 22:08:48.1±0.8, 498S×7877W, h124km±6km, mb3.8/10, mb1 4.0/12, mb1mx3.9/22, mbtmp4.2/12, Error ellipse: s-maj=28.0km s-min=13.8km az=53.0*
*NEIC **10** 22:08:48.1±0.4, 505S×7890W, mb4.5/9, Error ellipse: s-maj=18.0km s-min=8.1km az=72.0*
*ISCJB **10** 22:08:50.6±1.1, 487S±008×787W±0.1, h159km±9km, mb4.0/12, Error ellipse: s-maj=24.7km s-min=10.5km az=131.5*
*IGQ **10** 22:09:04.4, 357S×7859W, h195km±12km, Mb4.5, Ms4.3, Error ellipse: s-maj=15.1km s-min=11.4km az=79.1*
ISC 10 22:08:51.1±1.1, 491S±009×788W±01, h148km±9km, h125km±3.5km: pP-P, n53, σ0º87/48, mb4.0/12, 9C-4D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSU	**Cusua**	**3.46**	**4**	P	**Pn**	**22 09 46.5**	**+2.3**
ULBA	**Ulba**	**3.46**	**6**	⇑P	**Pn**	**22 09 43.7**	**-0.5**
ULBA				S	**Sn**	**22 10 13.7**	**-12**
JUIV	**Juive**	**3.48**	**5**	P	**Pn**	**22 09 45.5**	**+1.0**
JUIV				S	**Sn**	**22 10 13.9**	**-12**
PISA	**Pisayambo**	**3.85**	**5**	⇓P	**Pn**	**22 09 49.4**	**+0.1**
PISA				S	**Sn**	**22 10 21.3**	**-13**
QIL1	**Quilotoa**	**4.04**	**357**	⇑P	**Pn**	**22 09 52.4**	**+0.6**
TAMB	**Tambo**	**4.21**	**5**	⇑P	**Pn**	**22 09 54.3**	**+0.3**
CAMI	**Rancho Maria**	**4.22**	**3**	⇑P	**Pn**	**22 09 54.6**	**+0.6**
VC1	**Cotopaxi 1**	**4.26**	**5**	P	**Pn**	**22 09 55.0**	**+0.4**
NAS1	**Nasa**	**4.26**	**4**	P	**Pn**	**22 09 55.0**	**+0.4**
ANTI	**Antisana**	**4.47**	**8**	⇑P	**Pn**	**22 09 57.2**	**-0.2**
JUA2	**San Juan 2**	**4.67**	**2**	P	**Pn**	**22 10 00.3**	**+0.2**
GGP	**Refugio Guagua**	**4.71**	**2**	P	**Pn**	**22 09 59.4**	**-1.2**
TERV	**Terraza Guagua**	**4.71**	**2**	⇑P	**Pn**	**22 10 01.1**	**+0.6**
PINO	**Pino**	**4.73**	**2**	⇓P	**Pn**	**22 10 01.0**	**+0.2**
PINO				S	**Sn**	**22 10 36.4**	**-19**
YANA	**Yana**	**4.77**	**2**	⇓P	**Pn**	**22 10 01.2**	**-0.1**
LAV3	**Lava3-Reventad**	**4.91**	**13**	⇑P	**Pn**	**22 10 01.7**	**-1.6**
MAG1	**Magdalena**	**4.92**	**348**	P	**Pn**	**22 10 01.6**	**-1.7**
CONE	**Cono NE Rev Vo**	**4.94**	**13**	⇑P	**Pn**	**22 10 01.7**	**-1.8**
CAYR	**Refugio Cayamb**	**4.95**	**9**	P	**Pn**	**22 10 04.2**	**+0.4**
ANGU	**Angureal**	**4.98**	**9**	⇑P	**Pn**	**22 10 04.7**	**+0.5**
OTAV	**Otavalo**	**5.13**	**3**	⇓*e*Pn	**Pn**	**22 10 06.4**	**+0.3**
	56nm,0.9s						
OTAV				*e*Sn	**Sn**	**22 11 03.1**	**-1.5**
NNA	**Nana**	**7.28**	**165**	*e*Pn	**Pn**	**22 10 29.0**	**-5.7**
	19nm,0.6s						
NNA				*e*Sn	**Sn**	**22 11 44.2**	**-12**
LPAZ	**La Paz**	**15.37**	**138**	P	**Pn**	**22 12 20.4**	**+0.3**
	0.5nm,0.3s,baz=316,slow=9.8,SNR=17						
LPAZ	**La Paz**	**15.37**	**138**	*e*P	**Pn**	**22 12 21.1**	**+1.0**
	3.4nm,0.6s						
SDV	**Santo Domingo**	**15.92**	**31**	P	**Pn**	**22 12 26.6**	**-0.2**
	1.5nm,0.3s,baz=272,slow=15,SNR=8.4						
SDV	**Santo Domingo**	**15.92**	**31**	*e*P	**Pn**	**22 12 26.6**	**-0.3**
	5.4nm,0.4s						
SAML	**Samuel**	**15.96**	**105**	*e*Pn	**Pn**	**22 12 20.4**	**-7.0**
	13nm,0.5s						
SAML				*e*Sn	**Sn**	**22 15 06.6**	**-19**
SIV	**San Ignacio**	**20.55**	**124**	P	**P**	**22 13 18.5**	**+0.5**
	4.0nm,0.6s,baz=298,slow=9.3,SNR=11						
TEIG	**Tepich**	**26.68**	**340**	*e*P	**P**	**22 14 17.3**	**+1.1**
	1.2nm,0.8s,mb3.6						
PLCA	**Paso Flores**	**36.41**	**169**	P	**P**	**22 15 39.6**	**-1.7**
	2.2nm,0.6s,mb4.0,baz=354,slow=9.3,SNR=5.9						
PLCA	**Paso Flores**	**36.41**	**169**	*e*P	**P**	**22 15 39.9**	**-1.4**
	4.3nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**55.07**	**333**	P	**P**	**22 18 07.7**	**+0.2**
	0.5nm,0.5s,mb3.5,baz=158,slow=7.9,SNR=5.4						
PDAR				pP	pP	22 18 36.9	-4.9
	1.1nm,1.0s,baz=134,slow=8.5,SNR=3.5						
NVAR	**Mina Array Bea**	**56.58**	**323**	P	**P**	**22 18 19.1**	**+0.9**
	1.1nm,0.7s,mb3.8,baz=131,slow=7.8,SNR=8.0						
NVAR				pP	pP	22 18 50.0	-2.7
	0.7nm,0.7s,baz=131,slow=7.5,SNR=3.4						
ULM	**Lac du Bonnet**	**56.90**	**347**	P	**P**	**22 18 19.9**	**-0.7**
	3.2nm,0.8s,mb4.2,baz=163,slow=7.4,SNR=5.8						
YKA	**Yellowknife Ar**	**72.57**	**343**	P	**P**	**22 20 01.6**	**-0.4**
	1.3nm,0.7s,mb3.8,baz=136,slow=5.6,SNR=22						
YKA				pP	pP	22 20 30.9	-7.1
	0.4nm,0.7s,baz=135,slow=6.1,SNR=2.8						
DBIC	**Dimbokro**	**74.65**	**82**	P	**P**	**22 20 14.8**	**+0.6**
	3.9nm,0.6s,mb4.2,baz=252,slow=4.9,SNR=13						
SNAA	**Sanae**	**80.94**	**162**	*e*P	**P**	**22 20 47.8**	**-1.1**
	7.2nm,0.6s,mb4.5						
TORD	**Torodi Ar. Bea**	**81.84**	**76**	P	**P**	**22 20 53.9**	**+0.2**
	1.7nm,0.4s,mb4.0,baz=282,slow=6.2,SNR=57						
INK	**Inuvik**	**82.26**	**342**	P	**P**	**22 20 56.3**	**+0.5**
	3.3nm,0.7s,mb4.1,baz=116,slow=7.2,SNR=12						
QSPA	**South Pole Qui**	**85.17**	**180**	*e*P	**P**	**22 21 10.4**	**-0.2**
	2.9nm,0.2s,mb4.7						
ILAR	**Eielson Array**	**85.29**	**336**	P	**P**	**22 21 11.2**	**0.0**
	1.6nm,0.9s,mb3.8,baz=137,slow=3.7,SNR=14						
BVAR	**Borovoye Array**	**125.77**	**22**	PKP	PKPdf	22 27 36.0	+0.9
	0.8nm,0.5s,baz=270,slow=3.3,SNR=6.0						
STKA	**Stephens Creek**	**126.97**	**224**	PKP	PKPdf	22 27 36.6	-0.8
	2.0nm,0.7s,baz=134,slow=3.6,SNR=3.3						
MKAR	**Makanchi Array**	**135.18**	**18**	PKP	PKPdf	22 27 52.6	-0.2
	0.6nm,0.5s,baz=302,slow=2.4,SNR=17						
ASAR	**Alice Springs**	**137.32**	**227**	PKhKP		22 27 51.7	
	0.2nm,0.5s,baz=116,slow=3.6,SNR=4.6						
ASAR				PKP	PKPdf	22 27 57.1	+0.2
	0.5nm,0.7s,baz=111,slow=2.3,SNR=5.7						
WRAB	**Tennant Creek**	**139.15**	**232**	*e*PKPdf	PKPdf	22 28 02.4	+2.1
WRA	**Warramunga Arr**	**139.16**	**232**	PKhKP		22 27 51.4	
	0.6nm,1.1s,baz=119,slow=2.6,SNR=6.9						
WRA				PKP	PKPdf	22 28 00.9	+0.6
	1.0nm,0.6s,baz=116,slow=2.1,SNR=19						
WRA				pPKP	pPKPdf	22 28 34.1	-5.4
	0.4nm,0.6s,baz=124,slow=2.0,SNR=2.1						
KOLN	**Koldanda**	**151.74**	**35**	*e*P	PKPbc	22 28 29.3	+1.3
	13nm,1.0s						
GKN	**Gorkha**	**152.13**	**33**	*e*P	PKPbc	22 28 30.4	+1.5
	23nm,0.7s						
KKN	**Kakani**	**152.64**	**32**	*e*P	PKPbc	22 28 32.0	+1.9
DMN	**Daman**	**152.69**	**33**	*e*P	PKPbc	22 28 31.7	+1.5
GUN	**Gumba**	**152.85**	**31**	*e*P	PKPbc	22 28 32.4	+1.9
JIRN	**Jiri**	**153.22**	**31**	*e*P	PKPbc	22 28 32.6	+1.3

*IDC **10** 22:13:50.1±0.6, 1071N×9423E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, ML3.9/1, MS4.1/12, Ms1 4.1/12, ms1mx3.8/34, Error ellipse: s-maj=33.9km s-min=15.4km az=58.0*
*ISCJB **10** 22:13:51.5±0.3, 1051N±004×94.14E±005, h23km, mb4.5/40, MS4.2/22, Error ellipse: s-maj=8.5km s-min=5.2km az=111.9*
*MOS **10** 22:13:52.6±0.8, 1050N×94.10E, h33km, mb4.9/12, Error ellipse: s-maj=18.7km s-min=7.3km az=110.1*
*NEIC **10** 22:13:53.7±0.3, 1060N×9425E, mb4.7/21, Error ellipse: s-maj=14.2km s-min=5.1km az=57.0*
*BJI **10** 22:13:53.6, 1054N×9378E, h35km, mB5.0, mb4.6, Ms4.6, Msz4.3*
ISC 10 22:13:54.2±0.3, 1061N±004×9423E±005, h24km, h24km±.8km: pP-P, n114, σ1º05/111, mb4.5/40, MS4.2/22, 3C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.79**	**306**	*e*P	Px	22 14 45.7	
PBA				*e*S	Sx	22 15 05.0	
PBA				*e*x	x	22 15 25.9	
	comp=E,3μm,1.2s						
PBA				*e*x	x	22

comp=Z,261nm,4.9s
QIZ LR LR
comp=E,1μm,9.2s
QIZ LR LR
comp=Z,1μm,8.9s
QIZ Qiongzhong 17.25 59 P **Pn** **22 18 01.8 +8.4**
JIRN Jiri 18.57 337 *e*P **Pn** **22 18 10.4 +0.8**
comp=Z,320nm,1.7s
PKI Pulchoki 18.80 335 *e*P **Pn** **22 18 13.0 +0.5**
comp=Z,122nm,1.2s
PKI Pulchoki 18.80 335 *e*P **Pn** **22 18 13.0 +0.5**
PKI pmax pmax
comp=Z,61nm,1.2s
GUN Gumba 18.91 337 *e*P **Pn** **22 18 14.3 +0.5**
comp=Z,72nm,0.8s
DMN Daman 18.96 334 *e*P **Pn** **22 18 14.9 +0.5**
comp=Z,90nm,1.0s
KKN Kakani 19.05 335 *e*P **Pn** **22 18 16.3 +0.9**
comp=Z,101nm,1.1s
KKN Kakani 19.05 335 *e*P **Pn** **22 18 16.3 +0.9**
KKN pmax pmax
comp=Z,50nm,1.1s
LSA Lhasa 19.21 352 P **Pn** **22 18 17.4 0.0**
LSA Lhasa 19.21 352 *e*P **Pn** **22 18 16.4 -0.9**
comp=Z,106nm,1.6s
LSA Lhasa 19.21 352 *e*P **Pn** **22 18 16.5 -0.9**
LSA pmax pmax
comp=Z,106nm,1.6s
GKN Gorkha 19.51 334 *e*P **Pn** **22 18 20.6 -0.3**
comp=Z,75nm,1.0s
GYA Guiyang 19.66 35⇓*i*P **Pn** **22 18 23.2 +0.5**
GYA PP 22 18 43.8
GYA S **Sn** **22 22 02.1 -0.7**
GYA AMB AMB
comp=Z,20nm,1.5s
GYA AMB AMB
comp=Z,210nm,5.7s
GYA LR LR
comp=N,380nm,10.5s
GYA LR LR
comp=E,570nm,12.3s
GYA LR LR
comp=Z,610nm,10.8s
KOLN Koldanda 19.78 331 *e*P **Pn** **22 18 23.5 -0.7**
comp=Z,80nm,0.8s
BHPL Bhopal 20.37 310 *e*P **P** **22 18 35.4 +6.3**
BHPL AMb AMB 22 18 37.4
comp=Z,19nm,0.8s
POO Poona 21.22 294 *e*P **P** **22 18 38.0 -0.2**
CD2 Chengdu 22.05 22 P **P** **22 18 47.8 +0.7**
CD2 XP sP 22 18 59.4 +2.4
CD2 PP 22 19 12.8
CD2 S **S** **22 22 43.9 -5.2**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
CD2 LR LR
comp=E,280nm,13.8s
CD2 LR LR
comp=Z,280nm,10.8s,MS3.9
GZH Guangzhou 22.07 53 P **P** **22 18 51.9 +4.6**
GZH LR LR
comp=N,244nm,9.6s
GZH LR LR
comp=E,329nm,10.8s
GZH LR LR
comp=Z,750nm,18.8s
ENH Enshi 24.17 34 *e*P **P** **22 19 08.2 -0.3**
comp=Z,51nm,1.2s,mb4.8
AJM Ajmer 24.31 313 *e*P **P** **22 19 14.6 +4.8**
DDI Dehra Dun 24.72 325 *e*P **P** **22 19 14.9 +1.4**
LZH Lanzhou 26.82 17 *e*P **P** **22 19 33.6 +1.1**
LZH AP pP 22 19 40.5 +0.8
LZH XP sP 22 19 44.1 +1.4
LZH PP 22 20 21.2
LZH XS sS 22 24 22.3 +3.1
LZH SS 22 25 28.0
LZH AMB AMB
comp=Z,39nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,91nm,4.9s
LZH LR LR
comp=N,532nm,10.0s
LZH LR LR
comp=Z,897nm,13.2s,MS4.5
XAN Xi'an 26.92 28 P **P** **22 19 35.5 +2.1**
XAN S **S** **22 24 03.9 -5.1**
XAN AMB AMB
comp=Z,5.0nm,1.3s,mb3.9
XAN LR LR
comp=N,370nm,12.3s,MS4.4
XAN LR LR
comp=E,487nm,13.1s,MS4.4
XAN LR LR
comp=Z,497nm,11.5s,MS4.3
WHN Wuhan 27.26 40 *e*P **P** **22 19 38.5 +2.0**
GTA Gaotai 29.11 9 *e*P **P** **22 19 54.4 +1.4**
GTA AP pP 22 20 00.4 +0.2
GTA XP sP 22 20 04.8 +1.6
GTA AMB AMB
comp=Z,2.0nm,1.3s,mb3.7
SSE Sheshan 32.25 47 *e*P **P** **22 20 26.2 +5.5**
SSE AP pP 22 20 31.6 +3.7
SSE XP sP 22 20 35.1 +4.2
SSE PCP PcP 22 23 11.2 +2.5
SSE S **S** **22 25 42.0 +9.5**
SSE XS sS 22 25 53.4 +8.9
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,136nm,4.9s
SSE LR LR
comp=N,666nm,17.6s,MS4.4
SSE LR LR
comp=E,196nm,17.6s,MS4.4
SSE LR LR
comp=Z,873nm,20.0s,MS4.4
KSH Kashi 33.05 334 P **P** **22 20 27.6 -0.1**
KSH AP pP 22 20 35.2 +0.2
KSH XP sP 22 20 39.3 +1.3
KSH PP PP 22 21 37.8 -4.8
KSH PCP PcP 22 23 12.1 +1.1
KSH S **S** **22 25 41.6 -3.5**
KSH SCP ScP 22 26 53.2 -0.4
KSH SS SS 22 27 41.6 -26
KSH SCS ScS 22 30 52.2 -1.7
KSH AMB AMB
comp=Z,7.0nm,0.3s,mb5.1
KSH AMB AMB
comp=Z,118nm,5.4s
KSH LR LR
comp=N,239nm,5.0s
KSH LR LR
comp=E,269nm,6.9s
KSH LR LR
comp=Z,423nm,23.1s,MS4.1
WMQ Urumqi 33.57 351 P **P** **22 20 33.4 +1.2**
WMQ AP pP 22 20 40.7 +1.2
WMQ XP sP 22 20 44.0 +1.5
WMQ PP PP 22 21 45.8 -2.5
WMQ PCP PcP 22 23 14.2 +1.8
WMQ *e*S **S** **22 25 52.8 -0.3**
WMQ SS SS 22 27 56.6 -22
WMQ AMB AMB
comp=Z,18nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,92nm,4.4s
WMQ LR LR
comp=N,2μm,24.0s,MS4.9
WMQ LR LR
comp=E,2μm,24.0s,MS4.9
WMQ LR LR
comp=Z,2μm,25.0s,MS4.7
HHC Hu-ho-hao-te 33.78 24 *e*P **P** **22 20 40.3 +6.2**
HHC AP pP 22 20 47.6 +6.2
HHC XP sP 22 20 51.0 +6.6
HHC PCP PcP 22 23 15.3 +2.3
HHC S **S** **22 26 07.1 +11**
HHC XS sS 22 26 17.9 +9.5
HHC SCS ScS 22 30 59.3 +1.6
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,88nm,3.6s
HHC LR LR
comp=N,416nm,17.1s,MS4.4
HHC LR LR
comp=E,412nm,15.2s,MS4.4
HHC LR LR
comp=Z,492nm,23.0s
BJI Beijing 35.18 30 P **P** **22 20 45.9 -0.3**
BJI S **S** **22 26 23.9 +5.9**
BJI AMB AMB
comp=Z,6.0nm,2.4s,mb4.1
BJI LR LR
comp=N,254nm,14.7s
BJI LR LR
comp=E,454nm,21.8s
BJI LR LR
comp=Z,457nm,25.8s
AAK Ala-Archa 36.26 335 P **P** **22 20 56.2 +0.8**
comp=Z,8.4nm,1.1s,mb4.6
AAK *e*pP pP 22 21 02.2 -0.5
AAK *e*sP sP 22 21 05.2 -0.6
AAK Ala-Archa 36.26 335 P **P** **22 20 56.2 +0.8**
AAK *e**SP sP 22 21 05.2 -0.5
AAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
FRU Bishkek 36.37 335 *e*P **P** **22 20 59.0 +2.6**
FRU *e* 22 22 25.0
MKAR Makanchi Array 37.46 346 P **P** **22 21 05.2 -0.4**
comp=Z,3.0nm,0.9s,mb4.1,baz=163,slow=8.4,SNR=30
MKAR LR LR 22 40 43.6
comp=Z,161nm,19.2s,MS3.8,baz=178,slow=43
MKAR Makanchi Array 37.46 346 P **P** **22 21 05.2 -0.4**
MKAR LR LR 22 40 43.6
SONM Songino Array 38.49 13 P **P** **22 21 14.4 0.0**
comp=Z,2.2nm,0.9s,mb3.9,baz=187,slow=6.0,SNR=5.5
ULN Ulaanbaatar 38.67 14 *e*P **P** **22 21 16.4 +0.5**
comp=Z,3.7nm,1.0s,mb4.1
ULN Ulaanbaatar 38.67 14⇓*i*P **P** **22 21 16.2 +0.3**
KURK Kurchatov 42.00 345 P **P** **22 21 43.4 0.0**
comp=Z,13nm,1.2s,mb4.4
KURK *e*pP pP 22 21 49.9 -0.9
KURK *e*sP sP 22 21 55.3 +1.6
KURK Kurchatov 42.00 345 P **P** **22 21 43.4 0.0**
KURK *e**SP sP 22 21 55.3 +1.5
KURK pmax pmax
comp=Z,13nm,1.2s,mb4.4
NVS Novosibirsk 44.97 351 *e*P **P** **22 22 06.7 -0.7**
NVS *e*S **S** **22 28 46.1 +1.9**
NVS pmax pmax
comp=Z,31nm,2.2s,mb4.8
NVS pmax pmax
comp=N,9.0nm,1.8s
NVS pmax pmax
comp=E,6.0nm,1.5s
NVS smax
comp=N,7.0nm,2.0s
NVS smax
comp=E,21nm,2.4s
MDJ Mudanjiang 45.52 35 P **P** **22 22 18.0 +6.3**
MDJ PP PP 22 24 03.9 +5.5
MDJ S **S** **22 29 01.2 +9.0**
MDJ AMB AMB
comp=Z,9.0nm,1.7s,mb4.4
MDJ AMB AMB
comp=Z,118nm,3.1s
MDJ LR LR
comp=N,201nm,24.4s
MDJ LR LR
comp=E,159nm,18.3s
MDJ LR LR
comp=Z,214nm,23.1s,MS4.0
BVAR Borovoye Array 46.45 340 P **P** **22 22 17.8 -1.3**
comp=Z,1.3nm,0.9s,mb3.9,baz=145,slow=8.8,SNR=8.8
BRVK Borovoye 46.51 340 *e*P **P** **22 22 19.7 +0.1**
comp=Z,3.4nm,0.9s,mb4.3
BRVK *e*pP pP 22 22 26.0 -1.0
BRVK *e*sP sP 22 22 29.7 -0.2
BRVK Borovoye 46.51 340 *e*P **P** **22 22 19.7 +0.1**
BRVK *e**SP sP 22 22 29.7 -0.3
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ZRNK Zerenda 46.86 339 *e*P **P** **22 22 22.2 -0.1**
comp=Z,7.5nm,1.2s,mb4.5
ZRNK Zerenda 46.86 339 *e*P **P** **22 22 22.2 -0.1**
ZRNK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
MJAR Matsushiro Arr 47.30 50 PcP PcP 22 23 57.3 +0.8
comp=Z,1.0nm,0.7s,baz=253,slow=1.0,SNR=5.7
NWAO Narrogin (SRO) 48.54 154 LR LR 22 43 54.0
comp=Z,175nm,19.7s,MS4.0,baz=135,slow=37
BOD Bodaibo 49.48 14 *e*P **P** **22 22 41.8 -0.7**
AKTK Aktyubinsk 49.62 330 P **P** **22 22 43.5 0.0**
AKTK LR LR 22 44 39.1
AKTO Aktyubinsk 49.62 330 P **P** **22 22 43.5 0.0**
comp=Z,0.9nm,0.6s,mb4.0,baz=111,slow=8.6,SNR=2.5
AKTO LR LR 22 44 39.1
comp=Z,111nm,20.2s,MS3.9,baz=332,slow=37
WRA Warramunga Arr 49.81 127 P **P** **22 22 45.9 +0.8**
comp=Z,7.7nm,0.7s,mb4.8,baz=304,slow=8.9,SNR=89
WRAB Tennant Creek 49.81 127 P **P** **22 22 46.1 +1.1**
comp=Z,13nm,0.7s,mb5.1
WRAB Tennant Creek 49.81 127 P **P** **22 22 46.1 +1.1**
WRAB pmax pmax
comp=Z,13nm,0.7s,mb5.1
WB2 Warramunga Arr 49.82 127 *e*P **P** **22 22 45.9 +0.8**
ASPA Alice Springs 51.63 132 *e*P **P** **22 22 59.6 +0.9**
AS31 Alice Springs 51.63 132 *e*P **P** **22 22 59.6 +0.9**
ASAR Alice Springs 51.63 132 P **P** **22 22 58.2 -0.5**
comp=Z,11nm,0.7s,mb4.9,baz=309,slow=7.1,SNR=96
GNI Garni 52.62 313 *e*P **P** **22 23 06.4 +0.2**
comp=Z,21nm,1.4s,mb4.9
GNI pP pP 22 23 15.0 +1.3
GNI Garni 52.62 313⇓*i*P **P** **22 23 07.1 +1.0**
GNI pmax pmax
comp=Z,19nm,1.3s
KIV Kislovodsk 55.38 317 *e*P **P** **22 23 26.1 -0.1**
comp=Z,9.6nm,1.0s,mb4.8
KIV *e*pP pP 22 23 33.0 -0.8
KIV *e*sP sP 22 23 37.9 +1.2
KIV Kislovodsk 55.38 317 *e*P **P** **22 23 26.1 -0.2**
KIV *e**SP sP 22 23 37.9 +1.1
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GOF Gofitskoye 55.55 318 *e*P sP 22 23 39.4 +1.4
MALT Malatya 56.80 309 *e*P **P** **22 23 35.1 -1.3**
comp=Z,2.1nm,0.9s,mb4.2
MALT *e*pP pP 22 23 43.1 -0.9
MALT *e*sP sP 22 23 46.6 -0.3
MALT Malatya 56.80 309 *e*P **P** **22 23 35.1 -1.3**
MALT *e**SP sP 22 23 46.6 -0.3
MALT pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
SOC Sochi 57.29 315 *e*P **P** **22 23 34.9 -5.0**
SOC *e**PP pP 22 23 51.4 +3.9
SOC *e* 22 24 35.5
SOC *e*S **S** **22 31 28.7 -5.8**
SOC pmax pmax
comp=Z,13nm,0.7s,mb5.1
YAK Yakutsk 57.39 19 *e*P **P** **22 23 40.0 -0.6**
comp=Z,13nm,0.6s,mb5.1
YAK *e*pP pP 22 23 46.4 -1.8
YAK Yakutsk 57.39 19⇑*e*P **P** **22 23 40.9 +0.3**
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KMBO Kilima Mbogo 57.85 262 LR LR 22 43 41.2
comp=Z,83nm,20.0s,MS3.8,baz=94,slow=31
VRHR Novokhopersk 58.77 324 *e*P pP 22 23 58.9 +1.0
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRHR pmax pmax
comp=N,7.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,1.1s
CTA Charters Tower 59.59 121 LR LR 22 51 47.4
comp=E,273nm,20.9s,MS4.4,baz=142,slow=38
BRTR Keskin Array B 60.74 310 P **P** **22 24 02.0 -1.7**
comp=E,1.2nm,0.9s,mb4.0,baz=120,slow=7.6,SNR=7.9
STKA Stephens Creek 61.94 135 *e*P **P** **22 24 11.6 -0.3**
comp=E,4.9nm,0.9s,mb4.6
STKA Stephens Creek 61.94 135 P **P** **22 24 10.1 -1.9**
comp=E,6.2nm,1.0s,mb4.7,baz=313,slow=7.2,SNR=8.2
STKA LR LR 22 51 08.1
comp=E,263nm,20.7s,MS4.4,baz=113,slow=36
OBN Obninsk 63.13 327 P **P** **22 24 19.0 -0.9**
OBN *e* 22 24 29.6
OBN 22 24 58.0
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
MA2 Magadan 64.32 28 *e*P **P** **22 24 27.7 0.0**
comp=Z,2.4nm,0.3s,mb4.7
MA2 Magadan 64.32 28 *e*P **P** **22 24 27.9 +0.2**
MA2 S **S** **22 33 01.8 -2.5**
MA2 *e*SS SS 22 37 19.7 +5.6
MA2 pmax pmax
comp=Z,10.0nm,1.8s,mb4.5
MA2 MLR MLR
comp=Z,200nm,20.0s,MS4.3
TIXI Tiksi 64.55 12 P **P** **22 24 27.8 -1.4**
TIXI Tiksi 64.55 12 *i*P **P** **22 24 28.9 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
SEY Seymchan 66.42 25 *i*P **P** **22 24 42.0 +0.7**
IDI Anoyia 67.11 304 LR LR 23 01 01.2
comp=Z,28nm,19.6s,MS3.5,baz=189,slow=42
FINES FINESS Array B 70.35 332 P **P** **22 25 04.8 -1.1**
comp=Z,0.4nm,0.5s,mb3.6,baz=186,slow=29,SNR=2.5
ARCES ARCESS Array B 72.74 340 P **P** **22 25 18.1 -2.2**
comp=Z,3.8nm,1.0s,mb4.3,baz=75,slow=10,SNR=3.0
ARCES LR LR 23 00 00.0
comp=Z,241nm,19.7s,MS4.5,baz=90,slow=38
BILL Bilibino 73.53 22 *e*P **P** **22 25 25.9 +0.9**
BILL *e* 22 25 36.4
BILL pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BILL MLR MLR
comp=Z,100nm,15.0s,MS4.2
GERES GERESS Array B 75.86 318 P **P** **22 25 37.9 -0.6**
comp=Z,0.2nm,0.5s,baz=247,slow=5.1,SNR=3.9
NOA NORSAR Array B 77.41 330 P **P** **22 25 46.7 -0.5**
comp=Z,0.8nm,0.8s,mb3.7,baz=90,slow=5.5,SNR=3.4
JMIC Jan Mayen 84.16 341 LR LR 23 06 33.6
comp=Z,208nm,18.3s,MS4.5,baz=85,slow=38
SYO Syowa Base 88.03 197⇑*e*P **P** **22 26 41.7 -0.7**
TORD Torodi Ar. Bea 90.06 283 P **P** **22 26 52.5 +0.6**
comp=Z,1.0nm,0.8s,mb4.2,baz=92,slow=4.0,SNR=6.4
TORD PP PP 22 30 26.1 +0.9
comp=Z,1.0nm,1.1s,baz=90,slow=7.2,SNR=4.0
ILAR Eielson Array 92.19 22 P **P** **22 26 59.2 -2.6**
comp=Z,0.5nm,0.9s,mb3.8,baz=301,slow=4.1,SNR=4.9
VNDA Vanda 95.58 168 LR LR 23 07 25.2
comp=Z,156nm,19.1s,MS4.5,baz=119,slow=34
DBIC Dimbokro 97.65 278 LR LR 23 08 23.7
comp=Z,57nm,18.4s,MS4.1,baz=44,slow=34
PPT Papeete 117.96 104 *e*LR LR 23 08 27.4
comp=Z,88nm,25.5s
TBI Tubuai 118.20 111 *e*LR LR 23 08 32.4
comp=Z,103nm,30.8s
NVAR Mina Array Bea 122.53 30 PKP PKPdf 22 32 48.5 +1.0
comp=Z,0.6nm,0.6s,baz=356,slow=1.7,SNR=6.1
PDAR Pinedale Array 122.59 21 PKP PKPdf 22 32 48.1 +0.4
comp=Z,0.4nm,0.7s,baz=333,slow=0.7,SNR=5.1
RKT Rikitea 131.51 111 *e*LR LR 23 14 42.4
comp=Z,97nm,35.0s
PLCA Paso Flores 147.12 202 PKPbc PKPbc 22 33 36.9 +1.8
comp=Z,4.8nm,0.9s,baz=117,slow=2.9,SNR=5.8
CPUP Villa Florida 148.93 236 PKPbc PKPbc 22 33 41.6 +1.7
comp=Z,0.7nm,0.5s,baz=98,slow=7.2,SNR=3.4
CFAA Coronel Fontan 153.55 215 PKPbc PKPbc 22 33 51.5 +0.8
comp=Z,0.5nm,0.7s,baz=338,slow=1.3,SNR=8.2

JMA 10 22:17:58.4±0.7, 3813N×14963E, h46km, M4.4, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**6.00**	**332**	P	Pn	22 19 26.2	+1.6
NEM2				*e*S	Sn	22 20 33.3	+1.2
JAK	**Akkeshi**	**6.14**	**324**	P	Pn	22 19 29.5	+3.0
JAK				S	Sn	22 20 38.4	+2.9
MIYJ	**Miyakonagasawa**	**6.26**	**286**	P	Pn	22 19 31.0	+2.8
JCH	**Churui**	**6.55**	**315**	P	Pn	22 19 35.7	+3.5
JCH				S	Sn	22 20 48.6	+3.0
JOM	**Ohasama**	**6.65**	**284**	P	Pn	22 19 36.3	+2.8
JOM				S	Sn	22 20 49.6	+1.7
JNBK	**Urakawa-nobuka**	**6.70**	**310**	*e*S	Sn	22 20 53.1	+3.9
JTKR	**Abashiri--Toko**	**7.26**	**325**	P	Pn	22 19 44.8	+2.9
JTKR				*e*S	Sn	22 21 07.0	+4.0
JRY	**Ryogami san**	**8.83**	**259**	S	Sn	22 21 37.6	-3.9

NIED ***10*** *22:24:00, 2440N×12300E, h41km, Mw4.6 Best double couple: M0 1.05000×10^16 NP1:φ=74.00000°, δ=53.00000°, λ=79.00000°. NP2:φ=272.00000°, δ=39.00000°, λ=105.00000°.*
ISCJB ***10*** *22:24:20.8±0.3, 2434N±003×12296E±002, h58km±3km, mb4.3/27, MS3.7/6, Error ellipse: s-maj=4.8km s-min=3.6km az=7.8*
BJI ***10*** *22:24:20.8, 2458N×12304E, h30km, mB4.8, mb4.6, ML4.3, Ms4.1, Msz3.9*
NEIC ***10*** *22:24:21.5±0.3, 2439N×12296E, mb4.1/10, Error ellipse: s-maj=6.3km s-min=5.7km az=90.0*
IDC ***10*** *22:24:22.2±3.0, 2446N×12288E, h56km±28km, mb4.0/18, mb1 4.1/20, mb1mx4.0/26, mbtmp4.2/20, ML3.9/2, MS3.6/8, Ms1 3.6/8, ms1mx3.4/34, Error ellipse: s-maj=16.6km s-min=13.4km az=92.0*
JMA ***10*** *22:24:22.1±0.1, 2436N×12300E, h48km±1km, M4.5*
JMA Felt II J1.
MAN ***10*** *22:25:36.3, 1891N×12173E, h16km, MS2.1*
ISC 10 22:24:22.2±0.3, 2434N±003×12298E±002, h53km±3km, h51km±1.5km: pP-P, n90, σ1s09/99, mb4.3/27, MS3.7/6,

Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.13**	**13**	P	**Pn**	**22 24 29.6**	**-0.8**
YOJ				S	**Sn**	**22 24 35.0**	**-1.3**
IRIF	**Iriomote-Funau**	**0.68**	**90**	P	**Pn**	**22 24 35.3**	**-0.5**
IRIF				S	**Sn**	**22 24 44.9**	**-0.8**
HATJ	**Hateruma jima**	**0.80**	**110**	P	**Pn**	**22 24 37.0**	**-0.4**
HATJ				S	**Sn**	**22 24 48.4**	**0.0**
JKRS	**Kuro-shima**	**0.94**	**96**	P	**Pn**	**22 24 39.2**	**0.0**
JKRS				S	**Sn**	**22 24 51.7**	**-0.1**
JIJ	**Ishigaki jima**	**1.06**	**88**	P	**Pn**	**22 24 40.2**	**-0.6**
JIJ				S	**Sn**	**22 24 53.6**	**-0.9**
NACB	**Ninganchiao**	**1.27**	**263**	*e*Pn	**Pn**	**22 24 43.2**	**-0.4**
YHNB	**Yeheng**	**1.50**	**283**	*e*Pn	**Pn**	**22 24 46.7**	**0.0**
YHNB				*e*Sn	**Sn**	**22 25 12.5**	**+7.4**
TATO	**Taipei**	**1.50**	**295**	*e*Pn	**Pn**	**22 24 46.4**	**-0.3**
TATO				*e*Sn	**Sn**	**22 25 04.4**	**-0.8**
JTJ	**Tarama**	**1.60**	**79**	P	**Pn**	**22 24 48.5**	**+0.4**
JTJ				S	**Sn**	**22 25 07.2**	**-0.3**
JMJ	**Miyako jima 2**	**2.16**	**77**	P	**Pn**	**22 24 57.0**	**+1.3**
JMJ				S	**Sn**	**22 25 23.1**	**+1.8**
JOGS	**Gusukube**	**2.25**	**79**	P	**Pn**	**22 24 58.1**	**+1.1**
JOGS				*e*S	**Sn**	**22 25 23.5**	**0.0**
JKE	**Kume jima 2**	**3.97**	**59**	P	**Pn**	**22 25 21.6**	**+1.0**
QZH	**Quanzhou**	**4.04**	**280**	P	**Pn**	**22 25 21.0**	**-0.5**
QZH				S	**Sn**	**22 26 04.2**	**-3.3**
QZH				Smax			
	comp=N,390nm,0.6s						
QZH				Smax			
	comp=E,380nm,0.7s						
JAGN	**Aguni-jima**	**4.46**	**59**	P	**Pn**	**22 25 29.3**	**+2.1**
JIH	**Iheya**	**5.24**	**58**	P	**Pn**	**22 25 38.5**	**+0.6**
JOW	**Kunigami**	**5.39**	**61**	P	**Pn**	**22 25 39.4**	**-0.6**
	comp=E,10nm,0.3s,baz=189,slow=10.0,SNR=42						
JOW				S	**Sn**	**22 26 43.5**	**+2.9**
	comp=E,5.6nm,0.3s,baz=132,slow=23,SNR=2.4						
JOW	**Kunigami**	**5.39**	**61**	P	**Pn**	**22 25 39.8**	**-0.2**
SGCP	**Mt. Cagua**	**6.13**	**188**	*e*P	**Pn**	**22 25 50.2**	**+0.1**
JTK	**Tokunoshima**	**6.37**	**56**	P	**Pn**	**22 25 52.5**	**-1.0**
JTK				*e*S	**Sn**	**22 27 05.5**	**+0.6**
APYP	**Conner**	**6.64**	**194**	*e*P	**Pn**	**22 25 56.4**	**-0.8**
CVP	**Callao Caves**	**6.69**	**190**	*e*P	**Pn**	**22 25 58.0**	**+0.2**
JAM	**Amami Oshima**	**7.20**	**54**	P	**Pn**	**22 26 03.5**	**-1.2**
PALP	**Palanan**	**7.25**	**184**	*e*P	**Pn**	**22 26 04.3**	**-1.3**
CAUP	**Cauayan**	**7.43**	**189**	*e*P	**Pn**	**22 26 10.6**	**+2.5**
NJ2	**Nanjing**	**8.50**	**336**	*e*P	**Pn**	**22 26 22.3**	**-0.4**
NJ2				AP		22 26 27.5	
NJ2				XP		22 26 31.6	
NJ2				S	**Sn**	**22 27 59.7**	**+2.5**
NJ2				XS		22 28 07.7	
NJ2				AMB	AMB		
	comp=Z,70nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,20nm,3.5s						
NJ2				Smax			
	comp=N,150nm,0.8s						
NJ2				Smax			
	comp=E,100nm,1.0s						

NJ2				LR	LR	
	comp=N,8μm,10.1s					
NJ2				LR	LR	
	comp=E,10μm,11.6s					
NJ2				LR	LR	
	comp=Z,3μm,11.0s					
BALP	**Baler**	**8.65**	**189**	*e*P	**Pn**	**22 26 24.9 +0.2**
WHN	**Wuhan**	**9.85**	**311**	*e*P	**Pn**	**22 26 41.0 0.0**
WHN				S	**Sn**	**22 28 32.0 +1.9**
QIZ	**Qiongzhong**	**13.30**	**249**	*e*Pn	**Pn**	**22 27 33.5 +5.3**
	comp=Z,16nm,1.3s					
ENH	**Enshi**	**13.37**	**299**	*e*Pn	**Pn**	**22 27 31.6 +2.5**
	comp=Z,4.6nm,0.8s					
ENH				*e*		22 27 42.6
INCN	**Inchon**	**13.47**	**13**	*e*Pn	**Pn**	**22 27 38.9 +8.4**
	comp=Z,21nm,0.6s					
KS15	**Wonju Array Si**	**13.72**	**17**	*e*Pn	**Pn**	**22 27 41.5 +7.6**
XAN	**Xi'an**	**15.61**	**311**	P	**Pn**	**22 28 00.4 +1.6**
XAN				AMB	AMB	
	comp=Z,15nm,0.9s					
BJT	**Baijiatuau**	**16.66**	**341**	*e*Pn	**Pn**	**22 28 17.2 +5.3**
	comp=Z,12nm,0.8s					
JHJ	**Hachijo jima 2**	**17.12**	**55**	LR	LR	22 34 13.2
	comp=Z,193nm,20.0s,baz=249,slow=34					
CBIJ	**Chichi jima**	**17.52**	**77**	LR	LR	22 34 41.9
	comp=Z,77nm,18.0s,baz=272,slow=35					
MJAR	**Matsushiro Arr**	**17.87**	**44**	P	**Pn**	**22 28 27.3 +0.3**
	comp=Z,0.3nm,0.3s,baz=280,slow=16,SNR=3.9					
MJAR				LR	LR	22 35 47.3
	comp=Z,140nm,18.3s,baz=230,slow=38					
MJAR	**Matsushiro Arr**	**17.87**	**44**	P	**Pn**	**22 28 27.3 +0.3**
MJAR				LR	LR	22 35 47.3
KKM	**Kota Kinabalu**	**19.31**	**201**	*e*P	**Pn**	**22 28 43.8 -0.5**
CN2	**Changchun**	**19.52**	**5**	*e*P	**Pn**	**22 28 47.9 +1.1**
BTO	**Baotou**	**19.53**	**329**	*e*P	**Pn**	**22 28 47.0 +0.1**
LZH	**Lanzhou**	**20.22**	**310**	*e*P	**P**	**22 28 54.0 +1.2**
LZH				AP		22 29 03.1
LZH				XP	sP	22 29 07.0 -4.3
LZH				AMB	AMB	
	comp=Z,20nm,1.2s					
LZH				AMB	AMB	
	comp=Z,53nm,4.6s					
LZH				LR	LR	
	comp=N,236nm,10.0s					
LZH				LR	LR	
	comp=Z,527nm,13.3s,MS4.1					
MDJ	**Mudanjiang**	**20.94**	**13**	*e*P	**P**	**22 29 01.1 +0.6**
	comp=Z,8.9nm,0.7s					
GUMO	**Guam**	**23.26**	**113**	LR	LR	22 36 35.8
	comp=Z,163nm,19.7s,MS3.5,baz=125,slow=31					
ASAJ	**Asahikawa**	**25.43**	**34**	P	**P**	**22 29 43.2 -1.7**
	comp=Z,4.1nm,0.4s,mb4.3,baz=265,slow=13,SNR=7.4					
ASAJ				LR	LR	22 39 03.2
	comp=Z,178nm,20.9s,MS3.6,baz=316,slow=35					
ULN	**Ulaanbaatar**	**26.67**	**336**	*e*P	**P**	**22 29 55.6 -0.5**
	comp=Z,1.8nm,0.7s,mb3.7					
ULN				*e*PcP	PcP	22 33 18.9 +0.2
SONM	**Songino Array**	**26.90**	**335**	P	**P**	**22 29 56.6 -1.5**
	comp=Z,3.3nm,0.8s,mb3.9,baz=151,slow=10,SNR=6.7					
SONM				LR	LR	22 41 57.3
	comp=Z,393nm,18.2s,MS4.0,baz=72,slow=39					
LSA	**Lhasa**	**28.80**	**288**	*e*P	**P**	**22 30 16.4 +1.2**
PSI	**Prapat**	**31.59**	**231**	P	**P**	**22 30 41.1 +1.4**
	comp=Z,3.7nm,0.2s,mb4.9,baz=301,slow=1.5,SNR=6.9					
PSI				LR	LR	22 42 19.9
	comp=Z,131nm,21.6s,MS3.6,baz=212,slow=34					
JIRN	**Jiri**	**33.16**	**284**	*e*P	**P**	**22 30 54.8 +1.3**
	comp=Z,24nm,1.2s,mb5.0					
GUN	**Gumba**	**33.42**	**284**	*e*P	**P**	**22 30 57.1 +1.3**
	comp=Z,32nm,1.2s,mb5.1					
PKI	**Pulchoki**	**33.85**	**284**	*e*P	**P**	**22 31 00.3 +0.7**
KKN	**Kakani**	**33.95**	**284**	*e*P	**P**	**22 31 01.5 +1.0**
DMN	**Daman**	**34.12**	**284**	*e*P	**P**	**22 31 02.6 +0.7**
GKN	**Gorkha**	**34.51**	**284**	*e*P	**P**	**22 31 05.8 +0.5**
KOLN	**Koldanda**	**35.44**	**284**	*e*P	**P**	**22 31 13.9 +0.6**
YAK	**Yakutsk**	**37.95**	**5**	*e*P	**P**	**22 31 33.0 -1.6**
	comp=Z,12nm,0.5s,mb4.9					
MKAR	**Makanchi Array**	**39.38**	**315**	P	**P**	**22 31 45.9 -0.7**
	comp=Z,1.6nm,0.5s,mb4.0,baz=101,slow=10.0,SNR=38					
MKAR				PcP	PcP	22 33 53.7 -0.3
	comp=Z,1.4nm,0.7s,baz=92,slow=4.1,SNR=8.2					
MKAR	**Makanchi Array**	**39.38**	**315**	P	**P**	**22 31 45.9 -0.7**
MKAR				PcP	PcP	22 33 53.7 -0.3
PMG	**Port Moresby**	**41.01**	**142**	LR	LR	22 49 10.9
	comp=Z,103nm,19.7s,MS3.7,baz=267,slow=36					
KURK	**Kurchatov**	**43.04**	**319**	*e*P	**P**	**22 32 15.2 -1.4**
	comp=Z,1.1nm,0.4s,mb3.9					
MBWA	**Marble Bar**	**45.33**	**184**	*e*P	**P**	**22 32 34.7 -0.3**
	comp=Z,5.3nm,0.7s,mb4.5					
MBWA				*e*pP	pP	22 32 48.2 -0.7
WRAB	**Tennant Creek**	**45.37**	**165**	*e*P	**P**	**22 32 35.6 +0.3**
	comp=Z,6.5nm,0.6s,mb4.6					
WRAB				pP	pP	22 32 48.0 -1.2
WRA	**Warramunga Arr**	**45.38**	**165**	P	**P**	**22 32 35.8 +0.5**
	comp=Z,5.2nm,0.7s,mb4.5,baz=346,slow=8.8,SNR=46					
WB2	**Warramunga Arr**	**45.38**	**165**	*e*P	**P**	**22 32 35.3 -0.1**
BVAR	**Borovoye Array**	**48.60**	**320**	P	**P**	**22 32 59.1 -1.4**
	comp=Z,1.3nm,0.5s,mb4.2,baz=102,slow=8.5,SNR=15					
BVAR				PcP	PcP	22 34 24.5 -0.9
	comp=Z,1.8nm,0.7s,baz=108,slow=3.2,SNR=5.7					
BRVK	**Borovoye**	**48.67**	**320**	*e*P	**P**	**22 33 00.0 -1.0**
	comp=Z,1.1nm,0.8s,mb3.9					
AS31	**Alice Springs**	**48.88**	**167**	*e*P	**P**	**22 33 03.9 +1.3**
ASAR	**Alice Springs**	**48.88**	**167**	P	**P**	**22 33 03.2 +0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=349,slow=12,SNR=21					
ASPA	**Alice Springs**	**48.88**	**167**	*e*P	**P**	**22 33 03.9 +1.3**
ZRNK	**Zerenda**	**49.39**	**320**	*e*P	**P**	**22 33 05.1 -1.4**
ZRNK				*e*PcP	PcP	22 34 27.1 -1.1
BILL	**Bilibino**	**50.99**	**19**	P	**P**	**22 33 18.3 -0.3**
	comp=Z,2.5nm,0.8s,mb4.2					
STKA	**Stephens Creek**	**58.66**	**161**	*e*P	**P**	**22 34 13.1 -1.0**
	comp=Z,1.7nm,0.9s,mb4.1					
STKA	**Stephens Creek**	**58.66**	**161**	P	**P**	**22 34 15.2 +1.1**
	comp=Z,1.6nm,0.7s,mb4.2,baz=31,slow=7.0,SNR=4.4					
STKA	**Stephens Creek**	**58.66**	**161**	*e*P	**P**	**22 34 13.1 -1.0**
KDAK	**Kodiak Island**	**66.83**	**35**	P	**P**	**22 35 07.8 -0.7**
	comp=Z,5.6nm,0.6s,mb4.8,baz=223,slow=19,SNR=6.5					
ILAR	**Eielson Array**	**68.33**	**27**	P	**P**	**22 35 16.5 -1.4**
	comp=Z,0.8nm,0.4s,mb4.1,baz=267,slow=4.5,SNR=31					
JOF	**Joensuu**	**69.38**	**331**	*e*p	**P**	**22 35 24.1 -0.3**
ARCES	**ARCESS Array B**	**70.01**	**338**	P	**P**	**22 35 26.6 -1.7**
	comp=Z,5.1nm,1.0s,mb4.4,baz=356,slow=7.3,SNR=3.1					
KAF	**Kangasniemi**	**71.83**	**331**	*e*p	**P**	**22 35 37.9 -1.4**
FINES	**FINESS Array B**	**72.14**	**330**	P	**P**	**22 35 38.9 -2.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=47,slow=7.3,SNR=11					
INK	**Inuvik**	**72.47**	**22**	P	**P**	**22 35 41.6 -1.5**
	comp=Z,1.4nm,0.4s,mb4.2,baz=288,slow=7.8,SNR=14					
BRTR	**Keskin Array B**	**74.40**	**307**	P	**P**	**22 35 54.0 -0.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=92,slow=5.4,SNR=6.7					
NB2	**NORSAR Subarra**	**78.85**	**333**	P	**P**	**22 36 18.2 -1.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=55,slow=5.6					
NOA	**NORSAR Array B**	**78.85**	**333**	P	**P**	**22 36 17.1 -2.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=60,slow=5.3,SNR=6.2					
YKA	**Yellowknife Ar**	**82.19**	**23**	P	**P**	**22 36 37.1 -0.4**
	comp=Z,3.9nm,0.7s,mb4.5,baz=312,slow=5.0,SNR=102					
GERES	**GERESS Array B**	**83.76**	**321**	P	**P**	**22 36 45.2 -0.4**
	comp=Z,0.9nm,0.6s,mb4.1,baz=46,slow=5.8,SNR=7.4					
EDM	**Edmonton**	**88.66**	**30**	*e*P	**P**	**22 37 10.3 +0.6**
EDM				*e*pP	pP	22 37 25.1 +0.2
NVAR	**Mina Array Bea**	**95.20**	**44**	P	**P**	**22 37 41.5 +1.6**
	comp=Z,1.3nm,0.7s,mb4.5,baz=310,slow=3.8,SNR=12					
DBIC	**Dimbokro**	**120.57**	**294**	PKP	PKPdf	22 43 08.3 +0.4
	comp=Z,3.1nm,0.7s,baz=256,slow=5.8,SNR=5.6					
DBIC	**Dimbokro**	**120.57**	**294**	PKP	PKPdf	22 43 08.3 +0.3

IDC 10 22:29:21.2±7.5, 976N×9276E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, Error ellipse: s-maj=388.3km s-min=27.4km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.88**	**359**	*e*P	Pn	22 30 23.6	+29
PBA				*e*S	Sn	22 30 35.7	+17
PBA				*e*x	x	22 31 00.8	
	comp=E,872nm,0.4s						
PBA				*e*x	x	22 31 02.0	
	comp=N,492nm,0.4s						
MKAR	**Makanchi Array**	**37.97**	**348**	P	P	22 36 40.5	0.0
	comp=N,0.6nm,0.6s,baz=165,slow=8.0,SNR=7.0						
WRA	**Warramunga Arr**	**50.46**	**126**	P	P	22 38 20.5	-0.2
	comp=N,0.7nm,0.6s,baz=304,slow=9.0,SNR=10.0						
ASAR	**Alice Springs**	**52.16**	**130**	P	P	22 38 34.6	+1.1
	comp=N,1.0nm,0.8s,baz=316,slow=6.9,SNR=9.7						

*NEIC **10** 22:42:07.2±7.1, 2189S×17394W, h35km, Error ellipse: s-maj=170.0km s-min=30.9km az=219.0*

IDC 10 22:42:57.5±13.0, 2283S×17510W, h476km±149km, mb3.3/5, mb1 3.5/5, mb1mx3.3/14, mbtmp4.1/5, Error ellipse: s-maj=64.3km s-min=35.2km az=53.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.29**	**247**	P	P	22 49 44.1	0.0
	2.1nm,0.7s,baz=92,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**46.66**	**258**	P	P	22 50 42.7	+0.8
	2.8nm,0.8s,baz=102,slow=7.6,SNR=28						
WB2	**Warramunga Arr**	**46.98**	**264**	*e*P	P	22 50 44.4	0.0
WRA	**Warramunga Arr**	**46.99**	**264**	P	P	22 50 44.3	-0.2
	3.9nm,0.9s,baz=101,slow=8.9,SNR=35						
VNDA	**Vanda**	**55.86**	**186**	P	P	22 51 48.3	-0.7
	5.0nm,1.3s,baz=29,slow=6.3,SNR=3.7						
ILAR	**Eielson Array**	**90.01**	**12**	P	P	22 55 04.8	-0.6
	0.3nm,0.9s,baz=222,slow=6.7,SNR=4.3						
BRTR	**Keskin Array B**	**150.40**	**311**	PKPbc	PKPbc	23 01 54.5	+0.1
	0.8nm,0.7s,baz=124,slow=4.4,SNR=6.2						

*IDC **10** 23:03:00.7±1.9, 701N×7676W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/21, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=62.8km s-min=23.3km az=38.0*

*ISCJB **10** 23:03:01.5±4.2, 723N±009×7664W±009, h13km±27km, mb3.5/2, Error ellipse: s-maj=18.6km s-min=12.3km az=88.8*

*NEIC **10** 23:03:05.0±1.3, 709N×7668W, h35km, mb3.4/1, Error ellipse: s-maj=27.8km s-min=15.5km az=221.0*

ISC 10 23:03:02.1±5.2, 717N±010×7667W±009, h5km±34km, n6, σ0§89/8, mb3.5/2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.27**	**134**	Pn	**Pn**	**23 03 53.8**	**-0.2**
	6.2nm,0.3s,baz=252,slow=1.5,SNR=12						
ROSC				Sn	**Sn**	**23 04 33.4**	**+0.1**
	2.5nm,0.3s,baz=85,slow=22,SNR=7.8						
SDV	**Santo Domingo**	**6.22**	**74**	Pn	**Pn**	**23 04 34.7**	**+0.2**
	0.6nm,0.3s,baz=287,slow=13,SNR=6.9						
SDV				Sn	**Sn**	**23 05 45.7**	**-0.3**
	1.0nm,0.3s,baz=237,slow=22,SNR=3.4						
SAML	**Samuel**	**20.90**	**140**	*e*P	**P**	**23 07 37.8**	**-7.5**
	2.2nm,1.2s						
MIV	**Mineville/With**	**36.86**	**4**	*e*P	**P**	**23 10 11.4**	**+0.1**
NVAR	**Mina Array Bea**	**48.76**	**316**	P	**P**	**23 11 46.7**	**-1.1**
	0.5nm,0.5s,mb3.8,baz=139,slow=7.0,SNR=5.8						
YKA	**Yellowknife Ar**	**61.76**	**341**	P	**P**	**23 13 22.8**	**+1.2**
	0.1nm,0.6s,mb3.1,baz=132,slow=6.6,SNR=7.0						

IDC 10 23:11:34.5±8.5, 920N×9169E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/9, Error ellipse: s-maj=422.4km s-min=27.3km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.31**	**350**	P	P	23 18 56.7	-0.1
	0.5nm,0.6s,baz=167,slow=8.2,SNR=9.0						
JOW	**Kunigami**	**38.76**	**58**	LR	LR	23 37 34.4	
	comp=Z,49nm,18.7s,baz=343,slow=40						
WRA	**Warramunga Arr**	**51.00**	**125**	P	P	23 20 37.4	-0.6
	0.2nm,0.7s,baz=301,slow=9.8,SNR=3.3						
ASAR	**Alice Springs**	**52.62**	**129**	P	P	23 20 51.8	+1.6
	0.3nm,0.8s,baz=294,slow=7.0,SNR=3.4						

*IDC **10** 23:12:08.3±0.7, 1063N×9415E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/21, mbtmp4.1/11, ML3.5/1, MS3.9/4, Ms1 3.9/4, ms1mx3.3/23, Error ellipse: s-maj=38.0km s-min=15.5km az=56.0*

*ISCJB **10** 23:12:10.4±0.3, 1063N±005×9433E±006, h22km, mb4.5/31, MS3.9/7, Error ellipse: s-maj=9.4km s-min=5.1km az=102.6*

*BJI **10** 23:12:10.6, 1079N×9425E, h12km, mB4.6, mb4.3, Ms4.1, Msz3.9*

*MOS **10** 23:12:11.4±0.9, 1063N×9430E, h33km, mb4.8/11, Error ellipse: s-maj=19.0km s-min=7.5km az=109.6*

*NEIC **10** 23:12:12.2±0.3, 1063N×9429E, mb4.6/19, Error ellipse: s-maj=15.8km s-min=5.2km az=57.0*

ISC 10 23:12:12.9±0.3, 1069N±005×9437E±005, h24km, h24km±.7km:pP-P, n80, σ1§05/79, mb4.5/31, MS3.9/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.86**	**301**	*e*x	x	23 12 38.0	
PBA				*e*S	x	23 13 12.3	
PBA				*e*x	x	23 13 40.5	
	comp=E,3μm,0.4s						
PBA				*e*x	x	23 13 40.7	
	comp=N,3μm,1.1s						
KULM	**Kulim**	**8.21**	**130**	*e*Pn	**Pn**	**23 14 10.2**	**-0.4**
KULM				*e*Sn	**Sn**	**23 15 39.2**	**-3.5**
PSI	**Prapat**	**9.05**	**150**	Pn	**Pn**	**23 14 22.8**	**+0.8**
	comp=N,0.5nm,0.3s,baz=315,slow=7.2,SNR=4.7						
VIS	**Vishakhapatnam**	**12.78**	**304**	*e*P	**Pn**	**23 15 11.3**	**-1.8**
VIS				AMb	AMB	23 15 13.0	
	comp=Z,10nm,0.6s						
VIS				*e*S	**Sn**	**23 17 22.7**	**-12**
VIS				*e*S	**Sn**	**23 17 23.7**	**-11**
BOK	**Bokaro**	**15.33**	**329**	*e*P	**Pn**	**23 15 51.5**	**+3.7**
BOK				AMb	AMB	23 16 03.6	
	comp=Z,25nm,1.4s						
KMI	**Kunming**	**16.41**	**28**	P	**Pn**	**23 16 03.8**	**+2.2**
KMI				AP	pP	23 16 09.2	-1.5
KMI				XP	sP	23 16 13.9	+0.1
KMI				PP		23 16 18.5	
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s						
KMI				AMB	AMB		
	comp=Z,69nm,4.5s						
KMI				LR	LR		
	comp=N,243nm,12.2s						
KMI				LR	LR		
	comp=E,172nm,9.0s						
KMI				LR	LR		
	comp=Z,204nm,11.4s						
HYB	**Hyderabad**	**16.73**	**295**	*i* P	**Pn**	**23 16 09.0**	**+3.3**
HYB				*e*S	**Sn**	**23 19 12.0**	**+1.3**
HYB	**Hyderabad**	**16.73**	**295**	*e*P	**Pn**	**23 16 09.0**	**+3.3**
HYB				*e*S	**Sn**	**23 19 12.0**	**+1.3**
JIRN	**Jiri**	**18.55**	**337**	*e*P	**Pn**	**23 16 28.8**	**+0.6**
	comp=Z,190nm,1.4s						
PKI	**Pulchoki**	**18.79**	**335**	*e*P	**Pn**	**23 16 31.5**	**+0.4**
	comp=Z,126nm,1.0s						
PKI	**Pulchoki**	**18.79**	**335**	*e*P	**Pn**	**23 16 31.5**	**+0.4**
PKI				pmax	pmax		
	comp=Z,63nm,1.0s						
GUN	**Gumba**	**18.89**	**336**	*e*P	**Pn**	**23 16 32.7**	**+0.3**
	comp=Z,50nm,0.8s						
DMN	**Daman**	**18.95**	**334**	*e*P	**Pn**	**23 16 33.4**	**+0.4**
	comp=Z,73nm,0.9s						
KKN	**Kakani**	**19.03**	**335**	*e*P	**Pn**	**23 16 34.2**	**+0.1**
	comp=Z,104nm,1.2s						
KKN	**Kakani**	**19.03**	**335**	*e*P	**Pn**	**23 16 34.2**	**+0.1**
KKN				pmax	pmax		
	comp=Z,52nm,1.2s						
LSA	**Lhasa**	**19.15**	**351**	*e*P	**Pn**	**23 16 34.5**	**-0.9**
	comp=Z,47nm,1.3s						
LSA	**Lhasa**	**19.15**	**351**	*e*P	**Pn**	**23 16 34.6**	**-0.8**
LSA				pmax	pmax		
	comp=Z,47nm,1.3s						
GKN	**Gorkha**	**19.50**	**333**	*e*P	**Pn**	**23 16 39.0**	**-0.6**
	comp=Z,131nm,1.2s						
GYA	**Guiyang**	**19.51**	**35**	P	**Pn**	**23 16 40.2**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
GYA				AMB	AMB		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=N,380nm,8.7s						
GYA				LR	LR		
	comp=E,550nm,9.9s						
GYA				LR	LR		
	comp=Z,450nm,9.0s						
KOLN	**Koldanda**	**19.78**	**331**	*e*P	**Pn**	**23 16 41.6**	**-1.3**
	comp=Z,74nm,0.8s						
BHPL	**Bhopal**	**20.43**	**310**	*e*P	**P**	**23 16 49.5**	**+1.1**
BHPL				AMb	AMB	23 16 59.9	
	comp=Z,23nm,0.8s						
KAD	**Karad**	**20.65**	**291**	*e*P	**P**	**23 16 52.0**	**+1.2**
POO	**Poona**	**21.31**	**294**	*e*x	x	23 16 58.5	
CD2	**Chengdu**	**21.93**	**22**	*e*P	**P**	**23 17 05.5**	**+0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,5.6s						
COCO	**West Island**	**22.86**	**174**	*e*P	**P**	**23 17 15.0**	**+0.5**
SONA	**Sohna**	**23.83**	**320**	*e*P	**P**	**23 17 25.3**	**+1.1**
SONA				AMb	AMB	23 17 33.6	
	comp=Z,21nm,0.7s,mb4.7						
AYAN	**Aya Nagar**	**23.97**	**320**	*e*P	**P**	**23 17 25.9**	**+0.5**
AYAN				AMb	AMB	23 17 34.1	
	comp=Z,13nm,0.8s,mb4.4						
ENH	**Enshi**	**24.03**	**34**	*e*P	**P**	**23 17 26.5**	**+0.5**
	comp=Z,35nm,1.1s,mb4.7						
KHET	**Khetri**	**24.55**	**317**	*e*P	**P**	**23 17 31.3**	**+0.6**
KHET				AMb	AMB	23 17 40.6	
	comp=Z,33nm,0.9s,mb4.8						
LZH	**Lanzhou**	**26.70**	**17**	*e*P	**P**	**23 17 52.1**	**+1.8**
LZH				AP	pP	23 17 58.5	+1.2
LZH				XP	sP	23 18 01.9	+1.6
LZH				PP		23 18 39.5	
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,51nm,4.7s						
LZH				LR	LR		
	comp=N,389nm,10.0s						
LZH				LR	LR		
	comp=Z,583nm,13.5s,MS4.3						
WMQ	**Urumqi**	**33.51**	**351**	P	**P**	**23 18 51.8**	**+1.3**
WMQ				AP	pP	23 18 59.1	+1.5
WMQ				XP	sP	23 19 02.4	+1.8
WMQ				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=N,111nm,24.0s,MS3.6						
WMQ				LR	LR		
	comp=E,58nm,22.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,112nm,24.0s,MS3.5						
AAK	**Ala-Archa**	**36.24**	**335**	*e*P	**P**	**23 19 13.6**	**-0.5**
	comp=Z,7.8nm,1.0s,mb4.6						
AAK				*e*pP	pP	23 19 20.9	-0.4
AAK	**Ala-Archa**	**36.24**	**335**	*e*P	**P**	**23 19 13.6**	**-0.5**
AAK				*e**PP	pP	23 19 20.9	-0.4
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
FRU	**Bishkek**	**36.36**	**335**	*e*P	**P**	**23 19 15.0**	**-0.1**
MKAR	**Makanchi Array**	**37.41**	**346**	P	**P**	**23 19 22.8**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.0,baz=162,slow=8.4,SNR=9.3						
SONM	**Songino Array**	**38.38**	**13**	P	**P**	**23 19 33.6**	**+1.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=224,slow=54,SNR=4.6						
ULN	**Ulaanbaatar**	**38.56**	**14**	*e*P	**P**	**23 19 32.9**	**-0.8**
KURK	**Kurchatov**	**41.95**	**345**	*e*P	**P**	**23 20 02.3**	**+0.4**
	comp=Z,18nm,1.3s,mb4.5						
KURK				*e*pP	pP	23 20 08.1	-1.0
KURK	**Kurchatov**	**41.95**	**345**	*e*P	**P**	**23 20 02.3**	**+0.4**
KURK				*e**PP	pP	23 20 08.1	-1.0
KURK				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.5						
CN2	**Changchun**	**42.55**	**34**	*e*P	**P**	**23 20 08.6**	**+1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NVS	**Novosibirsk**	**44.91**	**351**	*e*P	**P**	**23 20 24.8**	**-0.9**
NVS				*e*S	**S**	**23 27 01.6**	**-0.7**
NVS				pmax	pmax		
	comp=N,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.6						
NVS				smax			
	comp=N,22nm,2.5s						
NVS				smax			
	comp=E,11nm,2.5s						
BVAR	**Borovoye Array**	**46.42**	**340**	P	**P**	**23 20 36.3**	**-1.3**
	comp=E,1.9nm,0.9s,mb4.0,baz=148,slow=8.7,SNR=8.4						
BRVK	**Borovoye**	**46.48**	**340**	*e*P	**P**	**23 20 37.3**	**-0.8**
	comp=E,3.6nm,1.0s,mb4.3						
BRVK				*e*pP	pP	23 20 44.1	-1.3
BRVK	**Borovoye**	**46.48**	**340**	*e*P	**P**	**23 20 37.3**	**-0.8**
BRVK				*e**PP	pP	23 20 44.1	-1.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**46.83**	**339**	*e*P	**P**	**23 20 39.0**	**-1.9**
	comp=Z,4.5nm,0.9s,mb4.4						
ZRNK				*e*pP	pP	23 20 46.4	-1.8
ZRNK	**Zerenda**	**46.83**	**339**	*e*P	**P**	**23 20 39.0**	**-1.9**
ZRNK				*e**PP	pP	23 20 46.4	-1.8
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MJAR	**Matsushiro Arr**	**47.14**	**50**	PcP	PcP	23 22 15.6	+0.8
	comp=Z,1.5nm,0.7s,baz=247,slow=6.3,SNR=5.5						
BOD	**Bodaibo**	**49.37**	**14**	*e*P	**P**	**23 20 59.4**	**-1.1**
WRA	**Warramunga Arr**	**49.75**	**128**	P	**P**	**23 21 04.1**	**+0.7**
	comp=Z,8.7nm,0.7s,mb4.9,baz=304,slow=8.9,SNR=47						
WRAB	**Tennant Creek**	**49.75**	**128**	*e*P	**P**	**23 21 04.5**	**+1.1**
	comp=Z,11nm,0.6s,mb5.0						
WRAB				*e*pP	pP	23 21 11.4	+0.6
WRAB	**Tennant Creek**	**49.75**	**128**	*e*P	**P**	**23 21 04.5**	**+1.1**
WRAB				*e**PP	pP	23 21 11.4	+0.7
WRAB				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**49.76**	**128**	*e*P	**P**	**23 21 01.0**	**-2.4**
ASPA	**Alice Springs**	**51.58**	**132**	*

comp=Z,113nm,20.0s,MS4.1,baz=89,slow=38
BILL Bilibino 73.40 22 *e*P **P 23 23 42.8 -0.2**
BILL pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
GERES GERESS Array B 75.90 318 P **P 23 23 55.2 -2.2**
comp=Z,0.8nm,0.9s,mb3.6,baz=169,slow=1.4,SNR=3.8
GERES LR LR 00 00 40.2
comp=Z,89nm,18.9s,MS4.1,baz=111,slow=38
TORD Torodi Ar. Bea 90.17 283 P **P 23 25 10.8 -0.4**
comp=Z,1.2nm,0.9s,mb4.2,baz=91,slow=4.8,SNR=7.1
ILAR Eielson Array 92.07 22 P **P 23 25 19.6 -0.4**
comp=Z,0.5nm,0.8s,mb3.9,baz=299,slow=3.6,SNR=5.7
PLCA Paso Flores 147.25 201 PKPbc PKPbc 23 31 54.8 +0.5
comp=Z,5.7nm,1.0s,baz=124,slow=4.5,SNR=8.1

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*IDC **10** 23:37:28.2±1.2, 1034N×9391E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/22, mbtmp3.9/8, MS3.8/5, Ms1 3.8/5, ms1mx3.4/24, Error ellipse: s-maj=56.2km s-min=18.5km az=54.0*
*ISCJB **10** 23:37:29.7±0.5, 1041N±006×9402E±008, h21km, mb4.3/21, MS3.9/7, Error ellipse: s-maj=12.6km s-min=7.0km az=111.1*
*BJI **10** 23:37:31.8, 1050N×9410E, h19km, mB4.4, mb4.4, Ms4.1, Msz4.1*
*NEIC **10** 23:37:31.8±0.5, 1048N×9413E, mb4.5/14, Error ellipse: s-maj=19.0km s-min=6.4km az=54.0*
*MOS **10** 23:37:38.0±1.5, 1103N×9354E, h33km, mb4.7/8, Error ellipse: s-maj=24.7km s-min=8.9km az=100.5*
ISC 10 23:37:32.3±0.5, 1052N±005×9417E±006, h22km, h22km±1.6km: pP-P, n56, σ1§07/50, mb4.3/21, MS3.9/7, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.81**	**309**	*e*P	Px	23 38 22.0	
PBA				*e*S	Sx	23 38 46.8	
PBA				*e*x	x	23 38 58.8	
	comp=N,1μm,0.9s						
PBA				*e*x	x	23 38 59.1	
	comp=E,1μm,1.0s						
KULM	**Kulim**	**8.25**	**129**	*e*Pn	**Pn**	**23 39 30.0**	**-0.6**
KULM				*e*Sn	**Sn**	**23 41 01.2**	**-1.9**
PSI	**Prapat**	**9.00**	**148**	LR	LR	23 43 46.2	
	comp=E,676nm,20.6s,baz=166,slow=42						
JIRN	**Jiri**	**18.64**	**337**	*e*P	**Pn**	**23 41 49.2**	**+0.5**
	comp=E,37nm,1.1s						
PKI	**Pulchoki**	**18.86**	**335**	*e*P	**Pn**	**23 41 51.2**	**-0.3**
GUN	**Gumba**	**18.98**	**337**	*e*P	**Pn**	**23 41 52.7**	**-0.2**
	comp=E,222nm,2.0s						
DMN	**Daman**	**19.02**	**335**	*e*P	**Pn**	**23 41 53.2**	**-0.2**
KKN	**Kakani**	**19.11**	**335**	*e*P	**Pn**	**23 41 53.9**	**-0.6**
LSA	**Lhasa**	**19.30**	**352**	P	**Pn**	**23 41 55.4**	**-1.3**
LSA	**Lhasa**	**19.30**	**352**	*e*P	**Pn**	**23 41 55.1**	**-1.6**
	comp=E,29nm,1.4s						
LSA	**Lhasa**	**19.30**	**352**	*e*P	**Pn**	**23 41 55.1**	**-1.6**
LSA				pmax	pmax		
	comp=Z,29nm,1.4s						
GKN	**Gorkha**	**19.57**	**334**	*e*P	**Pn**	**23 41 59.1**	**-0.9**
	comp=Z,61nm,1.1s						
GYA	**Guiyang**	**19.77**	**35**	⇓*i*P	**Pn**	**23 42 01.5**	**-0.8**
GYA				S	**Sn**	**23 45 43.6**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
GYA				AMB	AMB		
	comp=Z,120nm,6.0s						
GYA				LR	LR		
	comp=N,370nm,13.5s						
GYA				LR	LR		
	comp=E,410nm,12.0s						
GYA				LR	LR		
	comp=Z,300nm,10.2s						
KOLN	**Koldanda**	**19.84**	**331**	*e*P	**Pn**	**23 42 02.2**	**-0.9**
	comp=Z,23nm,0.7s						
CD2	**Chengdu**	**22.16**	**22**	*e*P	**P**	**23 42 27.2**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
NDI	**New Delhi**	**24.06**	**321**	*e*P	**P**	**23 42 46.0**	**+0.1**
ENH	**Enshi**	**24.28**	**34**	*e*P	**P**	**23 42 47.2**	**-0.6**
	comp=Z,46nm,1.3s,mb4.8						
LZH	**Lanzhou**	**26.93**	**17**	*e*P	**P**	**23 43 12.0**	**+0.2**
LZH				AP	pP	23 43 21.5	+3.0
LZH				XP	sP	23 43 25.6	+4.3
LZH				PP		23 44 01.2	
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,75nm,4.8s						
LZH				LR	LR		
	comp=N,332nm,10.0s						
LZH				LR	LR		
	comp=Z,519nm,13.2s,MS4.3						
XAN	**Xi'an**	**27.03**	**28**	P	**P**	**23 43 18.6**	**+5.8**
WMQ	**Urumqi**	**33.65**	**352**	P	**P**	**23 44 11.0**	**-0.3**
WMQ				AP	pP	23 44 18.3	+0.2
WMQ				XP	sP	23 44 21.6	+0.8
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
WMQ				LR	LR		
	comp=N,72nm,22.0s,MS3.5						
WMQ				LR	LR		
	comp=E,88nm,22.0s,MS3.5						
WMQ				LR	LR		
	comp=Z,82nm,22.1s,MS3.4						
AAK	**Ala-Archa**	**36.32**	**335**	*e*P	**P**	**23 44 34.4**	**+0.1**
	comp=Z,7.3nm,1.0s,mb4.6						
AAK				*e*pP	pP	23 44 40.5	-0.6
AAK	**Ala-Archa**	**36.32**	**335**	*e*P	**P**	**23 44 34.4**	**+0.1**
AAK				*e**PP	pP	23 44 40.5	-0.6
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**37.54**	**347**	P	**P**	**23 44 44.2**	**-0.4**
	comp=Z,1.9nm,0.9s,mb3.8,baz=163,slow=8.0,SNR=18						
MKAR				LR	LR	00 04 20.5	
	comp=Z,66nm,19.1s,MS3.5,baz=287,slow=43						
MKAR	**Makanchi Array**	**37.54**	**347**	P	**P**	**23 44 44.2**	**-0.4**
MKAR				LR	LR	00 04 20.5	
SONM	**Songino Array**	**38.60**	**13**	P	**P**	**23 44 56.3**	**+2.7**
	comp=Z,0.6nm,0.5s,mb3.6,baz=6,3,slow=40,SNR=3.9						
ULN	**Ulaanbaatar**	**38.78**	**14**	⇓*e*P	**P**	**23 44 58.7**	**+3.6**
KURK	**Kurchatov**	**42.08**	**345**	*e*P	**P**	**23 45 24.0**	**+1.6**
	comp=Z,8.9nm,1.1s,mb4.3						
KURK				*e*pP	pP	23 45 28.8	-0.5
KURK	**Kurchatov**	**42.08**	**345**	*e*P	**P**	**23 45 24.0**	**+1.6**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
HIA	**Hailar**	**44.10**	**24**	*i* P	**P**	**23 45 43.5**	**+4.7**
NVS	**Novosibirsk**	**45.05**	**351**	*e*P	**P**	**23 45 46.3**	**-0.1**
NVS				*e*S	**S**	**23 52 22.2**	**-1.8**
NVS				pmax	pmax		
	comp=N,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4						
NVS				smax			
	comp=N,13nm,2.1s						
NVS				smax			
	comp=E,11nm,2.1s						
BVAR	**Borovoye Array**	**46.52**	**340**	P	**P**	**23 45 58.4**	**+0.4**
	comp=E,1.0nm,0.7s,mb3.9,baz=220,slow=38,SNR=4.7						
ZRNK	**Zerenda**	**46.93**	**339**	*e*P	**P**	**23 46 00.0**	**-1.1**
	comp=E,3.2nm,1.0s,mb4.2						
ZRNK				*e*pP	pP	23 46 06.9	-1.2
ZRNK	**Zerenda**	**46.93**	**339**	*e*P	**P**	**23 46 00.0**	**-1.1**
ZRNK				*e**PP	pP	23 46 06.9	-1.2
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BOD	**Bodaibo**	**49.59**	**14**	*e*P	**P**	**23 46 24.4**	**+2.7**
AKTK	**Aktyubinsk**	**49.67**	**330**	P	**P**	**23 46 21.2**	**-1.1**
AKTO	**Aktyubinsk**	**49.67**	**330**	P	**P**	**23 46 21.2**	**-1.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=76,slow=8.3,SNR=3.1						
WRA	**Warramunga Arr**	**49.80**	**127**	P	**P**	**23 46 23.8**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.4,baz=304,slow=9.0,SNR=33						
WRAB	**Tennant Creek**	**49.80**	**127**	*e*P	**P**	**23 46 24.2**	**+1.0**
	comp=Z,3.8nm,0.5s,mb4.7						
WRAB				*e*pP	pP	23 46 30.9	+0.7
WB2	**Warramunga Arr**	**49.80**	**127**	*e*P	**P**	**23 46 24.2**	**+0.9**
WB2				*e*pP	pP	23 46 31.1	+0.8
ASAR	**Alice Springs**	**51.60**	**132**	P	**P**	**23 46 37.4**	**+0.5**
	comp=Z,4.2nm,1.0s,mb4.3,baz=310,slow=7.2,SNR=31						
KIV	**Kislovodsk**	**55.41**	**317**	*e*P	**P**	**23 47 06.8**	**+1.9**
	comp=Z,17nm,1.1s,mb5.0						
KIV				*e*pP	pP	23 47 12.6	+0.7
KIV	**Kislovodsk**	**55.41**	**317**	*e*P	**P**	**23 47 06.8**	**+2.0**
KIV				*e**PP	pP	23 47 12.6	+0.7
KIV				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
BR131	**Keskin Array S**	**60.76**	**310**	*e*P	**P**	**23 47 42.5**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.4						
BR131				*e*pP	pP	23 47 48.4	-1.0
BRTR	**Keskin Array B**	**60.76**	**310**	P	**P**	**23 47 42.1**	**-0.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=105,slow=7.8,SNR=6.9						
STKA	**Stephens Creek**	**61.91**	**135**	*e*P	pP	23 47 57.6	+0.4
	comp=Z,2.9nm,1.0s						
OBN	**Obninsk**	**63.19**	**327**	P	**P**	**23 48 03.0**	**+4.4**
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.1						
MA2	**Magadan**	**64.43**	**28**	*e*P	**P**	**23 48 08.3**	**+1.6**
	comp=Z,11nm,1.1s,mb4.8						
MA2				*e*pP	pP	23 48 13.3	-0.6
MA2	**Magadan**	**64.43**	**28**	*e*P	pP	23 48 13.1	-0.8
MA2				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
TIXI	**Tiksi**	**64.65**	**12**	*e*P	**P**	**23 48 10.2**	**+2.0**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
SEY	**Seymchan**	**66.53**	**25**	*i* P	pP	23 48 26.3	-1.2
FINES	**FINESS Array B**	**70.41**	**332**	LR	LR	00 24 59.4	
	comp=Z,47nm,18.4s,MS3.8,baz=278,slow=40						
ARCES	**ARCESS Array B**	**72.81**	**340**	LR	LR	00 22 41.5	
	comp=Z,124nm,19.1s,MS4.2,baz=87,slow=37						
BILL	**Bilibino**	**73.64**	**22**	*i* P	pP	23 49 10.3	-0.9
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
NOA	**NORSAR Array B**	**77.46**	**330**	LR	LR	00 26 18.4	
	comp=Z,55nm,21.4s,MS3.8,baz=240,slow=38						
CASY	**Casey**	**77.53**	**173**	*e*P	**P**	**23 49 25.3**	**-1.0**
ILAR	**Eielson Array**	**92.30**	**22**	P	**P**	**23 50 39.8**	**-0.9**
	comp=Z,0.3nm,0.9s,mb3.6,baz=258,slow=4.3,SNR=3.4						

IDC 11 00:00:30.4±9.1, 951N×9221E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=461.3km s-min=29.5km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.11**	**349**	P	P	00 07 51.0	0.0
	0.3nm,0.6s,baz=152,slow=6.5,SNR=4.6						
WRA	**Warramunga Arr**	**50.76**	**125**	P	P	00 09 32.0	-0.2
	0.8nm,0.6s,baz=303,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**52.42**	**130**	P	P	00 09 45.7	+1.1
	1.0nm,0.7s,baz=304,slow=6.7,SNR=6.2						

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*IDC **11** 00:00:37.6±0.6, 937S×15923E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.4/14, mbtmp4.2/11, ML4.3/1, MS3.9/7, Ms1 3.9/7, ms1mx3.5/22, Error ellipse: s-maj=21.5km s-min=13.0km az=170.0*
*ISCJB **11** 00:00:41.2±0.5, 945S±01×15918E±006, h33km, mb4.2/15, MS3.9/5, Error ellipse: s-maj=16.1km s-min=7.2km az=151.8*
*NEIC **11** 00:00:42.9±0.4, 945S×15924E, h35km, mb4.5/8, Error ellipse: s-maj=15.5km s-min=7.7km az=146.0*
ISC 11 00:00:43.0±0.5, 94S±01×15925E±006, h35km, n35, σ0§83/24, mb4.2/15, MS3.9/5, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.69**	**91**	Pn	**Pn**	**00 00 55.1**	**-1.1**
	3μm,0.3s,baz=256,slow=3.3,SNR=304						
HNR				LR	LR	00 01 04.5	
	comp=Z,13μm,19.3s,baz=0.0,slow=38						
HNR				Sn	**Sn**	**00 01 05.9**	**+0.3**
	8μm,0.3s,baz=90,slow=20,SNR=79						
PMG	**Port Moresby**	**11.93**	**269**	LR	LR	00 07 47.5	
	comp=Z,830nm,19.4s,baz=228,slow=36						
DZM	**Mont Dzumac**	**14.35**	**152**	LR	LR	00 08 58.2	
	comp=Z,245nm,18.2s,baz=14,slow=35						
CTA	**Charters Tower**	**16.43**	**228**	*e*P	**Pn**	**00 04 35.1**	**+4.3**
	11nm,0.9s						
CTA	**Charters Tower**	**16.43**	**228**	Pn	**Pn**	**00 04 31.4**	**+0.6**
	0.7nm,0.3s,baz=57,slow=13,SNR=7.1						
CTA	**Charters Tower**	**16.43**	**228**	Pn	**Pn**	**00 04 31.4**	**+0.6**
CTAO	**Charters Tower**	**16.43**	**228**	*e*Pn	**Pn**	**00 04 29.9**	**-0.9**
	10nm,0.8s						
WRAB	**Tennant Creek**	**26.22**	**244**	*e*P	**P**	**00 06 14.6**	**+0.1**
	9.5nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**26.22**	**244**	⇓*i*P	**P**	**00 06 14.3**	**-0.2**
WRA	**Warramunga Arr**	**26.23**	**244**	P	**P**	**00 06 14.6**	**0.0**
	6.0nm,0.6s,mb4.3,baz=69,slow=10,SNR=62						
WRA				PcP	PcP	00 09 41.8	+1.1
	1.1nm,0.7s,baz=73,slow=2.8,SNR=7.6						
STKA	**Stephens Creek**	**27.70**	**214**	*e*P	**P**	**00 06 25.6**	**-2.2**
	1.6nm,0.3s,mb4.1						
STKA	**Stephens Creek**	**27.70**	**214**	P	**P**	**00 06 26.6**	**-1.2**
	2.0nm,0.4s,mb4.1,baz=47,slow=14,SNR=8.8						
STKA				LR	LR	00 17 55.9	
	comp=Z,258nm,19.2s,MS3.8,baz=19,slow=37						
ASAR	**Alice Springs**	**28.05**	**237**	P	**P**	**00 06 30.3**	**-0.7**
	2.8nm,0.6s,mb4.1,baz=66,slow=10.0,SNR=30						
AFI	**Afiamalu**	**28.71**	**102**	LR	LR	00 16 02.2	
	comp=Z,296nm,18.3s,MS3.9,baz=300,slow=32						
FITZ	**Fitzroy Crossi**	**33.72**	**252**	*e*P	**P**	**00 07 21.6**	**+0.7**
	6.0nm,0.8s,mb4.6						
MBWA	**Marble Bar**	**39.75**	**248**	*e*P	**P**	**00 08 12.8**	**+0.6**
	12nm,0.9s,mb4.6						
MJAR	**Matsushiro Arr**	**49.82**	**338**	LR	LR	00 25 15.7	
	comp=Z,78nm,21.9s,MS3.7,baz=230,slow=30						
PPT	**Papeete**	**50.29**	**105**	*e*LR	LR	00 24 29.1	
	18nm,22.8s						
PPT	**Papeete**	**50.29**	**105**	LR	LR	00 27 29.8	
	comp=Z,177nm,21.5s,MS4.0,baz=359,slow=32						
TBI	**Tubuai**	**50.86**	**112**	*e*LR	LR	00 24 46.0	
	122nm,25.2s						
ASAJ	**Asahikawa**	**55.39**	**345**	LR	LR	00 33 53.1	
	comp=Z,72nm,18.7s,MS3.8,baz=41,slow=36						
RKT	**Rikitea**	**64.13**	**111**	*e*LR	LR	00 30 55.5	
	155nm,30.5s						
VNDA	**Vanda**	**68.08**	**179**	P	**P**	**00 11 40.2**	**+1.1**
	2.4nm,1.0s,mb4.2,baz=358,slow=6.6,SNR=5.9						
VNDA	**Vanda**	**68.08**	**179**	*e*P	**P**	**00 11 40.3**	**+1.1**
	6.9nm,1.0s,mb4.6						
SONM	**Songino Array**	**73.67**	**326**	P	**P**	**00 12 13.4**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=134,slow=6.2,SNR=2.5						
BILL	**Bilibino**	**77.43**	**3**	*e*P	**P**	**00 12 34.4**	**-0.2**
	7.3nm,0.9s,mb4.6						
QSPA	**South Pole Qui**	**80.57**	**180**	P	**P**	**00 12 52.0**	**+0.2**
	1.3nm,0.8s,mb3.9						
ILAR	**Eielson Array**	**84.12**	**20**	P	**P**	**00 13 09.2**	**-1.2**
	0.7nm,0.5s,mb4.0,baz=248,slow=5.1,SNR=16						
MKAR	**Makanchi Array**	**88.01**	**318**	P	**P**	**00 13 29.0**	**-0.5**
	1.5nm,0.5s,mb4.4,baz=96,slow=5.9,SNR=32						
NVAR	**Mina Array Bea**	**89.93**	**51**	P	**P**	**00 13 40.5**	**+2.0**
	0.9nm,0.8s,mb4.2,baz=236,slow=5.0,SNR=6.0						
YKA	**Yellowknife Ar**	**96.50**	**28**	P	**P**	**00 14 08.3**	**-0.5**
	0.3nm,0.8s,mb3.8,baz=256,slow=4.5,SNR=5.5						
PDAR	**Pinedale Array**	**97.19**	**48**	P	**P**	**00 14 12.4**	**+0.5**
	0.3nm,0.6s,mb3.9,baz=305,slow=3.2,SNR=2.7						
SDV	**Santo Domingo**	**130.78**	**86**	*e*PKPdf	PKPdf	00 19 52.5	+2.0
GERES	**GERESS Array B**	**131.27**	**330**	PKP	PKPdf	00 19 51.6	+0.2
	0.3nm,0.6s,baz=48,slow=2.0,SNR=4.6						
SAML	**Samuel**	**133.97**	**112**	*e*PKPdf	PKPdf	00 19 58.4	+2.0

IDC 11 00:22:05.6±8.4, 1004N×9314E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=449.7km s-min=26.1km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.65**	**347**	*e*P	Pn	00 22 55.1	+19
PBA				*e*S	Sn	00 23 20.8	+23
PBA				*e*x	x	00 23 38.9	
	comp=N,593nm,0.8s						
PBA				*e*x	x	00 23 39.1	
	comp=E,548nm,0.8s						
MKAR	**Makanchi Array**	**37.77**	**348**	P	P	00 29 23.4	0.0
	comp=E,0.9nm,0.7s,baz=167,slow=8.0,SNR=14						
WRA	**Warramunga Arr**	**50.33**	**126**	P	P	00 31 04.1	0.0
	comp=E,0.6nm,0.6s,baz=305,slow=8.7,SNR=4.0						
ASAR	**Alice Springs**	**52.06**	**131**	P	P	00 31 17.9	+0.8
	comp=E,0.8nm,0.9s,baz=313,slow=7.5,SNR=5.8						

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*ISCJB **11** 00:23:57.3±0.3, 3933S±002×17610E±004, h90km±3km, mb5.1/3, Error ellipse: s-maj=5.2km s-min=3.5km az=62.3*
*BJI **11** 00:23:57.8, 3920S×176.10E, h85km, mB5.2, mb5.2, Ms5.0, Msz4.7*
*NEIC **11** 00:23:58.8, 3921S×176.10E, h85km, ML4.0(WEL), After WEL.*
*WEL **11** 00:23:59.0±0.1, 3920S×17609E, h83km±1km, ML4.1/18, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0*
ISC 11 00:23:57.9±0.3, 3933S±002×17610E±004, h88km±3km, n94, σ0§89/126, mb5.1/3, 20C-9D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.28**	**254**	⇑P*	**Pn**	**00 24 11.6**	**+0.7**
MOVZ				S*	**Sn**	**00 24 20.6**	**-0.1**
MOVZ	**Moawhango**	**0.28**	**254**	P	**Pn**	**00 24 11.6**	**+0.6**
MOVZ				S	**Sn**	**00 24 20.6**	**-0.1**
BKZ	**Black Stump Fm**	**0.34**	**62**	⇓P*	**Pn**	**00 24 12.1**	**+0.8**
BKZ				S*	**Sn**	**00 24 21.7**	**+0.4**
BKZ	**Black Stump Fm**	**0.34**	**62**	*e*P	**Pn**	**00 24 12.1**	**+0.8**
BKZ				S	**Sn**	**00 24 21.7**	**+0.4**
TUVZ	**Tukino**	**0.35**	**280**	⇑P*	**Pn**	**00 24 12.1**	**+0.7**
TUVZ				S*	**Sn**	**00 24 21.5**	**+0.1**
TUVZ	**Tukino**	**0.35**	**280**	P	**Pn**	**00 24 12.1**	**+0.7**
OTVZ	**Oturere**	**0.38**	**296**	⇑P*	**Pn**	**00 24 12.1**	**+0.6**
OTVZ				S*	**Sn**	**00 24 21.5**	**-0.1**
WNVZ	**Wahianoa**	**0.39**	**270**	⇑P*	**Pn**	**00 24 12.4**	**+0.8**
WNVZ				S*	**Sn**	**00 24 21.4**	**-0.4**
RITZ	**Rihia Road**	**0.40**	**331**	P*	**Pn**	**00 24 11.9**	**+0.2**
RITZ				S*	**Sn**	**00 24 21.6**	**-0.3**
RITZ	**Rihia Road**	**0.40**	**331**	P	**Pn**	**00 24 11.9**	**+0.2**
NGZ	**Ngauruhoe**	**0.42**	**291**	⇑P*	**Pn**	**00 24 12.4**	**+0.6**
NGZ				S*	**Sn**	**00 24 22.2**	**0.0**
NGZ	**Ngauruhoe**	**0.42**	**291**	P	**Pn**	**00 24 12.4**	**+0.6**
NGZ				S	**Sn**	**00 24 22.2**	**+0.1**
DRZ	**Dome Shelter**	**0.42**	**277**	⇓P*	**Pn**	**00 24 12.6**	**+0.8**
DRZ				S*	**Sn**	**00 24 22.3**	**+0.1**
DRZ	**Dome Shelter**	**0.42**	**277**	P	**Pn**	**00 24 12.6**	**+0.8**
KRVZ	**Karewarewa**	**0.43**	**303**	P*	**Pn**	**00 24 12.0**	**+0.1**
TRVZ	**Turoa**	**0.43**	**274**	⇑P*	**Pn**	**00 24 12.7**	**+0.8**
TRVZ				S*	**Sn**	**00 24 22.3**	**0.0**
FWVZ	**Far West T-bar**	**0.43**	**280**	⇓P*	**Pn**	**00 24 12.6**	**+0.7**
FWVZ				S*	**Sn**	**00 24 22.3**	**-0.1**
FWVZ	**Far West T-bar**	**0.43**	**280**	P	**Pn**	**00 24 12.6**	**+0.7**
HATZ	**Hinemaiaia**	**0.44**	**359**	⇓P*	**Pn**	**00 24 11.6**	**-0.3**
HATZ				S*	**Sn**	**00 24 20.8**	**-1.5**
HATZ	**Hinemaiaia**	**0.44**	**359**	P	**Pn**	**00 24 11.6**	**-0.3**
HATZ				S	**Sn**	**00 24 20.9**	**-1.5**
WPVZ	**Whakapapa**	**0.45**	**286**	P*	**Pn**	**00 24 12.4**	**+0.3**
WPVZ				S*	**Sn**	**00 24 22.6**	**+0.1**
WPVZ	**Whakapapa**	**0.45**	**286**	P	**Pn**	**00 24 12.4**	**+0.4**
WTVZ	**West Tongariro**	**0.45**	**298**	⇑P*	**Pn**	**00 24 12.1**	**0.0**
WTVZ				S*	**Sn**	**00 24 21.9**	**-0.6**
WTVZ	**West Tongariro**	**0.45**	**298**	P	**Pn**	**00 24 12.1**	**+0.1**
KATZ	**Kakaramea**	**0.47**	**318**	P*	**Pn**	**00 24 12.3**	**+0.1**
KATZ	**Kakaramea**	**0.47**	**318**	P	**Pn**	**00 24 12.3**	**+0.1**
MTVZ	**Mangateitei**	**0.49**	**263**	⇑P*	**Pn**	**00 24 13.1**	**+0.8**
MTVZ				S*	**Sn**	**00 24 23.6**	**+0.5**
RATZ	**Rangitukua**	**0.53**	**331**	⇓P*	**Pn**	**00 24 12.3**	**-0.4**
RATZ	**Rangitukua**	**0.53**	**331**	P	**Pn**	**00 24 12.3**	**-0.3**
TWVZ	**Taurewa**	**0.58**	**296**	P*	**Pn**	**00 24 13.0**	**-0.1**
TWVZ				S*	**Sn**	**00 24 23.0**	**-1.4**
TWVZ	**Taurewa**	**0.58**	**296**	P	**Pn**	**00 24 13.0**	**-0.1**
PKVZ	**Pokaka**	**0.59**	**274**	⇑P*	**Pn**	**00 24 13.7**	**+0.5**
WHTZ	**Whakaora**	**0.67**	**350**	P*	**Pn**	**00 24 13.8**	**-0.2**
WHTZ	**Whakaora**	**0.67**	**350**	P	**Pn**	**00 24 13.9**	**0.0**
WATZ	**Wairara**	**0.68**	**335**	⇓P*	**Pn**	**00 24 13.5**	**-0.6**
WATZ	**Wairara**	**0.68**	**335**	P	**Pn**	**00 24 13.5**	**-0.5**
TSZ	**Takapari Road**	**0.74**	**189**	⇑PN	**Pn**	**00 24 16.2**	**+1.6**
TSZ	**Takapari Road**	**0.74**	**189**	P	**Pn**	**00 24 16.2**	**+1.6**
PXZ	**Pawanui**	**0.91**	**140**	⇑PN	**Pn**	**00 24 18.4**	**+1.9**
PXZ				SN	**Sn**	**00 24 32.7**	**+2.4**
WAZ	**Wanganui**	**0.96**	**243**	⇑PN	**Pn**	**00 24 18.4**	**+1.4**
WAZ	**Wanganui**	**0.96**	**243**	P	**Pn**	**00 24 18.4**	**+1.4**
VRZ	**Vera Road**	**1.06**	**281**	⇑P*	**Pn**	**00 24 18.5**	**+0.3**
VRZ				S*	**Sn**	**00 24 32.6**	**-0.8**
VRZ	**Vera Road**	**1.06**	**281**	P	**Pn**	**00 24 18.5**	**+0.3**
KNZ	**Kokohu**	**1.26**	**76**	⇓PN	**Pn**	**00 24 21.1**	**+0.6**
KNZ	**Kokohu**	**1.26**	**76**	P	**Pn**	**00 24 21.1**	**+0.6**
HIZ	**Hauiti**	**1.27**	**310**	PN	**Pn**	**00 24 20.3**	**-0.3**
HIZ	**Hauiti**	**1.27**	**310**	*e*P	**Pn**	**00 24 20.3**	**-0.3**
RAEZ	**Rainy Point**	**1.33**	**271**	⇑PN	**Pn**	**00 24 22.4**	**+1.0**
URZ	**Urewera**	**1.33**	**37**	⇓P*	**Pn**	**00 24 20.8**	**-0.5**
URZ				S*	**Sn**	**00 24 37.4**	**-1.6**
URZ	**Urewera**	**1.33**	**37**	P	**Pn**	**00 24 20.8**	**-0.5**
BFZ	**Birch Farm**	**1.35**	**175**	⇑PN	**Pn**	**00 24 23.1**	**+1.4**
BFZ	**Birch Farm**	**1.35**	**175**	P	**Pn**	**00 24 23.1**	**+1.4**
MRZ	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.91**	**258**	P	**Pn**	**00 32 00.4**	**-0.8**
NEM2				*e*S	**Sn**	**00 32 34.1**	**-0.9**
JRA	**Rausu**	**3.27**	**270**	P	**Pn**	**00 32 06.8**	**+0.6**
JRA				*e*S	**Sn**	**00 32 45.1**	**+1.2**
JNK	**Nakash**	**3.60**	**265**	P	**Pn**	**00 32 10.8**	**+0.1**
JNK				*e*S	**Sn**	**00 32 52.0**	**0.0**
JAK	**Akkeshi**	**3.75**	**256**	P	**Pn**	**00 32 12.3**	**-0.5**
JAK				*e*S	**Sn**	**00 32 55.2**	**-0.5**
JTKR	**Abashiri--Toko**	**4.15**	**271**	P	**Pn**	**00 32 18.6**	**+0.4**
JAR	**Ashorobuto**	**4.33**	**262**	P	**Pn**	**00 32 21.2**	**+0.4**
JAR				*e*S	**Sn**	**00 33 09.4**	**-0.6**
JCH	**Churui**	**4.80**	**255**	P	**Pn**	**00 32 27.7**	**+0.5**
JCH				*e*S	**Sn**	**00 33 21.3**	**-0.3**
JEM	**Erimo**	**5.17**	**249**	P	**Pn**	**00 32 34.4**	**+2.1**
JEM				*e*S	**Sn**	**00 33 34.4**	**+3.8**
JNBK	**Urakawa-nobuka**	**5.34**	**253**	P	**Pn**	**00 32 36.6**	**+2.0**
JNBK				*e*S	**Sn**	**00 33 37.4**	**+2.5**
JBT2	**Biratori 2**	**5.46**	**259**	P	**Pn**	**00 32 36.6**	**+0.4**
JNB	**Noboribetsu**	**6.48**	**259**	P	**Pn**	**00 32 50.7**	**+0.4**
JKB	**Kayabe**	**6.68**	**254**	P	**Pn**	**00 32 52.5**	**-0.5**
JKB				*e*S	**Sn**	**00 34 04.4**	**-3.4**
JTH	**Tanohata**	**7.09**	**238**	*e*S	**Sn**	**00 34 14.7**	**-3.4**
JTM	**Tenmabayashi**	**7.13**	**246**	*e*S	**Sn**	**00 34 14.3**	**-4.7**
INK	**Inuvik**	**45.25**	**31**	P	**P**	**00 39 32.8**	**+1.4**
	0.6nm,0.5s,mb3.7,baz=294,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**46.06**	**298**	P	**P**	**00 39 37.0**	**-0.7**
	1.2nm,0.7s,mb4.0,baz=71,slow=8.2,SNR=15						
FINES	**FINESS Array B**	**65.44**	**334**	P	**P**	**00 41 54.4**	**-2.3**
	1.0nm,0.5s,mb4.1,baz=33,slow=8.0,SNR=13						
NB2	**NORSAR Subarra**	**69.99**	**340**	P	**P**	**00 42 23.5**	**-1.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.99**	**340**	P	**P**	**00 42 23.3**	**-2.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=31,slow=6.2,SNR=3.4						

IDC 11 01:16:05.9±7.7,1097N×9143E,h0km,mb3.8/3,mb1 4.1/3, mb1mx3.5/21,mbtmp3.8/3,MS3.8/2,Ms1 3.8/2, ms1mx2.9/24,Error ellipse: s-maj=389.1km s-min=28.7km az=60.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.46**	**62**	*e*P	Pn	01 17 12.7	+39
PBA				*e*S	Sg	01 17 36.5	+44
PBA				*ex*	x	01 17 46.8	
	comp=N,329nm,0.4s						
PBA				*ex*	x	01 17 48.0	
	comp=E,327nm,0.4s						
PSI	**Prapat**	**11.01**	**137**	LR	LR	01 23 01.1	
	comp=E,72nm,18.8s,baz=310,slow=38						
MKAR	**Makanchi Array**	**36.54**	**349**	P	P	01 23 13.2	0.0
	comp=E,0.1nm,0.4s,baz=163,slow=8.5,SNR=5.0						
WRA	**Warramunga Arr**	**52.23**	**126**	P	P	01 25 18.6	-0.1
	comp=E,1.8nm,0.7s,baz=305,slow=8.7,SNR=19						
ASAR	**Alice Springs**	**53.94**	**130**	P	P	01 25 32.3	+1.0
	comp=E,2.2nm,0.7s,baz=310,slow=6.7,SNR=25						
TSUM	**Tsumeb**	**78.67**	**248**	LR	LR	01 59 58.5	
	comp=E,329nm,18.4s,baz=0.0,slow=34						

IDC 11 01:47:54.8±1.8,352N×12702E,h0km,mb3.7/4,mb1 3.8/4, mb1mx3.6/18,mbtmp3.7/4,Error ellipse: s-maj=146.6km s-min=23.2km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.40**	**163**	P	P	01 53 15.3	+0.5
	1.9nm,0.7s,baz=342,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**27.84**	**166**	P	P	01 53 47.5	+1.6
	0.1nm,0.3s,baz=340,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**37.83**	**160**	P	P	01 55 11.9	-1.1
	2.0nm,0.8s,baz=340,slow=14,SNR=2.6						
MKAR	**Makanchi Array**	**57.89**	**325**	P	P	01 57 48.6	+0.1
	0.5nm,0.6s,baz=119,slow=7.3,SNR=9.9						

*IDC **11** 02:06:05.9±1.3,1047N×9387E,h0km,mb3.8/7,mb1 4.0/7, mb1mx3.7/21,mbtmp3.8/7,MS3.6/2,Ms1 3.6/2, ms1mx3.0/21,Error ellipse: s-maj=44.2km s-min=20.0km az=55.0*

*ISCJB **11** 02:06:08.8±1.0,104N±02×939E±02,h33km,mb3.8/9, MS3.8/1,Error ellipse: s-maj=35.1km s-min=11.6km az=102.7*

*NEIC **11** 02:06:09.9±0.9,1044N×9397E,mb4.2/7,Error ellipse: s-maj=29.8km s-min=10.1km az=51.0*

ISC 11 02:06:11.5±1.0,105N±02×939E±02,h35km,n19,σ0967/16, mb3.8/9,MS3.8/1,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.64**	**316**	*e*P	Px	02 06 59.1	
PBA				*e*S	Sx	02 07 25.8	
PBA				*ex*	x	02 07 28.9	
	comp=N,1μm,1.3s						
PBA				*ex*	x	02 07 34.0	
	comp=E,929nm,1.0s						
PSI	**Prapat**	**9.10**	**147**	LR	LR	02 12 32.6	
	comp=E,282nm,18.2s,baz=165,slow=42						
JIRN	**Jiri**	**18.58**	**338**	*e*P	**Pn**	**02 10 26.6**	**+0.7**
	comp=E,36nm,1.0s						
PKI	**Pulchoki**	**18.80**	**336**	*e*P	**Pn**	**02 10 28.8**	**+0.3**
	comp=E,48nm,1.1s						
GUN	**Gumba**	**18.92**	**338**	*e*P	**Pn**	**02 10 30.5**	**+0.5**
	comp=E,47nm,1.1s						
DMN	**Daman**	**18.95**	**335**	*e*P	**Pn**	**02 10 30.6**	**+0.2**
	comp=E,39nm,1.1s						
KKN	**Kakani**	**19.04**	**336**	*e*P	**Pn**	**02 10 32.4**	**+0.9**
GKN	**Gorkha**	**19.50**	**335**	*e*P	**Pn**	**02 10 36.6**	**-0.3**
KOLN	**Koldanda**	**19.75**	**332**	*e*P	**Pn**	**02 10 39.6**	**-0.3**
	comp=E,24nm,0.9s						
AAK	**Ala-Archa**	**36.25**	**335**	*e*P	**P**	**02 13 10.9**	**-0.3**
	comp=E,4.7nm,1.2s,mb4.3						
AAK				*e*pP	pP	02 13 18.2	-3.1
MKAR	**Makanchi Array**	**37.52**	**347**	P	**P**	**02 13 21.3**	**-0.7**
	comp=E,1.0nm,0.7s,mb3.6,baz=165,slow=8.5,SNR=12						
SONM	**Songino Array**	**38.69**	**13**	P	**P**	**02 13 30.6**	**-1.3**
	comp=E,0.3nm,0.3s,mb3.5,baz=194,slow=4.0,SNR=3.9						
KURK	**Kurchatov**	**42.05**	**345**	*e*P	**P**	**02 13 58.9**	**-0.8**
	comp=E,0.7nm,0.6s,mb3.5						
KURK				*e*pP	pP	02 14 06.2	-3.7
ZAL	**Zalesovo**	**43.96**	**352**	P	**P**	**02 14 14.5**	**-0.6**
	comp=E,1.1nm,0.3s,mb4.1,baz=309,slow=12,SNR=7.4						
MJAR	**Matsushiro Arr**	**47.62**	**50**	P	**P**	**02 14 45.3**	**+1.3**
	comp=E,0.9nm,0.4s,mb4.2,baz=217,slow=6.8,SNR=4.8						
WRA	**Warramunga Arr**	**49.97**	**127**	P	**P**	**02 15 01.7**	**-0.3**
	comp=E,0.6nm,0.6s,mb3.8,baz=305,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**51.77**	**131**	P	**P**	**02 15 16.0**	**+0.4**
	comp=E,1.0nm,0.8s,mb3.8,baz=311,slow=7.3,SNR=10						
BRTR	**Keskin Array B**	**60.59**	**310**	P	**P**	**02 16 18.8**	**+0.2**
	comp=E,0.5nm,0.8s,mb3.7,baz=139,slow=11,SNR=3.8						
ARCES	**ARCESS Array B**	**72.76**	**340**	LR	LR	02 52 46.9	
	comp=E,51nm,20.6s,MS3.8,baz=255,slow=38						

*CSEM **11** 03:04:18.8,2415S×17699W,h33km,mb5.8*

*SZGRF **11** 03:04:24.1,2381S×17894E,h33km,South of Fiji Islands*

*ISCJB **11** 03:05:25.0±1.0,2274S±007×17963W±005,h563km±14km, mb4.6/42,Error ellipse: s-maj=10.8km s-min=6.9km az=141.9*

*BJI **11** 03:05:26.3,2260S×17960W,h561km,mB5.0,mb4.5*

*NEIC **11** 03:05:26.4±0.8,2259S×17960W,h571km±9km,mb4.7/25, Error ellipse: s-maj=9.3km s-min=6.3km az=147.0*

*IDC **11** 03:05:27.6±1.0,2265S×17968W,h581km±10km,mb4.0/14, mb1 4.1/15,mb1mx4.1/17,mbtmp4.9/15,Error ellipse: s-maj=13.8km s-min=10.0km az=168.0*

*MOS **11** 03:05:28.1±3.3,2271S×17993W,h563km,mb4.6/4,Error ellipse: s-maj=13.6km s-min=11.5km az=175.8*

ISC 11 03:05:28.1±1.1,2277S±007×17961W±005,h588km±13km, h552km±5.3km;pP-P,n172,σ0991/93,mb4.7/42,12C-15D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.53**	**41**	P	**P**	**03 07 56.7**	**-5.2**
	10nm,0.3s,baz=55,slow=5.9,SNR=8.9						
AFI				S	**S**	**03 09 55.6**	**-13**
	2.2nm,0.3s,baz=48,slow=15,SNR=2.7						
AFI	**Afiamalu**	**11.53**	**41**	*e*P	**P**	**03 07 56.2**	**-5.8**
	33nm,0.6s						
DZM	**Mont Dzumac**	**12.92**	**270**	P	**P**	**03 08 15.8**	**-0.2**
	1.5nm,0.3s,baz=82,slow=18,SNR=14						
URZ	**Urewera**	**15.70**	**190**	P	**P**	**03 08 39.6**	**-3.5**
	2.7nm,0.3s,baz=359,slow=2.6,SNR=22						
URZ				S	**S**	**03 11 13.5**	**-8.6**
	1.6nm,0.3s,baz=190,slow=22,SNR=8.7						
RPZ	**Rata Peaks**	**22.27**	**198**	P	**P**	**03 09 42.5**	**-0.2**
	7.3nm,0.4s,mb4.7,baz=12,slow=6.6,SNR=7.2						
TBI	**Tubuai**	**27.73**	**97**	*e*P	**P**	**03 10 30.6**	**-0.1**
	93nm,1.1s,mb5.3						
RIV	**Riverview**	**27.91**	**240**	*e*P	**P**	**03 10 33.8**	**+1.5**
PAE	**Paea**	**28.61**	**85**	*e*P	**P**	**03 10 38.0**	**-0.4**
	49nm,1.0s,mb5.1						
PPT	**Papeete**	**28.64**	**85**	*e*P	**P**	**03 10 38.3**	**-0.3**
	50nm,1.3s,mb5.0						
PPT	**Papeete**	**28.64**	**85**	P	**P**	**03 10 39.1**	**+0.4**
	22nm,0.6s,mb4.9,baz=234,slow=17,SNR=3.6						
TVO	**Taravao**	**28.88**	**86**	*e*P	**P**	**03 10 40.2**	**-0.5**
	33nm,0.8s,mb5.0						
TVO				*e*pP		03 12 11.6	
	24nm,0.8s						
CNB	**Canberra Magne**	**29.74**	**238**	*e*P	**P**	**03 10 49.3**	**+1.2**
	96nm,0.6s,mb5.6						
VAH	**Vaihoa**	**31.11**	**82**	*e*P	**P**	**03 10 59.2**	**-0.6**
	46nm,0.8s,mb5.2						
CTA	**Charters Tower**	**31.85**	**268**	⇓*i*P	**P**	**03 11 06.7**	**+0.6**
	46nm,0.5s,mb5.4						
CTA	**Charters Tower**	**31.85**	**268**	P	**P**	**03 11 06.8**	**+0.7**
	65nm,0.6s,mb5.5,baz=96,slow=10,SNR=108						
CTA	**Charters Tower**	**31.85**	**268**	⇓*i*P	**P**	**03 11 06.7**	**+0.6**
CTA				pmax	pmax		
	comp=Z,46nm,0.5s						
CTAO	**Charters Tower**	**31.85**	**268**	*e*P	**P**	**03 11 06.6**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,58nm,0.6s,mb5.4						
CTAO	**Charters Tower**	**31.85**	**268**	*e*P	**P**	**03 11 06.6**	**+0.4**
	comp=Z,58nm,0.6s,mb5.4						
TOO	**Toolangi**	**33.37**	**236**	*e*P	**P**	**03 11 19.6**	**+0.6**
	comp=Z,60nm,0.6s,mb5.4						
TOO	**Toolangi**	**33.37**	**236**	*e*P	**P**	**03 11 19.6**	**+0.6**
TOO				pmax	pmax		
	comp=Z,60nm,0.6s,mb5.4						
PMG	**Port Moresby**	**34.48**	**287**	P	**P**	**03 11 28.6**	**+0.4**
	comp=Z,54nm,0.8s,mb5.3,baz=94,slow=5.2,SNR=14						
PMG	**Port Moresby**	**34.48**	**287**	*c i*P	**P**	**03 11 28.7**	**+0.4**
PMG	**Port Moresby**	**34.48**	**287**	*e*P	**P**	**03 11 27.8**	**-0.4**
	comp=Z,53nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**35.48**	**247**	⇓*i*P	**P**	**03 11 35.3**	**-1.3**
	comp=Z,31nm,0.4s,mb5.3						
STKA				*e*SCP	ScP	03 16 42.0	+2.4
	comp=Z,4.5nm,0.9s						
STKA	**Stephens Creek**	**35.48**	**247**	P	**P**	**03 11 35.4**	**-1.2**
	comp=Z,54nm,0.6s,mb5.4,baz=93,slow=9.5,SNR=91						
STKA				ScP	ScP	03 16 41.1	+1.5
	comp=Z,3.9nm,0.7s,baz=52,slow=1.8,SNR=5.1						
AS31	**Alice Springs**	**42.58**	**259**	⇓*i*P	**P**	**03 12 33.5**	**0.0**
AS31				*e*S	**S**	**03 18 14.3**	**-0.2**
ASAR	**Alice Springs**	**42.58**	**259**	P	**P**	**03 12 33.8**	**+0.2**
	comp=Z,47nm,0.7s,mb5.1,baz=95,slow=7.8,SNR=364						
ASAR				PcP	PcP	03 14 12.6	+0.6
	comp=Z,6.1nm,0.7s,baz=99,slow=4.2,SNR=6.8						
ASAR				S	**S**	**03 18 14.8**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=100,slow=14,SNR=7.0						
ASPA	**Alice Springs**	**42.59**	**259**	⇓*i*P	**P**	**03 12 33.5**	**-0.1**
ASPA				*e*S	**S**	**03 18 14.3**	**-0.3**
WB2	**Warramunga Arr**	**42.84**	**265**	⇓*i*P	**P**	**03 12 35.1**	**-0.4**
WB2				*e*S	**S**	**03 18 16.2**	**-2.0**
WRAB	**Tennant Creek**	**42.84**	**265**	⇑*e*P	**P**	**03 12 35.0**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,75nm,0.6s,mb5.4						
WRAB	**Tennant Creek**	**42.84**	**265**	⇑*e*P	**P**	**03 12 35.0**	**-0.5**
	comp=Z,75nm,0.6s,mb5.4						
WRA	**Warramunga Arr**	**42.85**	**265**	P	**P**	**03 12 35.2**	**-0.4**
	comp=Z,60nm,0.7s,mb5.3,baz=101,slow=8.3,SNR=97						
WRA				PcP	PcP	03 14 14.0	+1.1
	comp=Z,3.3nm,0.8s,baz=103,slow=3.8,SNR=4.8						
WRA				ScP	ScP	03 17 11.8	+3.4
	comp=Z,4.0nm,0.8s,baz=95,slow=4.1,SNR=9.3						
WRA				S	**S**	**03 18 17.0**	**-1.4**
	comp=Z,3.9nm,0.8s,baz=99,slow=14,SNR=8.0						
WRA	**Warramunga Arr**	**42.85**	**265**	P	**P**	**03 12 35.2**	**-0.4**
WRA					pP	03 14 14.0	-4.5
WRA				S	**S**	**03 18 17.0**	**-1.4**
KAKA	**Kakadu**	**46.58**	**274**	⇓*i*P	**P**	**03 13 03.7**	**-0.4**
	comp=Z,61nm,0.4s,mb5.5						
FITZ	**Fitzroy Crossi**	**51.28**	**265**	⇓*i*P	**P**	**03 13 38.5**	**-0.3**
	comp=Z,43nm,0.8s,mb4.9						
VNDA	**Vanda**	**55.53**	**185**	P	**P**	**03 14 09.9**	**+1.1**
	comp=Z,4.3nm,0.7s,mb3.8,baz=357,slow=7.8,SNR=19						
VNDA	**Vanda**	**55.53**	**185**	*e*P	**P**	**03 14 10.0**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VNDA	**Vanda**	**55.53**	**185**	*e*P	**P**	**03 14 10.0**	**+1.3**
	comp=Z,4.6nm,0.7s,mb3.8						
KLBR	**Kellerberrin**	**55.76**	**246**	⇓*i*P	**P**	**03 14 10.0**	**-0.3**
	comp=Z,45nm,0.7s,mb4.8						
MBWA	**Marble Bar**	**55.93**	**259**	⇓*e*P	**P**	**03 14 11.1**	**-0.3**
	comp=Z,39nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**56.03**	**245**	P	**P**	**03 14 12.2**	**0.0**
	comp=Z,9.6nm,0.5s,mb4.3,baz=133,slow=10,SNR=18						
MUN	**Mundaring**	**57.01**	**246**	*e*P	**P**	**03 14 19.3**	**+0.4**
CASY	**Casey**	**61.28**	**206**	*e*P	**P**	**03 14 47.0**	**-0.4**
QSPA	**South Pole Qui**	**67.31**	**180**	*e*P	**P**	**03 15 26.2**	**+0.8**
	comp=Z,10nm,0.7s,mb4.4						
KKM	**Kota Kinabalu**	**68.92**	**286**	*e*P	**P**	**03 15 35.6**	**+0.5**
MJAR	**Matsushiro Arr**	**71.17**	**325**	P	**P**	**03 15 48.0**	**-0.5**
	comp=Z,5.4nm,0.8s,mb4.2,baz=158,slow=6.1,SNR=16						
MAJO	**Matsushiro**	**71.17**	**325**	*e*P	**P**	**03 15 47.0**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
MAJO	**Matsushiro**	**71.17**	**325**	*e*P	**P**	**03 15 47.0**	**-1.5**
	comp=Z,8.4nm,0.8s,mb4.3						
KSM	**Kuching**	**72.27**	**279**	*e*P	**P**	**03 15 55.3**	**+0.5**
NACB	**Ninganchiao**	**73.73**	**306**	P	**P**	**03 16 00.3**	**-2.9**
FX1	**Attu Island--F**	**75.59**	**355**	P	**P**	**03 16 12.0**	**-1.6**
YSS	**Yuzh-Sakhalins**	**77.27**	**335**	⇑*e*P	**P**	**03 16 24.8**	**+2.1**
YSS				pmax	pmax		
	comp=Z,63nm,2.1s,mb4.7						
SSE	**Sheshan**	**78.02**	**311**	*e*P	**P**	**03 16 26.7**	**0.0**
SSE				AMB	AMB		
	comp=Z,36nm,0.6s,mb5.0						
NJ2	**Nanjing**	**80.19**	**311**	*e*P	**P**	**03 16 39.6**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
MDJ	**Mudanjiang**	**81.53**	**326**	P	**P**	**03 16 45.9**	**+0.8**
MDJ				AP	pP	03 18 43.3	-6.1
MDJ				XP	sP	03 19 38.9	-10
MDJ				PP	PP	03 20 02.3	-0.1
MDJ				S	S	03 26 11.6	+2.5
MDJ				XS	sS	03 29 44.1	-6.5
MDJ				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,87nm,4.3s						
HABR	**Khabarovsk**	**81.69**	**331**	*e*P	**P**	**03 16 47.4**	**+1.5**
KULM	**Kulim**	**82.62**	**279**	*e*P	**P**	**03 16 51.0**	**+0.4**
CN2	**Changchun**	**83.19**	**323**	*e*P	**P**	**03 16 54.2**	**+0.7**
CN2				*e*AP	pP	03 18 55.0	-3.4
CN2				*e*S	S	03 26 29.2	+3.6
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
PSI	**Prapat**	**83.21**	**276**	P	**P**	**03 16 54.1**	**+0.6**
	comp=Z,11nm,0.7s,mb4.5,baz=173,slow=5.5,SNR=10						
NVAR	**Mina Array Bea**	**83.69**	**44**	P	**P**	**03 16 57.1**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=230,slow=7.0,SNR=3.8						
NVAR				pP	pP	03 19 01.2	+0.1
	comp=Z,0.3nm,0.7s,baz=236,slow=6.4,SNR=2.9						
SYO	**Syowa Base**	**84.19**	**193**	⇑*e*P	**P**	**03 16 57.6**	**-0.8**
SYO	**Syowa Base**	**84.19**	**193**	⇓*e*pcP		03 17 01.4	
TUC	**Tucson**	**85.55**	**52**	*e*P	**P**	**03 17 06.3**	**+1.3**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
TUC	**Tucson**	**85.55**	**52**	*e*P	**P**	**03 17 06.2**	**+1.3**
	comp=Z,1.7nm,0.8s,mb3.7						
MA2	**Magadan**	**85.58**	**345**	*e*P	**P**	**03 17 04.3**	**-0.8**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
MA2	**Magadan**	**85.58**	**345**	*e*P	**P**	**03 17 04.1**	**-1.0**
	comp=Z,5.0nm,0.6s,mb4.3						
SNAA	**Sanae**	**85.79**	**179**	*e*P	**P**	**03 17 04.7**	**-1.4**
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SNAA	**Sanae**	**85.79**	**179**	*e*P	**P**	**03 17 04.7**	**-1.4**
	comp=Z,2.6nm,0.6s,mb4.0						
VNA3	**Neumayer Olymp**	**85.98**	**177**	*e*P	**P**	**03 17 06.6**	**-0.4**
VNA3				*e*		03 17 08.4	
VNA3				*e*		03 17 15.6	
VNA3				*e*		03 17 19.2	
ENH	**Enshi**	**86.08**	**305**	*e*P	**P**	**03 17 08.1**	**+0.6**
	comp=Z,26nm,1.2s,mb4.7						
VNA2	**Neumayer--Watz**	**86.40**	**177**	*e*P	**P**	**03 17 08.8**	**-0.2**
	baz=186,slow=4.6						
VNA2				*e*		03 17 10.2	
VNA2				*e*		03 17 17.2	
VNA2				*e*		03 17 20.9	
DUG	**Dugway**	**88.21**	**45**	*e*P	**P**	**03 17 17.7**	**+0.2**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
DUG	**Dugway**	**88.21**	**45**	*e*P	**P**	**03 17 17.7**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.6						
SEY	**Seymchan**	**88.24**	**348**	⇑*e*P	**P**	**03 17 16.9**	**-0.7**
PLCA	**Paso Flores**	**88.79**	**134**	P	**P**	**03 17 21.2**	**+1.0**
	comp=Z,1.9nm,1.0s,mb3.9,baz=202,slow=4.8,SNR=3.5						
HLID	**Hailey**	**89.01**	**41**	*e*P	**P**	**03 17 21.4**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.8						
HHC	**Hu-ho-hao-te**	**89.87**	**315**	*e*P	**P**	**03 17 26.6**	**+1.4**
HHC				AP	pP	03 19 26.2	-6.3
HHC				XP	sP	03 20 19.8	-11
HHC				PP	PP	03 21 12.0	+3.3
HHC				SKS		03 27 05.0	
HHC				S		03 27 31.8	
HHC				XS	sS	03 31 03.4	-12
HHC				SS	SS	03 33 47.0	+2.9
HHC				AMB	AMB		
	comp=Z,113nm,5.0s						
ILAR	**Eielson Array**	**90.85**	**13**	P	**P**	**03 17 27.9**	**-1.9**
	comp=Z,0.8nm,0.8s,mb3.7,baz=215,slow=7.0,SNR=9.0						
ILAR				PKKP	PKKPbc	03 34 49.9	-1.0
	comp=Z,0.2nm,0.6s,baz=356,slow=1.9,SNR=5.0						
BILL	**Bilibino**	**91.14**	**355**	*e*P	**P**	**03 17 29.6**	**-1.4**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BILL	**Bilibino**	**91.14**	**355**	*e*P	**P**	**03 17 29.6**	**-1.4**
	comp=Z,2.7nm,0.8s,mb4.2						
SMCO	**Snowmass**	**91.61**	**48**	*e*P	**P**	**03 17 33.1**	**-0.1**
	comp=Z,0.8nm,0.5s,mb4.0						
PDAR	**Pinedale Array**	**91.63**	**44**	P	**P**	**03 17 32.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=180,slow=2.5,SNR=3.9						
SDCO	**Great Sand Dun**	**91.96**	**50**	*e*P	**P**	**03 17 35.2**	**+0.4**
	comp=Z,1.0nm,0.4s,mb4.2						
LZH	**Lanzhou**	**92.96**	**308**	P	**P**	**03 17 41.1**	**+1.7**
LZH				AP	pP	03 19 42.7	-4.4
LZH				XP	sP	03 20 37.5	-8.1
LZH				PP	PP	03 21 38.0	+5.4
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,72nm,8.5s						
ULN	**Ulaanbaatar**	**96.10**	**320**	*e*P	**P**	**03 17 52.9**	**-0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**96.10**	**320**	*e*P	**P**	**03 17 52.9**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**99.19**	**25**	PKKPbc	PKKPbc	03 34 28.2	-0.8
	comp=Z,0.1nm,0.5s,baz=49,slow=2.3,SNR=4.5						
MKAR	**Makanchi Array**	**111.65**	**313**	PKiKP	PKiKP	03 22 55.5	-1.1
	comp=Z,0.9nm,0.5s,baz=157,slow=0.9,SNR=14						
MKAR				SKP		03 25 37.5	
	comp=Z,0.4nm,0.6s,baz=85,slow=1.3,SNR=4.6						
KURK	**Kurchatov**	**114.63**	**317**	PKiKP	PKPdf	03 23 01.1	-1.2
BVAR	**Borovoye Array**	**119.83**	**319**	PKP	PKPdf	03 23 11.0	-1.3
	comp=Z,2.2nm,0.5s,baz=113,slow=1.7,SNR=18						
BVAR				SKP		03 25 52.8	
	comp=Z,0.9nm,0.9s,baz=106,slow=2.1,SNR=3.8						
BRVK	**Borovoye**	**119.89**	**319**	*e*PKiKP	PKPdf	03 23 10.7	-1.7
ZRNK	**Zerenda**	**120.66**	**319**	*e*PKiKP	PKPdf	03 23 12.4	-1.5
SCHQ	**Schefferville**	**121.37**	**39**	PKP	PKPdf	03 23 13.7	-1.6
	comp=Z,1.3nm,0.7s,baz=270,slow=2.0,SNR=3.2						
BOSA	**Boshof**	**123.57**	**206**	PKP	PKPdf	03 23 20.3	+0.8
	comp=Z,1.1nm,0.7s,baz=193,slow=8.0,SNR=3.6						
ARU	**Arti**	**126.18**	**324**	*i* PKiKP	PKPdf	03 23 23.2	-1.3
ARU				*e*		03 25 27.0	
ARU	**Arti**	**126.18**	**324**	*e*PKPdf	PKPdf	03 23 24.0	-0.5
LBTB	**Lobatse**	**126.57**	**209**	*e*PKiKP	PKPdf	03

PVCC			*e*PKPab	PKPab	03 24 22.5	+0.4
VYHS	**Vyhne**	**150.43 335**	*e*PKP	PKPbc	03 24 14.2	+0.2
VYHS			*e*		03 24 23.6	
PSZ	**Piszkesteto**	**150.46 333**	*e*PKIKP	PKPbc	03 24 13.0	-1.0
PRU	**Pruhonice**	**150.64 341**	*e*PKPbc	PKPbc	03 24 13.9	-0.6
PRU			*e*PKPab	PKPab	03 24 24.5	+0.4
MOX	**Moxa**	**150.82 345**	*e*PKPbc	PKPbc	03 24 14.6	-0.3
MOX	**Moxa**	**150.82 345**	*e*PKP	PKPbc	03 24 14.7	-0.2
	comp=Z,12nm,1.1s					
MOX	**Moxa**	**150.82 345**	*e*PKIKP	PKPbc	03 24 14.7	-0.2
MOX			pmax	pmax		
	comp=Z,12nm,1.1s					
WERD	**Werda**	**150.84 344**	*e*PKPbc	PKPbc	03 24 15.0	+0.1
TREC	**Trest**	**150.96 339**	*e*PKPbc	PKPbc	03 24 15.2	0.0
TREC			*e*PKPab	PKPab	03 24 25.4	0.0
NKC	**Novy Kostel**	**151.00 344**	*e*PKPbc	PKPbc	03 24 15.2	-0.1
NKC			*e*PKPab	PKPab	03 24 25.4	-0.2
MANZ	**Manzenberg**	**151.31 344**	*e*PKPbc	PKPbc	03 24 16.4	+0.4
BZS	**Buzias**	**151.40 328** ⇑P		PKPbc	03 24 15.0	-1.2
ROTZ	**Rotzenmuhle**	**151.49 344**	*e*PKPbc	PKPbc	03 24 16.6	+0.2
KHC	**Kasperske Hory**	**151.69 342**	*e*PKPbc	PKPbc	03 24 16.0	-0.8
KHC			*e*PKPab	PKPab	03 24 28.6	+0.1
GRF	**Grafenberg Arr**	**151.81 345**	*e*PKPbc	PKPbc	03 24 17.8	+0.7
TNS	**Taunus Mts**	**151.88 349**	*e*PKPbc	PKPbc	03 24 17.5	+0.3
GEC2	**GERESS Array B**	**151.91 341**	*e*PKPbc	PKPbc	03 24 17.3	0.0
GERES	**GERESS Array B**	**151.91 341**	PKP	PKPdf	03 24 10.8	+0.6
	comp=Z,0.3nm,0.4s,baz=35,slow=2.4,SNR=3.0					
GERES			PKPbc	PKPbc	03 24 17.3	0.0
	comp=Z,1.9nm,0.8s,baz=48,slow=2.0,SNR=14					
GERES			PKPab	PKPab	03 24 28.6	-0.9
	comp=Z,1.1nm,0.6s,baz=28,slow=3.2,SNR=6.1					
WLF	**Walferdange**	**152.78 352**	*e*PKPbc	PKPbc	03 24 19.8	+0.6
CDF	**Champ du Feu**	**153.83 350**	*e*PKP2	PKPab	03 24 37.5	-0.1
LDF	**La Druitiere**	**154.23 1**	*e*PKP2	PKPab	03 24 37.3	-2.1
HAU	**Haudompre**	**154.37 351**	*e*PKP2	PKPab	03 24 40.2	+0.2
	comp=Z,6.7nm,0.7s					
HINF	**Hinteralfeld**	**154.47 350**	*e*PKP2	PKPab	03 24 39.4	-1.0
SSF	**Saint Saulge**	**155.63 355**	*e*PKP2	PKPab	03 24 44.2	-1.2
	comp=Z,13nm,0.8s					
AVF	**Avril sur Loir**	**155.91 355**	*e*PKP2	PKPab	03 24 45.7	-0.9
SMF	**Signal de Mont**	**156.01 354**	*e*PKP2	PKPab	03 24 46.2	-0.9
	comp=Z,17nm,1.0s					
LPL	**La Plagne**	**156.72 349**	*e*PKP2	PKPab	03 24 50.3	+0.2
MBDF	**Montbardon**	**157.48 348**	*e*PKP2	PKPab	03 24 53.8	+0.4
DBIC	**Dimbokro**	**163.22 162**	PKP	PKPdf	03 24 23.8	-0.1
	comp=Z,1.6nm,0.6s,baz=218,slow=14,SNR=5.9					
TORD	**Torodi Ar. Bea**	**170.35 188**	PKP	PKPdf	03 24 29.1	0.0
	comp=Z,2.4nm,1.0s,baz=21,slow=0.4,SNR=13					
TORD			PKPab	PKPab	03 25 50.8	+0.6
	comp=Z,2.5nm,0.6s,baz=182,slow=3.8,SNR=25					

*IDC **11** 03:08:36.0±1.2, 1061N×9421E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, ML3.3/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/24, Error ellipse: s-maj=56.1km s-min=18.4km az=62.0*

*ISCJB **11** 03:08:37.6±3.9, 1064N±009×943E±0.1, h23km±31km, mb4.1/12, MS3.8/6, Error ellipse: s-maj=21.4km s-min=10.4km az=115.3*

*NEIC **11** 03:08:37.9±0.5, 1069N×9438E, h10km, mb4.3/5, Error ellipse: s-maj=22.4km s-min=6.2km az=58.0*

*BJI **11** 03:08:39.4, 1077N×9473E, h11km, mB4.8, mb4.4, Ms4.3, Msz4.2*

ISC 11 03:08:40.6±3.8, 1069N±009×943E±01, h28km±29km, n27, σ0°58/25, mb4.1/12, MS3.8/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.78**	**303**	*e*P	**Pn**	**03 09 23.5**	**+14**
PBA				*e*S	**Sn**	**03 09 47.4**	**+16**
PBA				*e*x	x	03 10 07.0	
	comp=E,2μm,1.1s						
PBA				*e*x	x	03 10 13.4	
	comp=N,2μm,1.0s						
PSI	**Prapat**	**9.10**	**149**	Pn	**Pn**	**03 10 50.0**	**0.0**
	comp=N,0.3nm,0.3s,baz=336,slow=18,SNR=2.2						
PSI				LR	LR	03 15 01.5	
	comp=N,456nm,18.0s,baz=164,slow=42						
SHL	**Shillong**	**14.97**	**352**	*e*P	**Pn**	**03 12 06.0**	**-4.2**
JIRN	**Jiri**	**18.51**	**337**	*e*P	**Pn**	**03 12 55.4**	**+0.5**
	comp=N,78nm,1.4s						
PKI	**Pulchoki**	**18.75**	**335**	*e*P	**Pn**	**03 12 58.7**	**+0.9**
	comp=N,86nm,1.2s						
GUN	**Gumba**	**18.86**	**336**	*e*P	**Pn**	**03 12 58.9**	**-0.2**
DMN	**Daman**	**18.91**	**334**	*e*P	**Pn**	**03 13 00.5**	**+0.8**
	comp=N,35nm,1.0s						
LSA	**Lhasa**	**19.14**	**352**	*e*P	**Pn**	**03 13 07.2**	**+4.7**
GKN	**Gorkha**	**19.45**	**334**	*e*P	**Pn**	**03 13 05.8**	**-0.5**
GYA	**Guiyang**	**19.57**	**35**	P	**Pn**	**03 13 07.4**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s						
KOLN	**Koldanda**	**19.73**	**331**	*e*P	**Pn**	**03 13 08.4**	**-1.2**
CD2	**Chengdu**	**21.96**	**22**	*e*P	**P**	**03 13 33.0**	**+0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,50nm,5.6s						
NDI	**New Delhi**	**23.99**	**321**	*e*P	**P**	**03 13 52.0**	**-0.7**
ENH	**Enshi**	**24.09**	**34**	*e*P	**P**	**03 13 52.9**	**-0.8**
	comp=Z,3.0nm,0.4s,mb4.1						
ENH				*e*pP		03 14 00.0	
LZH	**Lanzhou**	**26.73**	**17**	*e*P	**P**	**03 14 17.5**	**-0.1**
LZH				AP	pP	03 14 25.0	-0.9
LZH				XP	sP	03 14 28.1	-1.3
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,59nm,4.5s						
LZH				LR	LR		
	comp=N,319nm,10.5s						
LZH				LR	LR		
	comp=Z,397nm,13.6s,MS4.1						
WMQ	**Urumqi**	**33.50**	**351**	*e*P	**P**	**03 15 16.8**	**-0.7**
WMQ				AP	pP	03 15 24.1	-1.7
WMQ				XP	sP	03 15 27.4	-1.9
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,79nm,4.6s						
WMQ				LR	LR		
	comp=N,773nm,24.0s,MS4.5						
WMQ				LR	LR		
	comp=E,554nm,22.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,661nm,22.0s,MS4.3						
AAK	**Ala-Archa**	**36.20**	**335**	*e*P	**P**	**03 15 40.6**	**-0.2**
	comp=Z,4.3nm,1.2s,mb4.2						
MKAR	**Makanchi Array**	**37.39**	**346**	P	**P**	**03 15 51.4**	**+0.4**
	comp=Z,1.3nm,0.9s,mb3.8,baz=161,slow=7.7,SNR=11						
MKAR				LR	LR	03 33 57.3	
	comp=Z,46nm,20.0s,MS3.3,baz=183,slow=41						
SONM	**Songino Array**	**38.41**	**13**	P	**P**	**03 16 00.0**	**+0.5**
	comp=Z,1.3nm,1.1s,mb3.6,baz=201,slow=7.9,SNR=6.2						
ZAL	**Zalesovo**	**43.79**	**352**	P	**P**	**03 16 43.9**	**+0.1**
	comp=Z,1.0nm,0.3s,mb4.0,baz=317,slow=21,SNR=6.4						
BVAR	**Borovoye Array**	**46.39**	**340**	P	**P**	**03 17 04.4**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=144,slow=10,SNR=3.1						
AKTO	**Aktyubinsk**	**49.57**	**330**	LR	LR	03 39 00.5	
	comp=Z,47nm,21.3s,MS3.5,baz=37,slow=37						
WRA	**Warramunga Arr**	**49.83**	**128**	P	**P**	**03 17 31.0**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.2,baz=303,slow=8.6,SNR=5.6						
ASAR	**Alice Springs**	**51.65**	**132**	P	**P**	**03 17 44.6**	**-0.1**
	comp=Z,2.8nm,0.9s,mb4.2,baz=307,slow=7.2,SNR=12						
ARCES	**ARCESS Array B**	**72.68**	**340**	LR	LR	03 55 17.9	
	comp=Z,78nm,18.2s,MS4.0,baz=328,slow=38						
NOA	**NORSAR Array B**	**77.36**	**330**	LR	LR	03 57 36.8	
	comp=Z,35nm,20.1s,MS3.7,baz=255,slow=38						
TORD	**Torodi Ar. Bea**	**90.08**	**283**	P	**P**	**03 21 38.4**	**+0.6**
	comp=Z,0.4nm,0.9s,mb3.7,baz=72,slow=4.7,SNR=2.3						

*ISCJB **11** 03:18:30.3±1.0, 3312N±005×14117E±009, h92km±8km, mb3.7/2, Error ellipse: s-maj=11.9km s-min=8.0km az=13.9*

*JMA **11** 03:18:30.6±0.2, 3315N×14125E, h72km, M3.4*

*IDC **11** 03:18:34.5±2.9, 3304N×14067E, h98km±16km, mb3.4/2, mb1 3.6/3, mb1mx3.1/20, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/16, Error ellipse: s-maj=61.5km s-min=14.6km az=78.0*

ISC 11 03:18:31.2±1.0, 3311N±005×14119E±009, h79km±10km, n18, σ0°89/28, mb3.7/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.15**	**271**	P	**Pn**	**03 18 52.3**	**+0.2**
JHJ2				S	**Sn**	**03 19 07.9**	**+0.1**
JHJ	**Hachijo jima 2**	**1.18**	**271**	P	**Pn**	**03 18 52.6**	**+0.1**
	83nm,0.3s,baz=90,slow=20,SNR=15						
JHJ				S	**Sn**	**03 19 06.0**	**-2.3**
	186nm,0.3s,baz=48,slow=24,SNR=12						
BSO1	**Boso 1**	**1.55**	**353**	P	**Pn**	**03 18 56.0**	**-1.2**
BSO1				S	**Sn**	**03 19 15.7**	**-1.1**
BSO2	**Boso 2**	**1.68**	**348**	S	**Sn**	**03 19 21.0**	**+1.2**
BSO3	**Boso 3**	**1.78**	**342**	P	**Pn**	**03 19 00.0**	**-0.2**
BSO3				S	**Sn**	**03 19 22.6**	**+0.4**
BSO4	**Boso 4**	**2.01**	**340**	P	**Pn**	**03 19 03.6**	**+0.4**
BSO4				S	**Sn**	**03 19 28.0**	**+0.5**
JKO	**Kozu shima**	**2.02**	**303**	S	**Sn**	**03 19 28.9**	**+1.0**
JIM2	**Oshima 3**	**2.17**	**318**	S	**Sn**	**03 19 31.1**	**-0.4**
JOD2	**Odawara 2**	**2.77**	**322**	P	**Pn**	**03 19 13.5**	**+0.1**
JOD2				S	**Sn**	**03 19 45.3**	**-0.5**
SHZ3	**Shizuoka 3**	**3.15**	**309**	S	**Sn**	**03 19 56.0**	**+0.9**
JYN	**Shimob**	**3.24**	**318**	P	**Pn**	**03 19 21.2**	**+1.4**
JYN				S	**Sn**	**03 19 59.3**	**+2.1**
JRY	**Ryogami san**	**3.46**	**328**	P	**Pn**	**03 19 23.0**	**+0.2**
JRY				S	**Sn**	**03 20 02.0**	**-0.7**
JAG	**Ashikaga**	**3.60**	**337**	P	**Pn**	**03 19 24.7**	**-0.1**
JAG				S	**Sn**	**03 20 05.3**	**-0.9**
MJAR	**Matsushiro Arr**	**4.21**	**325**	P	**Pn**	**03 19 33.6**	**+0.6**
	1.8nm,0.3s,baz=153,slow=11,SNR=17						
MJAR				S	**Sn**	**03 20 19.9**	**-1.1**
	1.8nm,0.3s,baz=204,slow=19,SNR=5.7						
MAT	**Matsushiro**	**4.21**	**325**	P	**Pn**	**03 19 33.8**	**+0.8**
MAT				S	**Sn**	**03 20 19.8**	**-1.2**
PMG	**Port Moresby**	**42.66**	**171**	LR	LR	03 42 12.6	
	comp=Z,40nm,21.5s,baz=19,slow=33						
MKAR	**Makanchi Array**	**46.14**	**305**	P	**P**	**03 26 46.9**	**-0.8**
	0.1nm,0.3s,mb3.0,baz=89,slow=8.8,SNR=4.5						
WRA	**Warramunga Arr**	**53.16**	**188**	P	**P**	**03 27 41.0**	**+0.1**
	2.1nm,0.5s,mb4.5,baz=5.6,slow=7.7,SNR=22						

CASC 11 03:52:20.3±2.9, 1328N×9145W, h28km±16km, MD3.8, 3C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.05**	**350**	⇑*e*P	Pn	03 52 40.7	+1.5
FUG	**Fuego 3**	**1.31**	**27**	*e*P	Pn	03 52 43.4	+0.7
IXG	**Ixpaco**	**1.32**	**47**	⇑*e*P	Pn	03 52 42.2	-0.6
IXG				*e*S	Sn	03 53 01.6	+2.2
TP2	**Tecpan 2**	**1.56**	**15**	⇑*e*P	Pn	03 52 46.8	+0.7
TP2	**Tecpan 2**	**1.56**	**15**	*e*S	Sn	03 53 07.5	+2.1
SNJE	**San Jose**	**1.89**	**72**	*e*P	Pn	03 53 06.3	+16
SNJE				*e*S	Sn	03 53 31.5	+18
BOQS	**Boqueron**	**2.16**	**78**	*e*P	Pn	03 53 10.3	+16
BOQS				*e*S	Sn	03 53 37.3	+17
LFRS	**El Faro**	**2.35**	**81**	*e*P	Pn	03 53 13.5	+16
LFRS				*e*S	Sn	03 53 42.5	+18
LCBS	**La Ceiba**	**2.43**	**81**	*e*P	Pn	03 53 13.4	+15
LCBS				*e*S	Sn	03 53 44.1	+17

CASC 11 04:13:03.4±3.6, 1232N×8738W, h35km±9km, MD4.1, ML3.8, 5C-13D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.49**	**79**	⇓*i*P	Pn	04 13 13.6	-0.3
CRIN	**San Cristobal**	**0.50**	**41**	⇓*e*P	Pn	04 13 14.0	0.0
CRIN				*e*S	Sb	04 13 23.8	+2.4
TEL3	**Telica 3**	**0.58**	**65**	⇓*i*P	Pn	04 13 14.7	-0.5
TEL3				*e*S	Sn	04 13 25.8	+2.3
TELN	**Telica**	**0.61**	**63**	*e*P	Pn	04 13 14.8	-0.7
MIRN	**Miramar**	**0.67**	**80**	⇑*e*P	Pn	04 13 15.6	-0.8
CNGN	**Cerro Negro**	**0.69**	**75**	⇓*e*P	Pn	04 13 16.0	-0.7
CNGN				*e*S	Sn	04 13 28.8	+2.6
COPN	**Copaltepe**	**0.79**	**100**	⇑*e*P	Pn	04 13 17.4	-0.6
COPN				*e*S	Sn	04 13 29.6	+1.0
MOMJ	**Momotombo**	**0.83**	**84**	⇓*e*P	Pn	04 13 17.8	-0.8
MOMJ				*e*S	Sn	04 13 30.7	+1.2
APYN	**Apoyeque**	**1.01**	**95**	⇑*i*P	Pn	04 13 20.4	-0.8
APYN				*e*S	Sn	04 13 35.3	+1.2
CNCH	**Conchagua**	**1.04**	**335**	⇓*e*P	Pn	04 13 34.5	+13
CNCH				*e*S	Sn	04 13 48.8	+14
XAVN	**Gruta Xavier**	**1.05**	**99**	⇓*i*P	Pn	04 13 20.8	-0.7
XAVN				*e*S	Sn	04 13 34.5	-0.5
MGAN	**Managua**	**1.12**	**99**	*e*P	Pn	04 13 21.7	-0.9
MGAN				*e*S	Sn	04 13 37.5	+0.6
MGAN				*i*		04 13 38.6	
	comp=E,5μm,0.3s						
TICN	**Ticuantepe**	**1.16**	**104**	⇓*e*P	Pn	04 13 22.7	-0.5
WILN	**Americas 2**	**1.18**	**98**	⇓*e*P	Pn	04 13 22.2	-1.2
WILN				*e*S	Sn	04 13 38.4	+0.1
MASN	**Masaya**	**1.25**	**105**	*e*P	Pn	04 13 23.6	-0.8
APON	**Apoyo**	**1.35**	**107**	⇓*e*P	Pn	04 13 24.7	-1.0
APON				*e*S	Sn	04 13 43.0	+0.6
BLLM	**Bellamira**	**1.39**	**323**	⇑*e*P	Pn	04 13 39.0	+13
BLLM				*e*S	Sn	04 13 57.1	+14
VSM	**San Miguel**	**1.40**	**322**	*e*P	Pn	04 13 39.5	+13
VSM				*e*S	Sn	04 13 58.5	+15
CONN	**Concepcion**	**1.88**	**113**	*e*P	Pn	04 13 31.7	-1.3
MADN	**Villa Maderas**	**2.03**	**116**	*e*P	Pn	04 13 33.5	-1.5
LCBS	**La Ceiba**	**2.04**	**311**	⇓*e*P	Pn	04 13 48.0	+13
LCBS				*e*S	Sn	04 14 12.2	+13
LFRS	**El Faro**	**2.08**	**308**	⇑*e*P	Pn	04 13 49.0	+13
LFRS				*e*S	Sn	04 14 13.5	+13
LFU	**La Fuente**	**2.20**	**310**	*e*P	Pn	04 13 50.6	+13
LFU				*e*S	Sn	04 14 17.4	+14
BOQS	**Boqueron**	**2.32**	**307**	*e*P	Pn	04 13 52.2	+13
BOQS				*e*S	Sn	04 14 21.1	+15
LIM1	**Limonal**	**2.64**	**127**	*e*P	Pn	04 13 46.5	+3.0
SBLS	**San Blas**	**2.65**	**305**	*e*P	Pn	04 13 56.7	+13
SBLS				*e*S	Sn	04 14 30.8	+16
RTR	**El Retiro**	**2.70**	**306**	*e*P	Pn	04 13 57.5	+13
RTR				*e*S	Sn	04 14 30.8	+15
VCR	**Vista de Mar**	**2.78**	**142**	*e*P	Pn	04 13 44.8	-0.6
CAO	**Cobano**	**3.44**	**139**	*e*P	Pn	04 13 53.9	-0.5
EPA	**Esparza**	**3.59**	**130**	⇓*e*P4		04 14 00.2	
EPA				*e*S	Sn	04 14 37.2	-0.4
CGA2	**Cerro Gallo 2**	**3.67**	**128**	*e*P	Pn	04 13 57.8	+0.2
PRS1	**Puriscal**	**3.81**	**127**	*e*P	Pn	04 14 00.1	+0.6
LAJ	**Bijagual**	**4.03**	**127**	*e*P	Pn	04 13 58.1	-4.5
OCM	**Ochomogo**	**4.14**	**125**	*e*P	Pn	04 14 04.7	+0.6
IRZ2	**Volcan Irazu 2**	**4.14**	**124**	⇓*e*P	Pn	04 14 06.8	+2.6
LCR2	**La Lucha 2**	**4.19**	**127**	*e*P	Pn	04 14 05.8	+1.0
BUS	**Buena Vista**	**4.50**	**127**	*e*P	Pn	04 14 09.8	+0.8
CTCR	**Cotoan**	**5.68**	**126**	*e*P	Pn	04 14 26.8	+1.5

*NEIC **11** 04:17:16.1, 3376S×7274W, h33km, ML3.4(GUC), After GUC.*

GUC 11 04:17:16.1±0.9, 3376S×7274W, h33km±3km, MD3.9, ML3.4, 7C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**1.02**	**74**	⇓*i*P	Pn	04 17 34.6	+0.6
LCCH				*i* S	Sn	04 17 47.9	+0.8
LNV	**Longovilo**	**1.12**	**100**	⇑*i*P	Pn	04 17 36.2	+0.7
LNV				*i* S	Sn	04 17 50.8	+1.1
IHA	**Instituto Hidr**	**1.18**	**52**	⇓*i*P	Pn	04 17 36.9	+0.7
TACH	**Talagante**	**1.51**	**86**	⇑*i*P	Pn	04 17 41.5	+0.7
TACH				*i* S	Sn	04 18 01.8	+2.7
RCDM	**Rinconada Maip**	**1.64**	**81**	*i* P	Pn	04 17 43.5	+1.0
RCDM				*i* S	Sn	04 18 05.3	+2.9
RCDM				AMP		04 18 10.0	
	comp=N,376nm,0.6s						
RCDM	**Rinconada Maip**	**1.64**	**81**	*i* P	Pn	04 17 43.5	+1.0
RCDM				*i* S	Sn	04 18 05.3	+2.9
ROCH	**El Roble**	**1.65**	**62**	*e*P	Pn	04 17 44.2	+1.6
SFDO	**San Fernando**	**1.67**	**121**	⇑*i*P	Pn	04 17 44.6	+1.7
CHCH	**Chadas Angostu**	**1.75**	**96**	⇓*i*P	Pn	04 17 45.4	+1.4
CACH	**El Canelo**	**1.81**	**102**	⇑*i*P	Pn	04 17 47.2	+2.2
PEL	**Peldehue**	**1.82**	**71**	⇓*i*P	Pn	04 17 47.0	+1.9
PEL				*i* S	Sn	04 18 10.1	+3.0
PEL				AMP		04 18 23.1	
	comp=N,969nm,0.5s						
PEL	**Peldehue**	**1.82**	**71**	⇓*i*P	Pn	04 17 47.0	+1.9
PEL				*i* S	Sn	04 18 10.1	+3.0
PCH	**Pirque**	**1.86**	**86**	⇓*i*P	Pn	04 17 46.9	+1.2
CLCH	**Cerro Calan**	**1.88**	**79**	⇑*i*P	Pn	04 17 47.7	+1.9
CLCH				*i* S	Sn	04 18 10.8	+2.5
CLCH				AMP		04 18 25.1	
	comp=E,699nm,0.6s						
CICH	**Cipreses**	**2.01**	**107**	⇓*i*P	Pn	04 17 49.7	+2.1
FCH	**Farellones**	**2.09**	**79**	⇑*i*P	Pn	04 17 50.8	+2.0
FCH				*i* S	Sn	04 18 16.1	+2.5
FCH				AMP		04 18 29.1	
	comp=E,339nm,0.5s						
JACH	**Jahuel**	**2.10**	**60**	⇑*i*P	Pn	04 17 50.6	+1.7
LMEL	**Las Melosas**	**2.11**	**93**	*i* P	Pn	04 17 51.0	+1.9
LMEL				AMP		04 18 32.6	
	comp=N,348nm,0.7s						

IDC 11 04:26:17.6±7.2, 964N×9247E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=368.5km s-min=29.0km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.02**	**8**	*e*P	Pn	04 27 23.5	+31
PBA				*e*S	Sn	04 27 48.7	+30
PBA				*e*x	x	04 27 55.1	
	comp=E,551nm,0.9s						
PBA				*e*x	x	04 27 58.3	
	comp=N,578nm,1.0s						
MKAR	**Makanchi Array**	**38.03**	**349**	P	P	04 33 37.4	-0.1
	comp=N,0.8nm,0.7s,baz=154,slow=9.4,SNR=4.2						
WRA	**Warramunga Arr**	**50.62**	**126**	P	P	04 35 18.2	-0.1
	comp=N,1.3nm,0.7s,baz=304,slow=8.9,SNR=16						
ASAR	**Alice Springs**	**52.31**	**130**	P	P	04 35 31.9	+1.0
	comp=N,1.7nm,0.8s,baz=309,slow=6.8,SNR=20						

*JMA **11** 04:29:24.9±0.3, 3005N×13138E, h29km±3km, M3.4*

*ISCJB **11** 04:29:26.6±0.9, 3011N±004×13131E±009, h51km±8km, mb3.6/5, MS3.5/1, Error ellipse: s-maj=13.8km s-min=6.4km az=37.1*

*IDC **11** 04:29:27.4±5.0, 3020N×13150E, h48km±26km, mb3.5/5, mb1 3.6/7, mb1mx3.3/23, mbtmp3.7/7, ML3.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/19, Error ellipse: s-maj=99.2km s-min=31.9km az=105.0*

ISC 11 04:29:26.4±1.3, 3009N±004×13134E±008, h31km±8km, n18, σ0°82/25, mb3.6/5, MS3.5/1, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.64**	**331**	P	**Pb**	**04 29 38.1**	**-1.1**
JTN				S	**Sb**	**04 29 48.2**	**+0.3**
JKC	**Kuchinoerabu**	**1.06**	**291**	P	**Pn**	**04 29 44.9**	**-0.1**
JKC				S	**Sn**	**04 29 58.1**	**-0.5**
JTSR	**Tashiro 2**	**1.13**	**342**	P	**Pn**	**04 29 45.6**	**-0.5**
JTSR				*e*S	**Sn**	**04 30 01.3**	**+0.8**
JNN	**Nakanoshima**	**1.29**	**259**	P	**Pn**	**04 29 48.4**	**+0.1**
JNAR	**Kushima--Naru**	**1.43**	**358**	P	**Pn**	**04 29 50.5**	**+0.3**
JNAR				S	**Sn**	**04 30 09.2**	**+1.2**
JSU	**Suzuyama**	**1.60**	**332**	P	**Pn**	**04 29 52.2**	**-0.3**
JSU				S	**Sn**	**04 30 12.6**	**+0.4**
JTZ	**Takazaki**	**1.82**	**353**	P	**Pn**	**04 29 56.5**	**+1.0**
JSJ	**Shimokoshiki**	**2.11**	**319**	P	**Pn**	**04 29 58.8**	**-0.7**
JSJ				S	**Sn**	**04 30 24.7**	**0.0**
JZO	**Okuchi**	**2.14**	**343**	P	**Pn**	**04 30 00.4**	**+0.5**
JTSN	**Tsuno**	**2.15**	**4**	P	**Pn**	**04 30 00.7**	**+0.6**
JAM	**Amami Oshima**	**2.26**	**223**	P	**Pn**	**04 30 02.1**	**+0.6**
JAM				S	**Sn**	**04 30 28.9**	**+0.6**
JNU	**Nakatsue**	**3.05**	**353**	P	**Pn**	**04 30 11.9**	**-0.5**
	1.5nm,0.3s,baz=100,slow=14,SNR=4.5						
JOW	**Kunigami**	**4.22**	**220**	P	**Pn**	**04 30 31.4**	**+2.9**
	3.2nm,0.3s,baz=68,slow=21,SNR=9.3						
SONM	**Songino Array**	**26.09**	**320**	P	P	**04 34 56.5**	**-0.7**
	1.0nm,0.7s,mb3.5,baz=131,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**41.17**	**308**	P	P	**04 37 07.3**	**-0.6**
	0.6nm,0.9s,mb3.2,baz=93,slow=9.4,SNR=3.7						
MKAR				LR	LR	04 56 51.8	
	comp=Z,60nm,18.4s,MS3.5,baz=17,slow=40						
FINES	**FINESS Array B**	**70.86**	**331**	P	P	**04 40 39.0**	**-1.1**
	1.2nm,0.6s,mb4.0,baz=66,slow=6.5,SNR=6.3						
BRTR	**Keskin Array B**	**76.82**	**308**	P	P	**04 41 15.1**	**0.0**
	0.5nm,0.9s,mb3.5,baz=113,slow=3.7,SNR=3.9						
NOA	**NORSAR Array B**	**77.05**	**334**	P	P	**04 41 14.5**	**-1.8**
	1.3nm,1.0s,mb3.8,baz=46,slow=5.6,SNR=3.7						

*NIED **11** 04:30:00, 2430N×12680E, h59km, Mw4.6 Best double couple: M0=9.01000×10^15 NP1:φs=98.00000°, δ84.00000°, λ-85.00000°. NP2:φs=236.00000°, δ8.00

NJ2				PP		04 32 59.3
NJ2				XP		04 33 02.5
NJ2				S	**Sn**	**04 34 48.0 +6.3**
NJ2				XS		04 34 56.0
NJ2				AMB	AMB	
	comp=Z,10.0nm,0.5s					
NJ2				AMB	AMB	
	comp=Z,100nm,4.7s					
NJ2				LR	LR	
	comp=N,710nm,21.0s					
NJ2				LR	LR	
	comp=E,710nm,18.5s					
NJ2				LR	LR	
	comp=Z,750nm,23.4s					
MAT	**Matsushiro**	**15.62**	**36**	P	**Pn**	**04 34 05.7 +8.5**
MAT	**Matsushiro**	**15.62**	**36**	P	**Pn**	**04 34 06.0 +8.8**
MJAR	**Matsushiro Arr**	**15.62**	**36**	Pn	**Pn**	**04 34 00.6 +3.4**
	comp=Z,0.3nm,0.3s,baz=236,slow=9.2,SNR=10					
SNY	**Shenyang**	**17.64**	**352**	⇓P	**Pn**	**04 34 23.3 +0.5**
SNY				AMB	AMB	
	comp=Z,15nm,1.0s					
SNY				LR	LR	
	comp=E,274nm,9.9s					
SNY				LR	LR	
	comp=Z,245nm,16.2s					
BJT	**Baijiatuau**	**18.01**	**333**	*e*P	**Pn**	**04 34 27.5 +0.2**
BJT				pmax	pmax	
	comp=Z,17nm,0.9s					
BJT	**Baijiatuau**	**18.01**	**333**	*e*P	**Pn**	**04 34 27.4 +0.1**
	comp=Z,17nm,0.9s					
BJI	**Beijing**	**18.03**	**333**	P	**Pn**	**04 34 26.5 -1.0**
BJI				AMB	AMB	
	comp=Z,13nm,0.9s					
BJI				LR	LR	
	comp=N,269nm,14.2s					
BJI				LR	LR	
	comp=E,373nm,10.7s					
BJI				LR	LR	
	comp=Z,232nm,17.2s					
XAN	**Xi'an**	**18.34**	**306**	P	**Pn**	**04 34 31.8 +0.5**
XAN				AP	pP	04 34 39.5 -1.1
XAN				XP	sP	04 34 43.1 -2.2
XAN				AMB	AMB	
	comp=Z,9.0nm,1.0s					
XAN				LR	LR	
	comp=E,256nm,15.4s					
XAN				LR	LR	
	comp=Z,357nm,11.9s					
CN2	**Changchun**	**19.44**	**357**	*e*P	**Pn**	**04 34 48.4 +3.8**
CN2				*e*AP	pP	04 34 56.8 +4.1
CN2				*e*S	**S**	**04 38 24.2 +3.3**
CN2				AMB	AMB	
	comp=Z,10.0nm,0.7s					
CN2				AMB	AMB	
	comp=Z,200nm,4.0s					
GUMO	**Guam**	**20.13**	**119**	LR	LR	04 40 57.4
	comp=Z,59nm,19.4s,MS3.0,baz=36,slow=32					
MDJ	**Mudanjiang**	**20.35**	**6**	P	**P**	**04 34 55.8 +2.7**
MDJ				AP		04 35 03.8
MDJ				XP	sP	04 35 07.9 +0.6
MDJ				S	**S**	**04 38 45.9 +6.9**
MDJ				PCP	PcP	04 39 04.4 -0.6
MDJ				SCP	ScP	04 42 38.8 +0.3
MDJ				PCS	PcS	04 42 42.3 -0.4
MDJ				AMB	AMB	
	comp=Z,7.0nm,2.0s					
MDJ				AMB	AMB	
	comp=Z,131nm,4.1s					
MDJ				LR	LR	
	comp=N,136nm,36.0s					
MDJ				LR	LR	
	comp=E,128nm,26.4s					
MDJ				LR	LR	
	comp=Z,95nm,27.8s					
HHC	**Hu-ho-hao-te**	**20.82**	**326**	*e*P	**P**	**04 34 59.4 +1.2**
HHC				AP		04 35 10.3
HHC				XP	sP	04 35 14.6 +2.1
HHC				PP		04 35 24.8
HHC				S	**S**	**04 38 48.7 +0.3**
HHC				XS	sS	04 39 02.7 -1.1
HHC				PCP	PcP	04 39 08.2 +2.3
HHC				SS		04 39 21.4
HHC				AMB	AMB	
	comp=Z,13nm,0.6s					
HHC				AMB	AMB	
	comp=Z,300nm,4.6s					
HHC				LR	LR	
	comp=N,370nm,11.8s					
HHC				LR	LR	
	comp=E,1μm,23.5s					
HHC				LR	LR	
	comp=Z,239nm,10.9s,MS3.8					
CD2	**Chengdu**	**21.43**	**293**	P	**P**	**04 35 04.7 0.0**
CD2				AMB	AMB	
	comp=Z,10.0nm,0.5s,mb4.4					
CD2				AMB	AMB	
	comp=Z,50nm,5.6s					
KMI	**Kunming**	**21.87**	**277**	P	**P**	**04 35 10.5 +1.0**
KMI				S	**S**	**04 39 01.2 -7.8**
KMI				AMB	AMB	
	comp=Z,8.0nm,0.6s,mb4.3					
KMI				LR	LR	
	comp=N,168nm,8.6s					
KMI				LR	LR	
	comp=E,140nm,10.5s					
KMI				LR	LR	
	comp=Z,94nm,10.7s,MS3.5					
LZH	**Lanzhou**	**22.98**	**306**	*e*P	**P**	**04 35 21.5 +0.3**
LZH				AP		04 35 30.8
LZH				XP	sP	04 35 34.9 -0.7
LZH				PP		04 35 52.2
LZH				*e*S	**S**	**04 39 26.5 -2.4**
LZH				SS		04 40 11.4
LZH				AMB	AMB	
	comp=Z,19nm,1.0s,mb4.5					
LZH				AMB	AMB	
	comp=Z,75nm,4.7s					
LZH				LR	LR	
	comp=N,673nm,10.4s					
LZH				LR	LR	
	comp=Z,1μm,13.2s,MS4.5					
HABR	**Khabarovsk**	**24.95**	**13**	*e*P	**P**	**04 35 33.0 -6.7**
KLR	**Kul'dur**	**25.14**	**8**	*e*P	**P**	**04 35 38.0 -3.5**
YSS	**Yuzh-Sakhalins**	**25.91**	**26**	*e*P	**P**	**04 35 51.2 +2.7**
YSS				pmax	pmax	
	comp=E,30nm,1.0s					
YSS				pmax	pmax	
	comp=Z,30nm,1.0s,mb4.8					
YSS	**Yuzh-Sakhalins**	**25.91**	**26**	*e*P	**P**	**04 35 50.8 +2.3**
	comp=Z,19nm,0.9s,mb4.6					
GTA	**Gaotai**	**27.27**	**310**	*e*P	**P**	**04 36 00.0 -0.7**
GTA				AP	pP	04 36 09.7 -1.5
GTA				XP	sP	04 36 13.0 -2.7
GTA				PP		04 36 47.2
GTA				S	**S**	**04 40 36.9 -0.6**
GTA				XS	sS	04 40 52.8 -2.1
GTA				SS		04 41 55.2
GTA				AMB	AMB	
	comp=Z,5.0nm,1.6s,mb3.8					
GTA				AMB	AMB	
	comp=Z,179nm,5.0s					
GTA				LR	LR	
	comp=N,224nm,13.7s,MS4.0					
GTA				LR	LR	
	comp=E,193nm,14.5s,MS4.0					
GTA				LR	LR	
	comp=Z,257nm,16.7s,MS3.9					
ULN	**Ulaanbaatar**	**28.22**	**331**	*e*P	**P**	**04 36 13.4 +4.2**
ULN	**Ulaanbaatar**	**28.22**	**331**	*e*P	**P**	**04 36 12.3 +3.1**
	comp=Z,17nm,1.3s,mb4.5					
SONM	**Songino Array**	**28.49**	**330**	P	**P**	**04 36 12.2 +0.6**
	comp=Z,2.2nm,0.4s,mb4.2,baz=144,slow=11,SNR=17					
SONM				LR	LR	04 49 20.3
	comp=Z,197nm,18.1s,MS3.8,baz=47,slow=40					
PSI	**Prapat**	**34.40**	**236**	P	**P**	**04 37 01.5 -2.0**
	comp=Z,4.7nm,0.7s,mb4.5,baz=79,slow=6.5,SNR=5.8					
PSI	**Prapat**	**34.40**	**236**	P	**P**	**04 37 01.5 -2.0**
JIRN	**Jiri**	**36.54**	**284**	*e*P	**P**	**04 37 24.9 +2.9**
	comp=Z,26nm,1.0s,mb5.0					
GUN	**Gumba**	**36.80**	**285**	*e*P	**P**	**04 37 27.1 +2.9**
PKI	**Pulchoki**	**37.24**	**284**	*e*P	**P**	**04 37 29.1 +1.2**
WMQ	**Urumqi**	**37.34**	**311**	*e*P	**P**	**04 37 30.4 +1.7**
WMQ				AP	pP	04 37 40.1 +0.8
WMQ				XP	sP	04 37 44.1 +0.3
WMQ				AMB	AMB	
	comp=Z,9.0nm,1.0s,mb4.5					
WMQ				AMB	AMB	
	comp=Z,75nm,4.2s					
WMQ				LR	LR	
	comp=N,107nm,17.0s,MS3.9					
WMQ				LR	LR	
	comp=E,147nm,18.6s,MS3.9					
WMQ				LR	LR	
	comp=Z,109nm,18.6s,MS3.7					
KKN	**Kakani**	**37.34**	**284**	*e*P	**P**	**04 37 30.8 +2.1**
DMN	**Daman**	**37.51**	**284**	*e*P	**P**	**04 37 32.6 +2.4**
YAK	**Yakutsk**	**37.72**	**2**	*e*P	**P**	**04 37 30.9 -1.1**
YAK				pmax	pmax	
	comp=Z,17nm,0.8s,mb4.8					
GKN	**Gorkha**	**37.89**	**285**	*e*P	**P**	**04 37 36.2 +2.8**
	comp=Z,38nm,1.0s,mb5.1					
KOLN	**Koldanda**	**38.82**	**285**	*e*P	**P**	**04 37 43.3 +2.1**
	comp=Z,24nm,0.9s,mb4.9					
PMG	**Port Moresby**	**38.99**	**147**	LR	LR	04 51 00.7
	comp=Z,64nm,19.6s,MS3.5,baz=176,slow=32					
MA2	**Magadan**	**39.00**	**19**	*e*P	**P**	**04 37 43.2 +0.5**
MA2				*e*		04 46 27.4
MA2				pmax	pmax	
	comp=Z,3.0nm,0.9s,mb4.0					
MA2	**Magadan**	**39.00**	**19**	*e*P	**P**	**04 37 42.9 +0.2**
	comp=Z,4.4nm,0.8s,mb4.2					
MKAR	**Makanchi Array**	**41.87**	**314**	P	**P**	**04 38 07.2 +0.8**
	comp=Z,1.8nm,0.4s,mb4.0,baz=98,slow=9.3,SNR=32					
SEY	**Seymchan**	**42.19**	**17**	*e*P	**P**	**04 38 10.1 +1.1**
ZAL	**Zalesovo**	**43.00**	**325**	P	**P**	**04 38 15.6 -0.1**
	comp=Z,1.5nm,0.5s,mb4.0,baz=7.8,slow=7.5,SNR=9.6					
ZAL				LR	LR	04 57 27.1
	comp=Z,87nm,20.7s,MS3.6,baz=27,slow=38					
WRAB	**Tennant Creek**	**44.62**	**170**	*e*P	**P**	**04 38 25.5 -3.1**
WRAB				*e**PP	pP	04 38 36.1 -3.3
WRAB				pmax	pmax	
	comp=Z,10.0nm,0.7s,mb4.8					
WRAB	**Tennant Creek**	**44.62**	**170**	*e*P	**P**	**04 38 25.5 -3.1**
	comp=Z,9.8nm,0.7s,mb4.8					
WRAB				*e*pP	pP	04 38 36.1 -3.3
WRA	**Warramunga Arr**	**44.63**	**170**	P	**P**	**04 38 25.5 -3.2**
	comp=Z,6.8nm,0.9s,mb4.5,baz=348,slow=8.8,SNR=48					
WRA				pP	pP	04 38 36.6 -2.9
	comp=Z,6.8nm,0.6s,baz=351,slow=8.7,SNR=14					
WB2	**Warramunga Arr**	**44.63**	**170**	*e*P	**P**	**04 38 24.8 -3.9**
FX1	**Attu Island--F**	**44.96**	**38**	P	**P**	**04 38 32.4 +1.1**
KURK	**Kurchatov**	**45.33**	**318**	*e*P	**P**	**04 38 34.0 -0.3**
KURK				*e**PP	pP	04 38 45.0 -0.1
KURK				pmax	pmax	
	comp=Z,9.0nm,1.3s,mb4.4					
KURK	**Kurchatov**	**45.33**	**318**	*e*P	**P**	**04 38 34.0 -0.3**
	comp=Z,8.6nm,1.3s,mb4.4					
KURK				*e*pP	pP	04 38 45.0 -0.1
TIXI	**Tiksi**	**47.35**	**1**	*e*P	**P**	**04 38 49.7 -0.4**
TIXI				pmax	pmax	
	comp=Z,4.0nm,1.3s,mb4.2					
ASAR	**Alice Springs**	**48.22**	**171**	P	**P**	**04 38 54.5 -2.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=360,slow=7.2,SNR=19					
ASAR				pP	pP	04 39 05.7 -2.1
	comp=Z,2.1nm,0.5s,baz=356,slow=13,SNR=9.8					
BILL	**Bilibino**	**49.85**	**18**	*e*P	**P**	**04 39 08.7 -0.7**
BILL				pmax	pmax	
	comp=Z,2.0nm,1.0s,mb4.1					
BVAR	**Borovoye Array**	**50.84**	**320**	P	**P**	**04 39 17.4 +0.5**
	comp=Z,1.3nm,0.5s,mb4.1,baz=101,slow=7.5,SNR=5.1					
BRVK	**Borovoye**	**50.91**	**320**	*e*P	**P**	**04 39 17.6 +0.2**
BRVK				pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.4					
BRVK	**Borovoye**	**50.91**	**320**	*e*P	**P**	**04 39 17.6 +0.2**
	comp=Z,4.9nm,0.9s,mb4.4					
ZRNK	**Zerenda**	**51.65**	**319**	*e*P	**P**	**04 39 23.0 +0.1**
ZRNK				*e**PP	pP	04 39 33.7 -0.2
ZRNK				pmax	pmax	
	comp=Z,12nm,1.0s,mb4.8					
ZRNK	**Zerenda**	**51.65**	**319**	*e*P	**P**	**04 39 23.0 0.0**
	comp=Z,12nm,1.0s,mb4.8					
ZRNK				*e*pP	pP	04 39 33.7 -0.2
STKA	**Stephens Creek**	**57.67**	**165**	P	**P**	**04 40 02.2 -4.3**
	comp=Z,3.5nm,0.8s,mb4.5,baz=334,slow=6.1,SNR=6.6					
STKA				pP	pP	04 40 12.8 -4.8
	comp=Z,2.5nm,0.6s,baz=357,slow=9.7,SNR=3.8					
STKA	**Stephens Creek**	**57.67**	**165**	*e*P	**P**	**04 40 02.3 -4.3**
STKA				*e*pP	pP	04 40 12.4 -5.2
AKTK	**Aktyubinsk**	**58.25**	**315**	P	**P**	**04 40 12.3 +1.7**
AKTO	**Aktyubinsk**	**58.25**	**315**	P	**P**	**04 40 12.3 +1.7**
	comp=Z,2.3nm,0.9s,mb4.2,baz=81,slow=9.8,SNR=5.1					
MCK	**McKinley**	**65.94**	**29**	*e*P	**P**	**04 41 02.7 +0.5**
MCK				pmax	pmax	
	comp=Z,2.0nm,0.9s,mb4.2					
MCK	**McKinley**	**65.94**	**29**	*e*P	**P**	**04 41 02.7 +0.6**
	comp=Z,2.3nm,0.9s,mb4.2					
ILAR	**Eielson Array**	**66.70**	**28**	P	**P**	**04 41 07.2 +0.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=258,slow=6.2,SNR=6.8					
ILAR				pP	pP	04 41 17.6 -0.7
	comp=Z,0.7nm,0.7s,baz=255,slow=4.9,SNR=5.6					
KIV	**Kislovodsk**	**69.45**	**310**	*e*P	**P**	**04 41 28.7 +4.4**
KIV				pmax	pmax	
	comp=Z,8.0nm,1.0s,mb4.6					
OBN	**Obninsk**	**70.53**	**322**	*e*P	**P**	**04 41 36.4 +5.5**
OBN				pmax	pmax	
	comp=Z,6.0nm,1.3s,mb4.4					
KBS	**Kingsbay**	**70.85**	**349**⇑	*e*P	**P**	**04 41 36.0 +3.1**
INK	**Inuvik**	**71.12**	**23**	*e*P	**P**	**04 41 35.2 +0.7**
INK				*e**PP	pP	04 41 43.1 -2.8
INK				pmax	pmax	
	comp=Z,32nm,1.8s					
INK	**Inuvik**	**71.12**	**23**	*e*P	**P**	**04 41 35.2 +0.7**
	comp=Z,32nm,1.8s,mb5.0					
INK				*e*pP	pP	04 41 43.1 -2.8
ANN	**Anapa**	**72.85**	**312**	*e*P	pP	04 41 55.2 -1.1
ANN				*e*		04 42 14.8
ANN				pmax	pmax	
	comp=Z,78nm,0.9s					
FINES	**FINESS Array B**	**73.86**	**331**	P	**P**	**04 41 50.2 -0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=66,slow=6.5,SNR=6.6					
FINES				pP	pP	04 42 01.6 -0.7
	comp=Z,1.6nm,0.7s,baz=92,slow=4.4,SNR=4.5					
FINES	**FINESS Array B**	**73.86**	**331**	P	**P**	**04 41 50.2 -0.7**
FINES				pP	pP	04 42 01.6 -0.7
MALT	**Malatya**	**74.14**	**305**	*e*P	**P**	**04 41 54.0 +1.5**
MALT				*e*	pP	04 42 05.9 +2.0
MALT				pmax	pmax	
	comp=Z,2.0nm,0.8s,mb4.1					
MALT	**Malatya**	**74.14**	**305**	*e*P	**P**	**04 41 54.0 +1.5**
	comp=Z,2.4nm,0.8s,mb4.2					
MALT				*e*PcP	PcP	04 42 05.9 -1.5
AKASG	**Malin Array Be**	**76.12**	**320**	P	**P**	**04 42 04.7 +0.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=59,slow=5.7,SNR=6.0					
AKASG				pP	pP	04 42 16.0 +0.6
	comp=Z,3.6nm,0.8s,baz=57,slow=6.0,SNR=6.7					
BRTR	**Keskin Array B**	**77.17**	**308**	P	**P**	**04 42 11.1 +1.3**
	comp=Z,0.8nm,0.9s,mb3.7,baz=15,slow=1.4,SNR=4.2					
RES	**Resolute Bay**	**77.63**	**10**	*e*P	**P**	**04 42 12.8 +0.4**
RES				pmax	pmax	
	comp=Z,6.0nm,1.2s,mb4.4					
RES	**Resolute Bay**	**77.63**	**10**	*e*P	**P**	**04 42 12.8 +0.4**
	comp=Z,5.8nm,1.2s,mb4.4					
NB2	**NORSAR Subarra**	**80.42**	**334**	P	**P**	**04 42 28.3 +0.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=57,slow=5.3					
NB2	**NORSAR Subarra**	**80.42**	**334**	P	**P**	**04 42 28.3 +0.6**
NB2				pmax	pmax	
	comp=Z,1.0nm,0.7s,mb3.9					
NOA	**NORSAR Array B**	**80.42**	**334**	P	**P**	**04 42 27.1 -0.6**
	comp=Z,1.4nm,0.9s,mb3.9,baz=58,slow=5.3,SNR=3.3					
NOA				pP	pP	04 42 38.4 -0.8
	comp=Z,2.2nm,1.0s,baz=55,slow=5.5,SNR=3.4					
YKW3	**Yellowknife Ar**	**80.72**	**24**	*e*P	**P**	**04 42 30.1 +0.8**
YKA	**Yellowknife Ar**	**80.77**	**24**	P	**P**	**04 42 29.9 +0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=299,slow=5.2,SNR=18					
YKA				pP	pP	04 42 40.1 -0.9
	comp=Z,1.0nm,0.7s,baz=305,slow=5.5,SNR=10					
YKA	**Yellowknife Ar**	**80.77**	**24**	P	**P**	**04 42 29.9 +0.4**
YKA				pP	pP	04 42 40.1 -0.9
CLL	**Collm**	**84.95**	**325**	*e*sP	sP	04 43 05.0 -2.0
GERES	**GERESS Array B**	**85.91**	**322**	P	**P**	**04 42 57.2 +1.2**
	comp=Z,0.4nm,0.7s,mb3.8,baz=55,slow=5.1,SNR=5.3					
GERES				pP	pP	04 43 07.9 +0.3
	comp=Z,1.1nm,0.9s,baz=24,slow=3.6,SNR=3.9					
HLID	**Hailey**	**92.16**	**40**	*e*P	**P**	**04 43 26.5 +0.9**
	comp=Z,1.5nm,0.8s,mb4.4					
NVAR	**Mina Array Bea**	**92.73**	**46**	P	**P**	**04 43 29.6 +1.3**
	comp=Z,1.0nm,0.9s,mb4.2,baz=291,slow=3.4,SNR=5.1					
PDAR	**Pinedale Array**	**95.43**	**38**	P	**P**	**04 43 42.2 +1.6**
	comp=Z,0.4nm,0.8s,mb3.9,baz=46,slow=4.3,SNR=3.5					
TORD	**Torodi Ar. Bea**	**114.74**	**299**	PKP	PKiKP	04 48 55.1 -1.3
	comp=Z,0.7nm,1.1s,baz=130,slow=1.5,SNR=4.4					
TORD				pPKP		04 49 06.9
	comp=Z,0.3nm,0.7s,baz=44,slow=1.3,SNR=1.6					

IDC ***11*** *04:47:27.5±0.5, 1073N×94.13E, h0km, mb4.4/18, mb1 4.6/19, mb1mx4.6/22, mbtmp4.4/19, ML4.2/1, MS4.1/9, Ms1 4.0/9, ms1mx3.8/25, Error ellipse: s-maj=18.1km s-min=14.2km az=66.0*

ISCJB ***11*** *04:47:28.8±0.3, 1066N×003×9433E±003, h23km, mb4.6/73, MS4.1/21, Error ellipse: s-maj=5.1km s-min=4.2km az=28.9*

BJI ***11*** *04:47:29.0, 1054N×9420E, h34km, mB5.1, mb4.6, Ms4.6, Msz4.2*

MOS ***11*** *04:47:30.5±1.0, 1075N×9425E, h33km, mb5.1/26, Error ellipse: s-maj=11.4km s-min=5.5km az=110.5*

NEIC ***11*** *04:47:30.6±0.2, 1067N×9428E, mb4.8/33, Error ellipse: s-maj=8.2km s-min=4.8km az=56.0*

SZGRF ***11*** *04:47:33.7, 992N×9306E, h33km, mb4.7, MS4.7, Nicobar Islands, India, region*

ISC 11 04:47:31.3±0.3, 1071N±003×9433E±003, h25km, h25km±1.0km:pP-P, n197, σ1§15/189, mb4.6/73, MS4.1/21, 8C-10D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.82**	**301**	*ex*	x	04 48 14.6	
PBA				*ex*	x	04 48 49.0	
NNT	**Nongplab**	**5.62**	**70**	P	**Pn**	**04 48 52.8**	**-0.4**
SNG	**Songkhla**	**7.13**	**119**	P	**Pn**	**04 49 15.0**	**+1.0**
	126nm,0.8s						
NST	**Nakhon Sawan**	**7.50**	**48**	P	**Pn**	**04 49 19.0**	**-0.1**
	142nm,0.5s						
KULM	**Kulim**	**8.25**	**130**	*e*Pn	**Pn**	**04 49 28.0**	**-1.4**
KULM				*e*Sn	**Sn**	**04 50 56.9**	**-5.0**
PSI	**Prapat**	**9.08**	**150**	Pn	**Pn**	**04 49 44.3**	**+3.5**
	2.4nm,0.3s,baz=324,slow=10,SNR=7.9						
PSI				LR	LR	04 53 34.5	
	comp=Z,1μm,21.3s,baz=165,slow=40						
VIS	**Vishakhapatnam**	**12.74**	**304**	*i* P	**Pn**	**04 50 28.7**	**-2.1**
VIS				*e*P		04 50 30.7	
VIS				AMb	AMB	04 50 49.2	
	comp=Z,145nm,1.5s						
VIS				*e*S	**Sn**	**04 52 41.0**	**-11**
PALK	**Pallekele**	**13.88**	**257**	*e*Pn	**Pn**	**04 50 42.4**	**-4.1**
	comp=Z,30nm,1.3s						
SHL	**Shillong**	**14.96**	**351**	*e*P	**Pn**	**04 50 59.0**	**-2.1**
BOK	**Bokaro**	**15.30**	**329**	*e*P	**Pn**	**04 51 02.5**	**-3.1**
BOK				AMb	AMB	04 51 31.1	
	comp=Z,43nm,1.7s						
BOK				*ex*	x	04 53 38.5	
KMI	**Kunming**	**16.41**	**28**	P	**Pn**	**04 51 21.7**	**+1.8**
KMI				AP	pP	04 51 26.4	-2.9
KMI				XP	sP	04 51 29.6	-2.9
KMI				PP		04 51 34.9	
KMI				S	**Sn**	**04 54 23.4**	**+2.2**
KMI				XS	sS	04 54 32.4	-11
KMI				SS		04 54 43.6	
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s						
KMI				AMB	AMB		
	comp=Z,130nm,3.5s						
KMI				LR	LR		
	comp=N,589nm,13.2s						
KMI				LR	LR		
	comp=E,425nm,11.5s						
KMI				LR	LR		
	comp=Z,400nm,13.5s						
HYB	**Hyderabad**	**16.69**	**295**	*i* P	**Pn**	**04 51 27.0**	**+3.6**
HYB				*e*S	**Sn**	**04 54 29.0**	**+1.0**
HYB	**Hyderabad**	**16.69**	**295**	*e*P	**Pn**	**04 51 27.0**	**+3.6**
HYB				*e*S	**Sn**	**04 54 29.0**	**+1.0**
QIZ	**Qiongzhong**	**17.12**	**59**	⇑P	**Pn**	**04 51 32.5**	**+3.7**
QIZ				S	**Sn**	**04 54 40.2**	**+1.9**
QIZ				AMB	AMB		
	comp=Z,18nm,1.5s						
QIZ				LR	LR		
	comp=E,820nm,8.8s						
QIZ				LR	LR		
	comp=Z,920nm,8.9s						
NGP	**Nagpur**	**17.97**	**307**	*e*P	**Pn**	**04 51 39.7**	**+0.2**
NGP				AMb	AMB	04 52 07.2	
	comp=Z,37nm,2.0s						
JIRN	**Jiri**	**18.52**	**337**	*e*P	**Pn**	**04 51 47.0**	**+0.9**
	comp=Z,125nm,1.1s						
PKI	**Pulchoki**	**18.76**	**335**	*e*P	**Pn**	**04 51 49.9**	**+0.9**
	comp=Z,165nm,1.3s						
PKI	**Pulchoki**	**18.76**	**335**	*e*P	**Pn**	**04 51 49.9**	**+0.9**
PKI				pmax	pmax		
	comp=Z,83nm,1.3s						
GUN	**Gumba**	**18.87**	**336**	*e*P	**Pn**	**04 51 50.9**	**+0.6**
	comp=Z,265nm,1.3s						
DMN	**Daman**	**18.92**	**334**	*e*P	**Pn**	**04 51 51.6**	**+0.7**
KKN	**Kakani**	**19.00**	**335**	*e*P	**Pn**	**04 51 52.1**	**+0.1**
LSA	**Lhasa**	**19.13**	**352**	P	**Pn**	**04 51 53.2**	**-0.3**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**19.13**	**352**	*e*P	**Pn**	**04 51 52.5**	**-1.0**
LSA				pmax	pmax		
	comp=Z,98nm,1.6s						
LSA	**Lhasa**	**19.13**	**352**	*e*P	**Pn**	**04 51 52.5**	**-1.0**
	comp=Z,98nm,1.6s						
GKN	**Gorkha**	**19.47**	**333**	*e*P	**Pn**	**04 51 57.3**	**-0.2**
	comp=Z,81nm,0.7s						
GYA	**Guiyang**	**19.52**	**35**⇓	*i* P	**Pn**	**04 51 58.4**	**+0.2**
GYA				AP	pP	04 52 03.8	+0.2
GYA				PP		04 52 19.3	
GYA				AMB	AMB		
	comp=Z,20nm,1.2s						
GYA				AMB	AMB		
	comp=Z,150nm,6.9s						
KOLN	**Koldanda**	**19.75**	**331**	*e*P	**Pn**	**04 52 00.8**	**0.0**
	comp=Z,85nm,0.8s						
DANN	**Dangsing**	**20.16**	**332**	*e*P	**P**	**04 52 05.5**	**+1.8**
BHPL	**Bhopal**	**20.39**	**310**	*e*P	**P**	**04 52 08.0**	**+1.7**
BHPL				AMb	AMB	04 52 21.8	
	comp=Z,46nm,1.4s						
KAD	**Karad**	**20.61**	**291**	*e*P	**P**	**04 52 10.4**	**+1.8**
KAD				AMb	AMB	04 52 14.6	
	comp=Z,34nm,1.2s						
POO	**Poona**	**21.27**	**294**⇑	*i* P	**P**	**04 52 17.5**	**+1.7**
CD2	**Chengdu**	**21.93**	**22**	P	**P**	**04 52 23.4**	**+0.6**
CD2				XP	sP	04 52 33.9	+1.0
CD2				PP		04 52 49.7	
CD2				S	**S**	**04 56 21.2**	**-2.5**
CD2				XS	sS	04 56 32.7	-2.0
CD2				SS		04 56 57.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=E,250nm,8.4s						
CD2				LR	LR		
	comp=Z,190nm,13.2s,MS3.7						
KKM	**Kota Kinabalu**	**22.14**	**100**	*e*P	**P**	**04 52 24.2**	**-0.8**
NDI	**New Delhi**	**24.01**	**321**	*e*P	**P**	**04 52 44.0**	**-0.1**
NDI				*e*P		04 52 44.0	
NDI				AMb	AMB	04 52 53.8	
	comp=Z,70nm,0.7s,mb5.2						
ENH	**Enshi**	**24.04**	**34**	*e*P	**P**	**04 52 44.0**	**-0.3**
	comp=Z,47nm,0.9s,mb4.9						

XAN AP pP 04 53 16.9 +0.2
XAN XP sP 04 53 20.0 +0.3
XAN S **S** **04 57 51.2 +7.3**
XAN AMB AMB
comp=Z,7.0nm,1.1s,mb4.1
XAN LR LR
comp=N,262nm,15.1s,MS4.0
XAN LR LR
comp=E,286nm,17.2s,MS4.0
XAN LR LR
comp=Z,261nm,15.1s,MS3.9
GTA Gaotai 29.00 9 P P 04 53 30.2 +1.2
GTA AP pP 04 53 36.6 +0.2
GTA XP sP 04 53 40.0 +0.5
GTA PP PP 04 54 25.7 -8.9
GTA S **S** **04 58 22.2 +3.5**
GTA AMB AMB
comp=Z,7.0nm,1.3s,mb4.2
GTA AMB AMB
comp=Z,108nm,4.6s
GTA LR LR
comp=N,218nm,16.7s,MS4.0
GTA LR LR
comp=E,186nm,14.1s,MS4.0
GTA LR LR
comp=Z,234nm,19.4s
NJ2 Nanjing 31.05 43 *e*P **P 04 53 47.7 +0.6**
NJ2 AP pP 04 53 54.9 +0.4
NJ2 S **S** **04 58 50.0 -0.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,120nm,4.5s
NJ2 LR LR
comp=N,740nm,21.1s
NJ2 LR LR
comp=E,2µm,28.1s
NJ2 LR LR
comp=Z,1µm,22.4s,MS4.5
SSE Sheshan 32.11 47 *e*P **P 04 53 56.1 -0.4**
SSE PP PP 04 55 06.6 -2.6
SSE PCP PcP 04 56 45.0 -0.4
SSE S **S** **04 59 05.7 -1.7**
SSE SCS ScS 05 04 24.8 -1.2
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,95nm,4.8s
SSE LR LR
comp=N,103nm,21.1s,MS3.5
SSE LR LR
comp=E,31nm,21.1s,MS3.5
SSE LR LR
comp=Z,59nm,20.7s,MS3.3
KSH Kashi 33.01 333 *e*P **P 04 54 05.4 +1.0**
KSH *e*AP pP 04 54 13.7 +1.9
KSH XP sP 04 54 15.6 +0.7
KSH *e*PP PP 04 55 16.1 -3.1
KSH PCP PcP 04 56 49.1 +1.3
KSH S **S** **04 59 21.5 +0.1**
KSH XS sS 04 59 34.0 +0.3
KSH SCP ScP 05 00 31.4 +1.0
KSH PCS PcS 05 00 33.5 +0.3
KSH SS SS 05 01 21.9 -22
KSH SCS ScS 05 04 29.1 -1.5
KSH AMB AMB
comp=Z,116nm,3.8s
KSH LR LR
comp=N,303nm,4.8s
KSH LR LR
comp=E,282nm,4.3s
KSH LR LR
comp=Z,302nm,6.4s
WMQ Urumqi 33.49 351 P **P 04 54 09.8 +1.2**
WMQ AP pP 04 54 15.7 -0.3
WMQ XP sP 04 54 18.6 -0.4
WMQ PP PP 04 55 22.1 -2.4
WMQ PCP PcP 04 56 51.1 +1.9
WMQ *e*S **S** **04 59 29.6 +0.8**
WMQ SS SS 05 01 33.4 -20
WMQ AMB AMB
comp=Z,21nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,159nm,4.8s
WMQ LR LR
comp=N,189nm,23.0s,MS3.9
WMQ LR LR
comp=E,238nm,24.0s,MS3.9
WMQ LR LR
comp=Z,212nm,22.0s,MS3.8
HHC Hu-ho-hao-te 33.66 24 *e*P **P 04 54 10.9 +0.9**
HHC AP pP 04 54 16.9 -0.6
HHC XP sP 04 54 19.9 -0.6
HHC PP PP 04 55 24.1 -2.3
HHC PCP PcP 04 56 50.5 +0.8
HHC S **S** **04 59 33.5 +2.1**
HHC SS SS 05 01 35.4 -22
HHC SCS ScS 05 04 31.8 -2.2
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,213nm,6.0s
HHC LR LR
comp=N,368nm,11.2s
HHC LR LR
comp=E,847nm,18.6s
HHC LR LR
comp=Z,204nm,8.8s
BJI Beijing 35.05 30 P **P 04 54 22.6 +0.5**
BJI AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
BJI AMB AMB
comp=Z,207nm,6.1s
BJI LR LR
comp=N,228nm,10.6s
BJI LR LR
comp=E,280nm,7.9s
BJI LR LR
comp=Z,121nm,44.4s
ULHL Ulahol 35.18 336 P **P 04 54 23.8 +0.6**
SNR=11
KZA Kyzart 35.44 335 P **P 04 54 26.5 +1.0**
SNR=6.8
WBK Wadi Bani Khal 35.78 294 P **P 04 54 32.0 +3.6**
SNR=6.4
UCH Uchtor 35.87 335 P **P 04 54 30.2 +1.1**
SNR=7.7
KBK Karagaybulak 36.05 335 P **P 04 54 31.7 +1.1**
SNR=5.8
AML Almayashu 36.15 334 P **P 04 54 32.4 +0.9**
SNR=23
AAK Ala-Archa 36.21 335 P **P 04 54 32.8 +0.7**
SNR=9.6
AAK Ala-Archa 36.21 335⇓ *i*P **P 04 54 31.9 -0.2**
AAK pmax pmax
comp=Z,15nm,1.2s,mb4.8
AAK Ala-Archa 36.21 335 *e*P **P 04 54 31.2 -0.9**
comp=Z,10nm,1.0s,mb4.7
FRU Bishkek 36.33 335 *e*P **P 04 54 31.0 -2.0**
FRU *e* 04 56 12.0
EKS2 Erkin-Say 36.54 334 P **P 04 54 36.1 +1.2**
SNR=12
SMDO Samad 36.72 294 P **P 04 54 39.7 +3.4**
SNR=9.2
USP Ospenovka 36.74 336 P **P 04 54 36.8 +0.2**
SNR=17
MK31 Makanchi Array 37.39 346 *i* P **P 04 54 41.5 -0.6**
MK31 pmax pmax
comp=Z,16nm,0.8s,mb4.9
MKAR Makanchi Array 37.39 346 P **P 04 54 42.1 0.0**
comp=Z,9.2nm,0.7s,mb4.7,baz=165,slow=8.4,SNR=109
MKAR LR LR 05 14 09.4
comp=Z,152nm,18.6s,MS3.8,baz=195,slow=43
BSY Bisya 37.41 293⇓P **P 04 54 45.8 +3.5**
SNR=15
HOQ Hoqain 37.50 295 P **P 04 54 46.1 +3.1**
SNR=8.0
KK31 Karatay Array 38.35 332 *i* P **P 04 54 50.3 +0.1**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
KKAR Karatay Array 38.35 332 *i* P **P 04 54 50.3 +0.1**
SONM Songino Array 38.38 13 P **P 04 54 51.1 +0.6**
comp=Z,3.0nm,0.9s,mb4.0,baz=196,slow=6.7,SNR=19
SONM PcP PcP 04 57 04.6 +0.9
comp=Z,1.7nm,0.7s,baz=191,slow=3.3,SNR=4.0
SONM LR LR 05 12 17.7
comp=Z,285nm,19.6s,MS4.1,baz=49,slow=39
SONM Songino Array 38.38 13 P **P 04 54 51.1 +0.7**
SONM 04 57 04.6
ULN Ulaanbaatar 38.56 14⇑ *e*P **P 04 54 52.2 +0.3**
ULN Ulaanbaatar 38.56 14 *e*P **P 04 54 52.0 +0.1**
comp=Z,5.1nm,1.0s,mb4.2
ASHO Ashiyiah 38.87 296 P **P 04 54 57.1 +2.6**
SNR=12
BANOM Banah 38.98 298 P **P 04 54 58.6 +3.1**
SNR=6.2
WHFO Wadi Hawf 39.88 285⇑P **P 04 55 05.6 +2.6**
SNR=9.0
ZAK Zakamensk 40.24 9 *e*P **P 04 55 05.8 -0.2**
ZAK *e* 04 57 02.2
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.0
ZAK pmax pmax
comp=Z,10.0nm,1.6s,mb4.3
KURK Kurchatov 41.93 345⇑ *e*P **P 04 55 19.5 -0.4**
KURK Kurchatov 41.93 345 *e*P **P 04 55 19.0 -0.9**
comp=Z,2µm,2.0s
KURK *e*pP pP 04 55 26.0 -1.4
CN2 Changchun 42.56 34 *e*P **P 04 55 25.9 +0.9**
CN2 *e*AP pP 04 55 33.4 +0.8
CN2 *e*S **S** **05 01 47.0 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,15.0s,MS4.5
CN2 LR LR
comp=E,400nm,15.0s,MS4.5
CN2 LR LR
comp=Z,500nm,16.0s,MS4.5
ZAL Zalesovo 43.78 352 P **P 04 55 35.7 +0.8**
comp=Z,7.3nm,0.8s,mb4.5,baz=293,slow=8.9,SNR=44
ZAL LR LR 05 16 41.1
comp=Z,106nm,20.7s,MS3.7,baz=277,slow=40
ZAL Zalesovo 43.78 352 P **P 04 55 35.7 +0.8**
ZAL LR LR 05 16 41.1
NVS Novosibirsk 44.89 351 *e*P **P 04 55 42.7 -1.1**
NVS *e*S **S** **05 02 17.7 -2.4**
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=Z,14nm,1.1s,mb4.7
NVS smax
comp=N,10.0nm,1.5s
NVS smax
comp=E,9.0nm,1.4s
MDJ Mudanjiang 45.39 35 P **P 04 55 45.8 -1.9**
MDJ PCP PcP 04 57 24.5 -2.3
MDJ PP PP 04 57 31.7 -2.4
MDJ SCP ScP 05 01 16.8 -1.0
MDJ PCS PcS 05 01 19.4 -1.3
MDJ S **S** **05 02 24.5 -2.8**
MDJ SCS ScS 05 05 40.8 -1.9
MDJ AMB AMB
comp=Z,9.0nm,1.7s,mb4.3
MDJ AMB AMB
comp=Z,131nm,5.4s
MDJ LR LR
comp=N,100nm,41.9s
MDJ LR LR
comp=E,100nm,49.3s
VOSK Vostochnaya 45.95 340 P **P 04 55 51.1 -1.0**
VOSK pmax pmax
comp=Z,12nm,1.0s,mb4.8
BVA0 Borovoye Array 46.39 340 *i* P **P 04 55 54.4 -1.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BRVK Borovoye 46.46 340 *e*P **P 04 55 55.3 -0.8**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 46.46 340 *e*P **P 04 55 55.3 -0.9**
comp=Z,2.8nm,0.8s,mb4.2
ZRNK Zerenda 46.80 339 *e*P **P 04 55 57.8 -1.1**
ZRNK *e**PP pP 04 56 04.7 -1.8
ZRNK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ZRNK Zerenda 46.80 339 *e*P **P 04 55 57.8 -1.1**
comp=Z,5.9nm,0.8s,mb4.6
ZRNK *e*pP pP 04 56 04.7 -1.8
MAT Matsushiro 47.16 50 P **P 04 56 03.5 +1.9**
MAT Matsushiro 47.16 50 P **P 04 56 04.0 +2.4**
MJAR Matsushiro Arr 47.16 50 P **P 04 56 03.4 +1.8**
comp=Z,1.0nm,0.3s,mb4.2,baz=240,slow=9.6,SNR=6.9
MJAR PcP PcP 04 57 34.0 +1.0
comp=Z,7.6nm,0.8s,baz=252,slow=3.6,SNR=16
AB31 Akbulak array 47.87 330 *i* P **P 04 56 06.3 -0.8**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
BOD Bodaibo 49.37 14 *e*P **P 04 56 18.1 -0.6**
BOD pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
WRA Warramunga Arr 49.79 128 P **P 04 56 22.5 +0.6**
comp=Z,11nm,0.7s,mb5.0,baz=304,slow=9.0,SNR=123
WRAB Tennant Creek 49.79 128 *e*P **P 04 56 22.1 +0.2**
WRAB *e**PP pP 04 56 29.1 -0.5
WRAB *e**SP sP 04 56 34.3 +1.7
WRAB pmax pmax
comp=Z,19nm,0.7s,mb5.2
WRAB Tennant Creek 49.79 128 *e*P **P 04 56 22.1 +0.2**
comp=Z,18nm,0.7s,mb5.2
WRAB *e*pP pP 04 56 29.1 -0.5
WRAB *e*sP sP 04 56 34.3 +1.7
WB2 Warramunga Arr 49.80 128⇓ *i*P **P 04 56 22.7 +0.8**
WB2 *e* pP 04 56 29.3 -0.3
ASAR Alice Springs 51.62 132 P **P 04 56 36.4 +0.7**
comp=Z,14nm,0.8s,mb4.9,baz=308,slow=6.6,SNR=135
CLNS Chul'man 51.73 21 *e*P **P 04 56 34.4 -2.1**
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=Z,23nm,0.8s,mb5.2
CLNS pmax pmax
comp=E,11nm,0.9s
GNI Garni 52.63 313 *e*P **P 04 56 44.2 +1.0**
GNI pmax pmax
comp=Z,35nm,1.1s
GNI Garni 52.63 313 *e*P **P 04 56 44.2 +1.0**
comp=Z,35nm,1.1s,mb5.2
ARU Arti 53.38 336⇓ *i*P **P 04 56 48.1 -0.6**
ARU *e* 04 58 47.4
ARU *e*S **S** **05 04 18.6 -0.7**
ARU *e*SS SS 05 07 59.2 -0.1
ARU pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
ARU MLR MLR
comp=N,200nm,21.0s,MS4.3
ARU MLR MLR
comp=Z,300nm,21.0s,MS4.3
ARU MLR MLR
comp=E,200nm,20.0s,MS4.3
ZEI Tsey 54.13 316 *i* P **P 04 56 51.5 -2.7**
ZEI *i* 04 57 52.8
ZEI pmax pmax
comp=Z,11nm,1.0s,mb4.7
YSS Yuzh-Sakhalins 54.46 39 *i* P **P 04 56 57.9 +1.3**
YSS pmax pmax
comp=Z,21nm,1.4s,mb4.9
OPO Ambohidratompo 54.85 238 P **P 04 56 59.5 +0.1**
comp=Z,3.1nm,0.8s,mb4.4,baz=68,slow=11,SNR=5.2
KIV Kislovodsk 55.38 317⇑ *e*P **P 04 57 03.7 +0.4**
KIV *e* 04 58 02.7
KIV pmax pmax
comp=Z,26nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,100nm,18.0s,MS3.9
KIV Kislovodsk 55.38 317 *e*P **P 04 57 03.4 +0.1**
comp=Z,21nm,1.0s,mb5.1
MALT Malatya 56.81 309 *e*P **P 04 57 13.4 -0.1**
MALT pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MALT Malatya 56.81 309 *e*P **P 04 57 13.4 -0.1**
comp=Z,7.5nm,1.1s,mb4.6
YAK Yakutsk 57.27 19 *e*P **P 04 57 15.7 -1.0**
YAK *e**PP pP 04 57 21.8 -2.7
YAK pmax pmax
comp=Z,30nm,0.8s,mb5.4
YAK Yakutsk 57.27 19 *e*P **P 04 57 15.7 -1.1**
comp=Z,30nm,0.8s,mb5.4
YAK *e*pP pP 04 57 21.8 -2.8
SOC Sochi 57.29 315 *e*P **P 04 57 15.2 -1.7**
SOC *e* 04 58 11.7
SOC *e* 04 59 18.7
SOC *e*PPP 05 00 38.8
SOC *e*S **S** **05 05 06.0 -5.5**
SOC *e**SS sS 05 05 31.3 +7.0
SOC *e* 05 07 04.1
SOC pmax pmax
comp=Z,21nm,1.0s,mb5.1
SOC MLR MLR
comp=Z,132nm,15.0s,MS4.2
KMBO Kilima Mbogo 57.96 262 P **P 04 57 20.9 -0.7**
comp=Z,0.4nm,0.4s,mb3.8,baz=45,slow=14,SNR=4.2
KMBO LR LR 05 19 44.5
comp=Z,55nm,18.1s,MS3.7,baz=85,slow=34
KMBO Kilima Mbogo 57.96 262 P **P 04 57 20.9 -0.7**
KMBO LR LR 05 19 44.5
EIL Elat 58.22 298 *e*P **P 04 57 23.0 -0.5**
comp=Z,180nm,1.0s
CTA Charters Tower 59.56 121 LR LR 05 25 36.7
comp=Z,86nm,20.9s,MS3.9,baz=232,slow=38
CTAO Charters Tower 59.56 121 *e*P **P 04 57 33.4 +0.7**
CTAO pmax pmax
comp=Z,20nm,1.1s,mb5.1
CTAO Charters Tower 59.56 121 *e*P **P 04 57 33.4 +0.7**
comp=Z,20nm,1.1s,mb5.1
BR131 Keskin Array S 60.76 310 *e*P **P 04 57 39.5 -1.4**
comp=Z,4.9nm,0.8s,mb4.7
BR131 *e*pP pP 04 57 46.3 -2.4
BRTR Keskin Array B 60.76 310 P **P 04 57 39.6 -1.3**
comp=Z,5.9nm,0.8s,mb4.8,baz=122,slow=7.3,SNR=34
STKA Stephens Creek 61.94 135⇓ *i*P **P 04 57 47.7 -1.2**
comp=Z,7.4nm,1.0s,mb4.8
STKA Stephens Creek 61.94 135 P **P 04 57 47.8 -1.1**
comp=Z,9.6nm,1.0s,mb4.9,baz=301,slow=4.4,SNR=11
STKA LR LR 05 23 08.6
comp=Z,216nm,21.9s,MS4.3,baz=331,slow=34
OBN Obninsk 63.11 327 *e*P **P 04 57 56.5 -0.2**
OBN *e* 04 58 32.1
OBN pmax pmax
comp=Z,21nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
MA2 Magadan 64.19 28 *e*P **P 04 58 04.3 +0.4**
MA2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
MA2 Magadan 64.19 28 *e*P **P 04 58 03.9 0.0**
comp=Z,29nm,1.5s,mb5.1
TIXI Tiksi 64.44 11⇓ *e*P **P 04 58 03.6 -1.9**
TIXI pmax pmax
comp=Z,20nm,1.4s,mb5.0
AKASG Malin Array Be 66.08 321 P **P 04 58 14.3 -1.8**
comp=Z,0.2nm,0.3s,mb3.7,baz=86,slow=6.7,SNR=4.9
SEY Seymchan 66.30 25⇑ *i*P **P 04 58 17.3 -0.2**
VRI Vrincioaia 66.81 315⇓P **P 04 58 20.7 -0.1**
MLR Muntele Rosu 67.30 315⇓P **P 04 58 23.9 0.0**
BURAR Bucovina Array 68.10 317⇓P **P 04 58 28.5 -0.5**
JOF Joensuu 68.39 334 *e*p **P 04 58 29.7 -1.1**
comp=Z,3.7nm,0.7s,mb4.5
KOLS Kolonicke sedl 70.22 318 *e*pP pP 04 58 48.5 -1.5
FINES FINESS Array B 70.31 332 P **P 04 58 41.8 -0.9**
comp=Z,2.5nm,0.8s,mb4.2,baz=101,slow=4.6,SNR=12
KAF Kangasniemi 70.38 332 *e*p **P 04 58 41.0 -2.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=103,slow=5.8
KAF Kangasniemi 70.38 332 *e*P **P 04 58 41.0 -2.1**
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LSZ Lusaka 70.41 250 *e*P **P 04 58 44.0 +0.8**
LSZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSZ Lusaka 70.41 250 *e*P **P 04 58 44.0 +0.7**
comp=Z,4.1nm,0.6s,mb4.5
STHS Stebnicka Huta 70.94 319 *e* **P 04 58 41.4 -5.1**
STHS *e* 04 59 16.7
OJC Ojcow 71.95 319 *e*P **P 04 58 52.2 -0.4**
VYHS Vyhne 72.45 318 *e*P **P 04 58 54.4 -1.2**
ARCES ARCESS Array B 72.68 340 P **P 04 58 56.8 -0.2**
comp=Z,5.6nm,0.8s,mb4.5,baz=86,slow=6.4,SNR=14
ARCES LR LR 05 33 56.6
comp=Z,215nm,21.5s,MS4.4,baz=45,slow=38
MORC Moravsky Berou 73.37 319 *e*P **P 04 59 00.1 -0.9**
MORC pmax pmax
comp=Z,35nm,2.0s,mb4.9
MORC Moravsky Berou 73.37 319 *e*P **P 04 59 00.1 -1.0**
comp=Z,35nm,2.0s,mb4.9
BILL Bilibino 73.41 22⇑ *i*P **P 04 59 01.0 -0.2**
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.1
BILL Bilibino 73.41 22 *e*P **P 04 59 00.6 -0.7**
comp=Z,2.5nm,0.8s,mb4.2
LBTB Lobatse 75.77 241 *e*P **P 04 59 15.4 +0.4**
LBTB pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
LBTB Lobatse 75.77 241 *e*P **P 04 59 15.4 +0.5**
comp=Z,9.8nm,1.1s,mb4.7
GERES GERESS Array B 75.86 318 P **P 04 59 15.2 -0.3**
comp=Z,1.9nm,0.7s,mb4.1,baz=86,slow=5.9,SNR=20
KHC Kasperske Hory 75.94 318 *e*P sP 04 59 34.0 +7.1
HFS Hagfors 76.12 329 P **P 04 59 15.6 -1.4**
comp=Z,4.8nm,0.8s,mb4.5,baz=125,slow=7.4,SNR=7.4
CLL Collm 76.31 320 *e*P **P 04 59 17.0 -1.0**
CLL *e**PP pP 04 59 24.0 -2.0
BOSA Boshof 77.25 237 P **P 04 59 23.4 +0.1**
comp=Z,2.1nm,0.5s,mb4.3,baz=114,slow=2.5,SNR=7.6
BOSA Boshof 77.25 237 *e*P **P 04 59 23.5 +0.2**
BOSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BOSA Boshof 77.25 237 *e*P **P 04 59 23.5 +0.2**
comp=Z,3.0nm,0.5s,mb4.5
NB2 NORSAR Subarra 77.37 330 P **P 04 59 22.6 -1.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=89,slow=5.9
NB2 NORSAR Subarra 77.37 330 P **P 04 59 22.6 -1.4**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 77.37 330 P **P 04 59 22.8 -1.3**
comp=Z,2.5nm,0.9s,mb4.2,baz=91,slow=5.8,SNR=7.1
NOA NORSAR Array B 77.37 330 P **P 04 59 22.8 -1.3**
GRA1 Grafenberg Arr 77.47 319 *e*P **P 04 59 24.6 0.0**
GRF Grafenberg Arr 77.47 319 *e*P **P 04 59 24.6 0.0**
comp=Z,8.0nm,1.3s,mb4.5
GRF *e*L 05 43 25.6
comp=Z,335nm,18.8s
LPG La Plagne 80.77 315 *e*P **P 04 59 42.3 -0.3**
comp=Z,29nm,1.1s,mb4.8
LPG La Plagne 80.77 315 *e*P **P 04 59 42.3 -0.3**
LPG pmax pmax
comp=Z,14nm,1.0s,mb4.8
LPG La Plagne 80.77 315 *e*P **P 04 59 42.3 -0.3**
comp=Z,14nm,1.0s,mb4.9
BNI Bardonecchia 80.87 314 *e*P **P 04 59 45.0 +1.9**
BNI pmax pmax
comp=Z,43nm,1.6s,mb5.1
BNI Bardonecchia 80.87 314 *e*P **P 04 59 45.0 +1.9**
comp=Z,43nm,1.6s,mb5.1
TSUM Tsumeb 81.22 249 *e*P **P 04 59 45.8 +0.7**
comp=Z,3.8nm,0.9s,mb4.3
RPZ Rata Peaks 87.91 135 LR LR 05 35 57.1
comp=Z,285nm,21.6s,MS4.7,baz=119,slow=33
ESDC Sonseca Array 89.54 310 P **P 05 00 26.0 -0.5**
comp=Z,0.8nm,0.6s,mb4.2,baz=62,slow=3.3,SNR=5.5
TORD Torodi Ar. Bea 90.13 283 P **P 05 00 29.7 +0.4**
comp=Z,2.4nm,0.8s,mb4.6,baz=84,slow=4.3,SNR=18
TORD PP PP 05 04 02.5 -0.2
comp=Z,1.7nm,0.9s,baz=68,slow=6.5,SNR=8.2
SUMG Summit 91.44 347 *e*P **P 05 00 35.6 +0.3**
comp=Z,17nm,1.4s,mb5.2
MCK McKinley 91.80 23 *e*P **P 05 00 35.9 -1.1**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MCK McKinley 91.80 23 *e*P **P 05 00 35.9 -1.1**
comp=Z,4.5nm,0.9s,mb4.8
ILAR Eielson Array 92.07 22 P **P 05 00 37.1 -1.1**
comp=Z,1.2nm,0.7s,mb4.3,baz=306,slow=4.3,SNR=16
VNDA Vanda 95.65 168 P **P 05 00 54.5 -0.2**
VNDA pmax pmax
comp=Z,10.0nm,1.4s
VNDA Vanda 95.65 168 P **P 05 00 54.5 -0.2**
comp=Z,9.8nm,1.4s,mb5.0
YKA Yellowknife Ar 103.64 13 PP PP 05 05 46.0 -0.9
comp=Z,0.4nm,0.9s,baz=318,slow=6.6,SNR=4.8
LOHW Long Hollow 121.36 21 *e*PKPdf PKPdf 05 06 22.7 +0.4
SNOW Snow King Moun 121.44 21 *e*PKPdf PKPdf 05 06 23.7 +1.2
NVAR Mina Array Bea 122.40 30 PKP PKPdf 05 06 26.4 +2.1
comp=Z,1.5nm,0.6s,baz=354,slow=1.6,SNR=9.2
NVAR Mina Array Bea 122.40 30 PKP PKPdf 05 06 26.4 +2.1

PDAR Pinedale Array 44.04 340 P P 04 57 24.9 +0.2
comp=Z,1.9nm,0.9s,mb3.8,baz=146,slow=6.8,SNR=12
PDAR LR LR 05 15 46.3
comp=Z,94nm,19.8s,MS3.7,baz=267,slow=36
NVAR Mina Array Bea 44.25 329 P P 04 57 27.7 +1.3
comp=Z,3.1nm,0.8s,mb4.1,baz=149,slow=9.8,SNR=22
NVAR PcP PcP 04 59 11.0 +0.2
comp=Z,1.3nm,0.8s,baz=132,slow=4.3,SNR=4.4
NVAR Mina Array Bea 44.25 329 P P 04 57 27.7 +1.3
NVAR PcP PcP 04 59 11.0 +0.2
REDW Red Top Meadow 45.01 339 *eP* **P 04 57 32.3 -0.1**
comp=Z,20nm,1.2s,mb4.8
SNOW Snow King Moun 45.07 339 *eP* **P 04 57 32.8 -0.1**
comp=Z,22nm,1.1s,mb4.9
LOHW Long Hollow 45.15 340 *eP* **P 04 57 33.3 -0.3**
comp=Z,12nm,1.4s,mb4.5
BDFB Brasilia 45.70 114 P **P 04 57 37.8 -0.1**
comp=Z,3.2nm,0.8s,mb4.3,baz=304,slow=6.0,SNR=3.2
BDFB LR LR 05 18 07.5
comp=Z,283nm,18.6s,MS4.2,baz=279,slow=38
PLCA Paso Flores 46.25 159 P **P 04 57 41.6 -0.6**
comp=Z,4.4nm,1.0s,mb4.3,baz=352,slow=11,SNR=6.5
PLCA Paso Flores 46.25 159 *eP* **P 04 57 41.7 -0.6**
PLCA pmax pmax
comp=Z,7.0nm,1.0s
PLCA Paso Flores 46.25 159 *eP* **P 04 57 41.7 -0.6**
comp=Z,6.8nm,1.0s,mb4.5
QLMT Earthquake Lak 46.50 340 *eP* **P 04 57 45.1 +0.9**
LAO LASA Array 46.62 345 *eP* **P 04 57 44.6 -0.6**
comp=Z,8.3nm,1.1s,mb4.6
GCMT Greycliff 46.77 342 *eP* **P 04 57 45.8 -0.5**
MCMT McKenzie Canyo 47.00 339 *eP* **P 04 57 49.1 +0.9**
BOZ Bozeman (W) 47.28 340 *eP* **P 04 57 49.7 -0.6**
BOZ pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BOZ Bozeman (W) 47.28 340 *eP* **P 04 57 49.7 -0.7**
comp=Z,6.1nm,1.1s,mb4.4
ULM Lac du Bonnet 48.38 356 P **P 04 57 57.5 -1.4**
comp=Z,6.9nm,0.9s,mb4.7,baz=178,slow=8.5,SNR=15
ULM LR LR 05 19 33.6
comp=Z,180nm,18.1s,MS4.1,baz=222,slow=38
RKT Rikitea 49.70 237 *eLQ* 05 10 13.3
comp=Z,463nm,31.8s
RKT *eLR* LR 05 12 14.5
comp=Z,330nm,26.8s
TAOE Nuku Hiva Isla 50.36 257 *eLR* LR 05 12 35.6
comp=Z,508nm,24.8s
FFC Flin Flon 53.46 352 *eP* **P 04 58 36.1 -1.0**
FFC pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
FFC Flin Flon 53.46 352 *eP* **P 04 58 36.1 -1.0**
comp=Z,8.7nm,1.3s,mb4.5
SCHQ Schefferville 56.27 16 LR LR 05 21 35.2
comp=Z,244nm,19.5s,MS4.3,baz=205,slow=34
FCC Fort Churchill 56.78 358 *eP* **P 04 58 59.7 -1.4**
FCC pmax pmax
comp=Z,11nm,1.0s,mb4.8
FCC Fort Churchill 56.78 358 *eP* **P 04 58 59.7 -1.4**
comp=Z,11nm,1.0s,mb4.8
PPT Papeete 61.06 249 *eLR* LR 05 17 31.8
comp=Z,109nm,27.0s
TBI Tubuai 62.33 242 *eS* **S 05 08 22.9 +17**
comp=Z,68nm,33.2s
TBI *eLR* LR 05 18 06.5
comp=Z,200nm,27.2s
YKA Yellowknife Ar 63.04 348 P **P 04 59 42.6 -1.5**
comp=Z,5.2nm,0.9s,mb4.7,baz=147,slow=6.6,SNR=69
YKA LR LR 05 26 40.6
comp=Z,120nm,21.2s,MS4.0,baz=85,slow=36
YKW3 Yellowknife Ar 63.10 348 *eP* **P 04 59 42.8 -1.8**
INK Inuvik 72.35 345 *eP* **P 05 00 42.1 -0.8**
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 72.35 345 *eP* **P 05 00 42.1 -0.8**
comp=Z,6.0nm,1.1s,mb4.4
RES Resolute Bay 72.76 359 *eP* **P 05 00 42.9 -2.4**
RES pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
RES Resolute Bay 72.76 359 *eP* **P 05 00 42.9 -2.4**
comp=Z,6.2nm,1.1s,mb4.5
ILAR Eielson Array 74.44 338 P **P 05 00 53.8 -1.4**
comp=Z,3.8nm,0.9s,mb4.3,baz=144,slow=4.4,SNR=29
SUMG Summit 77.57 14 *eP* **P 05 01 12.2 -0.8**
comp=Z,16nm,1.2s,mb4.8
DBIC Dimbokro 85.72 83 P **P 05 01 55.8 -0.3**
comp=Z,2.5nm,0.7s,mb4.6,baz=256,slow=7.0,SNR=5.9
ESDC Sonseca Array 86.34 51 P **P 05 01 59.3 +0.1**
comp=Z,1.6nm,0.8s,mb4.3,baz=278,slow=4.4,SNR=6.4
SNAA Sanae 91.12 162 P **P 05 02 20.3 -1.5**
SNAA pmax pmax
comp=Z,9.0nm,1.2s
SNAA Sanae 91.12 162 P **P 05 02 20.2 -1.5**
comp=Z,8.8nm,1.2s,mb5.0
MDJ Mudanjiang 121.41 327 PKP PKPdf 05 08 08.9 -1.5
BRVK Borovoye 122.99 14 *e*PKIKP PKPdf 05 08 11.2 -2.2
CN2 Changchun 124.15 329 *e*PKP PKPdf 05 08 16.5 +0.8
MKAR Makanchi Array 131.14 6 PKP PKPdf 05 08 26.6 -2.3
comp=Z,0.3nm,0.8s,baz=309,slow=0.8,SNR=3.6
BJI Beijing 131.54 332 PKP PKPdf 05 08 30.7 +1.0
ASAR Alice Springs 131.67 240 PKP PKPdf 05 08 29.9 -0.1
comp=Z,0.5nm,0.8s,baz=94,slow=2.8,SNR=5.5
WRAB Tennant Creek 132.43 245 PKIKP PKPdf 05 08 31.1 -0.3
WRA Warramunga Arr 132.44 245 PKP PKPdf 05 08 31.1 -0.3
comp=Z,0.6nm,0.7s,baz=102,slow=2.1,SNR=10
HHC Hu-ho-hao-te 132.85 337 *e*PKP PKPdf 05 08 33.0 +0.8
HHC PP PP 05 11 01.0 +3.8
HHC PKS 05 12 08.5
HHC SKS SKSdf 05 15 42.7 -1.2
HHC SKKS SKKSac 05 17 51.7 -2.0
HHC SS SS 05 28 39.7 +0.9
HHC LR LR
comp=Z,205nm,48.0s,MS4.5
WMQ Urumqi 134.48 2 *e*PKP PKPdf 05 08 35.0 -0.3
WMQ LR LR
comp=N,108nm,24.0s
WMQ LR LR
comp=Z,89nm,24.0s,MS4.4
SSE Sheshan 135.29 320 *e*PKP PKPdf 05 08 37.7 +0.9
CD2 Chengdu 144.58 338 *e*PKP PKPdf 05 08 51.4 -2.2
CD2 PP PP 05 12 08.4 -1.4
CD2 SKS SKSdf 05 15 55.8 -7.5
CD2 SKKS SKKSac 05 18 56.3 -6.5
CD2 SS SS 05 30 52.4 -4.8
CD2 PP PP
comp=Z,80nm,9.5s
CD2 LR LR
comp=E,70nm,13.2s
CD2 LR LR
comp=Z,90nm,16.8s,MS4.6

IDC 11 05:19:05.4±68.0, 1812S×17731E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=1211.0km s-min=142.8km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.98**	**240**	P	P	05 25 59.5	+0.3
	1.1nm,0.5s,baz=69,slow=8.6,SNR=5.4						
WRA	**Warramunga Arr**	**40.59**	**260**	P	P	05 26 46.8	+0.1
	0.5nm,0.7s,baz=95,slow=7.8,SNR=13						
ASAR	**Alice Springs**	**40.81**	**255**	P	P	05 26 49.0	+0.4
	3.1nm,0.5s,baz=89,slow=8.1,SNR=81						

IDC 11 05:28:11.9±1.4, 5971N×2996W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.5/26, mbtmp3.6/6, ML4.0/1, MS3.9/19, Ms1 3.9/19, ms1mx3.8/27, Error ellipse: s-maj=36.8km s-min=26.2km az=34.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.46**	**35**	Pn	Pn	05 29 47.8	-0.5
	3.6nm,0.3s,baz=198,slow=7.4,SNR=12						
SFJD	**Kangerlussuaq**	**11.74**	**317**	LR	LR	05 34 43.2	
	comp=Z,707nm,19.2s,baz=76,slow=33						
EKA	**Eskdalemuir Ar**	**15.00**	**95**	Pn	Pn	05 31 51.0	+5.8
	0.1nm,0.3s,baz=302,slow=8.7,SNR=4.9						
SCHQ	**Schefferville**	**20.33**	**272**	P	P	05 32 49.3	-0.3
	3.6nm,0.9s,baz=34,slow=11,SNR=3.8						
SCHQ				LR	LR	05 39 54.1	
	comp=Z,106nm,18.7s,baz=28,slow=34						
HFS	**Hagfors**	**21.59**	**70**	LR	LR	05 40 31.6	
	comp=Z,193nm,18.8s,baz=242,slow=34						
DAVOX	**Davos**	**26.66**	**101**	LR	LR	05 43 03.1	
	comp=Z,184nm,20.8s,baz=279,slow=33						
FINES	**FINESS Array B**	**26.87**	**62**	LR	LR	05 42 47.3	
	comp=Z,124nm,21.4s,baz=114,slow=33						
GERES	**GERESS Array B**	**27.21**	**94**	LR	LR	05 45 23.6	
	comp=Z,222nm,18.5s,baz=276,slow=38						
VRAC	**Vranov**	**28.38**	**91**	LR	LR	05 43 33.7	
	comp=Z,184nm,19.6s,baz=292,slow=32						
SADO	**Sadowa**	**32.75**	**265**	LR	LR	05 46 49.4	
	comp=Z,265nm,18.8s,baz=50,slow=34						
ULM	**Lac du Bonnet**	**37.46**	**286**	LR	LR	05 49 41.8	
	comp=Z,197nm,21.1s,baz=25,slow=34						
YKA	**Yellowknife Ar**	**38.24**	**312**	P	P	05 35 32.6	-1.0
	0.4nm,0.8s,baz=53,slow=9.4,SNR=6.7						
YKA				LR	LR	05 50 35.2	
	comp=Z,197nm,19.7s,baz=0.0,slow=35						
INK	**Inuvik**	**40.88**	**326**	LR	LR	05 51 56.2	
	comp=Z,150nm,20.3s,baz=26,slow=35						
ILAR	**Eielson Array**	**47.12**	**329**	P	P	05 36 45.5	-0.3
	0.5nm,0.9s,baz=32,slow=7.0,SNR=6.5						
ILAR				LR	LR	05 54 56.3	
	comp=Z,69nm,20.1s,baz=359,slow=34						
NEW	**Newport**	**48.84**	**298**	LR	LR	05 57 04.2	
	comp=Z,366nm,20.3s,baz=1.2,slow=36						
SJG	**San Juan**	**49.05**	**228**	LR	LR	05 52 37.1	
	comp=Z,57nm,19.7s,baz=272,slow=30						
PDAR	**Pinedale Array**	**49.41**	**287**	P	P	05 37 03.2	-0.3
	0.3nm,0.7s,baz=46,slow=8.1,SNR=3.5						
PDAR				LR	LR	05 57 14.2	
	comp=Z,191nm,20.6s,baz=23,slow=35						
BBB	**Bella Bella**	**50.58**	**308**	LR	LR	05 58 14.0	
	comp=Z,223nm,19.9s,baz=313,slow=36						
TORD	**Torodi Ar. Bea**	**52.04**	**140**	P	P	05 37 23.1	-0.2
	0.5nm,0.7s,baz=333,slow=7.9,SNR=5.2						
DBIC	**Dimbokro**	**56.27**	**150**	LR	LR	05 59 28.1	
	comp=Z,82nm,19.2s,baz=5.2,slow=33						
YBH	**Yreka Blue Hor**	**56.39**	**296**	LR	LR	06 01 55.8	
	comp=Z,318nm,21.1s,baz=0.8,slow=36						
NVAR	**Mina Array Bea**	**56.97**	**291**	LR	LR	06 02 14.4	
	comp=Z,109nm,19.0s,baz=90,slow=36						

IDC ***11*** *05:48:52.9±2.0, 538N×12356E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, Error ellipse: s-maj=222.4km s-min=26.4km az=63.0*
ISCJB ***11*** *05:48:55.0±2.0, 68N±01×1265E±02, h66km±26km, mb3.2/3, Error ellipse: s-maj=41.4km s-min=25.4km az=155.7*
ISC 11 05:48:56.0±2.2, 68N±01×1265E±02, h51km±28km, n5, σ1$08/6, mb3.2/3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.41**	**355**	*eP*	**Pn**	**05 49 19.4**	**+0.1**
BIPH				eS	**Sn**	**05 49 36.7**	**-0.1**
BUKP	**Musuan**	**1.79**	**308**	*eP*	**Pn**	**05 49 24.5**	**0.0**
WRA	**Warramunga Arr**	**27.65**	**164**	P	**P**	**05 54 39.9**	**+1.1**
	0.1nm,0.4s,mb2.8,baz=336,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**31.11**	**167**	P	**P**	**05 55 08.3**	**-1.1**
	0.1nm,0.3s,mb3.1,baz=338,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**54.95**	**324**	P	**P**	**05 58 21.8**	**0.0**
	0.4nm,0.5s,mb3.8,baz=120,slow=8.0,SNR=7.6						

NEIC ***11*** *05:56:25.2, 5346N×16368W, h6km, ML3.3(AEIC), After AEIC.*
ISCJB ***11*** *05:56:26.2±1.9, 536N±02×1635W±01, h44km±13km, mb3.8/6, Error ellipse: s-maj=35.1km s-min=11.4km az=153.7*
IDC ***11*** *05:56:33.5±5.1, 5433N×16398W, h51km±31km, mb3.5/5, mb1 3.5/8, mb1mx3.4/24, mbtmp3.6/8, ML3.6/4, Error ellipse: s-maj=101.4km s-min=23.2km az=166.0*
ISC 11 05:56:28.1±1.8, 536N±02×1636W±01, h43km±12km, n16, σ1$04/17, mb3.8/6, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.40**	**293**	P	**Pn**	**05 56 50.6**	**-0.5**
AKUT				S	**Sn**	**05 57 09.7**	**+1.3**
AKLV	**Akutan Long Va**	**1.51**	**293**	P	**Pn**	**05 56 52.1**	**-0.5**
UNV	**Unalaska Valle**	**1.75**	**279**	P	**Pn**	**05 56 54.7**	**-1.2**
OKCD	**Okmok Cone D**	**2.70**	**268**	P	**Pn**	**05 57 08.4**	**-0.6**
KDAK	**Kodiak Island**	**7.50**	**52**	P	**Pn**	**05 58 16.1**	**+1.2**
	0.9nm,0.3s,baz=321,slow=17,SNR=7.9						
FX1	**Attu Island--F**	**13.93**	**276**	P	**Pn**	**05 59 44.5**	**+1.8**
	1.0nm,0.3s,baz=233,slow=20,SNR=11						
ILAR	**Eielson Array**	**14.03**	**31**	P	**Pn**	**05 59 43.0**	**-1.2**
	0.1nm,0.3s,baz=217,slow=12,SNR=7.3						
INK	**Inuvik**	**20.42**	**32**	P	**P**	**06 01 00.8**	**-0.7**
	0.2nm,0.3s,baz=218,slow=5.1,SNR=10						
INK	**Inuvik**	**20.42**	**32**	P	**P**	**06 01 00.8**	**-0.7**
YKA	**Yellowknife Ar**	**26.78**	**51**	P	**P**	**06 02 05.9**	**+2.1**
	0.5nm,0.7s,mb3.1,baz=267,slow=8.3,SNR=10						
YKA	**Yellowknife Ar**	**26.78**	**51**	P	**P**	**06 02 05.9**	**+2.1**
SONM	**Songino Array**	**53.61**	**303**	P	**P**	**06 05 44.5**	**-0.5**
	0.7nm,0.6s,mb3.8,baz=49,slow=5.5,SNR=4.3						
JOF	**Joensuu**	**63.24**	**352**	*ep*	**P**	**06 06 52.4**	**+0.4**
	0.7nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**65.05**	**355**	P	**P**	**06 07 02.5**	**-1.3**
	0.9nm,0.7s,mb3.9,baz=17,slow=8.4,SNR=4.6						
MKAR	**Makanchi Array**	**65.41**	**316**	P	**P**	**06 07 06.5**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=42,slow=7.5,SNR=4.3						
AKASG	**Malin Array Be**	**75.52**	**352**	P	**P**	**06 08 07.9**	**0.0**
	0.6nm,0.4s,mb3.9,baz=11,slow=5.6,SNR=6.1						

IDC 11 06:10:21.3±6.3, 1813S×6972W, h121km±41km, mb3.5/2, mb1 3.5/4, mb1mx3.2/18, mbtmp3.7/4, Error ellipse: s-maj=63.5km s-min=41.6km az=35.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.38**	**40**	P	Pn	06 11 00.8	+1.2
	2.2nm,0.3s,baz=229,slow=6.8,SNR=59						
LPAZ				S	Sn	06 11 30.6	+1.6
	1.0nm,0.3s,baz=18,slow=25,SNR=3.9						
SIV	**San Ignacio**	**8.54**	**77**	P	Pn	06 12 21.2	-0.9
	0.7nm,0.3s,baz=264,slow=11,SNR=23						
TORD	**Torodi Ar. Bea**	**76.98**	**71**	P	P	06 22 01.5	+0.9
	1.0nm,0.5s,baz=260,slow=4.9,SNR=17						
YKA	**Yellowknife Ar**	**87.77**	**341**	P	P	06 22 55.9	-0.7
	0.2nm,0.4s,baz=133,slow=4.9,SNR=6.9						

IDC ***11*** *06:10:51.4±9.6, 3136S×17832W, h62km±91km, mb4.4/3, mb1 4.4/4, mb1mx4.0/14, mbtmp4.4/4, ML3.5/1, Error ellipse: s-maj=75.4km s-min=53.9km az=159.0*
NEIC ***11*** *06:10:54.1±1.6, 3155S×178.16W, h100km, mb4.7/1, Error ellipse: s-maj=32.5km s-min=17.5km az=97.0*
ISCJB ***11*** *06:10:59.9±2.2, 3225S±007×1778W±03, h200km, mb4.2/4, Error ellipse: s-maj=40.4km s-min=6.7km az=23.1*
ISC 11 06:10:59.0±2.6, 3238S±009×1774W±04, h200km, n23, σ0$93/25, mb4.2/4, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.26**	**213**	PN	**Pn**	**06 12 29.8**	**+0.3**
MXZ				SN	**Sn**	**06 13 42.5**	**+1.2**
PUZ	**Puketiti**	**6.70**	**211**	PN	**Pn**	**06 12 35.1**	**-0.2**
PUZ				SN	**Sn**	**06 13 51.7**	**+0.1**
MWZ	**Matawai**	**7.24**	**213**	SN	**Sn**	**06 14 09.4**	**+5.0**
URZ	**Urewera**	**7.38**	**216**	P	**Pn**	**06 12 44.0**	**-0.2**
	0.6nm,0.3s,baz=342,slow=22,SNR=9.3						
URZ				S	**Sn**	**06 14 09.1**	**+1.3**
	5.4nm,0.3s,baz=182,slow=20,SNR=17						
URZ	**Urewera**	**7.38**	**216**	PN	**Pn**	**06 12 43.6**	**-0.6**
URZ				SN	**Sn**	**06 14 09.1**	**+1.3**
KNZ	**Kokohu**	**7.74**	**210**	SN	**Sn**	**06 14 16.5**	**+0.2**
PXZ	**Pawanui**	**8.93**	**210**	SN	**Sn**	**06 14 45.4**	**+0.9**
MRZ	**Mangatainoka R**	**10.01**	**212**	SN	**Sn**	**06 15 07.8**	**-2.2**
KIW	**Kapiti Island**	**10.48**	**214**	SN	**Sn**	**06 15 18.6**	**-2.7**
TCW	**Tory Channel**	**11.05**	**215**	SN	**Sn**	**06 15 30.0**	**-4.9**
NNZ	**Nelson**	**11.50**	**217**	SN	**Sn**	**06 15 40.1**	**-5.6**
THZ	**Tophouse**	**12.14**	**217**	SN	**Sn**	**06 15 55.4**	**-5.6**
MQZ	**McQueen's Vall**	**13.75**	**212**	SN	**Sn**	**06 16 30.5**	**-8.8**
STKA	**Stephens Creek**	**34.58**	**260**	P	**P**	**06 17 29.0**	**+0.2**
	2.4nm,0.5s,mb4.0,baz=99,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**34.58**	**260**	*eP*	**P**	**06 17 28.8**	**0.0**
AS31	**Alice Springs**	**43.55**	**269**	∥ *iP*	**P**	**06 18 43.3**	**+0.3**
ASAR	**Alice Springs**	**43.55**	**269**	P	**P**	**06 18 43.4**	**+0.4**
	3.0nm,0.4s,mb4.0,baz=107,slow=7.6,SNR=84						
ASPA	**Alice Springs**	**43.55**	**269**	∥ *iP*	**P**	**06 18 43.3**	**+0.3**
WB2	**Warramunga Arr**	**44.70**	**274**	*eP*	**P**	**06 18 51.8**	**-0.3**
WRAB	**Tennant Creek**	**44.71**	**274**	*eP*	**P**	**06 18 51.7**	**-0.5**
	7.2nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**44.71**	**274**	P	**P**	**06 18 51.9**	**-0.3**

7.8nm,0.3s,mb4.5,baz=112,slow=8.0,SNR=196
FINES FINESS Array B 147.18 339 PKPbc PKPbc 06 30 21.9 +3.4
2.0nm,1.0s,baz=52,slow=3.1,SNR=6.2
FINES FINESS Array B 147.18 339 PKPbc PKPbc 06 30 21.9 +3.4

ISCJB ***11*** *06:15:33.0±0.6, 4251N±003×4354E±006, h10km, Error ellipse: s-maj=7.0km s-min=3.2km az=56.9*
CSEM ***11*** *06:15:32.7±0.1, 4248N×4349E, h2km, mb3.7, Error ellipse: s-maj=3.1km s-min=1.6km az=130.0*
MOS ***11*** *06:15:32.9±0.8, 4250N×4354E, h13km, mb3.7/1, Error ellipse: s-maj=30.5km s-min=8.4km az=62.7*

ISC 11 06:15:33.9±0.6, 4253N±003×4352E±006, h10km, n12, σ0663/24, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.37**	**49**	*i* Pg	**Pg**	**06 15 40.9**	**-0.3**
ZEI				*i* Sg	**Sg**	**06 15 46.8**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.38**	**7**	*e*Pg	**Pg**	**06 15 41.0**	**-0.3**
DIGR				*e*Sg	**Sg**	**06 15 46.8**	**+0.5**
LACR	**Lac**	**0.65**	**62**	*i* Pg	**Pg**	**06 15 45.6**	**-0.8**
LACR				*i* Sg	**Sg**	**06 15 55.0**	**+0.2**
KORR	**Kora**	**0.69**	**36**	*i* Pg	**Pg**	**06 15 46.7**	**-0.5**
KORR				*e*Sg	**Sg**	**06 15 56.7**	**+0.5**
LSNR	**Lesken**	**0.78**	**16**	*e*Pg	**Pg**	**06 15 48.4**	**-0.5**
LSNR				*e*Sg	**Sg**	**06 15 59.8**	**+0.8**
ARNR	**Ardon**	**0.86**	**40**	*e*PG	**Pg**	**06 15 50.0**	**-0.6**
ARNR				*e*S	**Sg**	**06 16 02.4**	**+0.5**
VLKR	**Vladikavkaz**	**1.00**	**58**	*e*Pg	**Pg**	**06 15 52.3**	**-0.8**
VLKR				*e*Sg	**Sg**	**06 16 06.4**	**+0.3**
KMSR	**Komsomolskaya**	**1.02**	**34**	*e*Pg	**Pg**	**06 15 52.8**	**-0.6**
KMSR				*e*Sg	**Sg**	**06 16 07.4**	**+0.7**
SNJR	**Sundja**	**1.09**	**60**	*e*Pg	**Pg**	**06 15 54.2**	**-0.7**
SNJR				*e*Sg	**Sg**	**06 16 09.6**	**+0.5**
PRTR	**Priterechnaya**	**1.34**	**24**	*e*Pg	**Pg**	**06 15 58.5**	**-1.2**
PRTR				*e*Sg	**Sg**	**06 16 17.2**	**0.0**
ARTV	**Artvin**	**1.79**	**222**	*i* P	**Pn**	**06 16 04.6**	**-0.2**
ARTV				*i* S	**Sn**	**06 16 28.5**	**+0.8**
DIGO	**Kars**	**2.11**	**183**	*i* P	**Pg**	**06 16 15.7**	**+1.3**
DIGO				*i* S	**Sg**	**06 16 41.6**	**-0.2**

JMA 11 06:24:38.2±0.7, 4392N×15046E, h30km, M4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.47**	**262**	P	Pn	06 25 29.7	-0.4
NEM2				*e*S	Sn	06 26 07.8	-2.4
JRA	**Rausu**	**3.86**	**272**	P	Pn	06 25 36.5	+1.1
JRA				*e*S	Sn	06 26 20.4	+0.7
JNK	**Nakash**	**4.17**	**267**	P	Pn	06 25 39.9	+0.1
JAK	**Akkeshi**	**4.30**	**260**	P	Pn	06 25 41.1	-0.4
JAK				*e*S	Sn	06 26 27.1	-3.5
JTKR	**Abashiri--Toko**	**4.73**	**273**	P	Pn	06 25 49.5	+2.0
JAR	**Ashorobuto**	**4.90**	**265**	P	Pn	06 25 50.6	+0.8
JAR				*e*S	Sn	06 26 43.7	-1.7
JOB	**Onbets**	**4.93**	**260**	P	Pn	06 25 49.8	-0.4
JOB				*e*S	Sn	06 26 42.8	-3.5
JMP	**Maruseppu**	**5.13**	**273**	P	Pn	06 25 55.1	+2.2
JCH	**Churui**	**5.34**	**258**	P	Pn	06 25 55.6	-0.3
JCH				*e*S	Sn	06 26 52.8	-3.6
JEM	**Erimo**	**5.69**	**253**	P	Pn	06 26 00.7	+0.1
JEM				*e*S	Sn	06 27 01.2	-3.6
JFR	**Furan**	**5.77**	**265**	P	Pn	06 26 03.5	+1.8
JNBK	**Urakawa-nobuka**	**5.88**	**256**	P	Pn	06 26 02.5	-0.7
JBT2	**Biratori 2**	**6.01**	**262**	P	Pn	06 26 05.1	0.0
JNB	**Noboribetsu**	**7.04**	**261**	P	Pn	06 26 19.5	+0.4
JNB				*e*S	Sn	06 27 35.2	-2.9
JKB	**Kayabe**	**7.21**	**257**	P	Pn	06 26 21.5	-0.1
JKB				*e*S	Sn	06 27 36.8	-5.7
JTH	**Tanohata**	**7.54**	**241**	*e*S	Sn	06 27 38.9	-12
JTM	**Tenmabayashi**	**7.63**	**249**	*e*S	Sn	06 27 44.0	-8.6
OFUJ	**Ofunato**	**8.18**	**237**	*e*S	Sn	06 27 52.9	-13
JRG	**Rokugo**	**8.63**	**242**	*e*S	Sn	06 28 07.4	-10
JIO	**Ouri**	**8.77**	**235**	*e*S	Sn	06 28 05.2	-16
JFK	**Kawauchi**	**9.79**	**231**	*e*S	Sn	06 28 29.0	-17

IDC 11 07:08:00.9±7.7, 1569S×17279W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=320.6km s-min=24.6km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.02**	**29**	Pn	Pn	07 08 34.8	-1.4
	7.2nm,0.3s,baz=20,slow=2.3,SNR=7.2						
AFI				Sn	Sn	07 09 00.3	-1.9
	20nm,0.3s,baz=23,slow=19,SNR=7.4						
WRA	**Warramunga Arr**	**50.35**	**257**	P	P	07 16 59.6	0.0
	1.0nm,1.2s,baz=97,slow=7.6,SNR=7.8						
ASAR	**Alice Springs**	**50.58**	**252**	P	P	07 17 01.8	+0.5
	0.8nm,0.6s,baz=87,slow=8.6,SNR=18						
ILAR	**Eielson Array**	**82.61**	**11**	P	P	07 20 26.6	+0.6
	0.4nm,0.7s,baz=231,slow=5.8,SNR=8.3						

IDC 11 07:28:00.4±2.1, 1530S×17454W, h0km, mb3.8/6, mb1 4.1/7, mb1mx4.0/15, mbtmp3.8/7, MS3.8/9, Ms1 3.8/9, ms1mx3.5/27, Error ellipse: s-maj=136.1km s-min=20.6km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.01**	**63**	Pn	Pn	07 28 47.8	-1.6
	16nm,0.3s,baz=261,slow=0.9,SNR=15						
AFI				LR	LR	07 29 35.3	
	comp=Z,271nm,19.5s,baz=54,slow=32						
RAR	**Rarotonga**	**15.20**	**115**	LR	LR	07 35 53.3	
	comp=Z,480nm,20.2s,baz=153,slow=31						
URZ	**Urewera**	**24.03**	**196**	LR	LR	07 40 46.6	
	comp=Z,275nm,21.0s,baz=206,slow=32						
PPT	**Papeete**	**24.04**	**99**	*e*LR	LR	07 38 49.5	
	356nm,26.8s						
TBI	**Tubuai**	**24.95**	**113**	*e*LR	LR	07 39 20.1	
	436nm,26.5s						
HNR	**Honiara**	**25.58**	**280**	LR	LR	07 41 57.0	
	comp=Z,390nm,21.9s,baz=175,slow=33						
RPZ	**Rata Peaks**	**30.87**	**201**	LR	LR	07 45 20.3	
	comp=Z,276nm,18.9s,baz=226,slow=34						
RKT	**Rikitea**	**38.07**	**108**	*e*LR	LR	07 45 22.7	
	224nm,26.5s						
WRA	**Warramunga Arr**	**48.80**	**257**	P	P	07 36 47.5	+0.3
	0.8nm,0.7s,baz=93,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**49.10**	**252**	P	P	07 36 49.8	+0.2
	3.3nm,1.0s,baz=85,slow=7.8,SNR=18						
GUMO	**Guam**	**49.36**	**304**	LR	LR	07 56 29.6	
	comp=Z,76nm,18.1s,baz=109,slow=35						
MJAR	**Matsushiro Arr**	**68.16**	**320**	LR	LR	08 08 38.1	
	comp=Z,88nm,18.3s,baz=185,slow=36						
NVAR	**Mina Array Bea**	**75.00**	**43**	P	P	07 39 44.7	+1.1
	1.0nm,0.8s,baz=225,slow=14,SNR=5.9						
ILAR	**Eielson Array**	**82.57**	**12**	P	P	07 40 23.5	-1.7
	0.2nm,0.7s,baz=213,slow=6.5,SNR=3.1						
PDAR	**Pinedale Array**	**82.93**	**42**	P	P	07 40 28.0	+0.9
	0.7nm,0.8s,baz=203,slow=3.1,SNR=6.0						
YKA	**Yellowknife Ar**	**90.45**	**24**	P	P	07 41 04.8	+0.9
	0.3nm,0.9s,baz=226,slow=5.0,SNR=4.3						
YKA				LR	LR	08 15 45.5	
	comp=Z,61nm,18.1s,baz=195,slow=32						
ULM	**Lac du Bonnet**	**94.55**	**39**	LR	LR	08 22 53.2	
	comp=Z,76nm,18.8s,baz=284,slow=35						
KHC	**Kasperske Hory**	**145.62**	**351**	*e*P	PKPdf	07 47 39.5	-1.2

NEIC 11 07:45:03.0, 3429N×11683W, h6km, ML3.5(PAS), 1C, After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**0.75**	**155**	*e*P	Pg	07 45 17.0	-0.3
PFO				*e*S	Sg	07 45 26.6	-0.4
GSC	**Goldstone**	**1.01**	**1**	*e*Pn	Pn	07 45 22.2	-1.5
GSC				*e*S	Sg	07 45 36.4	+0.9
MWC	**Mount Wilson**	**1.02**	**267**	⇑*i*P	Pg	07 45 22.2	-0.4
MWC				*e*S	Sg	07 45 35.2	-0.6
BAR	**Barrett**	**1.61**	**175**	*e*Pn	Pn	07 45 31.5	-0.5
BAR				*e*S	Sn	07 45 52.9	-0.2
LDFC	**Landfair**	**1.62**	**60**	*e*Pn	Pn	07 45 32.6	+0.5
LDFC				*e*S	Sn	07 45 54.4	+1.1
GLA	**Glamis**	**2.08**	**126**	*e*Pn	Pn	07 45 37.1	-1.2
GLA				*e*Pg	Pg	07 45 42.2	-0.6
GLA				*e*Sg	Sg	07 46 10.3	+0.6
DAC	**Darwin (Calif)**	**2.08**	**343**	*e*Pn	Pn	07 45 38.0	-0.4
DAC				*e*Pg	Pg	07 45 41.8	-1.1
DAC				*e*Sg	Sg	07 46 09.3	-0.6
NEN	**Nelson**	**2.12**	**50**	*e*Pn	Pn	07 45 38.0	-1.0
NEN				*i* Sg	Sg	07 46 11.2	0.0
PTRM	**Twissleman Ran**	**3.09**	**297**	Pn	Pn	07 45 54.9	+2.5
MTUM	**Tungsten Hills**	**3.37**	**336**	*e*Pg	Pg	07 46 05.8	-1.7
MTUM				Sn	Sn	07 46 45.3	+8.8
TPH	**Tonopah**	**3.79**	**355**	*e*Pg	Pg	07 46 13.6	-2.0
TPH				S	Sn	07 47 05.8	+19
LRV	**Little Rabbit**	**4.03**	**303**	*e*Pn	Pn	07 46 14.5	+9.2
CCUT	**Cedar City**	**4.30**	**40**	*e*Pn	Pn	07 46 09.8	+0.8
ARUT	**Antelope Range**	**4.44**	**37**	*e*Pn	Pn	07 46 11.6	+0.7
WUAZ	**Wupatki**	**4.65**	**73**	*e*Pn	Pn	07 46 14.4	+0.6
WUAZ				*e*Pg	Pg	07 46 31.3	-0.7
WUAZ				*e*Sg	Sg	07 47 29.6	-2.6
MSU	**Marysvale**	**5.64**	**40**	*e*Pn	Pn	07 46 29.1	+1.7
MSU				*e*Pg	Pg	07 46 47.6	-3.5
SRU	**San Rafael**	**6.99**	**45**	Pn	Pn	07 46 44.6	-1.2
SRU				*e*Pg	Pg	07 47 13.6	-3.2
SRU				*e*Sg	Sg	07 48 41.6	-5.7

SFS ***11*** *07:48:41.9, 3700N×480W, h0km, ML3.7*
IGIL ***11*** *07:48:42.6, 3705N×490W, h11km, ML3.1*
INMG ***11*** *07:48:42.2±1.1, 3692N×499W, h6km±2km, ML3.1, Error ellipse: s-maj=1.6km s-min=1.3km az=4.0*
CSEM ***11*** *07:48:42.9±0.1, 3695N×495W, h5km, ML3.3/17, Error ellipse: s-maj=1.6km s-min=1.0km az=172.0*

MDD 11 07:48:42.9±0.2, 3691N×493W, h11km, mbLg3.1/29, 1C-1D, Error ellipse: s-maj=1.9km s-min=1.7km az=175.0, PRXIMO II CUEVAS DEL BECERRO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.36**	**160**	Pg	Pg	07 48 49.6	-0.5
	132nm,0.3s,SNR=123						
EMIJ				Lg		07 48 54.4	
	2μm,0.5s,SNR=10						
LIJA	**Lijar**	**0.38**	**270**	*i* P	Pg	07 48 49.7	-0.7
EMAL	**Malaga-Limoner**	**0.43**	**110**	Pg	Pg	07 48 50.0	-1.2
	19nm,0.4s,SNR=7.9						
EMAL				Lg		07 48 55.8	
	173nm,0.2s,SNR=7.9						
MAL	**Malaga**	**0.45**	**113**	*i* P	Pg	07 48 49.9	-1.8
REAL	**Reales**	**0.48**	**208**	⇑P	Pg	07 48 52.0	-0.2
REAL				S	Sg	07 49 00.2	+1.7
REAL	**Reales**	**0.48**	**208**	*i* P	Pg	07 48 52.0	-0.2
EJIF	**Jimena Fronter**	**0.63**	**224**	Pg	Pg	07 48 55.0	0.0
	121nm,0.4s,SNR=90						
EJIF				Lg		07 49 01.7	
	280nm,0.4s,SNR=4.0						
ELOJ	**Sierra Loja**	**0.67**	**69**	Pg	Pg	07 48 55.2	-0.6
	49nm,0.3s,SNR=46						
ELOJ				Lg		07 49 04.2	
	456nm,0.5s,SNR=17						
ESPR	**Espera**	**0.74**	**267**	Pg	Pg	07 48 57.7	+0.5
	220nm,0.5s,SNR=76						
ESPR				Lg		07 49 07.8	
	406nm,0.4s,SNR=4.0						
ESPR	**Espera**	**0.74**	**267**	Pg	Pg	07 48 57.7	+0.5
	220nm,0.5s,SNR=76						
GIBL	**Gibalbin**	**0.84**	**265**	⇓P	Pg	07 48 59.5	+0.5
GIBL				S	Sg	07 49 13.5	+3.6
GIBL	**Gibalbin**	**0.84**	**265**	*i* P	Pg	07 48 59.5	+0.5
GIBL				*e*S	Sg	07 49 13.5	+3.6
ELUQ	**Luque**	**0.84**	**39**	Pg	Pg	07 48 58.1	-0.9
	118nm,0.3s,SNR=48						
ELUQ				Lg		07 49 09.5	
	176nm,0.2s,SNR=10.0						
MOMI	**Momias**	**0.86**	**228**	*e*P	Pg	07 49 01.2	+1.8
ERON	**Agron**	**0.91**	**83**	Pg	Pg	07 48 59.8	-0.5
	63nm,0.4s,SNR=19						
ERON				Lg		07 49 11.9	
	150nm,0.4s,SNR=6.9						
SCRT	**Cerro San Cris**	**1.04**	**255**	*i* P	Pg	07 49 03.9	+1.1
SCRT				*e*S	Sg	07 49 23.2	+6.9
CNIL	**Conil**	**1.05**	**240**	*e*P	Pg	07 49 04.6	+1.5
EGUA	**Guajares**	**1.09**	**93**	Pg	Pg	07 49 03.1	-0.9
	5.1nm,0.2s,SNR=7.9						
EGUA				Lg		07 49 16.9	
	44nm,0.6s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.15**	**71**	Pg	Pg	07 49 04.5	-0.4
	121nm,0.4s,SNR=46						
ECOG				Lg		07 49 20.5	
	132nm,0.2s,SNR=11						
EQUE	**Quentar**	**1.23**	**76**	Pg	Pg	07 49 05.8	-0.6
	106nm,0.3s,SNR=101						
EQUE				Lg		07 49 22.9	
	155nm,0.3s,SNR=8.5						
ECAB	**El Cabril**	**1.23**	**342**	Pg	Pg	07 49 04.4	-2.1
	147nm,0.4s,SNR=321						
ECAB				Lg		07 49 20.3	
	345nm,0.4s,SNR=4.5						
ECAB	**El Cabril**	**1.23**	**342**	Pg	Pg	07 49 04.4	-2.1
	147nm,0.4s,SNR=321						
EADA	**Adamuz**	**1.29**	**12**	Pg	Pg	07 49 05.5	-2.1
	165nm,0.4s,SNR=326						
EADA				Lg		07 49 22.2	
	220nm,0.2s,SNR=8.7						
EADA	**Adamuz**	**1.29**	**12**	Pg	Pg	07 49 05.5	-2.1
	165nm,0.4s,SNR=326						
EBAN	**Banos Encina**	**1.55**	**36**	Pn	Pn	07 49 09.1	-1.3
	128nm,0.4s,SNR=9.4						
EBAN				Sn	Sn	07 49 29.3	-1.2
	39nm,0.4s,SNR=32						
EBER	**Berja**	**1.63**	**90**	Pn	Pn	07 49 11.8	+0.2
	5.1nm,0.4s,SNR=9.0						
EBER				Pg	Pg	07 49 14.4	+0.2
	78nm,0.3s,SNR=80						
EBER				Sn	Sn	07 49 32.6	0.0
	47nm,0.3s,SNR=4.0						
EBER				Lg		07 49 36.4	
	426nm,0.6s,SNR=9.5						
EBER	**Berja**	**1.63**	**90**	Pn	Pn	07 49 11.8	+0.2
	5.1nm,0.4s,SNR=9.0						
EBER	**Berja**	**1.63**	**90**	Pg	Pg	07 49 14.4	+0.2
	78nm,0.3s,SNR=80						
EBER				Sn	Sn	07 49 32.6	0.0
	47nm,0.3s,SNR=4.0						
EMIN	**Mina Concepcio**	**1.63**	**302**	Pn	Pn	07 49 09.4	-2.1
	39nm,0.4s,SNR=71						
EMIN				Pg	Pg	07 49 12.0	-2.2
	33nm,0.3s,SNR=15						
EMIN				Lg		07 49 32.7	
	68nm,0.3s,SNR=6.0						
EMIN	**Mina Concepcio**	**1.63**	**302**	Pn	Pn	07 49 09.4	-2.2
	39nm,0.4s,SNR=71						
EMIN	**Mina Concepcio**	**1.63**	**302**	Pg	Pg	07 49 12.0	-2.2
	33nm,0.3s,SNR=15						
EQES	**Quesada**	**1.73**	**58**	Pn	Pn	07 49 12.4	-0.5
	69nm,0.6s,SNR=35						
EQES				Lg		07 49 38.6	
	343nm,0.4s,SNR=23						
EQES	**Quesada**	**1.73**	**58**	Pn	Pn	07 49 12.4	-0.5
	69nm,0.6s,SNR=35						
ERIP	**Rio Piedras**	**1.92**	**285**	Pn	Pn	07 49 13.4	-2.0
	0.2nm,0.1s,SNR=7.9						
ERIP				Pg	Pg	07 49 17.5	-2.1
	5.2nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	07 49 37.0	-2.6
	17nm,0.3s,SNR=7.9						
ERIP				Lg		07 49 41.9	
	73nm,0.2s,SNR=7.9						
ERIP	**Rio Piedras**	**1.92**	**285**	Pg	Pg	07 49 17.5	-2.1
	5.2nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	07 49 37.0	-2.6
	17nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.07**	**63**	Pn	Pn	07 49 17.7	+0.2
	5.0nm,1.0s,SNR=7.9						
EHUE				Pg	Pg	07 49 21.1	-1.4
	1.9nm,0.4s,SNR=7.9						
EHUE				Sn	Sn	07 49 43.4	0.0
	59nm,1.7s,SNR=7.9						
EHUE				Lg		07 49 49.1	
	59nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.07**	**63**	Pg	Pg	07 49 21.1	-1.4
	1.9nm,0.4s,SNR=7.9						
EHUE				Sn	Sn	07 49 43.4	0.0
	59nm,1.7s,SNR=7.9						
EGRO	**El Granado**	**2.13**	**288**	Pn	Pn	07 49 16.4	-2.0
	17nm,0.3s,SNR=23						
EGRO				Pg	Pg	07 49 20.9	-2.8
	20nm,0.3s,SNR=12						
EGRO				Sn	Sn	07 49 41.7	-3.2
	27nm,0.8s,SNR=7.9						
EGRO				Lg		07 49 48.0	
	149nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**2.13**	**288**	Pn	Pn	07 49 16.4	-2.0
	17nm,0.3s,SNR=23						
EGRO	**El Granado**	**2.13**	**288**	Pg	Pg	07 49 20.9	-2.9
	20nm,0.3s,SNR=12						
EGRO				Sn	Sn	07 49 41.7	-3.2
	27nm,0.8s,SNR=7.9						
ENIJ	**Nijar**	**2.18**	**87**	Pn	Pn	07 49 18.5	-0.6
	14nm,0.4s,SNR=5.3						
ENIJ				Pg	Pg	07 49 23.7	-1.0
	16nm,0.3s,SNR=7.6						
ENIJ				Lg		07 49 50.6	
	19nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.18**	**87**	Pg	Pg	07 49 23.7	-1.0
	16nm,0.3s,SNR=7.6						
EBAD	**Badajoz**	**2.48**	**319**	Pn	Pn	07 49 21.1	-2.1
	7.6nm,0.3s,SNR=40						
EBAD				Pg	Pg	07 49 27.7	-2.6
	17nm,0.3s,SNR=16						
EBAD				Sn	Sn	07 49 50.9	-2.5
	17nm,0.3s,SNR=16						
EBAD				Lg		07 49 58.1	
	60nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.48**	**319**	Pn	Pn	07 49 21.1	-2.1
	7.6nm,0.3s,SNR=40						
EBAD	**Badajoz**	**2.48**	**319**	Pg	Pg	07 49 27.7	-2.6
	17nm,0.3s,SNR=16						
EBAD				Sn	Sn	07 49 50.9	-2.5
	17nm,0.3s,SNR=16						
PBEJ	**Beja**	**2.59**	**296**	*e*Pn	Pn	07 49 23.0	-1.7
PBEJ				*e*Sg	Sg	07 50 02.9	-3.2
PBEJ							
	39nm,0.6s						
PBEJ	**Beja**	**2.59**	**296**	*e*Pn	Pn	07 49 23.0	-1.7
PBEJ				*e*Sg	Sg	07 50 02.9	-3.2
	39nm,0.6s						
ESDC	**Sonseca Array**	**2.87**	**15**	Pn	Pn	07 49 28.0	-0.5
	2.6nm,0.2s,baz=196,slow=12,SNR=25						
ESDC				Pg	Pg	07 49 34.7	-3.0
	7.6nm,0.3s,baz=199,slow=17,SNR=35						
ESDC				Sn	Sn	07 50 01.2	-1.8
	2.4nm,0.3s,baz=197,slow=22,SNR=10.0						
ESDC				Lg		07 50 11.0	
	6.3nm,0.1s,baz=196,slow=28,SNR=7.5						
ESDC	**Sonseca Array**	**2.87**	**15**	Pn	Pn	07 49 28.0	-0.5
	2.6nm,0.2s,SNR=25						
ESDC	**Sonseca Array**	**2.87**	**15**	Pg	Pg	07 49 34.7	-3.1
	7.6nm,0.3s,SNR=35						
ESDC				Sn	Sn	07 50 01.2	-1.8
	2.4nm,0.3s,SNR=10.0						
MORF	**Marmelete**	**3.00**	**279**	*e*P	Pn	07 49 28.6	-1.8
MORF				*e*S	Sn	07 50 02.0	-4.3
MORF				*e*S	Sn	07 50 02.2	-4.2
MORF				AML	AML	07 50 06.4	
	comp=N,39nm,0.3s						
MORF	**Marmelete**	**3.00**	**279**	*e*P	Pn	07 49 28.6	-1.8
MORF				*e*S	Sn	07 50 02.0	-4.4
EMUR	**La Murta**	**3.08**	**71**	Pn	Pn	07 49 30.5	-0.9
	comp=N,1.4nm,1.2s,SNR=7.9						
EMUR				Pg	Pg	07 49 38.8	-3.1
	comp=N,6.9nm,0.6s,SNR=7.9						
EMUR				Sn	Sn	07 50 05.9	-2.4
	comp=N,4.6nm,0.3s,SNR=7.9						
EMUR				Lg		07 50 19.5	
	comp=N,30nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.08**	**71**	Pn	Pn	07 49 30.5	-1.0
	comp=N,1.4nm,1.2s,SNR=7.9						
EMUR	**La Murta**	**3.08**	**71**	Pg	Pg	07 49 38.8	-3.1
	comp=N,6.9nm,0.6s,SNR=7.9						
EMUR				Sn	Sn	07 50 05.9	-2.5
	comp=N,4.6nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.10**	**283**	*e*Pn	Pn	07 49 29.7	-2.0
PTEO				*e*Sn	Sn	07 50 06.6	-2.1
PTEO				*e*Sg	Sg	07 50 19.5	-2.8
PTEO							
	comp=N,64nm,0.6s						
PTEO	**Sao Teotonio**	**3.10**	**283**	*e*Pn	Pn	07 49 29.7	-2.0
PTEO				*e*Sn	Sn	07 50 06.6	-2.1
PTEO				*e*Sg	Sg	07 50 19.5	-2.8
	comp=N,64nm,0.6s						
ETOB	**Tobarra**	**3.19**	**56**	Pn	Pn	07 49 32.2	-0.7
	comp=N,13nm,1.0s,SNR=7.9						
ETOB				Pg	Pg	07 49 42.1	-1.9
	comp=N,46nm,1.5s,SNR=7.9						
ETOB				Sn	Sn	07 50 09.5	-1.5
	comp=N,4.3nm,1.0s,SNR=7.9						
ETOB				Lg		07 50 24.5	
	comp=N,90nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**3.19**	**56**	Pn	Pn	07 49 32.2	-0.8
	comp=N,13nm,1.0s,SNR=7.9						
ETOB	**Tobarra**	**3.19**	**56**	Pg	Pg	07 49 42.1	-1.9
	comp=N,46nm,1.5s,SNR=7.9						
ETOB				Sn	Sn	07 50 09.5	-1.5
	comp=N,4.3nm,1.0s,SNR=7.9						
PCBR	**Castelo Branco**	**3.55**	**326**	*e*Pn	Pn	07 49 36.9	-1.0
PCBR				*e*Sn	Sn	07 50 16.7	-3.2
PCBR				*e*Sg	Sg	07 50 33.2	-3.6
PCBR							
	comp=N,50nm,0.6s						
PCBR	**Castelo Branco**	**3.55**	**326**	*e*Pn	Pn	07 49 36.9	-1.0
PCBR				*e*Sn	Sn	07 50 16.7	-3.2
PCBR				*e*Sg	Sg	07 50 33.2	-3.6
	comp=N,50nm,0.6s						
ALMR	**Almeirim**	**3.65**	**309**	*e*P	Pn	07 49 36.1	-3.2
ALMR				*e*S	Sn	07 50 15.5	-6.9
ALMR				*e*S	Sn	07 50 15.6	-6.9
ALMR				AML	AML	07 50 20.8	
	comp=N,108nm,1.0s						
ALMR	**Almeirim**	**3.65**

comp=N,8.8nm,1.3s,SNR=4.0
EBEN Beniarda 4.13 63 Pg Pg 07 50 00.1 -1.9
comp=N,0.3nm,0.8s,SNR=7.9
PVIS Viseu 4.45 330 *e*Sn Sn 07 50 37.5 -4.7
PVIS *e*Sg Sg 07 51 01.5 -4.3
PVIS
comp=N,26nm,0.6s
PVIS Viseu 4.45 330 *e*Sn Sn 07 50 37.5 -4.7
PVIS *e*Sg Sg 07 51 01.5 -4.3
comp=N,26nm,0.6s
PVRL Vila Real 4.87 334 *e*Pn Pn 07 49 52.4 -3.7
PVRL *e*Sn Sn 07 50 47.8 -4.7
PVRL *e*Sg Sg 07 51 16.5 -2.8
PVRL
comp=N,18nm,0.7s
PVRL Vila Real 4.87 334 Pn Pn 07 49 52.4 -3.7
PVRL Sn Sn 07 50 47.8 -4.7
PVRL Lg 07 51 16.5
comp=N,9.1nm,0.7s
EMOS Mosqueruela 4.91 44 Pg Pg 07 50 11.5 -5.4
comp=N,12nm,0.9s,SNR=4.0
EMOS Sn Sn 07 50 48.9 -4.5
comp=N,2.0nm,1.0s,SNR=7.9
EMOS Lg 07 51 17.1
comp=N,8.5nm,0.4s,SNR=7.9
EMOS Mosqueruela 4.91 44 Pg Pg 07 50 13.7 -3.1
comp=N,12nm,0.9s,SNR=4.0
EMOS Sn Sn 07 50 51.2 -2.2
comp=N,2.0nm,1.0s,SNR=7.9
PBRG Braganca 5.09 345 *e*Pn Pn 07 49 57.6 -1.5
PBRG *e*Sn Sn 07 50 52.3 -5.6
PBRG *e*Sg Sg 07 51 20.7 -5.5
PBRG
comp=N,26nm,0.7s
PBRG Braganca 5.09 345 Pn Pn 07 49 57.6 -1.5
PBRG Sn Sn 07 50 52.3 -5.6
PBRG Lg 07 51 20.7
comp=N,13nm,0.7s
ECAL Calabor 5.22 345 Pn Pn 07 49 59.2 -1.6
SNR=7.9
ECAL Sn Sn 07 50 55.2 -5.9
comp=N,29nm,1.9s,SNR=4.9
ECAL Lg 07 51 23.9
comp=N,72nm,0.5s,SNR=4.9
ECAL Calabor 5.22 345 Pn Pn 07 49 59.2 -1.7
SNR=7.9
ELOB Lobios 5.52 335 Sn Sn 07 51 03.0 -5.4
comp=N,4.8nm,0.4s,SNR=7.3
ELOB Lg 07 51 35.1
comp=N,28nm,0.4s,SNR=6.3
ERUA La Rua 5.74 343 Lg 07 51 43.3
comp=N,24nm,0.6s,SNR=5.9
ERTA Horta de San J 5.76 44 Lg 07 51 43.8
comp=N,16nm,0.5s,SNR=7.9
ESAC San Caprasio 5.92 34 Lg 07 51 49.5
comp=N,105nm,0.5s,SNR=7.9
EARI Arriondas 6.39 358 Lg 07 52 04.3
comp=N,11nm,0.6s,SNR=7.9
EPOB Poblet 6.44 45 Lg 07 52 06.2
comp=N,4.5nm,0.4s,SNR=7.9
EPON Pontenova 6.63 346 Pn Pn 07 50 19.7 -0.6
SNR=7.9
EPON Sn Sn 07 51 29.1 -6.8
SNR=7.9
EPON Lg 07 52 12.0
comp=N,7.7nm,0.4s,SNR=7.9
EGRA Graus 6.66 36 Pn Pn 07 50 19.8 -0.8
SNR=7.9
EMAZ Mazaricos 6.79 334 Pn Pn 07 50 20.0 -2.5
SNR=7.9
EMAZ Sn Sn 07 51 32.0 -7.7
SNR=7.9
EMAZ Lg 07 52 17.3
comp=N,13nm,0.5s,SNR=7.9
EALK Alkurruntz 6.83 22 Pn Pn 07 50 22.0 -1.0
SNR=7.9
EBIE Bielsa 6.97 32 Pn Pn 07 50 23.8 -1.1
SNR=7.9
EBIE Sn Sn 07 51 38.9 -5.2
SNR=7.9

MEX 11 08:02:55.6±1.4, 1638N×9423W, h102km±21km, MD3.9, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.94**	**319**	⇓*i*P	Pn	08 03 14.7	-0.8
CMIG				*i* S	Sn	08 03 29.2	-1.2
TUIG	**Tuzandepetl**	**1.65**	**354**	*i* P	Pn	08 03 21.8	-2.0
TUIG				*i* S	Sn	08 03 43.1	-2.1
HUIG	**Huatulco**	**1.90**	**252**	*i* P	Pn	08 03 24.8	-2.2
HUIG				*i* S	Sn	08 03 49.5	-1.5
CCIG	**Comitan**	**2.02**	**93**	*e*P	Pn	08 03 28.6	+0.2
CCIG				*i* S	Sn	08 03 52.8	-0.7
OXX	**Oaxaca**	**2.48**	**287**	*e*P	Pn	08 03 35.5	+1.0
OXX				*i* S	Sn	08 04 04.2	-0.2
VHO	**Vista Hermosa**	**2.49**	**286**	*i* P	Pn	08 03 34.9	+0.3
VHO				*i* S	Sn	08 04 02.8	-1.7

NNC 11 08:10:57.4±2.1, 4725N×8351E, h6km±7km, mb3.5, mpv2.9, 11C-1D, Error ellipse: s-maj=15.3km s-min=8.9km az=112.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.95**	**242**	P	Pg	08 11 15.7	0.0
4.6nm,0.3s,baz=71,slow=19,SNR=497							
MK31				⇑S	Sg	08 11 29.2	+1.2
11nm,0.3s,baz=71,slow=34,SNR=17							
KURK	**Kurchatov**	**4.73**	**319**	⇑Pg	Pg	08 12 24.8	-3.3
1.0nm,0.5s							
KURK				⇑Lg		08 13 27.9	
13nm,0.5s							
TKM2	**Tokmak 2**	**7.07**	**235**	⇑Lg		08 14 37.3	
6.2nm,0.9s							
VOSK	**Vostochnaya**	**9.75**	**309**	⇑Pn	Pn	08 13 20.4	+2.2
2.7nm,1.5s							
VOSK				⇑Sn	Sn	08 15 08.1	+0.1
2.2nm,0.8s							
VOSK				⇑Lg		08 16 03.1	
7.7nm,1.1s							
KK31	**Karatay Array**	**10.07**	**250**	⇓Lg		08 16 12.8	
1.7nm,0.6s,baz=57,slow=29,SNR=5.6							
BVA0	**Borovoye Array**	**10.21**	**309**	⇑Sn	Sn	08 15 20.8	+1.5
0.7nm,1.4s,baz=102,slow=23,SNR=4.6							
BVA0				⇑Lg		08 16 19.8	
1.0nm,0.8s							
ZRNK	**Zerenda**	**10.92**	**307**	⇑Sn	Sn	08 15 34.7	-2.0
0.9nm,0.6s							
ZRNK				⇑Lg		08 16 43.3	
7.3nm,1.2s							

MDD 11 08:18:27.8±1.1, 3155N×1688W, h80km±104km, mb4.1/13, 3D, Error ellipse: s-maj=20.0km s-min=14.3km az=143.0, PRXIMO, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBAJ	**Bajamar**	**3.04**	**171**	⇓P	Pn	08 19 13.7	+0.1
25nm,0.1s,SNR=18							
EBAJ				S	Sn	08 19 46.4	-2.5
66nm,0.2s,SNR=13							
EHIG	**Higuera**	**3.09**	**195**	P	Pn	08 19 14.2	-0.2
23nm,0.1s,SNR=7.9							
EHIG				S	Sn	08 19 47.7	-2.5
95nm,0.1s,SNR=11							
CICO	**Icod de los Vi**	**3.20**	**178**	P	Pn	08 19 15.1	-0.6
0.9nm,0.1s,SNR=7.9							
CICO				S	Sn	08 19 49.8	-2.9
1.0nm,0.2s,SNR=5.6							
CRAJ	**Montana Rajada**	**3.29**	**176**	P	Pn	08 19 17.0	0.0
7.5nm,0.1s,SNR=7.1							
CRAJ				S	Sn	08 19 51.8	-3.1
18nm,0.1s,SNR=5.0							
CHIO	**Chio**	**3.30**	**179**	P	Pn	08 19 16.5	-0.7
14nm,0.1s,SNR=5.3							
CHIO				S	Sn	08 19 52.8	-2.6
49nm,0.1s,SNR=8.1							
CCAN	**Las Canadas**	**3.33**	**176**	P	Pn	08 19 17.1	-0.4
1.4nm,0.1s,SNR=7.2							
CCAN				S	Sn	08 19 52.9	-3.1
3.9nm,0.1s,SNR=9.7							
EGOM	**La Gomera**	**3.40**	**185**	P	Pn	08 19 17.0	-1.4
15nm,0.1s,SNR=23							
EGOM				S	Sn	08 19 53.8	-3.8
126nm,0.1s,SNR=12							
EFAM	**Famara**	**3.77**	**129**	P	Pn	08 19 25.2	+1.6
6.4nm,0.1s,SNR=8.4							
EFAM				S	Sn	08 20 03.9	-2.9
2.4nm,0.1s,SNR=7.9							
CFUE	**Fuerteventura**	**3.86**	**138**	⇓P	Pn	08 19 25.4	+0.7
30nm,0.1s,SNR=18							
CFUE				S	Sn	08 20 04.8	-4.1
25nm,0.1s,SNR=7.9							
CFTV	**Fuerteventura**	**3.96**	**142**	⇓P	Pn	08 19 26.7	+0.6
5.6nm,0.1s,SNR=18							
CFTV				S	Sn	08 20 06.7	-4.6
5.3nm,0.1s,SNR=7.2							
PTEO	**Sao Teotonio**	**9.00**	**46**	*e*Pn	Pn	08 20 36.2	+1.4
PTEO				*e*Sn	Sn	08 22 06.4	-8.0
EGRO	**El Granado**	**9.78**	**50**	P	Pn	08 20 44.9	-0.5
1.0nm,0.1s,SNR=7.8							
EGRO				S	Sn	08 22 24.8	-8.7
0.7nm,0.2s,SNR=7.9							
PBEJ	**Beja**	**9.83**	**46**	*e*Pn	Pn	08 20 45.4	-0.7
PBEJ				*e*Sn	Sn	08 22 26.0	-8.7
PBEJ							
1.7nm,0.2s							
EMIN	**Mina Concepcio**	**10.44**	**51**	P	Pn	08 20 53.6	-0.9
1.3nm,0.2s,SNR=8.7							
EMIN				S	Sn	08 22 40.5	-9.1
0.8nm,0.3s,SNR=7.9							
ESPR	**Espera**	**10.55**	**57**	P	Pn	08 20 55.8	-0.2
2.5nm,0.2s,SNR=7.9							
ESPR				S	Sn	08 22 44.4	-7.9
5.3nm,0.4s,SNR=7.9							
EBAD	**Badajoz**	**10.80**	**46**	P	Pn	08 20 57.9	-1.6
0.7nm,0.1s,SNR=7.9							
EBAD				S	Sn	08 22 47.3	-11
0.8nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**11.44**	**52**	P	Pn	08 21 06.2	-2.0
0.5nm,0.1s,SNR=11							
ECAB				S	Sn	08 23 03.3	-11
SNR=7.9							
EADA	**Adamuz**	**12.06**	**53**	P	Pn	08 21 15.0	-1.6
2.4nm,0.2s,SNR=6.0							
EADA				S	Sn	08 23 20.1	-9.0
0.4nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**12.48**	**32**	P	Pn	08 21 20.7	-1.6
0.8nm,0.2s,SNR=7.9							
ELOB				S	Sn	08 23 28.3	-11
0.7nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**13.26**	**49**	P	Pn	08 21 33.2	+0.6
0.4nm,0.1s,baz=239,slow=13,SNR=17							
ETOB	**Tobarra**	**14.40**	**56**	P	Pn	08 21 47.7	+0.2
0.4nm,0.1s,SNR=7.9							
ETOB				S	Sn	08 24 14.1	-12
SNR=7.9							

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*CSEM **11** 08:23:44.7±0.1, 3450N×2496E, h5km, ML2.9, Error ellipse: s-maj=2.9km s-min=1.1km az=76.0*
*ISCJB **11** 08:23:45.5±0.6, 3443N±004×2469E±007, h10km, Error ellipse: s-maj=9.5km s-min=5.0km az=128.7*
*HLW **11** 08:23:46.9, 3473N×2525E, h33km, Mb2.9*
*NEIC **11** 08:23:48.9, 3469N×2471E, h10km, MD3.2(ATH), After ATH.*
*ATH **11** 08:23:48.9, 3469N×2471E, h10km, MD3.2/3*
ISC 11 08:23:47.5±0.8, 346N±02×2470E±008, h33km±34km, n10, σ0°91/14, 3C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.57**	**297**	*e*Pg	**Pb**	**08 23 59.7**	**+0.6**
GVD				*e*Sg	**Sb**	**08 24 06.4**	**-0.6**
GVD	**Gavdhos**	**0.57**	**297**	*e*Pg	**Pb**	**08 23 59.7**	**+0.6**
GVD				*e*Sg	**Sb**	**08 24 06.4**	**-0.6**
XRY	**Khrisi**	**0.87**	**70**	*e*PB	**Pb**	**08 24 04.6**	**+0.4**
VAM	**Vamos**	**0.92**	**334**	*e*PB	**Pb**	**08 24 04.8**	**-0.2**
NPS	**Neapolis**	**1.01**	**48**	*e*PB	**Pb**	**08 24 06.2**	**-0.3**
SLUM		**3.11**	**172**	⇑P	**Pn**	**08 24 35.4**	**+1.1**
SLUM				S	**Sn**	**08 25 10.8**	**+0.5**
HMAT	**Matruh**	**4.02**	**149**	⇓P	**Pn**	**08 24 45.2**	**-1.6**
SWA2		**5.36**	**173**	⇑P	**Pn**	**08 25 06.0**	**+0.8**
SWA1		**5.37**	**171**	P	**Pn**	**08 25 06.5**	**+1.2**
SWA1				S	**Sn**	**08 26 04.3**	**-1.8**
HFRF	**Wahat Farafira**	**8.03**	**156**	⇑P	**Pn**	**08 25 41.6**	**-0.3**

IDC 11 09:00:28.7±22.0, 213S×1218W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/22, mbtmp3.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=624.9km s-min=95.5km az=159.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.39**	**40**	LR	LR	09 06 21.3	
comp=Z,59nm,19.3s,baz=259,slow=31							
TORD	**Torodi Ar. Bea**	**20.49**	**42**	P	P	09 05 08.4	+0.3
2.0nm,0.7s,baz=224,slow=11,SNR=13							
GERES	**GERESS Array B**	**55.51**	**20**	P	P	09 10 05.5	0.0
0.2nm,0.5s,baz=200,slow=8.3,SNR=2.6							
FINES	**FINESS Array B**	**69.83**	**18**	P	P	09 11 41.0	-0.1
1.0nm,0.8s,baz=230,slow=4.7,SNR=5.1							

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*NEIC **11** 09:03:22.7, 3173S×7183W, h36km, MG3.6(GUC), After GUC.*
GUC 11 09:03:22.7±1.1, 3173S×7183W, h36km±2km, MD4.2, ML3.6, 13C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.32**	**119**	⇓*i*P	Pn	09 03 30.4	-0.5
CHNG				*i* S	Sn	09 03 36.3	-0.2
CHNG				AMP		09 03 36.8	
comp=N,5μm,0.4s							
ILCH	**Illapel**	**0.57**	**81**	⇑*i*P	Pn	09 03 34.5	+0.3
ILCH				*i* S	Sn	09 03 43.2	+0.8
CMCH	**Combarbala**	**0.90**	**52**	⇑*i*P	Pn	09 03 39.4	+0.6
CMCH				*i* S	Sn	09 03 52.0	+1.5
CMCH				AMP		09 03 53.9	
comp=E,16μm,0.7s							
CMCH	**Combarbala**	**0.90**	**52**	⇑*i*P	Pn	09 03 39.4	+0.6
CMCH				*i* S	Sn	09 03 52.0	+1.5
IHA	**Instituto Hidr**	**1.30**	**173**	⇓*i*P	Pn	09 03 44.8	+0.5
IHA				*i* S	Sn	09 04 00.2	-0.3
JACH	**Jahuel**	**1.41**	**133**	⇓*i*P	Pn	09 03 47.7	+1.8
JACH				*i* S	Sn	09 04 06.4	+3.2
ROCH	**El Roble**	**1.42**	**151**	⇓*i*P	Pn	09 03 47.4	+1.4
ROCH				*i* S	Sn	09 04 07.0	+3.6
PEL	**Peldehue**	**1.71**	**146**	⇓*i*P	Pn	09 03 51.7	+1.7
PEL				*i* S	Sn	09 04 13.3	+2.7
PEL				AMP		09 04 20.1	
comp=E,3μm,0.9s							
PEL	**Peldehue**	**1.71**	**146**	⇓*i*P	Pn	09 03 51.7	+1.7
PEL				*i* S	Sn	09 04 13.3	+2.7
LCCH	**Las Cruces**	**1.75**	**173**	⇑*i*P	Pn	09 03 51.2	+0.7
LSCH	**La Serena**	**1.88**	**16**	⇑*i*P	Pn	09 03 53.4	+1.0
LSCH				*i* S	Sn	09 04 17.0	+2.1
LSCH				AMP		09 04 24.4	
comp=N,837nm,0.3s							
LSCH	**La Serena**	**1.88**	**16**	⇑*i*P	Pn	09 03 53.4	+1.0
LSCH				*i* S	Sn	09 04 17.0	+2.1
RCDM	**Rinconada Maip**	**1.95**	**154**	*e*P	Pn	09 03 54.9	+1.6
RCDM				*i* S	Sn	09 04 19.2	+2.6
RCDM				AMP		09 04 29.6	
comp=N,658nm,0.4s							
RCDM	**Rinconada Maip**	**1.95**	**154**	*e*P	Pn	09 03 54.9	+1.6
RCDM				*i* S	Sn	09 04 19.2	+2.6
DSCH	**Colegio Aleman**	**1.97**	**148**	*i* P	Pn	09 03 54.7	+1.1
DSCH				*i* S	Sn	09 04 19.4	+2.3
DSCH				AMP		09 04 28.0	
comp=E,114nm,0.6s							
DSCH	**Colegio Aleman**	**1.97**	**148**	*i* P	Pn	09 03 54.7	+1.1
DSCH				*i* S	Sn	09 04 19.4	+2.3
STL	**Santa Lucia**	**1.97**	**150**	⇓*i*P	Pn	09 03 54.8	+1.2
STL				*i* S	Sn	09 04 19.8	+2.7
STL				AMP		09 04 27.0	
comp=E,313nm,0.4s							
SAN	**Santiago**	**1.98**	**151**	*i* P	Pn	09 03 55.7	+2.1
SAN				AMP		09 04 29.5	
comp=N,728nm,0.7s							
CLCH	**Cerro Calan**	**1.99**	**147**	⇓*i*P	Pn	09 03 55.6	+1.8
CLCH				*i* S	Sn	09 04 19.9	+2.5
CLCH				AMP		09 04 29.0	
comp=E,2μm,0.5s							
CLCH				AMP		09 04 29.5	
comp=E,2μm,0.6s							
FCH	**Farellones**	**2.05**	**141**	⇑*i*P	Pn	09 03 56.9	+2.2
FCH				*i* S	Sn	09 04 22.6	+3.6
FCH				AMP		09 04 25.7	
comp=E,550nm,0.2s							
TACH	**Talagante**	**2.06**	**159**	⇑*i*P	Pn	09 03 56.6	+1.8
TACH				*i* S	Sn	09 04 21.4	+2.2
ANTU	**Antumapu**	**2.09**	**152**	⇑*i*P	Pn	09 03 56.9	+1.6
ANTU				*i* S	Sn	09 04 22.6	+2.6
ANTU				AMP		09 04 33.0	
comp=N,636nm,0.5s							
ANTU	**Antumapu**	**2.09**	**152**	⇑*i*P	Pn	09 03 56.9	+1.6
ANTU				*i* S	Sn	09 04 22.6	+2.6
PCH	**Pirque**	**2.19**	**150**	⇑*i*P	Pn	09 03 58.6	+2.1
CHCH	**Chadas Angostu**	**2.41**	**156**	⇑*i*P	Pn	09 04 01.4	+1.8
CHCH				*i* S	Sn	09 04 30.1	+2.2
LMEL	**Las Melosas**	**2.52**	**148**	⇓*i*P	Pn	09 04 03.7	+2.6
LMEL				*i* S	Sn	09 04 33.4	+3.0
LMEL				AMP		09 04 45.7	
comp=N,530nm,0.3s							
LMEL	**Las Melosas**	**2.52**	**148**	⇓*i*P	Pn	09 04 03.7	+2.6
LMEL				*i* S	Sn	09 04 33.4	+3.0
CACH	**El Canelo**	**2.59**	**157**	⇓*i*P	Pn	09 04 05.0	+2.9
CICH	**Cipreses**	**2.84**	**156**	⇑*i*P	Pn	09 04 07.9	+2.4

IDC 11 09:17:27.0±4.1, 1051S×16492E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.4/3, Error ellipse: s-maj=205.2km s-min=34.4km az=138.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.91**	**249**	P	P	09 23 45.8	+0.4
0.4nm,0.8s,baz=79,slow=9.2,SNR=3.7							
ASAR	**Alice Springs**	**32.32**	**242**	P	P	09 23 58.0	+0.4
0.6nm,0.9s,baz=65,slow=10,SNR=5.5							
ILAR	**Eielson Array**	**83.27**	**19**	P	P	09 29 55.2	-0.2
0.6nm,1.1s,baz=208,slow=5.1,SNR=4.1							

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*CSEM **11** 09:44:31.8±0.2, 3819N×2670E, h5km, MD2.7, Error ellipse: s-maj=3.8km s-min=3.0km az=117.0*
*ATH **11** 09:44:31.3, 3817N×2702E, h36km±5km, MD3.2/3*
*ISCJB **11** 09:44:32.3±0.8, 3818N±003×2670E±004, h4km±7km, Error ellipse: s-maj=5.9km s-min=5.4km az=80.2*
*ISK **11** 09:44:33.4, 3821N×2680E, h16km, MD2.7*
ISC 11 09:44:33.0±0.6, 3819N±003×2670E±004, h8km±5km, n15, σ0°68/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.19**	**334**	*i* P	**Pg**	**09 44 36.3**	**-0.5**
URLA				*i* S	**Sg**	**09 44 40.7**	**+1.3**
BLCB	**Balcova**	**0.33**	**54**	PG	**Pg**	**09 44 39.4**	**-0.1**
BLCB				SG	**Sg**	**09 44 43.7**	**-0.2**
IZM	**Izmir**	**0.49**	**65**	PG	**Pg**	**09 44 42.1**	**-0.4**
IZM				SG	**Sg**	**09 44 48.8**	**0.0**
KDAG	**Bornova**	**0.49**	**65**	*i* P	**Pg**	**09 44 42.4**	**-0.2**
KDAG				*i* S	**Sg**	**09 44 49.5**	**+0.5**
KDAG	**Bornova**	**0.49**	**65**	*i* P	**Pg**	**09 44 42.3**	**-0.2**
SMG	**Samos**	**0.49**	**167**	*e*PB	**Pg**	**09 44 42.1**	**-0.5**
SMG				*e*SB	**Sg**	**09 44 49.7**	**+0.6**
PRK	**Paraskevi**	**1.10**	**342**	*e*PN	**Pn**	**09 44 53.9**	**-0.8**
PRK				*e*SN	**Sn**	**09 45 10.0**	**-0.1**
AKS	**Akhisar**	**1.11**	**52**	PG	**Pg**	**09 44 54.1**	**-0.2**
AKS				SG	**Sg**	**09 45 08.7**	**0.0**
BODT	**Bodrum**	**1.23**	**157**	*e*PN	**Pn**	**09 44 56.4**	**-0.1**
BDRM	**Kayabasi**	**1.27**	**152**	*i* P	**Pn**	**09 45 01.3**	**+4.2**
BDRM				*i* S	**Sb**	**09 45 13.6**	**-0.1**
BDRM	**Kayabasi**	**1.27**	**152**	*i* S	**Sb**	**09 45 13.6**	**-0.1**
APE	**Apeiranthos**	**1.46**	**220**	*e*PN	**Pn**	**09 44 58.8**	**-0.8**
APE				*e*SN	**Sn**	**09 45 20.0**	**+1.2**
APE	**Apeiranthos**	**1.46**	**220**	*e*P	**Pn**	**09 44 56.8**	**-2.8**
MANT	**Manisa**	**1.49**	**78**	*i* P	**Pn**	**09 45 00.9**	**+0.8**
MANT				*i* S	**Sn**	**09 45 20.5**	**+0.8**
YER	**Yerkesik**	**1.64**	**130**	*e*PN	**Pn**	**09 45 01.4**	**-0.8**

IDC 11 10:04:20.7±8.7, 987N×9300E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.3/3, Error ellipse: s-maj=457.6km s-min=29.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.91**	**348**	P	P	10 11 39.6	0.0
0.3nm,0.6s,baz=157,slow=7.8,SNR=4.2							
WRA	**Warramunga Arr**	**50.33**	**126**	P	P	10 13 19.4	+0.1
0.3nm,0.7s,baz=304,slow=9.1,SNR=4.4							
ASAR	**Alice Springs**	**52.05**	**130**	P	P	10 13 33.0	+0.8
0.2nm,0.6s,baz=308,slow=7.1,SNR=5.2							

MAN 11 10:27:24.2, 979N×12546E, h28km, mb2.6, ML4.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.03**	**111**	⇓*e*P	Pb	10 27 29.1	+0.2
SCPH				*e*S	Sb	10 27 31.7	-0.4
MSLP	**Maasin**	**0.69**	**300**	*e*P	Pb	10 27 37.2	-0.4
MSLP				*e*S	Sb	10 27 45.1	-1.7
PLP	**Palo**	**1.45**	**341**	*e*P	Pn	10 27 49.0	+0.5
PLP				*i* S	Sn	10 28 06.7	+0.2
LLP	**Lapu-Lapu**	**1.56**	**290**	*e*P	Pn	10 27 50.8	+0.7
LLP				*e*S	Sn	10 28 09.8	+0.3

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*ISCJB **11** 10:35:48.1±1.6, 3545S±009×1369E±0.1, h10km, Error ellipse: s-maj=17.2km s-min=6.5km az=84.3*
*NEIC **11** 10:35:49.0, 3580S×13670E, h16km, ML3.5(AUST), After AUST.*
*AUST **11** 10:35:49.5, 3580S×13670E, h16km, ML3.5*
*IDC **11** 10:35:50.1±6.5, 3541S×13665E, h0km, mb1 3.5/3, mb1mx3.5/12, mbtmp3.3/3, ML3.4/3, Error ellipse: s-maj=57.4km s-min=32.1km az=6.0*
ISC 11 10:35:49.2±1.7, 356S±01×1367E±01, h10km, n9, σ1°21/18, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**2.81**	**348**	*e*P	**Pn**	**10 36 37.0**	**+2.9**
BBOO				*e*S	**Sn**	**10 37 06.0**	**-1.9**
11nm,0.3s							
ARPS	**Mount Arapiles**	**4.29**	**108**	*e*P	**Pn**	**10 36 53.7**	**-0.8**
ARPS				*e*S	**Sn**	**10 37 43.8**	**-0.9**
36nm,0.3s							
STKA	**Stephens Creek**	**5.46**	**49**	*e*P	**Pn**	**10 37 12.4**	**+1.8**
STKA				*e*S	**Sn**	**10 38 08.8**	**-4.7**
4.6nm,0.3s							
STKA	**Stephens Creek**	**5.46**	**49**	Pn	**Pn**	**10 37 12.0**	**+1.4**
0.6nm,0.3s,baz=227,slow=10,SNR=13							
STKA				Sn	**Sn**	**10 38 17.1**	**+3.5**
2.0nm,0.3s,baz=250,slow=11,SNR=5.6							
STKA				Lg		10 38 42.2	
4.0nm,0.3s,baz=300,slow=16,SNR=6.8							
STKA	**Stephens Creek**	**5.46**	**49**	*e*P	**Pn**	**10 37 12.4**	**+1.8**
4.6nm,0.3s							
STKA				*e*S	**Sn**	**10 38 08.8**	**-4.7**
CMSA	**Cobar Meteorol**	**8.48**	**64**	*e*P	**Pn**	**10 37 52.7**	**+0.7**
CMSA				*e*S	**Sn**	**10 39 27.6**	**-0.1**
2.0nm,0.3s							
CMSA	**Cobar Meteorol**	**8.48**	**64**	*e*P	**Pn**	**10 37 52.7**	**+0.7**
2.0nm,0.3s							
CMSA				*e*S	**Sn**	**10 39 27.6**	**-0.1**
ASAR	**Alice Springs**	**12.11**	**347**	Pn	**Pn**	**10 38 42.5**	**+0.8**
0.2nm,0.3s,baz=173,slow=11,SNR=14							
ASAR				Sn	**Sn**	**10 40 56.6**	**-0.3**
0.2nm,0.3s,baz=171,slow=22,SNR=7.4							
ASAR				Lg		10 42 09.2	
0.1nm,0.3s,baz=168,slow=28,SNR=4.0							
WRA	**Warramunga Arr**	**15.71**	**352**	Pn	**Pn**	**10 39 29.7**	**-0.7**
0.2nm,0.3s,baz=171,slow=12,SNR=26							
WRA				Sn	**Sn**	**10 42 17.7**	**-6.8**

*NEIC **11** 10:38:22.9±1.3, 1083N×9444E, h10km, mb3.9/1, Error ellipse: s-maj=59.5km s-min=13.2km az=59.0*
*ISCJB **11** 10:38:24.2±1.7, 108N±03×944E±05, h33km, mb3.7/7, Error ellipse: s-maj=77.5km s-min=16.9km az=117.5*
ISC 11 10:38:26.9±1.7, 109N±03×944E±05, h35km, n8, σ0°36/8, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**14.82**	**351**	*eP*	**Pn**	**10 42 00.0**	**+6.1**
AAK	**Ala-Archa**	**36.12**	**335**	*eP*	**P**	**10 45 25.3**	**-0.2**
1.4nm,0.8s,mb3.9							
MKAR	**Makanchi Array**	**37.27**	**346**	P	**P**	**10 45 35.3**	**+0.1**
0.2nm,0.5s,mb3.2,baz=168,slow=7.2,SNR=6.6							
SONM	**Songino Array**	**38.20**	**13**	P	**P**	**10 45 42.8**	**-0.3**
0.7nm,0.6s,mb3.5,baz=194,slow=8.9,SNR=2.7							
ZAL	**Zalesovo**	**43.65**	**352**	P	**P**	**10 46 28.7**	**+0.8**
0.7nm,0.3s,mb3.8,baz=295,slow=11,SNR=4.4							
BVAR	**Borovoye Array**	**46.29**	**340**	P	**P**	**10 46 48.6**	**-0.4**
0.2nm,0.4s,mb3.4,baz=145,slow=5.4,SNR=3.5							
WRA	**Warramunga Arr**	**49.80**	**128**	P	**P**	**10 47 15.9**	**-0.2**
0.7nm,0.6s,mb3.9,baz=305,slow=8.9,SNR=8.4							
ASAR	**Alice Springs**	**51.64**	**132**	P	**P**	**10 47 30.2**	**+0.2**
1.1nm,0.8s,mb3.8,baz=309,slow=8.3,SNR=8.6							

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*ISCJB **11** 10:39:02.9±0.4, 1065N±005×9438E±005, h26km, mb4.4/41, MS4.3/10, Error ellipse: s-maj=8.0km s-min=5.6km az=97.4*
*BJI **11** 10:39:02.7, 1055N×9432E, h26km, mB4.8, mb4.2, Ms4.6, Msz4.2*
*MOS **11** 10:39:03.2±0.8, 1061N×9418E, h33km, mb5.0/9, MS4.1/5, Error ellipse: s-maj=15.6km s-min=7.4km az=105.1*
*IDC **11** 10:39:04.2±0.6, 1066N×9417E, h24km±3km, mb3.9/18, mb1 4.1/19, mb1mx4.0/25, mbtmp4.1/19, ML3.5/1, Error ellipse: s-maj=21.1km s-min=10.9km az=59.0*
*NEIC **11** 10:39:04.3±0.3, 1062N×9421E, mb5.0/16, Error ellipse: s-maj=12.7km s-min=6.0km az=56.0*
ISC 11 10:39:05.5±0.4, 1072N±005×9439E±005, h27km, h27km±1.1km: pP-P, n97, σ1°19/93, mb4.4/41, MS4.3/10, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.87**	**300**	*ex*	x	10 39 20.7	
PBA				*ex*	x	10 40 31.5	
PBA				*ex*	x	10 41 02.7	
comp=E,8μm,0.9s							
PBA				*ex*	x	10 41 06.2	
comp=N,7μm,1.3s							
NNT	**Nongplab**	**5.55**	**70**	P	**Pn**	**10 40 26.3**	**0.0**
SNG	**Songkhla**	**7.08**	**119**	P	**Pn**	**10 40 54.0**	**+6.7**
comp=N,286nm,0.9s							
NST	**Nakhon Sawan**	**7.45**	**48**	P	**Pn**	**10 40 52.0**	**-0.4**
comp=N,133nm,0.5s							
PSI	**Prapat**	**9.06**	**150**	Pn	**Pn**	**10 41 15.7**	**+1.2**
comp=N,0.5nm,0.3s,baz=339,slow=18,SNR=2.6							
KKTK	**Khon Kaen**	**9.92**	**55**	PN		10 41 36.5	
VIS	**Vishakhapatnam**	**12.79**	**304**	*eP*	**Pn**	**10 42 06.8**	**+1.4**
VIS				AMb	AMB	10 42 39.0	
comp=Z,82nm,1.5s							
VIS				*ex*	x	10 44 46.1	
AGT	**Agartala**	**13.43**	**348**	*ex*	x	10 43 08.0	
IMP	**Imphal**	**14.00**	**358**	*ex*	x	10 42 54.0	
SHL	**Shillong**	**14.96**	**351**	*eP*	**Pn**	**10 42 41.0**	**+5.9**
SHL				*eS*	**Sn**	**10 45 28.0**	**+8.1**
BOK	**Bokaro**	**15.33**	**329**	*eP*	**Pn**	**10 42 43.0**	**+3.1**
BOK				AMb	AMB	10 42 57.7	
comp=Z,36nm,1.3s							
HYB	**Hyderabad**	**16.74**	**295**	*i P*	**Pn**	**10 43 03.0**	**+5.0**
HYB				*eS*	**Sn**	**10 45 57.0**	**-6.1**
HYB				*e*		10 46 03.0	
HYB	**Hyderabad**	**16.74**	**295**	*eP*	**Pn**	**10 43 03.0**	**+5.0**
HYB				*e*		10 46 03.0	
HYB	**Hyderabad**	**16.74**	**295**	*eP*	**Pn**	**10 43 03.0**	**+5.0**
HYB				*e*		10 46 03.0	
HYB				*eS*	Sn	10 46 31.0	+28
NGP	**Nagpur**	**18.02**	**307**	*eP*	**Pn**	**10 43 16.7**	**+2.8**
NGP				*ex*	x	10 46 59.0	
JIRN	**Jiri**	**18.54**	**337**	*eP*	**Pn**	**10 43 19.6**	**-0.6**
comp=Z,661nm,1.5s							
PKI	**Pulchoki**	**18.78**	**334**	*eP*	**Pn**	**10 43 22.7**	**-0.4**
comp=Z,365nm,1.2s							
PKI	**Pulchoki**	**18.78**	**334**	*eP*	**Pn**	**10 43 22.7**	**-0.4**
PKI				pmax	pmax		
comp=Z,183nm,1.2s							
GUN	**Gumba**	**18.88**	**336**	*eP*	**Pn**	**10 43 24.7**	**+0.3**
comp=Z,547nm,1.3s							
DMN	**Daman**	**18.94**	**334**	*eP*	**Pn**	**10 43 25.8**	**+0.7**
comp=Z,256nm,1.1s							
KKN	**Kakani**	**19.02**	**334**	*eP*	**Pn**	**10 43 26.2**	**+0.1**
comp=Z,301nm,1.2s							
KKN	**Kakani**	**19.02**	**334**	*eP*	**Pn**	**10 43 26.2**	**+0.1**
KKN				pmax	pmax		
comp=Z,150nm,1.2s							
LSA	**Lhasa**	**19.13**	**351**	P	**Pn**	**10 43 27.2**	**-0.2**
LSA				XP	sP	10 43 44.2	+6.9
LSA				S	**Sn**	**10 46 57.2**	**-3.7**
LSA				AMB	AMB		
comp=Z,10.0nm,0.7s							
LSA				LR	LR		
comp=N,240nm,8.0s							
LSA				LR	LR		
comp=E,170nm,8.0s							
LSA				LR	LR		
comp=Z,360nm,8.0s							
LSA	**Lhasa**	**19.13**	**351**	P	**Pn**	**10 43 26.6**	**-0.8**
LSA				pmax	pmax		
comp=Z,8.0nm,0.6s							
LSA	**Lhasa**	**19.13**	**351**	P	**Pn**	**10 43 26.6**	**-0.8**
comp=Z,8.0nm,0.6s							
GYA	**Guiyang**	**19.48**	**35⇑**	*i P*	**Pn**	**10 43 32.9**	**+1.3**
GYA				AP	pP	10 43 37.4	-0.2
GYA				XP	sP	10 43 41.2	+0.1
GYA				PP		10 43 53.6	
GYA				AMB	AMB		
comp=Z,10.0nm,1.4s							
GYA				AMB	AMB		
comp=Z,390nm,12.3s							
GYA				LR	LR		
comp=N,1μm,12.0s							
GYA				LR	LR		
comp=E,660nm,11.4s							
GYA				LR	LR		
comp=Z,720nm,11.4s							
GKN	**Gorkha**	**19.49**	**333**	*eP*	**Pn**	**10 43 31.8**	**+0.1**
comp=Z,248nm,1.1s							
KOLN	**Koldanda**	**19.77**	**331**	*eP*	**Pn**	**10 43 36.7**	**+1.7**
comp=Z,162nm,0.8s							
BHPL	**Bhopal**	**20.43**	**310**	*eP*	**P**	**10 43 43.2**	**+2.6**
BHPL				AMb	AMB	10 43 54.0	
comp=Z,23nm,1.0s							
KAD	**Karad**	**20.66**	**291**	*eP*	**P**	**10 43 46.7**	**+3.5**
POO	**Poona**	**21.33**	**294**	*eP*	**P**	**10 43 54.0**	**+3.7**
CD2	**Chengdu**	**21.89**	**22**	P	**P**	**10 43 57.6**	**+1.2**
CD2				XP	sP	10 44 09.6	+2.3
CD2				PP		10 44 27.2	
CD2				S	**S**	**10 47 57.0**	**+0.2**
CD2				XS	sS	10 48 11.0	+2.3
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.4							
CD2				AMB	AMB		
comp=Z,80nm,4.8s							
CD2				LR	LR		
comp=E,510nm,11.4s							
CD2				LR	LR		
comp=Z,320nm,10.2s,MS4.0							
KKM	**Kota Kinabalu**	**22.07**	**100**	*eP*	**P**	**10 43 59.5**	**+1.2**
PTH	**Pithoragarh**	**22.94**	**327**	*ex*	x	10 44 50.0	
PTH				*ex*	x	10 45 08.0	
ENH	**Enshi**	**24.00**	**34**	*eP*	**P**	**10 44 17.9**	**+0.1**
comp=Z,33nm,1.2s,mb4.6							
NDI	**New Delhi**	**24.05**	**320**	*eP*	**P**	**10 44 19.0**	**+0.7**
NDI				*eP*		10 44 19.0	
NDI				*ex*	x	10 48 48.0	
NDI				*ex*	x	10 48 48.0	
AJM	**Ajmer**	**24.36**	**313**	*eP*	**P**	**10 44 22.7**	**+1.5**
AJM				AMb	AMB	10 44 25.1	
comp=Z,11nm,0.9s,mb4.3							
SMLA	**Simla**	**25.84**	**324**	*ex*	**P**	**10 44 37.3**	**+2.7**
SMLA				AMb	AMB	10 45 00.8	
comp=Z,61nm,1.9s,mb4.8							
LZH	**Lanzhou**	**26.67**	**17**	*eP*	**P**	**10 44 42.7**	**+0.6**
LZH				AP	pP	10 44 53.6	+3.5
LZH				XP	sP	10 44 57.5	+4.1
LZH				PP		10 45 30.1	
LZH				*e*S	**S**	**10 49 15.6**	**-0.1**
LZH				XS	sS	10 49 32.7	+3.8
LZH				SS		10 50 29.5	
LZH				AMB	AMB		
comp=Z,36nm,1.3s,mb4.7							
LZH				AMB	AMB		
comp=Z,218nm,4.9s							
LZH				LR	LR		
comp=N,853nm,11.3s							
LZH				LR	LR		
comp=Z,1μm,13.6s,MS4.7							
XAN	**Xi'an**	**26.75**	**28**	P	**P**	**10 44 42.0**	**-0.9**
XAN				AP	pP	10 44 49.5	-1.3
XAN				S	**S**	**10 49 17.8**	**+0.8**
XAN				AMB	AMB		
comp=Z,5.0nm,1.5s,mb3.8							
XAN				LR	LR		
comp=N,590nm,14.1s,MS4.4							
XAN				LR	LR		
comp=E,556nm,13.5s,MS4.4							
XAN				LR	LR		
comp=Z,443nm,14.1s,MS4.2							
WMQ	**Urumqi**	**33.49**	**351**	P	**P**	**10 45 47.4**	**+5.0**
WMQ				AMB	AMB		
comp=Z,382nm,4.6s							
WMQ				LR	LR		
comp=N,587nm,24.2s,MS4.5							
WMQ				LR	LR		
comp=E,876nm,26.0s,MS4.5							
WMQ				LR	LR		
comp=Z,489nm,24.0s,MS4.1							
BJI	**Beijing**	**35.01**	**30**	P	**P**	**10 46 01.5**	**+5.9**
BJI				AMB	AMB		
comp=Z,6.0nm,0.5s,mb4.8							
BJI				LR	LR		
comp=N,436nm,13.3s,MS4.5							
BJI				LR	LR		
comp=E,437nm,13.3s,MS4.5							
BJI				LR	LR		
comp=Z,205nm,42.4s							
AAK	**Ala-Archa**	**36.23**	**335**	*eP*	**P**	**10 46 06.1**	**0.0**
AAK				pmax	pmax		
comp=Z,30nm,1.1s,mb5.1							
AAK	**Ala-Archa**	**36.23**	**335**	*eP*	**P**	**10 46 06.1**	**0.0**
comp=Z,30nm,1.1s,mb5.1							
FRU	**Bishkek**	**36.35**	**335**	*eP*	**P**	**10 46 12.0**	**+4.9**
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**10 46 15.5**	**-0.5**
comp=Z,3.1nm,0.7s,mb4.2,baz=165,slow=7.9,SNR=17							
MKAR				pP	pP	10 46 22.4	-1.7
comp=Z,2.5nm,0.5s,baz=158,slow=8.6,SNR=8.2							
SONM	**Songino Array**	**38.35**	**13**	P	**P**	**10 46 24.7**	**+0.6**
comp=Z,2.5nm,1.0s,mb3.9,baz=208,slow=8.4,SNR=7.5							
SONM				pP	pP	10 46 31.6	-0.7
comp=Z,3.6nm,1.1s,baz=211,slow=8.4,SNR=6.4							
ULN	**Ulaanbaatar**	**38.53**	**14**	*i* P	**P**	**10 46 26.7**	**+1.1**
KURK	**Kurchatov**	**41.94**	**345**	*eP*	**P**	**10 46 52.1**	**-1.7**
KURK				*e*PP	pP	10 47 00.5	-1.5
KURK				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.1							
KURK	**Kurchatov**	**41.94**	**345**	*eP*	**P**	**10 46 52.1**	**-1.7**
comp=Z,5.6nm,1.1s,mb4.1							
KURK				*e*pP	pP	10 47 00.5	-1.5
ZAL	**Zalesovo**	**43.78**	**352**	P	**P**	**10 47 08.2**	**-0.6**
comp=Z,2.9nm,0.9s,mb4.0,baz=301,slow=8.6,SNR=13							
ZAL				pP	pP	10 47 15.9	-1.1
comp=Z,3.2nm,0.9s,baz=313,slow=8.4,SNR=6.7							
BVAR	**Borovoye Array**	**46.41**	**340**	P	**P**	**10 47 28.3**	**-1.4**
comp=Z,2.1nm,0.9s,mb4.0,baz=149,slow=6.9,SNR=8.0							
BVAR				pP	pP	10 47 35.4	-2.5
comp=Z,2.0nm,0.8s,baz=132,slow=8.7,SNR=5.5							
BRVK	**Borovoye**	**46.47**	**340**	*eP*	**P**	**10 47 28.3**	**-1.8**
BRVK				*e*PP	pP	10 47 36.7	-1.7
BRVK				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.1							
BRVK	**Borovoye**	**46.47**	**340**	*eP*	**P**	**10 47 28.3**	**-1.8**
comp=Z,3.2nm,1.1s,mb4.2							
BRVK				*e*pP	pP	10 47 36.7	-1.7
ZRNK	**Zerenda**	**46.82**	**339**	*eP*	**P**	**10 47 31.8**	**-1.0**
ZRNK				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1							
ZRNK	**Zerenda**	**46.82**	**339**	*eP*	**P**	**10 47 31.8**	**-1.0**
comp=Z,1.7nm,0.8s,mb4.0							
MJAR	**Matsushiro Arr**	**47.11**	**50**	P	**P**	**10 47 37.1**	**+2.0**
comp=Z,0.8nm,0.8s,mb3.7,baz=248,slow=9.3,SNR=4.9							
MJAR				PcP	PcP	10 49 07.1	+0.5
comp=Z,2.3nm,0.9s,baz=251,slow=2.7,SNR=6.4							
BOD	**Bodaibo**	**49.34**	**14**	*eP*	**P**	**10 47 52.1**	**-0.3**
BOD				pmax	pmax		
comp=Z,10.0nm,1.4s,mb4.7							
AKTK	**Aktyubinsk**	**49.61**	**330**	P	**P**	**10 47 53.6**	**-0.8**
AKTO	**Aktyubinsk**	**49.61**	**330**	P	**P**	**10 47 53.6**	**-0.8**
comp=Z,1.0nm,0.4s,mb4.2,baz=114,slow=9.0,SNR=4.7							
WRA	**Warramunga Arr**	**49.74**	**128**	P	**P**	**10 47 55.6**	**+0.2**
comp=Z,3.0nm,0.7s,mb4.4,baz=304,slow=8.9,SNR=24							
WRA				pP	pP	10 48 03.4	-0.3
comp=Z,4.0nm,0.8s,baz=304,slow=9.0,SNR=8.6							
WRAB	**Tennant Creek**	**49.75**	**128**	*eP*	**P**	**10 47 56.1**	**+0.7**
WRAB				*e*PP	pP	10 48 03.9	+0.1
WRAB				pmax	pmax		
comp=Z,14nm,1.1s,mb4.9							
WRAB	**Tennant Creek**	**49.75**	**128**	*eP*	**P**	**10 47 56.1**	**+0.6**
comp=Z,14nm,1.1s,mb4.9							
WRAB				*e*pP	pP	10 48 03.9	+0.1
WB2	**Warramunga Arr**	**49.75**	**128**	*eP*	**P**	**10 47 55.7**	**+0.2**
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**	**10 48 09.6**	**+0.4**
comp=Z,3.0nm,0.7s,mb4.3,baz=309,slow=6.6,SNR=21							
ASAR				pP	pP	10 48 17.2	-0.3
comp=Z,4.3nm,0.8s,baz=311,slow=6.6,SNR=9.9							
CLNS	**Chul'man**	**51.70**	**21**	*eP*	**P**	**10 48 09.2**	**-1.0**
CLNS				pmax	pmax		
comp=Z,13nm,0.7s,mb5.0							
CLNS				pmax	pmax		
comp=N,8.0nm,0.9s							
CLNS				pmax	pmax		
comp=E,5.0nm,0.7s							
CLNS				MLR	MLR		
comp=Z,200nm,13.0s,MS4.3							
CLNS				MLR	MLR		
comp=N,100nm,12.0s,MS4.4							
CLNS				MLR	MLR		
comp=E,200nm,14.0s,MS4.4							
GNI	**Garni**	**52.67**	**313**	*i* P	sP	10 48 29.6	+0.6
ZEI	**Tsey**	**54.17**	**316**	*i* P	**P**	**10 48 31.4**	**+3.0**
ZEI				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.7							
KIV	**Kislovodsk**	**55.42**	**316**	*eP*	pP	10 48 46.3	+0.5
KIV				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.7							
KIV				MLR	MLR		
comp=Z,100nm,15.0s,MS4.0							
YAK	**Yakutsk**	**57.24**	**19**	*eP*	**P**	**10 48 50.5**	**+0.1**
YAK				pmax	pmax		
comp=Z,18nm,0.9s,mb5.1							
YAK				pmax	pmax		
comp=N,8.0nm,1.2s							
YAK				pmax	pmax		
comp=E,7.0nm,1.2s							
KMBO	**Kilima Mbogo**	**58.03**	**262**	P	**P**	**10 48 54.6**	**-1.3**
comp=E,0.4nm,0.3s,mb3.9,baz=49,slow=22,SNR=3.5							
ANN	**Anapa**	**59.26**	**316**	*eP*	**P**	**10 48 58.6**	**-5.9**
ANN				*i*		10 49 10.8	
ANN				pmax	pmax		
comp=Z,25nm,0.5s,mb5.5							
BRTR	**Keskin Array B**	**60.80**	**310**	P	**P**	**10 49 14.2**	**-0.8**
comp=Z,1.8nm,0.9s,mb4.2,baz=119,slow=10.0,SNR=6.1							
BRTR	**Keskin Array B**	**60.80**	**310**	P	**P**	**10 49 14.2**	**-0.8**
STKA	**Stephens Creek**	**61.90**	**135**	P	**P**	**10 49 22.1**	**-0.4**
comp=Z,2.1nm,0.9s,mb4.3,baz=315,slow=20,SNR=2.7							
OBN	**Obninsk**	**63.13**	**327**	*i* P	**P**	**10 49 36.4**	**+5.6**
OBN				pmax	pmax		
comp=Z,7.0nm,0.4s,mb5.1							
OBN				MLR	MLR		
comp=Z,200nm,19.0s,MS4.3							
MA2	**Magadan**	**64.15**	**28**	*eP*	**P**	**10 49 37.4**	**-0.1**
MA2				*e*		11 02 29.7	
MA2				pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.4							
MA2	**Magadan**	**64.15**	**28**	*eP*	**P**	**10 49 37.7**	**+0.2**
comp=Z,9.8nm,1.3s,mb4.7							
TIXI	**Tiksi**	**64.41**	**11⇑**	*eP*	**P**	**10 49 38.3**	**-0.9**
TIXI				pmax	pmax		
comp=Z,12nm,1.7s,mb4.7							
TIXI				MLR	MLR		
comp=Z,100nm,19.0s,MS4.0							
SEY	**Seymchan**	**66.26**	**25**	*i* P	**P**	**10 49 51.1**	**0.0**
FINES	**FINESS Array B**	**70.34**	**332**	P	**P**	**10 50 14.9**	**-1.8**
comp=Z,0.5nm,0.7s,mb3.6,baz=130,slow=15,SNR=2.8							
FINES				pP	pP	10 50 22.2	-3.1
comp=Z,0.6nm,0.6s,baz=60,slow=5.0,SNR=1.9							
ARCES	**ARCESS Array B**	**72.70**	**340**	P	**P**	**10 50 29.7**	**-1.2**
comp=Z,4.6nm,1.0s,mb4.4,baz=93,slow=7.4,SNR=3.6							
ARCES				pP	pP	10 50 37.0	-2.5
comp=Z,4.6nm,1.0s,baz=95,slow=7.1,SNR=1.6							
BILL	**Bilibino**	**73.37**	**22**	*eP*	**P**	**10 50 34.9**	**0.0**
BILL				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1							
BILL				MLR	MLR		
comp=Z,100nm,15.0s,MS4.2							
GERES	**GERESS Array B**	**75.89**	**318**	P	**P**	**10 50 48.3**	**-1.3**
comp=Z,0.5nm,0.7s,mb3.5,baz=72,slow=4.3,SNR=3.8							
BOSA	**Boshof**	**77.31**	**237**	P	**P**	**10 50 56.5**	**-1.0**
comp=Z,2.9nm,1.0s,mb4.2,baz=85,slow=6.7,SNR=3.9							
NOA	**NORSAR Array B**	**77.40**	**330**	P	**P**	**10 50 55.3**	**-2.8**
comp=Z,0.6nm,0.7s,mb3.7,baz=94,slow=5.8,SNR=2.6							
NOA	**NORSAR Array B**	**77.40**	**330**	P	**P**	**10 50 55.3**	**-2.8**
LPG	**La Plagne**	**80.81**	**315**	*eP*	**P**	**10 51 13.3**	**-3.4**
comp=Z,32nm,1.1s,mb4.8							
LPG	**La Plagne**	**80.81**	**315**	*eP*	**P**	**10 51 13.3**	**-3.4**
LPG				pmax	pmax		
comp=Z,16nm,1.1s,mb4.9							
LPG	**La Plagne**	**80.81**	**315**	*eP*	**P**	**10 51 13.3**	**-3.4**
comp=Z,16nm,1.1s,mb4.9							
ILAR	**Eielson Array**	**92.03**	**22**	P	**P**	**10 52 10.7**	**-1.2**
comp=Z,0.5nm,0.7s,mb3.9,baz=304,slow=3.7,SNR=7.1							
ILAR	**Eielson Array**	**92.03**	**22**	P	**P**	**10 52 10.7**	**-1.2**
INK	**Inuvik**	**94.21**	**16**	P	**P**	**10 52 20.5**	**-1.5**
comp=Z,0.6nm,0.6s,mb4.2,baz=350,slow=11,SNR=5.5							
INK	**Inuvik**	**94.21**	**16**	P	**P**	**10 52 20.5**	**-1.5**
NVAR	**Mina Array Bea**	**122.36**	**30**	PKP	PKPdf	10 57 59.5	+1.4
comp=Z,0.5nm,0.6s,baz=349,slow=1.9,SNR=5.0							
NVAR	**Mina Array Bea**	**122.36**	**30**	PKP	PKPdf	10 57 59.5	+1.4
PLCA	**Paso Flores**	**147.28**	**201**	PKPbc	PKPbc	10 58 46.4	0.0
comp=Z,2.2nm,0.9s,baz=158,slow=4.2,SNR=5.4							

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*ISCJB **11** 10:39:32.6±0.3, 1090N±005×9434E±006, h25km, mb4.5/33, MS4.3/2, Error ellipse: s-maj=8.5km s-min=7.5km az=127.4*
*MOS **11** 10:39:33.2±0.8, 1093N×9437E, h33km, mb4.9/9, Error ellipse: s-maj=18.1km s-min=9.8km az=115.6*
*BJI **11** 10:39:34.5, 1100N×9440E, h26km, mB4.9, mb4.6, Ms4.6, Msz4.5*
*IDC **11** 10:39:34.0±0.5, 1090N×9437E, h23km±3km, mb4.2/22, mb1 4.3/23, mb1mx4.3/28, mbtmp4.4/23, ML4.2/1, Error ellipse: s-maj=16.7km s-min=11.1km az=53.0*
*NEIC **11** 10:39:34.5±0.2, 1096N×9440E, mb4.8/8, Error ellipse: s-maj=9.4km s-min=6.3km az=55.0*
ISC 11 10:39:35.0±0.3, 1096N±006×9437E±006, h27km, h27km±1.5km: pP-P, n65, σ1°14/54, mb4.5/33, MS4.3/2, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.28**	**151**	Pn	**Pn**	**10 41 48.5**	**+1.5**
2.4nm,0.3s,baz=312,slow=10,SNR=4.9							
PSI	**Prapat**	**9.28**	**151**	Pn	**Pn**	**10 41 48.5**	**+1.5**
PALK	**Pallekele**	**13.98**	**256**	*e*Pn	**Pn**	**10 42 52.1**	**+0.9**
QIZ	**Qiongzhong**	**16.96**	**60**	P	**Pn**	**10 43 31.7**	**+1.4**
QIZ				LR	LR		
comp=E,1μm,9.5s							
QIZ				LR	LR		
comp=Z,2μm,8.7s							
GZH	**Guangzhou**	**21.76**	**54**	P	**P**	**10 44 28.8**	**+4.4**
GZH				S	**S**	**10 48 20.0**	**-3.6**
GZH				LR	LR		
comp=N,652nm,12.0s,MS4.4							
GZH				LR	LR		
comp=E,759nm,13.6s,MS4.4							
GZH				LR	LR		
comp=Z,507nm,13.3s,MS4.1							
AAK	**Ala-Archa**	**36.00**	**335**	*eP*	**P**	**10 46 34.5**	**+0.8**
AAK				*e*PP	pP	10 46 42.2	+0.5
AAK				pmax	pmax		
comp=Z,22nm,1.1s,mb5.0							
AAK	**Ala-Archa**	**36.00**	**335**	*eP*	**P**	**10 46 34.5**	**+0.9**
comp=Z,22nm,1.1s,mb5.0							
AAK				*e*pP	pP	10 46 42.1	+0.5
MKAR	**Makanchi Array**	**37.16**	**346**	P	**P**	**10 46 42.9**	**-0.6**
comp=Z,4.6nm,0.7s,mb4.4,baz=157,slow=7.9,SNR=7.6							
MKAR				pP	pP	10 46 52.0	+0.5
comp=Z,14nm,0.8s,baz=165,slow=8.4,SNR=10							
MKAR	**Makanchi Array**	**37.16**	**346**	P	**P**	**10 46 42.9**	**-0.6**
MKAR				pP	pP	10 46 52.0	+0.5
SONM	**Songino Array**	**38.13**	**13**	P	**P**	**10 46 52.0**	**+0.4**
comp=Z,2.4nm,1.1s,mb3.8,baz=210,slow=5.0,SNR=2.7							
ZAK	**Zakamensk**	**39.99**	**9**	*eP*	**P**	**10 47 09.5**	**+2.2**
ZAK				pmax	pmax		
comp=Z,11nm,1.8s,mb4.3							
SNY	**Shenyang**	**40.00**	**35**	⇑P	**P**	**10 47 09.1**	**+1.8**
SNY				S	**S**	**10 53 11.8**	**+0.6**
SNY				AMB	AMB		
comp=Z,18nm,1.6s,mb4.5							
SNY				LR	LR		
comp=N,294nm,12.6s,MS4.4							
SNY				LR	LR		
comp=E,279nm,16.2s,MS4.4							
SNY				LR	LR		
comp=Z,353nm,15.0s,MS4.3							
MBWA	**Marble Bar**	**40.49**	**142**	*eP*	**P**	**10 47 10.3**	**-1.1**
comp=Z,20nm,1.2s,mb4.7							
KURK	**Kurchatov**	**41.70**	**345**	*eP*	**P**	**10 47 20.2**	**-1.2**
KURK				*e*PP	pP	10 47 29.8	+0.3
KURK				pmax	pmax		
comp=Z,25nm,1.2s,mb4.7							
KURK	**Kurchatov**	**41.70**	**345**	*eP*	**P**	**10 47 20.1**	**-1.2**
comp=Z,25nm,1.2s,mb4.7							
KURK				*e*pP	pP	10 47 29.8	+0.3
NVS	**Novosibirsk**	**44.65**	**351**	*eP*	**P**	**10 47 41.8**	**-3.4**
NVS				pmax	pmax		
comp=Z,29nm,1.6s,mb4.9							
NVS				pmax	pmax		
comp=N,27nm,1.4s							
NVS				pmax	pmax		
comp=E,13nm,1.3s							
BVAR	**Borovoye Array**	**46.17**	**340**	P	**P**	**10 47 57.1**	**-0.1**
comp=E,1.8nm,0

comp=Z,6.3nm,0.4s,mb5.0
YAK eP P 10 49 25.6 -1.1
KMBO Kilima Mbogo 58.03 262 P P 10 49 26.1 +0.6
comp=Z,0.7nm,0.4s,mb4.0,baz=52,slow=22,SNR=6.2
CTA Charters Tower 59.66 121 P P 10 49 36.6 -0.1
comp=Z,10nm,0.9s,mb4.8,baz=328,slow=8.2,SNR=3.7
BRTR Keskin Array B 60.62 309 P P 10 49 42.9 -0.5
comp=Z,2.7nm,0.9s,mb4.3,baz=125,slow=8.0,SNR=5.2
BRTR pP pP 10 49 50.0 -1.8
comp=Z,4.0nm,0.8s,baz=117,slow=7.0,SNR=6.1
BRTR Keskin Array B 60.62 309 pP pP 10 49 50.0 -1.8
STKA Stephens Creek 62.09 135 eP **P 10 49 51.7 -1.6**
comp=Z,9.2nm,0.9s,mb4.9
STKA Stephens Creek 62.09 135 P P 10 49 51.5 -1.8
comp=Z,8.2nm,0.9s,mb4.9,baz=311,slow=8.6,SNR=9.0
TIXI Tiksi 64.18 11 eP pP 10 50 13.2 -2.5
TIXI pmax pmax
comp=Z,11nm,0.9s,mb4.9
SEY Seymchan 66.05 25 eP **P 10 50 22.2 +2.9**
SEY e 10 52 51.7
SEY pmax pmax
comp=E,10.0nm,1.4s
SEY pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
ARMA Armidale 68.68 129 eP **P 10 50 38.3 +2.3**
ARMA epP sP 10 50 50.6 +2.9
FINES FINESS Array B 70.11 332 P P 10 50 44.8 0.0
comp=Z,1.3nm,0.9s,mb3.9,baz=114,slow=9.0,SNR=3.9
FINES pP pP 10 50 52.1 -1.3
comp=Z,1.1nm,0.6s,baz=97,slow=7.4,SNR=2.7
LSZ Lusaka 70.53 249 P P 10 50 47.7 +0.4
comp=Z,3.1nm,0.8s,mb4.3,baz=63,slow=9.0,SNR=3.2
ARCES ARCESS Array B 72.46 340 pP pP 10 51 06.5 -1.1
comp=Z,3.2nm,0.8s,baz=90,slow=4.9,SNR=1.8
GERES GERESS Array B 75.70 318 P P 10 51 16.7 -1.3
comp=Z,1.0nm,0.7s,mb3.8,baz=100,slow=6.9,SNR=3.6
NB2 NORSAR Subarra 77.17 330 P P 10 51 25.5 -0.8
comp=Z,15nm,1.7s,mb4.7,baz=92,slow=5.3
NB2 NORSAR Subarra 77.17 330 P P 10 51 25.5 -0.8
NB2 pmax pmax
comp=Z,15nm,1.7s,mb4.7
NOA NORSAR Array B 77.17 330 P P 10 51 25.7 -0.6
comp=Z,1.5nm,0.9s,mb3.9,baz=94,slow=5.5,SNR=3.1
NOA pP pP 10 51 33.1 -1.8
comp=Z,1.4nm,0.8s,baz=91,slow=5.8,SNR=2.7
NOA NORSAR Array B 77.17 330 pP pP 10 51 33.1 -1.8
BOSA Boshof 77.41 237 P P 10 51 27.2 -0.4
comp=Z,9.7nm,1.2s,mb4.6,baz=79,slow=4.8,SNR=3.6
DZM Mont Dzumac 77.89 115 P P 10 51 30.4 +0.1
comp=Z,7.8nm,0.9s,mb4.6,baz=233,slow=20,SNR=2.4
TORD Torodi Ar. Bea 90.11 283 P P 10 52 33.3 +0.8
comp=Z,2.5nm,1.1s,mb4.5,baz=87,slow=4.4,SNR=7.7
TORD pP pP 10 52 39.9 -1.4
comp=Z,1.8nm,0.8s,baz=77,slow=4.2,SNR=5.6
TORD PP PP 10 56 07.0 +1.1
comp=Z,1.7nm,1.0s,baz=69,slow=6.9,SNR=5.5
ILAR Eielson Array 91.82 22 P P 10 52 41.1 +0.6
comp=Z,0.6nm,0.7s,mb4.0,baz=289,slow=4.9,SNR=6.3
ILAR pP pP 10 52 47.6 -1.6
comp=Z,1.3nm,0.8s,baz=291,slow=3.8,SNR=6.8
ILAR Eielson Array 91.82 22 pP pP 10 52 47.6 -1.6
INK Inuvik 93.99 16 P P 10 52 49.9 -0.6
comp=Z,0.8nm,0.8s,mb4.2,baz=324,slow=3.1,SNR=4.3
INK pP pP 10 52 57.7 -1.5
comp=Z,1.4nm,0.5s,baz=359,slow=3.8,SNR=4.1
INK Inuvik 93.99 16 pP pP 10 52 57.7 -1.5
VNDA Vanda 95.89 168 P P 10 52 57.7 -1.5
comp=Z,1.9nm,0.9s,mb4.5,baz=142,slow=3.3,SNR=3.3
VNDA Vanda 95.89 168 P P 10 52 57.7 -1.5
VNA2 Neumayer--Watz 104.13 199 e Pdif 10 53 31.9 -4.1
baz=274,slow=9.8
VNA2 e 10 53 36.9
NVAR Mina Array Bea 122.17 30 PKP PKPdf 10 58 28.8 +1.6
comp=Z,0.9nm,0.6s,baz=359,slow=2.8,SNR=6.8
NVAR pPKP pPKPdf 10 58 36.0 -0.2
comp=Z,1.0nm,0.6s,baz=61,slow=30,SNR=5.7
PDAR Pinedale Array 122.23 21 PKP PKPdf 10 58 28.6 +1.4
comp=Z,1.2nm,0.9s,baz=77,slow=0.4,SNR=7.9
PDAR pPKP pPKPdf 10 58 35.5 -0.8
comp=Z,1.2nm,0.8s,baz=59,slow=0.9,SNR=6.8
PLCA Paso Flores 147.49 202 PKPbc PKPbc 10 59 17.2 +0.7
comp=Z,12nm,1.1s,baz=161,slow=4.7,SNR=11
PLCA Paso Flores 147.49 202 PKPbc PKPbc 10 59 17.2 +0.7
CPUP Villa Florida 149.23 236 PKPbc PKPbc 10 59 20.3 -0.7
comp=Z,4.5nm,1.0s,baz=105,slow=2.5,SNR=4.9
LPAZ La Paz 162.19 251 PKP PKPdf 10 59 36.9 +3.0
comp=Z,1.7nm,1.1s,baz=26,slow=4.6,SNR=4.3

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*ISCJB **11** 10:39:44.9±0.6, 107N±0.1×9434E±0.10, h24km, mb4.6/11, Error ellipse: s-maj=15.7km s-min=14.1km az=5.8*
*IDC **11** 10:39:46.9±0.7, 1073N×9440E, h22km±4km, mb4.4/11, mb1 4.6/11, mb1mx4.3/18, mbtmp4.5/11, MS3.9/1, Ms1 3.9/1, ms1mx3.0/13, Error ellipse: s-maj=22.0km s-min=16.0km az=64.0*
ISC 11 10:39:47.3±0.6, 108N±01×9435E±010, h25km, h25km±1.0km: pP-P, n25, σ0≟78/13, mb4.6/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.92**	**257**	ePn	**Pn**	**10 43 01.5**	**-1.3**
MKAR	**Makanchi Array**	**37.35**	**346**	pP	pP	10 47 04.5	-0.8
	19nm,0.9s,baz=162,slow=8.3,SNR=6.6						
SONM	**Songino Array**	**38.33**	**13**	P	**P**	**10 47 06.0**	**0.0**
	7.8nm,1.0s,mb4.4,baz=174,slow=5.8,SNR=6.9						
SONM				pP	pP	10 47 13.9	+0.4
	7.4nm,1.0s,baz=197,slow=8.9,SNR=5.8						
ZAL	**Zalesovo**	**43.75**	**352**	P	**P**	**10 47 50.5**	**0.0**
	2.6nm,0.7s,mb4.0,baz=284,slow=9.3,SNR=4.8						
ZAL				pP	pP	10 47 57.9	-0.4
	7.5nm,0.8s,baz=304,slow=9.5,SNR=5.5						
ZAL				LR	LR	11 09 18.0	
	comp=Z,162nm,20.4s,baz=290,slow=40						
MJAR	**Matsushiro Art**	**47.12**	**50**	P	**P**	**10 48 17.6**	**+0.3**
	1.5nm,0.8s,mb4.0,baz=232,slow=6.5,SNR=4.4						
MJAR				PcP	PcP	10 49 49.0	+0.2
	2.3nm,0.8s,baz=249,slow=4.1,SNR=4.9						
MJAR				pPcP		10 49 56.1	
	5.7nm,0.9s,baz=241,slow=3.7,SNR=5.1						
WRA	**Warramunga Arr**	**49.80**	**128**	P	**P**	**10 48 37.9**	**0.0**
	15nm,0.7s,mb5.1,baz=304,slow=8.9,SNR=18						
WRA				pP	pP	10 48 44.6	-1.0
	16nm,1.0s,baz=311,slow=8.1,SNR=5.6						
ASAR	**Alice Springs**	**51.63**	**132**	P	**P**	**10 48 52.0**	**+0.3**
	22nm,0.7s,mb5.2,baz=312,slow=7.4,SNR=20						
OPO	**Ambohidratompo**	**54.89**	**238**	P	**P**	**10 49 17.3**	**+1.6**
	1.5nm,0.3s,mb4.5,baz=331,slow=5.8,SNR=3.8						
BRTR	**Keskin Array B**	**60.75**	**310**	P	**P**	**10 49 57.3**	**+0.5**
	3.6nm,0.9s,mb4.5,baz=128,slow=8.0,SNR=4.7						
STKA	**Stephens Creek**	**61.95**	**135**	P	**P**	**10 50 04.0**	**-1.0**
	11nm,0.9s,mb5.0,baz=332,slow=6.9,SNR=3.6						
FINES	**FINESS Array B**	**70.29**	**332**	pP	pP	10 51 04.8	-1.7
	1.7nm,0.8s,baz=101,slow=8.1,SNR=3.2						
ARCES	**ARCESS Array B**	**72.65**	**340**	pP	pP	10 51 19.0	-1.8
	5.1nm,0.8s,baz=61,slow=11,SNR=3.0						
GERES	**GERESS Array B**	**75.84**	**318**	pP	pP	10 51 37.8	-1.6
	2.0nm,0.7s,baz=83,slow=5.5,SNR=4.7						
KHC	**Kasperske Hory**	**75.92**	**318**	eP	**P**	**10 51 37.5**	**+5.7**
TORD	**Torodi Ar. Bea**	**90.14**	**283**	P	**P**	**10 52 45.7**	**+0.5**
	1.6nm,0.8s,mb4.4,baz=88,slow=4.4,SNR=5.2						
TORD				pP	pP	10 52 52.6	-0.9
	1.2nm,0.7s,baz=87,slow=3.8,SNR=2.7						
TORD				PP	PP	10 56 15.4	-3.4
	1.9nm,1.1s,baz=79,slow=7.4,SNR=4.8						
ILAR	**Eielson Array**	**92.02**	**22**	P	**P**	**10 52 52.8**	**-1.2**
	1.5nm,0.9s,mb4.3,baz=292,slow=3.3,SNR=5.0						
ILAR				pP	pP	10 53 00.8	-1.5
	1.5nm,0.8s,baz=289,slow=4.3,SNR=5.4						
VNDA	**Vanda**	**95.68**	**168**	P	**P**	**10 53 11.0**	**+0.2**
	3.0nm,0.9s,mb4.7,baz=238,slow=6.4,SNR=4.9						
YKA	**Yellowknife Ar**	**103.60**	**13**	PP	PP	10 58 03.4	+0.9
	0.4nm,0.9s,baz=340,slow=8.0,SNR=3.8						
PPT	**Papeete**	**117.88**	**104**	eLR	LR	11 34 34.8	
	177nm,35.8s						
TBI	**Tubuai**	**118.14**	**111**	eLR	LR	11 34 42.3	
	162nm,32.8s						
NVAR	**Mina Array Bea**	**122.35**	**30**	PKP	PKPdf	10 58 41.5	+1.4
	1.0nm,0.7s,baz=347,slow=1.4,SNR=6.2						
NVAR				pPKP	pPKPdf	10 58 49.2	+0.6
	1.2nm,0.7s,baz=352,slow=1.0,SNR=4.3						
PDAR	**Pinedale Array**	**122.42**	**21**	PKP	PKPdf	10 58 40.6	+0.3
	1.1nm,0.7s,baz=332,slow=1.2,SNR=8.4						
RKT	**Rikitea**	**131.45**	**111**	eLR	LR	11 40 52.5	
	205nm,39.2s						
PLCA	**Paso Flores**	**147.29**	**201**	PKPbc	PKPbc	10 59 28.9	+0.4
	7.2nm,0.8s,baz=150,slow=5.5,SNR=8.9						
CPUP	**Villa Florida**	**149.10**	**236**	PKPbc	PKPbc	10 59 33.3	0.0
	5.0nm,0.8s,baz=105,slow=3.8,SNR=6.2						

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*IDC **11** 10:46:29.5±8.8, 3202S×17998W, h307km±98km, mb2.9/2, mb1 3.2/3, mb1mx3.1/13, mbtmp3.7/3, Error ellipse: s-maj=103.9km s-min=47.8km az=180.0*
*ISCJB **11** 10:46:35.4±1.4, 329S±02×1796W±04, h438km±21km, mb3.1/2, Error ellipse: s-maj=55.2km s-min=12.5km az=45.6*
ISC 11 10:46:39.1±1.4, 329S±01×1799E±04, h418km±27km, n19, σ1≟01/28, mb3.1/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.82**	**195**	PN	**P**	**10 48 00.7**	**+0.5**
MWZ	**Matawai**	**5.75**	**199**	ePN	**P**	**10 48 08.2**	**-1.5**
URZ	**Urewera**	**5.80**	**202**	P	**P**	**10 48 07.3**	**-3.0**
	2.6nm,0.3s,baz=272,slow=4.1,SNR=31						
URZ				S	**S**	**10 49 25.4**	**+0.8**
	5.9nm,0.3s,baz=251,slow=22,SNR=17						
URZ	**Urewera**	**5.80**	**202**	PN	**P**	**10 48 08.1**	**-2.1**
URZ				SN	**S**	**10 49 25.2**	**+0.6**
KNZ	**Kokohu**	**6.36**	**196**	PN	**P**	**10 48 17.1**	**+0.9**
KNZ				SN	**S**	**10 49 37.2**	**+1.8**
BKZ	**Black Stump Fm**	**6.83**	**203**	PN	**P**	**10 48 22.7**	**+1.4**
BKZ				SN	**S**	**10 49 42.8**	**-2.0**
PXZ	**Pawanui**	**7.52**	**198**	PN	**P**	**10 48 26.1**	**-2.7**
PXZ				SN	**S**	**10 49 58.5**	**-0.2**
TSZ	**Takapari Road**	**7.81**	**203**	PN	**P**	**10 48 31.9**	**-0.2**
TSZ				SN	**S**	**10 50 05.3**	**+0.6**
MRZ	**Mangatainoka R**	**8.48**	**203**	ePN	**P**	**10 48 39.4**	**-0.1**
MRZ				SN	**S**	**10 50 18.7**	**+0.4**
KIW	**Kapiti Island**	**8.89**	**205**	SN	**S**	**10 50 26.7**	**+0.2**
MTW	**Mount Morrison**	**8.95**	**202**	SN	**S**	**10 50 27.6**	**-0.3**
MRW	**Makara Radio**	**9.29**	**205**	SN	**S**	**10 50 33.0**	**-1.7**
TCW	**Tory Channel**	**9.43**	**207**	SN	**S**	**10 50 37.2**	**-0.3**
NNZ	**Nelson**	**9.79**	**210**	PN	**P**	**10 48 54.7**	**+0.7**
NNZ				SN	**S**	**10 50 45.3**	**+0.3**
THZ	**Tophouse**	**10.45**	**210**	PN	**P**	**10 49 00.8**	**-0.4**
THZ				SN	**S**	**10 50 58.3**	**+0.1**
KHZ	**Kahutara**	**10.74**	**206**	PN	**P**	**10 49 05.5**	**+1.0**
KHZ				SN	**S**	**10 51 04.8**	**+0.5**
ASAR	**Alice Springs**	**41.28**	**271**	P	**P**	**10 53 46.4**	**+0.5**
	0.5nm,0.8s,mb2.9,baz=107,slow=8.0,SNR=4.8						
WRA	**Warramunga Arr**	**42.50**	**276**	P	**P**	**10 53 55.4**	**-0.2**
	0.4nm,0.3s,mb3.2,baz=112,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**146.83**	**337**	PKPbc	PKPbc	11 05 31.7	-1.3
	1.0nm,0.9s,baz=56,slow=3.5,SNR=3.5						

IDC 11 10:54:42.8±2.0, 101N×12682E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=171.1km s-min=24.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.09**	**161**	P	P	10 59 38.9	-0.5
	0.6nm,0.3s,baz=340,slow=11,SNR=29						
ASAR	**Alice Springs**	**25.47**	**165**	P	P	11 00 13.5	+0.9
	1.0nm,0.4s,baz=346,slow=12,SNR=16						
MKAR	**Makanchi Array**	**59.84**	**326**	P	P	11 04 50.2	+0.1
	0.5nm,0.5s,baz=126,slow=7.0,SNR=7.1						

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*LDG **11** 11:05:25.7±0.2, 4398N×8736E, h10km, Mb4.7/9, Error ellipse: s-maj=11.2km s-min=5.4km az=88.0*
*ISCJB **11** 11:05:28.9±0.2, 4390N±004×8718E±004, h21km, mb4.3/23, Error ellipse: s-maj=6.0km s-min=3.5km az=73.6*
*MOS **11** 11:05:29.9±0.8, 4385N×8710E, h27km, mb4.8/6, Error ellipse: s-maj=11.3km s-min=6.5km az=122.9*
*BJI **11** 11:05:30.1, 4374N×8720E, h22km, mB4.7, mb4.3, ML4.3, Ms3.9, Msz3.8*
*IDC **11** 11:05:30.4±0.5, 4378N×8728E, h20km±2km, mb3.9/12, mb1 4.1/15, mb1mx3.9/25, mbtmp4.0/15, ML3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=16.2km s-min=11.1km az=49.0*
*NEIC **11** 11:05:30.8±0.3, 4384N×8716E, mb4.5/13, Error ellipse: s-maj=7.4km s-min=4.2km az=65.0*
*NNC **11** 11:05:36.9±1.0, 4400N×8662E, h33km, mb4.0, mpv4.0, Error ellipse: s-maj=8.8km s-min=6.5km az=62.0*
ISC 11 11:05:30.9±0.2, 4388N±003×8723E±004, h22km, h22km±.4km: pP-P, n98, σ0≟83/109, mb4.3/23, 16C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.35**	**100**	⇓iPG	**Pb**	**11 05 37.9**	**-0.6**
WMQ				SG	**Sb**	**11 05 44.0**	**+0.4**
WMQ				Smax			
	comp=E,12μm,0.5s						
MK31	**Makanchi Array**	**4.54**	**312**	⇑Pn	**Pn**	**11 06 40.6**	**+2.4**
	comp=E,6.3nm,0.3s,baz=125,slow=14,SNR=162						
MK31				⇓Sn	**Sn**	**11 07 30.6**	**+0.4**
	comp=E,49nm,0.6s,baz=126,slow=28,SNR=11						
MK31				⇑Lg		11 07 49.9	
	comp=E,145nm,0.6s,baz=125,slow=29,SNR=6.3						
MK31	**Makanchi Array**	**4.54**	**312**	i P	**Pn**	**11 06 40.6**	**+2.4**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.2s						
MKAR	**Makanchi Array**	**4.54**	**312**	Pn	**Pn**	**11 06 40.7**	**+2.5**
	comp=Z,7.7nm,0.3s,baz=130,slow=14,SNR=131						
MKAR				Sn	**Sn**	**11 07 34.2**	**+4.0**
	comp=Z,13nm,0.3s,baz=128,slow=26,SNR=7.7						
MKAR				Lg		11 07 50.1	
	comp=Z,14nm,0.3s,baz=123,slow=31,SNR=10						
MKAR	**Makanchi Array**	**4.54**	**312**	eP	**Pn**	**11 06 40.6**	**+2.4**
MKAR						11 07 34.0	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MKAR				pmax	pmax		
	comp=Z,116nm,0.6s						
MKAR	**Makanchi Array**	**4.54**	**312**	Pn	**Pn**	**11 06 40.7**	**+2.5**
MKAR				Sn	**Sn**	**11 07 34.2**	**+4.0**
MKAR				Lg		11 07 50.1	
KNDC	**Almaty**	**7.48**	**268**	⇓Lg		11 09 25.5	
	comp=Z,1μm,0.8s						
TKM2	**Tokmak 2**	**8.52**	**268**	⇑Pn	**Pn**	**11 07 33.6**	**+0.7**
	comp=Z,8.3nm,0.6s						
TKM2				⇓Lg		11 09 55.8	
	comp=Z,44nm,0.8s						
TKM2	**Tokmak 2**	**8.52**	**268**	P	**Pn**	**11 07 33.6**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,17nm,1.1s						
TKM2				pmax	pmax		
	comp=Z,44nm,0.9s						
KURK	**Kurchatov**	**8.99**	**323**	⇑Pn	**Pn**	**11 07 40.1**	**+0.7**
	comp=Z,7.1nm,1.4s						
KURK				⇑Sn	**Sn**	**11 09 18.2**	**-1.7**
	comp=Z,15nm,0.7s						
KURK				⇑Lg		11 10 12.6	
	comp=Z,53nm,0.8s						
KURK	**Kurchatov**	**8.99**	**323**	P	**Pn**	**11 07 40.0**	**+0.6**
KURK						11 09 18.1	
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURK				smax			
	comp=Z,106nm,1.5s						
KURK	**Kurchatov**	**8.99**	**323**	ePn	**Pn**	**11 07 39.8**	**+0.4**
	comp=Z,5.8nm,0.6s						
KURK				eSn	**Sn**	**11 09 18.0**	**-1.9**
AAK	**Ala-Archa**	**9.37**	**267**	eP	**Pn**	**11 07 48.5**	**+3.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AAK	**Ala-Archa**	**9.37**	**267**	ePn	**Pn**	**11 07 48.5**	**+3.9**
	comp=Z,6.5nm,0.6s						
ZAL	**Zalesovo**	**10.19**	**352**	Pn	**Pn**	**11 07 56.6**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=296,slow=12,SNR=15						
ZAL				Sn	**Sn**	**11 09 48.7**	**-0.6**
	comp=Z,3.1nm,0.3s,baz=237,slow=22,SNR=11						
ZAL	**Zalesovo**	**10.19**	**352**	Pn	**Pn**	**11 07 56.6**	**+0.8**
ZAL				Sn	**Sn**	**11 09 48.7**	**-0.6**
GTA	**Gaotai**	**10.43**	**111**	eP	**Pn**	**11 07 59.6**	**+0.6**
GTA				AP		11 08 03.5	
GTA				XP		11 08 05.8	
GTA				AMB	AMB		
	comp=Z,7.0nm,0.5s						
GTA				LR	LR		
	comp=N,194nm,6.1s						
GTA				LR	LR		
	comp=E,225nm,5.3s						
GTA				LR	LR		
	comp=Z,199nm,5.7s						
KK31	**Karatay Array**	**12.17**	**272**	Pn	**Pn**	**11 08 23.6**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=75,slow=12,SNR=21						
KK31				⇑Lg		11 11 47.4	
	comp=Z,27nm,1.2s,baz=74,slow=27,SNR=3.8						
KK31	**Karatay Array**	**12.17**	**272**	i P	**Pn**	**11 08 23.6**	**+0.7**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**12.17**	**272**	i P	**Pn**	**11 08 23.6**	**+0.7**
SONM	**Songino Array**	**13.93**	**67**	Pn	**Pn**	**11 08 43.1**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=248,slow=10,SNR=2.0						
SONM				LR	LR	11 14 43.7	
	comp=Z,124nm,21.1s,baz=142,slow=40						
VOSK	**Vostochnaya**	**13.94**	**315**	⇓Pn	**Pn**	**11 08 47.0**	**-0.1**
	comp=Z,3.5nm,0.7s						
VOSK				⇑Sn	**Sn**	**11 11 15.8**	**-5.3**
	comp=Z,12nm,1.2s						
VOSK				⇑Lg		11 12 46.8	
	comp=Z,23nm,1.1s						
ULN	**Ulaanbaatar**	**14.37**	**67**	i P	**Pn**	**11 08 56.2**	**+3.3**
ULN	**Ulaanbaatar**	**14.37**	**67**	Pn	**Pn**	**11 08 54.0**	**+1.1**
BVA0	**Borovoye Array**	**14.41**	**315**	⇑Pn	**Pn**	**11 08 53.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=122,slow=12,SNR=16						
BVA0				⇑Sn	**Sn**	**11 11 26.9**	**-5.6**
	comp=Z,1.5nm,0.9s,baz=111,slow=24,SNR=5.2						
BVA0				⇑Lg		11 13 09.5	
	comp=Z,2.8nm,1.1s,baz=215,slow=14,SNR=3.6						
BVAR	**Borovoye Array**	**14.41**	**315**	Pn	**Pn**	**11 08 52.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=114,slow=14,SNR=5.2						
BVAR				Sn	**Sn**	**11 11 26.9**	**-5.5**
	comp=Z,0.4nm,0.3s,baz=107,slow=23,SNR=6.4						
BRVK	**Borovoye**	**14.48**	**315**	eP	**Pn**	**11 08 54.0**	**-0.4**
BRVK				e		11 11 28.2	
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**14.48**	**315**	ePn	**Pn**	**11 08 54.0**	**-0.4**
	comp=Z,2.8nm,0.6s						
BRVK				eSn	**Sn**	**11 11 28.2**	**-6.1**
LSA	**Lhasa**	**14.50**	**166**	eP	**Pn**	**11 09 02.9**	**+8.2**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**14.50**	**166**	eP	**Pn**	**11 09 02.9**	**+8.2**
	comp=Z,12nm,0.6s						
LZH	**Lanzhou**	**14.91**	**116**	eP	**Pn**	**11 08 59.7**	**-0.6**
LZH				AP	pP	11 09 03.2	-8.7
LZH				XP	sP	11 09 06.8	-8.0
LZH				PP		11 09 12.3	
LZH				eS	**Sn**	**11 11 44.5**	**-0.3**
LZH				eSS		11 12 01.5	
LZH				AMB	AMB		
	comp=Z,18nm,1.0s						
LZH				AMB	AMB		
	comp=Z,62nm,4.1s						
LZH				LR	LR		
	comp=E,226nm,7.3s						
LZH				LR	LR		
	comp=Z,478nm,11.0s						
ZRNK	**Zerenda**	**15.08**	**313**	⇑Pn	**Pn**	**11 09 01.9**	**-0.7**
	comp=Z,2.3nm,0.6s						
ZRNK				⇑Sn	**Sn**	**11 11 39.0**	**-10**
	comp=Z,6.3nm,0.9s						
ZRNK				⇑Lg		11 13 23.6	
	comp=Z,22nm,1.1s						
ZRNK	**Zerenda**	**15.08**	**313**	eP	**Pn**	**11 09 01.7**	**-0.9**
ZRNK				e		11 11 41.4	
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ZRNK	**Zerenda**	**15.08**	**313**	ePn	**Pn**	**11 09 01.7**	**-0.9**
	comp=Z,7.2nm,0.3s						
ZRNK				eSn	**Sn**	**11 11 41.4**	**-7.6**
GUN	**Gumba**	**15.97**	**184**	eP	**Pn**	**11 09 15.3**	**+1.1**
	comp=Z,28nm,0.6s						
GKN	**Gorkha**	**15.98**	**188**	eP	**Pn**	**11 09 15.0**	**+0.7**
	comp=Z,27nm,0.7s						
KKN	**Kakani**	**16.14**	**186**	eP	**Pn**	**11 09 16.3**	**+0.1**
	comp=Z,51nm,0.6s						
KKN	**Kakani**	**16.14**	**186**	eP	**Pn**	**11 09 16.3**	**+0.1**
KKN				pmax	pmax		
	comp=Z,26nm,0.6s						
JIRN	**Jiri**	**16.21**	**183**	eP	**Pn**	**11 09 17.0**	**-0.2**
	comp=Z,18nm,0.7s						
DMN	**Daman**	**16.33**	**187**	eP	**Pn**	**11 09 18.1**	**-0.6**
PKI	**Pulchoki**	**16.34**	**186**	eP	**Pn**	**11 09 18.3**	**-0.6**
	comp=Z,44nm,0.6s						
PKI	**Pulchoki**	**16.34**	**186**	eP	**Pn**	**11 09 18.3**	**-0.6**
PKI				pmax	pmax		
	comp=Z,22nm,0.6s						
AB31	**Akbulak array**	**19.45**	**296**	⇑P	**Pn**	**11 09 55.6**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=99,slow=11,SNR=21						
AKTK	**Aktyubinsk**	**20.83**	**299**	P	**P**	**11 10 11.1**	**+0.2**
AKTO	**Aktyubinsk**	**20.83**	**299**	P	**P**	**11 10 11.1**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=111,slow=12,SNR=8.5						
BOD	**Bodaibo**	**21.72**	**41**	eP	**P**	**11 10 22.7**	**+2.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
ARU	**Arti**	**22.05**	**315**	eP	**P**	**11 10 24.1**	**0.0**
ARU				e		11 10 46.9	
ARU				eS	**S**	**11 14 26.8**	**+0.6**
ENH	**Enshi**	**22.27**	**120**	eP	**P**	**11 10 28.1**	**+1.8**
	comp=Z,26nm,1.1s,mb4.6						
GYA	**Guiyang**	**23.46**	**131**	P	**P**	**11 10 38.4**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
NJ2	**Nanjing**	**27.43**	**105**	eP	**P**	**11 11 14.6**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
MAK	**Makhachkala**	**28.68**	**282**	eP	pP	11 11 38.7	+5.9
KIV	**Kislovodsk**	**31.79**	**286**	P	**P**	**11 11 53.8**	**+0.2**
KIV				e		11 12 58.1	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
AKASG	**Malin Array Be**	**39.03**	**301**	P	**P**	**11 12 55.4**	**-0.5**
	comp=Z,1.8nm,0.8s,mb3.9,baz=61,slow=8.2,SNR=6.4						
AKASG				pP	pP	11 13 02.2	-0.5
	comp=Z,1.0nm,0.5s,baz=64,slow=8.2,SNR=4.9						
BRTR	**

comp=Z,5.6nm,0.9s,mb4.6
FRF La Foret Royal 55.92 300 *e*P **P 11 15 06.4 -0.7**
SSF Saint Saulge 56.07 305 *e*P **P 11 15 07.7 -0.5**
comp=Z,36nm,1.3s,mb4.9
SSF Saint Saulge 56.07 305 *e*P **P 11 15 07.7 -0.5**
SSF pmax pmax
comp=Z,18nm,1.3s,mb4.9
SSF Saint Saulge 56.07 305 *e*P **P 11 15 07.7 -0.5**
comp=Z,18nm,1.3s,mb5.0
SMRF Simiane la Rot 56.38 301 *e*P **P 11 15 09.9 -0.5**
comp=Z,67nm,1.2s,mb5.3
SMRF Simiane la Rot 56.38 301 *e*P **P 11 15 09.9 -0.5**
comp=Z,67nm,1.2s,mb5.5
TCF Toulx Ste Croi 57.23 305 *e*P **P 11 15 16.0 -0.4**
ILAR Eielson Array 63.74 23 P **P 11 16 01.1 +0.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=309,slow=5.3,SNR=13
ILAR pP pP 11 16 07.2 -0.8
comp=Z,1.7nm,0.8s,baz=315,slow=5.6,SNR=15
INK Inuvik 64.05 16 P **P 11 16 03.1 +0.1**
comp=Z,1.0nm,0.8s,mb3.9,baz=356,slow=6.9,SNR=5.5
INK pP pP 11 16 09.8 -0.3
comp=Z,2.6nm,0.9s,baz=357,slow=6.9,SNR=6.6
INK Inuvik 64.05 16 P **P 11 16 03.1 +0.2**
INK pP pP 11 16 09.8 -0.3
YKA Yellowknife Ar 72.54 10 P **P 11 16 56.0 0.0**
comp=Z,0.8nm,0.7s,mb3.8,baz=337,slow=6.0,SNR=17
YKA pP pP 11 17 02.4 -0.9
comp=Z,1.0nm,0.8s,baz=339,slow=5.9,SNR=14
YKA Yellowknife Ar 72.54 10 P **P 11 16 56.0 0.0**
YKA pP pP 11 17 02.4 -0.9
WRAB Tennant Creek 76.77 135 *i*P **P 11 17 20.6 0.0**
WRA Warramunga Arr 76.78 135 P **P 11 17 20.1 -0.6**
comp=Z,3.5nm,0.8s,mb4.4,baz=334,slow=5.7,SNR=19
WRA pP pP 11 17 26.5 -1.4
comp=Z,1.4nm,0.6s,baz=336,slow=5.3,SNR=6.2
WB2 Warramunga Arr 76.78 135 *e*P **P 11 17 19.8 -0.9**
TORD Torodi Ar. Bea 77.82 277 P **P 11 17 26.1 -0.3**
comp=Z,1.5nm,0.9s,mb3.9,baz=40,slow=4.5,SNR=9.3
TORD pP pP 11 17 32.8 -1.0
comp=Z,2.0nm,1.0s,baz=44,slow=5.4,SNR=7.1
ASAR Alice Springs 79.68 137 P **P 11 17 36.1 -0.6**
comp=Z,2.0nm,0.8s,mb4.1,baz=329,slow=5.8,SNR=15
ASAR pP pP 11 17 42.5 -1.5
comp=Z,0.9nm,0.6s,baz=334,slow=5.5,SNR=5.8
DBIC Dimbokro 86.93 276 P **P 11 18 13.3 -0.8**
comp=Z,2.9nm,0.7s,mb4.7,baz=18,slow=9.0,SNR=8.7
DBIC Dimbokro 86.93 276 P **P 11 18 13.3 -0.8**
STKA Stephens Creek 90.27 136 P **P 11 18 25.6 -4.2**
comp=Z,0.5nm,0.3s,mb4.3,baz=350,slow=8.2,SNR=2.9
LPAZ La Paz 145.46 315 PKPbc PKPbc 11 25 07.0 -0.2
comp=Z,1.3nm,0.8s,baz=294,slow=2.5,SNR=5.1
LPAZ La Paz 145.46 315 PKPbc PKPbc 11 25 07.0 -0.2
CPUP Villa Florida 146.45 290 PKPbc PKPbc 11 25 09.2 -1.0
comp=Z,0.5nm,0.4s,baz=63,slow=2.3,SNR=4.9

IDC 11 11:06:00.9±3.9, 628S×14911E, h0km, mb2.7/1, mb1 3.2/2, mb1mx3.1/13, mbtmp3.0/2, Error ellipse: s-maj=138.7km s-min=48.9km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**17.64**	**248**	*e*P	Pn	11 09 58.2	-10
	22nm,1.3s						
WRA	**Warramunga Arr**	**19.76**	**225**	P	Pn	11 10 33.6	-0.2
	0.1nm,0.3s,baz=51,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**22.65**	**219**	P	P	11 11 03.1	-0.4
	0.1nm,0.4s,baz=52,slow=9.3,SNR=6.8						
TORD	**Torodi Ar. Bea**	**147.19**	**284**	PKPbc	PKPbc	11 25 46.5	+0.5
	0.3nm,0.3s,baz=83,slow=2.1,SNR=6.3						

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*ISCJB **11** 11:09:38.8±5.4, 56S±03×1495E±04, h61km±37km, mb4.0/4, Error ellipse: s-maj=63.4km s-min=41.7km az=52.8*
*IDC **11** 11:09:39.9±8.6, 556S×14944E, h60km±64km, mb3.6/3, mb1 3.9/4, mb1mx3.5/14, mbtmp3.9/4, ML2.8/1, Error ellipse: s-maj=81.4km s-min=51.9km az=103.0*
*NEIC **11** 11:09:51.7±3.8, 634S×14907E, h100km, mb4.2/3, Error ellipse: s-maj=57.5km s-min=38.0km az=61.0*
ISC 11 11:09:40.0±5.4, 56S±03×1496E±04, h56km±36km, n8, σ0°88/8, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**213**	P	**Pn**	**11 10 45.0**	**-0.1**
	3.6nm,0.3s,baz=39,slow=8.0,SNR=7.4						
PMG				S	**Sn**	**11 11 35.7**	**+0.1**
	13nm,0.3s,baz=83,slow=18,SNR=8.6						
WRAB	**Tennant Creek**	**20.54**	**225**	*e*P	**P**	**11 14 13.7**	**0.0**
	8.4nm,0.6s						
WRA	**Warramunga Arr**	**20.55**	**225**	P	**P**	**11 14 13.7**	**-0.2**
	3.7nm,0.5s,baz=50,slow=10,SNR=18						
ASAR	**Alice Springs**	**23.45**	**219**	P	**P**	**11 14 42.9**	**-1.4**
	1.6nm,0.6s,mb3.6,baz=57,slow=8.8,SNR=33						
FITZ	**Fitzroy Crossi**	**26.48**	**240**	*e*P	**P**	**11 15 12.6**	**+0.8**
	3.8nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.16**	**195**	P	**P**	**11 15 18.6**	**+0.7**
	1.7nm,0.7s,mb3.7,baz=15,slow=12,SNR=3.2						
MBWA	**Marble Bar**	**32.80**	**239**	*e*P	**P**	**11 16 08.0**	**+0.1**
	3.4nm,0.7s,mb4.4						
TORD	**Torodi Ar. Bea**	**147.50**	**286**	PKPbc	PKPbc	11 29 17.1	-0.6
	1.8nm,0.6s,baz=62,slow=2.4,SNR=12						

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*CSEM **11** 11:11:37.0±1.1, 3860N×2859W, h15km±10km, ML1.9, Error ellipse: s-maj=6.6km s-min=4.7km az=43.0, After PDA*
*PDA **11** 11:11:37.0±1.1, 3860N×2859W, h15km±10km, MD2.7, ML1.9, Error ellipse: s-maj=6.6km s-min=4.7km az=43.0*
SVSA 11 11:11:37.0±1.1, 3860N×2859W, h15km±10km, MD2.7, ML1.9, Error ellipse: s-maj=6.6km s-min=4.7km az=43.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.08**	**207**	*e*P	Pg	11 11 39.4	-0.7
HOR				*e*S	Sg	11 11 41.3	-0.7
CALA	**Caldeira**	**0.09**	**260**	*i*P	Pg	11 11 40.2	0.0
CALA				*e*S	Sg	11 11 42.3	0.0
CALA	**Caldeira**	**0.09**	**260**	*e*S	Sg	11 11 42.3	0.0
PCED	**Cedros**	**0.10**	**289**	*e*P	Pg	11 11 39.6	-0.6
PCED				*e*S	Sg	11 11 41.9	-0.4
PCED							
	157nm,0.1s						
PCED	**Cedros**	**0.10**	**289**	*e*P	Pg	11 11 39.6	-0.6
PCED				*e*S	Sg	11 11 41.9	-0.4
PICO	**Pico**	**0.16**	**127**	*i*P	Pg	11 11 40.4	-0.6
PICO				*e*S	Sg	11 11 43.4	-0.3
PICO	**Pico**	**0.16**	**127**	*e*S	Sg	11 11 43.4	-0.3
PCND	**Candelaria**	**0.16**	**143**	*e*P	Pg	11 11 41.0	0.0
PCND				*e*S	Sg	11 11 43.8	+0.1
PCND							
	56nm,0.1s						
PTCA	**Ponta do Capel**	**0.17**	**266**	*e*S	Sg	11 11 45.3	+1.4
PTCA							
	42nm,0.1s						
PBOI	**Pico dos Bois**	**0.23**	**134**	*e*S	Sg	11 11 45.7	+0.1
PBOI							
	35nm,0.1s						
ROSA	**Rosais**	**0.29**	**65**	*i*P	Pg	11 11 42.6	-0.6
ROSA				*e*S	Sg	11 11 45.9	-1.5
ROSA	**Rosais**	**0.29**	**65**	*e*S	Sg	11 11 45.9	-1.5
PAMA	**Santo Amaro**	**0.33**	**75**	*e*P	Pg	11 11 43.6	-0.2
PAMA				*e*S	Sg	11 11 48.3	-0.1
PAMA							
	48nm,0.2s						
PMAN	**Manadas**	**0.39**	**85**	*e*P	Pg	11 11 43.6	-1.3
PMAN				*e*S	Sg	11 11 48.8	-1.4
PMAN							
	91nm,0.1s						
PMAN	**Manadas**	**0.39**	**85**	*e*P	Pg	11 11 43.6	-1.3
PMAN				*e*S	Sg	11 11 48.8	-1.4

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*MOS **11** 11:23:59.2±1.1, 4743N×806E, h10km, mb3.7/1, Error ellipse: s-maj=8.0km s-min=6.1km az=107.9*
*ISCJB **11** 11:24:00.2±0.2, 4750N±001×804E±002, h12km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=179.4*
*ZUR **11** 11:24:01.0, 4749N×809E, h13km, ML2.1/16*
*CSEM **11** 11:24:01.1±0.0, 4750N×8.10E, h15km, ML2.6/15, Error ellipse: s-maj=0.8km s-min=0.7km az=2.0*
*NEIC **11** 11:24:01.5, 4751N×808E, h12km, ML2.6(LDG), After LDG.*
*LDG **11** 11:24:01.5±0.0, 4751N×808E, h12km, Md2.6/2, Ml2.6/17, Error ellipse: s-maj=0.9km s-min=0.7km az=128.0*
*LEDBW **11** 11:24:01.6±0.2, 4751N×808E, h12km±2km, ML2.3, Error ellipse: s-maj=4.0km s-min=2.0km az=173.0*
*STR **11** 11:24:01.9±0.3, 4752N×802E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **11** 11:24:01.7±0.3, 4753N×8.10E, h10km, ML1.9/2, Error ellipse: s-maj=3.3km s-min=3.3km az=13.0*
*PRU **11** 11:24:54.1, 4826N×1048E, h0km*
ISC 11 11:24:00.8±0.2, 4751N±001×806E±001, h17km±2km, n121, σ0°75/216, 17C-7D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULZ	**Sulz-Cheisache**	**0.04**	**58**	*e*Pg	**Pg**	**11 24 03.6**	**-0.2**
	SNR=18						
SULZ				*e*Sg	**Sg**	**11 24 05.3**	**-0.5**
SULZ	**Sulz-Cheisache**	**0.04**	**58**	*i* Sg	**Pg**	**11 24 03.6**	**-0.2**
	3μm,0.1s						
SULZ	**Sulz-Cheisache**	**0.04**	**58**	*i* Pg	**Sg**	**11 24 05.3**	**-0.6**
	3μm,0.1s						
BALST	**Balsthal**	**0.30**	**236**	*e*Sg	**Pg**	**11 24 07.5**	**+0.3**
	419nm,0.2s						
BALST	**Balsthal**	**0.30**	**236⇑**	*i*Pg	**Sg**	**11 24 11.7**	**+0.1**
	419nm,0.2s						
BALST	**Balsthal**	**0.30**	**236⇑**	*i*P	**Pg**	**11 24 07.5**	**+0.3**
BALST	**Balsthal**	**0.30**	**236⇑**	*i*Pg	**Sg**	**11 24 11.7**	**+0.1**
	419nm,0.2s						
BALST	**Balsthal**	**0.30**	**236⇑**	*i*P	**Pg**	**11 24 07.5**	**+0.3**
FLACH	**Flaach**	**0.35**	**79⇑**	*i*P	**Pg**	**11 24 08.1**	**0.0**
FELD	**Feldberg**	**0.37**	**354⇓**	*i*P*	**Pg**	**11 24 09.0**	**+0.5**
FELD				S*	**Sg**	**11 24 14.3**	**+0.7**
FELD	**Feldberg**	**0.37**	**354**	Pg	**Pg**	**11 24 08.9**	**+0.4**
FELD				Sg	**Sg**	**11 24 14.2**	**+0.5**
BBS	**Basel-Blauen**	**0.38**	**264⇑**	*i*P*	**Pg**	**11 24 09.1**	**+0.5**
BBS	**Basel-Blauen**	**0.38**	**264⇑**	*i*P	**Pg**	**11 24 09.1**	**+0.5**
BBS	**Basel-Blauen**	**0.38**	**264**	Pg	**Pg**	**11 24 09.0**	**+0.5**
BBS				Sg	**Sg**	**11 24 14.3**	**+0.5**
ZUR	**Zurich**	**0.38**	**111**	*e*Pg	**Pg**	**11 24 08.4**	**-0.2**
	SNR=4.8						
ZUR				*e*Sg	**Sg**	**11 24 13.5**	**-0.3**
ZUR	**Zurich**	**0.38**	**111⇑**	*i*Pg	**Pg**	**11 24 08.4**	**-0.2**
	415nm,0.3s						
ZUR				*e*Sg	**Sg**	**11 24 13.5**	**-0.3**
	415nm,0.3s						
SLE	**Schleitheim**	**0.39**	**48**	*e*Pg	**Pg**	**11 24 08.9**	**+0.1**
	SNR=48						
SLE				*e*Sg	**Sg**	**11 24 14.2**	**-0.1**
SLE	**Schleitheim**	**0.39**	**48⇑**	*i*Pg	**Pg**	**11 24 08.9**	**+0.1**
	642nm,0.2s						
SLE				*i* Sg	**Sg**	**11 24 14.1**	**-0.2**
	642nm,0.2s						
TRULL	**Truellikon**	**0.44**	**71⇑**	*i*Pg	**Pg**	**11 24 09.8**	**0.0**
	84nm,0.2s						
KIZ	**Kirchzarten**	**0.46**	**348**	P*	**Pb**	**11 24 10.4**	**0.0**
KIZ				PmP		11 24 11.9	
KIZ				S*	**Sb**	**11 24 16.9**	**-0.1**
KIZ				SmS		11 24 19.5	
STEIN	**Stein am Rhein**	**0.57**	**73⇑**	*i*P	**Pg**	**11 24 12.2**	**+0.1**
	47nm,0.7s						
BOURR	**Bourrignon**	**0.57**	**259**	*e*Pg	**Pg**	**11 24 12.9**	**+0.8**
	SNR=4.7						
BOURR				*e*Sg	**Sg**	**11 24 20.7**	**+0.9**
BOURR	**Bourrignon**	**0.57**	**259**	*e*P	**Pg**	**11 24 12.8**	**+0.7**
	178nm,0.3s						
WILA	**Wila**	**0.58**	**99**	*e*Pg	**Pg**	**11 24 12.4**	**+0.1**
	SNR=9.7						
WILA				*e*Sg	**Sg**	**11 24 20.2**	**+0.2**
WILA	**Wila**	**0.58**	**99⇑**	*i*Pg	**Pg**	**11 24 12.4**	**+0.1**
	277nm,0.2s						
WILA				*i* Sg	**Sg**	**11 24 20.2**	**+0.1**
	277nm,0.2s						
WEIN	**Weingarten**	**0.63**	**87⇑**	*i*P	**Pg**	**11 24 13.2**	**+0.1**
	149nm,0.2s						
SISB	**Singen-Sch Ber**	**0.64**	**73⇑**	*e*P*	**Pg**	**11 24 13.4**	**0.0**
SISB				S*	**Sb**	**11 24 22.4**	**+0.4**
SISB				SmS		11 24 24.2	
SISB	**Singen-Sch Ber**	**0.64**	**73⇑**	*e*P	**Pg**	**11 24 13.4**	**0.0**
SISB				S	**Sb**	**11 24 22.4**	**+0.4**
SISB				S	**Sg**	**11 24 24.2**	**+2.3**
BNALP	**Bannalp**	**0.68**	**158**	*e*Sg	**Pg**	**11 24 14.1**	**0.0**
	80nm,0.7s						
BNALP	**Bannalp**	**0.68**	**158⇓**	*i*Pg	**Sg**	**11 24 23.7**	**+0.5**
	80nm,0.7s						
BNALP	**Bannalp**	**0.68**	**158⇓**	*i*P	**Pg**	**11 24 14.1**	**0.0**
LIBD	**Limburg**	**0.72**	**335**	P*	**Pb**	**11 24 15.9**	**+1.1**
LIBD	**Limburg**	**0.72**	**335**	Pg	**Pg**	**11 24 15.8**	**+1.0**
LIBD				Sg	**Sg**	**11 24 25.5**	**+1.2**
MOF	**Molkenrain**	**0.72**	**299**	Pg	**Pg**	**11 24 15.3**	**+0.5**
MOF				Sg	**Sg**	**11 24 25.0**	**+0.7**
MOF	**Molkenrain**	**0.72**	**299**	P	**Pb**	**11 24 15.4**	**+0.6**
MOF				S	**Sb**	**11 24 25.3**	**+1.0**
HASLI	**Hasliberg**	**0.75**	**175**	*e*Pg	**Pg**	**11 24 15.5**	**+0.1**
	134nm,0.2s						
HASLI				*e*Sg	**Sg**	**11 24 25.7**	**+0.3**
	134nm,0.2s						
BFO	**Black Forest**	**0.84**	**12**	⇓Pn	**Pb**	**11 24 17.0**	**0.0**
BFO				*i* Pg	**Pg**	**11 24 17.6**	**+0.3**
BFO				Sg	**Sg**	**11 24 28.7**	**+0.3**
BFO	**Black Forest**	**0.84**	**12**	⇓P	**Pb**	**11 24 17.0**	**0.0**
BFO				*i* P		11 24 17.6	
BFO				S	**Sg**	**11 24 28.7**	**+0.3**
BFO	**Black Forest**	**0.84**	**12**	*e*Pg	**Pg**	**11 24 16.9**	**-0.3**
BFO				*e*Sg	**Sg**	**11 24 28.4**	**0.0**
BFO	**Black Forest**	**0.84**	**12**	*e*Pg	**Pg**	**11 24 16.9**	**-0.3**
BFO				*e*Sg	**Sg**	**11 24 28.4**	**0.0**
LOMF	**Lomont**	**0.85**	**260**	Pg	**Pg**	**11 24 17.7**	**+0.4**
LOMF				Sg	**Sg**	**11 24 29.5**	**+0.9**
LOMF	**Lomont**	**0.85**	**260**	⇑P	**Pb**	**11 24 17.9**	**+0.8**
LOMF				S	**Sb**	**11 24 29.8**	**+1.6**
HINF	**Hinteralfeld**	**0.87**	**291**	*e*Pg	**Pg**	**11 24 18.0**	**+0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**11 24 29.6**	**+0.3**
	54nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.87**	**291**	*e*Pg	**Pg**	**11 24 18.0**	**+0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**11 24 29.6**	**+0.3**
	27nm,0.2s,SNR=1.0						
WIMIS	**Wimmis**	**0.89**	**200**	*e*P	**Pb**	**11 24 18.2**	**+0.4**
	67nm,0.3s						
GUT	**Gutenstein**	**0.91**	**51**	⇓P	**Pb**	**11 24 17.9**	**-0.2**
GUT				Sg	**Sg**	**11 24 30.3**	**-0.1**
GUT				SmS		11 24 31.5	
GUT	**Gutenstein**	**0.91**	**51**	⇓P	**Pb**	**11 24 17.9**	**-0.2**
GUT				S	**Sg**	**11 24 30.3**	**-0.1**
LLS	**Linth-Limmern**	**0.92**	**135**	*i* S	**Pg**	**11 24 20.1**	**+1.4**
ECH	**Echery**	**0.94**	**320**	Pg	**Pg**	**11 24 19.4**	**+0.5**
ECH				Sg	**Sg**	**11 24 31.6**	**+0.4**
ECH	**Echery**	**0.94**	**320**	P	**Pb**	**11 24 19.5**	**+0.9**
ECH				S	**Sb**	**11 24 31.8**	**+1.1**
LIENZ	**Alp Oberkamor**	**1.00**	**102**	*e*Pg	**Pg**	**11 24 20.2**	**+0.2**
	SNR=1.6						
LIENZ				*e*Sg	**Sg**	**11 24 33.6**	**+0.4**
LIENZ	**Alp Oberkamor**	**1.00**	**102**	*e*P	**Pb**	**11 24 20.1**	**+0.6**
	89nm,1.8s						
PLONS	**Plons**	**1.01**	**116**	*e*P	**Pb**	**11 24 20.3**	**+0.6**
	62nm,1.1s						
PLONS	**Plons**	**1.01**	**116**	*e*P	**Pb**	**11 24 20.1**	**+0.4**
WLS	**Welschbruch**	**1.03**	**333**	Pg	**Pg**	**11 24 20.9**	**+0.3**
WLS				Sg	**Sg**	**11 24 34.5**	**+0.4**
WLS	**Welschbruch**	**1.03**	**333**	P	**Pb**	**11 24 21.1**	**+1.0**
WLS				S	**Sb**	**11 24 34.7**	**+1.5**
TORNY	**Torny**	**1.05**	**226**	*e*Pn	**Pn**	**11 24 22.9**	**+2.2**
TORNY	**Torny**	**1.05**	**226**	*e*P	**Pb**	**11 24 20.3**	**-0.1**
TORNY	**Torny**	**1.05**	**226**	*e*Pn	**Pn**	**11 24 22.9**	**+2.2**
CDF	**Champ du Feu**	**1.05**	**330**	*e*Pg	**Pg**	**11 24 21.4**	**+0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**11 24 34.3**	**-0.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**11 24 35.2**	**+0.3**
	16nm,0.3s						
CDF	**Champ du Feu**	**1.05**	**330**	*e*Pg	**Pg**	**11 24 21.4**	**+0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**11 24 34.3**	**-0.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**11 24 35.2**	**+0.3**
	7.8nm,0.3s						
CDF	**Champ du Feu**	**1.05**	**330**	*e*Pn	**Pn**	**11 24 20.2**	**-0.5**
CDF				*e*Pg	**Pg**	**11 24 21.4**	**+0.3**
CDF				*e*Sn	**Sn**	**11 24 34.3**	**-0.6**
CDF				*e*Sg	**Sg**	**11 24 35.2**	**+0.3**
BRANT	**Les Verrieres**	**1.22**	**243**	*e*Pn	Px	11 24 30.1	
BRANT	**Les Verrieres**	**1.22**	**243**	*e*P	**Pn**	**11 24 22.9**	**-0.1**
HAU	**Haudompre**	**1.26**	**294**	*e*Pg	**Pg**	**11 24 25.4**	**+0.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**11 24 41.7**	**+0.2**
	50nm,0.3s						
HAU	**Haudompre**	**1.26**	**294**	*e*Pg	**Pg**	**11 24 25.4**	**+0.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**11 24 41.7**	**+0.2**
	25nm,0.3s						
HAU	**Haudompre**	**1.26**	**294**	*e*Pn	**Pn**	**11 24 23.6**	**0.0**
HAU				*e*Pg	**Pg**	**11 24 25.4**	**+0.3**
HAU				*e*Sg	**Sg**	**11 24 41.7**	**+0.2**
LBG	**Lerchenberg**	**1.26**	**23**	Sg	**Sg**	**11 24 41.5**	**-0.1**
UBR	**Uberruh**	**1.40**	**82**	⇑Pg	**Pg**	**11 24 27.9**	**+0.2**
UBR				Sg	**Sg**	**11 24 46.3**	**+0.4**
UBR	**Uberruh**	**1.40**	**82**	⇑P	**Pg**	**11 24 27.9**	**+0.2**
UBR				S	**Sg**	**11 24 46.3**	**+0.4**
STU	**Stuttgart**	**1.48**	**31**	*e*Sg	**Sg**	**11 24 45.8**	**-2.7**
THEF	**They Montfort**	**1.57**	**298**	Pg	**Pg**	**11 24 30.8**	**-0.2**
THEF				Sg	**Sg**	**11 24 51.7**	**+0.2**
THEF	**They Montfort**	**1.57**	**298**	Sg	**Sg**	**11 24 51.7**	**+0.2**
CABF	**La Chapelle**	**1.62**	**237**	*e*Pg	**Pg**	**11 24 31.8**	**-0.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**11 24 48.0**	**-0.9**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**11 24 52.9**	**-0.1**
	12nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**1.62**	**237**	*e*P	**Pn**	**11 24 28.6**	**+0.1**
CABF				*e*		11 24 48.0	
CABF	**La Chapelle**	**1.62**	**237**	*e*Pg	**Pg**	**11 24 31.8**	**-0.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**11 24 48.0**	**-0.9**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**11 24 52.9**	**-0.1**
	6.1nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**1.62**	**237**	*e*Pn	**Pn**	**11 24 28.6**	**+0.1**
CABF				*e*Pg	**Pg**	**11 24 31.8**	**-0.1**
CABF				*e*Sn	**Sn**	**11 24 48.0**	**-0.9**
CABF				*e*Sg	**Sg**	**11 24 52.9**	**-0.1**
HDH	**Heidenheim**	**1.80**	**52**	Sg	**Sg**	**11 24 58.7**	**-0.1**
SWS	**Schriesheim**	**2.03**	**12**	Sg	**Sg**	**11 25 05.4**	**-0.6**
RFYF	**Reffroy**	**2.07**	**304**	*e*Pn	**Pn**	**11 24 34.6**	**-0.1**
	baz=128						
RFYF				*e*Sg	**Sg**	**11 25 06.9**	**-0.4**
	8.1nm,0.2s						
RFYF	**Reffroy**	**2.07**	**304**	*e*Pn	**Pn**	**11 24 34.6**	**-0.1**
RFYF				*e*Sg	**Sg**	**11 25 06.9**	**-0.4**
	4.1nm,0.2s						
SIND	**Sindeldorf**	**2.11**	**29**	Sg	**Sg**	**11 25 07.6**	**-1.1**
SFTF	**Sexfontaines**	**2.15**	**290**	*e*Pn	**Pn**	**11 24 35.4**	**-0.4**
	baz=117						
SFTF	**Sexfontaines**	**2.15**	**290**	*e*Pg	**Pg**	**11 24 41.8**	**-0.3**
SFTF				*e*Sn	**Sn**	**11 25 00.8**	**-1.3**
SFTF				*e*Sg	**Sg**	**11 25 09.3**	**-0.7**
	5.1nm,0.2s						
SFTF	**Sexfontaines**	**2.15**	**290**	*e*Pg	**Pg**	**11 24 41.8**	**-0.3**
SFTF				*e*Sn	**Sn**	**11 25 00.8**	**-1.3**
SFTF				*e*Sg	**Sg**	**11 25 09.3**	**-0.7**
	2.5nm,0.2s						
SFTF	**Sexfontaines**	**2.15**	**290**	*e*Pn	**Pn**	**11 24 35.4**	**-0.4**
SFTF				*e*Pg	**Pg**	**11 24 41.8**	**-0.3**
SFTF				*e*Sn	**Sn**	**11 25 00.8**	**-1.3**
SFTF				*e*Sg	**Sg**	**11 25 09.3**	**-0.7**
LPL	**La Plagne**	**2.19**	**205**	*e*Pg	**Pg**	**11 24 42.7**	**-0.1**
LPL				*e*Sg	**Sg**	**11 25 11.4**	**+0.2**
	2.7nm,0.3s						
LPL	**La Plagne**	**2.19**	**205**	*e*Pg	**Pg**	**11 24 42.7**	**-0.1**
LPL				*e*Sg	**Sg**	**11 25 11.4**	**+0.2**
	1.4nm,0.3s						
LPL	**La Plagne**	**2.19**	**205**	*e*Pn	**Pn**	**11 24 36.4**	**0.0**
LPL				*e*Pg	**Pg**	**11 24 42.7**	**-0.1**
LPL				*e*Sg	**Sg**	**11 25 11.4**	**+0.2**
LPG	**La Plagne**	**2.20**	**205**	*e*Pg	**Pg**	**11 24 43.1**	**+0.1**
LPG				*e*Sg	**Sg**	**11 25 11.2**	**-0.4**
	3.3nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.20**	**205**	*e*Pg	**Pg**	**11 24 43.1**	**+0.1**
LPG				*e*Sg	**Sg**	**11 25 11.2**	**-0.4**
	1.6nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.20**	**205**	*e*Pn	**Pn**	**11 24 36.8**	**+0.3**
LPG				*e*Pg	**Pg**	**11 24 43.1**	**+0.1**
LPG				*e*Sg	**Sg**	**11 25 11.2**	**-0.4**
MEZF	**Maizieres J'vi**	**2.25**	**297**	*e*Pg	**Pg**	**11 24 43.6**	**-0.4**
MEZF				*e*Sg	**Sg**	**11 25 12.8**	**-0.4**
	2.9nm,0.2s						
MEZF	**Maizieres J'vi**	**2.25**	**297**	*e*Pg	**Pg**	**11 24 43.6**	**-0.4**
MEZF				*e*Sg	**Sg**	**11 25 12.8**	**-0.4**
	1.5nm,0.2s						
MEZF	**Maizieres J'vi**	**2.25**	**297**	*e*Pn	**Pn**	**11 24 36.4**	**-0.8**
MEZF				*e*Pg	**Pg**	**11 24 43.6**	**-0.4**
MEZF				*e*Sg	**Sg**	**11 25 12.8**	**-0.4**
FUR	**Furstenfeldbru**	**2.27**	**72**	*e*Sg	**Sg**	**11 25 12.9**	**-0.7**
WLF	**Walferdange**	**2.50**	**330**	*e*Sg	**Sg**	**11 25 20.8**	**-0.5**
LOR	**Lormes**	**2.87**	**267**	*e*Pg	**Pg**	**11 24 55.0**	**-0.7**
	baz=88,SNR=1.0						
LOR				*e*Sg	**Sg**	**11 25 31.5**	**-1.3**
	7.4nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.87**	**267**	*e*Pg	**Pg**	**11 24 55.0**	**-0.7**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**11 25 31.5**	**-1.3**
	3.7nm,0.2s,SNR=1.0	

mb1 3.6/4, mb1mx3.3/21, mbtmp3.3/4, ML3.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/15, Error ellipse: s-maj=41.4km s-min=27.4km az=106.0

NEIC ***11*** *11:29:00.6±10.0, 3935N×14037E, h6km±66km, MG3.6(JMA), Error ellipse: s-maj=31.8km s-min=22.1km az=99.0*

ISC 11 11:28:53.6±1.5, 3872N±005×1422E±01, h30km±7km, n17, σ0§94/21, mb3.3/1, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.56**	**311**	⇓P	**Pb**	**11 29 05.0**	**+0.1**
OFUJ				S	**Sb**	**11 29 13.5**	**+0.9**
JIO	**Ouri**	**0.72**	**249**	⇓P	**Pb**	**11 29 07.0**	**-0.7**
JIO				*e*S	**Sb**	**11 29 16.6**	**-0.7**
JMK	**Ichinoseki**	**0.81**	**287**	⇓P	**Pn**	**11 29 08.7**	**-0.2**
JMK				*e*S	**Sb**	**11 29 19.2**	**-0.5**
JOM	**Ohasama**	**1.04**	**317**	⇓P	**Pn**	**11 29 12.1**	**0.0**
JOM				S	**Sn**	**11 29 25.9**	**+0.3**
JTH	**Tanohata**	**1.25**	**348**	⇑P	**Pn**	**11 29 14.2**	**-0.8**
JTH				*e*S	**Sn**	**11 29 30.9**	**+0.1**
JOU	**Okura**	**1.26**	**254**	P	**Pn**	**11 29 15.0**	**-0.2**
JOU				*e*S	**Sn**	**11 29 31.6**	**+0.5**
JMM	**Marumori**	**1.40**	**233**	P	**Pn**	**11 29 16.2**	**-0.9**
JMM				*e*S	**Sn**	**11 29 33.6**	**-1.0**
JYK	**Kaneyama**	**1.46**	**278**	P	**Pn**	**11 29 18.0**	**+0.1**
MJAR	**Matsushiro Arr**	**3.85**	**237**	Pn	**Pn**	**11 29 52.2**	**+1.4**
	1.7nm,0.3s,baz=31,slow=13,SNR=24						
MAJO	**Matsushiro**	**3.85**	**237**	*e*Pn	**Pn**	**11 29 52.5**	**+1.7**
MAT	**Matsushiro**	**3.85**	**237**	P	**Pn**	**11 29 52.7**	**+2.0**
MAT	**Matsushiro**	**3.85**	**237**	*e*P	**Pn**	**11 29 53.0**	**+2.3**
ASAJ	**Asahikawa**	**5.40**	**3**	Pn	**Pn**	**11 30 12.2**	**+0.1**
	0.6nm,0.3s,baz=230,slow=18,SNR=5.3						
JNU	**Nakatsue**	**10.75**	**242**	LR	LR	11 34 36.5	
	comp=Z,504nm,20.8s,baz=194,slow=34						
MKAR	**Makanchi Array**	**43.78**	**301**	P	**P**	**11 36 54.2**	**-2.2**
	0.2nm,0.3s,mb3.3,baz=81,slow=11,SNR=3.6						
ILAR	**Eielson Array**	**47.74**	**33**	P	pP	11 37 39.9	+3.2
	0.2nm,0.7s,baz=274,slow=6.3,SNR=4.4						
WRA	**Warramunga Arr**	**58.81**	**189**	P	pP	11 39 02.8	+4.5
	0.3nm,0.8s,baz=6.0,slow=7.1,SNR=5.2						

MOS ***11*** *11:40:25.1±1.0, 2828N×5733E, h10km, mb3.8/1, Error ellipse: s-maj=30.4km s-min=15.6km az=87.6*

THR ***11*** *11:40:28.1±0.4, 2837N×5737E, h14km±4km, ML3.8*

NEIC ***11*** *11:40:28.2, 2837N×5737E, h16km, mb3.6/2, ML3.7(TEH), ML3.7(THR), After THR.*

CSEM ***11*** *11:40:28.8±0.2, 2838N×5734E, h31km±1km, ML3.8, Error ellipse: s-maj=4.8km s-min=3.3km az=118.0*

ISCJB ***11*** *11:40:31.2±0.9, 2831N±006×5737E±008, h60km±8km, mb3.7/12, Error ellipse: s-maj=13.2km s-min=8.7km az=63.0*

IDC ***11*** *11:40:33.9±10.0, 2836N×5726E, h70km±90km, mb3.5/11, mb1 3.7/11, mb1mx3.5/24, mbtmp3.8/11, Error ellipse: s-maj=37.2km s-min=20.6km az=163.0*

ISC 11 11:40:32.4±0.9, 2832N±006×5734E±008, h56km±9km, n29, σ0§83/33, mb3.7/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.39**	**229**	*e*PG	**Pn**	**11 40 54.7**	**-0.8**
BNDS				AML	AML	11 41 18.4	
	comp=N,2μm,0.1s						
BNDS				AML	AML	11 41 20.4	
	comp=E,1μm,0.7s						
BNDS	**Bandar-Abbas**	**1.39**	**229**	*e*Pg	**Pn**	**11 40 54.7**	**-0.8**
	SNR=90						
BNDS				Sg	**Sn**	**11 41 14.0**	**+1.3**
BNDS	**Bandar-Abbas**	**1.39**	**229**	Pg	**Pn**	**11 40 54.0**	**-1.5**
BNDS				Sg	**Sn**	**11 41 14.0**	**+1.3**
KRBR	**Kerman**	**1.73**	**343**	*e*PG	**Pn**	**11 40 59.2**	**-0.8**
KRBR				*e*SG	**Sn**	**11 41 22.1**	**+1.1**
KRBR				AML	AML	11 41 32.6	
	comp=E,940nm,0.3s						
KRBR	**Kerman**	**1.73**	**343**	Pg	**Pn**	**11 40 59.0**	**-1.1**
KRBR				*e*Sg	**Sn**	**11 41 22.1**	**+1.1**
	SNR=90						
ZHSF	**Zahedan**	**3.27**	**66**	*e*PN	**Pn**	**11 41 20.6**	**-0.6**
ZHSF	**Zahedan**	**3.27**	**66**	Pn	**Pn**	**11 41 20.0**	**-1.2**
GHIR	**Ghir-Karzin**	**3.84**	**270**	*e*PN	**Pn**	**11 41 29.4**	**+0.5**
GHIR				AML	AML	11 42 20.8	
	comp=E,112nm,0.3s						
GHIR	**Ghir-Karzin**	**3.84**	**270**	Pn	**Pn**	**11 41 29.0**	**0.0**
EIL	**Elat**	**19.63**	**279**	*e*P	**Pn**	**11 44 56.9**	**-1.2**
	comp=E,66nm,0.9s						
EIL	**Elat**	**19.63**	**279**	*e*P	**Pn**	**11 44 56.9**	**-1.2**
	comp=E,66nm,0.9s						
AKTK	**Aktyubinsk**	**22.09**	**1**	P	**P**	**11 45 23.5**	**+0.8**
AKTK	**Aktyubinsk**	**22.09**	**1**	P	**P**	**11 45 23.6**	**+0.8**
AKTO	**Aktyubinsk**	**22.09**	**1**	P	**P**	**11 45 23.6**	**+0.8**
	comp=E,2.5nm,0.4s,mb4.0,baz=177,slow=6.9,SNR=14						
BR131	**Keskin Array S**	**22.63**	**306**	*e*P	**P**	**11 45 28.4**	**-0.1**
	comp=E,1.5nm,0.6s,mb3.6						
BRTR	**Keskin Array B**	**22.63**	**306**	P	**P**	**11 45 28.8**	**+0.3**
	comp=E,3.6nm,1.0s,mb3.8,baz=119,slow=10,SNR=14						
BVAR	**Borovoye Array**	**26.50**	**18**	P	**P**	**11 46 04.2**	**-0.2**
	comp=E,0.8nm,0.7s,mb3.4,baz=200,slow=8.0,SNR=6.3						
BRVK	**Borovoye**	**26.50**	**18**	P	**P**	**11 46 05.8**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
BRVK	**Borovoye**	**26.50**	**18**	P	**P**	**11 46 05.8**	**+1.3**
	comp=Z,0.7nm,0.6s,mb3.4						
MKAR	**Makanchi Array**	**26.86**	**40**	P	**P**	**11 46 07.8**	**+0.1**
	comp=Z,0.1nm,0.3s,mb2.8,baz=237,slow=13,SNR=2.4						
ZAL	**Zalesovo**	**32.52**	**30**	P	**P**	**11 46 57.3**	**-0.5**
	comp=Z,2.1nm,0.3s,mb4.6,baz=268,slow=6.2,SNR=7.6						
FINES	**FINESS Array B**	**39.10**	**337**	P	**P**	**11 47 53.4**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.4,baz=139,slow=9.9,SNR=4.7						
ARCES	**ARCESS Array B**	**45.15**	**345**	P	**P**	**11 48 42.6**	**-0.8**
	comp=Z,3.5nm,0.9s,mb4.2,baz=140,slow=8.1,SNR=7.5						
TORD	**Torodi Ar. Bea**	**53.75**	**266**	P	**P**	**11 49 48.3**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=61,slow=7.4,SNR=13						
WRA	**Warramunga Arr**	**88.48**	**114**	P	**P**	**11 53 19.5**	**+0.9**
	comp=Z,0.9nm,0.8s,mb4.1,baz=312,slow=4.5,SNR=6.6						
YKA	**Yellowknife Ar**	**89.27**	**356**	P	**P**	**11 53 21.9**	**-0.4**
	comp=Z,0.2nm,0.7s,mb3.5,baz=359,slow=5.6,SNR=7.1						
YKA	**Yellowknife Ar**	**89.27**	**356**	P	**P**	**11 53 21.9**	**-0.5**
YKA	**Yellowknife Ar**	**89.27**	**356**	P	**P**	**11 53 21.9**	**-0.4**
ASAR	**Alice Springs**	**90.03**	**117**	P	**P**	**11 53 26.9**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.9,baz=302,slow=5.2,SNR=6.6						

IDC ***11*** *11:48:48.1±0.5, 1070N×9416E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.4/24, mbtmp4.3/20, ML3.7/1, MS4.3/18, Ms1 4.3/18, ms1mx4.2/25, Error ellipse: s-maj=20.5km s-min=13.2km az=56.0*

BJI ***11*** *11:48:49.4, 1048N×9409E, h33km, mB5.1, mb4.7, Ms4.8, Msz4.5*

ISCJB ***11*** *11:48:50.1±0.2, 1062N±003×9431E±003, h27km, mb4.8/77, MS4.5/41, Error ellipse: s-maj=5.1km s-min=3.9km az=73.9*

NEIC ***11*** *11:48:51.8±0.2, 1064N×9423E, mb5.0/34, Error ellipse: s-maj=8.4km s-min=4.4km az=54.0*

MOS ***11*** *11:48:51.5±1.0, 1074N×9419E, h33km, mb5.2/38, MS4.5/11, Error ellipse: s-maj=11.5km s-min=5.6km az=108.0*

HRVD ***11*** *11:48:51.8±0.2, 1069N×9440E, h12km, MW5.0/87, Centroid moment Tensor Solution. LP body waves: s47,c60; Mantle waves: s87,c142; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.49±.12; $M_{\theta\theta}$2.70±.11; $M_{\phi\phi}$1.79±.14; $M_{r\theta}$0.75±.35; $M_{\theta\phi}$2.14±.09; $M_{\phi r}$-0.62±.37; Best double couple: M_o=4.56100×10^{16} NP1:ϕ_s=40.00000°, δ45.00000°, λ-106.00000°. NP2: ϕ_s=242.00000°, δ47.00000°, λ-74.00000°. Principal axes: T 4.4370, Plg1.0000°, Azm321.0000°; N 0.2490, Plg11.0000°, Azm52.0000°; P -4.6860, Plg79.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***11*** *11:49:01.8, 1002N×9301E, h33km, mb5.0, MS4.4, Andaman Islands, India, region*

ISC 11 11:48:52.8±0.2, 1069N±003×9433E±003, h29km, h29km±1.2km: pP-P, n235, σ1§14/229, mb4.8/77, MS4.5/41, 10C-10D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.83**	**302**	*ex*	x	11 49 35.9	
PBA				*ex*	x	11 50 14.7	
NNT	**Nongplab**	**5.62**	**70**	P	**Pn**	**11 50 14.3**	**-0.1**
SNG	**Songkhla**	**7.12**	**119**	P	**Pn**	**11 50 29.0**	**-6.0**
	240nm,0.9s						
NST	**Nakhon Sawan**	**7.51**	**48**	P	**Pn**	**11 50 39.0**	**-1.4**
	158nm,0.5s						
KULM	**Kulim**	**8.24**	**130**	*e*Pn	**Pn**	**11 50 48.7**	**-1.6**
IPM	**Ipoh**	**9.05**	**132**	P	**Pn**	**11 51 00.4**	**-1.1**
PSI	**Prapat**	**9.06**	**149**	Pn	**Pn**	**11 51 01.8**	**+0.2**
	0.7nm,0.3s,baz=353,slow=16,SNR=3.2						
PSI				LR	LR	11 55 15.0	
	comp=Z,5μm,18.4s,baz=296,slow=42						
KKTK	**Khon Kaen**	**9.98**	**55**	P	**Pn**	**11 51 15.6**	**+1.4**
	370nm,0.8s						
KGM	**Kluang**	**12.40**	**133**	P	**Pn**	**11 51 54.3**	**+7.0**
VIS	**Vishakhapatnam**	**12.75**	**304**	*e*P	**Pn**	**11 51 51.2**	**-0.9**
VIS				AMb	AMB	11 51 57.2	
	comp=Z,53nm,1.1s						
VIS				*e*S	**Sn**	**11 54 02.5**	**-11**
CAL	**Calcutta**	**13.11**	**335**	*e*P	**Pn**	**11 51 56.7**	**-0.4**
CAL				*ex*	x	11 55 24.6	
PALK	**Pallekele**	**13.88**	**257**	*e*Pn	**Pn**	**11 52 13.5**	**+6.0**
	comp=Z,43nm,1.2s						
PALK				*e*Sn	**Sn**	**11 54 32.3**	**-8.4**
IMP	**Imphal**	**14.03**	**358**	*ex*	**Pn**	**11 52 14.0**	**+4.5**
SHL	**Shillong**	**14.98**	**351**	*e*P	**Pn**	**11 52 19.0**	**-3.5**
SHL				*e*S	**Sn**	**11 55 14.0**	**+6.6**
BOK	**Bokaro**	**15.32**	**329**	*e*P	**Pn**	**11 52 25.9**	**-1.1**
BOK				AMb	AMB	11 52 32.3	
	comp=Z,82nm,0.8s						
BOK				*e*S	**Sn**	**11 55 17.6**	**+1.9**
SALM	**Salem**	**15.86**	**275**	*e*P	**Pn**	**11 52 39.0**	**+5.1**
KMI	**Kunming**	**16.43**	**28**	P	**Pn**	**11 52 44.8**	**+3.6**
KMI				AP	pP	11 52 50.5	-0.9
KMI				XP	sP	11 52 53.7	-1.4
KMI				PP		11 52 57.0	
KMI				S	**Sn**	**11 55 46.4**	**+3.9**
KMI				XS	sS	11 55 55.3	-11
KMI				SS		11 56 03.2	
KMI				AMB	AMB		
	comp=Z,12nm,1.2s						
KMI				AMB	AMB		
	comp=Z,306nm,4.6s						
KMI				LR	LR		
	comp=N,659nm,12.4s						
KMI				LR	LR		
	comp=E,854nm,14.4s						
KMI				LR	LR		
	comp=Z,583nm,19.4s						
HYB	**Hyderabad**	**16.70**	**295**	*i*P	**Pn**	**11 52 48.0**	**+3.4**
	comp=Z,70nm,1.0s						
HYB				*e*S	**Sn**	**11 55 50.0**	**+0.8**
HYB	**Hyderabad**	**16.70**	**295**	*e*P	**Pn**	**11 52 48.0**	**+3.4**
HYB				*e*S	**Sn**	**11 55 36.0**	**-13**
HYB				pmax	pmax		
	comp=Z,70nm,1.0s						
HYB	**Hyderabad**	**16.70**	**295**	*e*P	**Pn**	**11 52 48.0**	**+3.4**
	comp=Z,70nm,1.0s						
HYB				*e*S	**Sn**	**11 55 36.0**	**-13**
QIZ	**Qiongzhong**	**17.12**	**59**	P	**Pn**	**11 52 53.5**	**+3.6**
QIZ				AP	pP	11 52 59.6	+0.5
QIZ				XP	sP	11 53 04.5	+1.7
QIZ				S	**Sn**	**11 56 11.7**	**+12**
QIZ				XS	sS	11 56 19.4	-1.0
QIZ				AMB	AMB		
	comp=Z,16nm,1.6s						
QIZ				AMB	AMB		
	comp=Z,196nm,8.1s						
QIZ				LR	LR		
	comp=E,2μm,9.5s						
QIZ				LR	LR		
	comp=Z,2μm,9.9s						
TRD	**Trivandrum**	**17.27**	**264**	*e*P	**Pn**	**11 52 55.8**	**+4.1**
TRD				AMb	AMB	11 53 06.7	
	comp=Z,98nm,1.9s						
NGP	**Nagpur**	**17.99**	**307**	*e*P	**Pn**	**11 53 02.7**	**+2.0**
NGP				*ex*	x	11 53 12.1	
	comp=Z,57nm,0.7s						
NGP				*ex*	x	11 56 30.7	
KSM	**Kuching**	**18.32**	**119**	*e*P	**Pn**	**11 53 06.6**	**+1.9**
JBP	**Jabalpur**	**18.48**	**314⇑**	*e*P	**Pn**	**11 53 07.2**	**+0.5**
JBP				*ex*	x	11 53 33.8	
	comp=Z,82nm,1.5s						
JBP				*ex*	x	11 56 40.7	
JIRN	**Jiri**	**18.54**	**337**	*e*P	**Pn**	**11 53 07.9**	**+0.5**
	comp=Z,225nm,1.0s						
PKI	**Pulchoki**	**18.78**	**335**	*e*P	**Pn**	**11 53 10.5**	**+0.2**
	comp=Z,273nm,1.0s						
PKI	**Pulchoki**	**18.78**	**335**	*e*P	**Pn**	**11 53 10.5**	**+0.2**
PKI				pmax	pmax		
	comp=Z,136nm,1.0s						
GUN	**Gumba**	**18.89**	**336**	*e*P	**Pn**	**11 53 11.7**	**+0.1**
	comp=Z,381nm,1.2s						
DMN	**Daman**	**18.94**	**334**	*e*P	**Pn**	**11 53 12.1**	**-0.1**
	comp=Z,198nm,0.9s						
KKN	**Kakani**	**19.02**	**335**	*e*P	**Pn**	**11 53 12.8**	**-0.4**
	comp=Z,267nm,1.3s						
KKN	**Kakani**	**19.02**	**335**	*e*P	**Pn**	**11 53 12.8**	**-0.4**
KKN				pmax	pmax		
	comp=Z,133nm,1.3s						
LSA	**Lhasa**	**19.15**	**352**	P	**Pn**	**11 53 13.6**	**-1.1**
LSA				XP	sP	11 53 27.3	+2.2
LSA				S	**Sn**	**11 56 45.3**	**-3.2**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
LSA				AMB	AMB		
	comp=Z,490nm,7.0s						
LSA				LR	LR		
	comp=N,260nm,19.0s						
LSA				LR	LR		
	comp=E,460nm,20.0s						
LSA				LR	LR		
	comp=Z,760nm,20.0s						
LSA	**Lhasa**	**19.15**	**352**	*e*P	**Pn**	**11 53 14.4**	**-0.3**
LSA				pmax	pmax		
	comp=Z,77nm,1.0s						
LSA	**Lhasa**	**19.15**	**352**	*e*P	**Pn**	**11 53 14.4**	**-0.3**
	comp=Z,77nm,1.0s						
AKL	**Akola**	**19.40**	**303**	*i*x	x	11 56 03.8	
GKN	**Gorkha**	**19.49**	**333**	*e*P	**Pn**	**11 53 18.1**	**-0.7**
	comp=Z,174nm,0.8s						
GYA	**Guiyang**	**19.54**	**35⇓**	*i*P	**Pn**	**11 53 19.8**	**+0.4**
GYA				AP	pP	11 53 25.2	-0.5
GYA				XP	sP	11 53 28.4	-1.0
GYA				PP		11 53 40.1	
GYA				AMB	AMB		
	comp=Z,20nm,1.2s						
GYA				AMB	AMB		
	comp=Z,270nm,6.6s						
GYA				LR	LR		
	comp=N,1μm,15.0s						
GYA				LR	LR		
	comp=E,630nm,12.0s						
GYA				LR	LR		
	comp=Z,760nm,14.7s						
KOLN	**Koldanda**	**19.77**	**331**	*e*P	**Pn**	**11 53 21.4**	**-0.7**
	comp=Z,247nm,0.8s						
DANN	**Dangsing**	**20.18**	**332**	*e*P	**P**	**11 53 26.0**	**+1.0**
BHPL	**Bhopal**	**20.40**	**310**	*e*P	**P**	**11 53 29.7**	**+2.3**
BHPL				AMb	AMB	11 53 33.9	
	comp=Z,38nm,0.7s						
BHPL				AMb	AMB	11 53 33.9	
	comp=Z,40nm,0.3s						
BHPL				*ex*	x	11 57 11.9	
KAD	**Karad**	**20.62**	**291**	*e*P	**P**	**11 53 33.3**	**+3.6**
KAD				AMb	AMB	11 53 42.8	
	comp=Z,84nm,1.3s						
POO	**Poona**	**21.29**	**294⇑**	*i*P	**P**	**11 53 38.0**	**+1.1**
	comp=Z,90nm,1.0s,mb5.0						
POO				*ex*	x	11 58 34.0	
POO				*ex*	x	11 58 49.5	
GZH	**Guangzhou**	**21.94**	**53**	P	**P**	**11 53 49.1**	**+5.1**
GZH				LR	LR		
	comp=N,637nm,12.6s,MS4.4						
GZH				LR	LR		
	comp=E,712nm,12.6s,MS4.4						
GZH				LR	LR		
	comp=Z,666nm,11.1s,MS4.3						
CD2	**Chengdu**	**21.95**	**22**	P	**P**	**11 53 44.5**	**+0.5**
CD2				XP	sP	11 53 57.2	+1.7
CD2				PP		11 54 10.6	
CD2				S	**S**	**11 57 40.3**	**-4.4**
CD2				XS	sS	11 57 54.7	-2.6
CD2				SS		11 58 17.3	
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
CD2				AMB	AMB		
	comp=Z,50nm,5.9s						
CD2				LR	LR		
	comp=N,440nm,12.0s						
CD2				LR	LR		
	comp=Z,540nm,12.0s,MS4.2						
KKM	**Kota Kinabalu**	**22.13**	**100**	P	**P**	**11 53 53.1**	**+7.1**
KKM	**Kota Kinabalu**	**22.13**	**100**	P	**P**	**11 53 51.7**	**+5.7**
LGTI	**Lohaghat**	**22.84**	**327**	*e*P	**P**	**11 53 55.0**	**+1.5**
PTH	**Pithoragarh**	**22.93**	**327**	*ex*	x	11 54 09.4	
PTH				*ex*	x	11 54 33.3	
NDI	**New Delhi**	**24.03**	**321**	*e*P	**P**	**11 54 04.5**	**-0.7**
NDI				*e*P		11 54 05.5	
NDI				AMb	AMB	11 54 07.6	
	comp=Z,105nm,1.6s,mb5.0						
NDI				*e*S	**S**	**11 58 25.0**	**+4.4**
NDI				*e*S	**S**	**11 58 25.0**	**+4.4**
AJM	**Ajmer**	**24.34**	**313**	*e*P	**P**	**11 54 08.3**	**+0.3**
AJM				*i*P		11 54 09.0	
AJM				AMb	AMB	11 54 22.8	
	comp=Z,65nm,1.1s,mb5.0						
SMLA	**Simla**	**25.83**	**324**	*e*P	**P**	**11 54 22.5**	**+0.9**
SMLA				AMb	AMB	11 54 31.7	
	comp=Z,138nm,1.1s,mb5.4						
LZH	**Lanzhou**	**26.72**	**17**	⇓P	**P**	**11 54 30.0**	**+0.4**
LZH				AP	pP	11 54 37.5	-0.5
LZH				XP	sP	11 54 40.6	-0.9
LZH				PP		11 55 16.2	
LZH				*e*S	**S**	**11 59 04.3**	**+1.0**
LZH				XS	sS	11 59 16.2	-1.0
LZH				SS		12 00 18.5	
LZH				AMB	AMB		
	comp=Z,69nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,167nm,4.8s						
LZH				LR	LR		
	comp=N,859nm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,13.5s,MS4.7						
XAN	**Xi'an**	**26.81**	**28**	P	**P**	**11 54 29.8**	**-0.6**
XAN				AP	pP	11 54 36.5	-2.3
XAN				S	**S**	**11 59 12.7**	**+7.9**
XAN				AMB	AMB		
	comp=Z,159nm,6.7s						
XAN				LR	LR		
	comp=N,918nm,10.9s						
XAN				LR	LR		
	comp=Z,794nm,10.9s,MS4.5						
QZH	**Quanzhou**	**27.03**	**55⇑**	*i*P	**P**	**11 54 33.0**	**+0.6**
QZH				S	**S**	**11 59 09.8**	**+1.5**
QZH				LR	LR		
	comp=N,600nm,10.2s						
QZH				LR	LR		
	comp=E,2μm,17.4s						
QZH				LR	LR		
	comp=Z,1μm,10.1s,MS4.8						
GTA	**Gaotai**	**29.02**	**9**	*e*P	**P**	**11 54 51.7**	**+1.5**
GTA				AP	pP	11 55 01.2	+2.6
GTA				XP	sP	11 55 04.9	+2.8
GTA				PP	PP	11 55 49.5	-6.4
GTA				S	**S**	**11 59 43.3**	**+3.7**
GTA				XS	sS	12 00 00.1	+6.6
GTA				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,197nm,4.6s						
GTA				LR	LR		
	comp=N,351nm,19.8s						
GTA				LR	LR		
	comp=E,242nm,25.9s						
GTA				LR	LR		
	comp=Z,504nm,23.6s,MS4.1						
NJ2	**Nanjing**	**31.06**	**43**	*e*P	**P**	**11 55 09.6**	**+1.4**
NJ2				AP	pP	11 55 19.1	+2.5
NJ2				S	**S**	**12 00 11.0**	**-0.5**
NJ2				XS	sS	12 00 27.0	+1.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,190nm,10.7s						
NJ2				LR	LR		
	comp=N,10μm,22.4s						
NJ2				LR	LR		
	comp=E,1μm,12.5s						
NJ2				LR	LR		
	comp=Z,360nm,17.3s						
SSE	**Sheshan**	**32.12**	**47**	*e*P	**P**	**11 55 16.8**	**-0.8**
SSE				AP	pP	11 55 26.2	+0.2
SSE				XP	sP	11 55 28.6	-0.9
SSE				PP	PP	11 56 30.4	+0.1
SSE				PCP	PcP	11 58 06.4	+0.1
SSE				S	**S**	**12 00 26.3**	**-1.9**
SSE				XS	sS	12 00 42.6	+0.5
SSE				SCS	ScS	12 05 40.8	-5.7
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,135nm,5.8s						
SSE				LR	LR		
	comp=N,207nm,11.2s,MS4.5						
SSE				LR	LR		
	comp=E,478nm,11.1s,MS4.5						
SSE				LR	LR		
	comp=Z,580nm,10.9s,MS4.5						
BTO	**Baotou**	**32.87**	**22**	*e*P	**P**	**11 55 22.3**	**-1.8**
BTO				S	**S**	**12 00 42.5**	**+2.7**
BTO				LR	LR		
	comp=N,314nm,5.0s						
BTO				LR	LR		
	comp=E,598nm,11.3s						
KSH	**Kashi**	**33.03**	**333**	*e*P	**P**	**11 55 26.2**	**+0.7**
KSH				AP	pP	11 55 36.3	+2.3
KSH				XP	sP	11 55 39.7	+2.2
KSH				PP	PP	11 56 35.1	-5.3
KSH				PCP	PcP	11 58 10.7	+1.9
KSH				S	**S**	**12 00 38.6**	**-3.8**
KSH				XS	sS	12 00 55.8	-0.5
KSH				SCP	ScP	12 01 50.5	-0.4
KSH				PCS	PcS	12 01 54.3	+0.1
KSH				SS	SS	12 02 39.5	-26
KSH				SCS	ScS	12 05 49.3	-1.9
KSH				AMB	AMB		
	comp=Z,20nm,0.3s,mb5.5						
KSH				AMB	AMB		
	comp=Z,179nm,4.7s						
KSH				LR	LR		
	comp=N,375nm,5.8s						
KSH				LR	LR		
	comp=E,409nm,5.4s						
KSH				LR	LR		
	comp=Z,989nm,20.6s,MS4.5						
WMQ	**Urumqi**	**33.51**	**351**	P	**P**	**11 55 31.2**	**+1.5**
WMQ				AP	pP	11 55 40.9	+2.7
WMQ				XP	sP	11 55 44.8	+3.1
WMQ				PP	PP	11 56 43.8	-1.9
WMQ				PCP	PcP	11 58 11.8	+1.7
WMQ				*e*S	**S**	**12 00 49.8**	**0.0**
WMQ				SS	SS	12 02 54.3	-21
WMQ				AMB	AMB		
	comp=Z,46nm,1.4s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,307nm,4.8s						
WMQ				LR	LR		
	comp=N,2μm,24.0s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,22.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,3μm,24.0s,MS4.8						
HHC	**Hu-ho-hao-te**	**33.68**	**24**	*e*P	**P**	**11 55 32.0**	**+0.9**
HHC				AP	pP	11 55 41.7	+2.1
HHC				XP	sP	11 55 45.6	+2.5
HHC				PP	PP	11 56 44.

HHC LR LR
comp=E,699nm,15.3s,MS4.7
HHC LR LR
comp=Z,449nm,11.4s,MS4.4
BJI Beijing 35.07 30 P **P** **11 55 44.6 +1.4**
BJI AMB AMB
comp=Z,11nm,1.2s,mb4.7
BJI AMB AMB
comp=Z,145nm,4.2s
BJI LR LR
comp=N,502nm,16.5s,MS4.5
BJI LR LR
comp=E,376nm,14.3s,MS4.5
BJI LR LR
comp=Z,336nm,18.6s,MS4.1
KZA Kyzart 35.46 335 P **P** **11 55 47.1 +0.6**
SNR=9.4
WBK Wadi Bani Khal 35.80 294 P **P** **11 55 53.0 +3.5**
SNR=12
UCH Uchtor 35.89 335 P **P** **11 55 50.8 +0.6**
SNR=8.3
TKM2 Tokmak 2 36.03 336 P **P** **11 55 58.5 +7.1**
SNR=5.7
KBK Karagaybulak 36.07 335 P **P** **11 55 52.9 +1.1**
SNR=5.1
AML Almayashu 36.16 334 P **P** **11 55 53.1 +0.5**
SNR=22
AAK Ala-Archa 36.23 335 P **P** **11 55 53.8 +0.6**
SNR=12
AAK Ala-Archa 36.23 335 P **P** **11 55 52.5 -0.7**
comp=Z,134nm,1.0s,mb5.8,SNR=12
AAK Ala-Archa 36.23 335 *d iP* **P** **11 55 52.6 -0.6**
AAK pmax pmax
comp=Z,18nm,1.0s,mb5.0
AAK MLR MLR
comp=Z,1µm,21.0s,MS4.7
AAK Ala-Archa 36.23 335 *e*P **P** **11 55 52.6 -0.5**
comp=Z,28nm,1.1s,mb5.1
FRU Bishkek 36.35 335 *e*P **P** **11 55 55.0 +0.8**
FRU *e* 11 56 06.0
FRU pmax pmax
comp=Z,60nm,1.8s,mb5.2
FRU MLR MLR
comp=Z,1µm,18.0s,MS4.6
CHMS Chumysh 36.43 336 P **P** **11 55 54.8 -0.1**
SNR=6.5
JMDO Jabal Madar 36.52 293 P **P** **11 55 58.7 +3.0**
SNR=7.3
EKS2 Erkin-Say 36.56 334 P **P** **11 55 56.2 +0.3**
SNR=9.9
SMDO Samad 36.73 294 P **P** **11 56 00.2 +2.8**
SNR=11
USP Ospenovka 36.76 336 P **P** **11 55 57.7 +0.1**
SNR=16
BIDO Bidbid 36.77 295 P **P** **11 56 00.9 +3.1**
SNR=12
MK31 Makanchi Array 37.41 346 *i* P **P** **11 56 02.4 -0.8**
MK31 pmax pmax
comp=Z,36nm,0.8s,mb5.2
MKAR Makanchi Array 37.41 346 P **P** **11 56 02.9 -0.3**
comp=Z,11nm,0.8s,mb4.7,baz=161,slow=8.6,SNR=31
MKAR LR LR 12 15 40.9
comp=Z,414nm,19.3s,MS4.2,baz=285,slow=43
MKAR Makanchi Array 37.41 346 *i* P **P** **11 56 02.4 -0.8**
MKAR pmax pmax
comp=Z,29nm,0.8s
MKAR Makanchi Array 37.41 346 P **P** **11 56 02.9 -0.3**
MKAR LR LR 12 15 40.9
BSY Bisya 37.42 293 P **P** **11 56 06.6 +3.3**
SNR=35
HOQ Hoqain 37.51 295 P **P** **11 56 07.0 +2.9**
SNR=13
KK31 Karatay Array 38.37 332 *i* P **P** **11 56 10.1 -1.2**
KK31 pmax pmax
comp=Z,19nm,0.9s,mb4.8
KKAR Karatay Array 38.37 332 *i* P **P** **11 56 10.1 -1.2**
KKAR pmax pmax
comp=Z,18nm,1.0s,mb4.8
SONM Songino Array 38.40 13 P **P** **11 56 11.9 +0.3**
comp=Z,4.4nm,1.0s,mb4.2,baz=198,slow=6.7,SNR=26
SONM LR LR 12 14 10.4
comp=Z,569nm,19.2s,MS4.4,baz=50,slow=40
ULN Ulaanbaatar 38.58 14 *i* P **P** **11 56 13.5 +0.5**
ULN Ulaanbaatar 38.58 14 *e*P **P** **11 56 13.3 +0.2**
comp=Z,15nm,1.1s,mb4.6
ASHO Ashiyiah 38.88 296 P **P** **11 56 18.6 +3.0**
SNR=10.0
BANOM Banah 38.99 298 ⇑P **P** **11 56 19.2 +2.7**
ZAK Zakamensk 40.26 9 *e*P **P** **11 56 26.6 -0.5**
ZAK *e* 11 58 07.2
ZAK pmax pmax
comp=Z,15nm,1.8s,mb4.4
ZAK pmax pmax
comp=Z,13nm,1.7s,mb4.4
MBWA Marble Bar 40.30 142 *e*P **P** **11 56 27.2 -0.2**
comp=Z,18nm,1.2s,mb4.7
KURK Kurchatov 41.95 345 P **P** **11 56 38.8 -2.2**
comp=Z,127nm,0.9s,mb5.5,SNR=6.6
KURK Kurchatov 41.95 345 *c iP* **P** **11 56 40.1 -0.9**
KURK Kurchatov 41.95 345 *e*P **P** **11 56 38.9 -2.1**
comp=Z,38nm,1.1s,mb4.9
ABKT Ailbek 42.28 316 P **P** **11 56 45.7 +2.0**
comp=Z,1µm,0.9s,SNR=17
CN2 Changchun 42.58 34 *e*P **P** **11 56 47.2 +1.1**
CN2 *e*AP pP 11 56 57.1 +2.4
CN2 *e*XP sP 11 57 01.0 +2.8
CN2 *e*S **S** **12 03 07.4 +0.5**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.5
CN2 LR LR
comp=E,300nm,15.0s,MS4.5
CN2 LR LR
comp=Z,500nm,17.0s,MS4.5
ZAL Zalesovo 43.81 352 P **P** **11 56 56.3 +0.3**
comp=Z,8.6nm,0.9s,mb4.5,baz=301,slow=6.4,SNR=26
ZAL LR LR 12 16 15.0
comp=Z,256nm,21.7s,MS4.1,baz=287,slow=38
HIA Hailar 43.88 24 *e*P **P** **11 56 57.1 +0.5**
HIA *e**PP pP 11 57 04.8 -0.5
HIA pmax pmax
comp=Z,41nm,1.4s
HIA Hailar 43.88 24 *e*P **P** **11 56 57.1 +0.5**
comp=Z,41nm,1.4s,mb5.0
HIA *e*pP pP 11 57 04.8 -0.5
NVS Novosibirsk 44.91 351 ⇓*i*P **P** **11 57 03.7 -1.2**
NVS *e*S **S** **12 03 40.9 -0.1**
NVS pmax pmax
comp=N,17nm,1.0s
NVS pmax pmax
comp=Z,18nm,1.0s,mb4.9
NVS smax
comp=N,25nm,2.0s
NVS smax
comp=E,14nm,1.6s
KRAR Krasnoyarsk 45.23 359 ⇑*e*P **P** **11 57 08.7 +1.3**
KRAR pmax pmax
comp=Z,28nm,0.5s,mb5.3
KRAR MLR MLR
comp=Z,500nm,29.0s,MS4.3
MDJ Mudanjiang 45.40 35 P **P** **11 57 09.3 +0.6**
MDJ AP pP 11 57 18.3 +0.9
MDJ XP sP 11 57 22.1 +1.2
MDJ PCP PcP 11 58 47.6 -0.1
MDJ PP PP 11 58 56.2 +1.0
MDJ SCP ScP 12 02 38.2 -0.2
MDJ PCS PcS 12 02 41.9 +0.2
MDJ S **S** **12 03 45.8 -2.3**
MDJ XS sS 12 04 04.9 +2.6
MDJ SCS ScS 12 07 03.5 +0.3
MDJ AMB AMB
comp=Z,12nm,2.4s,mb4.3
MDJ AMB AMB
comp=Z,147nm,4.3s
MDJ LR LR
comp=N,100nm,26.9s,MS3.9
MDJ LR LR
comp=E,146nm,22.6s,MS3.9
MDJ LR LR
comp=Z,164nm,22.6s,MS3.9
VOSK Vostochnaya 45.97 340 P **P** **11 57 12.1 -1.1**
VOSK pmax pmax
comp=Z,19nm,0.9s,mb5.0
BVA0 Borovoye Array 46.41 340 *i* P **P** **11 57 15.5 -1.2**
BVA0 pmax pmax
comp=Z,14nm,1.9s,mb4.6
BVAR Borovoye Array 46.41 340 P **P** **11 57 16.1 -0.6**
comp=Z,6.9nm,0.9s,mb4.6,baz=140,slow=7.7,SNR=28
BRVK Borovoye 46.48 340 P **P** **11 57 16.4 -0.8**
comp=Z,100nm,0.9s,mb5.7,SNR=5.2
BRVK Borovoye 46.48 340 *e*P **P** **11 57 16.2 -1.0**
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BRVK Borovoye 46.48 340 *e*P **P** **11 57 16.2 -1.0**
comp=Z,10nm,0.9s,mb4.8
ZRNK Zerenda 46.83 339 *e*P **P** **11 57 18.7 -1.3**
ZRNK pmax pmax
comp=Z,12nm,1.0s,mb4.8
ZRNK Zerenda 46.83 339 *e*P **P** **11 57 18.7 -1.3**
comp=Z,12nm,1.0s,mb4.8
MAT Matsushiro 47.17 50 P **P** **11 57 23.4 +0.8**
MJAR Matsushiro Arr 47.17 50 P **P** **11 57 24.1 +1.4**
comp=Z,2.6nm,0.9s,mb4.1,baz=246,slow=8.6,SNR=7.6
MJAR PcP PcP 11 58 55.3 +1.4
comp=Z,8.6nm,1.0s,baz=247,slow=3.9,SNR=14
MJAR LR LR 12 17 59.0
comp=Z,152nm,18.3s,MS4.0,baz=260,slow=37
MJAR Matsushiro Arr 47.17 50 P **P** **11 57 24.1 +1.4**
MJAR 11 58 55.3
AB31 Akbulak array 47.89 330 *i* P **P** **11 57 27.3 -0.9**
AB31 pmax pmax
comp=Z,57nm,1.3s,mb5.4
NWAO Narrogin (SRO) 48.56 154 LR LR 12 19 00.8
comp=Z,319nm,18.2s,MS4.3,baz=335,slow=37
BOD Bodaibo 49.39 14 *e*P **P** **11 57 39.2 -0.6**
BOD pmax pmax
comp=Z,14nm,1.4s,mb4.8
KLR Kul'dur 49.39 32 *e*P **P** **11 57 36.0 -3.8**
GUMO Guam 49.42 81 LR LR 12 15 38.6
comp=Z,183nm,21.7s,MS4.0,baz=262,slow=32
AKTK Aktyubinsk 49.60 330 P **P** **11 57 40.3 -1.1**
AKTO Aktyubinsk 49.60 330 P **P** **11 57 40.3 -1.1**
comp=Z,4.6nm,1.0s,mb4.5,baz=118,slow=7.4,SNR=8.5
WRA Warramunga Arr 49.77 128 P **P** **11 57 43.8 +1.1**
comp=Z,2.4nm,0.6s,mb4.4,baz=304,slow=8.9,SNR=39
WRAB Tennant Creek 49.78 128 *e*P **P** **11 57 42.5 -0.2**
WRAB *e**PP pP 11 57 51.0 -0.5
WRAB pmax pmax
comp=Z,18nm,0.7s,mb5.2
WRAB Tennant Creek 49.78 128 *e*P **P** **11 57 42.5 -0.2**
comp=Z,18nm,0.7s,mb5.2
WRAB *e*pP pP 11 57 51.0 -0.5
WB2 Warramunga Arr 49.78 128 *e*P **P** **11 57 43.7 +0.9**
WB2 *e* pP 11 57 50.4 -1.1
ASAR Alice Springs 51.60 132 P **P** **11 57 57.5 +1.0**
comp=Z,3.1nm,0.7s,mb4.4,baz=307,slow=6.6,SNR=40
CLNS Chul'man 51.75 21 *e*P **P** **11 57 57.5 -0.1**
CLNS *e**PP pP 11 58 04.4 -2.0
CLNS *e* 11 59 06.7
CLNS *e* 11 59 50.4
CLNS *e*PPP 12 00 51.9
CLNS *e*S **S** **12 05 19.9 +2.3**
CLNS pmax pmax
comp=Z,26nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,16nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax
comp=N,53nm,13.8s
CLNS smax
comp=E,91nm,11.8s
CLNS smax
comp=Z,31nm,11.8s
CLNS MLR MLR
comp=Z,300nm,11.0s,MS4.6
CLNS MLR MLR
comp=N,100nm,13.0s,MS4.6
CLNS MLR MLR
comp=E,300nm,11.0s,MS4.6
GNI Garni 52.65 313 *d iP* **P** **11 58 05.3 +1.0**
GNI pmax pmax
comp=Z,62nm,1.2s
GNI MLR MLR
comp=Z,500nm,29.0s
GNI Garni 52.65 313 *e*P **P** **11 58 04.1 -0.2**
comp=Z,92nm,1.1s,mb5.6
ASAJ Asahikawa 53.20 42 LR LR 12 21 14.2
comp=Z,172nm,19.4s,MS4.1,baz=4.2,slow=36
ARU Arti 53.40 336 ⇑*i*P **P** **11 58 09.2 -0.6**
ARU *e* 11 59 16.0
ARU *e* 12 00 04.2
ARU *e*S **S** **12 05 39.7 -0.4**
ARU *e*SS SS 12 09 18.8 -1.5
ARU pmax pmax
comp=Z,13nm,1.2s,mb4.7
ARU MLR MLR
comp=Z,900nm,21.0s,MS4.8
ARU MLR MLR
comp=N,300nm,18.0s,MS4.7
ARU MLR MLR
comp=E,600nm,21.0s,MS4.7
ARU Arti 53.40 336 *e*P **P** **11 58 08.7 -1.1**
comp=E,5.1nm,0.9s,mb4.5
ZEI Tsey 54.15 316 *e*P **P** **11 58 15.6 +0.3**
ZEI *i* *PP pP 11 58 25.6 +1.5
ZEI pmax pmax
comp=Z,18nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 54.48 39 *i* P **P** **11 58 19.2 +1.5**
KIV Kislovodsk 55.40 317 *d iP* **P** **11 58 24.3 0.0**
KIV pmax pmax
comp=Z,40nm,1.1s,mb5.4
KIV MLR MLR
comp=Z,200nm,20.0s,MS4.2
KIV Kislovodsk 55.40 317 *e*P **P** **11 58 24.2 -0.1**
comp=Z,36nm,0.8s,mb5.5
GOF Gofitskoye 55.56 318 *e*P **P** **11 58 25.2 -0.3**
GOF pmax pmax
comp=Z,30nm,1.0s,mb5.3
MALT Malatya 56.83 309 *e*P **P** **11 58 34.5 0.0**
MALT *e**PP pP 11 58 41.7 -1.7
MALT pmax pmax
comp=Z,11nm,1.0s,mb4.8
MALT Malatya 56.83 309 *e*P **P** **11 58 34.5 0.0**
comp=Z,11nm,1.0s,mb4.8
MALT *e*pP pP 11 58 41.7 -1.7
YAK Yakutsk 57.29 19 *e*P **P** **11 58 37.3 -0.5**
YAK *e* pP 11 58 44.4 -2.3
YAK pmax pmax
comp=Z,25nm,1.0s,mb5.2
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,11nm,1.5s
YAK pmax pmax
comp=Z,41nm,0.9s,mb5.5
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,16nm,1.4s
YAK Yakutsk 57.29 19 *e*P **P** **11 58 37.1 -0.7**
comp=E,19nm,0.8s,mb5.2
YAK *e*pP pP 11 58 44.4 -2.3
SOC Sochi 57.31 315 *e*P **P** **11 58 32.5 -5.4**
SOC *e* 11 59 24.1
SOC *e*S **S** **12 06 27.2 -5.1**
SOC pmax pmax
comp=Z,44nm,1.0s,mb5.4
SOC MLR MLR
comp=Z,565nm,21.0s,MS4.7
KMBO Kilima Mbogo 57.96 262 P **P** **11 58 43.3 +0.7**
comp=Z,1.2nm,0.7s,mb4.0,baz=30,slow=21,SNR=6.6
KMBO LR LR 12 22 36.0
comp=Z,180nm,18.4s,MS4.2,baz=95,slow=35
KMBO Kilima Mbogo 57.96 262 *e*P **P** **11 58 42.8 +0.2**
KMBO pmax pmax
comp=Z,15nm,1.5s
KMBO Kilima Mbogo 57.96 262 *e*P **P** **11 58 42.8 +0.2**
comp=Z,15nm,1.5s,mb4.8
EIL Elat 58.24 298 *e*P **P** **11 58 44.1 -0.3**
comp=Z,260nm,1.0s
EIL *e*pP pP 11 58 51.5 -1.8
BR131 Keskin Array S 60.77 310 *e*P **P** **11 59 00.5 -1.4**
comp=Z,13nm,0.8s,mb5.1
BR131 *e*pP pP 11 59 07.7 -3.2
BRTR Keskin Array B 60.77 310 P **P** **11 59 00.6 -1.3**
comp=Z,6.6nm,0.9s,mb4.8,baz=123,slow=6.5,SNR=25
ANTO Ankara 61.44 310 *e*P **P** **11 59 05.6 -0.9**
ANTO *e**PP pP 11 59 13.7 -1.7
STKA Stephens Creek 61.92 135 *e*P **P** **11 59 09.5 -0.2**
comp=Z,7.2nm,1.0s,mb4.8
STKA Stephens Creek 61.92 135 P **P** **11 59 10.1 +0.4**
comp=Z,6.6nm,0.9s,mb4.8,baz=315,slow=12,SNR=4.2
STKA LR LR 12 26 18.2
comp=Z,484nm,21.6s,MS4.6,baz=110,slow=36
MOS Moscow 62.80 328 *e*P **P** **11 59 21.2 +5.6**
MOS *e* 11 59 35.3
MOS *e* 12 01 34.4
MOS pmax pmax
comp=Z,54nm,0.8s,mb5.7
OBN Obninsk 63.13 327 *i* P **P** **11 59 16.8 -1.0**
OBN *e* 11 59 55.4
OBN *e* 12 01 34.9
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,500nm,17.0s,MS4.8
MA2 Magadan 64.20 28 *e*P **P** **11 59 25.1 +0.2**
MA2 *e* 12 08 07.4
MA2 pmax pmax
comp=Z,20nm,1.3s,mb5.0
MA2 Magadan 64.20 28 *e*P **P** **11 59 24.9 0.0**
comp=Z,34nm,1.2s,mb5.2
TIXI Tiksi 64.46 11 *d iP* **P** **11 59 25.1 -1.4**
TIXI pmax pmax
comp=Z,27nm,1.8s,mb5.0
AKASG Malin Array Be 66.09 321 P **P** **11 59 35.0 -2.2**
comp=Z,1.5nm,0.8s,mb4.1,baz=70,slow=4.0,SNR=7.4
SEY Seymchan 66.31 25 *e*P **P** **11 59 37.9 -0.6**
SEY 12 00 09.9
SEY 12 02 01.6
SEY *e*S S 12 08 23.6 -2.6
SEY *e*SSS 12 15 32.3
SEY pmax pmax
comp=E,16nm,1.3s
SEY pmax pmax
comp=Z,35nm,1.3s,mb5.2
SEY pmax pmax
comp=N,10.0nm,1.4s
SEY smax
comp=N,350nm,39.0s
SEY smax
comp=E,1µm,57.2s
SEY MLR MLR
comp=Z,600nm,24.0s,MS4.7
SEY MLR MLR
comp=N,450nm,26.0s,MS4.7
SEY MLR MLR
comp=E,350nm,25.0s,MS4.7
VRI Vrincioaia 66.83 315 ⇑P **P** **11 59 42.0 +0.1**
PLOR Plostina 66.88 315 ⇑P **P** **11 59 42.3 +0.1**
MLR Muntele Rosu 67.32 315 ⇓P **P** **11 59 45.3 +0.3**
MNK Minsk 67.78 325 *e*P **P** **11 59 45.0 -2.8**
BURAR Bucovina Array 68.12 317 ⇓P **P** **11 59 50.0 0.0**
APA Apatity 69.31 339 *e*P **P** **12 00 03.0 +5.6**
APA *i* 12 00 14.0
APA pmax pmax
comp=Z,64nm,1.5s,mb5.3
APA MLR MLR
comp=Z,1µm,20.0s,MS5.0
DRGR 69.71 316 ⇑P **P** **11 59 59.4 -0.5**
WAKE Wake Island 69.97 73 P **P** **12 00 02.5 +0.9**
comp=Z,207nm,0.4s
FINES FINESS Array B 70.33 332 P **P** **12 00 02.0 -1.7**
comp=Z,1.7nm,0.9s,mb4.0,baz=103,slow=8.2,SNR=4.9
FINES LR LR 12 37 41.9
comp=Z,290nm,18.6s,MS4.6,baz=112,slow=42
KAF Kangasniemi 70.40 332 *e*p **P** **11 59 59.6 -4.5**
comp=Z,5.8nm,0.8s,mb4.6
KAF Kangasniemi 70.40 332 *e*P **P** **11 59 59.6 -4.5**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSZ Lusaka 70.40 250 *e*P **P** **12 00 04.7 +0.6**
LSZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
LSZ Lusaka 70.40 250 *e*P **P** **12 00 04.7 +0.6**
comp=Z,4.4nm,1.1s,mb4.3
OJC Ojcow 71.97 319 *e*P **P** **12 00 17.7 +4.1**
ARCES ARCESS Array B 72.70 340 P **P** **12 00 16.9 -1.1**
comp=Z,4.3nm,0.8s,mb4.4,baz=79,slow=6.3,SNR=7.7
ARCES LR LR 12 35 38.1
comp=Z,632nm,18.7s,MS4.9,baz=113,slow=39
MORC Moravsky Berou 73.39 319 *e*P **P** **12 00 20.9 -1.2**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MORC Moravsky Berou 73.39 319 *e*P **P** **12 00 20.9 -1.1**
comp=Z,6.9nm,0.9s,mb4.6
BILL Bilibino 73.42 22 *e*P **P** **12 00 21.8 -0.4**
BILL *e**PP pP 12 00 28.7 -2.6
BILL pmax pmax
comp=Z,19nm,1.3s,mb4.9
BILL Bilibino 73.42 22 *e*P **P** **12 00 21.8 -0.4**
comp=Z,19nm,1.3s,mb4.9
BILL *e*pP pP 12 00 28.7 -2.6
PRU Pruhonice 75.34 319 *e*P **P** **12 00 33.3 -0.1**
BRG Berggiesshubel 75.73 320 *e*P **P** **12 00 35.3 -0.3**
BRG *e* pP 12 00 42.0 -2.8
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BRG Berggiesshubel 75.73 320 *e*P **P** **12 00 35.3 -0.3**
comp=Z,3.0nm,1.1s,mb4.1
BRG *e* pP 12 00 42.0 -2.8
LBTB Lobatse 75.76 241 *e*P **P** **12 00 36.0 +0.2**
LBTB *e**PP pP 12 00 43.7 -1.2
VOY Vojsko 75.77 315 *e*(P) **P** **12 00 41.7 +5.9**
GERES GERESS Array B 75.88 318 P **P** **12 00 36.0 -0.5**
comp=Z,2.2nm,0.8s,mb4.1,baz=94,slow=8.0,SNR=14
GERES LR LR 12 38 27.2
comp=Z,152nm,18.7s,MS4.3,baz=105,slow=39
KHC Kasperske Hory 75.96 318 *e*P **P** **12 00 42.0 +5.1**
KHC *x* *x* 12 01 05.0
CLL Collm 76.33 320 *e*P **P** **12 00 37.0 -2.0**
CLL *e*pP pP 12 00 48.0 -0.2
CLL *e*x *x* 12 01 05.0
CLL Collm 76.33 320 *e*P **P** **12 00 37.0 -2.0**
CLL *e**PP pP 12 00 48.0 -0.2
CLL pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
CLL Collm 76.33 320 *e*P **P** **12 00 37.0 -2.0**
comp=Z,8.0nm,1.4s,mb4.5
CLL *e*pP pP 12 00 48.0 -0.2
BOSA Boshof 77.24 237 P **P** **12 00 43.8 -0.4**
comp=Z,2.2nm,0.8s,mb4.2,baz=14,slow=9.6,SNR=3.2
BOSA LR LR 12 29 34.2
comp=Z,145nm,19.9s,MS4.3,baz=59,slow=32
NB2 NORSAR Subarra 77.39 330 P **P** **12 00 43.0 -2.0**
comp=Z,5.8nm,0.9s,mb4.5,baz=92,slow=5.9
NB2 NORSAR Subarra 77.39 330 P **P** **12 00 43.0 -2.0**
NB2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
NOA NORSAR Array B 77.39 330 P **P** **12 00 43.5 -1.5**
comp=Z,2.3nm,0.9s,mb4.1,baz=93,slow=5.5,SNR=6.6
NOA LR LR 12 38 01.2
comp=Z,251nm,21.2s,MS4.5,baz=90,slow=38
GRF Grafenberg Arr 77.49 319 *e*P **P** **12 00 52.2 +6.6**
comp=Z,23nm,1.9s,mb4.8
GRF *e*L 12 38 00.6
comp=Z,181nm,21.7s
GRF Grafenberg Arr 77.49 319 *e*P **P** **12 00 52.2 +6.6**
GRF pmax pmax
comp=Z,23nm,1.9s,mb4.8
GRF MLR MLR
comp=Z,200nm,21.7s,MS4.4
LPG La Plagne 80.79 315 *e*P **P** **12 01 03.0 -0.6**
comp=Z,29nm,0.9s,mb4.9
LPG La Plagne 80.79 315 *e*P **P** **12 01 03.0 -0.6**
LPG pmax pmax
comp=Z,15nm,0.9s,mb4.9
LPG La Plagne 80.79 315 *e*P **P** **12 01 03.0 -0.6**
comp=Z,15nm,0.9s,mb4.9
SYO Syowa Base 88.13 197 ⇓*e*PcP PcP 12 01 47.4 +4.9
TORD Torodi Ar. Bea 90.14 283 P **P** **12 01 50.1 -0.1**
comp=Z,2.7nm,1.1s,mb4.5,baz=84,slow=4.7,SNR=10
TORD PP PP 12 05 23.6 -0.2
comp=Z,2.4nm,1.0s,baz=90,slow=5.4,SNR=9.2
SUMG Summit 91.46 347 P **P** **12 01 54.3 -2.0**
comp=Z,11nm,1.2s,mb5.0
SUMG *e*pP pP 12 02 04.0 -1.6

MCK	**McKinley**	**91.82**	**23**	*e*P	**P**	**12 01 57.3**	**-0.7**
MCK				*e**PP	pP	12 02 05.1	-2.2
ILAR	**Eielson Array**	**92.08**	**22**	P	**P**	**12 01 58.1**	**-1.1**
	comp=Z,1.8nm,1.1s,mb4.3,baz=292,slow=4.3,SNR=13						
ILAR				PP	PP	12 05 37.7	-1.5
	comp=Z,1.0nm,1.1s,baz=307,slow=7.5,SNR=3.1						
ILAR				PKKPbc	PKKPbc	12 19 14.8	-0.2
	comp=Z,0.7nm,1.1s,baz=152,slow=6.3,SNR=4.6						
ILAR				LR	LR	12 48 00.5	
	comp=Z,108nm,20.6s,MS4.3,baz=182,slow=39						
ILAR	**Eielson Array**	**92.08**	**22**	P	**P**	**12 01 58.1**	**-1.1**
ILAR						12 05 37.7	
ILAR						12 19 14.9	
INK	**Inuvik**	**94.25**	**16**	*e*P	**P**	**12 02 08.1**	**-1.1**
INK				*e**PP	pP	12 02 15.4	-3.1
RES	**Resolute Bay**	**94.60**	**2**	*e*P	**P**	**12 02 09.9**	**-0.9**
VNDA	**Vanda**	**95.63**	**168**	LR	LR	12 39 47.7	
	comp=Z,235nm,19.8s,MS4.7,baz=286,slow=32						
DBIC	**Dimbokro**	**97.74**	**278**	LR	LR	12 45 39.8	
	comp=Z,95nm,19.4s,MS4.3,baz=45,slow=35						
YKA	**Yellowknife Ar**	**103.66**	**13**	Pdiff	Pdif	12 02 50.5	-1.0
	comp=Z,0.3nm,0.8s,baz=330,slow=5.4,SNR=4.8						
YKA				PP	PP	12 07 04.5	-3.5
	comp=Z,0.3nm,0.8s,baz=333,slow=8.1,SNR=3.5						
YKA				PKKPbc	PKKPbc	12 18 49.1	+6.0
	comp=Z,0.2nm,0.6s,baz=149,slow=3.3,SNR=5.0						
YKA	**Yellowknife Ar**	**103.66**	**13**	P	Pdif	12 02 50.5	-1.0
YKA						12 07 04.5	
YKA	**Yellowknife Ar**	**103.66**	**13**	Pdif	Pdif	12 02 50.5	-1.0
YKA				PP	PP	12 07 04.5	-3.5
YKA				PKKPbc	PKKPbc	12 18 49.1	+6.0
PPT	**Papeete**	**117.88**	**104**	*e*SS	SS	12 25 13.2	+11
	comp=Z,74nm,30.5s						
PPT				*e*LR	LR	12 43 40.0	
	comp=Z,133nm,24.0s						
TBI	**Tubuai**	**118.13**	**111**	*e*LR	LR	12 43 47.6	
	comp=Z,198nm,29.2s						
HLID	**Hailey**	**120.00**	**24**	*e*PKPdif	PKPdif	12 07 41.7	+1.2
NSHM	**Saint Helena R**	**120.13**	**33**	*e*PKPdif	PKPdif	12 07 35.3	-5.5
LOHW	**Long Hollow**	**121.38**	**21**	*e*PKPdif	PKPdif	12 07 44.2	+1.0
SNOW	**Snow King Moun**	**121.46**	**21**	*e*PKPdif	PKPdif	12 07 43.5	+0.2
SNOW				*ep*PKPdif	pPKPdif	12 07 51.9	-1.0
NVAR	**Mina Array Bea**	**122.42**	**30**	PKP	PKPdif	12 07 46.6	+1.4
	comp=Z,0.5nm,0.6s,baz=344,slow=0.1,SNR=5.2						
BW06	**Boulder Array**	**122.49**	**21**	*e*PKPdif	PKPdif	12 07 45.2	-0.1
PDAR	**Pinedale Array**	**122.49**	**21**	PKP	PKPdif	12 07 46.4	+1.1
	comp=Z,1.7nm,1.0s,baz=270,slow=0.4,SNR=8.4						
DUG	**Dugway**	**123.47**	**25**	*e*PKIKP	PKPdif	12 07 48.2	+1.0
MSU	**Marysvale**	**125.15**	**25**	*e*PKIKP	PKPdif	12 07 52.0	+1.6
PV10	**Paradox Valley**	**126.53**	**23**	*e*PKPdif	PKPdif	12 07 54.9	+1.9
ANMO	**Albuquerque**	**130.52**	**23**	*e*PKIKP	PKPdif	12 08 02.3	+1.6
RKT	**Rikitea**	**131.45**	**111**	*e*LR	LR	12 49 58.0	
	comp=Z,164nm,35.5s						
HKT	**Hockley**	**138.43**	**13**	*e*PKIKP	PKPdif	12 08 17.5	+2.0
MTP	**Monte Pirata**	**145.19**	**325**	*e*PKPbc	PKPbc	12 08 28.2	+1.0
MTP				*e*PKPab	PKPab	12 08 35.3	+8.0
CPD	**Cerro la Pandu**	**145.43**	**325**	*e*PKIKP	PKPdif	12 08 29.1	+1.2
CPD				e		12 08 36.3	
PLCA	**Paso Flores**	**147.23**	**201**	PKPbc	PKPbc	12 08 34.0	+0.7
	comp=Z,10nm,1.1s,baz=147,slow=3.9,SNR=11						
PLCA	**Paso Flores**	**147.23**	**201**	*e*PKPbc	PKPbc	12 08 34.4	+1.2
PLCA				*e*PKPab	PKPab	12 08 41.6	+6.5
CPUP	**Villa Florida**	**149.05**	**236**	PKPbc	PKPbc	12 08 38.7	+0.6
	comp=Z,3.7nm,0.9s,baz=48,slow=4.3,SNR=3.5						
CPUP	**Villa Florida**	**149.05**	**236**	PKPbc	PKPbc	12 08 38.7	+0.6
SDV	**Santo Domingo**	**155.47**	**322**	*e*PKPbc	PKPdif	12 08 52.3	+8.8
LPAZ	**La Paz**	**162.07**	**250**	PKP	PKPdif	12 08 52.5	+1.2
	comp=Z,0.6nm,0.6s,baz=22,slow=6.0,SNR=3.9						

*IDC **11** 11:49:21.7±4.3, 4406N×8742E, h0km, mb1 3.5/3, mb1mx3.2/24, mbtmp3.4/3, ML3.2/3, Error ellipse: s-maj=44.6km s-min=26.3km az=14.0*
*ISCJB **11** 11:49:23.4±0.8, 4407N±007×875E±0.1, h33km, Error ellipse: s-maj=13.5km s-min=6.2km az=102.0*
*BJI **11** 11:49:23.3, 4382N×8722E, h14km, ML3.2*
*NNC **11** 11:49:25.4±1.6, 4394N×8700E, h31km±7km, mb3.5, mpv3.2, Error ellipse: s-maj=41.7km s-min=8.7km az=44.0*

ISC 11 11:49:24.6±0.9, 4395N±009×875E±01, h35km, n6, σ1§24/11, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.20**	**131**	⇓*i*PG	**Pn**	**11 49 30.0**	**-1.4**
WMQ				SG	**Sn**	**11 49 35.8**	**-0.2**
WMQ				Smax			
	comp=N,980nm,0.5s						
WMQ				Smax			
	comp=E,923nm,0.5s						
MK31	**Makanchi Array**	**4.63**	**310**	⇑Pn	**Pn**	**11 50 32.5**	**+0.5**
	comp=E,0.5nm,0.2s,baz=131,slow=14,SNR=46						
MK31				⇑Sn	**Sn**	**11 51 25.3**	**+0.7**
	comp=E,1.8nm,0.2s,baz=132,slow=27,SNR=6.1						
MK31				⇑Lg		11 51 45.0	
	comp=E,16nm,0.6s,baz=123,slow=28,SNR=7.8						
MKAR	**Makanchi Array**	**4.63**	**310**	Pn	**Pn**	**11 50 32.7**	**+0.7**
	comp=E,1.4nm,0.3s,baz=131,slow=14,SNR=28						
MKAR				Sn	**Sn**	**11 51 25.4**	**+0.8**
	comp=E,3.8nm,0.3s,baz=127,slow=22,SNR=6.6						
MKAR				Lg		11 51 46.5	
	comp=E,4.2nm,0.3s,baz=124,slow=26,SNR=11						
KURK	**Kurchatov**	**9.05**	**321**	⇑Pn	**Pn**	**11 51 29.5**	**-3.2**
	comp=E,3.7nm,1.8s						
KURK				⇑Sn	**Sn**	**11 53 10.4**	**-3.0**
	comp=E,1.6nm,0.6s						
ZAL	**Zalesovo**	**10.15**	**351**	Pn	**Pn**	**11 51 48.4**	**+0.7**
	comp=E,0.5nm,0.3s,baz=305,slow=8.3,SNR=3.6						
ZAL				Sn	**Sn**	**11 53 39.2**	**-1.0**
	comp=E,0.6nm,0.3s,baz=45,slow=17,SNR=3.7						
SONM	**Songino Array**	**13.72**	**67**	Pn	**Pn**	**11 52 38.3**	**+1.7**
	comp=E,0.1nm,0.3s,baz=265,slow=16,SNR=2.9						

IDC 11 12:06:14.8±7.6, 1021N×9258E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=395.3km s-min=27.4km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.49**	**348**	P	P	12 13 30.1	0.0
	0.4nm,0.7s,baz=162,slow=8.2,SNR=2.7						
WRA	**Warramunga Arr**	**50.87**	**126**	P	P	12 15 17.1	-0.2
	0.6nm,0.6s,baz=304,slow=8.9,SNR=8.3						
ASAR	**Alice Springs**	**52.59**	**130**	P	P	12 15 31.3	+1.1
	0.8nm,0.8s,baz=307,slow=6.8,SNR=7.1						

IDC 11 12:18:27.9±1.2, 1884N×4633W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/24, mbtmp3.8/5, MS3.3/2, Ms1 3.3/2, ms1mx3.0/22, Error ellipse: s-maj=35.6km s-min=29.7km az=33.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**18.82**	**271**	LR	LR	12 28 12.1	
	comp=Z,158nm,18.7s,baz=97,slow=31						
SDV	**Santo Domingo**	**25.55**	**251**	LR	LR	12 32 35.0	
	comp=Z,42nm,21.8s,baz=64,slow=33						
LPAZ	**La Paz**	**40.97**	**213**	P	P	12 26 13.0	+0.7
	1.5nm,0.5s,baz=30,slow=5.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**46.40**	**90**	P	P	12 26 56.5	+0.5
	0.5nm,0.6s,baz=284,slow=8.2,SNR=3.1						
PDAR	**Pinedale Array**	**57.91**	**309**	P	P	12 28 22.3	+0.6
	0.9nm,0.8s,baz=120,slow=7.8,SNR=7.0						
YKA	**Yellowknife Ar**	**63.45**	**331**	P	P	12 28 58.6	-0.9
	0.6nm,1.1s,baz=95,slow=7.5,SNR=5.1						
ILAR	**Eielson Array**	**77.55**	**334**	P	P	12 30 25.9	+0.4
	1.0nm,0.8s,baz=76,slow=4.8,SNR=7.4						

IDC 11 12:27:46.3±7.7, 994N×9297E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=404.2km s-min=29.5km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.84**	**348**	P	P	12 35 04.6	0.0
	0.4nm,0.6s,baz=178,slow=9.1,SNR=4.3						
WRA	**Warramunga Arr**	**50.40**	**126**	P	P	12 36 45.2	-0.2
	0.4nm,0.6s,baz=305,slow=8.9,SNR=7.4						
ASAR	**Alice Springs**	**52.12**	**130**	P	P	12 36 59.2	+1.0
	0.5nm,0.6s,baz=311,slow=6.7,SNR=7.8						

IDC 11 12:40:10.9±8.6, 616S×15073E, h50km±65km, mb3.6/3, mb1 3.8/4, mb1mx3.5/14, mbtmp3.8/4, ML2.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/16, Error ellipse: s-maj=71.0km s-min=54.3km az=97.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.79**	**227**	P	Pn	12 41 20.8	+0.3
	1.5nm,0.3s,baz=224,slow=17,SNR=4.3						
PMG				S	Sn	12 42 15.7	+1.2
	6.7nm,0.3s,baz=196,slow=22,SNR=7.8						
PMG				LR	LR	12 42 55.4	
	comp=Z,78nm,19.8s,baz=346,slow=34						
WRA	**Warramunga Arr**	**21.01**	**228**	P	P	12 44 50.4	+0.3
	2.1nm,0.5s,baz=50,slow=10,SNR=30						
ASAR	**Alice Springs**	**23.77**	**221**	P	P	12 45 19.8	+1.1
	1.2nm,0.6s,baz=57,slow=9.0,SNR=26						
STKA	**Stephens Creek**	**26.98**	**197**	P	P	12 45 46.1	-1.7
	1.8nm,0.7s,baz=57,slow=12,SNR=5.0						
CBIJ	**Chichi jima**	**34.07**	**346**	LR	LR	12 57 53.0	
	comp=Z,139nm,18.4s,baz=89,slow=31						
TORD	**Torodi Ar. Bea**	**148.71**	**285**	PKPbc	PKPbc	12 59 53.9	+1.3
	0.7nm,0.6s,baz=98,slow=2.5,SNR=7.7						

*CSEM **11** 12:48:50.5±0.1, 3596N×2856E, h60km, MD3.1, Error ellipse: s-maj=2.7km s-min=1.2km az=71.0*
*ISCJB **11** 12:48:51.5±0.3, 3592N±003×2855E±005, h66km±10km, Error ellipse: s-maj=6.5km s-min=5.2km az=4.1*
*ATH **11** 12:48:52.3, 36.17N×2847E, h62km±1km*
*ISK **11** 12:48:54.9, 36.14N×2854E, h31km, MD3.1*
*HLW **11** 12:48:54.1, 3579N×2859E, h52km, Mb3.9*

ISC 11 12:48:53.2±0.3, 3596N±003×2855E±004, h47km±14km, n42, σ0§90/56, 10C-10D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.43**	**307**	*e*P	**Pn**	**12 49 03.4**	**0.0**
ARG				*e*S	**Sn**	**12 49 10.9**	**+0.2**
FETY	**Fethiye**	**0.80**	**32**	PG	**Pn**	**12 49 08.0**	**-0.2**
FETY				SG	**Sn**	**12 49 17.4**	**-1.7**
DALT	**Dalyan (Mudla)**	**0.81**	**5**	PG	**Pn**	**12 49 08.5**	**+0.2**
DALT				SG	**Sn**	**12 49 16.6**	**-2.7**
KSL	**Kastellorizon**	**0.86**	**77**	*e*P	**Pn**	**12 49 10.0**	**+1.1**
DAT	**Datca**	**1.10**	**315**	PG	**Pn**	**12 49 12.5**	**+0.3**
DAT				SG	**Sn**	**12 49 25.5**	**-0.7**
YER	**Yerkesik**	**1.20**	**350**	PG	**Pn**	**12 49 14.3**	**+0.8**
YER				SG	**Sn**	**12 49 27.6**	**-1.0**
KARP	**Karpathos**	**1.20**	**251**	*e*P	**Pn**	**12 49 14.5**	**+1.0**
KARP				*e*S	**Sn**	**12 49 30.5**	**+1.8**
ELL	**Elmali**	**1.35**	**54**	PN	**Pn**	**12 49 17.1**	**+1.5**
BDRM	**Kayabasi**	**1.42**	**322**	*i* P	**Pn**	**12 49 16.6**	**+0.1**
BDRM				*i* S	**Sn**	**12 49 32.9**	**-1.2**
BODT	**Bodrum**	**1.49**	**318**	PN	**Pn**	**12 49 17.4**	**-0.1**
GOLH	**Golhisar**	**1.52**	**32**	*i* P	**Pn**	**12 49 19.9**	**+2.1**
GOLH				*i* S	**Sn**	**12 49 39.2**	**+2.8**
AYDN	**Tasoluk**	**1.79**	**343**	*i* P	**Pn**	**12 49 22.7**	**+1.2**
AYDN				*i* S	**Sn**	**12 49 42.9**	**-0.1**
DENT	**Denizli**	**1.84**	**12**	*e*PN	**Pn**	**12 49 22.5**	**+0.3**
SMG	**Samos**	**2.23**	**322**	*e*P	**Pn**	**12 49 25.2**	**-2.4**
NPS	**Neapolis**	**2.49**	**255**	*e*P	**Pn**	**12 49 32.0**	**+0.8**
MANT	**Manisa**	**2.53**	**0**	*i* P	**Pn**	**12 49 34.8**	**+3.0**
MANT				*i* S	**Sn**	**12 50 00.4**	**-1.0**
MANT	**Manisa**	**2.53**	**0**	*i* S	**Sn**	**12 50 00.4**	**-0.9**
HMAT	**Matruh**	**5.00**	**194**	⇓P	**Pn**	**12 50 05.7**	**+0.1**
HMAT				S	**Sn**	**12 50 56.8**	**-5.3**
SLUM		**5.25**	**213**	⇑P	**Pn**	**12 50 08.9**	**-0.1**
SLUM				S	**Sn**	**12 51 03.4**	**-4.8**
HNAT	**Natroun**	**6.54**	**164**	⇑P	**Pn**	**12 50 26.6**	**-0.1**
FYM	**Al Fayyum**	**6.59**	**161**	⇓P	**Pn**	**12 50 27.6**	**+0.2**
KOT	**Kottamia**	**6.61**	**154**	⇑P	**Pn**	**12 50 27.3**	**-0.5**
HHAG	**Hagoal**	**6.69**	**153**	⇑P	**Pn**	**12 50 29.0**	**+0.2**
HSAF	**As Saff**	**6.81**	**157**	⇑P	**Pn**	**12 50 29.9**	**-0.5**
GLL	**Jalalah**	**6.89**	**156**	⇓P	**Pn**	**12 50 31.1**	**-0.5**
SUZ		**7.08**	**148**	⇓P	**Pn**	**12 50 33.9**	**-0.3**
SWA1		**7.09**	**201**	⇓P	**Pn**	**12 50 34.0**	**-0.3**
SWA1				S	**Sn**	**12 51 47.5**	**-6.0**
SWA2		**7.18**	**202**	⇓P	**Pn**	**12 50 35.3**	**-0.3**
HBNS	**Bani Suwayf**	**7.34**	**161**	P	**Pn**	**12 50 37.5**	**-0.2**
ZAF		**7.46**	**152**	⇑P	**Pn**	**12 50 39.1**	**-0.2**
ZNM		**7.50**	**150**	⇑P	**Pn**	**12 50 40.2**	**+0.2**
HNKL	**Nakhl**	**7.54**	**141**	⇓P	**Pn**	**12 50 39.8**	**-0.7**
HNKL				S	**Sn**	**12 51 57.8**	**-6.9**
AWBH		**7.62**	**178**	P	**Pn**	**12 50 41.2**	**-0.4**
HBST	**Basata**	**8.50**	**140**	P	**Pn**	**12 50 53.3**	**-0.4**
HKAT	**Jabal Katrina**	**8.72**	**147**	⇑P	**Pn**	**12 50 56.7**	**0.0**
TR2		**8.73**	**148**	⇓P	**Pn**	**12 50 56.6**	**-0.2**
HFRF	**Wahat Farafira**	**8.78**	**181**	⇓P	**Pn**	**12 50 57.0**	**-0.5**
HDHB	**Dhahab**	**8.85**	**143**	⇑P	**Pn**	**12 50 58.2**	**-0.3**
ASUT		**8.91**	**162**	⇓P	**Pn**	**12 50 58.9**	**-0.3**
HHRG	**Al Ghardaqah**	**9.70**	**152**	P	**Pn**	**12 51 10.0**	**-0.1**
HDK1	**Dakhla**	**10.40**	**176**	⇑P	**Pn**	**12 51 19.9**	**+0.3**
HSFG		**10.43**	**152**	P	**Pn**	**12 51 20.1**	**+0.1**

*IDC **11** 13:05:36.8±0.7, 1061N×9398E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.2/21, mbtmp4.2/13, MS3.8/8, Ms1 3.8/8, ms1mx3.5/27, Error ellipse: s-maj=34.9km s-min=14.6km az=56.0*
*ISCJB **11** 13:05:38.4±0.4, 1056N±005×9422E±004, h25km, mb4.5/44, MS3.8/13, Error ellipse: s-maj=6.7km s-min=5.8km az=150.4*
*MOS **11** 13:05:39.8±0.9, 1065N×9415E, h33km, mb4.7/20, Error ellipse: s-maj=17.2km s-min=6.8km az=110.9*
*NEIC **11** 13:05:40.9±0.4, 1074N×9426E, mb4.5/17, Error ellipse: s-maj=11.4km s-min=7.5km az=54.0*
*BJI **11** 13:05:40.1, 1050N×9435E, h35km, mB5.2, mb4.5, Ms4.4, Msz4.1*

ISC 11 13:05:41.1±0.4, 1061N±005×9423E±004, h26km, h26km±.9km: pP-P, n104, σ1§16/115, mb4.5/44, MS3.8/13, 2C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.79**	**306**	*e*P	Px	13 06 21.4	
PBA				*ex*	x	13 07 01.9	
KULM	**Kulim**	**8.27**	**129**	*e*Pn	**Pn**	**13 07 37.9**	**-1.3**
KULM				*e*Sn	**Sn**	**13 09 06.1**	**-5.6**
PSI	**Prapat**	**9.05**	**149**	Pn	**Pn**	**13 07 54.8**	**+4.9**
	0.3nm,0.3s,baz=331,slow=19,SNR=2.2						
PSI				LR	LR	13 12 03.5	
	comp=Z,904nm,18.1s,baz=293,slow=42						
VIS	**Vishakhapatnam**	**12.71**	**305**	*e*P	**Pn**	**13 08 50.6**	**+11**
PALK	**Pallekele**	**13.76**	**257**	P	**Pn**	**13 08 56.7**	**+2.3**
PALK				*e*S	**Sn**	**13 11 19.9**	**-6.5**
SHL	**Shillong**	**15.04**	**352**	*e*P	**Pn**	**13 09 08.0**	**-3.8**
BOK	**Bokaro**	**15.34**	**330**	*e*P	**Pn**	**13 09 22.7**	**+7.0**
BOK				AMb	AMB	13 09 25.1	
	comp=Z,18nm,0.9s						
KMI	**Kunming**	**16.55**	**28**	P	**Pn**	**13 09 32.4**	**+1.2**
KMI				AP	pP	13 09 36.9	-3.8
KMI				PP		13 09 44.5	
KMI				S	**Sn**	**13 12 35.6**	**+1.5**
KMI				SS		13 12 56.1	
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s						
KMI				AMB	AMB		
	comp=Z,53nm,3.1s						
KMI				LR	LR		
	comp=N,347nm,14.6s						
KMI				LR	LR		
	comp=E,229nm,10.2s						
KMI				LR	LR		
	comp=Z,288nm,13.1s						
HYB	**Hyderabad**	**16.64**	**296**	*i* P	**Pn**	**13 09 37.0**	**+4.6**
HYB				*e*S	**Sn**	**13 12 41.0**	**+4.6**
HYB	**Hyderabad**	**16.64**	**296**	*e*P	**Pn**	**13 09 37.0**	**+4.6**
HYB				*e*S	**Sn**	**13 12 41.0**	**+4.6**
TRD	**Trivandrum**	**17.16**	**265**	*ex*	**Pn**	**13 09 42.4**	**+3.5**
TRD				*ex*	x	13 14 09.4	
QIZ	**Qiongzhong**	**17.25**	**59**	P	**Pn**	**13 09 38.2**	**-1.9**
QIZ				S	**Sn**	**13 12 52.9**	**+1.7**
QIZ				LR	LR		
	comp=E,385nm,9.2s						
QIZ				LR	LR		
	comp=Z,449nm,9.4s						
NGP	**Nagpur**	**17.95**	**308**	*e*P	**Pn**	**13 09 54.0**	**+5.2**
NGP				AMb	AMB	13 09 54.3	
	comp=Z,18nm,1.3s						
JIRN	**Jiri**	**18.57**	**337**	*e*P	**Pn**	**13 09 57.2**	**+0.9**
	comp=Z,83nm,1.0s						
PKI	**Pulchoki**	**18.81**	**335**	*e*P	**Pn**	**13 09 59.8**	**+0.6**
	comp=Z,98nm,1.1s						
GUN	**Gumba**	**18.92**	**337**	*e*P	**Pn**	**13 10 00.6**	**+0.1**
	comp=Z,152nm,1.3s						
DMN	**Daman**	**18.97**	**334**	*e*P	**Pn**	**13 10 01.3**	**+0.2**
	comp=Z,56nm,1.0s						
KKN	**Kakani**	**19.05**	**335**	*e*P	**Pn**	**13 10 02.1**	**0.0**
LSA	**Lhasa**	**19.21**	**352**	*e*P	**Pn**	**13 10 03.2**	**-0.9**
LSA				pmax	pmax		
	comp=Z,22nm,1.0s						
LSA	**Lhasa**	**19.21**	**352**	*e*P	**Pn**	**13 10 03.2**	**-0.9**
	comp=Z,22nm,1.0s						
GKN	**Gorkha**	**19.51**	**334**	*e*P	**Pn**	**13 10 07.1**	**-0.5**
	comp=Z,48nm,0.6s						
GYA	**Guiyang**	**19.66**	**35**	⇑*i*P	**Pn**	**13 10 09.2**	**-0.2**
GYA				AP	pP	13 10 13.8	-1.3
GYA				XP	sP	13 10 17.6	-0.8
GYA				PP		13 10 28.4	
GYA				S	**Sn**	**13 13 43.7**	**-5.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s						
GYA				AMB	AMB		
	comp=Z,50nm,3.4s						
GYA				LR	LR		
	comp=N,420nm,12.4s						
GYA				LR	LR		
	comp=E,410nm,11.8s						
GYA				LR	LR		
	comp=Z,390nm,12.0s						
KOLN	**Koldanda**	**19.78**	**331**	*e*P	**Pn**	**13 10 10.5**	**-0.4**
	comp=Z,51nm,0.7s						
DANN	**Dangsing**	**20.20**	**332**	*e*P	**P**	**13 10 15.3**	**+1.5**
BHPL	**Bhopal**	**20.37**	**310**	*e*P	**P**	**13 10 22.4**	**+6.8**
BHPL				AMb	AMB	13 10 23.7	
	comp=Z,21nm,0.8s						
KAD	**Karad**	**20.55**	**291**	*e*P	**P**	**13 10 24.2**	**+6.6**
KAD				AMb	AMB	13 10 31.6	
	comp=Z,37nm,1.2s						
POO	**Poona**	**21.22**	**294**	*ex*	**P**	**13 10 27.0**	**+2.2**
CD2	**Chengdu**	**22.06**	**22**	*e*P	**P**	**13 10 34.0**	**+0.2**
CD2				XP	sP	13 10 48.6	+4.2
CD2				PP		13 10 59.6	
CD2				S	**S**	**13 14 30.5**	**-5.2**
CD2				XS	sS	13 14 41.9	-5.4
CD2				SS		13 15 07.4	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				LR	LR		
	comp=E,180nm,5.8s						
CD2				LR	LR		
	comp=Z,160nm,7.8s						
KKM	**Kota Kinabalu**	**22.22**	**100**	P	**P**	**13 10 43.3**	**+7.8**
ENH	**Enshi**	**24.18**	**34**	*e*P	**P**	**13 10 54.1**	**-1.1**
	comp=Z,17nm,0.9s,mb4.5						
ENH				*ep*P		13 11 01.6	
DDI	**Dehra Dun**	**24.73**	**325**	*e*P	**P**	**13 11 07.3**	**+7.1**
DDI				*ex*	x	13 11 25.9	
LZH	**Lanzhou**	**26.82**	**17**	*e*P	**P**	**13 11 19.7**	**+0.5**
LZH				AP	pP	13 11 26.8	-0.1
LZH				XP	sP	13 11 30.3	+0.2
LZH				PP		13 12 05.2	
LZH				*e*S	**S**	**13 15 42.8**	**-11**
LZH				XS	sS	13 16 04.9	-1.7
LZH				SS		13 17 05.4	
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.6						
LZH				AMB	AMB		
	comp=Z,83nm,4.6s						
LZH				LR	LR		
	comp=N,517nm,10.5s						
LZH				LR	LR		
	comp=Z,995nm,13.6s,MS4.5						
GTA	**Gaotai**	**29.11**	**9**	*e*P	**P**	**13 11 40.6**	**+1.0**
GTA				AP	pP	13 11 47.8	+0.4
GTA				XP	sP	13 11 50.8	+0.2
GTA				PP	PP	13 12 37.8	-7.7
GTA				S	**S**	**13 16 33.9**	**+4.0**
GTA				XS	sS	13 16 44.6	+1.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.0						
GTA				AMB	AMB		
	comp=Z,115nm,4.9s						
GTA				LR	LR		
	comp=N,77nm,12.6s,MS3.7						
GTA				LR	LR		
	comp=E,104nm,13.3s,MS3.7						
GTA				LR	LR		
	comp=Z,116nm,15.2s,MS3.6						
NJ2	**Nanjing**	**31.19**	**43**	*e*P	**P**	**13 11 58.3**	**+0.4**
NJ2				AP	pP	13 12 05.5	-0.2
NJ2				XP	sP	13 12 08.9	0.0
NJ2				PP	PP	13 13 00.9	-7.6
NJ2				S	**S**	**13 17 03.0**	**+0.6**
NJ2				XS	sS	13 17 15.0	-0.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,40nm,4.8s						
NJ2				LR	LR		
	comp=N,4μm,24.8s						
NJ2				LR	LR		
	comp=E,2μm,16.5s						
NJ2				LR	LR		
	comp=Z,230nm,31.4s						
SSE	**Sheshan**	**32.25**	**47**	*e*P	**P**	**13 12 06.6**	**-0.7**
SSE				AMB	AMB		
	comp=Z,112nm,4.4s						
KSH	**Kashi**	**33.06**	**334**	*e*P	**P**	**13 12 17.9**	**+3.5**
KSH				AP	pP	13 12 23.7	+1.5
KSH				XP	sP	13 12 26.4	+1.0
KSH				PP	PP

BJI				LR	LR		
	comp=Z,73nm,19.3s						
AAK	**Ala-Archa**	**36.26**	**335**	*eP*	**P**	**13 12 41.7**	**-0.3**
AAK				*e**PP	pP	13 12 48.8	-1.1
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**36.26**	**335**	*eP*	**P**	**13 12 41.7**	**-0.3**
	comp=Z,6.6nm,1.0s,mb4.5						
AAK				*ep*P	pP	13 12 48.8	-1.1
MKAR	**Makanchi Array**	**37.46**	**346**	P	**P**	**13 12 52.4**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.4,baz=164,slow=8.5,SNR=36						
MKAR				LR	LR	13 32 10.0	
	comp=Z,88nm,18.9s,MS3.6,baz=156,slow=43						
SONM	**Songino Array**	**38.50**	**13**	P	**P**	**13 13 00.8**	**-0.2**
	comp=Z,1.8nm,0.9s,mb3.8,baz=203,slow=6.0,SNR=12						
SONM				LR	LR	13 30 18.9	
	comp=Z,132nm,19.0s,MS3.8,baz=45,slow=38						
ULN	**Ulaanbaatar**	**38.68**	**14**	P	**P**	**13 13 02.8**	**+0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
ULN	**Ulaanbaatar**	**38.68**	**14**	P	**P**	**13 13 02.8**	**+0.2**
	comp=Z,6.8nm,1.3s,mb4.2						
KS15	**Wonju Array Si**	**40.36**	**43**	P	**P**	**13 13 15.9**	**-0.6**
KS15				*ep*P	pP	13 13 25.5	+1.1
KURK	**Kurchatov**	**42.00**	**345**	*eP*	**P**	**13 13 29.4**	**-0.6**
KURK				*e**PP	pP	13 13 36.5	-1.5
KURK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.4						
KURK	**Kurchatov**	**42.00**	**345**	*eP*	**P**	**13 13 29.4**	**-0.6**
	comp=Z,12nm,1.3s,mb4.4						
KURK				*ep*P	pP	13 13 36.5	-1.5
CN2	**Changchun**	**42.70**	**34**	*eP*	**P**	**13 13 36.8**	**+1.1**
CN2				*e*AP	pP	13 13 44.3	+0.6
CN2				*e*S	**S**	**13 19 57.9**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
ZAL	**Zalesovo**	**43.87**	**352**	P	**P**	**13 13 45.6**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.1,baz=295,slow=8.7,SNR=24						
ZAL				LR	LR	13 34 06.9	
	comp=Z,48nm,19.5s,MS3.4,baz=138,slow=39						
HIA	**Hailar**	**44.00**	**24**	*eP*	**P**	**13 13 46.0**	**-0.2**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HIA	**Hailar**	**44.00**	**24**	*eP*	**P**	**13 13 46.0**	**-0.2**
	comp=Z,6.2nm,0.9s,mb4.3						
NVS	**Novosibirsk**	**44.97**	**351**	*eP*	**P**	**13 13 53.7**	**-0.3**
NVS				pmax	pmax		
	comp=Z,13nm,2.2s,mb4.4						
NVS				pmax	pmax		
	comp=N,9.0nm,2.1s						
MDJ	**Mudanjiang**	**45.53**	**35**	P	**P**	**13 13 58.8**	**+0.4**
MDJ				AP	pP	13 14 04.2	-2.2
MDJ				PCP	PcP	13 15 37.1	+0.3
MDJ				PP	PP	13 15 45.5	+0.4
MDJ				SCP	ScP	13 19 29.0	+1.2
MDJ				PCS	PcS	13 19 31.4	+0.5
MDJ				S	**S**	**13 20 40.4**	**+1.7**
MDJ				XS	sS	13 20 50.4	-1.5
MDJ				AMB	AMB		
	comp=Z,12nm,2.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,197nm,4.2s						
MDJ				LR	LR		
	comp=N,27nm,25.7s,MS3.2						
MDJ				LR	LR		
	comp=E,23nm,22.7s,MS3.2						
MDJ				LR	LR		
	comp=Z,38nm,22.7s,MS3.3						
BVAR	**Borovoye Array**	**46.45**	**340**	P	**P**	**13 14 04.3**	**-1.4**
	comp=Z,2.9nm,0.9s,mb4.2,baz=138,slow=7.4,SNR=12						
BRVK	**Borovoye**	**46.52**	**340**	*eP*	**P**	**13 14 05.4**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**46.52**	**340**	*eP*	**P**	**13 14 05.4**	**-0.7**
	comp=Z,3.1nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**46.86**	**339**	*eP*	**P**	**13 14 07.9**	**-1.0**
ZRNK				*e**PP	pP	13 14 14.9	-2.0
ZRNK				*e*		13 14 26.3	
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ZRNK	**Zerenda**	**46.86**	**339**	*eP*	**P**	**13 14 07.9**	**-1.0**
	comp=Z,6.5nm,1.3s,mb4.4						
ZRNK				*ep*P	pP	13 14 14.9	-2.0
ZRNK				*e*		13 14 26.2	
NWAO	**Narrogin (SRO)**	**48.54**	**154**	LR	LR	13 35 51.3	
	comp=Z,88nm,18.3s,MS3.8,baz=114,slow=37						
BOD	**Bodaibo**	**49.49**	**14**	*eP*	**P**	**13 14 27.0**	**-2.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**49.81**	**127**	P	**P**	**13 14 32.8**	**+1.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=304,slow=8.9,SNR=18						
WRAB	**Tennant Creek**	**49.81**	**127**	*eP*	**P**	**13 14 32.4**	**+0.8**
WRAB				*e**SP	sP	13 14 43.8	+1.0
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**49.81**	**127**	*eP*	**P**	**13 14 32.4**	**+0.8**
	comp=Z,11nm,0.8s,mb5.0						
WRAB				*ep*P	pP	13 14 39.5	-0.1
WRAB				*es*P	sP	13 14 43.8	+0.9
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**13 14 46.6**	**+1.3**
	comp=Z,2.2nm,0.8s,mb4.2,baz=310,slow=7.0,SNR=24						
GNI	**Garni**	**52.63**	**313**	*eP*	**P**	**13 14 53.6**	**+0.9**
GNI				pmax	pmax		
	comp=Z,16nm,0.9s						
GNI	**Garni**	**52.63**	**313**	*eP*	**P**	**13 14 53.6**	**+0.9**
	comp=Z,16nm,0.9s,mb5.0						
ZEI	**Tsey**	**54.13**	**316**	*eP*	**P**	**13 15 03.9**	**+0.1**
ZEI				*i* *PP	pP	13 15 14.8	+2.9
ZEI				*i*		13 17 03.6	
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KIV	**Kislovodsk**	**55.38**	**317***c*	*iP*	**P**	**13 15 13.8**	**+1.0**
KIV				*e*		13 16 14.3	
KIV				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,25.0s,MS3.8						
KIV	**Kislovodsk**	**55.38**	**317**	P	**P**	**13 15 14.0**	**+1.1**
	comp=Z,15nm,0.9s,mb5.0						
MALT	**Malatya**	**56.80**	**309**	*eP*	**P**	**13 15 23.0**	**0.0**
MALT				*e**PP	pP	13 15 30.3	-0.8
MALT				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
MALT	**Malatya**	**56.80**	**309**	*eP*	**P**	**13 15 23.0**	**+0.1**
	comp=Z,5.3nm,1.1s,mb4.5						
MALT				*ep*P	pP	13 15 30.3	-0.9
SOC	**Sochi**	**57.29**	**315**	*eP*	**P**	**13 15 24.4**	**-2.0**
SOC				*e*S	**S**	**13 23 19.4**	**-1.6**
SOC				*e*		13 25 10.8	
SOC				*e*SSS		13 29 25.5	
SOC				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
YAK	**Yakutsk**	**57.40**	**19**	*eP*	**P**	**13 15 33.3**	**+6.1**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK	**Yakutsk**	**57.40**	**19**	P	**P**	**13 15 25.4**	**-1.8**
	comp=E,22nm,0.9s,mb5.2						
YAK				*ep*P	pP	13 15 33.6	-1.8
KMBO	**Kilima Mbogo**	**57.85**	**262**	LR	LR	13 37 21.5	
	comp=E,60nm,18.1s,MS3.7,baz=92,slow=33						
EIL	**Elat**	**58.18**	**298**	P	**P**	**13 15 33.4**	**+0.7**
ANN	**Anapa**	**59.22**	**316**	*eP*	**P**	**13 15 35.8**	**-4.1**
ANN				*e*S	**S**	**13 23 37.7**	**-8.5**
ANN				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.5						
BR131	**Keskin Array S**	**60.74**	**310**	*eP*	**P**	**13 15 49.3**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.3						
BR131				*ep*P	pP	13 15 56.6	-2.0
BRTR	**Keskin Array B**	**60.74**	**310**	P	**P**	**13 15 49.0**	**-1.3**
	comp=Z,3.5nm,0.8s,mb4.5,baz=119,slow=7.3,SNR=18						
STKA	**Stephens Creek**	**61.94**	**135**	P	**P**	**13 15 59.8**	**+1.3**
	comp=Z,1.8nm,0.9s,mb4.2,baz=306,slow=14,SNR=2.7						
STKA				LR	LR	13 42 56.7	
	comp=Z,127nm,22.0s,MS4.0,baz=351,slow=36						
STKA	**Stephens Creek**	**61.94**	**135**	*eP*	**P**	**13 15 59.6**	**+1.1**
STKA				*ep*P	pP	13 16 07.7	+1.0
OBN	**Obninsk**	**63.14**	**327**	*iP*	**P**	**13 16 06.2**	**-0.3**
OBN				*e*		13 16 44.0	
OBN				*e*		13 18 25.4	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,23.0s,MS3.9						
MA2	**Magadan**	**64.33**	**28**	P	**P**	**13 16 14.1**	**-0.2**
MA2				*e**PP	pP	13 16 22.1	-0.5
MA2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
MA2	**Magadan**	**64.33**	**28**	P	**P**	**13 16 14.1**	**-0.2**
	comp=Z,7.4nm,1.1s,mb4.6						
MA2				*ep*P	pP	13 16 22.1	-0.5
TIXI	**Tiksi**	**64.56**	**12**‖	*eP*	**P**	**13 16 14.0**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
TIXI	**Tiksi**	**64.56**	**12**	P	**P**	**13 16 13.0**	**-2.8**
SEY	**Seymchan**	**66.43**	**25**‖	*eP*	**P**	**13 16 27.6**	**-0.3**
FINES	**FINESS Array B**	**70.36**	**332**	P	**P**	**13 16 50.4**	**-2.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=79,slow=7.2,SNR=3.0						
ARCES	**ARCESS Array B**	**72.74**	**340**	P	**P**	**13 17 06.7**	**-0.2**
	comp=Z,7.2nm,1.1s,mb4.5,baz=81,slow=5.6,SNR=3.8						
ARCES				LR	LR	13 51 11.8	
	comp=Z,137nm,21.6s,MS4.2,baz=78,slow=38						
MORC	**Moravsky Berou**	**73.38**	**319**	*eP*	**P**	**13 17 08.6**	**-2.0**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MORC	**Moravsky Berou**	**73.38**	**319**	*eP*	**P**	**13 17 08.6**	**-2.0**
	comp=Z,1.9nm,0.8s,mb4.1						
BILL	**Bilibino**	**73.53**	**22**	*eP*	**P**	**13 17 10.3**	**-1.3**
BILL				*e**PP	pP	13 17 18.2	-1.7
BILL	**Bilibino**	**73.53**	**22**	*eP*	**P**	**13 17 10.3**	**-1.2**
BILL				*ep*P	pP	13 17 18.2	-1.7
GERES	**GERESS Array B**	**75.87**	**318**	P	**P**	**13 17 24.2**	**-0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=77,slow=7.0,SNR=7.8						
NB2	**NORSAR Subarra**	**77.41**	**330**	P	**P**	**13 17 32.3**	**-1.5**
	comp=Z,4.0nm,1.0s,mb4.3,baz=89,slow=5.6						
NB2	**NORSAR Subarra**	**77.41**	**330**	P	**P**	**13 17 32.3**	**-1.5**
NB2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
NOA	**NORSAR Array B**	**77.41**	**330**	P	**P**	**13 17 31.3**	**-2.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=90,slow=5.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**90.06**	**283**	P	**P**	**13 18 39.2**	**+0.7**
	comp=Z,1.2nm,0.8s,mb4.3,baz=79,slow=4.8,SNR=8.6						
TORD				PP	PP	13 22 11.1	-0.7
	comp=Z,1.1nm,1.0s,baz=82,slow=5.2,SNR=5.4						
ILAR	**Eielson Array**	**92.20**	**22**	P	**P**	**13 18 46.2**	**-2.1**
	comp=Z,0.5nm,0.7s,mb4.0,baz=304,slow=4.5,SNR=8.4						
NVAR	**Mina Array Bea**	**122.54**	**30**	PKP	PKPdf	13 24 36.6	+2.5
	comp=Z,0.4nm,0.6s,baz=347,slow=2.1,SNR=4.4						
TRQA	**Tornquist**	**145.32**	**214**	*e*PKPdf	PKPdf	13 25 15.3	-1.1
PLCA	**Paso Flores**	**147.12**	**202**	PKPbc	PKPbc	13 25 22.0	+0.4
	comp=Z,3.5nm,0.9s,baz=128,slow=4.7,SNR=5.6						
PLCA	**Paso Flores**	**147.12**	**202**	*e*PKPbc	PKPbc	13 25 22.8	+1.2
PLCA				*ep*PKPbc	pPKPbc	13 25 29.5	-0.8

*IDC **11** 13:32:17.6±0.7, 1074N×9421E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.3/21, mbtmp4.2/14, MS4.3/21, Ms1 4.3/21, ms1mx4.1/36, Error ellipse: s-maj=32.3km s-min=16.0km az=58.0*

*ISCJB **11** 13:32:18.4±0.3, 1049N±004×9431E±004, h22km, mb4.5/52, MS4.3/33, Error ellipse: s-maj=6.1km s-min=4.6km az=72.8*

*BJI **11** 13:32:18.0, 1047N×9415E, h20km, mB4.9, mb4.5, Ms4.7, Msz4.3*

*NEIC **11** 13:32:19.0±0.4, 1063N×9427E, h10km, mb4.7/24, Error ellipse: s-maj=11.7km s-min=6.3km az=52.0*

*MOS **11** 13:32:20.3±1.1, 1055N×9411E, h33km, mb4.8/18, Error ellipse: s-maj=15.1km s-min=6.6km az=105.1*

ISC 11 13:32:21.1±0.3, 1055N±004×9432E±004, h24km, h24km±1.4km:pP-P, n144, σ1§24/142, mb4.5/52, MS4.3/33, 3C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.90**	**305**	*ex*	x	13 33 05.4	
PBA				*eS*	x	13 33 29.8	
NNT	**Nongplab**	**5.68**	**69**	P	**Pn**	**13 33 43.0**	**-1.0**
SNG	**Songkhla**	**7.07**	**118**	P	**Pn**	**13 34 12.0**	**+9.0**
	204nm,0.8s						
NST	**Nakhon Sawan**	**7.61**	**47**	P	**Pn**	**13 34 09.5**	**-1.0**
	117nm,0.5s						
KULM	**Kulim**	**8.16**	**129**	*e*Pn	**Pn**	**13 34 17.8**	**-0.3**
KULM				*e*Sn	**Sn**	**13 35 48.2**	**-1.3**
PSI	**Prapat**	**8.95**	**149**	Pn	**Pn**	**13 34 27.2**	**-1.7**
	0.1nm,0.3s,baz=108,slow=19,SNR=3.3						
PSI				LR	LR	13 38 45.0	
	comp=Z,3μm,18.3s,baz=303,slow=42						
KKTK	**Khon Kaen**	**10.07**	**54**	P	**Pn**	**13 34 51.4**	**+7.2**
	309nm,0.6s						
VIS	**Vishakhapatnam**	**12.82**	**305**	*eP*	**Pn**	**13 35 23.0**	**+1.2**
VIS				AMb	AMB	13 35 47.5	
	comp=Z,112nm,1.6s						
SHL	**Shillong**	**15.11**	**352**	*ex*	**Pn**	**13 35 50.0**	**-3.0**
SHL				*eS*	**Sn**	**13 38 54.0**	**+14**
BOK	**Bokaro**	**15.43**	**330**	*eP*	**Pn**	**13 36 01.3**	**+4.2**
BOK				AMb	AMB	13 36 11.8	
	comp=Z,38nm,1.4s						
KMI	**Kunming**	**16.55**	**28**	P	**Pn**	**13 36 15.3**	**+3.7**
KMI				AP	pP	13 36 17.5	-2.9
KMI				XP	sP	13 36 20.6	-2.9
KMI				PP		13 36 26.3	
KMI				S	**Sn**	**13 39 16.9**	**+2.3**
KMI				XS	sS	13 39 25.0	-11
KMI				SS		13 39 37.9	
KMI				AMB	AMB		
	comp=Z,27nm,1.3s						
KMI				AMB	AMB		
	comp=Z,335nm,5.0s						
KMI				LR	LR		
	comp=N,1μm,13.5s						
KMI				LR	LR		
	comp=E,873nm,10.8s						
KMI				LR	LR		
	comp=Z,807nm,12.6s						
HYB	**Hyderabad**	**16.75**	**296**	*iP*	**Pn**	**13 36 19.0**	**+4.9**
HYB				*eS*	**Sn**	**13 39 24.0**	**+4.7**
HYB	**Hyderabad**	**16.75**	**296**	*eP*	**Pn**	**13 36 19.0**	**+4.9**
HYB				*eS*	**Sn**	**13 39 24.0**	**+4.7**
QIZ	**Qiongzhong**	**17.20**	**59**	P	**Pn**	**13 36 21.6**	**+1.8**
QIZ				XP	sP	13 36 31.3	+0.6
QIZ				PP		13 36 34.9	
QIZ				S	**Sn**	**13 39 35.7**	**+5.3**
QIZ				AMB	AMB		
	comp=Z,13nm,1.5s						
QIZ				AMB	AMB		
	comp=Z,174nm,6.4s						
QIZ				LR	LR		
	comp=N,1μm,8.3s						
QIZ				LR	LR		
	comp=E,1μm,9.5s						
QIZ				LR	LR		
	comp=Z,2μm,9.1s						
NGP	**Nagpur**	**18.06**	**308**	*eP*	**Pn**	**13 36 33.0**	**+2.6**
NGP				AMb	AMB	13 36 41.1	
	comp=Z,24nm,2.5s						
NGP				*ex*	x	13 39 44.2	
KSM	**Kuching**	**18.27**	**119**	*e*Pn	**Pn**	**13 36 35.3**	**+2.4**
JBP	**Jabalpur**	**18.57**	**314**‖	*eP*	**Pn**	**13 36 44.6**	**+8.0**
JBP				*ex*	x	13 36 57.3	
	comp=Z,40nm,1.4s						
JBP				*eS*	Sn	13 40 27.5	+24
JIRN	**Jiri**	**18.66**	**337**	*eP*	**Pn**	**13 36 37.6**	**-0.1**
	comp=Z,274nm,1.5s						
PKI	**Pulchoki**	**18.89**	**335**	*eP*	**Pn**	**13 36 40.6**	**+0.1**
	comp=Z,407nm,1.8s						
PKI	**Pulchoki**	**18.89**	**335**	*eP*	**Pn**	**13 36 40.6**	**+0.1**
PKI				pmax	pmax		
	comp=Z,203nm,1.8s						
GUN	**Gumba**	**19.00**	**336**	*eP*	**Pn**	**13 36 41.9**	**0.0**
	comp=Z,396nm,1.6s						
DMN	**Daman**	**19.05**	**334**	*eP*	**Pn**	**13 36 42.6**	**+0.1**
	comp=Z,91nm,1.1s						
KKN	**Kakani**	**19.14**	**335**	*eP*	**Pn**	**13 36 42.6**	**-0.9**
	comp=Z,153nm,1.5s						
KKN	**Kakani**	**19.14**	**335**	*eP*	**Pn**	**13 36 42.6**	**-0.9**
KKN				pmax	pmax		
	comp=Z,77nm,1.5s						
LSA	**Lhasa**	**19.28**	**352**	P	**Pn**	**13 36 45.0**	**-0.2**
LSA				S	**Sn**	**13 40 13.5**	**-7.1**
LSA				AMB	AMB		
	comp=Z,290nm,9.0s						
LSA				LR	LR		
	comp=N,200nm,16.8s						
LSA				LR	LR		
	comp=E,430nm,16.8s						
LSA				LR	LR		
	comp=Z,590nm,18.0s						
LSA	**Lhasa**	**19.28**	**352**	Pn	**Pn**	**13 36 45.2**	**+0.1**
	comp=Z,214nm,1.8s						
GKN	**Gorkha**	**19.60**	**334**	*eP*	**Pn**	**13 36 47.4**	**-1.6**
GYA	**Guiyang**	**19.66**	**35**‖	*iP*	**Pn**	**13 36 49.2**	**-0.5**
GYA				AP	pP	13 36 54.6	-0.1
GYA				XP	sP	13 36 57.8	+0.1
GYA				PP		13 37 09.4	
GYA				S	**Sn**	**13 40 35.1**	**+5.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,330nm,5.9s						
GYA				LR	LR		
	comp=N,1μm,12.3s						
GYA				LR	LR		
	comp=E,1μm,13.1s						
GYA				LR	LR		
	comp=Z,900nm,12.3s						
KOLN	**Koldanda**	**19.88**	**331**	*eP*	**Pn**	**13 36 50.6**	**-1.7**
	comp=Z,66nm,0.8s						
BHPL	**Bhopal**	**20.48**	**310**	*eP*	**P**	**13 36 60.0**	**+2.8**
BHPL				AMb	AMB	13 37 06.5	
	comp=Z,31nm,1.2s						
KAD	**Karad**	**20.66**	**291**	*eP*	**P**	**13 36 58.1**	**-0.9**
KAD				AMb	AMB	13 37 12.6	
	comp=Z,28nm,1.4s						
POO	**Poona**	**21.33**	**294**	*eP*	**P**	**13 37 07.0**	**+0.7**
GZH	**Guangzhou**	**22.03**	**53**	P	**P**	**13 37 18.8**	**+4.9**
GZH				LR	LR		
	comp=N,322nm,11.4s,MS4.1						
GZH				LR	LR		
	comp=E,277nm,10.2s,MS4.1						
GZH				LR	LR		
	comp=Z,488nm,9.4s						
CD2	**Chengdu**	**22.07**	**22**	P	**P**	**13 37 14.2**	**-0.1**
CD2				PP		13 37 40.2	
CD2				S	**S**	**13 41 12.7**	**-3.8**
CD2				SS		13 41 53.4	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=E,460nm,13.8s						
CD2				LR	LR		
	comp=Z,350nm,12.0s,MS4.0						
KKM	**Kota Kinabalu**	**22.12**	**100**	P	**P**	**13 37 19.5**	**+4.7**
COCO	**West Island**	**22.73**	**174**	P	**P**	**13 37 30.4**	**+9.1**
NDI	**New Delhi**	**24.13**	**321**	*eP*	**P**	**13 37 35.8**	**+0.7**
NDI				AMb	AMB	13 37 39.5	
	comp=Z,48nm,1.0s,mb4.9						
NDI				*ex*	x	13 41 56.0	
ENH	**Enshi**	**24.18**	**34**	*eP*	**P**	**13 37 34.8**	**-0.7**
	comp=Z,73nm,1.2s,mb5.0						
AJM	**Ajmer**	**24.42**	**313**	*eP*	**P**	**13 37 38.6**	**+0.9**
AJM				AMb	AMB	13 37 52.2	
	comp=Z,25nm,2.2s,mb4.2						
LZH	**Lanzhou**	**26.85**	**17**	*eP*	**P**	**13 37 59.5**	**-0.3**
LZH				AP	pP	13 38 09.1	+2.3
LZH				XP	sP	13 38 13.5	+3.8
LZH				PP		13 38 45.0	
LZH				*eS*	**S**	**13 42 32.9**	**-1.9**
LZH				XS	sS	13 42 47.8	+1.4
LZH				SS		13 43 46.7	
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,96nm,4.9s						
LZH				LR	LR		
	comp=N,759nm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,13.4s,MS4.7						
XAN	**Xi'an**	**26.93**	**28**	P	**P**	**13 38 00.9**	**+0.4**
XAN				AP	pP	13 38 06.2	-1.3
XAN				S	**S**	**13 42 40.8**	**+4.6**
XAN				LR	LR		
	comp=N,449nm,14.0s,MS4.4						
XAN				LR	LR		
	comp=E,653nm,17.5s,MS4.4						
XAN				LR	LR		
	comp=Z,531nm,13.5s,MS4.3						
GTA	**Gaotai**	**29.15**	**9**	*eP*	**P**	**13 38 21.2**	**+0.9**
GTA				AP	pP	13 38 27.9	+0.5
GTA				XP	sP	13 38 30.1	-0.2
GTA				PP	PP	13 39 16.0	-10
GTA				S	**S**	**13 43 12.9**	**+1.8**
GTA				XS	sS	13 43 22.4	-0.3
GTA				SS	SS	13 44 46.8	-28
GTA				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.1						
GTA				AMB	AMB		
	comp=Z,38nm,4.0s						
GTA				LR	LR		
	comp=N,434nm,20.2s,MS4.2						
GTA				LR	LR		
	comp=E,293nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=Z,534nm,20.2s,MS4.2						
YHNB	**Yeheng**	**29.28**	**58**	*eP*	**P**	**13 38 21.2**	**-0.3**
SSE	**Sheshan**	**32.22**	**47**	*eP*	**P**	**13 38 46.9**	**-0.5**
SSE				AP	pP	13 38 52.6	-1.9
SSE				XP	sP	13 38 55.5	-1.9
SSE				PP	PP	13 39 57.5	-2.9
SSE				PCP	PcP	13 41 37.9	+2.3
SSE				S	**S**	**13 43 56.5**	**-2.7**
SSE				SCS	ScS	13 49 13.8	-2.9
SSE				AMB	AMB		
	comp=Z,61nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,58nm,4.5s						
SSE				LR	LR		
	comp=N,390nm,12.1s,MS4.3						
SSE				LR	LR		
	comp=E,90nm,12.1s,MS4.3						
SSE				LR	LR		
	comp=Z,374nm,9.7s						
KSH	**Kashi**	**33.15**	**334**	*eP*	**P**	**13 38 55.6**	**+0.1**
KSH				*e*AP	pP	13 39 03.4	+0.8
KSH				XP	sP	13 39 06.9	+1.4
KSH				PP	PP	13 40 07.0	-3.6
KSH				PCP	PcP	13 41 38.2	0.0
KSH				S	**S**	**13 44 13.4**	**-0.2**
KSH				XS	sS	13 44 25.5	+0.3
KSH				SCP	ScP	13 45 20.6	-0.3
KSH				PCS	PcS	13 45 22.7	-1.0
KSH				SS	SS	13 46 18.2	-19
KSH				SCS	ScS	13 49 19.7	-1.7
KSH				AMB	AMB		
	comp=Z,123nm,5.6s						
KSH				LR	LR		
	comp=N,270nm,5.7s						
KSH				LR	LR		
	comp=E,301nm,6.1s						
KSH				LR	LR		
	comp=Z,643nm,19.7s,MS4.3						
WMQ	**Urumqi**	**33.64**	**351**	P	**P**	**13 39 01.1**	**+1.3**
WMQ				AP	pP	13 39 07.0	+0.1
WMQ				XP	sP	13 39 09.9

HHC SCS ScS 13 49 23.8 -1.0
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,182nm,4.6s
HHC LR LR
comp=N,594nm,12.7s
HHC LR LR
comp=E,1μm,18.6s
HHC LR LR
comp=Z,403nm,11.2s,MS4.4
BJI Beijing 35.19 30 P **P 13 39 12.8 -0.5**
BJI AMB AMB
comp=Z,5.0nm,1.4s,mb4.2
BJI LR LR
comp=N,444nm,17.0s,MS4.5
BJI LR LR
comp=E,490nm,16.1s,MS4.5
BJI LR LR
comp=Z,215nm,18.9s,MS3.9
KZA Kyzart 35.58 335 P **P 13 39 18.0 +1.4**
SNR=7.2
AML Almayashu 36.28 334 P **P 13 39 23.4 +0.8**
SNR=13
AAK Ala-Archa 36.35 335 P **P 13 39 23.9 +0.7**
SNR=6.0
AAK Ala-Archa 36.35 335⇓*e*P **P 13 39 23.2 0.0**
AAK pmax pmax
comp=Z,11nm,1.4s,mb4.6
AAK Ala-Archa 36.35 335 *e*P **P 13 39 22.2 -1.0**
comp=Z,7.3nm,1.0s,mb4.6
FRU Bishkek 36.46 335 *e*P **P 13 39 25.0 +0.8**
FRU *e* 13 39 43.0
EKS2 Erkin-Say 36.67 334 P **P 13 39 27.0 +1.1**
SNR=7.3
USP Ospenovka 36.87 336 P **P 13 39 27.3 -0.4**
SNR=11
MKAR Makanchi Array 37.54 346 P **P 13 39 32.1 -1.2**
comp=Z,5.8nm,0.9s,mb4.3,baz=162,slow=8.3,SNR=28
MKAR LR LR 13 59 00.1
comp=Z,304nm,19.1s,MS4.1,baz=185,slow=43
SONM Songino Array 38.53 13 P **P 13 39 41.4 -0.3**
comp=Z,2.7nm,0.9s,mb4.0,baz=201,slow=9.0,SNR=15
SONM LR LR 13 56 57.9
comp=Z,613nm,20.3s,MS4.4,baz=220,slow=39
ULN Ulaanbaatar 38.71 14 *i*P **P 13 39 44.1 +1.0**
ULN Ulaanbaatar 38.71 14 *e*P **P 13 39 42.9 -0.2**
comp=Z,8.8nm,1.5s,mb4.3
ZAK Zakamensk 40.39 9 *e*P **P 13 39 58.3 +1.1**
ZAK pmax pmax
comp=Z,11nm,1.8s,mb4.3
KURK Kurchatov 42.08 345⇓*e*P **P 13 40 11.2 +0.2**
KURK Kurchatov 42.08 345 *e*P **P 13 40 09.5 -1.6**
comp=Z,20nm,1.3s,mb4.6
KURK *e*pP pP 13 40 16.6 -1.6
IRK Irkutsk 42.35 9 *e*P **P 13 40 14.2 +0.9**
IRK pmax pmax
comp=Z,40nm,3.3s
CN2 Changchun 42.70 34 *e*P **P 13 40 17.5 +1.4**
CN2 *e*AP pP 13 40 23.5 +0.2
CN2 *e*XP sP 13 40 26.5 +0.4
CN2 *e*S **S 13 46 39.1 +1.0**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CN2 AMB AMB
comp=Z,200nm,3.0s
ZAL Zalesovo 43.94 352 P **P 13 40 25.6 -0.5**
comp=Z,3.5nm,0.8s,mb4.1,baz=296,slow=9.6,SNR=24
ZAL LR LR 14 01 53.3
comp=Z,191nm,20.6s,MS4.0,baz=285,slow=41
HIA Hailar 44.01 24 P **P 13 40 27.9 +1.2**
HIA pmax pmax
comp=Z,12nm,1.1s
HIA Hailar 44.01 24 P **P 13 40 27.9 +1.3**
comp=Z,12nm,1.1s,mb4.5
NVS Novosibirsk 45.04 351 *e*P **P 13 40 34.3 -0.6**
NVS pmax pmax
comp=Z,28nm,2.5s,mb4.7
NVS pmax pmax
comp=N,20nm,1.7s
NVS pmax pmax
comp=E,14nm,1.6s
MDJ Mudanjiang 45.52 35 P **P 13 40 39.0 +0.3**
MDJ AP pP 13 40 45.2 -0.7
MDJ XP sP 13 40 47.9 -0.9
MDJ PCP PcP 13 42 17.4 +0.2
MDJ PP PP 13 42 25.6 +0.2
MDJ SCP ScP 13 46 09.0 +0.5
MDJ PCS PcS 13 46 11.6 +0.3
MDJ S **S 13 47 20.7 +1.5**
MDJ XS sS 13 47 31.4 +0.3
MDJ SCS ScS 13 50 34.3 +0.7
MDJ AMB AMB
comp=Z,13nm,2.4s,mb4.4
MDJ AMB AMB
comp=Z,108nm,3.8s
MDJ LR LR
comp=N,117nm,21.0s
MDJ LR LR
comp=E,99nm,38.5s
MDJ LR LR
comp=Z,122nm,23.8s,MS3.8
MDJ Mudanjiang 45.52 35 P **P 13 40 39.3 +0.6**
BVAR Borovoye Array 46.54 340 P **P 13 40 44.8 -1.9**
comp=Z,3.3nm,0.9s,mb4.3,baz=141,slow=7.6,SNR=17
BRVK Borovoye 46.60 340 *e*P **P 13 40 45.8 -1.4**
BRVK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BRVK Borovoye 46.60 340 *e*P **P 13 40 45.8 -1.4**
comp=Z,3.7nm,1.0s,mb4.3
ZRNK Zerenda 46.95 339 P **P 13 40 49.1 -0.8**
ZRNK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ZRNK Zerenda 46.95 339 P **P 13 40 49.1 -0.8**
comp=Z,3.6nm,0.9s,mb4.3
MAT Matsushiro 47.27 49 PCP PcP 13 42 24.3 +1.0
MJAR Matsushiro Arr 47.27 49 PcP PcP 13 42 24.1 +0.8
comp=Z,2.8nm,0.8s,baz=248,slow=3.3,SNR=8.9
MJAR LR LR 14 03 51.5
comp=Z,206nm,20.0s,MS4.1,baz=255,slow=40
BOD Bodaibo 49.52 14 *e*P **P 13 41 07.7 -2.1**
BOD pmax pmax
comp=Z,7.0nm,1.8s,mb4.4
WRA Warramunga Arr 49.70 128 P **P 13 41 13.1 +1.9**
comp=Z,5.9nm,0.6s,mb4.8,baz=304,slow=8.9,SNR=87
WRAB Tennant Creek 49.71 127 *d*iP **P 13 41 13.3 +2.1**
WRAB Tennant Creek 49.71 127 *e*P **P 13 41 13.1 +1.9**
comp=Z,9.8nm,0.6s,mb5.0
AKTK Aktyubinsk 49.71 330 P **P 13 41 09.3 -1.9**
AKTO Aktyubinsk 49.71 330 P **P 13 41 09.3 -1.9**
comp=Z,0.9nm,0.4s,mb4.2,baz=94,slow=4.6,SNR=5.1
HABR Khabarovsk 50.83 34 *e*P **P 13 41 16.9 -2.8**
HABR *e*S **S 13 48 30.1 -4.2**
ASAR Alice Springs 51.52 132 P **P 13 41 26.8 +1.9**
comp=Z,6.5nm,0.7s,mb4.7,baz=308,slow=6.7,SNR=63
CLNS Chul'man 51.88 21 *e*P **P 13 41 27.3 -0.3**
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.2s
CLNS MLR MLR
comp=Z,300nm,12.0s,MS4.5
CLNS MLR MLR
comp=N,100nm,13.0s,MS4.5
CLNS MLR MLR
comp=E,300nm,14.0s,MS4.5
GNI Garni 52.73 313 P **P 13 41 35.9 +2.0**
ARU Arti 53.52 336 *e*P **P 13 41 39.3 -0.4**
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ARU Arti 53.52 336 *e*P **P 13 41 39.3 -0.4**
comp=Z,8.8nm,1.0s,mb4.6
ZEI Tsey 54.24 316 *i*P **P 13 41 44.0 -1.0**
ZEI *i* 13 42 47.2
ZEI pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
KIV Kislovodsk 55.48 317⇓*e*P **P 13 41 55.9 +1.9**
KIV *e* 13 42 53.9
KIV *e*S **S 13 49 39.0 +1.3**
KIV pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
KIV Kislovodsk 55.48 317 P **P 13 41 55.2 +1.2**
comp=Z,15nm,0.9s,mb5.0
MALT Malatya 56.90 309 *e*P **P 13 42 03.6 -0.5**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MALT Malatya 56.90 309 *e*P **P 13 42 03.6 -0.5**
comp=Z,2.4nm,0.8s,mb4.3
SOC Sochi 57.39 315 *e*P **P 13 42 07.3 -0.3**
SOC *e*S **S 13 50 03.7 +0.7**
SOC *e* 13 51 46.2
SOC *e*SS SS 13 53 51.9 -0.7
SOC pmax pmax
comp=Z,37nm,1.0s,mb5.4
YAK Yakutsk 57.42 19 *i*P **P 13 42 07.1 -0.6**
YAK pmax pmax
comp=Z,23nm,0.9s,mb5.2
YAK Yakutsk 57.42 19 *e*P **P 13 42 05.1 -2.7**
comp=Z,25nm,0.9s,mb5.2
KMBO Kilima Mbogo 57.93 262 LR LR 14 05 50.3
comp=Z,71nm,19.5s,MS3.8,baz=88,slow=35
ANN Anapa 59.32 316 *e*P **P 13 42 11.1 -10**
ANN *e* 13 43 05.0
ANN pmax pmax
comp=Z,14nm,0.6s,mb5.2
BR131 Keskin Array S 60.85 310 *e*P **P 13 42 30.3 -1.2**
BRTR Keskin Array B 60.85 310 P **P 13 42 30.3 -1.2**
comp=Z,3.1nm,0.9s,mb4.4,baz=120,slow=7.3,SNR=12
STKA Stephens Creek 61.84 135 P **P 13 42 37.5 -0.7**
comp=Z,4.5nm,0.9s,mb4.6,baz=343,slow=12,SNR=7.6
STKA Stephens Creek 61.84 135 *e*P **P 13 42 38.7 +0.5**
OBN Obninsk 63.23 327 *e*P **P 13 42 48.5 +1.0**
OBN *e* 13 43 25.7
OBN *e*S **S 13 51 17.9 +0.1**
OBN pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
MA2 Magadan 64.33 28 *e*P **P 13 42 55.7 +1.0**
MA2 pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
MA2 Magadan 64.33 28 *e*P **P 13 42 54.3 -0.4**
comp=Z,9.3nm,1.1s,mb4.7
TIXI Tiksi 64.59 11⇑*e*P **P 13 42 55.3 -1.1**
TIXI pmax pmax
comp=Z,11nm,1.2s,mb4.8
TIXI Tiksi 64.59 11 P **P 13 42 55.2 -1.2**
SEY Seymchan 66.44 25⇓*e*P **P 13 43 10.2 +1.8**
MLR Muntele Rosu 67.41 315 LR LR 14 17 11.7
comp=Z,337nm,20.5s,MS4.5,baz=59,slow=40
APA Apatity 69.42 339 *e*P pP 13 43 40.0 +5.3
APA MLR MLR
comp=Z,900nm,19.0s,MS5.0
LSZ Lusaka 70.34 250 *e*P **P 13 43 32.2 -0.6**
LSZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LSZ Lusaka 70.34 250 *e*P **P 13 43 32.1 -0.7**
comp=Z,2.3nm,0.7s,mb4.2
FINES FINESS Array B 70.45 332 P **P 13 43 32.1 -1.4**
comp=Z,0.9nm,0.7s,mb3.8,baz=73,slow=6.4,SNR=5.2
FINES LR LR 14 21 02.3
comp=Z,194nm,19.6s,MS4.4,baz=35,slow=42
ARCES ARCESS Array B 72.83 340 P **P 13 43 45.9 -1.9**
comp=Z,5.4nm,0.9s,mb4.5,baz=51,slow=6.4,SNR=7.2
ARCES LR LR 14 18 57.7
comp=Z,439nm,20.1s,MS4.7,baz=96,slow=39
ARCES ARCESS Array B 72.83 340 P **P 13 43 45.9 -1.9**
ARCES LR LR 14 18 57.6
BILL Bilibino 73.55 22*d*iP **P 13 43 52.5 +0.4**
BILL pmax pmax
comp=Z,15nm,1.8s,mb4.6
BILL Bilibino 73.55 22 *e*P **P 13 43 51.5 -0.5**
comp=Z,13nm,1.4s,mb4.7
VRAC Vranov 74.08 318 LR LR 14 18 49.9
comp=Z,139nm,18.8s,MS4.3,baz=86,slow=38
GERES GERESS Array B 75.97 318 P **P 13 44 05.6 -0.5**
comp=Z,0.9nm,0.8s,mb3.8,baz=150,slow=1.1,SNR=4.1
GERES LR LR 14 20 25.5
comp=Z,102nm,18.9s,MS4.2,baz=303,slow=38
HFS Hagfors 76.25 329 LR LR 14 21 30.0
comp=Z,277nm,19.0s,MS4.6,baz=87,slow=39
BOSA Boshof 77.16 237 LR LR 14 13 14.3
comp=Z,134nm,19.1s,MS4.3,baz=272,slow=32
NOA NORSAR Array B 77.50 330 P **P 13 44 13.1 -1.6**
comp=Z,0.6nm,0.7s,mb3.6,baz=93,slow=5.8,SNR=3.7
NOA LR LR 14 24 13.7
comp=Z,142nm,18.3s,MS4.3,baz=235,slow=40
DAVOX Davos 78.60 316 LR LR 14 25 20.1
comp=Z,124nm,20.8s,MS4.2,baz=78,slow=41
TSUM Tsumeb 81.16 249 *e*P **P 13 44 37.2 +2.5**
comp=Z,3.2nm,0.9s,mb4.2
MAW Mawson 81.17 192 LR LR 14 14 26.2
comp=Z,297nm,18.3s,MS4.7,baz=192,slow=31
TORD Torodi Ar. Bea 90.16 283 P **P 13 45 20.1 +0.7**
comp=Z,0.9nm,0.8s,mb4.2,baz=101,slow=3.6,SNR=6.7
URZ Urewera 90.86 129 LR LR 14 24 53.3
comp=Z,249nm,21.4s,MS4.6,baz=243,slow=35
BORG Borgarnes 91.04 337 LR LR 14 28 04.3
comp=Z,335nm,19.5s,MS4.8,baz=11,slow=37
MCK McKinley 91.95 23 *e*P **P 13 45 28.2 +0.5**
MCK pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
MCK McKinley 91.95 23 *e*P **P 13 45 28.2 +0.5**
comp=Z,4.0nm,1.0s,mb4.7
ILAR Eielson Array 92.21 22 P **P 13 45 26.6 -2.3**
comp=Z,0.8nm,1.1s,mb4.0,baz=218,slow=7.5,SNR=7.5
ILAR LR LR 14 31 26.5
comp=Z,130nm,18.6s,MS4.4,baz=182,slow=38
VNDA Vanda 95.50 168 LR LR 14 23 07.3
comp=Z,155nm,18.0s,MS4.5,baz=116,slow=32
DBIC Dimbokro 97.75 278 LR LR 14 26 43.8
comp=Z,46nm,18.1s,MS4.0,baz=54,slow=34
PPT Papeete 117.86 104 *e*LR LR 14 27 08.6
comp=Z,105nm,24.0s
TBI Tubuai 118.10 111 *e*LR LR 14 27 16.2
comp=Z,138nm,25.2s
NVAR Mina Array Bea 122.54 30 PKP PKPdf 13 51 16.4 +1.9
comp=Z,0.9nm,0.6s,baz=351,slow=2.5,SNR=7.7
PDAR Pinedale Array 122.62 21 PKP PKPdf 13 51 14.5 -0.2
comp=Z,0.8nm,0.8s,baz=340,slow=1.7,SNR=6.9
MSU Marysvale 125.28 25 *e*PKIKP PKPdf 13 51 22.3 +2.5
RKT Rikitea 131.41 111 *e*LR LR 14 33 26.4
comp=Z,96nm,36.0s
WCI Wyandotte Cave 131.47 1 *e*P Pdif 13 48 22.4 -1.8
PLCA Paso Flores 147.10 201 PKPbc PKPbc 13 52 03.6 +1.6
comp=Z,8.3nm,1.1s,baz=158,slow=4.0,SNR=9.6
CPUP Villa Florida 148.97 236 PKPbc PKPbc 13 52 08.7 +1.7
comp=Z,2.8nm,0.9s,baz=32,slow=4.5,SNR=3.6

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*MOS **11** 13:43:07.6±0.6,37.19N×4.93W,h10km,mb3.7/1,Error ellipse: s-maj=26.1km s-min=5.3km az=68.3*
*ISCJB **11** 13:43:07.1±0.2,3708N±001×494W±001,h10km,Error ellipse: s-maj=2.1km s-min=1.7km az=14.6*
*INMG **11** 13:43:08.9±1.2,3694N×4.97W,h8km±2km,ML3.9,Error ellipse: s-maj=1.8km s-min=1.5km az=29.0*
*NEIC **11** 13:43:09.4,3691N×4.94W,h2km,ML3.6(SFS), MN3.7(MDD),After MDD.*
NEIC Felt [III] at Ardales, Canete la Real, Cuevas del Becerro and Ronda; [II] at Almargen and Tera; [I] at Campillos, Carratraca and El Burgo, Spain.
*MDD **11** 13:43:09.4±0.1,3693N×4.93W,h8km±1km,mbLg3.7/43, Error ellipse: s-maj=1.7km s-min=1.5km az=170.0, PRXIMO II-III CUEVAS DEL BECERRO ARDALES II ALMARGEN TEBA I CAMPILLOS CARRATRACA EL BURGO*
MDD EMS: III CAQETE LA REAL.
*CSEM **11** 13:43:09.6±0.1,3684N×4.96W,h20km,ML4.1/23,Error ellipse: s-maj=1.3km s-min=1.2km az=26.0*
*SFS **11** 13:43:09.0,3695N×4.97W,h0km,ML3.6*
*LDG **11** 13:43:09.6±0.1,3689N×4.94W,h10km,Ml3.9/11,Error ellipse: s-maj=2.7km s-min=1.8km az=171.0*
*CNRM **11** 13:43:10.9,3699N×4.99W,h30km,MD3.9*
*IGIL **11** 13:43:10.6,3690N×4.90W,h24km,ML4.1*
ISC 11 13:43:08.9±0.3,3701N±001×495W±001,h17km±2km,n181,σ1§30/307,14C-8D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.38**	**255**	⇑P	**Pg**	**13 43 16.7**	**+0.1**
LIJA	**Lijar**	**0.38**	**255**	*i* P	**Pg**	**13 43 16.7**	**0.0**
EMIJ	**Mijas**	**0.46**	**162**	⇑Pg	**Pg**	**13 43 16.4**	**-1.8**
	854nm,0.3s,SNR=18						
EMIJ				Lg		13 43 21.4	
	10μm,0.4s,SNR=4.1						
EMAL	**Malaga-Limoner**	**0.48**	**120**	⇓Pg	**Pg**	**13 43 17.0**	**-1.6**
	139nm,0.2s,SNR=18						
EMAL				Lg		13 43 23.0	
	1μm,0.3s,SNR=7.9						
REAL	**Reales**	**0.56**	**202**	⇑P	**Pg**	**13 43 19.0**	**-1.0**
REAL				S	**Sg**	**13 43 27.0**	**-0.5**
REAL	**Reales**	**0.56**	**202**	*i* P	**Pg**	**13 43 19.0**	**-1.0**
REAL				*e*S	**Sg**	**13 43 27.0**	**-0.5**
ELOJ	**Sierra Loja**	**0.65**	**77**	⇓Pg	**Pg**	**13 43 21.8**	**+0.1**
	262nm,0.3s,SNR=18						
ELOJ				Lg		13 43 31.5	
	SNR=7.9						
EJIF	**Jimena Fronter**	**0.69**	**217**	⇑Pg	**Pg**	**13 43 21.8**	**-0.7**
	536nm,0.4s,SNR=18						
EJIF				Lg		13 43 28.7	
	SNR=7.9						
ESPR	**Espera**	**0.74**	**260**	⇓Pg	**Pg**	**13 43 24.3**	**+0.9**
	1μm,0.5s,SNR=18						
ESPR				Lg		13 43 32.0	
	1μm,0.3s,SNR=8.0						
ESPR	**Espera**	**0.74**	**260**	Pg	**Pg**	**13 43 24.3**	**+0.9**
	1μm,0.5s,SNR=18						
ELUQ	**Luque**	**0.78**	**44**	⇑Pg	**Pg**	**13 43 24.8**	**+0.7**
	470nm,0.3s,SNR=18						
ELUQ				Lg		13 43 36.3	
	SNR=7.9						
GIBL	**Gibalbin**	**0.84**	**258**	P	**Pb**	**13 43 26.4**	**+1.5**
GIBL	**Gibalbin**	**0.84**	**258**	*e*P	**Pb**	**13 43 26.5**	**+1.6**
ERON	**Agron**	**0.91**	**89**	Pg	**Pg**	**13 43 25.9**	**-0.8**
	286nm,0.4s,SNR=109						
ERON				Lg		13 43 39.6	
	SNR=7.9						
SCRT	**Cerro San Cris**	**1.05**	**250**	*e*P	**Pb**	**13 43 30.6**	**+2.0**
CNIL	**Conil**	**1.09**	**235**	P	**Pb**	**13 43 31.0**	**+1.7**
CNIL	**Conil**	**1.09**	**235**	*e*P	**Pb**	**13 43 31.0**	**+1.7**
EGUA	**Guajares**	**1.12**	**98**	Pg	**Pg**	**13 43 28.6**	**-1.9**
	44nm,0.3s,SNR=7.9						
EGUA				Lg		13 43 44.0	
	61nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**1.13**	**341**	⇑Pg	**Pg**	**13 43 30.4**	**-0.4**
	390nm,0.3s,SNR=18						
ECAB				Lg		13 43 47.4	
	2μm,0.4s,SNR=35						
ECAB	**El Cabril**	**1.13**	**341**	Pg	**Pg**	**13 43 30.4**	**-0.4**
	390nm,0.3s,SNR=18						
ECOG	**Cogollos-Vega**	**1.14**	**76**	⇑Pg	**Pg**	**13 43 31.5**	**+0.6**
	458nm,0.3s,SNR=18						
ECOG				Lg		13 43 46.4	
	1μm,0.7s,SNR=11						
SFS	**San Fernando**	**1.15**	**242**	*e*Pg	**Pg**	**13 43 31.1**	**+0.1**
SFS	**San Fernando**	**1.15**	**242**	*e*Pg	**Pg**	**13 43 31.1**	**+0.1**
EADA	**Adamuz**	**1.20**	**14**	⇑Pg	**Pg**	**13 43 32.0**	**0.0**
	842nm,0.4s,SNR=18						
EADA				Lg		13 43 48.9	
	1μm,0.2s,SNR=16						
EADA	**Adamuz**	**1.20**	**14**	Pg	**Pg**	**13 43 32.0**	**0.0**
	842nm,0.4s,SNR=18						
EQUE	**Quentar**	**1.22**	**80**	Pg	**Pg**	**13 43 32.0**	**-0.5**
	546nm,0.6s,SNR=18						
EQUE				Lg		13 43 47.6	
	1μm,0.4s,SNR=13						
EBAN	**Banos Encina**	**1.48**	**38**	⇑Pn	**Pn**	**13 43 36.0**	**+1.3**
	523nm,0.4s,SNR=18						
EBAN				Pg	**Pg**	**13 43 37.5**	**+0.1**
	309nm,0.3s,SNR=7.9						
EBAN				Sn	**Sn**	**13 43 54.9**	**+1.3**
	565nm,0.4s,SNR=18						
EBAN				Lg		13 43 57.1	
	SNR=7.9						
EBAN	**Banos Encina**	**1.48**	**38**	Pg	**Pg**	**13 43 37.5**	**+0.1**
	309nm,0.3s,SNR=7.9						
EBAN				Sn	**Sn**	**13 43 54.9**	**+1.2**
	565nm,0.4s,SNR=18						
EMIN	**Mina Concepcio**	**1.57**	**300**	⇓Pn	**Pn**	**13 43 36.3**	**+0.3**
	258nm,0.4s,SNR=18						
EMIN				Pg	**Pg**	**13 43 38.5**	**-0.5**
	173nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**13 43 56.5**	**+0.6**
	442nm,0.3s,SNR=18						
EMIN				Lg		13 43 59.6	
	387nm,0.3s,SNR=9.4						
EMIN	**Mina Concepcio**	**1.57**	**300**	Pn	**Pn**	**13 43 36.3**	**+0.3**
	258nm,0.4s,SNR=18						
EMIN	**Mina Concepcio**	**1.57**	**300**	Pg	**Pg**	**13 43 38.5**	**-0.6**
	173nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**13 43 56.5**	**+0.6**
	442nm,0.3s,SNR=18						
EBER	**Berja**	**1.65**	**93**	Pn	**Pn**	**13 43 38.4**	**+1.3**
	10nm,0.2s,SNR=7.9						
EBER				Pg	**Pg**	**13 43 41.2**	**+0.6**
	436nm,0.3s,SNR=117						
EBER				Lg		13 44 03.5	
	1μm,0.5s,SNR=4.8						
EBER	**Berja**	**1.65**	**93**	Pn	**Pn**	**13 43 38.4**	**+1.3**
	10nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.65**	**93**	Pg	**Pg**	**13 43 41.2**	**+0.6**
	436nm,0.3s,SNR=117						
EQES	**Quesada**	**1.69**	**61**	⇑Pn	**Pn**	**13 43 39.2**	**+1.5**
	40nm,0.4s,SNR=7.9						
EQES				Pg	**Pg**	**13 43 41.4**	**-0.1**
	526nm,0.6s,SNR=139						
EQES				Lg		13 44 03.7	
	2μm,0.4s,SNR=15						
EQES	**Quesada**	**1.69**	**61**	Pn	**Pn**	**13 43 39.2**	**+1.5**
	40nm,0.4s,SNR=7.9						
EQES	**Quesada**	**1.69**	**61**	Pg	**Pg**	**13 43 41.4**	**0.0**
	526nm,0.6s,SNR=139						
ERIP	**Rio Piedras**	**1.88**	**282**	⇓Pn	**Pn**	**13 43 40.2**	**0.0**
	58nm,0.3s,SNR=18						
ERIP				Pg	**Pg**	**13 43 43.8**	**-1.2**
	192nm,0.2s,SNR=7.9						
ERIP				Sn	**Sn**	**13 44 03.0**	**-0.5**
	320nm,0.5s,SNR=7.9						
ERIP				Lg		13 44 09.7	
	391nm,0.3s,SNR=7.9						
ERIP	**Rio Piedras**	**1.88**	**282**	Pg	**Pg**	**13 43 43.8**	**-1.2**
	192nm,0.2s,SNR=7.9						
ERIP				Sn	**Sn**	**13 44 03.0**	**-0.5**
	320nm,0.5s,SNR=7.9						
MPAL	**Palemas**	**1.95**	**155**	*i* P	**Pn**	**13 43 41.0**	**-0.2**
MPAL				*i* S	**Sn**	**13 44 02.5**	**-2.9**
EHUE	**Huescar**	**2.04**	**66**	Pn	**Pn**	**13 43 44.0**	**+1.6**
	13nm,0.2s,SNR=7.9						
EHUE				Pg	**Pg**	**13 43 47.6**	**-0.5**
	52nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**13 44 07.5**	**0.0**
	49nm,0.6s,SNR=7.9						
EHUE				Lg		13 44 15.3	
	162nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.04**	**66**	Pg	**Pg**	**13 43 47.6**	**-0.5**
	52nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**13 44 07.5**	**0.0**
	49nm,0.6s,SNR=7.9						
EGRO	**El Granado**	**2.09**	**285**	⇓Pn	**Pn**	**13 43 43.3**	**+0.2**
	126nm,0.3s,SNR=18						
EGRO				Pg	**Pg**	**13 43 48.4**	**-0.6**
	117nm,0.3s,SNR=7.9						
EGRO				Sn	**Sn**	**13 44 08.4**	**-0.3**
	192nm,0.4s,SNR=8.1						
EGRO				Lg		13 44 15.6	
	184nm,0.2s,SNR=9.9						
EGRO	**El Granado**	**2.09**	**285**	Pn	**Pn**	**13 43 43.3**	**+0.2**
	126nm,0.3s,SNR=18						
EGRO	**El Granado**	**2.09**	**285**	Pg	**Pg**	**13 43 48.4**	**-0.6**
	117nm,0.3s,SNR=7.9						
EGRO				Sn	**Sn**	**13 44 08.4**	**-0.3**
	192nm,0.4s,SNR=8.1						
ENIJ	**Nijar**	**2.19**	**90**	⇓Pn	**Pn**	**13 43 46.2**	**+1.6**
	9.1nm,0.2s,SNR=18						
ENIJ				Pg	**Pg**	**13 43 50.5**	**-0.5**
	85nm,0.3s,SNR=19						
ENIJ				Lg		13 44 17.6	
	113nm,0.4s,SNR=4.7						
ENIJ	**Nijar**	**2.19**	**90**	Pg	**Pg**	**13 43 50.5**	**-0.5**
	85nm,0.3s,SNR=19						
TOU	**Touzarine**	**2.26**	**154**	*i* P	**Pn**	**13 43 46.5**	**+1.1**
TOU				*i* S	**Sn**	**13 44 11.0**	**-1.8**
EMEL	**Melilla**	**2.34**	**136**	Pn	**Pn**	**13 43 42.4**	**-4.2**
	379nm,0.8s,SNR=4.0						
EMLI	**Melilla**	**2.35**	**136**	Pn	**Pn**	**13 43 42.4**	**-4.2**
	379nm,0.8s,SNR=4.0						
EBAD	**Badajoz**	**2.39**	**318**	⇑Pn	**Pn**	**13 43 47.9**	**+0.7**
	46nm,0.3s,SNR=18						
EBAD				Pg	**Pg**	**13 43 54.2**	**-0.6**
	79nm,0.3s,SNR=7.9						
EBAD				Sn	**Sn**	**13 44 16.5**	**+0.3**
	113nm,0.3s,SNR=9.9						
EBAD				Lg		13 44 25.7	
	273nm,0.3s,SNR=12						
EBAD	**Badajoz**	**2.39**	**318**	Pn	**Pn**	**13 43 47.9**	**+0.6**
	46nm,0.3s,SNR=18						
EBAD	**Badajoz**	**2.39**	**318**	Pg	**Pg**	**13 43 54.2**	**-0.6**

79nm,0.3s,SNR=7.9
EBAD Sn **Sn** **13 44 16.5 +0.3**
113nm,0.3s,SNR=9.9
PBEJ Beja 2.54 295 *e*Pn **Pn** **13 43 49.4 +0.2**
PBEJ *e*Sg **Sg** **13 44 29.8 -0.6**
PBEJ
220nm,0.5s
PBEJ Beja 2.54 295 *e*Pn **Pn** **13 43 49.4 +0.2**
PBEJ *e*Sg **Sg** **13 44 29.8 -0.6**
220nm,0.5s
ZAI Zaio 2.70 138 *i* P **Pn** **13 43 51.0 -0.6**
ZAI *i* S **Sn** **13 44 21.0 -2.9**
ESDC Sonseca Array 2.77 16 ⇑Pn **Pn** **13 43 54.4 +1.8**
15nm,0.2s,baz=196,slow=12,SNR=18
ESDC Pg **Pg** **13 44 02.2 +0.1**
44nm,0.1s,baz=198,slow=17,SNR=7.9
ESDC Lg 13 44 37.9
289nm,0.4s,baz=196,slow=28,SNR=6.5
ESDC Sonseca Array 2.77 16 Pn **Pn** **13 43 54.4 +1.9**
15nm,0.2s,SNR=18
ESDC Sonseca Array 2.77 16 Pg **Pg** **13 44 02.2 +0.1**
44nm,0.1s,SNR=7.9
ESLA Sonseca Array 2.77 16 *e*Pn **Pn** **13 43 54.5 +2.0**
ESLA Sonseca Array 2.77 16 *e*Pn **Pn** **13 43 54.5 +1.9**
MORF Marmelete 2.97 277 *e*P **Pn** **13 43 55.7 +0.5**
MORF *e*S **Sn** **13 44 28.6 -2.0**
MORF *e*S **Sn** **13 44 28.6 -1.9**
MORF AML AML 13 44 33.6
comp=N,279nm,0.3s
MORF Marmelete 2.97 277 *e*P **Pn** **13 43 55.7 +0.4**
MORF *e*S **Sn** **13 44 28.6 -1.9**
PTEO Sao Teotonio 3.06 281 *e*Pn **Pn** **13 43 56.6 +0.1**
PTEO *e*Sn **Sn** **13 44 33.6 +0.9**
PTEO *e*Sg **Sg** **13 44 49.7 +2.5**
PTEO
comp=N,340nm,0.7s
PTEO Sao Teotonio 3.06 281 *e*Pn **Pn** **13 43 56.6 +0.1**
PTEO *e*Sn **Sn** **13 44 33.6 +0.9**
PTEO *e*Sg **Sg** **13 44 49.7 +2.5**
comp=N,340nm,0.7s
EMUR La Murta 3.07 73 Pn **Pn** **13 43 58.1 +1.5**
comp=N,21nm,0.4s,SNR=15
EMUR Pg **Pg** **13 44 05.2 -2.4**
comp=N,87nm,0.4s,SNR=24
EMUR Sn **Sn** **13 44 32.7 -0.2**
comp=N,77nm,0.4s,SNR=5.4
EMUR Lg 13 44 45.8
comp=N,136nm,0.4s,SNR=6.2
EMUR La Murta 3.07 73 Pn **Pn** **13 43 58.1 +1.5**
comp=N,21nm,0.4s,SNR=15
EMUR La Murta 3.07 73 Pg **Pg** **13 44 05.2 -2.5**
comp=N,87nm,0.4s,SNR=24
EMUR Sn **Sn** **13 44 32.7 -0.1**
comp=N,77nm,0.4s,SNR=5.4
ETOB Tobarra 3.15 58 ⇑Pn **Pn** **13 43 58.7 +1.0**
comp=N,37nm,0.6s,SNR=18
ETOB Pg **Pg** **13 44 08.1 -1.2**
comp=N,71nm,0.4s,SNR=18
ETOB Sn **Sn** **13 44 34.1 -0.8**
comp=N,125nm,0.7s,SNR=5.1
ETOB Lg 13 44 50.2
comp=N,400nm,0.5s,SNR=9.1
ETOB Tobarra 3.15 58 Pg **Pg** **13 44 08.1 -1.2**
comp=N,71nm,0.4s,SNR=18
ETOB Sn **Sn** **13 44 34.1 -0.8**
comp=N,125nm,0.7s,SNR=5.1
CART Cartagena 3.20 78 *e*Pn **Pn** **13 43 58.4 0.0**
CART Cartagena 3.20 78 *e*Pn **Pn** **13 43 58.4 0.0**
PCBR Castelo Branco 3.46 326 *e*Pn **Pn** **13 44 02.8 +0.9**
PCBR *e*Sn **Sn** **13 44 42.0 -0.5**
PCBR *e*Sg **Sg** **13 44 58.9 -1.1**
PCBR
comp=N,277nm,0.6s
PCBR Castelo Branco 3.46 326 *e*Pn **Pn** **13 44 02.8 +0.9**
PCBR *e*Sn **Sn** **13 44 42.0 -0.5**
PCBR *e*Sg **Sg** **13 44 58.9 -1.1**
comp=N,277nm,0.6s
ALMR Almeirim 3.58 308 *e*P **Pn** **13 44 04.6 +1.0**
ALMR *e*S **Sn** **13 44 43.9 -1.6**
ALMR *e*S **Sn** **13 44 43.9 -1.5**
ALMR AML AML 13 44 47.8
comp=N,665nm,0.7s
ALMR Almeirim 3.58 308 *e*P **Pn** **13 44 04.6 +1.0**
ALMR *e*S **Sn** **13 44 43.9 -1.6**
MIF Mishlifen 3.59 184 *i* P **Pn** **13 44 04.0 +0.2**
MIF *i* S **Sn** **13 44 43.0 -2.9**
GUD Guadarrama 3.69 9 ⇑Pn **Pn** **13 44 06.9 +1.9**
comp=N,37nm,0.4s,SNR=18
GUD Pg **Pg** **13 44 18.4 -1.1**
comp=N,43nm,0.5s,SNR=5.6
GUD Sn **Sn** **13 44 48.2 +0.1**
comp=N,36nm,0.4s,SNR=4.5
GUD Lg 13 45 06.8
comp=N,140nm,0.3s,SNR=8.8
GUD Guadarrama 3.69 9 Pg **Pg** **13 44 18.4 -1.1**
comp=N,43nm,0.5s,SNR=5.6
GUD Sn **Sn** **13 44 45.6 -2.5**
comp=N,36nm,0.4s,SNR=4.5
LIS Lisbon 3.74 298 *e*P **Pn** **13 44 06.6 +0.8**
LIS *e*S **Sn** **13 44 47.2 -2.2**
LIS *e*S **Sn** **13 44 47.2 -2.2**
LIS AML AML 13 44 52.8
comp=N,565nm,0.4s
LIS Lisbon 3.74 298 *e*P **Pn** **13 44 06.6 +0.8**
LIS *e*S **Sn** **13 44 47.2 -2.2**
PTOM Tomar 3.77 315 *e*Pn **Pn** **13 44 07.0 +0.8**
PTOM *e*Sn **Sn** **13 44 50.3 +0.1**
PTOM *e*Sg **Sg** **13 45 08.3 -1.7**
PTOM
comp=N,294nm,0.4s
PTOM Tomar 3.77 315 *e*Pn **Pn** **13 44 07.0 +0.8**
PTOM *e*Sn **Sn** **13 44 50.3 +0.1**
PTOM *e*Sg **Sg** **13 45 08.3 -1.7**
comp=N,294nm,0.4s
PLOU Loures 3.82 301 *e*Pn **Pn** **13 44 07.9 +1.0**
PLOU *e*Sn **Sn** **13 44 51.0 -0.3**
PLOU *e*Sg **Sg** **13 45 14.9 +3.5**
PLOU
comp=N,285nm,0.8s
PLOU Loures 3.82 301 *e*Pn **Pn** **13 44 07.9 +1.0**
PLOU *e*Sn **Sn** **13 44 51.0 -0.3**
PLOU *e*Sg **Sg** **13 45 14.9 +3.5**
comp=N,285nm,0.8s
MTE Manteigas 3.95 330 *e*Pn **Pn** **13 44 10.7 +2.0**
MTE *e*Sn **Sn** **13 44 54.8 +0.1**
MTE *e*Sg **Sg** **13 45 14.2 -1.6**
MTE
comp=N,407nm,0.8s
MTE Manteigas 3.95 330 Pn **Pn** **13 44 10.7 +2.0**
MTE Sn **Sn** **13 44 54.8 +0.1**
MTE Lg 13 45 14.2
comp=N,203nm,0.8s
MTE Manteigas 3.95 330 *e*Pn **Pn** **13 44 09.4 +0.7**
MTE *e*Sn **Sn** **13 44 54.8 +0.1**
MTE *e*Sg **Sg** **13 45 14.2 -1.6**
comp=N,407nm,0.8s
MTE Manteigas 3.95 330 *e*Pn **Pn** **13 44 09.4 +0.7**
CZD Col de Zad 3.96 181 *i* P **Pn** **13 44 09.0 +0.1**
CZD *i* S **Sn** **13 44 51.0 -4.0**
ECHE Chera 4.06 49 Pn **Pn** **13 44 11.3 +1.1**
comp=N,14nm,0.5s,SNR=18
ECHE Pg **Pg** **13 44 24.0 -2.6**
comp=N,80nm,0.6s,SNR=20
ECHE Lg 13 45 20.0
comp=N,40nm,0.3s,SNR=7.2
ECHE Chera 4.06 49 Pg **Pg** **13 44 24.0 -2.6**
comp=N,80nm,0.6s,SNR=20
EBEN Beniarda 4.10 64 Pn **Pn** **13 44 11.9 +1.1**
comp=N,11nm,0.4s,SNR=22
EBEN Pg **Pg** **13 44 24.5 -3.0**
comp=N,17nm,0.4s,SNR=7.2
EBEN Sn **Sn** **13 44 56.7 -1.7**
comp=N,27nm,0.4s,SNR=7.9
EBEN Lg 13 45 18.8
comp=N,56nm,0.4s,SNR=7.5
EBEN Beniarda 4.10 64 Pn **Pn** **13 44 11.9 +1.1**
comp=N,11nm,0.4s,SNR=22
EBEN Beniarda 4.10 64 Pg **Pg** **13 44 24.5 -3.0**
comp=N,17nm,0.4s,SNR=7.2
EBEN Sn **Sn** **13 44 56.7 -1.7**
comp=N,27nm,0.4s,SNR=7.9
PVIS Viseu 4.36 329 *e*Pn **Pn** **13 44 15.9 +1.6**
PVIS *e*Sn **Sn** **13 45 04.4 -0.4**
PVIS *e*Sg **Sg** **13 45 26.3 -2.6**
PVIS
comp=N,136nm,0.7s
PVIS Viseu 4.36 329 *e*Pn **Pn** **13 44 15.9 +1.6**
PVIS *e*Sn **Sn** **13 45 04.4 -0.4**
PVIS *e*Sg **Sg** **13 45 26.3 -2.6**
comp=N,136nm,0.7s
KIB El Ksiba 4.51 192 *i* P **Pn** **13 44 16.0 -0.4**
KIB *i* S **Sn** **13 45 06.0 -2.4**
PVRL Vila Real 4.78 334 *e*Pn **Pn** **13 44 21.4 +1.3**
PVRL *e*Sn **Sn** **13 45 14.7 -0.3**
PVRL *e*Sg **Sg** **13 45 42.6 +0.4**
PVRL
comp=N,108nm,0.6s
PVRL Vila Real 4.78 334 Pn **Pn** **13 44 21.4 +1.3**
PVRL Sn **Sn** **13 45 14.7 -0.3**
PVRL Lg 13 45 42.6
comp=N,54nm,0.6s
EMOS Mosqueruela 4.85 45 Pn **Pn** **13 44 22.3 +1.2**
comp=N,27nm,0.7s,SNR=5.9
EMOS Pg **Pg** **13 44 40.5 -1.2**
comp=N,22nm,0.5s,SNR=7.9
EMOS Sn **Sn** **13 45 14.7 -2.0**
comp=N,34nm,0.4s,SNR=9.6
EMOS Lg 13 45 42.7
comp=N,37nm,0.4s,SNR=9.2
EMOS Mosqueruela 4.85 45 Pn **Pn** **13 44 22.3 +1.3**
comp=N,27nm,0.7s,SNR=5.9
EMOS Mosqueruela 4.85 45 Pg **Pg** **13 44 40.5 -1.2**
comp=N,22nm,0.5s,SNR=7.9
EMOS Sn **Sn** **13 45 14.7 -2.1**
comp=N,34nm,0.4s,SNR=9.6
ZFT Errachidia 4.98 174 *i* P **Pn** **13 44 23.0 +0.1**
ZFT *i* S **Sn** **13 45 16.0 -4.1**
PBRG Braganca 4.99 344 *e*Pn **Pn** **13 44 24.2 +1.2**
PBRG *e*Sn **Sn** **13 45 19.3 -1.0**
PBRG *e*Sg **Sg** **13 45 47.4 -1.7**
PBRG
comp=N,130nm,0.5s
PBRG Braganca 4.99 344 Pn **Pn** **13 44 24.2 +1.2**
PBRG Sn **Sn** **13 45 19.3 -1.0**
PBRG Lg 13 45 47.4
comp=N,65nm,0.5s
TZC Tazercounte 5.01 195 *i* P **Pn** **13 44 22.5 -0.8**
TZC *i* S **Sn** **13 45 15.0 -5.7**
ECAL Calabor 5.12 345 Pn **Pn** **13 44 26.6 +1.8**
comp=N,12nm,0.3s,SNR=9.3
ECAL Sn **Sn** **13 45 21.4 -2.1**
comp=N,77nm,0.5s,SNR=11
ECAL Lg 13 45 50.9
comp=N,333nm,0.5s,SNR=4.7
ECAL Calabor 5.12 345 Pn **Pn** **13 44 26.6 +1.8**
comp=N,12nm,0.3s,SNR=9.3
ECAL Sn **Sn** **13 45 21.4 -2.1**
comp=N,77nm,0.5s,SNR=11
ELOB Lobios 5.42 335 ⇓Pn **Pn** **13 44 29.8 +0.9**
comp=N,12nm,0.4s,SNR=18
ELOB Sn **Sn** **13 45 29.1 -1.8**
comp=N,19nm,0.3s,SNR=6.4
ELOB Lg 13 46 01.4
comp=N,171nm,0.6s,SNR=5.1
ELOB Lobios 5.42 335 Pn **Pn** **13 44 29.8 +0.9**
comp=N,12nm,0.4s,SNR=18
ERUA La Rua 5.64 343 Pn **Pn** **13 44 32.9 +1.0**
comp=N,6.2nm,0.3s,SNR=8.7
ERUA Sn **Sn** **13 45 34.8 -1.5**
comp=N,107nm,0.6s,SNR=11
ERUA Lg 13 46 07.8
comp=N,44nm,0.4s,SNR=5.5
ERTA Horta de San J 5.70 45 Pn **Pn** **13 44 33.5 +0.8**
comp=N,6.3nm,0.4s,SNR=7.9
ERTA Pg **Pg** **13 44 54.4 -3.6**
comp=N,6.4nm,0.4s,SNR=5.7
ERTA Lg 13 46 07.5
comp=N,50nm,0.5s,SNR=7.9
ERTA Horta de San J 5.70 45 Pn **Pn** **13 44 33.5 +0.8**
comp=N,6.3nm,0.4s,SNR=7.9
EBR Ebro Roquetas 5.70 46 *e*PN **Pn** **13 44 33.5 +0.7**
EBR *e*Rs 13 46 12.0
ESAC San Caprasio 5.85 35 Pn **Pn** **13 44 36.9 +2.1**
comp=N,27nm,0.3s,SNR=5.9
ESAC Pg **Pg** **13 44 57.1 -3.7**
comp=N,22nm,0.3s,SNR=7.9
ESAC Sn **Sn** **13 45 38.7 -2.8**
comp=N,81nm,0.3s,SNR=4.7
ESAC Lg 13 46 15.3
comp=N,168nm,0.4s,SNR=7.9
ESAC San Caprasio 5.85 35 Pn **Pn** **13 44 36.9 +2.1**
comp=N,27nm,0.3s,SNR=5.9
EZAM Zamans 5.90 332 Pn **Pn** **13 44 36.8 +1.4**
comp=N,7.1nm,0.4s,SNR=5.4
EZAM Sn **Sn** **13 45 39.7 -2.9**
comp=N,15nm,0.4s,SNR=5.2
EZAM Lg 13 46 18.0
comp=N,68nm,0.5s,SNR=7.7
OUK Oukaimeden 6.27 204 P **Pn** **13 44 40.0 -0.5**
OUK S **Sn** **13 45 47.0 -4.8**
OUK Oukaimeden 6.27 204 *i* P **Pn** **13 44 40.0 -0.5**
CIA Chichaoua 6.28 211 P **Pn** **13 44 40.0 -0.7**
CIA S **Sn** **13 45 47.0 -5.0**
CIA Chichaoua 6.28 211 *i* P **Pn** **13 44 40.0 -0.7**
EARI Arriondas 6.29 358 Pn **Pn** **13 44 42.6 +1.7**
comp=N,10nm,0.6s,SNR=8.8
EARI Sn **Sn** **13 45 49.2 -3.1**
comp=N,15nm,0.6s,SNR=6.1
EARI Lg 13 46 30.2
comp=N,23nm,0.6s,SNR=5.6
EARI Arriondas 6.29 358 Pn **Pn** **13 44 42.6 +1.7**
comp=N,10nm,0.6s,SNR=8.8
EARA Aranguren 6.32 23 Pn **Pn** **13 44 43.2 +2.0**
comp=N,10nm,0.3s,SNR=4.8
EARA Lg 13 46 33.2
comp=N,32nm,0.4s,SNR=7.9
IUNC Unciti 6.33 24 Pn **Pn** **13 44 42.9 +1.6**
comp=N,14nm,0.5s,SNR=7.9
IUNC Lg 13 46 32.8
comp=N,10nm,0.3s,SNR=7.9
ELAN Lanestosa 6.33 10 Pn **Pn** **13 44 43.7 +2.3**
comp=N,9.4nm,0.5s,SNR=7.9
ELAN Pg **Pg** **13 45 05.2 +24**
comp=N,5.9nm,1.0s,SNR=7.9
ELAN Sn **Sn** **13 45 52.1 -1.2**
comp=N,31nm,0.9s,SNR=7.9
ELAN Lg 13 46 31.9
comp=N,16nm,0.3s,SNR=7.9
ELAN Lanestosa 6.33 10 Pn **Pn** **13 44 43.7 +2.4**
comp=N,9.4nm,0.5s,SNR=7.9
ELAN Lanestosa 6.33 10 Pg **Pn** **13 45 05.2 +24**
comp=N,5.9nm,1.0s,SNR=7.9
ELAN Sn **Sn** **13 45 52.1 -1.1**
comp=N,31nm,0.9s,SNR=7.9
EPOB Poblet 6.38 45 Pn **Pn** **13 44 43.2 +1.1**
comp=N,5.8nm,0.4s,SNR=6.4
EPOB Lg 13 46 33.7
comp=N,6.5nm,0.4s,SNR=7.4
EPOB Poblet 6.38 45 Pn **Pn** **13 44 43.2 +1.1**
comp=N,5.8nm,0.4s,SNR=6.4
IUSE Utxeti 6.48 23 Pn **Pn** **13 44 46.2 +2.7**
comp=N,4.7nm,0.6s,SNR=7.9
IUSE Lg 13 46 37.1
comp=N,3.9nm,0.2s,SNR=7.9
IUSE Utxeti 6.48 23 Pn **Pn** **13 44 46.2 +2.7**
comp=N,4.7nm,0.6s,SNR=7.9
STS Santiago 6.49 336 Pn **Pn** **13 44 44.3 +0.7**
comp=N,46nm,0.6s,SNR=7.1
STS Sn **Sn** **13 45 54.7 -2.6**
comp=N,54nm,0.7s,SNR=8.9
STS Lg 13 46 37.5
comp=N,4.0nm,0.2s,SNR=7.9
EPON Pontenova 6.54 346 Pn **Pn** **13 44 46.5 +2.2**
comp=N,8.7nm,0.3s,SNR=21
EPON Sn **Sn** **13 45 56.1 -2.3**
comp=N,3.6nm,1.0s,SNR=7.9
EPON Lg 13 46 39.6
comp=N,30nm,0.4s,SNR=7.9
EPON Pontenova 6.54 346 Pn **Pn** **13 44 46.5 +2.3**
comp=N,8.7nm,0.3s,SNR=21
EGRA Graus 6.59 36 Pn **Pn** **13 44 46.5 +1.6**
comp=N,3.6nm,0.3s,SNR=10
EGRA Pg Pn 13 45 12.7 +28
comp=N,15nm,0.5s,SNR=7.9
EGRA Lg 13 46 39.6
comp=N,13nm,0.4s,SNR=7.9
ELIZ Elizondo 6.69 22 Pn **Pn** **13 44 47.8 +1.5**
comp=N,27nm,1.2s,SNR=7.9
ELIZ Sn **Sn** **13 46 00.6 -1.5**
comp=N,23nm,1.4s,SNR=7.9
ELIZ Lg 13 46 41.8
comp=N,8.7nm,0.4s,SNR=7.9
ETOS Mallorca 6.69 63 Pn **Pn** **13 44 47.8 +1.5**
comp=N,18nm,0.8s,SNR=7.9
ETOS Mallorca 6.69 63 Pn **Pn** **13 44 47.8 +1.4**
comp=N,18nm,0.8s,SNR=7.9
EMAZ Mazaricos 6.69 334 Pn **Pn** **13 44 47.5 +1.1**
comp=N,75nm,0.7s,SNR=6.6
EMAZ Sn **Sn** **13 45 59.2 -3.0**
comp=N,9.1nm,0.3s,SNR=7.9
EMAZ Lg 13 46 41.7
comp=N,33nm,0.5s,SNR=7.9
EMAZ Mazaricos 6.69 334 Pn **Pn** **13 44 47.5 +1.1**
comp=N,75nm,0.7s,SNR=6.6
SJPF Ste Jean 6.74 24 *e*Pn **Pn** **13 44 48.5 +1.5**
SJPF *e*Sn **Sn** **13 46 01.2 -2.1**
SJPF *e*Sg Sn 13 46 44.6 +41
comp=N,55nm,0.6s
SJPF Ste Jean 6.74 24 *e*P **Pn** **13 44 48.5 +1.5**
SJPF *e* 13 46 01.2
EALK Alkurruntz 6.74 22 Pn **Pn** **13 44 49.1 +2.0**
comp=N,100nm,1.1s,SNR=7.9
EALK Sn **Sn** **13 46 01.8 -1.6**
comp=N,35nm,0.8s,SNR=7.9
EALK Lg 13 46 44.0
comp=N,55nm,0.4s,SNR=7.9
ETSF Etsaut 6.78 28 *e*Pn **Pn** **13 44 48.7 +1.1**
ETSF *e*Sn **Sn** **13 46 01.9 -2.5**
ETSF *e*Sg Sn 13 46 45.3 +41
comp=N,31nm,0.7s
ETSF Etsaut 6.78 28 *e*P **Pn** **13 44 48.7 +1.1**
ETSF *e* 13 46 01.9
EBIE Bielsa 6.89 33 Pn **Pn** **13 44 51.3 +2.1**
comp=N,15nm,0.4s,SNR=25
EBIE Sn **Sn** **13 46 04.9 -2.3**
comp=N,13nm,0.4s,SNR=12
EBIE Lg 13 46 48.0
comp=N,4.4nm,0.4s,SNR=5.6
EMIR Miracle 7.01 44 Pn **Pn** **13 44 51.3 +0.6**
comp=N,8.5nm,0.6s,SNR=6.0
EMIR Lg 13 46 54.1
comp=N,7.7nm,0.2s,SNR=7.9
EPF Esparros 7.26 32 *e*Pn **Pn** **13 44 55.0 +0.9**
EPF *e*Sn **Sn** **13 46 13.6 -2.5**
EPF *e*Sg Sn 13 47 00.1 +44
comp=N,44nm,0.7s
EPF Esparros 7.26 32 *e*P **Pn** **13 44 55.0 +0.9**
EPF *e* 13 46 13.6
EJON La Jonquera 8.12 46 Lg 13 47 27.6
comp=N,3.1nm,0.3s,SNR=7.9
MTLF Montolieu 8.37 39 *e*Pn **Pn** **13 45 09.8 +0.4**
MTLF *e*Sg Sn 13 47 35.0 +51
comp=N,8.2nm,0.5s
MTLF Montolieu 8.37 39 *e*Pn **Pn** **13 45 09.8 +0.4**
MTLF *e*Sg Sn 13 47 35.0 +51
comp=N,4.1nm,0.5s
LFF La Frestale 9.02 27 *e*Pn **Pn** **13 45 19.1 +0.9**
LFF *e*Sn **Sn** **13 46 56.0 -3.4**
comp=N,3.7nm,0.3s
LFF La Frestale 9.02 27 *e*Pn **Pn** **13 45 19.1 +0.9**
LFF *e*Sn **Sn** **13 46 56.0 -3.4**
comp=N,1.9nm,0.3s
CAF Calviac 9.52 32 *e*Pn **Pn** **13 45 25.8 +0.6**
RJF Les Rejaudoux 9.61 28 *e*Pn **Pn** **13 45 27.5 +1.0**
LASF Ste Croix 9.73 41 *e*Pn **Pn** **13 45 28.2 +0.1**
MFF Saint Martin d 10.23 19 *e*Pn **Pn** **13 45 35.5 +0.5**
TCF Toulx Ste Croi 10.71 28 *e*Pn **Pn** **13 45 41.6 +0.2**
QUIF Quistinic 10.98 6 *e*Pn **Pn** **13 45 44.7 -0.5**
QUIF *e*Sn **Sn** **13 47 42.7 -5.0**
comp=N,7.0nm,0.4s
QUIF Quistinic 10.98 6 *e*Pn **Pn** **13 45 44.7 -0.5**
QUIF *e*Sn **Sn** **13 47 42.7 -5.0**
comp=N,3.5nm,0.4s
BGF Bois d'Agland 11.17 29 *e*Pn **Pn** **13 45 48.0 +0.2**
BGF *e*Sn **Sn** **13 47 45.9 -6.4**
comp=N,6.6nm,0.5s
BGF Bois d'Agland 11.17 29 *e*Pn **Pn** **13 45 48.0 +0.2**
BGF *e*Sn **Sn** **13 47 45.9 -6.4**
comp=N,3.3nm,0.5s
SGMF Saint Gilles 11.38 8 *e*Pn **Pn** **13 45 50.1 -0.5**
SGMF *e*Sn **Sn** **13 47 51.5 -5.8**
comp=N,2.1nm,0.3s
SGMF Saint Gilles 11.38 8 *e*Pn **Pn** **13 45 50.1 -0.5**
SGMF *e*Sn **Sn** **13 47 51.5 -5.8**
comp=N,1.0nm,0.3s
ROSF Rostrenen 11.39 6 *e*Pn **Pn** **13 45 50.6 -0.2**
ROSF *e*Sn **Sn** **13 47 51.2 -6.4**
comp=N,2.9nm,0.3s
ROSF Rostrenen 11.39 6 *e*Pn **Pn** **13 45 50.6 -0.2**
ROSF *e*Sn **Sn** **13 47 51.2 -6.4**
comp=N,1.5nm,0.3s
AVF Avril sur Loir 11.56 30 *e*Pn **Pn** **13 45 52.0 -1.1**
SMF Signal de Mont 11.64 31 *e*Pn **Pn** **13 45 54.2 0.0**
HYF Humbligny 11.69 26 *e*Pn **Pn** **13 45 55.1 +0.2**
GRR Gorron 11.77 13 *e*Pn **Pn** **13 45 55.6 -0.3**
GRR *e*Sn **Sn** **13 48 01.4 -5.4**
comp=N,4.4nm,0.4s
GRR Gorron 11.77 13 *e*Pn **Pn** **13 45 55.6 -0.3**
GRR *e*Sn **Sn** **13 48 01.4 -5.4**
comp=N,2.2nm,0.4s
SSF Saint Saulge 11.84 29 *e*Pn **Pn** **13 45 56.9 -0.1**
PGF Pioggiola 12.07 58 *e*Pn **Pn** **13 46 00.1 0.0**
LDF La Druitiere 12.11 15 *e*Pn **Pn** **13 46 00.3 -0.3**
LDF *e*Sn **Sn** **13 48 09.2 -6.0**
comp=N,1.9nm,0.4s
LDF La Druitiere 12.11 15 *e*Pn **Pn** **13 46 00.3 -0.3**
LDF *e*Sn **Sn** **13 48 09.2 -6.0**
comp=N,0.9nm,0.4s
LOR Lormes 12.15 30 *e*Pn **Pn** **13 46 01.6 +0.4**
FLN La Foliniere 12.20 14 *e*Pn **Pn** **13 46 02.0 +0.2**
baz=192
KHC Kasperske Hory 18.11 42 *e*P **Pn** **13 47 22.0 +2.4**

NEIC ***11*** *13:51:31.7, 3786N×2101E, h5km, MD3.6(ATH), After ATH.*
CSEM ***11*** *13:51:31.7, 3786N×2101E, h5km, MD3.6/12, After ATH*
ATH 11 13:51:31.6, 3785N×2101E, h5km±4km, MD3.6/12, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.42**	**60**	*e*PB	Pg	13 51 39.7	+0.1
RLS				*e*SB	Sg	13 51 47.1	+2.0
VLS	**Valsamata**	**0.47**	**315**	*e*PG	Pg	13 51 40.4	-0.2
VLS				*e*SB	Sg	13 51 48.5	+1.9
ITM	**Ithomi**	**0.99**	**132**	*e*PG	Pg	13 51 50.4	-0.2
ITM				*e*SB	Sb	13 52 05.8	+1.2
EVR	**Evrytania**	**1.24**	**30**	*e*PG	Pg	13 51 54.8	-0.5
LKR	**Lokris**	**1.76**	**62**	*e*PG	Pg	13 52 03.8	-1.5
MGER	**Gerania Oros**	**1.79**	**85**	*e*PN	Pn	13 52 05.2	+2.1
VLI	**Veliai**	**1.91**	**126**	*e*PN	Pn	13 52 07.5	+2.7
KEK	**Kerkira**	**2.09**	**333**	*e*PG	Pg	13 52 10.8	-0.8
MPAR	**Parnis Oros**	**2.17**	**81**	*e*PN	Pn	13 52 10.7	+2.3
KYTH	**Kithira**	**2.25**	**133**	*e*PN	Pn	13 52 12.8	+3.3
NEO	**Neokhori**	**2.26**	**49**	*e*PN	Pn	13 52 12.0	+2.3
PTL	**Penteli**	**2.27**	**84**	*e*PN	Pn	13 52 12.5	+2.8

IDC ***11*** *13:52:28.8±4.3, 628S×1508.9E, h21km±26km, mb4.1/12, mb1 4.3/13, mb1mx4.3/15, mbtmp4.2/13, ML3.8/1, MS3.8/11, Ms1 3.8/11, ms1mx3.5/27, Error ellipse: s-maj=25.9km s-min=15.9km az=105.0*
NEIC ***11*** *13:52:29.7±0.5, 622S×1507.8E, mb4.6/14, Error ellipse: s-maj=16.6km s-min=9.6km az=115.0*
MOS ***11*** *13:52:30.0±1.5, 620S×1507.3E, h33km, mb4.5/7, Error ellipse: s-maj=19.8km s-min=9.8km az=68.8*
ISCJB ***11*** *13:52:31.7±2.6, 631S±008×1507E±0.1, h51km±23km, mb4.3/23, MS3.9/8, Error ellipse: s-maj=17.5km s-min=12.8km az=8.8*
ISC 11 13:52:31.5±4.7, 629S±007×1508.2E±009, h35km±33km, n54, σ1§36/48, mb4.3/23, MS3.9/8, 2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.77**	**229**	Pn	Pn	**13 53 41.3**	**+0.5**
	27nm,0.3s,baz=43,slow=6.9,SNR=90						
PMG				Sn	**Sn**	**13 54 35.3**	**+0.4**
	16nm,0.3s,baz=165,slow=20,SNR=7.0						
PMG				LR	LR	13 54 56.3	
	comp=Z,216nm,19.1s,baz=18,slow=30						
PMG	**Port Moresby**	**4.77**	**229**	*e*Pn	**Pn**	**13 53 41.8**	**+0.9**
HNR	**Honiara**	**9.56**	**110**	LR	LR	13 58 01.8	
	comp=Z,262nm,21.0s,baz=359,slow=35						
CTA	**Charters Tower**	**14.42**	**198**	*e*P	**Pn**	**13 56 02.4**	**+9.4**

14nm,0.8s
CTA Charters Tower 14.42 198 Pn **Pn 13 55 55.3 +2.3**
0.7nm,0.3s,baz=24,slow=11,SNR=3.7
CTA LR LR 14 00 56.4
comp=Z,260nm,21.1s,baz=356,slow=35
CTAO Charters Tower 14.42 198 *e*P **Pn 13 55 55.7 +2.7**
CTAO pmax pmax
comp=Z,24nm,0.9s
CTAO Charters Tower 14.42 198 *e*P **Pn 13 55 55.7 +2.7**
comp=Z,24nm,0.9s
CTAO *e*pP pP 13 56 02.1 -6.4
KAKA Kakadu 19.21 249 *e*P **Pn 13 56 50.5 -3.0**
comp=Z,12nm,0.5s
GUMO Guam 20.61 343 LR LR 14 03 02.1
comp=Z,253nm,20.5s,MS3.6,baz=82,slow=31
WRAB Tennant Creek 20.98 228 *e*P **P 13 57 11.2 -0.4**
WRAB pmax pmax
comp=Z,98nm,0.8s
WRAB Tennant Creek 20.98 228 *e*P **P 13 57 11.2 -0.4**
comp=Z,98nm,0.8s
WRAB *e*pP 13 57 17.9
WB2 Warramunga Arr 20.98 228 ⇓*i*P **P 13 57 11.1 -0.5**
WRA Warramunga Arr 20.99 228 P **P 13 57 11.1 -0.6**
comp=Z,22nm,0.6s,baz=50,slow=10,SNR=194
DZM Mont Dzumac 21.77 138 P **P 13 57 18.8 -1.3**
comp=Z,12nm,1.0s,mb4.3,baz=40,slow=14,SNR=3.2
ASAR Alice Springs 23.73 222 P **P 13 57 40.9 +0.4**
comp=Z,8.8nm,0.6s,mb4.4,baz=56,slow=8.9,SNR=127
ASAR ScP ScP 14 05 01.0 +1.9
comp=Z,1.5nm,0.9s,baz=43,slow=3.8,SNR=9.4
STKA Stephens Creek 26.88 198 ⇓*i*P **P 13 58 07.5 -1.4**
comp=Z,12nm,0.8s,mb4.5
STKA Stephens Creek 26.88 198 P **P 13 58 07.7 -1.3**
comp=Z,15nm,0.8s,mb4.6,baz=1.6,slow=8.6,SNR=32
FITZ Fitzroy Crossi 27.23 242 *e*P **P 13 58 10.7 -1.4**
comp=Z,14nm,0.6s,mb4.7
MBWA Marble Bar 33.53 241 *e*P **P 13 59 06.3 -1.5**
comp=Z,10.0nm,0.9s,mb4.8
CBIJ Chichi jima 34.22 346 LR LR 14 10 50.4
comp=Z,397nm,18.9s,MS4.2,baz=142,slow=32
KKM Kota Kinabalu 36.65 289 P **P 13 59 39.2 +4.6**
KKM *e*pP pP 13 59 45.5 +0.7
JOW Kunigami 39.51 327 LR LR 14 13 25.4
comp=Z,123nm,19.3s,MS3.8,baz=110,slow=32
NWAO Narrogin (SRO) 40.95 225 LR LR 14 16 13.0
comp=Z,150nm,19.5s,MS3.9,baz=162,slow=35
RPZ Rata Peaks 41.30 158 P **P 14 00 16.6 +3.0**
comp=Z,10nm,0.7s,mb4.6,baz=6.0,slow=19,SNR=3.8
YHNB Yeheng 42.06 318 P **P 14 00 22.3 +2.5**
MJAR Matsushiro Arr 44.22 345 P **P 14 00 36.9 -0.3**
comp=Z,1.2nm,0.8s,mb3.6,baz=187,slow=7.3,SNR=5.0
MJAR LR LR 14 16 04.6
comp=Z,172nm,18.4s,MS4.0,baz=280,slow=32
ASAJ Asahikawa 50.72 352 LR LR 14 21 33.7
comp=Z,56nm,19.7s,MS3.6,baz=173,slow=34
YSS Yuzh-Sakhalins 53.49 353 *i*P **P 14 01 51.9 +3.6**
HIA Hailar 61.61 337 *i*P **P 14 02 47.7 +2.2**
HIA Hailar 61.61 337 *e*P **P 14 02 47.1 +1.7**
comp=Z,8.7nm,0.6s,mb5.1
MA2 Magadan 65.65 360 *e*P **P 14 03 12.5 +0.4**
MA2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MA2 Magadan 65.65 360 *e*P **P 14 03 12.5 +0.4**
comp=Z,2.1nm,0.8s,mb4.2
CASY Casey 66.03 197 P **P 14 03 15.8 +1.3**
comp=Z,4.3nm,0.8s,mb4.5
SONM Songino Array 66.55 329 P **P 14 03 19.3 +1.4**
comp=Z,1.0nm,0.5s,mb4.1,baz=146,slow=4.5,SNR=4.1
ZAK Zakamensk 69.76 330 *e*P **P 14 03 46.3 +8.3**
ZAK pmax pmax
comp=Z,6.0nm,1.9s,mb4.2
VNDA Vanda 71.43 177 P **P 14 03 48.5 +0.4**
comp=Z,3.4nm,0.9s,mb4.2,baz=346,slow=3.4,SNR=8.4
VNDA Vanda 71.43 177 *e*P **P 14 03 50.0 +1.8**
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 71.43 177 *e*P **P 14 03 50.0 +1.8**
comp=Z,5.2nm,1.0s,mb4.4
BILL Bilibino 74.95 6 *e*P **P 14 04 09.3 +0.3**
BILL pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BILL Bilibino 74.95 6 *e*P **P 14 04 08.9 -0.1**
comp=Z,2.9nm,0.9s,mb4.2
MKAR Makanchi Array 80.16 320 P **P 14 04 36.7 -1.4**
comp=Z,0.2nm,0.4s,mb3.4,baz=180,slow=4.9,SNR=3.8
MKAR LR LR 14 39 16.0
comp=Z,52nm,19.6s,MS3.9,baz=190,slow=35
MKAR Makanchi Array 80.16 320 P **P 14 04 36.7 -1.4**
MKAR LR LR 14 39 16.0
ZAL Zalesovo 81.31 327 P **P 14 04 44.6 +0.4**
comp=Z,0.7nm,0.5s,mb3.8,baz=335,slow=12,SNR=4.4
MCK McKinley 82.99 23 P **P 14 04 51.6 -1.4**
MCK pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
MCK McKinley 82.99 23 P **P 14 04 51.6 -1.4**
comp=Z,4.7nm,1.1s,mb4.4
QSPA South Pole Qui 83.68 180 *e*P **P 14 04 57.7 +1.1**
comp=Z,12nm,1.2s,mb4.9
QSPA *e*pP pP 14 05 06.2 -1.5
AAK Ala-Archa 84.26 314 *e*P **P 14 05 00.2 +0.7**
AAK pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
AAK Ala-Archa 84.26 314 *e*P **P 14 05 00.2 +0.6**
comp=Z,0.8nm,0.6s,mb4.0
ILAR Eielson Array 84.27 22 P **P 14 04 57.2 -2.3**
comp=Z,0.8nm,0.7s,mb4.0,baz=254,slow=4.4,SNR=7.9
ZRNK Zerenda 90.06 323 P **P 14 05 26.3 -1.3**
ZRNK pmax pmax
comp=Z,1.0nm,1.0s,mb4.1
ZRNK Zerenda 90.06 323 P **P 14 05 26.3 -1.3**
comp=Z,1.5nm,1.0s,mb4.3
NVAR Mina Array Bea 94.55 52 P **P 14 05 49.2 +0.9**
comp=Z,0.6nm,0.7s,mb4.1,baz=258,slow=9.3,SNR=5.2
NVAR LR LR 14 40 15.8
comp=Z,132nm,21.4s,MS4.4,baz=270,slow=30
YKA Yellowknife Ar 97.65 28 P **P 14 06 00.5 -1.9**
comp=Z,0.5nm,0.9s,mb4.0,baz=264,slow=4.4,SNR=5.6
TORD Torodi Ar. Bea 148.84 285 PKPbc PKPbc 14 12 14.2 -1.1
comp=Z,4.0nm,0.7s,baz=73,slow=2.2,SNR=23

*ISCJB **11** 14:00:16.1±5.3, 68S×04×1509E±03, h55km±36km, mb4.0/3, Error ellipse: s-maj=72.9km s-min=39.9km az=125.8*
*IDC **11** 14:00:17.2±8.5, 6.15S×15031E, h75km±62km, mb3.7/3, mb1 3.9/4, mb1mx3.5/14, mbtmp4.0/4, ML2.5/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/24, Error ellipse: s-maj=70.0km s-min=52.5km az=102.0*
ISC 11 14:00:17.5±5.4, 69S±04×1510E±03, h51km±36km, n9, σ0°98/8, mb4.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.51**	**236**	P	**Pn**	**14 01 23.2**	**+0.1**
	1.5nm,0.3s,baz=239,slow=23,SNR=5.9						
PMG				S	**Sn**	**14 02 14.5**	**+0.3**
	3.3nm,0.3s,baz=95,slow=17,SNR=3.8						
WB2	**Warramunga Arr**	**20.68**	**230**	*e*P	**P**	**14 04 52.1**	**-1.0**
WRA	**Warramunga Arr**	**20.69**	**230**	P	**P**	**14 04 52.1**	**-1.1**
	3.5nm,0.6s,baz=51,slow=10,SNR=17						
ASAR	**Alice Springs**	**23.37**	**223**	P	**P**	**14 05 21.6**	**+0.1**
	1.6nm,0.5s,mb3.7,baz=54,slow=9.2,SNR=15						
ASPA	**Alice Springs**	**23.37**	**223**	*e*P	**P**	**14 05 21.6**	**0.0**
STKA	**Stephens Creek**	**26.35**	**198**	P	**P**	**14 05 49.3**	**+0.7**
	2.5nm,0.7s,mb3.9,baz=356,slow=12,SNR=5.0						
FITZ	**Fitzroy Crossi**	**27.06**	**243**	*e*P	**P**	**14 05 56.1**	**+1.0**
	4.1nm,0.4s,mb4.3						
RPZ	**Rata Peaks**	**40.70**	**158**	LR	LR	14 21 39.0	
	comp=Z,213nm,21.1s,baz=24,slow=31						
TORD	**Torodi Ar. Bea**	**149.11**	**284**	PKPbc	PKPdf	14 19 55.4	-0.4
	0.8nm,0.3s,baz=89,slow=2.7,SNR=5.2						

BJI 11 14:14:05.3, 2718N×10374E, h20km, ML3.2, Msz3.5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.71**	**105**	P	Pn	14 14 50.6	+2.9
GYA				SG	Sn	14 15 28.4	+8.5
GYA				Smax			
	comp=N,150nm,0.7s						
GYA				Smax			
	comp=E,60nm,0.7s						
CD2	**Chengdu**	**3.72**	**0**	PG	Pn	14 15 12.9	+11
CD2				SG	Sn	14 16 01.2	+16
CD2				Smax			
	comp=N,54nm,0.6s						
CD2				Smax			
	comp=E,68nm,0.7s						

IDC 11 14:20:58.9±6.2, 971N×9253E, h25km±6km, mb3.2/3, mb1 3.4/3, mb1mx3.1/21, mbtmp3.4/3, Error ellipse: s-maj=317.7km s-min=20.1km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.94**	**6**	*e*P	Pn	14 21 22.2	-8.0
PBA				*e*S	Sn	14 21 58.3	+4.6
PBA				*e*x	x	14 22 38.3	
	comp=N,223nm,1.0s						
PBA				*e*x	x	14 22 38.4	
	comp=E,217nm,1.0s						
MKAR	**Makanchi Array**	**37.97**	**349**	P	P	14 28 14.1	-0.4
	comp=E,0.4nm,0.9s,baz=187,slow=9.4,SNR=2.7						
MKAR				pP	pP	14 28 22.6	+0.5
	comp=E,0.6nm,0.7s,baz=173,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**50.62**	**126**	P	P	14 29 55.4	-0.3
	comp=E,0.2nm,0.7s,baz=306,slow=9.0,SNR=4.7						
WRA				pP	pP	14 30 03.2	-0.3
	comp=E,0.6nm,0.7s,baz=303,slow=8.9,SNR=4.3						
ASAR	**Alice Springs**	**52.30**	**130**	P	P	14 30 09.7	+1.4
	comp=E,0.6nm,0.8s,baz=315,slow=6.7,SNR=4.8						
ASAR				pP	pP	14 30 17.1	+0.9
	comp=E,1.2nm,0.9s,baz=291,slow=7.2,SNR=5.6						

IDC 11 14:37:15.4±3.5, 1753S×17499W, h229km±35km, mb3.2/4, mb1 3.4/5, mb1mx3.2/15, mbtmp3.8/5, Error ellipse: s-maj=157.4km s-min=25.5km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.75**	**41**	P	Pn	14 38 27.6	+0.2
	3.4nm,0.3s,baz=246,slow=23,SNR=9.1						
AFI				S	S	14 39 19.1	-5.4
	8.9nm,0.3s,baz=231,slow=23,SNR=9.2						
STKA	**Stephens Creek**	**41.67**	**242**	P	P	14 44 41.8	+0.3
	2.0nm,0.8s,baz=72,slow=6.4,SNR=5.4						
WRA	**Warramunga Arr**	**47.90**	**259**	P	P	14 45 30.5	-0.1
	0.5nm,0.7s,baz=97,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**48.02**	**254**	P	P	14 45 32.1	+0.6
	2.6nm,0.6s,baz=89,slow=8.3,SNR=55						
ILAR	**Eielson Array**	**84.83**	**12**	P	P	14 49 23.8	-0.4
	0.3nm,0.8s,baz=217,slow=5.1,SNR=5.6						

IDC 11 14:59:10.6±7.8, 862N×9180E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/40, Error ellipse: s-maj=382.5km s-min=27.4km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.15**	**17**	*e*P	Pn	15 00 03.0	+1.5
PBA				*e*S	Sn	15 00 24.6	-15
PBA				*e*x	x	15 00 45.2	
	comp=E,304nm,0.9s						
PBA				*e*x	x	15 00 46.0	
	comp=N,192nm,0.5s						
PSI	**Prapat**	**9.14**	**129**	LR	LR	15 04 33.9	
	comp=N,75nm,19.8s,baz=184,slow=35						
MKAR	**Makanchi Array**	**38.90**	**350**	P	P	15 06 37.8	0.0
	comp=N,0.5nm,0.7s,baz=177,slow=8.4,SNR=3.5						
WRA	**Warramunga Arr**	**50.58**	**125**	P	P	15 08 11.0	-0.1
	comp=N,0.9nm,0.7s,baz=303,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**52.17**	**129**	P	P	15 08 23.9	+0.9
	comp=N,0.9nm,0.8s,baz=304,slow=6.4,SNR=9.5						
FINES	**FINESS Array B**	**70.98**	**332**	LR	LR	15 41 42.8	
	comp=N,30nm,21.9s,baz=83,slow=36						

*NIED **11** 15:17:00, 2040N×12130E, h38km, Mw4.0 Best double couple: M0 1.23000×10^15 NP1:φs 45.00000°, δ 88.00000°, λ 135.00000°. NP2:φs 137.00000°, δ 45.00000°, λ 3.00000°.*
*BJI **11** 15:17:29.6, 1927N×12109E, h28km, mb3.9, ML3.7*
*IDC **11** 15:17:35.8±0.8, 2008N×12144E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.8/9, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/37, Error ellipse: s-maj=36.5km s-min=18.0km az=71.0*
*NEIC **11** 15:17:36.2±4.0, 2000N×12128E, h4km±26km, mb4.2/5, Error ellipse: s-maj=12.5km s-min=9.9km az=94.0*
*MAN **11** 15:17:39.6, 2006N×121.13E, h5km, mb3.5, ML4.6, MS6.8*
*ISCJB **11** 15:17:40.9±0.5, 2018N×003×12142E±008, h51km±7km, mb3.8/13, MS3.4/1, Error ellipse: s-maj=12.3km s-min=3.3km az=31.9*
*JMA **11** 15:17:43.5±0.2, 2036N×12134E, h112km, M3.8*
ISC 11 15:17:42.1±0.5, 2018N±003×12130E±007, h43km±7km, n40, σ1°14/53, mb3.8/13, MS3.4/1, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.96**	**199**	⇑*i*P	**Pn**	**15 18 18.1**	**+5.4**
PIP				*e*S	**Sn**	**15 18 33.1**	**-3.0**
SGCP	**Mt. Cagua**	**2.05**	**160**	*e*P	**Pn**	**15 18 14.2**	**+0.1**
APYP	**Conner**	**2.31**	**181**	*e*P	**Pn**	**15 18 17.3**	**-0.3**
APYP				*e*S	**Sn**	**15 18 46.0**	**+1.3**
CVP	**Callao Caves**	**2.51**	**169**	*e*P	**Pn**	**15 18 21.0**	**+0.6**
CVP				*e*S	**Sn**	**15 18 50.0**	**+0.2**
ABRA	**Dolores**	**2.58**	**193**	*e*P	**Pn**	**15 18 20.2**	**-1.2**
ABRA				*e*S	**Sn**	**15 18 50.7**	**-0.8**
CAUP	**Cauayan**	**3.26**	**171**	*e*P	**Pn**	**15 18 32.5**	**+1.9**
PALP	**Palanan**	**3.28**	**161**	*e*P	**Pn**	**15 18 31.4**	**+0.4**
BCPH	**Baguio City Da**	**3.84**	**190**	⇑*i*P	**Pn**	**15 18 39.2**	**+0.6**
NACB	**Ninganchiao**	**3.98**	**4**	*e*Pn	**Pn**	**15 18 40.4**	**-0.2**
BOLP	**Bolinao**	**4.00**	**199**	*e*P	**Pn**	**15 18 40.0**	**-0.8**
BALP	**Baler**	**4.42**	**177**	*e*P	**Pn**	**15 18 46.8**	**+0.1**
YHNB	**Yeheng**	**4.47**	**1**	*e*Pn	**Pn**	**15 18 47.1**	**-0.2**
YHNB				*e*Sn	**Sn**	**15 19 33.8**	**-4.2**
HATJ	**Hateruma jima**	**4.50**	**31**	P	**Pn**	**15 18 48.4**	**+0.7**
HATJ				*e*S	**Sn**	**15 19 37.8**	**-1.0**
YOJ	**Yonaguni jima**	**4.54**	**20**	P	**Pn**	**15 18 48.7**	**+0.4**
YOJ				*e*S	**Sn**	**15 19 39.6**	**-0.3**
SCZP	**Santa Cruz**	**4.58**	**197**	*e*P	**Pn**	**15 18 48.4**	**-0.4**
IRIF	**Iriomote-Funau**	**4.71**	**28**	P	**Pn**	**15 18 51.3**	**+0.8**
IRIF				*e*S	**Sn**	**15 19 43.7**	**-0.1**
JKRS	**Kuro-shima**	**4.75**	**31**	P	**Pn**	**15 18 51.9**	**+0.7**
JKRS				*e*S	**Sn**	**15 19 45.0**	**0.0**
TATO	**Taipei**	**4.78**	**2**	*e*Pn	**Pn**	**15 18 53.0**	**+1.5**
JIJ	**Ishigaki jima**	**4.92**	**32**	P	**Pn**	**15 18 54.1**	**+0.6**
JIJ				*e*S	**Sn**	**15 19 47.8**	**-1.4**
JTJ	**Tarama**	**5.44**	**35**	P	**Pn**	**15 19 01.3**	**+0.7**
JTJ				*e*S	**Sn**	**15 20 00.4**	**-1.5**
POLP	**Polillo Island**	**5.46**	**174**	*e*P	**Pn**	**15 19 02.8**	**+2.0**
JOGS	**Gusukube**	**5.93**	**39**	P	**Pn**	**15 19 07.8**	**+0.4**
JOGS				*e*S	**Sn**	**15 20 14.4**	**+0.4**
GZH	**Guangzhou**	**7.95**	**293**	P	**Pn**	**15 19 28.8**	**-6.2**
GZH				S	**Sn**	**15 20 52.9**	**-11**
GZH				Smax			
	comp=N,28nm,0.7s						
GZH				Smax			
	comp=E,30nm,0.8s						
JOW	**Kunigami**	**9.20**	**43**	Pn	**Pn**	**15 19 51.5**	**-0.8**
	comp=E,4.5nm,0.3s,baz=180,slow=15,SNR=12						
JOW				LR	LR	15 23 43.0	
	comp=E,83nm,20.3s,baz=133,slow=40						
QIZ	**Qiongzhong**	**10.86**	**266**	*e*Pn	**Pn**	**15 20 10.6**	**-4.4**
QIZ				*e*Sn	**Sn**	**15 21 57.8**	**-17**
ASAJ	**Asahikawa**	**29.74**	**32**	LR	LR	15 35 27.6	
	comp=E,79nm,19.3s,MS3.4,baz=70,slow=36						
ULN	**Ulaanbaatar**	**29.93**	**341**	P	**P**	**15 23 47.2**	**+1.2**
	comp=E,2.2nm,1.0s,mb3.8						
SONM	**Songino Array**	**30.12**	**340**	P	**P**	**15 23 49.3**	**+1.7**
	comp=E,0.5nm,0.5s,mb3.5,baz=161,slow=8.9,SNR=5.0						
MKAR	**Makanchi Array**	**41.35**	**319**	P	**P**	**15 25 25.3**	**+1.6**
	comp=E,0.3nm,0.3s,mb3.4,baz=119,slow=9.8,SNR=5.4						
WRAB	**Tennant Creek**	**41.86**	**161**	*e*P	**P**	**15 25 26.8**	**-1.1**
	comp=E,4.8nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**41.87**	**161**	P	**P**	**15 25 26.6**	**-1.3**
	comp=E,0.4nm,0.3s,mb3.5,baz=334,slow=11,SNR=20						
ASAR	**Alice Springs**	**45.28**	**164**	P	**P**	**15 25 54.5**	**-0.8**
	comp=E,0.5nm,0.3s,mb3.8,baz=340,slow=6.8,SNR=11						
BVAR	**Borovoye Array**	**50.87**	**323**	P	**P**	**15 26 39.5**	**+0.9**
	comp=E,0.3nm,0.6s,mb3.4,baz=120,slow=5.2,SNR=3.0						
ZRNK	**Zerenda**	**51.64**	**322**	P	**P**	**15 26 45.4**	**+1.0**
	comp=E,2.2nm,1.1s,mb4.0						
BILL	**Bilibino**	**55.41**	**19**	*e*P	**P**	**15 27 11.2**	**-0.8**
	comp=E,4.8nm,1.0s,mb4.5						
MCK	**McKinley**	**72.01**	**28**	P	**P**	**15 28 57.6**	**-3.7**
	comp=E,4.1nm,1.4s,mb4.2						
ILAR	**Eielson Array**	**72.72**	**27**	P	**P**	**15 29 05.5**	**-0.1**
	comp=E,0.2nm,0.5s,mb3.3,baz=278,slow=5.0,SNR=4.0						
FINES	**FINESS Array B**	**74.95**	**330**	P	**P**	**15 29 18.8**	**+0.2**
	comp=E,3.4nm,1.1s,mb4.2,baz=33,slow=5.3,SNR=2.4						
YKA	**Yellowknife Ar**	**86.60**	**23**	P	**P**	**15 30 20.1**	**-0.7**
	comp=E,0.2nm,0.5s,mb3.6,baz=313,slow=4.9,SNR=4.1						
YKA	**Yellowknife Ar**	**86.60**	**23**	P	**P**	**15 30 20.1**	**-0.7**

*ISCJB **11** 15:33:12.0±1.6, 3622N×009×705E±02, h100km, Error ellipse: s-maj=26.0km s-min=7.5km az=132.8*
*NNC **11** 15:33:22.6±3.0, 3735N×7000E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=32.8km s-min=19.0km az=123.0*
ISC 11 15:33:12.9±1.6, 3618N±009×705E±02, h100km, n15, σ0°95/17, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.46**	**22**	P	**Pn**	**15 34 45.0**	**-0.3**
	SNR=25						
UCH	**Uchtor**	**6.81**	**26**	P	**Pn**	**15 34 49.9**	**-0.3**
	SNR=5.8						
KK31	**Karatay Array**	**6.92**	**0**	⇑Pn	**Pn**	**15 34 51.4**	**-0.1**
	0.5nm,0.3s,baz=184,slow=13,SNR=45						
KK31				⇑Sn	**Sn**	**15 36 02.9**	**-5.8**
	0.6nm,0.3s,baz=188,slow=21,SNR=8.5						
EKS2	**Erkin-Say**	**6.97**	**21**	P	**Pn**	**15 34 52.9**	**+0.6**
	SNR=9.5						
KZA	**Kyzart**	**6.97**	**31**	P	**Pn**	**15 34 53.3**	**+1.0**
	SNR=6.2						
AAK	**Ala-Archa**	**7.17**	**25**	P	**Pn**	**15 34 54.7**	**-0.2**
	SNR=5.4						
USP	**Ospenovka**	**7.74**	**23**	P	**Pn**	**15 35 01.8**	**-0.9**
	SNR=7.4						
KOLN	**Koldanda**	**13.95**	**123**	*e*P	**Pn**	**15 36 21.9**	**-4.1**
GKN	**Gorkha**	**14.52**	**120**	*e*P	**Pn**	**15 36 32.9**	**-0.4**
DMN	**Daman**	**15.09**	**120**	*e*P	**Pn**	**15 36 39.1**	**-1.5**
KKN	**Kakani**	**15.10**	**119**	*e*P	**Pn**	**15 36 40.6**	**-0.1**
AB31	**Akbulak array**	**15.16**	**333**	⇓Pn	**Pn**	**15 36 41.7**	**+0.2**
	0.2nm,0.3s,baz=159,slow=11,SNR=17						
AB31				⇑Sn	**Sn**	**15 39 17.8**	**-11**
	0.2nm,0.3s,baz=165,slow=22,SNR=4.2						
PKI	**Pulchoki**	**15.32**	**120**	*e*P	**Pn**	**15 36 42.4**	**-1.1**
GUN	**Gumba**	**15.45**	**118**	*e*P	**Pn**	**15 36 47.1**	**+1.9**
JIRN	**Jiri**	**15.82**	**118**	*e*P	**Pn**	**15 36 51.5**	**+1.7**

*ISCJB **11** 15:39:21.9±0.7, 152S±01×1732W±0.1, h10km, mb4.2/8, MS3.9/3, Error ellipse: s-maj=18.5km s-min=12.3km az=122.5*
*NEIC **11** 15:39:23.7±0.7, 1514S×173.14W, h10km, mb4.7/2, Error ellipse: s-maj=19.0km s-min=13.3km az=150.0*
*IDC **11** 15:39:24.2±1.4, 1513S×17351W, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, MS3.7/5, Ms1 3.7/5, ms1mx3.4/29, Error ellipse: s-maj=50.8km s-min=24.0km az=120.0*
ISC 11 15:39:23.7±0.7, 1513S±01×17313W±010, h10km, n20, σ1°08/15, mb4.2/8, MS3.9/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.78**	**48**	Pn	**Pn**	**15 39 53.3**	**-1.1**
	144nm,0.3s,baz=159,slow=0.6,SNR=379						
AFI				Sn	**Sn**	**15 40 09.4**	**-7.7**
	2μm,0.3s,baz=92,slow=15,SNR=44						
AFI				LR	LR	15 40 30.8	
	comp=Z,878nm,19.4s,baz=3.6,slow=32						
AFI	**Afiamalu**	**1.78**	**48**	Pn	**Pn**	**15 39 53.4**	**-1.1**
AFI				*e*Sn	**Sn**	**15 40 08.1**	**-9.1**
AFI				Sn	**Sn**	**15 40 09.4**	**-7.7**
AFI				LR	LR	15 40 30.8	
RAR	**Rarotonga**	**14.06**	**117**	Pn	**Pn**	**15 42 43.1**	**+0.2**
	1.2nm,0.3s,baz=132,slow=15,SNR=3.6						
RAO	**Raoul Island**	**14.74**	**197**	LR	LR	15 46 53.8	
	comp=Z,178nm,18.5s,baz=90,slow=31						
URZ	**Urewera**	**24.61**	**199**	P	**P**	**15 44 45.4**	**+1.3**
	7.8nm,0.7s,mb4.3,baz=25,slow=4.9,SNR=8.6						
CTA	**Charters Tower**	**38.96**	**257**	LR	LR	16 00 37.0	
	comp=Z,56nm,19.4s,MS3.4,baz=44,slow=33						
TAU	**Tasmania Unive**	**43.70**	**223**	P	**P**	**15 47 27.7**	**-1.1**
	42nm,1.2s,mb5.0						
STKA	**Stephens Creek**	**44.40**	**240**	P	**P**	**15 47 32.4**	**-2.1**
	2.4nm,0.8s,mb4.0,baz=99,slow=6.8,SNR=5.9						
STKA	**Stephens Creek**	**44.40**	**240**	*e*P	**P**	**15 47 33.1**	**-1.4**
WRAB	**Tennant Creek**	**50.15**	**257**	P	**P**	**15 48 11.4**	**-7.8**
	4.0nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**50.16**	**257**	P	**P**	**15 48 18.9**	**-0.4**
	0.8nm,0.4s,mb4.1,baz=93,slow=6.7,SNR=34						
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**	**15 48 22.3**	**+0.8**
	1.3nm,0.3s,mb4.4,baz=88,slow=8.2,SNR=28						
NWAO	**Narrogin (SRO)**	**64.98**	**240**	LR	LR	16 13 17.3	
	comp=Z,129nm,21.6s,MS4.1,baz=220,slow=31						
MJAR	**Matsushiro Arr**	**68.89**	**320**	P	**P**	**15 50 29.3**	**+0.7**
	0.5nm,0.6s,mb3.6,baz=29,slow=14,SNR=4.1						
ILAR	**Eielson Array**	**82.12**	**11**	P	**P**	**15 51 46.0**	**+1.5**
	0.5nm,0.6s,mb3.6,baz=230,slow=6.5,SNR=13						
ULM	**Lac du Bonnet**	**93.55**	**39**	LR	LR	16 28 22.7	
	comp=Z,74nm,19.8s,MS4.2,baz=236,slow=31						
KHC	**Kasperske Hory**	**145.64**	**352**	*e*P	PKPdf	15 59 05.5	+3.2
KHC				*e*S	x	15 59 14.0	
GERES	**GERESS Array B**	**145.90**	**352**	PKPbc	PKPbc	15 59 04.4	+1.0
	0.8nm,0.9s,baz=305,slow=2.8,SNR=4.5						
BR131	**Keskin Array S**	**146.10**	**321**	*e*PKPdf	PKPbc	15 59 07.0	+3.1
BRTR	**Keskin Array B**	**146.10**	**321**	PKPbc	PKPbc	15 59 07.3	+3.4
	2.0nm,0.8s,baz=101,slow=2.5,SNR=9.3						

*IDC **11** 15:40:23.9±0.7, 673N×7681W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.2/20, mbtmp4.2/11, MS4.0/15, Ms1 4.0/15, ms1mx3.9/25, Error ellipse: s-maj=25.9km s-min=16.3km az=71.0*
*ISCJB **11** 15:40:29.5±0.9, 690N±006×7673W±007, h51km±10km, mb4.3/18, MS4.1/13, Error ellipse: s-maj=12.4km s-min=8.8km az=139.4*
*NEIC **11** 15:40:30.8±1.2, 686N×7667W, h45km±12km, mb4.6/12, Error ellipse: s-maj=13.8km s-min=9.8km az=69.0*
ISC 11 15:40:30.9±0.8, 692N±005×7667W±006, h41km±9km, n44, σ1°26/36, mb4.3/18, MS4.1/13, Northern Colombia

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

98nm,1.4s,mb5.5
BDFB Brasilia 36.17 128 P **P 15 47 27.8 -1.4**
1.7nm,0.3s,mb4.4,baz=306,slow=9.8,SNR=3.8
BDFB LR LR 16 03 02.9
comp=Z,1μm,19.5s,MS4.6,baz=306,slow=38
CPUP Villa Florida 38.01 151 P **P 15 47 40.0 -4.9**
1.2nm,0.7s,mb3.7,baz=278,slow=7.2,SNR=3.1
CPUP LR LR 16 03 55.8
comp=Z,258nm,18.5s,MS4.1,baz=322,slow=37
ANMO Albuquerque 39.10 320 P **P 15 47 51.4 -2.7**
CFAA Coronel Fontan 39.14 169 P **P 15 47 55.6 +1.2**
2.2nm,0.7s,mb4.0,baz=342,slow=7.5,SNR=36
PDAR Pinedale Array 45.98 326 P **P 15 48 49.8 -0.1**
0.6nm,1.0s,mb3.5,baz=134,slow=5.2,SNR=3.7
ULM Lac du Bonnet 46.08 343 LR LR 16 09 33.1
comp=Z,136nm,20.4s,MS3.9,baz=134,slow=38
TRQA Tornquist 46.79 164 *e*P **P 15 48 55.5 -0.8**
13nm,1.2s,mb4.7
PLCA Paso Flores 47.75 174 P **P 15 49 03.1 -0.6**
7.2nm,1.0s,mb4.6,baz=355,slow=8.7,SNR=8.6
PLCA LR LR 16 10 55.6
comp=Z,103nm,18.6s,MS3.8,baz=345,slow=38
PLCA Paso Flores 47.75 174 *e*P **P 15 49 04.7 +0.9**
23nm,1.4s,mb5.0
SCHQ Schefferville 48.43 8 P **P 15 49 09.8 +0.9**
5.4nm,1.0s,mb4.5,baz=257,slow=3.4,SNR=3.9
FCC Fort Churchill 53.43 349 *e*P **P 15 49 46.5 -0.1**
8.3nm,1.2s,mb4.5
YKA Yellowknife Ar 61.99 341 P **P 15 50 46.0 -0.7**
0.9nm,0.7s,mb4.0,baz=130,slow=7.0,SNR=23
YKA LR LR 16 19 47.6
comp=Z,99nm,20.7s,MS4.0,baz=95,slow=38
YKA Yellowknife Ar 61.99 341 P **P 15 50 46.0 -0.7**
YKA LR LR 16 19 47.6
RKT Rikitea 64.31 240 *e*LR LR 16 10 38.3
74nm,27.0s
BORG Borgarnes 69.50 22 LR LR 16 17 06.8
comp=Z,238nm,21.8s,MS4.4,baz=179,slow=32
DBIC Dimbokro 71.24 85 P **P 15 51 45.5 -0.2**
15nm,1.3s,mb4.8
INK Inuvik 71.77 341 *e*P **P 15 51 49.1 +0.3**
3.5nm,1.3s,mb4.1
ILAR Eielson Array 75.40 335 LR LR 16 25 06.3
comp=Z,73nm,18.0s,MS4.0,baz=3.9,slow=36
PPT Papeete 75.97 250 *e*LR LR 16 16 01.7
150nm,25.0s
PPT Papeete 75.97 250 LR LR 16 17 04.7
comp=Z,119nm,20.3s,MS4.2,baz=113,slow=29
TBI Tubuai 77.12 244 *e*LR LR 16 16 34.3
67nm,26.0s
TORD Torodi Ar. Bea 77.17 78 P **P 15 52 21.1 +0.9**
0.5nm,1.0s,mb3.4,baz=287,slow=2.4,SNR=3.2
NOA NORSAR Array B 82.97 29 LR LR 16 24 46.2
comp=Z,53nm,19.2s,MS3.9,baz=240,slow=32
GERES GERESS Array B 85.09 42 P **P 15 53 03.8 +1.4**
0.4nm,0.6s,mb3.7,baz=212,slow=18,SNR=3.0
GERES LR LR 16 25 01.6
comp=Z,70nm,18.8s,MS4.1,baz=288,slow=31
ARCES ARCESS Array B 87.80 20 LR LR 16 29 24.7
comp=Z,59nm,18.2s,MS4.0,baz=77,slow=33
FINES FINESS Array B 90.02 28 LR LR 16 29 21.8
comp=Z,100nm,18.3s,MS4.3,baz=102,slow=33
QSPA South Pole Qui 96.93 180 P **P 15 53 59.4 +1.5**
17nm,1.3s,mb5.3
ASAR Alice Springs 146.25 237 PKPbc PKPbc 16 00 06.7 -0.1
0.6nm,0.5s,baz=120,slow=3.3,SNR=13
WRA Warramunga Arr 147.25 244 PKPbc PKPbc 16 00 07.4 -2.3
0.5nm,0.4s,baz=105,slow=2.9,SNR=19

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*THE **11** 15:41:01.0, 4042N×2588E, h11km, ML3.8*
*SOF **11** 15:41:01.1, 4044N×2607E, h5km, MD2.9*
*ISK **11** 15:41:03.8, 4041N×2568E, h17km, MD3.3, ML3.4*
*ISCJB **11** 15:41:04.6±0.5, 4045N±002×2582E±002, h1km±4km, Error ellipse: s-maj=3.6km s-min=2.8km az=40.7*
*ATH **11** 15:41:05.4, 4043N×2583E, h29km±3km, MD3.6/5*
*NEIC **11** 15:41:05.4, 4043N×2583E, h29km, MD2.9(SOF), MD3.5(ATH), ML3.3(ISK), ML3.8(THE), After ATH.*
*CSEM **11** 15:41:05.3±0.1, 4046N×2588E, h10km, ML3.8, Error ellipse: s-maj=1.5km s-min=1.1km az=3.0*
ISC 11 15:41:05.6±0.4, 4044N±002×2584E±002, h7km±3km, n70, σ1§21/104, 3C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.48**	**19**	*e*Pg	**Pg**	**15 41 15.0**	**0.0**
	comp=Z,37nm,0.2s						
ALN				*e*Sg	**Sg**	**15 41 22.3**	**+1.1**
ALN	**Alexandroupoli**	**0.48**	**19**	P	**Pg**	**15 41 17.0**	**+2.1**
ALN				*e*Sg	**Sg**	**15 41 22.3**	**+1.1**
ALN				S	**Sg**	**15 41 30.0**	**+8.8**
ALN	**Alexandroupoli**	**0.48**	**19**	P	**Pg**	**15 41 17.0**	**+2.1**
ALN				S	**Sg**	**15 41 30.0**	**+8.7**
LPK	**Lapseki**	**0.71**	**95**	PG	**Pg**	**15 41 19.6**	**+0.4**
EZN	**Ezine**	**0.72**	**148**	PG	**Pg**	**15 41 18.7**	**-0.8**
EZN				SG	**Sg**	**15 41 30.3**	**+1.5**
LIA	**Limnos Island**	**0.74**	**223**	*e*PN	**Pg**	**15 41 19.1**	**-0.7**
LIA				*e*SN	**Sg**	**15 41 30.9**	**+1.5**
RDO	**Rodhopi**	**0.74**	**342**	⇑*i*PN	**Pg**	**15 41 19.6**	**-0.2**
RDO				*e*SN	**Sg**	**15 41 32.0**	**+2.6**
LOS	**Limnos**	**0.77**	**229**	*e*Pg	**Pg**	**15 41 20.4**	**0.0**
LOS				*e*Sg	**Sg**	**15 41 31.7**	**+1.4**
LOS	**Limnos**	**0.77**	**229**	P	**Pg**	**15 41 18.7**	**-1.7**
LOS	**Limnos**	**0.77**	**229**	*e*Pg	**Pg**	**15 41 20.4**	**0.0**
LOS				S	**Sg**	**15 41 31.5**	**+1.2**
LOS				*e*Sg	**Sg**	**15 41 31.7**	**+1.4**
LOS	**Limnos**	**0.77**	**229**	P	**Pg**	**15 41 18.7**	**-1.6**
LOS				S	**Sg**	**15 41 31.5**	**+1.2**
SART	**Tekirdag**	**1.05**	**76**	*i*P	**Pg**	**15 41 25.7**	**-0.1**
SART				*i*S	**Sg**	**15 41 41.7**	**+2.2**
MFT	**Murefte**	**1.15**	**72**	PN	**Pn**	**15 41 27.4**	**-0.7**
MFT				SN	**Sn**	**15 41 44.5**	**+0.4**
PRK	**Paraskevi**	**1.24**	**164**	*e*PN	**Pn**	**15 41 28.8**	**-0.5**
PRK				*e*SN	**Sn**	**15 41 45.2**	**-1.0**
KDZ	**Kurdzhali**	**1.25**	**345**	*i*Pg	**Pg**	**15 41 28.7**	**-0.8**
AYVA	**Ayvalik**	**1.31**	**150**	*i*P	**Pn**	**15 41 30.5**	**+0.3**
AYVA				*i*S	**Sb**	**15 41 49.0**	**+1.6**
MRMT	**Marmara Adasi**	**1.35**	**83**	*e*PN	**Pn**	**15 41 29.6**	**-1.2**
OUR	**Ouranopolis**	**1.42**	**266**	*e*Pb	**Pb**	**15 41 30.7**	**-1.7**
	comp=Z,25nm,0.2s						
OUR				*e*Sb	**Sb**	**15 41 51.4**	**+0.8**
OUR	**Ouranopolis**	**1.42**	**266**	P	**Pn**	**15 41 31.8**	**+0.1**
OUR				*e*Sb	**Sb**	**15 41 51.4**	**+0.8**
OUR				S	**Sb**	**15 41 55.5**	**+4.9**
OUR	**Ouranopolis**	**1.42**	**266**	P	**Pn**	**15 41 31.8**	**+0.1**
OUR				S	**Sb**	**15 41 55.5**	**+4.9**
RZN	**Rozhen**	**1.50**	**326**	*i*Pg	**Pg**	**15 41 32.5**	**-2.0**
EDRB	**Edirne**	**1.56**	**26**	*e*PN	**Pn**	**15 41 33.3**	**-0.4**
BNT	**Bandirma**	**1.59**	**92**	*e*PN	**Pn**	**15 41 33.7**	**-0.5**
DIM	**Dimitrovgrad**	**1.62**	**352**	*i*Pg	**Pg**	**15 41 35.5**	**-1.2**
PAIG	**Paliouri**	**1.73**	**253**	*e*Pb	**Pn**	**15 41 34.7**	**-1.3**
PAIG	**Paliouri**	**1.73**	**253**	S	**Sn**	**15 42 01.0**	**+2.7**
PAIG	**Paliouri**	**1.73**	**253**	P	**Pn**	**15 41 34.7**	**-1.3**
PAIG				S	**Sn**	**15 42 01.0**	**+2.7**
NVR	**Nevrokopi**	**1.75**	**302**	*e*PN	**Pn**	**15 41 35.9**	**-0.4**
BALB	**Balikesir**	**1.76**	**116**	*e*PN	**Pn**	**15 41 36.2**	**-0.3**
BTOK	**Tokmak**	**1.82**	**111**	*i*P	**Pn**	**15 41 40.2**	**+3.0**
BTOK				*i*S	**Sn**	**15 42 03.1**	**+2.7**
BTOK	**Tokmak**	**1.82**	**111**	*i*S	**Sn**	**15 42 03.1**	**+2.7**
PLG	**Polygyros**	**1.83**	**269**	*e*PN	**Pn**	**15 41 36.4**	**-0.9**
SRS	**Serrai**	**1.83**	**292**	*e*Pn	**Pn**	**15 41 36.8**	**-0.6**
SRS				*e*Sn	**Sn**	**15 42 01.5**	**+0.7**
SRS	**Serrai**	**1.83**	**292**	P	**Pn**	**15 41 39.4**	**+2.0**
SRS				*e*Sn	**Sn**	**15 42 01.5**	**+0.7**
SRS	**Serrai**	**1.83**	**292**	P	**Pn**	**15 41 39.4**	**+2.0**
SRS				S	**Sn**	**15 42 08.6**	**+7.7**
PLD	**Plovdiv**	**1.87**	**333**	*i*Pg	**Pg**	**15 41 40.0**	**-1.4**
SOH	**Sokhos**	**1.93**	**282**	*e*Pn	**Pn**	**15 41 38.2**	**-0.5**
SOH				*e*Sn	**Sn**	**15 42 03.6**	**+0.5**
SOH	**Sokhos**	**1.93**	**282**	P	**Pn**	**15 41 40.0**	**+1.3**
SOH				*e*Sn	**Sn**	**15 42 03.6**	**+0.4**
SOH	**Sokhos**	**1.93**	**282**	P	**Pn**	**15 41 40.0**	**+1.3**
SOH				S	**Sn**	**15 42 10.3**	**+7.1**
MMB	**Musomiste**	**1.96**	**306**	*i*P	**Pn**	**15 41 37.5**	**-1.7**
CTT	**Catalca**	**2.09**	**69**	*e*PN	**Pn**	**15 41 39.9**	**-1.1**
ELBA	**Catalca**	**2.09**	**69**	*i*P	**Pn**	**15 41 45.3**	**+4.3**
ELBA				*i*S	**Sn**	**15 42 12.6**	**+5.3**
JMB	**Yambol**	**2.10**	**15**	*i*Pg	**Pg**	**15 41 41.0**	**-4.8**
AKS	**Akhisar**	**2.18**	**135**	*e*PN	**Pn**	**15 41 40.8**	**-1.4**
IZM	**Izmir**	**2.32**	**151**	*e*PN	**Pn**	**15 41 42.4**	**-1.7**
KNT	**Kendrikon**	**2.34**	**289**	*e*Pn	**Pn**	**15 41 44.5**	**0.0**
KNT				*e*Sn	**Sn**	**15 42 12.7**	**-0.7**
KNT	**Kendrikon**	**2.34**	**289**	P	**Pn**	**15 41 46.2**	**+1.8**
KNT				*e*Sn	**Sn**	**15 42 12.7**	**-0.7**
KNT	**Kendrikon**	**2.34**	**289**	P	**Pn**	**15 41 46.2**	**+1.8**
KNT				S	**Sg**	**15 42 21.6**	**+0.7**
ORLT	**Orhaneli**	**2.38**	**99**	*e*PN	**Pn**	**15 41 45.1**	**+0.2**
PGB	**Panagyurishte**	**2.45**	**330**	*i*P	**Pn**	**15 41 49.8**	**+3.9**
KKB	**Krupnik**	**2.52**	**305**	*i*P	**Pn**	**15 41 46.8**	**-0.1**
ISK	**Istanbul-Kandi**	**2.53**	**75**	*e*PN	**Pn**	**15 41 47.4**	**+0.4**
GRG	**Griva**	**2.66**	**282**	*e*Pn	**Pn**	**15 41 48.8**	**0.0**
GRG				*e*Sn	**Sn**	**15 42 21.9**	**+0.6**
GRG	**Griva**	**2.66**	**282**	P	**Pn**	**15 41 49.7**	**+0.9**
GRG	**Griva**	**2.66**	**282**	P	**Pn**	**15 41 49.7**	**+0.8**
GRG				S	**Sn**	**15 42 28.6**	**+7.3**
MANT	**Manisa**	**2.87**	**132**	*i*P	**Pg**	**15 42 00.1**	**-0.4**
MANT				*i*S	**Sg**	**15 42 35.6**	**-2.2**
VTS	**Vitosha**	**2.92**	**318**	*i*P	**Pn**	**15 41 53.0**	**+0.7**
VTS	**Vitosha**	**2.92**	**318**	*e*Pn	**Pn**	**15 41 52.9**	**+0.5**
VTS	**Vitosha**	**2.92**	**318**	*e*Pn	**Pn**	**15 41 52.8**	**+0.5**
VTS	**Vitosha**	**2.92**	**318**	*i*P	**Pn**	**15 41 53.0**	**+0.7**
AGG	**Agios Georgios**	**3.05**	**243**	*e*Pn	**Pn**	**15 41 53.7**	**-0.4**
AGG	**Agios Georgios**	**3.05**	**243**	P	**Pn**	**15 41 51.1**	**-3.1**
AGG	**Agios Georgios**	**3.05**	**243**	*e*Pn	**Pn**	**15 41 53.7**	**-0.5**
AGG	**Agios Georgios**	**3.05**	**243**	P	**Pn**	**15 41 51.1**	**-3.1**
ALT	**Altintas**	**3.58**	**111**	*e*PN	**Pn**	**15 42 02.1**	**+0.7**
YER	**Yerkesik**	**3.82**	**149**	*e*PN	**Pn**	**15 42 04.8**	**+0.1**
MLR	**Muntele Rosu**	**5.05**	**1**	⇑P	**Pn**	**15 42 25.8**	**+4.2**
VRI	**Vrincioaia**	**5.46**	**7**	⇓P	**Pn**	**15 42 31.5**	**+4.2**
BZS	**Buzias**	**6.03**	**331**	⇑P	**Pn**	**15 42 35.3**	**+0.2**
DRGR		**6.74**	**341**	⇓P	**Pn**	**15 42 55.9**	**+11**

JMA 11 15:47:51.7±0.8, 4446N×14891E, h30km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.54**	**246**	*e*S	Sn	15 48 59.0	-1.7
JRA	**Rausu**	**2.77**	**260**	P	Pn	15 48 35.6	+1.5
JRA				*e*S	Sn	15 49 08.1	+1.6
JNK	**Nakash**	**3.15**	**255**	P	Pn	15 48 40.2	+1.0
JNK				*e*S	Sn	15 49 15.9	+0.2
JAK	**Akkeshi**	**3.39**	**246**	P	Pn	15 48 41.9	-0.6
JTKR	**Abashiri--Toko**	**3.63**	**264**	P	Pn	15 48 47.4	+1.6
JAR	**Ashorobuto**	**3.89**	**254**	P	Pn	15 48 50.8	+1.3
JMP	**Maruseppu**	**4.01**	**265**	P	Pn	15 48 53.3	+2.2
JCH	**Churui**	**4.43**	**247**	P	Pn	15 48 57.1	+0.2
JFR	**Furan**	**4.75**	**256**	P	Pn	15 49 04.1	+2.9
JEM	**Erimo**	**4.86**	**242**	P	Pn	15 49 03.9	+1.1
JNBK	**Urakawa-nobuka**	**4.99**	**246**	P	Pn	15 49 04.8	+0.3
JBT2	**Biratori 2**	**5.04**	**253**	P	Pn	15 49 06.6	+1.4
JNB	**Noboribetsu**	**6.06**	**254**	P	Pn	15 49 20.4	+1.1
JKB	**Kayabe**	**6.31**	**249**	P	Pn	15 49 22.7	+0.1
JYM2	**Yakumo 2**	**6.66**	**252**	P	Pn	15 49 29.0	+1.6
JANG	**Nango**	**6.83**	**236**	P	Pn	15 49 27.2	-2.6
JTM	**Tenmabayashi**	**6.85**	**240**	P	Pn	15 49 29.3	-0.8
JTH	**Tanohata**	**6.91**	**232**	P	Pn	15 49 27.9	-3.0
JTH				*e*S	Sn	15 50 37.0	-12
OFUJ	**Ofunato**	**7.62**	**228**	P	Pn	15 49 37.6	-3.1
OFUJ				*e*S	Sn	15 50 54.0	-12
JIO	**Ouri**	**8.26**	**226**	P	Pn	15 49 45.6	-3.8
JIO				*e*S	Sn	15 51 08.3	-13

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*ISCJB **11** 16:15:07.8±0.3, 3705N±002×497W±002, h13km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=6.8*
*IGIL **11** 16:15:09.5±33.0, 3700N×490W, h11km, ML3.5*
*MDD **11** 16:15:09.7±0.2, 3692N×493W, h10km, mbLg3.3/36, Error ellipse: s-maj=1.9km s-min=1.6km az=1.0, PRXIMO MDD EMS: II ARDALES.*
*INMG **11** 16:15:09.1±1.1, 3694N×499W, h3km±3km, ML3.3, Error ellipse: s-maj=2.1km s-min=1.3km az=17.0*
*LDG **11** 16:15:09.8±0.1, 3689N×496W, h10km, Ml3.6/5, Error ellipse: s-maj=3.0km s-min=2.0km az=5.0*
*SFS **11** 16:15:09.0, 3690N×490W, h0km, ML3.2*
*NEIC **11** 16:15:09.7, 3691N×493W, h2km, ML3.5(SFS), MN3.3(MDD), After MDD.*
NEIC Felt [II] at Ardales, Canete la Real and Ronda, Spain.
*CSEM **11** 16:15:10.0±0.1, 3685N×496W, h20km, ML3.7/21, Error ellipse: s-maj=2.0km s-min=1.2km az=11.0*
*CNRM **11** 16:15:12.5, 3693N×491W, h30km, MD3.7*
ISC 11 16:15:09.0±0.3, 3703N±002×497W±002, h12km±2km, n130, σ1§21/241, 15C-4D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.37**	**251**	*i*P	**Pg**	**16 15 17.5**	**+1.1**
EMIJ	**Mijas**	**0.49**	**161**	⇑Pg	**Pg**	**16 15 16.4**	**-2.1**
	194nm,0.3s,SNR=18						
EMIJ				Lg		16 15 22.3	
	3μm,0.4s,SNR=5.0						
EMAL	**Malaga-Limoner**	**0.51**	**122**	⇑Pg	**Pg**	**16 15 17.3**	**-1.6**
	67nm,0.2s,SNR=18						
EMAL				Lg		16 15 22.6	
	174nm,0.3s,SNR=7.9						
MAL	**Malaga**	**0.54**	**124**	*e*P	**Pg**	**16 15 17.1**	**-2.3**
REAL	**Reales**	**0.58**	**200**	⇑P	**Pg**	**16 15 19.6**	**-0.6**
REAL				S	**Sg**	**16 15 27.1**	**-0.7**
REAL	**Reales**	**0.58**	**200**	*i*P	**Pg**	**16 15 19.6**	**-0.6**
REAL				*e*S	**Sg**	**16 15 27.1**	**-0.7**
ELOJ	**Sierra Loja**	**0.66**	**79**	⇑Pg	**Pg**	**16 15 22.1**	**+0.3**
	103nm,0.5s,SNR=18						
ELOJ				Lg		16 15 31.1	
	203nm,0.2s,SNR=5.0						
EJIF	**Jimena Fronter**	**0.70**	**215**	⇑Pg	**Pg**	**16 15 22.0**	**-0.6**
	39nm,0.3s,SNR=18						
EJIF				Lg		16 15 30.8	
	268nm,0.3s,SNR=7.9						
ESPR	**Espera**	**0.73**	**258**	⇓Pg	**Pg**	**16 15 24.2**	**+1.1**
	196nm,0.3s,SNR=18						
ESPR				Lg		16 15 32.3	
	443nm,0.3s,SNR=7.9						
ESPR	**Espera**	**0.73**	**258**	Pg	**Pg**	**16 15 24.2**	**+1.1**
	196nm,0.3s,SNR=18						
ELUQ	**Luque**	**0.77**	**46**	⇑Pg	**Pg**	**16 15 25.3**	**+1.4**
	72nm,0.2s,SNR=18						
ELUQ				Lg		16 15 36.4	
	249nm,0.2s,SNR=13						
GIBL	**Gibalbin**	**0.83**	**257**	*e*P	**Pg**	**16 15 22.3**	**-2.7**
GIBL				*e*S	**Sg**	**16 15 38.4**	**+2.6**
MOMI	**Momias**	**0.92**	**221**	*e*P	**Pg**	**16 15 29.1**	**+2.3**
ERON	**Agron**	**0.93**	**90**	⇑Pg	**Pg**	**16 15 26.5**	**-0.4**
	38nm,0.4s,SNR=18						
ERON				Lg		16 15 38.4	
	116nm,0.4s,SNR=14						
SCRT	**Cerro San Cris**	**1.05**	**248**	*e*P	**Pb**	**16 15 31.5**	**+2.5**
SCRT				*e*S	**Sb**	**16 15 46.6**	**+3.9**
ECAB	**El Cabril**	**1.11**	**341**	⇑Pg	**Pg**	**16 15 30.4**	**+0.2**
	83nm,0.2s,SNR=18						
ECAB				Lg		16 15 47.4	
	188nm,0.2s,SNR=22						
EGUA	**Guajares**	**1.14**	**99**	Pg	**Pg**	**16 15 29.9**	**-1.0**
	7.8nm,0.3s,SNR=7.9						
EGUA				Lg		16 15 45.6	
	32nm,0.3s,SNR=7.9						
SFS	**San Fernando**	**1.14**	**241**	*e*P	**Pb**	**16 15 32.3**	**+1.6**
ECOG	**Cogollos-Vega**	**1.15**	**77**	⇑Pg	**Pg**	**16 15 31.5**	**+0.5**
	84nm,0.2s,SNR=18						
ECOG				Lg		16 15 47.8	
	183nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**1.18**	**15**	⇑Pg	**Pg**	**16 15 32.0**	**+0.3**
	130nm,0.3s,SNR=18						
EADA				Lg		16 15 49.7	
	305nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**1.18**	**15**	Pg	**Pg**	**16 15 32.0**	**+0.4**
	130nm,0.3s,SNR=18						
EQUE	**Quentar**	**1.23**	**81**	⇓Pg	**Pg**	**16 15 32.7**	**0.0**
	93nm,0.3s,SNR=18						
EQUE				Lg		16 15 51.0	
	185nm,0.4s,SNR=9.3						
EBAN	**Banos Encina**	**1.47**	**39**	⇑Pn	**Pn**	**16 15 36.1**	**+0.7**
	17nm,0.2s,SNR=18						
EBAN				Sn	**Sn**	**16 15 55.5**	**+1.0**
	395nm,0.4s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.55**	**299**	⇑Pn	**Pn**	**16 15 36.3**	**-0.1**
	18nm,0.2s,SNR=18						
EMIN				Pg	**Pg**	**16 15 39.1**	**+0.5**
	65nm,0.2s,SNR=7.9						
EMIN				Lg		16 15 59.2	
	260nm,0.4s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.55**	**299**	Pn	**Pn**	**16 15 36.3**	**-0.1**
	18nm,0.2s,SNR=18						
EMIN	**Mina Concepcio**	**1.55**	**299**	Pg	**Pg**	**16 15 39.1**	**+0.4**
	65nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.67**	**94**	Pn	**Pn**	**16 15 38.4**	**+0.4**
	2.0nm,0.3s,SNR=77						
EBER				Pg	**Pg**	**16 15 41.3**	**+0.3**
	98nm,0.4s,SNR=12						
EBER				Lg		16 16 03.0	
	216nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.67**	**94**	Pn	**Pn**	**16 15 38.4**	**+0.4**
	2.0nm,0.3s,SNR=77						
EBER	**Berja**	**1.67**	**94**	Pg	**Pg**	**16 15 41.3**	**+0.3**
	98nm,0.4s,SNR=12						
EQES	**Quesada**	**1.69**	**62**	Pn	**Pn**	**16 15 39.8**	**+1.4**
	9.7nm,0.2s,SNR=40						
EQES				Pg	**Pg**	**16 15 42.2**	**+0.7**
	74nm,0.3s,SNR=7.9						
EQES				Sn	**Sn**	**16 16 00.1**	**0.0**
	44nm,0.3s,SNR=13						
EQES				Lg		16 16 05.1	
	712nm,0.5s,SNR=5.0						
EQES	**Quesada**	**1.69**	**62**	Pn	**Pn**	**16 15 39.8**	**+1.4**
	9.7nm,0.2s,SNR=40						
EQES	**Quesada**	**1.69**	**62**	Pg	**Pg**	**16 15 42.2**	**+0.7**
	74nm,0.3s,SNR=7.9						
EQES				Sn	**Sn**	**16 16 00.1**	**+0.1**
	44nm,0.3s,SNR=13						
ERIP	**Rio Piedras**	**1.86**	**281**	⇓Pn	**Pn**	**16 15 40.4**	**-0.3**
	6.8nm,0.1s,SNR=18						
ERIP				Pg	**Pg**	**16 15 45.1**	**+0.4**
	27nm,0.1s,SNR=7.9						
ERIP				Sn	**Sn**	**16 16 04.7**	**+0.6**
	107nm,0.4s,SNR=7.9						
ERIP				Lg		16 16 08.6	
	156nm,0.2s,SNR=7.9						
ERIP	**Rio Piedras**	**1.86**	**281**	Pg	**Pg**	**16 15 45.1**	**+0.4**
	27nm,0.1s,SNR=7.9						
ERIP				Sn	**Sn**	**16 16 04.7**	**+0.6**
	107nm,0.4s,SNR=7.9						
MPAL	**Palemas**	**1.98**	**155**	*i*P	**Pn**	**16 15 40.0**	**-2.3**
MPAL				*e*S	**Sn**	**16 16 02.5**	**-4.6**
EGRO	**El Granado**	**2.07**	**285**	⇑Pn	**Pn**	**16 15 43.4**	**-0.2**
	12nm,0.1s,SNR=18						
EGRO				Pg	**Pg**	**16 15 47.8**	**-0.9**
	43nm,0.3s,SNR=15						
EGRO				Sn	**Sn**	**16 16 08.8**	**-0.5**
	31nm,0.2s,SNR=7.9						
EGRO				Lg		16 16 15.0	
	246nm,0.3s,SNR=9.1						
EGRO	**El Granado**	**2.07**	**285**	Pn	**Pn**	**16 15 43.4**	**-0.2**
	12nm,0.1s,SNR=18						
EGRO	**El Granado**	**2.07**	**285**	Pg	**Pg**	**16 15 47.8**	**-0.9**
	43nm,0.3s,SNR=15						
EGRO				Sn	**Sn**	**16 16 08.8**	**-0.5**
	31nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.21**	**91**	Pn	**Pn**	**16 15 46.1**	**+0.7**
	6.1nm,0.3s,SNR=7.9						
ENIJ				Pg	**Pg**	**16 15 49.5**	**-1.9**
	28nm,0.4s,SNR=7.9						
ENIJ				Lg		16 16 20.1	
	29nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.21**	**91**	Pg	**Pg**	**16 15 49.5**	**-1.8**
	28nm,0.4s,SNR=7.9						
TOU	**Touzarine**	**2.28**	**154**	*e*P	**Pn**	**16 15 46.0**	**-0.5**
TOU				*e*S	**Sn**	**16 16 10.5**	**-4.0**
EBAD	**Badajoz**	**2.37**	**317**	⇑Pn	**Pn**	**16 15 47.9**	**+0.3**
	17nm,0.1s,SNR=18						
EBAD				Pg	**Pg**	**16 15 54.5**	**+0.2**
	26nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**16 16 16.8**	**+0.2**
	64nm,0.2s,SNR=7.9						
EBAD				Lg		16 16 25.3	
	156nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**2.37**	**317**	Pn	**Pn**	**16 15 47.9**	**+0.3**
	17nm,0.1s,SNR=18						
EBAD	**Badajoz**	**2.37**	**317**	Pg	**Pg**	**16 15 54.5**	**+0.2**
	26nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**16 16 16.8**	**+0.2**
	64nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**2.51**	**294**	*e*Pn	**Pn**	**16 15 49.9**	**+0.3**
PBEJ				*e*Sn	**Sn**	**16 16 21.2**	**+1.0**
PBEJ				*e*Sg	**Sg**	**16 16 29.2**	**-0.5**
PBEJ							
	100nm,0.6s						
PBEJ	**Beja**	**2.51**	**294**	*e*Pn	**Pn**	**16 15 49.9**	**+0.3**
PBEJ				*e*Sn	**Sn**	**16 16 21.2**	**+1.0**
PBEJ				*e*Sg	**Sg**	**16 16 29.2**	**-0.5**
	100nm,0.6s						
ZAI	**Zaio**	**2.73**	**138**	*e*P	**Pn**	**16 15 52.0**	**-0.6**
ZAI				*e*S	**Sn**	**16 16 21.5**	**-4.1**
ESDC	**Sonseca Array**	**2.76**	**16**	⇑Pn	**Pn**	**16 15 54.4**	**+1.4**
	18nm,0.2s,baz=196,slow=12,SNR=18						
ESDC				Pg	**Pg**	**16 16 01.7**	**-0.2**
	23nm,0.2s,baz=198,slow=17,SNR=45						
ESDC				Sn	**Sn**	**16 16 26.6**	**+0.3**
	13nm,0.2s,baz=198,slow=21,SNR=7.9						
ESDC				Lg		16 16 36.8	
	96nm,0.3s,baz=194,slow=28,SNR=7.9		

ALMR				*e*S	**Sn**	**16 16 43.3**	**-2.6**
GUD	**Guadarrama**	**3.67**	**10**	⇓Pn	**Pn**	**16 16 07.2**	**+1.7**
comp=E,6.8nm,0.2s,SNR=18							
GUD				Pg	**Pg**	**16 16 19.5**	**+0.3**
comp=E,6.3nm,0.3s,SNR=7.9							
GUD				Sn	**Sn**	**16 16 50.2**	**+1.6**
comp=E,14nm,0.4s,SNR=7.9							
GUD				Lg		16 17 07.7	
comp=E,45nm,0.4s,SNR=5.0							
GUD	**Guadarrama**	**3.67**	**10**	Pg	**Pg**	**16 16 19.5**	**+0.3**
comp=E,6.3nm,0.3s,SNR=7.9							
GUD				Sn	**Sn**	**16 16 50.2**	**+1.6**
comp=E,14nm,0.4s,SNR=7.9							
LIS	**Lisbon**	**3.71**	**298**	*e*P	**Pn**	**16 16 05.9**	**-0.2**
LIS				*e*S	**Sn**	**16 16 47.0**	**-2.9**
LIS				*e*S	**Sn**	**16 16 47.0**	**-2.9**
LIS				AML	AML	16 16 53.8	
comp=N,194nm,0.4s							
LIS	**Lisbon**	**3.71**	**298**	*e*P	**Pn**	**16 16 05.9**	**-0.3**
LIS				*e*S	**Sn**	**16 16 47.0**	**-2.9**
PTOM	**Tomar**	**3.75**	**315**	*e*Pn	**Pn**	**16 16 07.0**	**+0.4**
PTOM				*e*Sn	**Sn**	**16 16 50.0**	**-0.6**
PTOM				*e*Sg	**Sg**	**16 17 08.5**	**-0.8**
PTOM							
comp=N,97nm,0.5s							
PTOM	**Tomar**	**3.75**	**315**	*e*Pn	**Pn**	**16 16 07.0**	**+0.4**
PTOM				*e*Sn	**Sn**	**16 16 50.0**	**-0.6**
PTOM				*e*Sg	**Sg**	**16 17 08.5**	**-0.8**
comp=N,97nm,0.5s							
PLOU	**Loures**	**3.79**	**301**	*e*Pn	**Pn**	**16 16 08.1**	**+0.9**
PLOU				*e*Sn	**Sn**	**16 16 52.0**	**+0.2**
PLOU				*e*Sg	**Sg**	**16 17 10.1**	**-0.7**
PLOU							
comp=N,80nm,0.5s							
PLOU	**Loures**	**3.79**	**301**	*e*Pn	**Pn**	**16 16 08.1**	**+0.9**
PLOU				*e*Sn	**Sn**	**16 16 52.0**	**+0.2**
PLOU				*e*Sg	**Sg**	**16 17 10.1**	**-0.7**
comp=N,80nm,0.5s							
MTE	**Manteigas**	**3.92**	**330**	*e*Pn	**Pn**	**16 16 10.4**	**+1.3**
MTE				*e*Sn	**Sn**	**16 16 55.4**	**+0.3**
MTE				*e*Sg	**Sg**	**16 17 13.8**	**-1.2**
MTE							
comp=N,110nm,0.7s							
MTE	**Manteigas**	**3.92**	**330**	Pn	**Pn**	**16 16 10.4**	**+1.3**
MTE				Sn	**Sn**	**16 16 55.4**	**+0.3**
MTE				Lg		16 17 13.8	
comp=N,55nm,0.7s							
MTE	**Manteigas**	**3.92**	**330**	*e*Pn	**Pn**	**16 16 09.9**	**+0.8**
MTE				*e*Sn	**Sn**	**16 16 55.4**	**+0.3**
MTE				*e*Sg	**Sg**	**16 17 13.8**	**-1.2**
comp=N,110nm,0.7s							
MTE	**Manteigas**	**3.92**	**330**	*e*Pn	**Pn**	**16 16 09.9**	**+0.9**
CZD	**Col de Zad**	**3.99**	**181**	*e*P	**Pn**	**16 16 11.0**	**+1.1**
CZD				*i* S	**Sn**	**16 16 50.0**	**-6.6**
ECHE	**Chera**	**4.05**	**50**	Pn	**Pn**	**16 16 11.3**	**+0.5**
comp=N,2.0nm,0.2s,SNR=8.5							
ECHE				Pg	**Pg**	**16 16 23.9**	**-2.7**
comp=N,9.1nm,0.4s,SNR=7.9							
ECHE				Lg		16 17 20.8	
comp=N,23nm,0.3s,SNR=5.0							
ECHE	**Chera**	**4.05**	**50**	Pg	**Pg**	**16 16 23.9**	**-2.7**
comp=N,9.1nm,0.4s,SNR=7.9							
EBEN	**Beniarda**	**4.11**	**65**	Pn	**Pn**	**16 16 12.4**	**+0.8**
comp=N,2.0nm,0.3s,SNR=12							
EBEN				Pg	**Pg**	**16 16 24.0**	**-3.7**
comp=N,4.7nm,0.5s,SNR=7.9							
EBEN				Sn	**Sn**	**16 16 59.0**	**-0.5**
comp=N,13nm,0.5s,SNR=7.9							
EBEN				Lg		16 17 18.4	
comp=N,20nm,0.4s,SNR=5.0							
EBEN	**Beniarda**	**4.11**	**65**	Pn	**Pn**	**16 16 12.4**	**+0.8**
comp=N,2.0nm,0.3s,SNR=12							
EBEN	**Beniarda**	**4.11**	**65**	Pg	**Pg**	**16 16 24.0**	**-3.6**
comp=N,4.7nm,0.5s,SNR=7.9							
EBEN				Sn	**Sn**	**16 16 59.0**	**-0.5**
comp=N,13nm,0.5s,SNR=7.9							
PVIS	**Viseu**	**4.33**	**329**	*e*Pn	**Pn**	**16 16 15.9**	**+1.2**
PVIS				*e*Sn	**Sn**	**16 17 04.7**	**-0.4**
PVIS							
comp=N,46nm,0.5s							
PVIS	**Viseu**	**4.33**	**329**	*e*Pn	**Pn**	**16 16 15.9**	**+1.2**
PVIS				*e*Sn	**Sn**	**16 17 04.7**	**-0.4**
comp=N,46nm,0.5s							
PVRL	**Vila Real**	**4.75**	**334**	*e*Pn	**Pn**	**16 16 21.2**	**+0.8**
PVRL				*e*Sn	**Sn**	**16 17 14.7**	**-0.7**
PVRL				*e*Sg	**Sg**	**16 17 40.3**	**-1.2**
PVRL							
comp=N,29nm,0.5s							
PVRL	**Vila Real**	**4.75**	**334**	Pn	**Pn**	**16 16 21.2**	**+0.8**
PVRL				Sn	**Sn**	**16 17 14.7**	**-0.7**
PVRL				Lg		16 17 40.3	
comp=N,14nm,0.5s							
EMOS	**Mosqueruela**	**4.84**	**45**	Pn	**Pn**	**16 16 22.9**	**+1.3**
comp=N,4.4nm,0.5s,SNR=7.9							
EMOS				Pg	**Pg**	**16 16 37.7**	**-4.0**
comp=N,5.9nm,0.4s,SNR=7.9							
EMOS				Sn	**Sn**	**16 17 17.0**	**-0.7**
comp=N,7.9nm,0.6s,SNR=7.9							
EMOS				Lg		16 17 42.7	
comp=N,35nm,0.6s,SNR=7.9							
EMOS	**Mosqueruela**	**4.84**	**45**	Pn	**Pn**	**16 16 22.9**	**+1.2**
comp=N,4.4nm,0.5s,SNR=7.9							
EMOS				Sn	**Sn**	**16 17 17.0**	**-0.7**
comp=N,7.9nm,0.6s,SNR=7.9							
PBRG	**Braganca**	**4.96**	**344**	*e*Pn	**Pn**	**16 16 24.3**	**+0.9**
PBRG				*e*Sn	**Sn**	**16 17 20.1**	**-0.6**
PBRG				*e*Sg	**Sg**	**16 17 47.6**	**-0.8**
PBRG							
comp=N,29nm,0.8s							
PBRG	**Braganca**	**4.96**	**344**	Pn	**Pn**	**16 16 24.3**	**+0.9**
PBRG				Sn	**Sn**	**16 17 20.1**	**-0.6**
PBRG				Lg		16 17 47.6	
comp=N,14nm,0.8s							
ZFT	**Errachidia**	**5.01**	**174**	*e*P	**Pn**	**16 16 23.0**	**-0.9**
ZFT				*i* S	**Sn**	**16 17 18.0**	**-3.7**
ECAL	**Calabor**	**5.09**	**345**	Pn	**Pn**	**16 16 25.6**	**+0.5**
comp=N,3.3nm,0.1s,SNR=4.6							
ECAL				Sn	**Sn**	**16 17 23.5**	**-0.4**
comp=N,21nm,0.5s,SNR=7.9							
ECAL				Lg		16 17 52.0	
comp=N,117nm,0.6s,SNR=5.0							
ECAL	**Calabor**	**5.09**	**345**	Pn	**Pn**	**16 16 25.6**	**+0.5**
comp=N,3.3nm,0.1s,SNR=4.6							
ECAL				Sn	**Sn**	**16 17 23.5**	**-0.4**
comp=N,21nm,0.5s,SNR=7.9							
ELOB	**Lobios**	**5.39**	**335**	Pn	**Pn**	**16 16 28.8**	**-0.4**
comp=N,1.8nm,0.2s,SNR=9.3							
ELOB				Sn	**Sn**	**16 17 29.8**	**-1.5**
comp=N,9.8nm,0.3s,SNR=7.9							
ELOB				Lg		16 18 01.7	
comp=N,34nm,0.5s,SNR=7.9							
ELOB	**Lobios**	**5.39**	**335**	Pn	**Pn**	**16 16 28.8**	**-0.5**
comp=N,1.8nm,0.2s,SNR=9.3							
ERUA	**La Rua**	**5.62**	**343**	Pn	**Pn**	**16 16 34.1**	**+1.8**
comp=N,2.1nm,0.2s,SNR=7.9							
ERUA				Sn	**Sn**	**16 17 33.6**	**-3.1**
comp=N,9.0nm,0.6s,SNR=7.9							
ERUA				Lg		16 18 11.4	
comp=N,18nm,0.5s,SNR=7.9							
ERTA	**Horta de San J**	**5.69**	**45**	Lg		16 18 07.2	
comp=N,15nm,0.4s,SNR=7.9							
ESAC	**San Caprasio**	**5.84**	**35**	Pn	**Pn**	**16 16 35.9**	**+0.5**
comp=N,4.6nm,0.1s,SNR=7.9							
ESAC				Sn	**Sn**	**16 17 37.4**	**-4.9**
comp=N,18nm,0.3s,SNR=4.0							
ESAC				Lg		16 18 14.7	
comp=N,93nm,0.4s,SNR=7.9							
ESAC	**San Caprasio**	**5.84**	**35**	Pn	**Pn**	**16 16 35.9**	**+0.5**
comp=N,4.6nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**5.87**	**332**	Pn	**Pn**	**16 16 35.9**	**+0.1**
comp=N,0.5nm,0.2s,SNR=7.9							
EZAM				Sn	**Sn**	**16 17 41.1**	**-1.9**
comp=N,5.7nm,0.3s,SNR=7.9							
EZAM				Lg		16 18 16.6	
comp=N,11nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**6.27**	**358**	Pn	**Pn**	**16 16 42.9**	**+1.7**
comp=N,1.5nm,0.3s,SNR=7.9							
EARI				Sn	**Sn**	**16 17 50.6**	**-2.2**
comp=N,3.3nm,0.4s,SNR=7.9							
EARI				Lg		16 18 29.1	
comp=N,8.8nm,0.6s,SNR=7.9							
EARI	**Arriondas**	**6.27**	**358**	Pn	**Pn**	**16 16 42.9**	**+1.6**
comp=N,1.5nm,0.3s,SNR=7.9							
EARA	**Aranguren**	**6.30**	**23**	Pn	**Pn**	**16 16 43.4**	**+1.7**
comp=N,4.1nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**6.31**	**24**	Pn	**Pn**	**16 16 43.3**	**+1.5**
comp=N,2.4nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**6.38**	**46**	Pn	**Pn**	**16 16 42.8**	**0.0**
comp=N,3.3nm,0.4s,SNR=7.9							
EPOB				Sn	**Sn**	**16 17 52.0**	**-3.5**
SNR=7.9							
EPOB				Lg		16 18 28.0	
comp=N,2.2nm,0.4s,SNR=7.9							
EPOB	**Poblet**	**6.38**	**46**	Pn	**Pn**	**16 16 42.8**	**0.0**
comp=N,3.3nm,0.4s,SNR=7.9							
IUSE	**Utxeti**	**6.47**	**23**	Pn	**Pn**	**16 16 45.8**	**+1.8**
comp=N,0.5nm,0.1s,SNR=7.9							
IUSE				Lg		16 18 36.3	
comp=N,8.2nm,0.5s,SNR=7.9							
EPON	**Pontenova**	**6.51**	**346**	Pn	**Pn**	**16 16 46.5**	**+1.9**
comp=N,5.0nm,0.2s,SNR=14							
EPON				Sn	**Sn**	**16 17 56.1**	**-2.6**
comp=N,2.6nm,0.3s,SNR=7.9							
EPON				Lg		16 18 35.7	
comp=N,7.3nm,0.4s,SNR=5.0							
EGRA	**Graus**	**6.58**	**37**	Pn	**Pn**	**16 16 46.8**	**+1.3**
comp=N,2.4nm,0.3s,SNR=5.9							
EGRA				Lg		16 18 39.3	
comp=N,10nm,0.5s,SNR=5.0							
EMAZ	**Mazaricos**	**6.67**	**334**	Pn	**Pn**	**16 16 49.2**	**+2.4**
comp=N,1.2nm,0.3s,SNR=7.9							
EMAZ				Sn	**Sn**	**16 17 57.8**	**-4.9**
comp=N,5.9nm,0.3s,SNR=7.9							
EMAZ				Lg		16 18 44.9	
comp=N,14nm,0.4s,SNR=7.9							
ELIZ	**Elizondo**	**6.67**	**22**	Pn	**Pn**	**16 16 48.6**	**+1.8**
comp=N,2.8nm,0.3s,SNR=7.9							
ELIZ				Lg		16 18 43.2	
comp=N,6.0nm,0.5s,SNR=4.0							
SJPF	**Ste Jean**	**6.72**	**24**	*e*Pn	**Pn**	**16 16 48.4**	**+0.9**
SJPF				*e*Sn	**Sn**	**16 18 01.4**	**-2.5**
SJPF				*e*Sg	**Sg**	**16 18 44.8**	**+0.2**
comp=N,22nm,0.7s							
SJPF	**Ste Jean**	**6.72**	**24**	Pn	**Pn**	**16 16 48.4**	**+0.9**
SJPF				Sn	**Sn**	**16 18 01.4**	**-2.5**
SJPF				Lg		16 18 44.8	
comp=N,11nm,0.7s							
EALK	**Alkurruntz**	**6.73**	**22**	Pn	**Pn**	**16 16 49.1**	**+1.5**
comp=N,5.4nm,0.3s,SNR=7.0							
EALK				Sn	**Sn**	**16 18 01.8**	**-2.4**
comp=N,6.5nm,0.4s,SNR=7.9							
EALK				Lg		16 18 44.2	
comp=N,34nm,0.5s,SNR=4.0							
ETSF	**Etsaut**	**6.77**	**29**	*e*Pn	**Pn**	**16 16 49.1**	**+1.0**
ETSF				*e*Sn	**Sn**	**16 18 02.1**	**-3.0**
ETSF				*e*Sg	**Sg**	**16 18 45.4**	**-0.8**
comp=N,13nm,0.7s							
ETSF	**Etsaut**	**6.77**	**29**	Pn	**Pn**	**16 16 49.1**	**+1.0**
ETSF				Sn	**Sn**	**16 18 02.1**	**-3.0**
ETSF				Lg		16 18 45.4	
comp=N,6.7nm,0.7s							
EBIE	**Bielsa**	**6.88**	**33**	Pn	**Pn**	**16 16 50.9**	**+1.2**
comp=N,4.5nm,0.4s,SNR=7.6							
EBIE				Sn	**Sn**	**16 18 05.2**	**-2.7**
comp=N,2.7nm,0.3s,SNR=7.9							
EBIE				Lg		16 18 51.3	
comp=N,6.1nm,0.6s,SNR=4.0							
EPF	**Esparros**	**7.25**	**33**	*e*Pn	**Pn**	**16 16 55.1**	**+0.4**
EPF				*e*Sn	**Sn**	**16 18 13.6**	**-3.3**
EPF				*e*Sg	Sg	16 19 00.3	-1.2
comp=N,16nm,0.7s							
EPF	**Esparros**	**7.25**	**33**	Pn	**Pn**	**16 16 55.1**	**+0.4**
EPF				Sn	**Sn**	**16 18 13.6**	**-3.3**
EPF				Lg		16 19 00.3	
comp=N,8.1nm,0.7s							
LFF	**La Frestale**	**9.00**	**27**	*e*Pn	**Pn**	**16 17 19.5**	**+0.7**
CAF	**Calviac**	**9.51**	**32**	*e*Pn	**Pn**	**16 17 25.7**	**0.0**
LASF	**Ste Croix**	**9.72**	**41**	*e*Pn	**Pn**	**16 17 28.3**	**-0.4**
QUIF	**Quistinic**	**10.96**	**6**	*e*Pn	**Pn**	**16 17 45.1**	**-0.5**
QUIF				*e*Sn	**Sn**	**16 19 43.1**	**-5.1**
comp=N,0.7nm,0.2s							
QUIF	**Quistinic**	**10.96**	**6**	*e*Pn	**Pn**	**16 17 45.1**	**-0.5**
QUIF				*e*Sn	**Sn**	**16 19 43.1**	**-5.1**
comp=N,0.3nm,0.2s							
SGMF	**Saint Gilles**	**11.36**	**8**	*e*Pn	**Pn**	**16 17 50.7**	**-0.3**
ROSF	**Rostrenen**	**11.37**	**6**	*e*Pn	**Pn**	**16 17 50.7**	**-0.5**
ROSF				*e*Sn	**Sn**	**16 19 51.5**	**-6.7**
comp=N,0.7nm,0.2s							
ROSF	**Rostrenen**	**11.37**	**6**	*e*Pn	**Pn**	**16 17 50.7**	**-0.5**
ROSF				*e*Sn	**Sn**	**16 19 51.5**	**-6.7**
comp=N,0.3nm,0.2s							

BJI ***11*** *16:22:07.7, 249N×9598E, h26km, mB4.9, mb5.0, Ms4.3, Msz4.0*
ISCJB ***11*** *16:22:08.1±0.3, 259N±005×9589E±004, h22km, mb4.8/73, MS4.1/12, Error ellipse: s-maj=7.7km s-min=4.4km az=72.5*
NEIC ***11*** *16:22:09.8±0.3, 257N×9590E, mb4.8/32, Error ellipse: s-maj=7.8km s-min=4.9km az=213.0*
MOS ***11*** *16:22:09.7±0.8, 263N×9586E, h33km, mb5.1/22, Error ellipse: s-maj=10.6km s-min=6.3km az=110.5*
IDC ***11*** *16:22:10.0±0.5, 263N×9588E, h21km±3km, mb4.3/20, mb1 4.4/21, mb1mx4.4/24, mbtmp4.4/21, ML3.7/1, MS3.9/6, Ms1 3.9/6, ms1mx3.5/28, Error ellipse: s-maj=17.0km s-min=11.8km az=45.0*
ISC 11 16:22:10.6±0.3, 262N±005×9590E±004, h24km, h24km±.9km:pP-P, n153, σ0s98/144, mb4.8/73, MS4.1/12, 6C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.03**	**87**	Pn	**Pn**	**16 22 58.5**	**+1.4**
10.0nm,0.3s,baz=283,slow=6.7,SNR=106							
PSI				LR	LR	16 24 23.6	
comp=Z,636nm,21.3s,baz=268,slow=44							
PSI	**Prapat**	**3.03**	**87**	Pn	**Pn**	**16 22 58.5**	**+1.4**
PSI				LR	LR	16 24 23.6	
KULM	**Kulim**	**5.43**	**61**	*e*Pn	**Pn**	**16 23 31.1**	**+1.0**
PPI	**Padang Panjang**	**5.44**	**124**	P	**Pn**	**16 23 30.8**	**+0.6**
0.0nm,0.0s							
IPM	**Ipoh**	**5.44**	**70**	P	**Pn**	**16 23 32.0**	**+1.8**
KSI	**Kapahiang**	**9.14**	**133**	P	**Pn**	**16 24 22.0**	**+1.0**
0.0nm,0.0s							
KSM	**Kuching**	**14.45**	**94**	*e*Pn	**Pn**	**16 25 34.7**	**+1.2**
KSM				*e*pP	pP	16 25 41.2	-5.4
PALK	**Pallekele**	**15.82**	**288**	Pn	**Pn**	**16 25 53.5**	**+1.7**
10nm,0.9s							
MDRS	**Chennai**	**18.64**	**305**	*e*P	**Pn**	**16 26 28.1**	**+1.1**
VIS	**Vishakhapatnam**	**19.42**	**321**	*e*P	**Pn**	**16 26 34.9**	**-1.5**
TRD	**Trivandrum**	**19.73**	**288**	*e*P	**Pn**	**16 26 35.8**	**-4.2**
TRD				AMb	AMB	16 26 41.7	
comp=Z,29nm,1.1s							
KKM	**Kota Kinabalu**	**20.54**	**80**	P	**P**	**16 26 48.2**	**+0.9**
KKM	**Kota Kinabalu**	**20.54**	**80**	*e*P	**P**	**16 26 48.0**	**+0.7**
CAL	**Calcutta**	**21.12**	**340**	*ex*	x	16 28 14.3	
QIZ	**Qiongzhong**	**21.26**	**39**	P	**P**	**16 26 55.6**	**+0.5**
QIZ				LR	LR		
comp=N,471nm,17.2s,MS4.1							
QIZ				LR	LR		
comp=E,529nm,16.2s,MS4.1							
QIZ				LR	LR		
comp=Z,461nm,12.4s,MS4.1							
QIZ	**Qiongzhong**	**21.26**	**39**	*e*P	**P**	**16 26 54.7**	**-0.4**
comp=Z,12nm,0.8s,mb4.3							
HYB	**Hyderabad**	**22.50**	**312**	*i* P	**P**	**16 27 08.0**	**-0.3**
HYB	**Hyderabad**	**22.50**	**312**	*e*P	**P**	**16 27 08.0**	**-0.3**
SHL	**Shillong**	**23.14**	**351**	*e*P	**P**	**16 27 13.3**	**-1.8**
SHL				*ex*	x	16 31 11.0	
BOK	**Bokaro**	**23.17**	**336**	*e*P	**P**	**16 27 15.3**	**0.0**
BOK				AMb	AMB	16 27 19.3	
comp=Z,53nm,1.2s,mb4.8							
KMI	**Kunming**	**23.32**	**16**	P	**P**	**16 27 16.7**	**-0.3**
KMI				AP		16 27 22.0	
KMI				XP	sP	16 27 24.5	-2.2
KMI				PP		16 27 48.9	
KMI				S	**S**	**16 31 28.6**	**+0.7**
KMI				SS		16 32 16.7	
KMI				AMB	AMB		
comp=Z,23nm,1.4s,mb4.4							
KMI				LR	LR		
comp=N,316nm,11.5s,MS4.1							
KMI				LR	LR		
comp=E,320nm,15.9s,MS4.1							
KMI				LR	LR		
comp=Z,322nm,15.0s,MS3.9							
PCI	**Palu**	**24.19**	**98**	P	**P**	**16 27 25.5**	**+0.4**
comp=Z,64nm,1.2s,mb4.9							
GYA	**Guiyang**	**25.86**	**23**	⇑*i* P	**P**	**16 27 40.4**	**+0.1**
GYA				AMB	AMB		
comp=Z,20nm,0.9s,mb4.7							
JIRN	**Jiri**	**26.57**	**340**	*e*P	**P**	**16 27 48.2**	**+1.5**
comp=Z,165nm,0.7s,mb5.7							
PKI	**Pulchoki**	**26.76**	**339**	*e*P	**P**	**16 27 49.3**	**+0.9**
comp=Z,86nm,1.1s,mb5.2							
PKI	**Pulchoki**	**26.76**	**339**	*e*P	**P**	**16 27 49.3**	**+0.9**
PKI				pmax	pmax		
comp=Z,43nm,1.1s,mb4.9							
DMN	**Daman**	**26.90**	**338**	*e*P	**P**	**16 27 50.7**	**+1.0**
comp=Z,52nm,1.0s,mb5.0							
GUN	**Gumba**	**26.91**	**340**	*e*P	**P**	**16 27 51.1**	**+1.3**
comp=Z,107nm,0.8s,mb5.4							
KKN	**Kakani**	**27.00**	**339**	*e*P	**P**	**16 27 51.4**	**+0.8**
comp=Z,76nm,0.9s,mb5.2							
KKN	**Kakani**	**27.00**	**339**	*e*P	**P**	**16 27 51.4**	**+0.8**
KKN				pmax	pmax		
comp=Z,38nm,0.9s,mb4.9							
BHPL	**Bhopal**	**27.21**	**320**	*e*P	**P**	**16 27 52.6**	**+0.1**
LSA	**Lhasa**	**27.30**	**351**	P	**P**	**16 27 54.8**	**+1.5**
LSA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.3							
LSA	**Lhasa**	**27.30**	**351**	*e*P	**P**	**16 27 54.6**	**+1.3**
LSA				pmax	pmax		
comp=Z,35nm,0.8s,mb4.9							
LSA	**Lhasa**	**27.30**	**351**	*e*P	**P**	**16 27 54.6**	**+1.3**
comp=Z,35nm,0.8s,mb4.9							
GKN	**Gorkha**	**27.43**	**338**	*e*P	**P**	**16 27 55.4**	**+0.9**
comp=Z,68nm,0.8s,mb5.2							
KOLN	**Koldanda**	**27.63**	**336**	*e*P	**P**	**16 27 57.1**	**+0.8**
comp=Z,60nm,0.7s,mb5.3							
CD2	**Chengdu**	**29.10**	**14**	*e*P	**P**	**16 28 08.6**	**-0.7**
CD2				AMB	AMB		
comp=Z,30nm,0.7s,mb5.1							
CD2				AMB	AMB		
comp=Z,50nm,5.8s							
ENH	**Enshi**	**30.36**	**24**	*e*P	**P**	**16 28 19.6**	**-1.0**
comp=Z,24nm,0.8s,mb5.0							
ENH				*e*pP	pP	16 28 26.9	-0.8
MBWA	**Marble Bar**	**33.22**	**136**	P	**P**	**16 28 37.1**	**-8.5**
comp=Z,21nm,1.4s,mb4.9							
XAN	**Xi'an**	**33.54**	**20**	P	**P**	**16 28 47.5**	**-0.9**
LZH	**Lanzhou**	**34.10**	**12**	⇑P	**P**	**16 28 52.6**	**-0.7**
LZH				AP	pP	16 28 59.5	-1.0
LZH				XP	sP	16 29 03.1	-0.3
LZH				AMB	AMB		
comp=Z,26nm,1.1s,mb5.1							
LZH				AMB	AMB		
comp=Z,118nm,4.6s							
LZH				LR	LR		
comp=N,287nm,13.0s							
LZH				LR	LR		
comp=Z,359nm,17.3s,MS4.2							
FITZ	**Fitzroy Crossi**	**35.81**	**126**	*e*P	**P**	**16 29 07.3**	**-0.8**
comp=Z,8.0nm,1.0s,mb4.6							
GTA	**Gaotai**	**36.79**	**5**	⇑P	**P**	**16 29 16.3**	**-0.1**
GTA				AP	pP	16 29 24.2	+0.6
GTA				XP	sP	16 29 26.8	+0.3
GTA				PCP	PcP	16 31 39.2	+0.9
GTA				AMB	AMB		
comp=Z,28nm,0.7s,mb5.2							
GTA				AMB	AMB		
comp=Z,78nm,4.6s							
GTA				LR	LR		
comp=N,110nm,15.2s,MS4.0							
GTA				LR	LR		
comp=E,121nm,14.1s,MS4.0							
GTA				LR	LR		
comp=Z,189nm,14.4s,MS4.0							
JOW	**Kunigami**	**39.26**	**49**	P	**P**	**16 29 37.2**	**-0.1**
comp=Z,8.4nm,0.7s,mb4.6,baz=222,slow=13,SNR=4.4							
KAKA	**Kakadu**	**39.35**	**114**	*e*P	**P**	**16 29 36.5**	**-1.5**
comp=Z,12nm,0.6s,mb4.8							
BJT	**Baijiatuau**	**41.52**	**24**	*e*P	**P**	**16 29 56.8**	**+0.9**
BJT				*e**PP	pP	16 30 03.5	+0.3
BJT				pmax	pmax		
comp=Z,59nm,0.7s							
BJT	**Baijiatuau**	**41.52**	**24**	*e*P	**P**	**16 29 56.8**	**+0.9**
comp=Z,59nm,0.7s,mb5.3							
BJT				*e*pP	pP	16 30 03.5	+0.3
WMQ	**Urumqi**	**41.66**	**351**	*e*P	**P**	**16 29 57.4**	**+0.3**
WMQ				AP	pP	16 30 07.4	+3.0
WMQ				XP	sP	16 30 11.4	+4.1
WMQ				AMB	AMB		
comp=Z,18nm,1.0s,mb4.7							
WMQ				AMB	AMB		
comp=Z,92nm,5.0s							
WMQ				LR	LR		
comp=N,101nm,22.0s,MS3.9							
WMQ				LR	LR		
comp=E,136nm,22.4s,MS3.9							
WMQ				LR	LR		
comp=Z,82nm,20.0s,MS3.6							
ULHL	**Ulahol**	**43.20**	**339**	P	**P**	**16 30 10.5**	**+0.9**
SNR=9.1							
KZA	**Kyzart**	**43.42**	**338**	P	**P**	**16 30 12.8**	**+1.4**
SNR=8.7							
UCH	**Uchtor**	**43.84**	**337**	P	**P**	**16 30 16.4**	**+1.6**
SNR=14							
WRA	**Warramunga Arr**	**43.89**	**122**	P	**P**	**16 30 14.8**	**-0.3**
comp=Z,5.4nm,0.6s,mb4.5,baz=300,slow=9.3,SNR=93							
WRAB	**Tennant Creek**	**43.90**	**122**	*e*P	**P**	**16 30 14.9**	**-0.3**
WRAB				*e**PP	pP	16 30 21.1	-1.4
WRAB				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.6							
WRAB	**Tennant Creek**	**43.90**	**122**	*e*P	**P**	**16 30 14.9**	**-0.3**
comp=Z,7.1nm,0.6s,mb4.6							
WRAB				*e*pP	pP	16 30 21.1	-1.4
WB2	**Warramunga Arr**	**43.90**	**122**	*e*P	**P**	**16 30 14.8**	**-0.5**
TKM2	**Tokmak 2**	**44.02**	**338

MOY Mondy 49.06 4 *eP* **P 16 30 55.8 +0.1**
KURK Kurchatov 50.10 346‖ *eP* **P 16 31 04.1 +0.5**
KURK Kurchatov 50.10 346 *eP* **P 16 31 03.7 +0.1**
comp=Z,12nm,0.9s,mb4.9
HIA Hailar 50.74 20 *eP* **P 16 31 08.8 +0.3**
HIA *e**PP pP 16 31 15.2 -0.7
HIA pmax pmax
comp=Z,12nm,1.1s
HIA Hailar 50.74 20 *eP* **P 16 31 08.8 +0.3**
comp=Z,12nm,1.1s,mb4.8
HIA *ep*P pP 16 31 15.2 -0.7
MDJ Mudanjiang 51.29 31 P **P 16 31 10.2 -2.4**
comp=Z,14nm,1.2s,mb4.8
MJAR Matsushiro Arr 51.55 44 P **P 16 31 15.9 +1.3**
comp=Z,0.8nm,0.5s,mb3.9,baz=257,slow=8.8,SNR=6.3
MJAR PcP PcP 16 32 29.3 +0.9
comp=Z,3.0nm,0.9s,baz=242,slow=3.9,SNR=8.3
MJAR LR LR 16 54 11.8
comp=Z,143nm,18.5s,MS4.0,baz=235,slow=37
MJAR Matsushiro Arr 51.55 44 P **P 16 31 15.9 +1.3**
MJAR 16 32 29.3
ZAL Zalesovo 51.96 352 P **P 16 31 17.8 +0.2**
comp=Z,9.1nm,0.5s,mb5.0,baz=302,slow=5.1,SNR=32
OPO Ambohidratompo 52.34 244 pP pP 16 31 28.1 +0.2
comp=Z,1.5nm,0.6s,baz=76,slow=12,SNR=2.5
PMG Port Moresby 52.45 104 P **P 16 31 21.5 +0.2**
comp=Z,20nm,1.0s,mb5.0,baz=256,slow=8.3,SNR=3.0
NVS Novosibirsk 53.07 351 *eP* **P 16 31 24.8 -1.1**
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,13nm,1.0s,mb4.8
KRAR Krasnoyarsk 53.28 358‖ *eP* **P 16 31 27.8 +0.4**
KRAR pmax pmax
comp=Z,31nm,0.9s,mb5.2
VOSK Vostochnaya 54.05 342 P **P 16 31 31.5 -1.5**
VOSK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
CTA Charters Tower 54.30 117 P **P 16 31 35.6 +0.7**
comp=Z,11nm,1.0s,mb4.7,baz=298,slow=16,SNR=4.4
BVA0 Borovoye Array 54.49 341 *i* P **P 16 31 35.3 -1.0**
BVA0 pmax pmax
comp=Z,26nm,0.1s
BRVK Borovoye 54.55 341 *eP* **P 16 31 36.1 -0.6**
BRVK *e**PP pP 16 31 43.2 -1.0
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BRVK Borovoye 54.55 341 *eP* **P 16 31 36.1 -0.6**
comp=Z,9.4nm,0.9s,mb4.8
BRVK *ep*P pP 16 31 43.2 -0.9
ZRNK Zerenda 54.88 340 *eP* **P 16 31 38.2 -0.9**
ZRNK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ZRNK Zerenda 54.88 340 *eP* **P 16 31 38.2 -0.9**
comp=Z,9.9nm,0.8s,mb4.9
STKA Stephens Creek 55.27 132 *eP* **P 16 31 39.9 -2.0**
comp=Z,4.3nm,0.7s,mb4.6
STKA Stephens Creek 55.27 132 P **P 16 31 40.2 -1.7**
comp=Z,5.9nm,0.7s,mb4.7,baz=310,slow=8.2,SNR=12
KLR Kul'dur 55.59 28 *eP* **P 16 31 40.6 -3.6**
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s
AB31 Akbulak array 55.66 332 *i* P **P 16 31 44.2 -0.5**
AB31 pmax pmax
comp=Z,12nm,0.9s,mb4.9
HABR Khabarovsk 56.67 30 *eP* **P 16 31 50.9 -1.0**
HABR *e*S **S 16 39 43.6 +0.7**
HABR pmax pmax
comp=Z,56nm,2.2s,mb5.2
HABR MLR MLR
comp=Z,70nm,4.4s
BOD Bodaibo 56.87 11 *eP* **P 16 31 52.4 -1.0**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KMBO Kilima Mbogo 58.75 267 P **P 16 32 07.1 +0.6**
comp=Z,0.9nm,0.6s,mb4.0,baz=87,slow=14,SNR=3.8
KMBO Kilima Mbogo 58.75 267 *eP* **P 16 32 08.4 +1.9**
KMBO pmax pmax
comp=Z,1.0nm,0.9s
KMBO Kilima Mbogo 58.75 267 *eP* **P 16 32 08.4 +1.8**
comp=Z,1.2nm,0.9s,mb3.9
ZEI Tsey 61.08 318 *eP* **P 16 32 22.3 -0.2**
ARU Arti 61.38 337⇑ *i* P **P 16 32 23.5 -1.1**
ARU *e* 16 33 01.5
ARU *e* 16 34 37.3
ARU *e*PPP 16 36 07.8
ARU *e*S **S 16 40 43.8 -0.1**
ARU *e*SS SS 16 44 47.7 +3.1
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.9
ARU Arti 61.38 337 *eP* **P 16 32 23.4 -1.1**
comp=Z,10nm,0.9s,mb5.0
ARU *ep*P pP 16 32 30.4 -1.7
KIV Kislovodsk 62.39 319 *i* P **P 16 32 30.8 -0.6**
KIV *e* 16 33 08.3
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MALT Malatya 63.22 312 *eP* **P 16 32 37.7 +0.8**
MALT pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
MALT Malatya 63.22 312 *eP* **P 16 32 37.7 +0.8**
comp=Z,3.0nm,1.0s,mb4.4
SOC Sochi 64.20 318 *eP* **P 16 32 39.3 -4.1**
SOC *e* 16 33 18.2
SOC *e*S **S 16 41 16.3 -3.0**
SOC *e*SSS 16 48 22.3
SOC pmax pmax
comp=Z,23nm,0.8s,mb5.3
SOKR Solikamsk 64.30 339 *eP* **P 16 32 43.4 -0.6**
SOKR pmax pmax
comp=Z,20nm,1.3s,mb5.0
YAK Yakutsk 64.44 17*c* *iP* **P 16 32 44.4 -0.5**
YAK pmax pmax
comp=Z,22nm,1.0s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.2s
ANN Anapa 66.18 318 *eP* **P 16 32 54.3 -1.9**
ANN *e*S S 16 41 49.9 +6.3
ANN pmax pmax
comp=Z,31nm,0.8s,mb5.4
BR131 Keskin Array S 67.20 312 P **P 16 32 59.2 -3.5**
comp=Z,3.3nm,1.1s,mb4.3
BRTR Keskin Array B 67.20 312 P **P 16 33 02.2 -0.5**
comp=Z,0.9nm,0.8s,mb3.9,baz=127,slow=7.9,SNR=4.5
BRTR pP pP 16 33 08.4 -1.9
comp=Z,0.9nm,0.5s,baz=135,slow=7.3,SNR=5.1
MA2 Magadan 70.63 26 *eP* **P 16 33 23.7 -0.3**
MA2 *e* pP 16 33 30.1 -1.6
MA2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MA2 Magadan 70.63 26 *eP* **P 16 33 23.4 -0.7**
comp=Z,5.9nm,0.8s,mb4.6
MA2 *ep*P pP 16 33 30.0 -1.7
OBN Obninsk 70.73 328‖ *eP* **P 16 33 24.0 -0.7**
OBN *e* 16 36 00.5
OBN pmax pmax
comp=Z,12nm,0.9s,mb4.8
PET Petropavlovsk 71.79 34⇑ *eP* **P 16 33 31.7 +0.6**
PET pmax pmax
comp=Z,43nm,1.2s,mb5.2
SEY Seymchan 72.98 24‖ *eP* **P 16 33 37.6 -0.6**
AKASG Malin Array Be 73.34 322 P **P 16 33 38.9 -1.4**
comp=Z,0.3nm,0.4s,baz=89,slow=5.7,SNR=4.8
AKASG pP pP 16 33 45.8 -2.2
comp=Z,1.7nm,0.6s,baz=94,slow=5.4,SNR=7.7
AKASG Malin Array Be 73.34 322 P **P 16 33 38.9 -1.4**
AKASG pP pP 16 33 45.8 -2.2
LBTB Lobatse 73.36 243 LR LR 17 04 08.1
comp=Z,98nm,18.1s,MS4.1,baz=327,slow=34
LBTB Lobatse 73.36 243 P **P 16 33 41.2 +0.8**
LBTB *e**PP pP 16 33 46.8 -1.3
LBTB pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LBTB Lobatse 73.36 243 P **P 16 33 41.2 +0.8**
comp=Z,4.9nm,0.6s,mb4.6
LBTB *ep*P pP 16 33 46.8 -1.3
BOSA Boshof 74.37 239 P **P 16 33 47.4 +1.1**
comp=Z,11nm,1.3s,mb4.6,baz=194,slow=4.2,SNR=2.5
BOSA pP pP 16 33 53.6 -0.3
comp=Z,2.5nm,0.8s,baz=89,slow=11,SNR=2.7
BOSA LR LR 17 02 07.2
comp=Z,84nm,18.9s,MS4.1,baz=347,slow=32
BOSA Boshof 74.37 239 P **P 16 33 47.4 +1.1**
BOSA **PP pP 16 33 53.7 -0.3
JOF Joensuu 76.31 335 *ep* **P 16 33 56.0 -1.5**
FINES FINESS Array B 78.14 333 P **P 16 34 07.2 -0.6**
comp=Z,3.2nm,0.8s,mb4.3,baz=100,slow=7.9,SNR=14
KAF Kangasniemi 78.23 333 *ep* **P 16 34 07.1 -1.2**
comp=Z,5.1nm,0.8s,mb4.5,baz=104,slow=5.1
KAF Kangasniemi 78.23 333 *eP* **P 16 34 07.1 -1.2**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SUR Sutherland 78.85 236 LR LR 17 03 06.6
comp=Z,133nm,19.2s,MS4.3,baz=120,slow=31
BILL Bilibino 80.31 21 *eP* **P 16 34 19.0 -0.6**
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
BILL Bilibino 80.31 21 *eP* **P 16 34 18.7 -0.9**
comp=Z,1.3nm,0.5s,mb4.1
ARCES ARCESS Array B 80.77 340 P **P 16 34 21.8 -0.3**
comp=Z,2.0nm,0.5s,mb4.3,baz=88,slow=5.2,SNR=21
ARCES LR LR 17 15 13.4
comp=Z,76nm,18.2s,MS4.1,baz=224,slow=39
GERES GERESS Array B 82.89 319 P **P 16 34 33.6 +0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=93,slow=5.3,SNR=15
GERES pP pP 16 34 40.6 -0.4
comp=Z,1.8nm,0.7s,baz=91,slow=5.3,SNR=9.4
NB2 NORSAR Subarra 85.14 331 P **P 16 34 43.7 -1.0**
comp=Z,3.3nm,1.0s,mb4.4,baz=90,slow=5.3
NB2 NORSAR Subarra 85.14 331 P **P 16 34 43.7 -1.0**
NB2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
NOA NORSAR Array B 85.14 331 P **P 16 34 43.5 -1.2**
comp=Z,0.9nm,0.9s,mb3.9,baz=136,slow=6.5,SNR=4.3
NOA pP pP 16 34 51.1 -1.4
comp=Z,1.5nm,0.8s,baz=93,slow=5.3,SNR=4.2
NOA NORSAR Array B 85.14 331 P **P 16 34 43.5 -1.2**
NOA pP pP 16 34 51.1 -1.4
TORD Torodi Ar. Bea 93.50 283 P **P 16 35 23.9 -0.4**
comp=Z,0.6nm,0.8s,mb4.1,baz=98,slow=4.6,SNR=3.4
TORD pP pP 16 35 31.8 -0.4
comp=Z,0.8nm,0.8s,baz=100,slow=4.8,SNR=4.6
ILAR Eielson Array 98.90 23 P **P 16 35 47.0 -1.9**
comp=Z,0.3nm,0.6s,mb4.0,baz=305,slow=4.4,SNR=4.7
YKA Yellowknife Ar 111.06 15 PP PP 16 41 14.2 -6.5
comp=Z,0.2nm,0.7s,baz=332,slow=7.7,SNR=3.2
ULM Lac du Bonnet 126.37 9 PKP PKPdf 16 41 10.2 -1.1
comp=Z,1.5nm,0.6s,baz=310,slow=3.7,SNR=4.8
PDAR Pinedale Array 129.31 24 PKP PKPdf 16 41 17.4 +0.5
comp=Z,0.4nm,0.5s,baz=129,slow=1.6,SNR=5.0
JCT Junction City 143.83 23 *e*PKIKP PKPdf 16 41 42.1 -1.6
CPUP Villa Florida 145.13 225 PKPbc PKPbc 16 41 46.6 +1.1
comp=Z,0.8nm,0.4s,baz=100,slow=3.4,SNR=6.4
CPUP pPKPbc pPKPbc 16 41 53.7 +0.2
comp=Z,8.4nm,0.7s,baz=105,slow=3.5,SNR=12
CPUP Villa Florida 145.13 225 *e*PKPdf PKPdf 16 41 45.8 -0.2
CPUP *ep*PKPdf pPKPdf 16 41 52.6 -1.4
CFAA Coronel Fontan 147.52 206 PKPbc PKPbc 16 41 53.4 +0.7
comp=Z,0.5nm,0.5s,baz=138,slow=4.0,SNR=9.9
CFAA pPKPbc pPKPbc 16 42 00.2 -0.4
comp=Z,1.4nm,0.6s,baz=160,slow=3.9,SNR=15
CFAA Coronel Fontan 147.52 206 PKPbc PKPbc 16 41 53.4 +0.7
CFAA pPKPbc pPKPbc 16 42 00.2 -0.4
LPAZ La Paz 159.23 228 pPKPab pPKPab 16 42 54.0 +2.1
comp=Z,2.7nm,0.8s,baz=142,slow=5.1,SNR=7.3

*IDC **11** 16:25:22.4±4.5, 677S×10559E, h28km±30km, mb4.1/11, mb1 4.2/11, mb1mx4.1/18, mbtmp4.3/11, Error ellipse: s-maj=45.1km s-min=16.3km az=50.0*
*MOS **11** 16:25:28.9±1.0, 657S×10590E, h98km, mb4.6/5, Error ellipse: s-maj=27.0km s-min=12.8km az=116.9*
*NEIC **11** 16:25:32.2±4.9, 690S×10560E, h123km±43km, mb4.5/6, Error ellipse: s-maj=31.4km s-min=9.4km az=62.0*
*ISCJB **11** 16:25:36.3±5.3, 68S±01×1058E±02, h176km±47km, mb4.1/18, Error ellipse: s-maj=40.3km s-min=12.4km az=119.6*
ISC 11 16:25:36.0±5.3, 68S±01×1057E±02, h156km±48km, n33,
σ0§92/33, mb4.1/18, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**16.55**	**40**	*eP*	**Pn**	**16 29 19.8**	**+0.8**
MBWA	**Marble Bar**	**19.67**	**138**	*eP*	**P**	**16 29 50.9**	**-1.9**
	13nm,0.9s						
WRA	**Warramunga Arr**	**30.68**	**118**	P	**P**	**16 31 36.9**	**+1.0**
	1.3nm,0.5s,mb3.9,baz=301,slow=11,SNR=8.1						
WRAB	**Tennant Creek**	**30.69**	**118**	*eP*	**P**	**16 31 35.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**30.69**	**118**	*eP*	**P**	**16 31 35.8**	**-0.1**
	comp=Z,12nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**30.69**	**118**	*eP*	**P**	**16 31 36.7**	**+0.8**
ASAR	**Alice Springs**	**31.83**	**125**	P	**P**	**16 31 46.7**	**+0.8**
	comp=Z,0.9nm,0.5s,mb3.8,baz=304,slow=8.1,SNR=7.7						
LSA	**Lhasa**	**38.93**	**340**	*eP*	**P**	**16 32 46.6**	**+0.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
LSA	**Lhasa**	**38.93**	**340**	*eP*	**P**	**16 32 46.6**	**+0.1**
	comp=Z,7.3nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**41.71**	**131**	*eP*	**P**	**16 33 08.9**	**-0.4**
	comp=Z,3.9nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**41.71**	**131**	P	**P**	**16 33 08.9**	**-0.4**
	comp=Z,6.3nm,0.6s,mb4.4,baz=301,slow=7.2,SNR=14						
STKA	**Stephens Creek**	**41.71**	**131**	*eP*	**P**	**16 33 08.7**	**-0.6**
MJAR	**Matsushiro Arr**	**52.82**	**33**	P	**P**	**16 34 34.7**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.7,baz=259,slow=6.8,SNR=8.5						
MJAR	**Matsushiro Arr**	**52.82**	**33**	P	**P**	**16 34 34.7**	**-0.6**
SONM	**Songino Array**	**54.44**	**1**	P	**P**	**16 34 47.7**	**+0.7**
	comp=Z,0.7nm,0.4s,mb3.7,baz=180,slow=9.8,SNR=13						
SONM				PcP	PcP	16 35 50.6	+2.0
	comp=Z,1.3nm,0.6s,baz=180,slow=4.1,SNR=9.5						
SONM				ScP	ScP	16 39 46.4	+14
	comp=Z,0.5nm,0.8s,baz=173,slow=3.8,SNR=2.8						
SONM	**Songino Array**	**54.44**	**1**	P	**P**	**16 34 47.7**	**+0.7**
SONM						16 35 50.6	
ULN	**Ulaanbaatar**	**54.48**	**1**	*eP*	**P**	**16 34 46.0**	**-1.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
ULN	**Ulaanbaatar**	**54.48**	**1**	*eP*	**P**	**16 34 46.0**	**-1.3**
	comp=Z,1.7nm,0.9s,mb3.8						
MKAR	**Makanchi Array**	**57.31**	**341**	P	**P**	**16 35 06.1**	**-1.3**
	comp=Z,1.0nm,0.5s,mb3.9,baz=155,slow=8.5,SNR=10.0						
ZAL	**Zalesovo**	**63.06**	**346**	P	**P**	**16 35 46.1**	**-0.4**
	comp=Z,3.7nm,0.5s,mb4.5,baz=321,slow=1.8,SNR=15						
BRVK	**Borovoye**	**66.79**	**338**	*eP*	**P**	**16 36 10.2**	**-0.4**
ZRNK	**Zerenda**	**67.20**	**337**	*eP*	**P**	**16 36 13.0**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**67.20**	**337**	*eP*	**P**	**16 36 13.0**	**-0.2**
	comp=Z,5.9nm,0.7s,mb4.5						
AKTK	**Aktyubinsk**	**70.33**	**330**	P	**P**	**16 36 32.8**	**+0.2**
AKTO	**Aktyubinsk**	**70.33**	**330**	P	**P**	**16 36 32.8**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.0,baz=119,slow=11,SNR=5.1						
ARU	**Arti**	**73.93**	**335**	*eP*	**P**	**16 36 54.3**	**+0.4**
ARU				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.5						
ARU	**Arti**	**73.93**	**335**	*eP*	**P**	**16 36 54.3**	**+0.4**
	comp=Z,14nm,1.4s,mb4.5						
BRTR	**Keskin Array B**	**80.76**	**312**	P	**P**	**16 37 32.9**	**+0.9**
	comp=Z,1.7nm,0.7s,mb3.8,baz=126,slow=7.2,SNR=9.8						
BILL	**Bilibino**	**85.76**	**19**	*eP*	**P**	**16 37 55.3**	**-2.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
JOF	**Joensuu**	**89.02**	**334**	*ep*	**P**	**16 38 12.9**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**91.02**	**332**	P	**P**	**16 38 23.7**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=110,slow=5.2,SNR=12						
FINES	**FINESS Array B**	**91.02**	**332**	P	**P**	**16 38 23.7**	**+1.2**
ARCES	**ARCESS Array B**	**92.94**	**340**	P	**P**	**16 38 32.6**	**+1.3**
	comp=Z,3.6nm,0.8s,mb4.5,baz=95,slow=5.2,SNR=6.8						

*NEIC **11** 16:30:02.2±0.8, 262N×9585E, h30km, mb4.2/6, Error ellipse: s-maj=19.0km s-min=9.3km az=210.0*
*IDC **11** 16:30:04.1±7.2, 259N×9589E, h44km±59km, mb3.8/8, mb1 3.9/9, mb1mx3.6/22, mbtmp4.0/9, ML3.2/1, Error ellipse: s-maj=82.0km s-min=19.1km az=56.0*
*ISCJB **11** 16:30:05.1±3.1, 27N±02×96.1E±02, h69km±24km, mb4.2/20, Error ellipse: s-maj=37.8km s-min=13.6km az=91.7*
ISC 11 16:30:06.9±3.0, 27N±02×96.1E±02, h65km±24km, n27,
σ0§70/27, mb4.2/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.86**	**88**	P	**Pn**	**16 30 50.0**	**-0.1**
	2.9nm,0.3s,baz=275,slow=8.0,SNR=12						
KULM	**Kulim**	**5.24**	**61**	*e*Pn	**Pn**	**16 31 22.2**	**-0.5**
KKM	**Kota Kinabalu**	**20.36**	**80**	*eP*	**P**	**16 34 38.9**	**+0.9**
JIRN	**Jiri**	**26.54**	**340**	*eP*	**P**	**16 35 39.2**	**+0.8**
	32nm,0.7s,mb5.0						
PKI	**Pulchoki**	**26.73**	**339**	*eP*	**P**	**16 35 40.5**	**+0.4**
GUN	**Gumba**	**26.87**	**340**	*eP*	**P**	**16 35 42.2**	**+0.8**
	21nm,0.6s,mb4.8						
DMN	**Daman**	**26.88**	**338**	*eP*	**P**	**16 35 42.0**	**+0.5**
	14nm,0.7s,mb4.6						
KKN	**Kakani**	**26.98**	**339**	*eP*	**P**	**16 35 42.6**	**+0.2**
	20nm,0.8s,mb4.7						
LSA	**Lhasa**	**27.24**	**351**	*eP*	**P**	**16 35 45.0**	**+0.3**
	7.0nm,0.8s,mb4.2						
GKN	**Gorkha**	**27.41**	**338**	*eP*	**P**	**16 35 46.3**	**+0.1**
	16nm,0.6s,mb4.7						
KOLN	**Koldanda**	**27.61**	**336**	*eP*	**P**	**16 35 48.3**	**+0.3**
	14nm,0.7s,mb4.6						
ENH	**Enshi**	**30.21**	**24**	*eP*	**P**	**16 36 09.0**	**-2.1**
	2.6nm,0.7s,mb4.0						
BJT	**Baijiatuau**	**41.36**	**24**	*eP*	**P**	**16 37 47.6**	**+1.2**
	14nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**43.80**	**123**	P	**P**	**16 38 06.8**	**+0.6**
	0.5nm,0.5s,mb3.5,baz=302,slow=9.1,SNR=4.5						
AAK	**Ala-Archa**	**44.16**	**337**	P	**P**	**16 38 09.7**	**+0.6**
	1.8nm,1.0s,mb3.8						
ASAR	**Alice Springs**	**45.22**	**128**	P	**P**	**16 38 17.1**	**-0.3**
	0.3nm,0.5s,mb3.3,baz=300,slow=8.0,SNR=11						
MKAR	**Makanchi Array**	**45.51**	**347**	P	**P**	**16 38 19.9**	**+0.2**
	2.2nm,0.4s,mb4.2,baz=156,slow=9.3,SNR=29						
MKAR	**Makanchi Array**	**45.51**	**347**	P	**P**	**16 38 19.9**	**+0.2**
SONM	**Songino Array**	**45.82**	**10**	P	**P**	**16 38 22.5**	**+0.2**
	2.2nm,0.7s,mb4.0,baz=190,slow=8.5,SNR=17						
SONM				PcP	PcP	16 39 59.9	+1.2
	0.5nm,0.7s,baz=182,slow=4.9,SNR=4.3						
KURK	**Kurchatov**	**50.04**	**346**	P	**P**	**16 38 54.8**	**-0.1**
	2.2nm,0.5s,mb4.3						
ZAL	**Zalesovo**	**51.88**	**352**	P	**P**	**16 39 08.5**	**-0.2**
	2.1nm,0.5s,mb4.4,baz=291,slow=2.4,SNR=11						
BRVK	**Borovoye**	**54.52**	**341**	*eP*	**P**	**16 39 26.5**	**-1.5**
	0.8nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**54.85**	**340**	*eP*	**P**	**16 39 29.3**	**-1.1**
AKTK	**Aktyubinsk**	**57.36**	**332**	P	**P**	**16 39 47.9**	**-0.5**
AKTO	**Aktyubinsk**	**57.36**	**332**	P	**P**	**16 39 47.9**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=90,slow=8.1,SNR=2.6						
FINES	**FINESS Array B**	**78.13**	**333**	P	**P**	**16 41 58.5**	**-0.4**
	0.8nm,0.7s,mb3.6,baz=93,slow=6.5,SNR=6.7						
ARCES	**ARCESS Array B**	**80.73**	**340**	P	**P**	**16 42 12.8**	**-0.2**
	4.7nm,1.0s,mb4.3,baz=72,slow=4.0,SNR=7.0						

*ISCJB **11** 16:53:33.9±1.5, 2742N±006×560E±01, h15km±11km, Error ellipse: s-maj=20.6km s-min=9.7km az=22.5*
*CSEM **11** 16:53:33.2±0.6, 2762N×5603E, h14km, ML3.4, After THR*
*THR **11** 16:53:33.2±0.6, 2762N×5603E, h14km±7km, ML3.4*
*OMAN **11** 16:53:47.2, 2626N×5706E, h4km±20km, Error ellipse: s-maj=4108.0km s-min=7.5km az=19.0*
ISC 11 16:53:34.4±1.8, 2742N±006×560E±01, h11km±13km, n8,
σ1§04/10, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.19**	**95**	*e*PG	**Pg**	**16 53 38.8**	**+0.2**
BANOM	**Banah**	**1.52**	**168**	P	**Pn**	**16 54 01.8**	**+0.3**
	SNR=26						
KRBR	**Kerman**	**2.65**	**15**	*e*PN	**Pn**	**16 54 15.2**	**-1.9**
KRBR				*e*SG	**Sn**	**16 54 50.0**	**+0.8**
KRBR				AML	AML	16 54 52.2	
	comp=N,183nm,0.9s						
KRBR	**Kerman**	**2.65**	**15**	*e*Pn	**Pn**	**16 54 15.2**	**-1.9**
	SNR=52						
KRBR				*e*Sg	**Sn**	**16 54 50.0**	**+0.8**
	comp=N,183nm,0.9s,SNR=90						
ASHO	**Ashiyiah**	**2.72**	**178**	P	**Pn**	**16 54 19.3**	**+1.3**
	SNR=28						
GHIR	**Ghir-Karzin**	**2.77**	**289**	*e*PN	**Pn**	**16 54 19.3**	**+0.7**
GHIR				AML	AML	16 55 14.1	
	comp=N,120nm,0.4s						
GHIR				AML	AML	16 55 15.1	
	comp=E,122nm,0.5s						
SHAO	**Shalim**	**9.35**	**182**	P	**Pn**	**16 55 49.0**	**-0.1**
	SNR=8.4						
WHFO	**Wadi Hawf**	**9.66**	**192**	⇑P	**Pn**	**16 55 51.7**	**-1.6**

*ISCJB **11** 16:55:56.3±0.8, 4124N±007×2256E±004, h10km, Error ellipse: s-maj=10.5km s-min=4.3km az=173.2*
*THE **11** 16:55:58.2, 41.14N×2264E, h24km, ML2.8*
*NEIC **11** 16:55:58.2, 41.14N×2264E, h25km, ML2.8(THE), After THE.*
*CSEM **11** 16:55:58.2, 41.14N×2264E, h24km, ML2.8, After THE*
*SKO **11** 16:56:08.2, 4104N×2052E, h15km, M1.0, ML1.5*
ISC 11 16:55:56.8±0.8, 4128N±008×2257E±004, h10km, n9,
σ1§09/16, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.28**	**115**	*e*Pg	**Pg**	**16 56 03.6**	**+1.2**
SRS	**Serrai**	**0.79**	**102**	*e*Pg	**Pg**	**16 56 12.1**	**0.0**
SRS				*e*Sg	**Sg**	**16 56 22.3**	**-0.1**
BIA	**Bitola**	**0.97**	**255**	*i* Pg	**Pg**	**16 56 18.9**	**+3.3**
BIA				*i* Sg	**Sg**	**16 56 29.3**	**+1.1**
BIA				*e*Lg		16 56 30.1	
	comp=N,11nm,0.2s						
BIA				*e*Lg		16 56 30.7	
	comp=E,34nm,0.5s						
BIA	**Bitola**	**0.97**	**255**	*e*Pg	**Pg**	**16 56 15.3**	**-0.2**
BIA				*e*Sg	**Sg**	**16 56 29.4**	**+1.2**
FNA	**Florina**	**1.03**	**241**	*e*Pg	**Pg**	**16 56 16.6**	**0.0**
	comp=E,5.5nm,0.3s						
FNA				*e*Sg	**Sg**	**16 56 30.8**	**+0.9**
FNA	**Florina**	**1.03**	**241**	*e*Pg	**Pg**	**16 56 16.5**	**-0.1**
	comp=E,5.5nm,0.3s						
FNA				*e*Sg	**Sg**	**16 56 30.8**	**+0.9**
SKO	**Skopje**	**1.09**	**310**	*e*Pn	**Sn**	**16 56 32.8**	**-0.4**
SKO				*e*Lg		16 56 52.0	
	comp=E,14nm,0.4s						
SKO				*e*Lg		16 56 52.3	
	comp=N,28nm,0.5s						
OHR	**Ohrid**	**1.34**	**263**	*i* Pg	**Pn**	**16 56 12.9**	**-8.7**
OHR				*i* Sg	**Pg**	**16 56 17.7**	**-4.9**
OHR				*e*Lg		16 56 20.9	
	comp=E,60nm,0.4s						
IGT	**Igoumenitsa**	**2.44**	**225**	*e*Pn	**Pn**	**16 56 35.4**	**-1.3**
IGT				*e*Sn	**Sn**	**16 57 03.8**	**-2.7**

IDC 11 17:07:54.9±6.2, 859S×11607E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=284.0km s-min=25.3km az=56.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.97**	**125**	P	P	17 12 38.9	-0.6
	0.6nm,0.6s,baz=299,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**22.72**	**133**	P	P	17 12 59.2	+1.0
	0.2nm,0.4s,baz=307,slow=8.8,SNR=11						
SONM	**Songino Array**	**56.82**	**352**	P	P	17 17 41.2	+0.2
	1.2nm,0.6s,baz=168,slow=8.6,SNR=17						

*ISCJB **11** 17:40:10.7±0.3, 3710N±002×499W±002, h2km±2km, Error ellipse: s-maj=3.7km s-min=2.5km az=19.7*
*MDD **11** 17:40:12.5±0.2, 3693N×494W, h7km±3km, mbLg2.9/41, Error ellipse: s-maj=2.1km s-min=1.6km az=162.0, PRXIMO*
MDD EMS: II CAQETE LA REAL CUEVAS DEL BECERRO.
*SFS **11** 17:40:12.0, 3694N×495W, h0km, ML2.8*
*IGIL **11** 17:40:12.4, 3700N×490W, h14km, ML2.7*
*CSEM **11** 17:40:12.4±0.1, 3692N×496W, h0km, ML3.5/7, Error ellipse: s-maj=1.9km s-min=1.1km az=8.0*
*INMG **11** 17

LIJA	**Lijar**	**0.36 254**	⇑P		**Pg**	**17 40 19.5**	**+0.6**
LIJA			S		**Sg**	**17 40 27.6**	**+3.9**
LIJA	**Lijar**	**0.36 254**	*i* P		**Pg**	**17 40 19.5**	**+0.6**
EMIJ	**Mijas**	**0.47 160**	⇑Pg		**Pg**	**17 40 19.5**	**-1.5**
	300nm,0.3s,SNR=18						
EMIJ			Lg			17 40 25.6	
	1μm,0.3s,SNR=5.0						
EMAL	**Malaga-Limoner**	**0.50 119**	⇑Pg		**Pg**	**17 40 20.2**	**-1.3**
	18nm,0.1s,SNR=18						
EMAL			Lg			17 40 25.4	
	111nm,0.2s,SNR=7.9						
REAL	**Reales**	**0.55 200**	⇑P		**Pg**	**17 40 21.8**	**-0.8**
REAL			S		**Sg**	**17 40 27.9**	**-1.9**
REAL	**Reales**	**0.55 200**	*i* P		**Pg**	**17 40 21.8**	**-0.8**
ELOJ	**Sierra Loja**	**0.67 78**	⇑Pg		**Pg**	**17 40 25.1**	**+0.3**
	66nm,0.4s,SNR=18						
ELOJ			Lg			17 40 34.6	
	103nm,0.3s,SNR=5.0						
EJIF	**Jimena Fronter**	**0.68 216**	⇑Pg		**Pg**	**17 40 25.0**	**0.0**
	103nm,0.6s,SNR=18						
EJIF			Lg			17 40 33.4	
	137nm,0.4s,SNR=7.9						
ESPR	**Espera**	**0.72 259**	⇓Pg		**Pg**	**17 40 27.2**	**+1.5**
	99nm,0.5s,SNR=18						
ESPR			Lg			17 40 35.3	
	191nm,0.4s,SNR=4.0						
ESPR	**Espera**	**0.72 259**	Pg		**Pg**	**17 40 27.2**	**+1.5**
	99nm,0.5s,SNR=18						
ELUQ	**Luque**	**0.79 45**	Pg		**Pg**	**17 40 28.3**	**+1.2**
	61nm,0.2s,SNR=33						
ELUQ			Lg			17 40 39.4	
	321nm,0.4s,SNR=23						
GIBL	**Gibalbin**	**0.82 258**	*i* P		**Pg**	**17 40 29.4**	**+1.9**
GIBL			*e*S		**Sg**	**17 40 45.1**	**+6.9**
MOMI	**Momias**	**0.90 222**	*e*P		**Pg**	**17 40 31.2**	**+2.0**
ERON	**Agron**	**0.94 89**	⇑Pg		**Pg**	**17 40 29.3**	**-0.5**
	70nm,0.3s,SNR=18						
ERON			Lg			17 40 41.2	
	120nm,0.4s,SNR=4.0						
SCRT	**Cerro San Cris**	**1.03 249**	*e*P		**Pg**	**17 40 33.7**	**+2.0**
ECAB	**El Cabril**	**1.12 342**	⇑Pg		**Pg**	**17 40 34.2**	**+0.8**
	115nm,0.4s,SNR=18						
ECAB			Lg			17 40 50.3	
	206nm,0.4s,SNR=17						
ECAB	**El Cabril**	**1.12 342**	Pg		**Pg**	**17 40 34.2**	**+0.8**
	115nm,0.4s,SNR=18						
EGUA	**Guajares**	**1.14 98**	Pg		**Pg**	**17 40 32.4**	**-1.3**
	4.5nm,0.2s,SNR=7.9						
EGUA			Lg			17 40 46.0	
	13nm,0.3s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.16 76**	⇑Pg		**Pg**	**17 40 34.3**	**+0.3**
	50nm,0.2s,SNR=18						
ECOG			Lg			17 40 50.4	
	129nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**1.20 15**	⇑Pg		**Pg**	**17 40 35.0**	**+0.1**
	78nm,0.3s,SNR=18						
EADA			Lg			17 40 52.5	
	445nm,0.4s,SNR=26						
EADA	**Adamuz**	**1.20 15**	Pg		**Pg**	**17 40 35.0**	**+0.1**
	78nm,0.3s,SNR=18						
EQUE	**Quentar**	**1.24 80**	Pg		**Pg**	**17 40 35.0**	**-0.6**
	52nm,0.3s,SNR=140						
EQUE			Lg			17 40 55.2	
	84nm,0.3s,SNR=7.5						
EBAN	**Banos Encina**	**1.49 39**	⇑Pg		**Pg**	**17 40 38.9**	**-1.5**
	49nm,0.2s,SNR=18						
EBAN			Lg			17 40 59.9	
	245nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.55 300**	⇑Pn		**Pn**	**17 40 39.2**	**-0.4**
	2.0nm,0.1s,SNR=18						
EMIN			Pg		**Pg**	**17 40 42.0**	**+0.4**
	15nm,0.3s,SNR=34						
EMIN			Sn		**Sn**	**17 40 59.2**	**-0.6**
	14nm,0.3s,SNR=7.9						
EMIN			Lg			17 41 02.4	
	58nm,0.3s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.55 300**	Pn		**Pn**	**17 40 39.2**	**-0.4**
	SNR=18						
EMIN	**Mina Concepcio**	**1.55 300**	Pg		**Pg**	**17 40 42.0**	**+0.4**
	15nm,0.3s,SNR=34						
EMIN			Sn		**Sn**	**17 40 59.2**	**-0.6**
	SNR=7.9						
EBER	**Berja**	**1.67 93**	Pn		**Pn**	**17 40 42.1**	**+0.9**
	37nm,0.4s,SNR=48						
EBER			Pg		**Pg**	**17 40 43.7**	**-0.2**
	49nm,0.4s,SNR=10						
EBER			Lg			17 41 05.9	
	108nm,0.5s,SNR=5.0						
EBER	**Berja**	**1.67 93**	Pn		**Pn**	**17 40 42.1**	**+0.9**
	37nm,0.4s,SNR=48						
EBER	**Berja**	**1.67 93**	Pg		**Pg**	**17 40 44.7**	**+0.8**
	49nm,0.4s,SNR=10						
EQES	**Quesada**	**1.71 62**	Pn		**Pn**	**17 40 42.7**	**+0.9**
	47nm,0.3s,SNR=39						
EQES			Pg		**Pg**	**17 40 45.0**	**+0.4**
	25nm,0.3s,SNR=5.5						
EQES			Lg			17 41 07.9	
	228nm,0.3s,SNR=5.0						
EQES	**Quesada**	**1.71 62**	Pn		**Pn**	**17 40 42.7**	**+1.0**
	47nm,0.3s,SNR=39						
EQES	**Quesada**	**1.71 62**	Pg		**Pg**	**17 40 45.0**	**+0.4**
	25nm,0.3s,SNR=5.5						
ERIP	**Rio Piedras**	**1.86 282**	⇑Pn		**Pn**	**17 40 43.6**	**-0.2**
	1.3nm,0.2s,SNR=18						
ERIP			Pg		**Pg**	**17 40 46.9**	**-0.6**
	1.1nm,0.2s,SNR=4.0						
ERIP			Sn		**Sn**	**17 41 07.2**	**-0.2**
	8.9nm,0.2s,SNR=7.9						
ERIP			Lg			17 41 12.1	
	122nm,0.4s,SNR=7.9						
ERIP	**Rio Piedras**	**1.86 282**	Pg		**Pg**	**17 40 46.9**	**-0.6**
	1.1nm,0.2s,SNR=4.0						
ERIP			Sn		**Sn**	**17 41 07.2**	**-0.1**
	8.9nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.06 66**	Pn		**Pn**	**17 40 47.4**	**+0.9**
	6.0nm,0.2s,SNR=7.9						
EHUE			Lg			17 41 19.1	
	40nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**2.07 286**	⇑Pn		**Pn**	**17 40 46.3**	**-0.4**
	6.9nm,0.3s,SNR=18						
EGRO			Pg		**Pg**	**17 40 51.0**	**-0.5**
	18nm,0.5s,SNR=14						
EGRO			Sn		**Sn**	**17 41 11.5**	**-1.0**
	64nm,0.8s,SNR=13						
EGRO			Lg			17 41 18.0	
	167nm,0.5s,SNR=9.9						
EGRO	**El Granado**	**2.07 286**	Pn		**Pn**	**17 40 46.3**	**-0.4**
	6.9nm,0.3s,SNR=18						
EGRO	**El Granado**	**2.07 286**	Pg		**Pg**	**17 40 51.0**	**-0.5**
	18nm,0.5s,SNR=14						
EGRO			Sn		**Sn**	**17 41 11.5**	**-1.1**
	64nm,0.8s,SNR=13						
ENIJ	**Nijar**	**2.21 90**	Pn		**Pn**	**17 40 49.1**	**+0.4**
	3.3nm,0.2s,SNR=7.9						
ENIJ			Pg		**Pg**	**17 40 53.9**	**-0.4**
	14nm,0.4s,SNR=9.7						
ENIJ			Lg			17 41 22.8	
	12nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.21 90**	Pg		**Pg**	**17 40 53.9**	**-0.4**
	14nm,0.4s,SNR=9.7						
EBAD	**Badajoz**	**2.38 318**	⇑Pn		**Pn**	**17 40 50.8**	**-0.1**
	7.2nm,0.3s,SNR=18						
EBAD			Pg		**Pg**	**17 40 57.3**	**-0.1**
	10nm,0.2s,SNR=10.0						
EBAD			Sn		**Sn**	**17 41 20.2**	**0.0**
	21nm,0.3s,SNR=7.9						
EBAD			Lg			17 41 30.4	
	47nm,0.3s,SNR=7.6						
EBAD	**Badajoz**	**2.38 318**	Pn		**Pn**	**17 40 50.8**	**-0.1**
	7.2nm,0.3s,SNR=18						
EBAD	**Badajoz**	**2.38 318**	Pg		**Pg**	**17 40 57.3**	**-0.1**
	10nm,0.2s,SNR=10.0						
EBAD			Sn		**Sn**	**17 41 20.2**	**0.0**
	SNR=7.9						
PBEJ	**Beja**	**2.52 295**	*e*Pn		**Pn**	**17 40 52.6**	**-0.2**
PBEJ			*e*Sg		**Sg**	**17 41 31.1**	**-1.5**
PBEJ							
	24nm,0.5s						
PBEJ	**Beja**	**2.52 295**	*e*Pn		**Pn**	**17 40 52.6**	**-0.2**
PBEJ			*e*Sg		**Sg**	**17 41 31.1**	**-1.5**
	24nm,0.5s						
ESDC	**Sonseca Array**	**2.78 16**	⇓Pn		**Pn**	**17 40 57.9**	**+1.4**
	1.9nm,0.2s,baz=196,slow=12,SNR=18						
ESDC			Pg		**Pg**	**17 41 05.2**	**0.0**
	2.5nm,0.2s,baz=197,slow=17,SNR=32						
ESDC			Sn		**Sn**	**17 41 29.4**	**-0.7**
	baz=197,slow=23,SNR=7.9						
ESDC			Lg			17 41 40.5	
	50nm,0.4s,baz=194,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**2.78 16**	Pn		**Pn**	**17 40 57.8**	**+1.4**
	1.9nm,0.2s,SNR=18						
ESDC	**Sonseca Array**	**2.78 16**	Pg		**Pg**	**17 41 05.2**	**+0.1**
	2.5nm,0.2s,SNR=32						
ESDC			Sn		**Sn**	**17 41 29.4**	**-0.7**
	SNR=7.9						
MORF	**Marmelete**	**2.95 277**	*e*P		**Pn**	**17 40 58.0**	**-0.9**
MORF			*e*S		**Sn**	**17 41 31.6**	**-2.7**
MORF			*e*S		**Sn**	**17 41 31.7**	**-2.7**
MORF			AML		AML	17 41 36.7	
	comp=N,29nm,0.4s						
MORF	**Marmelete**	**2.95 277**	*e*P		**Pn**	**17 40 58.0**	**-0.8**
MORF			*e*S		**Sn**	**17 41 31.6**	**-2.7**
PTEO	**Sao Teotonio**	**3.04 281**	*e*Pn		**Pn**	**17 40 59.7**	**-0.3**
PTEO			*e*Sn		**Sn**	**17 41 35.5**	**-1.0**
PTEO			*e*Sg		**Sg**	**17 41 48.8**	**-0.7**
PTEO							
	comp=N,53nm,0.5s						
PTEO	**Sao Teotonio**	**3.04 281**	*e*Pn		**Pn**	**17 40 59.7**	**-0.3**
PTEO			*e*Sn		**Sn**	**17 41 35.5**	**-1.0**
PTEO			*e*Sg		**Sg**	**17 41 48.8**	**-0.7**
	comp=N,53nm,0.5s						
MOE	**Montemor**	**3.08 301**	*e*Pn		**Pn**	**17 41 01.4**	**+0.9**
MOE			*e*Sn		**Sn**	**17 41 38.7**	**+1.4**
MOE			*e*Sg		**Sg**	**17 41 51.6**	**+1.0**
EMUR	**La Murta**	**3.09 73**	Pn		**Pn**	**17 41 00.9**	**+0.2**
	comp=N,1.2nm,0.3s,SNR=7.9						
EMUR			Pg		**Pg**	**17 41 09.8**	**-1.2**
	comp=N,14nm,0.4s,SNR=7.9						
EMUR			Sn		**Sn**	**17 41 37.7**	**+0.1**
	comp=N,12nm,0.4s,SNR=7.9						
EMUR			Lg			17 41 51.4	
	comp=N,38nm,0.6s,SNR=7.9						
EMUR	**La Murta**	**3.09 73**	Pn		**Pn**	**17 41 00.9**	**+0.2**
	SNR=7.9						
EMUR	**La Murta**	**3.09 73**	Pg		**Pg**	**17 41 10.9**	**-0.1**
	SNR=7.9						
EMUR			Sn		**Sn**	**17 41 37.7**	**+0.1**
	SNR=7.9						
ETOB	**Tobarra**	**3.17 58**	Pn		**Pn**	**17 41 02.9**	**+1.1**
	comp=N,3.0nm,0.4s,SNR=14						
ETOB			Pg		**Pg**	**17 41 11.1**	**-1.4**
	comp=N,4.7nm,0.3s,SNR=7.9						
ETOB			Lg			17 41 53.7	
	comp=N,103nm,0.6s,SNR=7.2						
ETOB	**Tobarra**	**3.17 58**	Pg		**Pg**	**17 41 11.1**	**-1.4**
	SNR=7.9						
PCBR	**Castelo Branco**	**3.45 326**	*e*Pn		**Pn**	**17 41 06.7**	**+1.1**
PCBR			*e*Sn		**Sn**	**17 41 46.6**	**+0.1**
PCBR							
	comp=N,18nm,0.7s						
PCBR	**Castelo Branco**	**3.45 326**	*e*Pn		**Pn**	**17 41 06.7**	**+1.1**
PCBR			*e*Sn		**Sn**	**17 41 46.6**	**+0.1**
	comp=N,18nm,0.7s						
GUD	**Guadarrama**	**3.69 10**	Pn		**Pn**	**17 41 10.1**	**+1.2**
	comp=N,4.4nm,0.4s,SNR=9.2						
GUD			Pg		**Pg**	**17 41 21.2**	**-1.2**
	comp=N,1.7nm,0.2s,SNR=7.9						
GUD			Sn		**Sn**	**17 41 52.1**	**-0.3**
	comp=N,3.0nm,0.3s,SNR=7.9						
GUD			Lg			17 42 08.2	
	comp=N,12nm,0.3s,SNR=6.6						
GUD	**Guadarrama**	**3.69 10**	Pg		**Pg**	**17 41 21.2**	**-1.3**
	SNR=7.9						
GUD			Sn		**Sn**	**17 41 52.1**	**-0.4**
	SNR=7.9						
PTOM	**Tomar**	**3.76 315**	*e*Pn		**Pn**	**17 41 10.5**	**+0.6**
PTOM			*e*Sn		**Sn**	**17 41 54.6**	**+0.4**
PTOM			*e*Sg		**Sg**	**17 42 11.4**	**-1.1**
PTOM							
	comp=N,34nm,0.8s						
PTOM	**Tomar**	**3.76 315**	*e*Pn		**Pn**	**17 41 10.5**	**+0.6**
PTOM			*e*Sn		**Sn**	**17 41 54.6**	**+0.4**
PTOM			*e*Sg		**Sg**	**17 42 11.4**	**-1.1**
	comp=N,34nm,0.8s						
PLOU	**Loures**	**3.80 301**	*e*Sn		**Sn**	**17 41 55.1**	**-0.1**
PLOU							
	comp=N,37nm,0.9s						
PLOU	**Loures**	**3.80 301**	*e*Sn		**Sn**	**17 41 55.1**	**-0.1**
	comp=N,37nm,0.9s						
MTE	**Manteigas**	**3.94 330**	*e*Pn		**Pn**	**17 41 13.9**	**+1.5**
MTE			*e*Sn		**Sn**	**17 41 58.2**	**-0.5**
MTE			*e*Sg		**Sg**	**17 42 21.5**	**+3.1**
MTE							
	comp=N,38nm,0.7s						
MTE	**Manteigas**	**3.94 330**	*e*Pn		**Pn**	**17 41 13.9**	**+1.5**
MTE			*e*Sn		**Sn**	**17 41 58.2**	**-0.5**
MTE			*e*Sg		**Sg**	**17 42 21.5**	**+3.1**
	comp=N,38nm,0.7s						
ECHE	**Chera**	**4.07 49**	Pn		**Pn**	**17 41 14.5**	**+0.2**
	comp=N,14nm,0.4s,SNR=5.1						
ECHE			Lg			17 42 21.8	
	comp=N,11nm,0.3s,SNR=5.0						
EBEN	**Beniarda**	**4.12 64**	Pn		**Pn**	**17 41 14.8**	**-0.1**
	comp=N,8.2nm,0.9s,SNR=7.7						
EBEN			Pg		**Pg**	**17 41 29.1**	**-1.7**
	comp=N,1.3nm,0.4s,SNR=7.9						
EBEN			Lg			17 42 22.7	
	comp=N,13nm,0.4s,SNR=5.0						
EBEN	**Beniarda**	**4.12 64**	Pn		**Pn**	**17 41 14.8**	**-0.1**
	comp=N,8.2nm,0.9s,SNR=7.7						
EBEN	**Beniarda**	**4.12 64**	Pg		**Pg**	**17 41 29.1**	**-1.7**
	comp=N,1.3nm,0.4s,SNR=7.9						
PVIS	**Viseu**	**4.35 329**	*e*Pn		**Pn**	**17 41 18.7**	**+0.7**
PVIS			*e*Sn		**Sn**	**17 42 08.2**	**-0.6**
PVIS			*e*Sg		**Sg**	**17 42 31.7**	**+0.2**
PVIS							
	comp=N,15nm,0.5s						
PVIS	**Viseu**	**4.35 329**	*e*Pn		**Pn**	**17 41 18.7**	**+0.7**
PVIS			*e*Sn		**Sn**	**17 42 08.2**	**-0.6**
PVIS			*e*Sg		**Sg**	**17 42 31.7**	**+0.2**
	comp=N,15nm,0.5s						
PVRL	**Vila Real**	**4.77 334**	*e*Pn		**Pn**	**17 41 24.8**	**+1.0**
PVRL			*e*Sn		**Sn**	**17 42 17.1**	**-2.0**
PVRL			*e*Sg		**Sg**	**17 42 45.5**	**+0.6**
PVRL							
	comp=N,10nm,0.4s						
PVRL	**Vila Real**	**4.77 334**	Pn		**Pn**	**17 41 24.8**	**+1.0**
PVRL			Sn		**Sn**	**17 42 17.1**	**-2.0**
PVRL			Lg			17 42 45.5	
	comp=N,5.2nm,0.4s						
EMOS	**Mosqueruela**	**4.86 45**	Pn		**Pn**	**17 41 27.2**	**+2.2**
	comp=N,2.1nm,0.5s,SNR=7.9						
EMOS			Lg			17 42 47.6	
	comp=N,4.8nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**4.98 345**	*e*Pn		**Pn**	**17 41 27.7**	**+1.0**
PBRG			*e*Sn		**Sn**	**17 42 21.3**	**-3.1**
PBRG			*e*Sg		**Sg**	**17 42 50.8**	**-1.0**
PBRG							
	comp=N,9.9nm,0.5s						
PBRG	**Braganca**	**4.98 345**	Pn		**Pn**	**17 41 27.7**	**+1.0**
PBRG			Sn		**Sn**	**17 42 21.3**	**-3.1**
PBRG			Lg			17 42 50.8	
	comp=N,4.9nm,0.5s						
ECAL	**Calabor**	**5.11 345**	Pn		**Pn**	**17 41 30.4**	**+1.9**
	comp=N,2.0nm,0.2s,SNR=4.0						
ECAL			Sn		**Sn**	**17 42 26.3**	**-1.3**
	comp=N,7.3nm,0.4s,SNR=7.9						
ECAL			Lg			17 42 56.2	
	comp=N,9.1nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**5.41 335**	Pn		**Pn**	**17 41 32.5**	**-0.1**
	comp=N,6.1nm,0.7s,SNR=4.8						
ELOB			Sn		**Sn**	**17 42 32.2**	**-2.8**
	comp=N,3.5nm,0.5s,SNR=7.9						
ELOB			Lg			17 43 04.4	
	comp=N,17nm,0.5s,SNR=5.0						
ERTA	**Horta de San J**	**5.71 45**	Lg			17 43 11.0	
	comp=N,4.1nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**5.86 35**	Lg			17 43 18.4	
	comp=N,34nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**6.29 358**	Lg			17 43 34.4	
	comp=N,1.6nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**6.40 45**	Pn		**Pn**	**17 41 44.8**	**-1.3**
	comp=N,7.0nm,0.8s,SNR=4.0						
EPON	**Pontenova**	**6.53 346**	Pn		**Pn**	**17 41 48.0**	**0.0**
	comp=N,8.3nm,0.7s,SNR=4.0						
EPON			Lg			17 43 42.1	
	comp=N,1.8nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**6.75 22**	Pn		**Pn**	**17 41 52.2**	**+1.2**
	comp=N,15nm,0.7s,SNR=7.9						
EALK			Sn		**Sn**	**17 43 03.7**	**-4.2**
	comp=N,8.5nm,0.8s,SNR=7.9						
EALK			Lg			17 43 46.2	
	comp=N,6.6nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**6.90 33**	Pn		**Pn**	**17 41 54.3**	**+1.2**
	comp=N,1.2nm,0.3s,SNR=7.9						
EBIE			Sn		**Sn**	**17 43 06.0**	**-5.8**
	comp=N,6.5nm,0.8s,SNR=7.9						
EBIE			Lg			17 43 53.5	
	comp=N,0.4nm,0.2s,SNR=7.9						

*IDC **11** 17:42:15.1±7.8,2521N×128.18E,h0km,mb3.7/3,*
mb1 3.7/3,mb1mx3.4/20,mbtmp3.7/3,Error ellipse:
s-maj=216.3km s-min=137.9km az=31.0
*NEIC **11** 17:42:23.2±6.4,26.1N×128.84E,h35km,MG4.0(JMA),*
Error ellipse: s-maj=124.0km s-min=21.3km az=134.0
NEIC Recorded [1 JMA] on Okinawa.
*ISCJB **11** 17:42:31.0±0.5,2662N±006×127.95E±006,h74km±4km,*
mb3.4/3,Error ellipse: s-maj=11.7km s-min=4.0km
az=97.8
*JMA **11** 17:42:32.5±0.2,2668N×127.93E,h65km±2km,M4.0*
JMA Felt I J1.

ISC 11 17:42:32.1±0.5,2663N±005×12796E±005,h67km±5km,
n22,σ0s92/34,mb3.4/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.34**	**54**	P	**Pn**	**17 42 43.4**	**+0.1**
JOW				S	**Sn**	**17 42 50.8**	**-0.7**
JIH	**Iheya**	**0.41**	**1**	P	**Pn**	**17 42 43.8**	**0.0**
JIH				S	**Sn**	**17 42 51.6**	**-0.7**
NAH1	**Naha**	**0.49**	**210**	P	**Pn**	**17 42 45.1**	**+0.5**
NAH1				S	**Sn**	**17 42 54.4**	**+0.7**
JJT2	**Tamagusuku 2**	**0.52**	**201**	P	**Pn**	**17 42 45.8**	**+0.9**
JJT2				S	**Sn**	**17 42 55.8**	**+1.5**
JAGN	**Aguni-jima**	**0.65**	**267**	P	**Pn**	**17 42 46.1**	**-0.1**
JAGN				S	**Sn**	**17 42 56.3**	**-0.2**
JKE	**Kume jima 2**	**1.10**	**254**	P	**Pn**	**17 42 51.5**	**-0.2**
JKE				S	**Sn**	**17 43 06.1**	**-0.2**
JTK	**Tokunoshima**	**1.45**	**37**	P	**Pn**	**17 42 56.6**	**+0.3**
JTK				S	**Sn**	**17 43 14.1**	**-0.4**
JAM	**Amami Oshima**	**2.30**	**39**	P	**Pn**	**17 43 08.0**	**+0.3**
JAM				S	**Sn**	**17 43 34.5**	**-0.5**
JZK	**Kikaishima**	**2.45**	**46**	P	**Pn**	**17 43 10.6**	**+0.8**
JZK				S	**Sn**	**17 43 39.3**	**+0.6**
JOGS	**Gusukube**	**2.96**	**232**	P	**Pn**	**17 43 17.2**	**+0.4**
JOGS				S	**Sn**	**17 43 52.0**	**+0.9**
JMJ	**Miyako jima 2**	**3.01**	**234**	P	**Pn**	**17 43 17.8**	**+0.4**
JMZ	**Minamidaito 2**	**3.04**	**105**	P	**Pn**	**17 43 16.0**	**-1.8**
JMZ				S	**Sn**	**17 43 49.3**	**-3.6**
JTJ	**Tarama**	**3.55**	**237**	P	**Pn**	**17 43 24.3**	**-0.4**
JTJ				*e*S	**Sn**	**17 44 05.2**	**-0.2**
JNN	**Nakanoshima**	**3.62**	**27**	P	**Pn**	**17 43 26.9**	**+1.2**
JIJ	**Ishigaki jima**	**4.12**	**238**	P	**Pn**	**17 43 31.0**	**-1.6**
JKRS	**Kuro-shima**	**4.29**	**237**	P	**Pn**	**17 43 33.8**	**-1.1**
IRIF	**Iriomote-Funau**	**4.46**	**240**	P	**Pn**	**17 43 35.2**	**-1.9**
NACB	**Ninganchiao**	**6.25**	**248**	*e*Pn	**Pn**	**17 44 00.5**	**-1.3**
YHNB	**Yeheng**	**6.26**	**253**	*e*Pn	**Pn**	**17 44 02.7**	**+0.9**
SONM	**Songino Array**	**27.09**	**327**	P	**P**	**17 48 11.2**	**+2.8**
	0.4nm,0.4s,mb3.3,baz=144,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**41.09**	**312**	P	**P**	**17 50 09.7**	**+0.4**
	0.2nm,0.6s,mb3.1,baz=114,slow=9.6,SNR=3.6						
FINES	**FINESS Array B**	**72.40**	**330**	P	**P**	**17 53 50.8**	**-0.3**
	1.5nm,1.0s,mb3.8,baz=58,slow=5.6,SNR=8.2						

IDC 11 17:46:11.0±2.5,273S×10499W,h0km,mb3.7/5,
mb1 4.0/5,mb1mx3.8/14,mbtmp3.7/5,MS4.0/13,
Ms1 4.0/13,ms1mx3.9/19,Error ellipse: s-maj=129.5km
s-min=26.1km az=63.0,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**23.77**	**57**	LR	LR	17 58 08.7	
	comp=Z,666nm,21.0s,baz=298,slow=30						
LPAZ	**La Paz**	**38.67**	**113**	LR	LR	18 06 35.5	
	comp=Z,147nm,18.2s,baz=270,slow=32						
CFAA	**Coronel Fontan**	**44.96**	**134**	P	P	17 54 28.2	+0.4
	0.2nm,0.3s,baz=315,slow=10,SNR=11						
CFAA				LR	LR	18 07 34.0	
	comp=Z,48nm,21.9s,baz=348,slow=28						
PDAR	**Pinedale Array**	**45.47**	**355**	P	P	17 54 33.3	+1.5
	0.6nm,0.7s,baz=173,slow=7.6,SNR=5.7						
PPT	**Papeete**	**46.15**	**248**	LR	LR	18 08 23.9	
	comp=Z,265nm,19.9s,baz=82,slow=29						
PLCA	**Paso Flores**	**48.94**	**145**	LR	LR	18 09 14.0	
	comp=Z,321nm,21.8s,baz=350,slow=28						
CPUP	**Villa Florida**	**51.34**	**122**	LR	LR	18 12 29.6	
	comp=Z,93nm,19.3s,baz=278,slow=31						
ULM	**Lac du Bonnet**	**53.35**	**7**	P	P	17 55 31.8	-0.2
	0.7nm,0.4s,baz=207,slow=4.5,SNR=3.4						
ULM				LR	LR	18 17 45.2	
	comp=Z,129nm,20.1s,baz=200,slow=36						
BDFB	**Brasilia**	**57.51**	**107**	LR	LR	18 18 20.1	
	comp=Z,110nm,20.6s,baz=107,slow=34						
SCHQ	**Schefferville**	**65.42**	**23**	LR	LR	18 25 02.8	
	comp=Z,126nm,20.9s,baz=323,slow=36						
YKA	**Yellowknife Ar**	**65.46**	**355**	P	P	17 56 55.4	-0.3
	0.6nm,0.8s,baz=164,slow=6.5,SNR=6.5						
YKA				LR	LR	18 23 57.4	
	comp=Z,124nm,18.8s,baz=275,slow=35						
ILAR	**Eielson Array**	**73.98**	**343**	P	P	17 57 47.5	-0.8
	0.6nm,0.7s,baz=152,slow=5.0,SNR=10						
ILAR				LR	LR	18 25 05.5	
	comp=Z,50nm,20.3s,baz=1.7,slow=32						
URZ	**Urewera**	**78.82**	**232**	LR	LR	18 25 13.6	
	comp

comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=3.2
FINES FINESS Array B 33.65 339 P **P 18 05 18.6 -0.6**
comp=Z,1.0nm,0.8s,mb3.8,baz=148,slow=11,SNR=4.9
NB2 NORSAR Subarra 38.83 331 P **P 18 06 02.3 -1.1**
comp=Z,3.2nm,1.2s,mb3.9,baz=122,slow=8.6
NOA NORSAR Array B 38.83 331 P **P 18 06 03.0 -0.4**
comp=Z,0.8nm,0.6s,mb3.6,baz=122,slow=8.3,SNR=5.2
TORD Torodi Ar. Bea 48.25 259 P **P 18 07 20.2 +1.0**
comp=Z,0.5nm,0.8s,mb3.6,baz=55,slow=5.5,SNR=3.2

*IGIL **11** 18:08:32.9,3654N×987W,h25km,ML2.4*
*INMG **11** 18:08:33.1±0.8,3665N×979W,h10km,ML2.1,Error ellipse: s-maj=4.7km s-min=3.0km az=72.0*
*CSEM **11** 18:08:33.2±0.9,3659N×942W,h10km,ML2.1,Error ellipse: s-maj=16.4km s-min=15.9km az=8.0*

MDD 11 18:08:30.8±1.7,3667N×984W,h0km,mbLg2.6/10,Error ellipse: s-maj=14.0km s-min=11.5km az=81.0,PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.15**	**56**	*e*P	Pg	18 08 53.2	+0.5
MORF				*e*S	Sg	18 09 08.1	+0.4
MORF				*e*S	Sg	18 09 08.1	+0.5
MORF				AML	AML	18 09 10.6	
	comp=E,48nm,0.3s						
MORF	**Marmelete**	**1.15**	**56**	P	Pg	18 08 53.2	+0.4
MORF				S	Sg	18 09 08.1	+0.4
MORF	**Marmelete**	**1.15**	**56**	*e*P	Pg	18 08 53.2	+0.4
MORF				*e*S	Sg	18 09 08.1	+0.5
PTEO	**Sao Teotonio**	**1.25**	**45**	*e*P	Pg	18 08 54.7	-0.1
PTEO				*e*S	Sg	18 09 11.1	+0.1
PTEO							
	comp=E,9.5nm,0.1s						
PTEO	**Sao Teotonio**	**1.25**	**45**	*e*P	Pg	18 08 54.7	-0.1
PTEO				*e*S	Sg	18 09 11.1	+0.1
	comp=E,9.5nm,0.1s						
EGRO	**El Granado**	**2.07**	**65**	P	Pn	18 09 05.8	-1.0
	comp=E,0.8nm,0.1s,SNR=12						
EGRO				S	Sn	18 09 30.4	-3.0
	comp=E,5.8nm,0.1s,SNR=11						
EGRO	**El Granado**	**2.07**	**65**	P	Pn	18 09 05.8	-1.0
	comp=E,0.8nm,0.1s,SNR=12						
EGRO				S	Sn	18 09 30.4	-3.0
	comp=E,5.8nm,0.1s,SNR=11						
PBEJ	**Beja**	**2.08**	**49**	*e*Pn	Pn	18 09 05.7	-1.2
PBEJ				*e*Sn	Sn	18 09 30.6	-2.8
PBEJ							
	comp=E,4.6nm,0.2s						
MOE	**Montemor**	**2.20**	**32**	*e*Sn	Sn	18 09 34.6	-1.8
PLOU	**Loures**	**2.28**	**14**	*e*Sn	Sn	18 09 35.9	-2.5
PLOU							
	comp=E,14nm,0.3s						
PLOU	**Loures**	**2.28**	**14**	Sn	Sn	18 09 35.9	-2.5
	comp=E,7.1nm,0.3s						
EMIN	**Mina Concepcio**	**2.76**	**66**	P	Pn	18 09 15.1	-1.2
	comp=E,0.4nm,0.1s,SNR=8.7						
EMIN				S	Sn	18 09 46.5	-3.7
	comp=E,1.8nm,0.1s,SNR=9.0						
EMIN	**Mina Concepcio**	**2.76**	**66**	P	Pn	18 09 15.1	-1.1
	comp=E,0.4nm,0.1s,SNR=8.7						
EMIN				S	Sn	18 09 45.6	-4.6
	comp=E,1.8nm,0.1s,SNR=9.0						
EBAD	**Badajoz**	**3.06**	**46**	P	Pn	18 09 19.0	-1.4
	comp=E,0.7nm,0.1s,SNR=6.8						
EBAD				S	Sn	18 09 54.1	-3.6
	comp=E,8.1nm,0.2s,SNR=8.1						
EBAD	**Badajoz**	**3.06**	**46**	P	Pn	18 09 19.0	-1.4
	comp=E,0.7nm,0.1s,SNR=6.8						
EBAD				S	Sn	18 09 54.1	-3.6
	comp=E,8.1nm,0.2s,SNR=8.1						
PTOM	**Tomar**	**3.15**	**21**	*e*Sn	Sn	18 09 56.5	-3.5
ESPR	**Espera**	**3.21**	**85**	P	Pn	18 09 20.7	-1.7
	comp=E,5.2nm,0.1s,SNR=11						
ESPR				S	Sn	18 09 56.8	-4.5
	comp=E,28nm,0.2s						
ESPR	**Espera**	**3.21**	**85**	P	Pn	18 09 20.7	-1.7
	comp=E,5.2nm,0.1s,SNR=11						
ESPR				S	Sn	18 09 56.8	-4.5
	comp=E,28nm,0.2s						
PCBR	**Castelo Branco**	**3.67**	**30**	*e*Sn	Sn	18 10 07.7	-5.1
ECAB	**El Cabril**	**3.79**	**67**	P	Pn	18 09 29.4	-1.1
	comp=E,0.4nm,0.1s,SNR=9.5						
ECAB				S	Sn	18 10 09.8	-6.0
	comp=E,1.6nm,0.1s						
ECAB	**El Cabril**	**3.79**	**67**	P	Pn	18 09 29.4	-1.1
	comp=E,0.4nm,0.1s,SNR=9.5						
ECAB				S	Sn	18 10 09.8	-6.0
	comp=E,1.6nm,0.1s						
EADA	**Adamuz**	**4.45**	**69**	P	Pn	18 09 38.4	-1.1
	comp=E,0.6nm,0.1s,SNR=7.9						
EADA				S	Sn	18 10 27.7	-4.3
	comp=E,2.2nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**4.45**	**69**	P	Pn	18 09 38.4	-1.1
	comp=E,0.6nm,0.1s,SNR=7.9						
EADA				S	Sn	18 10 27.7	-4.3
	comp=E,2.2nm,0.1s,SNR=4.0						
ELOB	**Lobios**	**5.37**	**14**	P	Pn	18 09 50.7	-1.5
	comp=E,0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	18 10 49.9	-4.9
	comp=E,0.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.37**	**14**	P	Pn	18 09 50.7	-1.5
	comp=E,0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	18 10 49.9	-4.8
	comp=E,0.9nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.52**	**55**	P	Pn	18 09 53.0	-1.2
	comp=E,0.7nm,0.1s,baz=240,slow=14,SNR=4.2						
ESDC				S	Sn	18 10 54.2	-4.2
	comp=E,3.1nm,0.3s,baz=240,slow=24,SNR=9.0						
ESDC	**Sonseca Array**	**5.52**	**55**	P	Pn	18 09 53.0	-1.2
	comp=E,0.7nm,0.1s,SNR=4.2						
ESDC				S	Sn	18 10 54.2	-4.1
	comp=E,3.1nm,0.3s,SNR=9.0						
EQES	**Quesada**	**5.52**	**76**	P	Pn	18 09 52.1	-2.1
	comp=E,0.5nm,0.3s,SNR=7.9						
EQES				S	Sn	18 10 53.4	-5.0
	comp=E,1.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.52**	**76**	P	Pn	18 09 52.1	-2.1
	SNR=7.9						
EQES				S	Sn	18 10 53.4	-5.0
	comp=E,1.2nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.31**	**6**	S	Sn	18 11 11.3	-6.4
	comp=E,2.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.87**	**71**	P	Pn	18 10 10.1	-2.7
	comp=E,0.5nm,0.3s,SNR=7.9						
ETOB				S	Sn	18 11 24.5	-7.1
	comp=E,0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.87**	**71**	P	Pn	18 10 10.1	-2.6
	comp=E,0.5nm,0.3s,SNR=7.9						

CASC 11 18:16:33.4±1.7,1279N×8843W,h65km±44km,MD3.6, 1C-6D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.65**	**13**	⇓*e*P	Pn	18 16 47.6	+0.2
VSM				*e*S	Sn	18 16 59.9	+2.3
BLLM	**Bellamira**	**0.67**	**16**	⇓*e*P	Pn	18 16 47.3	-0.4
BLLM				*e*S	Sn	18 16 59.7	+1.6
CNCH	**Conchagua**	**0.75**	**50**	⇓*e*P	Pn	18 16 48.5	-0.1
CNCH				*e*S	Sn	18 17 00.1	+0.4
LCBS	**La Ceiba**	**1.01**	**328**	⇓*e*P	Pn	18 16 51.7	-0.1
LCBS				*e*S	Sn	18 17 05.7	+0.3
LFRS	**El Faro**	**1.03**	**323**	⇓*e*P	Pn	18 16 52.0	0.0
LFRS				*e*S	Sn	18 17 06.7	+0.8
LBRS	**Las Brisas**	**1.12**	**327**	*e*P	Pn	18 16 53.0	-0.1
LBRS				*e*S	Sn	18 17 08.5	+0.7
LFU	**La Fuente**	**1.16**	**325**	*e*P	Pn	18 16 54.6	+0.8
LFU				*e*S	Sn	18 17 10.8	+1.9
BOQS	**Boqueron**	**1.25**	**318**	⇓*e*P	Pn	18 16 55.8	+0.8
BOQS				*e*S	Sn	18 17 13.8	+2.7
CRIN	**San Cristobal**	**1.34**	**94**	*e*P	Pn	18 16 56.9	+0.8
LEON	**Leon**	**1.54**	**104**	*e*P	Pn	18 16 59.1	+0.3
LEON				*e*S	Sn	18 17 17.7	-0.2
TEL3	**Telica 3**	**1.56**	**98**	*e*P	Pn	18 16 58.8	-0.1
TEL3				*e*S	Sn	18 17 18.6	+0.4
SBLS	**San Blas**	**1.56**	**312**	*e*P	Pn	18 16 59.9	+0.8
SBLS				*e*S	Sn	18 17 18.9	+0.5
TELN	**Telica**	**1.57**	**97**	*e*P	Pn	18 16 58.9	-0.2
TELN				*e*S	Sn	18 17 19.1	+0.6
SNJE	**San Jose**	**1.57**	**313**	*e*P	Pn	18 17 00.1	+0.9
SNJE				*e*S	Sn	18 17 19.4	+0.8
MIRN	**Miramar**	**1.71**	**102**	*e*P	Pn	18 17 01.5	+0.5
MIRN				*e*S	Sn	18 17 24.1	+2.2
CNGN	**Cerro Negro**	**1.71**	**100**	*e*P	Pn	18 17 01.1	+0.1
CNGN				*e*S	Sn	18 17 21.9	0.0
MOMJ	**Momotombo**	**1.88**	**102**	*e*P	Pn	18 17 03.8	+0.5
MOMJ				*e*S	Sn	18 17 27.6	+1.6
COPN	**Copaltepe**	**1.89**	**109**	*e*P	Pn	18 17 04.1	+0.7
COPN				*e*S	Sn	18 17 26.3	0.0
APYN	**Apoyeque**	**2.10**	**105**	*e*P	Pn	18 17 07.1	+0.8
APYN				*e*S	Sn	18 17 33.4	+2.0
MGAN	**Managua**	**2.22**	**107**	*e*S	Sn	18 17 35.4	+1.1
TICN	**Ticuantepe**	**2.27**	**109**	⇑*e*P	Pn	18 17 10.0	+1.4
TICN				*e*S	Sn	18 17 36.1	+0.6

IDC 11 18:23:07.6±1.8,968N×8269W,h24km±6km,mb3.6/4, mb1 3.9/5,mb1mx3.6/18,mbtmp3.7/5,MS3.1/1,Ms1 3.1/1, ms1mx2.5/18,Error ellipse: s-maj=52.9km s-min=26.0km az=20.0,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.31**	**286**	Pn	Pn	18 23 45.4	+1.4
	11nm,0.3s,baz=48,slow=22,SNR=43						
JTS				Sn	Sn	18 24 17.5	+5.8
	25nm,0.3s,baz=271,slow=21,SNR=8.0						
SJG	**San Juan**	**18.11**	**61**	LR	LR	18 33 19.6	
	comp=Z,57nm,18.0s,baz=136,slow=34						
PDAR	**Pinedale Array**	**40.48**	**329**	P	P	18 30 44.7	+0.4
	0.7nm,0.8s,baz=141,slow=7.5,SNR=5.7						
PDAR				pP	pP	18 30 52.8	+1.2
	0.5nm,0.9s,baz=142,slow=11,SNR=3.4						
YKA	**Yellowknife Ar**	**57.55**	**343**	P	P	18 32 53.7	-1.4
	0.6nm,0.6s,baz=135,slow=7.2,SNR=19						
YKA				pP	pP	18 33 02.4	-0.2
	0.4nm,0.7s,baz=136,slow=7.3,SNR=6.5						
ILAR	**Eielson Array**	**70.44**	**336**	pP	pP	18 34 27.6	+0.1
	0.6nm,0.9s,baz=103,slow=2.9,SNR=4.4						
ESDC	**Sonseca Array**	**75.23**	**52**	P	P	18 34 49.5	+1.2
	0.2nm,0.4s,baz=272,slow=4.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**82.44**	**78**	P	P	18 35 29.0	+1.2
	0.3nm,0.7s,baz=291,slow=4.5,SNR=2.7						
ASAR	**Alice Springs**	**142.41**	**244**	PKP	PKPdf	18 42 36.6	-1.6
	0.6nm,1.1s,baz=119,slow=4.0,SNR=3.8						
ASAR				pPKP	pPKPdf	18 42 45.5	-0.8
	0.4nm,0.9s,baz=123,slow=3.3,SNR=2.5						

IDC 11 18:24:28.9±14.0,1822S×16925E,h136km±132km, mb3.3/2,mb1 3.5/3,mb1mx3.3/13,mbtmp3.7/3,ML3.2/1, Error ellipse: s-maj=221.6km s-min=85.6km az=173.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.65**	**214**	P	Pn	18 25 37.5	+0.1
	1.0nm,0.3s,baz=322,slow=18,SNR=11						
WRA	**Warramunga Arr**	**33.00**	**261**	P	P	18 30 51.6	+0.6
	0.2nm,0.3s,baz=90,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**33.40**	**255**	P	P	18 30 54.3	0.0
	1.5nm,0.6s,baz=84,slow=9.0,SNR=35						
GERES	**GERESS Array B**	**143.60**	**333**	PKP	PKPdf	18 43 47.3	-0.2
	0.7nm,0.8s,baz=44,slow=4.1,SNR=4.8						

IDC 11 18:44:08.8±1.7,410N×9311E,h0km,mb3.7/5,mb1 3.9/6, mb1mx3.6/22,mbtmp3.7/6,ML3.7/1,MS3.3/2,Ms1 3.3/2, ms1mx3.1/20,Error ellipse: s-maj=60.3km s-min=22.2km az=51.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.94**	**102**	Pn	Pn	18 45 39.7	+1.7
	1.8nm,0.3s,baz=291,slow=18,SNR=6.7						
PSI				Sn	Sn	18 46 44.2	-2.6
	8.9nm,0.3s,baz=78,slow=12,SNR=9.3						
PSI				LR	LR	18 47 48.3	
	comp=Z,104nm,19.9s,baz=90,slow=37						
SONM	**Songino Array**	**45.05**	**13**	P	P	18 52 25.9	-0.4
	0.3nm,0.6s,baz=195,slow=6.4,SNR=3.7						
WRA	**Warramunga Arr**	**47.02**	**122**	P	P	18 52 42.0	+0.2
	2.2nm,0.8s,baz=300,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**48.39**	**127**	P	P	18 52 52.9	+0.4
	0.5nm,0.7s,baz=296,slow=8.1,SNR=9.1						
ZAL	**Zalesovo**	**50.15**	**354**	P	P	18 53 06.3	+0.4
	0.7nm,0.5s,baz=135,slow=20,SNR=3.2						
CTA	**Charters Tower**	**57.44**	**117**	LR	LR	19 21 06.9	
	comp=Z,72nm,18.6s,baz=226,slow=39						
GERES	**GERESS Array B**	**79.96**	**319**	P	P	18 56 20.2	+0.5
	0.6nm,0.7s,baz=101,slow=1.4,SNR=4.2						

WEL 11 18:48:14.9±0.2,3962S×17494E,h117km±1km,ML3.5/10, 3C-3D,Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.14**	**167**	⇑PN	Pn	18 48 31.5	+0.5
WAZ				*e*SN	Sn	18 48 42.7	-0.4
WAZ				*e*SN	Sn	18 48 43.6	+0.5
PKVZ	**Pokaka**	**0.45**	**44**	⇓PN	Pn	18 48 32.0	-0.2
PKVZ				SN	Sn	18 48 44.7	-0.4
MTVZ	**Mangateitei**	**0.47**	**61**	PN	Pn	18 48 32.3	+0.1
MTVZ				SN	Sn	18 48 45.3	0.0
MTVZ				SN	Sn	18 48 45.3	0.0
VRZ	**Vera Road**	**0.51**	**344**	PN	Pn	18 48 32.1	-0.4
VRZ				SN	Sn	18 48 45.4	-0.4
RAEZ	**Rainy Point**	**0.54**	**307**	PN	Pn	18 48 32.9	+0.2
TRVZ	**Turoa**	**0.56**	**56**	PN	Pn	18 48 33.0	+0.1
TRVZ				SN	Sn	18 48 45.8	-0.7
WNVZ	**Wahianoa**	**0.58**	**61**	PN	Pn	18 48 33.2	+0.2
WNVZ				SN	Sn	18 48 46.4	-0.2
FWVZ	**Far West T-bar**	**0.59**	**53**	PN	Pn	18 48 33.0	-0.1
FWVZ				SN	Sn	18 48 46.3	-0.5
WPVZ	**Whakapapa**	**0.62**	**49**	PN	Pn	18 48 33.1	-0.2
TUVZ	**Tukino**	**0.65**	**58**	PN	Pn	18 48 33.6	+0.1
MOVZ	**Moawhango**	**0.66**	**72**	⇓PN	Pn	18 48 33.2	-0.4
MOVZ				SN	Sn	18 48 46.0	-1.6
TWVZ	**Taurewa**	**0.67**	**35**	PN	Pn	18 48 33.2	-0.4
TWVZ				SN	Sn	18 48 46.7	-1.1
NGZ	**Ngauruhoe**	**0.67**	**49**	⇓PN	Pn	18 48 33.5	-0.2
WTVZ	**West Tongariro**	**0.71**	**45**	PN	Pn	18 48 33.7	-0.3
WTVZ				SN	Sn	18 48 47.3	-1.0
NEZ	**North Egmont**	**0.74**	**297**	PN	Pn	18 48 34.3	+0.1
KRVZ	**Karewarewa**	**0.75**	**46**	PN	Pn	18 48 34.1	-0.2
NRZ	**Ngariki Road**	**0.83**	**289**	PN	Pn	18 48 34.6	-0.4
NRZ				SN	Sn	18 48 49.6	-0.6
PKE	**Pukeiti**	**0.85**	**299**	PN	Pn	18 48 34.9	-0.3
PKE				SN	Sn	18 48 50.5	0.0
KATZ	**Kakaramea**	**0.86**	**43**	PN	Pn	18 48 34.1	-1.3
TSZ	**Takapari Road**	**0.90**	**120**	⇑PN	Pn	18 48 35.9	+0.2
TSZ				SN	Sn	18 48 51.2	-0.1
NWEZ	**Newall Road**	**0.90**	**292**	PN	Pn	18 48 35.4	-0.3
RITZ	**Rihia Road**	**0.95**	**48**	PN	Pn	18 48 36.0	-0.1
MRZ	**Mangatainoka R**	**1.15**	**155**	PN	Pn	18 48 38.3	+0.1
MRZ				SN	Sn	18 48 54.9	-0.9
KIW	**Kapiti Island**	**1.25**	**181**	PN	Pn	18 48 39.1	-0.1
BKZ	**Black Stump Fm**	**1.28**	**70**	PN	Pn	18 48 39.0	-0.6
BKZ				SN	Sn	18 48 56.7	-1.6
DUWZ	**D'Urville Isla**	**1.42**	**213**	PN	Pn	18 48 40.9	-0.2
DUWZ				SN	Sn	18 49 00.8	-0.3
BFZ	**Birch Farm**	**1.46**	**137**	PN	Pn	18 48 41.6	0.0
CAW	**Cannon Point**	**1.49**	**176**	⇑PN	Pn	18 48 42.0	0.0
CAW				SN	Sn	18 49 01.8	-0.9
PXZ	**Pawanui**	**1.54**	**106**	PN	Pn	18 48 42.4	-0.1
MRW	**Makara Radio**	**1.62**	**187**	PN	Pn	18 48 43.3	-0.3
MRW				SN	Sn	18 49 03.5	-1.9
TCW	**Tory Channel**	**1.68**	**198**	PN	Pn	18 48 43.7	-0.4
TCW				SN	Sn	18 49 04.3	-2.1
TUWZ	**Tuamarina**	**1.97**	**203**	PN	Pn	18 48 46.9	-0.9
NNZ	**Nelson**	**2.00**	**216**	PN	Pn	18 48 47.4	-0.7
QRZ	**Quartz Range**	**2.21**	**236**	PN	Pn	18 48 49.5	-1.3
QRZ				SN	Sn	18 49 16.2	-2.1
THZ	**Tophouse**	**2.65**	**215**	PN	Pn	18 48 55.2	-1.2
KHZ	**Kahutara**	**2.99**	**200**	*e*PN	Pn	18 48 59.7	-1.2
DSZ	**Denniston Nort**	**3.20**	**227**	PN	Pn	18 49 01.7	-1.9
DSZ				SN	Sn	18 49 38.1	-3.2

*IDC **11** 18:50:53.4±1.6,38.14N×141.92E,h0km,mb3.6/4, mb1 3.7/6,mb1mx3.5/21,mbtmp3.5/6,ML3.2/2,Error ellipse: s-maj=44.5km s-min=22.7km az=77.0*
*ISCJB **11** 18:50:59.0±0.9,38.17N±0.005×141.76E±0.09,h57km±7km, mb3.5/4,Error ellipse: s-maj=13.2km s-min=6.2km az=43.4*
*JMA **11** 18:51:00.6±0.1,38.18N×141.69E,h50km±1km,M4.1 Broadband fault plane solution: P waves. NP1: φs210.00000°,δ25.00000°,λ101.00000°. NP2: φs18.00000°,δ65.00000°,λ85.00000°. Principal axes: T Plg69.0000°, Azm278.0000°; N Plg5.0000°, Azm20.0000°; P Plg20.0000°, Azm112.0000°;*
JMA Felt II J1.
*NIED **11** 18:51:00,3820N×141.70E,h77km,Mw3.9 Best double couple: M07.52000×10^14 NP1:φs34.00000°,δ68.00000°, λ78.00000°. NP2:φs243.00000°,δ25.00000°,λ117.00000°.*

ISC 11 18:51:00.0±0.9,3817N±004×14176E±009,h47km±9km, n16,σ0§48/25,mb3.5/4,9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.43**	**311**	⇓P	Pn	18 51 10.6	+0.3
JIO				S	Sn	18 51 17.4	-0.1
JMM	**Marumori**	**0.82**	**248**	⇓P	Pn	18 51 14.9	-0.4
JMM				S	Sn	18 51 25.5	-0.9
JOU	**Okura**	**0.88**	**283**	⇓P	Pn	18 51 16.2	+0.1
JOU				S	Sn	18 51 27.6	-0.2
JMK	**Ichinoseki**	**0.89**	**332**	⇓P	Pn	18 51 16.5	+0.4
JMK				S	Sn	18 51 27.8	-0.1
OFUJ	**Ofunato**	**0.91**	**356**	⇓P	Pn	18 51 16.7	+0.2
OFUJ				S	Sn	18 51 28.1	-0.4
JFK	**Kawauchi**	**1.07**	**221**	⇓P	Pn	18 51 18.5	-0.1
JFK				S	Sn	18 51 31.8	-0.5
JFT	**Otama**	**1.30**	**240**	⇓P	Pn	18 51 22.2	+0.4
JFT				S	Sn	18 51 37.8	-0.2
JYK	**Kaneyama**	**1.33**	**305**	⇓P	Pn	18 51 22.3	+0.2
JYK				*e*S	Sn	18 51 38.9	+0.3
JYS	**Shiratake**	**1.33**	**273**	⇓P	Pn	18 51 22.5	+0.3
JYS				S	Sn	18 51 38.9	+0.1
MJAR	**Matsushiro Arr**	**3.26**	**241**	Pn	Pn	18 51 49.1	+0.4
	2.1nm,0.3s,baz=12,slow=32,SNR=21						
MAT	**Matsushiro**	**3.26**	**241**	P	Pn	18 51 50.2	+1.5
ASAJ	**Asahikawa**	**5.97**	**6**	Pn	Pn	18 52 25.1	-0.7
	0.6nm,0.3s,baz=147,slow=22,SNR=7.7						
SONM	**Songino Array**	**27.39**	**302**	P	P	18 56 40.3	-0.6
	0.2nm,0.4s,mb3.0,baz=99,slow=8.9,SNR=3.9						
ZAL	**Zalesovo**	**41.37**	**311**	P	P	18 58 41.7	+0.2
	0.9nm,0.5s,mb3.6,baz=7.9,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**58.22**	**188**	P	P	19 00 48.9	-0.5
	0.4nm,0.4s,mb3.8,baz=5.7,slow=7.2,SNR=15						
ASAR	**Alice Springs**	**61.95**	**188**	P	P	19 01 15.2	+0.2
	0.2nm,0.4s,mb3.6,baz=353,slow=4.2,SNR=7.2						

*IDC **11** 19:00:15.9±2.0,43.44N×105.29W,h0km,mb4.4/1, mb1 4.0/4,mb1mx3.5/23,mbtmp3.8/4,ML3.6/3,Error ellipse: s-maj=45.8km s-min=8.7km az=153.0*
*ISCJB **11** 19:00:16.6±0.5,43.75N±004×105.26W±007,h0km,mb4.6/1, Error ellipse: s-maj=7.6km s-min=5.4km az=46.6*
*NEIC **11** 19:00:17.7±0.5,43.72N×105.20W,h0km,ML3.1,Error ellipse: s-maj=7.6km s-min=6.8km az=95.0,Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.

ISC 11 19:00:18.0±0.5,4375N±004×10529W±006,h0km,n19, σ0§99/23,mb4.6/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**68**	*e*Pg	Pg	19 00 37.3	+0.6
PHWY	**Pilot Hill**	**2.45**	**183**	*e*Pn	Pn	19 00 58.6	-0.7
PHWY				*e*Sn	Sn	19 01 26.4	-3.6
RWWY	**Rawlins**	**2.50**	**215**	*e*Pn	Pn	19 01 01.0	+1.0
RWWY				*e*Sn	Sn	19 01 31.5	+0.3
LAO	**LASA Array**	**3.01**	**348**	*e*Pn	Pn	19 01 06.7	-0.3
BW06	**Boulder Array**	**3.27**	**254**	*e*Pn	Pn	19 01 10.7	+0.1
BW06				*e*Sn	Sn	19 01 49.4	-0.8
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	Pn	19 01 10.9	+0.4
	3.3nm,0.3s,baz=70,slow=15,SNR=67						
PDAR				Lg		19 01 55.6	
	9.2nm,0.3s,baz=77,slow=32,SNR=11						
GCMT	**Greycliff**	**3.73**	**305**	*e*Pn	Pn	19 01 17.9	+1.2
ISCO	**Idaho Springs**	**3.96**	**184**	*e*Pn	Pn	19 01 20.2	+0.2
YFT	**Old Faithful**	**4.06**	**282**	*e*Pn	Pn	19 01 23.2	+1.8
YFT				*e*Sn	Sg	19 02 27.3	-1.1
YMR	**Madison River**	**4.18**	**285**	*e*Pn	Pn	19 01 23.8	+0.7
QLMT	**Earthquake Lak**	**4.54**	**286**	Pn	Pn	19 01 26.9	-1.1
SMCO	**Snowmass**	**4.75**	**196**	*e*Pn	Pn	19 01 30.9	+0.1
DGMT	**Dagmar**	**4.78**	**9**	*e*Pn	Pn	19 01 32.0	+0.8
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	Pn	19 01 37.9	-0.4
	11nm,0.6s						
PV01	**Paradox Valley**	**6.14**	**205**	*e*Pn	Pn	19 01 50.9	+1.0
CBKS	**Cedar Bluff**	**6.47**	**138**	*e*Pg	Pg	19 02 17.5	-4.5
	20nm,0.8s						
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	Pn	19 02 29.9	-1.2
	2.5nm,0.3s,baz=230,slow=11,SNR=20						
ULM				Lg		19 05 07.2	
	0.3nm,0.3s,baz=138,slow=21,SNR=3.2						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	Pn	19 04 48.8	+0.4
	baz=158,slow=12,SNR=5.1						
ARCES	**ARCESS Array B**	**61.41

ISC 11 19:44:52.3±4.8, 107N±01×944E±01, h11km±31km, n42, σ0°90/36, mb4.1/15, MS3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.89**	**300**	*e*P	**Pn**	**19 45 37.2**	**+13**
PBA				*e*S	**Sn**	**19 45 57.9**	**+10**
PBA				*e*x	x	19 46 19.7	
	comp=E,958nm,1.0s						
PBA				*e*x	x	19 46 20.1	
	comp=N,1μm,0.7s						
KULM	**Kulim**	**8.19**	**131**	*e*Pn	**Pn**	**19 46 50.2**	**-0.8**
KULM				*e*Sn	**Sn**	**19 48 19.2**	**-4.4**
PSI	**Prapat**	**9.05**	**150**	P	**Pn**	**19 47 08.8**	**+6.0**
	comp=N,1.4nm,0.3s,baz=308,slow=12,SNR=3.9						
PSI				LR	LR	19 51 16.3	
	comp=N,290nm,19.2s,baz=146,slow=41						
PSI	**Prapat**	**9.05**	**150**	P	**Pn**	**19 47 08.8**	**+6.0**
PSI				LR	LR	19 51 16.3	
SHL	**Shillong**	**14.96**	**351**	*e*P	**Pn**	**19 48 14.0**	**-10**
JIRN	**Jiri**	**18.55**	**336**	*e*P	**Pn**	**19 49 10.1**	**+1.1**
	comp=N,29nm,0.9s						
PKI	**Pulchoki**	**18.79**	**334**	*e*P	**Pn**	**19 49 12.5**	**+0.5**
	comp=N,44nm,1.1s						
PKI	**Pulchoki**	**18.79**	**334**	*e*P	**Pn**	**19 49 12.5**	**+0.5**
PKI				pmax	pmax		
	comp=Z,22nm,1.1s						
GUN	**Gumba**	**18.89**	**336**	*e*P	**Pn**	**19 49 13.4**	**+0.1**
	comp=Z,110nm,1.6s						
DMN	**Daman**	**18.95**	**334**	*e*P	**Pn**	**19 49 14.2**	**+0.3**
	comp=Z,40nm,1.1s						
KKN	**Kakani**	**19.03**	**334**	*e*P	**Pn**	**19 49 14.9**	**0.0**
LSA	**Lhasa**	**19.13**	**351**	*e*P	**Pn**	**19 49 15.5**	**-0.6**
LSA				pmax	pmax		
	comp=Z,20nm,1.4s						
LSA	**Lhasa**	**19.13**	**351**	*e*Pn	**Pn**	**19 49 15.5**	**-0.6**
	comp=Z,20nm,1.4s						
GYA	**Guiyang**	**19.47**	**35**	P	**Pn**	**19 49 23.0**	**+2.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
GKN	**Gorkha**	**19.50**	**333**	*e*P	**Pn**	**19 49 19.6**	**-0.9**
	comp=Z,16nm,0.6s						
KOLN	**Koldanda**	**19.78**	**331**	*e*P	**Pn**	**19 49 23.2**	**-0.7**
	comp=Z,18nm,0.8s						
CD2	**Chengdu**	**21.89**	**22**	*e*P	**P**	**19 49 49.4**	**+4.3**
KKM	**Kota Kinabalu**	**22.05**	**100**	P	**P**	**19 49 51.0**	**+4.1**
ENH	**Enshi**	**23.99**	**34**	*e*P	**P**	**19 50 06.7**	**0.0**
	comp=Z,111nm,1.0s,mb4.2						
LZH	**Lanzhou**	**26.66**	**17**	*e*P	pP	19 50 38.5	+4.0
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,56nm,5.0s						
LZH				LR	LR		
	comp=N,327nm,13.5s						
LZH				LR	LR		
	comp=Z,634nm,14.8s,MS4.3						
WMQ	**Urumqi**	**33.49**	**351**	*e*P	**P**	**19 51 30.2**	**-1.3**
WMQ				AP	pP	19 51 36.0	+1.0
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,76nm,4.2s						
WMQ				LR	LR		
	comp=N,502nm,22.0s						
WMQ				LR	LR		
	comp=Z,425nm,24.0s,MS4.1						
AAK	**Ala-Archa**	**36.24**	**335**	*i* P	**P**	**19 51 55.3**	**0.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb4.1						
AAK	**Ala-Archa**	**36.24**	**335**	*e*P	**P**	**19 51 54.7**	**-0.5**
	comp=Z,3.9nm,1.1s,mb4.2						
SONM	**Songino Array**	**38.35**	**13**	P	**P**	**19 52 14.0**	**+0.9**
	comp=Z,0.5nm,1.0s,mb3.2,baz=177,slow=3.0,SNR=3.9						
SONM				LR	LR	20 09 10.1	
	comp=Z,47nm,20.0s,MS3.3,baz=219,slow=38						
KS15	**Wonju Array Si**	**40.15**	**43**	P	**P**	**19 52 28.1**	**0.0**
KURK	**Kurchatov**	**41.95**	**345**	*i* P	**P**	**19 52 46.0**	**+3.0**
KURK	**Kurchatov**	**41.95**	**345**	P	**P**	**19 52 37.8**	**-5.2**
	comp=Z,7.4nm,1.3s,mb4.2						
ZAL	**Zalesovo**	**43.79**	**352**	P	**P**	**19 52 58.1**	**+0.2**
	comp=Z,1.4nm,0.7s,mb3.8,baz=131,slow=23,SNR=5.2						
ZAL				LR	LR	20 14 15.1	
	comp=Z,49nm,18.3s,MS3.5,baz=77,slow=40						
WRA	**Warramunga Arr**	**49.73**	**128**	P	**P**	**19 53 45.2**	**+0.8**
	comp=Z,4.0nm,0.8s,mb4.5,baz=304,slow=9.0,SNR=26						
WRAB	**Tennant Creek**	**49.73**	**128**	*i* P	pP	19 53 53.0	+5.0
ASAR	**Alice Springs**	**51.56**	**132**	P	**P**	**19 53 59.0**	**+0.7**
	comp=Z,4.2nm,0.8s,mb4.4,baz=310,slow=7.4,SNR=37						
GNI	**Garni**	**52.69**	**313**	*i* P	pP	19 54 13.7	+3.5
GNI				pmax	pmax		
	comp=Z,11nm,1.5s						
KIV	**Kislovodsk**	**55.43**	**316**	*i* P	pP	19 54 36.5	+6.2
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
BRTR	**Keskin Array B**	**60.82**	**310**	P	**P**	**19 55 05.0**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.2,baz=113,slow=8.2,SNR=3.8						
OBN	**Obninsk**	**63.15**	**327**	*e*P	**P**	**19 55 25.6**	**+5.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
MLR	**Muntele Rosu**	**67.36**	**315**	LR	LR	20 29 24.9	
	comp=Z,64nm,18.4s,MS3.9,baz=118,slow=40						
ARCES	**ARCESS Array B**	**72.70**	**340**	LR	LR	20 30 13.4	
	comp=Z,75nm,18.2s,MS4.0,baz=200,slow=37						
BILL	**Bilibino**	**73.36**	**22**	*e*P	**P**	**19 56 23.6**	**-0.5**
BILL				*e*		19 56 42.8	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
GERES	**GERESS Array B**	**75.91**	**318**	P	**P**	**19 56 39.1**	**+0.3**
	comp=Z,0.2nm,0.7s,mb3.1,baz=13,slow=13,SNR=2.6						
HFS	**Hagfors**	**76.16**	**329**	LR	LR	20 33 30.4	
	comp=Z,69nm,18.0s,MS4.0,baz=247,slow=38						
NOA	**NORSAR Array B**	**77.41**	**330**	LR	LR	20 33 51.2	
	comp=Z,27nm,20.3s,MS3.5,baz=355,slow=38						
ILAR	**Eielson Array**	**92.03**	**22**	P	**P**	**19 57 59.1**	**-2.1**
	comp=Z,0.4nm,1.0s,mb3.7,baz=282,slow=4.5,SNR=3.4						

*NEIC **11** 20:12:44.7±0.7, 10.18N×9352E, h10km, mb3.9/5, Error ellipse: s-maj=34.9km s-min=9.5km az=64.0*
*ISCJB **11** 20:12:45.8±0.8, 10.1N±0.1×93.3E±0.2, h33km, mb4.0/8, Error ellipse: s-maj=37.8km s-min=10.2km az=127.3*
*IDC **11** 20:12:46.5±1.0, 10.18N×94.25E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, MS3.3/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=53.4km s-min=17.3km az=54.0*

ISC 11 20:12:48.1±0.8, 101N±01×93.3E±0.2, h35km, n20, σ1§15/16, mb4.0/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.59**	**342**	*e*P	Px	20 13 31.2	
PBA				*e*S	Sx	20 13 48.2	
PBA				*e*x	x	20 14 05.1	
	comp=N,411nm,0.7s						
PBA				*e*x	x	20 14 05.2	
	comp=E,586nm,0.7s						
PSI	**Prapat**	**9.21**	**142**	LR	LR	20 18 59.4	
	comp=E,172nm,19.9s,baz=298,slow=43						
JIRN	**Jiri**	**18.66**	**340**	*e*P	**Pn**	**20 17 03.0**	**-0.4**
	comp=E,20nm,1.0s						
PKI	**Pulchoki**	**18.85**	**338**	*e*P	**Pn**	**20 17 05.8**	**+0.1**
GUN	**Gumba**	**19.00**	**340**	*e*P	**Pn**	**20 17 07.1**	**-0.4**
DMN	**Daman**	**19.00**	**337**	*e*P	**Pn**	**20 17 07.6**	**+0.1**
KKN	**Kakani**	**19.10**	**338**	*e*P	**Pn**	**20 17 07.7**	**-1.0**
GKN	**Gorkha**	**19.53**	**337**	*e*P	**Pn**	**20 17 13.4**	**-0.5**
	comp=E,12nm,0.5s						
LSA	**Lhasa**	**19.57**	**355**	*e*P	**Pn**	**20 17 17.4**	**+3.1**
	comp=E,3.0nm,0.8s						
KOLN	**Koldanda**	**19.75**	**334**	*e*P	**Pn**	**20 17 16.5**	**0.0**
	comp=E,12nm,0.7s						
COCO	**West Island**	**22.46**	**171**	*e*P	**P**	**20 17 45.6**	**+1.6**
	comp=E,58nm,0.6s,mb5.2						
SONM	**Songino Array**	**39.18**	**14**	P	**P**	**20 20 13.9**	**+1.4**
	comp=E,0.4nm,0.7s,mb3.2,baz=198,slow=6.0,SNR=4.0						
ULN	**Ulaanbaatar**	**39.37**	**15**	P	**P**	**20 20 14.5**	**+0.4**
	comp=E,0.6nm,0.5s,mb3.6						
ZAL	**Zalesovo**	**44.21**	**353**	P	**P**	**20 20 58.5**	**+4.9**
	comp=E,0.7nm,0.6s,mb3.5,baz=281,slow=9.0,SNR=5.5						
BVAR	**Borovoye Array**	**46.58**	**341**	P	**P**	**20 21 17.3**	**+4.8**
	comp=E,0.5nm,0.7s,mb3.5,baz=134,slow=6.2,SNR=4.5						
WRA	**Warramunga Arr**	**50.29**	**127**	P	**P**	**20 21 38.6**	**-2.5**
	comp=E,1.9nm,0.6s,mb4.3,baz=304,slow=8.9,SNR=31						
ASAR	**Alice Springs**	**52.04**	**131**	P	**P**	**20 21 52.5**	**-1.7**
	comp=E,2.1nm,0.7s,mb4.2,baz=309,slow=6.8,SNR=31						
BRTR	**Keskin Array B**	**60.30**	**310**	P	pP	20 23 02.4	-1.4
	comp=E,1.0nm,0.7s,baz=114,slow=7.8,SNR=6.5						
STKA	**Stephens Creek**	**62.30**	**134**	P	**P**	**20 23 07.3**	**+0.7**
	comp=E,3.3nm,1.0s,mb4.4,baz=315,slow=13,SNR=2.7						
GERES	**GERESS Array B**	**75.57**	**318**	P	pP	20 24 36.8	-3.2
	comp=E,0.4nm,0.7s,baz=87,slow=6.8,SNR=4.3						

*IDC **11** 20:17:13.4±1.2, 7.39N×126.63E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/19, mbtmp3.6/6, Error ellipse: s-maj=69.7km s-min=27.3km az=69.0*
*NEIC **11** 20:17:18.7±0.8, 7.37N×126.63E, h35km, Error ellipse: s-maj=19.4km s-min=16.8km az=107.0*
*MAN **11** 20:17:23.7, 7.07N×126.65E, h8km, mb3.2, ML4.5, MS8.0*
*ISCJB **11** 20:17:24.4±1.2, 7.18N±0.09×126.7E±0.1, h108km±9km, mb3.5/6, Error ellipse: s-maj=18.5km s-min=13.3km az=54.7*

ISC 11 20:17:25.8±1.3, 719N±0.09×1267E±01, h104km±9km, n18, σ1§13/21, mb3.5/6, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.04**	**341⇓**	*e*P	**Pn**	**20 17 45.6**	**-1.5**
BIPH				*e*S	**Sn**	**20 18 00.5**	**-2.5**
DAV	**Davao City (W)**	**1.12**	**264**	*e*P	Px	20 17 37.3	
DAV				*e*S	Sx	20 17 46.8	
KCP	**Kidapawan**	**1.61**	**264⇑**	*e*P	**Pn**	**20 17 51.5**	**-2.1**
KCP				*i* S	**Sn**	**20 18 14.5**	**-0.2**
BUKP	**Musuan**	**1.76**	**293**	*e*P	**Pn**	**20 17 55.1**	**-0.4**
BUKP				*e*S	**Sn**	**20 18 17.6**	**-0.5**
BUTP	**Butuan**	**2.07**	**329**	*e*P	**Pn**	**20 18 01.3**	**+1.9**
BUTP				*e*S	**Sn**	**20 18 31.2**	**+6.2**
CGP	**Cagayan de Oro**	**2.35**	**302⇑**	*e*P	**Pn**	**20 18 04.8**	**+1.7**
CGP				*i* S	**Sn**	**20 18 32.2**	**+0.5**
SCPH	**Surigao**	**2.84**	**335⇓**	*e*P	**Pn**	**20 18 11.2**	**+1.7**
PAGZ	**Pagadian**	**3.35**	**281**	*e*P	**Pn**	**20 18 16.2**	**-0.1**
MSLP	**Maasin**	**3.45**	**328**	*e*P	**Pn**	**20 18 18.3**	**+0.7**
IPIL	**Ipil**	**4.14**	**279**	*e*P	**Pn**	**20 18 27.7**	**+0.8**
WRA	**Warramunga Arr**	**27.99**	**165**	P	**P**	**20 23 08.4**	**+1.7**
	0.2nm,0.5s,mb2.9,baz=342,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**31.46**	**167**	PcP	PcP	20 26 27.9	-0.2
	0.4nm,1.0s,baz=355,slow=2.6,SNR=4.6						
SONM	**Songino Array**	**44.04**	**340**	P	**P**	**20 25 22.9**	**-0.2**
	0.3nm,0.9s,mb3.0,baz=132,slow=6.4,SNR=2.5						
BVAR	**Borovoye Array**	**64.44**	**326**	P	**P**	**20 27 49.8**	**-1.1**
	0.3nm,0.3s,mb3.5,baz=114,slow=6.5,SNR=6.1						
AKTK	**Aktyubinsk**	**70.96**	**321**	P	**P**	**20 28 31.6**	**-0.3**
AKTO	**Aktyubinsk**	**70.96**	**321**	P	**P**	**20 28 31.6**	**-0.3**
	0.5nm,0.3s,mb3.8,baz=85,slow=8.6,SNR=3.7						
ILAR	**Eielson Array**	**82.02**	**26**	P	**P**	**20 29 33.8**	**-0.5**
	0.5nm,0.8s,mb3.4,baz=256,slow=4.7,SNR=5.2						
FINES	**FINESS Array B**	**88.79**	**332**	P	**P**	**20 30 07.3**	**-0.5**
	1.9nm,1.0s,mb4.1,baz=72,slow=4.5,SNR=4.3						

*ISCJB **11** 20:23:59.1±1.2, 6.62S±0.08×127.5E±0.1, h388km±14km, mb3.9/12, Error ellipse: s-maj=25.1km s-min=6.5km az=123.9*
*NEIC **11** 20:24:01.7±0.4, 6.69S×127.44E, h400km, mb4.2/8, Error ellipse: s-maj=19.2km s-min=6.8km az=62.0*
*IDC **11** 20:24:02.3±3.6, 6.96S×127.10E, h407km±41km, mb3.3/5, mb1 3.7/7, mb1mx3.4/15, mbtmp4.3/7, Error ellipse: s-maj=60.5km s-min=13.4km az=66.0*

ISC 11 20:24:03.7±1.2, 677S±0.09×1275E±01, h429km±17km, n30, σ0°73/35, mb3.9/12, 3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.62**	**141**	*e*P	**P**	**20 25 54.2**	**-0.5**
	30nm,0.4s						
KAKA				*e*S	**S**	**20 27 17.3**	**-8.3**
FITZ	**Fitzroy Crossi**	**11.41**	**189⇓**	*i* P	**P**	**20 26 36.9**	**+0.6**
	13nm,0.5s						
WRAB	**Tennant Creek**	**14.66**	**154⇓**	*i* P	**P**	**20 27 11.7**	**+0.2**
	36nm,0.6s						
WRA	**Warramunga Arr**	**14.66**	**154**	P	**P**	**20 27 11.6**	**0.0**
	6.7nm,0.3s,baz=335,slow=11,SNR=304						
WRA				S	**S**	**20 29 45.2**	**-1.8**
	1.6nm,0.3s,baz=330,slow=20,SNR=13						
WB2	**Warramunga Arr**	**14.67**	**154**	*e*P	**P**	**20 27 11.6**	**-0.1**
WB2				*e*S	**S**	**20 29 45.2**	**-1.9**
AS31	**Alice Springs**	**17.88**	**161**	*e*P	**P**	**20 27 46.2**	**+0.5**
AS31				*e*S	**S**	**20 30 49.9**	**+0.7**
ASAR	**Alice Springs**	**17.88**	**161**	P	**P**	**20 27 46.3**	**+0.6**
	4.7nm,0.3s,baz=345,slow=12,SNR=344						
ASAR				S	**S**	**20 30 49.7**	**+0.5**
	0.7nm,0.3s,baz=338,slow=21,SNR=7.0						
ASAR	**Alice Springs**	**17.88**	**161**	P	**P**	**20 27 46.3**	**+0.6**
ASAR				S	**S**	**20 30 49.7**	**+0.5**
ASPA	**Alice Springs**	**17.88**	**161**	*e*P	**P**	**20 27 46.2**	**+0.5**
ASPA				*e*S	**S**	**20 30 49.9**	**+0.7**
CTA	**Charters Tower**	**22.47**	**128**	P	**P**	**20 28 31.2**	**+2.5**
	3.7nm,0.8s,mb3.8,baz=306,slow=14,SNR=3.2						
CTA	**Charters Tower**	**22.47**	**128**	P	**P**	**20 28 31.2**	**+2.5**
STKA	**Stephens Creek**	**28.21**	**154⇓**	*i* P	**P**	**20 29 19.0**	**-0.7**
	6.9nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**28.21**	**154**	P	**P**	**20 29 19.0**	**-0.7**
	7.8nm,0.5s,mb4.3,baz=328,slow=8.6,SNR=74						
COCO	**West Island**	**30.75**	**258**	P	**P**	**20 29 41.5**	**-0.4**
	354nm,1.6s						
JIRN	**Jiri**	**52.62**	**312**	*e*P	**P**	**20 32 36.0**	**+0.1**
	3.0nm,0.3s,mb4.0						
GUN	**Gumba**	**52.98**	**313**	*e*P	**P**	**20 32 38.3**	**-0.3**
	10nm,0.6s,mb4.3						
PKI	**Pulchoki**	**53.14**	**312**	*e*P	**P**	**20 32 39.7**	**0.0**
KKN	**Kakani**	**53.36**	**312**	*e*P	**P**	**20 32 40.9**	**-0.3**
DMN	**Daman**	**53.38**	**312**	*e*P	**P**	**20 32 41.5**	**+0.1**
GKN	**Gorkha**	**53.95**	**312**	*e*P	**P**	**20 32 45.3**	**-0.2**
	7.0nm,0.3s,mb4.4						
KOLN	**Koldanda**	**54.59**	**311**	*e*P	**P**	**20 32 50.2**	**+0.2**
	9.7nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**57.33**	**344**	*e*P	**P**	**20 33 08.4**	**-0.7**
	0.6nm,0.3s,mb3.4						
SONM	**Songino Array**	**57.48**	**343**	P	**P**	**20 33 11.1**	**+0.9**
	0.3nm,0.6s,baz=158,slow=6.0,SNR=4.1						
AAK	**Ala-Archa**	**68.81**	**321**	*e*P	**P**	**20 34 23.4**	**0.0**
	0.9nm,0.7s,mb3.5						
ZAL	**Zalesovo**	**70.32**	**335**	P	**P**	**20 34 32.0**	**-0.6**
	0.9nm,0.6s,mb3.5,baz=330,slow=24,SNR=4.4						
KURK	**Kurchatov**	**71.07**	**330**	*e*P	**P**	**20 34 37.1**	**+0.1**
	5.7nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**76.58**	**329**	P	**P**	**20 35 09.0**	**+0.4**
	0.6nm,0.6s,mb3.4,baz=126,slow=9.9,SNR=5.2						
BRVK	**Borovoye**	**76.65**	**329**	*e*P	**P**	**20 35 08.4**	**-0.5**
	1.3nm,1.1s,mb3.5						
CPUP	**Villa Florida**	**146.76**	**172**	PKPbc	PKPbc	20 42 57.6	+1.3
	0.5nm,0.4s,baz=28,slow=4.1,SNR=2.9						
LPAZ	**La Paz**	**152.33**	**146**	PKPab	PKPab	20 43 25.6	+3.7
	0.8nm,0.6s,baz=225,slow=1.4,SNR=3.6						

*ISCJB **11** 21:09:56.4±3.0, 22.6S±0.1×68.9W±0.2, h66km±29km, mb3.7/3, Error ellipse: s-maj=31.3km s-min=17.0km az=48.9*
*IDC **11** 21:10:00.5±2.5, 22.75S×68.75W, h92km±21km, mb3.8/4, mb1 3.7/8, mb1mx3.6/18, mbtmp3.9/8, Error ellipse: s-maj=26.9km s-min=23.1km az=81.0*
*NEIC **11** 21:10:01.3±0.7, 22.74S×68.68W, h100km, mb3.9/1, Error ellipse: s-maj=16.7km s-min=11.0km az=90.0*

ISC 11 21:10:01.2±1.4, 2276S±007×687W±02, h97km±13km, n13, σ1§13/13, mb3.7/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.46**	**5**	P	**Pn**	**21 11 35.5**	**+1.8**
	0.3nm,0.3s,baz=175,slow=7.9,SNR=7.0						
CFAA	**Coronel Fontan**	**8.82**	**177**	P	**Pn**	**21 12 04.7**	**-1.0**
	0.1nm,0.3s,baz=356,slow=12,SNR=6.5						
CFAA	**Coronel Fontan**	**8.82**	**177**	P	**Pn**	**21 12 04.7**	**-1.0**
SIV	**San Ignacio**	**9.87**	**48**	P	**Pn**	**21 12 17.9**	**-2.1**
	2.4nm,0.3s,baz=258,slow=14,SNR=30						
SIV				S	**Sn**	**21 14 02.0**	**-6.9**
	1.0nm,0.3s,baz=137,slow=19,SNR=6.0						
CPUP	**Villa Florida**	**10.96**	**111**	P	**Pn**	**21 12 35.0**	**+0.2**
	0.2nm,0.3s,baz=278,slow=12,SNR=5.0						
TRQA	**Tornquist**	**16.31**	**161**	*e*P	**Pn**	**21 13 45.9**	**+1.6**
	5.0nm,0.6s						
TRQA				*e*S	**S**	**21 16 51.0**	**-0.2**
BDFB	**Brasilia**	**20.79**	**74**	P	**P**	**21 14 34.8**	**+0.4**
	8.2nm,0.5s,baz=258,slow=12,SNR=18						
PDAR	**Pinedale Array**	**75.28**	**330**	P	**P**	**21 21 33.2**	**-0.3**
	0.2nm,0.6s,mb3.0,baz=132,slow=8.9,SNR=2.3						
TORD	**Torodi Ar. Bea**	**77.62**	**70**	P	**P**	**21 21 47.5**	**+0.8**
	2.4nm,0.5s,mb4.2,baz=255,slow=5.4,SNR=54						
YKA	**Yellowknife Ar**	**92.43**	**341**	P	**P**	**21 22 59.9**	**-1.0**
	0.5nm,0.7s,mb3.9,baz=133,slow=4.4,SNR=14						
YKA	**Yellowknife Ar**	**92.43**	**341**	P	**P**	**21 22 59.9**	**-1.0**
ASAR	**Alice Springs**	**128.88**	**207**	PKP	PKPdf	21 28 58.2	+0.9
	0.4nm,0.7s,baz=157,slow=3.1,SNR=7.0						
WRA	**Warramunga Arr**	**131.96**	**210**	PKP	PKPdf	21 29 04.0	+0.8
	0.4nm,0.6s,baz=153,slow=1.6,SNR=9.5						

*MOS **11** 21:10:04.8±1.2, 26.90N×57.17E, h10km, mb4.2/3, Error ellipse: s-maj=54.0km s-min=17.6km az=71.2*
*IDC **11** 21:10:08.8±1.3, 27.31N×57.16E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/24, mbtmp3.8/7, Error ellipse: s-maj=33.4km s-min=25.4km az=143.0*
*CSEM **11** 21:10:12.1±0.1, 27.37N×57.24E, h35km, mb3.7/2, Error ellipse: s-maj=3.7km s-min=2.8km az=65.0*
*NEIC **11** 21:10:12.9, 27.18N×57.18E, h41km, mb3.7/2, After THR.*
*THR **11** 21:10:12.9±0.5, 27.18N×57.18E, h41km±4km, ML3.7*
*KISR **11** 21:10:12.1±1.2, 28.25N×56.70E, h3km±999km, ML3.9*
*ISCJB **11** 21:10:15.7±0.5, 27.33N±004×56.80E±005, h92km±6km, mb3.8/9, Error ellipse: s-maj=8.0km s-min=5.4km az=108.6*
*TEH **11** 21:10:16.6, 27.45N×56.82E, h5km, Mn3.6*

ISC 11 21:10:16.3±0.5, 2735N±004×5693E±005, h69km±7km, n52, σ1§26/64, mb3.8/9, 2C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.68**	**274**	*e*PG	**Pn**	**21 10 31.1**	**+0.2**
BNDS				*e*SG	**Sn**	**21 10 43.9**	**+2.3**
BNDS				AML	AML	21 10 46.7	
	comp=E,2μm,0.2s						
BNDS				AML	AML	21 10 49.4	
	comp=N,2μm,0.2s						
BNDS	**Bandar-Abbas**	**0.68**	**274**	*e*Pg	**Pn**	**21 10 31.1**	**+0.2**
	SNR=108						
BNDS				*e*Sg	**Sn**	**21 10 43.0**	**+1.4**
BNDS	**Bandar-Abbas**	**0.68**	**274**	*e*Pg	**Pn**	**21 10 31.0**	**+0.1**
BNDS				*e*Sg	**Sn**	**21 10 43.0**	**+1.4**
BANOM	**Banah**	**1.53**	**202**	⇑P	**Pn**	**21 10 42.6**	**+0.9**
	SNR=8.1						
KRBR	**Kerman**	**2.62**	**357**	*e*PN	**Pn**	**21 10 57.4**	**+1.1**
KRBR				AML	AML	21 11 37.2	
	comp=E,252nm,0.3s						
KRBR				AML	AML	21 11 47.5	
	comp=N,238nm,0.8s						
KRBR	**Kerman**	**2.62**	**357**	*e*Pn	**Pn**	**21 10 57.0**	**+0.7**
ASHO	**Ashiyiah**	**2.77**	**197**	P	**Pn**	**21 11 00.5**	**+2.1**
	SNR=51						
ASHO	**Ashiyiah**	**2.77**	**197**	P	**Pn**	**21 11 00.4**	**+2.0**
	SNR=51						
GHIR	**Ghir-Karzin**	**3.62**	**286**	*e*PN	**Pn**	**21 11 11.8**	**+1.9**
GHIR	**Ghir-Karzin**	**3.62**	**286**	*e*Pn	**Pn**	**21 11 11.0**	**+1.2**
HOQ	**Hoqain**	**3.77**	**175**	P	**Pn**	**21 11 09.7**	**-2.2**
	SNR=12						
BIDO	**Bidbid**	**3.97**	**164**	P	**Pn**	**21 11 11.6**	**-3.0**
	SNR=38						
ARQ	**Araqi**	**4.02**	**185**	⇑P	**Pn**	**21 11 16.7**	**+1.4**
	SNR=12						
ZHSF	**Zahedan**	**4.06**	**55**	*e*PN	**Pn**	**21 11 13.2**	**-2.7**
ZHSF	**Zahedan**	**4.06**	**55**	*e*Pn	**Pn**	**21 11 13.0**	**-2.9**
IMOK	**Mook**	**4.09**	**295**	*e*Pn	**Pn**	**21 11 17.6**	**+1.3**
IPAR	**Pars**	**4.22**	**307**	*e*Pn	**Pn**	**21 11 19.4**	**+1.3**
IPAR				*e*Sn	**Sn**	**21 12 04.9**	**-1.2**
IBAF	**Bafgh**	**4.39**	**345**	*e*Pn	**Pn**	**21 11 20.8**	**+0.4**
IMEH	**Mehriz**	**4.50**	**334**	*e*Pn	**Pn**	**21 11 22.6**	**+0.6**
WBK	**Wadi Bani Khal**	**5.07**	**158**	⇓P	**Pn**	**21 11 28.1**	**-1.7**
	SNR=9.6						
ISAD	**Sadrabad**	**5.35**	**329**	*e*Sn	**Sn**	**21 12 32.6**	**-1.2**
IZEF	**Zefreh**	**6.81**	**325**	*e*Pn	**Pn**	**21 11 55.0**	**+1.5**
IPIR	**Pirpir**	**7.46**	**317**	*e*Pn	**Pn**	**21 12 02.9**	**+0.5**
KBD	**Kabd**	**8.35**	**285**	*e*P	**Pn**	**21 12 14.4**	**-0.1**
KBD				*e*S	**Sn**	**21 13 46.6**	**-0.6**
KBD				AML	AML	21 13 47.3	
	comp=Z,55nm,0.3s						
KBD	**Kabd**	**8.35**	**285**	*e*P	**Pn**	**21 12 14.4**	**-0.1**
KBD				*e*S	**Sn**	**21 13 46.6**	**-0.6**
UMR	**Umm Al-Rimmam**	**8.40**	**287**	*e*P	**Pn**	**21 12 14.9**	**-0.4**
UMR				*e*S	**Sn**	**21 13 47.0**	**-1.5**
UMR				AML	AML	21 13 50.3	
	comp=Z,14nm,0.3s						
UMR	**Umm

PCND
20nm,0.1s
ROSA Rosais 0.27 68 *i* P Pg 21 20 11.2 -0.4
ROSA *e*S Sg 21 20 15.0 -0.2
ROSA Rosais 0.27 68 *e*S Sg 21 20 15.0 -0.2
PMAN Manadas 0.37 88 *e*P Pg 21 20 13.1 -0.4
PMAN *e*S Sg 21 20 17.8 -0.6
PMAN
38nm,0.2s
PMAN Manadas 0.37 88 *e*P Pg 21 20 13.1 -0.4
PMAN *e*S Sg 21 20 17.8 -0.6

OMAN ***11*** *21:33:25.7±213.0,29.16N×5689E,h152km, Error ellipse: s-maj=33.3km s-min=4.2km az=3.0*
BJI ***11*** *21:33:29.4,27.95N×5605E,h12km,mB4.9,mb4.8,Ms4.8, Msz4.3*
TEH ***11*** *21:33:30.1,28.11N×5669E,h10km,ML4.6*
MOS ***11*** *21:33:35.8±0.8,28.12N×5685E,h10km,mb5.1/65,Error ellipse: s-maj=7.0km s-min=3.7km az=124.6*
CSEM ***11*** *21:33:37.5±0.1,28.08N×5681E,h21km,mb4.9/53,Ms3.8, Error ellipse: s-maj=2.3km s-min=1.6km az=23.0*
ISCJB ***11*** *21:33:37.7±0.1,28.04N±002×5687E±002,h24km, mb4.8/142,MS4.0/34,Error ellipse: s-maj=3.4km s-min=2.3km az=31.7*
THR ***11*** *21:33:39.5±0.6,28.16N×5683E,h15km±4km,ML4.7*
NEIC ***11*** *21:33:39.5,28.16N×5683E,h15km,mb4.9/79,MS4.0/3, ML4.7(THR),After THR.*
IDC ***11*** *21:33:40.8±3.6,28.11N×5687E,h33km±27km,mb4.3/26, mb1 4.4/26,mb1mx4.4/28,mbtmp4.5/26,MS4.0/13, Ms1 4.0/13,ms1mx3.8/27,Error ellipse: s-maj=15.1km s-min=12.3km az=137.0*
SZGRF ***11*** *21:33:54.9,28.88N×5488E,h33km,mb4.8,Southern Iran*
ISC 11 21:33:39.9±0.1,2806N±002×5688E±002,h26km, h26km±.8km:pP-P,n463,σ1.906/455,mb4.8/142,MS4.0/34, 90C-19D,Southern Iran

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.91**	**224**	*e*PG	**Pb**	**21 33 57.5**	**+0.5**
BNDS				*e*SG	**Sb**	**21 34 10.8**	**+2.0**
BNDS				AML	AML	21 34 17.8	
	comp=N,31μm,0.5s						
KRBR	**Kerman**	**1.92**	**357**	*e*PG	**Pn**	**21 34 12.5**	**+1.6**
KRBR				*e*SG	**Sn**	**21 34 37.8**	**+3.6**
KRBR				AML	AML	21 34 43.9	
	comp=N,7μm,0.5s						
KRBR	**Kerman**	**1.92**	**357**	*e*Pg	**Pn**	**21 34 12.5**	**+1.6**
	SNR=90						
KRBR				*e*Sg	**Sn**	**21 34 37.8**	**+3.6**
	SNR=90						
BANOM	**Banah**	**2.19**	**194**	P	**Pn**	**21 34 15.5**	**+0.8**
	SNR=498						
BANOM				⇑S	**Sn**	**21 34 48.3**	**+7.4**
ASHO	**Ashiyiah**	**3.44**	**193**	P	**Pn**	**21 34 33.2**	**+1.3**
	SNR=86						
GHIR	**Ghir-Karzin**	**3.44**	**275**	*e*PN	**Pn**	**21 34 34.2**	**+2.4**
GHIR				AML	AML	21 35 48.4	
	comp=E,1μm,0.6s						
IBAF	**Bafgh**	**3.70**	**342**	*e*Pn	**Pn**	**21 34 37.5**	**+2.2**
ZHSF	**Zahedan**	**3.75**	**65**	*e*PN	**Pn**	**21 34 39.2**	**+3.1**
IMOK	**Mook**	**3.79**	**286**	*e*Pn	**Pn**	**21 34 38.0**	**+1.3**
IMOK				*e*Sn	**Sn**	**21 35 19.2**	**-1.3**
IPAR	**Pars**	**3.80**	**299**	*e*Pn	**Pn**	**21 34 38.4**	**+1.7**
IMEH	**Mehriz**	**3.86**	**330**	*e*Pn	**Pn**	**21 34 40.1**	**+2.5**
IMEH	**Mehriz**	**3.86**	**330**	*e*Pn	**Pn**	**21 34 39.4**	**+1.8**
SHI	**Shiraz**	**4.14**	**293**	*e*Pn	**Pn**	**21 34 43.7**	**+2.2**
HOQ	**Hoqain**	**4.48**	**175**	P	**Pn**	**21 34 45.2**	**-0.8**
	SNR=39						
BIDO	**Bidbid**	**4.66**	**166**	P	**Pn**	**21 34 47.9**	**-0.6**
	SNR=162						
ICHK	**Chekchek**	**4.69**	**333**	*e*Pn	**Pn**	**21 34 51.2**	**+2.3**
ICHK	**Chekchek**	**4.69**	**333**	*e*Pn	**Pn**	**21 34 51.0**	**+2.1**
ARQ	**Araqi**	**4.71**	**184**	P	**Pn**	**21 34 50.6**	**+1.3**
	SNR=48						
ISAD	**Sadrabad**	**4.74**	**325**	*e*Pn	**Pn**	**21 34 52.7**	**+3.1**
SMDO	**Samad**	**5.09**	**168**	P	**Pn**	**21 34 55.2**	**+0.7**
	SNR=65						
WBK	**Wadi Bani Khal**	**5.75**	**160**	⇓P	**Pn**	**21 35 03.9**	**+0.4**
	SNR=63						
JMDO	**Jabal Madar**	**5.77**	**169**	P	**Pn**	**21 35 04.9**	**+1.0**
	SNR=66						
IGAR	**Garneh**	**5.81**	**317**	*e*Pn	**Pn**	**21 35 08.2**	**+3.7**
NASN	**Na'in**	**5.89**	**324**	*e*PN	**Pn**	**21 35 07.3**	**+1.8**
IZEF	**Zefreh**	**6.22**	**322**	*e*Pn	**Pn**	**21 35 10.6**	**+0.6**
IZEF				*e*Sn	**Sn**	**21 36 17.7**	**-2.5**
IPIR	**Pirpir**	**6.93**	**313**	*e*Pn	**Pn**	**21 35 20.6**	**+0.9**
IKLH	**Kalahroud**	**6.95**	**320**	*e*Pn	**Pn**	**21 35 20.1**	**+0.1**
QRN	**Al-Qurain**	**7.92**	**277**	*e*P	**Pn**	**21 35 33.5**	**+0.1**
QRN				AML	AML	21 36 55.3	
	comp=Z,47nm,0.3s						
SHGR	**Shooshtar-Gavs**	**8.08**	**302**	*e*PN	**Pn**	**21 35 37.5**	**+2.0**
KBD	**Kabd**	**8.15**	**280**	*e*P	**Pn**	**21 35 36.4**	**-0.1**
KBD				AML	AML	21 37 07.0	
	comp=Z,347nm,0.4s						
UMR	**Umm Al-Rimmam**	**8.18**	**283**	*e*P	**Pn**	**21 35 36.5**	**-0.4**
IVRN	**Varamin**	**8.19**	**329**	*e*Pn	**Pn**	**21 35 38.9**	**+1.8**
RDF	**Al-Radifah**	**8.26**	**278**	*e*P	**Pn**	**21 35 38.1**	**+0.2**
RDF				AML	AML	21 37 05.9	
	comp=Z,48nm,0.4s						
MIB	**Mutribah**	**8.54**	**284**	*e*P	**Pn**	**21 35 40.8**	**-1.1**
MIB				AML	AML	21 37 16.9	
	comp=Z,208nm,0.6s						
NAY	**Al-Naaiem**	**8.55**	**280**	*e*P	**Pn**	**21 35 41.0**	**-1.0**
NAY				AML	AML	21 37 13.9	
	comp=Z,60nm,0.6s						
DAMV	**Damavand**	**8.62**	**332**	*e*PN	**Pn**	**21 35 45.0**	**+2.0**
IGLO	**Galoogah**	**8.71**	**342**	*e*Pn	**Pn**	**21 35 48.6**	**+4.4**
ASAO	**Ashtian**	**8.73**	**320**	*e*PN	**Pn**	**21 35 45.9**	**+1.5**
IPRN	**Paran-Amol**	**9.05**	**335**	*e*Pn	**Pn**	**21 35 50.8**	**+1.9**
CHTH	**Charan**	**9.22**	**329**	*e*PN	**Pn**	**21 35 53.3**	**+2.1**
IMHD	**Mahdasht**	**9.25**	**327**	*e*Pn	**Pn**	**21 35 52.9**	**+1.3**
THKV	**Tehran--Karaj**	**9.34**	**328**	*e*PN	**Pn**	**21 35 55.0**	**+2.1**
VAN	**Vannovskaya**	**9.91**	**6**	*e*P	**Pn**	**21 36 06.2**	**+5.5**
SHAO	**Shaalim**	**10.06**	**187**	P	**Pn**	**21 36 00.9**	**-1.8**
	SNR=55						
IKOM	**Komasi**	**10.08**	**310**	*e*Pn	**Pn**	**21 36 02.8**	**-0.1**
WHFO	**Wadi Hawf**	**10.49**	**196**	P	**Pn**	**21 36 06.9**	**-1.7**
	SNR=72						
RBK	**Rabkut**	**10.79**	**194**	P	**Pn**	**21 36 10.7**	**-2.0**
	SNR=35						
IGHG	**Ghaleghazi**	**10.81**	**308**	*e*Pn	**Pn**	**21 36 12.1**	**-0.9**
IDHR	**Dehrash**	**11.14**	**309**	*e*Pn	**Pn**	**21 36 15.4**	**-2.1**
ABTO	**Aybut**	**11.16**	**198**	P	**Pn**	**21 36 15.4**	**-2.2**
	SNR=87						
BHD	**Baghdad**	**11.95**	**299**	*ex*	x	21 36 23.0	
BHD				*ex*	x	21 38 34.0	
IBST	**Bostanabad**	**12.75**	**321**	*e*Pn	**Pn**	**21 36 38.4**	**-1.1**
THW	**Thamme Wali**	**13.66**	**66**	P	**Pn**	**21 36 52.0**	**+0.1**
IMRD	**Marand**	**14.13**	**322**	*e*Pn	**Pn**	**21 37 00.8**	**+2.5**
MSL	**Mosul**	**14.26**	**309**	*ex*	x	21 37 00.0	
CUKT	**Cukurca**	**14.44**	**313**	*e*P	Px	21 35 59.4	
TVAN	**Van**	**15.34**	**316**	*i* P	**Pn**	**21 37 17.5**	**+2.9**
CLDR	**Caldiran**	**15.44**	**319**	*e*P	Px	21 36 19.0	
GNI	**Garni**	**15.68**	**323**	*e*P	Px	21 36 25.4	
GNI	**Garni**	**15.68**	**323**	P	**Pn**	**21 37 19.7**	**+0.7**
GNI				pmax	pmax		
	comp=Z,70nm,1.1s						
GNI	**Garni**	**15.68**	**323**	P	**Pn**	**21 37 19.7**	**+0.7**
	comp=Z,70nm,1.1s						
GNI	**Garni**	**15.68**	**323**	P	**Pn**	**21 37 19.7**	**+0.7**
	comp=Z,70nm,1.1s						
AJM	**Ajmer**	**15.88**	**92**	*e*P	**Pn**	**21 37 23.1**	**+1.5**
AJM				AMb	AMB	21 37 32.7	
	comp=Z,27nm,1.0s						
BTMT	**Batman**	**16.36**	**312**	*e*P	Px	21 36 24.2	
MARD	**Mardin**	**16.38**	**308**	*i* P	**Pn**	**21 37 24.8**	**-3.2**
DIGO	**Kars**	**16.61**	**321**	*i* P	**Pn**	**21 37 33.4**	**+2.5**
MAK	**Makhachkala**	**16.69**	**335**	*e*P	**Pn**	**21 37 22.8**	**-9.2**
MAK				MLR	MLR		
	comp=Z,573nm,15.0s						
KHET	**Khetri**	**16.71**	**85**	*e*P	**Pn**	**21 37 32.8**	**+0.6**
KHET				AMb	AMB	21 37 40.3	
	comp=Z,17nm,0.8s						
TBLG	**Delisi**	**16.86**	**327**	*e*P	**Pn**	**21 37 37.6**	**+3.5**
BNGL	**BINGOL**	**17.01**	**314**	*i* P	**Pn**	**21 37 38.8**	**+2.9**
DIY	**Diyarbakir**	**17.05**	**309**	*e*P	Px	21 36 40.5	
KUDL	**Kundal**	**17.30**	**85**	*e*P	**Pn**	**21 37 39.9**	**+0.2**
ERZM	**Erzurum**	**17.44**	**317**	*i* P	**Pn**	**21 37 44.5**	**+3.2**
EZM	**Erzurum**	**17.44**	**317**	*e*P	Px	21 36 45.2	
URFA	**Urfa**	**17.82**	**306**	*e*P	Px	21 36 48.4	
SONA	**Sohna**	**17.82**	**85**	*e*P	**Pn**	**21 37 45.5**	**-0.5**
AYAN	**Aya Nagar**	**17.84**	**84**	*e*P	**Pn**	**21 37 46.8**	**+0.5**
SMLA	**Simla**	**17.91**	**75**	*e*P	**Pn**	**21 37 48.6**	**+1.6**
SMLA				AMb	AMB	21 37 56.9	
	comp=Z,39nm,0.7s						
NDI	**New Delhi**	**17.91**	**83**	*e*P	**Pn**	**21 37 46.5**	**-0.6**
ARTV	**Artvin**	**17.93**	**321**	*i* P	**Pn**	**21 37 49.7**	**+2.3**
ANR	**Andizhan**	**17.95**	**41**	*e*P	**Pn**	**21 37 46.8**	**-0.8**
ZEI	**Tsey**	**18.06**	**328**	*e*P	**Pn**	**21 37 51.1**	**+2.2**
ELZG	**Elazig**	**18.20**	**309**	*i* P	**Pn**	**21 37 51.9**	**+1.3**
POO	**Poona**	**18.23**	**118**	*ex*	**Pn**	**21 37 52.0**	**+1.0**
MALT	**Malatya**	**18.49**	**308**	*e*P	Px	21 36 54.3	
MALT	**Malatya**	**18.49**	**308**	*e*P	**Pn**	**21 37 54.9**	**+0.7**
MALT				pmax	pmax		
	comp=Z,47nm,1.0s						
MALT	**Malatya**	**18.49**	**308**	*e*P	**Pn**	**21 37 54.9**	**+0.7**
	comp=Z,47nm,1.0s						
MALT	**Malatya**	**18.49**	**308**	*e*Pn	**Pn**	**21 37 54.9**	**+0.6**
	comp=Z,47nm,1.0s						
MALT				*e*Sn	**Sn**	**21 41 38.3**	**+18**
GZT	**Gaziantep**	**18.68**	**305**	*i* P	**Pn**	**21 37 56.0**	**-0.6**
KLP	**Kalpa**	**18.86**	**74**	*e*P	**Pn**	**21 37 58.6**	**-0.1**
KLP				AMb	AMB	21 38 08.4	
	comp=Z,47nm,0.7s						
GAZ	**Gaziantep**	**18.87**	**304**	*e*P	Px	21 37 00.1	
KELT	**Kelkit**	**18.89**	**314**	*i* P	**Pn**	**21 38 00.3**	**+1.3**
GUMT	**Gumushane**	**18.93**	**315**	*e*P	Px	21 36 58.8	
BHL	**Bhannes**	**19.10**	**293**	*e*P	**Pn**	**21 38 01.9**	**+0.3**
BHPL	**Bhopal**	**19.13**	**100**	*e*P	**Pn**	**21 38 02.1**	**+0.2**
KAD	**Karad**	**19.20**	**120**	*e*P	**Pn**	**21 38 02.5**	**-0.2**
EIL	**Elat**	**19.27**	**280**	*e*Pn	**Pn**	**21 38 01.4**	**-2.3**
	comp=Z,469nm,1.0s						
EIL	**Elat**	**19.27**	**280**	*e*Pn	**Pn**	**21 38 01.4**	**-2.3**
	comp=Z,469nm,1.0s						
HTY	**Hatay**	**19.30**	**300**	*e*P	Px	21 37 04.0	
COBT	**Iskenderun**	**19.34**	**301**	*i* P	**Pn**	**21 38 05.2**	**+0.7**
KSH	**Kashi**	**19.51**	**49**	*e*P	**Pn**	**21 38 07.4**	**+0.9**
KSH				*e*AP	pP	21 38 13.4	+1.3
KSH				XP	sP	21 38 17.6	+2.2
KSH				PP		21 38 24.2	
KSH				S	**Sn**	**21 41 40.6**	**-4.1**
KSH				AMB	AMB		
	comp=Z,22nm,1.0s						
KSH				AMB	AMB		
	comp=Z,137nm,4.4s						
KSH				LR	LR		
	comp=N,1μm,10.6s						
KSH				LR	LR		
	comp=E,662nm,6.6s						
KSH				LR	LR		
	comp=Z,695nm,11.7s						
KIV	**Kislovodsk**	**19.54**	**328**	*d* iP	**Pn**	**21 38 06.7**	**-0.1**
KIV				*e*S	**Sn**	**21 41 43.3**	**-2.0**
KIV				pmax	pmax		
	comp=Z,54nm,1.7s						
KIV				MLR	MLR		
	comp=Z,200nm,23.0s						
KIV	**Kislovodsk**	**19.54**	**328**	*i* P	**Pn**	**21 38 06.7**	**-0.1**
	comp=Z,200nm,23.0s						
KIV	**Kislovodsk**	**19.54**	**328**	Pn	**Pn**	**21 38 06.2**	**-0.6**
	comp=Z,44nm,1.0s						
AML	**Almayashu**	**19.61**	**40**	P	**Pn**	**21 38 06.1**	**-1.5**
	SNR=40						
GRSN	**GIRESUNGRSN**	**19.95**	**315**	*i* P	**Pn**	**21 38 11.6**	**-0.1**
EKS2	**Erkin-Say**	**20.00**	**39**	P	**Pn**	**21 38 11.7**	**-0.6**
	SNR=43						
KOZT	**Kozan**	**20.01**	**303**	*e*P	Px	21 37 09.3	
UCH	**Uchtor**	**20.14**	**41**	P	**P**	**21 38 12.8**	**+0.8**
	SNR=12						
SVSK	**Karacayir**	**20.24**	**311**	*e*P	Px	21 37 16.1	
AAK	**Ala-Archa**	**20.38**	**40**	P	**P**	**21 38 16.0**	**+1.3**
	SNR=18						
AAK	**Ala-Archa**	**20.38**	**40**	P	**P**	**21 38 14.8**	**+0.2**
AAK	**Ala-Archa**	**20.38**	**40**	Pn	**P**	**21 38 14.8**	**+0.1**
KZA	**Kyzart**	**20.47**	**42**	P	**P**	**21 38 16.7**	**+1.1**
	SNR=14						
FRU	**Bishkek**	**20.58**	**40**	*e*P	**P**	**21 38 17.0**	**+0.2**
FRU				*e*		21 38 48.0	
FRU				pmax	pmax		
	comp=Z,60nm,2.0s						
FRU	**Bishkek**	**20.58**	**40**	*e*P	**P**	**21 38 17.0**	**+0.2**
	comp=Z,60nm,2.0s						
KBK	**Karagaybulak**	**20.65**	**40**	P	**P**	**21 38 19.2**	**+1.6**
	SNR=5.3						
SOC	**Sochi**	**20.76**	**323**	*e*P	**P**	**21 38 18.4**	**-0.3**
SOC				*e*		21 38 49.5	
SOC				*e*S	**S**	**21 42 12.4**	**+3.2**
SOC				*e*SS		21 42 51.7	
SOC				pmax	pmax		
	comp=Z,41nm,0.8s						
SOC				MLR	MLR		
	comp=Z,453nm,14.0s,MS4.0						
SOC	**Sochi**	**20.76**	**323**	*e*P	**P**	**21 38 18.4**	**-0.3**
	comp=Z,41nm,0.8s						
MERS	**Mersin**	**20.77**	**301**	*e*P	Px	21 37 19.7	
ATD	**Arta Tunnel**	**21.05**	**221**	P	**P**	**21 38 22.6**	**+0.7**
	comp=Z,6.7nm,0.6s,mb4.2,baz=88,slow=3.4,SNR=4.6						
ATD				LR	LR	21 47 56.8	
	comp=Z,388nm,20.1s,MS3.8,baz=148,slow=41						
ATD	**Arta Tunnel**	**21.05**	**221**	P	**P**	**21 38 22.6**	**+0.7**
ULHL	**Ulahol**	**21.17**	**43**	P	**P**	**21 38 24.4**	**+1.3**
	SNR=28						
TKM2	**Tokmak 2**	**21.19**	**41**	P	**P**	**21 38 23.8**	**+0.4**
	SNR=8.8						
CSS	**Prodhromos**	**21.20**	**295**	P	**P**	**21 38 24.6**	**+1.2**
	comp=Z,34nm,0.9s,mb4.7						
CSS	**Prodhromos**	**21.20**	**295**	P	**P**	**21 38 24.6**	**+1.2**
	comp=Z,34nm,0.9s,mb4.7						
IKL	**Isikli**	**21.23**	**298**	*e*P	Px	21 37 26.9	
NGP	**Nagpur**	**21.28**	**104**	*ex*	x	21 38 19.4	
CORM	**Corum**	**21.96**	**309**	*e*P	Px	21 37 32.1	
CTKT	**Corum**	**22.06**	**310**	*i* P	**P**	**21 38 33.8**	**+1.1**
KAMT	**Kaman**	**22.27**	**306**	*e*P	Px	21 37 36.0	
AKTK	**Aktyubinsk**	**22.36**	**2**	P	**P**	**21 38 35.8**	**-0.1**
AKTK				LR	LR	21 48 57.3	
AKTO	**Aktyubinsk**	**22.36**	**2**	P	**P**	**21 38 35.8**	**-0.1**
	comp=Z,38nm,1.1s,mb4.8,baz=180,slow=10,SNR=38						
AKTO				LR	LR	21 48 57.3	
	comp=Z,845nm,18.4s,MS4.2,baz=0.0,slow=41						
BOYT	**Boyabat**	**22.37**	**312**	*i* P	**P**	**21 38 36.6**	**+0.7**
BRTR	**Keskin Array B**	**22.46**	**307**	P	**P**	**21 38 37.5**	**+0.5**
	comp=Z,16nm,0.7s,mb4.6,baz=117,slow=10,SNR=84						
BRTR				ScP	ScP	21 46 06.5	-0.1
	comp=Z,0.8nm,0.8s,baz=122,slow=4.5,SNR=4.1						
BR131	**Keskin Array S**	**22.46**	**307**	*e*P	**P**	**21 38 37.0**	**0.0**
	comp=Z,28nm,0.8s,mb4.7						
BR131	**Keskin Array S**	**22.46**	**307**	*e*P	**P**	**21 38 37.0**	**0.0**
	comp=Z,28nm,0.8s,mb4.7						
HYB	**Hyderabad**	**22.59**	**113**	*i* P	**P**	**21 38 40.0**	**+1.7**
HYB	**Hyderabad**	**22.59**	**113**	*e*P	**P**	**21 38 40.0**	**+1.7**
KONT	**Konya--Tatoy**	**22.75**	**302**	*e*P	Px	21 37 41.9	
ELDT	**Eldivan**	**22.93**	**309**	*i* P	**P**	**21 38 42.4**	**+0.5**
KDHN	**Kadinhani**	**23.11**	**303**	*i* P	**P**	**21 38 43.8**	**-0.1**
KIZT	**Kizilcal**	**23.41**	**304**	*e*P	Px	21 37 46.5	
KOLN	**Koldanda**	**23.60**	**84**	*e*P	**P**	**21 38 49.5**	**+0.7**
	comp=Z,45nm,1.2s,mb4.8						
SGKT	**Sivrigoynuk**	**23.91**	**308**	*i* P	**P**	**21 38 52.6**	**+0.9**
ISP	**Isparta**	**24.11**	**301**	*e*P	**P**	**21 38 54.4**	**+0.9**
ISP				pmax	pmax		
	comp=Z,36nm,0.9s,mb4.8						
ISP	**Isparta**	**24.11**	**301**	*e*P	**P**	**21 38 54.4**	**+0.9**
	comp=Z,36nm,0.9s,mb4.8						
ELL	**Elmali**	**24.30**	**298**	*e*P	Px	21 37 56.3	
TKTP	**Tekketepe**	**24.31**	**301**	*i* P	**P**	**21 38 56.6**	**+1.3**
GKN	**Gorkha**	**24.48**	**84**	*e*P	**P**	**21 38 57.4**	**+0.6**
	comp=Z,60nm,1.2s,mb4.9						
SIM	**Simferopol'**	**24.75**	**319**	⇓*e*P	**P**	**21 38 59.8**	**+0.5**
SIM				pmax	pmax		
	comp=Z,23nm,0.7s,mb4.8						
SIM				MLR	MLR		
	comp=Z,240nm,18.0s,MS3.7						
SIM	**Simferopol'**	**24.75**	**319**	*e*P	**P**	**21 38 59.8**	**+0.5**
	comp=Z,240nm,18.0s						
HENT	**Hendek**	**24.82**	**308**	*i* P	**P**	**21 39 00.7**	**+0.7**
HENT	**Hendek**	**24.82**	**308**	*i* P	**P**	**21 39 00.6**	**+0.7**
DMN	**Daman**	**24.95**	**84**	*e*P	**P**	**21 39 02.3**	**+1.3**
KKN	**Kakani**	**25.07**	**84**	*e*P	**P**	**21 39 03.1**	**+0.9**
	comp=Z,56nm,0.8s,mb5.1						
KKN	**Kakani**	**25.07**	**84**	*e*P	**P**	**21 39 03.1**	**+0.9**
KKN				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.8						
PKI	**Pulchoki**	**25.22**	**84**	*e*P	**P**	**21 39 04.4**	**+0.9**
	comp=Z,34nm,0.8s,mb4.9						
PKI	**Pulchoki**	**25.22**	**84**	*e*P	**P**	**21 39 04.4**	**+0.9**
PKI				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.6						
GUN	**Gumba**	**25.59**	**83**	*e*P	**P**	**21 39 08.0**	**+1.1**
	comp=Z,81nm,0.9s,mb5.2						
VRHR	**Novokhopersk**	**25.73**	**338**	*e*P	**P**	**21 39 07.8**	**-0.4**
VRHR				pmax	pmax		
	comp=N,6.0nm,0.5s						
VRHR				pmax	pmax		
	comp=Z,80nm,0.5s,mb5.5						
VRHR				pmax	pmax		
	comp=E,20nm,0.7s						
JIRN	**Jiri**	**25.89**	**84**	*e*P	**P**	**21 39 10.4**	**+0.8**
	comp=E,45nm,1.0s,mb4.9						
ZRNK	**Zerenda**	**26.44**	**17**	P	**P**	**21 39 14.6**	**0.0**
ZRNK				*e*	pP	21 39 21.9	-0.3
ZRNK				pmax	pmax		
	comp=Z,47nm,1.2s,mb4.9						
ZRNK	**Zerenda**	**26.44**	**17**	P	**P**	**21 39 14.6**	**0.0**
	comp=Z,47nm,1.2s,mb4.9						
ZRNK	**Zerenda**	**26.44**	**17**	P	**P**	**21 39 14.6**	**0.0**
	comp=Z,47nm,1.2s,mb4.9						
ZRNK				*e*	pP	21 39 21.9	-0.2
BVAR	**Borovoye Array**	**26.88**	**18**	P	**P**	**21 39 18.6**	**0.0**
	comp=Z,24nm,0.9s,mb4.7,baz=201,slow=7.9,SNR=115						
BVAR				PcP	PcP	21 42 39.3	-1.2
	comp=Z,1.2nm,0.7s,baz=304,slow=1.0,SNR=3.7						
BRVK	**Borovoye**	**26.88**	**18**	P	**P**	**21 39 18.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
BRVK	**Borovoye**	**26.88**	**18**	P	**P**	**21 39 18.7**	**+0.2**
	comp=Z,12nm,0.9s,mb4.4						
BRVK	**Borovoye**	**26.88**	**18**	P	**P**	**21 39 18.7**	**+0.1**
	comp=Z,12nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**27.32**	**40**	P	**P**	**21 39 21.5**	**-1.0**
	comp=Z,2.0nm,0.5s,mb3.9,baz=238,slow=7.0,SNR=17						
KURK	**Kurchatov**	**27.98**	**30**	*c* iP	**P**	**21 39 28.6**	**+0.1**
KURK	**Kurchatov**	**27.98**	**30**	*e*P	**P**	**21 39 28.5**	**+0.1**
	comp=Z,10nm,1.0s,mb4.4						
IDI	**Anoyia**	**28.08**	**293**	P	**P**	**21 39 29.1**	**-0.2**
	comp=Z,11nm,0.7s,mb4.6,baz=123,slow=22,SNR=3.0						
ARU	**Arti**	**28.38**	**2**	*e*P	**P**	**21 39 32.6**	**+0.6**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
ARU	**Arti**	**28.38**	**2**	*e*P	**P**	**21 39 32.6**	**+0.6**
	comp=Z,7.9nm,1.0s,mb4.3						
CFR	**Carcaliu**	**28.50**	**315**	⇓P	**P**	**21 39 32.5**	**-0.5**
WMQ	**Urumqi**	**29.28**	**49**	P	**P**	**21 39 40.3**	**+0.3**
WMQ				AP	pP	21 39 47.5	0.0
WMQ				XP	sP	21 39 50.9	+0.2
WMQ				PP	PP	21 40 35.1	-11
WMQ				PCP	PcP	21 42 47.5	+1.1
WMQ				*e*S	**S**	**21 44 30.0**	**-1.4**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,72nm,4.2s						
WMQ				LR	LR		
	comp=N,1μm,21.6s,MS4.7						
WMQ				LR	LR		
	comp=E,1μm,22.3s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
PLOR	**Plostina**	**29.73**	**315**	⇓P	**P**	**21 39 45.0**	**+1.0**
LSA	**Lhasa**	**29.99**	**79**	*e*P	**P**	**21 39 47.6**	**+1.3**
LSA	**Lhasa**	**29.99**	**79**	*e*P	**P**	**21 39 47.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
LSA	**Lhasa**	**29.99**	**79**	*e*P	**P**	**21 39 47.3**	**+1.0**
	comp=Z,3.7nm,0.8s,mb4.2						
MLR	**Muntele Rosu**	**30.02**	**314**	P	**P**	**21 39 48.0**	**+1.5**
	comp=Z,6.3nm,0.9s,mb4.3,baz=48,slow=7.8,SNR=5.7						
MLR				LR	LR	21 54 16.8	
	comp=Z,193nm,21.0s,MS3.7,baz=259,slow=41						
MLR	**Muntele Rosu**	**30.02**	**314**	⇑P	**P**	**21 39 49.5**	**+2.9**
VOIR		**30.58**	**313**	⇑P	**P**	**21 39 51.5**	**0.0**
OBN	**Obninsk**	**30.77**	**337**	*d* iP	**P**	**21 39 53.0**	**-0.2**
OBN				*e*S	**S**	**21 44 49.5**	**-5.4**
OBN				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.4						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS3.8						
OBN	**Obninsk**	**30.77**	**337**	P	**P**	**21 39 53.2**	**0.0**
	comp=Z,45nm,0.8s,mb5.3						
AKASG	**Malin Array Be**	**30.80**	**325**	P	**P**	**21 39 52.4**	**-1.0**
	comp=Z,6.4nm,0.8s,mb4.5,baz=130,slow=8.2,SNR=27						
AKASG	**Malin Array Be**	**30.80**	**325**	P	**P**	**21 39 52.4**	**-1.0**
MOS	**Moscow**	**30.93

GTA PP PP 21 42 17.3 +4.0
GTA S **S** **21 46 34.3 +1.0**
GTA XS sS 21 46 51.8 +5.9
GTA AMB AMB
comp=Z,11nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,85nm,4.9s
GTA LR LR
comp=N,269nm,15.2s,MS4.3
GTA LR LR
comp=E,211nm,14.8s,MS4.3
GTA LR LR
comp=Z,136nm,17.5s,MS3.8
VRAC Vranov 37.34 316 *eP* **P** **21 40 49.9 -0.2**
ARSA Arzberg 37.40 312⇑*iP* **P** **21 40 50.8 +0.2**
comp=Z,18nm,1.3s,mb4.7
LJU Ljubljana 37.75 310 *eP* **P** **21 40 54.0 +0.4**
AQU L'Aquila 37.87 304 *eP* **P** **21 40 55.0 +0.4**
AQU pmax pmax
comp=Z,53nm,1.2s,mb5.2
AQU L'Aquila 37.87 304 *eP* **P** **21 40 55.0 +0.4**
comp=Z,53nm,1.2s,mb5.2
DPC Dobruska-Polom 37.87 317 *eP* **P** **21 40 54.3 -0.3**
DPC *ep*P pP 21 41 00.9 -1.4
KRAR Krasnoyarsk 37.93 32⇓*eP* **P** **21 40 55.9 +0.8**
KRAR pmax pmax
comp=Z,29nm,1.1s,mb4.9
KRAR MLR MLR
comp=Z,200nm,15.0s,MS4.0
JAVS Javornik 38.03 310 *eP* **P** **21 40 55.8 -0.2**
KSP Ksiaz 38.06 318 *eP* **P** **21 40 56.2 0.0**
KSP Ksiaz 38.06 318 *eP* **P** **21 40 55.8 -0.4**
KSP *ep*P pP 21 41 02.1 -1.8
UPC Upice 38.11 317 *eP* **P** **21 40 56.2 -0.4**
MOA Molln 38.38 313 *i P* **P** **21 40 58.7 -0.2**
comp=Z,18nm,0.8s,mb4.8,SNR=16
PTCC Patocco-Chiusa 38.63 310 P **P** **21 41 00.8 -0.2**
JOF Joensuu 38.65 342 *ep* **P** **21 40 59.4 -1.8**
comp=Z,12nm,0.8s,mb4.7
KBA Koelnbreinsper 38.79 311⇑*iP* **P** **21 41 02.4 +0.1**
comp=Z,20nm,1.2s,mb4.7,SNR=9.7
PRU Pruhonice 38.83 316 *eP* **P** **21 41 01.7 -0.9**
PRU *ep*P pP 21 41 09.0 -1.3
PVCC Panska Ves 38.98 317 *eP* **P** **21 41 03.4 -0.6**
GEC2 GERESS Array S 39.01 314 *eP* **P** **21 41 03.6 -0.6**
comp=Z,37nm,1.5s,mb4.9
GEC2 GERESS Array S 39.01 314 *eP* **P** **21 41 03.6 -0.6**
GEC2 pmax pmax
comp=Z,37nm,1.5s,mb4.9
GERES GERESS Array B 39.01 314 P **P** **21 41 03.8 -0.4**
comp=Z,6.0nm,0.8s,mb4.4,baz=108,slow=8.6,SNR=54
GERES PcP PcP 21 43 13.6 -0.5
comp=Z,1.2nm,0.8s,baz=116,slow=3.1,SNR=3.7
GERES LR LR 22 01 33.9
comp=Z,101nm,18.5s,MS3.7,baz=292,slow=43
GERES GERESS Array B 39.01 314 P **P** **21 41 03.8 -0.4**
GERES 21 43 13.6
KHC Kasperske Hory 39.17 314 *eP* **P** **21 41 05.0 -0.5**
KHC *ep*P pP 21 41 11.6 -1.6
FINES FINESS Array B 39.18 337 P **P** **21 41 05.0 -0.6**
comp=Z,12nm,0.6s,mb4.8,baz=134,slow=9.6,SNR=78
FINES LR LR 22 01 04.5
comp=Z,117nm,20.4s,MS3.7,baz=285,slow=42
SFI Santa Sofia 39.21 306 P **P** **21 41 06.7 +0.8**
SFI pmax pmax
comp=Z,251nm,2.7s,mb5.5
SFI Santa Sofia 39.21 306 P **P** **21 41 06.7 +0.8**
comp=Z,251nm,2.7s,mb5.5
VMG Vicchio 39.44 306 P **P** **21 41 09.4 +1.6**
SEST Monte Rota 39.47 310 P **P** **21 41 08.0 0.0**
comp=Z,1μm,6.3s
BRG Berggiesshubel 39.47 317 *eP* **P** **21 41 07.2 -0.8**
comp=Z,8.0nm,0.9s,mb4.5
BRG Berggiesshubel 39.47 317 *eP* **P** **21 41 07.4 -0.6**
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BRG Berggiesshubel 39.47 317 *eP* **P** **21 41 07.4 -0.6**
comp=Z,5.1nm,0.9s,mb4.2
KAF Kangasniemi 39.58 338 *ep* **P** **21 41 06.0 -2.9**
comp=Z,5.9nm,0.7s,mb4.4
KAF Kangasniemi 39.58 338 *eP* **P** **21 41 06.0 -2.9**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
WET Wettzell 39.61 314 *eP* **P** **21 41 08.2 -1.0**
comp=Z,33nm,1.6s,mb4.8
WET Wettzell 39.61 314 *eP* **P** **21 41 08.2 -1.0**
WET pmax pmax
comp=Z,33nm,1.6s,mb4.8
ZCCA Zocca 39.90 307 P **P** **21 41 13.3 +1.7**
WATA Walderalm 40.02 311⇑*iP* **P** **21 41 11.6 -1.1**
comp=Z,23nm,1.1s,mb4.8,SNR=7.5
RUE Ruedersdorf 40.10 320 *eP* **P** **21 41 12.9 -0.4**
comp=Z,35nm,0.9s,mb5.1
RUE Ruedersdorf 40.10 320 P **P** **21 41 13.0 -0.3**
CLL Collm 40.17 318⇑*iP* **P** **21 41 13.7 -0.2**
comp=Z,41nm,1.2s,mb5.0
CLL *ep*P pP 21 41 20.4 -1.2
CLL *es*P sP 21 41 23.7 -1.0
CLL *e*PcP PcP 21 43 18.2 +0.4
CLL *e*L 22 00 01.9
comp=Z,150nm,19.7s
CLL Collm 40.17 318⇓*iP* **P** **21 41 14.0 +0.1**
comp=Z,41nm,1.3s,mb5.0
CLL *i* pP pP 21 41 20.9 -0.7
CLL *i* sP sP 21 41 23.6 -1.1
CLL *es*PP 21 42 54.0
CLL *i* PcP PcP 21 43 18.5 +0.7
CLL Collm 40.17 318⇓*iP* **P** **21 41 14.0 +0.1**
CLL *i* *PP pP 21 41 20.9 -0.7
CLL *i* 21 43 18.5
CLL pmax pmax
comp=Z,41nm,1.3s,mb5.0
CLL Collm 40.17 318⇓*iP* **P** **21 41 14.0 +0.1**
comp=Z,41nm,1.3s,mb5.0
CLL *i* pP pP 21 41 20.9 -0.7
CLL *i* PcP PcP 21 43 18.5 +0.7
NKC Novy Kostel 40.19 316 *eP* **P** **21 41 13.1 -0.9**
NKC *ep*P pP 21 41 19.8 -1.9
ROTZ Rotzenmuhle 40.20 315 *eP* **P** **21 41 13.8 -0.3**
comp=Z,21nm,1.2s,mb4.7
SQTA Sankt Quirin 40.24 311⇑*iP* **P** **21 41 13.6 -0.9**
comp=Z,9.8nm,0.8s,mb4.6,SNR=18
LZH Lanzhou 40.27 66 *eP* **P** **21 41 14.5 -0.2**
LZH AP pP 21 41 22.1 -0.3
LZH XP sP 21 41 25.4 -0.1
LZH PP PP 21 42 51.5 +3.9
LZH *e*S **S** **21 47 19.2 -1.4**
LZH AMB AMB
comp=Z,27nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,124nm,5.9s
LZH LR LR
comp=N,743nm,14.2s
LZH LR LR
comp=Z,934nm,17.4s,MS4.7
MANZ Manzenberg 40.33 315 *eP* **P** **21 41 14.9 -0.2**
comp=Z,9.0nm,1.2s,mb4.4
WERD Werda 40.33 316 *eP* **P** **21 41 14.4 -0.8**
comp=Z,8.0nm,1.3s,mb4.3
MOTA Moosalm 40.34 311⇑*iP* **P** **21 41 14.1 -1.2**
comp=Z,15nm,0.9s,mb4.7,SNR=16
MOY Mondy 40.42 42 *eP* **P** **21 41 16.5 +0.6**
BRMO Bormio 40.66 310 P **P** **21 41 18.0 +0.1**
CD2 Chengdu 40.68 74 *eP* **P** **21 41 17.5 -0.5**
CD2 AP pP 21 41 24.9 -0.9
CD2 PP PP 21 42 54.7 +2.8
CD2 S **S** **21 47 24.1 -2.5**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,60nm,5.3s
CD2 LR LR
comp=E,150nm,13.2s
CD2 LR LR
comp=Z,90nm,10.8s,MS3.9
VSL Villasalto 40.68 299 P **P** **21 41 18.9 +0.8**
comp=Z,33nm,0.9s,mb5.0
GRA1 Grafenberg Arr 40.80 315 *eP* **P** **21 41 18.9 -0.2**
comp=Z,39nm,1.0s,mb5.0
GRF Grafenberg Arr 40.80 315 *eP* **P** **21 41 18.9 -0.2**
comp=Z,39nm,1.0s,mb5.0
GRF Grafenberg Arr 40.80 315 *eP* **P** **21 41 18.9 -0.2**
GRF pmax pmax
comp=Z,39nm,1.0s,mb5.0
MOX Moxa 40.81 316 *eP* **P** **21 41 19.1 -0.1**
comp=Z,17nm,1.3s,mb4.5
MOX Moxa 40.81 316 *eP* **P** **21 41 19.1 -0.1**
MOX pmax pmax
comp=Z,17nm,1.3s,mb4.5
KMI Kunming 40.93 83 P **P** **21 41 21.3 +1.1**
KMI AP pP 21 41 29.0 +1.1
KMI S **S** **21 47 29.7 -0.7**
KMI AMB AMB
comp=Z,13nm,0.9s,mb4.6
KMI AMB AMB
comp=Z,79nm,4.0s
KMI LR LR
comp=Z,41nm,19.9s,MS3.3
DAVA Damuels 41.14 311 *i P* **P** **21 41 21.1 -0.7**
comp=Z,39nm,0.7s,mb5.1,SNR=24
ZAK Zakamensk 41.44 44 *eP* **P** **21 41 20.6 -3.7**
ZAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.1
VAI Varese 41.66 309 P **P** **21 41 24.7 -1.5**
STU Stuttgart 41.88 313 *eP* **P** **21 41 26.7 -1.3**
comp=Z,18nm,1.2s,mb4.6
CLZ Clausthal 41.90 318 *eP* **P** **21 41 28.3 +0.2**
comp=Z,51nm,1.2s,mb5.0
CLZ Clausthal 41.90 318 *eP* **P** **21 41 28.3 +0.2**
CLZ pmax pmax
comp=Z,51nm,1.2s,mb5.0
SBF Sospel 42.38 305⇑*iP* **P** **21 41 31.3 -0.7**
comp=Z,64nm,0.9s,mb5.0
SBF Sospel 42.38 305⇑*iP* **P** **21 41 31.3 -0.7**
SBF pmax pmax
comp=Z,32nm,0.9s,mb5.0
SBF Sospel 42.38 305⇑*iP* **P** **21 41 31.3 -0.7**
comp=Z,32nm,0.9s,mb5.0
BSEG Bad Segeberg 42.55 321 *eP* **P** **21 41 33.2 -0.2**
comp=Z,22nm,1.0s,mb4.8
DIX Grande Dixence 42.63 309 P **P** **21 41 32.4 -1.7**
TNS Taunus Mts 42.67 315 *eP* **P** **21 41 34.4 0.0**
comp=Z,40nm,1.2s,mb5.0
TNS Taunus Mts 42.67 315 *eP* **P** **21 41 34.4 0.0**
TNS pmax pmax
comp=Z,40nm,1.2s,mb5.0
SONM Songino Array 42.91 49 P **P** **21 41 36.7 +0.4**
comp=Z,2.6nm,0.8s,mb4.0,baz=261,slow=8.7,SNR=26
SONM LR LR 22 01 30.1
comp=Z,378nm,19.7s,MS4.3,baz=335,slow=39
MBDF Montbardon 42.93 307⇑*iP* **P** **21 41 35.5 -1.0**
comp=Z,28nm,0.9s,mb4.7
MBDF Montbardon 42.93 307⇑*iP* **P** **21 41 35.5 -1.0**
MBDF pmax pmax
comp=Z,14nm,0.9s,mb4.7
MBDF Montbardon 42.93 307⇑*iP* **P** **21 41 35.5 -1.0**
comp=Z,14nm,0.9s,mb4.7
LPG La Plagne 43.02 308⇑*iP* **P** **21 41 36.5 -0.7**
comp=Z,26nm,0.8s,mb4.7
LPG La Plagne 43.02 308⇑*iP* **P** **21 41 36.5 -0.7**
LPG pmax pmax
comp=Z,13nm,0.8s,mb4.7
LPG La Plagne 43.02 308⇑*iP* **P** **21 41 36.5 -0.7**
comp=Z,13nm,0.8s,mb4.7
BNI Bardonecchia 43.03 307 *eP* **P** **21 41 36.3 -0.9**
BNI pmax pmax
comp=Z,17nm,0.8s,mb4.8
BNI Bardonecchia 43.03 307 *eP* **P** **21 41 36.2 -1.0**
comp=Z,17nm,0.8s,mb4.8
LPL La Plagne 43.04 308⇑*iP* **P** **21 41 36.5 -0.8**
comp=Z,23nm,0.7s,mb4.7
LPL La Plagne 43.04 308⇑*iP* **P** **21 41 36.5 -0.8**
LPL pmax pmax
comp=Z,12nm,0.7s,mb4.7
LPL La Plagne 43.04 308⇑*iP* **P** **21 41 36.5 -0.8**
comp=Z,12nm,0.7s,mb4.7
CDF Champ du Feu 43.07 312⇑*iP* **P** **21 41 36.1 -1.5**
comp=Z,17nm,1.0s,mb4.4
CDF Champ du Feu 43.07 312⇑*iP* **P** **21 41 36.1 -1.5**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
CDF Champ du Feu 43.07 312⇑*iP* **P** **21 41 36.1 -1.5**
comp=Z,8.6nm,1.0s,mb4.4
HINF Hinteralfeld 43.25 311⇑*iP* **P** **21 41 37.8 -1.3**
ULN Ulaanbaatar 43.36 49*c iP* **P** **21 41 39.9 0.0**
ULN Ulaanbaatar 43.36 49 *eP* **P** **21 41 39.7 -0.2**
comp=Z,3.1nm,0.8s,mb4.1
ULN *ep*P pP 21 41 47.8 +0.1
IBBN Ibbenburen 43.58 318 *eP* **P** **21 41 41.8 +0.1**
comp=Z,40nm,1.2s,mb5.0
ORIF Oris-en-Rattie 43.58 307⇑*iP* **P** **21 41 41.2 -0.5**
comp=Z,31nm,1.0s,mb4.7
ORIF *e*R
comp=Z,120nm,22.5s
ORIF Oris-en-Rattie 43.58 307⇑*iP* **P** **21 41 41.2 -0.5**
ORIF pmax pmax
comp=Z,15nm,1.0s,mb4.7
ORIF Oris-en-Rattie 43.58 307⇑*iP* **P** **21 41 41.2 -0.5**
comp=Z,15nm,1.0s,mb4.7
CABF La Chapelle 43.61 309⇑*iP* **P** **21 41 41.6 -0.3**
comp=Z,50nm,0.9s,mb4.9
CABF La Chapelle 43.61 309⇑*iP* **P** **21 41 41.6 -0.3**
CABF pmax pmax
comp=Z,25nm,0.9s,mb4.9
CABF La Chapelle 43.61 309⇑*iP* **P** **21 41 41.6 -0.3**
comp=Z,25nm,0.9s,mb4.9
HAU Haudompre 43.62 311⇑*iP* **P** **21 41 41.7 -0.3**
comp=Z,11nm,0.7s,mb4.4
HAU *e*R
comp=Z,127nm,20.2s
HAU Haudompre 43.62 311⇑*iP* **P** **21 41 41.7 -0.3**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
HAU MLR MLR
comp=Z,130nm,20.3s,MS3.8
HAU Haudompre 43.62 311⇑*iP* **P** **21 41 41.7 -0.3**
comp=Z,5.3nm,0.7s,mb4.4
HAU LR LR
comp=Z,130nm,20.3s,MS3.8
BUG Bochum--Univer 43.67 316 *eP* **P** **21 41 42.6 +0.2**
comp=Z,48nm,1.2s,mb5.1
MUD Monsted U'grnd 44.00 324⇑*iP* **P** **21 41 45.1 0.0**
comp=Z,26nm,0.8s,mb5.0
MUD Monsted U'grnd 44.00 324⇑*iP* **P** **21 41 45.1 0.0**
MUD pmax pmax
comp=Z,26nm,0.8s,mb5.0
WLF Walferdange 44.01 314 *eP* **P** **21 41 44.7 -0.5**
comp=Z,22nm,1.1s,mb4.8
WLF Walferdange 44.01 314 ⇓*P* **P** **21 41 44.2 -1.0**
comp=Z,6.7nm,0.9s,mb4.4
WLF AP pP 21 41 50.3 -2.7
WLF XP sP 21 41 54.1 -1.9
WLF Walferdange 44.01 314 P **P** **21 41 44.1 -1.1**
WTSB Winterswijk 44.07 317 *eP* **P** **21 41 44.9 -0.8**
comp=Z,23nm,1.4s,mb4.7
MEM Membach 44.28 315 ⇑*P* **P** **21 41 47.2 -0.1**
comp=Z,11nm,0.9s,mb4.6
MEM XP sP 21 41 56.4 -1.8
MEM Membach 44.28 315 P **P** **21 41 47.1 -0.2**
HGN Heimansgroeve 44.35 315 *eP* **P** **21 41 48.2 +0.3**
comp=Z,24nm,0.4s,mb5.3
VIVF Saint-Julien-l 44.43 307 *eP* **P** **21 41 47.4 -1.1**
comp=Z,26nm,1.0s,mb4.6
VIVF Saint-Julien-l 44.43 307 *eP* **P** **21 41 47.4 -1.1**
VIVF pmax pmax
comp=Z,13nm,1.0s,mb4.6
VIVF Saint-Julien-l 44.43 307 *eP* **P** **21 41 47.4 -1.1**
comp=Z,13nm,1.0s,mb4.6
MEZF Maizieres J'vi 44.55 312⇑*iP* **P** **21 41 48.9 -0.6**
comp=Z,74nm,1.1s,mb5.1
MEZF Maizieres J'vi 44.55 312⇑*iP* **P** **21 41 48.9 -0.6**
comp=Z,37nm,1.1s,mb5.1
XAN Xi'an 44.59 69 P **P** **21 41 49.1 -0.7**
XAN XP sP 21 42 02.4 +1.7
NB2 NORSAR Subarra 44.82 330 P **P** **21 41 49.8 -1.8**
comp=Z,9.4nm,0.8s,mb4.7,baz=115,slow=7.9
NB2 NORSAR Subarra 44.82 330 P **P** **21 41 49.8 -1.8**
NB2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
NOA NORSAR Array B 44.82 330 P **P** **21 41 50.5 -1.2**
comp=Z,7.3nm,0.8s,mb4.5,baz=116,slow=7.9,SNR=24
NOA LR LR 22 03 39.3
comp=Z,182nm,20.0s,MS4.0,baz=100,slow=40
NOA NORSAR Array B 44.82 330 P **P** **21 41 50.5 -1.2**
NOA LR LR 22 03 39.3
NAO01 NORSAR Array S 44.87 330 P **P** **21 41 51.0 -1.0**
comp=Z,11nm,0.9s,mb4.7
GIVF Givet 44.93 314⇑*iP* **P** **21 41 52.9 +0.3**
comp=Z,66nm,1.0s,mb5.1
GIVF Givet 44.93 314⇑*iP* **P** **21 41 52.9 +0.3**
GIVF pmax pmax
comp=Z,33nm,1.0s,mb5.1
GIVF Givet 44.93 314⇑*iP* **P** **21 41 52.9 +0.3**
comp=Z,33nm,1.0s,mb5.1
LASF Ste Croix 44.97 305 *eP* **P** **21 41 52.0 -0.8**
DOU Dourbes 45.08 314 ⇑*P* **P** **21 41 54.0 +0.3**
comp=Z,7.8nm,0.9s,mb4.5
DOU AP pP 21 41 60.0 -1.5
DOU XP sP 21 42 03.3 -1.2
DOU E 21 42 13.3
DOU Dourbes 45.08 314 P **P** **21 41 53.9 +0.2**
SMF Signal de Mont 45.15 309⇑*iP* **P** **21 41 53.5 -0.8**
comp=Z,107nm,1.0s,mb5.3
SMF Signal de Mont 45.15 309⇑*iP* **P** **21 41 53.5 -0.8**
SMF pmax pmax
comp=Z,54nm,1.0s,mb5.3
SMF Signal de Mont 45.15 309⇑*iP* **P** **21 41 53.5 -0.8**
comp=Z,54nm,1.0s,mb5.3
LOR Lormes 45.20 310⇑*iP* **P** **21 41 53.7 -0.9**
comp=Z,47nm,0.9s,mb5.0
LOR *e*R
comp=Z,204nm,19.5s
LOR Lormes 45.20 310⇑*iP* **P** **21 41 53.7 -0.9**
LOR pmax pmax
comp=Z,23nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,200nm,19.5s,MS4.1
LOR Lormes 45.20 310⇑*iP* **P** **21 41 53.7 -0.9**
comp=Z,23nm,0.9s,mb5.0
LOR LR LR
comp=Z,200nm,19.5s,MS4.1
ARCES ARCESS Array B 45.30 345 P **P** **21 41 54.4 -1.1**
comp=Z,10nm,0.9s,mb4.7,baz=140,slow=8.9,SNR=16
ARCES LR LR 22 03 58.9
comp=Z,134nm,18.4s,MS3.9,baz=201,slow=40
ARCES ARCESS Array B 45.30 345 P **P** **21 41 54.4 -1.1**
ARCES LR LR 22 03 58.9
SNF Seneffe 45.34 315 P **P** **21 41 55.6 -0.2**
comp=Z,5.8nm,0.8s,mb4.5
SNF AP pP 21 42 02.9 -0.7
SNF Seneffe 45.34 315 P **P** **21 41 55.5 -0.3**
comp=Z,5.8nm,0.8s,mb4.5
SSF Saint Saulge 45.42 310⇑*iP* **P** **21 41 55.8 -0.6**
comp=Z,75nm,0.9s,mb5.2
SSF Saint Saulge 45.42 310⇑*iP* **P** **21 41 55.8 -0.6**
SSF pmax pmax
comp=Z,38nm,0.9s,mb5.2
SSF Saint Saulge 45.42 310⇑*iP* **P** **21 41 55.8 -0.6**
comp=Z,38nm,0.9s,mb5.2
AVF Avril sur Loir 45.50 309⇑*iP* **P** **21 41 56.1 -0.9**
comp=Z,28nm,0.8s,mb4.8
AVF Avril sur Loir 45.50 309⇑*iP* **P** **21 41 56.1 -0.9**
AVF pmax pmax
comp=Z,14nm,0.8s,mb4.8
AVF Avril sur Loir 45.50 309⇑*iP* **P** **21 41 56.1 -0.9**
comp=Z,14nm,0.8s,mb4.8
ENH Enshi 45.65 74 P **P** **21 41 57.5 -0.8**
comp=Z,5.4nm,1.0s,mb4.4
BGF Bois d'Agland 45.83 309⇑*iP* **P** **21 41 59.0 -0.6**
comp=Z,49nm,0.8s,mb5.2
BGF Bois d'Agland 45.83 309⇑*iP* **P** **21 41 59.0 -0.6**
BGF pmax pmax
comp=Z,24nm,0.8s,mb5.2
BGF Bois d'Agland 45.83 309⇑*iP* **P** **21 41 59.0 -0.6**
comp=Z,24nm,0.8s,mb5.2
HYF Humbligny 46.02 310 *eP* **P** **21 42 01.2 0.0**
MTLF Montolieu 46.14 304 *eP* **P** **21 42 01.9 -0.2**
comp=Z,32nm,0.9s,mb4.9
MTLF Montolieu 46.14 304 *eP* **P** **21 42 01.9 -0.2**
MTLF pmax pmax
comp=Z,16nm,0.9s,mb5.0
MTLF Montolieu 46.14 304 *eP* **P** **21 42 01.9 -0.2**
HHC Hu-ho-hao-te 46.17 59 *eP* **P** **21 42 02.6 +0.2**
HHC AP pP 21 42 12.5 +2.3
HHC XP sP 21 42 16.4 +3.1
HHC PCP PcP 21 43 38.3 +0.3
HHC PP PP 21 43 50.6 -0.3
HHC S **S** **21 48 44.5 -2.5**
HHC XS sS 21 49 00.8 +0.9
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,153nm,5.2s
HHC LR LR
comp=N,140nm,4.9s
HHC LR LR
comp=E,200nm,5.5s
HHC LR LR
comp=Z,135nm,7.1s
TCF Toulx Ste Croi 46.25 308⇑*iP* **P** **21 42 02.5 -0.5**
comp=Z,44nm,0.9s,mb5.1
TCF Toulx Ste Croi 46.25 308⇑*iP* **P** **21 42 02.5 -0.5**
TCF pmax pmax
comp=Z,22nm,0.9s,mb5.1
TCF Toulx Ste Croi 46.25 308⇑*iP* **P** **21 42 02.5 -0.5**
comp=Z,22nm,0.9s,mb5.1
CAF Calviac 46.28 307⇑*iP* **P** **21 42 02.9 -0.3**
comp=Z,32nm,0.9s,mb5.0
CAF Calviac 46.28 307⇑*iP* **P** **21 42 02.9 -0.3**
CAF pmax pmax
comp=Z,16nm,0.9s,mb5.0
CAF Calviac 46.28 307⇑*iP* **P** **21 42 02.9 -0.3**
comp=Z,16nm,0.9s,mb5.0
RJF Les Rejaudoux 46.69 307⇑*iP* **P** **21 42 06.3 -0.1**
comp=Z,60nm,1.0s,mb5.2
RJF *e*R
comp=Z,151nm,19.2s
RJF Les Rejaudoux 46.69 307⇑*iP* **P** **21 42 06.3 -0.1**
RJF pmax pmax
comp=Z,30nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,150nm,19.3s,MS4.0
RJF Les Rejaudoux 46.69 307⇑*iP* **P** **21 42 06.3 -0.1**
comp=Z,30nm,1.0s,mb5.2
RJF LR LR
comp=Z,150nm,19.3s,MS4.0
LFF La Frestale 47.22 307 *eP* **P** **21 42 10.4 -0.2**
comp=Z,65nm,0.9s,mb5.2
LFF La Frestale 47.22 307 *eP* **P** **21 42 10.4 -0.2**
LFF pmax pmax
comp=Z,32nm,0.9s,mb5.2
LFF La Frestale 47.22 307 *eP* **P** **21 42 10.4 -0.2**
comp=Z,32nm,0.9s,mb5.2
PSI Prapat 47.29 114 LR LR 22 01 09.0
comp=Z,162nm,20.3s,MS4.0,baz=281,slow=35
MFF Saint Martin d 47.89 309⇑*iP* **P** **21 42 14.8 -1.0**
comp=Z,55nm,1.1s,mb5.2
MFF Saint Martin d 47.89 309⇑*iP* **P** **21 42 14.8 -1.0**
MFF pmax pmax
comp=Z,27nm,1.1s,mb5.2
MFF Saint Martin d 47.89 309⇑*iP* **P** **21 42 14.8 -1.0**
comp=Z,27nm,1.1s,mb5.2
LDF La Druitiere 47.97 311⇑*iP* **P** **21 42 15.2 -1.2**
comp=Z,49nm,1.0s,mb5.2
LDF La Druitiere 47.97 311⇑*iP* **P** **21 42 15.2 -1.2**
LDF pmax pmax
comp=Z,25nm,1.0s,mb5.2
LDF La Druitiere 47.97 311⇑*iP* **P** **21 42 15.2 -1.2**
comp=Z,24nm,1.0s,mb5.2
ETSF Etsaut 48.17 304 *eP* **P** **21 42 17.7 -0.3**
FLN La Foliniere 48.22 312⇑*iP* **P** **21 42 17.3 -1.0**
comp=Z,44nm,0.8s,mb5.2
FLN *e*R
comp=Z,148nm,22.5s
FLN La Foliniere 48.22 312⇑*iP* **P** **21 42 17.3 -1.0**
FLN pmax pmax
comp=Z,22nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,150nm,22.5s,MS3.9
FLN La Foliniere 48.22 312⇑*iP* **P** **21 42 17.3 -1.0**
comp=Z,22nm,0.8s,mb5.2
FLN LR LR
comp=Z,150nm,22.5s,MS3.9
GRR Gorron 48.45 311 *eP* **P** **21 42 19.1 -1.0**
comp=Z,61nm,1.1s,mb5.3
GRR Gorron 48.45 311 *eP* **P** **21 42 19.1 -1.0**
GRR pmax pmax
comp=Z,31nm,1.0s,mb5.3
GRR Gorron 48.45 311 *eP* **P** **21 42 19.1 -1.0**
comp=Z,30nm,1.1s,mb5.3
SJPF Ste Jean 48.65 304 *eP* **P** **21 42 21.6 -0.1**
comp=Z,18nm,0.8s,mb4.9
SJPF Ste Jean 48.65 304 *eP* **P** **21 42 21.6 -0.1**
SJPF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SJPF Ste Jean 48.65 304 *eP* **P** **21 42 21.6 -0.1**
comp=Z,9.1nm,0.8s,mb4.9
BOD Bodaibo 49.30 36⇓*iP* **P** **21 42 25.5 -1.2**

BOD pmax pmax
comp=Z,13nm,1.6s,mb4.7
SGMF Saint Gilles 49.58 311⇑ *i*P P 21 42 28.1 -0.6
comp=Z,57nm,0.9s,mb5.3
SGMF Saint Gilles 49.58 311⇑ *i*P P 21 42 28.1 -0.6
SGMF pmax pmax
comp=Z,29nm,0.9s,mb5.3
SGMF Saint Gilles 49.58 311⇑ *i*P P 21 42 28.1 -0.6
comp=Z,29nm,0.9s,mb5.3
BJI Beijing 49.74 60 P P 21 42 31.0 +1.0
QUIF Quistinic 49.98 310⇑ *i*P P 21 42 30.9 -0.9
comp=Z,87nm,1.1s,mb5.4
QUIF Quistinic 49.98 310⇑ *i*P P 21 42 30.9 -0.9
QUIF pmax pmax
comp=Z,43nm,1.1s,mb5.4
QUIF Quistinic 49.98 310⇑ *i*P P 21 42 30.9 -0.9
comp=Z,43nm,1.1s,mb5.4
ROSF Rostrenen 50.06 311⇑ *i*P P 21 42 31.5 -0.9
comp=Z,53nm,1.1s,mb5.2
ROSF Rostrenen 50.06 311⇑ *i*P P 21 42 31.5 -0.9
ROSF pmax pmax
comp=Z,26nm,1.1s,mb5.2
ROSF Rostrenen 50.06 311⇑ *i*P P 21 42 31.5 -0.9
comp=Z,26nm,1.1s,mb5.2
ESDC Sonseca Array 50.96 300 P P 21 42 38.7 -0.5
comp=Z,2.6nm,0.7s,mb4.2,baz=66,slow=7.8,SNR=14
ESLA Sonseca Array 50.96 300 *e*P P 21 42 38.6 -0.6
comp=Z,1.5nm,0.9s,mb3.9
LSZ Lusaka 51.27 216 *e*P P 21 42 43.0 +1.5
LSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LSZ Lusaka 51.27 216 *e*P P 21 42 43.0 +1.5
comp=Z,6.7nm,0.9s,mb4.6
HIA Hailar 51.86 48 *e*P P 21 42 43.3 -2.6
HIA pmax pmax
comp=Z,7.0nm,0.7s
HIA Hailar 51.86 48 *e*P P 21 42 43.2 -2.7
comp=Z,6.6nm,0.7s,mb4.7
PBRG Braganca 52.82 303 *e*P P 21 42 52.3 -0.8
comp=Z,29nm,1.7s,mb4.9
NJ2 Nanjing 53.15 70 *e*P P 21 42 56.8 +1.3
NJ2 AP pP 21 43 04.4 +1.0
NJ2 XP sP 21 43 07.6 +1.1
NJ2 PP PP 21 44 58.3 +2.8
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,60nm,4.6s
NJ2 LR LR
comp=N,1μm,21.9s,MS5.0
NJ2 LR LR
comp=E,1μm,18.7s,MS5.0
NJ2 LR LR
comp=Z,1μm,21.5s,MS4.9
TORD Torodi Ar. Bea 53.33 266 P P 21 42 56.2 -0.6
comp=Z,9.1nm,0.8s,mb4.8,baz=59,slow=6.8,SNR=59
PVRL Vila Real 53.61 302 *e*P P 21 42 59.3 +0.4
comp=Z,39nm,1.6s,mb5.1
PCBR Castelo Branco 53.63 300 *e*P P 21 42 59.5 +0.5
comp=Z,17nm,1.2s,mb4.9
SSE Sheshan 55.31 70 *e*P P 21 43 08.9 -2.3
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,84nm,3.5s
SSE LR LR
comp=N,64nm,22.7s,MS3.7
SSE LR LR
comp=E,29nm,22.7s,MS3.7
SSE LR LR
comp=Z,37nm,18.9s,MS3.5
JMIC Jan Mayen 55.76 339 LR LR 22 10 02.4
comp=Z,120nm,18.6s,MS4.0,baz=89,slow=39
CN2 Changchun 56.18 54 *e*P P 21 43 17.0 -0.5
CN2 *e*AP pP 21 43 27.1 +1.7
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
YHNB Yeheng 57.29 77 P P 21 43 23.4 -1.9
YAK Yakutsk 57.60 32⇓ *e*P P 21 43 25.8 -1.7
YAK pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
YAK MLR MLR
comp=Z,300nm,19.0s,MS4.4
YAK Yakutsk 57.60 32 *e*P P 21 43 24.5 -3.0
comp=Z,12nm,0.9s,mb4.9
TIXI Tiksi 57.97 21⇓ *e*P P 21 43 29.2 -0.9
TIXI pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
TIXI MLR MLR
comp=Z,300nm,21.0s,MS4.4
TIXI Tiksi 57.97 21 pP P **21 43 29.0 -1.1**
MDJ Mudanjiang 58.99 53 P P **21 43 35.6 -1.7**
MDJ AP pP 21 43 41.9 -3.4
MDJ XP sP 21 43 44.7 -3.6
MDJ PCP PcP 21 44 25.1 -1.0
MDJ PP PP 21 45 45.6 -2.1
MDJ SCP ScP 21 48 24.3 -0.7
MDJ PCS PcS 21 48 26.6 -1.4
MDJ AMB AMB
comp=Z,4.0nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,119nm,4.1s
MDJ LR LR
comp=Z,17nm,16.0s,MS3.3
KLR Kul'dur 59.70 47 *e*P P 21 43 38.0 -4.1
TSUM Tsumeb 60.44 223 *e*P P 21 43 48.4 +1.1
comp=Z,14nm,0.9s,mb5.0
LBTB Lobatse 60.76 213 *e*P P 21 43 50.3 +0.9
LBTB pmax pmax
comp=Z,21nm,0.8s,mb5.3
LBTB Lobatse 60.76 213 *e*P P 21 43 50.3 +0.9
comp=Z,21nm,0.8s,mb5.3
DBIC Dimbokro 61.99 262 P P 21 43 57.9 +0.2
comp=Z,2.4nm,0.7s,mb4.4,baz=105,slow=6.0,SNR=3.2
DBIC Dimbokro 61.99 262 *e*P P 21 43 57.6 -0.1
DBIC *e**PP pP 21 44 03.4 -2.3
DBIC pmax pmax
comp=Z,8.0nm,0.9s
DBIC Dimbokro 61.99 262 *e*P P 21 43 57.6 -0.1
DBIC *e*pP pP 21 44 03.4 -2.4
BOSA Boshof 63.98 211 P **P 21 44 11.2 +0.2**
comp=Z,16nm,0.7s,mb5.1,baz=24,slow=7.8,SNR=15
BOSA LR LR 22 14 05.8
comp=Z,91nm,18.0s,MS4.0,baz=249,slow=38
BOSA Boshof 63.98 211 *e*pP pP 21 44 16.1 -2.9
MJAR Matsushiro Arr 67.37 60 P **P 21 44 31.9 -0.9**
comp=Z,1.6nm,0.9s,mb4.1,baz=311,slow=11,SNR=6.4
YSS Yuzh-Sakhalins 67.39 48 *e*P P 21 44 31.7 -1.3
YSS pmax pmax
comp=Z,17nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 67.39 48 *e*P P 21 44 31.7 -1.2
comp=Z,17nm,0.9s,mb5.1
SEY Seymchan 67.83 29⇓ *e*P P 21 44 35.5 -0.2
MA2 Magadan 68.14 33 *e*P P 21 44 36.4 -1.3
MA2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MA2 Magadan 68.14 33 *e*P P 21 44 36.4 -1.3
comp=Z,2.9nm,0.6s,mb4.5
BILL Bilibino 71.14 22 *i*P P 21 44 55.6 -0.6
BILL *e* pP 21 45 04.4 +0.1
BILL *e* 21 47 30.0
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.4
INK Inuvik 83.61 4 P **P 21 46 04.7 -1.3**
comp=Z,1.8nm,1.1s,mb4.1,baz=333,slow=9.9,SNR=4.6
INK Inuvik 83.61 4 P **P 21 46 04.7 -1.3**
SCHQ Schefferville 84.38 331 P **P 21 46 09.1 -0.8**
comp=Z,2.0nm,0.8s,mb4.3,baz=87,slow=19,SNR=3.6
ILAR Eielson Array 85.63 10 P **P 21 46 14.7 -1.5**
comp=Z,0.5nm,0.9s,mb3.8,baz=324,slow=3.7,SNR=5.4
WRA Warramunga Arr 88.75 113 P **P 21 46 32.2 +1.0**
comp=Z,3.2nm,0.9s,mb4.6,baz=311,slow=4.1,SNR=18
WRAB Tennant Creek 88.75 113 *e*P P 21 46 31.0 -0.3
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
WRAB Tennant Creek 88.75 113 *e*P P 21 46 31.0 -0.3
comp=Z,8.0nm,0.8s,mb5.1
YKW3 Yellowknife Ar 89.44 356 P **P 21 46 33.7 -0.7**
YKA Yellowknife Ar 89.51 356 P **P 21 46 34.0 -0.8**
comp=Z,2.1nm,0.9s,mb4.5,baz=0.7,slow=5.1,SNR=32
YKA Yellowknife Ar 89.51 356 P **P 21 46 34.0 -0.8**

ASAR Alice Springs 90.28 117 P **P 21 46 39.1 +0.8**
comp=Z,1.2nm,0.8s,mb4.3,baz=305,slow=5.0,SNR=14

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*BJI **11** 21:42:52.9, 002S×12391E, h285km, mB4.6, mb4.2*
*ISCJB **11** 21:42:58.5±0.3, 077N±005×12383E±007, h287km, mb4.1/44, Error ellipse: s-maj=11.0km s-min=5.3km az=123.9*
*MOS **11** 21:42:58.4±0.9, 084N×12382E, h286km, mb4.1/8, Error ellipse: s-maj=20.9km s-min=9.5km az=114.2*
*NEIC **11** 21:42:59.8±0.3, 082N×12387E, mb4.1/12, Error ellipse: s-maj=12.6km s-min=6.4km az=62.0*
*IDC **11** 21:43:01.1±2.4, 080N×12388E, h302km±22km, mb3.8/18, mb1 3.9/18, mb1mx3.9/22, mbtmp4.4/18, Error ellipse: s-maj=18.7km s-min=7.9km az=66.0*
ISC 11 21:43:00.1±0.3, 076N±005×12388E±007, h289km, h289km±2.7km:pP-P, n80, σ1§06/83, mb4.1/44, 4C-4D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.28**	**305**	*e*Pn	**Pn**	**21 45 07.0**	**-2.2**
KSM	**Kuching**	**13.59**	**273**	*e*P	**Pn**	**21 46 03.3**	**+1.3**
KAKA	**Kakadu**	**15.85**	**148**	*e*P	**Pn**	**21 46 27.8**	**-1.0**
	36nm,0.7s						
KAKA				*e*pP		21 46 30.1	
KAKA	**Kakadu**	**15.85**	**148**	*e*P	**Pn**	**21 46 27.9**	**-0.9**
	36nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.82**	**175**	*e*P	**P**	**21 46 57.6**	**-1.5**
	2.9nm,1.5s						
FITZ	**Fitzroy Crossi**	**18.82**	**175**	*e*P	**P**	**21 46 58.3**	**-0.8**
	6.7nm,0.5s						
FITZ				*e*pP		21 47 03.6	
FITZ	**Fitzroy Crossi**	**18.82**	**175**	*e*P	**P**	**21 46 58.3**	**-0.8**
	6.7nm,0.5s						
FITZ				*e*pP		21 47 03.6	
WRAB	**Tennant Creek**	**22.99**	**154⇑**	*e*P	**P**	**21 47 40.7**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**22.99**	**154⇑**	*e*P	**P**	**21 47 40.7**	**+0.9**
	comp=Z,61nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**22.99**	**154**	P	**P**	**21 47 40.5**	**+0.7**
	comp=Z,37nm,0.7s,mb4.8,baz=338,slow=10,SNR=174						
WRA				S	**S**	**21 51 27.1**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=332,slow=17,SNR=6.0						
WB2	**Warramunga Arr**	**23.00**	**154**	*e*P	**P**	**21 47 40.6**	**+0.7**
WB2				*e*pP		21 47 42.6	
WB2	**Warramunga Arr**	**23.00**	**154⇑**	*i*P	**P**	**21 47 40.7**	**+0.8**
WB2				*e*S	**S**	**21 51 27.3**	**-1.0**
WB2	**Warramunga Arr**	**23.00**	**154**	*e*P	**P**	**21 47 40.6**	**+0.7**
WB2				*e*pP		21 47 42.6	
WB2				*e*S	**S**	**21 51 27.3**	**-1.0**
KULM	**Kulim**	**23.62**	**281**	*e*P	**P**	**21 47 45.9**	**+0.3**
PSI	**Prapat**	**25.02**	**275**	P	**P**	**21 47 58.9**	**+0.7**
	comp=Z,3.8nm,0.4s,mb4.2,baz=139,slow=7.6,SNR=7.5						
ASAR	**Alice Springs**	**26.16**	**159**	P	**P**	**21 48 09.4**	**+1.0**
	comp=Z,1.4nm,0.4s,mb3.7,baz=343,slow=7.1,SNR=30						
ASAR				PcP	PcP	21 51 28.8	+1.6
	comp=Z,0.9nm,0.4s,baz=348,slow=2.2,SNR=6.8						
ASAR				S	**S**	**21 52 19.1**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=348,slow=19,SNR=11						
ASAR				ScP	ScP	21 54 42.1	+3.2
	comp=Z,1.3nm,0.8s,baz=360,slow=2.2,SNR=8.4						
ASAR	**Alice Springs**	**26.16**	**159**	P	**P**	**21 48 09.4**	**+1.0**
ASAR						21 51 28.8	
ASAR				S	**S**	**21 52 19.1**	**+0.8**
NJ2	**Nanjing**	**31.48**	**352**	*e*P	**P**	**21 48 57.4**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
ENH	**Enshi**	**32.38**	**336**	*e*P	**P**	**21 49 03.7**	**+0.7**
	comp=Z,3.0nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**36.54**	**154⇓**	*i*P	**P**	**21 49 38.0**	**-0.6**
	comp=Z,2.1nm,1.5s,mb3.4						
STKA	**Stephens Creek**	**36.54**	**154**	*e*P	**P**	**21 49 38.0**	**-0.6**
	comp=Z,6.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**36.54**	**154**	P	**P**	**21 49 38.0**	**-0.5**
	comp=Z,7.4nm,0.5s,mb4.4,baz=327,slow=8.1,SNR=32						
MJAR	**Matsushiro Arr**	**38.00**	**19**	P	**P**	**21 49 49.9**	**-0.8**
	comp=Z,2.5nm,0.7s,mb3.8,baz=192,slow=9.6,SNR=10						
LZH	**Lanzhou**	**39.77**	**334**	⇓P	**P**	**21 50 06.9**	**+1.6**
LZH				AP	pP	21 51 05.6	+2.1
LZH				XP	sP	21 51 37.6	+1.3
LZH				PP	PP	21 51 48.3	+4.8
LZH				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.5						
LZH				AMB	AMB		
	comp=Z,59nm,6.5s						
ARMA	**Armidale**	**40.73**	**142⇓**	*i*P	**P**	**21 50 16.2**	**+3.0**
ARMA	**Armidale**	**40.73**	**142**	*e*P	**P**	**21 50 16.2**	**+3.0**
HHC	**Hu-ho-hao-te**	**41.44**	**346**	*e*P	**P**	**21 50 20.9**	**+2.0**
HHC				AP	pP	21 51 19.9	+2.4
HHC				XP	sP	21 51 52.1	+1.8
HHC				PP	PP	21 52 05.2	+3.9
HHC				PCP	PcP	21 52 13.2	+2.5
HHC				S	**S**	**21 56 15.3**	**+3.5**
HHC				XS	sS	21 57 58.8	+2.2
HHC				SCS	ScS	21 59 50.2	+0.2
HHC				AMB	AMB		
	comp=Z,3.0nm,0.3s,mb4.0						
HHC				AMB	AMB		
	comp=Z,66nm,4.6s						
HHC				LR	LR		
	comp=N,153nm,5.1s						
HHC				LR	LR		
	comp=E,272nm,5.3s						
HHC				LR	LR		
	comp=Z,135nm,6.9s						
LSA	**Lhasa**	**42.41**	**316**	P	**P**	**21 50 28.0**	**+1.3**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.0						
LSA	**Lhasa**	**42.41**	**316**	*e*P	**P**	**21 50 27.6**	**+0.9**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.8						
LSA	**Lhasa**	**42.41**	**316**	*e*P	**P**	**21 50 27.6**	**+0.9**
	comp=Z,3.7nm,0.6s,mb3.8						
CN2	**Changchun**	**42.88**	**2**	*e*P	**P**	**21 50 34.6**	**+4.2**
CN2				*e*AP	pP	21 51 33.8	+4.4
CN2				*e*S	**S**	**21 56 39.3**	**+6.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.2						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,17.0s						
CN2				LR	LR		
	comp=E,2μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
MDJ	**Mudanjiang**	**43.96**	**6**	P	**P**	**21 50 40.2**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,71nm,3.9s						
GTA	**Gaotai**	**44.30**	**333**	*e*P	**P**	**21 50 42.9**	**+1.2**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.2						
JIRN	**Jiri**	**44.93**	**310**	*e*P	**P**	**21 50 47.0**	**+0.3**
	comp=Z,13nm,0.5s,mb4.4						
GUN	**Gumba**	**45.29**	**310**	*e*P	**P**	**21 50 49.8**	**+0.3**
	comp=Z,18nm,0.5s,mb4.5						
PKI	**Pulchoki**	**45.49**	**309**	*e*P	**P**	**21 50 51.1**	**+0.1**
KKN	**Kakani**	**45.70**	**309**	*e*P	**P**	**21 50 52.4**	**-0.2**
	comp=Z,8.3nm,0.6s,mb4.3						
DMN	**Daman**	**45.74**	**309**	*e*P	**P**	**21 50 53.9**	**+0.9**
	comp=Z,17nm,0.8s,mb4.5						
GKN	**Gorkha**	**46.30**	**309**	*e*P	**P**	**21 50 56.8**	**-0.5**
	comp=Z,17nm,0.8s,mb4.5						
KOLN	**Koldanda**	**46.99**	**308**	*e*P	**P**	**21 51 02.8**	**+0.1**
	comp=Z,34nm,0.7s,mb4.8						
ULN	**Ulaanbaatar**	**49.14**	**345**	*e*P	**P**	**21 51 18.9**	**-0.1**
ULN						21 52 39.2	
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**49.14**	**345**	*e*P	**P**	**21 51 18.9**	**-0.1**
	comp=Z,3.8nm,0.8s,mb3.8						
ULN				pP	pP	21 52 25.4	+5.7
ULN				PcP	PcP	21 52 39.2	+1.6
SONM	**Songino Array**	**49.28**	**345**	P	**P**	**21 51 19.7**	**-0.4**
	comp=Z,3.8nm,0.8s,mb3.8,baz=158,slow=8.5,SNR=28						
SONM				PcP	PcP	21 52 38.6	+0.5
	comp=Z,0.3nm,0.7s,baz=152,slow=5.0,SNR=3.7						
WMQ	**Urumqi**	**53.61**	**328**	*e*P	**P**	**21 51 52.7**	**+0.7**
BOD	**Bodaibo**	**57.43**	**354**	*e*P	**P**	**21 52 18.0**	**-1.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb3.5						
MKAR	**Makanchi Array**	**58.44**	**328**	P	**P**	**21 52 25.5**	**-0.4**
	comp=Z,3.8nm,0.5s,mb4.1,baz=116,slow=8.0,SNR=31						
MKAR				PcP	PcP	21 53 13.3	+0.1
	comp=Z,1.2nm,0.4s,baz=144,slow=3.2,SNR=6.2						
MKAR	**Makanchi Array**	**58.44**	**328**	P	**P**	**21 52 25.5**	**-0.4**
MKAR				PcP	PcP	21 53 13.3	+0.1
AAK	**Ala-Archa**	**60.71**	**320**	*i*P	**P**	**21 52 41.3**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**60.71**	**320**	*e*P	**P**	**21 52 40.8**	**-0.6**
	comp=Z,3.2nm,0.8s,mb3.9						
YAK	**Yakutsk**	**61.27**	**3**	*e*P	**P**	**21 52 44.8**	**-0.3**
YAK				*PP	pP	21 53 48.4	-0.4
YAK				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.7						
YAK	**Yakutsk**	**61.27**	**3**	*e*P	**P**	**21 52 44.8**	**-0.3**
	comp=Z,20nm,0.8s,mb4.7						
YAK				pP	pP	21 53 48.4	-0.4
ZAL	**Zalesovo**	**61.99**	**335**	P	**P**	**21 52 48.6**	**-1.3**
	comp=Z,1.1nm,0.3s,mb4.0,baz=101,slow=4.6,SNR=5.0						
MA2	**Magadan**	**62.27**	**15**	*e*P	**P**	**21 52 53.0**	**+1.2**
MA2				*e**PP	pP	21 53 57.3	+1.6
MA2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
MA2	**Magadan**	**62.27**	**15**	*e*P	**P**	**21 52 53.0**	**+1.2**
	comp=Z,5.2nm,0.8s,mb4.2						
MA2				*e*pP	pP	21 53 57.3	+1.6
KURK	**Kurchatov**	**62.76**	**329**	*e*P	**P**	**21 52 54.2**	**-0.8**
KURK				*e**PP	pP	21 54 00.0	+1.0
KURK				*SP	sP	21 54 26.9	-3.4
SEY	**Seymchan**	**65.56**	**14**	*i*P	**P**	**21 53 14.7**	**+1.6**
BVAR	**Borovoye Array**	**68.29**	**328**	P	**P**	**21 53 29.2**	**-1.0**
	comp=Z,1.8nm,0.7s,mb3.9,baz=144,slow=7.8,SNR=11						
ZRNK	**Zerenda**	**68.98**	**328**	*e*P	**P**	**21 53 33.3**	**-1.2**
ZRNK				*e**PP	pP	21 54 37.9	-1.9
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**68.98**	**328**	*e*P	**P**	**21 53 33.3**	**-1.1**
	comp=Z,4.0nm,0.6s,mb4.3						
ZRNK				*e*pP	pP	21 54 37.9	-1.9
TIXI	**Tiksi**	**70.85**	**2⇓**	*e*P	**P**	**21 53 45.1**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
BILL	**Bilibino**	**73.14**	**15**	*e*P	**P**	**21 54 00.2**	**+0.9**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.4						
AKTO	**Aktyubinsk**	**74.24**	**323**	P	**P**	**21 54 04.8**	**-0.8**
	comp=Z,4.6nm,0.6s,mb4.3,baz=120,slow=8.1,SNR=20						
ARU	**Arti**	**75.94**	**329**	*e*P	**P**	**21 54 13.7**	**-1.6**
ARU				*PP	PcP	21 54 19.2	-7.1
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
ARU	**Arti**	**75.94**	**329**	*e*P	**P**	**21 54 13.7**	**-1.6**
	comp=Z,5.9nm,0.9s,mb4.2						
ARU				pP	PcP	21 54 19.2	-7.1
ARU				*e*pP	pP	21 55 13.4	-8.5
OPO	**Ambohidratompo**	**77.63**	**251**	P	**P**	**21 54 25.2**	**+0.5**
	comp=Z,4.1nm,0.7s,mb4.3,baz=90,slow=3.7,SNR=8.1						
KMBO	**Kilima Mbogo**	**86.64**	**269**	P	**P**	**21 55 12.0**	**+0.8**
	comp=Z,1.8nm,0.8s,mb4.0,baz=68,slow=7.9,SNR=6.6						
KMBO	**Kilima Mbogo**	**86.64**	**269**	*e*P	**P**	**21 55 12.5**	**+1.3**
	comp=Z,0.4nm,0.6s,mb3.4						
OBN	**Obninsk**	**87.83**	**325**	*e*P	**P**	**21 55 16.7**	**-0.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
SYO	**Syowa Base**	**88.65**	**201⇑**	*e*PP	PP	21 58 55.4	+1.7
ILAR	**Eielson Array**	**88.99**	**25**	P	**P**	**21 55 21.5**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.4,baz=245,slow=4.9,SNR=10						
BRTR	**Keskin Array B**	**89.70**	**310**	P	**P**	**21 55 25.4**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.7,baz=96,slow=7.7,SNR=5.9						
JOF	**Joensuu**	**90.50**	**333**	*e*p	**P**	**21 55 27.8**	**-1.5**
	comp=Z,4.1nm,0.6s,mb4.4						
JOF	**Joensuu**	**90.50**	**333**	*e*P	**P**	**21 55 27.8**	**-1.5**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**92.23**	**340**	P	**P**	**21 55 35.8**	**-1.5**
	comp=Z,4.0nm,0.9s,mb4.4,baz=65,slow=5.8,SNR=7.5						
AKASG	**Malin Array Be**	**92.37**	**321**	P	**P**	**21 55 36.5**	**-1.5**
	comp=Z,0.3nm,0.3s,mb3.7,baz=76,slow=4.0,SNR=4.3						
FINES	**FINESS Array B**	**93.08**	**332**	P	**P**	**21 55 39.4**	**-1.8**
	comp=Z,0.7nm,0.5s,mb3.8,baz=70,slow=6.3,SNR=7.6						
INK	**Inuvik**	**93.95**	**21**	P	**P**	**21 55 44.8**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=303,slow=6.2,SNR=5.0						
ULM	**Lac du Bonnet**	**118.91**	**28**	PKP	PKPdf	22 01 14.4	+0.2
	comp=Z,1.0nm,0.6s,baz=225,slow=2.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**121.05**	**286**	PKP	PKPdf	22 01 19.4	+1.0
	comp=Z,0.6nm,0.3s,baz=95,slow=1.8,SNR=27						
SCHQ	**Schefferville**	**123.89**	**7**	PKP	PKPdf	22 01 24.7	+0.9
	comp=Z,2.0nm,1.0s,baz=328,slow=9.5,SNR=5.5						

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*NIED **11** 22:06:00, 40.10N×142.50E, h41km, Mw5.0 Best double couple: M0:3.77000×10^16 NP1:φ=22.00000°, δ=73.00000°, λ=89.00000°. NP2:φ=206.00000°, δ=17.00000°, λ=93.00000°.*
*BJI **11** 22:06:37.8, 40.07N×142.73E, h23km, mB5.0, mb5.0, Ms4.6, Msz4.4*
*SZGRF **11** 22:06:39.4, 38.88N×142.67E, h33km, mb5.2, MS4.4, Near east coast of eastern Honshu, Japan*
*NEIC **11** 22:06:39.1±0.7, 40.08N×142.36E, h3km±4km, mb5.0/42, MS4.7/4, MW5.0(NIED), Error ellipse: s-maj=5.9km s-min=4.9km az=123.0*
NEIC Recorded [3 JMA] in Aomori and Iwate; [2 JMA] in Miyagi; [1 JMA] in Akita Prefectures. Also recorded [2 JMA] in south-central Hokkaido.
*HRVD **11** 22:06:39.1±0.4, 40.16N×142.57E, h49km±1km, MW5.0/74, Centroid moment Tensor Solution. LP body waves: s40,c52;Mantle waves: s74,c118; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.38±.22; Mθθ-0.15±.14; Mφφ-3.23±.15; Mrθ1.21±.10; Mrφ-1.00±.11; Mθφ2.46±.13; Best double couple: M0:4.41000×10^16 NP1:φ=190.00000°, δ=26.00000°, λ=79.00000°. NP2: φ=23.00000°, δ=64.00000°, λ=96.00000°. Principal axes: T 4.3570, Plg70.0000°, Azm304.0000°; N 0.1030, Plg5.0000°, Azm200.0000°; P -4.4630, Plg19.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **11** 22:06:44.5±0.4, 40.13N±003×142.35E±004, h51km±2km, mb5.0/109, MS4.5/42 Error ellipse: s-maj=5.1km s-min=3.6km az=73.1*
*JMA **11** 22:06:44.0±0.1, 40.12N×142.45E, h35km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φ=198.00000°, δ=34.00000°, λ=103.00000°. NP2:φ=3.00000°, δ=57.00000°, λ=82.00000°. Principal axes: T Plg76.0000°, Azm248.0000°; N Plg7.0000°, Azm8.0000°; P Plg12.0000°, Azm99.0000°;*
JMA Felt III J1.
*MOS **11** 22:06:44.2±0.8, 40.35N×142.25E, h37km, mb5.2/41, MS4.6/18 Error ellipse: s-maj=9.0km s-min=4.5km az=109.0*
*IDC **11** 22:06:46.5±2.1, 40.05N×142.41E, h60km±18km, mb4.3/21, mb1 4.4/26, mb1mx4.4/27, mbtmp4.6/26, MS4.3/15, Ms1 4.3/15, ms1mx4.1/26, Error ellipse: s-maj=14.6km s-min=11.6km az=100.0*
ISC 11 22:06:45.3±0.4, 40.14N±002×142.39E±004, h45km±3km, h47km±1.8km:pP-P, n361, σ0§99/388, mb5.0/109, MS4.5/42, 29C-31D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.45**	**243**	⇓P	**Pn**	**22 06 54.4**	**-1.2**
JTH				S	**Sn**	**22 07 01.9**	**-1.0**
JANG	**Nango**	**0.71**	**289**	⇓P	**Pn**	**22 06 58.1**	**-0.8**
JANG				S	**Sn**	**22 07 08.0**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.71**	**218**	⇓P	**Pn**	**22 06 57.5**	**-1.5**
MIYJ				S	**Sn**	**22 07 06.8**	**-2.1**
JKZ	**Kuzumaki**	**0.83**	**259**	⇓P	**Pn**	**22 07 00.2**	**-0.3**
JOM	**Ohasama**	**1.08**	**232**	⇓P	**Pn**	**22 07 03.6**	**-0.3**
JOM				S	**Sn**	**22 07 18.0**	**+0.3**
JTM	**Tenmabayashi**

ASAJ S **Sn** **22 08 40.6 +12**
85nm,0.3s,baz=130,slow=33,SNR=10.0
ASAJ LR LR 22 09 41.7
comp=Z,6μm,21.6s,baz=46,slow=43
YUK Yuzh-Kuril'sk 4.67 32⇑*i*P **Pn** **22 07 51.5 -1.7**
YUK *i*S **Sn** **22 08 42.0 -4.1**
YUK pmax pmax
comp=Z,880nm,0.3s
YUK pmax pmax
comp=N,210nm,0.4s
YUK pmax pmax
comp=E,330nm,0.5s
YUK smax
comp=N,5μm,0.4s
YUK smax
comp=E,10μm,0.6s
YUK smax
comp=N,5μm,0.5s
YUK smax
comp=E,4μm,0.5s
YUK MLR MLR
comp=N,3μm,17.0s
YUK MLR MLR
comp=Z,4μm,17.0s
YUK MLR MLR
comp=E,3μm,23.0s
MJAR Matsushiro Arr 4.87 224 P **Pn** **22 07 58.2 +2.2**
comp=E,33nm,0.3s,baz=33,slow=14,SNR=653
MJAR LR LR 22 10 06.3
comp=E,4μm,20.6s,baz=35,slow=42
MAJO Matsushiro 4.87 224 P **Pn** **22 07 57.8 +1.8**
MAT Matsushiro 4.87 224 P **Pn** **22 07 58.1 +2.1**
MAT Matsushiro 4.87 224 P **Pn** **22 07 58.0 +2.0**
MAT S **Sn** **22 08 49.0 -2.1**
MAT Matsushiro 4.87 224 *e*P **Pn** **22 07 58.0 +2.0**
MAT *e*S **Sn** **22 09 02.0 +11**
JNG Nsakai 5.03 223⇑P **Pn** **22 08 00.5 +2.3**
KUR Kuril'sk 6.49 37 *e*P **Pn** **22 08 14.2 -4.1**
KUR *e*S **Sn** **22 09 25.0 -6.0**
KUR pmax pmax
comp=Z,80nm,0.5s
KUR smax
comp=N,530nm,0.5s
KUR smax
comp=E,300nm,0.5s
YSS Yuzh-Sakhalins 6.81 2 P **Pn** **22 08 23.0 +0.3**
YSS *e*S **Sn** **22 09 38.9 0.0**
YSS pmax pmax
comp=Z,110nm,1.3s
YSS pmax pmax
comp=N,130nm,1.4s
YSS pmax pmax
comp=N,160nm,1.0s
YSS pmax pmax
comp=E,190nm,1.0s
YSS pmax pmax
comp=Z,150nm,1.0s
YSS smax
comp=N,330nm,1.4s
YSS MLR MLR
comp=N,1μm,16.0s
YSS MLR MLR
comp=E,1μm,16.0s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS Yuzh-Sakhalins 6.81 2 Pn **Pn** **22 08 22.6 0.0**
JKY Yasaka 7.31 234 P **Pn** **22 08 32.2 +2.7**
JHJ Hachijo jima 2 7.32 197 P **Pn** **22 08 29.1 -0.4**
comp=Z,82nm,0.3s,baz=234,slow=22,SNR=10
JHJ S **Sn** **22 09 47.0 -4.2**
comp=Z,15nm,0.3s,baz=72,slow=23,SNR=2.3
JAD Aida 8.34 234 P **Pn** **22 08 46.2 +2.6**
VLA Vladivostok 8.40 294 *i*P **Pn** **22 08 49.3 +4.8**
VLA pmax pmax
comp=Z,116nm,1.3s
HABR Khabarovsk 9.85 330 *e*P **Pn** **22 08 59.3 -4.9**
HABR *e*S **Sn** **22 10 59.1 +5.8**
HABR pmax pmax
comp=Z,29nm,0.7s
MDJ Mudanjiang 10.47 299 P **Pn** **22 09 11.9 -0.8**
MDJ AP 22 09 16.0
MDJ XP 22 09 19.8
MDJ S **Sn** **22 11 07.6 -1.0**
MDJ PCP PcP 22 15 15.8 +0.5
MDJ SCP ScP 22 18 45.0 +1.0
MDJ PCS PcS 22 18 50.0 +1.2
MDJ SCS ScS 22 22 19.8 +0.9
MDJ AMB AMB
comp=Z,7.0nm,1.1s
MDJ AMB AMB
comp=Z,140nm,4.2s
MDJ LR LR
comp=N,761nm,13.2s
MDJ LR LR
comp=E,2μm,18.5s
MDJ LR LR
comp=Z,3μm,18.5s
MDJ Mudanjiang 10.47 299 *e*Pn **Pn** **22 09 16.2 +3.5**
comp=Z,84nm,0.9s
JNU Nakatsue 11.59 236 P **Pn** **22 09 28.5 +0.4**
comp=Z,1.5nm,0.3s,baz=62,slow=17,SNR=5.1
KS15 Wonju Array Si 11.64 261 *e*P **Pn** **22 09 30.5 +1.9**
KS15 *e*Sn **Sn** **22 11 50.2 +13**
KLR Kul'dur 11.81 324 *e*P **Pn** **22 09 28.7 -2.4**
KLR pmax pmax
comp=E,50nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s
KLR MLR MLR
comp=N,1μm,14.0s
KLR MLR MLR
comp=E,1μm,14.0s
KLR MLR MLR
comp=Z,4μm,14.0s
CBIJ Chichi jima 13.01 181 P **Pn** **22 09 43.3 -4.2**
comp=Z,13nm,0.3s,baz=111,slow=22,SNR=6.2
CN2 Changchun 13.12 292 *e*P **Pn** **22 09 50.5 +1.5**
CN2 *e*AP 22 09 58.8
CN2 *e*S **Sn** **22 12 14.6 +1.1**
CN2 AMB AMB
comp=Z,20nm,1.0s
CN2 AMB AMB
comp=Z,500nm,10.0s
CN2 LR LR
comp=N,900nm,20.0s
CN2 LR LR
comp=E,2μm,20.0s
CN2 LR LR
comp=Z,2μm,19.0s
SNY Shenyang 14.31 283⇓P **Pn** **22 10 07.7 +2.5**
SNY S **Sn** **22 12 55.3 +13**
SNY AMB AMB
comp=Z,20nm,1.4s
SNY AMB AMB
comp=Z,277nm,10.8s
SNY LR LR
comp=E,1μm,17.4s
SNY LR LR
comp=Z,2μm,17.4s
DL2 Dalian 16.07 272 P **Pn** **22 10 31.5 +3.5**
DL2 *e*S **S** **22 13 29.7 -7.2**
DL2 AMB AMB
comp=Z,40nm,0.9s
DL2 LR LR
comp=N,460nm,17.7s
DL2 LR LR
comp=E,420nm,18.6s
DL2 LR LR
comp=Z,560nm,17.8s
PET Petropavlovsk 17.00 35 *e*P **Pn** **22 10 43.8 +4.0**
PET *e*S **S** **22 13 47.9 -8.1**
PET pmax pmax
comp=Z,15nm,0.5s
PET MLR MLR
comp=Z,1μm,19.0s
PET MLR MLR
comp=Z,1μm,16.0s
JOW Kunigami 17.71 226 P **Pn** **22 10 48.5 0.0**
comp=Z,2.3nm,0.3s,baz=26,slow=12,SNR=6.8
HIA Hailar 18.44 307 *e*P **Pn** **22 10 54.6 -2.9**
HIA *e*S **S** **22 14 15.0 -10**
HIA pmax pmax
comp=Z,14nm,0.5s
HIA Hailar 18.44 307 *e*Pn **Pn** **22 10 54.6 -2.9**
comp=Z,14nm,0.5s
HIA *e*S **S** **22 14 15.0 -10**

SSE Sheshan 19.42 249 *e*P **Pn** **22 11 07.3 -1.9**
SSE AP pP 22 11 18.9 +0.5
SSE S **S** **22 14 40.2 -4.7**
SSE AMB AMB
comp=Z,57nm,0.9s
SSE AMB AMB
comp=Z,96nm,5.5s
SSE LR LR
comp=N,329nm,27.8s
SSE LR LR
comp=E,277nm,27.8s
SSE LR LR
comp=Z,653nm,24.5s
BJI Beijing 20.04 278 P **P** **22 11 11.8 -2.6**
BJI AMB AMB
comp=Z,32nm,1.1s
BJI LR LR
comp=N,1μm,16.6s,MS4.4
BJI LR LR
comp=E,716nm,14.1s,MS4.4
BJI LR LR
comp=Z,980nm,30.4s
BJT Baijiatuau 20.05 278 *e*P **P** **22 11 12.6 -1.9**
BJT pmax pmax
comp=Z,44nm,0.8s
BJT Baijiatuau 20.05 278 *e*P **P** **22 11 12.6 -1.9**
comp=Z,44nm,0.8s
MA2 Magadan 20.16 12*d i*P **P** **22 11 14.4 -1.4**
MA2 *e*S **S** **22 14 53.9 -5.7**
MA2 pmax pmax
comp=N,6.0nm,0.5s
MA2 pmax pmax
comp=Z,10.0nm,0.5s
MA2 pmax pmax
comp=Z,20nm,0.9s
MA2 MLR MLR
comp=Z,4μm,16.5s,MS4.8
MA2 Magadan 20.16 12 P **P** **22 11 14.5 -1.3**
comp=Z,18nm,0.6s
NRGR Nerungri 20.16 331 *e*P **P** **22 11 09.4 -6.4**
NRGR S **S** **22 14 46.3 -13**
NRGR smax
comp=N,12nm,0.2s
TIA Tai'an 20.22 267 *e*P **P** **22 11 15.4 -1.1**
TIA AMB AMB
comp=Z,34nm,1.1s
CLNS Chul'man 20.23 331 *e*P **P** **22 11 14.6 -2.0**
CLNS *e* 22 11 26.9
CLNS *e*PPP 22 11 35.2
CLNS *e*S **S** **22 14 50.5 -11**
CLNS *e*SS 22 15 31.3
CLNS pmax pmax
comp=N,21nm,1.0s
CLNS pmax pmax
comp=Z,40nm,1.0s
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS pmax pmax
comp=Z,52nm,0.9s
CLNS pmax pmax
comp=N,40nm,1.0s
CLNS pmax pmax
comp=E,50nm,1.1s
CLNS smax
comp=N,98nm,10.8s
CLNS smax
comp=Z,155nm,10.8s
CLNS smax
comp=E,24nm,9.0s
CLNS MLR MLR
comp=Z,1μm,16.0s,MS4.4
CLNS MLR MLR
comp=N,400nm,17.0s,MS4.0
CLNS MLR MLR
comp=E,440nm,16.0s,MS4.0
NJ2 Nanjing 20.62 254 *e*P **P** **22 11 22.3 +1.5**
NJ2 AP 22 11 33.2
NJ2 PP 22 11 44.8
NJ2 S **S** **22 15 00.0 -8.7**
NJ2 XS sS 22 15 17.0 -9.0
NJ2 AMB AMB
comp=Z,30nm,0.6s
NJ2 AMB AMB
comp=Z,60nm,3.6s
NJ2 LR LR
comp=N,1μm,17.3s,MS4.5
NJ2 LR LR
comp=E,870nm,13.2s,MS4.5
NJ2 LR LR
comp=Z,510nm,19.4s
YAK Yakutsk 23.24 345*c e*P **P** **22 11 46.4 -2.3**
YAK *i*S **S** **22 15 53.5 -3.8**
YAK pmax pmax
comp=Z,28nm,0.9s,mb4.7
YAK pmax pmax
comp=N,23nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK smax
comp=N,18nm,1.0s
YAK smax
comp=E,16nm,1.0s
YAK Yakutsk 23.24 345 P **P** **22 11 45.7 -3.0**
HHC Hu-ho-hao-te 23.40 282 *e*P **P** **22 11 47.5 -2.7**
HHC AP 22 11 58.9
HHC XP sP 22 12 05.1 -1.8
HHC PP 22 12 19.7
HHC PCP PcP 22 15 35.0 -0.5
HHC S **S** **22 15 52.9 -6.9**
HHC XS sS 22 16 11.9 -7.6
HHC AMB AMB
comp=Z,168nm,6.1s
HHC LR LR
comp=N,454nm,19.1s,MS4.4
HHC LR LR
comp=E,1μm,21.2s,MS4.4
HHC LR LR
comp=Z,1μm,20.7s,MS4.4
SEY Seymchan 23.60 11 *e*P **P** **22 11 50.3 -1.7**
SEY *e* 22 12 30.8
SEY *e*S **S** **22 16 03.9 +0.8**
SEY pmax pmax
comp=E,1.0nm,0.5s
SEY pmax pmax
comp=Z,11nm,0.5s,mb4.5
SEY pmax pmax
comp=N,20nm,0.8s
SEY smax
comp=N,200nm,6.5s
SEY smax
comp=E,489nm,12.3s
SEY MLR MLR
comp=Z,480nm,16.0s,MS4.1
SEY MLR MLR
comp=N,240nm,15.0s,MS3.8
SEY MLR MLR
comp=E,50nm,15.0s,MS3.8
FX1 Attu Island--F 24.50 48 P **P** **22 12 03.4 +3.1**
comp=E,17nm,0.6s,mb4.8,baz=313,slow=14,SNR=3.5
FX1 LR LR 22 23 24.9
comp=E,17nm,18.1s,baz=264,slow=41
FX1 Attu Island--F 24.50 48 P **P** **22 12 03.4 +3.1**
FX1 pmax pmax
comp=Z,17nm,0.6s
FX1 MLR MLR
comp=Z,17nm,18.1s
BTO Baotou 24.59 282 *e*P **P** **22 11 58.0 -3.1**
WHN Wuhan 24.71 256 *e*P **P** **22 12 01.0 -1.2**
QZH Quanzhou 25.03 240 P **P** **22 12 07.1 +2.0**
QZH S **S** **22 16 26.0 -0.2**
QZH AMB AMB
comp=Z,50nm,0.8s,mb5.1
QZH LR LR
comp=N,2μm,19.2s,MS4.7
QZH LR LR
comp=E,1μm,20.0s,MS4.7
QZH LR LR
comp=Z,990nm,13.0s
BOD Bodaibo 25.39 324 *e*P **P** **22 12 07.8 -0.6**
BOD pmax pmax
comp=Z,54nm,1.1s,mb5.0
ULN Ulaanbaatar 26.38 299*c i*P **P** **22 12 16.9 -0.5**
ULN Ulaanbaatar 26.38 299 P **P** **22 12 16.5 -0.9**
SONM Songino Array 26.82 299 P **P** **22 12 21.5 +0.1**
comp=Z,8.9nm,0.4s,mb4.6,baz=101,slow=8.8,SNR=143
SONM PcP PcP 22 15 43.2 +0.1

comp=Z,0.7nm,0.4s,baz=141,slow=2.2,SNR=5.3
SONM LR LR 22 23 32.2
comp=Z,1μm,18.6s,MS4.6,baz=51,slow=37
SONM Songino Array 26.82 299 P **P** **22 12 21.5 +0.2**
SONM 22 15 43.2
XAN Xi'an 27.27 268 P **P** **22 12 24.1 -1.3**
XAN AP pP 22 12 31.5 -5.7
XAN S **S** **22 17 03.9 +2.3**
XAN AMB AMB
comp=Z,11nm,1.0s,mb4.3
XAN LR LR
comp=E,703nm,17.2s
XAN LR LR
comp=Z,644nm,17.2s,MS4.3
IRK Irkutsk 28.69 308 *e*P **P** **22 12 37.5 -0.5**
IRK *e* pP 22 12 53.2 +3.3
IRK *e* 22 13 35.9
IRK pmax pmax
comp=Z,49nm,1.7s,mb5.0
ZAK Zakamensk 29.06 304⇑*i*P **P** **22 12 41.3 0.0**
ZAK pmax pmax
comp=Z,75nm,1.5s,mb5.2
LZH Lanzhou 30.43 275 *e*P **P** **22 12 52.1 -1.3**
LZH AP pP 22 13 03.7 -1.7
LZH XP sP 22 13 08.2 -2.5
LZH PP PP 22 13 52.5 -10
LZH *e*S **S** **22 17 47.3 -3.9**
LZH XS sS 22 18 07.6 -3.6
LZH AMB AMB
comp=Z,51nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,236nm,5.2s
LZH LR LR
comp=N,957nm,13.2s
LZH LR LR
comp=Z,2μm,17.4s,MS4.8
MOY Mondy 30.62 306 *e*P **P** **22 12 54.7 -0.4**
MOY pmax pmax
comp=Z,47nm,1.5s,mb5.1
BILL Bilibino 30.84 17 *i*P **P** **22 12 57.9 +0.9**
BILL *e* pP 22 13 12.0 +3.1
BILL *e*S **S** **22 17 50.4 -7.1**
BILL pmax pmax
comp=Z,11nm,1.0s,mb4.6
BILL MLR MLR
comp=Z,700nm,26.0s,MS4.2
BILL Bilibino 30.84 17 *e*P **P** **22 12 55.5 -1.5**
comp=Z,13nm,0.8s,mb4.8
TIXI Tiksi 32.31 352 P **P** **22 13 08.4 -1.6**
GTA Gaotai 32.50 283 *e*P **P** **22 13 11.4 -0.2**
GTA AP pP 22 13 24.2 +0.6
GTA PP PP 22 14 23.7 -1.9
GTA PCP PcP 22 15 58.3 +0.6
GTA S **S** **22 18 23.0 -0.5**
GTA XS sS 22 18 42.3 -1.3
GTA SCP ScP 22 19 39.4 +1.6
GTA PCS PcS 22 19 43.5 +0.7
GTA SS SS 22 20 19.7 -25
GTA SCS ScS 22 23 36.4 -0.8
GTA AMB AMB
comp=Z,22nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,129nm,5.3s
GTA LR LR
comp=N,471nm,19.0s,MS4.6
GTA LR LR
comp=E,1μm,19.4s,MS4.6
GTA LR LR
comp=Z,2μm,18.3s,MS4.7
CD2 Chengdu 32.55 266 *e*P **P** **22 13 12.7 +0.7**
CD2 AP pP 22 13 24.6 +0.6
CD2 PP PP 22 14 21.6 -4.5
CD2 S **S** **22 18 22.7 -1.6**
CD2 XS sS 22 18 43.0 -1.3
CD2 SS SS 22 20 20.1 -25
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,50nm,7.6s
GYA Guiyang 32.60 256⇑*i*P **P** **22 13 11.9 -0.6**
GYA AP pP 22 13 23.8 -0.6
GYA XP sP 22 13 29.1 -0.7
GYA PP PP 22 14 20.4 -6.3
GYA PCP PcP 22 15 59.9 +2.0
GYA S **S** **22 18 20.6 -4.5**
GYA SCS ScS 22 23 35.8 -1.9
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,220nm,5.1s
GYA LR LR
comp=N,580nm,17.8s,MS4.5
GYA LR LR
comp=E,640nm,17.6s,MS4.5
GYA LR LR
comp=Z,510nm,18.0s,MS4.3
QIZ Qiongzhong 34.97 243 P **P** **22 13 35.5 +2.4**
QIZ S **S** **22 18 59.0 -2.8**
QIZ AMB AMB
comp=Z,20nm,1.4s,mb4.8
QIZ LR LR
comp=N,309nm,19.4s
QIZ LR LR
comp=Z,423nm,17.3s,MS4.2
KRAR Krasnoyarsk 35.82 313⇓*e*P **P** **22 13 40.7 +0.3**
KRAR pmax pmax
comp=Z,62nm,1.0s,mb5.5
KRAR MLR MLR
comp=Z,400nm,14.0s,MS4.3
KMI Kunming 36.27 258⇑P **P** **22 13 44.2 -0.1**
KMI AP pP 22 13 57.3 +1.0
KMI PP PP 22 15 08.3 +1.0
KMI S **S** **22 19 19.6 -2.1**
KMI XS sS 22 19 42.0 +0.1
KMI AMB AMB
comp=Z,18nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,125nm,3.1s
KMI LR LR
comp=N,620nm,15.7s,MS4.6
KMI LR LR
comp=E,676nm,18.0s,MS4.6
KMI LR LR
comp=Z,949nm,16.1s,MS4.7
TNA Tin City 37.79 31 P **P** **22 13 58.7 +1.5**
WMQ Urumqi 40.20 294 P **P** **22 14 17.8 +0.5**
WMQ AP pP 22 14 30.0 +0.5
WMQ PP PP 22 15 54.7 +4.3
WMQ PCP PcP 22 16 22.4 +1.7
WMQ S **S** **22 20 20.6 -0.5**
WMQ SS SS 22 23 13.3 -7.0
WMQ AMB AMB
comp=Z,49nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,259nm,4.2s
WMQ LR LR
comp=N,1μm,18.2s,MS4.9
WMQ LR LR
comp=E,1μm,18.0s,MS4.9
WMQ LR LR
comp=Z,1μm,20.0s,MS4.8
ZAL Zalesovo 40.47 310 P **P** **22 14 19.9 +0.4**
comp=Z,9.8nm,0.5s,mb4.8,baz=26,slow=7.9,SNR=44
ZAL LR LR 22 32 37.6
comp=Z,1μm,18.9s,MS4.8,baz=32,slow=38
NVS Novosibirsk 41.31 311⇑*i*P **P** **22 14 25.7 -0.7**
NVS *e*S **S** **22 20 34.8 -2.7**
NVS pmax pmax
comp=Z,60nm,2.0s,mb4.9
NVS pmax pmax
comp=E,33nm,1.4s
NVS smax
comp=N,27nm,2.0s
NVS smax
comp=E,16nm,1.9s
MKAR Makanchi Array 43.19 300 P **P** **22 14 41.5 -0.1**
comp=E,12nm,0.8s,mb4.7,baz=75,slow=10,SNR=55
SHL Shillong 44.28 267 *e*P **P** **22 14 52.0 +1.5**
SHL *e*S **S** **22 21 26.0 +4.9**
KDAK Kodiak Island 44.31 44 P **P** **22 14 49.9 -0.9**
comp=E,7.7nm,0.6s,mb4.6,baz=10,slow=6.1,SNR=7.1
KURK Kurchatov 44.68 306 P **P** **22 14 53.5 -0.2**
comp=E,593nm,0.9s,SNR=48
KURK Kurchatov 44.68 306*c i*P **P** **22 14 53.1 -0.6**
KURK Kurchatov 44.68 306 P **P** **22 14 52.9 -0.7**

PMR Palmer 45.70 38 P **P** **22 15 01.9 +0.1**
PMR pmax pmax
comp=Z,16nm,1.2s,mb4.8
PMR Palmer 45.70 38 P **P** **22 15 01.9 +0.2**
comp=Z,16nm,1.2s,mb4.8
COLA College 46.06 34 *i* P **P** **22 15 05.5 +0.9**
COLA College 46.06 34 *e*P **P** **22 15 04.3 -0.4**
comp=Z,13nm,0.7s,mb5.0
ILAR Eielson Array 46.48 34 P **P** **22 15 07.8 -0.1**
comp=Z,5.4nm,0.6s,mb4.6,baz=264,slow=6.0,SNR=104
ILAR LR LR 22 34 47.5
comp=Z,169nm,20.4s,MS4.0,baz=338,slow=36
JIRN Jiri 47.56 273 *e*P **P** **22 15 16.0 -0.3**
comp=Z,74nm,0.9s,mb5.7
GUN Gumba 47.67 273 *e*P **P** **22 15 17.8 +0.6**
comp=Z,211nm,0.8s
KKN Kakani 48.19 274 *e*P **P** **22 15 21.5 +0.3**
comp=Z,89nm,0.6s,mb6.0
PKI Pulchoki 48.20 273 *e*P **P** **22 15 21.5 +0.2**
DMN Daman 48.42 273 *e*P **P** **22 15 23.3 +0.3**
comp=Z,174nm,1.2s,mb6.0
GKN Gorkha 48.58 274 *e*P **P** **22 15 24.3 +0.1**
comp=Z,49nm,0.4s,mb5.8
ULHL Ulahol 48.68 295 P **P** **22 15 25.9 +0.9**
SNR=8.8
TKM2 Tokmak 2 48.88 296 P **P** **22 15 27.3 +0.8**
SNR=29
DANN Dangsing 49.07 275 *e*P **P** **22 15 29.0 +1.0**
BRVK Borovoye 49.15 311 P **P** **22 15 28.5 0.0**
comp=Z,202nm,0.5s,SNR=16
BRVK Borovoye 49.15 311 P **P** **22 15 28.6 0.0**
KBK Karagaybulak 49.42 296 P **P** **22 15 31.3 +0.6**
SNR=29
KZA Kyzart 49.42 295 P **P** **22 15 32.2 +1.5**
SNR=17
KOLN Koldanda 49.49 275 *e*P **P** **22 15 31.6 +0.4**
comp=Z,126nm,1.1s,mb5.9
USP Ospenovka 49.51 297 P **P** **22 15 31.4 +0.1**
SNR=17
FRU Bishkek 49.59 297 *e*P **P** **22 15 33.0 +1.1**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
AAK Ala-Archa 49.74 296 P **P** **22 15 33.2 +0.1**
SNR=12
AAK Ala-Archa 49.74 296 P **P** **22 15 32.1 -1.0**
comp=Z,70nm,0.4s,mb6.0,SNR=18
AAK Ala-Archa 49.74 296*c i*P **P** **22 15 32.2 -0.9**
AAK pmax pmax
comp=Z,21nm,1.5s,mb5.0
AAK MLR MLR
comp=Z,500nm,17.0s,MS4.6
AAK Ala-Archa 49.74 296 P **P** **22 15 32.1 -1.0**
comp=Z,5.1nm,0.4s,mb4.9
BOK Bokaro 49.82 269 *e*P **P** **22 15 33.3 -0.4**
UCH Uchtor 49.88 296 P **P** **22 15 35.1 +1.0**
SNR=10
KSH Kashi 49.89 292 P **P** **22 15 36.0 +1.8**
KSH PCP PcP 22 16 57.0 +2.9
KSH PP PP 22 17 31.3 +2.0
KSH SCP ScP 22 20 47.0 +0.9
KSH PCS PcS 22 20 52.3 +1.2
KSH S **S** **22 22 40.7 -0.4**
KSH XS sS 22 23 00.4 -1.5
KSH SCS ScS 22 25 20.1 -1.7
KSH SS SS 22 26 08.5 -5.7
KSH AMB AMB
comp=Z,27nm,1.0s,mb5.2
KSH AMB AMB
comp=Z,98nm,2.8s,mb5.3
KSH LR LR
comp=N,596nm,16.6s
KSH LR LR
comp=E,264nm,6.1s
KSH LR LR
comp=Z,536nm,16.4s,MS4.6
ZRNK Zerenda 49.92 311⇑ *i*P **P** **22 15 34.3 -0.1**
ZRNK pmax pmax
comp=Z,65nm,1.3s,mb5.5
ZRNK Zerenda 49.92 311⇑ *i*P **P** **22 15 34.3 -0.1**
comp=Z,65nm,1.3s,mb5.5
EKS2 Erkin-Say 50.22 297 P **P** **22 15 36.9 +0.1**
SNR=20
AML Almayashu 50.48 296 P **P** **22 15 39.7 +1.0**
SNR=29
KULM Kulim 51.07 238 *e*P **P** **22 15 43.5 +0.4**
KULM *e*pP pP 22 15 58.0 +2.4
LGTI Lohaghat 51.20 278 *e*P **P** **22 15 45.5 +1.4**
INK Inuvik 51.28 28 LR LR 22 38 48.8
comp=Z,171nm,18.8s,MS4.1,baz=96,slow=37
INK Inuvik 51.28 28 P **P** **22 15 45.0 +0.3**
DDI Dehra Dun 52.43 281 *ex* x 22 15 52.9
SMLA Simla 52.71 282 *e*P **P** **22 15 53.2 -2.1**
KAKA Kakadu 53.39 192 *e*P **P** **22 15 59.9 -0.4**
comp=Z,8.1nm,0.7s,mb4.8
NDI New Delhi 53.88 279 *e*P **P** **22 16 03.4 -0.5**
NDI AMb AMB 22 16 06.0
comp=Z,41nm,1.6s,mb5.1
ARU Arti 54.57 317 P **P** **22 16 08.8 -0.1**
comp=Z,375nm,0.5s,SNR=30
ARU Arti 54.57 317⇑ *i*P **P** **22 16 08.8 -0.1**
ARU *e* pP 22 16 25.6 +4.0
ARU *e* 22 17 08.8
ARU *e* 22 18 12.3
ARU *e*SS **S** **22 23 44.5 -0.6**
ARU *e*SS SS 22 27 31.2 +3.0
ARU pmax pmax
comp=Z,73nm,1.1s,mb5.6
ARU MLR MLR
comp=N,400nm,17.0s,MS4.9
ARU MLR MLR
comp=E,800nm,17.0s,MS4.9
ARU MLR MLR
comp=Z,1μm,17.0s,MS5.0
ARU Arti 54.57 317 *e*P **P** **22 16 08.7 -0.2**
comp=Z,79nm,1.0s,mb5.7
ARU *e*pP pP 22 16 19.0 -2.5
NGP Nagpur 56.53 270 *e*P **P** **22 16 23.5 +0.4**
NGP AMb AMB 22 16 26.1
comp=Z,33nm,1.4s,mb5.2
BHPL Bhopal 56.61 273 *e*P **P** **22 16 23.5 -0.1**
BHPL AMb AMB 22 16 25.7
comp=Z,28nm,1.0s,mb5.2
AJM Ajmer 56.98 278 *e*P **P** **22 16 26.1 -0.1**
AJM AMb AMB 22 16 27.4
comp=Z,34nm,1.0s,mb5.3
HYB Hyderabad 59.09 267 *i* P **P** **22 16 41.0 0.0**
HYB Hyderabad 59.09 267 *e*P **P** **22 16 41.0 0.0**
RES Resolute Bay 59.41 15 P **P** **22 16 42.4 -0.8**
RES pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
RES Resolute Bay 59.41 15 P **P** **22 16 42.4 -0.8**
comp=Z,7.0nm,0.6s,mb4.9
FITZ Fitzroy Crossi 60.01 198 *e*P **P** **22 16 47.0 -0.3**
comp=Z,6.5nm,0.6s,mb4.8
CTA Charters Tower 60.02 176 LR LR 22 40 12.3
comp=Z,125nm,21.4s,MS4.0,baz=231,slow=34
APA Apatity 60.18 335⇑ *e*P **P** **22 16 50.4 +1.9**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
WRAB Tennant Creek 60.23 189 P **P** **22 16 47.3 -1.5**
comp=Z,72nm,0.8s,mb5.8,SNR=8.3
WRAB Tennant Creek 60.23 189*c i*P **P** **22 16 49.4 +0.6**
WRAB Tennant Creek 60.23 189 *e*P **P** **22 16 47.8 -1.1**
comp=Z,14nm,0.8s,mb5.1
WB2 Warramunga Arr 60.24 189 *e*P **P** **22 16 47.3 -1.6**
WRA Warramunga Arr 60.24 189 P **P** **22 16 47.6 -1.3**
comp=Z,8.9nm,0.8s,mb4.8,baz=6.5,slow=7.1,SNR=115
YKW3 Yellowknife Ar 60.71 31 *e*P **P** **22 16 52.0 -0.1**
YKW3 *e*pP pP 22 17 04.3 -0.6
YKW3 *e*sP sP 22 17 09.9 -0.2
YKA Yellowknife Ar 60.75 31 P **P** **22 16 52.2 -0.1**
comp=Z,1.0nm,0.5s,mb4.2,baz=301,slow=6.4,SNR=26
YKA LR LR 22 44 02.5
comp=Z,79nm,21.2s,MS3.8,baz=280,slow=37
YKA Yellowknife Ar 60.75 31 P **P** **22 16 52.2 -0.1**
YKA LR LR 22 44 02.5
ARCES ARCESS Array B 61.37 339 P **P** **22 16 56.3 -0.3**
comp=Z,2.3nm,0.4s,mb4.6,baz=50,slow=8.2,SNR=26
ARCES LR LR 22 48 34.4
comp=Z,200nm,18.8s,MS4.3,baz=273,slow=41
ARCES ARCESS Array B 61.37 339 P **P** **22 16 56.3 -0.3**
ARCES LR LR 22 48 34.4
KLMR Klimovskoe 61.55 327*c i*P **P** **22 16 57.2 -0.6**
KLMR *e* 22 19 12.0
KLMR *e*S **S** **22 25 15.8 -0.6**
KLMR pmax pmax
comp=Z,70nm,1.3s,mb5.6
KLMR pmax pmax
comp=Z,60nm,4.2s
KLMR smax
comp=E,530nm,3.5s
KLMR MLR MLR
comp=Z,590nm,19.0s,MS4.8
POO Poona 62.03 271 *ex* x 22 17 11.7
KAD Karad 62.50 270 *e*P **P** **22 17 04.2 0.0**
ABKT Ailbek 63.02 298 P **P** **22 17 07.6 -0.1**
comp=Z,195nm,0.7s,SNR=25
JOF Joensuu 63.59 332 *ep* **P** **22 17 11.4 0.0**
comp=Z,4.9nm,0.5s,mb4.8
AS31 Alice Springs 63.97 189 *e*P **P** **22 17 12.6 -1.3**
ASAR Alice Springs 63.97 189 P **P** **22 17 13.1 -0.8**
comp=Z,4.5nm,0.8s,mb4.5,baz=6.9,slow=6.0,SNR=30
ASPA Alice Springs 63.97 189 *e*P **P** **22 17 12.6 -1.3**
MOS Moscow 65.22 323 *e*P **P** **22 17 19.6 -2.5**
MOS pmax pmax
comp=Z,84nm,1.5s,mb5.5
MOS MLR MLR
comp=Z,700nm,18.5s,MS4.9
TRD Trivandrum 65.82 260 *e*P **P** **22 17 26.1 +0.2**
KAF Kangasniemi 65.91 332 *ep* **P** **22 17 25.3 -1.2**
comp=Z,7.6nm,0.6s,mb4.9,baz=46,slow=6.1
KAF Kangasniemi 65.91 332 *e*P **P** **22 17 25.3 -1.2**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
VRHR Novokhopersk 65.91 317 *e*P **P** **22 17 25.6 -0.9**
VRHR pmax pmax
comp=Z,30nm,1.0s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,1.3s
OBN Obninsk 66.08 323*d i*P **P** **22 17 27.7 +0.1**
OBN *e**PP pP 22 17 45.7 +5.2
OBN *e*S S 22 26 03.8 -8.7
OBN pmax pmax
comp=Z,75nm,1.5s,mb5.5
OBN MLR MLR
comp=Z,600nm,19.0s,MS4.8
OBN Obninsk 66.08 323 *e*P **P** **22 17 26.9 -0.7**
comp=Z,98nm,1.5s,mb5.6
FINES FINESS Array B 66.43 332 P **P** **22 17 29.2 -0.6**
comp=Z,6.1nm,0.6s,mb4.8,baz=44,slow=7.4,SNR=59
FINES LR LR 22 48 47.9
comp=Z,435nm,19.7s,MS4.7,baz=219,slow=38
MOR8 Moi Rana 66.72 340 *e*P **P** **22 17 29.7 -2.0**
MOR8 AMb AMB 22 17 32.1
comp=Z,25nm,1.5s,mb5.0
JMIC Jan Mayen 67.22 350 LR LR 22 47 31.2
comp=Z,80nm,18.8s,MS4.0,baz=83,slow=36
SUMG Summit 67.58 0 *e*P **P** **22 17 37.7 +0.6**
comp=Z,12nm,0.5s,mb5.2
SUMG *e*pP pP 22 17 51.6 +1.5
VSU Vasula 68.17 329⇓ *e*P **P** **22 17 40.9 0.0**
GOF Gofitskoye 68.61 311⇑ *i*P **P** **22 17 43.0 -0.6**
GOF pmax pmax
comp=Z,100nm,1.3s,mb5.6
NSS Namsos 68.65 339 *e*P **P** **22 17 42.5 -1.4**
ZEI Tsey 69.44 309 *i* P **P** **22 17 48.2 -0.6**
ZEI *e**PP pP 22 18 09.5 +7.7
ZEI *i* 22 20 21.9
ZEI pmax pmax
comp=Z,26nm,1.1s,mb5.1
TBLG Delisi 69.55 308 *e*P **P** **22 17 49.9 +0.5**
CHMT Chamberlain Mo 70.30 45 *e*P **P** **22 17 54.5 +0.5**
CHMT *e*pP pP 22 18 08.7 +1.7
CHMT sP sP 22 18 14.4 +2.3
GNI Garni 70.47 306 *e*P **P** **22 17 56.4 +1.3**
GNI *e**PP pP 22 18 06.7 -1.4
GNI *e**SP sP 22 18 12.8 -0.4
GNI pmax pmax
comp=Z,47nm,1.3s
GNI Garni 70.47 306 *e*P **P** **22 17 56.4 +1.3**
comp=Z,47nm,1.3s,mb5.2
GNI *e*pP pP 22 18 06.7 -1.4
GNI *e*sP sP 22 18 12.8 -0.4
WBK Wadi Bani Khal 70.93 284 P **P** **22 17 59.4 +1.5**
SNR=7.2
BIDO Bidbid 71.02 285 P **P** **22 17 59.9 +1.4**
SNR=5.4
HRY Holter Researc 71.19 44 *e*P **P** **22 18 00.4 +1.0**
HRY *e*pP pP 22 18 13.8 +1.4
SMDO Samad 71.35 285 P **P** **22 18 01.5 +1.1**
SNR=6.7
SOC Sochi 71.40 312*c i*P **P** **22 17 59.4 -1.3**
SOC *e* 22 18 20.1
SOC *e*S S 22 27 15.4 -0.2
SOC *e* 22 28 01.8
SOC *e*SS SS 22 31 48.2 -2.5
SOC *e*SSS 22 34 59.3
SOC pmax pmax
comp=Z,25nm,0.7s,mb5.2
SOC MLR MLR
comp=Z,309nm,16.0s,MS4.7
MOL Molde 71.41 340 *e*P **P** **22 18 01.0 +0.2**
MOL AMb AMB 22 18 05.1
comp=Z,26nm,1.3s,mb5.0
EGMT Eagleton 71.45 42 *e*P **P** **22 18 01.3 +0.3**
comp=Z,11nm,0.8s,mb4.8
EGMT *e*pP pP 22 18 14.9 +0.9
HOQ Hoqain 71.59 286 P **P** **22 18 02.4 +0.5**
SNR=8.9
DLMT Dillon 71.62 46 *e*P **P** **22 18 03.1 +1.1**
comp=Z,14nm,1.0s,mb4.9
DLMT *e*pP pP 22 18 14.7 -0.3
NB2 NORSAR Subarra 71.62 337 P **P** **22 18 01.5 -0.5**
comp=Z,29nm,1.2s,mb5.1,baz=37,slow=6.2
NB2 NORSAR Subarra 71.62 337 P **P** **22 18 01.5 -0.5**
NB2 pmax pmax
comp=Z,29nm,1.2s,mb5.1
NOA NORSAR Array B 71.62 337 P **P** **22 18 01.4 -0.6**
comp=Z,4.4nm,0.5s,mb4.7,baz=38,slow=6.1,SNR=36
NOA LR LR 22 52 22.3
comp=Z,277nm,20.9s,MS4.5,baz=15,slow=38
STKA Stephens Creek 71.66 181 P **P** **22 18 00.3 -2.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=326,slow=7.3,SNR=2.5
JMDO Jabal Madar 71.72 284 P **P** **22 18 03.5 +0.8**
SNR=6.8
ASHO Ashiyiah 71.86 287 P **P** **22 18 04.6 +1.1**
SNR=5.3
BOZ Bozeman (W) 71.97 45 *e*P **P** **22 18 05.0 +0.9**
BOZ *e**PP pP 22 18 17.1 -0.1
BOZ pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BOZ Bozeman (W) 71.97 45 *e*P **P** **22 18 05.0 +0.9**
comp=Z,7.8nm,0.7s,mb4.8
BOZ *e*pP pP 22 18 17.1 -0.1
AKASG Malin Array Be 72.31 322 P **P** **22 18 05.7 -0.5**
comp=Z,7.3nm,0.4s,mb4.9,baz=45,slow=6.2,SNR=68
ARQ Araqi 72.32 286 P **P** **22 18 07.2 +1.0**
SNR=10.0
NVAR Mina Array Bea 72.54 54 P **P** **22 18 08.7 +1.2**
comp=Z,0.5nm,0.5s,baz=294,slow=4.5,SNR=4.5
GCMT Greycliff 72.93 44 *e*P **P** **22 18 11.0 +1.2**
GCMT *e*pP pP 22 18 24.6 +1.6
SIM Simferopol' 73.65 315 P **P** **22 18 14.3 +0.2**
SIM pmax pmax
comp=Z,26nm,1.2s,mb5.0
SIM MLR MLR
comp=Z,410nm,19.0s,MS4.7
BLS5 Blasjo 74.32 338 *e*P **P** **22 18 19.1 +1.0**
BLS5 AMb AMB 22 18 29.7
comp=Z,14nm,1.8s,mb4.6
UMR Umm Al-Rimmam 74.89 296 *e*P **P** **22 18 20.7 -0.6**
UMR AMb AMB 22 18 21.5
comp=Z,39nm,0.4s,mb5.7
PDAR Pinedale Array 74.96 46 P **P** **22 18 22.3 +0.6**
comp=Z,1.3nm,0.6s,mb4.1,baz=270,slow=2.1,SNR=18
MIB Mutribah 75.00 296 *e*P **P** **22 18 21.2 -0.7**
MIB AMb AMB 22 18 23.6
comp=Z,58nm,0.8s,mb5.6
QRN Al-Qurain 75.24 295 *e*P **P** **22 18 22.9 -0.4**
QRN AMb AMB 22 18 23.7
comp=Z,71nm,0.3s,mb6.1
RDF Al-Radifah 75.39 295 *e*P **P** **22 18 23.8 -0.3**
RDF AMb AMB 22 18 26.4
comp=Z,105nm,1.2s,mb5.7
NAY Al-Naaiem 75.40 296 *e*P **P** **22 18 23.6 -0.7**
NAY AMb AMB 22 18 27.5
comp=Z,29nm,0.7s,mb5.3
MALT Malatya 75.47 308 P **P** **22 18 26.2 +1.6**
MALT Malatya 75.47 308 *e*P **P** **22 18 25.4 +0.8**
comp=Z,45nm,1.3s,mb5.2
MALT *e*pP pP 22 18 38.8 +1.0
IAS Iasi 75.52 320 P **P** **22 18 24.8 -0.1**
KWP Kalwaria 76.05 324 *e*P **P** **22 18 28.7 +0.7**
BURAR Bucovina Array 76.35 322⇑P **P** **22 18 30.1 +0.4**
BURAR Bucovina Array 76.35 322⇑P **P** **22 18 30.1 +0.5**
ULM Lac du Bonnet 76.50 34 P **P** **22 18 29.9 -0.6**
comp=Z,2.9nm,0.7s,mb4.3,baz=307,slow=6.0,SNR=7.9
ULM Lac du Bonnet 76.50 34 P **P** **22 18 29.9 -0.6**
CFR Carcaliu 76.63 318⇓P **P** **22 18 31.5 +0.2**
CFR Carcaliu 76.63 318⇓P **P** **22 18 31.5 +0.2**
KOLS Kolonicke sedl 76.76 324 *e*P **P** **22 18 31.8 -0.2**
KOLS *e* 22 18 50.7
VRI Vrincioaia 76.86 320⇑P **P** **22 18 33.9 +1.4**
VRI Vrincioaia 76.86 320⇑P **P** **22 18 33.9 +1.4**
STHS Stebnicka Huta 76.86 325 *e*P **P** **22 18 33.7 +1.2**
STHS *e* 22 18 52.6
OJC Ojcow 76.89 326 *e*P **P** **22 18 33.1 +0.4**
PLOR Plostina 76.91 320⇓P **P** **22 18 34.1 +1.3**
HARR Harsova 77.08 318⇑P **P** **22 18 34.5 +0.7**
HARR Harsova 77.08 318⇑P **P** **22 18 34.5 +0.8**
CRVS Cervenica-Dubn 77.14 325 *e*P **P** **22 18 36.8 +2.7**
NIE Niedzica 77.26 325 *e*P **P** **22 18 36.0 +1.2**
BR131 Keskin Array S 77.37 312 *e*P **P** **22 18 35.9 +0.5**
comp=Z,2.2nm,0.6s,mb4.3
BR131 *e*pP pP 22 18 49.0 +0.4
BR131 *e*sP sP 22 18 54.3 +0.7
BRTR Keskin Array B 77.37 312 P **P** **22 18 35.8 +0.4**
comp=Z,9.1nm,1.0s,mb4.6,baz=72,slow=4.7,SNR=27
BRTR PP PP 22 21 30.9 +0.9
comp=Z,4.1nm,1.2s,baz=54,slow=6.3,SNR=5.0
MLR Muntele Rosu 77.51 320 P **P** **22 18 36.5 +0.3**
comp=Z,3.3nm,0.4s,mb4.6,baz=56,slow=5.5,SNR=9.7
MLR Muntele Rosu 77.51 320⇓P **P** **22 18 37.3 +1.1**
MLR Muntele Rosu 77.51 320⇓P **P** **22 18 37.3 +1.1**
RBK Rabkut 77.58 282 P **P** **22 18 36.2 -0.3**
SNR=6.9
WHFO Wadi Hawf 77.64 283⇓P **P** **22 18 36.2 -0.8**
KSP Ksiaz 77.86 328 *e*P **P** **22 18 38.7 +0.5**
KSP Ksiaz 77.86 328 *e*P **P** **22 18 38.2 0.0**
KSP LR LR
comp=Z,900nm,19.4s,MS5.1
OKC Ostrava-Krasne 77.87 327 *e*P **P** **22 18 38.6 +0.4**
OKC *e*PCP PcP 22 18 50.8 +2.8
KECS Kecovo 77.89 325 *e*P **P** **22 18 38.2 -0.1**
KECS *e* 22 19 01.7
VOIR 77.99 320⇓P **P** **22 18 40.0 +1.1**
VOIR 77.99 320⇓P **P** **22 18 40.0 +1.2**
DRGR 78.13 322⇓P **P** **22 18 40.7 +1.1**
DRGR 78.13 322⇓P **P** **22 18 40.7 +1.1**
PV10 Paradox Valley 78.17 50 *e*P **P** **22 18 40.9 +1.0**
PV10 *e*pP pP 22 18 52.9 -0.2
PV10 *e*sP sP 22 18 58.2 +0.1
MORC Moravsky Berou 78.17 327 *e*P **P** **22 18 40.4 +0.5**
MORC pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MORC Moravsky Berou 78.17 327 *e*pP **P** **22 18 40.4 +0.5**
comp=Z,6.4nm,0.8s,mb4.6
DPC Dobruska-Polom 78.23 328 *e*P **P** **22 18 40.8 +0.6**
DPC *e*PCP PcP 22 18 52.3 +2.8
UPC Upice 78.24 328 *e*P **P** **22 18 39.5 -0.7**
UPC *e*PCP PcP 22 18 51.4 +1.9
ABTO Aybut 78.35 283 P **P** **22 18 40.9 0.0**
SNR=5.3
PSZ Piszkesteto 78.57 325 *e*P **P** **22 18 42.5 +0.4**
PSZ pmax pmax
comp=Z,11nm,0.9s,mb4.8
PSZ Piszkesteto 78.57 325 *e*P **P** **22 18 42.5 +0.4**
comp=Z,11nm,0.9s,mb4.8
VYHS Vyhne 78.60 326 *e*P **P** **22 18 42.8 +0.6**
CLL Collm 78.78 330 *i* P **P** **22 18 42.7 -0.5**
comp=Z,38nm,1.6s,mb5.1
CLL *e*pP pP 22 18 54.0 -2.4
CLL Collm 78.78 330 *i* P **P** **22 18 42.7 -0.5**
CLL *e**PP pP 22 18 54.0 -2.4
CLL pmax pmax
comp=Z,38nm,1.6s,mb5.1
PVCC Panska Ves 78.79 329 *e*P **P** **22 18 43.8 +0.5**
VRAC Vranov 78.93 327⇓P **P** **22 18 44.6 +0.6**
SMOL Smolenice 79.19 326 *e*P **P** **22 18 46.3 +0.8**
PRU Pruhonice 79.23 329 *e*P **P** **22 18 45.9 +0.2**
PRU *e*PCP PcP 22 18 58.6 +4.7
PRU AMS AMS 22 56 20.0
comp=Z,500nm,14.6s
SRO Srobarova 79.35 325 *e*P **P** **22 18 47.3 +1.0**
SRO2 Moca 79.35 325 *e*P **P** **22 18 47.0 +0.7**
BZS Buzias 79.51 322⇑P **P** **22 18 47.6 +0.4**
BZS Buzias 79.51 322 P **P** **22 18 47.5 +0.3**
MOX Moxa 79.84 331 *e*P **P** **22 18 48.7 -0.3**
MOX
comp=Z,200nm,20.0s
NKC Novy Kostel 79.85 330 *e*P **P** **22 18 49.4 +0.3**
KHC Kasperske Hory 80.29 329 *e*P **P** **22 18 51.6 +0.1**
KHC *e*PCP PcP 22 19 03.0 +4.5
KHC AMS AMS 22 56 50.0
comp=Z,1μm,18.5s
KHC Kasperske Hory 80.29 329*c i*P **P** **22 18 52.1 +0.6**
PKSM Moragy 80.42 324⇓P **P** **22 18 52.1 -0.1**
GERES GERESS Array B 80.47 328 P **P** **22 18 52.6 +0.2**
comp=Z,2.1nm,0.4s,mb4.4,baz=40,slow=5.9,SNR=36
GERES LR LR 22 57 50.3
comp=Z,347nm,18.9s,MS4.7,baz=207,slow=38
GRA1 Grafenberg Arr 80.76 330 *e*P **P** **22 18 54.6 +0.7**
GRF Grafenberg Arr 80.76 330 *e*P **P** **22 18 54.6 +0.7**
comp=Z,21nm,1.1s,mb5.0
GRF *e*L 22 56 57.6
comp=Z,196nm,21.2s
RZN Rozhen 80.86 318 *e*P **P** **22 18 55.0 +0.5**
VTS Vitosha 80.97 319 *e*P **P** **22 18 56.0 +0.9**
VTS Vitosha 80.97 319⇑P **P** **22 18 55.9 +0.8**
DIVS Divcibare 81.41 322 *i* P **P** **22 18 57.4 0.0**
MMB Musomiste 81.44 318 *e*P **P** **22 18 58.0 +0.4**
KKB Krupnik 81.56 319 *e*P **P** **22 18 58.0 -0.2**
GROS Grobnik 81.61 326 *i* P **P** **22 18 58.2 -0.2**
GOLS Golise 81.91 326 *i* P **P** **22 18 60.0 -0.1**
KBA Koelnbreinsper 82.03 328⇓ *i*P **P** **22 19 00.8 +0.1**
comp=Z,26nm,1.4s,mb5.0
SCHQ Schefferville 82.14 17 P **P** **22 19 00.4 -0.9**
comp=Z,3.2nm,0.7s,mb4.4,baz=315,slow=8.4,SNR=11
SCHQ LR LR 23 04 55.4
comp=Z,80nm,18.2s,MS4.1,baz=8,3,slow=42
WATA Walderalm 82.53 329⇑ *i*P **P** **22 19 03.4 +0.1**
comp=Z,14nm,1.4s,mb4.8
MOTA Moosalm 82.71 329⇓ *i*P **P** **22 19 04.4 +0.2**
comp=Z,15nm,1.2s,mb4.9,SNR=8.1
SQTA Sankt Quirin 82.77 329⇑ *i*P **P** **22 19 04.8 +0.2**
comp=Z,25nm,1.6s,mb5.0
BFO Black Forest 82.96 331 P **P** **22 19 05.6 +0.1**
comp=Z,54nm,0.5s,mb5.8,SNR=7.0
BFO Black Forest 82.96 331 *e*P **P** **22 19 05.7 +0.1**
BFO *e*pP pP 22 19 17.1 -1.8
CDF Champ du Feu 83.28 332 *e*P **P** **22 19 06.9 -0.3**
comp=Z,5.0nm,0.6s,mb4.4
CDF Champ du Feu 83.28 332 *e*P **P** **22 19 06.9 -0.3**
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CDF Champ du Feu 83.28 332 *e*P **P** **22 19 06.9 -0.3**
comp=Z,2.5nm,0.6s,mb4.4
HINF Hinteralfeld 83.94 332 *e*P **P** **22 19 10.0 -0.5**
HAU Haudompre 83.96 332 *e*P **P** **22 19 10.4 -0.3**
HAU *e*R
comp=Z,275nm,19.5s
HAU Haudompre 83.96 332 *e*P **P** **22 19 10.4 -0.3**
HAU LR LR
comp=Z,280nm,19.5s,MS4.7
MEZF Maizieres J'vi 84.00 333 *e*P **P** **22 19 10.5 -0.3**
CABF La Chapelle 85.23 331 *e*P **P** **22 19 16.4 -0.7**
PPT Papeete 85.36 117 LR LR 22 49 57.0
comp=Z,426nm,20.2s,MS4.8,baz=286,slow=30
LOR Lormes 85.47 333 *e*P **P** **22 19 17.8 -0.4**
comp=Z,16nm,0.8s,mb4.9
LOR *e*R 22 56 57.6
comp=Z,376nm,20.8s
LOR Lormes 85.47 333 *e*P **P** **22 19 17.8 -0.4**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LOR MLR MLR
comp=Z,380nm,20.8s,MS4.8
LOR Lormes 85.47 333 *e*P **P** **22 19 17.8 -0.4**
comp=Z,8.3nm,0.8s,mb4.9
LOR LR LR
comp=Z,380nm,20.8s,MS4.8
FLN La Foliniere 85.58 336 *e*P **P** **22 19 18.2 -0.6**

FLN *e*R
comp=Z,382nm,23.0s
FLN La Foliniere 85.58 336 *e*P **P 22 19 18.2 -0.6**
FLN LR LR
comp=Z,380nm,23.0s,MS4.7
LDF La Druitiere 85.62 336 *e*P **P 22 19 18.5 -0.5**
SSF Saint Saulge 85.77 333 *e*P **P 22 19 19.3 -0.4**
comp=Z,12nm,0.7s,mb4.9
SSF Saint Saulge 85.77 333 *e*P **P 22 19 19.3 -0.4**
SSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
SSF Saint Saulge 85.77 333 *e*P **P 22 19 19.3 -0.4**
comp=Z,5.8nm,0.7s,mb4.9
LPL La Plagne 85.92 330 *e*P **P 22 19 20.3 -0.2**
comp=Z,13nm,0.6s,mb5.0
LPL La Plagne 85.92 330 *e*P **P 22 19 20.3 -0.2**
LPL pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
LPL La Plagne 85.92 330 *e*P **P 22 19 20.3 -0.2**
comp=Z,6.7nm,0.6s,mb5.0
LPG La Plagne 85.93 330 *e*P **P 22 19 20.5 0.0**
comp=Z,13nm,0.5s,mb5.1
LPG La Plagne 85.93 330 *e*P **P 22 19 20.5 0.0**
LPG pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
LPG La Plagne 85.93 330 *e*P **P 22 19 20.5 0.0**
comp=Z,6.3nm,0.5s,mb5.1
SMF Signal de Mont 86.01 333 *e*P **P 22 19 20.6 -0.3**
comp=Z,14nm,0.8s,mb5.0
SMF Signal de Mont 86.01 333 *e*P **P 22 19 20.6 -0.3**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
SMF Signal de Mont 86.01 333 *e*P **P 22 19 20.6 -0.3**
comp=Z,7.0nm,0.8s,mb4.9
GRR Gorron 86.03 336 *e*P **P 22 19 20.6 -0.4**
comp=Z,32nm,0.9s,mb5.2
GRR Gorron 86.03 336 *e*P **P 22 19 20.6 -0.4**
GRR pmax pmax
comp=Z,16nm,0.9s,mb5.2
GRR Gorron 86.03 336 *e*P **P 22 19 20.6 -0.4**
comp=Z,16nm,0.9s,mb5.2
AVF Avril sur Loir 86.06 333 *e*P **P 22 19 21.2 0.0**
comp=Z,25nm,0.5s,mb5.4
AVF Avril sur Loir 86.06 333 *e*P **P 22 19 21.2 0.0**
AVF pmax pmax
comp=Z,12nm,0.5s,mb5.4
AVF Avril sur Loir 86.06 333 *e*P **P 22 19 21.2 0.0**
comp=Z,12nm,0.5s,mb5.4
BGF Bois d'Agland 86.43 333 *e*P **P 22 19 22.7 -0.3**
MBDF Montbardon 86.57 330 *e*P **P 22 19 23.3 -0.4**
comp=Z,13nm,0.8s,mb4.9
MBDF Montbardon 86.57 330 *e*P **P 22 19 23.3 -0.4**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
MBDF Montbardon 86.57 330 *e*P **P 22 19 23.3 -0.4**
comp=Z,6.3nm,0.8s,mb4.9
SGMF Saint Gilles 86.66 337 *e*P **P 22 19 23.8 -0.3**
comp=Z,13nm,0.7s,mb5.0
SGMF Saint Gilles 86.66 337 *e*P **P 22 19 23.8 -0.3**
SGMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
SGMF Saint Gilles 86.66 337 *e*P **P 22 19 23.8 -0.3**
comp=Z,6.4nm,0.7s,mb5.0
ORIF Oris-en-Rattie 86.75 331 *e*P **P 22 19 24.0 -0.6**
comp=Z,17nm,1.0s,mb4.9
ORIF *e*R
comp=Z,311nm,22.2s
ORIF Oris-en-Rattie 86.75 331 *e*P **P 22 19 24.0 -0.6**
ORIF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
ORIF Oris-en-Rattie 86.75 331 *e*P **P 22 19 24.0 -0.6**
comp=Z,8.6nm,1.0s,mb4.9
ROSF Rostrenen 86.79 338 *e*P **P 22 19 24.5 -0.3**
comp=Z,21nm,0.7s,mb5.2
ROSF Rostrenen 86.79 338 *e*P **P 22 19 24.5 -0.3**
ROSF pmax pmax
comp=Z,11nm,0.7s,mb5.2
ROSF Rostrenen 86.79 338 *e*P **P 22 19 24.5 -0.3**
comp=Z,10nm,0.7s,mb5.2
TCF Toulx Ste Croi 86.88 334 *e*P **P 22 19 25.0 -0.2**
comp=Z,5.6nm,0.6s,mb4.7
TCF Toulx Ste Croi 86.88 334 *e*P **P 22 19 25.0 -0.2**
TCF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
TCF Toulx Ste Croi 86.88 334 *e*P **P 22 19 25.0 -0.2**
comp=Z,2.8nm,0.6s,mb4.7
SBF Sospel 87.04 329 *e*P **P 22 19 24.9 -1.1**
comp=Z,82nm,1.0s,mb5.6
SBF Sospel 87.04 329 *e*P **P 22 19 24.9 -1.1**
SBF pmax pmax
comp=Z,41nm,1.0s,mb5.6
SBF Sospel 87.04 329 *e*P **P 22 19 24.9 -1.1**
comp=Z,41nm,1.0s,mb5.6
VIVF Saint-Julien-I 87.25 331 *e*P **P 22 19 26.5 -0.5**
comp=Z,5.2nm,0.6s,mb4.7
VIVF Saint-Julien-I 87.25 331 *e*P **P 22 19 26.5 -0.5**
VIVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
VIVF Saint-Julien-I 87.25 331 *e*P **P 22 19 26.5 -0.5**
comp=Z,2.6nm,0.6s,mb4.6
MFF Saint Martin d 87.39 335 *e*P **P 22 19 27.0 -0.7**
comp=Z,7.8nm,0.6s,mb4.8
MFF Saint Martin d 87.39 335 *e*P **P 22 19 27.0 -0.7**
MFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
MFF Saint Martin d 87.39 335 *e*P **P 22 19 27.0 -0.7**
comp=Z,3.9nm,0.6s,mb4.8
LMR La Mourre 87.85 329 *e*P **P 22 19 29.1 -0.8**
RJF Les Rejaudoux 87.98 334 *e*P **P 22 19 29.7 -0.8**
RJF *e*R
comp=Z,277nm,18.5s
RJF Les Rejaudoux 87.98 334 *e*P **P 22 19 29.7 -0.8**
RJF LR LR
comp=Z,280nm,18.5s,MS4.7
CAF Calviac 88.12 333 *e*P **P 22 19 31.1 -0.1**
LASF Ste Croix 88.22 331 *e*P **P 22 19 31.4 -0.2**
LFF La Frestale 88.56 334 *e*P **P 22 19 33.0 -0.3**
ESDC Sonseca Array 94.83 335 P **P 22 20 01.9 -0.4**
comp=Z,0.7nm,0.5s,mb4.4,baz=16,slow=4.2,SNR=10
RKT Rikitea 99.22 112 *e*PS PS 22 33 06.4 -16
comp=Z,82nm,35.5s
TORD Torodi Ar. Bea 115.64 317 PKP PKPdf 22 25 21.8 -0.7
comp=Z,0.5nm,0.5s,baz=24,slow=1.7,SNR=12
TORD PP PP 22 26 23.6 -1.7
comp=Z,5.4nm,1.1s,baz=31,slow=6.1,SNR=12
DBIC Dimbokro 124.49 319 PKP PKPdf 22 25 39.5 -0.1
comp=Z,2.2nm,0.7s,baz=281,slow=2.9,SNR=9.4
DBIC Dimbokro 124.49 319 PKP PKPdf 22 25 39.5 -0.1
LIC Lamto 124.96 319 *e*PKIKP PKPdf 22 25 39.8 -0.6
comp=Z,16nm,1.1s
LPAZ La Paz 144.41 57 PKP PKPdf 22 26 15.1 -1.5
comp=Z,0.9nm,0.4s,baz=334,slow=2.4,SNR=8.0
LPAZ La Paz 144.41 57 PKP PKPdf 22 26 15.1 -1.5
VNA2 Neumayer--Watz 145.51 197 *e*PKPdf PKPdf 22 26 16.9 -1.5
baz=113,slow=1.3
VNA2 *e* 22 26 18.9
VNA2 *e* 22 26 20.2
VNA2 *e* 22 26 30.7
VNA2 *e* 22 26 33.1
VNA2 *e* 22 26 37.7
VNA2 *e* 22 26 41.4
VNA2 *e* 22 26 45.4
VNA2 *e* 22 26 48.2
VNA3 Neumayer Olymp 145.76 196 *e*PKPdf PKPdf 22 26 17.3 -1.6
VNA3 *e* 22 26 19.1
VNA3 *e* 22 26 20.8
PLCA Paso Flores 155.00 102 PKPbc PKPbc 22 26 41.7 -0.3
comp=Z,1.3nm,0.9s,baz=242,slow=3.9,SNR=3.5
PLCA PKPab PKPab 22 26 56.2 -1.4
comp=Z,1.1nm,0.7s,baz=340,slow=3.4,SNR=3.7
PLCA Paso Flores 155.00 102 PKP2 PKPab 22 26 56.2 -1.4
PLCA pmax pmax
comp=Z,1.0nm,0.7s

*NNC **11** 22:31:48.9±4.3, 3973N×7502E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=42.4km s-min=37.2km az=45.0*
*ISCJB **11** 22:31:51.3±3.6, 392N±03×744E±0.1, h33km, Error ellipse: s-maj=37.0km s-min=14.2km az=15.8*
ISC 11 22:31:52.3±3.7, 392N±03×745E±0.1, h35km, n12, σ0°47/13, 4C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart** SNR=37	**2.93**	**11**	P	**Pn**		**22 32 36.3**	**-0.1**
AML	**Almayashu** SNR=27	**3.00**	**348**	P	**Pn**		**22 32 37.4**	**+0.2**
UCH	**Uchtor** SNR=37	**3.03**	**0**	P	**Pn**		**22 32 37.7**	**0.0**
ULHL	**Ulahol** SNR=12	**3.32**	**23**	P	**Pn**		**22 32 41.1**	**-0.6**
AAK	**Ala-Archa** SNR=23	**3.43**	**360**	P	**Pn**		**22 32 43.5**	**+0.2**
KBK	**Karagaybulak** SNR=27	**3.47**	**5**	P	**Pn**		**22 32 44.1**	**+0.3**
CHMS	**Chumysh** SNR=8.0	**3.80**	**3**	P	**Pn**		**22 32 48.4**	**+0.1**
TKM2	**Tokmak 2** SNR=11	**3.81**	**12**	P	**Pn**		**22 32 48.5**	**+0.1**
TKM2	**Tokmak 2** 9.6nm,0.7s	**3.81**	**12**	⇑Pg	**Pn**		**22 32 48.5**	**+0.1**
TKM2	7.7nm,0.6s			⇑Lg			22 33 30.4	
USP	**Ospenovka** SNR=6.2	**4.07**	**360**	P	**Pn**		**22 32 57.0**	**+5.0**
KK31	**Karatay Array** 0.7nm,0.5s,baz=128,slow=12,SNR=24	**4.93**	**324**	Pn	**Pn**		**22 33 04.8**	**+1.0**
KK31	0.7nm,0.3s,baz=161,slow=25,SNR=4.2			⇑Sn	**Sn**		**22 33 59.4**	**-0.2**
KK31	2.7nm,0.6s,baz=132,slow=28,SNR=4.4			⇑Lg			22 34 20.3	
AB31	**Akbulak array** 1.7nm,1.1s,baz=131,slow=13,SNR=5.6	**14.47**	**319**	⇓Pn	**Pn**		**22 35 13.5**	**-1.0**

*NEIC **11** 22:50:34.5±0.4, 694S×12492E, h500km, mb4.1/11, Error ellipse: s-maj=20.7km s-min=7.2km az=71.0*
*ISCJB **11** 22:50:35.7±1.3, 698S±009×1248E±0.1, h533km±19km, mb3.7/12, Error ellipse: s-maj=23.7km s-min=9.5km az=129.6*
*IDC **11** 22:50:37.8±2.3, 696S×125.17E, h548km±27km, mb3.2/6, mb1 3.4/8, mb1mx3.3/16, mbtmp4.2/8, Error ellipse: s-maj=47.0km s-min=10.2km az=69.0*
ISC 11 22:50:37.2±1.0, 706S±008×1249E±01, h543km±14km, n23, σ0°76/24, mb3.7/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 15nm,0.6s	**9.29**	**128**	*e*P		**P**	**22 52 48.9**	**+1.2**
FITZ	**Fitzroy Crossi** 14nm,0.6s	**11.00**	**176**	*e*P		**P**	**22 53 05.7**	**+0.4**
MBWA	**Marble Bar** 5.9nm,0.8s	**14.88**	**199**	*e*P		**P**	**22 53 44.5**	**-1.0**
WRAB	**Tennant Creek** 8.8nm,0.3s	**15.73**	**145**	*e*P		**P**	**22 53 54.3**	**+0.1**
WRA	**Warramunga Arr** 3.4nm,0.3s,baz=326,slow=11,SNR=171	**15.73**	**145**	P		**P**	**22 53 52.7**	**-1.6**
WRA	0.1nm,0.3s,baz=323,slow=17,SNR=5.7			S		**S**	**22 56 34.8**	**-1.0**
WB2	**Warramunga Arr**	**15.74**	**145**	*e*P		**P**	**22 53 54.3**	**0.0**
ASAR	**Alice Springs** 1.6nm,0.3s,baz=330,slow=9.1,SNR=81	**18.63**	**153**	P		**P**	**22 54 22.2**	**+1.1**
ASAR	0.1nm,0.3s,baz=347,slow=23,SNR=6.8			S		**S**	**22 57 24.5**	**+1.3**
ASAR	0.1nm,0.3s,baz=332,slow=1.5,SNR=6.1			ScP		ScP	23 01 04.8	-1.1
NWAO	**Narrogin (SRO)** 7.6nm,1.0s,mb4.3	**26.71**	**194**	*e*P		**P**	**22 55 33.5**	**+0.1**
STKA	**Stephens Creek** 3.5nm,0.9s,mb4.0	**29.18**	**150**	*e*P		**P**	**22 55 54.0**	**-0.9**
STKA	**Stephens Creek** 2.2nm,0.3s,mb4.3,baz=326,slow=8.9,SNR=17	**29.18**	**150**	P		**P**	**22 55 54.0**	**-0.9**
ENH	**Enshi** 4.4nm,0.8s,mb4.0	**39.97**	**339**	P		**P**	**22 57 25.1**	**+0.2**
MJAR	**Matsushiro Arr** 2.2nm,0.9s,mb3.7,baz=192,slow=8.6,SNR=6.7	**45.13**	**15**	P		**P**	**22 58 04.4**	**-1.0**
LSA	**Lhasa** 3.1nm,0.7s,mb4.0	**48.88**	**320**	*e*P		**P**	**22 58 34.1**	**+0.5**
ULN	**Ulaanbaatar** 3.1nm,1.1s,mb3.5	**56.92**	**346**	*e*P		**P**	**22 59 31.1**	**+0.3**
SONM	**Songino Array** 1.0nm,0.7s,mb3.1,baz=161,slow=7.6,SNR=8.5	**57.06**	**345**	P		**P**	**22 59 32.3**	**+0.5**
MKAR	**Makanchi Array** 1.6nm,0.6s,mb3.7,baz=128,slow=7.9,SNR=12	**65.61**	**329**	P		**P**	**23 00 28.1**	**+0.4**
AAK	**Ala-Archa** 1.4nm,0.8s,mb3.5	**67.40**	**322**	*e*P		**P**	**23 00 38.6**	**-0.2**
ZAL	**Zalesovo** 1.1nm,0.4s,mb3.8,baz=332,slow=12,SNR=6.5	**69.50**	**336**	P		**P**	**23 00 50.9**	**-0.5**
ZAL	**Zalesovo** 2.9nm,0.7s,mb3.9	**69.50**	**336**	P		**P**	**23 00 50.9**	**-0.5**
KURK	**Kurchatov** 0.7nm,0.7s,mb3.2,baz=353,slow=8.1,SNR=4.1	**70.02**	**331**	*e*P		**P**	**23 00 54.1**	**-0.5**
VNDA	**Vanda**	**73.03**	**172**	P		**P**	**23 01 12.5**	**+0.4**
VNDA	**Vanda**	**73.03**	**172**	P		**P**	**23 01 12.5**	**+0.4**
TORD	**Torodi Ar. Bea** 0.7nm,1.1s,baz=116,slow=3.4,SNR=3.5	**123.87**	**281**	PKP		PKPdf	23 08 34.3	+0.6

IDC 11 23:05:50.8±8.9, 547S×15156E, h81km±62km, mb3.6/2, mb1 3.8/3, mb1mx3.4/13, mbtmp3.9/3, ML2.7/1, Error ellipse: s-maj=114.0km s-min=55.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.4nm,0.3s,baz=77,slow=17,SNR=3.6	**5.86**	**228**	P		Pn	23 07 14.6	-0.5
PMG	2.6nm,0.3s,baz=252,slow=20,SNR=4.5			S		Sn	23 08 23.0	+2.2
WRA	**Warramunga Arr** 2.2nm,0.6s,baz=53,slow=10,SNR=15	**22.08**	**228**	P		P	23 10 39.1	0.0
ASAR	**Alice Springs** 2.8nm,0.8s,baz=56,slow=9.0,SNR=25	**24.83**	**221**	P		P	23 11 05.2	-0.2
TORD	**Torodi Ar. Bea** 0.9nm,0.7s,baz=67,slow=2.5,SNR=5.7	**149.33**	**287**	PKPbc		PKPbc	23 25 31.7	+1.4

MAN 11 23:11:37.2, 1265N×12355E, h10km, mb3.5, ML4.7, MS1.8, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.29**	**165**⇑	*e*P		Pg	23 11 44.0	+0.9
MMPH				*i* S		Sg	23 11 49.0	+1.9
AUQP	**San Andres**	**1.08**	**309**	*e*P		Pb	23 11 58.8	+0.8
CNP	**Cataman**	**1.10**	**97**	*e*P		Pb	23 11 57.9	-0.4
CNP				*e*S		Sg	23 12 14.3	+1.7
PVCP	**Virac**	**1.12**	**32**	*e*P		Pb	23 11 57.1	-1.4
RCP	**Roxas**	**1.33**	**216**⇓	*e*P		Pn	23 12 01.2	-0.6
RCP				*e*S		Sb	23 12 19.9	+0.6
OTRP	**Odiongan**	**1.52**	**259**	*e*P		Pn	23 12 04.4	0.0
GQP	**Guinayangan**	**1.65**	**320**⇓	*e*P		Pn	23 12 05.7	-0.5
GQP				*i* S		Sn	23 12 30.2	+2.8
BOAC	**Boac**	**1.84**	**296**	*e*P		Pn	23 12 07.6	-1.3
PLP	**Palo**	**2.03**	**136**	*e*P		Pn	23 12 11.9	+0.4
PLP				*i* S		Sn	23 12 39.5	+2.6
GUIM	**Jordan**	**2.21**	**205**	*e*P		Pn	23 12 16.0	+2.0
LLP	**Lapu-Lapu**	**2.35**	**170**	*e*P		Pn	23 12 15.5	-0.3
LLP				*i* S		Sn	23 12 49.1	+4.4
LQP	**Lukban**	**2.44**	**307**	*e*P		Pn	23 12 08.4	-8.6

*PRE **11** 23:20:57.2±1.6, 2243S×3471E, h5km, ML4.9*
*ISCJB **11** 23:21:05.3±0.6, 2132S±007×3304E±008, h10km, mb3.8/5, MS3.0/1, Error ellipse: s-maj=13.5km s-min=6.2km az=82.6*
*IDC **11** 23:21:06.8±1.0, 2131S×33.14E, h0km, mb3.7/6, mb1 4.1/11, mb1mx3.9/27, mbtmp4.0/11, ML4.1/5, MS3.4/3, Ms1 3.3/3, ms1mx3.0/22, Error ellipse: s-maj=27.2km s-min=20.1km az=129.0*
*NEIC **11** 23:21:07.7±0.7, 2129S×3307E, h10km, Error ellipse: s-maj=17.3km s-min=11.5km az=143.0*
ISC 11 23:21:07.5±0.6, 2135S±007×3308E±008, h10km, n22, σ1°24/31, mb3.8/5, MS3.0/1, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.21**	**224**	*e*P		**Pn**	**23 22 38.0**	**-1.2**
SLR				*e*S		**Sn**	**23 23 51.3**	**+1.1**
SLR				AML		AML	23 24 29.7	
comp=Z,250nm,0.5s								
KSR	**Koster**	**7.23**	**230**	*e*P		**Pn**	**23 22 53.5**	**+0.3**
LSZ	**Lusaka**	**7.62**	**322**	Pn		**Pn**	**23 22 57.4**	**-1.2**
comp=Z,2.4nm,0.3s,baz=149,slow=14,SNR=59								
LSZ				Sn		**Sn**	**23 24 18.3**	**-6.6**
comp=Z,15nm,0.3s,baz=223,slow=19,SNR=17								
LSZ				Lg			23 25 01.1	
comp=Z,21nm,0.3s,baz=39,slow=20,SNR=3.6								
LSZ				LR		LR	23 26 13.5	
comp=Z,119nm,21.1s,baz=317,slow=40								
LSZ	**Lusaka**	**7.62**	**322**	Pn		**Pn**	**23 22 57.4**	**-1.2**
LSZ				Sn		**Sn**	**23 24 18.3**	**-6.6**
LSZ				Lg			23 25 01.1	
LSZ				LR		LR	23 26 13.5	
LBTB	**Lobatse**	**7.79**	**241**	Pn		**Pn**	**23 23 02.5**	**+1.5**
comp=Z,3.5nm,0.3s,baz=67,slow=13,SNR=56								
LBTB				Sn		**Sn**	**23 24 29.6**	**+0.3**
comp=Z,5.4nm,0.3s,baz=312,slow=17,SNR=5.4								
LBTB				Lg			23 25 07.7	
comp=Z,5.9nm,0.3s,baz=348,slow=19,SNR=5.8								
BOSA	**Boshof**	**10.13**	**223**	Pn		**Pn**	**23 23 33.4**	**+0.4**
comp=Z,1.7nm,0.3s,baz=47,slow=13,SNR=28								
BOSA				Sn		**Sn**	**23 25 24.1**	**-2.7**
comp=Z,2.0nm,0.3s,baz=336,slow=15,SNR=3.7								
BOSA				Lg			23 26 20.4	
comp=Z,2.6nm,0.3s,baz=103,slow=13,SNR=4.6								
BOSA				LR		LR	23 27 44.7	
comp=Z,239nm,20.6s,baz=350,slow=39								
BOSA	**Boshof**	**10.13**	**223**	*e*Pn		**Pn**	**23 23 33.4**	**+0.3**
comp=Z,11nm,0.7s								
BOSA				*e*Sn		**Sn**	**23 25 22.4**	**-4.3**
BOSA				Sn		**Sn**	**23 25 24.1**	**-2.7**
PKA	**Prieska**	**12.47**	**226**	*e*P		**Pn**	**23 24 04.8**	**-0.2**
OPO	**Ambohidratompo**	**13.55**	**81**	Pn		**Pn**	**23 24 17.9**	**-1.8**
comp=Z,0.2nm,0.3s,baz=259,slow=18,SNR=2.8								
OPO				Sn		**Sn**	**23 26 42.4**	**-7.9**
comp=Z,1.9nm,0.3s,baz=154,slow=20,SNR=6.0								
TSUM	**Tsumeb**	**14.70**	**276**	Pn		**Pn**	**23 24 33.3**	**-2.2**
comp=Z,0.6nm,0.3s,baz=105,slow=9.3,SNR=16								
TSUM				Sn		**Sn**	**23 27 11.3**	**-7.1**
comp=Z,1.1nm,0.3s,baz=45,slow=23,SNR=7.7								
TSUM				Lg			23 28 46.6	
comp=Z,2.2nm,0.3s,baz=24,slow=4.2,SNR=4.8								
TSUM				LR		LR	23 30 15.8	
comp=Z,254nm,19.4s,baz=136,slow=37								
TSUM	**Tsumeb**	**14.70**	**276**	Pn		**Pn**	**23 24 33.3**	**-2.2**
TSUM				Sn		**Sn**	**23 27 11.3**	**-7.1**
TSUM				Lg			23 28 46.6	
TSUM				LR		LR	23 30 15.8	
SUR	**Sutherland**	**15.50**	**222**	Pn		**Pn**	**23 24 46.8**	**+0.7**
comp=Z,1.4nm,0.3s,baz=53,slow=15,SNR=15								
SUR				Sn		**Sn**	**23 27 32.6**	**-5.2**
comp=Z,0.4nm,0.3s,baz=99,slow=19,SNR=2.6								
SUR				Lg			23 29 19.5	
comp=Z,0.7nm,0.3s,baz=305,slow=22,SNR=4.7								
CER	**Ceres**	**17.11**	**223**	*e*P		**Pn**	**23 25 04.9**	**-1.8**
KMBO	**Kilima Mbogo**	**20.50**	**12**	P		**P**	**23 25 45.5**	**-0.2**
comp=Z,0.4nm,0.3s,baz=214,slow=21,SNR=4.1								
KMBO				Lg			23 31 49.6	
comp=Z,3.0nm,0.8s,baz=266,slow=23,SNR=4.2								
KMBO	**Kilima Mbogo**	**20.50**	**12**	P		**P**	**23 25 45.5**	**-0.2**
KMBO				Lg			23 31 49.6	
KMBO				LR		LR		
comp=Z,65nm,19.0s,MS3.0								
TORD	**Torodi Ar. Bea**	**46.10**	**315**	P		**P**	**23 29 32.9**	**+1.1**
comp=Z,1.5nm,0.7s,mb4.0,baz=125,slow=7.0,SNR=13								
BRTR	**Keskin Array B**	**60.75**	**0**	P		**P**	**23 31 20.3**	**+0.9**
comp=Z,0.2nm,0.6s,mb3.4,baz=162,slow=14,SNR=2.6								
GERES	**GERESS Array B**	**71.98**	**347**	P		**P**	**23 32 33.1**	**+1.8**
comp=Z,0.6nm,0.8s,mb3.6,baz=177,slow=7.6,SNR=4.0								
MKAR	**Makanchi Array**	**81.05**	**32**	P		**P**	**23 33 22.4**	**-0.3**
comp=Z,0.5nm,0.6s,mb3.6,baz=227,slow=6.4,SNR=4.7								
ASAR	**Alice Springs**	**90.92**	**116**	P		**P**	**23 34 13.1**	**+1.6**
comp=Z,0.9nm,0.8s,mb4.1,baz=247,slow=4.9,SNR=6.9								
YKA	**Yellowknife Ar**	**133.34**	**340**	PKP		PKPdf	23 40 24.5	+0.7
comp=Z,0.4nm,0.6s,baz=38,slow=2.1,SNR=9.2								
NVAR	**Mina Array Bea**	**150.08**	**311**	PKPbc		PKPbc	23 41 01.1	+2.7
comp=Z,0.6nm,0.4s,baz=89,slow=4.3,SNR=6.9								

MOS 11 23:23:04.0±1.0, 4338N×4510E, h30km, mb3.6/1, Error ellipse: s-maj=24.0km s-min=12.7km az=146.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.38**	**214**	*i* PG		Pb	23 23 13.3	+0.8
SNJR				*e*S		Sb	23 23 20.3	+2.0
BTKR	**Batakoyurt**	**0.41**	**269**	*i* PG		Pb	23 23 14.0	+1.0
BTKR				*e*S		Sb	23 23 21.2	+2.1
VLKR	**Vladikavkaz**	**0.46**	**223**	*e*PG		Pb	23 23 14.7	+1.0
VLKR				*i* S		Sb	23 23 22.4	+2.1
KMSR	**Komsomolskaya**	**0.59**	**269**	*e*PG		Pb	23 23 17.0	+1.1
KMSR				*e*S		Sb	23 23 26.4	+2.5
ARNR	**Ardon**	**0.63**	**253**	*e*PG		Pb	23 23 17.6	+1.1
ARNR				*e*S		Sb	23 23 27.5	+2.5
PRTR	**Priterechnaya**	**0.70**	**302**	*i* PG		Pb	23 23 19.0	+1.3
PRTR				*i* S		Sb	23 23 29.9	+2.8
LACR	**Lac**	**0.81**	**227**	*e*PG		Pn	23 23 20.5	+1.2
LACR				*e*S		Sb	23 23 32.6	+2.5
KORR	**Kora**	**0.81**	**249**	*e*PG		Pn	23 23 20.6	+1.3
KORR				*e*S		Sb	23 23 32.7	+2.6
LSNR	**Lesken**	**0.94**	**264**	*e*PG		Pn	23 23 22.7	+1.5
LSNR				*e*S		Sn	23 23 36.3	+2.7
ZEI	**Tsey**	**1.07**	**236**	*e*PG		Pn	23 23 24.5	+1.6
ZEI				*e*S		Sn	23 23 39.4	+2.6

CASC 11 23:38:51.6±2.4, 1123N×8609W, h75km±8km, MD3.7, 11C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.25**	**76**⇑	*i* P		Pn	23 39 03.9	+0.8
SSNN				*e*S		Sn	23 39 12.7	+1.2
CONN	**Concepcion**	**0.57**	**54**⇑	*i* P		Pn	23 39 05.5	-0.1
CONN				*e*S		Sn	23 39 18.3	+2.5
MADN	**Villa Maderas**	**0.58**	**72**⇑	*i* P		Pn	23 39 05.8	+0.1
MADN				*e*S		Sn	23 39 15.3	-0.6
APON	**Apoyo**	**0.69**	**2**	*e*P		Pn	23 39 06.8	+0.1
APON				*e*S		Sn	23 39 17.9	0.0
MASN	**Masaya**	**0.76**	**356**	*e*P		Pn	23 39 07.6	+0.1
MASN				⇑*e*P			23 39 07.9	
MASN				*e*S		Sn	23 39 19.5	+0.2
TICN	**Ticuantepe**	**0.81**	**350**⇓	*e*P		Pn	23 39 08.8	+0.7
TICN				*e*S		Sn	23 39 20.9	+0.4
MGAN	**Managua**	**0.93**	**351**⇓	*e*P		Pn	23 39 09.8	+0.3
MGAN				*e*S		Sn	23 39 23.1	+0.3
WILN	**Americas 2**	**0.93**	**354**⇓	*e*P		Pn	23 39 09.6	+0.1
WILN				*e*S		Sn	23 39 23.8	+0.8
XAVN	**Gruta Xavier**	**0.94**	**346**⇓	*e*P		Pn	23 39 10.2	+0.5
XAVN				*e*S		Sn	23 39 23.6	+0.4
LIM1	**Limonal**	**0.98**	**122**⇓	*i* P		Pn	23 39 09.8	-0.2
LIM1				*e*S		Sn	23 39 24.4	+0.6
APYN	**Apoyeque**	**1.03**	**346**⇑	*e*P		Pn	23 39 11.2	+0.4
APYN				*e*S		Sn	23 39 27.4	+2.3
COPN	**Copaltepe**	**1.07**	**333**⇑	*e*P		Pn	23 39 11.7	+0.6
COPN				*e*S		Sn	23 39 26.7	+0.9
VCR	**Vista de Mar**	**1.18**	**157**⇓	*i* P		Pn	23 39 13.0	+0.3
VCR				*e*S		Sn	23 39 27.2	-1.1
MOMJ	**Momotombo**	**1.25**	**340**⇑	*e*P		Pn	23 39 13.7	+0.1
MOMJ				*e*S		Sn	23 39 29.6	-0.4
MIRN	**Miramar**	**1.35**	**333**⇑	*e*P		Pn	23 39 15.5	+0.8
MIRN				*e*S		Sn	23 39 32.5	+0.3
CNGN	**Cerro Negro**	**1.40**	**335**⇓	*e*P		Pn	23 39 15.9	+0.6
CNGN				*e*S		Sn	23 39 35.3	+2.0
LEON	**Leon**	**1.42**	**327**⇓	*e*P		Pn	23

LFRS	**El Faro**	**3.75 310**	*e*P	Pn	23 39 51.3	+4.2
LFRS			*e*S	Sn	23 40 32.6	+2.5
BOQS	**Boqueron**	**3.99 309**	*e*P	Pn	23 39 54.9	+4.6
BOQS			*e*S	Sn	23 40 39.2	+3.4

*IDC **11** 23:49:17.7±1.2, 24.16N×127.24E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=44.8km s-min=18.9km az=81.0*
*ISCJB **11** 23:49:20.0±0.6, 24.22N±004×126.96E±004, h33km, mb3.6/5, Error ellipse: s-maj=6.9km s-min=3.7km az=112.6*
*JMA **11** 23:49:21.0±0.3, 24.32N×126.84E, h103km, M2.8*
*NEIC **11** 23:49:22.5±0.7, 24.19N×127.32E, h35km, mb3.8/1, Error ellipse: s-maj=31.4km s-min=12.5km az=84.0*

ISC 11 23:49:21.8±0.6, 2426N±004×12693E±004, h35km, n21, σ0:89/32, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.48**	**290**	P	**Pn**	**23 49 45.9**	**+0.1**
JOGS				*e*S	**Sn**	**23 50 05.7**	**+1.8**
JMJ	**Miyako jima 2**	**1.59**	**291**	*e*S	**Sn**	**23 50 08.0**	**+1.3**
JJT2	**Tamagusuku 2**	**2.02**	**21**	P	**Pn**	**23 49 54.3**	**+1.0**
JKE	**Kume jima 2**	**2.06**	**356**	P	**Pn**	**23 49 54.0**	**+0.1**
JKE				*e*S	**Sn**	**23 50 18.2**	**-0.2**
JTJ	**Tarama**	**2.06**	**281**	P	**Pn**	**23 49 53.7**	**-0.3**
JTJ				*e*S	**Sn**	**23 50 17.5**	**-1.0**
JAGN	**Aguni-jima**	**2.34**	**7**	P	**Pn**	**23 49 58.1**	**+0.4**
JAGN				*e*S	**Sn**	**23 50 25.7**	**+0.5**
JIJ	**Ishigaki jima**	**2.54**	**273**	P	**Pn**	**23 50 00.4**	**-0.2**
JIJ				*e*S	**Sn**	**23 50 29.1**	**-1.2**
JKRS	**Kuro-shima**	**2.67**	**270**	P	**Pn**	**23 50 02.1**	**-0.1**
JKRS				*e*S	**Sn**	**23 50 33.1**	**-0.2**
JOW	**Kunigami**	**2.84**	**25**	Pn	**Pn**	**23 50 04.1**	**-0.5**
	6.9nm,0.3s,baz=196,slow=13,SNR=27						
JOW				Sn	**Sn**	**23 50 38.1**	**+0.6**
	15nm,0.3s,baz=202,slow=19,SNR=8.4						
JOW	**Kunigami**	**2.84**	**25**	P	**Pn**	**23 50 05.3**	**+0.7**
JOW				*e*S	**Sn**	**23 50 38.3**	**+0.8**
HATJ	**Hateruma jima**	**2.86**	**267**	P	**Pn**	**23 50 05.4**	**+0.5**
IRIF	**Iriomote-Funau**	**2.92**	**272**	*e*S	**Sn**	**23 50 37.8**	**-1.8**
JIH	**Iheya**	**2.92**	**18**	P	**Pn**	**23 50 05.9**	**+0.2**
JIH				*e*S	**Sn**	**23 50 38.7**	**-0.9**
JTK	**Tokunoshima**	**3.96**	**27**	P	**Pn**	**23 50 19.9**	**-0.1**
JTK				*e*S	**Sn**	**23 51 04.9**	**-0.2**
JAM	**Amami Oshima**	**4.78**	**30**	P	**Pn**	**23 50 30.8**	**-0.5**
JAM				*e*S	**Sn**	**23 51 23.3**	**-2.2**
SONM	**Songino Array**	**28.62**	**330**	P	**P**	**23 55 19.0**	**+4.2**
	0.5nm,0.4s,mb3.6,baz=144,slow=11,SNR=16						
MKAR	**Makanchi Array**	**42.01**	**314**	P	**P**	**23 57 11.8**	**+2.2**
	0.4nm,0.4s,mb3.4,baz=88,slow=8.7,SNR=4.7						
MKAR	**Makanchi Array**	**42.01**	**314**	P	**P**	**23 57 11.8**	**+2.2**
WRAB	**Tennant Creek**	**44.51**	**170**	P	**P**	**23 57 29.7**	**-0.2**
	1.4nm,0.8s,mb3.8						
WRA	**Warramunga Arr**	**44.52**	**170**	P	**P**	**23 57 29.7**	**-0.2**
	1.2nm,0.7s,mb3.9,baz=351,slow=8.8,SNR=8.8						
ASAR	**Alice Springs**	**48.12**	**171**	P	**P**	**23 57 58.5**	**+0.4**
	0.3nm,0.5s,mb3.6,baz=356,slow=13,SNR=6.4						

*ISCJB **11** 23:57:10.5±1.1, 109N±02×94.6E±03, h10km, mb3.6/6, Error ellipse: s-maj=48.2km s-min=12.0km az=108.0*
*IDC **11** 23:57:11.5±1.3, 1092N×9481E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=54.2km s-min=19.8km az=57.0*
*NEIC **11** 23:57:12.6±0.9, 1094N×9472E, h10km, mb3.9/3, Error ellipse: s-maj=39.4km s-min=10.7km az=53.0*

ISC 11 23:57:12.9±1.1, 110N±02×947E±03, h10km, n13, σ1:01/13, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**18.43**	**336**	*e*P	**Pn**	**00 01 29.6**	**+1.2**
PKI	**Pulchoki**	**18.68**	**333**	*e*P	**Pn**	**00 01 31.9**	**+0.4**
GUN	**Gumba**	**18.78**	**335**	*e*P	**Pn**	**00 01 31.3**	**-1.3**
DMN	**Daman**	**18.85**	**333**	*e*P	**Pn**	**00 01 34.3**	**+0.8**
	16nm,0.8s						
KKN	**Kakani**	**18.93**	**334**	*e*P	**Pn**	**00 01 33.7**	**-0.8**
GKN	**Gorkha**	**19.40**	**332**	*e*P	**Pn**	**00 01 38.5**	**-1.6**
	12nm,0.8s						
KOLN	**Koldanda**	**19.70**	**330**	*e*P	**Pn**	**00 01 42.8**	**-0.9**
	10nm,0.7s						
MKAR	**Makanchi Array**	**37.23**	**346**	P	**P**	**00 04 24.4**	**-0.1**
	0.6nm,0.6s,mb3.6,baz=167,slow=8.9,SNR=5.0						
SONM	**Songino Array**	**38.06**	**13**	P	**P**	**00 04 32.7**	**+1.2**
	0.3nm,0.7s,mb3.1,baz=197,slow=4.5,SNR=3.4						
ZAL	**Zalesovo**	**43.59**	**352**	P	**P**	**00 05 17.1**	**+0.1**
	0.6nm,0.3s,mb3.8,baz=323,slow=18,SNR=2.9						
WRA	**Warramunga Arr**	**49.67**	**128**	P	**P**	**00 06 04.2**	**-0.6**
	0.9nm,0.9s,mb3.8,baz=304,slow=9.1,SNR=8.2						
ASAR	**Alice Springs**	**51.53**	**132**	P	**P**	**00 06 18.6**	**-0.2**
	0.9nm,0.6s,mb3.9,baz=308,slow=6.7,SNR=15						
BRTR	**Keskin Array B**	**60.86**	**309**	P	**P**	**00 07 27.4**	**+2.0**
	0.4nm,0.8s,mb3.6,baz=92,slow=8.7,SNR=3.5						

IDC 11 23:57:31.4±3.1, 1045N×9360E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=126.0km s-min=22.2km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.46**	**325**	*e*P	Pn	23 57 57.0	-2.0
PBA				*e*S	Sg	23 58 20.2	+1.9
PBA				*e*x	x	23 58 39.3	
	comp=N,618nm,0.7s						
PBA				*e*x	x	23 58 42.2	
	comp=E,422nm,0.7s						
MKAR	**Makanchi Array**	**37.47**	**347**	P	P	00 04 46.0	-0.5
	comp=E,0.4nm,0.5s,baz=150,slow=6.7,SNR=3.3						
SONM	**Songino Array**	**38.79**	**14**	P	P	00 04 57.5	-0.2
	comp=E,0.9nm,1.1s,baz=184,slow=5.8,SNR=3.2						
ZAL	**Zalesovo**	**43.94**	**353**	P	P	00 05 40.8	+0.8
	comp=E,0.6nm,0.4s,baz=314,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**50.21**	**127**	P	P	00 06 28.7	-0.3
	comp=E,0.8nm,1.0s,baz=303,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**51.99**	**131**	P	P	00 06 43.5	+1.2
	comp=E,0.6nm,0.6s,baz=307,slow=6.6,SNR=5.0						

*LDG **12** 00:10:03.5±0.7, 14.60S×167.15E, h10km, Mb4.3/2, Error ellipse: s-maj=97.6km s-min=49.8km az=41.0*
*NEIC **12** 00:10:20.9±0.4, 14.67S×167.40E, h150km, mb4.0/5, Error ellipse: s-maj=16.6km s-min=10.4km az=130.0*
*ISCJB **12** 00:10:24.4±3.2, 148S±02×167.3E±0.1, h202km±28km, mb3.7/10, Error ellipse: s-maj=25.9km s-min=22.4km az=44.4*
*IDC **12** 00:10:24.0±3.9, 1480S×167.40E, h185km±34km, mb3.6/8, mb1 3.7/9, mb1mx3.6/16, mbtmp4.1/9, Error ellipse: s-maj=25.9km s-min=23.2km az=13.0*

ISC 12 00:10:24.3±3.1, 148S±02×167.5E±01, h190km±27km, n35, σ0:80/18, mb3.9/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.33**	**187**	P	**Pn**	**00 12 08.3**	**-0.3**
	1.5nm,0.3s,baz=171,slow=20,SNR=20						
DZM				S	**Sn**	**00 13 31.8**	**+0.4**
	1.1nm,0.3s,baz=139,slow=19,SNR=4.0						
CTA	**Charters Tower**	**20.91**	**252**	P	**P**	**00 14 52.3**	**+0.5**
	4.4nm,0.5s,baz=104,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**20.91**	**252**	*e*P	**P**	**00 14 53.5**	**+1.6**
	4.7nm,0.6s						
STKA	**Stephens Creek**	**29.11**	**230**	*e*P	**P**	**00 16 07.3**	**+0.2**
	1.5nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**29.11**	**230**	P	**P**	**00 16 06.5**	**-0.6**
	1.8nm,0.5s,mb4.1,baz=50,slow=8.4,SNR=8.5						
WB2	**Warramunga Arr**	**31.98**	**256**	*e*P	**P**	**00 16 31.7**	**-0.7**
WRAB	**Tennant Creek**	**31.98**	**256**	*e*P	**P**	**00 16 31.8**	**-0.6**
	4.3nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**32.00**	**256**	P	**P**	**00 16 31.7**	**-0.8**
	0.7nm,0.5s,mb3.7,baz=84,slow=8.7,SNR=16						
AS31	**Alice Springs**	**32.83**	**249**	*e*P	**P**	**00 16 39.4**	**-0.3**
ASAR	**Alice Springs**	**32.83**	**249**	P	**P**	**00 16 39.4**	**-0.4**
	0.9nm,0.3s,mb3.9,baz=79,slow=9.1,SNR=29						
ASAR				PcP	PcP	00 19 21.2	+1.3
	0.5nm,0.7s,baz=76,slow=2.8,SNR=4.7						
ASPA	**Alice Springs**	**32.84**	**249**	*e*P	**P**	**00 16 39.4**	**-0.4**
MBWA	**Marble Bar**	**45.71**	**255**	P	**P**	**00 18 27.6**	**+1.4**
	0.7nm,0.4s,mb3.6						
VNDA	**Vanda**	**62.83**	**181**	P	**P**	**00 20 28.9**	**-0.7**
	1.4nm,0.5s,mb4.0,baz=324,slow=10,SNR=4.7						
QSPA	**South Pole Qui**	**75.26**	**180**	P	**P**	**00 21 47.0**	**+0.9**
	2.2nm,0.8s,mb3.8						
SONM	**Songino Array**	**82.64**	**324**	P	**P**	**00 22 27.2**	**+1.0**
	0.4nm,0.5s,mb3.4,baz=142,slow=4.4,SNR=8.1						
ILAR	**Eielson Array**	**86.50**	**18**	P	**P**	**00 22 44.4**	**-1.2**
	0.8nm,0.8s,mb3.6,baz=243,slow=4.8,SNR=6.6						
MKAR	**Makanchi Array**	**97.36**	**316**	P	**P**	**00 23 36.9**	**+1.1**
	0.7nm,0.6s,mb4.2,baz=79,slow=6.3,SNR=5.2						
ARCES	**ARCESS Array B**	**120.33**	**345**	PKP	PKPdf	00 28 52.8	+0.1
	2.6nm,0.7s,baz=77,slow=2.5,SNR=7.8						
FINES	**FINESS Array B**	**125.83**	**338**	PKP	PKPdf	00 29 03.9	+0.6
	2.1nm,1.1s,baz=240,slow=1.5,SNR=4.6						
FLN	**La Foliniere**	**144.68**	**346**	*e*PKP1	PKPdf	00 29 37.9	-0.2
	18nm,0.9s						
LDF	**La Druitiere**	**144.75**	**346**	*e*PKP1	PKPdf	00 29 38.8	+0.6
LOR	**Lormes**	**144.84**	**340**	*e*PKP1	PKPdf	00 29 40.4	+2.0
	10nm,1.0s						
GRR	**Gorron**	**145.12**	**346**	*e*PKP1	PKPbc	00 29 39.7	+0.9
	12nm,0.7s						
SSF	**Saint Saulge**	**145.13**	**341**	*e*PKP1	PKPbc	00 29 40.3	+1.4
	36nm,1.0s						
HYF	**Humbligny**	**145.22**	**342**	*e*PKP1	PKPbc	00 29 41.5	+2.4
LPL	**La Plagne**	**145.30**	**336**	*e*PKP1	PKPbc	00 29 41.3	+1.9
LPG	**La Plagne**	**145.31**	**336**	*e*PKP1	PKPbc	00 29 41.4	+2.0
SMF	**Signal de Mont**	**145.39**	**340**	*e*PKP1	PKPbc	00 29 41.0	+1.3
	11nm,0.9s						
SGMF	**Saint Gilles**	**145.60**	**348**	*e*PKP1	PKPbc	00 29 41.0	+0.7
BGF	**Bois d'Agland**	**145.79**	**341**	*e*PKP1	PKPbc	00 29 42.1	+1.2
MBDF	**Montbardon**	**145.94**	**335**	*e*PKP1	PKPbc	00 29 41.9	+0.6
ORIF	**Oris-en-Rattie**	**146.13**	**336**	*e*PKP1	PKPbc	00 29 43.5	+1.6
	19nm,0.9s						
TCF	**Toulx Ste Croi**	**146.23**	**341**	*e*PKP1	PKPbc	00 29 43.5	+1.3
	13nm,1.0s						
MFF	**Saint Martin d**	**146.61**	**344**	*e*PKP1	PKPbc	00 29 44.5	+1.2
TORD	**Torodi Ar. Bea**	**166.09**	**265**	PKPab	PKPab	00 31 09.8	+1.8
	1.0nm,0.9s,baz=100,slow=3.9,SNR=5.5						

*IDC **12** 00:19:39.3±0.5, 9.10S×124.27E, h0km, mb4.5/9, mb1 4.7/11, mb1mx4.6/16, mbtmp4.6/11, ML5.0/2, MS3.6/5, Ms1 3.5/5, ms1mx3.1/26, Error ellipse: s-maj=31.4km s-min=15.6km az=75.0*
*BJI **12** 00:19:41.3, 9.10S×124.50E, h26km, mB5.3, mb4.9*
*NEIC **12** 00:19:43.3±0.2, 9.07S×124.52E, mb4.7/13, Error ellipse: s-maj=10.5km s-min=4.9km az=70.0*
*MOS **12** 00:19:43.2±1.3, 9.01S×124.31E, h33km, mb4.8/10, Error ellipse: s-maj=24.0km s-min=10.3km az=100.4*
*ISCJB **12** 00:19:46.6±1.3, 9.18S±005×124.61E±007, h79km±13km, mb4.6/34, Error ellipse: s-maj=11.6km s-min=7.9km az=116.1*

ISC 12 00:19:46.1±1.2, 913S±005×12458E±007, h52km±12km, h21km±6.4km: pP-P, n86, σ0:90/76, mb4.7/34, MS3.5/5, 3C-4D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.50**	**115**	*e*P	**Pn**	**00 21 50.7**	**+4.1**
	271nm,0.6s						
KAKA				*e*S	**Sn**	**00 23 21.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**8.98**	**174**	*e*P	**Pn**	**00 21 52.9**	**-0.2**
	36nm,0.3s						
FITZ				*e*S	**Sn**	**00 23 24.9**	**-7.8**
PCI	**Palu**	**9.44**	**330**	P	**Pn**	**00 22 05.9**	**+6.5**
	70nm,0.9s						
MBWA	**Marble Bar**	**12.84**	**201**	*e*Pn	**Pn**	**00 22 46.6**	**+0.8**
	11nm,0.6s						
MBWA				*e*Sn	**Sn**	**00 24 57.2**	**-10**
WRA	**Warramunga Arr**	**14.30**	**140**	Pn	**Pn**	**00 23 04.8**	**-0.9**
	8.5nm,0.3s,baz=321,slow=13,SNR=226						
WRA				Sn	**Sn**	**00 25 34.9**	**-8.0**
	5.5nm,0.3s,baz=310,slow=25,SNR=7.7						
WRAB	**Tennant Creek**	**14.30**	**140**	*d*P	**Pn**	**00 23 05.0**	**-0.7**
WRAB	**Tennant Creek**	**14.30**	**140**	*e*Pn	**Pn**	**00 23 04.9**	**-0.8**
	48nm,0.4s						
WRAB				*e*Sn	**Sn**	**00 25 34.9**	**-7.9**
WB2	**Warramunga Arr**	**14.31**	**140**	*e*P	**Pn**	**00 23 04.9**	**-0.9**
WB2				*e*S	**Sn**	**00 25 31.1**	**-12**
BJII	**Banjamegara**	**14.82**	**276**	P	sP	00 23 30.9	-4.6
	34nm,1.3s						
ASPA	**Alice Springs**	**16.98**	**149**	*e*P	**Pn**	**00 23 39.7**	**-0.3**
ASPA				*e*S	**S**	**00 26 37.9**	**-18**
AS31	**Alice Springs**	**16.99**	**149**	*e*P	**Pn**	**00 23 39.7**	**-0.3**
AS31				*e*S	**S**	**00 26 37.9**	**-18**
ASAR	**Alice Springs**	**16.99**	**149**	P	**Pn**	**00 23 40.0**	**-0.1**
	4.1nm,0.3s,baz=318,slow=11,SNR=85						
ASAR				S	**S**	**00 26 38.1**	**-18**
	2.8nm,0.3s,baz=328,slow=21,SNR=11						
KKM	**Kota Kinabalu**	**17.23**	**331**	*e*P	**Pn**	**00 23 48.5**	**+5.5**
KSM	**Kuching**	**17.69**	**306**	*e*P	**Pn**	**00 23 51.1**	**+2.3**
PMG	**Port Moresby**	**22.29**	**93**	P	pP	00 24 51.0	+0.1
	16nm,0.7s,baz=260,slow=8.7,SNR=7.1						
PMG	**Port Moresby**	**22.29**	**93**	*e*P	pP	00 24 50.8	-0.2
PMG				*e*		00 25 00.7	
KLBR	**Kellerberrin**	**23.23**	**195**	*e*P	**P**	**00 24 48.4**	**-0.5**
	14nm,0.6s,mb4.6						
KLBR				*e*S	**S**	**00 28 57.0**	**+0.2**
CTA	**Charters Tower**	**23.60**	**120**	*e*P	pP	00 25 04.2	-0.7
	6.7nm,0.7s						
CTA	**Charters Tower**	**23.60**	**120**	P	**P**	**00 24 58.5**	**+6.3**
	3.8nm,0.8s,mb3.9,baz=305,slow=19,SNR=2.4						
CTA				LR	LR	00 35 20.5	
	comp=Z,80nm,19.5s,MS3.2,baz=46,slow=39						
MUN	**Mundaring**	**24.02**	**198**	*e*P	**P**	**00 24 56.3**	**+0.2**
MUN				*e*S	**S**	**00 29 21.0**	**+11**
NWAO	**Narrogin (SRO)**	**24.63**	**195**	P	**P**	**00 25 01.4**	**-0.3**
	19nm,1.0s,mb4.6,baz=69,slow=8.3,SNR=5.7						
NWAO	**Narrogin (SRO)**	**24.63**	**195**	*e*P	**P**	**00 25 01.6**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,29nm,1.2s						
NWAO	**Narrogin (SRO)**	**24.63**	**195**	*e*P	**P**	**00 25 01.6**	**-0.1**
	comp=Z,29nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**27.60**	**147**	*e*P	**P**	**00 25 29.5**	**+1.0**
	comp=Z,3.7nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.60**	**147**	P	**P**	**00 25 29.5**	**+1.0**
	comp=Z,4.5nm,0.7s,mb4.2,baz=324,slow=10,SNR=7.3						
STKA				LR	LR	00 38 17.5	
	comp=Z,91nm,18.4s,MS3.4,baz=8.8,slow=40						
STKA	**Stephens Creek**	**27.60**	**147**	*e*P	**P**	**00 25 29.6**	**+1.1**
PSI	**Prapat**	**28.18**	**294**	LR	LR	00 39 29.7	
	comp=Z,71nm,18.9s,MS3.3,baz=307,slow=43						
CNB	**Canberra Magne**	**34.52**	**143**	*e*P	**P**	**00 26 33.9**	**+4.5**
	comp=Z,8.9nm,0.6s,mb4.9						
ENH	**Enshi**	**41.77**	**340**	P	**P**	**00 27 29.4**	**-1.0**
	comp=Z,2.9nm,0.4s,mb4.3						
DZM	**Mont Dzumac**	**42.18**	**113**	LR	LR	00 43 03.8	
	comp=Z,81nm,19.7s,MS3.6,baz=199,slow=33						
MJAR	**Matsushiro Arr**	**47.20**	**15**	P	**P**	**00 28 14.5**	**+0.8**
	comp=Z,4.0nm,0.6s,mb4.5,baz=191,slow=9.2,SNR=16						
LSA	**Lhasa**	**50.26**	**321**	*e*P	**P**	**00 28 38.1**	**+1.0**
LSA	**Lhasa**	**50.26**	**321**	*e*P	**P**	**00 28 38.0**	**+0.9**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
LSA	**Lhasa**	**50.26**	**321**	*e*P	**P**	**00 28 38.0**	**+0.9**
	comp=Z,10nm,0.6s,mb5.0						
JIRN	**Jiri**	**52.14**	**316**	*e*P	**P**	**00 28 50.9**	**-0.3**
	comp=Z,16nm,0.6s,mb5.1						
GUN	**Gumba**	**52.51**	**316**	*e*P	**P**	**00 28 53.7**	**-0.2**
	comp=Z,21nm,0.5s,mb5.3						
PKI	**Pulchoki**	**52.62**	**315**	*e*P	**P**	**00 28 54.2**	**-0.6**
	comp=Z,26nm,0.6s,mb5.4						
KKN	**Kakani**	**52.85**	**315**	*e*P	**P**	**00 28 55.9**	**-0.5**
	comp=Z,20nm,0.9s,mb5.1						
DMN	**Daman**	**52.86**	**315**	*e*P	**P**	**00 28 56.0**	**-0.5**
	comp=Z,30nm,0.9s,mb5.2						
GKN	**Gorkha**	**53.43**	**315**	*e*P	**P**	**00 29 00.0**	**-0.7**
	comp=Z,26nm,0.7s,mb5.3						
GTA	**Gaotai**	**53.49**	**336**	*e*P	**P**	**00 29 02.1**	**+1.0**
GTA				AP	pP	00 29 06.8	-8.5
GTA				XP	sP	00 29 10.3	-11
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
MDJ	**Mudanjiang**	**53.69**	**4**	P	**P**	**00 29 04.1**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,98nm,4.2s						
MDJ	**Mudanjiang**	**53.69**	**4**	*e*P	**P**	**00 29 03.6**	**+1.0**
	comp=Z,16nm,0.9s,mb5.0						
KOLN	**Koldanda**	**54.02**	**314**	*e*P	**P**	**00 29 04.3**	**-0.7**
	comp=Z,20nm,0.9s,mb5.1						
ULN	**Ulaanbaatar**	**58.83**	**346**	*e*P	**P**	**00 29 39.5**	**+0.2**
ULN				*SP	sP	00 29 50.8	-8.7
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**58.83**	**346**	*e*P	**P**	**00 29 39.5**	**+0.2**
	comp=Z,4.5nm,0.9s,mb4.5						
ULN				*e*pP	pP	00 29 47.2	-6.3
ULN				sP	sP	00 29 50.8	-8.7
SONM	**Songino Array**	**58.96**	**346**	P	**P**	**00 29 40.4**	**+0.2**
	comp=Z,5.6nm,0.5s,mb4.8,baz=161,slow=8.6,SNR=72						
MOY	**Mondy**	**63.88**	**344**	*e*P	**P**	**00 30 13.6**	**+0.3**
MKAR	**Makanchi Array**	**67.21**	**330**	P	**P**	**00 30 34.3**	**-0.5**
	comp=Z,4.1nm,0.5s,mb4.8,baz=131,slow=8.1,SNR=41						
BOD	**Bodaibo**	**67.27**	**354**	*e*P	**P**	**00 30 35.4**	**+0.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
AAK	**Ala-Archa**	**68.82**	**323**	*e*P	**P**	**00 30 43.5**	**-1.5**
AAK				*e*PP	pP	00 30 52.2	-7.4
AAK				*SP	sP	00 30 54.8	-11
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**68.82**	**323**	*e*P	**P**	**00 30 43.5**	**-1.4**
	comp=Z,3.7nm,0.6s,mb4.5						
AAK				*e*pP	pP	00 30 52.2	-7.3
AAK				sP	sP	00 30 54.8	-11
VNDA	**Vanda**	**71.05**	**172**	P	**P**	**00 30 59.5**	**+0.9**
	comp=Z,2.0nm,0.9s,mb4.1,baz=17,slow=4.5,SNR=5.1						
VNDA	**Vanda**	**71.05**	**172**	P	**P**	**00 30 59.5**	**+0.9**
YAK	**Yakutsk**	**71.05**	**3**	*e*P	**P**	**00 30 59.0**	**+0.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
ZAL	**Zalesovo**	**71.24**	**336**	P	**P**	**00 30 58.7**	**-1.1**
	comp=Z,1.9nm,0.4s,mb4.4,baz=346,slow=4.2,SNR=12						
MA2	**Magadan**	**71.62**	**14**	*c i*P	**P**	**00 31 03.4**	**+1.3**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**71.66**	**331**	*e*P	**P**	**00 31 01.6**	**-0.7**
KURK				*e*		00 31 08.0	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**71.66**	**331**	*e*P	**P**	**00 31 01.6**	**-0.7**
	comp=Z,3.5nm,0.6s,mb4.5						
KURK				*e*		00 31 08.0	
RAR	**Rarotonga**	**73.44**	**109**	LR	LR	01 02 18.3	
	comp=Z,73nm,18.5s,MS4.0,baz=256,slow=35						
SEY	**Seymchan**	**74.97**	**13**	*e*P	**P**	**00 31 22.6**	**+0.8**
OPO	**Ambohidratompo**	**75.26**	**253**	P	**P**	**00 31 23.4**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=237,slow=0.3,SNR=3.7						
ZRNK	**Zerenda**	**77.74**	**329**	*e*P	**P**	**00 31 36.0**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**77.74**	**329**	*e*P	**P**	**00 31 36.0**	**-1.5**
	comp=Z,1.4nm,0.6s,mb4.1						
TIXI	**Tiksi**	**80.65**	**1**	*e*P	**P**	**00 31 52.9**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
QSPA	**South Pole Qui**	**80.86**	**180**	*e*P	**P**	**00 31 56.0**	**+1.5**
	comp=Z,6.0nm,0.8s,mb4.6						
KMBO	**Kilima Mbogo**	**87.18**	**269**	P	**P**	**00 32 26.3**	**-0.4**
	comp=Z,0.8nm,0.5s,mb4.2,baz=53,slow=20,SNR=5.5						
KMBO	**Kilima Mbogo**	**87.18**	**269**	*e*P	**P**	**00 32 27.4**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMBO	**Kilima Mbogo**	**87.18**	**269**	*e*P	**P**	**00 32 27.4**	**+0.7**
	comp=Z,0.5nm,0.5s,mb4.0						
LBTB	**Lobatse**	**94.22**	**244**	*e*P	**P**	**00 33 00.8**	**+1.3**
LBTB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.1						
LBTB	**Lobatse**	**94.22**	**244**	*e*P	**P**	**00 33 00.8**	**+1.3**
	comp=Z,7.6nm,1.0s,mb5.1						
OBN	**Obninsk**	**96.28**	**325**	*e*P	**P**	**00 33 06.1**	**-2.8**
OBN				pmax	pmax		
	comp=Z,15nm,1.6s,mb5.2						
FINES	**FINESS Array B**	**102.03**	**331**	PKiKP	PKiKP	00 37 57.1	+0.1
	comp=Z,1.1nm,0.9s,baz=56,slow=0.7,SNR=4.4						
YKA	**Yellowknife Ar**	**112.00**	**25**	PKiKP	PKiKP	00 38 15.6	+0.1
	comp=Z,0.3nm,0.5s,baz=300,slow=1.9,SNR=7.5						
YKA				PK

σ1♀30/34, mb4.4/3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**5.06**	**209**	*e*P	**Pn**	**01 13 43.6**	**-0.7**
BFT				*e*S	**Sn**	**01 14 43.0**	**+0.3**
BFT				AML	AML	01 15 20.1	
	comp=Z,100nm,0.5s						
SLR	**Silverton**	**6.05**	**222**	*e*S	**Sn**	**01 15 08.6**	**+1.4**
SLR				AML	AML	01 15 55.6	
	comp=Z,104nm,0.6s						
KSR	**Koster**	**7.05**	**228**	*e*P	**Pn**	**01 14 10.7**	**-0.9**
LSZ	**Lusaka**	**7.35**	**323**	Pn	**Pn**	**01 14 17.4**	**+1.7**
	comp=Z,1.7nm,0.3s,baz=152,slow=13,SNR=16						
LSZ				Sn	**Sn**	**01 15 37.1**	**-2.0**
	comp=Z,2.4nm,0.3s,baz=201,slow=17,SNR=4.3						
LSZ				Lg		01 16 21.8	
	comp=Z,4.5nm,0.3s,baz=232,slow=18,SNR=9.8						
LSZ	**Lusaka**	**7.35**	**323**	*e*Pn	**Pn**	**01 14 16.3**	**+0.6**
LSZ				Pn	**Pn**	**01 14 17.4**	**+1.7**
LSZ				Sn	**Sn**	**01 15 37.1**	**-2.0**
LSZ				*e*Sn	**Sn**	**01 15 40.3**	**+1.1**
LSZ				Lg		01 16 21.8	
LSZ				*e*Sg	**Sg**	**01 16 22.4**	**-1.8**
LBTB	**Lobatse**	**7.56**	**239**	*e*Pn	**Pn**	**01 14 19.5**	**+0.9**
	comp=Z,7.3nm,0.6s						
LBTB				*e*Sn	**Sn**	**01 15 48.4**	**+4.0**
LBTB				*e*Sg	**Sg**	**01 16 30.0**	**-1.1**
SWZ	**Schweizer**	**8.97**	**227**	*e*P	**Pn**	**01 14 37.2**	**-0.7**
SWZ				*e*S	**Sn**	**01 16 19.8**	**+0.7**
SWZ				AML	AML	01 17 24.3	
	comp=Z,22nm,0.7s						
BOSA	**Boshof**	**9.99**	**221**	Pn	**Pn**	**01 14 50.2**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=51,slow=13,SNR=13						
BOSA				Sn	**Sn**	**01 16 39.9**	**-4.1**
	comp=Z,1.0nm,0.3s,baz=35,slow=16,SNR=5.2						
BOSA				Lg		01 17 41.4	
	comp=Z,1.7nm,0.3s,baz=324,slow=19,SNR=5.8						
BOSA	**Boshof**	**9.99**	**221**	Pn	**Pn**	**01 14 50.2**	**-1.6**
BOSA				*e*Pn	**Pn**	**01 14 51.0**	**-0.8**
BOSA				Sn	**Sn**	**01 16 39.9**	**-4.1**
BOSA				*e*Sn	**Sn**	**01 16 41.3**	**-2.6**
BOSA				Lg		01 17 41.4	
PKA	**Prieska**	**12.31**	**225**	*e*P	**Pn**	**01 15 23.2**	**-0.4**
TSUM	**Tsumeb**	**14.37**	**275**	Pn	**Pn**	**01 15 51.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=104,slow=12,SNR=14						
TSUM				Sn	**Sn**	**01 18 33.9**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=45,slow=18,SNR=4.2						
TSUM				Lg		01 20 04.9	
	comp=Z,0.2nm,0.3s,baz=0.0,slow=19,SNR=2.0						
TSUM	**Tsumeb**	**14.37**	**275**	*e*Pn	**Pn**	**01 15 52.9**	**+1.1**
	comp=Z,12nm,0.8s						
TSUM				Sn	**Sn**	**01 18 33.9**	**+2.6**
TSUM				*e*Sn	**Sn**	**01 18 36.5**	**+5.2**
TSUM				Lg		01 20 04.9	
SUR	**Sutherland**	**15.36**	**221**	*e*Pn	**Pn**	**01 16 03.4**	**-1.7**
	comp=Z,12nm,0.8s						
SUR				*e*Sn	**Sn**	**01 18 56.4**	**+1.2**
TORD	**Torodi Ar. Bea**	**45.81**	**316**	P	**P**	**01 20 50.1**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=128,slow=7.2,SNR=9.2						
DBIC	**Dimbokro**	**46.17**	**303**	P	**P**	**01 20 53.2**	**+0.1**
	comp=Z,2.7nm,1.0s,mb4.1,baz=165,slow=6.5,SNR=2.6						
DBIC	**Dimbokro**	**46.17**	**303**	P	**P**	**01 20 53.6**	**+0.5**
	comp=Z,11nm,1.3s,mb4.6						
CSS	**Prodhromos**	**55.91**	**1**	*e*P	**P**	**01 22 09.7**	**+3.4**
	comp=Z,26nm,1.3s,mb5.1						

*ISCJB **12** 01:14:42.9±0.2, 4987N±002×1839E±002, h0km, mb3.3/2, Error ellipse: s-maj=2.7km s-min=1.7km az=24.8*
*MOS **12** 01:14:43.6±1.4, 4992N×1854E, h10km, mb3.9/1, Error ellipse: s-maj=7.4km s-min=5.6km az=94.7*
*CSEM **12** 01:14:44.6±0.1, 4978N×1843E, h1km, ML4.0/11, Error ellipse: s-maj=2.2km s-min=1.2km az=17.0*
*IDC **12** 01:14:44.9±0.8, 4975N×1856E, h0km, mb3.6/3, mb1 3.5/9, mb1mx3.4/23, mbtmp3.4/9, ML3.2/6, Error ellipse: s-maj=15.9km s-min=6.9km az=151.0*
*IPEC **12** 01:14:44.4±0.2, 4978N×1855E, h1km±3km, ML3.0/4, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*NEIC **12** 01:14:44.9±0.4, 4983N×1852E, h5km, ML3.6(SZGRF), Error ellipse: s-maj=6.3km s-min=4.9km az=3.0*
*LDG **12** 01:14:44.8±99.0, 4980N×1840E, h1km, Ml4.3/6, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0, Suspected Mining induced.*
*PRU **12** 01:14:45.8, 4981N×1845E, h0km*
*VIE **12** 01:14:45.7±0.3, 4972N×1842E, h0km, mb2.8/5, ML2.9/6, Error ellipse: s-maj=2.0km s-min=1.4km az=45.0 18 km SE of Ostrava Suspected Mining induced.*
*BGR **12** 01:14:49.5±0.9, 4980N×1824E, h1km, ML3.6/11, Error ellipse: s-maj=8.9km s-min=7.8km az=18.0*

ISC 12 01:14:44.3±0.2, 4985N±002×1845E±002, h0km, n110, σ1♀33/177, mb3.3/2, 8C-6D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**267**	*e*PG	**Pg**	**01 14 50.3**	**+2.2**
OKC				*e*SG	**Sg**	**01 14 53.9**	**+3.3**
	1μm,0.7s						
OKC	**Ostrava-Krasne**	**0.20**	**267**	*e*Pg	**Pg**	**01 14 50.0**	**+1.9**
OKC				*e*Sg	**Sg**	**01 14 53.9**	**+3.3**
	1μm,0.7s						
RAC	**Raciborz**	**0.29**	**325**	⇓*i*Pg	**Pg**	**01 14 52.5**	**+2.7**
RAC				*e*Sg	**Sg**	**01 14 58.4**	**+4.9**
MORC	**Moravsky Berou**	**0.59**	**263**	*e*Pg	**Pg**	**01 14 56.7**	**+1.0**
MORC	**Moravsky Berou**	**0.59**	**263**	*e*P	**Pg**	**01 14 57.2**	**+1.5**
MORC				*e*Sg	**Sg**	**01 15 05.1**	**+1.7**
	220nm,0.5s						
MORC				*e*S	**Sg**	**01 15 06.7**	**+3.3**
MORC	**Moravsky Berou**	**0.59**	**263**	*e*Pg	**Pg**	**01 14 57.1**	**+1.5**
MORC				*e*Sg	**Sg**	**01 15 06.7**	**+3.4**
LIKS	**Likavka**	**0.91**	**152**	*e*Pn	**Pn**	**01 15 03.0**	**-1.2**
LIKS				*e*S	**Sg**	**01 15 16.8**	**+3.4**
OJC	**Ojcow**	**0.94**	**66**	*e*Pg	**Pg**	**01 15 02.2**	**-0.2**
OJC				*e*		01 15 13.4	
OJC				*e*Sg	**Sg**	**01 15 15.5**	**+0.9**
JAVC	**Velka Javorina**	**1.11**	**208**	*e*Pg	**Pg**	**01 15 06.9**	**+1.3**
NIE	**Niedzica**	**1.28**	**109**	*e*Pg	**Pg**	**01 15 08.6**	**-0.3**
NIE				*e*Sg	**Sg**	**01 15 28.1**	**+2.6**
VRAC	**Vranov**	**1.32**	**247**	Pg	**Pg**	**01 15 10.1**	**+0.4**
	56nm,0.3s,baz=67,slow=15,SNR=450						
VRAC				Lg		01 15 28.4	
	38nm,0.3s,baz=172,slow=24,SNR=25						
VRAC	**Vranov**	**1.32**	**247**	*e*Pg	**Pg**	**01 15 09.7**	**0.0**
VRAC	**Vranov**	**1.32**	**247**	P	**Pg**	**01 15 10.1**	**+0.4**
VRAC				*e*Sg	**Sg**	**01 15 27.3**	**+0.4**
	267nm,0.6s						
VRAC				S	**Sg**	**01 15 28.4**	**+1.5**
VYHS	**Vyhne**	**1.38**	**169**	*i*PN	**Pn**	**01 15 09.8**	**-0.9**
VYHS				*e*SN	**Sn**	**01 15 27.4**	**-2.3**
DPC	**Dobruska-Polom**	**1.46**	**291**	*e*PG	**Pg**	**01 15 12.2**	**-0.1**
DPC				*e*SG	**Sg**	**01 15 32.8**	**+1.6**
	140nm,0.7s						
DPC	**Dobruska-Polom**	**1.46**	**291**	*e*P	**Pg**	**01 15 12.2**	**-0.1**
DPC				*e*		01 15 32.8	
DPC				smax			
	comp=N,140nm,0.7s						
DPC	**Dobruska-Polom**	**1.46**	**291**	*e*Pg	**Pg**	**01 15 12.2**	**-0.1**
DPC				*e*Sg	**Sg**	**01 15 32.7**	**+1.5**
SMOL	**Smolenice**	**1.50**	**207**	*i*PN	**Pn**	**01 15 12.4**	**+0.1**
SMOL				*e*SN	**Sn**	**01 15 32.9**	**+0.4**
KRUC	**Moravsky**	**1.56**	**240**	*e*Pg	**Pg**	**01 15 12.6**	**-1.5**
KRUC				*e*Sg	**Sg**	**01 15 34.1**	**-0.2**
	comp=N,218nm,0.7s						
UPC	**Upice**	**1.70**	**294**	*e*PG	**Pg**	**01 15 15.3**	**-1.6**
KSP	**Ksiaz**	**1.71**	**307**	*e*Pn	**Pn**	**01 15 15.5**	**+0.3**
KSP				*e*Pg	**Pg**	**01 15 17.5**	**+0.6**
KSP				*e*Sg	**Sg**	**01 15 40.0**	**+0.9**
KSP	**Ksiaz**	**1.71**	**307**	*e*Pg	**Pg**	**01 15 17.5**	**+0.6**
KSP				*e*Sg	**Sg**	**01 15 40.0**	**+0.9**
STHS	**Stebnicka Huta**	**1.86**	**102**	*e*PN	**Pn**	**01 15 17.5**	**+0.1**
STHS				*e*SN	**Sn**	**01 15 44.9**	**+3.2**
ZST	**Bratislava**	**1.88**	**209**	*e*PN	**Pn**	**01 15 17.9**	**+0.3**
ZST				*e*SN	**Sn**	**01 15 42.5**	**+0.5**
KECS	**Kecovo**	**1.91**	**135**	*e*PN	**Pn**	**01 15 17.6**	**-0.4**
KECS				*e*SN	**Sn**	**01 15 42.9**	**+0.1**
SRO	**Srobarova**	**2.04**	**183**	*e*PN	**Pn**	**01 15 20.2**	**+0.4**
SRO1	**Iza**	**2.09**	**184**	*e*PN	**Pn**	**01 15 19.9**	**-0.7**
PENC	**Penc**	**2.13**	**165**	⇑*e*P	**Pn**	**01 15 21.2**	**+0.1**
PSZ	**Piszkesteto**	**2.15**	**153**	⇑*e*Pn	**Pn**	**01 15 21.4**	**0.0**
PSZ				*e*Sn	**Sn**	**01 15 48.5**	**-0.3**
CRVS	**Cervenica-Dubn**	**2.18**	**115**	*e*Pn	**Pn**	**01 15 24.5**	**+2.7**
CRVS				*e*S	**Sn**	**01 15 54.2**	**+4.7**
PKSG		**2.46**	**181**	⇓*e*P	**Pn**	**01 15 25.1**	**-0.5**
PKSG				*e*S	**Sn**	**01 15 55.5**	**-0.8**
SOP	**Sopron**	**2.50**	**211**	⇑*i*Pn	**Pn**	**01 15 26.7**	**+0.5**
SOP				*i* Pg	**Pg**	**01 15 36.3**	**+4.1**
PRU	**Pruhonice**	**2.53**	**275**	*e*PN	**Pn**	**01 15 25.7**	**-0.9**
PRU				*e*PG	**Pg**	**01 15 30.8**	**-2.0**
PRU				*e*SG	**Sg**	**01 16 06.7**	**+1.1**
	comp=N,107nm,0.9s						
PRU	**Pruhonice**	**2.53**	**275**	*e*P	**Pn**	**01 15 25.7**	**-0.9**
PRU				*e*		01 16 06.7	
PRU				smax			
	comp=N,107nm,0.9s						
PRU	**Pruhonice**	**2.53**	**275**	*e*Pg	**Pg**	**01 15 30.8**	**-2.0**
PRU				*e*Sg	**Sg**	**01 16 06.7**	**+1.1**
	comp=N,107nm,0.9s						
PVCC	**Panska Ves**	**2.59**	**287**	*e*SG	**Sg**	**01 16 08.3**	**+0.9**
	comp=N,386nm,1.3s						
PRA	**Prague**	**2.60**	**276**	PG	**Pg**	**01 15 34.0**	**-0.2**
PRA				SG	**Sg**	**01 16 10.0**	**+2.0**
KOLS	**Kolonicke sedl**	**2.66**	**109**	*e*PG	**Pg**	**01 15 35.6**	**+0.4**
KWP	**Kalwaria**	**2.77**	**93**	*e*Pn	**Pn**	**01 15 29.5**	**-0.4**
KWP				*e*Pg	**Pg**	**01 15 37.6**	**+0.3**
KWP	**Kalwaria**	**2.77**	**93**	*e*Pg	**Pg**	**01 15 37.6**	**+0.3**
WAR	**Warsaw**	**2.90**	**33**	*e*Pn	**Pg**	**01 15 41.6**	**+1.8**
WAR				*e*Sg	**Sg**	**01 16 25.2**	**+7.9**
BRG	**Berggiesshubel**	**3.06**	**291**	*e*Pg	**Pg**	**01 15 41.6**	**-1.4**
BRG				*e*Sg	**Sg**	**01 16 24.2**	**+1.5**
BRG	**Berggiesshubel**	**3.06**	**291**	P	**Pn**	**01 15 39.8**	**+5.9**
PKSN	**Nyarlorinc**	**3.10**	**162**	⇑*i*P	**Pn**	**01 15 35.1**	**+0.7**
ARSA	**Arzberg**	**3.25**	**218**	⇑*i*Pn	**Pn**	**01 15 37.1**	**+0.6**
	SNR=6.8						
ARSA				⇓*i*Sg	**Sg**	**01 16 29.5**	**+0.9**
	comp=N,24nm,0.7s						
KHC	**Kasperske Hory**	**3.26**	**259**	*e*PN	**Pn**	**01 15 36.7**	**+0.1**
KHC				*e*PG	**Pg**	**01 15 44.6**	**-2.1**
KHC				*e*SG	**Sg**	**01 16 29.1**	**+0.1**
	comp=N,51nm,0.7s						
KHC	**Kasperske Hory**	**3.26**	**259**	*e*Pg	**Pg**	**01 15 44.6**	**-2.1**
KHC				*e*Sg	**Sg**	**01 16 29.1**	**+0.1**
	comp=N,51nm,0.7s						
GEC2	**GERESS Array S**	**3.27**	**254**	*e*Pg	**Pg**	**01 15 45.7**	**-1.2**
GEC2				*e*Sg	**Sg**	**01 16 29.4**	**+0.3**
GERES	**GERESS Array B**	**3.27**	**254**	Pn	**Pn**	**01 15 37.2**	**+0.5**
	comp=N,0.5nm,0.3s,baz=76,slow=14,SNR=13						
GERES				Pg	**Pg**	**01 15 46.1**	**-0.7**
	comp=N,6.8nm,0.3s,baz=72,slow=17,SNR=67						
GERES				Sn	**Sn**	**01 16 18.3**	**+2.1**
	comp=N,1.7nm,0.3s,baz=75,slow=27,SNR=6.7						
GERES				Lg		01 16 30.4	
	comp=N,6.0nm,0.3s,baz=70,slow=23,SNR=14						
GERES	**GERESS Array B**	**3.27**	**254**	P	**Pn**	**01 15 37.2**	**+0.5**
GERES						01 16 18.3	
GERES	**GERESS Array B**	**3.27**	**254**	P	**Pg**	**01 15 46.1**	**-0.7**
GERES						01 16 18.3	
GERES				pmax	pmax		
	comp=Z,7.0nm,0.3s						
GERES				smax			
	comp=N,2.0nm,0.3s						
GERES				MLR	MLR		
	comp=Z,6.0nm,0.3s						
GERES	**GERESS Array B**	**3.27**	**254**	Pg	**Pg**	**01 15 46.1**	**-0.7**
GERES				S	**Sn**	**01 16 18.3**	**+2.1**
	comp=Z,6.0nm,0.3s						
PKS9	**Tamasi**	**3.27**	**182**	*e*P	**Pn**	**01 15 31.8**	**-4.9**
MOA	**Molln**	**3.41**	**236**	⇑*i*Pn	**Pn**	**01 15 38.8**	**+0.1**
	SNR=11						
MOA				⇓*i*Sg	**Sg**	**01 16 35.0**	**+1.1**
	comp=Z,54nm,1.0s						
FBE	**Freiberg**	**3.44**	**290**	*e*Pg	**Pg**	**01 15 48.3**	**-1.8**
FBE				*e*Sg	**Sg**	**01 16 35.3**	**+0.6**
GKP	**Gorka Klasztor**	**3.51**	**348**	*e*Pn	**Pn**	**01 15 41.9**	**+1.8**
GKP				*e*Sg	**Sg**	**01 16 46.6**	**+10**
WET	**Wettzell**	**3.70**	**261**	*e*Pg	**Pg**	**01 15 52.9**	**-2.3**
WET				*e*Sg	**Sg**	**01 16 42.3**	**-0.9**
KOGS	**Kog**	**3.71**	**204**	*i* Pn	**Pn**	**01 15 43.0**	**+0.3**
KOGS				*e*Sn	**Sn**	**01 16 24.9**	**-2.3**
CLL	**Collm**	**3.77**	**295**	*e*Pg	**Pg**	**01 15 54.8**	**-1.7**
CLL				*e*Sg	**Sg**	**01 16 46.8**	**+1.5**
CLL	**Collm**	**3.77**	**295**	*e*Pg	**Pg**	**01 15 57.0**	**+0.5**
CLL				*i* Sg	**Sg**	**01 16 46.9**	**+1.5**
	comp=Z,68nm,0.9s						
CLL	**Collm**	**3.77**	**295**	Pg	**Pg**	**01 15 54.8**	**-1.7**
CLL				Sg	**Sg**	**01 16 46.8**	**+1.4**
NKC	**Novy Kostel**	**3.89**	**278**	*e*PG	**Pg**	**01 15 57.0**	**-1.8**
NKC				*e*SG	**Sg**	**01 16 51.0**	**+1.7**
TANN	**Tannenbergstha**	**3.90**	**281**	*e*Pg	**Pg**	**01 15 57.8**	**-1.2**
PERS	**Pernice**	**3.91**	**216**	*i* Pn	**Pn**	**01 15 46.3**	**+0.7**
GROS	**Grobnik**	**3.92**	**211**	*i* Pn	**Pn**	**01 15 46.0**	**+0.3**
WERN	**Wernitzgruen**	**3.94**	**279**	*e*Pg	**Pg**	**01 15 58.1**	**-1.7**
WERN				*e*Sg	**Sg**	**01 16 49.6**	**-1.3**
WERD	**Werda**	**4.00**	**281**	*e*Pg	**Pg**	**01 15 58.6**	**-2.3**
ROTZ	**Rotzenmuhle**	**4.05**	**271**	*e*Pg	**Pg**	**01 15 59.4**	**-2.5**
DOBS	**Dobrina**	**4.21**	**210**	*e*Pn	**Pn**	**01 15 50.2**	**+0.5**
OBKA	**Obir**	**4.24**	**219**	⇑*i*Pn	**Pn**	**01 15 49.8**	**-0.3**
OBKA				⇓*i*Sn	**Sn**	**01 16 39.9**	**-0.4**
KBA	**Koelnbreinsper**	**4.38**	**233**	⇓*i*Pn	**Pn**	**01 15 53.3**	**+1.2**
KBA				⇑*i*Sg	**Sg**	**01 17 07.3**	**+2.2**
	comp=Z,24nm,0.7s						
MOX	**Moxa**	**4.46**	**283**	*e*Pg	**Pg**	**01 16 07.8**	**-1.9**
MOX	**Moxa**	**4.46**	**283**	*e*PN	**Pn**	**01 15 53.5**	**+0.4**
MOX				*e*PG	**Pg**	**01 16 09.6**	**-0.1**
MOX				*e*SG	**Sg**	**01 17 11.6**	**+4.0**
MOX	**Moxa**	**4.46**	**283**	*e*Pg	**Pg**	**01 16 09.6**	**-0.1**
GRA1	**Grafenberg Arr**	**4.69**	**271**	Pg	**Pg**	**01 16 12.3**	**-1.8**
GRA1				Sg	**Sg**	**01 17 12.7**	**-2.2**
GRF	**Grafenberg Arr**	**4.69**	**271**	*e*Pg	**Pg**	**01 16 12.3**	**-1.8**
GRF				*e*Sg	**Sg**	**01 17 12.7**	**-2.2**
VISS	**Visnje**	**4.72**	**212**	*e*Pn	**Pn**	**01 15 57.2**	**+0.5**
DAVOX	**Davos**	**6.49**	**245**	Pn	**Pn**	**01 16 23.1**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=58,slow=15,SNR=5.0						
DAVOX				Lg		01 18 14.3	
	comp=Z,0.4nm,0.3s,baz=164,slow=22,SNR=8.1						
BFO	**Black Forest**	**6.82**	**261**	*e*Pn	**Pn**	**01 16 26.2**	**+0.7**
BFO	**Black Forest**	**6.82**	**261**	*e*Pn	**Pn**	**01 16 26.2**	**+0.6**
AKASG	**Malin Array Be**	**6.96**	**79**	Pn	**Pn**	**01 16 24.9**	**-2.5**
	comp=Z,1.3nm,0.3s,baz=258,slow=14,SNR=7.4						
AKASG				Sn	**Sn**	**01 17 48.0**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=262,slow=22,SNR=2.8						
AKASG				Lg		01 18 18.1	
	comp=Z,0.6nm,0.3s,baz=265,slow=28,SNR=3.4						
AKASG	**Malin Array Be**	**6.96**	**79**	Pn	**Pn**	**01 16 24.9**	**-2.5**
AKASG				S	**Sn**	**01 17 48.0**	**+0.7**
AKASG	**Malin Array Be**	**6.96**	**79**	Pn	**Pn**	**01 16 24.9**	**-2.5**
AKASG				Sn	**Sn**	**01 17 48.0**	**+0.7**
AKASG				Lg		01 18 18.1	
CDF	**Champ du Feu**	**7.47**	**263**	*e*P	**Pn**	**01 16 37.1**	**+2.6**
CDF				*e*Sg	**Sg**	**01 18 37.7**	**-6.6**
	comp=Z,77nm,1.1s						
CDF	**Champ du Feu**	**7.47**	**263**	*e*Pn	**Pn**	**01 16 32.0**	**-2.5**
CDF				*e*Sg	**Sg**	**01 18 37.7**	**-6.6**
	comp=Z,38nm,1.1s						
HINF	**Hinteralfeld**	**7.92**	**260**	*e*Pn	**Pn**	**01 16 37.9**	**-2.8**
HINF				*e*Sg	**Sg**	**01 18 51.7**	**-6.9**
	comp=Z,51nm,1.2s						
HINF	**Hinteralfeld**	**7.92**	**260**	*e*Pn	**Pn**	**01 16 37.9**	**-2.8**
HINF				*e*Sg	**Sg**	**01 18 51.7**	**-6.9**
	comp=Z,25nm,1.2s						
HAU	**Haudompre**	**8.18**	**262**	*e*Sg	**Sg**	**01 19 01.0**	**-6.0**
	comp=Z,82nm,1.5s						
HAU	**Haudompre**	**8.18**	**262**	*e*Sg	**Sg**	**01 19 01.0**	**-6.0**
	comp=Z,41nm,1.5s						
CABF	**La Chapelle**	**8.87**	**253**	*e*Sg	**Sg**	**01 19 20.9**	**-8.0**
	comp=Z,199nm,1.7s						
CABF	**La Chapelle**	**8.87**	**253**	*e*Sg	**Sg**	**01 19 20.9**	**-8.0**
	comp=Z,99nm,1.7s						
SFTF	**Sexfontaines**	**8.97**	**265**	*e*Pn	**Pn**	**01 16 52.4**	**-2.6**
SFTF				*e*Sg	**Sg**	**01 19 24.3**	**-7.9**
	comp=Z,165nm,1.8s						
SFTF	**Sexfontaines**	**8.97**	**265**	*e*Pn	**Pn**	**01 16 52.4**	**-2.6**
SFTF				*e*Sg	**Sg**	**01 19 24.3**	**-7.9**
	comp=Z,82nm,1.8s						
LOR	**Lormes**	**10.02**	**261**	*e*P	**Pn**	**01 17 12.0**	**+2.6**
	baz=77						
NB2	**NORSAR Subarra**	**11.94**	**343**	P	**Pn**	**01 17 33.4**	**-2.3**
	comp=Z,1.8nm,1.0s,baz=151,slow=14						
NOA	**NORSAR Array B**	**11.94**	**343**	Pn	**Pn**	**01 17 31.7**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=147,slow=9.6,SNR=6.1						
LDF	**La Druitiere**	**12.21**	**271**	*e*Pn	**Pn**	**01 17 36.3**	**-3.1**
FINES	**FINESS Array B**	**12.38**	**17**	Pn	**Pn**	**01 17 37.7**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=190,slow=11,SNR=18						
FINES				Sn	**Sn**	**01 19 51.6**	**-8.8**
	comp=Z,0.3nm,0.3s,baz=198,slow=19,SNR=5.8						
FLN	**La Foliniere**	**12.41**	**272**	*e*Pn	**Pn**	**01 17 39.0**	**-3.1**
KAF	**Kangasniemi**	**13.04**	**17**	*e*p	**Pn**	**01 17 47.9**	**-2.9**
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**13.04**	**17**	*e*P	**Pn**	**01 17 47.9**	**-2.9**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**14.76**	**128**	Pn	**Pn**	**01 18 14.0**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=305,slow=5.1,SNR=2.5						
JOF	**Joensuu**	**14.87**	**23**	*e*p	**Pn**	**01 18 11.6**	**-4.1**
	comp=Z,1.7nm,0.7s						
JOF	**Joensuu**	**14.87**	**23**	*e*P	**Pn**	**01 18 11.6**	**-4.1**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**20.04**	**7**	P	**P**	**01 19 18.6**	**-0.2**
	comp=Z,7.3nm,1.1s,baz=192,slow=11,SNR=6.0						
ARCES	**ARCESS Array B**	**20.04**	**7**	P	**P**	**01 19 18.6**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AKTK	**Aktyubinsk**	**25.16**	**73**	P	**P**	**01 20 10.9**	**-0.3**
AKTO	**Aktyubinsk**	**25.16**	**73**	P	**P**	**01 20 10.9**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.6,baz=281,slow=14,SNR=3.6						
AKTO	**Aktyubinsk**	**25.16**	**73**	P	**P**	**01 20 10.9**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
TORD	**Torodi Ar. Bea**	**39.10**	**206**	P	**P**	**01 22 13.3**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.0,baz=14,slow=7.9,SNR=6.9						

*ISCJB **12** 01:15:05.3±6.6, 62N±01×1283E±02, h23km±47km, mb4.1/11, MS4.6/1, Error ellipse: s-maj=35.3km s-min=10.7km az=101.0*
*IDC **12** 01:15:06.7±2.0, 539N×12643E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, MS4.8/1, Ms1 4.8/1, ms1mx2.7/20, Error ellipse: s-maj=189.6km s-min=20.1km az=64.0*
*NEIC **12** 01:15:10.6±0.8, 568N×12697E, h35km, mb4.3/6, Error ellipse: s-maj=71.3km s-min=9.3km az=66.0*

ISC 12 01:15:04.8±6.9, 62N±01×1283E±01, h5km±43km, n14, σ0♀54/14, mb4.1/11, MS4.6/1, East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**3.57**	**298**	*e*P	**Pn**	**01 16 00.8**	**0.0**
BUKP				*e*S	**Sn**	**01 16 43.6**	**+0.2**
WRAB	**Tennant Creek**	**26.66**	**167**	*e*P	**P**	**01 20 44.2**	**-0.3**
	7.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**26.67**	**167**	P	**P**	**01 20 45.1**	**+0.5**
	1.6nm,0.6s,mb3.7,baz=342,slow=10,SNR=14						
JNU	**Nakatsue**	**26.89**	**5**	LR	LR	01 30 43.5	
	comp=Z,2μm,21.8s,MS4.6,baz=180,slow=34						
ASAR	**Alice Springs**	**30.20**	**170**	P	**P**	**01 21 15.3**	**-0.8**
	0.2nm,0.5s,mb3.1,baz=348,slow=7.1,SNR=3.5						
STKA	**Stephens Creek**	**39.95**	**162**	P	**P**	**01 22 41.0**	**+0.9**
	4.0nm,1.0s,mb4.1,baz=0.2,slow=8.6,SNR=4.5						
LSA	**Lhasa**	**42.02**	**308**	P	**P**	**01 22 53.0**	**-4.1**
	3.6nm,0.3s,mb4.5						
ULN	**Ulaanbaatar**	**45.29**	**340**	P	**P**	**01 23 24.4**	**+1.0**
	2.1nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**56.43**	**324**	P	**P**	**01 24 47.5**	**+0.2**
	2.0nm,0.7s,mb4.3,baz=124,slow=7.9,SNR=16						
KURK	**Kurchatov**	**60.51**	**326**	*e*P	**P**	**01 25 15.7**	**-0.2**
	2.5nm,0.8s,mb4.4						
BRVK	**Borovoye**	**66.17**	**326**	*e*P	**P**	**01 25 53.3**	**-0.1**
	1.9nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**66.85**	**326**	*e*P	**P**	**01 25 57.1**

TKM2	**Tokmak 2**	**3.69**	**17**	P	**Pn**	**01 57 46.8**	**-0.8**
	SNR=25						
TKM2	**Tokmak 2**	**3.69**	**17**	⇑Pn	**Pn**	**01 57 46.6**	**-0.9**
	9.2nm,0.4s						
TKM2				⇓Lg		01 58 33.0	
	85nm,0.8s						
USP	**Ospenovka**	**3.88**	**4**	P	**Pn**	**01 57 54.9**	**+4.7**
	SNR=11						
KNDC	**Almaty**	**4.37**	**28**	⇓Pg	**Pn**	**01 58 02.0**	**+5.1**
KNDC				⇑Lg		01 58 53.9	
KK31	**Karatay Array**	**4.62**	**325**	⇑Pn	**Pn**	**01 58 01.9**	**+1.7**
	0.5nm,0.2s,baz=128,slow=13,SNR=45						
KK31				Pg	**Pn**	**01 58 12.3**	**+12**
	1.6nm,0.3s,baz=133,slow=16,SNR=18						
KK31				⇑Lg		01 59 10.9	
	7.7nm,0.5s,baz=132,slow=29,SNR=4.8						
BVAR	**Borovoye Array**	**13.88**	**350**	Pn	**Pn**	**02 00 04.7**	**-2.6**
	baz=156,slow=11,SNR=2.4						
BVAR				Lg		02 03 58.4	
	0.1nm,0.3s,baz=153,slow=29,SNR=3.4						
AB31	**Akbulak array**	**14.15**	**319**	P	**Pn**	**02 00 09.9**	**-0.8**
	1.1nm,0.8s,baz=127,slow=14,SNR=14						
AKTK	**Aktyubinsk**	**15.86**	**319**	Pn	**Pn**	**02 00 32.8**	**-0.6**
AKTO	**Aktyubinsk**	**15.86**	**319**	Pn	**Pn**	**02 00 32.8**	**-0.6**
	0.1nm,0.3s,baz=125,slow=9.1,SNR=3.5						
FINES	**FINESS Array B**	**36.58**	**323**	P	**P**	**02 03 57.0**	**+1.5**
	0.9nm,0.9s,mb3.6,baz=103,slow=7.4,SNR=4.6						
ARCES	**ARCESS Array B**	**39.49**	**335**	P	**P**	**02 04 20.9**	**+0.8**
	11nm,1.1s,mb4.5,baz=96,slow=8.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**68.26**	**269**	P	**P**	**02 07 54.5**	**+4.4**
	0.4nm,0.8s,mb3.5,baz=50,slow=5.1,SNR=6.5						
YKA	**Yellowknife Ar**	**78.22**	**4**	P	**P**	**02 08 48.8**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=348,slow=5.5,SNR=5.8						

*CSEM **12** 01:58:52.0, 4354N×4479E, h53km, mb3.5, After OBN*

MOS 12 01:58:52.3±0.5, 4354N×4479E, h53km, mb3.5/1, Error ellipse: s-maj=32.7km s-min=15.7km az=57.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTKR	**Batakoyurt**	**0.25**	**227**	*e*P	Pn	01 59 02.2	+0.9
BTKR				*e*S	Sn	01 59 09.7	+2.0
KMSR	**Komsomolskaya**	**0.40**	**245**	*e*P	Pn	01 59 03.8	+1.2
KMSR				*e*S	Sn	01 59 12.2	+2.1
PRTR	**Priterechnaya**	**0.42**	**300**	*e*P	Pn	01 59 04.1	+1.2
PRTR				*e*S	Sn	01 59 12.5	+2.0
SNJR	**Sundja**	**0.47**	**178**	*e*P	Pn	01 59 04.6	+1.2
SNJR				*e*S	Sn	01 59 13.6	+2.2
ARNR	**Ardon**	**0.51**	**227**	*e*P	Pn	01 59 05.2	+1.3
ARNR				*e*S	Sn	01 59 14.3	+2.1
KORR	**Kora**	**0.70**	**230**	*e*P	Pn	01 59 07.5	+1.4
KORR				*e*S	Sn	01 59 18.4	+2.3
LSNR	**Lesken**	**0.76**	**250**	*e*P	Pn	01 59 08.3	+1.4
LSNR				*e*S	Sn	01 59 20.1	+2.5
LACR	**Lac**	**0.80**	**207**	*e*P	Pn	01 59 08.8	+1.4
LACR				*i* S	Sn	01 59 20.9	+2.4
ZEI	**Tsey**	**1.01**	**221**	*e*P	Pn	01 59 10.0	-0.2
ZEI				*e*S	Sn	01 59 24.9	+1.5

IDC 12 02:02:49.1±2.1, 083N×12708E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=179.7km s-min=25.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.84**	**161**	P	P	02 07 43.0	0.0
	1.6nm,0.8s,baz=340,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**25.23**	**165**	P	P	02 08 17.2	+0.6
	0.3nm,0.4s,baz=343,slow=9.6,SNR=6.9						
MKAR	**Makanchi Array**	**60.13**	**326**	P	P	02 12 58.4	+0.1
	0.3nm,0.4s,baz=124,slow=8.3,SNR=2.7						

IDC 12 02:08:25.5±0.8, 2654N×14067E, h474km±10km, mb2.9/6, mb1 3.1/6, mb1mx2.8/20, mbtmp3.7/6, Error ellipse: s-maj=34.9km s-min=19.7km az=78.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.46**	**67**	P	P	02 09 25.6	-0.1
	7.7nm,0.3s,baz=319,slow=21,SNR=15						
CBIJ				S	S	02 10 14.8	+0.3
	31nm,0.3s,baz=275,slow=22,SNR=11						
SONM	**Songino Array**	**34.20**	**318**	P	P	02 14 30.5	+0.3
	0.3nm,0.6s,baz=101,slow=7.5,SNR=2.7						
WRA	**Warramunga Arr**	**46.61**	**188**	P	P	02 16 10.0	+0.2
	0.1nm,0.3s,baz=7.4,slow=8.3,SNR=7.5						
BVAR	**Borovoye Array**	**57.54**	**318**	P	P	02 17 28.7	0.0
	1.8nm,0.4s,baz=90,slow=7.3,SNR=30						
YKA	**Yellowknife Ar**	**73.27**	**28**	P	P	02 19 08.0	+0.3
	0.3nm,0.7s,baz=295,slow=5.5,SNR=4.5						
FINES	**FINESS Array B**	**77.85**	**333**	P	P	02 19 32.6	-0.6
	0.5nm,0.3s,baz=72,slow=5.2,SNR=22						
NOA	**NORSAR Array B**	**83.62**	**338**	P	P	02 20 02.3	-1.0
	0.6nm,0.6s,baz=45,slow=5.0,SNR=2.7						

*IDC **12** 02:08:33.4±1.3, 2017N×7028W, h0km, mb3.8/4, mb1 4.1/7, mb1mx3.7/23, mbtmp4.0/7, ML4.2/3, MS3.4/3, Ms1 3.4/3, ms1mx2.9/19, Error ellipse: s-maj=32.3km s-min=18.4km az=38.0*

*ISCJB **12** 02:08:36.2±0.5, 2008N±009×7057W±003, h33km, mb3.8/8, MS3.4/2, Error ellipse: s-maj=12.9km s-min=2.7km az=32.5*

*RSPR **12** 02:08:40.2, 2096N×6977W, h95km±38km, MD4.5/11, MD4.5/11*

*NEIC **12** 02:08:41.4±1.2, 2008N×7033W, h65km±15km, mb4.0/5, MD4.5(RSPR), Error ellipse: s-maj=14.4km s-min=12.6km az=224.0*

*SSNC **12** 02:08:59.9, 1901N×7164W, h23km, MD2.4, ML3.0*

ISC 12 02:08:38.7±0.4, 2006N±007×7058W±003, h35km, n42, σ1$46/59, mb3.8/8, MS3.4/2, 10C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**3.44**	**273**	*e*PG	**Pn**	**02 09 29.4**	**-0.4**
MASC				*e*SG	**Sn**	**02 10 09.6**	**+0.3**
	comp=N,2.6nm,0.1s						
MASC				*e*			
	comp=E,1.1nm,0.0s						
AGPR	**Aguadilla, PR**	**3.63**	**115**	*e*S	**Sn**	**02 10 14.9**	**+0.8**
AGPR	**Aguadilla, PR**	**3.63**	**115**	⇑*e*P	**Pn**	**02 09 34.1**	**+1.7**
AGPR				*e*S	**Sn**	**02 10 14.9**	**+0.8**
LSP	**Las Mesas**	**3.79**	**119**	⇓*e*P	**Pn**	**02 09 36.3**	**+1.7**
LSP				*e*S	**Sn**	**02 10 20.1**	**+2.1**
CRPR	**Cabo Rojo, PR**	**3.86**	**121**	*e*S	**Sn**	**02 10 21.5**	**+1.8**
CRPR	**Cabo Rojo, PR**	**3.86**	**121**	⇑*e*P	**Pn**	**02 09 36.2**	**+0.6**
CRPR				*e*S	**Sn**	**02 10 21.5**	**+1.8**
MGP	**Maguayo**	**3.88**	**121**	⇓*e*P	**Pn**	**02 09 38.3**	**+2.5**
MGP				*e*S	**Sn**	**02 10 22.4**	**+2.3**
LRS	**Lares**	**3.94**	**116**	⇑*e*P	**Pn**	**02 09 37.5**	**+0.9**
LRS				*e*S	**Sn**	**02 10 21.5**	**-0.1**
AOPR	**Arecibo Observ**	**4.00**	**115**	*e*S	**Sn**	**02 10 22.5**	**-0.5**
AOPR	**Arecibo Observ**	**4.00**	**115**	⇑*e*P	**Pn**	**02 09 37.5**	**+0.1**
AOPR				*e*S	**Sn**	**02 10 22.5**	**-0.5**
MOAC	**Moa**	**4.16**	**279**	*e*P	**Pn**	**02 09 37.2**	**-2.5**
MOAC				*e*S	**Sn**	**02 10 27.1**	**+0.1**
	comp=N,6.0nm,0.4s						
MOAC				*e*			
	comp=E,5.6nm,0.4s						
CELP	**Cerrillos**	**4.26**	**117**	⇑*e*P	**Pn**	**02 09 41.7**	**+0.6**
CELP				*e*S	**Sn**	**02 10 29.9**	**+0.3**
SJG	**San Juan**	**4.61**	**114**	*e*S	**Sn**	**02 10 35.9**	**-2.3**
SJG	**San Juan**	**4.61**	**114**	⇓*e*P	**Pn**	**02 09 44.6**	**-1.2**
SJG	**San Juan**	**4.61**	**114**	⇑*e*P	**Pn**	**02 09 44.7**	**-1.2**
SJG				*e*S	**Sn**	**02 10 36.3**	**-1.8**
SJG	**San Juan**	**4.61**	**114**	Pn	**Pn**	**02 09 42.9**	**-3.0**
	comp=E,2.1nm,0.3s,baz=306,slow=14,SNR=4.4						
SJG				Sn	**Sn**	**02 10 35.5**	**-2.6**
	comp=E,16nm,0.3s,baz=205,slow=22,SNR=8.5						
SJG				Lg		02 10 54.1	
	comp=E,7.1nm,0.3s,baz=305,slow=18,SNR=3.8						
SJG	**San Juan**	**4.61**	**114**	⇓*e*P	**Pn**	**02 09 44.6**	**-1.2**
SJG				*e*S	**Sn**	**02 10 35.9**	**-2.3**
CBYP	**Canovanas**	**4.80**	**111**	*e*S	**Sn**	**02 10 40.3**	**-2.6**
CBYP	**Canovanas**	**4.80**	**111**	⇑*e*P	**Pn**	**02 09 47.5**	**-1.0**
CBYP				*e*S	**Sn**	**02 10 40.3**	**-2.6**
RCC	**Rio Carpintero**	**4.81**	**270**	*e*P	**Pn**	**02 09 47.8**	**-0.9**
RCC				*e*S	**Sn**	**02 10 42.4**	**-0.8**
	comp=N,55nm,0.3s						
RCC				*e*			
	comp=E,78nm,0.3s						
CPD	**Cerro la Pandu**	**4.84**	**114**	*e*Pn	**Pn**	**02 09 49.6**	**+0.5**
HUMP	**Col San Antoni**	**4.86**	**112**	*e*S	**Sn**	**02 10 41.3**	**-3.0**
HUMP	**Col San Antoni**	**4.86**	**112**	⇑*e*P	**Pn**	**02 09 48.2**	**-1.1**
HUMP				*e*S	**Sn**	**02 10 41.3**	**-3.0**
MTP	**Monte Pirata**	**5.13**	**112**	*e*S	**Sn**	**02 10 47.4**	**-3.6**
MTP	**Monte Pirata**	**5.13**	**112**	⇑*e*P	**Pn**	**02 09 52.0**	**-1.0**
MTP				*e*S	**Sn**	**02 10 47.4**	**-3.6**
HLGC	**Holguin**	**5.21**	**280**	*e*P	**Sn**	**02 10 51.8**	**-1.2**
STVI	**Saint Thomas**	**5.57**	**107**	*e*S	**Sn**	**02 10 56.4**	**-5.4**
STVI	**Saint Thomas**	**5.57**	**107**	⇑*e*P	**Pn**	**02 09 56.9**	**-2.1**
STVI				*e*S	**Sn**	**02 10 56.4**	**-5.4**
LMGC	**Las Mercedes**	**6.04**	**271**	*e*P	**Pn**	**02 10 05.7**	**+0.1**
LMGC				*e*S	**Sn**	**02 11 15.2**	**+1.7**
	comp=N,40nm,0.4s						
LMGC				*e*			
	comp=E,66nm,0.8s						
SDV	**Santo Domingo**	**11.11**	**180**	Pn	**Pn**	**02 11 16.1**	**+1.1**
	comp=E,0.6nm,0.3s,baz=346,slow=13,SNR=3.6						
SDV				Sn	**Sn**	**02 13 15.3**	**-2.6**
	comp=E,0.3nm,0.3s,baz=66,slow=19,SNR=2.7						
SDV				LR	LR	02 15 35.9	
	comp=E,112nm,21.9s,baz=231,slow=38						
JTS	**JuntasAbangare**	**16.92**	**237**	P	**Pn**	**02 12 36.8**	**+4.1**
	comp=E,0.2nm,0.3s,baz=62,slow=8.3,SNR=8.6						
JTS	**JuntasAbangare**	**16.92**	**237**	*e*P	**Pn**	**02 12 37.3**	**+4.5**
	comp=E,32nm,1.1s						
OTAV	**Otavalo**	**21.15**	**202**	*e*P	**P**	**02 13 23.1**	**+2.4**
	comp=E,9.7nm,1.1s,mb4.0						
WVT	**Waverly**	**22.04**	**320**	*e*P	**P**	**02 13 31.2**	**+1.1**
	comp=E,4.6nm,1.0s,mb3.9						
SADO	**Sadowa**	**25.65**	**346**	LR	LR	02 22 20.2	
	comp=E,77nm,20.3s,MS3.2,baz=209,slow=32						
SAML	**Samuel**	**29.73**	**165**	P	**P**	**02 14 39.7**	**-1.9**
	comp=E,2.1nm,0.8s,mb3.9						
MNTX	**Cornudas Mount**	**33.26**	**297**	*e*P	**P**	**02 15 14.7**	**+2.1**
	comp=E,2.6nm,1.2s,mb4.0						
LPAZ	**La Paz**	**36.20**	**176**	P	**P**	**02 15 40.9**	**+2.9**
	comp=E,1.0nm,0.7s,mb3.9,baz=304,slow=15,SNR=5.2						
SIV	**San Ignacio**	**37.02**	**165**	P	**P**	**02 15 43.4**	**-1.6**
	comp=E,0.8nm,0.6s,mb3.7,baz=5.5,slow=5.3,SNR=5.4						
BDFB	**Brasilia**	**41.84**	**146**	P	**P**	**02 16 24.6**	**-0.6**
	comp=E,2.9nm,0.8s,mb4.0,baz=302,slow=9.5,SNR=4.4						
YKA	**Yellowknife Ar**	**51.99**	**336**	P	**P**	**02 17 44.4**	**-0.1**
	comp=E,0.3nm,0.7s,mb3.3,baz=117,slow=7.3,SNR=5.4						
YKA				LR	LR	02 39 54.5	
	comp=E,52nm,18.2s,MS3.6,baz=105,slow=36						
ASAR	**Alice Springs**	**157.01**	**257**	PKPab	PKPab	02 29 02.6	+1.8
	comp=E,0.5nm,0.9s,baz=86,slow=3.2,SNR=3.2						

*BJI **12** 02:13:21.9, 1015N×9429E, h37km, mB5.2, mb4.6, Ms4.3, Msz4.1*

*IDC **12** 02:13:22.3±0.9, 1063N×9415E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, Error ellipse: s-maj=40.0km s-min=18.0km az=57.0*

*NEIC **12** 02:13:23.6±0.7, 1065N×9435E, h10km, mb4.2/6, Error ellipse: s-maj=26.6km s-min=10.2km az=54.0*

*ISCJB **12** 02:13:25.2±0.7, 106N±0.1×942E±0.1, h33km, mb4.1/16, Error ellipse: s-maj=19.8km s-min=12.4km az=109.0*

ISC 12 02:13:27.1±0.7, 1054N±010×943E±01, h35km, n21, σ1$35/20, mb4.1/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.92**	**306**	*e*P	Px	02 14 10.4	
PBA				*e*S	Sx	02 14 40.9	
PBA				*ex*	x	02 14 44.6	
	comp=N,2μm,0.7s						
PBA				*ex*	x	02 14 50.6	
	comp=E,1μm,0.6s						
KULM	**Kulim**	**8.14**	**129**	*e*Pn	**Pn**	**02 15 20.1**	**-2.6**
KULM				*e*Sn	**Sn**	**02 16 51.9**	**-1.6**
SHL	**Shillong**	**15.13**	**351**	*e*P	**Pn**	**02 17 01.0**	**+2.9**
HYB	**Hyderabad**	**16.77**	**296**	*e*P	**Pn**	**02 17 28.5**	**+9.4**
CD2	**Chengdu**	**22.08**	**22**	*e*P	**P**	**02 18 19.9**	**+0.9**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,90nm,5.3s						
ENH	**Enshi**	**24.18**	**34**	*e*P	**P**	**02 18 39.5**	**-0.6**
	comp=Z,8.4nm,0.8s,mb4.2						
NJ2	**Nanjing**	**31.16**	**43**	*e*P	**P**	**02 19 43.5**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
AAK	**Ala-Archa**	**36.37**	**335**	*e*P	**P**	**02 20 27.2**	**-0.7**
	comp=Z,3.3nm,1.0s,mb4.2						
AAK				*e*pP	pP	02 20 33.8	-4.2
MKAR	**Makanchi Array**	**37.55**	**346**	P	**P**	**02 20 37.4**	**-0.5**
	comp=Z,1.4nm,0.6s,mb3.9,baz=169,slow=7.4,SNR=11						
SONM	**Songino Array**	**38.54**	**13**	P	**P**	**02 20 45.8**	**-0.4**
	comp=Z,0.5nm,0.9s,mb3.2,baz=191,slow=4.5,SNR=3.6						
KURK	**Kurchatov**	**42.09**	**345**	*e*P	**P**	**02 21 14.3**	**-1.4**
	comp=Z,1.0nm,0.6s,mb3.6						
ZAL	**Zalesovo**	**43.95**	**352**	P	**P**	**02 21 30.7**	**0.0**
	comp=Z,1.2nm,0.6s,mb3.8,baz=320,slow=20,SNR=8.4						
BVAR	**Borovoye Array**	**46.55**	**340**	P	**P**	**02 21 50.6**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=168,slow=8.1,SNR=4.8						
BRVK	**Borovoye**	**46.62**	**340**	P	**P**	**02 21 50.6**	**-1.2**
	comp=Z,1.4nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**49.68**	**128**	P	**P**	**02 22 17.7**	**+2.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=304,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**49.69**	**128**	*e*P	**P**	**02 22 17.3**	**+1.8**
	comp=Z,2.2nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**51.50**	**132**	P	**P**	**02 22 31.2**	**+2.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=308,slow=6.5,SNR=20						
GNI	**Garni**	**52.75**	**313**	*e*P	**P**	**02 22 39.2**	**+0.7**
	comp=Z,9.0nm,1.1s,mb4.6						
BRTR	**Keskin Array B**	**60.87**	**310**	P	**P**	**02 23 34.3**	**-1.8**
	comp=Z,1.0nm,0.8s,mb4.0,baz=115,slow=7.3,SNR=8.2						
TORD	**Torodi Ar. Bea**	**90.18**	**283**	P	**P**	**02 26 24.7**	**+0.9**
	comp=Z,0.4nm,0.7s,mb3.8,baz=86,slow=4.6,SNR=3.0						
PLCA	**Paso Flores**	**147.09**	**201**	PKPbc	PKPbc	02 33 08.8	+2.5
	comp=Z,1.5nm,0.9s,baz=132,slow=6.2,SNR=3.3						

*IDC **12** 02:14:18.7±3.1, 2800N×5686E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/24, mbtmp3.6/6, Error ellipse: s-maj=66.4km s-min=28.6km az=145.0*

*CSEM **12** 02:14:23.4, 2820N×5689E, h14km, ML3.2, After THR*
*THR **12** 02:14:23.4±0.4, 2820N×5689E, h14km±4km, ML3.2*

*ISCJB **12** 02:14:25.4±0.9, 281N±0.1×569E±0.1, h68km±11km, mb3.4/6, Error ellipse: s-maj=23.7km s-min=11.5km az=103.7*

ISC 12 02:14:23.7±1.1, 2828N±007×567E±01, h18km±9km, n11, σ0$63/13, mb3.4/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.99**	**208**	*e*PG	**Pg**	**02 14 42.4**	**-0.5**
BNDS				*e*SG	**Sg**	**02 14 56.4**	**+0.5**
BNDS				AML	AML	02 15 00.1	
	comp=E,559nm,0.5s						
BNDS				AML	AML	02 15 01.4	
	comp=N,456nm,0.6s						
BNDS	**Bandar-Abbas**	**0.99**	**208**	*e*Pg	**Pg**	**02 14 42.4**	**-0.5**
	SNR=90						
BNDS				*e*Sg	**Sg**	**02 14 56.4**	**+0.4**
	comp=N,456nm,0.6s,SNR=90						
KRBR	**Kerman**	**1.70**	**2**	*e*PG	**Pg**	**02 14 56.1**	**-0.2**
KRBR				AML	AML	02 15 27.9	
	comp=N,241nm,0.5s						
KRBR				AML	AML	02 15 29.4	
	comp=E,295nm,0.3s						
GHIR	**Ghir-Karzin**	**3.26**	**271**	*e*PN	**Pn**	**02 15 18.9**	**+4.9**
ZHSF	**Zahedan**	**3.82**	**69**	*e*PN	**Pn**	**02 15 22.3**	**+0.7**
AKTO	**Aktyubinsk**	**22.15**	**2**	P	**P**	**02 19 18.9**	**+0.5**
	comp=E,0.5nm,0.6s,mb3.1,baz=166,slow=11,SNR=4.3						
BRTR	**Keskin Array B**	**22.19**	**307**	P	**P**	**02 19 19.7**	**+0.8**
	comp=E,0.4nm,0.6s,mb3.0,baz=108,slow=12,SNR=4.3						
BVAR	**Borovoye Array**	**26.72**	**19**	P	**P**	**02 20 01.9**	**-0.1**
	comp=E,0.1nm,0.3s,mb2.8,baz=210,slow=11,SNR=3.8						
ZAL	**Zalesovo**	**32.85**	**31**	P	**P**	**02 20 55.2**	**-1.1**
	comp=E,1.2nm,0.3s,mb4.2,baz=309,slow=15,SNR=3.6						
FINES	**FINESS Array B**	**38.91**	**337**	P	**P**	**02 21 48.5**	**+0.2**
	comp=E,1.8nm,1.0s,mb3.8,baz=149,slow=6.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**53.17**	**265**	P	**P**	**02 23 39.8**	**-0.8**
	comp=E,0.2nm,0.6s,mb3.2,baz=62,slow=7.3,SNR=6.5						

*IDC **12** 02:15:19.2±1.0, 1050N×9411E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, MS3.6/6, Ms1 3.6/6, ms1mx3.2/18, Error ellipse: s-maj=42.8km s-min=19.9km az=56.0*

*NEIC **12** 02:15:20.6±0.7, 1051N×9410E, h10km, mb4.2/4, Error ellipse: s-maj=25.1km s-min=10.0km az=56.0*

*ISCJB **12** 02:15:22.4±0.8, 105N±0.1×942E±0.2, h33km, mb4.0/12, MS3.6/5, Error ellipse: s-maj=26.6km s-min=13.2km az=111.8*

ISC 12 02:15:25.1±0.8, 106N±01×942E±02, h35km, n19, σ0$59/13, mb4.0/12, MS3.6/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.77**	**306**	*e*P	Px	02 16 09.2	
PBA				*e*S	Sx	02 16 38.7	
PBA				*ex*	x	02 16 43.3	
	comp=N,1μm,0.5s						
PBA				*ex*	x	02 16 58.5	
	comp=E,2μm,1.0s						
PSI	**Prapat**	**9.06**	**149**	LR	LR	02 21 26.9	
	comp=E,288nm,19.4s,baz=301,slow=40						
ENH	**Enshi**	**24.20**	**34**	*e*P	**P**	**02 20 38.1**	**-0.1**
	comp=E,13nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**36.25**	**335**	*e*P	**P**	**02 22 24.7**	**-0.1**
	comp=E,2.3nm,1.0s,mb4.1						
MKAR	**Makanchi Array**	**37.46**	**347**	P	**P**	**02 22 35.2**	**+0.2**
	comp=E,1.8nm,0.7s,mb4.0,baz=163,slow=8.9,SNR=7.0						
SONM	**Songino Array**	**38.51**	**13**	P	**P**	**02 22 44.3**	**+0.4**
	comp=E,1.2nm,1.0s,mb3.6,baz=194,slow=5.4,SNR=5.5						
ZAL	**Zalesovo**	**43.87**	**352**	P	**P**	**02 23 28.5**	**+0.6**
	comp=E,1.5nm,0.8s,mb3.8,baz=305,slow=12,SNR=6.1						
ZAL				LR	LR	02 43 42.7	
	comp=E,30nm,21.7s,MS3.2,baz=106,slow=39						
ZAL	**Zalesovo**	**43.87**	**352**	P	**P**	**02 23 28.5**	**+0.6**
ZAL				LR	LR	02 43 42.6	
BVAR	**Borovoye Array**	**46.45**	**340**	P	**P**	**02 23 47.1**	**-1.3**
	comp=E,1.6nm,0.9s,mb3.9,baz=154,slow=6.1,SNR=5.1						
BRVK	**Borovoye**	**46.51**	**340**	P	**P**	**02 23 49.0**	**+0.1**
	comp=E,1.1nm,1.0s,mb3.7						
WRA	**Warramunga Arr**	**49.83**	**127**	P	**P**	**02 24 14.6**	**+0.1**
	comp=E,1.3nm,0.6s,mb4.1,baz=304,slow=8.9,SNR=6.4						
WRAB	**Tennant Creek**	**49.83**	**127**	*e*P	**P**	**02 24 14.8**	**+0.3**
	comp=E,2.6nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**51.64**	**132**	P	**P**	**02 24 27.6**	**-0.6**
	comp=E,1.8nm,0.8s,mb4.0,baz=310,slow=7.6,SNR=7.4						
BRTR	**Keskin Array B**	**60.72**	**310**	P	**P**	**02 25 32.4**	**-0.6**
	comp=E,1.0nm,0.8s,mb4.0,baz=117,slow=7.7,SNR=6.9						
STKA	**Stephens Creek**	**61.96**	**135**	LR	LR	02 50 59.4	
	comp=E,85nm,20.7s,MS3.9,baz=206,slow=34						
FINES	**FINESS Array B**	**70.34**	**332**	LR	LR	03 04 05.2	
	comp=E,42nm,18.2s,MS3.7,baz=114,slow=42						
ARCES	**ARCESS Array B**	**72.73**	**340**	LR	LR	03 00 25.6	
	comp=E,58nm,19.1s,MS3.9,baz=16,slow=37						
NOA	**NORSAR Array B**	**77.40**	**330**	LR	LR	03 03 13.6	
	comp=E,24nm,18.8s,MS3.5,baz=250,slow=37						
TORD	**Torodi Ar. Bea**	**90.03**	**283**	P	**P**	**02 28 22.0**	**+1.0**
	comp=E,0.4nm,0.8s,mb3.8,baz=57,slow=4.7,SNR=3.0						

MAN 12 02:23:58.8, 826N×12577E, h22km, mb2.3, ML3.9, MS1.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.59**	**97**	⇓*e*P	Pb	02 24 09.3	-1.1
BIPH				*e*S	Sb	02 24 17.1	-1.3
BUTP	**Butuan**	**0.72**	**348**	*e*P	Pb	02 24 12.8	+0.1
BUTP				*e*S	Sb	02 24 32.1	+10
BUKP	**Musuan**	**0.79**	**242**	*e*P	Pb	02 24 13.9	0.0
BUKP				*e*S	Sb	02 24 26.6	+2.4

IDC 12 03:03:38.5±0.8, 682N×7298W, h160km±12km, mb3.2/1, mb1 3.5/3, mb1mx3.0/22, mbtmp3.7/3, Error ellipse: s-maj=54.1km s-min=7.5km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.37**	**215**	P	Pn	03 04 20.3	+1.9
	13nm,0.3s,baz=275,slow=23,SNR=89						
ROSC				S	Sn	03 04 50.4	+1.1
	18nm,0.3s,baz=112,slow=17,SNR=14						
SDV	**Santo Domingo**	**3.10**	**48**	P	Pn	03 04 29.3	+1.8
	10.0nm,0.3s,baz=218,slow=1.7,SNR=71						
SDV				S	Sn	03 05 05.8	+0.4
	12nm,0.3s,baz=283,slow=20,SNR=26						
YKA	**Yellowknife Ar**	**63.31**	**340**	P	P	03 13 50.0	-0.3
	0.4nm,0.5s,baz=132,slow=6.6,SNR=10.0						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	PKPbc	03 23 08.4	+0.4
	0.5nm,0.9

ROSC S **Sn** **03 41 50.7 -0.2**
230nm,0.3s,baz=112,slow=19,SNR=22
SDV **Santo Domingo 3.11 48** P **Pn** **03 41 29.6 +0.7**
4.5nm,0.3s,baz=264,slow=5.0,SNR=38
SDV S **Sn** **03 42 07.2 -0.3**
16nm,0.3s,baz=96,slow=23,SNR=18
SDV **Santo Domingo 3.11 48** *e*Pn **Pn** **03 41 29.3 +0.3**
SDV *e*Sn **Sn** **03 42 06.9 -0.6**
SAML **Samuel 18.44 148** *e*P **P** **03 44 42.0 -0.1**
3.1nm,0.8s
ULM **Lac du Bonnet 47.35 340** P **P** **03 48 55.7 -0.6**
1.0nm,0.3s,mb3.9,baz=144,slow=7.0,SNR=4.3
ULM **Lac du Bonnet 47.35 340** P **P** **03 48 55.7 -0.6**
SCHQ **Schefferville 48.15 5** P **P** **03 49 03.2 +0.8**
2.9nm,0.9s,mb3.9,baz=110,slow=12,SNR=8.6
PDAR **Pinedale Array 48.18 324** P **P** **03 49 02.6 0.0**
0.2nm,0.5s,mb3.0,baz=128,slow=9.6,SNR=4.1
YKA **Yellowknife Ar 63.33 340** P **P** **03 50 50.1 -0.3**
1.4nm,0.6s,mb4.0,baz=132,slow=6.6,SNR=35
DBIC **Dimbokro 67.60 86** P **P** **03 51 17.9 +0.2**
1.9nm,0.8s,mb3.9,baz=220,slow=11,SNR=3.6
TORD **Torodi Ar. Bea 73.60 78** P **P** **03 51 53.8 -0.3**
0.1nm,0.3s,mb3.0,baz=283,slow=6.5,SNR=8.0
ILAR **Eielson Array 77.04 335** P **P** **03 52 13.7 0.0**
0.2nm,0.6s,mb3.0,baz=105,slow=3.9,SNR=5.1
ASAR **Alice Springs 149.21 234** PKPbc PKPbc 04 00 08.2 +0.3
0.9nm,0.5s,baz=121,slow=3.6,SNR=16
WRA **Warramunga Arr 150.45 241** PKPbc PKPbc 04 00 11.3 +0.4
0.9nm,0.4s,baz=108,slow=2.7,SNR=22

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*IDC **12** 03:48:33.3±1.6, 255N×9429E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=61.9km s-min=25.6km az=49.0*
*ISCJB **12** 03:48:35.8±1.1, 25N±02×94.1E±0.1, h30km, mb3.8/7, Error ellipse: s-maj=28.2km s-min=14.9km az=58.5*
*NEIC **12** 03:48:37.8±1.1, 251N×94.15E, h30km, mb4.2/1, Error ellipse: s-maj=28.2km s-min=15.0km az=206.0*
ISC 12 03:48:38.3±1.1, 25N±02×942E±01, h30km, n9, σ1§16/10, mb3.8/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.76**	**87**	Pn	**Pn**	**03 49 49.7**	**+1.8**
	0.9nm,0.3s,baz=300,slow=20,SNR=4.7						
PSI				Sn	**Sn**	**03 50 54.6**	**+13**
	0.7nm,0.3s,baz=264,slow=18,SNR=1.9						
KULM	**Kulim**	**7.02**	**67**	Pn	**Pn**	**03 50 18.1**	**-0.8**
MKAR	**Makanchi Array**	**45.27**	**349**	P	**P**	**03 56 51.3**	**-1.8**
	0.5nm,0.5s,mb3.6,baz=163,slow=8.9,SNR=5.2						
WRA	**Warramunga Arr**	**45.31**	**121**	P	**P**	**03 56 52.3**	**-1.0**
	2.4nm,0.7s,mb4.1,baz=300,slow=8.8,SNR=20						
WRAB	**Tennant Creek**	**45.32**	**121**	*e*P	**P**	**03 56 53.0**	**-0.4**
	2.6nm,0.8s,mb4.1						
SONM	**Songino Array**	**46.34**	**11**	P	**P**	**03 57 02.2**	**+0.8**
	0.4nm,0.7s,mb3.4,baz=212,slow=5.1,SNR=2.7						
ZAL	**Zalesovo**	**51.80**	**353**	P	**P**	**03 57 42.6**	**-0.7**
	0.9nm,0.3s,mb4.2,baz=120,slow=20,SNR=2.6						
BRTR	**Keskin Array B**	**65.98**	**313**	P	**P**	**03 59 22.2**	**+0.5**
	0.4nm,0.9s,mb3.5,baz=122,slow=4.5,SNR=3.9						
GERES	**GERESS Array B**	**81.81**	**319**	P	**P**	**04 00 56.0**	**+1.6**
	0.3nm,0.5s,mb3.5,baz=89,slow=5.7,SNR=3.5						

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*IDC **12** 03:58:53.0±0.9, 227N×12775E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, Error ellipse: s-maj=53.9km s-min=16.0km az=78.0*
*ISCJB **12** 03:59:02.9±1.8, 2.1N±0.1×1272E±03, h95km±19km, mb4.1/10, Error ellipse: s-maj=55.0km s-min=11.0km az=143.1*
*NEIC **12** 03:59:04.4±0.5, 226N×12784E, h100km, mb4.2/4, Error ellipse: s-maj=31.8km s-min=8.1km az=76.0*
ISC 12 03:59:02.3±1.7, 223N±010×1277E±03, h77km±18km, n15, σ0§78/18, mb4.1/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**6.18**	**335**	*e*P	**Pn**	**04 00 34.2**	**+3.2**
BUKP				*e*S	**Sn**	04 01 40.5	+0.3
PAGZ	**Pagadian**	**7.03**	**323**	*e*P	**Pn**	**04 00 42.0**	**-0.5**
PAGZ				*e*S	**Sn**	04 01 53.2	-7.7
IPIL	**Ipil**	**7.50**	**318**	*e*P	**Pn**	**04 00 48.1**	**-0.9**
IPIL				*e*S	**Sn**	04 02 05.5	-7.1
WRAB	**Tennant Creek**	**22.98**	**164**	*e*P	**P**	**04 04 00.8**	**+0.3**
	2.6nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**22.99**	**164**	P	**P**	**04 04 00.7**	**+0.1**
	1.7nm,0.4s,mb3.7,baz=334,slow=11,SNR=36						
WB2	**Warramunga Arr**	**22.99**	**164**	*e*P	**P**	**04 04 00.7**	**+0.1**
ASAR	**Alice Springs**	**26.45**	**167**	P	**P**	**04 04 32.5**	**+0.5**
	0.5nm,0.6s,mb3.2,baz=352,slow=8.1,SNR=15						
MJAR	**Matsushiro Arr**	**35.50**	**15**	P	**P**	**04 05 50.3**	**-1.2**
	1.9nm,0.7s,mb4.0,baz=184,slow=8.7,SNR=6.1						
NWAO	**Narrogin (SRO)**	**36.34**	**195**	P	**P**	**04 05 58.4**	**-0.4**
	6.8nm,0.7s,mb4.7,baz=59,slow=6.7,SNR=3.9						
STKA	**Stephens Creek**	**36.41**	**160**	*e*P	**P**	**04 05 58.7**	**-0.6**
	3.7nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**36.41**	**160**	P	**P**	**04 05 58.8**	**-0.6**
	3.1nm,0.4s,mb4.5,baz=335,slow=7.1,SNR=7.4						
ULN	**Ulaanbaatar**	**48.83**	**342**	*e*P	**P**	**04 07 40.1**	**+0.3**
	1.8nm,0.7s,mb4.1						
SONM	**Songino Array**	**49.01**	**341**	P	**P**	**04 07 42.0**	**+0.8**
	0.8nm,0.6s,mb3.9,baz=154,slow=8.9,SNR=8.5						
MKAR	**Makanchi Array**	**59.32**	**325**	P	**P**	**04 08 56.9**	**+0.7**
	2.4nm,0.6s,mb4.4,baz=116,slow=8.2,SNR=17						
KURK	**Kurchatov**	**63.50**	**328**	*e*P	**P**	**04 09 23.8**	**-0.6**
	3.3nm,0.6s,mb4.3						

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*IDC **12** 04:06:31.7±1.8, 206N×9332E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, ML3.5/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/29, Error ellipse: s-maj=50.2km s-min=21.4km az=52.0*
*ISCJB **12** 04:06:32.9±5.5, 2.1N±0.1×934E±0.1, h20km±39km, mb4.1/6, MS3.8/9, Error ellipse: s-maj=23.6km s-min=15.4km az=46.4*
*NEIC **12** 04:06:36.0±0.9, 205N×9333E, h30km, mb4.4/1, Error ellipse: s-maj=19.6km s-min=12.4km az=49.0*
ISC 12 04:06:35.0±5.6, 21N±01×9331E±010, h20km±40km, n17, σ0§59/10, mb4.1/6, MS3.8/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.65**	**83**	Pn	**Pn**	**04 07 57.7**	**-0.1**
	1.4nm,0.3s,baz=272,slow=4.9,SNR=6.2						
PSI				Sn	**Sn**	**04 09 02.0**	**-0.1**
	1.4nm,0.3s,baz=52,slow=18,SNR=2.7						
KULM	**Kulim**	**7.99**	**66**	*e*Pn	**Pn**	**04 08 29.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**41.51**	**149**	LR	LR	04 30 01.3	
	comp=Z,108nm,18.1s,MS3.8,baz=217,slow=34						
MKAR	**Makanchi Array**	**45.57**	**349**	P	**P**	**04 14 53.6**	**+0.2**
	0.7nm,0.5s,mb3.9,baz=171,slow=8.6,SNR=6.9						
WRA	**Warramunga Arr**	**45.81**	**121**	P	**P**	**04 14 55.6**	**+0.2**
	2.6nm,0.5s,mb4.4,baz=302,slow=8.5,SNR=33						
WRAB	**Tennant Creek**	**45.81**	**121**	*e*P	**P**	**04 14 55.3**	**-0.1**
	2.8nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**45.82**	**121**	*e*P	**P**	**04 14 55.4**	**0.0**
SONM	**Songino Array**	**46.97**	**12**	P	**P**	**04 15 05.6**	**+1.2**
	0.9nm,0.9s,mb3.7,baz=198,slow=6.0,SNR=5.3						
ASAR	**Alice Springs**	**47.04**	**125**	P	**P**	**04 15 05.0**	**-0.1**
	0.5nm,0.4s,mb3.8,baz=298,slow=7.7,SNR=12						
ZAL	**Zalesovo**	**52.17**	**354**	P	**P**	**04 15 42.6**	**-1.4**
	0.9nm,0.3s,mb4.2,baz=171,slow=2.4,SNR=3.1						
ZAL				LR	LR	04 40 20.8	
	comp=Z,34nm,18.1s,MS3.4,baz=160,slow=39						
MJAR	**Matsushiro Arr**	**53.74**	**45**	LR	LR	04 39 60.0	
	comp=Z,181nm,19.2s,MS4.2,baz=20,slow=37						
KMBO	**Kilima Mbogo**	**56.14**	**267**	LR	LR	04 34 11.6	
	comp=Z,40nm,20.6s,MS3.5,baz=94,slow=30						
CTA	**Charters Tower**	**56.37**	**116**	LR	LR	04 42 47.0	
	comp=Z,70nm,19.4s,MS3.8,baz=48,slow=39						
STKA	**Stephens Creek**	**56.85**	**131**	LR	LR	04 37 46.0	
	comp=Z,81nm,21.9s,MS3.8,baz=180,slow=33						
BOSA	**Boshof**	**71.87**	**239**	LR	LR	04 44 53.5	
	comp=Z,62nm,18.2s,MS3.9,baz=312,slow=32						
FINES	**FINESS Array B**	**77.45**	**333**	LR	LR	04 54 18.7	
	comp=Z,36nm,18.1s,MS3.7,baz=3.5,slow=37						
NOA	**NORSAR Array B**	**84.36**	**331**	LR	LR	04 58 15.5	
	comp=Z,30nm,18.3s,MS3.7,baz=190,slow=37						

MAN 12 04:14:08.7, 845N×12455E, h1km, mb1.7, ML3.5, MS0.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.15**	**87**	⇑*i*P	Pg	04 14 11.8	+0.3
CGP				*e*S	Sg	04 14 14.8	+1.3
BUKP	**Musuan**	**0.76**	**138**	*e*P	Pg	04 14 23.8	+0.5
PAGZ	**Pagadian**	**1.30**	**243**	*e*P	Pg	04 14 32.9	-0.7

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*IDC **12** 04:21:37.6±0.7, 1098N×8515W, h161km±6km, mb3.5/5, mb1 3.6/8, mb1mx3.3/23, mbtmp4.1/8, Error ellipse: s-maj=30.6km s-min=15.7km az=64.0*
*ISCJB **12** 04:21:38.7±0.4, 1075N±007×8509W±007, h178km±3km, mb3.9/7, Error ellipse: s-maj=14.8km s-min=3.2km az=88.8*
*NEIC **12** 04:21:38.1±1.1, 1090N×8522W, h175km±10km, mb4.0/3, Error ellipse: s-maj=21.9km s-min=13.6km az=57.0*
*CASC **12** 04:21:39.3±2.5, 1075N×8509W, h170km±5km, MD3.9, ML3.9, mb4.0(NEIC)*
ISC 12 04:21:39.4±0.4, 1077N±006×8507W±006, h176km±3km, n56, σ1§00/75, mb3.9/7, 17C-9D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIM1	**Limonal**	**0.19**	**249**	⇑*i*P	**Pn**	**04 22 02.0**	**-0.8**
LIM1				*e*S	**Sn**	04 22 19.5	-1.3
RIN3	**Volcan Rincon**	**0.30**	**274**	⇑*i*P	**Pn**	04 22 02.2	-0.8
RIN3				*e*S	**Sn**	04 22 20.4	-0.8
JTS	**JuntasAbangare**	**0.49**	**166**	P	**Pn**	04 22 02.5	-1.1
	684nm,0.3s,baz=18,slow=6.4,SNR=3365						
JTS				S	**Sn**	04 22 20.4	-1.9
	665nm,0.3s,baz=321,slow=23,SNR=29						
JTS	**JuntasAbangare**	**0.49**	**166**	⇓*e*P	**Pn**	**04 22 03.0**	**-0.7**
JTS				*e*S	**Sn**	04 22 20.8	-1.5
JTS	**JuntasAbangare**	**0.49**	**166**	⇑*i*Pn	**Pn**	04 22 02.8	-0.8
JTS				*e*Sn	**Sn**	04 22 20.7	-1.5
MADN	**Villa Maderas**	**0.78**	**325**	⇑*i*P	**Pn**	04 22 05.3	+0.1
VCR	**Vista de Mar**	**0.84**	**221**	⇑*e*P	**Pn**	04 22 04.8	-0.8
VCR				*e*S	**Sn**	04 22 25.2	-0.5
EPA	**Esparza**	**0.91**	**149**	⇓*i*P	**Pn**	04 22 05.9	-0.1
EPA				*e*S	**Sn**	04 22 26.2	-0.2
SSNN	**San Juan del S**	**0.92**	**304**	⇑*i*P	**Pn**	04 22 06.0	-0.1
SSNN				*e*S	**Sn**	04 22 25.7	-0.9
CGA2	**Cerro Gallo 2**	**0.96**	**141**	⇑*i*P	**Pn**	04 22 06.4	0.0
CGA2				*e*S	**Sn**	04 22 26.7	-0.4
CONN	**Concepcion**	**0.96**	**326**	⇑*e*P	**Pn**	04 22 06.4	0.0
CONN				*e*S	**Sn**	04 22 25.0	-2.2
VPS2	**Volcan Poas 2**	**1.00**	**125**	⇑*e*P	**Pn**	04 22 07.1	+0.5
VPS2				*e*S	**Sn**	04 22 28.6	+0.9
CAO	**Cobano**	**1.06**	**182**	⇓*i*P	**Pn**	04 22 06.6	-0.5
PRS1	**Puriscal**	**1.08**	**136**	⇑*i*P	**Pn**	04 22 07.7	+0.4
SJS	**Escuela Geolog**	**1.30**	**129**	*e*P	**Pn**	04 22 09.2	+0.1
SJS				*e*S	**Sn**	04 22 32.4	+0.4
LAJ	**Bijagual**	**1.30**	**134**	⇓*e*P	**Pn**	04 22 08.2	-0.9
LAJ				*e*S	**Sn**	04 22 31.9	-0.1
OCM	**Ochomogo**	**1.40**	**128**	*e*P	**Pn**	04 22 10.2	+0.2
OCM				*e*S	**Sn**	04 22 32.3	-1.3
IRZ2	**Volcan Irazu 2**	**1.40**	**124**	⇑*e*P	**Pn**	04 22 10.3	+0.3
IRZ2				*e*S	**Sn**	04 22 34.5	+0.7
LCR2	**La Lucha 2**	**1.46**	**134**	⇑*e*P	**Pn**	04 22 10.9	+0.3
VTU	**Volcan Turrial**	**1.49**	**120**	*e*P	**Pn**	04 22 11.3	+0.4
VTU				*e*S	**Sn**	04 22 34.9	-0.3
APON	**Apoyo**	**1.50**	**320**	*e*P	**Pn**	04 22 09.8	-1.1
APON				*e*S	**Sn**	04 22 37.2	+1.8
URSC	**Urasca**	**1.57**	**126**	⇑*e*P	**Pn**	04 22 12.4	+0.7
TICN	**Ticuantepe**	**1.70**	**318**	*e*P	**Pn**	04 22 13.9	+1.0
TICN				*e*S	**Sn**	04 22 39.6	+0.7
BUS	**Buena Vista**	**1.77**	**133**	⇑*e*P	**Pn**	04 22 14.8	+1.1
BUS				*e*S	**Sn**	04 22 40.7	+0.6
MGAN	**Managua**	**1.79**	**320**	⇑*i*P	**Pn**	04 22 14.3	+0.4
MGAN				*e*S	**Sn**	04 22 41.5	+0.9
XAVN	**Gruta Xavier**	**1.84**	**318**	*e*P	**Pn**	04 22 12.9	-1.5
XAVN				*e*S	**Sn**	04 22 42.6	+1.1
COPN	**Copaltepe**	**2.05**	**313**	*e*P	**Pn**	04 22 16.9	+0.3
COPN				*e*S	**Sn**	04 22 44.6	-0.9
MOMJ	**Momotombo**	**2.17**	**319**	⇓*e*P	**Pn**	04 22 18.1	0.0
MOMJ				*e*S	**Sn**	04 22 49.2	+1.1
MIRN	**Miramar**	**2.31**	**316**	*e*P	**Pn**	04 22 20.1	+0.4
MIRN				*e*S	**Sn**	04 22 51.2	+0.4
	comp=Z,367nm,0.5s						
LEON	**Leon**	**2.42**	**313**	⇓*e*P	**Pn**	04 22 21.4	+0.5
TEL3	**Telica 3**	**2.50**	**316**	⇓*e*P	**Pn**	04 22 22.4	+0.6
TEL3				*e*S	**Sn**	04 22 54.7	0.0
TELN	**Telica**	**2.51**	**317**	⇑*e*P	**Pn**	04 22 22.6	+0.7
TELN				*e*S	**Sn**	04 22 56.9	+1.9
CRIN	**San Cristobal**	**2.73**	**315**	⇑*e*P	**Pn**	04 22 25.1	+0.6
CRIN				*e*S	**Sn**	04 23 00.0	+0.5
ACR	**Cerro Adams**	**2.82**	**138**	*e*P	**Pn**	04 22 26.5	+0.9
ACR				*e*S	**Sn**	04 23 00.7	-0.8
CTCR	**Cotoan**	**2.94**	**129**	⇓*e*P	**Pn**	04 22 28.3	+1.2
CNCH	**Conchagua**	**3.68**	**313**	⇓*e*P	Px	04 22 41.0	
CNCH				*e*S	Sx	04 23 24.4	
BLLM	**Bellamira**	**4.08**	**311**	*e*P	Px	04 22 47.2	
BLLM				*e*S	Sx	04 23 35.1	
VSM	**San Miguel**	**4.10**	**311**	*e*P	Px	04 22 47.2	
VSM				*e*S	Sx	04 23 37.3	
LCBS	**La Ceiba**	**4.78**	**307**	*e*P	Px	04 22 56.4	
LCBS				*e*S	Sx	04 23 50.2	
LBRS	**Las Brisas**	**4.88**	**308**	*e*P	Px	04 22 57.3	
LBRS				*e*S	Sx	04 23 53.0	
SBLS	**San Blas**	**5.39**	**305**	*e*P	Px	04 23 04.7	
SBLS				*e*S	Sx	04 24 07.6	
SNJE	**San Jose**	**5.40**	**305**	*e*P	Px	04 23 04.8	
SNJE				*e*S	Sx	04 24 09.4	
RTR	**El Retiro**	**5.45**	**305**	*e*P	Px	04 23 05.4	
RTR				*e*S	Sx	04 24 09.0	
ROSC	**El Rosal**	**12.15**	**118**	P	**Pn**	**04 24 29.2**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=99,slow=19,SNR=6.0						
SDV	**Santo Domingo**	**14.35**	**96**	P	**Pn**	**04 24 56.0**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=281,slow=16,SNR=9.0						
SDV	**Santo Domingo**	**14.35**	**96**	*e*P	**Pn**	**04 24 55.2**	**+0.7**
	comp=Z,4.1nm,0.7s						
SJG	**San Juan**	**19.71**	**66**	P	**P**	**04 25 53.9**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=267,slow=4.3,SNR=3.3						
WVT	**Waverly**	**25.37**	**355**	*e*P	**P**	**04 26 48.3**	**-1.9**
	comp=Z,3.1nm,0.9s,mb3.8						
WCI	**Wyandotte Cave**	**27.37**	**358**	P	**P**	**04 27 06.8**	**-1.3**
	comp=Z,8.2nm,0.9s,mb4.4						
SIV	**San Ignacio**	**35.65**	**138**	P	**P**	**04 28 22.0**	**+1.6**
	comp=Z,1.1nm,0.6s,mb3.7,baz=299,slow=9.6,SNR=9.6						
ULM	**Lac du Bonnet**	**40.36**	**349**	P	**P**	**04 28 57.5**	**-2.3**
	comp=Z,3.0nm,0.6s,mb4.1,baz=164,slow=8.2,SNR=7.9						
SCHQ	**Schefferville**	**46.26**	**15**	P	**P**	**04 29 45.2**	**-1.8**
	comp=Z,2.4nm,0.4s,mb4.2,baz=221,slow=5.7,SNR=14						
SCHQ	**Schefferville**	**46.26**	**15**	P	**P**	**04 29 45.2**	**-1.8**
PLCA	**Paso Flores**	**52.97**	**166**	P	**P**	**04 30 39.1**	**+1.4**
	comp=Z,0.7nm,0.7s,mb3.5,baz=11,slow=5.2,SNR=3.2						
YKA	**Yellowknife Ar**	**55.85**	**344**	P	**P**	**04 30 56.1**	**-2.3**
	comp=Z,0.2nm,0.4s,mb3.3,baz=143,slow=6.8,SNR=10						
WRA	**Warramunga Arr**	**141.00**	**252**	PKhKP		04 40 45.3	
	comp=Z,0.7nm,0.9s,baz=95,slow=3.3,SNR=6.8						
WRA				PKP	PKPdf	04 40 49.5	+1.1
	comp=Z,0.3nm,0.5s,baz=94,slow=2.4,SNR=6.8						

IDC 12 04:24:18.0±7.1, 366N×9555E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=351.9km s-min=30.1km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.48**	**347**	P	P	04 32 31.0	0.0
	0.2nm,0.3s,baz=153,slow=9.7,SNR=4.1						
WRA	**Warramunga Arr**	**44.74**	**123**	P	P	04 32 33.0	0.0
	1.5nm,0.6s,baz=301,slow=8.7,SNR=20						
ASAR	**Alice Springs**	**46.19**	**128**	P	P	04 32 45.5	+1.0
	0.1nm,0.2s,baz=294,slow=7.7,SNR=4.1						

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*BJI **12** 04:28:57.1, 6935N×14567W, h19km, mB5.3, mb4.7, Ms5.0, Msz4.5*
*ISCJB **12** 04:29:00.4±0.2, 6952N±002×14626W±008, h10km, mb4.5/80, MS4.1/11, Error ellipse: s-maj=4.1km s-min=2.9km az=146.1*
*MOS **12** 04:29:00.4±0.9, 6952N×14600W, h10km, mb4.8/32, Error ellipse: s-maj=19.5km s-min=4.9km az=93.0*
*NEIC **12** 04:29:01.8, 6954N×14587W, h10km, mb4.6/45, ML4.6(AEIC), ML4.9(PMR), After AEIC.*
*IDC **12** 04:29:01.0±0.6, 6956N×14574W, h0km, mb4.2/20, mb1 4.4/23, mb1mx4.4/27, mbtmp4.3/23, ML4.3/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/25, Error ellipse: s-maj=14.9km s-min=10.2km az=54.0*
*PGC **12** 04:29:03.8, 6967N×145.16W, h1km, ML4.2/1, 137km southeast of Prudhoe Bay, Ak Coast of northern Alaska.*
ISC 12 04:29:01.1±1.2, 6957N±002×14615W±008, h4km±7km, h15km±.3km: pP-P, n201, σ1§16/223, mb4.5/80, MS4.1/11, 5C-4D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.24**	**165**	P	**Pn**	**04 29 38.3**	**-0.6**
COLD	**Coldfoot**	**2.79**	**214**	P	**Pn**	**04 29 47.1**	**+0.6**
INK	**Inuvik**	**4.73**	**100**	Pn	**Pn**	**04 30 11.1**	**-2.1**
	3.3nm,0.3s,baz=301,slow=8.4,SNR=136						
INK				Sn	**Sn**	**04 31 03.3**	**-5.1**
	11nm,0.3s,baz=84,slow=28,SNR=5.8						
INK				Lg		04 31 27.0	
	18nm,0.3s,baz=352,slow=32,SNR=3.2						
INK				LR	LR	04 31 42.5	
	comp=Z,166nm,20.0s,baz=100,slow=35						
INK	**Inuvik**	**4.73**	**100**	Pn	**Pn**	**04 30 11.2**	**-2.0**
INK				Sn	**Sn**	**04 31 00.4**	**-8.0**
INK				Trac		04 31 10.4	
	comp=Z,121nm,0.6s						
INK	**Inuvik**	**4.73**	**100**	*e*P	**Pn**	**04 30 10.8**	**-2.4**
INK				*e*		04 31 05.7	
INK	**Inuvik**	**4.73**	**100**	*e*Pn	**Pn**	**04 30 10.8**	**-2.4**
INK				*e*Sn	**Sn**	**04 31 05.7**	**-2.8**
INK				*e*Sg	**Sg**	**04 31 31.1**	**-1.9**
COLA	**College**	**4.77**	**189**	P	**Pn**	**04 30 13.3**	**-0.4**
IL1	**Eielson Array**	**4.83**	**184**	P	**Pn**	**04 30 14.1**	**-0.5**
ILAR	**Eielson Array**	**4.83**	**184**	Pn	**Pn**	**04 30 14.0**	**-0.6**
	4.8nm,0.3s,baz=0.3,slow=10,SNR=328						
ILAR				Sn	**Sn**	**04 31 09.6**	**-1.4**
	16nm,0.3s,baz=0.4,slow=26,SNR=5.1						
ILAR				Lg		04 31 31.6	
	18nm,0.3s,baz=2.3,slow=29,SNR=5.7						
ILAR				LR	LR	04 32 23.4	
	comp=Z,613nm,18.2s,baz=105,slow=42						
ILAR	**Eielson Array**	**4.83**	**184**	P	**Pn**	**04 30 14.0**	**-0.6**
ILAR						04 31 09.6	
MCK	**McKinley**	**5.97**	**192**	P	**Pn**	**04 30 30.0**	**-0.2**
KTH	**Kantishna Hill**	**6.34**	**200**	P	**Pn**	**04 30 35.4**	**+0.2**
KTH				S	**Sn**	**04 31 48.0**	**-0.1**
TRF	**Thorofare Moun**	**6.37**	**197**	P	**Pn**	**04 30 35.6**	**-0.1**
PAX	**Paxson**	**6.64**	**177**	P	**Pn**	**04 30 39.6**	**+0.2**
PAX				S	**Sn**	**04 31 54.1**	**-1.4**
MENT	**Mentasta**	**6.74**	**170**	P	**Pn**	**04 30 40.5**	**-0.2**
TT01	**Tatalina**	**7.78**	**215**	P	**Pn**	**04 30 55.2**	**+0.1**
SML	**Sawmill**	**7.85**	**188**	*e*P	**Pn**	**04 30 56.4**	**+0.4**
PMR	**Palmer**	**8.11**	**190**	*e*P	**Pn**	**04 31 00.3**	**+0.7**
DIV	**Divide**	**8.48**	**179**	*e*Pn	**Pn**	**04 31 00.9**	**-3.8**
	66nm,0.5s						
FIB	**Fire Island**	**8.61**	**193**	*e*P	**Pn**	**04 31 07.9**	**+1.5**
FIB				pmax	pmax		
	comp=Z,28nm,0.7s						
FIB	**Fire Island**	**8.61**	**193**	*e*Pn	**Pn**	**04 31 07.9**	**+1.5**
	comp=Z,28nm,0.7s						
TNA	**Tin City**	**9.21**	**255**	*e*Pn	**Pn**	**04 31 13.4**	**-1.3**
	comp=Z,10.0nm,0.7s						
SLKM	**Skilak Lake**	**9.26**	**193**	*e*P	**Pn**	**04 31 16.9**	**+1.5**
SVW2	**Sparrevohn**	**9.36**	**209**	*e*P	**Pn**	**04 31 17.8**	**+1.0**
HYT	**Haines Junctio**	**9.49**	**153**	Pn	**Pn**	**04 31 18.5**	**-0.1**
HYT				Sg	Sn	04 33 53.0	+47
HYT				Trac		04 34 18.1	
	comp=Z,86nm,1.1s						
WHY	**Whitehorse**	**10.11**	**147**	⇓Pn	**Pn**	**04 31 26.2**	**-0.7**
WHY				Sn	**Sn**	**04 33 11.3**	**-9.4**
WHY				Sg	Sn	04 34 20.8	+60
WHY				Trac		04 34 40.4	
	comp=Z,30nm,1.1s						
YKW3	**Yellowknife Ar**	**14.43**	**104**	⇓Pn	**Pn**	**04 32 20.0**	**-6.1**
YKW3				⇓Pn	**Pn**	**04 32 20.1**	**-6.0**
YKW3				Sn	**Sn**	**04 34 49.2**	**-17**
YKW3				Sn	**Sn**	**04 34 49.3**	**-17**
YKW3				Trac		04 35 06.9	
	comp=Z,15nm,0.4s						
YKW3				Trac		04 35 07.0	
	comp=Z,17nm,0.5s						
YKW3	**Yellowknife Ar**	**14.43**	**104**	*e*Pn	**Pn**	**04 32 20.0**	**-6.1**
YKW3				*e*Sn	**Sn**	**04 34 49.9**	**-17**
YKA	**Yellowknife Ar**	**14.48**	**104**	Pn	**Pn**	**04 32 20.7**	**-6.1**
	baz=314,slow=13,SNR=82						
YKA				Sn	**

NEW LR LR 04 45 02.9
TBM Table Mountain 25.75 137 P **P** **04 34 33.0 +0.2**
TIXI Tiksi 26.12 314⇑ *i*P **P** **04 34 36.1 0.0**
TIXI *e*S **S** **04 39 08.2 0.0**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
MA2 Magadan 27.52 281 *e*P **P** **04 34 48.6 -0.1**
MA2 *e* 04 35 48.0
MA2 *e* 04 38 02.0
MA2 *e*S **S** **04 39 25.9 -4.2**
MA2 *e*SS 04 40 41.9
MA2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
MA2 MLR MLR
comp=Z,400nm,24.0s,MS3.9
MA2 Magadan 27.52 281 *e*P **P** **04 34 47.9 -0.7**
comp=Z,9.4nm,1.3s,mb4.3
MSO Missoula 27.78 128 *e*P **P** **04 34 50.0 -1.0**
comp=Z,5.9nm,0.8s,mb4.3
CHMT Chamberlain Mo 27.90 127 *e*P **P** **04 34 51.3 -0.8**
EGMT Eagleton 27.91 122 *e*P **P** **04 34 51.3 -0.9**
comp=Z,9.2nm,0.7s,mb4.5
BOZ Bozeman (W) 29.51 126 *e*P **P** **04 35 05.7 -0.7**
BOZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
BOZ Bozeman (W) 29.51 126 *e*P **P** **04 35 05.7 -0.8**
comp=Z,2.1nm,0.7s,mb4.0
GCMT Greycliff 29.95 124 *e*P **P** **04 35 10.2 -0.1**
ULM Lac du Bonnet 30.46 103 P **P** **04 35 12.2 -2.6**
comp=Z,1.2nm,0.6s,mb3.8,baz=304,slow=3.6,SNR=3.1
HLID Hailey 30.68 131 *e*P **P** **04 35 18.9 +2.2**
comp=Z,1.4nm,0.7s,mb3.9
WVOR Wild Horse Val 30.68 138 *e*P **P** **04 35 17.3 +0.5**
WVOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
WVOR Wild Horse Val 30.68 138 *e*P **P** **04 35 17.3 +0.5**
comp=Z,8.3nm,0.9s,mb4.6
FLWY Flagg Ranch 31.21 126 *e*P **P** **04 35 23.1 +1.7**
comp=Z,4.7nm,0.8s,mb4.4
LOHW Long Hollow 31.67 126 *e*P **P** **04 35 26.2 +0.7**
comp=Z,8.4nm,0.8s,mb4.6
SNOW Snow King Moun 31.77 127 *e*P **P** **04 35 27.5 +1.1**
comp=Z,12nm,0.8s,mb4.8
YAK Yakutsk 32.59 299 *i*P **P** **04 35 33.1 -0.5**
YAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
BW06 Boulder Array 32.75 126 *e*P **P** **04 35 34.5 -0.4**
comp=Z,6.1nm,0.8s,mb4.6
PDAR Pinedale Array 32.75 126 P **P** **04 35 35.0 +0.1**
comp=Z,6.8nm,0.8s,mb4.6,baz=8.0,slow=5.3,SNR=26
ELK Elko 33.11 134 *e*P **P** **04 35 39.3 +1.2**
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 33.11 134 *e*P **P** **04 35 39.3 +1.2**
comp=Z,6.5nm,0.9s,mb4.6
RSSD Black Hills 33.16 118 *e*P **P** **04 35 37.5 -1.0**
RSSD pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
RSSD Black Hills 33.16 118 *e*P **P** **04 35 37.5 -1.0**
comp=Z,4.3nm,0.6s,mb4.6
HWUT Hardware Ranch 33.26 129 *e*P **P** **04 35 39.5 +0.1**
comp=Z,5.0nm,0.8s,mb4.5
TCUT Toone Canyon 33.76 129 *e*P **P** **04 35 44.5 +0.7**
EYMN Ely 33.93 101 *e*P **P** **04 35 41.9 -3.3**
comp=Z,10nm,0.7s,mb4.9
DUG Dugway 34.25 132 *e*P **P** **04 35 48.9 +0.9**
DUG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
DUG Dugway 34.25 132 *e*P **P** **04 35 48.9 +0.9**
comp=Z,9.7nm,0.8s,mb4.8
NVAR Mina Array Bea 34.57 140 P **P** **04 35 51.6 +0.8**
comp=Z,16nm,1.1s,mb4.8,baz=324,slow=7.2,SNR=19
TPH Tonopah 35.16 138 *e*P **P** **04 35 56.6 +0.7**
TPH pmax pmax
comp=Z,15nm,0.9s,mb4.9
TPH Tonopah 35.16 138 *e*P **P** **04 35 56.6 +0.7**
comp=Z,15nm,0.9s,mb4.9
SRU San Rafael 35.88 129 *e*P **P** **04 36 02.4 +0.3**
SRU pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
SRU San Rafael 35.88 129 *e*P **P** **04 36 02.4 +0.4**
comp=Z,9.5nm,1.2s,mb4.6
MSU Marysvale 35.99 132 *e*P **P** **04 36 03.8 +0.7**
ARUT Antelope Range 36.35 134 *e*P **P** **04 36 06.7 +0.5**
CCUT Cedar City 36.60 134 *e*P **P** **04 36 09.0 +0.8**
SCHQ Schefferville 36.74 72 P **P** **04 36 07.6 -1.9**
comp=Z,14nm,0.8s,mb4.9,baz=323,slow=8.6,SNR=16
SCHQ Schefferville 36.74 72 *e*P **P** **04 36 09.0 -0.5**
comp=Z,20nm,0.8s,mb5.0
SMCO Snowmass 36.81 125 *e*P **P** **04 36 10.2 +0.2**
comp=Z,7.8nm,1.0s,mb4.5
PV01 Paradox Valley 37.33 128 *e*P **P** **04 36 15.0 +0.6**
NEN Nelson 38.04 137 *e*P **P** **04 36 20.8 +0.3**
SDCO Great Sand Dun 38.56 124 *e*P **P** **04 36 25.1 +0.2**
comp=Z,4.3nm,1.1s,mb4.1
WUAZ Wupatki 39.03 132 *e*P **P** **04 36 29.3 +0.5**
comp=Z,8.2nm,0.7s,mb4.6
CBKS Cedar Bluff 39.32 117 *e*P **P** **04 36 28.8 -2.4**
CBKS pmax pmax
comp=Z,13nm,0.7s,mb4.8
CBKS Cedar Bluff 39.32 117 *e*P **P** **04 36 28.8 -2.4**
comp=Z,13nm,0.7s,mb4.8
BOD Bodaibo 40.64 306 *e*P **P** **04 36 40.8 -1.4**
BOD pmax pmax
comp=Z,15nm,0.8s,mb4.7
ANMO Albuquerque 40.90 127 P **P** **04 36 44.4 0.0**
comp=Z,2.2nm,0.6s,mb4.0,baz=347,slow=8.1,SNR=8.7
ANMO Albuquerque 40.90 127 *e*P **P** **04 36 44.3 0.0**
ANMO pmax pmax
comp=Z,3.0nm,0.7s
ANMO Albuquerque 40.90 127 *e*P **P** **04 36 44.3 0.0**
comp=Z,2.8nm,0.7s,mb4.0
ARCES ARCESS Array B 41.03 4 P **P** **04 36 45.1 -0.3**
comp=Z,5.9nm,0.8s,mb4.2,baz=8.9,slow=8.6,SNR=5.0
TUC Tucson 42.23 133 *e*P **P** **04 36 53.8 -1.4**
TUC pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
TUC Tucson 42.23 133 *e*P **P** **04 36 53.8 -1.4**
comp=Z,2.3nm,0.7s,mb3.9
KLR Kul'dur 42.38 286 *e*P **P** **04 36 53.0 -3.5**
ASAJ Asahikawa 43.05 272 LR LR 04 55 14.7
comp=Z,112nm,19.9s,MS3.8,baz=89,slow=36
MNTX Cornudas Mount 44.25 127 P **P** **04 37 11.9 +0.3**
comp=Z,1.4nm,0.6s,mb3.9
WVT Waverly 45.66 106 *e*P **P** **04 37 19.6 -3.2**
WVT pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
WVT Waverly 45.66 106 *e*P **P** **04 37 19.6 -3.2**
comp=Z,3.7nm,0.7s,mb4.4
HIA Hailar 46.29 295⇑ *e*P **P** **04 37 29.2 +1.4**
JCT Junction City 47.02 121 *e*P **P** **04 37 32.5 -1.0**
JCT pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
JCT Junction City 47.02 121 *e*P **P** **04 37 32.5 -0.9**
comp=Z,4.5nm,0.7s,mb4.5
MDJ Mudanjiang 47.12 284 P **P** **04 37 31.1 -3.2**
MDJ AMB AMB
comp=Z,11nm,1.8s,mb4.5
MDJ AMB AMB
comp=Z,105nm,4.5s
JOF Joensuu 47.78 2 *e*p **P** **04 37 39.3 -0.1**
comp=Z,0.8nm,0.4s,mb4.1
KAF Kangasniemi 48.49 5 *e*p **P** **04 37 43.4 -1.5**
comp=Z,0.4nm,0.4s,mb3.8
NOA NORSAR Array B 48.68 14 P **P** **04 37 46.5 +0.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=344,slow=5.3,SNR=3.0
FINES FINESS Array B 49.16 5 P **P** **04 37 48.9 -1.1**
comp=Z,1.3nm,0.5s,mb4.2,baz=7.0,slow=8.7,SNR=11
CN2 Changchun 49.24 287 *e*P **P** **04 37 49.6 -1.1**
CN2 *e*XP sP 04 37 56.6 +4.1
CN2 *e*S **S** **04 44 53.7 -3.4**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
KLMR Klimovskoe 49.80 356 *e*P **P** **04 37 56.4 +1.4**
KLMR pmax pmax
comp=Z,50nm,1.9s,mb5.2
MAJO Matsushiro 51.30 272 *e* **P** **04 38 03.0 -3.3**
MJAR Matsushiro Arr 51.30 272 LR LR 05 01 38.2
comp=Z,94nm,18.1s,MS3.9,baz=180,slow=38
ZAL Zalesovo 51.37 324 P **P** **04 38 07.2 +0.4**
comp=Z,1.1nm,0.6s,mb4.0,baz=131,slow=8.6,SNR=6.8
ZAL LR LR 05 02 01.0
comp=Z,63nm,19.4s,MS3.6,baz=82,slow=38
ULN Ulaanbaatar 51.40 304 *i*P **P** **04 38 07.7 +0.7**

SONM Songino Array 51.62 305 P **P** **04 38 09.5 +0.9**
comp=Z,1.5nm,0.8s,mb4.0,baz=36,slow=6.5,SNR=9.1
SONM LR LR 05 02 32.4
comp=Z,85nm,20.4s,MS3.8,baz=359,slow=39
ARU Arti 53.03 343⇑ *i*P **P** **04 38 20.0 +0.8**
ARU *e* 04 40 20.3
ARU *e*PPP 04 41 25.8
ARU *e*S **S** **04 45 50.5 +0.9**
ARU *e*SS SS 04 49 32.7 +4.0
ARU pmax pmax
comp=Z,11nm,1.6s,mb4.5
ARU Arti 53.03 343 *e*P **P** **04 38 19.7 +0.5**
comp=Z,3.6nm,0.6s,mb4.5
BRVK Borovoye 54.83 334 *e*P **P** **04 38 32.3 0.0**
BRVK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BRVK Borovoye 54.83 334 *e*P **P** **04 38 32.3 0.0**
comp=Z,1.9nm,1.1s,mb4.0
BVAR Borovoye Array 54.84 334 P **P** **04 38 33.8 +1.4**
comp=Z,1.4nm,0.9s,mb4.0,baz=52,slow=7.7,SNR=6.0
OBN Obninsk 55.61 358⇑ *e*P **P** **04 38 38.1 +0.2**
OBN *e* 04 40 48.5
OBN *e*S **S** **04 46 25.1 +0.8**
OBN pmax pmax
comp=Z,27nm,2.1s,mb4.9
KURK Kurchatov 55.65 327 *e*P **P** **04 38 37.3 -0.9**
KURK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
KURK Kurchatov 55.65 327 *i*P **P** **04 38 38.8 +0.6**
KURK Kurchatov 55.65 327 *e*P **P** **04 38 37.3 -0.9**
comp=Z,6.5nm,1.3s,mb4.5
HHC Hu-ho-hao-te 56.40 297 *e*P **P** **04 38 41.8 -1.8**
HHC AP pP 04 38 46.4 +1.5
HHC XP sP 04 38 48.8 +3.3
HHC PCP PcP 04 39 39.3 -1.4
HHC PP PP 04 40 48.5 -0.6
HHC S **S** **04 46 28.9 -6.0**
HHC SCS ScS 04 48 26.8 -6.9
HHC SS SS 04 50 16.2 -5.6
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,178nm,4.8s
HHC LR LR
comp=N,113nm,5.7s
HHC LR LR
comp=E,250nm,5.5s
HHC LR LR
comp=Z,111nm,6.1s
CLL Collm 58.47 15 *i*pP pP 04 38 59.2 -0.3
MKAR Makanchi Array 58.65 323 P **P** **04 39 00.6 +1.2**
comp=Z,1.1nm,0.5s,mb4.1,baz=18,slow=8.1,SNR=9.4
GIVF Givet 58.76 21 *e*P **P** **04 39 00.8 +0.6**
FLN La Foliniere 59.32 26 *e*P **P** **04 39 04.3 +0.2**
comp=Z,32nm,1.1s,mb5.0
FLN La Foliniere 59.32 26 *e*P **P** **04 39 04.3 +0.2**
FLN pmax pmax
comp=Z,16nm,1.1s,mb5.0
FLN La Foliniere 59.32 26 *e*P **P** **04 39 04.3 +0.2**
comp=Z,16nm,1.1s,mb5.0
LDF La Druitiere 59.54 25 *e*P **P** **04 39 05.8 +0.2**
GRR Gorron 59.63 26 *e*P **P** **04 39 06.4 +0.2**
QUIF Quistinic 59.72 28 *e*P **P** **04 39 07.3 +0.4**
comp=Z,59nm,1.2s,mb5.2
QUIF Quistinic 59.72 28 *e*P **P** **04 39 07.3 +0.4**
QUIF pmax pmax
comp=Z,30nm,1.2s,mb5.2
QUIF Quistinic 59.72 28 *e*P **P** **04 39 07.3 +0.4**
comp=Z,30nm,1.2s,mb5.2
AKASG Malin Array Be 59.99 3 P **P** **04 39 08.1 -0.7**
comp=Z,1.4nm,0.6s,mb4.2,baz=356,slow=6.9,SNR=8.9
WMQ Urumqi 60.26 318 *e*P **P** **04 39 10.5 -0.1**
WMQ AP pP 04 39 15.1 +3.2
WMQ XP sP 04 39 17.5 +5.1
WMQ PCP PcP 04 39 55.9 0.0
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,74nm,4.2s
WMQ LR LR
comp=N,456nm,22.0s,MS4.8
WMQ LR LR
comp=E,542nm,20.1s,MS4.8
WMQ LR LR
comp=Z,555nm,20.0s,MS4.7
GERES GERESS Array B 60.97 15 P **P** **04 39 15.2 -0.3**
comp=Z,1.4nm,0.8s,mb4.2,baz=0.0,slow=4.5,SNR=9.4
GTA Gaotai 61.23 306 *e*P **P** **04 39 17.7 +0.5**
GTA AP pP 04 39 22.0 +3.4
GTA XP sP 04 39 24.7 +5.6
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.6
HYF Humbligny 61.24 24 *e*P **P** **04 39 18.3 +1.1**
LOR Lormes 61.41 23 *e*P **P** **04 39 19.2 +0.8**
MFF Saint Martin d 61.48 26 *e*P **P** **04 39 19.8 +0.9**
comp=Z,17nm,0.9s,mb4.9
MFF Saint Martin d 61.48 26 *e*P **P** **04 39 19.8 +0.9**
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
MFF Saint Martin d 61.48 26 *e*P **P** **04 39 19.8 +0.9**
comp=Z,8.6nm,0.9s,mb4.9
SSF Saint Saulge 61.56 23 *e*P **P** **04 39 20.1 +0.7**
comp=Z,10nm,0.8s,mb4.7
SSF Saint Saulge 61.56 23 *e*P **P** **04 39 20.1 +0.7**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
SSF Saint Saulge 61.56 23 *e*P **P** **04 39 20.1 +0.7**
comp=Z,5.2nm,0.8s,mb4.7
AVF Avril sur Loir 61.81 23 *e*P **P** **04 39 21.7 +0.6**
comp=Z,41nm,1.3s,mb5.1
AVF Avril sur Loir 61.81 23 *e*P **P** **04 39 21.7 +0.6**
AVF pmax pmax
comp=Z,21nm,1.3s,mb5.1
AVF Avril sur Loir 61.81 23 *e*P **P** **04 39 21.7 +0.6**
comp=Z,21nm,1.3s,mb5.1
BGF Bois d'Agland 61.96 24 *e*P **P** **04 39 22.7 +0.6**
comp=Z,53nm,1.1s,mb5.3
BGF Bois d'Agland 61.96 24 *e*P **P** **04 39 22.7 +0.6**
BGF pmax pmax
comp=Z,27nm,1.1s,mb5.3
BGF Bois d'Agland 61.96 24 *e*P **P** **04 39 22.7 +0.6**
comp=Z,27nm,1.1s,mb5.3
NJ2 Nanjing 62.06 287 *e*P **P** **04 39 23.3 +0.5**
NJ2 AP pP 04 39 27.9 +3.7
NJ2 XP sP 04 39 30.3 +5.6
NJ2 PP PP 04 41 42.3 +3.0
NJ2 S **S** **04 47 46.0 -2.2**
NJ2 XS sS 04 47 54.0 +3.6
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,390nm,4.2s
NJ2 LR LR
comp=N,1μm,15.8s,MS5.2
NJ2 LR LR
comp=E,510nm,15.0s,MS5.2
NJ2 LR LR
comp=Z,290nm,15.8s,MS4.5
TCF Toulx Ste Croi 62.14 24 *e*P **P** **04 39 23.9 +0.6**
comp=Z,13nm,0.8s,mb4.8
TCF Toulx Ste Croi 62.14 24 *e*P **P** **04 39 23.9 +0.6**
TCF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
TCF Toulx Ste Croi 62.14 24 *e*P **P** **04 39 23.9 +0.6**
comp=Z,6.7nm,0.8s,mb4.8
SSE Sheshan 62.15 284 P **P** **04 39 20.4 -3.0**
SSE AMB AMB
comp=Z,29nm,0.6s,mb5.6
SSE AMB AMB
comp=Z,343nm,4.2s
CABF La Chapelle 62.35 21 *e*P **P** **04 39 25.8 +1.1**
comp=Z,39nm,1.2s,mb5.1
CABF La Chapelle 62.35 21 *e*P **P** **04 39 25.8 +1.1**
CABF pmax pmax
comp=Z,20nm,1.2s,mb5.1
CABF La Chapelle 62.35 21 *e*P **P** **04 39 25.8 +1.1**
comp=Z,20nm,1.2s,mb5.1
LZH Lanzhou 63.14 301 *e*P **P** **04 39 25.8 -4.2**
LZH AMB AMB
comp=Z,21nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,57nm,7.4s
LZH LR LR
comp=E,363nm,15.7s
LZH LR LR
comp=Z,512nm,19.2s,MS4.7

CAF Calviac 63.45 25 *e*P **P** **04 39 32.8 +0.8**
LPL La Plagne 63.51 21 *e*P **P** **04 39 33.4 +1.0**
AAK Ala-Archa 64.20 328 *e*P **P** **04 39 36.9 -0.1**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AAK Ala-Archa 64.20 328 *e*P **P** **04 39 36.9 -0.1**
comp=Z,1.6nm,0.6s,mb4.2
SBF Sospel 65.22 21 *e*P **P** **04 39 43.7 0.0**
comp=Z,27nm,0.8s,mb5.0
SBF Sospel 65.22 21 *e*P **P** **04 39 43.7 0.0**
SBF pmax pmax
comp=Z,13nm,0.8s,mb5.0
SBF Sospel 65.22 21 *e*P **P** **04 39 43.7 0.0**
comp=Z,13nm,0.8s,mb5.0
KIV Kislovodsk 66.60 353 *e*P **P** **04 39 55.5 +2.9**
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.8
SOC Sochi 67.08 355 *e*P **P** **04 39 54.4 -1.2**
SOC *e* 04 40 25.9
SOC *e*PPP 04 44 00.2
SOC *e*S S 04 48 47.6 -2.6
SOC pmax pmax
comp=Z,13nm,0.8s,mb5.0
SOC MLR MLR
comp=Z,442nm,23.0s,MS4.6
ESDC Sonseca Array 67.58 31 P **P** **04 39 59.1 +0.3**
comp=Z,2.5nm,0.8s,mb4.3,baz=348,slow=6.4,SNR=17
CD2 Chengdu 67.98 299 *e*P **P** **04 39 59.5 -1.8**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,60nm,8.2s
GNI Garni 70.30 351 *e*P **P** **04 40 20.0 +4.3**
GNI pmax pmax
comp=Z,5.0nm,1.3s
BRTR Keskin Array B 71.02 0 P **P** **04 40 21.0 +0.9**
comp=Z,1.0nm,0.9s,mb3.8,baz=18,slow=6.2,SNR=5.2
KMI Kunming 73.70 298 P **P** **04 40 32.8 -3.3**
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
KMI LR LR
comp=Z,57nm,16.6s,MS3.9
SDV Santo Domingo 76.67 101 P **P** **04 40 51.3 -1.9**
comp=Z,1.8nm,0.7s,mb4.1,baz=20,slow=11,SNR=2.8
ROSC El Rosal 79.17 105 P **P** **04 41 05.8 -1.3**
comp=Z,1.6nm,0.4s,mb4.3,baz=266,slow=14,SNR=3.6

NIED ***12*** *04:36:00, 38.60N×142.80E, h8km, Mw3.7 Best double couple: M0=4.60000×10^14 NP1:φ=86.00000°, δ=80.00000°, λ=164.00000°. NP2:φ=179.00000°, δ=74.00000°, λ=10.00000°.*
JMA ***12*** *04:36:48.8±0.2, 38.58N×142.83E, h21km±3km, M3.9*
IDC ***12*** *04:36:49.6±1.0, 38.08N×143.29E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/24, mbtmp3.9/11, ML3.7/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/24, Error ellipse: s-maj=23.9km s-min=19.6km az=114.0*
NEIC ***12*** *04:36:51.0±0.7, 38.00N×143.21E, h10km, mb4.3/4, Error ellipse: s-maj=16.7km s-min=9.4km az=137.0*
ISCJB ***12*** *04:36:53.4±0.8, 38.26N±0.03×142.23E±0.07, h10km, mb3.9/13, Error ellipse: s-maj=8.4km s-min=4.9km az=11.7*
MOS ***12*** *04:36:54.1±1.1, 38.09N×142.95E, h33km, mb4.0/1, Error ellipse: s-maj=16.2km s-min=15.1km az=9.6*
ISC 12 04:36:53.9±0.8, 3833N±004×14230E±007, h10km, n35, σ1°73/39, mb3.9/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.76**	**279**	P	**Pg**	**04 37 09.8**	**+1.3**
JIO				*e*S	**Sg**	**04 37 24.4**	**+6.0**
OFUJ	**Ofunato**	**0.89**	**327**	P	**Pg**	**04 37 08.1**	**-3.0**
OFUJ				*e*S	**Sg**	**04 37 22.0**	**-0.8**
JMK	**Ichinoseki**	**1.05**	**306**	P	**Pg**	**04 37 12.3**	**-1.7**
JMK				*e*S	**Sg**	**04 37 28.9**	**+1.3**
JMM	**Marumori**	**1.28**	**249**	P	**Pg**	**04 37 18.4**	**0.0**
JOU	**Okura**	**1.29**	**272**	P	**Pg**	**04 37 18.8**	**+0.2**
JOM	**Ohasama**	**1.38**	**326**	P	**Pn**	**04 37 15.1**	**-4.1**
JOM				*e*S	**Sn**	**04 37 35.0**	**-2.6**
JFK	**Kawauchi**	**1.48**	**230**	P	**Pg**	**04 37 20.7**	**-1.7**
JTH	**Tanohata**	**1.64**	**348**	P	**Pn**	**04 37 15.6**	**-7.2**
JANG	**Nango**	**2.13**	**344**	P	**Pn**	**04 37 23.6**	**-5.9**
MJAR	**Matsushiro Arr**	**3.71**	**242**	Pn	**Pb**	**04 37 55.4**	**-4.2**
2.2nm,0.3s,baz=61,slow=8.3,SNR=22							
MAJO	**Matsushiro**	**3.71**	**242**	*e*P	**Pn**	**04 37 56.2**	**+4.9**
MAT	**Matsushiro**	**3.71**	**242**	P	**Pb**	**04 37 55.1**	**-4.5**
MAT	**Matsushiro**	**3.71**	**242**	*e*P	**Pb**	**04 37 56.0**	**-3.6**
MAT				*e*S	**Sg**	**04 38 54.0**	**+0.8**
JHJ	**Hachijo jima 2**	**5.59**	**202**	Pn	**Pn**	**04 38 16.2**	**-0.9**
11nm,0.3s,baz=240,slow=20,SNR=2.5							
JHJ				Sn	**Sn**	**04 39 21.0**	**-0.4**
30nm,0.3s,baz=247,slow=22,SNR=3.8							
JOW	**Kunigami**	**16.45**	**230**	Pn	**Pn**	**04 40 44.6**	**-0.1**
2.7nm,0.3s,baz=199,slow=27,SNR=6.4							
MA2	**Magadan**	**21.94**	**12**	*e*P	**P**	**04 41 46.6**	**-0.9**
MA2				pmax	pmax		
comp=Z,5.0nm,0.9s,mb3.9							
MA2	**Magadan**	**21.94**	**12**	*e*P	**P**	**04 41 46.7**	**-0.8**
comp=Z,8.1nm,0.9s,mb4.2							
SONM	**Songino Array**	**27.67**	**302**	P	**P**	**04 42 45.7**	**+3.7**
comp=Z,0.7nm,0.5s,mb3.5,baz=101,slow=8.7,SNR=5.9							
ZAL	**Zalesovo**	**41.59**	**311**	P	**P**	**04 44 44.9**	**+3.1**
comp=Z,1.2nm,0.6s,mb3.7,baz=349,slow=6.6,SNR=6.2							
ZAL	**Zalesovo**	**41.59**	**311**	P	**P**	**04 44 44.9**	**+3.1**
MKAR	**Makanchi Array**	**44.04**	**301**	P	**P**	**04 45 04.0**	**+2.3**
comp=Z,0.4nm,0.5s,mb3.5,baz=92,slow=10,SNR=4.0							
KDAK	**Kodiak Island**	**45.67**	**43**	P	**P**	**04 45 09.4**	**-5.3**
comp=Z,8.5nm,1.0s,mb4.7,baz=144,slow=19,SNR=2.2							
KURK	**Kurchatov**	**45.70**	**307**	*e*P	**P**	**04 45 17.8**	**+2.8**
KURK				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.5							
KURK	**Kurchatov**	**45.70**	**307**	*e*P	**P**	**04 45 17.8**	**+2.9**
comp=Z,3.7nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**50.23**	**312**	P	**P**	**04 45 53.3**	**+3.3**
comp=Z,0.9nm,0.6s,mb4.0,baz=71,slow=7.4,SNR=7.6							
BRVK	**Borovoye**	**50.28**	**312**	*e*P	**P**	**04 45 53.2**	**+2.7**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.0							
BRVK	**Borovoye**	**50.28**	**312**	*e*P	**P**	**04 45 53.2**	**+2.7**
comp=Z,0.9nm,0.7s,mb3.9							
PSI	**Prapat**	**53.06**	**239**	LR	LR	05 09 27.8	
comp=Z,48nm,18.8s,baz=46,slow=36							
ARU	**Arti**	**55.86**	**318**	*e*P	**P**	**04 46 33.7**	**+2.1**
ARU				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
ARU	**Arti**	**55.86**	**318**	*e*P	**P**	**04 46 33.7**	**+2.1**
comp=Z,2.7nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**58.45**	**189**	P	**P**	**04 46 46.6**	**-3.3**
comp=Z,0.5nm,0.6s,mb3.7,baz=7.9,slow=7.2,SNR=13							
FINES	**FINESS Array B**	**67.99**	**332**	P	**P**	**04 47 55.0**	**+1.8**
comp=Z,1.0nm,0.9s,mb3.9,baz=18,slow=6.6,SNR=3.7							
AKASG	**Malin Array Be**	**73.70**	**322**	P	**P**	**04 48 30.1**	**+2.1**
comp=Z,0.8nm,0.5s,mb3.9,baz=47,slow=5.8,SNR=6.0							
PDAR	**Pinedale Array**	**76.26**	**46**	P	**P**	**04 48 36.2**	**-6.5**
comp=Z,0.3nm,0.5s,mb3.5,baz=11,slow=0.4,SNR=4.2							
SNAA	**Sanae**	**142.19**	**197**	PKP	PKPdf	04 56 23.7	-2.7
comp=Z,1.6nm,0.9s,baz=341,slow=14,SNR=3.4							

ISCJB ***12*** *04:42:21.3±0.6, 68.88N±0.06×73.01W±0.06, h168km±6km, mb3.8/6, Error ellipse: s-maj=11.1km s-min=8.2km az=68.0*
IDC ***12*** *04:42:21.0±0.7, 67.78N×73.08W, h152km±11km, mb3.5/3, mb1 3.8/5, mb1mx3.3/22, mbtmp4.0/5, Error ellipse: s-maj=37.2km s-min=7.6km az=130.0*
FUNV ***12*** *04:42:21.3, 67.6N×73.23W, h162km, MW3.6*
NEIC ***12*** *04:42:22.1±0.7, 68.0N×73.01W, h164km±8km, mb3.7/4, Error ellipse: s-maj=15.0km s-min=11.1km az=96.0*
ISC 12 04:42:22.1±0.5, 686N±005×7305W±006, h157km±6km, n23, σ0°97/33, mb3.8/6, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**36⇓**	*i*P	**Pn**	**04 42 50.7**	**+1.1**
CAPV				*e*S	**Sn**	**04 43 11.9**	**+1.3**
ROSC	**El Rosal**	**2.36**	**213**	P	**Pn**	**04 43 02.2**	**+0.3**
34nm,0.3s,baz=90,slow=22,SNR=197							
ROSC				S	**Sn**	**04 43 30.3**	**-2.2**
112nm,0.3s,baz=92,slow=21,SNR=14							
ROSC	**El Rosal**	**2.36**	**213**	P	**Pn**	**04 43 02.2**	**+0.3**
ROSC				S	**Sn**	**04 43 30.3**	**-2.2**
VIGV	**El Vigia**	**2.58**	**40**	*e*P	**Pn**	**04 43 05.2**	**+0.7**
VIGV				*e*S	**Sn**	**04 43 38.2**	**+0.9**

SOCV	**Socops**	**2.59**	**57**	*e*P	**Pn**	**04 43 05.5**	**+0.9**
SOCV				*e*S	**Sn**	**04 43 37.9**	**+0.3**
SDV	**Santo Domingo**	**3.13**	**50**	P	**Pn**	**04 43 12.1**	**+0.8**
	26nm,0.3s,baz=227,slow=4.8,SNR=431						
SDV				S	**Sn**	**04 43 50.1**	**+0.7**
	16nm,0.3s,baz=338,slow=16,SNR=14						
SDV	**Santo Domingo**	**3.13**	**50**	*e*Pn	**Pn**	**04 43 12.0**	**+0.6**
SDV				*e*Sn	**Sn**	**04 43 49.5**	**0.0**
ELOV	**Elorza**	**3.55**	**88**	*e*P	**Pn**	**04 43 17.1**	**+0.5**
ELOV				*e*S	**Sn**	**04 43 58.5**	**-0.4**
VIRV	**Villa del Rosa**	**3.67**	**10**	*e*P	**Pn**	**04 43 17.6**	**-0.7**
VIRV				*e*S	**Sn**	**04 44 00.0**	**-1.9**
QARV	**Quebrada Arrib**	**4.16**	**37**	*e*P	**Pn**	**04 43 25.2**	**+0.7**
SANV	**Sanarito**	**4.36**	**53**	*e*P	**Pn**	**04 43 27.1**	**0.0**
SANV				*e*S	**Sn**	**04 44 16.7**	**-1.2**
CURV	**Curarigua**	**4.38**	**44**	*e*P	**Pn**	**04 43 27.5**	**+0.1**
CURV				*e*S	**Sn**	**04 44 16.8**	**-1.5**
DABV	**Dabajuro**	**4.69**	**30**	*e*P	**Pn**	**04 43 31.9**	**+0.4**
DABV				*e*S	**Sn**	**04 44 23.7**	**-1.9**
SAML	**Samuel**	**18.53**	**148**	P	**P**	**04 46 25.9**	**-0.7**
	1.6nm,0.4s						
MNTX	**Cornudas Mount**	**38.99**	**314**	P	**P**	**04 49 34.4**	**+1.3**
	0.8nm,0.4s,mb3.7						
SDCO	**Great Sand Dun**	**42.56**	**321**	*e*P	**P**	**04 50 02.4**	**+0.1**
	4.2nm,0.8s,mb4.1						
ULM	**Lac du Bonnet**	**47.27**	**340**	P	**P**	**04 50 38.3**	**-1.2**
	1.1nm,0.3s,mb3.9,baz=154,slow=8.0,SNR=5.3						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**04 50 46.5**	**+0.7**
	0.5nm,0.6s,mb3.3,baz=122,slow=9.6,SNR=4.5						
LOHW	**Long Hollow**	**49.20**	**324**	*e*P	**P**	**04 50 55.0**	**+0.7**
	0.9nm,0.4s,mb3.8						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**04 52 33.5**	**-0.3**
	1.2nm,0.6s,mb3.9,baz=131,slow=6.7,SNR=38						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**04 52 33.5**	**-0.3**
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	PKPbc	05 01 52.0	+0.1
	0.4nm,0.5s,baz=104,slow=4.0,SNR=5.2						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	05 01 54.7	-0.2
	0.4nm,0.4s,baz=108,slow=2.6,SNR=14						

MAN 12 05:49:56.5, 1871N×11953E, h9km, mb2.7, ML4.2, MS4.6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.83**	**117**	*e*P	Pn	05 50 28.3	+0.1
APYP				*e*S	Sn	05 50 52.3	+0.8
CVP	**Callao Caves**	**2.40**	**114**	*e*P	Pn	05 50 35.6	-0.3
CVP				*i* S	Sn	05 51 05.0	-0.4
CAUP	**Cauayan**	**2.80**	**128**	*e*P	Pn	05 50 43.0	+1.5

ISK 12 06:16:07.4, 3753N×4426E, h5km, MD3.6
CSEM 12 06:16:07.3±0.4, 3756N×4422E, h2km, MD3.6, Error ellipse: s-maj=10.2km s-min=4.3km az=124.0
ISCJB 12 06:16:08.0±1.6, 3754N±005×4425E±009, h3km±9km, Error ellipse: s-maj=12.8km s-min=7.5km az=52.3

ISC 12 06:16:08.4±1.7, 3743N±006×4422E±009, h18km±7km, n11, σ1§29/17, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.41**	**292**	*i* PG	**Pg**	**06 16 15.6**	**-1.2**
HKR				*i* SG	**Sg**	**06 16 22.6**	**+0.1**
CUKT	**Cukurca**	**0.52**	**250**	*i* PG	**Pg**	**06 16 19.8**	**+1.0**
CUKT				*i* SG	**Sg**	**06 16 28.0**	**+2.2**
VANT	**Van**	**1.21**	**327**	PN	**Pn**	**06 16 30.5**	**+0.2**
TVAN	**Van**	**1.27**	**330**	*i* P	**Pn**	**06 16 30.3**	**-0.9**
TVAN				*i* S	**Sn**	**06 16 47.9**	**+0.1**
MSL	**Mosul**	**1.45**	**219**	*ex*	x	06 16 38.5	
MSL				*ex*	x	06 16 40.5	
MSL				*ex*	x	06 16 59.5	
CLDR	**Caldiran**	**1.73**	**352**	*e*PN	**Pn**	**06 16 38.1**	**+0.6**
BTMT	**Batman**	**2.29**	**290**	*e*PN	**Pn**	**06 16 48.8**	**+3.6**
BEST	**Besiri**	**2.38**	**282**	*i* P	**Pg**	**06 16 52.4**	**-1.8**
BEST				*i* S	**Sg**	**06 17 24.2**	**-0.9**
MARD	**Mardin**	**2.74**	**269**	*i* P	**Pg**	**06 16 59.5**	**-1.4**
MARD				*i* S	**Sg**	**06 17 35.0**	**-1.5**
BNGL	**BINGOL**	**2.85**	**303**	*i* P	**Pg**	**06 17 06.0**	**+2.8**
BNGL				*i* S	**Sg**	**06 17 42.1**	**+1.9**
DIGO	**Kars**	**3.05**	**348**	*i* P	**Pg**	**06 17 06.4**	**-0.5**
DIGO				*i* S	**Sg**	**06 17 46.5**	**0.0**

ISCJB 12 06:20:15.8±0.7, 1598N±006×9686W±004, h33km, mb3.7/4, Error ellipse: s-maj=8.1km s-min=4.7km az=24.7
MEX 12 06:20:17.6±0.7, 1596N×9686W, h40km±24km, MD4.2
IDC 12 06:20:23.8±4.1, 1766N×9635W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=151.0km s-min=26.2km az=39.0

ISC 12 06:20:16.7±0.7, 1598N±006×9685W±004, h35km, n19, σ1§27/25, mb3.7/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.75**	**106**	*i* P	**Pn**	**06 20 29.8**	**-0.9**
HUIG				*i* S	**Sn**	**06 20 39.9**	**-0.9**
VHO	**Vista Hermosa**	**1.09**	**6**	*i* P	**Pn**	**06 20 35.1**	**-0.4**
VHO				*e*S	**Sn**	**06 20 49.1**	**-0.3**
OXX	**Oaxaca**	**1.10**	**6**	*i* P	**Pn**	**06 20 35.3**	**-0.3**
OXX				*i* S	**Sn**	**06 20 48.3**	**-1.3**
PNIG	**Pinotepa**	**1.29**	**289**	*i* P	**Pn**	**06 20 37.5**	**-0.8**
PNIG				*e*S	**Sn**	**06 20 53.8**	**-0.5**
CMIG	**Matias Romero**	**2.19**	**59**	*i* P	**Pn**	**06 20 50.1**	**-0.4**
CMIG				*e*S	**Sn**	**06 21 16.5**	**+0.1**
ACX	**Acapulco**	**3.07**	**287**	*i* P	**Pn**	**06 21 01.7**	**-1.0**
ACX				*i* S	**Sn**	**06 21 34.5**	**-3.7**
MEIG	**Mezcala**	**3.28**	**307**	*e*P	**Pn**	**06 21 06.5**	**+0.9**
CAIG	**El Cayaco**	**3.44**	**288**	*i* P	**Pn**	**06 21 06.2**	**-1.7**
PLIG	**Plataniillo**	**3.49**	**314**	*e*P	**Pn**	**06 21 11.7**	**+3.2**
PLIG				*i* S	**Sn**	**06 21 48.4**	**-0.1**
PPM	**Popocatepetl**	**3.51**	**331**	*i* P	**Pn**	**06 21 12.9**	**+4.2**
YAIG	**Yautepec**	**3.56**	**324**	*i* P	**Pn**	**06 21 12.5**	**+3.0**
UNM	**Universidad Na**	**4.00**	**327**	*i* P	**Pn**	**06 21 18.1**	**+2.6**
CCIG	**Comitan**	**4.54**	**86**	*i* P	**Pn**	**06 21 24.9**	**+2.0**
ANMO	**Albuquerque**	**20.76**	**337**	P	**P**	**06 24 53.2**	**-1.3**
	0.1nm,0.3s,baz=39,slow=14,SNR=3.1						
SDV	**Santo Domingo**	**26.54**	**102**	P	pP	06 26 03.6	+2.5
	2.4nm,0.6s,baz=291,slow=17,SNR=5.5						
NVAR	**Mina Array Bea**	**29.26**	**324**	P	**P**	**06 26 19.4**	**+4.0**
	0.9nm,0.8s,mb3.5,baz=138,slow=9.8,SNR=5.4						
YKA	**Yellowknife Ar**	**48.12**	**349**	P	**P**	**06 28 53.5**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=152,slow=7.3,SNR=5.8						
INK	**Inuvik**	**57.26**	**345**	P	**P**	**06 30 01.8**	**+1.1**
	1.0nm,0.9s,mb3.8,baz=145,slow=5.0,SNR=5.8						
ILAR	**Eielson Array**	**59.20**	**338**	P	**P**	**06 30 15.9**	**+1.7**
	0.8nm,0.8s,mb3.8,baz=144,slow=4.8,SNR=13						

CASC 12 06:28:07.7±2.0, 1086N×8647W, h15km±8km, MD3.6, ML3.3, 2C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.74**	**55⇑**	*e*P	Pg	06 28 21.6	-0.6
MADN	**Villa Maderas**	**1.07**	**59**	*e*P	Pb	06 28 26.8	-1.0
CONN	**Concepcion**	**1.08**	**50⇑**	*e*P	Pb	06 28 26.7	-1.4
VCR	**Vista de Mar**	**1.10**	**131**	*e*P	Pb	06 28 26.0	-2.3
APON	**Apoyo**	**1.12**	**20⇓**	*e*P	Pb	06 28 27.9	-0.8
APON				*e*S	Sb	06 28 44.2	+1.1
TICN	**Ticuantepe**	**1.19**	**11**	*e*P	Pn	06 28 29.1	-0.6
TICN				*e*S	Sb	06 28 45.5	+0.5
LIM1	**Limonal**	**1.20**	**98**	*i* P	Pn	06 28 29.3	-0.7
LIM1				*e*S	Sb	06 28 44.9	-0.5
XAVN	**Gruta Xavier**	**1.29**	**6⇓**	*e*P	Pn	06 28 30.0	-1.1
XAVN				*e*S	Sb	06 28 47.9	0.0
MGAN	**Managua**	**1.30**	**10**	*e*P	Pn	06 28 30.3	-0.9
MGAN				*e*S	Sb	06 28 47.7	-0.5
COPN	**Copaltepe**	**1.32**	**355**	*e*P	Pn	06 28 30.4	-1.1
COPN				*e*S	Sn	06 28 49.2	+0.5
	comp=Z,543nm,0.6s						
WILN	**Americas 2**	**1.32**	**12**	*e*P	Pn	06 28 30.8	-0.7
WILN				*e*S	Sn	06 28 48.7	-0.2
APYN	**Apoyeque**	**1.37**	**5**	*e*P	Pn	06 28 31.7	-0.5
APYN				*e*S	Sn	06 28 50.6	+0.5
MIRN	**Miramar**	**1.59**	**351**	*e*P	Pn	06 28 34.4	-0.9
LEON	**Leon**	**1.60**	**345⇓**	*i* P	Pn	06 28 34.6	-0.8
CGA2	**Cerro Gallo 2**	**2.14**	**113**	*e*P	Pn	06 28 44.7	+1.9
CGA2				*e*S	Sn	06 29 09.1	0.0
PRS1	**Puriscal**	**2.29**	**112**	*e*P	Pn	06 28 46.3	+1.4
LAJ	**Bijagual**	**2.51**	**113**	*e*P	Pn	06 28 43.4	-4.5
LCR2	**La Lucha 2**	**2.67**	**114**	*e*P	Pn	06 28 50.8	+0.7
LCR2				*e*S	Sn	06 29 22.8	+0.7
URSC	**Urasca**	**2.83**	**111**	*e*P	Pn	06 28 53.9	+1.6
BUS	**Buena Vista**	**2.96**	**116**	*e*P	Pn	06 28 55.2	+1.1

IDC 12 07:03:22.4±4.3, 3573S×178.19E, h203km±33km, mb3.8/2, mb1 4.1/3, mb1mx3.7/12, mbtmp4.3/3, Error ellipse: s-maj=57.3km s-min=30.3km az=32.0
ISCJB 12 07:03:24.1±1.3, 359S±01×1780E±0.1, h223km±7km, mb4.0/2, Error ellipse: s-maj=24.1km s-min=12.5km az=95.2
WEL 12 07:03:24.8±0.2, 3591S×17799E, h218km±2km, ML4.7/17, Error ellipse: s-maj=2.2km s-min=2.1km az=90.0
NEIC 12 07:03:25.0, 3593S×17798E, h219km, MG4.7(WEL), After WEL.

ISC 12 07:03:25.1±1.3, 359S±01×1780E±01, h217km±8km, n35, σ0§64/41, mb4.0/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.67**	**170**	PN	**Pn**	**07 04 01.8**	**0.0**
MXZ				SN	**S**	**07 04 30.3**	**-0.1**
MXZ	**Matakaoa Point**	**1.67**	**170**	P	**Pn**	**07 04 01.8**	**0.0**
MXZ				S	**S**	**07 04 30.3**	**-0.1**
KUZ	**Kuaotunu**	**1.99**	**245**	PN	**Pn**	**07 04 05.1**	**+0.3**
KUZ				SN	**S**	**07 04 35.3**	**-0.5**
KUZ	**Kuaotunu**	**1.99**	**245**	P	**Pn**	**07 04 05.1**	**+0.3**
KUZ				S	**S**	**07 04 35.3**	**-0.5**
PUZ	**Puketiti**	**2.17**	**174**	PN	**Pn**	**07 04 06.6**	**0.0**
PUZ				SN	**S**	**07 04 38.3**	**-0.7**
URZ	**Urewera**	**2.44**	**196**	P	**Pn**	**07 04 09.7**	**+0.3**
	48nm,0.3s,baz=11,slow=3.0,SNR=265						
URZ				S	**S**	**07 04 44.4**	**+0.3**
	57nm,0.3s,baz=225,slow=23,SNR=22						
URZ	**Urewera**	**2.44**	**196**	PN	**Pn**	**07 04 09.2**	**-0.1**
URZ				SN	**S**	**07 04 43.9**	**-0.1**
URZ	**Urewera**	**2.44**	**196**	P	**Pn**	**07 04 09.2**	**-0.2**
MWZ	**Matawai**	**2.44**	**188**	PN	**Pn**	**07 04 09.6**	**+0.2**
MWZ	**Matawai**	**2.44**	**188**	P	**Pn**	**07 04 09.6**	**+0.2**
WCZ	**Waipu Caves**	**2.93**	**268**	*e*PN	**Pn**	**07 04 14.9**	**0.0**
WCZ	**Waipu Caves**	**2.93**	**268**	*e*P	**Pn**	**07 04 14.9**	**0.0**
HATZ	**Hinemaiaia**	**3.33**	**206**	PN	**Pn**	**07 04 19.9**	**+0.5**
BKZ	**Black Stump Fm**	**3.45**	**199**	PN	**Pn**	**07 04 20.4**	**-0.5**
RITZ	**Rihia Road**	**3.49**	**208**	PN	**Pn**	**07 04 21.7**	**+0.4**
OUZ	**Omahuta**	**3.62**	**280**	PN	**Pn**	**07 04 22.4**	**-0.5**
OTVZ	**Oturere**	**3.72**	**209**	PN	**Pn**	**07 04 24.8**	**+0.7**
TWVZ	**Taurewa**	**3.74**	**212**	PN	**Pn**	**07 04 25.1**	**+0.8**
NGZ	**Ngauruhoe**	**3.76**	**209**	PN	**Pn**	**07 04 25.5**	**+0.9**
WPVZ	**Whakapapa**	**3.81**	**210**	PN	**Pn**	**07 04 25.9**	**+0.7**
TUVZ	**Tukino**	**3.82**	**208**	PN	**Pn**	**07 04 25.7**	**+0.4**
FWVZ	**Far West T-bar**	**3.85**	**209**	PN	**Pn**	**07 04 26.0**	**+0.3**
WNVZ	**Wahianoa**	**3.89**	**208**	PN	**Pn**	**07 04 26.2**	**0.0**
MTVZ	**Mangateitei**	**3.99**	**209**	PN	**Pn**	**07 04 27.4**	**+0.1**
TSZ	**Takapari Road**	**4.43**	**200**	PN	**Pn**	**07 04 31.3**	**-1.5**
RPZ	**Rata Peaks**	**9.43**	**212**	P	**Pn**	**07 05 33.9**	**-2.8**
	3.0nm,0.3s,baz=67,slow=9.3,SNR=8.8						
RPZ				S	**S**	**07 07 14.5**	**-8.1**
	2.0nm,0.3s,baz=17,slow=20,SNR=5.4						
RPZ	**Rata Peaks**	**9.43**	**212**	P	**Pn**	**07 05 33.9**	**-2.8**
RPZ				S	**S**	**07 07 14.5**	**-8.1**
AS31	**Alice Springs**	**39.83**	**275**	*e*P	**P**	**07 10 37.5**	**+0.2**
ASAR	**Alice Springs**	**39.83**	**275**	P	**P**	**07 10 37.6**	**+0.3**
	1.4nm,0.4s,mb3.8,baz=116,slow=7.8,SNR=49						
ASPA	**Alice Springs**	**39.83**	**275**	*e*P	**P**	**07 10 37.5**	**+0.1**
WB2	**Warramunga Arr**	**41.33**	**281**	*e*P	**P**	**07 10 49.1**	**-0.5**
WRA	**Warramunga Arr**	**41.34**	**281**	P	**P**	**07 10 49.5**	**-0.2**
	3.3nm,0.4s,mb4.2,baz=119,slow=7.7,SNR=89						
FINES	**FINESS Array B**	**148.89**	**334**	PKPbc	PKPbc	07 22 44.2	-2.9
	1.5nm,0.9s,baz=38,slow=7.0,SNR=6.9						
FINES	**FINESS Array B**	**148.89**	**334**	PKPbc	PKPbc	07 22 44.2	-2.9
TORD	**Torodi Ar. Bea**	**157.09**	**189**	PKPab	PKPab	07 23 26.1	-0.3
	0.3nm,0.4s,baz=178,slow=2.7,SNR=5.2						

LDG 12 07:12:40.6±0.3, 1493S×16689E, h100km, Mb4.8/2, Error ellipse: s-maj=62.4km s-min=8.9km az=88.0
BJI 12 07:12:41.8, 1493S×16775E, h141km, mB4.8, mb4.7
IDC 12 07:12:41.5±2.0, 1511S×16732E, h122km±17km, mb4.4/16, mb1 4.5/18, mb1mx4.4/20, mbtmp4.7/18, Error ellipse: s-maj=13.6km s-min=13.2km az=101.0
ISCJB 12 07:12:41.5±1.5, 1517S±006×16733E±007, h133km±14km, mb4.5/38, Error ellipse: s-maj=11.9km s-min=9.1km az=143.1
NEIC 12 07:12:42.9±1.4, 1510S×16741E, h137km±12km, mb4.6/15, Error ellipse: s-maj=9.7km s-min=8.4km az=81.0
MOS 12 07:12:52.0±1.5, 1480S×16666E, h198km, mb4.5/9, Error ellipse: s-maj=13.0km s-min=11.6km az=7.7

ISC 12 07:12:42.4±1.4, 1515S±006×16743E±008, h128km±12km, n138, σ1§09/71, mb4.5/38, 21C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.62**	**163⇑**	*i* P	**Pn**	**07 13 12.2**	**-12**
BKM				S	**Sn**	**07 13 47.3**	**-7.2**
DZM	**Mont Dzumac**	**6.95**	**188**	P	**Pn**	**07 14 21.8**	**+0.2**
	20nm,0.3s,baz=32,slow=15,SNR=138						
DZM				S	**Sn**	**07 15 38.2**	**-0.9**
	5.4nm,0.3s,baz=115,slow=14,SNR=3.7						
HNR	**Honiara**	**9.26**	**307**	P	**Pn**	**07 14 52.2**	**-0.6**
	9.3nm,0.3s,baz=88,slow=3.9,SNR=4.5						
HNR	**Honiara**	**9.26**	**307**	*e*P	**Pn**	**07 14 52.4**	**-0.4**
AFI	**Afiamalu**	**20.16**	**89**	P	**P**	**07 17 09.7**	**+3.1**
	29nm,0.8s,baz=70,slow=7.7,SNR=6.1						
AFI	**Afiamalu**	**20.16**	**89**	*e*P	**P**	**07 17 01.4**	**-5.2**
	28nm,0.8s						
CTA	**Charters Tower**	**20.77**	**253**	P	**P**	**07 17 15.5**	**+2.4**
	5.7nm,0.7s,baz=65,slow=13,SNR=6.7						
CTAO	**Charters Tower**	**20.77**	**253**	*e*P	**P**	**07 17 15.0**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**20.77**	**253**	*e*P	**P**	**07 17 15.0**	**+1.9**
	comp=Z,8.7nm,0.9s						
ARMA	**Armidale**	**21.02**	**221**	*e*P	**P**	**07 17 17.9**	**+2.2**
RIV	**Riverview**	**23.71**	**215**	*e*P	**P**	**07 17 43.9**	**+1.4**
URZ	**Urewera**	**24.56**	**161**	P	**P**	**07 17 50.4**	**+0.3**
	comp=Z,34nm,0.7s,mb5.0,baz=4.0,slow=7.3,SNR=18						
CNB	**Canberra Magne**	**25.81**	**216**	*e*P	**P**	**07 18 02.2**	**+0.8**
	comp=Z,11nm,1.0s,mb4.5						
RPZ	**Rata Peaks**	**28.64**	**175**	P	**P**	**07 18 27.4**	**+0.7**
	comp=Z,18nm,0.8s,mb4.8,baz=297,slow=4.2,SNR=7.2						
STKA	**Stephens Creek**	**28.84**	**230**	*e*P	**P**	**07 18 27.6**	**-0.9**
	comp=Z,20nm,0.6s,mb5.0						
STKA				*e*		07 21 32.4	
STKA	**Stephens Creek**	**28.84**	**230**	P	**P**	**07 18 27.7**	**-0.8**
	comp=Z,26nm,0.6s,mb5.1,baz=46,slow=7.6,SNR=59						
STKA				PcP	PcP	07 21 32.8	-2.1
	comp=Z,2.2nm,0.6s,baz=99,slow=3.1,SNR=5.7						
WB2	**Warramunga Arr**	**31.87**	**257**	*e*P	**P**	**07 18 54.0**	**-1.2**
WB2				*e*		07 21 43.5	
WRAB	**Tennant Creek**	**31.87**	**257**	*e*P	**P**	**07 18 54.4**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**31.87**	**257**	*e*P	**P**	**07 18 54.4**	**-0.8**
	comp=Z,7.9nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**31.88**	**257**	P	**P**	**07 18 54.4**	**-0.9**
	comp=Z,3.0nm,0.7s,mb4.1,baz=86,slow=9.2,SNR=29						
WRA				PcP	PcP	07 21 43.5	+0.6
	comp=Z,1.9nm,0.7s,baz=82,slow=3.1,SNR=9.2						
AS31	**Alice Springs**	**32.67**	**250**	*e*P	**P**	**07 19 01.5**	**-0.7**
ASAR	**Alice Springs**	**32.67**	**250**	P	**P**	**07 19 01.7**	**-0.5**
	comp=Z,13nm,0.6s,mb4.8,baz=82,slow=9.1,SNR=149						
ASAR				PcP	PcP	07 21 45.5	+0.5
	comp=Z,1.1nm,0.7s,baz=78,slow=2.8,SNR=5.6						
ASAR				ScP	ScP	07 25 19.4	+2.4
	comp=Z,1.1nm,0.8s,baz=86,slow=2.9,SNR=8.2						
ASAR	**Alice Springs**	**32.67**	**250**	P	**P**	**07 19 01.7**	**-0.5**
ASAR						07 21 45.6	
ASPA	**Alice Springs**	**32.68**	**250**	*e*P	**P**	**07 19 01.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**40.09**	**260**	*e*P	**P**	**07 20 04.8**	**-0.4**
	comp=Z,10nm,0.8s,mb4.5						
PPT	**Papeete**	**41.26**	**99**	*e*LR	LR	07 32 17.2	
	comp=Z,105nm,28.8s						
PPT	**Papeete**	**41.26**	**99**	P	**P**	**07 20 16.2**	**+1.4**
	comp=Z,28nm,0.6s,mb5.1,baz=241,slow=4.8,SNR=7.4						
MBWA	**Marble Bar**	**45.59**	**255**	*e*P	**P**	**07 20 49.2**	**-0.2**
	comp=Z,10nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**48.67**	**239**	P	**P**	**07 21 13.1**	**-0.3**
	comp=Z,11nm,0.6s,mb4.6,baz=76,slow=5.8,SNR=12						
NWAO	**Narrogin (SRO)**	**48.67**	**239**	*e*P	**P**	**07 21 12.0**	**-1.3**
MUN	**Mundaring**	**49.39**	**241**	*e*P	**P**	**07 21 19.3**	**+0.4**
KKM	**Kota Kinabalu**	**54.94**	**289**	*e*P	**P**	**07 22 00.7**	**+0.8**
MJAR	**Matsushiro Arr**	**58.35**	**332**	P	**P**	**07 22 22.4**	**-1.6**
	comp=Z,1.4nm,0.6s,mb4.0,baz=174,slow=8.5,SNR=5.5						
VNDA	**Vanda**	**62.45**	**181**	P	**P**	**07 22 51.5**	**-0.3**
	comp=Z,3.1nm,0.5s,mb4.4,baz=359,slow=6.8,SNR=5.9						
VNDA	**Vanda**	**62.45**	**181**	P	**P**	**07 22 51.4**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VNDA	**Vanda**	**62.45**	**181**	P	**P**	**07 22 51.4**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.2						
SSE	**Sheshan**	**63.93**	**316**	P	**P**	**07 23 03.1**	**+1.5**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,370nm,4.5s						
NJ2	**Nanjing**	**66.08**	**316**	*e*P	**P**	**07 23 17.3**	**+1.8**
NJ2				PP	PP	07 25 46.9	+4.4
NJ2				S	S	07 31 56.0	+2.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,490nm,5.0s						
NJ2				LR	LR		
	comp=N,2μm,21.7s						
NJ2				LR	LR		
	comp=E,1μm,26.3s						
NJ2				LR	LR		
	comp=Z,310nm,15.0s						
MDJ	**Mudanjiang**	**68.72**	**332**	P	**P**	**07 23 32.6**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,13nm,2.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,137nm,4.5s						
MDJ				LR	LR		
	comp=N,147nm,50.8s						
MDJ				LR	LR		
	comp=E,93nm,50.2s						
MDJ	**Mudanjiang**	**68.72**	**332**	*e*P	**P**	**07 23 32.2**	**0.0**
	comp=E,5.8nm,0.7s,mb4.4						
HABR	**Khabarovsk**	**69.58**	**338**	*e*P	**P**	**07 23 37.6**	**+0.2**
HABR				*e*S	S	07 32 46.4	+11
HABR				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
CN2	**Changchun**	**70.08**	**329**	*e*P	**P**	**07 23 40.5**	**0.0**
CN2				*e*S	S	07 32 45.3	+4.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
ENH	**Enshi**	**71.75**	**309**	*e*P	**P**	**07 23 50.4**	**-0.2**
	comp=Z,6.8nm,0.8s,mb4.4						
KMI	**Kunming**	**74.66**	**302**	P	**P**	**07 24 09.7**	**+2.1**
KMI				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.6						
QSPA	**South Pole Qui**	**74.88**	**180**	*e*P	**P**	**07 24 08.8**	**-0.1**
	comp=Z,31nm,0.9s,mb4.9						
MA2	**Magadan**	**75.68**	**351**	*e*P	**P**	**07 24 12.1**	**-1.4**
MA2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
MA2	**Magadan**	**75.68**	**351**	P	**P**	**07 24 12.6**	**-0.9**
	comp=Z,1.9nm,0.5s,mb4.0						
HHC	**Hu-ho-hao-te**	**76.00**	**320**	*e*P	**P**	**07 24 16.9**	**+1.6**
HHC				PP	PP	07 27 12.0	+4.5
HHC				S	S	07 33 52.1	+4.1
HHC				SKS		07 34 12.8	
HHC				SCS	ScS	07 34 17.9	-0.3
HHC				AMB	AMB		
	comp=Z,7.0nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,92nm,4.8s						
HHC				LR	LR		
	comp=N,147nm,6.7s						
HHC				LR	LR		
	comp=E,185nm,6.9s						
HHC				LR	LR		
	comp=Z,119nm,6.3s						
CD2	**Chengdu**	**76.39**	**308**	*e*P	**P**	**07 24 19.1**	**+1.6**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,80nm,9.3s						
LZH	**Lanzhou**	**78.72**	**312**	*e*P	**P**	**07 24 29.0**	**-1.4**
LZH				PP	PP	07 27 32.3	+2.1
LZH				AMB	AMB		
	comp=Z,25nm,1.5s

GERES **GERESS Array B 140.09 333** PKP PKPdf 07 31 56.4 +0.8
comp=Z,1.0nm,0.6s,baz=67,slow=4.5,SNR=4.9
WLF **Walferdange 142.34 340** ⇑PKP PKPdf 07 31 55.3 -4.4
DOU **Dourbes 142.46 342** PKP PKPdf 07 31 57.1 -2.7
CDF **Champ du Feu 143.02 338** *e*PKP1 PKPdf 07 31 57.7 -3.2
comp=Z,11nm,0.7s
DAVOX **Davos 143.32 334** PKP PKPdf 07 31 59.8 -1.6
comp=Z,16nm,0.6s,baz=82,slow=0.5,SNR=25
HINF **Hinteralfeld 143.68 338** *e*PKP1 PKPdf 07 31 59.4 -2.6
HAU **Haudompre 143.70 338** *e*PKP1 PKPdf 07 31 59.8 -2.3
comp=Z,19nm,0.9s
MEZF **Maizieres J'vi 143.72 340** *e*PKP1 PKPdf 07 32 00.1 -2.0
comp=Z,33nm,0.9s
SNTG **Esanatoglia 144.50 327** PKP PKPdf 07 32 03.3 -0.1
VAI **Varese 144.52 334** PKIKP PKPdf 07 32 02.5 -1.0
SFI **Santa Sofia 144.59 329** PKIKP PKPdf 07 32 04.2 +0.6
ZCCA **Zocca 144.69 330** PKP PKPdf 07 32 05.0 +1.2
VMG **Vicchio 144.70 329** PKP PKPdf 07 32 04.4 +0.6
SEI **Scarperia 144.73 330** PKP PKPdf 07 32 04.2 +0.4
MCGN **Macugnaga 144.77 335** PKP PKPdf 07 32 04.3 +0.4
CABF **La Chapelle 144.97 337** ⇑*i*PKP1 PKPdf 07 32 04.7 +0.4
comp=Z,124nm,0.9s
FLN **La Foliniere 145.04 346** *e*PKP1 PKPbc 07 32 04.0 -0.1
comp=Z,91nm,0.7s
LDF **La Druitiere 145.11 346** *e*PKP1 PKPbc 07 32 04.2 -0.1
comp=Z,70nm,0.7s
LOR **Lormes 145.18 340** ⇑*i*PKP1 PKPbc 07 32 05.0 +0.5
comp=Z,73nm,0.8s
GRR **Gorron 145.48 346** ⇑*i*PKP1 PKPbc 07 32 05.7 +0.3
comp=Z,135nm,0.9s
SSF **Saint Saulge 145.48 340** ⇑*i*PKP1 PKPbc 07 32 06.1 +0.7
comp=Z,122nm,0.8s
HYF **Humbligny 145.57 342** *e*PKP1 PKPbc 07 32 06.6 +0.9
LPL **La Plagne 145.64 336** ⇑*i*PKP1 PKPbc 07 32 07.0 +1.1
comp=Z,60nm,1.0s
LPG **La Plagne 145.65 336** ⇑*i*PKP1 PKPbc 07 32 07.1 +1.1
comp=Z,62nm,0.9s
SMF **Signal de Mont 145.74 340** ⇑*i*PKP1 PKPbc 07 32 06.6 +0.4
comp=Z,48nm,0.9s
AVF **Avril sur Loir 145.77 340** ⇑*i*PKP1 PKPbc 07 32 06.5 +0.2
comp=Z,43nm,0.9s
SGMF **Saint Gilles 145.97 348** ⇑*i*PKP1 PKPbc 07 32 07.1 +0.2
comp=Z,66nm,0.5s
ROSF **Rostrenen 146.03 349** *e*PKP1 PKPbc 07 32 07.1 0.0
comp=Z,64nm,1.1s
BNI **Bardonecchia 146.04 335** *e*PKP2 PKPab 07 32 08.0 +0.1
BGF **Bois d'Agland 146.14 341** ⇑*i*PKP1 PKPbc 07 32 07.9 +0.5
comp=Z,80nm,0.6s
MBDF **Montbardon 146.27 335** *e*PKP1 PKPbc 07 32 08.2 +0.4
comp=Z,28nm,0.7s
QUIF **Quistinic 146.41 349** *e*PKP1 PKPbc 07 32 08.1 -0.1
comp=Z,28nm,0.6s
ORIF **Oris-en-Rattie 146.47 336** ⇑*i*PKP1 PKPbc 07 32 09.1 +0.7
comp=Z,42nm,0.8s
TCF **Toulx Ste Croi 146.58 341** ⇑*i*PKP1 PKPbc 07 32 09.1 +0.4
comp=Z,38nm,0.7s
SBF **Sospel 146.69 333** *e*PKP1 PKPbc 07 32 10.3 +1.3
comp=Z,75nm,0.8s
MFF **Saint Martin d 146.97 344** ⇑*i*PKP1 PKPbc 07 32 10.2 +0.4
comp=Z,112nm,0.6s
VIVF **Saint-Julien-l 146.99 337** *e*PKP1 PKPbc 07 32 09.8 -0.1
comp=Z,16nm,0.6s
FRF **La Foret Royal 147.27 334** *e*PKP1 PKPbc 07 32 10.8 +0.1
comp=Z,30nm,0.9s
SMRF **Simiane la Rot 147.38 335** *e*PKP1 PKPbc 07 32 11.3 +0.3
LMR **La Mourre 147.51 334** *e*PKP1 PKPbc 07 32 11.3 0.0
RJF **Les Rejaudoux 147.68 341** ⇑*i*PKP1 PKPbc 07 32 12.3 +0.5
comp=Z,33nm,0.6s
CAF **Calviac 147.84 340** *e*PKP1 PKPbc 07 32 12.8 +0.6
comp=Z,28nm,1.0s
LASF **Ste Croix 147.96 337** *e*PKP1 PKPbc 07 32 13.3 +0.8
LFF **La Frestale 148.24 342** *e*PKP1 PKPbc 07 32 13.7 +0.4
comp=Z,54nm,0.7s
MTLF **Montolieu 149.19 339** ⇑*i*PKP1 PKPbc 07 32 16.2 +0.5
comp=Z,49nm,0.9s
EPF **Esparros 150.09 341** *e*PKP1 PKPbc 07 32 18.8 +0.9
comp=Z,12nm,0.7s
SJPF **Ste Jean 150.48 343** *e*PKP1 PKPbc 07 32 19.2 +0.4
ETSF **Etsaut 150.49 342** *e*PKP1 PKPbc 07 32 19.8 +1.0
comp=Z,26nm,0.6s
ESDC **Sonseca Array 154.43 344** PKP PKPdf 07 32 19.0 -0.1
comp=Z,0.1nm,0.3s,baz=15,slow=5.3,SNR=4.0
ESDC PKPbc PKPbc 07 32 28.2 +0.6
comp=Z,0.2nm,0.3s,baz=25,slow=3.0,SNR=4.2
ESDC **Sonseca Array 154.43 344** PKP PKPdf 07 32 19.4 +0.3
TORD **Torodi Ar. Bea 166.03 264** PKP PKPdf 07 32 32.5 +0.6
comp=Z,3.4nm,0.6s,baz=350,slow=1.3,SNR=27
TORD PKPab PKPab 07 33 33.4 +0.5
comp=Z,0.8nm,0.8s,baz=90,slow=3.7,SNR=3.8
DBIC **Dimbokro 168.68 223** PKP PKPdf 07 32 34.0 +0.1
comp=Z,3.4nm,1.0s,baz=351,slow=5.8,SNR=3.6
DBIC **Dimbokro 168.68 223** PKP PKPdf 07 32 34.0 +0.1

*ISCJB **12** 07:19:07.6±2.1, 2122N±005×1464E±02, h39km±18km, mb4.0/13, Error ellipse: s-maj=26.5km s-min=8.3km az=162.8*
*NEIC **12** 07:19:09.7±0.4, 2125N×14666E, mb4.0/4, Error ellipse: s-maj=17.2km s-min=9.0km az=95.0*
*IDC **12** 07:19:09.9±0.7, 2124N×14656E, h44km±5km, mb3.7/10, mb1 4.0/12, mb1mx3.8/24, mbtmp4.0/12, ML3.9/2, Error ellipse: s-maj=19.6km s-min=12.9km az=85.0*
ISC 12 07:19:10.0±1.8, 2124N±005×1466E±02, h44km±16km, h44km±.8km: pP-P, n20, σ0§86/20, mb4.0/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**7.06**	**326**	P	**Pn**	**07 20 51.5**	**+0.8**
	3.6nm,0.3s,baz=114,slow=20,SNR=1.3						
CBIJ				S	**Sn**	**07 22 08.2**	**-1.3**
	3.3nm,0.3s,baz=308,slow=20,SNR=3.0						
GUMO	**Guam**	**7.78**	**192**	P	**Pn**	**07 21 02.1**	**+1.5**
	8.3nm,0.3s,baz=126,slow=17,SNR=2.6						
GUMO				S	**Sn**	**07 22 26.0**	**-1.3**
	8.8nm,0.3s,baz=336,slow=20,SNR=3.7						
WRAB	**Tennant Creek**	**42.63**	**197**	P	**P**	**07 27 02.6**	**+0.6**
	1.8nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**42.64**	**197**	P	**P**	**07 27 01.2**	**-0.9**
	0.9nm,0.6s,mb3.7,baz=18,slow=9.0,SNR=8.2						
ASAR	**Alice Springs**	**46.31**	**196**	P	**P**	**07 27 31.2**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=14,slow=6.4,SNR=5.6						
ZAL	**Zalesovo**	**56.52**	**321**	P	**P**	**07 28 48.4**	**+0.6**
	1.3nm,0.4s,mb4.3,baz=17,slow=6.8,SNR=7.6						
MKAR	**Makanchi Array**	**57.31**	**313**	P	**P**	**07 28 53.9**	**+0.6**
	0.2nm,0.3s,mb3.6,baz=67,slow=9.3,SNR=3.7						
MKAR	**Makanchi Array**	**57.31**	**313**	P	**P**	**07 28 53.9**	**+0.6**
KURK	**Kurchatov**	**59.94**	**317**	P	**P**	**07 29 12.1**	**+0.4**
	1.2nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	**65.05**	**320**	P	**P**	**07 29 46.5**	**+0.8**
	3.2nm,0.7s,mb4.5,baz=89,slow=7.6,SNR=18						
BVAR				pP	pP	07 29 58.5	0.0
	2.1nm,0.5s,baz=87,slow=7.4,SNR=9.4						
BRVK	**Borovoye**	**65.11**	**320**	*e*P	**P**	**07 29 46.7**	**+0.6**
	1.0nm,0.6s,mb4.0						
INK	**Inuvik**	**66.73**	**23**	P	**P**	**07 29 55.6**	**-0.9**
	1.1nm,0.8s,mb3.9,baz=238,slow=7.7,SNR=4.2						
INK	**Inuvik**	**66.73**	**23**	*e*P	**P**	**07 29 56.0**	**-0.6**
	1.0nm,0.8s,mb3.9						
YKA	**Yellowknife Ar**	**75.38**	**28**	P	**P**	**07 30 48.2**	**-0.7**
	0.7nm,0.5s,mb3.9,baz=288,slow=5.7,SNR=12						
YKA				pP	pP	07 31 00.7	-1.1
	1.1nm,0.7s,baz=290,slow=5.5,SNR=7.6						
YKA	**Yellowknife Ar**	**75.38**	**28**	P	**P**	**07 30 48.2**	**-0.7**
YKA				pP	pP	07 31 00.8	-1.1
NVAR	**Mina Array Bea**	**80.95**	**52**	P	**P**	**07 31 20.7**	**+0.9**
	1.2nm,0.7s,mb3.9,baz=264,slow=8.5,SNR=7.9						
NVAR				pP	pP	07 31 33.7	+0.8
	1.1nm,0.7s,baz=264,slow=3.9,SNR=6.8						
FINES	**FINESS Array B**	**84.92**	**335**	P	**P**	**07 31 39.4**	**-0.9**
	1.6nm,0.6s,mb4.4,baz=75,slow=5.3,SNR=9.7						
PDAR	**Pinedale Array**	**85.48**	**46**	P	**P**	**07 31 42.2**	**-0.9**
	0.4nm,0.6s,mb3.7,baz=257,slow=1.8,SNR=3.7						
LPAZ	**La Paz**	**146.84**	**87**	PKPbc	PKPbc	07 38 49.2	+1.9
	0.7nm,0.8s,baz=21,slow=12,SNR=4.5						
LPAZ				pPKPbc	pPKPbc	07 39 02.9	+2.0
	1.0nm,0.8s,baz=350,slow=11,SNR=3.3						
LPAZ	**La Paz**	**146.84**	**87**	PKPbc	PKPbc	07 38 49.2	+1.9
LPAZ				pPKPbc	pPKPbc	07 39 02.9	+2.0

*ISCJB **12** 07:24:26.3±1.1, 709S±008×1470E±01, h10km, mb3.7/3, Error ellipse: s-maj=19.5km s-min=11.1km az=163.1*
*IDC **12** 07:24:26.3±1.3, 7.15S×147.10E, h0km, mb3.8/4, mb1 4.1/6, mb1mx4.0/13, mbtmp3.9/6, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/22, Error ellipse: s-maj=52.6km s-min=20.3km az=96.0*
*NEIC **12** 07:24:27.9±9.8, 7.19S×14709E, h10km±59km, mb4.0/2, Error ellipse: s-maj=25.1km s-min=18.6km az=218.0*
ISC 12 07:24:27.6±1.1, 710S±008×1471E±01, h10km, n14, σ0§78/12, mb3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.29**	**178**	Pn	**Pn**	**07 25 05.1**	**-0.3**
	59nm,0.3s,baz=358,slow=5.2,SNR=96						
PMG				Sn	**Sn**	**07 25 34.7**	**+1.1**
	51nm,0.3s,baz=354,slow=21,SNR=14						
CTA	**Charters Tower**	**12.94**	**183**	LR	LR	07 31 59.4	
	comp=Z,82nm,18.6s,baz=225,slow=35						
KAKA	**Kakadu**	**15.46**	**248**	*e*P	**Pn**	**07 28 07.1**	**+1.5**
	6.9nm,0.6s						
WRAB	**Tennant Creek**	**17.75**	**223**	*e*P	**Pn**	**07 28 34.9**	**+0.1**
	6.6nm,0.7s						
WB2	**Warramunga Arr**	**17.76**	**223**	*e*P	**Pn**	**07 28 33.9**	**-1.0**
WRA	**Warramunga Arr**	**17.77**	**223**	P	**Pn**	**07 28 33.9**	**-1.0**
	0.2nm,0.3s,baz=47,slow=12,SNR=14						
AS31	**Alice Springs**	**20.77**	**216**	*e*P	**P**	**07 29 08.4**	**-0.2**
ASAR	**Alice Springs**	**20.77**	**216**	P	**P**	**07 29 08.1**	**-0.5**
	5.2nm,0.8s,baz=50,slow=9.6,SNR=26						
ASPA	**Alice Springs**	**20.77**	**216**	*e*P	**P**	**07 29 08.4**	**-0.2**
STKA	**Stephens Creek**	**25.18**	**191**	P	**P**	**07 29 53.0**	**-0.1**
	2.6nm,0.8s,mb3.8,baz=354,slow=7.7,SNR=3.6						
MKAR	**Makanchi Array**	**78.39**	**321**	P	**P**	**07 36 29.4**	**+1.2**
	0.4nm,0.5s,mb3.6,baz=96,slow=7.4,SNR=3.5						
ILAR	**Eielson Array**	**86.46**	**23**	P	**P**	**07 37 09.9**	**-0.4**
	0.3nm,0.6s,mb3.7,baz=252,slow=5.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**145.42**	**283**	PKPbc	PKPbc	07 44 06.8	+1.1
	2.6nm,0.8s,baz=82,slow=3.7,SNR=16						
DBIC	**Dimbokro**	**152.13**	**271**	PKPbc	PKPbc	07 44 25.6	+2.4
	3.0nm,0.9s,baz=165,slow=4.1,SNR=4.2						

CASC 12 07:25:36.7±2.3, 1390N×9203W, h34km±146km, MD4.1, 1C-4D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.57**	**42**	⇑*i*P	Pn	07 25 49.7	+1.4
JAT				*e*S	Sn	07 25 56.2	-0.2
FUG	**Fuego 3**	**1.27**	**64**	⇓*e*P	Pn	07 25 58.7	+0.7
TP2	**Tecpan 2**	**1.31**	**48**	⇓*e*P	Pn	07 25 58.9	+0.3
TP2				*e*S	Sn	07 26 17.1	+2.2
IXG	**Ixpaco**	**1.55**	**80**	*e*P	Pn	07 26 01.7	-0.2
IXG				*e*S	Sn	07 26 22.4	+1.7
GCG	**Guatemala City**	**1.60**	**65**	⇓*e*P	Pn	07 26 03.5	+0.9
SBLS	**San Blas**	**2.34**	**91**	*e*P	Pn	07 26 21.9	+9.2
SBLS				*e*S	Sn	07 26 50.1	+10
SNJE	**San Jose**	**2.35**	**90**	*e*P	Pn	07 26 20.7	+7.9
SNJE				*e*S	Sn	07 26 48.8	+8.2
MRL	**Marmol**	**2.54**	**63**	⇓*e*P	Pn	07 26 16.9	+1.4
LFRS	**El Faro**	**2.90**	**95**	*e*P	Pn	07 26 28.0	+7.7
LFRS				*e*S	Sn	07 27 03.8	+10
LBRS	**Las Brisas**	**2.91**	**93**	*e*P	Pn	07 26 29.0	+8.6
LBRS				*e*S	Sn	07 27 03.0	+8.8
LCBS	**La Ceiba**	**2.97**	**94**	*e*P	Pn	07 26 29.5	+8.1
LCBS				*e*S	Sn	07 27 03.9	+8.0
SNVI	**San Vicente**	**3.11**	**95**	*e*P	Pn	07 26 33.0	+10
SNVI				*e*S	Sn	07 27 10.1	+11

*ISCJB **12** 08:17:32.9±0.5, 535S±007×358E±01, h10km, mb4.2/21, MS3.2/3, Error ellipse: s-maj=16.3km s-min=8.3km az=37.4*
*IDC **12** 08:17:32.5±0.7, 555S×3587E, h0km, mb4.2/16, mb1 4.3/18, mb1mx4.3/24, mbtmp4.2/18, ML4.5/2, MS3.3/6, Ms1 3.3/6, ms1mx3.2/21, Error ellipse: s-maj=24.2km s-min=14.1km az=112.0*
*NEIC **12** 08:17:34.2±0.4, 548S×3572E, h10km, mb4.6/8, Error ellipse: s-maj=18.8km s-min=9.1km az=109.0*
ISC 12 08:17:34.6±0.5, 539S±006×358E±01, h10km, n36, σ1§23/39, mb4.2/21, MS3.2/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**4.49**	**19**	Pn	**Pn**	**08 18 41.9**	**-0.8**
	20nm,0.3s,baz=196,slow=17,SNR=49						
KMBO				Pg	**Pg**	**08 18 55.4**	**-5.2**
	32nm,0.3s,baz=198,slow=18,SNR=20						
KMBO				Sn	**Sn**	**08 19 33.8**	**-1.3**
	24nm,0.3s,baz=252,slow=23,SNR=6.9						
KMBO				Lg		08 19 50.0	
	57nm,0.3s,baz=270,slow=24,SNR=12						
KMBO				LR	LR	08 20 42.4	
	comp=Z,381nm,20.8s,baz=95,slow=41						
KMBO	**Kilima Mbogo**	**4.49**	**19**	*e*Pn	**Pn**	**08 18 42.0**	**-0.7**
KMBO				*e*Sn	**Sn**	**08 19 31.5**	**-3.5**
LSZ	**Lusaka**	**12.32**	**217**	Pn	**Pn**	**08 20 27.1**	**-2.9**
	3.2nm,0.3s,baz=40,slow=12,SNR=20						
LSZ				Sn	**Sn**	**08 22 55.1**	**+7.7**
	2.4nm,0.3s,baz=286,slow=12,SNR=4.5						
LSZ				Lg		08 23 52.0	
	7.3nm,0.3s,baz=318,slow=12,SNR=6.8						
LSZ				LR	LR	08 25 10.9	
	comp=Z,310nm,18.5s,baz=111,slow=37						
LSZ	**Lusaka**	**12.32**	**217**	*e*Pn	**Pn**	**08 20 27.4**	**-2.6**
	22nm,0.8s						
LSZ				Sn	**Sn**	**08 22 54.2**	**+6.8**
MATP	**Matopo**	**16.52**	**205**	Pn	**Pn**	**08 21 20.6**	**-5.8**
	0.2nm,0.3s,baz=35,slow=15,SNR=6.5						
MATP				Sn	**Sn**	**08 24 38.3**	**+8.5**
	0.4nm,0.3s,baz=197,slow=15,SNR=3.2						
MATP				Lg		08 26 02.0	
	1.9nm,0.3s,baz=309,slow=19,SNR=4.8						
ATD	**Arta Tunnel**	**18.23**	**23**	LR	LR	08 28 18.8	
	comp=Z,57nm,19.9s,baz=204,slow=35						
LBTB	**Lobatse**	**21.81**	**206**	P	**P**	**08 22 24.7**	**-2.1**
	35nm,0.9s,mb4.8,baz=33,slow=12,SNR=16						
LBTB				Lg		08 28 49.1	
	32nm,1.1s,baz=272,slow=13,SNR=5.0						
LBTB				LR	LR	08 31 21.4	
	comp=Z,23nm,19.4s,MS2.6,baz=239,slow=38						
LBTB	**Lobatse**	**21.81**	**206**	*e*P	**P**	**08 22 24.6**	**-2.3**
	33nm,0.9s,mb4.8						
TSUM	**Tsumeb**	**22.41**	**231**	P	**P**	**08 22 33.0**	**-0.2**
	7.2nm,1.0s,mb4.1,baz=30,slow=7.8,SNR=4.3						
TSUM				S	**S**	**08 26 54.8**	**+15**
	3.8nm,0.8s,baz=235,slow=15,SNR=6.1						
TSUM				Lg		08 29 12.4	
	16nm,0.9s,baz=314,slow=9.8,SNR=3.2						
TSUM				LR	LR	08 30 58.7	
	comp=Z,134nm,20.9s,MS3.4,baz=146,slow=36						
BOSA	**Boshof**	**25.15**	**202**	P	**P**	**08 22 58.6**	**-1.2**
	6.6nm,0.7s,mb4.2,baz=14,slow=8.3,SNR=6.6						
BOSA				Lg		08 30 34.2	
	7.3nm,0.7s,baz=127,slow=19,SNR=2.6						
BOSA	**Boshof**	**25.15**	**202**	*e*P	**P**	**08 22 58.7**	**-1.2**
	26nm,1.3s,mb4.6						
TORD	**Torodi Ar. Bea**	**38.52**	**299**	P	**P**	**08 24 58.5**	**+1.4**
	3.6nm,1.0s,mb4.0,baz=117,slow=8.8,SNR=15						
TORD				PcP	PcP	08 27 09.0	-0.9
	1.8nm,1.0s,baz=126,slow=3.8,SNR=4.2						
DBIC	**Dimbokro**	**42.27**	**286**	LR	LR	08 42 55.8	
	comp=Z,78nm,20.6s,MS3.6,baz=75,slow=36						
MALT	**Malatya**	**43.55**	**3**	Pn	**P**	**08 25 36.8**	**-1.7**
	3.6nm,1.0s,mb4.1						
BRTR	**Keskin Array B**	**44.94**	**358**	P	**P**	**08 25 51.4**	**+1.8**
	0.6nm,0.5s,mb3.6,baz=187,slow=6.2,SNR=5.2						
AKASG	**Malin Array Be**	**56.15**	**355**	P	**P**	**08 27 14.9**	**+0.6**
	2.9nm,0.8s,mb4.4,baz=179,slow=6.9,SNR=11						
GERES	**GERESS Array B**	**57.35**	**343**	P	**P**	**08 27 24.2**	**+1.4**
	1.1nm,0.6s,mb4.0,baz=150,slow=5.7,SNR=8.6						
KHC	**Kasperske Hory**	**57.64**	**343**	*e*P	**P**	**08 27 24.5**	**-0.4**
KHC				*e*x	x	08 27 27.7	
ESDC	**Sonseca Array**	**57.88**	**324**	P	**P**	**08 27 28.7**	**+2.1**
	0.2nm,0.4s,mb3.5,baz=134,slow=6.4,SNR=4.8						
ESLA	**Sonseca Array**	**57.88**	**324**	*e*P	**P**	**08 27 24.9**	**-1.7**
	4.7nm,1.4s,mb4.3						
MKAR	**Makanchi Array**	**66.25**	**33**	P	**P**	**08 28 22.9**	**+0.1**
	7.8nm,0.9s,mb4.8,baz=235,slow=5.8,SNR=24						
MKAR	**Makanchi Array**	**66.25**	**33**	P	**P**	**08 28 22.9**	**+0.1**
FINES	**FINESS Array B**	**67.06**	**355**	P	**P**	**08 28 28.4**	**+0.4**
	1.1nm,0.8s,mb4.0,baz=197,slow=6.0,SNR=3.9						
NB2	**NORSAR Subarra**	**68.95**	**347**	P	**P**	**08 28 39.3**	**-0.6**
	comp=Z,6.9nm,1.2s,mb4.5,baz=157,slow=5.9						
NOA	**NORSAR Array B**	**68.95**	**347**	P	**P**	**08 28 40.8**	**+0.9**
	comp=Z,2.4nm,0.9s,mb4.1,baz=156,slow=6.1,SNR=5.1						
ZAL	**Zalesovo**	**71.91**	**28**	P	**P**	**08 28 57.9**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.0,baz=188,slow=7.9,SNR=5.6						
ZAL	**Zalesovo**	**71.91**	**28**	P	**P**	**08 28 57.9**	**0.0**
ARCES	**ARCESS Array B**	**75.10**	**356**	P	**P**	**08 29 16.4**	**-0.3**
	comp=Z,4.8nm,1.0s,mb4.4,baz=129,slow=7.1,SNR=4.0						
SONM	**Songino Array**	**81.18**	**40**	P	**P**	**08 29 49.4**	**-1.0**
	comp=Z,3.8nm,0.9s,mb4.3,baz=204,slow=3.3,SNR=11						
ULN	**Ulaanbaatar**	**81.61**	**40**	P	**P**	**08 29 53.0**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.2						
MBWA	**Marble Bar**	**82.47**	**111**	*e*P	**P**	**08 29 58.8**	**+1.5**
	comp=Z,2.4nm,0.6s,mb4.3						
QSPA	**South Pole Qui**	**84.67**	**180**	*e*P	**P**	**08 30 07.9**	**-0.6**
	comp=Z,10nm,1.1s,mb4.9						
ASAR	**Alice Springs**	**95.28**	**114**	P	**P**	**08 30 59.5**	**+0.8**
	comp=Z,0.3nm,0.7s,mb3.8,baz=270,slow=4.4,SNR=4.6						
WRA	**Warramunga Arr**	**96.21**	**111**	P	**P**	**08 31 04.2**	**+1.2**
	comp=Z,0.5nm,0.7s,mb4.0,baz=267,slow=2.6,SNR=5.6						
YKA	**Yellowknife Ar**	**118.98**	**345**	PKP	PKPdf	08 36 23.4	0.0
	comp=Z,0.1nm,0.4s,baz=13,slow=1.3,SNR=4.1						
NVAR	**Mina Array Bea**	**139.55**	**328**	PKP	PKPdf	08 37 05.3	+2.9
	comp=Z,0.9nm,0.8s,baz=77,slow=3.5,SNR=4.9						

*NEIC **12** 08:22:42.2, 3340S×7240W, h35km, ML3.4(GUC), After GUC.*
GUC 12 08:22:42.2±0.9, 3340S×7240W, h35km±2km, MD4.1, ML3.4, 8C-13D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.70**	**97**	⇑*i*P	Pn	08 22 54.9	-0.6
IHA	**Instituto Hidr**	**0.73**	**60**	⇓*i*P	Pn	08 22 56.3	+0.2
IHA				*i*S	Sn	08 23 06.5	+0.5
LNV	**Longovilo**	**0.99**	**124**	⇑*i*P	Pn	08 23 00.2	+0.6
LNV				*i*S	Sn	08 23 13.2	+0.8
PACH	**Papudo**	**1.18**	**44**	⇓*i*P	Pn	08 23 03.2	+1.1
TACH	**Talagante**	**1.25**	**102**	⇓*i*P	Pn	08 23 04.0	+0.9
TACH				*e*S	Sn	08 23 20.2	+1.5
RCDM	**Rinconada Maip**	**1.33**	**94**	⇓*i*P	Pn	08 23 05.1	+0.8
RCDM				AMP		08 23 23.7	
	comp=N,1μm,0.2s						
SAN	**Santiago**	**1.45**	**93**	⇓*i*P	Pn	08 23 07.4	+1.5
SAN				AMP		08 23 33.6	
	comp=N,1μm,0.7s						
PEL	**Peldehue**	**1.46**	**81**	⇓*i*P	Pn	08 23 07.7	+1.7
PEL				*i*S	Sn	08 23 27.4	+3.5
PEL				AMP		08 23 36.2	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.46**	**81**	⇓*i*P	Pn	08 23 07.7	+1.7
PEL				*i*S	Sn	08 23 27.4	+3.5
STL	**Santa Lucia**	**1.47**	**92**	⇑*i*P	Pn	08 23 07.3	+1.1
STL				*i*S	Sn	08 23 25.8	+1.6
STL				AMP		08 23 28.9	
	comp=E,477nm,0.3s						
ANTU	**Antumapu**	**1.48**	**97**	⇓*i*P	Pn	08 23 08.0	+1.6
ANTU				*i*S	Sn	08 23 27.1	+2.6
ANTU				AMP		08 23 29.7	
	comp=N,725nm,0.6s						
ANTU	**Antumapu**	**1.48**	**97**	⇓*i*P	Pn	08 23 08.0	+1.6
ANTU				*i*S	Sn	08 23 27.1	+2.6
DSCH	**Colegio Aleman**	**1.53**	**91**	*e*P	Pn	08 23 08.1	+1.1
DSCH				*i*S	Sn	08 23 28.6	+3.0
DSCH				AMP		08 23 31.7	
	comp=E,153nm,0.7s						
DSCH	**Colegio Aleman**	**1.53**	**91**	*e*P	Pn	08 23 08.1	+1.1
DSCH				*i*S	Sn	08 23 28.6	+3.0
CHCH	**Chadas Angostu**	**1.55**	**111**	⇓*i*P	Pn	08 23 08.7	+1.4
CHCH				*i*S	Sn	08 23 28.7	+2.5
CLCH	**Cerro Calan**	**1.56**	**91**	⇑*i*P	Pn	08 23 09.2	+1.8
CLCH				*i*S	Sn	08 23 29.6	+3.3
CLCH				AMP		08 23 37.6	
	comp=E,1μm,0.4s						
CLCH				AMP		08 23 38.8	
	comp=E,1μm,0.5s						
PCH	**Pirque**	**1.59**	**99**	⇓*i*P	Pn	08 23 09.4	+1.6
PCH				*i*S	Sn	08 23 31.1	+4.0
CACH	**El Canelo**	**1.66**	**116**	*e*P	Pn	08 23 11.3	+2.5
CACH				*i*S	Sn	08 23 33.7	+4.8
SFDO	**San Fernando**	**1.67**	**137**	*e*P	Pn	08 23 10.1	+1.1
SFDO				*e*S	Sn	08 23 31.7	+2.5
JACH	**Jahuel**	**1.67**	**65**	*e*P	Pn	08 23 10.5	+1.5
JACH				*e*S	Sn	08 23 31.7	+2.4
CHNG	**Los Chungos**	**1.69**	**27**	⇑*i*P	Pn	08 23 10.2	+1.0
CHNG				*i*S	Sn	08 23 31.0	+1.4
CHNG				AMP		08 23 42.1	
	comp=E,212nm,0.6s						
FCH	**Farellones**	**1.76**	**88**	⇑*i*P	Pn	08 23 12.4	+2.2
FCH				*i*S	Sn	08 23 35.8	+4.4
FCH				AMP		08 23 37.4	
	comp=E,567nm,0.4s						
LMEL	**Las Melosas**	**1.89**	**104**	*e*P	Pn	08 23 13.8	+1.9
LMEL				AMP		08 23 45.3	
	comp=N,822

WB2	Warramunga Arr	17.76 158	*eP*		Pn	09 26 52.6	-0.3
KSM	Kuching	17.78 286	*eP*		Pn	09 26 53.6	+0.5
MBWA	Marble Bar	19.15 202	*eP*		Pn	09 27 07.9	-1.6
	3.9nm,0.5s						
AS31	Alice Springs	21.08 163	*eP*		P	09 27 29.3	+0.7
ASAR	Alice Springs	21.08 163	P		P	09 27 29.5	+0.9
	14nm,0.7s,mb4.4,baz=344,slow=11,SNR=126						
ASAR			S		S	09 31 19.4	+1.0
	7.5nm,1.1s,baz=345,slow=22,SNR=20						
ASAR			ScP		ScP	09 35 05.3	+4.4
	0.6nm,0.8s,baz=355,slow=2.2,SNR=6.2						
ASPA	Alice Springs	21.08 163	*eP*		P	09 27 29.3	+0.7
CTA	Charters Tower	24.74 134	LR		LR	09 37 00.8	
	comp=Z,38nm,21.3s,baz=50,slow=34						
PSI	Prapat	29.14 282	P		P	09 28 43.8	-0.4
	4.7nm,0.7s,mb4.2,baz=115,slow=2.4,SNR=6.3						
KLBR	Kellerberrin	29.46 197	*eP*		P	09 28 46.8	-0.2
	12nm,0.8s,mb4.6						
STKA	Stephens Creek	31.29 156	*eP*		P	09 29 00.9	-2.2
	2.0nm,0.6s,mb4.0						
STKA	Stephens Creek	31.29 156	P		P	09 29 00.9	-2.2
	1.4nm,0.3s,mb4.2,baz=341,slow=7.8,SNR=9.3						
STKA			LR		LR	09 40 37.4	
	comp=Z,80nm,21.5s,baz=24,slow=34						
MJAR	Matsushiro Arr	41.01 13	P		P	09 30 25.9	0.0
	2.8nm,0.9s,mb4.1,baz=186,slow=9.2,SNR=5.9						
MJAR	Matsushiro Arr	41.01 13	P		P	09 30 25.9	0.0
JIRN	Jiri	50.31 311	*eP*		P	09 31 40.3	+1.0
	9.6nm,0.6s,mb4.9						
GUN	Gumba	50.68 311	*eP*		P	09 31 43.0	+1.0
	14nm,0.4s,mb5.3						
PKI	Pulchoki	50.87 310	*eP*		P	09 31 43.9	+0.5
KKN	Kakani	51.07 310	*eP*		P	09 31 44.9	-0.1
DMN	Daman	51.12 310	*eP*		P	09 31 46.1	+0.8
GKN	Gorkha	51.67 310	*eP*		P	09 31 49.9	+0.5
	15nm,0.6s,mb5.2						
KOLN	Koldanda	52.35 309	*eP*		P	09 31 55.4	+0.9
	22nm,0.6s,mb5.3						
SONM	Songino Array	54.27 343	P		P	09 32 08.7	+0.2
	1.5nm,0.8s,mb4.1,baz=167,slow=7.0,SNR=3.8						
MKAR	Makanchi Array	63.84 327	P		P	09 33 14.9	+0.3
	4.8nm,0.7s,mb4.5,baz=104,slow=5.1,SNR=26						
AAK	Ala-Archa	66.16 320	*eP*		P	09 33 28.8	-0.9
	2.4nm,0.8s,mb4.1						
ZAL	Zalesovo	67.26 334	P		P	09 33 36.4	-0.3
	1.3nm,0.5s,mb4.1,baz=341,slow=4.9,SNR=9.0						
KURK	Kurchatov	68.14 329	*eP*		P	09 33 42.0	-0.3
	12nm,1.0s,mb4.7						
BVAR	Borovoye Array	73.69 328	P		P	09 34 15.4	-0.4
	1.8nm,0.6s,mb4.0,baz=134,slow=8.5,SNR=7.8						
ZRNK	Zerenda	74.38 328	*eP*		P	09 34 19.2	-0.6
	2.0nm,0.4s,mb4.2						
VNDA	Vanda	76.29 173	P		P	09 34 29.9	-0.8
	1.6nm,0.6s,mb3.9,baz=302,slow=9.5,SNR=5.4						
AKTK	Aktyubinsk	79.69 323	P		P	09 34 49.5	0.0
AKTO	Aktyubinsk	79.69 323	P		P	09 34 49.5	0.0
	2.2nm,0.7s,mb4.1,baz=103,slow=7.7,SNR=7.4						
SML	Sawmill	90.27 28	*eP*		P	09 35 42.1	-0.4
ILAR	Eielson Array	91.23 25	P		P	09 35 46.2	-0.7
	0.8nm,0.9s,mb3.9,baz=245,slow=5.2,SNR=8.2						
ARCES	ARCESS Array B	97.35 340	P		P	09 36 14.6	-0.4
	4.1nm,0.9s,mb4.8,baz=64,slow=5.5,SNR=6.8						
YKA	Yellowknife Ar	105.66 25	PKiKP		PKiKP	09 41 05.2	+0.5
	0.1nm,0.4s,baz=306,slow=2.0,SNR=5.1						
GERES	GERESS Array B	108.04 320	PKiKP		PKiKP	09 41 09.9	+0.8
	0.5nm,0.5s,baz=193,slow=5.5,SNR=4.7						
TORD	Torodi Ar. Bea	125.53 284	PKP		PKPdf	09 41 44.1	+1.6
	0.7nm,0.7s,baz=67,slow=2.4,SNR=4.7						

ISCJB ***12*** *09:52:12.6±0.3, 5109N±002×2821E±004, h0km, mb3.5/2, Error ellipse: s-maj=4.1km s-min=3.5km az=40.4*
CSEM ***12*** *09:52:13.0±0.1, 5114N×2824E, h1km, ML2.5, Error ellipse: s-maj=2.7km s-min=2.4km az=58.0, Mining explosion.*
MOS ***12*** *09:52:14.0±1.8, 5114N×2824E, h10km, mb3.7/1, Error ellipse: s-maj=10.8km s-min=6.4km az=74.2*
PRU ***12*** *09:52:16.1, 5142N×2790E, h0km*
IDC ***12*** *09:52:16.0±1.0, 5075N×2834E, h0km, mb3.5/2, mb1 3.7/7, mb1mx3.5/23, mbtmp3.5/7, ML3.4/5, Error ellipse: s-maj=16.1km s-min=6.5km az=21.0*
UPP ***12*** *09:52:44.5, 5242N×2615E, h0km, ML2.5, Mining explosion.*

ISC 12 09:52:14.7±0.3, 5105N±002×2825E±004, h0km, n48, σ1§17/63, mb3.5/2, 3C-1D, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**0.71 119**		Pg		**Pg**	**09 52 27.3**	**-0.9**
	66nm,0.3s,baz=249,slow=15,SNR=706							
AKASG				Lg			09 52 35.2	
	107nm,0.3s,baz=284,slow=36,SNR=132							
AKASG				Rg			09 52 39.8	
	942nm,0.6s,baz=284,slow=36,SNR=48							
AKBB	**Malin Array Si**	**0.71 119**		*e*Pg		**Pg**	**09 52 28.6**	**+0.3**
AKBB				*e*Sg		**Sg**	**09 52 37.7**	**+0.3**
LVV	**L'vov**	**2.97 247**		P		**Pn**	**09 53 06.4**	**+3.4**
LVV				S		**Sn**	**09 53 40.6**	**+1.3**
LVV	**L'vov**	**2.97 247**		S		**Sn**	**09 53 40.6**	**+1.3**
MORS	**Morshin**	**3.40 237**		P		**Pn**	**09 53 09.1**	**+0.1**
MORS				S		**Sn**	**09 53 50.5**	**+0.5**
KSV	**Kosov**	**3.43 218**		P		**Pn**	**09 53 12.4**	**+3.0**
KSV				S		**Sn**	**09 53 49.6**	**-1.2**
KSV	**Kosov**	**3.43 218**		S		**Sn**	**09 53 49.6**	**-1.2**
BURAR	**Bucovina Array**	**3.97 211**		⇑P		**Pn**	**09 53 17.0**	**+0.2**
RAK	**Rakhov**	**3.99 223**		P		**Pn**	**09 53 16.6**	**-0.6**
RAK				S		**Sn**	**09 54 05.8**	**+1.1**
KOLS	**Kolonicke sedl**	**4.40 244**		*e*PN		**Pn**	**09 53 25.0**	**+2.2**
KOLS				*e*SN		**Sn**	**09 54 15.8**	**+1.1**
STHS	**Stebnicka Huta**	**4.79 253**		*e*PN		**Pn**	**09 53 28.9**	**+0.8**
STHS				*e*SN		**Sn**	**09 54 23.6**	**-0.6**
CRVS	**Cervenica-Dubn**	**4.88 247**		*e*PN		**Pn**	**09 53 29.5**	**+0.1**
CRVS				*e*SN		**Sn**	**09 54 23.9**	**-2.6**
VRI	**Vrincioaia**	**5.28 192**		⇑P		**Pn**	**09 53 34.4**	**-0.5**
NIE	**Niedzica**	**5.35 255**		*e*P		**Pn**	**09 53 36.9**	**+1.1**
NIE				*e*S		**Sn**	**09 54 37.7**	**-0.4**
DRGR		**5.61 223**		||P		**Pn**	**09 53 38.1**	**-1.3**
KECS	**Kecovo**	**5.65 246**		*e*SN		**Sn**	**09 54 41.3**	**-4.2**
CFR	**Carcaliu**	**5.88 181**		⇑P		**Pn**	**09 53 41.6**	**-1.4**
OKC	**Ostrava-Krasne**	**6.57 263**		*e*SG		**Sn**	**09 54 58.3**	**-10**
TIRR	**Tirgusor**	**6.59 179**		*e*Pn		**Pn**	**09 53 51.6**	**-1.3**
VYHS	**Vyhne**	**6.61 251**		*e*PN		**Pn**	**09 53 52.1**	**-1.1**
VYHS				*e*SN		**Sn**	**09 55 05.5**	**-3.8**
MORC	**Moravsky Berou**	**6.96 264**		*e*Pn		**Pn**	**09 53 57.5**	**-0.5**
MORC				Sn		**Sn**	**09 55 11.2**	**-6.7**
DPC	**Dobruska-Polom**	**7.61 269**		*e*PG		**Pn**	**09 54 07.4**	**+0.5**
DPC				*e*SG		**Sn**	**09 55 30.3**	**-3.5**
GOTU	**Gotland**	**8.72 323**		P		**Pn**	**09 54 23.8**	**+1.7**
OSKU	**Oskarshamn**	**9.42 316**		P		**Pn**	**09 54 33.1**	**+1.5**
VSTU	**Vaestervik**	**9.51 319**		P		**Pn**	**09 54 34.3**	**+1.4**
GERES	**GERESS Array B**	**9.64 262**		Pn		**Pn**	**09 54 34.7**	**0.0**
	0.1nm,0.3s,baz=79,slow=14,SNR=7.2							
VXJU	**Vaexsjoe**	**9.79 312**		P		**Pn**	**09 54 37.1**	**+0.3**
EKSU	**Eksjoe**	**9.99 316**		P		**Pn**	**09 54 39.7**	**+0.2**
NRTU	**Norrtaelje**	**10.22 331**		P		**Pn**	**09 54 43.5**	**+0.8**
LNKU	**Linkoeping**	**10.29 319**		P		**Pn**	**09 54 44.2**	**+0.5**
FINES	**FINESS Array B**	**10.49 354**		Pn		**Pn**	**09 54 45.4**	**-0.9**
	0.5nm,0.3s,baz=171,slow=12,SNR=23							
FINES				Sn		**Sn**	**09 56 42.6**	**-1.9**
	0.4nm,0.3s,baz=174,slow=21,SNR=5.6							
ESKU	**Eskilstuna**	**10.63 325**		P		**Pn**	**09 54 48.7**	**+0.5**
FLYU	**Flymyra**	**10.81 331**		P		**Pn**	**09 54 51.2**	**+0.5**
BACU	**Backbrunna**	**10.84 329**		P		**Pn**	**09 54 51.9**	**+0.7**
ASKU	**Askersund**	**11.00 321**		P		**Pn**	**09 54 53.1**	**-0.2**
OSTU	**Oestervaala**	**11.12 330**		P		**Pn**	**09 54 55.3**	**+0.3**
KAF	**Kangasniemi**	**11.14 355**		*e*p		**Pn**	**09 54 55.1**	**-0.2**
	1.8nm,0.4s,baz=168,slow=14							
KAF	**Kangasniemi**	**11.14 355**		*e*P		**Pn**	**09 54 55.1**	**-0.2**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.4s							
IGGU	**Iggoen**	**11.58 332**		P		**Pn**	**09 55 00.6**	**-0.6**
FALU	**Falun**	**11.75 328**		P		**Pn**	**09 55 03.1**	**-0.4**
JOF	**Joensuu**	**12.02 7**		*e*p		**Pn**	**09 55 08.6**	**+1.4**
ARNU	**Arnoeviken**	**12.23 335**		P		**Pn**	**09 55 09.0**	**-1.2**
HFS	**Hagfors**	**12.24 324**		Pn		**Pn**	**09 55 08.9**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=132,slow=13,SNR=12							
HFS				Sn		**Sn**	**09 57 24.3**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=126,slow=27,SNR=4.0							
NOA	**NORSAR Array B**	**13.77 323**		Pn		**Pn**	**09 55 27.9**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=220,slow=23,SNR=2.6							
NOA				Sn		**Sn**	**09 57 57.8**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=130,slow=24,SNR=2.5							
ARCES	**ARCESS Array B**	**18.59 357**		Pn		**Pn**	**09 56 31.9**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=174,slow=12,SNR=6.3							
BVAR	**Borovoye Array**	**25.73 69**		P		**P**	**09 57 48.5**	**+1.7**
	comp=Z,0.5nm,0.4s,mb3.5,baz=283,slow=9.5,SNR=4.1							
YKA	**Yellowknife Ar**	**63.05 342**		P		**P**	**10 02 44.7**	**+1.1**
	comp=Z,0.2nm,0.6s,mb3.5,baz=20,slow=6.5,SNR=3.8							
YKA	**Yellowknife Ar**	**63.05 342**		P		**P**	**10 02 44.7**	**+1.1**

IDC ***12*** *10:19:19.9±3.3, 5382N×16336W, h0km, mb3.9/7, mb1 4.0/10, mb1mx3.9/25, mbtmp3.9/10, ML3.6/3, MS3.6/2, Ms1 3.6/2, ms1mx2.8/35, Error ellipse: s-maj=79.1km s-min=16.1km az=161.0*
ISCJB ***12*** *10:19:21.8±1.2, 538N±02×16302W±009, h33km, mb4.0/8, MS3.6/2, Error ellipse: s-maj=24.4km s-min=5.3km az=151.3*
NEIC ***12*** *10:19:23.5±1.7, 5385N×16325W, h25km, ML3.4(AEIC), Error ellipse: s-maj=41.1km s-min=7.3km az=159.0*

ISC 12 10:19:23.6±1.2, 537N±02×16311W±009, h35km, n20, σ1§01/21, mb4.0/8, MS3.6/2, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AKA	**Akutan**	**1.62 286**		P		**Pn**	**10 19 49.3**	**-0.4**
AKUT	**Akutan**	**1.62 286**		P		**Pn**	**10 19 49.2**	**-0.5**
AKUT				S		**Sn**	**10 20 10.6**	**+1.2**
AKLV	**Akutan Long Va**	**1.73 286**		P		**Pn**	**10 19 50.6**	**-0.7**
AKLV				S		**Sn**	**10 20 12.0**	**-0.1**
UNV	**Unalaska Valle**	**2.01 275**		P		**Pn**	**10 19 53.3**	**-1.8**
OKCD	**Okmok Cone D**	**3.00 266**		P		**Pn**	**10 20 07.6**	**-0.9**
OKCE	**Okmok Cone E**	**3.03 266**		P		**Pn**	**10 20 08.4**	**-0.6**
KDAK	**Kodiak Island**	**7.20 51**		Pn		**Pn**	**10 21 05.5**	**-0.8**
	0.7nm,0.3s,baz=166,slow=2.8,SNR=17							
KDAK				Sn		**Sn**	**10 22 26.4**	**-0.4**
	0.9nm,0.3s,baz=323,slow=19,SNR=6.1							
ILAR	**Eielson Array**	**13.78 30**		Pn		**Pn**	**10 22 34.5**	**-1.9**
	0.1nm,0.3s,baz=222,slow=13,SNR=7.0							
FX1	**Attu Island--F**	**14.20 276**		Pn		**Pn**	**10 22 42.6**	**+0.6**
	1.3nm,0.3s,baz=266,slow=23,SNR=8.6							
INK	**Inuvik**	**20.16 32**		P		**P**	**10 23 53.9**	**-0.9**
	1.6nm,0.8s,baz=238,slow=12,SNR=14							
YKA	**Yellowknife Ar**	**26.47 51**		P		**P**	**10 24 59.4**	**+2.0**
	0.7nm,0.4s,mb3.5,baz=269,slow=9.1,SNR=23							
YBH	**Yreka Blue Hor**	**29.30 98**		LR		LR	10 35 22.6	
	comp=Z,34nm,18.9s,MS3.0,baz=322,slow=33							
JOF	**Joensuu**	**63.15 353**		*e*p		**P**	**10 29 49.8**	**+2.0**
	0.5nm,0.4s,mb4.0							
KAF	**Kangasniemi**	**64.27 355**		*e*p		**P**	**10 29 55.6**	**+0.4**
	1.7nm,0.5s,mb4.3							
BVAR	**Borovoye Array**	**64.69 328**		P		**P**	**10 29 58.8**	**+0.8**
	2.7nm,0.8s,mb4.3,baz=44,slow=7.1,SNR=17							
FINES	**FINESS Array B**	**64.94 355**		P		**P**	**10 29 59.8**	**+0.1**
	0.6nm,0.6s,mb3.8,baz=28,slow=8.6,SNR=8.1							
MKAR	**Makanchi Array**	**65.51 317**		P		**P**	**10 30 03.9**	**+0.6**
	0.3nm,0.3s,mb3.9,baz=47,slow=6.5,SNR=3.4							
AKASG	**Malin Array Be**	**75.43 352**		P		**P**	**10 31 04.0**	**+0.2**
	1.2nm,0.4s,mb4.2,baz=9.2,slow=5.6,SNR=4.7							
GERES	**GERESS Array B**	**77.77 2**		P		**P**	**10 31 18.3**	**+1.2**
	0.7nm,0.7s,mb3.7,baz=338,slow=2.2,SNR=5.4							
DZM	**Mont Dzumac**	**79.94 209**		LR		LR	11 05 59.0	
	comp=Z,92nm,18.1s,MS4.2,baz=340,slow=35							

IDC 12 10:48:28.0±8.4, 3163S×17960E, h397km±101km, mb2.5/2, mb1 3.0/3, mb1mx2.9/13, mbtmp3.7/3, Error ellipse: s-maj=107.7km s-min=47.1km az=4.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.92 196**		P		Pn	10 50 11.3	+0.6
	7.8nm,0.3s,baz=317,slow=2.4,SNR=9.5							
URZ				S		S	10 51 33.8	-0.8
	2.1nm,0.3s,baz=56,slow=23,SNR=11							
ASAR	**Alice Springs**	**41.01 269**		P		P	10 55 34.8	+0.6
	0.2nm,0.6s,baz=108,slow=7.1,SNR=6.7							
WRA	**Warramunga Arr**	**42.11 275**		P		P	10 55 42.9	-0.1
	0.3nm,0.4s,baz=113,slow=7.9,SNR=6.1							
FINES	**FINESS Array B**	**145.54 338**		PKPbc		PKPbc	11 07 18.8	-1.7
	1.3nm,0.9s,baz=48,slow=2.1,SNR=3.9							

NIED ***12*** *11:01:00, 36.10N×14180E, h23km, Mw3.9 Best double couple: M0 7.77000×10^14 NP1:φ±23.00000°, δ64.00000°, λ86.00000°. NP2:φ±212.00000°, δ27.00000°, λ98.00000°.*
MOS ***12*** *11:01:46.8±0.8, 3600N×14181E, h33km, mb4.2/3, Error ellipse: s-maj=24.9km s-min=14.0km az=31.7*
JMA ***12*** *11:01:46.5±0.3, 3608N×14178E, h56km, M3.7*
ISCJB ***12*** *11:01:46.5±1.5, 3605N±005×14182E±007, h31km±10km, mb3.8/10, Error ellipse: s-maj=9.6km s-min=7.5km az=20.5*
NEIC ***12*** *11:01:49.4±0.6, 3606N×14170E, mb4.0/3, Error ellipse: s-maj=13.2km s-min=10.0km az=220.0*
IDC ***12*** *11:01:49.6±1.1, 3605N×14173E, h35km±7km, mb3.5/7, mb1 3.6/10, mb1mx3.5/24, mbtmp3.7/10, ML3.4/3, Error ellipse: s-maj=24.6km s-min=17.7km az=98.0*

ISC 12 11:01:47.3±1.6, 3607N±005×14175E±007, h21km±11km, h35km±1.0km: pP-P, n27, σ1§02/33, mb3.8/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.81 243**		P		**Pb**	**11 02 02.2**	**-0.4**
CHOJ				S		**Sb**	**11 02 14.0**	**+0.9**
JHO	**Hitachi**	**1.09 300**		P		**Pn**	**11 02 05.8**	**-1.6**
JYT	**Yasato**	**1.27 278**		P		**Pn**	**11 02 08.2**	**-1.5**
JFK	**Kawauchi**	**1.47 332**		P		**Pn**	**11 02 10.5**	**-2.1**
BSO3	**Boso 3**	**1.62 219**		P		**Pn**	**11 02 14.4**	**-0.2**
JFT	**Otama**	**1.84 322**		P		**Pn**	**11 02 18.0**	**+0.4**
JAG	**Ashikaga**	**1.89 282**		P		**Pn**	**11 02 17.3**	**-1.0**
JAG				S		**Sn**	**11 02 40.6**	**-0.8**
JMM	**Marumori**	**1.95 337**		P		**Pn**	**11 02 19.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.90 280**		Pn		**Pn**	**11 02 32.7**	**+0.5**
	4.5nm,0.3s,baz=85,slow=9.7,SNR=38							
MJAR				Sn		**Sn**	**11 03 09.2**	**+2.9**
	4.8nm,0.3s,baz=180,slow=33,SNR=5.4							
MAJO	**Matsushiro**	**2.90 280**		*e*P		**Pn**	**11 02 32.4**	**+0.2**
MAT	**Matsushiro**	**2.90 280**		P		**Pn**	**11 02 32.4**	**+0.2**
MAT				*e*S		**Sn**	**11 03 08.7**	**+2.3**
MAT	**Matsushiro**	**2.90 280**		*e*P		**Pn**	**11 02 33.0**	**+0.8**
MAT				*e*S		**Sn**	**11 03 12.0**	**+5.6**
JHJ	**Hachijo jima 2**	**3.36 209**		Pn		**Pn**	**11 02 39.9**	**+1.3**
	30nm,0.3s,baz=336,slow=20,SNR=8.3							
JHJ				Sn		**Sn**	**11 03 16.0**	**-1.8**
	33nm,0.3s,baz=73,slow=19,SNR=4.5							
ASAJ	**Asahikawa**	**8.06 4**		Pn		**Pn**	**11 03 44.3**	**+1.2**
	0.4nm,0.3s,baz=130,slow=25,SNR=7.4							
ZAL	**Zalesovo**	**42.78 313**		P		**P**	**11 09 44.6**	**+1.3**
	0.8nm,0.4s,mb3.8,baz=27,slow=7.5,SNR=5.1							
ZAL				pP		pP	11 09 53.7	+4.0
	1.5nm,0.5s,baz=15,slow=6.7,SNR=1.7							
MKAR	**Makanchi Array**	**44.86 303**		P		**P**	**11 10 00.0**	**0.0**
	1.1nm,0.6s,mb3.8,baz=72,slow=7.8,SNR=8.3							
MKAR				pP		pP	11 10 10.4	+4.0
	0.8nm,0.6s,baz=47,slow=8.8,SNR=4.4							
KURK	**Kurchatov**	**46.74 309**		P		**P**	**11 10 14.3**	**-0.6**
KURK				*e*PP		pP	11 10 24.3	+3.0
KURK				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
KURK	**Kurchatov**	**46.74 309**		P		**P**	**11 10 14.2**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.2							
KURK				*e*pP		pP	11 10 24.3	+3.0
ILAR	**Eielson Array**	**50.17 32**		P		**P**	**11 10 41.5**	**+0.2**
	comp=Z,0.5nm,0.9s,mb3.6,baz=261,slow=6.0,SNR=4.5							
ILAR				pP		pP	11 10 51.9	+4.1
	comp=Z,0.7nm,0.8s,baz=254,slow=7.1,SNR=4.0							
BVAR	**Borovoye Array**	**51.42 313**		P		**P**	**11 10 50.7**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=76,slow=7.8,SNR=4.0							
BRVK	**Borovoye**	**51.48 313**		*e*P		**P**	**11 10 51.2**	**0.0**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
BRVK	**Borovoye**	**51.48 313**		*e*P		**P**	**11 10 51.2**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.9							
WRAB	**Tennant Creek**	**56.13 188**		*e*P		**P**	**11 11 25.6**	**+0.4**
WRAB				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
WRAB	**Tennant Creek**	**56.13 188**		*e*P		**P**	**11 11 25.6**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.8							
WRA	**Warramunga Arr**	**56.15 188**		P		**P**	**11 11 24.8**	**-0.5**
	comp=Z,0.5nm,0.9s,mb3.6,baz=5.9,slow=7.5,SNR=4.5							
ASAR	**Alice Springs**	**59.87 188**		P		**P**	**11 11 52.6**	**+1.2**
	comp=Z,0.2nm,0.6s,mb3.3,baz=15,slow=8.2,SNR=3.5							
FINES	**FINESS Array B**	**69.79 333**		P		**P**	**11 12 55.5**	**-0.5**
	comp=Z,1.4nm,1.1s,mb3.8,baz=32,slow=12,SNR=3.3							

NIED ***12*** *11:04:00, 3600N×14170E, h23km, Mw4.1 Best double couple: M0 1.60000×10^15 NP1:φ±23.00000°, δ62.00000°, λ84.00000°. NP2:φ±215.00000°, δ29.00000°, λ101.00000°.*
JMA ***12*** *11:04:51.9±0.3, 3603N×14172E, h66km±4km, M3.8*
ISCJB ***12*** *11:04:52.4±0.5, 3602N±004×14177E±005, h35km, mb4.0/25, MS3.7/1, Error ellipse: s-maj=6.7km s-min=4.8km az=54.4*
MOS ***12*** *11:04:52.2±1.0, 3603N×14173E, h33km, mb4.4/7, Error ellipse: s-maj=13.1km s-min=8.2km az=116.0*
BJI ***12*** *11:04:52.2, 3581N×14137E, h20km, mB4.8, mb4.2, Ms3.9, Msz3.5*
IDC ***12*** *11:04:54.8±0.6, 3602N×14167E, h34km±4km, mb3.7/12, mb1 3.8/15, mb1mx3.8/23, mbtmp3.9/15, ML3.5/3, MS3.4/2, Ms1 3.5/2, ms1mx2.7/24, Error ellipse: s-maj=17.3km s-min=13.5km az=109.0*
NEIC ***12*** *11:04:54.8±0.4, 3604N×14165E, mb4.2/8, Error ellipse: s-maj=9.9km s-min=6.7km az=173.0*

ISC 12 11:04:54.6±0.5, 3604N±004×14166E±006, h37km, h37km±1.6km: pP-P, n59, σ0§85/65, mb4.0/25, MS3.7/1, 4C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.74 243**		P		**Pn**	**11 05 07.4**	**-1.1**
CHOJ				S		**Sn**	**11 05 19.5**	**+1.0**
JHO	**Hitachi**	**1.05 303**		P		**Pn**	**11 05 11.2**	**-1.6**
JFT	**Otama**	**1.81 325**		P		**Pn**	**11 05 23.2**	**-0.1**
JFT				S		**Sn**	**11 05 45.9**	**+0.8**
JAG	**Ashikaga**	**1.83 283**		P		**Pn**	**11 05 22.5**	**-1.0**
JMM	**Marumori**	**1.95 339**		P		**Pn**	**11 05 23.8**	**-1.4**
JMM				*e*S		**Sn**	**11 05 48.6**	**+0.2**
JKT	**Katashina**	**2.08 291**		P		**Pn**	**11 05 26.8**	**-0.1**
JFY	**Yanaizu**	**2.08 311**		P		**Pn**	**11 05 26.9**	**-0.1**
JOD2	**Odawara 2**	**2.24 250**		P		**Pn**	**11 05 29.8**	**+0.7**
JRY	**Ryogami san**	**2.24 270**		P		**Pn**	**11 05 28.4**	**-0.8**
JIM2	**Oshima 3**	**2.25 235**		P		**Pn**	**11 05 28.6**	**-0.8**
JYN	**Shimob**	**2.59 259**		P		**Pn**	**11 05 34.9**	**+0.9**
MJAR	**Matsushiro Arr**	**2.83 281**		Pn		**Pn**	**11 05 37.9**	**+0.5**
	7.0nm,0.3s,baz=97,slow=8.4,SNR=18							
MJAR				Sn		**Sn**	**11 06 17.0**	**+6.8**
	11nm,0.3s,baz=11,slow=32,SNR=5.1							
MAJO	**Matsushiro**	**2.83 281**		*e*P		**Pn**	**11 05 37.8**	**+0.4**
MAT	**Matsushiro**	**2.83 281**		P		**Pn**	**11 05 37.8**	**+0.4**
MAT				*e*S		**Sn**	**11 06 13.6**	**+3.3**
MAT	**Matsushiro**	**2.83 281**		*e*P		**Pn**	**11 05 38.0**	**+0.6**
MAT				*e*S		**Sn**	**11 06 18.0**	**+7.7**
JHJ	**Hachijo jima 2**	**3.30 209**		Pn		**Pn**	**11 05 44.5**	**+0.6**
	22nm,0.3s,baz=128,slow=12,SNR=9.4							
JHJ				Sn		**Sn**	**11 06 20.9**	**-1.0**
	28nm,0.3s,baz=73,slow=19,SNR=4.4							
ASAJ	**Asahikawa**	**8.09 5**		Pn		**Pn**	**11 06 49.5**	**-0.2**
	0.5nm,0.3s,baz=180,slow=19,SNR=3.5							
ASAJ				LR		LR	11 10 58.7	
	comp=Z,130nm,18.5s,baz=38,slow=45							
ASAJ	**Asahikawa**	**8.09 5**		P		**Pn**	**11 06 49.5**	**-0.1**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,130nm,18.5s							
YSS	**Yu

comp=Z,1.4nm,0.8s,mb3.9,baz=39,slow=5.6,SNR=4.6
NOA pP pP 11 16 44.6 +0.2
comp=Z,0.8nm,0.7s,baz=40,slow=5.7,SNR=3.1
NOA LR LR 11 51 52.0
comp=Z,37nm,18.7s,MS3.7,baz=250,slow=38
NOA NORSAR Array B 75.18 337 P **P 11 16 33.2 0.0**
NOA *PP pP 11 16 44.7 +0.2
NOA NORSAR Array B 75.18 337 P **P 11 16 33.2 0.0**
NOA pP pP 11 16 44.6 +0.2
NOA LR LR 11 51 52.0
AKASG Malin Array Be 75.20 323 P **P 11 16 33.0 -0.4**
comp=Z,1.1nm,0.6s,mb4.0,baz=47,slow=6.0,SNR=8.1
AKASG pP pP 11 16 44.2 -0.4
comp=Z,1.4nm,0.6s,baz=47,slow=5.6,SNR=4.7
PDAR Pinedale Array 78.22 45 P **P 11 16 51.8 +1.4**
comp=Z,0.4nm,0.8s,mb3.4,baz=81,slow=1.2,SNR=3.3
LPAZ La Paz 147.01 61 PKPbc PKPbc 11 24 35.1 +1.8
comp=Z,0.6nm,0.8s,baz=333,slow=6.8,SNR=3.0

*ISCJB **12** 11:32:24.5±0.7, 2428N±006×12688E±004, h39km, mb3.7/10, MS3.8/1, Error ellipse: s-maj=8.4km s-min=5.2km az=139.9*
*JMA **12** 11:32:24.5±0.4, 2437N×12682E, h96km*
*IDC **12** 11:32:26.7±0.9, 2430N×12727E, h43km±8km, mb3.5/7, mb1 3.6/8, mb1mx3.5/20, mbtmp3.7/8, ML3.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/18, Error ellipse: s-maj=25.8km s-min=10.8km az=100.0*
*NEIC **12** 11:32:26.1±0.6, 2426N×12708E, mb4.0/3, Error ellipse: s-maj=19.8km s-min=11.7km az=80.0*
ISC 12 11:32:26.3±0.7, 2433N±006×12684E±004, h41km, h41km±3.2km; pP-P, n23, σ1§23/30, mb3.7/10, MS3.8/1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.38**	**288**	P		**Pn**	**11 32 49.1**	**+0.1**
JOGS				S		**Sn**	**11 33 06.4**	**+0.4**
JMJ	**Miyako jima 2**	**1.49**	**289**	P		**Pn**	**11 32 50.7**	**+0.1**
JMJ				*e*S		**Sn**	**11 33 10.2**	**+1.4**
JTJ	**Tarama**	**1.97**	**279**	P		**Pn**	**11 32 56.5**	**-0.7**
JTJ				S		**Sn**	**11 33 20.6**	**-0.1**
JJT2	**Tamagusuku 2**	**1.98**	**24**	P		**Pn**	**11 32 56.3**	**-1.0**
JKE	**Kume jima 2**	**1.99**	**359**	P		**Pn**	**11 32 57.1**	**-0.3**
JKE				*e*S		**Sn**	**11 33 20.8**	**-0.2**
JIJ	**Ishigaki jima**	**2.46**	**271**	P		**Pn**	**11 33 02.9**	**-1.0**
JIJ				S		**Sn**	**11 33 31.3**	**-1.5**
JKRS	**Kuro-shima**	**2.59**	**268**	P		**Pn**	**11 33 04.9**	**-0.8**
JKRS				*e*S		**Sn**	**11 33 34.8**	**-1.0**
JOW	**Kunigami**	**2.81**	**27**	P		**Pn**	**11 33 07.6**	**-1.1**
	12nm,0.3s,baz=184,slow=23,SNR=4.5							
JOW				S		**Sn**	**11 33 38.8**	**-2.5**
	21nm,0.3s,baz=310,slow=29,SNR=4.9							
IRIF	**Iriomote-Funau**	**2.84**	**271**	P		**Pn**	**11 33 07.1**	**-2.0**
JMZ	**Minamidaito 2**	**4.24**	**69**	P		**Pn**	**11 33 24.0**	**-4.3**
JMZ				*e*S		**Sn**	**11 34 09.3**	**-7.2**
SONM	**Songino Array**	**28.52**	**330**	P		**P**	**11 38 20.6**	**+2.7**
	0.8nm,0.4s,mb3.8,baz=145,slow=11,SNR=7.8							
SONM				pP		pP	11 38 33.7	+4.6
	0.7nm,0.5s,baz=143,slow=7.7,SNR=3.1							
MKAR	**Makanchi Array**	**41.90**	**314**	P		**P**	**11 40 14.5**	**+1.8**
	0.7nm,0.4s,mb3.6,baz=82,slow=8.7,SNR=7.4							
WRA	**Warramunga Arr**	**44.61**	**170**	P		**P**	**11 40 33.2**	**-1.3**
	1.1nm,0.8s,mb3.7,baz=349,slow=9.0,SNR=9.5							
KURK	**Kurchatov**	**45.36**	**318**	*e*P		**P**	**11 40 41.9**	**+1.4**
	0.9nm,0.4s,mb4.0							
ASAR	**Alice Springs**	**48.20**	**171**	P		**P**	**11 41 03.2**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=359,slow=14,SNR=6.3							
ASAR				pP		pP	11 41 13.7	-0.7
	0.3nm,0.6s,baz=356,slow=13,SNR=2.9							
BRVK	**Borovoye**	**50.94**	**320**	*e*P		**P**	**11 41 25.4**	**+1.8**
	1.7nm,0.7s,mb4.1							
ZRNK	**Zerenda**	**51.68**	**319**	*e*P		**P**	**11 41 30.5**	**+1.4**
	0.7nm,0.6s,mb3.8							
ZRNK				*ep*P		pP	11 41 41.3	+0.5
DZM	**Mont Dzumac**	**60.07**	**137**	LR		LR	12 06 02.9	
	comp=Z,61nm,19.3s,MS3.8,baz=297,slow=34							
FINES	**FINESS Array B**	**73.89**	**331**	P		**P**	**11 43 58.7**	**+1.7**
	0.8nm,0.6s,mb3.8,baz=46,slow=8.2,SNR=5.8							
FINES	**FINESS Array B**	**73.89**	**331**	P		**P**	**11 43 58.7**	**+1.7**
AKASG	**Malin Array Be**	**76.15**	**320**	P		**P**	**11 44 10.4**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=89,slow=5.6,SNR=4.5							
YKA	**Yellowknife Ar**	**80.77**	**24**	P		**P**	**11 44 36.2**	**+0.8**
	0.3nm,0.7s,mb3.3,baz=297,slow=5.0,SNR=6.3							
YKA				pP		pP	11 44 47.4	-0.4
	0.2nm,0.4s,baz=307,slow=5.7,SNR=4.2							
YKA	**Yellowknife Ar**	**80.77**	**24**	P		**P**	**11 44 36.2**	**+0.7**
YKA				pP		pP	11 44 47.4	-0.4

*ISCJB **12** 11:41:14.2±1.3, 2115S±006×688W±0.1, h92km±15km, mb3.8/4, Error ellipse: s-maj=19.0km s-min=10.4km az=170.4*
*IDC **12** 11:41:20.9±2.6, 2109S×6849W, h127km±22km, mb3.6/4, mb1 3.6/8, mb1mx3.4/18, mbtmp3.9/8, Error ellipse: s-maj=28.4km s-min=22.5km az=94.0*
*NEIC **12** 11:41:21.3±1.6, 2109S×6845W, h129km±15km, mb4.0/3, Error ellipse: s-maj=20.3km s-min=13.4km az=88.0*
ISC 12 11:41:15.7±1.0, 2116S±006×688W±01, h90km±12km, n16, σ0§81/16, mb3.8/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.89**	**8**	P		**Pn**	**11 42 32.5**	**+5.7**
	1.3nm,0.3s,baz=189,slow=3.6,SNR=17							
LPAZ				S		**Sn**	**11 43 21.8**	**-0.3**
	0.7nm,0.3s,baz=219,slow=14,SNR=5.8							
ARE	**Arequipa**	**5.30**	**331**	*e*P		**Pn**	**11 42 33.0**	**+0.6**
SIV	**San Ignacio**	**8.98**	**56**	P		**Pn**	**11 43 22.7**	**+0.2**
	3.8nm,0.3s,baz=250,slow=11,SNR=69							
CFAA	**Coronel Fontan**	**10.42**	**177**	P		**Pn**	**11 43 40.5**	**-1.5**
	0.0nm,0.3s,baz=5.7,slow=16,SNR=6.9							
CFAA				S		**Sn**	**11 45 31.7**	**-5.2**
	0.1nm,0.3s,baz=192,slow=13,SNR=5.5							
CPUP	**Villa Florida**	**11.73**	**118**	P		**Pn**	**11 44 00.0**	**+0.1**
	0.4nm,0.3s,baz=276,slow=12,SNR=5.7							
TRQA	**Tornquist**	**17.85**	**162**	*e*P		**Pn**	**11 45 18.8**	**+0.6**
	8.0nm,1.1s							
PLCA	**Paso Flores**	**19.57**	**184**	P		**Pn**	**11 45 40.1**	**+1.5**
	0.2nm,0.3s,baz=358,slow=10,SNR=11							
PLCA	**Paso Flores**	**19.57**	**184**	*e*P		**Pn**	**11 45 41.9**	**+3.4**
	2.5nm,0.7s							
BDFB	**Brasilia**	**20.50**	**78**	P		**P**	**11 45 46.2**	**-0.3**
	8.1nm,0.5s,baz=258,slow=11,SNR=12							
RCBR	**Riachuelo**	**35.36**	**69**	*e*P		**P**	**11 48 03.5**	**+1.0**
	5.9nm,0.6s,mb4.6							
DBIC	**Dimbokro**	**68.57**	**74**	P		**P**	**11 52 07.9**	**-1.0**
	0.6nm,0.4s,mb3.7,baz=216,slow=6.3,SNR=2.9							
TORD	**Torodi Ar. Bea**	**77.18**	**70**	P		**P**	**11 52 59.7**	**0.0**
	0.7nm,0.6s,mb3.6,baz=254,slow=5.0,SNR=10							
YKA	**Yellowknife Ar**	**90.89**	**341**	P		**P**	**11 54 08.7**	**-0.6**
	0.2nm,0.6s,mb3.5,baz=127,slow=4.3,SNR=6.6							
YKA	**Yellowknife Ar**	**90.89**	**341**	P		**P**	**11 54 08.7**	**-0.6**
WRA	**Warramunga Arr**	**133.28**	**211**	PKP		PKPdf	12 00 22.8	+1.7
	0.4nm,1.1s,baz=166,slow=2.4,SNR=5.3							
MKAR	**Makanchi Array**	**145.32**	**36**	PKPbc		PKPbc	12 00 42.8	-0.1
	0.7nm,0.6s,baz=325,slow=5.9,SNR=5.2							

*THE **12** 11:50:53.0, 3687N×2642E, h6km*
*IDC **12** 11:50:54.4±1.5, 3666N×2653E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/20, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=63.2km s-min=19.2km az=154.0*
*NEIC **12** 11:50:55.1, 3686N×2652E, h25km, MD3.4(ATH), MD3.4(ISK), After ATH.*
*ATH **12** 11:50:55.1, 3686N×2652E, h25km±1km, MD3.4/6*
*MOS **12** 11:50:55.2±0.8, 3687N×2650E, h10km, mb3.7/1, Error ellipse: s-maj=14.0km s-min=11.6km az=81.2*
*ISK **12** 11:50:55.7, 3690N×2645E, h30km, MD3.4*
*ISCJB **12** 11:50:55.1±0.4, 3687N±002×2648E±002, h9km±4km, mb3.5/3, Error ellipse: s-maj=4.3km s-min=2.9km az=124.1*
*CSEM **12** 11:50:55.7±0.1, 3688N×2653E, h15km, MD3.4, Error ellipse: s-maj=2.2km s-min=1.2km az=168.0*
ISC 12 11:50:55.8±0.4, 3685N±003×2647E±003, h11km±3km, n60, σ1§20/83, mb3.5/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.70**	**73**	PG		**Pg**	**11 51 09.2**	**-0.2**
BODT				SG		**Sg**	**11 51 19.6**	**+1.0**
BODT	**Bodrum**	**0.70**	**73**	Pg		**Pg**	**11 51 09.3**	**-0.1**
APE	**Apeiranthos**	**0.79**	**286**	PG		**Pg**	**11 51 09.8**	**-1.2**
APE				SG		**Sg**	**11 51 21.8**	**+0.5**
APE	**Apeiranthos**	**0.79**	**286**	*e*Pg		**Pg**	**11 51 10.7**	**-0.3**
APE				*e*Sg		**Sg**	**11 51 22.5**	**+1.2**
APE	**Apeiranthos**	**0.79**	**286**	*e*Pg		**Pg**	**11 51 10.7**	**-0.3**
APE				*e*Sg		**Sg**	**11 51 21.8**	**+0.5**
APE				*e*Sn		**Sn**	**11 51 23.0**	**-1.6**
BDRM	**Kayabasi**	**0.81**	**75**	*i* P		**Pg**	**11 51 11.3**	**-0.1**
BDRM				*i* S		**Sg**	**11 51 22.9**	**+1.0**
DAT	**Datca**	**0.90**	**98**	PG		**Pg**	**11 51 13.1**	**0.0**
DAT				SG		**Sg**	**11 51 25.8**	**+1.0**
SMG	**Samos**	**0.90**	**19**	*e*PN		**Pg**	**11 51 12.4**	**-0.8**
SMG				*e*SN		**Sg**	**11 51 24.7**	**-0.3**
SANT	**Santorini**	**0.95**	**240**	*e*Pg		**Pg**	**11 51 14.1**	**0.0**
SANT				*e*Sg		**Sg**	**11 51 27.9**	**+1.4**
SANT	**Santorini**	**0.95**	**240**	P		**Pg**	**11 51 14.9**	**+0.8**
SANT				*e*Sg		**Sg**	**11 51 27.9**	**+1.4**
SANT	**Santorini**	**0.95**	**240**	P		**Pg**	**11 51 14.9**	**+0.8**
SANT				S		**Sg**	**11 51 32.9**	**+6.4**
THR1	**Thera Island**	**0.95**	**240**	*e*Pg		**Pg**	**11 51 14.3**	**+0.2**
THR6	**Thira Island,**	**1.00**	**240**	*e*Pg		**Pg**	**11 51 15.4**	**+0.4**
THR6	**Thira Island,**	**1.00**	**240**	P		**Pg**	**11 51 15.4**	**+0.4**
AYDN	**Tasoluk**	**1.38**	**54**	*i* P		**Pn**	**11 51 22.7**	**+1.6**
AYDN				*i* S		**Sn**	**11 51 40.7**	**+1.5**
KARP	**Karpathos**	**1.42**	**157**	*e*PN		**Pn**	**11 51 21.1**	**-0.4**
ARG	**Arkhangelos**	**1.48**	**115**	*e*PN		**Pn**	**11 51 21.8**	**-0.5**
YER	**Yerkesik**	**1.48**	**79**	PN		**Pn**	**11 51 22.0**	**-0.3**
YER	**Yerkesik**	**1.48**	**79**	Pn		**Pn**	**11 51 21.7**	**-0.6**
URLA	**Izmir**	**1.51**	**4**	*i* P		**Pn**	**11 51 23.3**	**+0.5**
URLA				*i* S		**Sn**	**11 51 44.5**	**+2.1**
BLCB	**Balcova**	**1.59**	**16**	*e*PN		**Pn**	**11 51 22.5**	**-1.5**
BLCB	**Balcova**	**1.59**	**16**	Pn		**Pn**	**11 51 23.1**	**-0.9**
IZM	**Izmir**	**1.66**	**22**	*e*PN		**Pn**	**11 51 23.9**	**-1.0**
IZM	**Izmir**	**1.66**	**22**	Pn		**Pn**	**11 51 24.1**	**-0.8**
IZM	**Izmir**	**1.66**	**22**	Pn		**Pn**	**11 51 24.1**	**-0.8**
KDAG	**Bornova**	**1.67**	**22**	*i* P		**Pg**	**11 51 25.9**	**-2.0**
KDAG				*i* S		**Sg**	**11 51 50.6**	**+1.1**
NPS	**Neapolis**	**1.73**	**204**	*e*PN		**Pn**	**11 51 25.6**	**-0.3**
ZKR	**Zakros**	**1.75**	**187**	*e*Pb		**Pb**	**11 51 26.7**	**-1.2**
ZKR	**Zakros**	**1.75**	**187**	P		**Pn**	**11 51 20.3**	**-5.8**
FETY	**Fethiye**	**2.11**	**95**	*e*PN		**Pn**	**11 51 30.1**	**-0.9**
FETY	**Fethiye**	**2.11**	**95**	Pn		**Pn**	**11 51 30.5**	**-0.5**
DENT	**Denizli**	**2.23**	**65**	*e*PN		**Pn**	**11 51 31.0**	**-1.7**
AKS	**Akhisar**	**2.28**	**27**	*e*PN		**Pn**	**11 51 32.1**	**-1.3**
AKS	**Akhisar**	**2.28**	**27**	Pn		**Pn**	**11 51 32.7**	**-0.7**
AKS	**Akhisar**	**2.28**	**27**	Pn		**Pn**	**11 51 32.7**	**-0.8**
MANT	**Manisa**	**2.33**	**45**	*i* P		**Pg**	**11 51 40.0**	**-0.4**
MANT				*i* S		**Sg**	**11 52 09.8**	**-0.7**
PRK	**Paraskevi**	**2.39**	**356**	*e*PN		**Pn**	**11 51 35.0**	**0.0**
PTL	**Penteli**	**2.40**	**301**	*e*PN		**Pn**	**11 51 35.0**	**0.0**
AYVA	**Ayvalik**	**2.46**	**4**	*i* P		**Pg**	**11 51 41.6**	**-1.4**
AYVA				*i* S		**Sg**	**11 52 17.1**	**+2.3**
EZN	**Ezine**	**2.97**	**358**	*e*PN		**Pn**	**11 51 41.5**	**-1.4**
EZN	**Ezine**	**2.97**	**358**	Pn		**Pn**	**11 51 41.5**	**-1.4**
LOS	**Limnos**	**3.26**	**341**	P		**Pn**	**11 51 48.5**	**+1.6**
LOS	**Limnos**	**3.26**	**341**	P		**Pn**	**11 51 48.5**	**+1.5**
TKTP	**Tekketepe**	**3.28**	**68**	*i* P		**Pg**	**11 52 00.8**	**+2.0**
TKTP				*i* S		**Sg**	**11 52 50.0**	**+8.7**
XOR	**Xorichti**	**3.60**	**315**	*e*Pn		**Pn**	**11 51 51.3**	**-0.3**
XOR	**Xorichti**	**3.60**	**315**	P		**Pn**	**11 51 54.9**	**+3.3**
XOR	**Xorichti**	**3.60**	**315**	P		**Pn**	**11 51 54.9**	**+3.3**
ULDT	**Uludag**	**3.89**	**32**	*i* P		**Pg**	**11 52 08.2**	**-2.1**
ULDT				*i* S		**Sg**	**11 52 59.1**	**-1.7**
AGG	**Agios Georgios**	**3.93**	**305**	*e*Pn		**Pn**	**11 51 56.7**	**+0.6**
AGG	**Agios Georgios**	**3.93**	**305**	P		**Pn**	**11 51 59.4**	**+3.4**
AGG	**Agios Georgios**	**3.93**	**305**	P		**Pn**	**11 51 59.4**	**+3.4**
AGG				S		**Sn**	**11 52 50.0**	**+7.9**
HENT	**Hendek**	**5.26**	**40**	*i* P		**Pg**	**11 52 34.2**	**-2.4**
HENT				*i* S		**Sg**	**11 53 50.9**	**+6.3**
SGKT	**Sivrigoynuk**	**5.73**	**48**	*i* P		**Pg**	**11 52 49.2**	**+3.6**
SGKT				*i* S		**Sg**	**11 54 09.4**	**+10**
BRTR	**Keskin Array B**	**6.32**	**61**	Pn		**Pn**	**11 52 30.7**	**+1.8**
	0.2nm,0.3s,baz=244,slow=15,SNR=5.1							
BRTR				Sn		**Sn**	**11 53 40.7**	**-0.4**
	0.1nm,0.3s,baz=274,slow=22,SNR=2.1							
BRTR				Lg			11 54 15.7	
	0.2nm,0.3s,baz=263,slow=26,SNR=4.4							
BRTR	**Keskin Array B**	**6.32**	**61**	Pn		**Pn**	**11 52 30.8**	**+1.9**
BRTR				Sn		**Sn**	**11 53 40.7**	**-0.4**
GNI	**Garni**	**14.68**	**71**	*e*P		**Pn**	**11 54 31.0**	**+7.7**
GNI				pmax		pmax		
	comp=Z,4.0nm,1.3s							
ESDC	**Sonseca Array**	**24.01**	**286**	P		**P**	**11 56 11.9**	**+1.3**
	comp=Z,0.4nm,0.6s,mb3.0,baz=92,slow=10,SNR=4.2							
KONO	**Kongsberg**	**25.28**	**340**	*e*P		**P**	**11 56 16.7**	**-5.4**
TORD	**Torodi Ar. Bea**	**32.39**	**230**	P		**P**	**11 57 24.9**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.6,baz=35,slow=8.8,SNR=6.3							
MKAR	**Makanchi Array**	**41.97**	**58**	P		**P**	**11 58 47.4**	**+0.6**
	comp=Z,1.7nm,0.7s,mb3.8,baz=282,slow=7.2,SNR=9.3							

MAN 12 11:57:13.8, 666N×12597E, h45km, mb3.0, ML4.4, MS8.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.94**	**292**	*e*P		Pn	11 57 30.9	+0.4
KCP				*i* S		Sn	11 57 33.9	-8.8
BUKP	**Musuan**	**1.50**	**324**	*e*P		Pn	11 57 40.0	+1.8
BUKP				*e*S		Sn	11 57 56.5	-0.2
CTBH	**Cotabato--PC H**	**1.79**	**288⇑**	*e*P		Pn	11 57 43.3	+1.0
CTBH				*i* S		Sn	11 58 05.5	+1.7
PAGZ	**Pagadian**	**2.82**	**295**	*e*P		Pn	11 57 56.1	-0.2

*MOS **12** 12:00:18.5±1.9, 5341N×10884E, h14km, mb4.3/1, Error ellipse: s-maj=18.4km s-min=9.6km az=53.9*
BYKL 12 12:00:18.5±0.2, 5344N×10879E, h14km±4km, 4C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.18**	**189⇑**	*i*Pg		Pg	12 00 22.3	-0.4
MXMB				*e*Sg		Sg	12 00 25.2	-0.4
MXMB				Pmax				
	1μm,0.1s							
MXMB				Smax				
	15μm,0.2s							
OGRR	**Ongureny**	**0.74**	**286⇑**	*i*Pg		Pg	12 00 32.8	-0.1
	118nm,0.3s							
OGRR			⇓	*i*Pg		Pg	12 00 32.8	-0.1
	221nm,0.3s							
OGRR			⇑	*i*Pg		Pg	12 00 32.8	-0.1
	250nm,0.3s							
OGRR				*e*Sg		Sg	12 00 42.8	+0.1
OGRR				*e*Sb		Sb	12 00 48.0	+4.8
OGRR				Pmax				
	134nm,0.2s							
OGRR				max				
	2μm,0.2s							
OGRR	**Ongureny**	**0.74**	**286**	*e*PG		Pg	12 00 32.8	-0.1
OGRR				*e*			12 00 43.1	
OGRR				pmax		pmax		
	comp=Z,190nm,0.4s							
OGRR				smax				
	comp=N,749nm,0.4s							
SYVR	**Suvo**	**0.75**	**73**	⇓*i*Pg		Pg	12 00 32.2	-0.9
SYVR				*e*Sg		Sg	12 00 42.1	-1.0
SYVR				Pmax				
	comp=N,41nm,0.2s							
SYVR				Smax				
	comp=N,397nm,0.7s							
SYVR	**Suvo**	**0.75**	**73**	*e*PG		Pg	12 00 32.3	-0.8
SYVR				*e*			12 00 42.5	
SYVR				pmax		pmax		
	comp=Z,38nm,0.1s							
SYVR				smax				
	comp=N,383nm,0.4s							
KELR	**Kotokel**	**0.81**	**212⇑**	*i*Pg		Pg	12 00 33.2	-0.9
KELR				*e*Sg		Sg	12 00 44.1	-0.6
KELR				Pmax				
	comp=N,162nm,0.2s							
KELR				Smax				
	comp=N,2μm,0.3s							
TRTB	**Turuntaevo**	**1.40**	**211**	*e*Pg		Pg	12 00 43.9	-1.6
TRTB				*e*Sg		Sg	12 01 02.2	-1.5
TRTB				*e*Sb		Sb	12 01 04.6	+2.4
TRTB				max				
	comp=N,325nm,0.5s							
TRG	**Tyrgan**	**1.62**	**246**	*e*Pg		Pg	12 00 47.6	-2.1
TRG				*e*Sg		Sg	12 01 09.5	-1.2
TRG				Pmax				
	comp=N,85nm,0.2s							
TRG				Smax				
	comp=N,495nm,0.1s							
TRG	**Tyrgan**	**1.62**	**246**	*e*PN		Pn	12 00 47.5	+0.8
TRG				*e*			12 00 48.0	
TRG				*e*			12 01 09.9	
TRG				pmax		pmax		
	comp=Z,82nm,0.3s							
TRG				smax				
	comp=N,502nm,0.2s							
FFNB	**Fofonovo**	**1.86**	**222**	*e*Pg		Pg	12 00 52.9	-1.3
FFNB				*e*Sg		Sg	12 01 17.4	-1.0
FFNB				Pmax				
	comp=N,106nm,0.1s							
FFNB				Smax				
	comp=N,994nm,0.2s							
KAB	**Kabansk**	**1.90**	**224**	*e*Sg		Sg	12 01 19.1	-0.7
KAB				Smax				
	comp=N,742nm,0.5s							
KAB	**Kabansk**	**1.90**	**224**	*e*PN		Pn	12 00 53.8	+3.3
KAB				*e*			12 01 19.2	
KAB				pmax		pmax		
	comp=Z,109nm,0.4s							
KAB				smax				
	comp=N,750nm,0.3s							
YLYR	**Ulyunkhan**	**2.00**	**43**	*i* Pn		Pn	12 00 53.0	+1.1
YLYR				⇓*e*Pg		Pg	12 00 54.7	-2.3
YLYR				*e*Sg		Sg	12 01 20.8	-2.2
YLYR				Pmax				
	comp=N,45nm,0.3s							
YLYR				Smax				
	comp=N,203nm,1.0s							
YLYR	**Ulyunkhan**	**2.00**	**43**	*e*PN		Pn	12 00 53.1	+1.2
YLYR				*e*			12 00 54.3	
YLYR				*e*			12 01 20.4	
YLYR				pmax		pmax		
	comp=Z,45nm,0.5s							
YLYR				smax				
	comp=N,198nm,0.5s							
NIZ	**Nizh Angarsk**	**2.38**	**10**	*e*		Pn	12 00 58.9	+1.8
NIZ				*e*Pg		Pg	12 01 00.9	-3.2
NIZ				*e*Sg		Sg	12 01 31.1	-3.9
NIZ				Pmax				
	comp=N,25nm,0.3s							
NIZ				Smax				
	comp=N,253nm,0.4s							
NIZ	**Nizh Angarsk**	**2.38**	**10**	*e*PN		Pn	12 00 59.0	+1.9
NIZ				*e*			12 01 00.8	
NIZ				*e*			12 01 31.4	
NIZ				pmax		pmax		
	comp=Z,34nm,0.4s							
NIZ				smax				
	comp=N,255nm,0.5s							
BTMB	**Babushkin**	**2.51**	**227**	*e*		Pn	12 01 03.5	+4.7
BTMB				*e*Pg		Pg	12 01 04.3	-2.3
BTMB				*e*Sg		Sg	12 01 37.0	-2.1
BTMB				Pmax				
	comp=N,36nm,0.4s							
BTMB				Smax				
	comp=N,293nm,0.7s							
KMO	**Kumora**	**2.82**	**29**	*e*Pg		Pg	12 01 09.1	-3.5
KMO				*e*Sg		Sg	12 01 46.1	-3.1
KMO				Pmax				
	comp=N,47nm,0.4s							
KMO				Smax				
	comp=N,277nm,0.9s							
KMO	**Kumora**	**2.82**	**29**	*e*PN		Pn	12 01 03.4	+0.2
KMO				*e*			12 01 08.9	
KMO				*e*S		Sn	12 01 38.5	+1.5
KMO				*e*			12 01 46.6	
KMO				pmax		pmax		
	comp=Z,42nm,0.4s							
KMO				smax				
	comp=N,277nm,1.1s							
LSTR	**Listvyanka**	**2.88**	**238**	*e*Pn		Pn	12 01 04.8	+0.9
LSTR				*e*Pg		Pg	12 01 10.0	-3.7
LSTR				*e*Sn		Sn	12 01 39.5	+1.1
LSTR				*e*Sg		Sg	12 01 47.1	-3.9
LSTR				Pmax				
	comp=N,17nm,0.9s							
LSTR				Smax				
	comp=N,65nm,1.4s							
IRK	**Irkutsk**	**2.99**	**248**	*e*Sg		Sg	12 01 50.5	-4.1
IRK				Smax				
	comp=N,241nm,0.3s							
IRK	**Irkutsk**	**2.99**	**248**	*e*PN		Pn	12 01 12.0	+6.5
IRK				*e*			12 01 50.3	
IRK				pmax		pmax		
	comp=Z,67nm,0.1s							
IRK				smax				
	comp=N,237nm,0.5s							
YOA	**Uoyan**	**3.19**	**31**	*e*PN		Pn	12 01 16.3	+8.1
YOA				*i*			12 01 59.1	
YOA				pmax		pmax		
	comp=Z,87nm,0.5s							
YOA				smax				
	comp=E,696nm,0.8s							
CIT	**Chita**	**3.23**	**114**	*e*Pn		Pn	12 01 09.0	+0.3
CIT				*e*Pg		Pg	12 01 15.8	-4.5
CIT				*e*Sn		Sn	12 01 47.0	+0.1
CIT				*e*Sg		Sg	12 01 57.6	-4.5
CIT				Pmax				
	comp=E,45nm,0.6s							
CIT				Smax				
	comp=E,295nm,1.0s							
CIT	**Chita**	**3.23**	**114**	*e*PN		Pn	12 01 15.8	+7.1
CIT				*e*S		Sn	12 01 47.7	+0.8
CIT				*e*			12 01 56.4	
CIT				pmax		pmax		
	comp=Z,45nm,0.6s							
CIT				smax				
	comp=N,287nm,0.6s	

NLYR				Pmax			
	comp=E,18nm,0.3s						
NLYR				Smax			
	comp=E,101nm,0.7s						
NLYR	**Nelyaty**	**5.02**	**50**	*e*PN	Pn	12 01 48.6	+15
NLYR				*e*		12 02 54.2	
NLYR				pmax	pmax		
	comp=Z,13nm,0.3s						
NLYR				smax			
	comp=N,101nm,0.9s						
MOY	**Mondy**	**5.08**	**253**	*e*Pg	Pg	12 01 48.5	-7.2
MOY				*e*		12 02 36.7	
MOY				*e*Sg	Sg	12 02 54.4	-7.1
MOY				Pmax			
	comp=N,13nm,0.6s						
MOY				Smax			
	comp=N,74nm,1.8s						
BOD	**Bodaibo**	**5.29**	**32**	*e*	Pn	12 01 55.3	+18
BOD				*e*		12 02 39.1	
BOD				*e*Sg	Sg	12 03 00.9	-7.4
BOD				Smax			
	comp=N,57nm,2.0s						
ORL	**Orlik**	**5.50**	**264**	*e*	Pn	12 01 44.0	+4.0
ORL				*e*Pg	Pg	12 01 58.1	-5.7
ORL				*e*Sn	Sn	12 02 44.7	+1.7
ORL				*e*Sg	Sg	12 03 09.5	-5.5
ORL				Pmax			
	comp=N,4.0nm,0.4s						
ORL				Smax			
	comp=N,51nm,1.4s						
ORL	**Orlik**	**5.50**	**264**	*e*PN	Pn	12 01 40.4	+0.4
ORL				*e*S	Sn	12 03 09.9	+27
ORL				smax			
	comp=N,33nm,0.9s						
TUP	**Tupik**	**6.67**	**77**	*e*Pn	Pn	12 01 56.0	0.0
TUP				*e*		12 02 21.2	
TUP				*e*Sg	Sg	12 03 44.5	-8.0
TUP				Smax			
	comp=N,88nm,1.4s						
TUP	**Tupik**	**6.67**	**77**	*e*PN	Pn	12 01 56.5	+0.5
TUP				*e*		12 02 17.5	
TUP				*e*		12 03 42.5	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TUP				smax			
	comp=N,70nm,1.0s						

IDC 12 12:37:06.4±2.2, 2498N×14050E, h187km±22km, mb3.3/2, mb1 3.5/4, mb1mx3.0/21, mbtmp3.8/4, Error ellipse: s-maj=60.1km s-min=21.7km az=103.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.60**	**35**	P	Pn	12 37 52.6	+2.0
	61nm,0.3s,baz=122,slow=5.1,SNR=54						
CBIJ				S	Sn	12 38 25.1	0.0
	13nm,0.3s,baz=272,slow=24,SNR=10.0						
MJAR	**Matsushiro Arr**	**11.69**	**351**	P	Pn	12 39 47.0	-0.7
	0.3nm,0.3s,baz=170,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**45.05**	**188**	P	P	12 45 03.5	-0.1
	1.7nm,0.4s,baz=8.3,slow=8.7,SNR=40						
ILAR	**Eielson Array**	**60.29**	**28**	P	P	12 46 55.0	-0.2
	0.3nm,0.7s,baz=251,slow=5.5,SNR=4.8						

*IDC **12** 12:38:37.8±2.9, 299S×10135E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=135.0km s-min=19.1km az=53.0*
*ISCJB **12** 12:38:39.8±1.0, 32S±02×101.1E±02, h33km, mb4.0/8, Error ellipse: s-maj=44.1km s-min=14.6km az=88.9*
*NEIC **12** 12:38:41.0±0.8, 327S×10104E, h30km, mb4.2/2, Error ellipse: s-maj=33.0km s-min=10.9km az=223.0*

ISC 12 12:38:42.0±1.0, 32S±02×1011E±02, h35km, n8, σ0°48/8, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**22.83**	**297**	P	**P**	**12 43 42.0**	**+0.2**
	9.9nm,1.2s,mb4.1						
WRA	**Warramunga Arr**	**36.47**	**120**	P	**P**	**12 45 43.2**	**-0.4**
	0.9nm,0.4s,mb4.1,baz=303,slow=8.9,SNR=23						
WRAB	**Tennant Creek**	**36.48**	**120**	*e*P	**P**	**12 45 43.3**	**-0.4**
	2.0nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**37.68**	**126**	P	**P**	**12 45 54.6**	**+0.7**
	0.8nm,0.6s,mb3.6,baz=302,slow=8.3,SNR=27						
SONM	**Songino Array**	**51.07**	**5**	P	**P**	**12 47 41.3**	**+0.5**
	0.5nm,0.5s,mb3.7,baz=185,slow=9.3,SNR=4.2						
MKAR	**Makanchi Array**	**52.49**	**344**	P	**P**	**12 47 51.4**	**-0.1**
	1.0nm,0.6s,mb3.9,baz=152,slow=5.5,SNR=9.1						
ZAL	**Zalesovo**	**58.56**	**349**	P	**P**	**12 48 35.4**	**+0.3**
	2.0nm,0.3s,mb4.7,baz=305,slow=5.8,SNR=11						
BVAR	**Borovoye Array**	**61.70**	**340**	P	**P**	**12 48 55.7**	**-0.9**
	0.5nm,0.5s,mb3.9,baz=128,slow=9.7,SNR=5.8						

IDC 12 12:48:22.6±70.0, 2197S×17837E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=1245.0km s-min=156.7km az=84.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.10**	**245**	P	P	12 55 07.2	-1.7
	3.0nm,1.0s,baz=90,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**40.90**	**259**	P	P	12 56 07.0	+0.6
	0.7nm,0.4s,baz=96,slow=7.4,SNR=30						
WRA	**Warramunga Arr**	**41.06**	**264**	P	P	12 56 09.1	+1.2
	0.9nm,0.3s,baz=93,slow=8.6,SNR=50						

IDC 12 12:56:11.2±1.9, 2907S×17772W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.8/11, mbtmp3.7/2, Error ellipse: s-maj=49.2km s-min=15.5km az=124.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.25**	**224**	Pg	Pg	12 56 15.9	0.0
	14μm,0.3s,baz=287,slow=1.7,SNR=9.4						
TBI	**Tubuai**	**25.95**	**84**	*e*T		13 28 45.8	
	71nm,0.3s						
PAE	**Paea**	**28.14**	**72**	*e*T		13 31 32.4	
	150nm,0.3s						
PPT	**Papeete**	**28.19**	**72**	*e*LR	LR	13 09 15.2	
	112nm,28.8s						
PPT	**Papeete**	**28.19**	**72**	*e*T		13 31 36.2	
	27nm,0.3s						
TVO	**Taravao**	**28.36**	**73**	*e*T		13 31 48.7	
	18nm,0.3s						
PMOR	**Pomariorio Ree**	**30.88**	**69**	*e*T		13 34 58.1	
	15nm,0.4s						
VAH	**Vaihoa**	**30.98**	**70**	*e*T		13 35 04.9	
	45nm,0.2s						
RKT	**Rikitea**	**38.69**	**91**	*e*T		13 44 37.9	
	4.5nm,0.3s						
ASAR	**Alice Springs**	**43.44**	**265**	P	P	13 04 15.8	+0.1
	0.5nm,0.7s,baz=96,slow=7.6,SNR=7.0						
WRA	**Warramunga Arr**	**44.31**	**271**	P	P	13 04 23.3	+0.6
	1.6nm,0.7s,baz=109,slow=7.8,SNR=11						
AKASG	**Malin Array Be**	**150.38**	**324**	PKPbc	PKPbc	13 16 03.9	-0.6
	1.1nm,0.7s,baz=47,slow=2.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**164.15**	**178**	PKPab	PKPab	13 17 09.9	-0.1
	0.8nm,1.1s,baz=202,slow=3.2,SNR=3.9						

*ISCJB **12** 12:58:26.1±2.5, 1078N±008×9458E±008, h10km±16km, mb4.3/20, MS3.9/10, Error ellipse: s-maj=17.1km s-min=8.4km az=81.1*
*IDC **12** 12:58:26.1±1.0, 1067N×9431E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/22, mbtmp4.0/6, MS3.8/9, Ms1 3.8/9, ms1mx3.5/25, Error ellipse: s-maj=52.6km s-min=18.5km az=66.0*
*BJI **12** 12:58:26.0, 1033N×9442E, h34km, mB4.4, mb4.1, Ms4.0, Msz3.5*
*NEIC **12** 12:58:27.9±0.5, 1079N×9459E, h10km, mb4.3/4, Error ellipse: s-maj=19.9km s-min=9.6km az=53.0*
*MOS **12** 12:58:27.2±0.9, 1050N×9450E, h33km, mb4.8/9, Error ellipse: s-maj=29.8km s-min=11.5km az=96.9*

ISC 12 12:58:29.6±2.6, 1084N±008×9460E±008, h19km±17km, n59, σ0°82/49, mb4.3/20, MS3.9/10, 4C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.99**	**294**	*e*P	**Pn**	**12 59 21.3**	**+19**
PBA				*e*S	**Sn**	**12 59 40.9**	**+14**
KULM	**Kulim**	**8.14**	**132**	*e*Pn	**Pn**	**13 00 25.9**	**-0.9**
PSI	**Prapat**	**9.07**	**151**	LR	LR	13 04 53.4	
	comp=Z,411nm,18.6s,baz=308,slow=42						
VIS	**Vishakhapatnam**	**12.88**	**303**	*e*P	**Pn**	**13 01 32.1**	**+0.4**
VIS				AMb	AMB	13 01 45.1	
	comp=Z,34nm,1.7s						
SHL	**Shillong**	**14.87**	**350**	*e*P	**Pn**	**13 01 55.0**	**-3.8**
BOK	**Bokaro**	**15.32**	**328**	*e*P	**Pn**	**13 02 04.2**	**-0.6**
BOK				AMb	AMB	13 02 13.0	
	comp=Z,18nm,1.2s						
HYB	**Hyderabad**	**16.87**	**295**	*i* P	**Pn**	**13 02 26.5**	**+1.8**
HYB	**Hyderabad**	**16.87**	**295**	*e*P	**Pn**	**13 02 26.5**	**+1.8**
JIRN	**Jiri**	**18.50**	**336**	*e*P	**Pn**	**13 02 45.4**	**+0.5**
	comp=Z,71nm,1.4s						
PKI	**Pulchoki**	**18.75**	**334**	*e*P	**Pn**	**13 02 48.3**	**+0.4**
	comp=Z,62nm,1.1s						
GUN	**Gumba**	**18.85**	**335**	*e*P	**Pn**	**13 02 49.4**	**+0.3**
	comp=Z,116nm,1.5s						
DMN	**Daman**	**18.91**	**333**	*e*P	**Pn**	**13 02 49.9**	**0.0**
	comp=Z,43nm,1.1s						
KKN	**Kakani**	**19.00**	**334**	*e*P	**Pn**	**13 02 50.6**	**-0.2**
GKN	**Gorkha**	**19.46**	**333**	*e*P	**Pn**	**13 02 55.9**	**-0.6**
	comp=Z,73nm,1.2s						
KOLN	**Koldanda**	**19.76**	**330**	*e*P	**Pn**	**13 02 58.7**	**-1.2**
	comp=Z,42nm,0.9s						
BHPL	**Bhopal**	**20.50**	**309**	*e*P	**P**	**13 03 07.4**	**+0.9**
BHPL				AMb	AMB	13 03 19.1	
	comp=Z,19nm,1.6s						
POO	**Poona**	**21.46**	**293**	*e*P	**P**	**13 03 17.0**	**+0.1**
ENH	**Enshi**	**23.78**	**33**	*e*P	**P**	**13 03 41.7**	**+0.6**
	comp=Z,46nm,1.6s,mb4.7						
SONA	**Sohna**	**23.86**	**319**	*e*P	**P**	**13 03 41.1**	**-0.8**
AYAN	**Aya Nagar**	**24.00**	**319**	*e*P	**P**	**13 03 42.7**	**-0.4**
AYAN				AMb	AMB	13 03 52.2	
	comp=Z,12nm,1.1s,mb4.2						
KUDL	**Kundal**	**24.18**	**318**	*e*P	**P**	**13 03 44.4**	**-0.4**
KUDL				AMb	AMB	13 03 47.2	
	comp=Z,8.0nm,1.4s,mb4.0						
AJM	**Ajmer**	**24.42**	**312**	*e*P	**P**	**13 03 46.9**	**0.0**
AJM				AMb	AMB	13 03 50.3	
	comp=Z,8.8nm,0.8s,mb4.2						
KHET	**Khetri**	**24.59**	**317**	*e*P	**P**	**13 03 48.4**	**0.0**
KLP	**Kalpa**	**25.55**	**326**	*e*P	**P**	**13 03 57.2**	**0.0**
LZH	**Lanzhou**	**26.49**	**17**	*e*P	**P**	**13 04 07.1**	**+1.4**
LZH				AP	pP	13 04 13.8	+2.4
LZH				XP	sP	13 04 18.6	+4.9
LZH				AMB	AMB		
	comp=Z,25nm,1.4s,mb4.5						
LZH				AMB	AMB		
	comp=Z,49nm,4.6s						
LZH				LR	LR		
	comp=E,251nm,12.5s						
LZH				LR	LR		
	comp=Z,369nm,15.4s,MS4.0						
AAK	**Ala-Archa**	**36.20**	**335**	*e*P	**P**	**13 05 30.7**	**-0.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
AAK	**Ala-Archa**	**36.20**	**335**	*e*P	**P**	**13 05 30.6**	**-0.5**
	comp=Z,6.8nm,1.4s,mb4.4						
MKAR	**Makanchi Array**	**37.32**	**346**	P	**P**	**13 05 40.8**	**+0.2**
	comp=Z,3.1nm,0.9s,mb4.1,baz=170,slow=7.4,SNR=13						
SONM	**Songino Array**	**38.19**	**13**	P	**P**	**13 05 49.4**	**+1.4**
	comp=Z,2.2nm,1.0s,mb3.8,baz=200,slow=8.5,SNR=11						
SONM				LR	LR	13 23 13.2	
	comp=Z,150nm,18.5s,MS3.8,baz=38,slow=39						
ULN	**Ulaanbaatar**	**38.36**	**14**	*e*P	**P**	**13 05 50.1**	**+0.7**
KURK	**Kurchatov**	**41.87**	**345**	*e*P	**P**	**13 06 18.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
KURK	**Kurchatov**	**41.87**	**345**	*e*P	**P**	**13 06 18.4**	**-0.1**
	comp=Z,8.3nm,1.3s,mb4.2						
ZAL	**Zalesovo**	**43.69**	**352**	P	**P**	**13 06 34.3**	**+1.0**
	comp=Z,1.8nm,0.9s,mb3.8,baz=296,slow=11,SNR=13						
ZAL				LR	LR	13 27 37.2	
	comp=Z,59nm,20.1s,MS3.5,baz=89,slow=40						
KRAR	**Krasnoyarsk**	**45.08**	**359**	*e*P	**P**	**13 06 44.9**	**+0.5**
KRAR				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.5						
BVAR	**Borovoye Array**	**46.35**	**340**	P	**P**	**13 06 54.1**	**-0.4**
	comp=Z,1.2nm,0.9s,mb3.8,baz=136,slow=9.2,SNR=7.5						
BRVK	**Borovoye**	**46.42**	**340**	*e*P	**P**	**13 06 53.5**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BRVK	**Borovoye**	**46.42**	**340**	*e*P	**P**	**13 06 53.5**	**-1.5**
	comp=Z,1.0nm,0.9s,mb3.8						
NWAO	**Narrogin (SRO)**	**48.59**	**154**	LR	LR	13 26 36.2	
	comp=Z,100nm,20.1s,MS3.8,baz=2.7,slow=35						
WRA	**Warramunga Arr**	**49.66**	**128**	P	**P**	**13 07 20.8**	**+0.7**
	comp=Z,2.7nm,1.1s,mb4.2,baz=304,slow=8.2,SNR=7.3						
WRAB	**Tennant Creek**	**49.67**	**128**	*e*P	**P**	**13 07 19.8**	**-0.3**
ASAR	**Alice Springs**	**51.51**	**132**	P	**P**	**13 07 35.0**	**+0.9**
	comp=Z,2.1nm,0.9s,mb4.1,baz=309,slow=6.6,SNR=23						
GNI	**Garni**	**52.73**	**313**	*e*P	**P**	**13 07 42.4**	**-0.7**
GNI				pmax	pmax		
	comp=Z,15nm,1.7s						
KIV	**Kislovodsk**	**55.46**	**316**	*e*P	**P**	**13 08 01.8**	**-1.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
YAK	**Yakutsk**	**57.05**	**19**	*e*P	**P**	**13 08 13.8**	**-0.6**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**61.85**	**135**	LR	LR	13 34 56.5	
	comp=Z,106nm,21.4s,MS4.0,baz=204,slow=35						
OBN	**Obninsk**	**63.14**	**327**	*e*P	**P**	**13 08 57.5**	**+1.4**
OBN				*e*		13 11 16.1	
OBN				*e*S	**S**	**13 17 26.6**	**+0.2**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.1						
MA2	**Magadan**	**63.95**	**28**	*e*P	**P**	**13 09 02.1**	**+0.6**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
TIXI	**Tiksi**	**64.25**	**11**	*e*P	**P**	**13 09 02.7**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
SEY	**Seymchan**	**66.06**	**25**	*e*P	**P**	**13 09 14.7**	**-0.5**
FINES	**FINESS Array B**	**70.32**	**332**	LR	LR	13 41 20.4	
	comp=Z,40nm,18.5s,MS3.7,baz=136,slow=37						
ARCES	**ARCESS Array B**	**72.65**	**340**	LR	LR	13 44 45.4	
	comp=Z,106nm,21.5s,MS4.1,baz=302,slow=38						
BILL	**Bilibino**	**73.18**	**22**	*e*P	**P**	**13 09 57.6**	**-1.5**
BILL				*e*		13 12 47.2	
BILL				pmax	pmax		
	comp=Z,24nm,3.8s						
NOA	**NORSAR Array B**	**77.39**	**330**	LR	LR	13 47 38.6	
	comp=Z,35nm,20.3s,MS3.7,baz=180,slow=38						
BOSA	**Boshof**	**77.55**	**237**	LR	LR	13 39 16.1	
	comp=Z,80nm,21.2s,MS4.0,baz=331,slow=32						
NVAR	**Mina Array Bea**	**122.15**	**30**	PKP	PKPdf	13 17 22.8	-0.2
	comp=Z,0.7nm,0.9s,baz=292,slow=2.5,SNR=3.8						
PDAR	**Pinedale Array**	**122.25**	**21**	PKP	PKPdf	13 17 23.9	+0.6
	comp=Z,0.8nm,1.1s,baz=350,slow=3.7,SNR=3.3						
PLCA	**Paso Flores**	**147.47**	**201**	PKPbc	PKPbc	13 18 11.0	-1.3
	comp=Z,3.5nm,1.1s,baz=256,slow=2.6,SNR=4.5						
CFAA	**Coronel Fontan**	**153.94**	**215**	PKPbc	PKPbc	13 18 28.2	+0.4
	comp=Z,0.1nm,0.5s,baz=291,slow=1.2,SNR=3.6						
CFAA	**Coronel Fontan**	**153.94**	**215**	PKPbc	PKPbc	13 18 28.2	+0.4

IDC 12 13:01:09.9±5.2, 2913S×17759W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.8/12, mbtmp3.7/2, Error ellipse: s-maj=209.5km s-min=17.6km az=148.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.31**	**248**	Pg	Pg	13 01 15.8	0.0
	14μm,0.3s,baz=20,slow=5.0,SNR=20						
ASAR	**Alice Springs**	**43.55**	**265**	P	P	13 09 15.6	+0.2
	0.6nm,0.7s,baz=101,slow=7.4,SNR=7.8						
WRA	**Warramunga Arr**	**44.42**	**271**	P	P	13 09 23.1	+0.7
	1.0nm,0.7s,baz=110,slow=7.6,SNR=6.9						
AKASG	**Malin Array Be**	**150.50**	**324**	PKPbc	PKPbc	13 21 02.6	-0.9
	1.1nm,0.8s,baz=43,slow=2.5,SNR=5.2						

*ISCJB **12** 13:06:26.2±0.6, 40.12S×103.174E±007, h29km±5km, Error ellipse: s-maj=9.5km s-min=4.1km az=15.1*
*WEL **12** 13:06:26.6±0.1, 40.12S×174.99E, h25km±1km, ML4.2/43, Error ellipse: s-maj=2.0km s-min=0.8km az=90.0, MM 5.*
WEL Felt between Taranaki, Canterbury and Hawke's Bay, maximum reported intensity.
*NEIC **12** 13:06:26.0, 40.13S×174.90E, h29km, ML4.2(WEL), After WEL.*
NEIC Felt at Wanganui.
*BJI **12** 13:06:26.0, 40.10S×174.90E, h29km, mB5.3, mb5.2, Ms4.3, Msz4.0*

ISC 12 13:06:26.4±0.6, 4012S±003×17497E±007, h26km±5km, n29, σ0°50/34, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.36**	**2**	P*	**Pb**	**13 06 34.6**	**+0.2**
WAZ				S*	**Sb**	**13 06 40.7**	**+0.9**
WAZ	**Wanganui**	**0.36**	**2**	P	**Pb**	**13 06 34.6**	**+0.2**
MRZ	**Mangatainoka R**	**0.71**	**140**	P*	**Pb**	**13 06 40.4**	**+0.2**
MRZ				S*	**Sb**	**13 06 50.0**	**+0.4**
MRZ	**Mangatainoka R**	**0.71**	**140**	P	**Pb**	**13 06 40.4**	**+0.2**
KIW	**Kapiti Island**	**0.74**	**184**	P*	**Pb**	**13 06 39.9**	**-0.8**
KIW				S*	**Sb**	**13 06 49.2**	**-1.3**
KIW	**Kapiti Island**	**0.74**	**184**	P	**Pb**	**13 06 39.9**	**-0.8**
TSZ	**Takapari Road**	**0.76**	**86**	P*	**Pb**	**13 06 41.1**	**+0.1**
TSZ				S*	**Sb**	**13 06 51.0**	**+0.1**
TSZ	**Takapari Road**	**0.76**	**86**	P	**Pb**	**13 06 41.1**	**+0.1**
MTVZ	**Mangateitei**	**0.83**	**28**	P*	**Pb**	**13 06 41.6**	**-0.5**
PKVZ	**Pokaka**	**0.88**	**19**	PN	**Pn**	**13 06 42.3**	**-0.6**
PKVZ				SN	**Sn**	**13 06 54.4**	**-0.4**
WNVZ	**Wahianoa**	**0.93**	**32**	PN	**Pn**	**13 06 43.3**	**-0.3**
MOVZ	**Moawhango**	**0.93**	**41**	PN	**Pn**	**13 06 43.0**	**-0.7**
TRVZ	**Turoa**	**0.93**	**29**	PN	**Pn**	**13 06 43.3**	**-0.4**
DRZ	**Dome Shelter**	**0.96**	**29**	PN	**Pn**	**13 06 43.8**	**-0.2**
FWVZ	**Far West T-bar**	**0.97**	**28**	PN	**Pn**	**13 06 43.9**	**-0.3**
CAW	**Cannon Point**	**0.99**	**176**	PN	**Pn**	**13 06 44.7**	**+0.2**
TUVZ	**Tukino**	**1.00**	**32**	PN	**Pn**	**13 06 44.6**	**-0.1**
VRZ	**Vera Road**	**1.00**	**351**	PN	**Pn**	**13 06 45.2**	**+0.5**
NGZ	**Ngauruhoe**	**1.06**	**28**	PN	**Pn**	**13 06 45.5**	**0.0**
OTVZ	**Oturere**	**1.09**	**30**	PN	**Pn**	**13 06 46.2**	**+0.3**
WTVZ	**West Tongariro**	**1.11**	**26**	PN	**Pn**	**13 06 46.2**	**+0.1**
MTW	**Mount Morrison**	**1.11**	**159**	PN	**Pn**	**13 06 47.2**	**+1.0**
MRW	**Makara Radio**	**1.13**	**190**	PN	**Pn**	**13 06 46.5**	**+0.1**
KRVZ	**Karewarewa**	**1.15**	**27**	PN	**Pn**	**13 06 46.9**	**+0.3**
SNZO	**South Karori**	**1.21**	**190**	*e*P	**Pn**	**13 06 47.7**	**+0.2**
SNZO				*e*S	**Sn**	**13 07 03.6**	**+0.6**
RAO	**Raoul Island**	**12.31**	**30**	*e*Pn	**Pn**	**13 09 20.2**	**+0.3**
PPT	**Papeete**	**37.96**	**64**	*e*LR	LR	13 14 00.5	
	64nm,25.0s						
NJ2	**Nanjing**	**88.62**	**315**	*e*P	**P**	**13 19 16.3**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2	**Chengdu**	**96.65**	**305**	*e*P	**P**	**13 19 54.6**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CD2				AMB	AMB		
	comp=Z,50nm,5.9s						

IDC 12 13:17:20.6±1.6, 2910S×17769W, h0km, mb4.1/3, mb1 4.3/3, mb1mx4.0/12, mbtmp4.1/3, MS3.6/5, Ms1 3.6/5, ms1mx3.4/17, Error ellipse: s-maj=46.9km s-min=13.9km az=136.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.25**	**233**	Pg	Pg	13 17 25.3	-0.1
	20μm,0.3s,baz=82,slow=22,SNR=14						
DZM	**Mont Dzumac**	**15.93**	**292**	LR	LR	13 25 45.6	
	comp=Z,306nm,19.4s,baz=101,slow=32						
TBI	**Tubuai**	**25.93**	**84**	*e*LR	LR	13 29 25.8	
	180nm,28.8s						
TBI	**Tubuai**	**25.93**	**84**	*e*T		13 49 59.9	
	284nm,0.4s						
PAE	**Paea**	**28.13**	**72**	*e*T		13 52 46.5	
	250nm,0.3s						
PPT	**Papeete**	**28.18**	**72**	*e*LR	LR	13 30 24.2	
	101nm,24.2s						
PPT	**Papeete**	**28.18**	**72**	*e*T		13 52 50.4	
	58nm,0.3s						
PPT	**Papeete**	**28.18**	**72**	LR	LR	13 31 36.5	
	comp=Z,41nm,18.6s,baz=344,slow=30						
TVO	**Taravao**	**28.34**	**73**	*e*T		13 53 02.9	
	55nm,0.4s						
PMOR	**Pomariorio Ree**	**30.87**	**69**	*e*T		13 56 12.4	
	38nm,0.4s						
VAH	**Vaihoa**	**30.96**	**70**	*e*T		13 56 19.1	
	122nm,0.3s						
CTA	**Charters Tower**	**33.88**	**277**	LR	LR	13 35 29.8	
	comp=Z,139nm,20.9s,baz=47,slow=32						
STKA	**Stephens Creek**	**35.05**	**255**	P	P	13 24 15.8	+0.6
	4.4nm,1.0s,baz=79,slow=10,SNR=4.0						
PMG	**Port Moresby**	**38.31**	**294**	LR	LR	13 37 15.2	
	comp=Z,119nm,20.3s,baz=339,slow=31						
RKT	**Rikitea**	**38.66**	**91**	*e*LR	LR	13 35 21.0	
	176nm,26.0s						
RKT	**Rikitea**	**38.66**	**91**	*e*T		14 05 52.1	
	7.3nm,0.4s						
ASAR	**Alice Springs**	**43.46**	**265**	P	P	13 25 26.4	+0.9
	1.5nm,0.8s,baz=97,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**44.34**	**271**	P	P	13 25 32.1	-0.4
	1.9nm,0.7s,baz=109,slow=8.0,SNR=16						
GUMO	**Guam**	**55.76**	**314**	LR	LR	13 46 02.5	
	comp=Z,78nm,18.9s,baz=72,slow=31						
AKASG	**Malin Array Be**	**150.42**	**324**	PKPbc	PKPbc	13 37 13.5	-0.6
	1.5nm,0.7s,baz=47,slow=2.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**164.11**	**178**	PKPab	PKPab	13 38 19.0	-0.3
	0.6nm,0.9s,baz=149,slow=3.6,SNR=3.3						

MEX 12 13:17:56.6±1.3, 1701N×10005W, h15km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**138**	*i* P	Pg	13 18 00.0	-1.1
ACX				*i* S	Sg	13 18 04.5	+0.4
CAIG	**El Cayaco**	**0.21**	**281**	*i* P	Pg	13 18 00.4	-1.0
CAIG				*i* S	Sg	13 18 05.2	+0.5
MEIG	**Mezcala**	**1.00**	**24**	*i* P	Pb	13 18 11.2	-4.4
MEIG				*i* S	Sb	13 18 26.0	-2.6

*IDC **12** 13:22:08.2±1.1, 990N×91.19E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=47.9km s-min=21.2km az=57.0*
*NE

comp=E,0.5nm,0.7s,mb3.4,baz=202,slow=8.5,SNR=3.8
WRA Warramunga Arr 51.69 125 P **P 13 31 18.6 +0.5**
comp=E,2.2nm,0.7s,mb4.2,baz=304,slow=8.8,SNR=31
WRAB Tennant Creek 51.69 125 *e*P **P 13 31 18.5 +0.3**
comp=E,4.3nm,0.6s,mb4.6
WB2 Warramunga Arr 51.69 125 *e*P **P 13 31 18.6 +0.4**
ASPA Alice Springs 53.34 129 *e*P **P 13 31 31.2 +0.9**
AS31 Alice Springs 53.34 129 *e*P **P 13 31 31.2 +0.8**
ASAR Alice Springs 53.34 129 P **P 13 31 30.9 +0.5**
comp=E,1.1nm,0.5s,mb4.0,baz=304,slow=7.6,SNR=37
STKA Stephens Creek 63.52 133 P **P 13 32 40.5 -0.8**
comp=E,1.6nm,0.7s,mb4.1,baz=295,slow=7.8,SNR=5.5
STKA Stephens Creek 63.52 133 P **P 13 32 40.5 -0.8**
TORD Torodi Ar. Bea 87.49 283 P **P 13 34 57.6 -0.9**
comp=E,0.5nm,0.6s,mb4.0,baz=65,slow=7.1,SNR=10

*CSEM **12** 13:30:16.5, 35.51N×26.11E, h38km, MD3.5/4, After ATH*
*NEIC **12** 13:30:16.5, 35.51N×26.11E, h38km, MD3.5(ATH), After ATH.*

ATH 12 13:30:16.5, 35.51N×26.11E, h38km±3km, MD3.5/4, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.48**	**239**	⇓*i*PB	Pn	13 30 27.5	+0.7
NPS				*e*SB	Sn	13 30 34.4	+0.3
KARP	**Karpathos**	**0.86**	**87**	*e*PN	Pn	13 30 33.2	+1.1
KARP				*e*SN	Sn	13 30 45.7	+2.3
VAM	**Vamos**	**1.56**	**267**	*e*PN	Pn	13 30 43.6	+1.8
APE	**Apeiranthos**	**1.62**	**343**	*e*PN	Pn	13 30 44.5	+1.9

*NEIC **12** 13:36:46.0±1.7, 29.15S×177.77W, h10km, mb4.4/1, Error ellipse: s-maj=32.1km s-min=17.0km az=105.0*

IDC 12 13:36:44.0±2.8, 2907S×17772W, h0km, mb4.0/3, mb1 4.2/4, mb1mx4.0/14, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=61.8km s-min=13.9km az=117.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.25**	**225**	Pg	Pg	13 36 48.8	0.0
	23μm,0.3s,baz=88,slow=8.3,SNR=21						
RAO	**Raoul Island**	**0.25**	**225**	*i* Pg	Pg	13 36 48.9	0.0
URZ	**Urewera**	**10.12**	**204**	Pn	Pn	13 39 11.2	+0.5
	0.3nm,0.3s,baz=9.2,slow=11,SNR=3.6						
URZ				Sn	Sn	13 40 56.2	-8.7
	0.6nm,0.3s,baz=90,slow=20,SNR=3.9						
TBI	**Tubuai**	**25.95**	**84**	*e*T		14 09 21.7	
	98nm,0.3s						
PAE	**Paea**	**28.14**	**72**	*e*T		13 42 06.1	
	94nm,0.3s						
PAE	**Paea**	**28.14**	**72**	*e*T		14 12 08.2	
	268nm,0.3s						
PPT	**Papeete**	**28.19**	**72**	*e*T		13 42 09.9	
	21nm,0.2s						
PPT	**Papeete**	**28.19**	**72**	*e*LR	LR	13 42 41.3	
	111nm,29.2s						
PPT	**Papeete**	**28.19**	**72**	*e*LR	LR	13 49 53.4	
	67nm,25.5s						
PPT	**Papeete**	**28.19**	**72**	*e*T		14 12 11.9	
	88nm,0.4s						
TVO	**Taravao**	**28.36**	**73**	*e*T		13 42 22.4	
	20nm,0.3s						
TVO	**Taravao**	**28.36**	**73**	*e*T		14 12 24.5	
	76nm,0.4s						
PMOR	**Pomariorio Ree**	**30.88**	**69**	*e*T		14 15 33.8	
	24nm,0.4s						
VAH	**Vaihoa**	**30.97**	**70**	*e*T		14 15 40.7	
	82nm,0.2s						
CTA	**Charters Tower**	**33.86**	**277**	P	P	13 43 29.3	+1.1
	7.8nm,1.0s,baz=120,slow=7.2,SNR=5.9						
CTAO	**Charters Tower**	**33.86**	**277**	*e*P	P	13 43 30.2	+2.0
	2.5nm,0.5s						
STKA	**Stephens Creek**	**35.04**	**255**	*e*P	P	13 43 37.5	-0.9
RKT	**Rikitea**	**38.68**	**91**	*e*T		14 25 14.1	
	6.4nm,0.3s						
ASAR	**Alice Springs**	**43.44**	**265**	P	P	13 44 48.7	0.0
	0.8nm,0.7s,baz=104,slow=7.7,SNR=10						
WRAB	**Tennant Creek**	**44.31**	**271**	*e*P	P	13 44 56.0	+0.4
WRA	**Warramunga Arr**	**44.31**	**271**	P	P	13 44 55.7	+0.1
	1.2nm,0.6s,baz=109,slow=7.7,SNR=12						
AKASG	**Malin Array Be**	**150.38**	**324**	PKPbc	PKPbc	13 56 36.6	-0.8
	0.4nm,0.4s,baz=46,slow=2.4,SNR=5.0						

IDC 12 13:42:38.1±1.5, 2915S×17767W, h0km, mb4.1/4, mb1 4.2/4, mb1mx4.0/13, mbtmp4.1/4, MS3.7/4, Ms1 3.6/4, ms1mx3.2/19, Error ellipse: s-maj=52.3km s-min=13.2km az=150.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.24**	**245**	Pg	Pg	13 42 42.7	0.0
	24μm,0.3s,baz=82,slow=21,SNR=22						
DZM	**Mont Dzumac**	**15.96**	**293**	LR	LR	13 51 02.1	
	comp=Z,292nm,19.5s,baz=93,slow=32						
TBI	**Tubuai**	**25.91**	**84**	*e*LR	LR	13 54 43.5	
	228nm,30.5s						
TBI	**Tubuai**	**25.91**	**84**	*e*T		14 15 16.4	
	191nm,0.3s						
PAE	**Paea**	**28.12**	**72**	*e*T		14 18 03.0	
	142nm,0.2s						
PPT	**Papeete**	**28.17**	**72**	*e*LR	LR	13 55 44.9	
	186nm,28.5s						
PPT	**Papeete**	**28.17**	**72**	*e*T		14 18 06.8	
	36nm,0.3s						
TVO	**Taravao**	**28.34**	**73**	*e*T		14 18 19.2	
	29nm,0.3s						
PMOR	**Pomariorio Ree**	**30.87**	**69**	*e*T		14 21 28.5	
	23nm,0.4s						
VAH	**Vaihoa**	**30.96**	**70**	*e*T		14 21 35.4	
	69nm,0.2s						
CTA	**Charters Tower**	**33.91**	**277**	P	P	13 49 24.6	+1.9
	5.0nm,0.8s,baz=120,slow=15,SNR=3.3						
STKA	**Stephens Creek**	**35.06**	**255**	P	P	13 49 33.4	+0.6
	2.5nm,0.9s,baz=101,slow=13,SNR=3.8						
STKA				LR	LR	14 03 38.3	
	comp=Z,109nm,19.0s,baz=175,slow=36						
PMG	**Port Moresby**	**38.35**	**294**	LR	LR	14 01 32.5	
	comp=Z,90nm,19.1s,baz=116,slow=30						
RKT	**Rikitea**	**38.64**	**91**	*e*LR	LR	14 00 40.5	
	100nm,24.2s						
RKT	**Rikitea**	**38.64**	**91**	*e*T		14 31 08.9	
	4.3nm,0.2s						
ASAR	**Alice Springs**	**43.48**	**265**	P	P	13 50 42.9	-0.2
	1.3nm,1.0s,baz=106,slow=7.1,SNR=6.8						
WRA	**Warramunga Arr**	**44.36**	**271**	P	P	13 50 49.9	-0.2
	1.9nm,0.7s,baz=109,slow=7.9,SNR=15						
GUMO	**Guam**	**55.81**	**314**	LR	LR	14 13 01.5	
	comp=Z,46nm,19.7s,baz=76,slow=33						
FINES	**FINESS Array B**	**144.07**	**341**	PKP	PKPdf	14 02 12.8	-2.9
	1.7nm,0.9s,baz=67,slow=5.0,SNR=4.4						
AKASG	**Malin Array Be**	**150.47**	**324**	PKPbc	PKPbc	14 02 30.9	-0.8
	1.1nm,0.6s,baz=44,slow=2.8,SNR=8.1						
TORD	**Torodi Ar. Bea**	**164.06**	**178**	PKPab	PKPab	14 03 37.1	+0.5
	1.5nm,1.1s,baz=173,slow=2.5,SNR=5.0						

MAN 12 13:51:04.0, 1195N×12560E, h26km, mb2.4, ML4.0, MS3.8, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.38**	**205**	*e*P	Pb	13 51 13.3	+1.1
BESP				*e*S	Sb	13 51 21.4	+3.5
PLP	**Palo**	**0.99**	**218**	*e*P	Pn	13 51 22.2	+0.1
PLP				*e*S	Sb	13 51 35.2	+0.2
CNP	**Catarman**	**1.07**	**302**	*e*P	Pn	13 51 22.1	-1.2
CNP				*e*S	Sn	13 51 35.5	-1.9
PVCP	**Virac**	**2.16**	**319**	*e*P	Pn	13 51 39.4	+1.0

IDC 12 14:06:30.1±1.7, 2914S×17762W, h0km, mb4.1/3, mb1 4.3/3, mb1mx4.0/13, mbtmp4.1/3, MS3.7/8, Ms1 3.7/8, ms1mx3.5/18, Error ellipse: s-maj=52.7km s-min=15.0km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.28**	**246**	Pg	Pg	14 06 35.5	-0.1
	15μm,0.3s,baz=346,slow=1.7,SNR=17						
DZM	**Mont Dzumac**	**16.00**	**292**	LR	LR	14 14 32.7	
	comp=Z,231nm,20.1s,baz=65,slow=30						
TBI	**Tubuai**	**25.87**	**84**	*e*LR	LR	14 18 33.2	
	151nm,31.5s						
TBI	**Tubuai**	**25.87**	**84**	*e*T		14 39 08.6	
	106nm,0.3s						
PAE	**Paea**	**28.08**	**72**	*e*T		14 41 55.1	
	156nm,0.3s						
PPT	**Papeete**	**28.13**	**72**	*e*LR	LR	14 19 35.1	
	99nm,25.0s						
PPT	**Papeete**	**28.13**	**72**	*e*T		14 41 59.0	
	42nm,0.3s						
PPT	**Papeete**	**28.13**	**72**	LR	LR	14 20 29.7	
	comp=Z,91nm,21.5s,baz=212,slow=30						
TVO	**Taravao**	**28.30**	**73**	*e*T		14 42 11.5	
	27nm,0.2s						
HNR	**Honiara**	**28.75**	**308**	LR	LR	14 21 49.4	
	comp=Z,108nm,19.2s,baz=177,slow=32						
PMOR	**Pomariorio Ree**	**30.82**	**69**	*e*T		14 45 20.6	
	15nm,0.4s						
VAH	**Vaihoa**	**30.92**	**70**	*e*T		14 45 27.7	
	70nm,0.2s						
CTA	**Charters Tower**	**33.95**	**277**	P	P	14 13 16.9	+1.8
	8.4nm,0.9s,baz=97,slow=8.1,SNR=3.5						
CTA				LR	LR	14 25 01.2	
	comp=Z,113nm,20.2s,baz=49,slow=33						
STKA	**Stephens Creek**	**35.10**	**255**	LR	LR	14 26 35.8	
	comp=Z,85nm,20.9s,baz=225,slow=34						
PMG	**Port Moresby**	**38.38**	**294**	LR	LR	14 27 27.8	
	comp=Z,117nm,18.9s,baz=253,slow=33						
RKT	**Rikitea**	**38.60**	**91**	*e*LR	LR	14 24 30.0	
	99nm,28.2s						
RKT	**Rikitea**	**38.60**	**91**	*e*T		14 55 01.2	
	5.5nm,0.3s						
ASAR	**Alice Springs**	**43.52**	**265**	P	P	14 14 35.4	0.0
	0.5nm,0.7s,baz=96,slow=7.7,SNR=8.8						
WRA	**Warramunga Arr**	**44.40**	**271**	P	P	14 14 42.5	0.0
	2.5nm,0.9s,baz=109,slow=8.1,SNR=8.3						
GUMO	**Guam**	**55.83**	**314**	LR	LR	14 35 15.5	
	comp=Z,68nm,20.1s,baz=96,slow=31						
MJAR	**Matsushiro Arr**	**77.40**	**325**	LR	LR	14 48 06.7	
	comp=Z,101nm,18.2s,baz=240,slow=32						
AKASG	**Malin Array Be**	**150.49**	**324**	PKPbc	PKPbc	14 26 21.9	-1.7
	1.0nm,0.8s,baz=50,slow=2.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**164.07**	**178**	PKPab	PKPab	14 27 29.3	+0.7
	0.4nm,0.6s,baz=162,slow=5.3,SNR=4.2						

IDC 12 14:32:50.5±1.4, 2928S×17783W, h0km, mb4.1/3, mb1 4.2/4, mb1mx4.0/12, mbtmp4.0/4, ML3.7/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/23, Error ellipse: s-maj=38.6km s-min=9.6km az=31.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.08**	**292**	Pg	Pg	14 32 52.0	0.0
	11μm,0.3s,baz=49,slow=20,SNR=52						
URZ	**Urewera**	**9.89**	**204**	Pn	Pn	14 35 13.1	-0.9
	0.6nm,0.3s,baz=358,slow=22,SNR=3.2						
URZ				Sn	Sn	14 37 01.3	-4.4
	1.9nm,0.3s,baz=2.9,slow=22,SNR=11						
DZM	**Mont Dzumac**	**15.88**	**293**	LR	LR	14 41 14.3	
	comp=Z,371nm,19.8s,baz=41,slow=32						
AFI	**Afiamalu**	**16.30**	**21**	LR	LR	14 41 06.5	
	comp=Z,60nm,21.4s,baz=162,slow=30						
RPZ	**Rata Peaks**	**16.93**	**209**	LR	LR	14 43 03.8	
	comp=Z,216nm,20.6s,baz=180,slow=36						
TBI	**Tubuai**	**26.07**	**84**	*e*LR	LR	14 44 54.8	
	161nm,29.2s						
TBI	**Tubuai**	**26.07**	**84**	*e*T		15 05 25.7	
	186nm,0.4s						
PAE	**Paea**	**28.30**	**72**	*e*T		15 08 12.2	
	188nm,0.2s						
PPT	**Papeete**	**28.35**	**72**	*e*LR	LR	14 45 53.5	
	143nm,26.0s						
PPT	**Papeete**	**28.35**	**72**	*e*T		15 08 16.2	
	68nm,0.4s						
TVO	**Taravao**	**28.52**	**73**	*e*T		15 08 28.6	
	58nm,0.3s						
PMOR	**Pomariorio Ree**	**31.05**	**69**	*e*T		15 11 37.7	
	20nm,0.3s						
VAH	**Vaihoa**	**31.14**	**70**	*e*T		15 11 44.8	
	128nm,0.2s						
STKA	**Stephens Creek**	**34.89**	**255**	P	P	14 39 43.5	-0.2
	5.8nm,1.1s,baz=118,slow=13,SNR=4.6						
STKA				LR	LR	14 51 36.9	
	comp=Z,134nm,21.2s,baz=130,slow=32						
RKT	**Rikitea**	**38.78**	**91**	*e*LR	LR	14 50 48.2	
	129nm,30.0s						
RKT	**Rikitea**	**38.78**	**91**	*e*T		15 21 18.4	
	7.9nm,0.3s						
ASAR	**Alice Springs**	**43.33**	**266**	P	P	14 40 55.0	+0.8
	1.2nm,0.8s,baz=101,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**44.21**	**271**	P	P	14 41 02.1	+0.7
	3.0nm,1.0s,baz=110,slow=8.0,SNR=15						
PLCA	**Paso Flores**	**83.16**	**133**	LR	LR	15 14 43.9	
	comp=Z,52nm,18.5s,baz=74,slow=30						
FINES	**FINESS Array B**	**144.15**	**341**	PKP	PKPdf	14 52 25.3	-3.0
	0.9nm,0.8s,baz=49,slow=6.3,SNR=3.8						
AKASG	**Malin Array Be**	**150.49**	**324**	PKPbc	PKPbc	14 52 43.5	-0.6
	1.4nm,0.7s,baz=45,slow=2.2,SNR=8.2						
AKASG				PKPab	PKPab	14 52 51.1	+0.5
	0.3nm,0.4s,baz=51,slow=2.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**163.94**	**178**	PKPab	PKPab	14 53 47.8	-0.6
	1.0nm,1.1s,baz=177,slow=4.2,SNR=3.1						

IDC 12 15:01:41.8±9.8, 2912S×17771W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.8/13, mbtmp3.8/4, Error ellipse: s-maj=206.8km s-min=16.6km az=123.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.22**	**234**	Pg	Pg	15 01 46.0	0.0
	13μm,0.3s,baz=82,slow=16,SNR=41						
CTA	**Charters Tower**	**33.86**	**277**	P	P	15 08 27.5	+1.5
	9.7nm,1.1s,baz=98,slow=14,SNR=3.0						
STKA	**Stephens Creek**	**35.03**	**255**	P	P	15 08 36.8	+0.7
	1.1nm,0.8s,baz=88,slow=7.4,SNR=2.5						
ASAR	**Alice Springs**	**43.44**	**265**	P	P	15 09 46.0	-0.4
	0.3nm,0.8s,baz=94,slow=8.7,SNR=5.4						
WRA	**Warramunga Arr**	**44.32**	**271**	P	P	15 09 52.8	-0.6
	0.5nm,0.6s,baz=109,slow=7.9,SNR=8.5						

IDC 12 15:06:57.0±69.0, 2098S×17750W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=1262.0km s-min=168.7km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.00**	**245**	P	P	15 14 15.8	-0.9
	1.1nm,0.8s,baz=106,slow=7.4,SNR=3.9						
ASAR	**Alice Springs**	**44.86**	**257**	P	P	15 15 13.7	+0.7
	0.6nm,0.6s,baz=87,slow=8.2,SNR=9.2						
WRA	**Warramunga Arr**	**45.00**	**262**	P	P	15 15 14.9	+0.8
	0.2nm,0.2s,baz=95,slow=8.1,SNR=38						

IGQ 12 15:08:44.4, 348S×8088W, h45km±17km, Mb4.2, Ms4.0, 6C-7D, Error ellipse: s-maj=23.2km s-min=13.7km az=32.6, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.99**	**49**	⇑P	Pn	15 09 30.0	+0.8
ARRY	**Arrayan**	**3.12**	**51**	⇑P	Pn	15 09 31.8	+0.8
ARRY				S	Sn	15 10 04.1	-2.8
PATA	**Patacocha**	**3.13**	**51**	P	Pn	15 09 37.4	+6.1
ULBA	**Ulba**	**3.19**	**51**	P	Pn	15 09 36.1	+4.1
QIL1	**Quilotoa**	**3.26**	**37**	P	Pn	15 09 33.4	+0.4
QIL1				S	Sn	15 10 07.7	-2.8
CAMI	**Rancho Maria**	**3.66**	**40**	⇓P	Pn	15 09 41.1	+2.7
TAMB	**Tambo**	**3.74**	**42**	⇑P	Pn	15 09 42.3	+2.8
VC1	**Cotopaxi 1**	**3.75**	**41**	⇓P	Pn	15 09 42.3	+2.6
JUA2	**San Juan 2**	**3.96**	**35**	⇓P	Pn	15 09 44.6	+1.9
TERV	**Terraza Guagua**	**3.99**	**35**	⇑P	Pn	15 09 45.1	+2.0
TERV				S	Sn	15 10 31.4	+2.8
GGP	**Refugio Guagua**	**4.00**	**35**	⇓P	Pn	15 09 45.0	+1.9
GGP				S	Sn	15 10 30.7	+2.0
PINO	**Pino**	**4.01**	**35**	⇑P	Pn	15 09 45.0	+1.8
PINO				S	Sn	15 10 30.7	+1.8
ANTI	**Antisana**	**4.05**	**42**	⇓P	Pn	15 09 46.3	+2.4
YANA	**Yana**	**4.06**	**35**	⇑P	Pn	15 09 45.5	+1.6
YANA				S	Sn	15 10 30.2	0.0
CAYR	**Refugio Cayamb**	**4.51**	**40**	⇓P	Pn	15 09 52.4	+2.4
ANGU	**Angureal**	**4.53**	**39**	⇓P	Pn	15 09 52.6	+2.2

MAN 12 15:15:30.5, 1775N×12024E, h26km, mb2.4, ML4.0, MS1.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.46**	**103**	*e*P	Pb	15 15 41.0	+0.9
ABRA				*e*S	Sb	15 15 48.9	+2.3
PIP	**Pasuquin**	**0.67**	**32**	⇓*i*P	Pb	15 15 43.9	+0.3
PIP				*e*S	Sb	15 15 54.6	+2.0
APYP	**Conner**	**0.96**	**83**	*e*P	Pn	15 15 47.5	-0.8
APYP				*e*S	Sb	15 16 00.4	-0.3
BOLP	**Bolinao**	**1.40**	**193**	*e*P	Pn	15 15 54.2	-0.1
BOLP				*e*S	Sn	15 16 12.3	+0.3
CVP	**Callao Caves**	**1.51**	**92**	*e*P	Pn	15 15 55.6	-0.2
SCZP	**Santa Cruz**	**1.99**	**189**	*e*P	Pn	15 15 59.8	-2.7
SCZP				*e*S	Sn	15 16 27.5	+0.9
PALP	**Palanan**	**2.19**	**108**	*e*P	Pn	15 16 03.6	-1.6
PALP				*e*S	Sn	15 16 31.8	+0.2
BALP	**Baler**	**2.37**	**147**	*e*P	Pn	15 16 08.3	+0.6
BALP				*e*S	Sn	15 16 38.1	+2.1

*BYKL **12** 15:15:38.8±0.4, 5745N×12093E*
*ISCJB **12** 15:15:38.3±0.2, 5722N±003×12106E±003, h10km, mb4.0/27, MS3.6/7, Error ellipse: s-maj=3.7km s-min=2.6km az=174.7*
*MOS **12** 15:15:39.4±0.8, 5742N×12083E, h10km, mb4.3/7, MS3.5/4, Error ellipse: s-maj=9.3km s-min=7.2km az=54.8*
*IDC **12** 15:15:39.5±0.7, 5740N×12080E, h0km, mb3.9/17, mb1 4.1/19, mb1mx4.0/26, mbtmp3.9/19, ML3.7/2, MS3.5/6, Ms1 3.5/6, ms1mx3.3/22, Error ellipse: s-maj=17.3km s-min=15.3km az=1.0*
*NEIC **12** 15:15:40.5±0.4, 5734N×12100E, h10km, mb4.2/6, Error ellipse: s-maj=9.9km s-min=7.1km az=146.0*
*BJI **12** 15:15:41.8, 5701N×12078E, h10km, mB4.6, mb4.6, ML5.0, Ms4.4, Msz4.0*

ISC 12 15:15:40.2±0.2, 5732N±002×12101E±003, h10km, n107, σ1$41/149, mb4.0/27, MS3.6/7, 6C-4D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.69**	**235**	⇓*i*Pg	**Pg**	**15 15 52.3**	**-1.2**
KHNR				*e*Sg	**Sg**	**15 16 01.1**	**-1.4**
YKLR	**Yuktali**	**0.81**	**154**	*e*Pg	**Pg**	**15 15 56.7**	**+0.8**
YKLR				*e*Sg	**Sg**	**15 16 08.5**	**+2.0**
YKLR				Smax		15 16 09.6	
	8μm,0.4s						
CRS	**Chara**	**1.55**	**255**	⇓*i*Pg	**Pg**	**15 16 07.2**	**-2.8**
CRS				Pmax		15 16 08.9	
	6μm,0.8s						
CRS				*e*Sg	**Sg**	**15 16 26.2**	**-3.9**
CRS				Smax		15 16 29.0	
	4μm,1.0s						
CRS	**Chara**	**1.55**	**255**	*e*P	**Pn**	**15 16 07.3**	**-0.6**
CRS				*e*		15 16 26.5	
CRS				pmax	pmax		
	comp=Z,6μm,0.9s						
CRS				smax			
	comp=E,4μm,1.1s						
NRGR	**Nerungri**	**2.14**	**107**	*i* P	**Pn**	**15 16 19.2**	**+3.2**
NRGR				S	**Sn**	**15 16 47.9**	**+5.3**
NRGR				smax			
	comp=E,262nm,0.1s						
CLNS	**Chul'man**	**2.18**	**101**	*e*Pg	**Pg**	**15 16 20.1**	**-1.9**
CLNS				Pmax		15 16 21.2	
	comp=E,7μm,0.4s						
CLNS				*e*Sg	**Sg**	**15 16 50.2**	**0.0**
CLNS				Smax		15 16 53.0	
	comp=E,24μm,0.4s						
CLNS	**Chul'man**	**2.18**	**101**	*e*P	**Pn**	**15 16 19.3**	**+2.8**
CLNS				*e*		15 16 48.7	
CLNS				pmax	pmax		
	comp=Z,358nm,0.3s						
CLNS				pmax	pmax		
	comp=N,363nm,0.4s						
CLNS				pmax	pmax		
	comp=E,134nm,0.3s						
CLNS				smax			
	comp=E,3μm,0.4s						
CLNS				smax			
	comp=Z,2μm,0.5s						
CLNS				smax			
	comp=N,6μm,0.8s						
CLNS				MLR	MLR		
	comp=Z,800nm,11.0s						
IENR	**Ienga**	**2.39**	**116**	⇓*i*Pn	**Pn**	**15 16 21.3**	**+1.9**
IENR				*e*Pg	**Pg**	**15 16 24.3**	**-1.7**
IENR				*e*Sg	**Sg**	**15 16 55.0**	**-2.0**
ALDR	**Aldan**	**2.68**	**59**	*e*	**Pn**	**15 16 24.4**	**+1.0**
ALDR				*e*Pg	**Pg**	**15 16 26.9**	**-4.7**
ALDR				*e*		15 16 32.5	
ALDR				max		15 16 32.9	
	comp=Z,5μm,0.6s						
ALDR				*e*		15 16 58.5	
ALDR				*e*Sg	**Sg**	**15 17 01.8**	**-4.5**
ALDR				Smax		15 17 05.3	
	comp=Z,7μm,0.3s						
TUP	**Tupik**	**2.96**	**192**	⇑*i*Pn	**Pn**	**15 16 28.4**	**+1.1**
TUP				⇑*i*Pg	**Pg**	**15 16 33.2**	**-3.8**
TUP				Pmax		15 16 34.1	
	comp=Z,743nm,0.6s						
TUP				*e*Sn	**Sn**	**15 17 04.0**	**+1.1**
TUP				*e*Sg	**Sg**	**15 17 12.2**	**-3.2**
TUP				Smax		15 17 14.3	
	comp=Z,4μm,1.0s						
TUP	**Tupik**	**2.96**	**192**	*e*P	**Pn**	**15 16 28.4**	**+1.1**
TUP				*e*S	**Sn**	**15 17 04.1**	**+1.2**
TUP				pmax	pmax		
	comp=Z,746nm,0.7s						
TUP				smax			
	comp=E,4μm,1.2s						
TNDR	**Tynda**	**3.01**	**135**	*e*	**Pn**	**15 16 30.5**	**+2.6**
TNDR				*e*Pg	**Pg**	**15 16 35.5**	**-2.4**
TNDR				*e*		15 16 39.4	
TNDR				max		15 16 40.5	
	comp=E,2μm,0.4s						
TNDR				*e*		15 17 07.7	
TNDR				*e*Sg	**Sg**	**15 17 15.5**	**-1.4**
TNDR				Smax		15 17 23.8	
	comp=E,30μm,0.7s						
NLYR	**Nelyaty**	**3.02**	**256**	*e*Pn	**Pn**	**15 16 28.6**	**+0.5**
NLYR				*e*Pg	**Pg**	**15 16 33.0**	**-5.2**
NLYR				Pmax		15 16 34.5	
	comp=E,2μm,0.8s						
NLYR				*e*		15 17 05.3	
NLYR				*e*Sg	**Sg**	**15 17 11.2**	**-6.2**
NLYR				Smax		15 17 15.5	
	comp=E,4μm,1.0s						
NLYR	**Nelyaty**	**3.02**	**256**	*e*P	**Pn**	**15 16 28.6**	**+0.5**
NLYR				*e*		15 17 09.0	
NLYR				pmax	pmax		
	comp=Z,2μm,0.6s						
NLYR				smax			
	comp=N,4μm,1.4s						
BOD	**Bodaibo**	**3.80**	**280**	*e*Pn	**Pn**	**15 16 38.6**	**-0.2**
BOD				⇑*i*Pg	**Pg**	**15 16 46.2**	**-6.9**
BOD				Pmax		15 16 48.7	
	comp=N,394n

YOA	**Uoyan**	**5.25 261**	*e*Pn	**Pn**	**15 16 59.0**	**+0.3**
YOA			*e*Pg	**Pg**	**15 17 13.1**	**-7.6**
YOA			Pmax		15 17 22.7	
	comp=Z,752nm,1.3s					
YOA			*e*Sg	**Sg**	**15 18 19.5**	**-9.2**
YOA			Smax		15 18 48.5	
	comp=Z,7μm,2.0s					
YOA	**Uoyan**	**5.25 261**	*e*P	**Pg**	**15 17 13.7**	**-7.0**
YOA			pmax	pmax		
	comp=Z,853nm,1.3s					
KMO	**Kumora**	**5.60 259**	*e*Pn	**Pn**	**15 17 03.1**	**-0.5**
KMO			*e*Pg	**Pg**	**15 17 19.2**	**-8.3**
KMO			Pmax		15 17 27.8	
	comp=Z,153nm,1.5s					
KMO			*e*Sg	**Sg**	**15 18 30.5**	**-10**
KMO			Smax		15 18 40.9	
	comp=Z,2μm,1.4s					
KMO	**Kumora**	**5.60 259**	*e*P	**Pn**	**15 17 03.9**	**+0.3**
KMO			*e*S	**Sn**	**15 18 04.4**	**-3.6**
KMO			pmax	pmax		
	comp=Z,154nm,0.8s					
KMO			smax			
	comp=E,2μm,1.3s					
YLYR	**Ulyunkhan**	**6.03 250**	*e*Pn	**Pn**	**15 17 10.3**	**+0.9**
YLYR			*e*Pg	**Pg**	**15 17 27.6**	**-8.1**
YLYR			Pmax		15 17 32.0	
	comp=E,68nm,1.0s					
YLYR			*e*		15 18 16.5	
YLYR			*e*Sg	**Sg**	**15 18 44.1**	**-10**
YLYR			Smax		15 18 58.2	
	comp=E,1μm,1.6s					
YLYR	**Ulyunkhan**	**6.03 250**	*e*P	**Pn**	**15 17 10.4**	**+1.0**
YLYR			*e*S	**Sn**	**15 18 13.2**	**-5.3**
TBGR	**Tabaga**	**6.29 41**	*e*Pn	**Pn**	**15 17 13.8**	**+0.8**
TBGR			*e*Pg	**Pg**	**15 17 30.8**	**-10**
TBGR			*e*Sg	**Sg**	**15 18 50.1**	**-12**
YAK	**Yakutsk**	**6.45 39**	*e*	**Pn**	**15 17 14.5**	**-0.7**
YAK			*e*Pg	**Pg**	**15 17 32.2**	**-11**
YAK			Pmax		15 17 35.3	
	comp=E,560nm,0.6s					
YAK			*e*		15 18 25.7	
YAK			*e*		15 18 39.9	
YAK			*e*Sg	**Sg**	**15 18 53.2**	**-14**
YAK			Smax		15 19 03.6	
	comp=E,5μm,0.8s					
YAK	**Yakutsk**	**6.45 39**	*e*P	**Pn**	**15 17 13.7**	**-1.5**
YAK			pmax	pmax		
	comp=Z,82nm,0.6s					
YAK	**Yakutsk**	**6.45 39**	*e*Pn	**Pn**	**15 17 13.7**	**-1.5**
	comp=Z,82nm,0.6s					
YAK			*e*Pg	**Pg**	**15 17 35.2**	**-8.5**
YAK			*e*Sg	**Sg**	**15 18 52.9**	**-14**
NIZ	**Nizh Angarsk**	**6.53 261**	*e*	**Pn**	**15 17 18.5**	**+2.2**
NIZ			*e*Pg	**Pg**	**15 17 35.1**	**-10**
NIZ			Pmax		15 17 43.5	
	comp=Z,75nm,1.1s					
NIZ			*e*Sg	**Sg**	**15 18 57.8**	**-12**
NIZ			Smax		15 19 18.2	
	comp=Z,559nm,2.0s					
NIZ	**Nizh Angarsk**	**6.53 261**	*e*P	**Pn**	**15 17 16.7**	**+0.4**
NIZ			pmax	pmax		
	comp=Z,74nm,1.0s					
CIT	**Chita**	**6.84 222**	*e*Pn	**Pn**	**15 17 21.3**	**+0.7**
CIT			*e*Pg	**Pg**	**15 17 42.6**	**-8.7**
CIT			Pmax		15 17 45.8	
	comp=Z,73nm,1.2s					
CIT			*e*Sg	**Sg**	**15 19 10.7**	**-9.2**
CIT			Smax		15 19 20.8	
	comp=Z,1μm,0.8s					
CIT	**Chita**	**6.84 222**	*e*P	**Pn**	**15 17 22.3**	**+1.7**
CIT			pmax	pmax		
	comp=Z,72nm,1.1s					
SYVR	**Suvo**	**7.25 244**	*e*	**Pn**	**15 17 22.8**	**-3.4**
SYVR			*e*Pg	**Pg**	**15 17 50.8**	**-8.2**
SYVR			Pmax		15 17 53.4	
	comp=Z,93nm,0.8s					
SYVR			*e*Sg	**Sg**	**15 19 24.3**	**-8.5**
SYVR			Smax		15 19 30.6	
	comp=Z,1μm,1.4s					
HIA	**Hailar**	**8.11 186**	*e*P	**Pn**	**15 17 36.3**	**-1.6**
HIA			*e*		15 19 06.7	
HIA			pmax	pmax		
	comp=Z,30nm,0.9s					
HIA	**Hailar**	**8.11 186**	*e*Pn	**Pn**	**15 17 36.2**	**-1.7**
	comp=Z,30nm,0.9s					
HIA			*e*Sn	**Sn**	**15 19 06.7**	**-2.9**
HIA			*e*Sg	Sn	15 19 56.0	+46
OGRR	**Ongureny**	**8.46 250**	*e*Pn	**Pn**	**15 17 44.3**	**+1.5**
OGRR			*e*Pg	Pn	15 18 11.7	+29
OGRR			Pmax		15 18 16.8	
	comp=Z,18nm,0.9s					
OGRR			*e*Sg	Sn	15 19 59.7	+41
OGRR			Smax		15 20 14.7	
	comp=Z,396nm,1.4s					
OGRR	**Ongureny**	**8.46 250**	*e*P	**Pn**	**15 17 45.0**	**+2.2**
KPC	**Khapcheranga**	**9.19 218**	*e*Pn	**Pn**	**15 17 53.9**	**+1.1**
KPC			*e*		15 18 30.8	
KPC			max		15 18 53.9	
	comp=Z,6.0nm,0.9s					
KPC			*e*Sg	Sn	15 20 23.2	+47
KPC			Smax		15 20 34.7	
	comp=Z,821nm,1.0s					
KPC	**Khapcheranga**	**9.19 218**	*e*P	**Pn**	**15 17 54.0**	**+1.2**
TRG	**Tyrgan**	**9.57 248**	*e*Pn	**Pn**	**15 18 00.2**	**+2.2**
TRG			*e*Pg	Pn	15 18 31.7	+34
TRG			Pmax		15 18 40.3	
	comp=Z,5.0nm,0.8s					
TRG			*e*Sg	Sn	15 20 34.4	+49
TRG			Smax		15 20 50.0	
	comp=Z,309nm,1.9s					
TRG	**Tyrgan**	**9.57 248**	*e*P	**Pn**	**15 18 00.6**	**+2.6**
KLR	**Kul'dur**	**10.34 137**	*e*P	**Pn**	**15 18 09.0**	**+0.5**
KLR			pmax	pmax		
	comp=N,2μm,9.0s					
KLR			pmax	pmax		
	comp=E,2μm,9.0s					
LSTR	**Listvyanka**	**10.84 247**	*e*	**Pn**	**15 18 16.6**	**+1.1**
LSTR			*e*		15 20 40.6	
LSTR			*e*Sg	Sn	15 21 16.8	+60
LSTR			Smax		15 21 46.3	
	comp=E,204nm,1.6s					
IRK	**Irkutsk**	**10.91 249**	*e*Sg	Sx	15 21 20.2	
IRK			Smax		15 21 31.2	
	comp=E,372nm,1.6s					
IRK	**Irkutsk**	**10.91 249**	*e*P	**Pn**	**15 18 18.1**	**+1.8**
IRK			pmax	pmax		
	comp=Z,67nm,0.2s					
TLY	**Talaya**	**11.55 248**	*e*Pn	**Pn**	**15 18 26.4**	**+1.3**
TLY			*e*Pg	Pn	15 19 08.2	+43
TLY			Pmax		15 19 15.1	
	comp=Z,5.0nm,0.8s					
TLY			*e*		15 21 03.8	
TLY			*e*Sg	Sn	15 21 37.7	+64
TLY			Smax		15 22 10.1	
	comp=Z,150nm,1.2s					
ARS	**Arshan**	**12.03 251**	*e*Pn	**Pn**	**15 18 34.1**	**+2.4**
ARS			*e*		15 19 20.0	
ARS			max		15 19 26.3	
	comp=Z,8.0nm,0.8s					
ARS			*e*Sg	Sn	15 21 52.9	+67
ARS			Smax		15 22 06.9	
	comp=Z,367nm,1.5s					
ZAK	**Zakamensk**	**12.54 244**	*e*Pn	**Pn**	**15 18 41.3**	**+2.7**
ZAK			*e*		15 19 25.5	
ZAK			max		15 19 27.8	
	comp=Z,2.0nm,0.7s					
ZAK			*e*Sg		15 22 10.5	
ZAK			Smax		15 22 25.6	
	comp=Z,183nm,1.2s					
ZAK	**Zakamensk**	**12.54 244**	*e*P	**Pn**	**15 18 40.6**	**+2.0**
ZAK			pmax	pmax		
	comp=Z,9.0nm,1.8s					
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.7s					
ULN	**Ulaanbaatar**	**12.69 228**	*e*P	**Pn**	**15 18 39.9**	**-0.8**
MOY	**Mondy**	**12.91 253**	*e*Pn	**Pn**	**15 18 44.3**	**+0.6**
MOY			*e*		15 21 53.8	
MOY			*e*Sg		15 22 18.3	
MOY			Smax		15 22 27.9	
	comp=Z,312nm,1.5s					
MOY	**Mondy**	**12.91 253**	*e*P	**Pn**	**15 18 44.4**	**+0.7**
MOY			pmax	pmax		
	comp=Z,17nm,1.2s					
SONM	**Songino Array**	**12.98 229**	Pn	**Pn**	**15 18 46.3**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=35,slow=13,SNR=7.4					
SONM			Lg		15 22 22.2	
	comp=Z,0.8nm,0.3s,baz=38,slow=28,SNR=6.3					
SONM			LR	LR	15 23 50.9	
	comp=Z,99nm,20.8s,baz=161,slow=38					
ORL	**Orlik**	**13.07 258**	*e*	**Pn**	**15 18 46.7**	**+0.8**
ORL			*e*		15 21 29.3	
ORL			*e*Sg		15 22 24.8	
ORL			Smax		15 22 46.1	
	comp=Z,205nm,1.2s					
MDJ	**Mudanjiang**	**13.81 153**	P	**Pn**	**15 19 01.5**	**+5.5**
MDJ			AMB	AMB		
	comp=Z,9.0nm,2.6s					
MDJ			AMB	AMB		
	comp=Z,99nm,5.5s					
MDJ			LR	LR		
	comp=N,143nm,18.3s					
MDJ			LR	LR		
	comp=E,203nm,18.3s					
MDJ			LR	LR		
	comp=Z,215nm,18.3s					
KRAR	**Krasnoyarsk**	**15.48 277**	*i* P	**Pn**	**15 19 14.6**	**-3.9**
KRAR			pmax	pmax		
	comp=Z,64nm,1.4s					
KRAR			MLR	MLR		
	comp=Z,200nm,16.0s					
MA2	**Magadan**	**15.68 69**	*e*P	**Pn**	**15 19 20.6**	**-0.5**
MA2			*e*S	**Sn**	**15 22 13.4**	**-1.5**
MA2			pmax	pmax		
	comp=Z,5.0nm,0.9s					
MA2			pmax	pmax		
	comp=Z,10.0nm,1.0s					
MA2			MLR	MLR		
	comp=Z,300nm,17.5s					
MA2	**Magadan**	**15.68 69**	*e*Pn	**Pn**	**15 19 19.9**	**-1.2**
	comp=Z,19nm,0.9s					
MA2			*e*P		15 19 26.0	
SEY	**Seymchan**	**16.49 57**	*e*P	**Pn**	**15 19 35.5**	**+3.9**
SEY			pmax	pmax		
	comp=E,30nm,0.7s					
SEY			pmax	pmax		
	comp=Z,7.0nm,0.7s					
ASAJ	**Asahikawa**	**18.90 125**	P	**Pn**	**15 20 04.4**	**+2.9**
	comp=Z,0.6nm,0.3s,baz=337,slow=15,SNR=5.5					
ASAJ	**Asahikawa**	**18.90 125**	P	**Pn**	**15 20 04.4**	**+2.9**
ASAJ			pmax	pmax		
	comp=Z,1.0nm,0.3s					
NVS	**Novosibirsk**	**21.04 279**	*i* P	**P**	**15 20 25.8**	**+1.6**
NVS			*e*		15 20 42.8	
NVS			*e*S	**S**	**15 24 17.3**	**-1.2**
NVS			*e*SS		15 24 50.4	
NVS			pmax	pmax		
	comp=Z,27nm,1.3s,mb4.4					
NVS			pmax	pmax		
	comp=N,22nm,1.6s					
NVS			pmax	pmax		
	comp=E,30nm,1.3s					
NVS			smax			
	comp=N,12nm,1.8s					
NVS			smax			
	comp=E,66nm,3.2s					
BILL	**Bilibino**	**22.78 44**	↓ *e*P	**P**	**15 20 42.7**	**-0.1**
BILL			pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8					
BILL			MLR	MLR		
	comp=Z,100nm,16.0s,MS3.4					
BILL	**Bilibino**	**22.78 44**	*e*P	**P**	**15 20 43.3**	**+0.5**
	comp=Z,6.3nm,0.9s,mb4.0					
MJAR	**Matsushiro Arr**	**23.74 144**	LR	LR	15 30 41.5	
	comp=Z,140nm,19.3s,MS3.4,baz=5.0,slow=38					
NJ2	**Nanjing**	**25.31 184**	*e*P	**P**	**15 21 04.7**	**-2.2**
NJ2			AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6					
KURK	**Kurchatov**	**25.42 273**	↑ *e*P	**P**	**15 21 07.9**	**0.0**
KURK	**Kurchatov**	**25.42 273**	*e*P	**P**	**15 21 08.1**	**+0.1**
	comp=Z,5.2nm,0.8s,mb4.1					
MKAR	**Makanchi Array**	**25.68 263**	P	**P**	**15 21 10.9**	**+0.6**
	comp=Z,1.7nm,0.6s,mb3.8,baz=27,slow=8.3,SNR=16					
BVAR	**Borovoye Array**	**28.67 283**	P	**P**	**15 21 36.3**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.7,baz=74,slow=6.3,SNR=5.3					
CD2	**Chengdu**	**28.99 212**	*e*P	**P**	**15 21 41.2**	**+1.2**
CD2			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5					
CD2			AMB	AMB		
	comp=Z,60nm,6.2s					
AAK	**Ala-Archa**	**32.60 264**	*e*P	**P**	**15 22 12.4**	**+0.5**
AAK			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1					
AAK	**Ala-Archa**	**32.60 264**	*e*P	**P**	**15 22 12.3**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.1					
ARU	**Arti**	**33.08 296**	*e*P	**P**	**15 22 15.2**	**-0.8**
ARU			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3					
ARU	**Arti**	**33.08 296**	*e*P	**P**	**15 22 15.2**	**-0.8**
	comp=Z,3.2nm,0.7s,mb4.4					
AKTK	**Aktyubinsk**	**36.55 287**	P	**P**	**15 22 45.6**	**-0.3**
AKTO	**Aktyubinsk**	**36.55 287**	P	**P**	**15 22 45.6**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.9,baz=66,slow=14,SNR=5.8					
AKTO	**Aktyubinsk**	**36.55 287**	P	**P**	**15 22 45.7**	**-0.3**
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8					
KEV	**Kevo**	**39.25 327**	*e*p	**P**	**15 23 08.1**	**-0.8**
KLMR	**Klimovskoe**	**39.48 310**	*e*P	**P**	**15 23 10.1**	**-0.7**
KLMR			pmax	pmax		
	comp=Z,40nm,2.0s,mb4.8					
ARCES	**ARCESS Array B**	**39.82 327**	P	**P**	**15 23 12.8**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.2,baz=62,slow=10.0,SNR=7.1					
ARCES			LR	LR	15 43 22.6	
	comp=Z,101nm,18.3s,MS3.7,baz=242,slow=42					
COLA	**College**	**40.97 41**	*e*P	**P**	**15 23 24.0**	**+0.9**
ILAR	**Eielson Array**	**41.37 40**	P	**P**	**15 23 27.4**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.0,baz=294,slow=5.0,SNR=19					
JOF	**Joensuu**	**41.56 316**	*e*p	**P**	**15 23 28.4**	**+0.4**
	comp=Z,1.1nm,0.4s,mb3.8					
INK	**Inuvik**	**43.45 31**	P	**P**	**15 23 44.3**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=273,slow=7.3,SNR=5.9					
KAF	**Kangasniemi**	**43.91 317**	*e*p	**P**	**15 23 47.5**	**+0.5**
OBN	**Obninsk**	**44.13 305**	↑ *e*P	**P**	**15 23 48.2**	**-0.6**
OBN			*e*		15 25 39.8	
OBN			*e*S	**S**	**15 30 18.2**	**-3.4**
OBN			*e*SS	SS	15 33 31.6	-7.4
OBN			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3					
OBN			MLR	MLR		
	comp=Z,100nm,13.0s,MS3.9					
FINES	**FINESS Array B**	**44.41 317**	P	**P**	**15 23 49.9**	**-1.2**
	comp=Z,2.5nm,0.7s,mb4.1,baz=42,slow=9.6,SNR=20					
FINES			LR	LR	15 43 40.4	
	comp=Z,37nm,19.0s,MS3.3,baz=45,slow=38					
NB2	**NORSAR Subarra**	**49.88 323**	P	**P**	**15 24 32.1**	**-1.6**
	comp=Z,1.1nm,0.5s,mb4.1,baz=39,slow=7.9					
NB2	**NORSAR Subarra**	**49.88 323**	P	**P**	**15 24 32.1**	**-1.6**
NB2			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1					
NOA	**NORSAR Array B**	**49.88 323**	P	**P**	**15 24 32.5**	**-1.2**
	comp=Z,2.2nm,0.5s,mb4.4,baz=42,slow=7.8,SNR=12					
NOA			LR	LR	15 46 39.6	
	comp=Z,45nm,19.3s,MS3.5,baz=260,slow=37					
AKASG	**Malin Array Be**	**50.39 304**	P	**P**	**15 24 36.5**	**-1.1**
	comp=Z,3.6nm,0.5s,mb4.7,baz=42,slow=8.6,SNR=24					
YKA	**Yellowknife Ar**	**53.01 29**	P	**P**	**15 24 56.5**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=326,slow=6.6,SNR=9.4					
YKA	**Yellowknife Ar**	**53.01 29**	P	**P**	**15 24 56.5**	**-0.6**
CLL	**Collm**	**56.72 314**	*i* P	**P**	**15 25 23.2**	**-0.9**
KHC	**Kasperske Hory**	**58.22 313**	*e*P	**P**	**15 25 34.0**	**-0.6**
GERES	**GERESS Array B**	**58.40 312**	P	**P**	**15 25 34.7**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=46,slow=7.6,SNR=8.5					
SCHQ	**Schefferville**	**68.02 5**	P	**P**	**15 26 38.9**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.2,baz=352,slow=14,SNR=2.3					
SCHQ			LR	LR	15 59 30.2	
	comp=Z,50nm,20.0s,MS3.7,baz=31,slow=39					
ELK	**Elko**	**71.51 42**	P	**P**	**15 27 02.8**	**+1.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=253,slow=8.2,SNR=4.5					
PDAR	**Pinedale Array**	**71.67 37**	P	**P**	**15 27 02.4**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=38,slow=2.2,SNR=5.6					
ESDC	**Sonseca Array**	**72.89 319**	P	**P**	**15 27 10.9**	**+1.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=16,slow=6.0,SNR=4.5					
WRA	**Warramunga Arr**	**77.77 167**	P	**P**	**15 27 37.9**	**+0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=352,slow=6.6,SNR=9.9					
ASAR	**Alice Springs**	**81.40 168**	P	**P**	**15 27 57.8**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=352,slow=5.1,SNR=13					
CPUP	**Villa Florida**	**149.01 357**	PKPbc	PKPbc	15 35 29.5	+1.1
	comp=Z,0.4nm,0.3s,baz=135,slow=4.3,SNR=2.9					
CPUP	**Villa Florida**	**149.01 357**	PKPbc	PKPbc	15 35 29.5	+1.1

*ISCJB **12** 15:28:46.8±0.8, 3170N×007×1412E±02, h33km, mb3.5/2, Error ellipse: s-maj=22.8km s-min=5.3km az=138.5*
*IDC **12** 15:28:46.5±1.6, 3142N×140.19E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/20, mbtmp3.6/4, ML3.3/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/17, Error ellipse: s-maj=104.0km s-min=18.3km az=80.0*
*JMA **12** 15:28:50.0±0.4, 3192N×14121E, h30km, M3.7*

ISC 12 15:28:49.4±0.8, 3166N±008×1410E±02, h35km, n11, σ1°27/15, mb3.5/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.76**	**326**	P	**Pn**	**15 29 18.6**	**+1.1**
JHJ2				*e*S	**Sn**	**15 29 38.2**	**-0.5**
JHJ	**Hachijo jima 2**	**1.79**	**325**	Pn	**Pn**	**15 29 17.4**	**-0.4**
	15nm,0.3s,baz=94,slow=21,SNR=12						
JHJ				Sn	**Sn**	**15 29 37.8**	**-1.5**
	48nm,0.3s,baz=242,slow=22,SNR=8.5						
BSO3	**Boso 3**	**3.16**	**353**	S	**Sn**	**15 30 08.8**	**-4.4**
JOD2	**Odawara 2**	**3.94**	**337**	P	**Pn**	**15 29 48.0**	**+0.7**
CBIJ	**Chichi jima**	**4.66**	**167**	Pn	**Pn**	**15 29 58.0**	**+0.7**
	3.5nm,0.3s,baz=288,slow=20,SNR=3.8						
CBIJ				Sn	**Sn**	**15 30 48.8**	**-1.4**
	5.6nm,0.3s,baz=287,slow=19,SNR=2.6						
JRY	**Ryogami san**	**4.69**	**339**	P	**Pn**	**15 29 59.5**	**+1.9**
JHO	**Hitachi**	**4.96**	**356**	P	**Pn**	**15 30 00.2**	**-1.1**
JHO				*e*S	**Sn**	**15 30 51.9**	**-5.5**
MJAR	**Matsushiro Arr**	**5.40**	**335**	Pn	**Pn**	**15 30 09.3**	**+2.0**
	0.8nm,0.3s,baz=164,slow=14,SNR=12						
MJAR				Sn	**Sn**	**15 31 08.3**	**0.0**
	0.2nm,0.3s,baz=148,slow=24,SNR=3.7						
JOW	**Kunigami**	**12.11**	**250**	LR	LR	15 35 43.4	
	comp=Z,182nm,20.4s,baz=317,slow=37						
WRA	**Warramunga Arr**	**51.70**	**188**	P	**P**	**15 37 52.4**	**-0.6**
	0.3nm,0.3s,mb3.8,baz=5.7,slow=7.7,SNR=22						
ASAR	**Alice Springs**	**55.43**	**188**	P	**P**	**15 38 21.0**	**+0.7**
	0.2nm,0.6s,mb3.4,baz=21,slow=10,SNR=7.8						

*ISCJB **12** 15:42:26.6±0.8, 570S±01×250W±04, h10km, mb4.2/6, MS3.6/2, Error ellipse: s-maj=32.7km s-min=11.0km az=120.3*
*IDC **12** 15:42:26.9±0.8, 5694S×2491W, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.1/16, mbtmp4.2/6, ML3.7/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/16, Error ellipse: s-maj=37.4km s-min=22.4km az=62.0*
*NEIC **12** 15:42:28.1±0.6, 5692S×2494W, h10km, mb4.4/3, Error ellipse: s-maj=27.6km s-min=9.3km az=58.0*

ISC 12 15:42:28.1±0.8, 570S±01×250W±04, h10km, n21, σ0°79/13, mb4.2/6, MS3.6/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**15.66**	**162**	*e*P	**Pn**	**15 46 07.3**	**-1.5**
VNA2	**Neumayer--Watz**	**15.82**	**159**	*e*P	**Pn**	**15 46 10.5**	**-0.4**
	baz=328,slow=15						
SNAA	**Sanae**	**17.35**	**156**	P	**Pn**	**15 46 31.0**	**+0.7**
	0.2nm,0.3s,baz=318,slow=16,SNR=15						
SNAA	**Sanae**	**17.35**	**156**	*e*P	**Pn**	**15 46 31.2**	**+0.9**
USHA	**Ushuaia**	**24.14**	**257**	LR	LR	15 55 23.6	
	comp=Z,130nm,19.2s,MS3.4,baz=130,slow=32						
TRQA	**Tornquist**	**30.83**	**292**	*e*P	**P**	**15 48 43.2**	**-1.0**
QSPA	**South Pole Qui**	**33.22**	**180**	*e*P	**P**	**15 49 05.8**	**+0.7**
	2.3nm,0.6s,mb4.3						
CPUP	**Villa Florida**	**38.38**	**309**	P	**P**	**15 49 49.1**	**-0.3**
	2.8nm,0.6s,mb4.2,baz=118,slow=4.1,SNR=7.4						
BOSA	**Boshof**	**45.06**	**73**	LR	LR	16 05 19.4	
	comp=Z,86nm,18.7s,MS3.7,baz=191,slow=30						
VNDA	**Vanda**	**45.64**	**182**	P	**P**	**15 50 49.2**	**+0.4**
	1.8nm,0.7s,mb4.1,baz=190,slow=5.7,SNR=6.7						
VNDA	**Vanda**	**45.64**	**182**	*e*P	**P**	**15 50 49.3**	**+0.6**
	1.4nm,0.6s,mb4.1						
LPAZ	**La Paz**	**51.94**	**303**	P	**P**	**15 51 38.3**	**+1.2**
	6.1nm,0.5s,mb4.8,baz=149,slow=6.7,SNR=60						
LPAZ	**La Paz**	**51.94**	**303**	*e*P	**P**	**15 51 38.1**	**+1.0**
	7.4nm,0.6s,mb4.8						
TORD	**Torodi Ar. Bea**	**73.34**	**27**	P	**P**	**15 53 59.8**	**-0.2**
	1.5nm,0.7s,mb4.0,baz=194,slow=6.2,SNR=9.7						
ASAR	**Alice Springs**	**97.67**	**161**	P	**P**	**15 56 03.5**	**+0.4**
	0.4nm,0.6s,mb4.1,baz=184,slow=4.3,SNR=8.4						
YKA	**Yellowknife Ar**	**137.72**	**316**	PKP	PKPdf	16 01 50.8	-1.8
	0.5nm,0.6s,baz=124,slow=2.3,SNR=9.3						
YKA	**Yellowknife Ar**	**137.72**	**316**	PKP	PKPdf	16 01 50.8	-1.8
INK	**Inuvik**	**147.34**	**319**	PKPbc	PKPbc	16 02 10.2	-1.7
	1.9nm,0.8s,baz=62,slow=4.1,SNR=6.0						
INK	**Inuvik**	**147.34**	**319**	*e*PKPbc	PKPbc	16 02 09.8	-2.1
SONM	**Songino Array**	**149.57**	**86**	PKPbc	PKPbc	16 02 16.8	-0.9
	1.4nm,0.8s,baz=228,slow=2.7,SNR=12						
ILAR	**Eielson Array**	**151.68**	**310**	PKPbc	PKPbc	16 02 20.8	-2.0
	2.3nm,0.8s,baz=143,slow=4.1,SNR=34						

MAN 12 15:50:14.9, 1927N×12108E, h34km, mb3.1, ML4.4, MS4.0, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.03**	**205**	↑ *i*P	Pn	15 50 32.6	-0.3
PIP				*e*S	Sn	15 50 46.2	+0.1
SGCP	**Mt. Cagua**	**1.37**	**138**	*e*P	Pn	15 50 37.4	-0.2
SGCP				*e*S	Sn	15 50 54.6	0.0
APYP	**Conner**	**1.41**	**174**	*e*P	Pn	15 50 38.5	+0.5
APYP				*e*S	Sn	15 50 56.4	+0.9
ABRA	**Dolores**	**1.65**	**192**	*e*P	Pn	15 50 41.5	+0.1
ABRA				*e*S	Sn	15 51 00.8	-0.6
CVP	**Callao Caves**	**1.71**	**155**	*e*P	Pn	15 50 44.0	+1.8
CAUP	**Cauayan**	**2.42**	**163**	*e*P	Pn	15 50 55.0	+3.0
PALP	**Palanan**	**2.54**	**149**	*e*P	Sn	15 51 16.7	-6.7
BOLP	**Bolinao**	**3.08**	**201**	*e*S	Sn	15 51 36.8	+0.1
BALP	**Baler**	**3.54**	**172**	*e*P	Pn	15 51 08.4	+1.0
BALP				*e*S	Sn	15 51 51.7	+3.6

IDC 12 16:08:34.6±1.6, 2907S×17786W, h0km, mb3.9/3, mb1 4.1/3, mb1mx4.0/11, mbtmp3.9/3, MS3.5/9, Ms1 3.6/9, ms1mx3.4/25, Error ellipse: s-maj=38.4km s-min=9.9km az=91.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.19**	**195**	Pg	Pg	16 08 38.2	0.0
	19μm,0.3

comp=Z,7.7nm,18.4s,baz=0.8,slow=35
PLCA Paso Flores 83.33 133 LR LR 16 50 16.4
comp=Z,63nm,19.2s,baz=84,slow=30
FINES FINESS Array B 143.93 341 PKP PKPdf 16 28 11.0 -0.9
3.1nm,1.1s,baz=354,slow=7.3,SNR=3.0
AKASG Malin Array Be 150.30 324 PKPbc PKPbc 16 28 26.9 -0.7
2.7nm,0.9s,baz=42,slow=2.2,SNR=7.1
BRTR Keskin Array B 152.05 301 PKPbc PKPbc 16 28 31.7 -0.1
0.4nm,0.7s,baz=162,slow=0.9,SNR=3.7
TORD Torodi Ar. Bea 164.16 178 PKPab PKPab 16 29 33.5 +0.1
2.7nm,1.3s,baz=183,slow=4.1,SNR=3.3

WEL 12 16:22:53.1±0.4,3847S×17534E,h247km±4km,ML3.5/11, Error ellipse: s-maj=6.6km s-min=4.9km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**1.14**	**128**	PN	Pn	16 23 29.0	+0.4
BKZ				SN	S	16 23 56.3	-0.2
WAZ	**Wanganui**	**1.31**	**192**	PN	Pn	16 23 29.6	-0.2
WAZ				SN	S	16 23 57.8	-0.8
URZ	**Urewera**	**1.41**	**82**	PN	Pn	16 23 30.4	-0.1
URZ				SN	S	16 23 59.0	-0.8
TSZ	**Takapari Road**	**1.66**	**163**	PN	Pn	16 23 32.1	-0.2
TSZ				SN	S	16 24 01.9	-1.4
MWZ	**Matawai**	**1.73**	**86**	PN	Pn	16 23 33.0	+0.1
PXZ	**Pawanui**	**1.96**	**143**	PN	Pn	16 23 34.8	-0.1
PXZ				SN	S	16 24 07.0	-0.8
MRZ	**Mangatainoka R**	**2.20**	**175**	PN	Pn	16 23 35.7	-1.5
KIW	**Kapiti Island**	**2.41**	**188**	PN	Pn	16 23 37.2	-2.0
DUWZ	**D'Urville Isla**	**2.57**	**205**	PN	Pn	16 23 38.6	-2.3
CAW	**Cannon Point**	**2.64**	**184**	PN	Pn	16 23 39.3	-2.3
MTW	**Mount Morrison**	**2.69**	**177**	PN	Pn	16 23 39.7	-2.3
MRW	**Makara Radio**	**2.80**	**190**	PN	Pn	16 23 40.8	-2.4
TCW	**Tory Channel**	**2.86**	**196**	PN	Pn	16 23 41.5	-2.3

IDC 12 16:24:27.5±2.7,247N×12919E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.4/16,mbtmp3.3/3,Error ellipse: s-maj=184.5km s-min=26.2km az=69.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.84**	**167**	P	P	16 29 31.6	-0.6
0.5nm,0.4s,baz=346,slow=9.9,SNR=13							
ASAR	**Alice Springs**	**26.38**	**170**	P	P	16 30 05.5	0.0
0.2nm,0.4s,baz=349,slow=13,SNR=14							
MKAR	**Makanchi Array**	**59.99**	**325**	P	P	16 34 37.0	+1.2
0.1nm,0.3s,baz=126,slow=7.6,SNR=4.1							

*IDC **12** 16:52:43.4±0.7, 1021N×9168E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/23, mbtmp4.0/12, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx3.3/23, Error ellipse: s-maj=33.0km s-min=14.7km az=55.0*
*ISCJB **12** 16:52:45.9±0.4, 1011N±005×9153E±006, h33km, mb4.2/19, Error ellipse: s-maj=9.6km s-min=5.3km az=98.1*
*BJI **12** 16:52:45.7, 1001N×9169E, h31km, mB5.3, mb4.3, Ms4.7, Msz4.5*
*NEIC **12** 16:52:47.5±0.3, 1015N×9159E, mb4.4/5, Error ellipse: s-maj=10.5km s-min=6.1km az=52.0*
ISC 12 16:52:48.8±0.4,1020N±005×9159E±005,h35km,n52, σ0§86/49,mb4.2/19,2C-1D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.84**	**38**	*e*P	Px	16 53 32.5	
PBA				*e*S	Sx	16 54 22.9	
PBA				*e*x	x	16 54 23.9	
comp=N,1μm,0.9s							
PBA				*e*x	x	16 54 28.2	
comp=E,1μm,1.1s							
KULM	**Kulim**	**10.21**	**118**	*e*P	**Pn**	**16 55 12.8**	**0.0**
PSI	**Prapat**	**10.35**	**135**	Pn	**Pn**	**16 55 12.8**	**-1.8**
comp=E,0.5nm,0.3s,baz=297,slow=14,SNR=2.5							
PSI	**Prapat**	**10.35**	**135**	Pn	**Pn**	**16 55 12.8**	**-1.8**
VIS	**Vishakhapatnam**	**10.96**	**314**	*i* P	**Pn**	**16 55 19.0**	**-4.1**
VIS				*i* S	**Sn**	**16 57 10.3**	**-14**
PALK	**Pallekele**	**11.15**	**256**	*e*P	**Pn**	**16 55 23.8**	**-1.7**
HYB	**Hyderabad**	**14.55**	**301**	*e*P	**Pn**	**16 56 01.0**	**-11**
HYB				*e*S	**Sn**	**16 58 53.0**	**+1.0**
SHL	**Shillong**	**15.29**	**1**	*e*P	**Pn**	**16 56 26.0**	**+4.1**
SHL				*e*S	S	16 59 02.0	-24
JIRN	**Jiri**	**18.10**	**344**	*e*P	**Pn**	**16 56 56.3**	**-1.0**
comp=E,15nm,0.6s							
KMI	**Kunming**	**18.24**	**34**	P	**Pn**	**16 57 00.6**	**+1.6**
KMI				AP	pP	16 57 06.7	-1.4
KMI				S	**S**	**17 00 24.9**	**-0.9**
KMI				AMB	AMB		
comp=Z,11nm,0.8s							
PKI	**Pulchoki**	**18.24**	**342**	*e*P	**Pn**	**16 56 58.4**	**-0.6**
comp=Z,18nm,0.6s							
DMN	**Daman**	**18.36**	**341**	*e*P	**Pn**	**16 56 59.9**	**-0.7**
comp=Z,27nm,0.8s							
GUN	**Gumba**	**18.42**	**344**	*e*P	**Pn**	**16 57 00.8**	**-0.5**
comp=Z,22nm,0.7s							
KKN	**Kakani**	**18.48**	**342**	*e*P	**Pn**	**16 57 01.9**	**-0.1**
comp=Z,20nm,0.9s							
GKN	**Gorkha**	**18.88**	**341**	*e*P	**Pn**	**16 57 05.8**	**-1.0**
comp=Z,26nm,0.7s							
KOLN	**Koldanda**	**19.03**	**338**	*e*P	**Pn**	**16 57 08.1**	**-0.5**
comp=Z,13nm,0.6s							
LSA	**Lhasa**	**19.41**	**359**	P	**Pn**	**16 57 13.6**	**+0.5**
LSA				AMB	AMB		
comp=Z,70nm,1.0s							
LSA	**Lhasa**	**19.41**	**359**	*e*P	**Pn**	**16 57 13.4**	**+0.3**
comp=Z,20nm,0.8s							
LSA				*e*		16 57 21.8	
GYA	**Guiyang**	**21.56**	**39**	⇑*i*P	**P**	**16 57 36.1**	**+1.0**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.3							
CD2	**Chengdu**	**23.51**	**27**	*e*P	**P**	**16 57 56.7**	**+1.1**
CD2				AMB	AMB		
comp=Z,20nm,0.8s,mb4.6							
CD2				AMB	AMB		
comp=Z,80nm,5.3s							
KKM	**Kota Kinabalu**	**24.72**	**98**	*e*P	**P**	**16 58 05.5**	**-1.1**
ENH	**Enshi**	**26.02**	**37**	*e*P	**P**	**16 58 18.1**	**-0.4**
comp=Z,19nm,0.9s,mb4.6							
ENH				*e*	pP	16 58 25.2	-3.3
XAN	**Xi'an**	**28.56**	**31**	P	**P**	**16 58 40.2**	**-1.0**
XAN				AMB	AMB		
comp=Z,6.0nm,1.1s,mb4.2							
AAK	**Ala-Archa**	**35.60**	**338**	*e*P	**P**	**16 59 43.3**	**+0.4**
comp=Z,2.4nm,1.0s,mb4.1							
MKAR	**Makanchi Array**	**37.32**	**349**	P	**P**	**16 59 57.7**	**+0.1**
comp=Z,2.1nm,0.7s,mb4.1,baz=168,slow=6.2,SNR=13							
SONM	**Songino Array**	**39.54**	**16**	P	**P**	**17 00 16.7**	**+0.5**
comp=Z,2.3nm,0.8s,mb4.0,baz=200,slow=8.2,SNR=18							
ULN	**Ulaanbaatar**	**39.74**	**16**	*e*P	**P**	**17 00 18.3**	**+0.3**
MBWA	**Marble Bar**	**41.66**	**139**	*e*P	**P**	**17 00 33.8**	**0.0**
KURK	**Kurchatov**	**41.79**	**348**	*e*P	**P**	**17 00 34.8**	**0.0**
comp=Z,1.8nm,0.9s,mb3.7							
CN2	**Changchun**	**44.50**	**35**	*e*P	**P**	**17 00 57.1**	**+0.4**
BVAR	**Borovoye Array**	**46.01**	**342**	P	**P**	**17 01 08.4**	**-0.3**
comp=Z,1.3nm,0.8s,mb3.9,baz=145,slow=5.4,SNR=7.7							
MDJ	**Mudanjiang**	**47.38**	**37**	P	**P**	**17 01 20.5**	**+1.1**
MDJ				AMB	AMB		
comp=Z,7.0nm,1.8s,mb4.3							
MDJ				AMB	AMB		
comp=Z,55nm,3.9s							
AKTK	**Aktyubinsk**	**48.72**	**332**	P	**P**	**17 01 30.1**	**+0.3**
AKTO	**Aktyubinsk**	**48.72**	**332**	P	**P**	**17 01 30.1**	**+0.3**
comp=Z,0.9nm,0.6s,mb4.0,baz=113,slow=20,SNR=3.7							
NWAO	**Narrogin (SRO)**	**49.37**	**151**	*e*P	**P**	**17 01 35.4**	**+0.6**
MJAR	**Matsushiro Arr**	**49.55**	**50**	LR	LR	17 22 17.4	
comp=Z,79nm,18.6s,baz=80,slow=36							
WRA	**Warramunga Arr**	**51.65**	**125**	P	**P**	**17 01 52.0**	**0.0**
comp=Z,7.7nm,0.9s,mb4.6,baz=305,slow=8.6,SNR=53							
WRAB	**Tennant Creek**	**51.66**	**125**	*e*P	**P**	**17 01 52.4**	**+0.4**
comp=Z,10nm,0.9s,mb4.8							
WB2	**Warramunga Arr**	**51.66**	**125**	*e*P	**P**	**17 01 52.6**	**+0.6**
ASPA	**Alice Springs**	**53.33**	**130**	*e*P	**P**	**17 02 04.6**	**+0.2**
AS31	**Alice Springs**	**53.33**	**130**	*e*P	**P**	**17 02 04.6**	**+0.2**
ASAR	**Alice Springs**	**53.33**	**130**	P	**P**	**17 02 04.3**	**-0.1**
comp=Z,3.3nm,0.8s,mb4.3,baz=307,slow=7.8,SNR=80							
ASAR				PcP	PcP	17 03 12.3	+0.8
comp=Z,0.7nm,0.7s,baz=312,slow=3.8,SNR=4.5							
BRTR	**Keskin Array B**	**59.01**	**310**	P	**P**	**17 02 44.3**	**-0.7**
comp=Z,1.2nm,0.8s,mb4.0,baz=113,slow=8.2,SNR=6.3							
STKA	**Stephens Creek**	**63.52**	**133**	P	**P**	**17 03 14.5**	**-1.0**
comp=Z,3.7nm,0.7s,mb4.5,baz=311,slow=7.7,SNR=8.2							
GERES	**GERESS Array B**	**74.42**	**318**	P	**P**	**17 04 23.6**	**+0.4**
comp=Z,0.5nm,0.8s,mb3.5,baz=77,slow=5.9,SNR=4.8							
SYO	**Syowa Base**	**86.89**	**197**	⇑*e*P	**P**	**17 05 32.1**	**+2.3**
SYO	**Syowa Base**	**86.89**	**197**	⇓*e*PcP	PcP	17 05 35.2	+3.1
TORD	**Torodi Ar. Bea**	**87.62**	**283**	P	**P**	**17 05 35.1**	**+1.7**
comp=Z,0.6nm,0.7s,mb3.9,baz=86,slow=4.9,SNR=4.9							
ILAR	**Eielson Array**	**93.54**	**21**	P	**P**	**17 05 60.0**	**-1.0**
comp=Z,0.2nm,0.8s,mb3.6,baz=310,slow=4.6,SNR=5.6							
PDAR	**Pinedale Array**	**123.86**	**19**	PKP	PKPdf	17 11 43.5	+0.5
comp=Z,0.5nm,0.7s,baz=45,slow=2.3,SNR=3.8							
PLCA	**Paso Flores**	**145.73**	**204**	PKPbc	PKPbc	17 12 25.8	+1.9
comp=Z,1.8nm,0.8s,baz=177,slow=0.8,SNR=5.6							
CPUP	**Villa Florida**	**146.53**	**237**	PKPbc	PKPbc	17 12 28.1	+1.8
comp=Z,2.8nm,0.9s,baz=122,slow=2.2,SNR=3.9							

IDC 12 16:59:38.1±1.6,2912S×17765W,h0km,mb4.0/3, mb1 4.2/3,mb1mx4.0/12,mbtmp4.0/3,MS3.7/3,Ms1 3.7/3, ms1mx3.2/24,Error ellipse: s-maj=56.2km s-min=14.1km az=145.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.27**	**241**	Pg	Pg	16 59 43.2	0.0
21μm,0.3s,baz=81,slow=5.5,SNR=75							
DZM	**Mont Dzumac**	**15.96**	**292**	LR	LR	17 08 03.3	
comp=Z,312nm,21.3s,baz=33,slow=32							
RAR	**Rarotonga**	**17.98**	**68**	LR	LR	17 08 50.8	
comp=Z,169nm,20.6s,baz=336,slow=31							
TBI	**Tubuai**	**25.90**	**84**	*e*LR	LR	17 11 42.4	
190nm,29.2s							
TBI	**Tubuai**	**25.90**	**84**	*e*T		17 32 15.3	
104nm,0.4s							
PAE	**Paea**	**28.10**	**72**	*e*T		17 35 01.9	
157nm,0.3s							
PPT	**Papeete**	**28.15**	**72**	*e*LR	LR	17 12 46.0	
189nm,27.8s							
PPT	**Papeete**	**28.15**	**72**	*e*T		17 35 05.6	
48nm,0.4s							
PPT	**Papeete**	**28.15**	**72**	LR	LR	17 13 36.8	
comp=Z,203nm,20.3s,baz=286,slow=30							
TVO	**Taravao**	**28.32**	**73**	*e*T		17 35 18.1	
36nm,0.3s							
PMOR	**Pomariorio Ree**	**30.84**	**69**	*e*T		17 38 27.4	
16nm,0.4s							
VAH	**Vaihoa**	**30.94**	**70**	*e*T		17 38 34.2	
81nm,0.3s							
CTA	**Charters Tower**	**33.92**	**277**	*e*P	P	17 06 25.3	+2.5
18nm,1.6s							
STKA	**Stephens Creek**	**35.08**	**255**	P	P	17 06 32.0	-0.8
2.4nm,0.8s,baz=105,slow=14,SNR=2.8							
RKT	**Rikitea**	**38.63**	**91**	*e*LR	LR	17 17 36.8	
99nm,28.6s							
RKT	**Rikitea**	**38.63**	**91**	*e*T		17 48 07.7	
9.0nm,0.4s							
ASAR	**Alice Springs**	**43.49**	**265**	P	P	17 07 43.6	+0.5
1.3nm,0.7s,baz=98,slow=7.6,SNR=14							
WB2	**Warramunga Arr**	**44.36**	**271**	*e*P	P	17 07 50.6	+0.5
WRA	**Warramunga Arr**	**44.37**	**271**	P	P	17 07 50.7	+0.5
3.1nm,0.9s,baz=110,slow=7.8,SNR=17							
FINES	**FINESS Array B**	**144.05**	**341**	PKP	PKPdf	17 19 13.1	-2.6
0.5nm,0.6s,baz=53,slow=7.5,SNR=3.9							
AKASG	**Malin Array Be**	**150.46**	**324**	PKPbc	PKPbc	17 19 31.2	-0.4
1.4nm,0.8s,baz=44,slow=2.2,SNR=4.5							
TORD	**Torodi Ar. Bea**	**164.09**	**178**	PKPab	PKPab	17 20 37.1	+0.4
1.1nm,1.1s,baz=185,slow=3.9,SNR=3.5							

*MOS **12** 17:06:41.8±1.1, 3652N×7141E, h182km, mb4.3/1, Error ellipse: s-maj=30.0km s-min=12.9km az=90.2*
*NEIC **12** 17:06:42.1±4.0, 3650N×7148E, h170km±30km, mb3.9/3, Error ellipse: s-maj=37.7km s-min=15.1km az=207.0*
*ISCJB **12** 17:06:45.4±1.0, 3675N±006×714E±0.1, h210km±12km, mb3.6/5, Error ellipse: s-maj=17.5km s-min=8.4km az=136.1*
*IDC **12** 17:06:48.3±14.0, 3676N×7162E, h223km±128km, mb3.3/4, mb1 3.3/7, mb1mx2.9/24, mbtmp3.9/7, Error ellipse: s-maj=112.6km s-min=23.8km az=35.0*
*NNC **12** 17:06:51.5±4.8, 3722N×7109E, h200km±45km, mb2.6, mpv3.6, Error ellipse: s-maj=43.1km s-min=26.4km az=16.0*
ISC 12 17:06:46.4±1.0,3675N±006×715E±01,h201km±11km,n28, σ0§93/33,mb3.6/5,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.58**	**137**	*e*P	**Pn**	**17 08 10.0**	**+1.8**
DLH				*e*S	**Sn**	**17 09 12.0**	**-1.0**
AML	**Almayashu**	**5.64**	**17**	P	**Pn**	**17 08 09.2**	**+0.3**
SNR=34							
UCH	**Uchtor**	**5.95**	**22**	P	**Pn**	**17 08 13.3**	**+0.3**
SNR=10.0							
EKS2	**Erkin-Say**	**6.17**	**16**	P	**Pn**	**17 08 16.5**	**+0.8**
SNR=9.6							
AAK	**Ala-Archa**	**6.32**	**21**	P	**Pn**	**17 08 18.3**	**+0.5**
SNR=5.4							
AAK	**Ala-Archa**	**6.32**	**21**	*e*PN	**Pn**	**17 08 15.9**	**-1.8**
AAK				pmax	pmax		
comp=Z,3.0nm,0.3s							
AAK	**Ala-Archa**	**6.32**	**21**	*e*P	**Pn**	**17 08 15.9**	**-1.9**
comp=Z,2.8nm,0.3s							
AAK				*e*S	**Sn**	**17 09 15.0**	**-15**
KK31	**Karatay Array**	**6.39**	**354**	P	**Pn**	**17 08 17.6**	**-1.1**
comp=Z,1.9nm,0.4s,baz=172,slow=12,SNR=67							
KK31				⇓S	**Sn**	**17 09 26.1**	**-5.8**
comp=Z,13nm,0.5s,baz=191,slow=20,SNR=45							
TKM2	**Tokmak 2**	**6.93**	**26**	P	**Pn**	**17 08 26.6**	**+1.0**
SNR=7.6							
TKM2	**Tokmak 2**	**6.93**	**26**	⇓P	**Pn**	**17 08 26.6**	**+1.0**
comp=Z,2.7nm,0.5s							
TKM2				⇓S	**Sn**	**17 09 43.7**	**-0.7**
comp=Z,9.0nm,0.8s							
MKAR	**Makanchi Array**	**12.86**	**35**	P	**Pn**	**17 09 41.9**	**-0.1**
comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=2.8							
AB31	**Akbulak array**	**15.07**	**330**	⇑P	**Pn**	**17 10 06.8**	**-2.5**
comp=Z,0.5nm,0.3s,baz=325,slow=6.1,SNR=17							
AB31				⇑S	**S**	**17 12 44.9**	**-12**
comp=Z,1.6nm,0.6s,baz=155,slow=23,SNR=6.0							
VOSK	**Vostochnaya**	**15.98**	**359**	⇑P	**Pn**	**17 10 19.7**	**-0.6**
comp=Z,2.3nm,1.3s							
BVA0	**Borovoye Array**	**16.30**	**358**	P	**P**	**17 10 24.3**	**+0.9**
comp=Z,0.4nm,0.8s,baz=166,slow=12,SNR=13							
BVAR	**Borovoye Array**	**16.30**	**358**	P	**P**	**17 10 24.7**	**+1.3**
comp=Z,0.3nm,0.3s,baz=168,slow=12,SNR=16							
ZRNK	**Zerenda**	**16.30**	**355**	⇑P	**P**	**17 10 24.1**	**+0.7**
comp=Z,1.1nm,0.5s							
BRVK	**Borovoye**	**16.34**	**357**	*e*P	**P**	**17 10 24.6**	**+0.8**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.6s							
BRVK	**Borovoye**	**16.34**	**357**	*e*P	**P**	**17 10 24.6**	**+0.8**
comp=Z,1.2nm,0.6s							
AKTK	**Aktyubinsk**	**16.77**	**329**	P	**P**	**17 10 28.9**	**+0.3**
AKTO	**Aktyubinsk**	**16.77**	**329**	P	**P**	**17 10 28.9**	**+0.3**
comp=Z,1.3nm,0.3s,baz=136,slow=9.9,SNR=20							
AKTO	**Aktyubinsk**	**16.77**	**329**	P	**P**	**17 10 28.9**	**+0.3**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
ULN	**Ulaanbaatar**	**28.31**	**56**	*e*P	**P**	**17 12 20.5**	**-0.7**
ULN				pmax	pmax		
comp=Z,1.0nm,0.4s,mb3.8							
ULN	**Ulaanbaatar**	**28.31**	**56**	*e*P	**P**	**17 12 20.5**	**-0.7**
comp=Z,1.3nm,0.4s,mb3.9							
FINES	**FINESS Array B**	**37.50**	**326**	P	**P**	**17 13 40.8**	**0.0**
comp=Z,0.8nm,0.8s,mb3.3,baz=125,slow=9.6,SNR=5.1							
ARCES	**ARCESS Array B**	**41.07**	**337**	P	**P**	**17 14 09.4**	**-0.8**
comp=Z,4.0nm,0.7s,mb3.9,baz=96,slow=7.3,SNR=5.1							
HFS	**Hagfors**	**43.12**	**322**	P	**P**	**17 14 26.6**	**-0.2**
comp=Z,0.9nm,0.4s,mb3.6,baz=98,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**81.79**	**122**	P	**P**	**17 18 42.1**	**-0.6**
comp=Z,0.5nm,0.8s,mb3.2,baz=326,slow=5.1,SNR=4.4							
WRA	**Warramunga Arr**	**81.79**	**122**	P	**P**	**17 18 42.1**	**-0.6**

*ISCJB **12** 17:11:16.8±0.2, 3319S±004×5703E±004, h10km, mb5.4/183, MS4.9/112, Error ellipse: s-maj=5.7km s-min=5.2km az=58.7*
*IDC **12** 17:11:16.5±0.4, 3321S×5696E, h0km, mb5.1/32, mb1 5.2/33, mb1mx5.2/33, mbtmp5.1/33, ML5.6/1, MS4.6/18, Ms1 4.6/18, ms1mx4.5/26, Error ellipse: s-maj=14.6km s-min=10.5km az=40.0*
*BJI **12** 17:11:16.2, 3330S×5691E, h14km, mB5.7, mb5.5, Ms5.4, Msz5.0*
*MOS **12** 17:11:17.1±0.8, 3312S×5698E, h10km, mb5.7/64, MS4.8/38, Error ellipse: s-maj=12.6km s-min=5.3km az=107.0*
*NEIC **12** 17:11:18.0±0.1, 3323S×5695E, h10km, mb5.4/87, MS4.9/76, MW5.6, Error ellipse: s-maj=5.4km s-min=4.3km az=221.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.52; $M_{\theta\theta}$2.35; $M_{\phi\phi}$0.17; $M_{r\theta}$0.68; $M_{\theta\phi}$-1.36; $M_{r\phi}$0.72; Best double couple: $M_0$3.00000×10^{17} NP1:ϕ_s276.00000°, δ52.00000°, λ-117.00000°. NP2: ϕ_s136.00000°, δ46.00000°, λ-60.00000°. Principal axes: T 3.0200, Plg3.0000°, Azm25.0000°; N -0.1100, Plg21.0000°, Azm293.0000°; P -2.9000, Plg68.0000°, Azm123.0000°;*
*HRVD **12** 17:11:18.0±0.2, 3327S×5676E, h15km, MW5.5/83, Centroid moment Tensor Solution. LP body waves: s74,c137; Mantle waves: s83,c161; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.36±.04; $M_{\theta\theta}$2.36±.04; $M_{\phi\phi}$-1.01±.04; $M_{r\theta}$-0.01±.11; $M_{\theta\phi}$0.45±.04; $M_{r\phi}$0.01±.12; Best double couple: $M_0$1.89000×10^{17} NP1:ϕ_s260.00000°, δ45.00000°, λ-93.00000°. NP2: ϕ_s85.00000°, δ45.00000°, λ-87.00000°. Principal axes: T 2.4190, Plg0.0000°, Azm173.0000°; N -1.0680, Plg2.0000°, Azm263.0000°; P -1.3600, Plg88.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **12** 17:11:19.5, 3250S×5750E, h33km, mb5.4, Southwest Indian Ridge*
*CSEM **12** 17:11:22.8, 3269S×5692E, h33km, mb5.5*
ISC 12 17:11:18.3±0.2,3320S±004×5691E±004,h10km, (h1§km±1.0km:pP-P),n580,σ0§79/432,mb5.4/183, MS4.9/112,32C-32D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.98**	**327**	P	**Pn**	**17 15 17.2**	**+1.4**
22nm,0.3s,baz=149,slow=12,SNR=63							
OPO				S	**Sn**	**17 18 13.3**	**-11**
4.3nm,0.3s,baz=73,slow=19,SNR=4.3							
BOSA	**Boshof**	**27.48**	**271**	P	**P**	**17 17 04.1**	**-0.6**
12nm,0.8s,mb4.5,baz=114,slow=5.6,SNR=11							
BOSA				LR	LR	17 26 02.8	
comp=Z,2μm,18.6s,MS4.7,baz=110,slow=32							
BOSA	**Boshof**	**27.48**	**271**	P	**P**	**17 17 04.1**	**-0.5**
BOSA				pmax	pmax		
comp=Z,12nm,0.8s,mb4.5							
BOSA				MLR	MLR		
comp=Z,2μm,18.6s,MS4.7							
BOSA	**Boshof**	**27.48**	**271**	*e*P	**P**	**17 17 03.5**	**-1.1**
comp=Z,36nm,1.2s,mb4.8							
BOSA				LR	LR		
comp=Z,2μm,22.0s,MS4.7							
MATP	**Matopo**	**28.27**	**290**	P	**P**	**17 17 10.4**	**-1.2**
comp=Z,21nm,1.0s,mb4.7,baz=125,slow=9.9,SNR=20							
MATP				LR	LR	17 27 06.6	
comp=Z,1μm,19.3s,MS4.5,baz=121,slow=34							
LBTB	**Lobatse**	**28.47**	**278**	P	**P**	**17 17 12.2**	**-1.3**
comp=Z,23nm,1.2s,mb4.7,baz=112,slow=4.0,SNR=8.1							
LBTB				LR	LR	17 26 32.4	
comp=Z,1μm,18.7s,MS4.6,baz=128,slow=32							
LBTB	**Lobatse**	**28.47**	**278**	P	**P**	**17 17 12.2**	**-1.2**
LBTB				pmax	pmax		
comp=Z,23nm,1.2s,mb4.7							
LBTB				MLR	MLR		
comp=Z,1μm,18.7s,MS4.6							
LBTB	**Lobatse**	**28.47**	**278**	*e*P	**P**	**17 17 12.1**	**-1.3**
comp=Z,38nm,1.1s,mb4.9							
LBTB				LR	LR		
comp=Z,1μm,19.0s,MS4.5							
DGAR	**Diego Garcia**	**29.43**	**33**	*e*P	**P**	**17 17 19.2**	**-2.7**
DGAR				MLR	MLR		
comp=Z,3μm,20.0s,MS5.0							
SUR	**Sutherland**	**30.27**	**262**	P	**P**	**17 17 29.5**	**+0.1**
comp=Z,24nm,1.1s,mb4.8,baz=140,slow=9.0,SNR=5.1							
SUR				LR	LR	17 27 26.9	
comp=Z,2μm,18.7s,MS4.7,baz=124,slow=32							
LSZ	**Lusaka**	**31.53**	**298**	P	**P**	**17 17 41.1**	**+0.6**
baz=134,slow=11							
LSZ	**Lusaka**	**31.53**	**298**	*e*P	**P**	**17 17 40.7**	**+0.2**
comp=Z,45nm,1.3s,mb5.1							
LSZ				LR	LR		
comp=Z,627nm,19.0s,MS4.3							
MAW	**Mawson**	**34.62**	**176**	P	**P**	**17 18 07.7**	**+0.2**
comp=Z,55nm,0.7s,mb5.6,baz=354,slow=9.2,SNR=3.0							
MAW				LR	LR	17 30 33.4	
comp=Z,752nm,18.1s,MS4.5,baz=299,slow=33							
KMBO	**Kilima Mbogo**	**36.86**	**326**	P	**P**	**17 18 27.6**	**+0.9**
comp=Z,8.2nm,0.8s,mb4.6,baz=143,slow=8.0,SNR=29							
KMBO				S	**S**	**17 24 17.2**	**+6.0**
comp=Z,0.2nm,0.3s,baz=342,slow=20,SNR=2.2							
KMBO				LR	LR	17 30 56.2	
comp=Z,298nm,19.4s,MS4.1,baz=119,slow=32							
KMBO	**Kilima Mbogo**	**36.86**	**326**	P	**P**	**17 18 27.7**	**+1.0**
KMBO				S	**S**	**17 24 17.3**	**+6.1**
SYO	**Syowa Base**	**37.18**	**190**	⇓*e*pP	pP	17 18 33.5	+1.0
SYO	**Syowa Base**	**37.18**	**190**	*e*P	**P**	**17 18 29.6**	**+0.2**
SYO				*e*PP	pP	17 18 33.5	+1.0
TSUM	**Tsumeb**	**37.71**	**282**	P	**P**	**17 18 33.7**	**-0.2**
comp=Z,44nm,1.2s,mb5.1,baz=118,slow=8.7,SNR=15							
TSUM	**Tsumeb**	**37.71**	**282**	*e*

HYB eS S 17 28 28.0 +4.1
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.7
HYB Hyderabad 54.41 26⇓ *e*P **P 17 20 46.0 +0.5**
comp=Z,100nm,1.0s,mb5.7
HYB *e*S **S 17 28 28.0 +4.1**
SMDO Samad 55.95 1 ⇓P **P 17 20 56.8 +0.2**
ARQ Araqi 56.22 360 P **P 17 20 59.7 +1.2**
SNR=6.2
KULM Kulim 56.40 56 *e*P **P 17 20 60.0 +0.1**
MBWA Marble Bar 56.42 95 *e*P **P 17 20 59.9 -0.1**
comp=Z,52nm,0.9s,mb5.6
MBWA *e* 17 21 05.6
MBWA LR LR
comp=Z,924nm,21.0s,MS4.8
VIS Vishakhapatnam 56.57 31 *e*P **P 17 21 01.9 +0.8**
VIS AMb AMB 17 21 09.1
comp=Z,75nm,1.4s,mb5.5
QSPA South Pole Qui 56.98 180 *e*P **P 17 21 03.1 -0.8**
comp=Z,149nm,1.3s,mb5.9
DRV Dumont d'Urvil 57.32 152 S **S 17 29 00.0 -2.6**
DRV L 17 35 00.0
DRV R 17 39 00.0
BHJ Bhuj 57.44 14 *e*P **P 17 21 06.4 -0.8**
BHJ AMb AMB 17 21 10.6
comp=Z,56nm,0.9s,mb5.6
ASHO Ashiyiah 57.56 359 P **P 17 21 08.6 +0.5**
SNR=5.3
NGP Nagpur 58.03 24 *e*P **P 17 21 12.6 +1.3**
NGP AMb AMB 17 21 21.1
comp=Z,65nm,1.9s,mb5.3
SHEL Horse Pasture 58.71 271 PFAKE 17 21 30.0 +14
SHEL LR LR
comp=Z,1μm,21.0s,MS5.0
BANOM Banah 58.80 359 ⇓P **P 17 21 16.7 0.0**
BHPL Bhopal 59.43 22 *e*P **P 17 21 21.4 +0.3**
BHPL AMb AMB 17 21 23.8
comp=Z,58nm,0.9s,mb5.6
KSM Kuching 60.93 67 *e*P **P 17 21 31.7 +0.4**
VNDA Vanda 61.00 166 P **P 17 21 31.7 -0.1**
comp=Z,7.8nm,0.7s,mb5.0,baz=259,slow=7.8,SNR=13
VNDA LR LR 17 47 16.6
comp=Z,737nm,18.1s,MS4.9,baz=252,slow=35
VNDA PKP2bc 17 50 54.9
comp=Z,11nm,1.3s,baz=120,slow=5.5,SNR=3.7
VNDA Vanda 61.00 166 P **P 17 21 31.7 -0.1**
VNDA pmax pmax
comp=Z,8.0nm,0.7s
VNDA MLR MLR
comp=Z,737nm,18.1s
VNDA pmax pmax
comp=Z,11nm,1.3s
VNDA Vanda 61.00 166 *e*P **P 17 21 32.4 +0.6**
comp=Z,28nm,1.1s,mb5.3
VNDA LR LR
comp=Z,844nm,19.0s,MS4.9
AJM Ajmer 61.70 18 *e*P **P 17 21 36.8 +0.2**
AJM AMb AMB 17 21 39.6
comp=Z,75nm,1.2s,mb5.7
QRN Al-Qurain 62.19 351 *e*P **P 17 21 40.2 +0.3**
QRN AMb AMB 17 21 43.2
comp=Z,88nm,1.5s,mb5.7
KBD Kabd 62.65 351 *e*P **P 17 21 43.3 +0.4**
KBD AMb AMB 17 21 45.9
comp=Z,246nm,1.0s,mb6.3
FITZ Fitzroy Crossi 62.77 95⇓ *i*P **P 17 21 43.6 -0.1**
comp=Z,45nm,1.1s,mb5.5
UMR Umm Al-Rimmam 63.01 351 *e*P **P 17 21 45.7 +0.3**
UMR AMb AMB 17 21 48.3
comp=Z,200nm,1.0s,mb6.2
BOK Bokaro 63.05 30 *e*P **P 17 21 46.1 +0.5**
BOK AMb AMB 17 21 48.9
comp=Z,58nm,1.5s,mb5.5
MIB Mutribah 63.31 351 *e*P **P 17 21 47.3 -0.1**
MIB AMb AMB 17 21 50.2
comp=Z,80nm,1.0s,mb5.8
NST Nakhon Sawan 63.75 47 P **P 17 21 50.2 0.0**
BDT Bhumibol Dam 64.28 45 P **P 17 21 53.5 -0.2**
NDI New Delhi 64.49 20 *e*P **P 17 21 53.6 -1.5**
NDI *e*P pP 17 21 55.0 -3.3
NDI AMb AMB 17 22 02.0
comp=Z,38nm,1.5s,mb5.2
AGT Agartala 65.52 35 *i* x x 17 22 07.0
AGT *i* x x 17 22 24.0
HOPE Hope Point 65.65 220 PFAKE 17 22 10.0 +7.4
HOPE LR LR
comp=Z,976nm,20.0s,MS5.0
KOLN Koldanda 65.72 26 *e*P **P 17 22 03.0 -0.1**
comp=Z,466nm,1.4s,mb6.3
EIL Elat 65.89 339 *e*P **P 17 22 05.1 +0.9**
comp=Z,614nm,1.2s,mb6.5
DMN Daman 66.14 27 *e*P **P 17 22 05.9 +0.1**
comp=Z,203nm,1.2s,mb6.0
PKI Pulchoki 66.22 28 *e*P **P 17 22 06.0 -0.3**
comp=Z,277nm,1.6s,mb6.0
DDI Dehra Dun 66.27 20 *e*P **P 17 22 06.2 -0.4**
DANN Dangsing 66.30 26 *e*P **P 17 22 06.8 0.0**
GKN Gorkha 66.31 27 *e*P **P 17 22 06.7 -0.2**
comp=Z,134nm,0.9s,mb6.0
KKN Kakani 66.36 27 *e*P **P 17 22 07.1 -0.1**
comp=Z,247nm,1.3s,mb6.1
JIRN Jiri 66.60 28 *e*P **P 17 22 08.9 +0.1**
comp=Z,167nm,1.3s,mb5.9
GUN Gumba 66.71 28 *e*P **P 17 22 09.9 +0.5**
comp=Z,664nm,1.5s,mb6.5
SMLA Simla 66.78 19 *e*P **P 17 22 09.6 -0.3**
SMLA AMb AMB 17 22 10.7
comp=Z,60nm,1.2s,mb5.5
ASPA Alice Springs 67.01 104⇓ *i*P **P 17 22 11.0 -0.3**
ASAR Alice Springs 67.01 104 P **P 17 22 11.2 -0.2**
comp=Z,15nm,0.8s,mb5.0,baz=238,slow=5.6,SNR=101
ASAR PKP2bc 17 50 38.7
comp=Z,6.0nm,1.1s,baz=46,slow=2.6,SNR=4.2
ASAR Alice Springs 67.01 104 P **P 17 22 11.2 -0.2**
ASAR ⇑*e* 17 50 38.7
AS31 Alice Springs 67.01 104⇓ *i*P **P 17 22 11.0 -0.4**
BHD Baghdad 67.16 349 *ex* x x 17 22 10.0
BHD *ex* x 17 31 08.0
SHL Shillong 67.25 34 *i*P **P 17 22 13.5 +0.6**
TAU Tasmania Unive 68.58 128 PFAKE 17 22 30.0 +8.8
TAU LR LR
comp=Z,561nm,19.0s,MS4.8
WRA Warramunga Arr 69.12 101 P **P 17 22 24.5 -0.1**
comp=Z,52nm,1.1s,mb5.4,baz=238,slow=5.8,SNR=110
WRA PKP2bc 17 50 33.6
comp=Z,4.5nm,1.1s,baz=75,slow=3.4,SNR=9.1
WRA Warramunga Arr 69.12 101 P **P 17 22 24.5 -0.1**
WRA ⇑*e* 17 50 33.6
WB2 Warramunga Arr 69.13 101⇓ *i*P **P 17 22 24.6 0.0**
WRAB Tennant Creek 69.13 101 P **P 17 22 25.0 +0.3**
comp=Z,434nm,1.0s,mb6.3,SNR=22
WRAB Tennant Creek 69.13 101 *d*P **P 17 22 24.6 -0.1**
WRAB Tennant Creek 69.13 101 *e*P **P 17 22 24.5 -0.2**
comp=Z,159nm,1.2s,mb5.8
WRAB LR LR
comp=Z,354nm,19.0s,MS4.6
STKA Stephens Creek 69.36 115⇓ *i*P **P 17 22 23.9 -2.2**
comp=Z,12nm,0.6s,mb5.0
STKA Stephens Creek 69.36 115 P **P 17 22 24.6 -1.4**
comp=Z,14nm,0.7s,mb5.0,baz=271,slow=5.2,SNR=17
STKA PKP2bc 17 50 33.2
comp=Z,5.8nm,1.0s,baz=77,slow=5.2,SNR=4.9
TORD Torodi Ar. Bea 69.95 302 P **P 17 22 30.0 +0.2**
comp=Z,16nm,0.8s,mb5.0,baz=130,slow=4.7,SNR=73
TORD PKP2bc 17 50 33.0
comp=Z,1.7nm,1.2s,baz=334,slow=1.4,SNR=3.2
MSL Mosul 70.33 348 *ex* x 17 22 36.0
LSA Lhasa 70.46 31 P **P 17 22 34.0 +1.1**
LSA Lhasa 70.46 31 *e*P **P 17 22 34.1 +1.2**
LSA pmax pmax
comp=Z,86nm,1.0s,mb5.6
LSA MLR MLR
comp=Z,918nm,20.0s,MS5.0
LSA Lhasa 70.46 31 *e*P **P 17 22 34.1 +1.2**
comp=Z,86nm,1.0s,mb5.6
LSA LR LR
comp=Z,918nm,20.0s,MS5.0
LIC Lamto 70.52 291 *e*P **P 17 22 33.6 +0.4**
comp=Z,105nm,1.1s,mb5.4
LIC *e*R
comp=Z,868nm,19.0s
LIC Lamto 70.52 291 *e*P **P 17 22 33.6 +0.4**
comp=Z,53nm,1.1s,mb5.4
LIC LR LR
comp=Z,430nm,19.0s,MS4.7
DBIC Dimbokro 70.66 292 P **P 17 22 35.2 +1.2**
comp=Z,64nm,1.1s,mb5.5,baz=111,slow=7.5,SNR=36
DBIC LR LR 17 51 00.8
comp=Z,941nm,19.8s,MS5.0,baz=116,slow=34
DBIC Dimbokro 70.66 292 *e*P **P 17 22 35.2 +1.1**
DBIC pmax pmax
comp=Z,72nm,1.0s
DBIC MLR MLR
comp=Z,1μm,20.0s
DBIC Dimbokro 70.66 292 *e*P **P 17 22 35.2 +1.1**
comp=Z,72nm,1.0s,mb5.6
DBIC LR LR
comp=Z,1μm,20.0s,MS5.1
ABKT Ailbek 70.77 1 P **P 17 22 34.7 -0.1**
comp=Z,99nm,1.2s,mb5.6,SNR=6.2
KAKA Kakadu 71.12 93 *e*P **P 17 22 36.7 -0.2**
comp=Z,17nm,0.9s,mb5.0
QIZ Qiongzhong 72.45 52 P **P 17 22 44.5 -0.4**
QIZ S S 17 32 11.4 +2.5
QIZ AMB AMB
comp=Z,25nm,1.7s,mb4.9
QIZ AMB AMB
comp=Z,275nm,7.3s
QIZ LR LR
comp=N,548nm,19.5s
QIZ LR LR
comp=Z,455nm,13.5s
QIZ Qiongzhong 72.45 52 PFAKE 17 23 00.0 +15
QIZ LR LR
comp=Z,455nm,19.0s,MS4.8
GZT Gaziantep 72.47 344 *i*P **P 17 22 45.7 +0.7**
KMI Kunming 72.57 43 P **P 17 22 45.7 +0.1**
KMI AP pP 17 22 49.3 +0.4
KMI S S 17 32 14.0 +3.8
KMI SS SS 17 36 55.6 +6.5
KMI AMB AMB
comp=Z,23nm,1.5s,mb4.9
KMI AMB AMB
comp=Z,245nm,4.0s
KMI LR LR
comp=N,655nm,15.1s,MS5.2
KMI LR LR
comp=E,757nm,16.8s,MS5.2
KMI LR LR
comp=Z,728nm,17.4s,MS5.0
MALT Malatya 73.19 345 *e*P **P 17 22 50.0 +0.7**
MALT pmax pmax
comp=Z,33nm,1.4s,mb5.1
MALT Malatya 73.19 345 *e*P **P 17 22 50.0 +0.8**
comp=Z,33nm,1.4s,mb5.1
ELZG Elazig 73.25 345 *i*P **P 17 22 49.6 0.0**
CNB Canberra Magne 73.48 122 *e*P **P 17 22 52.5 +1.5**
comp=Z,45nm,1.8s,mb5.1
GNI Garni 73.84 350 *d*P **P 17 22 53.8 +0.7**
GNI pmax pmax
comp=Z,86nm,1.7s
GNI Garni 73.84 350 *e*P **P 17 22 54.2 +1.1**
comp=Z,76nm,1.4s,mb5.4
GNI LR LR
comp=Z,336nm,20.0s,MS4.6
ERZM Erzurum 74.15 348 *i*P **P 17 22 57.1 +2.2**
DIGO Kars 74.31 349 *i*P **P 17 22 56.6 +0.8**
KSH Kashi 74.47 15⇑ *i*P **P 17 22 57.7 +0.9**
KSH AP pP 17 23 03.4 +3.3
KSH XP sP 17 23 05.9 +4.6
KSH PCP PcP 17 23 13.6 +2.3
KSH PP PP 17 25 47.4 +4.3
KSH S S 17 32 32.7 +1.0
KSH XS sS 17 32 40.4 +3.2
KSH SCS ScS 17 33 05.2 -2.8
KSH SS SS 17 37 21.6 +3.5
KSH AMB AMB
comp=Z,48nm,1.2s,mb5.3
KSH AMB AMB
comp=Z,157nm,5.1s
KSH LR LR
comp=N,282nm,4.8s
KSH LR LR
comp=E,525nm,10.8s
KSH LR LR
comp=Z,616nm,15.4s,MS5.0
KELT Kelkit 74.78 346 *i*P **P 17 22 59.4 +0.8**
ARTV Artvin 75.29 348 *i*P **P 17 23 02.0 +0.5**
BRTR Keskin Array B 75.69 342 P **P 17 23 03.4 -0.4**
comp=Z,12nm,0.8s,mb4.9,baz=167,slow=7.4,SNR=46
BR131 Keskin Array S 75.69 342 *e*P **P 17 23 03.2 -0.6**
comp=Z,9.7nm,0.8s,mb4.8
GRSN GIRESUNGRSN 75.73 346 *i*P **P 17 23 02.9 -1.2**
GYA Guiyang 75.87 45⇓ *i*P **P 17 23 04.7 -0.1**
GYA AP pP 17 23 09.4 +1.3
GYA XP sP 17 23 11.8 +2.5
GYA PP PP 17 25 55.6 +0.7
GYA S S 17 32 45.0 -2.2
GYA SKS 17 33 09.5
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,250nm,5.7s
GYA LR LR
comp=N,970nm,19.8s,MS5.4
GYA LR LR
comp=E,2μm,19.6s,MS5.4
GYA LR LR
comp=Z,1μm,19.0s,MS5.3
ANTO Ankara 76.05 341 *e*P **P 17 23 05.1 -0.8**
ANTO pmax pmax
comp=Z,24nm,0.9s,mb5.1
ANTO MLR MLR
comp=Z,346nm,22.0s,MS4.6
ANTO Ankara 76.05 341 *e*P **P 17 23 05.1 -0.7**
comp=Z,24nm,0.9s,mb5.1
ANTO LR LR
comp=Z,346nm,22.0s,MS4.6
CTKT Corum 76.24 343 *i*P **P 17 23 07.4 +0.4**
MAK Makhachkala 76.28 353 *e*P **P 17 23 04.7 -2.5**
MAK *e* 17 33 24.2
MAK pmax pmax
comp=Z,196nm,1.1s,mb6.0
MAK MLR MLR
comp=Z,485nm,17.0s,MS4.9
ELDT Eldivan 76.46 342 *i*P **P 17 23 08.0 -0.2**
AML Almayashu 76.53 13 P **P 17 23 09.7 +1.1**
SNR=49
ZEI Tsey 76.53 350 *e*P **P 17 23 08.1 -0.5**
ZEI *i* *PP pP 17 23 16.3 +4.4
ZEI pmax pmax
comp=Z,51nm,1.3s,mb5.3
UCH Uchtor 76.78 13 P **P 17 23 11.0 +1.0**
SNR=43
KZA Kyzart 76.78 14 P **P 17 23 10.8 +0.8**
SNR=40
SGKT Sivrigoynuk 76.91 341 *i*P **P 17 23 10.7 0.0**
KK31 Karatay Array 76.95 10 *i*P **P 17 23 11.2 +0.3**
KKAR Karatay Array 76.95 10 *i*P **P 17 23 11.2 +0.3**
KKAR pmax pmax
comp=Z,59nm,1.2s,mb5.4
BOYT Boyabat 76.97 343 *i*P **P 17 23 11.3 +0.3**
EKS2 Erkin-Say 77.06 13 P **P 17 23 12.8 +1.2**
SNR=67
ULHL Ulahol 77.15 15 P **P 17 23 13.0 +1.0**
SNR=46
AAK Ala-Archa 77.17 13 P **P 17 23 13.4 +1.2**
SNR=68
AAK Ala-Archa 77.17 13 P **P 17 23 12.6 +0.4**
comp=Z,291nm,1.1s,mb6.1,SNR=51
AAK Ala-Archa 77.17 13 *d*P **P 17 23 12.2 0.0**
AAK pmax pmax
comp=Z,82nm,1.3s,mb5.5
AAK MLR MLR
comp=Z,500nm,17.0s,MS4.9
AAK Ala-Archa 77.17 13 *e*P **P 17 23 12.1 -0.1**
comp=Z,99nm,1.4s,mb5.5
AAK LR LR
comp=Z,383nm,21.0s,MS4.7
KBK Karagaybulak 77.28 14 P **P 17 23 13.9 +1.2**
SNR=30
ULDT Uludag 77.36 339 *i*P **P 17 23 13.7 +0.4**
FRU Bishkek 77.38 13⇓ *i*P **P 17 23 14.5 +1.1**
FRU *e* 17 33 09.0
FRU pmax pmax
comp=Z,140nm,1.8s,mb5.6
FRU MLR MLR
comp=Z,500nm,18.0s,MS4.9
HENT Hendek 77.47 340 *i*P **P 17 23 12.7 -1.1**
CHMS Chumysh 77.57 13 P **P 17 23 15.0 +0.6**
SNR=18
CD2 Chengdu 77.62 40⇓ *i*P **P 17 23 14.3 -0.4**
CD2 AP pP 17 23 19.0 +1.0
CD2 XP sP 17 23 21.3 +2.1
CD2 PP PP 17 26 11.8 +2.1
CD2 S S 17 33 05.5 -0.9
CD2 XS sS 17 33 13.5 +1.6
CD2 SS SS 17 38 09.5 +3.7
CD2 AMB AMB
comp=Z,50nm,0.9s,mb5.4
CD2 AMB AMB
comp=Z,180nm,9.3s
CD2 LR LR
comp=E,630nm,10.8s
CD2 LR LR
comp=Z,320nm,13.2s,MS4.8
TKM2 Tokmak 2 77.66 14 P **P 17 23 14.9 0.0**
SNR=27
TKM2 Tokmak 2 77.66 14 *i*P **P 17 23 15.4 +0.5**
USP Ospenovka 77.78 13 P **P 17 23 16.1 +0.5**
SNR=36
SOC Sochi 78.01 347 *c i*P **P 17 23 15.6 -1.3**
SOC *e**PP pP 17 23 31.8 +12
SOC *e* 17 26 09.7
SOC *e*PPP 17 28 10.9
SOC *e*S S 17 33 10.1 -0.5
SOC *e* 17 33 37.8
SOC *e*SS SS 17 38 05.6 -6.1
SOC pmax pmax
comp=Z,21nm,1.3s,mb4.9
SOC MLR MLR
comp=Z,264nm,18.0s,MS4.6
CTA Charters Tower 78.75 107 *e*P **P 17 23 21.2 +0.2**
comp=Z,21nm,1.1s,mb5.0
CTA Charters Tower 78.75 107 *e*P **P 17 23 21.2 +0.2**
CTA pmax pmax
comp=Z,21nm,1.1s
CTAO Charters Tower 78.75 107 PFAKE 17 23 30.0 +9.0
CTAO LR LR
comp=Z,1μm,19.0s,MS5.2
GOF Gofitskoye 78.90 350 *e*P **P 17 23 20.0 -1.8**
GOF pmax pmax
comp=Z,47nm,1.3s,mb5.3
ANN Anapa 79.62 346 *e*P **P 17 23 21.3 -4.5**
ANN *e* 17 23 29.8
ANN *e*PPP 17 28 23.0
ANN *e*S S 17 33 18.5 -9.3
ANN pmax pmax
comp=Z,38nm,1.4s,mb5.1
ANN MLR MLR
comp=Z,380nm,19.0s,MS4.8
ENH Enshi 80.36 44 *e*P **P 17 23 29.6 -0.1**
comp=Z,196nm,1.4s,mb5.8
ENH LR LR
comp=Z,880nm,22.0s,MS5.1
MMB Musomiste 80.44 335 *e*P **P 17 23 30.0 -0.2**
SIM Simferopol' 80.49 344 *d i*P **P 17 23 30.3 -0.1**
SIM *e*S S 17 33 34.6 -2.4
SIM *e*PS 17 34 34.0
SIM *e*SS SS 17 38 50.0 +1.1
SIM pmax pmax
comp=Z,58nm,1.0s,mb5.5
USHA Ushuaia 80.57 209 LR LR 17 50 51.2
comp=Z,427nm,19.3s,MS4.8,baz=86,slow=30
VAY Valandovo 80.62 334 *i*P **P 17 23 30.6 -0.6**
BIA Bitola 80.81 334 *i*P **P 17 23 31.8 -0.4**
KKB Krupnik 80.91 335 *e*P **P 17 23 33.0 +0.3**
OHR Ohrid 81.09 333 *i*P **P 17 23 34.3 +0.7**
PGB Panagyurishte 81.14 336 *e*P **P 17 23 33.5 -0.4**
VTS Vitosha 81.51 336 *e*P **P 17 23 35.5 -0.4**
VTS Vitosha 81.51 336 ⇑P **P 17 23 35.6 -0.3**
SKO Skopje 81.60 334 *i*P **P 17 23 36.1 -0.2**
WMQ Urumqi 81.64 22 P **P 17 23 36.7 +0.1**
WMQ AP pP 17 23 41.4 +1.5
WMQ XP sP 17 23 43.7 +2.6
WMQ PP PP 17 26 45.7 +2.6
WMQ S S 17 33 47.5 -1.4
WMQ SS SS 17 39 08.3 +2.3
WMQ AMB AMB
comp=Z,91nm,1.4s,mb5.5
WMQ AMB AMB
comp=Z,768nm,5.1s
WMQ LR LR
comp=N,895nm,18.8s,MS5.2
WMQ LR LR
comp=E,603nm,20.6s,MS5.2
WMQ LR LR
comp=Z,816nm,18.4s,MS5.1
LZH Lanzhou 81.71 37 ⇓P **P 17 23 37.0 +0.1**
LZH AP pP 17 23 40.5 +0.3
LZH XP sP 17 23 41.8 +0.4
LZH PP PP 17 26 45.5 +1.8
LZH SS SS 17 39 11.6 +4.5
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,317nm,8.2s
LZH LR LR
comp=N,1μm,16.5s
LZH LR LR
comp=Z,2μm,18.3s,MS5.4
HARR Harsova 81.88 340 ⇓P **P 17 23 38.0 +0.2**
HARR Harsova 81.88 340 ⇓P **P 17 23 38.0 +0.1**
AB31 Akbulak array 82.13 2 *i*P **P 17 23 38.7 -0.4**
AB31 pmax pmax
comp=Z,22nm,0.9s,mb5.1
GTA Gaotai 82.46 32⇓ *i*P **P 17 23 41.4 +0.5**
GTA AP pP 17 23 45.1 +0.9
GTA XP sP 17 23 47.1 +1.7
GTA PP PP 17 26 54.0 +4.1
GTA S S 17 33 58.0 +0.6
GTA XS sS 17 34 06.7 +3.9
GTA SS SS 17 39 24.3 +6.1
GTA AMB AMB
comp=Z,90nm,0.9s,mb5.7
GTA AMB AMB
comp=Z,451nm,5.7s
GTA LR LR
comp=N,482nm,14.5s,MS5.1
GTA LR LR
comp=E,359nm,15.7s,MS5.1
GTA LR LR
comp=Z,441nm,18.3s,MS4.9
RPZ Rata Peaks 82.73 138 LR LR 17 54 59.4
comp=Z,432nm,18.8s,MS4.8,baz=230,slow=32
XAN Xi'an 82.82 41 P **P 17 23 42.4 -0.4**
XAN AP pP 17 23 51.9 +5.8
XAN XP sP 17 23 56.0 +8.7
XAN AMB AMB
comp=Z,52nm,1.2s,mb5.4
MKAR Makanchi Array 82.84 17 P **P 17 23 42.5 -0.4**
comp=Z,17nm,0.8s,mb5.1,baz=269,slow=6.1,SNR=76
MLR Muntele Rosu 83.20 339 P **P 17 23 44.2 -0.5**
comp=Z,28nm,0.8s,mb5.3,baz=192,slow=3.5,SNR=27
MLR LR LR 18 01 51.3
comp=Z,184nm,19.1s,MS4.5,baz=126,slow=36
MLR Muntele Rosu 83.20 339 ⇑P **P 17 23 44.6 -0.1**
MLR Muntele Rosu 83.20 339 ⇑P **P 17 23 44.6 -0.1**
AKTK Aktyubinsk 83.27 1 P **P 17 23 44.6 -0.5**
AKTO Aktyubinsk 83.27 1 P **P 17 23 44.6 -0.5**
comp=Z,13nm,0.7s,mb5.1,baz=185,slow=2.8,SNR=40
AKTO Aktyubinsk 83.27 1 P **P 17 23 44.6 -0.5**
AKTO pmax pmax
comp=Z,13nm,0.7s,mb5.1
VRI Vrincioaia 83.30 339 ⇑P **P 17 23 45.1 -0.1**
VRI Vrincioaia 83.30 339 ⇑P **P 17 23 45.1 -0.1**
PLOR Plostina 83.31 339 ⇓P **P 17 23 45.0 -0.3**
VOIR 83.43 338 ⇑P **P 17 23 45.0 -0.9**
VOIR 83.43 338 ⇑P **P 17 23 45.0 -0.8**
WHN Wuhan 83.47 47 ⇑P **P 17 23 46.8 +0.7**
GRUS Gruza 83.53 335 *i*P **P 17 23 45.1 -1.3**
SVIS Svilajnac 83.70 335 ⇑*i*P **P 17 23 47.2 0.0**
KIS Kishinev 83.74 341 *e*P **P 17 23 47.0 -0.5**
KIS *e* pP 17 23 52.0 +1.2
DIVS Divcibare 83.97 334 *i*P **P 17 23 48.8 +0.2**
BEO Belgrade 84.43 335 *e*P **P 17 23 51.7 +0.7**
BZS Buzias 84.71 336 ⇑P **P 17 23 52.1 -0.3**
BZS Buzias 84.71 336 ⇑P **P 17 23 52.1 -0.3**
VRHR Novokhopersk 85.00 350 *e*P **P 17 23 53.3 -0.6**
VRHR pmax pmax
comp=Z,40nm,0.9s,mb5.5
VRHR pmax pmax
comp=N,30nm,1.6s
VRHR pmax pmax
comp=E,30nm,1.6s
PMG Port Moresby 85.13 98⇑ *e*P **P 17 23 55.0 +0.5**

PMG Port Moresby 85.13 98 PFAKE 17 24 10.0 +15
PMG LR LR
comp=Z,752nm,19.0s,MS5.1
BURAR Bucovina Array 85.33 339 ⇓P **P 17 23 55.8 +0.3**
KURK Kurchatov 85.72 14 P **P 17 23 57.4 -0.1**
comp=Z,204nm,1.2s,mb6.2,SNR=35
KURK Kurchatov 85.72 14 *e*P **P 17 23 57.0 -0.5**
KURK pmax pmax
comp=Z,49nm,1.1s,mb5.7
KURK MLR MLR
comp=Z,339nm,19.0s,MS4.8
KURK Kurchatov 85.72 14 *e*P **P 17 23 57.0 -0.5**
comp=Z,49nm,1.1s,mb5.7
KURK LR LR
comp=Z,339nm,19.0s,MS4.8
PKSM Moragy 86.27 334 ⇓P **P 17 23 59.5 -0.7**
ZRNK Zerenda 86.43 7 P **P 17 24 01.1 +0.1**
ZRNK pmax pmax
comp=Z,109nm,1.7s,mb5.8
ZRNK Zerenda 86.43 7 *e*P **P 17 24 00.4 -0.6**
comp=Z,93nm,1.3s,mb5.9
VOSK Vostochnaya 86.44 9 P **P 17 24 00.2 -0.8**
VOSK pmax pmax
comp=Z,68nm,1.6s,mb5.6
BVA0 Borovoye Array 86.66 8 *i* P **P 17 24 01.6 -0.5**
BVA0 pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
BVAR Borovoye Array 86.66 8 P **P 17 24 01.6 -0.5**
comp=Z,28nm,0.7s,mb5.6,baz=179,slow=6.0,SNR=162
BRVK Borovoye 86.68 8 P **P 17 24 01.8 -0.4**
comp=Z,320nm,0.9s,mb6.5,SNR=24
BRVK Borovoye 86.68 8 *e*P **P 17 24 01.1 -1.1**
BRVK pmax pmax
comp=Z,31nm,0.9s,mb5.5
BRVK MLR MLR
comp=Z,208nm,20.0s,MS4.5
BRVK Borovoye 86.68 8 *e*P **P 17 24 01.1 -1.1**
comp=Z,30nm,0.9s,mb5.5
BRVK LR LR
comp=Z,208nm,20.0s,MS4.5
BOJS Bojanci 86.95 332 *e*P **P 17 24 02.5 -1.1**
AKASG Malin Array Be 87.04 343 P **P 17 24 03.0 -1.0**
comp=Z,13nm,0.7s,mb5.2,baz=168,slow=4.6,SNR=59
UZH Uzhgorod 87.13 338 *e*P **P 17 24 04.0 -0.4**
UZH *e*S 17 34 36.0
PGF Pioggiola 87.24 327 *e*P **P 17 24 04.6 -0.3**
PSZ Piszkesteto 87.30 336 ⇑*i*sP **P 17 24 04.6 -0.6**
PSZ Piszkesteto 87.30 336 *e*P **P 17 24 03.6 -1.6**
PSZ pmax pmax
comp=Z,38nm,1.3s,mb5.5
PSZ Piszkesteto 87.30 336 *e*P **P 17 24 03.6 -1.6**
comp=Z,38nm,1.3s,mb5.5
NJ2 Nanjing 87.30 49 *e*P **P 17 24 06.2 +1.0**
NJ2 AP pP 17 24 11.0 +2.4
NJ2 XP sP 17 24 13.2 +3.4
NJ2 PP PP 17 27 32.9 +3.6
NJ2 S 17 34 44.0
NJ2 XS sS 17 34 52.0 +1.0
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,310nm,6.9s
NJ2 LR LR
comp=N,1µm,16.6s,MS5.6
NJ2 LR LR
comp=E,1µm,16.6s,MS5.6
NJ2 LR LR
comp=Z,870nm,15.4s,MS5.3
KOLS Kolonicke sedl 87.41 338 *e*P **P 17 24 05.8 +0.1**
DOBS Dobrina 87.41 333 *e*P **P 17 24 05.5 -0.2**
KECS Kecovo 87.59 337 *i* P **P 17 24 06.0 -0.6**
CRVS Cervenica-Dubn 87.64 337 *e*P **P 17 24 07.6 +0.8**
LVV L'vov 87.65 339 *e*P **P 17 24 05.6 -1.3**
LVV *e*S 17 34 47.0
LVV MLR MLR
comp=Z,100nm,20.0s,MS4.2
SRO2 Moca 87.69 335 *e*P **P 17 24 07.3 +0.2**
SRO1 Iza 87.74 335 *e*P **P 17 24 07.5 +0.1**
SRO Srobarova 87.76 335 *e*P **P 17 24 06.8 -0.6**
KWP Kalwaria 87.89 339 *e*P **P 17 24 07.6 -0.4**
PERS Pernice 87.95 333 *e*P **P 17 24 08.6 +0.3**
OBKA Obir 88.06 332 *i* P **P 17 24 09.5 +0.6**
comp=Z,70nm,0.9s,mb5.9,SNR=17
STHS Stebnicka Huta 88.16 338 *i* P **P 17 24 09.2 -0.1**
STHS *es*P sP 17 24 14.6 +0.7
VYHS Vyhne 88.16 336 *e*P **P 17 24 09.0 -0.3**
SSE Sheshan 88.16 51 P **P 17 24 10.1 +0.8**
SSE AP pP 17 24 13.5 +0.8
SSE XP sP 17 24 14.7 +0.8
SSE S 17 34 55.0
SSE XS sS 17 35 01.1 +1.9
SSE SS SS 17 40 45.7 +3.6
SSE AMB AMB
comp=Z,32nm,0.9s,mb5.5
SSE AMB AMB
comp=Z,383nm,6.6s
SSE LR LR
comp=N,113nm,22.4s,MS4.4
SSE LR LR
comp=E,113nm,22.4s,MS4.4
SSE LR LR
comp=Z,181nm,24.6s,MS4.4
ETOS Mallorca 88.18 321 P **P 17 24 09.2 -0.2**
comp=Z,120nm,1.6s,mb5.9
ROBS Robic 88.25 332 *e*P **P 17 24 09.7 -0.1**
SOP Sopron 88.28 334 ⇓*i*sP **P 17 24 09.7 -0.2**
SOP Sopron 88.28 334 ⇓*e*P **P 17 24 09.7 -0.2**
BTO Baotou 88.28 38 *e*P **P 17 24 08.9 -1.0**
ARSA Arzberg 88.30 333 ⇑*i*P **P 17 24 09.1 -0.9**
comp=Z,50nm,1.6s,mb5.5
NIE Niedzica 88.46 337 *e*P **P 17 24 14.1 +3.3**
ZST Bratislava 88.51 335 *e*P **P 17 24 10.8 -0.2**
ENIJ Nijar 88.95 317 P **P 17 24 14.6 +1.5**
ENIJ pmax pmax
comp=Z,14nm,1.0s,mb5.2
ENIJ Nijar 88.95 317 P **P 17 24 14.6 +1.5**
comp=Z,14nm,1.0s,mb5.2
KBA Koelnbreinsper 89.00 332 ⇑*i*P **P 17 24 13.7 +0.3**
comp=Z,34nm,1.1s,mb5.6,SNR=6.8
EMUR La Murta 89.00 318 P **P 17 24 14.4 +1.1**
comp=Z,60nm,2.3s,mb5.5
FRF La Foret Royal 89.11 326 *e*P **P 17 24 13.4 -0.4**
comp=Z,74nm,1.2s,mb5.6
FRF La Foret Royal 89.11 326 *e*P **P 17 24 13.4 -0.4**
FRF pmax pmax
comp=Z,37nm,1.2s,mb5.6
FRF La Foret Royal 89.11 326 *e*P **P 17 24 13.4 -0.4**
comp=Z,37nm,1.2s,mb5.6
TRQA Tornquist 89.16 224 *e*P **P 17 24 13.3 -0.7**
comp=Z,37nm,1.3s,mb5.5
TRQA LR LR
comp=Z,531nm,19.0s,MS5.0
RCBR Riachuelo 89.20 264 *e*P **P 17 24 16.7 +2.4**
comp=Z,87nm,1.3s,mb5.9
RCBR LR LR
comp=Z,526nm,20.0s,MS5.0
HHC Hu-ho-hao-te 89.26 38 *e*P **P 17 24 14.4 -0.1**
HHC AP pP 17 24 19.2 +1.3
HHC XP sP 17 24 21.4 +2.3
HHC PP PP 17 27 48.7 +3.7
HHC SKS 17 34 42.5
HHC S 17 35 03.7
HHC XS sS 17 35 10.6 +1.0
HHC SS SS 17 41 02.9 +4.8
HHC AMB AMB
comp=Z,31nm,1.0s,mb5.6
HHC LR LR
comp=N,320nm,11.3s
HHC LR LR
comp=E,538nm,19.6s
HHC LR LR
comp=Z,344nm,13.2s,MS5.0
MOA Molln 89.28 333 *i* P **P 17 24 15.0 +0.4**
comp=Z,50nm,1.1s,mb5.8,SNR=13
ARU Arti 89.28 1 P **P 17 24 14.8 +0.2**
comp=Z,291nm,0.9s,SNR=15
ARU Arti 89.28 1 ⇓*i*P **P 17 24 14.2 -0.4**
ARU *e* 17 27 44.2
ARU *e*PPP 17 29 41.6
ARU *e*S 17 34 41.0
ARU *e*SS SS 17 40 51.4 -7.1
ARU *e*SSS 17 44 33.2
ARU pmax pmax
comp=Z,47nm,0.9s,mb5.8
ARU MLR MLR
comp=Z,200nm,17.0s,MS4.6
ARU MLR MLR
comp=N,100nm,16.0s,MS4.5
ARU MLR MLR
comp=E,100nm,18.0s,MS4.5
ARU Arti 89.28 1 *e*P **P 17 24 14.1 -0.5**
comp=E,92nm,1.3s,mb6.0
ARU LR LR
comp=Z,311nm,19.0s,MS4.8
EBER Berja 89.29 316 P **P 17 24 16.5 +1.8**
comp=Z,25nm,1.0s,mb5.5
OJC Ojcow 89.32 337 *e*P **P 17 24 14.1 -0.7**
OKC Ostrava-Krasne 89.54 336 *e*P **P 17 24 15.2 -0.6**
OKC *ep*P pP 17 24 19.8 +0.6
VRAC Vranov 89.63 335 P **P 17 24 16.2 -0.1**
comp=Z,7.9nm,1.1s,mb5.0,baz=162,slow=9.3,SNR=9.7
VRAC Vranov 89.63 335 P **P 17 24 16.2 -0.1**
VRAC pmax pmax
comp=Z,8.0nm,1.1s
VRAC Vranov 89.63 335 ⇑P **P 17 24 16.5 +0.3**
OBN Obninsk 89.67 348 *ce*P **P 17 24 16.7 +0.2**
OBN *e*S 17 34 42.4
OBN *e*SS SS 17 40 58.3 -5.9
OBN pmax pmax
comp=Z,79nm,1.6s,mb5.8
OBN Obninsk 89.67 348 *e*P **P 17 24 16.1 -0.4**
comp=Z,102nm,1.4s,mb6.0
OBN LR LR
comp=Z,289nm,20.0s,MS4.7
MORC Moravsky Berou 89.69 336 *e*P **P 17 24 16.1 -0.5**
MORC pmax pmax
comp=Z,30nm,1.3s,mb5.5
MORC Moravsky Berou 89.69 336 *e*P **P 17 24 16.1 -0.5**
comp=Z,30nm,1.3s,mb5.5
EHUE Huescar 89.75 317 P **P 17 24 17.5 +0.7**
EHUE pmax pmax
comp=Z,36nm,1.4s,mb5.5
EHUE Huescar 89.75 317 P **P 17 24 17.5 +0.7**
comp=Z,36nm,1.4s,mb5.5
URZ Urewera 89.77 137 LR LR 17 55 48.7
comp=Z,189nm,20.4s,MS4.5,baz=272,slow=30
WATA Walderalm 89.92 331 *i* P **P 17 24 17.9 +0.3**
comp=Z,45nm,1.3s,mb5.6,SNR=9.9
ECOG Cogollos-Vega 89.95 316 P **P 17 24 19.5 +1.8**
ECOG pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
ECOG Cogollos-Vega 89.95 316 P **P 17 24 19.5 +1.8**
comp=Z,7.5nm,0.8s,mb5.1
MBDF Montbardon 89.95 327 *e*P **P 17 24 18.2 +0.4**
comp=Z,58nm,1.0s,mb5.6
MBDF Montbardon 89.95 327 *e*P **P 17 24 18.2 +0.4**
MBDF pmax pmax
comp=Z,29nm,1.0s,mb5.6
MBDF Montbardon 89.95 327 *e*P **P 17 24 18.2 +0.4**
comp=Z,29nm,1.0s,mb5.6
SQTA Sankt Quirin 89.98 331 ⇓*i*P **P 17 24 18.3 +0.4**
comp=Z,51nm,1.4s,mb5.7
EQES Quesada 90.02 317 P **P 17 24 18.5 +0.4**
comp=Z,29nm,1.2s,mb5.5
ZAL Zalesovo 90.07 16 P **P 17 24 16.9 -1.4**
comp=Z,2.7nm,0.7s,mb4.7,baz=281,slow=4.6,SNR=17
MOS Moscow 90.10 349 *e*P **P 17 24 17.2 -1.3**
MOS *e*S 17 34 44.9
MOS pmax pmax
comp=Z,48nm,0.9s,mb5.8
EJON La Jonquera 90.11 323 P **P 17 24 18.6 +0.1**
comp=Z,136nm,2.1s,mb5.9
MOTA Moosalm 90.12 331 ⇑*i*P **P 17 24 18.9 +0.4**
comp=Z,52nm,1.3s,mb5.7,SNR=9.8
EBR Ebro Roquetas 90.16 321 *e*P **P 17 24 17.0 -1.8**
EMIJ Mijas 90.17 315 P **P 17 24 18.5 -0.3**
comp=Z,13nm,0.9s,mb5.2
DAVOX Davos 90.18 330 P **P 17 24 18.9 0.0**
comp=Z,12nm,1.0s,mb5.2,baz=201,slow=6.9,SNR=7.1
ELOJ Sierra Loja 90.20 316 P **P 17 24 20.5 +1.6**
ELOJ pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
ELOJ Sierra Loja 90.20 316 P **P 17 24 20.5 +1.6**
comp=Z,2.5nm,0.5s,mb4.8
EVIA Vianos 90.27 318 P **P 17 24 19.7 +0.4**
EVIA pmax pmax
comp=Z,21nm,0.9s,mb5.5
EVIA Vianos 90.27 318 P **P 17 24 19.7 +0.5**
comp=Z,21nm,0.9s,mb5.5
GEC2 GERESS Array S 90.31 333 *e*P **P 17 24 18.9 -0.5**
comp=Z,35nm,1.5s,mb5.5
GEC2 GERESS Array S 90.31 333 *e*P **P 17 24 18.9 -0.5**
GEC2 pmax pmax
comp=Z,35nm,1.5s,mb5.5
GERES GERESS Array B 90.31 333 P **P 17 24 18.3 -1.1**
comp=Z,7.1nm,1.1s,mb4.9,baz=156,slow=4.2,SNR=23
GERES LR LR 18 02 08.9
comp=Z,197nm,20.9s,MS4.5,baz=319,slow=34
ERTA Horta de San J 90.35 321 P **P 17 24 20.1 +0.5**
comp=Z,101nm,3.1s
EMOS Mosqueruela 90.36 320 P **P 17 24 20.2 +0.6**
comp=Z,19nm,3.5s
ORIF Oris-en-Rattie 90.51 326 *e*P **P 17 24 20.4 +0.1**
comp=Z,30nm,1.1s,mb5.3
ORIF *e*R
comp=Z,404nm,20.5s
ORIF Oris-en-Rattie 90.51 326 *e*P **P 17 24 20.4 +0.1**
ORIF pmax pmax
comp=Z,15nm,1.0s,mb5.3
ORIF Oris-en-Rattie 90.51 326 *e*P **P 17 24 20.4 +0.1**
comp=Z,15nm,1.0s,mb5.3
EJIF Jimena Fronter 90.51 314 P **P 17 24 20.9 +0.5**
EJIF pmax pmax
comp=Z,15nm,0.9s,mb5.3
EJIF Jimena Fronter 90.51 314 P **P 17 24 20.9 +0.5**
comp=Z,15nm,0.9s,mb5.3
ELUQ Luque 90.55 316 P **P 17 24 20.3 -0.2**
ELUQ pmax pmax
comp=Z,118nm,4.1s
ELUQ Luque 90.55 316 P **P 17 24 20.3 -0.2**
comp=Z,118nm,4.1s
LPG La Plagne 90.55 327 *e*P **P 17 24 21.4 +0.9**
comp=Z,59nm,1.4s,mb5.4
LPG La Plagne 90.55 327 *e*P **P 17 24 21.4 +0.9**
LPG pmax pmax
comp=Z,29nm,1.4s,mb5.4
LPG La Plagne 90.55 327 *e*P **P 17 24 21.4 +0.9**
comp=Z,29nm,1.4s,mb5.4
NVS Novosibirsk 90.56 15 *e*P **P 17 24 15.2 -5.4**
NVS pmax pmax
comp=Z,40nm,2.5s,mb5.3
NVS pmax pmax
comp=N,21nm,2.2s
NVS pmax pmax
comp=E,10.0nm,1.8s
LPL La Plagne 90.57 327 *e*P **P 17 24 20.1 -0.6**
DAVA Damuels 90.58 330 ⇑*i*P **P 17 24 20.9 +0.2**
comp=E,25nm,1.1s,mb5.4
KHC Kasperske Hory 90.59 333 *e*P **P 17 24 20.1 -0.6**
KHC *ep*P pP 17 24 25.7 +1.6
KHC *ex* x 17 24 33.7
KHC *ex* x 17 25 05.5
KHC Kasperske Hory 90.59 333 *e*P **P 17 24 20.1 -0.6**
KHC *e**PP pP 17 24 25.7 +1.6
KHC Kasperske Hory 90.59 333 ⇑*e*P **P 17 24 20.3 -0.4**
DPC Dobruska-Polom 90.60 335 *e*P **P 17 24 20.5 -0.3**
DPC *ep*P pP 17 24 25.8 +1.7
EBAN Banos Encina 90.68 317 P **P 17 24 21.3 +0.1**
EBAN pmax pmax
comp=Z,153nm,2.9s,mb5.8
EBAN Banos Encina 90.68 317 P **P 17 24 21.3 +0.1**
comp=Z,153nm,2.9s,mb5.8
FUR Furstenfeldbru 90.70 331 *e*P **P 17 24 22.0 +0.7**
comp=Z,100nm,1.2s,mb6.0
FUR Furstenfeldbru 90.70 331 *e*P **P 17 24 22.0 +0.7**
FUR pmax pmax
comp=Z,100nm,1.2s,mb6.0
LASF Ste Croix 90.83 325 *e*P **P 17 24 22.0 +0.1**
comp=Z,199nm,1.4s,mb6.0
UPC Upice 90.84 335 *e*P **P 17 24 22.1 +0.2**
UPC *ep*P pP 17 24 26.9 +1.6
WET Wettzell 90.87 333 *e*P **P 17 24 21.3 -0.7**
comp=Z,24nm,1.3s,mb5.4
WET Wettzell 90.87 333 *e*P **P 17 24 21.3 -0.7**
WET pmax pmax
comp=Z,24nm,1.3s,mb5.4
PRU Pruhonice 90.94 334 *e*P **P 17 24 22.3 -0.1**
PRU *ep*P pP 17 24 26.9 +1.2
ESPR Espera 91.02 315 P **P 17 24 24.0 +1.2**
comp=Z,6.6nm,0.7s,mb5.1
VIVF Saint-Julien-l 91.02 326 *e*P **P 17 24 22.7 -0.1**
comp=Z,89nm,1.3s,mb5.6
VIVF Saint-Julien-l 91.02 326 *e*P **P 17 24 22.7 -0.1**
VIVF pmax pmax
comp=Z,44nm,1.3s,mb5.6
VIVF Saint-Julien-l 91.02 326 *e*P **P 17 24 22.7 -0.1**
comp=Z,44nm,1.3s,mb5.6
KSP Ksiaz 91.03 336 *e*P **P 17 24 22.9 +0.1**
KSP Ksiaz 91.03 336 *e*P **P 17 24 22.7 -0.1**
KSP *e*SKS 17 34 55.0
MTLF Montolieu 91.10 323 *e*P **P 17 24 23.1 0.0**
comp=Z,125nm,1.4s,mb5.8
MTLF Montolieu 91.10 323 *e*P **P 17 24 23.1 0.0**
MTLF pmax pmax
comp=Z,62nm,1.4s,mb5.8
MTLF Montolieu 91.10 323 *e*P **P 17 24 23.1 0.0**
comp=Z,62nm,1.4s,mb5.8
BJT Baijiatuau 91.14 41 PFAKE 17 24 30.0 +6.7
BJT LR LR
comp=Z,471nm,21.0s,MS4.9
EADA Adamuz 91.14 316 P **P 17 24 22.5 -0.8**
comp=Z,19nm,2.7s,mb4.9
BJI Beijing 91.16 41 P **P 17 24 21.7 -1.7**
BJI LR LR
comp=N,587nm,25.6s,MS5.0
BJI LR LR
comp=E,452nm,25.6s,MS5.0
BJI LR LR
comp=Z,353nm,25.7s,MS4.7
PVCC Panska Ves 91.37 335 *e*P **P 17 24 24.6 +0.2**
ECAB El Cabril 91.57 316 P **P 17 24 26.8 +1.5**
comp=Z,28nm,2.5s,mb5.1
SUW Suwalki 91.62 341 *e*P **P 17 24 24.6 -0.9**
ROTZ Rotzenmuhle 91.63 333 *e*P **P 17 24 25.4 -0.2**
comp=Z,26nm,1.6s,mb5.3
CABF La Chapelle 91.70 328 *e*P **P 17 24 25.5 -0.4**
ESDC Sonseca Array 91.81 318 P **P 17 24 26.6 +0.2**
comp=Z,15nm,1.1s,mb5.2,baz=127,slow=3.7,SNR=44
ESDC Sonseca Array 91.81 318 P **P 17 24 27.3 +0.9**
comp=Z,8.3nm,0.9s,mb5.1
ESLA Sonseca Array 91.81 318 *e*P **P 17 24 26.4 0.0**
comp=Z,6.2nm,1.1s,mb4.8
ESLA LR LR
comp=Z,2µm,20.0s,MS5.5
EPF Esparros 91.82 322 *e*P **P 17 24 25.5 -1.0**
MANZ Manzenberg 91.84 333 *e*P **P 17 24 26.7 +0.1**
comp=Z,13nm,1.1s,mb5.2
BRG Berggiesshubel 91.88 334 *e*P **P 17 24 26.9 +0.2**
comp=Z,38nm,1.5s,mb5.5
BRG Berggiesshubel 91.88 334 *e*P **P 17 24 27.1 +0.4**
BRG 17 35 02.0
BRG S 17 35 33.0
BRG SS SS 17 41 46.0 +10
BRG pmax pmax
comp=Z,23nm,1.5s,mb5.3
BRG Berggiesshubel 91.88 334 *e*P **P 17 24 27.1 +0.3**
comp=Z,23nm,1.5s,mb5.3
BRG SKS 17 35 02.0
BRG S 17 35 33.0
BRG SS SS 17 41 46.0 +10
PLCA Paso Flores 91.91 217 P **P 17 24 26.9 0.0**
comp=Z,9.6nm,1.2s,mb5.0,baz=125,slow=8.6,SNR=6.1
PLCA LR LR 17 56 38.4
comp=Z,375nm,21.4s,MS4.8,baz=128,slow=30
PLCA Paso Flores 91.91 217 P **P 17 24 26.9 0.0**
PLCA pmax pmax
comp=Z,10.0nm,1.2s
PLCA MLR MLR
comp=Z,375nm,21.4s
PLCA Paso Flores 91.91 217 *e*P **P 17 24 26.1 -0.8**
comp=Z,12nm,1.2s,mb5.1
PLCA LR LR
comp=Z,493nm,20.0s,MS5.0
NKC Novy Kostel 91.91 333 *e*P **P 17 24 27.3 +0.4**
NKC *ep*P pP 17 24 32.5 +2.3
GRA1 Grafenberg Arr 91.95 332 *e*P **P 17 24 27.3 +0.3**
comp=Z,48nm,1.3s,mb5.7
GRF Grafenberg Arr 91.95 332 *e*P **P 17 24 27.3 +0.3**
comp=Z,48nm,1.3s,mb5.7
GRF Grafenberg Arr 91.95 332 *e*P **P 17 24 27.3 +0.3**
GRF pmax pmax
comp=Z,48nm,1.3s,mb5.7
STU Stuttgart 92.03 331 *e*P **P 17 24 27.5 +0.1**
comp=Z,30nm,1.4s,mb5.4
SONM Songino Array 92.04 31 P **P 17 24 26.4 -1.1**
comp=Z,5.5nm,0.8s,mb5.0,baz=218,slow=3.8,SNR=31
SONM PKKPbc PKKPbc 17 41 44.1 +0.4
comp=Z,1.3nm,1.1s,baz=286,slow=1.1,SNR=4.3
SONM LR LR 18 03 09.3
comp=Z,618nm,18.9s,MS5.1,baz=40,slow=34
SONM Songino Array 92.04 31 P **P 17 24 26.4 -1.1**
SONM 17 41 44.1
BFO Black Forest 92.05 330 *e*P **P 17 24 27.8 +0.3**
comp=Z,29nm,1.5s,mb5.4
BFO Black Forest 92.05 330 *e*P **P 17 24 27.8 +0.3**
BFO pmax pmax
comp=Z,29nm,1.5s,mb5.4
EMIN Mina Concepcio 92.11 315 P **P 17 24 28.1 +0.3**
comp=Z,18nm,1.0s,mb5.4
WERD Werda 92.14 333 *e*P **P 17 24 28.0 +0.1**
comp=Z,35nm,1.4s,mb5.5
ETSF Etsaut 92.19 322 *e*P **P 17 24 28.5 +0.3**
comp=Z,46nm,1.2s,mb5.4
ETSF Etsaut 92.19 322 *e*P **P 17 24 28.5 +0.3**
ETSF pmax pmax
comp=Z,23nm,1.2s,mb5.4
ETSF Etsaut 92.19 322 *e*P **P 17 24 28.5 +0.3**
comp=Z,23nm,1.2s,mb5.4
HINF Hinteralfeld 92.28 329 *e*P **P 17 24 28.1 -0.5**
comp=Z,11nm,0.9s,mb4.9
HINF Hinteralfeld 92.28 329 *e*P **P 17 24 28.1 -0.5**
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
HINF Hinteralfeld 92.28 329 *e*P **P 17 24 28.1 -0.5**
comp=Z,5.3nm,0.9s,mb4.9
CAF Calviac 92.33 324 *e*P **P 17 24 28.9 +0.1**
comp=Z,69nm,1.3s,mb5.5
CAF Calviac 92.33 324 *e*P **P 17 24 28.9 +0.1**
CAF pmax pmax
comp=Z,34nm,1.3s,mb5.5
CAF Calviac 92.33 324 *e*P **P 17 24 28.9 +0.1**
comp=Z,34nm,1.3s,mb5.5
ULN Ulaanbaatar 92.35 31 *e*P **P 17 24 27.9 -1.0**
ULN pmax pmax
comp=Z,12nm,0.8s,mb5.3
ULN MLR MLR
comp=Z,360nm,20.0s,MS4.8
ULN Ulaanbaatar 92.35 31 *e*P **P 17 24 27.9 -1.0**
comp=Z,12nm,0.8s,mb5.3
ULN LR LR
comp=Z,360nm,20.0s,MS4.8
SOKR Solikamsk 92.42 360 *e*P **P 17 24 28.9 -0.3**
SOKR pmax pmax
comp=Z,50nm,1.7s,mb5.6
EGRO El Granado 92.44 314 P **P 17 24 28.9 -0.4**
comp=Z,39nm,2.4s,mb5.3
CDF Champ du Feu 92.55 329 *e*P **P 17 24 28.7 -1.1**
comp=Z,7.2nm,0.8s,mb4.9
CDF Champ du Feu 92.55 329 *e*P **P 17 24 28.7 -1.1**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
CDF Champ du Feu 92.55 329 *e*P **P 17 24 28.7 -1.1**
comp=Z,3.6nm,0.8s,mb4.8
MOX Moxa 92.56 333 *e*P **P 17 24 30.1 +0.2**
comp=Z,28nm,1.5s,mb5.5
MOX Moxa 92.56 333 *e*P **P 17 24 29.9 0.0**
comp=Z,29nm,1.6s,mb5.5
MOX
comp=Z,200nm,18.0s
MOX Moxa 92.56 333 *e*P **P 17 24 29.9 0.0**
MOX pmax pmax
comp=Z,29nm,1.6s,mb5.5
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.6
GUD Guadarrama 92.57 318 P **P 17 24 29.9 0.0**
GUD pmax pmax
comp=Z,131nm,3.0s
GUD Guadarrama 92.57 318 P **P 17 24 29.9 0.0**
comp=Z,131nm,3.0s
CLL Collm 92.58 334 *e*P **P 17 24 30.0 0.0**
comp=Z,36nm,1.6s,mb5.5
CLL *e*PP PP 17 28 11.5 +0.2
CLL *e*S 17 35 34.6
CLL *e*SS SS 17 41 49.2 +3.1
CLL *e*LR LR 17 56 27.3
CLL *e*L 18 10 10.2
comp=Z,223nm,18.0s

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CLL  Collm          92.58 334⇑iP        P      17 24 30.0  0.0
     comp=Z,35nm,1.6s,mb5.5
CLL                           i sP       pP     17 24 34.3 +1.0
CLL                           ePP        PP     17 28 11.0 -0.3
CLL                           eSS        SS     17 41 54.0 +7.9
CLL  Collm          92.58 334⇑iP        P      17 24 30.0  0.0
CLL                           i *PP      pP     17 24 34.3 +1.0
CLL                           pmax       pmax
     comp=Z,35nm,1.6s,mb5.5
CLL  Collm          92.58 334⇑iP        P      17 24 30.0  0.0
     comp=Z,35nm,1.6s,mb5.5
CLL                           i pP       pP     17 24 34.3 +1.0
HAU  Haudompre      92.64 329 eP        P      17 24 30.1 -0.1
     comp=Z,17nm,1.0s,mb5.1
HAU                           eR
     comp=Z,212nm,19.2s
HAU  Haudompre      92.64 329 eP        P      17 24 30.1 -0.1
HAU                           pmax       pmax
     comp=Z,8.0nm,1.0s,mb5.1
HAU                           MLR        MLR
     comp=Z,210nm,19.3s,MS4.6
HAU  Haudompre      92.64 329 eP        P      17 24 30.1 -0.1
     comp=Z,8.4nm,1.0s,mb5.1
HAU                           LR         LR
     comp=Z,210nm,19.3s,MS4.6
SJPF Ste Jean       92.69 321 eP        P      17 24 30.8 +0.3
     comp=Z,55nm,1.1s,mb5.6
SJPF Ste Jean       92.69 321 eP        P      17 24 30.8 +0.3
SJPF                          pmax       pmax
     comp=Z,28nm,1.1s,mb5.6
SJPF Ste Jean       92.69 321 eP        P      17 24 30.8 +0.3
     comp=Z,28nm,1.1s,mb5.6
SMF  Signal de Mont 92.75 327 eP        P      17 24 30.0 -0.7
     comp=Z,61nm,1.4s,mb5.5
SMF  Signal de Mont 92.75 327 eP        P      17 24 30.0 -0.7
SMF                           pmax       pmax
     comp=Z,30nm,1.4s,mb5.5
SMF  Signal de Mont 92.75 327 eP        P      17 24 30.0 -0.7
     comp=Z,30nm,1.4s,mb5.5
GKP  Gorka Klasztor 92.75 337 eP        P      17 24 30.8  0.0
ZAK  Zakamensk      92.76  28 eP        P      17 24 26.5 -4.3
ZAK                           pmax       pmax
     comp=Z,21nm,1.8s,mb5.3
RJF  Les Rejaudoux  92.87 324 eP        P      17 24 31.5 +0.2
     comp=Z,74nm,1.4s,mb5.6
RJF                           eR
     comp=Z,287nm,19.0s
RJF  Les Rejaudoux  92.87 324 eP        P      17 24 31.5 +0.2
RJF                           pmax       pmax
     comp=Z,37nm,1.4s,mb5.6
RJF                           MLR        MLR
     comp=Z,290nm,19.0s,MS4.8
RJF  Les Rejaudoux  92.87 324 eP        P      17 24 31.5 +0.2
     comp=Z,37nm,1.4s,mb5.6
RJF                           LR         LR
     comp=Z,290nm,19.0s,MS4.8
MOY  Mondy          92.94  26 eP        P      17 24 30.0 -1.6
EBAD Badajoz        92.96 315 P         P      17 24 31.8 +0.1
     comp=Z,20nm,1.2s,mb5.4
PBEJ Beja           92.99 314 eP        P      17 24 32.8 +1.0
     comp=Z,35nm,1.4s,mb5.6
AVF  Avril sur Loir 93.08 326 eP        P      17 24 31.4 -0.9
BGF  Bois d'Agland  93.14 326 eP        P      17 24 32.3 -0.3
     comp=Z,45nm,1.0s,mb5.5
BGF  Bois d'Agland  93.14 326 eP        P      17 24 32.3 -0.3
BGF                           pmax       pmax
     comp=Z,23nm,1.0s,mb5.6
BGF  Bois d'Agland  93.14 326 eP        P      17 24 32.3 -0.3
     comp=Z,23nm,1.0s,mb5.5
LOR  Lormes         93.20 327 eP        P      17 24 32.3 -0.5
     comp=Z,47nm,1.2s,mb5.5
LOR                           eR
     comp=Z,281nm,17.0s
LOR  Lormes         93.20 327 eP        P      17 24 32.3 -0.5
LOR                           pmax       pmax
     comp=Z,24nm,1.2s,mb5.5
LOR                           MLR        MLR
     comp=Z,280nm,17.0s,MS4.8
LOR  Lormes         93.20 327 eP        P      17 24 32.3 -0.5
     comp=Z,24nm,1.2s,mb5.5
LOR                           LR         LR
     comp=Z,280nm,17.0s,MS4.8
SSF  Saint Saulge   93.21 327 eP        P      17 24 32.1 -0.8
     comp=Z,15nm,0.9s,mb5.1
SSF  Saint Saulge   93.21 327 eP        P      17 24 32.1 -0.8
SSF                           pmax       pmax
     comp=Z,7.0nm,0.9s,mb5.1
SSF  Saint Saulge   93.21 327 eP        P      17 24 32.1 -0.8
     comp=Z,7.3nm,0.9s,mb5.1
TCF  Toulx Ste Croi 93.25 325 eP        P      17 24 33.0  0.0
     comp=Z,58nm,1.4s,mb5.5
TCF  Toulx Ste Croi 93.25 325 eP        P      17 24 33.0  0.0
TCF                           pmax       pmax
     comp=Z,29nm,1.4s,mb5.5
TCF  Toulx Ste Croi 93.25 325 eP        P      17 24 33.0  0.0
     comp=Z,29nm,1.4s,mb5.5
RUE  Ruedersdorf    93.26 335 eP        P      17 24 32.9 -0.2
     comp=Z,10.0nm,0.5s,mb5.5
TNS  Taunus Mts     93.47 331 eP        P      17 24 34.1  0.0
     comp=Z,14nm,1.1s,mb5.3
TNS  Taunus Mts     93.47 331 eP        P      17 24 34.1  0.0
TNS                           pmax       pmax
     comp=Z,14nm,1.1s,mb5.3
BDFB Brasilia       93.56 249 P         P      17 24 35.7 +1.2
     comp=Z,4.3nm,0.6s,mb5.1,baz=290,slow=3.0,SNR=5.2
BDFB                          LR         LR     18 01 12.9
     comp=Z,450nm,18.3s,MS5.0,baz=135,slow=32
MEZF Maizieres J'vi 93.58 328 eP        P      17 24 34.1 -0.5
CPUP Villa Florida  93.93 235 P         P      17 24 37.5 +1.3
     comp=Z,11nm,1.2s,mb5.2,baz=124,slow=3.6,SNR=3.0
CPUP                          LR         LR     18 00 26.3
     comp=Z,138nm,18.6s,MS4.4,baz=127,slow=31
CLZ  Clausthal      93.99 333 eP        P      17 24 36.2 -0.2
     comp=Z,34nm,1.5s,mb5.6
CLZ  Clausthal      93.99 333 eP        P      17 24 36.2 -0.2
CLZ                           pmax       pmax
     comp=Z,34nm,1.5s,mb5.6
WLF  Walferdange    93.99 330 ⇓P        P      17 24 36.5  0.0
     comp=Z,7.8nm,0.9s,mb5.1
KRAR Krasnoyarsk    94.00  19 eP        P      17 24 33.2 -3.3
KRAR                          pmax       pmax
     comp=Z,6.0nm,1.3s,mb4.9
KRAR                          MLR        MLR
     comp=Z,300nm,18.0s,MS4.8
MFF  Saint Martin d 94.61 325 eP        P      17 24 38.4 -0.9
MEM  Membach        94.77 330 ⇓P        P      17 24 39.5 -0.5
     comp=Z,5.7nm,1.1s,mb4.9
KLMR Klimovskoe     94.79 352 eP        P      17 24 37.2 -2.9
KLMR                          pmax       pmax
     comp=Z,20nm,1.5s,mb5.3
GIVF Givet          94.88 329 eP        P      17 24 39.9 -0.7
BUG  Bochum--Univer 94.89 331 eP        P      17 24 40.3 -0.3
     comp=Z,16nm,1.1s,mb5.4
DOU  Dourbes        94.98 329 ⇑P        P      17 24 41.3 +0.3
     comp=Z,5.2nm,0.9s,mb5.0
DOU                           AP         pP     17 24 46.8 +2.5
BSEG Bad Segeberg   95.67 334 eP        P      17 24 44.1  0.0
     comp=Z,28nm,1.5s,mb5.5
LDF  La Druitiere   96.00 326 eP        P      17 24 44.5 -1.2
GRR  Gorron         96.21 325 eP        P      17 24 45.7 -0.9
FINES FINESS Array B 97.58 346 P        P      17 24 51.1 -1.7
     comp=Z,2.1nm,0.8s,mb4.8,baz=122,slow=6.9,SNR=6.8
JOF  Joensuu        97.96 348 ep        P      17 24 52.4 -2.1
     comp=Z,7.4nm,1.0s,mb5.2
KAF  Kangasniemi    98.14 346 ep        P      17 24 53.2 -2.1
     comp=Z,12nm,0.8s,mb5.5
KAF  Kangasniemi    98.14 346 eP        P      17 24 53.2 -2.1
KAF                           pmax       pmax
     comp=Z,12nm,0.8s,mb5.5
CN2  Changchun      98.84  43 eP        P      17 25 00.5 +2.0
CN2                           eXP        sP     17 25 07.5 +4.5
CN2                           eS         ⇑      17 36 27.0
CN2                           AMB        AMB
     comp=Z,12nm,0.6s,mb5.6
CN2                           AMB        AMB
     comp=Z,200nm,4.0s
CN2                           LR         LR
     comp=N,200nm,19.0s,MS4.9
CN2                           LR         LR
     comp=E,300nm,19.0s,MS4.9
CN2                           LR         LR
     comp=Z,300nm,21.0s,MS4.8
HIA  Hailar         99.26  36 PFAKE      17 25 10.0 +10
HIA                           LR         LR
     comp=Z,386nm,21.0s,MS4.9
KONO Kongsberg     100.41 338 PFAKE      17 25 20.0 +15
KONO                          LR         LR
     comp=Z,483nm,20.0s,MS5.0
NOA  NORSAR Array B 101.01 339 P         Pdif   17 25 06.1 -2.1
     comp=Z,1.2nm,0.7s,baz=109,slow=2.3,SNR=4.3
NOA  NORSAR Array B 101.01 339 P         Pdif   17 25 06.1 -2.1
MDJ  Mudanjiang    101.72  44 P         Pdif   17 25 11.9 +0.6
MDJ                           PP         PP     17 29 23.0 +1.3
MDJ                           S          Sdif   17 36 51.5 -1.2
MDJ                           SS         SS     17 43 59.9 +4.8
MDJ                           AMB        AMB
     comp=Z,8.0nm,1.8s
MDJ                           AMB        AMB
     comp=Z,76nm,4.2s
MDJ                           LR         LR
     comp=N,206nm,30.7s,MS4.5
MDJ                           LR         LR
     comp=E,147nm,30.7s,MS4.5
MDJ                           LR         LR
     comp=Z,174nm,26.0s,MS4.5
MDJ  Mudanjiang    101.72  44 PFAKE      17 25 20.0 +8.7
MDJ                           LR         LR
     comp=Z,372nm,21.0s,MS4.9
MJAR Matsushiro Arr 102.76  55 P         Pdif   17 25 15.9  0.0
     comp=Z,0.9nm,0.5s,baz=239,slow=17,SNR=4.5
LPAZ La Paz        108.09 236 PFAKE      17 30 00.0 +14
LPAZ                          LR         LR
     comp=Z,342nm,20.0s,MS4.9
SAML Samuel        109.34 245 PFAKE      17 30 00.0 +11
SAML                          LR         LR
     comp=Z,440nm,20.0s,MS5.0
YAK  Yakutsk       111.31  29 PFAKE      17 30 00.0 +7.6
YAK                           LR         LR
     comp=Z,271nm,20.0s,MS4.8
KWAJ Kwajalein Atol 112.07  94 PFAKE      17 30 10.0 +16
KWAJ                          LR         LR
     comp=Z,101nm,21.0s,MS4.4
TBI  Tubuai        118.40 152 ePS         PS     17 40 59.7 -8.9
     comp=Z,452nm,29.2s
TBI  Tubuai        118.40 152 eSS         SS     17 47 44.2 +5.4
     comp=Z,824nm,29.2s
TBI                           eLR        LR     18 05 59.9
     comp=Z,455nm,36.2s
MA2  Magadan       119.85  36 i PKIKP     PKPdf  17 30 08.1 -0.7
MA2                           e          ⇑      17 31 37.7
MA2                           ePS        PS     17 41 20.9 -0.8
MA2                           eSS        SS     17 47 56.8 -0.7
MA2                           pmax       pmax
     comp=Z,3.0nm,0.8s
MA2                           pmax       pmax
     comp=Z,20nm,1.9s
MA2                           MLR        MLR
     comp=Z,400nm,18.0s,MS5.1
MA2  Magadan       119.85  36⇑ePKP       PKPdf  17 30 08.2 -0.6
SEY  Seymchan      121.41  32⇑iPKIKP     PKPdf  17 30 11.0 -0.8
RKT  Rikitea       122.86 167 ePS         PS     17 41 33.4 -15
     comp=Z,114nm,26.8s
RKT  Rikitea       122.86 167 eLR         LR     18 08 20.8
     comp=Z,563nm,36.8s
SUMG Summit        122.91 339 ePKPdf      PKPdf  17 30 14.5 -0.2
PPT  Papeete       123.53 149 ePS         PS     17 41 46.3 -8.1
     comp=Z,162nm,27.8s
PPT  Papeete       123.53 149 eSS         SS     17 48 52.0 +7.5
     comp=Z,1μm,31.0s
PPT                           eLR        LR     18 08 16.1
     comp=Z,571nm,34.8s
SDV  Santo Domingo 126.05 256 PFAKE      17 30 30.0 +9.3
SDV                           LR         LR
     comp=Z,337nm,20.0s,MS5.0
ROSC El Rosal      126.63 249 PKP         PKPdf  17 30 23.7 +1.9
     comp=Z,5.6nm,0.6s,baz=81,slow=22,SNR=5.4
OTAV Otavalo       126.79 241 ePKPdf      PKPdf  17 30 24.1 +2.0
OTAV                          LR         LR
     comp=Z,271nm,19.0s,MS5.0
SJG  San Juan      127.11 268 PFAKE      17 30 30.0 +7.3
SJG                           LR         LR
     comp=Z,399nm,19.0s,MS5.1
BILL Bilibino      127.55  27⇑iPKIKP     PKPdf  17 30 22.9 -0.7
BILL                          pmax       pmax
     comp=Z,23nm,1.6s
BILL                          MLR        MLR
     comp=Z,300nm,20.0s,MS5.0
BILL Bilibino      127.55  27 ePKP        PKPdf  17 30 19.9 -3.7
SCHQ Schefferville 135.56 317 PKP         PKPdf  17 30 39.6 +1.0
     comp=Z,4.0nm,0.9s,baz=306,slow=5.2,SNR=5.2
SCHQ Schefferville 135.56 317 PKP         PKPdf  17 30 39.6 +1.0
SCHQ                          LR         LR
     comp=Z,592nm,20.0s,MS5.3
RES  Resolute Bay  136.20 350 ePKIKP      PKPdf  17 30 39.2 -0.7
TNA  Tin City      137.98  26 PFAKE      17 30 50.0 +6.8
TNA                           LR         LR
     comp=Z,219nm,22.0s,MS4.8
JTS  JuntasAbangare 138.22 246 PFAKE      17 31 00.0 +16
JTS                           LR         LR
     comp=Z,218nm,20.0s,MS4.9
WES  Weston        138.63 298 PFAKE      17 31 00.0 +16
WES                           LR         LR
     comp=Z,587nm,22.0s,MS5.3
BINY Binghamton    142.07 298 PFAKE      17 31 00.0 +9.4
BINY                          LR         LR
     comp=Z,512nm,19.0s,MS5.3
CBN  Corbin        142.83 291 PFAKE      17 31 00.0 +8.1
CBN                           LR         LR
     comp=Z,473nm,20.0s,MS5.2
DWPF Disney        143.98 273 ePKP        PKPdf  17 30 52.4 -1.5
DWPF                          LR         LR
     comp=Z,83nm,20.0s,MS4.5
NHSC New Hope      144.26 282 ePKP        PKPdf  17 30 52.7 -1.7
NHSC                          LR         LR
     comp=Z,472nm,20.0s,MS5.3
INK  Inuvik        144.34   7 ePKIKP     PKPdf  17 30 51.6 -3.0
COW  Cow Castle Cre 144.75 282 ePKP       PKPdf  17 30 54.2 -1.1
COLA College       144.87  18 ePKIKP     PKPdf  17 30 53.0 -2.5
COLA                          MLR        MLR
     comp=Z,238nm,21.0s,MS4.9
MCWV Mont Chateau  144.88 293 ePKP        PKPdf  17 30 53.9 -1.6
ERPA Erie          145.05 297 ePKP        PKPdf  17 30 54.2 -1.6
ERPA                          LR         LR
     comp=Z,266nm,20.0s,MS5.0
SVW2 Sparrevohn    145.07  27 eP          PKPbc  17 30 54.6 -0.7
BLA  Blacksburg    145.12 289 ePKIKP     PKPdf  17 30 55.1 -0.8
BLA                           MLR        MLR
     comp=Z,19nm,22.0s,MS3.8
ILAR Eielson Array 145.20  18 PKPbc      PKPbc  17 30 53.7 -2.0
     comp=Z,46nm,0.8s,baz=317,slow=3.4,SNR=302
JSC  Jenkinsville  145.37 284 ePKIKP     PKPdf  17 30 55.8 -0.6
ELN  Prospectdale  145.38 289 ePKP        PKPdf  17 30 56.1 -0.3
MCK  McKinley      145.47  20 ePKIKP     PKPdf  17 30 54.9 -1.6
MCK                           MLR        MLR
     comp=Z,98nm,19.0s,MS4.6
FWV  Forest Hill   145.47 289 ePKP        PKPdf  17 30 56.1 -0.5
SDPT Sand Point    145.88  38 eP          PKPdf  17 30 55.7 -1.5
SDPT                          LR         LR
     comp=Z,200nm,17.0s,MS5.0
TEIG Tepich        146.49 256 ePKPdf      PKPdf  17 30 58.4 +0.1
FIB  Fire Island   146.98  24 ePKP2       PKPab  17 31 00.2 -2.3
FIB                           MLR        MLR
     comp=Z,2μm,19.0s,MS5.8
PMR  Palmer        147.02  23 ePKP2       PKPab  17 30 58.8 -3.9
PMR                           MLR        MLR
     comp=Z,200nm,18.0s,MS4.9
SML  Sawmill       147.11  22 ePKP2       PKPab  17 31 00.5 -2.5
ACSO Alum Creek Sta 147.31 294 ePKPdf     PKPdf  17 30 58.4 -1.2
ACSO                          ePKPbc     PKPbc  17 31 01.6 -0.4
ACSO                          LR         LR
     comp=Z,176nm,19.0s,MS4.9
SLKM Skilak Lake   147.44  25 ePKP2       PKPab  17 31 01.0 -3.3
TZTN Tazewell      147.54 287 ePKPdf      PKPdf  17 30 59.6 -0.5
AAM  Ann Arbor     147.76 298 ePKP2       PKPab  17 31 02.7 -2.9
AAM                           MLR        MLR
     comp=Z,552nm,22.0s,MS5.3
MYNC Murphy        147.83 284 ePKIKP     PKPdf  17 31 00.2 -0.3
MYNC                          MLR        MLR
     comp=Z,629nm,20.0s,MS5.4
FCC  Fort Churchill 147.92 332 ePKIKP     PKPdf  17 30 59.1 -1.6
FCC                           e          ⇑      17 31 02.6
CPCT Cooper Cave   148.20 285 ePKPdf      PKPdf  17 31 00.8 -0.3
CPCT                          ePKPbc     PKPbc  17 31 03.8 -0.6
DIV  Divide        148.42  21 ePKPdf      PKPdf  17 30 59.8 -1.7
DIV                           LR         LR
     comp=Z,954nm,20.0s,MS5.6
SWET Sewanee       149.32 284 ePKPdf      PKPdf  17 31 03.7 +0.7
SWET                          ePKPbc     PKPbc  17 31 07.1 -0.2
WCI  Wyandotte Cave 149.84 290 ePKPdf     PKPdf  17 31 03.0 -0.8
WCI                           ePKPbc     PKPbc  17 31 07.6 -1.0
WCI                           LR         LR
     comp=Z,71nm,22.0s,MS4.4
LRAL Lakeview Retre 149.86 280 ePKPdf     PKPdf  17 31 03.3 -0.5
LRAL                          ePKPbc     PKPbc  17 31 07.9 -0.7
LRAL                          LR         LR
     comp=Z,404nm,19.0s,MS5.2
BLO  Bloomington   150.03 292 ePKIKP     PKPbc  17 31 07.8 -1.2
YKW3 Yellowknife Ar 150.13 352 ePKPdf     PKPdf  17 31 02.7 -1.5
YKW3                          ePKPbc     PKPbc  17 31 08.2 -1.1
YKW3                          ePKPab     PKPab  17 31 12.9 -2.3
YKA  Yellowknife Ar 150.19 352 PKP        PKPdf  17 31 03.0 -1.3
     comp=Z,9.0nm,1.1s,baz=4.8,slow=2.0,SNR=50
YKA                           PKPbc      PKPbc  17 31 08.2 -1.2
     comp=Z,39nm,0.8s,baz=13,slow=2.2,SNR=168
YKA  Yellowknife Ar 150.19 352 PKIKP      PKPdf  17 31 03.0 -1.3
YKA                                              17 31 08.2
YKA                           pmax       pmax
     comp=Z,9.0nm,1.1s
YKA                           pmax       pmax
     comp=Z,39nm,0.8s
YKA  Yellowknife Ar 150.19 352 PKP        PKPdf  17 31 03.0 -1.3
YKA                           PKPbc      PKPbc  17 31 08.2 -1.2
WVT  Waverly        150.95 286 ePKIKP     PKPdf  17 31 04.6 -0.9
WVT                           e          ⇑      17 31 10.3
WVT                           MLR        MLR
     comp=Z,395nm,20.0s,MS5.2
PLAL Pickwick Lake  151.03 283 ePKPdf     PKPdf  17 31 04.8 -0.9
PLAL                          ePKPbc     PKPbc  17 31 10.4 -1.0
PLAL                          LR         LR
     comp=Z,653nm,20.0s,MS5.4
UTMT University of  151.80 286 ePKPbc     PKPbc  17 31 12.6 -0.5
EYMN Ely            152.08 311 PKPdf      PKPdf  17 31 05.5 -1.7
EYMN                          ePKPbc     PKPbc  17 31 12.3 -1.5
EYMN                          LR         LR
     comp=Z,543nm,19.0s,MS5.4
SIUC Southern Illin 152.14 289 ePKPbc     PKPbc  17 31 13.5 -0.5
HALT Halls          152.15 285 ePKPbc     PKPbc  17 31 12.9 -1.0
FVM  French Village 153.09 290 ePKIKP     PKPdf  17 31 08.0 -0.7
FVM                           e          ⇑      17 31 15.7
ULM  Lac du Bonnet  153.71 318 PKP        PKPdf  17 31 07.8 -1.7
     comp=Z,5.7nm,0.9s,baz=117,slow=2.7,SNR=8.3
ULM                           PKPbc      PKPbc  17 31 16.3 -1.1
     comp=Z,14nm,1.2s,baz=47,slow=2.5,SNR=7.6
ULM                           PKPab      PKPab  17 31 28.9 -1.2
     comp=Z,22nm,1.1s,baz=69,slow=3.2,SNR=11
ULM  Lac du Bonnet  153.71 318 PKP        PKPdf  17 31 07.8 -1.7
ULM                           PKPbc      PKPbc  17 31 16.3 -1.1
ULM                           PKPab      PKPab  17 31 28.9 -1.2
CCM  Cathedral Cave 153.74 290 PKIKP      PKPdf  17 31 08.8 -0.8
CCM                           e          ⇑      17 31 16.9
CCM                           MLR        MLR
     comp=Z,93nm,20.0s,MS4.6
CCM  Cathedral Cave 153.74 290 PKPdf      PKPdf  17 31 08.8 -0.8
CCM                           ePKPbc     PKPbc  17 31 16.9 -0.5
CCM                           e          ⇑      17 31 21.8
CCM                           LR         LR
     comp=Z,93nm,20.0s,MS4.6
FFC  Flin Flon      153.85 332 ePKIKP     PKPbc  17 31 16.3 -1.4
FFC                           e          ⇑      17 31 29.9
FFC                           MLR        MLR
     comp=Z,383nm,19.0s,MS5.2
UALR University of  154.50 282 ePKPbc     PKPbc  17 31 18.8 -0.3
SIT  Sitka          154.71  16 PFAKE      17 31 20.0 +9.0
SIT                           LR         LR
     comp=Z,552nm,22.0s,MS5.3
MIAR Mount Ida      155.49 281 PFAKE      17 31 20.0 +7.9
MIAR                          LR         LR
     comp=Z,476nm,19.0s,MS5.3
NATX Nacogdoches    156.00 274 PFAKE      17 31 20.0 +7.2
NATX                          LR         LR
     comp=Z,721nm,20.0s,MS5.5
EDM  Edmonton       158.80 344 ePKIKP     PKPdf  17 31 14.7 -1.6
DGMT Dagmar         159.18 323 PFAKE      17 31 30.0 +13
DGMT                          LR         LR
     comp=Z,372nm,22.0s,MS5.2
JCT  Junction City  160.04 268 ePKIKP     PKPdf  17 31 17.7  0.0
JCT                           e          ⇑      17 31 57.9
JCT                           MLR        MLR
     comp=Z,284nm,22.0s
CBKS Cedar Bluff    160.32 293 PFAKE      17 31 30.0 +12
CBKS                          LR         LR
     comp=Z,528nm,19.0s
LAO  LASA Array     161.38 321 PFAKE      17 31 30.0 +11
LAO                           LR         LR
     comp=Z,733nm,19.0s
EGMT Eagleton       162.10 330 ePKPdf     PKPdf  17 31 19.3 -0.6
EGMT                          ePKPab     PKPab  17 32 06.3 -0.1
EGMT                          LR         LR
     comp=Z,355nm,20.0s
LTX  Lajitas        162.96 262 ePKIKP     PKPdf  17 31 20.4 -0.3
LTX                           e          ⇑      17 32 10.3
LTX                           MLR        MLR
     comp=Z,251nm,19.0s
GCMT Greycliff      163.74 325 ePKPdf     PKPdf  17 31 21.1 -0.3
GCMT                          ePKPab     PKPab  17 32 13.8 +0.2
HRY  Holter Researc 164.00 331 ePKPdf     PKPdf  17 31 20.8 -1.0
CHMT Chamberlain Mo 164.39 334 ePKPdf     PKPdf  17 31 21.1 -1.0
CHMT                          ePKPab     PKPab  17 32 15.9 -0.6
ISCO Idaho Springs  164.49 300 ePKIKP     PKPdf  17 31 22.3 +0.1
ISCO                          MLR        MLR
     comp=Z,723nm,21.0s
MSO  Missoula       164.70 336 ePKPdf     PKPdf  17 31 21.6 -0.8
MSO                           ePKPab     PKPab  17 32 17.0 -0.9
MSO                           LR         LR
     comp=Z,366nm,20.0s
BOZ  Bozeman (W)    164.76 328 ePKIKP     PKPdf  17 31 21.7 -0.7
BOZ                           e          ⇑      17 32 18.1
BOZ                           MLR        MLR
     comp=Z,439nm,20.0s
SDCO Great Sand Dun 164.97 293 PFAKE      17 31 30.0 +7.4
SDCO                          LR         LR
     comp=Z,495nm,21.0s
LKWY Lake           164.97 323 PFAKE      17 31 30.0 +7.4
LKWY                          LR         LR
     comp=Z,657nm,20.0s
MNTX Cornudas Mount 164.97 269 ePKPdf     PKPdf  17 31 22.5  0.0
MNTX                          LR         LR
     comp=Z,366nm,19.0s
YMR  Madison River  165.18 324 ePKPdf     PKPdf  17 31 23.9 +1.1
YMR                           ePKPab     PKPab  17 32 20.8 +0.8
YMR                           LR         LR
     comp=Z,1μm,19.0s
QLMT Earthquake Lak 165.29 326 ePKPdf     PKPdf  17 31 23.4 +0.6
DLMT Dillon         165.40 329 ePKPdf     PKPdf  17 31 23.1 +0.2
DLMT                          ePKPab     PKPab  17 32 21.0  0.0
OCWA Octopus Mounta 165.44   3 PFAKE      17 31 30.0 +7.0
OCWA                          LR         LR
     comp=Z,395nm,21.0s
FLWY Flagg Ranch    165.46 322 ePKPdf     PKPdf  17 31 21.4 -1.6
FLWY                          ePKPab     PKPab  17 32 21.4 +0.2
BW06 Boulder Array  165.69 316 PFAKE      17 31 30.0 +6.8
BW06                          LR         LR
     comp=Z,303nm,19.0s
PDAR Pinedale Array 165.69 316 PKP        PKPdf  17 31 22.4 -0.7
     comp=Z,8.6nm,1.1s,baz=118,slow=2.2,SNR=35
PDAR                          PKPab      PKPab  17 32 20.9 -1.3
     comp=Z,2.7nm,0.9s,baz=80,slow=2.1,SNR=4.9
PDAR                          PP         PP     17 36 09.2  0.0
     comp=Z,0.3nm,0.6s,baz=72,slow=4.8,SNR=4.3
MCMT McKenzie Canyo 165.94 329 ePKPdf     PKPdf  17 31 24.3 +0.9
MCMT                          ePKPab     PKPab  17 32 22.7 -0.6
ANMO Albuquerque    166.10 282 PKP        PKPdf  17 31 24.3 +0.8
     comp=Z,2.2nm,1.0s,baz=143,slow=6.0,SNR=8.1
ANMO Albuquerque    166.10 282 PKP        PKPdf  17 31 24.3 +0.8
ANMO                          LR         LR
     comp=Z,301nm,19.0s
LPM  Los Pinos Moun 166.26 279 PKPdf      PKPdf  17 31 24.1 +0.5
LAZ  Ladron         166.68 280 ePKPdf     PKPdf  17 31 24.6 +0.7
PV10 Paradox Valley 167.48 298 ePKPdf     PKPdf  17 31 25.2 +0.7
BMO  Blue Mountains 167.53 341 PKPab      PKPab  17 32 29.1 -1.2
BMO                           LR         LR
     comp=Z,427nm,21.0s
HWUT Hardware Ranch 167.58 316 ePKPdf     PKPdf  17 31 24.5 -0.1
HWUT                          ePKPab     PKPab  17 32 29.7 -0.9
HWUT                          LR         LR
     comp=Z,726nm,22.0s
HLID Hailey         167.62 329 PFAKE      17 31 40.0 +15
HLID                          LR         LR
     comp=Z,566nm,19.0s
TCUT Toone Canyon   167.79 314 ePKPdf     PKPdf  17 31 23.2 -1.6
TCUT                          ePKPab     PKPab  17 32 30.9 -0.6
DAU  Daniels Canyon 168.10 311 ePKIKP     PKPdf  17 31 26.1 +1.1
SRU  San Rafael     168.26 304 ePKIKP     PKPdf  17 31 25.4 +0.3
MPU  Maple Canyon   168.56 310 PFAKE      17 31 40.0 +15
MPU                           LR         LR
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comp=Z,1μm,21.0s
TMUT Trail Mountain 168.65 306 *e*PKPdf PKPdf 17 31 26.1 +0.8
NLU North Lily Min 168.88 310 *e*PKPdf PKPdf 17 31 23.8 -1.8
DUG Dugway 169.20 313 PFAKE 17 31 40.0 +14
DUG LR LR
comp=Z,298nm,19.0s
MSU Marysvale 169.68 304 *e*PKIKP PKPdf 17 31 27.7 +1.7
MVU Marysvale 169.71 304 PFAKE 17 31 40.0 +14
MVU LR LR
comp=Z,673nm,19.0s
WUAZ Wupatki 170.04 287 PFAKE 17 31 40.0 +14
WUAZ LR LR
comp=Z,788nm,19.0s
WVOR Wild Horse Val 170.13 340 *e*PKIKP PKPdf 17 31 26.6 +0.3
WVOR *e* 17 32 41.5
WVOR MLR MLR
comp=Z,662nm,22.0s
ELK Elko 170.20 322 PFAKE 17 31 40.0 +14
ELK LR LR
comp=Z,620nm,20.0s
HUMO Hull Mountain 170.61 359 PFAKE 17 31 40.0 +13
HUMO LR LR
comp=Z,481nm,20.0s
ARUT Antelope Range 170.90 303 PKIKP PKPdf 17 31 26.6 -0.1
MOD Modoc 171.03 347 *e*PKPdf PKPdf 17 31 27.3 +0.5
MOD *e*PKPab PKPab 17 32 46.1 +0.2
MOD LR LR
comp=Z,417nm,20.0s
BMN Battle Mountai 171.39 329 PFAKE 17 31 40.0 +13
BMN LR LR
comp=Z,529nm,22.0s
NEN Nelson 172.76 292 *e*PKPdf PKPdf 17 31 29.3 +1.8
TPH Tonopah 173.18 317 PFAKE 17 31 40.0 +12
TPH LR LR
comp=Z,216nm,19.0s
NVAR Mina Array Bea 173.49 325 PKP PKPdf 17 31 29.3 +1.5
comp=Z,4.6nm,0.8s,baz=122,slow=1.6,SNR=28
NVAR PKPab PKPab 17 32 57.3 +0.6
comp=Z,1.9nm,0.7s,baz=51,slow=4.4,SNR=7.2
MTUM Tungsten Hills 174.44 320 *e*PKPdf PKPdf 17 31 30.3 +2.1

IDC 12 17:23:54.0±8.5, 3212S×5794E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/20, mbtmp3.4/2, Error ellipse: s-maj=574.5km s-min=52.4km az=32.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**66.43**	**104**	P	P	17 34 45.0	-0.1
	0.5nm,0.9s,baz=236,slow=5.9,SNR=5.8						
WRA	**Warramunga Arr**	**68.47**	**101**	P	P	17 34 58.9	+1.0
	0.3nm,0.6s,baz=239,slow=5.5,SNR=5.5						
YKA	**Yellowknife Ar**	**149.23**	**353**	PKPbc	PKPbc	17 43 43.2	-1.3
	0.3nm,0.9s,baz=11,slow=1.8,SNR=3.4						

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*IDC **12** 17:28:44.5±4.3, 3089S×17851W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.5/11, mbtmp3.3/2, Error ellipse: s-maj=110.2km s-min=23.6km az=130.0*
*ISCJB **12** 17:29:33.3±2.0, 315S±02×1794W±05, h467km±37km, mb2.9/2, Error ellipse: s-maj=76.4km s-min=23.5km az=36.0*
ISC 12 17:29:37.4±2.0, 316S±03×1800E±08, h444km±63km, n14, σ0§48/15, mb2.8/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.94**	**39**	Pn	x	17 29 14.6	
	1μm,0.3s,baz=82,slow=19,SNR=7.9						
RAO				Sn	x	17 29 40.9	
	1μm,0.3s,baz=22,slow=24,SNR=4.0						
PUZ	**Puketiti**	**6.64**	**192**	PN	**P**	**17 31 17.8**	**-0.3**
MWZ	**Matawai**	**7.04**	**196**	PN	**P**	**17 31 22.7**	**+0.4**
MWZ				SN	**S**	**17 32 48.4**	**+0.1**
URZ	**Urewera**	**7.08**	**199**	PN	**P**	**17 31 22.5**	**-0.2**
BKZ	**Black Stump Fm**	**8.10**	**200**	PN	**P**	**17 31 33.8**	**+0.1**
WNVZ	**Wahianoa**	**8.52**	**204**	PN	**P**	**17 31 38.8**	**+0.5**
PXZ	**Pawanui**	**8.81**	**196**	PN	**P**	**17 31 41.9**	**+0.4**
TSZ	**Takapari Road**	**9.07**	**200**	PN	**P**	**17 31 43.7**	**-0.6**
TSZ				SN	**S**	**17 33 28.4**	**-0.3**
MRZ	**Mangatainoka R**	**9.74**	**200**	PN	**P**	**17 31 51.0**	**-0.6**
MRZ				SN	**S**	**17 33 42.2**	**+0.1**
TUWZ	**Tuamarina**	**10.97**	**205**	*e*PN	**P**	**17 32 04.1**	**-0.9**
KHZ	**Kahutara**	**11.98**	**204**	PN	**P**	**17 32 17.0**	**+1.0**
ASAR	**Alice Springs**	**41.33**	**269**	P	**P**	**17 36 42.9**	**+0.2**
	0.2nm,0.6s,mb2.6,baz=106,slow=7.7,SNR=6.1						
WRA	**Warramunga Arr**	**42.42**	**275**	P	**P**	**17 36 51.2**	**-0.2**
	0.2nm,0.3s,mb3.0,baz=111,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**145.61**	**338**	PKPbc	PKPbc	17 48 23.3	-1.9
	1.4nm,1.0s,baz=29,slow=3.2,SNR=4.7						

IDC 12 17:31:11.3±2.4, 1427N×9437E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=154.6km s-min=20.0km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.04**	**211**	*e*P	Pn	17 31 58.8	-1.8
PBA				*e*S	Sn	17 32 28.3	-10
PBA				*e*x	x	17 32 41.7	
	comp=E,903nm,0.7s						
PBA				*e*x	x	17 32 45.5	
	comp=N,764nm,0.6s						
MKAR	**Makanchi Array**	**33.96**	**345**	P	P	17 37 56.5	+0.1
	comp=N,0.3nm,0.5s,baz=158,slow=12,SNR=3.1						
ZAL	**Zalesovo**	**40.28**	**351**	P	P	17 38 49.9	-0.2
	comp=N,0.8nm,0.7s,baz=319,slow=6.1						
WRA	**Warramunga Arr**	**51.98**	**130**	P	P	17 40 22.6	+0.4
	comp=N,0.5nm,0.5s,baz=310,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**54.00**	**134**	P	P	17 40 37.5	+0.4
	comp=N,0.2nm,0.4s,baz=312,slow=7.0,SNR=15						
FINES	**FINESS Array B**	**67.22**	**331**	P	P	17 42 07.2	-0.2
	comp=N,1.3nm,1.0s,baz=90,slow=4.2,SNR=3.8						

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*ISCJB **12** 17:33:45.9±6.3, 294S±04×1780W±02, h2km±46km, mb4.4/8, MS4.2/4, Error ellipse: s-maj=67.9km s-min=19.2km az=28.2*
*IDC **12** 17:33:45.6±0.8, 2904S×17779W, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.3/13, mbtmp4.3/6, MS4.2/7, Ms1 4.2/7, ms1mx3.8/22, Error ellipse: s-maj=22.0km s-min=9.7km az=112.0*
*NEIC **12** 17:33:47.0±0.6, 2910S×17785W, h10km, mb4.8/3, Error ellipse: s-maj=14.5km s-min=13.7km az=45.0*
ISC 12 17:33:47.2±7.3, 294S±04×1780W±02, h1km±52km, n35, σ0§40/15, mb4.4/8, MS4.2/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.15**	**19**	Pg	**Pg**	**17 33 50.2**	**+0.1**
	15μm,0.3s,baz=60,slow=22,SNR=24						
RAO	**Raoul Island**	**0.15**	**19**	*e*Pg	**Pg**	**17 33 50.0**	**-0.1**
DZM	**Mont Dzumac**	**15.81**	**294**	LR	LR	17 42 20.5	
	comp=Z,1μm,19.6s,baz=202,slow=32						
RPZ	**Rata Peaks**	**16.77**	**209**	LR	LR	17 43 35.5	
	comp=Z,475nm,21.6s,baz=218,slow=34						
RAR	**Rarotonga**	**18.35**	**68**	LR	LR	17 42 59.7	
	comp=Z,524nm,18.3s,baz=168,slow=31						
TBI	**Tubuai**	**26.21**	**83**	*e*LQ		17 44 40.9	
	515nm,26.2s						
TBI				*e*LR	LR	17 45 46.2	
	806nm,28.8s						
TBI	**Tubuai**	**26.21**	**83**	*e*T		18 06 19.7	
	67nm,0.3s						
PAE	**Paea**	**28.45**	**72**	*e*T		18 09 06.4	
	172nm,0.3s						
PPT	**Papeete**	**28.50**	**72**	*e*LQ		17 45 38.1	
	572nm,24.5s						
PPT				*e*LR	LR	17 46 49.2	
	709nm,27.2s						
PPT	**Papeete**	**28.50**	**72**	*e*T		18 09 10.1	
	82nm,0.3s						
PPT	**Papeete**	**28.50**	**72**	LR	LR	17 47 27.9	
	comp=Z,438nm,20.3s,MS4.0,baz=308,slow=29						
TVO	**Taravao**	**28.67**	**73**	*e*T		18 09 22.7	
	39nm,0.3s						
MEH	**Mehetia**	**29.61**	**74**	*e*T		18 10 33.6	
	64nm,0.3s						
PMOR	**Pomariorio Ree**	**31.20**	**69**	*e*T		18 12 32.0	
	23nm,0.4s						
VAH	**Vaihoa**	**31.30**	**70**	*e*T		18 12 38.8	
	75nm,0.2s						
CTA	**Charters Tower**	**33.67**	**278**	*e*P	**P**	**17 40 29.2**	**-0.5**
	15nm,1.5s,mb4.7						
CTA	**Charters Tower**	**33.67**	**278**	P	**P**	**17 40 30.9**	**+1.3**
	7.9nm,0.7s,mb4.8,baz=93,slow=13,SNR=13						
CTA				LR	LR	17 53 12.9	
	comp=Z,666nm,18.0s,MS4.4,baz=180,slow=34						
STKA	**Stephens Creek**	**34.74**	**256**	P	**P**	**17 40 38.5**	**-0.4**
	3.1nm,0.6s,mb4.4,baz=104,slow=9.2,SNR=7.0						
STKA				LR	LR	17 52 49.5	
	comp=Z,378nm,19.7s,MS4.1,baz=202,slow=33						
STKA	**Stephens Creek**	**34.74**	**256**	*e*P	**P**	**17 40 38.1**	**-0.8**
RKT	**Rikitea**	**38.90**	**91**	*e*LR	LR	17 51 39.0	
	471nm,28.2s						
RKT	**Rikitea**	**38.90**	**91**	*e*T		18 22 12.2	
	5.2nm,0.4s						
ASAR	**Alice Springs**	**43.19**	**266**	P	**P**	**17 41 49.9**	**+0.2**
	1.3nm,0.6s,mb3.8,baz=105,slow=8.0,SNR=16						
WB2	**Warramunga Arr**	**44.08**	**271**	*e*P	**P**	**17 41 56.9**	**0.0**
WRAB	**Tennant Creek**	**44.09**	**271**	*e*P	**P**	**17 41 56.8**	**-0.1**
	21nm,1.4s,mb4.7						
WRA	**Warramunga Arr**	**44.09**	**271**	P	**P**	**17 41 57.0**	**+0.1**
	2.3nm,0.5s,mb4.2,baz=110,slow=8.0,SNR=29						
QSPA	**South Pole Qui**	**60.71**	**180**	*e*P	**P**	**17 44 00.6**	**+0.3**
	12nm,1.2s,mb4.9						
PLCA	**Paso Flores**	**83.17**	**133**	P	**P**	**17 46 15.3**	**+0.2**
	5.3nm,1.1s,mb4.7,baz=240,slow=8.6,SNR=6.7						
PLCA				LR	LR	18 13 34.3	
	comp=Z,152nm,20.9s,MS4.3,baz=183,slow=29						
PLCA	**Paso Flores**	**83.17**	**133**	P	**P**	**17 46 15.3**	**+0.2**
PLCA				LR	LR	18 13 34.2	
CFAA	**Coronel Fontan**	**89.82**	**127**	P	**P**	**17 46 47.2**	**-0.4**
	0.5nm,0.9s,mb3.7,baz=184,slow=2.0,SNR=5.9						
CFAA	**Coronel Fontan**	**89.82**	**127**	P	**P**	**17 46 47.2**	**-0.4**
FINES	**FINESS Array B**	**144.21**	**340**	PKP	PKPdf	17 53 19.8	-5.1
	1.7nm,1.0s,baz=75,slow=3.7,SNR=9.6						
AKASG	**Malin Array Be**	**150.51**	**324**	PKPbc	PKPbc	17 53 38.0	-2.7
	3.5nm,0.8s,baz=49,slow=2.4,SNR=14						
BRTR	**Keskin Array B**	**152.13**	**300**	PKPbc	PKPbc	17 53 42.4	-2.1
	1.6nm,1.0s,baz=178,slow=4.3,SNR=6.9						
TORD	**Torodi Ar. Bea**	**163.83**	**179**	PKP	PKPdf	17 53 51.3	-0.8
	1.1nm,1.0s,baz=172,slow=1.4,SNR=4.1						
TORD				PKPab	PKPab	17 54 43.7	-0.8
	2.6nm,1.0s,baz=169,slow=3.2,SNR=8.7						
ESDC	**Sonseca Array**	**168.62**	**24**	PKP	PKPdf	17 53 54.4	-1.5
	0.1nm,0.3s,baz=29,slow=3.4,SNR=5.4						

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*ISCJB **12** 18:07:29.6±2.4, 269S±004×13867E±009, h16km±17km, mb4.5/28, MS4.2/5, Error ellipse: s-maj=15.3km s-min=6.5km az=5.8*
*IDC **12** 18:07:29.3±0.8, 273S×13849E, h0km, mb4.3/7, mb1 4.4/9, mb1mx4.4/12, mbtmp4.4/9, ML3.7/2, MS4.2/3, Ms1 4.2/3, ms1mx3.6/12, Error ellipse: s-maj=31.4km s-min=11.8km az=88.0*
*MOS **12** 18:07:33.1±0.9, 268S×13818E, h33km, mb4.8/10, Error ellipse: s-maj=20.4km s-min=8.6km az=107.1*
*BJI **12** 18:07:34.0, 288S×13869E, h58km, mB5.2, mb4.5, Ms4.9, Msz4.6*
*NEIC **12** 18:07:35.4±1.6, 270S×13848E, h47km±15km, mb4.6/11, Error ellipse: s-maj=12.7km s-min=9.3km az=73.0*
ISC 12 18:07:37.1±1.3, 280S±004×13859E±009, h63km±13km, h43km±5.3km; pP-P, n63, σ1§13/66, mb4.5/28, 2C-3D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.75**	**128**	Pn	**Pn**	**18 10 06.9**	**-1.3**
	0.3nm,0.3s,baz=293,slow=15,SNR=2.4						
PMG	**Port Moresby**	**10.75**	**128**	*e*P	**Pn**	**18 10 14.3**	**+6.1**
PMG	**Port Moresby**	**10.75**	**128**	*e*P	**Pn**	**18 10 09.8**	**+1.5**
	38nm,1.1s						
KAKA	**Kakadu**	**11.58**	**211**	*e*P	**Pn**	**18 10 18.5**	**-1.0**
	29nm,0.6s						
KAKA				*e*S	**Sn**	**18 12 35.0**	**+7.8**
WRAB	**Tennant Creek**	**17.53**	**193**	*e*P	**Pn**	**18 11 38.2**	**+1.1**
WRAB	**Tennant Creek**	**17.53**	**193**	*e*P	**Pn**	**18 11 37.0**	**-0.2**
	39nm,0.8s						
WRAB				*e*S	**S**	**18 14 49.3**	**-7.0**
WB2	**Warramunga Arr**	**17.54**	**193**	*e*P	**Pn**	**18 11 36.1**	**-1.1**
WB2				*e*S	**S**	**18 14 44.0**	**-12**
WRA	**Warramunga Arr**	**17.54**	**193**	P	**Pn**	**18 11 36.6**	**-0.7**
	0.9nm,0.3s,baz=13,slow=11,SNR=43						
WRA				S	**S**	**18 14 53.6**	**-2.9**
	0.2nm,0.3s,baz=9.9,slow=22,SNR=4.9						
CTA	**Charters Tower**	**18.75**	**157**	P	**Pn**	**18 11 55.4**	**+3.6**
	0.2nm,0.3s,baz=331,slow=14,SNR=2.2						
CTA	**Charters Tower**	**18.75**	**157**	P	**Pn**	**18 11 55.4**	**+3.6**
CTAO	**Charters Tower**	**18.75**	**157**	*e*P	**Pn**	**18 11 53.9**	**+2.1**
FITZ	**Fitzroy Crossi**	**19.82**	**219**	*e*P	**Pn**	**18 12 03.6**	**-1.0**
	16nm,0.8s						
FITZ				*e*S	**S**	**18 15 44.0**	**+1.7**
AS31	**Alice Springs**	**21.24**	**192**	*e*P	**P**	**18 12 18.2**	**+0.4**
ASAR	**Alice Springs**	**21.24**	**192**	P	**P**	**18 12 18.2**	**+0.4**
	13nm,1.0s,mb4.2,baz=20,slow=11,SNR=55						
ASAR				S	**S**	**18 16 15.7**	**+5.4**
	2.1nm,0.9s,baz=13,slow=25,SNR=4.8						
ASPA	**Alice Springs**	**21.24**	**192**	*e*P	**P**	**18 12 18.2**	**+0.3**
CUYO	**Cuyo Island**	**22.13**	**308**	*e*P	**P**	**18 12 29.5**	**+2.1**
KKM	**Kota Kinabalu**	**24.01**	**291**	*e*P	**P**	**18 12 46.1**	**+0.2**
MBWA	**Marble Bar**	**25.89**	**224**	*e*P	**P**	**18 13 02.8**	**-0.3**
	28nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**29.07**	**175**	P	**P**	**18 13 32.3**	**+0.9**
	0.9nm,0.4s,mb3.8,baz=322,slow=9.0,SNR=6.1						
STKA				LR	LR	18 26 09.6	
	comp=Z,450nm,18.9s,baz=172,slow=38						
STKA	**Stephens Creek**	**29.07**	**175**	*e*P	**P**	**18 13 31.3**	**-0.2**
NJ2	**Nanjing**	**39.40**	**333**	*e*P	**P**	**18 15 00.1**	**-0.6**
NJ2				AP	pP	18 15 15.4	-0.9
NJ2				XP	sP	18 15 22.6	-1.0
NJ2				PP	PP	18 16 35.5	+3.5
NJ2				S	**S**	**18 20 55.0**	**-2.7**
NJ2				XS	sS	18 21 20.0	-4.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,30nm,6.1s						
NJ2				LR	LR		
	comp=N,1μm,20.6s						
NJ2				LR	LR		
	comp=E,980nm,17.8s						
NJ2				LR	LR		
	comp=Z,2μm,16.1s						
KMI	**Kunming**	**44.48**	**311**	P	**P**	**18 15 45.2**	**+3.1**
KMI				S	**S**	**18 22 16.2**	**+3.5**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.3						
KMI				LR	LR		
	comp=Z,129nm,30.9s						
XAN	**Xi'an**	**46.08**	**325**	P	**P**	**18 15 54.8**	**+0.1**
XAN				AP	pP	18 16 05.5	-5.2
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
CD2	**Chengdu**	**47.16**	**318**	*e*P	**P**	**18 16 04.2**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
MDJ	**Mudanjiang**	**47.88**	**351**	P	**P**	**18 16 09.6**	**+0.8**
MDJ				AP	pP	18 16 21.6	-3.3
MDJ				XP	sP	18 16 27.1	-4.9
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,127nm,4.7s						
RPZ	**Rata Peaks**	**49.88**	**149**	P	**P**	**18 16 24.2**	**+0.2**
	comp=Z,23nm,1.0s,mb5.2,baz=7.1,slow=8.1,SNR=5.4						
LZH	**Lanzhou**	**50.48**	**323**	⇓P	**P**	**18 16 32.5**	**+3.9**
LZH				AP	pP	18 16 42.2	-2.6
LZH				XP	sP	18 16 46.3	-5.7
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.1						
HIA	**Hailar**	**54.37**	**345**	*e*P	**P**	**18 16 56.2**	**-1.2**
GTA	**Gaotai**	**55.07**	**324**	*e*P	**P**	**18 17 03.4**	**+0.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
LSA	**Lhasa**	**55.67**	**309**	*e*P	**P**	**18 17 07.1**	**+0.3**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**55.67**	**309**	*e*P	**P**	**18 17 07.1**	**+0.3**
	comp=Z,3.4nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**57.49**	**335**	*e*P	**P**	**18 17 19.4**	**-0.3**
ULN	**Ulaanbaatar**	**57.49**	**335**	*e*P	**P**	**18 17 17.3**	**-2.5**
	comp=Z,14nm,1.5s,mb4.8						
SONM	**Songino Array**	**57.74**	**335**	P	**P**	**18 17 21.5**	**0.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=153,slow=8.0,SNR=6.8						
SONM				LR	LR	18 39 40.9	
	comp=Z,138nm,20.8s,baz=185,slow=34						
ZAK	**Zakamensk**	**61.01**	**335**	*e*P	**P**	**18 17 43.7**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,21nm,1.6s,mb5.0						
BOD	**Bodaibo**	**63.57**	**346**	*e*P	**P**	**18 18 01.5**	**+0.4**
YAK	**Yakutsk**	**65.01**	**355**	*e*P	**P**	**18 18 10.1**	**-0.4**
YAK				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.7						
YAK	**Yakutsk**	**65.01**	**355**	P	**P**	**18 18 09.1**	**-1.4**
	comp=Z,12nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**69.78**	**322**	P	**P**	**18 18 41.0**	**+0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=69,slow=6.6,SNR=26						
ZAL	**Zalesovo**	**71.95**	**330**	P	**P**	**18 18 53.2**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.1,baz=4.4,slow=8.6,SNR=5.8						
ZAL	**Zalesovo**	**71.95**	**330**	P	**P**	**18 18 53.2**	**-0.7**
AAK	**Ala-Archa**	**73.18**	**316**	*e*P	**P**	**18 18 59.6**	**-1.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
NVS	**Novosibirsk**	**73.21**	**330**	*e*P	**P**	**18 19 00.9**	**-0.4**
NVS				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
NVS				pmax	pmax		
	comp=N,17nm,1.9s						
NVS				pmax	pmax		
	comp=E,12nm,1.7s						
BILL	**Bilibino**	**73.27**	**11**	⇓*e*P	**P**	**18 19 01.0**	**-0.7**
BILL				*e*		18 21 49.2	
BILL				*e*S	S	18 28 23.8	-1.5
BILL				pmax	pmax		
	comp=Z,9.0nm,2.1s,mb4.3						
KURK	**Kurchatov**	**73.72**	**325**	*c i*P	**P**	**18 19 03.8**	**-0.5**
KURK	**Kurchatov**	**73.72**	**325**	*e*P	**P**	**18 19 03.2**	**-1.1**
	comp=Z,8.8nm,0.9s,mb4.7						
VNDA	**Vanda**	**75.71**	**175**	P	**P**	**18 19 16.6**	**+0.8**
	comp=Z,3.9nm,0.8s,mb4.4,baz=347,slow=6.0,SNR=6.7						
VNDA				LR	LR	18 52 18.3	
	comp=Z,176nm,18.6s,baz=356,slow=36						
VNDA	**Vanda**	**75.71**	**175**	*e*P	**P**	**18 19 16.5**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VNDA	**Vanda**	**75.71**	**175**	*e*P	**P**	**18 19 16.5**	**+0.7**
	comp=Z,4.6nm,0.8s,mb4.5						
BRVK	**Borovoye**	**79.39**	**325**	*e*P	**P**	**18 19 36.2**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**79.39**	**325**	*e*P	**P**	**18 19 36.2**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**80.08**	**325**	*e*P	**P**	**18 19 39.4**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
ZRNK	**Zerenda**	**80.08**	**325**	*e*P	**P**	**18 19 39.4**	**-0.7**
	comp=Z,11nm,1.1s,mb4.7						
COLA	**College**	**85.59**	**24**	*e*P	**P**	**18 20 10.8**	**+2.2**
ILAR	**Eielson Array**	**85.96**	**24**	P	**P**	**18 20 08.1**	**-2.4**
	comp=Z,1.9nm,0.7s,mb4.4,baz=265,slow=4.4,SNR=14						
ARU	**Arti**	**86.80**	**327**	⇓*i*P	**P**	**18 20 15.9**	**+1.4**
ARU				*e*		18 23 37.4	
ARU				*e*PPP		18 25 30.9	
ARU				*e*S		18 30 39.0	
ARU				*e*SS	SS	18 36 34.9	+4.7
ARU				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.4						
QSPA	**South Pole Qui**	**87.15**	**180**	*e*P	**P**	**18 20 17.3**	**+1.0**
	comp=Z,9.9nm,1.1s,mb5.0						
SYO	**Syowa Base**	**90.64**	**201**	⇑*e*X		18 20 42.2	
SYO	**Syowa Base**	**90.64**	**201**	*e*P	**P**	**18 20 33.0**	**+0.3**
SYO				*e*		18 20 42.2	
TORD	**Torodi Ar. Bea**	**136.17**	**286**	PKP	PKPdf	18 26 53.9	+2.6
	comp=Z,0.8nm,0.7s,baz=56,slow=2.1,SNR=5.2						
CPUP	**Villa Florida**	**147.21**	**153**	PKPbc	PKPbc	18 27 16.2	+3.0
	comp=Z,3.8nm,0.9s,baz=296,slow=2.2,SNR=3.0						
LPAZ	**La Paz**	**147.49**	**127**	PKPbc	PKPbc	18 27 16.8	+2.8
	comp=Z,1.0nm,0.7s,baz=69,slow=1.4,SNR=6.5						
LPAZ	**La Paz**	**147.49**	**127**	PKPbc	PKPbc	18 27 16.8	+2.8

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*CSEM **12** 18:10:48.7±0.4, 3697N×696W, h40km, mb2.8/5, Error ellipse: s-maj=9.3km s-min=4.5km az=26.0*
*NEIC **12** 18:10:49.6, 3691N×699W, h49km, MG2.8(MDD), After MDD.*
MDD 12 18:10:49.9±1.2, 3690N×697W, h43km±20km, mb3.5/3, 1C-2D, Error ellipse: s-maj=12.6km s-min=6.0km az=29.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.52**	**334**	⇓P	Pn	18 11 00.3	-0.6
	11nm,0.1s,SNR=18						
ERIP				S	Sn	18 11 08.4	-0.5
	17nm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**0.52**	**334**	P	Pn	18 11 00.3	-0.7
	11nm,0.1s,SNR=18						
ERIP				S	Sn	18 11 08.4	-0.5
	17nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.75**	**327**	⇓P	Pn	18 11 03.4	-0.6
	3.6nm,0.1s,SNR=18						
EGRO				S	Sn	18 11 13.3	-1.0
	0.8nm,0.3s,SNR=6.1						
EGRO	**El Granado**	**0.75**	**327**	P	Pn	18 11 03.4	-0.6
	3.6nm,0.1s,SNR=18						
EGRO				S	Sn	18 11 13.3	-1.0
	0.8nm,0.3s,SNR=6.1						
EMIN	**Mina Concepcio**	**0.89**	**15**	P	Pn	18 11 05.8	-0.2
	0.1nm,0.1s,SNR=9.6						
EMIN				S	Sn	18 11 17.0	-0.7
	1.2nm,0.3s,SNR=17						
EMIN	**Mina Concepcio**	**0.89**	**15**	P	Pn	18 11 05.8	-0.2
	0.1nm,0.1s,SNR=9.6						
EMIN				S	Sn	18 11 17.0	-0.8
	1.2nm,0.3s,SNR=17						
ESPR	**Espera**	**0.89**	**92**	⇑P	Pn	18 11 05.4	-0.6
	2.4nm,0.1s,SNR=18						
ESPR				S	Sn	18 11 17.0	-0.7
	4.8nm,0.3s,SNR=11						
ESPR	**Espera**	**0.89**	**92**	P	Pn	18 11 05.4	-0.6
	2.4nm,0.1s,SNR=18						
ESPR				S	Sn	18 11 17.0	-0.8
	4.8nm,0.3s,SNR=11						
PTEO	**Sao Teotonio**	**1.54**	**295**	*e*S	Sn	18 11 32.4	-1.2
PTEO							
	1.4nm,0.1s						
PTEO	**Sao Teotonio**	**1.54**	**295**	*e*

LCBS eS Sn 18 35 22.2 +0.5
LFRS El Faro 1.22 325⇑ eP Pn 18 35 06.6 -0.3
LFRS eS Sn 18 35 22.1 -0.1
CRIN San Cristobal 1.27 86 eP Pn 18 35 08.9 +1.3
CRIN eS Sn 18 35 24.8 +1.4
LBRS Las Brisas 1.30 329⇓ eP Pn 18 35 08.6 +0.5
LBRS eS Sn 18 35 24.7 +0.4
LFU La Fuente 1.35 327⇓ iP Pn 18 35 09.1 +0.3
LFU eS Sn 18 35 26.5 +1.1
BOQS Boqueron 1.44 321 eP Pn 18 35 10.2 +0.3
BOQS eS Sn 18 35 28.4 +0.9
TEL3 Telica 3 1.47 92 i P Pn 18 35 10.9 +0.5
TEL3 eS Sn 18 35 28.3 0.0
MIRN Miramar 1.61 96 eP Pn 18 35 12.2 -0.1
MIRN eS Sn 18 35 31.6 -0.2
CNGN Cerro Negro 1.61 94 eP Pn 18 35 12.5 +0.2
CNGN eS Sn 18 35 32.7 +0.7
SBLS San Blas 1.74 314 eP Pn 18 35 14.0 -0.1
SBLS eS Sn 18 35 36.7 +1.7
SNJE San Jose 1.75 316⇓ eP Pn 18 35 14.7 +0.6
SNJE eS Sn 18 35 36.0 +0.8
COPN Copaltepe 1.77 104 eP Pn 18 35 14.7 +0.2
COPN eS Sn 18 35 36.2 +0.4
APYN Apoyeque 1.99 101 eP Pn 18 35 18.1 +0.6
APYN eS Sn 18 35 41.1 0.0
APYN i 18 35 41.5
comp=Z,164nm,0.4s
MTO2 Montecristo 2 2.03 331⇓ eP Pn 18 35 20.3 +2.3
MTO2 eS Sn 18 35 46.6 +4.4

IDC 12 18:44:45.0±7.0, 1911S×6893W, h131km±46km, mb3.3/2, mb1 3.3/4, mb1mx3.0/18, mbtmp3.5/4, Error ellipse: s-maj=74.3km s-min=35.3km az=42.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.91**	**15**	P	Pn	18 45 31.7	+1.3
	0.7nm,0.3s,baz=198,slow=7.1,SNR=26						
LPAZ				S	Sn	18 46 07.0	+1.5
	0.2nm,0.3s,baz=179,slow=1.2,SNR=4.2						
SIV	**San Ignacio**	**8.11**	**69**	P	Pn	18 46 39.3	-0.6
	0.6nm,0.3s,baz=238,slow=16,SNR=12						
TORD	**Torodi Ar. Bea**	**76.58**	**71**	P	P	18 56 22.0	+1.0
	0.3nm,0.5s,baz=237,slow=5.0,SNR=4.9						
YKA	**Yellowknife Ar**	**88.94**	**341**	P	P	18 57 23.8	-0.8
	0.2nm,0.5s,baz=131,slow=4.6,SNR=6.1						

*IDC **12** 18:44:52.5±1.8, 595S×13050E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.7/12, mbtmp3.7/4, ML4.0/2, Error ellipse: s-maj=124.2km s-min=28.2km az=74.0*
*ISCJB **12** 18:44:54.7±1.1, 631S±007×1301E±02, h33km, mb3.5/2, Error ellipse: s-maj=22.3km s-min=9.0km az=157.4*
ISC 12 18:44:57.3±1.1, 625S±007×1301E±02, h35km, n7, σ0°61/12, mb3.5/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.81**	**161**	eP	**Pn**	**18 46 40.0**	**+5.2**
	6.9nm,0.2s						
KAKA				eS	**Sn**	**18 47 51.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**12.56**	**200**	eP	**Pn**	**18 48 01.5**	**+8.0**
	8.3nm,1.5s						
FITZ				eS	**Sn**	**18 50 12.0**	**-0.1**
WRA	**Warramunga Arr**	**14.21**	**164**	Pn	**Pn**	**18 48 15.8**	**-0.3**
	0.7nm,0.3s,baz=348,slow=13,SNR=44						
WRA				Sn	**Sn**	**18 50 45.8**	**-6.7**
	0.7nm,0.3s,baz=331,slow=23,SNR=7.6						
WB2	**Warramunga Arr**	**14.22**	**164**	eP	**Pn**	**18 48 15.7**	**-0.4**
WB2				eS	**Sn**	**18 50 46.0**	**-6.5**
ASAR	**Alice Springs**	**17.69**	**168**	P	**Pn**	**18 49 04.5**	**+3.6**
	0.4nm,0.3s,baz=347,slow=9.1,SNR=73						
ASAR				S	**S**	**18 52 12.2**	**-11**
	0.2nm,0.3s,baz=348,slow=24,SNR=5.7						
SONM	**Songino Array**	**57.77**	**341**	P	**P**	**18 54 44.5**	**-0.4**
	0.1nm,0.5s,mb3.1,baz=148,slow=8.5,SNR=2.3						
MKAR	**Makanchi Array**	**67.67**	**327**	P	**P**	**18 55 51.3**	**+0.5**
	0.5nm,0.5s,mb3.9,baz=120,slow=5.8,SNR=5.4						

*NEIC **12** 19:11:06.7, 3364S×6847W, h5km, ML3.2(GUC), After GUC.*
GUC 12 19:11:06.7±0.7, 3364S×6847W, h5km, MD3.9, ML3.2, 9C-6D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**1.46**	**262⇑**	iP	Pn	19 11 33.6	-0.1
LMEL				i S	Sn	19 11 53.8	+0.5
LMEL				AMP		19 11 55.9	
	comp=E,406nm,0.2s						
LMEL	**Las Melosas**	**1.46**	**262⇑**	iP	Pn	19 11 33.6	-0.1
LMEL				i S	Sn	19 11 53.8	+0.5
FCH	**Farellones**	**1.56**	**281⇓**	iP	Pn	19 11 35.5	+0.5
FCH				i S	Sn	19 11 57.6	+2.0
FCH				AMP		19 11 59.9	
	comp=E,326nm,0.6s						
PCH	**Pirque**	**1.71**	**270⇑**	iP	Pn	19 11 38.0	+0.9
PCH				i S	Sn	19 12 02.6	+3.3
CLCH	**Cerro Calan**	**1.75**	**278⇓**	iP	Pn	19 11 38.8	+1.2
CLCH				i S	Sn	19 12 03.1	+2.8
CLCH				AMP		19 12 05.9	
	comp=E,754nm,0.5s						
CICH	**Cipreses**	**1.76**	**247⇑**	iP	Pn	19 11 38.9	+1.1
CICH				i S	Sn	19 12 03.3	+2.8
ANTU	**Antumapu**	**1.81**	**272⇑**	iP	Pn	19 11 39.8	+1.2
ANTU				eS	Sn	19 12 04.7	+2.8
ANTU				AMP		19 12 07.9	
	comp=E,530nm,0.3s						
ANTU	**Antumapu**	**1.81**	**272⇑**	iP	Pn	19 11 39.8	+1.2
ANTU				eS	Sn	19 12 04.7	+2.8
CACH	**El Canelo**	**1.84**	**255⇑**	iP	Pn	19 11 40.2	+1.3
CACH				i S	Sn	19 12 05.7	+3.2
CHCH	**Chadas Angostu**	**1.84**	**260⇓**	iP	Pn	19 11 40.4	+1.4
CHCH				i S	Sn	19 12 06.0	+3.3
SAN	**Santiago**	**1.84**	**275**	i S	Sn	19 12 06.1	+3.4
SAN				AMP		19 12 09.4	
	comp=E,353nm,0.3s						
PEL	**Peldehue**	**1.92**	**284⇑**	iP	Pn	19 11 41.7	+1.6
PEL				i S	Sn	19 12 08.5	+3.9
PEL				AMP		19 12 11.3	
	comp=E,394nm,0.4s						
PEL	**Peldehue**	**1.92**	**284⇑**	iP	Pn	19 11 41.7	+1.6
PEL				i S	Sn	19 12 08.5	+3.9
RCDM	**Rinconada Maip**	**1.96**	**274**	eP	Pn	19 11 41.9	+1.3
RCDM				i S	Sn	19 12 09.5	+3.9
RCDM				AMP		19 12 10.8	
	comp=N,402nm,0.3s						
RCDM	**Rinconada Maip**	**1.96**	**274**	eP	Pn	19 11 41.9	+1.3
RCDM				i S	Sn	19 12 09.5	+3.9
JACH	**Jahuel**	**2.03**	**298**	eP	Pn	19 11 43.6	+2.1
JACH				i S	Sn	19 12 11.6	+4.4
TACH	**Talagante**	**2.06**	**269⇓**	iP	Pn	19 11 43.8	+1.8
TACH				i S	Sn	19 12 12.5	+4.4
SFDO	**San Fernando**	**2.33**	**245⇓**	iP	Pn	19 11 49.0	+3.4
SFDO				i S	Sn	19 12 20.5	+5.9
LNV	**Longovilo**	**2.47**	**262⇓**	iP	Pn	19 11 50.9	+3.3
LNV				i S	Sn	19 12 24.3	+6.1
LCCH	**Las Cruces**	**2.60**	**273**	eP	Pn	19 11 52.5	+3.1
LCCH				i S	Sn	19 12 27.5	+6.2
TRQA	**Tornquist**	**6.86**	**132**	ePn	Pn	19 12 44.3	-3.7
	comp=N,4.8nm,0.5s						

*IDC **12** 19:12:26.6±5.0, 5206N×174.20W, h65km±47km, mb3.4/5, mb1 3.9/8, mb1mx3.4/25, mbtmp3.9/8, ML3.9/3, Error ellipse: s-maj=55.1km s-min=15.3km az=158.0*
*ISCJB **12** 19:12:27.1±0.6, 522N±0.1×1742W±0.1, h82km±5km, mb3.6/5, Error ellipse: s-maj=25.7km s-min=7.9km az=143.1*
*NEIC **12** 19:12:27.9±0.6, 5207N×174.13W, h78km±6km, mb3.5/2, Error ellipse: s-maj=22.2km s-min=7.0km az=155.0*
ISC 12 19:12:28.0±0.6, 522N±01×17422W±009, h78km±5km, n14, σ0°79/17, mb3.6/5, 1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.04**	**160**	P	**Pn**	**19 12 38.4**	**-0.7**
ATKA				S	**Sn**	**19 12 46.7**	**-0.7**
ADK	**Adak**	**1.56**	**258⇑**	ePn	**Pn**	**19 12 54.8**	**+0.8**
ADK				eSn	**Sn**	**19 13 15.2**	**+1.4**
NIKO	**Nikolski**	**3.35**	**75**	P	**Pn**	**19 13 18.4**	**+0.3**
UNV	**Unalaska Valle**	**4.93**	**68**	P	**Pn**	**19 13 40.5**	**+1.0**
FX1	**Attu Island--F**	**7.72**	**280**	P	**Pn**	**19 14 18.1**	**+0.5**
	1.2nm,0.3s,baz=114,slow=19,SNR=3.9						
FX1				S	**Sn**	**19 15 41.9**	**-1.5**
	0.9nm,0.3s,baz=270,slow=20,SNR=2.1						
KDAK	**Kodiak Island**	**13.57**	**57**	P	**Pn**	**19 15 36.2**	**-0.7**
	1.3nm,0.3s,baz=307,slow=8.3,SNR=22						
MCK	**McKinley**	**17.52**	**39**	eP	**Pn**	**19 16 27.2**	**+0.2**
	1.1nm,0.4s						
COLA	**College**	**18.50**	**37**	P	**Pn**	**19 16 38.9**	**0.0**
	2.5nm,0.6s						
ILAR	**Eielson Array**	**18.81**	**38**	P	**Pn**	**19 16 42.2**	**-0.3**
	1.2nm,0.3s,baz=220,slow=8.8,SNR=79						
INK	**Inuvik**	**25.12**	**35**	P	**P**	**19 17 46.5**	**+1.0**
	0.7nm,0.5s,mb3.4,baz=256,slow=8.5,SNR=7.8						
MJAR	**Matsushiro Arr**	**36.72**	**264**	P	**P**	**19 19 27.9**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=42,slow=6.5,SNR=4.1						
PDAR	**Pinedale Array**	**43.34**	**76**	P	**P**	**19 20 22.1**	**-0.1**
	0.5nm,0.6s,mb3.4,baz=311,slow=3.3,SNR=5.9						
WRA	**Warramunga Arr**	**84.65**	**228**	P	**P**	**19 24 51.8**	**-1.2**
	0.3nm,0.4s,mb3.6,baz=32,slow=5.7,SNR=9.3						
ASAR	**Alice Springs**	**88.09**	**226**	P	**P**	**19 25 09.4**	**-0.4**
	0.6nm,0.6s,mb3.8,baz=23,slow=5.0,SNR=20						

IDC 12 19:15:50.6±2.2, 337N×12790E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/18, mbtmp3.2/3, Error ellipse: s-maj=147.7km s-min=26.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**165**	P	P	19 21 07.7	+0.6
	0.2nm,0.3s,baz=345,slow=11,SNR=12						
ASAR	**Alice Springs**	**27.50**	**168**	P	P	19 21 39.0	+0.3
	0.2nm,0.8s,baz=348,slow=7.3,SNR=5.5						
MKAR	**Makanchi Array**	**58.52**	**325**	P	P	19 25 48.6	-0.1
	0.2nm,0.4s,baz=88,slow=3.5,SNR=4.2						

*ISCJB **12** 19:22:11.6±1.0, 250S±0.1×1766W±02, h10km, mb4.1/5, Error ellipse: s-maj=27.1km s-min=12.0km az=43.0*
*IDC **12** 19:22:13.2±1.1, 2497S×17686W, h0km, mb4.0/5, mb1 4.4/7, mb1mx4.2/15, mbtmp4.2/7, ML3.6/2, Error ellipse: s-maj=42.4km s-min=21.2km az=133.0*
*NEIC **12** 19:22:15.1±0.8, 2496S×17683W, h15km, mb4.5/1, Error ellipse: s-maj=29.8km s-min=12.5km az=126.0*
ISC 12 19:22:13.7±0.9, 250S±01×1766W±02, h10km, n15, σ0°39/11, mb4.1/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.37**	**195**	Pn	**Pn**	**19 23 20.0**	**-0.1**
	14μm,0.3s,baz=246,slow=20,SNR=20						
AFI	**Afiamalu**	**11.96**	**23**	Pn	**Pn**	**19 25 03.8**	**-0.4**
	6.2nm,0.3s,baz=115,slow=8.9,SNR=8.6						
AFI	**Afiamalu**	**11.96**	**23**	P	**Pn**	**19 25 04.0**	**-0.2**
URZ	**Urewera**	**14.23**	**200**	Pn	**Pn**	**19 25 35.0**	**-0.2**
	0.8nm,0.3s,baz=14,slow=19,SNR=9.0						
URZ				Sn	**Sn**	**19 28 19.7**	**+6.7**
	0.5nm,0.3s,baz=138,slow=14,SNR=2.2						
STKA	**Stephens Creek**	**37.18**	**250**	P	**P**	**19 29 25.1**	**+0.4**
	1.2nm,0.6s,mb3.9,baz=112,slow=11,SNR=2.7						
STKA				PcP	PcP	19 31 45.2	+0.4
	1.8nm,0.8s,baz=72,slow=3.2,SNR=3.3						
STKA	**Stephens Creek**	**37.18**	**250**	P	**P**	**19 29 25.1**	**+0.4**
STKA				PcP	PcP	19 31 45.2	+0.4
ASAR	**Alice Springs**	**44.88**	**261**	P	**P**	**19 30 28.6**	**+0.5**
	1.1nm,0.3s,mb4.1,baz=94,slow=7.0,SNR=74						
ASAR				PcP	PcP	19 32 10.7	+0.9
	0.4nm,0.5s,baz=109,slow=4.1,SNR=5.4						
WRAB	**Tennant Creek**	**45.38**	**266**	eP	**P**	**19 30 31.6**	**-0.5**
	2.9nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**45.38**	**266**	P	**P**	**19 30 31.9**	**-0.3**
	1.8nm,0.5s,mb4.2,baz=97,slow=8.3,SNR=69						
WRA				PcP	PcP	19 32 12.6	+1.1
	0.4nm,0.7s,baz=97,slow=3.0,SNR=4.7						
NVAR	**Mina Array Bea**	**83.47**	**42**	P	pP	19 34 45.2	+0.4
	0.2nm,0.5s,baz=221,slow=7.8,SNR=4.7						
NVAR	**Mina Array Bea**	**83.47**	**42**	P	pP	19 34 45.2	+0.4
ILAR	**Eielson Array**	**92.43**	**12**	P	**P**	**19 35 25.2**	**+0.6**
	0.3nm,0.5s,mb3.9,baz=223,slow=4.7,SNR=5.9						
ARCES	**ARCESS Array B**	**133.57**	**349**	PKP	PKPdf	19 41 30.1	-0.3
	7.7nm,1.1s,baz=355,slow=1.2,SNR=13						
AKASG	**Malin Array Be**	**147.53**	**329**	PKPbc	PKPbc	19 41 57.0	-1.0
	2.0nm,0.5s,baz=46,slow=4.3,SNR=12						
BRTR	**Keskin Array B**	**150.69**	**307**	PKPbc	PKPbc	19 42 06.0	0.0
	0.8nm,0.7s,baz=202,slow=2.7,SNR=4.9						

*HLW **12** 19:22:27.6, 3525N×2366E, h33km, Mb2.9*
*CSEM **12** 19:22:28.6±0.4, 3493N×2398E, h10km, ML2.9, Error ellipse: s-maj=9.5km s-min=5.8km az=131.0*
*ISCJB **12** 19:22:31.0±1.0, 3492N±006×239E±0.1, h33km, Error ellipse: s-maj=14.9km s-min=8.3km az=145.1*
*ATH **12** 19:22:35.4, 36.10N×2447E, h10km, MD3.4/3*
ISC 12 19:22:32.6±0.8, 3495N±006×238E±01, h35km, n15, σ0°54/17, 10C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.46**	**336**	ePN	**Pn**	**19 22 57.0**	**+0.6**
NPS	**Neapolis**	**1.54**	**78**	ePB	**Pn**	**19 22 58.7**	**+1.1**
VLI	**Veliai**	**1.90**	**339**	ePB	**Pn**	**19 23 01.5**	**-0.9**
SLUM		**3.65**	**160**	⇑P	**Pn**	**19 23 26.6**	**+0.1**
SLUM				S	**Sn**	**19 24 08.7**	**+0.3**
HMAT	**Matruh**	**4.75**	**143**	⇑P	**Pn**	**19 23 41.6**	**0.0**
HMAT				S	**Sn**	**19 24 35.2**	**-0.3**
SWA2		**5.86**	**165**	⇓P	**Pn**	**19 23 56.9**	**0.0**
SWA1		**5.90**	**163**	⇑P	**Pn**	**19 23 57.5**	**+0.1**
HNAT	**Natroun**	**7.85**	**131**	⇑P	**Pn**	**19 24 23.8**	**-0.4**
FYM	**Al Fayyum**	**8.08**	**128**	⇑P	**Pn**	**19 24 27.0**	**-0.3**
KOT	**Kottamia**	**8.45**	**124**	⇓P	**Pn**	**19 24 31.6**	**-0.9**
GLL	**Jalalah**	**8.59**	**126**	⇑P	**Pn**	**19 24 33.9**	**-0.5**
HFRF	**Wahat Farafira**	**8.69**	**152**	⇑P	**Pn**	**19 24 35.9**	**+0.2**
GRB	**Gharib**	**10.16**	**128**	⇑P	**Pn**	**19 24 56.2**	**+0.3**
HDK1	**Dakhla**	**10.56**	**151**	⇑P	**Pn**	**19 25 02.2**	**+0.9**
GTR	**Jabal at Tayr**	**11.08**	**146**	⇑P	**Pn**	**19 25 08.1**	**-0.4**

*SZGRF **12** 19:44:47.8, 178N×9864E, h32km, mb4.8, Northern Sumatera, Indonesia*
*ISCJB **12** 19:44:49.8±0.3, 161N±004×97.10E±003, h26km, mb5.0/98, MS4.4/28, Error ellipse: s-maj=6.0km s-min=4.4km az=44.3*
*BJI **12** 19:44:49.9, 166N×9721E, h27km, mB5.2, mb5.1, Ms4.9, Msz4.5*
*IDC **12** 19:44:51.7±0.6, 164N×97.11E, h25km±3km, mb4.6/20, mb1 4.7/21, mb1mx4.6/25, mbtmp4.8/21, ML3.6/1, MS4.0/7, Ms1 4.1/7, ms1mx3.8/23, Error ellipse: s-maj=16.9km s-min=9.8km az=43.0*
*HRVD **12** 19:44:51.8±1.6, 130N×97.13E, h32km±3km, MW4.7/28, Centroid moment Tensor Solution. LP body waves: s14,c16;Mantle waves: s28,c32; Half duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}0.88±.22; $M_{\theta\theta}$-0.80±.17; $M_{\phi\phi}$-0.07±.20; $M_{r\theta}$0.90±.24; $M_{\theta\phi}$1.03±.12; $M_{\phi r}$-0.39±.25; Best double couple: $M_0$1.57400×10^{16} NP1:ϕ_s328.00000°, δ29.00000°, λ124.00000°. NP2: ϕ_s111.00000°, δ66.00000°, λ73.00000°. Principal axes: T 1.2780, Plg65.0000°, Azm352.0000°; N 0.5930, Plg16.0000°, Azm118.0000°; P -1.8710, Plg19.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **12** 19:44:51.8±0.2, 166N×9708E, mb4.9/27, MS4.2/3 Error ellipse: s-maj=6.3km s-min=3.9km az=202.0*
*MOS **12** 19:44:51.6±0.9, 184N×9721E, h33km, mb5.2/34, Error ellipse: s-maj=10.7km s-min=6.2km az=115.1*
ISC 12 19:44:52.3±0.3, 165N±004×9712E±003, h28km, h28km±.6km: pP-P, n210, σ0°88/207, mb5.0/98, MS4.4/28, 15C-15D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.14**	**58**	Pn	**Pn**	**19 45 26.8**	**+0.7**
	19nm,0.3s,baz=252,slow=4.7,SNR=88						
TSI	**Tuntungan**	**2.34**	**38**	P	**Pn**	**19 45 29.9**	**+1.0**
	2μm,1.0s						
BSI	**Banda Aceh**	**4.23**	**335**	P	**Pn**	**19 45 51.3**	**-3.6**
	217nm,0.7s						

KULM Kulim 5.05 44⇑ iP **Pn 19 46 06.9 +0.7**
KSI Kapahiang 7.59 134 P **Pn 19 46 43.8 +2.8**
77nm,1.0s
KSM Kuching 13.19 91 eP **Pn 19 47 59.0 +1.4**
KSM e 19 48 10.7
PALK Pallekele 17.29 289 eP **Pn 19 48 51.2 -0.4**
12nm,0.9s
KKM Kota Kinabalu 19.54 77⇑ iP **Pn 19 49 18.7 -0.4**
VIS Vishakhapatnam 20.94 321 eP **P 19 49 33.8 +0.9**
VIS AMb AMB 19 49 35.5
comp=Z,65nm,1.4s
VIS eS **S 19 53 27.4 +2.5**
TRD Trivandrum 21.19 289 ex x 19 49 45.4
TRD ex x 19 53 57.4
TRD i x x 19 57 07.2
QIZ Qiongzhong 21.30 35 P **P 19 49 36.2 -0.5**
QIZ S **S 19 53 30.2 -1.7**
QIZ AMB AMB
comp=Z,45nm,1.0s,mb4.8
QIZ LR LR
comp=N,602nm,14.2s
QIZ LR LR
comp=Z,640nm,14.0s,MS4.2
PCI Palu 22.86 96 P **P 19 49 53.6 +0.3**
comp=Z,142nm,1.0s,mb5.3
KMI Kunming 23.96 13 P **P 19 50 05.0 +0.8**
KMI AP 19 50 12.6
KMI XP sP 19 50 16.1 +0.5
KMI PP 19 50 39.2
KMI S **S 19 54 18.6 -0.5**
KMI XS sS 19 54 31.6 -0.8
KMI PCS PcS 19 57 27.2 +1.6
KMI AMB AMB
comp=Z,19nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,176nm,3.3s
KMI LR LR
comp=N,1μm,13.3s,MS4.6
KMI LR LR
comp=E,738nm,12.9s,MS4.6
KMI LR LR
comp=Z,1μm,14.5s,MS4.5
HYB Hyderabad 24.05 312 i P **P 19 50 06.0 +1.0**
HYB Hyderabad 24.05 312 eP **P 19 50 06.0 +1.0**
SHL Shillong 24.31 348 eP **P 19 50 05.5 -1.9**
SHL eS **S 19 54 25.5 +0.7**
SHL Shillong 24.31 348 eP **P 19 50 08.0 +0.6**
BOK Bokaro 24.56 335 eP **P 19 50 09.6 0.0**
BOK AMb AMB 19 50 13.0
comp=Z,107nm,1.4s,mb5.2
BOK eS **S 19 54 28.0 -0.7**
NGP Nagpur 26.19 319 eP **P 19 50 26.4 +2.0**
NGP AMb AMB 19 50 39.0
comp=Z,27nm,1.0s,mb4.7
GYA Guiyang 26.32 20⇓ iP **P 19 50 25.4 -0.2**
GYA AP pP 19 50 31.0 -2.7
GYA XP sP 19 50 34.2 -2.9
GYA PP 19 51 07.8
GYA S **S 19 54 52.9 -3.9**
GYA AMB AMB
comp=Z,30nm,1.2s,mb4.7
GYA AMB AMB
comp=Z,200nm,7.5s
GYA LR LR
comp=N,870nm,17.9s,MS4.5
GYA LR LR
comp=E,940nm,18.0s,MS4.5
GYA LR LR
comp=Z,860nm,18.4s,MS4.3
JIRN Jiri 27.90 339 eP **P 19 50 40.7 +0.9**
comp=Z,62nm,0.8s,mb5.3
PKI Pulchoki 28.11 338 eP **P 19 50 42.1 +0.4**
comp=Z,47nm,0.8s,mb5.1
GUN Gumba 28.24 339 eP **P 19 50 43.7 +0.8**
comp=Z,77nm,0.6s,mb5.5
DMN Daman 28.26 337 eP **P 19 50 43.5 +0.5**
comp=Z,39nm,0.9s,mb5.0
KKN Kakani 28.36 338 eP **P 19 50 44.2 +0.3**
comp=Z,59nm,0.9s,mb5.2
LSA Lhasa 28.47 349 P **P 19 50 45.8 +0.9**
GKN Gorkha 28.80 337 eP **P 19 50 48.2 +0.4**
comp=Z,115nm,1.2s,mb5.5
KOLN Koldanda 29.02 335 eP **P 19 50 50.4 +0.6**
comp=Z,42nm,0.7s,mb5.3
SONA Sohna 32.66 326 eP **P 19 51 21.9 0.0**
SONA AMb AMB 19 51 23.1
comp=Z,26nm,0.9s,mb5.1
AJM Ajmer 32.80 321 ex x 19 52 01.2
AJM AMb AMB 19 52 05.1
comp=Z,35nm,0.3s,mb5.7
AYAN Aya Nagar 32.81 326 eP **P 19 51 22.6 -0.6**
AYAN AMb AMB 19 51 24.7
comp=Z,21nm,0.7s,mb5.2
KUDL Kundal 32.91 325 eP **P 19 51 24.2 +0.2**
KUDL AMb AMB 19 51 24.6
comp=Z,13nm,0.9s,mb4.9
WHN Wuhan 33.06 28 ⇓P **P 19 51 25.0 -0.4**
KHET Khetri 33.25 324 eP **P 19 51 27.5 +0.5**
KHET AMb AMB 19 51 29.2
comp=Z,22nm,1.1s,mb5.0
XAN Xi'an 34.06 18 P **P 19 51 32.5 -1.6**
XAN AMB AMB
comp=Z,88nm,0.8s,mb5.7
XAN LR LR
comp=N,745nm,15.6s,MS4.7
XAN LR LR
comp=E,639nm,13.2s,MS4.7
XAN LR LR
comp=Z,1μm,15.6s,MS4.7
FITZ Fitzroy Crossi 34.26 126 eP **P 19 51 36.1 +0.3**
comp=Z,10nm,0.7s,mb4.9
KLP Kalpa 34.66 331 eP **P 19 51 39.9 +0.6**
KLP AMb AMB 19 51 40.9
comp=Z,25nm,0.5s,mb5.4
KLP eS **S 19 57 09.2 +2.0**
LZH Lanzhou 34.83 10 ⇑P **P 19 51 39.7 -1.0**
LZH AP pP 19 51 47.5 -1.4
LZH XP sP 19 51 51.2 -1.1
LZH PP PP 19 52 58.3 -1.6
LZH eS **S 19 57 10.2 +0.4**
LZH XS sS 19 57 22.5 -0.8
LZH SS SS 19 59 24.9 -17
LZH AMB AMB
comp=Z,36nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,166nm,6.1s
LZH LR LR
comp=E,2μm,13.3s
LZH LR LR
comp=Z,2μm,17.2s,MS5.0
NJ2 Nanjing 36.53 32 eP **P 19 51 55.3 0.0**
NJ2 AP pP 19 52 02.6 -0.9
NJ2 XP sP 19 52 06.0 -0.9
NJ2 PP PP 19 53 19.6 +0.9
NJ2 S **S 19 57 35.0 -0.9**
NJ2 XS sS 19 57 47.0 -2.4
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,390nm,3.8s
NJ2 LR LR
comp=N,1μm,14.4s,MS4.8
NJ2 LR LR
comp=E,660nm,16.9s,MS4.8
NJ2 LR LR
comp=Z,360nm,14.5s,MS4.3
SSE Sheshan 37.10 35 P **P 19 52 02.3 +2.1**
SSE AP pP 19 52 11.1 +2.7
SSE S **S 19 57 47.3 +2.7**
SSE XS sS 19 58 02.5 +4.4
SSE PCS PcS 19 58 10.3 +1.8
SSE AMB AMB
comp=Z,38nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,401nm,5.2s
SSE LR LR
comp=N,249nm,18.0s,MS4.1
SSE LR LR
comp=E,111nm,18.0s,MS4.1
SSE LR LR
comp=Z,337nm,17.1s,MS4.2
GTA Gaotai 37.66 3 ⇑P **P 19 52 04.7 -0.3**
GTA AP pP 19 52 12.5 -0.7
GTA XP sP 19 52 15.7 -0.9
GTA PP PP 19 53 31.5 +0.3

GTA PCP PcP 19 54 22.6 +0.6
GTA S **S** **19 57 52.6 -0.6**
GTA SS SS 20 00 23.4 -16
GTA AMB AMB
comp=Z,40nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,175nm,4.6s
GTA LR LR
comp=N,309nm,11.8s,MS4.5
GTA LR LR
comp=E,336nm,14.1s,MS4.5
GTA LR LR
comp=Z,365nm,14.1s,MS4.3
KAKA Kakadu 37.85 113⇑ *i*P **P** **19 52 05.8 -0.8**
comp=Z,15nm,0.6s,mb4.9
NWAO Narrogin (SRO) 39.29 153 LR LR 20 07 58.9
comp=Z,383nm,18.5s,MS4.3,baz=306,slow=35
BTO Baotou 40.50 15 *e*P **P** **19 52 28.0 -0.7**
HHC Hu-ho-hao-te 41.16 17 *e*P **P** **19 52 34.8 +0.7**
HHC AP pP 19 52 42.2 -0.2
HHC XP sP 19 52 45.7 0.0
HHC PP PP 19 54 14.2 +4.9
HHC PCP PcP 19 54 34.2 +1.2
HHC S **S** **19 58 47.9 +2.3**
HHC XS sS 19 58 59.8 +0.6
HHC SS SS 20 01 48.1 -0.7
HHC SCS ScS 20 02 35.1 -1.4
HHC AMB AMB
comp=Z,32nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,204nm,5.4s
HHC LR LR
comp=N,756nm,16.7s,MS4.8
HHC LR LR
comp=E,971nm,17.7s,MS4.8
HHC LR LR
comp=Z,568nm,16.6s,MS4.5
BJI Beijing 41.96 22 P **P** **19 52 41.2 +0.5**
BJI S **S** **19 59 01.7 +4.2**
BJI AMB AMB
comp=Z,128nm,0.9s,mb5.5
BJI AMB AMB
comp=Z,223nm,3.8s
BJI LR LR
comp=N,563nm,16.8s,MS4.6
BJI LR LR
comp=E,299nm,16.5s,MS4.6
BJI LR LR
comp=Z,250nm,16.8s,MS4.2
KSH Kashi 42.33 336 *e*P **P** **19 52 44.2 +0.5**
KSH *e*AP pP 19 52 52.3 +0.3
KSH *e*XP sP 19 52 56.3 +0.9
KSH PP PP 19 54 25.7 +3.7
KSH *e*PCP PcP 19 54 40.1 +3.2
KSH SCP ScP 19 58 27.9 +2.3
KSH PCS PcS 19 58 30.9 +2.1
KSH S **S** **19 59 03.4 +0.4**
KSH XS sS 19 59 16.6 -0.1
KSH SS SS 20 02 06.5 -5.6
KSH SCS ScS 20 02 43.8 +0.1
KSH AMB AMB
comp=Z,9.0nm,0.4s,mb4.8
KSH AMB AMB
comp=Z,152nm,5.2s
KSH LR LR
comp=N,243nm,5.9s
KSH LR LR
comp=E,310nm,5.0s
KSH LR LR
comp=Z,286nm,5.1s
WRA Warramunga Arr 42.34 122 P **P** **19 52 44.1 +0.3**
comp=Z,7.3nm,0.6s,mb4.5,baz=302,slow=9.1,SNR=61
WRA pP pP 19 52 51.8 -0.3
comp=Z,12nm,0.6s,baz=302,slow=9.2,SNR=25
WRAB Tennant Creek 42.35 122 *e*P **P** **19 52 44.3 +0.5**
WRAB pmax pmax
comp=Z,29nm,0.8s,mb5.0
WRAB MLR MLR
comp=Z,275nm,21.1s,MS4.1
WRAB Tennant Creek 42.35 122 *e*P **P** **19 52 44.3 +0.5**
comp=Z,29nm,0.8s,mb5.0
WRAB LR LR
comp=Z,275nm,21.1s,MS4.1
WB2 Warramunga Arr 42.35 122⇓ *i*P **P** **19 52 44.3 +0.4**
WB2 *e*pP pP 19 52 50.7 -1.5
WMQ Urumqi 42.82 350 P **P** **19 52 48.0 +0.3**
WMQ AP pP 19 52 55.5 -0.5
WMQ XP sP 19 52 58.8 -0.5
WMQ PP PP 19 54 30.1 +2.8
WMQ PCP PcP 19 54 39.6 +1.1
WMQ AMB AMB
comp=Z,47nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,328nm,4.2s
WMQ LR LR
comp=N,1μm,18.0s,MS4.9
WMQ LR LR
comp=E,1μm,22.6s,MS4.9
WMQ LR LR
comp=Z,1μm,18.0s,MS4.8
DL2 Dalian 43.32 28 P **P** **19 52 52.9 +1.2**
DL2 *e*S **S** **19 59 19.6 +2.0**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
DL2 LR LR
comp=N,450nm,16.0s,MS4.6
DL2 LR LR
comp=E,390nm,14.8s,MS4.6
DL2 LR LR
comp=Z,460nm,17.1s,MS4.5
ASAR Alice Springs 43.73 127 P **P** **19 52 55.8 +0.8**
comp=Z,7.0nm,1.0s,mb4.3,baz=300,slow=8.1,SNR=37
ASAR S **S** **19 59 22.5 -1.0**
comp=Z,1.1nm,1.0s,baz=297,slow=15,SNR=6.1
JNU Nakatsue 44.53 42 P **P** **19 53 01.9 +0.4**
comp=Z,36nm,1.0s,mb5.2,baz=189,slow=3.3,SNR=5.9
ULHL Ulahol 44.55 338 P **P** **19 53 02.3 +0.7**
SNR=39
KZA Kyzart 44.79 337 P **P** **19 53 04.7 +1.2**
SNR=16
UCH Uchtor 45.21 336 P **P** **19 53 08.0 +1.1**
SNR=52
TKM2 Tokmak 2 45.38 338 P **P** **19 53 09.1 +0.9**
SNR=27
KBK Karagaybulak 45.40 337 P **P** **19 53 09.7 +1.3**
SNR=41
AML Almayashu 45.46 335 P **P** **19 53 10.1 +1.3**
SNR=35
KS15 Wonju Array Si 45.50 35 *e*P **P** **19 53 08.7 -0.4**
AAK Ala-Archa 45.56 337 P **P** **19 53 10.7 +1.1**
SNR=13
AAK Ala-Archa 45.56 337 *e*P **P** **19 53 09.2 -0.4**
AAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
AAK Ala-Archa 45.56 337 *e*P **P** **19 53 09.2 -0.4**
comp=Z,8.2nm,0.6s,mb4.8
FRU Bishkek 45.68 337 *e*P **P** **19 53 12.0 +1.4**
FRU pmax pmax
comp=Z,75nm,2.1s,mb5.2
CHMS Chumysh 45.77 337 P **P** **19 53 11.8 +0.6**
SNR=13
EKS2 Erkin-Say 45.87 336 P **P** **19 53 13.3 +1.2**
SNR=40
USP Ospenovka 46.09 337 P **P** **19 53 14.4 +0.6**
SNR=41
SNY Shenyang 46.54 27 ⇑P **P** **19 53 16.4 -1.0**
SNY AMB AMB
comp=Z,21nm,1.2s,mb4.9
SONM Songino Array 46.70 9 P **P** **19 53 18.8 +0.2**
comp=Z,20nm,0.6s,mb5.2,baz=191,slow=9.3,SNR=187
SONM PcP PcP 19 54 52.3 +0.4
comp=Z,4.3nm,0.7s,baz=198,slow=3.1,SNR=4.2
SONM ScP ScP 19 58 47.3 +3.7
comp=Z,0.9nm,0.6s,baz=139,slow=5.8,SNR=6.4
SONM Songino Array 46.70 9 P **P** **19 53 18.8 +0.2**
SONM 19 54 52.3
MKAR Makanchi Array 46.79 346 P **P** **19 53 19.2 0.0**
comp=Z,60nm,0.7s,mb5.6,baz=165,slow=5.0,SNR=369
ULN Ulaanbaatar 46.83 9 *e*P **P** **19 53 19.5 -0.1**
ULN pmax pmax
comp=Z,13nm,0.6s,mb5.0
ULN MLR MLR
comp=Z,433nm,20.0s,MS4.4
ULN Ulaanbaatar 46.83 9 *e*P **P** **19 53 19.5 -0.2**
comp=Z,13nm,0.6s,mb5.0
ULN LR LR
comp=Z,433nm,20.0s,MS4.4
ZAK Zakamensk 48.84 5 *e*P **P** **19 53 34.4 -0.8**
ZAK *e* 19 55 26.8
ZAK pmax pmax
comp=Z,19nm,1.8s,mb4.8
ZAK pmax pmax
comp=Z,9.0nm,1.8s,mb4.5
CN2 Changchun 48.94 27 *e*P **P** **19 53 35.6 -0.4**
CN2 *e*XP sP 19 53 46.4 -1.3
CN2 *e*S **S** **20 00 38.7 +0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.7
CN2 LR LR
comp=E,400nm,16.0s,MS4.7
CN2 LR LR
comp=Z,400nm,16.0s,MS4.5
MOY Mondy 49.95 3 *e*P **P** **19 53 43.0 -0.6**
PMG Port Moresby 51.04 103 P **P** **19 53 52.7 +0.9**
comp=Z,9.2nm,0.8s,mb4.7,baz=297,slow=14,SNR=6.1
KURK Kurchatov 51.34 345 *e*P **P** **19 53 54.0 -0.2**
KURK pmax pmax
comp=Z,42nm,1.0s,mb5.3
KURK MLR MLR
comp=Z,192nm,20.0s,MS4.1
KURK Kurchatov 51.34 345 *e*P **P** **19 53 54.0 -0.1**
comp=Z,42nm,1.0s,mb5.3
KURK LR LR
comp=Z,192nm,20.0s,MS4.1
MAT Matsushiro 51.42 43 P **P** **19 53 54.1 -0.6**
MAT Matsushiro 51.42 43 *e*P **P** **19 53 54.0 -0.7**
MAT pmax pmax
comp=Z,13nm,0.8s,mb4.9
MAT Matsushiro 51.42 43 *e*P **P** **19 53 54.0 -0.7**
comp=Z,13nm,0.8s,mb4.9
MAJO Matsushiro 51.42 43 *e*P **P** **19 53 53.0 -1.7**
MAJO pmax pmax
comp=Z,20nm,0.8s,mb5.1
MAJO Matsushiro 51.42 43 *e*P **P** **19 53 53.0 -1.7**
comp=Z,20nm,0.8s,mb5.1
MJAR Matsushiro Arr 51.42 43 P **P** **19 53 54.6 -0.1**
comp=Z,12nm,0.7s,mb4.9,baz=213,slow=5.9,SNR=27
MDJ Mudanjiang 51.52 29 P **P** **19 53 55.8 +0.3**
MDJ AP pP 19 54 01.7 -2.2
MDJ XP sP 19 54 04.2 -3.0
MDJ AMB AMB
comp=Z,11nm,1.3s,mb4.6
MDJ AMB AMB
comp=Z,98nm,6.4s
MDJ LR LR
comp=N,121nm,19.5s,MS4.2
MDJ LR LR
comp=E,163nm,16.8s,MS4.2
MDJ LR LR
comp=Z,227nm,18.6s,MS4.2
VLA Vladivostok 51.64 32 *e*P **P** **19 53 55.7 -0.7**
VLA pmax pmax
comp=Z,37nm,1.3s,mb5.2
CTA Charters Tower 52.77 117 *e*P **P** **19 54 06.0 +1.2**
comp=Z,14nm,0.9s,mb4.9
CTA Charters Tower 52.77 117 P **P** **19 54 04.6 -0.2**
comp=Z,17nm,0.9s,mb5.0,baz=296,slow=8.3,SNR=6.3
CTA Charters Tower 52.77 117 *e*P **P** **19 54 06.0 +1.2**
CTA pmax pmax
comp=Z,14nm,0.9s
ZAL Zalesovo 53.10 351 P **P** **19 54 07.5 +0.3**
comp=Z,40nm,0.8s,mb5.4,baz=309,slow=5.8,SNR=228
ZAL Zalesovo 53.10 351 P **P** **19 54 07.5 +0.3**
STKA Stephens Creek 53.72 132 *e*P **P** **19 54 10.9 -0.8**
comp=Z,6.7nm,0.8s,mb4.6
STKA *e*pP pP 19 54 19.6 -0.6
STKA Stephens Creek 53.72 132 P **P** **19 54 11.4 -0.3**
comp=Z,8.7nm,0.8s,mb4.7,baz=324,slow=7.5,SNR=11
STKA pP pP 19 54 19.8 -0.4
comp=Z,8.8nm,0.6s,baz=356,slow=19,SNR=11
NVS Novosibirsk 54.22 350 *i*P **P** **19 54 14.4 -1.1**
NVS *e*S **S** **20 01 49.3 -1.7**
NVS pmax pmax
comp=Z,58nm,1.1s,mb5.4
NVS pmax pmax
comp=N,48nm,1.3s
NVS pmax pmax
comp=E,29nm,1.3s
NVS smax
comp=N,14nm,1.6s
NVS smax
comp=E,24nm,1.9s
RDF Al-Radifah 54.41 305 *e*P **P** **19 54 17.1 +0.3**
RDF AMb AMB 19 54 29.9
comp=Z,31nm,0.9s,mb5.2
UMR Umm Al-Rimmam 54.49 306 *e*P **P** **19 54 16.7 -0.7**
UMR AMb AMB 19 54 29.2
comp=Z,18nm,0.6s,mb5.2
ATD Arta Tunnel 54.71 283 LR LR 20 14 52.1
comp=Z,85nm,18.3s,MS3.9,baz=121,slow=33
NAY Al-Naaiem 54.77 305 *e*P **P** **19 54 19.3 -0.1**
NAY AMb AMB 19 54 32.3
comp=Z,13nm,0.8s,mb5.0
MIB Mutribah 54.89 306 *e*P **P** **19 54 20.3 +0.1**
MIB AMb AMB 19 54 22.7
comp=Z,42nm,0.9s,mb5.5
BRVK Borovoye 55.87 341 *e*P **P** **19 54 26.3 -1.0**
BRVK pmax pmax
comp=Z,15nm,1.0s,mb5.0
BRVK Borovoye 55.87 341 *e*P **P** **19 54 26.3 -1.0**
comp=Z,15nm,1.0s,mb5.0
KLR Kul'dur 55.89 27 *e*P **P** **19 54 24.8 -2.7**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,48nm,1.0s,mb5.5
HABR Khabarovsk 56.91 29 *e*P **P** **19 54 34.2 -0.5**
HABR pmax pmax
comp=Z,50nm,1.3s,mb5.4
BOD Bodaibo 57.59 11 *e*P **P** **19 54 39.0 -0.5**
BOD pmax pmax
comp=Z,22nm,1.0s,mb5.1
ASAJ Asahikawa 58.36 37 P **P** **19 54 45.0 0.0**
comp=Z,11nm,0.6s,mb5.0,baz=226,slow=8.4,SNR=11
AKTO Aktyubinsk 58.80 332 LR LR 20 25 19.8
comp=Z,71nm,20.4s,MS3.8,baz=283,slow=41
CLNS Chul'man 59.34 17 *e*P **P** **19 54 49.5 -2.3**
CLNS pmax pmax
comp=Z,30nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=E,16nm,1.0s
CLNS MLR MLR
comp=Z,600nm,15.0s,MS4.8
CLNS MLR MLR
comp=N,100nm,14.0s,MS4.7
CLNS MLR MLR
comp=E,400nm,15.0s,MS4.7
KMBO Kilima Mbogo 59.92 268 P **P** **19 54 57.0 +1.2**
comp=E,1.6nm,0.8s,mb4.1,baz=50,slow=20,SNR=8.8
YSS Yuzh-Sakhalins 60.03 34⇑ *i*P **P** **19 54 57.5 +1.0**
YSS *e* pP 19 55 06.0 +0.9
YSS pmax pmax
comp=Z,110nm,1.1s,mb5.8
YSS Yuzh-Sakhalins 60.03 34 *e*P **P** **19 54 56.5 0.0**
comp=Z,71nm,0.9s,mb5.7
GNI Garni 60.92 316 *e*P **P** **19 55 03.0 +0.4**
GNI pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 60.92 316 *e*P **P** **19 55 02.5 -0.1**
comp=Z,12nm,1.0s,mb5.0
ZEI Tsey 62.61 318 *e*P **P** **19 55 12.5 -1.5**
ZEI *i* *PP pP 19 55 21.4 -1.2
ZEI *i* 19 57 30.4
ZEI pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
ARU Arti 62.74 337⇑ *i*P **P** **19 55 13.1 -1.7**
ARU *e* 19 57 28.8
ARU *e*S **S** **20 03 36.9 -5.0**
ARU *e*SS SS 20 07 38.1 -8.7
ARU pmax pmax
comp=Z,13nm,0.9s,mb5.1
ARU Arti 62.74 337 *e*P **P** **19 55 13.2 -1.6**
comp=Z,18nm,1.2s,mb5.1
MALT Malatya 64.77 312 *e*P **P** **19 55 27.7 -0.5**
MALT pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MALT Malatya 64.77 312 *e*P **P** **19 55 27.7 -0.5**
comp=Z,5.2nm,0.9s,mb4.6
YAK Yakutsk 65.02 16 *e*P **P** **19 55 28.9 -0.9**
YAK pmax pmax
comp=Z,71nm,0.9s,mb5.7
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=E,12nm,1.1s
YAK Yakutsk 65.02 16 *e*P **P** **19 55 28.6 -1.2**
comp=E,98nm,0.8s,mb5.9
EIL Elat 65.15 302 *e*P **P** **19 55 30.6 -0.1**
comp=E,181nm,1.0s
SOKR Solikamsk 65.64 339⇓ *i*P **P** **19 55 33.6 -0.2**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
SOC Sochi 65.73 318 *e*P **P** **19 55 32.8 -1.7**
SOC *e**PP pP 19 55 42.0 -1.1
SOC *e* 19 56 08.9
SOC *e*S S 20 04 15.2 -3.7
SOC *e**SS sS 20 04 30.5 -2.7
SOC *e*SS SS 20 08 33.0 -0.4
SOC *e*SSS 20 11 26.0
SOC pmax pmax
comp=Z,12nm,0.8s,mb5.0
ANN Anapa 67.71 318 *e*P pP 19 55 59.1 +3.3
ANN pmax pmax
comp=Z,27nm,0.9s,mb5.3
VRHR Novokhopersk 67.71 326 *e*P **P** **19 55 45.5 -1.6**
VRHR pmax pmax
comp=Z,30nm,1.1s,mb5.2
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.5s
BR131 Keskin Array S 68.75 312 *e*P **P** **19 55 52.7 -0.9**
comp=E,4.3nm,0.6s,mb4.6
BRTR Keskin Array B 68.75 312 P **P** **19 55 52.8 -0.8**
comp=E,5.9nm,0.7s,mb4.6,baz=129,slow=6.8,SNR=37
SIM Simferopol' 69.98 318 *e*P **P** **19 56 00.9 -0.3**
SIM pmax pmax
comp=Z,13nm,0.9s,mb4.9
MA2 Magadan 70.97 26 *e*P **P** **19 56 07.0 -0.2**
MA2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
MA2 Magadan 70.97 26 *e*P **P** **19 56 06.7 -0.5**
comp=Z,10nm,0.9s,mb4.8
PET Petropavlovsk 71.91 34 *e*P **P** **19 56 12.7 -0.2**
PET pmax pmax
comp=Z,17nm,0.5s,mb5.2
PET Petropavlovsk 71.91 34 *e*P **P** **19 56 12.5 -0.4**
comp=Z,15nm,0.5s,mb5.2
OBN Obninsk 72.20 328 *d i*P **P** **19 56 13.9 -0.7**
OBN *e*S S 20 05 31.9 -3.5
OBN pmax pmax
comp=Z,29nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
KLMR Klimovskoe 73.31 334 *c i*P **P** **19 56 20.0 -1.2**
KLMR pmax pmax
comp=Z,20nm,1.3s,mb4.9
SEY Seymchan 73.38 23 *e*P **P** **19 56 21.0 -0.7**
SEY *e* 19 58 58.5
SEY *e*PPP 20 00 43.3
SEY *e*S S 20 05 43.8 -5.1
SEY *e* 20 06 22.0
SEY *e*SS SS 20 10 25.9 -5.4
SEY *e*SSS 20 13 42.8
SEY pmax pmax
comp=Z,29nm,1.9s,mb4.9
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=E,5.0nm,1.2s
SEY smax
comp=N,10.0nm,9.4s
SEY smax
comp=E,23nm,11.5s
SEY MLR MLR
comp=Z,192nm,24.0s,MS4.3
SEY MLR MLR
comp=N,240nm,30.0s
SEY MLR MLR
comp=E,193nm,38.0s
TIRR Tirgusor 73.75 316⇑ P **P** **19 56 22.8 -1.0**
AKASG Malin Array Be 74.86 322 P **P** **19 56 28.8 -1.4**
comp=E,6.4nm,0.6s,mb4.7,baz=94,slow=5.0,SNR=37
BOSA Boshof 74.93 240 LR LR 20 24 22.1
comp=E,137nm,18.6s,MS4.3,baz=164,slow=32
VRI Vrincioaia 75.24 317⇓ P **P** **19 56 33.0 +0.6**
VRI Vrincioaia 75.24 317⇓ P **P** **19 56 33.0 +0.5**
MLR Muntele Rosu 75.69 317⇓ P **P** **19 56 35.5 +0.5**
VOIR 76.29 316⇑ P **P** **19 56 38.0 -0.5**
VOIR 76.29 316⇑ P **P** **19 56 38.0 -0.5**
BURAR Bucovina Array 76.64 319⇓ P **P** **19 56 41.4 +1.0**
BURAR Bucovina Array 76.64 319⇓ P **P** **19 56 41.4 +1.0**
VTS Vitosha 77.06 313⇓ P **P** **19 56 42.5 -0.3**
JOF Joensuu 77.71 335 *ep* **P** **19 56 46.2 -0.2**
comp=E,2.8nm,0.6s,mb4.4
DRGR 78.15 317⇓ P **P** **19 56 49.3 +0.4**
BZS Buzias 78.70 316⇓ P **P** **19 56 51.9 0.0**
BZS Buzias 78.70 316⇓ P **P** **19 56 51.9 0.0**
KOLS Kolonicke sedl 78.83 320 *e*P **P** **19 56 53.3 +0.7**
KOLS *e* 19 57 07.3
FINES FINESS Array B 79.57 332 P **P** **19 56 55.9 -0.8**
comp=E,5.8nm,0.7s,mb4.6,baz=98,slow=6.2,SNR=25
FINES pP pP 19 57 03.8 -1.7
comp=E,6.3nm,0.7s,baz=106,slow=4.2,SNR=12
FINES LR LR 20 34 47.5
comp=E,52nm,19.5s,MS3.9,baz=100,slow=38
FINES FINESS Array B 79.57 332 P **P** **19 56 55.9 -0.8**
FINES *PP pP 19 57 03.8 -1.7
STHS Stebnicka Huta 79.58 320 *e*P **P** **19 56 57.7 +1.0**
KAF Kangasniemi 79.65 333 *ep* **P** **19 56 56.4 -0.7**
comp=E,9.2nm,0.7s,mb4.8,baz=103,slow=5.0
KAF Kangasniemi 79.65 333 *e*P **P** **19 56 56.4 -0.7**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KECS Kecovo 79.92 319 *e*P **P** **19 56 58.0 -0.6**
KECS Kecovo 79.92 319 *e* **P** **19 56 58.0 -0.6**
PSZ Piszkesteto 80.22 318 *e*P **P** **19 57 00.0 -0.2**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
PSZ Piszkesteto 80.22 318 *e*P **P** **19 56 60.0 -0.2**
comp=Z,6.7nm,0.9s,mb4.6
SYO Syowa Base 80.40 198⇓ *es*P sP 19 57 17.9 +4.6
OJC Ojcow 80.63 321 *e*P **P** **19 57 02.6 +0.2**
BILL Biiibino 80.78 21⇑ *e*P **P** **19 57 01.9 -1.3**
BILL *e* 20 00 07.5
BILL pmax pmax
comp=Z,12nm,1.6s,mb4.6
BILL MLR MLR
comp=Z,400nm,16.0s,MS4.9
PKSM Moragy 80.84 316⇑ P **P** **19 57 03.4 -0.1**
VYHS Vyhne 81.00 319 *e* **P** **19 56 59.0 -5.4**
OKC Ostrava-Krasne 81.63 320 *e*P **P** **19 57 07.9 +0.2**
OKC *ep*P pP 19 57 16.0 -0.6
MORC Moravsky Berou 82.01 320 *e*P **P** **19 57 09.3 -0.4**
MORC *e* pP 19 57 17.6 -1.0
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MORC Moravsky Berou 82.01 320 *e*P **P** **19 57 09.3 -0.4**
comp=Z,5.7nm,0.9s,mb4.5
MORC *e* pP 19 57 17.6 -1.0
ARCES ARCESS Array B 82.09 340 P **P** **19 57 09.9 -0.2**
comp=Z,6.4nm,0.6s,mb4.7,baz=99,slow=4.8,SNR=37
ARCES LR LR 20 38 04.7
comp=Z,106nm,18.5s,MS4.2,baz=196,slow=39
ZST Bratislava 82.11 318 *e*P **P** **19 57 10.8 +0.5**
ZST *ep*P pP 19 57 18.2 -0.9
DPC Dobruska-Polom 82.86 320 *e*P **P** **19 57 14.6 +0.5**
DPC *ep*P pP 19 57 23.0 0.0
UPC Upice 83.07 321 *e*P **P** **19 57 15.8 +0.5**
PERS Pernice 83.31 317 *e*P **P** **19 57 16.7 +0.2**
VISS Visnje 83.43 316 *e*P **P** **19 57 17.1 0.0**
PRU Pruhonice 83.96 320 *e*P **P** **19 57 20.0 +0.2**
PRU *ep*P pP 19 57 28.3 -0.4
PVCC Panska Ves 83.99 320 *e*P **P** **19 57 15.5 -4.5**
BRG Berggiesshubel 84.41 321 *e*P **P** **19 57 22.0 -0.1**
BRG *e* pP 19 57 30.9 -0.1
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
BRG Berggiesshubel 84.41 321 *e*P **P** **19 57 22.0 -0.1**
comp=Z,3.4nm,1.0s,mb4.4

BRG				*e*		pP		19 57 30.9 -0.1
GERES	**GERESS Array B**	**84.42**	**319**	P		**P**		**19 57 22.1 -0.1**
	comp=Z,7.8nm,1.0s,mb4.8,baz=100,slow=5.5,SNR=30							
GERES				pP		pP		19 57 31.0 -0.1
	comp=Z,5.3nm,0.9s,baz=97,slow=5.5,SNR=12							
KHC	**Kasperske Hory**	**84.53**	**319**	*e*P		**P**		**19 57 22.5 -0.2**
KHC				*e*pP		pP		19 57 31.5 -0.1
CLL	**Collm**	**85.03**	**321**	*i* P		**P**		**19 57 24.7 -0.6**
CLL				*i*				19 57 30.5
CLL				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.8							
CLL	**Collm**	**85.03**	**321**	*i* P		**P**		**19 57 24.7 -0.6**
	comp=Z,7.0nm,1.0s,mb4.8							
CLL				*i*				19 57 28.1
CLL				*i*				19 57 30.5
GRA1	**Grafenberg Arr**	**86.09**	**320**	*e*P		**P**		**19 57 30.0 -0.5**
	comp=Z,9.0nm,1.1s,mb4.9							
GRA1				*e*pP		pP		19 57 39.4 0.0
GRF	**Grafenberg Arr**	**86.09**	**320**	*e*P		**P**		**19 57 30.0 -0.5**
	comp=Z,9.0nm,1.1s,mb4.9							
GRF				*e*pP		pP		19 57 39.4 0.0
GRF	**Grafenberg Arr**	**86.09**	**320**	*e*P		**P**		**19 57 30.0 -0.5**
GRF				*e*PP		pP		19 57 39.4 0.0
GRF				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.9							
VNDA	**Vanda**	**86.28**	**169**	LR		LR		20 34 07.8
	comp=Z,163nm,18.8s,MS4.5,baz=122,slow=34							
NB2	**NORSAR Subarra**	**86.58**	**331**	P		**P**		**19 57 28.4 -4.5**
	comp=Z,7.5nm,0.9s,mb4.9,baz=94,slow=5.1							
NB2	**NORSAR Subarra**	**86.58**	**331**	P		**P**		**19 57 28.4 -4.5**
NB2				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb5.0							
NOA	**NORSAR Array B**	**86.58**	**331**	P		**P**		**19 57 32.3 -0.6**
	comp=Z,5.0nm,0.8s,mb4.8,baz=94,slow=5.0,SNR=13							
NOA				pP		pP		19 57 40.6 -1.2
	comp=Z,3.6nm,0.8s,baz=94,slow=5.0,SNR=7.2							
LPG	**La Plagne**	**89.09**	**315**	*e*P		**P**		**19 57 44.0 -0.9**
	comp=Z,14nm,0.9s,mb5.0							
LPG	**La Plagne**	**89.09**	**315**	*e*P		**P**		**19 57 44.0 -0.9**
LPG				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb5.0							
LPG	**La Plagne**	**89.09**	**315**	*e*P		**P**		**19 57 44.0 -0.9**
	comp=Z,7.0nm,0.9s,mb5.0							
DOU	**Dourbes**	**90.37**	**320**	⇑P		**P**		**19 57 51.0 +0.1**
DOU				PCP	PcP			19 57 53.0 +0.9
DOU				XP	sP			19 58 02.6 -0.5
TORD	**Torodi Ar. Bea**	**94.91**	**283**	P		**P**		**19 58 11.8 -0.1**
	comp=Z,0.7nm,1.1s,mb4.0,baz=97,slow=6.3,SNR=3.2							
ILAR	**Eielson Array**	**99.32**	**23**	P		**P**		**19 58 29.9 -1.9**
	comp=Z,0.5nm,1.0s,mb4.0,baz=284,slow=3.6,SNR=3.6							
ILAR				PP	PP			20 02 30.3 -4.6
	comp=Z,0.4nm,0.7s,baz=281,slow=8.8,SNR=5.0							
YKA	**Yellowknife Ar**	**111.68**	**15**	PKiKP	PKiKP			20 03 24.1 -0.1
	comp=Z,0.1nm,0.4s,baz=343,slow=1.9,SNR=3.6							
YKA				PP	PP			20 04 03.4 -2.8
	comp=Z,3.1nm,1.1s,baz=329,slow=7.3,SNR=15							
YKA	**Yellowknife Ar**	**111.68**	**15**	PKPdf	PKiKP			20 03 24.1 -0.1
YKA				PP	PP			20 04 03.4 -2.8
ULM	**Lac du Bonnet**	**127.11**	**10**	PKP	PKPdf			20 03 53.4 -0.4
	comp=Z,0.7nm,0.4s,baz=37,slow=2.0,SNR=6.3							
PDAR	**Pinedale Array**	**129.68**	**25**	PKP	PKPdf			20 03 59.5 +0.8
	comp=Z,0.5nm,0.6s,baz=155,slow=1.7,SNR=4.7							
PDAR				pPKP	pPKPdf			20 04 09.8 +1.8
	comp=Z,0.5nm,0.7s,baz=90,slow=0.1,SNR=3.6							
JCT	**Junction City**	**144.21**	**25**	*e*PKIKP	PKPdf			20 04 24.6 -0.9
CPUP	**Villa Florida**	**145.28**	**223**	PKPbc	PKPbc			20 04 28.4 +1.3
	comp=Z,4.8nm,0.7s,baz=92,slow=2.5,SNR=12							
CPUP	**Villa Florida**	**145.28**	**223**	*e*PKP	PKPdf			20 04 28.3 +0.9
LRAL	**Lakeview Retre**	**145.29**	**6**	*e*PKP	PKPdf			20 04 26.4 -0.9
CFAA	**Coronel Fontan**	**147.15**	**203**	PKPbc	PKPbc			20 04 33.6 +0.9
	comp=Z,0.4nm,0.6s,baz=175,slow=2.2,SNR=7.0							
SIV	**San Ignacio**	**154.21**	**235**	PKP	PKPdf			20 04 43.1 +1.7
	comp=Z,0.2nm,0.4s,baz=144,slow=8.7,SNR=4.2							
SIV				PKPbc	PKPbc			20 04 50.3 +0.7
	comp=Z,1.0nm,0.7s,baz=108,slow=6.4,SNR=5.9							
LPAZ	**La Paz**	**159.44**	**224**	PKP	PKPdf			20 04 50.2 +2.1
	comp=Z,0.6nm,0.7s,baz=25,slow=19,SNR=3.3							
LPAZ	**La Paz**	**159.44**	**224**	PKP	PKPdf			20 04 50.2 +2.1
OTAV	**Otavalo**	**175.19**	**293**	*e*PKPdf	PKPdf			20 05 01.5 +2.0
OTAV				*e*				20 05 09.8

CSEM ***12*** *19:49:53.9±1.3, 4561N×2649E, h136km±12km, MD3.5/2, Error ellipse: s-maj=11.9km s-min=9.9km az=40.0, After BUC*
BUC ***12*** *19:49:53.9±1.3, 4561N×2649E, h136km±12km, MD3.5/2, Error ellipse: s-maj=11.9km s-min=9.9km az=40.0*
ISCJB ***12*** *19:49:54.2±1.0, 4560N±005×2650E±008, h134km±7km, Error ellipse: s-maj=9.4km s-min=7.4km az=158.9*
SOF ***12*** *19:49:55.2, 4553N×2617E, h14km, MD2.6*
ISC 12 19:49:54.8±1.0, 4561N±005×2651E±008, h132km±7km, n15, σ0°84/23, 7C-3D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.26**	**22**	⇑*i*P		**Pn**		**19 50 12.6**	**-0.4**
PLOR				*i* S		**Sn**		**19 50 26.9**	**+0.1**
VRI	**Vrincioaia**	**0.30**	**31**	⇑*i*P		**Pn**		**19 50 12.9**	**-0.2**
VRI				*i* S		**Sn**		**19 50 26.5**	**-0.5**
MLR	**Muntele Rosu**	**0.42**	**253**	⇓*i*P		**Pn**		**19 50 13.7**	**+0.1**
MLR				*i* S		**Sn**		**19 50 28.2**	**+0.3**
SNX	**Sinaia**	**0.75**	**250**	⇑*i*P		**Pn**		**19 50 16.5**	**+0.8**
SNX				*i* S		**Sn**		**19 50 34.0**	**+2.4**
VOIR		**1.04**	**261**	⇓*i*P		**Pn**		**19 50 17.7**	**-0.6**
VOIR				*i* S		**Sn**		**19 50 34.7**	**-1.4**
MTUR	**Matau**	**1.09**	**250**	⇑*i*P		**Pn**		**19 50 19.8**	**+1.1**
MTUR				*i* S		**Sn**		**19 50 36.0**	**-0.9**
BUC1	**Bucharest**	**1.31**	**195**	*i* S		**Sn**		**19 50 41.4**	**+0.6**
TIRR	**Tirgusor**	**1.77**	**130**	⇑*i*P		**Pn**		**19 50 26.3**	**+0.1**
TIRR				*i* S		**Sn**		**19 50 49.5**	**-0.6**
ZIMR		**2.12**	**203**	*i* S		**Sn**		**19 50 56.7**	**-0.8**
BURAR	**Bucovina Array**	**2.19**	**336**	⇑*i*P		**Pn**		**19 50 31.5**	**+0.3**
BURAR				*i* S		**Sn**		**19 50 59.7**	**+0.5**
SZH	**Strazhica**	**2.38**	**190**	*e*P		**Pn**		**19 50 33.5**	**-0.1**
PVL	**Pavlikeni**	**2.54**	**200**	*i* P		**Pn**		**19 50 37.2**	**+1.6**
DRGR		**2.89**	**295**	⇑*i*P		**Pn**		**19 50 38.9**	**-1.2**
VTS	**Vitosha**	**3.84**	**219**	*i* P		**Pn**		**19 50 52.0**	**-0.5**
VTS	**Vitosha**	**3.84**	**219**	⇓*i*P		**Pn**		**19 50 52.1**	**-0.4**

BJI ***12*** *19:57:42.7, 1687S×17345W, h85km, mB5.0, mb4.6, Ms4.6, Msz4.6*
ISCJB ***12*** *19:57:44.4±1.8, 1665S±008×174.13W±008, h77km±17km, mb4.5/22, Error ellipse: s-maj=15.9km s-min=10.2km az=107.0*
NEIC ***12*** *19:57:45.4±1.1, 1663S×174.13W, h74km±10km, mb4.6/13, Error ellipse: s-maj=11.4km s-min=6.9km az=136.0*
IDC ***12*** *19:57:45.2±2.8, 1664S×174.14W, h74km±25km, mb4.2/9, mb1 4.5/11, mb1mx4.2/18, mbtmp4.6/11, MS3.2/1, Ms1 3.2/1, ms1mx2.3/19, Error ellipse: s-maj=23.6km s-min=14.3km az=133.0*
MOS ***12*** *19:57:47.1±1.8, 1679S×174.18W, h85km, mb4.6/7, Error ellipse: s-maj=16.1km s-min=14.2km az=148.4*
SZGRF ***12*** *19:58:55.5, 1493S×17401W, h668km, Samoa Islands region*
ISC 12 19:57:46.4±1.5, 1665S±008×17406W±008, h83km±15km, n119, σ0°83/46, mb4.5/22, 5C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.50**	**39**	P		**Pn**		**19 58 38.6**	**+0.1**
	103nm,0.3s,baz=44,slow=2.3,SNR=114								
AFI				S		**Sn**		**19 59 13.8**	**-5.0**
	726nm,0.3s,baz=29,slow=21,SNR=27								
AFI				LR		LR		19 59 37.3	
	comp=Z,335nm,19.0s,baz=333,slow=32								
AFI	**Afiamalu**	**3.50**	**39**	⇑*i*Pn		**Pn**		**19 58 38.4**	**-0.2**
AFI				*e*Pg		**Pn**		**19 58 51.9**	**+13**
AFI				*e*Sn		**Sn**		**19 59 13.3**	**-5.6**
RAR	**Rarotonga**	**14.26**	**111**	P		**Pn**		**20 01 04.3**	**+0.1**
	1.5nm,0.3s,baz=231,slow=6.5,SNR=4.1								
DZM	**Mont Dzumac**	**19.17**	**251**	P		**Pn**		**20 02 06.3**	**+1.4**
	0.5nm,0.3s,baz=114,slow=20,SNR=3.8								
URZ	**Urewera**	**22.89**	**198**	P			**P**	**20 02 41.7**	**-1.4**
	15nm,0.4s,mb4.6,baz=43,slow=7.2,SNR=13								
URZ				S			**S**	**20 06 33.1**	**-13**
	7.0nm,0.7s,baz=65,slow=17,SNR=3.8								
ARMA	**Armidale**	**34.17**	**240**	*e*P			**P**	**20 04 24.3**	**+0.6**
CNB	**Canberra Magne**	**37.50**	**233**	*e*P			**P**	**20 04 52.2**	**+0.1**
	21nm,0.9s,mb5.1								
CTA	**Charters Tower**	**37.76**	**259**	*e*P			**P**	**20 04 55.0**	**+0.7**
	7.7nm,1.0s,mb4.5								
CTA	**Charters Tower**	**37.76**	**259**	*e*P			**P**	**20 04 55.0**	**+0.7**
CTA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
TOO	**Toolangi**	**41.20**	**232**	*e*P			**P**	**20 05 22.6**	**-0.3**
	comp=Z,11nm,0.7s,mb4.8								
TOO	**Toolangi**	**41.20**	**232**	*e*P			**P**	**20 05 22.6**	**-0.3**
TOO				pmax	pmax				
	comp=Z,11nm,0.7s,mb4.8								
STKA	**Stephens Creek**	**42.88**	**241**	*e*P			**P**	**20 05 34.2**	**-2.3**
	comp=Z,16nm,0.9s,mb4.7								
STKA	**Stephens Creek**	**42.88**	**241**	P			**P**	**20 05 34.7**	**-1.9**
	comp=Z,20nm,0.9s,mb4.9,baz=86,slow=9.5,SNR=26								
WB2	**Warramunga Arr**	**48.94**	**258**	*e*P			**P**	**20 06 23.6**	**-0.6**
WRAB	**Tennant Creek**	**48.95**	**258**	*e*P			**P**	**20 06 23.5**	**-0.7**
WRAB				pmax	pmax				
	comp=Z,3.0nm,0.3s,mb4.7								
WRAB	**Tennant Creek**	**48.95**	**258**	*e*P			**P**	**20 06 23.5**	**-0.7**
	comp=Z,2.6nm,0.3s,mb4.6								
WRA	**Warramunga Arr**	**48.96**	**258**	P			**P**	**20 06 23.9**	**-0.5**
	comp=Z,1.6nm,0.3s,mb4.4,baz=91,slow=7.3,SNR=73								
WRA				PcP	PcP			20 07 47.6	+0.3
	comp=Z,1.1nm,0.7s,baz=91,slow=3.8,SNR=4.5								
AS31	**Alice Springs**	**49.13**	**253**	*e*P			**P**	**20 06 25.3**	**-0.4**
ASAR	**Alice Springs**	**49.13**	**253**	P			**P**	**20 06 25.4**	**-0.2**
	comp=Z,37nm,0.8s,mb5.4,baz=88,slow=8.6,SNR=379								
ASPA	**Alice Springs**	**49.14**	**253**	*e*P			**P**	**20 06 25.3**	**-0.4**
KAKA	**Kakadu**	**51.79**	**267**	*e*P			**P**	**20 06 45.7**	**+0.1**
	comp=Z,5.7nm,0.6s,mb4.8								
SBA	**Scott Base**	**61.97**	**185**	*e*P			**P**	**20 07 59.1**	**+1.5**
VNDA	**Vanda**	**62.08**	**186**	P			**P**	**20 07 59.2**	**+0.8**
	comp=Z,8.6nm,0.9s,mb4.8,baz=9.7,slow=7.0,SNR=13								
VNDA	**Vanda**	**62.08**	**186**	*e*P			**P**	**20 07 59.3**	**+0.9**
VNDA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
VNDA	**Vanda**	**62.08**	**186**	*e*P			**P**	**20 07 59.3**	**+0.9**
	comp=Z,9.8nm,1.0s,mb4.8								
QSPA	**South Pole Qui**	**73.41**	**180**	*e*P			**P**	**20 09 10.0**	**+0.5**
	comp=Z,22nm,0.9s,mb5.0								
ELK	**Elko**	**78.93**	**41**	P			**P**	**20 09 40.3**	**-0.5**
	comp=Z,1.3nm,0.8s,mb3.8,baz=205,slow=17,SNR=5.3								
ELK	**Elko**	**78.93**	**41**	*e*P			**P**	**20 09 41.8**	**+1.0**
ELK				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ELK	**Elko**	**78.93**	**41**	*e*P			**P**	**20 09 41.8**	**+1.0**
	comp=Z,1.5nm,0.8s,mb3.9								
MDJ	**Mudanjiang**	**79.62**	**323**	P			**P**	**20 09 45.4**	**+0.8**
MDJ				AMB	AMB				
	comp=Z,6.0nm,1.4s,mb4.2								
MDJ				AMB	AMB				
	comp=Z,70nm,4.7s								
MCK	**McKinley**	**82.46**	**11**	*e*P			**P**	**20 09 58.9**	**-0.8**
MCK				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.1								
MCK	**McKinley**	**82.46**	**11**	*e*P			**P**	**20 09 58.9**	**-0.8**
	comp=Z,3.2nm,0.9s,mb4.2								
BW06	**Boulder Array**	**83.61**	**42**	*e*P			**P**	**20 10 05.4**	**-0.2**
	comp=Z,1.5nm,0.5s,mb4.1								
PDAR	**Pinedale Array**	**83.61**	**42**	P			**P**	**20 10 06.0**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.0,baz=213,slow=3.5,SNR=14								
COLA	**College**	**83.70**	**11**	*e*P			**P**	**20 10 05.5**	**-0.6**
COLA				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.1								
COLA	**College**	**83.70**	**11**	*e*P			**P**	**20 10 05.5**	**-0.6**
	comp=Z,2.3nm,0.6s,mb4.2								
ILAR	**Eielson Array**	**83.78**	**11**	P			**P**	**20 10 05.8**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.0,baz=243,slow=5.3,SNR=31								
BILL	**Bilibino**	**85.65**	**353**	*e*P			**P**	**20 10 15.9**	**0.0**
BILL				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3								
BILL	**Bilibino**	**85.65**	**353**	*e*P			**P**	**20 10 15.9**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.3								
INK	**Inuvik**	**89.62**	**14**	P			**P**	**20 10 35.0**	**+0.1**
	comp=Z,1.7nm,1.0s,mb4.1,baz=225,slow=3.3,SNR=4.0								
CD2	**Chengdu**	**91.92**	**302**	*e*P			**P**	**20 10 47.8**	**+2.2**
CD2				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb5.1								
CD2				AMB	AMB				
	comp=Z,50nm,5.9s								
CFAA	**Coronel Fontan**	**94.27**	**125**	P			**P**	**20 10 55.8**	**-0.7**
	comp=Z,0.1nm,0.4s,mb3.5,baz=198,slow=6.4,SNR=4.8								
MKAR	**Makanchi Array**	**111.24**	**314**	PKiKP	PKiKP			20 16 09.3	-1.2
	comp=Z,0.9nm,0.6s,baz=126,slow=2.5,SNR=7.1								
MKAR	**Makanchi Array**	**111.24**	**314**	PKPdf	PKiKP			20 16 09.3	-1.2
BVAR	**Borovoye Array**	**118.47**	**322**	PKP	PKPdf			20 16 23.9	-0.5
	comp=Z,2.2nm,0.7s,baz=66,slow=1.7,SNR=13								
AKASG	**Malin Array Be**	**141.23**	**336**	PKhKP				20 17 00.9	
	comp=Z,0.5nm,0.6s,baz=37,slow=4.2,SNR=4.6								
MALT	**Malatya**	**144.28**	**314**	⇑PKIKP	PKPdf			20 17 13.7	+1.0
MALT	**Malatya**	**144.28**	**314**	*e*PKPdf	PKPdf			20 17 13.2	+0.4
KMBO	**Kilima Mbogo**	**144.42**	**243**	PKP	PKPdf			20 17 12.8	-0.2
	comp=Z,8.2nm,0.8s,baz=65,slow=4.9,SNR=38								
KMBO	**Kilima Mbogo**	**144.42**	**243**	*e*PKP	PKPdf			20 17 13.5	+0.5
OJC	**Ojcow**	**144.69**	**345**	*e*PX	PKPdf			20 17 12.6	-0.9
CLZ	**Clausthal**	**144.71**	**355**	*e*PKPbc	PKPdf			20 17 13.0	-0.5
KSP	**Ksiaz**	**144.89**	**349**	*e*PKP2	PKPdf			20 17 13.4	-0.4
CLL	**Collm**	**144.96**	**352**	*e*PKPbc	PKPdf			20 17 13.1	-0.8
CLL	**Collm**	**144.96**	**352**	⇑*i*PKPdf	PKPdf			20 17 12.9	-1.0
	comp=Z,9.0nm,0.9s								
CLL				*i* (pPKPdf)				20 17 28.6	
STHS	**Stebnicka Huta**	**145.03**	**343**	*e*PKP	PKPdf			20 17 14.8	+0.8
STHS				*e*				20 17 18.3	
KOLS	**Kolonicke sedl**	**145.15**	**341**	*e*PKP	PKPdf			20 17 14.9	+0.6
BRG	**Berggiesshubel**	**145.26**	**351**	*e*PKPbc	PKPbc			20 17 14.5	+0.2
BRG	**Berggiesshubel**	**145.26**	**351**	*i* P	PKPbc			20 17 14.4	+0.1
UPC	**Upice**	**145.26**	**349**	*e*PKP	PKPdf			20 17 15.0	+0.6
BUG	**Bochum--Univer**	**145.27**	**359**	*e*PKPbc	PKPbc			20 17 14.4	0.0
BURAR	**Bucovina Array**	**145.27**	**337**	⇓P	PKPbc			20 17 15.5	+1.1
NIE	**Niedzica**	**145.29**	**343**	*e*PX	PKPdf			20 17 15.5	+1.0
DPC	**Dobruska-Polom**	**145.35**	**348**	*e*PKP	PKPdf			20 17 15.4	+0.8
OKC	**Ostrava-Krasne**	**145.45**	**346**	*e*PKP	PKPdf			20 17 15.3	+0.5
PVCC	**Panska Ves**	**145.49**	**350**	*e*PKP	PKPdf			20 17 15.5	+0.7
MORC	**Moravsky Berou**	**145.64**	**347**	⇓PKP2	PKPab			20 17 16.4	+0.5
MOX	**Moxa**	**145.78**	**354**	*e*PKP	PKPdf			20 17 16.0	+0.7
	comp=Z,14nm,1.1s								
MOX	**Moxa**	**145.78**	**354**	*e*PKIKP	PKPdf			20 17 16.0	+0.7
MOX				pmax	pmax				
	comp=Z,14nm,1.1s								
WERD	**Werda**	**145.89**	**353**	*e*PKPbc	PKPbc			20 17 16.5	+0.2
PRU	**Pruhonice**	**146.02**	**350**	*e*PKP	PKPdf			20 17 17.3	+1.6
NKC	**Novy Kostel**	**146.09**	**353**	*e*PKP	PKPdf			20 17 18.3	+2.4
KECS	**Kecovo**	**146.09**	**343**	*e*PKP	PKPdf			20 17 17.1	+1.2
KECS				*e*				20 17 50.4	
VRI	**Vrincioaia**	**146.09**	**334**	⇓P	PKPdf			20 17 17.4	+1.5
MEM	**Membach**	**146.12**	**360**	PKP	PKPdf			20 17 17.0	+1.1
MEM				PKiKP	PKiKP			20 17 24.1	+3.9
SNF	**Seneffe**	**146.19**	**2**	PKP	PKPdf			20 17 17.5	+1.4
VRAC	**Vranov**	**146.29**	**347**	⇑PKP2	PKPab			20 17 18.8	+0.4
MANZ	**Manzenberg**	**146.37**	**353**	*e*PKPbc	PKPbc			20 17 18.2	+0.5
TNS	**Taunus Mts**	**146.45**	**357**	*e*PKPbc	PKPbc			20 17 18.2	+0.3
TREC	**Trest**	**146.52**	**349**	*e*PKP	PKPdf			20 17 18.7	+2.1
VYHS	**Vyhne**	**146.53**	**344**	*e*PKP	PKPdf			20 17 18.0	+1.4
ROTZ	**Rotzenmuhle**	**146.57**	**353**	*e*PKPbc	PKPbc			20 17 18.9	+0.6
GIVF	**Givet**	**146.62**	**1**	*e*PKP1	PKPbc			20 17 18.5	+0.1
	comp=Z,41nm,1.0s								
DOU				PKPab	PKPab			20 17 18.6	-1.1
DOU	**Dourbes**	**146.62**	**2**	PKP	PKPdf			20 17 16.4	-0.4
BR131	**Keskin Array S**	**146.70**	**319**	*e*PKP	PKPdf			20 17 19.1	+2.2
BRTR	**Keskin Array B**	**146.70**	**319**	PKPbc	PKPbc			20 17 19.1	+0.4
	comp=Z,9.4nm,0.8s,baz=123,slow=2.2,SNR=48								
MLR	**Muntele Rosu**	**146.72**	**334**	⇓P	PKPdf			20 17 19.3	+2.4
GRA1	**Grafenberg Arr**	**146.76**	**354**	*e*PKPbc	PKPbc			20 17 20.9	+2.1
GRF	**Grafenberg Arr**	**146.76**	**354**	*e*PKPbc	PKPbc			20 17 20.9	+2.1
DRGR		**146.88**	**339**	⇑P	PKPdf			20 17 19.4	+2.2
KHC	**Kasperske Hory**	**147.01**	**351**	*e*PKP	PKPdf			20 17 19.8	+2.4
KHC				*ex*	x			20 17 22.1	
WLF	**Walferdange**	**147.06**	**360**	PKPbc	PKPbc			20 17 18.3	-1.4
WLF				PKPab	PKPab			20 17 20.4	-1.0
WLF				PKiKP	PKiKP			20 17 27.5	+5.4
WLF				APKP				20 17 37.2	
VOIR		**147.13**	**335**	⇓P	PKPbc			20 17 21.2	+1.3
ANTO	**Ankara**	**147.14**	**320**	*e*PKP2	PKPab			20 17 21.2	-0.5
GERES	**GERESS Array B**	**147.27**	**351**	PKPbc	PKPbc			20 17 20.6	+0.3
	comp=Z,1.9nm,0.7s,baz=5.4,slow=2.8,SNR=13								
SRO	**Srobarova**	**147.29**	**345**	*e*PKP	PKPbc			20 17 22.1	+1.8
FLN	**La Foliniere**	**147.54**	**8**	*e*PKP1	PKPbc			20 17 20.8	-0.2
	comp=Z,18nm,0.8s								
LDF	**La Druitiere**	**147.75**	**8**	*e*PKP1	PKPbc			20 17 21.3	-0.3
GRR	**Gorron**	**147.85**	**9**	*e*PKP1	PKPbc			20 17 21.8	-0.1
	comp=Z,35nm,1.0s								
MEZF	**Maizieres J'vi**	**148.22**	**1**	*e*PKP1	PKPbc			20 17 23.3	+0.5
CDF	**Champ du Feu**	**148.30**	**358**	*e*PKP1	PKPbc			20 17 23.4	+0.4
BFO	**Black Forest**	**148.34**	**357**	*e*PKPbc	PKPbc			20 17 23.6	+0.5
PKSM	**Moragy**	**148.68**	**343**	⇓PKIKP	PKPbc			20 17 24.2	+0.2
HAU	**Haudompre**	**148.72**	**359**	*e*PKP1	PKPbc			20 17 25.3	+1.2
HINF	**Hinteralfeld**	**148.91**	**359**	*e*PKP1	PKPbc			20 17 24.6	0.0
LOR	**Lormes**	**149.41**	**3**	*e*PKP1	PKPbc			20 17 26.2	+0.3
	comp=Z,38nm,1.4s								
SSF	**Saint Saulge**	**149.60**	**3**	*e*PKP1	PKPbc			20 17 26.7	+0.4
	comp=Z,52nm,1.4s								
AVF	**Avril sur Loir**	**149.87**	**4**	*e*PKP1	PKPbc			20 17 27.1	+0.1
SMF	**Signal de Mont**	**150.04**	**3**	*e*PKP1	PKPbc			20 17 27.5	+0.1
BGF	**Bois d'Agland**	**150.06**	**4**	*e*PKP1	PKPbc			20 17 26.8	-0.6
CABF	**La Chapelle**	**150.12**	**360**	*e*PKP1	PKPbc			20 17 28.6	+1.0
VTS	**Vitosha**	**150.22**	**334**	⇓PKIKP	PKPbc			20 17 28.7	+0.9
LPL	**La Plagne**	**151.21**	**359**	*e*PKP1	PKPbc			20 17 31.4	+1.3
	comp=Z,17nm,1.1s								
LPG	**La Plagne**	**151.23**	**359**	*e*PKP1	PKPbc			20 17 31.6	+1.4
	comp=Z,9.9nm,0.9s								
VIVF	**Saint-Julien-l**	**151.86**	**2**	*e*PKP1	PKPbc			20 17 32.2	+0.6
	comp=Z,16nm,1.0s								
LASF	**Ste Croix**	**152.60**	**3**	*e*PKP1	PKPbc			20 17 34.0	+0.7
SBF	**Sospel**	**152.84**	**358**	*e*PKP1	PKPbc			20 17 35.8	+2.0
	comp=Z,73nm,1.1s								
FRF	**La Foret Royal**	**153.16**	**359**	*e*PKP1	PKPbc			20 17 35.6	+1.1
	comp=Z,31nm,1.0s								
TORD	**Torodi Ar. Bea**	**174.62**	**130**	PKP	PKPdf			20 17 45.6	-0.8
	comp=Z,2.0nm,0.9s,baz=337,slow=1.2,SNR=10								
TORD				PKPab	PKPab			20 19 21.4	+1.0
	comp=Z,1.6nm,1.0s,baz=266,slow=4.1,SNR=6.7								

ISCJB ***12*** *20:00:57.4±4.5, 103N±02×94.0E±0.2, h16km±35km, mb4.0/6, MS4.0/1, Error ellipse: s-maj=40.5km s-min=7.9km az=98.4*
IDC ***12*** *20:00:57.6±3.1, 1046N×94.17E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/21, mbtmp3.9/5, MS3.7/2, Ms1 3.7/2

Moment tensor: Scale 10^{17}Nm; M_{rr}2.19±.06; $M_{\theta\theta}$0.10±.04; $M_{\phi\phi}$-2.29±.05; $M_{r\theta}$-1.09±.04; $M_{r\phi}$2.59±.05; $M_{\theta r}$-4.74±.05; Best double couple: $M_0$5.94200×10^{17} NP1:ϕ_s295.00000°, δ31.00000°,λ24.00000°. NP2:ϕ_s184.00000°,δ78.00000°, λ118.00000°. Principal axes: T 6.1130, Plg49.0000°, Azm124.0000°; N -0.3380, Plg28.0000°, Azm357.0000°; P -5.7700, Plg27.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

IDC ***12*** *20:54:53.9±0.5,5.10S×15356E,h53km±3km,mb5.1/29, mb1 5.1/32,mb1mx5.1/33,mbtmp5.4/32,MS5.0/27, Ms1 5.0/27,ms1mx4.9/30 Error ellipse: s-maj=9.8km s-min=7.9km az=90.0*

NEIC ***12*** *20:54:53.5±0.1,5.08S×15366E,mb5.9/57,MS5.1/4, MW5.8,Error ellipse: s-maj=5.2km s-min=4.4km az=100.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}1.59; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$-0.45; $M_{r\theta}$-1.15; $M_{\theta\phi}$2.67; $M_{\phi r}$-4.91; Best double couple: $M_0$5.70000×10^{17} NP1: ϕ_s178.00000°,δ82.00000°,λ120.00000°. NP2: ϕ_s282.00000°,δ31.00000°,λ16.00000°. Principal axes: T 6.4800, Plg45.0000°, Azm118.0000°; N -1.4700, Plg29.0000°, Azm353.0000°; P -5.0000, Plg31.0000°, Azm244.0000°;*

NEIC Felt at Buka.

ISC 12 20:54:54.0±0.1,**507S**±002×**15366E**±003,**h46**km, **h46**km±1.3km:**pP-P,n590,**σ1⁝**04**/374,**mb5.7**/130,**MS5.1**/56, **30C-33D,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.59**	**125**	P	**Pn**	**20 56 43.3**	**+1.2**
	77nm,0.3s,baz=264,slow=0.3,SNR=43						
HNR				S	**Sn**	**20 58 16.1**	**+9.3**
	70nm,0.3s,baz=91,slow=18,SNR=3.3						
HNR	**Honiara**	**7.59**	**125**	*e*P	**Pn**	**20 56 42.9**	**+0.8**
HNR				pmax	pmax		
	comp=Z,1μm,0.7s						
HNR	**Honiara**	**7.59**	**125**	*e*Pn	**Pn**	**20 56 42.9**	**+0.8**
	comp=Z,1μm,0.7s						
PMG	**Port Moresby**	**7.76**	**236**	Pn	**Pn**	**20 56 45.2**	**+0.9**
PMG	**Port Moresby**	**7.76**	**236**	P	**Pn**	**20 56 44.9**	**+0.6**
	comp=Z,74nm,0.3s,baz=49,slow=7.1,SNR=111						
PMG				S	**Sn**	**20 58 09.6**	**-1.1**
	comp=Z,480nm,0.3s,baz=141,slow=10,SNR=15						
PMG				LR	LR	20 58 38.5	
	comp=Z,4μm,21.4s,baz=62,slow=29						
PMG	**Port Moresby**	**7.76**	**236**	⇓*i*P	**Pn**	**20 56 45.0**	**+0.7**
PMG				pmax	pmax		
	comp=Z,1μm,0.8s						
PMG	**Port Moresby**	**7.76**	**236**	⇓*i*Pn	**Pn**	**20 56 45.0**	**+0.7**
	comp=Z,1μm,0.8s						
PMG				*e*Sn	**Sn**	**20 57 53.1**	**-18**
CTA	**Charters Tower**	**16.58**	**205**	*e*P	**Pn**	**20 58 44.4**	**+1.3**
	comp=Z,309nm,1.0s						
CTA				*i* S	**S**	**21 01 50.8**	**-5.1**
CTA	**Charters Tower**	**16.58**	**205**	P	**Pn**	**20 58 43.8**	**+0.7**
	comp=Z,3.8nm,0.3s,baz=26,slow=13,SNR=78						
CTA				LR	LR	21 04 17.9	
	comp=Z,5μm,21.5s,baz=24,slow=34						
CTA	**Charters Tower**	**16.58**	**205**	*e*P	**Pn**	**20 58 44.4**	**+1.3**
CTA				*i* S	**S**	**21 01 50.8**	**-5.1**
CTA				pmax	pmax		
	comp=Z,309nm,1.0s						
CTAO	**Charters Tower**	**16.58**	**205**	*e*P	**Pn**	**20 58 43.6**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,2μm,1.5s						
CTAO	**Charters Tower**	**16.58**	**205**	*e*P	**Pn**	**20 58 43.6**	**+0.5**
	comp=Z,2μm,1.5s						
BKM	**Butte a Klehm**	**18.98**	**132**	⇓*i*P	**Pn**	**20 59 02.4**	**-10**
GUMO	**Guam**	**20.49**	**335**	P	**P**	**20 59 29.2**	**+1.3**
	comp=Z,429nm,1.2s,baz=180,slow=9.0,SNR=5.7						
GUMO				LR	LR	21 06 19.0	
	comp=Z,2μm,22.0s,MS4.4,baz=155,slow=34						
GUMO	**Guam**	**20.49**	**335**	*e*P	**P**	**20 59 29.4**	**+1.5**
GUMO				pmax	pmax		
	comp=Z,3μm,1.2s						
GUMO	**Guam**	**20.49**	**335**	*e*P	**P**	**20 59 29.4**	**+1.5**
	comp=Z,3μm,1.2s						
GUMO				*e*pP		20 59 39.6	
DZM	**Mont Dzumac**	**20.95**	**145**	P	**P**	**20 59 33.9**	**+1.0**
	comp=Z,1μm,0.4s,baz=334,slow=9.2,SNR=2345						
KAKA	**Kakadu**	**22.29**	**249**	⇓*i*P	**P**	**20 59 46.2**	**-1.0**
	comp=Z,2μm,0.7s,mb6.5						
KAKA				*e*S	**S**	**21 03 45.1**	**-4.7**
WRAB	**Tennant Creek**	**23.91**	**230**	P	**P**	**21 00 02.0**	**-1.4**
	comp=Z,5μm,1.2s						
WRAB	**Tennant Creek**	**23.91**	**230**	⇓*e*P	**P**	**21 00 02.5**	**-0.9**
WRAB				*e**PP		21 00 11.2	
WRAB				pmax	pmax		
	comp=Z,2μm,1.2s,mb6.4						
WRAB	**Tennant Creek**	**23.91**	**230**	⇓*e*P	**P**	**21 00 02.5**	**-0.9**
	comp=Z,2μm,1.2s,mb6.4						
WRAB				*e*pP		21 00 11.2	
WB2	**Warramunga Arr**	**23.91**	**230**	⇓*i*P	**P**	**21 00 02.7**	**-0.8**
WB2				*e*S	**S**	**21 04 27.5**	**+11**
WRA	**Warramunga Arr**	**23.92**	**230**	P	**P**	**21 00 02.6**	**-1.0**
	comp=Z,626nm,1.0s,mb6.0,baz=54,slow=9.6,SNR=390						
WRA				PcP	PcP	21 03 45.7	+0.6
	comp=Z,53nm,0.6s,baz=52,slow=2.6,SNR=13						
WRA				S	**S**	**21 04 13.0**	**-3.8**
	comp=Z,10.0nm,1.0s,baz=41,slow=18,SNR=2.9						
WRA				PKiKP	PKiKP	21 11 27.3	-0.8
	comp=Z,2.8nm,1.0s,baz=324,slow=1.2,SNR=12						
WRA	**Warramunga Arr**	**23.92**	**230**	P	**P**	**21 00 02.6**	**-1.0**
WRA				PcP	PcP	21 03 45.7	+0.6
WRA				S	**S**	**21 04 13.0**	**-3.8**
ARMA	**Armidale**	**25.29**	**184**	*e*P	**P**	**21 00 16.8**	**+0.8**
ARMA				*e*S	**S**	**21 04 47.6**	**+8.9**
ARMA				*e*SCP	ScP	21 07 24.2	+0.8
FUNA	**Funafuti**	**25.58**	**99**	*e*P	**P**	**21 00 19.1**	**+0.4**
FUNA				*e*		21 00 39.2	
ASAR	**Alice Springs**	**26.54**	**224**	P	**P**	**21 00 26.6**	**-0.8**
	comp=Z,127nm,1.0s,mb5.4,baz=57,slow=8.3,SNR=361						
ASAR				PcP	PcP	21 03 51.5	+0.5
	comp=Z,54nm,0.8s,baz=68,slow=3.2,SNR=7.4						
ASAR				S	**S**	**21 04 54.4**	**-4.1**
	comp=Z,7.3nm,0.8s,baz=41,slow=10,SNR=2.6						
ASAR				ScP	ScP	21 07 26.8	-0.3
	comp=Z,9.6nm,0.8s,baz=59,slow=3.5,SNR=4.3						
ASAR	**Alice Springs**	**26.54**	**224**	P	**P**	**21 00 26.6**	**-0.8**
ASAR						21 03 51.5	
ASAR				S	**S**	**21 04 54.4**	**-4.1**
RIV	**Riverview**	**28.71**	**184**	*e*P	**P**	**21 00 47.5**	**+0.7**
STKA	**Stephens Creek**	**28.97**	**202**	*e*P	**P**	**21 00 46.0**	**-3.0**
	comp=Z,40nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**28.97**	**202**	P	**P**	**21 00 46.6**	**-2.4**
	comp=Z,29nm,0.5s,mb5.2,baz=5.0,slow=6.8,SNR=37						
STKA				ScP	ScP	21 07 32.8	-1.8
	comp=Z,20nm,1.0s,baz=335,slow=2.1,SNR=3.9						
STKA				LR	LR	21 12 46.7	
	comp=Z,3μm,18.6s,MS5.0,baz=17,slow=37						
FITZ	**Fitzroy Crossi**	**30.29**	**242**	⇓*i*P	**P**	**21 00 59.6**	**-1.1**
	comp=Z,578nm,0.8s,mb6.4						
FITZ				*i* S	**S**	**21 05 53.5**	**-4.0**
CNB	**Canberra Magne**	**30.36**	**187**	*e*P	**P**	**21 01 01.9**	**+0.5**
	comp=Z,171nm,1.4s,mb5.6						
DAV	**Davao City (W)**	**30.51**	**293**	P	**P**	**21 00 59.6**	**-3.0**
	comp=Z,298nm,0.4s,mb6.5						
BUTP	**Butuan**	**31.24**	**296**	*e*P	**P**	**21 01 08.5**	**-0.6**
BUKP	**Musuan**	**31.29**	**294**	*e*P	**P**	**21 01 09.4**	**-0.2**
CGP	**Cagayan de Oro**	**31.86**	**295**	⇓*i*P	**P**	**21 01 14.3**	**-0.2**
MSLP	**Maasin**	**32.42**	**298**	*e*P	**P**	**21 01 19.0**	**-0.5**
BESP	**Borongan**	**32.60**	**301**	*e*P	**P**	**21 01 20.5**	**-0.5**
PAGZ	**Pagadian**	**32.82**	**293**	*e*P	**P**	**21 01 23.4**	**+0.4**
OCLP	**Ormoc**	**33.05**	**299**	*e*P	**P**	**21 01 17.1**	**-7.9**
TBP	**Tagbilaran**	**33.11**	**296**	*e*P	**P**	**21 01 24.5**	**-1.1**
IPIL	**Ipil**	**33.54**	**292**	*e*P	**P**	**21 01 28.7**	**-0.6**
CNP	**Catarman**	**33.70**	**301**	*e*P	**P**	**21 01 19.9**	**-11**
GUIM	**Jordan**	**34.64**	**297**	*e*P	**P**	**21 01 38.5**	**-0.3**
PVCP	**Virac**	**34.67**	**303**	*e*P	**P**	**21 01 38.9**	**-0.2**
AFI	**Afiamalu**	**35.16**	**107**	P	**P**	**21 01 43.7**	**+0.4**
	comp=Z,23nm,0.9s,mb5.1,baz=8.7,slow=13,SNR=2.9						
AFI				LR	LR	21 14 25.0	
	comp=Z,2μm,18.5s,MS5.0,baz=281,slow=33						
AFI	**Afiamalu**	**35.16**	**107**	*e*P	**P**	**21 01 42.8**	**-0.5**
AFI				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.5						
AFI	**Afiamalu**	**35.16**	**107**	*e*P	**P**	**21 01 42.8**	**-0.5**
	comp=Z,60nm,0.9s,mb5.5						
OUZ	**Omahuta**	**35.21**	**151**	⇑PN	**P**	**21 01 45.1**	**+1.4**
OTRP	**Odiongan**	**35.90**	**299**	*e*P	**P**	**21 01 48.4**	**-1.3**
RAO	**Raoul Island**	**36.08**	**135**	LR	LR	21 14 09.6	
	comp=Z,2μm,18.6s,MS5.0,baz=327,slow=32						
CUYO	**Cuyo Island**	**36.14**	**296**	*e*P	**P**	**21 01 51.7**	**+0.1**
WCZ	**Waipu Caves**	**36.15**	**151**	⇑PN	**P**	**21 01 53.0**	**+1.3**
BOAC	**Boac**	**36.56**	**301**	*e*P	**P**	**21 01 54.5**	**-0.8**
MBWA	**Marble Bar**	**36.59**	**241**	*e*P	**P**	**21 01 54.1**	**-1.3**
	comp=Z,1.1nm,1.1s						
MBWA				*e*pP	pP	21 02 08.9	+1.0
MBWA				*e*PP	PP	21 03 18.3	-1.0
POLP	**Polilio Island**	**37.09**	**302**	*e*P	**P**	**21 01 59.1**	**-0.6**
BUSP	**Coron**	**37.35**	**297**	*e*P	**P**	**21 02 01.5**	**-0.4**
TGY	**Tagaytay City**	**37.64**	**301**	P	**P**	**21 02 05.1**	**+0.7**
	comp=Z,76nm,0.3s,baz=218,slow=5.9,SNR=18						
ENPP	**El Nido**	**37.71**	**296**	*e*P	**P**	**21 02 05.5**	**+0.5**
PPR	**Puerto Princes**	**37.80**	**293**	*e*P	**P**	**21 02 07.5**	**+1.8**
PALP	**Palanan**	**37.90**	**306**	*e*P	**P**	**21 02 07.1**	**+0.5**
BALP	**Baler**	**37.90**	**304**	*e*P	**P**	**21 02 06.1**	**-0.5**
LUBP	**Lubang**	**38.06**	**300**	*e*P	**P**	**21 02 05.3**	**-2.7**
TAU	**Tasmania Unive**	**38.10**	**188**	P	**P**	**21 02 09.6**	**+1.3**
	comp=Z,1μm,1.4s,mb6.5,SNR=9.3						
TAU	**Tasmania Unive**	**38.10**	**188**	*e*P	**P**	**21 02 09.3**	**+1.0**
TAU				*e**PP	pP	21 02 26.8	+6.0
TAU				*e*		21 03 38.9	
TAU				*e*		21 04 23.3	
TAU				pmax	pmax		
	comp=Z,588nm,1.4s,mb6.1						
TAU	**Tasmania Unive**	**38.10**	**188**	*e*P	**P**	**21 02 09.3**	**+1.0**
	comp=Z,588nm,1.4s,mb6.1						
TAU				*e*pP	pP	21 02 26.8	+6.1
TAU				*e*PP	PP	21 03 38.9	+2.9
TAU				*e*PcP	PcP	21 04 23.3	+0.7
BATP	**Bataraza**	**38.31**	**291**	*e*P	**P**	**21 02 09.8**	**-0.3**
CAUP	**Cauayan**	**38.32**	**305**	*e*P	**P**	**21 02 10.7**	**+0.6**
SGCP	**Mt. Cagua**	**38.84**	**307**	*e*P	**P**	**21 02 13.7**	**-0.8**
KKM	**Kota Kinabalu**	**38.98**	**286**	*e*P	**P**	**21 02 15.1**	**-0.6**
KKM				*e*pP	pP	21 02 30.8	+2.6
KKM				*e*ScP	ScP	21 08 08.8	-1.0
BCPH	**Baguio City Da**	**39.05**	**304**	⇓*e*P	**P**	**21 02 16.1**	**-0.1**
APYP	**Conner**	**39.27**	**306**	*e*P	**P**	**21 02 17.6**	**-0.5**
WTVZ	**West Tongariro**	**39.29**	**153**	⇑PN	**P**	**21 02 19.6**	**+1.4**
SCZP	**Santa Cruz**	**39.31**	**302**	*e*P	**P**	**21 02 16.7**	**-1.7**
URZ	**Urewera**	**39.33**	**150**	P	**P**	**21 02 18.7**	**+0.1**
	comp=Z,318nm,1.0s,mb6.0,baz=351,slow=3.9,SNR=51						
URZ				ScP	ScP	21 08 08.1	-3.1
	comp=Z,19nm,0.8s,baz=345,slow=7.4,SNR=4.8						
OTVZ	**Oturere**	**39.36**	**153**	⇑PN	**P**	**21 02 20.4**	**+1.5**
FWVZ	**Far West T-bar**	**39.38**	**153**	⇓PN	**P**	**21 02 20.6**	**+1.5**
	comp=Z,569nm,0.5s,mb6.5						
QRZ	**Quartz Range**	**39.43**	**157**	⇑PN	**P**	**21 02 20.5**	**+1.1**
MTVZ	**Mangateitei**	**39.45**	**153**	PN	**P**	**21 02 21.3**	**+1.7**
WAZ	**Wanganui**	**39.54**	**154**	PN	**P**	**21 02 21.8**	**+1.5**
ABRA	**Dolores**	**39.59**	**306**	*e*P	**P**	**21 02 18.9**	**-1.9**
MWZ	**Matawai**	**39.59**	**150**	PN	**P**	**21 02 21.8**	**+1.0**
BOLP	**Bolinao**	**39.60**	**303**	*e*P	**P**	**21 02 14.6**	**-6.3**
BKZ	**Black Stump Fm**	**39.75**	**152**	⇑PN	**P**	**21 02 22.1**	**0.0**
PUZ	**Puketiti**	**39.76**	**149**	PN	**P**	**21 02 22.1**	**-0.1**
DSZ	**Denniston Nort**	**39.95**	**159**	PN	**P**	**21 02 24.3**	**+0.5**
NNZ	**Nelson**	**40.09**	**157**	PN	**P**	**21 02 25.1**	**+0.2**
JOW	**Kunigami**	**40.11**	**324**	P	**P**	**21 02 25.4**	**+0.3**
	comp=Z,30nm,0.3s,mb5.5,baz=140,slow=11,SNR=5.7						
JOW				pP	pP	21 02 38.8	+1.2
	comp=Z,275nm,0.8s,baz=165,slow=8.0,SNR=11						
JOW				LR	LR	21 15 45.7	
	comp=Z,2μm,21.9s,MS4.9,baz=110,slow=31						
JHJ	**Hachijo jima 2**	**40.19**	**342**	LR	LR	21 15 58.7	
	comp=Z,2μm,21.2s,MS4.9,baz=299,slow=32						
KNZ	**Kokohu**	**40.20**	**151**	PN	**P**	**21 02 25.5**	**-0.3**
TSZ	**Takapari Road**	**40.22**	**153**	PN	**P**	**21 02 26.2**	**+0.2**
THZ	**Tophouse**	**40.38**	**158**	⇑PN	**P**	**21 02 27.2**	**-0.1**
KIW	**Kapiti Island**	**40.42**	**155**	PN	**P**	**21 02 27.4**	**-0.2**
TUWZ	**Tuamarina**	**40.50**	**156**	⇑PN	**P**	**21 02 28.5**	**+0.2**
PXZ	**Pawanui**	**40.61**	**152**	PN	**P**	**21 02 28.8**	**-0.4**
CAW	**Cannon Point**	**40.69**	**155**	⇑PN	**P**	**21 02 29.7**	**-0.2**
SNZO	**South Karori**	**40.70**	**155**	*e*P	**P**	**21 02 29.6**	**-0.4**
	comp=Z,450nm,0.6s,mb6.3						
BSWZ	**Blackbirch Sta**	**40.71**	**157**	⇑PN	**P**	**21 02 30.0**	**-0.1**
WVZ	**Waitaha Valley**	**40.76**	**161**	PN	**P**	**21 02 29.9**	**-0.6**
BFZ	**Birch Farm**	**40.85**	**153**	PN	**P**	**21 02 30.5**	**-0.7**
MSWZ	**Moikau Station**	**41.02**	**155**	⇑PN	**P**	**21 02 32.1**	**-0.5**
LTZ	**Lake Taylor**	**41.03**	**159**	PN	**P**	**21 02 32.6**	**-0.1**
JCZ	**Jackson Bay**	**41.06**	**163**	PN	**P**	**21 02 33.3**	**+0.4**
PAWZ	**Paruwai Farm**	**41.07**	**155**	⇑PN	**P**	**21 02 32.4**	**-0.6**
MSZ	**Milford Sound**	**41.39**	**165**	PN	**P**	**21 02 36.0**	**+0.4**
RPZ	**Rata Peaks**	**41.44**	**161**	P	**P**	**21 02 35.4**	**-0.7**
	comp=Z,270nm,0.6s,mb6.1,baz=358,slow=1.8,SNR=207						
RPZ	**Rata Peaks**	**41.44**	**161**	PN	**P**	**21 02 35.3**	**-0.7**
LBZ	**Lake Benmore**	**41.77**	**162**	PN	**P**	**21 02 37.8**	**-0.9**
MQZ	**McQueen's Vall**	**41.97**	**159**	PN	**P**	**21 02 40.0**	**-0.4**
MLZ	**Mavora Lakes**	**42.08**	**165**	⇑PN	**P**	**21 02 41.2**	**-0.1**
NACB	**Ninganchiao**	**42.67**	**314**	*e*P	**P**	**21 02 45.8**	**-0.3**
NACB				*e*pP	pP	21 02 59.2	+0.6
KLBR	**Kellerberrin**	**42.76**	**227**	⇓*i*P	**P**	**21 02 45.0**	**-1.8**
	comp=Z,858nm,1.6s,mb6.2						
KLBR				*e*pP	pP	21 02 54.4	-4.9
KLBR				*e*		21 04 24.1	
TUZ	**Tuapeka**	**43.03**	**164**	⇑PN	**P**	**21 02 48.6**	**-0.4**
YHNB	**Yeheng**	**43.13**	**315**	*e*P	**P**	**21 02 51.1**	**+1.3**
YHNB				*e*pP	pP	21 03 04.3	+1.9
TATO	**Taipei**	**43.25**	**315**	P	**P**	**21 02 49.6**	**-1.1**
JNU	**Nakatsue**	**43.69**	**332**	P	**P**	**21 02 54.4**	**0.0**
	comp=Z,37nm,0.4s,mb5.4,baz=129,slow=8.5,SNR=5.3						
JNU				pP	pP	21 03 07.5	+0.5
	comp=Z,324nm,0.8s,baz=114,slow=7.3,SNR=31						
KSM	**Kuching**	**43.79**	**277**	*e*P	**P**	**21 02 54.9**	**-0.2**
KSM				*e*pP	pP	21 03 08.9	+1.1
KSM				*e*ScP	ScP	21 08 28.5	-0.4
NWAO	**Narrogin (SRO)**	**43.82**	**226**	P	**P**	**21 02 53.7**	**-1.6**
	comp=Z,73nm,0.9s,mb5.4,baz=56,slow=7.6,SNR=21						
NWAO				PP	PP	21 04 36.5	-1.4
	comp=Z,68nm,1.0s,baz=70,slow=12,SNR=3.5						
NWAO				LR	LR	21 20 50.4	
	comp=Z,4μm,21.9s,MS5.3,baz=210,slow=36						
NWAO	**Narrogin (SRO)**	**43.82**	**226**	*e*P	**P**	**21 02 54.1**	**-1.2**
NWAO				*e**PP	pP	21 03 04.4	-3.6
NWAO				*e*		21 04 34.4	
NWAO				pmax	pmax		
	comp=Z,316nm,1.6s						
NWAO	**Narrogin (SRO)**	**43.82**	**226**	*e*P	**P**	**21 02 54.1**	**-1.2**
	comp=Z,316nm,1.6s,mb5.8						
NWAO				*e*pP	pP	21 03 04.4	-3.5
NWAO				*e*PP	PP	21 04 34.4	-3.5
MJAR	**Matsushiro Arr**	**43.84**	**342**	P	**P**	**21 02 55.0**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=231,slow=11,SNR=7.0						
MJAR				LR	LR	21 19 11.2	
	comp=Z,1μm,21.8s,MS4.8,baz=155,slow=33						
MAJO	**Matsushiro**	**43.84**	**342**	P	**P**	**21 02 56.3**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,78nm,1.2s,mb5.3						
MAJO	**Matsushiro**	**43.84**	**342**	P	**P**	**21 02 56.3**	**+0.7**
	comp=Z,78nm,1.2s,mb5.3						
MAT	**Matsushiro**	**43.84**	**342**	P	**P**	**21 02 58.4**	**+2.9**
MAT				S	**S**	**21 09 28.0**	**+4.8**
MAT	**Matsushiro**	**43.84**	**342**	*e*P	pP	21 03 07.0	-1.2
MAT				*e*S	**S**	**21 09 28.0**	**+4.8**
MAT				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
MUN	**Mundaring**	**44.09**	**228**	*e*P	**P**	**21 02 56.2**	**-1.3**
MUN				*e*pP	pP	21 03 06.4	-3.7
MUN				*e*		21 04 37.8	
MUN				*e*S	**S**	**21 09 20.9**	**-5.9**
MUN				*e*SS	SS	21 12 37.1	-8.2
QZH	**Quanzhou**	**45.30**	**313**	⇓*i*P	**P**	**21 03 07.9**	**+0.7**
QZH				*e*S	**S**	**21 09 39.5**	**-4.9**
QZH				SCS	ScS	21 12 59.0	-0.8
QZH				AMB	AMB		
	comp=Z,200nm,0.8s,mb6.0						
SSE	**Sheshan**	**47.48**	**321**	P	**P**	**21 03 25.3**	**+1.0**
SSE				AP	pP	21 03 36.5	-0.5
SSE				XP	sP	21 03 41.7	-0.7
SSE				S	**S**	**21 10 18.9**	**+3.3**
SSE				XS	sS	21 10 38.0	+1.1
SSE				AMB	AMB		
	comp=Z,76nm,1.2s,mb5.5						
SSE				AMB	AMB		
	comp=Z,673nm,9.4s						
SSE				LR	LR		
	comp=N,1μm,20.0s						
SSE				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
RAR	**Rarotonga**	**47.89**	**114**	P	**P**	**21 03 27.9**	**+0.5**
	comp=Z,19nm,0.6s,mb5.3,baz=262,slow=13,SNR=4.8						
RAR				LR	LR	21 20 56.1	
	comp=Z,1μm,21.3s,MS4.9,baz=287,slow=33						
GZH	**Guangzhou**	**48.30**	**307**	P	**P**	**21 03 32.0**	**+1.4**
GZH				S	**S**	**21 10 29.8**	**+2.6**
GZH				LR	LR		
	comp=N,2μm,23.4s,MS5.1						
GZH				LR	LR		
	comp=E,2μm,24.7s,MS5.1						
GZH				LR	LR		
	comp=Z,5μm,26.0s,MS5.3						
KS15	**Wonju Array Si**	**48.63**	**333**	*e*P	**P**	**21 03 34.7**	**+1.6**
KS15				*e*pP	pP	21 03 47.0	+1.0
INCN	**Inchon**	**49.25**	**331**	*e*P	**P**	**21 03 39.4**	**+1.5**
	comp=Z,695nm,1.0s,mb6.6						
INCN				*e*pP	pP	21 03 51.4	+0.8
QIZ	**Qiongzhong**	**49.34**	**300**	P	**P**	**21 03 39.0**	**+0.4**
QIZ				XP	sP	21 03 56.0	-0.8
QIZ				S	**S**	**21 10 41.3**	**-0.5**
QIZ				XS	sS	21 11 03.8	+0.6
QIZ				AMB	AMB		
	comp=Z,83nm,1.3s,mb5.6						
QIZ				AMB	AMB		
	comp=Z,728nm,3.9s						
QIZ				LR	LR		
	comp=N,1μm,21.3s,MS5.1						
QIZ				LR	LR		
	comp=E,2μm,24.5s,MS5.1						
QIZ				LR	LR		
	comp=Z,5μm,23.3s,MS5.4						
QIZ	**Qiongzhong**	**49.34**	**300**	*e*P	**P**	**21 03 38.6**	**0.0**
	comp=Z,96nm,1.2s,mb5.7						
QIZ				*e*pP	pP	21 03 49.9	-1.4
MCQ	**Macquarie Isla**	**49.47**	**176**	*e*P	**P**	**21 03 40.2**	**+0.6**
NJ2	**Nanjing**	**49.59**	**320**	*e*P	**P**	**21 03 42.1**	**+1.6**
NJ2				AP	pP	21 03 54.5	+1.2
NJ2				XP	sP	21 03 59.8	+1.1
NJ2				PP	PP	21 05 37.4	+2.3
NJ2				S	**S**	**21 10 47.0**	**+1.7**
NJ2				XS	sS	21 11 09.0	+2.3
NJ2				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,480nm,6.7s						
NJ2				LR	LR		
	comp=N,6μm,19.3s,MS5.7						
NJ2				LR	LR		
	comp=E,4μm,17.2s,MS5.7						
NJ2				LR	LR		
	comp=Z,3μm,30.4s						
ASAJ	**Asahikawa**	**49.96**	**350**	P	**P**	**21 03 42.8**	**-0.5**
	comp=Z,9.2nm,0.9s,mb4.8,baz=134,slow=15,SNR=2.6						
ASAJ				LR	LR	21 22 11.4	
	comp=Z,1μm,21.1s,MS5.0,baz=163,slow=33						
WHN	**Wuhan**	**51.64**	**316**	⇓P	**P**	**21 03 56.8**	**+0.9**
WHN				AMB	AMB		
	comp=Z,240nm,1.2s,mb6.0						
WHN				LR	LR		
	comp=Z,8μm,30.4s,MS5.5						
VLA	**Vladivostok**	**51.85**	**340**	*e*P	**P**	**21 03 57.8**	**+0.3**
YSS	**Yuzh-Sakhalins**	**52.69**	**351**	⇑*e*P	**P**	**21 04 09.0**	**+5.3**
YSS				*e*	pP	21 04 17.7	+1.1
YSS				S	**S**	**21 11 38.0**	**+10**
YSS				*e*		21 16 56.0	
YSS				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.9						
YSS				MLR	MLR		
	comp=N,800nm,20.0s						
YSS	**Yuzh-Sakhalins**	**52.69**	**351**	*e*P	**P**	**21 04 02.5**	**-1.2**
TIA	**Tai'an**	**53.44**	**323**	P	**P**	**21 04 09.0**	**-0.2**
KULM	**Kulim**	**53.93**	**280**	*e*P	**P**	**21 04 12.3**	**-0.5**
KULM				*e*pP	pP	21 04 28.4	+2.6
MDJ	**Mudanjiang**	**53.97**	**339**	P	**P**	**21 04 13.4**	**+0.3**
MDJ				AP	pP	21 04 26.2	+0.1
MDJ				XP	sP	21 04 30.8	-0.6
MDJ				PP	PP	21 06 15.0	+0.3
MDJ				SCP	ScP	21 09 12.5	+0.4
MDJ				S	**S**	**21 11 48.6**	**+3.1**
MDJ				XS	sS	21 12 06.4	-0.7
MDJ				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.9						

TVO	**Taravao**	**57.16 108**	*e*P	**P**	**21 04 36.6 +0.6**
	comp=Z,101nm,0.8s,mb5.9				
KLR	**Kul'dur**	**57.34 343**	*e*P	**P**	**21 04 34.3 -3.0**
KLR			*e*	pP	21 04 46.7 -3.6
KLR			*e*S	**S**	**21 12 20.5 -10**
KLR			*e*		21 14 21.0
KLR			pmax	pmax	
	comp=Z,78nm,1.8s,mb5.4				
KLR			smax		
	comp=N,800nm,7.0s				
XAN	**Xi'an**	**57.41 316**	P	**P**	**21 04 37.9 +0.1**
XAN			AP	pP	21 04 51.1 +0.3
XAN			S	**S**	**21 12 27.5 -3.7**
XAN			AMB	AMB	
	comp=Z,112nm,1.4s,mb5.7				
XAN			LR	LR	
	comp=N,789nm,32.6s,MS4.9				
XAN			LR	LR	
	comp=E,1μm,32.6s,MS4.9				
XAN			LR	LR	
	comp=Z,2μm,38.3s				
TBI	**Tubuai**	**57.67 114**	*e*PP	PP	21 06 49.2 +1.4
	comp=Z,293nm,32.2s				
TBI	**Tubuai**	**57.67 114**	*e*LR	LR	21 21 41.0
	comp=Z,10μm,34.0s				
KMI	**Kunming**	**57.84 304**	⇓P	**P**	**21 04 42.7 +1.9**
KMI			AP	pP	21 04 53.9 0.0
KMI			XP	sP	21 04 59.0 -0.2
KMI			PCP	PcP	21 05 34.7 +1.8
KMI			PP	PP	21 06 53.4 +4.1
KMI			SCP	ScP	21 09 30.6 +1.5
KMI			PCS	PcS	21 09 34.6 +0.3
KMI			S	**S**	**21 12 38.6 +1.6**
KMI			XS	sS	21 12 56.0 -2.8
KMI			SCS	ScS	21 14 25.9 -0.5
KMI			AMB	AMB	
	comp=Z,100nm,1.5s,mb5.6				
KMI			AMB	AMB	
	comp=Z,615nm,4.3s				
KMI			LR	LR	
	comp=N,851nm,19.5s,MS5.2				
KMI			LR	LR	
	comp=E,2μm,24.2s,MS5.2				
KMI			LR	LR	
	comp=Z,4μm,27.6s,MS5.4				
PET	**Petropavlovsk**	**58.02 4**	*e*P	**P**	**21 04 39.9 -2.2**
PET			*e*S	**S**	**21 12 34.8 -4.5**
PET			*e*PS		21 12 51.8
PET			*e*		21 14 23.0
PET			pmax	pmax	
	comp=Z,91nm,0.5s,mb6.1				
PET			smax		
	comp=E,800nm,14.1s				
PET			MLR	MLR	
	comp=Z,1μm,15.0s,MS5.0				
PET	**Petropavlovsk**	**58.02 4**	*e*P	**P**	**21 04 42.7 +0.6**
	comp=Z,54nm,0.6s,mb5.8				
PET			*e*pP	pP	21 04 58.2 +3.1
BDT	**Bhumibol Dam**	**58.34 294**	P	**P**	**21 04 45.0 +0.7**
VAH	**Vaihoa**	**58.51 105**	*e*P	**P**	**21 04 45.7 +0.2**
	comp=Z,116nm,1.1s,mb5.8				
CD2	**Chengdu**	**59.56 310**	⇓*i*P	**P**	**21 04 53.7 +0.9**
CD2			AP	pP	21 05 03.8 -2.1
CD2			XP	sP	21 05 07.7 -3.5
CD2			PP	PP	21 07 07.2 +2.6
CD2			S	**S**	**21 12 58.5 -0.8**
CD2			XS	sS	21 13 16.6 -4.6
CD2			SCS	ScS	21 14 39.1 0.0
CD2			SS	SS	21 16 52.2 -2.9
CD2			AMB	AMB	
	comp=Z,140nm,1.0s,mb6.0				
CD2			AMB	AMB	
	comp=Z,320nm,8.4s				
CD2			LR	LR	
	comp=E,1μm,22.2s				
CD2			LR	LR	
	comp=Z,2μm,25.2s,MS5.1				
HHC	**Hu-ho-hao-te**	**59.76 324**	*e*P	**P**	**21 04 55.2 +1.0**
HHC			AP	pP	21 05 05.3 -2.0
HHC			XP	sP	21 05 09.2 -3.4
HHC			PCP	PcP	21 05 41.0 +0.5
HHC			PP	PP	21 07 09.5 +3.2
HHC			S	**S**	**21 13 01.2 -0.7**
HHC			XS	sS	21 13 20.7 -3.1
HHC			SCS	ScS	21 14 39.7 -0.9
HHC			AMB	AMB	
	comp=Z,6.0nm,0.2s,mb5.3				
HHC			AMB	AMB	
	comp=Z,96nm,2.7s,mb5.3				
HHC			LR	LR	
	comp=N,973nm,21.6s				
HHC			LR	LR	
	comp=E,1μm,30.4s				
HHC			LR	LR	
	comp=Z,2μm,29.4s				
FX1	**Attu Island--F**	**60.05 14**	P	**P**	**21 04 57.2 +1.1**
	comp=Z,23nm,0.5s,mb5.5,baz=55,slow=2.7,SNR=8.6				
FX1	**Attu Island--F**	**60.05 14**	*e*P	**P**	**21 04 56.8 +0.7**
BTO	**Baotou**	**60.53 323**	*e*P	**P**	**21 05 00.6 +1.2**
BTO			S	**S**	**21 13 12.6 +0.9**
HIA	**Hailar**	**61.63 335**	*e*P	**P**	**21 05 06.5 -0.3**
HIA			*e**PP	pP	21 05 18.3 -1.7
HIA			pmax	pmax	
	comp=Z,106nm,1.0s				
HIA	**Hailar**	**61.63 335**	*e*P	**P**	**21 05 06.5 -0.4**
	comp=Z,106nm,1.0s,mb5.9				
HIA			*e*pP	pP	21 05 18.3 -1.7
LZH	**Lanzhou**	**62.02 316**	⇓P	**P**	**21 05 11.0 +1.5**
LZH			AP	pP	21 05 21.6 -1.0
LZH			XP	sP	21 05 25.5 -2.4
LZH			PCP	PcP	21 05 51.2 +1.6
LZH			PP	PP	21 07 30.2 +3.9
LZH			S	**S**	**21 13 31.9 +1.3**
LZH			XS	sS	21 13 49.5 -3.1
LZH			SS	SS	21 17 36.3 +2.7
LZH			AMB	AMB	
	comp=Z,187nm,1.5s,mb6.0				
LZH			AMB	AMB	
	comp=Z,596nm,6.7s				
LZH			LR	LR	
	comp=N,4μm,15.6s				
LZH			LR	LR	
	comp=Z,7μm,18.5s,MS5.8				
DRV	**Dumont d'Urvil**	**62.22 186**	P	**P**	**21 05 09.0 -1.8**
DRV			S	**S**	**21 13 30.0 -3.2**
MA2	**Magadan**	**64.48 358**	*c e*P	**P**	**21 05 25.0 -0.8**
MA2			*e*S	**S**	**21 14 00.4 -0.9**
MA2			*e*PS		21 14 26.5
MA2			*e*		21 15 15.5
MA2			pmax	pmax	
	comp=Z,20nm,1.1s,mb5.1				
MA2			MLR	MLR	
	comp=Z,400nm,19.0s,MS4.6				
MA2	**Magadan**	**64.48 358**	*e*P	**P**	**21 05 24.9 -0.9**
	comp=Z,85nm,0.8s,mb5.8				
MA2			*e*pP	pP	21 05 38.4 -0.6
TAOE	**Nuku Hiva Isla**	**65.74 97**	*e*P	**P**	**21 05 34.3 +0.3**
	comp=Z,575nm,1.1s,mb6.5				
TAOE	**Nuku Hiva Isla**	**65.74 97**	*e*SS	SS	21 18 36.7 +5.0
	comp=Z,2μm,28.2s				
TAOE			*e*LR	LR	21 25 13.7
	comp=Z,11μm,33.2s				
NRGR	**Nerungri**	**65.90 343**	*e*P	**P**	**21 05 27.7 -7.3**
CLNS	**Chul'man**	**66.01 343**	*e*P	**P**	**21 05 33.2 -2.4**
CLNS			pmax	pmax	
	comp=Z,24nm,0.9s,mb5.2				
CLNS			pmax	pmax	
	comp=N,12nm,1.0s				
CLNS			pmax	pmax	
	comp=E,13nm,0.9s				
GTA	**Gaotai**	**66.43 317**	⇓*i*P	**P**	**21 05 40.1 +1.7**
GTA			AP	pP	21 05 50.3 -1.4
GTA			XP	sP	21 05 54.1 -2.8
GTA			PP	PP	21 08 08.8 +3.8
GTA			SCP		21 10 11.2
GTA			S	S	21 14 25.8 +0.6
GTA			XS	sS	21 14 42.3 -5.1
GTA			SS	SS	21 18 43.9 +1.4
GTA			AMB	AMB	
	comp=Z,98nm,1.2s,mb5.7				
GTA			AMB	AMB	
	comp=Z,595nm,5.0s				
GTA			LR	LR	
	comp=N,915nm,22.6s,MS5.0				
GTA			LR	LR	
	comp=E,866nm,27.1s,MS5.0				
GTA			LR	LR	
	comp=Z,2μm,29.0s,MS5.1				
ULN	**Ulaanbaatar**	**66.67 328**	*i* P	**P**	**21 05 41.3 +1.4**
ULN	**Ulaanbaatar**	**66.67 328**	*i* Pr	**P**	**21 05 41.3 +1.4**
SONM	**Songino Array**	**67.01 327**	P	**P**	**21 05 42.8 +0.7**
	comp=Z,16nm,0.8s,mb5.1,baz=136,slow=4.8,SNR=63				
SONM			pP	pP	21 05 55.9 +0.6
	comp=Z,70nm,0.9s,baz=150,slow=7.0,SNR=20				
SONM			LR	LR	21 33 20.0
	comp=Z,1μm,20.9s,MS5.1,baz=128,slow=34				
SONM			PKP2ab		21 34 15.2
	comp=Z,2.5nm,1.1s,baz=345,slow=4.6,SNR=7.4				
SONM	**Songino Array**	**67.01 327**	P	**P**	**21 05 42.8 +0.8**
SONM			*PP	pP	21 05 55.9 +0.6
SHL	**Shillong**	**67.18 300**	*i* P	**P**	**21 05 44.5 +1.4**
SHL			*e*S	S	21 14 32.0 -2.2
SHL	**Shillong**	**67.18 300**	*e*P	**P**	**21 05 43.8 +0.6**
AGT	**Agartala**	**67.23 298**	*i* x	**P**	**21 05 49.0 +5.5**
AGT			*i* x	x	21 06 50.0
SEY	**Seymchan**	**67.81 359**	*e*P	**P**	**21 05 46.3 -0.8**
SEY			*e*		21 06 15.1
SEY			*e*PPP		21 09 53.2
SEY			*e*S	S	21 14 40.0 -1.8
SEY			SS	SS	21 19 01.1 -2.8
SEY			pmax	pmax	
	comp=Z,10.0nm,0.7s,mb5.0				
SEY			smax		
	comp=N,380nm,19.9s				
SEY			smax		
	comp=E,3μm,39.8s				
SEY	**Seymchan**	**67.81 359**	*i* P	**P**	**21 05 46.2 -0.9**
CASY	**Casey**	**68.02 197**	*e*P	**P**	**21 05 45.0 -3.4**
LSA	**Lhasa**	**69.09 304**	P	**P**	**21 05 57.0 +1.9**
LSA			S	S	21 14 45.1 -12
LSA			AMB	AMB	
	comp=Z,30nm,1.0s,mb5.2				
LSA			AMB	AMB	
	comp=Z,620nm,10.0s				
LSA			LR	LR	
	comp=N,650nm,27.0s,MS5.3				
LSA			LR	LR	
	comp=E,2μm,26.0s,MS5.3				
LSA			LR	LR	
	comp=Z,3μm,26.0s,MS5.4				
LSA	**Lhasa**	**69.09 304**	*e*P	**P**	**21 05 56.9 +1.8**
LSA			*e**PP	pP	21 06 11.1 +2.6
LSA			pmax	pmax	
	comp=Z,78nm,1.0s,mb5.6				
LSA	**Lhasa**	**69.09 304**	*e*P	**P**	**21 05 56.9 +1.7**
	comp=Z,78nm,1.0s,mb5.6				
LSA			*e*pP	pP	21 06 11.1 +2.6
YAK	**Yakutsk**	**69.41 348**	*e*P	**P**	**21 05 56.7 -0.4**
YAK			pmax	pmax	
	comp=Z,23nm,0.8s,mb5.2				
YAK	**Yakutsk**	**69.41 348**	*e*P	**P**	**21 05 56.7 -0.4**
	comp=Z,23nm,0.8s,mb5.2				
ZAK	**Zakamensk**	**70.17 328**	*e*P	**P**	**21 06 02.0 +0.3**
ZAK			*e*	pP	21 06 15.5 +0.4
ZAK			pmax	pmax	
	comp=Z,81nm,1.3s,mb5.5				
ZAK			pmax	pmax	
	comp=Z,217nm,1.2s,mb6.0				
ZAK			pmax	pmax	
	comp=Z,39nm,1.8s,mb5.0				
BOD	**Bodaibo**	**70.35 339**	*e*P	**P**	**21 06 02.0 -0.8**
BOD			*e*	pP	21 06 16.4 +0.2
BOD			pmax	pmax	
	comp=Z,27nm,1.3s,mb5.0				
BOD			pmax	pmax	
	comp=Z,55nm,1.4s,mb5.3				
TLY	**Talaya**	**70.74 330**	P	**P**	**21 06 06.3 +1.1**
	comp=Z,40nm,1.2s,mb5.2,SNR=6.2				
IRK	**Irkutsk**	**70.76 330**	*e*P	**P**	**21 06 04.9 -0.5**
IRK			*e*	pP	21 06 18.8 +0.1
IRK			*e*S	S	21 15 06.3 -10
IRK			*e*		21 15 52.8
IRK			pmax	pmax	
	comp=Z,63nm,1.2s,mb5.4				
RKT	**Rikitea**	**70.90 113**	*e*PP	PP	21 08 43.9 +0.2
	comp=Z,212nm,31.8s				
RKT	**Rikitea**	**70.90 113**	*e*SS	SS	21 20 06.7 +15
	comp=Z,856nm,32.2s				
RKT			*e*LR	LR	21 27 48.2
	comp=Z,7μm,30.5s				
BOK	**Bokaro**	**71.94 297**	*e*P	**P**	**21 06 12.3 -0.2**
BOK			AMb	AMB	21 06 16.9
	comp=Z,119nm,1.1s,mb5.7				
MOY	**Mondy**	**72.08 329**	*e*P	**P**	**21 06 14.3 +0.9**
MOY			pmax	pmax	
	comp=Z,130nm,1.4s,mb5.7				
VNDA	**Vanda**	**72.54 178**	P	**P**	**21 06 16.0 0.0**
	comp=Z,124nm,1.0s,mb5.8,baz=331,slow=6.7,SNR=185				
VNDA			LR	LR	21 36 03.9
	comp=Z,810nm,18.7s,MS5.0,baz=354,slow=34				
VNDA	**Vanda**	**72.54 178**	*e*P	**P**	**21 06 15.9 -0.1**
VNDA			pmax	pmax	
	comp=Z,336nm,1.3s				
VNDA	**Vanda**	**72.54 178**	*e*P	**P**	**21 06 15.9 -0.1**
	comp=Z,336nm,1.3s,mb6.1				
JIRN	**Jiri**	**72.66 301**	*e*P	**P**	**21 06 17.9 +1.1**
	comp=Z,165nm,1.2s,mb5.8				
VIS	**Vishakhapatnam**	**72.96 290**	*e*P	**P**	**21 06 17.6 -1.0**
VIS			AMb	AMB	21 06 22.7
	comp=Z,165nm,1.4s,mb5.8				
GUN	**Gumba**	**72.99 301**	*e*P	**P**	**21 06 19.8 +1.1**
	comp=Z,411nm,1.2s,mb6.2				
SBA	**Scott Base**	**73.07 177**	*e*P	**P**	**21 06 20.1 +0.9**
SBA			pmax	pmax	
	comp=Z,560nm,1.4s,mb6.3				
SBA	**Scott Base**	**73.07 177**	*e*P	**P**	**21 06 20.1 +0.9**
	comp=Z,560nm,1.4s,mb6.3				
PKI	**Pulchoki**	**73.31 301**	*e*P	**P**	**21 06 21.3 +0.7**
	comp=Z,192nm,1.2s,mb5.9				
KKN	**Kakani**	**73.47 301**	*e*P	**P**	**21 06 22.4 +0.8**
	comp=Z,82nm,0.8s,mb5.7				
BILL	**Bilibino**	**73.48 5**	*c i*P	**P**	**21 06 21.1 -0.5**
BILL			S	S	21 15 47.5 -0.2
BILL			*e*SS	SS	21 20 39.1 +8.2
BILL			pmax	pmax	
	comp=Z,57nm,1.2s,mb5.4				
BILL	**Bilibino**	**73.48 5**	*e*P	**P**	**21 06 20.8 -0.8**
	comp=Z,122nm,1.0s,mb5.8				
DMN	**Daman**	**73.58 301**	*e*P	**P**	**21 06 23.4 +1.2**
	comp=Z,220nm,0.9s,mb6.1				
PALK	**Pallekele**	**73.83 279**	P	**P**	**21 06 24.1 +0.5**
	comp=Z,330nm,1.1s,mb6.2,SNR=15				
PALK	**Pallekele**	**73.83 279**	*e*P	**P**	**21 06 24.3 +0.7**
	comp=Z,72nm,0.9s,mb5.6				
PALK			*e*pP	pP	21 06 38.1 +1.0
GKN	**Gorkha**	**74.08 301**	*e*P	**P**	**21 06 25.7 +0.6**
	comp=Z,235nm,1.1s,mb6.0				
KOLN	**Koldanda**	**74.91 300**	*e*P	**P**	**21 06 30.5 +0.6**
	comp=Z,117nm,0.9s,mb5.8				
BLSP	**Bilaspur**	**74.94 294**	*e*x	x	21 08 54.0
MDRS	**Chennai**	**75.09 285**	⇓*i*P	**P**	**21 06 31.2 +0.2**
MDRS			AMb	AMB	21 06 52.8
	comp=Z,150nm,1.1s,mb5.8				
TNA	**Tin City**	**75.82 15**	*e*P	**P**	**21 06 34.5 -0.6**
	comp=Z,39nm,1.4s,mb5.1				
TNA			*e*pP	pP	21 06 44.4 -4.3
KDAK	**Kodiak Island**	**76.03 26**	P	**P**	**21 06 34.9 -1.5**
	comp=Z,28nm,1.0s,mb5.2,baz=306,slow=8.7,SNR=3.7				
KDAK			LR	LR	21 34 27.7
	comp=Z,1μm,21.2s,MS5.2,baz=240,slow=31				
WMQ	**Urumqi**	**76.52 317**	P	**P**	**21 06 40.4 +1.3**
WMQ			AP	pP	21 06 50.7 -2.0
WMQ			XP	sP	21 06 54.7 -3.2
WMQ			PP	PP	21 09 34.0 +2.5
WMQ			S	S	21 16 22.5 +1.0
WMQ			SCS	ScS	21 16 50.1 -1.1
WMQ			SS	SS	21 21 20.6 +3.6
WMQ			AMB	AMB	
	comp=Z,213nm,1.0s,mb6.0				
WMQ			AMB	AMB	
	comp=Z,2μm,4.6s				
WMQ			LR	LR	
	comp=N,916nm,22.0s,MS5.2				
WMQ			LR	LR	
	comp=E,1μm,22.0s,MS5.2				
WMQ			LR	LR	
	comp=Z,2μm,24.0s,MS5.3				
SVW2	**Sparrevohn**	**76.73 23**	*e*P	**P**	**21 06 40.9 +0.5**
HYB	**Hyderabad**	**77.39 289**	⇓*i*P	**P**	**21 06 44.0 0.0**
	comp=Z,90nm,1.0s,mb5.7				
HYB			*e*PcP	PcP	21 06 58.0 +3.6
HYB			*e*pP	pP	21 07 02.5 +4.9
HYB			*e*S	S	21 16 28.0 -3.0
HYB	**Hyderabad**	**77.39 289**	⇓*e*P	**P**	**21 06 44.0 0.0**
HYB			*e*	pP	21 06 58.0 +0.4
HYB			*e*S	S	21 16 28.0 -3.0
HYB			pmax	pmax	
	comp=Z,90nm,1.0s,mb5.7				
HYB	**Hyderabad**	**77.39 289**	⇓*e*P	**P**	**21 06 44.0 0.0**
	comp=Z,90nm,1.0s,mb5.7				
HYB			*e*	pP	21 06 58.0 +0.4
HYB			*e*S	S	21 16 28.0 -3.0
NGP	**Nagpur**	**77.57 293**	⇓*e*P	**P**	**21 06 46.0 +1.0**
NGP			*e*x	x	21 06 50.9
	comp=Z,191nm,1.5s				
NGP			*e*S	S	21 16 32.0 -0.9
TRD	**Trivandrum**	**77.66 280**	*e*P	**P**	**21 06 45.7 +0.1**
TRD			AMb	AMB	21 06 49.4
	comp=Z,152nm,1.2s,mb5.8				
LGTI	**Lohaghat**	**78.17 301**	*e*P	**P**	**21 06 49.5 +1.1**
PTH	**Pithoragarh**	**78.21 301**	*e*x	x	21 07 24.0
KRAR	**Krasnoyarsk**	**78.44 330**	*e*P	**P**	**21 06 48.0 -1.9**
KRAR			pmax	pmax	
	comp=Z,27nm,1.7s,mb4.9				
KRAR			MLR	MLR	
	comp=Z,500nm,23.0s,MS4.8				
SLKM	**Skilak Lake**	**78.55 25**	P	**P**	**21 06 49.9 -0.6**
SLKM	**Skilak Lake**	**78.55 25**	*e*P	**P**	**21 06 49.6 -0.9**
FIB	**Fire Island**	**78.92 24**	P	**P**	**21 06 52.5 0.0**
FIB			pmax	pmax	
	comp=Z,120nm,0.9s,mb5.8				
FIB	**Fire Island**	**78.92 24**	*e*P	**P**	**21 06 52.0 -0.5**
	comp=Z,118nm,0.9s,mb5.8				
BHPL	**Bhopal**	**79.42 295**	*e*P	**P**	**21 06 55.2 -0.1**
BHPL			AMb	AMB	21 07 12.8
	comp=Z,107nm,1.2s,mb5.6				
LATR	**Latur**	**79.42 290**	*e*P	**P**	**21 06 55.0 -0.3**
PMR	**Palmer**	**79.57 24**	*e*P	**P**	**21 06 55.2 -0.9**
PMR			pmax	pmax	
	comp=Z,57nm,1.3s,mb5.3				
PMR			MLR	MLR	
	comp=Z,1μm,23.0s,MS5.1				
PMR	**Palmer**	**79.57 24**	*e*P	**P**	**21 06 55.2 -0.9**
	comp=Z,56nm,1.3s,mb5.3				
PMR			LR	LR	
	comp=Z,1μm,23.0s,MS5.1				
SML	**Sawmill**	**80.01 24**	P	**P**	**21 06 58.2 -0.2**
SML	**Sawmill**	**80.01 24**	*e*P	**P**	**21 06 57.6 -0.8**
DDI	**Dehra Dun**	**80.21 302**	*e*x	**P**	**21 06 54.8 -4.7**
DDI			*e*x	x	21 08 19.8
NDI	**New Delhi**	**80.60 300**	*e*P	**P**	**21 07 00.0 -1.6**
NDI			*e*P		21 07 01.6
NDI			AMb	AMB	21 07 18.8
	comp=Z,200nm,1.3s,mb5.9				
DGAR	**Diego Garcia**	**80.66 263**	P	**P**	**21 07 01.4 -0.6**
DGAR			*e*	pP	21 07 11.4 -4.2
DGAR			pmax	pmax	
	comp=Z,251nm,1.5s,mb5.9				
DGAR	**Diego Garcia**	**80.66 263**	P	**P**	**21 07 01.4 -0.5**
	comp=Z,251nm,1.5s,mb5.9				
DGAR			*e*	pP	21 07 11.4 -4.2
DIV	**Divide**	**80.74 25**	*e*P	**P**	**21 06 56.7 -5.7**
	comp=Z,307nm,1.1s,mb6.2				
MCK	**McKinley**	**80.78 22**	*e*P	**P**	**21 07 01.1 -1.5**
MCK			*e**PP	pP	21 07 15.5 -0.7
MCK			pmax	pmax	
	comp=Z,117nm,1.2s,mb5.7				
MCK	**McKinley**	**80.78 22**	*e*P	**P**	**21 07 01.1 -1.5**
	comp=Z,117nm,1.2s,mb5.7				
MCK			*e*pP	pP	21 07 15.5 -0.7
MKAR	**Makanchi Array**	**81.09 319**	P	**P**	**21 07 04.6 +0.4**
	comp=Z,29nm,0.8s,mb5.3,baz=72,slow=4.0,SNR=116				
MKAR			pP	pP	21 07 18.1 +0.2
	comp=Z,137nm,1.0s,baz=72,slow=4.7,SNR=31				
MKAR			S	S	21 17 08.0 -2.3
	comp=Z,0.4nm,0.7s,baz=345,slow=14,SNR=3.6				
MKAR	**Makanchi Array**	**81.09 319**	P	**P**	**21 07 04.6 +0.4**
MKAR			pP	pP	21 07 18.1 +0.2
MKAR			S	S	21 17 08.0 -2.3
SMLA	**Simla**	**81.12 302**	*e*P	**P**	**21 07 04.4 0.0**
SMLA			*e*P		21 07 04.6
SMLA			*e*x	x	21 07 27.2
SMLA			AMb	AMB	21 07 28.8
	comp=Z,266nm,1.3s,mb6.0				
SDNR	**Sundarnagar**	**81.36 303**	*e*P	**P**	**21 07 06.5 +0.9**
KAD	**Karad**	**81.50 288**	*i* P	**P**	**21 07 05.9 -0.5**
COLA	**College**	**81.78 22**	*i* P	**P**	**21 07 06.3 -1.6**
COLA	**College**	**81.78 22**	*e*P	**P**	**21 07 05.0 -2.9**
	comp=Z,81nm,0.9s,mb5.7				
COLA			*e*pP	pP	21 07 20.1 -1.4
BHK	**Bhakra**	**81.81 303**	*e*x	x	21 07 28.2
ZAL	**Zalesovo**	**81.86 326**	P	**P**	**21 07 07.8 -0.5**
	comp=Z,9.9nm,0.5s,mb5.0,baz=2.8,slow=5.9,SNR=55				
ZAL			S	S	21 17 15.9 -2.3
	comp=Z,1.8nm,0.8s,baz=215,slow=21,SNR=16				
ZAL			LR	LR	21 42 44.4
	comp=Z,840nm,20.3s,MS5.1,baz=352,slow=35				
ZAL	**Zalesovo**	**81.86 326**	P	**P**	**21 07 07.8 -0.5**
ZAL			S	S	21 17 15.9 -2.3
ILAR	**Eielson Array**	**82.08 22**	P	**P**	**21 07 07.0 -2.5**
	comp=Z,16nm,1.0s,mb4.9,baz=256,slow=4.9,SNR=64				
ILAR			PKKPbc	PKKPbc	21 25 37.3 -0.8
	comp=Z,0.7nm,0.6s,baz=351,slow=1.7,SNR=11				
ILAR			PKPPKP		21 33 39.5
	comp=Z,1.6nm,1.1s,baz=329,slow=0.8,SNR=5.4				
ILAR			LR	LR	21 40 48.4
	comp=Z,782nm,20.5s,MS5.1,baz=258,slow=34				
DLH	**Dalhousie**	**82.39 304**	*e*P	**P**	**21 07 12.0 +0.9**
DLH			*e*x	x	21 07 35.0
AJM	**Ajmer**	**82.46 297**	*i* P	**P**	**21 07 11.0 -0.5**
AJM			*e*P		21 07 11.2
AJM			AMb	AMB	21 07 36.4
	comp=Z,340nm,1.0s,mb6.2				
BOM	**Bombay**	**83.01 290**	*e*P	**P**	**21 07 15.7 +1.4**
BOM			AMb	AMB	21 07 31.6
	comp=Z,256nm,1.7s,mb6.0				
NVS	**Novosibirsk**	**83.02 327**	⇑*i*P	**P**	**21 07 13.6 -0.8**
NVS			*i*	pP	21 07 27.7 -0.3
NVS			*i* S	S	21 17 26.6 -3.5
NVS			pmax	pmax	
	comp=Z,164nm,1.6s,mb5.8				
NVS			pmax	pmax	
	comp=N,50nm,1.5s				
NVS			pmax	pmax	
	comp=E,93nm,1.4s				
NVS			pmax	pmax	
	comp=Z,44nm,1.9s,mb5.2				
NVS			pmax	pmax	
	comp=N,25nm,1.8s				
NVS			smax		
	comp=N,161nm,2.0s				
NVS			smax		
	comp=E,32nm,2.0s				
KSH	**Kashi**	**83.76 311**	⇑*i*P	**P**	**21 07 21.1 +3.0**
KSH			AP	pP	21 07 32.7 +0.9
KSH			XP	sP	21 07 36.1 -0.9
KSH			S	S	21 17 43.3 +5.7
KSH			XS	sS	21 18 01.7 +1.2
KSH			AMB	AMB	
	comp=Z,113nm,1.0s,mb6.0				
KSH			LR	LR	
	comp=N,373nm,6.7s				
KSH			LR	LR	
	comp=E,307nm,5.2s				
KSH			LR	LR	
	comp=Z,853nm,22.2s,MS5.1				
ULHL	**Ulahol**	**84.12 313**	P	**P**	**21 07 20.9 +0.8**
	SNR=50				
KURK	**Kurchatov**	**84.50 322**	P	**P**	**21 07 21.5 -0.4**
	comp=Z,656nm,0.9s,SNR=15				
KURK	**Kurchatov**	**84.50 322**	*e*P	**P**	**21 07 21.4 -0.5**
KURK			*e**PP	pP	21 07 34.9 -0.7
KURK			pmax	pmax	
	comp=Z,277nm,1.3s,mb6.2				
KURK	**Kurchatov**	**84.50 322**	*e*P	**P**	**21 07 21.4 -0.5**
	comp=Z,277nm,1.3s,mb6.2				
KURK			*e*pP	pP	21 07 34.9 -0.7
TKM2	**Tokmak 2**	**84.73 314**	P	**P**	**21 07 24.2 +1.1**
	SNR=56				
TKM2	**Tokmak 2**	**84.73 314**	*i* P	**P**	**21 07 24.2 +1.1**
KZA	**Kyzart**	**84.81 313**	P	**P**	**21 07 25.6 +2.1**
	SNR=80				
QSPA	**South Pole Qui**	**84.90 180**	P	**P**	**21 07 23.8 -0.2**
QSPA	**South Pole Qui**	**84.90 180**	⇑*i*P	**P**	**21 07 23.8 -0.1**
	comp=Z,695nm,1.1s,mb6.7				

KBK Karagaybulak 85.15 313 P **P 21 07 26.1 +1.0**
SNR=44
CHMS Chumysh 85.36 314 P **P 21 07 26.6 +0.3**
SNR=46
UCH Uchtor 85.38 313 P **P 21 07 28.3 +2.0**
SNR=66
FRU Bishkek 85.42 314⇑ *i*P **P 21 07 27.5 +1.0**
FRU *i* pP 21 07 41.0 +0.8
FRU *i* 21 07 47.5
FRU *i* S 21 17 44.0
FRU pmax pmax
comp=Z,210nm,1.9s,mb5.9
FRU smax
comp=E,900nm,8.0s
FRU pmax pmax
comp=N,1µm,8.0s
AAK Ala-Archa 85.47 313 P **P 21 07 27.9 +1.2**
SNR=52
AAK Ala-Archa 85.47 313 P **P 21 07 26.8 0.0**
comp=N,278nm,1.1s,mb6.3,SNR=52
AAK Ala-Archa 85.47 313 *e*P **P 21 07 26.8 0.0**
AAK *e**PP pP 21 07 40.0 -0.5
AAK pmax pmax
comp=Z,96nm,0.8s,mb6.0
AAK Ala-Archa 85.47 313 *e*P **P 21 07 26.8 0.0**
comp=Z,96nm,0.8s,mb6.0
AAK *e*pP pP 21 07 40.0 -0.5
USP Ospenovka 85.59 314 P **P 21 07 28.3 +0.9**
SNR=49
MAW Mawson 85.66 203 *e*P **P 21 07 27.0 -0.7**
comp=Z,66nm,0.6s,mb6.0
MAW Mawson 85.66 203 P **P 21 07 27.1 -0.6**
comp=Z,98nm,0.6s,mb6.2,baz=88,slow=6.2,SNR=21
MAW LR LR 21 39 23.0
comp=Z,891nm,20.9s,MS5.1,baz=84,slow=31
MAW Mawson 85.66 203 *e*P **P 21 07 27.0 -0.7**
MAW pmax pmax
comp=Z,66nm,0.6s
AML Almayashu 85.96 313 P **P 21 07 30.9 +1.7**
SNR=132
EKS2 Erkin-Say 86.00 313 P **P 21 07 30.5 +1.2**
SNR=74
BHJ Bhuj 86.49 294 *e*P **P 21 07 31.1 -0.7**
BHJ AMb AMB 21 07 50.5
comp=Z,312nm,1.3s,mb6.4
BBB Bella Bella 86.79 37 LR LR 21 42 08.6
comp=Z,716nm,18.8s,MS5.1,baz=262,slow=33
INK Inuvik 88.40 21 P **P 21 07 39.4 -1.6**
comp=Z,18nm,1.1s,mb5.2,baz=245,slow=4.8,SNR=24
INK PKKP PKKPbc 21 25 17.3 -5.9
comp=Z,9.1nm,1.1s,baz=40,slow=5.2,SNR=3.9
INK LR LR 21 43 33.4
comp=Z,1µm,21.8s,MS5.2,baz=243,slow=33
INK Inuvik 88.40 21 P **P 21 07 39.0 -2.0**
INK pmax pmax
comp=Z,98nm,1.4s
INK Inuvik 88.40 21 *e*P **P 21 07 38.3 -2.7**
comp=Z,98nm,1.4s,mb5.8
INK *e*pP pP 21 07 50.7 -4.1
KK31 Karatay Array 88.44 313 *i* P **P 21 07 41.1 -0.1**
KKAR Karatay Array 88.44 313 *i* P **P 21 07 41.1 -0.1**
KKAR pmax pmax
comp=Z,28nm,0.8s,mb5.5
OCWA Octopus Mounta 88.45 42 *e*P **P 21 07 40.4 -0.8**
comp=Z,79nm,1.3s,mb5.8
OCWA *e*pP pP 21 07 52.5 -2.5
HUMO Hull Mountain 88.53 47 *e*P **P 21 07 41.0 -0.6**
comp=Z,26nm,1.1s,mb5.5
HUMO *e*pP pP 21 07 48.5 -6.9
YBH Yreka Blue Hor 88.59 48 P **P 21 07 42.6 +0.7**
comp=Z,4.1nm,0.9s,mb4.7,baz=254,slow=15,SNR=3.5
YBH LR LR 21 39 47.8
comp=Z,3µm,21.6s,MS5.6,baz=270,slow=30
PGC Sidney 89.08 41 P **P 21 07 43.7 -0.5**
comp=Z,77nm,1.4s,mb5.8
PGC *e*pP pP 21 08 12.9 +15
VOSK Vostochnaya 89.57 323 P **P 21 07 44.9 -1.6**
VOSK pmax pmax
comp=Z,132nm,1.5s,mb6.0
BVA0 Borovoye Array 89.97 323 *i* P **P 21 07 47.3 -1.0**
BVA0 pmax pmax
comp=Z,19nm,1.0s,mb5.4
BVAR Borovoye Array 89.97 323 P **P 21 07 47.1 -1.2**
comp=Z,66nm,0.9s,mb5.9,baz=108,slow=4.9,SNR=264
BVAR pP pP 21 08 01.6 -0.5
comp=Z,83nm,0.8s,baz=96,slow=4.3,SNR=18
BVAR S 21 18 09.1
comp=Z,1.4nm,1.0s,baz=119,slow=1.8,SNR=3.2
BRVK Borovoye 90.03 323 P **P 21 07 47.7 -1.0**
comp=Z,537nm,1.1s,SNR=61
BRVK Borovoye 90.03 323 P **P 21 07 47.4 -1.3**
BRVK pmax pmax
comp=Z,64nm,1.0s,mb5.9
BRVK Borovoye 90.03 323 *e*P **P 21 07 47.3 -1.3**
comp=Z,64nm,0.9s,mb6.0
BRVK *e*pP pP 21 07 59.6 -2.8
MOD Modoc 90.40 48 *e*P **P 21 07 49.8 -0.6**
comp=Z,52nm,1.4s,mb5.7
MOD *e*pP pP 21 08 08.8 +4.6
PAHR Pah Rah Range 90.86 50 *e*P **P 21 07 52.7 +0.2**
comp=Z,45nm,1.5s,mb5.6
PAHR *e*pP pP 21 08 13.9 +7.6
MTUM Tungsten Hills 91.27 53 *e*P sP 21 08 15.4 +2.0
MWC Mount Wilson 91.39 56 P **P 21 07 55.6 +0.6**
MWC *e**PP pP 21 08 12.0 +3.2
HAWA Hanford 91.43 44 *e*P **P 21 07 53.5 -1.6**
comp=Z,1.0nm,1.3s
NVAR Mina Array Bea 91.57 52 P **P 21 07 55.7 -0.1**
comp=Z,5.9nm,1.0s,mb4.9,baz=255,slow=3.6,SNR=20
NVAR Mina Array Bea 91.57 52 P **P 21 07 55.7 -0.1**
WVOR Wild Horse Val 91.68 48 *e*P **P 21 07 56.2 -0.1**
WVOR *e**PP pP 21 08 18.3 +8.2
WVOR pmax pmax
comp=Z,104nm,1.7s,mb5.9
WVOR Wild Horse Val 91.68 48 *e*P **P 21 07 56.2 -0.1**
comp=Z,104nm,1.7s,mb5.9
WVOR *e*pP pP 21 08 18.3 +8.2
DAC Darwin (Calif) 91.95 54 P **P 21 07 58.1 +0.5**
DAC pmax pmax
comp=Z,82nm,1.3s,mb5.9
DAC Darwin (Calif) 91.95 54 *e*P **P 21 07 57.9 +0.3**
comp=Z,82nm,1.4s,mb5.9
DAC *e*PP PP 21 11 37.8 +0.5
TPH Tonopah 92.39 52 *e*P **P 21 08 00.4 +0.8**
TPH *e**PP pP 21 08 19.4 +6.0
TPH pmax pmax
comp=Z,68nm,1.3s,mb5.8
TPH Tonopah 92.39 52 *e*P **P 21 08 00.4 +0.8**
comp=Z,68nm,1.3s,mb5.8
TPH *e*pP pP 21 08 19.4 +6.0
BMN Battle Mountai 92.58 50 *e*P **P 21 08 00.6 +0.1**
BMN *e**PP pP 21 08 20.7 +6.5
BMN pmax pmax
comp=Z,17nm,1.1s,mb5.4
BMN Battle Mountai 92.58 50 *e*P **P 21 08 00.6 +0.1**
comp=Z,17nm,1.1s,mb5.4
BMN *e*pP pP 21 08 20.7 +6.4
BMO Blue Mountains 92.85 45 *e*P **P 21 08 00.8 -0.9**
BMO *e**PP pP 21 08 11.8 -3.7
BMO pmax pmax
comp=Z,56nm,1.5s,mb5.8
BMO Blue Mountains 92.85 45 *e*P **P 21 08 00.8 -0.9**
comp=Z,56nm,1.5s,mb5.8
BMO *e*pP pP 21 08 11.8 -3.7
NEW Newport 93.22 42 P **P 21 08 02.4 -1.1**
comp=Z,7.7nm,1.1s,mb5.1,baz=245,slow=2.0,SNR=7.1
NEW LR LR 21 43 18.9
comp=Z,1µm,20.9s,MS5.4,baz=261,slow=31
SYO Syowa Base 93.70 199‖ *e*P **P 21 08 04.3 -1.3**
SYO Syowa Base 93.70 199‖ *e*P pP 21 08 22.7 +3.3
ELK Elko 94.10 50 P **P 21 08 07.0 -0.4**
comp=Z,0.5nm,0.5s,baz=254,slow=6.2,SNR=3.6
ELK LR LR 21 42 55.2
comp=Z,2µm,21.7s,MS5.5,baz=271,slow=31
NEN Nelson 94.13 55 *e*P **P 21 08 07.3 -0.3**
NEN *e*pP pP 21 08 29.7 +8.2
HLID Hailey 94.85 47 *e*P **P 21 08 10.7 -0.2**
comp=Z,36nm,1.6s,mb5.6
HLID *e*pP pP 21 08 21.8 -3.0
YKW3 Yellowknife Ar 95.26 28 *e*P **P 21 08 11.8 -1.0**
YKW3 *e*pP pP 21 08 33.9 +7.3
YKA Yellowknife Ar 95.26 28 P **P 21 08 11.3 -1.4**
comp=Z,6.8nm,1.0s,mb5.0,baz=273,slow=4.6,SNR=56
YKA PKKP PKKPbc 21 25 04.5 -1.2
comp=Z,1.9nm,0.6s,baz=86,slow=2.8,SNR=33
YKA LR LR 21 45 18.7
comp=Z,825nm,21.5s,MS5.2,baz=275,slow=32
YKA Yellowknife Ar 95.26 28 P **P 21 08 11.3 -1.4**
YKA PKKP PKKPbc 21 25 04.5 -1.2
YKA LR LR 21 45 18.8
CCUT Cedar City 95.41 53 *e*P **P 21 08 14.5 +1.0**
CCUT *e*pP pP 21 08 36.4 +9.1
CHMT Chamberlain Mo 95.78 43 *e*P **P 21 08 13.9 -1.2**
CHMT *e*pP pP 21 08 31.3 +2.3
EDM Edmonton 95.81 37 *e*P **P 21 08 14.0 -1.3**
EDM *e**PP pP 21 08 29.2 +0.1
AB31 Akbulak array 96.23 319 *i* P **P 21 08 15.1 -2.1**
AB31 pmax pmax
comp=Z,19nm,1.0s,mb5.5
MSU Marysvale 96.38 52 P **P 21 08 15.9 -2.0**
MSU *e**PP pP 21 08 38.6 +6.9
WUAZ Wupatki 96.95 55 P **P 21 08 21.3 +0.8**
WUAZ *e*pP pP 21 08 44.1 +10
ARU Arti 97.01 326 P **P 21 08 18.4 -2.4**
comp=Z,150nm,1.1s,mb6.3,SNR=8.7
ARU Arti 97.01 326 *e*P **P 21 08 18.5 -2.3**
ARU *e* 21 12 13.9
ARU *e*S 21 18 50.3
ARU *e*PS PS 21 21 05.0 -1.9
ARU *e*SS SS 21 26 13.6 -3.3
ARU *e*SSS 21 29 58.9
ARU MLR MLR
comp=Z,600nm,20.0s,MS5.1
ARU MLR MLR
comp=N,200nm,23.0s,MS4.9
ARU MLR MLR
comp=E,400nm,19.0s,MS4.9
ARU Arti 97.01 326 *e*P **P 21 08 17.9 -2.8**
comp=E,22nm,0.8s,mb5.6
ARU *e*pP pP 21 08 33.4 -1.2
ABKT Ailbek 97.46 307 P **P 21 08 24.7 +2.0**
comp=E,70nm,1.0s,mb6.0,SNR=9.2
AKTK Aktyubinsk 97.47 320 P **P 21 08 20.5 -2.3**
AKTK pP pP 21 08 35.7 -1.0
AKTK LR LR 21 51 35.2
AKTO Aktyubinsk 97.47 320 P **P 21 08 20.5 -2.3**
comp=E,10nm,1.0s,mb5.2,baz=94,slow=5.9,SNR=19
AKTO pP pP 21 08 35.7 -1.0
comp=E,11nm,0.9s,baz=147,slow=2.6,SNR=11
AKTO LR LR 21 51 35.2
comp=E,612nm,21.0s,MS5.1,baz=281,slow=35
EGMT Eagleton 98.14 42 *e*P **P 21 08 25.5 -0.3**
comp=E,8.7nm,0.9s,mb5.3
EGMT *e*pP pP 21 08 47.4 +7.7
PDAR Pinedale Array 98.39 48 P **P 21 08 25.8 -1.2**
comp=E,0.3nm,0.6s,baz=227,slow=4.6,SNR=3.4
PDAR PKKPbc PKKPbc 21 24 57.5 +0.3
comp=E,0.7nm,0.5s,baz=101,slow=5.1,SNR=13
PDAR PKPPKP 21 33 09.2
comp=E,0.9nm,1.0s,baz=121,slow=1.2,SNR=4.7
PDAR LR LR 21 49 06.1
comp=E,1µm,18.0s,MS5.4,baz=271,slow=33
PV10 Paradox Valley 98.84 52 *e*PcP PcP 21 08 31.9 +2.9
PV10 *e*pP pP 21 08 49.1 +6.3
MAK Makhachkala 105.25 313 P Pdif 21 08 55.7 -1.8
MAK *e* 21 13 19.9
MAK *e*PPP 21 15 37.2
MAK *e* 21 20 20.6
MAK *e*PS PS 21 22 37.9 +3.3
KLMR Klimovskoe 106.02 332 *e*P Pdif 21 09 03.9 +3.0
KLMR *e* 21 13 29.0
KLMR pmax pmax
comp=Z,40nm,1.5s
ARCES ARCESS Array B 107.37 343 PKiKP PKiKP 21 13 13.5 -1.8
comp=Z,6.1nm,1.0s,baz=104,slow=0.6,SNR=9.6
ARCES PKKPbc PKKPbc 21 24 29.7 -1.0
comp=Z,1.2nm,0.4s,baz=246,slow=2.0,SNR=12
ARCES ARCESS Array B 107.37 343 PKPdf PKiKP 21 13 13.5 -1.8
ARCES PKKPbc PKKPbc 21 24 29.7 -1.0
GNI Garni 107.69 310 *e*P Pdif 21 09 06.7 -1.6
GNI pmax pmax
comp=Z,29nm,1.5s
GNI Garni 107.69 310 *e*Pdif Pdif 21 09 06.7 -1.6
comp=Z,29nm,1.5s
ZEI Tsey 107.90 313 *e*P Pdif 21 09 07.8 -1.4
DAG Danmarks Havn 108.22 358 *i* P PP 21 13 38.0 -2.8
DAG Danmarks Havn 108.22 358 *e*P PP 21 13 38.0 -2.8
JOF Joensuu 108.78 336 *e*p 21 09 26.2
BHD Baghdad 108.87 303 *ex* x 21 13 43.5
BHD *ex* x 21 20 39.0
OBN Obninsk 109.42 327 *de*P Pdif 21 09 14.7 -1.3
OBN *i* S SKSac 21 19 56.8 +5.0
OBN *e*PS PS 21 23 09.8 -7.5
OBN *e*SS SS 21 29 03.6 -4.1
OBN pmax pmax
comp=Z,21nm,1.5s
OBN MLR MLR
comp=Z,600nm,19.0s,MS5.2
SOC Sochi 110.73 315 *i* PKIKP PKiKP 21 13 22.8 +1.1
SOC *e* 21 13 59.4
SOC *e*PPP 21 16 17.4
SOC *e* 21 19 48.8
SOC *e*PS PS 21 23 26.8 -3.0
SOC *e*SSS 21 33 38.2
SOC pmax pmax
comp=Z,7.0nm,0.9s
SOC MLR MLR
comp=Z,675nm,23.0s,MS5.2
KAF Kangasniemi 111.20 336 *e*p 21 09 35.5
FINES FINESS Array B 111.65 336 Pdiff Pdif 21 09 23.4 -2.5
comp=Z,0.7nm,0.7s,baz=72,slow=4.5,SNR=5.5
FINES PKiKP PKiKP 21 13 21.7 -1.7
comp=Z,0.7nm,0.5s,baz=39,slow=2.4,SNR=5.6
FINES PKKPbc PKKPbc 21 24 15.6 -1.4
comp=Z,0.6nm,0.3s,baz=210,slow=2.0,SNR=8.9
FINES FINESS Array B 111.65 336 P Pdif 21 09 23.4 -2.5
FINES 21 13 21.7
ANN Anapa 112.03 316 *i* PKIKP PKiKP 21 13 19.4 -4.7
ANN *e* 21 14 07.1
ANN *e* 21 19 59.2
ANN *e*PS PS 21 23 34.8 -6.9
ANN pmax pmax
comp=Z,51nm,1.6s
MALT Malatya 112.84 309 PKIKP PKiKP 21 13 25.7 0.0
MALT Malatya 112.84 309 *e*PKIKP PKiKP 21 13 25.6 -0.1
AKASG Malin Array Be 115.21 325 PKP PKiKP 21 13 28.4 -1.8
comp=Z,2.7nm,0.5s,baz=49,slow=2.6,SNR=18
AKASG SKP 21 16 59.5
comp=Z,2.3nm,0.8s,baz=69,slow=2.0,SNR=4.7
BR131 Keskin Array S 116.12 312 *e*PKPdf PKPdf 21 13 31.3 -0.6
BRTR Keskin Array B 116.12 312 PKP PKPdf 21 13 30.5 -1.4
comp=Z,1.6nm,0.5s,baz=137,slow=3.2,SNR=17
KMBO Kilima Mbogo 116.19 266 PKP PKPdf 21 13 32.0 -0.1
comp=Z,8.0nm,1.1s,baz=29,slow=4.1,SNR=12
KMBO Kilima Mbogo 116.19 266 *e*PKIKP PKPdf 21 13 33.6 +1.5
KMBO *e* 21 13 48.1
KMBO Kilima Mbogo 116.19 266 *e*PKPdf PKPdf 21 13 33.5 +1.5
KMBO *e*pPKPdf pPKPdf 21 13 47.9 +1.6
ANTO Ankara 116.70 312 *e*PKIKP PKPdf 21 13 33.0 -0.1
ANTO *e* 21 13 43.9
SUW Suwalki 116.90 330 *e*PKP pPKPdf 21 13 43.4 -4.3
SUW Suwalki 116.90 330 *e*PKIKP PKPdf 21 13 33.6 +0.1
SUW *e* 21 13 43.6
SUW Suwalki 116.90 330 *e*PKPdf PKPdf 21 13 33.6 +0.2
SUW *e*PKP pPKPdf 21 13 43.4 -4.3
SUW *e*pPKPdf pPKPdf 21 13 43.6 -4.1
HFS Hagfors 117.24 339 PKP PKPdf 21 13 33.4 -0.7
comp=Z,1.2nm,0.5s,baz=348,slow=6.2,SNR=6.9
EIL Elat 117.37 301 *e*PKPdf PKPdf 21 13 34.1 -0.3
EIL *e*pPKPdf pPKPdf 21 13 54.8 +6.2
NB2 NORSAR Subarra 117.45 340 PKPd PKPdf 21 13 39.8 +5.3
comp=Z,2.5nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 117.45 340 PKP PKPdf 21 13 32.8 -1.7
comp=Z,1.9nm,0.9s,baz=48,slow=1.9,SNR=3.3
NOA pPKP pPKPdf 21 13 50.2 +1.4
comp=Z,5.3nm,1.0s,baz=50,slow=2.0,SNR=5.9
NOA NORSAR Array B 117.45 340 PKP PKPdf 21 13 32.8 -1.7
NOA pPKP pPKPdf 21 13 50.2 +1.4
BURAR Bucovina Array 118.92 323⇑P PKPdf 21 13 38.8 +1.5
PLCA Paso Flores 119.05 143 PKP PKPdf 21 13 36.4 -1.2
comp=Z,1.4nm,0.4s,baz=259,slow=4.4,SNR=15
PLCA SKP 21 17 09.1
comp=Z,2.1nm,0.8s,baz=236,slow=5.3,SNR=3.9
PLCA PKKPab PKKPab 21 23 52.2 -1.7
comp=Z,3.0nm,1.0s,baz=73,slow=7.8,SNR=4.5
PLCA SKKP 21 27 51.8
comp=Z,5.0nm,1.1s,baz=59,slow=4.6,SNR=3.2
SADO Sadowa 119.38 41 PKP PKPdf 21 13 35.2 -3.0
comp=Z,2.9nm,0.7s,baz=283,slow=9.2,SNR=3.3
SADO Sadowa 119.38 41 PKP PKPdf 21 13 35.2 -3.0
MLR Muntele Rosu 119.41 320 PKP PKPdf 21 13 35.6 -2.7
comp=Z,2.4nm,0.5s,baz=165,slow=16,SNR=5.1
MLR PKKPbc PKKPbc 21 23 47.9 -2.1
comp=Z,1.4nm,0.6s,baz=236,slow=3.6,SNR=4.1
MLR Muntele Rosu 119.41 320⇑P PKPdf 21 13 35.9 -2.4
KWP Kalwaria 119.42 326 *e*PKP PKPdf 21 13 37.5 -0.8
KOLS Kolonicke sedl 120.02 325 *e*PKP PKPdf 21 13 39.9 +0.5
KOLS *e* 21 13 54.8
BOSA Boshof 120.15 233 PKP PKPdf 21 13 39.3 -0.4
comp=Z,25nm,0.6s,baz=138,slow=2.0,SNR=88
BOSA Boshof 120.15 233 PKIKP PKPdf 21 13 40.5 +0.8
BOSA Boshof 120.15 233 *e*PKPdf PKPdf 21 13 40.4 +0.7
STHS Stebnicka Huta 120.35 326 *e*PKP PKPdf 21 13 40.2 +0.1
STHS *e* 21 14 00.2
MATP Matopo 120.50 243 PKP PKPdf 21 13 40.1 -0.2
comp=Z,32nm,0.7s,baz=108,slow=1.3,SNR=66
SCHQ Schefferville 120.65 26 PKP PKPdf 21 13 38.4 -2.3
comp=Z,2.4nm,0.8s,baz=235,slow=12,SNR=4.9
SCHQ PKKPbc PKKPbc 21 23 43.7 -1.7
comp=Z,5.0nm,0.8s,baz=118,slow=3.9,SNR=9.8
SCHQ Schefferville 120.65 26 PKP PKPdf 21 13 38.4 -2.3
SCHQ PKKPbc PKKPbc 21 23 43.7 -1.7
OJC Ojcow 120.71 327 *e*PKP PKPdf 21 13 36.9 -3.9
DRGR 120.82 323‖P PKPdf 21 13 40.2 -0.8
RGN Rugen 121.20 334 *e*PKPdf pPKPdf 21 13 57.6 +1.6
LBTB Lobatse 121.36 237 PKP PKPdf 21 13 42.7 +0.7
comp=Z,11nm,0.4s,baz=138,slow=2.5,SNR=58
LBTB Lobatse 121.36 237 *e*PKPdf PKPdf 21 13 42.7 +0.6
LBTB *e*PP PP 21 15 12.6 -0.8
JSC Jenkinsville 121.55 53 *e*PKIKP PKPdf 21 13 41.6 -0.8
JTS JuntasAbangare 121.74 81 PKP PKPdf 21 13 42.7 -0.1
comp=Z,5.9nm,0.4s,baz=207,slow=6.8,SNR=6.9
JTS JuntasAbangare 121.74 81 PKP PKPdf 21 13 42.6 -0.1
SUR Sutherland 121.77 227 PKPdf PKPdf 21 13 44.5 +1.7
OKC Ostrava-Krasne 121.80 328 *e*PKPdf PKPdf 21 13 42.6 -0.3
OKC *e*pPKP pPKPdf 21 13 59.7 +2.6
RZN Rozhen 121.81 317 *e*P PKPdf 21 13 38.0 -4.9
PGB Panagyurishte 121.82 318 *e*P PKPdf 21 13 43.5 +0.6
PSZ Piszkesteto 121.90 325 *e*PKIKP PKPdf 21 13 42.5 -0.6
BZS Buzias 122.05 322⇑P PKPdf 21 13 43.0 -0.4
MORC Moravsky Berou 122.16 328 *e*PKIKP PKPdf 21 13 42.6 -1.0
MORC *e* 21 13 58.2
KSP Ksiaz 122.17 330 *e*PKP PKPdf 21 13 42.9 -0.7
KSP Ksiaz 122.17 330 *e*PKP PKPdf 21 13 42.4 -1.2
KSP *e*pPKP pPKPdf 21 13 57.8 0.0
KSP *e*PP PP 21 15 24.0 +5.0
KSP *e*SP SP 21 25 06.0 -2.0
KSP *e*SS SS 21 31 56.0 +1.4
KSP LR LR
comp=Z,2µm,26.8s,MS5.6
VYHS Vyhne 122.18 326 *e*PKP PKPdf 21 13 41.4 -2.2
VYHS *e* 21 13 57.7
LSZ Lusaka 122.34 248 PKP PKPdf 21 13 44.7 +0.8
comp=Z,39nm,1.0s,baz=108,slow=1.6,SNR=20
LSZ Lusaka 122.34 248 *e*PKPdf PKPdf 21 13 44.5 +0.6
LSZ *e*pPKPdf pPKPdf 21 13 59.5 +1.3
LONY Lake Ozonia 122.35 39 *e*PKPdf PKPdf 21 13 41.9 -2.1
LONY *e*pPKPdf pPKPdf 21 14 00.8 +2.7
RUE Ruedersdorf 122.36 332 *e*PKPdf PKPdf 21 13 44.7 +0.8
VTS Vitosha 122.44 318 *e*P PKPdf 21 13 42.2 -1.9
DPC Dobruska-Polom 122.45 329 *e*PKPDF PKPdf 21 13 44.5 +0.4
DPC *e*pPKP pPKPdf 21 14 04.8 +6.4
DPC AMS AMS 22 04 20.0
comp=Z,800nm,21.4s
UPC Upice 122.52 329 *e*PKPDF PKPdf 21 13 45.0 +0.8
BOLS Boljevac 122.69 320‖ *i*PKP PKPdf 21 13 43.3 -1.3
KKB Krupnik 122.84 318 *e*P PKPdf 21 13 43.5 -1.4
BSEG Bad Segeberg 122.91 335 *e*PKPdf PKPdf 21 13 45.9 +0.9
VRAC Vranov 122.93 328 PKP PKPdf 21 13 45.8 +0.8
comp=Z,2.6nm,0.7s,baz=49,slow=2.1,SNR=3.9
PVCC Panska Ves 123.23 330 *e*PKPDF PKPdf 21 13 44.8 -0.8
MIV Mineville/With 123.28 39 *e*PKPdf PKPdf 21 13 43.5 -2.2
ZST Bratislava 123.31 327 *e*PKP PKPdf 21 13 45.8 0.0
ZST *e* 21 13 56.6
BRG Berggiesshubel 123.32 331 *e*PKPdf PKPdf 21 13 46.6 +0.8
BRG Berggiesshubel 123.32 331 *e*PKP PKPdf 21 13 45.1 -0.7
BRG *i* 21 14 02.6
BRG *e* 21 15 25.0
BRG *e* 21 25 19.0
BRG SS SS 21 32 13.0 +3.8
BRG LR LR
comp=Z,610nm,30.3s,MS5.1
VAY Valandovo 123.42 317 *i* PKP PKPdf 21 13 44.2 -1.8
GRUS Gruza 123.46 321 *i* PKP PKPdf 21 13 44.4 -1.7
CLL Collm 123.50 332 *e*PKPdf PKPdf 21 13 45.8 -0.3
comp=Z,22nm,1.2s
CLL *e*pPKPdf pPKPdf 21 13 56.1 -4.3
CLL *e*sPKPdf 21 14 00.5
CLL *e*PP PP 21 15 33.2 +5.3
CLL *e*SKSac SKSac 21 20 48.0 +3.8
CLL *e*SKSdf SKSdf 21 21 01.3 +7.1
CLL *e*SKSP 21 25 17.4
CLL *e*PPS 21 27 01.1
CLL *e*SKKSdf SKKSdf 21 31 12.0 -9.2
CLL *e*SS SS 21 32 15.4 +4.0
CLL *e*LR LR 21 54 32.2
CLL *e*L 22 12 23.1
comp=Z,765nm,22.0s
CLL Collm 123.50 332‖ *i*PKPdf PKPdf 21 13 46.1 0.0
comp=Z,22nm,1.2s
CLL *i* x x 21 13 53.3
CLL *i* x x 21 13 56.1
CLL *i* (pPKPdf) 21 14 00.5
CLL *e*PP PP 21 15 33.0 +5.1
CLL *e*SKSac SKSac 21 20 36.0 -8.2
CLL *e*SKSP 21 25 18.0
CLL *e*pSKSP 21 25 38.0
CLL *e*PPS 21 27 01.0
CLL *e*SS SS 21 32 18.0 +6.6
CLL *e*(sSS) 21 32 48.0
CLL LmV 22 12 00.0
comp=Z,900nm,20.7s
CLL Collm 123.50 332‖ *i*PKP PKPdf 21 13 46.1 0.0
CLL *i* 21 13 53.3
CLL *i* pPKP pPKPdf 21 13 56.1 -4.3
CLL *i* sPKP 21 14 00.5
CLL LR LR
comp=Z,900nm,20.7s,MS5.4
TREC Trest 123.52 328 *e*PKPDF PKPdf 21 13 45.6 -0.6
TREC *e*pPKP pPKPdf 21 14 02.9 +2.5
TREC AMS AMS 22 05 30.0
comp=Z,1µm,30.9s
PKSM Moragy 123.53 324 *e*PKIKP PKPdf 21 13 45.1 -1.1
PRU Pruhonice 123.58 330 *e*PKPDF PKPdf 21 13 47.2 +0.9
PRU *e*pPKP pPKPdf 21 14 06.2 +5.7
PRU AMS AMS 22 06 10.0
comp=Z,800nm,19.7s
HLG Helgoland 123.72 337 *e*PKPdf PKPdf 21 13 47.6 +1.1
DIVS Divcibare 123.81 321 *i* PKP PKPdf 21 13 45.2 -1.5
SKO Skopje 123.89 318 *i* PKP PKPdf 21 13 46.2 -0.7
CLZ Clausthal 124.35 333 *e*PKPdf PKPdf 21 13 48.9 +1.1
WERD Werda 124.39 331 *e*PKPdf PKPdf 21 13 48.6 +0.8
BIA Bitola 124.40 317 *e*PKP PKPdf 21 13 46.4 -1.4
NKC Novy Kostel 124.47 331 *e*PKPDF PKPdf 21 13 47.4 -0.6
NKC *e*pPKP pPKPdf 21 14 04.9 +2.7
NKC AMS AMS 21 58 00.0
comp=Z,1µm,34.2s
MOX Moxa 124.59 332 *e*PKPdf PKPdf 21 13 49.0 +0.8
MOX Moxa 124.59 332 *e*PKP PKPdf 21 13 48.7 +0.5
comp=Z,44nm,1.9s
MOX *e* 21 14 03.6
MOX
comp=Z,500nm,22.0s
KHC Kasperske Hory 124.61 329 *e*PKPDF PKPdf 21 13 47.6 -0.7
KHC x x 21 13 55.0
KHC *e*pPKP pPKPdf 21 14 08.5 +6.0
KHC AMS AMS 22 06 50.0
comp=Z,900nm,21.8s
KHC Kasperske Hory 124.61 329⇑ *e*PKP PKPdf 21 13 47.8 -0.5
OHR Ohrid 124.71 318 *i* PKP PKPdf 21 13 47.2 -1.2
GEC2 GERESS Array S 124.73 329 *e*PKPdf PKPdf 21 13 49.2 +0.7
GERES GERESS Array B 124.73 329 PKP PKPdf 21 13 47.9 -0.6
comp=Z,6.9nm,1.0s,baz=76,slow=1.7,SNR=22
GERES SKP 21 17 18.8
comp=Z,1.8nm,0.6s,baz=61,slow=2.0,SNR=4.9
MANZ Manzenberg 124.79 331 *e*PKPdf PKPdf 21 13 49.7 +1.1
ROTZ Rotzenmuhle 124.89 330 *e*PKPdf PKPdf 21 13 49.3 +0.5
WET Wettzell 124.96 330 *e*PKPdf PKPdf 21 13 49.8 +0.9
IBBN Ibbenburen 125.15 335 *e*PKPdf PKPdf 21 13 50.2 +0.9
PERS Pernice 125.31 326 *i* PKPdf PKPdf 21 13 49.5 -0.1
PERS *e* 21 13 54.5
GRA1 Grafenberg Arr 125.42 331 *e*PKP PKPdf 21 13 50.7 +0.9

GRA1 *e*PP PP 21 15 56.7 +16
GRA1 LR LR
comp=Z,500nm,21.9s,MS5.1
GRF Grafenberg Arr 125.42 331 *e*PKPdf PKPdf 21 13 50.7 +0.9
GRF *e*PP PP 21 15 56.7 +16
GRF *e*L 22 13 59.8
comp=Z,483nm,21.9s
GRFO Grafenberg 125.42 331 *e*PKPdf PKPdf 21 13 50.7 +0.9
WTSB Winterswijk 125.80 335 *e*PKP pPKPdf 21 14 06.7 +1.9
comp=Z,37nm,1.5s
TRQA Tornquist 125.82 145 *e*PKPdf PKPdf 21 13 49.5 -1.1
TRQA *ep*PKPdf pPKPdf 21 14 06.0 +1.2
BOJS Bojanci 125.89 325 *e*PKPdf PKPdf 21 13 51.5 +0.8
BOJS *e* 21 14 05.8
CFAA Coronel Fontan 125.94 135 PKP PKPdf 21 13 49.6 -1.2
comp=Z,0.6nm,0.4s,baz=230,slow=2.2,SNR=20
VISS Visnje 125.96 325 *i* PKPdf PKPdf 21 13 50.6 -0.2
VISS *e* 21 14 03.8
BUG Bochum--Univer 125.99 335 *e*PKPdf PKPdf 21 13 51.7 +0.8
KBA Koelnbreinsper 126.01 327 ⇑*i*P PKPdf 21 13 51.4 +0.5
comp=Z,18nm,1.3s
KBA Koelnbreinsper 126.01 327 ⇑*i*PKPdf PKPdf 21 13 50.2 -0.8
comp=Z,18nm,1.3s
TNS Taunus Mts 126.35 333 *e*PKPdf PKPdf 21 13 51.8 +0.2
FUR Furstenfeldbru 126.40 329 *e*PKPdf PKPdf 21 13 52.5 +0.8
EKA Eskdalemuir Ar 126.53 344 PKP PKPdf 21 13 51.6 -0.3
comp=Z,2.0nm,0.5s,baz=17,slow=2.7,SNR=18
TOD Tromm 126.62 332 PKIKP PKPdf 21 13 53.0 +0.9
WATA Walderalm 126.79 329 ⇑*i*P PKPdf 21 13 52.9 +0.5
comp=Z,20nm,1.2s
ABH Alteburg 127.00 333 PKP PKPdf 21 13 54.0 +1.2
STU Stuttgart 127.02 331 *e*PKPdf PKPdf 21 13 53.7 +0.8
STU Stuttgart 127.02 331 *e*PKPdf PKPdf 21 13 52.9 0.0
STU *ep*PKPdf pPKPdf 21 14 08.2 +1.0
MOTA Moosalm 127.03 329 ⇓*i*P PKPdf 21 13 52.0 -0.9
comp=Z,21nm,1.2s
HGN Heimansgroeve 127.06 335 *e*PKP pPKPdf 21 14 09.6 +2.4
comp=Z,36nm,1.1s
MEM Membach 127.14 335 PKP PKPdf 21 13 52.8 -0.3
MEM E 21 14 09.8
RUP Ruppelstein 127.35 333 PKIKP PKPdf 21 13 54.7 +1.2
LANF Langenberg 127.53 332 PKP PKPdf 21 13 54.7 +0.9
UCC Uccle 127.69 336 E 21 14 11.3
BFO Black Forest 127.74 331 *e*PKPdf PKPdf 21 13 54.7 +0.5
OTAV Otavalo 127.74 94 *e*PKPdf PKPdf 21 13 54.5 +0.2
OTAV *ep*PKPdf pPKPdf 21 14 18.7 +10
WLF Walferdange 127.78 334 PKP PKPdf 21 13 56.1 +1.8
WLF E 21 14 11.6
SNF Seneffe 127.94 336 PKP PKPdf 21 13 55.4 +0.8
SNF E 21 14 10.4
DAVOX Davos 128.03 329 PKP PKPdf 21 13 54.8 +0.1
comp=Z,17nm,1.1s,baz=244,slow=9.5,SNR=9.7
GIVF Givet 128.03 335 *e*PKIKP PKPdf 21 13 55.5 +0.7
comp=Z,128nm,1.2s
DOU Dourbes 128.13 335 PKP PKPdf 21 13 54.3 -0.7
DOU E 21 14 11.3
DOU E 21 14 14.4
WLS Welschbruch 128.14 332 PKP PKPdf 21 13 55.2 +0.2
CDF Champ du Feu 128.18 332 *e*PKIKP PKPdf 21 13 55.5 +0.4
comp=Z,78nm,1.3s
ECH Echery 128.37 332 PKP PKPdf 21 13 56.6 +1.2
HINF Hinteralfeld 128.80 332 *e*PKIKP PKPdf 21 13 56.7 +0.4
comp=Z,100nm,1.2s
HAU Haudompre 128.90 332 *e*PKIKP PKPdf 21 13 56.8 +0.3
comp=Z,64nm,1.0s
THEF They Montfort 128.91 333 PKP PKPdf 21 13 57.1 +0.6
MEZF Maizieres J'vi 129.13 333 *e*PKIKP PKPdf 21 13 56.9 0.0
comp=Z,278nm,1.6s
CABF La Chapelle 130.03 331 *e*PKIKP PKPdf 21 13 59.7 +1.1
comp=Z,232nm,1.4s
LPL La Plagne 130.49 330 *e*PKIKP PKPdf 21 13 59.5 0.0
comp=Z,43nm,1.0s
LPG La Plagne 130.49 330 *e*PKIKP PKPdf 21 13 59.7 +0.2
comp=Z,33nm,0.9s
TSUM Tsumeb 130.50 240 PKP PKPdf 21 13 59.9 +0.4
comp=Z,19nm,0.7s,baz=100,slow=2.4,SNR=33
TSUM SKPbc SKPbc 21 17 19.8 +0.6
comp=Z,32nm,1.1s,baz=98,slow=4.3,SNR=15
TSUM Tsumeb 130.50 240 *e*PKPdf PKPdf 21 14 00.3 +0.8
LOR Lormes 130.59 333 *e*PKIKP PKPdf 21 14 00.6 +0.9
comp=Z,109nm,1.3s
BNI Bardonecchia 130.84 329 *e*PKIKP PKPdf 21 14 01.9 +1.8
SSF Saint Saulge 130.90 333 *e*PKIKP PKPdf 21 14 01.2 +1.0
comp=Z,134nm,1.3s
MBDF Montbardon 131.02 329 *e*PKIKP PKPdf 21 14 01.3 +0.8
SMF Signal de Mont 131.06 333 *e*PKIKP PKPdf 21 14 01.4 +0.8
comp=Z,97nm,1.1s
HYF Humbligny 131.12 334 *e*PKIKP PKPdf 21 14 02.0 +1.3
AVF Avril sur Loir 131.17 333 *e*PKIKP PKPdf 21 14 01.3 +0.5
comp=Z,22nm,1.0s
LDF La Druiliere 131.22 337 *e*PKIKP PKPdf 21 14 00.4 -0.4
FLN La Foliniere 131.22 337 *e*PKIKP PKPdf 21 14 00.6 -0.2
SBF Sospel 131.26 328 *e*PKIKP PKPdf 21 14 01.2 +0.3
PGF Pioggiola 131.27 325 *e*PKIKP PKPdf 21 14 00.6 -0.3
comp=Z,262nm,1.3s
ORIF Oris-en-Rattie 131.34 330 *e*PKIKP PKPdf 21 14 01.8 +0.7
comp=Z,36nm,0.8s
BGF Bois d'Agland 131.58 333 *e*PKIKP PKPdf 21 14 01.7 +0.2
comp=Z,78nm,1.1s
PLDF La Plantade 131.67 332 PKP PKPdf 21 14 01.4 -0.3
GRR Gorron 131.67 337 *e*PKIKP PKPdf 21 14 01.5 -0.2
AGO Saint Agoulin 131.83 333 PKP PKPdf 21 14 02.3 +0.3
FRF La Foret Royal 131.89 328 *e*PKIKP PKPdf 21 14 01.9 -0.2
VIVF Saint-Julien-l 131.98 330 *e*PKIKP PKPdf 21 14 01.8 -0.5
comp=Z,92nm,1.4s
TCF Toulx Ste Croi 132.07 333 *e*PKIKP PKPdf 21 14 03.5 +1.0
comp=Z,132nm,1.2s
SMRF Simiane la Rot 132.16 329 *e*PKIKP PKPdf 21 14 02.3 -0.3
ROSC El Rosal 132.20 88 PKP PKPdf 21 14 02.5 -0.2
comp=Z,7.6nm,0.4s,baz=63,slow=4.5,SNR=8.4
LBL Lubilhac 132.39 332 PKP PKPdf 21 14 03.7 +0.6
MFF Saint Martin d 132.83 335 *e*PKIKP PKPdf 21 14 05.0 +1.1
comp=Z,181nm,1.8s
LASF Ste Croix 132.95 330 *e*PKIKP PKPdf 21 14 03.7 -0.4
comp=Z,76nm,1.2s
RJF Les Rejaudoux 133.13 333 *e*PKIKP PKPdf 21 14 04.0 -0.5
LPAZ La Paz 133.54 118 PKP PKPdf 21 14 04.4 -0.8
comp=Z,3.2nm,0.7s,baz=291,slow=1.2,SNR=18
LPAZ SKPbc SKPbc 21 17 31.6 +1.7
comp=Z,5.6nm,0.6s,baz=318,slow=2.8,SNR=9.4
LPAZ La Paz 133.54 118 PKIKP PKPdf 21 14 05.1 -0.1
LPAZ La Paz 133.54 118 *e*PKPdf PKPdf 21 14 04.8 -0.4
LFF La Frestale 133.76 333 *e*PKIKP PKPdf 21 14 05.8 +0.2
MTLF Montolieu 134.29 331 *e*PKIKP PKPdf 21 14 07.0 +0.4
comp=Z,80nm,1.4s
EPF Esparros 135.42 332 *e*PKIKP PKPdf 21 14 07.5 -1.3
comp=Z,54nm,1.3s
SDV Santo Domingo 135.89 83 PKP PKPdf 21 14 09.6 0.0
comp=Z,17nm,0.8s,baz=239,slow=1.7,SNR=21
SDV Santo Domingo 135.89 83 *e*PKPdf PKPdf 21 14 09.4 -0.2
SDV *e*SKPbc SKPbc 21 17 39.8 +2.3
ETSF Etsaut 135.94 333 *e*PKIKP PKPdf 21 14 09.1 -0.6
comp=Z,115nm,1.2s
SJPF Ste Jean 136.07 333 *e*PKIKP PKPdf 21 14 09.2 -0.8
comp=Z,65nm,1.2s
CPUP Villa Florida 136.69 138 PKP PKPdf 21 14 11.3 +0.2
comp=Z,2.0nm,0.5s,baz=192,slow=3.4,SNR=6.4
CPUP SKPbc SKPbc 21 17 39.2 -0.7
comp=Z,8.9nm,0.8s,baz=218,slow=4.8,SNR=7.1
CPUP Villa Florida 136.69 138 PKIKP PKPdf 21 14 11.1 0.0
CPUP Villa Florida 136.69 138 *e*PKPdf PKPdf 21 14 10.9 -0.2
SJG San Juan 139.01 68 PKIKP PKPdf 21 14 15.9 +0.5
STS Santiago 139.17 340 PKIKP PKPdf 21 14 20.4 +4.7
EMAZ Mazaricos 139.26 340 PKP PKPdf 21 14 20.4 +4.6
GUD Guadarrama 139.36 334 PKIKP PKPdf 21 14 12.5 -3.5
PBRG Braganca 139.45 337 *e*PKPdf PKPdf 21 14 11.2 -5.0
EZAM Zamans 139.87 340 PKIKP PKPdf 21 14 21.5 +4.6
ELOB Lobios 139.89 339 PKP PKPdf 21 14 21.8 +4.8
ESDC Sonseca Array 140.06 333 PKhKP 21 14 10.1
comp=Z,0.3nm,0.4s,baz=14,slow=4.2,SNR=4.7
ESDC PKP PKPdf 21 14 14.4 -2.9
comp=Z,0.5nm,0.5s,baz=24,slow=3.2,SNR=6.0
ESDC PP PP 21 17 11.7 -2.8
comp=Z,1.6nm,0.8s,baz=26,slow=6.7,SNR=4.3
ESDC Sonseca Array 140.06 333 PKP PKPdf 21 14 10.2 -7.1
ESDC PKP PKPdf 21 14 14.4 -2.9
ESDC PP PP 21 17 11.7 -2.8
PVRL Vila Real 140.28 338 *e*PKPdf PKPdf 21 14 15.0 -2.7
PVRL *i* - 21 17 49.7
SAML Samuel 140.72 111 *e*PKPdf PKPdf 21 14 16.1 -2.4
PVIS Viseu 140.83 338 *e*PKPdf PKPdf 21 14 13.1 -5.6
PVIS *i* - 21 17 51.7
MTE Manteigas 140.97 337 *e*PKPdf PKPdf 21 14 14.8 -4.1
MTE *i* - 21 17 51.2
MTE Manteigas 140.97 337 *e*LR LR 22 05 08.8
comp=Z,502nm,26.1s
MTE Manteigas 140.97 337 *e*PKPdf PKPdf 21 14 15.9 -3.0
PCBR Castelo Branco 141.42 336 *e*PKPdf PKPdf 21 14 13.5 -6.3
PCBR *i* - 21 17 51.8
EBER Berja 141.72 329 PKP PKPdf 21 14 16.8 -3.5
ECOG Cogollos-Vega 141.77 330 PKIKP PKPdf 21 14 17.0 -3.4
PTOM Tomar 141.98 337 *e*PKPdf PKPdf 21 14 15.5 -5.2
PTOM *i* - 21 17 54.7
EBAD Badajoz 142.15 335 PKP PKPdf 21 14 19.0 -2.1
PLOU Loures 142.90 338 *e*PKPdf PKPdf 21 14 21.1 -1.3
EMIJ Mijas 142.93 331 PKP PKPdf 21 14 18.0 -4.5
PBEJ Beja 143.13 335 *e*PKPdf PKPdf 21 14 19.5 -3.3
PBEJ *i* - 21 17 57.4
ESPR Espera 143.20 332 PKP PKPdf 21 14 18.8 -4.1
EJIF Jimena Fronter 143.35 331 PKIKP PKPdf 21 14 19.6 -3.6
EGRO El Granado 143.38 334 PKP PKPdf 21 14 21.0 -2.3
PTEO Sao Teotonio 143.89 336 *e*PKPdf PKPdf 21 14 21.7 -2.4
MDT Midelt 145.75 326 PKPbc PKPbc 21 14 27.9 +0.1
comp=Z,97nm,1.2s,baz=54,slow=4.1,SNR=92
CAM4 Nova Friburgo 148.46 150 ⇑*i*P PKPbc 21 14 36.4 +1.0
CAM4 *i* 21 14 39.9
CAM4 *i* 21 14 53.2
CAM4 *i* 21 14 56.6
CAM4 *i* 21 15 04.0
CAM4 *i* 21 15 20.4
BDFB Brasilia 150.27 134 PKP PKPdf 21 14 35.1 +0.4
comp=Z,23nm,0.6s,baz=182,slow=9.3,SNR=6.9
BDFB PKPbc PKPbc 21 14 39.5 -0.4
comp=Z,22nm,0.4s,baz=265,slow=1.6,SNR=54
BAO Brasilia Array 150.29 134 PKPdf PKPdf 21 14 36.0 +1.2
SHEL Horse Pasture 150.81 224 *e*PKPbc PKPbc 21 14 43.3 +2.1
CAM3 Guarapari 150.83 152 ⇑*i*P PKPbc 21 14 40.4 -0.9
CAM3 *i* 21 14 49.7
CAM3 *i* 21 15 05.1
CAM3 *i* 21 15 07.6
CAM3 *i* 21 15 17.7
TORD Torodi Ar. Bea 151.21 288 PKP PKPdf 21 14 35.6 -0.6
comp=Z,15nm,1.3s,baz=37,slow=0.7,SNR=23
TORD PKPbc PKPbc 21 14 41.8 -0.3
comp=Z,64nm,0.4s,baz=27,slow=2.9,SNR=1310
EBAJ Bajamar 154.80 339 PKP PKPbc 21 14 45.9 -4.2
CCAN Las Canadas 155.18 339 PKP PKPdf 21 14 46.4 +4.5
EHIG Higuera 155.27 342 PKP PKPdf 21 14 45.8 +3.7
EGOM La Gomera 155.45 340 PKP PKPdf 21 14 46.1 +3.8
DBIC Dimbokro 158.57 275 PKP PKPdf 21 14 46.0 -0.3
comp=Z,4.3nm,0.9s,baz=78,slow=1.0,SNR=9.3
DBIC Dimbokro 158.57 275 PKIKP PKPdf 21 14 46.4 +0.1
DBIC Dimbokro 158.57 275 *e*PKPdf PKPdf 21 14 45.7 -0.6
LIC Lamto 158.76 274 *e*PKIKP PKPdf 21 14 45.9 -0.6
comp=Z,38nm,1.1s

ISCJB ***12*** *20:57:30.5±0.8, 35.15N±002×2773E±004, h12km±6km, mb3.6/3, Error ellipse: s-maj=5.5km s-min=3.3km az=169.3*
CSEM ***12*** *20:57:32.5±0.1, 35.18N×2782E, h30km, MD3.7, Error ellipse: s-maj=2.7km s-min=1.5km az=82.0*
HLW ***12*** *20:57:32.1, 35.27N×2777E, h15km, Mb3.7*
IDC ***12*** *20:57:35.2±3.3, 35.37N×2766E, h43km±30km, mb3.5/3, mb1 3.5/5, mb1mx3.3/21, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=56.0km s-min=24.2km az=143.0*
ATH ***12*** *20:57:36.4, 35.76N×2735E, h5km, MD3.7/6*
NEIC ***12*** *20:57:36.4, 35.76N×2735E, h5km, ML3.5(ATH), After ATH.*

ISC 12 20:57:30.8±0.8, 3522N±002×2768E±004, h2km±6km, n51, σ0°99/62, mb3.6/3, 16C-5D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.53**	**308**	*e*PG	**Pg**	**20 57 41.7**	**+0.6**
KARP				*e*SG	**Sg**	**20 57 46.0**	**-2.0**
ARG	**Arkhangelos**	**1.06**	**20**	*e*PB	**Pb**	**20 57 51.7**	**-0.1**
DAT	**Datca**	**1.51**	**357**	PN	**Pn**	**20 57 58.1**	**-0.7**
DAT				SN	**Sn**	**20 58 19.0**	**0.0**
NPS	**Neapolis**	**1.69**	**272**	*e*PG	**Pg**	**20 58 04.0**	**+0.8**
BDRM	**Kayabasi**	**1.85**	**354**	*i* P	**Pn**	**20 58 04.5**	**+1.0**
BDRM				*i* S	**Sn**	**20 58 26.1**	**-1.4**
BODT	**Bodrum**	**1.86**	**351**	*e*PN	**Pn**	**20 58 03.3**	**-0.4**
YER	**Yerkesik**	**1.97**	**14**	*e*PN	**Pn**	**20 58 04.6**	**-0.6**
IDI	**Anoyia**	**2.28**	**273**	P	**Pn**	**20 58 10.0**	**+0.5**
IDI	5.8nm,0.3s,baz=78,slow=12,SNR=48			S	**Sn**	**20 58 39.8**	**+1.6**
	11nm,0.3s,baz=63,slow=15,SNR=3.9						
IDI	**Anoyia**	**2.28**	**273**	P	**Pn**	**20 58 09.9**	**+0.4**
IDI				S	**Sn**	**20 58 39.8**	**+1.7**
ELL	**Elmali**	**2.37**	**49**	*e*PN	**Pn**	**20 58 11.7**	**+1.1**
AYDN	**Tasoluk**	**2.44**	**4**	*i* P	**Pn**	**20 58 14.0**	**+2.3**
AYDN				*i* S	**Sn**	**20 58 45.8**	**+3.7**
APE	**Apeiranthos**	**2.54**	**317**	*e*PN	**Pn**	**20 58 13.7**	**+0.8**
DENT	**Denizli**	**2.75**	**23**	*e*PN	**Pn**	**20 58 15.6**	**-0.4**
VAM	**Vamos**	**2.85**	**275**	*e*PN	**Pn**	**20 58 23.0**	**+5.7**
IZM	**Izmir**	**3.19**	**354**	*e*PN	**Pn**	**20 58 22.0**	**0.0**
KDAG	**Bornova**	**3.19**	**354**	*i* P	**Pg**	**20 58 31.2**	**-0.8**
KDAG				*i* S	**Sg**	**20 59 19.5**	**+6.0**
BCK	**Bucak**	**3.25**	**46**	*e*PN	**Pn**	**20 58 22.5**	**-0.2**
TKTP	**Tekketepe**	**3.53**	**36**	*i* P	**Pg**	**20 58 37.2**	**-1.2**
TKTP				*i* S	**Sg**	**20 59 29.6**	**+5.5**
AKS	**Akhisar**	**3.66**	**2**	*e*P	**Pn**	**20 58 27.7**	**-0.6**
VLI	**Veliai**	**4.13**	**293**	*e*PN	**Pn**	**20 58 37.2**	**+2.4**
HMAT	**Matruh**	**4.14**	**187**	⇑P	**Pn**	**20 58 35.7**	**+0.7**
HMAT				S	**Sn**	**20 59 21.9**	**-2.1**
SLUM		**4.25**	**210**	⇑P	**Pn**	**20 58 36.9**	**+0.4**
SLUM				S	**Sn**	**20 59 24.7**	**-2.1**
HMYD	**Mayadein**	**6.02**	**153**	⇓P	**Pn**	**20 59 00.5**	**-0.3**
HMYD	**Mayadein**	**6.02**	**153**	P	**Pn**	**20 59 00.4**	**-0.4**
SQR		**6.09**	**150**	⇑P	**Pn**	**20 59 02.5**	**+0.7**
SQR		**6.09**	**150**	P	**Pn**	**20 59 02.5**	**+0.6**
HNAT	**Natroun**	**6.10**	**155**	⇑P	**Pn**	**20 59 01.8**	**-0.1**
SWA1		**6.17**	**196**	⇑P	**Pn**	**20 59 04.2**	**+1.4**
SWA1				S	**Sn**	**21 00 10.6**	**-3.4**
SWA1		**6.17**	**196**	P	**Pn**	**20 59 04.2**	**+1.3**
FYM	**Al Fayyum**	**6.20**	**152**	⇑P	**Pn**	**20 59 03.8**	**+0.5**
AYT	**Al 'Ayyat**	**6.23**	**151**	⇓P	**Pn**	**20 59 03.7**	**0.0**
SWA2		**6.25**	**198**	⇓P	**Pn**	**20 59 04.8**	**+0.9**
KOT	**Kottamia**	**6.33**	**145**	⇑P	**Pn**	**20 59 05.1**	**-0.1**
HHAG	**Hagoal**	**6.44**	**143**	⇑P	**Pn**	**20 59 06.5**	**-0.1**
HSAF	**As Saff**	**6.47**	**149**	⇑P	**Pn**	**20 59 06.6**	**-0.5**
BRTR	**Keskin Array B**	**6.53**	**45**	P	**Pn**	**20 59 07.7**	**-0.2**
	0.1nm,0.3s,baz=220,slow=14,SNR=5.5						
BRTR				S	**Sn**	**21 00 24.3**	**+1.3**
	0.1nm,0.3s,baz=215,slow=26,SNR=4.4						
GLL	**Jalalah**	**6.58**	**148**	⇑P	**Pn**	**20 59 08.6**	**+0.1**
SUZ		**6.91**	**140**	⇑P	**Pn**	**20 59 13.0**	**0.0**
HBNS	**Bani Suwayf**	**6.93**	**153**	P	**Pn**	**20 59 13.1**	**-0.3**
AWBH		**6.96**	**171**	⇓P	**Pn**	**20 59 14.2**	**+0.5**
HNKL	**Nakhl**	**7.49**	**133**	⇑P	**Pn**	**20 59 21.0**	**0.0**
HFRF	**Wahat Farafira**	**8.06**	**176**	⇓P	**Pn**	**20 59 29.6**	**+0.7**
TR2		**8.53**	**141**	⇑P	**Pn**	**20 59 35.3**	**-0.1**
HKAT	**Jabal Katrina**	**8.56**	**139**	⇑P	**Pn**	**20 59 35.9**	**+0.1**
TR1		**8.96**	**142**	⇑P	**Pn**	**20 59 41.4**	**+0.2**
TR1		**8.96**	**142**	P	**Pn**	**20 59 41.3**	**+0.1**
GTR	**Jabal at Tayr**	**9.99**	**165**	⇑P	**Pn**	**20 59 55.2**	**-0.1**
MSL	**Mosul**	**12.57**	**81**	*ex*	x	21 13 50.0	
ESDC	**Sonseca Array**	**25.44**	**290**	P	**P**	**21 02 58.3**	**-1.6**
	0.6nm,0.8s,mb3.2,baz=77,slow=9.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**32.14**	**233**	P	**P**	**21 03 59.4**	**-0.2**
	0.5nm,0.7s,mb3.5,baz=35,slow=9.0,SNR=3.8						
ARCES	**ARCESS Array B**	**34.39**	**359**	P	**P**	**21 04 16.2**	**-3.1**
	2.7nm,0.9s,mb4.2,baz=172,slow=9.0,SNR=3.4						

MAN 12 21:38:02.3, 889N×12456E, h12km, mb2.1, ML3.8, MS10.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**1.05**	**319**	*e*P	Pb	21 38 24.8	+2.5
TBP				*e*S	Sb	21 38 40.4	+4.3
BUTP	**Butuan**	**1.05**	**86**	*e*P	Pb	21 38 20.4	-2.0
BUTP				*e*S	Sb	21 38 33.7	-2.4
BUKP	**Musuan**	**1.12**	**154**	*e*P	Pb	21 38 23.4	-0.2
BUKP				*e*S	Sb	21 38 39.6	+1.3
MSLP	**Maasin**	**1.27**	**14**	*e*P	Pn	21 38 24.8	-1.0
MSLP				*e*S	Sb	21 38 42.3	-0.1
PAGZ	**Pagadian**	**1.56**	**228**	*e*P	Pn	21 38 28.6	-1.2
PAGZ				*e*S	Sn	21 38 56.0	+6.0

ISCJB ***12*** *21:50:14.3±0.7, 202S±0.1×1693E±0.1, h10km, mb4.2/9, Error ellipse: s-maj=19.2km s-min=11.6km az=117.7*
IDC ***12*** *21:50:14.1±2.5, 2027S×16935E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.2/13, mbtmp4.1/6, ML4.2/1, Error ellipse: s-maj=98.5km s-min=25.2km az=147.0*
LDG ***12*** *21:50:18.5±0.3, 1969S×16870E, h10km, Mb4.4/2, Error ellipse: s-maj=29.9km s-min=4.7km az=121.0*
SZGRF ***12*** *21:50:20.0, 1992S×17061E, h33km, Vanuatu Islands*
NEIC ***12*** *21:50:24.5±0.7, 2018S×16862E, h35km, mb4.3/4, Error ellipse: s-maj=26.2km s-min=15.4km az=145.0*

ISC 12 21:50:15.8±0.6, 202S±01×16935E±010, h10km, n43, σ1°90/19, mb4.2/9, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.72**	**337**	⇑*i*P	**Pn**	**21 50 51.7**	**-7.8**
BKM				S	**Sn**	**21 51 23.2**	**-9.2**
DZM	**Mont Dzumac**	**3.29**	**235**	Pn	**Pn**	**21 51 06.9**	**-0.5**
	26nm,0.3s,baz=58,slow=19,SNR=182						
DZM				Sn	**Sn**	**21 51 41.7**	**-5.0**
	70nm,0.3s,baz=298,slow=23,SNR=7.4						
AFI	**Afiamalu**	**19.09**	**74**	*e*P	**Pn**	**21 54 38.6**	**-0.7**
CTA	**Charters Tower**	**21.68**	**266**	P	**P**	**21 55 06.8**	**+0.1**
	3.7nm,0.5s,mb4.1,baz=125,slow=16,SNR=4.7						
PMG	**Port Moresby**	**23.95**	**293**	P	**P**	**21 55 30.5**	**+0.4**
STKA	**Stephens Creek**	**27.44**	**239**	*e*P	**P**	**21 56 00.9**	**-0.9**
WRAB	**Tennant Creek**	**32.84**	**264**	*e*P	**P**	**21 56 49.2**	**-0.4**
	1.6nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**32.85**	**264**	P	**P**	**21 56 48.9**	**-0.8**
	0.7nm,0.4s,mb3.9,baz=95,slow=8.5,SNR=9.2						
ASAR	**Alice Springs**	**33.01**	**257**	P	**P**	**21 56 50.9**	**-0.2**
	2.8nm,0.6s,mb4.4,baz=86,slow=9.1,SNR=37						
MBWA	**Marble Bar**	**46.28**	**260**	*e*P	**P**	**21 58 41.6**	**+0.2**
	1.7nm,0.4s,mb4.3						
MAJO	**Matsushiro**	**63.64**	**332**	P	**P**	**22 00 47.9**	**+0.9**
QSPA	**South Pole Qui**	**69.87**	**180**	*e*P	**P**	**22 01 28.2**	**+1.4**
	3.0nm,0.8s,mb4.3						
MAW	**Mawson**	**77.60**	**202**	*e*P	**P**	**22 02 12.5**	**+0.4**
ULN	**Ulaanbaatar**	**87.69**	**323**	*e*P	**P**	**22 03 05.5**	**+0.9**
	1.6nm,0.8s,mb4.3						
BILL	**Bilibino**	**88.00**	**359**	*e*P	**P**	**22 03 05.9**	**-0.3**
SONM	**Songino Array**	**88.04**	**323**	P	**P**	**22 03 07.3**	**+1.0**
	2.0nm,0.8s,mb4.4,baz=130,slow=6.0,SNR=9.8						
ILAR	**Eielson Array**	**91.10**	**17**	P	**P**	**22 03 19.2**	**-1.5**
	0.4nm,0.7s,mb3.9,baz=236,slow=5.2,SNR=5.4						
ARCES	**ARCESS Array B**	**126.01**	**345**	PKP	PKPdf	22 09 17.6	-0.5
	7.2nm,1.2s,baz=55,slow=2.4,SNR=10						
WERD	**Werda**	**144.76**	**334**	*e*PKPbc	PKPdf	22 09 52.6	-0.3
NKC	**Novy Kostel**	**144.87**	**334**	*e*P	PKPdf	22 09 53.1	0.0
MOX	**Moxa**	**144.89**	**335**	*e*PKPbc	PKPdf	22 09 52.7	-0.4
MOX	**Moxa**	**144.89**	**335**	*e*PKP	PKPdf	22 09 52.9	-0.2
	9.0nm,1.1s						
IBBN	**Ibbenburen**	**144.89**	**340**	*e*PKPbc	PKPdf	22 09 52.6	-0.5
MANZ	**Manzenberg**	**145.20**	**334**	*e*PKPbc	PKPbc	22 09 54.0	+0.7
KHC	**Kasperske Hory**	**145.22**	**332**	*e*P	PKPbc	22 09 54.3	+1.0
ROTZ	**Rotzenmuhle**	**145.33**	**334**	*e*PKPbc	PKPbc	22 09 54.5	+0.8
GEC2	**GERESS Array S**	**145.37**	**331**	*e*PKPbc	PKPbc	22 09 54.2	+0.4
GERES	**GERESS Array B**	**145.37**	**331**	PKPbc	PKPbc	22 09 54.1	+0.3
	3.5nm,0.6s,baz=35,slow=4.2,SNR=37						
GRF	**Grafenberg Arr**	**145.79**	**335**	*e*PKPbc	PKPbc	22 09 55.9	+0.8
GRF				*ep*PKPbc	pPKPbc	22 10 06.6	+8.1
GIVF	**Givet**	**147.72**	**341**	*e*PKP1	PKPbc	22 10 01.2	+0.5
	23nm,0.9s						
CDF	**Champ du Feu**	**148.35**	**337**	*e*PKP1	PKPbc	22 10 02.4	0.0
	6.0nm,0.7s						
HINF	**Hinteralfeld**	**149.01**	**337**	*e*PKP1	PKPbc	22 10 04.4	+0.4
HAU	**Haudompre**	**149.03**	**338**	*e*PKP1	PKPbc	22 10 04.5	+0.4
	8.7nm,0.8s						
MEZF	**Maizieres J'vi**	**149.05**	**340**	*e*PKP1	PKPbc	22 10 05.0	+0.8
	9.1nm,0.7s						
CABF	**La Chapelle**	**150.30**	**336**	*e*PKP1	PKPbc	22 10 08.2	+1.0
FLN	**La Foliniere**	**150.34**	**346**	*e*PKP1	PKPbc	22 10 07.4	+0.1
LOR	**Lormes**	**150.52**	**340**	*e*PKP1	PKPbc	22 10 07.6	-0.1
	9.2nm,1.0s						
GRR	**Gorron**	**150.78**	**347**	*e*PKP1	PKPbc	22 10 08.5	+0.1
SSF	**Saint Saulge**	**150.82**	**340**	*e*PKP1	PKPbc	22 10 09.0	+0.6
LPL	**La Plagne**	**150.96**	**334**	*e*PKP1	PKPbc	22 10 10.4	+1.6
LPG	**La Plagne**	**150.96**	**334**	*e*PKP1	PKPbc	22 10 10.0	+1.2
SMF	**Signal de Mont**	**151.07**	**339**	*e*PKP1	PKPbc	22 10 09.5	+0.5
AVF	**Avril sur Loir**	**151.10**	**340**	*e*PKP1	PKPbc	22 10 10.1	+1.0

ISCJB ***12*** *22:19:14.8±2.8, 393N±02×756E±02, h10km, Error ellipse: s-maj=30.8km s-min=16.9km az=90.7*
NNC ***12*** *22:19:16.1±3.1, 3943N×7529E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=31.9km s-min=14.5km az=147.0*

ISC 12 22:19:16.2±2.8, 394N±02×757E±02, h10km, n14, σ0°45/16, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**2.74**	**353**	P	**Pn**	**22 19 59.4**	**-0.8**
	SNR=36						
ULHL	**Ulahol**	**2.92**	**8**	P	**Pn**	**22 20 02.5**	**-0.2**
	SNR=77						
UCH	**Uchtor**	**3.00**	**343**	P	**Pn**	**22 20 03.4**	**-0.4**
	SNR=47						
AML	**Almayashu**	**3.15**	**332**	P	**Pn**	**22 20 06.2**	**+0.3**

PXZ	**Pawanui**	**1.80 160**	PN	Pn	22 26 14.0	-0.1
BFZ	**Birch Farm**	**2.35 177**	PN	Pn	22 26 19.1	-1.2
MRZ	**Mangatainoka R**	**2.35 189**	PN	Pn	22 26 18.9	-1.6
KIW	**Kapiti Island**	**2.68 199**	PN	Pn	22 26 22.2	-2.2

IDC 12 22:27:56.7±1.4, 2808N×14300E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=40.7km s-min=17.7km az=111.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.22 217**		Pn	Pn	22 28 22.1	+1.1
	32nm,0.3s,baz=288,slow=19,SNR=19						
CBIJ				Sn	Sn	22 28 37.4	-0.9
	33nm,0.3s,baz=281,slow=24,SNR=12						
MJAR	**Matsushiro Arr**	**9.36 336**		Pn	Pn	22 30 10.9	-1.9
	0.5nm,0.3s,baz=161,slow=10,SNR=4.4						
SONM	**Songino Array**	**34.52 315**		P	P	22 34 47.2	+0.5
	0.3nm,0.4s,baz=100,slow=7.3,SNR=3.7						
WRA	**Warramunga Arr**	**48.47 191**		P	P	22 36 40.6	-0.4
	0.8nm,0.6s,baz=11,slow=8.2,SNR=11						
ILAR	**Eielson Array**	**56.50 29**		P	P	22 37 40.4	-0.2
	0.2nm,0.7s,baz=267,slow=6.9,SNR=3.0						

IDC 12 22:38:00.6±1.4, 2645×13903E, h0km, mb3.9/5, mb1 4.1/6, mb1mx4.0/12, mbtmp3.9/6, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/19, Error ellipse: s-maj=66.5km s-min=24.1km az=91.0

ISCJB 12 22:38:04.2±0.9, 2715S±006×1389E±02, h33km, mb4.0/8, Error ellipse: s-maj=30.0km s-min=7.9km az=6.4

NEIC 12 22:38:06.1±0.7, 2715S×13893E, h35km, mb4.1/5, Error ellipse: s-maj=21.8km s-min=6.7km az=93.0

ISC 12 22:38:06.1±1.0, 2715S±007×1390E±02, h35km, n17, σ0§56/16, mb4.0/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.87 213**		*e*P	**Pn**	**22 40 51.8**	**-0.9**
	6.2nm,0.4s						
WRAB	**Tennant Creek**	**17.71 194**		*e*P	**Pn**	**22 42 10.9**	**+1.1**
	4.0nm,0.5s						
WB2	**Warramunga Arr**	**17.72 194**		*e*P	**Pn**	**22 42 09.7**	**-0.2**
WRA	**Warramunga Arr**	**17.72 194**		P	**Pn**	**22 42 09.4**	**-0.6**
	0.4nm,0.3s,baz=17,slow=13,SNR=14						
WRA				S	**S**	**22 45 24.2**	**-8.4**
	0.1nm,0.3s,baz=10,slow=24,SNR=3.1						
CTA	**Charters Tower**	**18.68 158**		LR	LR	22 50 00.3	
	comp=Z,58nm,21.1s,baz=293,slow=38						
FITZ	**Fitzroy Crossi**	**20.13 220**		*e*P	**P**	**22 42 37.2**	**+0.2**
	14nm,2.0s						
ASAR	**Alice Springs**	**21.41 193**		P	**P**	**22 42 51.4**	**+0.7**
	1.4nm,0.7s,mb3.4,baz=23,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.41 193**		P	**P**	**22 42 51.4**	**+0.7**
KKM	**Kota Kinabalu**	**24.34 291**		*e*P	**P**	**22 43 20.4**	**-0.1**
ENH	**Enshi**	**43.23 322**		*e*P	**P**	**22 46 04.6**	**+0.8**
	2.6nm,0.5s,mb4.2						
SONM	**Songino Array**	**57.83 335**		P	**P**	**22 47 54.3**	**+0.2**
	0.2nm,0.4s,mb3.5,baz=157,slow=5.9,SNR=4.4						
MKAR	**Makanchi Array**	**69.95 322**		P	**P**	**22 49 13.8**	**+0.1**
	1.9nm,0.5s,mb4.3,baz=96,slow=6.3,SNR=20						
ZAL	**Zalesovo**	**72.07 330**		P	**P**	**22 49 26.0**	**-0.6**
	1.1nm,0.6s,mb4.0,baz=338,slow=4.1,SNR=6.3						
KURK	**Kurchatov**	**73.87 325**		*e*P	**P**	**22 49 36.9**	**-0.4**
	1.2nm,0.4s,mb4.2						
BRVK	**Borovoye**	**79.54 325**		*e*P	**P**	**22 50 09.5**	**+0.2**
	1.5nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**85.71 24**		P	**P**	**22 50 40.9**	**-0.5**
	0.9nm,0.7s,mb4.1,baz=262,slow=4.5,SNR=8.1						
TORD	**Torodi Ar. Bea**	**136.52 286**		PKP	PKPdf	22 57 25.1	+0.8
	0.5nm,0.7s,baz=59,slow=1.6,SNR=3.6						

SZGRF 12 22:58:58.6, 1152N×9748E, h33km, mb5.1, Andaman Islands, India, region

MOS 12 22:59:17.9±0.9, 1388N×9359E, h33km, mb5.4/35, Error ellipse: s-maj=8.1km s-min=4.6km az=114.6

ISCJB 12 22:59:19.5±0.2, 1392N±003×9359E±002, h46km, mb5.1/103, MS4.5/33, Error ellipse: s-maj=4.3km s-min=3.2km az=167.8

BJI 12 22:59:19.0, 1389N×9361E, h44km, mB5.3, mb5.2, Ms4.7, Msz4.4

HRVD 12 22:59:20.9±0.4, 1394N×9360E, h37km±1km, MW5.2/61, Centroid moment Tensor Solution. LP body waves: s36,c47;Mantle waves: s61,c99; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.89±.40; $M_{\theta\theta}$0.82±.24; $M_{\phi\phi}$-5.71±.25; $M_{r\theta}$2.99±.26; $M_{\theta\phi}$0.14±.18; $M_{\phi r}$-2.91±.30; Best double couple: $M_0$6.77400×10^{16} NP1:ϕ_s21.00000°, δ35.00000°, λ131.00000°. NP2:ϕ_s154.00000°, δ65.00000°, λ65.00000°. Principal axes: T 6.9790, Plg62.0000°, Azm25.0000°; N -0.4110, Plg22.0000°, Azm166.0000°; P -6.5700, Plg16.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 12 22:59:20.9±0.2, 1388N×9364E, mb5.1/31, MS4.3/1 Error ellipse: s-maj=5.2km s-min=4.4km az=34.0

IDC 12 22:59:22.5±1.7, 1386N×9374E, h63km±13km, mb4.5/27, mb1 4.6/27, mb1mx4.6/30, mbtmp4.8/27, MS4.4/17, Ms1 4.4/17, ms1mx4.2/27, Error ellipse: s-maj=13.0km s-min=9.5km az=55.0

ISC 12 22:59:21.8±0.2, 1394N±003×9360E±002, h48km, h48km±1.2km: pP-P, n318, σ1§10/322, mb5.1/103, MS4.5/33, 34C-19D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.42 200**		*e*P	Px	23 00 13.7	
PBA				*e*S	Sx	23 00 46.2	
NNT	**Nongplab**	**6.12 102**		P	**Pn**	**23 00 50.5**	**+0.8**
BDT	**Bhumibol Dam**	**6.16 57**		PN	**Pn**	**23 00 52.0**	**+1.8**
BDT				SG	**Sn**	**23 01 56.5**	**-2.7**
NST	**Nakhon Sawan**	**6.55 74**		⇑P	**Pn**	**23 00 55.9**	**+0.3**
	752nm,0.6s						
KKTK	**Khon Kaen**	**9.22 74**		P	**Pn**	**23 01 34.0**	**+1.9**
AGT	**Agartala**	**10.13 348**		*i* P	**Pn**	**23 01 43.0**	**-1.6**
AGT				*i* x	x	23 02 24.0	
VIS	**Vishakhapatnam**	**10.57 292**		*e*P	**Pn**	**23 01 49.0**	**-1.6**
VIS				AMb	AMB	23 01 50.8	
	comp=Z,543nm,1.1s						
VIS				*e*S	**Sn**	**23 03 35.8**	**-12**
IMP	**Imphal**	**10.79 2**		*e*P	**Pn**	**23 01 52.0**	**-1.6**
IMP				*e*x	x	23 03 48.0	
KULM	**Kulim**	**11.05 140**		*e*Pn	**Pn**	**23 01 60.0**	**+2.8**
SHL	**Shillong**	**11.68 352**		*e*P	**Pn**	**23 02 02.0**	**-3.7**
SHL				*e*S	**Sn**	**23 04 05.0**	**-10**
BOK	**Bokaro**	**12.21 324**		*e*P	**Pn**	**23 02 10.5**	**-2.6**
BOK				AMb	AMB	23 02 13.6	
	comp=Z,25nm,0.5s						
BOK				*i* x	x	23 04 04.7	
BOK				*e*S	**Sn**	**23 04 14.4**	**-13**
PSI	**Prapat**	**12.26 154**		P	**Pn**	**23 02 19.0**	**+5.4**
	comp=Z,0.3nm,0.3s,baz=319,slow=9.3,SNR=21						
PSI				LR	LR	23 07 07.4	
	comp=Z,972nm,21.8s,baz=144,slow=38						
PSI	**Prapat**	**12.26 154**		P	**Pn**	**23 02 19.0**	**+5.4**
PSI				LR	LR	23 07 07.4	
MDRS	**Chennai**	**13.01 268**		*e*P	**Pn**	**23 02 21.6**	**-2.4**
KMI	**Kunming**	**14.06 36**		P	**Pn**	**23 02 40.9**	**+2.6**
KMI				AP		23 02 47.4	
KMI				PP		23 02 52.2	
KMI				XP		23 02 54.1	
KMI				S	**Sn**	**23 05 14.5**	**+1.7**
KMI				XS		23 05 28.7	
KMI				SS		23 05 33.9	
KMI				AMB	AMB		
	comp=Z,19nm,1.4s						
KMI				AMB	AMB		
	comp=Z,196nm,5.7s						
KMI				LR	LR		
	comp=N,1μm,12.6s						
KMI				LR	LR		
	comp=E,1μm,11.7s						
KMI				LR	LR		
	comp=Z,2μm,15.6s						
GTK	**Gangtok**	**14.11 342**		*e*x	x	23 04 56.0	
PALK	**Pallekele**	**14.30 244**		Pn	**Pn**	**23 02 40.0**	**-1.4**
PALK				Sn	**Sn**	**23 05 12.7**	**-5.8**
HYB	**Hyderabad**	**14.89 285**		*i* P	**Pn**	**23 02 46.0**	**-3.2**
	comp=Z,70nm,1.0s						
HYB				*e*		23 02 55.0	
HYB				*es*P	sP	23 03 06.0	-5.2
HYB				*e*		23 05 19.0	
HYB				*e*S	**Sn**	**23 05 33.0**	**0.0**
HYB	**Hyderabad**	**14.89 285**		*e*P	**Pn**	**23 02 46.0**	**-3.2**
HYB				pmax	pmax		
	comp=Z,70nm,1.0s						
HYB	**Hyderabad**	**14.89 285**		*e*P	**Pn**	**23 02 46.0**	**-3.2**
	comp=Z,70nm,1.0s						
HYB				*e*		23 02 55.0	
HYB				*e*S	**Sn**	**23 05 19.0**	**-14**
JIRN	**Jiri**	**15.30 334**		*e*P	**Pn**	**23 02 51.5**	**-3.0**
	comp=Z,319nm,0.9s						
JIRN				*e*S	S	23 05 33.7	-24
PKI	**Pulchoki**	**15.56 332**		*e*P	**Pn**	**23 02 55.2**	**-2.7**
	comp=Z,209nm,0.8s						
NGP	**Nagpur**	**15.61 299**		*e*P	**Pn**	**23 02 58.6**	**+0.1**
NGP				*e*x	x	23 03 01.4	
	comp=Z,139nm,0.9s						
NGP				*e*x	x	23 05 40.7	
GUN	**Gumba**	**15.65 334**		*e*P	**Pn**	**23 02 56.2**	**-2.8**
	comp=Z,186nm,0.7s						
DMN	**Daman**	**15.74 331**		*e*P	**Pn**	**23 02 56.4**	**-3.8**
	comp=Z,194nm,0.8s						
KKN	**Kakani**	**15.81 332**		*e*P	**Pn**	**23 02 58.7**	**-2.4**
	comp=Z,123nm,0.7s						
LSA	**Lhasa**	**15.85 352**		P	**Pn**	**23 02 59.0**	**-2.6**
LSA				AP	pP	23 03 08.1	-7.6
LSA				S	**S**	**23 05 55.9**	**-13**
LSA				AMB	AMB		
	comp=Z,40nm,1.0s						
LSA				AMB	AMB		
	comp=Z,20nm,3.0s						
LSA				LR	LR		
	comp=N,710nm,25.0s						
LSA				LR	LR		
	comp=E,1μm,25.0s						
LSA				LR	LR		
	comp=Z,1μm,25.0s						
LSA	**Lhasa**	**15.85 352**		*e*P	**Pn**	**23 03 01.5**	**-0.1**
LSA				*e*		23 05 55.1	
LSA				pmax	pmax		
	comp=Z,205nm,0.6s						
LSA	**Lhasa**	**15.85 352**		*e*Pn	**Pn**	**23 03 01.5**	**0.0**
	comp=Z,205nm,0.6s						
LSA				*e*Sn	**Sn**	**23 05 55.1**	**-1.0**
GKN	**Gorkha**	**16.29 331**		*e*P	**Pn**	**23 03 04.5**	**-2.7**
	comp=Z,65nm,0.3s						
GKN				*e*S	**S**	**23 05 57.1**	**-20**
QIZ	**Qiongzhong**	**16.38 70**		P	**Pn**	**23 03 08.3**	**0.0**
QIZ				XP	sP	23 03 23.9	-3.8
QIZ				S	**S**	**23 06 07.5**	**-12**
QIZ				XS	sS	23 06 19.7	-17
QIZ				SS		23 06 27.4	
QIZ				AMB	AMB		
	comp=Z,30nm,2.0s						
QIZ				AMB	AMB		
	comp=Z,615nm,3.8s						
QIZ				LR	LR		
	comp=N,1μm,20.2s						
QIZ				LR	LR		
	comp=E,1μm,23.1s						
QIZ				LR	LR		
	comp=Z,2μm,18.6s						
QIZ	**Qiongzhong**	**16.38 70**		*e*Pn	**Pn**	**23 03 08.7**	**+0.4**
KOLN	**Koldanda**	**16.62 327**		*e*P	**Pn**	**23 03 07.3**	**-4.0**
	comp=Z,116nm,0.6s						
KOLN				*e*S	S	23 06 02.4	-22
LATR	**Latur**	**16.96 287**		*e*P	**Pn**	**23 03 16.5**	**+1.0**
TRD	**Trivandrum**	**17.19 253**		*e*P	**Pn**	**23 03 19.7**	**+1.3**
TRD				AMb	AMB	23 03 23.3	
	comp=Z,134nm,1.2s						
TRD				*e*x	x	23 06 40.4	
GYA	**Guiyang**	**17.46 42**		⇑*i*P	**Pn**	**23 03 22.0**	**+0.2**
GYA				AP	pP	23 03 33.8	+0.2
GYA				XP	sP	23 03 39.2	-0.5
GYA				AMB	AMB		
	comp=Z,40nm,1.0s						
GYA				AMB	AMB		
	comp=Z,240nm,4.5s						
GYA				LR	LR		
	comp=N,1μm,11.2s						
GYA				LR	LR		
	comp=E,970nm,11.0s						
GYA				LR	LR		
	comp=Z,970nm,12.0s						
BHPL	**Bhopal**	**17.89 303**		*e*P	**Pn**	**23 03 27.7**	**+0.7**
BHPL				AMb	AMB	23 03 30.9	
	comp=Z,32nm,0.8s						
KAD	**Karad**	**18.99 283**		*e*P	**Pn**	**23 03 40.0**	**-0.5**
KAD				AMb	AMB	23 03 42.7	
	comp=Z,79nm,1.3s						
CD2	**Chengdu**	**19.30 27**		⇑*i*P	**Pn**	**23 03 42.8**	**-1.3**
CD2				AP	pP	23 03 52.6	-1.3
CD2				XP	sP	23 03 58.8	-1.2
CD2				PP		23 04 00.7	
CD2				S	**S**	**23 07 11.6**	**-7.0**
CD2				XS	sS	23 07 26.6	-10
CD2				SS		23 07 38.6	
CD2				AMB	AMB		
	comp=Z,130nm,1.1s						
CD2				AMB	AMB		
	comp=Z,290nm,4.7s						
CD2				LR	LR		
	comp=N,720nm,16.8s						
CD2				LR	LR		
	comp=Z,550nm,14.4s						
POO	**Poona**	**19.50 286**		⇓*i*P	**Pn**	**23 03 45.5**	**-0.9**
	comp=Z,208nm,1.6s						
POO				*e*x	x	23 03 56.3	
POO				AMb	AMB	23 03 59.2	
	comp=Z,69nm,1.4s						
POO				*i* PP		23 04 00.5	
POO				*i* x	x	23 07 03.5	
POO				*i* x	x	23 07 26.0	
LGTI	**Lohaghat**	**19.77 323**		*e*x	**Pn**	**23 03 53.5**	**+3.8**
PTH	**Pithoragarh**	**19.86 324**		*e*P	**Pn**	**23 03 50.2**	**-0.5**
PTH				*e*x	x	23 07 18.0	
PTH				*e*x	x	23 07 20.6	
KSM	**Kuching**	**20.65 125**		*e*P	**P**	**23 04 01.1**	**+3.7**
KSM				epP		23 04 11.3	
NDI	**New Delhi**	**21.13 317**		*e*P	**P**	**23 04 03.0**	**+0.5**
AJM	**Ajmer**	**21.69 308**		*e*P	**P**	**23 04 07.7**	**-0.9**
AJM				*i* P		23 04 09.0	
DDI	**Dehra Dun**	**21.71 321**		*e*P	**P**	**23 04 10.7**	**+2.0**
DDI				*e*S	**S**	**23 08 08.9**	**+2.8**
ENH	**Enshi**	**21.88 39**		*e*P	**P**	**23 04 10.0**	**-0.6**
	comp=Z,509nm,0.9s,mb6.0						
SMLA	**Simla**	**22.82 321**		*e*P	**P**	**23 04 21.6**	**+1.2**
SMLA				AMb	AMB	23 04 24.4	
	comp=Z,230nm,1.7s,mb5.3						
SMLA				*e*S	**S**	**23 08 26.2**	**-0.1**
SDNR	**Sundarnagar**	**23.20 322**		*e*P	**P**	**23 04 25.9**	**+1.4**
SDNR				*e*x	x	23 08 40.5	
BHK	**Bhakra**	**23.48 321**		*e*x	**P**	**23 04 33.9**	**+6.8**
BHK				*e*x	x	23 04 34.0	
KKM	**Kota Kinabalu**	**23.60 107**		*e*P	**P**	**23 04 28.1**	**-0.2**
KKM				epP		23 04 39.9	
KKM				*es*P	sP	23 04 46.2	0.0
LZH	**Lanzhou**	**23.89 21**		⇑*i*P	**P**	**23 04 31.7**	**+0.8**
LZH				AP		23 04 42.5	
LZH				XP	sP	23 04 48.7	-0.5
LZH				PP		23 05 06.8	
LZH				PCP	PcP	23 08 14.2	+1.6
LZH				S	**S**	**23 08 42.6**	**-1.2**
LZH				XS	sS	23 09 01.5	-3.2
LZH				SS		23 09 35.6	
LZH				SCP	ScP	23 11 47.5	+0.6
LZH				PCS	PcS	23 11 52.6	+0.4
LZH				SCS	ScS	23 15 31.5	-2.4
LZH				AMB	AMB		
	comp=Z,195nm,1.3s,mb5.4						
LZH				AMB	AMB		
	comp=Z,483nm,4.6s						
LZH				LR	LR		
	comp=E,3μm,13.2s						
LZH				LR	LR		
	comp=Z,6μm,15.3s,MS5.2						
XAN	**Xi'an**	**24.36 32**		P	**P**	**23 04 33.8**	**-1.4**
XAN				AP		23 04 47.6	
XAN				AMB	AMB		
	comp=Z,193nm,0.9s,mb5.5						
XAN				AMB	AMB		
	comp=Z,336nm,7.8s						
XAN				LR	LR		
	comp=N,839nm,22.3s,MS4.3						
XAN				LR	LR		
	comp=E,699nm,23.3s,MS4.3						
XAN				LR	LR		
	comp=Z,983nm,23.3s,MS4.2						
WHN	**Wuhan**	**25.26 46**		⇑P	**P**	**23 04 42.5**	**-0.9**
WHN				AP	pP	23 04 57.0	+1.1
WHN				AMB	AMB		
	comp=Z,140nm,0.9s,mb5.5						
GTA	**Gaotai**	**25.95 11**		⇑*i*P	**P**	**23 04 51.2**	**+1.5**
GTA				AP	pP	23 05 03.4	+1.2
GTA				XP	sP	23 05 08.6	+0.7
GTA				PCP	PcP	23 08 19.0	+1.8
GTA				SCP	ScP	23 11 54.2	+1.5
GTA				PCS	PcS	23 11 59.1	+1.1
GTA				SCS	ScS	23 15 41.9	-0.4
GTA				AMB	AMB		
	comp=Z,139nm,1.0s,mb5.4						
GTA				AMB	AMB		
	comp=Z,204nm,5.7s						
GTA				LR	LR		
	comp=N,357nm,21.8s,MS4.1						
GTA				LR	LR		
	comp=E,478nm,19.1s,MS4.1						
GTA				LR	LR		
	comp=Z,470nm,25.6s						
TGY	**Tagaytay City**	**26.52 86**		P	**P**	**23 04 56.4**	**+1.6**
	comp=Z,105nm,0.3s,baz=141,slow=7.3,SNR=3.3						
NJ2	**Nanjing**	**29.30 48**		*e*P	**P**	**23 05 19.3**	**-0.3**
NJ2				AP	pP	23 05 31.1	-1.1
NJ2				XP	sP	23 05 36.6	-1.3
NJ2				PP	PP	23 06 15.3	-11
NJ2				S	**S**	**23 10 08.0**	**-1.3**
NJ2				XS	sS	23 10 28.0	-2.5
NJ2				AMB	AMB		
	comp=Z,110nm,1.1s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,620nm,10.6s						
NJ2				LR	LR		
	comp=N,2μm,23.0s						
NJ2				LR	LR		
	comp=E,7μm,17.1s						
NJ2				LR	LR		
	comp=Z,1μm,15.2s						
KSH	**Kashi**	**29.83 332**		P	**P**	**23 05 25.8**	**+1.5**
KSH				AP	pP	23 05 39.4	+2.5
KSH				XP	sP	23 05 44.6	+2.0
KSH				PP	PP	23 06 25.9	-6.3
KSH				PCP	PcP	23 08 29.4	+2.8
KSH				S	**S**	**23 10 20.0**	**+2.3**
KSH				XS	sS	23 10 42.3	+3.4
KSH				SS	SS	23 11 59.0	-27
KSH				SCP	ScP	23 12 07.7	+3.1
KSH				PCS	PcS	23 12 11.4	+1.5
KSH				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.0						
KSH				LR	LR		
	comp=N,469nm,5.0s						
KSH				LR	LR		
	comp=E,567nm,5.4s						
KSH				LR	LR		
	comp=Z,297nm,21.5s,MS3.9						
BTO	**Baotou**	**30.20 25**		*e*P	**P**	**23 05 26.1**	**-1.5**
WMQ	**Urumqi**	**30.20 351**		P	**P**	**23 05 28.9**	**+1.3**
WMQ				AP	pP	23 05 40.6	+0.4
WMQ				XP	sP	23 05 46.2	+0.2
WMQ				PP	PP	23 06 28.6	-7.8
WMQ				PCP	PcP	23 08 29.2	+1.6
WMQ				*es*S	**S**	**23 10 23.8**	**+0.2**
WMQ				SS	SS	23 12 04.2	-29
WMQ				AMB	AMB		
	comp=Z,65nm,0.8s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,474nm,5.0s						
WMQ				LR	LR		
	comp=N,3μm,20.0s,MS5.3						
WMQ				LR	LR		
	comp=E,6μm,20.0s,MS5.3						
WMQ				LR	LR		
	comp=Z,4μm,22.0s,MS5.1						
SSE	**Sheshan**	**30.55 51**		P	**P**	**23 05 31.1**	**+0.5**
SSE				AP	pP	23 05 42.0	-1.2
SSE				XP	sP	23 05 47.2	-1.8
SSE				S	**S**	**23 10 29.8**	**+0.9**
SSE				XS	sS	23 10 48.4	-1.7
SSE				AMB	AMB		
	comp=Z,51nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,738nm,5.3s						
SSE				LR	LR		
	comp=N,353nm,25.2s,MS4.1						
SSE				LR	LR		
	comp=E,372nm,25.2s,MS4.1						
SSE				LR	LR		
	comp=Z,437nm,27.1s,MS4.0						
HHC	**Hu-ho-hao-te**	**31.06 27**		*e*P	**P**	**23 05 35.7**	**+0.5**
HHC				AP	pP	23 05 47.4	-0.4
HHC				XP	sP	23 05 52.9	-0.6
HHC				PP	PP	23 06 38.7	-7.2
HHC				PCP	PcP	23 08 31.0	+1.1
HHC				S	**S**	**23 10 37.4**	**+0.4**
HHC				XS	sS	23 10 57.0	-1.2
HHC				SS	SS	23 12 24.1	-27
HHC				SCS	ScS	23 16 03.7	-2.1
HHC				AMB	AMB		
	comp=Z,36nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,136nm,3.7s						
HHC				LR	LR		
	comp=N,318nm,13.7s,MS4.4						
HHC				LR	LR		
	comp=E,449nm,10.3s,MS4.4						
HHC				LR	LR		
	comp=Z,345nm,20.8s						
ULHL	**Ulahol**	**31.95 335**		P	**P**	**23 05 44.2**	**+1.2**
	SNR=15						
KZA	**Kyzart**	**32.23 334**		P	**P**	**23 05 46.6**	**+1.2**
	SNR=22						
BJT	**Baijiatuau**	**32.66 33**		*e*P	**P**	**23 05 50.0**	**+0.8**
BJT				*e**PP	pP	23 06 02.7	+0.8
BJT				pmax	pmax		
	comp=Z,25nm,1.1s						
BJT	**Baijiatuau**	**32.66 33**		*e*P	**P**	**23 05 50.0**	**+0.7**
	comp=Z,25nm,1.1s,mb5.1						
BJT				*e*pP	pP	23 06 02.7	+0.8
UCH	**Uchtor**	**32.67 333**		P	**P**	**23 05 49.7**	**+0.5**
	SNR=12						
BJI	**Beijing**	**32.68 33**		P	**P**	**23 05 49.9**	**+0.5**
BJI				AP	pP	23 06 00.9	-1.2
BJI				XP	sP	23 06 04.9	-2.9
BJI				S	**S**	**23 11 00.9**	**-1.4**
BJI				XS	sS	23 11 23.2	-0.4
BJI				AMB	AMB		
	comp=Z,27nm,1.2s,mb5.0						
BJI				LR	LR		
	comp=N,613nm,21.2s,MS4.4						
BJI				LR	LR		
	comp=E,510nm,22.5s,MS4.4						
BJI				LR	LR		
	comp=Z,1μm,22.6s,MS4.5						
TKM2	**Tokmak 2**	**32.78 335**		P	**P**	**23 05 51.9**	**+1.6**
	SNR=16						
KBK	**Karagaybulak**	**32.83 334**		P	**P**	**23 05 52.9**	**+2.2**
	SNR=17						
AML	**Almayashu**	**32.95 332**		P	**P**	**23 05 53.5**	**+1.7**
	SNR=25						
AAK	**Ala-Archa**	**33.01 334**		P	**P**	**23 05 53.9**	**+1.7**
	SNR=18						
AAK	**Ala-Archa**	**33.01 334**		P	**P**	**23 05 52.0**	**-0.2**
	comp=Z,116nm,1.2s,mb5.7,SNR=20						
AAK	**Ala-Archa**	**33.01 334**		P	**P**	**23 05 52.8**	**+0.6**
AAK				pP	pP	23 06 06.1	+1.2
FRU	**Bishkek**	**33.12 334**		*i* P	**P**	**23 05 55.0**	**+1.8**
FRU				*e*		23 07 12.0	
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.2						
CHMS	**Chumysh**	**33.19 334**		P	**P**	**23 05 54.8**	**+0.9**
	SNR=18						
EKS2	**Erkin-Say**	**33.34 333**		P	**P**	**23 05 56.8**	**+1.7**
	SNR=29						
USP	**Ospenovka**	**33.52 334**		P	**P**	**23 05 57.7**	**+0.9**
	SNR=50						
MKAR	**Makanchi Array**	**34.10 346**		P	**P**	**23 06 01.9**	**+0.2**

comp=Z,30nm,0.9s,mb5.2,baz=168,slow=6.2,SNR=163
MKAR ScP ScP 23 12 18.4 -0.7
comp=Z,2.3nm,1.0s,baz=165,slow=5.0,SNR=4.6
DL2 Dalian 35.07 40 P P 23 06 11.2 +1.1
DL2 *e*S **S 23 11 41.2 +2.0**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
DL2 LR LR
comp=N,310nm,14.5s,MS4.4
DL2 LR LR
comp=E,430nm,16.1s,MS4.4
DL2 LR LR
comp=Z,320nm,14.3s,MS4.2
SONM Songino Array 35.43 15 P P 23 06 14.0 +0.8
comp=Z,38nm,1.0s,mb5.3,baz=202,slow=9.3,SNR=198
SONM PcP PcP 23 08 42.2 +0.1
comp=Z,3.8nm,1.0s,baz=217,slow=3.5,SNR=4.0
SONM ScP ScP 23 12 23.4 -0.5
comp=Z,5.0nm,0.8s,baz=203,slow=3.1,SNR=23
SONM LR LR 23 22 46.5
comp=Z,1μm,21.8s,MS4.6,baz=191,slow=40
SONM Songino Array 35.43 15 P P 23 06 14.0 +0.8
SONM 23 08 42.2
ULN Ulaanbaatar 35.63 16 P P 23 06 14.9 0.0
ULN *PP pP 23 06 30.0 +2.3
ULN pmax pmax
comp=Z,33nm,1.0s,mb5.2
ULN Ulaanbaatar 35.63 16 P P 23 06 14.9 0.0
comp=Z,33nm,1.0s,mb5.2
ULN pP pP 23 06 30.0 +2.4
ULN pP pP 23 06 30.5 +2.8
ZAK Zakamensk 37.19 10⇓*i*P P 23 06 28.9 +0.7
ZAK *e* 23 07 53.5
ZAK *e* 23 08 48.4
ZAK *e* 23 16 35.2
ZAK pmax pmax
comp=Z,55nm,1.1s,mb5.3
ZAK pmax pmax
comp=Z,23nm,1.4s,mb4.8
ZAK pmax pmax
comp=Z,20nm,1.7s,mb4.7
ZAK pmax pmax
comp=Z,15nm,1.8s,mb4.5
SNY Shenyang 38.04 37 ⇑P P 23 06 35.1 -0.3
SNY S **S 23 12 22.6 -1.8**
SNY AMB AMB
comp=Z,44nm,1.5s,mb5.0
SNY AMB AMB
comp=Z,460nm,4.5s
SNY LR LR
comp=E,725nm,16.9s
SNY LR LR
comp=Z,480nm,20.2s,MS4.3
MOY Mondy 38.10 7 *e*P P 23 06 37.2 +1.3
KS15 Wonju Array Si 38.42 46 P P 23 06 38.3 -0.4
KS15 pP pP 23 06 50.7 -0.8
TLY Talaya 38.50 10 P P 23 06 41.5 +2.2
comp=Z,162nm,1.1s,mb5.7,SNR=5.8
KURK Kurchatov 38.64 345 P P 23 06 40.2 -0.3
comp=Z,284nm,1.2s,mb5.9,SNR=27
KURK Kurchatov 38.64 345 P P 23 06 40.5 0.0
IRK Irkutsk 39.15 10 *e*P P 23 06 45.3 +0.6
IRK *e* pP 23 07 02.8 +5.2
IRK *e* 23 15 21.3
IRK pmax pmax
comp=Z,64nm,1.3s,mb5.2
ABKT Ailbek 39.49 314 P P 23 06 49.6 +2.1
comp=Z,77nm,0.9s,mb5.4,SNR=12
CN2 Changchun 40.33 36 ⇑P P 23 06 54.8 +0.2
CN2 *e*AP pP 23 07 06.4 -1.1
CN2 *e*S **S 23 12 59.8 +0.9**
CN2 AMB AMB
comp=Z,70nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.7
CN2 LR LR
comp=E,700nm,16.0s,MS4.7
CN2 LR LR
comp=Z,900nm,18.0s,MS4.7
ZAL Zalesovo 40.50 352 P P 23 06 56.2 +0.3
comp=Z,39nm,0.8s,mb5.1,baz=302,slow=7.5,SNR=250
ZAL Zalesovo 40.50 352 P P 23 06 56.2 +0.3
HIA Hailar 41.25 26⇑*i*P P 23 07 02.3 +0.2
NVS Novosibirsk 41.60 351⇑*i*P P 23 07 04.3 -0.7
NVS *e**PP pP 23 07 18.4 +0.4
NVS *e* 23 08 50.3
NVS pmax pmax
comp=Z,54nm,1.0s,mb5.1
NVS pmax pmax
comp=N,58nm,1.3s
NVS pmax pmax
comp=E,25nm,1.3s
NVS pmax pmax
comp=N,21nm,2.4s
NVS pmax pmax
comp=Z,19nm,2.4s,mb4.3
NVS pmax pmax
comp=E,16nm,1.9s
KRAR Krasnoyarsk 41.98 359⇓*i*P P 23 07 08.2 +0.1
KRAR pmax pmax
comp=Z,81nm,1.3s,mb5.2
BVAR Borovoye Array 43.13 340 P P 23 07 17.1 -0.3
comp=Z,5.9nm,0.8s,mb4.3,baz=133,slow=8.3,SNR=36
BVAR PcP PcP 23 09 04.3 -2.1
comp=Z,2.8nm,0.8s,baz=131,slow=4.3,SNR=4.8
BVAR ScP ScP 23 12 52.5 -1.1
comp=Z,3.6nm,1.0s,baz=158,slow=4.3,SNR=8.4
BVAR Borovoye Array 43.13 340 P P 23 07 17.1 -0.3
BVAR 23 09 04.3
BRVK Borovoye 43.19 340 P P 23 07 17.4 -0.5
comp=Z,75nm,0.8s,mb5.5,SNR=6.2
BRVK Borovoye 43.19 340 P P 23 07 17.6 -0.3
MDJ Mudanjiang 43.23 38 P P 23 07 18.6 +0.4
MDJ AP pP 23 07 29.2 -2.0
MDJ XP sP 23 07 34.0 -2.9
MDJ PP PP 23 08 59.2 -0.1
MDJ PCP PcP 23 09 07.6 +0.8
MDJ SCS ScS 23 17 15.6 +1.5
MDJ AMB AMB
comp=Z,12nm,1.9s,mb4.3
MDJ AMB AMB
comp=Z,162nm,6.3s
MDJ LR LR
comp=N,204nm,30.3s,MS4.1
MDJ LR LR
comp=E,266nm,29.7s,MS4.1
MDJ LR LR
comp=Z,338nm,28.4s,MS4.1
MBWA Marble Bar 43.31 143 *e*P P 23 07 16.5 -2.3
comp=Z,6.4nm,0.8s,mb4.4
MBWA *e*pP pP 23 07 27.1 -4.8
ZRNK Zerenda 43.55 339 *e*P P 23 07 20.6 -0.2
ZRNK *e* 23 09 02.2
ZRNK *e* 23 09 08.3
FITZ Fitzroy Crossi 44.86 134 *e*P P 23 07 29.7 -1.6
comp=Z,12nm,0.4s,mb5.1
MAJO Matsushiro 45.69 52 P P 23 07 37.9 +0.1
MAJO pmax pmax
comp=Z,60nm,0.9s,mb5.5
MAJO Matsushiro 45.69 52 P P 23 07 37.9 +0.1
comp=Z,60nm,0.9s,mb5.5
MAT Matsushiro 45.69 52 P P 23 07 38.0 +0.2
MAT Matsushiro 45.69 52 *e*P P 23 07 38.0 +0.2
MAT pmax pmax
comp=Z,39nm,0.9s,mb5.3
MAT Matsushiro 45.69 52 *e*P P 23 07 38.0 +0.2
comp=Z,39nm,0.9s,mb5.3
MJAR Matsushiro Arr 45.69 52 P P 23 07 37.5 -0.4
comp=Z,26nm,0.9s,mb5.2,baz=268,slow=11,SNR=37
MJAR PcP PcP 23 09 14.4 -0.8
comp=Z,13nm,0.9s,baz=245,slow=3.1,SNR=13
MJAR LR LR 23 28 42.4
comp=Z,431nm,20.3s,MS4.4,baz=260,slow=38
MJAR Matsushiro Arr 45.69 52 P P 23 07 37.5 -0.4
MJAR 23 09 14.4
BOD Bodaibo 46.43 15 *e*P P 23 07 43.4 -0.3
BOD pmax pmax
comp=Z,47nm,1.2s,mb5.3
AKTK Aktyubinsk 46.45 329 P P 23 07 43.9 +0.1
AKTO Aktyubinsk 46.45 329 P P 23 07 43.9 +0.1
comp=Z,15nm,0.8s,mb5.0,baz=122,slow=7.9,SNR=50
KLR Kul'dur 47.05 34 *e*P P 23 07 45.2 -3.4
KLR *e* 23 09 36.0
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.2
KLR MLR MLR
comp=N,1μm,17.0s,MS5.0
KLR MLR MLR
comp=E,1μm,17.0s,MS5.0
HABR Khabarovsk 48.47 36 *e*P P 23 07 52.3 -7.3
CLNS Chul'man 49.01 22 *e*P P 23 08 02.6 -1.0
CLNS pmax pmax
comp=Z,142nm,0.8s,mb6.0
CLNS pmax pmax
comp=N,54nm,0.9s
CLNS pmax pmax
comp=E,58nm,1.0s
ATD Arta Tunnel 49.49 273 LR LR 23 28 00.6
comp=E,112nm,18.3s,MS3.9,baz=77,slow=35
GUMO Guam 49.72 84 LR LR 23 29 36.6
comp=E,161nm,18.1s,MS4.1,baz=264,slow=37
GNI Garni 49.95 311 P **P 23 08 13.0 +2.2**
GNI *e* pP 23 08 29.7 +5.6
GNI pmax pmax
comp=Z,32nm,1.2s
GNI Garni 49.95 311 P **P 23 08 13.0 +2.1**
comp=Z,32nm,1.2s,mb5.2
GNI *e* pP 23 08 29.6 +5.6
ARU Arti 50.15 335 P **P 23 08 12.8 +0.4**
comp=Z,154nm,0.8s,mb6.1,SNR=5.3
ARU Arti 50.15 335⇑*i*P P 23 08 12.2 -0.2
ARU *e* 23 10 03.1
ARU *e*PPP 23 11 03.0
ARU *e*S **S 23 15 23.1 +2.5**
ARU *e*SS SS 23 18 58.0 +3.7
ARU *e*SSS 23 20 24.4
ARU pmax pmax
comp=Z,22nm,0.9s,mb5.2
ARU Arti 50.15 335 P **P 23 08 12.0 -0.4**
comp=Z,26nm,0.9s,mb5.2
ARU pP pP 23 08 27.4 +1.7
MUN Mundaring 50.54 155 *e*P P 23 08 14.5 -0.8
KLBR Kellerberrin 50.86 153 *e*P P 23 08 17.3 -0.4
comp=Z,35nm,1.2s,mb5.2
ZEI Tsey 51.36 314 *e*P P 23 08 19.9 -1.6
ZEI *i **PP pP 23 08 34.7 0.0
ZEI pmax pmax
comp=Z,16nm,0.9s,mb5.0
NWAO Narrogin (SRO) 51.79 155 P **P 23 08 23.4 -1.2**
comp=Z,24nm,1.0s,mb5.1,baz=345,slow=4.7,SNR=6.8
NWAO LR LR 23 28 29.9
comp=Z,293nm,21.2s,MS4.3,baz=269,slow=34
WRA Warramunga Arr 52.35 129 P **P 23 08 27.4 -1.4**
comp=Z,7.3nm,0.6s,mb4.8,baz=300,slow=9.8,SNR=135
WRA PcP PcP 23 09 37.9 -1.4
comp=Z,4.6nm,0.8s,baz=304,slow=4.8,SNR=7.3
WRA ScP ScP 23 13 29.2 -3.2
comp=Z,1.4nm,0.8s,baz=319,slow=3.8,SNR=4.9
WRA S **S 23 15 46.3 -4.6**
comp=Z,4.8nm,1.2s,baz=304,slow=15,SNR=5.4
WRA Warramunga Arr 52.35 129 P **P 23 08 27.4 -1.4**
WRA 23 09 37.9
WRA S **S 23 15 46.3 -4.6**
WRAB Tennant Creek 52.35 129 P **P 23 08 27.0 -1.8**
comp=Z,98nm,0.9s,mb5.7,SNR=17
WRAB Tennant Creek 52.35 129 P **P 23 08 27.6 -1.2**
WRAB pmax pmax
comp=Z,33nm,1.0s,mb5.2
WRAB Tennant Creek 52.35 129 P **P 23 08 27.6 -1.2**
comp=Z,33nm,1.0s,mb5.2
WB2 Warramunga Arr 52.36 129 *e*P P 23 08 27.5 -1.4
WB2 *e*pP pP 23 08 39.9 -2.3
WB2 *e*sP sP 23 08 44.7 -3.1
YSS Yuzh-Sakhalins 52.45 41⇑*e*P P 23 08 31.0 +1.4
YSS *e* pP 23 08 41.8 -1.1
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 52.45 41 P **P 23 08 30.1 +0.5**
comp=Z,41nm,0.9s,mb5.4
GOF Gofitskoye 52.70 317 *e*P P 23 08 32.0 +0.6
GOF pmax pmax
comp=Z,46nm,1.7s,mb5.1
SOKR Solikamsk 53.00 338⇓*i*P P 23 08 34.1 +0.5
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,440nm,25.0s,MS4.4
MALT Malatya 54.27 307 P **P 23 08 44.5 +1.6**
MALT *PP pP 23 08 58.2 +1.9
ASAR Alice Springs 54.32 133 P **P 23 08 42.1 -1.2**
comp=Z,5.1nm,0.6s,mb4.7,baz=308,slow=6.8,SNR=110
ASAR PcP PcP 23 09 45.7 -1.1
comp=Z,4.8nm,0.8s,baz=320,slow=4.4,SNR=8.5
ASAR ScP ScP 23 13 37.9 -3.1
comp=Z,2.1nm,1.0s,baz=320,slow=5.8,SNR=6.0
ASAR S **S 23 16 13.7 -4.0**
comp=Z,2.4nm,1.0s,baz=310,slow=13,SNR=14
ASAR Alice Springs 54.32 133 P **P 23 08 42.1 -1.2**
ASAR 23 09 45.7
ASAR S **S 23 16 13.7 -3.9**
YAK Yakutsk 54.47 20⇑*i*P P 23 08 43.4 -1.0
SOC Sochi 54.52 314*c*i*P P 23 08 42.0 -2.8
SOC *e**PP pP 23 08 50.1 -8.0
SOC *e* 23 10 55.3
SOC *e* 23 18 22.1
SOC pmax pmax
comp=Z,23nm,1.0s,mb5.2
VRHR Novokhopersk 55.74 323 *e*P P 23 08 52.9 -0.6
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s,mb5.5
VRHR pmax pmax
comp=E,20nm,1.2s
OPO Ambohidratompo 56.00 236 P **P 23 08 57.1 +1.7**
comp=E,3.3nm,0.8s,mb4.4,baz=214,slow=0.5,SNR=4.8
EIL Elat 56.11 296 *e*P P 23 09 03.0 +6.8
comp=E,179nm,1.1s,mb6.0
VOR Voronezh 57.38 323 P **P 23 09 05.0 -0.2**
VOR pmax pmax
comp=Z,70nm,1.7s,mb5.4
KMBO Kilima Mbogo 57.77 260 P **P 23 09 08.9 +1.0**
comp=Z,1.6nm,0.9s,mb4.1,baz=49,slow=11,SNR=6.9
KMBO LR LR 23 32 59.1
comp=Z,446nm,18.3s,MS4.6,baz=94,slow=35
KMBO Kilima Mbogo 57.77 260 *e*P P 23 09 09.6 +1.7
KMBO *e**PP pP 23 09 22.2 +0.8
KMBO pmax pmax
comp=Z,5.0nm,1.3s
KMBO Kilima Mbogo 57.77 260 *e*P P 23 09 09.6 +1.6
comp=Z,4.6nm,1.3s,mb4.3
KMBO *e*pP pP 23 09 22.2 +0.7
KMBO LR LR 23 32 59.1
BR131 Keskin Array S 58.18 308 P **P 23 09 10.9 +0.1**
BRTR Keskin Array B 58.18 308 P **P 23 09 11.0 +0.2**
comp=Z,6.8nm,0.8s,mb4.7,baz=121,slow=7.2,SNR=44
SIM Simferopol' 58.76 314*c*e*P P 23 09 15.1 +0.3
SIM *e*S **S 23 17 18.9 +2.6**
SIM pmax pmax
comp=Z,36nm,1.0s,mb5.4
MOS Moscow 59.69 327 *e* **P 23 09 20.0 -1.3**
OBN Obninsk 60.03 326 P **P 23 09 23.5 -0.1**
comp=Z,154nm,1.1s,mb5.9,SNR=5.2
OBN Obninsk 60.03 326*c*i*P P 23 09 22.5 -1.1
OBN *e* 23 11 43.5
OBN *e*S **S 23 17 35.3 +2.5**
OBN pmax pmax
comp=Z,51nm,1.4s,mb5.4
OBN Obninsk 60.03 326⇑*i*P P 23 09 22.8 -0.8
KLMR Klimovskoe 60.82 333 *e*P P 23 09 28.2 -0.8
KLMR pmax pmax
comp=Z,40nm,1.6s,mb5.3
TIXI Tiksi 61.43 12 *e*P P 23 09 29.1 -4.1
TIXI pmax pmax
comp=Z,75nm,1.1s,mb5.7
TIXI MLR MLR
comp=Z,201nm,18.0s,MS4.3
MA2 Magadan 61.71 29*c*e*P P 23 09 34.1 -0.9
MA2 *e* 23 13 29.9
MA2 *e* 23 18 07.8
MA2 *e* 23 19 25.8
MA2 pmax pmax
comp=E,10.0nm,0.9s
MA2 pmax pmax
comp=Z,40nm,0.9s,mb5.5
MA2 Magadan 61.71 29 *e*P P 23 09 34.0 -1.0
comp=Z,63nm,0.9s,mb5.8
MA2 pP pP 23 09 46.7 -1.9
AKASG Malin Array Be 63.14 320 P **P 23 09 43.2 -1.4**
comp=Z,7.6nm,0.8s,mb4.9,baz=86,slow=5.2,SNR=31
AKASG Malin Array Be 63.14 320 P **P 23 09 43.2 -1.4**
SEY Seymchan 63.70 26 *e*P P 23 09 46.7 -1.6
SEY *e* 23 12 05.2
SEY *e*S **S 23 18 15.0 -4.1**
SEY *e*SSS 23 25 13.2
SEY pmax pmax
comp=E,7.0nm,1.2s
SEY pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
SEY smax
comp=N,70nm,5.4s
SEY smax
comp=E,160nm,4.9s
SEY MLR MLR
comp=Z,962nm,20.0s,MS5.0
SEY MLR MLR
comp=N,470nm,21.0s,MS4.8
SEY MLR MLR
comp=E,455nm,16.0s,MS4.8
SEY Seymchan 63.70 26⇓*i*P P 23 09 47.2 -1.1
PET Petropavlovsk 64.01 38 *e*P P 23 09 50.0 -0.3
PET pmax pmax
comp=Z,53nm,1.0s,mb5.5
PET MLR MLR
comp=Z,300nm,19.0s,MS4.5
PET Petropavlovsk 64.01 38 *e*P P 23 09 49.0 -1.3
VRI Vrincioaia 64.04 314⇓P P 23 09 51.7 +1.2
VRI Vrincioaia 64.04 314⇓P P 23 09 51.6 +1.2
PLOR Plostina 64.09 314⇓P P 23 09 51.8 +1.0
MLR Muntele Rosu 64.54 314⇑P P 23 09 54.8 +1.0
MLR Muntele Rosu 64.54 314⇑P P 23 09 54.8 +1.0
STKA Stephens Creek 64.73 136 *e*P P 23 09 50.9 -4.1
comp=Z,3.3nm,0.7s,mb4.5
STKA Stephens Creek 64.73 136 P **P 23 09 51.4 -3.6**
comp=Z,3.1nm,0.7s,mb4.5,baz=341,slow=11,SNR=6.9
STKA LR LR 23 36 56.6
comp=Z,231nm,21.9s,MS4.3,baz=108,slow=35
RZN Rozhen 65.12 310 *i* P **P 23 09 57.5 -0.1**
JOF Joensuu 65.19 333 *ep* **P 23 09 58.6 +0.6**
comp=Z,13nm,0.7s,mb5.1
BURAR Bucovina Array 65.27 316⇑P P 23 09 59.2 +0.7
BURAR Bucovina Array 65.27 316⇓P P 23 09 59.5 +1.0
PGB Panagyurishte 65.58 311 *e*P P 23 10 00.0 -0.5
MMB Musomiste 65.86 309 *e*P P 23 09 54.0 -8.3
APA Apatity 66.03 339⇓*i*P pP 23 10 18.0 +0.9
APA pmax pmax
comp=Z,11nm,0.9s,mb4.9
VSU Vasula 66.16 328 *e*P P 23 10 04.1 -0.1
VTS Vitosha 66.29 311 *i* P **P 23 10 05.5 +0.4**
VTS Vitosha 66.29 311 P **P 23 10 05.2 +0.1**
KKB Krupnik 66.35 310 *e*P P 23 10 05.0 -0.5
VAY Valandovo 66.72 309 *i* P **P 23 10 06.3 -1.5**
DRGR 66.90 315⇓P P 23 10 09.6 +0.6
DRGR 66.90 315⇓P P 23 10 09.6 +0.7
KWP Kalwaria 67.13 318 *e*P P 23 10 10.7 +0.2
FINES FINESS Array B 67.15 331 P **P 23 10 09.4 -1.1**
comp=Z,9.2nm,0.8s,mb4.9,baz=101,slow=9.9,SNR=35
FINES LR LR 23 42 53.3
comp=Z,191nm,19.9s,MS4.3,baz=288,slow=39
KAF Kangasniemi 67.20 332 *ep* **P 23 10 10.5 -0.4**
comp=Z,15nm,1.0s,mb5.0,baz=100,slow=5.9
KAF Kangasniemi 67.20 332 *e*P P 23 10 10.5 -0.4
KAF pmax pmax
comp=Z,15nm,1.0s,mb5.0
SUW Suwalki 67.33 323 *e*P P 23 10 11.0 -0.7
KOLS Kolonicke sedl 67.36 317 *e*P P 23 10 11.4 -0.5
KOLS *e*pP pP 23 10 24.9 -0.7
SKO Skopje 67.58 310 *e*P P 23 10 11.4 -1.9
BZS Buzias 67.58 314⇓P P 23 10 13.6 +0.3
BIA Bitola 67.65 309 *e*P P 23 10 11.9 -1.9
CRVS Cervenica-Dubn 67.89 317 *e*P P 23 10 16.5 +1.3
CRVS *e*sP sP 23 10 35.3 +0.8
OHR Ohrid 68.05 309 *e*P P 23 10 14.3 -1.9
STHS Stebnicka Huta 68.07 318 *e*P P 23 10 15.6 -0.7
STHS *e*sP sP 23 10 34.8 -0.8
KECS Kecovo 68.51 317 *e*P P 23 10 19.2 +0.1
KECS *e*sP sP 23 10 36.5 -1.8
NIE Niedzica 68.67 318 *e*P P 23 10 21.2 +1.1
PSZ Piszkesteto 68.87 316⇑*i*P P 23 10 21.5 +0.1
PSZ Piszkesteto 68.87 316 P **P 23 10 21.8 +0.4**
KEV Kevo 68.98 340 *ep* **P 23 10 21.5 -0.5**
comp=Z,12nm,0.8s,mb4.9
KEV Kevo 68.98 340 *e*P P 23 10 21.5 -0.5
KEV pmax pmax
comp=Z,12nm,0.8s,mb4.9
OJC Ojcow 69.05 319 *e*P P 23 10 22.7 +0.2
ARCES ARCESS Array B 69.42 340 P **P 23 10 24.5 -0.3**
comp=Z,10nm,0.8s,mb4.8,baz=102,slow=7.1,SNR=23
ARCES LR LR 23 46 15.0
comp=Z,302nm,18.7s,MS4.6,baz=112,slow=40
VYHS Vyhne 69.60 317 *e*P P 23 10 25.7 -0.2
VYHS *e* pP 23 10 42.8 +3.1
PKSM Moragy 69.68 314⇓P P 23 10 26.5 +0.1
SRO2 Moca 69.88 316 *e*P P 23 10 28.2 +0.6
SRO Srobarova 69.93 316 *e*P P 23 10 28.4 +0.5
SRO *e* pP 23 10 43.7 +2.0
SRO1 Iza 69.99 316 *e*P P 23 10 29.0 +0.7
OKC Ostrava-Krasne 70.10 318 *e*P P 23 10 29.2 +0.3
OKC *e*pP pP 23 10 41.7 -1.1
MORC Moravsky Berou 70.49 318 P **P 23 10 31.8 +0.5**
MORC Moravsky Berou 70.49 318⇓P P 23 10 32.0 +0.7
MORC Moravsky Berou 70.49 318 P **P 23 10 31.3 0.0**
comp=Z,25nm,1.0s,mb5.1
MORC pP pP 23 10 44.1 -1.1
MORC sP sP 23 10 49.2 -1.4
BILL Bilibino 70.69 22⇑*i*P P 23 10 31.5 -1.1
ZST Bratislava 70.75 316 *e*P P 23 10 31.8 -1.1
ZST *e*sP sP 23 10 49.1 -3.1
LSZ Lusaka 70.90 248 P **P 23 10 34.9 +1.1**
comp=Z,5.8nm,0.8s,mb4.5,baz=54,slow=4.8,SNR=11
LSZ Lusaka 70.90 248 P **P 23 10 35.4 +1.5**
LSZ pP pP 23 10 44.5 -3.2
DPC Dobruska-Polom 71.29 319 *e*P P 23 10 37.0 +0.8
DPC *e*pP pP 23 10 49.4 -0.6
KSP Ksiaz 71.31 319 *e*P P 23 10 36.7 +0.4
KSP Ksiaz 71.31 319⇑*e*P P 23 10 36.6 +0.3
KSP *e*PcP PcP 23 10 54.9 -1.0
UPC Upice 71.49 319 *e*P P 23 10 37.9 +0.5
TREC Trest 71.82 318 *e*P P 23 10 39.5 +0.1
BOJS Bojanci 72.05 314 *e*P P 23 10 41.1 +0.3
BOJS *i* pP 23 10 56.4 +1.7
PERS Pernice 72.11 315 *e*P P 23 10 41.7 +0.5
PERS *e* pP 23 10 55.7 +0.7
PVCC Panska Ves 72.41 319 *e*P P 23 10 43.6 +0.7
PVCC *e*pP pP 23 10 55.5 -1.3
PRU Pruhonice 72.43 318 *e*P P 23 10 43.2 +0.2
PRU *e*pP pP 23 10 56.1 -0.8
MOA Molln 72.66 316⇑*i*P P 23 10 44.3 -0.1
comp=Z,17nm,1.1s,mb4.9
FX1 Attu Island--F 72.72 39 P **P 23 10 44.8 0.0**
comp=Z,41nm,0.7s,mb5.5,baz=212,slow=3.1,SNR=17
FX1 Attu Island--F 72.72 39 P **P 23 10 45.1 +0.3**
BRG Berggiesshubel 72.80 319 *e*P P 23 10 45.4 +0.2
BRG *e* pP 23 10 57.8 -1.3
BRG *e* pP 23 11 02.7 +3.6
VOY Vojsko 72.98 314 *e*P P 23 10 45.9 -0.4
VOY *e* pP 23 11 01.8 +1.6
GERES GERESS Array B 73.01 317 P **P 23 10 45.4 -1.0**
comp=Z,13nm,0.9s,mb4.9,baz=87,slow=5.5,SNR=69
KHC Kasperske Hory 73.08 317 *e*P P 23 10 46.9 0.0
KHC *e*pP pP 23 11 01.1 +0.3
KHC Kasperske Hory 73.08 317⇑*e*P P 23 10 46.4 -0.5
ROBS Robic 73.24 314 *e*P P 23 10 48.0 +0.2
CLL Collm 73.38 320⇑*i*P P 23 10 48.0 -0.7
comp=Z,19nm,1.3s,mb4.9
CLL *i* pP pP 23 10 59.6 -3.0
CLL *i* sP sP 23 11 04.9 -3.1
CLL Collm 73.38 320⇑*i*P P 23 10 48.0 -0.7
CLL *i **PP pP 23 10 59.6 -3.0
CLL pmax pmax
comp=Z,19nm,1.3s,mb4.9
CLL Collm 73.38 320⇑*i*P P 23 10 48.0 -0.7
comp=Z,19nm,1.3s,mb4.9
CLL *i* pP pP 23 10 59.6 -3.0
NKC Novy Kostel 73.77 319 *e*P P 23 10 51.4 +0.5
NKC *e*pP pP 23 11 03.7 -1.2
NB2 NORSAR Subarra 74.23 330 P **P 23 10 52.6 -1.0**
comp=Z,10nm,0.9s,mb4.8,baz=90,slow=6.2
NB2 NORSAR Subarra 74.23 330 P **P 23 10 52.6 -1.0**

NB2 pmax pmax
comp=Z,11nm,0.9s,mb4.8
NOA NORSAR Array B 74.23 330 P **P** **23 10 52.6 -1.0**
comp=Z,5.6nm,0.8s,mb4.5,baz=90,slow=5.8,SNR=14
NOA LR LR 23 49 02.7
comp=Z,151nm,20.5s,MS4.3,baz=325,slow=40
MOX Moxa 74.28 319 *eP* **P** **23 10 54.2 +0.3**
comp=Z,30nm,1.6s,mb5.0
MOX Moxa 74.28 319 *eP* **P** **23 10 54.2 +0.3**
MOX pmax pmax
comp=Z,30nm,1.6s,mb5.0
WATA Walderalm 74.50 316⇓*iP* **P** **23 10 54.5 -0.7**
comp=Z,8.4nm,1.1s,mb4.6
GRA1 Grafenberg Arr 74.59 318 *eP* **P** **23 10 56.2 +0.5**
comp=Z,23nm,1.2s,mb5.0
GRA1 *e*pP pP 23 11 08.2 -1.4
GRF Grafenberg Arr 74.59 318 *eP* **P** **23 10 56.2 +0.5**
comp=Z,23nm,1.2s,mb5.0
GRF *e*pP pP 23 11 08.2 -1.4
GRF Grafenberg Arr 74.59 318 *eP* **P** **23 10 56.2 +0.5**
GRF *e**PP pP 23 11 08.2 -1.4
GRF pmax pmax
comp=Z,23nm,1.2s,mb5.0
SQTA Sankt Quirin 74.76 316⇑*iP* **P** **23 10 55.9 -0.8**
comp=Z,4.8nm,0.9s,mb4.4
MOTA Moosalm 74.82 316⇑*iP* **P** **23 10 56.2 -0.9**
comp=Z,14nm,1.1s,mb4.8
MUD Monsted U'grnd 75.43 325 *iP* **P** **23 11 01.4 +0.8**
comp=Z,17nm,1.1s,mb4.9
MUD Monsted U'grnd 75.43 325 *iP* **P** **23 11 01.4 +0.8**
MUD pmax pmax
comp=Z,17nm,1.1s,mb4.9
DAVA Damuels 75.66 316⇑*iP* **P** **23 11 00.8 -1.1**
comp=Z,21nm,1.0s,mb5.0
LBTB Lobatse 76.74 240 P **P** **23 11 08.5 +0.5**
comp=Z,4.5nm,0.9s,mb4.4,baz=106,slow=5.7,SNR=5.0
MEM Membach 77.85 319 P **P** **23 11 14.2 0.0**
MEM AP pP 23 11 27.4 -0.8
WLF Walferdange 77.87 318 P **P** **23 11 14.4 0.0**
LPG La Plagne 78.01 314 *eP* **P** **23 11 14.8 -0.3**
comp=Z,34nm,0.7s,mb5.1
LPG La Plagne 78.01 314 *eP* **P** **23 11 14.8 -0.3**
LPG pmax pmax
comp=Z,17nm,0.7s,mb5.1
LPG La Plagne 78.01 314 *eP* **P** **23 11 14.8 -0.3**
comp=Z,17nm,0.7s,mb5.1
BOSA Boshof 78.40 237 P **P** **23 11 18.2 +0.9**
comp=Z,7.2nm,1.1s,mb4.5,baz=167,slow=7.7,SNR=5.6
BOSA LR LR 23 41 28.9
comp=Z,179nm,18.3s,MS4.4,baz=350,slow=32
DOU Dourbes 78.81 319 ⇑P **P** **23 11 19.8 +0.3**
DOU AP pP 23 11 35.1 +1.5
DOU XP sP 23 11 37.6 -1.4
SNF Seneffe 78.95 319 P **P** **23 11 20.2 -0.1**
SNF AP pP 23 11 33.2 -1.1
TNA Tin City 80.90 25 *eP* **P** **23 11 29.7 -1.1**
comp=Z,1.8nm,0.5s,mb4.3
DAG Danmarks Havn 81.47 348⇓*iP* **P** **23 11 23.4 -10**
comp=Z,23nm,1.2s,mb5.0
DAG Danmarks Havn 81.47 348⇓*eP* **P** **23 11 23.4 -10**
TSUM Tsumeb 81.75 248 P **P** **23 11 36.3 +0.9**
comp=Z,1.6nm,0.8s,baz=110,slow=15,SNR=2.6
ALE Alert 83.06 357 P **P** **23 11 41.0 -1.1**
comp=Z,171nm,0.8s,mb6.1,SNR=14
MAW Mawson 84.34 191 LR LR 23 41 39.8
comp=Z,341nm,18.9s,MS4.8,baz=287,slow=30
ESDC Sonseca Array 86.92 310 P **P** **23 12 01.1 -0.4**
comp=Z,2.8nm,0.8s,mb4.5,baz=57,slow=5.2,SNR=15
SUMG Summit 88.14 347 P **P** **23 12 07.6 +0.2**
TORD Torodi Ar. Bea 88.70 283 P **P** **23 12 10.6 +0.6**
comp=Z,1.4nm,0.9s,mb4.3,baz=82,slow=5.1,SNR=6.8
TORD PP PP 23 15 37.4 -1.8
comp=Z,1.5nm,1.2s,baz=53,slow=5.6,SNR=4.3
COLA College 88.95 22 *eP* **P** **23 12 11.7 +0.5**
COLA College 88.95 22 *eP* **P** **23 12 11.8 +0.6**
MCK McKinley 89.13 23 P **P** **23 12 12.0 0.0**
MCK pmax pmax
comp=Z,25nm,1.1s,mb5.5
MCK McKinley 89.13 23 P **P** **23 12 12.0 0.0**
comp=Z,25nm,1.1s,mb5.5
ILAR Eielson Array 89.35 22 P **P** **23 12 11.9 -1.2**
comp=Z,6.5nm,0.8s,mb5.0,baz=299,slow=4.3,SNR=48
ILAR PP PP 23 15 35.6 -8.8
comp=Z,1.2nm,0.9s,baz=300,slow=6.5,SNR=4.8
ILAR LR LR 23 58 51.0
comp=Z,243nm,18.7s,MS4.7,baz=174,slow=40
MTE Manteigas 89.35 311 *eP* **P** **23 12 14.6 +1.5**
MTE *e*pP pP 23 12 29.4 +2.1
MTE Manteigas 89.35 311 *eP* **P** **23 12 14.3 +1.3**
comp=Z,24nm,1.1s,mb5.4
PCBR Castelo Branco 89.47 311 *eP* **P** **23 12 14.6 +1.0**
comp=Z,16nm,1.6s,mb5.1
PCBR *e*pP pP 23 12 29.4 +1.5
PVIS Viseu 89.51 312 *e*pP pP 23 12 28.8 +0.7
PMR Palmer 90.14 25 P **P** **23 12 16.5 -0.3**
PMR *PP pP 23 12 30.9 -0.1
SLKM Skilak Lake 90.22 26 P **P** **23 12 16.8 -0.4**
SLKM *PP pP 23 12 28.8 -2.6
PTOM Tomar 90.23 311 *eP* **P** **23 12 17.3 +0.1**
comp=Z,20nm,1.1s,mb5.3
PTOM *e*pP pP 23 12 30.6 -0.8
PBEJ Beja 90.32 309 *eP* **P** **23 12 17.9 +0.3**
comp=Z,10nm,1.2s,mb5.0
PBEJ *e*pP pP 23 12 32.3 +0.5
SML Sawmill 90.36 25 *eP* **P** **23 12 18.4 +0.6**
SML *e**PP pP 23 12 32.0 0.0
SYO Syowa Base 91.02 197⇑*e*PcP PcP 23 12 26.2 +4.4
SYO Syowa Base 91.02 197⇓*e*pP pP 23 12 33.4 -1.7
INK Inuvik 91.34 16 P **P** **23 12 21.8 -0.6**
comp=Z,18nm,1.1s,mb5.3,baz=332,slow=5.4,SNR=34
INK Inuvik 91.34 16 P **P** **23 12 21.8 -0.5**
INK *PP pP 23 12 35.4 -1.2
INK pmax pmax
comp=Z,24nm,1.1s
INK Inuvik 91.34 16 P **P** **23 12 21.8 -0.6**
comp=Z,24nm,1.1s,mb5.4
INK pP pP 23 12 35.4 -1.2
RES Resolute Bay 91.40 2 P **P** **23 12 22.6 0.0**
RES *PP pP 23 12 34.5 -2.4
URZ Urewera 93.51 128 LR LR 23 58 54.2
comp=Z,387nm,18.1s,MS4.9,baz=346,slow=38
DBIC Dimbokro 96.56 279 LR LR 23 55 47.9
comp=Z,117nm,20.6s,MS4.3,baz=58,slow=35
VNDA Vanda 98.94 168 LR LR 23 53 45.5
comp=Z,264nm,18.9s,MS4.8,baz=313,slow=33
YKA Yellowknife Ar 100.67 13 P Pdif 23 13 02.8 -1.9
comp=Z,1.1nm,0.8s,baz=328,slow=4.2,SNR=24
YKA PP PP 23 17 03.1 -9.2
comp=Z,0.6nm,0.8s,baz=332,slow=6.9,SNR=3.8
YKA PKKPbc PKKPbc 23 29 16.4 -1.9
comp=Z,0.3nm,0.9s,baz=153,slow=2.9,SNR=4.5
REDW Red Top Meadow 118.74 20 *e*PKPdf PKPdf 23 18 05.3 +0.7
REDW *ep*PKPdf pPKPdf 23 18 18.1 -1.2
PDAR Pinedale Array 119.70 19 PKP PKPdf 23 18 06.5 0.0
comp=Z,2.3nm,0.9s,baz=72,slow=2.7,SNR=14
HWUT Hardware Ranch 120.04 22 *e*PKPdf PKPdf 23 18 07.3 +0.2
HWUT *ep*PKPdf pPKPdf 23 18 21.1 -0.7
MSU Marysvale 122.51 24 *e*PKIKP PKPdf 23 18 13.7 +1.9
ANMO Albuquerque 127.78 21 *i* PKIKP PKPdf 23 18 23.4 +1.5
LAZ Ladron 128.04 22 *e*PKPdf PKPdf 23 18 23.8 +1.4
LAZ *ep*PKPdf pPKPdf 23 18 36.9 -0.2
LENM Lemitar 128.31 22 *e*PKPdf PKPdf 23 18 25.0 +2.0
WVT Waverly 130.18 2 *e*PKIKP PKPdf 23 18 27.2 +0.7
JCT Junction City 133.99 16 *e*PKIKP PKPdf 23 18 34.8 +1.1
TEIG Tepich 146.00 3 *e*PKPdf PKPdf 23 18 58.4 +3.0
TEIG *ep*PKPdf pPKPdf 23 19 12.9 +2.8
TRQA Tornquist 147.66 218 *e*PKPdf PKPdf 23 19 00.8 +2.7
PLCA Paso Flores 149.93 204 PKPbc PKPbc 23 19 05.1 -1.6
comp=Z,7.6nm,1.1s,baz=202,slow=3.8,SNR=7.7
CPUP Villa Florida 150.13 241 PKPbc PKPbc 23 19 07.0 -0.3
comp=Z,1.9nm,0.7s,baz=202,slow=8.3,SNR=3.0
CPUP Villa Florida 150.13 241 *e*PKPdf PKPdf 23 19 00.5 -1.6
CPUP PKPbc PKPbc 23 19 07.0 -0.3
SDV Santo Domingo 152.44 325 *e*PKPbc PKPbc 23 19 12.8 +0.3
OTAV Otavalo 163.86 330 *e*PKPdf PKPdf 23 19 21.6 +2.1

ISCJB ***12*** *23:00:02.5±0.6, 2188S×004×6739W±008, h171km±9km, mb4.0/5, Error ellipse: s-maj=12.1km s-min=6.4km az=23.3*
IDC ***12*** *23:00:04.0±1.8, 2184S×6732W, h164km±15km, mb3.9/4, mb1 3.8/7, mb1mx3.6/16, mbtmp4.2/7, Error ellipse: s-maj=20.9km s-min=15.4km az=86.0*
NEIC ***12*** *23:00:04.3±0.9, 2188S×6723W, h168km±10km, mb4.2/4, Error ellipse: s-maj=13.7km s-min=8.1km az=89.0*
ISC 12 23:00:03.6±0.6, 2186S±004×6740W±008, h162km±9km, n24, σ1§23/29, mb4.0/5, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.00**	**239**	*eP*	**Pn**	**23 00 56.6**	**+5.2**
CEN1				*i* S	**Sn**	**23 01 34.1**	**+5.6**
CEN1				AMP		23 01 37.0	
	comp=E,694nm,0.4s						
ANCH	**Antofagasta**	**3.32**	**236**	⇑*iP*	**Pn**	**23 00 55.0**	**-0.3**
ANCH				*i* S	**Sn**	**23 01 33.1**	**-2.5**
ANCH				AMP		23 01 35.8	
	comp=E,2μm,0.3s						
CPN1	**Cerro Paranal**	**3.90**	**224**	*eP*	**Pn**	**23 01 05.1**	**+2.3**
CPN1				*i* S	**Sn**	**23 01 49.2**	**+0.3**
CPN1				AMP		23 01 53.8	
	comp=E,635nm,0.7s						
CRCH	**Chaqaral**	**5.35**	**213**	*eP*	**Pn**	**23 01 22.4**	**+0.7**
CRCH				*i* S	**Sn**	**23 02 19.9**	**-2.9**
LPAZ	**La Paz**	**5.58**	**353**	P	**Pn**	**23 01 27.7**	**+2.9**
	comp=E,4.4nm,0.3s,baz=153,slow=7.6,SNR=56						
LPAZ				S	**Sn**	**23 02 29.6**	**+1.1**
	comp=E,0.8nm,0.3s,baz=26,slow=22,SNR=3.8						
ARE	**Arequipa**	**6.61**	**324**	*eP*	**Pn**	**23 01 37.0**	**-1.5**
ARE				*e*S	**Sn**	**23 02 49.0**	**-4.0**
SIV	**San Ignacio**	**8.36**	**47**	P	**Pn**	**23 02 00.8**	**-0.9**
	comp=E,70nm,0.3s,baz=239,slow=12,SNR=682						
SIV				S	**Sn**	**23 03 24.9**	**-10**
	baz=262,slow=20,SNR=2.0						
CFAA	**Coronel Fontan**	**9.74**	**184**	P	**Pn**	**23 02 20.1**	**+0.3**
	comp=E,0.1nm,0.3s,baz=360,slow=12,SNR=5.8						
CFAA				S	**Sn**	**23 04 04.0**	**-3.8**
	comp=E,0.1nm,0.3s,baz=260,slow=22,SNR=5.6						
CPUP	**Villa Florida**	**10.22**	**118**	*e*Pn	**Pn**	**23 02 25.3**	**-1.0**
SAML	**Samuel**	**13.46**	**18**	*eP*	**Pn**	**23 03 07.0**	**-1.1**
	comp=E,51nm,2.1s						
TRQA	**Tornquist**	**16.81**	**165**	*eP*	**Pn**	**23 03 51.6**	**+2.2**
	comp=E,1.6nm,0.6s						
PLCA	**Paso Flores**	**19.00**	**187**	P	**P**	**23 04 13.6**	**+0.7**
	comp=E,0.2nm,0.3s,baz=0.1,slow=12,SNR=6.8						
BDFB	**Brasilia**	**19.36**	**75**	P	**P**	**23 04 16.5**	**-0.2**
	comp=E,1.0nm,0.3s,baz=229,slow=9.9,SNR=9.6						
OTAV	**Otavalo**	**24.46**	**332**	*eP*	**P**	**23 05 11.1**	**+3.7**
SDV	**Santo Domingo**	**30.72**	**354**	*eP*	**P**	**23 06 03.3**	**+0.1**
	comp=E,1.0nm,0.4s,mb3.9						
PMSA	**Palmer Station**	**42.96**	**178**	P	**P**	**23 07 45.7**	**-0.8**
DBIC	**Dimbokro**	**67.50**	**73**	P	**P**	**23 10 42.4**	**+0.4**
	comp=E,3.6nm,0.4s,mb4.6,baz=216,slow=7.4,SNR=25						
DBIC	**Dimbokro**	**67.50**	**73**	*eP*	**P**	**23 10 42.3**	**+0.3**
	comp=E,4.4nm,0.6s,mb4.5						
PDAR	**Pinedale Array**	**75.12**	**329**	P	**P**	**23 11 27.8**	**0.0**
	comp=E,0.2nm,0.5s,mb3.0,baz=108,slow=2.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.16**	**70**	P	**P**	**23 11 33.6**	**-0.1**
	comp=E,7.1nm,0.5s,mb4.6,baz=255,slow=5.6,SNR=126						
YKA	**Yellowknife Ar**	**91.99**	**340**	P	**P**	**23 12 52.9**	**-0.9**
	comp=E,0.6nm,0.6s,mb3.8,baz=132,slow=4.5,SNR=19						
WRA	**Warramunga Arr**	**133.34**	**209**	PKP	PKPdf	23 19 00.9	+0.6
	comp=E,0.3nm,0.4s,baz=155,slow=1.9,SNR=11						
MKAR	**Makanchi Array**	**145.08**	**37**	PKPbc	PKPbc	23 19 21.9	+0.5
	comp=E,3.0nm,0.7s,baz=330,slow=7.0,SNR=22						
SONM	**Songino Array**	**153.61**	**9**	PKPbc	PKPbc	23 19 43.3	+0.3
	comp=E,0.3nm,0.5s,baz=279,slow=1.6,SNR=7.0						
SONM				PKPab	PKPab	23 19 56.2	0.0
	comp=E,0.3nm,0.7s,baz=342,slow=4.4,SNR=2.9						

CASC 12 23:39:04.6±2.8, 1346N×9047W, h32km±7km, MD3.9, ML4.3, 7C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.71**	**1**	⇓*eP*	Pn	23 39 18.5	0.0
IXG				*e*S	Sb	23 39 28.9	+0.8
IXG				AML	AML	23 39 34.1	
	comp=N,92μm,0.4s						
SBLS	**San Blas**	**0.91**	**65**	⇑*iP*	Pn	23 39 34.8	+14
SBLS				*e*S	Sn	23 39 47.7	+15
RTR	**El Retiro**	**0.91**	**61**	⇑*iP*	Pn	23 39 35.1	+14
RTR				*e*S	Sn	23 39 51.3	+18
PCG	**Pacaya**	**0.94**	**352**	*eP*	Pn	23 39 23.4	+1.8
PCG				*e*S	Sn	23 39 34.5	+0.6
FUG	**Fuego 3**	**1.05**	**340**	⇓*eP*	Pn	23 39 23.7	+0.6
GCG	**Guatemala City**	**1.12**	**357**	*eP*	Pn	23 39 25.0	+0.9
GCG				*e*S	Sn	23 39 39.7	+1.3
BOQS	**Boqueron**	**1.19**	**76**	*eP*	Pn	23 39 38.8	+14
BOQS				*e*S	Sn	23 39 54.7	+15
LFU	**La Fuente**	**1.35**	**77**	⇑*eP*	Pn	23 39 41.6	+14
LFU				*e*S	Sn	23 39 59.1	+15
LBRS	**Las Brisas**	**1.42**	**78**	⇑*eP*	Pn	23 39 42.2	+14
LBRS				*e*S	Sn	23 40 00.0	+14
JAT	**Jato**	**1.42**	**307**	⇑*eP*	Pn	23 39 29.1	+1.0
TP2	**Tecpan 2**	**1.42**	**338**	⇓*eP*	Pn	23 39 29.1	+0.9
TP2				*e*S	Sn	23 39 47.4	+1.6
TP2				AML	AML	23 39 48.9	
	comp=E,8μm,0.3s						
MTO2	**Montecristo 2**	**1.43**	**49**	⇑*eP*	Pn	23 39 41.9	+14
MTO2				*e*S	Sn	23 40 00.8	+15
LCBS	**La Ceiba**	**1.46**	**82**	*eP*	Pn	23 39 42.5	+14
LCBS				*e*S	Sn	23 40 03.2	+16
SNVI	**San Vicente**	**1.59**	**84**	*eP*	Pn	23 39 44.5	+14
SNVI				*e*S	Sn	23 40 05.9	+16
MRL	**Marmol**	**1.77**	**25**	⇑*eP*	Pn	23 39 34.3	+1.3
MRL				AML	AML	23 40 03.7	
	comp=E,628nm,0.6s						
VSM	**San Miguel**	**2.14**	**90**	*eP*	Pn	23 39 52.6	+15
VSM				*e*S	Sn	23 40 18.7	+15
BLLM	**Bellamira**	**2.17**	**90**	⇓*eP*	Pn	23 39 52.5	+14
BLLM				*e*S	Sn	23 40 19.1	+15
CNCH	**Conchagua**	**2.57**	**94**	*eP*	Pn	23 39 57.6	+14
CNCH				*e*S	Sn	23 40 29.5	+15
CRIN	**San Cristobal**	**3.42**	**102**	*eP*	Pn	23 39 56.0	+0.4
LEON	**Leon**	**3.64**	**106**	*eP*	Pn	23 39 58.4	-0.3
LEON				*e*S	Sn	23 40 39.9	-0.6
TEL3	**Telica 3**	**3.64**	**104**	⇓*eP*	Pn	23 39 58.1	-0.6
TEL3				*e*S	Sn	23 40 41.7	+1.2
TELN	**Telica**	**3.65**	**103**	*eP*	Pn	23 39 58.2	-0.5
CNGN	**Cerro Negro**	**3.80**	**104**	*eP*	Pn	23 40 02.6	+1.8
MIRN	**Miramar**	**3.80**	**105**	*eP*	Pn	23 40 01.9	+1.0
MIRN				*e*S	Sn	23 40 48.1	+3.6
MOMJ	**Momotombo**	**3.97**	**105**	*eP*	Pn	23 40 03.2	0.0
COPN	**Copaltepe**	**3.99**	**108**	*eP*	Pn	23 40 03.7	+0.2
COPN				*e*S	Sn	23 40 48.3	-0.8
COPN				*i*		23 41 03.9	
	comp=Z,310nm,0.5s						
APYN	**Apoyeque**	**4.20**	**106**	*eP*	Pn	23 40 05.9	-0.4
XAVN	**Gruta Xavier**	**4.25**	**107**	*eP*	Pn	23 40 07.9	+0.9
XAVN				*e*S	Sn	23 40 55.4	0.0
TICN	**Ticuantepe**	**4.37**	**108**	*eP*	Pn	23 40 08.7	0.0
PRS1	**Puriscal**	**6.95**	**119**	*eP*	Pn	23 40 47.2	+3.1
LCR2	**La Lucha 2**	**7.33**	**120**	*eP*	Pn	23 40 52.6	+3.2
URSC	**Urasca**	**7.48**	**118**	*eP*	Pn	23 40 53.8	+2.4
URSC				*e*S	Sn	23 42 15.1	0.0
BUS	**Buena Vista**	**7.63**	**120**	*eP*	Pn	23 40 56.6	+3.1
BUS				*e*S	Sn	23 42 21.4	+2.5

IDC ***12*** *23:51:23.3±0.8, 2904S×17776W, h0km, mb4.5/5, mb1 4.7/5, mb1mx4.5/13, mbtmp4.5/5, MS3.9/11, Ms1 3.9/11, ms1mx3.8/22, Error ellipse: s-maj=24.5km s-min=9.5km az=119.0*
NEIC ***12*** *23:51:24.3±1.2, 2835S×17767W, h10km, mb4.7/4, Error ellipse: s-maj=34.2km s-min=17.8km az=213.0*
ISCJB ***12*** *23:51:26.9±1.6, 2855S±03×1778W±02, h33km, mb4.5/8, MS3.9/8, Error ellipse: s-maj=43.9km s-min=18.6km az=71.7*
ISC 12 23:51:28.8±1.6, 285S±03×1777W±02, h35km, n41, σ1§12/13, mb4.5/8, MS3.9/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.81**	**193**	Pg	**Pn**	**23 51 28.2**	**-15**
	17μm,0.3s,baz=52,slow=18,SNR=13						
DZM	**Mont Dzumac**	**15.68**	**290**	LR	LR	23 59 48.3	
	comp=Z,764nm,21.1s,baz=34,slow=32						
RPZ	**Rata Peaks**	**17.70**	**208**	LR	LR	00 01 24.0	
	comp=Z,371nm,21.0s,baz=20,slow=35						
RAR	**Rarotonga**	**17.80**	**70**	LR	LR	00 00 38.7	
	comp=Z,398nm,21.0s,baz=283,slow=31						
TBI	**Tubuai**	**25.88**	**85**	*e*LQ		00 02 19.6	
	374nm,26.0s						
TBI				*e*LR	LR	00 03 25.8	
	457nm,29.5s						
TBI	**Tubuai**	**25.88**	**85**	*e*T		00 23 58.0	
	95nm,0.3s						
PAE	**Paea**	**27.96**	**74**	*e*T		00 26 44.7	
	294nm,0.3s						
PPT	**Papeete**	**28.00**	**73**	*e*LQ		00 03 17.4	
	395nm,24.5s						
PPT				*e*LR	LR	00 04 28.9	
	370nm,25.2s						
PPT	**Papeete**	**28.00**	**73**	*e*T		00 26 48.4	
	91nm,0.4s						
PPT	**Papeete**	**28.00**	**73**	LR	LR	00 05 44.9	
	comp=Z,178nm,20.3s,MS3.6,baz=218,slow=30						
TVO	**Taravao**	**28.18**	**74**	*e*T		00 27 01.0	
	27nm,0.2s						
HNR	**Honiara**	**28.28**	**308**	LR	LR	00 06 53.1	
	comp=Z,154nm,21.9s,MS3.6,baz=177,slow=32						
MEH	**Mehetia**	**29.14**	**75**	*e*T		00 28 12.0	
	52nm,0.3s						
PMOR	**Pomariorio Ree**	**30.66**	**70**	*e*T		00 30 10.2	
	21nm,0.4s						
VAH	**Vaihoa**	**30.77**	**71**	*e*T		00 30 17.1	
	82nm,0.2s						
CTA	**Charters Tower**	**33.79**	**276**	P	**P**	**23 58 08.6**	**+1.3**
	12nm,1.0s,mb4.8,baz=93,slow=9.9,SNR=6.6						
CTA				LR	LR	00 09 54.5	
	comp=Z,388nm,20.6s,MS4.1,baz=48,slow=33						
CTAO	**Charters Tower**	**33.79**	**276**	*eP*	**P**	**23 58 09.6**	**+2.3**
	3.6nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**35.21**	**254**	*eP*	**P**	**23 58 17.7**	**-1.8**
	4.5nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**35.21**	**254**	P	**P**	**23 58 17.9**	**-1.7**
	8.7nm,1.0s,mb4.7,baz=94,slow=9.2,SNR=7.6						
STKA				LR	LR	00 12 25.8	
	comp=Z,197nm,18.2s,MS3.9,baz=27,slow=36						
PMG	**Port Moresby**	**38.05**	**293**	LR	LR	00 11 51.1	
	comp=Z,248nm,18.4s,MS4.0,baz=23,slow=32						
PMG	**Port Moresby**	**38.05**	**293**	*eP*	**P**	**23 58 43.2**	**-0.6**
	15nm,0.7s,mb4.8						
RKT	**Rikitea**	**38.70**	**92**	*e*LR	LR	00 09 19.0	
	294nm,25.5s						
RKT	**Rikitea**	**38.70**	**92**	*e*T		00 39 50.3	
	5.5nm,0.3s						
ASAR	**Alice Springs**	**43.50**	**265**	P	**P**	**23 59 27.8**	**-0.9**
	3.6nm,1.1s,mb4.0,baz=108,slow=7.2,SNR=9.9						
WRAB	**Tennant Creek**	**44.31**	**270**	*eP*	**P**	**23 59 35.3**	**+0.1**
	18nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**44.32**	**270**	P	**P**	**23 59 34.8**	**-0.4**
	3.7nm,0.6s,mb4.3,baz=109,slow=8.0,SNR=17						
VNDA	**Vanda**	**50.04**	**186**	LR	LR	00 17 44.6	
	comp=Z,103nm,18.1s,MS3.9,baz=177,slow=32						
VNDA	**Vanda**	**50.04**	**186**	*eP*	**P**	**00 00 19.8**	**0.0**
	0.4nm,0.5s,mb3.7						
MBWA	**Marble Bar**	**56.71**	**262**	P	**P**	**00 01 11.4**	**+2.6**
CASY	**Casey**	**56.97**	**207**	P	**P**	**00 01 11.2**	**+0.6**
PLCA	**Paso Flores**	**83.64**	**133**	P	**P**	**00 03 53.3**	**-0.3**
	7.4nm,1.0s,mb4.8,baz=219,slow=6.7,SNR=9.1						
PLCA				LR	LR	00 30 14.0	
	comp=Z,91nm,21.4s,MS4.1,baz=182,slow=28						
PSI	**Prapat**	**85.50**	**276**	LR	LR	00 41 26.1	
	comp=Z,68nm,19.3s,MS4.1,baz=289,slow=35						
MKAR	**Makanchi Array**	**116.72**	**311**	PKP	PKPdf	00 10 08.4	-0.8
	0.1nm,0.3s,baz=59,slow=2.4,SNR=3.1						
FINES	**FINESS Array B**	**143.41**	**341**	PKP	PKPdf	00 10 57.8	-1.6
	1.3nm,0.7s,baz=354,slow=3.8,SNR=4.3						
MSL	**Mosul**	**144.87**	**293**	*ex*	x	00 11 05.5	
NB2	**NORSAR Subarra**	**146.88**	**352**	PKPa		00 11 11.7	
	comp=Z,2.6nm,0.9s,baz=22,slow=3.5						
NOA	**NORSAR Array B**	**146.88**	**352**	PKPbc	PKPbc	00 11 08.2	+0.9
	comp=Z,5.5nm,1.1s,baz=15,slow=4.4,SNR=4.1						
AKASG	**Malin Array Be**	**149.89**	**325**	PKPbc	PKPbc	00 11 15.7	+0.5
	comp=Z,4.4nm,0.8s,baz=47,slow=2.2,SNR=13						
AKASG				PKPab	PKPab	00 11 22.1	+1.3
	comp=Z,2.8nm,0.8s,baz=48,slow=2.2,SNR=4.2						
BRTR	**Keskin Array B**	**151.85**	**302**	PKPbc	PKPbc	00 11 19.5	-0.3
	comp=Z,1.5nm,1.0s,baz=64,slow=2.9,SNR=6.7						
BRTR				PKPab	PKPab	00 11 29.8	+0.9
	comp=Z,1.1nm,0.9s,baz=67,slow=3.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**164.75**	**178**	PKP	PKPdf	00 11 28.4	-0.5
	comp=Z,1.8nm,1.1s,baz=192,slow=1.6,SNR=5.4						
TORD				PKPab	PKPab	00 12 20.9	-3.8
	comp=Z,3.4nm,1.1s,baz=177,slow=3.4,SNR=9.8						
ESDC	**Sonseca Array**	**167.68**	**23**	PKP	PKPdf	00 11 31.2	+0.1
	comp=Z,0.1nm,0.5s,baz=330,slow=5.0,SNR=4.8						
ESDC				PKPab	PKPab	00 12 41.6	+4.1
	comp=Z,0.3nm,0.7s,baz=334,slow=8.6,SNR=3.4						

ISCJB ***13*** *00:11:48.6±0.8, 1920S×007×6755W±009, h216km±8km, mb3.8/7, Error ellipse: s-maj=14.4km s-min=10.3km az=114.1*
IDC ***13*** *00:11:49.5±1.7, 1914S×6742W, h210km±11km, mb3.7/6, mb1 3.8/9, mb1mx3.6/17, mbtmp4.1/9, Error ellipse: s-maj=27.5km s-min=14.3km az=41.0*
NEIC ***13*** *00:11:49.3±0.9, 1920S×6754W, h196km±13km, mb3.9/2, Error ellipse: s-maj=14.2km s-min=10.8km az=63.0*
ISC 13 00:11:49.6±0.8, 1921S±007×6755W±009, h207km±8km, n20, σ1§17/24, mb3.8/7, 1C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.96**	**349**	P	**Pn**	**00 12 40.5**	**+1.4**
	12nm,0.3s,baz=166,slow=7.0,SNR=266						
LPAZ				S	**Sn**	**00 13 18.5**	**+0.6**
	2.7nm,0.3s,baz=257,slow=24,SNR=15						
LPAZ	**La Paz**	**2.96**	**349**	*e*Pn	**Pn**	**00 12 40.5**	**+1.4**
LPAZ				*e*S	**Sn**	**00 13 18.3**	**+0.4**
ARE	**Arequipa**	**4.64**	**305**	⇑*iP*	**Pn**	**00 12 58.6**	**-1.0**
ARE				*e*S	**Sn**	**00 13 51.0**	**-3.9**
SIV	**San Ignacio**	**6.96**	**64**	P	**Pn**	**00 13 28.5**	**-0.8**
	3.6nm,0.3s,baz=256,slow=11,SNR=64						
SIV				S	**Sn**	**00 14 36.2**	**-12**
	baz=251,slow=17,SNR=3.0						
SAML	**Samuel**	**11.04**	**23**	*e

WRAB				*e*Sn	**Sn**	**00 35 37.4**	**-6.8**
	14nm,0.5s						
WRA	**Warramunga Arr**	**13.74 166**		P	**Pn**	**00 33 09.9**	**-1.3**
	2.5nm,0.3s,baz=351,slow=13,SNR=45						
WRA				S	**Sn**	**00 35 38.8**	**-5.5**
	7.2nm,0.3s,baz=331,slow=24,SNR=10.0						
WB2	**Warramunga Arr**	**13.75 166**		*e*P	**Pn**	**00 33 10.3**	**-1.0**
WB2				*e*S	**Sn**	**00 35 36.7**	**-7.7**
AS31	**Alice Springs**	**17.27 170**		*e*P	**Pn**	**00 33 58.4**	**+4.3**
AS31				*e*S	**S**	**00 37 01.8**	**-0.9**
ASAR	**Alice Springs**	**17.27 170**		P	**Pn**	**00 33 57.1**	**+3.1**
	1.1nm,0.3s,baz=353,slow=11,SNR=60						
ASAR				S	**S**	**00 37 02.8**	**+0.1**
	1.7nm,0.3s,baz=352,slow=25,SNR=12						
ASPA	**Alice Springs**	**17.27 170**		*e*P	**Pn**	**00 33 58.4**	**+4.3**
ASPA				*e*S	**S**	**00 37 01.8**	**-0.9**
MBWA	**Marble Bar**	**18.02 215**		*e*P	**Pn**	**00 34 04.5**	**+1.7**
	4.1nm,0.4s						
KKM	**Kota Kinabalu**	**19.18 310**		*e*P	**P**	**00 34 10.6**	**-2.7**
CTA	**Charters Tower**	**20.17 133**		P	**P**	**00 34 30.1**	**+6.0**
	13nm,1.1s,baz=303,slow=13,SNR=5.4						
CTAO	**Charters Tower**	**20.17 133**		*e*P	**P**	**00 34 25.2**	**+1.2**
STKA	**Stephens Creek**	**27.14 159**		P	**P**	**00 35 32.9**	**+3.1**
	1.5nm,0.5s,mb3.9,baz=333,slow=9.6,SNR=4.4						
NWAO	**Narrogin (SRO)**	**29.09 204**		P	**P**	**00 35 51.8**	**+4.7**
	2.3nm,0.4s,mb4.3,baz=58,slow=6.3,SNR=3.3						
KULM	**Kulim**	**32.28 291**		*e*P	**P**	**00 36 16.3**	**+1.2**
PSI	**Prapat**	**33.12 285**		P	**P**	**00 36 24.1**	**+1.8**
	9.5nm,0.8s,mb4.6,baz=92,slow=1.6,SNR=12						
MJAR	**Matsushiro Arr**	**43.44**	**9**	P	**P**	**00 37 45.6**	**-2.7**
	0.7nm,0.4s,mb3.7,baz=188,slow=9.7,SNR=4.9						
JIRN	**Jiri**	**54.88 310**		*e*P	**P**	**00 39 15.0**	**-0.1**
	7.3nm,0.3s,mb5.0						
GUN	**Gumba**	**55.24 311**		*e*P	**P**	**00 39 17.5**	**-0.2**
	36nm,0.7s,mb5.2						
PKI	**Pulchoki**	**55.42 310**		*e*P	**P**	**00 39 18.5**	**-0.5**
KKN	**Kakani**	**55.63 310**		*e*P	**P**	**00 39 19.6**	**-0.9**
	14nm,0.5s,mb5.0						
DMN	**Daman**	**55.67 310**		*e*P	**P**	**00 39 20.7**	**-0.1**
	8.3nm,0.4s,mb5.0						
GKN	**Gorkha**	**56.23 310**		*e*P	**P**	**00 39 24.4**	**-0.3**
	21nm,0.3s,mb5.4						
KOLN	**Koldanda**	**56.91 309**		*e*P	**P**	**00 39 29.3**	**-0.2**
	9.9nm,0.5s,mb4.9						
SONM	**Songino Array**	**58.27 341**		P	**P**	**00 39 38.9**	**-0.1**
	0.4nm,0.4s,mb3.6,baz=162,slow=6.4,SNR=10						
MKAR	**Makanchi Array**	**68.28 326**		P	**P**	**00 40 45.2**	**+0.5**
	6.5nm,0.4s,mb4.8,baz=104,slow=6.1,SNR=108						
MKAR	**Makanchi Array**	**68.28 326**		P	**P**	**00 40 45.2**	**+0.5**
AAK	**Ala-Archa**	**70.70 319**		*e*P	**P**	**00 41 00.3**	**+0.8**
	1.7nm,0.3s,mb4.2						
ZAL	**Zalesovo**	**71.53 333**		P	**P**	**00 41 04.5**	**0.0**
	0.6nm,0.3s,mb3.8,baz=346,slow=14,SNR=3.3						
BRVK	**Borovoye**	**78.17 328**		*e*P	**P**	**00 41 43.0**	**+0.4**
	0.7nm,0.5s,mb3.5						
ZRNK	**Zerenda**	**78.81 327**		*e*P	**P**	**00 41 46.1**	**+0.1**
	1.3nm,0.3s,mb4.0						
LPAZ	**La Paz**	**150.59 141**		*e*PKP	PKPab	00 49 40.2	-0.8

WEL 13 00:31:21.4±0.2,4068S×17447E,h79km±2km,ML3.5/13, 1C-2D,Error ellipse: s-maj=1.2km s-min=1.0km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.38 118**		PN	Pn	00 31 34.0	-0.1
KIW				SN	Sn	00 31 42.9	-0.6
DUWZ	**D'Urville Isla**	**0.43 253**		PN	Pn	00 31 34.0	-0.5
DUWZ				SN	Sn	00 31 43.6	-0.5
TCW	**Tory Channel**	**0.55 195**		PN	Pn	00 31 35.7	+0.2
TCW				SN	Sn	00 31 45.7	-0.2
MRW	**Makara Radio**	**0.58 162**		PN	Pn	00 31 35.8	+0.1
MRW				SN	Sn	00 31 46.1	-0.2
WEL	**Wellington**	**0.65 159**		PN	Pn	00 31 36.5	+0.1
SNZO	**South Karori**	**0.65 164**		PN	Pn	00 31 36.5	0.0
SNZO				SN	Sn	00 31 47.0	-0.7
BHW	**Baring Head**	**0.79 157**		PN	Pn	00 31 37.8	-0.2
BHW				SN	Sn	00 31 49.1	-1.1
MRZ	**Mangatainoka R**	**0.85 89**		PN	Pn	00 31 38.2	-0.4
MRZ				SN	Sn	00 31 50.3	-1.1
TUWZ	**Tuamarina**	**0.85 208**		PN	Pn	00 31 38.7	+0.1
MTW	**Mount Morrison**	**0.92 122**		PN	Pn	00 31 39.2	-0.2
NNZ	**Nelson**	**0.98 237**		PN	Pn	00 31 39.6	-0.6
NNZ				SN	Sn	00 31 53.9	-0.3
WAZ	**Wanganui**	**1.00 23**		PN	Pn	00 31 40.8	+0.4
PAWZ	**Paruwai Farm**	**1.01 134**		PN	Pn	00 31 40.4	-0.1
BSWZ	**Blackbirch Sta**	**1.12 203**		PN	Pn	00 31 41.9	0.0
TSZ	**Takapari Road**	**1.30 62**		PN	Pn	00 31 43.3	-0.7
BFZ	**Birch Farm**	**1.35 91**		PN	Pn	00 31 44.1	-0.6
QRZ	**Quartz Range**	**1.48 264**		⇓PN	Pn	00 31 45.5	-0.9
PKE	**Pukeiti**	**1.53 346**		PN	Pn	00 31 47.0	0.0
VRZ	**Vera Road**	**1.57 8**		⇑PN	Pn	00 31 47.8	+0.2
THZ	**Tophouse**	**1.60 227**		PN	Pn	00 31 47.8	-0.2
WNVZ	**Wahianoa**	**1.61 33**		PN	Pn	00 31 48.0	-0.1
MOVZ	**Moawhango**	**1.61 38**		PN	Pn	00 31 47.5	-0.6
TRVZ	**Turoa**	**1.61 31**		PN	Pn	00 31 48.0	-0.1
FWVZ	**Far West T-bar**	**1.65 31**		PN	Pn	00 31 48.5	-0.1
TUVZ	**Tukino**	**1.68 33**		PN	Pn	00 31 49.1	+0.1
KHZ	**Kahutara**	**1.87 202**		⇓PN	Pn	00 31 51.1	-0.4
PXZ	**Pawanui**	**1.94 71**		PN	Pn	00 31 51.0	-1.5
BKZ	**Black Stump Fm**	**2.17 47**		PN	Pn	00 31 54.1	-1.4
HIZ	**Hauiti**	**2.18 8**		PN	Pn	00 31 55.7	0.0
DSZ	**Denniston Nort**	**2.27 241**		PN	Pn	00 31 55.8	-1.2
LTZ	**Lake Taylor**	**2.67 217**		PN	Pn	00 32 00.9	-1.3
URZ	**Urewera**	**3.17 41**		PN	Pn	00 32 06.0	-3.0
MOZ	**McQueen's Vall**	**3.31 203**		PN	Pn	00 32 08.1	-2.8
WVZ	**Waitaha Valley**	**3.67 228**		*e*PN	Pn	00 32 13.9	-1.9

IDC 13 00:36:41.6±72.0,1814S×17721E,h0km,mb4.5/3, mb1 4.7/3,mb1mx4.1/12,mbtmp4.5/3,1D,Error ellipse: s-maj=1272.0km s-min=146.4km az=77.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.89 240**		P	P	00 43 34.7	0.0
	2.4nm,0.7s,baz=76,slow=11,SNR=4.4						
WB2	**Warramunga Arr**	**40.48 260**		*e*P	P	00 44 22.3	+0.3
WRA	**Warramunga Arr**	**40.49 260**		P	P	00 44 22.3	+0.2
	1.7nm,0.5s,baz=94,slow=7.8,SNR=23						
ASAR	**Alice Springs**	**40.71 255**		P	P	00 44 24.5	+0.5
	16nm,0.6s,baz=88,slow=8.2,SNR=117						
ASPA	**Alice Springs**	**40.72 255**		⇓*i*P	P	00 44 24.5	+0.5

*ISCJB **13** 00:41:37.2±2.6,290S±0.1×1780W±0.1,h4km±19km, mb4.1/7,MS3.7/3,Error ellipse: s-maj=26.7km s-min=17.9km az=105.9*
*IDC **13** 00:41:37.0±1.0,2899S×17787W,h0km,mb4.1/6, mb1 4.3/6,mb1mx4.2/13,mbtmp4.1/6,MS3.8/4,Ms1 3.7/4, ms1mx3.4/15,Error ellipse: s-maj=24.2km s-min=11.7km az=90.0*
*NEIC **13** 00:41:38.6±1.6,2909S×17790W,h8km±11km,mb4.1/2, Error ellipse: s-maj=20.2km s-min=12.5km az=144.0*

ISC 13 00:41:38.4±2.6,291S±01×1779W±01,h3km±19km,n27, σ0°27/9,mb4.1/7,MS3.7/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.19 178**		Pg	**Pg**	**00 41 42.0**	**0.0**
	15μm,0.3s,baz=80,slow=16,SNR=30						
DZM	**Mont Dzumac**	**15.72 293**		LR	LR	00 50 11.6	
	comp=Z,336nm,19.7s,baz=51,slow=33						
AFI	**Afiamalu**	**16.12 22**		*e*P	**Pn**	**00 45 26.1**	**0.0**
	12nm,0.8s						
TBI	**Tubuai**	**26.13 84**		*e*LR	LR	00 53 41.8	
	214nm,26.8s						
TBI	**Tubuai**	**26.13 84**		*e*T		01 14 12.6	
	66nm,0.3s						
PAE	**Paea**	**28.32 73**		*e*T		01 16 59.2	
	81nm,0.2s						
PPT	**Papeete**	**28.36 72**		*e*LR	LR	00 54 39.6	
	176nm,25.2s						
PPT	**Papeete**	**28.36 72**		*e*T		01 17 03.0	
	26nm,0.3s						
PPT	**Papeete**	**28.36 72**		LR	LR	00 55 21.8	
	comp=Z,150nm,19.5s,MS3.6,baz=214,slow=29						
TVO	**Taravao**	**28.53 73**		*e*T		01 17 15.5	
	31nm,0.3s						
PMOR	**Pomariorio Ree**	**31.05 70**		*e*T		01 20 24.8	
	14nm,0.4s						
VAH	**Vaihoa**	**31.15 70**		*e*T		01 20 31.7	
	43nm,0.2s						
CTA	**Charters Tower**	**33.67 277**		P	**P**	**00 48 20.7**	**+0.1**
	11nm,1.0s,mb4.7,baz=90,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**34.86 255**		P	**P**	**00 48 31.1**	**+0.2**
	2.6nm,0.7s,mb4.2,baz=131,slow=4.6,SNR=4.7						
STKA				LR	LR	01 01 19.4	
	comp=Z,114nm,21.2s,MS3.6,baz=24,slow=34						
RKT	**Rikitea**	**38.87 91**		*e*LR	LR	00 59 35.9	
	124nm,24.2s						
ASAR	**Alice Springs**	**43.26 265**		P	**P**	**00 49 40.5**	**-0.7**
	0.6nm,0.6s,mb3.5,baz=105,slow=7.5,SNR=8.0						
WRAB	**Tennant Creek**	**44.12 271**		*e*P	**P**	**00 49 48.5**	**+0.4**
	1.6nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**44.13 271**		P	**P**	**00 49 48.1**	**0.0**
	1.7nm,0.7s,mb3.9,baz=110,slow=7.9,SNR=12						
GUMO	**Guam**	**55.58 315**		LR	LR	01 09 40.2	
	comp=Z,98nm,20.1s,MS3.9,baz=241,slow=30						
PLCA	**Paso Flores**	**83.37 133**		P	**P**	**00 54 07.1**	**+0.1**
	3.5nm,0.9s,mb4.4,baz=232,slow=7.0,SNR=4.8						
NVAR	**Mina Array Bea**	**87.22 43**		P	**P**	**00 54 26.1**	**-0.1**
	0.5nm,0.7s,mb3.9,baz=227,slow=12,SNR=4.7						
FINES	**FINESS Array B**	**143.91 341**		PKP	PKPdf	01 01 10.8	-4.5
	3.2nm,1.1s,baz=56,slow=5.5,SNR=5.2						
FINES	**FINESS Array B**	**143.91 341**		PKP	PKPdf	01 01 10.8	-4.5
AKASG	**Malin Array Be**	**150.27 324**		PKPbc	PKPbc	01 01 29.3	-1.8
	1.1nm,0.5s,baz=45,slow=2.6,SNR=9.6						
AKASG	**Malin Array Be**	**150.27 324**		PKPbc	PKPbc	01 01 29.3	-1.8
BRTR	**Keskin Array B**	**152.00 301**		PKPbc	PKPbc	01 01 33.0	-2.1
	0.4nm,0.6s,baz=131,slow=5.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**164.16 179**		PKPab	PKPab	01 02 35.1	-1.7
	1.3nm,1.0s,baz=179,slow=3.4,SNR=5.3						

IDC 13 00:49:51.0±65.0,1788S×17822E,h0km,mb4.4/3, mb1 4.6/3,mb1mx4.0/12,mbtmp4.4/3,Error ellipse: s-maj=1164.0km s-min=136.8km az=77.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.85 240**		P	P	00 56 52.7	+0.3
	2.7nm,0.5s,baz=92,slow=8.6,SNR=11						
WB2	**Warramunga Arr**	**41.47 260**		*e*P	P	00 57 39.7	+0.1
WRA	**Warramunga Arr**	**41.48 260**		P	P	00 57 39.8	+0.1
	1.3nm,0.5s,baz=95,slow=7.8,SNR=53						
ASAR	**Alice Springs**	**41.71 254**		P	P	00 57 42.0	+0.5
	8.7nm,0.4s,baz=88,slow=8.1,SNR=158						
ASPA	**Alice Springs**	**41.72 254**		*e*P	P	00 57 42.0	+0.4

*ISCJB **13** 01:44:22.6±1.4,3756S±008×1797E±0.1,h40km±14km, mb3.2/2,Error ellipse: s-maj=15.0km s-min=13.6km az=177.7*
*WEL **13** 01:44:24.0±0.4,3747S×17947E,h5km,ML4.1/11,Error ellipse: s-maj=3.3km s-min=3.2km az=90.0*
*NEIC **13** 01:44:27.9,3764S×17926E,h12km,ML4.1(WEL),After WEL.*
*IDC **13** 01:44:30.5±4.9,3820S×17943E,h75km±35km,mb3.0/2, mb1 3.4/3,mb1mx3.3/12,mbtmp3.5/3,ML3.2/1,Error ellipse: s-maj=39.6km s-min=33.4km az=59.0*

ISC 13 01:44:23.3±2.0,3754S±007×17961E±009,h20km±16km, n43,σ0°99/51,mb3.2/2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.04 268**		P*	**Pb**	**01 44 41.7**	**-0.9**
MXZ				S*	**Sb**	**01 44 53.9**	**-1.8**
MXZ	**Matakaoa Point**	**1.04 268**		P	**Pb**	**01 44 41.7**	**-0.9**
MXZ				S	**Sb**	**01 44 53.9**	**-1.8**
PUZ	**Puketiti**	**1.20 243**		P*	**Pb**	**01 44 45.9**	**+0.5**
PUZ				S*	**Sb**	**01 45 00.9**	**+0.5**
PUZ	**Puketiti**	**1.20 243**		P	**Pn**	**01 44 45.9**	**+0.9**
PUZ				S	**Sb**	**01 45 00.9**	**+0.5**
MWZ	**Matawai**	**1.83 244**		PN	**Pn**	**01 44 54.0**	**+0.4**
MWZ				SN	**Sn**	**01 45 16.7**	**+0.5**
MWZ	**Matawai**	**1.83 244**		P	**Pn**	**01 44 54.1**	**+0.5**
MWZ				S	**Sn**	**01 45 11.7**	**-4.5**
WIZ	**White Island**	**1.92 270**		PN	**Pn**	**01 44 55.1**	**+0.1**
WIZ	**White Island**	**1.92 270**		P	**Pn**	**01 44 55.4**	**+0.4**
URZ	**Urewera**	**2.10 249**		P	**Pn**	**01 44 58.4**	**+0.9**
	38nm,0.3s,baz=68,slow=3.7,SNR=66						
URZ				S	**Sn**	**01 45 22.9**	**-0.1**
	32nm,0.3s,baz=231,slow=21,SNR=26						
URZ	**Urewera**	**2.10 249**		PN	**Pn**	**01 44 58.4**	**+0.9**
URZ				SN	**Sn**	**01 45 23.9**	**+0.9**
URZ	**Urewera**	**2.10 249**		P	**Pn**	**01 44 58.1**	**+0.7**
KNZ	**Kokohu**	**2.12 225**		PN	**Pn**	**01 44 58.7**	**+1.0**
KNZ	**Kokohu**	**2.12 225**		P	**Pn**	**01 44 58.7**	**+1.0**
TAZ	**Tarawera**	**2.55 253**		PN	**Pn**	**01 45 04.8**	**+1.2**
TGRZ	**Tauranga**	**2.67 265**		PN	**Pn**	**01 45 05.1**	**0.0**
TGRZ	**Tauranga**	**2.67 265**		P	**Pn**	**01 45 05.1**	**0.0**
PATZ	**Paeroa**	**2.78 251**		P	**Pn**	**01 45 07.3**	**+0.6**
BKZ	**Black Stump Fm**	**2.94 235**		PN	**Pn**	**01 45 09.8**	**+0.8**
BKZ	**Black Stump Fm**	**2.94 235**		P	**Pn**	**01 45 09.8**	**+0.9**
BKZ				S	**Sn**	**01 45 43.1**	**-0.6**
KUZ	**Kuaotunu**	**3.21 283**		PN	**Pn**	**01 45 11.2**	**-1.4**
KUZ	**Kuaotunu**	**3.21 283**		*e*P	**Pn**	**01 45 11.4**	**-1.2**
PXZ	**Pawanui**	**3.29 220**		PN	**Pn**	**01 45 13.8**	**+0.1**
OTVZ	**Oturere**	**3.50 241**		PN	**Pn**	**01 45 17.2**	**+0.5**
WTVZ	**West Tongariro**	**3.53 242**		PN	**Pn**	**01 45 17.7**	**+0.7**
WTVZ	**West Tongariro**	**3.53 242**		P	**Pn**	**01 45 17.7**	**+0.6**
NGZ	**Ngauruhoe**	**3.55 241**		P	**Pn**	**01 45 17.8**	**+0.5**
TUVZ	**Tukino**	**3.56 240**		P	**Pn**	**01 45 18.1**	**+0.7**
MOVZ	**Moawhango**	**3.56 237**		P	**Pn**	**01 45 18.2**	**+0.8**
FWVZ	**Far West T-bar**	**3.62 240**		*e*P	**Pn**	**01 45 19.1**	**+0.8**
WNVZ	**Wahianoa**	**3.62 239**		P	**Pn**	**01 45 18.7**	**+0.4**
TSZ	**Takapari Road**	**3.80 227**		P	**Pn**	**01 45 20.2**	**-0.6**
BFZ	**Birch Farm**	**4.09 219**		*e*P	**Pn**	**01 45 23.8**	**-0.9**
WAZ	**Wanganui**	**4.24 237**		*e*P	**Pn**	**01 45 28.3**	**+1.4**
MRZ	**Mangatainoka R**	**4.42 224**		P	**Pn**	**01 45 28.1**	**-1.2**
WCZ	**Waipu Caves**	**4.52 289**		*e*P	**Pn**	**01 45 30.6**	**0.0**
MTW	**Mount Morrison**	**4.82 220**		P	**Pn**	**01 45 33.1**	**-1.6**
CAW	**Cannon Point**	**5.01 223**		P	**Pn**	**01 45 35.8**	**-1.6**
THZ	**Tophouse**	**6.68 229**		*e*P	**Pn**	**01 45 57.8**	**-2.5**
RPZ	**Rata Peaks**	**8.96 224**		P	**Pn**	**01 46 28.8**	**-2.9**
	0.3nm,0.3s,baz=20,slow=18,SNR=2.7						
RPZ				S	**Sn**	**01 48 02.3**	**-10**
	3.1nm,0.3s,baz=139,slow=22,SNR=13						
ASAR	**Alice Springs**	**41.31 276**		P	**P**	**01 52 07.7**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=123,slow=7.9,SNR=3.0						
WRA	**Warramunga Arr**	**42.95 281**		P	**P**	**01 52 20.4**	**-0.5**
	0.2nm,0.3s,mb3.3,baz=120,slow=7.9,SNR=10						
ARCES	**ARCESS Array B**	**145.03 344**		PKPbc	PKPbc	02 03 59.1	+0.5
	5.0nm,0.9s,baz=44,slow=2.7,SNR=6.5						
FINES	**FINESS Array B**	**150.93 334**		PKPbc	PKPbc	02 04 16.4	+1.8
	1.1nm,0.9s,baz=61,slow=5.5,SNR=4.5						

*IDC **13** 01:52:27.9±2.0,680S×12957E,h0km,mb4.2/1,mb1 4.3/3, mb1mx3.9/14,mbtmp4.1/3,ML4.3/2,Error ellipse: s-maj=110.9km s-min=31.0km az=68.0*
*NEIC **13** 01:52:32.9±0.6,678S×12966E,h35km,mb4.2/3,Error ellipse: s-maj=19.1km s-min=8.5km az=67.0*
*ISCJB **13** 01:52:41.6±2.0,732S±008×1294E±0.1,h147km±22km, mb3.9/4,Error ellipse: s-maj=18.1km s-min=13.6km az=155.4*

ISC 13 01:52:42.1±3.2,74S±02×1294E±01,h132km±35km,n15, σ1°38/20,mb3.9/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.10 151**		*e*P	**Pn**	**01 54 11.3**	**+1.4**
	31nm,0.4s						
KAKA				*e*S	**Sn**	**01 55 16.5**	**-2.0**
FITZ	**Fitzroy Crossi**	**11.30 199**		*e*P	**Pn**	**01 55 21.9**	**+2.2**
	7.8nm,0.6s						
FITZ				*e*S	**Sn**	**01 57 22.8**	**-1.5**
WRAB	**Tennant Creek**	**13.39 160**		*e*Pn	**Pn**	**01 55 46.6**	**-0.3**
	6.2nm,0.4s						
WRA	**Warramunga Arr**	**13.39 160**		**Pn**	**Pn**	**01 55 45.5**	**-1.4**
	1.5nm,0.3s,baz=340,slow=13,SNR=58						
WRA				Sn	**Sn**	**01 58 08.2**	**-6.6**
	2.6nm,0.3s,baz=336,slow=22,SNR=13						
WB2	**Warramunga Arr**	**13.40 160**		*e*P	**Pn**	**01 55 46.0**	**-1.0**
WB2				*e*S	**Sn**	**01 58 08.1**	**-6.7**
AS31	**Alice Springs**	**16.78 166**		*e*P	**Pn**	**01 56 31.6**	**+2.4**
ASAR	**Alice Springs**	**16.78 166**		Pn	**Pn**	**01 56 31.1**	**+1.9**
	0.8nm,0.3s,baz=353,slow=10.0,SNR=40						
ASAR				Sn	**Sn**	**01 59 30.8**	**-5.4**
	0.6nm,0.3s,baz=350,slow=27,SNR=6.4						
ASPA	**Alice Springs**	**16.78 166**		*e*P	**Pn**	**01 56 31.6**	**+2.4**
STKA	**Stephens Creek**	**26.91 157**		*e*P	**P**	**01 58 15.4**	**+4.6**
HNR	**Honiara**	**30.26 96**		P	**P**	**01 58 40.3**	**-0.2**
KULM	**Kulim**	**31.34 293**		*e*P	**P**	**01 58 49.8**	**-0.2**
TAU	**Tasmania Unive**	**38.76 159**		*e*P	**P**	**01 59 59.1**	**+5.5**
	19nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**68.21 327**		P	**P**	**02 03 28.0**	**-0.3**
	1.1nm,0.4s,mb4.0,baz=119,slow=5.1,SNR=20						
KURK	**Kurchatov**	**72.52 329**		*e*P	**P**	**02 03 54.0**	**-0.6**
	0.3nm,0.4s,mb3.4						
ZRNK	**Zerenda**	**78.75 328**		*e*P	**P**	**02 04 29.2**	**-0.8**
	0.5nm,0.3s,mb3.6						

MEX 13 02:23:16.9±0.8,1686N×9585W,h25km±22km,MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.87 285**		*e*P	Pb	02 23 30.0	-3.3
OXX				*i*S	Sb	02 23 42.5	-2.0
VHO	**Vista Hermosa**	**0.87 284**		*i*P	Pb	02 23 30.5	-2.9
VHO				*i*S	Sb	02 23 42.1	-2.5
CMIG	**Matias Romero**	**0.95 76**		*i*P	Pn	02 23 31.6	-3.0
CMIG				*i*S	Sb	02 23 44.1	-2.7
HUIG	**Huatulco**	**1.12 193**		*i*P	Pn	02 23 34.0	-3.0
HUIG				*i*S	Sn	02 23 48.0	-3.5
PNIG	**Pinotepa**	**2.23 258**		*i*P	Pn	02 23 51.4	-0.9
PNIG				*i*S	Sn	02 24 17.4	-1.7
PPM	**Popocatepetl**	**3.44 310**		*i*P	Pn	02 24 13.3	+4.5
PPM				*i*S	Sn	02 24 46.1	-2.6
MEIG	**Mezcala**	**3.75 287**		*i*S	Sn	02 24 54.7	-1.9

*ISCJB **13** 02:29:48.7±0.5,4196N±003×2292E±004,h7km±5km, Error ellipse: s-maj=5.0km s-min=4.2km az=50.8*
*CSEM **13** 02:29:48.9±0.1,4195N×2293E,h15km,ML2.4,Error ellipse: s-maj=2.5km s-min=2.1km az=37.0*
*SKO **13** 02:29:48.8,4191N×2297E,h15km,M1.9,ML2.4*
*SOF **13** 02:29:49.2,4195N×2297E,h11km,MD2.8*
*ATH **13** 02:30:02.3,4119N×2373E,h10km,MD3.2/3*

ISC 13 02:29:49.4±0.5,4193N±003×2296E±004,h9km±5km,n35, σ0°57/45,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.11 122**		*i*Pg	**Pg**	**02 29 53.1**	**+1.1**
STIP	**Stip**	**0.62 248**		*i*Pg	**Pg**	**02 30 00.6**	**-0.8**
STIP				*i*Sg	**Sg**	**02 30 09.2**	**-0.3**
STIP				*e*Lg		02 30 09.3	
	comp=E,138nm,0.2s						
STIP				*e*Lg		02 30 09.4	
	comp=N,173nm,0.2s						
MMB	**Musomiste**	**0.67 120**		*i*Pg	**Pg**	**02 30 03.2**	**+0.9**
VAY	**Valandovo**	**0.67 206**		*e*P	**Pg**	**02 30 02.4**	**0.0**
VAY	**Valandovo**	**0.67 206**		*i*Pg	**Pg**	**02 30 02.4**	**0.0**
VAY				*e*Sg	**Sg**	**02 30 11.2**	**0.0**
VAY				*e*Lg		02 30 11.4	
	comp=E,136nm,0.2s						
VAY				*e*Lg		02 30 11.5	
	comp=N,179nm,0.4s						
VAY	**Valandovo**	**0.67 206**		*i*Pg	**Pg**	**02 30 02.3**	**-0.1**
VAY				*e*Sg	**Sg**	**02 30 11.1**	**0.0**
VTS	**Vitosha**	**0.69 16**		*e*P	**Pg**	**02 30 02.9**	**+0.1**
KNT	**Kendrikon**	**0.76 183**		*e*P	**Pg**	**02 30 04.2**	**0.0**
NVR	**Nevrokopi**	**0.89 130**		*e*PG	**Pg**	**02 30 06.4**	**-0.1**
NVR	**Nevrokopi**	**0.89 130**		*e*Pg	**Pg**	**02 30 06.3**	**-0.2**
SRS	**Serrai**	**0.94 149**		*e*P	**Pg**	**02 30 07.2**	**-0.3**
GRG	**Griva**	**1.05 204**		*e*P	**Pg**	**02 30 09.1**	**-0.6**
PGB	**Panagyurishte**	**1.09 55**		*i*P	**Pg**	**02 30 09.5**	**-1.0**
SKO	**Skopje**	**1.13 273**		*e*P	**Pg**	**02 30 11.1**	**-0.1**
SKO	**Skopje**	**1.13 273**		*e*Pg	**Pg**	**02 30 11.0**	**-0.2**
SKO				*e*Lg		02 30 27.0	
	comp=N,32nm,0.3s						
SKO				*e*Sg	**Sg**	**02 30 27.0**	**+1.1**
SKO				*e*Lg		02 30 27.4	
	comp=E,26nm,0.4s						
SKO	**Skopje**	**1.13 273**		*e*Pg	**Pg**	**02 30 10.9**	**-0.3**
SKO				*e*Sg	**Sg**	**02 30 27.0**	**+1.1**
SOH	**Sokhos**	**1.14 165**		*e*P	**Pg**	**02 30

KBK	**Karagaybulak**	**3.54**	**358**	P	**Pn**	**02 46 54.4**	**+1.2**
	SNR=18						
AAK	**Ala-Archa**	**3.54**	**352**	P	**Pn**	**02 46 54.4**	**+1.1**
	SNR=7.6						
AAK	**Ala-Archa**	**3.54**	**352**	*e*Pn	**Pn**	**02 46 53.4**	**0.0**
AAK				*e*Sn	**Sn**	**02 47 34.6**	**+0.6**
TKM2	**Tokmak 2**	**3.81**	**5**	P	**Pn**	**02 46 58.3**	**+1.2**
	SNR=84						
TKM2	**Tokmak 2**	**3.81**	**5**	⇑Pn	**Pn**	**02 46 58.2**	**+1.1**
	comp=E,30nm,0.3s						
TKM2				⇑Sn	**Sn**	**02 47 40.6**	**+0.1**
	comp=E,47nm,0.6s						
TKM2				⇓Lg		02 47 52.3	
	comp=E,66nm,0.6s						
TKM2	**Tokmak 2**	**3.81**	**5**	⇑Pn	**Pn**	**02 46 58.2**	**+1.1**
TKM2				Sn	**Sn**	**02 47 40.6**	**+0.1**
TKM2				Lg		02 47 52.3	
CHMS	**Chumysh**	**3.88**	**356**	P	**Pn**	**02 46 58.9**	**+0.8**
	SNR=8.3						
USP	**Ospenovka**	**4.17**	**353**	P	**Pn**	**02 47 02.4**	**+0.4**
	SNR=8.2						
KNDC	**Almaty**	**4.32**	**18**	⇑Pn	**Pn**	**02 47 05.2**	**+1.3**
	comp=E,444nm,0.5s						
KNDC				⇑Lg		02 48 09.2	
	comp=E,1μm,0.5s						
KK31	**Karatay Array**	**5.30**	**320**	⇑Pn	**Pn**	**02 47 17.3**	**-0.2**
	comp=E,2.2nm,0.5s,baz=132,slow=12,SNR=54						
KK31				⇑Sn	**Sn**	**02 48 14.4**	**-2.8**
	comp=E,8.8nm,0.4s,baz=129,slow=20,SNR=6.9						
KK31				⇓Lg		02 48 36.7	
	comp=E,8.4nm,0.3s,baz=128,slow=28,SNR=4.4						
KK31	**Karatay Array**	**5.30**	**320**	⇑PN	**Pn**	**02 47 17.3**	**-0.2**
KK31						02 48 36.7	
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KK31	**Karatay Array**	**5.30**	**320**	⇑Pn	**Pn**	**02 47 17.3**	**-0.2**
	comp=Z,2.2nm,0.5s						
KK31				Sn	**Sn**	**02 48 14.4**	**-2.8**
KK31				Lg		02 48 36.7	
KKAR	**Karatay Array**	**5.30**	**320**	PN	**Pn**	**02 47 17.3**	**-0.2**
MK04	**Makanchi Array**	**9.26**	**32**	⇓Pn	**Pn**	**02 48 10.5**	**-1.3**
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**9.28**	**32**	P	**Pn**	**02 48 11.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=9.4						
MKAR	**Makanchi Array**	**9.28**	**32**	P	**Pn**	**02 48 11.5**	**-0.5**
BVAR	**Borovoye Array**	**14.29**	**348**	P	**Pn**	**02 49 21.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=159,slow=9.3,SNR=2.6						
BVAR				Lg		02 53 26.9	
	comp=Z,0.1nm,0.3s,baz=167,slow=32,SNR=3.8						
AB31	**Akbulak array**	**14.86**	**318**	P	**Pn**	**02 49 25.4**	**-2.5**
	comp=Z,0.7nm,0.6s,baz=129,slow=13,SNR=18						
AB31				⇑S	**Sn**	**02 51 59.4**	**-12**
	comp=Z,0.5nm,0.6s						
ZAL	**Zalesovo**	**16.21**	**21**	P	**Pn**	**02 49 44.4**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=293,slow=10,SNR=4.7						
AKTK	**Aktyubinsk**	**16.57**	**319**	P	**Pn**	**02 49 49.2**	**-0.7**
AKTO	**Aktyubinsk**	**16.57**	**319**	P	**Pn**	**02 49 49.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=117,slow=14,SNR=3.3						
SONM	**Songino Array**	**24.15**	**59**	P	**P**	**02 51 12.8**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.2,baz=267,slow=8.9,SNR=5.6						
SONM				LR	LR	03 01 52.7	
	comp=Z,69nm,18.1s,MS3.2,baz=321,slow=40						
FINES	**FINESS Array B**	**37.25**	**323**	P	**P**	**02 53 07.8**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.8,baz=117,slow=9.1,SNR=12						
ARCES	**ARCESS Array B**	**40.06**	**335**	P	**P**	**02 53 30.9**	**-0.7**
	comp=Z,2.7nm,0.9s,mb4.0,baz=108,slow=9.0,SNR=6.4						
PSI	**Prapat**	**42.14**	**143**	LR	LR	03 14 53.5	
	comp=Z,51nm,19.3s,MS3.4,baz=48,slow=41						
TORD	**Torodi Ar. Bea**	**69.03**	**270**	P	**P**	**02 57 02.5**	**+0.8**
	comp=Z,0.1nm,0.3s,mb3.2,baz=52,slow=5.7,SNR=4.2						
ILAR	**Eielson Array**	**71.33**	**18**	P	**P**	**02 57 14.9**	**-0.8**
	comp=Z,0.4nm,0.8s,mb3.4,baz=325,slow=5.1,SNR=5.3						
YKA	**Yellowknife Ar**	**78.43**	**5**	P	**P**	**02 57 56.6**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=348,slow=5.7,SNR=11						
WRA	**Warramunga Arr**	**80.69**	**125**	P	**P**	**02 58 10.5**	**+1.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=326,slow=4.2,SNR=4.6						

FUNV 13 02:47:48.7, 986N×7281W, h0km, MW3.7, 2C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.75**	**32**	⇑*i*P	Pg	02 48 03.4	+0.2
VIRV				*e*S	Sg	02 48 14.4	+1.5
VIGV	**El Vigia**	**1.75**	**125**	⇓*e*P	Pn	02 48 19.3	-0.9
VIGV				*e*S	Sn	02 48 43.1	-0.1
CAPV	**Capacho**	**2.04**	**166**	*e*P	Pn	02 48 24.0	-0.2
CAPV				*e*S	Sn	02 48 50.3	0.0
QARV	**Quebrada Arrib**	**2.27**	**81**	⇓*e*P	Pn	02 48 27.0	-0.5
QARV				*e*S	Sn	02 48 55.2	-1.0
DABV	**Dabajuro**	**2.38**	**63**	*e*P	Pn	02 48 28.3	-0.7
SOCV	**Socops**	**2.48**	**129**	⇑*e*P	Pn	02 48 29.5	-0.8
CURV	**Curarigua**	**2.81**	**87**	*e*P	Pn	02 48 34.0	-0.9
SIQV	**Siquisique**	**3.06**	**75**	*e*P	Pn	02 48 37.5	-0.8
SIQV				*e*S	Sn	02 49 13.4	-2.1
SANV	**Sanarito**	**3.24**	**96**	*e*P	Pn	02 48 40.3	-0.5
SANV				*e*S	Sn	02 49 18.0	-2.1
TEPV	**Terepaima**	**3.56**	**88**	*e*P	Pn	02 48 44.3	-0.9
TEPV				*e*S	Sn	02 49 25.3	-2.8
BAUV	**El Baul**	**4.79**	**101**	*e*P	Pn	02 49 00.3	-1.8
BAUV				*e*S	Sn	02 49 53.8	-4.4
CAOV	**Caicara del Or**	**6.89**	**111**	*e*S	Sn	02 50 42.9	-7.1

IDC 13 02:57:07.2±3.2, 967S×7636W, h0km, mb4.1/2, mb1 4.0/3, mb1mx3.6/17, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=119.4km s-min=54.7km az=26.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**16.17**	**114**	Pn	Pn	03 00 56.0	+0.2
	0.4nm,0.3s,baz=302,slow=12,SNR=8.7						
SIV				Sn	Sn	03 03 57.2	+1.4
	0.1nm,0.3s,baz=162,slow=20,SNR=2.8						
SIV				Lg		03 05 22.8	
	0.3nm,0.3s,baz=263,slow=18,SNR=3.1						
DBIC	**Dimbokro**	**73.06**	**80**	P	P	03 08 39.8	+0.7
	0.9nm,0.3s,baz=240,slow=5.4,SNR=8.9						
TORD	**Torodi Ar. Bea**	**80.73**	**75**	P	P	03 09 23.3	+1.0
	0.4nm,0.4s,baz=269,slow=4.8,SNR=14						
WRA	**Warramunga Arr**	**137.82**	**226**	PKP	PKPdf	03 16 34.2	+0.6
	0.3nm,0.4s,baz=119,slow=1.9,SNR=7.0						

NIED ***13*** *03:00:00, 36.10N×141.90E, h23km, Mw4.6 Best double couple: M0 9.47000×10^15 NP1:φ=25.00000°, δ=69.00000°, λ=81.00000°. NP2:φ=230.00000°, δ=23.00000°, λ=113.00000°.*
IDC ***13*** *03:00:35.6±0.6, 36.03N×141.66E, h0km, mb4.4/17, mb1 4.5/20, mb1mx4.5/24, mbtmp4.4/20, ML4.2/3, MS4.0/8, Ms1 4.0/8, ms1mx3.6/22, Error ellipse: s-maj=18.3km s-min=13.8km az=112.0*
BJI ***13*** *03:00:37.9, 36.20N×141.64E, h27km, mB5.0, mb4.7, Ms4.5, Msz4.2*
JMA ***13*** *03:00:38.0±0.3, 36.05N×141.77E, h58km, M4.7*
JMA Felt I J1.
NEIC ***13*** *03:00:38.1, 36.05N×141.77E, h58km, mb4.7/18, MW4.6(NIED), After JMA.*
NEIC Recorded [1 JMA] in Fukushima and Ibaraki Prefectures.
ISCJB ***13*** *03:00:39.3±0.3, 36.05N±0.03×141.71E±0.03, h35km, mb4.7/63, MS4.3/19, Error ellipse: s-maj=4.2km s-min=3.6km az=112.7*
MOS ***13*** *03:00:42.3±0.8, 36.19N×141.49E, h54km, mb5.0/27, Error ellipse: s-maj=10.9km s-min=6.4km az=120.1*
SZGRF ***13*** *03:00:51.8, 38.05N×141.15E, h33km, mb4.6, Near east coast of eastern Honshu, Japan*
ISC 13 03:00:41.3±0.3, 3607N±0.03×14165E±0.04, h37km, h37km±1.0km: pP-P, n158, σ19°09/170, mb4.7/63, MS4.3/19, 7C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.74**	**241**	⇓P	**Pn**	**03 00 53.5**	**-1.7**
CHOJ				S	**Sn**	**03 01 06.0**	**+0.7**
JHO	**Hitachi**	**1.03**	**302**	⇓P	**Pn**	**03 00 57.7**	**-1.5**
JHO				S	**Sn**	**03 01 12.7**	**+0.3**
JFK	**Kawauchi**	**1.44**	**334**	P	**Pn**	**03 01 03.3**	**-1.5**
BSO1	**Boso 1**	**1.52**	**202**	P	**Pn**	**03 01 04.1**	**-1.8**
BSO3	**Boso 3**	**1.57**	**217**	P	**Pn**	**03 01 05.9**	**-0.8**
JFT	**Otama**	**1.79**	**324**	P	**Pn**	**03 01 09.4**	**-0.3**
JFT				*e*S	**Sn**	**03 01 32.3**	**+1.1**
JAG	**Ashikaga**	**1.81**	**282**	P	**Pn**	**03 01 09.0**	**-1.0**
JMM	**Marumori**	**1.92**	**339**	P	**Pn**	**03 01 10.3**	**-1.2**
JFY	**Yanaizu**	**2.06**	**311**	⇑P	**Pn**	**03 01 13.3**	**0.0**
JKT	**Katashina**	**2.06**	**290**	P	**Pn**	**03 01 13.4**	**0.0**
JRY	**Ryogami san**	**2.23**	**269**	P	**Pn**	**03 01 14.6**	**-1.1**
JOD2	**Odawara 2**	**2.24**	**250**	P	**Pn**	**03 01 15.8**	**0.0**
JIM2	**Oshima 3**	**2.26**	**234**	P	**Pn**	**03 01 14.8**	**-1.3**
MJAR	**Matsushiro Arr**	**2.82**	**281**	Pn	**Pn**	**03 01 23.6**	**-0.3**
	36nm,0.3s,baz=98,slow=8.0,SNR=182						
MJAR				Sn	**Sn**	**03 02 00.6**	**+4.0**
	32nm,0.3s,baz=130,slow=22,SNR=6.3						
MAJO	**Matsushiro**	**2.82**	**281**	⇑*i*Pn	**Pn**	**03 01 24.4**	**+0.5**
MAJO				*e*Sn	**Sn**	**03 01 55.7**	**-0.9**
MAT	**Matsushiro**	**2.82**	**281**	P	**Pn**	**03 01 24.1**	**+0.2**
MAT				*e*S	**Sn**	**03 01 59.1**	**+2.5**
MAT	**Matsushiro**	**2.82**	**281**	*e*P	**Pn**	**03 01 24.0**	**+0.1**
MAT				S	**Sn**	**03 01 59.0**	**+2.4**
JHJ	**Hachijo jima 2**	**3.32**	**208**	Pn	**Pn**	**03 01 30.4**	**-0.4**
	88nm,0.3s,baz=56,slow=21,SNR=21						
JHJ				LR	LR	03 02 06.0	
	comp=Z,906nm,19.2s,baz=6.2,slow=28						
JHJ				Sn	**Sn**	**03 02 07.5**	**-1.5**
	243nm,0.3s,baz=299,slow=23,SNR=8.6						
ASAJ	**Asahikawa**	**8.07**	**5**	Pn	**Pn**	**03 02 34.1**	**-1.8**
	3.1nm,0.3s,baz=200,slow=9.9,SNR=8.8						
ASAJ				Sn	**Sn**	**03 04 04.5**	**-1.5**
	3.6nm,0.3s,baz=236,slow=7.3,SNR=3.3						
ASAJ				LR	LR	03 06 34.3	
	comp=Z,1μm,19.8s,baz=330,slow=44						
ASAJ	**Asahikawa**	**8.07**	**5**	P	**Pn**	**03 02 34.1**	**-1.8**
ASAJ						03 04 04.5	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,19.8s						
YUK	**Yuzh-Kuril'sk**	**8.58**	**21**	P	**Pn**	**03 02 46.6**	**+3.6**
YUK				pmax	pmax		
	comp=Z,200nm,0.4s						
CBIJ	**Chichi jima**	**8.96**	**177**	Pn	**Pn**	**03 02 49.5**	**+1.4**
	comp=Z,23nm,0.3s,baz=297,slow=19,SNR=4.9						
CBIJ				Sn	**Sn**	**03 04 16.8**	**-11**
	comp=Z,12nm,0.3s,baz=302,slow=21,SNR=2.5						
JNU	**Nakatsue**	**9.36**	**255**	Pn	**Pn**	**03 02 55.8**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=71,slow=17,SNR=6.2						
YSS	**Yuzh-Sakhalins**	**10.91**	**4**	*e*P	**Pn**	**03 03 13.0**	**-1.8**
YSS	**Yuzh-Sakhalins**	**10.91**	**4**	*e*Pn	**Pn**	**03 03 17.3**	**+2.5**
	comp=Z,24nm,0.6s						
MDJ	**Mudanjiang**	**12.54**	**317**	P	**Pn**	**03 03 36.1**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,117nm,7.1s						
MDJ				LR	LR		
	comp=N,640nm,19.0s						
MDJ				LR	LR		
	comp=E,587nm,13.2s						
MDJ				LR	LR		
	comp=Z,1μm,17.2s						
HABR	**Khabarovsk**	**13.32**	**341**	*e*P	**Pn**	**03 03 42.3**	**-5.4**
HABR				*e*S	**Sn**	**03 06 04.7**	**-10**
CN2	**Changchun**	**14.62**	**307**	*e*P	**Pn**	**03 04 07.3**	**+1.8**
CN2				*e*XP	sP	03 04 20.3	-5.1
CN2				*e*S	**Sn**	**03 06 47.0**	**+0.8**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s						
CN2				LR	LR		
	comp=E,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
KLR	**Kul'dur**	**15.02**	**334**	*e*P	**Pn**	**03 04 06.1**	**-4.7**
KLR				MLR	MLR		
	comp=N,700nm,15.0s						
KLR				MLR	MLR		
	comp=E,500nm,15.0s						
KLR				MLR	MLR		
	comp=Z,2μm,15.0s						
DL2	**Dalian**	**16.14**	**286**	*e*P	**Pn**	**03 04 28.6**	**+3.2**
DL2				*e*S	**S**	**03 07 26.7**	**-8.8**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
DL2				AMB	AMB		
	comp=Z,200nm,4.1s						
DL2				LR	LR		
	comp=N,350nm,13.8s						
DL2				LR	LR		
	comp=E,640nm,16.0s						
DL2				LR	LR		
	comp=Z,820nm,13.4s						
SSE	**Sheshan**	**17.75**	**260**	P	**Pn**	**03 04 45.4**	**-0.1**
SSE				AP	pP	03 04 54.0	-1.4
SSE				XP	sP	03 04 58.1	-2.0
SSE				S	**S**	**03 08 02.7**	**-5.5**
SSE				AMB	AMB		
	comp=Z,66nm,0.7s						
SSE				AMB	AMB		
	comp=Z,326nm,5.7s						
SSE				LR	LR		
	comp=N,339nm,24.3s						
SSE				LR	LR		
	comp=E,142nm,24.3s						
SSE				LR	LR		
	comp=Z,207nm,21.0s						
NJ2	**Nanjing**	**19.30**	**265**	*e*P	**Pn**	**03 05 06.6**	**+2.4**
NJ2				AP	pP	03 05 14.7	+2.2
NJ2				XP	sP	03 05 19.2	+2.0
NJ2				PP		03 05 23.8	
NJ2				S	**S**	**03 08 35.0**	**-4.5**
NJ2				XS	sS	03 08 47.0	-7.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,630nm,4.1s						
NJ2				LR	LR		
	comp=N,2μm,24.7s						
NJ2				LR	LR		
	comp=E,6μm,25.4s						
NJ2				LR	LR		
	comp=Z,550nm,27.3s						
TIA	**Tai'an**	**19.80**	**278**	*e*P	**Pn**	**03 05 07.0**	**-3.2**
BJI	**Beijing**	**20.43**	**289**	P	**P**	**03 05 12.4**	**-2.9**
BJI				S	**S**	**03 08 50.0**	**-12**
BJI				AMB	AMB		
	comp=Z,18nm,1.7s						
BJI				LR	LR		
	comp=N,351nm,12.9s,MS4.2						
BJI				LR	LR		
	comp=E,429nm,10.2s,MS4.2						
BJI				LR	LR		
	comp=Z,264nm,17.6s						
HIA	**Hailar**	**20.73**	**316**	*e*P	**P**	**03 05 15.8**	**-2.7**
HIA				pmax	pmax		
	comp=Z,27nm,1.0s						
HIA	**Hailar**	**20.73**	**316**	*e*P	**P**	**03 05 15.8**	**-2.7**
	comp=Z,27nm,1.0s						
WHN	**Wuhan**	**23.43**	**264**	P	**P**	**03 05 46.5**	**-0.8**
CLNS	**Chul'man**	**23.64**	**337**	*e*P	**P**	**03 05 47.7**	**-1.5**
CLNS				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.7						
CLNS				pmax	pmax		
	comp=N,30nm,1.2s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
HHC	**Hu-ho-hao-te**	**23.98**	**291**	*e*P	**P**	**03 05 52.6**	**+0.4**
HHC				AP		03 06 01.9	
HHC				XP	sP	03 06 06.0	-1.0
HHC				PP		03 06 26.2	
HHC				PCP	PcP	03 09 38.1	+4.5
HHC				S	**S**	**03 10 04.4**	**-2.1**
HHC				XS	sS	03 10 17.8	-5.8
HHC				SS		03 10 52.9	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,217nm,5.4s						
HHC				LR	LR		
	comp=N,375nm,14.3s						
HHC				LR	LR		
	comp=E,838nm,19.4s						
HHC				LR	LR		
	comp=Z,519nm,14.9s,MS4.1						
MA2	**Magadan**	**24.26**	**11**	*e*P	**P**	**03 05 55.1**	**+0.3**
MA2				*e*		03 06 12.1	
MA2				*e*		03 09 30.0	
MA2				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
XAN	**Xi'an**	**26.80**	**275**	P	**P**	**03 06 16.9**	**-1.0**
XAN				AP	pP	03 06 25.9	-2.4
XAN				XP	sP	03 06 30.0	-2.7
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.3						
XAN				LR	LR		
	comp=N,296nm,14.2s,MS4.2						
XAN				LR	LR		
	comp=E,403nm,16.3s,MS4.2						
XAN				LR	LR		
	comp=Z,523nm,15.3s,MS4.2						
YAK	**Yakutsk**	**27.05**	**348**	*e*P	**P**	**03 06 19.1**	**-1.0**
YAK				*e**PP	pP	03 06 28.2	-2.3
YAK				*e*		03 07 02.2	
YAK				*e*PPP		03 07 14.1	
YAK				*e*		03 09 36.3	
YAK				*e*S	**S**	**03 10 58.5**	**+3.1**
YAK				*e*		03 17 05.5	
YAK				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.7						
YAK				pmax	pmax		
	comp=N,27nm,1.7s						
YAK				pmax	pmax		
	comp=E,12nm,1.7s						
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				smax			
	comp=E,5.0nm,2.3s						
YAK				MLR	MLR		
	comp=Z,200nm,11.0s,MS3.9						
YAK				MLR	MLR		
	comp=N,500nm,22.0s						
YAK				MLR	MLR		
	comp=E,100nm,11.0s						
ENH	**Enshi**	**27.46**	**267**	*e*P	**P**	**03 06 22.7**	**-1.1**
	comp=E,42nm,0.8s,mb5.0						
SEY	**Seymchan**	**27.70**	**11**	*e*P	**P**	**03 06 26.5**	**+0.6**
FX1	**Attu Island--F**	**27.77**	**43**	LR	LR	03 16 38.5	
	comp=E,5.6nm,19.0s,baz=180,slow=35						
ULN	**Ulaanbaatar**	**28.06**	**306**	⇑*e*P	**P**	**03 06 29.2**	**0.0**
ULN	**Ulaanbaatar**	**28.06**	**306**	*e*P	**P**	**03 06 29.1**	**0.0**
	comp=E,9.3nm,0.8s,mb4.5						
BOD	**Bodaibo**	**28.45**	**329**	*e*P	**P**	**03 06 31.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.4						
SONM	**Songino Array**	**28.49**	**305**	P	**P**	**03 06 33.1**	**+0.1**
	comp=Z,9.4nm,0.8s,mb4.5,baz=102,slow=8.6,SNR=53						
SONM				LR	LR	03 18 27.9	
	comp=Z,425nm,18.5s,MS4.1,baz=15,slow=38						
LZH	**Lanzhou**	**30.43**	**281**	*e*P	**P**	**03 06 49.7**	**-0.5**
LZH				AP	pP	03 07 00.0	-0.6
LZH				XP	sP	03 07 05.4	+0.3
LZH				PP	PP	03 07 52.0	-7.2
LZH				S	**S**	**03 11 51.1**	**+2.5**
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,110nm,4.2s						
LZH				LR	LR		
	comp=E,1μm,13.6s						
LZH				LR	LR		
	comp=Z,2μm,14.2s,MS4.8						
ZAK	**Zakamensk**	**31.02**	**310**	*e*P	**P**	**03 06 54.5**	**-0.9**
ZAK				*e*	pP	03 07 06.0	+0.2
ZAK				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.6						
GYA	**Guiyang**	**31.26**	**262**	⇑*i*P	**P**	**03 06 55.8**	**-1.7**
GYA				AP	pP	03 07 05.4	-2.6
GYA				XP	sP	03 07 09.3	-3.1
GYA				PP	PP	03 07 55.9	-13
GYA				S	**S**	**03 11 54.4**	**-7.2**
GYA				SS	SS	03 13 46.3	-30
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.3s						
GYA				LR	LR		
	comp=N,670nm,17.9s,MS4.5						
GYA				LR	LR		
	comp=E,570nm,16.8s,MS4.5						
GYA				LR	LR		
	comp=Z,630nm,18.0s,MS4.3						
CD2	**Chengdu**	**31.88**	**272**	*e*P	**P**	**03 07 02.3**	**-0.6**
CD2				AP	pP	03 07 11.8	-1.6
CD2				XP	sP	03 07 15.8	-2.1
CD2				PP	PP	03 08 07.3	-8.0
CD2				S	**S**	**03 12 08.3**	**-2.9**
CD2				XS	sS	03 12 24.3	-4.3
CD2				SS	SS	03 13 59.3	-29
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,80nm,5.3s						
CD2				LR	LR		
	comp=N,390nm,14.4s						
CD2				LR	LR		
	comp=Z,320nm,15.6s,MS4.1						
MOY	**Mondy**	**32.71**	**311**	*e*P	**P**	**03 07 10.5**	**+0.3**
GTA	**Gaotai**	**33.04**	**289**	*e*P	**P**	**03 07 13.6**	**+0.5**
GTA				AP	pP	03 07 22.9	-0.7
GTA				XP	sP	03 07 27.5	-0.5
GTA				PP	PP	03 08 25.5	-2.7
GTA				S	**S**	**03 12 29.3**	**0.0**
GTA				XS	sS	03 12 46.1	-0.6
GTA				SS	SS	03 14 31.1	-21
GTA				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,129nm,3.8s						
GTA				LR	LR		
	comp=N,339nm,16.4s,MS4.3						
GTA				LR	LR		
	comp=E,397nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,491nm,17.2s,MS4.3						
BILL	**Bilibino**	**34.90**	**16**	*e*P	**P**	**03 07 28.9**	**-0.3**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
TIXI	**Tiksi**	**36.27**	**353**	*e*P	**P**	**03 07 37.9**	**-3.1**
TIXI				*e*		03 07 56.1	
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,326nm,17.0s,MS4.2						
WMQ	**Urumqi**	**41.45**	**298**	P	**P**	**03 08 25.5**	**+1.1**
WMQ				AP	pP	03 08 35.2	+0.1
WMQ				XP	sP	03 08 39.3	-0.2
WMQ				PP	PP	03 10 04.5	+4.0
WMQ				*e*S	**S**	**03 14 37.2**	**+0.1**
WMQ				SS	SS	03 17 36.8	-5.4
WMQ				SCS	ScS	03 18 24.8	-0.3
WMQ				AMB	AMB		
	comp=Z,51nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,356nm,4.6s						
WMQ				LR	LR		
	comp=N,1μm,18.4s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,20.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,18.4s,MS4.8						
LSA	**Lhasa**	**42.50**	**276**	*e*P	**P**	**

KURK Kurchatov 46.68 309⇑ *i P* **P 03 09 05.8 -0.5**
comp=Z,64nm,0.8s,mb5.6
KURK *e*pP pP 03 09 15.6 -1.4
JIRN Jiri 47.30 276 *e*P **P 03 09 12.2 +1.1**
comp=Z,61nm,0.8s,mb5.6
GUN Gumba 47.45 277 *e*P **P 03 09 13.3 +1.0**
PKI Pulchoki 47.97 276 *e*P **P 03 09 17.0 +0.7**
comp=Z,33nm,0.9s,mb5.4
KKN Kakani 47.98 277 *e*P **P 03 09 17.3 +0.9**
comp=Z,40nm,0.8s,mb5.5
DMN Daman 48.20 277 *e*P **P 03 09 18.8 +0.7**
comp=Z,21nm,0.8s,mb5.2
GKN Gorkha 48.41 277 *e*P **P 03 09 20.4 +0.7**
comp=Z,100nm,1.0s,mb5.8
HNR Honiara 48.43 156 LR LR 03 25 41.8
comp=Z,181nm,21.8s,MS4.0,baz=356,slow=31
DANN Dangsing 48.97 278 *e*P **P 03 09 24.8 +0.8**
KOLN Koldanda 49.34 278 *e*P **P 03 09 27.7 +0.9**
comp=Z,98nm,1.4s,mb5.7
ULHL Ulahol 49.99 298 P **P 03 09 33.1 +1.3**
SNR=8.4
ILAR Eielson Array 50.21 32 P **P 03 09 33.4 0.0**
comp=Z,3.0nm,0.8s,mb4.4,baz=268,slow=6.5,SNR=34
TKM2 Tokmak 2 50.26 299 P **P 03 09 35.2 +1.4**
SNR=21
TKM2 Tokmak 2 50.26 299 *i P* **P 03 09 35.0 +1.2**
TKM2 pmax pmax
comp=Z,27nm,1.0s,mb5.2
KZA Kyzart 50.74 298 P **P 03 09 39.7 +2.2**
SNR=10
KBK Karagaybulak 50.80 299 P **P 03 09 39.2 +1.3**
SNR=14
USP Ospenovka 50.94 300 P **P 03 09 40.0 +1.0**
SNR=8.0
FRU Bishkek 50.98 299 *e*P **P 03 09 40.5 +1.3**
FRU pmax pmax
comp=Z,40nm,1.3s,mb5.2
FRU MLR MLR
comp=Z,600nm,18.0s,MS4.7
AAK Ala-Archa 51.12 299 *e*P **P 03 09 39.8 -0.5**
AAK *e**PP pP 03 09 50.7 -0.5
AAK pmax pmax
comp=Z,13nm,1.0s,mb4.8
AAK Ala-Archa 51.12 299 *e*P **P 03 09 39.8 -0.5**
comp=Z,12nm,1.0s,mb4.8
AAK *e*pP pP 03 09 50.7 -0.5
BVA0 Borovoye Array 51.37 313 *i P* **P 03 09 41.8 -0.3**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BRVK Borovoye 51.42 313 *e*P **P 03 09 42.5 -0.1**
BRVK *e**PP pP 03 09 52.9 -0.6
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRVK Borovoye 51.42 313 *e*P **P 03 09 42.5 -0.1**
comp=Z,11nm,0.9s,mb4.8
BRVK *e*pP pP 03 09 52.9 -0.5
PSI Prapat 51.47 240 P **P 03 09 43.1 +0.1**
comp=Z,7.6nm,0.8s,mb4.7,baz=36,slow=5.7,SNR=9.1
AML Almayashu 51.84 299 P **P 03 09 47.4 +1.7**
SNR=25
ZRNK Zerenda 52.20 313 *i P* **P 03 09 47.7 -0.7**
ZRNK pmax pmax
comp=Z,25nm,1.2s,mb5.0
ZRNK Zerenda 52.20 313 *e*P **P 03 09 48.5 +0.1**
comp=Z,19nm,0.9s,mb5.0
ZRNK *e*pP pP 03 09 58.6 -0.7
KK31 Karatay Array 53.78 301 *i P* **P 03 10 00.1 +0.1**
KK31 pmax pmax
comp=Z,19nm,0.8s,mb5.1
INK Inuvik 55.16 27 P **P 03 10 10.3 +0.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=259,slow=7.0,SNR=8.4
INK Inuvik 55.16 27 *e*P **P 03 10 10.7 +0.7**
INK *e**PP pP 03 10 20.5 -0.5
INK pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 55.16 27 *e*P **P 03 10 10.7 +0.6**
comp=Z,7.8nm,0.9s,mb4.7
INK *e*pP pP 03 10 20.5 -0.5
CTA Charters Tower 56.02 175 LR LR 03 32 34.3
comp=Z,89nm,20.3s,MS3.9,baz=228,slow=34
WRAB Tennant Creek 56.12 188 *e*P **P 03 10 20.2 +3.3**
WRAB *e**PP pP 03 10 32.5 +4.5
WRAB *e**SP sP 03 10 37.1 +4.8
WRAB pmax pmax
comp=Z,16nm,1.0s,mb5.0
WRAB Tennant Creek 56.12 188 *e*P **P 03 10 20.2 +3.2**
comp=Z,16nm,1.0s,mb5.0
WRAB *e*pP pP 03 10 32.5 +4.5
WRAB *e*sP sP 03 10 37.1 +4.8
WB2 Warramunga Arr 56.13 188 *e*P **P 03 10 15.6 -1.4**
WRA Warramunga Arr 56.13 188 P **P 03 10 16.5 -0.5**
comp=Z,2.7nm,0.9s,mb4.3,baz=5.9,slow=7.3,SNR=16
ARU Arti 57.21 319 *e*P **P 03 10 24.4 -0.3**
ARU *e**PP pP 03 10 35.0 -0.7
ARU pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
ARU Arti 57.21 319 *e*P **P 03 10 24.4 -0.2**
comp=Z,9.9nm,0.6s,mb5.0
ARU *e*pP pP 03 10 35.0 -0.7
HYB Hyderabad 58.38 269 *i P* **P 03 10 33.0 +0.2**
HYB Hyderabad 58.38 269 *e*P **P 03 10 33.0 +0.2**
AB31 Akbulak array 58.71 311 P **P 03 10 34.9 -0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AS31 Alice Springs 59.86 188 *e*P **P 03 10 47.0 +3.9**
ASAR Alice Springs 59.86 188 P **P 03 10 42.5 -0.6**
comp=Z,0.7nm,0.7s,mb3.8,baz=15,slow=8.5,SNR=8.8
ASPA Alice Springs 59.86 188 *e*P **P 03 10 47.0 +3.9**
RES Resolute Bay 63.49 14 *e*P **P 03 11 07.5 -0.1**
RES pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
RES Resolute Bay 63.49 14 *e*P **P 03 11 07.5 -0.1**
comp=Z,4.0nm,0.9s,mb4.5
RES *e*pP pP 03 11 16.5 -2.2
KEV Kevo 64.41 339 *e*p **P 03 11 12.8 -0.8**
YKW3 Yellowknife Ar 64.51 30 *e*P **P 03 11 14.2 -0.1**
YKW3 *e*pP pP 03 11 24.0 -1.4
YKA Yellowknife Ar 64.55 30 P **P 03 11 14.5 0.0**
comp=Z,1.3nm,0.7s,mb4.1,baz=302,slow=6.7,SNR=6.4
YKA Yellowknife Ar 64.55 30 P **P 03 11 14.5 0.0**
KLMR Klimovskoe 64.67 328 *e*P **P 03 11 14.2 -1.2**
KLMR pmax pmax
comp=Z,40nm,2.5s,mb5.0
ARCES ARCESS Array B 64.97 340 P **P 03 11 16.8 -0.5**
comp=Z,6.4nm,0.9s,mb4.7,baz=60,slow=7.4,SNR=8.4
ARCES LR LR 03 46 15.4
comp=Z,120nm,19.2s,MS4.1,baz=45,slow=42
JOF Joensuu 66.90 332 *e*p **P 03 11 29.1 -0.6**
comp=Z,3.0nm,0.4s,mb4.7
OBN Obninsk 68.98 324 *e*P **P 03 11 41.4 -1.4**
OBN pmax pmax
comp=Z,12nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
KAF Kangasniemi 69.25 333 *e*p **P 03 11 43.4 -1.1**
comp=Z,3.3nm,0.4s,mb4.6,baz=49,slow=6.0
KAF Kangasniemi 69.25 333 *e*P **P 03 11 43.4 -1.1**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
FINES FINESS Array B 69.76 332 P **P 03 11 46.9 -0.6**
comp=Z,6.2nm,0.8s,mb4.6,baz=60,slow=7.5,SNR=20
FINES LR LR 03 45 17.6
comp=Z,151nm,18.3s,MS4.3,baz=68,slow=38
GNI Garni 72.44 307 *e*P **P 03 12 04.9 +1.1**
GNI *e**PP pP 03 12 16.4 +1.3
GNI pmax pmax
comp=Z,6.0nm,1.0s
GNI Garni 72.44 307 *e*P **P 03 12 04.9 +1.1**
comp=Z,5.6nm,1.0s,mb4.5
GNI *e*pP pP 03 12 16.4 +1.3
MSO Missoula 73.28 44 P **P 03 12 10.0 +1.2**
comp=Z,2.0nm,1.0s,mb4.0
MSO pP pP 03 12 19.1 -1.0
SOC Sochi 73.69 312*c i P* **P 03 12 10.2 -1.0**
SOC *e**PP pP 03 12 24.7 +2.2
SOC *e*S S 03 21 37.6 -1.6
SOC *e* 03 22 17.9
SOC *e*SS SS 03 26 26.1 +3.1
SOC pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SOC MLR MLR
comp=Z,370nm,21.0s,MS4.7
HRY Holter Researc 74.53 43 *e*P **P 03 12 17.0 +0.9**
HRY *e*pP pP 03 12 27.3 -0.2
FCC Fort Churchill 74.78 27 *e*P **P 03 12 17.3 -0.2**
FCC *e**PP pP 03 12 27.4 -1.5
FCC pmax pmax
comp=Z,14nm,1.2s,mb4.8
FCC Fort Churchill 74.78 27 *e*P **P 03 12 17.3 -0.2**
comp=Z,14nm,1.2s,mb4.8
FCC *e*pP pP 03 12 27.4 -1.5
DLMT Dillon 74.89 45 *e*P **P 03 12 19.4 +1.2**
comp=Z,10nm,1.0s,mb4.7
DLMT *e*pP pP 03 12 30.1 +0.5
DLMT *e*sP sP 03 12 34.7 +0.9
NOA NORSAR Array B 75.15 337 P **P 03 12 18.9 -0.7**
comp=Z,5.7nm,1.0s,mb4.5,baz=83,slow=14
AKASG Malin Array Be 75.18 323 P **P 03 12 19.6 -0.3**
comp=Z,6.4nm,0.6s,mb4.7,baz=47,slow=5.9,SNR=32
PDAR Pinedale Array 78.21 45 P **P 03 12 38.0 +1.1**
comp=Z,1.1nm,0.6s,mb3.9,baz=266,slow=1.6,SNR=12
BR131 Keskin Array S 79.64 312 *e*P **P 03 12 45.5 +0.7**
comp=Z,1.9nm,0.8s,mb4.1
BR131 *e*PcP PcP 03 12 52.4 -0.1
BR131 *e*pP pP 03 12 55.6 -0.6
BR131 *e*sP sP 03 13 01.6 +1.1
BRTR Keskin Array B 79.64 312 P **P 03 12 45.5 +0.7**
comp=Z,4.4nm,1.0s,mb4.3,baz=100,slow=4.5,SNR=17
KOLS Kolonicke sedl 79.72 324 *e*P **P 03 12 41.5 -3.7**
STHS Stebnicka Huta 79.86 325 *e* **P 03 12 47.1 +1.1**
STHS *e*pP pP 03 12 58.6 +1.2
STHS *e*PP PP 03 15 44.3 -3.3
OJC Ojcow 79.95 326 *e*P **P 03 12 47.0 +0.5**
ULM Lac du Bonnet 80.20 33 P **P 03 12 47.7 -0.1**
comp=Z,1.4nm,0.7s,mb4.0,baz=308,slow=4.2,SNR=4.9
PV10 Paradox Valley 81.27 49 *e*P **P 03 12 55.4 +1.8**
PV10 *e*pP pP 03 13 05.5 +0.5
PV10 *e*sP sP 03 13 10.5 +1.3
DPC Dobruska-Polom 81.38 328 *e*P **P 03 12 54.1 0.0**
PVCC Panska Ves 81.98 329 *e*P **P 03 12 57.9 +0.6**
CLL Collm 82.03 330⇓ *i P* **P 03 12 57.7 +0.1**
comp=Z,10.0nm,1.0s,mb4.7
CLL *i* pP pP 03 13 09.7 +0.7
CLL Collm 82.03 330⇓ *i P* **P 03 12 57.7 +0.1**
CLL *i* *PP pP 03 13 09.7 +0.7
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PRU Pruhonice 82.41 329 *e*P **P 03 12 59.8 +0.3**
TREC Trest 82.53 328 *e*P **P 03 13 00.7 +0.5**
KHC Kasperske Hory 83.47 329 *e*P **P 03 13 05.0 0.0**
KHC *e*pP pP 03 13 17.3 +0.8
GERES GERESS Array B 83.63 328 P **P 03 13 05.8 0.0**
comp=Z,1.9nm,0.8s,mb4.2,baz=44,slow=4.1,SNR=12
GRA1 Grafenberg Arr 84.00 330 *e*P **P 03 13 07.7 -0.1**
comp=Z,5.0nm,1.0s,mb4.6
GRF Grafenberg Arr 84.00 330 *e*P **P 03 13 07.7 -0.1**
comp=Z,5.0nm,1.0s,mb4.6
GRF Grafenberg Arr 84.00 330 *e*P **P 03 13 07.7 -0.1**
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
PPT Papeete 84.03 117 *e*LR LR 03 38 58.6
comp=Z,115nm,21.5s
BFO Black Forest 86.24 331 *e*P **P 03 13 18.9 -0.1**
BFO *e**PP pP 03 13 31.4 +0.9
TBI Tubuai 87.87 121 *e*LR LR 03 40 44.5
comp=Z,113nm,24.5s
RKT Rikitea 98.21 112 *e*LR LR 03 45 33.3
comp=Z,113nm,28.2s
TORD Torodi Ar. Bea 118.15 315 PKP PKPdf 03 19 23.3 -1.0
comp=Z,0.4nm,0.8s,baz=17,slow=1.2,SNR=4.1
TORD PP PP 03 20 39.6 0.0
comp=Z,1.1nm,1.0s,baz=18,slow=6.7,SNR=3.6
VNA2 Neumayer--Watz 141.44 196 *e*PKPdf PKPdf 03 20 13.0 +4.8
baz=37,slow=16
VNA2 *e* 03 20 20.5
VNA3 Neumayer Olymp 141.68 195 *e*PKPdf PKPdf 03 20 18.2 +10
VNA3 *e* 03 20 26.2
LPAZ La Paz 147.00 61 PKPbc PKPbc 03 20 21.7 +1.7
comp=Z,1.4nm,0.5s,baz=300,slow=1.7,SNR=5.6
LPAZ La Paz 147.00 61 *e*PKPdf PKPdf 03 20 21.4 +3.5
LPAZ *ep*PKPdf pPKPdf 03 20 31.5 +1.6

IDC 13 03:32:32.9±5.2, 902S×7109W, h582km±129km, mb2.9/4, mb1 3.1/5, mb1mx2.8/19, mbtmp3.8/5, Error ellipse: s-maj=200.6km s-min=35.2km az=30.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.78**	**158**	P	P	03 34 30.2	+0.8
	0.6nm,0.3s,baz=328,slow=9.5,SNR=8.5						
PDAR	**Pinedale Array**	**62.34**	**329**	P	P	03 42 00.3	+0.8
	0.3nm,0.5s,baz=126,slow=9.1,SNR=3.9						
ULM	**Lac du Bonnet**	**62.85**	**342**	P	P	03 42 02.4	-0.3
	1.4nm,0.4s,baz=145,slow=5.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**75.55**	**74**	P	P	03 43 19.4	+0.8
	0.5nm,0.7s,baz=264,slow=6.5,SNR=2.1						
YKA	**Yellowknife Ar**	**78.77**	**341**	P	P	03 43 35.6	-0.5
	0.4nm,0.6s,baz=138,slow=5.4,SNR=11						

NIED ***13*** *03:41:00, 3630N×140.10E, h59km, Mw4.1 Best double couple: M0=1.62000×10^15 NP1:φs=51.00000°, δ73.00000°, λ70.00000°. NP2:φs=282.00000°, δ26.00000°, λ138.00000°.*
MOS ***13*** *03:41:19.8±0.7, 3613N×140.13E, h70km, mb4.2/5, Error ellipse: s-maj=19.3km s-min=12.7km az=132.4*
ISCJB ***13*** *03:41:20.3±0.5, 3622N±004×140.15E±007, h66km±4km, mb3.8/13, Error ellipse: s-maj=8.8km s-min=6.4km az=165.4*
NEIC ***13*** *03:41:21.5, 3624N×140.10E, h56km, mb4.2/2, After JMA.*
JMA ***13*** *03:41:21.4±0.1, 3624N×140.10E, h56km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs=264.00000°, δ22.00000°, λ139.00000°. NP2: φs=32.00000°, δ76.00000°, λ73.00000°. Principal axes: T Plg56.0000°, Azm281.0000°; N Plg16.0000°, Azm37.0000°; P Plg29.0000°, Azm136.0000°;*
JMA Felt III J1.
IDC ***13*** *03:41:22.2±1.6, 3619N×140.01E, h66km±15km, mb3.5/11, mb1 3.8/13, mb1mx3.7/22, mbtmp3.9/13, MS2.8/1, Ms1 2.8/1, ms1mx2.2/31 Error ellipse: s-maj=20.6km s-min=11.0km az=78.0*

ISC 13 03:41:21.4±0.5, 3623N±004×14012E±006, h60km±4km, n36, σ0=86/45, mb3.8/13, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.06**	**92**	⇑P	**Pn**	**03 41 30.0**	**-0.4**
JYT				S	**Sn**	**03 41 36.0**	**-0.9**
JAG	**Ashikaga**	**0.57**	**290**	⇓P	**Pn**	**03 41 33.8**	**-0.4**
JAG				S	**Sn**	**03 41 42.3**	**-1.2**
JKT	**Katashina**	**0.88**	**308**	P	**Pn**	**03 41 37.6**	**-0.4**
JKT				S	**Sn**	**03 41 50.4**	**+0.2**
JRY	**Ryogami san**	**1.01**	**258**	⇓P	**Pn**	**03 41 39.4**	**-0.2**
JRY				S	**Sn**	**03 41 52.4**	**-0.6**
JFY	**Yanaizu**	**1.22**	**344**	⇓P	**Pn**	**03 41 42.6**	**+0.2**
JFY				S	**Sn**	**03 41 58.5**	**+0.5**
JOD2	**Odawara 2**	**1.28**	**221**	P	**Pn**	**03 41 43.9**	**+0.7**
JHK	**Hiroka**	**1.35**	**319**	⇓P	**Pn**	**03 41 44.2**	**+0.1**
JYN	**Shimob**	**1.47**	**241**	P	**Pn**	**03 41 47.3**	**+1.5**
MJAR	**Matsushiro Arr**	**1.57**	**282**	P	**Pn**	**03 41 46.7**	**-0.4**
	59nm,0.3s,baz=111,slow=8.1,SNR=412						
MAJO	**Matsushiro**	**1.57**	**282**	⇑iPn	**Pn**	**03 41 48.1**	**+1.0**
MAJO				*e*Sn	**Sn**	**03 42 01.8**	**-4.7**
MAT	**Matsushiro**	**1.57**	**282**	P	**Pn**	**03 41 47.0**	**-0.1**
MAT				*e*S	**Sn**	**03 42 08.0**	**+1.5**
MAT	**Matsushiro**	**1.57**	**282**	*e*P	**Pn**	**03 41 47.0**	**-0.1**
MAT				S	**Sn**	**03 42 08.0**	**+1.5**
JHJ	**Hachijo jima 2**	**3.12**	**185**	P	**Pn**	**03 42 09.8**	**+1.7**
	85nm,0.3s,baz=77,slow=16,SNR=12						
JHJ				S	**Sn**	**03 42 43.6**	**-0.5**
	107nm,0.3s,baz=233,slow=23,SNR=6.4						
ASAJ	**Asahikawa**	**8.10**	**13**	P	**Pn**	**03 43 17.2**	**+0.8**
	1.3nm,0.3s,baz=242,slow=16,SNR=6.5						
ASAJ				LR	LR	03 46 34.9	
	comp=Z,70nm,21.2s,baz=151,slow=38						
ASAJ	**Asahikawa**	**8.10**	**13**	P	**Pn**	**03 43 17.2**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,70nm,21.2s						
SONM	**Songino Array**	**27.39**	**306**	P	**P**	**03 47 00.4**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.3,baz=107,slow=9.9,SNR=5.0						
ZAL	**Zalesovo**	**41.71**	**313**	P	**P**	**03 49 04.2**	**-0.1**
	comp=Z,1.4nm,0.3s,mb4.1,baz=37,slow=5.7,SNR=7.8						
ZAL	**Zalesovo**	**41.71**	**313**	P	**P**	**03 49 04.2**	**-0.1**
MKAR	**Makanchi Array**	**43.67**	**303**	P	**P**	**03 49 20.4**	**+0.2**
	comp=Z,1.5nm,0.8s,mb3.8,baz=70,slow=10,SNR=9.4						
MKAR				PcP	PcP	03 51 06.6	+0.2
	comp=Z,0.9nm,0.8s,baz=35,slow=5.3,SNR=3.8						
KURK	**Kurchatov**	**45.61**	**309**	*e*P	**P**	**03 49 35.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**45.61**	**309**	*e*P	**P**	**03 49 35.1**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**50.73**	**32**	P	**P**	**03 50 15.8**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=263,slow=5.8,SNR=13						
ZRNK	**Zerenda**	**51.18**	**313**	*e*P	**P**	**03 50 18.0**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**51.18**	**313**	*e*P	**P**	**03 50 17.9**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**56.13**	**187**	*e*P	**P**	**03 50 53.4**	**-1.3**
WRA	**Warramunga Arr**	**56.13**	**187**	P	**P**	**03 50 53.3**	**-1.4**
	comp=Z,0.8nm,0.4s,mb4.1,baz=1.4,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**59.86**	**187**	P	**P**	**03 51 22.2**	**+1.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=9.8,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**59.86**	**187**	P	**P**	**03 51 22.3**	**+1.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**65.02**	**30**	P	**P**	**03 51 55.1**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=302,slow=6.5,SNR=8.5						
YKA	**Yellowknife Ar**	**65.02**	**30**	P	**P**	**03 51 55.1**	**-0.1**
FINES	**FINESS Array B**	**69.04**	**332**	P	**P**	**03 52 19.6**	**-1.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=39,slow=9.0,SNR=3.3						
FINES	**FINESS Array B**	**69.04**	**332**	P	**P**	**03 52 19.6**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**74.29**	**322**	P	**P**	**03 52 51.3**	**-1.0**
	comp=Z,0.8nm,0.4s,mb4.0,baz=47,slow=6.1,SNR=8.9						
AKASG	**Malin Array Be**	**74.29**	**322**	P	**P**	**03 52 51.3**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**78.97**	**45**	P	**P**	**03 53 20.2**	**+1.6**
	comp=Z,0.3nm,0.4s,mb3.5,baz=106,slow=2.0,SNR=3.6						
GERES	**GERESS Array B**	**82.84**	**328**	P	**P**	**03 53 39.0**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.5,baz=46,slow=5.6,SNR=3.2						

IDC ***13*** *03:48:36.3±0.7, 1179N×14370E, h0km, mb4.4/15, mb1 4.6/16, mb1mx4.4/24, mbtmp4.4/16, ML4.4/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/30, Error ellipse: s-maj=24.8km s-min=15.9km az=108.0*
ISCJB ***13*** *03:48:38.6±4.4, 1176N±006×14361E±008, h26km±32km, mb4.5/31, MS3.5/3, Error ellipse: s-maj=14.8km s-min=9.5km az=53.3*
MOS ***13*** *03:48:39.4±0.7, 1176N×14363E, h33km, mb4.7/8, Error ellipse: s-maj=19.7km s-min=10.3km az=101.6*
BJI ***13*** *03:48:39.3, 1170N×14383E, h46km, mB5.5, mb4.8*
NEIC ***13*** *03:48:41.5±0.4, 1179N×14367E, h35km, mb4.5/4, Error ellipse: s-maj=14.9km s-min=8.8km az=96.0*

ISC 13 03:48:41.3±4.8, 1179N±006×14369E±008, h31km±34km, n51, σ0=74/48, mb4.5/31, MS3.5/3, 1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.13**	**33**	Pn	**Pn**	**03 49 14.4**	**-0.3**
	124nm,0.3s,baz=187,slow=11,SNR=48						
GUMO				Sn	**Sn**	**03 49 40.4**	**+0.3**
	78nm,0.3s,baz=23,slow=23,SNR=9.2						
GUMO	**Guam**	**2.13**	**33**	*e*Pn	**Pn**	**03 49 14.2**	**-0.4**
GUMO				*e*Sn	**Sn**	**03 49 40.9**	**+0.8**
PMG	**Port Moresby**	**21.34**	**171**	LR	LR	04 00 21.9	
	comp=Z,92nm,18.9s,MS3.2,baz=205,slow=33						
MJAR	**Matsushiro Arr**	**25.14**	**350**	P	**P**	**03 54 03.9**	**+0.4**
	1.3nm,0.6s,mb3.6,baz=111,slow=13,SNR=4.8						
HNR	**Honiara**	**26.56**	**142**	LR	LR	04 03 50.9	
	comp=Z,91nm,19.7s,MS3.3,baz=357,slow=34						
CTAO	**Charters Tower**	**31.78**	**175**	P	**P**	**03 55 03.0**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,85nm,1.8s,mb5.3						
CTAO	**Charters Tower**	**31.78**	**175**	P	**P**	**03 55 03.0**	**+0.3**
	comp=Z,84nm,1.8s,mb5.3						
WB2	**Warramunga Arr**	**32.84**	**196**	*e*P	**P**	**03 55 11.7**	**-0.4**
WRA	**Warramunga Arr**	**32.85**	**196**	P	**P**	**03 55 11.7**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.4,baz=19,slow=9.7,SNR=34						
ASAR	**Alice Springs**	**36.52**	**195**	P	**P**	**03 55 44.2**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=19,slow=10,SNR=13						
ENH	**Enshi**	**36.64**	**305**	*e*P	**P**	**03 55 44.6**	**-0.3**
	comp=Z,3.9nm,0.4s,mb4.6						
LZH	**Lanzhou**	**43.28**	**311**	*e*P	**P**	**03 56 39.8**	**-0.2**
LZH				AP	pP	03 56 50.1	+0.9
LZH				XP	sP	03 56 54.3	+1.4
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.7						
ULN	**Ulaanbaatar**	**47.22**	**327**	*e*P	**P**	**03 57 11.2**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**47.22**	**327**	*e*P	**P**	**03 57 11.2**	**-0.1**
	comp=Z,3.9nm,1.1s,mb4.2						
FX1	**Attu Island--F**	**47.30**	**24**	P	**P**	**03 57 11.7**	**-0.2**
	comp=Z,21nm,0.6s,mb5.2,baz=91,slow=4.2,SNR=5.1						
GTA	**Gaotai**	**47.53**	**313**	*e*P	**P**	**03 57 14.4**	**+0.7**
GTA				AP	pP	03 57 25.6	+2.7
GTA				XP	sP	03 57 29.8	+3.2
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
SONM	**Songino Array**	**47.56**	**326**	P	**P**	**03 57 14.0**	**+0.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=146,slow=7.6,SNR=17						
ZAK	**Zakamensk**	**50.71**	**328⇑**	*i P*	**P**	**03 57 37.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
BOD	**Bodaibo**	**51.19**	**340**	*e*P	**P**	**03 57 37.6**	**-4.0**
JIRN	**Jiri**	**55.92**	**295**	*e*P	**P**	**03 58 17.1**	**+0.8**
	comp=Z,14nm,0.7s,mb5.1						
GUN	**Gumba**	**56.21**	**296**	*e*P	**P**	**03 58 19.3**	**+0.9**
	comp=Z,22nm,0.8s,mb5.3						
PKI	**Pulchoki**	**56.60**	**295**	*e*P	**P**	**03 58 22.1**	**+0.9**
DMN	**Daman**	**56.87**	**295**	*e*P	**P**	**03 58 24.4**	**+1.3**
GKN	**Gorkha**	**57.31**	**296**	*e*P	**P**	**03 58 26.7**	**+0.5**
DANN	**Dangsing**	**58.11**	**296**	*e*P	**P**	**03 58 30.7**	**-1.1**
BILL	**Bilibino**	**58.12**	**10**	*e*P	**P**	**03 58 31.9**	**0.0**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
KOLN	**Koldanda**	**58.22**	**295**	*e*P	**P**	**03 58 33.0**	**+0.5**
	comp=Z,1.9nm,1.1s,mb5.0						
MKAR	**Makanchi Array**	**62.00**	**317**	P	**P**	**03 58 58.7**	**+0.3**
	comp=Z,2.5nm,0.7s,mb4.5,baz=54,slow=6.2,SNR=21						
MKAR	**Makanchi Array**	**62.00**	**317**	P	**P**	**03 58 58.7**	**+0.3**
ZAL	**Zalesovo**	**62.43**	**325**	P	**P**	**03 59 01.1**	**-0.2**
	comp=Z,2.9nm,0.3s,mb4.8,baz=356,slow=12,SNR=8.1						
KURK	**Kurchatov**	**65.22**	**321**	P	**P**	**03 59 19.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**66.82**	**311**	*e*P	**P**	**03 59 29.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**66.82**	**311**	*e*P	**P**	**03 59 29.7**	**-0.3**
	comp=Z,3.9nm,1.3s,mb4.3						
VOSK	**Vostochnaya**	**70.24**	**322**	P	**P**	**03 59 50.7**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
BVA0	**Borovoye Array**	**70.63**	**322**	*i P*	**P**	**03 59 52.8**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**70.63**	**322**	P	**P**	**03 59 53.9**	**+0.2**
	comp=Z,12nm,0.7s,mb4.9,baz=106,slow=7.7,SNR=64						
ILAR	**Eielson Array**	**70.68**	**25**	P	**P**	**03 59 51.8**	**-2.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=253,slow=5.2,SNR=26						
ZRNK	**Zerenda**	**71.45**	**322**	P	**P**	**03 59 58.6**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
INK	**Inuvik**	**76.

comp=Z,1.5nm,0.7s,mb4.4,baz=69,slow=6.2,SNR=7.2
PDAR Pinedale Array 94.04 45 P **P 04 01 58.4 +1.9**
comp=Z,0.3nm,0.6s,mb3.9,baz=224,slow=6.2,SNR=3.9
DBIC Dimbokro 143.74 299 PKP PKPdf 04 08 11.8 -1.4
comp=Z,2.3nm,0.6s,baz=70,slow=3.0,SNR=5.5
DBIC Dimbokro 143.74 299 PKP PKPdf 04 08 11.8 -1.4

NEIC ***13*** *04:01:38.6±2.9, 5170N×16.13E, h5km, ML2.7(SZGRF), Error ellipse: s-maj=36.0km s-min=11.4km az=213.0*
IPEC ***13*** *04:01:38.7±0.2, 5166N×1607E, h0km, ML2.0/3, Error ellipse: s-maj=1.5km s-min=0.9km az=36.0*
ISCJB ***13*** *04:01:39.0±0.7, 5150N±003×1599E±003, h0km, Error ellipse: s-maj=5.0km s-min=2.7km az=28.5*
WAR ***13*** *04:01:40.8, 5158N×1599E, ML2.5, Mining Induced*
PRU ***13*** *04:01:40.9, 5154N×1599E, h0km*
CSEM ***13*** *04:01:41.0±0.2, 5154N×1603E, h0km, ML3.0/6, Error ellipse: s-maj=2.9km s-min=1.7km az=8.0*
VIE ***13*** *04:01:42.6±0.5, 5132N×1617E, h0km, mb2.0/3, ML2.5/3, Error ellipse: s-maj=3.9km s-min=3.2km az=95.0 64 km WNW of Breslau Suspected Mining induced.*
ISC 13 04:01:39.5±0.7,**5158N**±003×**1601E**±003,**h0**km,**n36**, σ0.83/70,**1C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**166**	*i* Pgd	**Pg**	**04 01 54.8**	**+0.8**
KSP				e		04 01 56.6	
KSP				*e*Sg	**Sg**	**04 02 05.0**	**+1.2**
KSP	**Ksiaz**	**0.76**	**166**	⇓*i*Pg	**Pg**	**04 01 54.8**	**+0.8**
KSP				*e*Sg	**Sg**	**04 02 04.8**	**+1.0**
KSP	**Ksiaz**	**0.76**	**166**	⇓*i*Pg	**Pg**	**04 01 54.8**	**+0.8**
KSP				*e*		04 01 56.6	
KSP				*e*Sg	**Sg**	**04 02 05.0**	**+1.2**
UPC	**Upice**	**1.07**	**180**	*e*PG	**Pg**	**04 02 00.7**	**+0.7**
UPC	**Upice**	**1.07**	**180**	*e*Pg	**Pg**	**04 02 00.5**	**+0.5**
DPC	**Dobruska-Polom**	**1.24**	**171**	*e*PG	**Pg**	**04 02 03.6**	**+0.3**
DPC				*e*SG	**Sg**	**04 02 19.9**	**+0.4**
15nm,0.2s							
DPC	**Dobruska-Polom**	**1.24**	**171**	*e*Pg	**Pg**	**04 02 03.5**	**+0.2**
DPC				*e*Sg	**Sg**	**04 02 19.8**	**+0.3**
PVCC	**Panska Ves**	**1.39**	**222**	*e*PG	**Pg**	**04 02 06.1**	**-0.1**
PVCC	**Panska Ves**	**1.39**	**222**	*e*Pn	**Pn**	**04 02 06.6**	**+0.5**
PVCC				*e*Sg	**Sg**	**04 02 26.0**	**+1.8**
BRG	**Berggiesshubel**	**1.48**	**242**	*e*Pn	**Pn**	**04 02 07.7**	**+0.3**
BRG				Sg	**Sg**	**04 02 27.7**	**+0.6**
BRG	**Berggiesshubel**	**1.48**	**242**	Pg	**Pg**	**04 02 07.8**	**-0.1**
BRG				Sg	**Sg**	**04 02 27.7**	**+0.6**
PRU	**Pruhonice**	**1.84**	**211**	*e*PN	**Pn**	**04 02 12.1**	**-0.3**
PRU				*e*PG	**Pg**	**04 02 14.1**	**-0.8**
PRU				*e*SG	**Sg**	**04 02 38.5**	**-0.3**
18nm,0.4s							
PRU	**Pruhonice**	**1.84**	**211**	*e*Pn	**Pn**	**04 02 12.2**	**-0.2**
PRU	**Pruhonice**	**1.84**	**211**	*e*Pg	**Pg**	**04 02 14.1**	**-0.8**
PRU				*e*Sg	**Sg**	**04 02 38.5**	**-0.3**
18nm,0.4s							
CLL	**Collm**	**1.90**	**263**	*i* Pn	**Pn**	**04 02 12.5**	**-0.7**
comp=Z,10.0nm,0.4s							
CLL				*e*Pg	**Pg**	**04 02 15.0**	**-1.0**
CLL				*i* x	x	04 02 19.3	
CLL				*i* Sg	**Sg**	**04 02 40.2**	**-0.5**
comp=Z,9.0nm,0.6s							
CLL	**Collm**	**1.90**	**263**	*e*Pg	**Pg**	**04 02 15.0**	**-1.0**
CLL	**Collm**	**1.90**	**263**	*i* Pn	**Pn**	**04 02 12.5**	**-0.7**
CLL				*e*Pg	**Pg**	**04 02 15.0**	**-1.0**
CLL				*i* Sg	**Sg**	**04 02 40.2**	**-0.5**
MORC	**Moravsky Berou**	**2.05**	**151**	*e*Pn	**Pn**	**04 02 15.0**	**-0.2**
MORC				*e*Sn	**Sn**	**04 02 41.8**	**+0.4**
MORC				*e*Sg	**Sg**	**04 02 44.5**	**-0.8**
comp=Z,8.0nm,0.4s							
MORC	**Moravsky Berou**	**2.05**	**151**	*e*Pn	**Pn**	**04 02 15.0**	**-0.2**
MORC				*e*Sn	**Sn**	**04 02 41.8**	**+0.3**
OKC	**Ostrava-Krasne**	**2.21**	**141**	*e*PG	**Pg**	**04 02 21.3**	**-0.5**
VRAC	**Vranov**	**2.30**	**171**	*e*Pn	**Pn**	**04 02 19.1**	**+0.4**
VRAC				*e*Sg	**Sg**	**04 02 53.0**	**-0.5**
comp=Z,8.4nm,0.5s							
TREC	**Trest**	**2.31**	**189**	*e*Pn	**Pn**	**04 02 19.5**	**+0.7**
KRUC	**Moravsky**	**2.53**	**174**	*e*Pg	**Pg**	**04 02 26.5**	**-1.5**
KRUC				*e*Sg	**Sg**	**04 02 59.6**	**-1.2**
comp=Z,6.1nm,0.3s							
NKC	**Novy Kostel**	**2.63**	**241**	*e*PN	**Pn**	**04 02 23.6**	**+0.4**
NKC				*e*PG	**Pg**	**04 02 30.1**	**+0.2**
NKC				*e*SG	**Sg**	**04 03 03.5**	**-0.4**
comp=Z,22nm,0.3s							
NKC	**Novy Kostel**	**2.63**	**241**	*e*Pn	**Pn**	**04 02 23.1**	**-0.1**
NKC	**Novy Kostel**	**2.63**	**241**	*e*Pg	**Pg**	**04 02 30.1**	**+0.2**
NKC				*e*Sg	**Sg**	**04 03 03.5**	**-0.4**
comp=Z,22nm,0.3s							
OJC	**Ojcow**	**2.75**	**118**	*e*Pg	**Pg**	**04 02 32.0**	**-0.3**
OJC				*e*Sg	**Sg**	**04 03 08.2**	**+0.2**
KHC	**Kasperske Hory**	**2.90**	**213**	*e*PN	**Pn**	**04 02 27.4**	**+0.5**
KHC				*e*PG	**Pg**	**04 02 32.8**	**-2.4**
KHC				*e*SN	**Sn**	**04 02 59.0**	**-3.5**
KHC				*e*SG	**Sg**	**04 03 11.8**	**-1.0**
KHC	**Kasperske Hory**	**2.90**	**213**	*e*Pn	**Pn**	**04 02 28.1**	**+1.2**
KHC	**Kasperske Hory**	**2.90**	**213**	*e*Pg	**Pg**	**04 02 33.2**	**-2.0**
KHC				*e*Sn	**Sn**	**04 02 59.0**	**-3.5**
KHC				*e*Sg	**Sg**	**04 03 11.7**	**-1.1**
MOX	**Moxa**	**2.92**	**253**	*e*PG	**Pg**	**04 02 35.4**	**-0.2**
MOX				*e*SG	**Sg**	**04 03 15.2**	**+1.7**
GEC2	**GERESS Array S**	**3.11**	**209**	*e*Pn	**Pn**	**04 02 30.8**	**+1.0**
GEC2				*e*Sg	**Sg**	**04 03 19.2**	**-0.3**
WET	**Wettzell**	**3.16**	**221**	*e*Pn	**Pn**	**04 02 30.9**	**+0.5**
WET				*e*Sg	**Sg**	**04 03 20.2**	**-0.7**
NIE	**Niedzica**	**3.49**	**127**	*e*P	**Pg**	**04 02 45.7**	**-0.8**
NIE				S	**Sg**	**04 03 31.5**	**-0.2**
VYHS	**Vyhne**	**3.58**	**148**	*e*SG	**Sg**	**04 03 36.4**	**+1.8**
MOA	**Molln**	**3.90**	**198**	⇑*i*Pn	**Pn**	**04 02 41.2**	**+0.6**
MOA				⇓*i*Sg	**Sg**	**04 03 45.0**	**+0.2**
comp=Z,4.5nm,0.5s							

NIED ***13*** *04:06:00, 36.10N×14190E, h23km, Mw5.1 Best double couple: M0=4.26000×10^16 NP1:φs=23.00000°, δ=67.00000°, λ=88.00000°. NP2:φs=207.00000°, δ=23.00000°, λ=94.00000°.*
JMA ***13*** *04:06:09.3±0.4, 3606N×14177E, h59km, M5.1*
JMA Felt II J1.
BJI ***13*** *04:06:09.3, 3606N×14150E, h18km, mB5.1, mb4.9, Ms5.0, Msz4.8*
HRVD ***13*** *04:06:09.4±0.3, 3597N×14189E, h31km±1km, MW5.1/66, Centroid moment Tensor Solution. LP body waves: s40,c55;Mantle waves: s66,c109; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.19±.25; Mθθ=0.49±.15; Mφφ=-3.70±.17; Mrθ=1.67±.21; Mφθ=-1.46±.11; Mφr=3.89±.22; Best double couple: M0=5.98300×10^16 NP1:φs=200.00000°, δ=23.00000°, λ=87.00000°. NP2: φs=23.00000°, δ=68.00000°, λ=91.00000°. Principal axes: T 5.9470, Plg=67.0000°, Azm=295.0000°; N 0.0690, Plg=1.0000°, Azm=202.0000°; P -6.0190, Plg=23.0000°, Azm=112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *04:06:09.3, 3606N×14177E, h59km, mb4.9/49, MW5.0(NIED), After JMA.*
NEIC Recorded [2 JMA] in Ibaraki and [1 JMA] in Chiba, Fukushima, Miyagi and Tochigi Prefectures.
ISCJB ***13*** *04:06:11.3±0.2, 3602N±003×14158E±003, h36km, mb4.9/118, MS4.8/34, Error ellipse: s-maj=3.9km s-min=3.0km az=146.2*
IDC ***13*** *04:06:12.1±4.5, 3596N×14162E, h33km±34km, mb4.3/29, mb1 4.5/32, mb1mx4.5/34, mbtmp4.6/32, ML4.6/3, MS4.5/15, Ms1 4.5/15, ms1mx4.2/28, Error ellipse: s-maj=14.7km s-min=13.0km az=56.0*
MOS ***13*** *04:06:14.5±0.8, 3626N×14147E, h54km, mb5.3/53, MS4.9/10, Error ellipse: s-maj=8.2km s-min=4.9km az=116.2*
SZGRF ***13*** *04:06:22.1, 3760N×14065E, h41km, mb5.0, Eastern Honshu, Japan*
ISC 13 04:06:13.1±0.2,**3604N**±003×**14159E**±003,**h38**km, **h38**km±.6km:**pP-P,n292**, σ1.04/311,**mb4.9**/118,**MS4.8**/34, **9C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.68**	**241**	P	**Pn**	**04 06 24.8**	**-1.4**
CHOJ				S	**Sn**	**04 06 37.9**	**+2.3**
JHO	**Hitachi**	**1.00**	**305**	P	**Pn**	**04 06 28.7**	**-1.9**
JFK	**Kawauchi**	**1.44**	**337**	⇑P	**Pn**	**04 06 34.6**	**-2.1**
JFK				S	**Sn**	**04 06 54.0**	**-0.4**
BSO1	**Boso 1**	**1.47**	**200**	P	**Pn**	**04 06 35.6**	**-1.4**
BSO3	**Boso 3**	**1.51**	**216**	P	**Pn**	**04 06 37.0**	**-0.7**
JAG	**Ashikaga**	**1.77**	**283**	P	**Pn**	**04 06 40.1**	**-1.0**
JFT	**Otama**	**1.79**	**326**	P	**Pn**	**04 06 40.6**	**-0.8**
JFT				S	**Sn**	**04 07 04.4**	**+1.5**
JMM	**Marumori**	**1.93**	**341**	P	**Pn**	**04 06 41.7**	**-1.7**
JYS	**Shirataka**	**2.50**	**331**	P	**Pn**	**04 06 50.8**	**-0.4**
MJAR	**Matsushiro Arr**	**2.77**	**281**	Pn	**Pn**	**04 06 54.9**	**-0.1**
72nm,0.3s,baz=92,slow=8.7,SNR=278							
MJAR				LR	LR	04 08 08.8	
comp=Z,15μm,19.0s,baz=100,slow=42							
MAJO	**Matsushiro**	**2.78**	**281**	*e*P	**Pn**	**04 06 55.9**	**+0.9**
MAT	**Matsushiro**	**2.78**	**281**	P	**Pn**	**04 06 55.5**	**+0.5**
MAT				S	**Sn**	**04 07 29.1**	**+1.8**
MAT	**Matsushiro**	**2.78**	**281**	*e*P	**Pn**	**04 06 56.0**	**+1.0**
MAT				*e*S	**Sn**	**04 07 26.0**	**-1.3**
JHJ	**Hachijo jima 2**	**3.27**	**208**	Pn	**Pn**	**04 07 01.1**	**-0.7**
207nm,0.3s,baz=93,slow=23,SNR=23							
JHJ				Sn	**Sn**	**04 07 38.2**	**-1.2**
453nm,0.3s,baz=91,slow=21,SNR=8.7							
JHJ				LR	LR	04 08 11.5	
comp=Z,2μm,20.1s,baz=282,slow=37							
JHE	**Heguri**	**5.02**	**256**	P	**Pn**	**04 07 27.7**	**+1.9**
JKS	**Kasai**	**5.60**	**261**	P	**Pn**	**04 07 35.3**	**+1.5**
ASAJ	**Asahikawa**	**8.11**	**5**	Pn	**Pn**	**04 08 05.2**	**-3.0**
6.2nm,0.3s,baz=216,slow=14,SNR=13							
ASAJ				Sn	**Sn**	**04 09 32.7**	**-5.9**
4.0nm,0.3s,baz=209,slow=26,SNR=2.3							
ASAJ				LR	LR	04 12 06.3	
comp=Z,4μm,19.9s,baz=135,slow=43							
ASAJ	**Asahikawa**	**8.11**	**5**	P	**Pn**	**04 08 05.3**	**-2.9**
ASAJ						04 09 32.7	
ASAJ				pmax	pmax		
comp=Z,6.0nm,0.3s							
ASAJ				smax			
comp=N,4.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,4μm,19.9s							
YUK	**Yuzh-Kuril'sk**	**8.63**	**21**	P	**Pn**	**04 08 18.0**	**+2.6**
YUK				pmax	pmax		
comp=Z,190nm,0.3s							
YUK				MLR	MLR		
comp=Z,3μm,18.0s							
CBIJ	**Chichi jima**	**8.93**	**177**	Pn	**Pn**	**04 08 15.9**	**-3.6**
comp=Z,27nm,0.3s,baz=267,slow=20,SNR=8.3							
CBIJ				Sn	**Sn**	**04 09 48.0**	**-11**
comp=Z,45nm,0.3s,baz=264,slow=22,SNR=6.3							
CBIJ				LR	LR	04 12 01.4	
comp=Z,3μm,18.4s,baz=325,slow=40							
VLA	**Vladivostok**	**10.29**	**316**	*e*P	**Pn**	**04 08 39.2**	**+1.1**
VLA						04 10 40.1	
VLA				pmax	pmax		
comp=Z,168nm,1.4s							
VLA				smax			
comp=Z,4μm,13.8s							
YSS	**Yuzh-Sakhalins**	**10.94**	**4**	*e*P	**Pn**	**04 08 45.0**	**-2.1**
YSS				*e*S	**Sn**	**04 10 41.0**	**-7.2**
YSS				pmax	pmax		
comp=Z,30nm,1.0s							
YSS				smax			
comp=N,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**10.94**	**4**	*e*Pn	**Pn**	**04 08 43.5**	**-3.6**
comp=N,41nm,0.8s							
KS15	**Wonju Array Si**	**11.09**	**281**	*e*Pn	**Pn**	**04 08 52.3**	**+3.2**
MDJ	**Mudanjiang**	**12.53**	**317**	P	**Pn**	**04 09 10.5**	**+1.8**
MDJ				AP		04 09 13.1	
MDJ				XP		04 09 15.3	
MDJ				S	**Sn**	**04 11 28.8**	**+1.9**
MDJ				PCP	PcP	04 14 46.9	+0.8
MDJ				SCP	ScP	04 18 22.4	+6.2
MDJ				AMB	AMB		
comp=Z,27nm,1.0s							
MDJ				AMB	AMB		
comp=Z,414nm,6.9s							
MDJ				LR	LR		
comp=N,3μm,19.1s							
MDJ				LR	LR		
comp=E,3μm,18.1s							
MDJ				LR	LR		
comp=Z,5μm,18.1s							
MDJ	**Mudanjiang**	**12.53**	**317**	*e*Pn	**Pn**	**04 09 08.8**	**+0.1**
comp=Z,123nm,1.4s							
HABR	**Khabarovsk**	**13.33**	**341**	*e*P	**Pn**	**04 09 14.3**	**-5.4**
JOW	**Kunigami**	**14.59**	**235**	LR	LR	04 15 08.3	
comp=Z,2μm,19.5s,baz=122,slow=37							
CN2	**Changchun**	**14.60**	**307**	*e*P	**Pn**	**04 09 35.8**	**-1.1**
CN2				*e*XP	sP	04 09 47.8	-9.3
CN2				*e*S	**Sn**	**04 12 15.8**	**-1.6**
CN2				AMB	AMB		
comp=Z,10.0nm,1.1s							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,3μm,15.0s							
CN2				LR	LR		
comp=E,4μm,15.0s							
CN2				LR	LR		
comp=Z,5μm,16.0s							
KLR	**Kul'dur**	**15.02**	**334**	*e*P	**Pn**	**04 09 40.2**	**-2.4**
KLR				MLR	MLR		
comp=E,2μm,13.0s							
KLR				MLR	MLR		
comp=Z,10μm,13.0s							
SNY	**Shenyang**	**15.15**	**298**	⇑P	**Pn**	**04 09 44.0**	**-0.3**
SNY				AMB	AMB		
comp=Z,33nm,1.0s							
SNY				LR	LR		
comp=N,2μm,17.1s							
SNY				LR	LR		
comp=E,4μm,15.9s							
SNY				LR	LR		
comp=Z,4μm,15.9s							
DL2	**Dalian**	**16.10**	**286**	⇑P	**Pn**	**04 09 54.4**	**-2.2**
DL2				XP	sP	04 10 09.3	-4.5
DL2				*e*S	**S**	**04 12 52.3**	**-14**
DL2				AMB	AMB		
comp=Z,30nm,0.5s							
DL2				AMB	AMB		
comp=Z,220nm,5.6s							
DL2				LR	LR		
comp=N,560nm,13.2s							
DL2				LR	LR		
comp=E,2μm,15.1s							
DL2				LR	LR		
comp=Z,3μm,15.0s							
SSE	**Sheshan**	**17.69**	**260**	P	**Pn**	**04 10 14.1**	**-2.4**
SSE				AP	pP	04 10 22.8	-3.8
SSE				XP	sP	04 10 27.0	-4.4
SSE				S	**S**	**04 13 30.9**	**-7.8**
SSE				AMB	AMB		
comp=Z,45nm,0.7s							
SSE				AMB	AMB		
comp=Z,627nm,8.3s							
SSE				LR	LR		
comp=N,1μm,24.5s							
SSE				LR	LR		
comp=E,490nm,24.5s							
SSE				LR	LR		
comp=Z,843nm,16.8s							
NJ2	**Nanjing**	**19.24**	**265**	*e*P	**Pn**	**04 10 36.8**	**+1.5**
NJ2				AP	pP	04 10 44.9	+1.2
NJ2				XP	sP	04 10 49.4	+0.9
NJ2				PP		04 10 54.0	
NJ2				S	**S**	**04 14 04.0**	**-6.0**
NJ2				XS	sS	04 14 16.0	-9.3
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s							
NJ2				AMB	AMB		
comp=Z,580nm,7.2s							
NJ2				LR	LR		
comp=N,4μm,22.2s							
NJ2				LR	LR		
comp=E,4μm,17.5s							
NJ2				LR	LR		
comp=Z,2μm,20.8s							
TIA	**Tai'an**	**19.75**	**278**	*e*P	**Pn**	**04 10 37.9**	**-3.5**
TIA				LR	LR		
comp=N,3μm,14.0s							
TIA				LR	LR		
comp=E,1μm,14.0s							
BJI	**Beijing**	**20.39**	**289**	*e*P	**P**	**04 10 44.5**	**-2.0**
BJI				AMB	AMB		
comp=Z,39nm,1.6s							
BJI				AMB	AMB		
comp=Z,204nm,2.6s							
BJI				LR	LR		
comp=N,1μm,15.9s,MS4.6							
BJI				LR	LR		
comp=E,1μm,14.6s,MS4.6							
BJI				LR	LR		
comp=Z,1μm,18.1s,MS4.3							
BJT	**Baijiatuau**	**20.39**	**289**	*e*P	**P**	**04 10 44.0**	**-2.6**
BJT				pmax	pmax		
comp=Z,26nm,0.7s							
BJT	**Baijiatuau**	**20.39**	**289**	*e*Pn	**P**	**04 10 44.0**	**-2.6**
comp=Z,26nm,0.7s							
HIA	**Hailar**	**20.71**	**316**	*e*P	**P**	**04 10 47.6**	**-2.5**
HIA				pmax	pmax		
comp=Z,37nm,0.9s							
HIA	**Hailar**	**20.71**	**316**	*e*Pn	**P**	**04 10 47.6**	**-2.5**
comp=Z,37nm,0.9s							
PET	**Petropavlovsk**	**20.80**	**30**	*e*P	**P**	**04 10 52.4**	**+1.4**
PET				*e*S	**S**	**04 14 37.5**	**-3.5**
PET				MLR	MLR		
comp=Z,900nm,15.0s,MS4.3							
WHN	**Wuhan**	**23.38**	**264**	P	**P**	**04 11 17.8**	**-0.7**
WHN				S	**S**	**04 15 31.0**	**+2.5**
WHN				LR	LR		
comp=Z,5μm,13.4s,MS5.1							
NRGR	**Nerungri**	**23.56**	**336**	*e*P	**P**	**04 11 12.0**	**-8.1**
CLNS	**Chul'man**	**23.65**	**337**	*e*P	**P**	**04 11 19.5**	**-1.5**
CLNS				*e*		04 11 41.8	
CLNS				*e*		04 15 09.3	
CLNS				*e*S	**S**	**04 15 14.8**	**-18**
CLNS				pmax	pmax		
comp=Z,85nm,1.2s,mb5.0							
CLNS				pmax	pmax		
comp=N,78nm,1.3s							
CLNS				pmax	pmax		
comp=E,28nm,0.8s							
CLNS				pmax	pmax		
comp=N,76nm,1.6s							
CLNS				pmax	pmax		
comp=Z,42nm,1.6s,mb4.6							
CLNS				pmax	pmax		
comp=E,28nm,0.9s							
CLNS				smax			
comp=N,9.0nm,0.8s							
CLNS				smax			
comp=Z,10.0nm,1.3s							
CLNS				smax			
comp=E,12nm,1.0s							
CLNS				MLR	MLR		
comp=Z,2μm,15.0s,MS4.8							
CLNS				MLR	MLR		
comp=N,500nm,14.0s,MS4.5							
CLNS				MLR	MLR		
comp=E,1μm,14.0s,MS4.5							
HHC	**Hu-ho-hao-te**	**23.94**	**291**	*e*P	**P**	**04 11 23.6**	**0.0**
HHC				AP		04 11 32.9	
HHC				XP	sP	04 11 36.9	-1.7
HHC				PP		04 11 57.3	
HHC				PCP	PcP	04 15 08.4	+3.1
HHC				S	**S**	**04 15 33.8**	**-3.7**
HHC				XS	sS	04 15 49.1	-5.8
HHC				SS		04 16 24.1	
HHC				AMB	AMB		
comp=Z,16nm,0.9s,mb4.5							
HHC				AMB	AMB		
comp=Z,230nm,4.3s							
HHC				LR	LR		
comp=N,1μm,14.9s,MS4.7							
HHC				LR	LR		
comp=E,2μm,16.3s,MS4.7							
HHC				LR	LR		
comp=Z,2μm,14.3s,MS4.8							
MA2	**Magadan**	**24.30**	**11**	*c i*P	**P**	**04 11 26.1**	**-0.8**
MA2				pmax	pmax		
comp=Z,20nm,1.2s,mb4.4							
MA2				pmax	pmax		
comp=N,10.0nm,1.0s							
MA2	**Magadan**	**24.30**	**11**	*e*P	**P**	**04 11 25.6**	**-1.3**
comp=N,47nm,1.1s,mb4.8							
BTO	**Baotou**	**25.11**	**290**	*e*P	**P**	**04 11 31.9**	**-2.3**
BTO				LR	LR		
comp=N,268nm,4.3s							
BTO				LR	LR		
comp=E,2μm,13.3s							
XAN	**Xi'an**	**26.75**	**275**	P	**P**	**04 11 48.4**	**-0.7**
XAN				AP	pP	04 11 56.9	-2.8
XAN				AMB	AMB		
comp=Z,41nm,1.7s,mb4.7							
XAN				LR	LR		
comp=E,1μm,15.3s							
XAN				LR	LR		
comp=Z,2μm,16.2s,MS4.7							
YAK	**Yakutsk**	**27.07**	**348**	*e*P	**P**	**04 11 51.5**	**-0.5**
YAK				*e**PP	pP	04 12 02.2	-0.3
YAK				*e*PPP		04 12 36.3	
YAK				*e*		04 15 19.1	
YAK				*e*S	**S**	**04 16 19.1**	**-8.3**
YAK				pmax	pmax		
comp=Z,45nm,0.8s,mb5.0							
YAK				pmax	pmax		
comp=N,70nm,1.7s							
YAK				pmax	pmax		
comp=E,33nm,1.9s							
YAK				pmax	pmax		
comp=Z,24nm,1.0s,mb4.7							
YAK				pmax	pmax		
comp=N,33nm,1.3s							
YAK				pmax	pmax		
comp=E,10.0nm,1.2s							
YAK				smax			
comp=E,140nm,10.9s							
YAK				smax			
comp=Z,38nm,7.0s							
YAK				smax			
comp=N,50nm,7.5s							
YAK				MLR	MLR		
comp=Z,2μm,21.0s,MS4.6							
YAK				MLR	MLR		
comp=N,1μm,19.0s							
YAK				MLR	MLR		
comp=E,372nm,10.0s							
YAK	**Yakutsk**	**27.07**	**348**	*e*P	**P**	**04 11 51.2**	**-0.7**
comp=E,59nm,0.6s,mb5.3							
ENH	**Enshi**	**27.40**	**267**	*e*P	**P**	**04 11 54.5**	**-0.5**
comp=E,46nm,0.8s,mb5.1							
ENH				*e*pP	pP	04 12 05.1	-0.4
SEY	**Seymchan**	**27.74**	**11**	*e*P	**P**	**04 12 00.4**	**+2.4**
SEY						04 12 58.7	
SEY						04 15 19.7	
SEY				*e*S	**S**	**04 16 40.2**	**+2.3**
SEY				pmax	pmax		
comp=Z,40nm,1.0s,mb5.0							
SEY				pmax	pmax		
comp=E,8.0nm,0.9s							
SEY				smax			
comp=N,900nm,18.8s							
SEY				smax			
comp=E,490nm,25.8s							
ULN	**Ulaanbaatar**	**28.04**	**306**	*e*P	**P**	**04 12 00.9**	**+0.3**
ULN				*e**SP	sP	04 12 14.5	-1.3
ULN				pmax	pmax		
comp=Z,20nm,0.9s,mb4.8							
ULN	**Ulaanbaatar**	**28.04**	**306**	*e*P	**P**	**04 12 00.9**	**+0.2**
comp=Z,20nm,0.9s,mb4.8							
ULN				*e*pP	pP	04 12 09.2	-2.0
ULN				*e*sP	sP	04 12 14.5	-1.3
BOD	**Bodaibo**	**28.45**	**329**	*e*P	**P**	**04 12 03.2**	**-1.1**
BOD				pmax	pmax		
comp=Z,40nm,1.2s,mb4.9							
SONM	**Songino Array**	**28.46**	**305**	P	**P**	**04 12 04.5**	**0.0**
comp=Z,15nm,0.8s,mb4.7,baz=103,slow=8.5,SNR=43							
SONM				LR	LR	04 23 59.8	
comp=Z,2μm,18.4s,MS4.7,baz=21,slow=37							
LZH	**Lanzhou**	**30.39**	**281**	*e*P	**P**	**04 12 21.3**	**-0.2**
LZH				AP	pP	04 12 31.4	-0.7
LZH				XP	sP	04 12 37.9	+1.3
LZH				AMB	AMB		
comp=Z,50nm,1.2s,mb5.1							
LZH				AMB	AMB		
comp=Z,280nm,4.3s							
LZH				LR	LR		
comp=E,6μm,15.2s							
LZH				LR	LR		
comp=Z,7μm,16.3s,MS5.4							
IRK	**Irkutsk**	**30.88**	**313**	*e*P	**P**	**04 12 25.6**	**-0.2**

IRK e pP 04 12 35.4 -1.0
IRK pmax pmax
comp=Z,63nm,1.1s,mb5.4
ZAK Zakamensk 31.00 310 eP **P 04 12 26.6 -0.3**
ZAK pmax pmax
comp=Z,50nm,1.4s,mb5.2
GYA Guiyang 31.21 262 ||i P **P 04 12 28.1 -0.6**
GYA AP pP 04 12 37.5 -1.8
GYA XP sP 04 12 41.6 -2.3
GYA PP PP 04 13 30.5 -9.0
GYA S **S 04 17 29.4 -2.9**
GYA XS sS 04 17 45.4 -4.5
GYA SS SS 04 19 14.8 -32
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,210nm,4.8s
GYA LR LR
comp=N,1μm,17.0s,MS4.9
GYA LR LR
comp=E,2μm,17.8s,MS4.9
GYA LR LR
comp=Z,2μm,16.9s,MS4.9
CD2 Chengdu 31.83 272 P **P 04 12 34.0 -0.2**
CD2 AP pP 04 12 44.3 -0.5
CD2 XP sP 04 12 47.5 -1.9
CD2 PP PP 04 13 39.3 -7.1
CD2 S **S 04 17 40.0 -2.0**
CD2 XS sS 04 17 56.0 -3.7
CD2 SS SS 04 19 31.0 -28
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,180nm,5.3s
CD2 LR LR
comp=N,970nm,15.6s
CD2 LR LR
comp=Z,1μm,14.4s,MS4.7
QIZ Qiongzhong 32.66 247 P **P 04 12 41.3 -0.2**
QIZ S **S 04 17 55.8 +0.8**
QIZ AMB AMB
comp=Z,352nm,5.3s
QIZ LR LR
comp=N,985nm,16.1s
QIZ LR LR
comp=Z,1μm,13.8s,MS4.7
MOY Mondy 32.69 311 eP **P 04 12 42.1 +0.3**
MOY pmax pmax
comp=Z,54nm,4.8s
GTA Gaotai 33.00 289 eP **P 04 12 45.1 +0.6**
GTA AP pP 04 12 54.3 -0.8
GTA XP sP 04 12 57.4 -2.2
GTA PP PP 04 13 55.8 -3.6
GTA PCP PcP 04 15 29.1 +1.4
GTA S **S 04 18 00.9 +0.6**
GTA XS sS 04 18 15.8 -2.1
GTA SS SS 04 19 59.6 -24
GTA AMB AMB
comp=Z,43nm,1.1s,mb5.3
GTA AMB AMB
comp=Z,142nm,5.7s
GTA LR LR
comp=N,1μm,14.5s,MS4.9
GTA LR LR
comp=E,2μm,18.7s,MS4.9
GTA LR LR
comp=Z,2μm,17.6s,MS4.8
BILL Bilibino 34.94 16 eP **P 04 13 00.7 -0.6**
BILL e*PP pP 04 13 11.0 -1.0
BILL pmax pmax
comp=Z,14nm,1.1s,mb4.8
BILL Bilibino 34.94 16 eP **P 04 13 00.7 -0.6**
comp=Z,14nm,1.1s,mb4.8
BILL epP pP 04 13 11.0 -1.0
KMI Kunming 34.96 263 P **P 04 13 01.3 -0.2**
KMI AP pP 04 13 10.9 -1.3
KMI XP sP 04 13 14.8 -1.9
KMI PP PP 04 14 21.5 +0.4
KMI S **S 04 18 32.1 +1.5**
KMI XS sS 04 18 48.5 +0.2
KMI SS SS 04 20 49.9 -13
KMI AMB AMB
comp=Z,19nm,1.6s,mb4.8
KMI AMB AMB
comp=Z,131nm,4.3s
KMI LR LR
comp=N,1μm,17.9s,MS4.8
KMI LR LR
comp=E,490nm,18.6s,MS4.8
KMI LR LR
comp=Z,823nm,20.5s,MS4.5
TIXI Tiksi 36.29 353 ||i P **P 04 13 09.0 -3.9**
TIXI e 04 14 31.2
TIXI eS **S 04 18 44.7 -6.3**
TIXI eSS SS 04 21 19.0 -11
TIXI pmax pmax
comp=Z,16nm,1.1s,mb4.9
TIXI MLR MLR
comp=Z,1μm,16.0s,MS4.8
WMQ Urumqi 41.42 298 P **P 04 13 57.0 +1.2**
WMQ AP pP 04 14 06.8 +0.1
WMQ XP sP 04 14 10.8 -0.4
WMQ PP PP 04 15 36.3 +4.4
WMQ eS **S 04 20 09.4 +1.2**
WMQ SS SS 04 23 09.3 -3.9
WMQ AMB AMB
comp=Z,103nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,745nm,4.6s
WMQ LR LR
comp=N,2μm,18.4s,MS5.1
WMQ LR LR
comp=E,1μm,20.0s,MS5.1
WMQ LR LR
comp=Z,2μm,18.4s,MS5.0
TNA Tin City 41.66 29 eP **P 04 13 58.1 +0.4**
comp=Z,7.0nm,1.0s,mb4.2
TNA epP pP 04 14 08.4 -0.1
LSA Lhasa 42.45 276 P **P 04 14 05.8 +1.6**
LSA Lhasa 42.45 276 eP **P 04 14 06.0 +1.8**
LSA pmax pmax
comp=Z,20nm,0.9s,mb4.8
LSA Lhasa 42.45 276 eP **P 04 14 06.0 +1.7**
comp=Z,20nm,0.9s,mb4.7
ZAL Zalesovo 42.70 313 P **P 04 14 06.6 +0.3**
comp=Z,12nm,0.7s,mb4.7,baz=18,slow=8.2,SNR=74
ZAL LR LR 04 33 15.3
comp=Z,2μm,18.3s,MS5.0,baz=24,slow=38
ZAL Zalesovo 42.70 313 P **P 04 14 06.6 +0.3**
ZAL LR LR 04 33 15.3
NVS Novosibirsk 43.63 314 i P **P 04 14 13.2 -0.6**
NVS pmax pmax
comp=Z,37nm,0.8s,mb5.2
NVS pmax pmax
comp=N,12nm,0.8s
NVS pmax pmax
comp=E,43nm,0.8s
MK31 Makanchi Array 44.77 303 P **P 04 14 22.8 -0.1**
MK31 pmax pmax
comp=Z,74nm,1.1s,mb5.4
MKAR Makanchi Array 44.77 303 P **P 04 14 23.2 +0.3**
comp=Z,36nm,0.9s,mb5.2,baz=52,slow=7.9,SNR=84
MKAR Makanchi Array 44.77 303 P **P 04 14 23.2 +0.3**
KURK Kurchatov 46.66 309 eP **P 04 14 37.5 -0.3**
KURK e*PP pP 04 14 48.4 -0.4
KURK pmax pmax
comp=Z,88nm,0.8s,mb5.7
KURK Kurchatov 46.66 309 eP **P 04 14 37.5 -0.4**
comp=Z,88nm,0.8s,mb5.7
KURK epP pP 04 14 48.4 -0.4
JIRN Jiri 47.25 276 eP **P 04 14 43.9 +1.4**
comp=Z,58nm,0.6s,mb5.7
GUN Gumba 47.40 277 eP **P 04 14 44.7 +1.1**
comp=Z,119nm,1.1s,mb5.7
KDAK Kodiak Island 47.75 41 P **P 04 14 45.4 -0.9**
comp=Z,9.3nm,0.8s,mb4.8,baz=161,slow=19,SNR=2.8
PKI Pulchoki 47.92 276 eP **P 04 14 48.5 +0.9**
comp=Z,81nm,1.1s,mb5.7
KKN Kakani 47.93 277 eP **P 04 14 48.8 +1.1**
DMN Daman 48.15 277 eP **P 04 14 50.2 +0.8**
GKN Gorkha 48.36 277 eP **P 04 14 51.8 +0.8**
comp=Z,261nm,1.3s
HNR Honiara 48.42 155 LR LR 04 33 54.1
comp=Z,420nm,20.4s,MS4.4,baz=6.8,slow=34
FIB Fire Island 48.85 37 eP **P 04 14 55.4 +0.6**

FIB e*SP sP 04 15 09.5 -0.8
FIB pmax pmax
comp=Z,23nm,0.8s,mb5.3
FIB Fire Island 48.85 37 eP **P 04 14 55.4 +0.5**
comp=Z,23nm,0.8s,mb5.2
FIB epP pP 04 15 05.6 -0.3
FIB eSP sP 04 15 09.5 -0.8
DANN Dangsing 48.92 278 eP **P 04 14 56.2 +0.9**
KAKA Kakadu 49.25 192 eP **P 04 14 57.6 -0.2**
comp=Z,15nm,0.7s,mb5.1
KAKA e pP 04 15 08.7 -0.2
KOLN Koldanda 49.29 278 eP **P 04 14 59.0 +0.8**
comp=Z,243nm,1.8s,mb5.9
PMR Palmer 49.34 36 eP **P 04 14 58.2 -0.4**
PMR e*PP pP 04 15 08.6 -1.0
PMR pmax pmax
comp=Z,44nm,1.5s,mb5.3
PMR Palmer 49.34 36 eP **P 04 14 58.2 -0.3**
comp=Z,44nm,1.5s,mb5.3
PMR epP pP 04 15 08.6 -1.1
MCK McKinley 49.39 33 eP **P 04 14 58.7 -0.2**
MCK e*PP pP 04 15 09.5 -0.4
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MCK McKinley 49.39 33 eP **P 04 14 58.7 -0.2**
comp=Z,4.8nm,0.9s,mb4.5
MCK epP pP 04 15 09.5 -0.5
COLA College 49.85 32 eP **P 04 15 01.8 -0.6**
COLA College 49.85 32 eP **P 04 15 02.8 +0.4**
comp=Z,9.6nm,0.8s,mb4.9
COLA epP pP 04 15 13.3 -0.2
ULHL Ulahol 49.95 298 P **P 04 15 04.7 +1.5**
SNR=13
TKM2 Tokmak 2 50.23 299 P **P 04 15 06.8 +1.5**
SNR=34
TKM2 Tokmak 2 50.23 299 i P **P 04 15 05.9 +0.6**
TKM2 pmax pmax
comp=Z,110nm,1.4s,mb5.7
ILAR Eielson Array 50.26 32 P **P 04 15 04.8 -0.8**
comp=Z,5.8nm,0.9s,mb4.6,baz=272,slow=6.5,SNR=44
ILAR LR LR 04 38 19.2
comp=Z,232nm,19.4s,MS4.2,baz=256,slow=38
KZA Kyzart 50.71 298 P **P 04 15 11.7 +2.7**
SNR=18
KBK Karagaybulak 50.76 299 P **P 04 15 11.0 +1.7**
SNR=16
USP Ospenovka 50.91 300 P **P 04 15 11.0 +0.6**
SNR=14
KSH Kashi 50.94 295 eP **P 04 15 13.4 +2.7**
KSH AP pP 04 15 23.0 +1.2
KSH XP sP 04 15 27.1 +0.9
KSH PCP PcP 04 16 29.1 +2.5
KSH PP PP 04 17 10.9 +3.6
KSH SCP ScP 04 20 22.3 +2.4
KSH PCS PcS 04 20 25.8 +1.6
KSH S **S 04 22 26.4 +1.6**
KSH XS sS 04 22 43.8 +0.7
KSH AMB AMB
comp=Z,64nm,0.9s,mb5.5
KSH AMB AMB
comp=Z,397nm,3.0s
KSH LR LR
comp=N,1μm,15.0s,MS5.2
KSH LR LR
comp=E,1μm,15.1s,MS5.2
KSH LR LR
comp=Z,2μm,17.6s,MS5.3
FRU Bishkek 50.95 299 eP **P 04 15 12.0 +1.3**
FRU i pP 04 15 22.0 +0.2
FRU pmax pmax
comp=Z,80nm,1.9s,mb5.3
FRU pmax pmax
comp=Z,110nm,1.7s,mb5.5
FRU MLR MLR
comp=Z,3μm,18.0s,MS5.3
FRU MLR MLR
comp=N,3μm,16.0s,MS5.4
FRU MLR MLR
comp=E,2μm,18.0s,MS5.4
VOSK Vostochnaya 51.05 312 P **P 04 15 11.1 -0.4**
VOSK pmax pmax
comp=Z,54nm,1.0s,mb5.4
AAK Ala-Archa 51.09 299 P **P 04 15 13.1 +1.3**
SNR=14
AAK Ala-Archa 51.09 299 c i P **P 04 15 11.4 -0.4**
AAK pmax pmax
comp=Z,19nm,1.3s,mb4.9
AAK Ala-Archa 51.09 299 eP **P 04 15 12.1 +0.3**
comp=Z,28nm,1.0s,mb5.2
AAK epP pP 04 15 22.1 -0.7
UCH Uchtor 51.19 299 P **P 04 15 14.0 +1.5**
SNR=9.0
BVA0 Borovoye Array 51.35 313 P **P 04 15 13.4 -0.3**
BVA0 pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BVAR Borovoye Array 51.35 313 P **P 04 15 13.7 -0.1**
comp=Z,12nm,0.8s,mb4.8,baz=79,slow=7.7,SNR=59
BVAR PcP PcP 04 16 29.0 +0.8
comp=Z,5.8nm,0.7s,baz=72,slow=4.7,SNR=2.5
BRVK Borovoye 51.40 313 eP **P 04 15 14.0 -0.1**
BRVK e*PP pP 04 15 25.3 +0.1
BRVK pmax pmax
comp=Z,18nm,0.9s,mb5.0
BRVK Borovoye 51.40 313 eP **P 04 15 14.0 -0.2**
comp=Z,18nm,0.9s,mb5.0
BRVK epP pP 04 15 25.3 +0.1
EKS2 Erkin-Say 51.59 299 P **P 04 15 16.5 +0.9**
SNR=8.2
AML Almayashu 51.80 299 P **P 04 15 18.8 +1.7**
SNR=46
ZRNK Zerenda 52.18 313 i P **P 04 15 19.5 -0.5**
ZRNK pmax pmax
comp=Z,61nm,1.3s,mb5.4
KK31 Karatay Array 53.75 301 i P **P 04 15 31.6 +0.1**
KK31 pmax pmax
comp=Z,34nm,0.8s,mb5.3
KKAR Karatay Array 53.75 301 i P **P 04 15 31.6 +0.1**
KKAR pmax pmax
comp=Z,27nm,0.8s,mb5.2
INK Inuvik 55.21 27 eP **P 04 15 41.8 -0.3**
INK e*PP pP 04 15 52.7 -0.6
INK pmax pmax
comp=Z,27nm,0.9s
INK Inuvik 55.21 27 eP **P 04 15 41.8 -0.3**
comp=Z,27nm,0.9s,mb5.3
INK epP pP 04 15 52.6 -0.6
FITZ Fitzroy Crossi 55.92 198 eP **P 04 15 47.2 0.0**
comp=Z,15nm,1.5s,mb4.8
WRAB Tennant Creek 56.08 188 eP **P 04 15 47.6 -0.8**
WRAB Tennant Creek 56.08 188 eP **P 04 15 48.4 0.0**
comp=Z,34nm,0.8s,mb5.4
WRAB epP pP 04 15 58.7 -0.9
WRAB eSP sP 04 16 02.7 -1.3
WB2 Warramunga Arr 56.09 188 eP **P 04 15 47.2 -1.2**
WB2 e pP 04 15 58.0 -1.6
WRA Warramunga Arr 56.09 188 P **P 04 15 47.2 -1.2**
comp=Z,8.6nm,1.0s,mb4.7,baz=6.6,slow=7.3,SNR=52
ARU Arti 57.20 319 eP **P 04 15 55.9 -0.4**
ARU e*PP pP 04 16 06.7 -0.8
ARU pmax pmax
comp=Z,45nm,0.9s,mb5.5
ARU Arti 57.20 319 eP **P 04 15 55.9 -0.4**
comp=Z,45nm,0.9s,mb5.5
ARU epP pP 04 16 06.7 -0.8
HYB Hyderabad 58.32 269 i P **P 04 16 05.0 +0.8**
HYB e pP 04 16 15.0 -0.4
HYB Hyderabad 58.32 269 eP **P 04 16 05.0 +0.8**
HYB e pP 04 16 15.0 -0.4
AKTK Aktyubinsk 59.45 312 P **P 04 16 11.6 -0.4**
AKTO Aktyubinsk 59.45 312 P **P 04 16 11.6 -0.4**
comp=Z,12nm,0.8s,mb5.0,baz=73,slow=10,SNR=24
AKTO Aktyubinsk 59.45 312 P **P 04 16 11.6 -0.4**
AKTO pmax pmax
comp=Z,12nm,0.8s,mb5.0
AS31 Alice Springs 59.82 188 eP **P 04 16 19.9 +5.3**
ASAR Alice Springs 59.82 188 P **P 04 16 14.1 -0.5**
comp=Z,1.0nm,0.4s,mb4.2,baz=3.5,slow=6.6,SNR=13
ASPA Alice Springs 59.82 188 eP **P 04 16 19.9 +5.3**
APA Apatity 63.65 336 ||i P **P 04 16 40.4 0.0**
APA pmax pmax
comp=Z,39nm,1.3s,mb5.3
APA MLR MLR
comp=Z,2μm,17.0s,MS5.4
KEV Kevo 64.42 339 ep **P 04 16 43.8 -1.6**
comp=Z,17nm,1.0s,mb5.0

KEV Kevo 64.42 339 eP **P 04 16 43.8 -1.6**
KEV pmax pmax
comp=Z,17nm,1.0s,mb5.0
YKW3 Yellowknife Ar 64.56 30 eP **P 04 16 44.8 -1.6**
YKW3 epP pP 04 16 56.8 -0.9
YKA Yellowknife Ar 64.60 30 P **P 04 16 45.7 -0.8**
comp=Z,3.0nm,0.9s,mb4.3,baz=299,slow=6.6,SNR=33
YKA Yellowknife Ar 64.60 30 P **P 04 16 45.7 -0.8**
KLMR Klimovskoe 64.67 328 eP **P 04 16 46.5 -0.6**
KLMR pmax pmax
comp=Z,80nm,2.3s,mb5.3
KLMR pmax pmax
comp=Z,170nm,4.7s
KLMR MLR MLR
comp=Z,700nm,16.0s,MS5.0
ARCES ARCESS Array B 64.98 340 P **P 04 16 48.4 -0.7**
comp=Z,9.4nm,0.8s,mb4.9,baz=56,slow=8.0,SNR=14
ARCES LR LR 04 48 03.0
comp=Z,609nm,20.9s,MS4.8,baz=31,slow=39
JOF Joensuu 66.91 332 ep **P 04 17 00.9 -0.5**
comp=Z,9.6nm,0.6s,mb5.0
OCWA Octopus Mounta 66.93 47 eP **P 04 17 06.1 +4.5**
OCWA epP pP 04 17 13.7 +0.7
STKA Stephens Creek 67.56 180 P **P 04 17 03.3 -2.3**
comp=Z,1.7nm,0.8s,mb4.1,baz=341,slow=5.7,SNR=2.4
STKA LR LR 04 47 17.1
comp=Z,223nm,19.8s,MS4.4,baz=16,slow=36
CMW Cultus Mountai 67.81 46 P **P 04 17 08.1 +1.0**
JCW Jim Creek 68.03 46 P **P 04 17 09.4 +0.8**
MOS Moscow 68.13 324 eP **P 04 17 08.4 -0.8**
MOS e 04 17 33.1
MOS pmax pmax
comp=Z,72nm,0.9s,mb5.7
OBN Obninsk 68.98 324 eP **P 04 17 14.3 -0.1**
OBN e pP 04 17 25.1 -0.8
OBN e 04 17 38.1
OBN e 04 19 45.5
OBN eSS SS 04 30 43.7 +1.3
OBN pmax pmax
comp=Z,84nm,2.5s,mb5.2
OBN MLR MLR
comp=Z,900nm,17.0s,MS5.1
KAF Kangasniemi 69.26 333 ep **P 04 17 14.5 -1.7**
comp=Z,5.3nm,0.4s,mb4.8,baz=48,slow=5.8
KAF Kangasniemi 69.26 333 eP **P 04 17 14.5 -1.7**
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
TBM Table Mountain 69.33 46 P **P 04 17 17.5 +0.9**
EBG Ellensburg 69.48 46 P **P 04 17 18.5 +0.9**
FINES FINESS Array B 69.76 332 P **P 04 17 18.6 -0.7**
comp=Z,8.9nm,0.8s,mb4.7,baz=63,slow=8.8,SNR=28
FINES LR LR 04 50 16.3
comp=Z,447nm,19.4s,MS4.7,baz=195,slow=38
EDM Edmonton 70.04 38 eP **P 04 17 20.5 -0.5**
EDM e*PP pP 04 17 31.8 -0.7
OD2 Odessa Site #2 70.31 45 P **P 04 17 23.3 +0.6**
MOR8 Moi Rana 70.34 340 eP **P 04 17 21.7 -1.2**
MOR8 AMb AMB 04 17 23.2
comp=Z,40nm,1.1s,mb5.3
NEW Newport 70.75 44 P **P 04 17 25.5 +0.2**
comp=Z,3.7nm,0.9s,mb4.3,baz=302,slow=4.5,SNR=8.1
NEW Newport 70.75 44 P **P 04 17 25.5 +0.2**
YBH Yreka Blue Hor 70.84 52 P **P 04 17 26.6 +0.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=115,slow=5.2,SNR=2.4
YBH Yreka Blue Hor 70.84 52 P **P 04 17 26.6 +0.7**
YBH pmax pmax
comp=Z,1.0nm,0.6s
YBH Yreka Blue Hor 70.84 52 eP **P 04 17 27.1 +1.2**
comp=Z,12nm,1.2s,mb4.7
YBH epP pP 04 17 38.2 +0.8
GOF Gofitskoye 70.87 312 eP **P 04 17 26.0 -0.1**
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.4
VSU Vasula 71.38 330 eP **P 04 17 28.9 -0.3**
ZEI Tsey 71.55 310 i P **P 04 17 27.5 -2.7**
ZEI i *PP pP 04 17 37.7 -4.0
ZEI pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MOD Modoc 72.28 51 P **P 04 17 35.0 +0.4**
comp=Z,12nm,1.1s,mb4.7
MOD epP pP 04 17 45.2 -0.8
GNI Garni 72.41 307 c i P **P 04 17 36.6 +1.2**
GNI pmax pmax
comp=Z,24nm,1.7s
BMO Blue Mountains 72.50 47 eP **P 04 17 36.5 +0.6**
BMO e*PP pP 04 17 46.9 -0.5
BMO pmax pmax
comp=Z,14nm,1.1s,mb4.8
BMO Blue Mountains 72.50 47 eP **P 04 17 36.5 +0.6**
comp=Z,14nm,1.1s,mb4.8
BMO epP pP 04 17 46.9 -0.6
MSO Missoula 73.34 44 eP **P 04 17 41.2 +0.4**
comp=Z,12nm,1.2s,mb4.7
MSO epP pP 04 17 51.3 -1.0
SOC Sochi 73.67 312 c i P **P 04 17 42.3 -0.5**
SOC e pP 04 17 54.7 +0.4
SOC ePPP 04 22 07.5
SOC eS S 04 27 11.1 +0.5
SOC pmax pmax
comp=Z,22nm,1.2s,mb5.0
SOC MLR MLR
comp=Z,834nm,18.0s,MS5.1
CHMT Chamberlain Mo 73.67 44 eP **P 04 17 42.9 +0.1**
CHMT epP pP 04 17 53.7 -0.6
ANN Anapa 74.32 314 eP **P 04 17 45.0 -1.6**
ANN eS S 04 27 17.9 -0.1
ANN pmax pmax
comp=Z,67nm,1.2s,mb5.5
ANN MLR MLR
comp=N,780nm,17.0s,MS5.2
ANN MLR MLR
comp=E,718nm,17.0s,MS5.2
ANN MLR MLR
comp=Z,750nm,17.0s,MS5.0
CMB Columbia Colle 74.34 54 eP **P 04 17 47.5 +0.8**
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CMB Columbia Colle 74.34 54 eP **P 04 17 47.5 +0.9**
comp=Z,10.0nm,1.1s,mb4.7
HRY Holter Researc 74.58 43 eP **P 04 17 48.6 +0.4**
HRY epP pP 04 17 59.6 -0.1
EGMT Eagleton 74.93 41 eP **P 04 17 50.3 +0.2**
comp=Z,23nm,1.0s,mb5.1
EGMT epP pP 04 18 00.5 -1.2
DLMT Dillon 74.95 45 eP **P 04 17 50.7 +0.5**
comp=Z,121nm,1.0s,mb5.8
DLMT epP pP 04 18 01.4 -0.5
NOA NORSAR Array B 75.16 337 P **P 04 17 50.2 -1.2**
comp=Z,1.6nm,0.6s,mb4.2,baz=39,slow=7.7,SNR=4.1
AKASG Malin Array Be 75.17 323 P **P 04 17 51.0 -0.5**
comp=Z,4.5nm,0.5s,mb4.7,baz=46,slow=5.8,SNR=40
BOZ Bozeman (W) 75.33 44 eP **P 04 17 52.9 +0.5**
BOZ e*PP pP 04 18 04.3 +0.3
BOZ pmax pmax
comp=Z,20nm,1.1s,mb5.0
BOZ Bozeman (W) 75.33 44 eP **P 04 17 52.9 +0.5**
comp=Z,20nm,1.1s,mb5.0
BOZ epP pP 04 18 04.3 +0.3
NVAR Mina Array Bea 75.47 53 P **P 04 17 54.2 +0.9**
comp=Z,1.6nm,0.7s,mb4.1,baz=286,slow=4.9,SNR=12
SUW Suwalki 75.80 328 eP **P 04 17 54.9 -0.2**
ELK Elko 76.09 50 P **P 04 17 57.3 +0.6**
comp=Z,1.0nm,0.5s,mb4.0,baz=290,slow=6.9,SNR=6.2
MIB Mutribah 76.26 297 eP **P 04 17 58.6 +0.9**
YMR Madison River 76.29 44 eP **P 04 17 58.9 +0.9**
YMR ePcP PcP 04 18 09.1 -0.7
KBD Kabd 76.35 296 eP **P 04 17 59.1 +0.8**
QRN Al-Qurain 76.43 296 eP **P 04 17 59.8 +1.1**
RDF Al-Radifah 76.59 296 eP **P 04 18 00.9 +1.2**
NAY Al-Naaiem 76.64 296 eP **P 04 18 00.8 +1.0**
LKWY Lake 76.68 44 eP **P 04 18 01.4 +1.3**
LKWY e*PP pP 04 18 12.7 +1.0
LKWY pmax pmax
comp=Z,17nm,1.1s,mb4.9
LKWY Lake 76.68 44 eP **P 04 18 01.4 +1.2**
comp=Z,17nm,1.1s,mb4.9
LKWY epP pP 04 18 12.7 +1.0
MALT Malatya 77.50 308 eP **P 04 18 05.3 +0.6**
MALT e*PP pP 04 18 17.6 +1.3
MALT pmax pmax
comp=Z,14nm,1.2s,mb4.8
MALT Malatya 77.50 308 eP **P 04 18 05.3 +0.6**
comp=Z,14nm,1.2s,mb4.8
MALT epP pP 04 18 17.6 +1.3
DGMT Dagmar 77.53 38 eP **P 04 18 04.2 -0.7**

comp=Z,21nm,1.1s,mb5.0
DGMT *e*PcP PcP 04 18 14.9 -0.2
LAO LASA Array 77.64 41 *e*P **P 04 18 02.7 -2.8**
comp=Z,32nm,1.0s,mb5.2
LAO PcP PcP 04 18 13.6 -1.9
LAO *ep*P pP 04 18 16.4 -0.7
HWUT Hardware Ranch 77.80 47 *e*P **P 04 18 07.4 +1.0**
comp=Z,25nm,1.2s,mb5.0
HWUT *ep*P pP 04 18 17.4 -0.6
DUG Dugway 77.90 49 *e*P **P 04 18 07.3 +0.3**
DUG *e**PP pP 04 18 18.3 -0.3
DUG pmax pmax
comp=Z,22nm,1.2s,mb5.0
DUG Dugway 77.90 49 *e*P **P 04 18 07.3 +0.4**
comp=Z,22nm,1.2s,mb5.0
DUG *e*PcP PcP 04 18 15.5 -1.2
DUG *ep*P pP 04 18 18.3 -0.3
PDAR Pinedale Array 78.27 45 P **P 04 18 09.1 +0.1**
comp=Z,1.6nm,0.6s,mb4.1,baz=356,slow=0.7,SNR=18
KWP Kalwaria 79.02 325 *e*P **P 04 18 14.0 +0.9**
MSU Marysvale 79.31 50 *e*P **P 04 18 16.0 +1.3**
MSU *e**PP pP 04 18 26.5 +0.1
NEN Nelson 79.34 54 *e*P **P 04 18 14.8 -0.1**
NEN *ep*P pP 04 18 25.6 -0.9
BRTR Keskin Array B 79.62 312 P **P 04 18 17.4 +1.0**
comp=Z,8.7nm,1.0s,mb4.6,baz=122,slow=4.0,SNR=25
KOLS Kolonicke sedl 79.71 324 *e* **P 04 18 17.9 +1.0**
KOLS *ep*P pP 04 18 28.9 +0.4
KOLS Kolonicke sedl 79.71 324 *e*P **P 04 18 17.9 +1.0**
KOLS *e* pP 04 18 28.9 +0.4
STHS Stebnicka Huta 79.85 325 *e*P **P 04 18 17.8 +0.1**
STHS *e* pP 04 18 31.0 +1.7
STHS Stebnicka Huta 79.85 325 *e*P **P 04 18 17.8 +0.1**
STHS *e* pP 04 18 31.0 +1.7
OJC Ojcow 79.94 326 *e*P **P 04 18 18.5 +0.3**
ANTO Ankara 80.04 312 *e*P **P 04 18 17.9 -0.8**
ANTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ANTO Ankara 80.04 312 *e*P **P 04 18 17.9 -0.7**
comp=Z,3.7nm,0.6s,mb4.5
MLR Muntele Rosu 80.23 320 P **P 04 18 20.2 +0.5**
comp=Z,2.7nm,0.7s,mb4.3,baz=147,slow=8.4,SNR=3.0
ULM Lac du Bonnet 80.26 33 P **P 04 18 18.9 -0.9**
comp=Z,1.6nm,0.5s,mb4.2,baz=311,slow=6.6,SNR=5.6
ULM LR LR 04 53 11.0
comp=Z,121nm,21.7s,MS4.2,baz=334,slow=35
RSSD Black Hills 80.48 42 *e*P **P 04 18 20.7 -0.3**
RSSD *e**PP pP 04 18 31.5 -1.2
RSSD pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
RSSD Black Hills 80.48 42 *e*P **P 04 18 20.7 -0.4**
comp=Z,7.9nm,1.0s,mb4.6
RSSD *e*PcP PcP 04 18 26.7 -1.2
RSSD *ep*P pP 04 18 31.5 -1.1
KECS Kecovo 80.87 325 *e* **P 04 18 22.7 -0.4**
KECS *ep*P pP 04 18 36.6 +1.8
KECS Kecovo 80.87 325 *e*P **P 04 18 22.7 -0.4**
KECS *e* pP 04 18 36.6 +1.8
OKC Ostrava-Krasne 80.96 327 *e*P **P 04 18 23.5 -0.1**
OKC *ep*P pP 04 18 35.5 +0.3
BSEG Bad Segeberg 81.01 333 *e*P **P 04 18 23.5 -0.4**
comp=Z,21nm,1.3s,mb4.9
KSP Ksiaz 81.02 328 *e*P **P 04 18 23.8 -0.1**
KSP Ksiaz 81.02 328⇑ *e*P **P 04 18 24.2 +0.3**
KSP *ep*P pP 04 18 36.2 +0.6
KSP LR LR
comp=Z,2μm,17.6s,MS5.5
DPC Dobruska-Polom 81.38 328 *e*P **P 04 18 25.4 -0.4**
DPC *ep*P pP 04 18 37.0 -0.5
UPC Upice 81.39 328 *e*P **P 04 18 26.9 +1.0**
UPC *ep*P pP 04 18 38.2 +0.6
VYHS Vyhne 81.62 326 *e*P **P 04 18 27.0 -0.1**
VYHS *e* pP 04 18 39.3 +0.5
VYHS *ep*P pP 04 18 39.3 +0.5
VYHS Vyhne 81.62 326 *e* **P 04 18 27.0 -0.1**
BRG Berggiesshubel 81.98 330 *e*P **P 04 18 28.9 -0.1**
comp=Z,10.0nm,1.4s,mb4.5
BRG Berggiesshubel 81.98 330 *e*P **P 04 18 29.0 0.0**
BRG *e* pP 04 18 41.1 +0.4
BRG pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BRG Berggiesshubel 81.98 330 *e*P **P 04 18 29.0 0.0**
comp=Z,7.7nm,1.3s,mb4.5
BRG *e* pP 04 18 41.1 +0.4
PVCC Panska Ves 81.98 329 *e*P **P 04 18 29.5 +0.5**
CLL Collm 82.03 330 *e*P **P 04 18 29.4 +0.1**
comp=Z,20nm,1.0s,mb5.0
CLL Collm 82.03 330⇓ *i*P **P 04 18 29.2 -0.1**
comp=Z,20nm,1.0s,mb5.0
CLL *i* pP pP 04 18 39.7 -1.2
CLL *es*P sP 04 18 44.0 -1.2
CLL *i* x x 04 18 52.2
CLL Collm 82.03 330⇓ *i*P **P 04 18 29.2 -0.1**
CLL *i* *PP pP 04 18 39.7 -1.2
CLL pmax pmax
comp=Z,20nm,1.0s,mb5.0
CLL Collm 82.03 330⇓ *i*P **P 04 18 29.2 -0.1**
comp=Z,20nm,1.0s,mb5.0
CLL *i* pP pP 04 18 39.7 -1.2
VRAC Vranov 82.03 327 P **P 04 18 29.7 +0.4**
comp=Z,5.1nm,0.9s,mb4.4,baz=51,slow=2.4,SNR=5.1
PRU Pruhonice 82.40 329 *e*P **P 04 18 29.7 -1.5**
PRU *ep*P pP 04 18 42.2 -0.7
ISCO Idaho Springs 82.45 46 *e*P **P 04 18 32.1 +0.7**
ISCO *e**PP pP 04 18 43.1 0.0
ISCO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ISCO Idaho Springs 82.45 46 *e*P **P 04 18 32.1 +0.7**
comp=Z,7.4nm,1.0s,mb4.6
ISCO *ep*P pP 04 18 43.1 0.0
TREC Trest 82.52 328 *e*P **P 04 18 31.4 -0.5**
CLZ Clausthal 82.64 332 *e*P **P 04 18 32.7 +0.2**
comp=Z,12nm,1.1s,mb4.8
CLZ Clausthal 82.64 332 *e*P **P 04 18 32.7 +0.2**
CLZ pmax pmax
comp=Z,12nm,1.1s,mb4.8
WERD Werda 82.97 330 *e*P **P 04 18 34.0 -0.2**
comp=Z,27nm,2.0s,mb4.9
NKC Novy Kostel 83.08 330 *e*P **P 04 18 27.3 -7.5**
NKC *ep*P pP 04 18 34.9 -12
MOX Moxa 83.10 331 *e*P **P 04 18 34.5 -0.3**
comp=Z,15nm,1.6s,mb4.8
MOX
comp=Z,800nm,17.0s
MOX Moxa 83.10 331 *e*P **P 04 18 34.5 -0.3**
MOX pmax pmax
comp=Z,15nm,1.6s,mb4.8
MOX MLR MLR
comp=Z,800nm,17.0s,MS5.2
IBBN Ibbenburen 83.24 334 *e*P **P 04 18 35.7 +0.1**
comp=Z,16nm,0.6s,mb5.2
MANZ Manzenberg 83.41 330 *e*P **P 04 18 36.6 +0.1**
comp=Z,8.0nm,1.2s,mb4.6
KHC Kasperske Hory 83.46 329 *e*P **P 04 18 36.4 -0.3**
KHC *ep*P pP 04 18 47.7 -0.7
KHC Kasperske Hory 83.46 329⇑ *e*P **P 04 18 35.2 -1.5**
RZN Rozhen 83.47 318 *e*P **P 04 18 36.0 -0.7**
ROTZ Rotzenmuhle 83.54 330 *e*P **P 04 18 36.9 -0.2**
comp=Z,31nm,1.7s,mb5.2
GEC2 GERESS Array S 83.63 328 *e*P **P 04 18 37.9 +0.3**
comp=Z,100nm,2.8s,mb5.5
GEC2 GERESS Array S 83.63 328 *e*P **P 04 18 37.9 +0.3**
GEC2 pmax pmax
comp=Z,100nm,2.8s,mb5.5
GERES GERESS Array B 83.63 328 P **P 04 18 37.2 -0.3**
comp=Z,2.4nm,0.8s,mb4.4,baz=28,slow=6.0,SNR=16
VTS Vitosha 83.66 319 *e*P **P 04 18 38.0 +0.3**
WET Wettzell 83.75 329 *e*P **P 04 18 38.4 +0.2**
comp=Z,11nm,1.4s,mb4.8
WET Wettzell 83.75 329 *e*P **P 04 18 38.4 +0.2**
WET pmax pmax
comp=Z,11nm,1.4s,mb4.8
GRA1 Grafenberg Arr 84.00 330 *e*P **P 04 18 39.9 +0.4**
comp=Z,34nm,1.2s,mb5.3
GRA1 *ep*P pP 04 18 51.7 +0.5
GRF Grafenberg Arr 84.00 330 *e*P **P 04 18 39.9 +0.4**
comp=Z,34nm,1.2s,mb5.3
GRF *ep*P pP 04 18 51.7 +0.5
GRF Grafenberg Arr 84.00 330 *e*P **P 04 18 39.9 +0.4**
GRF *e**PP pP 04 18 51.7 +0.5
GRF pmax pmax
comp=Z,34nm,1.2s,mb5.3
GRUS Gruza 84.03 321 *i* P **P 04 18 39.7 +0.1**
PPT Papeete 84.06 117 *e*LR LR 04 44 22.3
comp=Z,561nm,21.5s,baz=314
PPT Papeete 84.06 117 LR LR 04 49 59.1
comp=Z,525nm,19.2s,MS4.9,baz=260,slow=31
MMB Musomiste 84.08 318 *e*P **P 04 18 40.0 +0.2**
EKA Eskdalemuir Ar 84.12 341 P **P 04 18 39.8 -0.2**
comp=Z,3.2nm,1.0s,mb4.4,baz=44,slow=5.0,SNR=3.7
KKB Krupnik 84.23 319 *e*P **P 04 18 42.0 +1.4**
DIVS Divcibare 84.25 322 *i* P **P 04 18 40.5 -0.3**
TNS Taunus Mts 84.67 332 *e*P **P 04 18 43.2 +0.4**
comp=Z,15nm,1.5s,mb4.9
TNS Taunus Mts 84.67 332 *e*P **P 04 18 43.2 +0.4**
TNS pmax pmax
comp=Z,15nm,1.5s,mb4.9
STIP Stip 84.83 319 *i* P **P 04 18 42.9 -0.8**
VAY Valandovo 84.89 319 *i* P **P 04 18 43.5 -0.4**
SKO Skopje 85.03 320 *i* P **P 04 18 44.9 +0.2**
ANMO Albuquerque 85.12 50 P **P 04 18 45.1 0.0**
comp=Z,1.9nm,1.0s,mb4.2,baz=316,slow=5.4,SNR=4.1
ANMO Albuquerque 85.12 50 *e*P **P 04 18 45.0 -0.1**
BFO Black Forest 86.24 331 *e*P **P 04 18 51.0 +0.3**
comp=Z,20nm,1.3s,mb5.2
BFO Black Forest 86.24 331 *e*P **P 04 18 51.0 +0.3**
BFO pmax pmax
comp=Z,20nm,1.3s,mb5.2
SCHQ Schefferville 86.26 16 P **P 04 18 50.0 -0.7**
comp=Z,6.0nm,1.0s,mb4.8,baz=264,slow=2.4,SNR=4.5
SCHQ LR LR 04 58 05.5
comp=Z,274nm,19.9s,MS4.7,baz=301,slow=36
DAVOX Davos 86.85 329 P **P 04 18 53.1 -0.5**
comp=Z,2.7nm,1.0s,mb4.4,baz=139,slow=18,SNR=2.4
TBI Tubuai 87.90 121 *e*LR LR 04 46 08.0
comp=Z,501nm,23.2s,baz=316
LTX Lajitas 90.62 52 *e*P **P 04 19 12.5 +1.0**
LTX pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
LTX Lajitas 90.62 52 *e*P **P 04 19 12.5 +1.0**
comp=Z,6.0nm,1.0s,mb4.9
LTX *ep*P pP 04 19 22.6 -0.7
RKT Rikitea 98.25 112 *e*LR LR 04 50 56.7
comp=Z,474nm,24.2s
TORD Torodi Ar. Bea 118.13 315 PKP PKPdf 04 24 55.2 -0.8
comp=Z,0.3nm,0.5s,baz=6.2,slow=2.7,SNR=5.0
TORD PP PP 04 26 06.6 -4.7
comp=Z,1.8nm,1.1s,baz=38,slow=3.4,SNR=5.1
LPAZ La Paz 147.06 61 PKPbc PKPbc 04 25 52.6 +0.7
comp=Z,3.0nm,0.6s,baz=20,slow=8.8,SNR=5.0
SIV San Ignacio 151.61 51 PKPbc PKPbc 04 26 03.6 +0.4
comp=Z,5.7nm,0.9s,baz=330,slow=2.1,SNR=16

NIED ***13*** *04:15:00, 36.10N×141.80E, h23km, Mw4.9 Best double couple: M₀2.51000×10¹⁶ NP1:φ₀=28.00000°, δ=69.00000°, λ=91.00000°. NP2:φ₀=206.00000°, δ=22.00000°, λ=88.00000°.*
HRVD ***13*** *04:15:31.8±0.5, 3598N×14206E, h36km±1km, MW5.0/54, Centroid moment Tensor Solution. LP body waves: s6,c6;Mantle waves: s54,c88; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.63±.42; Mθθ-0.22±.23; Mφφ-2.41±.24; Mrθ0.83±.16; Mθφ-1.37±.11; Mφr1.90±.16; Best double couple: M₀3.52400×10¹⁶ NP1:φ₀=208.00000°, δ=27.00000°, λ=93.00000°. NP2:φ₀=24.00000°, δ=63.00000°, λ=89.00000°. Principal axes: T 3.3050, Plg72.0000°, Azm291.0000°; N 0.4340, Plg1.0000°, Azm25.0000°; P -3.7430, Plg18.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
JMA ***13*** *04:15:31.8±0.2, 3607N×14167E, h56km±4km, M5.1*
JMA Felt II J1.
BJI ***13*** *04:15:31.7, 3621N×14148E, h29km, mB5.4, mb5.2, Ms4.9, Msz4.7*
ISCJB ***13*** *04:15:32.5±0.2, 3606N±003×14156E±002, h33km, mb5.2/184, MS4.8/17, Error ellipse: s-maj=3.8km s-min=2.7km az=139.5*
SZGRF ***13*** *04:15:33.5, 36.13N×141.99E, h38km, mb5.2, Near east coast of eastern Honshu, Japan*
NEIC ***13*** *04:15:33.9±0.2, 3604N×14153E, mb5.2/121, MS5.0/3, MW4.9(NIED), Error ellipse: s-maj=4.6km s-min=3.0km az=170.0*
NEIC Recorded [2 JMA] in Chiba, Ibaraki and Tochigi; [1 JMA] in Fukushima, Gumma, Miyagi, Saitama and Tokyo Prefectures.
MOS ***13*** *04:15:34.8±0.8, 3623N×14149E, h47km, mb5.4/82, Error ellipse: s-maj=8.2km s-min=4.5km az=113.9*
IDC ***13*** *04:15:35.0±1.8, 3598N×14153E, h46km±18km, mb4.6/29, mb1 4.7/32, mb1mx4.7/34, mbtmp4.8/32, ML4.6/3, MS4.2/6, Ms1 4.2/6, ms1mx3.8/26, Error ellipse: s-maj=13.2km s-min=11.3km az=85.0*
ISC 13 04:15:34.5±0.2, 3610N±003×14156E±002, h35km, h35km±.3km:pP-P, n493, σ0:94/495, mb5.2/184, MS4.8/17, 34C-27D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.69**	**235**	⇓P	**Pn**	**04 15 46.5**	**-1.2**
CHOJ				*e*S	**Sn**	**04 15 57.4**	**+0.1**
JHO	**Hitachi**	**0.94**	**303**	⇓P	**Pn**	**04 15 50.3**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.17**	**329**	⇓P	**Pn**	**04 15 52.9**	**-1.4**
JFK	**Kawauchi**	**1.38**	**337**	⇓P	**Pn**	**04 15 55.8**	**-1.3**
BSO1	**Boso 1**	**1.52**	**198**	P	**Pn**	**04 15 57.4**	**-1.7**
BSO3	**Boso 3**	**1.55**	**214**	⇓P	**Pn**	**04 15 58.7**	**-0.9**
JSB	**Shiboa**	**1.58**	**304**	⇓P	**Pn**	**04 16 00.1**	**+0.2**
JFT	**Otama**	**1.72**	**326**	⇓P	**Pn**	**04 16 02.0**	**+0.1**
JAG	**Ashikaga**	**1.73**	**281**	⇓P	**Pn**	**04 16 01.5**	**-0.5**
JMM	**Marumori**	**1.86**	**341**	⇑P	**Pn**	**04 16 02.8**	**-1.0**
JFY	**Yanaizu**	**1.98**	**312**	⇓P	**Pn**	**04 16 05.6**	**+0.2**
JKT	**Katashina**	**1.98**	**290**	⇓P	**Pn**	**04 16 05.7**	**+0.3**
JRY	**Ryogami san**	**2.15**	**268**	⇓P	**Pn**	**04 16 07.4**	**-0.4**
JOD2	**Odawara 2**	**2.18**	**248**	P	**Pn**	**04 16 08.6**	**+0.4**
JHK	**Hiroka**	**2.34**	**300**	⇓P	**Pn**	**04 16 11.3**	**+0.9**
JIO	**Ouri**	**2.35**	**356**	⇑P	**Pn**	**04 16 08.9**	**-1.7**
MJAR	**Matsushiro Arr**	**2.74**	**280**	P	**Pn**	**04 16 15.4**	**-0.5**
	180nm,0.3s,baz=277,slow=4.5,SNR=571						
MAT	**Matsushiro**	**2.74**	**280**	P	**Pn**	**04 16 16.9**	**+1.0**
MAT	**Matsushiro**	**2.74**	**280**	P	**Pn**	**04 16 16.7**	**+0.8**
MAT				*e*S	**Sn**	**04 16 51.4**	**+3.6**
MAT	**Matsushiro**	**2.74**	**280**	*e*P	**Pn**	**04 16 17.0**	**+1.1**
MAT				S	**Sn**	**04 16 51.0**	**+3.2**
JNG	**Nsakai**	**2.81**	**277**	⇓P	**Pn**	**04 16 17.9**	**+1.0**
JJN	**Nakama**	**2.91**	**291**	P	**Pn**	**04 16 20.0**	**+1.8**
JYK	**Kaneyama**	**2.97**	**342**	⇑P	**Pn**	**04 16 18.9**	**-0.1**
JSD	**Sado**	**3.27**	**307**	⇑P	**Pn**	**04 16 23.8**	**+0.7**
JHJ	**Hachijo jima 2**	**3.32**	**207**	P	**Pn**	**04 16 22.4**	**-1.4**
	460nm,0.3s,baz=174,slow=3.9,SNR=42						
JHJ				S	**Sn**	**04 17 00.3**	**-1.7**
	343nm,0.3s,baz=71,slow=22,SNR=5.5						
JHJ				LR	LR	04 17 06.5	
	comp=Z,602nm,20.9s,baz=269,slow=29						
JGF	**Kuroka**	**3.45**	**263**	⇑P	**Pn**	**04 16 27.9**	**+2.3**
JWT	**Wachi**	**5.08**	**263**	P	**Pn**	**04 16 49.6**	**+1.6**
JKS	**Kasai**	**5.59**	**260**	P	**Pn**	**04 16 56.6**	**+1.6**
JHS	**Saijyo**	**6.97**	**263**	P	**Pn**	**04 17 16.2**	**+2.2**
JKU	**Kubokawa**	**7.53**	**251**	⇓P	**Pn**	**04 17 24.0**	**+2.3**
UWA2	**Uwa jima 2**	**7.90**	**251**	P	**Pn**	**04 17 29.1**	**+2.3**
ASAJ	**Asahikawa**	**8.04**	**5**	P	**Pn**	**04 17 26.6**	**-2.1**
	8.7nm,0.3s,baz=205,slow=13,SNR=18						
ASAJ				S	**Sn**	**04 18 54.1**	**-4.3**
	3.3nm,0.3s,baz=217,slow=33,SNR=2.8						
ASAJ				LR	LR	04 20 54.7	
	comp=Z,μm,19.1s,baz=147,slow=39						
ASAJ	**Asahikawa**	**8.04**	**5**	P	**Pn**	**04 17 26.7**	**-2.1**
ASAJ				S	**Sn**	**04 18 54.2**	**-4.2**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.1s						
YUK	**Yuzh-Kuril'sk**	**8.58**	**21**	*e*P	**Pn**	**04 17 33.0**	**-3.1**
YUK				pmax	pmax		
	comp=Z,280nm,0.4s						
YUK				MLR	MLR		
	comp=Z,3μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**8.58**	**21**	*e*P	**Pn**	**04 17 33.0**	**-3.1**
	comp=Z,280nm,0.4s						
CBIJ	**Chichi jima**	**9.00**	**176**	P	**Pn**	**04 17 36.5**	**-5.3**
	comp=Z,25nm,0.3s,baz=321,slow=14,SNR=6.8						
CBIJ				S	**Sn**	**04 19 08.5**	**-13**
	comp=Z,24nm,0.3s,baz=275,slow=23,SNR=4.1						
JNU	**Nakatsue**	**9.29**	**254**	P	**Pn**	**04 17 45.2**	**-0.6**
	comp=Z,2.9nm,0.3s,baz=65,slow=14,SNR=7.9						
JNU				LR	LR	04 21 11.0	
	comp=Z,2μm,20.7s,baz=32,slow=36						
VLA	**Vladivostok 10.23 316**			*i* P	**Pn**	**04 18 01.0**	**+2.3**
VLA				pmax	pmax		
	comp=Z,178nm,1.4s						
VLA				pmax	pmax		
	comp=Z,3μm,17.5s						
VLA	**Vladivostok 10.23 316**			*i* P	**Pn**	**04 18 01.0**	**+2.3**
	comp=Z,178nm,1.4s						
KUR	**Kuril'sk 10.30 26**			*e*P	**Pn**	**04 18 04.4**	**+4.7**
YSS	**Yuzh-Sakhalins 10.88 4⇑**			*e*P	**Pn**	**04 18 06.0**	**-1.6**
YSS				*e*S	**Sn**	**04 20 03.0**	**-5.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=N,40nm,1.0s						
YSS	**Yuzh-Sakhalins 10.88 4⇑**			*e*P	**Pn**	**04 18 06.0**	**-1.6**
	comp=N,30nm,1.0s						
YSS				*e*S	**Sn**	**04 20 03.0**	**-5.0**
MDJ	**Mudanjiang 12.46 317**			P	**Pn**	**04 18 30.3**	**+1.1**
MDJ				AP		04 18 34.8	
MDJ				XP		04 18 36.8	
MDJ				S	**Sn**	**04 20 48.1**	**+1.3**
MDJ				PCP	PcP	04 24 11.5	+3.8
MDJ				SCS	ScS	04 31 16.4	+2.3
MDJ				AMB	AMB		
	comp=Z,17nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,1μm,12.2s						
MDJ				LR	LR		
	comp=N,2μm,15.1s						
MDJ				LR	LR		
	comp=E,2μm,16.3s						
MDJ				LR	LR		
	comp=Z,3μm,16.8s						
MDJ	**Mudanjiang 12.46 317**			*e*Pn	**Pn**	**04 18 30.4**	**+1.1**
	comp=Z,40nm,0.8s						
CN2	**Changchun 14.54 307**			*e*P	**Pn**	**04 18 55.4**	**-2.2**
CN2				*e*XP	sP	04 19 08.3	-9.0
CN2				*e*S	**Sn**	**04 21 35.3**	**-2.1**
CN2				AMB	AMB		
	comp=Z,80nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s						
CN2				LR	LR		
	comp=E,2μm,14.0s						
CN2				LR	LR		
	comp=Z,3μm,15.0s						
JOW	**Kunigami 14.61 234**			LR	LR	04 24 28.1	
	comp=Z,952nm,20.2s,baz=87,slow=37						
SNY	**Shenyang 15.10 298**			P	**Pn**	**04 19 04.3**	**-0.8**
SNY				AMB	AMB		
	comp=Z,41nm,1.0s						
SNY				LR	LR		
	comp=N,1μm,15.0s						
SNY				LR	LR		
	comp=E,2μm,16.8s						
SNY				LR	LR		
	comp=Z,2μm,15.9s						
DL2	**Dalian 16.06 286**			P	**Pn**	**04 19 18.4**	**+0.9**
DL2				*e*S	**S**	**04 22 17.3**	**-10**
DL2				AMB	AMB		
	comp=Z,60nm,0.5s						
DL2				LR	LR		
	comp=N,600nm,13.4s						
DL2				LR	LR		
	comp=E,1μm,15.0s						
DL2				LR	LR		
	comp=Z,2μm,13.9s						
SSE	**Sheshan 17.68 259**			P	**Pn**	**04 19 36.8**	**-1.0**
SSE				AMB	AMB		
	comp=Z,48nm,0.7s						
SSE				AMB	AMB		
	comp=Z,1μm,12.0s						
SSE				LR	LR		
	comp=N,789nm,23.6s						
SSE				LR	LR		
	comp=E,376nm,23.6s						
SSE				LR	LR		
	comp=Z,529nm,20.2s						
SSE	**Sheshan 17.68 259**			P	**Pn**	**04 19 36.7**	**-1.1**
	comp=Z,48nm,0.7s						
NJ2	**Nanjing 19.23 264**			*e*P	**Pn**	**04 19 54.8**	**-1.8**
NJ2				AP	pP	04 20 02.9	-1.8
NJ2				XP	sP	04 20 07.4	-1.8
NJ2				PP		04 20 12.0	
NJ2				S	**S**	**04 23 24.0**	**-7.3**
NJ2				XS	sS	04 23 35.0	-11
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,760nm,3.6s						
NJ2				LR	LR		
	comp=N,2μm,11.7s						
NJ2				LR	LR		
	comp=E,3μm,22.3s						
NJ2				LR	LR		
	comp=Z,1μm,16.2s						
BJI	**Beijing 20.34 289**			*e*P	**P**	**04 20 06.3**	**-1.3**
BJI				AMB	AMB		
	comp=Z,58nm,1.4s						
BJI	**Beijing 20.34 289**			*e*P	**P**	**04 20 06.2**	**-1.4**
	comp=Z,58nm,1.4s						
BJT	**Baijiatuau 20.35 289**			*e*P	**P**	**04 20 05.5**	**-2.2**
BJT				pmax	pmax		
	comp=Z,45nm,0.6s						
BJT	**Baijiatuau 20.35 289**			*e*P	**P**	**04 20 05.5**	**-2.1**
	comp=Z,45nm,0.6s						
HIA	**Hailar 20.65 316**			*e*P	**P**	**04 20 08.0**	**-2.9**
HIA				pmax	pmax		
	comp=Z,60nm,0.9s						
HIA	**Hailar 20.65 316**			*e*P	**P**	**04 20 08.0**	**-2.9**
	comp=Z,60nm,0.9s						
PET	**Petropavlovsk 20.76 30**			*e*P	**P**	**04 20 13.3**	**+1.2**
PET				pmax	pmax		
	comp=Z,24nm,0.8s						
PET	**Petropavlovsk 20.76 30**			*e*P	**P**	**04 20 13.3**	**+1.2**
	comp=Z,24nm,0.8s						
NACB	**Ninganchiao 20.91 241**			*e*P	**P**	**04 20 10.0**	**-3.8**
	comp=Z,39nm,0.4s						
GUMO	**Guam 22.61 172**			LR	LR	04 28 04.1	
	comp=Z,564nm,19.1s,MS4.0,baz=36,slow=33						
QZH	**Quanzhou 22.64 247**			P	**P**	**04 20 33.3**	**+1.0**
QZH				S	**S**	**04 24 33.8**	**-4.4**
QZH				LR	LR		
	comp=N,2μm,5.0s						
QZH				LR	LR		
	comp=E,2μm,3.9s						
QZH				LR	LR		
	comp=Z,3μm,25.0s,MS4.7						
WHN	**Wuhan 23.36 264**			⇑P	**P**	**04 20 38.3**	**-1.6**
WHN				S	**S**	**04 24 53.0**	**+3.0**
WHN				LR	LR		
	comp=Z,3μm,15.8s,MS4.8						
NRGR	**Nerungri 23.49 336**			*e*P	**P**	**04 20 34.1**	**-7.0**
CLNS	**Chul'man 23.58 337**			*e*P	**P**	**04 20 39.4**	**-2.5**
CLNS				pmax	pmax		
	comp=Z,36nm,0.7s,mb4.9						
CLNS				pmax	pmax		
	comp=N,58nm,1.7s						
CLNS				pmax	pmax		
	comp=E,36nm,1.2s						
HHC	**Hu-ho-hao-te 23.89 291**			*e*P	**P**	**04 20 42.8**	**-2.0**
HHC				AP		04 20 52.0	
HHC				XP	sP	04 20 55.9	-3.2
HHC				PP		04 21 16.3	
HHC				S	**S**	**04 24 53.0**	**-5.6**
HHC				XS	sS	04 25 08.4	-6.7
HHC				SS		04 25 43.5	
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb4.7						
HHC				LR	LR		
	comp=N,799nm,14.5s,MS4.6						
HHC				LR	LR		
	comp=E,1μm,15.5s,MS4.6						
HHC				LR	LR		
	comp=Z,1μm,15.9s,MS4.6						
MA2	**Magadan 24.24 11**			*e*P	**P**	**04 20 47.8**	**-0.1**
MA2				pmax	pmax		
	comp=Z,30nm,1.5s,mb4.5						
MA2				pmax	pmax		
	comp=N,20nm,1.4s						
BTO	**Baotou 25.06 290**			*e*P	**P**	**04 20 54.0**	**-1.4**
XAN	**Xi'an 26.72 275**			P	**P**	**04 21 09.8**	**-0.7**

XAN AP pP 04 21 18.1 -2.4
XAN XP sP 04 21 22.8 -2.0
XAN AMB AMB
comp=Z,57nm,0.7s,mb5.2
YAK Yakutsk 27.00 348 *c iP* **P 04 21 12.1 -0.9**
YAK pmax pmax
comp=Z,213nm,1.3s,mb5.5
YAK Yakutsk 27.00 348⇑ *iP* **P 04 21 12.1 -0.9**
YAK *ep*P pP 04 21 23.4 +0.4
ENH Enshi 27.38 267 *eP* **P 04 21 15.7 -0.7**
comp=Z,139nm,0.8s,mb5.5
SEY Seymchan 27.68 11⇑ *eP* **P 04 21 19.4 +0.3**
FX1 Attu Island--F 27.79 43 LR LR 04 30 13.4
comp=Z,16nm,20.1s,baz=87,slow=32
ULN Ulaanbaatar 27.98 306 *eP* **P 04 21 21.7 0.0**
ULN *e**PP pP 04 21 31.8 0.0
ULN *e**SP sP 04 21 37.2 +1.1
ULN pmax pmax
comp=Z,25nm,0.6s,mb5.0
ULN Ulaanbaatar 27.98 306 *eP* **P 04 21 21.7 0.0**
comp=Z,25nm,0.6s,mb5.0
ULN *ep*P pP 04 21 31.8 0.0
ULN *es*P sP 04 21 37.2 +1.1
BOD Bodaibo 28.38 329 *eP* **P 04 21 24.2 -1.1**
BOD pmax pmax
comp=Z,44nm,1.5s,mb4.9
BOD Bodaibo 28.38 329 *eP* **P 04 21 24.2 -1.1**
comp=Z,44nm,1.5s,mb4.9
SONM Songino Array 28.41 305 P **P 04 21 25.3 -0.3**
comp=Z,30nm,0.8s,mb5.0,baz=103,slow=8.8,SNR=138
SONM LR LR 04 33 20.3
comp=Z,1μm,18.1s,MS4.6,baz=11,slow=37
LZH Lanzhou 30.35 281 P **P 04 21 42.6 -0.1**
LZH AP pP 04 21 52.9 0.0
LZH XP sP 04 21 56.3 -0.9
LZH PP PP 04 22 45.0 -6.6
LZH S **S 04 26 44.0 +3.3**
LZH AMB AMB
comp=Z,60nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,340nm,5.9s
LZH LR LR
comp=E,2μm,14.2s
LZH LR LR
comp=Z,5μm,16.6s,MS5.2
LZH Lanzhou 30.35 281 P **P 04 21 42.6 -0.1**
comp=Z,60nm,1.0s,mb5.3
LZH pP pP 04 21 52.9 0.0
LZH sP sP 04 21 56.2 -1.0
LZH PP PP 04 22 45.0 -6.6
LZH S **S 04 26 44.0 +3.3**
LZH *e*SS SS 04 27 01.0 +3.5
LZH *e*SS SS 04 28 30.0 -21
LZH LR LR
comp=Z,5μm,16.6s,MS5.2
IRK Irkutsk 30.82 313 *eP* **P 04 21 45.6 -1.3**
IRK *e* pP 04 21 56.0 -1.0
IRK pmax pmax
comp=Z,93nm,1.0s,mb5.6
IRK Irkutsk 30.82 313 *eP* **P 04 21 45.6 -1.3**
comp=Z,93nm,1.0s,mb5.6
IRK *e* pP 04 21 56.0 -1.0
ZAK Zakamensk 30.94 310⇓ *iP* **P 04 21 48.1 +0.1**
ZAK pmax pmax
comp=Z,55nm,1.3s,mb5.2
ZAK Zakamensk 30.94 310⇓ *iP* **P 04 21 48.1 +0.1**
comp=Z,55nm,1.3s,mb5.2
TLY Talaya 31.03 312 P **P 04 21 49.1 +0.3**
comp=Z,283nm,1.0s,mb6.0,SNR=5.5
GYA Guiyang 31.19 262⇓ *iP* **P 04 21 49.3 -0.9**
GYA AP pP 04 21 58.8 -1.5
GYA XP sP 04 22 02.8 -1.8
GYA PP PP 04 22 51.6 -9.3
GYA PCP PcP 04 24 49.6 +5.2
GYA S **S 04 26 50.5 -3.4**
GYA SS SS 04 28 35.8 -32
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,370nm,4.6s
GYA LR LR
comp=N,1μm,16.9s,MS5.0
GYA LR LR
comp=E,2μm,17.0s,MS5.0
GYA LR LR
comp=Z,2μm,17.9s,MS4.9
CD2 Chengdu 31.80 272 P **P 04 21 56.5 +0.9**
CD2 PP PP 04 23 01.5 -6.2
CD2 S **S 04 27 02.5 -0.9**
CD2 SS SS 04 28 53.5 -27
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,90nm,5.3s
CD2 LR LR
comp=N,360nm,15.6s
CD2 LR LR
comp=Z,620nm,18.0s,MS4.3
MOY Mondy 32.63 311 *eP* **P 04 22 02.2 -0.6**
GTA Gaotai 32.96 289 *eP* **P 04 22 05.8 +0.1**
GTA AP pP 04 22 14.3 -1.6
GTA XP sP 04 22 18.1 -2.0
GTA PP PP 04 23 15.4 -5.1
GTA PCP PcP 04 24 50.0 +0.8
GTA S **S 04 27 20.5 -0.9**
GTA XS sS 04 27 37.8 -0.4
GTA SCP ScP 04 28 32.8 +2.2
GTA SS SS 04 29 22.3 -22
GTA AMB AMB
comp=Z,67nm,0.9s,mb5.6
GTA AMB AMB
comp=Z,288nm,6.1s
GTA LR LR
comp=N,541nm,17.2s,MS4.6
GTA LR LR
comp=E,905nm,18.0s,MS4.6
GTA LR LR
comp=Z,1μm,19.1s,MS4.5
BILL Bilibino 34.89 16 *eP* **P 04 22 21.4 -1.0**
BILL *e**PP pP 04 22 32.3 -0.3
BILL *e**SP sP 04 22 39.1 +2.2
BILL pmax pmax
comp=Z,23nm,1.1s,mb5.0
BILL Bilibino 34.89 16 *eP* **P 04 22 21.4 -1.0**
comp=Z,23nm,1.1s,mb5.0
BILL *ep*P pP 04 22 32.3 -0.3
BILL *es*P sP 04 22 39.1 +2.2
KMI Kunming 34.95 263 P **P 04 22 22.4 -0.5**
KMI AP pP 04 22 32.5 -0.7
KMI XP sP 04 22 36.3 -1.1
KMI PP PP 04 23 42.4 -0.1
KMI AMB AMB
comp=Z,32nm,1.3s,mb5.1
KMI LR LR
comp=N,516nm,15.1s,MS4.7
KMI LR LR
comp=E,914nm,15.1s,MS4.7
KMI LR LR
comp=Z,772nm,14.1s,MS4.6
KMI Kunming 34.95 263 P **P 04 22 22.4 -0.5**
comp=Z,32nm,1.3s,mb5.1
KMI pP pP 04 22 32.5 -0.7
KMI sP sP 04 22 36.3 -1.1
KMI PP PP 04 23 42.4 -0.1
KMI PPP 04 24 01.3
KMI LR LR
comp=Z,770nm,14.1s,MS4.6
TIXI Tiksi 36.23 353 *eP* **P 04 22 31.7 -2.2**
TIXI pmax pmax
comp=Z,22nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,811nm,17.0s,MS4.6
TIXI Tiksi 36.23 353 *eP* **P 04 22 31.7 -2.2**
comp=Z,22nm,1.0s,mb5.0
TIXI LR LR
comp=Z,810nm,17.0s,MS4.6
WMQ Urumqi 41.37 298 ⇑P **P 04 23 18.5 +1.5**
WMQ AP pP 04 23 28.3 +0.9
WMQ XP sP 04 23 32.3 +0.7
WMQ PP PP 04 24 57.8 +4.9
WMQ AMB AMB
comp=Z,89nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,645nm,4.6s
WMQ LR LR
comp=N,2μm,18.4s,MS5.0
WMQ LR LR
comp=E,1μm,20.0s,MS5.0
WMQ LR LR
comp=Z,1μm,18.4s,MS4.9
TNA Tin City 41.61 29 *eP* **P 04 23 19.3 +0.3**
comp=Z,11nm,1.0s,mb4.4
TNA *ep*P pP 04 23 29.5 +0.1
TNA *es*P sP 04 23 34.0 +0.5
LSA Lhasa 42.42 276 *eP* **P 04 23 27.4 +1.8**
LSA Lhasa 42.42 276 *eP* **P 04 23 27.6 +2.0**
LSA pmax pmax
comp=Z,38nm,0.9s,mb5.0
LSA Lhasa 42.42 276 *eP* **P 04 23 27.6 +2.0**
comp=Z,38nm,0.9s,mb5.0
ZAL Zalesovo 42.64 313 P **P 04 23 27.7 +0.3**
comp=Z,22nm,0.6s,mb5.1,baz=22,slow=7.7,SNR=104
ZAL PcP PcP 04 25 18.6 -0.4
comp=Z,5.9nm,0.7s,baz=20,slow=1.6,SNR=2.9
ZAL Zalesovo 42.64 313 P **P 04 23 27.7 +0.3**
ZAL *e* 04 25 18.6
SHL Shillong 43.52 270 *eP* **P 04 23 34.0 -0.5**
SHL *e*S **S 04 30 10.0 +9.1**
NVS Novosibirsk 43.57 314 *i* P **P 04 23 34.4 -0.5**
NVS pmax pmax
comp=Z,77nm,1.2s,mb5.3
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,37nm,0.7s
NVS Novosibirsk 43.57 314 *i* P **P 04 23 34.4 -0.5**
comp=E,77nm,1.2s,mb5.3
MK31 Makanchi Array 44.72 303 P **P 04 23 44.2 +0.1**
MK31 pmax pmax
comp=Z,50nm,0.8s,mb5.4
MK31 Makanchi Array 44.72 303 P **P 04 23 44.2 +0.1**
comp=Z,50nm,0.8s,mb5.4
MKAR Makanchi Array 44.72 303 P **P 04 23 44.1 +0.1**
comp=Z,48nm,0.8s,mb5.4,baz=64,slow=8.5,SNR=137
MKAR Makanchi Array 44.72 303 P **P 04 23 44.1 0.0**
PMG Port Moresby 45.57 172 *eP* **P 04 23 51.8 +0.9**
KURK Kurchatov 46.60 309 P **P 04 23 58.9 -0.1**
comp=Z,2μm,0.7s,SNR=68
KURK Kurchatov 46.60 309 *c iP* **P 04 23 58.7 -0.3**
JIRN Jiri 47.22 276 *eP* **P 04 24 05.2 +1.4**
comp=Z,202nm,0.8s,mb6.1
GUN Gumba 47.37 277 *eP* **P 04 24 06.1 +1.1**
comp=Z,232nm,1.1s,mb6.0
KDAK Kodiak Island 47.72 41 P **P 04 24 07.3 -0.4**
comp=Z,7.3nm,0.6s,mb4.9,baz=137,slow=9.5,SNR=7.4
PKI Pulchoki 47.89 276 *eP* **P 04 24 09.7 +0.7**
comp=Z,94nm,0.8s,mb5.9
KKN Kakani 47.90 277 *eP* **P 04 24 09.9 +0.8**
comp=Z,113nm,0.7s,mb6.0
DMN Daman 48.12 277 *eP* **P 04 24 11.4 +0.6**
comp=Z,70nm,0.9s,mb5.7
GKN Gorkha 48.33 277 *eP* **P 04 24 13.1 +0.7**
comp=Z,346nm,1.1s
FIB Fire Island 48.82 37 *eP* **P 04 24 16.0 -0.2**
FIB *e**PP pP 04 24 25.8 -0.9
FIB pmax pmax
comp=Z,18nm,0.6s,mb5.3
FIB Fire Island 48.82 37 *eP* **P 04 24 16.0 -0.2**
comp=Z,36nm,0.6s,mb5.6
FIB *ep*P pP 04 24 25.8 -0.9
DANN Dangsing 48.89 278 *eP* **P 04 24 17.8 +1.1**
BOK Bokaro 49.18 272 *eP* **P 04 24 19.9 +1.0**
BOK AMb AMB 04 24 21.2
comp=Z,32nm,0.8s,mb5.4
KOLN Koldanda 49.26 278 *eP* **P 04 24 20.3 +0.8**
comp=Z,161nm,1.1s,mb6.0
PMR Palmer 49.30 36 *eP* **P 04 24 19.2 -0.7**
PMR pmax pmax
comp=Z,31nm,1.3s,mb5.2
PMR Palmer 49.30 36 *eP* **P 04 24 19.2 -0.7**
comp=Z,31nm,1.3s,mb5.2
PMR *ep*P pP 04 24 28.9 -1.5
PMR *es*P sP 04 24 33.1 -1.5
KAKA Kakadu 49.31 192 *eP* **P 04 24 19.1 -0.8**
comp=Z,20nm,0.6s,mb5.3
KAKA *ep*P pP 04 24 29.5 -0.9
MCK McKinley 49.34 33 *eP* **P 04 24 20.0 -0.2**
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MCK McKinley 49.34 33 *eP* **P 04 24 20.0 -0.2**
comp=Z,17nm,0.9s,mb5.1
MCK *ep*P pP 04 24 29.7 -1.0
COLA College 49.81 32 *eP* **P 04 24 23.1 -0.6**
COLA College 49.81 32 *eP* **P 04 24 23.9 +0.2**
comp=Z,13nm,0.8s,mb5.0
COLA *ep*P pP 04 24 34.4 +0.2
ULHL Ulahol 49.90 298 P **P 04 24 25.4 +1.0**
SNR=27
TKM2 Tokmak 2 50.18 299 P **P 04 24 28.1 +1.5**
SNR=54
TKM2 Tokmak 2 50.18 299 P **P 04 24 27.6 +1.1**
TKM2 pmax pmax
comp=Z,87nm,0.9s,mb5.8
TKM2 Tokmak 2 50.18 299 P **P 04 24 27.6 +1.1**
comp=Z,87nm,0.9s,mb5.8
ILAR Eielson Array 50.22 32 P **P 04 24 26.4 -0.5**
comp=Z,12nm,0.8s,mb5.0,baz=268,slow=6.3,SNR=79
KZA Kyzart 50.66 298 P **P 04 24 32.4 +2.2**
SNR=32
KBK Karagaybulak 50.71 299 P **P 04 24 31.8 +1.3**
SNR=23
CHMS Chumysh 50.76 299 P **P 04 24 31.5 +0.6**
SNR=8.7
USP Ospenovka 50.86 300 P **P 04 24 32.2 +0.5**
SNR=25
FRU Bishkek 50.90 299 *eP* **P 04 24 33.4 +1.5**
FRU *i* pP 04 24 43.0 +0.5
FRU pmax pmax
comp=Z,120nm,1.9s,mb5.5
FRU pmax pmax
comp=Z,160nm,1.3s,mb5.8
FRU MLR MLR
comp=Z,2μm,18.0s,MS5.0
FRU Bishkek 50.90 299 *eP* **P 04 24 33.4 +1.5**
comp=Z,120nm,1.9s,mb5.5
FRU *i* pP 04 24 43.0 +0.5
FRU LR LR
comp=Z,2μm,18.0s,MS5.0
KSH Kashi 50.90 295 P **P 04 24 34.3 +2.4**
KSH AP pP 04 24 43.6 +1.1
KSH XP sP 04 24 47.8 +1.1
KSH PP PP 04 26 31.3 +2.9
KSH SCP ScP 04 29 42.8 +1.2
KSH PCS PcS 04 29 46.1 +0.5
KSH S **S 04 31 46.0 +0.1**
KSH XS sS 04 32 02.6 -0.8
KSH SCS ScS 04 34 19.4 -0.4
KSH SS SS 04 35 18.4 -2.5
KSH AMB AMB
comp=Z,45nm,0.6s,mb5.6
KSH AMB AMB
comp=Z,199nm,3.3s
KSH LR LR
comp=N,442nm,7.4s
KSH LR LR
comp=E,725nm,14.0s
KSH LR LR
comp=Z,612nm,9.0s
DIV Divide 50.95 37 *eP* **P 04 24 27.3 -5.1**
comp=Z,45nm,1.1s,mb5.3
DIV *ep*P pP 04 24 37.6 -5.4
VOSK Vostochnaya 50.99 312 P **P 04 24 32.2 -0.5**
VOSK pmax pmax
comp=Z,85nm,0.9s,mb5.7
VOSK Vostochnaya 50.99 312 P **P 04 24 32.2 -0.5**
comp=Z,85nm,0.9s,mb5.7
EYAK Cordova Ski Ar 51.02 37 *eP* **P 04 24 33.2 +0.3**
comp=Z,70nm,1.4s,mb5.4
EYAK *ep*P pP 04 24 43.2 -0.3
AAK Ala-Archa 51.04 299 P **P 04 24 33.9 +0.9**
SNR=19
AAK Ala-Archa 51.04 299 P **P 04 24 32.0 -1.0**
comp=Z,300nm,0.8s,SNR=17
AAK Ala-Archa 51.04 299 *eP* **P 04 24 32.7 -0.3**
AAK pmax pmax
comp=Z,48nm,0.9s,mb5.4
AAK Ala-Archa 51.04 299 *eP* **P 04 24 32.7 -0.3**
comp=Z,48nm,0.9s,mb5.4
AAK *ep*P pP 04 24 42.7 -0.9
UCH Uchtor 51.14 299 P **P 04 24 35.3 +1.5**
SNR=12
BVA0 Borovoye Array 51.29 313 *i* P **P 04 24 34.4 -0.5**
BVA0 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BVA0 Borovoye Array 51.29 313 *i* P **P 04 24 34.4 -0.5**
comp=Z,10.0nm,1.2s,mb4.6
BVAR Borovoye Array 51.29 313 P **P 04 24 34.8 -0.1**
comp=Z,16nm,0.5s,mb5.2,baz=77,slow=7.2,SNR=85
BVAR PcP PcP 04 25 49.6 0.0
comp=Z,13nm,0.7s,baz=97,slow=2.2,SNR=4.2
BVAR Borovoye Array 51.29 313 P **P 04 24 34.8 -0.1**
BVAR *e* 04 25 49.6
BRVK Borovoye 51.34 313 P **P 04 24 35.4 +0.1**
comp=Z,311nm,1.0s,mb6.2,SNR=24
BRVK Borovoye 51.34 313 *eP* **P 04 24 35.3 0.0**
BRVK pmax pmax
comp=Z,31nm,0.8s,mb5.3
BRVK Borovoye 51.34 313 *eP* **P 04 24 35.3 0.0**
comp=Z,31nm,0.8s,mb5.3
BRVK *ep*P pP 04 24 45.8 -0.1
EKS2 Erkin-Say 51.54 299 P **P 04 24 37.6 +0.8**
SNR=16
AML Almayashu 51.75 299 P **P 04 24 40.1 +1.7**
SNR=76
KLP Kalpa 51.98 284 *eP* **P 04 24 41.0 +0.9**
KLP AMb AMB 04 24 43.0
comp=Z,180nm,1.0s,mb6.0
ZRNK Zerenda 52.12 313 *eP* **P 04 24 41.2 +0.1**
ZRNK pmax pmax
comp=Z,65nm,0.9s,mb5.6
ZRNK Zerenda 52.12 313 *eP* **P 04 24 41.2 +0.1**
ZRNK *ep*P pP 04 24 51.3 -0.4
SMLA Simla 52.99 284 *eP* **P 04 24 47.3 -0.3**
SMLA AMb AMB 04 24 48.4
comp=Z,129nm,0.9s,mb5.8
KKAR Karatay Array 53.70 301 *i* P **P 04 24 53.0 +0.3**
KKAR pmax pmax
comp=Z,48nm,0.8s,mb5.5
KKAR Karatay Array 53.70 301 *i* P **P 04 24 53.0 +0.3**
comp=Z,48nm,0.8s,mb5.5
NDI New Delhi 53.97 282 *eP* **P 04 24 54.1 -0.6**
NDI AMb AMB 04 25 00.3
comp=Z,52nm,2.6s,mb5.0
AYAN Aya Nagar 54.13 281 *eP* **P 04 24 55.3 -0.6**
AYAN AMb AMB 04 25 02.3
comp=Z,37nm,1.1s,mb5.2
SONA Sohna 54.26 281 *eP* **P 04 24 56.7 -0.2**
SONA AMb AMB 04 24 57.5
comp=Z,30nm,0.9s,mb5.2
VIS Vishakhapatnam 54.27 267 *eP* **P 04 24 58.2 +1.2**
VIS AMb AMB 04 24 59.8
comp=Z,55nm,1.0s,mb5.4
KUDL Kundal 54.78 281 *eP* **P 04 25 00.0 -0.6**
KUDL AMb AMB 04 25 03.0
comp=Z,23nm,1.1s,mb5.1
INK Inuvik 55.16 27 P **P 04 25 03.3 -0.1**
comp=Z,8.0nm,1.0s,mb4.7,baz=282,slow=6.3,SNR=22
INK Inuvik 55.16 27 P **P 04 25 03.3 -0.1**
INK pmax pmax
comp=Z,8.0nm,1.0s
KHET Khetri 55.35 282 *eP* **P 04 25 05.0 +0.3**
KHET AMb AMB 04 25 10.2
comp=Z,28nm,0.7s,mb5.4
FITZ Fitzroy Crossi 55.97 198 *eP* **P 04 25 08.8 -0.4**
comp=Z,6.9nm,0.6s,mb4.9
FITZ *ep*P pP 04 25 19.4 -0.5
NGP Nagpur 55.98 273 *eP* **P 04 25 10.4 +1.1**
NGP AMb AMB 04 25 11.7
comp=Z,45nm,0.7s,mb5.6
CTA Charters Tower 56.06 175 *eP* **P 04 25 18.2 +8.4**
comp=Z,10nm,1.5s,mb4.6
WRAB Tennant Creek 56.15 188 P **P 04 25 09.0 -1.4**
comp=Z,220nm,0.7s,SNR=7.4
WRAB Tennant Creek 56.15 188 *eP* **P 04 25 09.1 -1.3**
WRAB *e**SP sP 04 25 24.8 -0.5
WRAB pmax pmax
comp=Z,42nm,0.8s,mb5.5
WRAB Tennant Creek 56.15 188 *eP* **P 04 25 09.1 -1.4**
comp=Z,28nm,0.8s,mb5.3
WRAB *ep*P pP 04 25 19.5 -1.6
WRAB *es*P sP 04 25 24.8 -0.4
WB2 Warramunga Arr 56.15 188⇓ *iP* **P 04 25 09.1 -1.4**
WB2 *ep*P pP 04 25 19.2 -2.0
WRA Warramunga Arr 56.16 188 P **P 04 25 08.9 -1.6**
comp=Z,7.5nm,0.7s,mb4.8,baz=4.3,slow=7.3,SNR=58
BHPL Bhopal 56.28 276 *eP* **P 04 25 11.7 +0.3**
BHPL AMb AMB 04 25 13.8
comp=Z,24nm,1.8s,mb4.9
AJM Ajmer 56.99 281 *eP* **P 04 25 16.2 -0.3**
AJM AMb AMB 04 25 19.7
comp=Z,36nm,0.6s,mb5.6
ARU Arti 57.13 319 P **P 04 25 17.0 -0.5**
comp=Z,468nm,0.7s,SNR=18
ARU Arti 57.13 319⇑ *iP* **P 04 25 17.3 -0.2**
ARU *i* pP 04 25 27.3 -0.9
ARU *eS* **S 04 33 10.6 +0.4**
ARU *e*SS SS 04 36 57.6 -1.7
ARU pmax pmax
comp=Z,66nm,0.9s,mb5.7
ARU Arti 57.13 319⇑ *iP* **P 04 25 17.3 -0.2**
comp=Z,66nm,0.9s,mb5.7
ARU *i* pP 04 25 27.3 -0.9
ARU *eS* **S 04 33 10.6 +0.4**
ARU *e*SS SS 04 36 57.6 -1.7
SOKR Solikamsk 57.14 323⇑ *iP* **P 04 25 18.3 +0.8**
SOKR *e* pP 04 25 28.3 +0.1
SOKR pmax pmax
comp=Z,40nm,1.5s,mb5.2
SOKR Solikamsk 57.14 323⇑ *iP* **P 04 25 18.3 +0.8**
comp=Z,40nm,1.5s,mb5.2
SOKR *e* pP 04 25 28.3 +0.1
HYB Hyderabad 58.30 269 *i* P **P 04 25 25.5 -0.1**
comp=Z,60nm,1.0s,mb5.6
HYB *e* pP 04 25 35.0 -1.4
HYB Hyderabad 58.30 269 *eP* **P 04 25 25.5 -0.1**
HYB *e* pP 04 25 35.0 -1.4
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 58.30 269 *eP* **P 04 25 25.5 -0.1**
comp=Z,60nm,1.0s,mb5.6
HYB *e* pP 04 25 35.0 -1.4
AB31 Akbulak array 58.63 311 *i* P **P 04 25 27.6 -0.3**
AB31 pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
AB31 Akbulak array 58.63 311 *i* P **P 04 25 27.6 -0.3**
comp=Z,10.0nm,0.5s,mb5.1
AKTK Aktyubinsk 59.38 312 P **P 04 25 32.7 -0.5**
AKTO Aktyubinsk 59.38 312 P **P 04 25 32.7 -0.5**
comp=Z,21nm,0.8s,mb5.2,baz=79,slow=6.5,SNR=55
AKTO Aktyubinsk 59.38 312 P **P 04 25 32.7 -0.5**
AKTO pmax pmax
comp=Z,21nm,0.8s,mb5.2
AS31 Alice Springs 59.88 188 *eP* **P 04 25 35.9 -0.7**
AS31 *e* pP 04 25 43.4 -4.0
ASAR Alice Springs 59.88 188 P **P 04 25 35.2 -1.4**
comp=Z,4.4nm,1.0s,mb4.4,baz=5.4,slow=6.8,SNR=27
ASPA Alice Springs 59.88 188 *eP* **P 04 25 35.9 -0.7**
ASPA *e* pP 04 25 43.4 -4.0
MBWA Marble Bar 60.58 203 *eP* **P 04 25 41.8 +0.4**
comp=Z,15nm,0.8s,mb5.2
ALE Alert 61.03 3 P **P 04 25 44.0 -0.5**
comp=Z,114nm,0.8s,mb6.0,SNR=16
BOM Bombay 62.17 274 *ex* x 04 23 48.8
BOM AMb AMB 04 23 54.7
comp=Z,51nm,2.0s,mb5.3
RES Resolute Bay 63.47 14 *eP* **P 04 25 59.8 -1.0**
RES pmax pmax
comp=Z,13nm,0.9s,mb5.1
RES Resolute Bay 63.47 14 *eP* **P 04 25 59.8 -1.0**
comp=Z,429nm,0.9s
RES *ep*P pP 04 26 11.2 -0.4
APA Apatity 63.58 336 *eP* **P 04 26 00.0 -1.5**
APA *i* pP 04 26 11.4 -0.9
APA MLR MLR
comp=Z,1μm,18.0s,MS5.0
KEV Kevo 64.35 339 *ep* **P 04 26 05.3 -1.3**
comp=Z,28nm,0.9s,mb5.3
KEV Kevo 64.35 339 *eP* **P 04 26 05.3 -1.3**
KEV pmax pmax
comp=Z,28nm,0.9s,mb5.3
YKW3 Yellowknife Ar 64.52 30 *eP* **P 04 26 06.8 -0.9**
comp=Z,0.2nm,0.9s
YKW3 *ep*P pP 04 26 17.4 -1.1
YKA Yellowknife Ar 64.56 30 P **P 04 26 07.1 -0.8**
comp=Z,5.6nm,0.9s,mb4.6,baz=300,slow=6.5,SNR=65

YKA PKPPKP 04 54 52.2
comp=Z,0.2nm,0.7s,baz=135,slow=3.5,SNR=4.0
YKA Yellowknife Ar 64.56 30 P P 04 26 07.1 -0.8
YKA P'P' 04 54 52.2
KLMR Klimovskoe 64.61 328*c i*P **P 04 26 07.8 -0.4**
KLMR pmax pmax
comp=Z,60nm,1.5s,mb5.4
ARCES ARCESS Array B 64.91 340 P **P 04 26 09.9 -0.3**
comp=Z,18nm,0.9s,mb5.1,baz=56,slow=7.9,SNR=27
DAG Danmarks Havn 66.71 355⇓*i*P **P 04 26 21.3 -0.5**
comp=Z,33nm,1.3s,mb5.2
DAG Danmarks Havn 66.71 355⇓*i*P **P 04 26 21.3 -0.5**
DAG pmax pmax
comp=Z,33nm,1.3s,mb5.2
JOF Joensuu 66.84 332 *ep* **P 04 26 21.7 -0.9**
comp=Z,12nm,0.5s,mb5.2
HDW Hoodsport 67.62 47 P **P 04 26 28.7 +1.1**
STKA Stephens Creek 67.62 180 *eP* **P 04 26 24.7 -2.9**
comp=Z,3.7nm,1.0s,mb4.4
STKA *ep*P pP 04 26 35.0 -3.5
STKA Stephens Creek 67.62 180 P **P 04 26 24.8 -2.8**
comp=Z,2.5nm,0.7s,mb4.4,baz=321,slow=6.9,SNR=6.1
JCW Jim Creek 68.01 46 P **P 04 26 30.7 +0.7**
MOS Moscow 68.07 324 *eP* **P 04 26 29.3 -1.1**
MOS *e* pP 04 26 40.2 -1.1
MOS pmax pmax
comp=Z,68nm,0.9s,mb5.7
MOS Moscow 68.07 324 *eP* **P 04 26 29.3 -1.1**
comp=Z,68nm,0.9s,mb5.7
MOS *e* pP 04 26 40.2 -1.1
VRHR Novokhopersk 68.46 318 *eP* **P 04 26 31.9 -0.9**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.3
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
OBN Obninsk 68.91 323*c i*P **P 04 26 35.3 -0.4**
OBN *i* pP 04 26 46.1 -0.5
OBN *e* 04 26 59.6
OBN *e* 04 29 08.6
OBN *e*SS SS 04 40 03.2 0.0
OBN pmax pmax
comp=Z,31nm,0.9s,mb5.2
OBN MLR MLR
comp=Z,500nm,17.0s,MS4.8
OBN Obninsk 68.91 323⇑*i*P **P 04 26 35.3 -0.4**
comp=Z,31nm,0.9s,mb5.2
OBN *i* pP 04 26 46.1 -0.5
OBN *e* 04 26 59.6
OBN *e* 04 29 08.6
OBN *e*SS SS 04 40 03.2 0.0
OBN LR LR
comp=Z,500nm,17.0s,MS4.8
NLW Nelson Butte 68.98 45 P **P 04 26 36.8 +0.6**
KAF Kangasniemi 69.19 333 *ep* **P 04 26 36.2 -1.2**
comp=Z,13nm,0.5s,mb5.1,baz=49,slow=5.9
KAF Kangasniemi 69.19 333 *eP* **P 04 26 36.2 -1.2**
KAF pmax pmax
comp=Z,13nm,0.5s,mb5.1
TBM Table Mountain 69.30 46 P **P 04 26 38.8 +0.7**
WTV Waterville 69.40 46 P **P 04 26 39.1 +0.4**
EBG Ellensburg 69.45 46 P **P 04 26 40.2 +1.1**
FINES FINESS Array B 69.69 332 P **P 04 26 39.7 -0.8**
comp=Z,19nm,0.8s,mb5.1,baz=53,slow=6.4,SNR=62
FINES PP PP 04 29 11.9 -2.9
comp=Z,2.7nm,0.8s,baz=74,slow=10,SNR=3.1
VORD Divnogorie 69.78 319 *eP* **P 04 26 40.3 -0.7**
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VORD pmax pmax
comp=E,10.0nm,0.8s
EDM Edmonton 70.00 38 *eP* **P 04 26 41.7 -0.7**
EDM *ep*P pP 04 26 52.4 -0.9
OD2 Odessa Site #2 70.28 45 P **P 04 26 44.4 +0.3**
HAWA Hanford 70.33 47 *eP* **P 04 26 45.1 +0.7**
comp=E,22nm,1.1s,mb5.0
HAWA *ep*P pP 04 26 55.1 -0.3
NEW Newport 70.72 44 P **P 04 26 46.6 -0.2**
comp=E,5.3nm,0.9s,mb4.5,baz=312,slow=3.2,SNR=9.7
GOF Gofitskoye 70.81 312 *eP* pP 04 26 56.7 -1.6
GOF pmax pmax
comp=Z,70nm,0.8s,mb5.6
GOF Gofitskoye 70.81 312 *eP* pP 04 26 56.7 -1.6
comp=Z,70nm,0.8s
YBH Yreka Blue Hor 70.82 52 P **P 04 26 49.0 +1.6**
comp=Z,2.2nm,0.7s,mb4.2,baz=337,slow=2.1,SNR=4.5
YBH Yreka Blue Hor 70.82 52 P **P 04 26 49.0 +1.6**
YBH pmax pmax
comp=Z,2.0nm,0.7s
KLBR Kellerberrin 70.94 201 *eP* **P 04 26 45.6 -2.5**
comp=Z,68nm,1.6s,mb5.3
VSU Vasula 71.31 330*d i*P **P 04 26 50.3 -0.1**
VSU Vasula 71.31 330 *i* Pr 04 26 50.3
ZEI Tsey 71.49 310 *i* P **P 04 26 49.4 -2.1**
ZEI *i* *PP pP 04 26 59.7 -2.7
ZEI pmax pmax
comp=Z,14nm,1.4s,mb4.7
ZEI Tsey 71.49 310 *i* P **P 04 26 49.4 -2.1**
ZEI *i* pP pP 04 26 59.7 -2.7
SUMG Summit 71.62 0 *eP* **P 04 26 52.5 +0.3**
comp=Z,35nm,1.1s,mb5.2
HOQ Hoqain 72.07 286⇓P **P 04 26 55.7 +0.8**
JMDO Jabal Madar 72.09 285⇑P **P 04 26 55.4 +0.3**
MOD Modoc 72.26 51 *eP* **P 04 26 56.9 +0.8**
comp=Z,29nm,1.1s,mb5.1
MOD *ep*P pP 04 27 06.6 -0.5
GNI Garni 72.36 307 *eP* **P 04 26 57.7 +1.1**
GNI *e**PP pP 04 27 08.2 +0.6
GNI pmax pmax
comp=Z,36nm,0.9s
GNI Garni 72.36 307 *eP* **P 04 26 57.7 +1.1**
comp=Z,36nm,0.9s,mb5.3
GNI *ep*P pP 04 27 08.2 +0.6
ASHO Ashiyiah 72.45 288⇓P **P 04 26 58.2 +0.9**
BMO Blue Mountains 72.48 47 *eP* **P 04 26 57.7 +0.3**
BMO *e**PP pP 04 27 07.9 -0.5
BMO pmax pmax
comp=Z,19nm,1.0s,mb5.0
BMO Blue Mountains 72.48 47 *eP* **P 04 26 57.7 +0.4**
comp=Z,19nm,1.0s,mb5.0
BMO *ep*P pP 04 27 07.9 -0.5
BSY Bisya 72.60 286 P **P 04 26 59.3 +1.2**
SNR=6.5
ARQ Araqi 72.81 287 P **P 04 26 59.7 +0.4**
SNR=8.7
WVOR Wild Horse Val 73.01 50 *eP* **P 04 27 02.1 +1.6**
WVOR *e**PP pP 04 27 11.3 -0.2
WVOR pmax pmax
comp=Z,22nm,1.3s,mb4.9
WVOR Wild Horse Val 73.01 50 *eP* **P 04 27 02.1 +1.6**
comp=Z,20nm,1.3s,mb4.9
WVOR *ep*P pP 04 27 11.2 -0.2
MSO Missoula 73.31 44 *eP* **P 04 27 02.1 -0.2**
comp=Z,16nm,1.1s,mb4.9
MSO *ep*P pP 04 27 12.5 -0.8
SOC Sochi 73.61 312*c i*P **P 04 27 03.7 -0.3**
SOC *e**PP pP 04 27 14.2 -0.8
SOC *e* 04 29 50.9
SOC *e*S S 04 36 34.3 +2.5
SOC pmax pmax
comp=Z,25nm,1.2s,mb5.0
SOC MLR MLR
comp=Z,517nm,19.0s,MS4.8
SOC Sochi 73.61 312⇑*i*P **P 04 27 03.7 -0.3**
comp=Z,25nm,1.2s,mb5.0
SOC *ep*P pP 04 27 14.2 -0.8
SOC *e* 04 29 50.9
SOC *e*S S 04 36 34.3 +2.5
SOC LR LR
comp=Z,520nm,19.0s,MS4.8
CHMT Chamberlain Mo 73.64 44 *eP* **P 04 27 03.9 -0.3**
CHMT *ep*P pP 04 27 14.2 -1.1
ANN Anapa 74.26 314 *eP* pP 04 27 16.7 -2.2
ANN pmax pmax
comp=Z,84nm,1.3s,mb5.5
ANN Anapa 74.26 314 *eP* pP 04 27 16.7 -2.2
comp=Z,84nm,1.3s
CMB Columbia Colle 74.32 54 *eP* **P 04 27 08.5 +0.3**
CMB *e**PP pP 04 27 18.9 -0.3
CMB pmax pmax
comp=Z,16nm,1.1s,mb4.9
CMB Columbia Colle 74.32 54 *eP* **P 04 27 08.5 +0.3**
comp=Z,16nm,1.1s,mb4.8
CMB *ep*P pP 04 27 18.9 -0.4

FFC Flin Flon 74.43 33 P **P 04 27 08.8 0.0**
comp=Z,176nm,0.8s,mb6.0,SNR=9.4
FFC Flin Flon 74.43 33 *eP* **P 04 27 08.2 -0.6**
FFC *e**PP pP 04 27 18.9 -0.9
FFC pmax pmax
comp=Z,38nm,1.1s,mb5.2
FFC Flin Flon 74.43 33 *eP* **P 04 27 08.2 -0.6**
comp=Z,38nm,1.1s,mb5.2
FFC *ep*P pP 04 27 18.9 -1.0
HRY Holter Researc 74.55 43 *eP* **P 04 27 09.7 +0.2**
HRY *ep*P pP 04 27 19.8 -0.8
HRY *es*P sP 04 27 24.8 +0.1
FCC Fort Churchill 74.78 26 *eP* **P 04 27 09.9 -1.0**
FCC *e**PP pP 04 27 20.6 -1.3
FCC pmax pmax
comp=Z,30nm,1.0s,mb5.2
FCC Fort Churchill 74.78 26 *eP* **P 04 27 09.8 -1.1**
comp=Z,30nm,1.0s,mb5.2
FCC *ep*P pP 04 27 20.6 -1.4
EGMT Eagleton 74.89 41 *eP* **P 04 27 11.7 +0.1**
comp=Z,43nm,1.1s,mb5.3
EGMT *ep*P pP 04 27 22.0 -0.6
DLMT Dillon 74.92 45 *eP* **P 04 27 12.2 +0.5**
comp=Z,38nm,1.0s,mb5.3
DLMT *ep*P pP 04 27 22.5 -0.2
HLID Hailey 74.92 47 *eP* **P 04 27 12.2 +0.5**
comp=Z,8.9nm,1.1s,mb4.6
HLID *ep*P pP 04 27 22.5 -0.2
NB2 NORSAR Subarra 75.09 337 P **P 04 27 12.1 -0.6**
comp=Z,6.7nm,0.6s,mb4.8,baz=40,slow=5.9
NB2 NORSAR Subarra 75.09 337 P **P 04 27 12.1 -0.6**
NB2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
NOA NORSAR Array B 75.09 337 P **P 04 27 12.2 -0.5**
comp=Z,3.4nm,0.5s,mb4.6,baz=40,slow=8.7,SNR=5.1
NOA NORSAR Array B 75.09 337 P **P 04 27 12.2 -0.5**
MCMT McKenzie Canyo 75.09 45 *eP* **P 04 27 13.2 +0.5**
MCMT *ep*P pP 04 27 22.7 -1.0
AKASG Malin Array Be 75.11 323 P **P 04 27 12.4 -0.4**
comp=Z,20nm,0.6s,mb5.3,baz=47,slow=6.1,SNR=116
AKASG PP PP 04 29 56.4 -4.7
comp=Z,0.3nm,0.4s,baz=42,slow=8.7,SNR=2.7
AKASG Malin Array Be 75.11 323 P **P 04 27 12.4 -0.4**
AKASG *e* 04 29 56.4
BOZ Bozeman (W) 75.30 44 *eP* **P 04 27 14.1 +0.2**
BOZ *e**PP pP 04 27 24.8 -0.1
BOZ pmax pmax
comp=Z,23nm,1.0s,mb5.1
BOZ Bozeman (W) 75.30 44 *eP* **P 04 27 14.1 +0.2**
comp=Z,23nm,1.0s,mb5.1
BOZ *ep*P pP 04 27 24.8 -0.1
NVAR Mina Array Bea 75.45 53 P **P 04 27 15.7 +0.9**
comp=Z,3.9nm,0.6s,mb4.5,baz=289,slow=5.8,SNR=33
MSL Mosul 75.56 304 *ex* x 04 27 17.5
SUW Suwalki 75.73 328 *eP* **P 04 27 16.2 -0.2**
SUW L 04 53 55.1
comp=Z,0.9nm,18.0s
QLMT Earthquake Lak 75.90 45 *eP* **P 04 27 17.9 +0.5**
QLMT *ep*P pP 04 27 28.8 +0.4
ELK Elko 76.06 50 P **P 04 27 19.0 +0.8**
comp=Z,2.3nm,0.6s,mb4.3,baz=334,slow=5.0,SNR=18
ELK Elko 76.06 50 P **P 04 27 19.0 +0.8**
MIB Mutribah 76.21 297 *eP* **P 04 27 18.6 -0.5**
MIB AMb AMB 04 27 19.9
comp=Z,55nm,0.7s,mb5.6
YMR Madison River 76.26 44 *eP* **P 04 27 20.6 +1.2**
comp=Z,20nm,1.1s,mb5.0
YMR *ep*P pP 04 27 30.7 +0.3
KBD Kabd 76.30 296 *eP* **P 04 27 19.5 -0.1**
KBD AMb AMB 04 27 21.4
comp=Z,209nm,0.8s,mb6.1
GCMT Greycliff 76.31 43 *eP* **P 04 27 20.2 +0.6**
GCMT *ep*P pP 04 27 30.6 -0.1
BHD Baghdad 76.38 301 *ex* x 04 27 16.0
QRN Al-Qurain 76.38 296 *eP* **P 04 27 20.0 0.0**
QRN AMb AMB 04 27 21.1
comp=Z,143nm,0.7s,mb6.0
RDF Al-Radifah 76.55 296 *eP* **P 04 27 21.1 +0.1**
RDF AMb AMB 04 27 22.2
comp=Z,130nm,0.9s,mb5.9
NAY Al-Naaiem 76.59 296 *eP* **P 04 27 21.1 -0.2**
NAY AMb AMB 04 27 22.8
comp=Z,47nm,0.8s,mb5.5
LKWY Lake 76.65 44 *eP* **P 04 27 24.0 +2.4**
LKWY *e**PP pP 04 27 34.3 +1.7
LKWY pmax pmax
comp=Z,24nm,1.0s,mb5.1
LKWY Lake 76.65 44 *eP* **P 04 27 24.0 +2.4**
comp=Z,18nm,1.0s,mb5.0
LKWY *e*PcP PcP 04 27 32.1 -0.8
LKWY *ep*P pP 04 27 34.3 +1.7
FLWY Flagg Ranch 76.77 45 *eP* **P 04 27 23.9 +1.6**
comp=Z,29nm,1.1s,mb5.1
FLWY *ep*P pP 04 27 35.0 +1.6
FLWY *es*P sP 04 27 38.2 +0.8
SFJD Kangerlussuaq 76.80 5 P **P 04 27 22.0 -0.4**
comp=Z,10.0nm,0.8s,mb4.8,baz=261,slow=4.3,SNR=4.0
SFJD Kangerlussuaq 76.80 5 P **P 04 27 22.0 -0.4**
HVU Hansel Valley 76.95 48 *eP* **P 04 27 23.8 +0.5**
HVU *e**PP pP 04 27 34.5 +0.2
HVU pmax pmax
comp=Z,16nm,0.9s,mb5.0
HVU Hansel Valley 76.95 48 *eP* **P 04 27 23.8 +0.6**
comp=Z,16nm,0.9s,mb5.0
HVU *ep*P pP 04 27 34.5 +0.2
LOHW Long Hollow 77.11 45 *eP* **P 04 27 25.2 +1.0**
comp=Z,10nm,1.2s,mb4.6
LOHW *ep*P pP 04 27 35.4 +0.2
SNOW Snow King Moun 77.12 45 *eP* **P 04 27 25.1 +0.9**
comp=Z,19nm,1.1s,mb4.9
SNOW *ep*P pP 04 27 35.7 +0.4
REDW Red Top Meadow 77.12 45 *eP* **P 04 27 25.2 +1.0**
comp=Z,21nm,1.1s,mb5.0
REDW *ep*P pP 04 27 35.4 +0.1
BGU Big Grassy Mou 77.31 48 *eP* **P 04 27 30.5 +5.2**
BGU *ep*P pP 04 27 40.8 +4.5
MALT Malatya 77.44 308 *eP* **P 04 27 26.8 +0.8**
MALT *e**PP pP 04 27 37.9 +0.8
MALT pmax pmax
comp=Z,20nm,1.2s,mb4.9
MALT Malatya 77.44 308 *eP* **P 04 27 26.8 +0.8**
comp=Z,20nm,1.2s,mb4.9
MALT *ep*P pP 04 27 37.9 +0.8
DGMT Dagmar 77.50 38 *eP* **P 04 27 26.0 -0.3**
comp=Z,32nm,0.6s,mb5.4
DGMT *ep*P pP 04 27 36.1 -1.3
LAO LASA Array 77.60 41 *eP* **P 04 27 27.4 +0.4**
comp=Z,36nm,1.0s,mb5.3
LAO *ep*P pP 04 27 37.8 -0.2
HWUT Hardware Ranch 77.78 47 *eP* **P 04 27 28.7 +0.8**
comp=Z,33nm,1.2s,mb5.1
HWUT *ep*P pP 04 27 38.8 -0.1
RBK Rabkut 77.82 283 P **P 04 27 27.9 -0.2**
SNR=10
DUG Dugway 77.88 49 *eP* **P 04 27 29.1 +0.6**
DUG *e**PP pP 04 27 39.6 +0.1
DUG pmax pmax
comp=Z,31nm,1.1s,mb5.2
DUG Dugway 77.88 49 *eP* **P 04 27 29.1 +0.6**
comp=Z,31nm,1.1s,mb5.2
DUG *ep*P pP 04 27 39.6 +0.1
WHFO Wadi Hawf 77.93 283 P **P 04 27 28.6 -0.1**
SNR=12
TCUT Toone Canyon 78.17 48 *eP* **P 04 27 31.0 +0.9**
TCUT *ep*P pP 04 27 41.2 +0.1
PDAR Pinedale Array 78.24 45 P **P 04 27 30.6 +0.2**
comp=Z,5.8nm,0.6s,mb4.7,baz=287,slow=1.5,SNR=46
NLU North Lily Min 78.47 49 *eP* **P 04 27 29.3 -2.5**
NLU *ep*P pP 04 27 39.9 -3.0
BORG Borgarnes 78.58 353 P **P 04 27 33.4 +1.0**
comp=Z,42nm,1.1s,mb5.3,baz=51,slow=2.0,SNR=4.3
ABTO Aybut 78.62 283 P **P 04 27 33.0 +0.4**
SNR=6.7
DAU Daniels Canyon 78.69 48 *eP* **P 04 27 34.0 +1.0**
DAU *e**PP pP 04 27 44.5 +0.5
MPU Maple Canyon 78.71 49 *eP* **P 04 27 33.9 +0.8**
comp=Z,31nm,1.2s,mb5.1
MPU *e*PcP PcP 04 27 41.5 -0.4
MPU *ep*P pP 04 27 44.3 +0.2
GKP Gorka Klasztor 78.77 330 *eP* **P 04 27 32.1 -1.3**
GKP L 04 56 40.3
comp=Z,1.3nm,17.5s
KWP Kalwaria 78.95 325 *eP* **P 04 27 35.2 +0.8**
KWP L 04 56 31.5

comp=Z,1.7nm,16.1s
BURAR Bucovina Array 79.11 322⇓P **P 04 27 36.2 +0.9**
BURAR Bucovina Array 79.11 322⇓P **P 04 27 36.2 +0.9**
MSU Marysvale 79.29 50 *eP* **P 04 27 37.1 +0.9**
MSU *e**PP pP 04 27 47.8 +0.5
NEN Nelson 79.32 54 *eP* **P 04 27 36.1 -0.3**
NEN *e*PcP PcP 04 27 44.8 +0.3
NEN *ep*P pP 04 27 47.0 -0.5
NEN sP sP 04 27 51.2 -0.4
VRI Vrincioaia 79.51 320⇓P **P 04 27 39.1 +1.7**
VRI Vrincioaia 79.51 320⇓P **P 04 27 39.1 +1.6**
BR131 Keskin Array S 79.56 312 *eP* **P 04 27 38.0 +0.3**
comp=Z,8.5nm,0.8s,mb4.7
BR131 *ep*P pP 04 27 48.6 -0.2
BRTR Keskin Array B 79.56 312 P **P 04 27 37.8 +0.1**
comp=Z,9.1nm,0.8s,mb4.8,baz=108,slow=4.1,SNR=49
BRTR PP PP 04 30 36.7 -1.7
comp=Z,1.6nm,1.1s,baz=46,slow=8.4,SNR=3.6
KOLS Kolonicke sedl 79.64 324 *i* P **P 04 27 39.0 +0.8**
KOLS *e* pP 04 27 49.8 +0.6
KOLS Kolonicke sedl 79.64 324 *ep*P pP 04 27 49.8 +0.6
KOLS Kolonicke sedl 79.64 324 *i* **P 04 27 39.0 +0.8**
STHS Stebnicka Huta 79.79 325 *i* P **P 04 27 40.3 +1.4**
STHS *e* pP 04 27 51.0 +1.0
STHS Stebnicka Huta 79.79 325 *ep*P pP 04 27 51.0 +1.0
STHS Stebnicka Huta 79.79 325 *i* **P 04 27 40.3 +1.4**
OJC Ojcow 79.88 326 *eP* **P 04 27 39.7 +0.3**
SRU San Rafael 79.94 49 *eP* **P 04 27 40.2 +0.4**
SRU *e**PP pP 04 27 50.5 -0.4
SRU pmax pmax
comp=Z,19nm,0.8s,mb5.1
SRU San Rafael 79.94 49 *eP* **P 04 27 40.2 +0.5**
comp=Z,19nm,0.8s,mb5.1
SRU *ep*P pP 04 27 50.5 -0.4
ANTO Ankara 79.97 312 *eP* **P 04 27 40.5 +0.5**
ANTO *e**PP pP 04 27 51.4 +0.3
ANTO pmax pmax
comp=Z,14nm,0.8s,mb4.9
ANTO Ankara 79.97 312 *eP* **P 04 27 40.5 +0.6**
comp=Z,14nm,0.8s,mb5.0
ANTO *ep*P pP 04 27 51.4 +0.3
MLR Muntele Rosu 80.17 320 P **P 04 27 41.2 +0.2**
comp=Z,2.2nm,0.5s,mb4.3,baz=294,slow=6.0,SNR=5.0
MLR Muntele Rosu 80.17 320⇑P **P 04 27 42.0 +1.0**
MLR Muntele Rosu 80.17 320⇑P **P 04 27 42.0 +0.9**
NIE Niedzica 80.22 325 *eP* **P 04 27 42.3 +1.0**
ULM Lac du Bonnet 80.22 33 P **P 04 27 40.2 -1.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=309,slow=7.9,SNR=12
RWWY Rawlins 80.27 45 *eP* **P 04 27 41.9 +0.3**
comp=Z,17nm,0.9s,mb5.0
RWWY *ep*P pP 04 27 52.2 -0.4
RSSD Black Hills 80.45 42 *eP* **P 04 27 42.4 -0.1**
RSSD *e**PP pP 04 27 52.7 -0.9
RSSD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
RSSD Black Hills 80.45 42 *eP* **P 04 27 42.4 -0.1**
comp=Z,8.7nm,0.9s,mb4.7
RSSD *e*PcP PcP 04 27 49.8 +0.3
RSSD *ep*P pP 04 27 52.7 -0.9
RUE Ruedersdorf 80.75 331 *eP* **P 04 27 44.4 +0.3**
comp=Z,14nm,0.4s,mb5.2
KECS Kecovo 80.80 325 *eP* **P 04 27 45.1 +0.7**
KECS *e* pP 04 27 56.0 +0.5
KECS *e*PP PP 04 30 42.7 -6.1
KECS Kecovo 80.80 325 *ep*P pP 04 27 56.0 +0.5
KECS Kecovo 80.80 325 *e* **P 04 27 45.1 +0.7**
OKC Ostrava-Krasne 80.89 327 *eP* **P 04 27 45.0 +0.1**
OKC *ep*P pP 04 27 56.1 +0.1
DRGR 80.92 322⇑P **P 04 27 45.4 +0.4**
DRGR 80.92 322⇑P **P 04 27 45.4 +0.4**
BSEG Bad Segeberg 80.94 333 *eP* **P 04 27 45.1 -0.1**
comp=Z,24nm,1.2s,mb5.0
KSP Ksiaz 80.95 328 *eP* **P 04 27 45.6 +0.4**
KSP L 04 57 48.5
comp=Z,1.7nm,17.6s
KSP Ksiaz 80.95 328 *eP* **P 04 27 45.2 0.0**
KSP *ep*P pP 04 27 55.7 -0.6
MORC Moravsky Berou 81.20 327 *eP* **P 04 27 46.6 +0.1**
MORC *e**PP pP 04 27 58.0 +0.4
MORC pmax pmax
comp=Z,14nm,1.0s,mb4.8
MORC Moravsky Berou 81.20 327 *eP* **P 04 27 46.6 0.0**
comp=Z,14nm,1.0s,mb4.8
MORC *ep*P pP 04 27 58.0 +0.4
PV10 Paradox Valley 81.30 49 *eP* **P 04 27 48.2 +1.1**
PV10 *ep*P pP 04 27 58.6 +0.4
DPC Dobruska-Polom 81.31 328 *eP* **P 04 27 47.3 +0.2**
DPC *ep*P pP 04 27 58.5 +0.3
UPC Upice 81.32 328 *eP* **P 04 27 47.7 +0.5**
UPC *ep*P pP 04 27 57.8 -0.5
PSZ Piszkesteto 81.48 325 *eP* **P 04 27 48.4 +0.4**
PSZ *e**PP pP 04 27 59.7 +0.6
PSZ pmax pmax
comp=Z,26nm,1.0s,mb5.1
PSZ Piszkesteto 81.48 325 *eP* **P 04 27 48.4 +0.3**
comp=Z,26nm,1.0s,mb5.1
PSZ *ep*P pP 04 27 59.7 +0.6
VYHS Vyhne 81.56 326 *i* P **P 04 27 49.1 +0.7**
VYHS *e* pP 04 28 00.1 +0.6
VYHS *ep*P pP 04 28 00.1 +0.6
VYHS Vyhne 81.56 326 *i* **P 04 27 49.1 +0.7**
PV01 Paradox Valley 81.74 49 *eP* **P 04 27 50.1 +0.7**
PV01 *ep*P pP 04 28 00.5 0.0
BRG Berggiesshubel 81.91 330 *eP* **P 04 27 50.1 -0.2**
comp=Z,11nm,1.0s,mb4.7
BRG Berggiesshubel 81.91 330 *eP* **P 04 27 50.1 -0.2**
BRG *i* pP 04 28 01.2 -0.2
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRG MLR MLR
comp=Z,650nm,16.2s,MS5.1
BRG Berggiesshubel 81.91 330 *eP* **P 04 27 50.1 -0.2**
comp=Z,6.7nm,1.0s,mb4.5
BRG *i* pP 04 28 01.2 -0.2
BRG LR LR
comp=Z,650nm,16.2s,MS5.1
PVCC Panska Ves 81.92 329 *eP* **P 04 27 50.4 +0.1**
PVCC *ep*P pP 04 27 58.6 -2.8
CLL Collm 81.96 330⇑*i*P **P 04 27 50.2 -0.3**
comp=Z,19nm,0.9s,mb5.0
CLL *ep*P pP 04 28 01.2 -0.5
CLL *es*P sP 04 28 06.1 +0.4
CLL *e*PP PP 04 30 57.8 -0.5
CLL *e*L 04 58 04.8
comp=Z,695nm,18.0s
CLL Collm 81.96 330⇑*i*P **P 04 27 50.1 -0.4**
comp=Z,19nm,0.9s,mb5.0
CLL *ep*P pP 04 28 01.0 -0.7
CLL *es*P sP 04 28 06.0 +0.3
CLL *i* x x 04 28 14.5
CLL *e*PP PP 04 30 58.0 -0.3
CLL Collm 81.96 330⇑*i*P **P 04 27 50.1 -0.4**
CLL *e**SP sP 04 28 06.0 +0.3
CLL pmax pmax
comp=Z,19nm,0.9s,mb5.0
CLL Collm 81.96 330⇑*i*P **P 04 27 50.1 -0.4**
comp=Z,19nm,0.9s,mb5.0
CLL *ep*P pP 04 28 01.0 -0.7
CLL *es*P sP 04 28 06.0 +0.3
SMCO Snowmass 82.03 47 *eP* **P 04 27 51.6 +0.8**
comp=Z,13nm,1.1s,mb4.8
SMCO *ep*P pP 04 28 02.1 +0.1
BZS Buzias 82.29 322⇑P **P 04 27 52.3 0.0**
BZS Buzias 82.29 322⇑P **P 04 27 52.3 0.0**
PRU Pruhonice 82.34 329 *eP* **P 04 27 52.7 +0.2**
PRU *ep*P pP 04 28 02.7 -0.9
ISCO Idaho Springs 82.42 46 *eP* **P 04 27 53.7 +0.8**
ISCO *e**PP pP 04 28 03.8 -0.3
ISCO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ISCO Idaho Springs 82.42 46 *eP* **P 04 27 53.7 +0.8**
comp=Z,8.4nm,0.9s,mb4.7
ISCO *e*PcP PcP 04 27 57.7 -0.4
ISCO *ep*P pP 04 28 03.8 -0.3
TREC Trest 82.46 328 *eP* **P 04 27 53.4 +0.3**
TREC *ep*P pP 04 28 04.0 -0.3
ZST Bratislava 82.56 326 *e*SS SS 04 43 45.0 +15
CLZ Clausthal 82.57 332 *eP* **P 04 27 53.8 +0.1**
comp=Z,22nm,1.1s,mb5.1
CLZ Clausthal 82.57 332 *eP* **P 04 27 53.8 +0.1**
CLZ pmax pmax
comp=Z,22nm,1.1s,mb5.1
WERD Werda 82.91 330 *eP* **P 04 27 55.1 -0.4**

comp=Z,7.0nm,1.0s,mb4.7
NKC Novy Kostel 83.02 330 *e*P **P 04 27 55.8 -0.2**
NKC *e*pP pP 04 28 07.1 -0.1
MOX Moxa 83.03 331 *e*P **P 04 27 55.7 -0.4**
comp=Z,7.0nm,1.0s,mb4.7
MOX Moxa 83.03 331 *e*P **P 04 27 55.7 -0.4**
MOX pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
IBBN Ibbenburen 83.17 333 *e*P **P 04 27 56.5 -0.4**
comp=Z,21nm,0.6s,mb5.3
MANZ Manzenberg 83.34 330 *e*P **P 04 27 57.8 +0.1**
comp=Z,9.0nm,1.0s,mb4.8
KHC Kasperske Hory 83.40 329 *e*P **P 04 27 57.9 -0.1**
KHC *e*pP pP 04 28 07.7 -1.4
RZN Rozhen 83.41 318 *e*P **P 04 27 59.0 +0.9**
ROTZ Rotzenmuhle 83.47 330 *e*P **P 04 27 58.3 -0.1**
comp=Z,22nm,1.3s,mb5.0
GEC2 GERESS Array S 83.56 328 *e*P **P 04 27 58.5 -0.4**
comp=Z,11nm,1.1s,mb4.9
GEC2 GERESS Array S 83.56 328 *e*P **P 04 27 58.5 -0.4**
GEC2 pmax pmax
comp=Z,11nm,1.1s,mb4.9
GERES GERESS Array B 83.56 328 P **P 04 27 58.5 -0.4**
comp=Z,4.3nm,0.8s,mb4.6,baz=38,slow=5.0,SNR=28
VTS Vitosha 83.59 319 *e*P **P 04 28 00.0 +1.0**
WET Wettzell 83.68 329 *e*P **P 04 27 59.4 -0.1**
comp=Z,12nm,1.1s,mb4.9
WET Wettzell 83.68 329 *e*P **P 04 27 59.4 -0.1**
WET pmax pmax
comp=Z,12nm,1.1s,mb4.9
GRA1 Grafenberg Arr 83.93 330 *e*P **P 04 28 01.0 +0.2**
comp=Z,39nm,1.1s,mb5.5
GRA1 *e*pP pP 04 28 12.2 +0.3
GRF Grafenberg Arr 83.93 330 *e*P **P 04 28 01.0 +0.2**
comp=Z,39nm,1.1s,mb5.5
GRF *e*pP pP 04 28 12.2 +0.3
GRF Grafenberg Arr 83.93 330 *e*P **P 04 28 01.0 +0.2**
GRF *e**PP pP 04 28 12.2 +0.3
GRF pmax pmax
comp=Z,39nm,1.1s,mb5.5
GRUS Gruza 83.97 321 *i* P **P 04 28 00.7 -0.3**
ARSA Arzberg 83.98 326⇑ *i* P **P 04 28 01.1 +0.1**
comp=Z,14nm,1.5s,mb4.9
MMB Musomiste 84.01 318 *e*P **P 04 28 01.0 -0.2**
TUC Tucson 84.03 54 *e*P **P 04 28 01.9 +0.7**
TUC *e**PP pP 04 28 12.2 -0.2
TUC pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
TUC Tucson 84.03 54 *e*P **P 04 28 01.9 +0.7**
comp=Z,8.4nm,1.0s,mb4.8
TUC *e*pP pP 04 28 12.2 -0.2
KKB Krupnik 84.17 319 *e*P **P 04 28 02.0 +0.1**
DIVS Divcibare 84.18 322 *i* P **P 04 28 02.2 +0.2**
TNS Taunus Mts 84.60 332 *e*P **P 04 28 03.7 -0.4**
comp=Z,10.0nm,1.0s,mb4.9
TNS Taunus Mts 84.60 332 *e*P **P 04 28 03.7 -0.4**
TNS pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
STIP Stip 84.76 319 *i* P **P 04 28 04.2 -0.8**
VAY Valandovo 84.82 319 *i* P **P 04 28 04.2 -1.1**
SKO Skopje 84.96 320 *i* P **P 04 28 06.7 +0.7**
ANMO Albuquerque 85.09 50 P **P 04 28 07.6 +1.0**
comp=Z,2.3nm,0.9s,mb4.3,baz=343,slow=1.6,SNR=8.5
FUR Furstenfeldbru 85.11 329 *e*P **P 04 28 06.8 +0.1**
comp=Z,30nm,0.9s,mb5.4
FUR Furstenfeldbru 85.11 329 *e*P **P 04 28 06.8 +0.1**
FUR pmax pmax
comp=Z,30nm,0.9s,mb5.4
LPM Los Pinos Moun 85.41 50 *e*P **P 04 28 09.0 +0.8**
LPM *e*pP pP 04 28 19.2 -0.1
STU Stuttgart 85.47 331 *e*P **P 04 28 08.4 -0.1**
comp=Z,28nm,1.0s,mb5.3
OHR Ohrid 85.91 319 *i* P **P 04 28 09.6 -1.1**
GIVF Givet 86.04 334 *e*P **P 04 28 10.6 -0.7**
BFO Black Forest 86.17 331 *e*P **P 04 28 11.7 -0.3**
comp=Z,21nm,1.0s,mb5.3
BFO Black Forest 86.17 331 *e*P **P 04 28 11.7 -0.3**
BFO pmax pmax
comp=Z,21nm,1.0s,mb5.3
SCHQ Schefferville 86.20 16 P **P 04 28 11.8 -0.3**
comp=Z,7.6nm,0.9s,mb4.9,baz=314,slow=5.0,SNR=8.5
SCHQ Schefferville 86.20 16 P **P 04 28 11.8 -0.3**
CDF Champ du Feu 86.52 331 *e*P **P 04 28 13.2 -0.5**
comp=Z,24nm,0.9s,mb5.1
CDF Champ du Feu 86.52 331 *e*P **P 04 28 13.2 -0.5**
CDF pmax pmax
comp=Z,12nm,0.9s,mb5.1
CDF Champ du Feu 86.52 331 *e*P **P 04 28 13.2 -0.5**
comp=Z,12nm,0.9s,mb5.1
HINF Hinteralfeld 87.17 331 *e*P **P 04 28 15.9 -0.9**
HAU Haudompre 87.21 332 *e*P **P 04 28 16.3 -0.7**
KSU1 Kansas State U 87.93 41 P **P 04 28 18.9 -1.6**
comp=Z,2.7nm,0.9s,mb4.5
KSU1 *e*pP pP 04 28 30.1 -1.7
CABF La Chapelle 88.45 331 *e*P **P 04 28 21.9 -1.1**
comp=Z,9.3nm,0.8s,mb4.7
CABF La Chapelle 88.45 331 *e*P **P 04 28 21.9 -1.1**
CABF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
CABF La Chapelle 88.45 331 *e*P **P 04 28 21.9 -1.1**
comp=Z,4.7nm,0.8s,mb4.8
LOR Lormes 88.76 333 *e*P **P 04 28 23.9 -0.5**
comp=Z,38nm,1.3s,mb5.3
LOR Lormes 88.76 333 *e*P **P 04 28 23.9 -0.5**
LOR pmax pmax
comp=Z,19nm,1.3s,mb5.3
LOR Lormes 88.76 333 *e*P **P 04 28 23.9 -0.5**
comp=Z,19nm,1.3s,mb5.3
SSF Saint Saulge 89.06 333 *e*P **P 04 28 25.5 -0.4**
comp=Z,11nm,1.0s,mb4.8
SSF Saint Saulge 89.06 333 *e*P **P 04 28 25.5 -0.4**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
SSF Saint Saulge 89.06 333 *e*P **P 04 28 25.5 -0.4**
comp=Z,5.6nm,1.0s,mb4.8
LPL La Plagne 89.10 330 *e*P **P 04 28 24.8 -1.2**
comp=Z,16nm,0.9s,mb5.0
LPL La Plagne 89.10 330 *e*P **P 04 28 24.8 -1.2**
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
LPL La Plagne 89.10 330 *e*P **P 04 28 24.8 -1.2**
comp=Z,7.8nm,0.9s,mb5.0
LPG La Plagne 89.11 330 *e*P **P 04 28 25.0 -1.0**
comp=Z,25nm,1.1s,mb5.1
LPG La Plagne 89.11 330 *e*P **P 04 28 25.0 -1.0**
LPG pmax pmax
comp=Z,13nm,1.1s,mb5.2
LPG La Plagne 89.11 330 *e*P **P 04 28 25.0 -1.0**
comp=Z,12nm,1.1s,mb5.2
SMF Signal de Mont 89.29 332 *e*P **P 04 28 26.5 -0.4**
AVF Avril sur Loir 89.35 333 *e*P **P 04 28 26.9 -0.3**
comp=Z,29nm,1.0s,mb5.3
AVF Avril sur Loir 89.35 333 *e*P **P 04 28 26.9 -0.3**
AVF pmax pmax
comp=Z,15nm,1.0s,mb5.3
AVF Avril sur Loir 89.35 333 *e*P **P 04 28 26.9 -0.3**
comp=Z,14nm,1.0s,mb5.3
GRR Gorron 89.45 336 *e*P **P 04 28 27.4 -0.3**
comp=Z,59nm,1.3s,mb5.5
GRR Gorron 89.45 336 *e*P **P 04 28 27.4 -0.3**
GRR pmax pmax
comp=Z,29nm,1.3s,mb5.5
GRR Gorron 89.45 336 *e*P **P 04 28 27.4 -0.3**
comp=Z,30nm,1.3s,mb5.5
MBDF Montbardon 89.73 330 *e*P **P 04 28 28.3 -0.7**
comp=Z,15nm,0.7s,mb5.1
MBDF Montbardon 89.73 330 *e*P **P 04 28 28.3 -0.7**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
MBDF Montbardon 89.73 330 *e*P **P 04 28 28.3 -0.7**
comp=Z,7.3nm,0.7s,mb5.1
ORIF Oris-en-Rattie 89.93 330 *e*P **P 04 28 28.5 -1.4**
comp=Z,26nm,1.1s,mb5.1
ORIF Oris-en-Rattie 89.93 330 *e*P **P 04 28 28.5 -1.4**
ORIF pmax pmax
comp=Z,13nm,1.1s,mb5.2
ORIF Oris-en-Rattie 89.93 330 *e*P **P 04 28 28.5 -1.4**
comp=Z,13nm,1.1s,mb5.2
TCF Toulx Ste Croi 90.19 333 *e*P **P 04 28 30.9 -0.2**
VIVF Saint-Julien-l 90.46 331 *e*P **P 04 28 31.2 -1.2**
LTX Lajitas 90.60 52 P **P 04 28 33.0 0.0**
LTX *e**PP pP 04 28 43.7 -0.6
LTX pmax pmax
comp=Z,11nm,1.1s,mb5.1
LTX Lajitas 90.60 52 P **P 04 28 33.0 0.0**
comp=Z,11nm,1.1s,mb5.1
LTX *e*pP pP 04 28 43.7 -0.6
FRF La Foret Royal 90.73 329 *e*P **P 04 28 32.5 -1.2**
MFF Saint Martin d 90.76 335 *e*P **P 04 28 33.8 0.0**
comp=Z,40nm,1.2s,mb5.3
MFF Saint Martin d 90.76 335 *e*P **P 04 28 33.8 0.0**
MFF pmax pmax
comp=Z,20nm,1.2s,mb5.3
MFF Saint Martin d 90.76 335 *e*P **P 04 28 33.8 0.0**
comp=Z,20nm,1.2s,mb5.3
RJF Les Rejaudoux 91.29 333 *e*P **P 04 28 36.1 -0.1**
CAF Calviac 91.41 333 *e*P **P 04 28 37.1 +0.3**
comp=Z,29nm,1.1s,mb5.2
CAF Calviac 91.41 333 *e*P **P 04 28 37.1 +0.3**
CAF pmax pmax
comp=Z,15nm,1.1s,mb5.2
CAF Calviac 91.41 333 *e*P **P 04 28 37.1 +0.3**
comp=Z,15nm,1.1s,mb5.2
CCM Cathedral Cave 91.51 39 *e*P **P 04 28 36.4 -0.9**
CCM *e**PP pP 04 28 47.2 -1.3
CCM pmax pmax
comp=Z,15nm,0.9s,mb5.3
CCM Cathedral Cave 91.51 39 *e*P **P 04 28 36.4 -0.9**
comp=Z,15nm,0.9s,mb5.3
CCM *e*pP pP 04 28 47.2 -1.3
LFF La Frestale 91.88 333 *e*P **P 04 28 38.3 -0.7**
TORD Torodi Ar. Bea 118.07 315 PKP PKPdf 04 34 16.8 -0.7
comp=Z,1.1nm,0.8s,baz=17,slow=1.9,SNR=11
TORD PP PP 04 35 24.0 -8.4
comp=Z,2.6nm,1.0s,baz=8.3,slow=5.0,SNR=4.2
BOSA Boshof 126.51 259 PKP PKPdf 04 34 33.3 -0.4
comp=Z,6.3nm,0.9s,baz=9.9,slow=20,SNR=4.5
DBIC Dimbokro 127.05 316 PKP PKPdf 04 34 34.7 0.0
comp=Z,4.7nm,1.0s,baz=83,slow=4.1,SNR=4.1
DBIC Dimbokro 127.05 316 PKP PKPdf 04 34 34.7 0.0
LPAZ La Paz 147.05 61 PKPbc PKPbc 04 35 14.1 +0.6
comp=Z,7.6nm,0.6s,baz=350,slow=2.5,SNR=24
LPAZ La Paz 147.05 61 PKP2 PKPab 04 35 14.1 -0.9
LPAZ pmax pmax
comp=Z,8.0nm,0.6s
LPAZ La Paz 147.05 61 PKPbc PKPbc 04 35 14.1 +0.6
SIV San Ignacio 151.59 51 PKPbc PKPbc 04 35 24.5 -0.3
comp=Z,8.7nm,0.6s,baz=270,slow=1.8,SNR=25

JMA 13 04:19:44.0±0.5,3609N×14186E,h51km,M3.6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.90**	**245**	P	Pn	04 20 00.4	0.0
JHO	**Hitachi**	**1.17**	**297**	P	Pn	04 20 04.3	+0.4

*ISCJB **13** 04:47:42.3±1.1,459N±0.1×1486E±02,h10km,mb3.9/8, Error ellipse: s-maj=27.7km s-min=12.2km az=85.8*
*IDC **13** 04:47:42.9±3.7,4596N×14859E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.7/20,mbtmp3.8/7,ML3.3/1,Error ellipse: s-maj=95.4km s-min=25.0km az=159.0*
*MOS **13** 04:47:42.6±0.7,4602N×14851E,h9km,mb4.3/6,Error ellipse: s-maj=27.2km s-min=16.7km az=72.7*
ISC 13 04:47:43.2±1.3,458N±02×1487E±02,h10km,n18, σ0§54/18,mb3.9/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.82**	**226**	PN	**Pn**	**04 48 00.5**	**-0.3**
KUR				pmax	pmax		
	comp=N,150nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
ASAJ	**Asahikawa**	**4.65**	**251**	Pn	**Pn**	**04 48 53.8**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=106,slow=18,SNR=2.9						
ASAJ	**Asahikawa**	**4.65**	**251**	PN	**Pn**	**04 48 53.8**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**28.77**	**290**	P	**P**	**04 53 41.6**	**+0.6**
	comp=Z,1.1nm,0.6s,mb3.8,baz=79,slow=8.0,SNR=8.2						
SONM	**Songino Array**	**28.77**	**290**	P	**P**	**04 53 41.6**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**39.18**	**38**	P	**P**	**04 55 10.9**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.1,baz=275,slow=6.7,SNR=3.6						
MKAR	**Makanchi Array**	**44.64**	**296**	P	**P**	**04 55 55.7**	**-0.1**
	comp=Z,3.1nm,0.7s,mb4.2,baz=46,slow=8.3,SNR=24						
MKAR	**Makanchi Array**	**44.64**	**296**	P	**P**	**04 55 55.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**53.48**	**35**	P	**P**	**04 57 04.5**	**+0.9**
	comp=Z,0.2nm,0.6s,mb3.2,baz=301,slow=7.1,SNR=3.0						
YKA	**Yellowknife Ar**	**53.48**	**35**	P	**P**	**04 57 04.5**	**+0.9**
JOF	**Joensuu**	**60.79**	**332**	*e*p	**P**	**04 57 55.8**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.5						
JOF	**Joensuu**	**60.79**	**332**	*e*P	**P**	**04 57 55.8**	**+0.5**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**62.97**	**334**	*e*p	**P**	**04 58 09.4**	**-0.6**
	comp=Z,0.7nm,0.5s,mb4.0,baz=31,slow=5.8						
KAF	**Kangasniemi**	**62.97**	**334**	*e*P	**P**	**04 58 09.4**	**-0.6**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**63.55**	**333**	P	**P**	**04 58 13.7**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=38,slow=7.9,SNR=16						
FINES	**FINESS Array B**	**63.55**	**333**	P	**P**	**04 58 13.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**70.58**	**324**	P	**P**	**04 58 57.6**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.7,baz=38,slow=5.2,SNR=5.9						
AKASG	**Malin Array Be**	**70.58**	**324**	P	**P**	**04 58 57.6**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*ISCJB **13** 05:28:00.0±0.6,5781N±004×1388W±01,h10km,mb3.3/4, Error ellipse: s-maj=9.0km s-min=4.2km az=132.2*
*NEIC **13** 05:28:00.5,5785N×13899W,h1km,ML3.9(AEIC),After AEIC.*
*IDC **13** 05:28:01.9±1.1,5790N×13897W,h0km,mb3.5/4, mb1 3.7/9,mb1mx3.6/23,mbtmp3.6/9,ML3.6/5,MS2.9/2, Ms1 2.9/2,ms1mx2.6/31,Error ellipse: s-maj=21.1km s-min=11.6km az=52.0*
*PGC **13** 05:28:03.8,5796N×13858W,h1km,ML3.8/3,157km southeast of Yakutat, Ak Off coast of southeastern Alaska.*
ISC 13 05:28:02.4±0.6,5786N±004×1388W±01,h10km,n32, σ1§29/43,mb3.3/4,3C,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**1.85**	**350**	P	**Pn**	**05 28 32.8**	**-1.3**
SIT	**Sitka**	**2.02**	**112**	P	**Pn**	**05 28 36.0**	**-0.7**
BESE	**Bessie Mountai**	**2.19**	**69**	P	**Pn**	**05 28 39.4**	**+0.5**
HYT	**Haines Junctio**	**3.05**	**12**	⇑Pn	**Pn**	**05 28 51.0**	**+0.4**
HYT				Pg	**Pg**	**05 28 57.8**	**-3.1**
HYT				Sg	**Sg**	**05 29 32.2**	**-8.1**
HYT				Trac		05 29 33.6	
	comp=Z,201nm,0.4s						
WHY	**Whitehorse**	**3.45**	**34**	⇑Pn	**Pn**	**05 28 57.0**	**+0.9**
WHY				Sn	**Sn**	**05 29 36.5**	**-0.5**
WHY				Sg	**Sg**	**05 29 46.1**	**-7.0**
WHY				Trac		05 29 54.2	
	comp=Z,202nm,0.5s						
WHY	**Whitehorse**	**3.45**	**34**	P	**Pn**	**05 28 57.0**	**+0.8**
CRAG	**Craig**	**3.93**	**125**	P	**Pn**	**05 29 03.8**	**+1.1**
NDB	**Naden**	**5.10**	**138**	⇑Pn	**Pn**	**05 29 19.5**	**+0.6**
NDB				Sn	**Sn**	**05 30 18.8**	**+1.0**
NDB				Trac		05 30 20.3	
	comp=Z,17nm,0.2s						
VIB	**Van Inlet**	**5.81**	**140**	⇑Pn	**Pn**	**05 29 29.6**	**+0.9**
VIB				Sn	**Sn**	**05 30 33.6**	**-1.7**
VIB				Trac		05 30 36.6	
	comp=Z,5.0nm,0.1s						
RUBB	**Prince Rupert**	**5.93**	**123**	Pn	**Pn**	**05 29 31.5**	**+1.2**
RUBB				Sn	**Sn**	**05 30 36.3**	**-2.1**
RUBB				Trac		05 30 39.0	
	comp=Z,5.0nm,0.2s						
MOBC	**Moresby Island**	**6.08**	**137**	Pn	**Pn**	**05 29 33.3**	**+0.9**
MOBC				Sn	**Sn**	**05 30 40.9**	**-1.1**
MOBC				Trac		05 30 46.6	
	comp=Z,13nm,0.2s						
BNAB	**Bonilla**	**6.34**	**130**	Pn	**Pn**	**05 29 36.7**	**+0.7**
BNAB				Sn	**Sn**	**05 30 45.7**	**-2.7**
BNAB				Trac		05 30 49.3	
	comp=Z,4.0nm,0.3s						
BNB	**Barry Inlet**	**6.64**	**140**	Pn	**Pn**	**05 29 40.9**	**+0.8**
BNB				Sn	**Sn**	**05 30 53.3**	**-2.5**
BNB				Trac		05 30 59.5	
	comp=Z,262nm,0.3s						
KDAK	**Kodiak Island**	**7.38**	**275**	Pn	**Pn**	**05 29 48.8**	**-1.4**
	2.3nm,0.3s,baz=109,slow=12,SNR=28						
KDAK				LR	LR	05 32 26.3	
	comp=Z,104nm,20.8s,baz=324,slow=36						
ILAR	**Eielson Array**	**7.96**	**334**	Pn	**Pn**	**05 29 57.2**	**-0.9**
	0.2nm,0.3s,baz=168,slow=13,SNR=16						
BBB	**Bella Bella**	**8.35**	**128**	Pn	**Pn**	**05 30 04.8**	**+1.3**
	0.9nm,0.3s,baz=178,slow=15,SNR=37						
BBB				Sn	**Sn**	**05 31 35.8**	**-2.0**
	1.0nm,0.3s,baz=100,slow=17,SNR=7.7						
BBB	**Bella Bella**	**8.35**	**128**	Pn	**Pn**	**05 30 04.6**	**+1.2**
BBB				Sn	**Sn**	**05 31 35.7**	**-2.1**
BBB				Trac		05 31 41.2	
	comp=Z,2.0nm,0.2s						
FNBB	**Fort Nelson**	**8.35**	**76**	Pn	**Pn**	**05 30 05.2**	**+1.7**
FNBB				Trac		05 32 32.8	
	comp=Z,11nm,0.8s						
FSB	**Fort Saint Jam**	**8.74**	**107**	Trac		05 33 33.9	
	comp=Z,3.0nm,0.6s						
BMBC	**Bull Mountain**	**9.27**	**94**	Trac		05 33 04.0	
	comp=Z,5.0nm,0.6s						
PHC	**Port Hardy**	**9.75**	**132**	P	**Pn**	**05 30 22.7**	**0.0**
MAYB	**Maynard**	**10.09**	**133**	P	**Pn**	**05 30 28.1**	**+0.7**
MAYB				Sn	**Sn**	**05 32 20.0**	**-0.6**
MAYB				Trac		05 32 26.0	
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**10.75**	**10**	Pn	**Pn**	**05 30 36.4**	**0.0**
	0.2nm,0.3s,baz=190,slow=16,SNR=12						
INK				Lg		05 33 41.6	
	0.2nm,0.3s,baz=27,slow=6.4,SNR=3.4						
INK	**Inuvik**	**10.75**	**10**	Pn	**Pn**	**05 30 36.5**	**+0.1**
INK				Trac		05 33 51.9	
	comp=Z,5.0nm,0.9s						
YKA	**Yellowknife Ar**	**12.85**	**59**	Pn	**Pn**	**05 31 05.0**	**-0.1**
	baz=259,slow=13,SNR=14						
YKA				Lg		05 34 43.5	
	baz=255,slow=28,SNR=6.4						
YKA				LR	LR	05 35 27.7	
	comp=Z,56nm,19.6s,baz=290,slow=34						
YKA	**Yellowknife Ar**	**12.85**	**59**	Pn	**Pn**	**05 31 05.0**	**-0.1**
YKA				Lg		05 34 43.5	
YKA				LR	LR	05 35 27.7	
YKW3	**Yellowknife Ar**	**12.86**	**58**	P	**Pn**	**05 31 05.0**	**-0.2**
YKW3				Trac		05 34 58.8	
	comp=Z,22nm,1.3s						
RES	**Resolute Bay**	**23.49**	**28**	P	**P**	**05 33 12.7**	**+0.2**
NVAR	**Mina Array Bea**	**23.58**	**137**	P	**P**	**05 33 15.8**	**+2.4**
	0.2nm,0.4s,mb2.9,baz=300,slow=12,SNR=5.1						
PDAR	**Pinedale Array**	**23.74**	**117**	P	**P**	**05 33 17.9**	**+3.1**
	0.5nm,0.9s,mb2.9,baz=308,slow=7.8,SNR=3.3						
ULM	**Lac du Bonnet**	**25.92**	**88**	P	**P**	**05 33 37.0**	**+2.3**
	1.3nm,0.7s,mb3.6,baz=287,slow=12,SNR=4.6						
FINES	**FINESS Array B**	**60.45**	**8**	P	**P**	**05 38 10.9**	**-1.3**
	0.8nm,0.6s,mb3.9,baz=324,slow=6.9,SNR=3.2						

*IDC **13** 05:36:08.2±0.5,5264N×32.14W,h0km,mb4.2/26, mb1 4.3/27,mb1mx4.2/35,mbtmp4.2/27,ML4.7/1,MS4.3/28, Ms1 4.3/28,ms1mx4.2/38,Error ellipse: s-maj=14.8km s-min=10.6km az=0.0*
*MOS **13** 05:36:08.8±0.8,5279N×3207W,h10km,mb4.8/54,Error ellipse: s-maj=8.8km s-min=5.6km az=168.2*
*BJI **13** 05:36:09.2,5285N×3185W,h13km,mB5.4,mb5.0,Ms5.1, Msz4.6*
*ISCJB **13** 05:36:09.3±2.1,5276N±004×32.13W±004,h15km±13km, mb4.6/123,MS4.4/43,Error ellipse: s-maj=7.5km s-min=4.3km az=27.9*
*NEIC **13** 05:36:10.2±0.2,5270N×32.15W,h10km,mb4.7/79, MS4.4/6,Error ellipse: s-maj=7.6km s-min=3.4km az=195.0*
*CSEM **13** 05:36:11.4±0.1,5277N×32.12W,h33km,mb4.7/60,Ms4.2, Error ellipse: s-maj=3.4km s-min=1.7km az=18.0*
*SZGRF **13** 05:36:15.4,5155N×3100W,h33km,mb4.8,MS4.2, Northern Mid-Atlantic Ridge*
*IGIL **13** 05:36:17.5,52.10N×3240W,h33km,MS4.2*
ISC 13 05:36:09.5±2.0,5278N±004×3210W±004,h6km±13km, h31km±1.0km:pP-P,n348,σ1§10/341,mb4.6/123,MS4.4/43, 4C-6D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.21**	**21**	LR	LR	05 42 38.1	
	comp=Z,872nm,19.8s,baz=212,slow=29						
SFJD	**Kangerlussuaq**	**16.90**	**335**	LR	LR	05 45 25.4	
	comp=Z,3μm,20.8s,baz=121,slow=33						
SFJD	**Kangerlussuaq**	**16.90**	**335**	*i* P	**Pn**	**05 40 13.6**	**+7.0**
	18nm,1.2s						
SFJD				*i* S	**Sn**	**05 43 12.8**	**-1.9**
SFJD							
	comp=Z,2μm,18.0s						
SFJD	**Kangerlussuaq**	**16.90**	**335**	*i* P	**Pn**	**05 40 13.6**	**+7.0**
	comp=Z,18nm,1.2s						
SFJD				*i* S	**Sn**	**05 43 12.8**	**-1.9**
ESK	**Eskdalemuir**	**17.10**	**70**	*e*P	**Pn**	**05 40 12.0**	**+2.9**
ESK				pmax	pmax		
	comp=Z,30nm,0.8s						
ESK	**Eskdalemuir**	**17.10**	**70**	*e*P	**Pn**	**05 40 12.0**	**+2.9**
	comp=Z,30nm,0.8s						
ESK	**Eskdalemuir**	**17.10**	**70**	*e*P	**Pn**	**05 40 12.0**	**+2.8**
	comp=Z,30nm,0.8s						
ESK				*e*		05 40 20.2	
EKA	**Eskdalemuir Ar**	**17.13**	**70**	P	**Pn**	**05 40 09.4**	**0.0**
	comp=Z,1.5nm,0.3s,baz=267,slow=9.0,SNR=36						
EMAZ	**Mazaricos**	**18.29**	**113**	P	**Pn**	**05 40 20.3**	**-3.6**
	comp=Z,162nm,1.4s						
ROSF	**Rostrenen**	**18.78**	**92**	*e*P	**Pn**	**05 40 29.7**	**-0.1**
EZAM	**Zamans**	**18.98**	**115**	P	**Pn**	**05 40 30.3**	**-1.9**
EZAM				pmax	pmax		
	comp=Z,19nm,0.8s						
EZAM	**Zamans**	**18.98**	**115**	P	**Pn**	**05 40 30.3**	**-1.9**
	comp=Z,19nm,0.8s						
EZAM	**Zamans**	**18.98**	**115**	P	**Pn**	**05 40 30.3**	**-1.9**
	comp=Z,19nm,0.8s						
QUIF	**Quistinic**	**19.02**	**93**	*e*P	**Pn**	**05 40 32.5**	**-0.3**
EPON	**Pontenova**	**19.09**	**110**	P	**Pn**	**05 40 32.2**	**-1.3**
	comp=Z,166nm,2.0s						
SGMF	**Saint Gilles**	**19.25**	**92**	*e*P	**Pn**	**05 40 35.4**	**-0.1**
	comp=Z,160nm,1.4s						
SGMF	**Saint Gilles**	**19.25**	**92**	*e*P	**Pn**	**05 40 35.4**	**-0.1**
SGMF				pmax	pmax		
	comp=Z,80nm,1.4s						
SGMF	**Saint Gilles**	**19.25**	**92**	*e*P	**Pn**	**05 40 35.4**	**-0.1**
	comp=Z,80nm,1.4s						
ELOB	**Lobios**	**19.52**	**114**	P	**Pn**	**05 40 36.0**	**-2.7**
	comp=Z,169nm,1.9s						
ERUA	**La Rua**	**19.68**	**112**	P	**Pn**	**05 40 38.7**	**-2.0**
ERUA				pmax	pmax		
	comp=Z,117nm,2.0s						
ERUA	**La Rua**	**19.68**	**112**	P	**Pn**	**05 40 38.7**	**-2.0**
	comp=Z,117nm,2.0s						
SUMG	**Summit**	**20.06**	**354**	*e*P	**P**	**05 40 46.1**	**+2.6**
	comp=Z,29nm,1.0s						
PVRL	**Vila Real**	**20.11**	**115**	*e*P	**P**	**05 40 44.4**	**+0.5**
ECAL	**Calabor**	**20.20**	**112**	P	**P**	**05 40 43.9**	**-1.1**
	comp=Z,117nm,1.8s						
EARI	**Arriondas**	**20.22**	**107**	P	**P**	**05 40 46.9**	**+1.7**
	comp=Z,239nm,1.6s						
GRR	**Gorron**	**20.23**	**90**	*e*P	**P**	**05 40 46.4**	**+1.2**
	comp=Z,39nm,0.8s						
GRR	**Gorron**	**20.23**	**90**	*e*P	**P**	**05 40 46.4**	**+1.2**
GRR				pmax	pmax		
	comp=Z,19nm,0.8s						
GRR	**Gorron**	**20.23**	**90**	*e*P	**P**	**05 40 46.4**	**+1.2**
	comp=Z,19nm,0.8s						
FLN	**La Foliniere**	**20.30**	**89**	*e*P	**P**	**05 40 46.9**	**+0.8**
	comp=Z,70nm,0.8s						
FLN				*e*R			
	comp=Z,1μm,21.1s						
FLN	**La Foliniere**	**20.30**	**89**	*e*P	**P**	**05 40 46.9**	**+0.8**
FLN				pmax	pmax		
	comp=Z,35nm,0.8s						
FLN				MLR	MLR		
	comp=Z,1μm,21.1s,MS4.3						
FLN	**La Foliniere**	**20.30**	**89

comp=Z,2.7nm,0.6s,baz=80,slow=8.7,SNR=12
SCHQ LR LR 05 47 13.1
comp=Z,893nm,20.4s,MS4.1,baz=76,slow=32
SCHQ Schefferville 20.49 290 *e*P **P 05 40 47.7 -0.4**
comp=Z,14nm,0.8s
LDF La Druitiere 20.59 89 *e*P **P 05 40 49.9 +0.7**
comp=Z,39nm,0.9s
LDF La Druitiere 20.59 89 *e*P **P 05 40 49.9 +0.7**
LDF pmax pmax
comp=Z,20nm,0.9s
LDF La Druitiere 20.59 89 *e*P **P 05 40 49.9 +0.7**
comp=Z,20nm,0.9s
MTE Manteigas 20.81 117 *e*P **P 05 40 51.8 +0.3**
comp=Z,32nm,1.2s
MTE *e*LQ 05 44 43.9
MTE *e*LR LR 05 45 59.3
comp=Z,1µm,19.1s
MTE Manteigas 20.81 117 *e*P **P 05 40 51.9 +0.4**
comp=Z,21nm,1.0s
PTOM Tomar 20.90 120 *e*P **P 05 40 52.6 0.0**
comp=Z,35nm,1.4s
PLOU Loures 21.06 122 *e*P **P 05 40 55.0 +0.7**
comp=Z,58nm,1.1s,mb4.8
JMIC Jan Mayen 21.11 21 LR LR 05 46 24.7
comp=Z,481nm,19.0s,MS3.9,baz=82,slow=29
LIS Lisbon 21.19 122 *e*P **P 05 40 57.2 +1.6**
LIS *e*S **S 05 44 51.0 -0.5**
LIS *e*S **S 05 44 51.1 -0.5**
LIS AMS AMS 05 46 12.3
comp=N,1µm,20.4s
LIS Lisbon 21.19 122 *e*P **P 05 40 57.3 +1.7**
LIS *e*S **S 05 44 51.0 -0.5**
PCBR Castelo Branco 21.24 118 *e*P **P 05 40 55.4 -0.8**
comp=N,17nm,1.4s,mb4.2
MENF Mencas 21.25 82 *e*P **P 05 40 58.8 +2.5**
MFF Saint Martin d 21.45 94 *e*P **P 05 40 58.8 +0.3**
comp=N,128nm,1.1s,mb4.9
MFF Saint Martin d 21.45 94 *e*P **P 05 40 58.8 +0.3**
MFF pmax pmax
comp=Z,64nm,1.1s,mb4.9
MFF Saint Martin d 21.45 94 *e*P **P 05 40 58.8 +0.3**
comp=Z,64nm,1.1s,mb4.9
MOE Montemor 21.74 121 *e*P **P 05 41 01.3 -0.3**
EBAD Badajoz 22.27 119 P **P 05 41 05.5 -1.8**
comp=Z,68nm,1.9s,mb4.8
PTEO Sao Teotonio 22.30 124 *e*P **P 05 41 09.6 +2.1**
comp=Z,70nm,1.9s,mb4.8
PBEJ Beja 22.37 122 *e*P **P 05 41 08.3 0.0**
comp=Z,13nm,0.9s,mb4.3
EALK Alkurruntz 22.44 103 P **P 05 41 12.4 +3.4**
comp=Z,325nm,2.4s,mb5.3
ELIZ Elizondo 22.46 103 P **P 05 41 11.9 +2.6**
ELIZ pmax pmax
comp=Z,24nm,1.1s,mb4.5
ELIZ Elizondo 22.46 103 P **P 05 41 11.9 +2.6**
comp=Z,24nm,1.1s,mb4.5
ELIZ Elizondo 22.46 103 P **P 05 41 11.9 +2.6**
comp=Z,24nm,1.1s,mb4.5
UCC Uccle 22.49 80 P **P 05 41 09.1 -0.5**
UCC AP 05 41 19.1
GUD Guadarrama 22.52 111 P **P 05 41 11.1 +1.2**
GUD pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
GUD Guadarrama 22.52 111 P **P 05 41 11.1 +1.2**
comp=Z,9.0nm,0.9s,mb4.2
GUD Guadarrama 22.52 111 P **P 05 41 11.1 +1.2**
comp=Z,9.0nm,0.9s,mb4.2
SNF Seneffe 22.54 81 P **P 05 41 09.0 -1.1**
SNF AP 05 41 19.1
SJPF Ste Jean 22.67 103 *e*P **P 05 41 11.5 0.0**
comp=Z,118nm,1.6s,mb4.8
SJPF Ste Jean 22.67 103 *e*P **P 05 41 11.5 0.0**
SJPF pmax pmax
comp=Z,59nm,1.6s,mb4.8
SJPF Ste Jean 22.67 103 *e*P **P 05 41 11.5 0.0**
comp=Z,59nm,1.6s,mb4.8
LFF La Frestale 22.83 97 *e*P **P 05 41 12.6 -0.6**
DOU Dourbes 22.87 82 P **P 05 41 12.6 -1.1**
DOU AP 05 41 20.3
DOU XP sP 05 41 25.3 +9.3
EGRO El Granado 22.94 122 P **P 05 41 11.6 -2.8**
comp=Z,115nm,2.0s,mb5.0
GIVF Givet 23.01 82 *e*P **P 05 41 14.7 -0.4**
TCF Toulx Ste Croi 23.03 93 *e*P **P 05 41 14.9 -0.5**
comp=Z,111nm,1.2s,mb4.9
TCF Toulx Ste Croi 23.03 93 *e*P **P 05 41 14.9 -0.5**
TCF pmax pmax
comp=Z,56nm,1.2s,mb4.9
TCF Toulx Ste Croi 23.03 93 *e*P **P 05 41 14.9 -0.5**
comp=Z,56nm,1.2s,mb4.9
RJF Les Rejaudoux 23.10 95 *e*P **P 05 41 15.4 -0.7**
comp=Z,44nm,1.1s,mb4.5
RJF *e*R
comp=Z,1µm,20.5s
RJF Les Rejaudoux 23.10 95 *e*P **P 05 41 15.4 -0.7**
RJF pmax pmax
comp=Z,22nm,1.1s,mb4.5
RJF MLR MLR
comp=Z,1µm,20.5s,MS4.4
RJF Les Rejaudoux 23.10 95 *e*P **P 05 41 15.4 -0.7**
comp=Z,22nm,1.1s,mb4.5
RJF LR LR
comp=Z,1µm,20.5s,MS4.4
EMIN Mina Concepcio 23.18 120 P **P 05 41 14.9 -2.0**
comp=Z,76nm,2.0s,mb4.8
ETSF Etsaut 23.19 103 *e*P **P 05 41 16.4 -0.6**
BEBN Eben Emael 23.28 80 AP pP 05 41 26.1 +6.5
ESDC Sonseca Array 23.29 113 P **P 05 41 16.5 -1.6**
comp=Z,3.2nm,0.7s,mb3.8,baz=315,slow=8.9,SNR=16
ESDC Sonseca Array 23.29 113 P **P 05 41 17.7 -0.3**
comp=Z,6.4nm,1.0s,mb4.0
BGF Bois d'Agland 23.29 91 *e*P **P 05 41 17.4 -0.7**
comp=Z,121nm,1.0s,mb5.0
BGF Bois d'Agland 23.29 91 *e*P **P 05 41 17.4 -0.7**
BGF pmax pmax
comp=Z,61nm,1.0s,mb5.0
BGF Bois d'Agland 23.29 91 *e*P **P 05 41 17.4 -0.7**
comp=Z,61nm,1.0s,mb5.0
HGN Heimansgroeve 23.44 80 *e*P **P 05 41 24.2 +4.6**
comp=Z,45nm,1.6s,mb4.7
HGN *e*S **S 05 45 34.6 +1.4**
SSF Saint Saulge 23.46 90 *e*P **P 05 41 18.6 -1.2**
comp=Z,92nm,1.3s,mb4.8
SSF Saint Saulge 23.46 90 *e*P **P 05 41 18.6 -1.2**
SSF pmax pmax
comp=Z,46nm,1.3s,mb4.8
SSF Saint Saulge 23.46 90 *e*P **P 05 41 18.6 -1.2**
comp=Z,46nm,1.3s,mb4.8
AVF Avril sur Loir 23.49 90 *e*P **P 05 41 18.9 -1.2**
MEM Membach 23.54 80 P **P 05 41 20.1 -0.6**
MEM AP 05 41 29.6
MEM XP sP 05 41 32.9 +10
WTSB Winterswijk 23.57 76 *e*P **P 05 41 19.2 -1.8**
comp=Z,125nm,1.8s,mb5.0
LOR Lormes 23.58 89 *e*P **P 05 41 19.8 -1.2**
comp=Z,20nm,0.7s,mb4.4
LOR *e*R
comp=Z,2µm,22.8s
LOR Lormes 23.58 89 *e*P **P 05 41 19.8 -1.2**
LOR pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
LOR MLR MLR
comp=Z,2µm,22.8s,MS4.4
LOR Lormes 23.58 89 *e*P **P 05 41 19.8 -1.2**
comp=Z,9.9nm,0.7s,mb4.3
LOR LR LR
comp=Z,2µm,22.8s,MS4.4
CAF Calviac 23.63 96 *e*P **P 05 41 20.9 -0.7**
comp=Z,69nm,1.2s,mb4.7
CAF Calviac 23.63 96 *e*P **P 05 41 20.9 -0.7**
CAF pmax pmax
comp=Z,34nm,1.2s,mb4.7
CAF Calviac 23.63 96 *e*P **P 05 41 20.9 -0.7**
comp=Z,34nm,1.2s,mb4.7
EPF Esparros 23.65 101 *e*P **P 05 41 20.9 -0.8**
AGO Saint Agoulin 23.71 92 *e*P **P 05 41 22.2 -0.1**
EBIE Bielsa 23.73 102 P **P 05 41 22.7 +0.2**
comp=Z,521nm,3.3s
SMF Signal de Mont 23.85 90 *e*P **P 05 41 22.4 -1.2**
comp=Z,39nm,1.0s,mb4.5
SMF Signal de Mont 23.85 90 *e*P **P 05 41 22.4 -1.2**
SMF pmax pmax
comp=Z,20nm,1.0s,mb4.5
SMF Signal de Mont 23.85 90 *e*P **P 05 41 22.4 -1.2**
comp=Z,20nm,1.0s,mb4.5
EADA Adamuz 24.01 116 P **P 05 41 25.0 0.0**
comp=Z,80nm,1.5s,mb4.9
BUG Bochum--Univer 24.01 77 *e*P **P 05 41 23.9 -1.2**
comp=Z,57nm,1.3s,mb4.8
IBBN Ibbenburen 24.04 75 *e*P **P 05 41 25.3 +0.1**
comp=Z,57nm,1.1s,mb4.9
EGRA Graus 24.13 103 P **P 05 41 29.9 +3.8**
comp=Z,26nm,1.0s,mb4.6
ESPR Espera 24.29 120 P **P 05 41 28.1 +0.5**
comp=Z,233nm,2.4s,mb5.2
RUP Ruppelstein 24.50 81 *e*P **P 05 41 30.0 +0.5**
MTLF Montolieu 24.59 99 *e*P **P 05 41 29.7 -0.6**
comp=Z,40nm,1.0s,mb4.6
MTLF Montolieu 24.59 99 *e*P **P 05 41 29.7 -0.6**
MTLF pmax pmax
comp=Z,20nm,1.0s,mb4.6
MTLF Montolieu 24.59 99 *e*P **P 05 41 29.7 -0.6**
comp=Z,20nm,1.0s,mb4.6
ELUQ Luque 24.62 117 P **P 05 41 31.7 +1.1**
ELUQ pmax pmax
comp=Z,15nm,0.8s,mb4.6
ELUQ Luque 24.62 117 P **P 05 41 31.7 +1.1**
comp=Z,15nm,0.8s,mb4.6
ABH Alteburg 24.73 81 *e*P **P 05 41 32.4 +0.9**
HAU Haudompre 24.76 86 *e*P **P 05 41 31.3 -0.6**
comp=Z,41nm,0.7s,mb4.8
HAU *e*R
comp=Z,999nm,19.0s
HAU Haudompre 24.76 86 *e*P **P 05 41 31.3 -0.6**
HAU pmax pmax
comp=Z,20nm,0.7s,mb4.8
HAU MLR MLR
comp=Z,1µm,19.0s,MS4.3
HAU Haudompre 24.76 86 *e*P **P 05 41 31.3 -0.6**
comp=Z,20nm,0.7s,mb4.8
HAU LR LR
comp=Z,1µm,19.0s,MS4.3
EJIF Jimena Fronter 24.81 121 P **P 05 41 32.1 -0.2**
EJIF pmax pmax
comp=Z,43nm,1.8s,mb4.7
EJIF Jimena Fronter 24.81 121 P **P 05 41 32.1 -0.2**
comp=Z,43nm,1.8s,mb4.7
EJIF Jimena Fronter 24.81 121 P **P 05 41 32.1 -0.2**
comp=Z,43nm,1.8s,mb4.7
EMOS Mosqueruela 24.82 107 P **P 05 41 36.6 +4.2**
comp=Z,462nm,2.6s,mb5.5
EVIA Vianos 24.82 113 P **P 05 41 34.3 +1.9**
EVIA pmax pmax
comp=Z,19nm,0.8s,mb4.7
EVIA Vianos 24.82 113 P **P 05 41 34.3 +1.9**
comp=Z,19nm,0.8s,mb4.7
EVIA Vianos 24.82 113 P **P 05 41 34.3 +1.9**
comp=Z,19nm,0.8s,mb4.7
ERTA Horta de San J 24.91 105 P **P 05 41 37.3 +4.1**
comp=Z,809nm,3.0s
EMIR Miracle 25.02 102 P **P 05 41 34.3 +0.1**
comp=Z,557nm,2.4s
ECHE Chera 25.04 109 P **P 05 41 36.9 +2.5**
ECHE pmax pmax
comp=Z,32nm,1.2s,mb4.7
ECHE Chera 25.04 109 P **P 05 41 36.9 +2.5**
comp=Z,32nm,1.2s,mb4.7
ECHE Chera 25.04 109 P **P 05 41 36.9 +2.4**
comp=Z,32nm,1.2s,mb4.7
BSEG Bad Segeberg 25.07 70 *e*P **P 05 41 34.7 0.0**
comp=Z,84nm,1.6s,mb5.0
EBR Ebro Roquetas 25.09 105 *e*P **P 05 41 36.5 +1.7**
EMIJ Mijas 25.09 119 P **P 05 41 35.9 +1.1**
comp=Z,32nm,1.8s,mb4.5
EPOB Poblet 25.09 104 P **P 05 41 37.4 +2.4**
comp=Z,1µm,4.6s
EQES Quesada 25.10 115 P **P 05 41 36.2 +1.3**
comp=Z,420nm,3.0s
TNS Taunus Mts 25.14 79 *e*P **P 05 41 33.2 -2.1**
comp=Z,35nm,1.2s,mb4.8
TNS Taunus Mts 25.14 79 *e*P **P 05 41 33.2 -2.1**
TNS pmax pmax
comp=Z,35nm,1.2s,mb4.8
CDF Champ du Feu 25.15 84 *e*P **P 05 41 35.5 +0.1**
HINF Hinteralfeld 25.15 86 *e*P **P 05 41 34.8 -0.6**
comp=Z,20nm,0.7s,mb4.5
HINF Hinteralfeld 25.15 86 *e*P **P 05 41 34.8 -0.6**
HINF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
HINF Hinteralfeld 25.15 86 *e*P **P 05 41 34.8 -0.6**
comp=Z,10nm,0.7s,mb4.5
ECH Echery 25.16 85 *e*P **P 05 41 36.4 +0.9**
LASF Ste Croix 25.17 96 *e*P **P 05 41 35.3 -0.3**
comp=Z,47nm,1.2s,mb4.6
LASF Ste Croix 25.17 96 *e*P **P 05 41 35.3 -0.3**
comp=Z,24nm,1.2s,mb4.6
ECOG Cogollos-Vega 25.21 117 P **P 05 41 37.0 +1.1**
ECOG pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
ECOG Cogollos-Vega 25.21 117 P **P 05 41 37.0 +1.1**
comp=Z,3.0nm,0.7s,mb3.9
ECOG Cogollos-Vega 25.21 117 P **P 05 41 37.0 +1.0**
comp=Z,2.7nm,0.7s,mb3.9
LANF Langenberg 25.23 83 *e*P **P 05 41 37.5 +1.3**
CABF La Chapelle 25.23 89 *e*P **P 05 41 36.4 +0.2**
comp=Z,216nm,1.6s,mb5.1
CABF La Chapelle 25.23 89 *e*P **P 05 41 36.4 +0.2**
CABF pmax pmax
comp=Z,108nm,1.6s,mb5.1
CABF La Chapelle 25.23 89 *e*P **P 05 41 36.4 +0.2**
comp=Z,108nm,1.6s,mb5.1
VIVF Saint-Julien-l 25.25 93 *e*P **P 05 41 36.2 -0.1**
LOMF Lomont 25.34 87 *e*P **P 05 41 38.7 +1.6**
EHUE Huescar 25.35 114 P **P 05 41 38.3 +1.0**
EHUE pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
EHUE Huescar 25.35 114 P **P 05 41 38.3 +1.0**
comp=Z,5.0nm,0.7s,mb4.2
ETOB Tobarra 25.35 112 P **P 05 41 37.7 +0.4**
comp=Z,354nm,3.0s
EJON La Jonquera 25.51 100 P **P 05 41 43.9 +5.2**
comp=Z,202nm,1.9s,mb5.3
CLZ Clausthal 25.71 75 *e*P **P 05 41 40.4 -0.1**
comp=Z,23nm,1.2s,mb4.6
CLZ Clausthal 25.71 75 *e*P **P 05 41 40.4 -0.1**
CLZ pmax pmax
comp=Z,23nm,1.2s,mb4.6
FELD Feldberg 25.82 85 *e*P **P 05 41 41.4 -0.1**
EBER Berja 25.85 116 P **P 05 41 44.1 +2.3**
comp=Z,118nm,2.2s,mb5.0
HFS Hagfors 25.89 55 P **P 05 41 42.3 +0.2**
comp=Z,1.4nm,0.6s,mb3.7,baz=250,slow=3.0,SNR=3.9
HFS LR LR 05 50 32.4
comp=Z,1µm,20.4s,MS4.5,baz=277,slow=33
ORIF Oris-en-Rattie 25.95 92 *e*P **P 05 41 42.9 +0.2**
comp=Z,45nm,1.1s,mb4.6
ORIF *e*R
comp=Z,1µm,23.0s
ORIF Oris-en-Rattie 25.95 92 *e*P **P 05 41 42.9 +0.2**
ORIF pmax pmax
comp=Z,22nm,1.1s,mb4.6
ORIF Oris-en-Rattie 25.95 92 *e*P **P 05 41 42.9 +0.2**
comp=Z,22nm,1.1s,mb4.6
EBEN Beniarda 26.07 110 P **P 05 41 44.6 +0.9**
comp=Z,242nm,2.3s,mb5.3
STU Stuttgart 26.16 82 *e*P **P 05 41 44.7 +0.2**
comp=Z,104nm,2.3s,mb5.0
LPL La Plagne 26.16 90 *e*P **P 05 41 45.3 +0.7**
LPG La Plagne 26.18 90 *e*P **P 05 41 45.4 +0.6**
SMRF Simiane la Rot 26.27 94 *e*P **P 05 41 45.4 -0.1**
MBDF Montbardon 26.59 92 *e*P **P 05 41 48.3 -0.2**
comp=Z,43nm,1.2s,mb4.5
MBDF Montbardon 26.59 92 *e*P **P 05 41 48.3 -0.2**
MBDF pmax pmax
comp=Z,22nm,1.2s,mb4.6
MBDF Montbardon 26.59 92 *e*P **P 05 41 48.3 -0.2**
comp=Z,22nm,1.2s,mb4.5
MOX Moxa 26.86 77 *e*P **P 05 41 49.8 -1.1**
comp=Z,5.0nm,0.9s,mb4.0
MOX Moxa 26.86 77 *e*P **P 05 41 50.7 -0.2**
comp=Z,13nm,1.2s,mb4.3
MOX *e* 05 42 28.6
MOX
comp=Z,1µm,18.0s
MOX Moxa 26.86 77 *e*P **P 05 41 50.7 -0.2**
MOX pmax pmax
comp=Z,13nm,1.2s,mb4.3
MOX MLR MLR
comp=Z,1µm,18.0s,MS4.6
GRA1 Grafenberg Arr 27.00 79 *e*P **P 05 41 50.2 -1.9**
comp=Z,33nm,1.4s,mb4.7
GRA1 LR LR
comp=Z,700nm,19.9s,MS4.2
GRF Grafenberg Arr 27.00 79 *e*P **P 05 41 50.2 -1.9**
comp=Z,33nm,1.4s,mb4.7
GRF *e*L 05 51 34.1
comp=Z,728nm,19.9s
GRF Grafenberg Arr 27.00 79 *e*P **P 05 41 50.2 -1.9**
GRF pmax pmax
comp=Z,33nm,1.4s,mb4.7
GRF MLR MLR
comp=Z,700nm,19.9s,MS4.2
WERD Werda 27.35 77 *e*P **P 05 41 54.9 -0.4**
comp=Z,56nm,2.2s,mb4.7
CLL Collm 27.44 75 *e*P **P 05 41 56.0 -0.1**
comp=Z,9.0nm,0.7s,mb4.4
CLL Collm 27.44 75 *i* P **P 05 41 56.7 +0.6**
comp=Z,11nm,0.8s,mb4.4
CLL *i* pP pP 05 42 03.5 +5.7
CLL Lm 05 52 00.0
comp=Z,2µm,18.1s
CLL Collm 27.44 75 *i* P **P 05 41 56.7 +0.6**
CLL *i* *PP pP 05 42 03.5 +5.7
CLL pmax pmax
comp=Z,11nm,0.8s,mb4.4
CLL MLR MLR
comp=Z,2µm,18.1s,MS4.6
DAVOX Davos 27.45 86 P **P 05 41 57.0 +0.7**
comp=Z,5.9nm,0.9s,mb4.1,baz=318,slow=14,SNR=5.9
DAVOX LR LR 05 52 21.2
comp=Z,546nm,21.6s,MS4.1,baz=299,slow=35
NKC Novy Kostel 27.51 77 *e*P **P 05 41 55.8 -1.0**
NKC AMS AMS 05 51 50.0
comp=Z,1µm,16.8s
NKC Novy Kostel 27.51 77 *e*P **P 05 41 55.8 -1.0**
comp=Z,1µm,16.8s
ROTZ Rotzenmuhle 27.55 78 *e*P **P 05 41 56.6 -0.5**
comp=Z,48nm,1.9s,mb4.8
FUR Furstenfeldbru 27.67 82 *e*P **P 05 41 58.0 -0.1**
comp=Z,26nm,0.8s,mb4.9
FUR Furstenfeldbru 27.67 82 *e*P **P 05 41 58.0 -0.1**
FUR pmax pmax
comp=Z,26nm,0.8s,mb4.9
OUK Oukaimeden 27.84 131 *i* P **P 05 42 01.0 +1.3**
MOTA Moosalm 27.93 84⇑ *i*P **P 05 42 01.3 +0.8**
comp=Z,41nm,1.6s,mb4.8
SQTA Sankt Quirin 28.05 84⇓ *i*P **P 05 42 02.1 +0.6**
comp=Z,61nm,1.9s,mb4.9
MDT Midelt 28.09 124 P **P 05 42 01.4 -0.5**
comp=Z,3.3nm,0.9s,mb4.0,baz=324,slow=9.6,SNR=13
MDT LR LR 05 52 00.4
comp=Z,317nm,18.1s,MS4.0,baz=238,slow=34
BRG Berggiesshubel 28.15 75 *e*P **P 05 42 01.9 -0.6**
comp=Z,14nm,1.0s,mb4.5
BRG Berggiesshubel 28.15 75 *e*P **P 05 42 01.4 -1.1**
BRG *e* 05 42 09.5
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
BRG MLR MLR
comp=Z,980nm,16.9s,MS4.5
BRG Berggiesshubel 28.15 75 *e*P **P 05 42 01.4 -1.1**
comp=Z,5.0nm,1.0s,mb4.1
BRG Berggiesshubel 28.15 75 *e*P **P 05 42 01.4 -1.1**
comp=Z,5.0nm,1.0s,mb4.1
BRG *e* 05 42 09.5
BRG LR LR
comp=Z,980nm,16.9s,MS4.5
WET Wettzell 28.21 79 *e*P **P 05 42 01.6 -1.4**
comp=Z,19nm,1.8s,mb4.4
WET Wettzell 28.21 79 *e*P **P 05 42 01.6 -1.4**
WET pmax pmax
comp=Z,19nm,1.8s,mb4.4
KHC Kasperske Hory 28.63 79 *e*P **P 05 42 04.8 -1.9**
KHC AMS AMS 05 52 00.0
comp=Z,800nm,16.6s
KHC Kasperske Hory 28.63 79 *e*P **P 05 42 05.8 -0.9**
GEC2 GERESS Array S 28.82 79 *e*P **P 05 42 07.6 -0.9**
comp=Z,8.0nm,1.3s,mb4.3
GEC2 GERESS Array S 28.82 79 *e*P **P 05 42 07.6 -0.9**
GEC2 pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
GERES GERESS Array B 28.82 79 P **P 05 42 08.9 +0.4**
comp=Z,2.5nm,0.8s,mb4.0,baz=299,slow=8.0,SNR=13
GERES LR LR 05 53 10.6
comp=Z,613nm,19.6s,MS4.2,baz=291,slow=35
PRU Pruhonice 28.85 77 *e*P **P 05 42 09.1 +0.4**
PRU AMS AMS 05 53 30.0
comp=Z,1µm,15.3s
UPC Upice 29.51 75 *e*P **P 05 42 14.7 +0.2**
DPC Dobruska-Polom 29.75 75 *e*P **P 05 42 16.0 -0.7**
DPC AMS AMS 05 53 30.0
comp=Z,2µm,16.7s
OBKA Obir 30.41 83⇑ *i*P **P 05 42 22.5 0.0**
comp=Z,25nm,0.7s,mb5.0
ARCES ARCESS Array B 30.90 35 P **P 05 42 25.6 -1.3**
comp=Z,2.0nm,0.8s,mb4.0,baz=260,slow=7.1,SNR=6.5
ARCES LR LR 05 52 04.1
comp=Z,817nm,20.3s,MS4.4,baz=253,slow=31
OKC Ostrava-Krasne 31.03 75 *e*P **P 05 42 27.5 -0.5**
KAF Kangasniemi 31.71 50 *e*p **P 05 42 34.4 +0.4**
comp=Z,6.6nm,0.6s,mb4.6,baz=279,slow=9.3
KAF Kangasniemi 31.71 50 *e*P **P 05 42 34.4 +0.4**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
FINES FINESS Array B 31.73 51 P **P 05 42 33.4 -0.8**
comp=Z,1.6nm,0.5s,mb4.1,baz=289,slow=7.6,SNR=15
FINES LR LR 05 53 44.3
comp=Z,1µm,21.3s,MS4.5,baz=275,slow=33
OJC Ojcow 31.84 73 *e*P **P 05 42 35.2 +0.1**
VYHS Vyhne 32.03 77 *e*P **P 05 42 37.4 +0.6**
NIE Niedzica 32.48 74 *e*P **P 05 42 49.1 +8.3**
KECS Kecovo 33.01 76 *e*P **P 05 42 45.1 -0.3**
STHS Stebnicka Huta 33.03 74 *e*P **P 05 42 43.0 -2.5**
JOF Joensuu 33.83 47 *e*p **P 05 42 53.3 +0.8**
comp=Z,4.8nm,0.6s,mb4.6
KOLS Kolonicke sedl 33.85 74 *e*P **P 05 42 53.2 +0.5**
APA Apatity 33.88 39 *e*P **P 05 43 00.0 +7.0**
APA pmax pmax
comp=Z,54nm,1.2s,mb5.3
APA MLR MLR
comp=Z,2µm,15.0s,MS4.8
APA Apatity 33.88 39 *e*P **P 05 43 00.0 +7.0**
comp=Z,2µm,15.0s
FCC Fort Churchill 34.25 305 *e*P **P 05 42 56.0 -0.1**
FCC *e**PP pP 05 43 03.7 +5.8
FCC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
FCC Fort Churchill 34.25 305 *e*P **P 05 42 56.0 -0.1**
comp=Z,10.0nm,1.1s,mb4.7
FCC Fort Churchill 34.25 305 *e*P **P 05 42 56.0 -0.2**
comp=Z,9.8nm,1.1s,mb4.7
FCC *e*pP pP 05 43 03.7 +5.8
DIVS Divcibare 34.94 83 *i* P **P 05 43 02.3 +0.2**
BZS Buzias 35.10 80 ⇓P **P 05 43 03.9 +0.4**
BZS Buzias 35.10 80 ⇓P **P 05 43 03.9 +0.4**
DRGR 35.15 77 ⇑P **P 05 43 04.9 +1.0**
DRGR 35.15 77 ⇑P **P 05 43 04.9 +0.9**
GRUS Gruza 35.49 83 *i* P **P 05 43 06.2 -0.7**
BURAR Bucovina Array 36.21 75 ⇓P **P 05 43 14.4 +1.3**
BURAR Bucovina Array 36.21 75 ⇓P **P 05 43 14.4 +1.4**
AKASG Malin Array Be 37.02 68 P **P 05 43 19.6 -0.4**
comp=Z,2.6nm,0.6s,mb4.2,baz=298,slow=8.7,SNR=16
KLMR Klimovskoe 38.15 49 *e*P **P 05 43 30.3 +0.8**
KLMR pmax pmax
comp=Z,30nm,1.7s,mb4.8
KLMR Klimovskoe 38.15 49 *e*P **P 05 43 30.3 +0.8**
comp=Z,30nm,1.7s,mb4.8
ULM Lac du Bonnet 38.62 293 P **P 05 43 31.9 -1.6**
comp=Z,1.9nm,0.8s,mb3.9,baz=76,slow=4.9,SNR=4.7
ULM LR LR 05 58 00.2
comp=Z,293nm,21.8s,MS4.1,baz=53,slow=34
OBN Obninsk 39.00 58 *e*P **P 05 43 36.8 +0.1**
OBN *e* 05 45 17.6
OBN *e*S **S 05 49 33.2 -2.8**
OBN pmax pmax
comp=Z,25nm,1.2s,mb4.8
OBN MLR MLR
comp=Z,800nm,18.0s,MS4.6
OBN Obninsk 39.00 58 *e*P **P 05 43 36.8 +0.1**
comp=Z,25nm,1.2s,mb4.8
OBN *e*S **S 05 49 33.2 -2.8**
comp=Z,800nm,18.0s
NHSC New Hope 39.42 260 *e*P **P 05 43 40.4 +0.2**
comp=Z,78nm,1.4s,mb5.2
NHSC *e*pP pP 05 43 49.9 +7.9
YKA Yellowknife Ar 42.24 317 P **P 05 44 03.0 -0.5**
comp=Z,0.1nm,0.3s,baz=62,slow=8.7,SNR=4.8
YKA PcP PcP 05 45 54.7 -2.7
comp=Z,0.4nm,0.8s,baz=60,slow=3.4,SNR=2.9

YKA LR LR 05 59 42.3
comp=Z,383nm,21.8s,MS4.2,baz=65,slow=33
YKA Yellowknife Ar 42.24 317 P P 05 44 03.0 -0.5
YKA 05 45 54.7
YKA Yellowknife Ar 42.24 317 PcP PcP 05 45 54.7 -2.7
SJG San Juan 43.60 231 LR LR 05 58 60.0
comp=Z,367nm,20.6s,MS4.3,baz=77,slow=32
ANN Anapa 44.84 71 *e*P **P 05 44 31.4 +7.0**
ANN *e*S **S 05 51 15.8 +13**
ANN pmax pmax
comp=Z,48nm,1.2s,mb5.2
ANN MLR MLR
comp=N,792nm,19.0s,MS4.8
ANN MLR MLR
comp=E,921nm,19.0s,MS4.8
ANN MLR MLR
comp=Z,1μm,19.0s,MS4.8
ANN Anapa 44.84 71 *e*P **P 05 44 31.4 +7.0**
comp=Z,48nm,1.2s,mb5.2
KSU1 Kansas State U 45.38 279 *e*P **P 05 44 27.2 -1.6**
KSU1 pP pP 05 44 35.2 +4.7
KSU1 sP sP 05 44 40.1 +8.9
BR131 Keskin Array S 45.72 79 *e*P **P 05 44 31.9 +0.5**
comp=Z,11nm,0.7s,mb4.9
BR131 *e*pP pP 05 44 40.2 +7.1
BR131 *e*sP sP 05 44 44.7 +11
BRTR Keskin Array B 45.72 79 P **P 05 44 31.9 +0.4**
comp=Z,8.5nm,0.9s,mb4.7,baz=301,slow=6.0,SNR=28
LAO LASA Array 46.33 294 *e*P **P 05 44 37.5 +1.3**
comp=Z,10nm,0.8s,mb4.8
EDM Edmonton 46.35 305 P **P 05 44 33.3 -3.1**
EDM *e*pP pP 05 44 42.8 +4.7
SOC Sochi 46.89 71 *e*P **P 05 44 39.0 -1.6**
SOC *e* 05 46 29.0
SOC *e*PPP 05 47 21.9
SOC *e*S **S 05 51 27.8 -4.0**
SOC pmax pmax
comp=Z,13nm,1.0s,mb4.8
SOC MLR MLR
comp=Z,505nm,13.0s,MS4.7
SOC Sochi 46.89 71 *e*P **P 05 44 39.0 -1.6**
comp=Z,13nm,1.0s,mb4.8
SOC *e*S **S 05 51 27.8 -4.0**
comp=Z,505nm,13.0s
EGMT Eagleton 47.47 297 *e*P **P 05 44 45.4 +0.3**
comp=Z,10.0nm,0.9s,mb4.8
EGMT *e*pP pP 05 44 55.6 +8.7
TORD Torodi Ar. Bea 47.83 133 P **P 05 44 46.3 -1.7**
comp=Z,4.5nm,0.8s,mb4.5,baz=337,slow=7.6,SNR=24
ARU Arti 48.96 47 ||*i*P **P 05 44 57.5 +0.8**
ARU *e* 05 46 48.1
ARU *e*PPP 05 47 39.6
ARU *e*S **S 05 52 05.1 +3.9**
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.9
ARU Arti 48.96 47 *i*P **P 05 44 57.5 +0.8**
comp=Z,12nm,1.0s,mb4.9
ARU *e*S **S 05 52 05.1 +3.9**
BOZ Bozeman (W) 49.94 296 *e*P **P 05 45 04.6 +0.5**
BOZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
BOZ Bozeman (W) 49.94 296 *e*P **P 05 45 04.6 +0.5**
comp=Z,9.0nm,1.1s,mb4.7
BOZ Bozeman (W) 49.94 296 *e*P **P 05 45 04.6 +0.5**
comp=Z,8.5nm,1.1s,mb4.7
ISCO Idaho Springs 50.27 286 *e*P **P 05 45 06.9 +0.3**
ISCO pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ISCO Idaho Springs 50.27 286 *e*P **P 05 45 06.9 +0.3**
comp=Z,6.0nm,1.1s,mb4.5
ISCO Idaho Springs 50.27 286 *e*P **P 05 45 06.9 +0.3**
comp=Z,5.6nm,1.1s,mb4.5
ISCO *e*pP pP 05 45 17.0 +8.6
MSO Missoula 50.45 298 *e*P **P 05 45 08.7 +0.6**
comp=Z,5.0nm,1.1s,mb4.5
MSO *e*pP pP 05 45 17.4 +7.6
PDAR Pinedale Array 50.61 292 P **P 05 45 07.8 -1.5**
comp=Z,1.3nm,0.6s,mb4.1,baz=60,slow=7.2,SNR=15
PDAR LR LR 06 05 24.2
comp=Z,439nm,18.1s,MS4.5,baz=58,slow=35
DBIC Dimbokro 51.09 144 P **P 05 45 10.6 -2.2**
comp=Z,4.8nm,0.8s,mb4.5,baz=315,slow=6.3,SNR=11
DBIC LR LR 06 04 41.5
comp=Z,788nm,18.9s,MS4.8,baz=324,slow=34
DBIC Dimbokro 51.09 144 P **P 05 45 10.6 -2.2**
DBIC LR LR 06 04 41.5
NEW Newport 51.23 301 P **P 05 45 13.2 -0.7**
comp=Z,0.7nm,0.4s,mb4.0,baz=93,slow=10,SNR=3.1
LIC Lamto 51.44 145 *e*P **P 05 45 16.2 +0.8**
comp=Z,54nm,1.4s,mb5.0
LIC *e*R
comp=Z,2μm,22.8s
LIC Lamto 51.44 145 *e*P **P 05 45 16.2 +0.8**
comp=Z,27nm,1.4s,mb5.0
LIC LR LR
comp=Z,760nm,22.8s,MS4.7
AKTK Aktyubinsk 52.42 54 P **P 05 45 22.5 -0.2**
AKTO Aktyubinsk 52.42 54 P **P 05 45 22.5 -0.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=326,slow=8.0,SNR=12
HWUT Hardware Ranch 52.50 292 *e*P **P 05 45 23.3 0.0**
comp=Z,9.2nm,0.8s,mb4.8
HWUT *e*pP pP 05 45 33.0 +7.9
HWUT sP sP 05 45 38.3 +12
ILAR Eielson Array 52.52 331 P **P 05 45 24.9 +1.5**
comp=Z,0.5nm,0.9s,mb3.5,baz=38,slow=4.5,SNR=6.0
ILAR PcP PcP 05 46 33.8 -0.1
comp=Z,0.9nm,1.1s,baz=2.3,slow=2.3,SNR=2.9
ILAR LR LR 06 07 13.0
comp=Z,647nm,19.6s,MS4.7,baz=8.0,slow=35
ILAR Eielson Array 52.52 331 P **P 05 45 25.0 +1.5**
ILAR 05 46 33.8
ILAR Eielson Array 52.52 331 PcP PcP 05 46 33.8 -0.1
DAU Daniels Canyon 53.12 290 *e*P **P 05 45 27.7 -0.2**
PV10 Paradox Valley 53.20 287 *e*P **P 05 45 29.6 +1.0**
PV10 *e*pP pP 05 45 39.4 +9.0
PV10 *e*sP sP 05 45 43.5 +12
BMO Blue Mountains 53.53 298 P **P 05 45 29.9 -1.0**
comp=Z,4.4nm,0.9s,mb4.4
BMO *e*pP pP 05 45 39.5 +6.7
ANMO Albuquerque 54.02 282 *e*P **P 05 45 42.8 +8.3**
AB31 Akbulak array 54.13 54 *i*P **P 05 45 35.1 -0.3**
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
AB31 Akbulak array 54.13 54 *i*P **P 05 45 35.1 -0.3**
comp=Z,1.0nm,0.6s,mb3.9
DUG Dugway 54.15 291 *e*P **P 05 45 35.6 +0.2**
DUG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
DUG Dugway 54.15 291 *e*P **P 05 45 35.6 +0.2**
comp=Z,7.0nm,1.1s,mb4.5
ELK Elko 55.14 293 P **P 05 45 44.2 +1.6**
comp=Z,1.0nm,0.9s,mb3.9,baz=303,slow=5.4,SNR=4.2
TIXI Tiksi 55.14 7 *e*P **P 05 45 43.9 +1.2**
TIXI *e*S **S 05 53 23.5 -2.6**
TIXI *e*SS SS 05 57 07.5 -2.5
TIXI pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
TIXI MLR MLR
comp=Z,132nm,15.0s,MS4.1
TIXI Tiksi 55.14 7 *e*P **P 05 45 43.9 +1.2**
comp=Z,8.0nm,0.8s,mb4.8
TIXI *e*S **S 05 53 23.5 -2.6**
comp=Z,132nm,15.0s
ZRNK Zerenda 55.83 46 *i*P **P 05 45 48.6 +0.9**
ZRNK pmax pmax
comp=Z,10.0nm,2.0s,mb4.5
ZRNK Zerenda 55.83 46 *i*P **P 05 45 48.6 +0.9**
comp=Z,10.0nm,2.0s,mb4.5
WVOR Wild Horse Val 55.86 297 *e*P **P 05 45 48.1 +0.2**
WVOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
WVOR Wild Horse Val 55.86 297 *e*P **P 05 45 48.1 +0.2**
comp=Z,10nm,1.0s,mb4.8
WVOR *e*pP pP 05 45 58.4 +8.7
WVOR *e*sP sP 05 46 02.1 +12
BRVK Borovoye 56.31 45 *e*P **P 05 45 52.1 +1.0**
BRVK *e**PP pP 05 46 00.4 +7.5
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRVK Borovoye 56.31 45 *e*P **P 05 45 52.1 +1.0**
comp=Z,4.0nm,0.9s,mb4.5
BRVK Borovoye 56.31 45 *e*P **P 05 45 52.1 +1.1**
comp=Z,3.7nm,0.9s,mb4.4
BRVK *e*pP pP 05 46 00.4 +7.5
BVA0 Borovoye Array 56.38 45 *i*P **P 05 45 51.9 +0.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BVA0 Borovoye Array 56.38 45 *i*P **P 05 45 51.9 +0.3**
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 56.38 45 P **P 05 45 52.0 +0.4**
comp=Z,4.5nm,0.7s,mb4.6,baz=305,slow=6.3,SNR=29
VOSK Vostochnaya 56.85 45 P **P 05 45 54.9 0.0**
VOSK pmax pmax
comp=Z,31nm,2.5s,mb4.9
VOSK Vostochnaya 56.85 45 P **P 05 45 54.9 0.0**
comp=Z,31nm,2.5s,mb4.9
PAHR Pah Rah Range 58.15 295 *e*P **P 05 46 06.1 +2.0**
comp=Z,4.8nm,0.9s,mb4.5
PAHR *e*pP pP 05 46 14.3 +8.4
PAHR *e*sP sP 05 46 18.7 +12
YBH Yreka Blue Hor 58.54 299 P **P 05 46 04.3 -2.5**
comp=Z,1.3nm,0.9s,mb4.0,baz=20,slow=6.9,SNR=2.6
YBH LR LR 06 10 32.7
comp=Z,214nm,18.4s,MS4.3,baz=38,slow=35
BILL Bilibino 58.73 352 *e*P **P 05 46 12.3 +4.2**
BILL pmax pmax
comp=Z,17nm,2.5s,mb4.6
BILL MLR MLR
comp=Z,400nm,23.0s,MS4.5
BILL Bilibino 58.73 352 *e*P **P 05 46 12.3 +4.2**
comp=Z,400nm,23.0s
ROSC El Rosal 59.00 231 P **P 05 46 08.4 -1.6**
comp=Z,9.9nm,0.6s,mb5.0,baz=87,slow=5.8,SNR=15
ROSC LR LR 06 08 49.7
comp=Z,260nm,21.5s,MS4.3,baz=16,slow=33
OHCM Honcut 59.57 296 P **P 05 46 15.0 +1.1**
JTS JuntasAbangare 59.87 245 LR LR 06 06 53.3
comp=Z,307nm,21.8s,MS4.4,baz=0.5,slow=31
NVS Novosibirsk 60.16 37 *e*P **P 05 46 19.1 +1.1**
NVS pmax pmax
comp=Z,20nm,1.4s,mb5.0
NVS pmax pmax
comp=N,16nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS Novosibirsk 60.16 37 *e*P **P 05 46 19.1 +1.1**
comp=E,20nm,1.4s,mb5.0
ZAL Zalesovo 61.44 37 P **P 05 46 27.1 +0.4**
comp=E,1.3nm,0.6s,mb4.3,baz=160,slow=9.7,SNR=6.0
ZAL LR LR 06 13 57.2
comp=E,216nm,18.1s,MS4.3,baz=258,slow=37
KURK Kurchatov 61.54 43 *e*P **P 05 46 27.1 -0.3**
KURK *e**PP pP 05 46 35.8 +6.6
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
KURK Kurchatov 61.54 43 *e*P **P 05 46 27.1 -0.3**
comp=Z,4.0nm,0.6s,mb4.7
KURK Kurchatov 61.54 43 *e*P **P 05 46 27.1 -0.3**
comp=Z,3.7nm,0.6s,mb4.7
KURK *e*pP pP 05 46 35.8 +6.6
KK31 Karatay Array 63.66 53 *i*P **P 05 46 50.3 +8.7**
KK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
KK31 Karatay Array 63.66 53 *i*P **P 05 46 50.3 +8.7**
comp=Z,1.0nm,0.5s,mb4.1
KKAR Karatay Array 63.66 53 *i*P **P 05 46 50.3 +8.7**
KKAR pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
MK31 Makanchi Array 66.12 43 P **P 05 46 57.6 0.0**
MK31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
MK31 Makanchi Array 66.12 43 P **P 05 46 57.6 0.0**
comp=Z,4.0nm,0.7s,mb4.6
MKAR Makanchi Array 66.12 43 P **P 05 46 57.6 0.0**
comp=Z,1.8nm,0.6s,mb4.3,baz=334,slow=11,SNR=13
TKM2 Tokmak 2 66.21 50 *i*P **P 05 46 59.8 +1.6**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
TKM2 Tokmak 2 66.21 50 *i*P **P 05 46 59.8 +1.6**
comp=Z,4.0nm,0.8s,mb4.5
BOD Bodaibo 66.35 19 *e*P **P 05 47 03.1 +4.0**
BDFB Brasilia 69.51 196 LR LR 06 13 38.2
comp=Z,175nm,19.1s,MS4.3,baz=1.0,slow=32
SIV San Ignacio 72.92 209 P **P 05 47 39.7 +0.1**
comp=Z,3.7nm,1.1s,mb4.2,baz=20,slow=3.6,SNR=7.3
SONM Songino Array 73.71 28 P **P 05 47 44.8 +0.5**
comp=Z,1.6nm,0.8s,mb4.0,baz=341,slow=6.8,SNR=6.4
SONM LR LR 06 21 34.8
comp=Z,221nm,18.9s,MS4.5,baz=216,slow=37
ULN Ulaanbaatar 73.87 27 *e*P **P 05 47 45.1 -0.1**
LPAZ La Paz 75.50 216 P **P 05 47 55.2 +0.6**
comp=Z,1.1nm,0.8s,mb3.9,baz=0.8,slow=9.9,SNR=3.6
LPAZ LR LR 06 19 11.2
comp=Z,131nm,19.2s,MS4.2,baz=185,slow=34
LPAZ La Paz 75.50 216 *e*P **P 05 47 54.5 -0.1**
LPAZ *e* 05 48 07.1
LPAZ pmax pmax
comp=Z,3.0nm,1.0s
LPAZ La Paz 75.50 216 *e*P **P 05 47 54.5 -0.1**
comp=Z,3.0nm,1.0s,mb4.2
LPAZ La Paz 75.50 216 *e*PcP PcP 05 48 07.1 -0.6
LPAZ La Paz 75.50 216 *e*P **P 05 47 54.5 -0.2**
comp=Z,3.1nm,1.0s,mb4.2
LPAZ *e* 05 48 07.1
KMBO Kilima Mbogo 78.54 107 LR LR 06 20 32.9
comp=Z,230nm,19.9s,MS4.5,baz=279,slow=34
GTA Gaotai 79.17 36 *e*P **P 05 48 17.5 +2.3**
GTA AP pP 05 48 24.6 +7.5
GTA XP sP 05 48 28.8 +11
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.3
HHC Hu-ho-hao-te 81.59 27 *e*P **P 05 48 27.4 -0.8**
HHC AP pP 05 48 38.0 +7.9
HHC XP sP 05 48 41.8 +11
HHC PP PP 05 51 35.6 +1.0
HHC S S 05 58 34.8 -6.0
HHC SKS 05 58 39.8
HHC XS sS 05 58 52.5 +8.6
HHC SS SS 06 03 54.5 -3.1
HHC AMB AMB
comp=Z,20nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,57nm,5.4s
HHC LR LR
comp=E,719nm,25.0s
HHC LR LR
comp=Z,313nm,20.1s,MS4.7
MDJ Mudanjiang 81.72 13 P **P 05 48 27.5 -1.4**
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
MDJ AMB AMB
comp=Z,175nm,5.4s
CPUP Villa Florida 81.79 203 LR LR 06 20 23.6
comp=Z,96nm,19.5s,MS4.2,baz=240,slow=32
CN2 Changchun 81.88 16 *e*P **P 05 48 30.8 +1.1**
CD2 Chengdu 88.20 37 *e*P **P 05 49 01.0 -0.5**
CD2 PP PP 05 52 30.1 +1.6
CD2 SKS 05 59 24.5
CD2 S 05 59 40.3
CD2 SS SS 06 05 32.1 -3.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,60nm,5.9s
CD2 LR LR
comp=N,220nm,21.6s
CD2 LR LR
comp=Z,190nm,15.6s
CFAA Coronel Fontan 89.75 210 LR LR 06 25 37.4
comp=Z,26nm,20.8s,MS3.6,baz=26,slow=33
NJ2 Nanjing 91.81 24 *e*P **P 05 49 20.1 +1.8**
NJ2 AP pP 05 49 30.8 +11
NJ2 PP PP 05 53 03.1 +6.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.4
NJ2 LR LR
comp=N,410nm,26.7s
NJ2 LR LR
comp=E,490nm,11.7s
NJ2 LR LR
comp=Z,310nm,29.0s,MS4.6
SSE Sheshan 93.28 23 P **P 05 49 23.4 -1.7**
SSE AMB AMB
comp=Z,49nm,0.7s
SSE AMB AMB
comp=Z,256nm,5.3s
BOSA Boshof 95.18 132 LR LR 06 29 22.5
comp=Z,351nm,19.8s,MS4.8,baz=344,slow=34
PLCA Paso Flores 98.90 209 LR LR 06 32 06.4
comp=Z,134nm,18.3s,MS4.5,baz=20,slow=34
RKT Rikitea 115.77 265 *e*LR LR 06 30 59.1
comp=Z,162nm,27.2s
PPT Papeete 120.38 281 *e*LR LR 06 33 06.9
comp=Z,232nm,31.0s
TBI Tubuai 124.72 277 *e*LR LR 06 35 06.3
comp=Z,156nm,34.0s
WRAB Tennant Creek 145.57 23 *e*PKIKP PKPdf 05 55 48.2 -0.5
WRA Warramunga Arr 145.58 23 PKPbc PKPbc 05 55 49.3 +0.4
comp=Z,6.0nm,1.0s,baz=341,slow=3.4,SNR=22
WB2 Warramunga Arr 145.58 23 *e*P PKPdf 05 55 50.0 +1.3
ASAR Alice Springs 149.04 26 PKPbc PKPbc 05 55 57.1 -1.4
comp=Z,1.6nm,1.0s,baz=354,slow=2.1,SNR=8.8

NIED ***13*** *05:55:00,2450N×122.10E,h29km,Mw4.2 Best double couple: M0 1.94000×10^15 NP1:φs 104.00000°,δ65.00000°, λ33.00000°. NP2:φs 358.00000°,δ61.00000°,λ151.00000°.*
JMA ***13*** *05:55:11.6±0.3,2452N×12205E,h58km,M4.5*
ISCJB ***13*** *05:55:11.7±0.4,2442N±006×12205E±003,h51km±5km, mb3.9/12,MS2.8/1,Error ellipse: s-maj=10.2km s-min=4.0km az=16.3*
BJI ***13*** *05:55:12.6,2454N×12197E,h6km,mB4.6,mb4.4,ML4.4, Ms4.2,Msz4.1*
NEIC ***13*** *05:55:13.0±0.7,2452N×12204E,h35km,mb4.1/2,Error ellipse: s-maj=16.4km s-min=13.7km az=219.0*
IDC ***13*** *05:55:14.6±5.2,2476N×12208E,h56km±51km,mb3.5/10, mb1 3.7/11,mb1mx3.5/22,mbtmp3.8/11,ML3.8/1,MS3.1/2, Ms1 3.1/2,ms1mx3.0/14,Error ellipse: s-maj=44.1km s-min=15.1km az=63.0*

ISC 13 05:55:12.0±0.5,2424N±007×12203E±003,h52km±5km, n31,σ1§00/39,mb4.0/12,MS2.8/1,2C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.41**	**260**	||*i*Pn	**Pn**	**05 55 21.3**	**-1.0**
NACB				*e*Sn	**Sn**	**05 55 29.8**	**+0.2**
YHNB	**Yeheng**	**0.73**	**306**	⇑*i*Pn	**Pn**	**05 55 25.9**	**-0.3**
YHNB				*e*Sn	**Sn**	**05 55 36.2**	**-0.4**
TATO	**Taipei**	**0.88**	**326**	⇑*i*Pn	**Pn**	**05 55 28.0**	**-0.1**
TATO				*e*Sn	**Sn**	**05 55 42.2**	**+2.2**
YOJ	**Yonaguni jima**	**0.92**	**76**	P	**Pn**	**05 55 28.1**	**-0.5**
YOJ				S	**Sn**	**05 55 40.1**	**-0.7**
IRIF	**Iriomote-Funau**	**1.55**	**86**	P	**Pn**	**05 55 36.6**	**-0.6**
IRIF				*e*S	**Sn**	**05 55 56.2**	**+0.1**
HATJ	**Hateruma jima**	**1.63**	**96**	P	**Pn**	**05 55 39.2**	**+1.0**
JKRS	**Kuro-shima**	**1.80**	**90**	P	**Pn**	**05 55 41.1**	**+0.5**
JKRS				*e*S	**Sn**	**05 56 03.6**	**+1.3**
JIJ	**Ishigaki jima**	**1.93**	**86**	P	**Pn**	**05 55 42.3**	**0.0**
JIJ				S	**Sn**	**05 56 04.8**	**-0.6**
JTJ	**Tarama**	**2.46**	**80**	P	**Pn**	**05 55 49.7**	**0.0**
JTJ				S	**Sn**	**05 56 17.5**	**-1.0**
JMJ	**Miyako jima 2**	**3.02**	**78**	*e*S	**Sn**	**05 56 33.2**	**+0.9**
JOGS	**Gusukube**	**3.12**	**80**	*e*S	**Sn**	**05 56 35.5**	**+0.9**
QZH	**Quanzhou**	**3.21**	**283**	||*i*P	**Pn**	**05 56 00.4**	**+0.5**
QZH				S	**Sn**	**05 56 32.8**	**-4.0**
QZH				Smax			
	comp=N,2μm,1.1s						
QZH				Smax			
	comp=E,890nm,1.0s						
JOW	**Kunigami**	**6.20**	**64**	P	**Pn**	**05 56 39.5**	**-1.4**
	comp=E,5.1nm,0.3s,baz=169,slow=30,SNR=4.5						
NJ2	**Nanjing**	**8.27**	**341**	*e*P	**Pn**	**05 57 09.8**	**+0.6**
NJ2				AP		05 57 16.8	
NJ2				XP		05 57 21.8	
NJ2				S	**Sn**	**05 58 40.3**	**-0.9**
NJ2				XS		05 58 51.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,150nm,3.5s						
NJ2				Smax			
	comp=N,320nm,0.8s						
NJ2				Smax			
	comp=E,280nm,1.0s						
NJ2				LR	LR		
	comp=N,8μm,10.1s						
NJ2				LR	LR		
	comp=E,10μm,11.6s						
NJ2				LR	LR		
	comp=Z,3μm,11.0s						
XAN	**Xi'an**	**15.04**	**313**	P	**Pn**	**05 58 44.8**	**+3.7**
MJAR	**Matsushiro Arr**	**18.54**	**45**	LR	LR	06 07 09.7	
	comp=Z,90nm,18.1s,baz=210,slow=39						
LZH	**Lanzhou**	**19.63**	**311**	*e*P	**Pn**	**05 59 43.0**	**+5.1**
LZH				AP	pP	05 59 52.0	+4.2
LZH				AMB	AMB		
	comp=Z,20nm,1.2s						
GUMO	**Guam**	**24.02**	**112**	LR	LR	06 08 27.1	
	comp=Z,30nm,20.4s,MS2.8,baz=68,slow=33						
SONM	**Songino Array**	**26.62**	**336**	P	**P**	**06 00 45.5**	**0.0**
	comp=Z,1.8nm,0.6s,mb3.8,baz=150,slow=9.8,SNR=8.5						
MKAR	**Makanchi Array**	**38.84**	**316**	P	**P**	**06 02 33.0**	**+1.1**
	comp=Z,0.9nm,0.4s,mb3.8,baz=88,slow=8.6,SNR=9.7						
ZAL	**Zalesovo**	**40.62**	**327**	P	**P**	**06 02 44.5**	**-2.2**
	comp=Z,2.2nm,0.3s,mb4.3,baz=49,slow=12,SNR=3.9						
KURK	**Kurchatov**	**42.55**	**320**	*e*P	**P**	**06 03 04.6**	**+2.1**
	comp=Z,1.5nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**45.52**	**164**	P	**P**	**06 03 31.3**	**+4.9**
	comp=Z,1.2nm,0.5s,mb4.1,baz=345,slow=8.8,SNR=3.5						
BVAR	**Borovoye Array**	**48.12**	**320**	P	**P**	**06 03 46.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=112,slow=7.9,SNR=6.2						
BVAR	**Borovoye Array**	**48.12**	**320**	P	**P**	**06 03 46.6**	**-0.1**
ZRNK	**Zerenda**	**48.91**	**320**	*e*P	**P**	**06 03 53.8**	**+1.1**
	comp=Z,1.9nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**49.00**	**166**	P	**P**	**06 04 00.7**	**+7.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=350,slow=13,SNR=6.4						
STKA	**Stephens Creek**	**58.85**	**161**	P	**P**	**06 05 11.9**	**+6.6**
	comp=Z,3.1nm,1.0s,mb4.3,baz=349,slow=5.2,SNR=3.4						
FINES	**FINESS Array B**	**71.79**	**330**	P	**P**	**06 06 27.3**	**-1.6**
	comp=Z,1.4nm,0.8s,mb3.9,baz=59,slow=6.7,SNR=7.2						
BRTR	**Keskin Array B**	**73.76**	**307**	P	**P**	**06 06 39.8**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=75,slow=21,SNR=3.0						
YKA	**Yellowknife Ar**	**82.61**	**23**	P	**P**	**06 07 29.4**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.4,baz=312,slow=5.3,SNR=5.0						

MEX 13 06:10:08.4±0.8,1662N×9381W,h161km±8km,MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.13**	**295**	*i*P	Pn	06 10 33.6	-1.7
CMIG				*i*S	Sn	06 10 54.0	-1.9
SCX	**San Cristobal**	**1.13**	**84**	*i*P	Pn	06 10 34.0	-1.3
SCX				*i*S	Sn	06 10 55.0	-1.0
TUIG	**Tuzandepetl**	**1.52**	**338**	*i*P	Pn	06 10 40.0	+0.9
TUIG				*i*S	Sn	06 10 57.6	-5.0
CCIG	**Comitan**	**1.64**	**101**	*i*P	Pn	06 10 39.5	-0.7
CCIG				*i*S	Sn	06 11 03.2	-1.5
EVV	**El Vigia**	**2.34**	**321**	*e*P	Pn	06 10 45.0	-3.2
HUIG	**Huatulco**	**2.36**	**249**	*i*P	Pn	06 10 46.2	-2.2
HUIG				*i*S	Sn	06 11 17.8	-1.5
OXX	**Oaxaca**	**2.83**	**280**	*i*P	Pn	06 10 53.5	-0.5
OXX				*i*S	Sn	06 11 27.5	-1.9
VHO	**Vista Hermosa**	**2.83**	**280**	*i*P	Pn	06 10 53.1	-1.0
VHO				*i*S	Sn	06 11 28.4	-1.2
PPM	**Popocatepetl**	**5.19**	**299**	*e*P	Pn	06 11 24.0	-0.5
PPM				*i*P		06 11 24.3	
PPM				*i*S	Sn	06 12 23.8	-0.2
MEIG	**Mezcala**	**5.70**	**284**	*i*P	Pn	06 11 29.6	-1.6
MEIG				*i*S	Sn	06 12 33.4	-2.7
ACX	**Acapulco**	**5.86**	**273**	*i*P	Pn	06 11 30.0	-3.2

NEIC ***13*** *06:16:48.7,1835N×6793W,h109km,MD3.5(RSPR), After RSPR.*

RSPR 13 06:16:48.7,1835N×6793W,h109km±3km,MD3.5/10, MD3.5/10,7C-4D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**0.82**	**102**	*e*S	Sn	06 17 22.8	+0.3
LSP	**Las Mesas**	**0.82**	**102**	⇑*e*P	Pn	06 17 07.2	-0.8
LSP				*e*S	Sn	06 17 22.8	+0.3
CRPR	**Cabo Rojo, PR**	**0.85**	**114**	*e*S	Sn	06 17 22.4	-0.7
CRPR	**Cabo Rojo, PR**	**0.85**	**114**	||*e*P	Pn	06 17 07.1	-1.3
CRPR				*e*S	Sn	06 17 22.4	-0.7
LRS	**Lares**	**1.03**	**93**	⇑*e*P	Pn	06 17 09.5	-0.6
LRS				*e*S	Sn	06 17 26.1	-0.1
AOPR	**Arecibo Observ**	**1.12**	**90**	*e*S	Sn	06 17 28.5	+0.5
AOPR	**Arecibo Observ**	**1.12**	**90**	⇑*e*P	Pn	06 17 10.3	-0.8
AOPR				*e*S	Sn	06 17 28.5	+0.5
OBIP	**Obispado Ponce**	**1.30**	**104**	*e*S	Sn	06 17 31.7	+0.3

OBIP	**Obispado Ponce**	**1.30**	**104**↑	*e*P	Pn	06 17 13.7	+0.6
OBIP				*e*S	Sn	06 17 31.7	+0.3
CELP	**Cerrillos**	**1.31**	**102**↑	*e*P	Pn	06 17 12.9	-0.3
CELP				*e*S	Sn	06 17 32.2	+0.4
SJG	**San Juan**	**1.71**	**98**	*e*S	Sn	06 17 40.3	+0.1
SJG	**San Juan**	**1.71**	**98**↑	*e*P	Pn	06 17 18.1	+0.1
SJG				*e*S	Sn	06 17 40.3	+0.1
CPD	**Cerro la Pandu**	**1.94**	**99**	*e*S	Sn	06 17 45.7	+0.3
CPD	**Cerro la Pandu**	**1.94**	**99**↑	*e*P	Pn	06 17 21.6	+0.7
CPD				*e*S	Sn	06 17 45.7	+0.3
CBYP	**Canovanas**	**1.97**	**92**	*e*S	Sn	06 17 45.6	-0.5
CBYP	**Canovanas**	**1.97**	**92**↓	*e*P	Pn	06 17 20.3	-0.9
CBYP				*e*S	Sn	06 17 45.6	-0.5
HUMP	**Col San Antoni**	**1.99**	**96**	*e*S	Sn	06 17 46.1	-0.4
HUMP	**Col San Antoni**	**1.99**	**96**↓	*e*P	Pn	06 17 21.5	0.0
HUMP				*e*S	Sn	06 17 46.1	-0.4
MTP	**Monte Pirata**	**2.27**	**96**	*e*S	Sn	06 17 52.6	-0.3
MTP	**Monte Pirata**	**2.27**	**96**↓	*e*P	Pn	06 17 25.2	+0.1
MTP				*e*S	Sn	06 17 52.6	-0.3

JMA ***13*** *06:55:49.8±0.2, 3605N×14173E, h56km±4km, M4.9*
JMA Felt I J1.
BJI ***13*** *06:55:49.1, 3595N×14138E, h20km, mB5.0, mb4.8, Ms4.7, Msz4.4*
ISCJB ***13*** *06:55:50.6±0.2, 3601N±003×14160E±003, h31km, mb4.8/98, MS4.4/30, Error ellipse: s-maj=4.0km s-min=3.2km az=158.8*
IDC ***13*** *06:55:50.1±4.2, 3598N×14168E, h19km±26km, mb4.4/17, mb1 4.5/21, mb1mx4.5/24, mbtmp4.5/21, ML4.4/4, MS4.2/13, Ms1 4.2/13, ms1mx3.9/23, Error ellipse: s-maj=15.8km s-min=12.9km az=97.0*
NEIC ***13*** *06:55:52.4±0.2, 3598N×14159E, mb4.8/44, MS4.5/1, MW4.7(NIED), Error ellipse: s-maj=6.9km s-min=5.1km az=170.0*
NEIC Recorded [1 JMA] in Chiba, Fukushima, Ibaraki and Tochigi Prefectures.
MOS ***13*** *06:55:54.5±0.9, 3631N×14146E, h52km, mb5.1/42, MS4.3/12, Error ellipse: s-maj=8.6km s-min=5.2km az=110.2*
SZGRF ***13*** *06:55:54.3, 3592N×14083E, h28km, mb5.0, MS4.5, Near east coast of eastern Honshu, Japan*
NIED ***13*** *06:56:00, 36.10N×14180E, h23km, Mw4.8 Best double couple: M0=1.62000×10¹⁶ NP1:φs=25.00000°, δ68.00000°, λ84.00000°. NP2:φs=222.00000°, δ23.00000°, λ106.00000°.*
ISC 13 06:55:52.5±0.2, 3602N±003×14160E±003, h33km, h33km±4km:pP-P, n217, σ1.9 06/235, mb4.8/98, MS4.4/30, 5C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.68**	**243**	↓P	**Pn**	**06 56 04.9**	**-0.9**
CHOJ				*e*S	**Sb**	**06 56 16.0**	**+0.8**
JHO	**Hitachi**	**1.02**	**306**	↓P	**Pn**	**06 56 09.0**	**-1.5**
JHO				*e*S	**Sn**	**06 56 23.5**	**-0.2**
JYT	**Yasato**	**1.16**	**281**	↓P	**Pn**	**06 56 11.3**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.26**	**329**	P	**Pn**	**06 56 12.1**	**-1.7**
BSO1	**Boso 1**	**1.45**	**201**	P	**Pn**	**06 56 15.6**	**-0.9**
JFK	**Kawauchi**	**1.47**	**337**	↓P	**Pn**	**06 56 14.7**	**-2.0**
BSO3	**Boso 3**	**1.50**	**217**	P	**Pn**	**06 56 17.1**	**-0.1**
JAG	**Ashikaga**	**1.78**	**284**	↓P	**Pn**	**06 56 20.2**	**-0.8**
JFT	**Otama**	**1.81**	**326**	P	**Pn**	**06 56 20.9**	**-0.4**
JKT	**Katashina**	**2.04**	**292**	↓P	**Pn**	**06 56 24.4**	**-0.1**
JFY	**Yanaizu**	**2.06**	**313**	P	**Pn**	**06 56 24.7**	**-0.1**
MJAR	**Matsushiro Arr**	**2.79**	**282**	Pn	**Pn**	**06 56 35.4**	**+0.5**
	42nm,0.3s,baz=95,slow=8.2,SNR=188						
MJAR				Sn	**Sn**	**06 57 10.2**	**+2.9**
	31nm,0.3s,baz=92,slow=14,SNR=6.6						
MJAR				LR	LR	06 57 48.7	
	comp=Z,5μm,19.1s,baz=110,slow=42						
MJAR	**Matsushiro Arr**	**2.79**	**282**	P	**Pn**	**06 56 35.4**	**+0.6**
MJAR						06 57 10.2	
MAJO	**Matsushiro**	**2.79**	**282**	*e*P	**Pn**	**06 56 35.5**	**+0.6**
MAT	**Matsushiro**	**2.79**	**282**	P	**Pn**	**06 56 35.8**	**+0.9**
MAT				S	**Sn**	**06 57 09.3**	**+1.9**
MAT	**Matsushiro**	**2.79**	**282**	*e*P	**Pn**	**06 56 36.0**	**+1.1**
MAT				*e*S	**Sn**	**06 57 09.0**	**+1.6**
JHJ	**Hachijo jima 2**	**3.26**	**208**	Pn	**Pn**	**06 56 41.2**	**0.0**
	244nm,0.3s,baz=84,slow=11,SNR=23						
JHJ				Sn	**Sn**	**06 57 17.9**	**-1.0**
	241nm,0.3s,baz=56,slow=23,SNR=10						
JHJ				LR	LR	06 57 20.9	
	comp=Z,1μm,21.6s,baz=183,slow=28						
ASAJ	**Asahikawa**	**8.12**	**5**	Pn	**Pn**	**06 57 46.3**	**-1.8**
	4.5nm,0.3s,baz=186,slow=11,SNR=11						
ASAJ				Sn	**Sn**	**06 59 13.1**	**-5.7**
	baz=250,slow=32,SNR=2.0						
ASAJ				LR	LR	07 01 46.1	
	comp=Z,2μm,19.6s,baz=164,slow=44						
ASAJ	**Asahikawa**	**8.12**	**5**	P	**Pn**	**06 57 46.3**	**-1.8**
ASAJ						06 59 13.1	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.6s						
YUK	**Yuzh-Kuril'sk**	**8.65**	**21**	P	**Pn**	**06 57 55.0**	**-0.3**
YUK				*e*S	**Sn**	**06 59 22.0**	**-10**
YUK				smax			
	comp=N,340nm,0.5s						
YUK				smax			
	comp=E,230nm,0.5s						
CBIJ	**Chichi jima**	**8.91**	**177**	Pn	**Pn**	**06 57 57.2**	**-1.7**
	comp=E,18nm,0.3s,baz=289,slow=22,SNR=4.0						
CBIJ				Sn	**Sn**	**06 59 27.4**	**-11**
	comp=E,18nm,0.3s,baz=280,slow=23,SNR=3.1						
JNU	**Nakatsue**	**9.30**	**255**	Pn	**Pn**	**06 58 06.3**	**+2.1**
	comp=E,0.5nm,0.3s,baz=72,slow=14,SNR=5.2						
VLA	**Vladivostok**	**10.31**	**316**	*e*P	**Pn**	**06 58 19.9**	**+1.8**
VLA				pmax	pmax		
	comp=Z,90nm,1.6s						
VLA				MLR	MLR		
	comp=Z,2μm,14.1s						
YSS	**Yuzh-Sakhalins**	**10.96**	**4**↑	*i*P	**Pn**	**06 58 28.0**	**+1.0**
YSS				*e*S	**Sn**	**07 00 25.0**	**-3.4**
YSS				smax			
	comp=N,30nm,1.1s						
YSS	**Yuzh-Sakhalins**	**10.96**	**4**	*e*Pn	**Pn**	**06 58 27.9**	**+0.9**
	comp=N,28nm,0.6s						
KS15	**Wonju Array Si**	**11.10**	**281**	*e*Pn	**Pn**	**06 58 31.3**	**+2.4**
MDJ	**Mudanjiang**	**12.55**	**317**	P	**Pn**	**06 58 49.3**	**+0.6**
MDJ				AP		06 58 52.8	
MDJ				XP		06 58 55.6	
MDJ				S	**Sn**	**07 01 08.3**	**+1.1**
MDJ				PCP	PcP	07 04 25.3	-1.0
MDJ				SCP	ScP	07 07 59.3	+2.5
MDJ				SCS	ScS	07 11 31.9	-1.1
MDJ				AMB	AMB		
	comp=Z,18nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,175nm,5.5s						
MDJ				LR	LR		
	comp=N,1μm,20.4s						
MDJ				LR	LR		
	comp=E,1μm,19.2s						
MDJ				LR	LR		
	comp=Z,2μm,16.8s						
MDJ	**Mudanjiang**	**12.55**	**317**	*e*Pn	**Pn**	**06 58 50.3**	**+1.6**
	comp=Z,65nm,1.4s						
HABR	**Khabarovsk**	**13.35**	**341**	*e*P	**Pn**	**06 58 55.2**	**-4.4**
JOW	**Kunigami**	**14.59**	**235**	LR	LR	07 04 47.4	
	comp=Z,600nm,20.3s,baz=335,slow=37						
CN2	**Changchun**	**14.62**	**307**	↑P	**Pn**	**06 59 16.6**	**-0.3**
CN2				*e*XP	sP	06 59 29.8	-5.9
CN2				*e*S	**Sn**	**07 01 56.6**	**-1.1**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s						
CN2				LR	LR		
	comp=E,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
KLR	**Kul'dur**	**15.04**	**334**	*e*P	**Pn**	**06 59 22.2**	**-0.4**
KLR				MLR	MLR		
	comp=N,1μm,13.0s						
KLR				MLR	MLR		
	comp=E,1μm,13.0s						
KLR				MLR	MLR		
	comp=Z,4μm,13.0s						
DL2	**Dalian**	**16.12**	**286**	*e*P	**Pn**	**06 59 37.9**	**+1.3**
DL2				*e*S	**Sn**	**07 02 36.1**	**+1.9**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s						
DL2				AMB	AMB		
	comp=Z,280nm,6.3s						
DL2				LR	LR		
	comp=N,450nm,13.5s						
DL2				LR	LR		
	comp=E,1μm,15.5s						
DL2				LR	LR		
	comp=Z,1μm,13.9s						
SSE	**Sheshan**	**17.70**	**260**	P	**Pn**	**06 59 52.8**	**-3.6**
SSE				AMB	AMB		
	comp=Z,32nm,0.8s						
NJ2	**Nanjing**	**19.25**	**265**	*e*P	**Pn**	**07 00 16.4**	**+1.1**
NJ2				AP	pP	07 00 24.5	+1.7
NJ2				PP		07 00 33.6	
NJ2				S	**Sn**	**07 03 45.0**	**-5.1**
NJ2				XS	sS	07 03 57.0	-7.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,60nm,3.5s						
NJ2				LR	LR		
	comp=N,1μm,12.8s						
NJ2				LR	LR		
	comp=E,5μm,19.1s						
NJ2				LR	LR		
	comp=Z,1μm,17.8s						
TIA	**Tai'an**	**19.77**	**278**	*e*P	**Pn**	**07 00 18.0**	**-3.4**
BJI	**Beijing**	**20.40**	**289**	*e*P	**P**	**07 00 25.0**	**-1.6**
BJI				S	**S**	**07 04 05.3**	**-8.1**
BJI				AMB	AMB		
	comp=Z,24nm,1.5s						
BJI				LR	LR		
	comp=N,431nm,15.4s,MS4.2						
BJI				LR	LR		
	comp=E,709nm,13.7s,MS4.2						
BJI				LR	LR		
	comp=Z,461nm,17.5s,MS3.9						
HIA	**Hailar**	**20.73**	**316**↑	*i*P	**P**	**07 00 29.7**	**-0.5**
HIA	**Hailar**	**20.73**	**316**	*e*P	**P**	**07 00 29.8**	**-0.4**
	comp=Z,33nm,1.0s						
CLNS	**Chul'man**	**23.67**	**337**	*e*P	**P**	**07 00 58.5**	**-2.6**
CLNS				*e**PP		07 01 08.5	
CLNS				*e*		07 04 40.5	
CLNS				*e*S	**S**	**07 05 05.2**	**-8.4**
CLNS				*e*SS		07 05 59.9	
CLNS				pmax	pmax		
	comp=Z,38nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,26nm,1.1s						
CLNS				pmax	pmax		
	comp=E,16nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.7						
CLNS				pmax	pmax		
	comp=N,33nm,1.0s						
CLNS				pmax	pmax		
	comp=E,24nm,1.0s						
CLNS				smax			
	comp=N,8.0nm,0.7s						
CLNS				smax			
	comp=Z,6.0nm,0.7s						
CLNS				smax			
	comp=E,6.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,700nm,13.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,200nm,12.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,500nm,15.0s,MS4.2						
HHC	**Hu-ho-hao-te**	**23.95**	**291**	*e*P	**P**	**07 01 03.1**	**-0.6**
HHC				AP		07 01 12.5	
HHC				XP	sP	07 01 16.4	-0.8
HHC				PP		07 01 36.8	
HHC				PCP	PcP	07 04 47.1	+1.7
HHC				S	**S**	**07 05 14.1**	**-4.1**
HHC				XS	sS	07 05 29.3	-4.4
HHC				SS		07 06 05.6	
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.6						
HHC				AMB	AMB		
	comp=Z,195nm,3.5s						
HHC				LR	LR		
	comp=N,576nm,15.5s,MS4.4						
HHC				LR	LR		
	comp=E,1μm,19.4s,MS4.4						
HHC				LR	LR		
	comp=Z,757nm,16.7s,MS4.2						
MA2	**Magadan**	**24.32**	**11**	P	**P**	**07 01 06.0**	**-1.0**
MA2	**Magadan**	**24.32**	**11**	*e*P	**P**	**07 01 06.2**	**-0.8**
MA2				*e*pP		07 01 16.6	
XAN	**Xi'an**	**26.77**	**275**	P	**P**	**07 01 28.5**	**-0.7**
XAN				AP	pP	07 01 37.8	-0.9
XAN				AMB	AMB		
	comp=Z,28nm,1.3s,mb4.6						
XAN				LR	LR		
	comp=E,522nm,15.5s						
XAN				LR	LR		
	comp=Z,733nm,15.5s,MS4.3						
YAK	**Yakutsk**	**27.09**	**348**	*e*P	**P**	**07 01 31.3**	**-0.9**
YAK				*e**PP	pP	07 01 41.4	-0.2
YAK				*e*		07 02 15.1	
YAK				*e*PPP		07 02 23.2	
YAK				*e*		07 04 58.5	
YAK				*e*S	**S**	**07 06 08.8**	**+0.7**
YAK				*e*		07 12 21.2	
YAK				pmax	pmax		
	comp=Z,43nm,1.2s,mb4.8						
YAK				pmax	pmax		
	comp=N,20nm,1.1s						
YAK				pmax	pmax		
	comp=E,14nm,1.7s						
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.7s						
YAK				smax			
	comp=E,3.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,485nm,15.0s,MS4.2						
YAK				MLR	MLR		
	comp=N,547nm,20.0s						
YAK				MLR	MLR		
	comp=E,175nm,13.0s						
YAK	**Yakutsk**	**27.09**	**348**	*e*P	**P**	**07 01 31.1**	**-1.1**
SEY	**Seymchan**	**27.76**	**11**	*e*P	**P**	**07 01 38.4**	**+0.3**
SEY						07 02 39.9	
SEY				*e*S	**S**	**07 06 17.2**	**-1.4**
SEY				*e*SS		07 07 35.2	
SEY				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
SEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
SEY				smax			
	comp=N,320nm,18.1s						
SEY				smax			
	comp=E,170nm,23.7s						
SEY				MLR	MLR		
	comp=Z,290nm,18.0s,MS3.9						
SEY				MLR	MLR		
	comp=N,100nm,17.0s,MS4.0						
SEY				MLR	MLR		
	comp=E,370nm,17.0s,MS4.0						
FX1	**Attu Island--F**	**27.83**	**43**	LR	LR	07 12 52.0	
	comp=E,6.6nm,18.3s,baz=260,slow=37						
ULN	**Ulaanbaatar**	**28.06**	**306**	*e*P	**P**	**07 01 40.4**	**-0.4**
BOD	**Bodaibo**	**28.47**	**329**	*e*P	**P**	**07 01 42.9**	**-1.6**
BOD				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.6						
SONM	**Songino Array**	**28.48**	**305**	P	**P**	**07 01 44.2**	**-0.4**
	comp=Z,11nm,0.8s,mb4.5,baz=102,slow=8.3,SNR=16						
SONM				PcP	PcP	07 04 56.3	+0.4
	comp=Z,1.1nm,0.9s,baz=98,slow=3.0,SNR=3.1						
SONM				LR	LR	07 13 39.6	
	comp=Z,723nm,18.3s,MS4.3,baz=276,slow=38						
SONM	**Songino Array**	**28.48**	**305**	P	**P**	**07 01 44.2**	**-0.4**
SONM						07 04 56.3	
LZH	**Lanzhou**	**30.40**	**281**	*e*P	**P**	**07 02 01.3**	**-0.3**
LZH				AP	pP	07 02 11.5	+0.4
LZH				S	**S**	**07 07 06.0**	**+5.9**
LZH				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,170nm,4.9s						
LZH				LR	LR		
	comp=E,3μm,16.3s						
LZH				LR	LR		
	comp=Z,3μm,16.9s,MS5.0						
IRK	**Irkutsk**	**30.90**	**313**	*e*P	**P**	**07 02 03.4**	**-2.6**
IRK				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.3						
ZAK	**Zakamensk**	**31.02**	**310**	*e*P	**P**	**07 02 06.3**	**-0.8**
GYA	**Guiyang**	**31.21**	**262**↑	*i*P	**P**	**07 02 07.5**	**-1.3**
GYA				AP	pP	07 02 16.8	-1.5
GYA				XP	sP	07 02 20.6	-1.7
GYA				PP	PP	07 03 05.0	-15
GYA				S	**S**	**07 07 00.6**	**-12**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,110nm,4.0s						
GYA				LR	LR		
	comp=N,680nm,17.6s,MS4.5						
GYA				LR	LR		
	comp=E,710nm,17.4s,MS4.5						
GYA				LR	LR		
	comp=Z,690nm,17.0s,MS4.4						
CD2	**Chengdu**	**31.84**	**272**	*e*P	**P**	**07 02 13.1**	**-1.2**
CD2				AP	pP	07 02 22.6	-1.2
CD2				XP	sP	07 02 26.6	-1.2
CD2				PP	PP	07 03 18.9	-7.6
CD2				S	**S**	**07 07 19.9**	**-2.7**
CD2				XS	sS	07 07 35.9	-2.5
CD2				SS	SS	07 09 11.8	-28
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
CD2				LR	LR		
	comp=N,440nm,14.4s						
CD2				LR	LR		
	comp=Z,440nm,16.8s,MS4.2						
QIZ	**Qiongzhong**	**32.66**	**247**	P	**P**	**07 02 17.0**	**-4.5**
QIZ				S	**S**	**07 07 27.8**	**-7.6**
QIZ				LR	LR		
	comp=Z,559nm,17.6s,MS4.3						
GTA	**Gaotai**	**33.02**	**289**	*e*P	**P**	**07 02 25.0**	**+0.4**
GTA				AP	pP	07 02 33.8	-0.3
GTA				XP	sP	07 02 36.8	-1.3
GTA				PP	PP	07 03 38.3	-1.2
GTA				PCP	PcP	07 05 09.0	+1.2
GTA				S	**S**	**07 07 42.9**	**+2.0**
GTA				XS	sS	07 07 58.3	+1.6
GTA				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.2						
GTA				AMB	AMB		
	comp=Z,93nm,5.7s						
GTA				LR	LR		
	comp=N,549nm,14.1s,MS4.6						
GTA				LR	LR		
	comp=E,719nm,19.1s,MS4.6						
GTA				LR	LR		
	comp=Z,691nm,18.0s,MS4.4						
BILL	**Bilibino**	**34.96**	**16***d*	*i*P	**P**	**07 02 40.2**	**-1.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BILL				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.1						
BILL	**Bilibino**	**34.96**	**16**	*e*P	**P**	**07 02 40.5**	**-1.0**
	comp=Z,13nm,1.1s,mb4.8						
BILL				*e*pP	pP	07 02 50.5	-0.5
KMI	**Kunming**	**34.97**	**263**	P	**P**	**07 02 40.8**	**-0.7**
KMI				AP	pP	07 02 50.4	-0.7
KMI				XP	sP	07 02 54.4	-0.7
KMI				PP	PP	07 03 57.8	-3.3
KMI				PCP	PcP	07 05 15.4	+2.0
KMI				S	**S**	**07 08 06.5**	**-4.6**
KMI				XS	sS	07 08 22.8	-4.2
KMI				SCP	ScP	07 08 56.6	+0.2
KMI				PCS	PcS	07 09 00.4	+0.2
KMI				SS	SS	07 10 18.8	-25
KMI				SCS	ScS	07 12 58.3	-1.8
KMI				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
KMI				AMB	AMB		
	comp=Z,104nm,3.8s						
KMI				LR	LR		
	comp=N,686nm,16.9s,MS4.5						
KMI				LR	LR		
	comp=E,303nm,15.2s,MS4.5						
KMI				LR	LR		
	comp=Z,343nm,18.6s,MS4.1						
TIXI	**Tiksi**	**36.31**	**353**↓	*i*P	**P**	**07 02 52.1**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.4						
WMQ	**Urumqi**	**41.44**	**298**	P	**P**	**07 03 36.6**	**+0.6**
WMQ				AP	pP	07 03 46.3	+0.6
WMQ				XP	sP	07 03 50.4	+0.7
WMQ				PP	PP	07 05 15.9	+3.9
WMQ				*e*S	**S**	**07 09 49.0**	**+0.1**
WMQ				SS	SS	07 12 48.8	-5.0
WMQ				SCS	ScS	07 13 35.6	-1.6
WMQ				AMB	AMB		
	comp=Z,53nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,345nm,4.6s						
WMQ				LR	LR		
	comp=N,819nm,18.4s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,20.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,18.4s,MS4.8						
ZAL	**Zalesovo**	**42.73**	**313**	P	**P**	**07 03 46.8**	**+0.3**
	comp=Z,10nm,0.9s,mb4.5,baz=21,slow=8.5,SNR=55						
ZAL				PcP	PcP	07 05 37.9	+0.2
	comp=Z,2.8nm,0.7s,baz=64,slow=4.8,SNR=3.6						
ZAL				LR	LR	07 22 46.0	
	comp=Z,405nm,21.8s,MS4.3,baz=22,slow=38						
ZAL	**Zalesovo**	**42.73**	**313**	P	**P**	**07 03 46.8**	**+0.3**
ZAL						07 05 37.9	
NVS	**Novosibirsk**	**43.65**	**314**	*i* P	**P**	**07 03 53.3**	**-0.7**
NVS				pmax	pmax		
	comp=N,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,25nm,1.0s						
NVS				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.0						
MK31	**Makanchi Array**	**44.79**	**303**	P	**P**	**07 04 02.7**	**-0.4**
MK31				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	**44.79**	**303**	P	**P**	**07 04 03.1**	**0.0**
	comp=Z,28nm,1.1s,mb5.0,baz=68,slow=8.0,SNR=64						
MKAR				ScP	ScP	07 09 35.9	+1.3
	comp=Z,1.0nm,0.9s,baz=38,slow=7.3,SNR=3.3						
KURK	**Kurchatov**	**46.68**	**309**	*e*P	**P**	**07 04 17.4**	**-0.6**
KURK				*e**PP	pP	07 04 27.4	-0.4
KURK				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.7						
KURK	**Kurchatov**	**46.68**	**309**	*e*P	**P**	**07 04 17.4**	**-0.6**
	comp=Z,76nm,0.8s,mb5.7						
KURK				*e*pP	pP	07 04 27.4	-0.4
JIRN	**Jiri**	**47.27**	**276**	*e*P	**P**	**07 04 23.9**	**+1.3**
	comp=Z,77nm,0.9s,mb5.6						
GUN	**Gumba**	**47.41**	**277**	*e*P	**P**	**07 04 24.7**	**+1.0**
	comp=Z,58nm,0.8s,mb5.5						
PKI	**Pulchoki**	**47.93**	**277**	*e*P	**P**	**07 04 28.2**	**+0.5**
	comp=Z,43nm,0.9s,mb5.5						
KKN	**Kakani**	**47.95**	**277**	*e*P	**P**	**07 04 28.4**	**+0.6**
	comp=Z,56nm,1.0s,mb5.5						
DMN	**Daman**	**48.16**	**277**	*e*P	**P**	**07 04 30.0**	**+0.5**
GKN	**Gorkha**	**48.37**	**277**	*e*P	**P**	**07 04 31.7**	**+0.5**
	comp=Z,144nm,1.1s,mb5.9						
DANN	**Dangsing**	**48.94**	**278**	*e*P	**P**	**07 04 36.3**	**+0.8**
KAKA	**Kakadu**	**49.23**	**192**	*e*P	**P**	**07 04 36.9**	**-0.8**
	comp=Z,21nm,0.8s,mb5.2						
KOLN	**Koldanda**	**49.30**	**278**	*e*P	**P**	**07 04 39.0**	**+0.7**
	comp=Z,132nm,1.7s,mb5.7						
MCK	**McKinley**	**49.40**	**33**	*e*P	**P**	**07 04 39.1**	**+0.1**
MCK				*e**PP	pP	07 04 48.3	-0.6
MCK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MCK	**McKinley**	**49.40**	**33**	*e*P	**P**	**07 04 39.1**	**+0.1**
	comp=Z,3.7nm,0.9s,mb4.4						
MCK				*e*pP	pP	07 04 48.2	-0.6

COLA College 49.86 32 *e*P **P 07 04 42.7 +0.2**
COLA *e**PP pP 07 04 51.9 -0.5
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
COLA College 49.86 32 *e*P **P 07 04 42.7 +0.2**
comp=Z,7.7nm,0.8s,mb4.8
COLA *e*pP pP 07 04 51.9 -0.5
ULHL Ulahol 49.97 298 P **P 07 04 44.6 +1.2**
SNR=10
TKM2 Tokmak 2 50.25 299 P **P 07 04 46.8 +1.3**
SNR=19
TKM2 Tokmak 2 50.25 299 *i* P **P 07 04 46.6 +1.1**
TKM2 pmax pmax
comp=Z,73nm,1.5s,mb5.5
ILAR Eielson Array 50.27 32 P **P 07 04 45.2 -0.5**
comp=Z,4.9nm,0.8s,mb4.6,baz=266,slow=6.4,SNR=47
ILAR LR LR 07 27 48.4
comp=Z,97nm,18.4s,MS3.9,baz=356,slow=38
KZA Kyzart 50.73 298 P **P 07 04 51.6 +2.5**
SNR=12
KBK Karagaybulak 50.78 299 P **P 07 04 51.0 +1.5**
SNR=7.5
USP Ospenovka 50.93 300 P **P 07 04 50.8 +0.1**
SNR=9.6
FRU Bishkek 50.97 299 *e*P **P 07 04 52.0 +1.1**
FRU *i* pP 07 05 01.8 +1.0
FRU pmax pmax
comp=Z,50nm,1.9s,mb5.1
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.3
FRU MLR MLR
comp=Z,1μm,18.0s,MS4.9
DIV Divide 51.00 37 *e*P **P 07 04 54.9 +3.7**
comp=Z,202nm,1.6s,mb5.8
VOSK Vostochnaya 51.07 312 P **P 07 04 51.0 -0.7**
VOSK pmax pmax
comp=Z,36nm,1.0s,mb5.3
AAK Ala-Archa 51.11 299 P **P 07 04 52.1 +0.2**
SNR=8.3
AAK Ala-Archa 51.11 299 *e*P **P 07 04 51.4 -0.6**
AAK pmax pmax
comp=Z,18nm,1.1s,mb4.9
AAK Ala-Archa 51.11 299 *e*P **P 07 04 51.4 -0.6**
comp=Z,18nm,1.1s,mb4.9
BVA0 Borovoye Array 51.37 313 *i* P **P 07 04 53.7 -0.2**
BVA0 pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
BRVK Borovoye 51.42 313 *e*P **P 07 04 53.8 -0.5**
BRVK *e**PP pP 07 05 04.1 -0.2
BRVK pmax pmax
comp=Z,16nm,0.9s,mb5.0
BRVK Borovoye 51.42 313 *e*P **P 07 04 53.8 -0.6**
comp=Z,16nm,0.9s,mb5.0
BRVK *e*pP pP 07 05 04.1 -0.2
AML Almayashu 51.82 299 P **P 07 04 58.8 +1.5**
SNR=32
ZRNK Zerenda 52.20 313 *i* P **P 07 05 00.1 0.0**
ZRNK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KK31 Karatay Array 53.77 301 *i* P **P 07 05 11.7 0.0**
KK31 pmax pmax
comp=Z,18nm,0.7s,mb5.1
KKAR Karatay Array 53.77 301 *i* P **P 07 05 11.7 0.0**
KKAR pmax pmax
comp=Z,13nm,0.7s,mb5.0
INK Inuvik 55.22 27 *e*P **P 07 05 21.9 -0.3**
INK *e**PP pP 07 05 32.2 0.0
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 55.22 27 *e*P **P 07 05 21.9 -0.3**
comp=Z,15nm,0.9s,mb5.0
INK *e*pP pP 07 05 32.1 -0.1
FITZ Fitzroy Crossi 55.91 198 *e*P **P 07 05 27.5 +0.4**
comp=Z,10nm,0.9s,mb4.9
WRAB Tennant Creek 56.07 188 *e*P **P 07 05 27.6 -0.7**
WRAB pmax pmax
comp=Z,20nm,0.8s,mb5.2
WRAB Tennant Creek 56.07 188 *e*P **P 07 05 27.6 -0.7**
comp=Z,20nm,0.8s,mb5.2
WB2 Warramunga Arr 56.08 188 *e*P **P 07 05 27.4 -1.0**
WRA Warramunga Arr 56.08 188 P **P 07 05 27.8 -0.6**
comp=Z,5.0nm,0.8s,mb4.6,baz=5.2,slow=7.3,SNR=48
ARU Arti 57.22 319 *i*P **P 07 05 35.7 -0.8**
ARU *e* pP 07 05 45.8 -0.7
ARU *e* 07 07 42.5
ARU *e*PPP 07 08 59.9
ARU *e*S **S 07 13 29.7 -0.3**
ARU *e*SS SS 07 17 18.8 -0.5
ARU pmax pmax
comp=Z,28nm,0.9s,mb5.3
ARU MLR MLR
comp=N,200nm,17.0s,MS4.6
ARU MLR MLR
comp=E,400nm,17.0s,MS4.6
ARU MLR MLR
comp=Z,500nm,17.0s,MS4.7
ARU Arti 57.22 319 *e*P **P 07 05 35.9 -0.6**
comp=Z,47nm,1.3s,mb5.4
ARU *e*pP pP 07 05 45.8 -0.8
AB31 Akbulak array 58.71 311 *i* P **P 07 05 46.3 -0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
AKTO Aktyubinsk 59.47 312 LR LR 07 32 49.7
comp=Z,425nm,18.1s,MS4.6,baz=0.0,slow=37
ASAR Alice Springs 59.80 188 P **P 07 05 54.0 -0.4**
comp=Z,1.7nm,0.7s,mb4.2,baz=12,slow=7.6,SNR=19
POO Poona 61.56 273 *e*x x 07 06 07.0
PALK Pallekele 62.30 258 *e*P **P 07 06 11.9 +0.5**
comp=Z,8.4nm,1.0s,mb4.8
RES Resolute Bay 63.55 14 *e*P **P 07 06 19.1 -0.6**
RES pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
RES Resolute Bay 63.55 14 *e*P **P 07 06 19.1 -0.6**
comp=Z,5.0nm,0.8s,mb4.6
APA Apatity 63.67 336⇑ *e*P **P 07 06 23.0 +2.4**
APA *i* pP 07 06 32.2 +1.5
APA pmax pmax
comp=Z,45nm,1.5s,mb5.3
APA MLR MLR
comp=Z,1μm,17.0s,MS5.1
KEV Kevo 64.44 339 *e*p **P 07 06 24.8 -0.8**
comp=Z,24nm,0.9s,mb5.2
KEV Kevo 64.44 339 *e*P **P 07 06 24.8 -0.8**
KEV pmax pmax
comp=Z,24nm,0.9s,mb5.2
YKW3 Yellowknife Ar 64.57 30 *e*P **P 07 06 25.6 -0.8**
YKA Yellowknife Ar 64.61 30 P **P 07 06 25.8 -0.9**
comp=Z,1.9nm,0.7s,mb4.2,baz=302,slow=6.7,SNR=45
YKA LR LR 07 39 16.5
comp=Z,74nm,18.3s,MS3.9,baz=275,slow=40
KLMR Klimovskoe 64.69 328 *e*P **P 07 06 25.6 -1.6**
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.9
ARCES ARCESS Array B 65.00 340 P **P 07 06 29.2 0.0**
comp=Z,4.8nm,0.8s,mb4.6,baz=26,slow=6.7,SNR=5.4
ARCES LR LR 07 39 20.3
comp=Z,296nm,18.2s,MS4.5,baz=165,slow=40
JOF Joensuu 66.93 332 *e*p **P 07 06 40.9 -0.7**
comp=Z,6.2nm,0.7s,mb4.8
STKA Stephens Creek 67.54 180 *e*P **P 07 06 43.0 -2.5**
comp=Z,4.5nm,0.8s,mb4.5
STKA Stephens Creek 67.54 180 P **P 07 06 43.5 -2.0**
comp=Z,2.4nm,0.7s,mb4.3,baz=0.5,slow=11,SNR=3.8
OBN Obninsk 69.00 324 *d* *i*P **P 07 06 54.3 -0.3**
OBN *e* pP 07 07 03.8 -1.1
OBN pmax pmax
comp=Z,70nm,2.5s,mb5.2
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
KAF Kangasniemi 69.28 333 *e*p **P 07 06 54.7 -1.7**
comp=Z,4.9nm,0.6s,mb4.6,baz=49,slow=5.8
KAF Kangasniemi 69.28 333 *e*P **P 07 06 54.7 -1.7**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
FINES FINESS Array B 69.78 332 P **P 07 06 59.0 -0.4**
comp=Z,8.1nm,0.8s,mb4.7,baz=57,slow=7.0,SNR=24
FINES LR LR 07 39 46.8
comp=Z,178nm,19.1s,MS4.3,baz=36,slow=38
EDM Edmonton 70.05 38 *e*P **P 07 07 01.2 +0.1**
EDM *e**PP pP 07 07 11.3 -0.1
ZEI Tsey 71.57 310 *i* P **P 07 07 09.5 -0.9**
ZEI *i* *PP pP 07 07 19.1 -1.6
ZEI pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
SUMG Summit 71.70 0 *e*P **P 07 07 11.1 -0.1**
comp=Z,7.6nm,0.9s,mb4.6

GNI Garni 72.43 307⇓ *e*P **P 07 07 16.0 +0.5**
GNI pmax pmax
comp=Z,12nm,1.3s
GNI MLR MLR
comp=Z,200nm,17.0s
BMO Blue Mountains 72.51 47 *e*P **P 07 07 16.9 +0.8**
comp=Z,7.9nm,1.1s,mb4.6
BMO *e*pP pP 07 07 26.0 -0.3
MSO Missoula 73.34 44 *e*P **P 07 07 21.1 +0.2**
comp=Z,5.7nm,1.1s,mb4.4
MSO *e*pP pP 07 07 30.6 -0.6
CHMT Chamberlain Mo 73.68 44 *e*P **P 07 07 25.1 +2.2**
CHMT *e*pP pP 07 07 33.2 0.0
CMB Columbia Colle 74.34 54 *e*P **P 07 07 28.1 +1.3**
FFC Flin Flon 74.48 33 *e*P **P 07 07 27.3 -0.3**
FFC *e**PP pP 07 07 36.9 -1.0
FFC pmax pmax
comp=Z,18nm,1.0s,mb5.0
FFC Flin Flon 74.48 33 *e*P **P 07 07 27.3 -0.3**
comp=Z,18nm,1.0s,mb5.0
FFC *e*pP pP 07 07 36.9 -1.0
HRY Holter Researc 74.59 43 *e*P **P 07 07 28.6 +0.3**
HRY *e*pP pP 07 07 38.7 +0.1
FCC Fort Churchill 74.84 26 *e*P **P 07 07 28.9 -0.8**
FCC *e**PP pP 07 07 38.7 -1.3
FCC pmax pmax
comp=Z,16nm,1.0s,mb4.9
FCC Fort Churchill 74.84 26 *e*P **P 07 07 28.9 -0.8**
comp=Z,16nm,1.0s,mb4.9
FCC *e*pP pP 07 07 38.7 -1.3
EGMT Eagleton 74.94 41 *e*P **P 07 07 30.2 0.0**
comp=Z,17nm,1.1s,mb4.9
EGMT *e*pP pP 07 07 40.3 -0.2
HLID Hailey 74.95 47 *e*P **P 07 07 33.5 +3.2**
comp=Z,6.7nm,1.5s,mb4.3
DLMT Dillon 74.96 45 *e*P **P 07 07 30.9 +0.6**
comp=Z,18nm,1.0s,mb5.0
DLMT *e*pP pP 07 07 40.9 +0.2
MCMT McKenzie Canyo 75.13 45 *e*P **P 07 07 34.0 +2.7**
AKASG Malin Array Be 75.19 323 P **P 07 07 31.0 -0.7**
comp=Z,7.6nm,0.7s,mb4.7,baz=47,slow=5.9,SNR=25
BOZ Bozeman (W) 75.34 44 *e*P **P 07 07 32.9 +0.4**
BOZ *e**PP pP 07 07 43.1 +0.2
BOZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BOZ Bozeman (W) 75.34 44 *e*P **P 07 07 32.9 +0.4**
comp=Z,10nm,1.0s,mb4.7
BOZ *e*pP pP 07 07 43.1 +0.2
NVAR Mina Array Bea 75.48 53 P **P 07 07 34.2 +0.9**
comp=Z,1.1nm,0.7s,mb3.9,baz=300,slow=4.9,SNR=7.8
QLMT Earthquake Lak 75.94 45 *e*P **P 07 07 37.8 +1.8**
QLMT *e*pP pP 07 07 47.5 +1.2
ELK Elko 76.09 50 *e*P **P 07 07 37.3 +0.5**
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 76.09 50 *e*P **P 07 07 37.3 +0.5**
comp=Z,3.8nm,1.0s,mb4.3
MIB Mutribah 76.28 297 *e*P **P 07 07 36.6 -1.3**
MIB *e*pP AMb AMB 07 07 39.3
comp=Z,33nm,1.1s,mb5.2
GCMT Greycliff 76.34 43 *e*P **P 07 07 39.0 +0.7**
GCMT *e*pP pP 07 07 49.1 +0.4
KBD Kabd 76.37 296 *e*P **P 07 07 37.4 -1.0**
KBD *e*pP AMb AMB 07 07 39.7
comp=Z,113nm,1.2s,mb5.7
RDF Al-Radifah 76.61 296 *e*P **P 07 07 39.2 -0.6**
RDF *e*pP AMb AMB 07 07 41.5
comp=Z,59nm,1.0s,mb5.5
NAY Al-Naaiem 76.66 296 *e*P **P 07 07 39.4 -0.6**
NAY *e*pP AMb AMB 07 07 41.5
comp=Z,26nm,1.0s,mb5.1
LKWY Lake 76.68 44 *e*P **P 07 07 43.0 +2.8**
LKWY *e**PP pP 07 07 52.8 +2.2
LKWY pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LKWY Lake 76.68 44 *e*P **P 07 07 43.0 +2.8**
comp=Z,10nm,1.0s,mb4.7
LKWY *e*pP pP 07 07 52.8 +2.2
FLWY Flagg Ranch 76.81 45 *e*P **P 07 07 42.8 +1.9**
comp=Z,24nm,1.4s,mb4.9
FLWY *e*pP pP 07 07 53.1 +1.8
DGMT Dagmar 77.54 38 *e*P **P 07 07 46.4 +1.4**
comp=Z,8.8nm,0.9s,mb4.7
DGMT *e*pP pP 07 07 53.9 -1.5
LAO LASA Array 77.65 41 *e*P **P 07 07 45.7 +0.1**
comp=Z,11nm,1.0s,mb4.7
LAO *e*pP pP 07 07 56.4 +0.4
HWUT Hardware Ranch 77.81 47 *e*P **P 07 07 47.3 +0.8**
comp=Z,8.0nm,1.0s,mb4.6
HWUT *e*pP pP 07 07 57.2 +0.3
DUG Dugway 77.91 49 *e*P **P 07 07 48.0 +0.9**
DUG *e**PP pP 07 07 57.9 +0.5
DUG pmax pmax
comp=Z,13nm,1.2s,mb4.7
DUG Dugway 77.91 49 *e*P **P 07 07 48.0 +1.0**
comp=Z,13nm,1.2s,mb4.7
DUG *e*pP pP 07 07 57.9 +0.4
BW06 Boulder Array 78.27 45 *e*P **P 07 07 48.9 -0.2**
comp=Z,1.5nm,0.5s,mb4.2
PDAR Pinedale Array 78.27 45 P **P 07 07 49.2 +0.1**
comp=Z,1.7nm,0.5s,mb4.2,baz=276,slow=1.4,SNR=21
DAU Daniels Canyon 78.72 48 *e*P **P 07 07 53.1 +1.5**
DAU *e**PP pP 07 08 03.2 +1.3
MSU Marysvale 79.32 50 *e*P **P 07 07 58.1 +3.3**
MSU *e**PP pP 07 08 06.3 +1.1
BR131 Keskin Array S 79.64 312 *e*P **P 07 07 57.5 +0.9**
comp=Z,4.6nm,0.9s,mb4.4
BR131 *e*pP pP 07 08 06.4 -0.5
BRTR Keskin Array B 79.64 312 P **P 07 07 56.3 -0.3**
comp=Z,5.2nm,1.0s,mb4.4,baz=99,slow=3.9,SNR=18
KOLS Kolonicke sedl 79.73 324 *e*P **P 07 07 57.9 +0.8**
KOLS *e*sP sP 07 08 13.6 +2.3
STHS Stebnicka Huta 79.88 325 *e*P **P 07 07 58.6 +0.7**
STHS *e*sP sP 07 08 09.6 -2.5
OJC Ojcow 79.97 326 *e*P **P 07 07 58.4 +0.1**
SRU San Rafael 79.97 49 *e*P **P 07 07 59.2 +0.8**
SRU *e**PP pP 07 08 08.9 +0.1
SRU pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SRU San Rafael 79.97 49 *e*P **P 07 07 59.2 +0.9**
comp=Z,8.5nm,0.7s,mb4.8
SRU *e*pP pP 07 08 08.9 +0.1
ULM Lac du Bonnet 80.27 33 P **P 07 07 58.0 -2.0**
comp=Z,1.3nm,0.5s,mb4.1,baz=332,slow=7.0,SNR=6.2
RSSD Black Hills 80.49 42 *e*P **P 07 08 01.5 +0.3**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
RSSD Black Hills 80.49 42 *e*P **P 07 08 01.5 +0.3**
comp=Z,1.8nm,0.6s,mb4.2
KECS Kecovo 80.89 325 *e*P **P 07 08 01.5 -1.8**
KSP Ksiaz 81.04 328 *e*P **P 07 08 04.3 +0.2**
MORC Moravsky Berou 81.29 327 *e*P **P 07 08 04.5 -0.9**
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MORC Moravsky Berou 81.29 327 *e*P **P 07 08 04.5 -0.9**
comp=Z,4.1nm,1.0s,mb4.3
PV10 Paradox Valley 81.33 49 *e*P **P 07 08 07.2 +1.5**
PV10 *e*pP pP 07 08 17.6 +1.6
DPC Dobruska-Polom 81.40 328 *e*P **P 07 08 05.9 -0.1**
PSZ Piszkesteto 81.57 325 *e*P **P 07 08 06.6 -0.3**
VYHS Vyhne 81.65 326 *e*P **P 07 08 07.9 +0.6**
VYHS *e*pP pP 07 08 18.6 +0.9
PV01 Paradox Valley 81.77 49 *e*P **P 07 08 09.1 +1.1**
PV01 *e*pP pP 07 08 19.2 +0.8
BRG Berggiesshubel 82.00 330 *e*P **P 07 08 08.8 -0.4**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BRG MLR MLR
comp=Z,280nm,17.0s,MS4.7
BRG Berggiesshubel 82.00 330 *e*P **P 07 08 08.8 -0.4**
comp=Z,4.4nm,1.0s,mb4.3
BRG LR LR
comp=Z,280nm,17.0s,MS4.7
CLL Collm 82.05 330 *i* P **P 07 08 09.1 -0.4**
comp=Z,14nm,1.1s,mb4.8
CLL Collm 82.05 330 *i* P **P 07 08 09.1 -0.4**
CLL pmax pmax
comp=Z,14nm,1.1s,mb4.8
PRU Pruhonice 82.43 329 *e*P **P 07 08 11.8 +0.4**
ISCO Idaho Springs 82.45 46 *e*P **P 07 08 12.5 +0.9**
ISCO *e**PP pP 07 08 22.4 +0.4
KHC Kasperske Hory 83.49 329 *e*P **P 07 08 16.8 -0.1**
GERES GERESS Array B 83.65 328 P **P 07 08 17.4 -0.4**
comp=Z,1.9nm,0.9s,mb4.2,baz=44,slow=4.1,SNR=11
GERES LR LR 07 49 12.8
comp=Z,225nm,18.0s,MS4.6,baz=110,slow=38
SDCO Great Sand Dun 83.87 47 *e*P **P 07 08 18.3 -0.6**
comp=Z,0.5nm,0.5s,mb3.9
SDCO *e*pP pP 07 08 29.5 +0.2
GRA1 Grafenberg Arr 84.02 330 *e*P **P 07 08 19.8 +0.1**
comp=Z,10.0nm,1.1s,mb4.9
GRA1 *e*pP pP 07 08 28.0 -2.1
GRA1 LR LR
comp=Z,200nm,18.9s,MS4.5
GRF Grafenberg Arr 84.02 330 *e*P **P 07 08 19.8 +0.1**
comp=Z,10.0nm,1.1s,mb4.9
GRF *e*pP pP 07 08 28.0 -2.1
GRF *e*L 07 48 54.3
comp=Z,176nm,18.9s
GRF Grafenberg Arr 84.02 330 *e*P **P 07 08 19.8 +0.1**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
GRF MLR MLR
comp=Z,200nm,18.9s,MS4.5
PPT Papeete 84.05 117 LR LR 07 43 31.3
comp=Z,206nm,18.2s,MS4.5,baz=289,slow=34
ANMO Albuquerque 85.12 50 *e*P **P 07 08 26.8 +1.6**
ANMO *e**PP pP 07 08 36.8 +1.1
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 85.12 50 *e*P **P 07 08 26.8 +1.6**
comp=Z,6.0nm,1.1s,mb4.6
ANMO *e*pP pP 07 08 36.8 +1.1
SCHQ Schefferville 86.27 16 P **P 07 08 31.2 +0.3**
comp=Z,2.8nm,0.8s,mb4.5,baz=308,slow=4.4,SNR=3.6
SCHQ Schefferville 86.27 16 P **P 07 08 31.2 +0.3**
CCM Cathedral Cave 91.56 39 *e*P **P 07 08 55.3 -0.6**
CCM pmax pmax
comp=Z,1.0nm,0.6s,mb4.3
CCM Cathedral Cave 91.56 39 *e*P **P 07 08 55.3 -0.6**
comp=Z,1.2nm,0.6s,mb4.4
TORD Torodi Ar. Bea 118.15 315 PKP PKPdf 07 14 35.4 -0.7
comp=Z,0.8nm,0.9s,baz=18,slow=1.0,SNR=3.2
TORD PP PP 07 15 48.4 -3.0
comp=Z,1.0nm,1.0s,baz=41,slow=5.7,SNR=4.5
LPAZ La Paz 147.06 61 PKPbc PKPbc 07 15 32.9 +0.9
comp=Z,2.4nm,0.5s,baz=45,slow=14,SNR=4.0
LPAZ La Paz 147.06 61 PKP2 PKPab 07 15 32.9 -0.6
LPAZ pmax pmax
comp=Z,2.0nm,0.5s
LPAZ La Paz 147.06 61 *e*PKPdf PKPdf 07 15 32.5 +2.7

CSEM ***13*** *07:06:04.8, 3602N×2243E, h45km, MD3.6/4, After ATH*
ATH 13 07:06:04.1, 3597N×2241E, h43km±7km**, MD3.6/4, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.59**	**58**	*e*P	Pn	07 06 16.8	+0.6
VLI	**Veliai**	**0.86**	**30**	*e*P	Pn	07 06 21.3	+1.6
ITM	**Ithomi**	**1.27**	**342**	*e*P	Pn	07 06 26.5	+1.2
VAM	**Vamos**	**1.56**	**111**	*e*P	Pn	07 06 31.5	+2.1
VAM				*e*S	Sn	07 06 50.0	+1.6

IDC ***13*** *07:18:37.9±1.2, 1064N×9428E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, MS4.0/3, Ms1 4.0/3, ms1mx3.4/15, Error ellipse: s-maj=52.6km s-min=18.3km az=57.0*
ISCJB ***13*** *07:18:40.6±1.1, 106N±02×94.1E±03, h33km, mb3.8/8, MS4.2/2, Error ellipse: s-maj=45.0km s-min=11.7km az=107.9*
ISC 13 07:18:43.3±1.1**, 107N**±02×**942E**±03**, h35**km**, n19,** σ**0**9**61/15, mb3.8/8, MS4.2/2, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.73**	**303**	*e*P	Px	07 19 25.9	
PBA				*e*S	Sx	07 19 42.6	
PBA				*e*x	x	07 20 13.2	
PBA	comp=E,613nm,0.7s			*e*x	x	07 20 13.4	
PSI	**Prapat**	**9.14**	**149**	LR	LR	07 25 03.5	
	comp=N,430nm,19.4s,baz=357,slow=42						
JIRN	**Jiri**	**18.47**	**337**	*e*P	**Pn**	**07 22 56.6**	**+0.2**
	comp=N,41nm,0.9s						
PKI	**Pulchoki**	**18.71**	**335**	*e*P	**Pn**	**07 22 58.9**	**-0.3**
GUN	**Gumba**	**18.82**	**337**	*e*P	**Pn**	**07 23 00.6**	**+0.1**
	comp=N,20nm,0.8s						
DMN	**Daman**	**18.87**	**334**	*e*P	**Pn**	**07 23 01.2**	**+0.1**
	comp=N,28nm,1.0s						
KKN	**Kakani**	**18.95**	**335**	*e*P	**Pn**	**07 23 01.7**	**-0.5**
GKN	**Gorkha**	**19.41**	**334**	*e*P	**Pn**	**07 23 06.8**	**-0.9**
	comp=N,74nm,1.3s						
KOLN	**Koldanda**	**19.69**	**331**	*e*P	**Pn**	**07 23 10.1**	**-0.8**
	comp=N,49nm,1.3s						
MKAR	**Makanchi Array**	**37.36**	**346**	P	**P**	**07 25 52.4**	**0.0**
	comp=N,1.0nm,0.6s,mb3.8,baz=174,slow=3.4,SNR=8.3						
SONM	**Songino Array**	**38.40**	**13**	P	**P**	**07 26 01.2**	**+0.1**
	comp=N,0.6nm,1.0s,mb3.3,baz=198,slow=8.9,SNR=3.7						
ZAL	**Zalesovo**	**43.76**	**352**	P	**P**	**07 26 46.6**	**+1.3**
	comp=N,0.6nm,0.5s,mb3.6,baz=307,slow=16,SNR=2.2						
BVAR	**Borovoye Array**	**46.35**	**340**	P	**P**	**07 27 05.8**	**-0.1**
	comp=N,0.2nm,0.4s,mb3.4,baz=111,slow=3.2,SNR=3.3						
WRA	**Warramunga Arr**	**49.88**	**128**	P	**P**	**07 27 32.5**	**-0.6**
	comp=N,2.1nm,0.6s,mb4.4,baz=304,slow=9.0,SNR=41						
ASAR	**Alice Springs**	**51.70**	**132**	P	**P**	**07 27 46.5**	**-0.3**
	comp=N,2.2nm,0.7s,mb4.2,baz=308,slow=6.7,SNR=27						
BRTR	**Keskin Array B**	**60.67**	**310**	P	**P**	**07 28 52.0**	**+1.2**
	comp=N,0.5nm,0.6s,mb3.8,baz=120,slow=6.5,SNR=2.5						
ARCES	**ARCESS Array B**	**72.64**	**340**	LR	LR	08 04 52.9	
	comp=N,131nm,20.7s,MS4.2,baz=168,slow=38						
ILAR	**Eielson Array**	**92.10**	**22**	P	**P**	**07 31 49.4**	**+0.6**
	comp=N,0.3nm,0.7s,mb3.7,baz=319,slow=5.4,SNR=3.1						
DBIC	**Dimbokro**	**97.62**	**278**	LR	LR	08 17 23.8	
	comp=N,95nm,18.5s,MS4.3,baz=358,slow=36						

MEX 13 07:28:19.6±1.0**, 1819N×10143W, h67**km±20km**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.58**	**183**	*i* P	Pn	07 28 31.1	-1.8
ZIIG				*i* S	Sn	07 28 41.2	-1.5
MOIG	**Morelia**	**1.50**	**9**	*i* P	Pn	07 28 43.6	-0.8
MOIG				*i* S	Sn	07 29 01.6	-1.5
CAIG	**El Cayaco**	**1.58**	**136**	*i* P	Pn	07 28 43.6	-2.0
CAIG				*i* S	Sn	07 29 03.5	-1.6
MEIG	**Mezcala**	**1.74**	**98**	*i* P	Pn	07 28 45.7	-2.0
MEIG				*i* S	Sn	07 29 07.3	-1.6
ACX	**Acapulco**	**1.95**	**132**	*e*P	Pn	07 28 51.0	+0.5

MOS ***13*** *08:28:36.9±1.6, 4856N×1744E, h10km, mb4.0/1, Error ellipse: s-maj=6.0km s-min=4.7km az=105.7*
ISCJB ***13*** *08:28:37.1±0.3, 4859N±001×1761E±002, h6km±2km, mb3.2/1, Error ellipse: s-maj=2.4km s-min=1.9km az=78.2*
NEIC ***13*** *08:28:37.5, 4849N×1774E, h10km, ML3.6(SZGRF), After SZGRF.*
LDG ***13*** *08:28:37.9±0.2, 4859N×1768E, h10km, Ml3.7/5, Error ellipse: s-maj=4.5km s-min=3.4km az=179.0*
SZGRF ***13*** *08:28:37.5, 4849N×1774E, h10km, mb3.6, Czech and Slovak Republics*
PRU ***13*** *08:28:38.5, 4859N×1770E, h0km*
IDC ***13*** *08:28:38.7±1.7, 4851N×1753E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.3/22, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=15.3km s-min=12.6km az=84.0*
CSEM ***13*** *08:28:38.4±0.1, 4857N×1764E, h12km, ML3.8/12, Error ellipse: s-maj=1.4km s-min=1.3km az=6.0*
IPEC ***13*** *08:28:38.4±0.1, 4856N×1769E, h9km±1km, ML3.2/4, Error ellipse: s-maj=1.4km s-min=0.7km az=47.0*
ISC 13 08:28:38.5±0.3**, 4857N**±001×**1765E**±002**, h11**km±2km**, n109,** σ**1**9**22/171, mb3.2/1, 8C-8D, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMOL	**Smolenice**	**0.16**	**248**	*e*PG	**Sg**	**08 28 42.3**	**+0.3**
SMOL				*e*SG	**Sg**	**08 28 45.2**	**+0.7**
JAVC	**Velka Javorina**	**0.29**	**3**	*e*Pg	**Pg**	**08 28 45.1**	**+0.8**
JAVC				*e*Sg	**Sg**	**08 28 50.6**	**+2.4**
	2μm,0.2s						
ZST	**Bratislava**	**0.52**	**224**	*e*PG	**Pg**	**08 28 48.6**	**-0.1**

ZST eSG Sg 08 28 55.7 +0.1
ZST Bratislava 0.52 224 ePg Pg 08 28 48.5 -0.2
ZST eSg Sg 08 28 55.7 +0.1
VYHS Vyhne 0.79 95 ePG Pg 08 28 53.5 -0.3
VYHS eSG Sg 08 29 02.9 -1.3
VYHS Vyhne 0.79 95 ePg Pg 08 28 53.1 -0.7
VYHS eSg Sg 08 29 02.9 -1.3
SRO Srobarova 0.88 149 ePG Pg 08 28 55.3 -0.2
SRO eSG Sg 08 29 07.0 +0.1
SRO Srobarova 0.88 149 ePg Pg 08 28 55.2 -0.3
SRO eSg Sg 08 29 05.2 -1.7
SRO eS Sg 08 29 07.0 +0.1
SRO1 Iza 0.90 154 ePG Pg 08 28 55.7 -0.1
SRO1 eSG Sg 08 29 08.0 +0.4
VKA Vienna 0.94 251 Pn Pn 08 28 58.7 +1.1
VKA Sn Sn 08 29 13.0 +2.0
SRO2 Moca 0.95 148 ePG Pg 08 28 56.5 -0.3
SRO2 eSG Sg 08 29 08.3 -0.9
KRUC Moravsky 0.96 301 ePg Pg 08 28 57.2 +0.2
KRUC eSg Sg 08 29 09.8 +0.2
189nm,0.3s
VRAC Vranov 1.01 317 Pg Pg 08 28 58.3 +0.3
45nm,0.3s,baz=136,slow=16,SNR=105
VRAC Lg 08 29 12.0
68nm,0.3s,baz=221,slow=20,SNR=32
VRAC Vranov 1.01 317 ePg Pg 08 28 58.2 +0.2
VRAC eSg Sg 08 29 11.5 +0.3
222nm,0.2s
VRAC S Sg 08 29 12.0 +0.8
SOP Sopron 1.15 220 ePB Pb 08 29 00.6 +0.2
SOP eSn Sn 08 29 16.2 -0.1
MORC Moravsky Berou 1.21 357 ePg Pg 08 29 01.4 -0.3
MORC eSg Sg 08 29 16.9 -0.5
453nm,0.4s
MORC eS Sb 08 29 17.9 +0.9
MORC Moravsky Berou 1.21 357 ePn Pn 08 29 01.3 -0.1
MORC eS Sb 08 29 17.9 +0.9
PKSG 1.28 157⇑ eP Pn 08 29 01.3 -1.0
PKSG eS Sb 08 29 20.8 +1.7
OKC Ostrava-Krasne 1.31 14 ePG Pn 08 29 02.6 -0.1
OKC eSG Sg 08 29 19.9 -0.7
70nm,0.4s
OKC Ostrava-Krasne 1.31 14 eP Pn 08 29 02.6 -0.1
OKC e 08 29 19.9
OKC smax
comp=N,70nm,0.4s
BUD Budapest 1.43 139 eP Pn 08 29 04.7 +0.4
BUD eS Sn 08 29 25.2 +2.1
RAC Raciborz 1.56 13 ePg Pg 08 29 08.7 +0.4
RAC eSg Sg 08 29 28.2 -0.3
PSZ Piszkesteto 1.64 113⇓ ePB Pb 08 29 08.0 -0.7
PSZ eSB Sb 08 29 28.9 -0.5
PSZ Piszkesteto 1.64 113 ePg Pg 08 29 07.6 -2.3
PSZ eS Sb 08 29 28.9 -0.5
KECS Kecovo 1.89 92 ePN Pn 08 29 09.9 -0.8
KECS ePG Pg 08 29 13.2 -1.5
KECS eSN Sn 08 29 36.7 +2.2
ARSA Arzberg 1.95 228⇑ ePn Pn 08 29 11.5 0.0
SNR=16
ARSA ⇑ iPg Pg 08 29 14.8 -1.1
ARSA Arzberg 1.95 228⇑ iSg Sg 08 29 41.5 +0.4
comp=N,144nm,0.5s
ARSA Arzberg 1.95 228 Pg Pg 08 29 14.8 -1.0
ARSA Sg Sg 08 29 41.5 +0.4
comp=N,144nm,0.5s
NIE Niedzica 1.95 63 eP Pn 08 29 11.7 +0.2
NIE eS Sn 08 29 37.5 +1.5
DPC Dobruska-Polom 1.98 335 ePN Pn 08 29 12.4 +0.5
DPC eSN Sn 08 29 36.6 -0.1
DPC eSG Sg 08 29 43.4 +1.3
comp=N,91nm,0.4s
OJC Ojcow 2.17 40 eP Pn 08 29 14.0 -0.5
OJC eS Sn 08 29 41.2 -0.2
OJC Ojcow 2.17 40 ePn Pn 08 29 13.9 -0.6
OJC eS Sn 08 29 41.2 -0.2
UPC Upice 2.21 332 eSG Sg 08 29 50.0 +0.4
MOA Molln 2.37 254⇑ ePn Pn 08 29 17.9 +0.5
SNR=10
MOA Molln 2.37 254⇓ iSn Sn 08 29 48.8 +2.3
MOA Molln 2.37 254 Pn Pn 08 29 17.9 +0.5
SNR=10
MOA Sn Sn 08 29 48.8 +2.3
KSP Ksiaz 2.44 339 ePn Pn 08 29 19.0 +0.8
KSP ePg Pg 08 29 27.8 +2.6
KSP eSg Sg 08 29 58.5 +1.7
KSP Ksiaz 2.44 339 ePg Pg 08 29 27.8 +2.6
KSP eSg Sg 08 29 57.0 +0.2
KSP Ksiaz 2.44 339 ePn Pn 08 29 19.0 +0.8
KSP ePg Pg 08 29 27.8 +2.6
KSP eSg Sg 08 29 57.0 +0.2
PKSM Moragy 2.46 164 eP Pn 08 29 17.6 -0.9
PKSM eS Sn 08 29 45.5 -3.0
PRU Pruhonice 2.48 306 ePN Pn 08 29 18.7 -0.1
PRU eSG Sg 08 29 56.5 -1.7
comp=N,84nm,0.9s
STHS Stebnicka Huta 2.52 69 ePN Pn 08 29 19.9 +0.6
STHS e 08 30 04.4
CRVS Cervenica-Dubn 2.55 81 ePG Pg 08 29 27.1 -0.2
CRVS eSG Sg 08 29 59.4 -0.9
PRA Prague 2.58 307 ex x 08 29 36.0
PERS Pernice 2.58 222 ePn Pn 08 29 20.0 -0.3
GEC2 GERESS Array S 2.63 277 ePn Pn 08 29 21.8 +0.9
GEC2 eSg Sg 08 30 04.5 +1.6
GERES GERESS Array B 2.63 277 Pn Pn 08 29 21.7 +0.8
comp=N,5.7nm,0.3s,baz=99,slow=13,SNR=172
GERES Sn Sn 08 29 53.9 +1.2
comp=N,12nm,0.3s,baz=97,slow=25,SNR=8.7
GERES Lg 08 30 00.5
comp=N,13nm,0.3s,baz=88,slow=32,SNR=7.5
GERES GERESS Array B 2.63 277 Pn Pn 08 29 21.7 +0.8
GERES S Sn 08 29 53.9 +1.2
KHC Kasperske Hory 2.75 283 ePN Pn 08 29 23.0 +0.5
KHC ex x 08 29 30.0
KHC eSG Sg 08 30 06.0 -0.7
comp=N,69nm,0.5s
OBKA Obir 2.94 227⇓ iPn Pn 08 29 25.5 +0.3
UZH Uzhgorod 3.08 87 eP Pg 08 29 40.0 +2.4
PDKS Podkum 3.09 217 i Pn Pn 08 29 27.2 0.0
WET Wettzell 3.20 282 ePn Pn 08 29 29.6 +0.9
WET eSg Sg 08 30 19.2 -2.1
KBA Koelnbreinsper 3.26 244⇑ iPn Pn 08 29 30.7 +1.1
SNR=11
BRG Berggiesshubel 3.33 315 eSg Sg 08 30 26.0 +0.6
BRG Berggiesshubel 3.33 315 i Pn Pn 08 29 28.4 -2.1
BRG Berggiesshubel 3.33 315 i Pn Pn 08 29 28.4 -2.1
BRG i 08 29 48.6
BRG Sg Sg 08 30 24.9 -0.5
VISS Visnje 3.37 216 i Pn Pn 08 29 30.7 -0.3
KWP Kalwaria 3.49 70 ePg Pn 08 29 33.8 +1.1
KWP eSg Sn 08 30 19.5 +5.5
VOY Vojsko 3.60 227 e(Pn) Pn 08 29 36.6 +2.3
VOY e 08 29 48.5
ROTZ Rotzenmuhle 3.77 291 ePn Pn 08 29 36.3 -0.2
ROTZ eSn Sn 08 30 18.2 -2.6
NKC Novy Kostel 3.78 298 eSG Sg 08 30 39.2 -0.7
TANN Tannenbergstha 3.85 301 ePn Pn 08 29 38.4 +0.7
DRGR 3.86 116⇑ P Pn 08 29 38.2 +0.5
DRGR 3.86 116⇑ P Pn 08 29 38.2 +0.4
MANZ Manzenberg 3.89 293 eSn Sn 08 30 22.8 -1.2
WERD Werda 3.95 300 eSg Sg 08 30 48.0 +2.5
BZS Buzias 4.01 136⇓ P Pn 08 29 41.5 +1.6
BZS Buzias 4.01 136⇓ P Pn 08 29 41.5 +1.7
CLL Collm 4.06 314 i Pn Pn 08 29 40.7 +0.1
CLL eSn Sn 08 30 27.0 -1.1
CLL eSg Sg 08 30 48.0 -0.9
comp=Z,40nm,0.6s
CLL Collm 4.06 314 i Pn Pn 08 29 40.7 +0.1
CLL eSn Sn 08 30 27.0 -1.1
GRF Grafenberg Arr 4.37 287 eSg Sg 08 31 00.7 +2.0
MOX Moxa 4.44 300 ePN Pn 08 29 46.4 +0.7
MOX eSN Sn 08 30 36.6 -0.8
MOX eSG Sg 08 31 00.6 -0.4
MOX Moxa 4.44 300 ePn Pn 08 29 46.4 +0.7
MOX eSn Sn 08 30 36.6 -0.8
MOX Moxa 4.44 300 ePn Pn 08 29 46.4 +0.7
MOX eSn Sn 08 30 36.6 -0.8
MOX eSg Sg 08 31 00.6 -0.4
BURAR Bucovina Array 5.16 98⇓ P Pn 08 29 56.1 +0.4
BURAR Bucovina Array 5.16 98⇓ P Pn 08 29 56.1 +0.4
DAVOX Davos 5.54 254 Pn Pn 08 30 02.2 +1.3
comp=Z,1.5nm,0.3s,baz=76,slow=16,SNR=25
DAVOX Sn Sn 08 31 03.7 -0.9
comp=Z,0.6nm,0.3s,baz=162,slow=20,SNR=2.5
DAVOX Lg 08 31 36.8
comp=Z,0.8nm,0.3s,baz=180,slow=20,SNR=2.3
DAVOX Davos 5.54 254 Pn Pn 08 30 02.2 +1.3
DAVOX Sn Sn 08 31 03.7 -1.0
BFO Black Forest 6.20 271 ePn Pn 08 30 09.8 -0.2
BFO Black Forest 6.20 271 ePn Pn 08 30 09.8 -0.2
CDF Champ du Feu 6.90 273 ePn Pn 08 30 17.2 -2.3
CDF Champ du Feu 6.90 273 eP Pn 08 30 21.8 +2.3
CDF eSg Sg 08 32 13.4 -6.4
comp=Z,27nm,0.8s
CDF Champ du Feu 6.90 273 eP Pn 08 30 21.8 +2.3
CDF eSg Sg 08 32 13.4 -6.4
comp=Z,13nm,0.8s
HINF Hinteralfeld 7.26 268 eSg Sg 08 32 25.0 -6.3
comp=Z,8.1nm,0.6s
HINF Hinteralfeld 7.26 268 eSg Sg 08 32 25.0 -6.3
comp=Z,4.1nm,0.6s
HAU Haudompre 7.56 270 eSg Sg 08 32 34.0 -7.1
comp=Z,9.0nm,0.4s
HAU Haudompre 7.56 270 eSg Sg 08 32 34.0 -7.1
comp=Z,4.5nm,0.4s
LPG La Plagne 8.05 252 ePn Pn 08 30 33.8 -1.6
LPL La Plagne 8.06 252 ePn Pn 08 30 34.9 -0.5
RFYF Reffroy 8.07 275 ePn Pn 08 30 33.0 -2.7
SFTF Sexfontaines 8.40 272 ePn Pn 08 30 37.0 -3.2
SFTF eSg Sn 08 32 59.8 +45
comp=Z,8.8nm,0.6s
SFTF Sexfontaines 8.40 272 ePn Pn 08 30 37.0 -3.2
SFTF eSg Sn 08 32 59.8 +45
comp=Z,4.4nm,0.6s
MBDF Montbardon 8.41 247 ePn Pn 08 30 41.3 +1.0
ORIF Oris-en-Rattie 8.87 250 ePn Pn 08 30 46.7 +0.1
LOR Lormes 9.35 267 ePn Pn 08 30 50.0 -3.2
SMF Signal de Mont 9.53 263 ePn Pn 08 30 52.5 -3.1
SSF Saint Saulge 9.64 266 ePn Pn 08 30 54.1 -3.0
VIVF Saint-Julien-l 9.65 252 ePn Pn 08 30 54.4 -3.0
BGF Bois d'Agland 10.21 264 ePn Pn 08 31 02.4 -2.5
VSU Vasula 11.28 25 i P Pn 08 31 18.7 -0.8
LDF La Druitiere 11.77 277 ePn Pn 08 31 22.7 -3.7
KONO Kongsberg 12.05 340⇓ eP Pn 08 31 27.2 -2.9
MFF Saint Martin d 12.18 267 ePn Pn 08 31 28.9 -3.0
APE Apeiranthos 12.86 150 eP Pn 08 31 41.9 +0.7
FINES FINESS Array B 13.76 17 Pn Pn 08 31 51.1 -2.4
comp=Z,0.2nm,0.3s,baz=186,slow=11,SNR=4.7
ISP Isparta 14.22 134 eP Pn 08 32 02.4 +2.6
KBS Kingsbay 30.55 358 eP P 08 34 51.9 0.0
TORD Torodi Ar. Bea 37.72 206 P P 08 35 54.3 +0.2
comp=Z,0.2nm,0.4s,mb3.2,baz=21,slow=8.0,SNR=4.2

*ISCJB **13** 09:03:09.2±3.1, 383N±02×724E±0.1, h33km, Error ellipse: s-maj=31.5km s-min=12.5km az=42.7*
*NNC **13** 09:03:10.5±8.0, 41.18N×76.17E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=62.4km s-min=33.5km az=123.0*
ISC 13 09:03:10.5±3.2, 382N±02×725E±02, h35km, n8, σ1°03/10, 3C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.02**	**13**	P	**Pn**	**09 04 10.0**	**+0.5**
	SNR=21						
UCH	**Uchtor**	**4.30**	**21**	P	**Pn**	**09 04 13.5**	**+0.1**
	SNR=15						
KZA	**Kyzart**	**4.41**	**28**	P	**Pn**	**09 04 13.9**	**-1.0**
	SNR=9.6						
EKS2	**Erkin-Say**	**4.55**	**12**	P	**Pn**	**09 04 17.9**	**+1.1**
	SNR=12						
AAK	**Ala-Archa**	**4.68**	**19**	P	**Pn**	**09 04 19.1**	**+0.5**
	SNR=6.2						
ULHL	**Ulahol**	**4.96**	**34**	P	**Pn**	**09 04 21.1**	**-1.2**
	SNR=8.2						
KK31	**Karatay Array**	**5.10**	**344**	⇑Pn	**Pn**	**09 04 26.7**	**+2.3**
	1.7nm,0.5s,baz=148,slow=11,SNR=22						
KK31				⇑Sn	**Sn**	**09 05 21.6**	**-0.5**
	2.7nm,0.5s,baz=152,slow=23,SNR=10						
AB31	**Akbulak array**	**14.25**	**325**	⇑P	**Pn**	**09 06 28.3**	**-1.3**
	0.2nm,0.5s,baz=132,slow=12,SNR=5.7						
AB31				⇓S	**Sn**	**09 09 06.4**	**-0.1**
	0.4nm,0.6s						

IDC 13 09:23:20.1±4.6, 471S×10208E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=187.2km s-min=24.9km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.86**	**119**	P	P	09 30 13.3	+0.4
	0.2nm,0.3s,baz=295,slow=7.7,SNR=5.7						
ASAR	**Alice Springs**	**36.00**	**125**	P	P	09 30 23.2	+0.4
	0.5nm,0.9s,baz=277,slow=8.3,SNR=3.7						
SONM	**Songino Array**	**52.46**	**4**	P	P	09 32 34.7	+0.1
	1.0nm,0.6s,baz=187,slow=9.1,SNR=7.9						
MKAR	**Makanchi Array**	**54.19**	**343**	P	P	09 32 47.4	0.0
	0.4nm,0.4s,baz=147,slow=6.9,SNR=6.8						

*ISCJB **13** 09:25:13.4±0.9, 1925N±006×6393W±003, h10km, mb3.7/1, Error ellipse: s-maj=9.0km s-min=3.4km az=28.4*
*NEIC **13** 09:25:14.6, 1921N×6371W, h15km, mb3.9/1, MD3.8(RSPR), After RSPR.*
*RSPR **13** 09:25:14.6, 1921N×6371W, h15km±27km, MD3.8/15, MD3.8/15*
*TRN **13** 09:25:15.0, 1939N×6360W, h35km, MD3.7*
ISC 13 09:25:14.6±0.9, 1921N±006×6393W±003, h10km, n34, σ0°80/53, mb3.7/1, 12C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.02**	**219**	eS	**Sg**	**09 25 46.6**	**-1.0**
TBVI	**Tortola**	**1.02**	**219**	⇑iP	**Pg**	**09 25 33.0**	**-1.3**
TBVI				eS	**Sg**	**09 25 46.6**	**-1.0**
STMA	**St. Maarten, A**	**1.40**	**146**	eP	**Pn**	**09 25 40.1**	**-0.1**
STMA				eS	**Sn**	**09 25 57.6**	**-1.1**
CDVI	**St. Croix**	**1.65**	**209**	eS	**Sn**	**09 26 03.3**	**-1.6**
CDVI	**St. Croix**	**1.65**	**209**⇑	eP	**Pn**	**09 25 43.5**	**-0.2**
CDVI				eS	**Sn**	**09 26 03.3**	**-1.6**
SABS	**Saba**	**1.71**	**157**	eP	**Pn**	**09 25 44.7**	**+0.3**
SABS				eS	**Sn**	**09 26 07.6**	**+1.3**
SABT	**Saba**	**1.71**	**157**	eP	**Pn**	**09 25 44.7**	**+0.2**
SABT				eS	**Sn**	**09 26 07.6**	**+1.3**
MTP	**Monte Pirata**	**1.90**	**235**	eS	**Sn**	**09 26 11.5**	**+0.4**
MTP	**Monte Pirata**	**1.90**	**235**⇑	eP	**Pn**	**09 25 46.2**	**-0.9**
MTP				eS	**Sn**	**09 26 11.5**	**+0.4**
STAT	**Sint Eustatius**	**1.93**	**152**	eS	**Sn**	**09 26 16.3**	**+4.6**
CBYP	**Canovanas**	**2.05**	**243**	eS	**Sn**	**09 26 14.9**	**+0.1**
CBYP	**Canovanas**	**2.05**	**243**⇓	eP	**Pn**	**09 25 48.4**	**-0.8**
CBYP				eS	**Sn**	**09 26 14.9**	**+0.1**
HUMP	**Col San Antoni**	**2.11**	**240**	eS	**Sn**	**09 26 16.3**	**+0.1**
HUMP	**Col San Antoni**	**2.11**	**240**⇓	eP	**Pn**	**09 25 49.2**	**-0.7**
HUMP				eS	**Sn**	**09 26 16.3**	**+0.1**
CPD	**Cerro la Pandu**	**2.21**	**239**	eS	**Sn**	**09 26 18.8**	**-0.1**
CPD	**Cerro la Pandu**	**2.21**	**239**⇑	eP	**Pn**	**09 25 51.4**	**0.0**
CPD				eS	**Sn**	**09 26 18.8**	**-0.1**
SJG	**San Juan**	**2.37**	**243**	eS	**Sn**	**09 26 23.3**	**+0.6**
SJG	**San Juan**	**2.37**	**243**⇑	eP	**Pn**	**09 25 52.9**	**-0.7**
SJG				eS	**Sn**	**09 26 22.3**	**-0.4**
SJG	**San Juan**	**2.37**	**243**⇑	eP	**Pn**	**09 25 53.5**	**-0.1**
SJG				eS	**Sn**	**09 26 23.3**	**+0.6**
CELP	**Cerrillos**	**2.75**	**246**⇑	eP	**Pn**	**09 25 58.1**	**-0.7**
CELP				eS	**Sn**	**09 26 32.0**	**-0.1**
ICM	**Isla Caja Muer**	**2.79**	**242**	eS	**Sn**	**09 26 33.7**	**+0.8**
ICM	**Isla Caja Muer**	**2.79**	**242**⇑	eP	**Pn**	**09 25 59.6**	**+0.4**
ICM				eS	**Sn**	**09 26 33.7**	**+0.8**
AOPR	**Arecibo Observ**	**2.81**	**253**	eS	**Sn**	**09 26 34.6**	**+1.1**
AOPR	**Arecibo Observ**	**2.81**	**253**⇑	eP	**Pn**	**09 25 59.2**	**-0.4**
AOPR				eS	**Sn**	**09 26 34.6**	**+1.1**
LRS	**Lares**	**2.91**	**252**⇑	eP	**Pn**	**09 26 00.9**	**0.0**
LRS				eS	**Sn**	**09 26 37.1**	**+1.2**
LSP	**Las Mesas**	**3.16**	**252**	eS	**Sn**	**09 26 42.5**	**+0.3**
LSP	**Las Mesas**	**3.16**	**252**⇑	eP	**Pn**	**09 26 05.1**	**+0.6**
LSP				eS	**Sn**	**09 26 42.5**	**+0.3**
MGP	**Maguayo**	**3.23**	**249**⇑	eP	**Pn**	**09 26 05.0**	**-0.3**
MGP				eS	**Sn**	**09 26 44.8**	**+1.0**
CRPR	**Cabo Rojo, PR**	**3.24**	**249**	eS	**Sn**	**09 26 44.9**	**+0.6**
CRPR	**Cabo Rojo, PR**	**3.24**	**249**⇓	eP	**Pn**	**09 26 05.2**	**-0.4**
CRPR				eS	**Sn**	**09 26 44.9**	**+0.6**
SEG	**Port Louis**	**3.62**	**140**	eP	**Pn**	**09 26 10.5**	**-0.2**
LZG	**Guadaloupe-1**	**3.68**	**146**	eP	**Pn**	**09 26 10.9**	**-0.6**
LZG				eS	**Sn**	**09 26 55.3**	**+0.4**
SCG	**Saint Claude**	**3.82**	**146**	eP	**Pn**	**09 26 15.7**	**+2.2**
OTAV	**Otavalo**	**23.63**	**219**	eP	**P**	**09 30 24.9**	**-1.2**
	2.8nm,0.8s,mb3.7						

*IDC **13** 09:43:49.5±0.8, 2401N×14282E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, Error ellipse: s-maj=33.6km s-min=19.4km az=89.0*
*ISCJB **13** 09:43:52.2±0.7, 239N±0.1×1429E±03, h33km, mb3.9/10, Error ellipse: s-maj=33.5km s-min=14.4km az=177.0*
ISC 13 09:43:54.3±0.7, 2396N±010×1429E±03, h35km, n12, σ0°83/11, mb3.9/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**44.42**	**192**	eP	**P**	**09 52 02.2**	**+0.5**
WRA	**Warramunga Arr**	**44.42**	**192**	P	**P**	**09 52 02.3**	**+0.6**
	1.0nm,0.4s,mb3.9,baz=7.9,slow=7.8,SNR=50						
WRA				PcP	PcP	09 53 46.3	+1.3
	0.5nm,0.6s,baz=4.7,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**48.14**	**191**	P	**P**	**09 52 31.3**	**+0.4**
	0.2nm,0.5s,mb3.4,baz=11,slow=7.0,SNR=5.9						
MKAR	**Makanchi Array**	**53.01**	**311**	P	**P**	**09 53 07.3**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=63,slow=6.6,SNR=5.6						
STKA	**Stephens Creek**	**55.53**	**181**	P	**P**	**09 53 24.1**	**-1.8**
	2.0nm,0.8s,mb4.2,baz=338,slow=7.5,SNR=3.5						
ILAR	**Eielson Array**	**60.16**	**28**	P	**P**	**09 53 57.9**	**-0.5**
	1.2nm,0.9s,mb3.9,baz=254,slow=5.4,SNR=12						
BVAR	**Borovoye Array**	**60.81**	**319**	P	**P**	**09 54 03.3**	**+0.3**
	1.3nm,0.5s,mb4.3,baz=90,slow=7.3,SNR=9.3						
AKTO	**Aktyubinsk**	**68.76**	**317**	P	**P**	**09 54 53.2**	**-1.4**
	1.6nm,0.7s,mb4.1,baz=109,slow=14,SNR=7.7						
YKA	**Yellowknife Ar**	**74.58**	**28**	P	**P**	**09 55 30.0**	**+0.4**
	0.2nm,0.6s,mb3.3,baz=287,slow=5.9,SNR=5.0						
ARCES	**ARCESS Array B**	**76.72**	**341**	P	**P**	**09 55 42.8**	**+0.9**
	2.0nm,0.8s,mb4.1,baz=57,slow=8.8,SNR=4.0						
FINES	**FINESS Array B**	**81.05**	**334**	P	**P**	**09 56 06.3**	**+0.6**
	0.5nm,0.4s,mb3.8,baz=57,slow=7.0,SNR=5.9						
LPAZ	**La Paz**	**149.91**	**81**	PKPbc	PKPbc	10 03 43.9	+3.1
	0.8nm,0.5s,baz=21,slow=10,SNR=4.1						

*NEIC **13** 09:58:09.9, 3928N×2562E, h5km, MD3.0(ISK), MD3.1(ATH), After ISK.*
*ISCJB **13** 09:58:10.3±1.1, 3938N±005×2545E±006, h22km±8km, Error ellipse: s-maj=10.1km s-min=6.0km az=87.4*
*CSEM **13** 09:58:10.9±0.2, 3935N×2555E, h20km, MD3.1, Error ellipse: s-maj=4.0km s-min=1.9km az=39.0*
*ISK **13** 09:58:10.7, 3937N×2561E, h13km, MD3.1*
*ATH **13** 09:58:12.0, 3962N×2579E, h16km±6km, MD3.1/3*
ISC 13 09:58:10.5±1.0, 3936N±005×2551E±006, h13km±4km, n26, σ0°87/38, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.60**	**335**	ePN	**Pg**	**09 58 22.6**	**+0.5**
LIA				eSN	**Sg**	**09 58 30.6**	**+0.6**
PRK	**Paraskevi**	**0.60**	**100**⇓	iPN	**Pg**	**09 58 21.8**	**-0.5**
PRK				eSN	**Sg**	**09 58 30.2**	**0.0**
EZN	**Ezine**	**0.78**	**53**	PG	**Pg**	**09 58 24.7**	**-1.0**
EZN				SG	**Sg**	**09 58 35.8**	**-0.2**
EZN	**Ezine**	**0.78**	**53**	Pg	**Pg**	**09 58 24.9**	**-0.8**
EZN				Sg	**Sg**	**09 58 36.9**	**+0.9**
EZN	**Ezine**	**0.78**	**53**	Pg	**Pg**	**09 58 24.9**	**-0.8**
EZN				Sg	**Sg**	**09 58 36.9**	**+0.9**
AYVA	**Ayvalik**	**0.92**	**93**	i P	**Pg**	**09 58 27.4**	**-0.8**
AYVA				i S	**Sg**	**09 58 40.8**	**+0.6**
LPK	**Lapseki**	**1.40**	**43**	PN	**Pn**	**09 58 35.5**	**-0.2**
LPK				SN	**Sn**	**09 58 54.1**	**+0.1**
LPK	**Lapseki**	**1.40**	**43**	Pn	**Pn**	**09 58 37.0**	**+1.2**
IZM	**Izmir**	**1.67**	**124**	PN	**Pn**	**09 58 39.5**	**0.0**
IZM				SN	**Sn**	**09 59 00.4**	**-0.4**
IZM	**Izmir**	**1.67**	**124**	Pn	**Pn**	**09 58 38.6**	**-0.9**
IZM				Sg	**Sg**	**09 59 00.6**	**-3.6**
KDAG	**Bornova**	**1.67**	**124**	i P	**Pn**	**09 58 41.5**	**+2.0**
KDAG				i S	**Sn**	**09 59 05.8**	**+5.0**
RDO	**Rodhopi**	**1.79**	**1**	ePN	**Pn**	**09 58 41.2**	**+0.1**
SART	**Tekirdag**	**1.85**	**43**	i P	**Pn**	**09 58 41.7**	**-0.2**
SART				i S	**Sn**	**09 59 02.1**	**-3.0**
AKS	**Akhisar**	**1.85**	**104**	PN	**Pn**	**09 58 42.8**	**+0.8**
AKS	**Akhisar**	**1.85**	**104**	Pn	**Pn**	**09 58 41.8**	**-0.2**
AKS	**Akhisar**	**1.85**	**104**	Pn	**Pn**	**09 58 41.9**	**-0.2**
BALB	**Balikesir**	**1.85**	**81**	Pn	**Pn**	**09 58 42.5**	**+0.5**
MFT	**Murefte**	**1.97**	**43**	ePN	**Pn**	**09 58 43.8**	**+0.2**
BTOK	**Tokmak**	**1.99**	**78**	i P	**Pn**	**09 58 48.0**	**+4.2**
BTOK				i S	**Sn**	**09 59 08.6**	**-0.1**
BTOK	**Tokmak**	**1.99**	**78**	i S	**Sn**	**09 59 08.6**	**-0.1**
MRMT	**Marmara Adasi**	**2.03**	**52**	ePN	**Pn**	**09 58 44.8**	**+0.4**
BNT	**Bandirma**	**2.11**	**61**	ePN	**Pn**	**09 58 45.7**	**+0.2**
BNT	**Bandirma**	**2.11**	**61**	Pn	**Pn**	**09 58 45.7**	**+0.2**
NVR	**Nevrokopi**	**2.35**	**328**	ePB	**Pb**	**09 58 50.9**	**-1.9**
DST	**Dursunbey**	**2.42**	**83**	ePN	**Pn**	**09 58 50.2**	**+0.3**
DST	**Dursunbey**	**2.42**	**83**	Pn	**Pn**	**09 58 50.2**	**+0.4**

*MOS **13** 10:05:25.2±2.0, 3646N×7028E, h150km, mb5.0/35, Error ellipse: s-maj=6.5km s-min=4.3km az=96.8*
*ISCJB **13** 10:05:26.5±0.1, 3648N±002×7012E±002, h168km, mb4.7/94, Error ellipse: s-maj=2.8km s-min=2.1km az=112.7*
*BJI **13** 10:05:27.1, 3658N×7006E, h171km, mB5.0, mb4.9*
*IDC **13** 10:05:27.8±0.5, 3644N×7012E, h172km±4km, mb4.4/24, mb1 4.5/27, mb1mx4.4/28, mbtmp4.9/27, MS3.6/7, Ms1 3.7/7, ms1mx3.3/26, Error ellipse: s-maj=9.4km s-min=9.2km az=28.0*
*NEIC **13** 10:05:27.9±0.2, 3648N×7014E, mb4.8/54, Error ellipse: s-maj=6.2km s-min=5.6km az=47.0*
NEIC Felt at Chitral, Dir, Islamabad, Mansehra and Peshawar, Pakistan.
*SZGRF **13** 10:05:28.4, 3641N×7008E, h151km, mb4.0, Hindu Kush, Afghanistan, region*
*NNC **13** 10:05:35.2±2.5, 3721N×6999E, h205km±22km, mb4.2, mpv5.6, Error ellipse: s-maj=22.1km s-min=14.7km az=30.0*
ISC 13 10:05:28.0±0.1, 3649N±002×7016E±002, h170km, h170km±2.2km: pP-P, n304, σ1°23/360, mb4.7/94, 27C-26D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.02**	**151**	⇑P	**Pn**	**10 06 17.9**	**+1.5**
CHCP	**Chirah Chowk**	**3.80**	**137**	⇑P	**Pn**	**10 06 28.0**	**+1.8**
THW	**Thamme Wali**	**3.91**	**160**	P	**Pn**	**10 06 28.0**	**+0.4**
SRNI	**Srinagar**	**4.52**	**121**	eP	**Pn**	**10 06 35.2**	**-0.2**
SRNI				ex	**Sn**	**10 07 32.2**	**+4.1**
DRP	**Derazinda**	**4.74**	**180**	P	**Pn**	**10 06 38.7**	**+0.4**
SARP	**Sargodha**	**5.01**	**155**	P	**Pn**	**10 06 41.8**	**-0.1**
JMU	**Jammu**	**5.43**	**133**	ex	**Pn**	**10 06 50.0**	**+2.7**
KSH	**Kashi**	**5.49**	**55**	i PR	**Pn**	**10 06 50.3**	**+2.1**
KSH				S	**Sn**	**10 07 55.3**	**+4.3**
KSH				LR	LR		
	comp=N,6μm,2.6s						
KSH				LR	LR		
	comp=E,6μm,2.9s						
THN	**Thein Dam**	**6.12**	**130**	eP	**Pn**	**10 06 56.5**	**+0.1**
THN				ex	**Sn**	**10 08 05.5**	**-0.4**
DLH	**Dalhousie**	**6.20**	**128**	eP	**Pn**	**10 06 59.0**	**+1.5**
DLH				ex	**Sn**	**10 08 07.0**	**-0.9**
AML	**Almayashu**	**6.26**	**25**	P	**Pn**	**10 06 58.1**	**-0.2**
	SNR=1407						
PONG	**Pong**	**6.59**	**132**	eP	**Pn**	**10 07 03.0**	**

AAK					pmax	pmax	
	comp=Z,203nm,0.6s						
AAK	**Ala-Archa**	**6.99**	**27**	*e*Pn	**Pn**	**10 07 07.0**	**-0.8**
	comp=Z,203nm,0.6s						
AAK				*e*Sn	**Sn**	**10 08 24.6**	**-1.9**
KBK	**Karagaybulak**	**7.18**	**30**	P	**Pn**	**10 07 11.1**	**+0.7**
	SNR=43						
FRU	**Bishkek**	**7.20**	**27**	*i* PN	**Pn**	**10 07 11.0**	**+0.3**
FRU				*i* S	**Sn**	**10 08 31.5**	**-0.2**
FRU				pmax	pmax		
	comp=Z,410nm,1.8s						
FRU				smax			
	comp=E,1μm,1.8s						
BHK	**Bhakra**	**7.25**	**132**	*e*P	**Pn**	**10 07 14.6**	**+3.2**
BHK				*e*S	**Sn**	**10 08 32.6**	**-0.3**
CHMS	**Chumysh**	**7.40**	**27**	P	**Pn**	**10 07 12.7**	**-0.6**
	SNR=121						
ULHL	**Ulahol**	**7.43**	**37**	P	**Pn**	**10 07 14.0**	**+0.3**
	SNR=38						
USP	**Ospenovka**	**7.54**	**25**	P	**Pn**	**10 07 14.2**	**-1.0**
	SNR=153						
TKM2	**Tokmak 2**	**7.66**	**31**	P	**Pn**	**10 07 16.7**	**-0.1**
	SNR=99						
TKM2	**Tokmak 2**	**7.66**	**31**	⇑P	**Pn**	**10 07 16.6**	**-0.2**
	comp=E,84nm,0.6s						
TKM2				⇓S	**Sn**	**10 08 38.5**	**-4.1**
	comp=E,115nm,0.6s						
SMLA	**Simla**	**7.91**	**131**	*e*P	**Pn**	**10 07 19.0**	**-1.0**
SMLA				*e*S	**Sn**	**10 08 43.2**	**-5.4**
SMLA				AML	AML	10 08 52.2	
	comp=E,2μm,0.5s						
SMLA				AML	AML	10 08 52.3	
	comp=N,2μm,0.3s						
KLP	**Kalpa**	**8.34**	**124**	*e*P	**Pn**	**10 07 25.0**	**-0.7**
KLP				*e*S	**Sn**	**10 08 56.0**	**-2.8**
KNDC	**Almaty**	**8.51**	**36**	⇑P	**Pn**	**10 07 29.6**	**+1.6**
	comp=N,2μm,0.5s						
DDI	**Dehra Dun**	**9.02**	**131**	*e*P	**Pn**	**10 07 34.5**	**-0.2**
DDI				*e*x	**Sn**	**10 09 13.6**	**-1.6**
RTK	**Rohtak**	**9.11**	**143**	*e*P	**Pn**	**10 07 34.7**	**-1.2**
JASL	**Jaisalmer**	**9.56**	**176**	*e*P	**Pn**	**10 07 38.9**	**-3.0**
KHET	**Khetri**	**9.66**	**149**	*e*P	**Pn**	**10 07 41.2**	**-1.9**
KHET				*e*S	**Sn**	**10 09 21.7**	**-8.7**
KHET				AML	AML	10 09 27.7	
	comp=E,770nm,0.4s						
KHET				AML	AML	10 09 27.9	
	comp=N,993nm,0.4s						
NDI	**New Delhi**	**9.80**	**141**	*e*P	**Pn**	**10 07 44.0**	**-1.0**
NDI				*e*P		10 07 44.1	
NDI				*e*P		10 07 45.0	
NDI				*e*S	**Sn**	**10 09 24.5**	**-9.3**
NDI				*e*S	**Sn**	**10 09 25.5**	**-8.3**
NDI				*e*S	**Sn**	**10 09 25.8**	**-8.0**
KUDL	**Kundal**	**9.89**	**145**	*e*P	**Pn**	**10 07 45.0**	**-1.2**
KUDL				*e*S	**Sn**	**10 09 25.3**	**-11**
KUDL				AML	AML	10 09 32.8	
	comp=N,404nm,0.4s						
KUDL				AML	AML	10 09 35.2	
	comp=E,811nm,0.3s						
AYAN	**Aya Nagar**	**9.92**	**142**	*e*P	**Pn**	**10 07 46.3**	**-0.2**
AYAN				*e*S	**Sn**	**10 09 27.5**	**-9.2**
AYAN				AML	AML	10 09 32.0	
	comp=Z,418nm,0.0s						
KALG	**Kalgarh**	**10.03**	**132**	*e*x	**Pn**	**10 07 38.0**	**-10**
SONA	**Sohna**	**10.09**	**143**	*e*P	**Pn**	**10 07 47.6**	**-1.2**
SONA				*e*S	**Sn**	**10 09 31.3**	**-9.4**
AJM	**Ajmer**	**10.69**	**158**	*i* P	**Pn**	**10 07 55.0**	**-1.6**
AJM				*e*P		10 07 55.5	
AJM				*e*S	**Sn**	**10 09 46.2**	**-9.0**
AJM				AML	AML	10 09 52.1	
	comp=N,428nm,0.4s						
AJM				AML	AML	10 09 52.4	
	comp=E,328nm,0.2s						
PTH	**Pithoragarh**	**10.91**	**127**	*e*P	**Pn**	**10 07 57.9**	**-1.6**
LGTI	**Lohaghat**	**11.00**	**127**	*e*P	**Pn**	**10 07 58.5**	**-2.2**
LGTI				*e*S	**Sn**	**10 09 51.7**	**-11**
BHJ	**Bhuj**	**13.20**	**182**	*e*P	**Pn**	**10 08 27.7**	**-1.3**
BHJ				*e*x	**Sn**	**10 10 42.8**	**-13**
MK08	**Makanchi Array**	**13.67**	**38**	⇓P	**Pn**	**10 08 35.1**	**+0.2**
	comp=E,28nm,0.8s						
MKAR	**Makanchi Array**	**13.70**	**38**	P	**Pn**	**10 08 35.6**	**+0.4**
	comp=E,3.0nm,0.3s,baz=50,slow=21,SNR=36						
DANN	**Dangsing**	**14.05**	**121**	*e*Pn	**Pn**	**10 08 38.9**	**-0.8**
DANN				*e*Sn	**Sn**	**10 11 04.9**	**-11**
KOLN	**Koldanda**	**14.32**	**124**	*e*Pn	**Pn**	**10 08 42.0**	**-1.0**
KOLN				*e*Sn	**Sn**	**10 11 10.0**	**-12**
	comp=E,332nm,0.6s						
BHPL	**Bhopal**	**14.62**	**153**	*e*P	**Pn**	**10 08 47.8**	**+1.0**
BHPL				*e*x	**Sn**	**10 11 22.7**	**-6.9**
BHPL				AML	AML	10 11 27.0	
	comp=E,211nm,0.4s						
BHPL				AML	AML	10 11 28.2	
	comp=N,196nm,0.6s						
AB31	**Akbulak array**	**14.77**	**333**	P	**Pn**	**10 08 45.6**	**-3.0**
	comp=N,76nm,0.4s,baz=145,slow=11,SNR=1789						
AB31				⇑S	**Sn**	**10 11 20.4**	**-13**
	comp=N,61nm,0.6s,baz=0.0,slow=0.1,SNR=6.1						
AB31	**Akbulak array**	**14.77**	**333**	P	**Pn**	**10 08 45.6**	**-3.1**
AB31				S	**Sn**	**10 11 20.4**	**-13**
AB31				pmax	pmax		
	comp=Z,76nm,0.4s						
AB31	**Akbulak array**	**14.77**	**333**	P	**Pn**	**10 08 45.6**	**-3.0**
	comp=Z,76nm,0.4s						
AB31				S	**Sn**	**10 11 20.4**	**-13**
GKN	**Gorkha**	**14.88**	**121**	*e*Pn	**Pn**	**10 08 48.9**	**-1.0**
GKN				*e*Sn	**Sn**	**10 11 24.2**	**-11**
	comp=Z,786nm,0.5s						
WMQ	**Urumqi**	**15.26**	**56**	P	**Pn**	**10 08 55.6**	**+1.0**
WMQ				XP	sP	10 09 40.1	-5.3
WMQ				S	**S**	**10 11 40.0**	**-4.5**
WMQ				PCP	PcP	10 13 51.6	+3.2
WMQ				AMB	AMB		
	comp=Z,129nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,759nm,3.8s						
WMQ				LR	LR		
	comp=Z,1μm,20.0s						
DMN	**Daman**	**15.45**	**121**	*e*Pn	**Pn**	**10 08 56.7**	**-0.2**
DMN				*e*Sn	**Sn**	**10 11 37.9**	**-11**
	comp=Z,925nm,1.0s						
KKN	**Kakani**	**15.46**	**120**	*e*Pn	**Pn**	**10 08 56.7**	**-0.4**
KKN				*e*Sn	**Sn**	**10 11 38.3**	**-11**
	comp=Z,734nm,0.8s						
KURK	**Kurchatov**	**15.46**	**21**	⇓P	**Pn**	**10 08 54.3**	**-2.8**
	comp=Z,27nm,0.8s						
KURK	**Kurchatov**	**15.46**	**21**	*d i*P	**Pn**	**10 08 54.9**	**-2.3**
KURK	**Kurchatov**	**15.46**	**21**	⇓P	**Pn**	**10 08 54.3**	**-2.9**
PKI	**Pulchoki**	**15.68**	**120**	*e*Pn	**Pn**	**10 08 58.8**	**-1.0**
PKI				*e*Sn	**Sn**	**10 11 46.0**	**-8.8**
JBP	**Jabalpur**	**15.77**	**145**	⇑*i*P	**Pn**	**10 09 02.2**	**+1.3**
JBP				*e*x	**S**	**10 11 44.4**	**-12**
BANOM	**Banah**	**15.85**	**232**	⇑P	**Pn**	**10 09 02.0**	**+0.2**
	SNR=6.5						
JIRN	**Jiri**	**16.17**	**118**	*e*Pn	**Pn**	**10 09 05.2**	**-0.6**
JIRN				*e*Sn	**Sn**	**10 11 58.4**	**-8.2**
	comp=Z,655nm,0.6s						
VOSK	**Vostochnaya**	**16.24**	**2**	⇓P	**Pn**	**10 09 03.1**	**-3.5**
	comp=Z,37nm,1.1s						
VOSK	**Vostochnaya**	**16.24**	**2**	⇓P	**Pn**	**10 09 03.1**	**-3.5**
VOSK				pmax	pmax		
	comp=Z,37nm,1.0s						
AKTK	**Aktyubinsk**	**16.46**	**332**	P	**Pn**	**10 09 07.6**	**-1.6**
AKTK				S	**S**	**10 12 01.9**	**-10**
AKTK				LR	LR	10 15 34.9	
AKTO	**Aktyubinsk**	**16.46**	**332**	P	**Pn**	**10 09 07.6**	**-1.6**
	comp=Z,7.7nm,0.3s,baz=152,slow=11,SNR=383						
AKTO				S	**S**	**10 12 01.9**	**-10**
	comp=Z,2.8nm,0.3s,baz=140,slow=18,SNR=6.4						
AKTO				LR	LR	10 15 34.9	
	comp=Z,160nm,18.1s,baz=0.0,slow=37						
AKTO	**Aktyubinsk**	**16.46**	**332**	P	**Pn**	**10 09 07.6**	**-1.6**
AKTO				S	**S**	**10 12 01.9**	**-10**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AKTO				smax			
	comp=N,3.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,160nm,18.1s						
BVA0	**Borovoye Array**	**16.53**	**0**	P	**Pn**	**10 09 08.3**	**-1.8**
	comp=Z,6.4nm,0.8s,baz=171,slow=13,SNR=181						
BVA0				⇑S	**S**	**10 12 03.6**	**-10**
	comp=Z,5.4nm,0.8s						
BVA0	**Borovoye Array**	**16.53**	**0**	P	**Pn**	**10 09 08.3**	**-1.8**
BVA0				S	**S**	**10 12 03.6**	**-10**
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BVA0	**Borovoye Array**	**16.53**	**0**	P	**Pn**	**10 09 08.3**	**-1.8**
	comp=Z,6.4nm,0.8s						
BVA0				S	**S**	**10 12 03.5**	**-10**
BVAR	**Borovoye Array**	**16.53**	**0**	P	**Pn**	**10 09 08.3**	**-1.8**
	comp=Z,4.5nm,0.3s,baz=170,slow=12,SNR=92						
BVAR				S	**S**	**10 12 03.3**	**-10**
	comp=Z,0.9nm,0.3s,baz=153,slow=19,SNR=3.0						
BRVK	**Borovoye**	**16.56**	**0**	⇑*e*P	**Pn**	**10 09 08.8**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,42nm,0.8s						
BRVK	**Borovoye**	**16.56**	**0**	⇑*e*P	**Pn**	**10 09 08.8**	**-1.7**
	comp=Z,42nm,0.8s						
ASHO	**Ashiyiah**	**16.89**	**230**	P	**Pn**	**10 09 15.3**	**+0.9**
	SNR=14						
WBK	**Wadi Bani Khal**	**16.90**	**218**	P	**Pn**	**10 09 15.6**	**+1.1**
	SNR=9.9						
NGP	**Nagpur**	**17.14**	**151**	*e*P	**Pn**	**10 09 19.9**	**+2.4**
NGP				*e*x	**S**	**10 12 21.2**	**-5.0**
JMDO	**Jabal Madar**	**17.54**	**220**	P	**Pn**	**10 09 22.9**	**+0.8**
	SNR=23						
ARQ	**Araqi**	**17.63**	**226**	P	**Pn**	**10 09 25.4**	**+2.1**
	SNR=7.8						
POO	**Poona**	**18.19**	**169**	⇑*i*P	**P**	**10 09 32.0**	**+4.1**
POO				*i* x	x	10 09 47.0	
POO				*i* x	x	10 09 56.0	
POO				*i* x	x	10 13 29.0	
POO				*i* x	x	10 13 42.0	
BOK	**Bokaro**	**18.54**	**129**	*e*P	**P**	**10 09 34.9**	**+3.1**
LSA	**Lhasa**	**18.83**	**105**	P	**P**	**10 09 39.8**	**+5.0**
LSA				AMB	AMB		
	comp=Z,40nm,0.8s						
LSA	**Lhasa**	**18.83**	**105**	*e*P	**P**	**10 09 39.3**	**+4.5**
LSA				*e*S	**S**	**10 12 58.5**	**-1.4**
LSA				pmax	pmax		
	comp=Z,86nm,0.7s						
LSA	**Lhasa**	**18.83**	**105**	*e*P	**P**	**10 09 39.3**	**+4.5**
	comp=Z,86nm,0.7s						
LSA				*e*S	**S**	**10 12 58.5**	**-1.4**
LATR	**Latur**	**18.87**	**161**	*e*P	**P**	**10 09 40.1**	**+4.8**
KAD	**Karad**	**19.44**	**168**	*e*P	**P**	**10 09 43.1**	**+1.7**
DGRG	**David-gareji**	**19.87**	**292**	P	**P**	**10 09 46.8**	**+0.7**
UMR	**Umm Al-Rimmam**	**20.03**	**256**	*e*P	**P**	**10 09 47.6**	**-0.2**
UMR				AMb	AMB	10 09 52.4	
	comp=Z,199nm,0.4s						
ZAL	**Zalesovo**	**20.19**	**26**	P	**P**	**10 09 49.8**	**+0.3**
	comp=Z,29nm,0.5s,baz=251,slow=7.8,SNR=10						
ZAL				S	**S**	**10 13 24.6**	**-2.1**
	comp=Z,3.6nm,0.8s,baz=166,slow=22,SNR=2.2						
MIB	**Mutribah**	**20.22**	**257**	*e*P	**P**	**10 09 49.9**	**+0.1**
MIB				AMb	AMB	10 09 56.2	
	comp=Z,142nm,0.7s						
GNI	**Garni**	**20.25**	**288**	⇑*i*P	**P**	**10 09 51.9**	**+1.8**
GNI				pmax	pmax		
	comp=Z,253nm,0.9s						
GNI	**Garni**	**20.25**	**288**	⇑*i*P	**P**	**10 09 51.9**	**+1.8**
	comp=Z,253nm,0.9s						
MTA	**Mtatsminda**	**20.33**	**293**	P	**P**	**10 09 51.1**	**+0.2**
TBLG	**Delisi**	**20.38**	**293**	P	**P**	**10 09 52.6**	**+1.2**
HYB	**Hyderabad**	**20.40**	**156**	⇓*i*P	**P**	**10 09 53.0**	**+1.3**
	comp=Z,90nm,1.0s						
HYB				*e*		10 10 31.0	
HYB				*e*sP	sP	10 10 44.0	+1.7
HYB				*e*S	**S**	**10 13 35.0**	**+4.2**
HYB	**Hyderabad**	**20.40**	**156**	⇓*e*P	**P**	**10 09 53.0**	**+1.3**
HYB				*e*S	**S**	**10 13 35.0**	**+4.2**
HYB				pmax	pmax		
	comp=Z,90nm,1.0s						
HYB	**Hyderabad**	**20.40**	**156**	⇓*e*P	**P**	**10 09 53.0**	**+1.3**
	comp=Z,90nm,1.0s						
HYB				*e*		10 10 31.0	
HYB				*e*S	**S**	**10 13 35.0**	**+4.2**
NVS	**Novosibirsk**	**20.43**	**22**	*i* P	**P**	**10 09 52.5**	**+0.4**
NVS				*e*S	**S**	**10 13 29.6**	**-1.8**
NVS				pmax	pmax		
	comp=Z,68nm,1.0s						
NVS				pmax	pmax		
	comp=N,48nm,0.9s						
NVS				pmax	pmax		
	comp=E,19nm,0.9s						
RDF	**Al-Radifah**	**20.44**	**255**	*e*P	**P**	**10 09 52.0**	**-0.1**
RDF				AMb	AMB	10 09 59.4	
	comp=Z,92nm,0.7s						
NAY	**Al-Naaiem**	**20.53**	**256**	*e*P	**P**	**10 09 52.6**	**-0.6**
NAY				AMb	AMB	10 10 00.8	
	comp=Z,47nm,1.1s						
ZEI	**Tsey**	**21.13**	**295**	*e*P	**P**	**10 09 59.2**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,56nm,1.0s,mb4.8						
AKH	**Akhalkalaki**	**21.27**	**291**	P	**P**	**10 10 02.1**	**+1.1**
BHD	**Baghdad**	**21.37**	**269**	*e*x	x	10 09 54.0	
BHD				*e*x	x	10 10 40.0	
BHD				*e*x	x	10 13 45.0	
ARU	**Arti**	**21.43**	**342**	⇑*i*P	**P**	**10 10 01.6**	**-1.0**
ARU				*e*		10 10 30.1	
ARU				*e*S	**S**	**10 13 49.4**	**-0.4**
ARU				pmax	pmax		
	comp=Z,81nm,0.8s,mb5.1						
ARU	**Arti**	**21.43**	**342**	⇑*e*P	**P**	**10 10 01.9**	**-0.7**
	comp=Z,83nm,0.8s,mb5.1						
ARU				*e*S	**S**	**10 13 49.3**	**-0.5**
SHL	**Shillong**	**21.52**	**114**	*i* P	**P**	**10 10 05.0**	**+1.4**
SHL				*e*S	**S**	**10 13 55.0**	**+3.7**
MSL	**Mosul**	**21.77**	**278**	*e*x	x	10 10 15.0	
VIS	**Vishakhapatnam**	**22.02**	**145**	*e*P	**P**	**10 10 11.1**	**+2.2**
VIS				*i* x	**S**	**10 14 14.1**	**+14**
AGT	**Agartala**	**22.08**	**119**	*e*P	**P**	**10 10 14.0**	**+4.5**
GOF	**Gofitskoye**	**22.17**	**301**	*e*P	**P**	**10 10 09.0**	**-1.4**
GOF				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.0						
IMP	**Imphal**	**23.48**	**113**	*i* x	**P**	**10 10 28.0**	**+5.7**
WHFO	**Wadi Hawf**	**23.49**	**222**	P	**P**	**10 10 22.2**	**-0.2**
	SNR=38						
GTA	**Gaotai**	**23.52**	**74**	P	**P**	**10 10 25.3**	**+2.7**
GTA				AP		10 11 01.3	
GTA				XP	sP	10 11 16.8	+1.0
GTA				XS	sS	10 15 23.9	+1.7
GTA				AMB	AMB		
	comp=Z,63nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,190nm,4.2s						
GTA				LR	LR		
	comp=N,143nm,18.3s						
GTA				LR	LR		
	comp=E,207nm,16.8s						
GTA				LR	LR		
	comp=Z,122nm,12.6s						
RBK	**Rabkut**	**23.60**	**221**	P	**P**	**10 10 23.4**	**0.0**
	SNR=15						
ABTO	**Aybut**	**24.21**	**223**	P	**P**	**10 10 28.9**	**0.0**
	SNR=61						
SOC	**Sochi**	**24.27**	**296**	*e*P	**P**	**10 10 29.5**	**+0.1**
SOC				*e**PP		10 11 04.4	
SOC				*e*		10 11 10.8	
SOC				*e*S	**S**	**10 14 38.4**	**+2.7**
SOC				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.0						
SOKR	**Solikamsk**	**24.66**	**344**	*e*P	**P**	**10 10 33.2**	**+0.2**
SOKR				*e*		10 11 07.8	
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
KRAR	**Krasnoyarsk**	**24.85**	**31**	⇑*e*P	**P**	**10 10 34.2**	**-0.5**
KRAR				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.0						
MALT	**Malatya**	**25.21**	**284**	*e*P	**P**	**10 10 39.7**	**+1.7**
MALT				*e**PP	pP	10 11 14.0	+1.3
MALT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
MALT	**Malatya**	**25.21**	**284**	*e*P	**P**	**10 10 39.7**	**+1.7**
	comp=Z,10nm,1.0s,mb4.3						
MALT				*e*pP	pP	10 11 14.0	+1.3
ANN	**Anapa**	**26.05**	**299**	*e*P	**P**	**10 10 50.4**	**+4.9**
ANN				*e**PP	pP	10 11 23.9	+3.6
ANN				*e*S	**S**	**10 15 13.0**	**+9.2**
ANN				pmax	pmax		
	comp=Z,65nm,1.2s,mb5.1						
MOY	**Mondy**	**26.59**	**45**	*e*P	**P**	**10 10 52.0**	**+1.6**
MOY				pmax	pmax		
	comp=Z,42nm,2.0s,mb4.7						
LZH	**Lanzhou**	**27.08**	**81**	*e*P	**P**	**10 10 58.3**	**+3.6**
LZH				AP	pP	10 11 31.3	+1.6
LZH				XP	sP	10 11 51.3	+2.0
LZH				PP	PP	10 11 52.3	-7.0
LZH				*e*S	**S**	**10 15 22.5**	**+2.4**
LZH				XS	sS	10 16 20.3	-1.9
LZH				*e*SS	SS	10 16 50.9	-30
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.6						
LZH				AMB	AMB		
	comp=Z,69nm,4.2s						
ZAK	**Zakamensk**	**27.50**	**49**	*e*P	**P**	**10 10 59.8**	**+1.3**
ZAK				*e*	pP	10 11 34.8	+1.3
ZAK				pmax	pmax		
	comp=Z,32nm,1.5s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.7						
CD2	**Chengdu**	**28.41**	**91**	*e*P	**P**	**10 11 08.5**	**+1.9**
CD2				AP	pP	10 11 44.5	+2.8
CD2				XP	sP	10 12 04.5	+3.2
CD2				PP	PP	10 12 08.4	-5.6
CD2				S	**S**	**10 15 41.1**	**+0.1**
CD2				XS	sS	10 16 44.8	+1.6
CD2				SS	SS	10 17 21.8	-27
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
CD2				AMB	AMB		
	comp=Z,90nm,5.9s						
CD2				LR	LR		
	comp=N,100nm,10.8s						
CD2				LR	LR		
	comp=Z,100nm,12.0s						
IRK	**Irkutsk**	**28.69**	**46**	*e*P	**P**	**10 11 10.5**	**+1.4**
IRK				*e*	pP	10 11 45.9	+1.7
IRK				*e*		10 12 00.3	
IRK				*e*		10 15 42.0	
IRK				*e*		10 17 25.5	
IRK				pmax	pmax		
	comp=Z,46nm,1.5s,mb5.0						
BRTR	**Keskin Array B**	**28.79**	**288**	P	**P**	**10 11 09.7**	**-0.3**
	comp=Z,3.9nm,0.7s,mb4.3,baz=98,slow=9.0,SNR=12						
SONM	**Songino Array**	**28.90**	**56**	P	**P**	**10 11 12.5**	**+1.6**
	comp=Z,29nm,0.9s,mb5.0,baz=258,slow=9.5,SNR=194						
ULN	**Ulaanbaatar**	**29.34**	**56**	⇓*i*P	**P**	**10 11 16.8**	**+2.0**
ULN				*e**PP	pP	10 11 50.7	+0.7
ULN				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0						
ULN	**Ulaanbaatar**	**29.34**	**56**	⇓*i*P	**P**	**10 11 16.8**	**+2.0**
	comp=Z,23nm,0.8s,mb5.0						
ULN				*e*pP	pP	10 11 50.7	+0.7
OBN	**Obninsk**	**29.50**	**320**	*d i*P	**P**	**10 11 16.0**	**-0.2**
OBN				*e**PP	pP	10 11 51.7	+0.2
OBN				*e*		10 12 21.0	
OBN				*e*		10 14 15.1	
OBN				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.1						
KMI	**Kunming**	**30.05**	**103**	P	**P**	**10 11 22.3**	**+1.2**
KMI				AP	pP	10 12 00.8	+4.4
KMI				S	**S**	**10 16 12.0**	**+5.2**
KMI				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.8						
KMI				LR	LR		
	comp=Z,48nm,43.3s						
PALK	**Pallekele**	**30.64**	**159**	*e*P	**P**	**10 11 27.9**	**+1.7**
	comp=Z,13nm,0.7s,mb4.8						
KLMR	**Klimovskoe**	**31.16**	**331**	*e*P	**P**	**10 11 28.5**	**-2.3**
KLMR				*e*S	**S**	**10 16 16.5**	**-7.5**
KLMR				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.8						
KLMR				smax			
	comp=E,1μm,4.9s						
XAN	**Xi'an**	**31.60**	**83**	P	**P**	**10 11 35.8**	**+1.1**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
HHC	**Hu-ho-hao-te**	**32.40**	**69**	*e*P	**P**	**10 11 44.3**	**+2.6**
HHC				AP	pP	10 12 14.8	-2.3
HHC				PP	PP	10 12 57.8	-0.5
HHC				PCP	PcP	10 14 29.1	+4.1
HHC				S	**S**	**10 16 46.8**	**+3.5**
HHC				SS	SS	10 18 51.5	-18
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,190nm,6.0s						
HHC				LR	LR		
	comp=N,262nm,7.1s						
HHC				LR	LR		
	comp=E,322nm,5.3s						
HHC				LR	LR		
	comp=Z,160nm,5.5s						
AKASG	**Malin Array Be**	**32.42**	**309**	P	**P**	**10 11 40.7**	**-1.1**
	comp=Z,4.8nm,0.5s,mb4.5,baz=82,slow=7.6,SNR=40						
AKASG	**Malin Array Be**	**32.42**	**309**	P	**P**	**10 11 40.7**	**-1.2**
GYA	**Guiyang**	**32.53**	**97**	⇑*i*P	**P**	**10 11 44.0**	**+1.2**
GYA				PP	PP	10 12 58.4	-1.4
GYA				S	**S**	**10 16 48.3**	**+2.9**
GYA				SCP	ScP	10 17 47.6	-5.6
GYA				SCS	ScS	10 21 55.6	+2.6
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,410nm,5.4s						
GYA				LR	LR		
	comp=N,670nm,17.5s						
GYA				LR	LR		
	comp=E,840nm,17.6s						
GYA				LR	LR		
	comp=Z,630nm,18.0s						
ENH	**Enshi**	**33.25**	**89**	*e*P	**P**	**10 11 50.6**	**+1.5**
	comp=Z,15nm,0.8s,mb4.8						
VRI	**Vrincioaia**	**33.65**	**300**	⇓P	**P**	**10 11 53.5**	**+1.0**
VRI	**Vrincioaia**	**33.65**	**300**	⇓P	**P**	**10 11 53.5**	**+1.1**
MLR	**Muntele Rosu**	**34.19**	**299**	⇓P	**P**	**10 11 59.1**	**+1.9**
MLR	**Muntele Rosu**	**34.19**	**299**	⇓P	**P**	**10 11 59.1**	**+1.9**
BURAR	**Bucovina Array**	**34.72**	**303**	⇓P	**P**	**10 12 02.2**	**+0.5**
BURAR	**Bucovina Array**	**34.72**	**303**	⇓P	**P**	**10 12 02.2**	**+0.5**
VOIR		**34.83**	**299**	⇑P	**P**	**10 12 02.7**	**+0.1**
VOIR		**34.83**	**299**	⇑P	**P**	**10 12 02.7**	**+0.1**
JOF	**Joensuu**	**35.54**	**330**	*e*p	**P**	**10 12 08.9**	**+0.2**
	comp=Z,10nm,0.5s,mb4.7						
VSU	**Vasula**	**35.77**	**322**	⇑*i*P	**P**	**10 12 09.7**	**-1.0**
BOD	**Bodaibo**	**35.78**	**39**	*e*P	**P**	**10 12 10.8**	**0.0**
BOD				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.5						
BJT	**Baijiatuau**	**35.99**	**70**	*e*P	**P**	**10 12 15.4**	**+2.8**
BJT				pmax	pmax		
	comp=Z,12nm,0.6s						
BJT	**Baijiatuau**	**35.99**	**70**	*e*P	**P**	**10 12 15.4**	**+2.8**
	comp=Z,12nm,0.6s,mb4.7						
BJI	**Beijing**	**35.99**	**70**	*

comp=Z,8.1nm,0.6s,mb4.5,baz=103,slow=8.8,SNR=30
ARCES LR LR 10 30 05.0
comp=Z,85nm,21.9s,baz=21,slow=36
KULM Kulim 41.78 131 *e*P **P 10 12 58.8 -1.9**
BRG Berggiesshubel 42.10 308 *e*P **P 10 13 03.5 +0.3**
BRG *i* pP 10 13 41.6 +1.5
BRG *e* 10 14 52.5
BRG pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BRG Berggiesshubel 42.10 308 *e*P **P 10 13 03.5 +0.3**
comp=Z,3.4nm,0.6s,mb4.2
BRG *i* pP 10 13 41.6 +1.5
BRG *e* 10 14 52.5
CN2 Changchun 42.21 62 *e*P **P 10 13 05.6 +1.5**
SSE Sheshan 42.34 82 P **P 10 13 04.8 -0.4**
SSE AMB AMB
comp=Z,42nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,253nm,5.6s
CLL Collm 42.67 309 *e*P **P 10 13 09.0 +1.1**
CLL *e*(pP) pP 10 13 48.0 +3.2
CLL *e*(sP) sP 10 14 08.0 +4.1
CLL *i x* x 10 15 12.9
CLL Collm 42.67 309 *e*P **P 10 13 09.0 +1.1**
CLL *es*P sP 10 13 57.0 -6.9
PSI Prapat 42.75 135 P **P 10 13 08.3 -0.2**
comp=Z,7.7nm,0.5s,mb4.6,baz=303,slow=6.0,SNR=6.9
PSI Prapat 42.75 135 P **P 10 13 08.3 -0.2**
GRA1 Grafenberg Arr 43.92 307 *e*P **P 10 13 18.9 +1.0**
comp=Z,2.0nm,0.7s,mb3.9
GRA1 *ep*P pP 10 13 52.5 -2.5
GRF Grafenberg Arr 43.92 307 *e*P **P 10 13 18.9 +1.0**
comp=Z,2.0nm,0.7s,mb3.9
GRF *ep*P pP 10 13 52.5 -2.5
GRF Grafenberg Arr 43.92 307 *e*P **P 10 13 18.9 +1.0**
GRF *e**PP pP 10 13 52.5 -2.5
GRF pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
NB2 NORSAR Subarra 43.98 323 P **P 10 13 17.3 -1.0**
comp=Z,0.8nm,0.6s,baz=96,slow=8.6
NB2 NORSAR Subarra 43.98 323 P **P 10 13 17.3 -1.0**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
NOA NORSAR Array B 43.98 323 P **P 10 13 17.2 -1.2**
comp=Z,7.5nm,0.7s,mb4.5,baz=96,slow=8.0,SNR=16
NOA LR LR 10 34 33.0
comp=Z,77nm,19.7s,baz=200,slow=40
NOA NORSAR Array B 43.98 323 P **P 10 13 17.2 -1.2**
NOA LR LR 10 34 33.0
YAK Yakutsk 44.36 36 *e*P **P 10 13 22.2 +0.8**
YAK *e* 10 15 02.2
YAK *e* 10 15 07.7
YAK *e*PPP 10 15 46.4
YAK *e*S **S 10 19 45.4 +2.6**
YAK *e* 10 23 00.6
YAK pmax pmax
comp=Z,31nm,0.9s,mb4.9
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=E,13nm,1.3s
YAK smax
comp=Z,3.0nm,0.7s
YAK smax
comp=N,11nm,1.7s
YAK Yakutsk 44.36 36 *e*P **P 10 13 21.5 +0.1**
comp=N,59nm,0.6s,mb5.4
KONO Kongsberg 44.67 321⇑*i*P **P 10 13 22.5 -1.3**
MDJ Mudanjiang 44.99 60 P **P 10 13 26.4 0.0**
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,106nm,6.9s
DAVA Damuels 45.11 303⇓*i*P **P 10 13 25.8 -1.5**
comp=Z,7.8nm,0.6s,mb4.5
YHNB Yeheng 45.17 90 *e*P **P 10 13 29.3 +1.5**
KS15 Wonju Array Si 45.49 71 *e*P **P 10 13 31.1 +0.8**
KLR Kul'dur 45.69 54 *e*P **P 10 13 29.8 -2.1**
KLR pmax pmax
comp=E,48nm,1.6s
KLR pmax pmax
comp=Z,62nm,1.6s,mb5.0
TIXI Tiksi 46.03 22*d i*P **P 10 13 34.4 -0.1**
TIXI pmax pmax
comp=Z,42nm,1.7s,mb4.8
CDF Champ du Feu 46.66 305 *e*P **P 10 13 44.3 +4.9**
VLA Vladivostok 46.94 62*d i*P **P 10 13 43.2 +1.6**
VLA pmax pmax
comp=Z,64nm,0.7s,mb5.4
HINF Hinteralfeld 47.05 305 *e*P **P 10 13 47.8 +5.4**
HINF *ep*P pP 10 14 21.2 +1.2
LPG La Plagne 47.58 302 *e*P **P 10 13 51.2 +4.7**
comp=Z,5.2nm,0.6s,mb4.0
LPG La Plagne 47.58 302 *e*P **P 10 13 51.2 +4.7**
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
LPG La Plagne 47.58 302 *e*P **P 10 13 51.2 +4.7**
comp=Z,2.6nm,0.6s,mb4.0
LPL La Plagne 47.59 302 *e*P **P 10 13 51.5 +4.9**
MBDF Montbardon 47.73 301 *e*P **P 10 13 52.8 +5.1**
comp=Z,10.0nm,0.7s,mb4.2
MBDF *ep*P pP 10 14 26.3 +0.9
MBDF Montbardon 47.73 301 *e*P **P 10 13 52.8 +5.1**
MBDF *e**PP pP 10 14 26.3 +0.9
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MBDF Montbardon 47.73 301 *e*P **P 10 13 52.8 +5.1**
comp=Z,5.0nm,0.7s,mb4.2
MBDF *ep*P pP 10 14 26.3 +0.9
CABF La Chapelle 47.79 303 *e*P **P 10 13 52.8 +4.6**
HABR Khabarovsk 47.97 54 *e*P **P 10 13 50.6 +1.1**
HABR *e*S **S 10 20 36.1 +1.9**
HABR pmax pmax
comp=Z,78nm,1.3s,mb5.2
FRF La Foret Royal 48.10 299 *e*P **P 10 13 55.4 +4.9**
ORIF Oris-en-Rattie 48.31 301 *e*P **P 10 13 57.4 +5.3**
KMBO Kilima Mbogo 48.33 227 P **P 10 13 52.5 +0.3**
comp=Z,3.0nm,0.5s,mb4.1,baz=40,slow=9.8,SNR=14
KBS Kingsbay 48.47 347⇓*i*P **P 10 13 53.0 -0.3**
LOR Lormes 49.14 304 *e*P **P 10 14 03.9 +5.4**
comp=Z,7.8nm,0.7s,mb4.1
LOR *ep*P pP 10 14 37.0 +0.6
LOR Lormes 49.14 304 *e*P **P 10 14 03.9 +5.4**
LOR *e**PP pP 10 14 37.0 +0.6
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
LOR Lormes 49.14 304 *e*P **P 10 14 03.9 +5.4**
comp=Z,3.9nm,0.7s,mb4.2
LOR *ep*P pP 10 14 37.0 +0.6
SMF Signal de Mont 49.30 304 *e*P **P 10 14 04.6 +5.0**
comp=Z,6.5nm,0.6s,mb4.1
SMF *ep*P pP 10 14 38.0 +0.4
SMF Signal de Mont 49.30 304 *e*P **P 10 14 04.6 +5.0**
SMF *e**PP pP 10 14 38.0 +0.4
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
SMF Signal de Mont 49.30 304 *e*P **P 10 14 04.6 +5.0**
comp=Z,3.3nm,0.6s,mb4.1
SMF *ep*P pP 10 14 38.0 +0.4
SSF Saint Saulge 49.42 304 *e*P **P 10 14 05.7 +5.1**
AVF Avril sur Loir 49.59 304 *e*P **P 10 14 07.4 +5.5**
TCF Toulx Ste Croi 50.48 304 *e*P **P 10 14 13.3 +4.8**
TCF *ep*P pP 10 14 47.4 +0.8
CAF Calviac 50.93 302 *e*P **P 10 14 17.5 +5.6**
CAF *ep*P pP 10 14 51.0 +0.9
KKM Kota Kinabalu 51.82 114 *e*P **P 10 14 20.7 +2.1**
KKM *ep*P pP 10 15 01.8 +4.9
YSS Yuzh-Sakhalins 53.38 55⇑*i*P **P 10 14 32.0 +2.0**
YSS pmax pmax
comp=Z,110nm,0.9s,mb5.6
YSS Yuzh-Sakhalins 53.38 55 *e*P **P 10 14 31.1 +1.1**
comp=Z,64nm,0.7s,mb5.5
ROSF Rostrenen 53.53 307 *e*P **P 10 14 36.7 +5.6**
comp=Z,62nm,1.3s,mb4.9
ROSF *ep*P pP 10 15 10.5 +0.8
ROSF Rostrenen 53.53 307 *e*P **P 10 14 36.7 +5.6**
ROSF *e**PP pP 10 15 10.5 +0.8
ROSF pmax pmax
comp=Z,31nm,1.3s,mb4.9
ROSF Rostrenen 53.53 307 *e*P **P 10 14 36.7 +5.6**
comp=Z,31nm,1.3s,mb4.9
ROSF *ep*P pP 10 15 10.5 +0.8
MAJO Matsushiro 53.58 68 *e*P **P 10 14 31.6 +0.1**
MAJO pmax pmax
comp=Z,21nm,0.7s,mb5.0
MAJO Matsushiro 53.58 68 *e*P **P 10 14 31.6 +0.2**
comp=Z,21nm,0.7s,mb5.0
MAT Matsushiro 53.58 68 P **P 10 14 31.7 +0.2**
MAT Matsushiro 53.58 68 *e*P **P 10 14 32.0 +0.5**
MAT pmax pmax
comp=Z,67nm,0.6s,mb5.5
MAT Matsushiro 53.58 68 *e*P **P 10 14 32.0 +0.5**
comp=Z,67nm,0.6s,mb5.5
MJAR Matsushiro Arr 53.59 68 P **P 10 14 32.2 +0.7**
comp=Z,15nm,0.8s,mb4.8,baz=292,slow=10,SNR=28
MJAR Matsushiro Arr 53.59 68 P **P 10 14 32.2 +0.7**
MA2 Magadan 54.78 38 *e*P **P 10 14 38.8 -1.4**
MA2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
MA2 Magadan 54.78 38 *e*P **P 10 14 38.8 -1.4**
comp=Z,4.7nm,0.6s,mb4.4
SEY Seymchan 54.80 34⇑*i*P **P 10 14 41.3 +1.0**
ESDC Sonseca Array 56.86 298 P **P 10 14 54.2 -0.8**
comp=Z,0.4nm,0.3s,mb3.7,baz=52,slow=7.9,SNR=5.0
ESDC pP pP 10 15 34.2 +0.3
comp=Z,4.6nm,0.7s,baz=62,slow=7.6,SNR=12
BILL Bilibino 58.91 26 *e*P **P 10 15 09.8 +0.6**
BILL *e**PP pP 10 15 49.6 +1.2
BILL *e**SP sP 10 16 01.9 -5.0
BILL pmax pmax
comp=Z,16nm,0.9s,mb4.8
BILL Bilibino 58.91 26 *e*P **P 10 15 09.8 +0.6**
comp=Z,16nm,0.9s,mb4.8
BILL *ep*P pP 10 15 49.6 +1.2
BILL *es*P sP 10 16 01.9 -5.0
OPO Ambohidratompo 58.91 206 P **P 10 15 10.1 +0.9**
comp=Z,8.7nm,1.0s,mb4.6,baz=32,slow=6.8,SNR=8.1
SUMG Summit 60.85 341 *e*P **P 10 15 23.0 +0.6**
comp=Z,27nm,1.0s,mb5.0
SUMG *ep*P pP 10 15 57.3 -4.6
SUMG *e*PcP PcP 10 16 02.7 -1.7
LSZ Lusaka 64.97 225 P **P 10 15 49.5 0.0**
comp=Z,15nm,0.6s,mb5.0,baz=42,slow=6.1,SNR=44
LSZ Lusaka 64.97 225 P **P 10 15 49.5 -0.1**
LSZ pmax pmax
comp=Z,15nm,0.6s,mb5.0
LSZ Lusaka 64.97 225⇓*e*P **P 10 15 49.4 -0.1**
comp=Z,14nm,0.6s,mb5.0
TORD Torodi Ar. Bea 65.04 268 P **P 10 15 48.3 -1.8**
comp=Z,13nm,0.7s,mb4.9,baz=44,slow=5.8,SNR=88
TORD pP pP 10 16 30.1 +0.1
comp=Z,5.8nm,0.8s,baz=44,slow=5.6,SNR=5.0
RES Resolute Bay 68.66 356 *e*P **P 10 16 12.4 -0.5**
RES *e**PP pP 10 16 53.2 -0.1
RES pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
RES Resolute Bay 68.66 356 *e*P **P 10 16 12.4 -0.5**
comp=Z,4.4nm,0.8s,mb4.2
RES *ep*P pP 10 16 53.2 -0.1
TNA Tin City 68.83 22 *e*P **P 10 16 14.1 +0.2**
comp=Z,6.7nm,1.0s,mb4.3
INK Inuvik 74.02 9 *e*P **P 10 16 45.4 +0.4**
INK *e**PP pP 10 17 26.5 +0.5
INK pmax pmax
comp=Z,28nm,0.6s
INK Inuvik 74.02 9 *e*P **P 10 16 45.4 +0.4**
comp=Z,28nm,0.6s,mb5.2
INK *ep*P pP 10 17 26.5 +0.5
MBWA Marble Bar 74.02 132 *e*P **P 10 16 44.6 -0.4**
comp=Z,5.7nm,0.6s,mb4.5
MBWA *e*PcP PcP 10 16 56.9 -2.5
MBWA *ep*P pP 10 17 26.4 +0.4
DBIC Dimbokro 74.02 266 P **P 10 16 43.9 -1.2**
comp=Z,11nm,0.8s,mb4.6,baz=33,slow=6.9,SNR=14
DBIC pP pP 10 17 27.6 +1.6
comp=Z,5.5nm,0.9s,baz=105,slow=4.6,SNR=4.9
DBIC Dimbokro 74.02 266 P **P 10 16 43.9 -1.1**
DBIC pmax pmax
comp=Z,11nm,0.8s
DBIC pmax pmax
comp=Z,6.0nm,0.9s
DBIC Dimbokro 74.02 266 *e*P **P 10 16 43.8 -1.3**
comp=Z,8.3nm,0.7s,mb4.6
DBIC *ep*P pP 10 17 27.3 +1.3
LBTB Lobatse 74.22 221 *e*P **P 10 16 46.4 +0.2**
LBTB *e**PP pP 10 17 26.9 -0.3
LBTB pmax pmax
comp=Z,21nm,0.6s,mb5.0
LBTB Lobatse 74.22 221 *e*P **P 10 16 46.4 +0.2**
comp=Z,20nm,0.6s,mb5.0
LBTB *ep*P pP 10 17 26.9 -0.3
TSUM Tsumeb 74.38 231 *e*P **P 10 16 47.3 +0.2**
comp=Z,8.1nm,0.8s,mb4.5
TSUM *ep*P pP 10 17 27.8 -0.3
LIC Lamto 74.42 266 *e*P **P 10 16 46.0 -1.4**
comp=Z,26nm,0.8s,mb4.7
LIC Lamto 74.42 266 *e*P **P 10 16 46.0 -1.4**
comp=Z,13nm,0.8s,mb4.7
COLA College 74.67 16 *e*P **P 10 16 48.9 +0.1**
COLA pmax pmax
comp=Z,29nm,0.9s,mb4.9
COLA College 74.67 16 *e*P **P 10 16 48.9 +0.1**
comp=Z,29nm,0.9s,mb4.9
COLA *ep*P pP 10 17 30.7 +0.9
ILAR Eielson Array 74.97 16 P **P 10 16 50.0 -0.6**
comp=Z,9.5nm,0.9s,mb4.4,baz=318,slow=5.0,SNR=79
ILAR pP pP 10 17 31.1 -0.5
comp=Z,8.4nm,0.9s,baz=320,slow=5.0,SNR=13
ILAR LR LR 10 55 22.5
comp=Z,30nm,19.0s,baz=21,slow=40
ILAR Eielson Array 74.97 16 P **P 10 16 50.0 -0.5**
ILAR **PP pP 10 17 31.1 -0.5
MCK McKinley 75.40 17 *e*P **P 10 16 52.7 -0.3**
MCK pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
MCK McKinley 75.40 17 *e*P **P 10 16 52.7 -0.3**
comp=Z,4.3nm,0.5s,mb4.3
MCK *ep*P pP 10 17 34.8 +0.7
FITZ Fitzroy Crossi 75.43 126 *e*P **P 10 16 52.4 -0.8**
comp=Z,9.7nm,0.9s,mb4.4
KAKA Kakadu 76.33 117 *e*P **P 10 16 57.6 -0.6**
comp=Z,8.4nm,0.6s,mb4.5
PMR Palmer 77.19 18 *e*P **P 10 17 05.8 +2.8**
PMR pmax pmax
comp=Z,13nm,0.9s,mb4.6
PMR Palmer 77.19 18 *e*P **P 10 17 05.8 +2.8**
comp=Z,13nm,0.9s,mb4.6
SML Sawmill 77.20 18 *e*P **P 10 17 02.9 -0.2**
SML *e**PP pP 10 17 44.5 +0.1
SML *e**SP sP 10 17 56.4 -6.0
FIB Fire Island 77.28 19 *e*P **P 10 17 03.6 0.0**
FIB pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
FIB Fire Island 77.28 19 *e*P **P 10 17 03.6 0.0**
comp=Z,10nm,0.7s,mb4.6
BOSA Boshof 77.31 220 P **P 10 17 03.4 -0.3**
comp=Z,14nm,0.8s,mb4.7,baz=33,slow=4.8,SNR=21
BOSA Boshof 77.31 220 P **P 10 17 03.4 -0.3**
BOSA pmax pmax
comp=Z,15nm,0.8s,mb4.7
BOSA Boshof 77.31 220 *e*P **P 10 17 03.2 -0.5**
comp=Z,12nm,0.8s,mb4.6
DIV Divide 78.40 17 *e*P **P 10 17 05.0 -4.8**
comp=Z,25nm,0.6s,mb5.0
EYAK Cordova Ski Ar 78.92 17 *e*P **P 10 17 13.2 +0.6**
YKW3 Yellowknife Ar 81.21 2 *e*P **P 10 17 24.6 -0.3**
YKW3 *ep*P pP 10 18 06.8 +0.3
YKA Yellowknife Ar 81.28 2 P **P 10 17 25.1 -0.1**
comp=Z,7.3nm,0.7s,mb4.4,baz=349,slow=5.4,SNR=203
YKA pP pP 10 18 06.8 0.0
comp=Z,22nm,0.8s,baz=352,slow=5.4,SNR=5.2
YKA LR LR 10 55 33.5
comp=Z,33nm,18.4s,baz=355,slow=37
YKA Yellowknife Ar 81.28 2 P **P 10 17 25.1 -0.1**
YKA **PP pP 10 18 06.8 -0.1
YKA Yellowknife Ar 81.28 2 P **P 10 17 25.1 -0.1**
YKA pP pP 10 18 06.8 -0.1
YKA LR LR 10 55 33.5
SCHQ Schefferville 81.84 337 P **P 10 17 27.6 -0.5**
comp=Z,5.0nm,0.9s,mb4.1,baz=30,slow=4.2,SNR=5.3
SCHQ Schefferville 81.84 337 *e*P **P 10 17 27.9 -0.3**
comp=Z,5.4nm,0.7s,mb4.3
NWAO Narrogin (SRO) 81.88 142 P **P 10 17 26.4 -1.9**
comp=Z,5.2nm,0.5s,mb4.4,baz=304,slow=8.2,SNR=6.3
NWAO Narrogin (SRO) 81.88 142 P **P 10 17 26.4 -1.9**
WRA Warramunga Arr 82.56 121 P **P 10 17 30.7 -1.2**
comp=Z,14nm,0.8s,mb4.8,baz=323,slow=4.7,SNR=107
WRA pP pP 10 18 13.6 -0.1
comp=Z,3.2nm,0.7s,baz=321,slow=5.0,SNR=3.3
WRAB Tennant Creek 82.56 121*c i*P **P 10 17 31.0 -0.9**
WRAB Tennant Creek 82.56 121 *e*P **P 10 17 30.5 -1.4**
comp=Z,25nm,0.8s,mb5.0
WB2 Warramunga Arr 82.57 121 *e*P **P 10 17 30.4 -1.5**
FCC Fort Churchill 84.19 352 *e*P **P 10 17 40.3 +0.1**
FCC *e**PP pP 10 18 22.4 +0.2
FCC pmax pmax
comp=Z,16nm,1.1s,mb4.7
FCC Fort Churchill 84.19 352 *e*P **P 10 17 40.3 +0.1**
comp=Z,16nm,1.1s,mb4.7
FCC *ep*P pP 10 18 22.4 +0.2
ASPA Alice Springs 84.80 124 *e*P **P 10 17 40.7 -2.6**
AS31 Alice Springs 84.81 124 *e*P **P 10 17 40.7 -2.6**
ASAR Alice Springs 84.81 124 P **P 10 17 42.2 -1.1**
comp=Z,11nm,0.7s,mb4.7,baz=310,slow=4.9,SNR=169
ASAR pP pP 10 18 25.4 +0.1
comp=Z,5.2nm,0.8s,baz=318,slow=5.1,SNR=6.6
ASAR PKKPbc PKKPbc 10 35 51.1 +0.4
comp=Z,0.5nm,0.7s,baz=131,slow=2.8,SNR=6.9
CTA Charters Tower 91.15 114 P **P 10 18 12.5 -1.0**
comp=Z,7.1nm,0.8s,mb4.7,baz=287,slow=8.2,SNR=6.4
CTA Charters Tower 91.15 114 P **P 10 18 12.5 -1.0**
ULM Lac du Bonnet 92.75 351 P **P 10 18 19.8 -1.1**
comp=Z,4.8nm,0.7s,mb4.7,baz=10,slow=5.6,SNR=12
ULM pP pP 10 19 03.8 +0.4
comp=Z,2.0nm,0.7s,baz=13,slow=5.0,SNR=3.2
STKA Stephens Creek 95.33 126 P **P 10 18 30.9 -1.9**
comp=Z,1.1nm,0.5s,mb4.3,baz=330,slow=7.7,SNR=4.7
NEW Newport 95.37 5 LR LR 11 06 35.1
comp=Z,35nm,18.4s,baz=205,slow=38
EGMT Eagleton 95.86 360 *e*P **P 10 18 35.5 +0.3**
comp=Z,4.4nm,1.0s,mb4.7
EGMT *ep*P pP 10 19 16.4 -1.3
NVAR Mina Array Bea 105.04 7 PKiKP PKiKP 10 23 31.1 +1.2
comp=Z,0.5nm,0.7s,baz=40,slow=2.2,SNR=3.9
SIV San Ignacio 132.30 282 PKP PKPdf 10 24 21.4 -0.4
comp=Z,2.2nm,1.0s,baz=45,slow=2.9,SNR=5.6
CPUP Villa Florida 134.54 267 PKP PKPdf 10 24 25.2 -0.8
comp=Z,1.5nm,0.6s,baz=134,slow=0.4,SNR=4.9
LPAZ La Paz 137.97 287 PKP PKPdf 10 24 31.9 -0.4
comp=Z,2.1nm,1.0s,baz=16,slow=4.6,SNR=5.5
LPAZ La Paz 137.97 287 *e*PKPdf PKPdf 10 24 32.7 +0.4
PLCA Paso Flores 149.19 250 PKPbc PKPbc 10 24 56.5 +0.2
comp=Z,5.7nm,0.8s,baz=104,slow=2.1,SNR=14
PLCA pPKPbc pPKPbc 10 25 39.8 -0.7
comp=Z,3.8nm,0.9s,baz=114,slow=6.0,SNR=3.7
PLCA Paso Flores 149.19 250 PKP2 PKPbc 10 24 56.5 +0.2
PLCA pmax pmax
comp=Z,6.0nm,0.8s
PLCA pmax pmax
comp=Z,4.0nm,0.9s

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*ISCJB **13** 10:21:17.7±0.4,3081N±002×35.13E±005,h0km,Error ellipse: s-maj=6.3km s-min=3.1km az=31.4*
*CSEM **13** 10:21:17.8±0.2,3080N×3509E,h0km±1km,ML2.2,Error ellipse: s-maj=3.1km s-min=1.9km az=81.0,Mining explosion.*
*GII **13** 10:21:17.4±0.2,3084N×3512E,h0km,ML2.2/4*
*HLW **13** 10:21:19.4,3102N×3505E,h25km,Mb2.9*
ISC 13 10:21:18.1±0.5,3080N±003×3513E±005,h0km,n21,σ1§00/31,1C-3D,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.24**	**171**	Pg	**Pg**	**10 21 24.0**	**+1.3**
SVTA	**Shivta**	**0.46**	**287**	Pg	**Pg**	**10 21 27.4**	**+0.5**
SVTA	**Shivta**	**0.46**	**287**	Pg	**Pg**	**10 21 27.3**	**+0.4**
MZDA	**Masada**	**0.55**	**21**	Pg	**Pg**	**10 21 28.0**	**-0.6**
MZDA				Sg	**Sg**	**10 21 36.5**	**+0.8**
KZIT	**Kziot**	**0.64**	**280**	Pg	**Pg**	**10 21 30.7**	**+0.3**
KZIT				Sg	**Sg**	**10 21 40.5**	**+1.8**
HRFI	**Mount Harif**	**0.76**	**186**	Pg	**Pg**	**10 21 33.2**	**+0.6**
HRFI				Sg	**Sg**	**10 21 46.7**	**+4.2**
KMTI	**Karmit**	**0.77**	**207**	Pg	**Pg**	**10 21 33.6**	**+0.7**
MKRJ	**Makawir**	**0.87**	**30**	Pg	**Pg**	**10 21 34.5**	**-0.2**
EIL	**Elat**	**1.13**	**188**	Pg	**Pg**	**10 21 40.8**	**+1.0**
EIL				Sg	**Sg**	**10 21 58.1**	**+3.6**
EIL	**Elat**	**1.13**	**188**	Pg	**Pg**	**10 21 40.7**	**+0.9**
EIL				Sg	**Sg**	**10 21 58.1**	**+3.6**
HNKL	**Nakhl**	**1.32**	**229**	⇓P	**Pg**	**10 21 43.5**	**+0.1**
HNKL				S	**Sg**	**10 21 59.1**	**-1.3**
SLTI	**Sal'it**	**1.44**	**357**	Pn	**Pn**	**10 21 43.9**	**-1.5**
HBST	**Basata**	**1.61**	**193**	⇑P	**Pn**	**10 21 48.0**	**+0.2**
MMLI	**Mount Malkishu**	**1.66**	**9**	Pn	**Pn**	**10 21 47.5**	**-0.9**
OFRI	**'Ofer**	**1.82**	**356**	Pn	**Pn**	**10 21 50.1**	**-0.6**
OFRI				Sn	**Sn**	**10 22 15.2**	**+0.8**
OFRI	**'Ofer**	**1.82**	**356**	Pn	**Pn**	**10 21 50.1**	**-0.6**
OFRI				Sn	**Sn**	**10 22 15.2**	**+0.7**
HDHB	**Dhahab**	**2.11**	**192**	⇓P	**Pn**	**10 21 54.5**	**-0.1**
SUZ		**2.20**	**245**	P	**Pn**	**10 21 53.7**	**-2.2**
MMA0	**Mount Meron ar**	**2.23**	**6**	Pn	**Pn**	**10 21 56.0**	**-0.2**
MMA0				Sn	**Sn**	**10 22 25.1**	**+0.8**
TR2		**2.70**	**207**	⇓P	**Pn**	**10 22 02.5**	**-0.2**
TR2				S	**Sn**	**10 22 34.4**	**-1.7**
TR1		**2.96**	**201**	P	**Pn**	**10 22 05.7**	**-0.7**

IDC 13 10:23:26.8±3.4,826S×7541W,h0km,mb3.9/3,mb1 4.0/4, mb1mx3.7/19,mbtmp3.9/4,ML4.4/1,Error ellipse: s-maj=129.3km s-min=36.6km az=34.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**15.97**	**120**	Pn	Pn	10 27 12.5	-0.3
	0.7nm,0.3s,baz=306,slow=12,SNR=14						
SIV				Lg		10 31 40.1	
	0.2nm,0.3s,baz=259,slow=23,SNR=4.0						
DBIC	**Dimbokro**	**71.89**	**80**	P	P	10 34 52.2	+0.6
	1.2nm,0.3s,baz=227,slow=7.4,SNR=7.0						
YKA	**Yellowknife Ar**	**76.72**	**342**	P	P	10 35 19.5	-0.3
	0.3nm,0.6s,baz=139,slow=6.2,SNR=7.1						
TORD	**Torodi Ar. Bea**	**79.46**	**75**	P	P	10 35 36.2	+1.2
	0.3nm,0.3s,baz=263,slow=5.3,SNR=10						
WRA	**Warramunga Arr**	**139.47**	**226**	PKP	PKPdf	10 42 57.1	+0.9
	0.4nm,0.5s,baz=118,slow=2.2,SNR=2.0						

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*IDC **13** 10:25:05.7±2.5,938S×12035E,h0km,mb3.9/3,mb1 3.9/5, mb1mx3.8/15,mbtmp3.7/5,ML3.6/2,MS3.5/1,Ms1 3.5/1, ms1mx2.5/26,Error ellipse: s-maj=178.4km s-min=25.7km az=54.0*
*ISCJB **13** 10:25:07.4±1.3,97S±03×120.1E±05,h33km,mb3.9/3, MS3.5/1,Error ellipse: s-maj=86.5km s-min=12.9km az=112.6*
ISC 13 10:25:10.3±1.3,95S±03×1203E±05,h35km,n7,σ0§64/6, mb3.9/3,MS3.5/1,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.98**	**149**	*e*P	**Pn**	**10 27 30.7**	**-0.4**
	3.4nm,0.3s						
FITZ				*e*S	Sx	10 29 14.4	
WRA	**Warramunga Arr**	**17.07**	**129**	P	**Pn**	**10 29 06.0**	**-0.1**
	0.2nm,0.3s,baz=300,slow=14,SNR=11						
WRA				S	Sx	10 32 02.0	
	0.1nm,0.3s,baz=290,slow=26,SNR=4.9						
ASAR	**Alice Springs**	**19.16**	**139**	P	**Pn**	**10 29 32.1**	**+0.5**
	0.2nm,0.3s,baz=321,slow=12,SNR=14						
ASAR				S	Sx	10 32 56.5	
	0.1nm,0.3s,baz=307,slow=21,SNR=4.4						
HNR	**Honiara**	**39.11**	**93**	LR	LR	10 49 32.4	
	comp=Z,64nm,18.1s,MS3.5,baz=178,slow=38						
SONM	**Songino Array**	**58.43**	**349**	P	**P**	**10 35 02.3**	**-0.2**
	0.3nm,0.5s,mb3.5,baz=158,slow=5.3,SNR=3.7						
MKAR	**Makanchi Array**	**65.51**	**332**	P	**P**	**10 35 50.7**	**+0.7**
	0.3nm,0.6s,mb3.5,baz=155,slow=6.0,SNR=4.2						
ZAL	**Zalesovo**	**69.99**	**339**	P	**P**	**10 36 17.6**	**-0.6**
	2.0nm,0.3s,mb4.6,baz=50,slow=3.1,SNR=4.1						

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*NEIC **13** 10:31:42.9±0.7,859S×12277E,h15km,mb4.3/1,Error ellipse: s-maj=21.7km s-min=9.3km az=63.0*
*ISCJB **13** 10:31:44.7±4.8,88S±02×122.6E±0.1,h50km±52km, mb3.9/3,Error ellipse: s-maj=29.8km s-min=24.0km az=0.5*

*IDC **13** 10:31:52.7±4.3, 870S×12282E, h105km±33km, mb3.5/3, mb1 3.8/4, mb1mx3.6/14, mbtmp4.0/4, Error ellipse: s-maj=193.6km s-min=27.3km az=61.0*

ISC 13 10:31:49.4±2.6, 89S±02×1226E±01, h79km±30km, n12, σ1°11/12, mb3.8/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.63**	**162**	*e*P	**Pn**	**10 34 05.0**	**-0.1**
	8.5nm,0.3s						
FITZ				*e*S	Sx	10 35 43.4	
KAKA	**Kakadu**	**10.40**	**112**	*e*P	**Pn**	**10 34 16.6**	**+1.1**
	23nm,0.4s						
KAKA				*e*S	Sx	10 36 04.9	
MBWA	**Marble Bar**	**12.51**	**192**	*e*Pn	**Pn**	**10 34 44.1**	**-0.2**
WRA	**Warramunga Arr**	**15.81**	**135**	P	**Pn**	**10 35 25.1**	**-2.2**
	0.9nm,0.3s,baz=309,slow=13,SNR=33						
WRA				S	Sx	10 38 10.5	
	1.1nm,0.3s,baz=299,slow=23,SNR=6.9						
WRAB	**Tennant Creek**	**15.81**	**135**	*e*P	**Pn**	**10 35 26.0**	**-1.3**
	20nm,0.9s						
WRAB				*e*S	Sx	10 38 07.6	
WB2	**Warramunga Arr**	**15.82**	**135**	*e*P	**Pn**	**10 35 25.8**	**-1.6**
WB2				*e*S	Sx	10 38 09.8	
ASPA	**Alice Springs**	**18.26**	**145**	*e*P	**Pn**	**10 35 58.7**	**+1.4**
ASPA				*e*S	Sx	10 39 08.2	
AS31	**Alice Springs**	**18.26**	**145**	*e*P	**Pn**	**10 35 58.7**	**+1.4**
AS31				*e*S	Sx	10 39 08.2	
ASAR	**Alice Springs**	**18.26**	**145**	P	**Pn**	**10 35 58.5**	**+1.1**
	1.4nm,0.3s,baz=318,slow=12,SNR=67						
ASAR				S	Sx	10 39 09.2	
	0.6nm,0.3s,baz=317,slow=23,SNR=7.1						
ASAR				ScP	ScP	10 43 51.8	-2.1
	0.1nm,0.3s,baz=331,slow=1.8,SNR=6.0						
SONM	**Songino Array**	**58.26**	**347**	P	**P**	**10 41 35.6**	**-0.1**
	0.5nm,0.8s,mb3.6,baz=148,slow=6.8,SNR=3.3						
MKAR	**Makanchi Array**	**66.02**	**331**	P	**P**	**10 42 28.1**	**+0.5**
	0.6nm,0.5s,mb3.7,baz=142,slow=6.1,SNR=10						
ZAL	**Zalesovo**	**70.24**	**337**	P	**P**	**10 42 53.5**	**-0.5**
	1.0nm,0.4s,mb4.0,baz=343,slow=7.1						

*ISCJB **13** 11:02:13.4±0.5, 3999S±003×17693E±006, h60km±4km, mb4.7/5, MS3.9/2, Error ellipse: s-maj=8.0km s-min=3.5km az=38.5*

*WEL **13** 11:02:16.1±0.2, 3990S×17680E, h47km±1km, ML4.6/22, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, intensity MM 5.*

WEL Felt between King Country, Marlborough and Hawke's Bay, maximum reported.

*NEIC **13** 11:02:16.1, 3990S×17683E, h47km, mb4.3/1, ML4.7(WEL), After WEL.*

NEIC Felt in the Hawke's Bay area.

*IDC **13** 11:02:16.1±3.1, 3980S×17666E, h40km±24km, mb4.3/3, mb1 4.4/4, mb1mx4.2/11, mbtmp4.4/4, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/20, Error ellipse: s-maj=31.6km s-min=20.6km az=135.0*

*BJI **13** 11:02:16.1, 3990S×17680E, h47km, mB5.7, mb5.2, Ms5.0, Msz4.7*

ISC 13 11:02:14.3±0.5, 3999S±002×17693E±006, h48km±5km, h44km±1.5km: pP-P, n141, σ0°96/135, mb4.7/5, MS3.9/2, 22C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.07**	**230**	PN	**Pn**	**11 02 24.1**	**+2.4**
PXZ				SN	**Sn**	**11 02 29.8**	**+2.9**
TSZ	**Takapari Road**	**0.74**	**264**	PN	**Pn**	**11 02 28.9**	**+0.3**
TSZ				SN	**Sn**	**11 02 38.2**	**-0.7**
TSZ	**Takapari Road**	**0.74**	**264**	P	**Pn**	**11 02 28.9**	**+0.3**
TSZ				S	**Sn**	**11 02 39.5**	**+0.6**
BFZ	**Birch Farm**	**0.86**	**217**	PN	**Pn**	**11 02 32.6**	**+2.4**
BFZ				SN	**Sn**	**11 02 45.3**	**+3.6**
BFZ	**Birch Farm**	**0.86**	**217**	P	**Pn**	**11 02 32.6**	**+2.4**
BKZ	**Black Stump Fm**	**0.89**	**338**	PN	**Pn**	**11 02 30.0**	**-0.4**
BKZ				SN	**Sn**	**11 02 40.1**	**-2.2**
BKZ	**Black Stump Fm**	**0.89**	**338**	P	**Pn**	**11 02 30.0**	**-0.5**
MOVZ	**Moawhango**	**1.08**	**302**	PN	**Pn**	**11 02 32.9**	**-0.2**
MOVZ	**Moawhango**	**1.08**	**302**	P	**Pn**	**11 02 32.8**	**-0.2**
KNZ	**Kokohu**	**1.13**	**31**	PN	**Pn**	**11 02 34.9**	**+1.2**
KNZ	**Kokohu**	**1.13**	**31**	P	**Pn**	**11 02 34.9**	**+1.2**
TUVZ	**Tukino**	**1.22**	**306**	PN	**Pn**	**11 02 35.2**	**+0.3**
TUVZ	**Tukino**	**1.22**	**306**	P	**Pn**	**11 02 35.2**	**+0.2**
WNVZ	**Wahianoa**	**1.22**	**302**	⇑PN	**Pn**	**11 02 35.2**	**+0.2**
WNVZ	**Wahianoa**	**1.22**	**302**	P	**Pn**	**11 02 35.2**	**+0.2**
MRZ	**Mangatainoka R**	**1.23**	**236**	PN	**Pn**	**11 02 36.3**	**+1.2**
MRZ				SN	**Sn**	**11 02 51.4**	**+0.8**
TRVZ	**Turoa**	**1.27**	**302**	PN	**Pn**	**11 02 35.7**	**+0.1**
DRZ	**Dome Shelter**	**1.27**	**304**	P	**Pn**	**11 02 36.2**	**+0.5**
HATZ	**Hinemaiaia**	**1.27**	**329**	⇑PN	**Pn**	**11 02 35.6**	**-0.1**
HATZ	**Hinemaiaia**	**1.27**	**329**	P	**Pn**	**11 02 35.6**	**-0.1**
MTVZ	**Mangateitei**	**1.28**	**298**	PN	**Pn**	**11 02 35.9**	**+0.2**
OTVZ	**Oturere**	**1.28**	**310**	⇑PN	**Pn**	**11 02 35.8**	**0.0**
FWVZ	**Far West T-bar**	**1.29**	**304**	⇓PN	**Pn**	**11 02 35.9**	**0.0**
FWVZ	**Far West T-bar**	**1.29**	**304**	P	**Pn**	**11 02 35.9**	**0.0**
RITZ	**Rihia Road**	**1.30**	**320**	PN	**Pn**	**11 02 36.2**	**+0.1**
RITZ	**Rihia Road**	**1.30**	**320**	P	**Pn**	**11 02 36.3**	**+0.2**
NGZ	**Ngauruhoe**	**1.31**	**308**	⇑PN	**Pn**	**11 02 36.1**	**0.0**
NGZ	**Ngauruhoe**	**1.31**	**308**	P	**Pn**	**11 02 36.1**	**-0.1**
WPVZ	**Whakapapa**	**1.32**	**306**	PN	**Pn**	**11 02 36.3**	**-0.1**
WPVZ	**Whakapapa**	**1.32**	**306**	P	**Pn**	**11 02 36.3**	**-0.1**
KRVZ	**Karewarewa**	**1.34**	**312**	⇑PN	**Pn**	**11 02 36.4**	**-0.1**
WTVZ	**West Tongariro**	**1.35**	**310**	⇑PN	**Pn**	**11 02 36.6**	**-0.2**
WTVZ	**West Tongariro**	**1.35**	**310**	P	**Pn**	**11 02 36.6**	**-0.2**
KATZ	**Kakaramea**	**1.39**	**316**	PN	**Pn**	**11 02 37.2**	**-0.1**
KATZ	**Kakaramea**	**1.39**	**316**	P	**Pn**	**11 02 37.2**	**-0.1**
PKVZ	**Pokaka**	**1.41**	**299**	PN	**Pn**	**11 02 37.4**	**-0.1**
RATZ	**Rangitukua**	**1.43**	**321**	⇑PN	**Pn**	**11 02 37.6**	**-0.3**
RATZ	**Rangitukua**	**1.43**	**321**	P	**Pn**	**11 02 37.8**	**-0.1**
TWVZ	**Taurewa**	**1.47**	**308**	PN	**Pn**	**11 02 37.8**	**-0.6**
TWVZ	**Taurewa**	**1.47**	**308**	P	**Pn**	**11 02 37.9**	**-0.5**
WAZ	**Wanganui**	**1.51**	**278**	⇑PN	**Pn**	**11 02 40.3**	**+1.3**
WAZ	**Wanganui**	**1.51**	**278**	P	**Pn**	**11 02 40.3**	**+1.3**
WHTZ	**Whakaora**	**1.52**	**330**	PN	**Pn**	**11 02 39.0**	**0.0**
WHTZ	**Whakaora**	**1.52**	**330**	P	**Pn**	**11 02 39.0**	**-0.1**
WATZ	**Wairara**	**1.58**	**324**	⇑PN	**Pn**	**11 02 39.2**	**-0.7**
WATZ	**Wairara**	**1.58**	**324**	P	**Pn**	**11 02 39.2**	**-0.7**
MTW	**Mount Morrison**	**1.59**	**222**	⇑PN	**Pn**	**11 02 41.0**	**+0.9**
MTW	**Mount Morrison**	**1.59**	**222**	P	**Pn**	**11 02 41.0**	**+0.9**
TRWZ	**Traveller**	**1.69**	**213**	⇑PN	**Pn**	**11 02 42.6**	**+1.1**
MWZ	**Matawai**	**1.72**	**16**	⇑PN	**Pn**	**11 02 42.0**	**+0.2**
MWZ				SN	**Sn**	**11 03 02.3**	**-0.2**
URZ	**Urewera**	**1.73**	**5**	Pn	**Pn**	**11 02 41.7**	**-0.3**
	289nm,0.3s,baz=225,slow=6.1,SNR=1907						
URZ				Sn	**Sn**	**11 03 01.5**	**-1.4**
	283nm,0.3s,baz=108,slow=20,SNR=19						
URZ	**Urewera**	**1.73**	**5**	⇑PN	**Pn**	**11 02 41.7**	**-0.3**
URZ				SN	**Sn**	**11 03 01.0**	**-1.9**
URZ	**Urewera**	**1.73**	**5**	P	**Pn**	**11 02 41.7**	**-0.3**
KIW	**Kapiti Island**	**1.77**	**240**	PN	**Pn**	**11 02 43.3**	**+0.8**
KIW	**Kapiti Island**	**1.77**	**240**	P	**Pn**	**11 02 43.3**	**+0.8**
PAWZ	**Paruwai Farm**	**1.80**	**219**	⇑PN	**Pn**	**11 02 43.7**	**+0.8**
PAWZ	**Paruwai Farm**	**1.80**	**219**	P	**Pn**	**11 02 43.7**	**+0.8**
CAW	**Cannon Point**	**1.81**	**231**	⇑PN	**Pn**	**11 02 43.5**	**+0.6**
CAW	**Cannon Point**	**1.81**	**231**	P	**Pn**	**11 02 43.6**	**+0.6**
VRZ	**Vera Road**	**1.89**	**297**	PN	**Pn**	**11 02 44.3**	**+0.2**
VRZ	**Vera Road**	**1.89**	**297**	P	**Pn**	**11 02 44.3**	**+0.2**
UTU	**Utuhina**	**1.90**	**342**	⇑PN	**Pn**	**11 02 44.1**	**-0.1**
MSWZ	**Moikau Station**	**1.91**	**221**	⇑PN	**Pn**	**11 02 44.8**	**+0.4**
MARZ	**Manawahe**	**2.01**	**354**	PN	**Pn**	**11 02 45.4**	**-0.4**
MARZ	**Manawahe**	**2.01**	**354**	P	**Pn**	**11 02 45.4**	**-0.4**
LIRZ	**Lichensteins R**	**2.03**	**348**	⇑PN	**Pn**	**11 02 45.6**	**-0.4**
LIRZ	**Lichensteins R**	**2.03**	**348**	P	**Pn**	**11 02 45.6**	**-0.4**
RAEZ	**Rainy Point**	**2.08**	**289**	P	**Pn**	**11 02 48.0**	**+1.3**
WEL	**Wellington**	**2.09**	**231**	PN	**Pn**	**11 02 47.3**	**+0.4**
WEL	**Wellington**	**2.09**	**231**	P	**Pn**	**11 02 47.3**	**+0.4**
MRW	**Makara Radio**	**2.10**	**233**	PN	**Pn**	**11 02 47.1**	**+0.1**
MRW	**Makara Radio**	**2.10**	**233**	P	**Pn**	**11 02 47.2**	**+0.2**
BHW	**Baring Head**	**2.11**	**227**	PN	**Pn**	**11 02 47.2**	**0.0**
BHW	**Baring Head**	**2.11**	**227**	P	**Pn**	**11 02 46.2**	**-1.0**
SNZO	**South Karori**	**2.14**	**231**	⇑PN	**Pn**	**11 02 47.7**	**+0.1**
SNZO	**South Karori**	**2.14**	**231**	P	**Pn**	**11 02 47.7**	**+0.1**
PUZ	**Puketiti**	**2.18**	**29**	⇑PN	**Pn**	**11 02 48.1**	**+0.1**
PUZ	**Puketiti**	**2.18**	**29**	P	**Pn**	**11 02 48.1**	**0.0**
HIZ	**Hauiti**	**2.18**	**312**	⇑PN	**Pn**	**11 02 47.3**	**-0.8**
HIZ	**Hauiti**	**2.18**	**312**	P	**Pn**	**11 02 47.4**	**-0.7**
NEZ	**North Egmont**	**2.30**	**287**	P	**Pn**	**11 02 51.3**	**+1.5**
TGRZ	**Tauranga**	**2.31**	**347**	⇑PN	**Pn**	**11 02 49.3**	**-0.6**
TGRZ	**Tauranga**	**2.31**	**347**	P	**Pn**	**11 02 49.3**	**-0.7**
TCW	**Tory Channel**	**2.36**	**238**	PN	**Pn**	**11 02 50.5**	**0.0**
TCW	**Tory Channel**	**2.36**	**238**	P	**Pn**	**11 02 50.6**	**0.0**
NRZ	**Ngariki Road**	**2.40**	**285**	P	**Pn**	**11 02 53.0**	**+1.9**
PKE	**Pukeiti**	**2.41**	**288**	P	**Pn**	**11 02 51.6**	**+0.4**
NWEZ	**Newall Road**	**2.47**	**286**	P	**Pn**	**11 02 54.2**	**+2.1**
TOZ	**Tahuroa Road**	**2.52**	**333**	PN	**Pn**	**11 02 52.2**	**-0.5**
TOZ	**Tahuroa Road**	**2.52**	**333**	P	**Pn**	**11 02 52.1**	**-0.6**
MXZ	**Matakaoa Point**	**2.65**	**24**	P	**Pn**	**11 02 55.2**	**+0.6**
CMWZ	**Cape Campbell**	**2.71**	**229**	P	**Pn**	**11 02 54.9**	**-0.4**
BSWZ	**Blackbirch Sta**	**2.89**	**232**	P	**Pn**	**11 02 56.4**	**-1.4**
NNZ	**Nelson**	**2.97**	**244**	P	**Pn**	**11 02 58.6**	**-0.3**
MKAZ	**Moumakai**	**3.19**	**334**	P	**Pn**	**11 03 01.5**	**-0.4**
KUZ	**Kuaotunu**	**3.37**	**343**	P	**Pn**	**11 03 04.4**	**-0.1**
OTAZ	**Otara**	**3.42**	**332**	P	**Pn**	**11 03 05.0**	**-0.1**
KHZ	**Kahutara**	**3.52**	**225**	*e*P	**Pn**	**11 03 05.4**	**-1.1**
THZ	**Tophouse**	**3.53**	**239**	P	**Pn**	**11 03 05.8**	**-0.8**
WTAZ	**Waiatarua**	**3.57**	**328**	P	**Pn**	**11 03 07.5**	**+0.4**
MTAZ	**Motutapu**	**3.57**	**333**	P	**Pn**	**11 03 07.3**	**+0.1**
KAAZ	**Kauri Point**	**3.61**	**330**	P	**Pn**	**11 03 07.6**	**-0.1**
DSZ	**Denniston Nort**	**4.26**	**244**	P	**Pn**	**11 03 15.9**	**-0.8**
LTZ	**Lake Taylor**	**4.48**	**230**	P	**Pn**	**11 03 18.1**	**-1.6**
CRLZ	**Canterbury Las**	**4.82**	**221**	*e*P	**Pn**	**11 03 24.1**	**-0.2**
MQZ	**McQueen's Vall**	**4.90**	**219**	*e*P	**Pn**	**11 03 24.5**	**-0.9**
WVZ	**Waitaha Valley**	**5.58**	**234**	*e*P	**Pn**	**11 03 33.0**	**-1.7**
RPZ	**Rata Peaks**	**5.75**	**228**	Pn	**Pn**	**11 03 36.6**	**-0.5**
	4.7nm,0.3s,baz=83,slow=2.9,SNR=26						
RPZ				Sn	**Sn**	**11 04 36.2**	**-5.6**
	37nm,0.3s,baz=6.5,slow=22,SNR=36						
RPZ	**Rata Peaks**	**5.75**	**228**	*e*P	**Pn**	**11 03 35.9**	**-1.2**
FOZ	**Fox Glacier**	**6.48**	**234**	*e*P	**Pn**	**11 03 44.3**	**-2.8**
LBZ	**Lake Benmore**	**6.66**	**227**	*e*P	**Pn**	**11 03 47.7**	**-1.9**
ODZ	**Otahua Downs**	**6.86**	**221**	*e*P	**Pn**	**11 03 50.8**	**-1.5**
JCZ	**Jackson Bay**	**7.32**	**233**	*e*P	**Pn**	**11 03 56.7**	**-2.0**
WKZ	**Wanaka**	**7.59**	**228**	*e*P	**Pn**	**11 04 00.4**	**-1.9**
EAZ	**Earnscleugh**	**7.68**	**225**	*e*P	**Pn**	**11 04 02.3**	**-1.3**
TUZ	**Tuapeka**	**8.01**	**219**	*e*P	**Pn**	**11 04 07.2**	**-0.8**
DZM	**Mont Dzumac**	**19.97**	**330**	LR	LR	11 13 12.2	
	comp=Z,215nm,21.9s,baz=211,slow=33						
STKA	**Stephens Creek**	**29.58**	**275**	*e*P	**P**	**11 08 15.2**	**+0.5**
	3.7nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**29.58**	**275**	P	**P**	**11 08 15.5**	**+0.8**
	4.4nm,0.6s,mb4.4,baz=108,slow=10,SNR=13						
TBI	**Tubuai**	**32.83**	**70**	*e*LR	LR	11 17 27.8	
	56nm,23.5s						
TBI	**Tubuai**	**32.83**	**70**	*e*T		11 43 12.1	
	7.0nm,0.3s						
PAE	**Paea**	**36.49**	**62**	*e*T		11 47 46.7	
	9.1nm,0.3s						
PPT	**Papeete**	**36.56**	**62**	*e*LR	LR	11 19 10.7	
	76nm,27.8s						
PPT	**Papeete**	**36.56**	**62**	LR	LR	11 22 23.3	
	comp=Z,58nm,18.8s,MS3.4,baz=218,slow=33						
AS31	**Alice Springs**	**39.60**	**281**	*e*P	**P**	**11 09 42.1**	**+1.0**
AS31				*e*	pP	11 09 53.3	-0.5
ASAR	**Alice Springs**	**39.60**	**281**	P	**P**	**11 09 42.0**	**+1.0**
	5.7nm,0.9s,mb4.3,baz=115,slow=6.3,SNR=68						
ASAR				PcP	PcP	11 11 48.9	+1.4
	0.4nm,0.6s,baz=127,slow=3.2,SNR=2.8						
ASPA	**Alice Springs**	**39.60**	**281**	*e*P	**P**	**11 09 42.1**	**+1.0**
ASPA				*e*	pP	11 09 53.3	-0.5
WB2	**Warramunga Arr**	**41.47**	**286**	*e*P	**P**	**11 09 57.3**	**+0.8**
WRA	**Warramunga Arr**	**41.48**	**286**	P	**P**	**11 09 57.5**	**+0.9**
	3.9nm,0.6s,mb4.2,baz=125,slow=7.9,SNR=73						
RKT	**Rikitea**	**43.76**	**82**	*e*LR	LR	11 22 31.0	
	60nm,26.8s						
NJ2	**Nanjing**	**89.60**	**314**	*e*P	**P**	**11 15 07.3**	**+0.5**
NJ2				AP	pP	11 15 20.8	-0.1
NJ2				XP	sP	11 15 25.9	-0.3
NJ2				PP	PP	11 18 41.0	+2.1
NJ2				S		11 25 50.0	
NJ2				XS	sS	11 26 13.0	-4.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,110nm,11.2s						
NJ2				LR	LR		
	comp=N,700nm,15.4s						
NJ2				LR	LR		
	comp=E,730nm,28.4s						
NJ2				LR	LR		
	comp=Z,160nm,17.4s,MS4.5						
CD2	**Chengdu**	**97.82**	**304**	*e*P	**P**	**11 15 48.4**	**+3.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.4						
CD2				AMB	AMB		
	comp=Z,50nm,7.2s						
YKA	**Yellowknife Ar**	**115.85**	**29**	PKP	PKPdf	11 20 52.5	+0.9
	comp=Z,0.2nm,0.7s,baz=248,slow=0.9,SNR=5.5						
YKA	**Yellowknife Ar**	**115.85**	**29**	PKP	PKPdf	11 20 52.5	+0.9
MKAR	**Makanchi Array**	**120.52**	**307**	PKP	PKPdf	11 21 00.8	+0.2
	comp=Z,0.1nm,0.4s,baz=45,slow=0.4,SNR=5.1						
ARCES	**ARCESS Array B**	**146.77**	**342**	PKPbc	PKPbc	11 21 51.9	+0.9
	comp=Z,4.5nm,0.7s,baz=97,slow=1.5,SNR=11						
ARCES	**ARCESS Array B**	**146.77**	**342**	PKPbc	PKPbc	11 21 51.9	+0.9
BRTR	**Keskin Array B**	**151.94**	**281**	PKPbc	PKPbc	11 22 06.1	+2.1
	comp=Z,2.9nm,0.9s,baz=152,slow=6.1,SNR=9.4						
FINES	**FINESS Array B**	**152.10**	**330**	PKPbc	PKPbc	11 22 04.2	-0.1
	comp=Z,2.1nm,0.8s,baz=85,slow=4.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**152.94**	**190**	PKPbc	PKPbc	11 22 09.6	+3.3
	comp=Z,1.2nm,0.8s,baz=166,slow=0.8,SNR=6.9						
TORD				PKPab	PKPab	11 22 22.4	+4.8
	comp=Z,1.3nm,0.5s,baz=164,slow=3.3,SNR=20						
AKASG	**Malin Array Be**	**155.09**	**306**	PKPbc	PKPdf	11 22 12.0	+10
	comp=Z,0.1nm,0.3s,baz=34,slow=1.1,SNR=2.4						
AKASG				PKPab	PKPab	11 22 26.4	-0.3
	comp=Z,1.2nm,0.7s,baz=61,slow=3.4,SNR=4.4						

*INMG **13** 11:33:21.8±1.1, 3694N×499W, h1km±3km, ML3.0, Error ellipse: s-maj=2.1km s-min=1.4km az=24.0*

*IGIL **13** 11:33:22.5, 3690N×500W, h1km, ML3.3*

*CSEM **13** 11:33:22.6±0.1, 3700N×500W, h5km, ML3.6/11, Error ellipse: s-maj=1.6km s-min=0.9km az=4.0*

*NEIC **13** 11:33:22.6, 3692N×494W, h10km, MN3.1(MDD), After MDD.*

NEIC Felt [II] at Almargen and Canete la Real, Spain.

*SFS **13** 11:33:22.0, 3692N×499W, h0km, ML2.6*

MDD 13 11:33:22.6±0.2, 3692N×494W, h10km, mbLg3.1/33, 9C-3D, Error ellipse: s-maj=2.0km s-min=1.6km az=0.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.37**	**268**	P	Pg	11 33 28.2	-1.7
LIJA				S	Sg	11 33 36.0	+1.1
LIJA	**Lijar**	**0.37**	**268**	*i* P	Pg	11 33 28.2	-1.7
EMIJ	**Mijas**	**0.38**	**159**	⇑Pg	Pg	11 33 29.4	-0.7
	112nm,0.2s,SNR=18						
EMIJ				Lg		11 33 35.0	
	1μm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**0.38**	**159**	Pg	Pg	11 33 29.4	-0.7
EMIJ				Lg		11 33 35.4	
EMAL	**Malaga-Limoner**	**0.44**	**111**	Pg	Pg	11 33 30.1	-1.1
	19nm,0.2s,SNR=7.9						
EMAL				Lg		11 33 35.5	
	157nm,0.4s,SNR=7.9						
REAL	**Reales**	**0.48**	**206**	P	Pg	11 33 31.2	-0.8
REAL				S	Sg	11 33 40.0	+1.5
EJIF	**Jimena Fronter**	**0.63**	**222**	⇑Pg	Pg	11 33 34.8	0.0
	101nm,0.5s,SNR=18						
EJIF				Lg		11 33 44.1	
	159nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.63**	**222**	Pg	Pg	11 33 35.1	+0.2
EJIF				Lg		11 33 44.6	
ELOJ	**Sierra Loja**	**0.67**	**70**	⇑Pg	Pg	11 33 35.0	-0.5
	80nm,0.4s,SNR=62						
ELOJ				Lg		11 33 44.8	
	144nm,0.4s,SNR=4.0						
ELOJ	**Sierra Loja**	**0.67**	**70**	Pg	Pg	11 33 35.1	-0.5
ELOJ	**Sierra Loja**	**0.67**	**70**	Pg	Pg	11 33 35.1	-0.4
ELOJ				Lg		11 33 46.6	
ESPR	**Espera**	**0.74**	**266**	⇑Pg	Pg	11 33 36.9	+0.1
	87nm,0.3s,SNR=18						
ESPR				Lg		11 33 45.2	
	218nm,0.2s,SNR=7.9						
ESPR	**Espera**	**0.74**	**266**	Pg	Pg	11 33 36.6	-0.2
ESPR	**Espera**	**0.74**	**266**	Pg	Pg	11 33 36.6	-0.2
ESPR				Lg		11 33 49.1	
GIBL	**Gibalbin**	**0.83**	**264**	P	Pg	11 33 39.2	+0.7
GIBL	**Gibalbin**	**0.83**	**264**	*e*P	Pg	11 33 39.2	+0.6
ELUQ	**Luque**	**0.84**	**40**	Pg	Pg	11 33 38.3	-0.4
	99nm,0.2s,SNR=37						
ELUQ				Lg		11 33 49.8	
	165nm,0.2s,SNR=14						
ELUQ	**Luque**	**0.84**	**40**	Pg	Pg	11 33 38.3	-0.4
ELUQ				Lg		11 33 49.9	
MOMI	**Momias**	**0.86**	**227**	*e*P	Pg	11 33 43.0	+3.8
ERON	**Agron**	**0.91**	**83**	Pg	Pg	11 33 39.8	-0.4
	75nm,0.3s,SNR=23						
ERON				Lg		11 33 52.2	
	79nm,0.3s,SNR=20						
ERON	**Agron**	**0.91**	**83**	Pg	Pg	11 33 39.4	-0.8
ERON				Lg		11 33 53.1	
SCRT	**Cerro San Cris**	**1.03**	**254**	*i* P	Pg	11 33 44.0	+1.6
EGUA	**Guajares**	**1.11**	**94**	Pg	Pg	11 33 43.1	-0.7
	12nm,0.4s,SNR=7.9						
EGUA				Lg		11 33 57.9	
	10.0nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**1.11**	**94**	Pg	Pg	11 33 43.1	-0.7
EGUA				Lg		11 34 00.5	
ECOG	**Cogollos-Vega**	**1.16**	**72**	⇑Pg	Pg	11 33 44.5	-0.3
	48nm,0.2s,SNR=18						
ECOG				Lg		11 34 02.3	
	83nm,0.2s,SNR=5.2						
ECOG	**Cogollos-Vega**	**1.16**	**72**	Pg	Pg	11 33 44.5	-0.3
ECOG				Lg		11 34 02.7	
ECAB	**El Cabril**	**1.22**	**342**	⇑Pg	Pg	11 33 43.3	-2.7
	107nm,0.3s,SNR=18						
ECAB				Lg		11 34 00.1	
	337nm,0.4s,SNR=19						
ECAB	**El Cabril**	**1.22**	**342**	Pg	Pg	11 33 43.3	-2.7
	107nm,0.3s,SNR=18						
ECAB	**El Cabril**	**1.22**	**342**	Pg	Pg	11 33 43.7	-2.3
ECAB				Lg		11 34 01.1	
EQUE	**Quentar**	**1.23**	**76**	⇓Pg	Pg	11 33 45.6	-0.6
	57nm,0.3s,SNR=18						
EQUE				Lg		11 34 04.8	
	120nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.28**	**13**	⇑Pg	Pg	11 33 45.0	-2.2
	76nm,0.2s,SNR=18						
EADA				Sn	Sn	11 34 00.9	-2.7
	37nm,0.2s,SNR=5.6						
EADA				Lg		11 34 02.8	
	278nm,0.3s,SNR=26						
EADA	**Adamuz**	**1.28**	**13**	Pg	Pg	11 33 45.0	-2.2
	76nm,0.2s,SNR=18						
EADA				Sn	Sn	11 34 00.9	-2.8
	37nm,0.2s,SNR=5.6						
EADA	**Adamuz**	**1.28**	**13**	Pn	Pn	11 33 45.0	-1.5
EADA				Lg		11 34 03.1	
EBAN	**Banos Encina**	**1.54**	**36**	Pn	Pn	11 33 49.0	-1.1
	51nm,0.3s,SNR=38						
EBAN				Sn	Sn	11 34 08.5	-1.7
	80nm,0.3s,SNR=45						
EBAN				Lg		11 34 10.6	
	498nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**1.54**	**36**	Pn	Pn	11 33 49.0	-1.1
	51nm,0.3s,SNR=38						
EBAN				Sn	Sn	11 34 08.5	-1.7
	80nm,0.3s,SNR=45						
EBAN	**Banos Encina**	**1.54**	**36**	Pn	Pn	11 33 49.0	-1.1
EBAN				Lg		11 34 10.9	
EMIN	**Mina Concepcio**	**1.62**	**302**	⇑Pn	Pn	11 33 49.2	-2.0
	3.5nm,0.2s,SNR=44						
EMIN				Pg	Pg	11 33 52.0	-1.7
	27nm,0.2s,SNR=7.1		

ESLA	**Sonseca Array**	**2.86**	**15**	*e*Pn	Pn	11 34 07.3	-0.8
ESLA				*e*S	Sn	11 34 47.3	+4.7
PTEO	**Sao Teotonio**	**3.08**	**283**	*e*Pn	Pn	11 34 09.9	-1.4
PTEO				*e*Sn	Sn	11 34 46.2	-2.0
PTEO				*e*Sg	Sg	11 34 58.8	-2.9
PTEO							
	67nm,0.6s						
PTEO	**Sao Teotonio**	**3.08**	**283**	*e*Pn	Pn	11 34 09.9	-1.4
PTEO				*e*Sn	Sn	11 34 46.2	-2.0
PTEO				*e*Sg	Sg	11 34 58.8	-2.9
	67nm,0.6s						
EMUR	**La Murta**	**3.09**	**72**	Pg	Pg	11 34 20.4	-1.4
	13nm,0.3s,SNR=6.8						
EMUR				Lg		11 35 01.0	
	36nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**3.09**	**72**	Pg	Pg	11 34 22.2	+0.4
	13nm,0.3s,SNR=6.8						
MOE	**Montemor**	**3.14**	**302**	*e*Pn	Pn	11 34 11.6	-0.5
MOE				*e*Sn	Sn	11 34 48.6	-1.0
MOE				*e*Sg	Sg	11 35 01.9	-1.6
ETOB	**Tobarra**	**3.19**	**56**	Pn	Pn	11 34 12.1	-0.7
	2.9nm,0.1s,SNR=9.7						
ETOB				Pg	Pg	11 34 21.8	-1.9
	4.6nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	11 34 49.0	-1.9
	5.0nm,0.3s,SNR=7.9						
ETOB				Lg		11 35 03.9	
	84nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**3.19**	**56**	Pn	Pn	11 34 12.3	-0.5
ETOB	**Tobarra**	**3.19**	**56**	Pg	Pg	11 34 21.8	-2.0
	4.6nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	11 34 49.0	-1.9
	5.0nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.19**	**56**	Pn	Pn	11 34 12.3	-0.5
ETOB				Pg	Pg	11 34 21.8	-1.9
ETOB				Sn	Sn	11 34 49.4	-1.5
ETOB				Lg		11 35 06.4	
PCBR	**Castelo Branco**	**3.53**	**326**	*e*Pn	Pn	11 34 16.5	-1.0
PCBR				*e*Sn	Sn	11 34 54.9	-4.4
PCBR				*e*Sg	Sg	11 35 13.4	-2.7
PCBR							
	29nm,0.3s						
PCBR	**Castelo Branco**	**3.53**	**326**	*e*Pn	Pn	11 34 16.5	-1.0
PCBR				*e*Sn	Sn	11 34 54.9	-4.4
PCBR				*e*Sg	Sg	11 35 13.4	-2.7
	29nm,0.3s						
ALMR	**Almeirim**	**3.64**	**309**	*e*P	Pn	11 34 17.8	-1.2
ALMR				*e*S	Sn	11 34 58.1	-3.7
ALMR				*e*S	Sn	11 34 58.1	-3.7
ALMR				AML	AML	11 35 04.5	
	comp=N,74nm,0.5s						
ALMR	**Almeirim**	**3.64**	**309**	P	Pn	11 34 17.8	-1.2
ALMR				S	Sn	11 34 58.1	-3.7
ALMR	**Almeirim**	**3.64**	**309**	*e*P	Pn	11 34 17.8	-1.1
ALMR				*e*S	Sn	11 34 58.1	-3.7
GUD	**Guadarrama**	**3.77**	**9**	⇓Pn	Pn	11 34 20.1	-0.6
	comp=N,4.9nm,0.3s,SNR=18						
GUD				Pg	Pg	11 34 32.0	-2.8
	comp=N,3.7nm,0.2s,SNR=7.9						
GUD				Lg		11 35 18.7	
	comp=N,41nm,0.6s,SNR=7.8						
GUD	**Guadarrama**	**3.77**	**9**	Pg	Pg	11 34 32.0	-2.8
	comp=N,3.7nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.77**	**9**	Pn	Pn	11 34 20.1	-0.6
GUD				Pg	Pg	11 34 32.0	-2.8
GUD				Lg		11 35 23.7	
PTOM	**Tomar**	**3.84**	**316**	*e*Pn	Pn	11 34 20.3	-1.3
PTOM				*e*Sn	Sn	11 35 03.1	-3.7
PTOM				*e*Sg	Sg	11 35 22.7	-3.1
PTOM							
	comp=N,44nm,0.4s						
PTOM	**Tomar**	**3.84**	**316**	*e*Pn	Pn	11 34 20.3	-1.3
PTOM				*e*Sn	Sn	11 35 03.1	-3.7
PTOM				*e*Sg	Sg	11 35 22.7	-3.1
	comp=N,44nm,0.4s						
MTE	**Manteigas**	**4.03**	**330**	*e*Pn	Pn	11 34 23.8	-0.5
MTE				*e*Sn	Sn	11 35 08.2	-3.3
MTE				*e*Sg	Sg	11 35 26.5	-5.5
MTE							
	comp=N,52nm,0.5s						
MTE	**Manteigas**	**4.03**	**330**	*e*Pn	Pn	11 34 23.8	-0.5
MTE				*e*Sn	Sn	11 35 08.2	-3.3
MTE				*e*Sg	Sg	11 35 26.5	-5.5
	comp=N,52nm,0.5s						
ECHE	**Chera**	**4.11**	**48**	Pn	Pn	11 34 24.7	-0.7
	comp=N,1.7nm,0.3s,SNR=7.9						
ECHE				Lg		11 35 33.9	
	comp=N,13nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.14**	**63**	Pn	Pn	11 34 25.3	-0.4
	comp=N,1.6nm,0.2s,SNR=7.9						
EBEN				Lg		11 35 33.4	
	comp=N,12nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**4.14**	**63**	Pn	Pn	11 34 25.3	-0.5
	comp=N,1.6nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.44**	**330**	*e*Pn	Pn	11 34 29.0	-0.9
PVIS				*e*Sn	Sn	11 35 17.6	-4.0
PVIS				*e*Sg	Sg	11 35 41.6	-3.5
PVIS							
	comp=N,22nm,0.5s						
PVIS	**Viseu**	**4.44**	**330**	Pn	Pn	11 34 29.0	-0.9
PVIS				Sn	Sn	11 35 17.6	-4.0
PVIS				Lg		11 35 41.6	
	comp=N,11nm,0.5s						
PVIS	**Viseu**	**4.44**	**330**	*e*Pn	Pn	11 34 29.0	-0.9
PVIS				*e*Sn	Sn	11 35 17.6	-4.0
PVRL	**Vila Real**	**4.86**	**334**	*e*Sn	Sn	11 35 27.5	-4.4
PVRL				*e*Sg	Sg	11 35 55.5	-3.0
PVRL							
	comp=N,13nm,0.4s						
EMOS	**Mosqueruela**	**4.91**	**44**	Pn	Pn	11 34 35.7	-0.7
	comp=N,0.4nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	11 35 29.4	-3.7
	comp=N,1.4nm,0.2s,SNR=7.9						
EMOS				Lg		11 35 55.8	
	comp=N,39nm,0.8s,SNR=7.9						
EMOS	**Mosqueruela**	**4.91**	**44**	Pn	Pn	11 34 35.7	-0.6
	comp=N,0.4nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	11 35 31.1	-2.0
EMOS	**Mosqueruela**	**4.91**	**44**	Pn	Pn	11 34 36.8	+0.4
EMOS				Sn	Sn	11 35 31.1	-2.0
EMOS				Lg		11 36 01.4	
PBRG	**Braganca**	**5.08**	**345**	*e*Pn	Pn	11 34 37.7	-1.0
PBRG				*e*Sn	Sn	11 35 32.9	-4.4
PBRG							
	comp=N,15nm,0.5s						
ECAL	**Calabor**	**5.21**	**345**	Pn	Pn	11 34 39.1	-1.4
	comp=N,3.2nm,0.2s,SNR=6.3						
ECAL				Sn	Sn	11 35 34.8	-5.7
	comp=N,9.0nm,0.3s,SNR=7.9						
ECAL				Lg		11 36 05.5	
	comp=N,60nm,0.6s,SNR=7.9						
ECAL	**Calabor**	**5.21**	**345**	Pn	Pn	11 34 39.1	-1.4
	comp=N,3.2nm,0.2s,SNR=6.3						
ECAL				Sn	Sn	11 35 36.0	-4.5
ECAL	**Calabor**	**5.21**	**345**	Pn	Pn	11 34 39.1	-1.4
ECAL				Sn	Sn	11 35 36.0	-4.5
ECAL				Lg		11 36 06.3	
ELOB	**Lobios**	**5.50**	**335**	Pn	Pn	11 34 42.9	-1.6
	comp=N,1.3nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	11 35 41.7	-6.1
	comp=N,2.6nm,0.2s,SNR=7.9						
ELOB				Lg		11 36 14.5	
	comp=N,16nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**5.50**	**335**	Pn	Pn	11 34 42.9	-1.6
	comp=N,1.3nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	11 35 43.2	-4.6
ELOB	**Lobios**	**5.50**	**335**	Pn	Pn	11 34 42.9	-1.6
ELOB				Sn	Sn	11 35 43.2	-4.6
ELOB				Lg		11 36 16.1	
ERTA	**Horta de San J**	**5.76**	**44**	Lg		11 36 21.1	
	comp=N,7.9nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**5.92**	**34**	Lg		11 36 29.7	
	comp=N,46nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**6.38**	**358**	Pn	Pn	11 34 55.3	-1.2
	comp=N,0.3nm,0.2s,SNR=4.0						
EARI				Sn	Sn	11 36 03.4	-6.0
	comp=N,2.9nm,0.5s,SNR=7.9						
EARI				Lg		11 36 44.2	
	comp=N,15nm,0.7s,SNR=7.9						
EARI	**Arriondas**	**6.38**	**358**	Pn	Pn	11 34 55.3	-1.3
	comp=N,0.3nm,0.2s,SNR=4.0						
EARI				Sn	Sn	11 36 03.4	-6.0
	comp=N,2.9nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**6.41**	**10**	Lg		11 36 47.5	
	comp=N,4.8nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**6.62**	**346**	Pn	Pn	11 34 58.8	-1.0
	comp=N,3.9nm,0.3s,SNR=7.9						
EPON				Lg		11 36 52.1	
	comp=N,8.7nm,0.6s,SNR=7.9						
EPON	**Pontenova**	**6.62**	**346**	Pn	Pn	11 34 59.9	0.0
EPON	**Pontenova**	**6.62**	**346**	Pn	Pn	11 34 59.9	0.0
EGRA	**Graus**	**6.65**	**36**	Lg		11 36 52.7	
	comp=N,3.0nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**6.77**	**334**	Lg		11 36 57.3	
	comp=N,4.5nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**6.82**	**22**	Pn	Pn	11 35 02.1	-0.5
	comp=N,1.9nm,0.3s,SNR=7.9						
EALK				Sn	Sn	11 36 12.8	-7.5
	comp=N,26nm,0.5s,SNR=7.9						
EALK				Lg		11 36 57.2	
	comp=N,13nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**6.96**	**33**	Pn	Pn	11 35 04.3	-0.3
	comp=N,0.4nm,0.1s,SNR=7.9						
EBIE				Sn	Sn	11 36 18.4	-5.4
	comp=N,4.7nm,0.6s,SNR=7.9						
EBIE				Lg		11 37 03.9	
	comp=N,5.0nm,0.5s,SNR=7.9						
EBIE	**Bielsa**	**6.96**	**33**	Pn	Pn	11 35 04.6	0.0
EBIE	**Bielsa**	**6.96**	**33**	Pn	Pn	11 35 04.6	0.0

IDC 13 11:41:04.2±1.9, 009N×12555E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, MS3.9/1, Ms1 3.9/1, ms1mx2.8/21, Error ellipse: s-maj=182.5km s-min=26.1km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.69**	**157**	P	P	11 45 55.9	-0.7
	2.8nm,0.4s,baz=335,slow=11,SNR=42						
ASAR	**Alice Springs**	**24.97**	**162**	P	P	11 46 30.4	+1.0
	0.9nm,0.3s,baz=344,slow=11,SNR=28						
DZM	**Mont Dzumac**	**45.53**	**122**	LR	LR	12 07 55.8	
	comp=Z,150nm,19.8s,baz=255,slow=35						
MKAR	**Makanchi Array**	**59.90**	**327**	P	P	11 51 11.8	+0.1
	0.5nm,0.5s,baz=116,slow=8.2,SNR=4.7						

*ISCJB **13** 12:44:53.2±2.0, 208N±02×936E±02, h104km±21km, mb3.9/9, Error ellipse: s-maj=44.3km s-min=10.3km az=93.5*
*IDC **13** 12:44:56.5±9.6, 21.11N×9431E, h105km±88km, mb3.6/8, mb1 3.8/8, mb1mx3.5/22, mbtmp3.9/8, Error ellipse: s-maj=59.6km s-min=15.4km az=56.0*
*NEIC **13** 12:44:57.9±6.0, 21.10N×9427E, h119km±55km, mb4.2/1, Error ellipse: s-maj=42.4km s-min=10.6km az=55.0*
ISC 13 12:44:53.9±1.6, 209N±02×937E±02, h85km±17km, n19, σ0:93/25, mb3.9/9, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**9.64**	**316**	*e*Pn	**Pn**	**12 47 10.5**	**+0.8**
JIRN				*e*Sn	**Sn**	**12 48 56.1**	**-0.2**
	52nm,0.5s						
GUN	**Gumba**	**10.02**	**316**	*e*Pn	**Pn**	**12 47 15.0**	**+0.2**
GUN				*e*Sn	**Sn**	**12 49 05.2**	**-0.2**
	35nm,0.4s						
PKI	**Pulchoki**	**10.11**	**313**	*e*Pn	**Pn**	**12 47 15.5**	**-0.5**
PKI				*e*Sn	**Sn**	**12 49 08.1**	**+0.5**
	37nm,0.6s						
KKN	**Kakani**	**10.34**	**314**	*e*Pn	**Pn**	**12 47 19.8**	**+0.7**
KKN				*e*Sn	**Sn**	**12 49 13.1**	**0.0**
	11nm,0.3s						
DMN	**Daman**	**10.34**	**312**	*e*Pn	**Pn**	**12 47 20.3**	**+1.1**
DMN				*e*Sn	**Sn**	**12 49 13.4**	**+0.2**
	32nm,0.6s						
GKN	**Gorkha**	**10.91**	**312**	*e*Pn	**Pn**	**12 47 27.2**	**+0.2**
GKN				*e*Sn	**Sn**	**12 49 25.7**	**-1.4**
	26nm,0.4s						
KOLN	**Koldanda**	**11.51**	**309**	*e*Pn	**Pn**	**12 47 34.7**	**-0.4**
KOLN				*e*Sn	**Sn**	**12 49 39.7**	**-2.0**
	16nm,0.3s						
MKAR	**Makanchi Array**	**27.50**	**343**	P	**P**	**12 50 32.7**	**+0.5**
	1.1nm,0.5s,mb3.6,baz=152,slow=7.9,SNR=14						
KURK	**Kurchatov**	**32.09**	**342**	*e*P	**P**	**12 51 12.9**	**+0.2**
	2.9nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**33.72**	**350**	P	**P**	**12 51 26.4**	**-0.6**
	2.1nm,0.4s,mb4.4,baz=315,slow=5.2,SNR=8.5						
AKTK	**Aktyubinsk**	**40.73**	**325**	P	**P**	**12 52 28.0**	**+1.7**
AKTO	**Aktyubinsk**	**40.73**	**325**	P	**P**	**12 52 28.0**	**+1.7**
	2.7nm,0.5s,mb4.3,baz=108,slow=6.3,SNR=8.1						
WRA	**Warramunga Arr**	**56.78**	**133**	P	**P**	**12 54 28.0**	**-1.0**
	0.5nm,0.4s,mb3.9,baz=319,slow=7.6,SNR=23						
WRAB	**Tennant Creek**	**56.78**	**133**	*e*P	**P**	**12 54 28.7**	**-0.4**
ASAR	**Alice Springs**	**59.08**	**136**	P	**P**	**12 54 45.0**	**-0.1**
	0.6nm,0.6s,mb3.8,baz=317,slow=6.7,SNR=16						
ARCES	**ARCESS Array B**	**63.04**	**339**	P	**P**	**12 55 11.7**	**-0.3**
	1.5nm,0.8s,mb4.0,baz=96,slow=8.7,SNR=3.9						
GERES	**GERESS Array B**	**68.11**	**315**	P	**P**	**12 55 45.6**	**+1.0**
	0.2nm,0.3s,mb3.4,baz=150,slow=6.2,SNR=3.9						
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**12 57 06.9**	**-2.4**
	0.3nm,0.5s,mb3.4,baz=291,slow=5.3,SNR=8.3						
SDV	**Santo Domingo**	**146.68**	**331**	PKPbc	PKPbc	13 04 27.7	+1.9
	3.6nm,0.7s,baz=12,slow=4.7,SNR=5.4						

IDC 13 12:46:39.2±3.9, 1515S×17324W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.7/4, Error ellipse: s-maj=206.8km s-min=22.6km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.88**	**49**	Pn	Pn	12 47 10.6	-1.9
	baz=39,slow=15						
AFI				Sn	Sn	12 47 28.2	-8.7
	365nm,0.3s,baz=232,slow=19,SNR=26						
WRA	**Warramunga Arr**	**50.05**	**257**	P	P	12 55 36.0	+0.4
	0.4nm,0.9s,baz=92,slow=6.8,SNR=7.3						
ASAR	**Alice Springs**	**50.34**	**252**	P	P	12 55 37.6	-0.2
	0.8nm,0.7s,baz=86,slow=8.5,SNR=10						
ILAR	**Eielson Array**	**82.17**	**11**	P	P	12 59 02.5	+0.6
	0.7nm,0.8s,baz=222,slow=5.8,SNR=5.4						
YKA	**Yellowknife Ar**	**89.81**	**23**	P	P	12 59 40.2	+0.5
	0.1nm,0.5s,baz=236,slow=4.2,SNR=6.5						

*CSEM **13** 12:55:52.0, 4299N×4667E, h18km, mb3.8, After OBN*
MOS 13 12:55:52.0±1.8, 4299N×4667E, h18km, mb3.8/1, 1C-1D, Error ellipse: s-maj=14.7km s-min=8.0km az=16.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.08**	**339**	*e*PG	Pg	12 55 54.0	-1.5
DLMR				pmax	pmax		
	comp=Z,829nm,0.3s						
DLMR	**Dylym**	**0.08**	**339**	*e*Pg	Pg	12 55 54.0	-1.5
	comp=Z,829nm,0.3s						
DBC	**Dubki**	**0.12**	**77**	*i* PG	Pg	12 55 55.5	-0.4
DBC				*i* S	Sg	12 55 59.0	+0.5
DBC				pmax	pmax		
	comp=Z,371nm,0.1s						
DBC	**Dubki**	**0.12**	**77**	*i* Pg	Pg	12 55 55.5	-0.4
	comp=Z,371nm,0.1s						
DBC				*i* Sg	Sg	12 55 59.0	+0.5
KRNR	**Karanay**	**0.24**	**134**	⇑*i*PG	Pg	12 55 59.3	+1.8
KRNR				*i* S	Sg	12 56 04.7	+3.4
KRNR				pmax	pmax		
	comp=Z,249nm,0.2s						
KRNR	**Karanay**	**0.24**	**134**	*i* Pg	Pg	12 55 59.3	+1.8
	comp=Z,249nm,0.2s						
KRNR				*i* Sg	Sg	12 56 04.7	+3.4
XNZR	**Khunzakh**	**0.45**	**177**	⇓*i*PG	Pg	12 56 01.0	-0.2
XNZR				*i* S	Sg	12 56 07.5	+0.1
XNZR				pmax	pmax		
	comp=Z,218nm,0.2s						
XNZR	**Khunzakh**	**0.45**	**177**	*i* Pg	Pg	12 56 01.0	-0.2
	comp=Z,218nm,0.2s						
XNZR				*i* Sg	Sg	12 56 07.5	+0.1
MAK	**Makhachkala**	**0.61**	**93**	*e*PG	Pg	12 56 08.6	+4.5
MAK				pmax	pmax		
	comp=Z,221nm,0.3s						
MAK	**Makhachkala**	**0.61**	**93**	*e*Pg	Pg	12 56 08.6	+4.5
	comp=Z,221nm,0.3s						
SNJR	**Sundja**	**1.36**	**274**	*i* Pg	Pg	12 56 17.1	-1.2
SNJR				*i* Sg	Sg	12 56 37.5	+1.4
VLKR	**Vladikavkaz**	**1.46**	**273**	*e*Pg	Pg	12 56 18.6	-1.6
VLKR				*e*Sg	Sg	12 56 39.8	+0.5
BTKR	**Batakoyurt**	**1.60**	**284**	*e*Pg	Pg	12 56 21.5	-1.3
BTKR				*i* Sg	Sg	12 56 45.0	+1.3
LACR	**Lac**	**1.75**	**265**	*e*Pn	Pn	12 56 21.4	-0.1
ARNR	**Ardon**	**1.76**	**277**	*e*PN	Pn	12 56 22.9	+1.3
ARNR				*e*S	Sn	12 56 47.3	+3.7
KMSR	**Komsomolskaya**	**1.78**	**283**	*e*Pn	Pn	12 56 23.7	+1.9
KMSR				*e*Sg	Sg	12 56 48.8	-0.6
PRTR	**Priterechnaya**	**1.90**	**294**	*e*Pn	Pn	12 56 26.2	+2.7
PRTR				*i* Sg	Sg	12 56 53.4	+0.2
KORR	**Kora**	**1.91**	**274**	*e*Pn	Pn	12 56 24.4	+0.8
ZEI	**Tsey**	**2.05**	**265**	*e*Pn	Pn	12 56 25.1	-0.4
LSNR	**Lesken**	**2.11**	**279**	*i* Pn	Pn	12 56 27.4	+1.0
LSNR				*i* Sb	Sb	12 56 55.5	0.0
DIGR	**Digorskoe uzhe**	**2.27**	**269**	*i* Pn	Pn	12 56 28.4	-0.2
DIGR				*i* Sn	Sn	12 56 57.4	+1.3

CSEM 13 13:01:53.7±0.5, 4297N×647W, h0km, mb3.6/1, Error ellipse: s-maj=4.1km s-min=3.9km az=67.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.61**	**306**	Pg	Pg	13 02 04.6	-0.8
	7.0nm,0.3s,SNR=22						
EPON				Lg		13 02 14.0	
	14nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**0.76**	**221**	Pg	Pg	13 02 07.8	-0.5
	7.6nm,0.2s,SNR=17						
ERUA				Lg		13 02 18.6	
	5.1nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**0.98**	**70**	Pg	Pg	13 02 11.9	-0.6
	6.3nm,0.6s,SNR=26						
EARI				Lg		13 02 25.6	
	1.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**1.05**	**191**	Pg	Pg	13 02 12.9	-0.9
	14nm,0.4s,SNR=18						
ECAL				Lg		13 02 28.2	
	33nm,0.4s,SNR=14						
ELOB	**Lobios**	**1.61**	**227**	Pn	Pn	13 02 20.9	-2.5
	SNR=7.9						
ELOB				Lg		13 02 45.1	
	SNR=7.9						
EMAZ	**Mazaricos**	**1.84**	**270**	Pn	Pn	13 02 23.7	-2.8
	SNR=7.9						
EMAZ				Lg		13 02 51.8	
	SNR=7.9						
ELAN	**Lanestosa**	**2.24**	**82**	Pn	Pn	13 02 30.8	-1.2
	13nm,1.1s,SNR=5.1						
ELAN				Sn	Sn	13 02 57.7	-2.7
	SNR=7.9						

MAN 13 13:04:03.9, 993N×12548E, h4km, mb2.4, ML4.0, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.15**	**177**	⇓*i*P	Pg	13 04 08.3	+1.5
SCPH				*i* S	Sg	13 04 11.6	+2.8
MSLP	**Maasin**	**0.64**	**288**	*e*P	Pg	13 04 16.4	+0.2
MSLP				*e*S	Sg	13 04 26.4	+1.8
BUTP	**Butuan**	**0.97**	**172**	*e*P	Pg	13 04 22.6	+0.2
BUTP				*e*S	Sg	13 04 38.3	+3.3
PLP	**Palo**	**1.32**	**338**	*e*P	Pn	13 04 28.1	-1.0
PLP				*e*S	Sg	13 04 45.2	-1.1
BESP	**Borongan**	**1.66**	**359**	*e*P	Pn	13 04 33.6	-0.1
BESP				*e*S	Sn	13 04 58.7	+3.3
BUKP	**Musuan**	**2.08**	**191**	*e*P	Pn	13 04 42.7	+3.2

IDC 13 13:05:26.1±2.4, 1508S×17344W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/15, mbtmp3.8/5, Error ellipse: s-maj=150.7km s-min=20.0km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.98**	**54**	Pn	Pn	13 06 00.9	0.0
	67nm,0.3s,baz=178,slow=2.7,SNR=112						
AFI				Sn	Sn	13 06 22.0	-4.5
	195nm,0.3s,baz=96,slow=22,SNR=20						
PPT	**Papeete**	**23.03**	**99**	*e*LR	LR	13 15 20.5	
	84nm,26.8s						
TBI	**Tubuai**	**24.06**	**114**	*e*LR	LR	13 15 52.1	
	84nm,27.2s						
RKT	**Rikitea**	**37.13**	**108**	*e*LR	LR	13 21 54.0	
	56nm,29.8s						
WRA	**Warramunga Arr**	**49.88**	**256**	P	P	13 14 21.7	+0.5
	0.3nm,0.4s,baz=94,slow=7.8,SNR=9.1						
ASAR	**Alice Springs**	**50.18**	**252**	P	P	13 14 23.9	+0.5
	2.5nm,0.6s,baz=86,slow=8.2,SNR=71						
ASPA	**Alice Springs**	**50.18**	**252**	*e*P	P	13 14 23.3	-0.2
NVAR	**Mina Array Bea**	**74.11**	**42**	P	P	13 17 05.2	+0.9
	1.3nm,0.7s,baz=229,slow=10,SNR=9.5						
PDAR	**Pinedale Array**	**82.05**	**42**	P	P	13 17 48.3	0.0
	0.6nm,0.8s,baz=224,slow=4.1,SNR=5.3						
ILAR	**Eielson Array**	**82.14**	**11**	P	P	13 17 48.4	-0.4
	0.3nm,0.8s,baz=208,slow=7.6,SNR=4.9						

*ISCJB **13** 14:17:25.3±0.5, 3103S±003×7145W±007, h76km±4km, mb4.2/13, Error ellipse: s-maj=10.6km s-min=5.0km az=177.6*
*IDC **13** 14:17:25.7±0.7, 3101S×7145W, h66km±4km, mb4.1/8, mb1 4.0/12, mb1mx4.0/19, mbtmp4.2/12, MS3.5/5, Ms1 3.5/5, ms1mx3.2/17, Error ellipse: s-maj=20.6km s-min=10.4km az=22.0*
*NEIC **13** 14:17:25.7±0.4, 3099S×7134W, mb4.6/5, Error ellipse: s-maj=10.9km s-min=4.9km az=90.0*
NEIC Felt [III] at Illapel and [II] at Canela Baja and Salamanca.
*GUC **13** 14:17:25.9±0.6, 3103S×7141W, h62km±8km, ML4.4*
*BJI **13** 14:17:25.7, 3100S×7130W, h62km, mB5.3, Msz4.8*
ISC 13 14:17:26.2±0.5, 3102S±003×7146W±008, h70km±5km, h65km±1.4km: pP-P, n52, σ0:69/57, mb4.2/13, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.86**	**182**	⇑*i*P	**Pn**	**14 17 42.6**	**-0.3**
CHNG				*i* S	**Sn**	**14 17 54.8**	**-0.5**
CHNG				AMP		14 17 57.1	
	comp=E,7μm,0.6s						
LSCH	**La Serena**	**1.13**	**10**	⇑*i*

CICH	**Cipreses**	**3.40**	**165**	⇓*i*P		**Pn**	**14 18 17.4 +0.6**
SFDO	**San Fernando**	**3.60**	**174**	⇓*i*P		**Pn**	**14 18 19.8 +0.3**
PLCA	**Paso Flores**	**9.72**	**176**	P		**Pn**	**14 19 42.2 -1.0**
	comp=E,0.3nm,0.3s,baz=347,slow=15,SNR=6.4						
PLCA				LR		LR	14 23 39.7
	comp=E,136nm,18.8s,baz=6.0,slow=38						
PLCA	**Paso Flores**	**9.72**	**176**	P		**Pn**	**14 19 42.2 -1.0**
PLCA				LR		LR	14 23 39.7
TRQA	**Tornquist**	**10.50**	**134**	*e*Pn		**Pn**	**14 19 51.4 -2.4**
	comp=E,30nm,0.6s						
CPUP	**Villa Florida**	**13.26**	**73**	P		**Pn**	**14 20 29.8 -1.5**
	comp=E,0.6nm,0.3s,baz=220,slow=17,SNR=3.7						
CPUP				LR		LR	14 25 53.5
	comp=E,89nm,18.5s,baz=192,slow=38						
CPUP	**Villa Florida**	**13.26**	**73**	*e*Pn		**Pn**	**14 20 27.3 -4.0**
	comp=E,34nm,0.5s						
LPAZ	**La Paz**	**14.98**	**12**	P		**Pn**	**14 20 55.1 +1.2**
	comp=E,0.2nm,0.3s,baz=207,slow=12,SNR=6.3						
LPAZ	**La Paz**	**14.98**	**12**	*e*P		**Pn**	**14 20 55.8 +1.9**
	comp=E,4.5nm,0.8s						
SAML	**Samuel**	**23.28**	**21**	*e*P		**P**	**14 22 27.2 -0.5**
	comp=E,2.5nm,0.7s,mb3.6						
USHA	**Ushuaia**	**23.90**	**176**	P		**P**	**14 22 33.5 +0.1**
	comp=E,22nm,0.8s,mb4.5,baz=338,slow=2.6,SNR=11						
USHA				LR		LR	14 32 01.3
	comp=E,108nm,20.4s,baz=313,slow=37						
BDFB	**Brasilia**	**26.34**	**60**	P		**P**	**14 22 54.5 -1.0**
	comp=E,5.1nm,0.7s,mb4.1,baz=238,slow=9.1,SNR=6.3						
BDFB				LR		LR	14 34 32.5
	comp=E,107nm,18.3s,baz=145,slow=39						
VNA3	**Neumayer Olymp**	**51.94**	**159**	*e*		**P**	**14 26 26.7 -1.2**
VNA3				*e*			14 26 35.3
VNA2	**Neumayer--Watz**	**52.57**	**158**	*e*		**P**	**14 26 31.4 -1.2**
	baz=289,slow=9.4						
VNA2				*e*			14 26 39.8
QSPA	**South Pole Qui**	**59.21**	**180**	*e*P		**P**	**14 27 20.9 +0.8**
	comp=E,7.1nm,0.8s,mb4.8						
QSPA				*e*pP		pP	14 27 38.1 0.0
QSPA				*e*sP		sP	14 27 45.9 0.0
SYO	**Syowa Base**	**68.45**	**159**	⇓*e*P		**P**	**14 28 15.4 -5.4**
MNTX	**Cornudas Mount**	**70.18**	**330**	*e*P		**P**	**14 28 31.4 0.0**
MNTX				*e*pP		pP	14 28 48.7 -1.3
DBIC	**Dimbokro**	**73.77**	**72**	P		**P**	**14 28 53.0 +0.1**
	comp=E,5.5nm,0.5s,mb4.5,baz=203,slow=7.1,SNR=18						
TSUM	**Tsumeb**	**79.56**	**106**	*e*P		**P**	**14 29 25.3 -0.2**
	comp=E,3.5nm,0.8s,mb4.2						
BOSA	**Boshof**	**81.02**	**118**	P		**P**	**14 29 33.6 +0.2**
	comp=E,3.9nm,0.8s,mb4.3,baz=300,slow=5.0,SNR=5.6						
PDAR	**Pinedale Array**	**81.34**	**333**	P		**P**	**14 29 35.8 +0.7**
	comp=E,0.4nm,0.6s,mb3.4,baz=122,slow=6.0,SNR=3.6						
PDAR				pP		pP	14 29 52.0 -2.0
	comp=E,0.6nm,0.8s,baz=141,slow=5.0,SNR=3.3						
ELK	**Elko**	**82.09**	**328**	P		**P**	**14 29 39.9 +0.8**
	comp=E,0.9nm,0.7s,mb3.7,baz=166,slow=5.2,SNR=5.2						
ELK				pP		pP	14 29 57.9 -0.1
	comp=E,1.0nm,0.4s,baz=100,slow=3.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**82.74**	**70**	P		**P**	**14 29 42.5 +0.1**
	comp=E,7.1nm,0.7s,mb4.6,baz=280,slow=5.3,SNR=58						
TORD				pP		pP	14 30 00.2 -1.1
	comp=E,1.3nm,0.4s,baz=279,slow=5.6,SNR=3.9						
TORD				sP		sP	14 30 07.6 -1.4
	comp=E,2.4nm,0.5s,baz=279,slow=5.6,SNR=5.4						
LBTB	**Lobatse**	**83.11**	**115**	*e*P		**P**	**14 29 44.5 +0.2**
	comp=E,7.4nm,0.7s,mb4.6						
ULM	**Lac du Bonnet**	**83.76**	**345**	P		**P**	**14 29 46.6 -1.1**
	comp=E,1.4nm,0.5s,mb4.0,baz=163,slow=6.0,SNR=4.2						
RPZ	**Rata Peaks**	**86.22**	**220**	LR		LR	14 57 51.0
	comp=E,169nm,19.7s,baz=203,slow=28						
LSZ	**Lusaka**	**90.26**	**108**	*e*P		**P**	**14 30 20.5 +1.3**
	comp=E,3.6nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**120.44**	**207**	PKP		PKPdf	14 36 09.1 -0.5
	comp=E,0.3nm,0.6s,baz=134,slow=1.6,SNR=4.3						
WRA	**Warramunga Arr**	**123.59**	**209**	pPKP		pPKPdf	14 36 34.9 -0.7
	comp=E,1.3nm,0.5s,baz=161,slow=1.6,SNR=5.5						
ZAL	**Zalesovo**	**151.43**	**30**	PKPbc		PKPbc	14 37 11.2 -0.8
	comp=E,4.2nm,0.7s,baz=172,slow=2.7,SNR=22						
ZAL				pPKPbc		pPKPbc	14 37 31.4 -0.6
	comp=E,2.7nm,0.5s,baz=156,slow=3.5,SNR=4.4						
MKAR	**Makanchi Array**	**154.37**	**45**	PKPbc		PKPbc	14 37 17.8 -0.7
	comp=E,1.0nm,0.7s,baz=316,slow=6.8,SNR=9.6						
MKAR				PKPab		PKPab	14 37 33.3 +0.4
	comp=E,1.7nm,0.7s,baz=310,slow=9.4,SNR=11						
NJ2	**Nanjing**	**171.14**	**279**	*e*PKP		PKPdf	14 37 22.6 -3.8
NJ2				PKP2		PKPab	14 38 45.8 -0.4
NJ2				PKS			14 40 54.0
NJ2				PP		PP	14 42 37.5 +0.6
NJ2				PP		PP	
	comp=Z,270nm,7.7s						
NJ2				LR		LR	
	comp=Z,190nm,15.7s						
CD2	**Chengdu**	**175.89**	**90**	*e*PKP		PKPdf	14 37 32.6 +4.4

LDG ***13*** *14:29:54.4±0.4, 1462S×16763E, h10km, Mb4.6/2, Error ellipse: s-maj=67.2km s-min=12.4km az=91.0*
ISCJB ***13*** *14:30:05.7±1.8, 1556S±007×1675E±01, h132km±14km, mb4.3/14, Error ellipse: s-maj=20.0km s-min=8.3km az=130.3*
NEIC ***13*** *14:30:05.6±0.4, 1547S×16761E, mb4.4/8, Error ellipse: s-maj=11.0km s-min=9.1km az=84.0*
IDC ***13*** *14:30:06.2±0.8, 1552S×16754E, h125km±6km, mb4.1/11, mb1 4.2/13, mb1mx4.2/18, mbtmp4.5/13, MS3.1/2, Ms1 3.1/2, ms1mx2.8/21, Error ellipse: s-maj=17.2km s-min=12.5km az=93.0*

ISC 13 14:30:05.8±1.6, 1550S±007×1676E±01, h123km±12km, h127km±3.8km: pP-P, n64, σ0§82/32, mb4.4/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.63**	**189**	P			**Pn**	**14 31 40.4**	**-0.3**
	4.0nm,0.3s,baz=48,slow=15,SNR=38								
DZM				S			**Sn**	**14 32 54.6**	**-0.2**
	5.4nm,0.3s,baz=143,slow=23,SNR=4.7								
HNR	**Honiara**	**9.61**	**308**	P			**Pn**	**14 32 21.7**	**+0.7**
	12nm,0.3s,baz=96,slow=5.6,SNR=7.7								
HNR				S			**Sn**	**14 34 07.2**	**+0.1**
	1.9nm,0.3s,baz=105,slow=5.9,SNR=1.9								
HNR				LR			LR	14 34 58.1	
	comp=Z,80nm,20.7s,baz=179,slow=30								
HNR	**Honiara**	**9.61**	**308**	*e*Pn			**Pn**	**14 32 21.1**	**+0.1**
HNR				S			**Sn**	**14 34 07.2**	**+0.1**
HNR				LR			LR	14 34 58.1	
AFI	**Afiamalu**	**20.00**	**88**	LR			LR	14 41 21.6	
	comp=Z,79nm,18.2s,baz=281,slow=34								
CTA	**Charters Tower**	**20.84**	**254**	*e*P			**P**	**14 34 39.2**	**+1.6**
	10nm,1.2s								
CTA	**Charters Tower**	**20.84**	**254**	P			**P**	**14 34 38.4**	**+0.8**
	5.3nm,0.4s,baz=75,slow=12,SNR=12								
CTAO	**Charters Tower**	**20.84**	**254**	*e*P			**P**	**14 34 38.9**	**+1.3**
	11nm,0.9s								
URZ	**Urewera**	**24.17**	**162**	P			**P**	**14 35 11.4**	**+0.9**
	7.7nm,0.6s,mb4.2,baz=49,slow=12,SNR=8.7								
STKA	**Stephens Creek**	**28.75**	**231**	*e*P			**P**	**14 35 51.0**	**-0.7**
	2.8nm,0.9s,mb3.9								
STKA	**Stephens Creek**	**28.75**	**231**	P			**P**	**14 35 50.1**	**-1.5**
	6.2nm,1.1s,mb4.1,baz=68,slow=4.8,SNR=8.1								
STKA				PcP			PcP	14 38 57.1	-1.6
	4.4nm,0.8s,baz=51,slow=1.0,SNR=6.7								
WB2	**Warramunga Arr**	**31.96**	**257**	*e*P			**P**	**14 36 15.9**	**-4.0**
WRAB	**Tennant Creek**	**31.96**	**257**	*e*P			**P**	**14 36 15.8**	**-4.1**
	4.0nm,0.6s,mb4.3								
WRA	**Warramunga Arr**	**31.97**	**257**	P			**P**	**14 36 19.3**	**-0.7**
	2.3nm,0.6s,mb4.1,baz=80,slow=6.0,SNR=47								
AS31	**Alice Springs**	**32.71**	**250**	*e*P			**P**	**14 36 26.2**	**-0.3**
ASAR	**Alice Springs**	**32.72**	**250**	P			**P**	**14 36 26.5**	**0.0**
	7.6nm,0.6s,mb4.7,baz=78,slow=9.0,SNR=62								
ASAR				pP			pP	14 36 53.5	0.0
	4.7nm,1.0s,baz=79,slow=9.0,SNR=4.3								
ASAR				ScP			ScP	14 42 43.9	+2.1
	1.3nm,0.9s,baz=94,slow=2.9,SNR=8.1								
ASPA	**Alice Springs**	**32.72**	**250**	*e*P			**P**	**14 36 26.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.20**	**260**	*e*P			**P**	**14 37 29.9**	**-0.2**
	18nm,0.4s,mb5.2								
VNDA	**Vanda**	**62.10**	**181**	P			**P**	**14 40 14.2**	**+0.7**
	2.5nm,0.6s,mb4.5,baz=353,slow=8.6,SNR=3.1								
VNDA	**Vanda**	**62.10**	**181**	*e*P			**P**	**14 40 13.9**	**+0.4**
	2.9nm,0.5s,mb4.6								
SBA	**Scott Base**	**62.37**	**180**	*e*P			**P**	**14 40 16.2**	**+0.9**
QSPA	**South Pole Qui**	**74.53**	**180**	*e*P			**P**	**14 41 31.6**	**+0.7**
	17nm,0.9s,mb4.8								
ULN	**Ulaanbaatar**	**82.95**	**324**	*e*P			**P**	**14 42 18.0**	**+1.1**
	6.7nm,0.9s,mb4.5								
SONM	**Songino Array**	**83.31**	**324**	P			**P**	**14 42 20.0**	**+1.2**
	3.1nm,0.9s,mb4.2,baz=155,slow=9.1,SNR=20								
SONM				pP			pP	14 42 50.4	+0.2
	1.1nm,0.9s,baz=143,slow=5.4,SNR=3.0								
ILAR	**Eielson Array**	**87.16**	**18**	P			**P**	**14 42 35.9**	**-2.0**
	0.5nm,0.6s,mb3.6,baz=244,slow=5.0,SNR=16								
ILAR				pP			pP	14 43 10.9	+1.4
	0.8nm,0.8s,baz=233,slow=6.0,SNR=4.1								
VNA3	**Neumayer Olymp**	**93.45**	**181**	*e*			**P**	**14 43 06.6**	**-0.7**
VNA2	**Neumayer--Watz**	**93.72**	**182**	*e*			**P**	**14 43 08.6**	**+0.1**
	baz=184,slow=5.6								
MKAR	**Makanchi Array**	**97.99**	**316**	P			**P**	**14 43 28.1**	**+0.2**
	0.4nm,0.6s,mb4.1,baz=35,slow=4.4,SNR=5.4								
MKAR				pP			pP	14 44 00.6	+0.8
	0.3nm,0.5s,baz=81,slow=7.5,SNR=2.7								
MKAR	**Makanchi Array**	**97.99**	**316**	P			**P**	**14 43 28.1**	**+0.2**
MKAR				pP			pP	14 44 00.6	+0.8
YKA	**Yellowknife Ar**	**98.08**	**27**	P			**P**	**14 43 27.6**	**-0.7**
	0.6nm,0.8s,mb4.2,baz=254,slow=4.6,SNR=8.1								
ZAL	**Zalesovo**	**98.22**	**324**	P			**P**	**14 43 28.4**	**-0.6**
	1.0nm,0.3s,mb4.8,baz=112,slow=7.1,SNR=5.0								
ARCES	**ARCESS Array B**	**121.08**	**345**	PKP		PKPdf	14 48 43.2	-0.6
	3.5nm,0.6s,baz=103,slow=0.6,SNR=20								
FINES	**FINESS Array B**	**126.56**	**338**	PKP		PKPdf	14 48 54.0	-0.3
	2.2nm,0.9s,baz=90,slow=1.9,SNR=5.2								
NB2	**NORSAR Subarra**	**131.45**	**345**	PKPd		PKPdf	14 49 04.3	+0.7
	comp=Z,1.2nm,0.7s,baz=34,slow=1.9								
NOA	**NORSAR Array B**	**131.45**	**345**	PKP		PKPdf	14 49 03.5	-0.2
	comp=Z,1.7nm,0.7s,baz=38,slow=2.0,SNR=5.6								
GERES	**GERESS Array B**	**140.48**	**33**	PKP		PKPdf	14 49 19.9	-0.5
	comp=Z,0.8nm,0.7s,baz=141,slow=39,SNR=3.6								
CDF	**Champ du Feu**	**143.41**	**338**	*e*PKP1		PKPdf	14 49 23.7	-1.9
	comp=Z,11nm,0.8s								
HINF	**Hinteralfeld**	**144.07**	**338**	*e*PKP1		PKPdf	14 49 25.5	-1.3
HAU	**Haudompre**	**144.09**	**338**	*e*PKP1		PKPdf	14 49 25.8	-1.0
	comp=Z,15nm,0.8s								
CABF	**La Chapelle**	**145.36**	**337**	*e*PKP1		PKPbc	14 49 30.7	+1.6
	comp=Z,71nm,1.1s								
FLN	**La Foliniere**	**145.42**	**346**	*e*PKP1		PKPbc	14 49 29.9	+0.6
	comp=Z,49nm,0.8s								
LDF	**La Druitiere**	**145.49**	**346**	*e*PKP1		PKPbc	14 49 30.0	+0.5
	comp=Z,41nm,0.8s								
LOR	**Lormes**	**145.57**	**340**	*e*PKP1		PKPbc	14 49 30.9	+1.1
	comp=Z,25nm,0.8s								
GRR	**Gorron**	**145.86**	**346**	*e*PKP1		PKPbc	14 49 31.5	+0.8
	comp=Z,58nm,0.9s								
SSF	**Saint Saulge**	**145.87**	**341**	*e*PKP1		PKPbc	14 49 32.0	+1.3
	comp=Z,23nm,0.7s								
HYF	**Humbligny**	**145.96**	**342**	*e*PKP1		PKPbc	14 49 32.4	+1.5
LPL	**La Plagne**	**146.03**	**336**	*e*PKP1		PKPbc	14 49 33.4	+2.2
	comp=Z,11nm,0.7s								
LPG	**La Plagne**	**146.04**	**336**	*e*PKP1		PKPbc	14 49 33.5	+2.3
	comp=Z,15nm,0.7s								
SMF	**Signal de Mont**	**146.12**	**340**	*e*PKP1		PKPbc	14 49 32.4	+1.0
	comp=Z,37nm,1.0s								
AVF	**Avril sur Loir**	**146.16**	**340**	*e*PKP1		PKPbc	14 49 32.4	+0.9
	comp=Z,20nm,0.9s								
SGMF	**Saint Gilles**	**146.35**	**348**	*e*PKP1		PKPbc	14 49 32.8	+0.7
	comp=Z,25nm,0.6s								
ROSF	**Rostrenen**	**146.41**	**349**	*e*PKP1		PKPbc	14 49 32.9	+0.6
	comp=Z,60nm,1.1s								
BGF	**Bois d'Agland**	**146.53**	**341**	*e*PKP1		PKPbc	14 49 33.6	+1.0
	comp=Z,44nm,0.8s								
MBDF	**Montbardon**	**146.66**	**335**	*e*PKP1		PKPbc	14 49 32.0	-1.0
ORIF	**Oris-en-Rattie**	**146.86**	**336**	*e*PKP1		PKPbc	14 49 34.9	+1.3
	comp=Z,17nm,1.0s								
TCF	**Toulx Ste Croi**	**146.97**	**341**	*e*PKP1		PKPbc	14 49 34.9	+1.0
	comp=Z,20nm,0.8s								
SBF	**Sospel**	**147.08**	**333**	*e*PKP1		PKPbc	14 49 34.8	+0.6
	comp=Z,141nm,1.3s								
MFF	**Saint Martin d**	**147.35**	**344**	*e*PKP1		PKPbc	14 49 35.3	+0.4
	comp=Z,38nm,0.8s								
FRF	**La Foret Royal**	**147.66**	**334**	*e*PKP1		PKPbc	14 49 36.0	+0.2
LMR	**La Mourre**	**147.91**	**334**	*e*PKP1		PKPbc	14 49 37.1	+0.7
RJF	**Les Rejaudoux**	**148.06**	**341**	*e*PKP1		PKPbc	14 49 37.4	+0.6
MTLF	**Montolieu**	**149.57**	**339**	*e*PKP1		PKPbc	14 49 41.9	+1.2
	comp=Z,18nm,1.0s								
SJPF	**Ste Jean**	**150.87**	**343**	*e*PKP1		PKPbc	14 49 44.6	+0.8
	comp=Z,10nm,0.8s								
ETSF	**Etsaut**	**150.87**	**342**	*e*PKP1		PKPbc	14 49 44.8	+1.0
	comp=Z,6.2nm,0.6s								
TORD	**Torodi Ar. Bea**	**166.15**	**262**	PKP		PKPdf	14 49 56.9	+0.8
	comp=Z,0.8nm,0.9s,baz=66,slow=1.8,SNR=3.9								
TORD				PKPab		PKPab	14 50 58.3	+0.8
	comp=Z,0.5nm,0.8s,baz=109,slow=4.0,SNR=2.9								

IDC ***13*** *14:41:41.8±1.1, 9.10N×12632E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=66.2km s-min=21.0km az=74.0*
ISCJB ***13*** *14:41:47.5±0.7, 907N±003×12652E±005, h57km±9km, mb3.5/5, Error ellipse: s-maj=9.1km s-min=5.3km az=156.2*
MAN ***13*** *14:41:47.9, 904N×12648E, h23km, mb3.7, ML4.8, MS2.7*

ISC 13 14:41:48.6±0.8, 905N±003×12653E±006, h46km±10km, n23, σ1§16/37, mb3.5/5, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.88**	**191**	⇑*i*P			**Pn**	**14 42 04.5**	**-0.1**
BIPH				*i*S			**Sn**	**14 42 16.0**	**-0.2**
BUTP	**Butuan**	**0.90**	**265**	*e*P			**Pn**	**14 42 03.4**	**-1.5**
BUTP				*e*S			**Sn**	**14 42 16.2**	**-0.5**
SCPH	**Surigao**	**1.25**	**305**	*e*P			**Pn**	**14 42 08.4**	**-1.2**
SCPH				*i*S			**Sn**	**14 42 23.2**	**-2.2**
BUKP	**Musuan**	**1.86**	**231**	*e*P			**Pn**	**14 42 19.7**	**+1.7**
BUKP				*e*S			**Sn**	**14 42 44.1**	**+3.9**
CGP	**Cagayan de Oro**	**1.91**	**252**	⇑*i*P			**Pn**	**14 42 17.6**	**-1.0**
CGP				*e*S			**Sn**	**14 42 40.8**	**-0.6**
MSLP	**Maasin**	**1.96**	**303**	*e*P			**Pn**	**14 42 19.8**	**+0.4**
MSLP				*e*S			**Sn**	**14 42 44.4**	**+1.6**
PLP	**Palo**	**2.59**	**324**	*e*P			**Pn**	**14 42 28.9**	**+0.8**
PLP				*e*S			**Sn**	**14 42 59.7**	**+1.4**
TBP	**Tagbilaran**	**2.70**	**284**	*e*P			**Pn**	**14 42 30.2**	**+0.6**
TBP				*e*S			**Sn**	**14 43 01.2**	**+0.2**
OCLP	**Ormoc**	**2.74**	**317**	*e*P			**Pn**	**14 42 31.6**	**+1.5**
BESP	**Borongan**	**2.75**	**337**	*e*P			**Pn**	**14 42 30.1**	**-0.1**
BESP				*e*S			**Sn**	**14 43 06.5**	**+4.3**
LLP	**Lapu-Lapu**	**2.82**	**297**	*e*P			**Pn**	**14 42 32.4**	**+1.2**
LLP				*e*S			**Sn**	**14 43 04.1**	**+0.2**
DCPH	**Dipolog City**	**3.17**	**262**	⇑*e*P			**Pn**	**14 42 36.7**	**+0.7**
DCPH				*i*S			**Sn**	**14 43 13.5**	**+0.9**
PAGZ	**Pagadian**	**3.33**	**249**	*e*P			**Pn**	**14 42 40.1**	**+1.9**
PAGZ				*e*S			**Sn**	**14 43 15.0**	**-1.5**
CNP	**Cataman**	**3.89**	**332**	*e*P			**Pn**	**14 42 45.6**	**-0.3**
CNP				*e*S			**Sn**	**14 43 29.3**	**-1.0**
IPIL	**Ipil**	**4.11**	**252**	*e*P			**Pn**	**14 42 52.7**	**+3.9**
GUIM	**Jordan**	**4.18**	**292**	*e*P			**Pn**	**14 42 48.0**	**-1.9**
PVCP	**Virac**	**5.08**	**333**	*e*P			**Pn**	**14 43 00.8**	**-1.4**
PVCP				*e*S			**Sn**	**14 44 00.6**	**+1.1**
CAUP	**Cauayan**	**9.08**	**330**	*e*P			**Pn**	**14 43 56.2**	**-0.9**
WRA	**Warramunga Arr**	**29.82**	**165**	P			**P**	**14 47 52.0**	**+0.7**
	0.2nm,0.7s,mb3.0,baz=346,slow=8.4,SNR=6.8								
ASAR	**Alice Springs**	**33.31**	**168**	P			**P**	**14 48 23.2**	**+1.3**
	0.2nm,0.4s,mb3.4,baz=350,slow=7.2,SNR=16								
STKA	**Stephens Creek**	**43.17**	**161**	P			**P**	**14 49 43.4**	**-1.5**
	2.7nm,0.9s,mb4.0,baz=320,slow=9.6,SNR=4.5								
MKAR	**Makanchi Array**	**53.14**	**323**	P			**P**	**14 51 00.1**	**-1.6**
	0.9nm,0.5s,mb3.9,baz=108,slow=4.0,SNR=12								
ILAR	**Eielson Array**	**80.42**	**26**	P			**P**	**14 53 55.6**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=238,slow=4.8,SNR=8.0								

OTT 13 14:48:06.9±0.4, 6466N×8704W, h18km, MN2.7/5, 196km west from Coral Harbour, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QILN	**Qililugaq Expl**	**2.02**	**8**	PN		PN	Pn	14 48 40.4	+0.3
QILN				SN		SN	Sn	14 49 04.3	-0.5
QILN				SG		SG	Sg	14 49 08.4	-3.6
QILN				Trac				14 49 08.9	
	comp=Z,20nm,0.1s								
YRTN	**Rankin Inlet**	**2.92**	**233**	PN		PN	Pn	14 48 52.3	-0.1
YRTN				SN		SN	Sn	14 49 26.3	-0.7
YRTN				SG		SG	Sg	14 49 33.3	-7.4
YRTN				Trac				14 49 40.5	
	comp=Z,15nm,0.1s								
SRLN	**Sarcpa Lake, N**	**4.18**	**19**	PN		PN	Pn	14 49 09.3	-0.4
SRLN				SN		SN	Sn	14 49 54.3	-3.8
SRLN				LG				14 50 12.4	
SRLN				Trac				14 50 17.9	
	comp=Z,5.4nm,0.2s								
GIFN	**Gifford Fjord,**	**5.75**	**19**	PN		PN	Pn	14 49 29.8	-1.5
GIFN				SN		SN	Sn	14 50 31.2	-5.6
GIFN				LG				14 51 01.1	
FCC	**Fort Churchill**	**6.80**	**213**	PN		Pn		14 49 44.4	-1.2
FCC				SN		Sn		14 50 57.4	-5.2
FCC				LG				14 51 32.8	
FCC				Trac				14 51 46.1	
	comp=Z,3.6nm,0.7s								
GLWN	**Glow Worm Lake**	**9.53**	**280**	PN		Pn		14 50 21.5	-1.7
GLWN				SN		Sn		14 51 58.9	-11
GLWN				LG				14 52 50.7	
GLWN				Trac				14 53 03.9	
	comp=Z,1.9nm,0.3s								
KNDN	**Kennady Lake**	**9.78**	**273**	SN		Sn		14 52 06.0	-10
MLON	**Marlo Lake**	**9.93**	**276**	PN		Pn		14 50 26.1	-2.6
MLON				SN		Sn		14 52 08.2	-11
MLON				LG				14 53 06.7	
LGSN	**Lac de Gras So**	**9.95**	**279**	PN		Pn		14 50 25.1	-3.8
LGSN				SN		Sn		14 52 09.7	-10
MCKN	**MacKay Lake No**	**10.01**	**278**	SN		Sn		14 52 08.5	-13
MCKN				LG				14 53 04.5	
ACKN	**Achilles Lake**	**10.14**	**283**	PN		Pn		14 50 27.5	-4.0
ACKN				SN		Sn		14 52 11.9	-13
ACKN				LG				14 53 14.3	
ACKN				Trac				14 53 19.4	
	comp=Z,1.6nm,0.6s								
LUPN	**Lupin Mine**	**10.21**	**287**	PN		Pn		14 50 29.1	-3.3
LUPN				SN		Sn		14 52 14.1	-12
LUPN				LG				14 53 13.8	
LUPN				Trac				14 53 15.9	
	comp=Z,2.1nm,0.3s								
COWN	**Contwyoto Lake**	**10.23**	**284**	PN		Pn		14 50 31.0	-1.8
COWN				SN		Sn		14 52 14.0	-13
COWN				LG				14 53 15.0	
SILO	**Sutton Inlier**	**10.27**	**173**	PN		Pn		14 50 32.8	-0.5
SILO				SN		Sn		14 52 26.6	-1.4
SILO				LG				14 53 32.9	
RES	**Resolute Bay**	**10.43**	**348**	PN		Pn		14 50 31.5	-3.9
RES				SN		Sn		14 52 23.0	-8.7
YMBN	**Yamba Lake**	**10.44**	**282**	PN		Pn		14 50 34.4	-1.2
YMBN				SN		Sn		14 52 19.2	-13
YMBN				LG				14 53 19.6	
SNPN	**Snap Lake**	**10.49**	**275**	PN		Pn		14 50 33.2	-3.1
SNPN				SN		Sn		14 52 21.1	-12
SNPN				Trac				14 52 47.7	
	comp=Z,1.5nm,0.1s								
GBLN	**Grizzly Bear L**	**11.20**	**279**	PN		Pn		14 50 42.2	-3.7
GBLN				SN		Sn		14 52 35.4	-15
YKW3	**Yellowknife Ar**	**12.40**	**273**	SN		Sn		14 53 06.1	-14
YKW3				LG				14 54 21.7	
YKW3				Trac				14 54 26.5	
	comp=Z,0.8nm,0.4s								

NEIC ***13*** *14:53:58.7, 3607N×2372E, h16km, MD3.4(ATH), After ATH.*
CSEM ***13*** *14:53:58.7, 3607N×2372E, h16km, MD3.4/7, After ATH*

ATH 13 14:53:58.7, 3607N×2372E, h17km±4km, MD3.5/7, Southern Greece

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

comp=Z,24nm,0.8s,mb5.0
USHA Ushuaia 30.54 182 P **P 15 18 57.1 -0.1**
comp=Z,13nm,0.8s,mb4.7,baz=343,slow=6.1,SNR=7.3
SDV Santo Domingo 33.13 354 *e*P **P 15 19 20.1 +0.3**
comp=Z,4.7nm,0.3s,mb4.7
RCBR Riachuelo 35.12 64 *e*P **P 15 19 36.7 -0.3**
comp=Z,30nm,1.0s,mb4.9
JTS JuntasAbangare 38.52 331 *i* P **P 15 20 04.6 -1.1**
PMSA Palmer Station 40.55 178 *e*P **P 15 20 22.6 0.0**
comp=Z,48nm,0.4s,mb5.5
VNA3 Neumayer Olymp 56.93 161 *e*P **P 15 22 27.9 +0.5**
VNA2 Neumayer--Watz 57.50 160 *e*P **P 15 22 31.9 +0.5**
VNA2 *e* 15 22 34.9
QSPA South Pole Qui 65.94 180 *e*P **P 15 23 28.6 +0.7**
comp=Z,28nm,0.6s,mb5.3
MNTX Cornudas Mount 66.61 325 *e*P **P 15 23 31.9 -0.2**
comp=Z,3.0nm,1.3s,mb4.0
DBIC Dimbokro 67.97 71 P **P 15 23 40.2 -0.6**
comp=Z,6.2nm,0.7s,mb4.5,baz=220,slow=7.1,SNR=15
DBIC Dimbokro 67.97 71 P **P 15 23 40.2 -0.6**
ANMO Albuquerque 69.72 326⇑*i*P **P 15 23 52.3 +0.7**
SYO Syowa Base 73.33 159⇓*e*PcP PcP 15 24 26.5 -2.2
SYO Syowa Base 73.33 159⇓*e*pP pP 15 24 46.6 -2.7
SYO Syowa Base 73.33 159⇓*e*PP PP 15 26 58.5 0.0
SYO Syowa Base 73.33 159⇓*e*P **P 15 24 10.1 -3.1**
SYO *e* 15 24 26.5
SYO *e**PP pP 15 24 46.6 -2.7
SYO *e* 15 26 58.5
VNDA Vanda 74.42 190 P **P 15 24 20.0 +0.4**
comp=Z,4.0nm,0.8s,mb4.2,baz=121,slow=3.2,SNR=6.0
TORD Torodi Ar. Bea 76.75 69 P **P 15 24 32.5 -0.3**
comp=Z,5.7nm,0.4s,mb4.6,baz=258,slow=5.7,SNR=78
PDAR Pinedale Array 77.33 329 P **P 15 24 36.2 +0.2**
comp=Z,0.6nm,0.7s,mb3.3,baz=134,slow=7.2,SNR=7.9
ULM Lac du Bonnet 78.45 342 P **P 15 24 41.3 -0.9**
comp=Z,2.6nm,0.5s,mb4.1,baz=149,slow=5.0,SNR=6.5
NVAR Mina Array Bea 78.69 321 P **P 15 24 44.2 +0.7**
comp=Z,0.8nm,0.7s,mb3.5,baz=139,slow=6.2,SNR=6.5
NVAR Mina Array Bea 78.69 321 P **P 15 24 44.2 +0.7**
SCHQ Schefferville 78.77 0 P **P 15 24 43.1 -0.8**
comp=Z,1.0nm,0.6s,mb3.6,baz=50,slow=13,SNR=6.4
MCMT McKenzie Canyo 80.44 329 *e*P **P 15 24 54.5 +1.6**
BOSA Boshof 80.69 117 P **P 15 24 54.7 +0.4**
comp=Z,2.9nm,0.6s,mb4.1,baz=264,slow=9.5,SNR=6.0
BOSA Boshof 80.69 117 *e*P **P 15 24 54.8 +0.5**
BOSA pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BOSA Boshof 80.69 117 *e*P **P 15 24 54.8 +0.5**
comp=Z,2.1nm,0.6s,mb3.9
LBTB Lobatse 82.36 114 *e*P **P 15 25 03.2 +0.1**
LBTB pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
LBTB Lobatse 82.36 114 *e*P **P 15 25 03.2 +0.1**
comp=Z,1.5nm,0.5s,mb3.9
FCC Fort Churchill 85.70 346 *e*P **P 15 25 19.0 -1.0**
FCC pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
FCC Fort Churchill 85.70 346 *e*P **P 15 25 19.0 -0.9**
comp=Z,3.3nm,0.6s,mb4.2
ESDC Sonseca Array 86.65 44 P **P 15 25 24.2 -0.4**
comp=Z,0.4nm,0.4s,mb3.6,baz=231,slow=5.4,SNR=5.0
YKA Yellowknife Ar 94.34 340 P **P 15 26 00.0 -0.5**
comp=Z,0.8nm,0.5s,mb4.1,baz=130,slow=4.4,SNR=20
ARCES ARCESS Array B 113.40 23 PKKPbc PKKPbc 15 42 02.6 -0.2
comp=Z,5.5nm,1.0s,baz=72,slow=4.0,SNR=4.4
BILL Bilibino 125.70 338 *i* PKIKP PKPdf 15 31 40.2 -1.5
ASAR Alice Springs 128.18 205 PKhKP 15 31 33.7
comp=Z,0.5nm,0.9s,baz=118,slow=1.6,SNR=6.2
ASAR PKP PKPdf 15 31 46.6 +0.2
comp=Z,3.4nm,0.7s,baz=137,slow=1.8,SNR=50
ASAR SKPbc 15 34 48.8
comp=Z,0.7nm,0.9s,baz=150,slow=3.9,SNR=4.3
ASAR Alice Springs 128.18 205 PKHKP 15 31 33.7
ASAR 15 31 46.6
AS31 Alice Springs 128.18 205⇓*i*P PKPdf 15 31 46.5 +0.1
ASPA Alice Springs 128.18 205⇓*i*P PKPdf 15 31 46.5 +0.1
WB2 Warramunga Arr 131.34 207 *e*P PKPdf 15 31 53.1 +0.7
WRA Warramunga Arr 131.35 207 PKhKP 15 31 34.1
comp=Z,0.4nm,0.9s,baz=163,slow=1.9,SNR=5.6
WRA PKP PKPdf 15 31 52.9 +0.5
comp=Z,2.9nm,0.5s,baz=162,slow=1.7,SNR=57
WRA SKPbc SKPbc 15 35 00.8 -3.0
comp=Z,1.4nm,0.5s,baz=150,slow=3.5,SNR=26
WRA Warramunga Arr 131.35 207 PKHKP 15 31 34.1
WRA 15 31 52.9
WRAB Tennant Creek 131.35 207 *i* PKIKP PKPdf 15 31 53.1 +0.7
TIXI Tiksi 131.73 353 *i* PKIKP PKPdf 15 31 56.0 +2.9
FITZ Fitzroy Crossi 136.09 198 *e*P PKPdf 15 32 03.7 +2.4
comp=Z,2.5nm,0.6s
BVAR Borovoye Array 137.06 37 PKP PKPdf 15 32 03.5 +0.4
comp=Z,0.4nm,0.6s,baz=231,slow=0.9,SNR=3.3
YAK Yakutsk 140.57 348 *i* PKIKP PKPdf 15 32 12.1 +2.6
KURK Kurchatov 142.64 36⇑*i*PKIKP PKPdf 15 32 18.1 +4.9
AAK Ala-Archa 143.47 50⇑*i*PKIKP PKPdf 15 32 18.3 +3.6
ZAL Zalesovo 143.67 28 PKP PKPdf 15 32 18.2 -2.2
comp=Z,1.7nm,0.5s,baz=166,slow=4.0,SNR=9.1
ZAL SKPbc SKPbc 15 35 38.0 -1.8
comp=Z,1.1nm,0.7s,baz=284,slow=3.5,SNR=6.4
BOD Bodaibo 146.47 359 *e*PKIKP PKPdf 15 32 19.4 -0.5
MKAR Makanchi Array 146.79 40 PKPbc PKPbc 15 32 20.6 -1.8
comp=Z,1.8nm,0.6s,baz=308,slow=6.0,SNR=14
WMQ Urumqi 151.61 40 *e*PKP PKPdf 15 32 26.5 -1.6
MJAR Matsushiro Arr 155.06 305 PKPab PKPab 15 32 58.7 +0.5
comp=Z,1.7nm,0.8s,baz=65,slow=2.5,SNR=4.2
MJAR Matsushiro Arr 155.06 305 PKPab PKPab 15 32 58.7 +0.5
SONM Songino Array 155.92 11 PKP PKPdf 15 32 35.7 +1.5
comp=Z,0.4nm,0.8s,baz=302,slow=2.8,SNR=3.6
SONM PKPab PKPab 15 33 01.4 -0.5
comp=Z,0.6nm,0.6s,baz=316,slow=3.4,SNR=5.1
HHC Hu-ho-hao-te 163.43 4 *e*PKP PKPdf 15 32 40.9 -1.8
HHC APKP 15 33 23.6
HHC PKP2 PKPab 15 33 35.4 +0.8
HHC XPKP 15 33 40.5
HHC PKS 15 36 12.8
HHC PP PP 15 37 21.4 +1.3
HHC SKS SKSdf 15 39 27.4 -6.0
HHC SKKS SKKSac 15 43 51.3 -2.5
HHC SS SS 15 57 31.3 -3.0
HHC LR LR
comp=N,89nm,3.9s
HHC LR LR
comp=E,56nm,3.1s
HHC LR LR
comp=Z,199nm,5.9s
CD2 Chengdu 169.53 49 *e*PKP PKPdf 15 32 45.8 -1.6
NJ2 Nanjing 170.64 327 *e*PKP PKPdf 15 32 47.4 -0.6
NJ2 APKP 15 33 30.3
NJ2 XPKP 15 33 46.8
NJ2 PKP2 PKPab 15 34 08.1 +1.6
NJ2 PKS 15 36 18.6
NJ2 PP PP 15 38 00.0 +3.0
NJ2 SKS SKSdf 15 39 33.0 -4.6
NJ2 SKKS SKKSac 15 44 29.0 -0.6
NJ2 PP PP
comp=Z,230nm,9.7s
NJ2 LR LR
comp=N,810nm,27.9s
NJ2 LR LR
comp=E,1μm,15.2s
NJ2 LR LR
comp=Z,290nm,15.7s

ISCJB ***13*** *15:43:27.8±1.1,2484S±004×17976E±008,h462km±13km, mb4.6/32, Error ellipse: s-maj=11.4km s-min=7.0km az=179.0*
MOS ***13*** *15:43:28.6±2.5,2474S×17980E,h472km,mb5.3/4, Error ellipse: s-maj=15.3km s-min=13.6km az=25.5*
BJI ***13*** *15:43:32.2,2450S×17959E,h494km,mB5.1,mb4.6*
NEIC ***13*** *15:43:33.5±0.3,2488S×17965E,mb4.8/20, Error ellipse: s-maj=9.8km s-min=9.1km az=103.0*
IDC ***13*** *15:43:33.7±0.8,2490S×17947E,h512km±6km,mb4.2/14, mb1 4.2/15,mb1mx4.1/18,mbtmp5.1/15, Error ellipse: s-maj=12.0km s-min=11.4km az=149.0*
ISC 13 15:43:28.4±0.9,**2484S**±005×**17986E**±008,**h461**km±10km, **h475**km±6.6km;**pP-P,n148,**σ0**90**/96,**mb4.6**/32,**9C-22D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.62**	**280**	P	**P**	**15 46 18.2**	**+4.5**
	0.9nm,0.3s,baz=76,slow=17,SNR=6.1						
PUZ	**Puketiti**	**13.27**	**186**	PN	**P**	**15 46 21.7**	**+1.0**
AFI	**Afiamalu**	**13.43**	**37**	P	**P**	**15 46 21.9**	**-0.6**
	2.4nm,0.3s,baz=54,slow=19,SNR=5.3						
AFI				S	**S**	**15 48 39.0**	**-7.2**
	1.7nm,0.3s,baz=241,slow=23,SNR=3.9						
AFI	**Afiamalu**	**13.43**	**37**	*e*P	**P**	**15 46 22.7**	**+0.2**
AFI				*e*S	**S**	**15 48 39.8**	**-6.4**
AFI				pmax	pmax		
	comp=Z,26nm,0.8s						
AFI	**Afiamalu**	**13.43**	**37**	*e*P	**P**	**15 46 22.7**	**+0.2**
	comp=Z,26nm,0.8s						
AFI				*e*S	**S**	**15 48 39.8**	**-6.4**
URZ	**Urewera**	**13.58**	**189**	P	**P**	**15 46 23.2**	**-1.0**
	comp=Z,10nm,0.3s,baz=346,slow=2.5,SNR=53						
URZ				S	**S**	**15 48 45.7**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=183,slow=14,SNR=2.9						
URZ	**Urewera**	**13.58**	**189**	PN	**P**	**15 46 24.8**	**+0.6**
MWZ	**Matawai**	**13.60**	**188**	PN	**P**	**15 46 25.3**	**+0.9**
BKZ	**Black Stump Fm**	**14.57**	**190**	PN	**P**	**15 46 34.5**	**-0.2**
PXZ	**Pawanui**	**15.36**	**189**	PN	**P**	**15 46 42.4**	**-0.6**
TSZ	**Takapari Road**	**15.53**	**191**	PN	**P**	**15 46 44.9**	**0.0**
MRZ	**Mangatainoka R**	**16.18**	**192**	PN	**P**	**15 46 50.1**	**-1.7**
FUNA	**Funafuti**	**16.23**	**358**	*e*P	**P**	**15 46 52.5**	**+0.2**
SNZO	**South Karori**	**16.98**	**193**	*e*P	**P**	**15 47 00.7**	**+0.5**
	comp=Z,47nm,0.7s						
QRZ	**Quartz Range**	**17.08**	**199**	PN	**P**	**15 47 01.9**	**+0.7**
QRZ				SN	**S**	**15 49 57.5**	**+0.7**
THZ	**Tophouse**	**17.84**	**197**	PN	**P**	**15 47 08.6**	**-0.5**
THZ				SN	**S**	**15 50 04.9**	**-5.0**
KHZ	**Kahutara**	**18.30**	**195**	PN	**P**	**15 47 12.6**	**-1.0**
LTZ	**Lake Taylor**	**18.96**	**197**	PN	**P**	**15 47 19.3**	**-0.3**
WVZ	**Waitaha Valley**	**19.68**	**200**	PN	**P**	**15 47 26.0**	**-0.2**
RPZ	**Rata Peaks**	**20.16**	**199**	P	**P**	**15 47 30.2**	**-0.4**
	comp=Z,3.3nm,0.3s,baz=32,slow=1.7,SNR=18						
FOZ	**Fox Glacier**	**20.46**	**202**	PN	**P**	**15 47 32.2**	**-1.1**
HNR	**Honiara**	**24.37**	**305**	P	**P**	**15 48 08.2**	**-0.4**
	comp=Z,256nm,0.7s,mb5.8,baz=205,slow=0.3,SNR=30						
HNR	**Honiara**	**24.37**	**305**	*e*P	**P**	**15 48 08.5**	**0.0**
HNR				pmax	pmax		
	comp=Z,195nm,0.8s,mb5.6						
HNR	**Honiara**	**24.37**	**305**	*e*P	**P**	**15 48 08.4**	**-0.1**
	comp=Z,194nm,0.8s,mb5.6						
CNB	**Canberra Magne**	**28.28**	**241**	*e*P	**P**	**15 48 45.1**	**+2.1**
	comp=Z,72nm,1.8s,mb4.8						
CTA	**Charters Tower**	**31.36**	**272**⇓*i*P		**P**	**15 49 11.3**	**+1.5**
	comp=Z,60nm,0.6s,mb5.2						
CTA	**Charters Tower**	**31.36**	**272**	P	**P**	**15 49 10.8**	**+1.0**
	comp=Z,74nm,0.5s,mb5.4,baz=98,slow=10,SNR=111						
CTA	**Charters Tower**	**31.36**	**272**⇓*i*P		**P**	**15 49 11.3**	**+1.5**
CTA				pmax	pmax		
	comp=Z,60nm,0.6s						
CTAO	**Charters Tower**	**31.36**	**272**⇓*e*P		**P**	**15 49 11.1**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,76nm,0.6s,mb5.3						
CTAO	**Charters Tower**	**31.36**	**272**⇓*e*P		**P**	**15 49 11.1**	**+1.3**
	comp=Z,76nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**34.26**	**249**⇓*i*P		**P**	**15 49 33.6**	**-0.9**
	comp=Z,5.7nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**34.26**	**249**	P	**P**	**15 49 33.6**	**-0.9**
	comp=Z,6.7nm,0.4s,mb4.4,baz=93,slow=9.9,SNR=33						
PMG	**Port Moresby**	**34.69**	**291**	P	**P**	**15 49 38.2**	**0.0**
	comp=Z,68nm,0.8s,mb5.1,baz=110,slow=5.9,SNR=27						
PMG	**Port Moresby**	**34.69**	**291**	*d*P	**P**	**15 49 38.5**	**+0.4**
PMG	**Port Moresby**	**34.69**	**291**	*e*P	**P**	**15 49 38.6**	**+0.5**
	comp=Z,74nm,0.8s,mb5.2						
AS31	**Alice Springs**	**41.76**	**262**⇓*i*P		**P**	**15 50 36.3**	**+0.3**
AS31				*e*S	**S**	**15 56 14.3**	**-4.6**
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**15 50 36.0**	**0.0**
	comp=Z,19nm,0.9s,mb4.5,baz=95,slow=7.2,SNR=202						
ASAR				pP	pP	15 52 07.6	+5.7
	comp=Z,4.3nm,1.0s,baz=96,slow=8.1,SNR=3.9						
ASAR				ScP	ScP	15 55 24.6	-3.0
	comp=Z,1.3nm,0.8s,baz=109,slow=4.1,SNR=4.6						
ASAR				S	**S**	**15 56 11.5**	**-7.4**
	comp=Z,1.0nm,0.9s,baz=83,slow=17,SNR=3.0						
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**15 50 36.0**	**0.0**
ASAR				*PP	pP	15 52 07.6	+5.7
ASAR				S	**S**	**15 56 11.5**	**-7.4**
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**15 50 36.0**	**0.0**
ASAR				pP	pP	15 52 07.6	+5.7
ASAR				ScP	ScP	15 55 24.6	-3.0
ASAR				S	**S**	**15 56 11.5**	**-7.4**
ASPA	**Alice Springs**	**41.76**	**262**⇓*i*P		**P**	**15 50 36.3**	**+0.3**
ASPA				*e*S	**S**	**15 56 14.3**	**-4.7**
WB2	**Warramunga Arr**	**42.21**	**267**⇓*i*P		**P**	**15 50 39.4**	**-0.2**
WB2				*e*SCP	ScP	15 55 28.2	-1.3
WB2				*e*S	**S**	**15 56 19.4**	**-6.0**
WRAB	**Tennant Creek**	**42.21**	**267**	*d*P	**P**	**15 50 39.3**	**-0.3**
WRAB				*i* *PP	pP	15 52 08.4	+2.7
WRAB	**Tennant Creek**	**42.21**	**267**⇓*e*P		**P**	**15 50 39.2**	**-0.4**
	comp=Z,49nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**42.22**	**267**	P	**P**	**15 50 39.3**	**-0.3**
	comp=Z,36nm,1.0s,mb4.8,baz=99,slow=6.9,SNR=457						
WRA				ScP	ScP	15 55 26.8	-2.7
	comp=Z,8.9nm,1.0s,baz=102,slow=3.9,SNR=19						
WRA				S	**S**	**15 56 18.3**	**-7.3**
	comp=Z,8.1nm,0.9s,baz=102,slow=15,SNR=18						
KAKA	**Kakadu**	**46.27**	**276**⇓*i*P		**P**	**15 51 10.6**	**-0.5**
	comp=Z,29nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.63**	**266**	*e*P	**P**	**15 51 44.0**	**+0.2**
	comp=Z,33nm,0.8s,mb4.7						
SBA	**Scott Base**	**53.44**	**183**	*e*P	**P**	**15 52 06.1**	**+2.1**
VNDA	**Vanda**	**53.44**	**185**	P	**P**	**15 52 05.0**	**+1.0**
	comp=Z,4.3nm,0.8s,mb3.8,baz=1.9,slow=9.5,SNR=6.9						
VNDA	**Vanda**	**53.44**	**185**	*e*P	**P**	**15 52 05.0**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VNDA	**Vanda**	**53.44**	**185**	*e*P	**P**	**15 52 05.0**	**+0.9**
	comp=Z,4.6nm,0.8s,mb3.9						
KLBR	**Kellerberrin**	**54.51**	**248**	*e*P	**P**	**15 52 11.0**	**-0.7**
	comp=Z,20nm,0.7s,mb4.5						
MUN	**Mundaring**	**55.74**	**247**	*e*P	**P**	**15 52 20.1**	**-0.2**
CASY	**Casey**	**59.22**	**206**	*e*P	**P**	**15 52 43.7**	**-0.4**
QSPA	**South Pole Qui**	**65.25**	**180**	*e*P	**P**	**15 53 24.3**	**+0.9**
	comp=Z,39nm,1.0s,mb5.0						
JOW	**Kunigami**	**71.52**	**312**	P	**P**	**15 54 01.3**	**-0.3**
	comp=Z,29nm,0.6s,mb5.0,baz=214,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**72.59**	**326**	P	**P**	**15 54 07.2**	**-0.6**
	comp=Z,18nm,0.8s,mb4.7,baz=160,slow=5.6,SNR=33						
JNU	**Nakatsue**	**74.14**	**319**	P	**P**	**15 54 16.6**	**-0.2**
	comp=Z,7.0nm,0.7s,mb4.3,baz=78,slow=7.6,SNR=5.5						
ASAJ	**Asahikawa**	**76.64**	**333**	P	**P**	**15 54 31.7**	**+1.0**
	comp=Z,8.8nm,0.9s,mb4.3,baz=90,slow=1.0,SNR=4.0						
FX1	**Attu Island--F**	**77.61**	**356**	P	**P**	**15 54 35.6**	**-0.4**
	comp=Z,20nm,0.8s,mb4.6,baz=7.1,slow=8.1,SNR=3.3						
YSS	**Yuzh-Sakhalins**	**78.92**	**335**⇓*i*P		**P**	**15 54 42.6**	**-0.5**
YSS				pmax	pmax		
	comp=Z,55nm,1.7s,mb4.8						
YSS	**Yuzh-Sakhalins**	**78.92**	**335**	*e*P	**P**	**15 54 43.5**	**+0.4**
	comp=Z,10nm,0.4s,mb4.7						
NJ2	**Nanjing**	**81.17**	**311**	*e*P	**P**	**15 54 54.4**	**-0.6**
NJ2				AP	pP	15 56 40.1	+3.5
NJ2				XP	sP	15 57 28.4	+4.1
NJ2				PP	PP	15 58 10.3	+2.2
NJ2				S	S	16 04 23.0	-3.2
NJ2				XS	sS	16 07 29.0	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,190nm,10.4s						
SYO	**Syowa Base**	**82.07**	**193**⇓*e*PcP		PcP	15 55 02.1	-1.6
SYO	**Syowa Base**	**82.07**	**193**⇓*e*pP		pP	15 56 41.6	+0.1
SYO	**Syowa Base**	**82.07**	**193**⇑*e*P		**P**	**15 54 58.2**	**-1.4**
SYO			⇓*e*PcP		PcP	15 55 02.1	-1.6
SYO			⇑*e*pP		pP	15 56 41.6	+0.1
MDJ	**Mudanjiang**	**82.97**	**326**	*e*P	**P**	**15 55 04.4**	**+0.3**
	comp=Z,8.5nm,1.0s,mb4.2						
HABR	**Khabarovsk**	**83.27**	**332**	*e*P	**P**	**15 55 06.1**	**+0.4**
WHN	**Wuhan**	**83.47**	**308**	⇓P	**P**	**15 55 06.8**	**+0.2**
VNA3	**Neumayer Olymp**	**83.95**	**177**	*e*	**P**	**15 55 08.5**	**-0.5**
VNA3				*e*		15 55 10.6	
VNA2	**Neumayer--Watz**	**84.37**	**178**	*e*	**P**	**15 55 10.7**	**-0.4**
	baz=190,slow=4.3						
VNA2				*e*		15 55 12.4	
CN2	**Changchun**	**84.56**	**324**	⇓P	**P**	**15 55 12.0**	**-0.1**
CN2				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.8						
KLR	**Kul'dur**	**85.28**	**331**	*e*P	**P**	**15 55 12.8**	**-2.8**
NVAR	**Mina Array Bea**	**85.51**	**44**	P	**P**	**15 55 18.2**	**+1.5**
	baz=225,slow=8.7,SNR=4.9						
ENH	**Enshi**	**86.87**	**305**	*e*P	**P**	**15 55 22.8**	**-0.4**
	comp=Z,32nm,1.2s,mb4.9						
PLCA	**Paso Flores**	**87.71**	**134**	P	**P**	**15 55 27.9**	**+0.7**
	comp=Z,2.6nm,0.8s,mb4.0,baz=214,slow=8.2,SNR=4.0						
XAN	**Xi'an**	**89.22**	**308**	P	**P**	**15 55 34.8**	**+0.6**
XAN				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.0						
KMI	**Kunming**	**89.58**	**298**	P	**P**	**15 55 37.3**	**+1.4**
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.8						
TNA	**Tin City**	**90.60**	**5**	*e*P	**P**	**15 55 40.0**	**-0.6**
	comp=Z,5.2nm,1.1s,mb4.4						
MNTX	**Cornudas Mount**	**90.85**	**55**	*e*P	**P**	**15 55 43.2**	**+1.5**
	comp=Z,1.2nm,0.7s,mb3.9						
CD2	**Chengdu**	**91.48**	**303**	*e*P	**P**	**15 55 45.8**	**+1.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
COLA	**College**	**92.86**	**13**⇑*e*P		**P**	**15 55 49.0**	**-2.0**
COLA				*i* *PP	pP	15 57 35.3	+0.2
ILAR	**Eielson Array**	**92.97**	**14**	P	**P**	**15 55 49.8**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=227,slow=4.9,SNR=8.7						
ILAR				pP	pP	15 57 46.3	+11
	comp=Z,0.9nm,0.9s,baz=235,slow=6.4,SNR=4.3						
ILAR				PP	PP	15 59 37.5	-4.3
	comp=Z,0.7nm,1.0s,baz=221,slow=5.7,SNR=3.3						
BILL	**Bilibino**	**93.14**	**355**⇑*i*P		**P**	**15 55 51.7**	**-0.6**
BILL				pmax	pmax		
	comp=Z,14nm,2.5s,mb4.5						
BILL	**Bilibino**	**93.14**	**355**	*e*P	**P**	**15 55 51.4**	**-0.9**
	comp=Z,9.9nm,1.6s,mb4.6						
SONM	**Songino Array**	**97.72**	**319**	P	**P**	**15 56 14.3**	**+1.3**
	comp=Z,0.3nm,0.5s,mb3.9,baz=129,slow=4.0,SNR=3.7						
SONM				pP	pP	15 58 08.7	+11
	comp=Z,1.6nm,1.1s,baz=132,slow=4.5,SNR=5.6						
SONM				PP	PP	16 00 13.2	-4.9
	comp=Z,0.6nm,0.9s,baz=108,slow=9.5,SNR=3.9						
MKAR	**Makanchi Array**	**112.69**	**312**	PKiKP	PKiKP	16 01 09.6	-2.2
	comp=Z,0.3nm,0.4s,baz=308,slow=2.4,SNR=5.6						
MKAR				PP	PP	16 02 09.4	+2.1
	comp=Z,0.8nm,0.8s,baz=49,slow=5.5,SNR=3.6						
MKAR				SKP		16 03 58.5	
	comp=Z,1.2nm,0.7s,baz=339,slow=6.5,SNR=9.0						
MKAR				PKKPbc	PKKPbc	16 12 00.6	-0.5
	comp=Z,0.9nm,0.8s,baz=308,slow=6.0,SNR=5.9						
MKAR	**Makanchi Array**	**112.69**	**312**	PKIKP	PKiKP	16 01 09.6	-2.1
MKAR				PP		16 02 09.4	
MKAR	**Makanchi Array**	**112.69**	**312**	PKPdf	PKiKP	16 01 09.6	-2.2
MKAR				PP	PP	16 02 09.4	+2.1
MKAR				SKP		16 03 58.5	
MKAR				PKKPbc	PKKPbc	16 12 00.6	-0.5
KURK	**Kurchatov**	**115.78 316**⇑*i*PKIKP		PKPdf		16 01 15.3	-2.4
AAK	**Ala-Archa**	**117.36 307**	*i* PKIKP	PKPdf		16 01 14.8	-5.9
BVAR	**Borovoye Array**	**121.05 318**	PKIKP	PKPdf		16 01 26.1	-1.7
	comp=Z,2.1nm,0.4s,baz=125,slow=2.3,SNR=19						
BVAR				PP	PP	16 03 07.2	+2.3
	comp=Z,1.2nm,0.8s,baz=91,slow=11,SNR=3.6						
BVAR				SKP		16 04 15.0	
	comp=Z,1.3nm,0.8s,baz=29,slow=3.4,SNR=4.7						
BVAR	**Borovoye Array**	**121.05 318**	PKIKP	PKPdf		16 01 26.1	-1.7
BVAR						16 03 07.2	
ARU	**Arti**	**127.56 323**	*i* PKIKP	PKPdf		16 01 36.4	-3.9
ARU				*e*		16 03 45.8	
ARCES	**ARCESS Array B**	**132.77 348**	PKhKP			16 01 39.6	
	comp=Z,2.2nm,0.8s,baz=0.0,slow=2.8,SNR=5.9						
ARCES				PKP	PKPdf	16 01 48.0	-2.2
	comp=Z,1.7nm,0.5s,baz=24,slow=1.2,SNR=11						
ARCES				SKPbc	SKPbc	16 04 29.0	-4.9
	comp=Z,8.4nm,0.8s,baz=20,slow=3.9,SNR=9.5						
ARCES	**ARCESS Array B**	**132.77 348**	PKP			16 01 39.6	
ARCES				PKP	PKPdf	16 01 48.0	-2.2
ARCES				SKPbc	SKPbc	16 04 29.0	-4.9
FINES	**FINESS Array B**	**139.29 341**	PKhKP			16 01 51.3	
	comp=Z,1.0nm,0.5s,baz=71,slow=3.1,SNR=9.5						
FINES				PKP	PKPdf	16 02 01.1	-1.1
	comp=Z,1.6nm,0.5s,baz=91,slow=4.4,SNR=6.3						
FINES				SKPbc	SKPbc	16 04 49.3	-4.3
	comp=Z,8.3nm,0.8s,baz=64,slow=4.4,SNR=18						
FINES	**FINESS Array B**	**139.29 341**	PKHKP			16 01 51.3	
FINES						16 02 01.1	
NB2	**NORSAR Subarra**	**142.98 351**	PKPa	PKPdf		16 02 04.2	-4.6
	comp=Z,6.5nm,0.8s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**142.98 351**	PKhKP			16 02 03.5	
	comp=Z,8.8nm,0.8s,baz=16,slow=4.9,SNR=19						
NOA				SKPbc	SKPbc	16 04 58.9	-4.1
	comp=Z,3.8nm,0.8s,baz=14,slow=4.2,SNR=8.6						
ANN	**Anapa**	**143.71 313**	*i* PKIKP	PKPdf		16 02 07.1	-3.0
ANN				pmax	pmax		
	comp=Z,82nm,1.2s						
MALT	**Malatya**	**144.76 302**	*e*PKIKP	PKPdf		16 02 12.1	+0.2
AKASG	**Malin Array Be**	**145.68 326**	PKPbc	PKPbc		16 02 13.1	-1.7
	comp=Z,7.2nm,0.4s,baz=45,slow=4.2,SNR=45						
AKASG				pPKPbc		16 04 14.0	
	comp=Z,1.6nm,0.6s,baz=46,slow=4.1,SNR=4.2						
AKASG				SKPbc	SKPbc	16 05 05.2	-4.0
	comp=Z,5.4nm,0.8s,baz=45,slow=2.6,SNR=12						
SUW	**Suwalki**	**146.06 335**	*e*PKP	PKPdf		16 02 14.6	+0.5
BR131	**Keskin Array S**	**148.03 306**	*e*PKPbc	PKPbc		16 02 20.5	-0.7
BR131			*e*P

GUC 13 15:44:57.2±0.7, 3113S×6858W, h150km, ML3.5, 3C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**2.63**	**213**	↑*i*P	Pn	15 45 41.2	+1.4
FCH				*i* S	Sn	15 46 15.0	+2.2
FCH				AMP		15 46 17.8	
	comp=E,73nm,0.3s						
PEL	**Peldehue**	**2.69**	**221**	↑*i*P	Pn	15 45 41.6	+1.1
PEL				*i* S	Sn	15 46 14.5	+0.4
PEL				AMP		15 46 17.2	
	comp=E,231nm,0.3s						
RCDM	**Rinconada Maip**	**3.01**	**218**	↓*i*P	Pn	15 45 45.4	+0.7
RCDM				*i* S	Sn	15 46 21.9	+0.5
RCDM				AMP		15 46 23.0	
	comp=E,117nm,0.4s						
CHCH	**Chadas Angostu**	**3.30**	**212**	↓*i*P	Pn	15 45 48.9	+0.6
CHCH				*i* S	Sn	15 46 28.8	+0.9
CACH	**El Canelo**	**3.43**	**209**	↓*i*P	Pn	15 45 51.1	+1.1
CACH				*i* S	Sn	15 46 32.2	+1.3
CICH	**Cipreses**	**3.54**	**206**	↑*i*P	Pn	15 45 52.2	+0.8

*ISCJB **13** 15:51:24.5±1.5, 191S±03×178.1W±02, h586km±23km, mb3.4/6, Error ellipse: s-maj=44.8km s-min=18.4km az=124.3*
*NEIC **13** 15:51:25.1±1.3, 191.3S×177.97W, h580km±18km, mb3.9/1, Error ellipse: s-maj=37.1km s-min=16.0km az=149.0*
*IDC **13** 15:51:28.1±3.6, 194.7S×177.87W, h629km±56km, mb2.8/5, mb1 3.1/5, mb1mx3.0/14, mbtmp3.8/5, Error ellipse: s-maj=112.4km s-min=19.0km az=152.0*
ISC 13 15:51:25.7±1.5, 191S±03×178.0W±02, h588km±21km, n10, σ0§86/10, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.86**	**50**	*e*P	**P**	**15 53 22.9**	**-0.3**
PPT	**Papeete**	**26.97**	**91**	*e*LR	LR	15 55 54.5	
	171nm,26.5s						
STKA	**Stephens Creek**	**38.45**	**243**	P	**P**	**15 57 56.8**	**-1.5**
	0.9nm,0.4s,mb3.6,baz=42,slow=7.2,SNR=5.7						
WRA	**Warramunga Arr**	**44.85**	**261**	P	**P**	**15 58 49.0**	**+0.4**
	0.5nm,0.4s,mb3.4,baz=98,slow=7.5,SNR=27						
AS31	**Alice Springs**	**44.90**	**255**	*e*P	**P**	**15 58 49.7**	**+0.8**
ASAR	**Alice Springs**	**44.90**	**255**	P	**P**	**15 58 49.6**	**+0.7**
	0.8nm,0.4s,mb3.6,baz=87,slow=8.2,SNR=32						
ASAR				S	**S**	**16 04 43.4**	**-1.4**
	0.7nm,0.7s,baz=91,slow=16,SNR=6.5						
ASPA	**Alice Springs**	**44.90**	**255**	*e*P	**P**	**15 58 49.7**	**+0.8**
QSPA	**South Pole Qui**	**70.95**	**180**	*e*P	**P**	**16 01 44.6**	**-0.1**
	2.0nm,0.5s,mb3.9						
ILAR	**Eielson Array**	**86.96**	**13**	P	**P**	**16 03 08.2**	**-1.0**
	0.5nm,0.8s,mb3.3,baz=216,slow=5.5,SNR=5.8						
PDAR	**Pinedale Array**	**87.92**	**43**	P	**P**	**16 03 14.7**	**+0.9**
	0.1nm,0.5s,mb2.8,baz=230,slow=5.6,SNR=3.7						

*ISCJB **13** 16:12:51.9±5.0, 296S±0.1×176.7W±07, h33km, mb3.8/4, MS3.8/5, Error ellipse: s-maj=92.5km s-min=13.3km az=15.1*
*IDC **13** 16:12:55.5±1.8, 2944S×17766W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.9/12, mbtmp3.8/4, ML3.4/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/20, Error ellipse: s-maj=38.1km s-min=12.6km az=56.0*
*NEIC **13** 16:12:56.0±1.4, 2941S×17759W, h10km, mb4.1/1, Error ellipse: s-maj=26.8km s-min=17.5km az=60.0*
ISC 13 16:12:53.7±5.0, 296S±01×1766W±07, h35km, n29, σ0§50/10, mb3.8/4, MS3.8/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**284**	Pg	**Pn**	**16 13 01.1**	**-13**
	9μm,0.3s,baz=75,slow=2.3,SNR=228						
RAO	**Raoul Island**	**1.19**	**284**	*e*Pg	**Pn**	**16 13 01.1**	**-13**
URZ	**Urewera**	**10.14**	**209**	Pn	**Pn**	**16 15 16.7**	**0.0**
	0.4nm,0.3s,baz=122,slow=19,SNR=1.4						
URZ				Sn	**Sn**	**16 17 09.3**	**+0.1**
	1.4nm,0.3s,baz=165,slow=23,SNR=9.1						
RAR	**Rarotonga**	**17.31**	**65**	LR	LR	16 22 01.1	
	comp=Z,100nm,20.3s,baz=281,slow=30						
TBI	**Tubuai**	**25.04**	**82**	*e*LQ		16 23 44.2	
	315nm,24.5s						
TBI				*e*LR	LR	16 24 55.0	
	186nm,26.5s						
TBI	**Tubuai**	**25.04**	**82**	*e*T		16 45 29.9	
	67nm,0.4s						
PAE	**Paea**	**27.36**	**70**	*e*T		16 48 16.3	
	119nm,0.3s						
PPT	**Papeete**	**27.42**	**70**	*e*LR	LR	16 25 58.2	
	153nm,25.2s						
PPT	**Papeete**	**27.42**	**70**	*e*T		16 48 20.4	
	26nm,0.3s						
PPT	**Papeete**	**27.42**	**70**	LR	LR	16 27 56.4	
	comp=Z,114nm,19.5s,MS3.5,baz=249,slow=32						
TVO	**Taravao**	**27.57**	**71**	*e*T		16 48 32.7	
	18nm,0.3s						
MEH	**Mehetia**	**28.51**	**72**	*e*T		16 49 43.8	
	34nm,0.3s						
HNR	**Honiara**	**29.71**	**308**	LR	LR	16 27 55.7	
	comp=Z,63nm,20.7s,MS3.2,baz=182,slow=31						
PMOR	**Pomariorio Ree**	**30.14**	**68**	*e*T		16 51 42.2	
	11nm,0.3s						
VAH	**Vaihoa**	**30.23**	**68**	*e*T		16 51 49.0	
	28nm,0.2s						
STKA	**Stephens Creek**	**35.86**	**255**	P	**P**	**16 19 48.8**	**-1.3**
	1.9nm,0.9s,mb4.0,baz=63,slow=11,SNR=3.8						
STKA	**Stephens Creek**	**35.86**	**255**	*e*P	**P**	**16 19 49.2**	**-0.9**
RKT	**Rikitea**	**37.70**	**90**	*e*LR	LR	16 30 54.3	
	108nm,28.0s						
RKT	**Rikitea**	**37.70**	**90**	*e*T		17 01 22.3	
	3.5nm,0.3s						
ASAR	**Alice Springs**	**44.38**	**265**	P	**P**	**16 21 01.1**	**+0.4**
	0.6nm,0.7s,mb3.4,baz=106,slow=7.3,SNR=10.0						
WB2	**Warramunga Arr**	**45.28**	**271**	*e*P	**P**	**16 21 07.9**	**0.0**
WRAB	**Tennant Creek**	**45.29**	**271**	*e*P	**P**	**16 21 08.5**	**+0.6**
	1.5nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**45.30**	**271**	P	**P**	**16 21 08.0**	**0.0**
	0.8nm,0.5s,mb3.8,baz=113,slow=6.4,SNR=3.5						
MAW	**Mawson**	**73.53**	**200**	LR	LR	16 56 51.3	
	comp=Z,191nm,18.3s,MS4.4,baz=169,slow=36						
PLCA	**Paso Flores**	**82.19**	**133**	LR	LR	16 54 00.3	
	comp=Z,76nm,18.5s,MS4.1,baz=183,slow=30						
PDAR	**Pinedale Array**	**94.68**	**43**	LR	LR	17 03 14.4	
	comp=Z,50nm,21.6s,MS3.9,baz=262,slow=32						
FINES	**FINESS Array B**	**144.75**	**341**	PKP	PKPdf	16 32 29.9	+3.2
	2.5nm,1.1s,baz=106,slow=6.2,SNR=3.7						
AKASG	**Malin Array Be**	**151.34**	**325**	PKPbc	PKPbc	16 32 48.8	+5.2
	0.3nm,0.4s,baz=48,slow=2.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**163.60**	**174**	PKPab	PKPab	16 33 54.0	+9.5
	0.9nm,1.0s,baz=192,slow=4.7,SNR=3.4						

*ROM **13** 16:13:49.8±0.2, 4429N×1068E, h5km±2km, Md2.9/11, Ml2.9/7, Error ellipse: s-maj=2.6km s-min=2.1km az=137.0*
*NEIC **13** 16:13:49.8, 4429N×1068E, h5km, ML2.9(ROM), ML3.0(LDG), After ROM.*
*GEN **13** 16:13:49.6, 4430N×1068E, h21km, ML2.0*
*CSEM **13** 16:13:49.5±0.1, 4430N×1071E, h12km, ML2.9/8, Error ellipse: s-maj=1.2km s-min=1.0km az=88.0*
*ISCJB **13** 16:13:49.7±0.2, 4431N±002×1067E±002, h22km±3km, Error ellipse: s-maj=4.0km s-min=2.5km az=146.4*
*LDG **13** 16:13:51.5±0.1, 4426N×1074E, h10km, Ml3.0/13, Error ellipse: s-maj=4.1km s-min=2.8km az=29.0*
ISC 13 16:13:50.2±0.2, 4428N±002×1067E±002, h17km±2km, n77, σ1§03/121, 9C-20D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCL	**Gusciola**	**0.09**	**317**	↑*i*Pg	**Pg**	**16 13 51.9**	**-1.6**
PZZT	**Monte Pizzetto**	**0.20**	**138**	↑*e*Pg	**Pg**	**16 13 54.5**	**-0.5**
PZZT				Sg	**Sg**	**16 13 58.7**	**+0.4**
	2μm,0.4s						
SARO	**Sassorosso**	**0.22**	**243**	P	**Pg**	**16 13 55.2**	**-0.1**
ZCCA	**Zocca**	**0.23**	**73**	↑*i*Pg	**Pg**	**16 13 54.7**	**-0.7**
ZCCA				Sg	**Sg**	**16 13 59.8**	**+0.9**
	174nm,0.4s						
BDI	**Bagni Di Lucca**	**0.23**	**194**	↑*i*Pg	**Pg**	**16 13 55.6**	**+0.2**
BDI				Sg	**Sg**	**16 14 00.2**	**+1.2**
	3μm,0.2s						
ERBM	**Eremo**	**0.23**	**306**	↑*i*Pg	**Pg**	**16 13 54.6**	**-0.8**
ERBM				Sg	**Sg**	**16 13 59.1**	**+0.1**
VALM		**0.31**	**282**	P	**Pg**	**16 13 56.2**	**-0.6**
FNVD	**Fontana Vidola**	**0.34**	**110**	↓*e*Pg	**Pg**	**16 13 56.6**	**-0.7**
FNVD				Sg	**Sg**	**16 14 02.5**	**+0.3**
	2μm,0.3s						
MAIM		**0.39**	**200**	P	**Pg**	**16 13 57.8**	**-0.4**
BACM		**0.43**	**269**	P	**Pg**	**16 13 58.4**	**-0.5**
GRAM		**0.48**	**296**	P	**Pg**	**16 13 59.2**	**-0.7**
SEI	**Scarperia**	**0.54**	**115**	Pg	**Pg**	**16 14 00.1**	**-0.8**
	817nm,0.3s						
RAVA	**Ravarino**	**0.57**	**34**	Pg	**Pg**	**16 14 01.8**	**+0.4**
	2μm,1.0s						
PII	**Pisa**	**0.57**	**191**	Pg	**Pg**	**16 14 01.6**	**+0.1**
CODM		**0.60**	**281**	P	**Pg**	**16 14 01.2**	**-0.8**
FIU	**Minerbio Fiu**	**0.69**	**58**	Pg	**Pg**	**16 14 05.1**	**+1.5**
VMG	**Vicchio**	**0.70**	**117**	Pg	**Pg**	**16 14 03.0**	**-1.0**
	415nm,0.7s						
SC2M	**Scurtabr**	**0.83**	**279**	P	**Pb**	**16 14 05.0**	**-1.1**
CSNT	**Castellina Chi**	**0.93**	**151**	Pg	**Pg**	**16 14 08.3**	**+0.1**
	116nm,0.3s						
SFI	**Santa Sofia**	**0.93**	**114**	Pg	**Pg**	**16 14 08.2**	**0.0**
	72nm,0.4s						
GROG	**Isola di Gorgo**	**1.03**	**214**	Pg	**Pg**	**16 14 10.0**	**-0.1**
	128nm,0.3s						
GRFL	**Gerfalco**	**1.16**	**169**	Pg	**Pg**	**16 14 12.5**	**0.0**
	41nm,0.4s						
SALO	**Salr**	**1.34**	**355**	Pg	**Pg**	**16 14 14.8**	**-1.2**
SALO				Sg	**Sg**	**16 14 34.3**	**+0.9**
	712nm,0.6s						
FIN	**Finale Ligure**	**1.77**	**268**	Pg	**Pn**	**16 14 21.1**	**+1.0**
	26nm,0.3s						
PGF	**Pioggiola**	**2.12**	**216**	*e*Pn	**Pn**	**16 14 25.2**	**+0.3**
PGF				*e*Sn	**Sn**	**16 14 50.6**	**-0.3**
	22nm,0.4s						
PGF	**Pioggiola**	**2.12**	**216**	*e*Pn	**Pn**	**16 14 25.2**	**+0.3**
PGF				*e*Sn	**Sn**	**16 14 50.6**	**-0.3**
	11nm,0.4s						
SBF	**Sospel**	**2.37**	**261**	*e*Pn	**Pn**	**16 14 28.7**	**+0.4**
SBF				*e*Sn	**Sn**	**16 14 57.0**	**-0.1**
	36nm,0.4s						
SBF	**Sospel**	**2.37**	**261**	*e*Pn	**Pn**	**16 14 28.7**	**+0.4**
SBF				*e*Sn	**Sn**	**16 14 57.0**	**-0.1**
	18nm,0.4s						
ROBS	**Robic**	**2.80**	**45**	*i* Sn	**Sn**	**16 15 06.8**	**-0.9**
MBDF	**Montbardon**	**2.83**	**280**	*e*Pn	**Pn**	**16 14 38.1**	**+3.5**
MBDF				*e*Sn	**Sn**	**16 15 07.5**	**-0.8**
	24nm,0.7s						
MBDF	**Montbardon**	**2.83**	**280**	*e*Sn	**Sn**	**16 15 07.5**	**-0.8**
	12nm,0.7s						
VOJS	**Vojsko**	**2.87**	**51**	*i* Pn	**Pn**	**16 14 34.1**	**-1.1**
VOJS				*i* Sn	**Sn**	**16 15 07.9**	**-1.3**
CADS	**Cadrg**	**2.91**	**47**	*i* Pn	**Pn**	**16 14 35.2**	**-0.5**
CADS				*i* Sn	**Sn**	**16 15 09.0**	**-1.3**
SQTA	**Sankt Quirin**	**2.96**	**7**	↓*i* Sn	**Sn**	**16 15 15.4**	**+3.8**
SQTA	**Sankt Quirin**	**2.96**	**7**	↓*i* Pn	**Pn**	**16 14 37.9**	**+1.5**
SQTA				↓*i* Sn	**Sn**	**16 15 15.4**	**+3.8**
FRF	**La Foret Royal**	**3.00**	**257**	*e*Pn	**Pn**	**16 14 37.5**	**+0.5**
FRF				*e*Sn	**Sn**	**16 15 12.6**	**+0.1**
	12nm,0.3s						
FRF	**La Foret Royal**	**3.00**	**257**	*e*Pn	**Pn**	**16 14 37.5**	**+0.5**
FRF				*e*Sn	**Sn**	**16 15 12.6**	**+0.1**
	6.2nm,0.3s						
LPG	**La Plagne**	**3.04**	**295**	*e*Pn	**Pn**	**16 14 41.9**	**+4.4**
LPG				*e*Sn	**Sn**	**16 15 13.5**	**-0.1**
	12nm,0.5s						
LPG	**La Plagne**	**3.04**	**295**	*e*Sn	**Sn**	**16 15 13.5**	**-0.1**
	6.1nm,0.5s						
DAVA	**Damuels**	**3.05**	**350**	↓*i* Sn	**Sn**	**16 15 18.1**	**+4.2**
DAVA	**Damuels**	**3.05**	**350**	↓*i* Pn	**Pn**	**16 14 39.6**	**+1.9**
DAVA				↓*i* Sn	**Sn**	**16 15 18.1**	**+4.2**
LPL	**La Plagne**	**3.06**	**295**	*e*Pn	**Pn**	**16 14 42.0**	**+4.2**
LPL				*e*Sn	**Sn**	**16 15 13.9**	**-0.1**
	19nm,0.6s						
LPL	**La Plagne**	**3.06**	**295**	*e*Sn	**Sn**	**16 15 13.9**	**-0.1**
	9.7nm,0.6s						
MOTA	**Moosalm**	**3.08**	**5**	↓*i* Sn	**Sn**	**16 15 18.4**	**+4.0**
MOTA	**Moosalm**	**3.08**	**5**	↑*i* Pn	**Pn**	**16 14 39.7**	**+1.7**
MOTA				↓*i* Sn	**Sn**	**16 15 18.4**	**+4.0**
GORS	**Gorjuse**	**3.10**	**48**	*i* Pn	**Pn**	**16 14 37.6**	**-0.7**
GORS				*e*Sn	**Sn**	**16 15 14.9**	**-0.2**
WATA	**Walderalm**	**3.12**	**11**	↓*i* Sn	**Sn**	**16 15 19.0**	**+3.6**
WATA	**Walderalm**	**3.12**	**11**	↓*i* Pn	**Pn**	**16 14 40.1**	**+1.5**
WATA				↓*i* Sn	**Sn**	**16 15 19.0**	**+3.6**
LMR	**La Mourre**	**3.16**	**254**	*e*Pn	**Pn**	**16 14 39.3**	**+0.1**
LMR				*e*Sn	**Sn**	**16 15 15.4**	**-1.1**
	7.4nm,0.3s						
LMR	**La Mourre**	**3.16**	**254**	*e*Pn	**Pn**	**16 14 39.3**	**+0.1**
LMR				*e*Sn	**Sn**	**16 15 15.4**	**-1.1**
	3.7nm,0.3s						
VISS	**Visnje**	**3.32**	**61**	*i* Pn	**Pn**	**16 14 40.5**	**-0.8**
VISS				*i* Sn	**Sn**	**16 15 19.3**	**-1.2**
VISS	**Visnje**	**3.32**	**61**	*i* Pn	**Pn**	**16 14 40.5**	**-0.9**
VISS				*i* Sn	**Sn**	**16 15 19.3**	**-1.2**
KBA	**Koelnbreinsper**	**3.36**	**33**	↓*i*Pg	**Pg**	**16 14 54.0**	**-0.6**
KBA	**Koelnbreinsper**	**3.36**	**33**	↓*i*Sn	**Sn**	**16 15 23.7**	**+2.2**
KBA	**Koelnbreinsper**	**3.36**	**33**	↑*i*Pn	**Pn**	**16 14 42.5**	**+0.6**
KBA				↓*i*Pg	**Pg**	**16 14 54.0**	**-0.6**
KBA				↓*i*Sn	**Sn**	**16 15 23.7**	**+2.2**
KBA	**Koelnbreinsper**	**3.36**	**33**	Pg	**Pg**	**16 14 54.0**	**-0.6**
KBA				Sn	**Sn**	**16 15 23.7**	**+2.2**
ORIF	**Oris-en-Rattie**	**3.48**	**282**	*e*Pn	**Pn**	**16 14 45.6**	**+2.0**
ORIF				*e*Sn	**Sn**	**16 15 24.2**	**-0.3**
	9.1nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.48**	**282**	*e*Pn	**Pn**	**16 14 45.6**	**+2.0**
ORIF				*e*Sn	**Sn**	**16 15 24.2**	**-0.3**
	4.6nm,0.5s						
OBKA	**Obir**	**3.52**	**49**	↓*i* Sn	**Sn**	**16 15 25.2**	**-0.2**
OBKA	**Obir**	**3.52**	**49**	↓*i* Pn	**Pn**	**16 14 44.2**	**+0.1**
OBKA				↓*i* Sn	**Sn**	**16 15 25.2**	**-0.2**
SMRF	**Simiane la Rot**	**3.68**	**267**	*e*Pn	**Pn**	**16 14 49.0**	**+2.6**
SMRF				*e*Sn	**Sn**	**16 15 28.4**	**-1.0**
	13nm,0.5s						
SMRF	**Simiane la Rot**	**3.68**	**267**	*e*Pn	**Pn**	**16 14 49.0**	**+2.6**
SMRF				*e*Sn	**Sn**	**16 15 28.4**	**-1.0**
	6.7nm,0.5s						
CABF	**La Chapelle**	**3.98**	**307**	*e*Pn	**Pn**	**16 14 52.3**	**+1.9**
VIVF	**Saint-Julien-l**	**4.33**	**280**	*e*Pn	**Pn**	**16 14 55.4**	**+0.2**
MOA	**Molln**	**4.36**	**34**	↑*i* Sn	**Sn**	**16 15 46.0**	**0.0**
MOA	**Molln**	**4.36**	**34**	↓*i*Pn	**Pn**	**16 14 56.2**	**+0.6**
MOA				↑*i* Sn	**Sn**	**16 15 46.0**	**0.0**
HINF	**Hinteralfeld**	**4.42**	**324**	*e*Pn	**Pn**	**16 14 58.5**	**+2.0**
HINF				*e*Sn	**Sn**	**16 15 47.2**	**-0.4**
	5.2nm,0.3s						
HINF	**Hinteralfeld**	**4.42**	**324**	*e*Pn	**Pn**	**16 14 58.5**	**+2.0**
HINF				*e*Sn	**Sn**	**16 15 47.2**	**-0.4**
	2.6nm,0.3s						
CDF	**Champ du Feu**	**4.75**	**332**	*e*Pn	**Pn**	**16 15 01.0**	**-0.1**
CDF				*e*Sn	**Sn**	**16 15 54.0**	**-1.8**
	4.8nm,0.3s						
CDF	**Champ du Feu**	**4.75**	**332**	*e*Pn	**Pn**	**16 15 01.0**	**-0.1**
CDF				*e*Sn	**Sn**	**16 15 54.0**	**-1.8**
	2.4nm,0.3s						
HAU	**Haudompre**	**4.78**	**323**	*e*Pn	**Pn**	**16 15 01.6**	**+0.1**
HAU				*e*Sn	**Sn**	**16 15 55.1**	**-1.5**
	14nm,0.4s						
HAU	**Haudompre**	**4.78**	**323**	*e*Pn	**Pn**	**16 15 01.6**	**+0.1**
HAU				*e*Sn	**Sn**	**16 15 55.1**	**-1.5**
	7.2nm,0.4s						
LASF	**Ste Croix**	**4.91**	**270**	*e*Pn	**Pn**	**16 15 04.6**	**+1.4**
KHC	**Kasperske Hory**	**5.24**	**21**	*e*PN	**Pn**	**16 15 05.4**	**-2.4**
KHC				*e*PG	**Pg**	**16 15 31.5**	**+0.9**
KHC				*ex*	x	16 16 03.5	
KHC				*ex*	x	16 16 22.5	
KHC				*e*SG	**Sg**	**16 16 38.8**	**+0.3**
LOR	**Lormes**	**5.62**	**304**	*e*Pn	**Pn**	**16 15 14.2**	**+1.2**
LOR				*e*Sn	**Sn**	**16 16 15.5**	**-1.8**
	7.7nm,0.5s						
MEZF	**Maizieres J'vi**	**5.74**	**319**	*e*Pn	**Pn**	**16 15 15.3**	**+0.7**
DPC	**Dobruska-Polom**	**7.18**	**30**	*e*SG	**Sn**	**16 16 43.9**	**-12**

*ISCJB **13** 16:57:28.7±0.7, 526N±0.1×322W±0.1, h10km, mb4.0/13, MS3.4/5, Error ellipse: s-maj=19.5km s-min=9.7km az=22.7*
*IDC **13** 16:57:28.9±1.1, 5253N×3213W, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/27, mbtmp4.0/12, ML4.2/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/34, Error ellipse: s-maj=34.5km s-min=16.6km az=9.0*
*NEIC **13** 16:57:31.0±0.5, 5265N×3216W, h10km, mb4.1/6, Error ellipse: s-maj=15.8km s-min=6.7km az=189.0*
*CSEM **13** 16:57:31.0, 5265N×3216W, h10km, mb4.3/4, After NEIC*
ISC 13 16:57:30.5±0.7, 526N±01×322W±01, h10km, n35, σ0§67/27, mb4.0/13, MS3.4/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**17.04**	**335**	LR	LR	17 06 08.7	
	comp=Z,44nm,18.3s,baz=42,slow=30						
EKA	**Eskdalemuir Ar**	**17.22**	**69**	P	**Pn**	**17 01 31.9**	**+0.8**
	0.4nm,0.3s,baz=272,slow=10,SNR=11						
SUMG	**Summit**	**20.23**	**355**	P	**P**	**17 02 06.1**	**+0.4**
	7.8nm,1.1s						
SUMG	**Summit**	**20.23**	**355**	P	**P**	**17 02 06.1**	**+0.4**
	7.8nm,1.1s						
SCHQ	**Schefferville**	**20.52**	**290**	P	**P**	**17 02 08.9**	**0.0**
	2.2nm,0.5s,baz=66,slow=11,SNR=5.2						
SCHQ				LR	LR	17 08 35.1	
	comp=Z,80nm,21.2s,MS3.0,baz=159,slow=32						
MTE	**Manteigas**	**20.76**	**116**	*e*P	**P**	**17 02 12.9**	**+1.4**
	3.1nm,0.6s						
MTE	**Manteigas**	**20.76**	**116**	*e*P	**P**	**17 02 12.9**	**+1.4**
	3.1nm,0.6s						
NAO01	**NORSAR Array S**	**24.60**	**53**	*e*P	**P**	**17 02 50.9**	**+0.1**
	7.9nm,0.8s,mb4.3						
NAO01	**NORSAR Array S**	**24.60**	**53**	*e*P	**P**	**17 02 50.9**	**+0.2**
	7.9nm,0.8s,mb4.3						
NOA	**NORSAR Array B**	**24.76**	**53**	LR	LR	17 10 18.2	
	comp=Z,60nm,22.0s,MS3.0,baz=340,slow=31						
HFS	**Hagfors**	**26.01**	**55**	LR	LR	17 11 59.9	
	comp=Z,233nm,19.6s,MS3.7,baz=70,slow=33						
DAVOX	**Davos**	**27.50**	**85**	LR	LR	17 13 20.1	
	comp=Z,99nm,18.4s,MS3.4,baz=328,slow=35						
GERES	**GERESS Array B**	**28.89**	**79**	P	**P**	**17 03 29.2**	**-0.2**
	1.4nm,0.8s,mb3.8,baz=300,slow=9.1,SNR=6.3						
FINES	**FINESS Array B**	**31.86**	**51**	P	**P**	**17 03 54.5**	**-1.3**
	2.7nm,0.9s,mb4.1,baz=319,slow=8.4,SNR=5.0						
FINES				LR	LR	17 16 03.2	
	comp=Z,107nm,20.5s,MS3.5,baz=83,slow=35						
FINES	**FINESS Array B**	**31.86**	**51**	P	**P**	**17 03 54.5**	**-1.3**
FINES				LR	LR	17 16 03.2	
FCC	**Fort Churchill**	**34.32**	**305**	*e*P	**P**	**17 04 17.4**	**+0.3**
	1.1nm,0.6s,mb4.0						
FCC	**Fort Churchill**	**34.32**	**305**	*e*P	**P**	**17 04 17.4**	**+0.2**
	1.1nm,0.6s,mb4.0						
AKASG	**Malin Array Be**	**37.12**	**68**	P	**P**	**17 04 39.8**	**-1.4**
	1.2nm,0.6s,mb3.9,baz=300,slow=8.6,SNR=5.5						
YKA	**Yellowknife Ar**	**42.34**	**317**	P	**P**	**17 05 24.7**	**0.0**
	1.0nm,0.9s,mb3.5,baz=61,slow=9.2,SNR=11						
YKA	**Yellowknife Ar**	**42.34**	**317**	P	**P**	**17 05 24.7**	**0.0**
BR131	**Keskin Array S**	**45.79**	**79**	*e*P	**P**	**17 05 52.4**	**+0.1**
	3.0nm,0.7s,mb4.3						
BR131	**Keskin Array S**	**45.79**	**79**	*e*P	**P**	**17 05 52.4**	**+0.1**
	3.0nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**45.79**	**79**	P	**P**	**17 05 52.8**	**+0.5**
	3.5nm,0.7s,mb4.4,baz=305,slow=6.2,SNR=16						
TORD	**Torodi Ar. Bea**	**47.74**	**133**	P	**P**	**17 06 06.8**	**-0.9**
	1.6nm,1.0s,mb4.0,baz=337,slow=7.9,SNR=7.4						
PDAR	**Pinedale Array**	**50.64**	**292**	P	**P**	**17 06 29.7**	**-0.1**
	1.4nm,0.5s,mb4.2,baz=68,slow=6.1,SNR=19						
HWUT	**Hardware Ranch**	**52.53**	**292**	*e*P	**P**	**17 06 43.9**	**-0.1**
	1.8nm,0.5s,mb4.3						
HWUT	**Hardware Ranch**	**52.53**	**292**	*e*P	**P**	**17 06 43.9**	**-0.1**
	1.8nm,0.5s,mb4.3						
ZAL	**Zalesovo**	**61.59**	**37**	P	**P**	**17 07 48.3**	**+0.2**
	0.8nm,0.6s,mb4.0,baz=148,slow=15,SNR=3.6						
MKAR	**Makanchi Array**	**66.27**	**43**	P	**P**	**17 08 18.8**	**-0.1**
	1.2nm,0.7s,mb4.0,baz=325,slow=12,SNR=12						
MKAR	**Makanchi Array**	**66.27**	**43**	P	**P**	**17 08 18.8**	**-0.1**
SONM	**Songino Array**	**73.88**	**28**	P	**P**	**17 09 06.1**	**+0.6**
	0.7nm,0.8s,mb3.6,baz=334,slow=5.4,SNR=4.7						
WRAB	**Tennant Creek**	**145.74**	**23**	*e*P	PKPdf	17 17 09.9	+0.6
WRAB	**Tennant Creek**	**145.74**	**23**	*e*P	PKPdf	17 17 09.9	+0.6
WRA	**Warramunga Arr**	**145.75**	**23**	PKPbc	PKPbc	17 17 10.2	+0.5
	0.8nm,0.9s,baz=347,slow=3.4,SNR=7.3						
ASAR	**Alice Springs**	**149.20**	**26**	PKPbc	PKPbc	17 17 18.8	-0.5
	0.4nm,0.8s,baz=350,slow=3.6,SNR=3.8						

*SKHL **13** 17:05:35.2±1.2, 4580N×15070E, h33km, mb5.4/2*
*ISCJB **13** 17:05:36.6±1.3, 453N±02×1509E±01, h33km, Error ellipse: s-maj=23.7km s-min=11.1km az=132.0*
*JMA **13** 17:05:36.5±0.7, 4552N×15094E, h30km, M4.5*

YOJ	Yonaguni jima	1.04	227	P	Pn	17 27 22.1	0.0
HATJ	Hateruma jima	1.12	182	P	Pn	17 27 22.7	-0.2
HATJ				eS	Sn	17 27 39.6	-0.6
JMJ	Miyako jima 2	1.36	105	P	Pn	17 27 26.3	+0.7
JMJ				eS	Sn	17 27 45.7	+0.7
JOGS	Gusukube	1.48	106	P	Pn	17 27 27.9	+1.0
JOGS				eS	Sn	17 27 48.7	+1.4
TATO	Taipei	2.15	265	P	Pn	17 27 36.0	+0.9
NACB	Ninganchiao	2.28	244	eP	Pn	17 27 36.4	-0.4
YHNB	Yeheng	2.30	258	eP	Pn	17 27 38.8	+1.7
YHNB				eS	Sn	17 28 05.8	+0.3
JKE	Kume jima 2	2.89	66	P	Pn	17 27 46.0	+1.3
JJT2	Tamagusuku 2	3.65	74	P	Pn	17 27 55.8	+1.0
JIH	Iheya	4.14	63	P	Pn	17 28 01.7	+0.4
JOW	Kunigami	4.31	67	P	Pn	17 28 03.6	0.0
JOW				S	Sn	17 28 50.5	-2.6
	5.0nm,0.3s,baz=108,slow=18,SNR=14						
JOW	Kunigami	4.31	67	P	Pn	17 28 03.6	0.0
JTK	Tokunoshima	5.26	59	P	Pn	17 28 16.0	-0.4
JAM	Amami Oshima	6.07	57	P	Pn	17 28 26.5	-0.9
JMZ	Minamidaito 2	6.69	83	P	Pn	17 28 33.2	-2.6
SONM	Songino Array	26.49	333	P	P	17 32 25.9	-0.5
	0.5nm,0.7s,mb3.0,baz=153,slow=11,SNR=4.1						
MKAR	Makanchi Array	39.35	314	P	P	17 34 17.5	-0.5
	0.3nm,0.3s,mb3.6,baz=54,slow=6.2,SNR=5.6						
WRA	Warramunga Arr	46.00	166	P	P	17 35 11.5	-0.2
	1.2nm,0.5s,mb3.9,baz=347,slow=8.7,SNR=36						
WB2	Warramunga Arr	46.00	166	eP	P	17 35 11.4	-0.3
BVAR	Borovoye Array	48.46	320	P	P	17 35 30.4	-0.4
	0.5nm,0.3s,mb3.8,baz=99,slow=8.3,SNR=8.7						
BRVK	Borovoye	48.53	320	eP	P	17 35 31.1	-0.2
	0.6nm,0.3s,mb4.0						
AS31	Alice Springs	49.52	168	eP	P	17 35 39.3	+0.4
ASAR	Alice Springs	49.52	168	P	P	17 35 39.9	+0.9
	0.6nm,0.5s,mb3.8,baz=352,slow=12,SNR=15						
ASPA	Alice Springs	49.52	168	eP	P	17 35 39.3	+0.4
ILAR	Eielson Array	67.22	28	P	P	17 37 42.2	+0.4
	0.2nm,0.5s,mb3.2,baz=284,slow=5.6,SNR=4.1						
FINES	FINESS Array B	71.81	330	P	P	17 38 09.4	-0.6
	3.2nm,1.2s,mb4.0,baz=77,slow=8.7,SNR=3.6						

*ISCJB **13** 17:30:32.8±0.3, 6707N±002×2091E±007, h0km, Error ellipse: s-maj=4.2km s-min=3.3km az=52.3*
*NAO **13** 17:30:33.4±1.0, 6706N×2090E, ML2.0*
*IDC **13** 17:30:33.8±1.0, 6709N×2099E, h0km, mb1 3.0/4, mb1mx2.9/22, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=15.8km s-min=7.9km az=113.0*
*HEL **13** 17:30:34.3±0.1, 6707N×2089E, h0km, ML2.1, ML2.2(UPP), ML1.7(BER), Explosion*
*BER **13** 17:30:35.6±4.1, 6710N×2083E, h0km, ML1.7, ML2.0(NAO), Suspected explosion*

ISC 13 17:30:33.7±0.3, 6708N±002×2088E±007, h0km, n40, σ1§04/58, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.13	288	*i* P		Pg	17 30 36.5	+0.3
MASU	Masugnsbyn	0.57	49	*i* P		Pg	17 30 44.4	-0.4
ERTU	Ertsjaerv	0.74	135	*i* P		Pg	17 30 46.9	-1.1
PAJU	Pajala	0.88	93	*i* P		Pg	17 30 49.3	-1.2
KUA	Kurravaara	0.90	347	eP		Pg	17 30 50.4	-0.6
SALU	Saltoluokta	0.97	289	eP		Pg	17 30 51.8	-0.6
LANU	Lannavaara	1.06	23	eP		Pg	17 30 52.9	-1.2
NIKU	Nikkaluokta	1.06	319	eP		Pg	17 30 53.4	-0.7
SJUU	Sjulsmark	1.61	169	eP		Pn	17 31 02.7	-0.7
LILU	Lilltraesk	1.85	194	eP		Pn	17 31 06.7	0.0
KIF	Kilpisjarvi	1.93	359	eP		Pn	17 31 10.1	+2.2
KIF				eS		Sn	17 31 35.0	+2.2
KIF				MSG			17 31 40.3	
	comp=Z,13nm,0.1s							
KTK1	Kautokeino	2.13	23	eP		Pn	17 31 11.2	+0.6
KTK1				eSG		Sg	17 31 40.2	-2.0
SGF	Sodankyl	2.22	78	eP		Pn	17 31 12.3	+0.4
SGF				eS		Sn	17 31 42.2	+2.2
SGF				MSG			17 31 46.9	
	comp=Z,11nm,0.1s							
BURU	Burvik	2.52	175	eP		Pn	17 31 16.4	+0.5
MOR8	Moi Rana	2.73	253	eP		Pn	17 31 18.8	0.0
MOR8				eSG		Sg	17 31 54.7	-6.6
MOR8				AML		AML	17 31 59.7	
	comp=Z,7.0nm,0.2s							
OUL	Oulu	2.86	132	eP		Pn	17 31 22.3	+1.7
OUL				eS		Sn	17 31 56.7	+0.9
ARA0	ARCESS Array S	3.00	33	Pn		Pn	17 31 22.0	-0.6
	baz=209,slow=16							
ARA0				Sn		Sn	17 31 59.6	+0.3
	baz=209,slow=28							
ARA0	ARCESS Array S	3.00	33	eP		Pn	17 31 22.0	-0.6
ARA0				eS		Sn	17 31 59.6	+0.3
ARCES	ARCESS Array B	3.00	33	Pn		Pn	17 31 22.3	-0.3
	comp=Z,0.5nm,0.3s,baz=209,slow=14,SNR=46							
ARCES				Sn		Sn	17 31 59.1	-0.2
	comp=Z,1.5nm,0.3s,baz=223,slow=22,SNR=14							
STOK	Stokkvaagen	3.21	260	eP		Pn	17 31 26.5	+1.1
STOK	Stokkvaagen	3.21	260	eP		Pn	17 31 26.4	+0.9
UMAU	Umeaa	3.21	182	eP		Pn	17 31 25.8	+0.3
BREU	Bredtraesk	3.35	198	eP		Pn	17 31 27.6	+0.3
KEV	Kevo	3.51	37	eP		Pn	17 31 30.8	+1.3
KEV				eS		Sn	17 32 11.3	-0.4
KEV				MSG			17 32 32.7	
	comp=Z,4.3nm,0.2s							
KU4	Liikasenvaara	3.53	98	eP		Pn	17 31 31.9	+2.1
KU4				eS		Sn	17 32 12.6	+0.4
KU4				MSG			17 32 35.1	
	comp=Z,3.4nm,0.2s							
HUSU	Husum	3.82	191	eP		Pn	17 31 34.2	+0.4
SOLU	Sollefteaa	4.14	203	eP		Pn	17 31 38.6	+0.3
NOD	Norderasen	4.44	218	eP		Pn	17 31 42.5	+0.2
APA0	Apatity Array	4.71	78	Pn		Pn	17 31 44.8	-1.3
	baz=255,slow=12							
APA0				Sn		Sn	17 32 40.2	-1.3
	baz=275,slow=22							
APA0				Lg			17 32 60.0	
	baz=280,slow=37							
APA0	Apatity Array	4.71	78	eP		Pn	17 31 44.8	-1.3
APA0				eS		Sn	17 32 40.2	-1.3
APA0				eSG			17 32 60.0	
ARNU	Arnoeviken	5.62	197	eP		Pn	17 31 58.2	-0.3
FIA0	FINESS Array S	6.09	156	Pn		Pn	17 32 04.9	-0.1
	baz=345,slow=14							
FIA0				Sn		Sn	17 33 13.4	-2.1
	baz=357,slow=22							
FIA0				Lg			17 33 45.7	
	baz=342,slow=28							
FIA0	FINESS Array S	6.09	156	eP		Pn	17 32 04.9	-0.1
FIA0				eS		Sn	17 33 13.4	-2.1
FIA0				*e*			17 33 45.7	
FINES	FINESS Array B	6.09	156	Pn		Pn	17 32 05.1	+0.1
	comp=Z,0.1nm,0.3s,baz=337,slow=11,SNR=6.8							
FINES				Sn		Sn	17 33 14.8	-0.7
	comp=Z,0.2nm,0.3s,baz=344,slow=24,SNR=5.9							
FINES				Lg			17 33 45.1	
	comp=Z,0.2nm,0.3s,baz=346,slow=27,SNR=2.9							
NB2	NORSAR Subarra	7.39	219	Pn		Pn	17 32 21.9	-0.9
	baz=30,slow=16							
NB2	NORSAR Subarra	7.39	219	eP		Pn	17 32 21.9	-0.9
NOA	NORSAR Array B	7.39	219	Pn		Pn	17 32 22.6	-0.3
	comp=Z,0.1nm,0.3s,baz=295,slow=15,SNR=2.6							
NOA				Sn		Sn	17 33 43.9	-3.5
	comp=Z,0.1nm,0.3s,baz=2.7,slow=9.8,SNR=2.8							
NOA				Lg			17 34 26.0	
	comp=Z,0.2nm,0.3s,baz=21,slow=14,SNR=2.4							
HFS	Hagfors	7.67	208	eP		Pn	17 32 21.9	-4.8
HFS				eS		Sn	17 33 48.8	-5.5
HFS	Hagfors	7.67	208	P		Pn	17 32 21.9	-4.8
HFS				Sn		Sn	17 33 48.8	-5.5
	baz=23,slow=28							
HFS	Hagfors	7.67	208	Pn		Pn	17 32 25.2	-1.5
	comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=4.4							

JMA 13 17:32:57.0±0.3, 2704N×12726E, h95km±3km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.45	182	P		Pn	17 33 12.0	+0.1
JAGN				S		Sn	17 33 23.1	+0.1
JIH	Iheya	0.63	90	P		Pn	17 33 13.6	+0.3
JIH				S		Sn	17 33 25.5	0.0
JKE	Kume jima 2	0.83	211	P		Pn	17 33 15.2	0.0
JKE				eS		Sn	17 33 28.4	-0.4
NAH1	Naha	0.92	155	P		Pn	17 33 16.2	+0.1
NAH1				eS		Sn	17 33 30.3	-0.2
JOW	Kunigami	0.93	103	P		Pn	17 33 16.2	0.0
JOW				eS		Sn	17 33 29.8	-0.9
JJT2	Tamagusuku 2	1.00	154	P		Pn	17 33 17.5	+0.5
JTK	Tokunoshima	1.68	63	P		Pn	17 33 24.9	-0.3
JTK				S		Sn	17 33 45.5	-1.1
JAM	Amami Oshima	2.49	56	P		Pn	17 33 35.5	-0.3
JAM				S		Sn	17 34 04.4	-1.1
JZK	Kikaishima	2.72	62	P		Pn	17 33 38.8	0.0
JZK				eS		Sn	17 34 11.5	+0.5
JOGS	Gusukube	2.82	217	P		Pn	17 33 40.2	0.0
JMJ	Miyako jima 2	2.84	219	P		Pn	17 33 40.1	-0.3
JTJ	Tarama	3.32	225	P		Pn	17 33 46.0	-0.9
JNN	Nakanoshima	3.62	39	P		Pn	17 33 51.4	+0.5
JMZ	Minamidaito 2	3.75	108	P		Pn	17 33 50.1	-2.6
JMZ				eS		Sn	17 34 29.4	-6.5
JIJ	Ishigaki jima	3.87	227	P		Pn	17 33 52.6	-1.8
JKRS	Kuro-shima	4.05	227	P		Pn	17 33 55.2	-1.5
IRIF	Iriomote-Funau	4.17	231	P		Pn	17 33 56.6	-1.8
HATJ	Hateruma jima	4.31	227	P		Pn	17 33 58.8	-1.4
YOJ	Yonaguni jima	4.61	237	P		Pn	17 34 03.1	-1.3

IDC 13 17:36:55.6±33.0, 2019S×17969W, h686km±388km, mb2.8/3, mb1 3.1/3, mb1mx2.8/13, mbtmp3.9/3, Error ellipse: s-maj=313.0km s-min=114.9km az=129.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.05	257	P		P	17 43 58.8	0.0
	1.1nm,0.5s,baz=93,slow=8.1,SNR=22							
WRA	Warramunga Arr	43.07	262	P		P	17 43 59.6	+0.7
	0.4nm,0.3s,baz=97,slow=7.1,SNR=62							
ILAR	Eielson Array	88.38	13	P		P	17 48 36.8	-0.5
	0.3nm,0.6s,baz=231,slow=5.7,SNR=4.3							
AKASG	Malin Array Be	141.97	330	PKP		PKPdf	17 55 11.3	-0.6
	0.9nm,0.4s,baz=42,slow=4.1,SNR=12							

MAN 13 17:36:59.6, 898N×12670E, h21km, mb3.0, ML4.3, MS0.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.86	203	↑*i*P		Pb	17 37 15.8	-0.1
BIPH				*i* S		Sb	17 37 29.4	+2.4
BUTP	Butuan	1.06	269	eP		Pn	17 37 18.4	-0.9
BUTP				eS		Sb	17 38 03.9	+31
BUTP	Butuan	1.06	269	eP		Pn	17 37 18.4	-0.9
BUTP				eS		Sb	17 38 03.9	+31
BUKP	Musuan	1.95	236	eP		Pn	17 37 33.6	+2.1
BUKP	Musuan	1.95	236	eP		Pn	17 37 33.6	+2.1

*ATH **13** 18:02:13.0, 3682N×2639E, h10km, MD3.3/3*
*HLW **13** 18:02:14.7, 3647N×2646E, h33km, Mb3.7*
*ISCJB **13** 18:02:19.2±2.6, 360N±002×267E±0.1, h33km, Error ellipse: s-maj=32.2km s-min=11.2km az=16.0*
*CSEM **13** 18:02:19.5±0.3, 3596N×2669E, h30km, ML3.7, Error ellipse: s-maj=8.9km s-min=2.9km az=11.0*

ISC 13 18:02:20.8±2.7, 361N±002×266E±001, h35km, n16, σ0§57/16, 7C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.71	141	*e*PB		Pn	18 02 39.6	+5.3
NPS	Neapolis	1.17	225	*e*PB		Pn	18 02 44.1	+3.5
VAM	Vamos	2.08	251	*e*PN		Pn	18 02 53.0	-0.2
SLUM		4.74	195	P		Pn	18 03 29.5	-0.3
HMAT	Matruh	5.01	175	↓P		Pn	18 03 33.7	+0.2
SWA1		6.86	187	↑P		Pn	18 03 58.6	-0.3
SWA2		6.91	188	↑P		Pn	18 03 58.8	-0.7
HNAT	Natroun	7.28	151	P		Pn	18 04 04.2	-0.4
FYM	Al Fayyum	7.40	149	P		Pn	18 04 06.3	0.0
HHAG	Hagoal	7.67	142	↑P		Pn	18 04 10.2	+0.3
HSAF	As Saff	7.68	146	↑P		Pn	18 04 10.0	-0.2
GLL	Jalalah	7.79	145	P		Pn	18 04 11.5	-0.2
SUZ		8.14	138	↑P		Pn	18 04 16.4	0.0
ZAF		8.44	142	P		Pn	18 04 20.4	-0.1
HFRF	Wahat Farafira	9.04	170	↑P		Pn	18 04 28.8	0.0
HDK1	Dakhla	10.79	166	↑P		Pn	18 04 53.9	+1.1

*NEIC **13** 18:04:55.4, 3515N×1257E, h10km, MD3.1(ROM), After ROM.*

ROM 13 18:04:55.4±2.2, 3515N×1257E, h10km, Md3.1/4, Ml3.8/2, Error ellipse: s-maj=35.5km s-min=14.9km az=41.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WDD	Wield Dalam	1.75	65	Pn		Pn	18 05 26.2	+0.5
	558nm,0.6s							
FAVR	Favara	2.29	22	Pn		Pn	18 05 35.6	+2.4
	333nm,1.0s							
CLTB	Caltabellotta	2.48	12	Pn		Pn	18 05 35.7	-0.1
MMGO	Monte Magaggia	2.52	7	Pn		Pn	18 05 36.3	-0.1
MFNL	Monte Finestre	2.65	6	Pn		Pn	18 05 39.5	+1.4
	82nm,0.4s							
PZI	Palazzolo	2.70	45	Pn		Pn	18 05 39.1	+0.2
	21nm,0.1s							
GIB	Gibilmanna	3.06	22	Pn		Pn	18 05 46.0	+2.2
GIB				Sn		Sn	18 06 20.3	-0.2
	593nm,1.0s							

IDC 13 18:14:55.0±1.5, 2916S×17770W, h0km, mb4.2/4, mb1 4.3/4, mb1mx4.2/13, mbtmp4.2/4, MS3.7/7, Ms1 3.7/7, ms1mx3.5/17, Error ellipse: s-maj=50.0km s-min=13.1km az=149.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.21	245	Pg		Pg	18 14 59.0	-0.1
	22um,0.3s,baz=240,slow=3.8,SNR=341							
URZ	Urewera	10.05	204	Sn		Sn	18 19 07.9	-6.1
	0.8nm,0.3s,baz=180,slow=17,SNR=3.8							
DZM	Mont Dzumac	15.94	293	LR		LR	18 23 06.6	
	comp=Z,576nm,19.7s,baz=201,slow=31							
RAR	Rarotonga	18.04	68	LR		LR	18 25 12.2	
	comp=Z,90nm,18.9s,baz=285,slow=34							
TBI	Tubuai	25.94	84	eLR		LR	18 26 47.2	
	231nm,29.0s							
TBI	Tubuai	25.94	84	eT			18 47 30.9	
	149nm,0.3s							
PAE	Paea	28.16	72	eT			18 50 17.5	
	152nm,0.3s							
PPT	Papeete	28.20	72	eLR		LR	18 27 50.5	
	197nm,25.2s							
PPT	Papeete	28.20	72	eT			18 50 21.3	
	58nm,0.3s							
TVO	Taravao	28.37	73	eT			18 50 33.7	
	37nm,0.3s							
HNR	Honiara	28.71	309	LR		LR	18 29 19.5	
	comp=Z,75nm,21.4s,baz=0.0,slow=30							
MEH	Mehetia	29.32	74	eT			18 51 44.8	
	49nm,0.2s							
PMOR	Pomariorio Ree	30.90	69	eT			18 53 43.3	
	16nm,0.3s							
VAH	Vaihoa	30.99	70	eT			18 53 50.1	
	49nm,0.2s							
CTA	Charters Tower	33.88	277	P		P	18 21 40.7	+1.3
	10.0nm,1.0s,baz=95,slow=12,SNR=3.8							
CTA				LR		LR	18 32 52.6	
	comp=Z,274nm,19.7s,baz=47,slow=32							
STKA	Stephens Creek	35.03	255	P		P	18 21 51.0	+1.7
	2.1nm,0.8s,baz=89,slow=14,SNR=2.7							
PMG	Port Moresby	38.33	294	LR		LR	18 34 47.2	
	comp=Z,132nm,21.1s,baz=307,slow=31							
RKT	Rikitea	38.67	91	eLR		LR	18 32 40.5	
	141nm,26.5s							
RKT	Rikitea	38.67	91	eT			19 03 23.5	
	4.9nm,0.3s							
ASAR	Alice Springs	43.45	265	P		P	18 22 59.6	-0.1
	1.4nm,0.9s,baz=100,slow=7.4,SNR=14							
WRA	Warramunga Arr	44.33	271	P		P	18 23 06.6	-0.2
	3.0nm,0.9s,baz=109,slow=7.9,SNR=12							
GUMO	Guam	55.80	314	LR		LR	18 42 52.9	
	comp=Z,96nm,19.6s,baz=120,slow=30							
CFAA	Coronel Fontan	89.76	126	LR		LR	18 57 14.5	
	comp=Z,12nm,20.7s,baz=204,slow=28							

AKASG	Malin Array Be	150.46	324	PKPbc		PKPbc	18 34 47.7	-0.8
	1.8nm,0.7s,baz=47,slow=2.8,SNR=8.9							
TORD	Torodi Ar. Bea	164.05	178	PKPab		PKPab	18 35 53.2	-0.3
	1.3nm,1.0s,baz=197,slow=2.5,SNR=6.0							

NNC 13 18:49:25.4±9.3, 3745N×7129E, h0km, mb3.3, mpv3.0, 2C-2D, Error ellipse: s-maj=74.7km s-min=61.4km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.68	354	P		Pn	18 50 51.5	+0.4
	0.3nm,0.4s,baz=193,slow=12,SNR=13							
KK31				↓S		Sn	18 51 58.9	+1.9
	1.6nm,0.3s,baz=203,slow=26,SNR=18							
TKM2	Tokmak 2	6.38	30	↑P		Pn	18 51 02.1	+1.4
	1.2nm,0.5s							
TKM2				↑S		Sn	18 52 14.6	+0.3
	0.8nm,0.4s							
AB31	Akbulak array	14.38	329	↓P		Pn	18 52 47.2	-3.0
	0.4nm,0.7s,baz=156,slow=12,SNR=4.6							

*ISCJB **13** 18:56:25.5±1.8, 68N±08×730W±08, h169km±58km, mb3.8/3, Error ellipse: s-maj=184.7km s-min=10.0km az=87.3*
*NEIC **13** 18:56:26.5±2.3, 672N×7290W, h173km±62km, Error ellipse: s-maj=182.5km s-min=15.4km az=134.0*
*IDC **13** 18:56:26.1±1.6, 681N×7302W, h159km±56km, mb3.5/3, mb1 3.8/5, mb1mx3.4/21, mbtmp4.1/5, Error ellipse: s-maj=157.9km s-min=8.2km az=133.0*

ISC 13 18:56:26.7±1.9, 68N±08×730W±09, h164km±59km, n7, σ0§45/11, mb3.8/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.36	214	P		Pn	18 57 07.3	+0.5
	70nm,0.3s,baz=327,slow=4.0,SNR=86							
ROSC				S		Sn	18 57 37.3	-0.4
	44nm,0.3s,baz=90,slow=21,SNR=6.9							
SDV	Santo Domingo	3.12	49	P		Pn	18 57 16.4	+0.4
	40nm,0.3s,baz=238,slow=4.7,SNR=220							
SDV				S		Sn	18 57 54.4	+0.1
	15nm,0.3s,baz=88,slow=18,SNR=23							
SDV	Santo Domingo	3.12	49	P		Pn	18 57 16.4	+0.4
SDV				eS		Sn	18 57 53.2	-1.1
SDV				S		Sn	18 57 54.4	+0.1
ULM	Lac du Bonnet	47.33	340	P		P	19 04 43.9	+0.1
	1.7nm,0.3s,mb4.1,baz=124,slow=6.6,SNR=3.4							
PDAR	Pinedale Array	48.15	324	P		P	19 04 50.4	+0.3
	0.5nm,0.7s,mb3.3,baz=128,slow=10,SNR=4.6							
YKA	Yellowknife Ar	63.30	340	P		P	19 06 37.4	-0.6
	1.2nm,0.5s,mb4.0,baz=132,slow=6.7,SNR=32							
YKA	Yellowknife Ar	63.30	340	P		P	19 06 37.4	-0.6

*ISCJB **13** 19:06:56.3±2.0, 2385S±009×1798W±0.1, h487km±30km, mb4.3/11, Error ellipse: s-maj=20.9km s-min=10.1km az=58.7*
*IDC **13** 19:06:56.6±2.6, 2415S×17967W, h484km±18km, mb3.9/7, mb1 4.0/7, mb1mx3.7/14, mbtmp4.8/7, Error ellipse: s-maj=41.8km s-min=20.8km az=144.0*
*NEIC **13** 19:07:01.3±2.4, 2405S×17987W, h530km±26km, mb4.4/6, Error ellipse: s-maj=21.9km s-min=16.7km az=197.0*

ISC 13 19:06:54.7±1.9, 2397S±010×1795W±02, h466km±29km, n42, σ0§95/23, mb4.3/11, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.39	37	S		S	19 11 51.6	-0.3
	2.4nm,0.3s,baz=351,slow=20,SNR=2.9							
URZ	Urewera	14.53	191	P		P	19 10 04.6	+4.1
	3.5nm,0.3s,baz=289,slow=5.1,SNR=15							
URZ				S		S	19 12 33.8	0.0
	1.4nm,0.3s,baz=76,slow=23,SNR=9.4							
ARMA	Armidale	26.42	250	eP		P	19 11 54.4	+1.8
CNB	Canberra Magne	29.20	240	eP		P	19 12 18.7	+1.6
CTA	Charters Tower	31.93	270	↓*i*P		P	19 12 41.2	+0.6
	18nm,0.3s,mb5.0							
CTA	Charters Tower	31.93	270	P		P	19 12 41.3	+0.6
	28nm,0.4s,mb5.1,baz=94,slow=10,SNR=35							
CTAO	Charters Tower	31.93	270	eP		P	19 12 41.1	+0.4
TOO	Toolangi	32.79	237	eP		P	19 12 48.4	+0.4
	7.1nm,0.6s,mb4.3							
PMG	Port Moresby	34.95	289	P		P	19 13 06.2	0.0
	29nm,0.7s,mb4.8,baz=95,slow=5.8,SNR=18							
STKA	Stephens Creek	35.11	248	eP		P	19 13 06.0	-1.6
	3.6nm,0.8s,mb3.9							
STKA	Stephens Creek	35.11	248	P		P	19 13 05.8	-1.8
	2.9nm,0.4s,mb4.0,baz=104,slow=8.6,SNR=10							
ASAR	Alice Springs	42.47	261	P		P	19 14 07.2	-0.3
	6.3nm,0.5s,mb4.3,baz=97,slow=7.2,SNR=134							
ASAR				ScP		ScP	19 18 55.0	-0.9
	2.2nm,0.8s,baz=115,slow=3.7,SNR=7.2							
WB2	Warramunga Arr	42.84	266	eP		P	19 14 09.4	-1.0
WRA	Warramunga Arr	42.85	266	P		P	19 14 09.9	-0.6
	21nm,0.6s,mb4.7,baz=104,slow=8.2,SNR=87							
FITZ	Fitzroy Crossi	51.27	265	eP		P	19 15 14.4	+0.1
	16nm,0.7s,mb4.5							
KLBR	Kellerberrin	55.38	247	eP		P	19 15 42.8	-0.8
	10.0nm,0.7s,mb4.2							
MBWA	Marble Bar	55.80	260	eP		P	19 15 45.0	-1.6
MUN	Mundaring	56.62	246	eP		P	19 15 51.5	-0.7
MJAR	Matsushiro Arr	72.21	325	P		P	19 17 31.8	+0.3
	3.9nm,0.8s,mb4.0,baz=164,slow=6.5,SNR=9.5							
MDJ	Mudanjiang	82.58	326	eP		P	19 18 29.3	+1.3
ENH	Enshi	86.85	305	eP		P	19 18 49.8	+0.9
	4.8nm,0.7s,mb4.3							
ILAR	Eielson Array	92.00	13	P		P	19 19 12.7	-0.2
	0.3nm,0.6s,mb3.4,baz=221,slow=5.1,SNR=5.0							
MKAR	Makanchi Array	112.53	313	PKiKP		PKiKP	19 24 36.5	-0.7
	0.3nm,0.4s,baz=270,slow=1.1,SNR=7.0							

ellipse: s-maj=10.9km s-min=5.7km az=96.7
IDC ***13*** *19:44:06.7±1.2, 1893N×14562E, h150km±10km, mb4.5/18, mb1 4.7/21, mb1mx4.6/23, mbtmp5.0/21, MS3.6/7, Ms1 3.6/7, ms1mx3.3/24, Error ellipse: s-maj=16.9km s-min=8.4km az=97.0*
ISC 13 19:44:05.3±0.2, 1895N±003×14564E±004, h129km, h129km±1.7km:pP-P, n196, σ1.07/204, mb4.7/79, 8C-7D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**		**2.24**	**177**	⇓*e*P		**Pn**	**19 44 40.9**	**-1.2**
SAPN	**Saipan**		**3.71**	**178**	*e*P		**Pn**	**19 44 59.8**	**-1.4**
GUMO	**Guam**		**5.38**	**188**	P		**Pn**	**19 45 25.8**	**+2.3**
	73nm,0.3s,baz=358,slow=2.3,SNR=13								
GUMO					S		**Sn**	**19 46 28.0**	**+3.7**
	82nm,0.3s,baz=175,slow=23,SNR=3.6								
GUMO	**Guam**		**5.38**	**188**	Pn		**Pn**	**19 45 25.3**	**+1.9**
GUMO					Sn		**Sn**	**19 46 22.2**	**-2.1**
CBIJ	**Chichi jima**		**8.71**	**339**	P		**Pn**	**19 46 06.2**	**-2.1**
	11nm,0.3s,baz=276,slow=21,SNR=2.7								
CBIJ					S		**Sn**	**19 47 38.8**	**-5.9**
	57nm,0.3s,baz=287,slow=22,SNR=8.5								
JOW	**Kunigami**		**17.81**	**299**	P		**Pn**	**19 48 04.5**	**-0.4**
	7.9nm,0.3s,baz=126,slow=16,SNR=9.5								
JOW					LR		LR	19 53 10.3	
	comp=Z,167nm,20.1s,baz=28,slow=31								
MJAR	**Matsushiro Arr**		**18.71**	**341**	P		**P**	**19 48 13.2**	**-0.4**
	5.8nm,0.3s,baz=108,slow=12,SNR=67								
MAJO	**Matsushiro**		**18.71**	**341**	P		**P**	**19 48 12.1**	**-1.6**
MAJO					pmax		pmax		
	comp=Z,43nm,0.5s								
MAJO	**Matsushiro**		**18.71**	**341**	P		**P**	**19 48 12.1**	**-1.5**
	comp=Z,43nm,0.5s								
MAT	**Matsushiro**		**18.71**	**341**	P		**P**	**19 48 12.6**	**-1.1**
MAT					*e*S		**S**	**19 51 37.8**	**-2.1**
MAT	**Matsushiro**		**18.71**	**341**	*e*P		**P**	**19 48 13.0**	**-0.7**
MAT					S		**S**	**19 51 38.0**	**-1.9**
MAT					pmax		pmax		
	comp=Z,36nm,0.7s								
MAT	**Matsushiro**		**18.71**	**341**	*e*P		**P**	**19 48 13.0**	**-0.7**
	comp=Z,36nm,0.7s								
MAT					S		**S**	**19 51 38.0**	**-1.9**
NACB	**Ninganchiao**		**22.95**	**287**	*e*P		**P**	**19 49 00.3**	**+2.0**
YHNB	**Yeheng**		**23.22**	**289**	*e*P		**P**	**19 49 02.4**	**+1.5**
KS15	**Wonju Array Si**		**24.10**	**324**	P		**P**	**19 49 08.6**	**-0.2**
SSE	**Sheshan**		**25.18**	**303**	P		**P**	**19 49 18.3**	**-0.4**
SSE					AP		pP	19 49 45.4	-0.6
SSE					XP		sP	19 50 01.8	+0.9
SSE					S		**S**	**19 53 35.5**	**+1.2**
SSE					XS		sS	19 54 24.3	+2.0
SSE					AMB		AMB		
	comp=Z,32nm,0.7s,mb5.0								
SSE					AMB		AMB		
	comp=Z,162nm,5.1s								
SSE					LR		LR		
	comp=N,58nm,24.1s								
SSE					LR		LR		
	comp=E,126nm,24.1s								
SSE					LR		LR		
	comp=Z,103nm,23.9s								
ASAJ	**Asahikawa**		**25.22**	**355**	P		**P**	**19 49 19.9**	**+0.9**
	comp=Z,43nm,0.6s,mb5.2,baz=223,slow=9.6,SNR=46								
ASAJ					LR		LR	19 59 07.5	
	comp=Z,59nm,19.5s,baz=126,slow=36								
QZH	**Quanzhou**		**25.76**	**288**	P		**P**	**19 49 25.9**	**+2.0**
VLA	**Vladivostok**		**26.75**	**337**	*i* P		**P**	**19 49 32.2**	**-0.6**
VLA					pmax		pmax		
	comp=Z,54nm,0.9s,mb5.2								
NJ2	**Nanjing**		**27.38**	**304**	*e*P		**P**	**19 49 40.6**	**+2.1**
NJ2					AP		pP	19 50 07.4	+1.4
NJ2					XP		sP	19 50 22.3	+1.4
NJ2					PP		PP	19 50 33.5	-9.2
NJ2					S		**S**	**19 54 09.0**	**0.0**
NJ2					AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5								
NJ2					AMB		AMB		
	comp=Z,290nm,4.8s								
NJ2					LR		LR		
	comp=N,290nm,17.7s								
NJ2					LR		LR		
	comp=E,370nm,25.9s								
NJ2					LR		LR		
	comp=Z,340nm,39.8s								
YSS	**Yuzh-Sakhalins**		**28.03**	**356**	⇓*i*P		**P**	**19 49 44.5**	**+0.3**
YSS					*e*			19 50 39.5	
YSS					pmax		pmax		
	comp=Z,50nm,0.5s,mb5.5								
YSS	**Yuzh-Sakhalins**		**28.03**	**356**	P		**P**	**19 49 44.0**	**-0.2**
PMG	**Port Moresby**		**28.21**	**177**	P		**P**	**19 49 44.1**	**-1.7**
	comp=Z,24nm,0.5s,mb5.2,baz=60,slow=4.9,SNR=29								
PMG					LR		LR	19 58 56.6	
	comp=Z,106nm,21.8s,baz=296,slow=32								
PMG	**Port Moresby**		**28.21**	**177**	P		**P**	**19 49 44.3**	**-1.6**
MDJ	**Mudanjiang**		**28.89**	**336**	P		**P**	**19 49 52.3**	**+0.5**
MDJ					AP		pP	19 50 18.8	-0.7
MDJ					XP		sP	19 50 32.0	-2.4
MDJ					PCP		PcP	19 52 58.3	+0.4
MDJ					S		**S**	**19 54 34.8**	**+2.1**
MDJ					XS		sS	19 55 20.6	-0.6
MDJ					AMB		AMB		
	comp=Z,6.0nm,0.6s,mb4.5								
MDJ					AMB		AMB		
	comp=Z,126nm,6.5s								
MDJ	**Mudanjiang**		**28.89**	**336**	P		**P**	**19 49 50.1**	**-1.7**
CN2	**Changchun**		**30.02**	**330**	*e*P		**P**	**19 50 05.0**	**+3.1**
HABR	**Khabarovsk**		**30.68**	**346**	*e*P		**P**	**19 50 08.0**	**+0.4**
HABR					*e*S		**S**	**19 55 01.5**	**+0.8**
HABR					pmax		pmax		
	comp=Z,70nm,1.0s,mb5.3								
KKM	**Kota Kinabalu**		**31.39**	**250**	*e*P		**P**	**19 50 16.8**	**+2.9**
KLR	**Kul'dur**		**32.21**	**343**	⇑*i*P		**P**	**19 50 18.2**	**-2.9**
KLR					pmax		pmax		
	comp=E,40nm,1.0s								
KLR					pmax		pmax		
	comp=Z,72nm,1.0s,mb5.4								
BJT	**Baijiatuau**		**32.91**	**316**	P		**P**	**19 50 27.3**	**+0.1**
BJI	**Beijing**		**32.91**	**316**	*e*P		**P**	**19 50 26.6**	**-0.6**
BJI					AMB		AMB		
	comp=Z,28nm,1.1s,mb4.9								
KAKA	**Kakadu**		**34.04**	**203**	*e*P		**P**	**19 50 36.2**	**-0.8**
	comp=Z,32nm,0.5s,mb5.3								
PET	**Petropavlovsk**		**35.48**	**14**	⇓*i*P		**P**	**19 50 48.2**	**-1.2**
PET					pmax		pmax		
	comp=Z,124nm,1.7s,mb5.3								
HHC	**Hu-ho-hao-te**		**36.39**	**314**	*e*P		**P**	**19 50 57.6**	**+0.5**
HHC					AP		pP	19 51 25.6	+0.2
HHC					XP		sP	19 51 40.1	0.0
HHC					PP		PP	19 52 25.4	+3.0
HHC					PCP		PcP	19 53 19.9	+1.2
HHC					S		**S**	**19 56 29.3**	**+0.5**
HHC					XS		sS	19 57 17.9	-0.2
HHC					SS		SS	19 59 02.3	-10
HHC					SCS		ScS	20 00 57.6	-2.1
HHC					AMB		AMB		
	comp=Z,14nm,0.4s,mb4.9								
HHC					AMB		AMB		
	comp=Z,118nm,5.9s								
HHC					LR		LR		
	comp=N,253nm,5.9s								
HHC					LR		LR		
	comp=E,221nm,5.1s								
HHC					LR		LR		
	comp=Z,162nm,5.3s								
HIA	**Hailar**		**36.72**	**331**	P		**P**	**19 50 59.1**	**-0.7**
HIA					pmax		pmax		
	comp=Z,12nm,0.6s								
HIA	**Hailar**		**36.72**	**331**	P		**P**	**19 50 59.1**	**-0.8**
	comp=Z,12nm,0.6s,mb4.7								
BTO	**Baotou**		**37.34**	**313**	*e*P		**P**	**19 51 05.8**	**+0.7**
CTA	**Charters Tower**		**38.80**	**179**	*e*P		**P**	**19 51 16.7**	**-0.7**
	comp=Z,14nm,1.1s,mb4.5								
CTA	**Charters Tower**		**38.80**	**179**	*e*P		**P**	**19 51 16.7**	**-0.7**
CTA					pmax		pmax		
	comp=Z,14nm,1.1s								
CD2	**Chengdu**		**39.59**	**296**	*e*P		**P**	**19 51 25.6**	**+1.7**
CD2					AP		pP	19 51 53.8	+1.2
CD2					XP		sP	19 52 08.5	+1.3
CD2					PP		PP	19 53 02.3	+5.0
CD2					S		**S**	**19 57 16.1**	**-1.0**
CD2					AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8								
CD2					AMB		AMB		
	comp=Z,90nm,5.9s								
CD2					LR		LR		
	comp=N,200nm,12.0s								
CD2					LR		LR		
	comp=Z,170nm,16.8s								
FX1	**Attu Island--F**		**40.05**	**26**	P		**P**	**19 51 28.6**	**+0.9**
	comp=Z,27nm,0.7s,mb5.0,baz=90,slow=4.4,SNR=7.4								
FX1	**Attu Island--F**		**40.05**	**26**	*e*P		**P**	**19 51 28.4**	**+0.6**
KMI	**Kunming**		**40.11**	**287**	P		**P**	**19 51 29.6**	**+1.4**
KMI					AMB		AMB		
	comp=Z,6.0nm,1.3s,mb4.1								
WRAB	**Tennant Creek**		**40.20**	**197**	*c i*P		**P**	**19 51 29.0**	**+0.1**
WRAB	**Tennant Creek**		**40.20**	**197**	P		**P**	**19 51 28.6**	**-0.3**
WB2	**Warramunga Arr**		**40.20**	**197**	*e*P		**P**	**19 51 28.5**	**-0.5**
WRA	**Warramunga Arr**		**40.21**	**197**	P		**P**	**19 51 28.6**	**-0.4**
	comp=Z,75nm,0.6s,mb5.5,baz=16,slow=8.8,SNR=546								
LZH	**Lanzhou**		**40.46**	**304**	*e*P		**P**	**19 51 34.3**	**+3.2**
LZH					AP		pP	19 52 00.5	+0.6
LZH					XP		sP	19 52 15.1	+0.7
LZH					PP		PP	19 53 10.9	+4.1
LZH					*e*S		**S**	**19 57 30.8**	**+0.7**
LZH					*e*SS		SS	20 00 29.5	-5.0
LZH					AMB		AMB		
	comp=Z,25nm,1.4s,mb4.7								
LZH					AMB		AMB		
	comp=Z,95nm,4.6s								
FITZ	**Fitzroy Crossi**		**41.73**	**209**	⇑*i*P		**P**	**19 51 42.2**	**+0.7**
	comp=Z,91nm,0.7s,mb5.5								
ULN	**Ulaanbaatar**		**42.54**	**322**	P		**P**	**19 51 48.2**	**+0.1**
ULN					pmax		pmax		
	comp=Z,14nm,0.6s,mb4.8								
ULN	**Ulaanbaatar**		**42.54**	**322**	P		**P**	**19 51 48.2**	**+0.1**
	comp=Z,14nm,0.6s,mb4.8								
ULN					*e*ScP		ScP	19 57 14.3	-2.7
SONM	**Songino Array**		**42.91**	**321**	P		**P**	**19 51 51.1**	**0.0**
	comp=Z,12nm,0.6s,mb4.7,baz=132,slow=9.6,SNR=152								
SONM					ScP		ScP	19 57 16.3	-2.2
	comp=Z,0.5nm,0.4s,baz=132,slow=4.5,SNR=8.9								
SONM					LR		LR	20 08 40.5	
	comp=Z,75nm,19.7s,baz=114,slow=34								
SONM	**Songino Array**		**42.91**	**321**	P		**P**	**19 51 51.1**	**0.0**
SONM					ScP		ScP	19 57 16.3	-2.2
SONM					LR		LR	20 08 40.5	
AS31	**Alice Springs**		**43.88**	**196**	*e*P		**P**	**19 51 58.1**	**-0.7**
ASAR	**Alice Springs**		**43.88**	**196**	P		**P**	**19 51 58.1**	**-0.6**
	comp=Z,16nm,0.5s,mb4.9,baz=20,slow=7.8,SNR=230								
ASAR					ScP		ScP	19 57 20.3	-2.2
	comp=Z,0.9nm,0.7s,baz=21,slow=4.5,SNR=5.5								
ASAR					S		**S**	**19 58 19.6**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=21,slow=19,SNR=4.5								
ASPA	**Alice Springs**		**43.88**	**196**	*e*P		**P**	**19 51 58.1**	**-0.7**
SEY	**Seymchan**		**44.19**	**4**	*e*P		**P**	**19 52 01.6**	**+0.3**
SEY					*SP		sP	19 52 48.4	+3.5
SEY					*e*			19 53 48.5	
SEY					*e*S		**S**	**19 58 26.1**	**+1.3**
SEY					*e*SS		SS	20 01 45.9	-1.5
SEY					pmax		pmax		
	comp=N,10.0nm,0.7s								
SEY					pmax		pmax		
	comp=Z,14nm,0.7s,mb4.7								
SEY					pmax		pmax		
	comp=E,12nm,0.8s								
SEY					smax				
	comp=N,110nm,22.9s								
SEY					smax				
	comp=E,140nm,20.8s								
GTA	**Gaotai**		**44.35**	**307**	*e*P		**P**	**19 52 04.1**	**+1.5**
GTA					AP		pP	19 52 35.9	+4.1
GTA					XP		sP	19 52 46.9	+0.7
GTA					SCP		ScP	19 57 22.9	-1.5
GTA					AMB		AMB		
	comp=Z,2.0nm,0.5s,mb4.0								
YAK	**Yakutsk**		**44.47**	**349**	*d i*P		**P**	**19 52 03.3**	**-0.2**
YAK					pmax		pmax		
	comp=N,11nm,0.9s								
YAK					pmax		pmax		
	comp=E,6.0nm,0.9s								
YAK					pmax		pmax		
	comp=Z,75nm,0.9s,mb5.3								
YAK	**Yakutsk**		**44.47**	**349**	P		**P**	**19 52 02.7**	**-0.8**
BOD	**Bodaibo**		**45.26**	**337**	*e*P		**P**	**19 52 06.2**	**-3.6**
BOD					pmax		pmax		
	comp=Z,3.0nm,1.6s,mb3.7								
ZAK	**Zakamensk**		**45.92**	**323**	*e*P		**P**	**19 52 14.1**	**-0.8**
ZAK					pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.4								
MBWA	**Marble Bar**		**47.25**	**214**	*e*P		**P**	**19 52 26.0**	**+0.6**
	comp=Z,13nm,0.5s,mb4.8								
ARMA	**Armidale**		**49.42**	**173**	*e*P		**P**	**19 52 40.9**	**-1.1**
LSA	**Lhasa**		**50.40**	**293**	P		**P**	**19 52 52.0**	**+2.6**
STKA	**Stephens Creek**		**50.68**	**184**	*e*P		**P**	**19 52 47.9**	**-3.6**
	comp=Z,7.8nm,0.6s,mb4.5								
STKA	**Stephens Creek**		**50.68**	**184**	P		**P**	**19 52 48.1**	**-3.4**
	comp=Z,8.8nm,0.5s,mb4.6,baz=5.0,slow=6.5,SNR=41								
BILL	**Bilibino**		**50.78**	**10**	*e*P		**P**	**19 52 52.1**	**-0.1**
BILL					pmax		pmax		
	comp=Z,61nm,0.8s,mb5.3								
BILL	**Bilibino**		**50.78**	**10**	*e*P		**P**	**19 52 52.1**	**-0.2**
	comp=Z,61nm,0.8s,mb5.3								
TIXI	**Tiksi**		**53.62**	**353**	*d i*P		**P**	**19 53 11.6**	**-1.6**
TIXI					pmax		pmax		
	comp=Z,5.0nm,0.4s,mb4.6								
TIXI	**Tiksi**		**53.62**	**353**	P		**P**	**19 53 11.7**	**-1.5**
WMQ	**Urumqi**		**54.10**	**311**	P		**P**	**19 53 18.3**	**+1.6**
WMQ					AP		pP	19 53 47.8	+0.9
WMQ					XP		sP	19 54 02.0	+0.9
WMQ					AMB		AMB		
	comp=Z,13nm,1.0s,mb4.6								
WMQ					AMB		AMB		
	comp=Z,89nm,3.6s								
JIRN	**Jiri**		**54.85**	**291**	*e*P		**P**	**19 53 23.2**	**+1.1**
	comp=Z,14nm,0.5s,mb4.9								
GUN	**Gumba**		**55.10**	**291**	*e*P		**P**	**19 53 25.2**	**+1.3**
TNA	**Tin City**		**55.60**	**21**	P		**P**	**19 53 27.4**	**-0.2**
	comp=Z,12nm,0.8s,mb4.8								
KKN	**Kakani**		**55.64**	**291**	*e*P		**P**	**19 53 28.6**	**+0.8**
	comp=Z,8.7nm,0.7s,mb4.7								
DMN	**Daman**		**55.81**	**291**	*e*P		**P**	**19 53 29.7**	**+0.7**
	comp=Z,6.4nm,0.5s,mb4.7								
GKN	**Gorkha**		**56.19**	**291**	*e*P		**P**	**19 53 32.4**	**+0.7**
	comp=Z,7.3nm,0.4s,mb4.8								
KLBR	**Kellerberrin**		**56.93**	**208**	*e*P		**P**	**19 53 36.9**	**0.0**
	comp=Z,31nm,0.9s,mb5.1								
KOLN	**Koldanda**		**57.12**	**291**	*e*P		**P**	**19 53 39.0**	**+0.7**
	comp=Z,6.8nm,0.7s,mb4.6								
ZAL	**Zalesovo**		**57.79**	**322**	LR		LR	20 19 35.4	
	comp=Z,62nm,20.5s,baz=266,slow=37								
MUN	**Mundaring**		**57.97**	**210**	*e*P		**P**	**19 53 44.3**	**+0.1**
MKAR	**Makanchi Array**		**58.25**	**314**	P		**P**	**19 53 45.9**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.4,baz=46,slow=6.9,SNR=43								
MKAR					ScP		ScP	19 58 21.5	-2.7
	comp=Z,0.5nm,0.5s,baz=79,slow=7.5,SNR=3.7								
NVS	**Novosibirsk**		**58.88**	**323**	*e*P		**P**	**19 53 49.2**	**-1.3**
KDAK	**Kodiak Island**		**59.18**	**33**	P		**P**	**19 53 52.5**	**-0.1**
	comp=Z,20nm,0.7s,mb5.0,baz=307,slow=0.5,SNR=11								
SLKM	**Skilak Lake**		**61.00**	**31**	P		**P**	**19 54 04.2**	**-0.8**
KURK	**Kurchatov**		**61.05**	**318**	*de*P		**P**	**19 54 04.1**	**-1.2**
KURK					*i* *PP		pP	19 54 35.5	-0.7
KURK	**Kurchatov**		**61.05**	**318**	P		**P**	**19 54 04.2**	**-1.1**
FIB	**Fire Island**		**61.18**	**30**	P		**P**	**19 54 06.0**	**-0.2**
PMR	**Palmer**		**61.76**	**30**	P		**P**	**19 54 08.8**	**-1.3**
SML	**Sawmill**		**62.18**	**29**	*e*P		**P**	**19 54 12.2**	**-0.7**
MCK	**McKinley**		**62.34**	**27**	P		**P**	**19 54 13.2**	**-0.8**
MCK					pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.6								
MCK	**McKinley**		**62.34**	**27**	P		**P**	**19 54 13.2**	**-0.8**
	comp=Z,6.9nm,0.7s,mb4.6								
TKM2	**Tokmak 2**		**62.85**	**309**	*i* P		**P**	**19 54 18.0**	**+0.6**
TKM2					pmax		pmax		
	comp=Z,9.0nm,1.7s,mb4.3								
COLA	**College**		**63.07**	**26**	*e*P		**P**	**19 54 17.8**	**-1.0**
COLA					pmax		pmax		
	comp=Z,22nm,0.8s,mb5.0								
COLA	**College**		**63.07**	**26**	*e*P		**P**	**19 54 17.8**	**-1.0**
	comp=Z,22nm,0.8s,mb5.0								
DIV	**Divide**		**63.26**	**30**	P		**P**	**19 54 11.6**	**-8.5**
ILAR	**Eielson Array**		**63.45**	**26**	P		**P**	**19 54 19.5**	**-1.8**
	comp=Z,25nm,0.8s,mb5.1,baz=254,slow=5.3,SNR=210								
ILAR					LR		LR	20 21 51.4	
	comp=Z,40nm,19.0s,baz=178,slow=36								
AAK	**Ala-Archa**		**63.67**	**309**	⇓*i*P		**P**	**19 54 22.4**	**-0.4**
BVA0	**Borovoye Array**		**66.25**	**320**	*i* P		**P**	**19 54 38.1**	**-1.3**
BVA0					pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.8								
BRVK	**Borovoye**		**66.31**	**320**	P		**P**	**19 54 38.5**	**-1.3**
KK31	**Karatay Array**		**66.57**	**310**	*i* P		**P**	**19 54 41.0**	**-0.5**
KK31					pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.5								
KKAR	**Karatay Array**		**66.57**	**310**	*i* P		**P**	**19 54 41.0**	**-0.5**
KKAR					pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.1								
INK	**Inuvik**		**69.17**	**23**	P		**P**	**19 54 57.0**	**-0.7**
ARU	**Arti**		**72.83**	**324**	⇑*i*P		**P**	**19 55 18.3**	**-1.6**
ARU					*e*			19 57 58.5	
ARU					*e*PPP			19 59 41.7	
ARU					*e*S		S	20 04 35.2	-0.3
ARU					*e*SS		SS	20 09 17.1	-0.9
ARU					pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.3								
ARU	**Arti**		**72.83**	**324**	P		**P**	**19 55 18.8**	**-1.0**
	comp=Z,4.3nm,0.3s,mb4.7								
AB31	**Akbulak array**		**73.12**	**317**	P		**P**	**19 55 20.8**	**-0.8**
GNW	**Green Mountain**		**77.27**	**44**	P		**P**	**19 55 46.6**	**+1.3**
JCW	**Jim Creek**		**77.70**	**43**	P		**P**	**19 55 48.5**	**+0.8**
YKW3	**Yellowknife Ar**		**77.77**	**28**	P		**P**	**19 55 47.1**	**-1.0**
YKA	**Yellowknife Ar**		**77.80**	**28**	P		**P**	**19 55 47.4**	**-0.8**
	comp=Z,16nm,0.7s,mb4.8,baz=290,slow=5.6,SNR=216								
YKA					LR		LR	20 27 19.5	
	comp=Z,57nm,20.4s,baz=235,slow=33								
LON	**Longmire**		**78.15**	**45**	P		**P**	**19 55 50.6**	**+0.4**
FMW	**Mount Fremont**		**78.19**	**44**	P		**P**	**19 55 51.1**	**+0.7**
HBO	**Huckleberry Mo**		**78.56**	**48**	P		**P**	**19 55 53.1**	**+0.6**
VLL	**Laurance Lake**		**78.57**	**46**	P		**P**	**19 55 53.4**	**+0.8**
YBH	**Yreka Blue Hor**		**78.83**	**50**	P		**P**	**19 55 55.2**	**+1.2**
YBH					pmax		pmax		
	comp=Z,15nm,1.1s								
YBH	**Yreka Blue Hor**		**78.83**	**50**	P		**P**	**19 55 55.2**	**+1.2**
	comp=Z,15nm,1.1s,mb4.5								
TBM	**Table Mountain**		**78.84**	**44**	P		**P**	**19 55 54.6**	**+0.6**
KBS	**Kingsbay**		**79.03**	**352**	⇑*e*P		**P**	**19 55 54.5**	**-0.5**
RES	**Resolute Bay**		**79.20**	**14**	P		**P**	**19 55 55.1**	**-0.8**
RES					pmax		pmax		
	comp=Z,14nm,0.7s,mb4.7								
RES	**Resolute Bay**		**79.20**	**14**	P		**P**	**19 55 55.1**	**-0.8**
	comp=Z,14nm,0.7s,mb4.7								
EPH	**Ephrata**		**79.44**	**44**	P		**P**	**19 55 57.4**	**+0.1**
SAW	**Saint Andrews**		**79.47**	**43**	P		**P**	**19 55 57.6**	**+0.2**
HAWA	**Hanford**		**79.76**	**44**	P		**P**	**19 55 59.7**	**+0.8**
WRD	**Warden**		**79.89**	**44**	P		**P**	**19 55 59.9**	**+0.2**
EDM	**Edmonton**		**81.42**	**37**	*e*P		**P**	**19 56 07.6**	**-0.2**
WVOR	**Wild Horse Val**		**81.54**	**48**	*e*P		**P**	**19 56 08.7**	**+0.2**
WVOR					pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.5								
WVOR	**Wild Horse Val**		**81.54**	**48**	*e*P		**P**	**19 56 08.7**	**+0.2**
	comp=Z,10nm,0.8s,mb4.5								
CMB	**Columbia Colle**		**81.59**	**53**	P		**P**	**19 56 09.2**	**+0.5**
CMB					pmax		pmax		
	comp=Z,11nm,0.8s,mb4.5								
CMB	**Columbia Colle**		**81.59**	**53**	P		**P**	**19 56 09.2**	**+0.4**
	comp=Z,11nm,0.8s,mb4.5								
KEV	**Kevo**		**81.68**	**342**	*e*p		**P**	**19 56 06.2**	**-3.0**
	comp=Z,7.1nm,0.4s,mb4.7								
KEV	**Kevo**		**81.68**	**342**	*e*P		**P**	**19 56 06.2**	**-3.0**
KEV					pmax		pmax		
	comp=Z,7.0nm,0.4s,mb4.6								
BMO	**Blue Mountains**		**81.71**	**46**	P		**P**	**19 56 09.5**	**+0.2**
BMO					pmax		pmax		
	comp=Z,14nm,1.0s,mb4.5								
BMO	**Blue Mountains**		**81.71**	**46**	P		**P**	**19 56 09.5**	**+0.2**
	comp=Z,14nm,1.0s,mb4.5								
PAHR	**Pah Rah Range**		**81.83**	**51**	P		**P**	**19 56 10.7**	**+0.7**
WAKR	**Walker**		**82.16**	**52**	P		**P**	**19 56 12.9**	**+1.2**
ARCES	**ARCESS Array B**		**82.24**	**342**	P		**P**	**19 56 10.9**	**-1.2**
	comp=Z,10nm,0.5s,mb4.7,baz=74,slow=7.3,SNR=70								
BSMT	**Bassoo Peak**		**82.38**	**42**	P		**P**	**19 56 13.7**	**+0.8**
NVAR	**Mina Array Bea**		**83.03**	**52**	P		**P**	**19 56 16.9**	**+0.7**
	comp=Z,15nm,0.7s,mb4.8,baz=268,slow=4.3,SNR=89								
NVAR	**Mina Array Bea**		**83.03**	**52**	P		**P**	**19 56 16.9**	**+0.7**
MTUM	**Tungsten Hills**		**83.17**	**53**	*e*P		**P**	**19 56 17.6**	**+0.6**
JOF	**Joensuu**		**83.77**	**335**	*e*p		**P**	**19 56 18.3**	**-1.7**
	comp=Z,14nm,0.5s,mb4.9								
TPH	**Tonopah**		**83.95**	**52**	P		**P**	**19 56 21.4**	**+0.5**
TPH					pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.7								
TPH	**Tonopah**		**83.95**	**52**	P		**P**	**19 56 21.4**	**+0.5**
	comp=Z,9.8nm,0.6s,mb4.7								
HLID

comp=Z,1.5nm,0.6s,baz=0.0,slow=4.0,SNR=3.8
PLCA SKPbc SKPbc 20 06 46.4 -1.7
comp=Z,2.7nm,0.8s,baz=187,slow=7.3,SNR=5.0
LPAZ La Paz 147.73 91 PKPbc PKPbc 20 03 33.5 -1.3
comp=Z,2.8nm,0.7s,baz=3.7,slow=3.9,SNR=7.8
LPAZ La Paz 147.73 91 *e*PKPdf PKPdf 20 03 33.0 +1.2
LPAZ pPKPdf pPKPdf 20 04 09.2 +2.8
SAML Samuel 150.36 74 *e*PKPbc PKPbc 20 03 41.2 -0.1
SAML pPKPdf pPKPdf 20 04 14.4 +3.8

IDC 13 20:02:45.3±2.7, 675N×12521E, h609km±40km, mb3.0/4, mb1 3.1/4, mbImx2.8/19, mbtmp4.1/4, 1C, Error ellipse: s-maj=151.9km s-min=11.8km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.00**	**161**	P	P	20 07 49.3	+0.1
	2.4nm,0.3s,baz=341,slow=9.1,SNR=120						
WRA				S	S	20 11 52.3	0.0
	0.2nm,0.5s,baz=334,slow=17,SNR=4.3						
WB2	**Warramunga Arr**	**28.00**	**161**	⇑*i*P	P	20 07 49.7	+0.5
ASPA	**Alice Springs**	**31.39**	**165**	*e*P	P	20 08 19.3	+1.0
ASAR	**Alice Springs**	**31.40**	**165**	P	P	20 08 19.1	+0.8
	0.8nm,0.3s,baz=340,slow=7.0,SNR=27						
ASAR				S	S	20 12 45.6	+1.2
	0.9nm,0.8s,baz=352,slow=24,SNR=7.1						
STKA	**Stephens Creek**	**41.47**	**159**	P	P	20 09 40.5	-0.2
	0.5nm,0.3s,baz=352,slow=7.1,SNR=2.7						
MKAR	**Makanchi Array**	**54.23**	**325**	P	P	20 11 14.9	-0.5
	1.1nm,0.4s,baz=115,slow=3.9,SNR=9.2						
MKAR				PcP	PcP	20 12 10.7	+0.8
	0.3nm,0.4s,baz=108,slow=2.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**120.52**	**289**	PKP	PKPdf	20 20 29.9	+1.1
	0.3nm,0.6s,baz=75,slow=1.6,SNR=5.2						

*BJI **13** 20:16:59.4, 1339N×14556E, h135km, mB5.2, mb4.7*
*ISCJB **13** 20:17:05.0±0.7, 1379N±006×1450E±01, h135km±5km, mb4.3/28, Error ellipse: s-maj=16.7km s-min=9.2km az=151.9*
*MOS **13** 20:17:04.5±0.8, 1387N×145.12E, h136km, mb4.6/1, Error ellipse: s-maj=20.4km s-min=11.5km az=108.9*
*IDC **13** 20:17:05.7±0.4, 1386N×144.96E, h125km±3km, mb4.0/16, mb1 4.1/16, mb1mx4.1/23, mbtmp4.4/16, Error ellipse: s-maj=17.9km s-min=10.9km az=83.0*
*NEIC **13** 20:17:06.5±0.9, 1380N×144.98E, h135km±8km, mb4.6/4, Error ellipse: s-maj=14.5km s-min=8.3km az=80.0*

ISC 13 20:17:06.2±0.6, 1381N±006×1450E±01, h131km±5km, n47, σ1°06/45, mb4.3/28, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.27**	**214**	P	**Pn**	**20 17 24.7**	**+0.4**
	1μm,0.3s,baz=136,slow=2.5,SNR=523						
GUMO				S	**Sn**	**20 17 37.5**	**-0.5**
	2μm,0.3s,baz=270,slow=20,SNR=193						
JOW	**Kunigami**	**20.33**	**312**	P	**P**	**20 21 32.9**	**+0.9**
	24nm,0.4s,baz=138,slow=14,SNR=6.9						
PMG	**Port Moresby**	**23.16**	**175**	P	**P**	**20 22 01.6**	**+0.6**
	8.9nm,0.7s,mb4.3,baz=210,slow=4.8,SNR=4.0						
TGY	**Tagaytay City**	**23.38**	**274**	P	**P**	**20 22 03.2**	**+0.2**
	126nm,0.3s,baz=62,slow=12,SNR=3.7						
MJAR	**Matsushiro Arr**	**23.44**	**346**	P	**P**	**20 22 02.4**	**-1.2**
	1.0nm,0.4s,mb3.6,baz=165,slow=8.6,SNR=5.6						
CTA	**Charters Tower**	**33.71**	**178**	P	**P**	**20 23 35.5**	**+0.7**
	2.1nm,0.4s,mb4.2,baz=345,slow=13,SNR=5.5						
CTA	**Charters Tower**	**33.71**	**178**	P	**P**	**20 23 35.5**	**+0.7**
WB2	**Warramunga Arr**	**35.15**	**198**	*e*P	**P**	**20 23 46.6**	**-0.6**
WRA	**Warramunga Arr**	**35.15**	**198**	P	**P**	**20 23 46.9**	**-0.3**
	4.7nm,0.6s,mb4.3,baz=15,slow=8.5,SNR=71						
WRA				ScP	ScP	20 29 49.5	+0.4
	0.6nm,0.8s,baz=13,slow=4.1,SNR=4.7						
ENH	**Enshi**	**36.60**	**302**	*e*P	**P**	**20 24 00.4**	**+0.9**
	9.3nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**37.03**	**212**	*e*P	**P**	**20 24 03.2**	**0.0**
	2.2nm,0.3s,mb4.3						
XAN	**Xi'an**	**38.38**	**308**	P	**P**	**20 24 14.8**	**+0.3**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.5						
AS31	**Alice Springs**	**38.80**	**196**	*e*P	**P**	**20 24 18.0**	**-0.1**
ASAR	**Alice Springs**	**38.80**	**196**	P	**P**	**20 24 18.1**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.0,baz=21,slow=13,SNR=30						
ASPA	**Alice Springs**	**38.80**	**196**	*e*P	**P**	**20 24 18.0**	**-0.1**
HIA	**Hailar**	**41.01**	**335**	*e*P	**P**	**20 24 36.9**	**+0.6**
DZM	**Mont Dzumac**	**41.39**	**149**	P	**P**	**20 24 41.4**	**+2.0**
	comp=Z,16nm,0.5s,mb4.9,baz=323,slow=4.3,SNR=19						
LZH	**Lanzhou**	**43.00**	**309**	*e*P	**P**	**20 24 54.3**	**+1.8**
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.6						
STKA	**Stephens Creek**	**45.55**	**184**	*e*P	**P**	**20 25 10.4**	**-2.3**
	comp=Z,4.3nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**45.55**	**184**	P	**P**	**20 25 10.4**	**-2.3**
	comp=Z,6.4nm,0.4s,mb4.6,baz=2.7,slow=7.6,SNR=28						
SONM	**Songino Array**	**46.64**	**325**	P	**P**	**20 25 21.7**	**+0.4**
	comp=Z,1.1nm,0.6s,mb3.7,baz=134,slow=7.5,SNR=14						
SONM				PcP	PcP	20 26 52.3	-0.7
	comp=Z,0.8nm,0.7s,baz=154,slow=3.6,SNR=4.1						
SONM				ScP	ScP	20 30 34.2	-0.1
	comp=Z,0.4nm,0.9s,baz=114,slow=3.3,SNR=3.6						
SONM	**Songino Array**	**46.64**	**325**	P	**P**	**20 25 21.7**	**+0.4**
SONM						20 26 52.3	
GTA	**Gaotai**	**47.14**	**311**	*e*P	**P**	**20 25 26.3**	**+1.1**
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.5						
LSA	**Lhasa**	**52.03**	**297**	*e*P	**P**	**20 26 03.8**	**+1.6**
JIRN	**Jiri**	**56.26**	**294**	*e*P	**P**	**20 26 33.1**	**+0.2**
	comp=Z,5.7nm,0.6s,mb4.6						
GUN	**Gumba**	**56.54**	**294**	*e*P	**P**	**20 26 35.1**	**+0.2**
	comp=Z,9.0nm,0.7s,mb4.7						
KKN	**Kakani**	**57.07**	**294**	*e*P	**P**	**20 26 36.9**	**-1.7**
GKN	**Gorkha**	**57.64**	**294**	*e*P	**P**	**20 26 39.5**	**-3.1**
	comp=Z,4.3nm,0.5s,mb4.6						
DANN	**Dangsing**	**58.42**	**295**	*e*P	**P**	**20 26 42.2**	**-5.8**
KOLN	**Koldanda**	**58.55**	**294**	*e*P	**P**	**20 26 44.2**	**-4.8**
	comp=Z,4.2nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**61.44**	**316**	P	**P**	**20 27 08.9**	**+0.3**
	comp=Z,4.5nm,0.6s,mb4.5,baz=40,slow=6.3,SNR=55						
KDAK	**Kodiak Island**	**63.80**	**32**	P	**P**	**20 27 24.9**	**+0.5**
	comp=Z,6.5nm,1.0s,mb4.4,baz=292,slow=5.4,SNR=5.6						
KURK	**Kurchatov**	**64.51**	**320**	*e*P	**P**	**20 27 28.2**	**-0.8**
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
KURK	**Kurchatov**	**64.51**	**320**	*e*P	**P**	**20 27 28.2**	**-0.7**
	comp=Z,12nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**68.30**	**25**	P	**P**	**20 27 51.0**	**-2.1**
	comp=Z,1.4nm,0.4s,mb4.1,baz=253,slow=5.7,SNR=43						
KKAR	**Karatay Array**	**69.42**	**311**	*i* P	**P**	**20 27 59.9**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
BVA0	**Borovoye Array**	**69.85**	**322**	*i* P	**P**	**20 28 02.2**	**-0.4**
BRVK	**Borovoye**	**69.91**	**322**	*e*P	**P**	**20 28 02.8**	**-0.2**
AB31	**Akbulak array**	**76.48**	**318**	*i* P	**P**	**20 28 41.1**	**-0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
YKA	**Yellowknife Ar**	**82.59**	**27**	P	**P**	**20 29 13.8**	**-0.8**
	comp=Z,0.8nm,0.4s,mb3.8,baz=288,slow=5.1,SNR=21						
NVAR	**Mina Array Bea**	**86.66**	**51**	P	**P**	**20 29 37.6**	**+2.5**
	comp=Z,2.6nm,0.7s,mb4.2,baz=267,slow=4.5,SNR=19						
ARCES	**ARCESS Array B**	**86.92**	**342**	P	**P**	**20 29 35.0**	**-1.3**
	comp=Z,4.0nm,0.8s,mb4.3,baz=56,slow=7.4,SNR=5.1						
FINES	**FINESS Array B**	**91.03**	**335**	P	**P**	**20 29 53.5**	**-2.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=70,slow=4.6,SNR=9.9						
PDAR	**Pinedale Array**	**91.70**	**45**	P	**P**	**20 29 59.8**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=235,slow=2.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**134.86**	**305**	PKP	PKPdf	20 36 11.2	+1.6
	comp=Z,1.5nm,0.8s,baz=29,slow=2.8,SNR=8.3						
DBIC	**Dimbokro**	**143.83**	**302**	PKP	PKPdf	20 36 24.8	-1.1
	comp=Z,2.7nm,0.4s,baz=110,slow=2.3,SNR=18						
LPAZ	**La Paz**	**147.91**	**99**	PKPbc	PKPbc	20 36 38.9	+2.9
	comp=Z,0.9nm,0.5s,baz=28,slow=5.6,SNR=6.3						

*ISCJB **13** 20:37:34.5±5.7, 242S±0.1×1798W±02, h428km±64km, mb3.8/8, Error ellipse: s-maj=27.3km s-min=17.5km az=112.8*
*IDC **13** 20:37:39.7±2.8, 2441S×17976W, h483km±29km, mb3.5/8, mb1 3.7/9, mb1mx3.6/15, mbtmp4.3/9, Error ellipse: s-maj=22.3km s-min=19.8km az=175.0*
*NEIC **13** 20:37:41.3±2.4, 2450S×17981W, h503km±29km, mb4.4/2, Error ellipse: s-maj=24.0km s-min=11.9km az=188.0*

ISC 13 20:37:39.4±4.3, 244S±02×1798W±01, h476km±54km, n30, σ0°64/17, mb3.8/8, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.09**	**190**	P	**P**	**20 40 40.2**	**-0.1**
	5.1nm,0.3s,baz=4.9,slow=3.4,SNR=13						
URZ				S	**S**	**20 43 09.9**	**+0.2**
	1.6nm,0.3s,baz=177,slow=20,SNR=6.1						
RPZ	**Rata Peaks**	**20.71**	**199**	P	**P**	**20 41 45.3**	**-0.3**
	19nm,0.5s,baz=35,slow=3.9,SNR=18						
CTA	**Charters Tower**	**31.68**	**271**	*e*P	**P**	**20 43 23.3**	**+0.7**
	6.3nm,0.4s,mb4.4						
CTA	**Charters Tower**	**31.68**	**271**	P	**P**	**20 43 23.6**	**+1.0**
	9.2nm,0.4s,mb4.6,baz=92,slow=8.9,SNR=22						
CTAO	**Charters Tower**	**31.68**	**271**	*e*P	**P**	**20 43 23.3**	**+0.7**
STKA	**Stephens Creek**	**34.74**	**249**	P	**P**	**20 43 47.4**	**-1.1**
	1.9nm,0.7s,mb3.6,baz=85,slow=8.9,SNR=6.2						
STKA	**Stephens Creek**	**34.74**	**249**	P	**P**	**20 43 47.4**	**-1.1**
ASAR	**Alice Springs**	**42.16**	**261**	P	**P**	**20 44 49.4**	**+0.4**
	1.4nm,0.5s,mb3.6,baz=94,slow=6.9,SNR=20						
ASAR				PcP	PcP	20 46 31.2	-1.4
	0.4nm,0.8s,baz=109,slow=5.1,SNR=4.0						
WB2	**Warramunga Arr**	**42.57**	**267**	*e*P	**P**	**20 44 52.1**	**-0.1**
WRAB	**Tennant Creek**	**42.57**	**267**	*e*P	**P**	**20 44 51.7**	**-0.5**
WRA	**Warramunga Arr**	**42.58**	**267**	P	**P**	**20 44 52.2**	**-0.1**
	3.8nm,0.5s,mb4.1,baz=98,slow=8.3,SNR=105						
WRA				ScP	ScP	20 49 39.2	+0.2
	0.7nm,0.9s,baz=105,slow=3.6,SNR=4.8						
WRA				S	**S**	**20 50 34.1**	**-5.6**
	0.3nm,0.9s,baz=103,slow=18,SNR=2.8						
FITZ	**Fitzroy Crossi**	**51.00**	**266**	*e*P	**P**	**20 45 57.1**	**+0.9**
	7.4nm,0.7s,mb4.1						
NVAR	**Mina Array Bea**	**84.95**	**44**	P	**P**	**20 49 24.1**	**+0.6**
	0.5nm,0.5s,mb3.4,baz=225,slow=8.9,SNR=3.6						
ILAR	**Eielson Array**	**92.44**	**13**	P	**P**	**20 49 57.4**	**-1.2**
	0.4nm,0.7s,mb3.5,baz=226,slow=5.9,SNR=5.7						
PDAR	**Pinedale Array**	**92.89**	**44**	P	**P**	**20 50 01.0**	**+0.4**
	0.6nm,0.7s,mb3.7,baz=321,slow=1.9,SNR=4.8						
MKAR	**Makanchi Array**	**112.63**	**313**	PKiKP	PKiKP	20 55 19.7	-1.2
	0.2nm,0.4s,baz=339,slow=2.7,SNR=4.7						
ARCES	**ARCESS Array B**	**132.40**	**348**	PKP	PKPdf	20 55 57.6	-1.1
	5.5nm,1.0s,baz=106,slow=2.6,SNR=6.7						
FINES	**FINESS Array B**	**138.96**	**341**	PKhKP		20 56 01.1	
	0.7nm,0.8s,baz=48,slow=2.8,SNR=4.6						
FINES				PKP	PKPdf	20 56 11.3	+0.4
	0.8nm,0.6s,baz=291,slow=5.3,SNR=3.9						
NOA	**NORSAR Array B**	**142.58**	**351**	PKP	PKPdf	20 56 14.1	-3.4
	1.3nm,0.8s,baz=11,slow=12,SNR=3.4						
NOA	**NORSAR Array B**	**142.58**	**351**	PKP	PKPdf	20 56 14.1	-3.4
HFS	**Hagfors**	**143.05**	**349**	PKP	PKPdf	20 56 14.6	-3.7
	4.9nm,0.4s,baz=64,slow=3.4,SNR=52						
AKASG	**Malin Array Be**	**145.48**	**327**	PKPbc	PKPbc	20 56 22.5	-1.2
	2.3nm,0.5s,baz=46,slow=3.7,SNR=18						
BRTR	**Keskin Array B**	**148.03**	**307**	PKPbc	PKPbc	20 56 30.6	0.0
	1.4nm,0.6s,baz=144,slow=3.8,SNR=8.9						
BRTR				PKPab	PKPab	20 56 35.5	+0.6
	1.7nm,0.6s,baz=95,slow=3.5,SNR=7.5						
EKA	**Eskdalemuir Ar**	**148.98**	**4**	PKPbc	PKPbc	20 56 32.1	-0.8
	3.6nm,0.9s,baz=338,slow=2.6,SNR=6.3						
NIE	**Niedzica**	**150.47**	**333**	*e*PX	PKPbc	20 56 37.2	+0.7
KSP	**Ksiaz**	**150.81**	**339**	*e*P	PKPbc	20 56 37.4	+0.2
DPC	**Dobruska-Polom**	**151.22**	**338**	*e*PKPbc	PKPbc	20 56 38.4	+0.2
CLL	**Collm**	**151.37**	**343**	⇑*i*P	PKPbc	20 56 38.5	0.0
	comp=Z,9.0nm,0.8s						
BRG	**Berggiesshubel**	**151.50**	**342**	*i* P	PKPbc	20 56 38.6	-0.2
TORD	**Torodi Ar. Bea**	**168.74**	**187**	PKPab	PKPab	20 58 05.4	+0.8
	comp=Z,0.3nm,0.6s,baz=162,slow=3.9,SNR=3.5						

*ISCJB **13** 21:08:03.7±2.8, 295S±0.1×1779W±02, h4km±18km, mb4.3/6, MS3.8/6, Error ellipse: s-maj=26.8km s-min=18.0km az=67.5*
*IDC **13** 21:08:03.6±0.8, 2906S×17778W, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.4/13, mbtmp4.3/6, MS3.8/9, Ms1 3.8/9, ms1mx3.5/25, Error ellipse: s-maj=25.1km s-min=8.9km az=117.0*
*NEIC **13** 21:08:05.2±0.8, 2914S×17782W, h10km, Error ellipse: s-maj=26.3km s-min=16.0km az=141.0*

ISC 13 21:08:05.3±2.9, 294S±01×1779W±02, h4km±18km, n33, σ1°17/8, mb4.3/6, MS3.8/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.15**	**340**	Pg	**Pg**	**21 08 08.0**	**-0.1**
	11μm,0.3s,baz=111,slow=5.0,SNR=54						
URZ	**Urewera**	**9.78**	**204**	Sn	**Sn**	**21 12 16.7**	**-0.4**
	1.2nm,0.3s,baz=182,slow=21,SNR=7.3						
DZM	**Mont Dzumac**	**15.90**	**294**	LR	LR	21 16 26.0	
	comp=Z,785nm,18.6s,baz=317,slow=32						
RPZ	**Rata Peaks**	**16.82**	**209**	LR	LR	21 18 06.3	
	comp=Z,325nm,19.2s,baz=152,slow=35						
RAR	**Rarotonga**	**18.25**	**68**	LR	LR	21 16 53.6	
	comp=Z,57nm,21.8s,baz=289,slow=29						
TBI	**Tubuai**	**26.11**	**83**	*e*LQ		21 18 57.7	
	313nm,27.0s						
TBI				*e*LR	LR	21 20 02.8	
	361nm,29.5s						
TBI	**Tubuai**	**26.11**	**83**	*e*T		21 40 36.3	
	85nm,0.3s						
PAE	**Paea**	**28.36**	**72**	*e*T		21 43 22.8	
	166nm,0.3s						
PPT	**Papeete**	**28.41**	**72**	*e*LR	LR	21 13 10.7	
	74nm,24.0s						
PPT	**Papeete**	**28.41**	**72**	*e*LR	LR	21 21 04.8	
	302nm,27.8s						
PPT	**Papeete**	**28.41**	**72**	*e*T		21 43 26.7	
	61nm,0.3s						
PPT	**Papeete**	**28.41**	**72**	LR	LR	21 23 00.6	
	comp=Z,142nm,21.9s,MS3.5,baz=224,slow=32						
TVO	**Taravao**	**28.57**	**73**	*e*T		21 43 39.8	
	40nm,0.3s						
HNR	**Honiara**	**28.75**	**309**	LR	LR	21 22 37.1	
	comp=Z,101nm,19.5s,MS3.4,baz=177,slow=30						
MEH	**Mehetia**	**29.52**	**74**	*e*T		21 44 50.0	
	57nm,0.3s						
PMOR	**Pomariorio Ree**	**31.11**	**69**	*e*T		21 46 48.5	
	19nm,0.4s						
VAH	**Vaihoa**	**31.20**	**70**	*e*T		21 46 55.4	
	53nm,0.2s						
CTA	**Charters Tower**	**33.77**	**278**	P	**P**	**21 14 48.9**	**+0.7**
	13nm,1.0s,mb4.8,baz=95,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**34.84**	**256**	P	**P**	**21 14 58.9**	**+1.5**
	3.4nm,0.7s,mb4.4,baz=105,slow=14,SNR=6.9						
STKA				LR	LR	21 27 46.7	
	comp=Z,153nm,18.5s,MS3.8,baz=30,slow=34						
RKT	**Rikitea**	**38.80**	**91**	*e*LR	LR	21 25 56.8	
	183nm,29.5s						
RKT	**Rikitea**	**38.80**	**91**	*e*T		21 56 28.7	
	4.0nm,0.3s						
ASAR	**Alice Springs**	**43.29**	**266**	P	**P**	**21 16 07.5**	**-0.7**
	2.3nm,1.0s,mb3.9,baz=98,slow=7.5,SNR=9.6						
ASAR				PcP	PcP	21 17 57.0	-0.1
	0.6nm,0.8s,baz=129,slow=4.4,SNR=4.2						
WRA	**Warramunga Arr**	**44.19**	**271**	P	**P**	**21 16 14.5**	**-0.9**
	3.2nm,0.6s,mb4.2,baz=109,slow=8.0,SNR=22						
GUMO	**Guam**	**55.85**	**315**	LR	LR	21 36 04.5	
	comp=Z,162nm,20.9s,MS4.1,baz=79,slow=30						
CBIJ	**Chichi jima**	**67.97**	**322**	LR	LR	21 43 12.2	
	comp=Z,119nm,19.6s,MS4.1,baz=53,slow=31						
PLCA	**Paso Flores**	**83.11**	**133**	P	**P**	**21 20 33.1**	**+0.8**
	5.4nm,1.0s,mb4.5,baz=248,slow=6.6,SNR=4.5						
PSI	**Prapat**	**85.45**	**276**	LR	LR	21 57 39.1	
	comp=Z,66nm,18.2s,MS4.1,baz=308,slow=35						
NVAR	**Mina Array Bea**	**87.42**	**43**	P	**P**	**21 20 53.0**	**-0.8**
	0.7nm,0.8s,mb3.9,baz=225,slow=10,SNR=3.6						
FINES	**FINESS Array B**	**144.24**	**341**	PKP	PKPdf	21 27 37.4	-5.1
	3.0nm,1.1s,baz=84,slow=7.1,SNR=3.0						
NOA	**NORSAR Array B**	**147.77**	**352**	PKPbc	PKPbc	21 27 48.6	-2.8
	2.9nm,1.1s,baz=16,slow=4.8,SNR=3.4						
AKASG	**Malin Array Be**	**150.57**	**324**	PKPbc	PKPbc	21 27 55.1	-3.3
	3.1nm,0.8s,baz=44,slow=2.5,SNR=12						
BRTR	**Keskin Array B**	**152.21**	**300**	PKPbc	PKPbc	21 27 59.7	-2.5
	1.2nm,1.0s,baz=68,slow=3.3,SNR=4.6						
BRTR				PKPab	PKPab	21 28 11.4	-0.6
	0.8nm,0.8s,baz=100,slow=2.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**163.83**	**178**	PKP	PKPdf	21 28 09.0	-0.7
	1.5nm,1.1s,baz=96,slow=1.7,SNR=6.9						
TORD				PKPab	PKPab	21 29 01.7	-0.4
	2.3nm,1.0s,baz=176,slow=3.7,SNR=8.0						

MAN 13 21:33:53.0, 847N×12345E, h16km, mb2.7, ML4.2, MS2.4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.14**	**319**	⇓*i*P	Pg	21 33 57.7	+0.9
DCPH				*i* S	Sg	21 34 01.5	+2.1
PAGZ	**Pagadian**	**0.62**	**186**	*e*P	Pg	21 34 05.3	+0.1
PAGZ				*e*S	Sg	21 34 14.9	+1.3
SNPH	**Sibulan**	**0.89**	**347**	⇑*i*P	Sb	21 34 23.0	+1.4
IPIL	**Ipil**	**1.10**	**232**	*e*P	Pb	21 34 13.7	+0.1
IPIL				*e*S	Sb	21 34 29.2	+1.4
CGP	**Cagayan de Oro**	**1.23**	**91**	⇑*i*P	Pn	21 34 13.1	-2.4
CGP				*i* S	Sb	21 34 28.4	-3.2
TBP	**Tagbilaran**	**1.28**	**19**	*e*P	Pn	21 34 15.7	-0.4
TBP				*e*S	Sb	21 34 33.0	+0.2
LLP	**Lapu-Lapu**	**1.90**	**16**	*e*P	Pn	21 34 24.4	-0.3
LLP				*e*S	Sn	21 34 48.7	+0.4
MSLP	**Maasin**	**2.16**	**40**	*e*P	Pn	21 34 29.0	+0.8
MSLP				*e*S	Sn	21 34 57.1	+2.4
GUIM	**Jordan**	**2.30**	**338**	*e*P	Pn	21 34 30.9	+0.7
GUIM				*e*S	Sn	21 35 02.5	+4.4
ENPP	**El Nido**	**4.80**	**305**	*e*P	Pn	21 35 05.6	+1.0

IDC 13 21:40:38.9±2.1, 198N×12726E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=156.3km s-min=25.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.87**	**163**	P	P	21 45 43.8	0.0
	1.4nm,0.3s,baz=342,slow=11,SNR=62						
ASAR	**Alice Springs**	**26.30**	**166**	P	P	21 46 16.6	+0.5
	1.1nm,0.4s,baz=350,slow=14,SNR=23						
MKAR	**Makanchi Array**	**59.28**	**326**	P	P	21 50 42.5	+0.2
	0.5nm,0.4s,baz=122,slow=5.2,SNR=5.2						

*INMG **13** 21:44:02.4±0.7, 3666N×1050W, h10km, ML1.9, Error ellipse: s-maj=5.7km s-min=3.3km az=71.0*

MDD 13 21:44:01.9±2.2, 3675N×1042W, h0km, mbLg2.5/8, Error ellipse: s-maj=18.4km s-min=13.8km az=64.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.57**	**59**	*e*Pn	Pn	21 44 29.9	-1.2
PTEO				*e*Sn	Sn	21 44 50.5	-1.6
PTEO							
	6.4nm,0.1s						
PLOU	**Loures**	**2.36**	**25**	*e*Pn	Pn	21 44 40.3	-1.6
PLOU				*e*Sn	Sn	21 45 10.0	-1.5
PBEJ	**Beja**	**2.40**	**57**	*e*Pn	Pn	21 44 41.1	-1.4
PBEJ				*e*Sn	Sn	21 45 10.2	-2.4
PBEJ							
	3.6nm,0.2s						
MOE	**Montemor**	**2.42**	**42**	*e*Pn	Pn	21 44 41.7	-1.0
MOE				*e*Sn	Sn	21 45 11.1	-1.9
EGRO	**El Granado**	**2.48**	**71**	P	Pn	21 44 42.4	-1.1
	0.4nm,0.2s,SNR=7.9						
EGRO				S	Sn	21 45 11.8	-2.6
	3.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.16**	**70**	P	Pn	21 44 51.7	-1.2
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	21 45 28.1	-3.2
	1.2nm,0.1s,SNR=12						
PTOM	**Tomar**	**3.27**	**28**	*e*Sn	Sn	21 45 31.9	-2.2
PTOM							
	4.4nm,0.1s						
PTOM	**Tomar**	**3.27**	**28**	Sn	Sn	21 45 31.9	-2.2
	2.2nm,0.1s						
EBAD	**Badajoz**	**3.36**	**52**	P	Pn	21 44 54.6	-1.1
	0.8nm,0.1s,SNR=9.0						
EBAD				S	Sn	21 45 33.4	-3.0
	2.5nm,0.2s						
ESPR	**Espera**	**3.67**	**87**	P	Pn	21 44 58.2	-1.7
	1.2nm,0.2s,SNR=5.0						
ESPR				S	Sn	21 45 39.8	-4.0
	7.6nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.86**	**36**	*e*Sn	Sn	21 45 45.5	-3.0
PVIS	**Viseu**	**4.42**	**26**	*e*Sn	Sn	21 45 58.8	-3.7
EADA	**Adamuz**	**4.86**	**71**	P	Pn	21 45 15.2	-1.1
	0.5nm,0.3s,SNR=7.9						
EADA				S	Sn	21 46 09.7	-3.6

baz=317,slow=15
VNA2 e 22 03 24.5
VNA2 e 22 03 25.6
VNA2 e 22 03 26.8
VNA2 e 22 03 30.9
VNA2 e 22 03 35.5
VNA2 e 22 03 42.5
VNA2 e 22 05 52.4
SNAA Sanae 15.85 154 Pn **Pn 22 03 44.9 -0.2**
2.4nm,0.3s,baz=322,slow=15,SNR=210
SNAA Sn **Sn 22 06 28.3 -12**
0.4nm,0.3s,baz=240,slow=20,SNR=4.0
SNAA LR LR 22 08 47.7
comp=Z,105nm,21.5s,baz=228,slow=33
USHA Ushuaia 23.59 261 P **P 22 05 13.3 +0.3**
18nm,0.6s,mb4.7,baz=101,slow=8.8,SNR=14
USHA LR LR 22 12 03.9
comp=Z,524nm,19.6s,MS4.0,baz=56,slow=30
QSPA South Pole Qui 31.46 180 *e*P **P 22 06 25.2 +1.6**
42nm,0.7s,mb5.4
PLCA Paso Flores 33.49 282 P **P 22 06 42.2 +0.7**
5.6nm,0.7s,mb4.6,baz=148,slow=7.9,SNR=11
PLCA LR 22 18 28.8
comp=Z,134nm,19.0s,MS3.7,baz=177,slow=33
MAW Mawson 37.39 141 LR LR 22 20 41.4
comp=Z,209nm,19.0s,MS4.0,baz=144,slow=33
CPUP Villa Florida 39.35 312 P **P 22 07 30.6 -0.9**
1.1nm,0.5s,mb3.9,baz=140,slow=6.7,SNR=5.1
CFAA Coronel Fontan 39.56 294 P **P 22 07 32.2 -1.0**
1.2nm,0.7s,mb3.8,baz=154,slow=7.4,SNR=17
CFAA PcP PcP 22 09 40.0 -0.5
0.3nm,0.5s,baz=147,slow=4.4,SNR=3.9
CFAA Coronel Fontan 39.56 294 P **P 22 07 32.2 -1.0**
CFAA PcP PcP 22 09 40.0 -0.5
VNDA Vanda 43.88 182 P **P 22 08 10.2 +1.6**
9.7nm,0.7s,mb4.7,baz=193,slow=6.0,SNR=28
VNDA LR LR 22 25 06.2
comp=Z,134nm,18.9s,MS3.9,baz=168,slow=34
VNDA Vanda 43.88 182 *e*P **P 22 08 10.2 +1.6**
VNDA pmax pmax
comp=Z,8.0nm,0.6s
VNDA Vanda 43.88 182 *e*P **P 22 08 10.2 +1.6**
comp=Z,7.9nm,0.6s,mb4.6
BOSA Boshof 45.80 71 P **P 22 08 23.8 -0.1**
comp=Z,3.5nm,0.8s,mb4.3,baz=227,slow=9.2,SNR=7.5
BOSA LR LR 22 22 53.6
comp=Z,94nm,19.8s,MS3.7,baz=199,slow=30
BDFB Brasilia 46.22 329 P **P 22 08 27.4 +0.2**
comp=Z,3.2nm,0.5s,mb4.5,baz=185,slow=8.8,SNR=7.5
BDFB PcP PcP 22 10 03.0 +0.2
comp=Z,5.1nm,0.6s,baz=151,slow=1.5,SNR=6.3
BDFB LR LR 22 23 47.5
comp=Z,101nm,19.1s,MS3.8,baz=244,slow=31
BDFB Brasilia 46.22 329 P **P 22 08 27.4 +0.2**
BDFB 22 10 03.0
LBTB Lobatse 48.97 69 P **P 22 08 48.2 -0.3**
comp=Z,1.7nm,0.6s,mb4.2,baz=211,slow=9.0,SNR=3.7
LBTB Lobatse 48.97 69 P **P 22 08 48.2 -0.3**
TSUM Tsumeb 50.26 57 P **P 22 08 59.1 +0.7**
comp=Z,2.8nm,0.8s,mb4.4,baz=225,slow=4.3,SNR=7.9
LPAZ La Paz 52.75 305 P **P 22 09 17.7 +0.6**
comp=Z,2.8nm,0.5s,mb4.4,baz=152,slow=5.4,SNR=21
LPAZ La Paz 52.75 305 *e*P **P 22 09 17.7 +0.7**
LPAZ *e* 22 10 27.5
LPAZ pmax pmax
comp=Z,4.0nm,0.7s
LPAZ La Paz 52.75 305 *e*P **P 22 09 17.7 +0.6**
comp=Z,3.6nm,0.7s,mb4.4
LPAZ *e*PcP PcP 22 10 27.5 +0.9
SAML Samuel 57.42 314 *e*P **P 22 09 49.7 -1.1**
comp=Z,2.6nm,0.4s,mb4.6
DBIC Dimbokro 67.29 22 P **P 22 10 57.5 +0.7**
comp=Z,7.4nm,0.7s,mb4.8,baz=163,slow=5.6,SNR=16
DBIC LR LR 22 31 03.8
comp=Z,50nm,20.1s,MS3.7,baz=68,slow=28
ROSC El Rosal 74.39 309 LR LR 22 42 30.3
comp=Z,50nm,19.6s,MS3.8,baz=228,slow=34
TORD Torodi Ar. Bea 75.00 27 P **P 22 11 44.4 +0.8**
comp=Z,21nm,0.7s,mb5.2,baz=200,slow=6.3,SNR=312
KMBO Kilima Mbogo 75.16 67 LR LR 22 41 58.1
comp=Z,113nm,18.4s,MS4.2,baz=93,slow=33
RKT Rikitea 80.07 242 *e*LR LR 22 37 57.2
comp=Z,138nm,25.5s
NWAO Narrogin (SRO) 83.47 149 *e*P **P 22 12 29.7 -0.1**
TBI Tubuai 86.09 230 *e*LR LR 22 40 44.4
comp=Z,62nm,24.5s
STKA Stephens Creek 89.03 169 P **P 22 12 55.1 -2.1**
comp=Z,3.6nm,0.7s,mb4.8,baz=160,slow=5.9,SNR=7.3
STKA Stephens Creek 89.03 169 *e*P **P 22 12 55.6 -1.6**
PPT Papeete 91.33 232 *e*LR LR 22 43 11.8
comp=Z,101nm,23.8s
MBWA Marble Bar 95.31 148 *e*P **P 22 13 25.5 -0.8**
ASAR Alice Springs 96.08 161 P **P 22 13 29.4 -0.4**
comp=Z,2.2nm,0.6s,mb4.7,baz=180,slow=4.0,SNR=8.8
ASAR PKKPbc PKKPbc 22 30 15.3 -1.5
comp=Z,0.3nm,0.4s,baz=7.3,slow=2.0,SNR=6.6
WRA Warramunga Arr 99.80 161 PKKPbc PKKPbc 22 30 05.9 -0.7
comp=Z,0.2nm,0.3s,baz=360,slow=2.8,SNR=25
AKASG Malin Array Be 117.84 36 PKP PKPdf 22 18 46.5 -2.2
comp=Z,1.1nm,0.6s,baz=232,slow=1.6,SNR=5.1
SCHQ Schefferville 118.06 334 PKP PKPdf 22 18 46.4 -2.7
comp=Z,2.6nm,0.7s,baz=23,slow=14,SNR=12
PDAR Pinedale Array 122.59 300 PKP PKPdf 22 18 56.5 -1.3
comp=Z,1.9nm,0.5s,baz=134,slow=5.1,SNR=8.6
NB2 NORSAR Subarra122.83 20 PKPd PKPdf 22 18 55.0 -3.2
comp=Z,13nm,1.7s,baz=202,slow=1.9
NB2 NORSAR Subarra122.83 20 PKPd PKPdf 22 18 55.0 -3.2
baz=202,slow=1.9
NOA NORSAR Array B122.83 20 PKP PKPdf 22 18 56.4 -1.8
comp=Z,1.3nm,0.7s,baz=201,slow=1.9,SNR=4.9
ULM Lac du Bonnet 122.88 314 PKP PKPdf 22 18 56.4 -1.9
comp=Z,5.1nm,0.5s,baz=116,slow=1.8,SNR=11
ULM Lac du Bonnet 122.88 314 PKP PKPdf 22 18 56.4 -1.9
KOLN Koldanda 123.08 90 *e*P PKPdf 22 18 57.6 -1.1
comp=Z,7.3nm,0.7s
NVAR Mina Array Bea 123.31 290 PKP PKPdf 22 18 59.9 +0.7
comp=Z,2.4nm,0.6s,baz=129,slow=3.4,SNR=20
DMN Daman 123.73 92 *e*P PKPdf 22 18 59.7 -0.3
GKN Gorkha 123.80 91 *e*P PKPdf 22 18 58.8 -1.3
comp=Z,10.0nm,0.7s
PKI Pulchoki 123.86 92 *e*P PKPdf 22 18 59.5 -0.7
KKN Kakani 123.97 92 *e*P PKPdf 22 18 59.5 -0.9
comp=Z,6.7nm,0.6s
JIRN Jiri 124.34 93 *e*P PKPdf 22 19 00.8 -0.3
comp=Z,14nm,0.6s
GUN Gumba 124.38 92 *e*P PKPdf 22 19 00.9 -0.3
comp=Z,5.7nm,0.4s
DGMT Dagmar 124.74 307 *e*PKPdf PKPdf 22 19 00.9 -1.0
FINES FINESS Array B 126.35 28 PKP PKPdf 22 19 03.2 -1.8
comp=Z,3.2nm,0.5s,baz=146,slow=2.3,SNR=47
FINES FINESS Array B 126.35 28 PKP PKPdf 22 19 03.2 -1.8
KAF Kangasniemi 126.98 28 *e*p PKPdf 22 19 04.8 -1.4
comp=Z,3.6nm,0.6s
MSO Missoula 127.70 300 *e*PKPdf PKPdf 22 19 07.5 -0.1
BMO Blue Mountains 127.77 296 *e*PKIKP PKPdf 22 19 07.2 -0.5
LSA Lhasa 128.55 96 *e*PKIKP PKPdf 22 19 09.8 +0.6
JOF Joensuu 128.91 29 *e*p PKPdf 22 19 07.6 -2.3
comp=Z,7.0nm,0.7s
AAK Ala-Archa 129.94 71 *e*PKIKP PKPdf 22 19 10.3 -1.5
ARCES ARCESS Array B 133.12 22 PKP PKPdf 22 19 15.7 -2.2
comp=Z,4.1nm,0.6s,baz=189,slow=1.8,SNR=24
KEV Kevo 133.60 22 *e*p PKPdf 22 19 09.4 -9.3
YKA Yellowknife Ar 138.83 315 PKhKP 22 19 14.9
comp=Z,0.2nm,0.3s,baz=129,slow=3.6,SNR=5.4
YKA PKP PKPdf 22 19 27.1 -1.3
comp=Z,12nm,0.6s,baz=126,slow=2.3,SNR=88
YKW3 Yellowknife Ar 138.88 315 *e*PKPdf PKPdf 22 19 26.7 -1.9
ZAL Zalesovo 142.62 66 PKhKP 22 19 29.2
comp=Z,1.4nm,0.4s,baz=315,slow=4.9,SNR=5.8
NJ2 Nanjing 144.07 122 *e*PKP PKPdf 22 19 37.4 -0.4
NJ2 APKP 22 20 03.8
NJ2 XPKP 22 20 14.8
NJ2 PP PP 22 22 57.0 +5.1
NJ2 PKS 22 23 11.0
NJ2 SKS SKSdf 22 26 35.0 -12
NJ2 SKKS SKKSac 22 29 35.0 -10
NJ2 PP PP
comp=Z,270nm,8.6s
NJ2 LR LR
comp=N,1μm,17.9s
NJ2 LR LR
comp=E,1μm,23.1s
NJ2 LR LR
comp=Z,210nm,24.7s
HHC Hu-ho-hao-te 147.66 104 *e*PKP PKPdf 22 19 41.8 -2.2
INK Inuvik 148.51 317 PKP PKPdf 22 19 41.5 -3.8
comp=Z,1.1nm,0.7s,baz=148,slow=3.1,SNR=3.3
INK PKPbc PKPbc 22 19 46.8 -2.2
comp=Z,31nm,0.7s,baz=76,slow=3.0,SNR=66
BJI Beijing 149.34 111 *e*PKP PKPdf 22 19 50.0 +3.3
MOY Mondy 149.34 80 *e*PKP2 PKPab 22 19 50.4 -5.3
ZAK Zakamensk 149.78 83 *e*PKHKP 22 19 49.9
ZAK pmax pmax
comp=Z,11nm,1.6s
SONM Songino Array 149.84 90 PKP PKPdf 22 19 45.8 -1.7
comp=Z,5.4nm,0.7s,baz=216,slow=2.7,SNR=4.8
SONM PKPbc PKPbc 22 19 51.2 -1.1
comp=Z,5.4nm,0.7s,baz=227,slow=3.1,SNR=46
ILAR Eielson Array 152.61 307 PKP PKPdf 22 19 48.1 -3.6
comp=Z,0.7nm,0.9s,baz=266,slow=1.9,SNR=4.7
ILAR PKPbc PKPbc 22 19 57.0 -1.7
comp=Z,21nm,0.8s,baz=144,slow=4.9,SNR=183
KDAK Kodiak Island 152.81 291 PKPbc PKPbc 22 19 57.7 -1.5
comp=Z,18nm,0.7s,baz=100,slow=1.0,SNR=13
KDAK Kodiak Island 152.81 291 PKPbc PKPbc 22 19 57.7 -1.5

*ISCJB **13** 22:00:54.2±0.9, 778S±006×12295E±008, h292km±9km, mb4.3/27, Error ellipse: s-maj=14.6km s-min=4.8km az=108.1*
*NEIC **13** 22:00:56.7±1.1, 784S×12297E, h306km±14km, mb4.5/9, Error ellipse: s-maj=14.2km s-min=7.2km az=64.0*
*IDC **13** 22:00:57.8±3.0, 785S×12303E, h318km±31km, mb3.8/11, mb1 3.8/13, mb1mx3.7/19, mbtmp4.4/13, Error ellipse: s-maj=23.4km s-min=9.3km az=62.0*
ISC 13 22:00:56.5±0.8, **778S**±005×**12304E**±007, **h301**km±9km, **n48**, σ0°**94**/54, **mb4.3**/27, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**7.54**	**335**	P	**Pn**	**22 02 43.4**	**-1.0**
	94nm,1.1s						
KAKA	**Kakadu**	**10.47**	**119**	*e*P	**Pn**	**22 03 18.4**	**-1.9**
	51nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.56**	**166**	*e*P	**Pn**	**22 03 23.2**	**+1.7**
	15nm,0.3s						
FITZ				*e*S	**S**	**22 05 15.9**	**-4.2**
BJII	**Banjamegara**	**13.22**	**271**	P	**Pn**	**22 03 54.3**	**+0.6**
	64nm,0.9s						
MBWA	**Marble Bar**	**13.68**	**193**	*e*P	**Pn**	**22 03 55.9**	**-3.3**
	29nm,0.9s						
MBWA				*e*S	**S**	**22 06 29.7**	**-0.3**
KKM	**Kota Kinabalu**	**15.33**	**333**	*e*P	**P**	**22 04 18.2**	**+1.2**
KSM	**Kuching**	**15.68**	**305**	*e*P	**P**	**22 04 21.0**	**+0.1**
WRA	**Warramunga Arr**	**16.31**	**139**	P	**P**	**22 04 28.1**	**+0.4**
	2.7nm,0.3s,baz=319,slow=12,SNR=95						
WRA				S	**S**	**22 07 22.4**	**-0.7**
	baz=316,slow=21,SNR=7.0						
WRAB	**Tennant Creek**	**16.31**	**139**	*e*P	**P**	**22 04 28.3**	**+0.5**
	15nm,0.6s						
WRAB				*e*S	**S**	**22 07 21.6**	**-1.6**
WB2	**Warramunga Arr**	**16.32**	**139**	*e*P	**P**	**22 04 28.3**	**+0.5**
WB2				*e*S	**S**	**22 07 23.5**	**+0.2**
ASPA	**Alice Springs**	**18.92**	**148**	*e*P	**P**	**22 04 57.0**	**+1.2**
ASPA				*e*S	**S**	**22 08 15.7**	**+1.3**
AS31	**Alice Springs**	**18.92**	**148**	*e*P	**P**	**22 04 57.0**	**+1.2**
AS31				*e*S	**S**	**22 08 15.7**	**+1.3**
ASAR	**Alice Springs**	**18.92**	**148**	P	**P**	**22 04 56.7**	**+0.9**
	1.9nm,0.3s,baz=333,slow=13,SNR=90						
ASAR				S	**S**	**22 08 12.9**	**-1.6**
	baz=320,slow=19,SNR=6.3						
TGY	**Tagaytay City**	**21.84**	**355**	P	**P**	**22 05 26.6**	**+1.7**
	165nm,0.5s,baz=167,slow=2.1,SNR=6.7						
KLBR	**Kellerberrin**	**24.19**	**191**	*e*P	**P**	**22 05 45.1**	**-1.1**
	13nm,0.6s,mb4.4						
MUN	**Mundaring**	**24.90**	**194**	*e*P	**P**	**22 05 52.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**25.59**	**191**	P	**P**	**22 05 58.0**	**-0.7**
	6.7nm,0.5s,mb4.3,baz=6.1,slow=8.2,SNR=7.8						
PSI	**Prapat**	**26.25**	**293**	P	**P**	**22 06 03.8**	**-0.8**
	5.8nm,0.7s,mb4.1,baz=120,slow=4.8,SNR=7.3						
STKA	**Stephens Creek**	**29.55**	**147**	*e*P	**P**	**22 06 33.4**	**-0.4**
	2.5nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**29.55**	**147**	P	**P**	**22 06 33.2**	**-0.6**
	3.4nm,0.3s,mb4.3,baz=314,slow=10,SNR=13						
LSA	**Lhasa**	**48.26**	**322**	*e*P	**P**	**22 09 08.3**	**+0.7**
	9.3nm,0.6s,mb4.3						
JIRN	**Jiri**	**50.12**	**316**	*e*P	**P**	**22 09 21.6**	**0.0**
	38nm,0.6s,mb4.9						
GUN	**Gumba**	**50.49**	**316**	*e*P	**P**	**22 09 24.4**	**0.0**
	59nm,0.7s,mb5.0						
HYB	**Hyderabad**	**50.59**	**300**	*i* P	**P**	**22 09 24.0**	**-1.1**
HYB	**Hyderabad**	**50.59**	**300**	*e*P	**P**	**22 09 24.0**	**-1.1**
PKI	**Pulchoki**	**50.60**	**315**	*e*P	**P**	**22 09 24.8**	**-0.4**
	48nm,0.5s,mb5.1						
KKN	**Kakani**	**50.83**	**316**	*e*P	**P**	**22 09 26.6**	**-0.3**
	24nm,0.6s,mb4.7						
DMN	**Daman**	**50.84**	**315**	*e*P	**P**	**22 09 26.6**	**-0.3**
	36nm,0.7s,mb4.8						
GKN	**Gorkha**	**51.40**	**315**	*e*P	**P**	**22 09 30.6**	**-0.5**
	48nm,0.6s,mb5.0						
KOLN	**Koldanda**	**51.99**	**314**	*e*P	**P**	**22 09 35.1**	**-0.4**
	44nm,0.6s,mb5.0						
DANN	**Dangsing**	**52.23**	**315**	*e*P	**P**	**22 09 37.0**	**-0.2**
	1.1nm,0.6s,mb3.4						
SONM	**Songino Array**	**57.30**	**347**	P	**P**	**22 10 13.1**	**-0.2**
	0.6nm,0.7s,mb3.1,baz=165,slow=6.9,SNR=7.5						
MKAR	**Makanchi Array**	**65.29**	**330**	P	**P**	**22 11 06.5**	**-0.1**
	2.1nm,0.7s,mb3.9,baz=126,slow=6.2,SNR=14						
MKAR	**Makanchi Array**	**65.29**	**330**	P	**P**	**22 11 06.5**	**-0.1**
AAK	**Ala-Archa**	**66.84**	**323**	*e*P	**P**	**22 11 15.3**	**-1.0**
	4.0nm,0.6s,mb4.3						
ZAL	**Zalesovo**	**69.41**	**337**	P	**P**	**22 11 31.6**	**-0.7**
	1.9nm,0.5s,mb4.1,baz=341,slow=7.4,SNR=7.8						
KURK	**Kurchatov**	**69.75**	**332**	*e*P	**P**	**22 11 33.5**	**-0.8**
	1.9nm,0.8s,mb3.9						
OPO	**Ambohidratompo**	**74.19**	**253**	P	**P**	**22 12 00.9**	**+0.4**
	1.4nm,0.5s,mb3.8,baz=158,slow=3.0,SNR=4.5						
RDF	**Al-Radifah**	**81.20**	**301**	*e*P	**P**	**22 12 40.0**	**+1.0**
RDF				AMb	AMB	22 12 40.7	
	comp=Z,19nm,0.8s,mb4.9						
UMR	**Umm Al-Rimmam**	**81.21**	**301**	*e*P	**P**	**22 12 39.8**	**+0.8**
UMR				AMb	AMB	22 12 40.6	
	comp=Z,8.6nm,0.5s,mb4.7						
NAY	**Al-Naaiem**	**81.54**	**301**	*e*P	**P**	**22 12 41.3**	**+0.5**
NAY				AMb	AMB	22 12 42.8	
	comp=Z,12nm,1.0s,mb4.6						
MIB	**Mutribah**	**81.59**	**302**	*e*P	**P**	**22 12 41.6**	**+0.6**
MIB				AMb	AMB	22 12 43.1	
	comp=Z,19nm,0.9s,mb4.8						
KMBO	**Kilima Mbogo**	**85.67**	**269**	P	**P**	**22 13 04.2**	**+2.5**
	comp=Z,0.8nm,0.6s,mb3.7,baz=63,slow=6.1,SNR=4.4						
BOSA	**Boshof**	**93.09**	**241**	P	**P**	**22 13 36.6**	**+0.2**
	comp=Z,2.8nm,0.9s,mb4.2,baz=122,slow=7.7,SNR=3.1						
BRTR	**Keskin Array B**	**94.45**	**309**	P	**P**	**22 13 42.7**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=114,slow=5.5,SNR=4.3						
AKASG	**Malin Array Be**	**98.38**	**320**	P	**P**	**22 13 59.2**	**-1.1**
	comp=Z,0.2nm,0.2s,mb4.0,baz=78,slow=4.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**122.17**	**281**	PKP	PKPdf	22 19 16.1	+0.7
	comp=Z,1.0nm,0.6s,baz=65,slow=1.8,SNR=14						
CPUP	**Villa Florida**	**146.09**	**179**	PKPbc	PKPbc	22 20 01.6	+0.4
	comp=Z,0.3nm,0.4s,baz=158,slow=5.4,SNR=3.0						

MEX 13 22:15:10.8±0.5, **1589N**×**9865W**, **h28**km±13km, **MD4.0**, **Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.71**	**45**	*i* P	Pb	22 15 22.4	-2.2
PNIG				*i* S	Sb	22 15 31.8	-2.2
ACX	**Acapulco**	**1.56**	**309**	*e*P	Pn	22 15 38.5	+1.9
ACX				*i* S	Sn	22 15 53.0	-2.8
VHO	**Vista Hermosa**	**2.19**	**57**	*i* P	Pn	22 15 44.8	-0.5
VHO				*i* S	Sn	22 16 08.8	-2.6
OXX	**Oaxaca**	**2.20**	**57**	*i* P	Pn	22 15 43.5	-1.9
OXX				*i* S	Sn	22 16 11.5	-0.2
MEIG	**Mezcala**	**2.23**	**336**	*e*P	Pn	22 15 45.9	+0.1
MEIG				*i* S	Sn	22 16 09.6	-2.8
PPM	**Popocatepetl**	**3.16**	**0**	*i* S	Sn	22 16 30.0	-5.5
CMIG	**Matias Romero**	**3.81**	**71**	*e*P	Pn	22 16 05.3	-2.2
CMIG				*i* S	Sn	22 16 51.2	-0.2

*CSEM **13** 22:18:21.7±0.6, 3860N×2858W, h13km±6km, ML1.3, Error ellipse: s-maj=2.9km s-min=2.8km az=43.0, After PDA*
*PDA **13** 22:18:21.7±0.6, 3860N×2858W, h13km±6km, MD2.9, ML1.3, Error ellipse: s-maj=2.9km s-min=2.8km az=43.0*
SVSA 13 22:18:21.7±0.6, **3860N**×**2858W**, **h13**km±6km, **MD2.9, ML1.3, Error ellipse: s-maj=2.9km s-min=2.8km az=43.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.08**	**211**	*e*P	Pg	22 18 23.8	-0.7
HOR				*e*S	Sg	22 18 25.9	-0.6
CALA	**Caldeira**	**0.10**	**260**	*i* P	Pg	22 18 24.5	-0.2
CALA				*e*S	Sg	22 18 26.7	-0.1
CALA	**Caldeira**	**0.10**	**260**	*e*S	Sg	22 18 26.7	-0.1
PICO	**Pico**	**0.15**	**130**	*i* P	Pg	22 18 24.7	-0.7
PICO				*e*S	Sg	22 18 27.6	-0.4
PCND	**Candelaria**	**0.16**	**146**	*e*P	Pg	22 18 25.4	0.0
PCND				*e*S	Sg	22 18 27.9	-0.2
PCND							
	29nm,0.2s						
ROSA	**Rosais**	**0.29**	**65**	*i* P	Pg	22 18 26.9	-0.8
ROSA				*e*S	Sg	22 18 30.8	-0.8
ROSA	**Rosais**	**0.29**	**65**	*e*S	Sg	22 18 30.8	-0.8

PRE 13 22:21:31.4±2.1, **2124S**×**3359E**, **h5**km, **ML4.3, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**5.49**	**216**	*e*P	Pn	22 22 55.7	+1.8
BFT				*e*S	Sn	22 23 55.3	-2.0
BFT				AML	AML	22 24 31.0	
	comp=Z,136nm,0.6s						
SLR	**Silverton**	**6.61**	**226**	*e*P	Pn	22 23 10.4	+1.2
SLR				*e*S	Sn	22 24 22.8	-2.1
KSR	**Koster**	**7.66**	**232**	*e*P	Pn	22 23 25.6	+1.9
PKA	**Prieska**	**12.88**	**227**	*e*P	Pn	22 24 34.5	-0.6
CVNA	**Calvinia**	**16.03**	**228**	*e*P	Pn	22 25 18.8	+1.3

*IDC **13** 22:32:08.6±2.1, 636S×12930E, h0km, mb4.5/1, mb1 4.2/3, mb1mx3.9/13, mbtmp4.0/3, ML3.8/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/21, Error ellipse: s-maj=131.3km s-min=30.8km az=68.0*
*NEIC **13** 22:32:19.5±3.4, 638S×13026E, h106km±40km, mb4.6/3, Error ellipse: s-maj=31.2km s-min=24.6km az=102.0*
*ISCJB **13** 22:32:24.5±1.9, 677S±008×1303E±01, h190km±22km, mb4.3/1, Error ellipse: s-maj=20.8km s-min=11.7km az=148.2*
ISC 13 22:32:24.9±1.6, **689S**±008×**1303E**±01, **h173**km±16km, **n13**, σ1°**59**/17, **mb4.3**/1, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.16**	**160**	*e*P	**Pn**	**22 33 55.6**	**+1.8**
	7.1nm,0.1s						
KAKA				*e*S	**Sn**	**22 35 02.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**12.03**	**202**	*e*P	**Pn**	**22 35 12.6**	**+1.7**
	5.9nm,0.4s						
FITZ				*e*S	**Sn**	**22 37 22.8**	**-1.5**
WRAB	**Tennant Creek**	**13.55**	**163**	*e*Pn	**Pn**	**22 35 33.1**	**+3.0**
WRAB				*e*Sn	**Sn**	**22 38 00.5**	**-0.2**
WRA	**Warramunga Arr**	**13.55**	**164**	Pn	**Pn**	**22 35 32.2**	**+1.9**
	0.5nm,0.3s,baz=339,slow=13,SNR=18						
WRA				Sn	**Sn**	**22 37 58.9**	**-1.9**
	1.6nm,0.3s,baz=330,slow=23,SNR=7.1						
WB2	**Warramunga Arr**	**13.56**	**163**	*e*P	**Pn**	**22 35 31.4**	**+1.1**
WB2				*e*S	**Sn**	**22 37 58.9**	**-2.0**
ASAR	**Alice Springs**	**17.03**	**169**	P	**Pn**	**22 36 18.2**	**+5.3**
	0.4nm,0.3s,baz=349,slow=10,SNR=16						
ASAR				S	**S**	**22 39 21.5**	**+0.9**
	0.3nm,0.3s,baz=347,slow=27,SNR=6.0						
MBWA	**Marble Bar**	**17.48**	**215**	*e*P	**Pn**	**22 36 22.2**	**+4.0**
	9.3nm,0.5s						
GUMO	**Guam**	**24.97**	**35**	LR	LR	22 46 26.4	
	comp=Z,64nm,19.5s,baz=60,slow=34						
COCO	**West Island**	**33.39**	**258**	*e*P	**P**	**22 38 41.7**	**-5.2**
DZM	**Mont Dzumac**	**37.98**	**117**	LR	LR	22 56 02.5	
	comp=Z,165nm,19.2s,baz=3.7,slow=37						
KS15	**Wonju Array Si**	**44.16**	**357**	*e*P	**P**	**22 40 14.4**	**-2.0**
PALK	**Pallekele**	**51.43**	**285**	*e*P	**P**	**22 41 12.9**	**+0.7**
MKAR	**Makanchi Array**	**68.30**	**327**	P	**P**	**22 43 05.5**	**-1.8**
	2.6nm,0.4s,mb4.3,baz=111,slow=7.9,SNR=7.2						

*SZGRF **13** 22:33:38.7, 14.12N×120.30E, h33km, mb5.0, Luzon, Philippine Islands*
*MAN **13** 22:33:50.8, 15.13N×120.19E, h107km, mb4.3, ML5.2, MS2.3*
MAN F STA CRUZ ZAMBALES - INTE4NSITY II MANILA - INTENSITY I.
*ISCJB **13** 22:33:50.7±0.2, 1509N±002×12035E±003, h123km±2km, mb4.8/84, Error ellipse: s-maj=4.7km s-min=2.8km az=165.5*
*MOS **13** 22:33:51.9±0.8, 1505N×12042E, h138km, mb4.7/23, Error ellipse: s-maj=14.3km s-min=5.8km az=121.7*
*BJI **13** 22:33:51.3, 1509N×12050E, h130km, mB5.1, mb4.7*
*IDC **13** 22:33:53.2±0.4, 1495N×12043E, h142km±3km, mb4.3/22, mb1 4.4/23, mb1mx4.3/28, mbtmp4.7/23, MS3.6/5, Ms1 3.6/5, ms1mx3.4/22, Error ellipse: s-maj=16.4km s-min=7.2km az=68.0*
*NEIC **13** 22:33:53.0±0.5, 1501N×12041E, h136km±5km, mb4.7/24, Error ellipse: s-maj=6.6km s-min=3.9km az=71.0*
NEIC Felt [II PIVS] at Santa Cruz and [I PIVS] at Baguio and Manila.
ISC 13 22:33:51.9±0.2, **1509N**±002×**12038E**±003, **h119**km±2km, **h136**km±3.9km:**pP-P**, **n216**, σ1°**14**/243, **mb4.8**/84, **11C-12D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.81**	**327**	*e*P	**Pn**	**22 34 10.8**	**-1.3**
SCZP				*e*S	**Sn**	**22 34 24.6**	**-2.7**
PCPH	**Palayan**	**0.84**	**56**	‖*e*P	**Pn**	**22 34 11.2**	**-1.0**
PCPH				*e*S	**Sn**	**22 34 25.9**	**-1.7**
TGY	**Tagaytay City**	**1.12**	**151**	P	**Pn**	**22 34 16.8**	**+1.7**
	2μm,0.3s,baz=300,slow=1.3,SNR=141						
TGY				S	**Sn**	**22 34 35.5**	**+2.9**
	4μm,0.3s,baz=174,slow=23,SNR=33						
TGY	**Tagaytay City**	**1.12**	**151**	‖*i* P	**Pn**	**22 34 17.0**	**+1.9**
TGY				*i* S	**Sn**	**22 34 35.7**	**+3.1**
BCPH	**Baguio City Da**	**1.30**	**9**	‖*i* P	**Pn**	**22 34 16.6**	**-0.3**
BCPH				*i* S	**Sn**	**22 34 35.4**	**-0.5**
BALP	**Baler**	**1.33**	**61**	*e*P	**Pn**	**22 34 18.1**	**+0.8**
BALP				*e*S	**Sn**	**22 34 37.1**	**+0.6**
LUBP	**Lubang**	**1.35**	**185**	*e*P	**Pn**	**22 34 16.3**	**-1.3**
LUBP				*e*S	**Sn**	**22 34 37.0**	**-0.1**
BOLP	**Bolinao**	**1.36**	**341**	*e*P	**Pn**	**22 34 16.4**	**-1.2**
BOLP				*e*S	**Sn**	**22 34 35.8**	**-1.3**
LQP	**Lukban**	**1.49**	**131** ⇑	*i* P	**Pn**	**22 34 20.5**	**+1.4**
LQP				*e*S	**Sn**	**22 34 44.8**	**+5.0**
POLP	**Polilio Island**	**1.56**	**103**	*e*P	**Pn**	**22 34 21.2**	**+1.4**
PGP	**Puerto Galera**	**1.68**	**160** ⇑	*e*P	**Pn**	**22 34 21.9**	**+0.6**
PGP				*e*S	**Sn**	**22 34 42.0

DAV	**Davao City (W)**	**9.46**	**147**	*e*Pn	**Pn**	**22 36 09.5 +4.3**
YHNB	**Yeheng**	**9.57**	**5**	*e*Pn	**Pn**	**22 36 07.0 +0.3**
KKM	**Kota Kinabalu**	**9.88**	**205**	*e*Pn	**Pn**	**22 36 14.9 +4.2**
TATO	**Taipei**	**9.89**	**6**	*e*Pn	**Pn**	**22 36 14.6 +3.7**
QZH	**Quanzhou**	**9.94**	**351**	⇓*i*P	**Pn**	**22 36 11.8 +0.2**
QIZ	**Qiongzhong**	**10.80**	**293**	P	**Pn**	**22 36 23.5 +0.4**
QIZ				S	**Sn**	**22 38 19.4 -2.7**
QIZ				AMB	AMB	
	comp=Z,49nm,1.2s					
QIZ				AMB	AMB	
	comp=Z,258nm,3.8s					
QIZ	**Qiongzhong**	**10.80**	**293**	*e*Pn	**Pn**	**22 36 23.5 +0.4**
QIZ				*e*Sn	**Sn**	**22 38 21.1 -1.0**
JOW	**Kunigami**	**13.81**	**31**	P	**Pn**	**22 37 03.9 +1.4**
	comp=Z,2.4nm,0.3s,baz=274,slow=12,SNR=5.3					
JOW				LR	LR	22 41 34.2
	comp=Z,219nm,20.8s,baz=115,slow=33					
UBT	**Ubonrachathani**	**14.83**	**273**	⇑P	**Pn**	**22 37 22.0 +6.5**
WHN	**Wuhan**	**16.34**	**341**	⇑P	**Pn**	**22 37 36.9 +2.5**
KSM	**Kuching**	**16.79**	**217**	*e*P	**Pn**	**22 37 41.4 +1.6**
KSM				*e*S	**S**	**22 40 41.4 -5.6**
NJ2	**Nanjing**	**16.94**	**356**	*e*P	**Pn**	**22 37 43.0 +1.4**
NJ2				XP	sP	22 38 22.4 +4.4
NJ2				S	**S**	**22 40 45.0 -5.5**
NJ2				AMB	AMB	
	comp=Z,40nm,0.8s					
NJ2				AMB	AMB	
	comp=Z,50nm,3.5s					
NJ2				LR	LR	
	comp=N,410nm,16.7s					
NJ2				LR	LR	
	comp=E,490nm,11.7s					
NJ2				LR	LR	
	comp=Z,310nm,19.0s					
KKTK	**Khon Kaen**	**16.94**	**277**	P	**Pn**	**22 37 43.5 +1.8**
	comp=Z,43nm,0.5s					
ENH	**Enshi**	**18.12**	**328**	*e*P	**P**	**22 37 56.8 +2.1**
	comp=Z,10nm,0.7s					
KMI	**Kunming**	**19.31**	**304**	P	**P**	**22 38 10.9 +3.3**
KMI				AMB	AMB	
	comp=Z,27nm,0.7s					
NST	**Nakhon Sawan**	**19.53**	**274**	P	**P**	**22 38 10.2 +0.3**
SNG	**Songkhla**	**20.91**	**250**	P	**P**	**22 38 26.0 +1.2**
TIA	**Tai'an**	**21.23**	**353**	*e*P	**P**	**22 38 28.4 +0.1**
XAN	**Xi'an**	**21.52**	**333**	P	**P**	**22 38 32.8 +1.5**
XAN				AMB	AMB	
	comp=Z,7.0nm,0.7s,mb4.1					
KULM	**Kulim**	**21.70**	**245**	*e*P	**P**	**22 38 33.5 +0.3**
CD2	**Chengdu**	**21.91**	**319**	*e*P	**P**	**22 38 37.0 +1.6**
CD2				AP		22 39 06.0
CD2				PP		22 39 10.5
CD2				S	**S**	**22 42 25.0 -4.8**
CD2				XS	sS	22 43 11.8 +4.0
CD2				SS		22 43 18.0
CD2				AMB	AMB	
	comp=Z,40nm,1.1s,mb4.7					
CD2				AMB	AMB	
	comp=Z,120nm,7.2s					
CD2				LR	LR	
	comp=E,390nm,15.6s					
CD2				LR	LR	
	comp=Z,200nm,14.4s					
GUMO	**Guam**	**23.77**	**90**	P	**P**	**22 38 53.3 -0.1**
PSI	**Prapat**	**24.42**	**242**	P	**P**	**22 39 00.1 +0.8**
	comp=Z,64nm,0.9s,mb5.0,baz=40,slow=5.1,SNR=44					
PSI				LR	LR	22 47 58.8
	comp=Z,101nm,19.2s,baz=227,slow=35					
LZH	**Lanzhou**	**25.60**	**328**	*e*P	**P**	**22 39 10.8 +0.8**
LZH				AP	pP	22 39 34.3 -1.3
LZH				XP	sP	22 39 49.6 +0.2
LZH				PP		22 39 57.0
LZH				S	**S**	**22 43 30.4 +1.2**
LZH				XS	sS	22 44 14.0 -0.1
LZH				*e*SS		22 44 47.0
LZH				AMB	AMB	
	comp=Z,30nm,1.2s,mb4.6					
LZH				AMB	AMB	
	comp=Z,150nm,4.8s					
LZH				LR	LR	
	comp=E,700nm,13.6s					
LZH				LR	LR	
	comp=Z,970nm,16.2s					
HHC	**Hu-ho-hao-te**	**26.79**	**345**	*e*P	**P**	**22 39 22.9 +2.2**
HHC				AP	pP	22 39 52.3 +6.0
HHC				XP	sP	22 40 09.0 +8.9
HHC				PP		22 40 15.1
HHC				PCP	PcP	22 42 42.6 +2.0
HHC				S	**S**	**22 43 47.6 -0.3**
HHC				XS	sS	22 44 38.6 +5.6
HHC				SS		22 45 11.6
HHC				SCS	ScS	22 49 57.5 -3.1
HHC				AMB	AMB	
	comp=Z,5.0nm,0.3s,mb4.5					
HHC				AMB	AMB	
	comp=Z,97nm,4.3s					
HHC				LR	LR	
	comp=N,178nm,6.3s					
HHC				LR	LR	
	comp=E,183nm,5.1s					
HHC				LR	LR	
	comp=Z,143nm,5.7s					
SHL	**Shillong**	**28.62**	**296**	*e*P	**P**	**22 39 38.5 +1.5**
SHL	**Shillong**	**28.62**	**296**	*e*P	**P**	**22 39 38.0 +1.0**
KAKA	**Kakadu**	**30.09**	**156**	*e*P	**P**	**22 39 47.7 -2.3**
	comp=Z,14nm,0.5s,mb4.8					
GTA	**Gaotai**	**30.20**	**327**	*e*P	**P**	**22 39 51.0 0.0**
GTA				AP	pP	22 40 20.3 +3.4
GTA				XP	sP	22 40 34.3 +3.7
GTA				PCP	PcP	22 42 50.1 +1.0
GTA				AMB	AMB	
	comp=Z,3.0nm,1.0s,mb3.9					
GTA				AMB	AMB	
	comp=Z,108nm,4.2s					
GTA				LR	LR	
	comp=N,275nm,18.4s					
GTA				LR	LR	
	comp=E,294nm,15.3s					
GTA				LR	LR	
	comp=Z,242nm,14.9s					
LSA	**Lhasa**	**30.57**	**303**	P	**P**	**22 39 55.4 +1.2**
LSA	**Lhasa**	**30.57**	**303**	*e*P	**P**	**22 39 55.7 +1.5**
LSA				pmax	pmax	
	comp=Z,11nm,0.6s,mb4.8					
LSA	**Lhasa**	**30.57**	**303**	*e*P	**P**	**22 39 55.7 +1.4**
	comp=Z,11nm,0.6s,mb4.8					
FITZ	**Fitzroy Crossi**	**33.39**	**171**	⇓*i*P	**P**	**22 40 17.8 -1.1**
	comp=Z,14nm,0.6s,mb5.0					
BOK	**Bokaro**	**33.58**	**290**	*e*P	**P**	**22 40 20.6 +0.1**
BOK				AMb	AMB	22 40 22.8
	comp=Z,39nm,0.9s,mb5.2					
JIRN	**Jiri**	**34.08**	**297**	*e*P	**P**	**22 40 25.7 +0.8**
	comp=Z,107nm,0.5s					
GUN	**Gumba**	**34.41**	**298**	*e*P	**P**	**22 40 28.5 +0.8**
	comp=Z,87nm,0.4s					
ULN	**Ulaanbaatar**	**34.49**	**344**	*e*P	**P**	**22 40 28.8 +0.4**
ULN				pmax	pmax	
	comp=Z,1.0nm,0.4s,mb4.0					
ULN	**Ulaanbaatar**	**34.49**	**344**	*e*P	**P**	**22 40 28.8 +0.4**
	comp=Z,1.1nm,0.4s,mb4.0					
ASAJ	**Asahikawa**	**34.56**	**29**	P	**P**	**22 40 29.8 +0.8**
	comp=Z,12nm,0.7s,mb4.9,baz=117,slow=6.6,SNR=5.3					
SONM	**Songino Array**	**34.64**	**343**	P	**P**	**22 40 29.4 -0.3**
	comp=Z,2.3nm,0.5s,mb4.3,baz=165,slow=9.2,SNR=15					
SONM				PcP	PcP	22 43 00.9 -0.4
	comp=Z,0.3nm,0.5s,baz=160,slow=4.8,SNR=4.0					
SONM				LR	LR	22 54 16.9
	comp=Z,59nm,19.4s,baz=196,slow=35					
SONM	**Songino Array**	**34.64**	**343**	P	**P**	**22 40 29.4 -0.3**
SONM						22 43 00.9
PKI	**Pulchoki**	**34.73**	**297**	*e*P	**P**	**22 40 30.7 +0.2**
KKN	**Kakani**	**34.90**	**297**	*e*P	**P**	**22 40 31.0 -0.9**
	comp=Z,42nm,0.6s,mb5.4					
DMN	**Daman**	**35.00**	**297**	*e*P	**P**	**22 40 33.0 +0.2**
KLR	**Kul'dur**	**35.30**	**13**	*e*P	**P**	**22 40 32.2 -3.1**
KLR				pmax	pmax	
	comp=Z,43nm,1.2s,mb5.2					
GKN	**Gorkha**	**35.50**	**297**	*e*P	**P**	**22 40 36.9 -0.2**
	comp=Z,133nm,1.0s,mb5.7					
VIS	**Vishakhapatnam**	**35.60**	**279**	*e*P	**P**	**22 40 38.0 +0.1**
VIS				AMb	AMB	22 40 41.9
	comp=Z,56nm,1.1s,mb5.4					
PMG	**Port Moresby**	**36.02**	**131**	P	**P**	**22 40 39.7 -1.8**
	comp=Z,17nm,0.7s,mb5.1,baz=315,slow=4.9,SNR=5.6					
PMG	**Port Moresby**	**36.02**	**131**	*e*P	**P**	**22 40 41.6 +0.1**
PMG				pmax	pmax	
	comp=Z,11nm,0.5s					
PMG	**Port Moresby**	**36.02**	**131**	*e*P	**P**	**22 40 41.6 +0.1**
	comp=Z,11nm,0.5s,mb5.0					
MBWA	**Marble Bar**	**36.03**	**181**	*e*P	**P**	**22 40 40.8 -0.8**
DANN	**Dangsing**	**36.33**	**297**	*e*P	**P**	**22 40 44.5 +0.3**
KOLN	**Koldanda**	**36.34**	**296**	*e*P	**P**	**22 40 44.3 +0.1**
	comp=Z,58nm,0.9s,mb5.5					
YSS	**Yuzh-Sakhalins**	**36.84**	**26**	*e*P	**P**	**22 40 49.6 +1.2**
WRAB	**Tennant Creek**	**37.42**	**158**	*e*P	**P**	**22 40 52.1 -1.3**
WRA	**Warramunga Arr**	**37.42**	**158**	P	**P**	**22 40 51.7 -1.7**
	comp=Z,19nm,0.6s,mb5.2,baz=337,slow=9.4,SNR=24					
WRA				S	**S**	**22 46 27.0 -5.9**
	comp=Z,2.3nm,0.7s,baz=336,slow=16,SNR=7.1					
WB2	**Warramunga Arr**	**37.43**	**158**	*e*P	**P**	**22 40 52.1 -1.4**
ZAK	**Zakamensk**	**37.83**	**342**	*e*P	**P**	**22 40 56.4 -0.4**
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.8s,mb4.1					
MOY	**Mondy**	**39.65**	**341**	*e*P	**P**	**22 41 12.5 +0.5**
NGP	**Nagpur**	**39.65**	**285**	*e*P	**P**	**22 41 14.0 +2.0**
NGP				AMb	AMB	22 41 15.9
	comp=Z,97nm,1.5s,mb5.4					
WMQ	**Urumqi**	**39.91**	**322**	*e*P	**P**	**22 41 16.0 +1.8**
WMQ				AP	pP	22 41 47.3 +6.3
WMQ				XP	sP	22 42 03.4 +9.0
WMQ				AMB	AMB	
	comp=Z,32nm,0.8s,mb5.2					
WMQ				AMB	AMB	
	comp=Z,209nm,4.0s					
HYB	**Hyderabad**	**40.16**	**279**	⇓*i*P	**P**	**22 41 17.0 +0.8**
	comp=Z,50nm,1.0s,mb5.3					
HYB	**Hyderabad**	**40.16**	**279**	⇓*e*P	**P**	**22 41 17.0 +0.8**
HYB				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.3					
HYB	**Hyderabad**	**40.16**	**279**	⇓*e*P	**P**	**22 41 17.0 +0.8**
	comp=Z,5.0nm,1.0s,mb4.3					
AS31	**Alice Springs**	**40.73**	**161**	*e*P	**P**	**22 41 20.0 -0.9**
ASAR	**Alice Springs**	**40.73**	**161**	P	**P**	**22 41 19.6 -1.3**
	comp=Z,5.7nm,0.3s,mb4.8,baz=334,slow=7.0,SNR=23					
ASAR				ScP	ScP	22 46 57.4 -1.2
	comp=Z,0.4nm,0.6s,baz=340,slow=3.1,SNR=4.9					
ASAR				S	**S**	**22 47 16.9 -5.5**
	comp=Z,1.9nm,0.9s,baz=335,slow=17,SNR=11					
ASPA	**Alice Springs**	**40.73**	**161**	*e*P	**P**	**22 41 20.0 -0.9**
BHPL	**Bhopal**	**41.25**	**288**	*e*P	**P**	**22 41 25.0 -0.2**
KLP	**Kalpa**	**41.72**	**301**	*e*P	**P**	**22 41 29.6 +0.6**
KLP				AMb	AMB	22 41 32.0
	comp=Z,74nm,1.4s,mb5.2					
AYAN	**Aya Nagar**	**42.09**	**296**	*e*P	**P**	**22 41 30.6 -1.4**
AYAN				AMb	AMB	22 41 31.0
	comp=Z,23nm,2.4s,mb4.5					
SMLA	**Simla**	**42.54**	**300**	*e*P	**P**	**22 41 34.7 -0.9**
SMLA				AMb	AMB	22 41 36.2
	comp=Z,72nm,0.4s,mb5.8					
KUDL	**Kundal**	**42.59**	**295**	*e*P	**P**	**22 41 34.5 -1.6**
KUDL				AMb	AMB	22 41 35.4
	comp=Z,52nm,0.6s,mb5.4					
RTK	**Rohtak**	**42.79**	**297**	*e*P	**P**	**22 41 36.7 -1.0**
RTK				AMb	AMB	22 41 37.1
	comp=Z,66nm,1.4s,mb5.2					
KHET	**Khetri**	**43.18**	**295**	*e*P	**P**	**22 41 39.8 -1.0**
KHET				AMb	AMB	22 41 41.4
	comp=Z,22nm,1.2s,mb4.8					
CTA	**Charters Tower**	**43.24**	**143**	P	**P**	**22 41 40.2 -1.1**
	comp=Z,3.9nm,0.5s,mb4.4,baz=342,slow=9.6,SNR=4.0					
AJM	**Ajmer**	**44.02**	**293**	*e*P	**P**	**22 41 47.2 -0.4**
AJM				AMb	AMB	22 41 49.0
	comp=Z,64nm,0.8s,mb5.4					
KAD	**Karad**	**44.33**	**279**	*e*P	**P**	**22 41 50.2 +0.2**
KAD				AMb	AMB	22 41 52.5
	comp=Z,17nm,1.7s,mb4.5					
MKAR	**Makanchi Array**	**44.73**	**323**	P	**P**	**22 41 53.7 +0.5**
	comp=Z,9.5nm,0.8s,mb4.6,baz=116,slow=5.5,SNR=84					
MKAR				PcP	PcP	22 43 32.9 -0.6
	comp=Z,4.4nm,0.7s,baz=29,slow=2.8,SNR=8.0					
KSH	**Kashi**	**45.75**	**311**	*i* PR	**P**	**22 42 03.8 +2.6**
KSH				AP	pP	22 42 35.5 +6.9
KSH				XP	sP	22 42 51.0 +9.1
KSH				PCP	PcP	22 43 39.1 +2.1
KSH				PP	PP	22 43 53.9 +3.3
KSH				SCP	ScP	22 47 17.6 -1.3
KSH				PCS	PcS	22 47 32.0 +0.6
KSH				S	**S**	**22 48 33.4 -2.3**
KSH				XS	sS	22 49 31.6 +8.7
KSH				SCS	ScS	22 51 42.6 -2.4
KSH				SS	SS	22 51 55.4 -6.1
KSH				AMB	AMB	
	comp=Z,33nm,0.6s,mb5.2					
KSH				AMB	AMB	
	comp=Z,137nm,4.4s					
KSH				LR	LR	
	comp=N,456nm,7.4s					
KSH				LR	LR	
	comp=E,686nm,6.0s					
KSH				LR	LR	
	comp=Z,374nm,7.5s					
HNR	**Honiara**	**46.17**	**119**	LR	LR	22 58 10.4
	comp=Z,133nm,19.6s,baz=333,slow=32					
KLBR	**Kellerberrin**	**46.48**	**183**	*e*P	**P**	**22 42 04.8 -2.2**
	comp=Z,13nm,0.4s,mb5.0					
ULHL	**Ulahol**	**46.52**	**315**	P	**P**	**22 42 08.9 +1.6**
	SNR=16					
KZA	**Kyzart**	**47.15**	**314**	P	**P**	**22 42 14.3 +2.1**
	SNR=53					
TKM2	**Tokmak 2**	**47.22**	**315**	P	**P**	**22 42 13.8 +1.2**
	SNR=16					
TKM2	**Tokmak 2**	**47.22**	**315**	*i* P	**P**	**22 42 13.7 +1.0**
TKM2				pmax	pmax	
	comp=Z,15nm,0.7s,mb4.8					
YAK	**Yakutsk**	**47.34**	**6**	*e*P	**P**	**22 42 13.6 -0.1**
JASL	**Jaisalmer**	**47.39**	**293**	*e*P	**P**	**22 42 13.0 -1.1**
KBK	**Karagaybulak**	**47.56**	**315**	P	**P**	**22 42 16.6 +1.2**
	SNR=43					
ZAL	**Zalesovo**	**47.69**	**332**	P	**P**	**22 42 16.2 -0.1**
	comp=Z,5.9nm,0.4s,mb4.8,baz=347,slow=5.3,SNR=26					
UCH	**Uchtor**	**47.71**	**314**	P	**P**	**22 42 18.5 +2.0**
	SNR=63					
CHMS	**Chumysh**	**47.82**	**315**	P	**P**	**22 42 17.9 +0.5**
	SNR=12					
NWAO	**Narrogin (SRO)**	**47.84**	**184**	P	**P**	**22 42 16.4 -1.2**
	comp=Z,15nm,0.6s,mb5.0,baz=356,slow=4.5,SNR=18					
NWAO	**Narrogin (SRO)**	**47.84**	**184**	*e*P	**P**	**22 42 17.0 -0.5**
NWAO				pmax	pmax	
	comp=Z,11nm,0.5s					
NWAO	**Narrogin (SRO)**	**47.84**	**184**	*e*P	**P**	**22 42 17.0 -0.5**
	comp=Z,11nm,0.5s,mb4.9					
FRU	**Bishkek**	**47.85**	**315**	*e*P	**P**	**22 42 18.8 +1.2**
FRU				pmax	pmax	
	comp=Z,30nm,1.1s,mb5.0					
AAK	**Ala-Archa**	**47.87**	**314**	P	**P**	**22 42 19.1 +1.3**
	SNR=15					
AAK	**Ala-Archa**	**47.87**	**314**	*e*P	**P**	**22 42 17.5 -0.2**
AAK				*e*		22 43 43.7
AAK				pmax	pmax	
	comp=Z,12nm,0.8s,mb4.8					
AAK	**Ala-Archa**	**47.87**	**314**	*e*P	**P**	**22 42 17.5 -0.3**
	comp=Z,12nm,0.8s,mb4.8					
AAK				*e*PcP	PcP	22 43 43.7 -0.8
USP	**Ospenovka**	**48.09**	**315**	P	**P**	**22 42 20.3 +0.9**
	SNR=18					
AML	**Almayashu**	**48.25**	**313**	P	**P**	**22 42 22.5 +1.8**
	SNR=39					
EKS2	**Erkin-Say**	**48.37**	**314**	P	**P**	**22 42 23.0 +1.4**
	SNR=34					
KURK	**Kurchatov**	**48.87**	**326**	*e*P	**P**	**22 42 25.8 +0.4**
KURK				pmax	pmax	
	comp=Z,60nm,0.6s,mb5.7					
KURK	**Kurchatov**	**48.87**	**326**	*e*P	**P**	**22 42 25.8 +0.4**
	comp=Z,60nm,0.6s,mb5.7					
NVS	**Novosibirsk**	**48.97**	**332**	*i* P	**P**	**22 42 25.3 -0.9**
NVS				*e*	pP	22 42 54.7 +0.9
NVS				pmax	pmax	
	comp=E,11nm,1.1s					
NVS				pmax	pmax	
	comp=Z,9.0nm,1.1s,mb4.6					
KK31	**Karatay Array**	**50.79**	**314**	*i* P	**P**	**22 42 40.2 +0.3**
KK31				pmax	pmax	
	comp=Z,19nm,0.6s,mb5.3					
KKAR	**Karatay Array**	**50.79**	**314**	*i* P	**P**	**22 42 40.2 +0.3**
KKAR				pmax	pmax	
	comp=Z,12nm,0.7s,mb5.0					
STKA	**Stephens Creek**	**50.94**	**157**	⇑*i*P	**P**	**22 42 37.9 -3.2**
	comp=Z,7.7nm,0.6s,mb4.9					
STKA	**Stephens Creek**	**50.94**	**157**	P	**P**	**22 42 37.9 -3.1**
	comp=Z,8.3nm,0.6s,mb4.9,baz=340,slow=6.8,SNR=19					
VOSK	**Vostochnaya**	**54.00**	**325**	P	**P**	**22 43 03.3 -0.3**
VOSK				pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.6					
BVA0	**Borovoye Array**	**54.45**	**325**	*i* P	**P**	**22 43 06.6 -0.3**
BVA0				pmax	pmax	
	comp=Z,2.0nm,1.0s,mb4.1					
BRVK	**Borovoye**	**54.53**	**325**	*e*P	**P**	**22 43 07.5 +0.1**
BRVK				pmax	pmax	
	comp=Z,11nm,0.9s,mb4.9					
BRVK	**Borovoye**	**54.53**	**325**	*e*P	**P**	**22 43 07.5 +0.1**
	comp=Z,11nm,0.9s,mb4.9					
TIXI	**Tiksi**	**56.77**	**3**	⇑*i*P	**P**	**22 43 22.0 -1.5**
TIXI				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.5					
CNB	**Canberra Magne**	**57.17**	**152**	*e*P	**P**	**22 43 25.9 -0.4**
	comp=Z,21nm,0.7s,mb5.3					
TOO	**Toolangi**	**57.46**	**156**	*e*P	**P**	**22 43 28.0 -0.3**
	comp=Z,7.0nm,0.6s,mb4.9					
TOO	**Toolangi**	**57.46**	**156**	*e*P	**P**	**22 43 28.0 -0.3**
TOO				pmax	pmax	
	comp=Z,7.0nm,0.6s,mb4.9					
DZM	**Mont Dzumac**	**58.33**	**128**	P	**P**	**22 43 34.5 +0.1**
	comp=Z,10.0nm,1.1s,mb4.8,baz=285,slow=20,SNR=2.8					
AB31	**Akbulak array**	**59.48**	**319**	*i* P	**P**	**22 43 42.3 -0.1**
AB31				pmax	pmax	
	comp=Z,2.0nm,0.4s,mb4.5					
BILL	**Biiibino**	**60.49**	**18**	*e*P	**P**	**22 43 51.3 +2.1**
BILL				pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.6					
BILL	**Bilibino**	**60.49**	**18**	*e*P	**P**	**22 43 51.3 +2.0**
	comp=Z,4.2nm,0.6s,mb4.7					
ARU	**Arti**	**62.06**	**326**	⇓*i*P	**P**	**22 43 58.7 -1.1**
ARU				*e*		22 46 15.8
ARU				*e*S	**S**	**22 52 12.6 -2.6**
ARU				*e*SS	SS	22 56 20.0 +0.3
ARU				pmax	pmax	
	comp=Z,10.0nm,1.4s,mb4.7					
ARU	**Arti**	**62.06**	**326**	*e*P	**P**	**22 43 58.9 -0.9**
	comp=Z,6.3nm,0.6s,mb4.8					
QRN	**Al-Qurain**	**67.70**	**295**	*e*P	**P**	**22 44 36.0 -0.3**
QRN				AMb	AMB	22 44 36.7
	comp=Z,21nm,0.5s,mb5.2					
UMR	**Umm Al-Rimmam**	**67.80**	**296**	*e*P	**P**	**22 44 36.6 -0.3**
UMR				AMb	AMB	22 44 37.5
	comp=Z,34nm,0.4s,mb5.6					
KBD	**Kabd**	**67.86**	**296**	*e*P	**P**	**22 44 37.2 -0.1**
KBD				AMb	AMB	22 44 38.0
	comp=Z,113nm,0.4s					
RDF	**Al-Radifah**	**68.00**	**295**	*e*P	**P**	**22 44 37.9 -0.3**
RDF				AMb	AMB	22 44 39.0
	comp=Z,58nm,0.6s,mb5.6					
MIB	**Mutribah**	**68.11**	**296**	*e*P	**P**	**22 44 38.4 -0.5**
MIB				AMb	AMB	22 44 39.5
	comp=Z,61nm,0.6s,mb5.6					
NAY	**Al-Naaiem**	**68.24**	**296**	*e*P	**P**	**22 44 39.1 -0.6**
NAY				AMb	AMB	22 44 41.5
	comp=Z,22nm,0.9s,mb5.0					
KIV	**Kislovodsk**	**70.87**	**312**	*e*P	**P**	**22 44 55.9 0.0**
KIV				pmax	pmax	
	comp=Z,30nm,0.7s,mb5.2					
SOC	**Sochi**	**73.04**	**311**	*d i*P	**P**	**22 45 07.5 -1.3**
SOC				*e*		22 45 22.6
SOC				*e*		22 47 53.6
SOC				*e*S	S	22 54 21.5 -4.9
SOC				pmax	pmax	
	comp=Z,28nm,0.6s,mb5.3					
OBN	**Obninsk**	**74.24**	**324**	⇑*i*P	**P**	**22 45 14.1 -1.7**
OBN				pmax	pmax	
	comp=Z,30nm,2.5s,mb4.6					
MALT	**Malatya**	**74.56**	**306**	*e*P	**P**	**22 45 19.2 +1.5**
MALT				pmax	pmax	
	comp=Z,3.0nm,0.6s,mb4.2					
MALT	**Malatya**	**74.56**	**306**	*e*P	**P**	**22 45 19.2 +1.5**
	comp=Z,2.8nm,0.6s,mb4.2					
KDAK	**Kodiak Island**	**75.81**	**33**	P	**P**	**22 45 24.4 -0.4**
	comp=Z,3.8nm,0.5s,mb4.4,baz=228,slow=1.0,SNR=5.5					
JOF	**Joensuu**	**76.28**	**332**	*e*p	**P**	**22 45 27.1 -0.4**
	comp=Z,2.8nm,0.3s,mb4.5					
KEV	**Kevo**	**77.13**	**339**	*e*p	**P**	**22 45 31.0 -1.3**
	comp=Z,21nm,0.9s,mb4.9					
KEV	**Kevo**	**77.13**	**339**	*e*P	**P**	**22 45 31.0 -1.3**
KEV				pmax	pmax	
	comp=Z,21nm,0.9s,mb4.9					
ARCES	**ARCESS Array B**	**77.68**	**339**	P	**P**	**22 45 34.4 -1.0**
	comp=Z,3.0nm,0.4s,mb4.4,baz=78,slow=7.2,SNR=54					
BRTR	**Keskin Array B**	**78.05**	**308**	P	**P**	**22 45 36.7 -0.7**
	comp=Z,1.4nm,0.3s,mb4.2,baz=113,slow=3.6,SNR=24					
BRTR				PP	PP	22 48 35.0 -0.1
	comp=Z,0.8nm,0.7s,baz=83,slow=10,SNR=4.2					
KAF	**Kangasniemi**	**78.69**	**331**	*e*p	**P**	**22 45 39.7 -1.2**
	comp=Z,2.8nm,0.4s,mb4.5,baz=75,slow=5.0					
KAF	**Kangasniemi**	**78.69**	**331**	*e*P	**P**	**22 45 39.7 -1.2**
KAF				pmax	pmax	
	comp=Z,3.0nm,0.4s,mb4.5					
FINES	**FINESS Array B**	**78.92**	**331**	P	**P**	**22 45 41.2 -1.0**
	comp=Z,1.7nm,0.5s,mb4.2,baz=47,slow=5.6,SNR=29					
FINES	**FINESS Array B**	**78.92**	**331**	P	**P**	**22 45 41.2 -1.0**
VSU	**Vasula**	**79.17**	**328**	⇑*i*P	**P**	**22 45 43.2 -0.3**
AKASG	**Malin Array Be**	**79.20**	**320**	P	**P**	**22 45 42.2 -1.5**
	comp=Z,1.3nm,0.4s,mb4.1,baz=68,slow=4.7,SNR=16					
AKASG	**Malin Array Be**	**79.20**	**320**	P	**P**	**22 45 42.2 -1.5**
INK	**Inuvik**	**81.92**	**21**	P	**P**	**22 45 57.1 -1.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=294,slow=6.7,SNR=7.7					
SUW	**Suwalki**	**82.10**	**324**	*e*P	**P**	**22 45 58.2 -0.9**
KWP	**Kalwaria**	**83.53**	**320**	*e*P	**P**	**22 46 06.8 +0.3**
KMBO	**Kilima Mbogo**	**83.65**	**267**	P	**P**	**22 46 07.8 +0.6**
	comp=Z,3.4nm,0.9s,mb4.2,baz=41,slow=8.2,SNR=13					
KMBO				LR	LR	23 18 10.8
	comp=Z,42nm,20.2s,baz=89,slow=32					
STHS	**Stebnicka Huta**	**84.50**	**320**	*e*P	**P**	**22 46 10.4 -1.1**
CRVS	**Cervenica-Dubn**	**84.51**	**319**	*e*P	**P**	**22 46 12.7 +1.2**
NIE	**Niedzica**	**85.08**	**320**	*e*P	**P**	**22 46 14.9 +0.5**
OJC	**Ojcow**	**85.16**	**321**	*e*P	**P**	**22 46 14.8 +0.1**
KECS	**Kecovo**	**85.25**	**319**	*e*P	**P**	**22 46 15.0 -0.2**
NB2	**NORSAR Subarra**	**85.89**	**333**	P	**P**	**22 46 16.6 -1.8**
	comp=Z,19nm,0.7s,mb5.1,baz=67,slow=4.8					
**NB2

IDC 13 23:13:13.8±1.0, 7.12N×12699E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=64.1km s-min=23.6km az=74.0
ISCJB 13 23:13:19.5±1.4, 7.14N±008×1272E±0.1, h59km±13km, mb3.6/6, Error ellipse: s-maj=18.3km s-min=12.2km az=133.4
NEIC 13 23:13:19.0±0.6, 721N×127.16E, h35km, mb3.9/2, Error ellipse: s-maj=18.1km s-min=10.0km az=70.0
MAN 13 23:13:19.3, 690N×12702E, h26km, mb3.4, ML4.6, MS6.4
ISC 13 23:13:20.7±1.5, 718N±008×1272E±01, h49km±15km, n17, σ1§08/21, mb3.6/6, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.29**	**321**	⇓*i*P			**Pn**	**23 13 41.5**	**-0.8**
BIPH				*i*S			**Sn**	**23 13 56.8**	**-1.5**
DAV	**Davao City (W)**	**1.59**	**266**	*e*Pn			**Pn**	**23 13 44.8**	**-1.6**
BUKP	**Musuan**	**2.21**	**289**	*e*P			**Pn**	**23 13 54.6**	**-0.3**
BUKP				*e*S			**Sn**	**23 14 21.9**	**+0.9**
BUTP	**Butuan**	**2.35**	**319**	*e*P			**Pn**	**23 13 59.0**	**+2.1**
BUTP				*e*S			**Sn**	**23 14 33.0**	**+8.5**
CGP	**Cagayan de Oro**	**2.77**	**297**	⇓*e*P			**Pn**	**23 14 02.8**	**+0.2**
CGP				*i*S			**Sn**	**23 14 35.3**	**+0.6**
SCPH	**Surigao**	**3.08**	**327**	*e*P			**Pn**	**23 14 09.2**	**+2.4**
SCPH				*e*S			**Sn**	**23 14 48.5**	**+6.1**
PAGZ	**Pagadian**	**3.82**	**280**	*e*P			**Pn**	**23 14 16.7**	**-0.3**
NACB	**Ninganchiao**	**17.73**	**343**	*e*P			**Pn**	**23 17 21.6**	**-2.3**
WRAB	**Tennant Creek**	**27.85**	**165**	*e*P			**P**	**23 19 06.3**	**+0.8**
	1.4nm,0.5s,mb3.9								
WRA	**Warramunga Arr**	**27.86**	**165**	P			**P**	**23 19 04.8**	**-0.7**
	0.2nm,0.4s,mb3.1,baz=347,slow=10,SNR=6.4								
ASAR	**Alice Springs**	**31.35**	**168**	P			**P**	**23 19 36.6**	**+0.2**
	0.3nm,0.5s,mb3.4,baz=350,slow=8.1,SNR=4.0								
ASAR				PcP			PcP	23 22 30.6	+1.2
	0.6nm,0.5s,baz=348,slow=2.5,SNR=6.8								
ULN	**Ulaanbaatar**	**44.02**	**341**	*e*P			**P**	**23 21 23.3**	**0.0**
MKAR	**Makanchi Array**	**55.02**	**324**	P			**P**	**23 22 46.9**	**-0.3**
	0.8nm,0.6s,mb4.0,baz=116,slow=5.5,SNR=10								
KURK	**Kurchatov**	**59.11**	**326**	*e*P			**P**	**23 23 15.6**	**-0.5**
	0.3nm,0.3s,mb3.8								
BRVK	**Borovoye**	**64.78**	**326**	*e*P			**P**	**23 23 54.0**	**-0.1**
ILAR	**Eielson Array**	**81.82**	**26**	P			**P**	**23 25 35.5**	**+1.0**
	0.4nm,0.5s,mb3.6,baz=265,slow=3.8,SNR=9.8								
TORD	**Torodi Ar. Bea**	**122.21**	**290**	PKP			PKPdf	23 32 10.2	+0.2
	0.1nm,0.3s,baz=58,slow=1.8,SNR=6.4								

CSEM 13 23:17:08.9±0.5, 3849N×2837W, h5km±4km, ML1.7, Error ellipse: s-maj=3.6km s-min=2.6km az=58.0, After PDA
PDA 13 23:17:08.9±0.5, 3849N×2837W, h5km±4km, MD2.9, ML1.7, Error ellipse: s-maj=3.6km s-min=2.6km az=58.0
SVSA 13 23:17:08.9±0.5, 3849N×2837W, h5km±4km, MD2.9, ML1.7, Error ellipse: s-maj=3.6km s-min=2.6km az=58.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.04**	**291**	*i*P			Pg	23 17 10.0	-0.1
PICO				*i*S			Sg	23 17 11.1	+0.2
PICO	**Pico**	**0.04**	**291**	*i*S			Sg	23 17 11.1	+0.2
PBOI	**Pico dos Bois**	**0.05**	**181**	*e*P			Pg	23 17 10.2	+0.1
PBOI				*e*S			Sg	23 17 11.1	+0.1
PBOI									
	326nm,0.1s								
PCND	**Candelaria**	**0.07**	**257**	*e*P			Pg	23 17 10.6	+0.1
PCND				*e*S			Sg	23 17 11.7	+0.1
PCND									
	78nm,0.1s								

IDC 13 23:19:04.1±3.2, 551N×9446E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/21, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=118.5km s-min=21.8km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.20**	**121**	Pn			Pn	23 20 26.2	+3.0
	0.7nm,0.3s,baz=300,slow=20,SNR=3.2								
MKAR	**Makanchi Array**	**42.45**	**348**	P			P	23 27 01.0	+0.3
	0.5nm,0.5s,baz=170,slow=6.4,SNR=7.9								
SONM	**Songino Array**	**43.39**	**12**	P			P	23 27 08.3	0.0
	0.2nm,0.5s,baz=200,slow=11,SNR=3.4								
WRA	**Warramunga Arr**	**46.66**	**124**	P			P	23 27 34.2	-0.1
	0.5nm,0.5s,baz=305,slow=8.9,SNR=10								
ASAR	**Alice Springs**	**48.18**	**129**	P			P	23 27 46.4	+0.2
	0.1nm,0.4s,baz=299,slow=7.7,SNR=3.3								

ISCJB 13 23:28:31.9±0.8, 2421S±005×670W±0.1, h191km±18km, mb3.5/2, Error ellipse: s-maj=18.3km s-min=7.6km az=11.9
IDC 13 23:28:31.8±1.7, 2420S×6691W, h162km±21km, mb3.1/1, mb1 3.1/5, mb1mx3.0/17, mbtmp3.5/5, Error ellipse: s-maj=39.5km s-min=14.8km az=95.0
NEIC 13 23:28:33.1±0.8, 2410S×6702W, h172km±14km, mb3.6/3, Error ellipse: s-maj=16.6km s-min=9.2km az=99.0
GUC 13 23:28:36.3±0.8, 2422S×6730W, h200km, ML4.2
ISC 13 23:28:33.2±0.8, 2416S±005×670W±01, h176km±17km, n16, σ1§41/23, mb3.5/2, 3C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.03**	**284**	⇓*i*P			**Pn**	**23 29 25.3**	**+3.3**
CEN1				*i*S			**Sn**	**23 30 02.2**	**+2.2**
CEN1				AMP				23 30 03.9	
	comp=N,236nm,0.5s								
CPN1	**Cerro Paranal**	**3.14**	**261**	⇑*i*P			**Pn**	**23 29 25.5**	**+2.2**
CPN1				*i*S			**Sn**	**23 30 03.4**	**+1.0**
CPN1				AMP				23 30 04.0	
	comp=E,320nm,0.5s								
ANCH	**Antofagasta**	**3.16**	**278**	⇑*i*P			**Pn**	**23 29 22.8**	**-0.8**
ANCH				*i*S			**Sn**	**23 29 59.7**	**-3.0**
ANCH				AMP				23 30 01.8	
	comp=E,749nm,0.3s								
ANCH	**Antofagasta**	**3.16**	**278**	⇑*i*P			**Pn**	**23 29 22.8**	**-0.8**
ANCH				*i*S			**Sn**	**23 29 59.7**	**-3.0**
CRCH	**Chaqaral**	**3.94**	**236**	*i*S			**Sn**	**23 30 19.6**	**-0.8**
CDCH	**Caldera**	**4.52**	**229**	*i*P			**Pn**	**23 29 40.3**	**-0.5**
CDCH				*i*S			**Sn**	**23 30 31.1**	**-2.5**
CFAA	**Coronel Fontan**	**7.50**	**188**	P			**Pn**	**23 30 20.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=67,slow=13,SNR=3.7								
CFAA				S			**Sn**	**23 31 40.0**	**-4.0**
	comp=E,0.1nm,0.3s,baz=246,slow=20,SNR=5.6								
CFAA	**Coronel Fontan**	**7.50**	**188**	P			**Pn**	**23 30 20.0**	**+0.2**
CFAA				S			**Sn**	**23 31 40.0**	**-4.0**
LPAZ	**La Paz**	**7.90**	**352**	P			**Pn**	**23 30 26.6**	**+1.5**
	comp=E,0.7nm,0.3s,baz=171,slow=8.8,SNR=14								
LPAZ				S			**Sn**	**23 31 52.6**	**-1.1**
	comp=E,0.0nm,0.3s,baz=357,slow=17,SNR=2.5								
SIV	**San Ignacio**	**9.85**	**35**	P			**Pn**	**23 30 49.4**	**-1.3**
	comp=E,0.2nm,0.3s,baz=210,slow=14,SNR=3.9								
TRQA	**Tornquist**	**14.50**	**164**	*e*P			**Pn**	**23 31 52.5**	**+2.3**
	comp=E,2.3nm,0.6s								
SAML	**Samuel**	**15.56**	**14**	P			**Pn**	**23 32 02.9**	**-0.2**
	comp=E,0.4nm,0.4s								
BDFB	**Brasilia**	**19.74**	**68**	P			**P**	**23 32 49.4**	**0.0**
	comp=E,0.2nm,0.3s,baz=252,slow=13,SNR=4.8								
SDV	**Santo Domingo**	**33.03**	**353**	P			**P**	**23 34 51.6**	**-0.1**
	comp=E,1.2nm,0.3s,mb4.1								
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P			**P**	**23 40 04.0**	**-0.3**
	comp=E,0.2nm,0.5s,mb3.0,baz=257,slow=4.2,SNR=5.6								
MKAR	**Makanchi Array**	**146.64**	**40**	PKPbc			PKPbc	23 47 54.1	+0.2
	comp=E,0.4nm,0.5s,baz=316,slow=8.1,SNR=6.9								

ISCJB 13 23:31:32.7±0.6, 3465N±005×7339E±0.10, h10km, mb3.7/9, Error ellipse: s-maj=12.1km s-min=6.4km az=131.6
IDC 13 23:31:33.0±1.0, 3460N×7331E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/24, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=30.5km s-min=21.0km az=57.0
NEIC 13 23:31:34.6±0.6, 3465N×7326E, h10km, mb3.6/3, Error ellipse: s-maj=12.1km s-min=11.1km az=76.0
MOS 13 23:31:36.4±1.0, 3471N×7326E, h33km, mb4.6/4, Error ellipse: s-maj=24.5km s-min=10.1km az=93.7
NNC 13 23:31:49.4±11.0, 3523N×7320E, h192km±88km, mb2.8, mpv3.9, Error ellipse: s-maj=115.6km s-min=87.8km az=71.0
ISC 13 23:31:34.9±0.6, 3468N±005×7328E±009, h10km, n22, σ1§04/27, mb3.7/9, 2C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BHK	**Bhakra**	**4.19**	**140**	*e*P			**Sg**	**23 33 48.3**	**-1.1**
SDNR	**Sundarnagar**	**4.43**	**135**	*e*P			**Pn**	**23 32 45.5**	**+3.3**
SDNR				*e*S			**Sg**	**23 33 52.0**	**-5.3**
AAK	**Ala-Archa**	**8.00**	**6**	*e*P			**Pn**	**23 33 30.6**	**-0.5**
TKM2	**Tokmak 2**	**8.42**	**12**	⇓P			**Pn**	**23 33 40.3**	**+3.3**
	1.5nm,0.6s								
TKM2				⇓S			**Sn**	**23 35 11.8**	**-0.3**
	2.1nm,0.7s								
KK31	**Karatay Array**	**8.68**	**346**	⇑P			**Pn**	**23 33 42.8**	**+2.3**
	4.6nm,0.3s,baz=153,slow=11,SNR=179								
KK31				⇑S			**Sn**	**23 35 16.9**	**-1.5**
	1.0nm,0.5s,baz=175,slow=24,SNR=5.0								
KKAR	**Karatay Array**	**8.68**	**346**	P			**Pn**	**23 33 42.9**	**+2.4**
KKAR				S			**Sn**	**23 35 16.8**	**-1.6**
KKAR				pmax			pmax		
	comp=Z,3.0nm,0.3s								
MKAR	**Makanchi Array**	**13.88**	**27**	Pn			**Pn**	**23 34 52.8**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=209,slow=12,SNR=2.8								
AB31	**Akbulak array**	**17.58**	**330**	P			**Pn**	**23 35 40.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=142,slow=14,SNR=11								
AB31				⇓S			**Sn**	**23 38 42.3**	**-13**
	comp=Z,0.8nm,0.8s,baz=150,slow=11,SNR=4.1								
BVAR	**Borovoye Array**	**18.45**	**354**	P			**Pn**	**23 35 50.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=154,slow=8.9,SNR=11								
BRVK	**Borovoye**	**18.49**	**354**	*e*P			**Pn**	**23 35 50.7**	**-0.5**
BRVK				pmax			pmax		
	comp=Z,1.0nm,0.9s								
BRVK	**Borovoye**	**18.49**	**354**	*e*P			**Pn**	**23 35 50.7**	**-0.5**
	comp=Z,1.3nm,0.9s								
ZAL	**Zalesovo**	**20.89**	**19**	P			**P**	**23 36 17.2**	**0.0**
	comp=Z,3.2nm,0.3s,baz=255,slow=5.2,SNR=10								
MALT	**Malatya**	**28.15**	**288**	*e*P			**P**	**23 37 27.0**	**-0.2**
MALT				pmax			pmax		
	comp=Z,1.0nm,0.4s,mb3.8								
MALT	**Malatya**	**28.15**	**288**	*e*P			**P**	**23 37 27.0**	**-0.2**
	comp=Z,0.9nm,0.4s,mb3.8								
ULN	**Ulaanbaatar**	**28.35**	**52**	*e*P			**P**	**23 37 29.5**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.5								
FINES	**FINESS Array B**	**40.02**	**327**	P			**P**	**23 39 10.2**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.5,baz=119,slow=9.9,SNR=7.2								
ARCES	**ARCESS Array B**	**43.53**	**338**	P			**P**	**23 39 39.0**	**+0.4**
	comp=Z,1.3nm,0.5s,mb3.9,baz=115,slow=8.1,SNR=10								
HFS	**Hagfors**	**45.64**	**323**	P			**P**	**23 39 55.2**	**-0.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=104,slow=11,SNR=5.1								
NOA	**NORSAR Array B**	**46.94**	**324**	P			**P**	**23 40 05.3**	**-0.5**
	comp=Z,1.3nm,1.0s,mb3.8,baz=100,slow=7.7,SNR=2.6								
TORD	**Torodi Ar. Bea**	**67.57**	**271**	P			**P**	**23 42 31.6**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.5,baz=48,slow=5.9,SNR=7.0								
WRA	**Warramunga Arr**	**79.45**	**123**	P			**P**	**23 43 40.8**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=323,slow=5.0,SNR=7.2								
ASAR	**Alice Springs**	**81.69**	**126**	P			**P**	**23 43 53.5**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.5,baz=312,slow=4.9,SNR=4.9								

BJI 14 00:06:04.2, 1104S×16192E, h82km, mB5.2, mb4.6, Ms5.1, Msz4.8
ISCJB 14 00:06:10.6±0.4, 1026S±005×161.11E±007, h79km, mb4.2/21, Error ellipse: s-maj=10.4km s-min=6.2km az=126.6
MOS 14 00:06:10.8±0.6, 1030S×161.13E, h84km, mb4.6/4, Error ellipse: s-maj=15.1km s-min=13.2km az=25.1
NEIC 14 00:06:12.4±0.4, 1024S×161.13E, mb4.5/9, Error ellipse: s-maj=10.1km s-min=7.8km az=88.0
IDC 14 00:06:12.6±0.6, 1029S×161.12E, h82km±5km, mb3.9/12, mb1 4.1/13, mb1mx4.1/17, mbtmp4.3/13, MS3.6/5, Ms1 3.6/5, ms1mx3.3/19, Error ellipse: s-maj=13.7km s-min=7.8km az=42.0
ISC 14 00:06:12.4±0.4, 1022S±005×16113E±007, h81km, h81km±1.9km: pP-P, n50, σ0§99/48, mb4.2/21, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.41**	**304**	P			**Pn**	**00 06 36.6**	**0.0**
	690nm,0.3s,baz=111,slow=1.7,SNR=83								
HNR				S			**Sn**	**00 06 55.5**	**+0.8**
	3μm,0.3s,baz=263,slow=5.1,SNR=29								
HNR	**Honiara**	**1.41**	**304**	*e*Pn			**Pn**	**00 06 36.5**	**0.0**
HNR				*e*Sn			**Sn**	**00 06 54.5**	**-0.2**
DZM	**Mont Dzumac**	**12.84**	**157**	P			**Pn**	**00 09 12.8**	**+1.2**
	6.2nm,0.3s,baz=4.6,slow=13,SNR=44								
DZM				S			**Sn**	**00 11 33.0**	**+0.4**
	2.0nm,0.3s,baz=109,slow=22,SNR=6.0								
DZM				LR			LR	00 12 56.3	
	comp=Z,323nm,21.4s,baz=217,slow=32								
PMG	**Port Moresby**	**13.79**	**272**	LR			LR	00 13 04.0	
	comp=Z,61nm,19.5s,baz=150,slow=30								
PMG	**Port Moresby**	**13.79**	**272**	P			**Pn**	**00 09 23.7**	**-0.5**
CTA	**Charters Tower**	**17.38**	**234**	*e*P			**Pn**	**00 10 12.4**	**+2.9**
	6.6nm,0.6s								
CTA	**Charters Tower**	**17.38**	**234**	P			**Pn**	**00 10 12.9**	**+3.5**
	1.2nm,0.3s,baz=66,slow=14,SNR=12								
CTA	**Charters Tower**	**17.38**	**234**	*e*P			**Pn**	**00 10 12.4**	**+2.9**
CTA				pmax			pmax		
	comp=Z,7.0nm,0.6s								
CTAO	**Charters Tower**	**17.38**	**234**	*e*P			**Pn**	**00 10 14.3**	**+4.8**
CTAO				pmax			pmax		
	comp=Z,7.0nm,0.6s								
CTAO	**Charters Tower**	**17.38**	**234**	*e*Pn			**Pn**	**00 10 14.3**	**+4.8**
	comp=Z,6.9nm,0.6s								
ARMA	**Armidale**	**21.96**	**202**	*e*P			**P**	**00 10 59.3**	**-0.1**
WRAB	**Tennant Creek**	**27.56**	**246**	*e*P			**P**	**00 11 52.1**	**+0.5**
WRAB				*e*			pP	00 12 11.9	+1.6
WRAB				pmax			pmax		
	comp=Z,17nm,1.0s,mb4.5								
WRAB	**Tennant Creek**	**27.56**	**246**	*e*P			**P**	**00 11 52.1**	**+0.5**
	comp=Z,16nm,1.0s,mb4.5								
WRAB				*e*			pP	00 12 11.8	+1.5
WB2	**Warramunga Arr**	**27.57**	**246**	*e*P			**P**	**00 11 51.9**	**+0.3**
WB2				*e*			pP	00 12 11.6	+1.2
WRA	**Warramunga Arr**	**27.58**	**246**	P			**P**	**00 11 52.2**	**+0.5**
	comp=Z,1.6nm,0.5s,mb3.8,baz=77,slow=8.9,SNR=34								
WRA				pP			pP	00 12 10.3	-0.1
	comp=Z,4.9nm,0.6s,baz=74,slow=9.3,SNR=11								
STKA	**Stephens Creek**	**28.13**	**217**	*e*P			**P**	**00 11 54.6**	**-2.0**
	comp=Z,2.6nm,0.6s,mb3.9								
STKA	**Stephens Creek**	**28.13**	**217**	P			**P**	**00 11 55.6**	**-1.0**
	comp=Z,3.6nm,0.7s,mb4.0,baz=25,slow=13,SNR=5.4								
STKA				LR			LR	00 22 46.6	
	comp=Z,167nm,21.1s,baz=26,slow=35								
GUMO	**Guam**	**28.64**	**325**	LR			LR	00 22 19.2	
	comp=Z,113nm,18.8s,baz=92,slow=34								
ASAR	**Alice Springs**	**29.20**	**239**	P			**P**	**00 12 06.3**	**+0.1**
	comp=Z,0.9nm,0.4s,mb3.8,baz=64,slow=9.9,SNR=9.5								
ASAR				pP			pP	00 12 26.0	+0.9
	comp=Z,3.5nm,0.7s,baz=61,slow=9.9,SNR=9.0								
RPZ	**Rata Peaks**	**34.46**	**167**	P			**P**	**00 12 52.2**	**-0.1**
	comp=Z,24nm,0.8s,mb5.0,baz=192,slow=9.1,SNR=4.2								
FITZ	**Fitzroy Crossi**	**35.24**	**253**	*e*P			**P**	**00 12 58.5**	**-0.5**
	comp=Z,5.8nm,0.6s,mb4.6								
MBWA	**Marble Bar**	**41.20**	**250**	*e*P			**P**	**00 13 49.2**	**+0.2**
MBWA				*e*pP			sP	00 14 18.5	+0.7
NWAO	**Narrogin (SRO)**	**46.22**	**234**	P			**P**	**00 14 29.0**	**-0.2**
	comp=Z,8.0nm,0.9s,mb4.5,baz=19,slow=5.3,SNR=3.1								
PPT	**Papeete**	**48.30**	**104**	*e*LR			LR	00 28 38.3	
	comp=Z,54nm,24.2s								
TBI	**Tubuai**	**48.84**	**112**	*e*LR			LR	00 28 52.7	
	comp=Z,71nm,30.0s								
MJAR	**Matsushiro Arr**	**51.27**	**336**	P			**P**	**00 15 09.3**	**+1.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=168,slow=7.6,SNR=3.6								
MJAR	**Matsushiro Arr**	**51.27**	**336**	P			**P**	**00 15 09.3**	**+1.4**
MAJO	**Matsushiro**	**51.27**	**336**	*e*P			**P**	**00 15 08.4**	**+0.5**
NJ2	**Nanjing**	**58.31**	**318**	*e*P			**P**	**00 16 01.1**	**+2.4**
NJ2				AP			pP	00 16 20.3	+1.0
NJ2				XP			sP	00 16 29.1	+0.7
NJ2				PP			PP	00 18 12.6	+4.1
NJ2				S			**S**	**00 23 55.0**	**+0.2**
NJ2				AMB			AMB		
	comp=Z,710nm,10.6s								
NJ2				LR			LR		
	comp=Z,1μm,23.8s								
MDJ	**Mudanjiang**	**61.59**	**335**	P			**P**	**00 16 19.9**	**-1.3**
MDJ				AMB			AMB		
	comp=Z,10.0nm,2.0s,mb4.5								
MDJ				AMB			AMB		
	comp=Z,90nm,4.2s								
RKT	**Rikitea**	**62.12**	**111**	*e*LR			LR	00 35 02.4	
	comp=Z,95nm,31.5s								
KLR	**Kul'dur**	**64.59**	**339**	*e*P			**P**	**00 16 38.8**	**-2.2**
VNDA	**Vanda**	**67.28**	**180**	P			**P**	**00 16 57.3**	**-1.0**
	comp=Z,4.4nm,0.7s,mb4.4,baz=344,slow=6.8,SNR=11								
VNDA				LR			LR	00 44 12.0	
	comp=Z,81nm,19.1s,baz=84,slow=34								
VNDA	**Vanda**	**67.28**	**180**	P			**P**	**00 16 57.3**	**-1.0**
VNDA				LR			LR	00 44 11.9	
HIA	**Hailar**	**69.48**	**332**	*e*P			**P**	**00 17 11.5**	**-0.5**
HIA				pmax			pmax		
	comp=Z,4.0nm,0.5s								
HIA	**Hailar**	**69.48**	**332**	*e*P			**P**	**00 17 11.5**	**-0.5**
	comp=Z,3.6nm,0.5s,mb4.5								
ULN	**Ulaanbaatar**	**75.02**	**326**	*e*P			**P**	**00 17 45.5**	**+0.5**
ULN								00 17 57.4	
ULN				*e*PP			pP	00 18 08.3	+1.9
ULN				pmax			pmax		
	comp=Z,2.0nm,0.8s,mb3.9								
ULN	**Ulaanbaatar**	**75.02**	**326**	*e*P			**P**	**00 17 45.5**	**+0.5**
	comp=Z,1.8nm,0.8s,mb3.9								
ULN				PcP			PcP	00 17 57.4	-1.0
ULN				*e*pP			pP	00 18 08.3	+1.9
SONM	**Songino Array**	**75.37**	**325**	P			**P**	**00 17 47.9**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.0,baz=139,slow=5.9,SNR=16								
SONM				pP			pP	00 18 10.1	+1.7
	comp=Z,6.2nm,1.0s,baz=143,slow=5.4,SNR=8.0								
BILL	**Bilibino**	**78.15**	**2**	*e*P			**P**	**00 18 02.9**	**+0.2**
BILL				*e*PP			pP	00 18 23.3	-0.9
BILL				pmax			pmax		
	comp=Z,16nm,0.9s,mb4.8								
BILL	**Bilibino**	**78.15**	**2**	*e*P			**P**	**00 18 02.9**	**+0.2**
	comp=Z,16nm,0.9s,mb4.8								
BILL				*e*pP			pP	00 18 23.3	-0.9
ZAK	**Zakamensk**	**78.47**	**326**	*e*P			**P**	**00 18 05.2**	**+0.8**
ZAK				*e*			pP	00 18 23.2	-2.8
ZAK				pmax			pmax		
	comp=Z,4.0nm,1.4s,mb4.0								
ZAK				pmax			pmax		
	comp=Z,6.0nm,1.4s,mb4.1								
QSPA	**South Pole Qui**	**79.78**	**180**	*e*P			**P**	**00 18 11.1**	**-0.5**
	comp=Z,16nm,0.8s,mb4.9								
ILAR	**Eielson Array**	**84.23**	**20**	P			**P**	**00 18 34.2**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.6,baz=246,slow=4.9,SNR=12								
ILAR				pP			pP	00 18 56.4	-0.3
	comp=Z,2.1nm,0.9s,baz=254,slow=4.7,SNR=9.5								
TIXI	**Tiksi**	**84.47**	**350**	*e*P			**P**	**00 18 34.6**	**-1.5**
TIXI				*e*			pP	00 18 54.5	-3.4
TIXI				pmax			pmax		
	comp=Z,1.0nm,1.0s,mb3.6								
NVAR	**Mina Array Bea**	**88.99**	**51**	P			**P**	**00 19 00.5**	**+2.4**
	comp=Z,0.5nm,0.3s,mb4.0,baz=206,slow=13,SNR=3.6								
NVAR				pP			pP	00 19 21.0	+0.9
	comp=Z,2.6nm,1.0s,baz=208,slow=7.5,SNR=3.6								
MKAR	**Makanchi Array**	**89.84**	**318**	P			**P**	**00 19 01.7**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.5,baz=64,slow=2.8,SNR=5.4								
MKAR				pP			pP	00 19 24.5	+0.5
	comp=Z,2.4nm,0.8s,baz=49,slow=3.7,SNR=13								
SYO	**Syowa Base**	**91.21**	**198**	⇓*e*P			**P**	**00 19 06.8**	**-1.6**
YKA	**Yellowknife Ar**	**96.34**	**28**	P			**P**	**00 19 31.4**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.9,baz=259,slow=4.7,SNR=7.4								
YKA				pP			pP	00 19 53.9	-0.1
	comp=Z,0.4nm,0.6s,baz=260,slow=4.7,SNR=4.9								
CLL	**Collm**	**131.45**	**334**	*e*PKPdf			PKPdf	00 25 15.0	-0.4

IDC 14 00:07:17.5±7.5, 1607S×17281W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/17, mbtmp4.0/3, MS3.5/2, Ms1 3.6/2, ms1mx3.0/28, Error ellipse: s-maj=286.0km s-min=28.2km az=133.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.37**	**25**	Pn			Pn	00 07 56.4	-1.2
	146nm,0.3s,baz=79,slow=2.3,SNR=44								
AFI				Sn			Sn	00 08 16.2	-11
	285nm,0.3s,baz=60,slow=22,SNR=12								
AFI				LR			LR	00 08 30.0	
	comp=Z,529nm,21.7s,baz=309,slow=30								
WRA	**Warramunga Arr**	**50.25**	**257**	P			P	00 16 15.1	-0.3
	0.3nm,0.3s,baz=98,slow=5.9,SNR=13								
ASAR	**Alice Springs**	**50.45**	**252**	P			P	00 16 17.2	+0.3
	2.2nm,0.6s,baz=86,slow=8.2,SNR=17								
YKA	**Yellowknife Ar**	**90.49**	**23**	LR			LR	00 55 55.0	
	comp=Z,56nm,19.2s,baz=105,slow=32								
BRTR	**Keskin Array B**	**147.03**	**321**	PKPbc			PKPbc	00 27 03.9	+1.6
	1.2nm,0.9s,baz=76,slow=3.3,SNR=5.0								

*CSEM 14 00:15:54.8±0.3, 6777N×2012E, h2

WRAB pmax pmax
comp=Z,13nm,0.6s,mb4.4
WRAB Tennant Creek 22.26 228 *e*P **P 00 31 57.2 +1.2**
comp=Z,13nm,0.6s,mb4.4
WRAB *e*PcP PcP 00 35 49.0 -0.4
WB2 Warramunga Arr 22.26 228 *e*P **P 00 31 55.4 -0.7**
WRA Warramunga Arr 22.27 228 P **P 00 31 55.9 -0.3**
comp=Z,7.2nm,0.7s,mb4.1,baz=53,slow=9.9,SNR=57
AS31 Alice Springs 25.01 222 *e*P **P 00 32 21.8 -0.4**
ASAR Alice Springs 25.01 222 P **P 00 32 22.0 -0.2**
comp=Z,9.0nm,0.7s,mb4.3,baz=57,slow=9.0,SNR=71
ASPA Alice Springs 25.01 222 *e*P **P 00 32 21.8 -0.4**
STKA Stephens Creek 28.00 199 P **P 00 32 49.0 -0.1**
comp=Z,1.7nm,0.7s,mb3.7,baz=277,slow=19,SNR=3.6
STKA LR LR 00 44 34.6
comp=Z,192nm,20.5s,baz=192,slow=38
STKA Stephens Creek 28.00 199 *e*P **P 00 32 50.0 +0.9**
FITZ Fitzroy Crossi 28.46 241 *e*P **P 00 32 53.0 -0.2**
comp=Z,9.6nm,0.9s,mb4.3
CBIJ Chichi jima 33.62 344 LR LR 00 45 25.9
comp=Z,126nm,20.6s,baz=29,slow=33
MBWA Marble Bar 34.77 240 *e*P **P 00 33 49.0 +0.4**
comp=Z,0.6nm,0.3s,mb3.9
MJAR Matsushiro Arr 43.62 344 LR LR 00 51 19.7
comp=Z,81nm,20.2s,baz=90,slow=33
NJ2 Nanjing 48.68 322 *e*P **P 00 35 42.8 +0.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
MDJ Mudanjiang 53.64 340 P **P 00 36 18.5 -0.6**
MDJ AP pP 00 36 27.6 -11
MDJ XP sP 00 36 51.5 -16
MDJ PCP PcP 00 37 27.9 +3.3
MDJ PP PP 00 38 18.8 -1.6
MDJ SCP ScP 00 41 20.8 +5.3
MDJ PCS PcS 00 41 26.4 +2.7
MDJ S **S 00 43 40.9 -6.0**
MDJ SCS ScS 00 46 05.8 +4.6
MDJ SS SS 00 47 31.0 +2.7
MDJ AMB AMB
comp=Z,6.0nm,1.1s,mb4.5
MDJ AMB AMB
comp=Z,149nm,4.0s
SONM Songino Array 66.30 328 P **P 00 37 46.8 +1.1**
comp=Z,1.6nm,0.5s,mb4.1,baz=146,slow=5.5,SNR=24
CASY Casey 67.13 197 *e*P **P 00 37 55.3 +4.2**
comp=Z,7.7nm,1.4s,mb4.3
ZAK Zakamensk 69.48 329 *e*P **P 00 38 04.4 -1.3**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
MKAR Makanchi Array 80.11 319 P **P 00 39 08.0 +1.0**
comp=Z,0.7nm,0.8s,mb3.6,baz=102,slow=5.1,SNR=7.8
MKAR Makanchi Array 80.11 319 P **P 00 39 08.0 +1.0**
ZAL Zalesovo 81.10 327 P **P 00 39 11.8 -0.5**
comp=Z,0.8nm,0.4s,mb4.0,baz=326,slow=24,SNR=3.8
ILAR Eielson Array 83.11 22 P **P 00 39 21.9 -1.0**
comp=Z,0.9nm,0.7s,mb3.7,baz=245,slow=5.0,SNR=15
ILAR LR LR 01 15 34.0
comp=Z,45nm,18.8s,baz=1.3,slow=35
BRVK Borovoye 89.18 323 P **P 00 39 52.5 -0.2**
NVAR Mina Array Bea 93.27 52 P **P 00 40 13.0 +1.4**
comp=Z,1.1nm,0.7s,mb4.3,baz=246,slow=4.5,SNR=5.6
NVAR Mina Array Bea 93.27 52 P **P 00 40 13.0 +1.4**
YKA Yellowknife Ar 96.44 28 P **P 00 40 26.3 +0.1**
comp=Z,0.2nm,0.5s,mb3.8,baz=276,slow=4.8,SNR=4.5
PDAR Pinedale Array 100.02 48 P Pdif 00 40 43.1 +1.0
comp=Z,0.7nm,0.8s,baz=174,slow=2.0,SNR=5.4
GERES GERESS Array B 124.03 328 PKP PKPdf 00 45 55.8 +0.9
comp=Z,0.7nm,0.6s,baz=83,slow=2.2,SNR=7.6
TSUM Tsumeb 128.69 240 PKPdf PKPdf 00 46 06.9 +3.0
TORD Torodi Ar. Bea 149.51 287 PKPbc PKPbc 00 46 47.3 +1.3
comp=Z,4.0nm,0.5s,baz=85,slow=2.1,SNR=74
BDFB Brasilia 151.34 137 PKPbc PKPbc 00 46 52.0 +1.7
comp=Z,2.0nm,0.8s,baz=82,slow=7.5,SNR=4.3

MEX 14 00:40:19.8±0.5, 1678N×9852W, h10km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.54**	**136**	*i* P	Pg	00 40 29.2	-1.1
PNIG				*i* S	Sg	00 40 37.1	-0.3
UTMO	**Huajuapan**	**1.25**	**33**	*i* P	Pn	00 40 39.9	-3.3
UTMO				*i* S	Sb	00 40 55.1	-4.4
ACX	**Acapulco**	**1.34**	**274**	*e*P	Pn	00 40 40.5	-4.0
MEIG	**Mezcala**	**1.55**	**317**	*i* P	Pn	00 40 44.0	-3.4
MEIG				*i* S	Sn	00 41 03.0	-4.5
VHO	**Vista Hermosa**	**1.73**	**80**	*i* P	Pn	00 40 47.4	-2.5
VHO				*i* S	Sn	00 41 07.0	-5.1

*ISCJB **14** 01:01:53.3±1.0, 3494N±005×223E±0.1, h10km, Error ellipse: s-maj=17.0km s-min=6.2km az=150.7*
*CSEM **14** 01:01:54.4±0.2, 3495N×2217E, h30km, MD3.6, Error ellipse: s-maj=5.9km s-min=2.4km az=91.0*
*HLW **14** 01:01:54.9, 3490N×2178E, h20km, Mb3.4*
*NEIC **14** 01:02:00.9, 3538N×2272E, h41km, MD3.6(ATH), After ATH.*
*ATH **14** 01:02:00.9, 3538N×2272E, h41km, MD3.6/6*
ISC 14 01:01:55.1±1.0, 3501N±005×224E±01, h10km, n13, σ0§94/15, 4D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.38**	**22**	*e*P	**Pn**	**01 02 19.2**	**-1.1**
VAM	**Vamos**	**1.54**	**74**	*e*P	**Pn**	**01 02 22.8**	**+0.2**
VLI	**Veliai**	**1.76**	**14**	*e*P	**Pn**	**01 02 24.8**	**-0.9**
ITM	**Ithomi**	**2.20**	**350**	*e*P	**Pn**	**01 02 32.7**	**+1.0**
NPS	**Neapolis**	**2.65**	**84**	*e*P	**Pn**	**01 02 38.9**	**+1.0**
APE	**Apeiranthos**	**3.27**	**50**	*e*P	**Pn**	**01 02 45.5**	**-0.9**
LKR	**Lokris**	**3.67**	**7**	*e*P	**Pn**	**01 02 51.0**	**-0.9**
EVR	**Evrytania**	**3.93**	**353**	*e*P	**Pn**	**01 02 56.2**	**+0.7**
KARP	**Karpathos**	**3.94**	**81**	*e*P	**Pn**	**01 02 56.9**	**+1.3**
SLUM		**4.23**	**145**	⇓P	**Pn**	**01 03 00.9**	**+1.3**
SLUM				S	**Sn**	**01 03 48.4**	**-0.7**
SWA2		**6.31**	**155**	⇓P	**Pn**	**01 03 28.1**	**-0.1**
SWA1		**6.38**	**153**	⇓P	**Pn**	**01 03 29.2**	**0.0**
SWA1				S	**Sn**	**01 04 38.7**	**-3.4**
HFRF	**Wahat Farafira**	**9.33**	**145**	⇓P	**Pn**	**01 04 09.6**	**0.0**

*BJI **14** 01:29:33.7, 1008N×9390E, h10km, mB5.0, mb4.6, Ms4.6, Msz4.3*
*ISCJB **14** 01:29:37.7±1.5, 1069N±005×9442E±005, h4km±10km, mb4.4/41, MS4.4/22, Error ellipse: s-maj=9.3km s-min=5.5km az=91.8*
*IDC **14** 01:29:38.6±0.6, 1069N×9445E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, ML3.9/1, MS4.3/14, Ms1 4.3/14, ms1mx4.1/26, Error ellipse: s-maj=28.8km s-min=13.3km az=62.0*
*NEIC **14** 01:29:40.4±0.3, 1067N×9442E, h10km, mb4.5/9, Error ellipse: s-maj=12.1km s-min=6.3km az=53.0*
*MOS **14** 01:29:41.6±1.0, 1066N×9441E, h33km, mb4.8/11, Error ellipse: s-maj=18.1km s-min=8.6km az=117.8*
ISC 14 01:29:40.1±1.8, 1070N±005×9445E±004, h6km±11km, h27km±3.8km: pP-P, n97, σ1§29/97, mb4.4/41, MS4.4/22, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.93**	**300**	*e*P	Px	01 30 30.6	
PBA				*e*S	Sx	01 30 51.0	
NNT	**Nongplab**	**5.50**	**70**	P	**Pn**	**01 31 02.5**	**0.0**
SNG	**Songkhla**	**7.03**	**119**	P	**Pn**	**01 31 27.0**	**+3.6**
NST	**Nakhon Sawan**	**7.42**	**48**	P	**Pn**	**01 31 37.0**	**+8.2**
108nm,0.5s							
BDT	**Bhumibol Dam**	**7.86**	**34**	P	**Pn**	**01 31 23.0**	**-12**
KULM	**Kulim**	**8.16**	**131**	*e*Pn	**Pn**	**01 31 38.1**	**-0.9**
KULM				*e*S	**Sn**	**01 33 09.6**	**-1.9**
PSI	**Prapat**	**9.02**	**150**	Pn	**Pn**	**01 31 53.4**	**+2.6**
1.2nm,0.3s,baz=322,slow=14,SNR=4.8							
PSI				LR	LR	01 36 04.5	
comp=Z,3μm,18.8s,baz=309,slow=42							
VIS	**Vishakhapatnam**	**12.84**	**304**	*e*P	**Pn**	**01 32 40.9**	**-2.2**
VIS				AMb	AMB	01 32 46.0	
comp=Z,37nm,1.5s							
VIS				*i* S	**Sn**	**01 34 52.6**	**-14**
VIS				*e*S	**Sn**	**01 34 53.4**	**-13**
SHL	**Shillong**	**14.98**	**351**	*e*P	**Pn**	**01 33 11.0**	**-1.3**
SHL				*e*S	**Sn**	**01 36 12.0**	**+13**
BOK	**Bokaro**	**15.37**	**329**	*e*P	**Pn**	**01 33 18.9**	**+1.4**
BOK				AMb	AMB	01 33 26.9	
comp=Z,34nm,1.5s							
KMI	**Kunming**	**16.36**	**28**	P	**Pn**	**01 33 37.0**	**+6.7**
KMI				AP	pP	01 33 41.5	+6.5
KMI				S	**Sn**	**01 36 40.0**	**+8.0**
KMI				AMB	AMB		
comp=Z,24nm,1.5s							
KMI				LR	LR		
comp=N,1μm,13.1s							
KMI				LR	LR		
comp=E,896nm,10.8s							
KMI				LR	LR		
comp=Z,769nm,12.3s							
HYB	**Hyderabad**	**16.80**	**295**	*i* P	**Pn**	**01 33 36.0**	**+0.1**
HYB				*e*S	**Sn**	**01 36 44.0**	**+1.3**
HYB	**Hyderabad**	**16.80**	**295**	*e*P	**Pn**	**01 33 36.0**	**+0.1**
HYB				*e*S	**Sn**	**01 36 44.0**	**+1.3**
NGP	**Nagpur**	**18.07**	**307**	*e*P	**Pn**	**01 33 52.0**	**+0.3**
NGP				*ex*	x	01 37 42.8	
JBP	**Jabalpur**	**18.56**	**314**	⇑*e*P	**Pn**	**01 33 57.4**	**-0.3**
JBP				*ex*	x	01 34 14.1	
comp=Z,26nm,1.8s							
JBP				*e*S	**Sn**	**01 37 26.7**	**+1.4**
JIRN	**Jiri**	**18.57**	**336**	*e*P	**Pn**	**01 33 57.1**	**-0.8**
comp=Z,157nm,1.3s							
PKI	**Pulchoki**	**18.81**	**334**	*e*P	**Pn**	**01 33 59.5**	**-1.3**
comp=Z,132nm,1.1s							
GUN	**Gumba**	**18.92**	**336**	*e*P	**Pn**	**01 34 01.4**	**-0.7**
comp=Z,241nm,1.4s							
DMN	**Daman**	**18.98**	**334**	*e*P	**Pn**	**01 34 01.4**	**-1.4**
comp=Z,78nm,1.0s							
KKN	**Kakani**	**19.06**	**334**	*e*P	**Pn**	**01 34 02.1**	**-1.7**
comp=Z,168nm,1.3s							
LSA	**Lhasa**	**19.15**	**351**	P	**Pn**	**01 34 05.4**	**+0.5**
LSA				AP	pP	01 34 17.3	+11
LSA				S	**Sn**	**01 37 35.4**	**-4.2**
LSA				AMB	AMB		
comp=Z,30nm,0.8s							
LSA				AMB	AMB		
comp=Z,410nm,7.0s							
LSA				LR	LR		
comp=N,280nm,17.0s							
LSA				LR	LR		
comp=E,430nm,17.0s							
LSA				LR	LR		
comp=Z,640nm,21.0s							
LSA	**Lhasa**	**19.15**	**351**	*e*P	**Pn**	**01 34 06.1**	**+1.2**
LSA				pmax	pmax		
comp=Z,54nm,1.4s							
LSA	**Lhasa**	**19.15**	**351**	*e*P	**Pn**	**01 34 06.1**	**+1.3**
comp=Z,54nm,1.4s							
GKN	**Gorkha**	**19.52**	**333**	*e*P	**Pn**	**01 34 07.3**	**-2.0**
comp=Z,66nm,0.8s							
KOLN	**Koldanda**	**19.81**	**331**	*e*P	**Pn**	**01 34 09.5**	**-3.2**
comp=Z,80nm,0.9s							
DANN	**Dangsing**	**20.22**	**332**	*e*P	**P**	**01 34 15.1**	**-0.6**
BHPL	**Bhopal**	**20.48**	**310**	*e*P	**P**	**01 34 20.0**	**+1.4**
BHPL				AMb	AMB	01 34 24.9	
comp=Z,36nm,1.5s							
POO	**Poona**	**21.39**	**294**	*e*P	**P**	**01 34 30.0**	**+1.7**
CD2	**Chengdu**	**21.89**	**22**	*e*P	**P**	**01 34 34.8**	**+1.1**
CD2				AMB	AMB		
comp=Z,20nm,0.8s,mb4.6							
KKM	**Kota Kinabalu**	**22.02**	**100**	*e*P	**P**	**01 34 35.4**	**+0.4**
ENH	**Enshi**	**23.98**	**34**	*e*P	**P**	**01 34 57.0**	**+1.7**
comp=Z,83nm,1.4s,mb5.0							
AJM	**Ajmer**	**24.41**	**313**	*e*P	**P**	**01 35 01.3**	**+2.1**
AJM				AMb	AMB	01 35 07.3	
comp=Z,26nm,1.9s,mb4.3							
DDI	**Dehra Dun**	**24.78**	**324**	*e*P	**P**	**01 35 02.9**	**+0.4**
DDI				*ex*	x	01 35 23.9	
LZH	**Lanzhou**	**26.67**	**17**	*e*P	**P**	**01 35 22.5**	**+2.8**
LZH				PP		01 36 10.0	
LZH				S	**S**	**01 39 50.1**	**-5.1**
LZH				XS	sS	01 40 15.0	+17
LZH				AMB	AMB		
comp=Z,90nm,1.6s,mb5.0							
LZH				AMB	AMB		
comp=Z,210nm,4.4s							
LZH				LR	LR		
comp=N,2μm,14.2s							
LZH				LR	LR		
comp=Z,3μm,15.8s,MS4.9							
GTA	**Gaotai**	**28.99**	**9**	*e*P	**P**	**01 35 42.3**	**+1.9**
GTA				AP	pP	01 35 47.3	+4.9
GTA				XP	sP	01 35 50.8	+7.6
GTA				AMB	AMB		
comp=Z,5.0nm,1.6s,mb4.0							
GTA				AMB	AMB		
comp=Z,149nm,5.4s							
GTA				LR	LR		
comp=N,528nm,17.2s,MS4.3							
GTA				LR	LR		
comp=E,325nm,18.3s,MS4.3							
GTA				LR	LR		
comp=Z,725nm,22.2s,MS4.2							
NJ2	**Nanjing**	**30.96**	**43**	*e*P	**P**	**01 36 00.3**	**+2.4**
NJ2				AP	pP	01 36 09.8	+10
NJ2				XP	sP	01 36 13.8	+13
NJ2				PP	PP	01 37 03.1	-4.7
NJ2				S	**S**	**01 41 01.0**	**-1.8**
NJ2				XS	sS	01 41 16.0	+10
NJ2				AMB	AMB		
comp=Z,20nm,0.5s,mb5.2							
NJ2				AMB	AMB		
comp=Z,230nm,10.7s							
NJ2				LR	LR		
comp=N,2μm,28.2s							
NJ2				LR	LR		
comp=E,1μm,20.7s							
NJ2				LR	LR		
comp=Z,440nm,11.2s							
WMQ	**Urumqi**	**33.51**	**351**	*e*P	**P**	**01 36 19.4**	**-0.9**
WMQ				AP	pP	01 36 25.3	+3.0
WMQ				XP	sP	01 36 28.3	+5.2
WMQ				PP	PP	01 37 31.8	-4.2
WMQ				PCP	PcP	01 39 00.8	-0.3
WMQ				S	**S**	**01 41 39.3**	**-3.2**
WMQ				AMB	AMB		
comp=Z,18nm,1.2s,mb4.9							
WMQ				AMB	AMB		
comp=Z,109nm,4.8s							
WMQ				LR	LR		
comp=N,472nm,23.0s,MS4.3							
WMQ				LR	LR		
comp=E,493nm,24.0s,MS4.3							
WMQ				LR	LR		
comp=Z,463nm,22.0s,MS4.2							
BJI	**Beijing**	**35.00**	**30**	*e*P	**P**	**01 36 35.5**	**+2.3**
BJI				S	**S**	**01 42 10.3**	**+4.9**
BJI				SCS	ScS	01 46 49.8	-5.2
BJI				AMB	AMB		
comp=Z,9.0nm,0.9s,mb4.7							
BJI				LR	LR		
comp=N,564nm,13.4s,MS4.5							
BJI				LR	LR		
comp=E,323nm,17.2s,MS4.5							
BJI				LR	LR		
comp=Z,267nm,36.0s							
AAK	**Ala-Archa**	**36.27**	**335**	*e*P	**P**	**01 36 38.6**	**-5.5**
AAK				*e*		01 38 09.9	
AAK				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
AAK	**Ala-Archa**	**36.27**	**335**	*e*P	**P**	**01 36 38.6**	**-5.5**
comp=Z,8.8nm,1.0s,mb4.6							
AAK				*e*PP	PP	01 38 09.9	+3.4
MKAR	**Makanchi Array**	**37.42**	**346**	P	**P**	**01 36 53.0**	**-0.9**
comp=Z,3.3nm,0.8s,mb4.2,baz=168,slow=6.2,SNR=24							
SONM	**Songino Array**	**38.35**	**13**	P	**P**	**01 37 02.2**	**+0.4**
comp=Z,3.7nm,1.1s,mb4.0,baz=191,slow=7.1,SNR=14							
SONM				LR	LR	01 54 27.2	
comp=Z,779nm,18.9s,MS4.5,baz=180,slow=39							
KKAR	**Karatay Array**	**38.41**	**331**	*i* P	**P**	**01 37 01.1**	**-1.2**
KKAR				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.7							
KURK	**Kurchatov**	**41.97**	**345**	*e*P	**P**	**01 37 32.7**	**+1.0**
KURK				pmax	pmax		
comp=Z,18nm,1.3s,mb4.5							
KURK	**Kurchatov**	**41.97**	**345**	*e*P	**P**	**01 37 32.7**	**+0.9**
comp=Z,18nm,1.3s,mb4.5							
ZAL	**Zalesovo**	**43.81**	**352**	P	**P**	**01 37 46.5**	**-0.2**
comp=Z,1.7nm,0.7s,mb3.9,baz=303,slow=9.3,SNR=14							
ZAL				LR	LR	01 59 14.5	
comp=Z,248nm,21.7s,MS4.1,baz=294,slow=40							
NVS	**Novosibirsk**	**44.91**	**351**	*e*P	**P**	**01 37 51.2**	**-4.3**
NVS				pmax	pmax		
comp=Z,23nm,2.1s,mb4.6							
NVS				pmax	pmax		
comp=N,27nm,2.3s							
MDJ	**Mudanjiang**	**45.32**	**35**	P	**P**	**01 37 59.6**	**+0.8**
MDJ				AP	pP	01 38 08.9	+8.1
MDJ				XP	sP	01 38 12.8	+11
MDJ				PCP	PcP	01 39 37.8	-0.6
MDJ				SCP	ScP	01 43 28.3	-3.2
MDJ				PCS	PcS	01 43 31.8	-0.5
MDJ				S	**S**	**01 44 40.3**	**+0.6**
MDJ				SCS	ScS	01 47 53.8	-2.3
MDJ				AMB	AMB		
comp=Z,10.0nm,1.8s,mb4.3							
MDJ				AMB	AMB		
comp=Z,68nm,3.4s							
MDJ				LR	LR		
comp=N,102nm,16.8s,MS4.0							
MDJ				LR	LR		
comp=E,114nm,18.9s,MS4.0							
MDJ				LR	LR		
comp=Z,113nm,23.1s,MS3.7							
VOSK	**Vostochnaya**	**45.99**	**340**	P	**P**	**01 38 01.7**	**-2.4**
VOSK				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.6							
BVA0	**Borovoye Array**	**46.44**	**340**	*i* P	**P**	**01 38 12.2**	**+4.6**
BVA0				pmax	pmax		
comp=Z,4.0nm,2.1s,mb4.0							
BVAR	**Borovoye Array**	**46.44**	**340**	P	**P**	**01 38 06.6**	**-1.0**
comp=Z,2.1nm,0.7s,mb4.2,baz=134,slow=8.5,SNR=7.6							
BRVK	**Borovoye**	**46.50**	**340**	*e*P	**P**	**01 38 08.0**	**-0.1**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
BRVK	**Borovoye**	**46.50**	**340**	*e*P	**P**	**01 38 08.0**	**-0.1**
comp=Z,1.0nm,0.4s,mb4.1							
MJAR	**Matsushiro Arr**	**47.07**	**50**	LR	LR	02 01 12.2	
comp=Z,166nm,18.5s,MS4.0,baz=225,slow=40							
AB31	**Akbulak array**	**47.93**	**330**	*i* P	**P**	**01 38 18.2**	**-1.0**
AB31				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0							
NWAO	**Narrogin (SRO)**	**48.52**	**154**	P	**P**	**01 38 24.4**	**+0.6**
comp=Z,14nm,1.0s,mb5.0,baz=313,slow=6.2,SNR=3.3							
NWAO	**Narrogin (SRO)**	**48.52**	**154**	P	**P**	**01 38 23.5**	**-0.3**
GUMO	**Guam**	**49.30**	**81**	P	**P**	**01 38 30.6**	**+0.8**
BOD	**Bodaibo**	**49.34**	**14**	*e*P	**P**	**01 38 26.8**	**-3.3**
BOD				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.4							
AKTK	**Aktyubinsk**	**49.65**	**330**	P	**P**	**01 38 33.9**	**+1.5**
AKTO	**Aktyubinsk**	**49.65**	**330**	P	**P**	**01 38 33.9**	**+1.5**
comp=Z,1.5nm,0.6s,mb4.2,baz=102,slow=11,SNR=5.1							
WRA	**Warramunga Arr**	**49.69**	**128**	P	**P**	**01 38 32.5**	**-0.3**
comp=Z,5.6nm,1.0s,mb4.6,baz=303,slow=8.9,SNR=19							
WRAB	**Tennant Creek**	**49.69**	**128**	*e*P	**P**	**01 38 33.2**	**+0.4**
WRAB				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.8							
WRAB	**Tennant Creek**	**49.69**	**128**	*e*P	**P**	**01 38 33.2**	**+0.4**
comp=Z,6.6nm,0.7s,mb4.8							
WB2	**Warramunga Arr**	**49.70**	**128**	*e*P	**P**	**01 38 33.2**	**+0.4**
ASAR	**Alice Springs**	**51.52**	**132**	P	**P**	**01 38 45.2**	**-1.3**
comp=Z,5.6nm,0.8s,mb4.5,baz=309,slow=7.1,SNR=32							
CLNS	**Chul'man**	**51.70**	**21**	*e*P	**P**	**01 38 42.0**	**-5.9**
CLNS				pmax	pmax		
comp=Z,17nm,1.4s,mb4.8							
CLNS				pmax	pmax		
comp=N,10.0nm,0.9s							
CLNS				pmax	pmax		
comp=E,3.0nm,0.6s							
CLNS				MLR	MLR		
comp=Z,300nm,12.0s,MS4.5							
CLNS				MLR	MLR		
comp=N,100nm,13.0s,MS4.2							
CLNS				MLR	MLR		
comp=E,100nm,12.0s,MS4.2							
KIV	**Kislovodsk**	**55.47**	**316**	*e*P	**P**	**01 39 20.8**	**+5.3**
KIV				pmax	pmax		
comp=Z,15nm,1.1s,mb4.9							
KIV				MLR	MLR		
comp=Z,216nm,16.0s,MS4.3							
KMBO	**Kilima Mbogo**	**58.08**	**262**	LR	LR	02 01 17.2	
comp=Z,88nm,19.3s,MS3.9,baz=92,slow=33							
CTA	**Charters Tower**	**59.45**	**121**	LR	LR	02 05 36.0	
comp=Z,362nm,21.5s,MS4.5,baz=227,slow=36							
BR131	**Keskin Array S**	**60.85**	**310**	*e*P	**P**	**01 39 51.2**	**-2.0**
comp=Z,1.3nm,0.8s,mb4.1							
BRTR	**Keskin Array B**	**60.85**	**310**	P	**P**	**01 39 51.8**	**-1.5**
comp=Z,0.9nm,0.8s,mb4.0,baz=127,slow=7.9,SNR=4.4							
STKA	**Stephens Creek**	**61.85**	**135**	*e*P	**P**	**01 39 58.6**	**-1.4**
comp=Z,6.2nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**61.85**	**135**	P	**P**	**01 39 58.8**	**-1.2**
comp=Z,6.7nm,0.8s,mb4.8,baz=300,slow=6.6,SNR=4.2							
STKA				LR	LR	02 07 28.5	
comp=Z,283nm,18.4s,MS4.5,baz=107,slow=37							
OBN	**Obninsk**	**63.18**	**327**	P	**P**	**01 40 16.0**	**+7.1**
OBN				*e*		01 40 45.5	
OBN				*e*		01 49 12.3	
OBN				pmax	pmax		
comp=Z,18nm,1.4s,mb5.0							
TIXI	**Tiksi**	**64.42**	**11**	*e*P	**P**	**01 40 12.8**	**-4.2**
TIXI				pmax	pmax		
comp=Z,13nm,1.4s,mb4.8							
TIXI				MLR	MLR		
comp=Z,215nm,19.0s,MS4.4							
FINES	**FINESS Array B**	**70.38**	**332**	P	**P**	**01 40 54.6**	**-0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=101,slow=7.2,SNR=3.0							
FINES				LR	LR	02 11 32.6	
comp=Z,301nm,21.4s,MS4.5,baz=117,slow=36							
LSZ	**Lusaka**	**70.52**	**250**	*e*P	**P**	**01 40 57.0**	**+1.4**
LSZ				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
LSZ	**Lusaka**	**70.52**	**250**	*e*P	**P**	**01 40 57.0**	**+1.4**
comp=Z,0.8nm,0.5s,mb3.9							
ARCES	**ARCESS Array B**	**72.73**	**340**	P	**P**	**01 41 08.1**	**-0.9**
comp=Z,14nm,1.2s,mb4.8,baz=55,slow=7.8,SNR=3.4							
ARCES				LR	LR	02 15 37.3	
comp=Z,536nm,21.3s,MS4.8,baz=110,slow=38							
BILL	**Bilibino**	**73.36**	**22**	P	**P**	**01 41 13.0**	**+0.3**
BILL				*e*		01 41 21.7	
BILL				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.3							
BILL				MLR	MLR		
comp=Z,200nm,18.0s,MS4.4							
GERES	**GERESS Array B**	**75.94**	**318**	P	**P**	**01 41 27.1**	**-0.6**
comp=Z,0.4nm,0.5s,mb3.6,baz=91,slow=6.7,SNR=3.8							
BOSA	**Boshof**	**77.35**	**237**	P	**P**	**01 41 35.7**	**0.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=1.4,slow=22,SNR=3.8							
BOSA				LR	LR	02 10 15.9	
comp=Z,103nm,20.0s,MS4.2,baz=167,slow=32							
BOSA	**Boshof**	**77.35**	**237**	P	**P**	**01 41 35.7**	**0.0**
BOSA				LR	LR	02 10 15.9	
NOA	**NORSAR Array B**	**77.44**	**330**	LR	LR	02 18 54.0	
comp=Z,202nm,19.4s,MS4.5,baz=55,slow=38							
CASY	**Casey**	**77.68**	**173**	P	**P**	**01 41 37.6**	**+0.1**
MAW	**Mawson**	**81.35**	**192**	LR	LR	02 13 32.5	
comp=Z,235nm,18.7s,MS4.6,baz=258,slow=32							
TORD	**Torodi Ar. Bea**	**90.25**	**283**	P	**P**	**01 42 40.7**	**-0.9**
comp=Z,1.2nm,0.9s,mb4.2,baz=79,slow=4.4,SNR=4.2							
TORD				PP	PP	01 46 16.2	+0.9
comp=Z,1.4nm,1.1s,baz=20,slow=5.5,SNR=3.6							
ILAR	**Eielson Array**	**92.03**	**22**	P	**P**	**01 42 49.6**	**-0.2**
comp=Z,0.5nm,0.8s,mb3.9,baz=294,slow=4

Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 10.0nm,0.4s	**21.25**	**245**	*eP*	P	01 50 51.9	+1.2
WRAB	**Tennant Creek** 3.4nm,0.4s	**23.41**	**226**	*eP*	P	01 51 14.3	+0.8
WB2	**Warramunga Arr**	**23.41**	**226**	*eP*	P	01 51 13.8	+0.2
WRA	**Warramunga Arr** 1.5nm,0.4s,baz=51,slow=9.8,SNR=24	**23.42**	**226**	P	P	01 51 14.0	+0.4
ASAR	**Alice Springs** 0.6nm,0.4s,baz=51,slow=8.5,SNR=12	**26.23**	**220**	P	P	01 51 39.6	+0.4
FITZ	**Fitzroy Crossi** 2.2nm,0.3s	**29.41**	**240**	*eP*	P	01 52 07.0	-0.7
NOA	**NORSAR Array B** 1.6nm,0.9s,baz=35,slow=6.6,SNR=3.3	**116.02**	**340**	PKP	PKPdf	02 04 46.9	+0.1
TORD	**Torodi Ar. Bea** 0.1nm,0.4s,baz=91,slow=1.8,SNR=5.1	**149.44**	**289**	PKPbc	PKPbc	02 05 56.6	+3.6

*CSEM **14** 02:16:49.4±0.7, 3856N×2858W, h15km, MD2.8, Error ellipse: s-maj=4.0km s-min=2.6km az=167.0, After PDA*
*PDA **14** 02:16:49.4±0.7, 3856N×2858W, h15km, MD2.8, Error ellipse: s-maj=4.0km s-min=2.6km az=167.0*
SVSA 14 02:16:49.4±0.7, 3856N×2858W, h15km, MD2.8, Error ellipse: s-maj=4.0km s-min=2.6km az=167.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.05**	**227**	*eP*	Pg	02 16 51.6	-0.6
HOR				*eS*	Sg	02 16 53.8	-0.3
CALA	**Caldeira**	**0.10**	**281**	*eP*	Pg	02 16 52.3	-0.3
CALA				*eS*	Sg	02 16 54.7	0.0
PICO	**Pico**	**0.14**	**117**	*eP*	Pg	02 16 52.3	-0.8
PICO				*eS*	Sg	02 16 55.6	0.0
ROSA	**Rosais**	**0.31**	**59**	*eP*	Pg	02 16 54.8	-1.1
ROSA				*eS*	Sg	02 16 59.1	-1.1

*ISCJB **14** 02:49:33.5±0.3, 1065N±003×6258W±002, h104km±3km, mb3.8/7, Error ellipse: s-maj=4.8km s-min=3.4km az=117.7*
*IDC **14** 02:49:34.4±2.3, 1081N×6275W, h100km±17km, mb3.5/7, mb1 3.8/8, mb1mx3.5/22, mbtmp3.9/8, Error ellipse: s-maj=25.3km s-min=13.1km az=150.0*
*TRN **14** 02:49:35.8, 1070N×6246W, h99km, MD3.8, M3.8(FDF)*
*FUNV **14** 02:49:35.2, 1068N×6248W, h90km, MW3.8*
*NEIC **14** 02:49:36.2, 1068N×6247W, h92km, mb3.9/1, MD3.8(TRN), After TRN.*
ISC 14 02:49:34.4±0.3, 1065N±003×6257W±002, h98km±3km, n42, σ1§10/70, mb3.8/7, 8C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.34**	**90**	⇑*iP*	**Pn**	**02 49 48.9**	**-0.1**
GUIV				*eS*	**Sn**	**02 49 57.6**	**-2.2**
GUNV	**Guanoco**	**0.61**	**217**	⇑*iP*	**Pn**	**02 49 52.2**	**+1.4**
GUNV				*eS*	**Sn**	**02 50 03.1**	**0.0**
CRUV	**Carupano**	**0.66**	**272**	*eP*	**Pn**	**02 49 52.0**	**+0.8**
CRUV				*eS*	**Sn**	**02 50 03.2**	**-0.6**
ITEV	**Isla Los Testi**	**0.89**	**322**	*eP*	**Pn**	**02 49 53.1**	**-0.4**
ITEV				*eS*	**Sn**	**02 50 06.7**	**-1.1**
ALNG	**Atlantic LNG**	**0.98**	**118**	*eP*	**Pn**	**02 49 55.2**	**+0.7**
ALNG				*eS*	**Sn**	**02 50 07.3**	**-2.2**
ALNG				*eS*	**Sn**	**02 50 08.4**	**-1.2**
TRN	**Trinidad (W)**	**1.15**	**90**	⇑*eP*	**Pn**	**02 49 57.2**	**+0.9**
TRN				*eS*	**Sn**	**02 50 11.3**	**-1.5**
TPP	**Pointe-a-Pierr**	**1.15**	**107**	*eP*	**Pn**	**02 49 57.7**	**+1.4**
TPP				*eS*	**Sn**	**02 50 14.5**	**+1.6**
SIPA	**Siparia**	**1.16**	**116**	*eP*	**Pn**	**02 49 58.4**	**+1.9**
SIPA				*eS*	**Sn**	**02 50 09.2**	**-3.9**
TBH	**Brigand Hill**	**1.49**	**96**	⇑*eP*	**Pn**	**02 50 01.8**	**+1.4**
TBH				*eS*	**Sn**	**02 50 18.2**	**-1.8**
GRW	**Mount Saint Ca**	**1.75**	**31**	*eP*	**Pn**	**02 50 04.4**	**+0.7**
GRW				*eS*	**Sn**	**02 50 21.2**	**-4.7**
ORIV	**Oritupano**	**1.77**	**208**	*eP*	**Pn**	**02 50 04.6**	**+0.6**
ORIV				*eS*	**Sn**	**02 50 26.6**	**+0.2**
GRHS	**Sauteurs**	**1.81**	**30**	⇑*iP*	**Pn**	**02 50 04.9**	**+0.4**
GRHS				*eS*	**Sn**	**02 50 25.7**	**-1.6**
TPR	**Prospect**	**1.84**	**73**	*eP*	**Pn**	**02 50 05.4**	**+0.5**
TPR				*eS*	**Sn**	**02 50 26.3**	**-1.7**
GRSS	**Sisters**	**1.89**	**30**	⇑*iP*	**Pn**	**02 50 06.4**	**+0.9**
GRSS				*eS*	**Sn**	**02 50 29.6**	**+0.5**
BOT	**Bacolet**	**1.89**	**74**	*eP*	**Pn**	**02 50 05.7**	**+0.2**
BOT				*eS*	**Sn**	**02 50 27.7**	**-1.5**
GRIC	**Isle de Caille**	**1.89**	**31**	*eP*	**Pn**	**02 50 06.5**	**+1.0**
GRIC				*eS*	**Sn**	**02 50 28.6**	**-0.5**
PCRV	**Puerto La Cruz**	**2.08**	**257**	*eP*	**Pn**	**02 50 09.3**	**+1.3**
PCRV				*eS*	**Sn**	**02 50 33.6**	**0.0**
GRCU	**Cariacou**	**2.12**	**31**	*eP*	**Pn**	**02 50 09.1**	**+0.7**
GRCU				*eS*	**Sn**	**02 50 34.0**	**-0.3**
IBAV	**Isla La Blanqu**	**2.29**	**301**	*eP*	**Pn**	**02 50 11.7**	**+1.0**
IBAV				*eS*	**Sn**	**02 50 38.2**	**-0.2**
FCV	**Fort Charlotte**	**2.81**	**27**	⇑*eP*	**Pn**	**02 50 17.5**	**-0.1**
FCV				*eS*	**Sn**	**02 50 51.3**	**+0.5**
GURV	**El Guri**	**2.92**	**190**	⇓*iP*	**Pn**	**02 50 19.3**	**+0.4**
SVV	**Soufriere Volc**	**2.97**	**26**	*eP*	**Pn**	**02 50 19.5**	**-0.1**
SVV				*eS*	**Sn**	**02 50 57.1**	**+2.6**
CUPV	**Cœpira**	**3.22**	**260**	⇑*iP*	**Pn**	**02 50 24.5**	**+1.4**
CUPV				*eS*	**Sn**	**02 50 60.0**	**-0.6**
MERV	**Las Mercedes**	**3.92**	**250**	*eP*	**Pn**	**02 50 32.8**	**+0.2**
MERV				*eS*	**Sn**	**02 51 16.6**	**-1.0**
MVM	**Montagne Vaucl**	**4.21**	**23**	*eP*	**Pn**	**02 50 37.7**	**+1.3**
FDF	**Fort de France**	**4.29**	**19**	⇓*eP*	**Pn**	**02 50 37.2**	**-0.2**
CRM	**Caravelle**	**4.39**	**21**	*eP*	**Pn**	**02 50 38.8**	**0.0**
LUEV	**Luepa**	**4.90**	**167**	*eP*	**Pn**	**02 50 44.6**	**-1.1**
LZG	**Guadaloupe-1**	**5.51**	**8**	*eP*	**Pn**	**02 50 53.9**	**-0.1**
LZG				*eS*	**Sn**	**02 51 47.2**	**-8.9**
SEG	**Port Louis**	**5.81**	**10**	*eP*	**Pn**	**02 50 59.2**	**+1.1**
DEG	**La Desirade**	**5.82**	**14**	*eP*	**Pn**	**02 50 58.1**	**-0.1**
SDV	**Santo Domingo** 1.1nm,0.3s,baz=92,slow=8.0,SNR=11	**8.14**	**258**	P	**Pn**	**02 51 29.1**	**-0.7**
SDV				S	**Sn**	**02 52 56.7**	**-3.3**
	6.8nm,0.3s,baz=2.0,slow=14,SNR=14						
SDV	**Santo Domingo**	**8.14**	**258**	*e*Pn	**Pn**	**02 51 28.6**	**-1.1**
SDV				P		02 51 29.1	
SDV				S	**Sn**	**02 52 56.7**	**-3.3**
SDV				*e*Sn	**Sn**	**02 52 57.0**	**-3.0**
SAML	**Samuel** 7.2nm,1.0s	**19.48**	**182**	*eP*	**Pn**	**02 53 55.8**	**0.0**
ULM	**Lac du Bonnet** 1.3nm,0.5s,mb4.0,baz=162,slow=7.2,SNR=3.0	**48.07**	**332**	P	**P**	**02 58 01.3**	**-2.7**
ULM	**Lac du Bonnet** 1.0nm,0.5s,mb4.0,baz=115,slow=10,SNR=9.9	**48.07**	**332**	P	**P**	**02 58 01.3**	**-2.7**
PDAR	**Pinedale Array** 0.7nm,0.5s,mb4.0,baz=289,slow=6.9,SNR=24	**51.83**	**317**	P	**P**	**02 58 31.7**	**-0.7**
TORD	**Torodi Ar. Bea** 1.0nm,0.5s,mb4.0,baz=289,slow=6.9,SNR=24	**62.79**	**81**	P	**P**	**02 59 50.4**	**+0.9**
YKA	**Yellowknife Ar** 0.5nm,0.4s,mb3.7,baz=111,slow=7.3,SNR=7.8	**63.68**	**336**	P	**P**	**02 59 52.8**	**-2.5**
GERES	**GERESS Array B** 0.4nm,0.6s,mb3.4,baz=246,slow=6.6,SNR=4.8	**73.03**	**42**	P	**P**	**03 00 53.9**	**+0.3**
ILAR	**Eielson Array** 0.5nm,0.6s,mb3.4,baz=94,slow=4.8,SNR=13	**78.02**	**334**	P	**P**	**03 01 20.2**	**-1.9**
FINES	**FINESS Array B** 0.7nm,0.4s,mb3.9,baz=276,slow=3.1,SNR=12	**80.09**	**29**	P	**P**	**03 01 33.2**	**-0.2**

*NIED **14** 03:02:00, 3750N×13820E, h14km, Mw3.5 Best double couple: M0:1.90000×10^14 NP1:φs67.00000°, δ57.00000°, λ99.00000°. NP2:φs231.00000°, δ34.00000°, λ77.00000°.*
JMA 14 03:01:58.2, 3750N×13817E, h27km±1km, M3.5, 7D Broadband fault plane solution: P waves. NP1: φs55.00000°, δ39.00000°, λ91.00000°. NP2: φs233.00000°, δ51.00000°, λ89.00000°. Principal axes: T Plg84.0000°, Azm135.0000°; N Plg1.0000°, Azm234.0000°; P Plg6.0000°, Azm324.0000°; Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.40**	**181**	⇓*iP*	Pb	03 02 06.7	-0.1
JJN				S	Sb	03 02 13.0	+0.3
JIZZ	**Izumozaki**	**0.43**	**86**	⇓*iP*	Pb	03 02 07.2	-0.1
JIZZ				S	Sb	03 02 14.1	+0.5
JSD	**Sado**	**0.54**	**8**	⇓*iP*	Pb	03 02 08.9	-0.3
JSD				S	Sb	03 02 16.7	+0.1
JSZ	**Suzu**	**0.64**	**266**	⇓*iP*	Pb	03 02 10.6	-0.3
JSZ				S	Sb	03 02 19.7	+0.2
JHK	**Hiroka**	**0.72**	**110**	⇓*iP*	Pb	03 02 11.1	-1.0
JHK				S	Sb	03 02 20.6	-1.1
MAT	**Matsushiro**	**0.96**	**178**	P	Pn	03 02 15.1	-0.7
MAT				S	Sb	03 02 27.4	-1.0
MAT	**Matsushiro**	**0.96**	**178**	P	Pn	03 02 15.0	-0.8
MAT				S	Sb	03 02 27.3	-1.1
JNS	**Sasagawa**	**0.96**	**70**	⇓*iP*	Pn	03 02 15.4	-0.5
JNS				S	Sb	03 02 28.4	-0.2
JHG	**Hegura jima**	**1.05**	**290**	P	Pn	03 02 17.5	+0.4
JTT	**Ttatey**	**1.12**	**217**	P	Pn	03 02 17.7	-0.3
JKT	**Katashina**	**1.13**	**130**	⇓*iP*	Pn	03 02 18.2	0.0
JKT				S	Sn	03 02 32.8	-0.1
JFY	**Yanaizu**	**1.23**	**94**	P	Pn	03 02 19.6	+0.1
JFY				S	Sn	03 02 35.2	0.0
JAW	**Awa shima**	**1.28**	**41**	P	Pn	03 02 20.9	+0.6

*NEIC **14** 03:11:50.7±1.2, 1239N×6675W, h10km Error ellipse: s-maj=28.4km s-min=7.0km az=118.0*
*ISCJB **14** 03:12:01.3±1.3, 1328N±006×6657W±008, h10km, Error ellipse: s-maj=11.0km s-min=9.0km az=153.0*
*RSPR **14** 03:12:03.1, 13.12N×6663W, h16km±20km, MD4.3/13, MD4.3/13*
ISC 14 03:12:02.2±1.3, 1322N±006×6662W±008, h10km, n28, σ0§29/43, 17C, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICM	**Isla Caja Muer**	**4.65**	**1**	*eS*	**Sn**	**03 14 07.0**	**+0.5**
ICM	**Isla Caja Muer**	**4.65**	**1**	⇑*eP*	**Pn**	**03 13 12.5**	**0.0**
ICM				*eS*	**Sn**	**03 14 07.0**	**+0.5**
MGP	**Maguayo**	**4.78**	**355**	⇑*eP*	**Pn**	**03 13 14.2**	**-0.2**
MGP				*eS*	**Sn**	**03 14 09.5**	**-0.3**
CRPR	**Cabo Rojo, PR**	**4.78**	**354**	*eS*	**Sn**	**03 14 09.3**	**-0.5**
CRPR	**Cabo Rojo, PR**	**4.78**	**354**	⇑*eP*	**Pn**	**03 13 14.2**	**-0.1**
CRPR				*eS*	**Sn**	**03 14 09.3**	**-0.5**
CELP	**Cerrillos**	**4.83**	**0**	⇑*eP*	**Pn**	**03 13 14.8**	**-0.2**
CELP				*eS*	**Sn**	**03 14 10.6**	**-0.3**
CPD	**Cerro la Pandu**	**4.84**	**8**	*eS*	**Sn**	**03 14 11.2**	**0.0**
CPD	**Cerro la Pandu**	**4.84**	**8**	⇑*eP*	**Pn**	**03 13 15.0**	**-0.1**
CPD				*eS*	**Sn**	**03 14 11.2**	**0.0**
SJG	**San Juan**	**4.88**	**5**	⇑*eP*	**Pn**	**03 13 15.3**	**-0.4**
SJG				*eS*	**Sn**	**03 14 12.4**	**+0.1**
SJG	**San Juan**	**4.88**	**5**	⇑*eP*	**Pn**	**03 13 15.2**	**-0.5**
SJG	**San Juan**	**4.88**	**5**	⇑*eP*	**Pn**	**03 13 15.2**	**-0.5**
SJG				*eS*	**Sn**	**03 14 12.8**	**+0.5**
HUMP	**Col San Antoni**	**4.95**	**8**	*eS*	**Sn**	**03 14 13.8**	**-0.1**
HUMP	**Col San Antoni**	**4.95**	**8**	⇑*eP*	**Pn**	**03 13 16.5**	**-0.1**
HUMP				*eS*	**Sn**	**03 14 13.8**	**-0.1**
LSP	**Las Mesas**	**4.95**	**355**	*eS*	**Sn**	**03 14 13.7**	**-0.2**
LSP	**Las Mesas**	**4.95**	**355**	⇑*eP*	**Pn**	**03 13 16.9**	**+0.3**
LSP				*eS*	**Sn**	**03 14 13.7**	**-0.2**
MTP	**Monte Pirata**	**4.95**	**12**	*eS*	**Sn**	**03 14 13.9**	**-0.1**
MTP	**Monte Pirata**	**4.95**	**12**	⇑*eP*	**Pn**	**03 13 16.6**	**0.0**
MTP				*eS*	**Sn**	**03 14 13.9**	**-0.1**
LRS	**Lares**	**5.05**	**358**	⇑*eP*	**Pn**	**03 13 17.9**	**-0.1**
LRS				*eS*	**Sn**	**03 14 16.8**	**+0.4**
CBYP	**Canovanas**	**5.08**	**8**	*eS*	**Sn**	**03 14 17.4**	**+0.4**
CBYP	**Canovanas**	**5.08**	**8**	⇑*eP*	**Pn**	**03 13 18.7**	**+0.3**
CBYP				*eS*	**Sn**	**03 14 17.4**	**+0.4**
AOPR	**Arecibo Observ**	**5.10**	**359**	*eS*	**Sn**	**03 14 17.3**	**-0.3**
AOPR	**Arecibo Observ**	**5.10**	**359**	⇑*eP*	**Pn**	**03 13 18.6**	**0.0**
AOPR				*eS*	**Sn**	**03 14 17.3**	**-0.3**
AGPR	**Aguadilla, PR**	**5.24**	**355**	⇑*eP*	**Pn**	**03 13 20.9**	**+0.3**
STVI	**Saint Thomas**	**5.35**	**17**	*eS*	**Sn**	**03 14 23.7**	**0.0**
STVI	**Saint Thomas**	**5.35**	**17**	⇑*eP*	**Pn**	**03 13 21.9**	**-0.1**
STVI				*eS*	**Sn**	**03 14 23.7**	**0.0**
TBVI	**Tortola**	**5.51**	**20**	*eS*	**Sn**	**03 14 27.9**	**+0.2**
TBVI	**Tortola**	**5.51**	**20**	⇑*eP*	**Pn**	**03 13 25.1**	**+0.7**
TBVI				*eS*	**Sn**	**03 14 27.9**	**+0.2**
LZG	**Guadaloupe-1**	**5.51**	**58**	*eP*	**Sn**	**03 14 27.4**	**-0.3**

KRSC 14 03:18:29.7±1.5, 4924N×15691E, h18km±44km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.23**	**358**	*iP*	Pn	03 19 06.0	+0.3
PAU				*eS*	Sn	03 19 31.5	-1.3
PAU				Smax			
	400nm,0.5s						
MIPR	**Malaya Ipel'ka**	**3.04**	**358**	*eP*	Pn	03 19 18.8	+1.9
RUS	**Russkaya**	**3.35**	**17**	*eP*	Pn	03 19 21.4	+0.2
RUS				*eS*	Sn	03 19 59.7	-0.9
GRL	**Gorelyy**	**3.40**	**12**	*eP*	Pn	03 19 23.2	+1.4
GRL				*eS*	Sn	03 20 01.5	-0.1
KRMR	**Karymshinskiy**	**3.68**	**12**	*eP*	Pn	03 19 27.3	+1.7
APC	**Apacha**	**3.69**	**2**	*eP*	Pn	03 19 28.7	+2.8
PET	**Petropavlovsk**	**3.94**	**15**	*eS*	Sn	03 20 16.1	+1.0
UGLR	**Uglovaya**	**4.15**	**16**	*eP*	Pn	03 19 34.7	+2.5
AVH	**Avacha**	**4.19**	**15**	*eP*	Pn	03 19 35.2	+2.5
KOK	**Koryaka**	**4.20**	**14**	*iP*	Pn	03 19 35.4	+2.6
KOK				*eS*	Sn	03 20 24.6	+3.2
SMAR	**Somma**	**4.20**	**16**	*eP*	Pn	03 19 35.7	+2.9
SPN	**Mys Shipunski**	**4.33**	**26**	*eS*	Sn	03 20 24.6	0.0
GNL	**Ganaly**	**4.51**	**8**	*eP*	Pn	03 19 38.9	+1.8

*CSEM **14** 03:37:36.6±0.1, 3691N×4.95W, h10km, ML1.2, Error ellipse: s-maj=2.1km s-min=1.9km az=19.0*
*SFS **14** 03:37:36.0, 3694N×4.94W, h0km, ML1.2*
MDD 14 03:37:37.1±0.6, 3690N×493W, h19km±12km, mb2.9/1, mbLg1.3/4, Error ellipse: s-maj=4.4km s-min=3.2km az=0.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas** 0.7nm,0.2s,SNR=11	**0.36**	**159**	Pg	Pg	03 37 43.8	-1.0
EMIJ				Lg		03 37 49.8	
	8.6nm,0.3s,SNR=4.7						
LIJA	**Lijar**	**0.38**	**271**	P	Pg	03 37 45.0	-0.1
LIJA				S	Sg	03 37 50.8	+0.4
LIJA	**Lijar**	**0.38**	**271**	*i* P	Pg	03 37 45.0	-0.1
LIJA				*e*S	Sg	03 37 50.8	+0.4
EJIF	**Jimena Fronter** 0.4nm,0.4s,SNR=4.0	**0.62**	**224**	Pg	Pg	03 37 49.5	0.0
EJIF				Lg		03 37 58.1	
	0.9nm,0.3s,SNR=7.9						
ESPR	**Espera** 0.6nm,0.1s,SNR=7.9	**0.74**	**268**	Pg	Pg	03 37 50.1	-1.6
ESPR				Lg		03 37 59.8	
	2.3nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega** 0.2nm,0.2s,SNR=7.9	**1.16**	**71**	Pg	Pg	03 37 59.0	-0.5
ECOG				Lg		03 38 14.6	
	0.5nm,0.2s,SNR=7.9						
EQUE	**Quentar** 1.5nm,0.3s,SNR=4.0	**1.23**	**75**	Lg		03 38 18.5	
EADA	**Adamuz** 0.4nm,0.1s,SNR=6.0	**1.29**	**13**	Pg	Pg	03 38 00.2	-2.0
EADA				Lg		03 38 16.7	
	1.4nm,0.1s,SNR=8.9						
EADA	**Adamuz** 0.4nm,0.1s,SNR=6.0	**1.29**	**13**	Pg	Pg	03 38 00.2	-1.9
EBAN	**Banos Encina** 1.2nm,0.4s,SNR=4.0	**1.56**	**36**	Pg	Pg	03 38 04.2	-3.0
EBAN				Lg		03 38 24.7	
	1.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio** 0.1nm,0.2s,SNR=4.0	**1.63**	**302**	Pn	Pn	03 38 03.8	-1.1
EMIN				Pg	Pg	03 38 06.4	-2.2
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		03 38 27.0	
	1.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio** SNR=4.0	**1.63**	**302**	Pn	Pn	03 38 03.8	-1.1
EMIN	**Mina Concepcio** 0.2nm,0.1s,SNR=7.9	**1.63**	**302**	Pg	Pg	03 38 06.4	-2.2
EQES	**Quesada** 0.6nm,0.4s,SNR=7.9	**1.73**	**58**	Pg	Pg	03 38 08.5	-2.0
EQES				Lg		03 38 32.7	
	0.6nm,0.2s,SNR=7.9						
EQES	**Quesada** 0.6nm,0.4s,SNR=7.9	**1.73**	**58**	Pg	Pg	03 38 08.5	-2.0

MEX 14 03:49:16.0±0.7, 1581N×9559W, h20km±29km, MD4.4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.50**	**266**	*iP*	Pb	03 49 24.2	-1.8
HUIG				*i* S	Sb	03 49 31.4	-1.5
CMIG	**Matias Romero**	**1.45**	**28**	*eP*	Pn	03 49 37.8	-3.2
CMIG				*i* S	Sn	03 49 54.9	-4.5
VHO	**Vista Hermosa**	**1.67**	**319**	*iP*	Pn	03 49 41.8	-2.2
VHO				*i* S	Sn	03 50 01.4	-3.4
OXX	**Oaxaca**	**1.67**	**320**	*iP*	Pn	03 49 41.0	-3.0
OXX				*i* S	Sn	03 50 01.0	-3.8
TUIG	**Tuzandepetl**	**2.48**	**27**	*iP*	Pn	03 49 54.1	-1.2
TUIG				*i* S	Sn	03 50 23.8	-1.1
PNIG	**Pinotepa**	**2.50**	**284**	*eP*	Pn	03 49 53.7	-1.8
PNIG				*e*S	Sn	03 50 20.0	-5.4
UTMO	**Huajuapan**	**2.92**	**314**	*eP*	Pn	03 50 01.5	+0.2
UTMO				*i* S	Sn	03 50 34.3	-1.4
SCX	**San Cristobal**	**2.99**	**72**	*eP*	Pn	03 49 58.0	-4.2
TPIG	**Tehuac#an**	**3.10**	**327**	*iP*	Pn	03 50 02.5	-1.2
TPIG				*i* S	Sn	03 50 37.2	-2.9
CCIG	**Comitan**	**3.36**	**81**	*eP*	Pn	03 50 05.7	-1.6
CCIG				*e*S	Sn	03 50 45.6	-0.9
ACX	**Acapulco**	**4.28**	**285**	*eP*	Pn	03 50 20.0	0.0
PPM	**Popocatepetl**	**4.34**	**319**	*eP*	Pn	03 50 21.6	+0.8
PPM				*i* S	Sn	03 51 13.0	+2.1
MEIG	**Mezcala**	**4.39**	**299**	*i* S	Sn	03 51 08.7	-3.3
YAIG	**Yautepec**	**4.50**	**313**	*iP*	Pn	03 50 27.3	+4.3
YAIG				*i* S	Sn	03 51 12.1	-2.6
PLIG	**Platanillo**	**4.54**	**305**	*eP*	Pn	03 50 23.8	+0.3
PLIG				*i* S	Sn	03 51 12.6	-3.0
CAIG	**El Cayaco**	**4.65**	**286**	*iP*	Pn	03 50 24.1	-1.0
CAIG				*i* S	Sn	03 51 14.0	-4.4
MOIG	**Morelia**	**6.58**	**307**	*i* S	Sn	03 52 08.6	+2.7

*ISCJB **14** 04:00:03.5±0.7, 1371N±010×1447E±02, h139km±6km, mb3.9/14, Error ellipse: s-maj=29.5km s-min=15.0km az=157.4*
*IDC **14** 04:00:04.2±0.4, 1377N×14481E, h131km±3km, mb3.6/12, mb1 3.9/12, mb1mx3.8/21, mbtmp4.0/12, Error ellipse: s-maj=23.6km s-min=14.6km az=81.0*
*NEIC **14** 04:00:05.6±0.5, 1374N×14483E, h150km, mb4.6/2, Error ellipse: s-maj=25.0km s-min=13.6km az=81.0*
ISC 14 04:00:04.7±0.6, 1377N±010×1448E±02, h137km±5km, n21, σ1§17/21, mb3.9/14, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 594nm,0.3s,baz=144,slow=2.1,SNR=122	**0.19**	**168**	P	**Pn**	**04 00 24.0**	**+0.6**
GUMO				S	**Sn**	**04 00 36.9**	**-0.6**
GUMO	**Guam** 541nm,0.3s,baz=24,slow=22,SNR=48	**0.19**	**168**	⇑*iPn*	**Pn**	**04 00 23.9**	**+0.5**
GUMO				*e*Sn	**Sn**	**04 00 37.2**	**-0.3**
MJAR	**Matsushiro Arr** 1.8nm,0.5s,mb3.7,baz=166,slow=9.3,SNR=4.8	**23.43**	**346**	P	**P**	**04 05 01.3**	**-0.2**
MAJO	**Matsushiro** 9.9nm,0.8s,mb4.3	**23.44**	**346**	P	**P**	**04 05 00.9**	**-0.6**
KS15	**Wonju Array Si**	**28.00**	**330**	*eP*	**P**	**04 05 44.0**	**+1.5**
WRA	**Warramunga Arr** 0.6nm,0.6s,mb3.4,baz=17,slow=9.0,SNR=4.1	**35.06**	**197**	P	**P**	**04 06 43.0**	**-1.4**
ASAR	**Alice Springs** 0.3nm,0.4s,mb3.2,baz=15,slow=11,SNR=4.5	**38.71**	**196**	P	**P**	**04 07 15.2**	**-0.1**
DZM	**Mont Dzumac** 5.1nm,0.6s,mb4.3,baz=308,slow=17,SNR=4.3	**41.45**	**149**	P	**P**	**04 07 39.2**	**+1.3**
SONM	**Songino Array** 0.7nm,0.6s,mb3.4,baz=138,slow=8.3,SNR=8.2	**46.56**	**325**	P	**P**	**04 08 19.6**	**+1.0**
SONM				PcP	PcP	04 09 51.9	+1.4
	0.4nm,0.6s,baz=140,slow=3.0,SNR=4.0						
MKAR	**Makanchi Array** 0.4nm,0.3s,mb3.7,baz=39,slow=6.4,SNR=13	**61.33**	**316**	P	**P**	**04 10 06.7**	**+0.8**
MKAR				PcP	PcP	04 10 45.2	-1.7
	0.3nm,0.6s,baz=70,slow=6.0,SNR=2.4						
FIB	**Fire Island** 13nm,0.7s,mb4.9	**66.05**	**29**	P	**P**	**04 10 33.9**	**-2.8**
ILAR	**Eielson Array** 1.5nm,0.4s,mb4.1,baz=252,slow=5.7,SNR=39	**68.42**	**25**	P	**P**	**04 10 49.8**	**-1.9**
YKA	**Yellowknife Ar** 0.4nm,0.5s,mb3.4,baz=290,slow=5.0,SNR=4.4	**82.71**	**27**	P	**P**	**04 12 12.7**	**-0.4**
YKA	**Yellowknife Ar** 1.6nm,0.8s,mb3.9,baz=259,slow=4.9,SNR=6.8	**82.71**	**27**	P	**P**	**04 12 12.7**	**-0.4**
NVAR	**Mina Array Bea** 4.7nm,1.0s,mb4.3,baz=61,slow=7.3,SNR=3.4	**86.83**	**51**	P	**P**	**04 12 35.2**	**+1.5**
NVAR	**Mina Array Bea**	**86.83**	**51**	P	**P**	**04 12 35.2**	**+1.5**
ARCES	**ARCESS Array B** 0.8nm,0.6s,mb3.9,baz=60,slow=4.6,SNR=5.6	**86.90**	**342**	P	**P**	**04 12 34.0**	**-0.1**
FINES	**FINESS Array B** 0.8nm,0.6s,mb3.9,baz=297,slow=0.8,SNR=3.0	**90.98**	**335**	P	**P**	**04 12 51.5**	**-1.7**
PDAR	**Pinedale Array** 0.2nm,0.6s,mb3.3,baz=297,slow=0.8,SNR=5.6	**91.86**	**45**	P	**P**	**04 12 58.8**	**+1.4**
DBIC	**Dimbokro** 1.5nm,0.6s,baz=36,slow=3.6,SNR=4.3	**143.69**	**302**	PKP	PKPdf	04 19 22.9	-0.5
LPAZ	**La Paz**

comp=Z,11nm,1.0s
LPAZ La Paz 12.31 5 *e*Pn **Pn 04 06 05.7 -1.5**
comp=Z,10nm,1.0s
SIV San Ignacio 14.69 33 P **Pn 04 06 33.2 -4.7**
comp=Z,0.3nm,0.3s,baz=234,slow=11,SNR=16
SAML Samuel 20.39 18‖ *e*P **P 04 07 43.0 -0.6**
comp=Z,29nm,1.1s
BDFB Brasília 23.54 61 P **P 04 08 13.1 -2.5**
comp=Z,41nm,0.8s,mb4.8,baz=232,slow=8.4,SNR=53
EFI East Falkland 24.54 163 *e*P **P 04 08 24.4 -0.4**
EFI pmax pmax
comp=Z,77nm,1.0s,mb5.1
EFI East Falkland 24.54 163 *e*P **P 04 08 24.4 -0.4**
comp=Z,77nm,1.0s,mb5.1
CAM4 Nova Friburgo 24.92 82⇑ *i*P **P 04 08 26.9 -1.3**
CAM4 *i* 04 08 30.6
CAM4 *i* 04 08 38.3
USHA Ushuaia 26.22 179 P **P 04 08 40.6 +0.7**
comp=Z,24nm,0.8s,mb4.7,baz=332,slow=8.4,SNR=10
SDV Santo Domingo 37.29 358 *e*Pn **P 04 10 15.9 -0.8**
comp=Z,7.0nm,0.8s,mb4.6
JTS JuntasAbangare 41.51 336 *e*P **P 04 10 54.4 +2.7**
VNA3 Neumayer Olymp 53.53 160‖ *i*P **P 04 12 23.6 -1.1**
VNA3 *e* 04 12 25.6
VNA3 *e* 04 12 27.8
VNA1 Neumayer--Stat 53.78 159‖ *i*P pP 04 12 50.2 -3.6
VNA1 *e* 04 12 52.2
VNA2 Neumayer--Watz 54.14 159‖ *i*P **P 04 12 28.7 -0.4**
baz=287,slow=9.0
VNA2 *e* 04 12 30.9
VNA2 *e* 04 12 33.2
VNA2 *e* pP 04 12 57.6 +1.1
VNA2 *e* 04 13 08.9
VNA2 *e* 04 13 37.9
SNAA Sanae 55.75 159 P **P 04 12 39.9 -0.8**
comp=Z,7.7nm,0.6s,mb4.9,baz=288,slow=7.5,SNR=48
SNAA PcP PcP 04 13 36.4 -2.1
comp=Z,3.3nm,0.8s,baz=300,slow=5.5,SNR=4.3
SNAA Sanae 55.75 159‖ *i*P **P 04 12 40.4 -0.3**
SNAA *e* 04 12 42.0
QSPA South Pole Qui 61.62 180 *e*P **P 04 13 22.6 +1.3**
comp=Z,36nm,0.6s,mb5.6
CPCT Cooper Cave 65.30 346 *e*P **P 04 13 45.1 -0.4**
CPCT *e*pP pP 04 14 12.8 -0.9
SWET Sewanee 65.38 345 P **P 04 13 45.7 -0.4**
WVT Waverly 66.70 344 *e*P **P 04 13 54.4 -0.1**
WVT *e**PP pP 04 14 22.0 -0.9
WVT pmax pmax
comp=Z,15nm,0.7s,mb4.9
WVT Waverly 66.70 344 *e*P **P 04 13 54.4 -0.2**
comp=Z,16nm,0.7s,mb5.0
WVT *e*pP pP 04 14 21.9 -0.9
MIAR Mount Ida 66.86 338 *e*P **P 04 13 56.4 +0.9**
MIAR pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
MIAR Mount Ida 66.86 338 *e*P **P 04 13 56.4 +0.9**
comp=Z,6.1nm,0.9s,mb4.4
WMOK Wichita Mounta 68.87 334 *e*P **P 04 14 05.1 -3.0**
WMOK pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
WMOK Wichita Mounta 68.87 334 *e*P **P 04 14 05.1 -3.0**
comp=Z,1.6nm,0.5s,mb4.1
FVM French Village 69.12 342 *e*P **P 04 14 09.8 +0.1**
FVM *e**PP pP 04 14 37.6 -0.6
FVM *e**SP sP 04 14 49.4 -1.2
FVM pmax pmax
comp=Z,35nm,0.7s,mb5.3
FVM French Village 69.12 342 *e*P **P 04 14 09.8 +0.2**
comp=Z,35nm,0.7s,mb5.3
FVM *e*pP pP 04 14 37.6 -0.6
FVM *e*sP sP 04 14 49.4 -1.3
CCM Cathedral Cave 69.41 342 *e*P **P 04 14 11.8 +0.4**
CCM *e**PP pP 04 14 39.4 -0.6
CCM *e**SP sP 04 14 51.9 -0.5
CCM pmax pmax
comp=Z,27nm,0.8s,mb5.1
CCM Cathedral Cave 69.41 342 *e*P **P 04 14 11.8 +0.3**
comp=Z,27nm,0.8s,mb5.1
CCM *e*pP pP 04 14 39.4 -0.6
CCM *e*sP sP 04 14 51.9 -0.5
VNDA Vanda 69.82 190 P **P 04 14 15.4 +1.5**
comp=Z,3.6nm,0.7s,mb4.3,baz=107,slow=4.9,SNR=11
SYO Syowa Base 70.03 159⇑ *e*P **P 04 14 14.4 -0.8**
DBIC Dimbokro 71.25 71 P **P 04 14 22.6 0.0**
comp=Z,25nm,0.7s,mb5.2,baz=216,slow=6.7,SNR=65
DBIC Dimbokro 71.25 71 *e*P **P 04 14 22.7 +0.1**
DBIC pmax pmax
comp=Z,28nm,0.7s
DBIC Dimbokro 71.25 71 *e*P **P 04 14 22.7 +0.1**
comp=Z,28nm,0.7s,mb5.2
ANMO Albuquerque 72.29 329⇑ *i*P **P 04 14 30.7 +1.9**
NEN Nelson 76.97 323 *e*P **P 04 14 57.7 +1.8**
NEN *e*pP pP 04 15 26.6 +1.7
SRU San Rafael 77.55 328 *e*P **P 04 15 01.2 +2.1**
SRU *e**PP pP 04 15 29.8 +1.6
SRU pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
SRU San Rafael 77.55 328 *e*P **P 04 15 01.2 +2.1**
comp=Z,3.7nm,1.1s,mb4.0
SRU *e*pP pP 04 15 29.8 +1.6
CCUT Cedar City 77.68 326 *e*P **P 04 15 02.8 +3.0**
CCUT *e*PcP PcP 04 15 12.3 +2.8
CCUT *e*pP pP 04 15 31.3 +2.4
MSU Marysvale 77.85 327 *e*P **P 04 15 02.6 +1.8**
MSU *e**PP pP 04 15 31.4 +1.5
ARUT Antelope Range 77.90 326 *e*P **P 04 15 04.1 +3.1**
ARUT *e**PP pP 04 15 32.7 +2.5
TSUM Tsumeb 78.44 106 *e*P **P 04 15 04.7 +0.7**
comp=Z,34nm,1.3s,mb4.9
RSSD Black Hills 79.03 335 *e*P **P 04 15 08.5 +1.2**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
RSSD Black Hills 79.03 335 *e*P **P 04 15 08.5 +1.2**
comp=Z,4.4nm,0.8s,mb4.3
PDAR Pinedale Array 80.09 331 P **P 04 15 14.0 +1.0**
comp=Z,2.5nm,0.7s,mb4.1,baz=129,slow=5.4,SNR=21
PDAR pP pP 04 15 43.2 +1.0
comp=Z,1.6nm,0.6s,baz=121,slow=7.5,SNR=5.5
PDAR PKKPbc PKKPbc 04 33 56.0 -0.1
comp=Z,0.4nm,0.6s,baz=142,slow=1.2,SNR=3.8
TORD Torodi Ar. Bea 80.16 69 P **P 04 15 13.2 -0.2**
comp=Z,30nm,0.7s,mb5.2,baz=272,slow=5.4,SNR=445
TORD pP pP 04 15 43.1 +0.5
comp=Z,28nm,0.9s,baz=255,slow=5.0,SNR=13
TORD PKiKP PKiKP 04 20 41.8 -0.3
comp=Z,0.2nm,0.6s,baz=207,slow=1.0,SNR=4.1
BOSA Boshof 80.50 117 P **P 04 15 14.7 -0.5**
comp=Z,12nm,0.6s,mb4.9,baz=251,slow=4.9,SNR=27
BOSA pP pP 04 15 44.5 +0.1
comp=Z,3.6nm,0.8s,baz=252,slow=13,SNR=2.1
NVAR Mina Array Bea 80.88 323 P **P 04 15 18.6 +1.4**
comp=Z,1.6nm,0.9s,mb3.9,baz=149,slow=6.7,SNR=6.5
NVAR pP pP 04 15 46.4 -0.1
comp=Z,0.8nm,0.8s,baz=164,slow=5.2,SNR=3.1
LOHW Long Hollow 81.22 331 *e*P **P 04 15 20.6 +1.6**
comp=Z,3.9nm,0.7s,mb4.3
LOHW *e*pP pP 04 15 49.6 +1.3
FLWY Flagg Ranch 81.64 331 *e*P **P 04 15 23.0 +1.8**
comp=Z,5.8nm,0.6s,mb4.6
FLWY *e*pP pP 04 15 52.6 +2.1
ULM Lac du Bonnet 81.96 343 P **P 04 15 22.2 -0.7**
comp=Z,9.1nm,0.8s,mb4.6,baz=146,slow=5.2,SNR=15
ULM pP pP 04 15 51.7 -0.6
comp=Z,2.0nm,0.5s,baz=168,slow=11,SNR=3.0
ULM Lac du Bonnet 81.96 343 P **P 04 15 22.2 -0.7**
ULM pP pP 04 15 51.7 -0.6
YMR Madison River 82.23 331 *e*P **P 04 15 26.6 +2.3**
comp=Z,8.5nm,0.7s,mb4.7
YMR *e*pP pP 04 15 55.7 +2.0
LBTB Lobatse 82.43 114 *e*P **P 04 15 25.5 +0.2**
LBTB *e**PP pP 04 15 55.0 +0.3
LBTB pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
LBTB Lobatse 82.43 114 *e*P **P 04 15 25.5 +0.2**
comp=Z,6.1nm,0.5s,mb4.7
LBTB *e*pP pP 04 15 55.0 +0.3
GCMT Greycliff 82.61 333 *e*P **P 04 15 27.2 +0.9**
GCMT *e*pP pP 04 15 55.7 +0.1
DGMT Dagmar 82.84 337 *e*P **P 04 15 28.4 +0.9**
comp=Z,25nm,0.9s,mb5.0
DGMT *e*pP pP 04 15 57.4 +0.5
DGMT *e*sP sP 04 16 06.8 -2.3
SCHQ Schefferville 83.12 1 P **P 04 15 27.9 -1.0**
comp=Z,6.4nm,0.9s,mb4.4,baz=203,slow=3.1,SNR=7.5
MCMT McKenzie Canyo 83.16 330 *e*P **P 04 15 31.3 +2.2**
MCMT *e*pP pP 04 16 00.5 +1.9
CHMT Chamberlain Mo 84.98 331 *e*P **P 04 15 39.8 +1.4**
LSZ Lusaka 89.22 107 *e*P **P 04 16 00.0 +1.2**
LSZ *e* pP 04 16 33.3 +4.7
FCC Fort Churchill 89.45 347 *e*P **P 04 16 00.0 +0.1**
FCC *e**PP pP 04 16 29.7 0.0
FCC *e**SP sP 04 16 40.4 -1.4
FCC pmax pmax
comp=Z,22nm,1.1s,mb5.1
FCC Fort Churchill 89.45 347 *e*P **P 04 15 60.0 +0.1**
comp=Z,22nm,1.1s,mb5.1
FCC *e*pP pP 04 16 29.7 +0.1
FCC *e*sP sP 04 16 40.4 -1.4
EDM Edmonton 90.02 335 *e*P **P 04 16 01.5 -1.0**
EDM *e**PP pP 04 16 31.9 -0.4
YKA Yellowknife Ar 97.73 341 P **P 04 16 37.5 -0.3**
comp=Z,1.1nm,0.8s,mb4.5,baz=136,slow=4.4,SNR=23
YKA pP pP 04 17 05.8 -2.0
comp=Z,0.9nm,0.8s,baz=137,slow=4.4,SNR=5.2
YKA Yellowknife Ar 97.73 341 P **P 04 16 37.5 -0.3**
YKA pP pP 04 17 05.8 -2.0
MUD Monsted U'grnd 107.39 35 *i* P PKKPbc 04 32 49.1 +4.8
comp=Z,95nm,1.2s
MUD *i* 04 34 31.2
ILAR Eielson Array 110.43 333 PKKPbc PKKPbc 04 32 32.4 -2.2
comp=Z,0.3nm,0.7s,baz=282,slow=3.7,SNR=4.5
AKASG Malin Array Be 116.79 45 PKP PKPdf 04 21 45.6 -1.1
comp=Z,1.6nm,0.6s,baz=262,slow=2.9,SNR=13
BRTR Keskin Array B 117.09 58 PKP PKPdf 04 21 47.3 0.0
comp=Z,1.7nm,0.8s,baz=183,slow=3.0,SNR=10
BR131 Keskin Array S 117.09 58 *e*PKPdf PKPdf 04 21 47.5 +0.2
BR131 *ep*PKPdf pPKPdf 04 22 14.0 -4.5
ARCES ARCESS Array B 118.16 23 PKKPbc PKKPbc 04 32 09.3 +1.0
comp=Z,5.3nm,1.0s,baz=60,slow=2.9,SNR=3.5
OBN Obninsk 121.88 41 *i* PKIKP PKPdf 04 21 55.0 -1.5
ASAR Alice Springs 123.42 206 PKP PKPdf 04 22 00.0 +0.5
comp=Z,4.6nm,0.7s,baz=133,slow=1.8,SNR=42
KIV Kislovodsk 124.57 54 *i* PKIKP PKPdf 04 22 02.1 +0.4
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,88nm,18.0s
WRA Warramunga Arr 126.60 208 PKP PKPdf 04 22 06.3 +0.8
comp=Z,8.5nm,0.6s,baz=168,slow=1.7,SNR=30
WRA pPKP pPKPdf 04 22 37.6 +0.9
comp=Z,5.9nm,0.8s,baz=158,slow=1.6,SNR=4.5
BILL Bilibino 128.91 336 *i* PKIKP PKPdf 04 22 10.0 0.0
BILL *e*SS SS 04 42 01.8 +34
ARU Arti 134.11 38⇑ *i*PKIKP PKPdf 04 22 18.1 -1.7
TIXI Tiksi 135.75 352⇑ *i*PKIKP PKPdf 04 22 20.4 -2.5
SEY Seymchan 136.37 334⇑ *i*PKIKP PKPdf 04 22 25.0 +1.0
YAK Yakutsk 144.29 345 *d* *i*PKIKP PKPdf 04 22 36.1 -2.2
YAK pmax pmax
comp=Z,29nm,0.8s
EKS2 Erkin-Say 147.17 55 P PKPdf 04 22 45.3 +2.1
SNR=8.6
AML Almayashu 147.23 56 P PKPdf 04 22 45.6 +2.3
SNR=9.5
KURK Kurchatov 147.29 39⇑ *i*PKP2 PKPab 04 22 44.5 -3.5
USP Ospenovka 147.54 53 P PKPdf 04 22 45.5 +1.6
SNR=8.1
AAK Ala-Archa 147.69 55 P PKPdf 04 22 46.1 +2.1
SNR=21
AAK Ala-Archa 147.69 55 *e*PKPdf PKPdf 04 22 44.8 +0.7
FRU Bishkek 147.73 54 *e*PKP2 PKPab 04 22 49.0 -0.7
FRU pmax pmax
comp=Z,50nm,1.6s
CHMS Chumysh 147.78 54 P PKPbc 04 22 48.0 +0.8
SNR=7.1
UCH Uchtor 147.80 55 P PKPdf 04 22 46.5 +2.2
SNR=33
KBK Karagaybulak 148.01 54 P PKPbc 04 22 49.1 +1.2
SNR=15
KZA Kyzart 148.37 55 P PKPbc 04 22 50.5 +1.7
SNR=8.5
TKM2 Tokmak 2 148.41 54 P PKPdf 04 22 46.4 +1.2
SNR=29
ZAL Zalesovo 148.42 30 PKPbc PKPbc 04 22 45.9 -3.1
comp=Z,20nm,0.8s,baz=203,slow=2.3,SNR=57
ULHL Ulahol 149.04 55 P PKPbc 04 22 52.0 +1.5
SNR=7.3
CLNS Chul'man 150.04 344 *e*PKIKP PKPdf 04 22 44.1 -3.8
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=Z,19nm,1.0s
BOD Bodaibo 150.70 356 *e*PKIKP PKPdf 04 22 52.8 +3.9
MKAR Makanchi Array 151.35 43 PKP PKPdf 04 22 48.5 -1.4
comp=Z,0.9nm,0.7s,baz=324,slow=6.0,SNR=11
MKAR PKPbc PKPbc 04 22 55.9 -0.2
comp=Z,28nm,0.7s,baz=318,slow=6.7,SNR=231
MKAR PKPab PKPab 04 23 04.8 +0.2
comp=Z,14nm,0.8s,baz=316,slow=6.8,SNR=14
MKAR pPKPbc pPKPbc 04 23 26.6 -0.5
comp=Z,3.9nm,0.6s,baz=322,slow=7.7,SNR=2.6
PSI Prapat 152.00 154 PKPbc PKPbc 04 22 56.7 -0.8
comp=Z,6.7nm,0.5s,baz=52,slow=1.8,SNR=8.1
PSI PKPab PKPab 04 23 07.1 -0.2
comp=Z,5.1nm,0.4s,baz=30,slow=23,SNR=8.3
PSI pPKPbc pPKPbc 04 23 29.4 +0.8
comp=Z,13nm,1.0s,baz=71,slow=2.0,SNR=3.2
KULM Kulim 154.94 156 *e*PKPbc PKPbc 04 23 03.7 -0.2
WMQ Urumqi 156.15 44 *e*PKP PKPdf 04 22 59.0 +2.3
ZAK Zakamensk 157.54 12 *e*PKP2 PKPab 04 23 30.4 -0.5
ZAK pmax pmax
comp=Z,9.0nm,1.6s
SONM Songino Array 160.51 9 PKP PKPdf 04 23 02.8 +0.9
comp=Z,1.1nm,0.8s,baz=274,slow=1.0,SNR=10
SONM PKPab PKPab 04 23 43.4 -0.5
comp=Z,2.9nm,0.7s,baz=324,slow=1.0,SNR=18
GTA Gaotai 165.97 37 PKP PKPdf 04 23 08.1 +1.0
GTA PP PP
comp=Z,183nm,6.1s
GTA LR LR
comp=N,312nm,22.4s
GTA LR LR
comp=E,535nm,21.7s
GTA LR LR
comp=Z,111nm,16.7s
HHC Hu-ho-hao-te 167.76 357 *e*PKP PKPdf 04 23 11.3 +2.8
HHC APKP 04 23 38.4
HHC XPKP 04 23 48.8
HHC PKP2 PKPab 04 24 19.8 +4.1
HHC PP PP 04 28 08.8 +4.4
HHC SKS SKSdf 04 30 03.9 +2.2
HHC SKKS SKKSac 04 34 44.1 +3.3
HHC LR LR
comp=N,198nm,5.9s
HHC LR LR
comp=E,124nm,3.7s
HHC LR LR
comp=Z,212nm,6.1s
NJ2 Nanjing 172.14 298 *e*PKP PKPdf 04 23 14.5 +3.5
NJ2 XPKP 04 23 51.9
NJ2 PKP2 PKPab 04 24 41.5 +6.4
NJ2 PKS 04 26 45.6
NJ2 PP PP 04 28 33.0 +6.7
NJ2 SKS SKSdf 04 30 06.0 +2.3
NJ2 SKKS SKKSac 04 35 06.0 +3.8
NJ2 PP PP
comp=Z,530nm,9.5s
NJ2 LR LR
comp=N,1μm,27.3s
NJ2 LR LR
comp=E,1μm,25.2s
NJ2 LR LR
comp=Z,2μm,25.3s

ISCJB ***14*** *04:03:57.0±0.8, 312N±0.1×139.1E±04, h414km±14km, mb3.2/4, Error ellipse: s-maj=57.3km s-min=16.6km az=173.8*
IDC ***14*** *04:03:57.5±1.1, 3099N×13862E, h385km±31km, mb3.0/4, mb1 3.2/5, mb1mx2.8/20, mbtmp3.8/5, Error ellipse: s-maj=87.7km s-min=19.0km az=72.0*
JMA ***14*** *04:03:58.8±0.4, 3128N×13905E, h405km, M3.5*
ISC 14 04:03:58.3±0.8, 313N±01×1393E±04, h415km±12km, n12, σ1§04/14, mb3.2/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.88**	**13**	P	**P**	**04 04 54.7**	**-0.2**
JHJ	**Hachijo jima 2**	**1.88**	**12**	P	**P**	**04 04 54.5**	**-0.4**
JHJ				S	**S**	**04 05 40.5**	**-0.1**
	14nm,0.3s,baz=265,slow=23,SNR=2.8						
BSO3	**Boso 3**	**3.66**	**16**	P	**P**	**04 05 09.2**	**+1.1**
BSO4	**Boso 4**	**3.80**	**13**	*e*S	**S**	**04 06 08.3**	**+1.1**
JRY	**Ryogami san**	**4.74**	**356**	P	**P**	**04 05 19.5**	**+1.2**
JYT	**Yasato**	**4.99**	**8**	*e*S	**S**	**04 06 26.3**	**-1.8**
JAG	**Ashikaga**	**5.13**	**1**	P	**P**	**04 05 23.1**	**+0.8**
JAG				S	**S**	**04 06 27.5**	**-3.3**
JHO	**Hitachi**	**5.42**	**11**	S	**S**	**04 06 35.7**	**-0.5**
MKAR	**Makanchi Array**	**45.92**	**307**	P	**P**	**04 11 41.1**	**-0.6**
	0.3nm,0.6s,mb2.8,baz=79,slow=7.5,SNR=3.4						
WRA	**Warramunga Arr**	**51.15**	**186**	P	**P**	**04 12 19.7**	**-1.3**
	0.9nm,0.4s,mb3.4,baz=1.2,slow=7.7,SNR=7.0						
ASAR	**Alice Springs**	**54.88**	**186**	P	**P**	**04 12 47.9**	**+0.1**
	0.4nm,0.6s,mb2.9,baz=353,slow=5.3,SNR=6.6						
FINES	**FINESS Array B**	**73.09**	**333**	P	**P**	**04 14 46.1**	**+1.3**
	1.9nm,1.0s,mb3.6,baz=30,slow=8.7,SNR=3.5						

IDC 14 04:14:59.1±3.5, 545N×12568E, h0km, mb4.0/4, mb1 4.0/4, mb1mx3.7/19, mbtmp4.0/4, MS4.6/1, Ms1 4.6/1, ms1mx3.4/27, 1D, Error ellipse: s-maj=219.8km s-min=26.4km az=86.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**2.80**	**14**‖	*i*P	Pn	04 15 30.9	-14
BIPH				*i* S	Sn	04 15 53.8	-26
JOW	**Kunigami**	**21.41**	**6**	P	P	04 19 48.8	+0.2
	54nm,1.0s,baz=200,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**26.63**	**162**	P	P	04 20 40.3	+1.0
	0.3nm,0.4s,baz=340,slow=10,SNR=4.0						
JNU	**Nakatsue**	**27.95**	**9**	LR	LR	04 32 17.4	
	comp=Z,1μm,19.5s,baz=180,slow=37						
ASAR	**Alice Springs**	**30.03**	**165**	P	P	04 21 10.7	+1.0
	0.3nm,0.4s,baz=338,slow=7.3,SNR=5.1						
STKA	**Stephens Creek**	**40.10**	**159**	P	P	04 22 35.1	-1.3
	1.5nm,0.5s,baz=331,slow=10,SNR=3.4						

IDC ***14*** *04:15:04.8±0.6, 1182N×14288E, h0km, mb4.5/12, mb1 4.7/13, mb1mx4.6/22, mbtmp4.5/13, ML4.5/1, MS3.9/4, Ms1 3.9/4, ms1mx3.7/25, Error ellipse: s-maj=26.9km s-min=14.8km az=93.0*
ISCJB ***14*** *04:15:08.9±0.3, 1160N±004×143.11E±005, h31km, mb4.8/40, MS4.0/12, Error ellipse: s-maj=7.6km s-min=6.3km az=37.0*
MOS ***14*** *04:15:08.7±2.8, 1168N×14303E, h33km, mb5.1/12, Error ellipse: s-maj=23.3km s-min=12.1km az=89.6*
NEIC ***14*** *04:15:09.9±0.3, 1172N×14297E, mb4.9/13, Error ellipse: s-maj=15.2km s-min=7.3km az=110.0*
HRVD ***14*** *04:15:09.9±1.1, 1122N×14293E, h69km±6km, MW5.0/26, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s26,c28; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr0.90±.42; Mθθ-2.89±.29; Mφφ1.99±.29; Mrθ0.75±.23; Mθφ2.79±.36; Mφr0.14±.26; Best double couple: M0=3.78400×1016 NP1:φs=339.00000°, δ78.00000°, λ178.00000°. NP2: φs=70.00000°, δ88.00000°, λ12.00000°. Principal axes: T 3.3370, Plg10.0000°, Azm295.0000°; N 0.8980, Plg77.0000°, Azm81.0000°; P -4.2320, Plg7.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***14*** *04:15:10.0, 1172N×14331E, h38km, mB5.1, mb4.9, Ms4.9, Msz4.2*
ISC 14 04:15:11.2±0.3, 1162N±004×14320E±005, h33km, h33km±1.0km: pP-P, n85, σ1§33/85, mb4.8/40, MS4.0/12, 3C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.55**	**39**	Pn	**Pn**	**04 15 48.7**	**-1.5**
	96nm,0.3s,baz=186,slow=12,SNR=20						
GUMO				Sn	**Sn**	**04 16 18.9**	**-1.1**
	67nm,0.3s,baz=16,slow=20,SNR=10						
GUMO	**Guam**	**2.55**	**39**	*e*Pn	**Pn**	**04 15 48.9**	**-1.3**
GUMO				*e*Sn	**Sn**	**04 16 21.2**	**+1.2**
JOW	**Kunigami**	**20.65**	**319**	LR	LR	04 26 10.6	
	comp=Z,274nm,20.9s,MS3.6,baz=271,slow=33						
PMG	**Port Moresby**	**21.25**	**169**	P	**P**	**04 19 54.4**	**0.0**
	31nm,0.9s,mb4.6,baz=25,slow=7.5,SNR=7.6						
PMG				LR	LR	04 26 42.3	
	comp=Z,263nm,21.6s,MS3.6,baz=60,slow=32						
PMG	**Port Moresby**	**21.25**	**169**	*e*P	**P**	**04 19 54.6**	**+0.2**
PMG				pmax	pmax		
	comp=Z,63nm,1.2s						
PMG	**Port Moresby**	**21.25**	**169**	*e*P	**P**	**04 19 54.6**	**+0.1**
	comp=Z,63nm,1.2s,mb4.8						
MJAR	**Matsushiro Arr**	**25.22**	**351**	P	**P**	**04 20 28.5**	**-5.4**
	comp=Z,0.7nm,0.5s,baz=173,slow=9.4,SNR=2.6						
MJAR				LR	LR	04 29 31.4	
	comp=Z,253nm,19.4s,MS3.7,baz=195,slow=35						
MJAR	**Matsushiro Arr**	**25.22**	**351**	P	**P**	**04 20 28.5**	**-5.4**
MJAR				LR	LR	04 29 31.4	
MAT	**Matsushiro**	**25.22**	**351**	P	**P**	**04 20 32.2**	**-1.7**
MAT				S	**S**	**04 24 59.6**	**+2.4**
KAKA	**Kakadu**	**26.43**	**204**	*e*P	**P**	**04 20 43.1**	**-1.7**
	comp=Z,17nm,0.6s,mb4.8						
SSE	**Sheshan**	**28.11**	**317**	P	**P**	**04 20 59.3**	**-0.6**
SSE				XP	sP	04 21 11.9	-1.5
SSE				S	**S**	**04 25 41.0**	**-1.8**
SSE				XS	sS	04 25 56.3	-2.2
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,102nm,4.2s						
SSE				LR	LR		
	comp=Z,121nm,21.7s,MS3.5						
NJ2	**Nanjing**	**30.27**	**316**	*e*P	**P**	**04 21 19.6**	**+0.5**
NJ2				AP	pP	04 21 29.3	+0.7
NJ2				XP	sP	04 21 33.3	+0.7
NJ2				PP	PP	04 22 18.8	-8.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,350nm,8.3s						
NJ2				LR	LR		
	comp=N,380nm,13.8s						
NJ2				LR	LR		
	comp=E,3μm,21.8s						
NJ2				LR	LR		
	comp=Z,540nm,23.8s						
WRAB	**Tennant Creek**	**32.54**	**196**	*e*P	**P**	**04 21 39.0**	**0.0**
WRAB				*e**SP	sP	04 21 49.5	-3.1
WRAB				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**32.54**	**196**	*e*P	**P**	**04 21 39.0**	**-0.1**
	comp=Z,15nm,0.7s,mb5.0						
WRAB				*ep*P	pP	04 21 46.1	-2.5
WRAB				*es*P	sP	04 21 49.5	-3.0
WB2	**Warramunga Arr**	**32.55**	**196**‖	*i*P	**P**	**04 21 39.0**	**-0.1**
WRA	**Warramunga Arr**	**32.55**	**196**	P	**P**	**04 21 39.1**	**-0.1**
	comp=Z,13nm,0.6s,mb5.0,baz=18,slow=9.6,SNR=57						
FITZ	**Fitzroy Crossi**	**34.24**	**211**	*e*P	**P**	**04 21 53.2**	**-0.7**
	comp=Z,12nm,0.9s,mb4.8						
FITZ				*e*		04 22 15.2	
CN2	**Changchun**	**35.55**	**338**	*e*P	**P**	**04 22 08.3**	**+3.2**
ASAR	**Alice Springs**	**36.23**	**195**	P	**P**	**04 22 10.7**	**-0.3**
	comp=Z,7.1nm,1.0s,mb4.6,baz=15,slow=10,SNR=33						
ASAR				PP	PP	04 23 34.7	+1.1
	comp=Z,4.3nm,1.1s,baz=17,slow=9.3,SNR=5.5						
BJI	**Beijing**	**37.04**	**325**	*e*P	**P**	**04 22 16.8**	**-1.1**
BJI				S	**S**	**04 27 58.6**	**-2.8**
BJI				LR	LR		
	comp=N,433nm,17.9s,MS4.4						
BJI				LR	LR		
	comp=E,324nm,19.1s,MS4.4						
BJI				LR	LR		
	comp=Z,265nm,18.5s,MS4.1						
KLR	**Kul'dur**	**38.69**	**348**	*e*P	**P**	**04 22 27.5**	**-4.3**
KLR				*e*		04 24 40.4	
HHC	**Hu-ho-hao-te**	**40.26**	**322**	*e*P	**P**	**04 22 45.8**	**+0.9**
HHC				AP	pP	04 22 55.5	+0.9
HHC				XP	sP	04 22 59.5	+1.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,170nm,6.2s						
HHC				LR	LR		
	comp=N,345nm,6.1s						
HHC				LR	LR		

comp=E,157nm,6.7s
HHC LR LR
comp=Z,196nm,20.6s,MS3.9
DZM Mont Dzumac 40.51 146 P **P** **04 22 48.7 +1.8**
comp=Z,39nm,0.8s,mb5.1,baz=334,slow=8.6,SNR=14
KMI Kunming 40.52 295 P **P** **04 22 48.8 +1.8**
KMI S **S** **04 28 57.3 +3.5**
KMI AMB AMB
comp=Z,9.0nm,0.5s,mb4.7
KMI LR LR
comp=Z,83nm,22.3s,MS3.5
CD2 Chengdu 41.19 304 *e*P **P** **04 22 53.1 +0.6**
CD2 AP pP 04 23 02.9 +0.7
CD2 PP PP 04 24 31.9 +4.0
CD2 S **S** **04 29 04.3 +0.5**
CD2 SS SS 04 32 03.3 -4.1
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,90nm,5.3s
CD2 LR LR
comp=E,90nm,15.6s
CD2 LR LR
comp=Z,90nm,16.8s,MS3.7
HIA Hailar 42.27 337⇑ *e*P **P** **04 22 58.6 -2.8**
LZH Lanzhou 43.03 311 *e*P **P** **04 23 10.0 +2.4**
LZH AP pP 04 23 19.5 +2.1
LZH XP sP 04 23 24.5 +3.2
LZH PP PP 04 24 53.0 +5.2
LZH *e*S **S** **04 29 33.0 +1.9**
LZH XS sS 04 29 50.0 +2.9
LZH *e*SS SS 04 32 40.0 -3.8
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,140nm,4.2s
LZH LR LR
comp=N,390nm,12.6s
LZH LR LR
comp=Z,620nm,14.0s,MS4.7
FORT Forrest 44.59 199 *e*P **P** **04 23 20.7 +0.6**
comp=Z,24nm,0.6s,mb5.2
ULN Ulaanbaatar 47.11 327 *e*P **P** **04 23 41.5 +1.5**
ULN pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ULN Ulaanbaatar 47.11 327 *e*P **P** **04 23 41.5 +1.5**
comp=Z,6.9nm,1.1s,mb4.5
GTA Gaotai 47.30 314 *e*P **P** **04 23 43.6 +2.1**
GTA AP pP 04 23 52.4 +1.1
GTA XP sP 04 23 55.6 +0.3
GTA PP PP 04 25 35.4 +2.7
GTA S **S** **04 30 35.4 +2.6**
GTA XS sS 04 30 52.1 +3.1
GTA SS SS 04 33 55.8 -4.6
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
GTA AMB AMB
comp=Z,139nm,4.9s
GTA LR LR
comp=N,222nm,18.3s,MS4.3
GTA LR LR
comp=E,242nm,17.9s,MS4.3
GTA LR LR
comp=Z,149nm,18.3s,MS4.0
SONM Songino Array 47.44 327 PcP PcP 04 25 11.5 -1.1
comp=Z,1.2nm,0.8s,baz=141,slow=4.2,SNR=2.4
SONM LR LR 04 44 18.3
comp=Z,240nm,19.4s,MS4.2,baz=9.5,slow=37
ZAK Zakamensk 50.60 328 *e*P **P** **04 24 02.0 -4.7**
YAK Yakutsk 51.28 352⇑ *e*P **P** **04 24 15.5 +3.7**
YAK pmax pmax
comp=Z,27nm,0.8s,mb5.2
SEY Seymchan 51.66 5 *e*P **P** **04 24 15.9 +1.2**
JIRN Jiri 55.56 296 *e*P **P** **04 24 43.5 +0.2**
comp=Z,12nm,0.7s,mb5.0
GUN Gumba 55.85 296 *e*P **P** **04 24 45.5 +0.1**
comp=Z,26nm,0.8s,mb5.3
KKN Kakani 56.37 296 *e*P **P** **04 24 48.8 -0.3**
DMN Daman 56.51 295 *e*P **P** **04 24 49.9 -0.2**
GKN Gorkha 56.96 296 *e*P **P** **04 24 53.0 -0.3**
comp=Z,10.0nm,0.6s,mb5.0
WMQ Urumqi 57.34 315 *e*P **P** **04 24 56.9 +0.9**
WMQ AP pP 04 25 07.0 +1.0
WMQ XP sP 04 25 10.9 +1.0
WMQ PCP PcP 04 25 50.9 +1.1
WMQ AMB AMB
comp=Z,29nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,186nm,4.6s
WMQ LR LR
comp=N,1μm,20.0s,MS5.1
WMQ LR LR
comp=E,1μm,20.0s,MS5.1
WMQ LR LR
comp=Z,1μm,20.2s,MS5.0
DANN Dangsing 57.76 296 *e*P **P** **04 24 57.4 -1.5**
KOLN Koldanda 57.86 295 *e*P **P** **04 24 59.3 -0.3**
comp=Z,10nm,0.8s,mb4.9
BILL Bilibino 58.37 10 P **P** **04 25 06.0 +2.8**
BILL pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
TIXI Tiksi 60.63 355⇑ *e*P **P** **04 25 18.9 +0.1**
TIXI pmax pmax
comp=Z,8.0nm,2.1s,mb4.5
MKAR Makanchi Array 61.80 317 P **P** **04 25 24.2 -2.4**
comp=Z,1.5nm,0.8s,mb4.2,baz=81,slow=9.1,SNR=4.8
KURK Kurchatov 65.05 321 *e*P **P** **04 25 46.7 -1.5**
KURK *e**PP pP 04 25 57.8 -0.6
KURK *e**SP sP 04 26 02.2 0.0
PMR Palmer 69.28 28 *e*P **P** **04 26 12.7 -2.3**
PMR *e**PP pP 04 26 22.5 -2.8
PMR *e**SP sP 04 26 28.1 -1.0
PMR pmax pmax
comp=Z,13nm,0.9s,mb4.9
PMR Palmer 69.28 28 *e*P **P** **04 26 12.7 -2.3**
comp=Z,13nm,0.9s,mb4.9
PMR *e*pP pP 04 26 22.4 -2.8
PMR *e*sP sP 04 26 28.1 -1.0
BRVK Borovoye 70.54 322 *e*P **P** **04 26 21.9 -0.8**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRVK Borovoye 70.54 322 *e*P **P** **04 26 21.9 -0.8**
comp=Z,3.7nm,0.7s,mb4.4
ILAR Eielson Array 71.03 25 P **P** **04 26 23.0 -2.8**
comp=Z,3.8nm,0.8s,mb4.4,baz=251,slow=5.9,SNR=42
YKW3 Yellowknife Ar 85.32 27 *e*P **P** **04 27 44.3 -0.6**
YKW3 *e* 04 31 33.1
YKA Yellowknife Ar 85.35 27 P **P** **04 27 44.0 -0.9**
comp=Z,2.3nm,0.6s,mb4.5,baz=288,slow=5.1,SNR=40
YKA Yellowknife Ar 85.35 27 P **P** **04 27 44.0 -0.9**
RES Resolute Bay 86.83 13 *e*P **P** **04 27 51.6 -0.7**
RES *e**PP pP 04 28 01.3 -1.5
RES pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
RES Resolute Bay 86.83 13 *e*P **P** **04 27 51.6 -0.7**
comp=Z,6.4nm,0.9s,mb4.8
RES *e*pP pP 04 28 01.3 -1.5
RES *e*PP PP 04 30 54.7 -20
NEW Newport 87.78 41 *e*P **P** **04 27 56.4 -0.4**
NEW *e**PP pP 04 28 04.6 -2.7
NEW *e**SP sP 04 28 10.7 -0.4
NEW pmax pmax
comp=Z,12nm,1.2s
NEW Newport 87.78 41 *e*P **P** **04 27 56.4 -0.4**
comp=Z,12nm,1.2s,mb5.0
NEW *e*pP pP 04 28 04.6 -2.7
NEW *e*sP sP 04 28 10.7 -0.4
WVOR Wild Horse Val 88.19 47 *e*P **P** **04 27 59.5 +0.7**
WVOR *e**PP pP 04 28 09.8 +0.5
WVOR *e**SP sP 04 28 13.6 +0.5
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
WVOR Wild Horse Val 88.19 47 *e*P **P** **04 27 59.5 +0.7**
comp=Z,5.2nm,0.8s,mb4.8
WVOR *e*pP pP 04 28 09.8 +0.5
WVOR *e*sP sP 04 28 13.6 +0.5
ARCES ARCESS Array B 88.45 342 P **P** **04 27 58.2 -1.8**
comp=Z,3.2nm,0.6s,mb4.7,baz=63,slow=5.9,SNR=11
BMO Blue Mountains 88.53 45 *e*P **P** **04 28 00.9 +0.5**
BMO pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
BMO Blue Mountains 88.53 45 *e*P **P** **04 28 00.9 +0.5**
comp=Z,5.1nm,0.8s,mb4.9
JOF Joensuu 89.39 335 *e*p **P** **04 28 02.2 -2.2**
comp=Z,4.8nm,0.8s,mb4.9
JOF Joensuu 89.39 335 *e*P **P** **04 28 02.2 -2.2**
JOF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
NVAR Mina Array Bea 89.42 51 P **P** **04 28 05.9 +1.3**
comp=Z,4.3nm,0.8s,mb4.8,baz=260,slow=4.4,SNR=24
OBN Obninsk 89.85 327 P **P** **04 28 09.0 +2.4**
OBN *e* 04 28 16.1
HRY Holter Researc 91.66 42 *e*P **P** **04 28 15.4 +0.4**
KAF Kangasniemi 91.83 335 *e*p **P** **04 28 11.9 -3.9**
comp=Z,5.7nm,0.9s,mb4.9
KAF Kangasniemi 91.83 335 *e*P **P** **04 28 11.9 -3.9**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
FINES FINESS Array B 92.25 335 P **P** **04 28 14.2 -3.6**
comp=Z,3.5nm,0.7s,mb4.8,baz=72,slow=6.2,SNR=10
QLMT Earthquake Lak 92.53 43 *e*P **P** **04 28 20.4 +1.3**
LDFC Landfair 92.77 54 *e*P **P** **04 28 21.5 +1.3**
LDFC *e*pP pP 04 28 32.0 +1.3
NEN Nelson 92.82 53 *e*P **P** **04 28 21.6 +1.2**
GCMT Greycliff 93.38 42 *e*P **P** **04 28 24.0 +1.0**
PDAR Pinedale Array 94.50 45 P **P** **04 28 27.5 -0.6**
comp=Z,0.4nm,0.8s,mb3.9,baz=276,slow=2.5,SNR=3.3
LAO LASA Array 95.27 40 *e*P **P** **04 28 31.6 0.0**
comp=Z,8.5nm,0.9s,mb5.2
WTSB Winterswijk 106.37 334 *e*P PKiKP 04 33 34.3 +2.0
HGN Heimansgroeve 107.61 333 *e*P 04 33 46.2
BOSA Boshof 119.94 244 PKP PKPdf 04 33 55.4 -2.8
comp=Z,2.7nm,0.9s,baz=138,slow=3.4,SNR=3.5
TORD Torodi Ar. Bea 134.57 302 PKP PKPdf 04 34 26.7 +0.7
comp=Z,0.8nm,1.0s,baz=46,slow=2.2,SNR=2.7
DBIC Dimbokro 143.40 298 PKhKP 04 34 37.2
comp=Z,4.5nm,0.9s,baz=50,slow=1.5,SNR=6.8
DBIC Dimbokro 143.40 298 PKP PKPdf 04 34 37.2 -4.9
LPAZ La Paz 149.26 102 PKPbc PKPbc 04 34 58.7 +2.4
comp=Z,3.9nm,0.9s,baz=283,slow=2.3,SNR=11

KRSC 14 04:23:32.3±1.9, 4937N×15685E, h21km±99km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.10**	**359**	*e*P	Pn	04 24 06.7	+0.5
PAU				*e*S	Sn	04 24 32.9	+1.2
PAU				Smax			
460nm,0.4s							
MIPR	**Malaya Ipel'ka**	**2.91**	**359**	*e*P	Pn	04 24 18.3	+0.9
RUS	**Russkaya**	**3.24**	**18**	*e*P	Pn	04 24 22.7	+0.8
RUS				*e*S	Sn	04 25 00.0	+0.1
GRL	**Gorelyy**	**3.28**	**13**	*i* P	Pn	04 24 24.1	+1.7
GRL				*e*S	Sn	04 25 02.4	+1.6
KRMR	**Karymshinskiy**	**3.56**	**13**	*i* P	Pn	04 24 28.6	+2.3
PET	**Petropavlovsk**	**3.83**	**17**	*e*S	Sn	04 25 14.6	+0.2
UGLR	**Uglovaya**	**4.04**	**17**	*e*P	Pn	04 24 34.6	+1.7
AVH	**Avacha**	**4.08**	**16**	*e*P	Pn	04 24 35.5	+2.1
KOK	**Koryaka**	**4.08**	**15**	*i* P	Pn	04 24 36.2	+2.7
KOK				*e*S	Sn	04 25 20.8	+0.2
SMAR	**Somma**	**4.09**	**17**	*e*P	Pn	04 24 36.4	+2.9
SPN	**Mys Shipunski**	**4.23**	**27**	*e*S	Sn	04 25 24.7	+0.4
GNL	**Ganaly**	**4.38**	**9**	*e*P	Pn	04 24 39.9	+2.3

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*ISCJB **14** 04:30:38.3±0.1, 5153N×001×16.15E×002, h0km, mb4.1/14, MS4.0/2, Error ellipse: s-maj=1.6km s-min=1.3km az=157.5*
*LDG **14** 04:30:38.9±0.1, 5152N×1613E, h1km, Ml4.7/21, Error ellipse: s-maj=3.0km s-min=2.0km az=158.0, Suspected Mining induced.*
*CSEM **14** 04:30:38.8±0.1, 5160N×1612E, h1km, mb4.3/8, ML4.5/27, Ms4.0, Error ellipse: s-maj=1.6km s-min=1.2km az=173.0*
*IPEC **14** 04:30:39.9±0.3, 5156N×1628E, h0km, ML3.7/4, Error ellipse: s-maj=1.9km s-min=1.5km az=40.0*
*BGR **14** 04:30:40.0±0.5, 5153N×1629E, h1km, ML4.3, Error ellipse: s-maj=3.3km s-min=3.3km az=147.0*
*MOS **14** 04:30:39.4±0.9, 5159N×1615E, h10km, mb4.4/7, MS3.9/5, Error ellipse: s-maj=6.2km s-min=3.5km az=83.8*
*IDC **14** 04:30:40.8±0.5, 5152N×1614E, h0km, mb4.0/8, mb1 4.0/18, mb1mx3.9/28, mbtmp3.9/18, ML3.7/9, Error ellipse: s-maj=8.5km s-min=4.9km az=100.0*
*NEIC **14** 04:30:40.5±0.4, 5158N×1614E, h5km, ML3.8(CLL), ML4.2(FUR), Error ellipse: s-maj=5.3km s-min=4.5km az=6.0*
*PRU **14** 04:30:41.8, 5150N×1613E, h0km, - Felt In Harrachov*
*WAR **14** 04:30:42.0, 5150N×1614E, ML3.5, Mining Induced*
*VIE **14** 04:30:43.4±0.9, 5128N×1597E, h0km, mb3.4/6, ML3.5/8, Ms4.0/1, Error ellipse: s-maj=5.5km s-min=3.8km az=177.0 75 km WNW of Breslau Suspected Mining induced.*
*STR **14** 04:30:52.1±0.6, 5154N×1467E, h1km±1km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 14 04:30:40.3±0.1, 5152N±001×1618E±001, h0km, n300, σ1§14/472, mb4.1/14, MS4.0/2, 22C-30D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**174**	*i* Pgd	**Pg**	**04 30 54.1**	**+0.7**
KSP				*e*		04 31 01.6	
KSP				*e*Sg	**Sg**	**04 31 03.2**	**+1.0**
KSP				*e*L		04 31 06.5	
KSP	**Ksiaz**	**0.68**	**174**	||*i* Pg	**Pg**	**04 30 54.1**	**+0.7**
KSP				*e*Sg	**Sg**	**04 31 02.2**	**0.0**
KSP				*e*S	**Sg**	**04 31 06.5**	**+4.3**
KSP	**Ksiaz**	**0.68**	**174**	||*i* Pg	**Pg**	**04 30 54.1**	**+0.7**
KSP				*e*		04 31 01.6	
KSP				*e*Sg	**Sg**	**04 31 03.2**	**+1.0**
KSP				*e*		04 31 06.5	
UPC	**Upice**	**1.02**	**186**	*e*PG	**Pg**	**04 31 00.3**	**+0.5**
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG	**Pg**	**04 31 03.1**	**+0.3**
DPC				*e*SG	**Sg**	**04 31 17.6**	**-0.4**
1μm,1.0s							
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*P	**Pg**	**04 31 03.1**	**+0.3**
DPC				*e*		04 31 17.6	
DPC				smax			
comp=N,1μm,1.0s							
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*Pg	**Pg**	**04 31 02.8**	**0.0**
DPC				*e*Sg	**Sg**	**04 31 18.0**	**0.0**
PVCC	**Panska Ves**	**1.42**	**226**	*e*PG	**Pg**	**04 31 07.3**	**-0.2**
PVCC	**Panska Ves**	**1.42**	**226**	*e*Pg	**Pg**	**04 31 07.1**	**-0.4**
PVCC				*e*Sg	**Sg**	**04 31 26.7**	**+0.8**
BRG	**Berggiesshubel**	**1.55**	**246**	*e*Sg	**Sg**	**04 31 31.0**	**+1.0**
BRG	**Berggiesshubel**	**1.55**	**246**	*e*SG	**Sg**	**04 31 30.6**	**+0.6**
RUE	**Ruedersdorf**	**1.77**	**304**	*e*Pn	**Pn**	**04 31 11.8**	**-0.3**
RUE				*e*Sg	**Sg**	**04 31 38.5**	**+1.4**
RUE	**Ruedersdorf**	**1.77**	**304**	*e*Pn	**Pn**	**04 31 11.5**	**-0.6**
RUE				Sg	**Sg**	**04 31 38.5**	**+1.5**
RUE	**Ruedersdorf**	**1.77**	**304**	*e*Pn	**Pn**	**04 31 11.5**	**-0.6**
RUE				*e*Sn	**Sn**	**04 31 37.6**	**+2.3**
PRA	**Prague**	**1.82**	**218**	||PN	**Pn**	**04 31 12.0**	**-0.9**
PRA				SG	**Sg**	**04 31 38.0**	**-0.9**
PRU	**Pruhonice**	**1.85**	**215**	*e*PN	**Pn**	**04 31 13.0**	**-0.3**
PRU				*e*PG	**Pg**	**04 31 15.4**	**-0.4**
PRU				*e*SG	**Sg**	**04 31 39.4**	**-0.4**
comp=N,736nm,0.5s							
PRU	**Pruhonice**	**1.85**	**215**	*e*P	**Pn**	**04 31 13.0**	**-0.3**
PRU				*e*		04 31 39.4	
PRU				smax			
comp=N,736nm,0.5s							
PRU	**Pruhonice**	**1.85**	**215**	*e*Pg	**Pg**	**04 31 15.4**	**-0.4**
PRU				*e*Sg	**Sg**	**04 31 39.4**	**-0.4**
comp=N,736nm,0.5s							
GKP	**Gorka Klasztor**	**1.87**	**20**	*e*Pn	**Pn**	**04 31 14.8**	**+1.3**
GKP				*e*Pg	**Pg**	**04 31 19.1**	**+3.0**
GKP				*e*Sg	**Sg**	**04 31 43.4**	**+3.0**
GKP	**Gorka Klasztor**	**1.87**	**20**	*e*Pg	**Pg**	**04 31 19.1**	**+3.0**
GKP				*e*Sg	**Sg**	**04 31 43.4**	**+3.0**
FBE	**Freiberg**	**1.87**	**252**	*e*Pg	**Pg**	**04 31 14.2**	**-2.0**
FBE				*e*Sg	**Sg**	**04 31 40.8**	**+0.4**
RAC	**Raciborz**	**1.93**	**138**	*e*Pg	**Pg**	**04 31 17.7**	**+0.5**
RAC				*e*Sg	**Sg**	**04 31 43.5**	**+1.3**
RAC	**Raciborz**	**1.93**	**138**	*e*Pn	**Pn**	**04 31 13.3**	**-1.0**
RAC				*e*Pg	**Pg**	**04 31 17.7**	**+0.5**
RAC				*e*Sg	**Sg**	**04 31 43.5**	**+1.3**
MORC	**Moravsky Berou**	**1.95**	**153**	||*i* Pn	**Pn**	**04 31 14.6**	**0.0**
MORC				*e*Sg	**Sg**	**04 31 41.2**	**-1.7**
comp=N,243nm,0.5s							
MORC	**Moravsky Berou**	**1.95**	**153**	||P	**Pn**	**04 31 14.5**	**-0.1**
CLL	**Collm**	**2.00**	**265**	*e*Pn	**Pn**	**04 31 14.7**	**-0.6**
CLL				*i* Pg	**Pg**	**04 31 18.2**	**-0.4**
CLL				*i* Sn	**Sn**	**04 31 38.8**	**-2.2**
CLL				*e*Sg	**Sg**	**04 31 45.2**	**+0.7**
CLL	**Collm**	**2.00**	**265**	*e*Pn	**Pn**	**04 31 15.0**	**-0.3**
CLL				*i* Pg	**Pg**	**04 31 18.2**	**-0.4**
CLL				*i* x	x	04 31 21.1	
CLL				*i* Sn	**Sn**	**04 31 38.8**	**-2.2**
CLL				*i* Sg	**Sg**	**04 31 44.5**	**0.0**
comp=Z,732nm,0.8s							
CLL	**Collm**	**2.00**	**265**	*e*P	**Pn**	**04 31 15.0**	**-0.3**
CLL				*i*		04 31 38.8	
CLL	**Collm**	**2.00**	**265**	Pg	**Pg**	**04 31 18.2**	**-0.4**
CLL				Sn	**Sn**	**04 31 38.8**	**-2.2**
CLL				Sg	**Sg**	**04 31 45.2**	**+0.7**
CLL	**Collm**	**2.00**	**265**	*e*Pn	**Pn**	**04 31 15.0**	**-0.3**
CLL				*i* Pg	**Pg**	**04 31 18.2**	**-0.4**
CLL				*i* Sn	**Sn**	**04 31 38.8**	**-2.2**
CLL				*i* Sg	**Sg**	**04 31 44.5**	**0.0**
OKC	**Ostrava-Krasne**	**2.10**	**143**	*e*PN	**Pn**	**04 31 16.1**	**-0.6**
OKC				*e*PG	**Pg**	**04 31 21.2**	**+0.7**
OKC				*e*SG	**Sg**	**04 31 47.1**	**-0.7**
comp=Z,339nm,0.9s							
OKC	**Ostrava-Krasne**	**2.10**	**143**	*e*P	**Pn**	**04 31 16.1**	**-0.6**
OKC				*e*		04 31 47.1	
OKC				smax			
comp=N,339nm,0.9s							
OKC	**Ostrava-Krasne**	**2.10**	**143**	*e*Pg	**Pg**	**04 31 21.2**	**+0.7**
OKC				*e*Sg	**Sg**	**04 31 47.1**	**-0.7**
comp=N,339nm,0.9s							
VRAC	**Vranov**	**2.23**	**173**	Pn	**Pn**	**04 31 18.0**	**-0.5**
comp=N,7.7nm,0.3s,baz=348,slow=15,SNR=193							
VRAC				Pg	**Pg**	**04 31 22.9**	**-0.1**
comp=N,18nm,0.3s,baz=341,slow=15,SNR=46							
VRAC				Lg		04 31 50.6	
comp=N,83nm,0.3s,baz=72,slow=20,SNR=16							
VRAC	**Vranov**	**2.23**	**173**	||*i* Pn	**Pn**	**04 31 18.6**	**+0.1**
VRAC				*e*Sg	**Sg**	**04 31 50.6**	**-1.3**
comp=N,288nm,0.6s							
VRAC	**Vranov**	**2.23**	**173**	⇑P	**Pn**	**04 31 19.1**	**+0.6**
KRUC	**Moravsky**	**2.46**	**177**	*e*Sg	**Sg**	**04 31 58.3**	**-1.2**
comp=N,445nm,0.8s							
TANN	**Tannenbergstha**	**2.59**	**246**	*e*Pn	**Pn**	**04 31 23.8**	**+0.3**
TANN				*e*Sg	**Sg**	**04 32 04.4**	**+0.8**
TANN	**Tannenbergstha**	**2.59**	**246**	Pn	**Pn**	**04 31 23.8**	**+0.3**
TANN				Sg	**Sg**	**04 32 04.4**	**+0.7**
OJC	**Ojcow**	**2.64**	**118**	*e*Pn	**Pn**	**04 31 22.8**	**-1.3**
OJC				*e*Pg	**Pg**	**04 31 30.3**	**-0.6**
OJC				e		04 31 31.2	
OJC				*e*Sn	**Sn**	**04 31 55.4**	**-1.4**
OJC				*e*Sg	**Sg**	**04 32 05.5**	**+0.4**
OJC	**Ojcow**	**2.64**	**118**	*e*P	**Pn**	**04 31 22.8**	**-1.3**
OJC				*e*		04 31 55.4	
OJC	**Ojcow**	**2.64**	**118**	*e*Pg	**Pg**	**04 31 30.3**	**-0.6**
OJC				*e*S	**Sn**	**04 31 55.4**	**-1.4**
OJC				*e*Sg	**Sg**	**04 32 05.5**	**+0.4**
OJC	**Ojcow**	**2.64**	**118**	*e*Pn	**Pn**	**04 31 22.8**	**-1.3**
OJC				*e*Pg	**Pg**	**04 31 30.3**	**-0.6**
OJC				*e*Sn	**Sn**	**04 31 55.4**	**-1.4**
OJC				*e*Sg	**Sg**	**04 32 05.5**	**+0.4**
WERD	**Werda**	**2.67**	**248**	*e*Pn	**Pn**	**04 31 25.0**	**+0.5**
WERD				*e*Sg	**Sg**	**04 32 06.8**	**+0.7**
NKC	**Novy Kostel**	**2.69**	**243**	*e*PN	**Pn**	**04 31 25.1**	**+0.3**
NKC				*e*PG	**Pg**	**04 31 32.3**	**+0.5**
NKC				*e*SG	**Sg**	**04 32 07.6**	**+0.9**
comp=N,514nm,0.4s							
NKC	**Novy Kostel**	**2.69**	**243**	*e*Pg	**Pg**	**04 31 32.3**	**+0.5**
NKC				*e*Sg	**Sg**	**04 32 07.6**	**+0.9**
comp=N,514nm,0.4s							
WERN	**Wernitzgruen**	**2.70**	**244**	*e*Pn	**Pn**	**04 31 25.7**	**+0.7**
WERN				*e*Sg	**Sg**	**04 32 07.8**	**+0.6**
NEUB	**Neuenburg**	**2.78**	**265**	*e*Pn	**Pn**	**04 31 26.3**	**+0.3**
NEUB				*e*Sg	**Sg**	**04 32 10.5**	**+1.0**
VIEL	**Selb-Vielitz**	**2.91**	**244**⇑	*i* Pn	**Pn**	**04 31 28.1**	**+0.3**
KHC	**Kasperske Hory**	**2.91**	**216**	*e*PN	**Pn**	**04 31 27.7**	**-0.2**
KHC				*e*PG	**Pg**	**04 31 34.5**	**-1.6**
KHC				*e*SN	**Sn**	**04 32 03.4**	**-0.2**
KHC				*e*SG	**Sg**	**04 32 13.8**	**-0.1**
comp=N,518nm,1.1s							
KHC	**Kasperske Hory**	**2.91**	**216**	*e*Pg	**Pg**	**04 31 34.5**	**-1.6**
KHC				*e*S	**Sn**	**04 32 03.4**	**-0.2**
comp=N,518nm,1.1s							
KHC				*e*Sg	**Sg**	**04 32 13.8**	**-0.1**
comp=N,518nm,1.1s							
MGBB	**Grossbuechelbe**	**2.95**	**240**	||*i* Pn	**Pn**	**04 31 28.7**	**+0.3**
MANZ	**Manzenberg**	**3.00**	**241**	*e*Pn	**Pn**	**04 31 29.6**	**+0.4**
MANZ				*e*Sg	**Sg**	**04 32 18.2**	**+1.3**
MOX	**Moxa**	**3.01**	**255**	*e*Pn	**Pn**	**04 31 29.4**	**+0.3**
MOX				*e*Pg	**Pg**	**04 31 37.9**	**0.0**
MOX				*e*Sg	**Sg**	**04 32 17.2**	**+0.3**
MOX	**Moxa**	**3.01**	**255**	*e*PN	**Pn**	**04 31 28.9**	**-0.3**
MOX				*e*PG	**Pg**	**04 31 37.9**	**0.0**
MOX				*e*SG	**Sg**	**04 32 17.7**	**+0.8**
MOX	**Moxa**	**3.01**	**255**	Pg	**Pg**	**04 31 37.9**	**0.0**
MOX				Sg	**Sg**	**04 32 17.2**	**+0.3**
ROTZ	**Rotzenmuhle**	**3.08**	**237**	*e*Pn	**Pn**	**04 31 30.6**	**+0.5**
ROTZ				*e*Sg	**Sg**	**04 32 19.4**	**+0.2**
WAR	**Warsaw**	**3.09**	**75**	*e*Pg	**Pg**	**04 31 41.8**	**+2.3**
WAR				*e*Sg	**Sg**	**04 32 28.3**	**+10**
LIKS	**Likavka**	**3.10**	**142**	*e*PN	**Pn**	**04 31 32.2**	**+1.7**
LIKS				*e*PG	**Pg**	**04 31 39.9**	**+0.1**
LIKS				*e*SG	**Sg**	**04 32 22.6**	**+2.5**
LIKS	**Likavka**	**3.10**	**142**	*e*Pg	**Pg**	**04 31 39.9**	**+0.1**
LIKS				*e*Sg	**Sg**	**04 32 22.6**	**+2.5**
GEC2	**GERESS Array S**	**3.11**	**212**	*e*Pn	**Pn**	**04 31 31.7**	**+1.1**
GEC2				*e*Sg	**Sg**	**04 32 20.7**	**+0.4**
GEC2	**GERESS Array S**	**3.11**	**212**	Sg	**Sg**	**04 32 20.7**	**+0.4**
GEC2	**GERESS Array S**	**3.11**	**212**	*e*Pn	**Pn**	**04 31 31.7**	**+1.1**
GEC2				*e*Sg	**Sg**	**04 32 20.7**	**+0.4**
GERES	**GERESS Array B**	**3.11**	**212**	Pn	**Pn**	**04 31 30.7**	**+0.1**
comp=N,6.4nm,0.3s,baz=28,slow=12,SNR=228							
GERES				Pg	**Pg**	**04 31 38.9**	**-1.1**
comp=N,17nm,0.3s,baz=32,slow=15,SNR=65							
GERES				Sn	**Sn**	**04 32 06.3**	**-2.2**
comp=N,14nm,0.3s,baz=34,slow=24,SNR=6.5							
GERES				Lg		04 32 18.6	
comp=N,45nm,0.3s,baz=30,slow=26,SNR=12							
GERES	**GERESS Array B**	**3.11**	**212**	P	**Pn**	**04 31 30.7**	**+0.1**
GERES						04 32 06.3	
GERES	**GERESS Array B**	**3.11**	**212**	Pg	**Pg**	**04 31 38.9**	**-1.1**
GERES				S	**Sn**	**04 32 06.3**	**-2.2**
SMOL	**Smolenice**	**3.12**	**164**	*e*PN	**Pn**	**04 31 32.7**	**+2.0**
SMOL				*e*PG	**Pg**	**04 31 39.9**	**-0.1**
SMOL				*e*SG	**Sg**	**04 32 21.4**	**+1.0**
SMOL	**Smolenice**	**3.12**	**164**	*e*Pg	**Pg**	**04 31 39.9**	**-0.1**
SMOL				*e*Sg	**Sg**	**04 32 21.4**	**+1.0**
WET	**Wettzell**	**3.18**	**223**	*e*Pn	**Pn**	**04 31 32.0**	**+0.4**
WET				*e*Sg	**Sg**	**04 32 22.1**	**-0.4**
WET	**Wettzell**	**3.18**	**223**	*e*Pn	**Pn**	**04 31 32.0**	**+0.4**
WET				*e*Sg	**Sg**	**04 32 22.1**	**-0.4**
VKA	**Vienna**	**3.26**	**178**	*i* Pn	**Pn**	**04 31 34.4**	**+1.8**
VKA				*i* Pg	**Pg**	**04 31 43.0**	**+0.2**
VKA				*i* Sg	**Sg**	**04 32 26.7**	**+1.7**
VKA	**Vienna**	**3.26**	**178**	Pg	**Pg**	**04 31 43.0**	**+0.2**
VKA				Sg	**Sg**	**04 32 26.7**	**+1.7**
NIE	**Niedzica**	**3.38**	**127**	*e*Pn	**Pn**	**04 31 34.8**	**+0.5**
NIE				*e*Pg	**Pg**	**04 31 44.8**	**-0.2**
NIE				*e*Sg	**Sg**	**04 32 28.7**	**-0.1**
NIE	**Niedzica**	**3.38**	**127**	*e*Pg	**Pg**	**04 31 44.8**	**-0.2**
NIE				*e*Sg	**Sg**	**04 32 28.7**	**-0.1**
ZST	**Bratislava**	**3.38**	**169**	*e*PN	**Pn**	**04 31 36.1**	**+1.8**
ZST				*e*PG	**Pg**	**04 31 44.9**	**-0.2**
ZST				*e*SG	**Sg**	**04 32 28.0**	**-0.9**
**

STHS eSG Sg 04 32 47.9 +3.5
STHS Stebnicka Huta 3.86 121 ePg Pg 04 31 55.5 +1.2
STHS eSg Sg 04 32 47.9 +3.5
MOA Molln 3.88 199 ⇓iSg Sg 04 32 43.7 -1.1
comp=N,306nm,0.8s
MOA Molln 3.88 199 ⇓iPn Pn 04 31 41.3 +0.2
SNR=60
MOA ⇓iSg Sg 04 32 43.7 -1.1
comp=N,306nm,0.8s
HROE Hohe Rhon--Fla 3.92 258 ⇓iPn Pn 04 31 42.1 +0.3
UBBA Unterbreizbach 3.95 262 ePn Pn 04 31 42.6 +0.4
UBBA eSg Sg 04 32 47.9 +0.7
SRO Srobarova 3.96 159 eSG Sg 04 32 51.4 +3.8
KECS Kecovo 4.12 136 ePN Pn 04 31 44.7 +0.2
KECS ePG Pg 04 32 00.4 +1.2
KECS e 04 32 51.8
PENC Penc 4.24 150 ⇑iP Pn 04 31 47.6 +1.4
CRVS Cervenica-Dubn 4.29 126 ePN Pn 04 31 47.4 +0.6
CRVS ePG Pg 04 32 03.5 +1.0
CRVS eSG Sg 04 33 01.8 +3.7
CRVS Cervenica-Dubn 4.29 126 ePg Pg 04 32 03.5 +1.0
ARSA Arzberg 4.29 186 ⇑iSg Sg 04 32 56.5 -1.8
comp=N,164nm,0.6s
ARSA Arzberg 4.29 186 ⇑iPn Pn 04 31 48.0 +1.2
SNR=25
ARSA ⇑iSg Sg 04 32 56.5 -1.8
comp=N,164nm,0.6s
PSZ Piszkesteto 4.34 145 ⇑iPn Pn 04 31 48.3 +0.8
PSZ eSB Sb 04 32 58.5 +8.3
PKSG 4.38 160 ⇑iP Pn 04 31 48.6 +0.6
KWP Kalwaria 4.57 112 ePn Pn 04 31 50.6 -0.1
KWP ePg Pg 04 32 05.5 -2.4
KWP eSg Sg 04 33 16.6 +9.4
KWP Kalwaria 4.57 112 ePg Pg 04 32 05.5 -2.4
SIND Sindeldorf 4.73 245 ⇑iP Pn 04 31 52.5 -0.3
SIND Sg Sg 04 33 08.3 -3.9
COP Copenhagen 4.73 333 i P Pg 04 32 13.7 +2.7
COP i 04 32 46.2
COP eS Sg 04 33 18.1 +5.8
KBA Koelnbreinsper 4.81 204 ⇑iSg Sg 04 33 13.5 -1.5
comp=N,84nm,0.7s
KBA Koelnbreinsper 4.81 204 ⇓iPn Pn 04 31 54.7 +0.6
SNR=30
KBA ⇑iSg Sg 04 33 13.5 -1.5
comp=N,84nm,0.7s
HDH Heidenheim 4.84 235 P Pn 04 31 53.4 -0.9
HDH Sg Sg 04 33 12.6 -3.2
UZH Uzhgorod 4.89 124 eP Pn 04 31 55.0 0.0
SUW Suwalki 4.93 57 ePn Pn 04 31 56.1 +0.5
SUW eSg Sg 04 33 28.7 +10
TNS Taunus Mts 5.06 258 ePn Pn 04 31 57.3 -0.2
TNS eSg Sg 04 33 23.1 +0.1
TOD Tromm 5.07 251 P Pn 04 31 57.6 0.0
TOD Sg Sg 04 33 22.4 -0.9
TOD Tromm 5.07 251 P Pn 04 31 56.6 -1.0
TOD S Sn 04 32 50.1 -6.8
GROS Grobnik 5.08 185 ePn Pn 04 31 58.8 +1.1
GROS e 04 33 20.9
OBKA Obir 5.13 193 ⇓iSg Sg 04 33 24.4 -0.7
comp=N,120nm,1.1s
OBKA Obir 5.13 193 ⇑iPn Pn 04 31 57.8 -0.6
OBKA ⇓iSg Sg 04 33 24.4 -0.7
comp=N,120nm,1.1s
WATA Walderalm 5.15 217 ⇓iSg Sg 04 33 23.5 -2.3
comp=N,102nm,0.9s
WATA Walderalm 5.15 217 ⇑iPn Pn 04 31 58.4 -0.2
SNR=18
WATA ⇓iSg Sg 04 33 23.5 -2.3
comp=N,102nm,0.9s
SWS Schriesheim 5.19 250 P Pn 04 31 58.4 -0.8
SWS Sg Sg 04 33 23.8 -3.1
STU Stuttgart 5.26 241 eSg Sg 04 33 28.7 -0.7
STU Stuttgart 5.26 241 eP Pn 04 31 58.8 -1.4
STU pmax pmax
comp=Z,230nm,0.8s
STU Stuttgart 5.26 241 ePn Pn 04 31 58.8 -1.4
comp=Z,230nm,0.8s
STU eS Sg 04 33 28.0 -1.4
LVV L'vov 5.28 106 eP Pn 04 32 01.1 +0.7
MOTA Moosalm 5.33 220 ⇓iSg Sg 04 33 29.4 -2.1
comp=Z,62nm,0.5s
MOTA Moosalm 5.33 220 ⇓iPn Pn 04 32 01.1 0.0
SNR=23
MOTA ⇓iSg Sg 04 33 29.4 -2.1
comp=Z,62nm,0.5s
SQTA Sankt Quirin 5.39 219 ⇓iSg Sg 04 33 32.5 -0.8
comp=Z,21nm,0.4s
SQTA Sankt Quirin 5.39 219 ⇑iPn Pn 04 32 01.6 -0.2
SNR=18
SQTA ⇓iSg Sg 04 33 32.5 -0.8
comp=Z,21nm,0.4s
SQTA Sankt Quirin 5.39 219 Pn Pn 04 32 01.6 -0.3
SNR=18
SQTA Sg Sg 04 33 32.5 -0.9
comp=Z,21nm,0.4s
PTCC Patocco-Chiusa 5.45 201 Pn Pn 04 32 03.7 +1.0
VXJU Vaexsjoe 5.46 353 P Pn 04 32 02.5 -0.4
baz=175
UBR Uberruh 5.50 228 P Pn 04 32 03.1 -0.5
UBR Sg Sg 04 33 33.7 -3.5
PDKS Podkum 5.52 189 ePn Pn 04 32 05.2 +1.6
LBG Lerchenberg 5.54 242 P Pn 04 32 02.3 -1.7
LBG Sg Sg 04 33 36.9 -1.4
PKSM Moragy 5.55 162 ⇓eP Pn 04 32 04.8 +0.6
PKSM eS Sn 04 33 16.5 +7.8
OSKU Oskarshamn 5.69 360 P Pn 04 32 05.7 -0.3
VOY Vojsko 5.70 196 ePn Pn 04 32 06.2 +0.1
VOY e 04 32 28.3
VOY eSn Sg 04 33 43.8 +0.6
ABH Alteburg 5.72 257 P Pn 04 32 06.5 0.0
ABH Sg Sg 04 33 46.5 +2.3
ABH Alteburg 5.72 257 P Pn 04 32 05.9 -0.6
ABH S Sn 04 33 06.0 -6.9
GUT Gutenstein 5.73 236 P Pn 04 32 05.9 -0.6
GUT Sg Sg 04 33 41.6 -2.6
DAVA Damuels 5.90 227 ⇓iSg Sg 04 33 49.9 +0.1
comp=Z,53nm,0.7s
DAVA Damuels 5.90 227 ⇑iPn Pn 04 32 08.7 -0.2
SNR=11
DAVA ⇓iSg Sg 04 33 49.9 +0.1
comp=Z,53nm,0.7s
ASPU Aespoe 5.92 2 P Pn 04 32 09.4 +0.2
baz=182
LANF Langenberg 5.94 248 P Pn 04 32 09.3 -0.2
LANF S Sn 04 33 14.2 -4.0
LANF Langenberg 5.94 248 Sg Sg 04 33 53.5 +2.4
BFO Black Forest 5.99 241 ePn Pn 04 32 09.0 -1.1
BFO eSg Sg 04 33 52.8 +0.2
BFO Black Forest 5.99 241 ePn Pn 04 32 08.5 -1.6
BFO Black Forest 5.99 241 eP Pn 04 32 09.0 -1.1
BFO Black Forest 5.99 241 ePg Pg 04 32 36.1 +1.1
BFO Black Forest 5.99 241 ePn Pn 04 32 08.5 -1.7
BFO ePg Pg 04 32 36.1 +1.1
BFO eSn Sn 04 33 09.2 -10
BFO eSg Sg 04 33 51.6 -1.0
RUP Ruppelstein 6.08 256 P Pn 04 32 11.1 -0.3
RUP Ruppelstein 6.08 256 P Pn 04 32 10.9 -0.5
EKSU Eksjoe 6.09 356 P Pn 04 32 11.1 -0.4
baz=176
VSTU Vaestervik 6.16 2 P Pn 04 32 12.2 -0.3
baz=184
CTI Castel Tesino 6.24 210 P Pn 04 32 15.3 +1.7
CTI pmax pmax
comp=Z,55nm,0.6s
CTI Castel Tesino 6.24 210 P Pn 04 32 15.3 +1.7
comp=Z,55nm,0.6s
DAVOX Davos 6.29 223 Pn Pn 04 32 14.3 0.0
baz=46,slow=16
DAVOX Pg Pg 04 32 37.2 -3.6
comp=Z,1.3nm,0.3s,baz=30,slow=12,SNR=3.3
DAVOX Lg 04 33 58.2
comp=Z,1.8nm,0.3s,baz=262,slow=16,SNR=3.8
DAVOX Davos 6.29 223 Pg Pg 04 32 37.2 -3.6
BRMO Bormio 6.33 219 Pn Pn 04 32 17.5 +2.7
GOTU Gotland 6.33 12 P Pn 04 32 15.7 +0.8
KIZ Kirchzarten 6.43 240 P Pn 04 32 14.1 -2.2
KIZ Sg Sg 04 34 03.2 -3.6
MEM Membach 6.47 266 P Pn 04 32 17.5 +0.7
MEM S Sg 04 34 08.9 +0.6
comp=N,43nm,0.0s
WLS Welschbruch 6.48 245 P Pn 04 32 17.0 0.0
WLS Welschbruch 6.48 245 P Pn 04 32 17.9 +0.9
CDF Champ du Feu 6.53 245 ePn Pn 04 32 13.8 -3.8
CDF Champ du Feu 6.53 245 eP Pn 04 32 17.8 +0.2
CDF eSg Sg 04 34 02.9 -7.1
comp=N,408nm,1.2s
CDF Champ du Feu 6.53 245 eP Pn 04 32 17.8 +0.2
CDF eSg Sg 04 34 02.9 -7.1
comp=N,204nm,1.2s
WLF Walferdange 6.65 258 ePn Pn 04 32 19.5 +0.3
WLF eSg Sg 04 34 13.7 -0.1
WLF Walferdange 6.65 258 P Pn 04 32 19.6 +0.5
WLF S Sg 04 34 13.4 -0.3
comp=N,43nm,0.0s
WLF Walferdange 6.65 258 eP Pn 04 32 20.7 +1.5
WLF pmax pmax
comp=Z,125nm,1.1s
WLF Walferdange 6.65 258 eP Pn 04 32 20.7 +1.5
comp=Z,125nm,1.1s
WLF Walferdange 6.65 258 ePn Pn 04 32 20.7 +1.5
comp=Z,125nm,1.1s
WLF eSg Sg 04 34 15.5 +1.7
LNKU Linkoeping 6.73 357 P Pn 04 32 19.8 -0.5
MOF Molkenrain 6.92 241 P Pn 04 32 23.3 +0.4
BZS Buzias 6.92 146 ⇓P Pn 04 32 23.5 +0.5
BZS Buzias 6.92 146 ⇓P Pn 04 32 23.5 +0.6
BURAR Bucovina Array 7.06 120 ⇑P Pn 04 32 25.0 +0.2
BURAR Bucovina Array 7.06 120 ⇑P Pn 04 32 24.9 +0.1
HINF Hinteralfeld 7.09 242 ePn Pn 04 32 21.8 -3.5
HINF eSg Sg 04 34 20.1 -8.0
comp=Z,236nm,1.0s
HINF Hinteralfeld 7.09 242 ePn Pn 04 32 21.8 -3.5
HINF eSg Sg 04 34 20.1 -8.0
comp=Z,118nm,1.0s
ISAL Salakas 7.18 52 eP Pn 04 32 26.5 -0.1
ISAL e Pg 04 32 55.1 -2.8
ISAL eSg Sg 04 34 36.9 +5.9
ISAL AML AML 04 34 54.4
comp=Z,6.7nm,0.7s
HAU Haudompre 7.27 245 ePn Pn 04 32 23.8 -4.0
HAU eSg Sg 04 34 26.1 -7.7
comp=Z,124nm,0.9s
HAU Haudompre 7.27 245 ePn Pn 04 32 23.8 -4.0
HAU eSg Sg 04 34 26.1 -7.7
comp=Z,62nm,0.9s
GIVF Givet 7.33 263 eP Pn 04 32 29.8 +1.2
GIVF eSg Sg 04 34 28.1 -7.7
comp=Z,252nm,1.3s
GIVF Givet 7.33 263 eP Pn 04 32 29.8 +1.2
GIVF eSg Sg 04 34 28.1 -7.7
comp=Z,126nm,1.3s
ASKU Askersund 7.43 355 P Pn 04 32 30.4 +0.4
RFYF Reffroy 7.47 251 ePn Pn 04 32 26.5 -4.0
baz=68
RFYF eSg Sg 04 34 31.8 -8.3
comp=Z,684nm,1.7s
RFYF Reffroy 7.47 251 ePn Pn 04 32 26.5 -4.0
RFYF eSg Sg 04 34 31.8 -8.3
comp=Z,342nm,1.7s
DOU Dourbes 7.48 264 ⇑P Pn 04 32 32.0 +1.4
DOU E 04 32 37.8
DOU S Sg 04 34 34.4 -6.0
comp=N,52nm,0.0s
VAI Varese 7.48 224 P Pn 04 32 31.8 +1.2
VAI pmax pmax
comp=Z,11nm,0.6s
VAI Varese 7.48 224 Pn Pn 04 32 31.8 +1.2
comp=Z,11nm,0.6s
NYNU Nynaeshamn 7.58 7 P Pn 04 32 31.3 -0.6
ESKU Eskilstuna 7.73 1 P Pn 04 32 33.7 -0.4
baz=179
MEZF Maizieres J'vi 7.78 251 ePn Pn 04 32 30.5 -4.2
MEZF eSg Sg 04 34 42.4 -7.6
comp=Z,206nm,1.0s
MEZF Maizieres J'vi 7.78 251 ePn Pn 04 32 30.5 -4.2
MEZF eSg Sg 04 34 42.4 -7.6
comp=Z,103nm,1.0s
SFTF Sexfontaines 7.92 250 ePn Pn 04 32 32.9 -3.8
SFTF Sexfontaines 7.92 250 eP Pn 04 32 37.7 +1.0
SFTF eSg Sg 04 34 46.4 -8.3
comp=Z,297nm,1.3s
SFTF Sexfontaines 7.92 250 eP Pn 04 32 37.7 +1.0
SFTF eSg Sg 04 34 46.4 -8.3
comp=Z,149nm,1.3s
NRAU Nora 8.10 356 P Pn 04 32 39.0 -0.1
baz=184
FINU Finntorp 8.18 347 P Pn 04 32 39.1 -1.1
CABF La Chapelle 8.24 237 ePn Pn 04 32 37.2 -3.9
CABF eSg Sg 04 34 57.8 -7.2
comp=Z,332nm,1.4s
CABF La Chapelle 8.24 237 ePn Pn 04 32 37.2 -3.9
CABF eSg Sg 04 34 57.8 -7.2
comp=Z,166nm,1.4s
AKASG Malin Array Be 8.26 91 Pn Pn 04 32 39.0 -2.3
comp=Z,4.9nm,0.3s,baz=279,slow=12,SNR=18
AKASG Sn Sn 04 34 08.5 -6.7
comp=Z,3.6nm,0.3s,baz=268,slow=23,SNR=6.6
AKASG Lg 04 35 06.1
comp=Z,0.5nm,0.3s,baz=271,slow=29,SNR=6.1
AKASG Malin Array Be 8.26 91 P Pn 04 32 39.0 -2.3
AKASG 04 34 08.5
NRTU Norrtaelje 8.29 9 P Pn 04 32 42.0 +0.2
BACU Backbrunna 8.37 3 P Pn 04 32 42.5 -0.4
VOIR 8.47 132 ⇓P Pn 04 32 47.5 +3.3
VOIR 8.47 132 ⇓P Pn 04 32 47.5 +3.4
LPL La Plagne 8.68 230 ePn Pn 04 32 43.3 -3.7
LPL La Plagne 8.68 230 eP Pn 04 32 48.4 +1.4
LPL eSg Sg 04 35 07.9 -11
comp=Z,221nm,1.9s
LPL La Plagne 8.68 230 eP Pn 04 32 48.4 +1.4
LPG La Plagne 8.68 230 eP Pn 04 32 47.9 +0.8
LPG eSg Sg 04 35 09.3 -10
comp=Z,184nm,1.3s
HFS Hagfors 8.75 352 Pn Pn 04 32 46.7 -1.3
comp=Z,0.4nm,0.3s,baz=158,slow=15,SNR=17
HFS Sn Sn 04 34 18.8 -8.5
comp=Z,0.2nm,0.3s,baz=165,slow=22,SNR=2.5
HFS Lg 04 35 19.6
comp=Z,0.6nm,0.3s,baz=166,slow=30,SNR=2.9
HFS Hagfors 8.75 352 Pn Pn 04 32 46.7 -1.3
HFS Sn Sn 04 34 18.8 -8.5
OSTU Oestervaala 8.75 3 P Pn 04 32 47.3 -0.7
KONO Kongsberg 8.95 338 ⇑eP Pn 04 32 59.5 +8.6
FALU Falun 9.00 359 P Pn 04 32 51.0 -0.5
LOR Lormes 9.09 247 ePn Pn 04 32 48.9 -3.8
baz=66
LOR eSg Sn 04 35 23.1 +47
comp=Z,185nm,1.4s
LOR Lormes 9.09 247 ePn Pn 04 32 48.9 -3.8
LOR eSg Sn 04 35 23.1 +47
comp=Z,92nm,1.4s
VSU Vasula 9.22 37 eP Pn 04 32 55.0 +0.5
MBDF Montbardon 9.25 226 ePn Pn 04 32 51.0 -4.0
MBDF Montbardon 9.25 226 eP Pn 04 32 56.0 +1.0
MBDF eSg Sn 04 35 27.8 +48
comp=Z,96nm,1.3s
MBDF Montbardon 9.25 226 eP Pn 04 32 56.0 +1.0
IGGU Iggoen 9.40 3 P Pn 04 32 56.6 -0.4
SSF Saint Saulge 9.40 247 ePn Pn 04 32 52.9 -4.1
SSF eSg Sn 04 35 34.0 +51
comp=Z,134nm,1.3s
SMF Signal de Mont 9.45 244 ePn Pn 04 32 53.3 -4.3
SMF eSg Sn 04 35 33.6 +49
comp=Z,156nm,1.3s
ORIF Oris-en-Rattie 9.53 230 ePn Pn 04 32 54.6 -4.1
ORIF Oris-en-Rattie 9.53 230 eP Pn 04 32 59.9 +1.2
ORIF eSg Sn 04 35 35.4 +49
comp=Z,197nm,1.5s
ORIF Oris-en-Rattie 9.53 230 eP Pn 04 32 59.9 +1.2
AVF Avril sur Loir 9.64 246 eSg Sx 04 35 39.7
comp=Z,185nm,1.6s
AVF Avril sur Loir 9.64 246 eSg Sx 04 35 39.7
comp=Z,92nm,1.6s
SBF Sospel 9.66 221 eP Pn 04 33 01.3 +0.8
HYF Humbligny 9.79 250 eSg Sx 04 35 44.5
NOA NORSAR Array B 9.93 346 Pn Pn 04 33 01.8 -2.5
comp=Z,0.4nm,0.3s,baz=163,slow=12,SNR=4.0
NOA Sn Sn 04 34 48.0 -8.4
comp=Z,0.4nm,0.3s,baz=251,slow=12,SNR=2.6
NOA Lg 04 35 57.6
comp=Z,0.6nm,0.3s,baz=116,slow=15,SNR=4.2
NOA NORSAR Array B 9.93 346 P Pn 04 33 01.8 -2.4
NOA 04 34 48.0
BGF Bois d'Agland 10.06 246 ePn Pn 04 33 01.9 -4.1
BGF eSg Sn 04 35 53.1 +54
comp=Z,188nm,1.3s
BGF Bois d'Agland 10.06 246 ePn Pn 04 33 01.9 -4.1
BGF eSg Sn 04 35 53.1 +54
comp=Z,94nm,1.3s
VIVF Saint-Julien-l 10.16 233 ePn Pn 04 33 03.3 -4.1
VIVF eSg Sn 04 35 56.4 +54
comp=Z,66nm,1.4s
VIVF Saint-Julien-l 10.16 233 ePn Pn 04 33 03.3 -4.1
VIVF eSg Sn 04 35 56.4 +54
comp=Z,33nm,1.4s
ARNU Arnoeviken 10.22 3 P Pn 04 33 07.1 -1.1
FRF La Foret Royal 10.23 223 eP Pn 04 33 09.4 +1.0
LMR La Mourre 10.48 222 ePn Pn 04 33 07.2 -4.5
LMR La Mourre 10.48 222 eP Pn 04 33 12.4 +0.7
LMR La Mourre 10.48 222 eP Pn 04 33 12.4 +0.7
LDF La Druitiere 10.88 261 eP Pn 04 33 18.6 +1.4
FLN La Foliniere 11.04 262 ePn Pn 04 33 15.0 -4.4
LASF Ste Croix 11.13 233 ePn Pn 04 33 16.2 -4.4
LASF Ste Croix 11.13 233 eP Pn 04 33 21.6 +1.0
LASF Ste Croix 11.13 233 eP Pn 04 33 21.6 +1.0
FINES FINESS Array B 11.34 25 Pn Pn 04 33 20.6 -2.9
comp=Z,0.8nm,0.3s,baz=203,slow=10,SNR=19
FINES Sn Sn 04 35 19.7 -11
comp=Z,0.5nm,0.3s,baz=214,slow=18,SNR=3.5
FINES Lg 04 36 34.8
comp=Z,0.4nm,0.3s,baz=214,slow=22,SNR=3.4
PUL Pulkovo 11.47 38 eP Pn 04 33 27.0 +1.7
PUL pmax pmax
comp=Z,83nm,0.4s
PUL Pulkovo 11.47 38 eP Pn 04 33 27.0 +1.7
comp=Z,83nm,0.4s
RJF Les Rejaudoux 11.55 243 ePn Pn 04 33 21.5 -4.9
RJF eSg Sn 04 36 39.4 +63
comp=Z,183nm,1.8s
RJF Les Rejaudoux 11.55 243 ePn Pn 04 33 21.5 -4.9
RJF eSg Sn 04 36 39.4 +63
comp=Z,92nm,1.8s
SOLU Sollefteaa 11.78 2 P Pn 04 33 28.2 -1.3
KAF Kangasniemi 11.96 24 ep Pn 04 33 30.4 -1.6
EKA Eskdalemuir Ar 12.14 296 Pn Pn 04 33 30.4 -4.1
comp=Z,0.3nm,0.3s,baz=107,slow=14,SNR=6.9
EKA Sn Sn 04 35 51.3 +0.8
comp=Z,0.3nm,0.3s,baz=101,slow=25,SNR=3.5
EKA Eskdalemuir Ar 12.14 296 S Sn 04 35 51.3 +0.8
OBN Obninsk 12.70 66 ⇓eP Pn 04 33 38.9 -3.3
OBN eS Sn 04 35 56.8 -7.5
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,200nm,14.0s
MOS Moscow 13.39 63 eP Pn 04 33 46.3 -5.3
JOF Joensuu 14.01 30 ep Pn 04 33 57.7 -2.4
comp=Z,2.1nm,0.5s
JOF Joensuu 14.01 30 eP Pn 04 33 57.7 -2.4
JOF pmax pmax
comp=Z,2.0nm,0.5s
ANN Anapa 15.67 107 eP Pn 04 34 16.9 -5.4
ANN eS Sn 04 37 07.8 -8.8
ANN pmax pmax
comp=Z,41nm,1.0s
ANN MLR MLR
comp=Z,395nm,8.0s
KLMR Klimovskoe 15.92 45 eP Pn 04 34 16.6 -9.0
KLMR e 04 37 11.2
KLMR pmax pmax
comp=Z,30nm,1.5s
KLMR smax
comp=E,870nm,5.2s
KLMR MLR MLR
comp=Z,470nm,9.0s
BRTR Keskin Array B 16.93 127 Pn Pn 04 34 37.5 -1.0
comp=Z,0.1nm,0.3s,baz=311,slow=13,SNR=2.2
SOC Sochi 17.71 107 eP Pn 04 34 45.6 -2.7
SOC e 04 38 03.4
SOC pmax pmax
comp=Z,24nm,0.9s
SOC MLR MLR
comp=Z,147nm,8.0s
SOC Sochi 17.71 107 eS Sn 04 38 03.4 -2.7
comp=Z,147nm,8.0s
ESDC Sonseca Array 18.34 238 P Pn 04 34 57.5 +1.5
comp=Z,0.1nm,0.3s,baz=42,slow=12,SNR=4.7
ARCES ARCESS Array B 18.61 10 Pn Pn 04 34 55.3 -4.0
comp=Z,0.6nm,0.3s,baz=191,slow=11,SNR=15
ARCES Sn Sn 04 38 11.3 -17
comp=Z,0.1nm,0.3s,baz=196,slow=21,SNR=3.0
ARCES Lg 04 40 28.8
comp=Z,0.1nm,0.3s,baz=220,slow=22,SNR=4.1
KEV Kevo 18.99 12 ep Pn 04 35 00.3 -3.7
comp=Z,12nm,0.7s
KEV Kevo 18.99 12 eP Pn 04 35 00.3 -3.7
KEV pmax pmax
comp=Z,12nm,0.7s
KIV Kislovodsk 19.29 103 eP Pn 04 35 17.0 +9.4
KIV pmax pmax
comp=Z,11nm,1.1s
ZEI Tsey 20.68 104 eP P 04 35 20.2 -1.6
ZEI e*PP 04 35 27.9
ARU Arti 25.10 62 ⇓iP P 04 35 05.5 -1.1
ARU e 04 36 36.4
ARU eS S 04 40 32.0 -0.1
ARU eSS 04 41 23.4
ARU pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
ARU Arti 25.10 62 i P P 04 36 05.5 -1.1
comp=Z,10.0nm,1.3s,mb4.4
AKTK Aktyubinsk 26.11 76 P P 04 36 15.4 -0.4
comp=Z,3.0nm,0.7s,mb4.0
AKTK Aktyubinsk 26.11 76 P P 04 36 15.3 -0.5
AKTO Aktyubinsk 26.11 76 P P 04 36 15.3 -0.5
comp=Z,3.4nm,0.7s,mb4.1,baz=279,slow=9.0,SNR=11
AKTO Aktyubinsk 26.11 76 P P 04 36 15.4 -0.4
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
KURK Kurchatov 38.15 66 i P P 04 37 59.9 -1.3
AAK Ala-Archa 39.73 79 ⇑iP P 04 38 11.5 -3.0
AAK pmax pmax
comp=Z,13nm,1.7s,mb4.3
TORD Torodi Ar. Bea 40.02 202 P P 04 38 16.6 -0.3
comp=Z,3.6nm,1.1s,mb3.9,baz=5.0,slow=7.4,SNR=13
ZAL Zalesovo 40.15 59 P P 04 38 18.6 +0.6
comp=Z,1.9nm,0.3s,mb4.2,baz=69,slow=2.2,SNR=5.3
MKAR Makanchi Array 42.17 69 P P 04 38 34.8 +0.2
comp=Z,0.8nm,0.7s,mb3.6,baz=310,slow=9.4,SNR=8.2
MKAR Makanchi Array 42.17 69 P P 04 38 34.8 +0.2
TIXI Tiksi 48.38 23 ⇑eP P 04 39 25.2 +1.3
TIXI pmax pmax
comp=Z,10.0nm,2.5s,mb4.5
TIXI Tiksi 48.38 23 eP P 04 39 25.2 +1.3
comp=Z,10.0nm,2.5s,mb4.5
ZAK Zakamensk 51.69 55 eP P 04 39 50.7 +1.7
ZAK pmax pmax
comp=Z,8.0nm,1.8s,mb4.3
ZAK Zakamensk 51.69 55 eP P 04 39 50.7 +1.7
comp=Z,8.0nm,1.8s,mb4.3
SONM Songino Array 54.88 55 P P 04 40 13.5 +1.1
comp=Z,1.9nm,0.9s,mb4.1,baz=294,slow=8.4,SNR=13
SONM Songino Array 54.88 55 P P 04 40 13.5 +1.0
SONM pmax pmax
comp=Z,2.0nm,0.9s
YAK Yakutsk 55.18 32 ⇑eP P 04 40 14.0 -0.6
YAK pmax pmax
comp=Z,22nm,0.6s
YAK MLR MLR
comp=Z,100nm,16.0s,MS4.0
YAK Yakutsk 55.18 32 eP P 04 40 14.0 -0.6
comp=Z,100nm,16.0s
ULN Ulaanbaatar 55.20 55 eP P 04 40 14.6 -0.2
BILL Bilibino 58.69 13 eP P 04 40 39.9 +0.3
BILL pmax pmax
comp=Z,5.0nm,1.4s,mb4.3
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.0
BILL Bilibino 58.69 13 eP P 04 40 39.9 +0.3
comp=Z,100nm,18.0s
YKA Yellowknife Ar 59.87 336 P P 04 40 47.4 -0.3
comp=Z,1.8nm,0.8s,mb4.2,baz=29,slow=6.6,SNR=30
YKA Yellowknife Ar 59.87 336 P P 04 40 47.4 -0.3
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 59.87 336 P P 04 40 47.4 -0.3
comp=Z,2.0nm,0.8s,mb4.2
ILAR Eielson Array 63.30 352 P P 04 41 11.2 +0.2
comp=Z,0.2nm,0.6s,mb3.4,baz=1.1,slow=5.4,SNR=4.8
PDAR Pinedale Array 74.96 322 P P 04 42 23.4 +0.1
comp=Z,0.7nm,0.7s,mb3.8,baz=54,slow=6.2,SNR=6.3

CSEM ***14*** *04:37:23.8, 4.10S×15187E, h278km, mb5.5*
BJI ***14*** *04:37:25.7, 367S×15195E, h282km, mB5.1, mb5.1*
ISCJB ***14*** *04:37:25.3±0.7, 395S±003×15171E±004, h282km±7km, mb5.4/101, Error ellipse: s-maj=5.8km s-min=5.0km az=144.6*
MOS ***14*** *04:37:25.0±0.9, 388S×15171E, h273km, mb5.5/20, Error ellipse: s-maj=9.3km s-min=6.3km az=91.5*
IDC ***14*** *04:37:25.9±0.5, 398S×15166E, h278km±4km, mb4.8/21, mb1 4.9/24, mb1mx4.9/24, mbtmp5.5/24, Error ellipse: s-maj=8.9km s-min=6.7km az=91.0*
HRVD ***14*** *04:37:26.8±0.2, 392S×15185E, h278km±1km, MW5.5/97, Centroid moment Tensor Solution. LP body waves: s84,c147;Mantle waves: s97,c177; Half duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.58±.03; $M_{\theta\theta}$0.20±.03; $M_{\phi\phi}$1.38±.03; $M_{r\theta}$-0.57±.03; $M_{\theta\phi}$0.06±.04; $M_{\phi r}$-1.72±.04; Best double couple: $M_0$2.33800×10^{17} NP1:ϕ_s176.00000°,δ20.00000°,λ-107.00000°. NP2: ϕ_s14.00000°,δ71.00000°,λ-84.00000°. Principal axes: T 2.2140, Plg25.0000°, Azm100.0000°; N 0.2460, Plg6.0000°, Azm192.0000°; P -2.4610, Plg64.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *04:37:26.8±0.7, 393S×15170E, h285km±7km, mb5.4/29 Error ellipse: s-maj=5.5km s-min=4.2km az=95.0*
ISC 14 04:37:27.0±0.7,395S±003×15173E±004,h282km±6km, h284km±1.9km;pP-P,n373,σ1§05/237,mb5.4/100,20C-33D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.07 220**		P	**Pn**	**04 39 08.4**	**-0.5**
	24nm,0.3s,baz=43,slow=4.9,SNR=36						
PMG				S	**S**	**04 40 30.7**	**-0.4**
	11nm,0.3s,baz=117,slow=20,SNR=13						
PMG	**Port Moresby**	**7.07 220**		Pn	**Pn**	**04 39 08.4**	**-0.5**
	580nm,1.1s						
PMG				*e*S	S	04 40 09.3	-22
HNR	**Honiara**	**9.81 124**		P	**Pn**	**04 39 41.0**	**-1.9**
	116nm,0.3s,baz=258,slow=3.1,SNR=22						
CTA	**Charters Tower**	**16.91 198**		⇓*i*P	**P**	**04 41 07.6**	**+1.8**
	210nm,1.2s						
CTA				*i*		04 44 05.9	
CTA	**Charters Tower**	**16.91 198**		P	**P**	**04 41 07.4**	**+1.6**
	5.5nm,0.3s,baz=20,slow=12,SNR=68						
CTA				S	**S**	**04 44 09.2**	**+1.7**
	baz=75,slow=22,SNR=5.7						
CTA	**Charters Tower**	**16.91 198**		⇓*i*P	**P**	**04 41 07.6**	**+1.8**
CTA				*i*		04 44 05.9	
CTA				pmax	pmax		
	comp=Z,210nm,1.2s						
CTAO	**Charters Tower**	**16.91 198**		Pn	**Pn**	**04 41 07.7**	**-0.5**
CTAO				*e*		04 42 01.9	
GUMO	**Guam**	**18.70 339**		P	**P**	**04 41 25.6**	**+0.5**
	comp=Z,32nm,0.3s,baz=161,slow=7.5,SNR=11						
GUMO	**Guam**	**18.70 339**		P	**P**	**04 41 25.8**	**+0.6**
KAKA	**Kakadu**	**20.96 244**		⇓*i*P	**P**	**04 41 46.9**	**-1.9**
	comp=Z,820nm,0.6s						
DZM	**Mont Dzumac**	**22.99 143**		P	**P**	**04 42 07.8**	**+0.5**
	comp=Z,223nm,0.6s,mb5.7,baz=62,slow=22,SNR=209						
WRAB	**Tennant Creek**	**23.23 225**		P	**P**	**04 42 09.0**	**-0.5**
	comp=Z,10μm,0.6s						
WRAB	**Tennant Creek**	**23.23 225**		P	**P**	**04 42 09.8**	**+0.4**
WB2	**Warramunga Arr**	**23.23 225**		⇓*i*P	**P**	**04 42 09.8**	**+0.3**
WB2				*e*		04 43 30.8	
WB2				*i* S	**S**	**04 45 54.4**	**-5.6**
WRA	**Warramunga Arr**	**23.24 225**		P	**P**	**04 42 09.7**	**+0.1**
	comp=Z,1μm,0.8s,mb6.2,baz=50,slow=10,SNR=539						
WRA				PcP	PcP	04 45 48.8	+0.5
	comp=Z,15nm,0.7s,baz=44,slow=2.3,SNR=7.4						
WRA				S	**S**	**04 45 58.7**	**-1.5**
	comp=Z,26nm,0.7s,baz=50,slow=17,SNR=6.0						
WRA				ScP	ScP	04 48 59.1	+0.1
	comp=Z,28nm,0.9s,baz=48,slow=2.9,SNR=8.2						
WRA	**Warramunga Arr**	**23.24 225**		P	**P**	**04 42 09.7**	**+0.1**
WRA						04 45 48.8	
WRA				S	**S**	**04 45 58.7**	**-1.5**
AS31	**Alice Springs**	**26.09 220**		⇓*i*P	**P**	**04 42 35.1**	**-0.1**
ASAR	**Alice Springs**	**26.09 220**		P	**P**	**04 42 35.1**	**-0.1**
	comp=Z,124nm,0.9s,mb5.3,baz=52,slow=8.2,SNR=676						
ASAR				pP	pP	04 43 23.9	-4.9
	comp=Z,33nm,0.8s,baz=40,slow=13,SNR=2.7						
ASAR				PcP	PcP	04 45 54.4	-0.2
	comp=Z,31nm,1.1s,baz=50,slow=3.3,SNR=6.4						
ASAR				S	**S**	**04 46 43.5**	**-1.6**
	comp=Z,17nm,0.9s,baz=27,slow=15,SNR=5.9						
ASPA	**Alice Springs**	**26.09 220**		⇓*i*P	**P**	**04 42 35.1**	**-0.1**
ARMA	**Armidale**	**26.33 180**		*e*P	**P**	**04 42 38.5**	**+1.1**
ARMA				*e*S	**S**	**04 46 50.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**29.15 239**		⇓*i*P	**P**	**04 43 01.0**	**-1.3**
	comp=Z,201nm,1.1s,mb5.5						
STKA	**Stephens Creek**	**29.37 198**		⇓*i*P	**P**	**04 43 01.9**	**-2.4**
	comp=Z,83nm,0.9s,mb5.2						
STKA				*e*S	**S**	**04 47 33.3**	**-3.3**
STKA	**Stephens Creek**	**29.37 198**		P	**P**	**04 43 01.9**	**-2.3**
	comp=Z,92nm,0.8s,mb5.2,baz=2.1,slow=8.1,SNR=128						
STKA				S	**S**	**04 47 33.0**	**-3.6**
	comp=Z,20nm,1.1s,baz=170,slow=14,SNR=5.6						
STKA				ScP	ScP	04 49 15.8	-1.3
	comp=Z,20nm,1.1s,baz=314,slow=8.8,SNR=3.3						
CNB	**Canberra Magne**	**31.29 184**		*e*P	**P**	**04 43 21.8**	**+0.7**
	comp=Z,52nm,1.2s,mb4.9						
ADE	**Adelaide**	**33.14 200**		⇓*i*P	**P**	**04 43 37.6**	**+0.5**
TOO	**Toolangi**	**33.95 189**		*e*P	**P**	**04 43 45.2**	**+1.1**
	comp=Z,39nm,1.1s,mb4.8						
TOO	**Toolangi**	**33.95 189**		*e*P	**P**	**04 43 45.2**	**+1.1**
TOO				pmax	pmax		
	comp=Z,39nm,1.1s,mb4.8						
FORT	**Forrest**	**34.79 217**		⇓*i*P	**P**	**04 43 50.7**	**-0.6**
	comp=Z,380nm,1.1s,mb5.8						
MBWA	**Marble Bar**	**35.48 238**		P	**P**	**04 43 55.8**	**-1.3**
	comp=Z,110nm,1.1s,mb5.3						
KKM	**Kota Kinabalu**	**36.82 285**		*e*P	**P**	**04 44 08.4**	**0.0**
AFI	**Afiamalu**	**37.33 108**		P	**P**	**04 44 13.1**	**+0.4**
	comp=Z,72nm,0.6s,mb5.3,baz=228,slow=3.6,SNR=11						
JOW	**Kunigami**	**38.08 325**		P	**P**	**04 44 19.4**	**+0.4**
	comp=Z,67nm,0.4s,mb5.4,baz=131,slow=12,SNR=18						
NACB	**Ninganchiao**	**40.52 315**		*e*P	**P**	**04 44 39.0**	**+0.1**
YHNB	**Yeheng**	**40.98 315**		*e*P	**P**	**04 44 43.1**	**+0.4**
URZ	**Urewera**	**41.26 149**		P	**P**	**04 44 45.1**	**+0.1**
	comp=Z,248nm,1.4s,mb5.3,baz=32,slow=4.5,SNR=18						
URZ				ScP	ScP	04 50 00.1	-0.2
	comp=Z,45nm,1.1s,baz=326,slow=3.6,SNR=7.6						
KLBR	**Kellerberrin**	**42.12 225**		⇓*i*P	**P**	**04 44 50.2**	**-1.8**
	comp=Z,81nm,1.2s,mb4.8						
MJAR	**Matsushiro Arr**	**42.21 344**		P	**P**	**04 44 50.4**	**-2.3**
	comp=Z,35nm,1.0s,mb4.5,baz=165,slow=8.8,SNR=38						
MJAR				PcP	PcP	04 46 40.9	-0.1
	comp=Z,12nm,0.6s,baz=164,slow=3.5,SNR=9.6						
MJAR				ScP	ScP	04 50 03.9	-0.2
	comp=Z,15nm,1.1s,baz=174,slow=4.6,SNR=10						
MJAR	**Matsushiro Arr**	**42.21 344**		P	**P**	**04 44 50.4**	**-2.2**
MJAR						04 46 40.9	
MAJO	**Matsushiro**	**42.21 344**		P	**P**	**04 44 50.9**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,95nm,1.2s,mb4.9						
MAJO	**Matsushiro**	**42.21 344**		P	**P**	**04 44 50.9**	**-1.7**
	comp=Z,95nm,1.2s,mb4.9						
MAT	**Matsushiro**	**42.21 344**		P	**P**	**04 44 50.5**	**-2.2**
MAT				S	**S**	**04 50 48.6**	**-2.5**
QZH	**Quanzhou**	**43.13 313**		⇓*i*P	**P**	**04 45 00.8**	**+0.8**
QZH				AMB	AMB		
	comp=Z,340nm,1.2s,mb5.5						
RPZ	**Rata Peaks**	**43.14 159**		P	**P**	**04 45 00.4**	**+0.3**
	comp=Z,81nm,0.9s,mb5.0,baz=328,slow=1.3,SNR=15						
NWAO	**Narrogin (SRO)**	**43.24 224**		P	**P**	**04 44 59.1**	**-1.7**
	comp=Z,12nm,0.7s,baz=66,slow=9.4,SNR=7.8						
NWAO				pP	pP	04 45 56.1	-2.7
	comp=Z,4.0nm,0.5s,baz=101,slow=14,SNR=1.4						
NWAO				PcP	PcP	04 46 43.0	-1.4
	comp=Z,61nm,1.0s,baz=49,slow=9.4,SNR=7.8						
NWAO	**Narrogin (SRO)**	**43.24 224**		P	**P**	**04 44 59.8**	**-1.0**
NWAO				*PP	pP	04 45 57.6	-1.2
NWAO						04 46 42.9	
NWAO						04 46 43.4	
NWAO	**Narrogin (SRO)**	**43.24 224**		P	**P**	**04 44 59.8**	**-1.1**
NWAO				pP	pP	04 45 57.6	-1.2
NWAO				pP	pP	04 45 59.5	+0.6
NWAO				PP	PP	04 46 42.9	-4.8
NWAO				PP	PP	04 46 43.4	-4.3
MUN	**Mundaring**	**43.44 226**		*e*P	**P**	**04 45 01.1**	**-1.3**
MUN				*e*		04 46 46.3	
SSE	**Sheshan**	**45.41 322**		P	**P**	**04 45 18.8**	**+0.8**
SSE				AP	pP	04 46 18.5	+1.9
SSE				XP	sP	04 46 49.9	+1.6
SSE				S	**S**	**04 51 37.6**	**+0.3**
SSE				XS	sS	04 53 25.1	+3.5
SSE				AMB	AMB		
	comp=Z,108nm,1.0s,mb5.0						
SSE				AMB	AMB		
	comp=Z,369nm,6.5s						
SSE				LR	LR		
	comp=N,232nm,18.9s						
SSE				LR	LR		
	comp=E,291nm,18.8s						
SSE				LR	LR		
	comp=Z,263nm,19.1s						
GZH	**Guangzhou**	**46.09 307**		P	**P**	**04 45 22.8**	**-0.5**
GZH				S	**S**	**04 51 52.8**	**+5.9**
GZH				LR	LR		
	comp=N,574nm,12.4s						
GZH				LR	LR		
	comp=E,385nm,14.0s						
GZH				LR	LR		
	comp=Z,584nm,16.5s						
KS15	**Wonju Array Si**	**46.77 334**		P	**P**	**04 45 28.8**	**+0.3**
QIZ	**Qiongzhong**	**47.12 300**		P	**P**	**04 45 31.6**	**+0.4**
QIZ				XP	sP	04 47 02.3	+0.5
QIZ				S	**S**	**04 52 02.4**	**+1.0**
QIZ				XS	sS	04 53 52.0	+5.7
QIZ				AMB	AMB		
	comp=Z,79nm,2.2s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,401nm,3.5s						
INCN	**Inchon**	**47.37 333**		P	**P**	**04 45 33.8**	**+0.8**
	comp=Z,459nm,1.2s,mb5.7						
NJ2	**Nanjing**	**47.51 321**		*e*P	**P**	**04 45 35.6**	**+1.4**
NJ2				AP	pP	04 46 35.9	+2.6
NJ2				XP	sP	04 47 07.8	+2.9
NJ2				PP	PP	04 47 30.1	+1.7
NJ2				S	**S**	**04 52 06.0**	**-1.0**
NJ2				XS	sS	04 53 53.0	+0.9
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,170nm,9.0s						
NJ2				LR	LR		
	comp=N,370nm,16.3s						
NJ2				LR	LR		
	comp=E,420nm,12.2s						
NJ2				LR	LR		
	comp=Z,410nm,15.0s						
WHN	**Wuhan**	**49.50 316**		⇓P	**P**	**04 45 50.5**	**+1.2**
VLA	**Vladivostok**	**50.16 341**		⇑*i*P	**P**	**04 45 54.5**	**+0.3**
DL2	**Dalian**	**50.90 330**		*i* PR		04 46 00.0	
DL2				XP	sP	04 47 32.6	+1.5
DL2				S	**S**	**04 52 55.1**	**+1.2**
DL2				XS	sS	04 54 42.5	+2.2
DL2				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.0						
DL2				AMB	AMB		
	comp=Z,120nm,5.4s						
YSS	**Yuzh-Sakhalins**	**51.30 352**		⇓*e*P	**P**	**04 46 02.9**	**+0.3**
YSS				*e*		04 47 14.0	
YSS				*e*		04 53 02.0	
YSS				*e*		04 54 42.0	
YSS				*e*		04 55 16.0	
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=E,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.0						
YSS				pmax	pmax		
	comp=Z,70nm,1.2s,mb4.9						
YSS				pmax	pmax		
	comp=E,50nm,1.1s						
YSS	**Yuzh-Sakhalins**	**51.30 352**		P	**P**	**04 46 01.9**	**-0.7**
	comp=E,77nm,1.2s,mb4.9						
TIA	**Tai'an**	**51.40 324**		P	**P**	**04 46 02.8**	**-0.6**
TIA				AMB	AMB		
	comp=Z,144nm,1.6s,mb5.0						
KULM	**Kulim**	**51.84 280**		*e*P	**P**	**04 46 06.7**	**+0.1**
SNG	**Songkhla**	**52.19 282**		P	**P**	**04 46 10.0**	**+0.8**
MDJ	**Mudanjiang**	**52.25 340**		P	**P**	**04 46 09.4**	**-0.3**
MDJ				AP	pP	04 47 08.5	-1.5
MDJ				PCP	PcP	04 47 16.6	-0.3
MDJ				XP	sP	04 47 38.9	-2.4
MDJ				PP	PP	04 48 11.1	-0.2
MDJ				SCP	ScP	04 50 46.1	-0.2
MDJ				PCS	PcS	04 51 15.0	-0.6
MDJ				S	**S**	**04 53 11.0**	**-1.3**
MDJ				XS	sS	04 54 55.8	-3.4
MDJ				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,246nm,5.3s						
MDJ	**Mudanjiang**	**52.25 340**		*e*P	**P**	**04 46 09.5**	**-0.2**
	comp=Z,96nm,1.3s,mb5.0						
MDJ				*e*PcP	PcP	04 47 16.9	+0.1
SNY	**Shenyang**	**52.26 334**		⇑P	**P**	**04 46 09.4**	**-0.3**
SNY				S	**S**	**04 53 19.1**	**+6.7**
SNY				XS	sS	04 55 01.8	+2.4
SNY				AMB	AMB		
	comp=Z,26nm,2.5s						
SNY				AMB	AMB		
	comp=Z,279nm,14.2s						
SNY				LR	LR		
	comp=E,317nm,21.6s						
SNY				LR	LR		
	comp=Z,414nm,23.0s						
ENH	**Enshi**	**52.79 313**		*e*P	**P**	**04 46 14.0**	**+0.4**
	comp=Z,312nm,1.4s,mb5.5						
ENH				*e*PcP	PcP	04 47 19.7	+0.8
ENH				*e*ScP	ScP	04 50 49.5	+0.8
GYA	**Guiyang**	**53.03 307**		⇓*i*P	**P**	**04 46 16.1**	**+0.8**
GYA				AP	pP	04 47 18.3	+2.4
GYA				XP	sP	04 47 49.4	+2.3
GYA				PP	PP	04 48 20.9	+2.7
GYA				SCP	ScP	04 50 50.3	+0.6
GYA				S	**S**	**04 53 21.0**	**-1.7**
GYA				XS	sS	04 55 09.4	-0.6
GYA				SCS	ScS	04 55 32.8	-2.2
GYA				SS	SS	04 57 04.3	-1.8
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,460nm,3.3s						
GYA				LR	LR		
	comp=N,970nm,19.4s						
GYA				LR	LR		
	comp=E,860nm,18.6s						
GYA				LR	LR		
	comp=Z,900nm,19.0s						
CN2	**Changchun**	**53.09 336**		⇓P	**P**	**04 46 15.5**	**-0.3**
CN2				*e*AP	pP	04 47 19.8	+3.5
CN2				*e*S	**S**	**04 53 22.8**	**-0.8**
CN2				AMB	AMB		
	comp=Z,70nm,1.3s,mb4.8						
PSI	**Prapat**	**53.19 276**		P	**P**	**04 46 15.8**	**-0.7**
	comp=Z,54nm,1.0s,mb4.8,baz=111,slow=4.3,SNR=51						
PSI	**Prapat**	**53.19 276**		P	**P**	**04 46 15.8**	**-0.7**
HABR	**Khabarovsk**	**54.20 346**		*i* P	**P**	**04 46 24.0**	**+0.2**
HABR				*e*S	**S**	**04 53 38.6**	**+0.2**
NNT	**Nongplab**	**54.20 288**		P	**P**	**04 46 26.8**	**+3.0**
BJT	**Baijiatuau**	**54.58 327**		*e*P	**P**	**04 46 25.7**	**-0.8**
BJT				*e*	pP	04 47 25.8	-1.6
BJT				pmax	pmax		
	comp=Z,72nm,1.3s						
BJT	**Baijiatuau**	**54.58 327**		*e*P	**P**	**04 46 25.6**	**-0.9**
	comp=Z,72nm,1.3s,mb4.9						
BJT				*e*PcP	PcP	04 47 25.8	+0.1
BJT				ScP	ScP	04 50 54.7	-1.8
BJI	**Beijing**	**54.59 327**		*e*P	**P**	**04 46 26.6**	**0.0**
BJI				AP	pP	04 47 25.8	-1.7
BJI				XP	sP	04 47 55.9	-2.7
BJI				SCP	ScP	04 50 56.3	-0.3
BJI				S	**S**	**04 53 48.0**	**+4.3**
BJI				SS	SS	04 57 26.0	-4.8
BJI				AMB	AMB		
	comp=Z,54nm,1.6s,mb4.7						
BJI				AMB	AMB		
	comp=Z,707nm,2.8s,mb5.6						
NST	**Nakhon Sawan**	**54.64 292**		P	**P**	**04 46 27.0**	**+0.1**
	comp=Z,217nm,1.0s,mb5.5						
XAN	**Xi'an**	**55.27 317**		P	**P**	**04 46 31.6**	**+0.2**
XAN				AMB	AMB		
	comp=Z,82nm,1.4s,mb5.0						
KMI	**Kunming**	**55.62 304**		P	**P**	**04 46 35.6**	**+1.7**
KMI				XP	sP	04 48 02.8	-3.3
KMI				PP	PP	04 48 42.3	+0.9
KMI				S	**S**	**04 53 58.1**	**+0.8**
KMI				XS	sS	04 55 50.5	+5.0
KMI				SS	SS	04 57 52.0	+5.0
KMI				AMB	AMB		
	comp=Z,79nm,1.6s,mb4.9						
KMI				AMB	AMB		
	comp=Z,521nm,3.1s						
KMI				LR	LR		
	comp=N,300nm,18.6s						
KMI				LR	LR		
	comp=E,261nm,18.6s						
KMI				LR	LR		
	comp=Z,298nm,23.2s						
KLR	**Kul'dur**	**55.73 344**		⇑*i*P	**P**	**04 46 31.3**	**-3.4**
KLR				*e*		04 47 26.3	
KLR				*e*S	**S**	**04 53 53.5**	**-5.2**
KLR				pmax	pmax		
	comp=E,92nm,1.8s						
KLR				pmax	pmax		
	comp=Z,300nm,1.8s,mb5.4						
BDT	**Bhumibol Dam**	**56.13 294**		P	**P**	**04 46 38.5**	**+1.0**
PET	**Petropavlovsk**	**57.06 5**		⇑*i*P	**P**	**04 46 42.7**	**-1.3**
PET				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.0						
PET	**Petropavlovsk**	**57.06 5**		⇑*i*P	**P**	**04 46 42.8**	**-1.2**
CD2	**Chengdu**	**57.37 311**		⇓*i*P	**P**	**04 46 46.8**	**+0.6**
CD2				AP	pP	04 47 50.0	+2.2
CD2				XP	sP	04 48 16.3	-2.4
CD2				PP	PP	04 48 59.8	+2.9
CD2				S	**S**	**04 54 18.8**	**-1.3**
CD2				XS	sS	04 56 08.8	-0.2
CD2				SS	SS	04 58 14.8	+0.4
CD2				AMB	AMB		
	comp=Z,90nm,1.3s,mb5.0						
CD2				AMB	AMB		
	comp=Z,340nm,4.6s						
CD2				LR	LR		
	comp=E,90nm,12.4s						
CD2				LR	LR		
	comp=Z,90nm,15.6s						
HHC	**Hu-ho-hao-te**	**57.73 325**		*e*P	**P**	**04 46 49.4**	**+0.7**
HHC				PCP	PcP	04 47 38.6	+0.5
HHC				AP	pP	04 47 52.8	+2.5
HHC				XP	sP	04 48 23.8	+2.5
HHC				PP	PP	04 49 03.3	+3.2
HHC				S	**S**	**04 54 24.5**	**-0.3**
HHC				SCS	ScS	04 56 06.6	-2.4
HHC				XS	sS	04 56 14.1	+0.3
HHC				SS	SS	04 58 22.8	+2.7
HHC				AMB	AMB		
	comp=Z,92nm,1.0s,mb5.2						
HHC				LR	LR		
	comp=N,232nm,6.3s						
HHC				LR	LR		
	comp=E,287nm,6.9s						
HHC				LR	LR		
	comp=Z,233nm,12.3s						
BTO	**Baotou**	**58.48 324**		*e*P	**P**	**04 46 54.8**	**+1.0**
BTO				AMB	AMB		
	comp=Z,125nm,0.9s,mb5.3						
PPT	**Papeete**	**59.00 108**		*e*S	**S**	**04 54 40.0**	**-1.2**
	comp=Z,1μm,25.8s						
PPT	**Papeete**	**59.00 108**		P	**P**	**04 46 57.7**	**+0.2**
	comp=Z,19nm,0.4s,mb4.8,baz=16,slow=4.6,SNR=4.5						
PAE	**Paea**	**59.01 108**		*e*P	**P**	**04 46 58.6**	**+1.1**
	comp=Z,130nm,1.2s,mb5.2						
TVO	**Taravao**	**59.33 108**		*e*P	**P**	**04 47 01.0**	**+1.3**
	comp=Z,181nm,1.2s,mb5.4						
HIA	**Hailar**	**59.82 336**		*i* P	**P**	**04 47 02.6**	**-0.4**
HIA	**Hailar**	**59.82 336**		*i* Pr		04 47 02.6	
LZH	**Lanzhou**	**59.88 316**		⇓P	**P**	**04 47 05.0**	**+1.7**
LZH				PCP	PcP	04 47 48.3	+1.7
LZH				XP	sP	04 48 42.6	+6.3
LZH				PP	PP	04 49 23.0	+4.0
LZH				*e*S	**S**	**04 54 53.0**	**+0.7**
LZH				XS	sS	04 56 45.0	+3.0
LZH				*e*SS	SS	04 58 55.0	+1.3
LZH				AMB	AMB		
	comp=Z,370nm,1.2s,mb5.8						
LZH				AMB	AMB		
	comp=Z,1μm,4.9s						
LZH				LR	LR		
	comp=E,540nm,15.0s						
LZH				LR	LR		
	comp=Z,870nm,16.0s						
TBI	**Tubuai**	**59.88 115**		*e*S	**S**	**04 54 53.3**	**+0.9**
	comp=Z,1μm,27.5s						
PMOR	**Pomariorio Ree**	**60.39 105**		*e*P	**P**	**04 47 08.2**	**+1.4**
	comp=Z,148nm,1.1s,mb5.4						
VAH	**Vaihoa**	**60.66 105**		*e*P	**P**	**04 47 09.6**	**+0.9**
	comp=Z,121nm,1.2s,mb5.3						
ADK	**Adak**	**61.76 22**		P	**P**	**04 47 15.5**	**-0.5**
GTA	**Gaotai**	**64.31 317**		⇓*i*P	**P**	**04 47 34.0**	**+1.4**
GTA				PCP	PcP	04 48 06.4	+1.7
GTA				AP	pP	04 48 39.8	+4.1
GTA				XP	sP	04 49 08.3	+2.0
GTA				PP	PP	04 49 59.3	+1.4
GTA				SCP		04 51 39.9	
GTA				S	**S**	**04 55 44.9**	**-2.6**
GTA				SCS	ScS	04 56 58.8	+0.3
GTA				XS	sS	04 57 38.3	-0.5
GTA				SS	SS	05 00 00.4	-2.4
GTA				AMB	AMB		
	comp=Z,106nm,1.3s,mb5.3						
GTA				AMB	AMB		
	comp=Z,873nm,4.9s						
GTA				LR	LR		
	comp=N,293nm,18.3s						
GTA				LR	LR		
	comp=E,263nm,19.4s						
GTA				LR	LR		
	comp=Z,224nm,17.5s						
ULN	**Ulaanbaatar**	**64.71 328**		P	**P**	**04 47 36.1**	**+0.9**
ULN				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.2						
ULN	**Ulaanbaatar**	**64.71 328**		P	**P**	**04 47 36.1**	**+0.8**
	comp=Z,59nm,1.0s,mb5.2						
SONM	**Songino Array**	**65.04 328**		P	**P**	**04 47 38.2**	**+0.8**
	comp=Z,28nm,0.7s,mb5.0,baz=137,slow=4.4,SNR=165						
SONM				PcP	PcP	04 48 07.4	-0.3
	comp=Z,9.0nm,0.4s,baz=151,slow=3.2,SNR=11						
SONM				PKP2bc		05 16 22.5	
	comp=Z,4.6nm,1.3s,baz=270,slow=1.4,SNR=6.8						
SONM	**Songino Array**	**65.04 328**		P	**P**	**04 47 38.2**	**+0.9**
SONM						04 48 07.4	
SONM	**Songino Array**	**65.04 328**		P	**P**	**04 47 38.2**	**+0.8**
SONM				PcP	PcP	04 48 07.4	-0.3
SONM				⇑*e*		05 16 22.5	
NIKO	**Nikolski**	**65.69 25**		P	**P**	**04 47 41.2**	**-0.3**
SEY	**Seymchan**	**66.70 0**		*e*P	**P**	**04 47 46.9**	**-1.0**
SEY						04 48 11.9	
SEY				*PP	pP	04 48 53.2	+1.7
SEY						04 50 17.1	
SEY				*e*S	S	04 56 17.1	+0.8
SEY				*e*SS	SS	05 00 39.7	-0.1
SEY				*e*SSS		05 03 44.0	
SEY				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						

comp=N,50nm,1.7s
YAK pmax pmax
comp=E,26nm,2.0s
YAK smax
comp=E,172nm,15.9s
YAK Yakutsk 67.93 349 *i* Pr **P 04 47 54.5 -1.1**
ZAK Zakamensk 68.21 329⇑ *eP* **P 04 47 57.6 +0.3**
ZAK pmax pmax
comp=Z,274nm,1.7s,mb5.7
ZAK pmax pmax
comp=Z,39nm,1.5s,mb4.9
CASY Casey 68.52 197 *eP* **P 04 47 58.5 -0.7**
comp=Z,29nm,0.4s,mb5.4
CASY *e*pP pP 04 48 54.9 -8.2
BOD Bodaibo 68.62 339⇑ *iP* **P 04 47 58.4 -1.4**
BOD pmax pmax
comp=Z,54nm,1.5s,mb5.1
BOK Bokaro 69.72 297 *eP* **P 04 48 06.0 -0.6**
BOK AMb AMB 04 48 10.0
comp=Z,140nm,1.4s,mb5.5
MOY Mondy 70.14 329 *eP* **P 04 48 09.7 +0.6**
MOY pmax pmax
comp=Z,252nm,1.7s,mb5.7
JIRN Jiri 70.43 301 *eP* **P 04 48 11.8 +0.9**
GUN Gumba 70.77 301 *eP* **P 04 48 13.0 +0.1**
comp=Z,568nm,1.1s,mb6.1
VIS Vishakhapatnam 70.77 290 *eP* **P 04 48 12.5 -0.4**
VIS AMb AMB 04 48 16.0
comp=Z,264nm,0.8s,mb5.9
PKI Pulchoki 71.08 301 *eP* **P 04 48 15.5 +0.8**
comp=Z,643nm,1.4s,mb6.1
KKN Kakani 71.25 301 *eP* **P 04 48 16.4 +0.7**
comp=Z,184nm,0.8s,mb5.8
DMN Daman 71.35 301 *eP* **P 04 48 17.4 +1.1**
comp=Z,705nm,1.2s,mb6.2
PALK Pallekele 71.75 279 P **P 04 48 19.2 +0.5**
comp=Z,694nm,1.2s,mb6.2,SNR=24
PALK Pallekele 71.75 279 P **P 04 48 18.4 -0.3**
comp=Z,200nm,1.2s,mb5.6
GKN Gorkha 71.85 301 *eP* **P 04 48 19.9 +0.6**
comp=Z,809nm,1.2s,mb6.2
BILL Bilibino 72.55 6 *i* P **P 04 48 22.6 -0.8**
KOLN Koldanda 72.68 301 *eP* **P 04 48 24.6 +0.4**
comp=Z,440nm,1.2s,mb6.0
DANN Dangsing 72.69 301 *eP* **P 04 48 24.6 +0.4**
RKT Rikitea 73.11 113 *eS* S 04 57 38.4 +7.9
comp=Z,271nm,30.1s
VNDA Vanda 73.72 178 P **P 04 48 29.9 -0.4**
comp=Z,8.1nm,0.5s,mb4.6,baz=333,slow=6.0,SNR=35
VNDA pP pP 04 49 32.2 -3.0
comp=Z,13nm,1.1s,baz=341,slow=9.7,SNR=4.0
WMQ Urumqi 74.39 317⇓ *iP* **P 04 48 35.0 +0.9**
WMQ PCP PcP 04 48 48.5 +1.2
WMQ AP pP 04 49 41.5 +2.3
WMQ XP sP 04 50 11.5 +2.3
WMQ AMB AMB
comp=Z,171nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,925nm,4.6s
HYB Hyderabad 75.20 289⇓ *iP* **P 04 48 39.0 +0.2**
comp=Z,220nm,1.0s,mb5.7
HYB *e*pP pP 04 49 46.0 +2.0
HYB *e*sP sP 04 50 12.0 -2.0
HYB Hyderabad 75.20 289⇓ *eP* **P 04 48 39.0 +0.2**
HYB pmax pmax
comp=Z,220nm,1.0s,mb5.7
HYB Hyderabad 75.20 289⇓ *eP* **P 04 48 39.0 +0.2**
comp=Z,220nm,1.0s,mb5.7
TNA Tin City 75.28 16 P **P 04 48 38.7 -0.5**
NGP Nagpur 75.36 293 *eP* **P 04 48 41.1 +1.4**
NGP AMb AMB 04 48 43.2
comp=Z,234nm,1.6s,mb5.6
TRD Trivandrum 75.57 280 *eP* **P 04 48 40.2 -0.6**
TRD AMb AMB 04 48 44.3
comp=Z,309nm,1.2s,mb5.8
PTH Pithoragarh 75.99 302 *eP* **P 04 48 44.7 +1.5**
KRAR Krasnoyarsk 76.51 330⇑ *iP* **P 04 48 46.0 -0.1**
KRAR pmax pmax
comp=Z,144nm,1.7s,mb5.4
TIXI Tiksi 76.92 353 *eP* **P 04 48 43.7 -4.7**
TIXI *e**SP sP 04 50 14.3 -10
TIXI *e*S S 04 58 06.5 -5.9
TIXI *e* 04 58 30.9
TIXI *e*SS SS 05 03 10.0 -5.6
TIXI pmax pmax
comp=Z,48nm,1.3s,mb5.1
TIXI smax
comp=N,24nm,7.5s
TIXI smax
comp=E,175nm,10.9s
TIXI Tiksi 76.92 353 *i* Pr **P 04 48 46.5 -1.9**
AKL Akola 77.16 292 *i* x x 04 48 12.5
AKL *i* x x 04 48 27.6
BHPL Bhopal 77.20 295 *eP* **P 04 48 49.7 -0.2**
BHPL AMb AMB 04 48 52.1
comp=Z,168nm,1.2s,mb5.6
KLP Kalpa 78.07 303 *eP* **P 04 48 55.0 +0.3**
KLP AMb AMB 04 48 58.0
comp=Z,318nm,1.0s,mb6.0
SLKM Skilak Lake 78.36 25 P **P 04 48 55.7 -0.6**
SLKM *PP pP 04 50 02.0 0.0
NDI New Delhi 78.38 300 *eP* **P 04 48 55.0 -1.4**
NDI *e*P 04 48 55.0
NDI *e*P 04 48 55.5
NDI AMb AMB 04 48 58.1
comp=Z,209nm,1.3s,mb5.7
AYAN Aya Nagar 78.42 300 *eP* **P 04 48 55.3 -1.3**
AYAN AMb AMB 04 48 58.0
comp=Z,119nm,1.2s,mb5.5
FIB Fire Island 78.71 25 P **P 04 48 58.4 +0.2**
SMLA Simla 78.89 303 *eP* **P 04 48 59.1 -0.1**
SMLA AMb AMB 04 49 01.2
comp=Z,251nm,1.3s,mb5.8
KUDL Kundal 78.91 300 *eP* **P 04 48 58.2 -1.1**
KUDL AMb AMB 04 49 00.8
comp=Z,98nm,1.4s,mb5.3
MKAR Makanchi Array 78.98 319 P **P 04 48 59.9 +0.2**
comp=Z,28nm,0.5s,mb5.3,baz=57,slow=4.5,SNR=310
KAD Karad 79.32 288 *eP* **P 04 49 00.5 -1.0**
KAD AMb AMB 04 49 03.4
comp=Z,212nm,0.8s,mb5.9
PMR Palmer 79.36 25 P **P 04 49 00.7 -1.0**
PMR *PP pP 04 50 06.1 -1.5
PMR pmax pmax
comp=Z,78nm,1.2s,mb5.3
PMR Palmer 79.36 25 P **P 04 49 00.7 -1.0**
comp=Z,78nm,1.2s,mb5.3
PMR pP pP 04 50 06.1 -1.5
KHET Khetri 79.49 299 *eP* **P 04 49 02.1 -0.3**
KHET AMb AMB 04 49 03.7
comp=Z,143nm,0.7s,mb5.8
SML Sawmill 79.80 25 *eP* **P 04 49 03.5 -0.6**
ZAL Zalesovo 79.86 326 P **P 04 49 04.0 -0.5**
comp=Z,61nm,0.5s,mb5.6,baz=360,slow=5.3,SNR=158
ZAL S S 04 58 42.5 -1.1
comp=Z,1.3nm,0.3s,baz=180,slow=19,SNR=8.5
AJM Ajmer 80.24 298 *eP* **P 04 49 05.8 -0.7**
AJM AMb AMB 04 49 08.5
comp=Z,225nm,0.9s,mb5.9
MCK McKinley 80.49 23 P **P 04 49 06.5 -1.3**
MCK pmax pmax
comp=Z,97nm,1.3s,mb5.4
MCK McKinley 80.49 23 P **P 04 49 06.5 -1.2**
comp=Z,97nm,1.3s,mb5.4
DIV Divide 80.57 26 P **P 04 48 59.9 -8.3**
comp=Z,287nm,1.4s,mb5.8
DIV *e*pP pP 04 50 05.2 -9.1
DIV *e*sP sP 04 50 34.1 -10
COLA College 81.46 22 *i* P **P 04 49 10.6 -2.3**
COLA College 81.46 22 *i* Pr **P 04 49 10.6 -2.3**
KSH Kashi 81.57 311 *i* PR **P 04 49 15.9 +2.5**
KSH AP pP 04 50 24.6 +4.9
KSH XP sP 04 50 52.5 +3.1
KSH PP PP 04 52 29.6 +5.5
KSH S S 04 59 02.1 +0.9
KSH SKS 04 59 03.6
KSH XS sS 05 01 00.8 +2.8
KSH SS SS 05 04 29.1 +4.1
KSH AMB AMB
comp=Z,376nm,1.2s,mb6.0
KSH LR LR
comp=N,348nm,6.2s
KSH LR LR
comp=E,594nm,6.0s
KSH LR LR

comp=Z,400nm,6.3s
ILAR Eielson Array 81.78 22 P **P 04 49 12.4 -2.0**
comp=Z,17nm,0.6s,mb4.9,baz=249,slow=5.1,SNR=263
ILAR pP pP 04 50 17.7 -3.1
comp=Z,15nm,1.2s,baz=259,slow=5.3,SNR=2.9
ILAR S S 04 58 56.0 -7.4
comp=Z,4.6nm,1.2s,baz=246,slow=9.4,SNR=8.9
ILAR PKKPbc PKKPbc 05 07 42.0 -1.5
comp=Z,0.8nm,0.9s,baz=9.7,slow=1.6,SNR=6.6
ILAR Eielson Array 81.78 22 P **P 04 49 12.5 -2.0**
ILAR *PP pP 04 50 17.7 -3.1
ILAR S S 04 58 56.0 -7.3
ULHL Ulahol 81.96 313 P **P 04 49 16.7 +1.3**
SNR=16
KURK Kurchatov 82.44 322 P **P 04 49 17.0 -0.9**
comp=Z,1μm,1.2s,mb6.4
KURK Kurchatov 82.44 322 *d iP* **P 04 49 17.4 -0.5**
KURK Kurchatov 82.44 322 P **P 04 49 17.3 -0.7**
TKM2 Tokmak 2 82.57 314 P **P 04 49 19.6 +1.0**
SNR=74
NIL Nilore 82.61 304 P **P 04 49 20.1 +1.3**
comp=Z,180nm,0.9s,mb5.9,SNR=5.8
KZA Kyzart 82.64 313 P **P 04 49 21.0 +2.0**
SNR=120
KBK Karagaybulak 82.98 314 P **P 04 49 21.7 +1.0**
SNR=34
CHMS Chumysh 83.19 314 P **P 04 49 22.3 +0.5**
SNR=48
UCH Uchtor 83.21 313 P **P 04 49 23.9 +2.0**
SNR=151
FRU Bishkek 83.26 314⇓ *iP* **P 04 49 23.2 +1.1**
FRU pmax pmax
comp=Z,410nm,1.8s,mb6.0
AAK Ala-Archa 83.31 314 P **P 04 49 23.5 +1.1**
SNR=87
AAK Ala-Archa 83.31 314 P **P 04 49 22.7 +0.4**
comp=Z,559nm,1.4s,mb6.2,SNR=56
AAK Ala-Archa 83.31 314 P **P 04 49 22.1 -0.2**
AAK pmax pmax
comp=Z,122nm,1.1s,mb5.6
AAK Ala-Archa 83.31 314 P **P 04 49 22.1 -0.2**
comp=Z,122nm,1.1s,mb5.6
USP Ospenovka 83.43 314 P **P 04 49 23.4 +0.5**
SNR=107
JASL Jaisalmer 83.61 298 *eP* **P 04 49 22.8 -1.1**
AML Almayashu 83.79 313 P **P 04 49 26.6 +1.8**
SNR=341
EKS2 Erkin-Say 83.83 313 P **P 04 49 26.3 +1.3**
SNR=132
BHJ Bhuj 84.28 294 *eP* **P 04 49 26.3 -1.0**
MAW Mawson 85.94 203 P **P 04 49 34.2 -1.2**
comp=Z,51nm,1.0s,mb5.3,baz=108,slow=11,SNR=4.5
QSPA South Pole Qui 86.01 180⇓ *iP* **P 04 49 35.2 -0.6**
comp=Z,64nm,1.0s,mb5.4
BVAR Borovoye Array 87.92 323 S 04 59 40.3
comp=Z,2.2nm,1.1s,baz=134,slow=4.3,SNR=6.3
BRVK Borovoye 87.99 323 P **P 04 49 44.0 -1.2**
comp=Z,546nm,1.0s,mb6.3,SNR=50
BRVK Borovoye 87.99 323 P **P 04 49 44.2 -1.1**
INK Inuvik 88.05 21 P **P 04 49 44.2 -1.3**
INK pmax pmax
comp=Z,64nm,1.3s
INK Inuvik 88.05 21 P **P 04 49 44.2 -1.3**
comp=Z,64nm,1.3s,mb5.3
PAHR Pah Rah Range 91.64 50 P **P 04 50 05.4 +3.2**
MTUM Tungsten Hills 92.14 53 P **P 04 50 05.3 +0.8**
MWC Mount Wilson 92.37 56 P **P 04 50 06.6 +1.0**
NVAR Mina Array Bea 92.40 52 P **P 04 50 06.4 +0.7**
comp=Z,1.6nm,0.6s,baz=252,slow=8.9,SNR=11
NVAR pP pP 04 51 15.3 +1.9
comp=Z,1.1nm,0.8s,baz=256,slow=4.4,SNR=2.7
NVAR Mina Array Bea 92.40 52 P **P 04 50 06.4 +0.7**
NVAR pP pP 04 51 15.3 +1.9
DAC Darwin (Calif) 92.86 54 *eP* **P 04 50 08.7 +0.9**
BMO Blue Mountains 93.44 45 P **P 04 50 11.0 +0.5**
BMO *PP pP 04 51 17.7 -0.5
GSC Goldstone 93.45 55 P **P 04 50 11.7 +1.1**
WBK Wadi Bani Khal 94.04 292 P **P 04 50 13.9 +0.7**
SNR=8.0
SYO Syowa Base 94.11 200⇓ *e*PcP PcP 04 50 12.9 -1.0
SYO Syowa Base 94.11 200⇑ *eP* **P 04 50 10.7 -2.9**
SYO ⇓ *e*PcP PcP 04 50 12.9 -1.0
BIDO Bidbid 94.85 293 P **P 04 50 17.1 +0.1**
SNR=7.8
ARU Arti 95.02 326⇓ *iP* **P 04 50 15.4 -2.3**
ARU *e* 04 54 07.9
ARU *e*S 05 00 21.5
ARU *e*PS PS 05 02 57.6 -4.3
ARU *e*SS SS 05 07 33.8 -5.8
ARU pmax pmax
comp=Z,64nm,1.1s,mb5.7
ARU Arti 95.02 326 P **P 04 50 15.1 -2.6**
YKW3 Yellowknife Ar 95.17 28 P **P 04 50 17.6 -0.8**
YKA Yellowknife Ar 95.17 28 P **P 04 50 17.6 -0.8**
comp=Z,2.7nm,0.5s,mb4.6,baz=271,slow=4.8,SNR=92
YKA pP pP 04 51 24.5 -1.6
comp=Z,3.4nm,1.1s,baz=265,slow=4.9,SNR=2.6
YKA PKiKP PKiKP 04 54 56.9 -0.9
comp=Z,0.3nm,0.5s,baz=277,slow=1.5,SNR=6.8
YKA PKKPbc PKKPbc 05 07 09.0 -1.8
comp=Z,0.5nm,0.3s,baz=85,slow=2.8,SNR=16
YKA Yellowknife Ar 95.17 28 P **P 04 50 17.6 -0.8**
YKA pP pP 04 51 24.6 -1.6
BSMT Bassoo Peak 95.24 42 P **P 04 50 19.3 +0.5**
AKTK Aktyubinsk 95.38 320 P **P 04 50 17.3 -2.1**
AKTO Aktyubinsk 95.38 320 P **P 04 50 17.3 -2.1**
comp=Z,20nm,1.1s,mb5.2,baz=83,slow=5.6,SNR=29
HOQ Hoqain 95.61 293 P **P 04 50 20.4 0.0**
SNR=7.8
EDM Edmonton 96.09 37 P **P 04 50 23.2 +0.6**
ARQ Araqi 96.32 293 P **P 04 50 23.8 +0.1**
SNR=6.0
ASHO Ashiyiah 96.78 294 P **P 04 50 25.7 0.0**
SNR=6.2
RBK Rabkut 98.34 287 P **P 04 50 32.3 -0.4**
SNR=13
WHFO Wadi Hawf 98.77 287 P Pdif 04 50 33.9 -0.7
SNR=11
PDAR Pinedale Array 99.07 47 P Pdif 04 50 34.8 -1.1
comp=Z,1.1nm,0.7s,baz=211,slow=1.6,SNR=8.3
PDAR pP pP 04 51 41.9 -2.0
comp=Z,0.3nm,0.8s,baz=59,slow=46,SNR=1.9
PDAR PKKPbc PKKPbc 05 06 58.4 -1.8
comp=Z,1.6nm,1.0s,baz=106,slow=3.8,SNR=7.4
ABTO Aybut 99.20 287 P Pdif 04 50 35.9 -0.6
SNR=14
RES Resolute Bay 99.85 14 P Pdif 04 50 38.4 -1.0
RES pmax pmax
comp=Z,22nm,1.3s,mb5.4
RES Resolute Bay 99.85 14 Pdif Pdif 04 50 38.4 -1.0
comp=Z,22nm,1.3s
ANMO Albuquerque 101.93 55 *eP* Pdif 04 50 52.6 +3.9
KLMR Klimovskoe 104.14 332 *eP* Pdif 04 50 55.3 -3.2
KLMR pmax pmax
comp=Z,50nm,1.3s
ARCES ARCESS Array B 105.74 343 Pdiff Pdif 04 51 01.4 -4.2
comp=Z,1.8nm,0.7s,baz=78,slow=6.0,SNR=7.4
ARCES PKiKP PKiKP 04 55 14.9 -2.0
comp=Z,8.0nm,0.9s,baz=86,slow=1.0,SNR=16
ARCES PKKPbc PKKPbc 05 06 38.0 -2.8
comp=Z,9.0nm,1.1s,baz=249,slow=3.1,SNR=7.3
ARCES ARCESS Array B 105.74 343 Pdif Pdif 04 51 01.4 -4.2
ARCES PKPdf PKiKP 04 55 14.9 -2.0
ARCES PKKPbc PKKPbc 05 06 38.0 -2.8
BHD Baghdad 106.65 303 *ex* x 04 55 15.0
JOF Joensuu 106.97 336 *ep* Pdif 04 51 09.5 -1.6
comp=Z,14nm,0.9s
JOF Joensuu 106.97 336 *ep* PKiKP 04 55 17.8 -1.4
comp=Z,1.5nm,0.6s
JOF Joensuu 106.97 336 *eP* Pdif 04 51 09.5 -1.6
JOF pmax pmax
comp=Z,14nm,0.9s
ULM Lac du Bonnet 107.25 38 PKKP PKKPbc 05 06 51.5 +15
comp=Z,1.2nm,0.6s,baz=164,slow=1.1,SNR=3.0
OBN Obninsk 107.44 327⇑ *eP* Pdif 04 51 11.8 -1.3
OBN *e* 04 55 43.2
OBN 05 01 24.0
OBN pmax pmax
comp=Z,40nm,1.5s
KAF Kangasniemi 109.40 336 *ep* Pdif 04 51 19.3 -2.6
comp=Z,1.8nm,0.4s
KAF Kangasniemi 109.40 336 *ep* PKiKP 04 55 20.8 -2.9
comp=Z,2.3nm,0.6s
KAF Kangasniemi 109.40 336 *eP* Pdif 04 51 19.3 -2.6
KAF pmax pmax
comp=Z,2.0nm,0.4s

FINES FINESS Array B 109.84 335 Pdiff Pdif 04 51 21.4 -2.4
comp=Z,3.6nm,0.5s,baz=68,slow=4.7,SNR=42
FINES PKiKP PKiKP 04 55 23.1 -1.4
comp=Z,0.9nm,0.3s,baz=105,slow=2.7,SNR=14
FINES PKKPbc PKKPbc 05 06 26.5 -1.5
comp=Z,1.9nm,0.9s,baz=207,slow=3.8,SNR=3.9
FINES FINESS Array B 109.84 335 Pdif Pdif 04 51 21.4 -2.4
FINES PKPdf PKiKP 04 55 23.1 -1.4
FINES PKKPbc PKKPbc 05 06 26.5 -1.5
MALT Malatya 110.65 309⇓ PKiKP PKiKP 04 55 25.8 -0.3
USHA Ushuaia 112.67 156 PKKPbc PKKPbc 05 06 19.2 +0.4
comp=Z,7.2nm,0.9s,baz=243,slow=17,SNR=3.1
AKASG Malin Array Be 113.18 324 Pdiff Pdif 04 51 36.7 -2.0
comp=Z,1.4nm,0.7s,baz=57,slow=4.3,SNR=7.5
AKASG PKiKP PKiKP 04 55 28.8 -2.1
comp=Z,3.8nm,0.6s,baz=52,slow=2.7,SNR=19
AKASG PP PP 04 56 10.5 -15
comp=Z,0.3nm,0.4s,baz=58,slow=6.8,SNR=4.6
AKASG PKKPbc PKKPbc 05 06 15.9 -1.2
comp=Z,0.4nm,0.5s,baz=259,slow=3.9,SNR=4.5
AKASG Malin Array Be 113.18 324 P Pdif 04 51 36.7 -2.0
AKASG 04 55 28.8
AKASG Malin Array Be 113.18 324 Pdif Pdif 04 51 36.7 -2.0
AKASG PKPdf PKiKP 04 55 28.8 -2.1
AKASG PP PP 04 56 10.5 -15
AKASG PKKPbc PKKPbc 05 06 15.9 -1.2
BRTR Keskin Array B 113.94 312 PKiKP PKiKP 04 55 31.2 -1.1
comp=Z,2.1nm,0.6s,baz=142,slow=2.8,SNR=12
BRTR PP PP 04 56 30.4 -0.2
comp=Z,4.5nm,1.1s,baz=93,slow=4.3,SNR=5.9
KMBO Kilima Mbogo 114.33 267 PKP PKiKP 04 55 33.3 +0.2
comp=Z,2.4nm,0.9s,baz=39,slow=4.5,SNR=5.2
NB2 NORSAR Subarra 115.75 340 PKPd PKPdf 04 55 33.8 -2.0
comp=Z,1.9nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 115.75 340 PKP PKPdf 04 55 34.2 -1.6
comp=Z,1.8nm,0.5s,baz=46,slow=1.8,SNR=9.3
NOA PP PP 04 56 39.3 -4.0
comp=Z,5.7nm,1.2s,baz=48,slow=6.7,SNR=3.4
NOA NORSAR Array B 115.75 340 PKP PKPdf 04 55 34.2 -1.6
NOA PP PP 04 56 39.3 -4.0
BURAR Bucovina Array 116.87 322⇓ P PKPdf 04 55 37.4 -0.6
KWP Kalwaria 117.41 325 *e*PKP PKPdf 04 55 38.6 -0.4
LRAL Lakeview Retre 118.17 55 *e*PKPdf PKPdf 04 55 40.1 -0.4
STHS Stebnicka Huta 118.34 326 *e*PKP PKPdf 04 55 40.4 -0.4
KECS Kecovo 119.25 325 *e*PKP PKPdf 04 55 41.8 -0.7
BOSA Boshof 119.26 234 PKP PKPdf 04 55 43.0 +0.4
comp=Z,4.4nm,0.4s,baz=77,slow=2.5,SNR=20
BOSA Boshof 119.26 234 PKP PKPdf 04 55 43.0 +0.4
OKC Ostrava-Krasne 119.83 327 *e*PKPDF PKPdf 04 55 44.3 +0.6
BZS Buzias 119.99 322⇓ PKIKP PKPdf 04 55 43.2 -0.8
VYHS Vyhne 120.18 326 *e*PKP PKPdf 04 55 43.9 -0.4
VYHS *e*PP PP 04 57 13.3 -0.5
MORC Moravsky Berou 120.19 327⇑ PKIKP PKPdf 04 55 43.2 -1.1
KSP Ksiaz 120.23 329 *e*PKP PKPdf 04 55 44.2 -0.2
VTS Vitosha 120.33 318⇑ PKIKP PKPdf 04 55 44.7 +0.1
LBTB Lobatse 120.33 238 *e*PKIKP PKPdf 04 55 45.0 +0.4
SCHQ Schefferville 120.47 25 PKP PKPdf 04 55 43.3 -1.6
comp=Z,2.5nm,0.6s,baz=353,slow=8.5,SNR=11
DPC Dobruska-Polom 120.50 329 *e*PKPDF PKPdf 04 55 44.5 -0.5
UPC Upice 120.57 329 *e*PKPDF PKPdf 04 55 44.7 -0.4
UPC *e*PP PP 04 57 18.3 +1.8
LSZ Lusaka 120.94 250 *e*PKIKP PKPdf 04 55 46.5 +0.7
VRAC Vranov 120.96 327⇑ PKIKP PKPdf 04 55 46.9 +1.1
BSEG Bad Segeberg 121.08 334 *e*PKPdf PKPdf 04 55 45.7 -0.4
PLCA Paso Flores 121.10 143 PKP PKPdf 04 55 45.8 -0.3
comp=Z,6.0nm,0.9s,baz=230,slow=1.6,SNR=8.3
PLCA SKP 04 58 55.2
comp=Z,5.5nm,1.0s,baz=226,slow=3.4,SNR=6.3
PLCA PKKPbc PKKPbc 05 05 50.0 +0.8
comp=Z,7.4nm,1.1s,baz=63,slow=2.8,SNR=6.1
ZST Bratislava 121.31 326 *e*PKP PKPdf 04 55 47.1 +0.6
CLL Collm 121.59 331 *e*PKPdf PKPdf 04 55 46.3 -0.7
CLL Collm 121.59 331 *i* PKPdf PKPdf 04 55 46.5 -0.5
CLL *e*PP PP 04 57 23.0 -0.4
CLL Collm 121.59 331 *i* PKP PKPdf 04 55 46.5 -0.5
PRU Pruhonice 121.64 329 *e*PKPDF PKPdf 04 55 46.8 -0.3
PRU *e*PP PP 04 57 27.4 +3.7
WERD Werda 122.48 330 *e*PKPdf PKPdf 04 55 48.6 -0.1
CLZ Clausthal 122.48 333 *e*PKPdf PKPdf 04 55 48.8 0.0
NKC Novy Kostel 122.55 330 *e*PKPDF PKPdf 04 55 48.5 -0.4
KHC Kasperske Hory 122.66 329 *e*PKPDF PKPdf 04 55 48.4 -0.7
KHC *e*PP PP 04 57 33.2 +2.6
KHC Kasperske Hory 122.66 329⇑ *e*PKP PKPdf 04 55 48.0 -1.1
MOX Moxa 122.69 331 *e*(P) PKPdf 04 55 47.5 -1.7
MOX *e* 04 57 33.0
MOX
comp=Z,13μm,19.0s
MOX Moxa 122.69 331 P PKPdf 04 55 47.5 -1.7
MOX *e* 04 57 33.0
GEC2 GERESS Array S 122.77 328 *e*PKPdf PKPdf 04 55 48.8 -0.5
GERES GERESS Array B 122.77 328 PKP PKPdf 04 55 49.0 -0.3
comp=Z,6.2nm,0.5s,baz=78,slow=1.7,SNR=77
GERES PKKPbc PKKPbc 05 05 43.7 +0.8
comp=Z,0.6nm,0.9s,baz=241,slow=5.5,SNR=3.9
MANZ Manzenberg 122.87 330 *e*PKPdf PKPdf 04 55 49.2 -0.3
ROTZ Rotzenmuhle 122.96 330 *e*PKPdf PKPdf 04 55 48.8 -0.9
WET Wettzell 123.02 329 *e*PKPdf PKPdf 04 55 49.5 -0.3
IBBN Ibbenburen 123.32 334 *e*PKPdf PKPdf 04 55 50.6 +0.2
GRA1 Grafenberg Arr 123.50 330 *e*PKP PKPdf 04 55 50.3 -0.4
GRA1 *e*PP PP 04 57 34.8 -1.4
GRF Grafenberg Arr 123.50 330 *e*PKP PKPdf 04 55 50.3 -0.4
GRF *e*PP PP 04 57 34.8 -1.4
KBA Koelnbreinsper 124.03 327⇑ *iP* PKPdf 04 55 50.7 -1.0
comp=Z,6.4nm,0.5s
BUG Bochum--Univer 124.15 334 *e*PKPdf PKPdf 04 55 52.2 +0.2
FUR Furstenfeldbru 124.46 329 *e*PKPdf PKPdf 04 55 52.6 +0.1
TNS Taunus Mts 124.48 332 *e*PKPdf PKPdf 04 55 53.4 +0.8
WATA Walderalm 124.83 328⇓ *iP* PKPdf 04 55 52.5 -0.7
comp=Z,5.6nm,0.8s
MOTA Moosalm 125.07 328⇑ *iP* PKPdf 04 55 53.3 -0.4
comp=Z,9.7nm,0.9s
SQTA Sankt Quirin 125.09 328⇑ *iP* PKPdf 04 55 53.6 -0.1
comp=Z,13nm,1.1s
STU Stuttgart 125.11 331 *e*PKPdf PKPdf 04 55 53.5 -0.3
MEM Membach 125.31 334 PKP PKPdf 04 55 54.0 -0.1
DAVA Damuels 125.74 329⇑ *iP* PKPdf 04 55 54.5 -0.5
comp=Z,6.4nm,0.5s
BFO Black Forest 125.83 331 *e*PKPdf PKPdf 04 55 55.6 +0.4
GIVF Givet 126.19 334 *e*PKIKP PKPdf 04 55 55.8 -0.1
CDF Champ du Feu 126.28 331 *e*PKIKP PKPdf 04 55 55.4 -0.6
DOU Dourbes 126.30 334 PKP PKPdf 04 55 56.2 +0.1
HINF Hinteralfeld 126.90 331 *e*PKIKP PKPdf 04 55 56.7 -0.5
comp=Z,16nm,0.7s
HAU Haudompre 127.01 331 *e*PKIKP PKPdf 04 55 58.2 +0.8
comp=Z,22nm,0.7s
MEZF Maizieres J'vi 127.26 333 *e*PKIKP PKPdf 04 55 57.8 -0.1
comp=Z,14nm,0.5s
CFAA Coronel Fontan 128.08 136 PKP PKPdf 04 55 59.1 -0.3
comp=Z,2.1nm,0.9s,baz=236,slow=2.1,SNR=23
CFAA pPKP pPKPdf 04 57 08.4 -2.1
comp=Z,1.1nm,1.1s,baz=264,slow=2.2,SNR=4.0
CFAA SKP 04 59 09.2
comp=Z,0.6nm,0.9s,baz=329,slow=1.8,SNR=6.0
CABF La Chapelle 128.12 330 *e*PKIKP PKPdf 04 55 59.8 +0.3
comp=Z,17nm,0.6s
LPL La Plagne 128.55 329 *e*PKIKP PKPdf 04 56 00.8 +0.4
comp=Z,11nm,0.6s
LPG La Plagne 128.55 329 *e*PKIKP PKPdf 04 56 00.5 +0.1
comp=Z,9.1nm,0.5s
LOR Lormes 128.71 332 *e*PKIKP PKPdf 04 56 00.5 -0.2
comp=Z,8.4nm,0.6s
BNI Bardonecchia 128.89 329 *e*PKPdf PKPdf 04 56 01.2 +0.2
BNI *e*SKPdf SKPdf 04 58 55.6 -13
SSF Saint Saulge 129.03 332 *e*PKIKP PKPdf 04 56 01.4 +0.1
MBDF Montbardon 129.06 328 *e*PKIKP PKPdf 04 56 01.4 +0.1
comp=Z,6.0nm,0.7s
SMF Signal de Mont 129.18 332 *e*PKIKP PKPdf 04 56 01.3 -0.2
comp=Z,6.8nm,0.4s
PGF Pioggiola 129.25 325 *e*PKIKP PKPdf 04 56 01.7 0.0
comp=Z,24nm,0.6s
SBF Sospel 129.28 327 *e*PKIKP PKPdf 04 56 02.0 +0.2
AVF Avril sur Loir 129.30 332 *e*PKIKP PKPdf 04 56 01.7 -0.1
comp=Z,7.5nm,0.7s
TSUM Tsumeb 129.37 241 *e*PKPdf PKPdf 04 56 03.3 +1.4
TSUM *e*SKPdf SKPdf 04 58 57.7 -12
ORIF Oris-en-Rattie 129.40 329 *e*PKIKP PKPdf 04 56 01.8 -0.2
comp=Z,7.2nm,0.6s
LDF La Druitiere 129.43 336 *e*PKIKP PKPdf 04 56 01.9 -0.1
comp=Z,14nm,0.6s
FLN La Foliniere 129.44 336 *e*PKIKP PKPdf 04 56 01.6 -0.4
comp=Z,26nm,0.6s
BGF Bois d'Agland 129.71 332 *e*PKIKP PKPdf 04 56 02.4 -0.2
comp=Z,11nm,0.6s
OTAV Otavalo 129.73 93 *e*PKPdf PKPdf 04 56 05.0 +2.4

OTAV			*e*SKPdf	SKPdf	04 59 03.2	-7.3
GRR	**Gorron**	**129.89 336**	*e*PKIKP	PKPdf	04 56 03.0	+0.1
comp=Z,17nm,0.6s						
FRF	**La Foret Royal**	**129.91 327**	*e*PKIKP	PKPdf	04 56 02.5	-0.4
comp=Z,8.7nm,0.6s						
VIVF	**Saint-Julien-l**	**130.06 330**	*e*PKIKP	PKPdf	04 56 03.5	+0.3
LMR	**La Mourre**	**130.14 327**	*e*PKIKP	PKPdf	04 56 03.4	0.0
comp=Z,33nm,1.0s						
TCF	**Toulx Ste Croi**	**130.20 333**	*e*PKIKP	PKPdf	04 56 03.5	0.0
comp=Z,58nm,1.2s						
SMRF	**Simiane la Rot**	**130.20 328**	*e*PKIKP	PKPdf	04 56 03.9	+0.4
SGMF	**Saint Gilles**	**130.66 338**	*e*PKIKP	PKPdf	04 56 04.0	-0.4
comp=Z,16nm,0.5s						
ROSF	**Rostrenen**	**130.86 338**	*e*PKIKP	PKPdf	04 56 04.7	0.0
MFF	**Saint Martin d**	**131.01 334**	*e*PKIKP	PKPdf	04 56 05.2	+0.2
comp=Z,9.8nm,0.6s						
LASF	**Ste Croix**	**131.02 329**	*e*PKIKP	PKPdf	04 56 05.6	+0.6
comp=Z,9.2nm,0.5s						
QUIF	**Quistinic**	**131.17 338**	*e*PKIKP	PKPdf	04 56 05.4	+0.1
CAF	**Calviac**	**131.28 331**	*e*PKIKP	PKPdf	04 56 06.3	+0.8
comp=Z,4.2nm,0.5s						
LFF	**La Frestale**	**131.90 332**	*e*PKIKP	PKPdf	04 56 07.4	+0.7
MTLF	**Montolieu**	**132.37 330**	*e*PKIKP	PKPdf	04 56 08.0	+0.4
EPF	**Esparros**	**133.53 331**	*e*PKIKP	PKPdf	04 56 10.5	+0.7
comp=Z,3.4nm,0.5s						
EBIE	**Bielsa**	**133.88 331**	PKP	PKPdf	04 56 08.4	-2.0
ETSF	**Etsaut**	**134.06 332**	*e*PKIKP	PKPdf	04 56 11.0	+0.2
comp=Z,13nm,0.5s						
ROSC	**El Rosal**	**134.08 87**	PKhKP		04 56 08.6	
comp=Z,6.9nm,0.5s,baz=99,slow=19,SNR=4.3						
ROSC			SKP		04 59 16.8	
comp=Z,6.9nm,0.6s,baz=103,slow=11,SNR=15						
SJPF	**Ste Jean**	**134.21 332**	*e*PKIKP	PKPdf	04 56 11.6	+0.6
comp=Z,5.2nm,0.6s						
ERTA	**Horta de San J**	**135.07 329**	PKP	PKPdf	04 56 06.9	-5.8
LPAZ	**La Paz**	**135.76 118**	PKhKP		04 56 11.8	
comp=Z,6.5nm,0.6s,baz=268,slow=1.8,SNR=14						
LPAZ			SKP		04 59 21.6	
comp=Z,16nm,1.0s,baz=288,slow=2.5,SNR=21						
EARI	**Arriondas**	**135.79 336**	PKP	PKPdf	04 56 14.6	+0.6
EMOS	**Mosqueruela**	**135.92 329**	PKP	PKPdf	04 56 08.3	-6.0
EPON	**Pontenova**	**136.54 338**	PKP	PKPdf	04 56 16.8	+1.4
GUD	**Guadarrama**	**137.50 333**	PKIKP	PKPdf	04 56 14.7	-2.5
EMAZ	**Mazaricos**	**137.54 339**	PKP	PKPdf	04 56 18.6	+1.3
SDV	**Santo Domingo**	**137.64 81**	*e*PKPdf	PKPdf	04 56 18.6	+1.2
SDV			*e*SKPdf	SKPdf	04 59 28.4	+3.5
ELOB	**Lobios**	**138.14 337**	PKP	PKPdf	04 56 17.8	-0.5
ESDC	**Sonseca Array**	**138.18 332**	PKhKP		04 56 09.0	
comp=Z,0.2nm,0.4s,baz=11,slow=3.0,SNR=4.1						
ESDC			PP	PP	04 59 08.5	-2.0
comp=Z,6.9nm,1.0s,baz=32,slow=7.0,SNR=9.9						
ESDC			SKKPbc		05 08 11.6	
comp=Z,8.4nm,1.1s,baz=242,slow=4.0,SNR=16						
CPUP	**Villa Florida**	**138.81 139**	PKP	PKPdf	04 56 20.1	+0.6
comp=Z,3.4nm,0.7s,baz=216,slow=2.6,SNR=7.2						
CPUP			SKPbc	SKPbc	04 59 28.4	+1.2
comp=Z,8.3nm,1.0s,baz=228,slow=5.5,SNR=5.4						
CPUP	**Villa Florida**	**138.81 139**	*e*PKHKP		04 56 11.2	
CPUP					04 56 20.1	
CPUP	**Villa Florida**	**138.81 139**	*e*PKPdf	PKPdf	04 56 11.2	-8.4
CPUP			PKP	PKPdf	04 56 20.1	+0.6
CPUP			SKPbc	SKPbc	04 59 28.4	+1.2
CPUP			*e*SKPdf	SKPdf	04 59 30.1	+3.0
EQES	**Quesada**	**139.18 329**	PKP	PKPdf	04 56 10.8	-9.4
EADA	**Adamuz**	**139.65 331**	PKP	PKPdf	04 56 15.1	-6.0
EBER	**Berja**	**139.77 328**	PKP	PKPdf	04 56 11.9	-9.4
EMIN	**Mina Concepcio**	**140.07 332**	PKP	PKPdf	04 56 16.9	-6.6
EMIJ	**Mijas**	**141.00 329**	PKP	PKPdf	04 56 14.3	-9.2
ESPR	**Espera**	**141.30 331**	PKP	PKPdf	04 56 17.7	-6.4
EGRO	**El Granado**	**141.53 333**	PKP	PKPdf	04 56 17.9	-6.6
SIV	**San Ignacio**	**141.99 122**	PKhKP		04 56 21.3	
comp=Z,6.3nm,0.6s,baz=227,slow=4.3,SNR=26						
SIV			tx	tx	04 57 34.6	
comp=Z,3.7nm,0.9s,baz=205,slow=2.8,SNR=5.3						
SIV			SKPbc	SKPbc	04 59 35.9	+0.3
comp=Z,22nm,1.1s,baz=263,slow=3.5,SNR=11						
SAML	**Samuel**	**142.91 110**	*e*PKPdf	PKPdf	04 56 24.0	-3.0
MDT	**Midelt**	**143.74 325**	PKP	PKPdf	04 56 26.9	-1.5
comp=Z,28nm,1.0s,baz=50,slow=2.9,SNR=58						
LZG	**Guadaloupe-1**	**144.93 67**	*e*P	PKPdf	04 56 30.0	-0.5
TBG	**Guadaloupe-3**	**145.13 68**	*e*P	PKPdf	04 56 31.3	+0.5
BBL	**Barber's Block**	**145.38 68**	*e*P	PKPdf	04 56 32.7	+1.4
TORD	**Torodi Ar. Bea**	**149.02 289**	PKP	PKPdf	04 56 37.0	-0.2
comp=Z,34nm,0.4s,baz=1.5,slow=0.3,SNR=445						
TORD			PKPbc	PKPbc	04 56 41.8	+0.2
comp=Z,35nm,0.3s,baz=67,slow=2.2,SNR=973						
TORD			pPKPbc	pPKPbc	04 57 52.4	+0.1
comp=Z,11nm,0.9s,baz=72,slow=2.4,SNR=1.8						
TORD			SKPbc	SKPbc	04 59 50.6	-1.0
comp=Z,2.6nm,1.0s,baz=55,slow=2.7,SNR=3.5						
TORD			PP	PP	05 00 13.2	-2.1
comp=Z,3.3nm,1.0s,baz=67,slow=3.5,SNR=4.0						
TORD			tx	tx	05 07 28.3	
comp=Z,1.3nm,1.1s,baz=265,slow=2.4,SNR=3.7						
CAM4	**Nova Friburgo**	**150.36 152**	*e*P	PKPbc	04 56 46.0	+1.1
CAM4			*e*		04 56 50.5	
CAM4			*i*		04 57 54.5	
CAM4			*i*		04 58 01.2	
BDFB	**Brasilia**	**152.42 135**	PKP	PKPdf	04 56 43.1	+0.7
comp=Z,14nm,1.1s,baz=323,slow=0.2,SNR=12						
BDFB			PKPbc	PKPbc	04 56 50.1	+0.5
comp=Z,21nm,0.6s,baz=267,slow=1.8,SNR=53						
BDFB			pPKPbc	pPKPbc	04 57 58.7	-1.8
comp=Z,17nm,1.0s,baz=56,slow=1.2,SNR=3.2						
CAM3	**Guarapari**	**152.69 154**	*e*P	PKPdf	04 56 39.1	-3.7
CAM3			*i*		04 56 45.2	
CAM3			*i*		04 56 47.3	
CAM3			*i*		04 56 51.3	
CAM3			*i*		04 57 00.1	
CAM3			*i*		04 57 03.1	
DBIC	**Dimbokro**	**156.53 278**	PKP	PKPdf	04 56 47.8	-0.3
comp=Z,8.4nm,1.2s,baz=121,slow=2.8,SNR=3.9						
DBIC			PKPab	PKPab	04 57 18.2	-0.3
comp=Z,8.1nm,0.3s,baz=73,slow=4.3,SNR=16						
DBIC			PP	PP	05 00 58.3	+0.8
comp=Z,10nm,1.1s,baz=54,slow=4.3,SNR=5.5						
LIC	**Lamto**	**156.74 277**	*e*PKP2	PKPab	04 57 20.1	+0.7
comp=Z,19nm,0.5s						

*IDC **14** 05:29:00.1±0.8, 1785S×17667W, h0km, mb4.3/10, mb1 4.6/10, mb1mx4.4/16, mbtmp4.3/10, MS4.2/22, Ms1 4.2/22, ms1mx4.1/30, Error ellipse: s-maj=32.0km s-min=18.2km az=139.0*

*ISCJB **14** 05:29:04.5±0.7, 176S±02×1769W±01, h33km, mb4.5/15, MS4.3/19, Error ellipse: s-maj=26.1km s-min=12.0km az=114.4*

*NEIC **14** 05:29:05.5±0.5, 1783S×17668W, h35km, mb4.9/7, Error ellipse: s-maj=20.4km s-min=10.9km az=142.0*

*HRVD **14** 05:29:05.5±0.3, 1795S×17635W, h17km±1km, MW5.1/80, Centroid moment Tensor Solution. LP body waves: s18,c19;Mantle waves: s80,c114; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.13±.24; Mθθ-3.49±.16; Mφφ4.62±.21; Mrθ-1.32±.55; Mrφ0.15±.18; Mθφ2.67±.65; Best double couple: M0=4.98300×10^16 NP1:φs=47.00000°, δ52.00000°, λ-6.00000°. NP2: φs=141.00000°, δ85.00000°, λ-142.00000°. Principal axes: T 5.6820, Plg22.0000°, Azm268.0000°; N -1.3990, Plg52.0000°, Azm147.0000°; P -4.2830, Plg30.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **14** 05:29:11.6±2.4, 1651S×17793W, h33km, mb5.0/6 Error ellipse: s-maj=26.0km s-min=16.1km az=168.2*

ISC 14 05:29:06.5±0.6, 175S±01×1768W±01, h35km, n66, σ1§05/31, mb4.5/15, MS4.3/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.04**	**54**	Pn	**Pn**	**05 30 26.1**	**-7.1**
1.4nm,0.3s,baz=47,slow=19,SNR=4.2							
AFI				LR	LR	05 31 47.5	
comp=Z,547nm,20.0s,baz=51,slow=27							
AFI	**Afiamalu**	**6.04**	**54**	*e*Pn	**Pn**	**05 30 26.5**	**-6.8**
AFI				LR	LR	05 31 47.5	
RAO	**Raoul Island**	**11.73**	**185**	LR	LR	05 35 30.6	
comp=Z,3μm,20.5s,baz=228,slow=34							
DZM	**Mont Dzumac**	**16.39**	**251**	Pn	**Pn**	**05 32 55.7**	**+1.9**
0.2nm,0.3s,baz=291,slow=22,SNR=3.4							
RAR	**Rarotonga**	**16.50**	**106**	LR	LR	05 37 30.4	
comp=Z,864nm,18.7s,baz=282,slow=31							
URZ	**Urewera**	**21.34**	**193**	P	**P**	**05 33 45.2**	**-5.4**
12nm,0.9s,mb4.2,baz=22,slow=14,SNR=3.4							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ				LR	LR	05 41 24.7	
comp=Z,2μm,18.4s,MS4.5,baz=21,slow=35							
PPT	**Papeete**	**25.97**	**94**	*e*LQ		05 39 25.4	
1μm,27.5s							
PPT				*e*LR	LR	05 40 33.3	
3μm,27.8s,baz=263							
PPT	**Papeete**	**25.97**	**94**	LR	LR	05 41 53.4	
comp=Z,704nm,19.3s,MS4.2,baz=254,slow=30							
TBI	**Tubuai**	**26.26**	**107**	*e*LQ		05 39 30.5	
2μm,28.2s							
TBI				*e*LR	LR	05 40 44.8	
2μm,29.2s,baz=278							
CTA	**Charters Tower**	**35.01**	**260**	*e*P	**P**	**05 35 56.1**	**+0.5**
15nm,0.8s,mb5.0							
CTA	**Charters Tower**	**35.01**	**260**	P	**P**	**05 35 55.9**	**+0.3**
17nm,0.7s,mb5.1,baz=86,slow=9.6,SNR=6.7							
CTA				LR	LR	05 48 25.0	
comp=Z,391nm,22.0s,MS4.1,baz=286,slow=33							
CTA	**Charters Tower**	**35.01**	**260**	*e*P	**P**	**05 35 56.1**	**+0.5**
CTA				pmax	pmax		
comp=Z,15nm,0.8s							
CTAO	**Charters Tower**	**35.01**	**260**	*e*P	**P**	**05 35 56.5**	**+0.9**
CTAO				pmax	pmax		
comp=Z,24nm,0.9s,mb5.1							
CTAO	**Charters Tower**	**35.01**	**260**	*e*Pn	**P**	**05 35 56.5**	**+0.9**
comp=Z,24nm,0.9s,mb5.1							
PMG	**Port Moresby**	**35.89**	**278**	LR	LR	05 48 59.7	
comp=Z,644nm,19.2s,MS4.4,baz=270,slow=33							
PMG	**Port Moresby**	**35.89**	**278**	P	**P**	**05 36 03.9**	**+0.7**
PMG				pmax	pmax		
comp=Z,15nm,1.0s							
PMG	**Port Moresby**	**35.89**	**278**	P	**P**	**05 36 03.9**	**+0.7**
comp=Z,15nm,1.0s,mb4.9							
RKT	**Rikitea**	**39.54**	**105**	*e*LQ		05 44 58.6	
comp=Z,266nm,29.5s							
RKT				*e*LR	LR	05 46 51.6	
comp=Z,1μm,27.8s,baz=271							
STKA	**Stephens Creek**	**40.15**	**241**	P	**P**	**05 36 39.0**	**0.0**
comp=Z,4.1nm,0.8s,mb4.2,baz=125,slow=7.9,SNR=4.1							
STKA	**Stephens Creek**	**40.15**	**241**	*e*P	**P**	**05 36 38.5**	**-0.5**
WRAB	**Tennant Creek**	**46.18**	**259**	*e*P	**P**	**05 37 26.5**	**-1.3**
WRAB				pmax	pmax		
comp=Z,12nm,0.9s,mb4.8							
WRAB	**Tennant Creek**	**46.18**	**259**	*e*P	**P**	**05 37 26.5**	**-1.3**
comp=Z,12nm,0.9s,mb4.8							
WRA	**Warramunga Arr**	**46.19**	**259**	P	**P**	**05 37 26.6**	**-1.3**
comp=Z,6.8nm,1.0s,mb4.5,baz=94,slow=7.7,SNR=13							
ASAR	**Alice Springs**	**46.35**	**254**	P	**P**	**05 37 28.7**	**-0.5**
comp=Z,14nm,0.8s,mb4.9,baz=87,slow=8.2,SNR=62							
CBIJ	**Chichi jima**	**59.56**	**317**	LR	LR	06 03 45.7	
comp=Z,128nm,18.4s,MS4.1,baz=149,slow=35							
MBWA	**Marble Bar**	**59.64**	**255**	*e*P	**P**	**05 39 05.7**	**-1.3**
MBWA				*e*pP	pP	05 39 13.1	-4.6
VNDA	**Vanda**	**60.97**	**185**	LR	LR	06 01 25.0	
comp=Z,158nm,19.8s,MS4.2,baz=40,slow=32							
MJAR	**Matsushiro Arr**	**68.51**	**322**	P	**P**	**05 40 05.8**	**+0.5**
comp=Z,0.9nm,0.3s,mb4.2,baz=153,slow=5.3,SNR=3.4							
FX1	**Attu Island--F**	**70.64**	**354**	LR	LR	06 06 18.5	
comp=Z,14nm,18.9s,MS3.2,baz=203,slow=32							
ASAJ	**Asahikawa**	**71.67**	**330**	LR	LR	06 08 10.1	
comp=Z,261nm,18.4s,MS4.5,baz=103,slow=33							
QSPA	**South Pole Qui**	**72.54**	**180**	*e*P	**P**	**05 40 28.9**	**-1.0**
comp=Z,10nm,1.0s,mb4.7							
YBH	**Yreka Blue Hor**	**77.27**	**38**	LR	LR	06 06 19.8	
comp=Z,193nm,22.0s,MS4.4,baz=232,slow=29							
KDAK	**Kodiak Island**	**77.67**	**13**	LR	LR	06 07 03.6	
comp=Z,264nm,21.0s,MS4.5,baz=265,slow=29							
NVAR	**Mina Array Bea**	**78.10**	**43**	P	**P**	**05 41 02.2**	**+0.4**
comp=Z,1.3nm,0.8s,mb3.9,baz=216,slow=9.5,SNR=5.3							
NVAR				LR	LR	06 08 56.6	
comp=Z,140nm,18.2s,MS4.3,baz=230,slow=31							
NEW	**Newport**	**84.31**	**35**	LR	LR	06 11 40.5	
comp=Z,155nm,19.1s,MS4.4,baz=235,slow=30							
MAW	**Mawson**	**84.74**	**199**	LR	LR	06 15 12.7	
comp=Z,338nm,18.1s,MS4.8,baz=87,slow=33							
MCMT	**McKenzie Canyo**	**84.96**	**40**	*e*P	**P**	**05 41 37.2**	**-0.8**
COLA	**College**	**85.07**	**12**	*e*P	**P**	**05 41 38.5**	**-0.1**
COLA				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.7							
COLA	**College**	**85.07**	**12**	*e*P	**P**	**05 41 38.5**	**-0.1**
comp=Z,5.4nm,0.8s,mb4.7							
COLA				*e*PP	PP	05 44 46.8	-9.1
ILAR	**Eielson Array**	**85.17**	**12**	P	**P**	**05 41 39.0**	**-0.2**
comp=Z,2.5nm,0.9s,mb4.3,baz=228,slow=6.0,SNR=15							
ILAR				LR	LR	06 11 46.3	
comp=Z,95nm,20.9s,MS4.2,baz=183,slow=30							
PDAR	**Pinedale Array**	**86.03**	**43**	P	**P**	**05 41 42.7**	**-0.7**
comp=Z,0.7nm,0.9s,mb3.9,baz=236,slow=1.6,SNR=5.6							
PDAR				LR	LR	06 14 52.1	
comp=Z,145nm,20.3s,MS4.4,baz=45,slow=32							
BILL	**Bilibino**	**86.20**	**354**	*e*P	**P**	**05 41 44.2**	**0.0**
BILL				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.7							
BILL	**Bilibino**	**86.20**	**354**	*e*P	**P**	**05 41 44.2**	**0.0**
comp=Z,4.3nm,0.8s,mb4.7							
VNA3	**Neumayer Olymp**	**91.03**	**176**	*e*	**P**	**05 42 09.0**	**+1.8**
VNA3				*e*		05 42 13.0	
INK	**Inuvik**	**91.11**	**15**	LR	LR	06 15 09.6	
comp=Z,136nm,21.1s,MS4.4,baz=127,slow=30							
VNA2	**Neumayer--Watz**	**91.49**	**177**	*e*	**P**	**05 42 12.1**	**+2.8**
baz=201,slow=3.3							
VNA2				*e*		05 42 16.6	
YKA	**Yellowknife Ar**	**93.34**	**24**	P	**P**	**05 42 19.2**	**+1.4**
comp=Z,0.5nm,0.8s,mb4.0,baz=245,slow=4.3,SNR=8.6							
YKA				LR	LR	06 16 16.1	
comp=Z,121nm,19.5s,MS4.4,baz=270,slow=30							
SONM	**Songino Array**	**94.25**	**119**	LR	LR	06 22 27.8	
comp=Z,70nm,18.3s,MS4.2,baz=109,slow=34							
ULM	**Lac du Bonnet**	**97.64**	**40**	LR	LR	06 18 46.4	
comp=Z,106nm,21.9s,MS4.3,baz=286,slow=30							
MKAR	**Makanchi Array**	**109.95**	**314**	PKiKP	PKiKP	05 47 32.1	-2.0
comp=Z,0.3nm,0.6s,baz=2.9,slow=5.8,SNR=2.5							
BVAR	**Borovoye Array**	**117.49**	**321**	PKP	PKPdf	05 47 47.7	-0.8
comp=Z,0.8nm,0.6s,baz=126,slow=2.0,SNR=3.9							
KSP	**Ksiaz**	**145.13**	**345**	*e*PKIKP	PKPdf	05 48 45.1	+4.9
CLL	**Collm**	**145.39**	**349**	*i* P	PKPdf	05 48 44.8	+4.1
comp=Z,11nm,0.9s							
CLL				*i* x	x	05 48 47.9	
CLL	**Collm**	**145.39**	**349**	*i* P	PKPdf	05 48 44.8	+4.1
CLL				*i*		05 48 47.9	
CLL				*i*		05 49 26.9	
UPC	**Upice**	**145.51**	**345**	*e*PKP	PKPdf	05 48 47.0	+6.1
BR131	**Keskin Array S**	**145.56**	**316**	*e*PKPdf	PKPdf	05 48 42.7	+1.7
BRTR	**Keskin Array B**	**145.56**	**316**	PKPbc	PKPbc	05 48 42.0	+0.9
comp=Z,4.8nm,0.9s,baz=134,slow=3.6,SNR=9.3							
DPC	**Dobruska-Polom**	**145.58**	**345**	*e*PKP	PKPdf	05 48 46.8	+5.8
PRU	**Pruhonice**	**146.34**	**347**	*e*PKP	PKPdf	05 48 48.0	+5.7
NKC	**Novy Kostel**	**146.52**	**349**	*e*PKP	PKPdf	05 48 48.1	+5.5
GRA1	**Grafenberg Arr**	**147.25**	**350**	*e*PKP	PKPbc	05 48 46.9	+0.8
GRF	**Grafenberg Arr**	**147.25**	**350**	*e*PKIKP	PKPbc	05 48 46.9	+0.8
KHC	**Kasperske Hory**	**147.35**	**347**	*e*PKP	PKPab	05 48 51.8	+3.5
GERES	**GERESS Array B**	**147.60**	**347**	PKPbc	PKPbc	05 48 47.7	+0.6
comp=Z,1.1nm,0.8s,baz=345,slow=3.4,SNR=2.9							
DAVOX	**Davos**	**150.29**	**351**	PKPbc	PKPbc	05 48 55.3	+1.4
comp=Z,3.5nm,0.8s,baz=315,slow=1.0,SNR=4.8							
TORD	**Torodi Ar. Bea**	**175.43**	**162**	PKPab	PKPab	05 50 47.5	-2.3
comp=Z,0.4nm,0.8s,baz=184,slow=3.9,SNR=2.6							

*IDC **14** 05:29:44.8±1.5, 842S×12468E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.8/15, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=131.8km s-min=28.5km az=60.0*

*ISCJB **14** 05:29:47.8±0.8, 834S±008×125.1E±02, h33km, mb3.5/3, Error ellipse: s-maj=23.0km s-min=8.0km az=133.6*

*NEIC **14** 05:29:50.1±0.7, 818S×12530E, h35km, Error ellipse: s-maj=34.9km s-min=9.3km az=63.0*

ISC 14 05:29:50.3±0.8, 825S±008×1253E±01, h35km, n8, σ1§13/12, mb3.5/3, 1D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.79**	**178**	*e*P	**Pn**	**05 32 09.7**	**+1.1**
9.0nm,0.6s							
FITZ				*e*S	**Sn**	**05 33 56.5**	**-0.8**
WRAB	**Tennant Creek**	**14.56**	**144**	*e*Pn	**Pn**	**05 33 14.5**	**+0.9**
16nm,0.8s							
WRAB				*e*Sn	**Sn**	**05 35 53.3**	**-0.4**
WRA	**Warramunga Arr**	**14.56**	**144**	Pn	**Pn**	**05 33 14.1**	**+0.5**
0.7nm,0.3s,baz=317,slow=13,SNR=51							
WRA				Sn	**Sn**	**05 35 50.4**	**-3.3**
0.2nm,0.3s,baz=316,slow=24,SNR=3.7							
WB2	**Warramunga Arr**	**14.56**	**144**	‖ *i*P	**Pn**	**05 33 13.9**	**+0.1**
ASAR	**Alice Springs**	**17.41**	**153**	P	**Pn**	**05 33 51.9**	**+1.5**
0.4nm,0.3s,baz=323,slow=10,SNR=20							
ASAR				S	**S**	**05 36 59.9**	**-11**
0.1nm,0.3s,baz=326,slow=25,SNR=4.5							

SONM	**Songino Array**	**58.29**	**345**	P	**P**	**05 39 42.2**	**+0.7**
0.2nm,0.5s,mb3.4,baz=160,slow=8.9,SNR=3.0							
MKAR	**Makanchi Array**	**66.81**	**329**	P	**P**	**05 40 37.5**	**-0.8**
0.4nm,0.5s,mb3.7,baz=123,slow=5.3,SNR=6.5							
BVAR	**Borovoye Array**	**76.69**	**329**	P	**P**	**05 41 36.2**	**-1.4**
0.4nm,0.6s,mb3.5,baz=126,slow=2.5,SNR=2.8							

*CSEM **14** 06:29:23.8±1.0, 3866N×29.10W, h5km, ML1.9, Error ellipse: s-maj=8.4km s-min=6.8km az=32.0, After PDA*

*PDA **14** 06:29:23.8±1.0, 3866N×29.10W, h5km, MD3.0, ML1.9, Error ellipse: s-maj=8.4km s-min=6.8km az=32.0*

SVSA 14 06:29:23.8±1.0, 3866N×2910W, h5km, MD3.0, ML1.9, Error ellipse: s-maj=8.4km s-min=6.8km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.25**	**108**	*e*P	Pg	06 29 28.3	-0.3
PTCA				*e*S	Sg	06 29 32.6	+0.7
PTCA							
99nm,0.1s							
PTCA	**Ponta do Capel**	**0.25**	**108**	*e*P	Pg	06 29 28.3	-0.3
PTCA				*e*S	Sg	06 29 32.6	+0.7
PCED	**Cedros**	**0.31**	**96**	*i* P	Pg	06 29 29.3	-0.6
PCED				*e*S	Sg	06 29 33.5	-0.5
PCED							
141nm,0.1s							
PCED	**Cedros**	**0.31**	**96**	*e*S	Sg	06 29 33.5	-0.5
CALA	**Caldeira**	**0.32**	**104**	*e*P	Pg	06 29 29.6	-0.4
CALA				*e*S	Sg	06 29 34.0	-0.2
HOR	**Horta**	**0.39**	**110**	*e*P	Pg	06 29 30.6	-0.7
HOR				*e*S	Sg	06 29 35.8	-0.6
PCND	**Candelaria**	**0.53**	**111**	*e*S	Sg	06 29 40.1	-0.9
PCND							
11nm,0.1s							
PICO	**Pico**	**0.55**	**107**	*e*P	Pg	06 29 33.6	-0.8
PICO				*e*S	Sg	06 29 40.6	-1.0
PBOI	**Pico dos Bois**	**0.61**	**111**	*e*S	Sg	06 29 42.4	-1.0
PBOI							
9.5nm,0.1s							
ROSA	**Rosais**	**0.67**	**85**	*i* P	Pg	06 29 35.4	-1.3
ROSA				*e*S	Sg	06 29 43.5	-2.0
ROSA	**Rosais**	**0.67**	**85**	*e*S	Sg	06 29 43.5	-2.0
PAMA	**Santo Amaro**	**0.72**	**88**	*e*S	Sg	06 29 44.9	-2.1
PAMA							
14nm,0.2s							
PMAN	**Manadas**	**0.79**	**92**	*e*S	Sg	06 29 46.6	-2.7
PMAN							
20nm,0.2s							
PSMA	**Santa Maria**	**3.56**	**117**	*e*S		06 29 44.9	

*ISCJB **14** 06:31:51.0±4.5, 67S±02×1548E±02, h49km±36km, mb4.4/12, Error ellipse: s-maj=37.0km s-min=23.8km az=92.5*

*IDC **14** 06:31:53.2±6.1, 669S×15476E, h60km±51km, mb3.5/6, mb1 3.8/7, mb1mx3.7/13, mbtmp3.9/7, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/16, Error ellipse: s-maj=42.4km s-min=27.9km az=114.0*

ISC 14 06:31:51.6±3.9, 68S±02×1549E±02, h46km±30km, n18, σ0§80/16, mb4.4/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.60**	**118**	LR	LR	06 35 05.5	
comp=Z,87nm,19.8s,baz=178,slow=33							
PMG	**Port Moresby**	**8.11**	**251**	P	**Pn**	**06 33 48.0**	**+1.3**
6.1nm,0.3s,baz=72,slow=3.8,SNR=11							
PMG				S	**Sn**	**06 35 15.5**	**-1.5**
0.1nm,0.3s,baz=139,slow=18,SNR=1.5							
WB2	**Warramunga Arr**	**23.85**	**235**	*e*P	**P**	**06 37 00.8**	**+0.2**
WRA	**Warramunga Arr**	**23.86**	**235**	P	**P**	**06 37 00.8**	**+0.1**
1.2nm,0.5s,mb3.6,baz=58,slow=9.5,SNR=7.4							
WRA				PcP	PcP	06 40 42.5	-0.1
0.8nm,0.6s,baz=46,slow=2.3,SNR=6.5

SNR=9.5
AAK Ala-Archa 41.38 337 *e*P **P 06 55 20.8 +0.6**
AAK pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
AAK Ala-Archa 41.38 337 *e*P **P 06 55 20.8 +0.6**
comp=Z,3.0nm,0.5s,mb4.2
USP Ospenovka 41.92 338 P **P 06 55 25.1 +0.5**
SNR=9.3
MKAR Makanchi Array 42.81 347 P **P 06 55 31.2 -0.6**
comp=Z,2.1nm,0.4s,mb4.2,baz=212,slow=4.3,SNR=34
MKAR PcP PcP 06 57 22.5 +0.3
comp=Z,0.4nm,0.4s,baz=258,slow=3.6,SNR=3.6
MKAR Makanchi Array 42.81 347 P **P 06 55 31.2 -0.6**
MKAR PcP PcP 06 57 22.4 +0.3
SONM Songino Array 43.64 11 P **P 06 55 37.8 -0.8**
comp=Z,2.5nm,0.7s,mb4.0,baz=195,slow=8.0,SNR=21
SONM PcP PcP 06 57 25.1 +0.2
comp=Z,0.7nm,0.4s,baz=200,slow=3.4,SNR=8.4
ULN Ulaanbaatar 43.81 12 *e*P **P 06 55 38.8 -1.1**
ULN pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
ULN Ulaanbaatar 43.81 12 *e*P **P 06 55 38.8 -1.1**
comp=Z,1.7nm,0.5s,mb4.0
KS15 Wonju Array Si 44.10 39 *e*P **P 06 55 43.8 +1.5**
WRA Warramunga Arr 46.27 124 P **P 06 55 59.7 +0.3**
comp=Z,5.7nm,0.7s,mb4.6,baz=304,slow=9.2,SNR=30
WRAB Tennant Creek 46.27 124 *e*P **P 06 55 59.8 +0.3**
WRAB pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
WRAB Tennant Creek 46.27 124 *e*P **P 06 55 59.8 +0.4**
comp=Z,9.0nm,0.5s,mb5.0
WB2 Warramunga Arr 46.28 124⇑*i*P **P 06 55 59.7 +0.2**
KURK Kurchatov 47.33 346 *e*P **P 06 56 07.3 -0.4**
KURK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KURK Kurchatov 47.33 346 *e*P **P 06 56 07.3 -0.4**
comp=Z,4.6nm,0.6s,mb4.6
ASPA Alice Springs 47.78 129 *e*P **P 06 56 11.7 +0.5**
ASAR Alice Springs 47.78 129 P **P 06 56 11.5 +0.3**
comp=Z,1.7nm,0.3s,mb4.5,baz=298,slow=8.0,SNR=36
AS31 Alice Springs 47.78 129 *e*P **P 06 56 11.7 +0.5**
MDJ Mudanjiang 49.72 32 P **P 06 56 27.0 +1.0**
MDJ AMB AMB
comp=Z,7.0nm,1.9s,mb4.4
MDJ AMB AMB
comp=Z,167nm,5.2s
NVS Novosibirsk 50.36 351 *i*P **P 06 56 28.9 -2.0**
NVS pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
NVS pmax pmax
comp=N,4.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.5s
BRVK Borovoye 51.76 341 *e*P **P 06 56 40.8 -0.6**
BRVK pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
BRVK Borovoye 51.76 341 *e*P **P 06 56 40.8 -0.6**
comp=Z,1.9nm,0.4s,mb4.4
ZRNK Zerenda 52.08 341 *e*P **P 06 56 43.1 -0.7**
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ZRNK Zerenda 52.08 341 *e*P **P 06 56 43.0 -0.8**
comp=Z,4.9nm,1.0s,mb4.4
STKA Stephens Creek 57.86 133 P **P 06 57 23.7 -1.8**
comp=Z,2.7nm,1.0s,mb4.2,baz=314,slow=15,SNR=4.0
BRTR Keskin Array B 64.62 312 P **P 06 58 09.7 -1.6**
comp=Z,0.7nm,0.5s,mb3.9,baz=142,slow=10,SNR=4.4
CASY Casey 72.22 173 *e*P **P 06 59 04.4 +5.7**
comp=Z,36nm,0.8s,mb5.3
CASY *e* pP 06 59 18.8 +3.2
FINES FINESS Array B 75.34 332 P **P 06 59 16.2 -0.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=102,slow=8.0,SNR=7.9
FINES FINESS Array B 75.34 332 P **P 06 59 16.2 -0.7**
ARCES ARCESS Array B 77.97 340 P **P 06 59 31.4 -0.4**
comp=Z,5.6nm,1.0s,mb4.5,baz=81,slow=5.0,SNR=15
GERES GERESS Array B 80.20 319 P **P 06 59 44.8 +0.9**
comp=Z,1.1nm,0.5s,mb4.0,baz=116,slow=5.2,SNR=10
ILAR Eielson Array 96.99 22 P **P 07 01 04.4 -0.6**
comp=Z,0.2nm,0.5s,mb3.8,baz=292,slow=4.7,SNR=5.6
PDAR Pinedale Array 127.42 22 PKP PKPdf 07 06 38.4 +0.5
comp=Z,0.3nm,0.5s,baz=95,slow=4.0,SNR=6.2

MAN 14 06:53:41.5, 1348N×12076E, h1km, mb2.9, ML4.3, MS6.1, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.19**	**82**	⇑*i*P	Pg	06 53 44.8	-0.5
PGP				*i* S	Sg	06 53 47.5	-0.2
LUBP	**Lubang**	**0.56**	**297**	*e*P	Pg	06 53 51.0	-1.2
LUBP				*e*S	Sg	06 53 59.3	-0.1
TGY	**Tagaytay City**	**0.65**	**16**	⇑*i*P	Pg	06 53 53.9	0.0
TGY				*i* S	Sg	06 54 03.8	+1.5
BOAC	**Boac**	**1.06**	**91**	*e*P	Pg	06 53 59.9	-1.9
BUSP	**Coron**	**1.56**	**200**	*e*P	Pn	06 54 10.5	+0.1
OTRP	**Odiongan**	**1.66**	**132**	*e*P	Pn	06 54 12.0	+0.3
POLP	**Polilio Island**	**1.69**	**43**	*e*P	Pn	06 54 14.4	+2.2

BJI ***14*** *06:57:25.5, 423S×12788E, h29km, mB6.9, mb6.2, Ms6.7, Msz6.5*
IDC ***14*** *06:57:29.8±0.9, 357S×12723E, h8km±4km, mb5.9/32, mb1 5.9/33, mb1mx5.9/33, mbtmp5.9/33, ML5.3/1, MS6.5/19, Ms1 6.5/19, ms1mx6.4/27, Error ellipse: s-maj=7.3km s-min=4.9km az=73.0*
ISCJB ***14*** *06:57:32.0±0.1, 357S±0.02×12730E±0.03, h31km, mb6.4/174, MS6.6/192, Error ellipse: s-maj=4.2km s-min=2.3km az=125.0*
MOS ***14*** *06:57:32.9±1.2, 351S×127.15E, h33km, mb6.6/59, MS6.6/57, Error ellipse: s-maj=8.8km s-min=5.1km az=111.2*
HRVD ***14*** *06:57:33.9±0.1, 335S×12731E, h13km, MW6.7/111, Centroid moment Tensor Solution. LP body waves: s111,c283;Mantle waves: s105,c412; Half duration: 5s5 Moment tensor: Scale 10^{19}Nm; M_{rr}~0.36±.01; $M_{\theta\theta}$0.67±.01; $M_{\phi\phi}$-0.31±.01; $M_{r\theta}$-0.70±.02; $M_{\theta\phi}$1.18±.01; $M_{\phi r}$-0.54±.02; Best double couple: $M_0$1.46100×10^{19} NP1:ϕ_s284.00000°,δ69.00000°,λ11.00000°. NP2: ϕ_s191.00000°,δ80.00000°,λ159.00000°. Principal axes: T 1.8170, Plg22.0000°, Azm146.0000°; N -0.7120, Plg67.0000°, Azm347.0000°; P -1.1050, Plg7.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s.*
NEIC ***14*** *06:57:33.9±0.1, 360S×12721E, mb6.4/66, ME7.0, MS6.7/141, MW6.7 Error ellipse: s-maj=6.3km s-min=4.1km az=70.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{19}Nm; M_{rr}0.12; $M_{\theta\theta}$1.02; $M_{\phi\phi}$-1.14; $M_{r\theta}$-0.49; $M_{\theta\phi}$0.60; $M_{\phi r}$-0.71; Best double couple: $M_0$1.50000×10^{19} NP1:ϕ_s209.00000°,δ86.00000°, λ145.00000°. NP2:ϕ_s302.00000°,δ55.00000°,λ5.00000°. Principal axes: T 1.5100, Plg27.0000°, Azm160.0000°; N 0.0100, Plg55.0000°, Azm23.0000°; P -1.5100, Plg21.0000°, Azm261.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s177.00000°,δ66.00000°, λ141.00000°. NP2:ϕ_s285.00000°,δ55.00000°,λ30.00000°. Principal axes: T Plg44.0000°, Azm137.0000°; N Plg0.0000°, Azm0.0000°; P Plg7.0000°, Azm233.0000°; Energy computed from BB mechanism.*
NEIC At least three people killed and one missing due to a local tsunami with an observed wave height [peak-to-trough] of 7 meters on Buru. Maximum run-in was about 100 meters. Ground cracks about 500 meters long with maximum width of about 15 centimeters were observed in the area. Liquefaction was also observed in the area. One hundred sixteen houses damaged or destroyed at Pela, 54 at Batu Jugku, 30 at Waimorot, 25 at Wailawa and 16 at Waimoly. Felt [VI] at Namlea, Buru and [V] on Ambon.
BGS ***14*** *06:57:34.2, 360S×12723E, h33km*
SZGRF ***14*** *06:58:11.6, 125N×12792E, h35km, mb6.7, Halmahera, Indonesia*
ISC 14 06:57:34.4±0.1, 356S±002×12731E±003, h33km, h33km±.8km:pP-P, n1052, σ1$23/560, mb6.4/174, MS6.6/192, 84C-37D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 4μm,1.1s	**10.41**	**151**	⇑*i*P	**Pn**	**07 00 01.0**	**-0.3**
DAV	**Davao City (W)**	**10.70**	**351**	*e*P	**Pn**	**07 00 04.5**	**-0.8**
DAV	**Davao City (W)** 5μm,1.0s	**10.70**	**351**	*e*Pn	**Pn**	**07 00 04.4**	**-0.9**
DAV				*e*Sn	**Sn**	**07 02 05.1**	**+1.2**
CTBH	**Cotabato--PC H**	**11.14**	**344**⇑	*e*P	**Pn**	**07 00 10.0**	**-1.3**
BUKP	**Musuan**	**11.58**	**349**	*e*P	**Pn**	**07 00 16.1**	**-1.3**
BIPH	**Bislig**	**11.71**	**355**⇑	*i*P	**Pn**	**07 00 18.0**	**-1.1**
PAGZ	**Pagadian**	**11.99**	**341**	*e*P	**Pn**	**07 00 21.2**	**-1.7**
PAGZ				*e*S	**Sn**	**07 02 30.8**	**-4.7**
IPIL	**Ipil**	**12.22**	**337**	*e*P	**Pn**	**07 00 25.2**	**-0.9**
BUTP	**Butuan**	**12.56**	**352**	*e*P	**Pn**	**07 00 28.9**	**-1.8**
SCPH	**Surigao**	**13.38**	**352**	*e*P	**Pn**	**07 00 38.5**	**-3.4**
SNPH	**Sibulan**	**13.45**	**342**⇑	*e*P	**Pn**	**07 00 43.0**	**+0.2**
TBP	**Tagbilaran** 7883μm,0.4s	**13.61**	**345**⇓	*e*P	**Pn**	**07 00 41.4**	**-3.6**
MSLP	**Maasin**	**13.82**	**350**	*e*P	**Pn**	**07 00 44.5**	**-3.4**
LLP	**Lapu-Lapu**	**14.18**	**346**	*e*P	**Pn**	**07 00 49.9**	**-2.9**
FITZ	**Fitzroy Crossi** 3μm,1.2s	**14.54**	**186**	*e*P	**Pn**	**07 00 55.3**	**-2.5**
FITZ				*e*SCS	ScS	07 13 19.0	-0.6
KKM	**Kota Kinabalu**	**14.62**	**311**	*e*Pn	**Pn**	**07 00 59.1**	**+0.2**
KKM				*e*Sn	**Sn**	**07 03 42.8**	**+3.0**
OCLP	**Ormoc**	**14.76**	**350**	*e*P	**Pn**	**07 00 58.7**	**-2.1**
PLP	**Palo**	**14.81**	**351**	*e*P	**Pn**	**07 00 58.2**	**-3.2**
GUIM	**Jordan**	**14.86**	**342**	*e*P	**Pn**	**07 01 00.4**	**-1.6**
BATP	**Bataraza**	**15.51**	**322**	*e*P	**Pn**	**07 01 09.7**	**-0.9**
CUYO	**Cuyo Island**	**15.62**	**336**	*e*P	**Pn**	**07 01 13.6**	**+1.5**
RCP	**Roxas**	**15.69**	**343**⇓	*e*P	**Pn**	**07 01 11.6**	**-1.4**
PPR	**Puerto Princes** 10μm,1.0s	**15.77**	**327**	*e*P	**Pn**	**07 01 18.0**	**+4.1**
KALP	**Kalibo**	**15.93**	**342**	*e*P	**Pn**	**07 01 23.3**	**+7.3**
CNP	**Catarman**	**16.18**	**351**	*e*P	**Pn**	**07 01 17.8**	**-1.4**
MMPH	**Masbate**	**16.23**	**347**	*e*P	**Pn**	**07 01 16.6**	**-3.3**
OTRP	**Odiongan**	**16.67**	**342**	*e*P	**Pn**	**07 01 30.9**	**+5.5**
BUSP	**Coron**	**17.00**	**336**	*e*P	**Pn**	**07 01 28.5**	**-1.1**
PVCP	**Virac**	**17.33**	**350**	*e*P	**Pn**	**07 01 32.8**	**-0.9**
AUQP	**San Andres**	**17.39**	**345**	*e*P	**Pn**	**07 01 38.5**	**+4.0**
WRAB	**Tennant Creek** 18μm,0.9s	**17.66**	**158**	Pn	**Pn**	**07 01 36.3**	**-1.5**
WRAB	**Tennant Creek**	**17.66**	**158**	*e*P	**Pn**	**07 01 35.6**	**-2.2**
WRAB				*e*S	**Sn**	**07 05 02.5**	**+8.9**
WRAB	comp=Z,9μm,1.3s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,9μm,1.3s	**17.66**	**158**	*e*P	**Pn**	**07 01 35.6**	**-2.2**
WRAB				*e*S	**Sn**	**07 05 02.5**	**+8.9**
WRA	**Warramunga Arr** comp=Z,9.7nm,0.3s,baz=332,slow=11,SNR=206	**17.67**	**158**	P	**Pn**	**07 01 35.4**	**-2.5**
WRA	baz=153,slow=43,SNR=2.1			S	**Sn**	**07 04 53.3**	**-0.4**
WRA	comp=Z,0.4nm,0.3s,baz=335,slow=2.7,SNR=5.1			ScP	ScP	07 09 49.8	+1.8
WRA	comp=Z,0.1nm,0.3s,baz=266,slow=4.0,SNR=3.9			ScS	ScS	07 13 28.7	+0.5
WRA	baz=154,slow=4.0,SNR=11			P3KPbc		07 36 31.1	
WRA	**Warramunga Arr**	**17.67**	**158**	P	**Pn**	**07 01 35.4**	**-2.5**
WRA				S	**Sn**	**07 04 53.3**	**-0.4**
WRA	**Warramunga Arr**	**17.67**	**158**	P	**Pn**	**07 01 35.4**	**-2.5**
WRA				S	**Sn**	**07 04 53.3**	**-0.4**
WRA				ScP	ScP	07 09 49.8	+1.8
WB2	**Warramunga Arr**	**17.67**	**158**	*e*P	**Pn**	**07 01 35.7**	**-2.2**
WB2				*e*S	**Sn**	**07 05 00.3**	**+6.5**
WB2				*e*SCS	ScS	07 13 29.3	+1.1
BOAC	**Boac**	**17.76**	**342**	*e*P	**Pn**	**07 01 41.1**	**+2.1**
GQP	**Guinayangan**	**18.01**	**345**⇓	*i*P	**Pn**	**07 01 40.3**	**-1.7**
PGP	**Puerto Galera**	**18.09**	**340**	*e*P	**Pn**	**07 01 47.2**	**+4.2**
LQP	**Lukban**	**18.47**	**342**	*e*P	**Pn**	**07 01 47.8**	**+0.2**
LUBP	**Lubang**	**18.56**	**338**	*e*P	**Pn**	**07 01 47.9**	**-0.8**
TGY	**Tagaytay City**	**18.65**	**340**⇓	*e*P	**Pn**	**07 01 52.2**	**+2.3**
POLP	**Polilio Island**	**18.93**	**344**	*e*P	**Pn**	**07 01 53.5**	**+0.2**
MBWA	**Marble Bar** comp=Z,3μm,1.5s	**18.98**	**202**	*e*P	**Pn**	**07 01 54.0**	**+0.1**
MBWA				*e*pP	pP	07 02 00.9	-0.8
PCPH	**Palayan**	**19.97**	**342**	*e*P	**Pn**	**07 02 05.4**	**-0.3**
BALP	**Baler**	**20.00**	**344**	*e*P	**Pn**	**07 02 05.4**	**-0.6**
PMG	**Port Moresby** comp=Z,150nm,1.0s,baz=309,slow=8.0,SNR=17	**20.55**	**107**	P	**P**	**07 02 08.0**	**-2.1**
PMG				S	**S**	**07 05 55.4**	**-2.8**
PMG	comp=Z,54nm,1.1s,baz=187,slow=23,SNR=1.6			ScP	ScP	07 09 56.9	+2.4
PMG	comp=Z,101nm,1.1s,baz=349,slow=6.8,SNR=5.8			ScS	ScS	07 13 44.9	+7.4
PMG	comp=Z,9.1nm,0.7s,baz=216,slow=18,SNR=4.3						
PMG	**Port Moresby**	**20.55**	**107**	*e*P	**P**	**07 02 07.7**	**-2.4**
PMG	**Port Moresby** comp=Z,2μm,1.3s	**20.55**	**107**	*e*P	**P**	**07 02 10.7**	**+0.6**
PMG				*e*pP		07 02 17.8	
PMG	comp=Z,141μm,21.0s,MS6.3			LR	LR		
SCZP	**Santa Cruz**	**20.56**	**339**	*e*P	**P**	**07 02 10.1**	**-0.1**
BCPH	**Baguio City Da**	**20.90**	**342**⇓	*e*P	**P**	**07 02 15.7**	**+1.8**
AS31	**Alice Springs**	**20.98**	**163**	⇓*i*P	**P**	**07 02 16.1**	**+1.4**
AS31				*e*ScS	ScS	07 13 37.5	-1.5
ASAR	**Alice Springs** comp=Z,1μm,0.8s,baz=345,slow=11,SNR=2112	**20.98**	**163**	P	**P**	**07 02 15.2**	**+0.5**
ASAR				S	**S**	**07 06 11.7**	**+5.1**
ASAR	comp=Z,197nm,1.0s,baz=347,slow=22,SNR=6.3			ScP	ScP	07 09 57.0	+1.5
ASAR	comp=Z,28nm,0.8s,baz=326,slow=2.0,SNR=4.1			ScS	ScS	07 13 38.1	-0.9
ASAR	comp=Z,11nm,1.0s,baz=351,slow=7.4,SNR=4.8			P3KPbc		07 36 17.4	
ASAR	comp=Z,2.7nm,0.8s,baz=146,slow=5.1,SNR=9.6						
ASAR	**Alice Springs**	**20.98**	**163**	P	**P**	**07 02 15.2**	**+0.5**
ASAR				S	**S**	**07 06 11.7**	**+5.0**
ASAR						07 13 38.1	
ASAR	**Alice Springs**	**20.98**	**163**	P	**P**	**07 02 15.2**	**+0.5**
ASAR				S	**S**	**07 06 11.7**	**+5.1**
ASAR				ScP	ScP	07 09 57.0	+1.5
ASAR				ScS	ScS	07 13 38.1	-0.9
ASPA	**Alice Springs**	**20.98**	**163**	⇓*i*P	**P**	**07 02 16.1**	**+1.4**
ASPA				*e*SCS	ScS	07 13 37.5	-1.5
PALP	**Palanan**	**21.05**	**347**	*e*P	**P**	**07 02 17.1**	**+1.6**
CAUP	**Cauayan**	**21.08**	**345**	*e*P	**P**	**07 02 17.7**	**+1.9**
BOLP	**Bolinao**	**21.12**	**340**	*e*P	**P**	**07 02 16.8**	**+0.5**
CVP	**Callao Caves**	**21.81**	**346**⇑	*i*P	**P**	**07 02 23.8**	**+0.1**
ABRA	**Dolores**	**22.06**	**343**	*e*P	**P**	**07 02 27.4**	**+1.1**
APYP	**Conner**	**22.11**	**344**	*e*P	**P**	**07 02 27.0**	**+0.1**
SGCP	**Mt. Cagua**	**22.28**	**347**	*e*P	**P**	**07 02 28.6**	**-0.1**
GUMO	**Guam**	**24.37**	**45**	P	**P**	**07 02 48.3**	**-1.1**
GUMO	comp=Z,293nm,0.8s,mb5.8,baz=11,slow=23,SNR=13			S	**S**	**07 07 12.4**	**+5.7**
GUMO	**Guam** comp=Z,76nm,0.8s,baz=337,slow=18,SNR=2.9	**24.37**	**45**	*e*P	**P**	**07 02 51.0**	**+1.6**
GUMO				pmax	pmax		
GUMO	comp=Z,1μm,1.3s,mb6.2			MLR	MLR		
GUMO	**Guam** comp=Z,68μm,22.0s,MS6.1	**24.37**	**45**	*e*P	**P**	**07 02 51.0**	**+1.6**
GUMO	comp=Z,1μm,1.3s,mb6.2			LR	LR		
GUMO	comp=Z,68μm,22.0s,MS6.1						
CTA	**Charters Tower** comp=Z,434nm,0.9s,mb6.0	**24.72**	**133**	⇑*i*P	**P**	**07 02 53.1**	**+0.5**
CTA				*e*S	**S**	**07 07 25.1**	**+13**
CTA				*e*SCP	ScP	07 10 09.4	+4.1
CTA	**Charters Tower** comp=Z,361nm,1.1s,mb5.8,baz=312,slow=11,SNR=50	**24.72**	**133**	P	**P**	**07 02 53.2**	**+0.7**
CTA	comp=Z,62nm,0.9s,baz=173,slow=14,SNR=1.9			S	**S**	**07 07 18.9**	**+6.5**
CTA	comp=Z,115nm,1.0s,baz=38,slow=14,SNR=4.2			ScP	ScP	07 10 08.2	+3.0
CTA	**Charters Tower** comp=Z,434nm,0.9s	**24.72**	**133**	⇑*i*P	**P**	**07 02 53.1**	**+0.5**
CTA				pmax	pmax		
CTAO	**Charters Tower**	**24.72**	**133**	*e*P	**P**	**07 02 53.0**	**+0.4**
CTAO				*e**PP		07 03 02.6	
CTAO				pmax	pmax		
CTAO	comp=Z,3μm,1.6s,mb6.6			MLR	MLR		
CTAO	**Charters Tower** comp=Z,227μm,20.0s,MS6.7	**24.72**	**133**	*e*P	**P**	**07 02 53.0**	**+0.4**
CTAO	comp=Z,3μm,1.6s,mb6.6			*e*pP		07 03 02.6	
CTAO				LR	LR		
CTAO	comp=Z,227μm,20.0s,MS6.7						
KULM	**Kulim**	**28.04**	**288**	*e*P	**P**	**07 03 23.6**	**+1.0**
NACB	**Ninganchiao**	**28.12**	**349**	*e*P	**P**	**07 03 21.6**	**-1.7**
QIZ	**Qiongzhong**	**28.27**	**323**	P	**P**	**07 03 25.8**	**+1.2**
QIZ				AP	pP	07 03 33.8	-0.3
QIZ				S	**S**	**07 08 09.3**	**+0.7**
QIZ				SCP	ScP	07 10 12.5	-3.3
QIZ				AMB	AMB		
QIZ	comp=Z,771nm,1.7s,mb6.1			AMB	AMB		
QIZ	comp=Z,34μm,12.1s			LR	LR		
QIZ	comp=N,78μm,18.4s						
QIZ	**Qiongzhong** comp=N,2μm,1.5s,mb6.5	**28.27**	**323**	*e*P	**P**	**07 03 25.7**	**+1.1**
QIZ				*e*pP	pP	07 03 34.3	+0.2
QIZ				LR	LR		
QIZ	comp=Z,105μm,21.0s,MS6.4						
YHNB	**Yeheng**	**28.65**	**349**	*e*P	**P**	**07 03 27.8**	**-0.1**
YHNB				*e*pP	pP	07 03 37.0	-0.3
YHNB				*e*S	S	07 07 50.2	-24
SNG	**Songkhla** comp=Z,816nm,1.0s,mb6.4	**28.70**	**292**	P	**P**	**07 03 30.0**	**+1.6**
UBT	**Ubonrachathani** comp=Z,958nm,1.0s,mb6.5	**28.92**	**311**	⇓P	**P**	**07 03 32.0**	**+1.7**
TATO	**Taipei** comp=Z,763nm,1.1s,mb6.3	**28.92**	**349**	*e*P	**P**	**07 03 29.9**	**-0.5**
TATO				*e*pP	pP	07 03 39.8	-0.1
TATO				*e*sP	sP	07 03 44.0	+0.1
TATO				LR	LR		
TATO	comp=Z,64μm,21.0s,MS6.2						
PSI	**Prapat** comp=Z,478nm,0.8s,mb6.2,baz=101,slow=5.0,SNR=73	**29.07**	**282**	P	**P**	**07 03 31.8**	**+0.2**
PSI				PcP	PcP	07 06 40.7	+1.5
PSI	comp=Z,45nm,0.8s,baz=80,slow=22,SNR=5.8			S	**S**	**07 08 21.6**	**+0.6**
PSI	comp=Z,36nm,0.9s,baz=141,slow=11,SNR=1.8			ScP	ScP	07 10 19.0	+0.8
PSI	comp=Z,63nm,1.0s,baz=170,slow=5.8,SNR=6.4			ScS	ScS	07 14 12.1	-0.1
PSI	comp=Z,4.5nm,0.7s,baz=308,slow=22,SNR=13						
PSI	**Prapat**	**29.07**	**282**	P	**P**	**07 03 31.8**	**+0.2**
PSI						07 06 40.7	
PSI				S	**S**	**07 08 21.6**	**+0.6**
PSI						07 14 12.1	
PSI	**Prapat**	**29.07**	**282**	P	**P**	**07 03 31.8**	**+0.2**
PSI				PcP	PcP	07 06 40.7	+1.5
PSI				S	**S**	**07 08 21.6**	**+0.6**
PSI				ScP	ScP	07 10 19.0	+0.8
PSI				ScS	ScS	07 14 12.1	-0.1
KLBR	**Kellerberrin** comp=Z,2μm,1.7s,mb6.7	**29.30**	**197**⇑	*i*P	**P**	**07 03 33.5**	**-0.2**
KLBR				*e*SCP	ScP	07 10 20.5	+1.5
QZH	**Quanzhou**	**29.57**	**344**⇑	*i*P	**P**	**07 03 35.3**	**-0.8**
QZH				AMB	AMB		
QZH	comp=Z,2μm,1.0s,mb6.7			AMB	AMB		
QZH	comp=Z,41μm,11.2s			LR	LR		
QZH	comp=N,27μm,11.2s,MS6.5			LR	LR		
QZH	comp=E,58μm,12.6s,MS6.5			LR	LR		
QZH	comp=Z,414μm,34.3s						
GZH	**Guangzhou**	**29.79**	**333**	P	**P**	**07 03 42.3**	**+4.3**
GZH				S	**S**	**07 08 41.3**	**+9.0**
GZH				AMB	AMB		
GZH	comp=Z,468nm,1.6s,mb6.0			LR	LR		
GZH	comp=N,50μm,29.2s			LR	LR		
GZH	comp=E,114μm,23.6s			LR	LR		
GZH	comp=Z,143μm,23.4s						
MUN	**Mundaring**	**30.13**	**199**	*e*P	**P**	**07 03 40.4**	**-0.7**
JOW	**Kunigami** comp=Z,522nm,0.8s,mb6.3,baz=185,slow=8.2,SNR=33	**30.23**	**2**	P	**P**	**07 03 42.8**	**+0.8**
JOW				PcP	PcP	07 06 43.6	+1.5
JOW	comp=Z,53nm,0.9s,baz=93,slow=1.5,SNR=2.5			S	**S**	**07 08 21.6**	**+0.6**
JOW	comp=Z,43nm,1.1s,baz=85,slow=27,SNR=5.5			S	**S**	**07 08 43.9**	**+4.6**
JOW				ScP	ScP	07 10 23.2	+1.2
JOW	comp=Z,42nm,1.0s,baz=18,slow=28,SNR=2.2			ScS	ScS	07 14 15.1	-2.7
JOW	comp=Z,28nm,1.0s,baz=152,slow=12,SNR=2.0			LR	LR	07 14 18.8	
JOW	comp=Z,65μm,20.2s,MS6.3,baz=176,slow=33						
NWAO	**Narrogin (SRO)** comp=Z,62nm,0.9s,mb5.4,baz=22,slow=10,SNR=3.1	**30.70**	**197**	P	**P**	**07 03 46.4**	**+0.3**
NWAO				PP	PP	07 04 47.8	-7.8
NWAO	comp=Z,283nm,1.1s,baz=25,slow=17,SNR=3.8			S	**S**	**07 08 50.5**	**+3.8**
NWAO	comp=Z,51nm,0.9s,baz=81,slow=1.7,SNR=1.9			LR	LR	07 17 24.9	
NWAO	comp=Z,147μm,18.7s,MS6.7,baz=12,slow=39						
NWAO	**Narrogin (SRO)**	**30.70**	**197**	*e*P	**P**	**07 03 46.0**	**-0.1**
NWAO				pmax	pmax		
NWAO	comp=Z,455nm,1.1s			MLR	MLR		
NWAO	**Narrogin (SRO)** comp=Z,114μm,19.0s	**30.70**	**197**	*e*P	**P**	**07 03 46.0**	**-0.1**
NWAO	comp=Z,455nm,1.1s,mb6.2			LR	LR		
NWAO	comp=Z,114μm,19.0s,MS6.5						
STKA	**Stephens Creek** comp=Z,223nm,1.1s,mb5.9	**31.20**	**156**⇑	*i*P	**P**	**07 03 48.2**	**-2.4**
STKA	**Stephens Creek** comp=Z,110nm,0.6s,mb5.8,baz=329,slow=9.3,SNR=44	**31.20**	**156**	P	**P**	**07 03 48.2**	**-2.4**
STKA				PP	PP	07 04 49.4	-12
STKA	comp=Z,1μm,1.3s,baz=335,slow=12,SNR=3.9			S	**S**	**07 08 54.9**	**+0.4**
STKA	comp=Z,68nm,1.1s,baz=355,slow=13,SNR=2.0			LR	LR	07 17 47.0	
STKA	comp=Z,248μm,18.7s,MS6.9,baz=333,slow=39						
KKTK	**Khon Kaen**	**31.25**	**310**	⇑P	**P**	**07 03 52.2**	**+1.2**
PKT	**Phuket**	**31.26**	**292**	P	**P**	**07 03 53.5**	**+2.4**
COCO	**West Island** comp=Z,291nm,1.0s,mb6.1	**31.35**	**252**	*e*P	**P**	**07 03 52.9**	**+1.1**
NNT	**Nongplab**	**31.75**	**301**	P	**P**	**07 03 57.0**	**+1.7**
HNR	**Honiara** comp=Z,289nm,1.0s,mb6.2,baz=270,slow=6.5,SNR=4.5	**32.93**	**102**	P	**P**	**07 04 05.0**	**-0.7**
HNR				S	**S**	**07 09 24.0**	**+2.5**
HNR	comp=Z,66nm,0.8s,baz=97,slow=9.4,SNR=1.3						
HNR	**Honiara**	**32.93**	**102**	*e*P	**P**	**07 04 07.9**	**+2.2**
HNR				*e**SP	sP	07 04 18.7	-0.5
HNR				pmax	pmax		
HNR	comp=Z,847nm,1.1s,mb6.6			MLR	MLR		
HNR	comp=Z,153μm,21.0s,MS6.7						
HNR	**Honiara** comp=Z,847nm,1.1s,mb6.6	**32.93**	**102**	*e*P	**P**	**07 04 07.9**	**+2.2**
HNR				*e*sP	sP	07 04 18.7	-0.5
HNR				LR	LR		
HNR	comp=Z,153μm,21.0s,MS6.7						
ADE	**Adelaide**	**32.99**	**163**	*e*P	**P**	**07 04 07.0**	**+0.8**
CBIJ	**Chichi jima** comp=Z,743nm,0.8s,mb6.7,baz=132,slow=4.7,SNR=17	**33.69**	**24**	P	**P**	**07 04 11.8**	**-0.6**
CBIJ				S	**S**	**07 09 33.8**	**+0.5**
CBIJ	comp=Z,98nm,0.8s,baz=313,slow=22,SNR=2.2			SS	SS	07 11 34.4	-25
CBIJ	comp=Z,73nm,0.7s,baz=308,slow=20,SNR=1.9			LR	LR	07 17 33.6	
CBIJ	comp=Z,44μm,18.6s,

GYA LR LR
comp=N,101μm,24.5s,MS6.6
GYA LR LR
comp=E,68μm,21.8s,MS6.6
GYA LR LR
comp=Z,88μm,23.4s,MS6.5
WHN Wuhan 36.10 341 ⇑P **P 07 04 34.5 +1.4**
WHN S **S 07 10 21.8 +11**
WHN AMB AMB
comp=Z,265nm,1.3s,mb6.0
WHN LR LR
comp=Z,126μm,25.0s,MS6.6
NJ2 Nanjing 36.32 348 *e*P **P 07 04 36.0 +1.0**
NJ2 AP pP 07 04 45.8 +1.3
NJ2 PP PP 07 05 57.5 -0.4
NJ2 S **S 07 10 13.0 -0.6**
NJ2 AMB AMB
comp=Z,290nm,1.2s,mb6.1
NJ2 AMB AMB
comp=Z,3μm,6.0s
NJ2 LR LR
comp=N,162μm,25.2s,MS6.9
NJ2 LR LR
comp=E,210μm,21.7s,MS6.9
NJ2 LR LR
comp=Z,103μm,24.3s,MS6.5
JNU Nakatsue 36.64 5 P **P 07 04 37.0 -0.7**
comp=Z,505nm,1.2s,mb6.2,baz=206,slow=8.8,SNR=14
JNU PcP PcP 07 07 01.1 +0.9
comp=Z,40nm,0.9s,baz=161,slow=8.9,SNR=2.3
JNU S **S 07 10 20.9 +2.4**
comp=Z,13nm,0.3s,baz=70,slow=40,SNR=4.3
JNU SS SS 07 12 45.8 -14
comp=Z,24nm,0.5s,baz=169,slow=2.9,SNR=4.5
KMI Kunming 37.17 321 P **P 07 04 44.8 +2.5**
KMI AP pP 07 04 52.6 +0.7
KMI XP sP 07 04 55.8 0.0
KMI PP PP 07 06 12.5 +5.2
KMI PCP PcP 07 07 03.4 +1.6
KMI S **S 07 10 30.8 +4.1**
KMI SCP ScP 07 10 47.8 +1.4
KMI PCS PcS 07 10 50.9 +0.8
KMI SCS ScS 07 14 54.3 +0.2
KMI AMB AMB
comp=Z,551nm,1.5s,mb6.2
KMI AMB AMB
comp=Z,19μm,9.2s
KMI LR LR
comp=N,53μm,20.5s,MS6.4
KMI LR LR
comp=E,34μm,21.3s,MS6.4
KMI LR LR
comp=Z,82μm,27.1s
RIV Riverview 37.43 146 ⇑*i*P **P 07 04 48.1 +3.7**
PBA Port Blair 37.55 294 *ex* x 07 05 00.0
PBA *ex* x 07 11 03.2
CNB Canberra Magne 37.62 150 ⇑*i*P **P 07 04 46.4 +0.3**
comp=Z,308nm,0.9s,mb6.0
CNB *e* 07 06 16.9
ENH Enshi 37.71 334 *e*P **P 07 04 47.8 +0.9**
comp=Z,1μm,1.1s,mb6.5
ENH *e*S **S 07 10 37.1 +2.2**
ENH LR LR
comp=Z,105μm,21.0s,MS6.6
TOO Toolangi 37.73 156 *e*P **P 07 04 48.0 +1.0**
comp=Z,198nm,1.2s,mb5.7
TOO *e* 07 06 10.1
TOO Toolangi 37.73 156 *e*P **P 07 04 48.0 +1.0**
TOO pmax pmax
comp=Z,198nm,1.2s,mb5.7
JHJ Hachijo jima 2 38.34 17 P **P 07 04 50.5 -1.6**
comp=Z,266nm,0.9s,mb6.0,baz=133,slow=7.6,SNR=4.9
JHJ PP PP 07 06 23.4 +3.3
comp=Z,199nm,1.0s,baz=170,slow=15,SNR=3.3
JHJ S **S 07 10 49.1 +4.6**
comp=Z,57nm,0.5s,baz=72,slow=19,SNR=2.1
JHJ SS SS 07 13 31.1 -2.5
comp=Z,47nm,0.3s,baz=71,slow=22,SNR=5.1
TIA Tai'an 40.70 347 P **P 07 05 11.1 -0.6**
TIA AMB AMB
comp=Z,318nm,1.2s,mb5.8
TIA AMB AMB
comp=Z,12μm,11.0s
TIA LR LR
comp=N,16μm,25.0s,MS5.8
TIA LR LR
comp=E,9μm,26.2s,MS5.8
KS15 Wonju Array Si 40.80 1 *e*P **P 07 05 13.2 +0.6**
KS15 *e*PcP PcP 07 07 18.6 +5.4
INCN Inchon 40.84 359 *e*P **P 07 05 13.8 +0.9**
comp=E,601nm,1.0s,mb6.2
INCN LR LR
comp=Z,57μm,21.0s,MS6.4
CD2 Chengdu 40.99 328 ⇑*i*P **P 07 05 14.8 +0.7**
CD2 PP PP 07 06 54.0 +5.1
CD2 SCP ScP 07 10 57.1 -4.0
CD2 S **S 07 11 27.0 +2.9**
CD2 AMB AMB
comp=Z,610nm,1.4s,mb6.0
CD2 AMB AMB
comp=Z,11μm,9.8s
CD2 LR LR
comp=E,31μm,20.4s
CD2 LR LR
comp=Z,29μm,20.4s,MS6.1
MJAR Matsushiro Arr 41.17 13 P **P 07 05 14.7 -0.9**
comp=Z,157nm,0.6s,mb5.8,baz=185,slow=9.6,SNR=96
MJAR PP PP 07 06 50.5 -0.5
comp=Z,25nm,1.0s,baz=182,slow=8.5,SNR=1.6
MJAR ScP ScP 07 11 04.5 +2.7
comp=Z,22nm,1.0s,baz=176,slow=5.9,SNR=4.2
MJAR S **S 07 11 32.3 +5.4**
comp=Z,7.2nm,1.1s,baz=200,slow=6.4,SNR=3.2
MJAR LR LR 07 20 25.5
comp=Z,58μm,21.4s,MS6.4,baz=175,slow=33
MJAR Matsushiro Arr 41.17 13 P **P 07 05 14.7 -1.0**
MJAR 07 06 50.5
MJAR S **S 07 11 32.3 +5.5**
MAJO Matsushiro 41.17 13 *e*P **P 07 05 14.4 -1.3**
MAJO pmax pmax
comp=Z,861nm,1.1s,mb6.3
MAJO MLR MLR
comp=Z,48μm,19.0s,MS6.4
MAJO Matsushiro 41.17 13 *e*P **P 07 05 14.4 -1.2**
comp=Z,861nm,1.1s,mb6.3
MAJO LR LR
comp=Z,48μm,19.0s,MS6.4
MAT Matsushiro 41.17 13 P **P 07 05 14.7 -1.0**
MAT S **S 07 11 22.0 -4.8**
XAN Xi'an 41.23 337 P **P 07 05 15.5 -0.6**
XAN AP pP 07 05 24.3 -1.5
XAN PP PP 07 07 00.0 +8.5
XAN S **S 07 11 29.0 +1.4**
XAN SS SS 07 14 35.5 +4.1
XAN AMB AMB
comp=Z,727nm,1.1s,mb6.2
XAN AMB AMB
comp=Z,15μm,11.6s
XAN LR LR
comp=E,65μm,21.9s
XAN LR LR
comp=Z,78μm,20.0s,MS6.6
DZM Mont Dzumac 42.17 119 P **P 07 05 23.4 -0.4**
comp=Z,140nm,0.8s,mb5.6,baz=290,slow=6.9,SNR=27
DZM ScP ScP 07 11 10.1 +4.3
comp=Z,104nm,1.4s,baz=74,slow=7.4,SNR=5.9
DZM S **S 07 11 44.6 +3.0**
comp=Z,12nm,1.0s,baz=267,slow=23,SNR=1.8
DZM SS SS 07 14 52.2 +2.1
comp=Z,8.5nm,1.0s,baz=312,slow=21,SNR=1.8
DL2 Dalian 42.58 353 ⇑*i*P **P 07 05 27.0 -0.2**
DL2 PCP PcP 07 07 11.5 -7.6
DL2 S **S 07 11 49.6 +2.0**
DL2 SS SS 07 14 58.5 +0.4
DL2 SCS ScS 07 15 24.8 -1.2
DL2 AMB AMB
comp=Z,250nm,1.0s,mb5.9
DL2 AMB AMB
comp=Z,6μm,5.5s
DL2 LR LR
comp=N,15μm,20.6s,MS6.2
DL2 LR LR
comp=E,28μm,21.1s,MS6.2
DL2 LR LR
comp=Z,28μm,23.5s,MS6.1
TAU Tasmania Unive 43.04 158 P **P 07 05 34.2 +3.3**
comp=Z,584nm,0.7s,mb6.4,SNR=7.5
TAU Tasmania Unive 43.04 158 P **P 07 05 33.9 +3.0**
TAU pmax pmax
comp=Z,240nm,1.1s,mb5.8
TAU Tasmania Unive 43.04 158 *e*pP pP 07 05 42.0 +1.4
comp=Z,67nm,0.9s
TAU LR LR
comp=Z,192μm,20.0s,MS7.0
AGT Agartala 44.46 310 *i* x **P 07 05 49.0 +6.7**
AGT *i* x x 07 07 19.0
BJT Baijiatuau 44.56 348 *e*P **P 07 05 43.1 0.0**
BJT pmax pmax
comp=Z,1μm,1.1s
BJT MLR MLR
comp=Z,42μm,20.0s
BJT Baijiatuau 44.56 348 *e*P **P 07 05 43.1 0.0**
comp=Z,1μm,1.1s,mb6.6
BJT LR LR
comp=Z,42μm,20.0s,MS6.4
BJI Beijing 44.58 348 P **P 07 05 42.9 -0.3**
BJI AP pP 07 05 52.8 -0.2
BJI XP sP 07 05 57.8 +0.9
BJI PP PP 07 07 30.9 +3.3
BJI S **S 07 12 17.9 +1.1**
BJI XS sS 07 12 38.3 +5.4
BJI SS SS 07 15 39.3 +2.2
BJI AMB AMB
comp=Z,659nm,1.4s,mb6.3
BJI AMB AMB
comp=Z,5741μm,3.0s
BJI LR LR
comp=N,39μm,28.5s,MS6.3
BJI LR LR
comp=E,36μm,29.7s,MS6.3
BJI LR LR
comp=Z,88μm,25.9s,MS6.6
WAKE Wake Island 44.86 58 *e*P **P 07 05 49.0 +3.5**
comp=Z,1μm,1.4s,mb6.6
WAKE LR LR
comp=Z,53μm,20.0s,MS6.5
SHL Shillong 44.92 312 *e*P **P 07 05 47.0 +1.0**
SHL *e*S **S 07 12 23.0 +1.2**
LZH Lanzhou 45.13 333 ⇑P **P 07 05 49.3 +1.6**
LZH AP pP 07 05 57.9 +0.5
LZH XP sP 07 06 02.0 +0.6
LZH PP PP 07 07 40.0 +6.5
LZH S **S 07 12 27.3 +2.4**
LZH XS sS 07 12 44.0 +3.0
LZH *e*SS SS 07 15 43.0 -4.9
LZH AMB AMB
comp=Z,2μm,1.1s,mb6.9
LZH AMB AMB
comp=Z,11μm,5.2s
LZH LR LR
comp=N,46μm,14.6s
LZH LR LR
comp=Z,103μm,16.8s,MS6.8
SNY Shenyang 45.30 356 ⇑P **P 07 05 48.6 -0.4**
SNY AP pP 07 05 59.9 +1.1
SNY XP sP 07 06 06.4 +3.7
SNY S **S 07 12 20.8 -6.5**
SNY AMB AMB
comp=Z,463nm,2.0s,mb6.0
SNY AMB AMB
comp=Z,17μm,10.5s
SNY LR LR
comp=N,31μm,20.4s,MS6.8
SNY LR LR
comp=E,108μm,23.7s,MS6.8
SNY LR LR
comp=Z,49μm,27.8s,MS6.3
CAL Calcutta 46.07 306 *e*P **P 07 05 59.3 +4.3**
CAL AMP 07 06 04.8
comp=Z,5μm,1.4s
CAL *e*S **S 07 12 45.0 +6.6**
HHC Hu-ho-hao-te 46.48 344 *e*P **P 07 05 58.5 +0.2**
HHC AP pP 07 06 08.4 +0.3
HHC XP sP 07 06 12.3 +0.3
HHC PCP PcP 07 07 32.8 +0.3
HHC PP PP 07 07 47.9 +0.2
HHC S **S 07 12 45.3 +1.0**
HHC XS sS 07 13 01.8 +1.4
HHC SCS ScS 07 15 47.8 -3.0
HHC AMB AMB
comp=Z,99nm,1.2s,mb5.6
HHC AMB AMB
comp=Z,16μm,5.9s
HHC LR LR
comp=N,42μm,26.5s
HHC LR LR
comp=E,29μm,18.1s
HHC LR LR
comp=Z,82μm,36.9s
VLA Vladivostok 46.65 5*d* *i*P **P 07 05 59.4 -0.2**
VLA *e* 07 07 32.8
VLA *e* 07 07 53.6
VLA *e*PPP 07 08 40.6
VLA *i* S **S 07 12 48.1 +1.4**
VLA *i* SS SS 07 15 55.7 -17
VLA pmax pmax
comp=Z,2μm,1.6s,mb6.8
VLA Vladivostok 46.65 5 *i* Pr **P 07 05 59.0 -0.6**
BTO Baotou 46.72 342 *e*P **P 07 06 00.3 +0.1**
BTO S **S 07 12 51.8 +4.1**
BTO AMB AMB
comp=Z,204nm,2.3s,mb5.7
BWNR Bhubaneshwar 47.13 302 *ex* x 07 06 40.0
CN2 Changchun 47.17 358 ⇑P **P 07 06 02.8 -0.9**
CN2 *e*XP sP 07 06 16.9 -0.5
CN2 *e*PP PP 07 07 53.5 -1.3
CN2 *e*S **S 07 12 53.8 -0.4**
CN2 AMB AMB
comp=Z,70nm,1.6s,mb5.3
CN2 AMB AMB
comp=Z,9μm,6.0s
CN2 LR LR
comp=N,19μm,21.0s,MS6.3
CN2 LR LR
comp=E,25μm,21.0s,MS6.3
CN2 LR LR
comp=Z,18μm,21.0s,MS6.0
PALK Pallekele 47.74 283 P **P 07 06 08.1 0.0**
comp=Z,1μm,1.9s,mb6.6,SNR=87
PALK Pallekele 47.74 283 *e*P **P 07 06 08.3 +0.2**
comp=Z,1μm,1.7s,mb6.6
PALK *e*PcP PcP 07 07 41.1 +4.1
PALK LR LR
comp=Z,83μm,22.0s,MS6.7
LSA Lhasa 47.88 316 P **P 07 06 11.3 +2.1**
LSA PP PP 07 08 02.4 +1.2
LSA S **S 07 13 01.9 -2.3**
LSA AMB AMB
comp=Z,740nm,1.0s,mb6.7
LSA AMB AMB
comp=Z,14μm,11.0s
LSA LR LR
comp=N,29μm,26.0s
LSA LR LR
comp=E,56μm,35.0s
LSA LR LR
comp=Z,66μm,41.0s
LSA Lhasa 47.88 316 *e*P **P 07 06 11.4 +2.2**
LSA pmax pmax
comp=Z,774nm,1.0s,mb6.7
LSA Lhasa 47.88 316 *e*P **P 07 06 11.3 +2.2**
comp=Z,774nm,1.0s,mb6.7
MDJ Mudanjiang 48.00 2 P **P 07 06 10.8 +0.6**
MDJ AP pP 07 06 19.8 -0.2
MDJ XP sP 07 06 24.1 +0.2
MDJ PCP PcP 07 07 37.8 -0.1
MDJ PP PP 07 08 05.8 +3.5
MDJ SCP ScP 07 11 29.5 -0.3
MDJ PCS PcS 07 11 33.6 0.0
MDJ S **S 07 13 08.0 +2.0**
MDJ AMB AMB
comp=Z,376nm,1.2s,mb6.3
MDJ AMB AMB
comp=Z,11μm,6.9s
MDJ LR LR
comp=N,33μm,22.1s,MS6.4
MDJ LR LR
comp=E,34μm,24.0s,MS6.4
MDJ LR LR
comp=Z,42μm,23.0s,MS6.3
MDJ Mudanjiang 48.00 2 *e*P **P 07 06 10.6 +0.5**
comp=Z,2μm,1.1s,mb7.0
MDJ *e*pP pP 07 06 18.9 -1.1
MDJ LR LR
comp=Z,57μm,22.0s,MS6.5
VIS Vishakhapatnam 48.25 297 *e*P **P 07 06 12.3 +0.2**
VIS AMb AMB 07 06 21.9
comp=Z,1μm,1.4s,mb6.8
VIS AMS AMS 07 23 05.2
comp=Z,12μm,20.2s,MS5.9
GTK Gangtok 48.33 312 *ex* **P 07 06 07.0 -5.7**
BOK Bokaro 48.64 306 *e*P **P 07 06 14.8 -0.3**
BOK AMb AMB 07 06 24.9
comp=Z,997nm,2.2s,mb6.5
BOK *e*S **S 07 13 15.7 +0.7**
GTA Gaotai 49.69 332 ⇑P **P 07 06 24.0 +0.9**
GTA AP pP 07 06 35.3 +2.3
GTA XP sP 07 06 40.8 +3.9
GTA PP PP 07 08 19.1 +1.4
GTA PCS PcS 07 11 42.5 +1.7
GTA S **S 07 13 28.6 -1.1**
GTA XS sS 07 13 50.3 +4.4
GTA SCS ScS 07 16 08.5 -3.7
GTA AMB AMB
comp=Z,123nm,1.2s,mb5.8
GTA AMB AMB
comp=Z,10μm,6.8s
GTA LR LR
comp=N,47μm,25.5s,MS6.5
GTA LR LR
comp=E,31μm,26.6s,MS6.5
GTA LR LR
comp=Z,65μm,32.7s
YUK Yuzh-Kuril'sk 50.23 17 ⇑*i*P **P 07 06 27.0 -0.2**
YUK *e* 07 07 52.0
YUK *e* 07 08 25.0
YUK *i* S **S 07 13 40.0 +2.8**
YUK *e* 07 16 14.0
YUK pmax pmax
comp=Z,420nm,0.8s,mb6.5
YUK pmax pmax
comp=Z,13μm,6.0s
YUK pmax pmax
comp=N,18μm,3.5s
YUK pmax pmax
comp=E,8μm,3.0s
YUK smax
comp=E,32μm,11.0s
YUK smax
comp=N,14μm,14.0s
JIRN Jiri 50.32 311 *e*P **P 07 06 28.0 +0.1**
comp=N,5μm,1.7s,mb7.3
GUN Gumba 50.69 311 *e*P **P 07 06 31.8 +1.1**
comp=N,5μm,1.3s,mb7.2
PKI Pulchoki 50.87 310 *e*P **P 07 06 32.5 +0.5**
comp=N,2μm,1.5s,mb6.9
BLSP Bilaspur 51.00 302 *ex* x 07 09 55.0
KKN Kakani 51.08 310 *e*P **P 07 06 34.2 +0.6**
comp=N,1μm,0.9s,mb6.8
SALM Salem 51.12 288 *e*P **P 07 06 35.0 +1.1**
DMN Daman 51.12 310 *e*P **P 07 06 34.7 +0.8**
comp=N,2μm,1.0s,mb7.0
TRD Trivandrum 51.62 284 *e*P **P 07 06 37.5 -0.1**
TRD AMb AMB 07 06 59.6
comp=Z,843nm,1.7s,mb6.4
GKN Gorkha 51.68 310 *e*P **P 07 06 38.7 +0.6**
comp=Z,2μm,1.0s,mb7.0
FUNA Funafuti 51.80 98 *e*P **P 07 06 40.5 +1.5**
FUNA LR LR
comp=Z,39μm,22.0s,MS6.4
YSS Yuzh-Sakhalins 52.11 13α*e*P **P 07 06 42.0 +0.7**
YSS *e**SP sP 07 06 55.0 -0.1
YSS *e* 07 07 55.0
YSS *e* 07 08 46.0
YSS *e*PPP 07 09 49.0
YSS *i* S **S 07 14 04.0 +0.8**
YSS *e* 07 16 28.0
YSS *e*SS SS 07 17 34.0 -6.6
YSS pmax pmax
comp=Z,1μm,2.0s,mb6.6
YSS pmax pmax
comp=N,690nm,1.7s
YSS pmax pmax
comp=E,280nm,1.7s
YSS smax
comp=N,19μm,16.0s
YSS smax
comp=E,26μm,12.0s
YSS MLR MLR
comp=Z,29μm,23.0s,MS6.2
YSS MLR MLR
comp=N,31μm,22.0s
YSS MLR MLR
comp=E,10μm,15.0s
YSS Yuzh-Sakhalins 52.11 13 *e*P **P 07 06 41.6 +0.3**
comp=E,177nm,0.9s,mb6.0
HABR Khabarovsk 52.26 7 *i* P **P 07 06 43.1 +0.7**
HABR *e*S **S 07 14 07.3 +2.1**
HABR pmax pmax
comp=Z,1μm,1.7s,mb6.6
KOLN Koldanda 52.36 309 *e*P **P 07 06 44.1 +0.9**
comp=Z,2μm,0.9s,mb7.1
HYB Hyderabad 52.42 295 ⇑*i*P **P 07 06 43.0 -0.6**
comp=Z,700nm,1.0s,mb6.5
HYB *e*PcP PcP 07 07 47.5 -6.6
HYB *e*PP PP 07 08 46.0 +3.5
HYB *e*ScP ScP 07 11 52.0 +3.2
HYB *e*S **S 07 14 04.0 -3.4**
HYB *e*ScS ScS 07 16 35.0 +4.0
HYB *e*SS SS 07 17 48.0 +2.5
HYB LR LR 07 26 06.0
comp=Z,119nm,26.0s
HYB *e*PKPPKP 07 37 12.0
HYB Hyderabad 52.42 295 ⇑*e*P **P 07 06 43.0 -0.6**
HYB *e*S **S 07 14 04.0 -3.4**
HYB pmax pmax
comp=Z,700nm,1.0s,mb6.5
HYB Hyderabad 52.42 295 ⇑*e*P **P 07 06 43.0 -0.6**
comp=Z,700nm,1.0s,mb6.5
HYB *e*S **S 07 14 04.0 -3.4**
DANN Dangsing 52.52 310 *e*P **P 07 06 45.2 +0.8**
ALBI Allahabad 52.63 306 *e*P **P 07 06 43.5 -1.7**
KLR Kul'dur 52.72 4κ *i*P **P 07 06 43.4 -2.4**
KLR *e*S **S 07 14 14.5 +3.0**
KLR pmax pmax
comp=E,550nm,2.2s
KLR pmax pmax
comp=Z,3μm,2.2s,mb6.8
KLR pmax pmax
comp=N,9μm,10.0s
KLR pmax pmax
comp=E,2μm,10.0s
KLR pmax pmax
comp=Z,28μm,10.0s
HIA Hailar 53.02 354 *e*P **P 07 06 48.5 +0.4**
HIA pmax pmax
comp=Z,2μm,1.9s
HIA MLR MLR
comp=Z,42μm,19.0s
HIA Hailar 53.02 354 *e*P **P 07 06 48.5 +0.4**
comp=Z,2μm,1.9s,mb6.7
HIA LR LR
comp=Z,42μm,19.0s,MS6.5
JBP Jabalpur 53.24 302 ⇑*e*P **P 07 06 50.3 +0.7**
JBP *ex* x 07 14 25.0
JBP *ex* x 07 32 18.4
comp=Z,38μm,20.3s
NGP Nagpur 53.26 300 ⇑*i*P **P 07 06 50.9 +1.1**
NGP AMP pP 07 07 01.1 +1.4
comp=Z,2μm,1.6s
NGP *ex* x 07 14 24.5
WCZ Waipu Caves 53.98 133 PN **P 07 06 56.0 +0.9**
ULN Ulaanbaatar 54.20 343 *e*P **P 07 06 56.9 +0.2**
ULN *e**PP pP 07 07 05.8 -0.9
ULN pmax pmax
comp=Z,1μm,1.2s,mb6.7
ULN MLR MLR
comp=Z,38μm,22.0s,MS6.4
ULN Ulaanbaatar 54.20 343 *e*P **P 07 06 56.9 +0.2**
comp=Z,1μm,1.2s,mb6.7
ULN *e*pP pP 07 07 05.8 -0.9
ULN LR LR
comp=Z,38μm,22.0s,MS6.4
SONM Songino Array 54.37 343 P **P 07 06 57.6 -0.3**
comp=Z,182nm,1.0s,mb6.0,baz=164,slow=6.8,SNR=230
SONM PcP PcP 07 08 02.9 +1.4

comp=Z,78nm,1.0s,baz=160,slow=5.2,SNR=2.1
SONM PP PP 07 09 03.9 +3.9
comp=Z,27nm,1.0s,baz=163,slow=6.2,SNR=1.8
SONM S **S** **07 14 35.2 +1.3**
comp=Z,2.6nm,0.9s,baz=212,slow=8.2,SNR=2.6
SONM ScS ScS 07 16 43.9 -0.8
comp=Z,2.5nm,1.2s,baz=169,slow=8.9,SNR=2.0
SONM LR LR 07 30 40.6
comp=Z,31μm,20.4s,MS6.4,baz=156,slow=37
SONM P4KPbc 07 44 21.0
comp=Z,1.3nm,0.7s,baz=153,slow=3.9,SNR=7.4
SONM Songino Array 54.37 343 P **P** **07 06 57.6 -0.3**
SONM 07 08 02.9
SONM 07 09 03.9
SONM S **S** **07 14 35.2 +1.3**
SONM 07 16 43.9
SONM Songino Array 54.37 343 P **P** **07 06 57.6 -0.3**
SONM PcP PcP 07 08 02.9 +1.4
SONM PP PP 07 09 03.9 +3.9
SONM S **S** **07 14 35.2 +1.3**
SONM ScS ScS 07 16 43.9 -0.8
SONM LR LR 07 30 40.6
MNGI Mangalore 54.63 288 *e*P **P** **07 06 58.9 -0.9**
DGAR Diego Garcia 54.71 263 *e*P **P** **07 07 00.0 -0.4**
DGAR *e**PP pP 07 07 09.8 -0.6
DGAR pmax pmax
comp=Z,729nm,1.2s,mb6.6
DGAR MLR MLR
comp=Z,26μm,19.0s,MS6.3
DGAR Diego Garcia 54.71 263 *e*P **P** **07 07 00.0 -0.4**
comp=Z,729nm,1.2s,mb6.6
DGAR *e*pP pP 07 07 09.8 -0.5
DGAR LR LR
comp=Z,26μm,19.0s,MS6.3
MLZ Mavora Lakes 54.83 146 PN **P** **07 07 02.6 +1.4**
DSZ Denniston Nort 54.99 140 PN **P** **07 07 02.6 +0.2**
QRZ Quartz Range 54.99 139 PN **P** **07 07 03.2 +0.7**
WVZ Waitaha Valley 55.03 142 PN **P** **07 07 03.5 +0.7**
LBZ Lake Benmore 55.43 144 PN **P** **07 07 05.1 -0.5**
LBZ ScP ScP 07 11 29.4 -32
BHPL Bhopal 55.44 301 *e*P **P** **07 07 05.0 -0.7**
BHPL AMb AMB 07 07 15.8
comp=Z,2μm,1.5s,mb6.9
BHPL *e*S **S** **07 14 47.5 -0.7**
BHPL AMS AMS 07 20 27.3
comp=Z,22μm,20.3s,MS6.2
RPZ Rata Peaks 55.58 143 P **P** **07 07 06.8 +0.1**
comp=Z,1μm,1.0s,mb6.8,baz=313,slow=1.7,SNR=79
RPZ S **S** **07 14 55.4 +5.3**
comp=Z,14nm,1.0s,baz=165,slow=18,SNR=2.6
RPZ LR LR 07 32 26.2
comp=Z,97μm,20.4s,MS6.9,baz=311,slow=38
RPZ Rata Peaks 55.58 143 PN **P** **07 07 06.6 0.0**
THZ Tophouse 55.71 140 PN **P** **07 07 07.4 -0.2**
THZ ScP ScP 07 11 29.8 -33
LGTI Lohaghat 55.75 309 *e*P **P** **07 07 07.5 -0.4**
LGTI *e*x x 07 08 13.5
PTH Pithoragarh 55.82 310 *e*P **P** **07 07 08.0 -0.4**
LTZ Lake Taylor 55.83 141 PN **P** **07 07 08.1 -0.3**
DUWZ D'Urville Isla 55.90 138 PN **P** **07 07 09.2 +0.2**
ODZ Otahua Downs 56.07 144 PN **P** **07 07 12.6 +2.4**
TWVZ Taurewa 56.13 136 PN **P** **07 07 11.0 +0.3**
WTVZ West Tongariro 56.26 136 PN **P** **07 07 12.0 +0.5**
WPVZ Whakapapa 56.27 136 PN **P** **07 07 12.1 +0.6**
RATZ Rangitukua 56.27 135 PN **P** **07 07 12.6 +0.9**
OTVZ Oturere 56.33 136 PN **P** **07 07 12.7 +0.7**
TCW Tory Channel 56.33 138 PN **P** **07 07 11.1 -0.9**
WNVZ Wahianoa 56.36 136 PN **P** **07 07 12.5 +0.2**
KAD Karad 56.37 293 *e*P **P** **07 07 11.6 -0.7**
KAD AMb AMB 07 07 21.9
comp=Z,825nm,1.6s,mb6.5
KHZ Kahutara 56.45 140 PN **P** **07 07 12.0 -0.9**
MOVZ Moawhango 56.50 136 PN **P** **07 07 13.0 -0.2**
SNZO South Karori 56.66 138 *e*P **P** **07 07 13.1 -1.3**
comp=Z,975nm,1.1s,mb6.8
SNZO LR LR
comp=Z,250μm,22.0s,MS7.3
BKZ Black Stump Fm 56.91 135 PN **P** **07 07 15.2 -0.9**
MCQ Macquarie Isla 56.92 159 *e*P **P** **07 07 17.6 +1.3**
TSZ Takapari Road 56.93 137 PN **P** **07 07 15.6 -0.7**
MRZ Mangataiinoka R 56.95 137 PN **P** **07 07 15.1 -1.3**
URZ Urewera 56.96 134 P **P** **07 07 15.9 -0.6**
comp=Z,511nm,0.8s,mb6.6,baz=314,slow=2.7,SNR=48
URZ S **S** **07 15 13.5 +5.0**
comp=Z,12nm,1.0s,baz=40,slow=23,SNR=3.4
URZ Urewera 56.96 134 PN **P** **07 07 15.3 -1.2**
POO Poona 57.02 295⇑ *i*P **P** **07 07 16.0 -0.9**
comp=Z,954nm,1.2s,mb6.7
POO AMb AMB 07 07 35.1
comp=Z,746nm,1.6s,mb6.5
POO *i* x x 07 15 10.0
POO *i* x x 07 15 21.0
POO *e*x x 07 18 59.0
POO *i* x x 07 21 11.0
POO *i* x x 07 21 20.0
POO *i* x x 07 24 03.0
TRWZ Traveller 57.36 138 PN **P** **07 07 18.2 -1.1**
ZAK Zakamensk 57.57 342 *e*P **P** **07 07 20.7 -0.1**
ZAK *e* 07 15 29.0
ZAK pmax pmax
comp=Z,606nm,1.9s,mb6.3
KNZ Kokohu 57.68 135 PN **P** **07 07 20.8 -0.8**
PUZ Puketiti 57.71 134 PN **P** **07 07 21.1 -0.8**
NDI New Delhi 57.78 307 *e*P **P** **07 07 20.5 -1.8**
NDI *e*S **S** **07 15 18.5 -0.7**
RAO Raoul Island 57.78 122 S **S** **07 15 24.3 +5.0**
comp=Z,221nm,0.3s,baz=78,slow=22,SNR=1.8
RAO Raoul Island 57.78 122 PFAKE 07 07 40.0 +18
RAO LR LR
comp=Z,40μm,22.0s,MS6.5
DDI Dehra Dun 57.84 309 *e*P **P** **07 07 22.0 -0.7**
DDI *e*x x 07 11 51.0
BOM Bombay 58.07 295 *e*P **P** **07 07 24.8 +0.5**
BOM *e*x x 07 07 31.9
comp=Z,877nm,1.8s
BOM *e*x x 07 15 21.8
TLY Talaya 58.61 343 P **P** **07 07 28.8 +0.7**
comp=Z,359nm,1.3s,mb6.2,SNR=33
AJM Ajmer 58.99 304 *e*P **P** **07 07 29.8 -0.9**
AJM *e*P 07 07 30.0
AJM AMb AMB 07 07 40.6
comp=Z,1μm,1.5s,mb6.7
AJM *e*S **S** **07 15 35.7 +0.7**
WMQ Urumqi 59.07 327⇑ *i*P **P** **07 07 31.5 +0.2**
WMQ AP pP 07 07 41.6 +0.3
WMQ XP sP 07 07 45.5 +0.3
WMQ PCP PcP 07 08 20.0 +0.1
WMQ PP PP 07 09 43.8 +1.8
WMQ S **S** **07 15 34.0 -2.0**
WMQ SCS ScS 07 17 15.1 -3.7
WMQ AMB AMB
comp=Z,713nm,0.9s,mb6.7
WMQ AMB AMB
comp=Z,5μm,4.2s
WMQ LR LR
comp=N,46μm,24.0s,MS6.8
WMQ LR LR
comp=E,67μm,22.0s,MS6.8
WMQ LR LR
comp=Z,57μm,24.0s,MS6.6
MOY Mondy 59.41 341 *e*P **P** **07 07 34.1 +0.5**
MOY pmax pmax
comp=Z,1μm,1.9s,mb6.6
BHK Bhakra 59.59 310 *e*P **P** **07 07 43.3 +8.4**
BHK *e*S **S** **07 15 49.9 +7.2**
NRGR Nerungri 60.05 358 *e*P **P** **07 07 32.5 -5.6**
PONG Pong 60.18 310 *e*P **P** **07 07 39.0 +0.1**
PONG *e*x x 07 12 31.0
CLNS Chul'man 60.23 358 *c i*P **P** **07 07 39.7 +0.4**
CLNS *e**PP pP 07 07 47.3 -2.0
CLNS *e* 07 08 22.5
CLNS *e* 07 09 56.6
CLNS *e*S **S** **07 15 53.7 +2.8**
CLNS *e*PS 07 16 10.7
CLNS pmax pmax
comp=Z,509nm,1.1s,mb6.5
CLNS pmax pmax
comp=N,460nm,1.4s
CLNS pmax pmax
comp=E,100nm,0.9s
CLNS pmax pmax
comp=Z,106nm,1.3s,mb5.7
CLNS pmax pmax
comp=N,144nm,1.1s
CLNS pmax pmax
comp=E,31nm,1.4s
CLNS smax
comp=N,40nm,1.5s
CLNS smax
comp=E,66nm,1.5s
CLNS smax
comp=Z,12nm,1.3s
CLNS MLR MLR
comp=Z,18μm,20.0s,MS6.2
CLNS MLR MLR
comp=N,3μm,15.0s,MS6.0
CLNS MLR MLR
comp=E,7μm,15.0s,MS6.0
DLH Dalhousie 60.42 311 *e*P **P** **07 07 43.0 +2.4**
DLH *e*x x 07 07 56.0
AFI Afiamalu 60.93 104 LR LR 07 33 26.3
comp=E,17μm,19.3s,MS6.2,baz=274,slow=35
AFI PKP2ab 07 37 16.7
comp=E,16nm,0.8s,baz=213,slow=22,SNR=2.7
AFI Afiamalu 60.93 104 *e*P **P** **07 07 46.9 +2.9**
AFI pmax pmax
comp=Z,371nm,1.1s,mb6.4
AFI MLR MLR
comp=Z,22μm,20.0s,MS6.3
AFI Afiamalu 60.93 104 *e*P **P** **07 07 46.9 +2.8**
comp=Z,371nm,1.1s,mb6.4
AFI LR LR
comp=Z,22μm,20.0s,MS6.3
MIDW Midway 61.83 55 PFAKE 07 08 00.0 +10
MIDW LR LR
comp=Z,36μm,19.0s,MS6.5
BOD Bodaibo 62.12 352⇑ *i*P **P** **07 07 51.9 -0.1**
BOD pmax pmax
comp=Z,907nm,1.3s,mb6.7
BHJ Bhuj 62.17 299 *e*P **P** **07 07 50.6 -1.8**
BHJ ⇑*e*P 07 07 51.4
BHJ AMb AMB 07 08 00.7
comp=Z,615nm,1.6s,mb6.5
BHJ *e*S **S** **07 16 16.6 +1.0**
BHJ *e*x x 07 35 51.5
comp=Z,66μm,21.8s
PET Petropavlovsk 62.24 21 *c i*P **P** **07 07 52.2 -0.7**
PET *e* 07 08 32.8
PET *e* 07 10 14.0
PET *e*S **S** **07 16 20.0 +3.5**
PET *e* 07 17 46.2
PET *e*SSS 07 23 08.8
PET pmax pmax
comp=Z,760nm,1.3s,mb6.7
PET pmax pmax
comp=N,432nm,1.2s
PET pmax pmax
comp=E,195nm,1.0s
PET pmax pmax
comp=Z,5μm,10.9s
PET Petropavlovsk 62.24 21 *e*P **P** **07 07 54.8 +1.9**
comp=Z,1μm,1.4s,mb6.9
PET LR LR
comp=Z,26μm,22.0s,MS6.4
NIL Nilore 62.96 311 P **P** **07 08 01.9 +4.2**
comp=Z,1μm,0.9s,mb7.0,SNR=28
DRV Dumont d'Urvil 63.61 174 P **P** **07 08 04.0 +2.0**
DRV Dumont d'Urvil 63.61 174 PP PP 07 10 22.0 0.0
DRV SP 07 16 51.0
DRV L 07 24 00.0
DRV R 07 28 00.0
KSH Kashi 63.69 318 P **P** **07 08 04.0 +1.5**
KSH *e*AP pP 07 08 14.4 +1.8
KSH XP sP 07 08 18.3 +1.8
KSH PCP PcP 07 08 40.3 +1.8
KSH PP PP 07 10 25.6 +2.9
KSH SCP 07 12 39.8
KSH PCS 07 12 43.4
KSH S **S** **07 16 33.9 -0.7**
KSH SCS ScS 07 17 51.9 -1.6
KSH AMB AMB
comp=Z,350nm,0.8s,mb6.4
KSH AMB AMB
comp=Z,8μm,6.0s
KSH LR LR
comp=N,25μm,16.2s,MS6.7
KSH LR LR
comp=E,28μm,16.6s,MS6.7
KSH LR LR
comp=Z,51μm,22.8s
CASY Casey 63.70 187 *e*P **P** **07 08 01.2 -1.4**
CASY *e*S **S** **07 16 37.8 +3.0**
MKAR Makanchi Array 63.90 327 P **P** **07 08 03.2 -0.7**
comp=Z,251nm,0.7s,mb6.3,baz=116,slow=5.5,SNR=188
MKAR PKPPKP 07 36 55.6
comp=Z,2.4nm,0.8s,baz=324,slow=6.0,SNR=9.1
MKAR P4KPbc 07 45 03.5
comp=Z,2.2nm,0.8s,baz=123,slow=5.3,SNR=8.6
MKAR Makanchi Array 63.90 327 P **P** **07 08 03.2 -0.7**
MKAR P'P' 07 36 55.6
ULHL Ulahol 64.89 320 P **P** **07 08 14.1 +3.7**
SNR=12
AAA Alma-Ata 64.98 322 *i* P **P** **07 08 11.4 +0.4**
AAA *i* S **S** **07 16 50.7 +0.1**
AAA pmax pmax
comp=Z,18μm,14.7s
AAA smax
comp=E,26μm,24.4s
AAA MLR MLR
comp=Z,26μm,25.6s,MS6.3
YAK Yakutsk 65.43 1 *c i*P **P** **07 08 13.6 -0.3**
YAK *i* *PP pP 07 08 26.6 +2.6
YAK *e* 07 08 42.9
YAK *e* 07 10 41.3
YAK *e*S S 07 16 57.3 +1.1
YAK *e**SS sS 07 17 18.2 +5.3
YAK *e* 07 18 07.9
YAK *e*SS SS 07 21 03.9 -5.9
YAK pmax pmax
comp=Z,1μm,0.9s,mb6.8
YAK pmax pmax
comp=N,624nm,1.4s
YAK pmax pmax
comp=E,560nm,1.2s
YAK pmax pmax
comp=Z,53nm,1.3s,mb5.4
YAK pmax pmax
comp=N,76nm,1.6s
YAK pmax pmax
comp=E,64nm,1.5s
YAK smax
comp=N,6μm,10.1s
YAK smax
comp=Z,5μm,15.7s
YAK smax
comp=E,18μm,14.8s
YAK MLR MLR
comp=Z,18μm,21.0s,MS6.2
YAK MLR MLR
comp=N,15μm,19.0s
YAK MLR MLR
comp=E,11μm,25.0s
YAK Yakutsk 65.43 1 *e*P **P** **07 08 13.8 -0.1**
comp=E,2μm,0.8s,mb7.1
YAK *e*pP pP 07 08 22.6 -1.4
YAK *e*sP sP 07 08 27.5 -0.4
YAK LR LR
comp=Z,30μm,20.0s,MS6.5
KZA Kyzart 65.44 320 P **P** **07 08 15.1 +1.2**
SNR=149
TKM2 Tokmak 2 65.64 321 P **P** **07 08 15.4 +0.1**
SNR=261
KRAR Krasnoyarsk 65.72 340 *e*P **P** **07 08 15.9 +0.2**
KRAR pmax pmax
comp=Z,644nm,1.6s,mb6.4
KRAR MLR MLR
comp=Z,16μm,16.0s,MS6.3
KBK Karagaybulak 65.92 320 P **P** **07 08 18.4 +1.3**
SNR=41
UCH Uchtor 65.99 320 P **P** **07 08 18.7 +1.2**
SNR=220
AAK Ala-Archa 66.20 320 P **P** **07 08 19.2 +0.4**
SNR=170
AAK Ala-Archa 66.20 320 P **P** **07 08 18.1 -0.7**
comp=Z,2μm,1.1s,mb7.0
AAK Ala-Archa 66.20 320 *c i*P **P** **07 08 18.2 -0.6**
AAK pmax pmax
comp=Z,688nm,1.6s,mb6.4
AAK MLR MLR
comp=Z,30μm,25.0s,MS6.4
AAK Ala-Archa 66.20 320 *e*P **P** **07 08 18.3 -0.5**
comp=Z,339nm,3.4s
AAK *e*pP pP 07 08 27.9 -1.1
AAK LR LR
comp=Z,24μm,20.0s,MS6.4
CHMS Chumysh 66.22 320 P **P** **07 08 18.8 -0.2**
SNR=52
FRU Bishkek 66.22 320⇑ *i*P **P** **07 08 19.0 0.0**
FRU *i* 07 08 35.0
FRU *i* 07 08 43.0
FRU *e*S S 07 17 10.0 +4.2
FRU pmax pmax
comp=Z,1μm,2.3s,mb6.6
FRU smax
comp=N,17μm,16.0s
FRU MLR MLR
comp=Z,40μm,23.0s,MS6.6
AML Almayashu 66.47 319 P **P** **07 08 20.6 0.0**
SNR=229
USP Ospenovka 66.51 321 P **P** **07 08 21.0 +0.1**
SNR=233
EKS2 Erkin-Say 66.67 320 P **P** **07 08 22.3 +0.4**
SNR=180
MIR Mirnyy 67.26 194 *e*P **P** **07 08 24.0 -1.6**
MIR *e*S S 07 17 18.0 -0.3
MIR pmax pmax
comp=Z,288nm,2.0s,mb6.0
MIR smax
comp=E,6μm,16.0s
MIR MLR MLR
comp=N,25μm,18.0s,MS6.6
MIR MLR MLR
comp=E,20μm,18.0s,MS6.6
MIR MLR MLR
comp=Z,60μm,18.0s,MS6.9
ZAL Zalesovo 67.34 334 P **P** **07 08 24.9 -1.2**
FX1 Attu Island--F 68.15 28 *e*P **P** **07 08 32.8 +1.6**
FX1 *e*pP pP 07 08 41.1 -0.3
KURK Kurchatov 68.21 329 P **P** **07 08 31.0 -0.6**
comp=Z,6μm,1.0s
KURK Kurchatov 68.21 329 *e*P **P** **07 08 30.7 -0.9**
KURK *e**PP pP 07 08 40.0 -1.7
KURK pmax pmax
comp=Z,229nm,1.2s,mb6.1
KURK MLR MLR
comp=Z,27μm,22.0s,MS6.4
KURK Kurchatov 68.21 329 *e*P **P** **07 08 30.7 -0.8**
comp=Z,229nm,1.2s,mb6.1
KURK *e*pP pP 07 08 40.0 -1.8
KURK LR LR
comp=Z,27μm,22.0s,MS6.4
SMY Shemya 68.49 28 *e*P **P** **07 08 33.7 +0.3**
SMY pmax pmax
comp=Z,2μm,1.5s,mb6.8
SMY MLR MLR
comp=Z,55μm,22.0s,MS6.7
SMY Shemya 68.49 28 *e*P **P** **07 08 33.6 +0.3**
comp=Z,2μm,1.5s,mb6.8
SMY LR LR
comp=Z,55μm,22.0s,MS6.7
NVS Novosibirsk 68.62 334⇑ *i*P **P** **07 08 31.8 -2.4**
NVS *e* 07 11 13.6
NVS *e*PPP 07 12 51.7
NVS *i* S S 07 17 31.9 -2.7
NVS *i* 07 18 23.3
NVS pmax pmax
comp=N,931nm,1.5s
NVS pmax pmax
comp=E,780nm,1.5s
NVS pmax pmax
comp=Z,1μm,1.5s,mb6.6
NVS pmax pmax
comp=N,537nm,2.4s
NVS pmax pmax
comp=E,39nm,2.4s
NVS pmax pmax
comp=Z,498nm,2.4s,mb6.0
NVS smax
comp=N,234nm,2.0s
NVS smax
comp=E,288nm,1.8s
SEY Seymchan 68.98 12 *i* P **P** **07 08 37.2 +0.8**
SEY 07 09 01.9
SEY 07 11 12.1
SEY *e*S S 07 17 39.8 +1.0
SEY *e* 07 18 35.9
SEY pmax pmax
comp=E,620nm,1.7s
SEY pmax pmax
comp=Z,2μm,1.7s,mb6.8
SEY pmax pmax
comp=N,460nm,1.3s
SEY smax
comp=N,72μm,16.2s
SEY smax
comp=E,116μm,26.0s
SEY MLR MLR
comp=Z,58μm,21.0s,MS6.8
SEY MLR MLR
comp=N,50μm,23.0s,MS6.8
SEY MLR MLR
comp=E,20μm,18.0s,MS6.8
SEY Seymchan 68.98 12 *e*P **P** **07 08 36.8 +0.4**
KK31 Karatay Array 69.00 319 *i* P **P** **07 08 35.5 -1.0**
KKAR Karatay Array 69.00 319 *i* P **P** **07 08 35.5 -1.0**
KKAR pmax pmax
comp=Z,634nm,1.3s,mb6.4
WBK Wadi Bani Khal 71.53 295⇑P **P** **07 08 52.1 +0.1**
SNR=19
JMDO Jabal Madar 72.26 295 P **P** **07 08 56.9 +0.5**
SNR=50
SMDO Samad 72.45 295⇓P **P** **07 08 57.4 -0.2**
SNR=55
BIDO Bidbid 72.48 296 P **P** **07 08 57.9 +0.2**
SNR=100
ADK Adak 72.69 33 *e*P **P** **07 08 58.5 -0.5**
ADK *e**PP pP 07 09 09.0 -0.2
ADK pmax pmax
comp=Z,1μm,1.6s,mb6.6
ADK MLR MLR
comp=Z,26μm,21.0s,MS6.5
ADK Adak 72.69 33 *e*P **P** **07 08 58.5 -0.4**
comp=Z,1μm,1.6s,mb6.6
ADK *e*pP pP 07 09 09.0 -0.2
ADK LR LR
comp=Z,26μm,21.0s,MS6.5
HOQ Hoqain 73.22 296 P **P** **07 09 02.2 +0.2**
SNR=82
VOSK Vostochnaya 73.28 328 P **P** **07 09 00.2 -2.3**
VOSK pmax pmax
comp=Z,945nm,1.9s,mb6.4
BVA0 Borovoye Array 73.75 328 *i* P **P** **07 09 03.5 -1.7**
BVA0 pmax pmax
comp=Z,316nm,1.4s,mb6.0
BVAR Borovoye Array 73.75 328 P **P** **07 09 04.0 -1.1**
comp=Z,159nm,0.8s,mb6.0,baz=130,slow=6.7,SNR=82
BVAR S S 07 18 35.0 +1.1
comp=Z,2.4nm,0.9s,baz=157,slow=4.2,SNR=2.9
BVAR SS SS 07 23 19.6 +1.8
comp=Z,0.2nm,0.3s,baz=197,slow=18,SNR=2.2
SHAO Shalim 73.77 290 P **P** **07 09 05.4 0.0**
SNR=30
BRVK Borovoye 73.82 328 P **P** **07 09 04.2 -1.4**
comp=Z,3μm,1.6s,mb6.9,SNR=98
BRVK Borovoye 73.82 328 *e*P **P** **07 09 04.4 -1.2**
BRVK pmax pmax
comp=Z,620nm,1.4s,mb6.3
BRVK MLR MLR
comp=Z,16μm,20.0s,MS6.3
BRVK Borovoye 73.82 328 *e*P **P** **07 09 04.4 -1.2**
comp=Z,620nm,1.4s,mb6.3
BRVK LR LR
comp=Z,16μm,20.0s,MS6.3
ARQ Araqi 73.88 295 P **P** **07 09 06.4 +0.4**
SNR=59
ASHO Ashiyiah 74.56 297 P **P** **07 09 10.0 +0.1**
SNR=45
BANOM Banah 74.59 298 P **P** **07 09 11.2 +1.1**
SNR=23
RBK Rabkut 75.03 289 P **P** **07 09 12.2 -0.4**
SNR=84
TIXI Tiksi 75.08 1 *e*P **P** **07 09 06.1 -6.8**
TIXI *e*S S 07 18 41.4 -7.4
TIXI *e* 07 19 17.3
TIXI *e*SSS 07 26 59.5

TIXI pmax pmax
comp=Z,804nm,1.6s,mb6.4
TIXI pmax pmax
comp=N,122nm,1.0s
TIXI pmax pmax
comp=E,120nm,1.4s
TIXI smax
comp=N,11μm,18.0s
TIXI smax
comp=E,25μm,16.9s
TIXI MLR MLR
comp=Z,31μm,18.0s,MS6.7
TIXI MLR MLR
comp=N,23μm,19.0s,MS6.6
TIXI MLR MLR
comp=E,14μm,19.0s,MS6.6
TIXI Tiksi 75.08 1⇑ *i*P **P 07 09 11.2 -1.7**
WHFO Wadi Hawf 75.50 289 P **P 07 09 14.0 -1.3**
SNR=112
ABTO Aybut 75.86 289 P **P 07 09 16.8 -0.6**
SNR=78
ABKT Ailbek 75.96 310 P **P 07 09 18.5 +0.5**
comp=E,1μm,0.9s,mb6.9,SNR=48
VAN Vannovskaya 75.97 310 *e*P **P 07 09 18.0 0.0**
VNDA Vanda 76.17 173 P **P 07 09 17.4 -1.7**
comp=E,139nm,0.8s,mb5.9,baz=317,slow=6.0,SNR=73
VNDA S S 07 19 01.1 +0.3
comp=E,4.1nm,1.2s,baz=134,slow=17,SNR=3.3
VNDA SS SS 07 23 53.6 -1.0
comp=E,1.4nm,1.0s,baz=116,slow=5.5,SNR=1.6
VNDA LR LR 07 43 12.6
comp=E,85μm,19.9s,MS7.0,baz=332,slow=36
VNDA Vanda 76.17 173 *e*P **P 07 09 17.9 -1.3**
VNDA pmax pmax
comp=Z,344nm,1.2s
VNDA MLR MLR
comp=Z,83μm,20.0s
VNDA Vanda 76.17 173 *e*P **P 07 09 17.9 -1.2**
comp=Z,344nm,1.2s,mb6.2
VNDA LR LR
comp=Z,83μm,20.0s,MS7.0
BILL Bilibino 76.42 14*c i*P **P 07 09 19.8 -0.8**
BILL pmax pmax
comp=Z,346nm,2.3s,mb5.9
BILL Bilibino 76.42 14 *e*P **P 07 09 20.4 -0.2**
comp=Z,699nm,1.8s,mb6.3
BILL LR LR
comp=Z,38μm,22.0s,MS6.7
SBA Scott Base 77.08 172 *e*P **P 07 09 23.8 -0.5**
SBA pmax pmax
comp=Z,779nm,1.4s,mb6.5
SBA MLR MLR
comp=Z,57μm,20.0s,MS6.9
SBA Scott Base 77.08 172 *e*P **P 07 09 23.8 -0.5**
comp=Z,779nm,1.4s,mb6.5
SBA LR LR
comp=Z,57μm,20.0s,MS6.9
KIP Kipapa 77.09 67 *e*P **P 07 09 27.4 +3.0**
KIP pmax pmax
comp=Z,479nm,1.4s,mb6.2
KIP MLR MLR
comp=Z,36μm,19.0s,MS6.7
KIP Kipapa 77.09 67 *e*P **P 07 09 27.4 +3.1**
comp=Z,479nm,1.4s,mb6.2
KIP LR LR
comp=Z,36μm,19.0s,MS6.7
MAW Mawson 77.17 201 *e*P **P 07 09 26.2 +1.4**
comp=Z,22nm,0.6s,mb5.3
MAW Mawson 77.17 201 P **P 07 09 23.6 -1.2**
comp=Z,11nm,0.5s,baz=87,slow=22,SNR=4.2
MAW S S 07 19 10.8 -1.0
comp=Z,10nm,0.8s,baz=254,slow=23,SNR=1.8
MAW LR LR 07 38 39.6
comp=Z,29μm,21.7s,MS6.5,baz=60,slow=32
MAW Mawson 77.17 201 *e*P **P 07 09 26.2 +1.4**
MAW pmax pmax
comp=Z,220nm,0.6s
NIKO Nikolski 77.47 34 *e*P **P 07 09 27.5 +1.0**
AB31 Akbulak array 78.17 322 *i* P **P 07 09 28.8 -1.6**
AB31 pmax pmax
comp=Z,292nm,2.1s,mb5.8
UNV Unalaska Valle 79.10 34 *e*P **P 07 09 37.2 +1.7**
comp=Z,2μm,1.2s,mb6.8
UNV *e*pP pP 07 09 46.4 +0.6
UNV LR LR
comp=Z,65μm,22.0s,MS6.9
POHA Pohakuloa 79.15 69 PFAKE 07 09 50.0 +14
POHA LR LR
comp=Z,39μm,19.0s,MS6.8
OPO Ambohidratompo 79.52 252 P **P 07 09 37.2 -0.6**
comp=Z,19nm,0.6s,baz=87,slow=5.8,SNR=26
OPO S S 07 19 41.9 +4.9
comp=Z,0.7nm,0.3s,baz=347,slow=9.5,SNR=2.8
MUKL Al Mukalla 79.56 285⇓ *e*P **P 07 09 39.3 +1.3**
MUKL AMb AMB 07 09 40.0
comp=Z,464nm,1.3s,mb6.3
AKTK Aktyubinsk 79.73 323 P **P 07 09 37.6 -1.3**
AKTK SS SS 07 24 51.7 +3.5
AKTK PKKPbc PKKPbc 07 28 28.1 +2.6
AKTK LR LR 07 50 55.0
AKTO Aktyubinsk 79.73 323 P **P 07 09 37.6 -1.3**
comp=Z,168nm,0.8s,mb6.0,baz=110,slow=5.6,SNR=73
AKTO SS SS 07 24 51.7 +3.5
comp=Z,1.0nm,0.8s,baz=335,slow=23,SNR=1.7
AKTO PKKPbc PKKPbc 07 28 28.1 +2.6
comp=Z,3.3nm,0.8s,baz=328,slow=3.0,SNR=5.9
AKTO LR LR 07 50 55.1
comp=Z,10μm,18.9s,MS6.2,baz=274,slow=40
ARU Arti 81.39 328 P **P 07 09 46.2 -1.6**
comp=Z,2μm,1.0s,mb6.9,SNR=40
ARU Arti 81.39 328⇓ *i*P **P 07 09 44.9 -2.9**
ARU *e* 07 12 50.5
ARU *e*S S 07 19 53.7 -2.9
ARU *e*SS SS 07 25 09.5 -3.6
ARU *e*SSS 07 28 30.3
ARU pmax pmax
comp=Z,267nm,1.0s,mb6.1
ARU MLR MLR
comp=Z,22μm,23.0s,MS6.5
ARU MLR MLR
comp=N,17μm,21.0s,MS6.5
ARU MLR MLR
comp=E,14μm,25.0s,MS6.5
ARU Arti 81.39 328 *e*P **P 07 09 46.7 -1.2**
comp=E,334nm,1.0s,mb6.2
ARU *e*PP PP 07 12 55.1 +1.2
ARU LR LR
comp=Z,21μm,22.0s,MS6.5
PAE Paea 82.37 107 *e*P **P 07 09 55.6 +2.6**
comp=Z,614nm,1.0s,mb6.5
PPT Papeete 82.38 107 *e*P **P 07 09 55.8 +2.8**
comp=Z,248nm,1.2s,mb6.0
PPT Papeete 82.38 107 *e*LQ 07 32 45.1
comp=Z,91μm,34.5s
PPT Papeete 82.38 107 *e*PP PP 07 12 57.3 -4.7
comp=Z,9μm,27.5s
PPT Papeete 82.38 107 *e*S S 07 20 11.7 +4.9
comp=Z,40μm,24.5s
PPT *e*SS SS 07 25 42.2 +14
comp=Z,20μm,27.2s
PPT *e*LR LR 07 36 23.1
comp=Z,122μm,37.2s
PPT Papeete 82.38 107 P **P 07 09 52.9 -0.1**
comp=Z,38nm,1.2s,baz=270,slow=12,SNR=2.0
PPT S S 07 20 12.7 +5.9
comp=Z,17nm,0.7s,baz=49,slow=18,SNR=1.7
PPT LR LR 07 40 52.0
comp=Z,10μm,21.3s,MS6.2,baz=84,slow=32
PPT Papeete 82.38 107 P **P 07 09 52.9 -0.1**
PPT S S 07 20 12.7 +5.9
TBI Tubuai 82.39 113 *e*P **P 07 09 55.0 +1.9**
comp=Z,773nm,1.1s,mb6.6
TBI Tubuai 82.39 113 *e*PP PP 07 13 01.8 -0.3
comp=Z,6μm,29.5s
TBI Tubuai 82.39 113 *e*S S 07 20 06.5 -0.4
comp=Z,28μm,26.8s
TBI *e*LR LR 07 36 26.3
comp=Z,59μm,36.0s
QRN Al-Qurain 82.42 299 *e*P **P 07 09 52.6 -0.7**
QRN AMb AMB 07 10 03.3
comp=Z,710nm,1.0s,mb6.6
KBD Kabd 82.68 300 *e*P **P 07 09 53.3 -1.3**
KBD AMb AMB 07 10 07.7
comp=Z,772nm,1.0s,mb6.7
TVO Taravao 82.68 107 *e*P **P 07 09 57.4 +2.8**
comp=Z,576nm,1.2s,mb6.5
UMR Umm Al-Rimmam 82.71 300 *e*P **P 07 09 54.3 -0.5**
UMR AMb AMB 07 10 05.3
comp=Z,623nm,0.8s,mb6.7
RDF Al-Radifah 82.77 300 *e*P **P 07 09 54.8 -0.3**
RDF AMb AMB 07 10 03.3
comp=Z,478nm,1.3s,mb6.4
BDHA Al Bayda' 82.86 284⇑ *e*P **P 07 09 57.2 +1.7**
BDHA AMb AMB 07 09 58.5
comp=Z,473nm,1.2s,mb6.4
TNA Tin City 83.05 22 *e*P **P 07 09 56.8 +0.2**
comp=Z,300nm,1.2s,mb6.2
TNA *e*pP pP 07 10 05.8 -1.1
TNA LR LR
comp=Z,13μm,22.0s,MS6.3
MIB Mutribah 83.08 300 *e*P **P 07 09 56.4 -0.2**
MIB AMb AMB 07 10 11.1
comp=Z,758nm,1.0s,mb6.7
NAY Al-Naaiem 83.08 300 *e*P **P 07 09 56.4 -0.2**
NAY AMb AMB 07 10 06.6
comp=Z,458nm,0.7s,mb6.6
LBOS 83.15 284 *e*P **P 07 09 58.8 +1.7**
LBOS AMb AMB 07 09 59.7
comp=Z,655nm,1.6s,mb6.4
SOKR Solikamsk 83.32 331*c i*P **P 07 09 55.2 -2.7**
SOKR *i* 07 13 07.2
SOKR *i*S S 07 20 04.1 -12
SOKR *i*SS SS 07 25 34.2 -7.5
SOKR *i*SSS 07 29 03.4
SOKR pmax pmax
comp=Z,550nm,1.0s,mb6.5
MEH Mehetia 83.81 108 *e*P **P 07 10 02.6 +2.2**
comp=Z,435nm,1.3s,mb6.4
DHBB Dhamar BB 84.05 285⇑ *e*P **P 07 10 03.4 +1.7**
DHBB AMb AMB 07 10 04.8
comp=Z,2μm,1.3s,mb7.0
TRBA At Turbah 84.19 284 *e*P **P 07 10 04.0 +1.6**
TRBA AMb AMB 07 10 05.5
comp=Z,866nm,1.7s,mb6.6
VAH Vaihoa 84.32 105 *e*P **P 07 10 05.5 +2.5**
comp=Z,319nm,1.1s,mb6.3
MAK Makhachkala 84.96 314*d i*P **P 07 10 08.6 +2.3**
MAK *e* 07 13 27.3
MAK *e*PPP 07 15 21.1
MAK *i*S 07 20 27.4
MAK *i*SS SS 07 26 09.6 +3.6
MAK pmax pmax
comp=Z,301nm,1.1s,mb6.3
MAK Makhachkala 84.96 314 *e*P **P 07 10 04.2 -2.1**
ATD Arta Tunnel 85.29 282 P **P 07 10 09.5 +1.6**
comp=Z,71nm,0.8s,mb5.8,baz=306,slow=1.7,SNR=17
ATD PP PP 07 13 24.9 -1.0
comp=Z,5.4nm,0.5s,baz=234,slow=21,SNR=2.7
ATD LR LR 07 44 46.0
comp=Z,25μm,21.9s,MS6.6,baz=95,slow=33
SYO Syowa Base 85.88 201⇓ *e*PcP PcP 07 10 11.6 -2.0
SYO Syowa Base 85.88 201⇓ *e*P **P 07 10 10.7 -0.1**
SYO ⇓*e*PcP PcP 07 10 11.6 -2.0
BHD Baghdad 86.03 304 *i*x x 07 10 08.5
BHD *i*x x 07 10 15.0
BHD *i*x x 07 13 19.0
BHD *i*x x 07 20 28.0
BHD *i*x x 07 20 35.0
DGRG David-gareji 86.30 312 P **P 07 10 13.9 +1.0**
QSPA South Pole Qui 86.39 180 P **P 07 10 11.7 -1.6**
QSPA SKSac SKSac 07 20 35.7 -1.6
QSPA South Pole Qui 86.39 180⇑ P **P 07 10 11.9 -1.5**
comp=Z,1μm,1.3s,mb7.0
MTA Mtatsminda 86.76 312 P **P 07 10 15.5 +0.3**
TBLG Delisi 86.81 312 P **P 07 10 16.1 +0.7**
DUS Dusheti 86.88 312 P **P 07 10 17.4 +1.7**
HKR Hakkari 87.06 308 P **P 07 10 17.1 +0.5**
CLDR Caldiran 87.10 309 P **P 07 10 16.6 -0.3**
CUKT Cukurca 87.12 307 P **P 07 10 15.4 -1.5**
MSL Mosul 87.43 306 *ex* x 07 10 21.0
MSL *i*x x 07 10 29.0
MSL *ex* x 07 13 51.0
MSL *ex* x 07 20 44.0
MSL *ex* x 07 20 56.5
TVAN Van 87.43 309 *i*P **P 07 10 22.0 +3.6**
ZEI Tsey 87.56 313 *e*P **P 07 10 18.8 -0.2**
ZEI *i* *PP pP 07 10 26.5 -3.0
ZEI *i* 07 13 48.1
ZEI *e*S 07 20 46.7
ZEI pmax pmax
comp=Z,402nm,1.4s,mb6.5
DIGO Kars 87.67 311 *i*P **P 07 10 20.2 +0.7**
AKH Akhalkalaki 87.69 312 P **P 07 10 20.7 +1.0**
KDAK Kodiak Island 87.72 32 P **P 07 10 20.6 +0.8**
comp=Z,2μm,1.5s,mb7.2,SNR=15
BKR Bakuriani 87.72 312 P **P 07 10 21.3 +1.5**
DESE Dese 88.40 281 *e*P **P 07 10 25.8 +2.8**
DESE *e*S 07 21 19.9
GOF Gofitskoye 88.45 315⇑ *i*P **P 07 10 22.5 -0.8**
GOF *i* 07 13 55.4
GOF *i*S 07 20 51.3
GOF pmax pmax
comp=Z,250nm,1.0s,mb6.4
KIV Kislovodsk 88.57 314 P **P 07 10 23.0 -0.9**
comp=Z,719nm,1.0s,mb7.0,SNR=39
KIV Kislovodsk 88.57 314 *e*P **P 07 10 23.2 -0.7**
KIV *e* 07 13 53.9
KIV *e*PPP 07 15 54.7
KIV *e* 07 20 49.9
KIV *e*SS SS 07 26 58.3 -0.6
KIV pmax pmax
comp=Z,4μm,5.3s
KIV MLR MLR
comp=Z,23μm,21.0s,MS6.6
KIV Kislovodsk 88.57 314 *e*P **P 07 10 24.3 +0.4**
comp=Z,273nm,1.2s,mb6.5
KIV LR LR
comp=Z,10μm,20.0s,MS6.2
ARTV Artvin 88.84 311 *i*P **P 07 10 25.6 +0.5**
BTMT Batman 88.89 308 P **P 07 10 25.9 +0.6**
BEST Besiri 89.04 308 *i*P **P 07 10 29.9 +3.9**
ERZM Erzurum 89.15 310 *i*P **P 07 10 27.5 +0.9**
EZM Erzurum 89.15 310 P **P 07 10 27.1 +0.6**
BNGL BINGOL 89.23 309 *i*P **P 07 10 27.9 +1.0**
SLKM Skilak Lake 89.36 29 *e*P **P 07 10 26.4 -1.2**
MARD Mardin 89.37 307 *i*P **P 07 10 28.3 +0.7**
FIB Fire Island 89.48 29 *e*P **P 07 10 29.9 +1.8**
FIB pmax pmax
comp=Z,299nm,1.4s,mb6.4
FIB MLR MLR
comp=Z,13μm,21.0s,MS6.3
FIB Fire Island 89.48 29 *e*P **P 07 10 29.9 +1.8**
comp=Z,299nm,1.4s,mb6.4
FIB LR LR
comp=Z,13μm,21.0s,MS6.3
DIY Diyarbakir 89.86 308 P **P 07 10 31.5 +1.6**
KMBO Kilima Mbogo 89.99 269 P **P 07 10 31.0 +0.6**
KMBO Kilima Mbogo 89.99 269 P **P 07 10 29.9 -0.6**
comp=Z,5.1nm,0.8s,baz=64,slow=7.3,SNR=14
KMBO PP PP 07 14 03.5 -0.2
comp=Z,3.9nm,0.9s,baz=116,slow=7.3,SNR=2.0
KMBO S 07 21 04.8
comp=Z,0.5nm,0.5s,baz=241,slow=22,SNR=2.1
KMBO SS SS 07 27 20.9 +1.5
comp=Z,0.8nm,0.8s,baz=45,slow=23,SNR=1.7
KMBO LR LR 07 51 17.3
comp=Z,32μm,19.6s,MS6.8,baz=93,slow=36
KMBO Kilima Mbogo 89.99 269 *e*P **P 07 10 31.1 +0.6**
KMBO pmax pmax
comp=Z,378nm,1.9s
KMBO MLR MLR
comp=Z,24μm,20.0s
KMBO Kilima Mbogo 89.99 269 *e*P **P 07 10 31.1 +0.6**
comp=Z,378nm,1.9s,mb6.4
KMBO LR LR
comp=Z,24μm,20.0s,MS6.6
VRHR Novokhopersk 90.03 321 *e*P **P 07 10 31.4 +0.7**
VRHR *e* 07 14 03.3
VRHR *e*S 07 20 58.5
VRHR *e*SS SS 07 27 21.0 +1.0
VRHR pmax pmax
comp=E,6.0nm,0.3s
VRHR pmax pmax
comp=Z,30nm,0.3s,mb6.1
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR MLR MLR
comp=Z,24μm,24.0s,MS6.5
VRHR MLR MLR
comp=N,18μm,20.0s,MS6.7
VRHR MLR MLR
comp=E,24μm,25.0s,MS6.7
PMR Palmer 90.04 28 *e*P **P 07 10 29.5 -1.3**
comp=E,208nm,1.4s,mb6.3
PMR LR LR
comp=Z,21μm,21.0s,MS6.5
MCK McKinley 90.40 26 *e*P **P 07 10 30.7 -1.7**
MCK *e* 07 14 06.8
MCK pmax pmax
comp=Z,54nm,1.2s,mb5.8
MCK MLR MLR
comp=Z,8μm,21.0s,MS6.1
MCK McKinley 90.40 26 *e*P **P 07 10 30.7 -1.7**
comp=Z,54nm,1.2s,mb5.8
MCK *e*PP PP 07 14 06.8 -0.1
MCK LR LR
comp=Z,8μm,21.0s,MS6.1
SML Sawmill 90.44 28 *e*P **P 07 10 31.7 -0.9**
SML *e* 07 14 06.4
GUMT Gumushane 90.63 310 P **P 07 10 33.7 +0.2**
SOC Sochi 90.68 313*c i*P **P 07 10 31.8 -1.9**
SOC *e**PP pP 07 10 43.6 -0.6
SOC *e* 07 14 07.2
SOC *e*PPP 07 16 08.4
SOC *i*S 07 21 01.3
SOC *e*SS SS 07 27 28.8 -0.6
SOC pmax pmax
comp=Z,55nm,0.7s,mb6.0
SOC pmax pmax
comp=Z,3μm,5.4s
SOC MLR MLR
comp=Z,24μm,23.0s,MS6.6
KELT Kelkit 90.78 310 *i*P **P 07 10 34.5 +0.3**
URFA Urfa 90.94 307 P **P 07 10 34.7 -0.2**
COLA College 91.00 25 P **P 07 10 33.3 -1.9**
COLA College 91.00 25 *e*P **P 07 10 33.6 -1.6**
COLA pmax pmax
comp=Z,52nm,0.9s,mb5.9
COLA MLR MLR
comp=Z,18μm,22.0s,MS6.5
COLA College 91.00 25 *e*P **P 07 10 33.6 -1.6**
comp=Z,52nm,0.9s,mb5.9
COLA LR LR
comp=Z,18μm,22.0s,MS6.5
MALT Malatya 91.31 308 P **P 07 10 34.2 -2.4**
MALT Malatya 91.31 308 P **P 07 10 37.2 +0.6**
MALT pmax pmax
comp=Z,150nm,1.1s,mb6.2
MALT Malatya 91.31 308 *e*P **P 07 10 37.4 +0.8**
comp=Z,150nm,1.1s,mb6.2
MALT *e*pP pP 07 10 46.8 -0.3
ATAB Bozova 91.36 307 *i*P **P 07 10 37.0 +0.1**
ILAR Eielson Array 91.40 25 P **P 07 10 34.8 -2.3**
comp=Z,28nm,0.8s,mb5.6,baz=281,slow=3.6,SNR=66
ILAR PP PP 07 14 14.0 -0.8
comp=Z,9.3nm,0.9s,baz=245,slow=6.8,SNR=6.2
ILAR S 07 21 10.1
comp=Z,1.5nm,1.0s,baz=299,slow=4.9,SNR=2.7
ILAR SS SS 07 27 34.6 -5.2
comp=Z,0.8nm,0.8s,baz=52,slow=1.1,SNR=2.8
ILAR PKKP PKKPbc 07 27 56.5 -1.4
comp=Z,4.0nm,0.9s,baz=353,slow=0.5,SNR=7.8
ILAR PKPPKP 07 36 01.8
comp=Z,0.7nm,0.9s,baz=28,slow=0.9,SNR=4.9
ILAR LR LR 07 49 53.6
comp=Z,16μm,21.9s,MS6.4,baz=33,slow=34
ILAR Eielson Array 91.40 25 P **P 07 10 34.8 -2.3**
ILAR 07 14 14.0
ILAR S 07 21 10.1
ILAR SS SS 07 27 34.6 -5.2
VORD Divnogorie 91.49 321 *e*P **P 07 10 36.1 -1.4**
VORD pmax pmax
comp=Z,70nm,1.3s,mb5.8
VORD pmax pmax
comp=E,30nm,0.9s
EYAK Cordova Ski Ar 91.57 30 *e*P **P 07 10 40.5 +2.6**
EYAK *e*pP pP 07 10 49.8 +1.5
GRSN GIRESUNGRSN 91.58 311 *i*P **P 07 10 36.6 -1.3**
VOR Voronezh 91.59 322 *e*P **P 07 10 36.5 -1.5**
VOR pmax pmax
comp=Z,540nm,2.0s,mb6.5
DIV Divide 91.60 29 *e*P **P 07 10 29.2 -8.8**
comp=Z,2μm,1.4s,mb7.3
DIV LR LR
comp=Z,70μm,22.0s,MS7.1
GZT Gaziantep 91.93 307 *i*P **P 07 10 39.7 +0.2**
TAOE Nuku Hiva Isla 91.97 99 *e*LQ 07 37 00.1
comp=Z,140μm,41.9s
TAOE Nuku Hiva Isla 91.97 99 *e*P **P 07 10 42.4 +2.7**
comp=Z,909nm,1.1s,mb7.0
TAOE Nuku Hiva Isla 91.97 99 *e*SKSac SKSac 07 21 10.7 +0.5
comp=Z,45μm,21.8s
TAOE *e*S 07 21 38.2
comp=Z,101μm,26.2s
TAOE *e*SS SS 07 27 52.5 +4.6
comp=Z,44μm,27.5s
TAOE *e*LR LR 07 40 46.8
comp=Z,91μm,22.4s
KLMR Klimovskoe 92.00 331*c i*P **P 07 10 37.4 -2.4**
KLMR *e*S 07 21 07.6
KLMR pmax pmax
comp=Z,510nm,1.6s,mb6.6
GAZ Gaziantep 92.20 307 *e*P **P 07 10 39.9 -0.9**
ANN Anapa 92.39 315*d i*P **P 07 10 40.8 -0.9**
ANN *i* 07 14 25.3
ANN *i* 07 21 11.4
ANN *e*SS SS 07 27 58.4 +4.3
ANN pmax pmax
comp=Z,374nm,1.7s,mb6.4
ANN Anapa 92.39 315 *e*P **P 07 10 40.0 -1.7**
SVSK Karacayir 92.50 310 *e*P **P 07 10 41.3 -0.8**
MOS Moscow 92.74 326 *e*P **P 07 10 41.4 -1.8**
MOS *e* 07 14 24.9
MOS *e*PPP 07 16 25.3
MOS *i* 07 21 15.2
MOS *i*SS SS 07 28 00.2 +1.2
MOS pmax pmax
comp=Z,2μm,3.0s
MOS pmax pmax
comp=Z,410nm,2.1s,mb6.5
COBT Iskenderun 92.94 306 *i*P **P 07 10 47.2 +3.0**
HTY Hatay 93.02 306 *e*P **P 07 10 45.4 +0.8**
KVT Kavak 93.27 311 *e*P **P 07 10 43.5 -2.1**
OBN Obninsk 93.32 325 P **P 07 10 45.0 -0.9**
comp=Z,1μm,0.9s,mb7.3,SNR=8.9
OBN Obninsk 93.32 325*α i*P **P 07 10 44.2 -1.7**
OBN *e* 07 14 29.4
OBN *e*PPP 07 16 36.6
OBN *i* 07 21 16.1
OBN *i* 07 21 53.0
OBN PS PS 07 23 08.0 +0.1
OBN *i*SS SS 07 28 12.0 +4.7
OBN pmax pmax
comp=Z,700nm,1.9s,mb6.8
OBN pmax pmax
comp=Z,460nm,1.8s,mb6.6
OBN Obninsk 93.32 325 *e*P **P 07 10 45.2 -0.7**
comp=Z,233nm,1.0s,mb6.6
OBN LR LR
comp=Z,33μm,22.0s,MS6.7
KOZT Kozan 93.32 307 *e*P **P 07 10 42.1 -3.9**
BHL Bhannes 93.34 304 *e*P **P 07 10 46.1 +0.1**
CEYT Ceyhan 93.37 307 *e*P **P 07 10 43.6 -2.6**
KRTS Karatas 93.65 306 *e*P **P 07 10 47.2 -0.3**
EIL Elat 93.79 299 *e*P **P 07 10 47.9 -0.2**
comp=Z,2μm,1.1s,mb7.4
KARA Karaisali 93.93 307 *e*P **P 07 10 47.3 -1.4**
BOYT Boyabat 94.14 311 *i*P **P 07 10 49.2 -0.5**
CTKT Corum 94.21 310 *i*P **P 07 10 52.2 +2.1**
LVZ Lovozero 94.28 338 *e*P **P 07 10 49.4 -0.9**
LVZ *e* 07 14 35.9
LVZ *e*SS SS 07 28 26.0 +5.0
LVZ *e*SSS 07 31 55.4
LVZ pmax pmax
comp=E,31nm,0.9s
LVZ pmax pmax
comp=Z,122nm,0.9s,mb6.3
LVZ pmax pmax
comp=N,46nm,1.8s
LVZ pmax pmax
comp=N,1μm,3.8s
LVZ pmax pmax
comp=E,4μm,6.8s
LVZ Lovozero 94.28 338 *e*P **P 07 10 49.3 -1.0**
MERS Mersin 94.35 307 *e*P **P 07 10 49.0 -1.7**
CDAG Cicekdag 94.51 309 *i*P **P 07 10 50.6 -0.8**

BSTP	**Nigde**	**94.69 308**	*i* P		**P**	**07 10 53.5**	**+1.3**
SIM	**Simferopol'**	**94.76 315**	*ce*P		**P**	**07 10 51.4**	**-1.1**
SIM			*e*			07 16 47.0	
SIM			*e*			07 21 26.0	
SIM			*e*S			07 21 53.0	
SIM			*e*PPS			07 23 14.0	
SIM			pmax	pmax			
	comp=Z,1μm,10.0s						
APA	**Apatity**	**94.76 337**	⇓*i*P		**P**	**07 10 53.0**	**+0.4**
APA			*i*			07 14 40.6	
APA			*i*			07 21 28.0	
APA			*i*			07 21 53.0	
APA			pmax	pmax			
	comp=Z,42nm,1.0s,mb5.8						
APA			MLR	MLR			
	comp=Z,20μm,20.0s,MS6.6						
NVL	**N'lazarevskaya**	**94.82 197**	⇑*i*P		**P**	**07 11 00.8**	**+8.0**
NVL			*e*PPP			07 16 49.5	
NVL			*e*S			07 21 24.4	
NVL			*e*PS	PS		07 23 23.9	-0.5
NVL			pmax	pmax			
	comp=Z,68nm,1.8s,mb5.8						
KAMT	**Kaman**	**95.02 309**	*e*P		**P**	**07 10 53.7**	**0.0**
BR131	**Keskin Array S**	**95.08 309**	*e*P		**P**	**07 10 55.1**	**+1.1**
	comp=Z,25nm,0.8s,mb5.7						
BR131			LR	LR			
	comp=Z,12μm,21.0s,MS6.3						
BRTR	**Keskin Array B**	**95.08 309**	P		**P**	**07 10 52.5**	**-1.6**
	comp=Z,8.9nm,0.9s,baz=101,slow=3.6,SNR=22						
BRTR			PP	PP		07 14 34.9	-8.7
	comp=Z,6.9nm,0.9s,baz=90,slow=7.4,SNR=3.9						
BRTR			S			07 21 28.6	
	comp=Z,0.5nm,0.4s,baz=185,slow=24,SNR=2.7						
BRTR			PKKPbc	PKKPbc		07 27 50.4	+2.1
	comp=Z,0.5nm,0.7s,baz=95,slow=19,SNR=3.2						
BRTR	**Keskin Array B**	**95.08 309**	P		**P**	**07 10 52.5**	**-1.5**
BRTR			S			07 21 28.6	
BRTR	**Keskin Array B**	**95.08 309**	P		**P**	**07 10 52.5**	**-1.6**
BRTR			PP	PP		07 14 34.9	-8.7
BRTR			S			07 21 28.6	
BRTR			PKKPbc	PKKPbc		07 27 50.4	+2.1
ELDT	**Eldivan**	**95.25 310**	*i* P		**P**	**07 10 56.4**	**+1.6**
CSS	**Prodhromos**	**95.28 305**	*e*P		**P**	**07 10 54.7**	**-0.2**
	comp=Z,112nm,1.1s,mb6.2						
RKT	**Rikitea**	**95.70 114**	*e*P		**P**	**07 10 59.3**	**+2.5**
	comp=Z,157nm,1.3s,mb6.3						
RKT	**Rikitea**	**95.70 114**	*e*PP	PP		07 14 48.8	+0.3
	comp=Z,3μm,29.8s						
RKT	**Rikitea**	**95.70 114**	*e*PS	PS		07 23 45.4	+11
	comp=Z,26μm,29.0s						
RKT	**Rikitea**	**95.70 114**	*e*SKSac	SKSac		07 21 32.1	+1.5
	comp=Z,19μm,30.5s						
RKT			*e*S			07 22 14.3	
	comp=Z,29μm,27.8s						
RKT			*e*SS	SS		07 28 57.8	+17
	comp=Z,10μm,33.2s						
RKT			*e*LR	LR		07 42 21.9	
	comp=Z,38μm,32.8s						
ANTO	**Ankara**	**95.73 310**	*e*P		**P**	**07 10 51.2**	**-5.8**
ANTO	**Ankara**	**95.73 310**	*e*P		**P**	**07 10 57.2**	**+0.2**
ANTO			pmax	pmax			
	comp=Z,101nm,1.5s,mb6.0						
ANTO			MLR	MLR			
	comp=Z,12μm,22.0s,MS6.3						
ANTO	**Ankara**	**95.73 310**	*e*P		**P**	**07 10 57.2**	**+0.2**
	comp=Z,101nm,1.5s,mb6.0						
ANTO			LR	LR			
	comp=Z,12μm,22.0s,MS6.3						
JOF	**Joensuu**	**95.89 333**	*e*p		**P**	**07 10 55.0**	**-2.7**
	comp=Z,64nm,0.8s,mb6.1						
JOF	**Joensuu**	**95.89 333**	*e*P		**P**	**07 10 55.0**	**-2.7**
JOF			pmax	pmax			
	comp=Z,64nm,0.8s,mb6.1						
KDHN	**Kadinhani**	**96.27 308**	*i* P		**P**	**07 10 56.3**	**-3.1**
SGKT	**Sivrigoynuk**	**96.29 310**	*i* P		**P**	**07 10 58.0**	**-1.5**
KIZT	**Kizilcal**	**96.45 309**	*e*P		**P**	**07 10 58.6**	**-1.6**
PUL	**Pulkovo**	**96.59 330**	*e*P		**P**	**07 10 55.1**	**-5.8**
PUL			*e*			07 21 26.9	
PUL			*e*SS	SS		07 28 53.0	-0.8
PUL			pmax	pmax			
	comp=Z,198nm,0.6s,mb6.7						
PUL			MLR	MLR			
	comp=Z,26μm,21.0s,MS6.7						
PUL			MLR	MLR			
	comp=N,14μm,32.0s						
PUL			MLR	MLR			
	comp=E,20μm,24.0s						
INK	**Inuvik**	**96.69 22**	*e*P		**P**	**07 11 00.0**	**-1.3**
	comp=E,0.2nm,0.5s						
KEV	**Kevo**	**96.89 340**	*e*pP	pP		07 11 10.7	-2.0
	comp=E,354nm,1.6s						
KEV			LR	LR			
	comp=Z,27μm,21.0s,MS6.7						
HENT	**Hendek**	**97.17 311**	*i* P		**P**	**07 11 02.8**	**-0.7**
ARCES	**ARCESS Array B**	**97.44 340**	P		**P**	**07 11 02.7**	**-2.0**
	comp=Z,70nm,0.9s,mb6.1,baz=85,slow=5.7,SNR=54						
ARCES			PP	PP		07 15 01.1	-0.8
	comp=Z,5.5nm,0.8s,baz=108,slow=4.0,SNR=3.5						
ARCES			PKiKP	PKiKP		07 15 38.8	-0.6
	comp=Z,6.7nm,0.8s,baz=54,slow=1.6,SNR=5.7						
ARCES			S			07 21 40.4	
	comp=Z,3.6nm,1.0s,baz=279,slow=24,SNR=2.9						
ARCES			PKKPbc	PKKPbc		07 27 43.2	+1.4
	comp=Z,7.6nm,0.9s,baz=252,slow=2.6,SNR=9.3						
ARCES			SS	SS		07 29 08.4	+2.5
	comp=Z,4.9nm,0.9s,baz=353,slow=19,SNR=2.2						
ARCES	**ARCESS Array B**	**97.44 340**	P		**P**	**07 11 02.7**	**-2.0**
ARCES			PP	PP		07 15 01.1	-0.8
ARCES			S			07 21 40.4	
ARCES			PKKPbc	PKKPbc		07 27 43.2	+1.4
ARCES			SS	SS		07 29 08.4	+2.5
ARCES	**ARCESS Array B**	**97.44 340**	PKPdf	PKiKP		07 15 38.8	-0.6
ARCES	**ARCESS Array B**	**97.44 340**		PKiKP		07 15 38.8	-0.7
ARE0	**ARCESS Array S**	**97.44 340**	*e*P		**P**	**07 11 04.9**	**+0.1**
ISP	**Isparta**	**97.54 308**	*e*P		**P**	**07 11 04.4**	**-0.8**
TKTP	**Tekketepe**	**97.69 308**	*i* P		**P**	**07 11 06.5**	**+0.7**
LSZ	**Lusaka**	**97.85 254**	P		**P**	**07 11 05.5**	**-1.1**
	comp=Z,22nm,0.7s,mb5.8,baz=104,slow=4.6,SNR=20						
LSZ			LR	LR		07 53 42.0	
	comp=Z,38μm,22.0s,MS6.8,baz=90,slow=34						
LSZ	**Lusaka**	**97.85 254**	*e*P		**P**	**07 11 07.2**	**+0.6**
LSZ			pmax	pmax			
	comp=Z,30nm,0.8s,mb5.9						
LSZ			MLR	MLR			
	comp=Z,47μm,22.0s,MS6.9						
LSZ	**Lusaka**	**97.85 254**	*e*P		**P**	**07 11 07.2**	**+0.6**
	comp=Z,30nm,0.8s,mb5.9						
LSZ			LR	LR			
	comp=Z,47μm,22.0s,MS6.9						
AKASG	**Malin Array Be**	**97.87 321**	P		**P**	**07 11 04.5**	**-2.1**
	comp=Z,9.3nm,0.8s,mb5.3,baz=74,slow=3.9,SNR=27						
AKASG			PP	PP		07 15 04.5	-0.7
	comp=Z,8.6nm,0.9s,baz=74,slow=5.8,SNR=4.1						
AKASG			S			07 21 45.1	
	comp=Z,0.2nm,0.2s,baz=134,slow=11,SNR=3.3						
AKASG			SS	SS		07 29 14.3	+2.5
	comp=Z,1.5nm,0.9s,baz=168,slow=2.8,SNR=3.1						
BJO	**Bjornoya**	**98.21 345**	*e*PP	PP		07 15 02.8	-5.1
BJO			*e*SKSa			07 21 44.6	
BJO			*e*SS	SS		07 29 16.3	-0.5
BJO			AMS	AMS		07 59 57.1	
	comp=Z,17μm,19.6s,MS6.5						
KBS	**Kingsbay**	**98.23 350**	*e*PP	PP		07 15 07.8	-0.2
KBS			*e*PP	PP		07 15 08.1	+0.1
KBS			*e*			07 22 07.3	
KBS			AMS	AMS		08 03 09.4	
	comp=Z,13μm,30.9s,MS6.2						
KBS	**Kingsbay**	**98.23 350**	PFAKE			07 11 20.0	+12
KBS			LR	LR			
	comp=Z,25μm,22.0s,MS6.7						
KAF	**Kangasniemi**	**98.28 332**	*e*p		**P**	**07 11 05.9**	**-2.6**
	comp=Z,41nm,0.9s,mb6.0						
KAF	**Kangasniemi**	**98.28 332**	*e*P		**P**	**07 11 05.9**	**-2.6**
KAF			pmax	pmax			
	comp=Z,41nm,0.9s,mb6.0						
KTK1	**Kautokeino**	**98.34 339**	*e*P		**P**	**07 11 09.5**	**+0.8**
KTK1			AMb	AMB		07 11 14.1	
	comp=Z,175nm,2.0s,mb6.2						
SNAA	**Sanae**	**98.34 194**	P		**P**	**07 11 07.2**	**-1.6**
	comp=Z,1.6nm,0.4s,baz=96,slow=1.8,SNR=4.7						
SNAA			S			07 21 45.7	
	comp=Z,2.2nm,1.1s,baz=188,slow=23,SNR=5.7						
SNAA			PKKP	PKKPbc		07 27 38.9	-0.5
	comp=Z,5.1nm,1.0s,baz=38,slow=5.9,SNR=4.1						
SNAA			LR	LR		07 54 41.5	
	comp=Z,23μm,22.0s,MS6.6,baz=118,slow=35						
SNAA	**Sanae**	**98.34 194**	*e*Pdiff		**P**	**07 11 12.2**	**+3.4**
SNAA			*e*			07 11 15.2	
SNAA			*e*	pP		07 11 22.0	+2.7
SNAA			*e*			07 11 25.4	
SNAA			*e*			07 11 36.4	
SNAA	**Sanae**	**98.34 194**	P		**P**	**07 11 07.2**	**-1.6**
SNAA			S			07 21 45.7	
KIS	**Kishinev**	**98.39 317**	*o i*P		**P**	**07 11 08.0**	**-1.0**
KIS			*i*			07 15 16.0	
KIS			*i*			07 21 46.0	
KIS			*i* S			07 22 30.0	
KIS			*i* PS	PS		07 23 59.0	-4.3
KIS			*i* PPS			07 24 52.0	
KIS			pmax	pmax			
	comp=Z,2μm,6.0s						
KIS			pmax	pmax			
	comp=Z,5μm,12.0s						
MNK	**Minsk**	**98.39 324**	⇑*i*P		**P**	**07 11 07.0**	**-2.0**
MNK			*e*			07 15 12.0	
MNK			*e*			07 21 38.0	
MNK			*e*PS	PS		07 24 04.0	+0.6
MNK			pmax	pmax			
	comp=Z,640nm,1.0s,mb7.1						
MNK			MLR	MLR			
	comp=Z,103μm,26.0s,MS7.2						
FINES	**FINESS Array B**	**98.48 332**	P		**P**	**07 11 07.1**	**-2.3**
	comp=Z,26nm,1.0s,mb5.7,baz=81,slow=3.2,SNR=23						
FINES			PP	PP		07 15 09.6	-0.3
	comp=Z,6.5nm,0.9s,baz=23,slow=6.2,SNR=2.9						
FINES			PKiKP	PKiKP		07 15 40.9	-0.4
	comp=Z,2.4nm,0.5s,baz=14,slow=2.4,SNR=8.1						
FINES			S			07 21 45.8	
	comp=Z,2.9nm,0.9s,baz=15,slow=7.9,SNR=2.7						
FINES	**FINESS Array B**	**98.48 332**	P		**P**	**07 11 07.1**	**-2.3**
FINES			PP	PP		07 15 09.7	-0.2
FINES			S			07 21 45.8	
FINES	**FINESS Array B**	**98.48 332**	PKPdf	PKiKP		07 15 40.9	-0.4
ULDT	**Uludag**	**98.53 310**	*i* P		**P**	**07 11 09.8**	**+0.2**
VSU	**Vasula**	**98.56 328**	*e*P		**P**	**07 11 08.5**	**-1.2**
TIRR	**Tirgusor**	**98.83 314**	⇓P		**P**	**07 11 11.6**	**+0.6**
TIRR	**Tirgusor**	**98.83 314**	*e*P		**P**	**07 11 08.9**	**-2.1**
BOSA	**Boshof**	**98.85 240**	P		**P**	**07 11 10.0**	**-1.1**
	comp=Z,10nm,0.6s,mb5.5,baz=114,slow=4.6,SNR=18						
BOSA			PP	PP		07 15 12.7	0.0
	comp=Z,13nm,1.3s,baz=27,slow=5.8,SNR=1.8						
BOSA			S			07 21 48.2	
	comp=Z,1.5nm,0.8s,baz=52,slow=21,SNR=1.9						
BOSA			LR	LR		07 48 49.2	
	comp=Z,25μm,21.9s,MS6.7,baz=102,slow=31						
BOSA	**Boshof**	**98.85 240**	P		**P**	**07 11 10.0**	**-1.1**
BOSA						07 15 12.7	
BOSA			S			07 21 48.2	
MANT	**Manisa**	**99.06 308**	*i* P		**P**	**07 11 11.5**	**-0.5**
LBTB	**Lobatse**	**99.08 244**	S			07 21 50.0	
LBTB			LR	LR		07 51 12.5	
	comp=Z,21μm,20.2s,MS6.6,baz=112,slow=33						
LBTB	**Lobatse**	**99.08 244**	PFAKE			07 11 20.0	+7.9
LBTB			LR	LR			
	comp=Z,31μm,22.0s,MS6.8						
BTOK	**Tokmak**	**99.40 310**	*i* P		**P**	**07 11 15.4**	**+1.9**
AYDN	**Tasoluk**	**99.63 307**	*i* P		Pdif	07 11 15.3	+0.8
PRD	**Provadia**	**99.65 313**	P		Pdif	07 11 17.0	+2.4
PTCN	**Pitcairn Islan**	**99.87 116**	PFAKE			07 11 30.0	+14
PTCN			LR	LR			
	comp=Z,17μm,20.0s,MS6.5						
VRI	**Vrincioaia**	**99.92 316**	⇑P		Pdif	07 11 15.1	-0.7
VRI	**Vrincioaia**	**99.92 316**	P		Pdif	07 11 16.2	+0.4
VRI	**Vrincioaia**	**99.92 316**	⇑P		Pdif	07 11 15.1	-0.7
VNA2	**Neumayer--Watz**	**99.94 194**	*e*Pdiff		Pdif	07 11 19.3	+3.4
	baz=136,slow=2.6						
VNA2			*e*			07 11 23.1	
VNA2			*e*			07 11 29.0	
VNA2			*e*			07 11 33.0	
VNA2			*e*			07 11 34.9	
SART	**Tekirdag**	**99.99 311**	*i* P		Pdif	07 11 16.0	-0.2
KDAG	**Bornova**	**100.07 308**	*i* P		Pdif	07 11 15.2	-1.3
VNA3	**Neumayer Olymp**	**100.23 193**	*e*Pdiff		Pdif	07 11 21.1	+3.9
VNA3			*e*			07 11 24.2	
VNA3			*e*			07 11 30.9	
VNA3			*e*			07 11 35.3	
VNA3			*e*			07 11 37.5	
JMB	**Yambol**	**100.31 312**	P		Pdif	07 11 20.0	+2.5
VNA1	**Neumayer--Stat**	**100.34 194**	*e*Pdiff		Pdif	07 11 20.4	+2.7
VNA1			*e*			07 11 23.3	
VNA1			*e*			07 11 37.2	
MLR	**Muntele Rosu**	**100.50 315**	⇑P		Pdif	07 11 18.0	-0.4
MLR	**Muntele Rosu**	**100.50 315**	P		Pdif	07 11 19.0	+0.6
MLR	**Muntele Rosu**	**100.50 315**	⇑P		Pdif	07 11 18.0	-0.4
URLA	**Izmir**	**100.60 308**	*i* P		Pdif	07 11 16.2	-2.6
SZH	**Strazhica**	**100.72 313**	P		Pdif	07 11 20.0	+0.6
BURAR	**Bucovina Array**	**100.77 318**	⇓P		Pdif	07 11 19.5	-0.1
BURAR	**Bucovina Array**	**100.77 318**	⇓P		Pdif	07 11 19.4	-0.2
VOIR		**101.13 315**	⇓P		Pdif	07 11 19.5	-1.7
PVL	**Pavlikeni**	**101.16 313**	P		Pdif	07 11 23.5	+2.2
SUW	**Suwalki**	**101.16 324**	*e*P		Pdif	07 11 23.2	+1.9
SUW			*e*SKS			07 22 00.0	
SUW			*e*SS	SS		07 30 27.4	+29
SUW			L			08 02 21.5	
	comp=Z,34nm,24.4s						
SUW	**Suwalki**	**101.16 324**	*e*P		Pdif	07 11 23.2	+1.9
SUW			*e*			07 22 00.0	
SUW	**Suwalki**	**101.16 324**	*e*P		Pdif	07 11 23.2	+1.9
SUW			*e*SKS			07 22 00.0	
SUW			*e*SS	SS		07 30 27.4	+29
LVV	**L'vov**	**101.27 320**	*d i*P		Pdif	07 11 22.5	+0.7
LVV			*e*			07 21 57.5	
LVV			*e*S	Sdif		07 22 54.3	-4.8
LVV			*e*PS	PS		07 24 32.5	-1.8
LVV			*e*SS	SS		07 30 03.2	+3.7
LVV			MLR	MLR			
	comp=Z,8μm,23.0s,MS6.2						
SUR	**Sutherland**	**101.94 236**	PFAKE			07 11 40.0	+15
SUR			LR	LR			
	comp=Z,36μm,21.0s,MS6.9						
PGB	**Panagyurishte**	**102.08 313**	P		Pdif	07 11 28.0	+2.6
KWP	**Kalwaria**	**102.15 320**	*e*P		Pdif	07 11 26.3	+0.6
KWP			*e*PP	PP		07 15 26.7	-11
KWP			*e*SKS			07 22 05.1	
KWP			L			07 53 04.4	
	comp=Z,53nm,39.2s						
KWP	**Kalwaria**	**102.15 320**	*e*P		Pdif	07 11 26.3	+0.6
KWP			*e*PP	PP		07 15 26.7	-11
KWP			*e*SKS			07 22 05.1	
MOR8	**Moi Rana**	**102.35 337**	*e*P		Pdif	07 11 25.6	-1.0
MOR8			AMb	AMB		07 11 34.4	
	comp=Z,155nm,1.8s						
MMB	**Musomiste**	**102.51 312**	P		Pdif	07 11 28.5	+1.2
UZH	**Uzhgorod**	**102.58 319**	*d i*P		Pdif	07 11 27.0	-0.6
UZH			*i*			07 15 44.0	
UZH			*i*			07 22 06.0	
UZH			*e*S	Sdif		07 23 09.0	-1.0
UZH			*i* PS	PS		07 24 47.0	-1.1
VTS	**Vitosha**	**102.78 313**	⇑P		Pdif	07 11 27.7	-0.8
KKB	**Krupnik**	**102.96 312**	P		Pdif	07 11 31.0	+1.7
CRVS	**Cervenica-Dubn**	**103.07 319**	PDIFF		Pdif	07 11 32.8	+3.0
CRVS			*e*			07 11 34.1	
CRVS			*e*			07 15 17.6	
CRVS	**Cervenica-Dubn**	**103.07 319**	*e*P		Pdif	07 11 32.8	+3.0
STHS	**Stebnicka Huta**	**103.13 320**	PDIFF		Pdif	07 11 30.8	+0.7
STHS			*e*			07 11 33.8	
STHS	**Stebnicka Huta**	**103.13 320**	*e*P		Pdif	07 11 30.8	+0.7
VAY	**Valandovo**	**103.41 312**	*e*P		Pdif	07 11 29.1	-2.2
VAY			*e*PP	PP		07 15 40.6	-6.5
BOLS	**Boljevac**	**103.52 314**	*d i*P		Pdif	07 11 34.0	+2.2
STIP	**Stip**	**103.64 312**	*e*PP	PP		07 15 39.2	-10
NIE	**Niedzica**	**103.72 320**	*e*Pdiff		Pdif	07 11 32.6	-0.1
NIE			*e*PP	PP		07 15 51.1	+1.6
KECS	**Kecovo**	**103.78 319**	PDIFF		Pdif	07 11 32.1	-0.9
KECS			*e*			07 11 35.1	
KECS			*e*			07 16 00.1	
KECS	**Kecovo**	**103.78 319**	*e*P		Pdif	07 11 32.1	-0.9
OJC	**Ojcow**	**103.90 321**	*e*Pdiff		Pdif	07 11 33.2	-0.3
OJC			*e*PP	PP		07 15 54.1	+3.3
OJC			*e*SKSac	SKSac		07 22 12.0	+1.0
OJC			*e*SP	SP		07 25 00.2	+2.3
OJC			*e*SS	SS		07 30 39.5	+3.8
OJC			L			08 02 34.6	
	comp=Z,80nm,19.9s						
NSS	**Namsos**	**103.91 336**	*e*PP	PP		07 15 49.7	-1.1
NSS			*e*SKSa			07 22 08.6	
NSS			*e*			07 24 53.9	
NSS			*e*SS	SS		07 30 35.0	-0.8
NSS			AMS	AMS		08 06 08.9	
	comp=Z,25μm,25.7s,MS6.6						
SVIS	**Svilajnac**	**103.98 315**	⇓*i*P		Pdif	07 11 35.0	+1.2
SKO	**Skopje**	**104.16 312**	*e*P		Pdif	07 11 36.4	+1.8
SKO			*e*PP	PP		07 15 51.7	-1.0
PSZ	**Piszkesteto**	**104.28 319**	⇑*e*P		Pdif	07 11 38.0	+2.8
BIA	**Bitola**	**104.38 311**	*e*PP	PP		07 15 51.3	-3.0
GRUS	**Gruza**	**104.40 314**	*e*P		Pdif	07 11 31.0	-4.8
DAG	**Danmarks Havn**	**104.51 352**	⇑*i*P		Pdif	07 11 33.8	-2.4
	comp=Z,100nm,1.7s						
DAG			*i*			07 14 45.0	
DAG	**Danmarks Havn**	**104.51 352**	⇑*e*P		Pdif	07 11 33.8	-2.4
DAG			pmax	pmax			
	comp=Z,100nm,1.7s						
DAG	**Danmarks Havn**	**104.51 352**	⇑*e*P		Pdif	07 11 33.8	-2.4
	comp=Z,100nm,1.7s						
DAG			*i*			07 14 45.0	
OHR	**Ohrid**	**104.76 311**	*e*P		Pdif	07 11 29.9	-7.4
OHR			*e*PP	PP		07 15 57.7	+0.5
GKP	**Gorka Klasztor**	**104.78 324**	*e*PP	PP		07 16 01.9	+4.6
GKP			*e*SKS			07 22 23.9	
GKP			*e*SS	SS		07 31 29.9	+42
GKP			L			08 01 58.7	
	comp=Z,38nm,24.5s						
GKP	**Gorka Klasztor**	**104.78 324**	*e*P		Pdif	07 11 39.0	+1.6
GKP			*e*			07 16 01.9	
GKP			MLR	MLR			
	comp=Z,38μm,24.5s,MS6.8						
GKP	**Gorka Klasztor**	**104.78 324**	*e*P		Pdif	07 11 39.0	+1.6
GKP			*e*PP	PP		07 16 01.9	+4.6
GKP			*e*SKS			07 22 23.9	
GKP			*e*SS	SS		07 31 29.9	+42
GKP			LR	LR			
	comp=Z,38μm,24.5s,MS6.8						
RES	**Resolute Bay**	**104.83 11**	*e*P		Pdif	07 11 36.7	-0.9
RES			pmax	pmax			
	comp=Z,1.0nm,1.1s						
RES	**Resolute Bay**	**104.83 11**	*e*Pdif		Pdif	07 11 36.7	-1.0
	comp=Z,0.6nm,1.1s						
VYHS	**Vyhne**	**104.86 319**	*e*		Pdif	07 11 40.7	+2.9
VYHS			*e*			07 14 46.6	
VYHS			*e*			07 15 33.0	
VYHS			*e*PP	PP		07 16 00.5	+2.6
DIVS	**Divcibare**	**104.88 315**	*e*P		Pdif	07 11 35.6	-2.3
RAC	**Raciborz**	**104.94 321**	*e*P		Pdif	07 11 39.8	+1.7
RAC			*e*			07 16 01.8	
RAC			MLR	MLR			
	comp=Z,18μm,19.5s,MS6.6						
OKC	**Ostrava-Krasne**	**105.02 321**	*e*PDIF		Pdif	07 11 39.6	+1.1
OKC			*ex*	x		07 15 37.5	
OKC			*e*PP	PP		07 16 00.3	+1.2
OKC			*ex*	x		07 31 36.4	
OKC			AMS	AMS		08 01 10.0	
OKC	**Ostrava-Krasne**	**105.02 321**	*e*P		Pdif	07 11 39.6	+1.1
OKC			*e*			07 16 00.3	
OCWA	**Octopus Mounta**	**105.03 42**	PFAKE			07 16 10.0	+17
OCWA			LR	LR			
	comp=Z,33μm,21.0s,MS6.8						
PKSG		**105.38 318**	⇑*i*P		Pdif	07 11 43.0	+2.9
MORC	**Moravsky Berou**	**105.42 321**	P		Pdif	07 11 43.5	+3.3
MORC	**Moravsky Berou**	**105.42 321**	*e*Pdif		Pdif	07 11 42.6	+2.4
	comp=Z,94nm,1.8s						
PKSM	**Moragy**	**105.44 317**	⇓*i*P		Pdif	07 11 40.1	-0.3
PKSM			*i*			07 16 03.9	
NB2	**NORSAR Subarra**	**105.52 333**	P		Pdif	07 11 38.7	-2.0
	comp=Z,64nm,1.1s,baz=70,slow=4.4						
NB2	**NORSAR Subarra**	**105.52 333**	P		Pdif	07 11 38.7	-2.0
NB2			pmax	pmax			
	comp=Z,64nm,1.1s						
NOA	**NORSAR Array B**	**105.52 333**	Pdiff		Pdif	07 11 38.8	-1.9
	comp=Z,15nm,0.9s,baz=69,slow=4.5,SNR=24						
NOA			PKiKP	PKiKP		07 15 53.3	-0.8
	comp=Z,15nm,0.9s,baz=71,slow=6.2,SNR=6.8						
NOA			Sdiff	SKSac		07 22 20.3	+1.9
	comp=Z,1.2nm,0.9s,baz=349,slow=17,SNR=2.1						
NOA			SS	SS		07 31 02.6	+4.7
	comp=Z,1.2nm,0.8s,baz=56,slow=13,SNR=2.2						
NOA	**NORSAR Array B**	**105.52 333**	Pdif		Pdif	07 11 38.8	-1.9
NOA			PKPdf	PKiKP		07 15 53.3	-0.8
NOA			SS	SS		07 31 02.6	+4.7
BSD	**Bornholm Skovb**	**105.60 327**	*i* P		Pdif	07 11 43.0	+1.9
	comp=Z,37nm,0.9s						
BSD			*i*			07 16 08.7	
BSD			*i*			07 16 26.1	
BSD			*i* S	SKSac		07 22 22.7	+4.0
BSD			*i*			07 25 16.4	
BSD							
	comp=Z,17μm,21.0s						
BSD	**Bornholm Skovb**	**105.60 327**	*e*P		Pdif	07 11 43.0	+1.9
BSD			*i*			07 16 08.7	
BSD			*i* S	SKSac		07 22 22.7	+4.0
BSD			*i*			07 25 16.4	
BSD			pmax	pmax			
	comp=Z,37nm,0.9s						
BSD	**Bornholm Skovb**	**105.60 327**	*e*P		Pdif	07 11 43.0	+1.9
	comp=Z,37nm,0.9s						
BSD			*i*			07 16 08.7	
BSD			*i*			07 16 26.1	
BSD			*i* S	SKSac		07 22 22.7	+4.0
BSD			*i*			07 25 16.4	
NAO01	**NORSAR Array S**	**105.74 333**	*e*Pdif		Pdif	07 11 41.7	0.0
	comp=Z,19nm,0.9s						
NAO01			LR	LR			
	comp=Z,31μm,21.0s,MS6.8						
YKW3	**Yellowknife Ar**	**105.80 25**	*e*Pdif		Pdif	07 11 43.5	+

ZST *e*PP PP 07 16 01.0 -5.7
ZST Bratislava 106.05 319 *e*P Pdif 07 11 43.8 +0.7
ZST *e* 07 16 01.0
ZST *e*S SKSac 07 22 24.1 +3.4
ZST *e*PS PS 07 25 15.4 -9.1
VRAC Vranov 106.12 320 Sdiff SKSac 07 22 24.3 +3.2
comp=Z,2.1nm,0.5s,baz=224,slow=15,SNR=4.2
VRAC SS SS 07 31 11.8 +5.7
comp=Z,2.7nm,0.4s,baz=119,slow=23,SNR=2.6
VRAC Vranov 106.12 320 P Pdif 07 11 47.8 +4.4
VRAC Vranov 106.12 320 ⇑P Pdif 07 11 41.7 -1.7
UPC Upice 106.20 322 *e*PDIF Pdif 07 11 46.7 +3.0
UPC *e*PKP PKiKP 07 15 53.2 -2.1
UPC *e*PP PP 07 16 10.1 +2.3
COR Corvallis 106.25 45 PFAKE 07 16 10.0 +15
COR LR LR
comp=Z,24μm,20.0s,MS6.8
SOP Sopron 106.53 319 *e*P 07 16 18.7
COP Copenhagen 106.78 328 *i* P Pdif 07 11 53.6 +7.3
COP *i* 07 15 24.0
COP *i* 07 16 17.5
COP *i* S SKSac 07 22 29.7 +5.8
COP *i* 07 25 19.1
COP
comp=Z,9μm,20.0s
COP Copenhagen 106.78 328 *e*P Pdif 07 11 53.6 +7.3
COP *i* 07 16 17.5
COP *i* 07 25 19.1
COP MLR MLR
comp=Z,9μm,20.0s,MS6.3
KONO Kongsberg 106.79 332 *e*PP PP 07 16 10.6 -1.6
KONO Kongsberg 106.79 332 PFAKE 07 16 10.0 +14
KONO LR LR
comp=Z,28μm,22.0s,MS6.8
HUMO Hull Mountain 106.88 47 *e*PKPdf PKiKP 07 16 00.2 +3.7
HUMO LR LR
comp=Z,21μm,21.0s,MS6.7
RUE Ruedersdorf 107.01 324 *e*PP PP 07 16 22.9 +9.1
RUE *e*PPP 07 18 37.4
RUE *e*SP SP 07 25 29.1 -1.1
JMIC Jan Mayen 107.03 346 *e*PP PP 07 16 15.5 +1.6
JMIC *e*SKSa 07 22 24.4
JMIC *i* 07 25 36.7
PVCC Panska Ves 107.08 322 *e*PDIF Pdif 07 11 50.5 +2.8
PVCC *e*x x 07 16 01.1
PVCC *e*PP PP 07 16 17.1 +2.8
SISC Sisak 107.15 317 *i* P Pdif 07 11 51.8 +3.8
YBH Yreka Blue Hor 107.23 47 PFAKE 07 16 10.0 +13
YBH LR LR
comp=Z,27μm,20.0s,MS6.8
PRU Pruhonice 107.24 321 *e*PDIF Pdif 07 11 52.6 +4.2
PRU *e*PKP PKiKP 07 15 54.2 -3.0
PRU *e*PP PP 07 16 22.8 +7.3
PRU *e*SKS SKSac 07 22 29.7 +3.7
PRU *e*PS PS 07 25 40.9 +4.2
PRU *e*SS SS 07 31 49.9 +29
PRU AMS AMS 08 01 40.0
comp=Z,28μm,23.2s
PRU Pruhonice 107.24 321 *e*P Pdif 07 11 52.6 +4.2
PRU *e* 07 16 22.8
PRU *e* 07 22 29.7
PRU *e*SP SP 07 25 40.9 +8.3
PRU MLR MLR
comp=Z,28μm,23.2s,MS6.8
PRA Prague 107.29 322 *e*x x 07 15 19.0
PRA PP PP 07 16 22.0 +6.2
ARSA Arzberg 107.31 319 ⇓*i*Pdiff Pdif 07 11 49.3 +0.6
comp=Z,30nm,2.0s
ARSA ⇑*i*PKiKP PKiKP 07 16 13.1 +16
comp=Z,2μm,3.6s
TSUM Tsumeb 107.35 249 Sdiff SKSac 07 22 31.1 +4.7
comp=Z,1.1nm,0.9s,baz=41,slow=22,SNR=2.3
TSUM PKKPbc PKKPbc 07 27 13.4 +0.5
comp=Z,2.2nm,0.8s,baz=32,slow=15,SNR=1.9
TSUM SS SS 07 31 22.9 +0.1
comp=Z,6.5nm,0.8s,baz=91,slow=12,SNR=1.7
TSUM Tsumeb 107.35 249 PFAKE 07 16 10.0 +13
TSUM LR LR
comp=Z,29μm,21.0s,MS6.8
BRG Berggiesshubel 107.37 322 *e*Pdiff Pdif 07 11 49.0 +0.1
BRG *e*PP PP 07 16 28.0 +12
BRG *e*PPP 07 18 42.4
BRG *e*SP SP 07 25 34.5 +0.6
BRG Berggiesshubel 107.37 322 *e*P Pdif 07 11 48.7 -0.2
BRG 07 16 17.0
BRG 07 22 28.0
BRG PS PS 07 25 38.0 0.0
BRG *i* 07 26 39.0
BRG SS SS 07 31 29.0 +5.9
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG MLR MLR
comp=Z,16μm,24.6s,MS6.5
BRG Berggiesshubel 107.37 322 *e*Pdif Pdif 07 11 48.7 -0.2
comp=Z,10.0nm,1.2s
BRG *e* 07 13 07.0
BRG *i* 07 15 09.0
BRG PP PP 07 16 17.0 +0.6
BRG SKS SKSac 07 22 28.0 +1.5
BRG S SKKSac 07 23 22.0 +3.9
BRG PS PS 07 25 38.0 0.0
BRG *i* 07 26 39.0
BRG *e*PKKP PKKPbc 07 27 23.2 +10
BRG SS SS 07 31 29.0 +5.9
BRG LR LR
comp=Z,16μm,24.6s,MS6.5
BRG Berggiesshubel 107.37 322 *e*PDIF Pdif 07 11 48.7 -0.2
comp=Z,10.0nm,1.2s
BRG *e* 07 13 07.0
comp=Z,26nm,1.8s
BRG *i* x 07 15 09.0
comp=Z,41nm,2.0s
BRG PP PP 07 16 17.0 +0.6
BRG SKS SKSac 07 22 28.0 +1.5
BRG S SKKSac 07 23 22.0 +3.9
BRG PS PS 07 25 38.0 0.0
BRG *i* 07 26 39.0
BRG *e*PKKP PKKPbc 07 27 23.2 +10
comp=Z,30nm,2.1s
BRG SS SS 07 31 29.0 +5.9
BRG
comp=N,20μm,24.4s
BRG
comp=E,11μm,25.9s
BRG
comp=Z,16μm,24.6s
HOPS Hopland 107.45 50 PFAKE 07 16 10.0 +12
HOPS LR LR
comp=Z,29μm,20.0s,MS6.8
WDC Whiskeytown Da 107.57 49 *e*PKPdf PKiKP 07 16 00.0 +2.2
WDC LR LR
comp=Z,45μm,21.0s,MS7.0
DOBS Dobrina 107.61 317 *e*Pdiff Pdif 07 11 53.1 +3.1
CLL Collm 107.81 323 *e*Pdiff Pdif 07 11 53.3 +2.4
comp=Z,106nm,2.1s
CLL *e*PKiKP PKiKP 07 15 57.2 -1.1
CLL *e*PP PP 07 16 26.1 +6.4
CLL *e*PPP 07 18 37.6
CLL *e*SKSac SKSac 07 22 30.0 +1.6
CLL *e*SKKSac SKKSac 07 23 21.0 -0.1
CLL *e*Sdiff Sdif 07 23 54.6 +1.0
CLL *e*SP SP 07 25 40.2 +1.7
CLL *e*PPS 07 26 39.7
CLL *e*PKKPbc PKKPbc 07 27 10.5 -0.9
CLL *e*PKKPab PKKPab 07 27 25.4 -0.1
CLL *e*SS SS 07 31 38.7 +10
CLL *e*SSS 07 35 41.6
CLL *e*LR LR 07 50 21.2
CLL *e*L 08 10 24.1
comp=Z,26μm,22.0s
CLL Collm 107.81 323 *e*Pdif Pdif 07 11 53.0 +2.1
comp=Z,101nm,2.1s
CLL LmV 07 10 00.0
comp=Z,25μm,22.0s
CLL *e*x x 07 12 14.0
CLL *i* x x 07 15 18.7
comp=Z,62nm,1.6s
CLL *i* PKiKP PKiKP 07 15 56.8 -1.5
CLL *i* PP PP 07 16 21.0 +1.3
comp=Z,435nm,2.5s
CLL *e*PPP 07 18 39.0
CLL *e*x x 07 19 03.0
CLL *e*x x 07 19 48.0
CLL Lm(360 07 20 00.0
comp=Z,4μm,19.4s
CLL *e*SKSac SKSac 07 22 31.0 +2.6
CLL *e*SKKSac SKKSac 07 23 22.0 +0.9
CLL *e*Sdif Sdif 07 23 57.0 +3.4
CLL *e*PS PS 07 25 45.0 +2.4
CLL *e*PPS 07 26 36.0
CLL *e*PKKPbc PKKPbc 07 27 25.0 +14
comp=Z,16nm,1.1s
CLL *e*x x 07 27 56.0
CLL *e*SS SS 07 31 40.0 +11
CLL *e*x x 07 33 13.0
CLL *e*SSS 07 35 41.0
CLL *e*x x 07 36 36.0
CLL *e*x x 07 41 54.0
CLL Collm 107.81 323 *e*P Pdif 07 11 53.0 +2.1
CLL pmax pmax
comp=Z,101nm,2.1s
BOJS Bojanci 107.91 317 *e*Pdiff Pdif 07 11 54.7 +3.4
BOJS *e* 07 11 58.5
MOA Molln 107.98 319 ⇑*i*Pdiff Pdif 07 11 52.8 +1.1
comp=Z,52nm,1.6s
MOA ⇓*i*PKiKP PKiKP 07 16 11.2 +13
comp=Z,3μm,6.4s
GEC2 GERESS Array S 108.08 320 *e*PP PP 07 16 33.1 +11
GEC2 *e*PPP 07 18 48.0
GEC2 *e*SP SP 07 25 44.7 +3.5
GEC2 *e*SS SS 07 32 11.8 +39
GERES GERESS Array B 108.08 320 Pdiff Pdif 07 11 53.6 +1.5
comp=Z,0.2nm,0.3s,baz=309,slow=17,SNR=3.7
GERES PKiKP PKiKP 07 15 58.6 -0.2
comp=Z,5.4nm,0.5s,baz=78,slow=1.1,SNR=12
GERES PP PP 07 16 22.5 +0.9
comp=Z,8.6nm,0.9s,baz=70,slow=4.7,SNR=4.8
GERES SKiKP 07 19 32.4
comp=Z,1.9nm,0.7s,baz=72,slow=3.2,SNR=2.2
GERES Sdiff SKSac 07 22 30.5 +0.9
comp=Z,0.3nm,0.2s,baz=139,slow=8.8,SNR=2.0
GERES PKKPbc PKKPbc 07 27 11.0 +0.5
comp=Z,2.8nm,1.0s,baz=228,slow=1.6,SNR=5.6
GERES SS SS 07 31 36.5 +3.8
comp=Z,0.4nm,0.2s,baz=163,slow=19,SNR=2.4
GERES GERESS Array B 108.08 320 P Pdif 07 11 53.6 +1.5
GERES 07 16 22.5
GERES SS SS 07 31 36.5 +3.8
GERES GERESS Array B 108.08 320 Pdif Pdif 07 11 53.6 +1.5
GERES PKPdf PKiKP 07 15 58.6 -0.2
GERES PP PP 07 16 22.5 +0.9
GERES PKKPbc PKKPbc 07 27 11.0 +0.5
GERES SS SS 07 31 36.5 +3.8
KHC Kasperske Hory 108.08 321 *e*PDIF Pdif 07 11 51.7 -0.4
KHC *e*PKP PKiKP 07 16 01.7 +2.9
KHC *e*PP PP 07 16 22.4 +0.8
KHC *e*SKS SKSac 07 22 31.2 +1.6
KHC *e*PS PS 07 25 50.0 +4.7
KHC *e*x x 07 31 59.2
KHC AMS AMS 08 02 10.0
comp=Z,24μm,23.5s
KHC Kasperske Hory 108.08 321 *e*P Pdif 07 11 51.7 -0.4
KHC *e* 07 16 22.4
KHC *e* 07 22 31.2
KHC MLR MLR
comp=Z,24μm,23.5s,MS6.7
MUD Monsted U'grnd 108.22 329 *i* P PKiKP 07 15 44.9 -14
comp=Z,38nm,1.0s
MUD *e* 07 16 11.3
MUD *i* 07 18 49.0
MUD *i* 07 22 34.0
MUD *i* 07 25 46.4
MUD
comp=Z,20μm,20.0s
LJU Ljubljana 108.27 317 *e*Pdiff Pdif 07 11 53.1 +0.2
NVLJ Novalja 108.39 316 P PP 07 16 23.5 -0.4
BER Bergen 108.43 334 *e* PP 07 16 26.0 +1.9
BER *e*SKSa 07 22 29.9
BER *i* 07 25 53.4
BER *e*SS SS 07 31 46.7 +9.4
HAWA Hanford 108.43 42 PFAKE 07 16 10.0 +11
HAWA LR LR
comp=Z,1μm,22.0s
NKC Novy Kostel 108.47 322 *e*PDIF Pdif 07 11 52.5 -1.3
NKC *e*PP PP 07 16 29.0 +4.5
NKC *e*SKS SKSac 07 22 35.4 +4.2
NKC *e*PS PS 07 25 47.7 -1.5
NKC *e*x x 07 32 03.3
NKC AMS AMS 08 05 10.0
comp=Z,32μm,23.1s
NKC Novy Kostel 108.47 322 *e*P Pdif 07 11 52.5 -1.3
NKC *e* 07 16 29.0
NKC *e* 07 22 35.4
NKC *e*SP SP 07 25 47.7 +2.5
NKC MLR MLR
comp=Z,32μm,23.1s,MS6.8
WERD Werda 108.49 322 *e*Pdiff Pdif 07 11 56.1 +2.2
BSEG Bad Segeberg 108.52 326 *e*PP PP 07 16 34.4 +10
BSEG *e*PPP 07 18 49.8
BSEG *e*SP SP 07 25 46.9 +1.2
BSEG *e*SS SS 07 32 02.4 +24
WET Wettzell 108.52 321 *e*PP PP 07 16 36.6 +12
WET *e*PPP 07 18 51.4
WET *e*SP SP 07 25 49.5 +3.8
WET *e*SS SS 07 32 18.3 +40
VOY Vojsko 108.70 318 *e*PKiKP PKiKP 07 15 58.4 -1.6
VOY *e* 07 16 03.4
MANZ Manzenberg 108.75 322 *e*Pdiff Pdif 07 11 57.7 +2.6
MANZ *e*PP PP 07 16 39.2 +13
MANZ *e*PPP 07 18 54.1
MANZ *e*SP SP 07 25 51.1 +3.1
ROTZ Rotzenmuhle 108.75 322 *e*PP PP 07 16 39.2 +13
ROTZ *e*PPP 07 18 54.0
ROTZ *e*SP SP 07 25 51.8 +3.7
ROTZ *e*SS SS 07 32 21.2 +39
KBA Koelnbreinsper 108.79 319 ⇑*i* PKiKP 07 16 09.5 +9.4
comp=Z,2μm,4.4s
KBA Koelnbreinsper 108.79 319 ⇑*i*Pdiff Pdif 07 11 57.7 +2.5
comp=Z,11nm,1.1s
KBA ⇓*i*PKiKP PKiKP 07 16 09.0 +8.9
comp=Z,2μm,4.4s
MOX Moxa 108.85 323 *e*Pdiff Pdif 07 11 58.6 +3.1
MOX *e*PP PP 07 16 39.3 +12
MOX *e*PPP 07 18 54.1
MOX *e*SP SP 07 25 50.9 +1.9
MOX Moxa 108.85 323 *e*Pdif Pdif 07 11 58.5 +3.0
MOX LR LR
comp=Z,13μm,19.0s,MS6.5
ROBS Robic 108.90 318 *i* Pdiff Pdif 07 11 57.8 +2.1
ROBS *e* 07 12 08.9
MOD Modoc 108.95 47 PFAKE 07 16 10.0 +10
MOD LR LR
comp=Z,24μm,21.0s,MS6.7
SAO San Andreas Ge 109.10 52 PFAKE 07 16 10.0 +9.3
SAO LR LR
comp=Z,23μm,22.0s,MS6.7
CLZ Clausthal 109.20 324 *e*PP PP 07 16 42.0 +12
CLZ *e*PPP 07 18 57.3
CLZ *e*SP SP 07 25 54.8 +2.2
CLZ *e*SS SS 07 32 12.0 +24
GRF Grafenberg Arr 109.39 322 *e*PP PP 07 16 44.1 +13
GRF *e*PPP 07 18 59.3
GRF *e*SKSac SKSac 07 22 44.9 +10
GRF *e*SP SP 07 25 57.6 +3.1
GRF *e*SS SS 07 32 20.1 +30
GRF *e*L 08 10 36.6
comp=Z,21μm,20.6s
NEW Newport 109.50 40 *e*P Pdif 07 11 59.6 +1.2
NEW MLR MLR
comp=Z,36μm,22.0s
CMB Columbia Colle 109.69 51 PFAKE 07 16 10.0 +8.2
CMB LR LR
comp=Z,26μm,20.0s,MS6.8
UBBA Unterbreizbach 109.77 323 *e*PP PP 07 16 46.9 +13
UBBA *e*PPP 07 19 02.0
UBBA *e*SP SP 07 26 00.3 +2.0
FUR Furstenfeldbru 109.82 320 *e*PP PP 07 16 46.1 +12
FUR *e*PPP 07 19 02.1
FUR *e*SP SP 07 26 03.3 +4.4
FUR *e*SS SS 07 32 34.5 +38
WATA Walderalm 109.88 319 ⇓*i* PKiKP 07 16 01.6 -0.6
comp=Z,209nm,1.7s
WATA Walderalm 109.88 319 ⇑*i*Pdiff Pdif 07 12 01.0 +0.9
comp=Z,68nm,1.8s
WATA ⇓*i*PKiKP PKiKP 07 16 01.6 -0.6
comp=Z,209nm,1.7s
WVOR Wild Horse Val 110.04 46 *e*PKIKP PKiKP 07 16 01.0 -1.5
WVOR MLR MLR
comp=Z,20μm,22.0s,MS6.6
EDM Edmonton 110.08 34 P Pdif 07 12 03.8 +2.8
EDM Edmonton 110.08 34 *e*Pdif Pdif 07 12 01.4 +0.4
PAHR Pah Rah Range 110.11 49 *e*PKPdf PKiKP 07 16 03.5 +0.9
MOTA Moosalm 110.18 319 ⇓*i* PKiKP 07 16 02.3 -0.4
comp=Z,655nm,2.6s
MOTA Moosalm 110.18 319 ⇑*i*Pdiff Pdif 07 12 02.8 +1.3
comp=Z,65nm,1.8s
MOTA ⇓*i*PKiKP PKiKP 07 16 02.3 -0.4
comp=Z,655nm,2.6s
VAE Valguarnera 110.26 309 Sdiff SKSac 07 22 44.4 +5.6
comp=Z,10nm,0.4s,baz=62,slow=3.0,SNR=1.9
PTRM Twissleman Ran 110.28 53 *e*PKPdf PKiKP 07 16 04.3 +1.4
BMO Blue Mountains 110.35 43 *e*P Pdif 07 12 05.0 +2.8
BMO MLR MLR
comp=Z,24μm,21.0s,MS6.8
SUMG Summit 110.50 355 *e*Pdif Pdif 07 12 06.3 +3.4
IBBN Ibbenburen 110.55 325 *e*PP PP 07 16 51.2 +12
IBBN *e*PPP 07 19 08.4
IBBN *e*SP SP 07 26 08.2 +2.5
TOD Tromm 110.90 322 *e*P PKiKP 07 16 06.6 +2.5
TNS Taunus Mts 110.90 323 *e*PP PP 07 16 56.4 +14
TNS *e*PPP 07 19 11.9
TNS *e*SP SP 07 26 13.3 +4.3
STU Stuttgart 110.94 321 *e*PP PP 07 16 55.7 +13
STU *e*PPP 07 19 11.7
STU *e*SP SP 07 26 14.3 +4.9
STU *e*SS SS 07 32 49.5 +38
DAVA Damuels 110.99 320 ⇑*i* PKiKP 07 16 10.6 +6.4
comp=Z,3μm,5.5s
DAVA Damuels 110.99 320 ⇑*i*Pdiff Pdif 07 12 00.4 -4.7
comp=Z,29nm,1.8s
DAVA ⇑*i*PKiKP PKiKP 07 16 10.6 +6.4
comp=Z,3μm,5.5s
NVAR Mina Array Bea 111.22 50 Pdiff Pdif 07 12 08.5 +2.5
comp=Z,1.7nm,0.8s,baz=267,slow=3.4,SNR=6.2
NVAR PKiKP PKiKP 07 16 04.5 -0.2
comp=Z,1.5nm,0.7s,baz=276,slow=11,SNR=2.9
NVAR PP PP 07 16 45.2 +0.9
comp=Z,13nm,1.0s,baz=278,slow=6.2,SNR=9.2
NVAR PKKPbc PKKPbc 07 27 00.8 +0.3
comp=Z,0.5nm,0.3s,baz=90,slow=1.4,SNR=4.5
NVAR SS SS 07 32 22.9 +8.1
comp=Z,0.4nm,0.6s,baz=141,slow=36,SNR=2.6
NVAR Mina Array Bea 111.22 50 Pdif Pdif 07 12 08.5 +2.5
NVAR PKPdf PKiKP 07 16 04.5 -0.2
NVAR PP PP 07 16 45.2 +0.9
NVAR PKKPbc PKKPbc 07 27 00.8 +0.3
NVAR SS SS 07 32 22.9 +8.1
WTSB Winterswijk 111.22 325 PKiKP PKiKP 07 15 59.2 -5.5
WTSB *e*PP PP 07 16 48.8 +4.4
MTUM Tungsten Hills 111.25 51 *e*PKPdf PKiKP 07 16 06.3 +1.6
MTUM *e*PP PP 07 16 46.0 +1.5
PMSA Palmer Station 111.32 175 PFAKE 07 16 20.0 +15
PMSA LR LR
comp=Z,43μm,20.0s,MS7.0
BFO Black Forest 111.63 321 *e*PP PP 07 17 01.6 +14
BFO *e*PPP 07 19 17.6
BFO *e*SP SP 07 26 23.0 +7.2
BFO *e*SS SS 07 32 59.0 +39
ISA Isabella 111.67 53 *e*PKIKP PKiKP 07 16 09.6 +4.1
ISA MLR MLR
comp=Z,8μm,19.0s,MS6.3
LANF Langenberg 111.73 322 *e*P PKiKP 07 16 10.2 +4.5
RUP Ruppelstein 111.92 323 *e*PKIKP PKiKP 07 16 05.9 -0.1
MSO Missoula 111.99 40 *e*PKPdf PKiKP 07 16 06.9 +0.7
MSO *e*PP PP 07 16 51.5 +1.6
MSO LR LR
comp=Z,15μm,21.0s,MS6.6
HGN Heimansgroeve 112.19 324 *e*PKiKP PKiKP 07 15 57.4 -9.2
HGN *e*PP PP 07 16 52.0 +0.7
HGN *e*PPP 07 19 30.2
HGN *e*SKS SKSdf 07 22 59.0 -17
HGN *e*SKSP 07 26 27.7
HGN *e*SS SS 07 31 57.3 -30
HGN *e*SSS 07 36 08.8
MWC Mount Wilson 112.29 54 *e*P Pdif 07 12 15.3 +4.5
MWC *e* 07 16 07.9
ECH Echery 112.41 321 *e*P PKiKP 07 16 12.8 +5.9
CHMT Chamberlain Mo 112.41 40 *e*PKPdf PKiKP 07 16 07.2 +0.2
BBS Basel-Blauen 112.45 320 *e*PKIKP PKiKP 07 16 07.6 +0.6
MOF Molkenrain 112.55 321 *e*P PKiKP 07 16 10.7 +3.5
HLID Hailey 112.71 44 *e*Pdif Pdif 07 12 12.1 -0.6
HLID *e*PKPdf PKiKP 07 16 08.7 +1.2
HLID LR LR
comp=Z,29μm,22.0s,MS6.8
ELK Elko 112.94 47 *e*P Pdif 07 12 16.6 +2.9
ELK *e* 07 16 08.8
ELK MLR MLR
comp=Z,41μm,21.0s
THEF They Montfort 113.13 322 *e*P PKiKP 07 16 12.0 +3.7
DLMT Dillon 113.36 42 *e*PKPdf PKiKP 07 16 10.5 +1.8
MCMT McKenzie Canyo 113.38 42 *e*PKPdf PKiKP 07 16 10.1 +1.3
HRY Holter Researc 113.39 40 *e*PKPdf PKiKP 07 16 09.5 +0.7
LPG La Plagne 113.62 319 *e*P Pdif 07 12 14.0 -2.7
comp=Z,24nm,1.0s
LPL La Plagne 113.63 319 *e*P Pdif 07 12 13.9 -2.9
PFO Pinyon Flat Ob 113.72 55 *e*PKIKP PKiKP 07 16 10.4 +1.0
PFO MLR MLR
comp=Z,29μm,21.0s,MS6.8
BAR Barrett 113.73 56 *e*PKPdf PKiKP 07 16 11.6 +2.1
BNI Bardonecchia 113.83 318 *e*PKIKP PKiKP 07 16 09.7 0.0
BOZ Bozeman (W) 113.90 41 *e*PKIKP PKiKP 07 16 10.7 +0.9
BOZ MLR MLR
comp=Z,25μm,20.0s,MS6.8
SURF Saint Ours 113.93 318 *e*P PKiKP 07 16 10.2 +0.3
EGMT Eagleton 114.21 38 *e*PKPdf PKiKP 07 16 10.7 +0.3
EGMT LR LR
comp=Z,21μm,22.0s,MS6.7
REB Eisghbrachaidh 114.25 335 *e*P PKiKP 07 16 10.0 -0.5
REB Eisghbrachaidh 114.25 335 *e*P PKiKP 07 16 10.0 -0.5
ESY Stoneypath 114.31 332 *e*P PKiKP 07 16 10.3 -0.3
ESY AMb AMB 07 16 11.1
comp=Z,112nm,1.9s
ESY Stoneypath 114.31 332 *e*P PKiKP 07 16 10.3 -0.3
ESY AMb AMB 07 16 11.1
comp=Z,112nm,1.9s
QLMT Earthquake Lak 114.32 42 *e*Pdif Pdif 07 12 23.7 +3.8
GRN Grenoble 114.38 319 *e*P PKiKP 07 16 10.5 -0.2
HVU Hansel Valley 114.41 45 *e*PKIKP PKiKP 07 16 11.4 +0.6
LDFC Landfair 114.48 53 *e*Pdif Pdif 07 12 27.1 +6.6
BGU Big Grassy Mou 114.49 46 *e*PKPdf PKiKP 07 16 16.3 +5.4
NEN Nelson 114.55 52 *e*Pdif Pdif 07 12 25.2 +4.4
EBL Broad Law 114.59 332 *e*P PKiKP 07 16 10.8 -0.3
EBL AMb AMB 07 16 14.1
comp=Z,27nm,1.7s
EBL Broad Law 114.59 332 *e*P PKiKP 07 16 10.8 -0.3
EBL AMb AMB 07 16 14.1
comp=Z,27nm,1.7s
YMR Madison River 114.69 42 *e*PKPdf PKiKP 07 16 12.8 +1.5
STOF St-Etienne Org 114.71 317 *e*P PKiKP 07 16 19.5 +8.1
EAU Auchinoon 114.74 332 *e*P PKiKP 07 16 11.2 -0.2
EAU AMb AMB 07 16 13.8
comp=Z,120nm,1.6s
EAU Auchinoon 114.74 332 *e*P PKiKP 07 16 11.2 -0.2
EAU AMb AMB 07 16 13.8
comp=Z,120nm,1.6s
TAVF Tavernes 114.74 317 *e*P PKiKP 07 16 13.7 +2.3
SPUT South Promonto 114.79 46 *e*PKPdf PKiKP 07 16 15.2 +3.7
YFT Old Faithful 114.86 42 *e*PKPdf PKiKP 07 16 14.1 +2.5
DUG Dugway 114.87 47 *e*PKIKP PKiKP 07 16 12.3 +0.6
DUG MLR MLR
comp=Z,30μm,20.0s,MS6.9
VILF Villemus 114.89 317 *e*P PKiKP 07 16 14.8 +3.1
ESK Eskdalemuir 114.92 331 PFAKE 07 16 20.0 +8.3
ESK LR LR
comp=Z,11μm,20.0s,MS6.5
BORG Borgarnes 114.92 346 PFAKE 07 16 20.0 +8.2
BORG LR LR
comp=Z,14μm,21.0s,MS6.5
FLWY Flagg Ranch 115.08 42 *e*PKPdf PKiKP 07 16 14.4 +2.4
ARUT Antelope Range 115.09 50 *e*PKIKP PKiKP 07 16 12.6 +0.5
LKWY Lake 115.11 42 *e*PKIKP PKiKP 07 16 16.2 +4.1
LKWY MLR MLR
comp=Z,41μm,22.0s,MS7.0
GCMT Greycliff 115.13 40 *e*PKPdf PKiKP 07 16 12.8 +0.7
LHO Holmfirth 115.19 329 *e*P PKiKP 07 16 11.4 -0.9
LHO AMb AMB 07 16 21.8
comp=Z,99nm,1.9s
LHO Holmfirth 115.19 329 *e*P PKiKP 07 16 11.4 -0.9
LHO AMb AMB 07 16 21.8

comp=Z,99nm,1.9s
TREF Trevaresse 115.19 317 *e*P PKiKP 07 16 15.9 +3.6
BWH Wardlaw 115.21 331 *e*P PKiKP 07 16 12.1 -0.2
BWH Wardlaw 115.21 331 *e*P PKiKP 07 16 12.1 -0.2
CCUT Cedar City 115.21 50 *e*PKPdf PKiKP 07 16 16.2 +3.9
REDW Red Top Meadow 115.23 43 *e*PKPdf PKiKP 07 16 13.1 +0.8
NOQ North Oquirrh 115.23 46 *e*PKPdf PKiKP 07 16 13.5 +1.2
GELF Grande-Etoile 115.25 317 *e*P PKiKP 07 16 15.7 +3.3
SNOW Snow King Moun 115.26 43 *e*PKPdf PKiKP 07 16 13.5 +1.1
AHID Auburn Hatcher 115.26 44 *e*PKPdf PKiKP 07 16 14.0 +1.6
AHID LR LR
comp=Z,26μm,22.0s,MS6.8
CKE Keswick 115.27 331 *e*P PKiKP 07 16 12.3 -0.1
CKE Keswick 115.27 331 *e*P PKiKP 07 16 12.3 -0.1
LOHW Long Hollow 115.31 43 *e*PKPdf PKPdf 07 16 13.5 +1.0
HWUT Hardware Ranch 115.32 45 *e*PKPdf PKPdf 07 16 14.1 +1.6
HWUT LR LR
comp=Z,31μm,22.0s,MS6.9
FFC Flin Flon 115.33 29 *e*PKIKP PKPdf 07 16 12.1 -0.5
FFC *e* 07 16 20.1
FFC MLR MLR
comp=Z,18μm,22.0s,MS6.6
KWE Weaver Farm 115.46 329 *e*P PKPdf 07 16 12.5 -0.3
KWE AMb AMB 07 16 21.2
comp=Z,128nm,1.8s
KWE Weaver Farm 115.46 329 *e*P PKPdf 07 16 12.5 -0.3
KWE AMb AMB 07 16 21.2
comp=Z,128nm,1.8s
NLU North Lily Min 115.48 47 *e*PKPdf PKPdf 07 16 12.7 -0.1
NLU *e*PP PP 07 17 15.3 +0.7
PLDF La Plantade 115.49 320 *e*P PKPdf 07 16 13.2 +0.3
TCUT Toone Canyon 115.59 46 *e*PKPdf PKPdf 07 16 14.6 +1.5
AGO Saint Agoulin 115.77 320 *e*P PKPdf 07 16 13.6 +0.2
MPU Maple Canyon 115.78 47 *e*PKPdf PKPdf 07 16 14.6 +1.2
MPU LR LR
comp=Z,15μm,20.0s,MS6.6
MSU Marysvale 115.84 49 *e*PKIKP PKPdf 07 16 15.5 +2.0
DAU Daniels Canyon 115.93 46 *e*PKIKP PKPdf 07 16 17.1 +3.4
PYM Petit Puy Mans 115.97 320 *e*P PKPdf 07 16 13.9 +0.1
LBL Lubilhac 116.02 319 *e*P PKPdf 07 16 13.9 0.0
HLM1 Long Mynd 116.26 329 *e*P PKPdf 07 16 14.2 -0.2
HLM1 Long Mynd 116.26 329 *e*P PKPdf 07 16 14.2 -0.2
WIM Isle of Man 116.27 331 *e*P PKPdf 07 16 14.0 -0.3
WIM AMb AMB 07 16 20.4
comp=Z,112nm,1.4s
WIM Isle of Man 116.27 331 *e*P PKPdf 07 16 14.0 -0.3
WIM AMb AMB 07 16 20.4
comp=Z,112nm,1.4s
FCC Fort Churchill 116.29 23 *e*PKIKP PKPdf 07 16 12.8 -1.6
VERF Verneugheol 116.31 320 *e*P PKPdf 07 16 14.2 -0.2
TMUT Trail Mountain 116.32 48 *e*PKPdf PKPdf 07 16 15.8 +1.4
BW06 Boulder Array 116.33 43 PFAKE 07 16 30.0 +16
BW06 LR LR
comp=Z,18μm,20.0s,MS6.7
PDAR Pinedale Array 116.33 43 PKP PKPdf 07 16 14.7 +0.2
comp=Z,4.4nm,0.5s,baz=77,slow=0.6,SNR=23
PDAR PKKPab PKKPab 07 26 48.0 +0.2
comp=Z,3.0nm,0.9s,baz=130,slow=3.8,SNR=7.8
SSP1 Stoney Pound 116.43 329 *e*P PKPdf 07 16 13.3 -1.3
SSP1 Stoney Pound 116.43 329 *e*P PKPdf 07 16 13.3 -1.3
MCH1 Michaelchurch 116.59 328 *e*P PKPdf 07 16 14.6 -0.4
MCH1 Michaelchurch 116.59 328 *e*P PKPdf 07 16 14.6 -0.4
WLF1 Llynfaes 116.62 330 *e*P PKPdf 07 16 14.8 -0.2
WLF1 AMb AMB 07 16 23.1
comp=Z,103nm,1.9s
WLF1 Llynfaes 116.62 330 *e*P PKPdf 07 16 14.8 -0.2
WLF1 AMb AMB 07 16 23.1
comp=Z,103nm,1.9s
SFJD Kangerlussuaq 116.66 359 *i* P PKPdf 07 16 15.8 +0.7
comp=Z,27nm,0.9s
SFJD *e* 07 17 15.3
SFJD *i* 07 19 46.8
SFJD *i* S PS 07 27 07.1 +1.3
SFJD
comp=Z,12μm,22.0s
SFJD Kangerlussuaq 116.66 359 *e*P PKPdf 07 16 15.8 +0.7
SFJD *e* 07 17 15.3
SFJD *i* 07 19 46.8
SFJD *i* S PS 07 27 07.1 +1.3
SFJD LR LR
comp=Z,12μm,22.0s,MS6.5
HGH Gray Hill 116.68 328 *e*P PKPdf 07 16 14.3 -0.8
HGH AMb AMB 07 16 23.8
comp=Z,207nm,1.4s
HGH Gray Hill 116.68 328 *e*P PKPdf 07 16 14.3 -0.8
HGH AMb AMB 07 16 23.8
comp=Z,207nm,1.4s
YRC Rhoscolyn 116.73 330 *e*P PKPdf 07 16 15.3 +0.1
YRC AMb AMB 07 16 20.4
comp=Z,54nm,2.1s
YRC Rhoscolyn 116.73 330 *e*P PKPdf 07 16 15.3 +0.1
YRC AMb AMB 07 16 20.4
comp=Z,54nm,2.1s
SRU San Rafael 116.88 48 *e*P Pdif 07 12 35.9 +4.7
SRU *e* 07 16 15.9
LAO LASA Array 116.94 38 *e*PKPdf PKPdf 07 16 16.5 +0.9
LAO *e*SKPdf SKPdf 07 19 57.2 +8.5
LAO LR LR
comp=Z,17μm,21.0s,MS6.6
WUAZ Wupatki 117.32 52 *e*Pdif Pdif 07 12 35.8 +2.6
WUAZ *e*PKPdf PKPdf 07 16 17.4 +1.1
WUAZ LR LR
comp=Z,33μm,21.0s,MS6.9
EJON La Jonquera 117.33 317 PKP PKPdf 07 16 19.3 +2.9
DGMT Dagmar 117.36 36 *e*PKPdf PKPdf 07 16 17.4 +0.9
DGMT LR LR
comp=Z,20μm,21.0s,MS6.7
RPN Rapa Nui 117.46 123 PFAKE 07 16 30.0 +13
RPN LR LR
comp=Z,10μm,21.0s,MS6.4
DMUB Kingscourt 117.49 331⇑ *i*P PKPdf 07 16 23.8 +7.1
DLF Lyons Farm 117.67 331⇑ *i*P PKPdf 07 16 23.9 +6.9
LCHF La Chataignera 117.93 322 *e*P PKPdf 07 16 18.0 +0.5
VALF Valcebollere 117.94 317 *e*P PKPdf 07 16 17.5 -0.1
DCN Croghan 118.00 331⇑ *i*P PKPdf 07 16 24.6 +6.9
PV10 Paradox Valley 118.22 48 *e*PKPdf PKPdf 07 16 20.2 +2.1
RWWY Rawlins 118.34 44 *e*PKPdf PKPdf 07 16 19.0 +0.6
MLS Moulis 118.35 318 *e*P PKPdf 07 16 19.6 +1.3
ETOS Mallorca 118.36 314 PKP PKPdf 07 16 22.2 +3.9
EMIR Miracle 118.47 316 PKP PKPdf 07 16 21.1 +2.5
PV01 Paradox Valley 118.65 48 *e*PKPdf PKPdf 07 16 20.3 +1.4
TUC Tucson 118.65 55 *e*PKIKP PKPdf 07 16 19.9 +1.0
TUC MLR MLR
comp=Z,19μm,20.0s,MS6.7
RESF Ens 118.92 318 *e*P PKPdf 07 16 19.7 +0.3
LABF Labassere 118.99 318 *e*P PKPdf 07 16 22.5 +2.9
EPOB Poblet 119.00 316 PKP PKPdf 07 16 22.0 +2.4
VIEF Viey 119.09 318 *e*P PKPdf 07 16 20.6 +0.8
EBIE Bielsa 119.10 318 PKP PKPdf 07 16 20.7 +0.9
EGRA Graus 119.18 317 PKP PKPdf 07 16 20.0 +0.1
REYF Montagne du Re 119.29 318 *e*P PKPdf 07 16 20.2 0.0
SMCO Snowmass 119.45 46 *e*PKPdf PKPdf 07 16 23.3 +2.8
RSSD Black Hills 119.46 40 PKPdf PKPdf 07 16 20.1 -0.4
RSSD Black Hills 119.46 40 *e*PKPdf PKPdf 07 16 20.1 -0.4
RSSD LR LR
comp=Z,17μm,21.0s,MS6.7
EBR Ebro Roquetas 119.61 316 *e*PKPDF PKPdf 07 16 22.0 +1.2
EBR *e*Ts 07 17 35.0
ERTA Horta de San J 119.67 316 PKP PKPdf 07 16 23.9 +3.0
EIBI Ibiza 119.69 313 PKP PKPdf 07 16 23.9 +3.0
LARF Larrau 119.70 319 *e*P PKPdf 07 16 21.5 +0.5
PHWY Pilot Hill 119.71 44 *e*PKPdf PKPdf 07 16 22.4 +1.4
ESAC San Caprasio 119.91 317 PKP PKPdf 07 16 23.8 +2.4
EALK Alkurruntz 119.96 319 PKP PKPdf 07 16 20.9 -0.6
ELIZ Elizondo 120.00 319 PKP PKPdf 07 16 25.7 +4.2
ISCO Idaho Springs 120.19 45 *e*PKIKP PKPdf 07 16 22.9 +1.0
ISCO MLR MLR
comp=Z,21μm,20.0s,MS6.8
USHA Ushuaia 120.36 170 PKP PKPdf 07 16 22.0 -0.2
comp=Z,20nm,1.0s,baz=183,slow=10,SNR=3.4
EMOS Mosqueruela 120.47 316 PKP PKPdf 07 16 23.6 +1.2
HOPE Hope Point 120.80 191 PFAKE 07 16 30.0 +6.9
HOPE LR LR
comp=Z,44μm,22.0s,MS7.1
EBEN Beniarda 120.94 314 PKP PKPdf 07 16 27.2 +3.8
ULM Lac du Bonnet 120.97 31 PKP PKPdf 07 16 22.2 -1.2
comp=Z,13nm,0.6s,baz=307,slow=2.5,SNR=16
ULM PP PP 07 17 52.2 -0.5
comp=Z,17nm,1.1s,baz=322,slow=4.3,SNR=2.5
ULM Lac du Bonnet 120.97 31 PKP PKPdf 07 16 22.2 -1.2
ULM PP PP 07 17 52.2 -0.5
LAZ Ladron 120.97 52 *e*PKPdf PKPdf 07 16 25.0 +1.6
SDCO Great Sand Dun 121.06 47 *e*PKPdf PKPdf 07 16 24.8 +1.2
SDCO LR LR
comp=Z,37μm,20.0s,MS7.0
ECHE Chera 121.13 315 PKP PKPdf 07 16 24.5 +0.8
LENM Lemitar 121.17 52 *e*PKPdf PKPdf 07 16 25.3 +1.5
ELAN Lanestosa 121.21 320 PKP PKPdf 07 16 24.2 +0.3
ANMO Albuquerque 121.32 51 *e*PKIKP PKPdf 07 16 25.4 +1.3
ANMO MLR MLR
comp=Z,22μm,19.0s
LPM Los Pinos Moun 121.39 52 *e*PKPdf PKPdf 07 16 25.8 +1.5
BNM Barren Site 121.45 52 *e*PKPdf PKPdf 07 16 26.0 +1.7
BNM *e*PP PP 07 17 58.1 +2.1
ETOB Tobarra 121.92 314 PKP PKPdf 07 16 25.7 +0.5
EMUR La Murta 122.01 313 PKP PKPdf 07 16 30.7 +5.3
EARI Arriondas 122.32 320 PKP PKPdf 07 16 26.9 +0.9
GUD Guadarrama 122.88 317 PKIKP PKPdf 07 16 28.0 +0.9
EHUE Huescar 123.01 314 PKP PKPdf 07 16 30.7 +3.4
ENIJ Nijar 123.06 313 PKP PKPdf 07 16 27.7 +0.3
ESDC Sonseca Array 123.19 316 PKP PKPdf 07 16 27.8 +0.2
comp=Z,2.7nm,0.5s,baz=31,slow=2.9,SNR=18
ESDC PP PP 07 18 05.4 -2.3
comp=Z,1.6nm,0.6s,baz=35,slow=6.6,SNR=2.4
ESDC PKKPbc PKKPbc 07 26 19.2 +1.4
comp=Z,0.6nm,0.3s,baz=270,slow=3.5,SNR=8.4
ESDC Sonseca Array 123.19 316 PKP PKPdf 07 16 27.9 +0.2
ESLA Sonseca Array 123.19 316 *e*PKPdf PKPdf 07 16 26.9 -0.7
ESLA *ep*PKPdf pPKPdf 07 16 35.4 -3.0
ESLA LR LR
comp=Z,79μm,22.0s,MS7.3
MNTX Cornudas Mount 123.22 54 *e*PKPdf PKPdf 07 16 28.4 +0.7
MNTX LR LR
comp=Z,23μm,20.0s,MS6.8
EQES Quesada 123.36 314 PKP PKPdf 07 16 30.0 +2.0
PAB San Pablo 123.51 316 PKPdf PKPdf 07 16 28.8 +0.5
PAB PP PP 07 18 11.9 +1.9
EPON Pontenova 123.53 321 PKP PKPdf 07 16 28.7 +0.4
EBER Berja 123.59 313 PKP PKPdf 07 16 29.0 +0.6
GDL2 Guadalupe Moun 123.88 53 *e*PKPdf PKPdf 07 16 30.3 +1.3
ECOG Cogollos-Vega 123.93 313 PKP PKPdf 07 16 27.8 +1.3
ECAL Calabor 123.97 320 PKP PKPdf 07 16 29.8 +0.6
CPRX Cap Rock 123.99 52 *e*PKPdf PKPdf 07 16 32.3 +3.1
PBRG Braganca 124.04 320 *e*PKPdf PKPdf 07 16 29.1 -0.2
PBRG Braganca 124.04 320 *e*PP PP 07 18 21.0 +7.5
EGUA Guajares 124.12 313 PKIKP PKPdf 07 16 29.4 0.0
ERON Agron 124.22 313 PKP PKPdf 07 16 29.4 -0.2
CLNB Carlsbad 124.25 53 *e*PKPdf PKPdf 07 16 29.2 -0.5
EADA Adamuz 124.28 315 PKP PKPdf 07 16 30.4 +0.6
ELUQ Luque 124.32 314 PKIKP PKPdf 07 16 29.8 0.0
ELOJ Sierra Loja 124.41 313 PKIKP PKPdf 07 16 29.6 -0.4
STS Santiago 124.63 322 PKP PKPdf 07 16 31.2 +0.7
EYMN Ely 124.65 31 *e*PKPdf PKPdf 07 16 30.7 +0.2
EYMN LR LR
comp=Z,23μm,21.0s,MS6.8
CBKS Cedar Bluff 124.74 44 *e*PKIKP PKPdf 07 16 30.5 -0.1
CBKS *e* 07 16 38.0
CBKS MLR MLR
comp=Z,28μm,21.0s,MS6.9
EFI East Falkland 124.78 176 PFAKE 07 16 40.0 +9.3
EFI LR LR
comp=Z,21μm,21.0s,MS6.8
TRIS Tristan da Cun 124.83 219 *e*PKPdf PKPdf 07 16 31.2 +0.4
TRIS LR LR
comp=Z,15μm,20.0s,MS6.6
ELOB Lobios 124.86 320 PKP PKPdf 07 16 31.6 +0.7
EMAZ Mazaricos 124.86 322 PKP PKPdf 07 16 31.2 +0.3
ECAB El Cabril 124.92 315 PKP PKPdf 07 16 31.4 +0.4
PVRL Vila Real 124.94 319 *e*PKPdf PKPdf 07 16 31.6 +0.6
EMIJ Mijas 125.11 313 PKP PKPdf 07 16 35.8 +4.4
MTE Manteigas 125.27 318 *e*PKPdf PKPdf 07 16 32.3 +0.7
MTE Manteigas 125.27 318 *e*PP PP 07 18 27.8 +6.1
MTE *i* - 07 28 20.9
MTE *e*SS SS 07 35 21.6 +4.7
MTE Manteigas 125.27 318 *e*LR LR 07 59 21.2
comp=Z,16μm,22.0s
MTE Manteigas 125.27 318 *e*PKPdf PKPdf 07 16 31.8 +0.1
MTE *ep*PKPdf pPKPdf 07 16 39.6 -2.8
PVIS Viseu 125.34 319 *e*PKPdf PKPdf 07 16 32.2 +0.4
PVIS Viseu 125.34 319 *e*PP PP 07 18 32.0 +10
LTX Lajitas 125.37 56 *e*PKIKP PKPdf 07 16 32.7 +0.9
LTX MLR MLR
comp=Z,20μm,20.0s,MS6.8
TORD Torodi Ar. Bea 125.46 284 PKhKP 07 16 21.0
comp=Z,1.1nm,0.9s,baz=65,slow=3.4,SNR=4.1
TORD PKP PKPdf 07 16 32.1 +0.1
comp=Z,53nm,1.0s,baz=56,slow=2.1,SNR=84
TORD PP PP 07 18 22.5 -0.5
comp=Z,8.8nm,1.1s,baz=63,slow=2.5,SNR=2.0
PCBR Castelo Branco 125.50 318 *e*PKPdf PKPdf 07 16 32.6 +0.5
EJIF Jimena Fronter 125.67 313 PKP PKPdf 07 16 33.0 +0.6
EBAD Badajoz 125.71 316 PKP PKPdf 07 16 33.2 +0.7
ESPR Espera 125.76 314 PKP PKPdf 07 16 33.4 +0.8
EMIN Mina Concepcio 125.94 315 PKP PKPdf 07 16 33.6 +0.6
PTOM Tomar 126.24 318 *e*PKPdf PKPdf 07 16 34.0 +0.5
PTOM Tomar 126.24 318 *e*PP PP 07 18 34.3 +6.2
MDT Midelt 126.50 309 PKP PKPdf 07 16 34.6 +0.6
comp=Z,14nm,0.6s,baz=74,slow=3.8,SNR=8.9
EGRO El Granado 126.62 315 PKP PKPdf 07 16 34.7 +0.5
PBEJ Beja 126.65 316 *e*PKPdf PKPdf 07 16 35.1 +0.8
PBEJ Beja 126.65 316 *e*PP PP 07 18 34.5 +3.6
KSU1 Kansas State U 126.74 42 *e*PKPdf PKPdf 07 16 34.7 +0.2
MOE Montemor 126.74 317 *e*PKPdf PKPdf 07 16 35.8 +1.3
WMOK Wichita Mounta 127.23 48 *e*PKIKP PKPdf 07 16 35.6 +0.2
WMOK MLR MLR
comp=Z,19nm,21.0s,MS6.7
PTEO Sao Teotonio 127.48 316 *e*PKPdf PKPdf 07 16 37.3 +1.4
SCHQ Schefferville 127.61 10 PKP PKPdf 07 16 35.6 -0.5
comp=Z,19nm,0.7s,baz=26,slow=3.8,SNR=24
SCHQ Schefferville 127.61 10 PKP PKPdf 07 16 35.6 -0.5
SCHQ LR LR
comp=Z,25μm,22.0s,MS6.8
SHEL Horse Pasture 129.69 246 PFAKE 07 16 50.0 +10
SHEL LR LR
comp=Z,20μm,22.0s,MS6.8
CCM Cathedral Cave 130.85 41 *e*PKPdf PKPdf 07 16 42.7 +0.5
CCM *e*SKPbc SKPbc 07 20 06.0 +2.1
CCM LR LR
comp=Z,19μm,20.0s,MS6.8
MIAR Mount Ida 131.13 46 *e*PKIKP PKPdf 07 16 44.6 +1.8
MIAR MLR MLR
comp=Z,21μm,22.0s,MS6.8
FVM French Village 131.42 40 *e*PKPdf PKPdf 07 16 44.2 +0.9
HKT Hockley 131.51 52 *e*PKIKP PKPdf 07 16 45.6 +2.1
HKT *e* 07 19 00.6
HKT MLR MLR
comp=Z,31μm,20.0s,MS7.0
HKT Hockley 131.51 52 *e*PKPdf PKPdf 07 16 45.6 +2.1
HKT *e*PP PP 07 19 00.6 -2.1
HKT *e*SKPbc SKPbc 07 20 11.1 +4.7
HKT LR LR
comp=Z,31μm,20.0s,MS7.0
NATX Nacogdoches 131.64 50 *e*PKPdf PKPdf 07 16 47.8 +4.0
NATX *e*PP PP 07 19 04.7 +1.2
NATX *e*SKPab 07 20 09.6
NATX LR LR
comp=Z,16μm,20.0s,MS6.7
UALR University of 131.88 45 *e*PKPdf PKPdf 07 16 43.5 -0.7
DBIC Dimbokro 132.27 276 PKhKP 07 16 30.7
comp=Z,2.3nm,0.7s,baz=138,slow=3.6,SNR=3.6
DBIC PKP PKPdf 07 16 46.0 +1.1
comp=Z,23nm,0.6s,baz=84,slow=1.9,SNR=19
DBIC SKPbc SKPbc 07 20 11.9 +2.9
comp=Z,136nm,1.2s,baz=71,slow=3.5,SNR=16
DBIC Dimbokro 132.27 276 *e*PKIKP PKPdf 07 16 43.6 -1.4
DBIC MLR MLR
comp=Z,13μm,21.0s
LIC Lamto 132.45 275 *e*PKIKP PKPdf 07 16 43.6 -1.7
comp=Z,471nm,1.2s
AAM Ann Arbor 132.55 31 *e*PKPdf PKPdf 07 16 48.1 +2.6
AAM LR LR
comp=Z,34μm,21.0s,MS7.0
PLCA Paso Flores 132.99 161 PKhKP 07 16 30.1
comp=Z,2.1nm,0.9s,baz=122,slow=17,SNR=3.6
PLCA PKP PKPdf 07 16 46.7 +0.4
comp=Z,12nm,0.6s,baz=202,slow=2.9,SNR=26
PLCA PP PP 07 19 10.7 -1.4
comp=Z,11nm,1.2s,baz=88,slow=3.4,SNR=1.8
PLCA SKPab 07 20 15.8
comp=Z,89nm,1.2s,baz=239,slow=5.6,SNR=8.2
PLCA Paso Flores 132.99 161 *e*PKPdf PKPdf 07 16 47.5 +1.2
PLCA LR LR
comp=Z,26μm,20.0s,MS6.9
BLO Bloomington 133.10 36 *e*PKIKP PKPdf 07 16 45.7 -0.8
GLAT Glass 133.15 41 PKPdf PKPdf 07 16 46.5 -0.1
UTMT University of 133.39 41 *e*PKPdf PKPdf 07 16 49.1 +2.0
WCI Wyandotte Cave 133.85 37 *e*PKPdf PKPdf 07 16 51.9 +4.0
WCI LR LR
comp=Z,20μm,20.0s,MS6.8
OXF Oxford 134.06 43 *e*PKPdf PKPdf 07 16 52.5 +4.2
OXF LR LR
comp=Z,21μm,21.0s,MS6.8
WVT Waverly 134.19 41 *e*PKPdf PKPdf 07 16 49.6 +1.1
WVT *ep*PKPdf pPKPdf 07 16 57.6 -1.8
WVT LR LR
comp=Z,28μm,20.0s,MS7.0
ACSO Alum Creek Sta 134.39 33 *e*PKPdf PKPdf 07 16 48.8 -0.1
ACSO *e*SKPbc SKPbc 07 20 18.6 +2.5
ACSO LR LR
comp=Z,9μm,19.0s,MS6.5
ERPA Erie 134.52 29 PFAKE 07 17 00.0 +11
ERPA LR LR
comp=Z,22μm,21.0s,MS6.9
PLAL Pickwick Lake 134.70 42 PFAKE 07 17 00.0 +10
PLAL LR LR
comp=Z,31μm,22.0s,MS7.0
LONY Lake Ozonia 134.79 22 *e*PKPdf PKPdf 07 16 50.4 +0.7
NCB Newcomb 135.48 22 *e*PKPdf PKPdf 07 16 51.6 +0.6
NCB *ep*PKPdf pPKPdf 07 17 00.2 -1.6
NCB *es*PKPdf 07 17 03.9
NCB LR LR
comp=Z,25μm,21.0s,MS6.9
MIV Mineville/With 135.65 22 *e*PKPdf PKPdf 07 16 49.8 -1.5
CFTV Fuerteventura 135.75 308 PKP PKPdf 07 16 54.3 +2.9
SWET Sewanee 135.97 40 *e*PKPdf PKPdf 07 16 47.2 -4.6
LBNH Lisbon 136.07 20 *e*PKPdf PKPdf 07 16 52.3 +0.2
LBNH LR LR
comp=Z,32μm,22.0s,MS7.0
ACCN Adirondack Com 136.19 22 *e*PKPdf PKPdf 07 16 52.1 -0.2
BINY Binghamton 136.26 25 *e*PKPdf PKPdf 07 16 51.2 -1.3
BINY *e*PP PP 07 19 27.9 -5.0
BINY *e*SKPbc SKPbc 07 20 23.3 +1.2
BINY LR LR
comp=Z,27μm,21.0s,MS6.9
HNH Hanover 136.42 21 *e*PKPdf PKPdf 07 16 52.9 +0.1
HNH *ep*PKPdf pPKPdf 07 17 02.5 -1.0
MCWV Mont Chateau 136.45 31 *e*PKPdf PKPdf 07 16 53.9 +1.1
MCWV *ep*PKPdf pPKPdf 07 17 02.5 -1.1
MCWV LR LR
comp=Z,32μm,22.0s,MS7.0
LRAL Lakeview Retre 136.55 44 *e*PKPdf PKPdf 07 16 50.6 -2.4
LRAL *e*SKPdf SKPdf 07 20 25.6 +0.1
LRAL *e*SKPab 07 20 31.2
LRAL LR LR
comp=Z,20μm,20.0s,MS6.8
TZTN Tazewell 136.60 37 *e*PKPdf PKPdf 07 16 46.1 -6.9
CPCT Cooper Cave 136.72 39 *e*PKPdf PKPdf 07 16 51.7 -1.6
FFD Franklin Falls 136.85 20 *e*PKPdf PKPdf 07 16 54.4 +0.9
FWV Forest Hill 137.46 34 *e*PKPdf PKPdf 07 16 55.1 +0.4
QUA2 Belchertown 137.64 22 *e*PKPdf PKPdf 07 16 58.4 +3.4
HRV Harvard--Oak R 137.72 21 *e*PKPdf PKPdf 07 16 52.8 -2.3
HRV LR LR
comp=Z,851nm,21.0s
ELN Prospectdale 137.75 34 *e*PKPdf PKPdf 07 16 48.3 -6.9
CCAN Las Canadas 137.80 309 PKP PKPdf 07 17 01.0 +5.7
MVL Millersville 137.88 27 *e*PKPdf PKPdf 07 16 54.2 -1.3
WES Weston 137.92 21 *e*PKHKP 07 16 47.3
WES MLR MLR
comp=Z,7μm,19.0s,MS6.4
PDA Ponta Delgada 137.94 327 *i* PP PP 07 19 55.0 +12
PDA *i* S Sdif 07 28 07.6 +2.7
PDA Ponta Delgada 137.94 327 *e*SS SS 07 38 11.0 +20
PDA Ponta Delgada 137.94 327 *e*LR LR 08 02 50.0
BLA Blacksburg 137.94 34 *e*PKPdf PKPdf 07 16 56.3 +0.8
BLA *e*PP PP 07 19 40.4 -3.0
BLA *e*SKPbc SKPbc 07 20 29.8 +2.8
BLA LR LR
comp=Z,1μm,21.0s
ADH Angra Heroismo 138.07 330 *i* PP PP 07 20 22.5 +38
ADH Angra Heroismo 138.07 330 *i* SS SS 07 38 37.5 +44
ADH Angra Heroismo 138.07 330 *i* LR LR 08 02 45.0
BRNJ Basking Ridge 138.11 25 *e*PKPdf PKPdf 07 16 57.4 +1.5
PAL Palisades 138.12 24 *e*PKPdf PKPdf 07 16 50.1 -5.8
CPNY Central Park 138.28 24 *e*PKPdf PKPdf 07 16 53.5 -2.7
EGOM La Gomera 138.30 310 PKP PKPdf 07 17 01.5 +5.3
CBN Corbin 138.81 30 *e*PKPdf PKPdf 07 17 01.3 +4.1
CBN LR LR
comp=Z,36μm,21.0s,MS7.1
JSC Jenkinsville 139.50 38 *e*PKPdf PKPdf 07 16 58.7 +0.3
JSC *ep*PKPdf pPKPdf 07 17 06.9 -2.3
CLCH Cerro Calan 139.55 157 *e*P PKPdf 07 16 52.7 -5.8
FCH Farellones 139.71 157⇑ *i*P PKPdf 07 16 52.6 -6.1
ASCN Ascension 140.09 253 *e*PKPdf PKPdf 07 16 60.0 +0.5
ASCN LR LR
comp=Z,13μm,21.0s,MS6.7
COW Cow Castle Cre 140.45 38 *e*PKPdf PKPdf 07 16 59.2 -0.9
NHSC New Hope 140.96 38 *e*PKPdf PKPdf 07 17 01.7 +0.6
NHSC LR LR
comp=Z,26μm,22.0s,MS6.9
CMCH Combarbala 141.30 154⇑ *i*P PKPdf 07 16 55.3 -6.4
LPA La Plata 141.42 173 *de*PKP PKPdf 07 16 58.0 -3.9
LPA *ep*PKP pPKPdf 07 17 12.0 -0.7
LPA
comp=Z,30μm,22.0s
TEIG Tepich 141.58 62 *e*PKPdf PKPdf 07 16 59.5 -2.7
TEIG LR LR
comp=Z,3μm,21.0s,MS6.0
CFAA Coronel Fontan 142.03 158 PKhKP 07 16 56.8
comp=Z,0.9nm,0.5s,baz=233,slow=3.8,SNR=18
CFAA PP PP 07 20 07.5 -1.0
comp=Z,1.0nm,0.8s,baz=286,slow=2.1,SNR=1.9
CFAA SKPbc SKPbc 07 20 40.8 +2.8
comp=Z,3.2nm,1.0s,baz=168,slow=8.9,SNR=2.4
RTR El Retiro 142.12 72 *e*P PKPdf 07 17 02.7 -0.4
SBLS San Blas 142.15 72 *e*P PKPdf 07 17 03.5 +0.3
PAYG Puerto Ayora 142.19 96 *e*PKPdf PKPdf 07 17 04.8 +1.5
PAYG *e*SKPbc SKPbc 07 20 41.0 +2.6
PAYG LR LR
comp=Z,23μm,21.0s,MS6.9
BOQS Boqueron 142.50 72 *e*P PKPdf 07 17 03.7 -0.1
PICS Picacho 142.52 72 *e*P PKPdf 07 17 05.8 +2.0
LBRS Las Brisas 142.72 72 *e*P PKPdf 07 17 03.9 -0.3
LFRS El Faro 142.73 72 *e*P PKPdf 07 17 02.0 -2.2
LCBS La Ceiba 142.80 72 *e*P PKPdf 07 17 02.0 -2.4
DWPF Disney 143.32 45 PKPdf PKPdf 07 17 01.7 -3.6
DWPF Disney 143.32 45 *e*PKPdf PKPdf 07 17 04.3 -0.9
DWPF *ep*PKPdf pPKPdf 07 17 15.9 -0.2
DWPF LR LR
comp=Z,22μm,20.0s,MS6.9
VSM San Miguel 143.52 72 *e*P PKPdf 07 17 04.5 -1.1
BLLM Bellamira 143.55 72 *e*P PKPdf 07 17 06.1 +0.5
CNCH Conchagua 143.97 72 *e*P PKPdf 07 17 05.5 -0.9
CRIN San Cristobal 144.84 73 *e*P PKPdf 07 17 08.1 +0.2
SOR Soroa 144.97 54 *e*P PKPdf 07 17 08.3 +0.2
LEON Leon 145.05 73 *e*P PKPbc 07 17 07.7 0.0
TEL3 Telica 3 145.06 73 *e*P PKPbc 07 17 08.4 +0.6
TELN Telica 145.07 73⇑ *e*P PKPbc 07 17 08.3 +0.6
CNGN Cerro Negro 145.21 73 *e*P PKPbc 07 17 08.5 +0.3
MIRN Miramar 145.21 73 *e*P PKPbc 07 17 08.9 +0.7
COPN Copaltepe 145.38 74 *e*P PKPbc 07 17 09.2 +0.4
MOMJ Momotombo 145.38 73 *e*P PKPbc 07 17 09.5 +0.7
XAVN Gruta Xavier 145.64 74 *e*P PKPdf 07 17 09.6 +0.3
MGAN Managua 145.72 74 *e*P PKPdf 07 17 10.5 +1.1
TICN Ticuantepe 145.75 74 *e*P PKPdf 07 17 11.8 +2.3
WILN Americas 2 145.77 74 *e*P PKPdf 07 17 10.1 +0.6
APON Apoyo 145.94 74⇓ *e*P PKPdf 07 17 10.8 +1.0
SSNN San Juan del S 146.26 75 *e*P PKPdf 07 17 11.8 +1.4
CONN Concepcion 146.43 74 *e*P PKPdf 07 17 13.4 +2.8
MADN Villa Maderas 146.55 75 *e*P PKPdf 07 17 12.4 +1.6
VCR Vista de Mar 146.67 77 *e*P PKPab 07 17 16.7 +2.8
LIM1 Limonal 146.94 76 *i*P PKPdf 07 17 13.7 +2.2
JTS JuntasAbangare 147.31 77 PKPbc PKPbc 07 17 15.6 +1.2
comp=Z,145nm,0.7s,baz=334,slow=4.0,SNR=34
JTS PP PP 07 20 42.8 +2.9
comp=Z,8.4nm,1.1s,baz=324,slow=19,SNR=1.6
JTS JuntasAbangare 147.31 77 *e*PKPdf PKPdf 07 17 13.4 +1.3
JTS *e*PKPbc PKPbc 07 17 16.1 +1.6
JTS LR LR
comp=Z,14μm,22.0s,MS6.7
MGV Manicaragua 147.74 53 *e*P PKPab 07 17 19.3 +1.2
CGA2 Cerro Gallo 2 147.82 77 *e*P PKPbc 07 17 17.1 +1.3
PRS1 Puriscal 147.98 77 *e*P PKPbc 07 17 16.4 +0.1
CEN1 Los Morros 148.23 148 *e*P PKPbc 07 17 16.6 -0.3
LCR2 La Lucha 2 148.32 77⇑ *e*P PKPdf 07 17 15.5 +1.7
ICR Volcan Irazu 148.44 77 *e*P PKPdf 07 17 14.4 +0.5
URSC Urasca 148.52 77 *e*P PKPdf 07 17 16.4 +2.3
BUS Buena Vista 148.58 78 *e*P PKPdf 07 17 16.9 +2.7
BBSR BB Station 149.21 20 *e*PKPbc PKPbc 07 17 20.2 +0.7

BBSR LR LR
comp=Z,17μm,21.0s,MS6.8
CPUP Villa Florida 149.95 172 PKP PKPdf 07 17 17.1 +0.7
comp=Z,22nm,0.8s,baz=137,slow=1.8,SNR=10
CPUP PKPbc PKPbc 07 17 21.7 +0.4
comp=Z,61nm,0.6s,baz=143,slow=0.9,SNR=45
CPUP Villa Florida 149.95 172 *e*PKPdf PKPdf 07 17 17.2 +0.8
CPUP *e*PKPbc PKPbc 07 17 21.2 0.0
CPUP LR LR
comp=Z,2μm,19.0s,MS6.0
CCCC Cccc 149.97 52 *e*P PKPdf 07 17 16.8 +0.4
LMGC Las Mercedes 151.17 53 *e*P PKPdf 07 17 22.6 +4.3
LMGC *e*S 07 35 33.2
comp=N,3μm,24.1s
LMGC *e*
comp=E,9μm,28.0s
NNA Nana 151.45 123 PFAKE 07 17 30.0 +11
NNA LR LR
comp=Z,14μm,20.0s,MS6.8
HLGC Holguin 151.47 51 *e*P PKPdf 07 17 19.9 +1.2
CAM4 Nova Friburgo 152.41 201 *e*P PKPdf 07 17 12.0 -8.2
CAM4 *i* 07 17 25.6
CAM4 *i* 07 17 27.6
CAM4 *i* 07 17 31.5
CAM4 *i* 07 17 43.2
ARE Arequipa 152.78 137 *e*P PKPdf 07 17 25.0 +4.3
ARE *i* 07 17 29.3
MASC Masc 153.29 50 *e*P PKPdf 07 17 22.3 +0.9
OTAV Otavalo 154.05 97 *e*PKPdf PKPdf 07 17 24.5 +2.0
OTAV LR LR
comp=Z,18μm,21.0s,MS6.9
LPAZ La Paz 155.06 143 PKP PKPdf 07 17 26.0 +2.1
comp=Z,18nm,1.0s,baz=330,slow=0.6,SNR=26
LPAZ PP PP 07 21 27.9 +3.5
comp=Z,29nm,1.3s,baz=324,slow=4.3,SNR=2.9
LPAZ La Paz 155.06 143 *e*PKPdf PKPdf 07 17 25.9 +2.0
LPAZ *e*PKPbc PKPdf 07 17 33.9 +10
LPAZ LR LR
comp=Z,10μm,21.0s,MS6.6
ROSC El Rosal 158.38 86 PKP PKPdf 07 17 30.0 +1.8
comp=Z,41nm,0.9s,baz=132,slow=9.2,SNR=13
ROSC PP PP 07 21 47.1 +4.3
comp=Z,7.9nm,0.9s,baz=78,slow=21,SNR=1.5
SIV San Ignacio 158.88 157 PKP PKPdf 07 17 30.1 +1.3
comp=Z,8.7nm,1.0s,baz=209,slow=1.8,SNR=33
SIV PP PP 07 21 46.2 +0.7
comp=Z,4.1nm,0.9s,baz=239,slow=24,SNR=1.5
BAO Brasilia Array 160.37 194 PKPdf PKPdf 07 17 31.0 +0.5
BDFB Brasilia 160.37 194 PKP PKPdf 07 17 30.8 +0.3
comp=Z,6.0nm,0.6s,baz=5.4,slow=4.3,SNR=9.0
BDFB PP PP 07 21 51.3 -2.3
comp=Z,19nm,1.1s,baz=359,slow=17,SNR=2.7
SJG San Juan 160.43 41 PKP PKPdf 07 17 30.5 -0.1
comp=Z,26nm,0.7s,baz=30,slow=2.8,SNR=3.8
SJG PKPab PKPab 07 18 12.4 +0.8
comp=Z,152nm,1.2s,baz=270,slow=4.0,SNR=3.4
SJG PP PP 07 21 51.8 -2.1
comp=Z,13nm,0.8s,baz=305,slow=3.3,SNR=5.1
SJG San Juan 160.43 41 *e*PKPdf PKPdf 07 17 30.0 -0.6
SJG *e*PKPab PKPab 07 18 14.1 +2.4
SJG LR LR
comp=Z,15μm,21.0s
CPD Cerro la Pandu 160.64 41 *e*PKPdf PKPdf 07 17 31.0 +0.2
CPD *e*pPKPdf pPKPdf 07 17 38.3 -3.3
CPD *e*PKPab PKPab 07 18 15.7 +3.1
RCBR Riachuelo 160.81 241 PFAKE 07 17 40.0 +9.0
RCBR LR LR
comp=Z,22μm,20.0s
MTP Monte Pirata 160.83 40 *e*PKPdf PKPdf 07 17 32.9 +1.9
MTP *e*PKPab PKPab 07 18 16.5 +3.1
SDV Santo Domingo 161.40 73 PKP PKPdf 07 17 32.1 +0.5
comp=Z,127nm,1.1s,baz=270,slow=0.8,SNR=38
SDV PKPab PKPab 07 18 21.9 +6.0
comp=Z,94nm,0.6s,baz=169,slow=5.3,SNR=20
SDV PP PP 07 22 02.6 +3.5
comp=Z,20nm,1.0s,baz=245,slow=2.7,SNR=3.5
SDV Santo Domingo 161.40 73 *e*PKPdf PKPdf 07 17 31.8 +0.2
SDV *e*PKPab PKPab 07 18 20.2 +4.3
SDV LR LR
comp=Z,15μm,20.0s
STMA St. Maarten, A 162.36 35 *e*P PKPdf 07 17 33.4 +0.8
CPB Codrington 163.39 32 *e*P PKPdf 07 17 28.5 -5.1
SAML Samuel 163.76 140 *e*PKPdf PKPdf 07 17 34.7 +0.8
SAML *e*pPKPdf pPKPdf 07 17 42.5 -2.3
SAML *e*PKPab PKPab 07 18 26.0 -0.2
BPA Boggy Peak 163.86 33 *e*P PKPdf 07 17 39.6 +5.6
BPA Boggy Peak 163.86 33 *e* PP 07 22 15.7 +3.6
LZG Guadaloupe-1 164.63 35 *e*P PKPdf 07 17 37.1 +2.4
SCG Saint Claude 164.78 35 *e*P PKPdf 07 17 37.7 +2.9
DEG La Desirade 164.89 32 *e*P PKPdf 07 17 41.5 +6.5
TBG Guadaloupe-3 164.94 35 *e*P PKPdf 07 17 35.0 0.0
BBL Barber's Block 165.30 35 *e*P PKPdf 07 17 31.7 -3.6
TRN Trinidad (W) 168.85 50 *e* PKPdf 07 17 39.4 +1.5
TPR Prospect 168.97 46 *e* PKPdf 07 17 45.2 +7.2
TPP Pointe-a-Pierr 169.02 52 *e* PKPdf 07 17 44.0 +6.0
BOT Bacolet 169.03 46 *e* pPKPdf 07 17 48.4 -0.5
TBH Brigand Hill 169.21 50 *e* pPKPdf 07 17 51.4 +2.4

IDC 14 06:57:44.0±4.4,2343S×6662W,h250km±33km,mb3.2/1, mb1 3.0/5,mb1mx2.9/17,mbtmp3.4/5,Error ellipse: s-maj=59.9km s-min=26.6km az=37.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.25**	**348**	P	Pn	06 59 28.6	+0.9
	0.3nm,0.3s,baz=170,slow=6.6,SNR=6.1						
CPUP	**Villa Florida**	**8.92**	**111**	P	Pn	06 59 48.8	0.0
	0.4nm,0.3s,baz=297,slow=9.0,SNR=3.7						
SIV	**San Ignacio**	**9.06**	**36**	P	Pn	06 59 50.7	0.0
	0.2nm,0.3s,baz=222,slow=13,SNR=9.1						
BDFB	**Brasilia**	**19.16**	**69**	P	P	07 01 49.4	+0.5
	0.3nm,0.3s,baz=248,slow=6.2,SNR=3.4						
YKA	**Yellowknife Ar**	**93.71**	**340**	P	P	07 10 31.6	-0.7
	0.1nm,0.6s,baz=129,slow=4.7,SNR=5.0						

ISCJB 14 07:01:50.6±5.7,344S×007×1274E±01,h4km±36km, mb5.3/27,Error ellipse: s-maj=18.4km s-min=10.0km az=144.3
IDC 14 07:01:52.0±0.6,352S×12737E,h0km,mb5.3/16, mb1 5.3/17,mb1mx5.2/24,mbtmp5.3/17,ML4.8/1,Error ellipse: s-maj=23.6km s-min=15.5km az=70.0
MOS 14 07:01:54.9±1.1,339S×12744E,h33km,mb5.6/7,Error ellipse: s-maj=27.9km s-min=10.4km az=104.8
NEIC 14 07:01:56.4±0.4,344S×12734E,h30km,mb5.4/7,Error ellipse: s-maj=18.2km s-min=9.1km az=69.0
BJI 14 07:01:56.9,341S×12761E,h35km,mB5.9,mb5.3
ISC 14 07:01:55.4±4.1,346S±007×1274E±01,h23km±29km,n58, σ1°16/45,mb5.3/27,1C,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**14.59**	**310**	*e*Pn	**Pn**	**07 05 18.7**	**-1.7**
WRA	**Warramunga Arr**	**17.75**	**158**	P	**Pn**	**07 06 00.4**	**-0.6**
	3.1nm,0.3s,baz=329,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**21.07**	**163**	P	**P**	**07 06 40.2**	**+2.3**
	330nm,0.7s,mb5.8,baz=345,slow=12,SNR=18						
PSI	**Prapat**	**29.09**	**282**	P	**P**	**07 07 55.9**	**+1.6**
	37nm,0.8s,mb5.2,baz=104,slow=5,2,SNR=4.4						
QZH	**Quanzhou**	**29.48**	**344**	*i* P	**P**	**07 07 59.9**	**+2.1**
QZH				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.6						
JOW	**Kunigami**	**30.12**	**2**	P	**P**	**07 08 04.3**	**+1.0**
	comp=Z,51nm,0.8s,mb5.3,baz=192,slow=14,SNR=4.6						
CBIJ	**Chichi jima**	**33.58**	**24**	P	**P**	**07 08 34.9**	**+1.2**
	comp=Z,93nm,0.6s,mb5.9,baz=277,slow=19,SNR=2.4						
KS15	**Wonju Array Si**	**40.69**	**1**	*e*P	**P**	**07 09 33.1**	**-1.0**
MAJO	**Matsushiro**	**41.06**	**13**	*e*P	**P**	**07 09 37.4**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.2						
MAJO	**Matsushiro**	**41.06**	**13**	*e*P	**P**	**07 09 37.4**	**+0.2**
	comp=Z,30nm,0.5s,mb5.2						
MJAR	**Matsushiro Arr**	**41.06**	**13**	P	**P**	**07 09 37.0**	**-0.2**
	comp=Z,33nm,0.9s,mb5.0,baz=186,slow=9.8,SNR=7.1						
BJT	**Baijiatuau**	**44.47**	**348**	*e*P	**P**	**07 10 02.3**	**-2.5**
BJT				pmax	pmax		
	comp=Z,59nm,0.9s						
BJT	**Baijiatuau**	**44.47**	**348**	*e*P	**P**	**07 10 02.3**	**-2.5**
	comp=Z,59nm,0.9s,mb5.3						
VLA	**Vladivostok**	**46.54**	**5**	*i* P	**P**	**07 10 21.9**	**+0.7**
VLA				pmax	pmax		
	comp=Z,199nm,1.6s,mb5.8						
MDJ	**Mudanjiang**	**47.90**	**2**	*e*P	**P**	**07 10 33.4**	**+1.6**
	comp=Z,36nm,0.8s,mb5.5						
YUK	**Yuzh-Kuril'sk**	**50.11**	**17**	*i* P	**P**	**07 10 43.4**	**-5.4**
ULN	**Ulaanbaatar**	**54.12**	**343**	*e*P	**P**	**07 11 16.7**	**-1.9**
ULN				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
ULN	**Ulaanbaatar**	**54.12**	**343**	*e*P	**P**	**07 11 16.7**	**-1.9**
	comp=Z,28nm,0.9s,mb5.2						
SONM	**Songino Array**	**54.28**	**343**	P	**P**	**07 11 20.8**	**+1.1**
	comp=Z,24nm,0.9s,mb5.1,baz=160,slow=6.9,SNR=5.4						
SONM				PcP	PcP	07 12 25.2	+1.5
	comp=Z,12nm,0.8s,baz=149,slow=5.5,SNR=2.3						
RPZ	**Rata Peaks**	**55.63**	**143**	P	**P**	**07 11 30.0**	**+0.5**
	comp=Z,28nm,0.6s,mb5.5,baz=12,slow=10.0,SNR=5.6						
RPZ	**Rata Peaks**	**55.63**	**143**	P	**P**	**07 11 30.0**	**+0.5**
URZ	**Urewera**	**57.00**	**134**	P	**P**	**07 11 38.6**	**-0.7**
	comp=Z,14nm,0.5s,mb5.2,baz=35,slow=8.1,SNR=4.5						
BOD	**Bodaibo**	**62.02**	**352**	*e*P	**P**	**07 12 12.5**	**-1.4**
BOD				pmax	pmax		
	comp=Z,67nm,1.6s,mb5.5						
MKAR	**Makanchi Array**	**63.84**	**327**	P	**P**	**07 12 27.1**	**+1.1**
	comp=Z,20nm,0.7s,mb5.2,baz=104,slow=4.0,SNR=5.7						
YAK	**Yakutsk**	**65.33**	**1**	*e*P	**P**	**07 12 36.3**	**+0.6**
YAK				*e*		07 13 06.3	
KURK	**Kurchatov**	**68.14**	**329**	*e*P	**P**	**07 12 53.4**	**-0.3**
KURK				*e*		07 13 23.4	
SEY	**Seymchan**	**68.86**	**12**	*i* P	**P**	**07 12 56.9**	**-1.3**
BVAR	**Borovoye Array**	**73.68**	**328**	P	**P**	**07 13 27.3**	**0.0**
	comp=Z,19nm,0.8s,mb5.0,baz=143,slow=11,SNR=3.6						
BRVK	**Borovoye**	**73.75**	**328**	*e*P	**P**	**07 13 27.7**	**0.0**
BRVK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
BRVK	**Borovoye**	**73.75**	**328**	*e*P	**P**	**07 13 27.6**	**-0.1**
	comp=Z,29nm,1.0s,mb5.2						
ZRNK	**Zerenda**	**74.38**	**328**	*e*P	**P**	**07 13 31.1**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.4						
ZRNK	**Zerenda**	**74.38**	**328**	*e*P	**P**	**07 13 31.1**	**-0.3**
	comp=Z,32nm,0.7s,mb5.4						
TIXI	**Tiksi**	**74.97**	**0**	*e*P	**P**	**07 13 42.0**	**+7.2**
VNDA	**Vanda**	**76.27**	**173**	P	**P**	**07 13 41.5**	**-0.7**
	comp=Z,17nm,1.0s,mb5.0,baz=272,slow=6.4,SNR=4.0						
OPO	**Ambohidratompo**	**79.60**	**252**	P	**P**	**07 14 00.6**	**-0.2**
	comp=Z,5.1nm,0.7s,mb4.6,baz=72,slow=3.6,SNR=6.6						
AKTK	**Aktyubinsk**	**79.68**	**323**	P	**P**	**07 14 01.1**	**-0.1**
AKTO	**Aktyubinsk**	**79.68**	**323**	P	**P**	**07 14 01.1**	**-0.1**
	comp=Z,21nm,0.8s,mb5.1,baz=107,slow=8.5,SNR=4.7						
ATD	**Arta Tunnel**	**85.31**	**282**	P	**P**	**07 14 33.3**	**+2.7**
	comp=Z,19nm,0.6s,mb5.4,baz=326,slow=23,SNR=3.7						
QSPA	**South Pole Qui**	**86.50**	**180**	*e*P	**P**	**07 14 34.9**	**-1.5**
	comp=Z,39nm,0.8s,mb5.7						
ILAR	**Eielson Array**	**91.28**	**25**	P	**P**	**07 14 58.5**	**-0.6**
	comp=Z,3.1nm,0.7s,mb4.8,baz=238,slow=4.4,SNR=5.1						
ILAR				PKKP	PKKPbc	07 32 20.1	-0.6
	comp=Z,1.0nm,0.8s,baz=61,slow=2.1,SNR=5.0						
ARCES	**ARCESS Array B**	**97.36**	**340**	P	**P**	**07 15 25.6**	**-1.4**
	comp=Z,30nm,0.9s,mb5.7,baz=82,slow=5.9,SNR=10.0						
ARCES	**ARCESS Array B**	**97.36**	**340**	P	**P**	**07 15 25.6**	**-1.3**
ARCES	**ARCESS Array B**	**97.36**	**340**	P	**P**	**07 15 25.6**	**-1.4**
FINES	**FINESS Array B**	**98.41**	**332**	P	**P**	**07 15 32.6**	**+0.9**
	comp=Z.6.1nm,0.8s,mb5.2,baz=91,slow=8.9,SNR=2.7						
FINES	**FINESS Array B**	**98.41**	**332**	P	**P**	**07 15 32.6**	**+0.9**
LVV	**L'vov**	**101.22**	**320**	*i* P	Pdif	07 15 37.6	-6.6
SUR	**Sutherland**	**102.04**	**236**	*e*Pdif	Pdif	07 15 48.3	+0.5
SRO	**Srobarova**	**105.29**	**319**	*e*	Pdif	07 16 07.1	+4.8
NAO01	**NORSAR Array S**	**105.67**	**333**	*e*Pdif	Pdif	07 16 01.4	-2.5
YKA	**Yellowknife Ar**	**105.72**	**25**	PKKPbc	PKKPbc	07 31 37.9	-2.6
	comp=Z,0.8nm,0.7s,baz=113,slow=2.9,SNR=5.7						
KHMM	**Horse Mountain**	**106.52**	**48**	*e*Pdif	Pdif	07 16 08.9	+1.1
STON	**Ston**	**106.71**	**314**	*i* (P)	Pdif	07 16 14.1	+5.5
TORD	**Torodi Ar. Bea**	**125.48**	**284**	PKP	PKPdf	07 20 55.5	+0.9
	comp=Z,5.2nm,0.8s,baz=93,slow=1.3,SNR=4.7						
MDT	**Midelt**	**126.47**	**309**	PKP	PKPdf	07 20 58.3	+1.7
	comp=Z,3.2nm,0.7s,baz=97,slow=8.5,SNR=4.6						
JTS	**JuntasAbangare**	**147.23**	**76**	PKPbc	PKPbc	07 21 39.4	+2.5
	comp=Z,12nm,0.7s,baz=234,slow=13,SNR=4.2						
CPUP	**Villa Florida**	**150.04**	**172**	PKPbc	PKPbc	07 21 44.8	+0.6
	comp=Z,15nm,0.7s,baz=80,slow=3.4,SNR=3.2						
SJG	**San Juan**	**160.32**	**41**	*e*PKIKP	PKPdf	07 21 52.0	-1.1
CPD	**Cerro la Pandu**	**160.53**	**41**	*e*PKIKP	PKPdf	07 21 56.0	+2.7

IDC 14 07:05:32.0±1.2,340S×12722E,h0km,mb4.7/9,mb1 4.8/9, mb1mx4.6/18,mbtmp4.7/9,Error ellipse: s-maj=54.1km s-min=28.4km az=72.0
ISCJB 14 07:05:35.4±0.7,34S±01×1273E±02,h33km,mb4.8/16, Error ellipse: s-maj=29.2km s-min=14.9km az=156.8
NEIC 14 07:05:36.7±0.5,336S×12728E,h30km,mb5.1/6,Error ellipse: s-maj=24.7km s-min=11.3km az=77.0
MOS 14 07:05:36.6±2.8,360S×12720E,h33km,mb5.3/6,Error ellipse: s-maj=39.7km s-min=13.6km az=104.3
ISC 14 07:05:37.5±0.6,34S±01×1273E±02,h35km,n27,σ0°68/27, mb4.8/16,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**20.63**	**108**	*e*P	**P**	**07 09 58.3**	**-15**
ASAR	**Alice Springs**	**21.17**	**163**	P	**P**	**07 10 19.1**	**-0.5**
	51nm,0.8s,mb4.9,baz=346,slow=11,SNR=5.2						
MAJO	**Matsushiro**	**40.99**	**13**	*e*P	**P**	**07 13 15.8**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**40.99**	**13**	*e*P	**P**	**07 13 15.8**	**-1.1**
	comp=Z,14nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**40.99**	**13**	P	**P**	**07 13 16.6**	**-0.3**
	comp=Z,5.0nm,0.8s,mb4.2,baz=184,slow=9.0,SNR=4.4						
MJAR	**Matsushiro Arr**	**40.99**	**13**	P	**P**	**07 13 16.6**	**-0.3**
BJT	**Baijiatuau**	**44.36**	**348**	*e*P	**P**	**07 13 44.4**	**+0.1**
BJT				pmax	pmax		
	comp=Z,26nm,0.8s						
BJT	**Baijiatuau**	**44.36**	**348**	*e*P	**P**	**07 13 44.4**	**+0.1**
	comp=Z,26nm,0.8s,mb5.0						
VLA	**Vladivostok**	**46.46**	**5**	*e*P	**P**	**07 14 01.4**	**+0.5**
VLA				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.5						
LSA	**Lhasa**	**47.72**	**316**	*e*P	**P**	**07 14 11.1**	**+0.3**
LSA				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
LSA	**Lhasa**	**47.72**	**316**	*e*P	**P**	**07 14 11.1**	**+0.3**
	comp=Z,16nm,0.7s,mb5.2						
MDJ	**Mudanjiang**	**47.81**	**2**	*e*P	**P**	**07 14 12.3**	**+0.9**
	comp=Z,37nm,1.1s,mb5.3						
SONM	**Songino Array**	**54.18**	**343**	P	**P**	**07 15 00.1**	**+0.9**
	comp=Z,14nm,1.0s,mb4.8,baz=154,slow=7.6,SNR=5.2						
MKAR	**Makanchi Array**	**63.73**	**327**	P	**P**	**07 16 05.6**	**0.0**
	comp=Z,12nm,0.8s,mb5.0,baz=139,slow=5.8,SNR=5.6						
MKAR	**Makanchi Array**	**63.73**	**327**	P	**P**	**07 16 05.6**	**0.0**
ZAL	**Zalesovo**	**67.16**	**334**	P	**P**	**07 16 27.9**	**+0.2**
	comp=Z,6.0nm,0.9s,mb4.6						
ZAL	**Zalesovo**	**67.16**	**334**	P	**P**	**07 16 27.9**	**+0.2**
KURK	**Kurchatov**	**68.03**	**329**	*e*P	**P**	**07 16 33.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
KURK	**Kurchatov**	**68.03**	**329**	*e*P	**P**	**07 16 33.1**	**-0.1**
	comp=Z,29nm,0.9s,mb5.3						
BVAR	**Borovoye Array**	**73.57**	**328**	P	**P**	**07 17 07.1**	**+0.2**
	comp=Z,5.8nm,0.8s,mb4.6,baz=147,slow=8.5,SNR=3.9						
BRVK	**Borovoye**	**73.64**	**328**	*e*P	**P**	**07 17 06.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**73.64**	**328**	*e*P	**P**	**07 17 06.4**	**-0.9**
	comp=Z,6.1nm,0.8s,mb4.6						
AKTK	**Aktyubinsk**	**79.57**	**323**	P	**P**	**07 17 40.5**	**-0.3**
AKTO	**Aktyubinsk**	**79.57**	**323**	P	**P**	**07 17 40.5**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.5,baz=62,slow=7.0,SNR=3.6						
QSPA	**South Pole Qui**	**86.59**	**180**	P	**P**	**07 18 18.1**	**+1.0**
ILAR	**Eielson Array**	**91.23**	**25**	P	**P**	**07 18 39.8**	**+0.7**
	comp=Z,1.4nm,0.8s,mb4.3,baz=270,slow=4.5,SNR=3.1						
ARCES	**ARCESS Array B**	**97.25**	**340**	P	**P**	**07 19 05.1**	**-1.5**
	comp=Z,2.7nm,0.8s,mb4.8,baz=86,slow=3.8,SNR=2.5						

IDC 14 07:14:09.9±1.4,313S×12799E,h0km,mb4.0/3,mb1 4.3/4, mb1mx4.0/16,mbtmp4.0/4,ML4.2/1,Error ellipse: s-maj=120.0km s-min=23.0km az=70.0
ISCJB 14 07:14:13.0±0.9,42S±03×1256E±06,h33km,mb3.9/2, Error ellipse: s-maj=90.8km s-min=14.2km az=130.6
ISC 14 07:14:14.3±1.1,44S±03×1253E±05,h35km,n8,σ1°42/8, mb3.9/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.79**	**151**	P	**Pn**	**07 18 17.6**	**-1.5**
	0.8nm,0.3s,baz=340,slow=12,SNR=9.0						
WB2	**Warramunga Arr**	**17.80**	**151**	*e*P	**Pn**	**07 18 20.6**	**+1.4**
ASAR	**Alice Springs**	**20.88**	**157**	P	**P**	**07 18 57.6**	**+4.3**
	15nm,0.8s,baz=345,slow=12,SNR=19						
ASPA	**Alice Springs**	**20.88**	**157**	*e*P	**P**	**07 18 57.7**	**+4.3**
SONM	**Songino Array**	**54.61**	**345**	P	**P**	**07 23 38.7**	**-0.6**
	1.2nm,1.0s,mb3.9,baz=151,slow=6.5,SNR=3.7						
MKAR	**Makanchi Array**	**63.53**	**328**	P	**P**	**07 24 43.6**	**+2.5**
	0.6nm,0.5s,mb3.9,baz=108,slow=7.8,SNR=8.1						
SNAA	**Sanae**	**97.01**	**195**	*e*	**P**	**07 27 41.9**	**-0.5**
SNAA				*e*		07 27 44.5	
SNAA				*e*		07 27 48.8	
SNAA				*e*	pP	07 27 51.6	-2.0
SNAA				*e*		07 28 08.8	
VNA2	**Neumayer--Watz**	**98.62**	**194**	*e*	**P**	**07 27 36.8**	**-13**
	baz=347,slow=3.3						
VNA2				*e*		07 27 40.3	
VNA2				*e*	pP	07 27 44.5	-16
VNA2				*e*	pP	07 27 47.1	-14
VNA2				*e*		07 28 03.7	

ISC 14 07:24:06.4±1.3,3819N±006×2671E±007,h11km±6km,n6, σ0°88/12,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**334**	*i* P	**Pg**	**07 24 10.4**	**-0.1**
URLA				*i* S	**Sg**	**07 24 13.9**	**+0.6**
BLCB	**Balcova**	**0.33**	**53**	PG	**Pg**	**07 24 12.4**	**-0.6**
BLCB				SG	**Sg**	**07 24 17.1**	**-0.3**
KDAG	**Bornova**	**0.49**	**64**	*i* P	**Pg**	**07 24 16.1**	**+0.2**
KDAG				*i* S	**Sg**	**07 24 22.9**	**+0.5**
AYDN	**Tasoluk**	**1.07**	**119**	*i* P	**Pb**	**07 24 26.3**	**-0.6**
AYDN				*i* S	**Sg**	**07 24 40.6**	**-0.1**
AKS	**Akhisar**	**1.11**	**51**	PN	**Pn**	**07 24 26.3**	**-1.6**
AKS				SN	**Sn**	**07 24 42.4**	**-0.8**
MANT	**Manisa**	**1.49**	**78**	*i* P	**Pn**	**07 24 35.0**	**+1.9**
MANT				*i* S	**Sn**	**07 24 53.8**	**+1.3**

PRE 14 07:25:14.2±3.5,2058S×3391E,h5km,ML5.6
BJI 14 07:25:26.6,2120S×3320E,h3km,mB5.1,mb5.2,Ms5.0, Msz4.8
MOS 14 07:25:27.9±1.1,2115S×3320E,h10km,mb5.0/8,Error ellipse: s-maj=16.0km s-min=11.5km az=79.5
ISCJB 14 07:25:27.6±0.3,2119S±005×3313E±006,h10km, mb4.5/30,MS5.2/2,Error ellipse: s-maj=8.3km s-min=5.5km az=70.9
IDC 14 07:25:27.7±0.6,2117S×3346E,h0km,mb4.3/19, mb1 4.5/21,mb1mx4.4/27,mbtmp4.4/21,ML4.7/3,Error ellipse: s-maj=20.5km s-min=16.2km az=113.0
NEIC 14 07:25:29.2±0.4,2124S×3324E,h10km,mb4.8/9,Error ellipse: s-maj=13.3km s-min=8.5km az=128.0
ISC 14 07:25:29.4±0.3,2121S±004×3314E±005,h10km, (h16km±2km:pP-P),n87,σ1°18/84,mb4.5/30,MS5.2/2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**5.29**	**212**	*e*P	**Pn**	**07 26 48.3**	**-0.1**
BFT				*e*S	**Sn**	**07 27 55.2**	**+5.7**
BFT				AML	AML	07 28 24.9	
	comp=Z,741nm,0.7s						
SLR	**Silverton**	**6.34**	**224**	*e*P	**Pn**	**07 27 02.4**	**-0.5**
SLR				*e*S	**Sn**	**07 28 21.9**	**+6.5**
SLR				AML	AML	07 28 55.9	
	comp=Z,293nm,0.5s						
KSR	**Koster**	**7.36**	**230**	*e*P	**Pn**	**07 27 16.6**	**-0.3**
LSZ	**Lusaka**	**7.54**	**321**	Pn	**Pn**	**07 27 20.0**	**+0.7**
	comp=Z,33nm,0.3s,baz=149,slow=13,SNR=155						
LSZ				Sn	**Sn**	**07 28 44.7**	**-0.2**
	comp=Z,9.7nm,0.3s,baz=34,slow=22,SNR=2.8						
LSZ				Lg		07 29 27.8	
	comp=Z,28nm,0.3s,baz=42,slow=22,SNR=11						
LSZ	**Lusaka**	**7.54**	**321**	*e*P	**Pn**	**07 27 19.7**	**+0.3**
LSZ				*e*		07 28 44.9	
LSZ	**Lusaka**	**7.54**	**321**	*e*Pn	**Pn**	**07 27 19.7**	**+0.4**
LSZ				*e*Sn	**Sn**	**07 28 44.9**	**0.0**
LSZ				*e*Sg	**Sg**	**07 29 30.0**	**-1.4**
LBTB	**Lobatse**	**7.91**	**240**	*e*P	**Pn**	**07 27 23.9**	**-0.5**
LBTB				*e*S	**Sn**	**07 28 59.0**	**+5.1**
LBTB				AML	AML	07 29 50.7	
	comp=Z,268nm,0.6s						
LBTB	**Lobatse**	**7.91**	**240**	Pn	**Pn**	**07 27 26.4**	**+1.9**
	comp=Z,7.4nm,0.3s,baz=66,slow=14,SNR=49						
LBTB				Sn	**Sn**	**07 28 53.9**	**0.0**
	comp=Z,15nm,0.3s,baz=271,slow=2.0,SNR=5.1						
LBTB				Lg		07 29 38.6	
	comp=Z,17nm,0.3s,baz=163,slow=21,SNR=9.1						
LBTB	**Lobatse**	**7.91**	**240**	*e*Pn	**Pn**	**07 27 25.7**	**+1.3**
LBTB				Sn	**Sn**	**07 28 53.3**	**-0.7**
SEK	**Senekal**	**8.68**	**214**	*e*S	**Sn**	**07 29 22.9**	**+10**
SEK				AML	AML	07 30 15.5	
	comp=Z,529nm,0.9s						
BOSA	**Boshof**	**10.27**	**223**	*e*P	**Pn**	**07 27 57.5**	**+0.7**
BOSA				*e*S	**Sn**	**07 30 00.5**	**+8.5**
BOSA				AML	AML	07 31 05.2	
	comp=Z,144nm,0.7s						
BOSA	**Boshof**	**10.27**	**223**	Pn	**Pn**	**07 27 56.0**	**-0.8**
	comp=Z,6.6nm,0.3s,baz=51,slow=13,SNR=41						
BOSA				Sn	**Sn**	**07 29 48.1**	**-3.9**
	comp=Z,4.0nm,0.3s,baz=155,slow=15,SNR=3.0

CLL Collm 74.34 347 *eP* **P 07 37 07.0 -0.1**
LSA Lhasa 75.35 50 *eP* **P 07 37 12.0 -1.0**
LSA pmax pmax
comp=Z,13nm,0.8s,mb4.9
LSA Lhasa 75.35 50 *eP* **P 07 37 11.9 -1.0**
comp=Z,13nm,0.8s,mb4.9
BDFB Brasilia 76.43 258 P **P 07 37 21.6 +2.5**
comp=Z,11nm,0.7s,mb4.9,baz=118,slow=5.1,SNR=16
VNDA Vanda 77.05 170 P **P 07 37 22.8 +0.1**
comp=Z,2.1nm,0.8s,mb4.1,baz=253,slow=11,SNR=3.6
BVAR Borovoye Array 80.67 22 P **P 07 37 40.9 -1.6**
comp=Z,5.0nm,0.8s,mb4.5,baz=212,slow=6.2,SNR=9.7
MKAR Makanchi Array 80.91 32 P **P 07 37 42.1 -1.6**
comp=Z,4.6nm,0.8s,mb4.5,baz=256,slow=4.9,SNR=5.8
CPUP Villa Florida 81.27 245 P **P 07 37 47.8 +2.1**
comp=Z,3.3nm,1.0s,mb4.2,baz=104,slow=8.3,SNR=2.7
CPUP Villa Florida 81.27 245 P **P 07 37 47.7 +2.0**
WMQ Urumqi 81.74 37 *eP* **P 07 37 47.8 -0.4**
WMQ AP pP 07 37 52.5 +1.0
WMQ XP sP 07 37 54.8 +2.1
WMQ AMB AMB
comp=Z,14nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,100nm,5.0s
WMQ LR LR
comp=N,521nm,23.2s,MS4.9
WMQ LR LR
comp=E,421nm,23.0s,MS4.9
WMQ LR LR
comp=Z,486nm,21.0s,MS4.8
FINES FINESS Array B 82.55 357 P **P 07 37 52.1 -0.3**
comp=Z,3.3nm,0.9s,mb4.4,baz=106,slow=6.8,SNR=7.6
KAF Kangasniemi 83.21 357 *ep* **P 07 37 55.1 -0.7**
comp=Z,6.1nm,0.8s,mb4.7
KAF Kangasniemi 83.21 357 *eP* **P 07 37 55.1 -0.7**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
NOA NORSAR Array B 83.85 349 P **P 07 38 00.1 +1.0**
comp=Z,1.3nm,0.8s,mb4.1,baz=156,slow=4.8,SNR=3.3
JOF Joensuu 83.85 359 *ep* **P 07 37 57.6 -1.5**
comp=Z,2.7nm,0.8s,mb4.4
JOF Joensuu 83.85 359 *eP* **P 07 37 57.6 -1.5**
JOF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
CD2 Chengdu 85.28 54 *eP* **P 07 38 07.0 +0.6**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,50nm,5.9s
PLCA Paso Flores 86.22 228 *eP* **P 07 38 11.9 +0.8**
PLCA pmax pmax
comp=Z,14nm,1.7s
PLCA Paso Flores 86.22 228 *eP* **P 07 38 11.9 +0.9**
comp=Z,14nm,1.7s,mb4.9
LZH Lanzhou 87.77 50 *eP* **P 07 38 19.1 +0.5**
LZH AP pP 07 38 24.1 +2.2
LZH XP sP 07 38 26.3 +3.2
LZH PP PP 07 41 47.3 +3.1
LZH AMB AMB
comp=Z,22nm,1.6s,mb5.1
SIV San Ignacio 88.14 254 P **P 07 38 22.5 +2.2**
comp=Z,1.2nm,0.9s,mb4.1,baz=107,slow=8.5,SNR=5.9
CFAA Coronel Fontan 88.25 237 P **P 07 38 23.4 +2.6**
comp=Z,0.6nm,0.8s,mb3.9,baz=148,slow=2.3,SNR=4.7
ASAR Alice Springs 90.93 116 P **P 07 38 33.2 -0.2**
comp=Z,3.4nm,0.8s,mb4.7,baz=242,slow=4.1,SNR=8.5
SAML Samuel 92.64 259 *eP* **P 07 38 43.1 +1.8**
comp=Z,3.3nm,1.3s,mb4.6
LPAZ La Paz 94.30 251 P **P 07 38 51.5 +2.6**
comp=Z,2.2nm,1.0s,mb4.5,baz=93,slow=7.8,SNR=6.0
LPAZ La Paz 94.30 251 *eP* **P 07 38 54.0 +5.0**
LPAZ pmax pmax
comp=Z,11nm,1.6s
LPAZ La Paz 94.30 251 *eP* **P 07 38 54.0 +5.0**
comp=Z,10nm,1.6s,mb5.0
SONM Songino Array 94.85 40 P **P 07 38 51.7 +0.2**
comp=Z,1.5nm,1.0s,mb4.4,baz=247,slow=1.1,SNR=2.0
HHC Hu-ho-hao-te 95.29 48 *eP* **P 07 38 52.4 -1.1**
HHC AP pP 07 38 57.3 +0.4
HHC XP sP 07 38 59.8 +1.7
HHC PP PP 07 42 44.5 +0.9
HHC SKS 07 49 26.0
HHC S 07 50 04.8
HHC XS sS 07 50 13.0 -1.8
HHC AMB AMB
comp=Z,6μm,12.6s
NJ2 Nanjing 97.51 59 *eP* **P 07 39 03.6 0.0**
NJ2 AP pP 07 39 08.4 +1.5
NJ2 XP sP 07 39 10.6 +2.5
NJ2 PP PP 07 43 04.0 +3.3
NJ2 S 07 50 21.0
NJ2 XS sS 07 50 30.0 -4.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.6
NJ2 LR LR
comp=Z,2μm,31.8s,MS5.5
BJI Beijing 98.25 50 *eP* **P 07 39 03.4 -3.5**
BJI AMB AMB
comp=Z,9.0nm,0.8s,mb5.3
SSE Sheshan 99.06 60 P **P 07 39 09.9 -0.6**
SSE AMB AMB
comp=Z,6μm,14.0s
ULM Lac du Bonnet 130.75 319 PKP PKPdf 07 44 40.1 -0.6
comp=Z,3.7nm,0.9s,baz=7.8,slow=0.3,SNR=5.4
YKA Yellowknife Ar 133.23 340 PKP PKPdf 07 44 44.5 -0.9
comp=Z,2.5nm,0.7s,baz=39,slow=1.9,SNR=26
ILAR Eielson Array 136.45 0 PKhKP 07 44 47.3
comp=Z,0.1nm,0.5s,baz=69,slow=43,SNR=3.9
PDAR Pinedale Array 142.17 313 PKhKP 07 44 58.6
comp=Z,0.4nm,0.7s,baz=76,slow=6.3,SNR=3.8
PDAR PKP PKPdf 07 45 04.3 +2.4
comp=Z,2.0nm,0.9s,baz=100,slow=5.8,SNR=7.8
PV01 Paradox Valley 143.00 306 *e*PKPdf PKPdf 07 45 01.8 -1.5
TCUT Toone Canyon 144.08 312 *e*PKPdf PKPdf 07 45 04.8 -0.4
SRU San Rafael 144.17 308 *e*PKIKP PKPdf 07 45 04.8 -0.6
DAU Daniels Canyon 144.24 310 PKIKP PKPdf 07 45 04.6 -0.9
HLID Hailey 145.02 317 *e*PKPdf PKPdf 07 45 07.8 +0.9
DUG Dugway 145.43 311 *e*PKIKP PKPdf 07 45 08.5 +0.9
MSU Marysvale 145.58 308 *e*PKIKP PKPdf 07 45 10.3 +2.5
BMO Blue Mountains 146.11 321 *e*PKHKP 07 45 09.8
HAWA Hanford 146.44 325 *e*PKPdf PKPdf 07 45 06.9 -2.4
HAWA *e*PKPab PKPab 07 45 11.4 -0.1
ARUT Antelope Range 146.77 307 *e*PKPdf PKPdf 07 45 10.4 +0.6
ARUT *e*PKPab PKPab 07 45 14.2 +1.4
WVOR Wild Horse Val 148.26 318 *e*PKP2 PKPab 07 45 17.2 -1.5
NEN Nelson 148.54 304 *e*PKPbc PKPbc 07 45 17.6 +1.2
NEN *e*PKPab PKPab 07 45 20.6 +0.7
NVAR Mina Array Bea 150.03 311 PKPbc PKPbc 07 45 19.8 -0.3
comp=Z,4.6nm,0.9s,baz=95,slow=2.8,SNR=9.2
MTUM Tungsten Hills 150.69 310 *e*PKPbc PKPbc 07 45 22.0 +0.3
MTUM *e*PKPab PKPab 07 45 26.8 -1.8

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*IDC **14** 07:26:51.7±0.7, 337S×12749E, h0km, mb4.6/12, mb1 4.6/13, mb1mx4.5/19, mbtmp4.5/13, ML3.7/1, Error ellipse: s-maj=34.2km s-min=11.5km az=72.0*
*ISCJB **14** 07:26:54.8±0.4, 341S±008×1275E±0.1, h33km, mb4.8/27, Error ellipse: s-maj=20.9km s-min=6.6km az=128.6*
*MOS **14** 07:26:54.5±1.0, 341S×12752E, h33km, mb4.9/6, Error ellipse: s-maj=29.2km s-min=11.0km az=112.5*
*BJI **14** 07:26:55.9, 340S×12750E, h30km, mb4.8*
*NEIC **14** 07:26:55.9±0.4, 340S×12754E, h30km, mb4.8/6, Error ellipse: s-maj=23.4km s-min=7.1km az=67.0*
ISC 14 07:26:58.4±3.1,**341S**±010×**1276E**±01,**h50**km±31km,**n42,**
σ0**85**/43,**mb4.8**/27,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**17.68**	**159**	*eP*		**Pn**		**07 30 59.7**	**-1.3**
WRAB				pmax	pmax				
comp=Z,35nm,0.9s									
WRAB	**Tennant Creek**	**17.68**	**159**	*eP*		**Pn**		**07 30 59.7**	**-1.3**
comp=Z,35nm,0.9s									
WRA	**Warramunga Arr**	**17.69**	**159**	P		**Pn**		**07 30 59.4**	**-1.6**
comp=Z,0.3nm,0.3s,baz=338,slow=11,SNR=21									
WB2	**Warramunga Arr**	**17.69**	**159**	*eP*		**Pn**		**07 31 00.5**	**-0.6**
AS31	**Alice Springs**	**21.03**	**164**	*eP*		**P**		**07 31 39.4**	**+1.5**
ASAR	**Alice Springs**	**21.03**	**164**	P		**P**		**07 31 39.7**	**+1.8**
comp=Z,27nm,0.8s,mb4.7,baz=346,slow=12,SNR=160									
ASAR				S		**S**		**07 35 35.4**	**+6.1**
comp=Z,3.0nm,1.1s,baz=346,slow=22,SNR=6.9									
ASPA	**Alice Springs**	**21.03**	**164**	*eP*		**P**		**07 31 39.4**	**+1.5**
PSI	**Prapat**	**29.36**	**282**	P		**P**		**07 32 55.5**	**-1.1**
comp=Z,7.8nm,0.8s,mb4.5,baz=80,slow=6.0,SNR=7.1									
STKA	**Stephens Creek**	**31.21**	**157**	P		**P**		**07 33 12.8**	**-0.1**
comp=Z,0.7nm,0.3s,mb4.0,baz=339,slow=12,SNR=3.7									
STKA	**Stephens Creek**	**31.21**	**157**	P		**P**		**07 33 12.8**	**-0.1**
MJAR	**Matsushiro Arr**	**40.95**	**13**	P		**P**		**07 34 36.5**	**+0.5**
comp=Z,2.0nm,0.8s,mb3.8,baz=195,slow=9.8,SNR=4.6									
LSA	**Lhasa**	**48.00**	**316**	*eP*		**P**		**07 35 33.5**	**+1.2**
LSA				pmax	pmax				
comp=Z,11nm,0.9s,mb4.9									
LSA	**Lhasa**	**48.00**	**316**	*eP*		**P**		**07 35 33.5**	**+1.3**
comp=Z,11nm,0.9s,mb4.9									
GTA	**Gaotai**	**49.71**	**332**	*eP*		**P**		**07 35 46.6**	**+1.2**
GTA				AMB	AMB				
comp=Z,8.0nm,0.9s,mb4.8									
JIRN	**Jiri**	**50.47**	**310**	*eP*		**P**		**07 35 51.5**	**+0.3**
comp=Z,29nm,1.0s,mb5.2									
GUN	**Gumba**	**50.84**	**311**	*eP*		**P**		**07 35 54.4**	**+0.5**
comp=Z,36nm,0.8s,mb5.3									
PKI	**Pulchoki**	**51.02**	**310**	*eP*		**P**		**07 35 55.5**	**+0.2**
KKN	**Kakani**	**51.23**	**310**	*eP*		**P**		**07 35 57.0**	**+0.1**
comp=Z,27nm,0.9s,mb5.2									
DMN	**Daman**	**51.28**	**310**	*eP*		**P**		**07 35 57.5**	**+0.3**
comp=Z,36nm,1.0s,mb5.3									
GKN	**Gorkha**	**51.83**	**310**	*eP*		**P**		**07 36 01.3**	**-0.1**
comp=Z,29nm,0.9s,mb5.2									
KOLN	**Koldanda**	**52.52**	**309**	*eP*		**P**		**07 36 06.8**	**+0.3**
comp=Z,46nm,0.9s,mb5.4									
DANN	**Dangsing**	**52.68**	**310**	*eP*		**P**		**07 36 08.1**	**+0.5**
SONM	**Songino Array**	**54.32**	**343**	P		**P**		**07 36 20.2**	**+0.5**
comp=Z,3.8nm,1.0s,mb4.3,baz=164,slow=7.6,SNR=14									
ZAK	**Zakamensk**	**57.53**	**342**	*eP*		**P**		**07 36 42.5**	**-0.1**
ZAK				pmax	pmax				
comp=Z,54nm,1.9s,mb5.2									
MOY	**Mondy**	**59.37**	**341**	*eP*		**P**		**07 37 00.9**	**+5.5**
CLNS	**Chul'man**	**60.09**	**358**	*eP*		**P**		**07 37 05.1**	**+4.7**
CLNS				pmax	pmax				
comp=Z,17nm,1.3s,mb4.9									
CLNS				pmax	pmax				
comp=N,7.0nm,0.8s									
CLNS				pmax	pmax				
comp=E,9.0nm,1.1s									
MKAR	**Makanchi Array**	**63.95**	**327**	P		**P**		**07 37 26.4**	**+0.1**
comp=E,6.9nm,0.8s,mb4.8,baz=108,slow=4.0,SNR=10									
KURK	**Kurchatov**	**68.25**	**329**	*eP*		**P**		**07 37 51.1**	**-2.7**
KURK				pmax	pmax				
comp=Z,13nm,0.8s,mb5.0									
KURK	**Kurchatov**	**68.25**	**329**	*eP*		**P**		**07 37 51.1**	**-2.7**
comp=Z,13nm,0.8s,mb5.0									
BVAR	**Borovoye Array**	**73.79**	**328**	P		**P**		**07 38 27.1**	**-0.3**
comp=Z,4.6nm,0.9s,mb4.4,baz=139,slow=7.7,SNR=8.0									
BRVK	**Borovoye**	**73.86**	**328**	*eP*		**P**		**07 38 27.1**	**-0.8**
BRVK				pmax	pmax				
comp=Z,6.0nm,1.2s,mb4.4									
BRVK	**Borovoye**	**73.86**	**328**	*eP*		**P**		**07 38 27.1**	**-0.8**
comp=Z,5.7nm,1.2s,mb4.4									
ZRNK	**Zerenda**	**74.49**	**328**	*eP*		**P**		**07 38 30.6**	**-0.9**
ZRNK				pmax	pmax				
comp=Z,10.0nm,1.3s,mb4.6									
ZRNK	**Zerenda**	**74.49**	**328**	*eP*		**P**		**07 38 30.6**	**-1.0**
comp=Z,10.0nm,1.3s,mb4.6									
TIXI	**Tiksi**	**74.92**	**0**	*eP*		**P**		**07 38 33.8**	**-0.2**
TIXI				pmax	pmax				
comp=Z,7.0nm,0.9s,mb4.6									
MAW	**Mawson**	**77.43**	**201**	P		**P**		**07 38 48.5**	**+0.2**
comp=Z,15nm,0.8s,mb5.0,baz=77,slow=17,SNR=3.1									
AKTK	**Aktyubinsk**	**79.81**	**322**	P		**P**		**07 39 01.0**	**-0.3**
AKTO	**Aktyubinsk**	**79.81**	**322**	P		**P**		**07 39 01.0**	**-0.3**
comp=Z,4.4nm,0.8s,mb4.5,baz=106,slow=7.1,SNR=12									
QSPA	**South Pole Qui**	**86.55**	**180**	*eP*		**P**		**07 39 35.4**	**-0.7**
comp=Z,44nm,2.0s,mb5.3									
ILAR	**Eielson Array**	**91.12**	**25**	P		**P**		**07 39 58.0**	**+0.3**
comp=Z,1.0nm,0.8s,mb4.2,baz=282,slow=3.1,SNR=8.9									
BRTR	**Keskin Array B**	**95.24**	**309**	P		**P**		**07 40 16.6**	**-0.1**
comp=Z,0.5nm,0.4s,mb4.3,baz=132,slow=2.1,SNR=3.6									
ARCES	**ARCESS Array B**	**97.42**	**340**	P		**P**		**07 40 26.0**	**-0.6**
comp=Z,3.2nm,0.8s,mb4.8,baz=80,slow=5.6,SNR=3.6									

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*IDC **14** 07:27:36.2±0.8, 331S×12759E, h0km, mb4.4/9, mb1 4.6/10, mb1mx4.4/18, mbtmp4.4/10, ML4.6/1, Error ellipse: s-maj=39.1km s-min=18.2km az=69.0*
*ISCJB **14** 07:27:39.8±5.6, 34S±02×1275E±02, h37km±55km, mb4.3/9, Error ellipse: s-maj=37.7km s-min=21.3km az=117.7*
ISC 14 07:27:43.8±5.7,**33S**±02×**1276E**±02,**h57**km±58km,**n12,**
σ0**92**/12,**mb4.3**/9,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.77**	**159**	P		**Pn**		**07 31 44.8**	**-2.2**
2.2nm,0.3s,baz=341,slow=12,SNR=7.9									
WB2	**Warramunga Arr**	**17.77**	**159**	*eP*		**Pn**		**07 31 47.6**	**+0.6**
ASAR	**Alice Springs**	**21.11**	**164**	P		**P**		**07 32 24.2**	**+0.7**
29nm,0.7s,mb4.7,baz=345,slow=12,SNR=20									
ASPA	**Alice Springs**	**21.11**	**164**	*eP*		**P**		**07 32 24.8**	**+1.3**
PSI	**Prapat**	**29.30**	**282**	P		**P**		**07 33 40.5**	**-0.3**
8.3nm,1.0s,mb4.4,baz=68,slow=8.2,SNR=4.0									
STKA	**Stephens Creek**	**31.29**	**157**	P		**P**		**07 33 57.7**	**-0.6**
1.5nm,0.4s,mb4.2,baz=321,slow=8.5,SNR=5.7									
MJAR	**Matsushiro Arr**	**40.89**	**13**	P		**P**		**07 35 20.5**	**+0.3**
2.0nm,0.6s,mb3.9,baz=186,slow=9.5,SNR=4.0									
SONM	**Songino Array**	**54.24**	**343**	P		**P**		**07 37 03.5**	**-0.2**
3.4nm,1.0s,mb4.2,baz=174,slow=2.6,SNR=6.0									
MKAR	**Makanchi Array**	**63.87**	**327**	P		**P**		**07 38 11.3**	**+0.9**
1.3nm,0.6s,mb4.2,baz=91,slow=5.1,SNR=7.8									
BVAR	**Borovoye Array**	**73.71**	**328**	P		**P**		**07 39 12.0**	**+0.4**
1.2nm,0.6s,mb4.0,baz=131,slow=9.2,SNR=7.3									
ILAR	**Eielson Array**	**91.08**	**25**	P		**P**		**07 40 42.1**	**+0.1**
1.0nm,0.7s,mb4.2,baz=241,slow=5.3,SNR=12									
ARCES	**ARCESS Array B**	**97.34**	**340**	P		**P**		**07 41 09.2**	**-1.5**
5.0nm,0.9s,mb4.9,baz=67,slow=4.1,SNR=22									

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*IDC **14** 07:34:11.2±1.1, 345S×12722E, h0km, mb3.9/6, mb1 4.2/7, mb1mx4.0/17, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=59.5km s-min=22.1km az=72.0*
*ISCJB **14** 07:34:14.4±0.6, 35S±01×1274E±02, h33km, mb4.0/7, Error ellipse: s-maj=30.2km s-min=9.4km az=127.2*
ISC 14 07:34:16.7±0.6,**34S**±01×**1275E**±02,**h35**km,**n15,**σ0**90**/15,
mb4.0/7,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.72**	**159**	P		**Pn**		**07 38 18.9**	**-1.8**
0.8nm,0.3s,baz=340,slow=12,SNR=15									
WB2	**Warramunga Arr**	**17.73**	**158**	*eP*		**Pn**		**07 38 20.2**	**-0.5**
ASPA	**Alice Springs**	**21.06**	**164**	*eP*		**P**		**07 38 58.8**	**+1.2**
ASAR	**Alice Springs**	**21.06**	**164**	P		**P**		**07 38 59.1**	**+1.5**
11nm,0.6s,mb4.4,baz=346,slow=12,SNR=102									
MJAR	**Matsushiro Arr**	**40.98**	**13**	P		**P**		**07 41 57.8**	**+1.7**
0.9nm,0.3s,mb3.9,baz=346,slow=29,SNR=3.3									
JIRN	**Jiri**	**50.39**	**310**	*eP*		**P**		**07 43 10.5**	**+0.1**
GUN	**Gumba**	**50.76**	**311**	*eP*		**P**		**07 43 13.5**	**+0.3**
KKN	**Kakani**	**51.15**	**310**	*eP*		**P**		**07 43 16.5**	**+0.3**
DMN	**Daman**	**51.19**	**310**	*eP*		**P**		**07 43 16.8**	**+0.3**
GKN	**Gorkha**	**51.75**	**310**	*eP*		**P**		**07 43 20.5**	**-0.1**
KOLN	**Koldanda**	**52.43**	**309**	*eP*		**P**		**07 43 25.9**	**+0.2**
9.8nm,0.9s,mb4.8									
SONM	**Songino Array**	**54.29**	**343**	P		**P**		**07 43 39.1**	**-0.3**
0.3nm,0.6s,mb3.4,baz=157,slow=7.8,SNR=3.1									
MKAR	**Makanchi Array**	**63.90**	**327**	P		**P**		**07 44 45.1**	**-0.8**
0.9nm,0.6s,mb4.0,baz=98,slow=4.4,SNR=8.3									
BVAR	**Borovoye Array**	**73.73**	**328**	P		**P**		**07 45 46.0**	**-1.1**
0.6nm,0.5s,mb3.8,baz=128,slow=9.6,SNR=5.7									
ILAR	**Eielson Array**	**91.17**	**25**	P		**P**		**07 47 17.1**	**-0.9**
0.4nm,0.6s,mb3.9,baz=248,slow=5.1,SNR=7.0									

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*IDC **14** 07:36:59.7±1.0, 352S×12737E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.1/16, mbtmp4.1/7, ML3.7/1, Error ellipse: s-maj=137.2km s-min=18.6km az=67.0*
*ISCJB **14** 07:37:03.1±0.7, 34S±02×1275E±04, h33km, mb4.2/8, Error ellipse: s-maj=60.1km s-min=9.8km az=137.3*
*NEIC **14** 07:37:03.8±0.7, 297S×12868E, h30km, mb4.1/2, Error ellipse: s-maj=49.1km s-min=10.6km az=73.0*
ISC 14 07:37:01.7±4.7,**33S**±02×**1275E**±04,**h10**km±30km,**n19,**
σ1**15**/18,**mb4.2**/8,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.79**	**187**	*eP*		**Pn**		**07 40 38.6**	**+7.8**
7.9nm,0.6s									
WRAB	**Tennant Creek**	**17.78**	**159**	*eP*		**Pn**		**07 41 08.3**	**-0.9**
13nm,0.8s									
WRA	**Warramunga Arr**	**17.78**	**159**	P		**Pn**		**07 41 06.7**	**-2.6**
0.3nm,0.3s,baz=336,slow=11,SNR=10									
WRA				PcP	PcP			07 45 46.3	-0.3
0.0nm,0.3s,baz=326,slow=2.6,SNR=4.7									
WB2	**Warramunga Arr**	**17.79**	**159**	*eP*		**Pn**		**07 41 09.1**	**-0.2**
AS31	**Alice Springs**	**21.12**	**164**	*eP*		**P**		**07 41 48.3**	**+1.8**
ASAR	**Alice Springs**	**21.12**	**164**	P		**P**		**07 41 48.4**	**+1.9**
21nm,0.7s,mb4.6,baz=347,slow=12,SNR=84									
ASAR				S		**S**		**07 45 41.7**	**+0.3**
0.9nm,1.0s,baz=346,slow=21,SNR=5.8									
ASAR				PcP	PcP			07 45 55.3	+2.8
3.6nm,1.0s,baz=344,slow=2.9,SNR=8.8									
ASPA	**Alice Springs**	**21.12**	**164**	*eP*		**P**		**07 41 48.3**	**+1.8**
KMBL	**Kambalda**	**28.38**	**190**	*eP*		**P**		**07 42 55.4**	**-0.7**
60nm,0.5s									
STKA	**Stephens Creek**	**31.31**	**157**	*eP*		**P**		**07 43 21.4**	**-0.6**
STKA	**Stephens Creek**	**31.31**	**157**	P		**P**		**07 43 21.1**	**-1.0**
1.0nm,0.5s,mb3.9,baz=347,slow=11,SNR=4.7									
SONM	**Songino Array**	**54.23**	**343**	P		**P**		**07 46 28.7**	**+1.1**
1.5nm,1.2s,mb3.8,baz=160,slow=6.5,SNR=3.5									
MKAR	**Makanchi Array**	**63.85**	**327**	P		**P**		**07 47 34.4**	**+0.1**
1.1nm,0.6s,mb4.1,baz=121,slow=4.7,SNR=8.3									
MKAR	**Makanchi Array**	**63.85**	**327**	P		**P**		**07 47 34.4**	**+0.1**
BVAR	**Borovoye Array**	**73.69**	**328**	P		**P**		**07 48 35.3**	**-0.3**
1.1nm,0.7s,mb3.9,baz=129,slow=9.3,SNR=6.4									
VNDA	**Vanda**	**76.35**	**173**	P		**P**		**07 48 50.0**	**-1.1**
2.8nm,0.9s,mb4.2,baz=338,slow=7.9,SNR=7.9									
AKTO	**Aktyubinsk**	**79.70**	**322**	P		**P**		**07 49 09.7**	**+0.1**
1.3nm,0.7s,mb4.0,baz=121,slow=5.9,SNR=4.8									
ARCES	**ARCESS Array B**	**97.32**	**340**	P		**P**		**07 50 34.4**	**-0.7**
15nm,1.2s,mb5.3,baz=69,slow=6.6,SNR=4.6									
TORD	**Torodi Ar. Bea**	**125.64**	**284**	PKP	PKPdf			07 56 03.6	+0.2
0.8nm,0.7s,baz=73,slow=1.5,SNR=5.4									
CPUP	**Villa Florida**	**150.13**	**171**	PKPbc	PKPbc			07 56 52.6	-0.1
0.5nm,0.4s,baz=348,slow=12,SNR=3.9									

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*PRE **14** 07:37:10.1±1.4, 2136S×3358E, h5km, ML5.0*
*ISCJB **14** 07:37:11.1±0.4, 2148S±006×3347E±007, h10km, mb4.5/18, Error ellipse: s-maj=11.7km s-min=4.9km az=86.0*
*IDC **14** 07:37:12.9±0.8, 2134S×3365E, h0km, mb4.1/12, mb1 4.2/15, mb1mx4.1/27, mbtmp4.2/15, ML4.5/3, Error ellipse: s-maj=25.9km s-min=18.8km az=142.0*
*NEIC **14** 07:37:14.5±0.5, 2144S×3356E, h10km, mb4.4/3, Error ellipse: s-maj=16.0km s-min=10.5km az=136.0*
*BJI **14** 07:37:16.3, 2229S×3415E, h27km, mB5.1, mb5.1, Ms5.2, Msz5.0*
ISC 14 07:37:13.5±0.4,**2147S**±006×**3347E**±006,**h10**km,**n51,**
σ1**12**/55,**mb4.5**/18,**1D,Mozambique**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**5.24**	**216**	*eP*		**Pn**		**07 38 32.5**	**+0.6**
BFT				*e*S		**Sn**		**07 39 31.5**	**-0.8**
BFT				AML	AML			07 40 13.3	
comp=Z,314nm,0.5s									
SLR	**Silverton**	**6.38**	**227**	*eP*		**Pn**		**07 38 48.5**	**+1.1**
SLR				*e*S		**Sn**		**07 40 00.1**	**-0.2**
SLR				AML	AML			07 40 42.7	
comp=Z,196nm,0.7s									
KSR	**Koster**	**7.44**	**233**	*eP*		**Pn**		**07 39 01.8**	**-0.2**
LSZ	**Lusaka**	**7.94**	**320**	Pn		**Pn**		**07 39 07.0**	**-1.9**
comp=Z,29nm,0.3s,baz=152,slow=14,SNR=67									
LSZ				Sn		**Sn**		**07 40 28.4**	**-10**
comp=Z,12nm,0.3s,baz=153,slow=7.5,SNR=3.8									
LSZ				Lg				07 41 15.3	
comp=Z,49nm,0.3s,baz=35,slow=23,SNR=14									
LSZ	**Lusaka**	**7.94**	**320**	*e*Pn		**Pn**		**07 39 08.5**	**-0.4**
LBTB	**Lobatse**	**8.05**	**243**	*eP*		**Pn**		**07 39 10.8**	**+0.4**
LBTB				*e*S		**Sn**		**07 40 38.9**	**-2.6**
LBTB				AML	AML			07 41 48.3	
comp=Z,168nm,0.7s									
LBTB	**Lobatse**	**8.05**	**243**	Pn		**Pn**		**07 39 12.5**	**+2.1**
comp=Z,10nm,0.3s,baz=72,slow=13,SNR=39									
LBTB				Sn		**Sn**		**07 40 39.7**	**-1.8**
comp=Z,4.1nm,0.3s,baz=30,slow=18,SNR=2.7									
LBTB				Lg				07 41 20.0	
comp=Z,11nm,0.3s,baz=355,slow=22,SNR=3.7									
LBTB	**Lobatse**	**8.05**	**243**	*e*Pn		**Pn**		**07 39 12.3**	**+1.9**
comp=Z,41nm,0.6s									
LBTB				*e*Sn		**Sn**		**07 40 38.7**	**-2.8**
BOSA	**Boshof**	**10.29**	**225**	*eP*		**Pn**		**07 39 42.0**	**+0.8**
BOSA				*e*S		**Sn**		**07 41 32.7**	**-3.9**
BOSA				AML	AML			07 42 56.2	
comp=Z,75nm,0.6s									
BOSA	**Boshof**	**10.29**	**225**	Pn		**Pn**		**07 39 42.1**	**+0.9**
comp=Z,2.0nm,0.3s,baz=52,slow=13,SNR=17									
BOSA				Sn		**Sn**		**07 41 33.1**	**-3.4**
comp=Z,2.7nm,0.3s,baz=90,slow=17,SNR=4.1									
BOSA				Lg				07 42 35.1	
comp=Z,4.6nm,0.3s,baz=133,slow=21,SNR=5.0									
BOSA	**Boshof**	**10.29**	**225**	*e*Pn		**Pn**		**07 39 41.6**	**+0.5**
comp=Z,4.6nm,0.9s									
PKA	**Prieska**	**12.65**	**228**	*eP*		**Pn**		**07 40 13.2**	**-0.2**
OPO	**Ambohidratompo**	**13.21**	**80**	Pn		**Pn**		**07 40 19.5**	**-1.6**
comp=Z,0.7nm,0.3s,

HHC	**Hu-ho-hao-te**	**95.24**	**48**	*e*P	**P**	**07 50 41.8**	**+4.4**
HHC				AP	pP	07 50 46.5	+5.8
HHC				XP	sP	07 50 48.9	+7.0
HHC				PP	PP	07 54 34.8	+7.5
HHC				SKS		08 01 16.3	
HHC				S		08 01 54.9	
HHC				XS	sS	08 02 03.3	+4.8
HHC				LR	LR		
	comp=N,667nm,12.7s						
HHC				LR	LR		
	comp=E,1μm,21.1s						
HHC				LR	LR		
	comp=Z,2μm,19.1s						
NJ2	**Nanjing**	**97.39**	**59**	*e*P	**P**	**07 50 52.1**	**+5.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.5						
PTCN	**Pitcairn Islan**	**131.06**	**200**	*e*PKPdf	PKPdf	07 56 28.2	+2.8
YKA	**Yellowknife Ar**	**133.58**	**340**	PKP	PKPdf	07 56 30.7	+0.6
	comp=Z,1.1nm,0.6s,baz=38,slow=2.0,SNR=23						
PDAR	**Pinedale Array**	**142.58**	**313**	PKP	PKPdf	07 56 47.0	+0.3
	comp=Z,0.9nm,0.8s,baz=90,slow=4.4,SNR=5.9						
TMUT	**Trail Mountain**	**145.01**	**309**	*e*PKPdf	PKPdf	07 56 52.9	+2.0
HLID	**Hailey**	**145.42**	**317**	*e*PKPdf	PKPdf	07 56 54.1	+2.5
DUG	**Dugway**	**145.83**	**311**	*e*PKPdf	PKPdf	07 56 54.6	+2.3
MSU	**Marysvale**	**145.99**	**308**	*e*PKPdf	PKPdf	07 56 56.3	+3.7
NVAR	**Mina Array Bea**	**150.44**	**311**	PKPbc	PKPbc	07 57 08.8	+3.6
	comp=Z,1.5nm,0.6s,baz=54,slow=5.2,SNR=7.7						

IDC 14 07:43:50.3±2.9,311S×12787E,h0km,mb3.7/1,mb1 4.0/2, mb1mx3.6/16,mbtmp3.7/2,ML3.1/1,Error ellipse: s-maj=186.3km s-min=39.1km az=65.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.88**	**160**	P	Pn	07 47 59.2	-1.2
	0.1nm,0.3s,baz=342,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**21.25**	**165**	P	P	07 48 39.1	+1.2
	2.3nm,0.6s,baz=346,slow=12,SNR=22						
TORD	**Torodi Ar. Bea**	**125.89**	**284**	PKP	PKPdf	08 02 55.0	+0.9
	0.6nm,1.1s,baz=90,slow=4.3,SNR=2.8						

*IDC **14** 07:43:57.4±0.9,339S×12738E,h0km,mb4.4/8,mb1 4.5/9, mb1mx4.4/18,mbtmp4.4/9,ML4.1/1,Error ellipse: s-maj=39.3km s-min=21.6km az=72.0*
*ISCJB **14** 07:44:00.2±0.5,349S±0.10×1274E±02,h33km,mb4.2/9, Error ellipse: s-maj=30.6km s-min=9.4km az=137.2*

ISC 14 07:44:02.3±0.6,35S±01×1275E±02,h35km,n15,σ1§16/14, mb4.2/9,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.68**	**158**	P	Pn	**07 48 05.1**	**-0.7**
	0.7nm,0.3s,baz=339,slow=12,SNR=27						
WB2	**Warramunga Arr**	**17.69**	**158**	*e*P	Pn	**07 48 05.3**	**-0.6**
ASPA	**Alice Springs**	**21.01**	**163**	*e*P	P	**07 48 45.3**	**+2.5**
ASAR	**Alice Springs**	**21.01**	**163**	P	P	**07 48 45.5**	**+2.7**
	15nm,0.6s,mb4.5,baz=344,slow=11,SNR=89						
PSI	**Prapat**	**29.19**	**282**	P	P	**07 50 00.7**	**+0.3**
	5.0nm,0.6s,mb4.5,baz=84,slow=3.7,SNR=7.5						
STKA	**Stephens Creek**	**31.22**	**156**	P	P	**07 50 16.7**	**-1.6**
	2.4nm,0.8s,mb4.1,baz=329,slow=11,SNR=5.3						
SSE	**Sheshan**	**34.90**	**351**	P	P	**07 50 52.3**	**+1.8**
SSE				AMB	AMB		
	comp=Z,4μm,13.0s						
MJAR	**Matsushiro Arr**	**41.06**	**13**	P	P	**07 51 42.6**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.8,baz=181,slow=8.9,SNR=3.6						
SONM	**Songino Array**	**54.34**	**343**	P	P	**07 53 25.9**	**+0.6**
	comp=Z,1.0nm,0.9s,mb3.8,baz=171,slow=7.7,SNR=7.0						
SONM				PcP	PcP	07 54 29.8	+0.8
	comp=Z,1.1nm,0.8s,baz=163,slow=2.8,SNR=5.6						
MKAR	**Makanchi Array**	**63.91**	**327**	P	P	**07 54 31.6**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.4,baz=122,slow=4.6,SNR=28						
MKAR				PcP	PcP	07 55 06.8	-0.3
	comp=Z,1.6nm,0.8s,baz=134,slow=3.5,SNR=6.5						
ZAL	**Zalesovo**	**67.33**	**334**	P	P	**07 54 52.8**	**-0.9**
BVAR	**Borovoye Array**	**73.76**	**328**	P	P	**07 55 32.4**	**-0.4**
	comp=Z,2.4nm,0.9s,mb4.1,baz=145,slow=8.1,SNR=12						
AKTO	**Aktyubinsk**	**79.76**	**323**	P	P	**07 56 06.3**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=104,slow=7.9,SNR=7.6						
ARCES	**ARCESS Array B**	**97.42**	**340**	P	P	**07 57 31.0**	**-1.3**
	comp=Z,3.4nm,0.9s,mb4.8,baz=72,slow=4.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**125.58**	**284**	PKP	PKPdf	08 03 01.0	+1.2
	comp=Z,0.5nm,0.7s,baz=64,slow=2.2,SNR=3.1						

IDC 14 07:49:08.2±2.1,296S×12819E,h0km,mb3.8/3,mb1 4.0/4, mb1mx3.8/17,mbtmp3.8/4,ML3.3/1,Error ellipse: s-maj=183.6km s-min=24.6km az=67.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.91**	**161**	P	Pn	07 53 17.7	-0.9
	0.1nm,0.3s,baz=343,slow=12,SNR=8.0						
WB2	**Warramunga Arr**	**17.92**	**161**	*e*P	Pn	07 53 19.4	+0.7
ASPA	**Alice Springs**	**21.31**	**165**	*e*P	P	07 53 57.2	+0.7
ASAR	**Alice Springs**	**21.31**	**165**	P	P	07 53 57.5	+1.0
	2.9nm,0.7s,baz=345,slow=12,SNR=16						
MKAR	**Makanchi Array**	**63.88**	**327**	P	P	07 59 42.6	0.0
	0.6nm,0.7s,baz=125,slow=6.4,SNR=5.0						
AKTO	**Aktyubinsk**	**79.80**	**322**	P	P	08 01 18.4	+0.2
	0.8nm,0.6s,baz=90,slow=8.1,SNR=3.1						

*ISCJB **14** 07:54:07.7±0.4,6631N±003×14206W±009,h10km, mb4.4/7,MS5.1/1,Error ellipse: s-maj=5.7km s-min=4.3km az=69.4*
*BJI **14** 07:54:08.3,6630N×14250W,h22km,mB4.2,mb4.6,Ms4.2, Msz4.3*
*IDC **14** 07:54:09.2±1.1,6636N×14240W,h0km,mb3.9/3, mb1 4.3/6,mb1mx3.8/21,mbtmp4.0/6,ML3.9/3,Error ellipse: s-maj=18.8km s-min=9.5km az=153.0*
*NEIC **14** 07:54:11.4,6629N×14245W,h22km,ML4.0(AEIC),After AEIC.*
*PGC **14** 07:54:11.7,6629N×14168W,h5km,ML4.1/1,269km northwest of Dawson, Yt Eastern Alaska.*

ISC 14 07:54:09.1±0.3,6636N±003×14213W±008,h10km,n38, σ1§26/51,mb4.4/7,MS5.1/1,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.45**	**319**	P	Pn	**07 54 35.5**	**+0.1**
BM3				S	Sn	**07 54 55.2**	**+0.8**
IL1	**Eielson Array**	**2.54**	**233**	P	Pn	**07 54 49.5**	**-0.9**
ILAR	**Eielson Array**	**2.54**	**233**	Pn	Pn	**07 54 49.5**	**-0.9**
	9.5nm,0.3s,baz=44,slow=13,SNR=619						
ILAR				Sn	Sn	**07 55 20.4**	**-1.0**
	38nm,0.3s,baz=52,slow=23,SNR=9.2						
ILAR				Lg		07 55 24.7	
	242nm,0.3s,baz=48,slow=30,SNR=40						
COLA	**College**	**2.80**	**241**	P	Pn	**07 54 53.0**	**-1.0**
COLD	**Coldfoot**	**3.31**	**289**	P	Pn	**07 55 01.9**	**+0.9**
MENT	**Mentasta**	**3.50**	**192**	P	Pn	**07 55 03.4**	**-0.1**
PAX	**Paxson**	**3.69**	**204**	P	Pn	**07 55 06.4**	**+0.2**
PAX				S	Sn	**07 55 49.2**	**-0.5**
INK	**Inuvik**	**3.87**	**56**	Pn	Pn	**07 55 10.1**	**+1.5**
	4.0nm,0.3s,baz=242,slow=13,SNR=76						
INK				Sn	Sn	**07 55 55.9**	**+1.8**
	9.5nm,0.3s,baz=145,slow=21,SNR=6.6						
INK				Lg		07 56 15.3	
	17nm,0.3s,baz=129,slow=26,SNR=9.3						
INK	**Inuvik**	**3.87**	**56**	Pn	Pn	**07 55 09.9**	**+1.3**
INK				Sn	Sn	**07 55 55.3**	**+1.2**
INK				Sg	Sg	**07 56 11.9**	**-1.3**
INK				Trac		07 56 22.1	
	comp=Z,162nm,0.6s						
MCK	**McKinley**	**3.91**	**231**	P	Pn	**07 55 08.6**	**-0.6**
TRF	**Thorofare Moun**	**4.54**	**234**	P	Pn	**07 55 17.3**	**-0.5**
KTH	**Kantishna Hill**	**4.68**	**237**	P	Pn	**07 55 18.6**	**-1.2**
IM01	**Indian Mountai**	**4.72**	**271**	P	Pn	**07 55 18.9**	**-1.4**
GHO	**Glory Hole Cre**	**5.48**	**216**	P	Pn	**07 55 31.6**	**+0.8**
BMRM	**Bremner River**	**5.52**	**193**	P	Pn	**07 55 33.1**	**+1.8**
PMR	**Palmer**	**5.69**	**216**	*e*Pn	Pn	**07 55 34.8**	**+1.1**
	18nm,0.7s						
HYT	**Haines Junctio**	**5.92**	**157**	Pn	Pn	**07 55 37.1**	**+0.2**
HYT				Sg	Sg	**07 57 11.6**	**-7.6**
HYT				Trac		07 57 19.8	
	comp=Z,98nm,0.6s						
EYAK	**Cordova Ski Ar**	**6.05**	**197**	P	Pn	**07 55 40.5**	**+1.9**
RC01	**Rabbit Creek A**	**6.27**	**216**	P	Pn	**07 55 42.9**	**+1.3**
FIB	**Fire Island**	**6.31**	**218**	*e*Pn	Pn	**07 55 46.2**	**+4.0**
	26nm,0.5s						
PCA	**Pinnacle**	**6.34**	**171**	P	Pn	**07 55 46.4**	**+3.8**
WHY	**Whitehorse**	**6.57**	**147**	Pn	Pn	**07 55 45.8**	**0.0**
WHY				Sg	Sg	**07 57 31.9**	**-8.1**
WHY				Trac		07 57 40.8	
	comp=Z,22nm,0.6s						
WHY	**Whitehorse**	**6.57**	**147**	P	Pn	**07 55 45.8**	**+0.1**
TT01	**Tatalina**	**6.89**	**246**	P	Pn	**07 55 48.5**	**-1.7**
SLKM	**Skilak Lake**	**6.90**	**215**	*e*Pn	Pn	**07 55 51.6**	**+1.3**
KDAK	**Kodiak Island**	**9.88**	**214**	Pn	Pn	**07 56 29.7**	**-1.5**
	0.1nm,0.3s,baz=305,slow=18,SNR=2.1						
YKW3	**Yellowknife Ar**	**12.40**	**95**	Pn	Pn	**07 57 02.8**	**-2.9**
YKW3				Pn	Pn	**07 57 03.2**	**-2.5**
YKW3				Sn	Sn	**07 59 11.5**	**-12**
YKW3				Sn	Sn	**07 59 13.3**	**-11**
YKW3				Sg	Sn	**07 59 29.9**	**+5.9**
YKW3				Trac		07 59 45.2	
	comp=Z,16nm,0.8s						
YKW3				Trac		07 59 45.2	
	comp=Z,17nm,0.7s						
YKA	**Yellowknife Ar**	**12.44**	**95**	Pn	Pn	**07 57 03.8**	**-2.4**
	baz=297,slow=13,SNR=35						
YKA				Sn	Sn	**07 59 16.8**	**-8.1**
	baz=296,slow=23,SNR=5.2						
RES	**Resolute Bay**	**17.27**	**41**	Pn	Pn	**07 58 08.5**	**-1.8**
PDAR	**Pinedale Array**	**29.61**	**127**	P	P	**08 00 17.0**	**+2.6**
	2.2nm,0.9s,mb3.9,baz=339,slow=6.1,SNR=15						
NVAR	**Mina Array Bea**	**31.11**	**142**	P	P	**08 00 31.1**	**+3.4**
	1.3nm,0.6s,mb3.9,baz=344,slow=7.1,SNR=5.9						
FINES	**FINESS Array B**	**52.21**	**7**	P	P	**08 03 20.8**	**+0.6**
	0.4nm,0.3s,mb3.8,baz=0.0,slow=7.6,SNR=5.1						
FINES	**FINESS Array B**	**52.21**	**7**	P	P	**08 03 20.8**	**+0.6**
HHC	**Hu-ho-hao-te**	**59.32**	**302**	*e*P	P	**08 04 12.0**	**+0.9**
HHC				AP	pP	08 04 16.3	+1.9
HHC				XP	sP	08 04 18.6	+3.0
HHC				PCP	PcP	08 05 01.4	+2.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,976nm,14.5s						
HHC				LR	LR		
	comp=Z,2μm,24.8s,MS5.1						
CLL	**Collm**	**61.14**	**18**	*e*P	P	**08 04 22.0**	**-1.6**
WMQ	**Urumqi**	**63.70**	**322**	*e*P	P	**08 04 41.8**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,21nm,4.6s						
LZH	**Lanzhou**	**66.20**	**306**	*e*P	P	**08 04 58.0**	**+1.0**
LZH				AP	pP	08 05 03.1	+2.8
LZH				XP	sP	08 05 05.3	+3.8
LZH				PP	PP	08 07 26.1	+3.4
LZH				AMB	AMB		
	comp=Z,23nm,1.6s,mb5.0						
CD2	**Chengdu**	**70.97**	**304**	*e*P	P	**08 05 27.3**	**+0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,10.0nm,5.9s						

*BJI **14** 07:55:18.7,438S×12784E,h30km,mB5.6,mb5.0,Ms5.4, Msz5.0*
*IDC **14** 07:55:22.7±0.5,350S×12725E,h0km,mb4.7/16, mb1 4.8/17,mb1mx4.7/21,mbtmp4.7/17,ML4.6/1,Error ellipse: s-maj=21.1km s-min=13.6km az=66.0*
*ISCJB **14** 07:55:24.5±0.2,353S±004×12735E±006,h21km, mb5.0/75,MS5.2/5,Error ellipse: s-maj=8.5km s-min=4.4km az=138.6*
*MOS **14** 07:55:26.1±0.9,350S×12730E,h33km,mb5.1/21,Error ellipse: s-maj=14.7km s-min=6.7km az=115.6*
*NEIC **14** 07:55:27.5±0.2,350S×12739E,h30km,mb4.9/28,Error ellipse: s-maj=9.3km s-min=4.9km az=69.0*

ISC 14 07:55:26.8±0.2,349S±003×12743E±006,h23km, h23km±1.2km:pP-P,n163,σ1§11/150,mb5.0/76,MS5.2/5, 4C-7D,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.41**	**152**	*e*P	Pn	**07 57 55.6**	**+0.8**
	84nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.62**	**187**	*e*P	Pn	**07 58 52.3**	**0.0**
	30nm,0.5s						
KKM	**Kota Kinabalu**	**14.67**	**310**	*e*Pn	Pn	**07 58 54.5**	**+1.7**
WRAB	**Tennant Creek**	**17.68**	**158**	↓*i*P	Pn	**07 59 31.0**	**-0.6**
WRAB	**Tennant Creek**	**17.68**	**158**	*e*P	Pn	**07 59 30.9**	**-0.7**
	134nm,0.8s						
WRA	**Warramunga Arr**	**17.68**	**158**	P	Pn	**07 59 30.3**	**-1.3**
	2.0nm,0.3s,baz=338,slow=12,SNR=98						
WB2	**Warramunga Arr**	**17.69**	**158**	*e*P	Pn	**07 59 30.9**	**-0.8**
KSM	**Kuching**	**17.81**	**286**	*e*P	Pn	**07 59 35.7**	**+2.6**
MBWA	**Marble Bar**	**19.09**	**202**	*e*P	Pn	**07 59 48.9**	**+0.2**
	28nm,0.8s						
PMG	**Port Moresby**	**20.46**	**108**	P	P	**08 00 05.1**	**+2.3**
	11nm,0.7s,baz=234,slow=22,SNR=3.3						
PMG	**Port Moresby**	**20.46**	**108**	*e*P	P	**08 00 04.9**	**+2.1**
PMG	**Port Moresby**	**20.46**	**108**	*e*P	P	**08 00 04.8**	**+2.0**
	22nm,0.9s						
AS31	**Alice Springs**	**21.01**	**163**	*e*P	P	**08 00 11.1**	**+2.4**
ASAR	**Alice Springs**	**21.01**	**163**	P	P	**08 00 11.0**	**+2.3**
	83nm,0.7s,mb5.2,baz=345,slow=12,SNR=525						
ASAR				S	S	**08 04 03.8**	**+2.1**
	16nm,1.1s,baz=345,slow=21,SNR=5.5						
ASAR				ScP	ScP	08 07 51.8	+1.1
	1.2nm,0.7s,baz=337,slow=1.7,SNR=5.7						
ASAR	**Alice Springs**	**21.01**	**163**	P	P	**08 00 11.0**	**+2.3**
ASAR				S	S	**08 04 03.8**	**+2.2**
ASPA	**Alice Springs**	**21.01**	**163**	*e*P	P	**08 00 11.1**	**+2.4**
CTA	**Charters Tower**	**24.68**	**133**	*e*P	P	**08 00 47.7**	**+1.7**
	11nm,1.0s,mb4.3						
CTA	**Charters Tower**	**24.68**	**133**	P	P	**08 00 48.0**	**+2.0**
	10nm,0.9s,mb4.4,baz=319,slow=11,SNR=5.0						
CTA	**Charters Tower**	**24.68**	**133**	*e*P	P	**08 00 47.7**	**+1.7**
CTA				pmax	pmax		
	comp=Z,11nm,1.0s						
CTAO	**Charters Tower**	**24.68**	**133**	P	P	**08 00 45.8**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.7						
CTAO	**Charters Tower**	**24.68**	**133**	P	P	**08 00 45.8**	**-0.2**
	comp=Z,30nm,1.2s,mb4.7						
FORT	**Forrest**	**27.14**	**179**	*e*P	P	**08 01 08.6**	**+0.3**
	comp=Z,18nm,0.5s,mb4.9						
KULM	**Kulim**	**28.13**	**288**	*e*P	P	**08 01 18.3**	**+1.1**
YHNB	**Yeheng**	**28.61**	**348**	*e*P	P	**08 01 22.0**	**+0.7**
PSI	**Prapat**	**29.16**	**282**	P	P	**08 01 26.2**	**-0.1**
	comp=Z,32nm,0.8s,mb5.1,baz=97,slow=5.8,SNR=31						
KLBR	**Kellerberrin**	**29.39**	**197**	*e*P	P	**08 01 28.1**	**-0.2**
	comp=Z,22nm,0.9s,mb4.9						
QZH	**Quanzhou**	**29.54**	**344**	*e*P	P	**08 01 32.4**	**+2.8**
QZH				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.4						
NWAO	**Narrogin (SRO)**	**30.80**	**197**	P	P	**08 01 40.2**	**-0.5**
	comp=Z,9.0nm,0.6s,mb4.8,baz=38,slow=5.7,SNR=7.6						
NWAO	**Narrogin (SRO)**	**30.80**	**197**	*e*P	P	**08 01 40.2**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**30.80**	**197**	*e*P	P	**08 01 40.2**	**-0.5**
	comp=Z,7.1nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**31.22**	**156**	*e*P	P	**08 01 43.3**	**-1.2**
	comp=Z,6.4nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**31.22**	**156**	P	P	**08 01 43.6**	**-0.9**
	comp=Z,7.8nm,0.8s,mb4.6,baz=339,slow=8.1,SNR=14						
SSE	**Sheshan**	**34.91**	**351**	P	P	**08 02 18.8**	**+2.1**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,992nm,7.3s						
GYA	**Guiyang**	**35.92**	**327**	⇓*i*P	P	**08 02 26.8**	**+1.5**
GYA				AP	pP	08 02 32.4	+0.2
GYA				XP	sP	08 02 34.8	-0.2
GYA				PP	PP	08 03 48.6	+1.5
GYA				PCP	PcP	08 04 53.1	+1.0
GYA				S	S	**08 08 03.3**	**+1.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,130nm,4.2s						
GYA				LR	LR		
	comp=N,1μm,17.4s,MS4.9						
GYA				LR	LR		
	comp=E,1μm,16.4s,MS4.9						
GYA				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
WHN	**Wuhan**	**36.08**	**341**	P	P	**08 02 28.0**	**+1.3**
NJ2	**Nanjing**	**36.28**	**348**	*e*P	P	**08 02 30.4**	**+2.0**
NJ2				AP	pP	08 02 36.3	+1.0
NJ2				XP	sP	08 02 39.3	+1.3
NJ2				PP	PP	08 03 54.1	+3.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,910nm,9.5s						
NJ2				LR	LR		
	comp=N,3μm,15.4s						
NJ2				LR	LR		
	comp=E,4μm,23.3s						
NJ2				LR	LR		
	comp=Z,2μm,28.2s						
KMI	**Kunming**	**37.20**	**321**	P	P	**08 02 35.0**	**-1.2**
KMI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.8						
ENH	**Enshi**	**37.70**	**334**	*e*P	P	**08 02 40.3**	**-0.2**
	comp=Z,22nm,0.9s,mb4.9						
KS15	**Wonju Array Si**	**40.73**	**1**	*e*P	P	**08 03 06.3**	**+0.5**
CD2	**Chengdu**	**40.99**	**328**	*e*P	P	**08 03 08.8**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
CD2				LR	LR		
	comp=E,980nm,18.0s						
CD2				LR	LR		
	comp=Z,1μm,19.2s,MS4.8						
MJAR	**Matsushiro Arr**	**41.08**	**13**	P	P	**08 03 08.1**	**-0.6**
	comp=Z,11nm,0.9s,mb4.5,baz=186,slow=11,SNR=14						
MAJO	**Matsushiro**	**41.08**	**13**	*e*P	P	**08 03 08.6**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**41.08**	**13**	*e*P	P	**08 03 08.6**	**-0.1**
	comp=Z,17nm,0.8s,mb4.7						
MAT	**Matsushiro**	**41.08**	**13**	P	P	**08 03 08.2**	**-0.5**
XAN	**Xi'an**	**41.21**	**336**	P	P	**08 03 09.4**	**-0.4**
XAN				AP	pP	08 03 17.5	+0.8
XAN				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.6						
BJT	**Baijiatuau**	**44.52**	**348**	*e*P	P	**08 03 36.6**	**0.0**
BJT				pmax	pmax		
	comp=Z,19nm,0.9s						
BJT	**Baijiatuau**	**44.52**	**348**	*e*P	P	**08 03 36.6**	**0.0**
	comp=Z,20nm,0.9s,mb4.9						
BJI	**Beijing**	**44.54**	**348**	*e*P	P	**08 03 36.3**	**-0.5**
BJI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
LZH	**Lanzhou**	**45.13**	**333**	⇑P	P	**08 03 43.0**	**+1.5**
LZH				AP	pP	08 03 49.0	+0.6
LZH				XP	sP	08 03 53.3	+2.1
LZH				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.5						
LZH				AMB	AMB		
	comp=Z,340nm,4.2s						
LZH				LR	LR		
	comp=E,4μm,12.8s						
LZH				LR	LR		
	comp=Z,8μm,18.9s						
SNY	**Shenyang**	**45.24**	**356**	⇑P	P	**08 03 42.8**	**+0.4**
SNY				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.9						
HHC	**Hu-ho-hao-te**	**46.45**	**343**	*e*P	P	**08 03 54.6**	**+2.7**
HHC				AP	pP	08 04 00.5	+1.6
HHC				XP	sP	08 04 03.5	+1.8
HHC				AMB	AMB		
	comp=Z,11nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,1μm,12.3s						
HHC				LR	LR		
	comp=N,3μm,22.4s,MS5.3						
HHC				LR	LR		
	comp=E,2μm,20.0s,MS5.3						
HHC				LR	LR		
	comp=Z,3μm,20.1s,MS5.2						
VLA	**Vladivostok**	**46.57**	**5**	*e*P	P	**08 03 53.8**	**+0.9**
CN2	**Changchun**	**47.11**	**358**	*e*P	P	**08 04 00.0**	**+2.9**
PALK	**Pallekele**	**47.84**	**283**	*e*P	P	**08 04 02.6**	**-0.1**
	comp=Z,8.7nm,0.9s,mb4.8						
LSA	**Lhasa**	**47.91**	**316**	P	P	**08 04 05.1**	**+1.8**
LSA				AMB	AMB		
	comp=Z,180nm,1.0s,mb6.1						
LSA	**Lhasa**	**47.91**	**316**	*e*P	P	**08 04 04.6**	**+1.3**
LSA				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
LSA	**Lhasa**	**47.91**	**316**	*e*P	P	**08 04 04.6**	**+1.3**
	comp=Z,22nm,0.8s,mb5.2						
MDJ	**Mudanjiang**	**47.93**	**2**	P	P	**08 04 04.3**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.1						
MDJ	**Mudanjiang**	**47.93**	**2**	*e*P	P	**08 04 03.7**	**+0.2**
	comp=Z,26nm,0.9s,mb5.3						
VIS	**Vishakhapatnam**	**48.32**	**297**	*e*P	P	**08 04 06.8**	**+0.4**
VIS				AMb	AMB	08 04 10.0	
	comp=Z,33nm,1.6s,mb5.1						
GTA	**Gaotai**	**49.69**	**332**	*e*P	P	**08 04 17.4**	**+0.5**
GTA				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
JIRN	**Jiri**	**50.37**	**311**	*e*P	P	**08 04 23.0**	**+0.9**
	comp=Z,45nm,0.8s,mb5.5						
GUN	**Gumba**	**50.73**	**311**	*e*P	P	**08 04 25.5**	**+0.7**
	comp=Z,78nm,0.8s,mb5.7						
PKI	**Pulchoki**	**50.92**	**310**	*e*P	P	**08 04 26.6**	**+0.4**
	comp=Z,43nm,0.9s,mb5.4						
KKN	**Kakani**	**51.13**	**310**	*e*P	P	**08 04 28.2**	**+0.4**
	comp=Z,52nm,0.8s,mb5.5						
DMN	**Daman**	**51.17**	**310**	*e*P	P	**08 04 28.7**	**+0.6**
	comp=Z,75nm,1.0s,mb5.6						
GKN	**Gorkha**	**51.72**	**310**	*e*P	P	**08 04 32.6**	**+0.3**
	comp=Z,93nm,1.0s,mb5.7						
HABR	**Khabarovsk**	**52.18**	**6**	*e*P	P	**08 04 30.4**	**-5.3**
HABR				*e*S	S	**08 11 51.0**	**-7.9**
KOLN	**Koldanda**	**52.41**	**309**	*e*P	P	**08 04 37.9**	**+0.5**
	comp=Z,124nm,0.9s,mb5.8						
HYB	**Hyderabad**	**52.50**	**295**	*i* P	P	**08 04 37.5**	**-0.5**
HYB	**Hyderabad**	**52.50**	**295**	*e*P	P	**08

WMQ				PCP	PcP	08 06 13.8	-0.1
WMQ				AMB	AMB		
	comp=Z,36nm,0.9s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,229nm,4.2s						
BOD	**Bodaibo**	**62.06**	**352**	*e*P	**P**	**08 05 44.9**	**-0.7**
BOD				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.3						
JASL	**Jaisalmer**	**62.33**	**303**	*e*P	**P**	**08 05 46.1**	**-1.3**
MKAR	**Makanchi Array**	**63.91**	**327**	P	**P**	**08 05 57.5**	**-0.4**
	comp=Z,18nm,0.8s,mb5.2,baz=121,slow=4.5,SNR=115						
MKAR				PcP	PcP	08 06 33.5	+0.1
	comp=Z,8.6nm,0.8s,baz=158,slow=3.9,SNR=6.8						
YAK	**Yakutsk**	**65.36**	**1**	*e*P	**P**	**08 06 07.5**	**+0.1**
YAK				pmax	pmax		
	comp=N,12nm,1.0s						
YAK				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.6						
YAK	**Yakutsk**	**65.36**	**1**	*e*P	**P**	**08 06 06.4**	**-1.0**
	comp=Z,109nm,0.9s,mb5.9						
KZA	**Kyzart**	**65.46**	**320**	P	**P**	**08 06 08.8**	**+0.8**
	SNR=9.0						
TKM2	**Tokmak 2**	**65.67**	**321**	P	**P**	**08 06 09.7**	**+0.4**
	SNR=20						
UCH	**Uchtor**	**66.01**	**320**	P	**P**	**08 06 12.8**	**+1.3**
	SNR=16						
AAK	**Ala-Archa**	**66.22**	**320**	P	**P**	**08 06 13.5**	**+0.6**
	SNR=11						
AAK	**Ala-Archa**	**66.22**	**320**	*e*P	**P**	**08 06 12.6**	**-0.3**
AAK				pmax	pmax		
	comp=Z,32nm,2.2s,mb5.0						
AAK	**Ala-Archa**	**66.22**	**320**	*e*P	**P**	**08 06 12.4**	**-0.5**
	comp=Z,13nm,0.9s,mb5.0						
AML	**Almayashu**	**66.50**	**319**	P	**P**	**08 06 15.5**	**+0.9**
	SNR=18						
USP	**Ospenovka**	**66.53**	**321**	P	**P**	**08 06 14.9**	**0.0**
	SNR=20						
EKS2	**Erkin-Say**	**66.70**	**320**	P	**P**	**08 06 16.6**	**+0.7**
	SNR=17						
KURK	**Kurchatov**	**68.21**	**329**	*c i*P	**P**	**08 06 24.9**	**-0.6**
KURK	**Kurchatov**	**68.21**	**329**	*e*P	**P**	**08 06 24.5**	**-1.0**
	comp=Z,50nm,0.9s,mb5.5						
NVS	**Novosibirsk**	**68.62**	**334**	*i* P	**P**	**08 06 25.9**	**-2.1**
NVS				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
NVS				pmax	pmax		
	comp=N,23nm,1.5s						
NVS				pmax	pmax		
	comp=E,28nm,1.5s						
SEY	**Seymchan**	**68.89**	**12**	⇓*i*P	**P**	**08 06 30.8**	**+1.1**
KK31	**Karatay Array**	**69.03**	**319**	*i* P	**P**	**08 06 29.9**	**-0.7**
KKAR	**Karatay Array**	**69.03**	**319**	*i* P	**P**	**08 06 29.8**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
VOSK	**Vostochnaya**	**73.29**	**328**	P	**P**	**08 06 54.6**	**-1.8**
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
BVA0	**Borovoye Array**	**73.75**	**328**	*i* P	**P**	**08 06 57.7**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.7						
BVAR	**Borovoye Array**	**73.75**	**328**	P	**P**	**08 06 57.7**	**-1.4**
	comp=Z,14nm,0.9s,mb4.9,baz=131,slow=6.7,SNR=52						
BRVK	**Borovoye**	**73.82**	**328**	*e*P	**P**	**08 06 58.9**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
BRVK	**Borovoye**	**73.82**	**328**	*e*P	**P**	**08 06 58.9**	**-0.7**
	comp=Z,12nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**74.45**	**328**	*e*P	**P**	**08 07 01.9**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
ZRNK	**Zerenda**	**74.45**	**328**	*e*P	**P**	**08 07 01.9**	**-1.3**
	comp=Z,23nm,0.8s,mb5.2						
TIXI	**Tiksi**	**75.01**	**0**	*e*P	**P**	**08 07 06.4**	**0.0**
VNDA	**Vanda**	**76.22**	**173**	P	**P**	**08 07 12.6**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.4,baz=314,slow=4.6,SNR=7.7						
VNDA	**Vanda**	**76.22**	**173**	*e*P	**P**	**08 07 12.5**	**-0.9**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VNDA	**Vanda**	**76.22**	**173**	*e*P	**P**	**08 07 12.5**	**-0.9**
	comp=Z,3.7nm,0.7s,mb4.4						
BILL	**Bilibino**	**76.33**	**14**	P	**P**	**08 07 14.0**	**0.0**
BILL				*e*		08 07 23.9	
BILL				*e*		08 07 30.0	
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BILL				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.5						
BILL	**Bilibino**	**76.33**	**14**	*e*P	**P**	**08 07 14.6**	**+0.6**
	comp=Z,5.0nm,0.8s,mb4.5						
AB31	**Akbulak array**	**78.19**	**322**	*i* P	**P**	**08 07 23.1**	**-1.3**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
OPO	**Ambohidratompo**	**79.65**	**252**	P	**P**	**08 07 32.1**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=102,slow=9.3,SNR=4.6						
ARU	**Arti**	**81.39**	**328**	⇓*i*P	**P**	**08 07 40.3**	**-1.5**
ARU				*e*		08 10 46.4	
ARU				*e*PPP		08 12 41.9	
ARU				*e*S	S	08 17 49.9	-1.7
ARU				*e*SS	SS	08 23 14.6	+6.8
ARU				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
ARU	**Arti**	**81.39**	**328**	*e*P	**P**	**08 07 40.8**	**-1.0**
	comp=Z,30nm,1.0s,mb5.2						
SOKR	**Solikamsk**	**83.32**	**331**	*e*P	**P**	**08 07 51.7**	**-0.1**
SOKR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
SYO	**Syowa Base**	**85.98**	**201**	⇓*e*PcP	PcP	08 08 09.7	+1.7
SYO	**Syowa Base**	**85.98**	**201**	⇓*e*P	**P**	**08 08 08.0**	**+2.7**
SYO				⇓*e*PcP	PcP	08 08 09.7	+1.7
QSPA	**South Pole Qui**	**86.46**	**180**	*e*P	**P**	**08 08 05.9**	**-1.7**
	comp=Z,22nm,1.1s,mb5.3						
ZEI	**Tsey**	**87.60**	**313**	*e*P	**P**	**08 08 13.1**	**-0.1**
ZEI				*i* *PP	pP	08 08 20.8	+0.2
ZEI				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.2						
KDAK	**Kodiak Island**	**87.60**	**32**	P	**P**	**08 08 13.6**	**+0.4**
	comp=Z,9.1nm,0.9s,mb5.0,baz=123,slow=23,SNR=3.5						
KDAK	**Kodiak Island**	**87.60**	**32**	P	**P**	**08 08 13.6**	**+0.4**
GOF	**Gofitskoye**	**88.48**	**315**	*e*P	**P**	**08 08 16.5**	**-0.9**
GOF				pmax	pmax		
	comp=Z,50nm,1.7s,mb5.5						
KIV	**Kislovodsk**	**88.61**	**314**	*e*P	**P**	**08 08 16.9**	**-1.1**
KMBO	**Kilima Mbogo**	**90.11**	**269**	P	**P**	**08 08 23.7**	**-1.3**
	comp=Z,1.4nm,0.7s,mb4.4,baz=61,slow=15,SNR=4.5						
KMBO	**Kilima Mbogo**	**90.11**	**269**	P	**P**	**08 08 23.7**	**-1.3**
MCK	**McKinley**	**90.29**	**26**	*e*P	**P**	**08 08 24.6**	**-1.2**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
MCK	**McKinley**	**90.29**	**26**	*e*P	**P**	**08 08 24.6**	**-1.2**
	comp=Z,4.0nm,0.9s,mb4.8						
COLA	**College**	**90.89**	**25**	*e*P	**P**	**08 08 28.0**	**-0.6**
COLA	**College**	**90.89**	**25**	*e*P	**P**	**08 08 27.5**	**-1.1**
	comp=Z,3.3nm,0.7s,mb4.8						
ILAR	**Eielson Array**	**91.29**	**25**	P	**P**	**08 08 28.8**	**-1.7**
	comp=Z,3.5nm,0.8s,mb4.7,baz=285,slow=4.2,SNR=25						
ILAR				PP	PP	08 12 08.0	+0.2
	comp=Z,1.5nm,1.1s,baz=261,slow=5.6,SNR=6.3						
MALT	**Malatya**	**91.36**	**308**	*e*P	**P**	**08 08 31.4**	**+0.6**
MALT				pmax	pmax		
	comp=Z,13nm,1.4s,mb5.1						
MALT	**Malatya**	**91.36**	**308**	*e*P	**P**	**08 08 31.4**	**+0.6**
	comp=Z,13nm,1.4s,mb5.1						
GZT	**Gaziantep**	**91.98**	**307**	*i* P	**P**	**08 08 33.3**	**-0.4**
OBN	**Obninsk**	**93.33**	**325**	⇑*e*P	**P**	**08 08 38.5**	**-1.4**
OBN				pmax	pmax		
	comp=Z,50nm,1.9s,mb5.6						
OBN				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.5						
OBN	**Obninsk**	**93.33**	**325**	*e*P	**P**	**08 08 38.6**	**-1.3**
BRTR	**Keskin Array B**	**95.13**	**309**	P	**P**	**08 08 46.7**	**-1.5**
	comp=Z,2.0nm,0.9s,mb4.6,baz=76,slow=5.2,SNR=6.8						
ARCES	**ARCESS Array B**	**97.42**	**340**	P	**P**	**08 08 57.3**	**-1.3**
	comp=Z,14nm,0.8s,mb5.4,baz=80,slow=5.6,SNR=16						
AKASG	**Malin Array Be**	**97.89**	**321**	P	**P**	**08 08 58.6**	**-2.1**
	comp=Z,0.8nm,0.6s,mb4.5,baz=77,slow=4.4,SNR=7.4						
NB2	**NORSAR Subarra**	**105.51**	**333**	P	Pdif	08 09 32.9	-1.7
	comp=Z,4.2nm,1.0s,baz=69,slow=4.4						
NB2	**NORSAR Subarra**	**105.51**	**333**	P	Pdif	08 09 32.9	-1.7
NB2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA	**NORSAR Array B**	**105.51**	**333**	Pdiff	Pdif	08 09 33.6	-1.1
	comp=Z,2.3nm,0.9s,baz=68,slow=4.5,SNR=5.2						
YKA	**Yellowknife Ar**	**105.72**	**25**	Pdiff	Pdif	08 09 36.6	+1.1
	comp=Z,0.4nm,0.7s,baz=296,slow=4.9,SNR=4.1						
YKA				PP	PP	08 13 55.5	-2.6
	comp=Z,0.4nm,0.9s,baz=281,slow=6.2,SNR=4.3						
YKA	**Yellowknife Ar**	**105.72**	**25**	Pdif	Pdif	08 09 36.6	+1.1
YKA				PP	PP	08 13 55.5	-2.6
PDAR	**Pinedale Array**	**116.20**	**43**	PKP	PKPdf	08 14 11.1	+2.8
	comp=Z,1.1nm,1.2s,baz=19,slow=3.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**125.56**	**284**	PKP	PKPdf	08 14 26.0	-0.2
	comp=Z,2.6nm,0.9s,baz=56,slow=2.3,SNR=11						
DBIC	**Dimbokro**	**132.38**	**276**	PKP	PKPdf	08 14 38.4	-0.8
	comp=Z,2.7nm,0.9s,baz=79,slow=5.3,SNR=4.5						
DBIC	**Dimbokro**	**132.38**	**276**	*e*PKPdf	PKPdf	08 14 39.6	+0.4
PLCA	**Paso Flores**	**133.01**	**161**	PKP	PKPdf	08 14 40.9	+0.5
	comp=Z,1.0nm,0.7s,baz=204,slow=21,SNR=3.6						
CPUP	**Villa Florida**	**150.00**	**171**	PKPbc	PKPbc	08 15 14.8	-0.6
	comp=Z,4.0nm,0.7s,baz=174,slow=1.1,SNR=8.4						
CPUP	**Villa Florida**	**150.00**	**171**	*e*PKPbc	PKPbc	08 15 13.9	-1.5
LPAZ	**La Paz**	**155.04**	**142**	PKP	PKPdf	08 15 20.2	+2.3
	comp=Z,1.5nm,0.9s,baz=94,slow=7.5,SNR=5.0						
LPAZ	**La Paz**	**155.04**	**142**	*e*PKPdf	PKPdf	08 15 20.3	+2.4

BJI ***14*** *07:56:34.6, 6630N×14240W, h10km, mB5.0, mb4.7, Ms5.0, Msz4.9*
ISCJB ***14*** *07:56:35.5±0.4, 6631N±004×14205W±009, h10km, mb4.4/8, MS5.1/2, Error ellipse: s-maj=5.2km s-min=4.9km az=112.1*
IDC ***14*** *07:56:36.4±0.9, 6637N×14244W, h0km, mb4.1/4, mb1 4.4/7, mb1mx4.0/21, mbtmp4.2/7, ML4.0/3, MS4.4/1, Ms1 4.5/1, ms1mx4.0/34, Error ellipse: s-maj=21.2km s-min=9.8km az=147.0*
NEIC ***14*** *07:56:37.7, 6627N×14244W, h10km, mb3.9/1, ML4.3(AEIC), After AEIC.*
PGC ***14*** *07:56:40.2, 6623N×14163W, h1km, ML4.4/1, 262km northwest of Dawson, Yt Eastern Alaska.*

ISC 14 07:56:37.0±0.3, 6634N±004×14213W±008, h10km, (h16km±, 2km:pP-P), n32, σ1°42/49, mb4.4/8, MS5.1/2, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.46**	**319**	P	**Pn**	**07 57 03.1**	**-0.2**
BM3				S	**Sn**	**07 57 22.6**	**+0.1**
IL1	**Eielson Array**	**2.53**	**234**	P	**Pn**	**07 57 17.1**	**-1.0**
ILAR	**Eielson Array**	**2.53**	**234**	Pn	**Pn**	**07 57 17.2**	**-0.9**
	5.9nm,0.3s,baz=46,slow=14,SNR=6.7						
ILAR				Sn	**Sn**	**07 57 45.9**	**-3.1**
	50nm,0.3s,baz=44,slow=26,SNR=5.6						
ILAR				Lg		07 57 52.7	
	416nm,0.3s,baz=48,slow=30,SNR=39						
ILAR				LR	LR	07 58 27.9	
	comp=Z,8μm,21.1s,baz=89,slow=46						
COLA	**College**	**2.79**	**241**	P	**Pn**	**07 57 20.5**	**-1.2**
COLA				*e*Pg	**Pg**	**07 57 26.8**	**-3.8**
COLA				*e*S	**Sn**	**07 58 00.8**	**+5.3**
COLD	**Coldfoot**	**3.32**	**289**	P	**Pn**	**07 57 29.7**	**+0.7**
MENT	**Mentasta**	**3.49**	**192**	P	**Pn**	**07 57 31.2**	**0.0**
PAX	**Paxson**	**3.68**	**204**	P	**Pn**	**07 57 34.3**	**+0.4**
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**07 57 38.5**	**+2.0**
	7.8nm,0.3s,baz=245,slow=14,SNR=2.4						
INK				Sn	**Sn**	**07 58 23.1**	**+0.9**
	20nm,0.3s,baz=307,slow=20,SNR=6.3						
INK				Lg		07 58 42.5	
	31nm,0.3s,baz=179,slow=24,SNR=4.2						
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**07 57 38.2**	**+1.6**
INK				Pg	**Pg**	**07 57 50.1**	**-1.1**
INK				Sn	**Sn**	**07 58 22.6**	**+0.5**
INK				Sg	**Sg**	**07 58 37.5**	**-3.9**
INK				Trac		07 58 49.3	
	comp=Z,373nm,0.7s						
MCK	**McKinley**	**3.90**	**231**	*e*Pn	**Pn**	**07 57 36.9**	**0.0**
MCK				*e*Pg	**Pg**	**07 57 47.4**	**-4.2**
MCK				*e*S	**Sn**	**07 58 28.1**	**+5.4**
IM01	**Indian Mountai**	**4.71**	**271**	P	**Pn**	**07 57 47.9**	**-0.2**
HYT	**Haines Junctio**	**5.91**	**157**	Pn	**Pn**	**07 58 05.1**	**+0.5**
HYT				Pg	**Pg**	**07 58 23.2**	**-7.0**
HYT				Sg	**Sg**	**07 59 38.2**	**-8.5**
HYT				Trac		07 59 47.0	
	comp=Z,325nm,0.7s						
EYAK	**Cordova Ski Ar**	**6.04**	**197**	P	**Pn**	**07 58 07.7**	**+1.4**
FIB	**Fire Island**	**6.30**	**218**	Pn	**Pn**	**07 58 11.6**	**+1.7**
PCA	**Pinnacle**	**6.33**	**171**	P	**Pn**	**07 58 12.3**	**+2.0**
WHY	**Whitehorse**	**6.56**	**147**	Pn	**Pn**	**07 58 13.0**	**-0.4**
WHY				Sn	**Sn**	**07 59 24.1**	**-4.2**
WHY				Sg	**Sg**	**07 59 57.8**	**-10**
WHY				Trac		08 00 08.0	
	comp=Z,80nm,0.7s						
FNBB	**Fort Nelson**	**11.50**	**121**	Pn	**Pn**	**07 59 19.6**	**-1.6**
FNBB				Trac		08 02 56.8	
	comp=Z,20nm,1.0s						
YKW3	**Yellowknife Ar**	**12.40**	**95**	Trac		08 01 43.6	
	comp=Z,11nm,0.5s						
YKW3				Trac		08 02 13.4	
	comp=Z,16nm,0.7s						
YKW3	**Yellowknife Ar**	**12.40**	**95**	Sn	**Sn**	**08 01 39.9**	**-12**
YKW3				Sn	**Sn**	**08 01 40.0**	**-12**
YKA	**Yellowknife Ar**	**12.44**	**95**	Pn	**Pn**	**07 59 30.3**	**-3.8**
	baz=296,slow=14,SNR=15						
YKA				Sn	**Sn**	**08 01 41.0**	**-12**
	baz=296,slow=23,SNR=5.7						
YKA				Lg		08 03 11.5	
	baz=302,slow=29,SNR=2.5						
RES	**Resolute Bay**	**17.28**	**41**	Pn	**Pn**	**08 00 38.0**	**-0.3**
HRY	**Holter Researc**	**25.36**	**126**	*e*P	**P**	**08 02 05.0**	**+0.8**
PDAR	**Pinedale Array**	**29.61**	**127**	P	**P**	**08 02 43.6**	**+1.4**
	3.1nm,0.9s,mb4.0,baz=338,slow=6.6,SNR=16						
NVAR	**Mina Array Bea**	**31.10**	**142**	P	**P**	**08 02 58.7**	**+3.2**
	2.7nm,0.7s,mb4.2,baz=340,slow=7.8,SNR=12						
NVAR	**Mina Array Bea**	**31.10**	**142**	P	**P**	**08 02 58.7**	**+3.2**
WMOK	**Wichita Mounta**	**40.48**	**119**	*e*P	**P**	**08 04 17.0**	**+1.2**
	2.4nm,0.9s,mb3.9						
CN2	**Changchun**	**51.78**	**293**	*e*P	**P**	**08 05 43.3**	**-1.5**
FINES	**FINESS Array B**	**52.22**	**7**	P	**P**	**08 05 46.6**	**-1.5**
	1.6nm,0.8s,mb4.0,baz=18,slow=9.2,SNR=4.2						
HHC	**Hu-ho-hao-te**	**59.32**	**302**	*e*P	**P**	**08 06 38.3**	**-0.8**
HHC				AP	pP	08 06 42.9	+0.6
HHC				XP	sP	08 06 45.4	+1.9
HHC				PCP	PcP	08 07 26.4	-0.7
HHC				PP	PP	08 08 50.4	+0.4
HHC				S	**S**	**08 14 40.5**	**-7.0**
HHC				SCS	ScS	08 16 24.5	-4.8
HHC				SS	SS	08 18 37.3	-4.8
HHC				AMB	AMB		
	comp=Z,18nm,0.3s,mb5.6						
HHC				AMB	AMB		
	comp=Z,2μm,13.2s						
HHC				LR	LR		
	comp=N,721nm,16.2s,MS5.0						
HHC				LR	LR		
	comp=E,448nm,14.7s,MS5.0						
HHC				LR	LR		
	comp=Z,2μm,24.8s						
AKASG	**Malin Array Be**	**63.10**	**6**	P	**P**	**08 07 06.5**	**+1.8**
	comp=Z,0.3nm,0.3s,mb3.9,baz=352,slow=6.6,SNR=5.0						
WMQ	**Urumqi**	**63.71**	**322**	*e*P	**P**	**08 07 10.3**	**+1.6**
WMQ				AP	pP	08 07 14.8	+2.9
WMQ				XP	sP	08 07 17.3	+4.1
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,36nm,5.0s						
NJ2	**Nanjing**	**64.56**	**292**	*e*P	**P**	**08 07 16.1**	**+1.8**
NJ2				AP	pP	08 07 20.8	+3.3
NJ2				XP	sP	08 07 23.1	+4.4
NJ2				PP	PP	08 09 40.1	+3.9
NJ2				S	**S**	**08 15 53.0**	**-0.7**
NJ2				XS	sS	08 16 01.0	+1.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,880nm,10.4s						
NJ2				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						

SOF ***14*** *08:06:47.8, 4170N×2545E, h12km, MD3.4*
SKO ***14*** *08:06:47.0, 4148N×2569E, h0km*
ISCJB ***14*** *08:06:48.6±0.3, 4169N±002×2538E±003, h10km, Error ellipse: s-maj=3.4km s-min=2.8km az=84.4*
CSEM ***14*** *08:06:48.5±0.1, 4173N×2540E, h8km, MD3.4, Error ellipse: s-maj=2.4km s-min=2.0km az=78.0*
THE ***14*** *08:06:51.2, 4164N×2557E, h21km, ML4.0*
ATH ***14*** *08:06:52.6, 4133N×2522E, h16km±6km, MD3.8/3*
NEIC ***14*** *08:06:52.6, 4133N×2522E, h16km, MD3.8(ATH), After ATH.*
NEIC Felt at Kurdzhali.

ISC 14 08:06:49.2±0.3, 4167N±002×2543E±003, h10km, n59, σ1°16/76, 11C-2D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.02**	**210**	*i* Pg	**Pg**	**08 06 51.0**	**+0.1**
DIM	**Dimitrovgrad**	**0.39**	**11**	Pg	**Pg**	**08 06 56.0**	**-0.8**
RDO	**Rodhopi**	**0.53**	**171**	⇑*i*PB	**Pg**	**08 06 59.2**	**-0.2**
RZN	**Rozhen**	**0.54**	**272**	*i* Pg	**Pg**	**08 06 59.0**	**-0.6**
PLD	**Plovdiv**	**0.70**	**309**	Pg	**Pg**	**08 07 02.0**	**-0.6**
ALN	**Alexandroupoli**	**0.90**	**149**	*e*Pg	**Pg**	**08 07 06.0**	**-0.5**
JMB	**Yambol**	**1.17**	**47**	*i* Pg	**Pg**	**08 07 10.0**	**-1.7**
JMB	**Yambol**	**1.17**	**47**	*e*Pg	**Pg**	**08 07 09.9**	**-1.8**
NVR	**Nevrokopi**	**1.22**	**255**	*e*PN	**Pn**	**08 07 11.8**	**-0.4**
MMB	**Musomiste**	**1.28**	**267**	*i* Pg	**Pg**	**08 07 12.7**	**-1.0**
PGB	**Panagyurishte**	**1.29**	**314**	*i* Pg	**Pg**	**08 07 12.2**	**-1.7**
SRS	**Serrai**	**1.49**	**249**	*e*Pg	**Pg**	**08 07 16.6**	**-1.1**
SRS				*e*Sg	**Sg**	**08 07 36.2**	**-0.8**
SRS	**Serrai**	**1.49**	**249**	*e*Pg	**Pg**	**08 07 16.6**	**-1.1**
SRS				*e*Sg	**Sg**	**08 07 36.2**	**-0.8**
PVL	**Pavlikeni**	**1.55**	**357**	P	**Pn**	**08 07 16.0**	**-0.8**
SART	**Tekirdag**	**1.64**	**126**	*i* P	**Pn**	**08 07 18.6**	**+0.7**
OUR	**Ouranopolis**	**1.72**	**220**	*e*Pb	**Pb**	**08 07 18.9**	**-2.0**
LOS	**Limnos**	**1.75**	**189**	*e*Pb	**Pb**	**08 07 19.0**	**-2.4**
LIA	**Limnos Island**	**1.78**	**186**	*e*PN	**Pn**	**08 07 19.4**	**-0.5**
SOH	**Sokhos**	**1.78**	**242**	*e*Pb	**Pb**	**08 07 20.5**	**-1.4**
VTS	**Vitosha**	**1.89**	**300**	*e*Pn	**Pn**	**08 07 22.2**	**+0.7**
VTS	**Vitosha**	**1.89**	**300**	⇑*i*P	**Pn**	**08 07 22.1**	**+0.6**
VTS				*i* S	**Sn**	**08 07 49.3**	**+3.9**
VTS	**Vitosha**	**1.89**	**300**	*e*Pn	**Pn**	**08 07 22.2**	**+0.7**
VTS				*i* S	**Sn**	**08 07 49.3**	**+3.9**
VTS	**Vitosha**	**1.89**	**300**	⇑*i*P	**Pn**	**08 07 22.1**	**+0.6**
VTS				*i* S	**Sn**	**08 07 49.3**	**+3.9**
KNT	**Kendrikon**	**1.97**	**256**	*e*Pn	**Pn**	**08 07 23.4**	**+0.9**
PLG	**Polygyros**	**1.98**	**230**	*e*PN	**Pn**	**08 07 23.0**	**+0.3**
THE	**Thessaloniki**	**2.13**	**242**	*e*Pn	**Pn**	**08 07 25.3**	**+0.5**
VAY	**Valandovo**	**2.18**	**262**	*e*Pn	**Pn**	**08 07 26.1**	**+0.7**
VAY				*e*Sn	**Sn**	**08 07 54.8**	**+2.4**
VAY	**Valandovo**	**2.18**	**262**	*e*Pn	**Pn**	**08 07 26.3**	**+0.9**
VAY				*e*Sn	**Sn**	**08 07 54.8**	**+2.4**
PAIG	**Paliouri**	**2.19**	**218**	*e*Pn	**Pn**	**08 07 25.4**	**-0.1**
PAIG				*e*Sn	**Sn**	**08 07 52.3**	**-0.4**
ELBA	**Catalca**	**2.32**	**102**	*i* P	**Pn**	**08 07 28.9**	**+1.5**
GRG	**Griva**	**2.39**	**254**	*e*Pn	**Pn**	**08 07 28.9**	**+0.5**
STIP	**Stip**	**2.43**	**272**	*e*Pn	**Pn**	**08 07 28.8**	**-0.1**
STIP				*e*Sn	**Sg**	**08 08 07.3**	**+0.1**
STIP	**Stip**	**2.43**	**272**	*e*Pn	**Pn**	**08 07 28.7**	**-0.2**
PRK	**Paraskevi**	**2.50**	**165**	*e*PB	**Pb**	**08 07 30.4**	**-3.8**
PSN	**Preselentsi**	**2.86**	**44**	P	**Pn**	**08 07 34.5**	**-0.3**
CRAR	**CRAIOVA**	**2.91**	**336**	S	**Sg**	**08 08 21.9**	**-0.8**
BELI	**Belica**	**3.11**	**272**	*e*Pn	**Pn**	**08 07 39.1**	**+0.9**
BELI				*i*		08 07 39.3	
BELI				*i*		08 07 41.2	
BELI				*i*		08 07 48.2	
BELI				*i* Sn	**Sg**	**08 08 31.5**	**+2.3**
FNA	**Florina**	**3.18**	**255**	*e*Pn	**Pn**	**08 07 40.8**	**+1.5**
ULDT	**Uludag**	**3.19**	**117**	*i* P	**Pb**	**08 07 47.6**	**+1.6**
TIRR	**Tirgusor**	**3.54**	**37**	⇑*i*P	**Pn**	**08 07 44.7**	**+0.5**
TIRR	**Tirgusor**	**3.54**	**37**	S	**Sb**	**08 08 36.4**	**+1.4**
TIRR	**Tirgusor**	**3.54**	**37**	⇓P	**Pb**	**08 07 51.1**	**-0.8**
AGG	**Agios Georgios**	**3.55**	**223**	*e*Pn	**Pn**	**08 07 45.3**	**+1.1**
VOIR		**3.78**	**356**	⇑*i*P	**Pn**	**08 07 48.0**	**+0.6**
VOIR				*i* S	**Sn**	**08 08 31.5**	**-0.5**
VOIR		**3.78**	**356**	⇑*i*P	**Pn**	**08 07 48.0**	**+0.6**
VOIR				*i* S	**Sn**	**08 08 31.4**	**-0.5**
MLR	**Muntele Rosu**	**3.84**	**5**	⇓*i*P	**Pn**	**08 07 50.1**	**+1.8**
MLR	**Muntele Rosu**	**3.84**	**5**	S	**Sb**	**08 08 42.8**	**-0.7**
HENT	**Hendek**	**4.21**	**100**	*i* P	**Pn**	**08 08 00.9**	**+7.6**
VRI	**Vrincioaia**	**4.30**	**12**	S	**Sn**	**08 08 46.2**	**+1.3**
VRI	**Vrincioaia**	**4.30**	**12**	⇑*i*P	**Pn**	**08 07 52.5**	**-2.1**
VRI				S	**Sn**	**08 08 46.2**	**+1.3**
AYDN	**Tasoluk**	**4.42**	**154**	*i* P	**Pn**	**08 07 44.6**	**-12**
DIVS	**Divcibare**	**4.68**	**303**	*i

WRA	Warramunga Arr	49.20	258	P	P	08 29 51.4	+0.7
	0.5nm,0.7s,baz=96,slow=7.5,SNR=5.1						
ASAR	Alice Springs	49.38	253	P	P	08 29 52.9	+0.9
	7.0nm,0.6s,baz=88,slow=8.5,SNR=125						
PDAR	Pinedale Array	83.42	42	P	P	08 33 29.9	+0.5
	1.0nm,0.8s,baz=207,slow=3.0,SNR=8.8						
ILAR	Eielson Array	83.69	11	P	P	08 33 30.6	-0.2
	0.4nm,0.9s,baz=222,slow=5.2,SNR=4.3						
SONM	Songino Array	95.48	318	P	P	08 34 26.4	-0.3
	0.1nm,0.3s,baz=148,slow=8.5,SNR=4.2						

*ISCJB **14** 08:26:05.6±0.4,4172N±003×2543E±003,h10km, Error ellipse: s-maj=4.2km s-min=3.2km az=41.8*
*SOF **14** 08:26:05.1,4169N×2545E,h14km,MD2.8*
*CSEM **14** 08:26:05.8±0.1,4173N×2548E,h5km,MD2.8, Error ellipse: s-maj=1.5km s-min=1.1km az=13.0*
*ATH **14** 08:26:06.9,4161N×2536E,h5km±3km,MD3.5/3*
*NEIC **14** 08:26:06.9,4161N×2536E,h5km,MD3.5(ATH), After ATH.*
NEIC Felt at Kurdzhali.
*THE **14** 08:26:09.1,4163N×2560E,h21km,ML3.3*

ISC 14 08:26:06.2±0.4,4172N±003×2543E±003,h10km,n31, σ1§10/39,1C,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDZ	Kurdzhali	0.07	190	*i* Pg	Pg	08 26 08.5	+0.2
DIM	Dimitrovgrad	0.34	13	*i* Pg	Pg	08 26 13.0	0.0
RZN	Rozhen	0.54	267	*i* Pg	Pg	08 26 16.0	-0.6
RDO	Rodhopi	0.57	172	⇑*i*PB	Pg	08 26 16.3	-1.0
RDO				*e*SB	Sg	08 26 23.4	-1.5
PLD	Plovdiv	0.67	306	Pg	Pg	08 26 19.8	+0.7
ALN	Alexandroupoli	0.94	150	*e*Pg	Pg	08 26 23.4	-0.9
ALN				*e*Sg	Sg	08 26 35.2	-1.3
EDRB	Edirne	0.99	82	PG	Pg	08 26 23.5	-1.8
EDRB				SG	Sg	08 26 36.5	-1.6
JMB	Yambol	1.14	48	Pg	Pg	08 26 27.7	-0.4
NVR	Nevrokopi	1.23	253	*e*PB	Pb	08 26 28.9	-0.7
NVR				*e*SB	Sb	08 26 45.1	-0.4
PGB	Panagyurishte	1.26	312	Pg	Pg	08 26 29.5	-0.8
MMB	Musomiste	1.28	265	Pg	Pg	08 26 30.0	-0.8
PVL	Pavlikeni	1.50	357	P	Pn	08 26 33.5	+0.3
SRS	Serrai	1.51	247	*e*Pg	Pg	08 26 34.4	-0.7
SRS				*e*Sg	Sg	08 26 54.9	+0.2
SZH	Strazhica	1.59	13	P	Pn	08 26 35.5	+1.1
MFT	Murefte	1.68	123	PN	Pn	08 26 35.9	+0.4
LPK	Lapseki	1.68	143	PN	Pn	08 26 36.5	+0.9
KKB	Krupnik	1.76	276	P	Pn	08 26 37.0	+0.2
KKB				Pg	Pg	08 26 39.0	-1.0
KKB	Krupnik	1.76	276	Pg	Pg	08 26 39.0	-1.0
OUR	Ouranopolis	1.76	219	*e*Pb	Pn	08 26 36.6	-0.2
LIA	Limnos Island	1.82	186	*e*PN	Pn	08 26 39.5	+1.9
VTS	Vitosha	1.87	299	*e*Pn	Pg	08 26 41.0	-1.0
VTS				*e*Sn	Sg	08 27 05.2	-1.2
VTS	Vitosha	1.87	299	P	Pn	08 26 40.2	+2.0
VTS	Vitosha	1.87	299	*e*Pn	Pg	08 26 41.0	-1.1
VTS				*e*Sn	Sg	08 27 05.2	-1.1
KNT	Kendrikon	1.98	255	*e*Pn	Pn	08 26 41.5	+1.8
KNT	Kendrikon	1.98	255	*e*Pn	Pn	08 26 41.5	+1.7
EZN	Ezine	2.01	160	*e*PN	Pn	08 26 41.1	+1.1
PLG	Polygyros	2.01	229	*e*PN	Pn	08 26 42.6	+2.4
EDC	Edincik	2.29	126	*e*PN	Pn	08 26 45.1	+1.1
BNT	Bandirma	2.32	125	*e*PN	Pn	08 26 45.3	+0.9
PRK	Paraskevi	2.55	165	*e*PN	Pn	08 26 50.9	+3.3
DST	Dursunbey	3.22	130	*e*P	Pn	08 26 57.9	+1.1

IDC 14 08:31:00.1±1.4,307S×12810E,h0km,mb3.8/4,mb1 4.0/5, mb1mx3.9/17,mbtmp3.9/5,ML3.5/1, Error ellipse: s-maj=116.9km s-min=22.3km az=70.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	17.84	160	P	Pn	08 35 08.5	-1.2
	0.2nm,0.3s,baz=340,slow=12,SNR=14						
ASAR	Alice Springs	21.23	165	P	P	08 35 48.4	+0.8
	6.4nm,0.7s,baz=346,slow=12,SNR=64						
SONM	Songino Array	54.14	342	P	P	08 40 28.9	+1.9
	1.1nm,0.8s,baz=162,slow=7.0,SNR=7.9						
MKAR	Makanchi Array	63.92	327	P	P	08 41 35.4	+0.6
	0.5nm,0.6s,baz=90,slow=2.9,SNR=5.2						
BVAR	Borovoye Array	73.75	328	P	P	08 42 34.5	-1.6
	0.6nm,0.4s,baz=104,slow=1.8,SNR=3.6						

*ISCJB **14** 08:35:44.4±0.5,344S±008×1275E±02,h33km,mb4.2/13, Error ellipse: s-maj=25.7km s-min=8.3km az=145.6*
*NEIC **14** 08:35:45.8±0.5,341S×12761E,h30km,mb4.3/7, Error ellipse: s-maj=25.3km s-min=8.3km az=73.0*
*IDC **14** 08:35:46.5±5.0,334S×12775E,h36km±41km,mb3.9/8, mb1 4.1/9,mb1mx4.0/19,mbtmp4.1/9,ML4.5/1, Error ellipse: s-maj=54.9km s-min=11.6km az=73.0*

ISC 14 08:35:45.1±4.0,341S±008×1276E±02,h23km±29km,n22, σ1§10/22,mb4.2/13,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	Tennant Creek	17.71	159	*e*P	Pn	08 39 49.6	-0.6
	14nm,0.6s						
WRA	Warramunga Arr	17.72	159	P	Pn	08 39 48.7	-1.5
	1.7nm,0.3s,baz=341,slow=12,SNR=20						
WB2	Warramunga Arr	17.72	159	*e*P	Pn	08 39 48.4	-1.9
MBWA	Marble Bar	19.22	203	*e*P	Pn	08 40 08.1	-0.3
	10nm,1.0s						
AS31	Alice Springs	21.05	164	*e*P	P	08 40 28.5	+1.1
ASAR	Alice Springs	21.05	164	P	P	08 40 28.6	+1.2
	35nm,0.9s,mb4.7,baz=345,slow=11,SNR=144						
ASAR				S	S	08 44 21.0	+0.4
	6.3nm,1.1s,baz=344,slow=22,SNR=15						
ASPA	Alice Springs	21.05	164	*e*P	P	08 40 28.5	+1.1
CTA	Charters Tower	24.65	134	*e*P	P	08 41 05.9	+2.1
	5.9nm,0.9s,mb4.1						
FORT	Forrest	27.23	179	*e*P	P	08 41 28.0	+0.8
	8.5nm,0.6s,mb4.5						
YHNB	Yeheng	28.55	348	*e*P	P	08 41 40.7	+1.7
NWAO	Narrogin (SRO)	30.92	197	P	P	08 42 01.3	+1.3
	5.3nm,0.7s,mb4.5,baz=17,slow=11,SNR=4.1						
STKA	Stephens Creek	31.25	157	P	P	08 42 02.4	-0.5
	2.0nm,0.9s,mb4.0,baz=333,slow=9.0,SNR=4.1						
SONM	Songino Array	54.30	343	P	P	08 45 09.5	+0.1
	0.9nm,0.9s,mb3.7,baz=142,slow=4.9,SNR=2.6						
MKAR	Makanchi Array	63.91	327	P	P	08 46 15.7	-0.2
	1.1nm,0.5s,mb4.2,baz=120,slow=5.8,SNR=13						
MKAR	Makanchi Array	63.91	327	P	P	08 46 15.7	-0.3
KURK	Kurchatov	68.20	329	*e*P	P	08 46 43.3	-0.3
	4.6nm,0.9s,mb4.5						
BVAR	Borovoye Array	73.75	328	P	P	08 47 17.0	-0.2
	0.6nm,0.5s,mb3.8,baz=130,slow=10,SNR=2.3						
ZRNK	Zerenda	74.44	328	*e*P	P	08 47 21.1	-0.2
	1.2nm,0.6s,mb4.0						
VNDA	Vanda	76.29	173	P	P	08 47 31.2	-0.7
	1.4nm,0.8s,mb3.9,baz=318,slow=7.5,SNR=3.5						
QSPA	South Pole Qui	86.55	180	*e*P	P	08 48 24.1	-2.1
	4.2nm,0.9s,mb4.7						
ILAR	Eielson Array	91.16	25	P	P	08 48 47.0	-1.1
	0.2nm,0.7s,mb3.6,baz=259,slow=4.4,SNR=4.4						
TORD	Torodi Ar. Bea	125.66	284	PKP	PKPdf	08 54 44.7	+0.2
	0.6nm,0.8s,baz=81,slow=1.1,SNR=3.7						

*SOF **14** 08:39:03.9,4172N×2545E,h10km,MD3.3*
*CSEM **14** 08:39:04.2±0.1,4170N×2549E,h12km,MD3.3, Error ellipse: s-maj=1.3km s-min=1.1km az=29.0*
*ISCJB **14** 08:39:04.0±0.2,4169N±002×2542E±002,h10km, Error ellipse: s-maj=3.2km s-min=2.4km az=19.9*
*NEIC **14** 08:39:06.6,4152N×2532E,h25km,MD3.7(ATH), After ATH.*
NEIC Felt at Kurdzhali.
*ATH **14** 08:39:06.6,4152N×2532E,h25km,MD3.7/3*
*THE **14** 08:39:07.3,4165N×2559E,h24km,ML3.8*

ISC 14 08:39:04.8±0.2,4168N±002×2543E±002,h10km,n62, σ1§14/75,7C-4D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDZ	Kurdzhali	0.03	201	*i* Pg	Pg	08 39 07.0	+0.3
DIM	Dimitrovgrad	0.38	12	Pg	Pg	08 39 12.0	-0.3
RZN	Rozhen	0.54	271	*i* Pg	Pg	08 39 15.0	-0.2
RDO	Rodhopi	0.54	171	*e*PB	Pg	08 39 15.1	-0.2
RDO				*e*SB	Sg	08 39 21.9	-0.4
PLD	Plovdiv	0.69	308	Pg	Pg	08 39 17.5	-0.7
ALN	Alexandroupoli	0.91	149	*e*Pg	Pg	08 39 22.0	-0.3
ALN				*e*Sg	Sg	08 39 34.2	+0.1
EDRB	Edirne	1.00	80	*i* PG	Pg	08 39 22.1	-1.9
EDRB				*i* SG	Sg	08 39 35.3	-1.7
JMB	Yambol	1.17	47	*i* Pg	Pg	08 39 25.6	-1.6
JMB	Yambol	1.17	47	*e*Pg	Pg	08 39 25.7	-1.5
JMB				*e*Sg	Sg	08 39 40.6	-1.7
NVR	Nevrokopi	1.22	255	*e*PN	Pn	08 39 27.7	-0.3
NVR				*e*SN	Sn	08 39 43.6	-0.9
MMB	Musomiste	1.28	267	Pg	Pg	08 39 28.5	-0.9
PGB	Panagyurishte	1.28	313	Pg	Pg	08 39 28.4	-1.1
SRS	Serrai	1.49	249	*e*Pg	Pg	08 39 32.7	-0.8
SRS				*e*Sg	Sg	08 39 53.1	+0.2
PVL	Pavlikeni	1.54	357	P	Pn	08 39 31.7	-0.6
SZH	Strazhica	1.63	13	P	Pn	08 39 34.0	+0.4
LPK	Lapseki	1.65	142	PN	Pn	08 39 33.7	-0.1
SART	Tekirdag	1.65	126	*i* P	Pn	08 39 35.4	+1.5
SART				*i* S	Sn	08 39 56.8	+1.7
MFT	Murefte	1.66	122	PN	Pn	08 39 33.6	-0.3
OUR	Ouranopolis	1.73	220	*e*Pb	Pb	08 39 34.9	-1.8
KKB	Krupnik	1.77	277	P	Pn	08 39 36.0	+0.6
KKB				Pg	Pg	08 39 37.8	-0.9
KKB	Krupnik	1.77	277	Pg	Pg	08 39 37.8	-0.9
SOH	Sokhos	1.79	242	*e*Pb	Pb	08 39 36.3	-1.3
LIA	Limnos Island	1.79	186	*e*PN	Pn	08 39 35.6	-0.1
VTS	Vitosha	1.89	300	P	Pn	08 39 38.0	+0.9
VTS				Pg	Pg	08 39 40.0	-1.0
VTS	Vitosha	1.89	300	*e*Pn	Pn	08 39 38.2	+1.1
VTS				*e*Sn	Sn	08 40 03.7	+2.7
VTS	Vitosha	1.89	300	*e*Pn	Pn	08 39 38.2	+1.1
VTS	Vitosha	1.89	300	Pg	Pg	08 39 40.0	-1.0
VTS				*e*Sn	Sn	08 40 03.7	+2.7
VTS	Vitosha	1.89	300	⇑P	Pn	08 39 39.7	+2.6
EZN	Ezine	1.97	160	PN	Pn	08 39 38.5	+0.3
KNT	Kendrikon	1.97	256	*e*Pn	Pn	08 39 39.7	+1.4
PLG	Polygyros	1.99	230	*e*PN	Pn	08 39 37.9	-0.6
VAY	Valandovo	2.18	262	*e*Pn	Pg	08 39 44.5	-2.1
VAY				*e*Sn	Sg	08 40 14.8	0.0
VAY	Valandovo	2.18	262	*e*Pn	Pn	08 39 42.5	+1.4
EDC	Edincik	2.27	125	PN	Pn	08 39 42.3	0.0
BNT	Bandirma	2.30	124	PN	Pn	08 39 42.4	-0.4
CTT	Catalca	2.32	102	PN	Pn	08 39 42.2	-0.8
ELBA	Catalca	2.32	102	*i* P	Pn	08 39 45.7	+2.7
GRG	Griva	2.39	253	*e*Pn	Pn	08 39 45.9	+1.9
STIP	Stip	2.43	271	*e*Pn	Pg	08 39 48.5	-2.9
STIP				*e*Sn	Sg	08 40 23.6	+0.7
PRK	Paraskevi	2.51	165	*e*PN	Pn	08 39 46.5	+0.8
BTOK	Tokmak	2.75	133	*i* P	Pn	08 39 57.0	+8.0
BALB	Balikesir	2.76	137	*e*PN	Pn	08 39 49.3	+0.2
ISK	Istanbul-Kandi	2.80	101	*e*PN	Pn	08 39 49.6	0.0
PSN	Preselentsi	2.85	44	P	Pn	08 39 50.8	+0.4
ORLT	Orhaneli	3.09	121	*e*PN	Pn	08 39 54.2	+0.6
DST	Dursunbey	3.19	129	*e*PN	Pn	08 39 55.1	0.0
ULDT	Uludag	3.20	117	*i* P	Pn	08 40 02.8	+7.7
HRT	Hereke	3.31	104	*e*PN	Pn	08 39 56.4	-0.2
AKS	Akhisar	3.34	146	*e*P	Pn	08 39 57.6	+0.5
TIRR	Tirgusor	3.54	37	⇑P	Pn	08 39 59.8	0.0
TIRR	Tirgusor	3.54	37	⇑P	Pn	08 39 59.8	0.0
VOIR		3.77	356	⇓P	Pn	08 40 04.1	+1.1
VOIR		3.77	356	⇓P	Pn	08 40 04.1	+1.1
MLR	Muntele Rosu	3.83	5	⇑P	Pn	08 40 06.3	+2.5
MANT	Manisa	3.98	142	*i* P	Pg	08 40 24.4	+3.3
HENT	Hendek	4.21	100	*i* P	Pn	08 40 07.5	-1.5
VRI	Vrincioaia	4.29	12	⇑P	Pn	08 40 12.1	+1.9
BZS	Buzias	4.81	326	⇑P	Pn	08 40 17.6	+0.3
BZS	Buzias	4.81	326	⇑P	Pn	08 40 17.6	+0.3
BBLS	Bajina Basta -	4.94	298	*e*Pn	Pn	08 40 22.9	+3.8
BURAR	Bucovina Array	5.94	359	⇓P	Pn	08 40 34.5	+1.7
BURAR	Bucovina Array	5.94	359	⇓P	Pn	08 40 34.5	+1.8

IDC 14 08:47:47.4±2.9,309S×12813E,h0km,mb3.8/2,mb1 4.2/3, mb1mx3.7/16,mbtmp3.9/3,Error ellipse: s-maj=134.1km s-min=33.1km az=85.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	17.82	161	P	Pn	08 51 56.5	-0.2
	0.3nm,0.3s,baz=340,slow=12,SNR=12						
ASAR	Alice Springs	21.21	165	P	P	08 52 34.2	-0.3
	4.0nm,0.6s,baz=345,slow=12,SNR=32						
ILAR	Eielson Array	90.62	25	P	P	09 00 52.0	+0.4
	0.4nm,0.8s,baz=296,slow=4.9,SNR=4.8						

*ISCJB **14** 08:56:53.8±0.5,3083N±003×3495E±005,h0km, Error ellipse: s-maj=7.2km s-min=4.1km az=60.6*
*CSEM **14** 08:56:53.7±0.1,3082N×3500E,h1km,ML1.9, Error ellipse: s-maj=2.6km s-min=1.6km az=108.0, Mining explosion.*
*GII **14** 08:56:53.5±0.2,3084N×3499E,h0km±1km,ML1.9/3*
*HLW **14** 08:56:53.8,3103N×3511E,h19km,Mb3.2*

ISC 14 08:56:54.3±0.5,3083N±004×3496E±005,h0km,n14, σ0§93/19,1C-5D,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVTA	Shivta	0.31	289	Pg	Pg	08 57 01.0	+0.8
ZFRI	Zfri	0.33	146	Pg	Pg	08 57 01.1	+0.5
KZIT	Kziot	0.49	279	Pg	Pg	08 57 04.8	+1.1
MZDA	Masada	0.59	35	Pg	Pg	08 57 05.8	+0.2
MZDA				Sg	Sg	08 57 14.0	+0.7
KMTI	Karmit	0.75	196	Pg	Pg	08 57 09.0	+0.4
HRFI	Mount Harif	0.79	175	Pg	Pg	08 57 09.8	+0.4
HRFI				Sg	Sg	08 57 23.1	+3.4
MKRJ	Makawir	0.93	39	Pg	Pg	08 57 11.7	-0.3
HNKL	Nakhl	1.23	224	⇓P	Pg	08 57 18.2	+0.2
HNKL				S	Sg	08 57 35.9	+1.9
HBST	Basata	1.62	187	⇓P	Pn	08 57 23.4	-0.7
MMLI	Mount Malkishu	1.65	14	Pn	Pn	08 57 23.6	-0.9
SUZ		2.09	242	⇓P	Pn	08 57 29.5	-1.0
SUZ				S	Sn	08 57 55.8	-1.4
HDHB	Dhahab	2.12	188	⇑P	Pn	08 57 30.0	-0.9
HKAT	Jabal Katrina	2.45	200	⇓P	Pn	08 57 35.6	+0.1
TR2		2.66	204	⇓P	Pn	08 57 38.0	-0.5
TR2				S	Sn	08 58 10.2	-1.2

IDC 14 09:01:19.8±3.6,1702S×16847E,h0km,mb4.1/4, mb1 4.3/5,mb1mx4.1/15,mbtmp4.2/5,ML4.2/1,1C,Error ellipse: s-maj=82.2km s-min=30.7km az=103.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	Butte a Klehm	0.68	198	⇑*i*P	Pg	09 01 25.2	-7.6
BKM				S	Sg	09 01 37.2	-4.4
DZM	Mont Dzumac	5.38	200	Pn	Pn	09 02 42.8	+1.6
	7.4nm,0.3s,baz=55,slow=17,SNR=40						
DZM				Sn	Sn	09 03 46.4	+2.6
	2.1nm,0.3s,baz=301,slow=19,SNR=4.8						
STKA	Stephens Creek	28.48	234	P	P	09 07 14.9	-1.7
	2.7nm,0.9s,baz=67,slow=7.7,SNR=3.4						
WRA	Warramunga Arr	32.47	259	P	P	09 07 52.3	+0.6
	1.5nm,1.0s,baz=91,slow=9.2,SNR=7.1						
ASAR	Alice Springs	33.02	253	P	P	09 07 57.8	+1.2
	5.3nm,0.7s,baz=78,slow=8.7,SNR=31						
SONM	Songino Array	85.01	323	P	P	09 13 57.3	+0.3
	1.2nm,1.0s,baz=135,slow=4.4,SNR=7.1						

*ISCJB **14** 09:08:32.1±1.1,3081S±003×7177W±008,h21km±7km, mb4.1/10,MS4.6/1, Error ellipse: s-maj=12.0km s-min=5.1km az=165.5*
*IDC **14** 09:08:33.9±1.3,3096S×7162W,h27km±6km,mb4.0/6, mb1 4.0/10,mb1mx3.9/18,mbtmp4.0/10,ML3.9/4,MS3.9/2, Ms1 3.9/2,ms1mx3.8/23,Error ellipse: s-maj=31.6km s-min=26.8km az=128.0*
*NEIC **14** 09:08:34.5±0.6,3086S×7182W,mb4.6/5,ML4.4(GUC), Error ellipse: s-maj=13.8km s-min=6.5km az=87.0*
*GUC **14** 09:08:34.2±0.8,3091S×7168W,h25km±3km,MD4.3, ML4.4*

ISC 14 09:08:32.6±1.3,3083S±003×7175W±009,h13km±7km, h26km±2.2km:pP-P,n47,σ0§98/59,mb4.1/10,MS4.6/1, 10C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	Combarbala	0.72	118	⇑*i*P	Pg	09 08 46.7	0.0
CMCH				*i* S	Sg	09 08 55.6	-0.6
CMCH				AMP		09 08 56.6	
	comp=N,69μm,0.6s						
CMCH	Combarbala	0.72	118	⇑*i*P	Pg	09 08 46.7	0.0
CMCH				*i* S	Sg	09 08 55.6	-0.6
ILCH	Illapel	0.94	148	⇑*i*P	Pb	09 08 49.5	-1.3
ILCH				*i* S	Sb	09 09 00.9	-2.1
CHNG	Los Chungos	1.07	169	⇑*i*P	Pb	09 08 51.8	-1.1
CHNG				*i* S	Sb	09 09 04.8	-1.9
CHNG				AMP		09 09 07.2	
	comp=E,13μm,0.3s						
JACH	Jahuel	2.09	152	⇑*i*P	Pn	09 09 08.1	+0.9
JACH				*i* S	Sn	09 09 33.0	-0.1
ROCH	El Roble	2.22	164	*i* P	Pn	09 09 09.3	+0.3
ROCH				*i* S	Sn	09 09 37.6	+1.3
PEL	Peldehue	2.47	159	⇓*i*P	Pn	09 09 13.1	+0.6
PEL				*i* S	Sn	09 09 42.6	+0.1
PEL				AMP		09 09 54.5	
	comp=N,4μm,0.6s						
PEL	Peldehue	2.47	159	⇓*i*P	Pn	09 09 13.1	+0.6
PEL				*i* S	Sn	09 09 42.6	+0.1
DSCH	Colegio Aleman	2.75	159	*e*P	Pn	09 09 16.2	0.0
DSCH				*i* S	Sn	09 09 49.1	-0.1
DSCH				AMP		09 10 00.4	
	comp=E,264nm,0.4s						
DSCH	Colegio Aleman	2.75	159	*e*P	Pn	09 09 16.2	0.0
DSCH				*i* S	Sn	09 09 49.1	-0.1
CLCH	Cerro Calan	2.75	158	⇑*i*P	Pn	09 09 16.9	+0.5
CLCH				*i* S	Sn	09 09 49.4	-0.1
CLCH				AMP		09 10 01.3	
	comp=E,4μm,0.5s						
RCDM	Rinconada Maip	2.77	163	⇑*i*P	Pn	09 09 16.8	+0.2
RCDM				*i* S	Sn	09 09 49.4	-0.4
RCDM				AMP		09 10 01.2	
	comp=E,2μm,0.7s						
RCDM	Rinconada Maip	2.77	163	⇑*i*P	Pn	09 09 16.8	+0.2
RCDM				*i* S	Sn	09 09 49.4	-0.4
FCH	Farellones	2.78	154	⇑*i*P	Pn	09 09 17.8	+1.1
FCH				*i* S	Sn	09 09 50.7	+0.6
FCH				AMP		09 10 02.7	
	comp=N,930nm,0.4s						
ANTU	Antumapu	2.89	161	*i* P	Pn	09 09 18.9	+0.7
ANTU				AMP		09 10 03.3	
	comp=N,2μm,0.5s						
TACH	Talagante	2.89	167	*e*P	Pn	09 09 18.6	+0.3
PCH	Pirque	2.97	160	⇓*i*P	Pn	09 09 20.0	+0.7
CFAA	Coronel Fontan	3.10	105	Pn	Pn	09 09 24.3	+3.1
	comp=N,7.2nm,0.3s,baz=286,slow=11,SNR=280						
CFAA				Sn	Sn	09 10 03.5	+5.4
	comp=N,15nm,0.3s,baz=119,slow=14,SNR=7.0						
CFAA				LR	LR	09 10 45.4	
	comp=N,362nm,21.7s,baz=68,slow=44						
CHCH	Chadas Angostu	3.23	164	⇓*i*P	Pn	09 09 23.4	+0.5
LMEL	Las Melosas	3.28	157	*e*P	Pn	09 09 24.8	+1.2
LMEL				AMP		09 10 18.7	
	comp=N,1μm,0.8s						
CACH	El Canelo	3.42	164	⇓*i*P	Pn	09 09 26.5	+1.1
CICH	Cipreses	3.65	163	*e*P	Pn	09 09 29.4	+0.6
SFDO	San Fernando	3.82	171	⇓*i*P	Pn	09 09 31.6	+0.6
PLCA	Paso Flores	9.93	175	Pn	Pn	09 10 52.8	-2.1
	comp=N,0.2nm,0.3s,baz=323,slow=18,SNR=3.5						
PLCA	Paso Flores	9.93	175	*e*Pn	Pn	09 10 53.8	-1.1
TRQA	Tornquist	10.81	134	*e*Pn	Pn	09 11 08.8	+1.9
	comp=N,86nm,0.6s						
TRQA				*e*Sn	Sn	09 13 00.4	-7.4
CPUP	Villa Florida	13.44	74	Pn	Pn	09 11 41.5	-1.3
	comp=N,0.3nm,0.3s,baz=226,slow=15,SNR=4.7						
CPUP	Villa Florida	13.44	74	*e*Pn	Pn	09 11 46.1	+3.3
	comp=N,22nm,0.4s						
LPAZ	La Paz	14.85	14	Pn	Pn	09 12 05.7	+3.5
	comp=N,0.2nm,0.3s,baz=193,slow=8.9,SNR=13						
LPAZ	La Paz	14.85	14	*e*Pn	Pn	09 12 05.2	+3.1
	comp=N,3.9nm,0.7s						
SIV	San Ignacio	17.71	36	P	Pn	09 12 38.2	-0.6
	comp=N,0.3nm,0.3s,baz=214,slow=9.9,SNR=18						
SAML	Samuel	23.19	22	*e*P	P	09 13 40.0	+0.9
	comp=N,4.4nm,0.7s,mb4.0						
SAML				*e*pP		09 13 49.2	
BDFB	Brasilia	26.45	61	P	P	09 14 08.3	-0.9
	comp=N,2.2nm,0.5s,mb3.9,baz=229,slow=7.7,SNR=4.1						
BDFB				pP	pP	09 14 16.4	+3.1
	comp=N,8.0nm,0.7s,baz=249,slow=8.2,SNR=8.3						
RPN	Rapa Nui	32.99	267	LR	LR	09 24 12.3	
	comp=N,1μm,21.7s,MS4.6,baz=246,slow=28						
VNA2	Neumayer--Watz	52.84	158	*e*	P	09 17 47.3	-0.4
	baz=290,slow=7.3						
VNA2				*e*	pP	09 17 52.9	+0.9
SNAA	Sanae	54.43	159	*e*P	P	09 17 57.8	-1.6
	comp=N,2.5nm,0.5s,mb4.4						
QSPA	South Pole Qui	59.40	180	*e*P	P	09 18 34.1	-0.5
	comp=N,3.3nm,0.6s,mb4.5						
WVT	Waverly	68.30	346	*e*P	P	09 19 32.8	-0.4
	comp=N,3.6nm,0.7s,mb4.5						
SYO	Syowa Base	68.72	159	⇑*e*PcP	PcP	09 19 55.2	-5.4
DBIC	Dimbokro	73.95	72	P	P	09 20 06.9	-0.6
	comp=N,2.5nm,0.5s,mb4.4,baz=134

SRN Sarande 2.09 3 *e*Pn Pn 09 17 33.6 +0.1
AGG Agios Georgios 2.28 57 *e*Pn Pn 09 17 38.0 +1.9
LSK Leskovik 2.42 13 *i* Sn Sg 09 18 16.2 0.0
SCTE Santa Cesarea 2.53 335 Pn Pn 09 17 39.6 0.0
6µm,0.7s
LKR Lokris 2.60 70 *e*PN Pn 09 17 41.6 +1.0
VLI Veliai 2.66 113 *e*PB Pn 09 17 42.5 +1.1
MGER Gerania Oros 2.68 85 *e*PN Pn 09 17 41.8 +0.1
PLAC Placanica 2.79 285 Pn Pn 09 17 43.4 +0.2
361nm,0.5s
SERS Sersale 2.80 297 Pn Pn 09 17 42.9 -0.4
791nm,0.7s
TIP Timpagrande 2.81 300 Pn Pn 09 17 44.0 +0.5
914nm,1.0s
NAIG Nisos Aigina 2.86 90 *e*PN Pn 09 17 45.0 +0.9
LCI Lecce 2.89 332 Pn Pn 09 17 43.9 -0.6
2µm,0.8s
GRI Girifalco 2.91 292 Pn Pn 09 17 45.0 +0.2
1µm,0.5s
KZN Kozani 2.91 30 *e*PB Pn 09 17 47.2 +2.4
KBN Korca 2.91 14 *e*Pn Pn 09 17 47.3 +2.4
KYTH Kithira 2.94 120 *e*PB Pn 09 17 46.5 +1.3
XOR Xorichti 3.03 58 *e*Pn Pn 09 17 47.9 +1.4
SOI Samo 3.04 276 Pn Pn 09 17 46.2 -0.4
873nm,0.7s
ATH Athens Observa 3.04 85 *e*PN Pn 09 17 47.5 +0.9
MPAR Parnis Oros 3.07 82 *e*PN Pn 09 17 47.0 0.0
LIT Litokhoron 3.07 41 *e*Pn Pn 09 17 48.9 +1.8
KVR Kavouri 3.08 88 *e*PN Pn 09 17 47.5 +0.3
PTL Penteli 3.16 84 *e*PN Pn 09 17 49.0 +0.7
CEL Celeste 3.18 280 Pn Pn 09 17 48.5 -0.1
1µm,0.7s
FNA Florina 3.20 21 *e*Pn Pn 09 17 49.6 +0.7
MTTG Motta San Giov 3.32 275 Pn Pn 09 17 49.8 -0.6
857nm,0.6s
SCLL Scilla 3.32 279 Pn Pn 09 17 50.3 -0.2
39nm,0.3s
TDS Terranova Siba 3.34 305 Pn Pn 09 17 50.9 +0.2
OHR Ohrid 3.39 12 *e*Pn Pn 09 17 52.4 +1.0
OHR *e*Pg Pg 09 18 03.1 -0.3
OHR Ohrid 3.39 12 *e*Pn Pn 09 17 52.5 +1.1
BIA Bitola 3.41 19 *e*Pn Pn 09 17 52.5 +0.8
BIA *e*Pg Pg 09 18 03.0 -0.8
BIA *e*Sg Sg 09 18 51.9 +3.9
BIA Bitola 3.41 19 *e*Pn Pn 09 17 52.4 +0.7
AOS Alonnisos 3.43 65 *e*Pn Pn 09 17 52.6 +0.7
MSRU Castanea 3.48 279 Pn Pn 09 17 52.9 +0.2
2µm,0.8s
ORI Oriolo Calabro 3.51 311 Pn Pn 09 17 53.9 +0.9
1µm,0.6s
TIR Tirane 3.55 360 Pn Pn 09 17 54.1 +0.5
5µm,0.9s
TIR Tirane 3.55 360 *e*Pn Pn 09 17 54.1 +0.5
PE1 Pezze di Greco 3.56 328 *e*Pn Pn 09 17 53.4 -0.4
PAIG Paliouri 3.65 53 *e*Pn Pn 09 17 55.7 +0.7
MMME Mongiuffi-Meli 3.67 274 Pn Pn 09 17 54.6 -0.6
884nm,0.6s
NOCI Noci 3.71 325 Pn Pn 09 17 55.7 0.0
4µm,1.0s
THE Thessaloniki 3.71 39 *e*Pn Pn 09 17 57.2 +1.4
CRAC Craco 3.71 315 Pn Pn 09 17 56.9 +1.0
8µm,1.2s
GRG Griva 3.71 31 *e*Pn Pn 09 17 56.5 +0.6
BRT Bari-Castellan 3.71 327 Pn Pn 09 17 55.9 0.0
AGST Augusta-Monte 3.74 263 Pn Pn 09 17 53.9 -2.3
1µm,0.9s
PLG Polygyros 3.79 46 *e*PN Pn 09 17 58.1 +1.2
SCHR S. Chirico Rap 3.82 310 Pn Pn 09 17 58.8 +1.5
830nm,0.7s
LACI Lac 3.84 358 *i* Pn Pn 09 17 57.6 0.0
CUC Castrocucco 3.86 306 Pn Pn 09 17 59.2 +1.3
2µm,0.8s
HAVL Avola 3.88 259 Pn Pn 09 17 56.2 -1.9
SSY Sortino 3.88 262 Pn Pn 09 17 56.1 -2.0
1µm,0.6s
VPL Vulcano Piano 3.91 280 Pn Pn 09 17 58.4 -0.1
2µm,0.7s
SG1 Sgolgore (BA) 3.93 322 *e*Pn Pn 09 17 58.4 -0.4
LLI Lipari 3.94 281 Pn Pn 09 18 00.4 +1.4
3µm,0.6s
PZI Palazzolo 4.00 261 Pn Pn 09 17 57.9 -1.8
198nm,0.2s
SAMO Samokov 4.01 14 *i* Pn Pn 09 18 00.7 +0.7
SAMO *i* 09 18 16.0
AMUR Altamura 4.01 322 Pn Pn 09 17 59.8 -0.2
PTRP Pietrapertosa 4.03 314 Pn Pn 09 18 01.5 +1.3
866nm,8.8s
BELI Belica 4.03 15⇑*i*Pn Pn 09 18 00.8 +0.5
BELI *i* 09 18 16.2
SOH Sokhos 4.05 41 *e*Pn Pn 09 18 01.6 +1.1
OUR Ouranopolis 4.08 50 *e*Pn Pn 09 18 02.1 +1.3
VAY Valandovo 4.09 30 *e*Pn Pn 09 18 01.3 +0.3
VAY *e*Sn Sn 09 18 48.0 -0.9
KNT Kendrikon 4.09 34 *e*Pn Pn 09 18 01.7 +0.6
MGR Morigerati 4.11 306 Pn Pn 09 18 01.6 +0.3
363nm,0.7s
HMDC Modica 4.15 260 Pn Pn 09 18 00.1 -1.7
3µm,1.0s
HVZN Vizzini 4.16 263 Pn Pn 09 17 59.9 -2.0
4µm,0.6s
ULC Ulcinj 4.19 354⇓*i*Pn Pn 09 18 01.5 -1.0
ULC *e*Sn Sn 09 18 48.9 -2.6
VAM Vamos 4.21 123 *e*PN Pn 09 18 02.9 +0.2
PUK Puka 4.25 0 *e*Pn Pn 09 18 03.5 +0.3
IFIL Filicudi I Eol 4.26 282 Pn Pn 09 18 03.1 -0.3
4µm,0.6s
STIP Stip 4.28 24 *e*Pn Pn 09 18 04.6 +0.9
STIP *e*Sn Sn 09 18 53.9 +0.2
STIP *e*Sg Sg 09 19 18.2 +2.3
STIP Stip 4.28 24 *e*Pn Pn 09 18 04.5 +0.8
STIP *e*Sn Sn 09 18 53.8 +0.1
CDT Castel del Mon 4.31 321 *e*Pn Pn 09 18 03.9 -0.2
SKO Skopje 4.34 16 *e*Pn Pn 09 18 05.8 +1.3
SKO Skopje 4.34 16 *e*Pn Pn 09 18 05.2 +0.6
SKO *e*Pg Pg 09 18 19.5 -2.2
SKO *e*Sn Sn 09 18 55.0 -0.2
SKO *e*Sg Sg 09 19 20.9 +2.9
SKO Skopje 4.34 16 *e*Pn Pn 09 18 05.8 +1.3
SKO *e*Sn Sn 09 18 55.0 -0.2
VAE Valguarnera 4.35 268 Pn Pn 09 18 04.2 -0.4
6.9nm,0.3s,baz=297,slow=4.5,SNR=3.4
VAE Sn Sn 09 18 53.5 -2.0
23nm,0.3s,baz=44,slow=17,SNR=4.0
CMPR Campora 4.37 307 Pn Pn 09 18 05.1 +0.3
1µm,1.5s
SRS Serrai 4.39 40 *e*Pn Pn 09 18 06.0 +0.8
RAFF Raffo Rosso 4.42 264 Pn Pn 09 18 04.6 -1.0
897nm,0.7s
CDRU Civita di Ruta 4.46 309 Pn Pn 09 18 06.8 +0.6
403nm,0.6s
GVD Gavdhos 4.50 130 *e*Pn Pn 09 18 06.2 -0.4
GVD Gavdhos 4.50 130 *e*Pn Pn 09 18 06.2 -0.4
SGO Sicignano 4.50 309 Pn Pn 09 18 07.8 +1.1
226nm,0.5s
MRLC Muro Lucano 4.51 312 Pn Pn 09 18 08.7 +1.8
818nm,0.8s
APE Apeiranthos 4.55 97 *e*P Pn 09 18 08.3 +0.9
APE Apeiranthos 4.55 97 *e*Pn Pn 09 18 08.0 +0.6
APE Apeiranthos 4.55 97 *e*P Pn 09 18 08.3 +0.9
BUM Brajici-Budva 4.56 351⇓*i*Pn Pn 09 18 06.6 -1.0
BUM *e*Sn Sn 09 18 58.3 -2.3
CSLB Castelbuono 4.61 274 Pn Pn 09 18 08.4 +0.2
GIB Gibilmanna 4.63 274 Pn Pn 09 18 09.1 +0.6
436nm,0.7s
LIA Limnos Island 4.64 61 *e*PN Pn 09 18 09.5 +0.9
TTG Podgorica 4.66 354⇓*i*Pn Pn 09 18 08.0 -0.8
TTG *e*Sn Sn 09 19 00.6 -2.3
SANT Santorini 4.68 106 *e*Pn Pn 09 18 09.4 +0.2
SANT Santorini 4.68 106 *e*Pn Pn 09 18 09.4 +0.2
NVR Nevrokopi 4.70 40 *e*PN Pn 09 18 11.0 +1.6
WDD Wield Dalam 4.71 248 Pn Pn 09 18 09.2 -0.3
3µm,0.8s
IDI Anoyia 4.75 120 Pn Pn 09 18 09.7 -0.4
9.0nm,0.3s,baz=291,slow=15,SNR=32
IDI Sn Sn 09 19 04.4 -0.7
34nm,0.3s,baz=342,slow=20,SNR=6.6
IDI LR LR 09 19 55.1
comp=Z,3µm,20.7s,baz=265,slow=38
IDI Anoyia 4.75 120 Pn Pn 09 18 09.6 -0.4
FG4 Candela 4.75 316 Pn Pn 09 18 11.3 +1.2
1µm,0.8s
KKB Krupnik 4.76 30 *i* P Pn 09 18 11.0 +0.8
HCY Herceg Novi 4.77 348⇓*i*Pn Pn 09 18 09.4 -0.9
HCY *e*Sn Sn 09 19 02.5 -3.2

HCY Herceg Novi 4.77 348⇓*i*Pn Pn 09 18 09.4 -1.0
HCY *e*Sn Sn 09 19 02.5 -3.2
SNAL S. Angelo Dei 4.79 312 Pn Pn 09 18 13.2 +2.6
979nm,0.8s
PVY Plav 4.80 1⇓*i*Pn Pn 09 18 11.1 +0.4
PVY *e*Sn Sn 09 19 03.6 -2.8
MMB Musomiste 4.81 37 P Pn 09 18 12.0 +1.0
SGTA Sant Agata di 4.83 315 Pn Pn 09 18 12.8 +1.6
619nm,0.7s
CAFE Carife 4.83 313 Pn Pn 09 18 12.7 +1.4
743nm,0.7s
FGMS Monte Sant'Ang 4.94 323 Pn Pn 09 18 13.0 +0.2
245nm,0.3s
MS1 Monte Sant'Ang 4.95 323 *e*Pn Pn 09 18 13.0 +0.2
FG5 Orsara di Pugl 4.99 316 Pn Pn 09 18 14.9 +1.5
318nm,0.5s
TREB Trebinje 5.06 347 P Pn 09 18 13.1 -1.2
TREB S Sn 09 19 10.4 -2.4
NKY Niksic 5.06 353⇓*i*Pn Pn 09 18 14.0 -0.3
NKY *e*Sn Sn 09 19 10.5 -2.4
IVA Berane 5.07 0⇓*i*Pn Pn 09 18 15.5 +0.9
IVA *e*Sn Sn 09 19 10.0 -3.2
RGNG Rignano Grg 5.10 321 Pn Pn 09 18 15.3 +0.4
ISOR Termini 5.13 305 Pn Pn 09 18 15.6 +0.3
BRY Bratogost 5.20 349⇓*i*Pn Pn 09 18 15.2 -1.2
BRY *e*Sn Sn 09 19 13.8 -2.6
NPS Neapolis 5.26 117 *e*PN Pn 09 18 18.6 +1.5
CLTB Caltabellotta 5.29 270 Pn Pn 09 18 20.5 +2.9
URLA Izmir 5.33 82 *i* P Pn 09 18 14.6 -3.5
STON Ston 5.34 343 *i* Pn Pn 09 18 16.7 -1.6
STON *i* Sn Sn 09 19 15.8 -4.0
STON Ston 5.34 343 *i* Pn Pn 09 18 16.6 -1.6
STON *i* Sn Sn 09 19 15.7 -4.1
RZN Rozhen 5.39 42 P Pn 09 18 20.0 +1.1
FG2 Serracapriola 5.41 319 Pn Pn 09 18 19.9 +0.7
661nm,0.4s
VTS Vitosha 5.43 27 *i* P Pn 09 18 21.0 +1.6
VTS Vitosha 5.43 27 *e*Pn Pn 09 18 20.6 +1.2
VTS Vitosha 5.43 27 ⇑P Pn 09 18 20.8 +1.4
UPM Unac-Piva 5.46 353⇓*i*Pn Pn 09 18 20.1 +0.3
UPM *e*Sn Sn 09 19 19.4 -3.1
RDO Rodhopi 5.51 51 *e*PN Pn 09 18 22.6 +2.0
XRY Khrisi 5.52 120 *e*PN Pn 09 18 23.0 +2.3
PLE Pljevlja 5.54 356⇓*i*Pn Pn 09 18 21.6 +0.5
PLE *e*Sn Sn 09 19 21.6 -3.2
PLE Pljevlja 5.54 356⇓*i*Pn Pn 09 18 21.5 +0.5
PLE *e*Sn Sn 09 19 21.5 -3.3
SGG Gregorio Mates 5.56 312 Pn Pn 09 18 23.1 +1.8
218nm,0.6s
PLD Plovdiv 5.68 39 P Pn 09 18 25.0 +2.1
MOCO Biccari - m.te 5.68 311 Pn Pn 09 18 17.2 -5.7
ALN Alexandroupoli 5.70 55 *e*Pn Pn 09 18 24.4 +1.3
RFI Roccamonfina 5.75 309 Pn Pn 09 18 25.7 +1.9
20nm,0.7s
KDZ Kurdzhali 5.75 46 P Pn 09 18 24.0 +0.2
PGB Panagyurishte 5.77 33 *i* P Pn 09 18 25.0 +0.8
CII Carovilli 5.82 314 Pn Pn 09 18 27.3 +2.5
250nm,0.6s
IZM Izmir 5.85 82 *e*P Pn 09 18 23.3 -2.0
RNI2 Rionero Sannit 5.89 313 Pn Pn 09 18 28.1 +2.3
205nm,0.8s
BODT Bodrum 5.96 95 *e*P Pn 09 18 26.7 0.0
DIM Dimitrovgrad 6.08 44 P Pn 09 18 30.0 +1.6
BBLS Bajina Basta - 6.08 357 *i* Pn Pn 09 18 27.8 -0.6
GRUS Gruza 6.12 6 *i* Pn Pn 09 18 28.0 -1.0
DAT Datca 6.23 97 *e*P Pn 09 18 30.5 +0.1
BOLS Boljevac 6.23 14⇑*i*Pn Pn 09 18 28.6 -1.9
BOLS Sn Sn 09 19 38.2 -3.5
DIVS Divcibare 6.30 1 *i* Pn Pn 09 18 30.1 -1.3
VVLD Villa Vallelon 6.31 312 Pn Pn 09 18 32.8 +1.3
246nm,0.7s
BALB Balikesir 6.52 71 *e*P Pn 09 18 29.5 -5.0
SVIS Svilajnac 6.58 8⇑*i*Pn Pn 09 18 33.6 -1.6
SVIS Sn Sn 09 19 45.5 -4.7
AQU L'Aquila 6.74 315 *e*Pn Pn 09 18 39.1 +1.7
AQU L'Aquila 6.74 315 *e*Pn Pn 09 18 39.1 +1.7
BNT Bandirma 6.76 65 *e*P Pn 09 18 30.5 -7.2
PVL Pavlikeni 6.83 36 *e*P Pn 09 18 36.0 -2.6
JMB Yambol 6.94 46 P Pn 09 18 41.0 +0.8
SZH Strazhica 7.15 38 P Pn 09 18 45.0 +1.9
NRCA Norcia 7.21 316 Pn Pn 09 18 45.9 +1.9
78nm,0.5s
FETY Fethiye 7.43 96 *e*P Pn 09 18 47.1 +0.1
ULDT Uludag 7.58 69 *i* P Pn 09 18 49.5 +0.5
SNTG Esanatoglia 7.59 318 Pn Pn 09 18 50.3 +1.1
106nm,0.5s
SLUM 7.67 143⇓P Pn 09 18 46.8 -3.4
NVLJ Novalja 7.75 332⇑*i*Pn Pn 09 18 51.6 +0.3
ARV Arcevia 7.76 319 Pn Pn 09 18 52.2 +0.7
88nm,0.8s
PRD Provadia 7.87 44 P Pn 09 18 55.0 +2.0
BZS Buzias 7.92 9 ⇓P Pn 09 18 53.8 +0.1
BZS Buzias 7.92 9 ⇓P Pn 09 18 53.8 +0.1
FSSB Fossombrone 7.99 320 Pn Pn 09 18 55.1 +0.6
80nm,0.5s
TKTP Tekketepe 8.26 85 *i* P Pn 09 19 00.2 +1.9
VSL Villasalto 8.39 285 *e*Pn Pn 09 19 00.2 +0.1
17nm,0.7s
VSL Villasalto 8.39 285 *e*Pn Pn 09 19 00.2 0.0
17nm,0.7s
BOJS Bojanci 8.45 337 *e*Pn Pn 09 19 00.9 0.0
PKSM Moragy 8.46 354 P Pn 09 18 59.4 -1.7
PKSM Moragy 8.46 354⇓*i*P Pn 09 18 58.9 -2.2
PKSM *e*S Sn 09 20 27.8 -8.9
VOIR 8.56 25 ⇑P Pn 09 19 03.8 +1.4
VOIR 8.56 25 ⇑P Pn 09 19 03.8 +1.4
PSN Preselentsi 8.62 44 P Pn 09 19 04.5 +1.3
SFI Santa Sofia 8.62 318 Pn Pn 09 19 05.4 +2.2
89nm,0.8s
CSNT Castellina Chi 8.65 314 Pn Pn 09 19 06.4 +2.8
52nm,0.6s
MLR Muntele Rosu 8.93 29 Pn Pn 09 19 08.5 +1.0
2.7nm,0.3s,baz=129,slow=4.3,SNR=25
MLR Muntele Rosu 8.93 29 P Pn 09 19 09.8 +2.3
MLR Muntele Rosu 8.93 29 P Pn 09 19 09.7 +2.3
HMAT Matruh 8.95 136 ⇓P Pn 09 19 03.8 -4.0
HMAT S Sn 09 20 26.4 -22
SEI Scarperia 8.98 317 Pn Pn 09 19 11.8 +3.6
286nm,0.9s
KOGS Kog 9.06 344 *e*Pn Pn 09 19 07.9 -1.3
HENT Hendek 9.06 67 *i* P Pn 09 19 13.1 +3.8
LJU Ljubljana 9.16 336 *e*Pn Pn 09 19 10.6 0.0
LJU *e*Sn Sn 09 20 50.0 -3.7
HARR Harsova 9.17 39 ⇑P Pn 09 19 11.9 +1.1
HARR Harsova 9.17 39 ⇑P Pn 09 19 11.9 +1.1
TIRR Tirgusor 9.26 41 ⇓P Pn 09 19 13.1 +1.1
TIRR Tirgusor 9.26 41 P Pn 09 19 13.2 +1.2
TIRR Tirgusor 9.26 41 *e*Pn Pn 09 19 12.7 +0.8
VOY Vojsko 9.36 333 *e*Pn Pn 09 19 12.7 -0.7
VOY *e* 09 19 25.4
VOY *e*Sn Sn 09 20 54.3 -4.4
VRI Vrincioaia 9.54 30 ⇓P Pn 09 19 17.4 +1.5
VRI Vrincioaia 9.54 30 P Pn 09 19 17.9 +2.0
VRI Vrincioaia 9.54 30 ⇓P Pn 09 19 17.4 +1.5
OBKA Obir 9.56 337⇑*i*Sn Sn 09 21 00.6 -3.2
OBKA Obir 9.56 337⇑*i*Pn Pn 09 19 15.7 -0.5
SNR=7.6
OBKA ⇑*i*Sn Sn 09 21 00.6 -3.2
PGF Pioggiola 9.59 303 *e*P Pn 09 19 17.2 +0.7
79nm,1.1s
PGF Pioggiola 9.59 303 *e*P Pn 09 19 17.2 +0.7
40nm,1.1s
PKSG 9.66 354⇑*e*P Pn 09 19 16.2 -1.3
SWA2 9.71 150 P Pn 09 19 16.1 -2.1
SWA1 9.80 149 ⇑P Pn 09 19 17.1 -2.3
SWA1 S Sn 09 20 49.6 -20
SGKT Sivrigoynuk 9.85 70 *i* P Pn 09 19 20.4 +0.2
ARSA Arzberg 9.98 343⇑*i*Sn Sn 09 21 09.2 -4.8
ARSA Arzberg 9.98 343⇑*i*Pn Pn 09 19 20.4 -1.5
SNR=16
ARSA ⇑*i*Sn Sn 09 21 09.2 -4.8
PSZ Piszkesteto 10.12 0 P Pn 09 19 22.6 -1.2
PSZ Piszkesteto 10.12 0 *e*Pn Pn 09 19 21.9 -1.9
CTI Castel Tesino 10.27 326 Pn Pn 09 19 24.9 -1.0
KBA Koelnbreinsper 10.46 335⇑*i*Sn Sn 09 21 22.7 -2.9
KBA Koelnbreinsper 10.46 335⇑*i*Pn Pn 09 19 28.0 -0.5
KBA ⇑*i*Sn Sn 09 21 22.7 -2.9
BURAR Bucovina Array 10.57 20 ⇓P Pn 09 19 31.5 +1.5
VYHS Vyhne 10.72 356 *i* PN Pn 09 19 31.0 -1.1
MOA Molln 10.86 340⇑*i*Sn Sn 09 21 31.2 -4.3
MOA Molln 10.86 340⇑*i*Pn Pn 09 19 32.9 -1.1
SNR=91

MOA ⇑*i*Sn Sn 09 21 31.2 -4.3
BR131 Keskin Array S 10.92 76 Pn Pn 09 19 34.6 -0.1
BRTR Keskin Array B 10.92 76 Pn Pn 09 19 38.2 +3.5
0.2nm,0.3s,baz=266,slow=15,SNR=5.9
BRTR Keskin Array B 10.92 76 Pn Pn 09 19 38.2 +3.5
UZH Uzhgorod 10.97 8 *e*P Pn 09 19 35.0 -0.5
UZH *e*S Sn 09 21 31.0 -7.3
UZH MLR MLR
comp=Z,2µm,9.0s
SAOF Saorge 11.19 307 *e*P Pn 09 19 39.7 +1.3
SBF Sospel 11.21 307 *e*P Pn 09 19 40.3 +1.6
comp=Z,118nm,1.1s
SBF Sospel 11.21 307 *e*P Pn 09 19 40.3 +1.6
SBF pmax pmax
comp=Z,59nm,1.1s
SBF Sospel 11.21 307 *e*P Pn 09 19 40.3 +1.6
comp=Z,59nm,1.1s
AUTN L'Aution 11.27 307 *e*P Pn 09 19 42.0 +2.4
KIS Kishinev 11.32 33 *e*P Pn 09 19 40.0 -0.2
WATA Walderalm 11.33 330⇑*i*Sn Sn 09 21 45.3 -1.6
WATA Walderalm 11.33 330⇑*i*Pn Pn 09 19 41.5 +1.2
SNR=5.2
WATA ⇑*i*Sn Sn 09 21 45.3 -1.6
SQTA Sankt Quirin 11.38 329⇓*i*Sn Sn 09 21 46.7 -1.6
SQTA Sankt Quirin 11.38 329⇑*i*Pn Pn 09 19 41.5 +0.4
SQTA ⇓*i*Sn Sn 09 21 46.7 -1.6
MVIF Mont Vial 11.40 306 *e*P Pn 09 19 42.0 +0.7
MOTA Moosalm 11.52 329⇑*i*Sn Sn 09 21 50.5 -1.2
MOTA Moosalm 11.52 329⇑*i*Pn Pn 09 19 44.1 +1.1
SNR=7.6
MOTA ⇑*i*Sn Sn 09 21 50.5 -1.2
FRF La Foret Royal 11.58 304 *e*P Pn 09 19 43.6 -0.2
comp=Z,23nm,0.8s
FRF La Foret Royal 11.58 304 *e*P Pn 09 19 43.6 -0.2
FRF pmax pmax
comp=Z,11nm,0.8s
FRF La Foret Royal 11.58 304 *e*P Pn 09 19 43.6 -0.2
comp=Z,11nm,0.8s
NIE Niedzica 11.63 1 *e*P Pn 09 19 45.3 +0.9
DAVOX Davos 11.63 324 Pn Pn 09 19 45.7 +1.2
comp=Z,4.9nm,0.3s,baz=141,slow=14,SNR=27
DAVOX Sn Sn 09 21 50.4 -4.0
comp=Z,2.7nm,0.3s,baz=307,slow=20,SNR=4.0
DAVOX Davos 11.63 324 Pn Pn 09 19 45.7 +1.2
DAVOX Sn Sn 09 21 50.4 -4.0
STHS Stebnicka Huta 11.66 4 *e*PN Pn 09 19 45.8 +0.9
VRAC Vranov 11.75 349 Pn Pn 09 19 44.4 -1.7
comp=Z,0.5nm,0.3s,baz=191,slow=15,SNR=4.2
SURF Saint Ours 11.90 308 *e*P Pn 09 19 52.3 +4.2
GEC2 GERESS Array S 11.92 340 *e*Pn Pn 09 19 47.3 -1.2
comp=Z,21nm,0.6s
GEC2 GERESS Array S 11.92 340 *e*P Pn 09 19 47.3 -1.2
GEC2 pmax pmax
comp=Z,21nm,0.6s
GERES GERESS Array B 11.92 340 Pn Pn 09 19 47.2 -1.3
comp=Z,3.3nm,0.3s,baz=159,slow=14,SNR=87
GERES Sn Sn 09 21 54.8 -6.8
comp=Z,1.8nm,0.3s,baz=153,slow=22,SNR=5.4
DAVA Damuels 12.01 325⇑*i*Pn Pn 09 19 50.6 +1.0
SNR=7.8
DAVA ⇑*i*Sn Sn 09 22 03.0 -0.6
KWP Kalwaria 12.01 9 *e*P Pn 09 19 50.8 +1.1
KWP pmax pmax
comp=Z,81nm,1.5s
KWP Kalwaria 12.01 9 *e*P Pn 09 19 50.8 +1.1
comp=Z,81nm,1.5s
KWP Kalwaria 12.01 9 *e*Pn Pn 09 19 50.8 +1.2
comp=Z,81nm,1.5s
MBDF Montbardon 12.05 309 *e*P Pn 09 19 52.2 +2.0
comp=Z,46nm,0.8s
MBDF Montbardon 12.05 309 *e*P Pn 09 19 52.2 +2.0
MBDF pmax pmax
comp=Z,23nm,0.8s
MBDF Montbardon 12.05 309 *e*P Pn 09 19 52.2 +2.0
comp=Z,23nm,0.8s
HNAT Natroun 12.08 129 ⇓P Pn 09 19 47.0 -3.6
AWBH 12.10 139 P Pn 09 19 47.6 -3.2
MORC Moravsky Berou 12.10 353 *e*Pn Pn 09 19 49.9 -1.0
MORC Moravsky Berou 12.10 353 *e*Pn Pn 09 19 49.9 -1.0
OKC Ostrava-Krasne 12.11 355 *e*P Pn 09 19 50.2 -0.8
KHC Kasperske Hory 12.22 340 *e*P Pn 09 19 50.8 -1.7
KHC x x 09 20 09.5
KHC *e*S Sn 09 21 59.0 -10
BNI Bardonecchia 12.27 310 *e*P Pn 09 19 53.4 +0.2
FYM Al Fayyum 12.30 128 ⇑P Pn 09 19 50.0 -3.7
OJC Ojcow 12.42 360 *e*P Pn 09 19 54.8 -0.5
SMRF Simiane la Rot 12.46 304 *e*P Pn 09 19 56.9 +1.1
LPG La Plagne 12.47 312 *e*P Pn 09 19 58.5 +2.6
comp=Z,38nm,0.8s
LPG La Plagne 12.47 312 *e*P Pn 09 19 58.5 +2.6
LPG pmax pmax
comp=Z,19nm,0.8s
LPG La Plagne 12.47 312 *e*P Pn 09 19 58.5 +2.6
comp=Z,19nm,0.8s
LPL La Plagne 12.49 312 *e*P Pn 09 19 58.4 +2.2
KOT Kottamia 12.65 125 ⇑P Pn 09 19 54.4 -3.9
HSAF As Saff 12.68 127 ⇓P Pn 09 19 55.2 -3.6
ORIF Oris-en-Rattie 12.69 309 *e*P Pn 09 20 01.2 +2.2
comp=Z,62nm,1.1s
ORIF Oris-en-Rattie 12.69 309 *e*P Pn 09 20 01.2 +2.2
ORIF pmax pmax
comp=Z,31nm,1.1s
ORIF Oris-en-Rattie 12.69 309 *e*P Pn 09 20 01.2 +2.2
comp=Z,31nm,1.1s
HFRF Wahat Farafira 12.77 144 ⇓P Pn 09 19 56.8 -3.2
PRU Pruhonice 12.78 344 *e*P Pn 09 19 59.2 -1.0
GLL Jalalah 12.80 126 ⇓P Pn 09 19 56.8 -3.7
GLL S Sn 09 21 58.5 -25
HHAG Hagoal 12.81 124 ⇓P Pn 09 19 56.6 -4.0
DPC Dobruska-Polom 12.81 350 *e*P Pn 09 20 01.8 +1.2
PRA Prague 12.88 344 *e*P Pn 09 20 08.0 +6.4
HBNS Bani Suwayf 12.93 130 ⇓P Pn 09 19 58.5 -3.8
UPC Upice 13.01 349 *e*P Pn 09 20 02.3 -1.0
SUZ 13.36 123 P Pn 09 20 04.5 -3.7
SUZ S Sn 09 22 10.8 -26
MANZ Manzenberg 13.40 338 *e*Pn Pn 09 20 07.2 -1.5
comp=Z,6.0nm,0.5s
VIVF Saint-Julien-I 13.42 306 *e*P Pn 09 20 09.3 +0.3
GRA1 Grafenberg Arr 13.43 335 *e*Pn Pn 09 20 07.6 -1.5
comp=Z,16nm,0.7s
GRF Grafenberg Arr 13.43 335 *e*Pn Pn 09 20 07.6 -1.5
comp=Z,16nm,0.7s
GRF Grafenberg Arr 13.43 335 *e*P Pn 09 20 07.6 -1.5
GRF pmax pmax
comp=Z,16nm,0.7s
BFO Black Forest 13.48 325 *e*Pn Pn 09 20 08.4 -1.4
BFO *e*Sn Sn 09 22 34.3 -5.4
CABF La Chapelle 13.48 315 *e*P Pn 09 20 09.9 +0.1
comp=Z,30nm,0.9s
CABF La Chapelle 13.48 315 *e*P Pn 09 20 09.9 +0.1
CABF pmax pmax
comp=Z,15nm,0.9s
CABF La Chapelle 13.48 315 *e*P Pn 09 20 09.9 +0.1
comp=Z,15nm,0.9s
NKC Novy Kostel 13.53 339 *e*P Pn 09 20 08.9 -1.5
NKC *e*S Sn 09 22 29.3 -11
MOF Molkenrain 13.71 321 *e*P Pn 09 20 11.9 -1.1
BRG Berggiesshubel 13.74 344 *e*P Pn 09 20 11.2 -2.1
comp=Z,12nm,1.2s
BRG
comp=N,583nm,10.0s
BRG
comp=E,1µm,20.7s
BRG
comp=Z,1µm,15.5s
WERD Werda 13.76 339 *e*Pn Pn 09 20 12.0 -1.6
HINF Hinteralfeld 13.83 321 *e*P Pn 09 20 12.8 -1.7
comp=Z,21nm,0.6s
HINF Hinteralfeld 13.83 321 *e*P Pn 09 20 12.8 -1.7
HINF pmax pmax
comp=Z,10.0nm,0.6s
HINF Hinteralfeld 13.83 321 *e*P Pn 09 20 12.8 -1.7
comp=Z,10nm,0.6s
ECH Echery 13.95 322 *e*P Pn 09 20 16.0 -0.2
WLS Welschbruch 13.99 323 *e*P Pn 09 20 16.2 -0.6
CDF Champ du Feu 14.03 323 *e*P Pn 09 20 16.0 -1.3
comp=Z,14nm,0.3s
CDF Champ du Feu 14.03 323 *e*P Pn 09 20 16.0 -1.3
CDF pmax pmax
comp=Z,7.0nm,0.3s
CDF Champ du Feu 14.03 323 *e*P Pn 09 20 16.0 -1.3
comp=Z,7.1nm,0.3s
HNKL Nakhl 14.09 120 P Pn 09 20 13.7 -4.3
MOX Moxa 14.14 338 *e*Pn Pn 09 20 16.7 -2.0

comp=Z,15nm,0.7s
MOX Moxa 14.14 338 *e*PN **Pn 09 20 17.4 -1.3**
HAU Haudompre 14.21 320 *e*P **Pn 09 20 19.3 -0.4**
comp=Z,26nm,0.5s
HAU Haudompre 14.21 320 *e*P **Pn 09 20 19.3 -0.4**
HAU pmax pmax
comp=Z,13nm,0.5s
HAU Haudompre 14.21 320 *e*P **Pn 09 20 19.3 -0.4**
comp=Z,13nm,0.5s
TOD Tromm 14.25 329 *e*P **Pn 09 20 29.3 +9.0**
CLL Collm 14.37 342 *e*P **Pn 09 20 21.0 -0.8**
CLL *i* PP 09 20 30.4
comp=Z,36nm,1.2s
CLL *ex* x 09 22 10.0
CLL Collm 14.37 342 *e*P **Pn 09 20 21.0 -0.8**
CLL *i* 09 20 30.4
LBL Lubilhac 14.49 306 *e*P **Pn 09 20 26.7 +3.1**
MTLF Montolieu 14.52 298 *e*P **Pn 09 20 22.3 -1.6**
comp=Z,39nm,1.0s
MTLF Montolieu 14.52 298 *e*P **Pn 09 20 22.3 -1.6**
MTLF pmax pmax
comp=Z,20nm,1.0s
MTLF Montolieu 14.52 298 *e*P **Pn 09 20 22.3 -1.6**
comp=Z,20nm,1.0s
AKASG Malin Array Be 14.52 24 Pn **Pn 09 20 22.4 -1.5**
comp=Z,1.7nm,0.3s,baz=212,slow=12,SNR=27
THEF They Montfort 14.54 320 *e*P **Pn 09 20 23.1 -1.1**
GRSN GIRESUNGRSN 14.56 72 *i* P **Pn 09 20 30.2 +5.7**
PLDF La Plantade 14.59 309 *e*P **Pn 09 20 29.0 +4.1**
MALT Malatya 14.63 82 *e*P **Pn 09 20 26.3 +0.9**
MALT Malatya 14.63 82 *e*Pn **Pn 09 20 26.3 +0.9**
HDK1 Dakhla 14.64 144 ⇑P **Pn 09 20 23.1 -2.5**
SMF Signal de Mont 14.79 312 *e*P **Pn 09 20 27.9 +0.2**
comp=Z,20nm,0.7s
SMF Signal de Mont 14.79 312 *e*P **Pn 09 20 27.9 +0.2**
SMF pmax pmax
comp=Z,10.0nm,0.7s
SMF Signal de Mont 14.79 312 *e*P **Pn 09 20 27.9 +0.2**
comp=Z,9.9nm,0.7s
TNS Taunus Mts 14.88 330 *e*P **Pn 09 20 28.6 -0.2**
comp=Z,46nm,0.9s
TNS Taunus Mts 14.88 330 *e*P **Pn 09 20 28.6 -0.2**
TNS pmax pmax
comp=Z,46nm,0.9s
TR2 14.90 125 ⇓P **Pn 09 20 25.7 -3.5**
EIL Elat 14.91 118 *e*Pn **Pn 09 20 25.6 -3.8**
ANN Anapa 14.92 56 *e*P **Pn 09 20 33.5 +4.1**
ANN pmax pmax
comp=Z,122nm,1.2s
EPOB Poblet 14.93 290 P **Pn 09 20 35.7 +6.2**
comp=Z,53nm,0.8s
ABH Alteburg 14.98 328 *e*P **Pn 09 20 36.4 +6.2**
HBST Basata 15.04 120 ⇓P **Pn 09 20 27.5 -3.6**
ELZG Elazig 15.05 81 *i* P **Pn 09 20 36.0 +4.8**
RUP Ruppelstein 15.06 326 *e*P **Pn 09 20 38.4 +7.1**
LOR Lormes 15.11 314 *e*P **Pn 09 20 34.3 +2.3**
comp=Z,22nm,0.8s
LOR Lormes 15.11 314 *e*P **Pn 09 20 34.3 +2.3**
LOR pmax pmax
comp=Z,11nm,0.8s
LOR Lormes 15.11 314 *e*P **Pn 09 20 34.3 +2.3**
comp=Z,11nm,0.8s
CAF Calviac 15.14 304 *e*P **Pn 09 20 34.1 +1.7**
comp=Z,36nm,1.1s
CAF Calviac 15.14 304 *e*P **Pn 09 20 34.1 +1.7**
CAF pmax pmax
comp=Z,18nm,1.1s
CAF Calviac 15.14 304 *e*P **Pn 09 20 34.1 +1.7**
comp=Z,18nm,1.1s
AVF Avril sur Loir 15.16 312 *e*P **Pn 09 20 31.5 -1.1**
comp=Z,20nm,1.0s
AVF Avril sur Loir 15.16 312 *e*P **Pn 09 20 31.5 -1.1**
AVF pmax pmax
comp=Z,10.0nm,1.0s
AVF Avril sur Loir 15.16 312 *e*P **Pn 09 20 31.5 -1.1**
comp=Z,9.9nm,1.0s
SSF Saint Saulge 15.21 313 *e*P **Pn 09 20 36.1 +2.9**
comp=Z,29nm,0.9s
SSF Saint Saulge 15.21 313 *e*P **Pn 09 20 36.1 +2.9**
SSF pmax pmax
comp=Z,15nm,0.9s
SSF Saint Saulge 15.21 313 *e*P **Pn 09 20 36.1 +2.9**
comp=Z,15nm,0.9s
GTR Jabal at Tayr 15.24 140 ⇓P **Pn 09 20 31.6 -2.0**
HDHB Dhahab 15.28 122 ⇓P **Pn 09 20 30.6 -3.5**
RUE Ruedersdorf 15.29 346 *e*P **Pn 09 20 40.3 +5.9**
comp=Z,123nm,1.3s
EBR Ebro Roquetas 15.31 287 *e*Ts 09 20 48.0
BGF Bois d'Agland 15.34 310 *e*P **Pn 09 20 34.9 -0.1**
WLF Walferdange 15.44 325 E 09 20 42.2
ERTA Horta de San J 15.44 288 P **Pn 09 20 41.7 +5.3**
comp=Z,11nm,0.5s
TCF Toulx Ste Croi 15.61 309 *e*P **Pn 09 20 42.6 +4.1**
comp=Z,43nm,1.2s
TCF Toulx Ste Croi 15.61 309 *e*P **Pn 09 20 42.6 +4.1**
TCF pmax pmax
comp=Z,22nm,1.2s
TCF Toulx Ste Croi 15.61 309 *e*P **Pn 09 20 42.6 +4.1**
comp=Z,22nm,1.2s
HHRG Al Ghardaqah 15.62 128 ⇓P **Pn 09 20 35.8 -2.8**
EGRA Graus 15.62 292 P **Pn 09 20 44.3 +5.7**
comp=Z,14nm,1.0s
RJF Les Rejaudoux 15.64 304 *e*P **Pn 09 20 42.1 +3.1**
comp=Z,206nm,1.9s
RJF Les Rejaudoux 15.64 304 *e*P **Pn 09 20 42.1 +3.1**
RJF pmax pmax
comp=Z,103nm,1.9s
RJF Les Rejaudoux 15.64 304 *e*P **Pn 09 20 42.1 +3.1**
comp=Z,103nm,1.9s
EBEN Beniarda 15.82 279 P **Pn 09 20 46.5 +5.2**
comp=Z,30nm,0.8s
EBIE Bielsa 15.84 294 P **Pn 09 20 47.4 +5.9**
comp=Z,8.3nm,0.5s
LFF La Frestale 16.03 302 *e*P **Pn 09 20 46.4 +2.5**
SOC Sochi 16.11 63 *c* *i*P **Pn 09 20 48.0 +3.1**
SOC *e* 09 23 48.9
SOC pmax pmax
comp=Z,73nm,1.0s
SOC MLR MLR
comp=Z,1μm,19.0s
SOC Sochi 16.11 63 *i* P **Pn 09 20 48.0 +3.1**
comp=Z,73nm,1.0s
ESAC San Caprasio 16.13 290 P **Pn 09 20 49.3 +4.0**
comp=Z,100nm,0.9s
MEM Membach 16.18 327 E 09 20 51.1
APRS 16.26 142 ⇑P **Pn 09 20 45.9 -1.0**
HGN Heimansgroeve 16.33 327 *e*P **Pn 09 20 52.9 +5.1**
comp=Z,114nm,1.2s
GIVF Givet 16.36 324 *e*P **Pn 09 20 50.8 +2.6**
comp=Z,51nm,0.9s
GIVF Givet 16.36 324 *e*P **Pn 09 20 50.8 +2.6**
GIVF pmax pmax
comp=Z,25nm,0.9s
GIVF Givet 16.36 324 *e*P **Pn 09 20 50.8 +2.6**
comp=Z,25nm,0.9s
ECHE Chera 16.38 283 P **Pn 09 20 53.3 +4.9**
ECHE pmax pmax
comp=Z,20nm,0.8s
ECHE Chera 16.38 283 P **Pn 09 20 53.3 +4.8**
comp=Z,20nm,0.8s
SUW Suwalki 16.38 7 *e*P **Pn 09 20 47.3 -1.2**
ETSF Etsaut 16.39 295 *e*P **Pn 09 20 51.0 +2.5**
comp=Z,44nm,1.1s
ETSF Etsaut 16.39 295 *e*P **Pn 09 20 51.0 +2.5**
ETSF pmax pmax
comp=Z,22nm,1.1s
ETSF Etsaut 16.39 295 *e*P **Pn 09 20 51.0 +2.5**
comp=Z,22nm,1.1s
BEBN Eben Emael 16.46 327 E **Pn 09 20 55.4 +5.8**
DOU Dourbes 16.46 323 XP sP 09 20 53.8 -2.5
DOU E 09 20 58.6
EMUR La Murta 16.69 277 P **Pn 09 21 02.3 +10**
ERZM Erzurum 16.87 76 *i* P **Pn 09 21 00.1 +5.4**
SNF Seneffe 16.89 324 P **Pn 09 20 55.4 +0.4**
SNF AP pP 09 20 57.8 -2.0
SNF XP sP 09 20 59.7 -1.4
SNF E 09 21 05.8
SNF Seneffe 16.89 324 P **Pn 09 20 55.3 +0.4**
SJPF Ste Jean 16.91 295 *e*P **Pn 09 20 57.7 +2.6**
comp=Z,24nm,0.9s
SJPF Ste Jean 16.91 295 *e*P **Pn 09 20 57.7 +2.6**
SJPF pmax pmax
comp=Z,12nm,0.9s
SJPF Ste Jean 16.91 295 *e*P **Pn 09 20 57.7 +2.6**
comp=Z,12nm,0.9s
HEDF Idfu 16.98 134 ⇑P **Pn 09 20 54.6 -1.4**
ELIZ Elizondo 17.13 295 P **Pn 09 21 00.0 +2.0**
ELIZ pmax pmax
comp=Z,10.0nm,0.9s
ELIZ Elizondo 17.13 295 P **Pn 09 21 00.0 +2.0**
comp=Z,10nm,0.9s
ELIZ Elizondo 17.13 295 P **Pn 09 21 00.0 +2.0**
comp=Z,10nm,0.9s
MFF Saint Martin d 17.22 307 *e*P **Pn 09 20 59.9 +0.9**
comp=Z,91nm,1.2s
MFF Saint Martin d 17.22 307 *e*P **Pn 09 20 59.9 +0.9**
MFF pmax pmax
comp=Z,45nm,1.2s
MFF Saint Martin d 17.22 307 *e*P **Pn 09 20 59.9 +0.9**
comp=Z,45nm,1.2s
BSEG Bad Segeberg 17.44 341 *e*P **Pn 09 21 00.9 -0.9**
comp=Z,13nm,0.8s
EVIA Vianos 17.61 280 P **Pn 09 21 09.1 +5.2**
EVIA pmax pmax
comp=Z,9.0nm,0.7s
EVIA Vianos 17.61 280 P **Pn 09 21 09.1 +5.2**
comp=Z,8.7nm,0.7s
EHUE Huescar 17.76 277 P **Pn 09 21 07.2 +1.4**
EHUE Huescar 17.76 277 P **Pn 09 21 07.2 +1.4**
EBER Berja 18.12 274 P **Pn 09 21 14.5 +4.3**
comp=Z,22nm,0.9s
EQES Quesada 18.14 277 P **Pn 09 21 13.9 +3.5**
EQES Quesada 18.14 277 P **Pn 09 21 13.9 +3.5**
KIV Kislovodsk 18.29 63 *e*P **Pn 09 21 12.7 +0.5**
KIV pmax pmax
comp=Z,34nm,1.1s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 18.29 63 *e*P **Pn 09 21 12.7 +0.5**
comp=Z,1μm,17.0s
KIV Kislovodsk 18.29 63 *e*P **Pn 09 21 13.6 +1.3**
comp=Z,44nm,0.9s
FLN La Foliniere 18.38 313 *e*P **Pn 09 21 12.7 -0.7**
DIGO Kars 18.41 75 *i* P **Pn 09 21 06.1 -7.6**
ELAN Lanestosa 18.52 294 P **Pn 09 21 16.9 +1.8**
comp=Z,47nm,1.0s
ELAN Lanestosa 18.52 294 P **Pn 09 21 16.9 +1.8**
comp=Z,47nm,1.0s
ESDC Sonseca Array 18.69 283 P **Pn 09 21 16.2 -1.0**
comp=Z,0.7nm,0.3s,baz=82,slow=11,SNR=16
ESDC Sonseca Array 18.69 283 P **Pn 09 21 17.1 -0.1**
comp=Z,5.2nm,0.9s
ESDC Sonseca Array 18.69 283 P **Pn 09 21 17.1 -0.1**
comp=Z,5.2nm,0.9s
ESLA Sonseca Array 18.69 283 *e*P **Pn 09 21 17.1 -0.1**
comp=Z,3.7nm,1.0s
ESLA Sonseca Array 18.69 283 *e*P **Pn 09 21 17.1 0.0**
comp=Z,3.7nm,1.0s
GOF Gofitskoye 18.78 60 *e*P **Pn 09 21 18.0 -0.3**
GOF pmax pmax
comp=Z,50nm,0.7s
GOF Gofitskoye 18.78 60 *e*P **Pn 09 21 18.0 -0.3**
comp=Z,50nm,0.7s
GUD Guadarrama 18.83 286 P **Pn 09 21 19.7 +0.9**
GUD pmax pmax
comp=Z,11nm,1.0s
GUD Guadarrama 18.83 286 P **Pn 09 21 19.7 +0.9**
comp=Z,11nm,1.0s
ZEI Tsey 18.96 67 *e*P **Pn 09 21 19.7 -0.8**
VORD Divnogorie 19.05 40 *e*P **Pn 09 21 20.7 -0.9**
VORD pmax pmax
comp=E,70nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
EADA Adamuz 19.28 279 P **Pn 09 21 23.3 -0.9**
comp=Z,6.7nm,0.9s
EADA Adamuz 19.28 279 P **Pn 09 21 23.3 -1.0**
comp=Z,6.7nm,0.9s
SGMF Saint Gilles 19.39 310 *e*P **Pn 09 21 23.0 -2.6**
comp=Z,70nm,1.0s
SGMF Saint Gilles 19.39 310 *e*P **Pn 09 21 23.0 -2.6**
SGMF pmax pmax
comp=Z,35nm,1.0s
SGMF Saint Gilles 19.39 310 *e*P **Pn 09 21 23.0 -2.6**
comp=Z,35nm,1.0s
VOR Voronezh 19.47 38 P **Pn 09 21 25.0 -1.6**
VOR pmax pmax
comp=Z,100nm,1.4s
VOR Voronezh 19.47 38 P **Pn 09 21 25.0 -1.6**
comp=Z,100nm,1.4s
QUIF Quistinic 19.62 308 *e*P **Pn 09 21 26.5 -1.9**
comp=Z,108nm,1.3s
QUIF Quistinic 19.62 308 *e*P **Pn 09 21 26.5 -1.9**
QUIF pmax pmax
comp=Z,54nm,1.3s
QUIF Quistinic 19.62 308 *e*P **Pn 09 21 26.5 -1.9**
comp=Z,54nm,1.3s
EMIJ Mijas 19.67 274 P **Pn 09 21 28.6 -0.4**
comp=Z,46nm,1.3s
EMIJ Mijas 19.67 274 P **Pn 09 21 28.6 -0.4**
comp=Z,46nm,1.3s
ECAB El Cabril 19.95 279 P **Pn 09 21 32.1 -0.1**
comp=Z,34nm,0.8s
ECAB El Cabril 19.95 279 P **Pn 09 21 32.1 -0.1**
comp=Z,34nm,0.8s
EJIF Jimena Fronter 20.25 274 P **P 09 21 35.8 +2.0**
EJIF Jimena Fronter 20.25 274 P **P 09 21 35.8 +2.0**
VRHR Novokhopersk 20.34 42 *e*P **P 09 21 35.6 +0.7**
VRHR pmax pmax
comp=Z,70nm,0.5s
VRHR pmax pmax
comp=N,60nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR Novokhopersk 20.34 42 *e*P **P 09 21 35.6 +0.7**
comp=E,60nm,0.6s
BHD Baghdad 20.42 95 *ex* x 09 21 32.5
BHD *ex* x 09 25 29.0
ESPR Espera 20.47 275 P **P 09 21 36.1 -0.2**
comp=E,22nm,0.8s
ESPR Espera 20.47 275 P **P 09 21 36.1 -0.2**
comp=E,22nm,0.8s
MDT Midelt 20.58 263 P **P 09 21 38.6 +1.2**
comp=E,4.7nm,0.8s,baz=80,slow=10,SNR=14
OBN Obninsk 20.70 28 ⇓*e*P **P 09 21 38.6 -0.1**
OBN *e* 09 21 53.9
OBN S **S 09 25 27.0 -2.9**
OBN pmax pmax
comp=Z,78nm,1.3s
OBN MLR MLR
comp=Z,3μm,20.0s,MS4.6
OBN Obninsk 20.70 28 *e*P **P 09 21 38.8 +0.1**
comp=Z,58nm,1.0s
PBRG Braganca 20.81 289 *e*P **P 09 21 40.4 +0.4**
comp=Z,28nm,1.1s
ECAL Calabor 20.81 290 P **P 09 21 39.8 -0.2**
comp=Z,20nm,0.7s
ECAL Calabor 20.81 290 P **P 09 21 39.8 -0.2**
comp=Z,20nm,0.7s
EMIN Mina Concepcio 20.97 278 P **P 09 21 42.1 +0.4**
comp=Z,25nm,0.8s
EMIN Mina Concepcio 20.97 278 P **P 09 21 42.1 +0.4**
comp=Z,25nm,0.8s
EBAD Badajoz 21.11 281 P **P 09 21 43.9 +0.7**
comp=Z,103nm,1.9s,mb4.8
ERUA La Rua 21.14 291 P **P 09 21 44.3 +0.8**
ERUA pmax pmax
comp=Z,11nm,0.7s,mb4.3
ERUA La Rua 21.14 291 P **P 09 21 44.3 +0.8**
comp=Z,11nm,0.7s,mb4.3
ERUA La Rua 21.14 291 P **P 09 21 44.3 +0.8**
comp=Z,11nm,0.7s,mb4.3
VSU Vasula 21.16 10 *c* *i*P **P 09 21 43.3 -0.4**
VSU Vasula 21.16 10 *i* P **P 09 21 43.3 -0.4**
PCBR Castelo Branco 21.39 284 *e*P **P 09 21 46.1 -0.1**
comp=Z,19nm,0.9s,mb4.4
MTE Manteigas 21.41 286 *e*P **P 09 21 46.6 +0.1**
comp=Z,51nm,0.9s,mb4.9
MTE Manteigas 21.41 286 *e*P **P 09 21 45.6 -0.8**
comp=Z,28nm,0.8s,mb4.7
PVRL Vila Real 21.53 288 *e*P **P 09 21 48.4 +0.7**
MOS Moscow 21.57 28 *e*P **P 09 21 46.9 -1.2**
MOS *e* 09 22 09.2
MOS MLR MLR
comp=Z,4μm,19.0s,MS4.8
PVIS Viseu 21.67 286 *e*P **P 09 21 49.2 0.0**
comp=Z,50nm,1.1s,mb4.9
PBEJ Beja 21.87 279 *e*P **P 09 21 51.8 +0.5**
comp=Z,16nm,0.8s,mb4.5
PTOM Tomar 22.12 284 *e*P **P 09 21 54.5 +0.5**
comp=Z,37nm,0.8s,mb4.9
HFS Hagfors 22.71 352 P **P 09 22 00.1 -0.2**
comp=Z,50nm,0.8s,mb5.0,baz=163,slow=11,SNR=41
KONO Kongsberg 22.85 346 *e*P **P 09 22 01.8 0.0**
KONO Kongsberg 22.85 346 *e*P **P 09 21 59.6 -2.1**
comp=Z,43nm,1.1s,mb4.8
PUL Pulkovo 22.99 14 *e*P **P 09 22 07.2 +4.0**
PUL pmax pmax
comp=Z,88nm,0.3s,mb5.7
EKA Eskdalemuir Ar 23.46 326 P **P 09 22 07.8 -0.3**
comp=Z,29nm,0.7s,mb4.8,baz=127,slow=14,SNR=55
EKA Eskdalemuir Ar 23.46 326 P **P 09 22 07.8 -0.4**
ESK Eskdalemuir 23.47 326 *e*P **P 09 22 08.0 -0.3**
ESK pmax pmax
comp=Z,71nm,1.1s,mb5.0
ESK Eskdalemuir 23.47 326 *e*P **P 09 22 08.0 -0.3**
comp=Z,71nm,1.1s,mb5.0
ESK Eskdalemuir 23.47 326 *e*P **P 09 22 08.0 -0.3**
comp=Z,71nm,1.1s,mb5.0
NAO01 NORSAR Array S 23.76 349 *e*P **P 09 22 09.6 -1.5**
comp=Z,25nm,0.8s,mb4.7
NB2 NORSAR Subarra 23.90 350 P **P 09 22 11.1 -1.3**
comp=Z,2.2nm,0.6s,mb3.8,baz=157,slow=10
NB2 NORSAR Subarra 23.90 350 P **P 09 22 11.1 -1.3**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
NOA NORSAR Array B 23.90 350 P **P 09 22 11.5 -0.9**
comp=Z,17nm,0.7s,mb4.6,baz=161,slow=9.1,SNR=58
FINES FINESS Array B 23.99 7 P **P 09 22 11.6 -1.6**
comp=Z,18nm,0.8s,mb4.6,baz=170,slow=9.6,SNR=66
MIB Mutribah 24.11 101 *e*P **P 09 22 13.1 -1.2**
MIB AMb AMB 09 22 16.1
comp=Z,85nm,0.5s,mb5.4
MIB Mutribah 24.11 101 *e*P **P 09 22 12.9 -1.4**
NAY Al-Naaiem 24.29 102 *e*P **P 09 22 15.1 -0.8**
NAY AMb AMB 09 22 16.2
comp=Z,55nm,0.7s,mb5.1
NAY Al-Naaiem 24.29 102 *e*P **P 09 22 14.3 -1.6**
UMR Umm Al-Rimmam 24.51 101 *e*P **P 09 22 16.8 -1.2**
UMR AMb AMB 09 22 20.6
comp=Z,52nm,0.7s,mb5.2
UMR Umm Al-Rimmam 24.51 101 *e*P **P 09 22 16.4 -1.6**
KAF Kangasniemi 24.67 7 *ep* **P 09 22 18.3 -1.1**
comp=Z,25nm,0.8s,mb4.8,baz=190,slow=8.9
KAF Kangasniemi 24.67 7 *e*P **P 09 22 18.3 -1.1**
KAF pmax pmax
comp=Z,25nm,0.8s,mb4.8
RDF Al-Radifah 24.67 103 *e*P **P 09 22 17.7 -1.7**
RDF AMb AMB 09 22 24.2
comp=Z,24nm,0.6s,mb4.9
RDF Al-Radifah 24.67 103 *e*P **P 09 22 18.3 -1.1**
QRN Al-Qurain 25.04 103 *e*P **P 09 22 22.0 -0.8**
QRN AMb AMB 09 22 29.5
comp=Z,49nm,0.9s,mb5.0
JOF Joensuu 26.11 12 *ep* **P 09 22 31.6 -0.8**
comp=Z,13nm,0.7s,mb4.6
JOF Joensuu 26.11 12 *e*P **P 09 22 31.6 -0.8**
JOF pmax pmax
comp=Z,13nm,0.7s,mb4.6
KLMR Klimovskoe 26.18 22 *e*P **P 09 22 32.9 -0.2**
KLMR pmax pmax
comp=Z,60nm,1.2s,mb5.0
KLMR Klimovskoe 26.18 22 *e*P **P 09 22 32.9 -0.2**
comp=Z,60nm,1.2s,mb5.0
TORD Torodi Ar. Bea 29.41 218 P **P 09 23 02.1 +0.1**
comp=Z,7.1nm,0.7s,mb4.5,baz=34,slow=9.0,SNR=50
AKTK Aktyubinsk 29.82 53 P **P 09 23 03.5 -2.1**
AKTO Aktyubinsk 29.82 53 P **P 09 23 03.5 -2.1**
comp=Z,2.4nm,0.5s,mb4.2,baz=265,slow=7.3,SNR=6.6
AKTO Aktyubinsk 29.82 53 P **P 09 23 03.5 -2.1**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
APA Apatity 30.78 10 ⇑*i*P **P 09 23 14.7 +0.6**
APA pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
APA Apatity 30.78 10 *i* P **P 09 23 14.7 +0.6**
comp=Z,10.0nm,0.8s,mb4.7
LVZ Lovozero 31.27 11 *e*P **P 09 23 15.7 -2.7**
LVZ pmax pmax
comp=Z,124nm,2.7s,mb5.3
LVZ pmax pmax
comp=N,37nm,1.5s
LVZ pmax pmax
comp=E,28nm,1.5s
ARU Arti 31.68 41 ⇓*i*P **P 09 23 20.7 -1.4**
ARU *e* 09 24 21.0
ARU *e* 09 26 09.1
ARU *e*SS SS 09 30 14.8 -32
ARU pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
ARU MLR MLR
comp=N,600nm,19.0s,MS5.0
ARU MLR MLR
comp=Z,4μm,19.0s,MS5.2
ARU MLR MLR
comp=E,3μm,18.0s,MS5.0
ARU Arti 31.68 41 *i* P **P 09 23 20.7 -1.4**
comp=E,8.0nm,0.6s,mb4.7
ARU Arti 31.68 41 *e*PcP PcP 09 26 09.1 -4.7
ARU Arti 31.68 41 *e*P **P 09 23 19.2 -2.8**
comp=E,12nm,0.6s,mb4.9
ARCES ARCESS Array B 31.95 4 P **P 09 23 23.1 -1.2**
comp=E,4.6nm,0.6s,mb4.5,baz=188,slow=11,SNR=29
KEV Kevo 32.25 5 *ep* **P 09 23 25.9 -1.2**
comp=E,6.1nm,0.6s,mb4.6
KEV Kevo 32.25 5 *e*P **P 09 23 25.9 -1.2**
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
ZRNK Zerenda 36.91 50 *e*P **P 09 24 05.6 -1.8**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ZRNK Zerenda 36.91 50 *e*P **P 09 24 05.6 -1.8**
comp=Z,6.1nm,0.9s,mb4.4
ZRNK Zerenda 36.91 50 *e*P **P 09 24 05.6 -1.8**
comp=Z,6.1nm,0.9s,mb4.4
BRVK Borovoye 37.69 50 *e*P **P 09 24 13.0 -1.0**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
BRVK Borovoye 37.69 50 *e*P **P 09 24 13.0 -1.0**
comp=Z,5.0nm,0.8s,mb4.3
BRVK Borovoye 37.69 50 *e*P **P 09 24 12.9 -1.0**
comp=Z,4.8nm,0.8s,mb4.3
BVAR Borovoye Array 37.75 50 P **P 09 24 13.8 -0.7**
comp=Z,3.5nm,0.7s,mb4.2,baz=264,slow=6.5,SNR=17
DBIC Dimbokro 38.27 222 P **P 09 24 19.2 +0.4**
comp=Z,11nm,0.8s,mb4.7,baz=14,slow=10,SNR=22
DBIC Dimbokro 38.27 222 P **P 09 24 19.2 +0.4**
DBIC pmax pmax
comp=Z,11nm,0.8s
DBIC Dimbokro 38.27 222 *e*P **P 09 24 18.8 0.0**
comp=Z,9.8nm,0.8s,mb4.6
DBIC Dimbokro 38.27 222 *e*P **P 09 24 18.8 0.0**
comp=Z,9.8nm,0.8s,mb4.6
LIC Lamto 38.73 222 ⇑*i*P **P 09 24 23.0 +0.2**
comp=Z,39nm,0.8s,mb4.9
LIC Lamto 38.73 222 ⇑*i*P **P 09 24 23.0 +0.2**
comp=Z,19nm,0.8s,mb4.9
AAK Ala-Archa 41.38 66 *e*P **P 09 24 41.6 -3.1**
AAK pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
AAK Ala-Archa 41.38 66 *e*P **P 09 24 41.6 -3.1**
comp=Z,3.6nm,0.6s,mb4.2
FRU Bishkek 41.42 65 *e*P pP 09 24 56.5 +8.3
KMBO Kilima Mbogo 41.92 153 P **P 09 24 51.0 +1.8**
comp=Z,2.3nm,0.8s,mb3.8,baz=15,slow=11,SNR=4.8
KMBO Kilima Mbogo 41.92 153 P **P 09 24 51.0 +1.8**
KURK Kurchatov 42.91 53 *e*P **P 09 24 55.7 -1.5**
KURK Kurchatov 42.91 53 *e*P **P 09 24 55.7 -1.6**
SUMG Summit 44.99 339 *e*P **P 09 25 14.3 +0.3**
comp=Z,3.3nm,0.6s,mb4.3
SUMG Summit 44.99 339 *e*P **P 09 25 14.3 +0.3**
comp=Z,3.3nm,0.6s,mb4.3
NVS Novosibirsk 45.31 47 *i* P **P 09 25 15.0 -1.5**
NVS *e*S **S 09 31 52.1 -4.9**
NVS pmax pmax
comp=Z,29nm,1.4s,mb4.9
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,21nm,1.2s
NVS smax
comp=N,22nm,1.9s
NVS Novosibirsk 45.31 47 *i* P **P 09 25 15.0 -1.5**
comp=N,10.0nm,1.3s,mb4.5
MKAR Makanchi Array 45.93 58 P **P 09 25 19.8 -1.6**
comp=N,6.6nm,0.5s,mb4.8
ZAL Zalesovo 46.31 48 P **P 09 25 23.2 -1.2**
comp=N,6.0nm,0.5s,mb4.8,baz=198,slow=7.5,SNR=23

ZAL Zalesovo 46.31 48 P **P 09 25 23.2 -1.2**
WMQ Urumqi 50.39 60 *e*P **P 09 25 57.1 +1.3**
WMQ AP pP 09 26 03.1 +4.1
WMQ XP sP 09 26 06.0 +5.8
WMQ AMB AMB
comp=Z,29nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,205nm,4.8s
LSZ Lusaka 53.36 170 *e*P **P 09 26 19.2 +1.2**
LSZ pmax pmax
comp=Z,15nm,1.4s,mb4.7
LSZ Lusaka 53.36 170 *e*P **P 09 26 19.2 +1.2**
comp=Z,15nm,1.4s,mb4.7
LSZ Lusaka 53.36 170 *e*P **P 09 26 19.2 +1.2**
comp=Z,15nm,1.4s,mb4.7
TSUM Tsumeb 56.73 183 *e*P **P 09 26 42.4 0.0**
comp=Z,3.8nm,0.9s,mb4.4
TSUM Tsumeb 56.73 183 *e*P **P 09 26 42.4 0.0**
comp=Z,3.8nm,0.9s,mb4.4
SCHQ Schefferville 58.40 317 P **P 09 26 53.8 -0.3**
comp=Z,4.1nm,0.4s,mb4.8,baz=54,slow=7.8,SNR=35
SCHQ Schefferville 58.40 317 *e*P **P 09 26 53.7 -0.4**
comp=Z,14nm,0.7s,mb5.1
RES Resolute Bay 60.00 344 *e*P **P 09 27 04.9 -0.3**
RES pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
RES Resolute Bay 60.00 344 *e*P **P 09 27 04.9 -0.3**
comp=Z,5.6nm,1.0s,mb4.5
RES Resolute Bay 60.00 344 *e*P **P 09 27 04.9 -0.3**
comp=Z,5.6nm,1.0s,mb4.5
TIXI Tiksi 60.19 20⇑ *e*P **P 09 27 06.2 -0.3**
TIXI pmax pmax
comp=Z,9.0nm,1.9s,mb4.5
TIXI MLR MLR
comp=Z,2μm,21.0s,MS5.1
TIXI Tiksi 60.19 20 *e*P **P 09 27 06.2 -0.3**
comp=Z,2μm,21.0s
GTA Gaotai 60.45 61 *e*P **P 09 27 08.1 -0.2**
GTA AP pP 09 27 13.9 +2.4
GTA XP sP 09 27 16.3 +3.6
GTA PP PP 09 29 24.5 +3.0
GTA S **S 09 35 22.8 -0.7**
GTA XS sS 09 35 32.9 +4.1
GTA SS SS 09 39 22.6 +1.3
GTA AMB AMB
comp=Z,4.0nm,0.5s,mb4.7
GTA AMB AMB
comp=Z,239nm,4.2s
GTA LR LR
comp=N,1μm,23.9s,MS5.2
GTA LR LR
comp=E,1μm,20.9s,MS5.2
GTA LR LR
comp=Z,2μm,25.5s,MS5.2
BOD Bodaibo 60.99 38 *e*P **P 09 27 10.7 -1.3**
BOD pmax pmax
comp=Z,11nm,0.8s,mb5.0
BOD Bodaibo 60.99 38 *e*P **P 09 27 10.7 -1.3**
comp=Z,11nm,0.8s,mb5.0
SONM Songino Array 61.09 50 P **P 09 27 12.1 -0.6**
comp=Z,1.9nm,0.6s,mb4.4,baz=279,slow=8.0,SNR=16
ULN Ulaanbaatar 61.48 50 *e*P **P 09 27 14.4 -0.9**
ULN Ulaanbaatar 61.48 50 *e*P **P 09 27 12.9 -2.4**
comp=Z,3.5nm,0.8s,mb4.5
OPO Ambohidratompo 61.67 150 P **P 09 27 19.1 +2.5**
comp=Z,3.6nm,0.8s,mb4.6,baz=298,slow=4.6,SNR=5.6
PALK Pallekele 62.62 103 *e*P **P 09 27 22.7 -0.2**
comp=Z,3.2nm,0.6s,mb4.6
PALK Pallekele 62.62 103 *e*P **P 09 27 22.7 -0.2**
comp=Z,3.2nm,0.6s,mb4.6
LBTB Lobatse 62.70 174 *e*P **P 09 27 23.8 +0.3**
LBTB pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
LBTB Lobatse 62.70 174 *e*P **P 09 27 23.8 +0.3**
comp=Z,4.4nm,0.8s,mb4.6
LBTB Lobatse 62.70 174 *e*P **P 09 27 23.8 +0.2**
comp=Z,4.4nm,0.8s,mb4.6
LZH Lanzhou 64.83 63 *e*P **P 09 27 38.5 +1.0**
LZH AP pP 09 27 44.9 +4.1
LZH XP sP 09 27 47.5 +5.5
LZH PP PP 09 30 02.5 +2.5
LZH *e*S **S 09 36 16.3 -2.2**
LZH XS sS 09 36 26.1 +2.3
LZH *e*SS SS 09 40 28.1 -1.7
LZH AMB AMB
comp=Z,25nm,1.6s,mb5.0
LZH AMB AMB
comp=Z,89nm,4.5s
LZH LR LR
comp=E,436nm,14.6s
LZH LR LR
comp=Z,652nm,15.7s,MS4.9
BOSA Boshof 66.25 175 P **P 09 27 47.7 +1.0**
comp=Z,1.6nm,0.4s,mb4.5,baz=353,slow=4.7,SNR=6.1
BOSA Boshof 66.25 175 P **P 09 27 47.7 +1.0**
CLNS Chul'man 66.61 35 *e*P sP 09 28 03.7 +10
CLNS pmax pmax
comp=Z,13nm,0.6s,mb5.1
CLNS pmax pmax
comp=N,4.0nm,0.5s
CLNS pmax pmax
comp=E,1.0nm,0.3s
CD2 Chengdu 67.39 68 *e*P **P 09 27 53.9 0.0**
CD2 S S 09 36 46.1 -3.5
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
CD2 AMB AMB
comp=Z,80nm,5.3s
HHC Hu-ho-hao-te 67.67 55 *e*P **P 09 27 55.1 -0.6**
HHC AP pP 09 28 00.0 +1.0
HHC XP sP 09 28 01.9 +1.7
HHC PCP PcP 09 28 22.5 -0.2
HHC PP PP 09 30 26.0 +1.1
HHC S S 09 36 49.6 -3.4
HHC SCS ScS 09 37 49.0 -5.3
HHC AMB AMB
comp=Z,13nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,699nm,14.9s
HHC LR LR
comp=N,2μm,25.0s,MS5.5
HHC LR LR
comp=E,2μm,21.1s,MS5.5
HHC LR LR
comp=Z,4μm,27.3s
HIA Hailar 68.15 44 *e*P **P 09 27 59.0 +0.2**
HIA pmax pmax
comp=Z,7.0nm,0.7s
HIA Hailar 68.15 44 *e*P **P 09 27 59.0 +0.2**
comp=Z,7.3nm,0.7s,mb4.8
FCC Fort Churchill 69.32 329 *e*P **P 09 28 06.0 -0.1**
FCC pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
FCC Fort Churchill 69.32 329 *e*P **P 09 28 06.0 -0.1**
comp=Z,2.2nm,0.6s,mb4.3
FCC Fort Churchill 69.32 329 *e*P **P 09 28 06.0 -0.1**
comp=Z,2.2nm,0.6s,mb4.3
XAN Xi'an 69.45 62 P **P 09 28 06.4 -0.5**
XAN AP pP 09 28 15.1 +5.0
XAN XP sP 09 28 18.3 +7.0
XAN AMB AMB
comp=Z,7.0nm,1.4s,mb4.4
KMI Kunming 69.70 74 P **P 09 28 08.3 -0.1**
KMI AP pP 09 28 11.9 +0.2
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
KMI LR LR
comp=Z,2μm,27.4s,MS5.3
BILL Bilibino 71.50 13 *e*P **P 09 28 18.1 -1.3**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.5
BILL Bilibino 71.50 13 *e*P **P 09 28 18.1 -1.3**
comp=Z,11nm,1.7s,mb4.5
ENH Enshi 71.89 66 *e*P **P 09 28 20.9 -0.8**
comp=Z,8.4nm,0.8s,mb4.7
ENH Enshi 71.89 66 *e*P **P 09 28 20.9 -0.8**
comp=Z,8.4nm,0.8s,mb4.7
GYA Guiyang 71.92 70 P **P 09 28 19.3 -2.6**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
INK Inuvik 72.36 350 *e*P **P 09 28 24.2 -0.3**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 72.36 350 *e*P **P 09 28 24.2 -0.3**
comp=Z,2.0nm,0.8s,mb4.1
INK Inuvik 72.36 350 *e*P **P 09 28 24.2 -0.3**
comp=Z,2.0nm,0.8s,mb4.1
SEY Seymchan 72.68 21‖ *i*P **P 09 28 27.0 +0.6**
YKA Yellowknife Ar 73.58 340 P **P 09 28 31.5 -0.2**
comp=Z,1.5nm,0.5s,mb4.2,baz=36,slow=5.7,SNR=43
KLR Kul'dur 74.49 39 *e*P **P 09 28 34.2 -2.9**
CN2 Changchun 74.52 46 *e*P **P 09 28 37.0 -0.3**
ULM Lac du Bonnet 75.71 323 P **P 09 28 44.0 -0.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=54,slow=9.1,SNR=3.6
ULM Lac du Bonnet 75.71 323 P **P 09 28 44.0 -0.1**
MDJ Mudanjiang 76.33 44 P **P 09 28 44.8 -2.9**
MDJ AMB AMB
comp=Z,7.0nm,1.7s,mb4.3
ILAR Eielson Array 77.24 354 P **P 09 28 53.2 +0.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=350,slow=3.1,SNR=27
NJ2 Nanjing 77.45 59 *e*P **P 09 28 53.8 -0.2**
NJ2 AP pP 09 28 58.5 +1.2
NJ2 XP sP 09 29 00.8 +2.3
NJ2 PP PP 09 31 50.1 +1.7
NJ2 S S 09 38 43.0 -1.7
NJ2 XS sS 09 38 52.0 +1.8
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,290nm,10.9s
NJ2 LR LR
comp=N,1μm,17.9s,MS5.5
NJ2 LR LR
comp=E,2μm,21.8s,MS5.5
NJ2 LR LR
comp=Z,3μm,28.8s
MCK McKinley 78.42 355 *e*P **P 09 29 00.1 +0.7**
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MCK McKinley 78.42 355 *e*P **P 09 29 00.1 +0.7**
comp=Z,3.2nm,0.9s,mb4.2
MCK McKinley 78.42 355 *e*P **P 09 29 00.1 +0.7**
comp=Z,3.2nm,0.9s,mb4.2
SSE Sheshan 79.61 59 P **P 09 29 04.6 -1.3**
SSE AP pP 09 29 14.1 +4.9
SSE XP sP 09 29 18.1 +7.7
SSE PP PP 09 32 05.0 -1.5
SSE S S 09 39 02.6 -5.3
SSE XS sS 09 39 19.0 +5.7
SSE SCS ScS 09 39 25.1 -4.6
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,223nm,6.6s
SSE LR LR
comp=N,1μm,23.5s,MS5.3
SSE LR LR
comp=E,745nm,23.5s,MS5.3
SSE LR LR
comp=Z,2μm,22.1s,MS5.4
PSI Prapat 79.63 95 P **P 09 29 06.1 +0.1**
comp=Z,4.3nm,0.6s,mb4.6,baz=297,slow=11,SNR=3.6
EDM Edmonton 80.72 334 *e*P **P 09 29 11.8 -0.1**
EDM Edmonton 80.72 334 *e*P **P 09 29 11.8 -0.1**
YSS Yuzh-Sakhalins 81.38 36 *e*P **P 09 29 15.0 -0.4**
YSS pmax pmax
comp=Z,32nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 81.38 36 *e*P **P 09 29 15.0 -0.4**
comp=Z,32nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 81.38 36 *e*P **P 09 29 15.0 -0.4**
comp=Z,32nm,1.1s,mb5.2
BDFB Brasília 82.89 244 P **P 09 29 26.0 +2.6**
comp=Z,4.4nm,0.7s,mb4.6,baz=66,slow=5.7,SNR=7.8
SDV Santo Domingo 85.03 277 *e*P **P 09 29 35.2 +1.0**
comp=Z,5.8nm,0.9s,mb4.7
SDV Santo Domingo 85.03 277 *e*P **P 09 29 35.2 +0.9**
comp=Z,5.8nm,0.9s,mb4.7
MIAR Mount Ida 85.17 311 *e*P **P 09 29 33.2 -1.8**
MIAR pmax pmax
comp=Z,13nm,1.4s,mb4.9
MIAR Mount Ida 85.17 311 *e*P **P 09 29 33.2 -1.8**
comp=Z,13nm,1.4s,mb4.8
MIAR Mount Ida 85.17 311 *e*P **P 09 29 33.2 -1.7**
comp=Z,13nm,1.4s,mb4.8
NEW Newport 86.17 333 *e*P **P 09 29 39.4 -0.5**
NEW pmax pmax
comp=Z,2.0nm,0.7s
NEW Newport 86.17 333 *e*P **P 09 29 39.4 -0.5**
comp=Z,1.9nm,0.7s,mb4.4
NEW Newport 86.17 333 *e*P **P 09 29 39.4 -0.5**
comp=Z,1.9nm,0.7s,mb4.4
MJAR Matsushiro Arr 86.62 45 P **P 09 29 42.6 +0.5**
comp=Z,2.1nm,0.7s,mb4.5,baz=313,slow=4.0,SNR=4.9
PDAR Pinedale Array 87.58 325 P **P 09 29 47.2 +0.4**
comp=Z,0.2nm,0.5s,mb3.6,baz=87,slow=5.5,SNR=3.5
WMOK Wichita Mounta 88.10 314 *e*P **P 09 29 51.0 +1.7**
WRA Warramunga Arr 121.03 92 PKP PKPdf 09 35 50.4 -0.9
comp=Z,0.7nm,0.8s,baz=321,slow=2.0,SNR=8.2
ASAR Alice Springs 122.64 96 PKP PKPdf 09 35 53.8 -0.6
comp=Z,0.2nm,0.3s,baz=288,slow=1.1,SNR=4.2

*CSEM **14** 09:33:54.9, 38.11N×2043E, h23km, MD3.6/3, After ATH*
ATH 14 09:33:54.3, 3809N×2037E, h19km±2km, MD3.6/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19**	**63**	*e*PB	Pg	09 34 00.0	+0.8
RLS	**Riolos of Patr**	**0.87**	**92**	*e*PN	Pn	09 34 10.7	-0.8
EVR	**Evrytania**	**1.40**	**53**	*e*PN	Pn	09 34 20.4	+1.6
EVR				*e*SN	Sn	09 34 40.0	+3.3
KEK	**Kerkira**	**1.68**	**345**	*e*PN	Pn	09 34 24.9	+2.2

IDC 14 09:43:36.4±1.6, 3317S×5704E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/21, mbtmp4.0/7, ML4.2/1, MS4.4/1, Ms1 4.4/1, ms1mx3.9/21, Error ellipse: s-maj=75.0km s-min=21.6km az=34.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.01**	**326**	Pn	Pn	09 47 37.5	+1.9
	0.8nm,0.3s,baz=160,slow=11,SNR=12						
OPO				Sn	Sn	09 50 32.7	-13
	0.8nm,0.3s,baz=66,slow=20,SNR=4.0						
SUR	**Sutherland**	**30.38**	**261**	LR	LR	09 59 16.0	
	comp=Z,664nm,18.9s,baz=157,slow=31						
KMBO	**Kilima Mbogo**	**36.90**	**326**	P	P	09 50 47.8	+1.1
	0.6nm,0.4s,baz=146,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**66.91**	**104**	P	P	09 54 31.0	+0.6
	0.9nm,0.7s,baz=233,slow=6.4,SNR=8.5						
WRA	**Warramunga Arr**	**69.02**	**101**	P	P	09 54 44.5	+0.8
	1.2nm,0.6s,baz=238,slow=5.7,SNR=7.2						
TORD	**Torodi Ar. Bea**	**70.03**	**302**	P	P	09 54 50.1	+0.1
	1.0nm,0.8s,baz=122,slow=5.0,SNR=6.9						
BRTR	**Keskin Array B**	**75.70**	**342**	P	P	09 55 23.5	-0.1
	0.6nm,0.4s,baz=160,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**82.79**	**17**	P	P	09 56 01.8	-0.5
	0.7nm,0.8s						
ILAR	**Eielson Array**	**145.14**	**18**	PKPbc	PKPbc	10 03 13.4	-1.9
	1.8nm,0.8s,baz=314,slow=3.8,SNR=22						
YKA	**Yellowknife Ar**	**150.18**	**352**	PKPbc	PKPbc	10 03 28.3	-0.8
	1.7nm,0.9s,baz=4.2,slow=2.4,SNR=28						
YKA				PKPab	PKPab	10 03 32.7	-2.4
	1.0nm,0.8s,baz=8.2,slow=2.8,SNR=12						

IDC 14 09:54:26.2±3.8, 507S×15165E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.4/14, mbtmp3.6/2, Error ellipse: s-maj=153.6km s-min=49.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.42**	**227**	P	P	09 59 25.8	-0.6
	0.7nm,0.5s,baz=54,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**25.19**	**221**	P	P	09 59 54.4	+0.9
	1.7nm,0.8s,baz=59,slow=8.7,SNR=20						
TORD	**Torodi Ar. Bea**	**149.30**	**287**	PKPbc	PKPbc	10 14 17.6	+0.7
	0.4nm,0.6s,baz=62,slow=2.6,SNR=4.5						

IDC 14 09:57:02.3±2.5, 647N×7389W, h60km±31km, mb3.4/1, mb1 3.8/2, mb1mx3.3/21, mbtmp3.7/2, ML3.5/1, Error ellipse: s-maj=55.7km s-min=8.3km az=125.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.66**	**195**	P	Pn	09 57 28.8	-0.3
	20nm,0.3s,baz=98,slow=5.8,SNR=61						
ROSC				S	Sn	09 57 50.6	+1.2
	28nm,0.3s,baz=75,slow=22,SNR=7.9						
SDV	**Santo Domingo**	**4.02**	**53**	P	Pn	09 58 00.4	-1.0
	3.3nm,0.3s,baz=202,slow=8.0,SNR=46						
SDV				S	Sn	09 58 48.5	+1.3
	9.4nm,0.3s,baz=292,slow=19,SNR=17						
YKA	**Yellowknife Ar**	**63.33**	**340**	P	P	10 07 25.2	+0.1
	0.4nm,0.5s,baz=134,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**148.29**	**234**	PKPbc	PKPbc	10 16 42.0	+0.3
	0.4nm,0.7s,baz=115,slow=3.6,SNR=4.3						
WRA	**Warramunga Arr**	**149.50**	**241**	PKPbc	PKPbc	10 16 45.1	+0.3
	0.3nm,0.6s,baz=106,slow=3.3,SNR=9.9						

*IDC **14** 10:05:52.4±0.9, 961S×15084E, h0km, mb4.5/7, mb1 4.6/9, mb1mx4.5/12, mbtmp4.4/9, ML3.3/3, MS3.9/2, Ms1 3.9/2, ms1mx3.6/21, Error ellipse: s-maj=24.9km s-min=16.9km az=157.0*
*MOS **14** 10:05:55.8±0.8, 963S×15063E, h33km, mb5.0/8, Error ellipse: s-maj=13.6km s-min=10.7km az=69.8*
*BJI **14** 10:05:56.5, 988S×151.14E, h64km, mB5.2, mb4.8, Ms4.9, Msz4.6*
*ISCJB **14** 10:05:58.1±1.7, 979S±008×15076E±008, h56km±17km, mb4.7/30, MS4.6/3, Error ellipse: s-maj=14.5km s-min=10.6km az=93.9*
*NEIC **14** 10:06:00.2±1.2, 973S×15071E, h63km±12km, mb4.6/13, Error ellipse: s-maj=12.2km s-min=9.5km az=140.0*
ISC 14 10:06:02.2±1.3, 998S±009×15090E±008, h89km±14km, h56km±6.1km; pP-P, n69, σ19±14/70, mb4.5/30, 1C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**278**	Pn	**Pn**	**10 06 49.8**	**-7.7**
	3.0nm,0.3s,baz=102,slow=2.7,SNR=10						
PMG				Pg	**Pn**	**10 07 00.5**	**+3.0**
	18nm,0.3s,baz=94,slow=8.4,SNR=53						
PMG				Lg		10 07 47.0	
	8.9nm,0.3s,baz=131,slow=20,SNR=10						
PMG				LR	LR	10 08 04.3	
	comp=Z,577nm,18.9s,baz=150,slow=36						
PMG	**Port Moresby**	**3.73**	**278**	*e*P	**Pn**	**10 06 56.6**	**-0.9**
PMG	**Port Moresby**	**3.73**	**278**	*e*Pn	**Pn**	**10 06 51.1**	**-6.4**
PMG				*e*Pg	**Pn**	**10 07 00.7**	**+3.1**
PMG				*e*S	**Sn**	**10 07 53.9**	**+14**
HNR	**Honiara**	**8.94**	**87**	Pn	**Pn**	**10 08 08.4**	**-0.1**
	5.2nm,0.3s,baz=214,slow=3.6,SNR=6.4						
HNR	**Honiara**	**8.94**	**87**	*e*P	**Pn**	**10 08 10.2**	**+1.7**
HNR				pmax	pmax		
	comp=Z,220nm,1.5s						
HNR	**Honiara**	**8.94**	**87**	*e*Pn	**Pn**	**10 08 10.2**	**+1.8**
	comp=Z,220nm,1.5s						
CTA	**Charters Tower**	**11.00**	**203**	Pn	**Pn**	**10 08 36.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=23,slow=13,SNR=1.8						
CTA				LR	LR	10 12 07.3	
	comp=Z,2μm,21.7s,baz=334,slow=33						
CTA	**Charters Tower**	**11.00**	**203**	Pn	**Pn**	**10 08 36.2**	**-0.4**
CTA				LR	LR	10 12 07.2	
KAKA	**Kakadu**	**18.30**	**260**	*e*P	**Pn**	**10 10 11.0**	**+0.9**
	comp=Z,20nm,1.2s						
WRAB	**Tennant Creek**	**18.78**	**236**	*e*P	**Pn**	**10 10 14.4**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**18.78**	**236**	*e*P	**Pn**	**10 10 14.4**	**-1.5**
	comp=Z,17nm,1.0s						
WB2	**Warramunga Arr**	**18.79**	**236**	*e*P	**Pn**	**10 10 14.7**	**-1.2**
WRA	**Warramunga Arr**	**18.80**	**236**	P	**Pn**	**10 10 15.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=61,slow=11,SNR=12						
ARMA	**Armidale**	**20.35**	**178**	*e*P	**P**	**10 10 35.2**	**+3.8**
ASAR	**Alice Springs**	**21.17**	**228**	P	**P**	**10 10 41.9**	**+1.6**
	comp=Z,2.6nm,0.8s,mb3.6,baz=58,slow=10.0,SNR=23						
STKA	**Stephens Creek**	**23.43**	**200**	*e*P	**P**	**10 11 03.0**	**-0.4**
	comp=Z,8.1nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**23.43**	**200**	P	**P**	**10 11 03.0**	**-0.4**
	comp=Z,5.1nm,0.8s,mb3.9,baz=21,slow=13,SNR=8.4						
FITZ	**Fitzroy Crossi**	**25.77**	**249**	*e*P	**P**	**10 11 24.7**	**0.0**
	comp=Z,8.1nm,1.0s,mb4.1						
MJAR	**Matsushiro Arr**	**47.79**	**346**	P	**P**	**10 14 28.6**	**-2.0**
	comp=Z,4.3nm,1.0s,mb4.2,baz=163,slow=8.9,SNR=5.3						
SSE	**Sheshan**	**49.80**	**326**	P	**P**	**10 14 46.9**	**+1.0**
SSE				AMB	AMB		
	comp=Z,56nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,183nm,6.4s						
NJ2	**Nanjing**	**51.82**	**325**	*e*P	**P**	**10 15 02.4**	**+1.3**
NJ2				AP	pP	10 15 12.4	-10
NJ2				S	**S**	**10 22 25.0**	**+8.4**
NJ2				XS	sS	10 22 42.0	-12
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,360nm,11.8s						
NJ2				LR	LR		
	comp=N,590nm,20.1s						
NJ2				LR	LR		
	comp=E,660nm,21.6s						
NJ2				LR	LR		
	comp=Z,410nm,19.2s						
MDJ	**Mudanjiang**	**57.66**	**342**	P	**P**	**10 15 42.8**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
XAN	**Xi'an**	**59.19**	**320**	P	**P**	**10 15 53.3**	**-0.6**
XAN				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
KLR	**Kul'dur**	**61.31**	**346**	*e*P	**P**	**10 16 04.4**	**-4.0**
HHC	**Hu-ho-hao-te**	**62.24**	**327**	*e*P	**P**	**10 16 17.6**	**+3.0**
HHC				AP	pP	10 16 33.8	-3.2
HHC				XP	sP	10 16 40.8	-6.0
HHC				PCP	PcP	10 16 57.5	+3.8
HHC				PP	PP	10 18 37.3	+4.9
HHC				S	**S**	**10 24 36.9**	**+3.4**
HHC				XS	sS	10 25 04.4	-7.3
HHC				SCS	ScS	10 26 00.3	+1.9
HHC				SS	SS	10 28 41.8	+3.8
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,864nm,7.1s						
HHC				LR	LR		
	comp=N,121nm,4.9s						
HHC				LR	LR		
	comp=E,195nm,5.4s						
HHC				LR	LR		
	comp=Z,387nm,17.3s						
LZH	**Lanzhou**	**63.73**	**319**	P	**P**	**10 16 24.8**	**+0.4**
LZH				AP	pP	10 16 37.0	-10
LZH				XP	sP	10 16 44.0	-13
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,129nm,4.5s						
HIA	**Hailar**	**65.03**	**338**	*e*P	**P**	**10 16 32.3**	**-0.6**
HIA				pmax	pmax		
	comp=Z,11nm,0.9s						
HIA	**Hailar**	**65.03**	**338**	*e*P	**P**	**10 16 32.3**	**-0.6**
	comp=Z,11nm,0.9s,mb4.7						
GTA	**Gaotai**	**68.25**	**320**	*e*P	**P**	**10 16 54.3**	**+0.9**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.3						
ULN	**Ulaanbaatar**	**69.44**	**330**	*e*P	**P**	**10 17 01.1**	**+0.3**
ULN	**Ulaanbaatar**	**69.44**	**330**	*e*P	**P**	**10 17 01.0**	**+0.2**
	comp=Z,10nm,1.3s,mb4.5						
SONM	**Songino Array**	**69.75**	**330**	P	**P**	**10 17 03.2**	**+0.5**
	comp=Z,9.5nm,1.0s,mb4.6,baz=135,slow=4.0,SNR=48						
SEY	**Seymchan**	**72.70**	**1**‖ *i*P		**P**	**10 17 20.3**	**-0.2**
ZAK	**Zakamensk**	**72.97**	**330**	*e*P	**P**	**10 17 22.2**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.7						
YAK	**Yakutsk**	**73.67**	**350**	*e*P	**P**	**10 17 26.0**	**-0.2**
YAK				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.1						
BOD	**Bodaibo**	**73.97**	**340**	*e*P	**P**	**10 17 25.8**	**-2.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
MOY	**Mondy**	**74.90**	**330**	*e*P	**P**	**10 17 32.6**	**-0.8**
WMQ	**Urumqi**	**78.31**	**319**	*e*P	**P**	**10 17 53.5**	**+1.0**
WMQ				AP	pP	10 18 10.3	-5.5
WMQ				XP	sP	10 18 17.0	-8.4
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,72nm,4.6s						
BILL	**Bilibino**	**78.60**	**6**‖ *e*P		**P**	**10 17 54.4**	**+0.3**
BILL				*e*		10 18 01.7	
BILL				*e*		10 18 09.7	

BILL					pmax	pmax			
	comp=Z,18nm,1.2s,mb4.8								
BILL					MLR	MLR			
	comp=Z,200nm,18.0s								
BILL	**Bilibino**	**78.60**	**6**	*e*P		**P**		**10 17 54.2**	**+0.1**
	comp=Z,15nm,1.1s,mb4.7								
QSPA	**South Pole Qui**	**80.01**	**180**	P		**P**		**10 18 05.0**	**+3.2**
	comp=Z,9.6nm,1.3s,mb4.5								
TIXI	**Tiksi**	**82.77**	**353**	*e*P		**P**		**10 18 15.3**	**-1.1**
TIXI					pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.6								
MKAR	**Makanchi Array**	**83.00**	**320**	P		**P**		**10 18 17.8**	**+0.1**
	comp=Z,4.7nm,0.9s,mb4.3,baz=68,slow=3.3,SNR=35								
ZAL	**Zalesovo**	**84.43**	**327**	P		**P**		**10 18 24.2**	**-0.7**
	comp=Z,2.4nm,0.7s,mb4.1,baz=27,slow=5.3,SNR=16								
ZAL	**Zalesovo**	**84.43**	**327**	P		**P**		**10 18 24.2**	**-0.7**
NVS	**Novosibirsk**	**85.63**	**328**	*i*P		**P**		**10 18 29.5**	**-1.4**
KZA	**Kyzart**	**86.17**	**314**	P		**P**		**10 18 35.1**	**+1.6**
	SNR=11								
MCK	**McKinley**	**86.34**	**23**	*e*P		**P**		**10 18 33.9**	**-0.5**
MCK					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3								
MCK	**McKinley**	**86.34**	**23**	*e*P		**P**		**10 18 33.9**	**-0.4**
	comp=Z,4.1nm,0.9s,mb4.4								
KURK	**Kurchatov**	**86.69**	**323**	*e*P		**P**		**10 18 35.8**	**-0.3**
KURK	**Kurchatov**	**86.69**	**323**	*e*P		**P**		**10 18 35.7**	**-0.4**
	comp=Z,10nm,1.4s,mb4.6								
UCH	**Uchtor**	**86.73**	**314**	P		**P**		**10 18 38.1**	**+1.8**
	SNR=7.4								
AAK	**Ala-Archa**	**86.86**	**314**	P		**P**		**10 18 38.0**	**+1.1**
	SNR=6.0								
AAK	**Ala-Archa**	**86.86**	**314**	*e*P		**P**		**10 18 36.9**	**0.0**
AAK	**Ala-Archa**	**86.86**	**314**	*e*P		**P**		**10 18 36.6**	**-0.3**
	comp=Z,5.4nm,0.9s,mb4.5								
USP	**Ospenovka**	**87.04**	**315**	P		**P**		**10 18 38.0**	**+0.2**
	SNR=9.1								
AML	**Almayashu**	**87.29**	**313**	P		**P**		**10 18 39.7**	**+0.7**
	SNR=6.5								
COLA	**College**	**87.33**	**22**	*e*P		**P**		**10 18 37.4**	**-1.8**
COLA					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
COLA	**College**	**87.33**	**22**	*e*P		**P**		**10 18 37.4**	**-1.8**
	comp=Z,4.3nm,0.8s,mb4.4								
EKS2	**Erkin-Say**	**87.38**	**314**	P		**P**		**10 18 40.5**	**+1.0**
	SNR=6.1								
ILAR	**Eielson Array**	**87.64**	**22**	P		**P**		**10 18 40.0**	**-0.7**
	comp=Z,4.0nm,0.8s,mb4.5,baz=255,slow=5.3,SNR=32								
ZRNK	**Zerenda**	**93.04**	**323**	*e*P		**P**		**10 19 04.4**	**-1.4**
ZRNK					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.5								
ZRNK	**Zerenda**	**93.04**	**323**	*e*P		**P**		**10 19 04.4**	**-1.5**
	comp=Z,1.9nm,0.8s,mb4.5								
NVAR	**Mina Array Bea**	**96.74**	**52**	P		**P**		**10 19 26.1**	**+3.3**
	comp=Z,1.6nm,0.8s,mb4.5,baz=258,slow=5.3,SNR=6.3								
VNA2	**Neumayer--Watz**	**97.95**	**187**	*e*P		**P**		**10 19 19.9**	**-8.3**
VNA2				*e*				10 19 24.2	
VNA2				*e*		pP		10 19 39.0	-13
YKA	**Yellowknife Ar**	**100.86**	**28**	P		Pdif		10 19 41.6	+0.5
	comp=Z,0.4nm,0.9s,baz=271,slow=4.2,SNR=3.4								
SDV	**Santo Domingo**	**139.04**	**88**	*e*PKPdf		PKPdf		10 25 21.0	+2.6
BDFB	**Brasilia**	**148.40**	**143**	PKPbc		PKPbc		10 25 41.9	+3.6
	comp=Z,4.8nm,0.9s,baz=166,slow=4.2,SNR=6.6								
TORD	**Torodi Ar. Bea**	**149.67**	**279**	PKPbc		PKPbc		10 25 44.6	+3.1
	comp=Z,5.5nm,1.0s,baz=68,slow=1.6,SNR=20								

*ISCJB **14** 10:15:18.8±0.8, 3826N±005×2640E±006, h10km, Error ellipse: s-maj=7.1km s-min=6.5km az=33.3*
*CSEM **14** 10:15:20.7±0.1, 3830N×2657E, h30km, MD2.7, Error ellipse: s-maj=3.8km s-min=3.3km az=101.0*
*ATH **14** 10:15:20.1, 3826N×2629E, h16km±2km, MD3.0/3*
*ISK **14** 10:15:20.0, 3826N×2651E, h25km, MD2.7*
ISC 14 10:15:19.0±0.9, 3831N±005×2636E±006, h10km, n8, σ0992/12, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.54**	**82**	PG	**Pg**	**10 15 29.2**	**-0.3**
BLCB				SG	**Sg**	**10 15 36.4**	**-0.2**
SMG	**Samos**	**0.71**	**148**	*e*PN	**Pn**	**10 15 33.7**	**-1.3**
SMG				*e*SN	**Sg**	**10 15 43.6**	**+1.7**
IZM	**Izmir**	**0.71**	**83**	PG	**Pg**	**10 15 33.1**	**+0.3**
IZM				SG	**Sg**	**10 15 42.7**	**+0.6**
PRK	**Paraskevi**	**0.94**	**356**	*e*PN	**Pn**	**10 15 38.7**	**+0.5**
PRK				*e*SN	**Sn**	**10 15 52.4**	**+0.7**
AKS	**Akhisar**	**1.27**	**63**	*e*PN	**Pn**	**10 15 41.6**	**-1.2**
APE	**Apeiranthos**	**1.40**	**208**	*e*PN	**Pn**	**10 15 44.9**	**+0.3**
APE	**Apeiranthos**	**1.40**	**208**	*e*Pn	**Pn**	**10 15 45.5**	**+0.9**
BODT	**Bodrum**	**1.46**	**149**	*e*PN	**Pn**	**10 15 44.0**	**-1.3**

MAN 14 10:18:05.6, 1145N×12529E, h29km, mb1.9, ML3.7, MS0.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.21**	**43**	*e*P	Pb	10 18 13.1	+1.3
BESP				*e*S	Sb	10 18 19.6	+3.6
PLP	**Palo**	**0.42**	**228**	*e*P	Pb	10 18 15.9	+1.2
PLP				*e*S	Sb	10 18 24.2	+3.3
MSLP	**Maasin**	**1.38**	**198**	*e*P	Pn	10 18 29.3	+0.5

IDC 14 10:25:40.0±1.9, 972S×15105E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.6/13, mbtmp3.5/6, ML2.5/2, Error ellipse: s-maj=48.4km s-min=26.1km az=142.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.85**	**274**	Pn	Pn	10 26 41.5	+1.1
	1.1nm,0.3s,baz=100,slow=11,SNR=3.8						
PMG				Pg	Pg	10 26 48.8	-5.0
	5.0nm,0.3s,baz=105,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	**19.06**	**236**	P	Pn	10 30 05.8	+1.3
	0.0nm,0.3s,baz=62,slow=13,SNR=4.3						
ASAR	**Alice Springs**	**21.46**	**228**	P	P	10 30 29.4	-0.6
	0.4nm,0.8s,baz=58,slow=12,SNR=4.3						
SONM	**Songino Array**	**69.60**	**330**	P	P	10 36 52.2	+1.2
	0.6nm,0.9s,baz=149,slow=2.7,SNR=5.2						
MKAR	**Makanchi Array**	**82.90**	**320**	P	P	10 38 05.7	-1.0
	0.4nm,0.7s,baz=132,slow=2.1,SNR=4.5						
ILAR	**Eielson Array**	**87.34**	**22**	P	P	10 38 28.4	-0.5
	0.4nm,0.8s,baz=251,slow=4.5,SNR=4.9						

*NEIC **14** 10:32:07.3, 4162S×17360E, h51km, ML3.8(WEL), After WEL.*
NEIC Felt at Blenheim.
WEL 14 10:32:07.1±0.1, 4161S×17359E, h58km±2km, ML3.9/15, 3C-4D, Error ellipse: s-maj=1.2km s-min=1.2km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.24**	**115**	⇑PN	Pn	10 32 16.1	-0.5
BSWZ				SN	Sn	10 32 23.6	+0.2
BSWZ	**Blackbirch Sta**	**0.24**	**115**	P	Pn	10 32 15.2	-1.4
BSWZ				S	Sn	10 32 22.1	-1.4
TUWZ	**Tuamarina**	**0.32**	**56**	⇑PN	Pn	10 32 16.7	-0.6
TUWZ				SN	Sn	10 32 23.3	-1.2
NNZ	**Nelson**	**0.42**	**338**	⇓PN	Pn	10 32 17.1	-1.0
CMWZ	**Cape Campbell**	**0.49**	**106**	PN	Pn	10 32 19.0	+0.2
CMWZ				SN	Sn	10 32 29.1	+1.8
CMWZ	**Cape Campbell**	**0.49**	**106**	P	Pn	10 32 18.0	-0.8
THZ	**Tophouse**	**0.53**	**253**	⇓PN	Pn	10 32 18.2	-1.1
THZ	**Tophouse**	**0.53**	**253**	P	Pn	10 32 18.2	-1.1
TCW	**Tory Channel**	**0.66**	**53**	⇑PN	Pn	10 32 20.5	-0.2
TCW				SN	Sn	10 32 30.1	-0.5
TCW	**Tory Channel**	**0.66**	**53**	P	Pn	10 32 20.5	-0.2
KHZ	**Kahutara**	**0.81**	**182**	PN	Pn	10 32 22.4	-0.1
KHZ	**Kahutara**	**0.81**	**182**	P	Pn	10 32 22.4	-0.2
DUWZ	**D'Urville Isla**	**0.85**	**18**	PN	Pn	10 32 22.5	-0.5
SNZO	**South Karori**	**0.89**	**71**	PN	Pn	10 32 23.3	-0.4
SNZO	**South Karori**	**0.89**	**71**	P	Pn	10 32 23.4	-0.3
MRW	**Makara Radio**	**0.92**	**66**	⇓PN	Pn	10 32 23.8	-0.3
MRW	**Makara Radio**	**0.92**	**66**	P	Pn	10 32 23.8	-0.2
WEL	**Wellington**	**0.95**	**70**	PN	Pn	10 32 24.0	-0.4
WEL	**Wellington**	**0.95**	**70**	P	Pn	10 32 24.1	-0.3
BHW	**Baring Head**	**0.99**	**79**	PN	Pn	10 32 24.3	-0.6
BHW	**Baring Head**	**0.99**	**79**	P	Pn	10 32 23.3	-1.6
QRZ	**Quartz Range**	**1.12**	**314**	PN	Pn	10 32 26.7	+0.1
QRZ	**Quartz Range**	**1.12**	**314**	P	Pn	10 32 26.7	+0.1
CAW	**Cannon Point**	**1.22**	**66**	⇓PN	Pn	10 32 27.4	-0.6
CAW	**Cannon Point**	**1.22**	**66**	P	Pn	10 32 27.5	-0.5
KIW	**Kapiti Island**	**1.25**	**54**	PN	Pn	10 32 28.3	0.0
KIW	**Kapiti Island**	**1.25**	**54**	P	Pn	10 32 28.4	0.0
MSWZ	**Moikau Station**	**1.27**	**82**	PN	Pn	10 32 27.5	-1.1
MSWZ	**Moikau Station**	**1.27**	**82**	P	Pn	10 32 27.5	-1.1
DSZ	**Denniston Nort**	**1.34**	**264**	PN	Pn	10 32 29.5	-0.1
DSZ	**Denniston Nort**	**1.34**	**264**	P	Pn	10 32 29.6	0.0
PAWZ	**Paruwai Farm**	**1.40**	**81**	PN	Pn	10 32 29.0	-1.4
PAWZ	**Paruwai Farm**	**1.40**	**81**	P	Pn	10 32 29.2	-1.2
MTW	**Mount Morrison**	**1.51**	**73**	PN	Pn	10 32 30.4	-1.5
MTW	**Mount Morrison**	**1.51**	**73**	P	Pn	10 32 30.5	-1.4
LTZ	**Lake Taylor**	**1.52**	**219**	PN	Pn	10 32 31.6	-0.5
LTZ	**Lake Taylor**	**1.52**	**219**	P	Pn	10 32 31.6	-0.5
TRWZ	**Traveller**	**1.59**	**83**	PN	Pn	10 32 31.5	-1.5
MRZ	**Mangatainoka R**	**1.78**	**58**	PN	Pn	10 32 34.4	-1.1
MRZ	**Mangatainoka R**	**1.78**	**58**	P	Pn	10 32 34.4	-1.1
WAZ	**Wanganui**	**2.14**	**30**	PN	Pn	10 32 41.5	+1.1
WAZ	**Wanganui**	**2.14**	**30**	*e*P	Pn	10 32 41.6	+1.2
MQZ	**McQueen's Vall**	**2.20**	**198**	PN	Pn	10 32 38.8	-2.5
MQZ	**McQueen's Vall**	**2.20**	**198**	*e*P	Pn	10 32 38.8	-2.5
BFZ	**Birch Farm**	**2.21**	**66**	PN	Pn	10 32 39.3	-2.1
BFZ	**Birch Farm**	**2.21**	**66**	P	Pn	10 32 39.4	-2.0
NRZ	**Ngariki Road**	**2.29**	**7**	PN	Pn	10 32 43.8	+1.4
NRZ	**Ngariki Road**	**2.29**	**7**	P	Pn	10 32 44.0	+1.6
NWEZ	**Newall Road**	**2.34**	**5**	PN	Pn	10 32 44.6	+1.4
NWEZ	**Newall Road**	**2.34**	**5**	P	Pn	10 32 44.9	+1.7
NEZ	**North Egmont**	**2.37**	**10**	*e*PN	Pn	10 32 44.6	+1.0
NEZ	**North Egmont**	**2.37**	**10**	P	Pn	10 32 45.3	+1.7
TSZ	**Takapari Road**	**2.38**	**50**	PN	Pn	10 32 42.1	-1.5
TSZ	**Takapari Road**	**2.38**	**50**	P	Pn	10 32 42.2	-1.5
PKE	**Pukeiti**	**2.43**	**7**	P	Pn	10 32 46.0	+1.6
WVZ	**Waitaha Valley**	**2.57**	**234**	*e*P	Pn	10 32 46.3	0.0
VRZ	**Vera Road**	**2.64**	**20**	*e*P	Pn	10 32 48.7	+1.4
WNVZ	**Wahianoa**	**2.75**	**35**	P	Pn	10 32 49.1	+0.4
MOVZ	**Moawhango**	**2.75**	**38**	P	Pn	10 32 48.6	-0.2
FWVZ	**Far West T-bar**	**2.79**	**33**	*e*P	Pn	10 32 49.8	+0.5
RPZ	**Rata Peaks**	**2.81**	**221**	*e*P	Pn	10 32 51.7	+2.1
TUVZ	**Tukino**	**2.82**	**35**	P	Pn	10 32 50.0	+0.2
WPVZ	**Whakapapa**	**2.83**	**33**	P	Pn	10 32 50.6	+0.7
HIZ	**Hauiti**	**3.24**	**18**	*e*P	Pn	10 32 56.7	+1.2
BKZ	**Black Stump Fm**	**3.30**	**43**	*e*P	Pn	10 32 54.6	-1.7
FOZ	**Fox Glacier**	**3.48**	**235**	*e*P	Pn	10 32 56.9	-1.8
ODZ	**Otahua Downs**	**4.05**	**211**	*e*P	Pn	10 33 04.0	-2.5
URZ	**Urewera**	**4.31**	**40**	*e*P	Pn	10 33 06.8	-3.3
JCZ	**Jackson Bay**	**4.32**	**234**	*e*P	Pn	10 33 10.6	+0.4
WKZ	**Wanaka**	**4.63**	**225**	*e*P	Pn	10 33 13.3	-1.2
WTAZ	**Waiatarua**	**4.73**	**10**	P	Pn	10 33 17.2	+1.3
OTAZ	**Otara**	**4.77**	**13**	P	Pn	10 33 17.1	+0.7
TUZ	**Tuapeka**	**5.20**	**212**	*e*P	Pn	10 33 20.1	-2.2
WCZ	**Waipu Caves**	**5.69**	**6**	*e*P	Pn	10 33 30.5	+1.4

IDC 14 10:36:48.4±8.1, 1673S×17688W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.6/3, Error ellipse: s-maj=358.7km s-min=35.9km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.29**	**258**	P	P	10 45 15.2	-0.5
	0.3nm,0.8s,baz=94,slow=8.2,SNR=4.0						
ASAR	**Alice Springs**	**46.52**	**253**	P	P	10 45 18.6	+1.1
	0.8nm,0.4s,baz=85,slow=8.4,SNR=26						
ILAR	**Eielson Array**	**84.42**	**12**	P	P	10 49 22.4	-0.4
	0.4nm,0.6s,baz=228,slow=5.4,SNR=6.9						

*ISCJB **14** 10:38:03.3±0.9, 5145N±004×1609E±004, h0km, Error ellipse: s-maj=6.7km s-min=3.2km az=35.3*
*VIE **14** 10:38:05.3±0.5, 5132N×1597E, h0km, mb2.0/3, ML2.7/3, Error ellipse: s-maj=3.3km s-min=2.8km az=94.0, Suspected Mining induced.*
*CSEM **14** 10:38:06.1±0.2, 5145N×1618E, h1km, ML3.1/6, Error ellipse: s-maj=3.8km s-min=2.0km az=19.0, Suspected Mining induced.*
*PRU **14** 10:38:06.8, 5141N×1607E, h0km*
ISC 14 10:38:04.5±1.0, 5147N±005×1611E±004, h0km, n17, σ1900/33, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	**Pg**	**10 38 17.3**	**+0.6**
KSP				*e*Sg	**Sg**	**10 38 26.1**	**+1.1**
UPC	**Upice**	**0.96**	**184**	*e*PG	**Pg**	**10 38 23.7**	**+0.7**
DPC	**Dobruska-Polom**	**1.13**	**173**	*e*PG	**Pg**	**10 38 26.2**	**+0.1**
DPC				*e*SG	**Sg**	**10 38 41.3**	**+0.5**
	36nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**226**	*e*PG	**Pg**	**10 38 30.6**	**+0.2**
BRG	**Berggiesshubel**	**1.49**	**247**	PG	**Pg**	**10 38 33.1**	**+0.1**
BRG				SG	**Sg**	**10 38 53.5**	**+1.3**
	22nm,0.3s						
PRU	**Pruhonice**	**1.78**	**214**	*e*PG	**Pg**	**10 38 38.0**	**-0.7**
PRU				*e*SG	**Sg**	**10 39 02.6**	**+0.8**
	22nm,0.3s						
PRU	**Pruhonice**	**1.78**	**214**	*e*Sg	**Sg**	**10 39 02.6**	**+0.8**
	22nm,0.3s						
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**10 38 38.0**	**-0.5**
MORC				*e*Sg	**Sg**	**10 39 05.6**	**-0.8**
CLL	**Collm**	**1.95**	**266**	*i*Pg	**Pg**	**10 38 41.3**	**-0.6**
CLL				*i*x	x	10 38 45.2	
CLL				*e*Sn	**Sn**	**10 39 02.0**	**-2.0**
CLL				*i*Sg	**Sg**	**10 39 07.6**	**+0.4**
	comp=Z,16nm,0.6s						
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*PG	**Pg**	**10 38 44.9**	**+0.4**
OKC				*e*SG	**Sg**	**10 39 10.1**	**-1.5**
	comp=Z,7.3nm,0.7s						
VRAC	**Vranov**	**2.19**	**172**	*e*Sg	**Sg**	**10 39 14.3**	**-0.4**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PG	**Pg**	**10 38 55.6**	**+0.7**
NKC				*e*SG	**Sg**	**10 39 29.9**	**+1.0**
	comp=Z,25nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**10 38 52.4**	**+1.2**
KHC				*e*PG	**Pg**	**10 38 57.2**	**-1.9**
KHC				*e*SN	**Sn**	**10 39 25.9**	**-0.2**
KHC				*e*SG	**Sg**	**10 39 35.7**	**-0.3**
	comp=Z,7.4nm,0.5s						
KHC	**Kasperske Hory**	**2.85**	**216**	*e*Pg	**Pg**	**10 38 57.2**	**-1.9**
KHC				*e*Sn	**Sn**	**10 39 25.9**	**-0.2**
KHC				*e*Sg	**Sg**	**10 39 35.7**	**-0.3**
	comp=Z,7.4nm,0.5s						
MOA	**Molln**	**3.81**	**199**	⇑*i*Pn	**Pn**	**10 39 02.7**	**-1.8**
MOA				⇑*i*Sg	**Sg**	**10 40 06.2**	**-0.9**
	comp=Z,2.7nm,0.3s						
MOA	**Molln**	**3.81**	**199**	Sg	**Sg**	**10 40 06.2**	**-0.9**
	comp=Z,2.7nm,0.3s						
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*PG	**Pg**	**10 39 20.1**	**+1.3**
STHS				*e*SG	**Sg**	**10 40 12.3**	**+3.3**

IDC 14 10:51:35.7±2.5, 165N×9704E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/20, mbtmp3.8/5, Error ellipse: s-maj=106.1km s-min=23.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.41**	**122**	P	P	10 59 32.5	+0.5
	0.5nm,0.6s,baz=302,slow=9.2,SNR=5.2						
ASAR	**Alice Springs**	**43.80**	**127**	P	P	10 59 43.5	+0.3
	0.2nm,0.5s,baz=305,slow=8.6,SNR=4.2						
SONM	**Songino Array**	**46.71**	**9**	P	P	11 00 06.6	+0.3
	1.1nm,0.5s,baz=192,slow=9.3,SNR=15						
ZAL	**Zalesovo**	**53.08**	**351**	P	P	11 00 54.8	0.0
	2.9nm,0.6s,baz=307,slow=7.1,SNR=9.9						
ARCES	**ARCESS Array B**	**82.06**	**340**	P	P	11 03 57.3	-0.5
	5.6nm,1.0s,baz=90,slow=6.3,SNR=7.5						

*CSEM **14** 10:51:40.0, 3751N×1980E, h17km, MD3.5/3, After ATH*
ATH 14 10:51:40.0, 3751N×1980E, h17km, MD3.6/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.91**	**43**	*e*PN	Pn	10 51 57.6	-0.4
VLS				*e*SN	Sn	10 52 10.4	-0.4
EVR	**Evrytania**	**2.12**	**48**	*e*PN	Pn	10 52 16.8	+2.2
KEK	**Kerkira**	**2.20**	**360**	*e*PN	Pn	10 52 18.0	+2.3

IDC 14 10:55:58.7±1.3, 325S×12782E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/17, mbtmp3.8/4, ML3.7/1, 1D, Error ellipse: s-maj=79.3km s-min=25.4km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.77**	**160**	P	Pn	11 00 06.4	-1.1
	0.3nm,0.3s,baz=338,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.14**	**164**	P	P	11 00 46.4	+1.3
	3.5nm,0.6s,baz=345,slow=12,SNR=58						
ASPA	**Alice Springs**	**21.14**	**164**	⇓*i*P	P	11 00 46.3	+1.2
MKAR	**Makanchi Array**	**63.91**	**327**	P	P	11 06 33.2	-0.1
	0.5nm,0.7s,baz=97,slow=2.3,SNR=7.0						
ILAR	**Eielson Array**	**90.90**	**25**	P	P	11 09 04.3	+0.1
	0.3nm,0.7s,baz=250,slow=5.6,SNR=5.1						

*CSEM **14** 11:03:39.0, 3753N×2024E, h14km, MD3.5/3, After ATH*
ATH 14 11:03:39.0, 3753N×2024E, h14km, MD3.4/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.70**	**23**	*e*PB	Pb	11 03 52.5	-0.5
VLS				*e*SB	Sb	11 04 02.8	+0.2
EVR	**Evrytania**	**1.86**	**41**	*e*PN	Pn	11 04 12.5	+2.1
KEK	**Kerkira**	**2.21**	**351**	*e*PN	Pn	11 04 17.4	+2.2

*ISCJB **14** 11:19:05.3±1.8, 170S±0.1×1676E±0.1, h33km, mb3.6/2, Error ellipse: s-maj=20.0km s-min=11.7km az=79.9*
*IDC **14** 11:19:14.1±2.7, 1747S×16628E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/19, Error ellipse: s-maj=56.9km s-min=30.8km az=80.0*
ISC 14 11:19:07.1±1.9, 170S±01×1677E±01, h35km, n6, σ1923/6, mb3.6/2, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.83**	**144**	⇑*i*P	**Pn**	**11 19 17.0**	**-5.2**
BKM				S	**Sn**	**11 19 33.0**	**-0.3**
DZM	**Mont Dzumac**	**5.19**	**193**	Pn	**Pn**	**11 20 24.0**	**+1.8**
	5.0nm,0.3s,baz=46,slow=16,SNR=71						
DZM				Sn	**Sn**	**11 21 20.2**	**-0.6**
	8.9nm,0.3s,baz=123,slow=21,SNR=8.6						
HNR	**Honiara**	**10.67**	**314**	LR	LR	11 24 56.3	
	comp=Z,122nm,21.2s,baz=183,slow=34						
WRA	**Warramunga Arr**	**31.77**	**259**	P	**P**	**11 25 27.5**	**-0.5**
	0.4nm,0.8s,mb3.3,baz=86,slow=8.4,SNR=3.0						
ASAR	**Alice Springs**	**32.34**	**253**	P	**P**	**11 25 32.7**	**-0.3**
	1.7nm,0.8s,mb3.9,baz=80,slow=8.3,SNR=17						
SONM	**Songino Array**	**84.57**	**324**	P	pP	11 31 47.4	-0.3
	1.0nm,0.9s,baz=140,slow=5.8,SNR=6.5						

*CSEM **14** 11:40:28.8±0.2, 3149N×606W, h10km, MD3.5, Error ellipse: s-maj=6.2km s-min=3.0km az=151.0*
CNRM 14 11:40:30.1, 3145N×606W, h0km, MD3.5, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZC	**Tazercounte**	**0.79**	**332**	*i*P	Pg	11 40 44.5	-0.7
TZC				*i*S	Sg	11 40 55.0	-0.4
KIB	**El Ksiba**	**1.12**	**1**	*i*P	Pg	11 40 50.0	-1.6
KIB				*i*S	Sg	11 41 05.0	-1.2
TIO	**Tiouine**	**1.15**	**243**	P	Pg	11 40 50.5	-1.7
TIO				S	Sg	11 41 07.5	+0.3
OUK	**Oukaimeden**	**1.57**	**262**	*i*P	Pn	11 40 58.0	-1.2
OUK				*i*S	Sn	11 41 18.0	-2.1
ZFT	**Errachidia**	**1.57**	**68**	*e*P	Pn	11 40 57.0	-2.2
ZFT				*e*S	Sn	11 41 17.5	-2.7
CZD	**Col de Zad**	**1.80**	**28**	*i*P	Pn	11 41 02.0	-0.4
CZD				*i*S	Sn	11 41 24.0	-1.9
MIF	**Mishlifen**	**2.08**	**20**	*i*P	Pn	11 41 06.0	-0.2
MIF				*e*S	Sn	11 41 31.0	-1.7
CIA	**Chichaoua**	**2.31**	**274**	*i*P	Pn	11 41 08.5	-0.9
CIA				*i*S	Sn	11 41 36.0	-2.5

WEL 14 11:56:04.9±0.9, 3732S×17718E, h162km±6km, ML3.7/13, Error ellipse: s-maj=7.7km s-min=6.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.93**	**105**	*e*PN	Pn	11 56 29.8	-0.4
URZ	**Urewera**	**0.94**	**183**	PN	Pn	11 56 30.2	-0.1
URZ				SN	Sn	11 56 49.6	-0.1
MWZ	**Matawai**	**1.05**	**165**	PN	Pn	11 56 31.5	+0.3
PUZ	**Puketiti**	**1.14**	**132**	*e*PN	Pn	11 56 32.0	+0.1
KNZ	**Kokohu**	**1.74**	**167**	PN	Pn	11 56 38.2	+0.3
BKZ	**Black Stump Fm**	**1.92**	**196**	PN	Pn	11 56 39.9	0.0
KRVZ	**Karewarewa**	**2.

CHMS Chumysh 2.08 358 P **Pn 12 00 02.8 +1.2**
288nm,0.2s,SNR=261
CHMS ⇓S **Sn 12 00 29.0 +1.5**
862nm,0.5s
USP Ospenovka 2.36 353 ⇓P **Pn 12 00 06.7 +1.3**
400nm,0.2s,SNR=478
USP ⇑S **Sn 12 00 37.5 +3.0**
365nm,0.2s
KNDC Almaty 2.78 34 ⇑Pn **Pn 12 00 15.4 +4.2**
2μm,0.2s
KNDC ⇓Lg 12 00 52.7
11μm,0.5s
AAA Alma-Ata 2.81 33 *i* PN **Pn 12 00 15.4 +3.7**
AAA *i* S **Sn 12 00 51.2 +5.6**
AAA smax
comp=E,2μm,0.6s
KK31 Karatay Array 3.91 305 ⇑Pg **Pg 12 00 35.8 -5.8**
comp=E,47nm,0.8s,baz=124,slow=16,SNR=154
KK31 ⇑Lg 12 01 25.8
comp=E,37nm,0.4s,baz=125,slow=29,SNR=8.6
MK03 Makanchi Array 7.94 40 Pn **Pn 12 01 25.3 +3.2**
MK03 Lg 12 03 38.1
MKAR Makanchi Array 7.95 40 Pn **Pn 12 01 22.5 +0.3**
comp=E,0.1nm,0.3s,baz=248,slow=13,SNR=4.8
MKAR Lg 12 03 28.5
comp=E,0.9nm,0.3s,baz=239,slow=25,SNR=4.3
KURK Kurchatov 10.14 14 Lg 12 04 44.6
VOSK Vostochnaya 12.10 349 ⇑Pn **Pn 12 02 20.3 +1.2**
comp=E,6.4nm,1.8s
VOSK ⇑Lg 12 05 46.5
comp=E,20nm,1.9s
BVA0 Borovoye Array 12.49 347 Pn **Pn 12 02 25.6 +1.2**
comp=E,2.2nm,2.5s,baz=281,slow=23,SNR=3.0
BVA0 ⇑Lg 12 05 56.8
comp=E,4.0nm,1.4s,baz=156,slow=27,SNR=4.8
BVAR Borovoye Array 12.49 347 Pn **Pn 12 02 24.0 -0.4**
comp=E,0.3nm,0.3s,baz=137,slow=15,SNR=3.1
BVAR Lg 12 05 55.7
comp=E,0.3nm,0.3s,baz=145,slow=23,SNR=2.7
ZRNK Zerenda 12.68 344 ⇑Pn **Pn 12 02 27.4 +0.4**
comp=E,4.5nm,1.7s
ZRNK ⇑Lg 12 06 03.3
comp=E,28nm,2.2s
AB31 Akbulak array 13.42 313 P **Pn 12 02 38.2 +1.1**
comp=E,0.8nm,0.5s,baz=130,slow=10,SNR=5.2
AKTO Aktyubinsk 15.11 315 Pn **Pn 12 03 00.7 +0.6**
comp=E,0.1nm,0.3s,baz=107,slow=14,SNR=3.8
SONM Songino Array 23.46 62 P **P 12 04 34.8 -1.6**
comp=E,0.5nm,0.8s,mb3.0,baz=262,slow=9.1,SNR=4.8
SONM Songino Array 23.46 62 P **P 12 04 34.8 -1.6**
SONM pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 43.01 302 P **P 12 07 26.2 +0.1**
comp=Z,0.7nm,0.5s,mb3.6,baz=90,slow=8.0,SNR=3.6
GERES GERESS Array B 43.01 302 P **P 12 07 26.2 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 68.83 269 P **P 12 10 30.2 -1.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=44,slow=5.9,SNR=8.0
YKA Yellowknife Ar 76.66 5 P **P 12 11 15.9 -1.8**
comp=Z,0.4nm,0.6s,mb3.5,baz=346,slow=5.7,SNR=17

*SKHL **14** 12:37:48.8±0.0,4600N×15130E,h77km±21km,mb4.6/5*
*JMA **14** 12:37:49.0±0.6,4601N×151.14E,h30km,M4.7*
*ISCJB **14** 12:37:49.4±0.7,4612N±005×15075E±007,h85km±6km,*
mb4.0/16,Error ellipse: s-maj=11.0km s-min=4.7km
az=94.6
*MOS **14** 12:37:51.1±1.8,4623N×15084E,h101km,mb4.1/6,Error*
ellipse: s-maj=12.7km s-min=10.2km az=64.5
*NEIC **14** 12:37:53.6±1.4,4631N×15074E,h103km±13km,mb4.2/8,*
Error ellipse: s-maj=16.8km s-min=9.3km az=138.0
*IDC **14** 12:37:56.6±3.4,4623N×15057E,h133km±31km,mb3.3/8,*
mb1 3.5/10,mb1mx3.4/22,mbtmp3.7/10,Error ellipse:
s-maj=23.0km s-min=15.3km az=119.0
ISC 14 12:37:50.9±0.6,4611N±006×15080E±007,h81km±5km,
n80,σ1§44/100,mb4.0/16,3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KUR	**Kuril'sk**	**2.23**	**248**	*i* P		**Pn**	**12 38 25.7**	**-0.2**
KUR					AMB	AMB	12 38 26.6	
	80nm,0.5s							
KUR				*e*S		**Sn**	**12 38 53.4**	**+0.8**
KUR				A			12 38 58.6	
	1μm,0.5s							
KUR				A			12 38 58.6	
	610nm,0.5s							
KUR	**Kuril'sk**	**2.23**	**248**	⇓*i*PN		**Pn**	**12 38 25.7**	**-0.2**
KUR				*e*S		**Sn**	**12 38 53.4**	**+0.8**
KUR				pmax	pmax			
	comp=E,80nm,0.5s							
KUR				pmax	pmax			
	comp=Z,130nm,0.5s							
KUR				smax				
	comp=N,1μm,0.5s							
KUR				smax				
	comp=E,610nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.06**	**241**	*e*P		**Pn**	**12 38 52.2**	**+1.5**
YUK				AMB		AMB	12 38 58.3	
	comp=E,220nm,0.3s							
YUK				*e*S		**Sn**	**12 39 39.7**	**+2.7**
YUK				A			12 39 51.7	
	comp=E,2μm,0.9s							
YUK				A			12 39 51.7	
	comp=E,2μm,0.9s							
YUK				A			12 39 53.8	
	comp=E,850nm,0.5s							
YUK				A			12 39 53.8	
	comp=E,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.06**	**241**	*e*PN		**Pn**	**12 38 52.2**	**+1.5**
YUK				S		**Sn**	**12 39 39.7**	**+2.7**
YUK				pmax	pmax			
	comp=Z,220nm,0.4s							
YUK				pmax	pmax			
	comp=N,2μm,0.9s							
YUK				pmax	pmax			
	comp=E,2μm,0.9s							
YUK				pmax	pmax			
	comp=N,850nm,0.5s							
YUK				pmax	pmax			
	comp=E,1μm,0.5s							
NEM2	**Nemuro 2**	**4.53**	**235**	P		**Pn**	**12 38 57.1**	**+0.2**
NEM2				*e*S		**Sn**	**12 39 47.2**	**-1.1**
JRA	**Rausu**	**4.57**	**244**	P		**Pn**	**12 39 00.1**	**+2.5**
JNK	**Nakash**	**5.00**	**242**	P		**Pn**	**12 39 05.5**	**+2.0**
JNK				*e*S		**Sn**	**12 40 02.5**	**+2.5**
JTKR	**Abashiri--Toko**	**5.33**	**249**	P		**Pn**	**12 39 11.2**	**+3.3**
JAK	**Akkeshi**	**5.35**	**237**	P		**Pn**	**12 39 08.3**	**+0.1**
JAK				*e*S		**Sn**	**12 40 07.3**	**-1.2**
YSS	**Yuzh-Sakhalins**	**5.61**	**282**	⇓*e*P		**Pn**	**12 39 16.0**	**+4.2**
YSS				AMB		AMB	12 39 17.2	
	comp=E,20nm,0.8s							
YSS				AMB		AMB	12 39 17.2	
	comp=E,30nm,0.8s							
YSS				*e*S		**Sn**	**12 40 14.5**	**-0.4**
YSS				A			12 40 23.0	
	comp=E,20nm,0.9s							
YSS				A			12 40 23.0	
	comp=E,60nm,1.5s							
YSS	**Yuzh-Sakhalins**	**5.61**	**282**	⇓*e*PN		**Pn**	**12 39 16.0**	**+4.2**
YSS				*e*S		**Sn**	**12 40 14.5**	**-0.4**
YSS				pmax	pmax			
	comp=E,20nm,0.8s							
YSS				pmax	pmax			
	comp=Z,30nm,0.8s							
YSS				smax				
	comp=N,20nm,0.9s							
YSS				smax				
	comp=E,60nm,1.5s							
YSS	**Yuzh-Sakhalins**	**5.61**	**282**	*e*Pn		**Pn**	**12 39 15.2**	**+3.4**
	comp=E,51nm,0.8s							
JMP	**Maruseppu**	**5.67**	**251**	P		**Pn**	**12 39 16.3**	**+3.7**
JAR	**Ashorobuto**	**5.74**	**243**	P		**Pn**	**12 39 15.3**	**+1.8**
SKR	**Severo-Kuril's**	**5.79**	**36**	*e*P		**Pn**	**12 39 12.5**	**-1.7**
SKR				AMB		AMB	12 39 14.5	
	comp=E,50nm,0.5s							
SKR				AMB		AMB	12 39 14.5	
	comp=E,60nm,0.5s							
SKR				*e*S		**Sn**	**12 40 20.1**	**+0.9**
SKR				A			12 40 34.0	
	comp=E,90nm,0.5s							
SKR				A			12 40 34.0	
	comp=E,80nm,0.5s							
SKR				A			12 40 34.0	
	comp=E,60nm,0.5s							
JOB	**Onbets**	**5.92**	**240**	P		**Pn**	**12 39 16.9**	**+1.0**
JOB				*e*S		**Sn**	**12 40 21.8**	**-0.5**
JKK2	**Kamakawa 2**	**6.13**	**252**	P		**Pn**	**12 39 22.1**	**+3.3**
ASAJ	**Asahikawa**	**6.13**	**254**	P		**Pn**	**12 39 23.2**	**+4.3**
	comp=E,4.9nm,0.3s,baz=66,slow=13,SNR=25							
ASAJ	**Asahikawa**	**6.13**	**254**	P		**Pn**	**12 39 23.0**	**+4.1**
ASAJ	**Asahikawa**	**6.13**	**254**	PN		**Pn**	**12 39 23.2**	**+4.3**
ASAJ				pmax	pmax			
	comp=Z,5.0nm,0.3s							
JCH	**Churui**	**6.37**	**239**	P		**Pn**	**12 39 22.4**	**+0.3**
JCH				*e*S		**Sn**	**12 40 31.3**	**-2.1**
JFR	**Furan**	**6.55**	**246**	P		**Pn**	**12 39 26.7**	**+2.1**
JAB	**Ashibetsu**	**6.63**	**250**	P		**Pn**	**12 39 29.8**	**+4.2**
JEM	**Erimo**	**6.86**	**236**	*e*S		**Sn**	**12 40 43.3**	**-1.9**
JBT2	**Biratori 2**	**6.89**	**244**	P		**Pn**	**12 39 29.5**	**+0.3**
JBT2				*e*S		**Sn**	**12 40 46.7**	**+0.6**
JNBK	**Urakawa-nobuka**	**6.93**	**239**	P		**Pn**	**12 39 30.0**	**+0.2**
JNBK				*e*S		**Sn**	**12 40 44.9**	**-2.2**
JNB	**Noboribetsu**	**7.89**	**246**	P		**Pn**	**12 39 43.4**	**+0.6**
JNB				*e*S		**Sn**	**12 41 09.5**	**-1.0**
JKB	**Kayabe**	**8.20**	**243**	P		**Pn**	**12 39 47.0**	**-0.1**
JKB				*e*S		**Sn**	**12 41 12.7**	**-5.5**
JYM2	**Yakumo 2**	**8.49**	**246**	P		**Pn**	**12 39 51.6**	**+0.5**
PET	**Petropavlovsk**	**8.60**	**34**	PN		**Pn**	**12 39 51.9**	**-0.6**
JTM	**Tenmabayashi**	**8.85**	**237**	P		**Pn**	**12 39 54.2**	**-1.7**
JTM				*e*S		**Sn**	**12 41 26.8**	**-7.1**
JANG	**Nango**	**8.87**	**233**	P		**Pn**	**12 39 53.8**	**-2.4**
JANG				*e*S		**Sn**	**12 41 26.4**	**-8.0**
JTH	**Tanohata**	**8.98**	**230**	*e*S		**Sn**	**12 41 28.6**	**-8.7**
JOSM	**Okushiri--Mats**	**9.08**	**248**	P		**Pn**	**12 40 01.8**	**+2.7**
OFUJ	**Ofunato**	**9.72**	**227**	P		**Pn**	**12 40 05.2**	**-2.6**
OFUJ				*e*S		**Sn**	**12 41 46.2**	**-9.0**
JRG	**Rokugo**	**10.04**	**232**	P		**Pn**	**12 40 10.7**	**-1.4**
JRG				*e*S		**Sn**	**12 41 57.7**	**-5.2**
JIO	**Ouri**	**10.36**	**226**	P		**Pn**	**12 40 13.2**	**-3.3**
JIO				*e*S		**Sn**	**12 42 01.2**	**-10**
JFK	**Kawauchi**	**11.45**	**224**	*e*S		**Sn**	**12 42 25.3**	**-12**
KLR	**Kul'dur**	**13.21**	**291**	*e*P		**Pn**	**12 40 55.2**	**+0.2**
MAJO	**Matsushiro**	**13.43**	**229**	P		**Pn**	**12 40 53.9**	**-4.1**
MAJO				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MAJO	**Matsushiro**	**13.43**	**229**	Pn		**Pn**	**12 40 53.9**	**-4.1**
	comp=Z,5.3nm,0.6s							
MJAR	**Matsushiro Arr**	**13.43**	**229**	P		**Pn**	**12 41 02.2**	**+4.3**
	comp=Z,0.2nm,0.3s,baz=32,slow=17,SNR=2.7							
EKMR	**Ekimchan**	**13.49**	**308**	*e*P		**Pn**	**12 40 55.9**	**-2.9**
EKMR				AMB		AMB	12 41 07.5	
	comp=Z,3.0nm,0.5s							
MA2	**Magadan**	**13.49**	**360**	PN		**Pn**	**12 40 55.8**	**-3.0**
YASR	**Yasnyy**	**16.37**	**304**	*e*P		**Pn**	**12 41 33.2**	**-2.5**
YASR				AMB		AMB	12 41 37.4	
	comp=Z,3.0nm,0.5s							
ZEA	**Zeya**	**16.92**	**305**	*e*P		**Pn**	**12 41 40.0**	**-2.4**
ZEA				AMB		AMB	12 41 41.9	
	comp=Z,17nm,1.0s							
KS15	**Wonju Array Si**	**19.11**	**251**	Pn		**Pn**	**12 42 09.3**	**+0.5**
YAK	**Yakutsk**	**20.04**	**330**	*e*P		**P**	**12 42 19.8**	**+2.5**
YAK				pmax	pmax			
	comp=Z,31nm,0.8s							
YAK	**Yakutsk**	**20.04**	**330**	*e*Pn		**P**	**12 42 19.8**	**+2.4**
	comp=Z,31nm,0.8s							
HIA	**Hailar**	**21.07**	**290**	P		**P**	**12 42 31.2**	**+2.8**
HIA				pmax	pmax			
	comp=Z,9.0nm,1.1s							
HIA	**Hailar**	**21.07**	**290**	P		**P**	**12 42 31.1**	**+2.8**
	comp=Z,9.0nm,1.1s,mb4.0							
SONM	**Songino Array**	**30.04**	**290**	P		**P**	**12 43 51.5**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.1,baz=73,slow=6.9,SNR=2.4							
COLA	**College**	**37.63**	**38**	P		**P**	**12 44 57.9**	**0.0**
COLA				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.7							
COLA	**College**	**37.63**	**38**	P		**P**	**12 44 57.9**	**+0.1**
	comp=Z,1.5nm,0.8s,mb3.9							
ILAR	**Eielson Array**	**38.05**	**38**	P		**P**	**12 45 01.2**	**-0.1**
	comp=Z,0.2nm,0.5s,mb3.2,baz=260,slow=6.8,SNR=5.5							
MKAR	**Makanchi Array**	**45.81**	**297**	P		**P**	**12 46 03.1**	**-1.4**
	comp=Z,0.7nm,0.5s,mb3.6,baz=66,slow=12,SNR=14							
MKAR	**Makanchi Array**	**45.81**	**297**	P		**P**	**12 46 03.1**	**-1.5**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**45.81**	**297**	P		**P**	**12 46 03.2**	**-1.4**
LSA	**Lhasa**	**48.70**	**272**	*e*P		**P**	**12 46 29.1**	**+2.1**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**48.70**	**272**	*e*P		**P**	**12 46 29.1**	**+2.1**
	comp=Z,3.8nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**50.80**	**309**	*e*P		**P**	**12 46 40.9**	**-2.1**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
ZRNK	**Zerenda**	**50.80**	**309**	*e*P		**P**	**12 46 40.9**	**-2.0**
	comp=Z,0.8nm,0.5s,mb4.0							
RES	**Resolute Bay**	**51.95**	**18**	*e*P		**P**	**12 46 51.0**	**-0.5**
RES				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2							
RES	**Resolute Bay**	**51.95**	**18**	*e*P		**P**	**12 46 51.0**	**-0.5**
	comp=Z,2.1nm,0.9s,mb4.2							
YKA	**Yellowknife Ar**	**52.39**	**36**	P		**P**	**12 46 54.8**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.6,baz=299,slow=7.0,SNR=7.4							
YKA	**Yellowknife Ar**	**52.39**	**36**	P		**P**	**12 46 54.8**	**0.0**
AAK	**Ala-Archa**	**52.68**	**296**	*e*P		**P**	**12 46 55.3**	**-1.6**
JIRN	**Jiri**	**53.39**	**273**	*e*P		**P**	**12 47 02.4**	**+0.2**
	comp=Z,17nm,0.5s							
GUN	**Gumba**	**53.45**	**274**	*e*P		**P**	**12 47 03.3**	**+0.7**
	comp=Z,15nm,0.4s							
KKN	**Kakani**	**53.94**	**274**	*e*P		**P**	**12 47 07.0**	**+0.8**
	comp=Z,12nm,0.5s,mb5.2							
PKI	**Pulchoki**	**53.99**	**274**	*e*P		**P**	**12 47 07.3**	**+0.8**
	comp=Z,8.9nm,0.5s,mb5.1							
DMN	**Daman**	**54.18**	**274**	*e*P		**P**	**12 47 08.3**	**+0.4**
GKN	**Gorkha**	**54.26**	**275**	*e*P		**P**	**12 47 09.3**	**+0.8**
	comp=Z,14nm,0.4s							
DANN	**Dangsing**	**54.65**	**276**	*e*P		**P**	**12 47 12.6**	**+1.3**
KOLN	**Koldanda**	**55.12**	**275**	*e*P		**P**	**12 47 15.1**	**+0.4**
	comp=Z,5.6nm,0.6s,mb4.8							
PDAR	**Pindale Array**	**66.42**	**52**	P		**P**	**12 48 31.6**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.3,baz=347,slow=3.7,SNR=3.5							
WRA	**Warramunga Arr**	**67.41**	**197**	P		**P**	**12 48 37.2**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=15,slow=6.7,SNR=13							
NOA	**NORSAR Array B**	**68.30**	**340**	P		**P**	**12 48 41.5**	**-1.8**
	comp=Z,0.4nm,0.4s,mb3.6,baz=29,slow=6.4,SNR=3.1							
ASAR	**Alice Springs**	**71.11**	**196**	P		**P**	**12 49 01.4**	**+0.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=6.1,slow=5.0,SNR=26							
PLCA	**Paso Flores**	**149.75**	**95**	PKPbc		PKPbc	12 57 31.4	0.0
	comp=Z,0.9nm,0.5s,baz=276,slow=5.1,SNR=3.0							

*ISCJB **14** 12:58:48.8±1.6,4094N±010×73.1E±0.1,h10km, Error*
ellipse: s-maj=15.4km s-min=11.1km az=113.9
*NNC **14** 12:58:50.2±3.8,41.10N×7340E,h0km,mb3.0,mpv2.6,*
Error ellipse: s-maj=35.8km s-min=14.6km az=167.0
*KNET **14** 12:58:51.3±0.5,4109N×7352E,h6km±2km,ml2.5,Error*
ellipse: s-maj=3.6km s-min=2.7km az=102.0
ISC 14 12:58:49.8±1.6,410N±01×7309E±010,h10km,n10,
σ1§47/17,9C-9D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
AML	**Almayashu**	**1.25**	**21**	⇓P		**Pn**	**12 59 11.4**	**-1.9**
	26nm,0.2s,SNR=128							
AML				⇑S		**Sb**	**12 59 27.6**	**-2.0**
	81nm,0.3s							
UCH	**Uchtor**	**1.65**	**40**	⇑P		**Pn**	**12 59 17.6**	**-1.2**
	5.7nm,0.1s,SNR=38							
UCH				⇓S		**Sn**	**12 59 37.6**	**-2.5**
	53nm,0.2s							
EKS2	**Erkin-Say**	**1.77**	**17**	⇑P		**Pn**	**12 59 21.7**	**+1.2**
	4.4nm,0.1s,SNR=7.2							
KZA	**Kyzart**	**1.97**	**55**	⇑P		**Pn**	**12 59 22.2**	**-1.1**
	5.3nm,0.2s,SNR=5.9							
KZA				⇑S		**Sn**	**12 59 46.0**	**-1.9**
	14nm,0.2s							
AAK	**Ala-Archa**	**1.97**	**32**	⇓P		**Pn**	**12 59 23.5**	**+0.3**
	8.8nm,0.2s,SNR=23							
AAK				⇑S		**Sn**	**12 59 48.3**	**+0.3**
	91nm,0.3s							
KBK	**Karagaybulak**	**2.19**	**39**	⇓P		**Pn**	**12 59 27.1**	**+0.8**
	4.3nm,0.1s,SNR=12							
KBK				⇓S		**Sn**	**12 59 54.4**	**+1.1**
	52nm,0.2s							
CHMS	**Chumysh**	**2.38**	**31**	⇑P		**Pn**	**12 59 29.8**	**+0.9**
	3.4nm,0.2s,SNR=8.4							
CHMS				⇓S		**Sn**	**13 00 00.4**	**+2.3**
	34nm,0.4s							
USP	**Ospenovka**	**2.53**	**24**	⇓P		**Pn**	**12 59 31.9**	**+1.0**
	2.2nm,0.1s							
USP				⇑S		**Sn**	**13 00 04.6**	**+2.9**
	17nm,0.2s							
TKM2	**Tokmak 2**	**2.71**	**43**	⇑Pg		**Pn**	**12 59 34.8**	**+1.5**
	2.6nm,0.5s							
TKM2				⇓Lg			13 00 08.8	
	10nm,0.5s							
KK31	**Karatay Array**	**2.87**	**319**	Pg		**Pg**	**12 59 43.7**	**-1.1**
	0.6nm,0.3s,baz=135,slow=16,SNR=17							
KK31				⇓Lg			13 00 23.7	
	3.1nm,0.3s,baz=131,slow=29,SNR=11							

*IDC **14** 13:01:01.6±3.0,3479S×17982W,h0km,mb4.5/2,*
mb1 4.7/3,mb1mx4.2/12,mbtmp4.4/3,ML3.7/1,MS3.8/1,
Ms1 3.8/1,ms1mx2.8/14,Error ellipse: s-maj=67.9km
s-min=45.1km az=122.0
*ISCJB **14** 13:01:12.5±2.4,362S±02×1793W±04,h156km±14km,*
mb4.3/2,Error ellipse: s-maj=53.6km s-min=17.7km
az=55.9
ISC 14 13:01:13.3±2.5,362S±02×1792W±04,h153km±15km,n14,
σ0§78/15,mb4.3/2,East of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PUZ	**Puketiti**	**2.75**	**227**	PN		**Pn**	**13 01 58.5**	**+0.9**
MWZ	**Matawai**	**3.36**	**230**	PN		**Pn**	**13 02 06.3**	**+1.0**
URZ	**Urewera**	**3.58**	**234**	Pn		**Pn**	**13 02 07.2**	**-1.0**
	4.0nm,0.3s,baz=36,slow=5.4,SNR=30							
URZ				Sn		**Sn**	**13 02 51.4**	**+0.6**
	9.5nm,0.3s,baz=134,slow=19,SNR=6.9							
URZ	**Urewera**	**3.58**	**234**	PN		**Pn**	**13 02 07.1**	**-1.1**
URZ				SN		**Sn**	**13 02 49.5**	**-1.3**
BKZ	**Black Stump Fm**	**4.51**	**228**	*e*PN		**Pn**	**13 02 19.5**	**-0.8**
TSZ	**Takapari Road**	**5.41**	**223**	*e*PN		**Pn**	**13 02 31.7**	**-0.4**
TSZ				SN		**Sn**	**13 03 37.6**	**+3.9**
TCW	**Tory Channel**	**7.13**	**224**	SN		**Sn**	**13 04 15.6**	**+0.7**
MQZ	**McQueen's Vall**	**9.74**	**217**	SN		**Sn**	**13 05 17.3**	**-0.5**
HNR	**Honiara**	**32.72**	**319**	LR		LR	13 17 10.6	
	comp=Z,202nm,21.9s,baz=176,slow=31							
ASAR	**Alice Springs**	**42.15**	**274**	P		**P**	**13 08 51.0**	**+0.4**
	5.0nm,0.5s,mb4.4,baz=114,slow=7.9,SNR=133							
ASPA	**Alice Springs**	**42.15**	**274**	*e*P		**P**	**13 08 51.2**	**+0.6**
WB2	**Warramunga Arr**	**43.65**	**279**	*e*P		**P**	**13 09 02.2**	**-0.5**
WRA	**Warramunga Arr**	**43.66**	**279**	P		**P**	**13 09 02.4**	**-0.4**
	3.6nm,0.5s,mb4.2,baz=119,slow=7.7,SNR=56							
FINES	**FINESS Array B**	**150.15**	**336**	PKPbc		PKPbc	13 20 49.2	+3.2
	0.8nm,0.6s,baz=49,slow=4.4,SNR=6.0							

*IDC **14** 13:09:35.7±1.1,329S×12769E,h0km,mb4.2/5,mb1 4.4/6,*
mb1mx4.2/16,mbtmp4.2/6,ML4.0/1,Error ellipse:
s-maj=93.3km s-min=22.9km az=70.0
*ISCJB **14** 13:09:38.4±0.5,347S±009×1274E±02,h33km,mb4.3/9,*
Error ellipse: s-maj=31.2km s-min=8.2km az=143.8
*NEIC **14** 13:09:40.9±3.5,346S×12750E,h39km±36km,mb4.3/5,*
Error ellipse: s-maj=32.3km s-min=17.9km az=83.0
ISC 14 13:09:40.7±0.5,345S±008×1274E±02,h35km,n17,
σ1§07/17,mb4.3/9,2D,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KAKA	**Kakadu**	**10.45**	**152**	*e*P		**Pn**	**13 12 08.4**	**+0.4**
	10nm,0.6s							
WRAB	**Tennant Creek**	**17.72**	**158**	*e*Pn		**Pn**	**13 13 42.4**	**-2.2**
	19nm,1.0s							
WRA	**Warramunga Arr**	**17.73**	**158**	P		**Pn**	**13 13 43.8**	**-0.9**
	0.5nm,0.3s,baz=339,slow=12,SNR=20							
WB2	**Warramunga Arr**	**17.73**	**158**	*e*P		**Pn**	**13 13 43.5**	**-1.2**
MBWA	**Marble Bar**	**19.12**	**202**	P		**Pn**	**13 14 00.8**	**-0.8**
AS31	**Alice Springs**	**21.05**	**163**	⇓*i*P		**P**	**13 14 23.4**	**+1.9**
ASPA	**Alice Springs**	**21.05**	**163**	⇓*i*P		**P**	**13 14 23.4**	**+1.9**
ASAR	**Alice Springs**	**21.05**	**163**	P		**P**	**13 14 23.1**	**+1.5**
	14nm,0.6s,mb4.5,baz=346,slow=12,SNR=300							
ULN	**Ulaanbaatar**	**54.13**	**343**	*e*P		**P**	**13 19 02.8**	**+0.5**
	3.9nm,1.1s,mb4.2							
SONM	**Songino Array**	**54.30**	**343**	P		**P**	**13 19 04.1**	**+0.7**
	1.2nm,0.9s,mb3.8,baz=154,slow=7.1,SNR=8.3							
MKAR	**Makanchi Array**	**63.87**	**327**	P		**P**	**13 20 10.0**	**+0.3**
	1.2nm,0.7s,mb4.0,baz=120,slow=4.8,SNR=16							
MKAR	**Makanchi Array**	**63.87**	**327**	P		**P**	**13 20 10.0**	**+0.3**
YAK	**Yakutsk**	**65.32**	**1**	*e*P		**P**	**13 20 19.2**	**0.0**
	18nm,0.8s,mb5.1							
KURK	**Kurchatov**	**68.17**	**329**	*e*P		**P**	**13 20 37.5**	**+0.1**
	3.9nm,0.9s,mb4.4							
ZRNK	**Zerenda**	**74.41**	**328**	*e*P		**P**	**13 21 14.5**	**-0.6**
	1.6nm,0.7s,mb4.1							
ILAR	**Eielson Array**	**91.26**	**25**	P		**P**	**13 22 41.3**	**-1.1**
	0.3nm,0.7s,mb3.7,baz=266,slow=4.9,SNR=4.8							
ARCES	**ARCESS Array B**	**97.38**	**340**	P		**P**	**13 23 09.9**	**-0.6**
	3.4nm,0.9s,mb4.8,baz=70,slow=5.3,SNR=3.9							

*IDC **14** 13:11:12.9±1.2,1683S×16697E,h0km,mb4.2/7,*
mb1 4.4/9,mb1mx4.2/16,mbtmp4.3/9,ML4.2/2,MS3.8/6,
Ms1 3.8/6,ms1mx3.5/21,Error ellipse: s-maj=30.2km
s-min=21.0km az=87.0
*MOS **14** 13:11:14.4±3.3,1676S×16727E,h33km,mb4.8/6,Error*
ellipse: s-maj=53.1km s-min=22.8km az=130.2
*LDG **14** 13:11:15.3±0.2,1686S×16598E,h10km,Mb4.6/2,Error*
ellipse: s-maj=44.4km s-min=5.2km az=80.0
*ISCJB **14** 13:11:15.5±0.6,1692S±008×1670E±01,h33km,mb4.5/19,*
MS3.7/4,Error ellipse: s-maj=17.6km s-min=10.7km
az=21.4
*BJI **14** 13:11:17.0,1690S×16690E,h40km,mB5.3,mb4.8*
*NEIC **14** 13:11:18.1±0.6,1685S×16694E,h40km,mb4.8/9,Error*

comp=Z,10.0nm,0.6s,mb4.9
KLR Kul'dur 72.89 337 *e*P **P 13 22 40.5 -2.3**
QSPA South Pole Qui 73.17 180 *e*P **P 13 22 44.9 +0.5**
comp=Z,9.0nm,0.8s,mb4.8
QSPA *e* pP 13 22 53.2 -2.1
MA2 Magadan 77.32 352 P **P 13 23 06.7 -1.6**
MA2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MA2 Magadan 77.32 352 P **P 13 23 06.7 -1.6**
comp=Z,5.6nm,1.0s,mb4.5
HIA Hailar 78.06 330 *e*P **P 13 23 12.4 0.0**
HIA pmax pmax
comp=Z,9.0nm,1.2s
HIA Hailar 78.06 330 *e*P **P 13 23 12.4 +0.1**
comp=Z,9.1nm,1.2s,mb4.6
LZH Lanzhou 79.64 313 *e*P **P 13 23 24.0 +2.9**
LZH AP pP 13 23 32.0 -0.1
LZH XP sP 13 23 37.0 +0.9
LZH AMB AMB
comp=Z,15nm,1.2s,mb4.8
SEY Seymchan 80.37 353 *e*P **P 13 23 24.7 -0.3**
SEY *e* 13 33 36.9
SEY *e* 13 38 34.5
SEY pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ULN Ulaanbaatar 83.76 324 *e*P **P 13 23 43.7 +0.9**
ULN *e* pP 13 23 52.4 -1.5
ULN pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
ULN Ulaanbaatar 83.76 324 *e*P **P 13 23 43.7 +0.9**
comp=Z,7.2nm,1.0s,mb4.8
ULN *e* pP 13 23 52.4 -1.5
GTA Gaotai 84.03 314 *e*P **P 13 23 45.6 +1.4**
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.5
SONM Songino Array 84.12 324 P **P 13 23 45.4 +0.8**
comp=Z,2.3nm,1.0s,mb4.2,baz=152,slow=6.7,SNR=12
BILL Bilibino 84.67 360⇑ *e*P **P 13 23 46.5 -0.9**
BILL *e* pP 13 23 55.2 -3.3
BILL pmax pmax
comp=Z,21nm,1.2s,mb5.1
BILL Bilibino 84.67 360 *e*P **P 13 23 46.2 -1.2**
comp=Z,23nm,1.3s,mb5.2
ZAK Zakamensk 87.20 325 *e*P **P 13 24 00.0 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.5
ILAR Eielson Array 88.59 18 P **P 13 24 07.2 +0.7**
comp=Z,0.4nm,0.8s,mb3.8,baz=245,slow=4.7,SNR=3.1
PMSA Palmer Station 89.82 160 *e*P **P 13 24 12.5 +0.2**
comp=Z,45nm,1.0s
SNAA Sanae 91.42 183 P **P 13 24 15.7 -4.1**
PHWY Pilot Hill 99.05 50 *e*P **P 13 24 56.9 +2.4**
CDF Champ du Feu 144.48 337 *e*PKP1 PKPdf 13 30 48.8 -1.1
comp=Z,36nm,1.2s
HINF Hinteralfeld 145.13 337 *e*PKP1 PKPbc 13 30 50.6 0.0
comp=Z,23nm,0.7s
HAU Haudompre 145.16 337 *e*PKP1 PKPbc 13 30 52.1 +1.4
comp=Z,75nm,1.0s
MEZF Maizieres J'vi 145.21 339 *e*PKP1 PKPbc 13 30 51.6 +0.8
CABF La Chapelle 146.42 336 *e*PKP1 PKPbc 13 30 55.5 +0.9
comp=Z,68nm,1.4s
FLN La Foliniere 146.61 345 *e*PKP1 PKPbc 13 30 54.9 -0.2
comp=Z,36nm,1.0s
LOR Lormes 146.68 339 *e*PKP1 PKPbc 13 30 55.8 +0.5
comp=Z,41nm,1.3s
LDF La Druitiere 146.68 345 *e*PKP1 PKPbc 13 30 55.1 -0.2
SSF Saint Saulge 146.98 339 *e*PKP1 PKPbc 13 30 56.6 +0.4
comp=Z,54nm,1.4s
LPL La Plagne 147.05 334 *e*PKP1 PKPbc 13 30 57.5 +1.1
GRR Gorron 147.06 345 *e*PKP1 PKPbc 13 30 56.4 0.0
LPG La Plagne 147.06 334 *e*PKP1 PKPbc 13 30 57.5 +1.1
comp=Z,35nm,1.2s
SMF Signal de Mont 147.22 339 *e*PKP1 PKPbc 13 30 57.2 +0.3
AVF Avril sur Loir 147.26 339 *e*PKP1 PKPbc 13 30 57.1 +0.1
BGF Bois d'Agland 147.64 340 *e*PKP1 PKPbc 13 30 58.5 +0.5
MBDF Montbardon 147.67 333 *e*PKP1 PKPbc 13 30 58.4 +0.3
ORIF Oris-en-Rattie 147.89 335 *e*PKP1 PKPbc 13 30 59.3 +0.6
comp=Z,24nm,1.1s
TCF Toulx Ste Croi 148.09 340 *e*PKP1 PKPbc 13 30 59.8 +0.6
PGF Pioggiola 148.30 328 *e*PKP1 PKPbc 13 31 00.1 +0.3
comp=Z,37nm,0.9s
VIVF Saint-Julien-l 148.43 336 *e*PKP1 PKPbc 13 31 00.9 +0.8
MFF Saint Martin d 148.52 343 *e*PKP1 PKPbc 13 31 00.8 +0.5
FRF La Foret Royal 148.65 332 *e*PKP1 PKPbc 13 31 00.9 +0.2
SMRF Simiane la Rot 148.78 334 *e*PKP1 PKPbc 13 31 01.8 +0.8
LMR La Mourre 148.89 332 *e*PKP1 PKPbc 13 31 01.5 +0.2
LASF Ste Croix 149.40 336 *e*PKP1 PKPbc 13 31 03.5 +0.9
comp=Z,28nm,1.2s
MTLF Montolieu 150.65 337 *e*PKP1 PKPbc 13 31 06.2 +0.6
ETSF Etsaut 152.00 340 *e*PKP1 PKPbc 13 31 10.0 +1.3
comp=Z,7.9nm,0.7s

IDC 14 13:24:08.6±2.9,398N×9432E,h0km,mb3.4/3,mb1 3.5/4, mb1mx3.4/21,mbtmp3.4/4,ML3.2/1,Error ellipse: s-maj=112.0km s-min=26.9km az=52.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.74**	**104**	Pn	Pn	13 25 21.4	0.0
	1.0nm,0.3s,baz=320,slow=7.9,SNR=3.2						
MKAR	**Makanchi Array**	**43.91**	**348**	P	P	13 32 16.9	0.0
	0.5nm,0.6s,baz=164,slow=9.3,SNR=8.1						
WRA	**Warramunga Arr**	**45.94**	**123**	P	P	13 32 35.5	+2.3
	0.5nm,0.9s,baz=300,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**47.36**	**127**	P	P	13 32 43.4	-0.9
	0.3nm,0.7s,baz=294,slow=7.8,SNR=6.2						

*ISCJB **14** 13:33:49.2±0.8,1688S±009×1676E±0.1,h10km,mb4.3/9, Error ellipse: s-maj=18.0km s-min=7.6km az=99.9*
*IDC **14** 13:33:51.7±2.6,1688S×16728E,h0km,mb4.3/5, mb1 4.4/6,mb1mx4.2/15,mbtmp4.2/6,ML3.6/1,Error ellipse: s-maj=64.6km s-min=26.7km az=105.0*
*NEIC **14** 13:33:52.6±0.8,1690S×16733E,h10km,mb4.8/4,Error ellipse: s-maj=20.4km s-min=10.8km az=86.0*
*LDG **14** 13:33:55.6±0.3,1683S×16621E,h10km,Mb4.5/2,Error ellipse: s-maj=66.8km s-min=7.3km az=82.0*
ISC 14 13:33:51.4±0.7,1694S±008×16760E±010,h10km,n31, σ0=98/17,mb4.3/9,3C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.95**	**140**	*i* P	**Pg**	**13 34 04.9**	**-4.8**
BKM				S	**Sg**	**13 34 21.1**	**-1.0**
DZM	**Mont Dzumac**	**5.22**	**192**	Pn	**Pn**	**13 35 10.5**	**+0.9**
	2.2nm,0.3s,baz=287,slow=15,SNR=31						
HNR	**Honiara**	**10.54**	**314**	Pn	**Pn**	**13 36 20.5**	**-2.0**
PMG	**Port Moresby**	**21.25**	**288**	P	**P**	**13 38 30.1**	**-7.5**
	21nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**27.87**	**233⇑**	*i*P	**P**	**13 39 40.8**	**-0.4**
	4.4nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**27.87**	**233**	P	**P**	**13 39 41.1**	**-0.2**
	5.1nm,0.8s,mb4.2,baz=49,slow=6.7,SNR=9.8						
STKA	**Stephens Creek**	**27.87**	**233**	*e*P	**P**	**13 39 40.7**	**-0.5**
STKA				*e*		13 39 48.3	
WRA	**Warramunga Arr**	**31.67**	**259**	P	**P**	**13 40 14.4**	**-0.5**
	1.6nm,0.8s,mb3.9,baz=88,slow=8.8,SNR=9.7						
AS31	**Alice Springs**	**32.25**	**252⇑**	*i*P	**P**	**13 40 20.0**	**0.0**
AS31				*e*		13 40 27.6	
ASAR	**Alice Springs**	**32.25**	**252**	P	**P**	**13 40 20.1**	**+0.1**
	7.6nm,0.8s,mb4.6,baz=80,slow=8.5,SNR=61						
ASPA	**Alice Springs**	**32.25**	**252⇑**	*i*P	**P**	**13 40 20.0**	**-0.1**
ASPA				*e*		13 40 27.6	
MJAR	**Matsushiro Arr**	**60.00**	**333**	P	**P**	**13 43 58.1**	**0.0**
	2.4nm,0.8s,mb4.2,baz=160,slow=4.0,SNR=5.1						
MDJ	**Mudanjiang**	**70.37**	**332**	P	**P**	**13 45 04.4**	**-1.1**
	10.0nm,1.0s,mb4.7						
QSPA	**South Pole Qui**	**73.11**	**180**	P	**P**	**13 45 22.9**	**+1.0**
	6.3nm,0.9s,mb4.5						
SONM	**Songino Array**	**84.45**	**324**	P	**P**	**13 46 25.9**	**+1.6**
	1.4nm,0.9s,mb4.1,baz=140,slow=4.5,SNR=10						
BILL	**Bilibino**	**84.74**	**359**	*e*P	**P**	**13 46 27.2**	**+1.5**
	2.1nm,0.8s,mb4.3						
BILL				*e*		13 46 35.2	
CDF	**Champ du Feu**	**144.72**	**337**	*e*PKP1	PKPdf	13 53 29.5	+1.1
	20nm,1.1s						
HINF	**Hinteralfeld**	**145.38**	**337**	*e*PKP1	PKPbc	13 53 31.4	+1.9
	9.8nm,0.6s						
HAU	**Haudompre**	**145.41**	**338**	*e*PKP1	PKPbc	13 53 32.8	+3.3
	35nm,0.9s						
MEZF	**Maizieres J'vi**	**145.44**	**339**	*e*PKP1	PKPbc	13 53 32.3	+2.7
CABF	**La Chapelle**	**146.67**	**337**	*e*PKP1	PKPbc	13 53 36.4	+3.0
FLN	**La Foliniere**	**146.80**	**346**	*e*PKP1	PKPbc	13 53 35.7	+2.0
	18nm,0.8s						
LDF	**La Druitiere**	**146.87**	**345**	*e*PKP1	PKPbc	13 53 35.8	+1.9
LOR	**Lormes**	**146.91**	**340**	*e*PKP1	PKPbc	13 53 36.5	+2.4
SSF	**Saint Saulge**	**147.21**	**340**	*e*PKP1	PKPbc	13 53 37.7	+2.8
GRR	**Gorron**	**147.24**	**346**	*e*PKP1	PKPbc	13 53 37.0	+2.0
LPG	**La Plagne**	**147.33**	**335**	*e*PKP1	PKPbc	13 53 38.1	+2.9
	17nm,1.1s						
PGF	**Pioggiola**	**148.61**	**329**	*e*PKP1	PKPbc	13 53 40.9	+2.2
	78nm,1.3s						
SMRF	**Simiane la Rot**	**149.05**	**334**	*e*PKP1	PKPbc	13 53 42.8	+3.0
LMR	**La Mourre**	**149.17**	**333**	*e*PKP1	PKPbc	13 53 42.2	+2.1
ETSF	**Etsaut**	**152.22**	**341**	*e*PKP1	PKPbc	13 53 50.7	+3.4

IDC 14 13:48:13.9±11.0,781S×12927E,h250km±122km,mb3.2/2, mb1 3.3/3,mb1mx3.1/13,mbtmp3.9/3,Error ellipse: s-maj=232.8km s-min=31.0km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.02**	**158**	P	Pn	13 51 02.5	-7.5
	1.5nm,0.3s,baz=340,slow=14,SNR=51						
WRA				S	S	13 53 24.8	-10
	1.4nm,0.3s,baz=344,slow=22,SNR=9.6						
ASAR	**Alice Springs**	**16.38**	**165**	P	P	13 51 48.9	+0.1
	1.2nm,0.3s,baz=344,slow=8.8,SNR=80						
ASAR				S	S	13 54 48.0	+0.7
	0.4nm,0.3s,baz=346,slow=14,SNR=5.8						
STKA	**Stephens Creek**	**26.55**	**156**	P	P	13 53 29.1	+0.2
	0.7nm,0.3s,baz=331,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**68.51**	**327**	P	P	13 58 49.4	+0.1
	0.2nm,0.3s,baz=121,slow=8.1,SNR=6.9						

*SZGRF **14** 14:03:28.7,4754N×14742E,h33km,mb5.4,Northwest of Kuril Islands, Russia*
*NIED **14** 14:04:00,4720N×14790E,h420km,Mw5.3 Best double couple: M_0=1.15000×10^{17} NP1:ϕ_s=197.00000°,δ59.00000°, λ88.00000°. NP2:ϕ_s=22.00000°,δ31.00000°,λ94.00000°.*
*SKHL **14** 14:04:08.8±2.7,4768N×14759E,h409km±19km,mb5.8/6, mbh6.0/8,Ms4.4/1,msh5.9/9*
*MOS **14** 14:04:09.3±0.8,4790N×14726E,h395km,mb5.1/89,Error ellipse: s-maj=6.9km s-min=4.1km az=97.5*
*JMA **14** 14:04:10.1±0.4,4723N×14793E,h449km,M5.3*
*ISCJB **14** 14:04:11.3±0.1,4783N±002×14730E±003,h418km, mb5.0/247,Error ellipse: s-maj=2.9km s-min=1.8km az=100.0*
*HRVD **14** 14:04:12.2±0.5,4804N×14746E,h420km±2km,MW5.3/56, Centroid moment Tensor Solution. LP body waves: s56,c77; Half duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.85±.05; $M_{\theta\theta}$0.14±.10; $M_{\phi\phi}$-0.99±.09; $M_{r\theta}$0.26±.11; $M_{\theta\phi}$-0.31±.08; $M_{\phi r}$-0.74±.09; Best double couple: M_0=1.25500×10^{17} NP1:ϕ_s=37.00000°,δ32.00000°, λ129.00000°. NP2:ϕ_s=173.00000°,δ66.00000°,λ68.00000°. Principal axes: T 1.2250, Plg63.0000°, Azm48.0000°; N 0.0610, Plg20.0000°, Azm182.0000°; P -1.2860, Plg18.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **14** 14:04:12.2±0.3,4793N×14727E,h414km±3km,mb5.1/156 Error ellipse: s-maj=3.3km s-min=2.1km az=164.0*
*IDC **14** 14:04:13.1±0.5,4793N×14733E,h424km±4km,mb4.4/24, mb1 4.5/28,mb1mx4.5/29,mbtmp5.2/28,Error ellipse: s-maj=8.8km s-min=7.0km az=126.0*
*BJI **14** 14:04:13.1,4789N×14676E,h401km,mB5.0,mb5.4*
ISC 14 14:04:12.7±0.1,4791N±002×14726E±003,h420km, h420km±2.3km:pP-P,n692,σ0=93/729,mb5.0/247, 289C-46D,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.71**	**171**	*i* P	**P**	**14 05 08.4**	**-6.7**
KUR				*i* P		14 05 08.4	
KUR				AMB	AMB	14 05 09.2	
	5μm,1.6s						
KUR				AMB	AMB	14 05 09.2	
	2μm,1.6s						
KUR				AMB	AMB	14 05 09.2	
	15μm,1.6s						
KUR				AMB	AMB	14 05 10.0	
	610nm,0.5s						
KUR				AMB	AMB	14 05 10.0	
	780nm,0.5s						
KUR				AMB	AMB	14 05 10.0	
	3μm,0.5s						
KUR				*i* S	**S**	**14 05 57.1**	**-8.7**
KUR				A		14 05 59.8	
	25μm,3.0s						
KUR				A		14 05 59.8	
	60μm,3.0s						
KUR				A		14 06 10.2	
	2μm,0.5s						
KUR				A		14 06 10.2	
	1μm,0.5s						
KUR				A		17 05 59.4	
	32μm,2.0s						
KUR	**Kuril'sk**	**2.71**	**171**	*α i*PN	**P**	**14 05 08.4**	**-6.7**
KUR				*i* S	**S**	**14 05 57.1**	**-8.7**
KUR				pmax	pmax		
	comp=N,5μm,1.6s						
KUR				pmax	pmax		
	comp=E,2μm,1.6s						
KUR				pmax	pmax		
	comp=Z,15μm,1.6s						
KUR				pmax	pmax		
	comp=N,610nm,0.5s						
KUR				pmax	pmax		
	comp=E,780nm,0.5s						
KUR				pmax	pmax		
	comp=Z,3μm,0.5s						
KUR				smax			
	comp=N,25μm,3.0s						
KUR				smax			
	comp=E,60μm,3.0s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,1μm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.20**	**254**	*i* P	**P**	**14 05 19.9**	**+0.9**
YSS				*i* P		14 05 19.9	
YSS				AMB	AMB	14 05 20.2	
	comp=E,2μm,0.9s						
YSS				AMB	AMB	14 05 20.2	
	comp=E,670nm,0.9s						
YSS				AMB	AMB	14 05 21.0	
	comp=E,1μm,3.0s						
YSS				AMB	AMB	14 05 21.0	
	comp=E,3μm,3.0s						
YSS				AMB	AMB	14 05 21.0	
	comp=E,3μm,3.0s						
YSS				*i* S	**S**	**14 06 09.0**	**-3.8**
YSS				A		14 06 14.0	
	comp=E,14μm,4.0s						
YSS				A		14 06 14.0	
	comp=E,24μm,4.0s						
YSS				A		14 06 14.5	
	comp=E,2μm,1.0s						
YSS				A		14 06 14.5	
	comp=E,3μm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.20**	**254**	*α i*PN	**P**	**14 05 19.9**	**+0.9**
YSS				pmax	pmax		
	comp=N,670nm,0.9s						
YSS				pmax	pmax		
	comp=Z,2μm,0.9s						
YSS				pmax	pmax		
	comp=E,1μm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.20**	**254**	*i*P	**P**	**14 05 18.8**	**-0.2**
YSS				*e*S	**S**	**14 06 07.5**	**-5.4**
UGL	**Uglegorsk**	**3.65**	**291**	*i* P	**P**	**14 05 22.6**	**-0.2**
UGL				*e*P		14 05 22.6	
UGL				AMB	AMB	14 05 23.7	
	comp=E,180nm,0.6s						
UGL				*i* S	**S**	**14 06 18.0**	**-1.7**
UGL				*i* S	**S**	**14 06 19.0**	**-0.7**
UGL				A		14 06 21.0	
	comp=E,670nm,1.0s						
UGL				A		14 06 21.0	
	comp=E,810nm,1.0s						
UGL				A		14 06 21.0	
	comp=E,160nm,0.8s						
UGL				A		14 06 24.0	
	comp=E,5μm,7.0s						
UGL				A		14 06 24.0	
	comp=E,6μm,8.0s						
UGL				A		14 06 24.0	
	comp=E,15μm,8.0s						
UGL	**Uglegorsk**	**3.65**	**291⇑**	*i*PN	**P**	**14 05 22.6**	**-0.2**
UGL				*i* S	**S**	**14 06 18.0**	**-1.7**
UGL				pmax	pmax		
	comp=Z,180nm,0.6s						
UGL				smax			
	comp=N,670nm,1.0s						
UGL				smax			
	comp=E,810nm,1.0s						
UGL				smax			
	comp=Z,160nm,0.8s						
UGL				smax			
	comp=N,6μm,8.0s						
UGL				smax			
	comp=E,15μm,8.0s						
UGL				smax			
	comp=Z,5μm,7.0s						
YUK	**Yuzh-Kuril'sk**	**3.99**	**195**	*i* P	**P**	**14 05 21.2**	**-4.7**
YUK				*i* P		14 05 21.4	
YUK				AMB	AMB	14 05 23.0	
	comp=Z,4μm,3.0s						
YUK				AMB	AMB	14 05 23.0	
	comp=Z,4μm,3.0s						
YUK				AMB	AMB	14 05 23.0	
	comp=Z,10μm,3.0s						
YUK				AMB	AMB	14 05 25.0	
	comp=Z,1μm,0.4s						
YUK				AMB	AMB	14 05 25.0	
	comp=Z,2μm,0.4s						
YUK				AMB	AMB	14 05 25.0	
	comp=Z,5μm,0.4s						
YUK				*i* S	**S**	**14 06 19.0**	**-6.4**
YUK				A		14 06 21.5	
	comp=Z,29μm,3.0s						
YUK				A		14 06 21.5	
	comp=Z,25μm,3.0s						
YUK				A		14 06 29.4	
	comp=Z,3μm,0.6s						
YUK				A		14 06 29.4	
	comp=Z,4μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.99**	**195** *c*	*i*PN	**P**	**14 05 21.2**	**-4.7**
YUK				*i* S	**S**	**14 06 19.0**	**-6.4**
YUK				pmax	pmax		
	comp=Z,10μm,2.0s						
YUK				pmax	pmax		
	comp=N,4μm,3.0s						
YUK				pmax	pmax		
	comp=E,4μm,3.0s						
YUK				smax			
	comp=N,29μm,3.0s						
YUK				smax			
	comp=E,25μm,2.5s						
TYV	**Tymovskoe**	**4.22**	**316**	*e*P	**P**	**14 05 27.8**	**-0.2**
TYV				AMB	AMB	14 05 29.0	
	comp=E,224nm,0.8s						
TYV				AMB	AMB	14 05 29.0	
	comp=E,480nm,0.8s						
TYV				*e*S	**S**	**14 06 28.0**	**-1.2**
TYV				A		14 06 31.0	
	comp=E,743nm,1.0s						
TYV				A		14 06 31.0	
	comp=E,589nm,1.0s						
TYV				A		14 06 32.0	
	comp=E,7μm,3.0s						
TYV				A		14 06 32.0	
	comp=E,8μm,7.0s						
JRA	**Rausu**	**4.24**	**201**	⇑P	**P**	**14 05 24.1**	**-4.1**
JRA				*e*S	**S**	**14 06 23.9**	**-5.7**
JSE	**Soyaes**	**4.37**	**229**	⇑P	**P**	**14 05 28.8**	**-0.6**
JSE				*e*S	**S**	**14 06 29.8**	**-2.1**
JWK2	**Keihoku**	**4.51**	**237**	⇑P	**P**	**14 05 31.0**	**+0.2**
JWK2				S	**S**	**14 06 34.6**	**+0.3**
JTKR	**Abashiri--Toko**	**4.58**	**212**	⇑P	**P**	**14 05 29.0**	**-2.4**
JTKR				S	**S**	**14 06 30.9**	**-4.6**
NEM2	**Nemuro 2**	**4.66**	**194**	⇑P	**P**	**14 05 25.9**	**-6.3**
NEM2				*e*S	**S**	**14 06 27.0**	**-10**
JNK	**Nakash**	**4.67**	**203**	⇑P	**P**	**14 05 28.5**	**-3.8**
JMP	**Maruseppu**	**4.75**	**216**	⇑P	**P**	**14 05 31.0**	**-2.1**
ASAJ	**Asahikawa**	**4.99**	**222**	P	**P**	**14 05 34.2**	**-1.2**
	comp=E,33nm,0.3s,baz=37,slow=5.9,SNR=172						
ASAJ				S	**S**	**14 06 40.0**	**-2.9**
	comp=E,7.4nm,0.3s,baz=244,slow=28,SNR=9.4						
ASAJ	**Asahikawa**	**4.99**	**222**	⇑P	**P**	**14 05 34.2**	**-1.3**
ASAJ	**Asahikawa**	**4.99**	**222**	PN	**P**	**14 05 34.3**	**-1.2**
ASAJ				S	**S**	**14 06 40.1**	**-2.8**
ASAJ				pmax	pmax		
	comp=Z,33nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
JKK2	**Kamakawa 2**	**5.12**	**220**	⇑P	**P**	**14 05 34.8**	**-2.0**
JKK2				*e*S	**S**	**14 06 42.0**	**-3.3**
JAR	**Ashorobuto**	**5.22**	**209**	⇑P	**P**	**14 05 34.7**	**-3.1**
JAR				*e*S	**S**	**14 06 40.9**	**-6.3**
JAK	**Akkeshi**	**5.23**	**201**	⇑P	**P**	**14 05 32.4**	**-5.5**
JAK				S	**S**	**14 06 38.0**	**-9.4**
JYG	**Yagishiri**	**5.34**	**231**	*e*S	**S**	**14 06 47.6**	**-1.8**
JAB	**Ashibetsu**	**5.64**	**221**	⇑P	**P**	**14 05 40.8**	**-1.3**
JHR	**Hokuryu**	**5.68**	**225**	P	**P**	**14 05 41.8**	**-0.8**
JHR				*e*S	**S**	**14 06 52.7**	**-3.2**
JFR	**Furan**	**5.76**	**216**	⇑P	**P**	**14 05 41.0**	**-2.4**
JFR				*e*S	**S**	**14 06 51.8**	**-5.7**
JCH	**Churui**	**5.96**	**209**	P	**P**	**14 05 39.0**	**-6.5**
JCH				*e*S	**S**	**14 06 51.4**	**-10**
OKH	**Okha**	**6.28**	**336**	*e*P	**P**	**14 05 47.1**	**-1.8**
OKH				⇓*i*P		14 05 47.1	
OKH				AMB	AMB	14 05 47.3	
	comp=N,1μm,0.5s						
OKH				⇓*i*S	**S**	**14 07 08.2**	**+0.6**
OKH				*i* S	**S**	**14 07 08.9**	**+1.3**
OKH				A		14 07 09.0	
	comp=N,200nm,1.0s						
OKH				A		14 07 09.8	
	comp=N,5μm,6.0s						
OKH	**Okha**	**6.28**	**336**	*e*PN	**P**	**14 05 47.1**	**-1.8**
OKH				*i* S	**S**	**14 07 07.8**	**+0.2**
OKH				smax			
	comp=N,5μm,6.0s						
OKH				smax			
	comp=E,6μm,8.0s						
SKR	**Severo-Kuril's**	**6.42**	**61**	*e*P	**P**	**14 05 44.1**	**-6.4**
SKR				AMB	AMB	14 05 45.0	
	comp=E,3μm,6.0s						
SKR				AMB	AMB	14 05 45.0	
	comp=E,7μm,6.0s						
SKR				AMB	AMB	14 05 45.0	
	comp=E,7μm,6.0s						
SKR				AMB	AMB	14 05 45.0	
	comp=E,4μm,6.0s						
SKR				AMB	AMB	14 05 45.0	
	comp=E,7μm,6.0s						
SKR				AMB	AMB	14 05 45.0	
	comp=E,7μm,6.0s						
SKR				AMB	AMB	14 05 45.9	
	comp=E,160nm,0.4s						
SKR				AMB	AMB	14 05 45.9	
	comp=E,490nm,0.9s						
SKR				AMB	AMB	14 05 45.9	
	comp=E,2μm,0.9s						
SKR				*e*S	**S**	**14 07 00.0**	**-10**
SKR				A		14 07 02.0	
	comp=E,8μm,6.0s						
SKR				A		14 07 02.0	
	comp=E,6μm,6.0s						
SKR				A		14 07 02.0	
	comp=E,5μm,6.0s						
SKR				A		14 07 02.0	
	comp=E,8μm,6.0s						
SKR				A		14 07 02.0	
	comp=E,6μm,6.0s						
SKR				A		14 07 02.0	
	comp=E,5μm,6.0s						
SKR				A		14 07 11.4	
	comp=E,180nm,0.4s						
SKR				A		14 07 11.4	
	comp=E,490nm,0.4s						
SKR				A		14 07 11.4	
	comp=E,110nm,0.4s						
JNBK	**Urakawa-nobuka**	**6.46**	**211**	⇑P	**P**	**14 05 45.8**	**-5.1**
JNBK				*e*S	**S**	**14 06 59.7**	**-11**
JEW	**Eniwo**	**6.51**	**221**	P	**P**	**14 05 49.7**	**-1.7**
JEW				*e*S	**S**	**14 07 02.3**	**-10**
JSK	**Shakotan**	**6.58**	**229**	P	**P**	**14 05 49.8**	**-2.4**

JSK				*e*S	**S**	**14 07 08.2 -5.3**
NKL	**Nikolayevsk**	**6.72 324**		*e*P	**P**	**14 05 51.0 -2.6**
NKL				AMB	AMB	14 05 52.0
	comp=E,90nm,1.0s					
NKL				AMB	AMB	14 05 52.0
	comp=E,80nm,1.0s					
NKL				AMB	AMB	14 05 52.0
	comp=E,150nm,1.0s					
NKL				AMB	AMB	14 05 53.0
	comp=E,800nm,2.0s					
NKL				*i* S	**S**	**14 07 15.0 -1.2**
NKL				A		14 07 16.0
	comp=E,390nm,1.5s					
NKL				A		14 07 18.0
	comp=E,3μm,6.0s					
NKL				A		14 07 18.0
	comp=E,4μm,8.0s					
JKB	**Kayabe**	**7.46 219**		P	**P**	**14 05 57.7 -4.1**
JKB				*e*S	**S**	**14 07 19.5 -12**
JOT	**Ohata**	**7.88 216**		P	**P**	**14 06 01.6 -4.8**
JOT				*e*S	**S**	**14 07 28.7 -11**
TEY	**Ternei**	**7.90 253**		*i* P	**P**	**14 06 04.0 -2.6**
TEY				*i* S	**S**	**14 07 36.0 -4.0**
TEY				A		14 07 39.0
	comp=E,6μm,3.0s					
TEY				A		14 07 39.0
	comp=E,5μm,3.0s					
TEY				A		14 07 39.5
	comp=E,1μm,1.9s					
TEY				A		14 07 39.5
	comp=E,2μm,1.9s					
TEY				AMS	AMS	14 09 23.0
	comp=E,2μm,10.0s					
JOSM	**Okushiri--Mats**	**8.02 226**		P	**P**	**14 06 05.6 -2.3**
JOSM				*e*S	**S**	**14 07 33.1 -9.3**
HABR	**Khabarovsk**	**8.18 279**		*i* PN	**P**	**14 06 11.8 +2.1**
HABR				pmax	pmax	
	comp=Z,200nm,0.9s					
JANG	**Nango**	**8.59 211**		P	**P**	**14 06 09.7 -4.5**
JANG				*e*S	**S**	**14 07 43.2 -11**
PET	**Petropavlovsk**	**8.89**	**51**⇓	*e*PN	**P**	**14 06 15.0 -2.5**
PET				pmax	pmax	
	comp=Z,546nm,1.3s					
PET	**Petropavlovsk**	**8.89**	**51**⇓	*e*P	**P**	**14 06 14.9 -2.6**
	comp=Z,546nm,1.3s					
PET				*e*		14 06 30.6
PET				*e*S	**S**	**14 07 44.5 -16**
JMK	**Ichinoseki**	**9.97 208**		P	**P**	**14 06 27.6 -1.8**
JMK				*e*S	**S**	**14 08 15.5 -6.5**
KLR	**Kul'dur**	**10.37 283**	⇑	*i* P	**P**	**14 06 33.5 -0.4**
KLR				*i* P		14 06 33.8
KLR				AMB	AMB	14 06 34.3
	comp=Z,490nm,1.2s					
KLR				AMB	AMB	14 06 34.3
	comp=Z,480nm,1.2s					
KLR				AMB	AMB	14 06 35.5
	comp=Z,2μm,8.0s					
KLR				AMB	AMB	14 06 35.5
	comp=Z,2μm,8.0s					
KLR				*e*S	**S**	**14 08 33.0 +2.8**
KLR				A		14 08 42.0
	comp=Z,1μm,10.0s					
KLR				A		14 08 42.0
	comp=Z,1μm,10.0s					
JOU	**Okura**	**10.68 209**		P	**P**	**14 06 36.5 -0.8**
JFK	**Kawauchi**	**11.53 206**		P	**P**	**14 06 46.5 -0.1**
VLA	**Vladivostok**	**11.79 252**		*i* PN	**P**	**14 06 48.7 -0.8**
VLA				pmax	pmax	
	comp=Z,97nm,0.7s					
VLA				MLR	MLR	
	comp=Z,700nm,12.2s					
MA2	**Magadan**	**11.87**	**9***c*	*i* PN	**P**	**14 06 50.4 0.0**
MA2				pmax	pmax	
	comp=Z,71nm,0.9s					
MA2	**Magadan**	**11.87**	**9**	⇑ *i* P	**P**	**14 06 50.2 -0.2**
	comp=Z,53nm,0.8s					
MDJ	**Mudanjiang**	**12.66 261**		P	**P**	**14 06 58.1 -0.9**
MDJ				S	**S**	**14 09 16.0 -0.5**
MDJ				SCP	ScP	14 14 54.1 +0.8
MDJ				PCS	PcS	14 15 37.9 +2.8
MDJ				AMB	AMB	
	comp=Z,227nm,0.8s					
MDJ				AMB	AMB	
	comp=Z,400nm,3.8s					
MDJ	**Mudanjiang**	**12.66 261**⇓		*e*P	**P**	**14 06 58.5 -0.5**
	comp=Z,163nm,0.8s					
MDJ				*e*ScP	ScP	14 14 54.2 +0.9
MAJO	**Matsushiro**	**13.18 214**⇑		*e*PN	**P**	**14 07 03.9 -0.8**
MAJO				pmax	pmax	
	comp=Z,97nm,0.8s					
MAJO	**Matsushiro**	**13.18 214**⇑		*e*P	**P**	**14 07 03.9 -0.8**
	comp=Z,97nm,0.8s					
MAT	**Matsushiro**	**13.18 214**		P	**P**	**14 07 04.4 -0.3**
MAT				S	**S**	**14 09 25.4 -1.4**
MJAR	**Matsushiro Arr**	**13.18 214**		P	**P**	**14 07 04.6 0.0**
	comp=Z,11nm,0.3s,baz=7.8,slow=12,SNR=115					
MJAR				S	**S**	**14 09 29.2 +2.4**
	baz=52,slow=13,SNR=6.6					
MJAR				ScP	ScP	14 14 54.8 +0.7
	comp=Z,0.5nm,0.3s,baz=81,slow=1.1,SNR=25					
MJAR	**Matsushiro Arr**	**13.18 214**		PN	**P**	**14 07 04.6 -0.1**
MJAR				S	**S**	**14 09 29.2 +2.4**
JNG	**Nsakai**	**13.34 214**		P	**P**	**14 07 06.4 0.0**
BMKR	**Bomnak**	**13.36 307**	⇑	*i* P	**P**	**14 07 05.6 -1.1**
BMKR				AMB	AMB	14 07 06.3
	comp=Z,90nm,0.5s					
BMKR				AMB	AMB	14 07 06.3
	comp=Z,140nm,0.5s					
YASR	**Yasnyy**	**13.36 301**		*i* P	**P**	**14 07 05.0 -1.7**
YASR				AMB	AMB	14 07 06.1
	comp=Z,24nm,0.6s					
YASR				AMB	AMB	14 07 06.1
	comp=Z,164nm,0.6s					
YASR				AMB	AMB	14 07 06.1
	comp=Z,320nm,0.6s					
ZEA	**Zeya**	**13.91 302**⇓		*e*P	**P**	**14 07 10.3 -2.3**
ZEA			⇓	*e*P		14 07 10.3
ZEA				AMB	AMB	14 07 11.5
	comp=Z,130nm,1.0s					
ZEA				AMB	AMB	14 07 11.5
	comp=Z,120nm,1.0s					
ZEA				AMB	AMB	14 07 11.5
	comp=Z,210nm,1.0s					
ZEA				*e*S	**S**	**14 09 40.0 -1.4**
ZEA				A		14 09 43.1
	comp=Z,140nm,1.2s					
ZEA				A		14 09 45.0
	comp=Z,1μm,7.0s					
ZEA				A		14 09 45.0
	comp=Z,1μm,7.0s					
ZEA				A		14 09 45.0
	comp=Z,700nm,7.0s					
ZEA				AMS	AMS	14 14 35.0
	comp=Z,500nm,10.0s					
KROS	**Kirovskiy**	**14.28 305**		*i* P	**P**	**14 07 15.5 -1.1**
KROS				AMB	AMB	14 07 16.8
	comp=Z,410nm,0.9s					
KROS				AMB	AMB	14 07 16.8
	comp=Z,720nm,0.9s					
KROS				AMB	AMB	14 07 16.8
	comp=Z,180nm,0.9s					
SEY	**Seymchan**	**15.33**	**9**	*i* P	**P**	**14 07 28.6 +0.6**
SEY				*e*S	**S**	**14 10 10.8 +1.3**
SEY				pmax	pmax	
	comp=N,50nm,1.0s					
SEY				pmax	pmax	
	comp=Z,140nm,1.0s					
SEY				pmax	pmax	
	comp=E,38nm,0.7s					
SEY				smax		
	comp=N,830nm,26.0s					
SEY				smax		
	comp=E,830nm,26.0s					
CN2	**Changchun**	**15.73 263**⇓		*i* P	**P**	**14 07 30.8 -1.4**
CN2				*e*XP		14 09 07.5
CN2				*e*S	**S**	**14 10 13.1 -4.2**
CN2				AMB	AMB	
	comp=Z,200nm,1.0s					
CN2				AMB	AMB	
	comp=Z,700nm,4.0s					
JHJ	**Hachijo jima 2**	**15.81 204**		P	**P**	**14 07 33.3 +0.2**
	comp=Z,22nm,0.3s,baz=216,slow=18,SNR=5.4					
JHE	**Heguri**	**15.82 217**		P	**P**	**14 07 33.2 0.0**
JKS	**Kasai**	**15.89 220**		P	**P**	**14 07 33.6 -0.3**
JKR	**Kurayoshi**	**16.02 223**		P	**P**	**14 07 36.0 +0.7**
JAD	**Aida**	**16.22 222**		P	**P**	**14 07 37.3 -0.2**
CLNS	**Chul'man**	**16.26 312**	*d*	*i* P	**P**	**14 07 39.2 +1.3**
CLNS				*e*S	**S**	**14 10 28.8 +1.2**
CLNS				pmax	pmax	
	comp=Z,431nm,0.8s					
CLNS				pmax	pmax	
	comp=N,360nm,1.8s					
CLNS				pmax	pmax	
	comp=E,244nm,1.1s					
CLNS				smax		
	comp=N,328nm,1.3s					
CLNS				smax		
	comp=E,496nm,1.3s					
CLNS				smax		
	comp=Z,98nm,1.7s					
NRGR	**Nerungri**	**16.27 311**		*e*P	**P**	**14 07 32.8 -5.2**
NRGR				S	**S**	**14 10 21.3 -6.6**
NRGR				smax		
	comp=N,17nm,0.2s					
JAJ2	**Tsuna**	**16.35 219**		P	**P**	**14 07 38.3 -0.6**
JWM	**Minabe**	**16.65 217**		P	**P**	**14 07 41.7 -0.4**
JHS	**Saijyo**	**16.66 224**		P	**P**	**14 07 42.6 +0.5**
JWZ	**Kozaga**	**16.79 215**		P	**P**	**14 07 43.8 +0.3**
JJS	**Sakaide**	**16.80 221**		P	**P**	**14 07 43.2 -0.5**
JJG	**Jouge**	**16.93 224**		P	**P**	**14 07 45.6 +0.5**
JAI	**Aioi**	**17.07 219**		P	**P**	**14 07 46.4 -0.1**
FX1	**Attu Island--F**	**17.21 64**		P	**P**	**14 07 48.0 +0.1**
	comp=N,31nm,0.3s,baz=325,slow=3.3,SNR=36					
FX1	**Attu Island--F**	**17.21 64**		P	**P**	**14 07 48.0 +0.1**
FX1				pmax	pmax	
	comp=Z,31nm,0.3s					
FX1	**Attu Island--F**	**17.21 64**		*e*P	**P**	**14 07 47.5 -0.4**
YAK	**Yakutsk**	**17.29 331**	*c*	*i* P	**P**	**14 07 48.2 -0.6**
YAK				*i* S	**S**	**14 10 46.5 -1.0**
YAK				pmax	pmax	
	comp=N,34nm,1.0s					
YAK				pmax	pmax	
	comp=E,37nm,1.0s					
YAK				pmax	pmax	
	comp=Z,146nm,1.0s					
YAK				smax		
	comp=N,226nm,1.1s					
YAK				smax		
	comp=Z,148nm,1.1s					
YAK				smax		
	comp=E,599nm,1.2s					
YAK	**Yakutsk**	**17.29 331**⇑		*e*P	**P**	**14 07 48.1 -0.7**
	comp=E,360nm,0.7s					
YAK				*e*S	**S**	**14 10 44.9 -2.6**
YAK				*e*ScP	ScP	14 15 01.6 -0.1
KS15	**Wonju Array Si**	**17.62 241**⇓		*e*P	**P**	**14 07 52.9 +0.5**
SNY	**Shenyang**	**17.82 259**	⇓	P	**P**	**14 07 53.6 -0.8**
SNY				S	**S**	**14 10 54.3 -3.3**
SNY				PCP	PcP	14 12 11.3 +3.1
SNY				AMB	AMB	
	comp=Z,342nm,1.0s					
SNY				AMB	AMB	
	comp=Z,981nm,6.0s					
JKU	**Kubokawa**	**18.09 221**		P	**P**	**14 07 57.4 +0.2**
HIA	**Hailar**	**18.22 285**	*d*	*i* P	**P**	**14 07 56.5 -2.1**
HIA	**Hailar**	**18.22 285**		*e*P	**P**	**14 07 56.4 -2.2**
	comp=Z,106nm,0.8s					
INCN	**Inchon**	**18.34 243**		*e*P	**P**	**14 07 59.8 0.0**
	comp=Z,142nm,0.8s					
JNU	**Nakatsue**	**19.26 226**		P	**P**	**14 08 09.5 +0.6**
	comp=Z,11nm,0.3s,baz=47,slow=12,SNR=25					
DL2	**Dalian**	**20.60 254**		*i* PR		14 08 21.4
DL2				S	**S**	**14 11 44.8 +1.0**
DL2				AMB	AMB	
	comp=Z,470nm,1.0s					
DL2				AMB	AMB	
	comp=Z,400nm,4.5s					
BOD	**Bodaibo**	**22.17 309**	⇑	*i* P	**P**	**14 08 34.5 -1.0**
BOD				*e*		14 12 05.2
BOD				pmax	pmax	
	comp=Z,21nm,1.0s,mb4.5					
BILL	**Bilibino**	**22.37**	**19***a*	*i* P	**P**	**14 08 35.6 -1.7**
BILL				*e*S	**S**	**14 12 11.6 -0.5**
BILL				*e*		14 12 15.9
BILL				pmax	pmax	
	comp=Z,96nm,1.2s,mb5.1					
BILL				MLR	MLR	
	comp=Z,100nm,14.0s					
BILL	**Bilibino**	**22.37**	**19**	*e*P	**P**	**14 08 35.5 -1.8**
	comp=Z,49nm,0.8s,mb5.0					
BILL				*e*PcP	PcP	14 12 16.0 -0.7
BILL				*e*ScP	ScP	14 15 14.2 +0.5
BJI	**Beijing**	**23.59 262**		P	**P**	**14 08 49.3 +1.0**
BJI				XP	sP	14 10 47.5 -1.1
BJI				S	**S**	**14 12 33.1 +1.8**
BJI				SCP	ScP	14 15 18.3 +1.3
BJI				AMB	AMB	
	comp=Z,164nm,0.8s,mb5.5					
BJT	**Baijiatuau**	**23.61 262**		*e*P	**P**	**14 08 48.5 +0.1**
BJT				pmax	pmax	
	comp=Z,120nm,0.7s					
BJT	**Baijiatuau**	**23.61 262**		*e*P	**P**	**14 08 48.5 +0.1**
	comp=Z,120nm,0.7s,mb5.4					
TIA	**Tai'an**	**25.08 253**	⇑	P	**P**	**14 09 01.8 +0.3**
TIA				AMB	AMB	
	comp=Z,93nm,1.1s,mb5.1					
TIXI	**Tiksi**	**25.32 346**	⇑	*i* P	**P**	**14 08 59.9 -3.8**
TIXI				*e**SP	sP	14 10 57.7 -9.3
TIXI				*e*S	**S**	**14 12 50.3 -8.3**
TIXI				pmax	pmax	
	comp=Z,22nm,0.7s,mb4.7					
JOW	**Kunigami**	**25.76 222**		P	**P**	**14 09 08.0 +0.4**
	comp=Z,43nm,0.5s,mb5.1,baz=18,slow=8.8,SNR=21					
HHC	**Hu-ho-hao-te**	**26.29 268**		*e*P	**P**	**14 09 13.4 +1.1**
HHC				AP		14 10 25.0
HHC				XP	sP	14 11 14.1 -1.8
HHC				PCP	PcP	14 12 28.3 +2.8
HHC				S	**S**	**14 13 15.3 +1.4**
HHC				SCP	ScP	14 15 27.8 +3.1
HHC				AMB	AMB	
	comp=Z,165nm,1.1s,mb5.4					
NJ2	**Nanjing**	**26.71 244**		*e*P	**P**	**14 09 17.1 +1.1**
NJ2				XP	sP	14 11 18.3 -1.5
NJ2				S	**S**	**14 13 20.0 -0.5**
NJ2				AMB	AMB	
	comp=Z,80nm,0.8s,mb5.2					
NJ2				AMB	AMB	
	comp=Z,180nm,10.6s					
ULN	**Ulaanbaatar**	**26.75 285**⇓		*e*P	**P**	**14 09 16.5 +0.1**
ULN				*e**PP		14 10 29.5
ULN				*e*		14 12 26.9
ULN				*e*S	**S**	**14 13 20.1 -1.0**
ULN				*e*		14 15 26.9
ULN				pmax	pmax	
	comp=Z,52nm,0.9s,mb5.0					
ULN	**Ulaanbaatar**	**26.75 285**⇓		*e*P	**P**	**14 09 16.5 +0.1**
	comp=Z,52nm,0.9s,mb5.0					
ULN				*e*pP		14 10 29.5
ULN				*e*PcP	PcP	14 12 26.9 +0.3
ULN				*e*S	**S**	**14 13 20.1 -1.0**
ULN				*e*ScP	ScP	14 15 26.9 +0.8
SONM	**Songino Array**	**27.19 285**		P	**P**	**14 09 20.5 +0.3**
	comp=Z,10nm,0.7s,mb4.4,baz=67,slow=7.9,SNR=46					
SONM				pP		14 10 35.5
	comp=Z,7.2nm,1.0s,baz=69,slow=8.1,SNR=1.8					
SONM				PcP	PcP	14 12 28.0 +0.4
	comp=Z,6.3nm,0.6s,baz=111,slow=2.3,SNR=6.8					
SONM				ScP	ScP	14 15 28.6 +1.2
	comp=Z,11nm,0.8s,baz=106,slow=2.0,SNR=16					
SONM	**Songino Array**	**27.19 285**		P	**P**	**14 09 20.5 +0.3**
SONM						14 12 28.0
BTO	**Baotou**	**27.45 268**		*e*P	**P**	**14 09 23.0 +0.5**
BTO				AMB	AMB	
	comp=Z,39nm,1.2s,mb4.7					
ZAK	**Zakamensk**	**28.57 292**	⇑	*i* P	**P**	**14 09 32.8 +0.5**
ZAK				pmax	pmax	
	comp=Z,49nm,1.5s,mb4.6					
ZAK				pmax	pmax	
	comp=Z,24nm,1.3s,mb4.4					
TNA	**Tin City**	**29.39**	**37**	⇑ *i* P	**P**	**14 09 38.6 -1.0**
	comp=Z,90nm,0.9s,mb5.1					
TNA				*e*PcP	PcP	14 12 33.0 -0.2
MOY	**Mondy**	**29.72 295**		*e*P	**P**	**14 09 42.7 +0.3**
MOY				pmax	pmax	
	comp=Z,46nm,1.8s,mb4.5					
WHN	**Wuhan**	**30.52 247**	⇑	*i* P	**P**	**14 09 50.5 +1.0**
WHN				AMB	AMB	
	comp=Z,155nm,1.0s,mb5.3					
XAN	**Xi'an**	**31.74 258**		P	**P**	**14 10 00.4 +0.4**
XAN				S	**S**	**14 14 32.4 -6.3**
XAN				AMB	AMB	
	comp=Z,137nm,1.0s,mb5.2					
QZH	**Quanzhou**	**32.20 235**		P	**P**	**14 10 05.0 +1.1**
QZH				AMB	AMB	
	comp=Z,200nm,1.3s,mb5.3					
KRAR	**Krasnoyarsk**	**33.68 305**		*i* P	**P**	**14 10 16.6 0.0**
ENH	**Enshi**	**33.78 252**⇓		*e*P	**P**	**14 10 17.3 -0.1**
	comp=Z,107nm,0.8s,mb5.2					
ENH				*e*PcP	PcP	14 12 46.0 +0.7
ENH				*e*ScP	ScP	14 15 50.7 +1.5
LZH	**Lanzhou**	**33.93 266**	⇓	P	**P**	**14 10 20.8 +2.1**
LZH				PCP	PcP	14 12 51.0 +5.3
LZH				S	**S**	**14 15 13.3 +1.1**
LZH				SCP	ScP	14 15 51.5 +1.7
LZH				XS	sS	14 17 26.3 -7.0
LZH				SCS	ScS	14 19 54.5 +1.6
LZH				AMB	AMB	
	comp=Z,770nm,1.1s,mb6.0					
LZH				AMB	AMB	
	comp=Z,2μm,4.2s					
GTA	**Gaotai**	**34.88 274**	⇓	P	**P**	**14 10 28.3 +1.5**
GTA				PP	PP	14 12 00.6 +3.3
GTA				PCP	PcP	14 12 49.9 +1.4
GTA				S	**S**	**14 15 28.3 +1.7**
GTA				SCP	ScP	14 15 54.8 +1.6
GTA				XS	sS	14 17 46.5 -1.7
GTA				SS	SS	14 18 16.9 -3.7
GTA				SCS	ScS	14 20 00.1 +2.1
GTA				AMB	AMB	
	comp=Z,81nm,1.0s,mb5.0					
GTA				AMB	AMB	
	comp=Z,171nm,4.6s					
KDAK	**Kodiak Island**	**36.48**	**51**	P	**P**	**14 10 38.9 -1.2**
	comp=Z,868nm,0.8s,mb6.1,SNR=44					
CD2	**Chengdu**	**37.10 259**	⇓	*i* P	**P**	**14 10 46.3 +1.0**
CD2				AP	pP	14 12 04.9 +1.5
CD2				PP	PP	14 12 25.1 +3.9
CD2				XP	sP	14 12 51.1 -0.5
CD2				S	**S**	**14 16 02.4 +2.5**
CD2				XS	sS	14 18 21.8 -0.9
CD2				AMB	AMB	
	comp=Z,150nm,0.7s,mb5.4					
CD2				AMB	AMB	
	comp=Z,200nm,4.5s					
SLKM	**Skilak Lake**	**37.20**	**47**	*e*P	**P**	**14 10 44.6 -1.5**
SLKM				*e*		14 12 54.5
MCK	**McKinley**	**37.38**	**41**	⇑ *i* P	**P**	**14 10 46.4 -1.2**
MCK				*e*		14 12 55.1
MCK				*e*		14 16 03.4
MCK				pmax	pmax	
	comp=Z,102nm,0.9s,mb5.2					
MCK	**McKinley**	**37.38**	**41**	⇑ *i* P	**P**	**14 10 46.4 -1.1**
	comp=Z,102nm,0.9s,mb5.2					
MCK				*e*PcP	PcP	14 12 55.1 -0.9
MCK				*e*ScP	ScP	14 16 03.4 +0.9
PMR	**Palmer**	**37.56**	**45**	*e*P	**P**	**14 10 47.7 -1.4**
PMR				*e*		14 12 55.9
PMR				pmax	pmax	
	comp=Z,48nm,0.3s,mb5.3					
PMR	**Palmer**	**37.56**	**45**	*e*P	**P**	**14 10 47.7 -1.3**
	comp=Z,48nm,0.3s,mb5.3					
PMR				*e*PcP	PcP	14 12 55.9 -0.6
COLA	**College**	**37.73**	**39**	⇑ *i* P	**P**	**14 10 49.8 -0.7**
COLA				pmax	pmax	
	comp=Z,373nm,0.8s,mb5.8					
COLA	**College**	**37.73**	**39**	⇑ *i* P	**P**	**14 10 49.8 -0.7**
	comp=Z,373nm,0.8s,mb5.8					
SML	**Sawmill**	**37.90**	**44**	*e*P	**P**	**14 10 51.1 -0.8**
ILAR	**Eielson Array**	**38.15**	**39**	P	**P**	**14 10 52.6 -1.4**
	comp=Z,191nm,0.8s,mb5.5,baz=269,slow=7.1,SNR=794					
ILAR				PcP	PcP	14 12 56.5 -1.9
	comp=Z,8.9nm,0.7s,baz=277,slow=3.1,SNR=6.7					
ILAR				ScP	ScP	14 16 05.0 -0.4
	comp=Z,1.6nm,0.6s,baz=274,slow=3.8,SNR=6.1					
ILAR	**Eielson Array**	**38.15**	**39**	P	**P**	**14 10 52.6 -1.4**
ILAR						14 12 56.5
GYA	**Guiyang**	**38.20 251**	⇓	*i* P	**P**	**14 10 55.0 +0.6**
GYA				AP	pP	14 12 13.8 +0.8
GYA				XP	sP	14 12 59.9 -1.2
GYA				PCP	PcP	14 13 02.3 +3.7
GYA				S	**S**	**14 16 15.6 -0.8**
GYA				XS	sS	14 18 35.4 -4.4
GYA				SS	SS	14 19 16.1 -10
GYA				SCS	ScS	14 20 18.4 +1.6
GYA				AMB	AMB	
	comp=Z,260nm,0.9s,mb5.6					
GYA				AMB	AMB	
	comp=Z,170nm,4.8s					
ZAL	**Zalesovo**	**38.69 303**		P	**P**	**14 10 58.3 0.0**
	comp=Z,5.0nm,0.6s,mb4.0,baz=37,slow=7.5,SNR=21					
ZAL				PcP	PcP	14 13 00.7 +0.5
	comp=Z,19nm,0.7s,baz=37,slow=3.8,SNR=22					
NVS	**Novosibirsk**	**39.29 305**		*i* P	**P**	**14 11 01.9 -1.4**
NVS				*e*		14 12 44.0
NVS				pmax	pmax	
	comp=E,13nm,0.9s					
NVS				pmax	pmax	
	comp=Z,13nm,0.9s,mb4.3					
EYAK	**Cordova Ski Ar**	**39.37**	**46**	*e*P	**P**	**14 11 03.6 -0.3**
TGY	**Tagaytay City**	**40.16 222**		P	**P**	**14 11 11.8 +1.5**
	comp=Z,94nm,0.4s,baz=196,slow=11,SNR=5.6					
WMQ	**Urumqi**	**40.79 287**	⇓	*i* P	**P**	**14 11 16.5 +1.1**
WMQ				AP	pP	14 12 36.3 +1.2
WMQ				PP	PP	14 13 01.6 +1.2
WMQ				XP	sP	14 13 22.1 -0.8
WMQ				AMB	AMB	
	comp=Z,39nm,0.8s,mb4.8					
WMQ				AMB	AMB	
	comp=Z,251nm,4.1s					
KMI	**Kunming**	**41.65 253**		P	**P**	**14 11 23.5 +1.2**
KMI				AP	pP	14 12 43.8 +1.4
KMI				PP	PP	14 13 08.6 -0.9
KMI				PCP	PcP	14 13 17.4 +7.6
KMI				XP	sP	14 13 29.8 -0.3
KMI				SCP	ScP	14 16 25.9 +6.8
KMI				S	**S**	**14 17 01.9 -5.1**
KMI				PCS	PcS	14 17 07.4 +5.4
KMI				XS	sS	14 19 24.1 -8.3
KMI				SCS	ScS	14 20 40.4 +2.9
KMI				AMB	AMB	
	comp=Z,120nm,1.1s,mb5.1					
KMI				AMB	AMB	
	comp=Z,357nm,4.4s					
QIZ	**Qiongzhong**	**41.81 240**		*e*P	**P**	**14 11 25.6 +2.0**
QIZ				AP	pP	14 12 46.0 +2.2
QIZ				AMB	AMB	
	comp=Z,31nm,1.3s,mb4.5					
QIZ				AMB	AMB	
	comp=Z,313nm,4.6s					
INK	**Inuvik**	**42.82**	**33**	⇑ *i* P	**P**	**14 11 30.4 -1.1**
INK				*e*		14 13 13.0
INK				*e*		14 13 19.6
INK				pmax	pmax	
	comp=Z,171nm,0.8s					
INK	**Inuvik**	**42.82**	**33**	⇑ *i* P	**P**	**14 11 30.4 -1.2**
	comp=Z,171nm,0.8s,mb5.4					
INK				*e*PcP	PcP	14 13 13.0 -0.7
INK				*e*PP	PP	14 13 19.6 -1.5
INK				*e*ScP	ScP	14 16 10.4 -13
MK31	**Makanchi Array**	**42.85 294**		*i* P	**P**	**14 11 32.0 +0.2**
MK31				pmax	pmax	
	comp=Z,21nm,0.5s,mb4.7					
MKAR	**Makanchi Array**	**42.85 294**		P	**P**	**14 11 32.1 +0.3**
	comp=Z,25nm,0.8s,mb4.6,baz=67,slow=7.6,SNR=235					
MKAR				PcP	PcP	14 13 13.9 +0.1
	comp=Z,7.1nm,0.7s,baz=79,slow=6.3,SNR=5.7					
KURK	**Kurchatov**	**43.38 300**		P	**P**	**14 11 35.0 -1.0**
	comp=Z,183nm,0.7s,mb5.5,SNR=27					
KURK	**Kurchatov**	**43.38 300**		*e*P	**P**	**14 11 35.4 -0.6**
KURK				*e*		14 13 15.6
KURK				pmax	pmax	
	comp=Z,36nm,1.0s,mb4.7					
KURK	**Kurchatov**	**43.38 300**		*e*P	**P**	**14 11 35.4 -0.5**
	comp=Z,36nm,1.0s,mb4.7					
KURK				*e*PcP	PcP	14 13 15.6 -0.1
KURK				*e*ScP	ScP	14 16 26.2 +0.1
SIT	**Sitka**	**45.60**	**48**	*e*P	**P**	**14 11 54.3 +1.1**
SIT				pmax	pmax	
	comp=Z,402nm,1.4s,mb5.6					
SIT	**Sitka**	**45.60**	**48**	*e*P	**P**	**14 11 54.3 +1.0**
	comp=Z,402nm,1.4s,mb5.6					
LSA	**Lhasa**	**46.28 268**		P	**P**	**14 12 01.3 +2.8**
LSA				AMB	AMB	

comp=Z,20nm,1.0s,mb4.4
LSA Lhasa 46.28 268 ⇓*i*P **P 14 12 01.1 +2.6**
LSA pmax pmax
comp=Z,191nm,0.6s,mb5.6
LSA Lhasa 46.28 268 ⇓*i*P **P 14 12 01.1 +2.6**
comp=Z,191nm,0.6s,mb5.6
LSA *e*ScP ScP 14 16 41.0 +2.9
VOSK Vostochnaya 46.82 306 P **P 14 12 01.9 -0.7**
VOSK pmax pmax
comp=Z,7.0nm,0.7s,mb4.1
BVA0 Borovoye Array 47.01 306 *i* P **P 14 12 03.6 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 47.01 306 P **P 14 12 04.1 +0.1**
comp=Z,5.7nm,0.7s,mb4.0,baz=55,slow=8.3,SNR=37
BVAR PcP PcP 14 13 28.4 0.0
comp=Z,14nm,0.7s,baz=63,slow=4.2,SNR=15
BVAR ScP ScP 14 16 41.5 +0.2
comp=Z,29nm,0.6s,baz=62,slow=3.9,SNR=36
BVAR Borovoye Array 47.01 306 P **P 14 12 04.1 +0.1**
BVAR pP 14 13 28.4 +1.8
BRVK Borovoye 47.05 307 P **P 14 12 04.6 +0.2**
comp=Z,80nm,0.8s,mb5.1,SNR=8.9
ZRNK Zerenda 47.79 307 *e*P **P 14 12 09.5 -0.5**
ZRNK *e**PP pP 14 13 30.8 -2.0
ZRNK pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
ZRNK Zerenda 47.79 307 *e*P **P 14 12 09.5 -0.5**
comp=Z,8.0nm,0.7s,mb4.2
ZRNK *e*pP pP 14 13 30.8 -2.0
ZRNK *e*ScP ScP 14 16 44.3 -0.2
KKTK Khon Kaen 48.08 245 ⇓P **P 14 12 13.8 +1.6**
comp=Z,926nm,0.6s
SHL Shillong 48.49 263 *i* P **P 14 12 16.3 +1.1**
SHL *e*S **S 14 18 45.3 +1.4**
ULHL Ulahol 48.85 291 P **P 14 12 19.2 +1.3**
SNR=23
TKM2 Tokmak 2 48.89 292 P **P 14 12 19.5 +1.2**
SNR=5.6
ALE Alert 48.96 5 P **P 14 12 17.0 -1.8**
comp=Z,310nm,1.3s,mb5.5,SNR=28
CHMS Chumysh 49.38 293 P **P 14 12 22.4 +0.6**
SNR=9.8
USP Ospenovka 49.39 293 P **P 14 12 22.9 +0.9**
SNR=10.0
KBK Karagaybulak 49.44 292 P **P 14 12 23.5 +1.2**
SNR=28
FRU Bishkek 49.55 293 *e*P **P 14 12 24.0 +0.8**
KZA Kyzart 49.56 292 P **P 14 12 24.9 +1.6**
SNR=19
AAK Ala-Archa 49.73 293 P **P 14 12 25.5 +1.0**
SNR=31
AAK Ala-Archa 49.73 293 P **P 14 12 24.2 -0.3**
comp=Z,161nm,0.9s,mb5.3,SNR=25
AAK Ala-Archa 49.73 293 ⇓*i*P **P 14 12 23.4 -1.1**
AAK *i* *PP pP 14 13 47.2 -1.0
AAK pmax pmax
comp=Z,37nm,1.1s,mb4.6
AAK Ala-Archa 49.73 293 *e*P **P 14 12 24.3 -0.2**
comp=Z,26nm,0.9s,mb4.5
AAK *e*ScP ScP 14 16 52.5 -0.3
BDT Bhumibol Dam 49.76 249 P **P 14 12 25.5 +0.8**
UCH Uchtor 49.94 292 P **P 14 12 27.9 +1.9**
SNR=7.3
EKS2 Erkin-Say 50.16 293 P **P 14 12 28.9 +1.2**
SNR=36
NST Nakhon Sawan 50.24 247 P **P 14 12 30.0 +1.7**
comp=Z,58nm,0.9s,mb4.9
AML Almayashu 50.50 292 P **P 14 12 31.9 +1.7**
SNR=22
KSH Kashi 50.52 288 P **P 14 12 33.0 +2.7**
KSH PCP PcP 14 13 42.6 +1.4
KSH AP pP 14 13 56.8 +2.5
KSH PP PP 14 14 35.6 +4.4
KSH XP sP 14 14 41.8 +0.9
KSH SCP ScP 14 16 59.0 +2.8
KSH PCS PcS 14 17 40.3 +1.1
KSH S **S 14 19 14.3 +2.6**
KSH SCS ScS 14 21 37.8 +2.0
KSH SS SS 14 22 54.9 +2.8
KSH AMB AMB
comp=Z,55nm,1.0s,mb4.7
KSH AMB AMB
comp=Z,231nm,5.7s
JIRN Jiri 50.93 270 *e*P **P 14 12 35.3 +2.0**
comp=Z,471nm,0.8s,mb5.8
GUN Gumba 50.97 270 *e*P **P 14 12 35.3 +1.6**
comp=Z,105nm,0.4s,mb5.5
RES Resolute Bay 50.97 18⇑*i*P **P 14 12 32.0 -1.7**
RES *e* 14 13 42.4
RES *e* 14 14 33.6
RES pmax pmax
comp=Z,160nm,0.6s,mb5.4
RES Resolute Bay 50.97 18⇑*i*P **P 14 12 32.0 -1.7**
comp=Z,160nm,0.6s,mb5.4
RES *e*PcP PcP 14 13 42.4 -0.5
RES *e*PP PP 14 14 33.6 -1.7
RES *e*ScP ScP 14 16 59.6 +1.5
ARU Arti 51.42 315 P **P 14 12 36.9 0.0**
comp=Z,155nm,0.7s,mb5.3,SNR=9.1
ARU Arti 51.42 315⇑*i*P **P 14 12 35.8 -1.1**
ARU *i* 14 13 43.9
ARU *e* 14 13 53.2
ARU *e* 14 14 35.4
ARU *e* 14 21 38.8
ARU *e*SS SS 14 23 03.5 -2.8
ARU pmax pmax
comp=Z,18nm,0.8s,mb4.3
ARU Arti 51.42 315 *e*P **P 14 12 36.6 -0.3**
comp=Z,16nm,0.6s,mb4.4
ARU *e*PcP PcP 14 13 43.9 -0.7
ARU *e*ScP ScP 14 16 59.5 -0.6
KKN Kakani 51.45 270 *e*P **P 14 12 38.7 +1.5**
PKI Pulchoki 51.51 270 *e*P **P 14 12 39.0 +1.4**
comp=Z,258nm,1.0s,mb5.4
DMN Daman 51.69 270 *e*P **P 14 12 40.7 +1.8**
comp=Z,494nm,0.9s,mb5.8
GKN Gorkha 51.75 271 *e*P **P 14 12 40.9 +1.6**
comp=Z,363nm,0.6s,mb5.8
KK31 Karatay Array 51.93 295 *i* P **P 14 12 40.7 +0.1**
KK31 pmax pmax
comp=Z,15nm,0.6s,mb4.4
KKAR Karatay Array 51.93 295 *i* P **P 14 12 40.7 +0.1**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
DANN Dangsing 52.12 272 *e*P **P 14 12 44.2 +2.2**
YKA Yellowknife Ar 52.34 35 P **P 14 12 42.4 -1.2**
comp=Z,37nm,0.7s,mb4.7,baz=304,slow=7.0,SNR=516
YKA PcP PcP 14 13 47.7 -0.4
comp=Z,14nm,0.7s,baz=311,slow=3.6,SNR=26
YKA Yellowknife Ar 52.34 35 P **P 14 12 42.4 -1.2**
YKA PcP PcP 14 13 47.7 -0.4
KOLN Koldanda 52.60 272 *e*P **P 14 12 47.3 +1.8**
comp=Z,342nm,0.9s,mb5.6
BOK Bokaro 53.70 266 *e*P **P 14 12 53.7 +0.4**
LVZ Lovozero 54.06 334 *e*P **P 14 12 54.7 -1.3**
LVZ pmax pmax
comp=Z,118nm,2.7s,mb4.6
LVZ pmax pmax
comp=N,83nm,2.3s
LVZ pmax pmax
comp=E,61nm,2.5s
AB31 Akbulak array 54.59 307 P **P 14 12 59.5 -0.2**
AB31 pmax pmax
comp=Z,20nm,0.4s,mb4.7
DDI Dehra Dun 54.68 278 *e*P **P 14 13 01.5 +1.2**
DDI *e*x x 14 14 26.7
SMLA Simla 54.76 279 *e*P **P 14 13 01.1 +0.2**
SMLA AMb AMB 14 13 01.7
comp=Z,399nm,0.6s,mb5.8
KEV Kevo 54.86 338 *e*p **P 14 12 59.3 -2.4**
THN Thein Dam 54.90 281 *e*P **P 14 13 02.2 +0.3**
AKTK Aktyubinsk 54.94 309 P **P 14 13 01.8 -0.4**
AKTK PcP PcP 14 13 57.8 -0.3
AKTK ScP ScP 14 17 15.2 -0.3
AKTO Aktyubinsk 54.94 309 P **P 14 13 01.8 -0.4**
comp=Z,4.6nm,0.7s,baz=63,slow=8.4,SNR=15
AKTO PcP PcP 14 13 57.8 -0.3
comp=Z,2.8nm,0.8s,baz=23,slow=4.0,SNR=4.9
AKTO ScP ScP 14 17 15.2 -0.3
comp=Z,14nm,0.7s,baz=72,slow=5.6,SNR=16
ARCES ARCESS Array B 55.39 339 P **P 14 13 04.9 -0.5**
comp=Z,3.6nm,0.7s,baz=36,slow=8.1,SNR=14
ARCES PcP PcP 14 13 59.2 -0.6
comp=Z,11nm,0.8s,baz=57,slow=6.3,SNR=9.6
ARCES ARCESS Array B 55.39 339 P **P 14 13 04.9 -0.5**
ARCES PcP PcP 14 13 59.2 -0.6
NIL Nilore 55.76 284 P **P 14 13 08.4 +0.4**
comp=Z,184nm,0.7s,mb5.5,SNR=11
PGC Sidney 56.00 53 *e*P **P 14 13 09.4 -0.2**
comp=Z,42nm,0.6s,mb5.0
NDI New Delhi 56.29 277 *e*P **P 14 13 11.5 -0.1**
NDI *e*P 14 13 12.1
NDI AMb AMB 14 13 12.8
comp=Z,166nm,0.8s,mb5.4
SNG Songkhla 56.62 240 P **P 14 13 16.0 +2.1**
KULM Kulim 58.13 238⇓*e*P **P 14 13 25.6 +1.3**
EDM Edmonton 58.33 44 *e*P **P 14 13 25.2 -0.5**
EDM *e* 14 14 11.1
JOF Joensuu 58.47 331 *e*p **P 14 13 26.3 -0.3**
comp=Z,15nm,0.6s,mb4.5
JOF Joensuu 58.47 331 *e*P **P 14 13 26.3 -0.3**
JOF pmax pmax
comp=Z,15nm,0.6s,mb4.5
COR Corvallis 58.52 57⇑*i*P **P 14 13 28.1 +1.1**
COR pmax pmax
comp=Z,234nm,0.8s,mb5.6
COR Corvallis 58.52 57⇑*i*P **P 14 13 28.1 +1.2**
comp=Z,234nm,0.8s,mb5.6
SSOR Sweet Springs 58.82 56 P **P 14 13 30.2 +1.2**
EPH Ephrata 58.84 52 P **P 14 13 29.1 -0.1**
HOOD Mount Hood Mea 58.98 55 P **P 14 13 31.2 +1.1**
KEBM Edson Butte 58.98 59 *e*P **P 14 13 31.0 +0.8**
AJM Ajmer 59.45 277 *e*P **P 14 13 33.8 +0.5**
HAWA Hanford 59.48 53⇑*e*P **P 14 13 33.5 0.0**
comp=Z,8.3nm,1.1s,mb4.0
NEW Newport 59.58 50⇑*i*P **P 14 13 33.9 -0.2**
NEW pmax pmax
comp=Z,85nm,0.9s
NEW Newport 59.58 50⇑*i*P **P 14 13 33.9 -0.2**
comp=Z,85nm,0.9s,mb5.2
BKCOR Black Crater 59.60 56 P **P 14 13 35.2 +0.9**
VIS Vishakhapatnam 59.63 263 *e*P **P 14 13 35.9 +1.4**
VIS AMb AMB 14 13 36.4
comp=Z,96nm,0.9s,mb5.2
SUMG Summit 59.76 2⇑*e*P **P 14 13 35.1 -0.2**
comp=Z,136nm,1.0s,mb5.3
SUMG *e*PcP PcP 14 14 16.8 -0.4
HUMO Hull Mountain 59.94 59 *e*P **P 14 13 37.0 +0.5**
comp=Z,34nm,0.9s,mb4.8
NGP Nagpur 60.10 269 *e*P **P 14 13 38.8 +1.2**
NGP AMb AMB 14 13 40.9
comp=Z,112nm,0.8s,mb5.3
KHMM Horse Mountain 60.59 61 *e*P **P 14 13 42.0 +1.1**
YBH Yreka Blue Hor 60.64 59⇑*i*P **P 14 13 42.3 +1.1**
YBH pmax pmax
comp=Z,59nm,0.8s
YBH Yreka Blue Hor 60.64 59⇑*i*P **P 14 13 42.2 +1.0**
comp=Z,59nm,0.8s,mb5.1
KAF Kangasniemi 60.65 332 *e*p **P 14 13 39.7 -1.6**
comp=Z,26nm,0.8s,mb4.7,baz=40,slow=6.3
KAF Kangasniemi 60.65 332 *e*P **P 14 13 39.7 -1.6**
KAF pmax pmax
comp=Z,26nm,0.8s,mb4.7
PSI Prapat 61.14 238 P **P 14 13 45.4 +0.9**
comp=Z,28nm,0.9s,mb4.7,baz=9.9,slow=3.7,SNR=20
PSI ScP ScP 14 17 44.5 +1.6
comp=Z,4.9nm,0.9s,baz=221,slow=5.1,SNR=4.6
PSI Prapat 61.14 238 P **P 14 13 45.4 +0.9**
PSI ScP ScP 14 17 44.5 +1.6
FINES FINESS Array B 61.23 332 P **P 14 13 44.2 -0.9**
comp=Z,36nm,0.7s,mb4.9,baz=37,slow=8.5,SNR=122
FINES PcP PcP 14 14 22.2 -0.9
comp=Z,6.1nm,0.7s,baz=57,slow=7.0,SNR=5.7
FINES FINESS Array B 61.23 332 P **P 14 13 44.2 -0.9**
FINES PcP PcP 14 14 22.2 -0.9
WDC Whiskeytown Da 61.47 60⇑*e*P **P 14 13 46.8 0.0**
WDC pmax pmax
comp=Z,53nm,1.0s,mb4.9
WDC Whiskeytown Da 61.47 60⇑*e*P **P 14 13 46.8 0.0**
comp=Z,53nm,1.0s,mb4.9
BMO Blue Mountains 61.66 54⇑*i*P **P 14 13 48.5 +0.5**
comp=Z,86nm,1.1s,mb5.2
BMO *e*PcP PcP 14 14 24.7 -0.2
KAKA Kakadu 61.77 196 *e*P **P 14 13 48.5 -0.2**
comp=Z,8.3nm,0.6s,mb4.4
MOD Modoc 61.91 58⇑*i*P **P 14 13 50.0 +0.4**
comp=Z,69nm,0.8s,mb5.2
OBN Obninsk 62.04 323⇓*e*P **P 14 13 50.3 -0.2**
OBN 14 14 26.0
OBN *e**PP pP 14 15 19.8 +1.0
OBN 14 16 10.0
OBN pmax pmax
comp=Z,80nm,1.7s,mb5.0
OBN MLR MLR
comp=Z,100nm,19.0s
MSO Missoula 62.15 50⇑*i*P **P 14 13 51.2 0.0**
comp=Z,103nm,1.2s,mb5.2
MSO *e*PcP PcP 14 14 26.5 -0.4
FFC Flin Flon 62.34 38 P **P 14 13 51.8 -0.7**
comp=Z,714nm,0.8s,SNR=49
FFC Flin Flon 62.34 38⇑*i*P **P 14 13 51.8 -0.7**
FFC *e* 14 14 27.1
FFC pmax pmax
comp=Z,91nm,0.8s,mb5.4
FFC Flin Flon 62.34 38⇑*i*P **P 14 13 51.8 -0.6**
comp=Z,91nm,0.8s,mb5.3
FFC *e*PcP PcP 14 14 27.1 -0.5
FCC Fort Churchill 62.40 31⇑*i*P **P 14 13 51.5 -1.4**
FCC *e* 14 14 26.8
FCC pmax pmax
comp=Z,102nm,0.9s,mb5.3
FCC Fort Churchill 62.40 31⇑*i*P **P 14 13 51.5 -1.3**
comp=Z,102nm,0.9s,mb5.3
FCC *e*PcP PcP 14 14 26.8 -1.0
CHMT Chamberlain Mo 62.45 50 *e*P **P 14 13 53.1 0.0**
WVOR Wild Horse Val 62.50 56⇑*i*P **P 14 13 54.2 +0.7**
WVOR pmax pmax
comp=Z,125nm,1.0s,mb5.4
WVOR Wild Horse Val 62.50 56⇑*i*P **P 14 13 54.2 +0.7**
comp=Z,125nm,1.0s,mb5.4
ABKT Ailbek 62.56 297 P **P 14 13 55.3 +1.4**
comp=Z,295nm,0.5s,mb6.1,SNR=15
HYB Hyderabad 63.04 266⇓*i*P **P 14 13 57.5 +0.5**
comp=Z,50nm,1.0s,mb5.0
HYB Hyderabad 63.04 266⇓*e*P **P 14 13 57.5 +0.5**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.0
HYB Hyderabad 63.04 266⇓*e*P **P 14 13 57.5 +0.5**
comp=Z,50nm,1.0s,mb5.0
HRY Holter Researc 63.31 49 *e*P **P 14 13 59.2 +0.4**
EGMT Eagleton 63.46 47⇑*i*P **P 14 13 59.8 +0.1**
comp=Z,140nm,1.0s,mb5.5
DLMT Dillon 63.83 51⇑*e*P **P 14 14 02.1 +0.1**
comp=Z,164nm,1.0s,mb5.5
DLMT *e*PcP PcP 14 14 34.1 +0.4
PAHR Pah Rah Range 63.87 59⇑*e*P **P 14 14 02.6 +0.2**
comp=Z,107nm,1.0s,mb5.3
MCMT McKenzie Canyo 64.06 51 *e*P **P 14 14 03.5 -0.1**
MCMT *e*PcP PcP 14 14 35.1 +0.5
HLID Hailey 64.08 53⇑*i*P **P 14 14 04.2 +0.5**
comp=Z,65nm,1.3s,mb5.0
HLID *e*PcP PcP 14 14 35.9 +1.1
BOZ Bozeman (W) 64.13 50⇑*i*P **P 14 14 04.7 +0.6**
BOZ pmax pmax
comp=Z,151nm,1.1s,mb5.4
BOZ Bozeman (W) 64.13 50⇑*i*P **P 14 14 04.7 +0.6**
comp=Z,152nm,1.1s,mb5.4
CMB Columbia Colle 64.40 61⇑*e*P **P 14 14 05.8 0.0**
CMB *e* 14 14 36.3
CMB pmax pmax
comp=Z,62nm,1.0s,mb5.1
CMB Columbia Colle 64.40 61⇑*e*P **P 14 14 05.8 0.0**
comp=Z,62nm,1.0s,mb5.1
CMB *e*PcP PcP 14 14 36.2 +0.2
BMN Battle Mountai 64.63 57⇑*i*P **P 14 14 07.9 +0.7**
BMN pmax pmax
comp=Z,88nm,0.9s,mb5.4
BMN Battle Mountai 64.63 57⇑*i*P **P 14 14 07.9 +0.7**
comp=Z,88nm,0.9s,mb5.4
QLMT Earthquake Lak 64.79 50 *e*P **P 14 14 08.6 +0.3**
QLMT *e*PcP PcP 14 14 37.9 +0.2
BHJ Bhuj 64.96 277 *e*P **P 14 14 10.7 +1.3**
BHJ AMb AMB 14 14 12.4
comp=Z,71nm,0.7s,mb5.4
GCMT Greycliff 65.04 49 *e*P **P 14 14 10.3 +0.5**
YMR Madison River 65.14 50⇑*i*P **P 14 14 11.3 +0.8**
comp=Z,93nm,1.0s,mb5.4
NVAR Mina Array Bea 65.35 59 P **P 14 14 12.6 +0.8**
comp=Z,40nm,0.8s,mb5.1,baz=304,slow=4.4,SNR=170
YFT Old Faithful 65.36 50⇑*i*P **P 14 14 13.7 +1.8**
YFT *e*PcP PcP 14 14 42.0 +1.9
POO Poona 65.42 271 *e*x x 14 14 23.5
POO AMb AMB 14 14 25.1
comp=Z,76nm,0.8s,mb5.4
LKWY Lake 65.51 50⇑*e*P **P 14 14 14.7 +1.9**
LKWY pmax pmax
comp=Z,56nm,0.9s,mb5.2
LKWY Lake 65.51 50⇑*e*P **P 14 14 14.7 +1.9**
comp=Z,56nm,0.9s,mb5.2
ELK Elko 65.53 56⇑*i*P **P 14 14 13.7 +0.8**
ELK pmax pmax
comp=Z,43nm,0.9s
ELK Elko 65.53 56⇑*i*P **P 14 14 13.7 +0.7**
comp=Z,43nm,0.9s,mb5.1
FLWY Flagg Ranch 65.69 51⇑*i*P **P 14 14 15.2 +1.2**
comp=Z,86nm,1.2s,mb5.2
NB2 NORSAR Subarra 65.76 338 P **P 14 14 13.6 -0.8**
comp=Z,56nm,0.8s,mb5.2,baz=30,slow=6.5
NB2 NORSAR Subarra 65.76 338 P **P 14 14 13.6 -0.8**
NB2 pmax pmax
comp=Z,56nm,0.8s,mb5.2
NOA NORSAR Array B 65.76 338 P **P 14 14 13.6 -0.8**
comp=Z,45nm,0.8s,mb5.2,baz=31,slow=6.2,SNR=117
NOA PcP PcP 14 14 40.9 -0.9
comp=Z,10.0nm,0.8s,baz=31,slow=3.1,SNR=8.6
NOA NORSAR Array B 65.76 338 P **P 14 14 13.6 -0.8**
NOA PcP PcP 14 14 40.9 -0.9
DGMT Dagmar 65.81 44⇑*i*P **P 14 14 14.5 -0.2**
comp=Z,196nm,0.7s,mb5.8
MTUM Tungsten Hills 65.93 61 *e*P **P 14 14 15.7 +0.2**
NAO01 NORSAR Array S 66.01 338⇑*i*P **P 14 14 14.7 -1.3**
comp=Z,32nm,0.8s,mb5.0
NAO01 *e*PcP PcP 14 14 41.7 -1.1
LOHW Long Hollow 66.06 51⇑*e*P **P 14 14 16.9 +0.6**
comp=Z,176nm,1.4s,mb5.5
SNOW Snow King Moun 66.09 51⇑*i*P **P 14 14 17.4 +0.9**
comp=Z,89nm,1.1s,mb5.3
PTRM Twissleman Ran 66.10 63 *e*P **P 14 14 17.0 +0.4**
REDW Red Top Meadow 66.11 51⇑*e*P **P 14 14 17.3 +0.7**
comp=Z,164nm,1.3s,mb5.5
LAO LASA Array 66.11 46⇑*i*P **P 14 14 16.6 0.0**
comp=Z,126nm,1.0s,mb5.5
LAO *e*PcP PcP 14 14 43.6 +0.4
GOF Gofitskoye 66.13 311 *e*P **P 14 14 17.0 +0.3**
HVU Hansel Valley 66.17 54⇑*i*P **P 14 14 17.5 +0.5**
HVU pmax pmax
comp=Z,51nm,1.1s,mb5.1
HVU Hansel Valley 66.17 54⇑*i*P **P 14 14 17.5 +0.5**
comp=Z,51nm,1.1s,mb5.1
TPH Tonopah 66.22 59⇑*i*P **P 14 14 17.7 +0.4**
TPH *e* 14 14 44.2
TPH pmax pmax
comp=Z,88nm,1.0s,mb5.3
TPH Tonopah 66.22 59⇑*i*P **P 14 14 17.7 +0.4**
comp=Z,88nm,1.0s,mb5.3
TPH *e*PcP PcP 14 14 44.2 +0.5
AHID Auburn Hatcher 66.39 52⇑*i*P **P 14 14 18.7 +0.4**
comp=Z,55nm,1.2s,mb5.1
SPUT South Promonto 66.68 54⇑*i*P **P 14 14 20.6 +0.4**
HWUT Hardware Ranch 66.95 53⇑*i*P **P 14 14 22.4 +0.6**
comp=Z,90nm,1.0s,mb5.3
KIV Kislovodsk 67.08 311 *e*P **P 14 14 22.0 -0.7**
KIV *e* 14 14 47.1
KIV *e**PP pP 14 15 53.0 +0.3
KIV *e* 14 16 57.4
KIV *e*S S 14 22 45.2 +2.9
KIV *e*SS SS 14 27 14.0 +3.1
KIV pmax pmax
comp=Z,31nm,0.8s,mb5.0
KIV Kislovodsk 67.08 311 *e*P **P 14 14 23.6 +1.0**
comp=Z,15nm,0.6s,mb4.8
ISA Isabella 67.13 62⇑*i*P **P 14 14 22.1 -0.9**
ISA pmax pmax
comp=Z,27nm,1.3s,mb4.7
ISA Isabella 67.13 62⇑*i*P **P 14 14 22.1 -0.9**
comp=Z,27nm,1.3s,mb4.7
BW06 Boulder Array 67.20 51⇑*i*P **P 14 14 23.5 +0.1**
comp=Z,87nm,0.8s,mb5.4
PDAR Pinedale Array 67.20 51 P **P 14 14 23.6 +0.2**
comp=Z,74nm,0.7s,mb5.4,baz=289,slow=1.8,SNR=566
DAC Darwin (Calif) 67.23 61⇑*i*P **P 14 14 23.6 0.0**
DAC pmax pmax
comp=Z,32nm,1.0s,mb4.9
DAC Darwin (Calif) 67.23 61⇑*i*P **P 14 14 23.6 +0.1**
comp=Z,32nm,1.0s,mb4.9
DUG Dugway 67.25 55⇑*i*P **P 14 14 24.4 +0.7**
DUG pmax pmax
comp=Z,107nm,1.0s,mb5.4
DUG Dugway 67.25 55⇑*i*P **P 14 14 24.4 +0.7**
comp=Z,107nm,1.0s,mb5.4
ZEI Tsey 67.29 309 *e*P **P 14 14 24.1 +0.1**
ZEI pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
NOQ North Oquirrh 67.31 54⇑*e*P **P 14 14 24.6 +0.5**
comp=Z,43nm,0.6s,mb5.3
NLU North Lily Min 67.82 55⇑*i*P **P 14 14 24.7 -2.5**
DAU Daniels Canyon 67.95 54 *e*P **P 14 14 29.1 +1.1**
SUW Suwalki 68.00 328 *e*P **P 14 14 27.2 -1.1**
MPU Maple Canyon 68.02 54⇑*i*P **P 14 14 29.1 +0.7**
comp=Z,101nm,0.9s,mb5.5
ULM Lac du Bonnet 68.16 38 P **P 14 14 28.1 -1.2**
comp=Z,33nm,0.7s,mb5.1,baz=314,slow=7.0,SNR=69
AKASG Malin Array Be 68.30 323 P **P 14 14 29.4 -0.7**
comp=Z,19nm,0.4s,mb5.0,baz=36,slow=6.2,SNR=65
AKASG pP pP 14 16 00.1 -0.4
comp=Z,0.6nm,0.4s,baz=40,slow=6.3,SNR=1.4
MWC Mount Wilson 68.37 63⇑*i*P **P 14 14 30.4 -0.2**
FITZ Fitzroy Crossi 68.50 202 *e*P **P 14 14 31.7 +0.3**
comp=Z,14nm,0.6s,mb4.8
FITZ *e* 14 14 53.0
WRAB Tennant Creek 68.51 193 P **P 14 14 31.0 -0.4**
comp=Z,113nm,1.0s,mb5.5,SNR=12
WRAB Tennant Creek 68.51 193⇑*e*P **P 14 14 30.8 -0.6**
WRAB *e* 14 14 53.7
WRAB *e**PP pP 14 15 59.4 -2.5
WRAB pmax pmax
comp=Z,17nm,0.8s,mb4.7
WRAB Tennant Creek 68.51 193⇑*e*P **P 14 14 30.8 -0.6**
comp=Z,18nm,0.8s,mb4.7
WRAB *e*PcP PcP 14 14 53.7 +0.4
WRAB *e*pP pP 14 15 59.4 -2.5
WB2 Warramunga Arr 68.52 193⇑*i*P **P 14 14 31.0 -0.5**
WRA Warramunga Arr 68.52 193 P **P 14 14 31.0 -0.5**
comp=Z,9.1nm,0.5s,mb4.6,baz=8.5,slow=6.4,SNR=200
WRA pP pP 14 16 02.6 +0.6
comp=Z,5.0nm,0.8s,baz=11,slow=6.8,SNR=6.8
WRA PKP2bc 14 42 41.2
comp=Z,5.3nm,0.8s,baz=198,slow=2.8,SNR=26
WRA Warramunga Arr 68.52 193 P **P 14 14 31.0 -0.5**
WRA *PP pP 14 16 02.6 +0.6
WRA Warramunga Arr 68.52 193 P **P 14 14 31.0 -0.5**
WRA pP pP 14 16 02.6 +0.6
WRA ⇑*e* 14 42 41.2
ARUT Antelope Range 68.58 57 *e*P **P 14 14 32.2 +0.4**
TMUT Trail Mountain 68.76 55⇑*i*P **P 14 14 33.5 +0.5**
MSU Marysvale 68.78 56 *e*P **P 14 14 34.0 +0.9**
CCUT Cedar City 68.79 57⇑*i*P **P 14 14 33.9 +0.7**
SOC Sochi 68.85 312 *e*P **P 14 14 31.7 -1.8**
SOC *e*PPP 14 18 52.7
SOC *e*S S 14 23 01.9 -1.1
SOC *e* 14 23 59.6
SOC *e*SSS 14 30 49.0
SOC pmax pmax
comp=Z,14nm,0.5s,mb4.8
PALK Pallekele 68.99 257 P **P 14 14 35.0 +0.7**
comp=Z,126nm,0.9s,mb5.5,SNR=5.4
PALK Pallekele 68.99 257 *e*P **P 14 14 35.0 +0.6**
comp=Z,16nm,1.0s,mb4.6
PALK *e*PP PP 14 17 09.1 -4.2
RSSD Black Hills 69.03 47⇑*i*P **P 14 14 34.5 -0.1**
RSSD pmax pmax
comp=Z,168nm,1.1s,mb5.6
RSSD Black Hills 69.03 47⇑*i*P **P 14 14 34.5 -0.2**
comp=Z,168nm,1.1s,mb5.6
RWWY Rawlins 69.19 51⇑*e*P **P 14 14 35.2 -0.3**
comp=Z,98nm,0.9s,mb5.4
SRU San Rafael 69.27 54⇑*e*P **P 14 14 36.1 +0.1**
SRU pmax pmax
comp=Z,132nm,0.8s,mb5.6
SRU San Rafael 69.27 54⇑*e*P **P 14 14 36.1 0.0**
comp=Z,132nm,0.8s,mb5.6
NEN Nelson 69.27 60 *e*P **P 14 14 36.3 +0.3**
LDFC Landfair 69.52 60⇑*i*P **P 14 14 37.5 0.0**
PFO Pinyon Flat Ob 69.75 62 P **P 14 14 38.0 -0.9**

comp=Z,181nm,1.0s,mb5.6,SNR=9.3
PFO Pinyon Flat Ob 69.75 62 *eP* **P 14 14 38.6 -0.3**
PFO *e* 14 14 59.1
PFO pmax pmax
comp=Z,38nm,1.2s,mb4.8
PFO Pinyon Flat Ob 69.75 62 *eP* **P 14 14 38.6 -0.3**
comp=Z,38nm,1.2s,mb4.8
PFO *e*PcP PcP 14 14 59.1 +0.6
BAR Barrett 70.27 63 *eP* **P 14 14 41.8 -0.3**
PHWY Pilot Hill 70.38 50⇑*eP* **P 14 14 42.3 -0.4**
PHWY *e* pP 14 16 18.2 +4.5
TRD Trivandrum 70.55 261 *eP* **P 14 14 44.4 +0.7**
PV10 Paradox Valley 70.60 54 *eP* **P 14 14 44.8 +0.8**
GKP Gorka Klasztor 70.64 331 *eP* **P 14 14 43.9 -0.3**
PV01 Paradox Valley 71.03 54 *eP* **P 14 14 47.0 +0.4**
SMCO Snowmass 71.14 52⇑*iP* **P 14 14 47.8 +0.5**
comp=Z,66nm,0.8s,mb5.2
WUAZ Wupatki 71.36 58⇑*iP* **P 14 14 49.2 +0.7**
comp=Z,68nm,0.9s,mb5.2
ISCO Idaho Springs 71.40 51⇑*iP* **P 14 14 49.4 +0.6**
ISCO pmax pmax
comp=Z,73nm,1.2s,mb5.1
ISCO Idaho Springs 71.40 51⇑*iP* **P 14 14 49.4 +0.6**
comp=Z,73nm,1.2s,mb5.1
KWP Kalwaria 71.71 326 *eP* **P 14 14 51.1 +0.5**
EYMN Ely 71.76 37⇑*eP* **P 14 14 49.6 -1.3**
comp=Z,144nm,0.8s,mb5.5
BSEG Bad Segeberg 72.19 335 *eP* **P 14 14 53.1 -0.3**
comp=Z,34nm,0.9s,mb4.9
AS31 Alice Springs 72.24 193 *eP* **P 14 14 54.2 +0.5**
ASAR Alice Springs 72.24 193 P **P 14 14 54.3 +0.6**
comp=Z,14nm,0.8s,mb4.5,baz=12,slow=5.7,SNR=170
ASAR pP pP 14 16 27.9 +2.6
comp=Z,2.6nm,0.8s,baz=12,slow=5.3,SNR=2.9
ASAR PKPPKP 14 42 32.0
comp=Z,1.3nm,1.0s,baz=174,slow=3.4,SNR=7.2
ASPA Alice Springs 72.25 193 *eP* **P 14 14 54.2 +0.5**
OJC Ojcow 72.30 328 *eP* **P 14 14 53.9 -0.1**
BURAR Bucovina Array 72.35 323⇓P P 14 14 54.8 +0.5
BURAR Bucovina Array 72.35 323⇓P P 14 14 54.8 +0.4
RUE Ruedersdorf 72.42 332 *eP* **P 14 14 54.5 -0.2**
comp=Z,12nm,0.4s,mb4.8
STHS Stebnicka Huta 72.43 326 *eP* **P 14 14 55.3 +0.5**
NIE Niedzica 72.78 327 *i* Pc 14 14 57.4
NIE Niedzica 72.78 327 *eP* **P 14 14 57.4 +0.6**
SDCO Great Sand Dun 72.97 52⇑*iP* **P 14 14 58.2 +0.3**
comp=Z,66nm,1.1s,mb5.1
KSP Ksiaz 73.00 330 *eP* **P 14 14 58.2 +0.1**
KSP Ksiaz 73.00 330⇑*eP* **P 14 14 57.9 -0.2**
CFR Carcaliu 73.06 320⇑P P 14 14 58.9 +0.4
CFR Carcaliu 73.06 320⇑P P 14 14 58.9 +0.5
OKC Ostrava-Krasne 73.21 328 *eP* **P 14 14 59.5 +0.2**
UPC Upice 73.38 330 *eP* **P 14 15 00.4 +0.1**
MALT Malatya 73.39 309 *eP* **P 14 15 02.1 +1.7**
MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
MALT Malatya 73.39 309 *eP* **P 14 15 02.0 +1.7**
comp=Z,5.1nm,0.8s,mb4.1
DPC Dobruska-Polom 73.41 330 *eP* **P 14 15 00.7 +0.2**
MORC Moravsky Berou 73.47 329⇑P P 14 15 01.0 +0.2
MORC Moravsky Berou 73.47 329⇑*iP* **P 14 15 00.9 +0.1**
comp=Z,29nm,0.8s,mb4.9
KECS Kecovo 73.48 326 *eP* **P 14 15 00.8 -0.1**
KECS *e* 14 17 08.8
TIRR Tirgusor 73.51 319⇓P P 14 15 01.4 +0.4
TIRR Tirgusor 73.51 319⇓P P 14 15 01.4 +0.4
HARR Harsova 73.54 320⇓P P 14 15 01.4 +0.2
HARR Harsova 73.54 320⇓P P 14 15 01.4 +0.2
CLL Collm 73.67 332 *eP* **P 14 15 01.3 -0.7**
comp=Z,62nm,0.7s,mb5.3
CLL Collm 73.67 332⇑*iP* **P 14 15 01.3 -0.7**
comp=Z,84nm,1.1s,mb5.3
CLL Collm 73.67 332⇑*iP* **P 14 15 01.3 -0.7**
CLL pmax pmax
comp=Z,84nm,1.1s,mb5.3
CLL Collm 73.67 332⇑*iP* **P 14 15 01.3 -0.7**
comp=Z,84nm,1.1s,mb5.3
SCHQ Schefferville 73.68 20 P **P 14 15 00.8 -1.2**
comp=Z,20nm,0.8s,mb4.8,baz=356,slow=6.3,SNR=23
SCHQ Schefferville 73.68 20 *eP* **P 14 15 00.6 -1.4**
comp=Z,24nm,0.8s,mb4.9
BRG Berggiesshubel 73.75 331 *eP* **P 14 15 02.0 -0.4**
comp=Z,19nm,1.0s,mb4.7
BRG Berggiesshubel 73.75 331 *eP* **P 14 15 01.9 -0.5**
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.4
BRG Berggiesshubel 73.75 331 *eP* **P 14 15 01.9 -0.5**
comp=Z,11nm,1.0s,mb4.5
MLR Muntele Rosu 73.75 321⇑P P 14 15 02.8 +0.4
MLR Muntele Rosu 73.75 321⇑P P 14 15 02.8 +0.4
ISR Istrita 73.80 321⇓P P 14 15 03.7 +1.0
ISR Istrita 73.80 321⇓P P 14 15 03.7 +1.1
PVCC Panska Ves 73.84 331 *eP* **P 14 15 03.0 +0.1**
BHD Baghdad 73.84 302 *ex* x 14 15 00.5
BHD *ex* x 14 23 57.0
TUC Tucson 74.01 60⇑*eP* **P 14 15 04.1 +0.2**
TUC pmax pmax
comp=Z,31nm,0.9s,mb4.9
TUC Tucson 74.01 60⇑*eP* **P 14 15 04.1 +0.2**
comp=Z,31nm,0.9s,mb4.9
CLZ Clausthal 74.01 334 *eP* **P 14 15 04.0 +0.1**
comp=Z,43nm,0.8s,mb5.1
CLZ Clausthal 74.01 334 *eP* **P 14 15 04.0 +0.1**
CLZ pmax pmax
comp=Z,43nm,0.8s,mb5.1
VYHS Vyhne 74.08 327 *i* P **P 14 15 04.7 +0.4**
VOIR 74.17 322⇑P P 14 15 05.6 +0.8
VOIR 74.17 322⇑P P 14 15 05.6 +0.7
PSZ Piszkesteto 74.17 326 *eP* **P 14 15 05.2 +0.3**
PSZ pmax pmax
comp=Z,11nm,0.8s,mb4.5
PSZ Piszkesteto 74.17 326 *eP* **P 14 15 05.2 +0.3**
comp=Z,11nm,0.8s,mb4.5
VRAC Vranov 74.20 329⇓P P 14 15 03.7 -1.3
PRU Pruhonice 74.31 330 *eP* **P 14 15 05.8 +0.2**
IBBN Ibbenburen 74.35 336 *eP* **P 14 15 05.3 -0.6**
comp=Z,46nm,0.7s,mb5.2
ANMO Albuquerque 74.52 55*c iP* **P 14 15 07.8 +1.0**
ANMO Albuquerque 74.52 55⇑*iP* **P 14 15 07.4 +0.6**
comp=Z,49nm,1.1s,mb5.0
LAZ Ladron 74.55 56 *eP* **P 14 15 07.8 +0.8**
UMR Umm Al-Rimmam 74.59 297 *eP* **P 14 15 07.9 +0.7**
UMR AMb AMB 14 15 08.7
comp=Z,92nm,0.4s,mb5.7
MIB Mutribah 74.63 297 *eP* **P 14 15 08.1 +0.7**
MIB AMb AMB 14 15 08.9
comp=Z,65nm,0.5s,mb5.6
WERD Werda 74.64 332 *eP* **P 14 15 07.2 -0.3**
comp=Z,15nm,0.8s,mb4.7
MOX Moxa 74.68 333 *eP* **P 14 15 07.4 -0.3**
comp=Z,22nm,0.9s,mb4.8
MOX Moxa 74.68 333 *eP* **P 14 15 07.3 -0.4**
comp=Z,36nm,1.1s,mb4.9
MOX Moxa 74.68 333 *eP* **P 14 15 07.3 -0.4**
MOX pmax pmax
comp=Z,36nm,1.1s,mb4.9
BR131 Keskin Array S 74.75 313⇑*iP* **P 14 15 08.6 +0.5**
comp=Z,5.0nm,0.8s,mb4.2
BRTR Keskin Array B 74.75 313 P **P 14 15 08.9 +0.8**
comp=Z,5.4nm,0.8s,mb4.2,baz=74,slow=4.7,SNR=26
NKC Novy Kostel 74.78 332 *eP* **P 14 15 08.2 -0.1**
LENM Lemitar 74.81 56 *eP* **P 14 15 09.2 +0.7**
SRO Srobarova 74.85 327 *eP* **P 14 15 09.0 +0.3**
LPM Los Pinos Moun 74.90 55 *eP* **P 14 15 09.7 +0.7**
WTSB Winterswijk 74.92 336⇑*iP* **P 14 15 08.6 -0.5**
comp=Z,58nm,0.7s,mb5.3
ZST Bratislava 74.96 328 *eP* **P 14 15 10.2 +0.9**
BNM Barren Site 75.02 56 *eP* **P 14 15 10.2 +0.6**
UBBA Unterbreizbach 75.02 334 *eP* **P 14 15 09.4 -0.3**
comp=Z,12nm,0.7s,mb4.6
QRN Al-Qurain 75.05 296 *eP* **P 14 15 10.6 +0.8**
QRN AMb AMB 14 15 11.4
comp=Z,96nm,0.4s,mb5.7
NAY Al-Naaiem 75.09 297 *eP* **P 14 15 10.6 +0.5**
NAY AMb AMB 14 15 11.9
comp=Z,21nm,0.8s,mb4.8
MANZ Manzenberg 75.10 332 *eP* **P 14 15 10.1 0.0**
comp=Z,19nm,0.9s,mb4.7
RDF Al-Radifah 75.14 297 *eP* **P 14 15 11.2 +0.9**
RDF AMb AMB 14 15 12.1
comp=Z,90nm,0.5s,mb5.7
CBKS Cedar Bluff 75.14 48 *eP* **P 14 15 09.2 -1.1**
CBKS pmax pmax
comp=Z,45nm,0.9s,mb5.1
CBKS Cedar Bluff 75.14 48 *eP* **P 14 15 09.2 -1.1**
comp=Z,45nm,0.9s,mb5.1
BUG Bochum--Univer 75.26 335 *eP* **P 14 15 10.5 -0.5**
comp=Z,12nm,0.5s,mb4.8
ROTZ Rotzenmuhle 75.26 332 *eP* **P 14 15 11.2 +0.2**
comp=Z,23nm,1.0s,mb4.8
KHC Kasperske Hory 75.37 331 *eP* **P 14 15 11.9 +0.3**
BZS Buzias 75.42 324⇓P P 14 15 11.7 -0.2
BZS Buzias 75.42 324⇓P P 14 15 11.7 -0.2
GEC2 GERESS Array S 75.58 330 *eP* **P 14 15 12.6 -0.2**
comp=Z,17nm,0.8s,mb4.7
GEC2 GERESS Array S 75.58 330 *eP* **P 14 15 12.6 -0.2**
GEC2 pmax pmax
comp=Z,17nm,0.8s,mb4.7
GERES GERESS Array B 75.58 330 P **P 14 15 12.6 -0.2**
comp=Z,14nm,0.8s,mb4.7,baz=32,slow=5.5,SNR=77
WET Wettzell 75.59 331 *eP* **P 14 15 13.1 +0.3**
comp=Z,36nm,0.9s,mb5.0
WET Wettzell 75.59 331 *eP* **P 14 15 13.1 +0.3**
WET pmax pmax
comp=Z,36nm,0.9s,mb5.0
GRA1 Grafenberg Arr 75.64 332 *eP* **P 14 15 13.3 +0.2**
comp=Z,71nm,0.7s,mb5.4
GRA1 LR LR
comp=Z,800nm,21.5s
GRF Grafenberg Arr 75.64 332 *eP* **P 14 15 13.3 +0.2**
comp=Z,71nm,0.7s,mb5.4
GRF Grafenberg Arr 75.64 332 *eP* **P 14 15 13.3 +0.2**
GRF pmax pmax
comp=Z,71nm,0.7s,mb5.4
GRF MLR MLR
comp=Z,800nm,21.5s
TNS Taunus Mts 76.01 334 *eP* **P 14 15 14.8 -0.4**
comp=Z,34nm,0.9s,mb5.0
TNS Taunus Mts 76.01 334 *eP* **P 14 15 14.8 -0.4**
TNS pmax pmax
comp=Z,34nm,0.9s,mb5.0
PKSM Moragy 76.07 326⇓P P 14 15 15.1 -0.4
HGN Heimansgroeve 76.24 336⇑*iP* **P 14 15 16.0 -0.5**
comp=Z,51nm,1.0s,mb5.1
MOA Molln 76.25 330⇑*iP* **P 14 15 16.7 +0.2**
comp=Z,15nm,0.8s,mb4.7,SNR=12
BEBN Eben Emael 76.28 336 P **P 14 15 16.3 -0.4**
comp=Z,41nm,0.8s,mb5.1
ARSA Arzberg 76.33 328⇑*iP* **P 14 15 17.5 +0.5**
comp=Z,18nm,1.4s,mb4.5
MEM Membach 76.36 336⇓P P 14 15 16.9 -0.2
comp=Z,25nm,0.9s,mb4.8
TOD Tromm 76.46 334 *eP* **P 14 15 17.4 -0.3**
KSU1 Kansas State U 76.46 46 *eP* **P 14 15 16.2 -1.5**
ABH Altburg 76.58 335 *eP* **P 14 15 18.0 -0.3**
DLF Lyons Farm 76.74 344⇑*iP* **P 14 15 18.9 -0.4**
DCN Croghan 76.83 345⇑*iP* **P 14 15 19.3 -0.4**
RUP Ruppelstein 76.88 335 *eP* **P 14 15 19.6 -0.4**
SNF Seneffe 76.92 337 P **P 14 15 19.9 -0.3**
comp=Z,8.9nm,0.0s
FUR Furstenfeldbru 76.96 331 *eP* **P 14 15 20.5 0.0**
comp=Z,60nm,0.9s,mb5.2
FUR Furstenfeldbru 76.96 331 *eP* **P 14 15 20.5 0.0**
FUR pmax pmax
comp=Z,60nm,0.9s,mb5.2
PERS Pernice 77.00 328 *eP* **P 14 15 20.7 +0.1**
STU Stuttgart 77.08 333 *eP* **P 14 15 20.8 -0.3**
comp=Z,27nm,0.7s,mb5.0
GIVF Givet 77.14 336⇑*iP* **P 14 15 20.9 -0.6**
comp=Z,49nm,1.0s,mb4.8
GIVF Givet 77.14 336⇑*iP* **P 14 15 20.9 -0.6**
GIVF pmax pmax
comp=Z,25nm,1.0s,mb4.8
GIVF Givet 77.14 336⇑*iP* **P 14 15 20.9 -0.6**
comp=Z,24nm,1.0s,mb4.8
WLF Walferdange 77.17 335 *eP* **P 14 15 22.9 +1.3**
comp=Z,18nm,0.7s,mb4.8
GRUS Gruza 77.21 323 *i* P **P 14 15 21.3 -0.5**
DOU Dourbes 77.21 336⇑P P 14 15 21.2 -0.6
comp=Z,7.9nm,0.9s,mb4.3
KBA Koelnbreinsper 77.23 330⇑*iP* **P 14 15 22.4 +0.5**
comp=Z,66nm,1.1s,mb5.2,SNR=17
VTS Vitosha 77.25 321⇓P P 14 15 22.8 +0.7
DOBS Dobrina 77.29 328 *i* P **P 14 15 21.9 -0.3**
LANF Langenberg 77.31 334 *eP* **P 14 15 22.2 -0.2**
DIVS Divcibare 77.32 324 *i* P **P 14 15 22.1 -0.4**
BAIF Baives 77.35 337⇑*iP* **P 14 15 22.1 -0.5**
comp=Z,21nm,0.7s,mb4.6
BAIF Baives 77.35 337⇑*iP* **P 14 15 22.1 -0.5**
BAIF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
BAIF Baives 77.35 337⇑*iP* **P 14 15 22.1 -0.5**
comp=Z,10nm,0.7s,mb4.6
CPRX Cap Rock 77.38 55 *eP* **P 14 15 22.8 0.0**
MENF Mencas 77.42 338 *eP* **P 14 15 22.0 -1.0**
GCIS Gornji Cirnik 77.47 328 *eP* **P 14 15 23.1 -0.2**
MNTX Cornudas Mount 77.54 56⇑*eP* **P 14 15 23.8 +0.2**
comp=Z,55nm,1.0s,mb5.1
WATA Walderalm 77.59 331⇑*iP* **P 14 15 24.2 +0.3**
comp=Z,50nm,1.1s,mb5.0
GDL2 Guadalupe Moun 77.73 55 *eP* **P 14 15 25.0 +0.3**
BFO Black Forest 77.73 333 *eP* **P 14 15 24.3 -0.4**
comp=Z,27nm,1.0s,mb4.8
BFO Black Forest 77.73 333 P **P 14 15 24.5 -0.2**
comp=Z,152nm,0.9s,mb5.6,SNR=8.1
BFO Black Forest 77.73 333 *eP* **P 14 15 24.3 -0.4**
BFO pmax pmax
comp=Z,27nm,1.0s,mb4.8
MOTA Moosalm 77.74 331⇑*iP* **P 14 15 25.0 +0.3**
comp=Z,52nm,1.1s,mb5.1,SNR=16
SQTA Sankt Quirin 77.81 331⇑*iP* **P 14 15 25.6 +0.5**
comp=Z,42nm,1.1s,mb5.0
BOJS Bojanci 77.92 328 *eP* **P 14 15 25.1 -0.6**
WLS Welschbruch 77.95 334 *eP* **P 14 15 25.7 -0.2**
CDF Champ du Feu 77.98 334⇑*iP* **P 14 15 25.7 -0.3**
comp=Z,58nm,0.9s,mb4.9
CDF Champ du Feu 77.98 334⇑*iP* **P 14 15 25.7 -0.3**
CDF pmax pmax
comp=Z,29nm,0.9s,mb4.9
CDF Champ du Feu 77.98 334⇑*iP* **P 14 15 25.7 -0.3**
comp=Z,29nm,0.9s,mb4.9
ARMA Armidale 78.06 176 *eP* **P 14 15 27.6 +1.1**
LIBD Limburg 78.11 334 *eP* **P 14 15 26.5 -0.2**
DAVA Damuels 78.18 332⇑*iP* **P 14 15 27.3 +0.1**
comp=Z,35nm,1.0s,mb4.9,SNR=11
ECH Echery 78.19 334 *eP* **P 14 15 26.8 -0.3**
FELD Feldberg 78.24 333 *eP* **P 14 15 27.0 -0.4**
THEF They Montfort 78.52 335 *eP* **P 14 15 28.5 -0.4**
MOF Molkenrain 78.52 334 *eP* **P 14 15 28.4 -0.5**
MEZF Maizieres J'vi 78.53 335⇑*iP* **P 14 15 28.9 -0.1**
comp=Z,62nm,0.8s,mb5.0
MEZF Maizieres J'vi 78.53 335⇑*iP* **P 14 15 28.9 -0.1**
comp=Z,62nm,0.8s,mb5.3
VAY Valandovo 78.57 321 *i* P **P 14 15 28.7 -0.5**
HAU Haudompre 78.61 334⇑*iP* **P 14 15 29.9 +0.5**
comp=Z,25nm,0.6s,mb4.7
HAU Haudompre 78.61 334⇑*iP* **P 14 15 29.9 +0.5**
HAU pmax pmax
comp=Z,12nm,0.6s,mb4.7
HAU Haudompre 78.61 334⇑*iP* **P 14 15 29.9 +0.5**
comp=Z,12nm,0.6s,mb4.7
HINF Hinteralfeld 78.64 334⇑*iP* **P 14 15 28.9 -0.7**
comp=Z,20nm,0.9s,mb4.5
HINF Hinteralfeld 78.64 334⇑*iP* **P 14 15 28.9 -0.7**
HINF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
HINF Hinteralfeld 78.64 334⇑*iP* **P 14 15 28.9 -0.7**
comp=Z,10nm,0.9s,mb4.5
VAL Valentia 78.69 346⇓*iP* **P 14 15 29.2 -0.7**
VAL *e*PP PP 14 18 34.3 -0.5
BBS Basel-Blauen 78.76 333 *eP* **P 14 15 29.5 -0.7**
WMOK Wichita Mounta 78.78 50⇑*iP* **P 14 15 30.0 -0.3**
WMOK pmax pmax
comp=Z,54nm,0.9s,mb5.2
WMOK Wichita Mounta 78.78 50⇑*iP* **P 14 15 30.0 -0.3**
comp=Z,54nm,0.9s,mb5.2
OHR Ohrid 79.49 322 *i* P **P 14 15 33.2 -0.9**
AAM Ann Arbor 79.55 36 *eP* **P 14 15 33.9 -0.6**
STKA Stephens Creek 79.58 185 *eP* **P 14 15 32.6 -2.0**
comp=Z,4.4nm,0.9s,mb4.1
STKA Stephens Creek 79.58 185 P **P 14 15 32.8 -1.8**
comp=Z,5.5nm,0.8s,mb4.2,baz=1.6,slow=5.1,SNR=11
FLN La Foliniere 79.74 339⇑*iP* **P 14 15 34.9 -0.5**
comp=Z,73nm,0.9s,mb5.0
FLN La Foliniere 79.74 339⇑*iP* **P 14 15 34.9 -0.5**
FLN pmax pmax
comp=Z,37nm,0.9s,mb5.0
FLN La Foliniere 79.74 339⇑*iP* **P 14 15 34.9 -0.5**
comp=Z,37nm,0.9s,mb5.0
LDF La Druitiere 79.81 339⇑*iP* **P 14 15 35.3 -0.5**
comp=Z,24nm,0.7s,mb4.6
LDF La Druitiere 79.81 339⇑*iP* **P 14 15 35.3 -0.5**
LDF pmax pmax
comp=Z,12nm,0.7s,mb4.6
LDF La Druitiere 79.81 339⇑*iP* **P 14 15 35.3 -0.5**
comp=Z,12nm,0.7s,mb4.6
SLM Saint Louis 79.81 42 *eP* **P 14 15 35.0 -0.9**
SLM pmax pmax
comp=Z,100nm,0.9s,mb5.5
SLM Saint Louis 79.81 42 *eP* **P 14 15 35.0 -0.9**
comp=Z,100nm,0.9s,mb5.5
CCM Cathedral Cave 79.83 43⇑*iP* **P 14 15 35.0 -0.9**
CCM pmax pmax
comp=Z,83nm,0.9s,mb5.4
CCM Cathedral Cave 79.83 43⇑*iP* **P 14 15 35.0 -0.9**
comp=Z,83nm,0.9s,mb5.4
CABF La Chapelle 79.95 334⇑*iP* **P 14 15 36.3 -0.3**
LOR Lormes 79.99 336⇑*iP* **P 14 15 36.3 -0.5**
comp=Z,58nm,0.9s,mb4.9
LOR Lormes 79.99 336⇑*iP* **P 14 15 36.3 -0.5**
LOR pmax pmax
comp=Z,29nm,0.9s,mb4.9
LOR Lormes 79.99 336⇑*iP* **P 14 15 36.3 -0.5**
comp=Z,29nm,0.9s,mb4.9
GRR Gorron 80.18 339⇑*iP* **P 14 15 37.5 -0.3**
comp=Z,125nm,0.9s,mb5.2
GRR Gorron 80.18 339⇑*iP* **P 14 15 37.5 -0.3**
GRR pmax pmax
comp=Z,63nm,0.9s,mb5.2
GRR Gorron 80.18 339⇑*iP* **P 14 15 37.5 -0.3**
comp=Z,62nm,0.9s,mb5.2
FORT Forrest 80.20 197 *eP* **P 14 15 37.9 0.0**
comp=Z,24nm,0.7s,mb4.9
FORT *e* pP 14 17 13.7 +1.9
FVM French Village 80.26 43⇑*eP* **P 14 15 37.2 -1.0**
FVM pmax pmax
comp=Z,47nm,1.0s,mb5.1
FVM French Village 80.26 43⇑*eP* **P 14 15 37.2 -1.0**
comp=Z,47nm,1.0s,mb5.1
SSF Saint Saulge 80.28 336⇑*iP* **P 14 15 37.8 -0.5**
comp=Z,32nm,0.7s,mb4.7
SSF Saint Saulge 80.28 336⇑*iP* **P 14 15 37.8 -0.5**
SSF pmax pmax
comp=Z,16nm,0.7s,mb4.8
SSF Saint Saulge 80.28 336⇑*iP* **P 14 15 37.8 -0.5**
comp=Z,16nm,0.7s,mb4.8
LTX Lajitas 80.30 57⇑*iP* **P 14 15 38.7 +0.3**
LTX pmax pmax
comp=Z,89nm,1.0s,mb5.3
LTX Lajitas 80.30 57⇑*iP* **P 14 15 38.7 +0.3**
comp=Z,89nm,1.0s,mb5.3
HYF Humbligny 80.32 336⇑*iP* **P 14 15 38.5 0.0**
SMF Signal de Mont 80.56 335⇑*iP* **P 14 15 39.5 -0.3**
comp=Z,111nm,0.8s,mb5.3
SMF Signal de Mont 80.56 335⇑*iP* **P 14 15 39.5 -0.3**
SMF pmax pmax
comp=Z,56nm,0.8s,mb5.3
SMF Signal de Mont 80.56 335⇑*iP* **P 14 15 39.5 -0.3**
comp=Z,56nm,0.8s,mb5.3
AVF Avril sur Loir 80.57 336⇑*iP* **P 14 15 39.5 -0.3**
comp=Z,44nm,0.9s,mb4.9
AVF Avril sur Loir 80.57 336⇑*iP* **P 14 15 39.5 -0.3**
AVF pmax pmax
comp=Z,22nm,0.9s,mb4.9
AVF Avril sur Loir 80.57 336⇑*iP* **P 14 15 39.5 -0.3**
comp=Z,22nm,0.9s,mb4.9
SGMF Saint Gilles 80.70 340⇑*iP* **P 14 15 40.4 -0.1**
comp=Z,51nm,0.6s,mb5.1
SGMF Saint Gilles 80.70 340⇑*iP* **P 14 15 40.4 -0.1**
SGMF pmax pmax
comp=Z,26nm,0.6s,mb5.1
SGMF Saint Gilles 80.70 340⇑*iP* **P 14 15 40.4 -0.1**
comp=Z,26nm,0.6s,mb5.1
LPL La Plagne 80.74 333⇑*iP* **P 14 15 41.2 +0.5**
comp=Z,29nm,0.8s,mb4.8
LPL La Plagne 80.74 333⇑*iP* **P 14 15 41.2 +0.5**
LPL pmax pmax
comp=Z,14nm,0.8s,mb4.7
LPL La Plagne 80.74 333⇑*iP* **P 14 15 41.2 +0.5**
comp=Z,14nm,0.8s,mb4.8
LPG La Plagne 80.75 333⇑*iP* **P 14 15 41.3 +0.5**
comp=Z,33nm,0.9s,mb4.8
LPG La Plagne 80.75 333⇑*iP* **P 14 15 41.3 +0.5**
LPG pmax pmax
comp=Z,17nm,0.9s,mb4.8
LPG La Plagne 80.75 333⇑*iP* **P 14 15 41.3 +0.5**
comp=Z,17nm,0.9s,mb4.8
ROSF Rostrenen 80.79 341⇑*iP* **P 14 15 40.9 -0.1**
comp=Z,178nm,1.2s,mb5.4
ROSF Rostrenen 80.79 341⇑*iP* **P 14 15 40.9 -0.1**
ROSF pmax pmax
comp=Z,89nm,1.2s,mb5.4
ROSF Rostrenen 80.79 341⇑*iP* **P 14 15 40.9 -0.1**
comp=Z,89nm,1.2s,mb5.4
BGF Bois d'Agland 80.92 336⇑*iP* **P 14 15 41.3 -0.4**
comp=Z,19nm,0.6s,mb4.7
BGF Bois d'Agland 80.92 336⇑*iP* **P 14 15 41.3 -0.4**
BGF pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
BGF Bois d'Agland 80.92 336⇑*iP* **P 14 15 41.3 -0.4**
comp=Z,9.6nm,0.6s,mb4.7
QUIF Quistinic 81.16 340⇑*iP* **P 14 15 42.7 -0.2**
comp=Z,29nm,0.6s,mb4.9
QUIF Quistinic 81.16 340⇑*iP* **P 14 15 42.7 -0.2**
QUIF pmax pmax
comp=Z,14nm,0.6s,mb4.9
QUIF Quistinic 81.16 340⇑*iP* **P 14 15 42.7 -0.2**
comp=Z,14nm,0.6s,mb4.9
BNI Bardonecchia 81.18 333 *eP* **P 14 15 43.1 +0.1**
BNI pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
BNI Bardonecchia 81.18 333 *eP* **P 14 15 43.1 +0.1**
comp=Z,10nm,0.8s,mb4.6
PLDF La Plantade 81.24 335 *eP* **P 14 15 44.8 +1.5**
AGO Saint Agoulin 81.31 336 *eP* **P 14 15 44.4 +0.7**
TCF Toulx Ste Croi 81.34 336⇑*iP* **P 14 15 43.8 0.0**
comp=Z,40nm,0.8s,mb4.9
TCF Toulx Ste Croi 81.34 336⇑*iP* **P 14 15 43.8 0.0**
TCF pmax pmax
comp=Z,20nm,0.8s,mb4.9
TCF Toulx Ste Croi 81.34 336⇑*iP* **P 14 15 43.8 0.0**
comp=Z,20nm,0.8s,mb4.9
MBDF Montbardon 81.44 333⇑*iP* **P 14 15 44.1 -0.3**
comp=Z,14nm,0.6s,mb4.5
MBDF Montbardon 81.44 333⇑*iP* **P 14 15 44.1 -0.3**
MBDF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
MBDF Montbardon 81.44 333⇑*iP* **P 14 15 44.1 -0.3**
comp=Z,6.8nm,0.6s,mb4.5
ORIF Oris-en-Rattie 81.54 333⇑*iP* **P 14 15 45.2 +0.3**
comp=Z,31nm,0.7s,mb4.8
ORIF Oris-en-Rattie 81.54 333⇑*iP* **P 14 15 45.2 +0.3**
ORIF pmax pmax
comp=Z,15nm,0.7s,mb4.8
ORIF Oris-en-Rattie 81.54 333⇑*iP* **P 14 15 45.2 +0.3**
comp=Z,15nm,0.7s,mb4.8
MIAR Mount Ida 81.55 47⇑*iP* **P 14 15 44.7 -0.2**
MIAR pmax pmax
comp=Z,82nm,0.8s,mb5.5
MIAR Mount Ida 81.55 47⇑*iP* **P 14 15 44.7 -0.3**
comp=Z,82nm,0.8s,mb5.5
ACSO Alum Creek Sta 81.58 37⇑*eP* **P 14 15 44.5 -0.5**
comp=Z,59nm,0.7s,mb5.4
PYM Petit Puy Mans 81.62 336 *eP* **P 14 15 45.9 +0.6**
MFF Saint Martin d 81.67 338⇑*iP* **P 14 15 45.7 +0.2**
comp=Z,110nm,1.1s,mb5.2
MFF Saint Martin d 81.67 338⇑*iP* **P 14 15 45.7 +0.2**
MFF pmax pmax
comp=Z,55nm,1.1s,mb5.2
MFF Saint Martin d 81.67 338⇑*iP* **P 14 15 45.7 +0.2**
comp=Z,55nm,1.1s,mb5.2
EIL Elat 81.83 306⇑*iP* **P 14 15 47.3 +1.0**
comp=Z,553nm,1.3s,mb6.1
SAOF Saorge 81.86 332 *eP* **P 14 15 45.3 -1.2**
WCI Wyandotte Cave 81.89 40⇑*iP* **P 14 15 46.2 -0.5**
WCI pmax pmax
comp=Z,87nm,0.8s,mb5.5
WCI Wyandotte Cave 81.89 40⇑*iP* **P 14 15 46.2 -0.5**
comp=Z,87nm,0.8s,mb5.5
AUTN L'Aution 81.90 332 *eP* **P 14 15 46.0 -0.7**
VIVF Saint-Julien-l 81.96 334⇑*iP* **P 14 15 47.2 +0.2**
comp=Z,30nm,0.8s,mb4.8
VIVF Saint-Julien-l 81.96 334⇑*iP* **P 14 15 47.2 +0.2**
VIVF pmax pmax
comp=Z,15nm,0.8s,mb4.8
VIVF Saint-Julien-l 81.96 334⇑*iP* **P 14 15 47.2 +0.2**
comp=Z,15nm,0.8s,mb4.8
UALR University of 81.97 46 *eP* **P 14 15 46.4 -0.7**

comp=Z,16nm,0.8s,mb4.8
SBF Sospel 82.01 332⇑iP P 14 15 46.6 -0.7
comp=Z,32nm,0.5s,mb5.0
SBF Sospel 82.01 332⇑iP P 14 15 46.6 -0.7
SBF pmax pmax
comp=Z,16nm,0.5s,mb5.0
SBF Sospel 82.01 332⇑iP P 14 15 46.6 -0.7
comp=Z,16nm,0.5s,mb5.0
MVIF Mont Vial 82.07 332 eP P 14 15 47.0 -0.6
HBAR Harrisburg 82.14 44 eP P 14 15 48.6 +0.6
GLAT Glass 82.19 43 eP P 14 15 48.0 -0.2
ACCN Adirondack Com 82.20 29 eP P 14 15 47.2 -1.0
UTMT University of 82.32 43 eP P 14 15 48.8 0.0
comp=Z,261nm,1.1s,mb5.9
HNH Hanover 82.35 28 eP P 14 15 48.5 -0.5
comp=Z,6.4nm,1.5s,mb4.1
RJF Les Rejaudoux 82.44 336⇑iP P 14 15 49.6 +0.1
comp=Z,61nm,1.1s,mb5.0
RJF Les Rejaudoux 82.44 336⇑iP P 14 15 49.6 +0.1
RJF pmax pmax
comp=Z,31nm,1.1s,mb5.0
RJF Les Rejaudoux 82.44 336⇑iP P 14 15 49.6 +0.1
comp=Z,30nm,1.1s,mb4.9
BINY Binghamton 82.48 31 eP P 14 15 48.0 -1.7
comp=Z,25nm,1.0s,mb4.9
SMRF Simiane la Rot 82.49 333⇑iP P 14 15 50.9 +1.2
comp=Z,17nm,0.8s,mb4.5
SMRF Simiane la Rot 82.49 333⇑iP P 14 15 50.9 +1.2
comp=Z,17nm,0.8s,mb4.8
FRF La Foret Royal 82.53 332⇑iP P 14 15 49.4 -0.6
comp=Z,13nm,0.8s,mb4.4
FRF La Foret Royal 82.53 332⇑iP P 14 15 49.4 -0.6
FRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
FRF La Foret Royal 82.53 332⇑iP P 14 15 49.4 -0.6
comp=Z,6.3nm,0.8s,mb4.4
CAF Calviac 82.64 336⇑iP P 14 15 51.1 +0.6
comp=Z,40nm,0.7s,mb5.0
CAF Calviac 82.64 336⇑iP P 14 15 51.1 +0.6
CAF pmax pmax
comp=Z,20nm,0.7s,mb5.0
CAF Calviac 82.64 336⇑iP P 14 15 51.1 +0.6
comp=Z,20nm,0.7s,mb5.0
TAVF Tavernes 82.67 333 eP P 14 15 51.0 +0.4
PGF Pioggiola 82.68 330⇑iP P 14 15 50.2 -0.5
comp=Z,21nm,0.8s,mb4.6
PGF Pioggiola 82.68 330⇑iP P 14 15 50.2 -0.5
PGF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
PGF Pioggiola 82.68 330⇑iP P 14 15 50.2 -0.5
comp=Z,10nm,0.8s,mb4.6
LMR La Mourre 82.78 332⇑iP P 14 15 50.9 -0.3
comp=Z,37nm,0.7s,mb4.9
LMR La Mourre 82.78 332⇑iP P 14 15 50.9 -0.3
LMR pmax pmax
comp=Z,19nm,0.7s,mb4.9
LMR La Mourre 82.78 332⇑iP P 14 15 50.9 -0.3
comp=Z,19nm,0.7s,mb4.9
MET Memphis--Engin 82.83 44 eP P 14 15 51.0 -0.4
CORF Corte 82.85 330 eP P 14 15 50.7 -0.9
LASF Ste Croix 82.91 334⇑iP P 14 15 52.3 +0.4
comp=Z,14nm,0.8s,mb4.5
WVT Waverly 82.96 42⇑eP P 14 15 51.7 -0.4
WVT pmax pmax
comp=Z,64nm,0.8s,mb5.4
WVT Waverly 82.96 42⇑eP P 14 15 51.7 -0.4
comp=Z,64nm,0.8s,mb5.4
LFF La Frestale 82.98 337⇑iP P 14 15 52.7 +0.5
comp=Z,181nm,1.0s,mb5.4
LFF La Frestale 82.98 337⇑iP P 14 15 52.7 +0.5
LFF pmax pmax
comp=Z,91nm,1.0s,mb5.5
LFF La Frestale 82.98 337⇑iP P 14 15 52.7 +0.5
comp=Z,91nm,1.0s,mb5.5
BERF Bertagne 83.05 333 eP P 14 15 53.5 +0.9
NATX Nacogdoches 83.24 49⇑iP P 14 15 54.0 +0.5
comp=Z,296nm,0.8s,mb6.1
MCWV Mont Chateau 83.30 35⇑eP P 14 15 53.5 -0.3
comp=Z,62nm,0.9s,mb5.3
OXF Oxford 83.57 44⇑iP P 14 15 54.7 -0.5
OXF pmax pmax
comp=Z,24nm,1.1s,mb4.8
OXF Oxford 83.57 44⇑iP P 14 15 54.7 -0.6
comp=Z,237nm,1.1s,mb5.8
MTLF Montolieu 84.05 335⇑iP P 14 15 58.2 +0.6
comp=Z,30nm,0.9s,mb4.7
MTLF Montolieu 84.05 335⇑iP P 14 15 58.2 +0.6
MTLF pmax pmax
comp=Z,15nm,0.9s,mb4.7
MTLF Montolieu 84.05 335⇑iP P 14 15 58.2 +0.6
comp=Z,15nm,0.9s,mb4.7
PAL Palisades 84.25 30 eP P 14 15 57.8 -0.8
PAL pmax pmax
comp=Z,15nm,0.6s,mb4.9
PAL Palisades 84.25 30 eP P 14 15 57.8 -0.8
comp=Z,15nm,0.6s,mb4.9
TZTN Tazewell 84.48 39⇑eP P 14 15 59.4 -0.4
FWV Forest Hill 84.72 36 eP P 14 16 00.1 -0.8
NWAO Narrogin (SRO) 84.85 205 P P 14 16 01.6 0.0
comp=Z,11nm,0.6s,mb4.8,baz=1.2,slow=9.3,SNR=14
EPF Esparros 84.86 336⇑iP P 14 16 01.7 +0.1
comp=Z,34nm,0.9s,mb4.8
EPF Esparros 84.86 336⇑iP P 14 16 01.7 +0.1
EPF pmax pmax
comp=Z,17nm,0.9s,mb4.8
EPF Esparros 84.86 336⇑iP P 14 16 01.7 +0.1
comp=Z,17nm,0.9s,mb4.8
CPCT Cooper Cave 84.99 40⇑iP P 14 16 01.8 -0.4
PMOR Pomariorio Ree 85.06 119 eP P 14 16 04.3 +1.7
comp=Z,37nm,1.0s,mb5.1
BLA Blacksburg 85.19 36⇑iP P 14 16 02.7 -0.5
BLA pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BLA Blacksburg 85.19 36⇑iP P 14 16 02.7 -0.5
comp=Z,4.7nm,0.9s,mb4.2
SJPF Ste Jean 85.20 337⇑iP P 14 16 04.1 +0.9
comp=Z,15nm,0.8s,mb4.5
SJPF Ste Jean 85.20 337⇑iP P 14 16 04.1 +0.9
SJPF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
SJPF Ste Jean 85.20 337⇑iP P 14 16 04.1 +0.9
comp=Z,7.5nm,0.8s,mb4.5
ETSF Etsaut 85.22 337⇑iP P 14 16 03.5 +0.1
comp=Z,50nm,0.7s,mb5.1
ETSF Etsaut 85.22 337⇑iP P 14 16 03.5 +0.1
ETSF pmax pmax
comp=Z,25nm,0.7s,mb5.0
ETSF Etsaut 85.22 337⇑iP P 14 16 03.5 +0.1
comp=Z,25nm,0.7s,mb5.0
VAH Vaihoa 85.40 119 eP P 14 16 05.2 +0.9
comp=Z,71nm,1.2s,mb5.3
LRAL Lakeview Retre 85.92 43⇑iP P 14 16 06.0 -0.7
comp=Z,50nm,1.3s,mb5.1
COW Cow Castle Cre 88.39 38 eP P 14 16 18.6 +0.2
ESDC Sonseca Array 89.13 338 P P 14 16 20.7 -1.1
comp=Z,1.6nm,0.6s,baz=21,slow=2.1,SNR=7.1
TORD Torodi Ar. Bea 111.92 324 Pdiff Pdif 14 18 05.8 +1.6
comp=Z,0.2nm,0.4s,baz=90,slow=37,SNR=2.8
TORD PKIKP PKiKP 14 21 58.1 -0.6
comp=Z,1.8nm,0.5s,baz=20,slow=1.9,SNR=17
TORD PP PP 14 22 42.8 -6.7
comp=Z,0.6nm,0.7s,baz=7.9,slow=5.9,SNR=2.8
TORD PKKPbc PKKPbc 14 32 51.2 -0.7
comp=Z,0.9nm,0.8s,baz=197,slow=2.7,SNR=4.1
TORD PKKPab PKKPab 14 33 01.7 -0.7
comp=Z,1.4nm,0.8s,baz=217,slow=3.3,SNR=5.6
DBIC Dimbokro 120.36 327 PKP PKPdf 14 22 14.5 -0.4
comp=Z,13nm,0.7s,baz=41,slow=2.5,SNR=31
DBIC PKKPbc PKKPbc 14 32 21.9 -0.8
comp=Z,1.9nm,0.7s,baz=167,slow=8.9,SNR=4.1
DBIC Dimbokro 120.36 327 ePKPdf PKPdf 14 22 14.5 -0.4
VNDA Vanda 125.48 176 PKP PKPdf 14 22 23.5 -1.3
comp=Z,3.6nm,0.7s,baz=326,slow=3.5,SNR=13
LBTB Lobatse 129.16 275 ePKPdf PKPdf 14 22 31.6 -0.1
LBTB eSKP 14 25 13.9
BOSA Boshof 131.76 272 PKP PKPdf 14 22 36.4 -0.3
comp=Z,2.4nm,0.7s,baz=60,slow=3.6,SNR=6.5
BOSA PP PP 14 24 54.4 -8.3
comp=Z,2.2nm,0.8s,baz=40,slow=6.4,SNR=3.7
BOSA SKPbc SKPbc 14 25 23.4 +1.0
comp=Z,12nm,0.6s,baz=43,slow=3.2,SNR=26
BOSA Boshof 131.76 272 PKIKP PKPdf 14 22 36.4 -0.3
BOSA 14 24 54.4
BOSA Boshof 131.76 272 PKP PKPdf 14 22 36.4 -0.3
BOSA PP PP 14 24 54.4 -8.3
BOSA SKPbc SKPbc 14 25 23.4 +1.0

SAML Samuel 133.43 44 ePKPdf PKPdf 14 22 39.7 -0.2
SAML eSKPbc SKPbc 14 25 29.1 +1.1
LPAZ La Paz 137.14 55 PKP PKPdf 14 22 48.0 +1.2
comp=Z,7.8nm,0.7s,baz=5.6,slow=4.3,SNR=3.9
SYO Syowa Base 139.79 212⇓ePdiff Pdif 14 20 07.0 -1.1
SIV San Ignacio 140.55 46 PKhKP 14 22 45.0
comp=Z,4.0nm,0.7s,baz=329,slow=1.5,SNR=18
SIV PKP PKPdf 14 22 53.0 0.0
comp=Z,12nm,0.7s,baz=4.3,slow=0.8,SNR=19
SIV SKPbc SKPbc 14 25 45.8 -3.1
comp=Z,2.7nm,0.8s,baz=335,slow=7.8,SNR=3.4
BDFB Brasilia 145.44 27 PKPbc PKPbc 14 23 03.1 +0.6
comp=Z,70nm,0.8s,baz=306,slow=1.8,SNR=88
FCH Farellones 148.34 76 eP PKPdf 14 23 07.3 +1.0
CFAA Coronel Fontan 148.56 72 PKPbc PKPbc 14 23 10.1 -0.9
comp=Z,4.3nm,0.7s,baz=289,slow=3.9,SNR=12
CFAA Coronel Fontan 148.56 72 PKPbc PKPbc 14 23 10.1 -0.9
NVL N'lazarevskaya 148.96 207⇓iPKHKP 14 23 10.0
NVL pmax pmax
comp=Z,49nm,1.1s
CPUP Villa Florida 151.10 51 PKP PKPdf 14 23 10.8 +0.1
comp=Z,8.7nm,1.0s,baz=360,slow=4.3,SNR=7.1
CPUP PKPbc PKPbc 14 23 16.5 -0.5
comp=Z,16nm,0.6s,baz=313,slow=3.7,SNR=39
CPUP Villa Florida 151.10 51 ePKPdf PKPdf 14 23 10.7 0.0
CPUP ePKPbc PKPbc 14 23 16.6 -0.4
PLCA Paso Flores 152.23 89 PKP PKPdf 14 23 10.2 -2.1
comp=Z,8.5nm,1.1s,baz=307,slow=2.9,SNR=9.7
PLCA PKPbc PKPbc 14 23 19.0 -0.5
comp=Z,21nm,0.7s,baz=274,slow=2.7,SNR=61
PLCA pPKPbc pPKPbc 14 25 02.3 +1.3
comp=Z,1.9nm,0.6s,baz=226,slow=4.4,SNR=3.0
PLCA Paso Flores 152.23 89 ePKPdf PKPdf 14 23 11.1 -1.3
PLCA ePKPbc PKPbc 14 23 18.8 -0.7
PLCA ePKPab PKPab 14 23 31.2 0.0
SNAA Sanae 152.41 200 PKPbc PKPbc 14 23 18.0 -1.9
comp=Z,5.0nm,0.8s,baz=217,slow=1.4,SNR=23
SNAA pPKPbc pPKPbc 14 25 01.4 0.0
comp=Z,3.0nm,0.8s,baz=172,slow=2.4,SNR=4.5
SNAA Sanae 152.41 200 ePKPdf PKPdf 14 23 11.4 -1.2
SNAA e 14 23 18.2
SNAA e 14 23 30.7
VNA2 Neumayer--Watz 153.97 199 ePKPdf PKPdf 14 23 13.0 -1.9
VNA2 e 14 23 21.7
VNA2 e 14 23 38.0
VNA2 e 14 25 05.1
VNA2 e 14 25 08.9
VNA3 Neumayer Olymp 154.19 197 ePKPdf PKPdf 14 23 13.8 -1.4
VNA3 e 14 23 21.8
VNA3 e 14 23 38.4
VNA3 e 14 25 05.3
VNA1 Neumayer--Stat 154.37 199 ePKPdf PKPdf 14 23 13.9 -1.5
VNA1 e 14 23 22.8
VNA1 e 14 23 38.1

IDC 14 14:39:46.5±1.5, 312S×12797E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/17, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=129.9km s-min=23.8km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.84**	**160**	P	Pn	14 43 55.2	-0.8
	0.0nm,0.3s,baz=340,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**21.21**	**165**	P	P	14 44 34.0	+0.3
	1.1nm,0.6s,baz=348,slow=12,SNR=19						
SONM	**Songino Array**	**54.15**	**342**	P	P	14 49 15.1	+1.7
	0.4nm,0.9s,baz=157,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**63.89**	**327**	P	P	14 50 20.4	-0.7
	0.5nm,0.7s,baz=127,slow=7.8,SNR=6.1						

*IDC **14** 15:02:26.2±1.4, 3399N×2571E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/22, mbtmp3.7/8, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/39, Error ellipse: s-maj=29.3km s-min=23.3km az=136.0*
*ATH **14** 15:02:27.0, 3385N×2580E, h9km, MD3.8/4*
*CSEM **14** 15:02:28.7±0.1, 3388N×2593E, h30km, MD3.8, Error ellipse: s-maj=3.0km s-min=1.6km az=73.0*
*ISCJB **14** 15:02:28.6±0.9, 3386N±003×2589E±006, h31km±9km, mb3.8/7, Error ellipse: s-maj=8.7km s-min=4.9km az=153.6*
*HLW **14** 15:02:29.3, 3399N×2584E, h23km, Mb3.3*
*NEIC **14** 15:02:29.5±2.3, 3392N×2581E, h20km±14km, mb4.1/1, MD3.8(ATH), Error ellipse: s-maj=20.1km s-min=8.8km az=203.0*

ISC 14 15:02:29.4±1.1, 3387N±003×2580E±006, h23km±10km, n34, σ0§97/39, mb3.8/7, 1C-5D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**1.00**	**355**	ePB	**Pb**	**15 02 46.5**	**-1.6**
NPS	**Neapolis**	**1.39**	**354**	ePB	**Pb**	**15 02 53.3**	**-1.5**
NPS				eSB	**Sb**	**15 03 12.6**	**+0.5**
IDI	**Anoyia**	**1.60**	**332**	Pn	**Pn**	**15 02 55.2**	**-1.0**
	2.9nm,0.3s,baz=161,slow=15,SNR=15						
GVD	**Gavdhos**	**1.71**	**305**	ePN	**Pn**	**15 02 58.1**	**+0.3**
GVD	**Gavdhos**	**1.71**	**305**	ePN	**Pn**	**15 02 58.1**	**+0.3**
KARP	**Karpathos**	**2.01**	**34**	ePN	**Pn**	**15 03 03.6**	**+1.7**
VAM	**Vamos**	**2.02**	**320**	ePN	**Pn**	**15 03 03.9**	**+1.9**
SLUM		**2.43**	**192**	P	**Pn**	**15 03 07.9**	**+0.3**
SLUM				S	**Sn**	**15 03 36.4**	**-0.1**
SANT	**Santorini**	**2.51**	**354**	ePN	**Pn**	**15 03 08.3**	**-0.4**
SANT	**Santorini**	**2.51**	**354**	ePN	**Pn**	**15 03 08.3**	**-0.5**
HMAT	**Matruh**	**2.98**	**158**	⇓P	**Pn**	**15 03 15.4**	**+0.2**
HMAT				S	**Sn**	**15 03 49.3**	**-1.0**
VLI	**Veliai**	**3.68**	**321**	ePN	**Pn**	**15 03 27.1**	**+2.3**
SWA1		**4.60**	**181**	⇓P	**Pn**	**15 03 38.3**	**+0.9**
SWA1				S	**Sn**	**15 04 28.8**	**-1.3**
SWA2		**4.63**	**184**	⇓P	**Pn**	**15 03 38.7**	**+0.9**
HNAT	**Natroun**	**5.89**	**135**	⇓P	**Pn**	**15 03 55.2**	**0.0**
CSS	**Prodhromos**	**6.32**	**78**	eP	**Pn**	**15 04 01.7**	**+0.6**
CSS	**Prodhromos**	**6.32**	**78**	eP	**Pn**	**15 04 01.7**	**+0.5**
HSAF	**As Saff**	**6.48**	**129**	P	**Pn**	**15 04 03.9**	**+0.5**
HSAF	**As Saff**	**6.48**	**129**	P	**Pn**	**15 04 03.8**	**+0.5**
GLL	**Jalalah**	**6.61**	**129**	⇑P	**Pn**	**15 04 05.2**	**+0.1**
SUZ		**7.21**	**122**	⇓P	**Pn**	**15 04 13.0**	**-0.3**
SUZ				S	**Sn**	**15 05 29.9**	**-4.5**
BRTR	**Keskin Array B**	**8.58**	**45**	Pn	**Pn**	**15 04 33.1**	**+1.0**
	0.1nm,0.3s,baz=232,slow=12,SNR=2.5						
EIL	**Elat**	**8.85**	**116**	eP	**Pn**	**15 04 35.8**	**0.0**
EIL	**Elat**	**8.85**	**116**	eP	**Pn**	**15 04 35.8**	**+0.1**
EIL				S	**Sn**	**15 06 07.9**	**-6.8**
MLR	**Muntele Rosu**	**11.60**	**1**	LR	LR	15 09 31.5	
	comp=Z,64nm,21.5s,baz=113,slow=37						
GERES	**GERESS Array B**	**17.46**	**333**	Pn	**Pn**	**15 06 30.7**	**-0.7**
	0.1nm,0.3s,baz=147,slow=12,SNR=6.5						
FINES	**FINESS Array B**	**27.59**	**0**	P	**P**	**15 08 12.9**	**-1.8**
	1.0nm,0.6s,mb3.6,baz=168,slow=11,SNR=5.9						
TORD	**Torodi Ar. Bea**	**30.10**	**233**	P	**P**	**15 08 37.9**	**+0.8**
	1.5nm,0.9s,mb3.7,baz=31,slow=8.8,SNR=8.9						
ARCES	**ARCESS Array B**	**35.71**	**360**	P	**P**	**15 09 24.9**	**-1.2**
	2.1nm,0.8s,mb4.1,baz=198,slow=7.4,SNR=4.0						
ZRNK	**Zerenda**	**36.04**	**45**	eP	**P**	**15 09 29.0**	**+0.1**
ZRNK	**Zerenda**	**36.04**	**45**	eP	**P**	**15 09 29.0**	**+0.1**
	1.9nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**44.05**	**55**	P	**P**	**15 10 35.9**	**+0.5**
	0.7nm,0.6s,mb3.5,baz=278,slow=7.1,SNR=6.1						
ZAL	**Zalesovo**	**45.51**	**45**	P	**P**	**15 10 46.6**	**-0.4**
	1.0nm,0.4s,mb4.1,baz=166,slow=8.3,SNR=4.5						
YKA	**Yellowknife Ar**	**78.83**	**342**	P	**P**	**15 14 29.7**	**-0.7**
	0.2nm,0.6s,mb3.2,baz=32,slow=6.8,SNR=3.7						

MAN 14 15:17:03.4, 1025N×12589E, h24km, mb2.8, ML4.2, MS2.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.61**	**221**	eP	Pb	15 17 15.5	+0.1
SCPH				eS	Sb	15 17 27.1	+3.6
MSLP	**Maasin**	**1.02**	**264**	eP	Pn	15 17 22.1	-0.1
MSLP				eS	Sb	15 17 35.5	+0.2
PLP	**Palo**	**1.28**	**316**	eP	Pn	15 17 24.5	-1.2
PLP				eS	Sn	15 17 42.9	+0.8
BUTP	**Butuan**	**1.30**	**192**	eP	Pn	15 17 25.2	-0.7
OCLP	**Ormoc**	**1.49**	**303**	eP	Pn	15 17 29.3	+0.7
BUKP	**Musuan**	**2.49**	**199**	eP	Pn	15 17 43.4	+1.0
PVCP	**Virac**	**3.74**	**333**	eP	Pn	15 17 58.0	-1.5

IDC 14 15:17:53.6±2.2, 284S×12848E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=138.1km s-min=27.7km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.93**	**162**	P	Pn	15 22 03.9	-0.5
	0.1nm,0.3s,baz=340,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**21.36**	**166**	P	P	15 22 42.4	-0.1
	1.6nm,0.6s,baz=345,slow=12,SNR=35						
ASPA	**Alice Springs**	**21.36**	**166**	eP	P	15 22 42.4	0.0
MKAR	**Makanchi Array**	**63.94**	**327**	P	P	15 28 29.1	+0.7
	0.3nm,0.7s,baz=133,slow=9.2,SNR=3.7						

*IDC **14** 15:19:57.8±0.6, 338N×127.10E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, Error ellipse: s-maj=66.2km s-min=14.4km az=68.0*
*MOS **14** 15:20:01.2±1.1, 336N×12682E, h33km, mb4.6/2, Error ellipse: s-maj=52.2km s-min=11.9km az=108.8*
*ISCJB **14** 15:20:08.3±4.6, 33N±01×1269E±01, h98km±45km, mb4.2/18, Error ellipse: s-maj=27.9km s-min=12.9km az=116.3*
*NEIC **14** 15:20:11.3±3.9, 327N×12699E, h112km±37km, mb4.5/5, Error ellipse: s-maj=49.3km s-min=11.3km az=66.0*

ISC 14 15:20:12.4±4.8, 33N±01×1270E±02, h123km±47km, n38, σ0§72/35, mb4.2/18, 3C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.78**	**161**	eP	**Pn**	**15 24 00.4**	**+0.4**
	48nm,1.6s						
WRAB	**Tennant Creek**	**24.17**	**163**	eP	**P**	**15 25 17.0**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**24.17**	**163**	eP	**P**	**15 25 17.0**	**-0.1**
	comp=Z,18nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**24.18**	**163**	P	**P**	**15 25 17.2**	**0.0**
	comp=Z,11nm,0.8s,mb4.3,baz=343,slow=10,SNR=52						
WRA				PcP	PcP	15 28 57.4	+2.7
	comp=Z,0.5nm,0.5s,baz=331,slow=2.1,SNR=5.8						
WB2	**Warramunga Arr**	**24.18**	**163**	eP	**P**	**15 25 17.1**	**-0.1**
AS31	**Alice Springs**	**27.61**	**166**	eP	**P**	**15 25 52.3**	**+4.2**
ASAR	**Alice Springs**	**27.61**	**166**	P	**P**	**15 25 48.5**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.3,baz=347,slow=7.5,SNR=10.0						
ASAR				PcP	PcP	15 29 05.1	+2.6
	comp=Z,0.6nm,0.5s,baz=347,slow=2.8,SNR=6.5						
ASPA	**Alice Springs**	**27.61**	**166**	eP	**P**	**15 25 52.3**	**+4.2**
STKA	**Stephens Creek**	**37.62**	**159**	eP	**P**	**15 27 13.7**	**-1.4**
	comp=Z,4.0nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**37.62**	**159**	P	**P**	**15 27 14.2**	**-1.0**
	comp=Z,4.9nm,0.7s,mb4.5,baz=338,slow=7.1,SNR=14						
STKA				PcP	PcP	15 29 30.6	+0.4
	comp=Z,1.1nm,0.8s,baz=8.6,slow=7.1,SNR=3.0						
JIRN	**Jiri**	**45.82**	**306**	eP	**P**	**15 28 22.0**	**+0.1**
	comp=Z,11nm,0.7s,mb4.7						
GUN	**Gumba**	**46.17**	**306**	eP	**P**	**15 28 24.7**	**+0.1**
	comp=Z,19nm,0.7s,mb5.0						
PKI	**Pulchoki**	**46.41**	**306**	eP	**P**	**15 28 26.2**	**-0.3**
KKN	**Kakani**	**46.61**	**306**	eP	**P**	**15 28 27.8**	**-0.2**
	comp=Z,7.2nm,0.5s,mb4.6						
DMN	**Daman**	**46.68**	**306**	eP	**P**	**15 28 28.5**	**-0.1**
GKN	**Gorkha**	**47.21**	**306**	eP	**P**	**15 28 32.3**	**-0.4**
ULN	**Ulaanbaatar**	**47.63**	**342**	⇓iP	**P**	**15 28 35.5**	**-0.4**
SONM	**Songino Array**	**47.81**	**341**	P	**P**	**15 28 37.8**	**+0.5**
	comp=Z,0.9nm,0.4s,mb4.0,baz=162,slow=8.4,SNR=26						
SONM				PcP	PcP	15 30 05.9	+1.6
	comp=Z,0.4nm,0.8s,baz=156,slow=3.8,SNR=4.2						
KOLN	**Koldanda**	**47.97**	**305**	eP	**P**	**15 28 38.7**	**+0.1**
	comp=Z,24nm,0.6s,mb5.2						
MKAR	**Makanchi Array**	**58.06**	**325**	P	**P**	**15 29 52.3**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.4,baz=118,slow=7.9,SNR=44						
YAK	**Yakutsk**	**58.67**	**2**	eP	**P**	**15 29 55.6**	**-1.2**
MA2	**Magadan**	**59.10**	**14**	eP	**P**	**15 30 01.7**	**+1.9**
ZAL	**Zalesovo**	**61.10**	**333**	P	**P**	**15 30 13.2**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=279,slow=18,SNR=3.1						
KURK	**Kurchatov**	**62.25**	**328⇑**	eP	**P**	**15 30 20.9**	**-0.2**
KURK	**Kurchatov**	**62.25**	**328**	eP	**P**	**15 30 20.8**	**-0.3**
	comp=Z,4.3nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**67.83**	**327**	P	**P**	**15 30 57.9**	**+0.7**
	comp=Z,1.4nm,0.5s,mb4.0,baz=140,slow=7.7,SNR=10						
BRVK	**Borovoye**	**67.90**	**327**	eP	**P**	**15 30 57.3**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
BRVK	**Borovoye**	**67.90**	**327**	eP	**P**	**15 30 57.3**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.0						
TIXI	**Tiksi**	**68.30**	**1⇑**	eP	**P**	**15 30 59.1**	**-1.0**
AKTK	**Aktyubinsk**	**74.16**	**322**	P	**P**	**15 31 35.8**	**+0.4**
AKTO	**Aktyubinsk**	**74.16**	**322**	P	**P**	**15 31 35.8**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.6,baz=110,slow=12,SNR=2.5						
ARU	**Arti**	**75.44**	**328⇑**	eP	**P**	**15 31 42.6**	**-0.2**
ILAR	**Eielson Array**	**85.43**	**25**	P	**P**	**15 32 36.1**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=246,slow=5.6,SNR=6.0						
ARCES	**ARCESS Array B**	**90.96**	**340**	P	**P**	**15 33 01.7**	**-0.7**
	comp=Z,3.2nm,0.9s,mb4.4,baz=66,slow=7.1,SNR=4.7						
AKASG	**Malin Array Be**	**92.39**	**321**	P	**P**	**15 33 11.3**	**+2.3**
	comp=Z,0.2nm,0.3s,mb3.9,baz=77,slow=3.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**123.27**	**288**	PKP	PKPdf	15 38 57.5	+2.8
	comp=Z,0.3nm,0.3s,baz=82,slow=2.2,SNR=5.2						
CFAA	**Coronel Fontan**	**148.39**	**155**	PKPbc	PKPbc	15 39 46.7	+2.4
	comp=Z,0.3nm,0.5s,baz=279,slow=2.2,SNR=5.2						
CFAA	**Coronel Fontan**	**148.39**	**155**	PKPbc	PKPbc	15 39 46.7	+2.4

*ISCJB **14** 15:28:53.6±0.7, 3429N±006×734E±01, h10km, mb3.4/4, Error ellipse: s-maj=14.0km s-min=4.4km az=117.8*
*IDC **14** 15:28:55.0±1.2, 3444N×7329E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.5/24, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=28.9km s-min=26.3km az=122.0*
*MOS **14** 15:28:57.2±0.8, 3435N×7336E, h33km, mb4.0/1, Error ellipse: s-maj=26.2km s-min=10.9km az=91.2*
*NDI **14** 15:28:57.0±2.5, 3433N×7359E, h10km, ML3.6, mb3.5(NEIC)*
*NEIC **14** 15:28:57.9±1.4, 3445N×7355E, h10km, mb3.5/2, Error ellipse: s-maj=27.0km s-min=12.3km az=50.0*
*NNC **14** 15:29:01.9±15.0, 3470N×7333E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=149.5km s-min=127.3km az=96.0*

ISC 14 15:28:56.1±1.6, 3424N±006×7332E±010, h17km±10km, n25, σ1§25/33, mb3.4/4, 5C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.69**	**131**	eP	**Pn**	**15 29 41.3**	**+2.7**
THN				eS	**Sn**	**15 30 11.3**	**+0.5**
DLH	**Dalhousie**	**2.78**	**127**	eP	**Pg**	**15 29 48.0**	**-1.5**
DLH				eS	**Sb**	**15 30 20.0**	**+0.8**
SDNR	**Sundarnagar**	**4.11**	**131**	eP	**Pn**	**15 29 58.1**	**0.0**
SDNR				eS	**Sn**	**15 30 43.1**	**-2.6**
KLP	**Kalpa**	**4.94**	**122**	eP	**Pn**	**15 30 08.9**	**-0.6**
KLP				eS	**Sn**	**15 31 02.2**	**-4.1**
KLP				AML	AML	15 31 28.8	
	comp=N,106nm,0.6s						
KLP				AML	AML	15 31 30.1	
	comp=E,154nm,0.5s						
DDI	**Dehra Dun**	**5.59**	**133**	ex	**Sn**	**15 31 22

BRVK	**Borovoye**	**18.94 354**	*e*P	**Pn**	**15 33 15.7**	**-1.2**
BRVK			pmax	pmax		
	comp=Z,1.0nm,0.7s					
BRVK	**Borovoye**	**18.94 354**	*e*P	**Pn**	**15 33 15.7**	**-1.2**
	comp=Z,1.1nm,0.7s					
ZRNK	**Zerenda**	**18.96 352**	*e*P	**Pn**	**15 33 16.8**	**-0.3**
ZRNK			pmax	pmax		
	comp=Z,1.0nm,0.5s					
ZRNK	**Zerenda**	**18.96 352**	*e*P	**Pn**	**15 33 16.8**	**-0.3**
	comp=Z,1.4nm,0.5s					
AKTK	**Aktyubinsk**	**19.68 330**	P	**Pn**	**15 33 25.5**	**-0.4**
AKTO	**Aktyubinsk**	**19.68 330**	P	**Pn**	**15 33 25.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=133,slow=14,SNR=6.3					
ZAL	**Zalesovo**	**21.30 19**	P	**P**	**15 33 40.4**	**-1.5**
	comp=Z,1.2nm,0.4s,mb3.6,baz=183,slow=7.2,SNR=4.1					
SONM	**Songino Array**	**28.17 51**	P	**P**	**15 34 46.5**	**-1.0**
	comp=Z,0.2nm,0.8s,mb2.8,baz=242,slow=10,SNR=3.9					
TORD	**Torodi Ar. Bea**	**67.61 271**	P	**P**	**15 39 52.8**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=49,slow=5.4,SNR=10.0					
ASAR	**Alice Springs**	**81.40 126**	P	**P**	**15 41 15.9**	**+3.9**
	comp=Z,0.3nm,0.7s,mb3.4,baz=311,slow=5.3,SNR=9.7					

ISCJB ***14*** *15:39:36.9±0.8, 2212S±006×6592W±010, h262km±9km, mb3.9/7, Error ellipse: s-maj=15.0km s-min=9.2km az=145.2*
NEIC ***14*** *15:39:38.9±0.5, 2209S×6595W, mb3.8/4, Error ellipse: s-maj=14.9km s-min=10.0km az=83.0*
IDC ***14*** *15:39:39.9±0.8, 2189S×6577W, h268km±6km, mb3.7/6, mb1 3.7/11, mb1mx3.6/19, mbtmp4.1/11, Error ellipse: s-maj=16.3km s-min=13.0km az=63.0*

ISC 14 15:39:37.8±0.8, 2210S±006×6597W±010, h254km±9km, h272km±.4km: pP-P, n27, σ0°90/25, mb3.8/7, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.13 340**		P	**Pn**	**15 41 10.0**	**+2.5**
	1.6nm,0.3s,baz=137,slow=6.2,SNR=20						
LPAZ				S		**15 42 18.3**	**-1.2**
	0.7nm,0.3s,baz=320,slow=20,SNR=8.4						
LPAZ	**La Paz**	**6.13 340**		*e*Pn	**Pn**	**15 41 09.6**	**+2.0**
	7.4nm,0.6s						
LPAZ				*e*S	**S**	**15 42 19.4**	**-0.1**
SIV	**San Ignacio**	**7.64 38**		P	**Pn**	**15 41 26.7**	**+0.2**
	3.7nm,0.3s,baz=226,slow=11,SNR=45						
ARE	**Arequipa**	**7.66 316**		*e*P	**Pn**	**15 41 26.0**	**-0.7**
CPUP	**Villa Florida**	**8.94 120**		P	**Pn**	**15 41 42.6**	**-0.2**
	0.2nm,0.3s,baz=265,slow=15,SNR=3.4						
CFAA	**Coronel Fontan**	**9.68 192**		P	**Pn**	**15 41 51.2**	**-1.0**
	0.1nm,0.3s,baz=14,slow=15,SNR=5.7						
CFAA				S		15 43 32.4	
	0.3nm,0.3s,baz=274,slow=18,SNR=10						
CFAA	**Coronel Fontan**	**9.68 192**		P	**Pn**	**15 41 51.2**	**-1.0**
CFAA				S		15 43 32.4	
SAML	**Samuel**	**13.35 12**		*e*P	**Pn**	**15 42 37.8**	**+0.1**
	3.0nm,0.6s						
TRQA	**Tornquist**	**16.27 169**		*e*P	**P**	**15 43 11.8**	**+0.5**
BDFB	**Brasilia**	**18.16 72**		P	**P**	**15 43 32.4**	**+0.7**
	1.2nm,0.3s,baz=270,slow=10,SNR=9.7						
PLCA	**Paso Flores**	**18.98 191**		P	**P**	**15 43 44.1**	**+3.5**
	0.6nm,0.3s,baz=9.7,slow=12,SNR=11						
PLCA	**Paso Flores**	**18.98 191**		*e*P	**P**	**15 43 40.4**	**-0.2**
	1.8nm,0.4s						
DBIC	**Dimbokro**	**66.30 72**		P	**P**	**15 49 58.2**	**-0.9**
	4.0nm,0.8s,mb4.1,baz=202,slow=7.4,SNR=5.9						
DBIC	**Dimbokro**	**66.30 72**		P	**P**	**15 49 58.2**	**-0.9**
QSPA	**South Pole Qui**	**68.10 180**		*e*P	**P**	**15 50 11.5**	**+1.2**
	1.7nm,0.6s,mb3.9						
TORD	**Torodi Ar. Bea**	**75.00 69**		P	**P**	**15 50 50.2**	**-1.1**
	3.8nm,0.5s,mb4.3,baz=254,slow=5.6,SNR=91						
TORD				pP	pP	15 51 53.5	+2.9
	1.3nm,0.8s,baz=252,slow=4.0,SNR=3.1						
PDAR	**Pinedale Array**	**76.02 328**		P	**P**	**15 50 58.0**	**+0.9**
	0.7nm,0.5s,mb3.5,baz=126,slow=8.5,SNR=9.2						
PDAR				pP	pP	15 52 01.3	+4.8
	0.2nm,0.7s,baz=188,slow=3.6,SNR=1.6						
ULM	**Lac du Bonnet**	**76.74 341**		P	**P**	**15 51 00.2**	**-0.9**
	1.6nm,0.5s,mb3.9,baz=166,slow=3.5,SNR=5.1						
ULM	**Lac du Bonnet**	**76.74 341**		P	**P**	**15 51 00.2**	**-0.9**
NVAR	**Mina Array Bea**	**77.67 320**		P	**P**	**15 51 06.8**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=131,slow=7.4,SNR=4.7						
NVAR	**Mina Array Bea**	**77.67 320**		P	**P**	**15 51 06.8**	**+0.5**
YKA	**Yellowknife Ar**	**92.68 340**		P	**P**	**15 52 20.5**	**-0.4**
	0.6nm,0.5s,mb3.9,baz=128,slow=4.6,SNR=14						
YKA				pP	pP	15 53 26.2	+3.9
	0.3nm,0.7s,baz=130,slow=4.6,SNR=3.4						
YKA	**Yellowknife Ar**	**92.68 340**		P	**P**	**15 52 20.5**	**-0.4**
YKA				pP	pP	15 53 26.2	+3.9
ASAR	**Alice Springs**	**130.57 204**		SKPbc	SKPbc	16 01 17.6	-0.2
	0.7nm,0.6s,baz=144,slow=3.4,SNR=16						
WRA	**Warramunga Arr**	**133.74 207**		PKP	PKPdf	15 58 26.2	+1.9
	0.6nm,0.5s,baz=159,slow=1.5,SNR=7.5						
WRA				SKPbc	SKPbc	16 01 29.5	+0.7
	1.8nm,0.9s,baz=152,slow=3.1,SNR=10						
MKAR	**Makanchi Array**	**144.46 38**		PKP	PKPdf	15 58 43.1	-0.6
	1.1nm,0.4s,baz=353,slow=2.4,SNR=20						
MKAR				SKPbc	SKPbc	16 01 58.8	+0.3
	0.3nm,0.8s,baz=22,slow=1.3,SNR=3.7						
SONM	**Songino Array**	**153.60 12**		pPKPbc	pPKPbc	16 00 16.3	+5.7
	0.4nm,0.7s,baz=274,slow=1.0,SNR=4.4						

IDC ***14*** *15:40:05.6±1.4, 838S×14995E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.7/14, mbtmp3.6/7, ML3.1/2, MS3.9/7, Ms1 3.9/7, ms1mx3.5/18, Error ellipse: s-maj=48.1km s-min=22.0km az=116.0*
NEIC ***14*** *15:40:06.8±0.9, 839S×14993E, h10km, mb4.6/1, Error ellipse: s-maj=24.9km s-min=11.1km az=122.0*
ISCJB ***14*** *15:40:08.7±1.2, 85S±02×1499E±02, h33km, mb3.8/6, MS3.9/6, Error ellipse: s-maj=33.7km s-min=13.9km az=66.7*

ISC 14 15:40:10.7±1.2, 84S±02×1499E±02, h35km, n17, σ0°80/13, mb3.8/6, MS3.9/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.84 250**		Pn	**Pn**	**15 40 53.5**	**-0.1**
	13nm,0.3s,baz=75,slow=6.4,SNR=65						
PMG				LR	LR	15 42 05.2	
	comp=Z,2μm,19.7s,baz=85,slow=41						
WRAB	**Tennant Creek**	**18.88 231**		*e*P	**Pn**	**15 44 28.0**	**-0.8**
WB2	**Warramunga Arr**	**18.88 231**		*e*P	**Pn**	**15 44 28.3**	**-0.5**
WRA	**Warramunga Arr**	**18.89 231**		P	**Pn**	**15 44 27.8**	**-1.1**
	0.1nm,0.3s,baz=56,slow=10,SNR=5.6						
AS31	**Alice Springs**	**21.53 223**		*e*P	**P**	**15 44 57.2**	**+0.5**
ASAR	**Alice Springs**	**21.53 223**		P	**P**	**15 44 57.2**	**+0.5**
	0.4nm,0.5s,mb3.1,baz=54,slow=9.2,SNR=14						
ASPA	**Alice Springs**	**21.53 223**		*e*P	**P**	**15 44 57.2**	**+0.5**
STKA	**Stephens Creek**	**24.58 197**		*e*P	**P**	**15 45 35.4**	**+8.1**
	5.0nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**24.58 197**		P	**P**	**15 45 28.1**	**+0.8**
	0.7nm,0.5s,mb3.5,baz=0.0,slow=16,SNR=2.1						
STKA				LR	LR	15 56 01.1	
	comp=Z,128nm,19.1s,MS3.4,baz=24,slow=39						
FITZ	**Fitzroy Crossi**	**25.43 245**		*e*P	**P**	**15 45 36.0**	**+0.9**
	7.6nm,0.6s,mb4.4						
AFI	**Afiamalu**	**38.00 102**		LR	LR	15 59 27.9	
	comp=Z,402nm,19.7s,MS4.2,baz=269,slow=31						
NWAO	**Narrogin (SRO)**	**38.79 226**		LR	LR	16 04 15.5	
	comp=Z,168nm,19.6s,MS3.9,baz=21,slow=37						
PPT	**Papeete**	**59.50 105**		LR	LR	16 09 12.6	
	comp=Z,99nm,20.3s,MS3.9,baz=279,slow=29						
SONM	**Songino Array**	**67.89 330**		P	**P**	**15 51 07.0**	**+1.4**
	1.1nm,1.0s,mb3.8,baz=129,slow=2.1,SNR=5.8						
SONM				LR	LR	16 23 41.3	
	comp=Z,58nm,18.2s,MS3.8,baz=103,slow=38						
MKAR	**Makanchi Array**	**81.16 320**		P	**P**	**15 52 22.0**	**-0.6**
	1.5nm,1.2s,mb3.8,baz=98,slow=6.2,SNR=4.1						
ILAR	**Eielson Array**	**86.59 23**		P	**P**	**15 52 49.3**	**-1.1**
	1.0nm,0.8s,mb4.1,baz=252,slow=4.6,SNR=9.0						
ILAR				LR	LR	16 27 33.4	
	comp=Z,71nm,19.4s,MS4.1,baz=173,slow=33						
TORD	**Torodi Ar. Bea**	**148.39 281**		PKPbc	PKPbc	15 59 56.4	+3.0
	0.4nm,0.8s,baz=60,slow=3.6,SNR=3.5						

ISCJB ***14*** *15:50:42.8±0.6, 684N±006×7299W±007, h168km±5km, mb3.6/3, Error ellipse: s-maj=12.6km s-min=6.4km az=76.8*
FUNV ***14*** *15:50:42.5, 670N×7320W, h160km, MW4.0*
IDC ***14*** *15:50:43.6±0.7, 673N×7291W, h160km±8km, mb3.4/3, mb1 3.6/5, mb1mx3.2/22, mbtmp3.9/5, Error ellipse: s-maj=33.7km s-min=7.5km az=131.0*
NEIC ***14*** *15:50:44.1±0.8, 677N×7301W, h163km±8km, mb4.1/1, Error ellipse: s-maj=17.2km s-min=11.7km az=111.0*

ISC 14 15:50:44.0±0.6, 685N±006×7299W±006, h161km±5km, n28, σ0°80/39, mb3.6/3, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.21**	**34**	↓*i*P	**Pn**	**15 51 12.5**	**+0.9**
CAPV				*e*S	**Sn**	**15 51 33.5**	**+0.8**
ROSC	**El Rosal**	**2.39 214**		P	**Pn**	**15 51 25.1**	**+0.9**
	20nm,0.3s,baz=266,slow=23,SNR=56						
ROSC				S	**Sn**	**15 51 54.7**	**-0.6**
	32nm,0.3s,baz=96,slow=19,SNR=11						
ROSC	**El Rosal**	**2.39 214**		*e*Pn	**Pn**	**15 51 24.2**	**0.0**
ROSC				*e*Sn	**Sn**	**15 51 53.0**	**-2.4**
ROSC				S	**Sn**	**15 51 54.7**	**-0.6**
VIGV	**El Vigia**	**2.55**	**39**	↓*i*P	**Pn**	**15 51 27.0**	**+0.7**
VIGV				*e*S	**Sn**	**15 51 59.3**	**+0.4**
SOCV	**Socops**	**2.55**	**56**	↓*i*P	**Pn**	**15 51 27.3**	**+1.1**
SOCV				*e*S	**Sn**	**15 51 58.8**	**-0.1**
SDV	**Santo Domingo**	**3.09**	**49**	P	**Pn**	**15 51 34.1**	**+1.2**
	13nm,0.3s,baz=240,slow=2.7,SNR=137						
SDV				S	**Sn**	**15 52 11.4**	**+0.6**
	46nm,0.3s,baz=81,slow=24,SNR=42						
SDV	**Santo Domingo**	**3.09**	**49**	*e*Pn	**Pn**	**15 51 33.9**	**+1.0**
SDV				*e*Sn	**Sn**	**15 52 10.3**	**-0.5**
SDV				S	**Sn**	**15 52 11.4**	**+0.6**
VIRV	**Villa del Rosa**	**3.67**	**9**	*i* P	**Pn**	**15 51 39.2**	**-1.1**
VIRV				*e*S	**Sn**	**15 52 22.2**	**-1.9**
QARV	**Quebrada Arrib**	**4.13**	**36**	*e*P	**Pn**	**15 51 46.9**	**+0.7**
QARV				*e*S	**Sn**	**15 52 34.4**	**-0.3**
SANV	**Sanarito**	**4.32**	**52**	*e*P	**Pn**	**15 51 49.1**	**+0.5**
SANV				*e*S	**Sn**	**15 52 39.0**	**0.0**
CURV	**Curarigua**	**4.34**	**43**	*e*P	**Pn**	**15 51 49.5**	**+0.6**
CURV				*e*S	**Sn**	**15 52 38.4**	**-1.2**
TEPV	**Terepaima**	**4.87**	**50**	*e*P	**Pn**	**15 51 56.2**	**+0.3**
SIQV	**Siquisique**	**4.91**	**40**	*e*P	**Pn**	**15 51 56.2**	**-0.2**
BAUV	**El Baul**	**5.33**	**67**	*e*P	**Pn**	**15 52 01.0**	**-0.8**
MONV	**Montecano**	**5.88**	**30**	*e*P	**Pn**	**15 52 08.4**	**-0.8**
TURV	**Turiamo**	**6.22**	**55**	*e*P	**Pn**	**15 52 13.4**	**-0.4**
CAOV	**Caicara del Or**	**6.64**	**86**	*e*P	**Pn**	**15 52 17.8**	**-1.4**
BIRV	**Birongo**	**7.56**	**61**	*e*P	**Pn**	**15 52 31.6**	**+0.1**
CUPV	**Cœpira**	**7.81**	**65**	*e*P	**Pn**	**15 52 34.9**	**+0.1**
SAML	**Samuel**	**18.49 148**		*e*P	**P**	**15 54 47.5**	**-0.3**
MNTX	**Cornudas Mount**	**39.04 314**		*e*P	**P**	**15 57 55.7**	**+0.6**
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**15 59 08.8**	**+1.4**
	4.9nm,0.9s,mb4.1,baz=246,slow=5.8,SNR=5.3						
SCHQ	**Schefferville**	**48.10**	**5**	*e*P	**P**	**15 59 08.6**	**+1.2**
	3.1nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**63.28 340**		P	**P**	**16 00 55.2**	**-0.3**
	0.6nm,0.6s,mb3.6,baz=130,slow=6.9,SNR=15						
YKA	**Yellowknife Ar**	**63.28 340**		P	**P**	**16 00 55.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**73.61 78**		P	**P**	**16 01 59.3**	**-0.3**
	0.3nm,0.7s,mb3.1,baz=290,slow=6.0,SNR=4.3						
ASAR	**Alice Springs**	**149.23 234**		PKPbc	PKPbc	16 10 14.0	+0.5
	0.4nm,0.7s,baz=117,slow=3.7,SNR=7.1						
WRA	**Warramunga Arr**	**150.46 241**		PKPbc	PKPbc	16 10 16.9	+0.4
	0.5nm,0.4s,baz=108,slow=2.7,SNR=22						

IDC 14 15:53:29.1±2.0, 298S×12847E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=138.5km s-min=26.0km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.81 162**		P	Pn	15 57 36.9	-1.4
	0.2nm,0.3s,baz=340,slow=12,SNR=12						
WB2	**Warramunga Arr**	**17.81 162**		*e*P	Pn	15 57 40.1	+1.8
ASAR	**Alice Springs**	**21.23 166**		P	P	15 58 16.9	+0.5
	2.5nm,0.6s,baz=343,slow=11,SNR=62						
ASPA	**Alice Springs**	**21.23 166**		*e*P	P	15 58 16.9	+0.4
MKAR	**Makanchi Array**	**64.05 327**		P	P	16 04 05.1	+0.4
	0.3nm,0.9s,baz=123,slow=10,SNR=2.4						

ISCJB ***14*** *16:05:39.7±0.4, 3358S±009×1423W±008, h10km, mb4.6/17, MS4.2/13, Error ellipse: s-maj=12.8km s-min=9.8km az=161.5*
IDC ***14*** *16:05:39.9±0.7, 3352S×1428W, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.2/21, mbtmp4.2/13, MS4.2/13, Ms1 4.2/13, ms1mx4.0/19, Error ellipse: s-maj=24.8km s-min=14.1km az=170.0*
NEIC ***14*** *16:05:41.4±0.4, 3359S×1424W, h10km, mb4.5/5, Error ellipse: s-maj=12.5km s-min=9.3km az=175.0*
BJI ***14*** *16:05:41.4, 3360S×1420W, h10km, mB5.1, Ms5.5, Msz5.1*

ISC 14 16:05:41.6±0.4, 3360S±009×1424W±008, h10km, n38, σ0°97/26, mb4.6/17, MS4.2/13, 3D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIS	**Tristan da Cun**	**3.80 156**		*e*Pn	**Pn**	**16 06 37.8**	**-2.4**
TRIS				*e*Sn	**Sn**	**16 07 17.9**	**-7.0**
SUR	**Sutherland**	**29.34**	**97**	LR	LR	16 20 58.1	
	comp=Z,405nm,18.0s,MS4.1,baz=151,slow=31						
TSUM	**Tsumeb**	**31.76**	**71**	P	**P**	**16 12 06.1**	**+0.2**
	2.3nm,0.4s,mb4.3,baz=211,slow=8.2,SNR=8.1						
TSUM				LR	LR	16 22 08.4	
	comp=Z,388nm,21.6s,MS4.0,baz=244,slow=31						
TSUM	**Tsumeb**	**31.76**	**71**	*e*P	**P**	**16 12 06.1**	**+0.2**
	6.7nm,1.4s,mb4.3						
BOSA	**Boshof**	**34.04**	**92**	P	**P**	**16 12 25.2**	**-0.6**
	3.1nm,0.8s,mb4.3,baz=243,slow=7.4,SNR=3.9						
BOSA				LR	LR	16 24 19.0	
	comp=Z,524nm,18.2s,MS4.3,baz=248,slow=33						
BOSA	**Boshof**	**34.04**	**92**	*e*P	**P**	**16 12 25.2**	**-0.6**
	5.7nm,1.0s,mb4.5						
BDFB	**Brasilia**	**35.31 292**		P	**P**	**16 12 36.4**	**-0.5**
	10nm,0.9s,mb4.7,baz=174,slow=7.4,SNR=9.7						
BDFB				LR	LR	16 24 57.8	
	comp=Z,514nm,18.0s,MS4.3,baz=139,slow=33						
LBTB	**Lobatse**	**35.60**	**87**	P	**P**	**16 12 39.4**	**+0.1**
	4.3nm,1.1s,mb4.3,baz=270,slow=11,SNR=2.6						
CPUP	**Villa Florida**	**37.81 269**		LR	LR	16 25 59.8	
	comp=Z,388nm,19.8s,MS4.2,baz=106,slow=32						
TRQA	**Tornquist**	**38.63 249**		*e*P	**P**	**16 13 05.7**	**+0.7**
MATP	**Matopo**	**40.00**	**82**	P	**P**	**16 13 17.6**	**+1.1**
	15985μm,1.0s,mb10.7,baz=243,slow=9.9,SNR=12						
DBIC	**Dimbokro**	**41.03**	**14**	P	**P**	**16 13 24.0**	**-1.0**
	9.3nm,0.9s,mb4.4,baz=178,slow=9.1,SNR=11						
DBIC	**Dimbokro**	**41.03**	**14**	P	**P**	**16 13 24.0**	**-1.0**
LSZ	**Lusaka**	**42.37**	**75**	P	**P**	**16 13 36.8**	**+0.8**
	3.8nm,1.0s,mb4.0,baz=216,slow=8.3,SNR=4.3						
LSZ	**Lusaka**	**42.37**	**75**	*e*P	**P**	**16 13 37.6**	**+1.6**
	3.6nm,0.9s,mb4.0						
PLCA	**Paso Flores**	**44.78 244**		P	**P**	**16 13 55.5**	**+0.1**
	1.4nm,0.7s,mb3.9,baz=138,slow=9.9,SNR=3.8						
PLCA				LR	LR	16 30 45.5	
	comp=Z,173nm,18.3s,MS4.0,baz=96,slow=34						
PLCA	**Paso Flores**	**44.78 244**		*e*P	**P**	**16 13 56.2**	**+0.8**
CFAA	**Coronel Fontan**	**45.10 257**		P	**P**	**16 13 58.0**	**+0.1**
	0.4nm,0.7s,mb3.4,baz=90,slow=3.5,SNR=6.5						
SIV	**San Ignacio**	**45.57 281**		P	**P**	**16 14 02.1**	**+0.4**
	6.3nm,1.0s,mb4.5,baz=122,slow=9.6,SNR=17						
SYO	**Syowa Base**	**46.27 156**	↓	*e*PcP	PcP	16 15 37.9	-4.7
SYO	**Syowa Base**	**46.27 156**	↓	*e*P	**P**	**16 14 01.8**	**-5.4**
SYO			↓	*e*PcP	PcP	16 15 37.9	-4.7
SYO				*e*		16 15 57.3	
TORD	**Torodi Ar. Bea**	**48.91**	**21**	P	**P**	**16 14 27.3**	**-0.4**
	13nm,0.9s,mb4.9,baz=287,slow=8.5,SNR=63						
SAML	**Samuel**	**51.19 287**		P	**P**	**16 14 44.8**	**-0.2**
	9.6nm,1.3s,mb4.6						
LPAZ	**La Paz**	**51.25 276**		LR	LR	16 35 17.3	
	comp=Z,207nm,20.8s,MS4.1,baz=279,slow=35						
MAW	**Mawson**	**54.54 153**		LR	LR	16 33 12.3	
	comp=Z,223nm,18.3s,MS4.3,baz=154,slow=30						
QSPA	**South Pole Qui**	**56.65 180**		*e*P	**P**	**16 15 26.7**	**+1.8**
	11nm,1.1s,mb4.8						
KMBO	**Kilima Mbogo**	**57.97**	**67**	P	**P**	**16 15 35.8**	**+1.5**
	0.3nm,0.4s,mb3.7,baz=210,slow=11,SNR=3.9						
KMBO				LR	LR	16 37 15.5	
	comp=Z,161nm,21.7s,MS4.1,baz=268,slow=33						
ROSC	**El Rosal**	**68.38 292**		LR	LR	16 44 48.1	
	comp=Z,245nm,19.1s,MS4.5,baz=208,slow=34						
VNDA	**Vanda**	**69.12 179**		P	**P**	**16 16 47.4**	**-0.6**
	2.0nm,0.9s,mb4.0,baz=177,slow=15,SNR=2.9						
VNDA				LR	LR	16 44 42.6	
	comp=Z,183nm,19.4s,MS4.3,baz=184,slow=34						
ESDC	**Sonseca Array**	**73.53**	**8**	P	**P**	**16 17 13.4**	**-1.2**
	0.3nm,0.3s,mb3.6,baz=145,slow=9.1,SNR=5.5						
GERES	**GERESS Array B**	**85.78**	**18**	P	**P**	**16 18 20.4**	**-0.7**
	0.5nm,0.9s,mb3.8,baz=277,slow=5.2,SNR=4.0						
SCHQ	**Schefferville**	**98.97 332**		LR	LR	16 58 35.7	
	comp=Z,50nm,19.9s,MS4.0,baz=108,slow=32						
NWAO	**Narrogin (SRO)**	**99.61 140**		LR	LR	16 53 46.0	
	comp=Z,120nm,18.8s,MS4.4,baz=338,slow=29						
WMQ	**Urumqi**	**120.33 55**		*e*PKP	PKPdf	16 24 32.9	-0.2
YKA	**Yellowknife Ar**	**123.89 327**		PKP	PKPdf	16 24 37.3	-2.6
	0.6nm,0.8s,baz=99,slow=2.4,SNR=7.2						
HHC	**Hu-ho-hao-te**	**136.83**	**64**	*e*PKP	PKPdf	16 25 06.1	+1.7
HHC				PP	PP	16 27 52.8	+5.7
HHC				PKS		16 28 41.1	
HHC				SKS	SKSdf	16 32 15.3	0.0
HHC				SKKS	SKKSac	16 34 43.1	+1.0
HHC				SS	SS	16 45 55.6	+4.4
HHC				LR	LR		
	comp=N,78nm,5.9s						
HHC				LR	LR		
	comp=E,104nm,4.1s						
HHC				LR	LR		
	comp=Z,76nm,6.4s						
ILAR	**Eielson Array**	**137.73 332**		PKP	PKPdf	16 25 05.2	-0.9
	comp=Z,0.9nm,0.9s,baz=18,slow=2.0,SNR=8.6						
NJ2	**Nanjing**	**140.81**	**79**	*e*PKP	PKPdf	16 25 08.5	-3.2

PRE 14 16:15:37.5±1.2, 2640S×2728E, h2km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**0.65 327**		*e*P	Pg	16 15 50.6	+0.7
KSR				*e*S	Sg	16 15 59.0	+0.7
KSR				AML	AML	16 16 06.3	
	comp=Z,1μm,0.9s						
SLR	**Silverton**	**1.11**	**54**	*e*P	Pg	16 15 58.8	-0.1
SLR				*e*S	Sg	16 16 14.0	+0.7
SLR				AML	AML	16 16 17.8	
	comp=Z,204nm,0.2s						
SEK	**Senekal**	**1.94 171**		*e*P	Pn	16 16 13.1	+1.6
SEK				*e*S	Sn	16 16 37.7	+1.2
SEK				AML	AML	16 16 40.6	
	comp=Z,577nm,0.5s						
PKA	**Prieska**	**5.16 230**		*e*P	Pn	16 16 56.5	+0.7
PKA				*e*S	Sn	16 17 54.0	-1.9
PKA				AML	AML	16 18 27.5	
	comp=Z,38nm,0.4s						
SUR	**Sutherland**	**8.21 222**		*e*P	Pn	16 17 38.5	+0.9
SUR				*e*S	Sn	16 19 07.0	-3.9
CVNA	**Calvinia**	**8.31 231**		*e*P	Pn	16 17 39.6	+0.6
CVNA				*e*S	Sn	16 19 09.8	-3.7
CVNA				AML	AML	16 20 03.7	
	comp=Z,28nm,0.7s						

MAN 14 16:20:46.5, 1097N×12475E, h1km, mb2.5, ML4.0, MS2.4, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.30**	**49**	*e*P	Pg	16 20 52.4	+0.1
BESP	**Borongan**	**0.93**	**47**	*e*P	Pg	16 21 05.0	+0.8

IDC 14 16:21:58.0±2.1, 171S×12766E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.1/16, mbtmp3.1/3, ML2.6/1, Error ellipse: s-maj=158.2km s-min=26.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.26 161**		P	Pn	16 26 24.9	-0.1
	0.0nm,0.3s,baz=340,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**22.65 165**		P	P	16 27 00.7	0.0
	0.6nm,0.8s,baz=341,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**62.55 327**		P	P	16 32 23.8	+0.1
	0.1nm,0.4s,baz=122,slow=7.9,SNR=4.8						

NEIC 14 16:32:03.0, 3973N×11591W, h0km, ML3.7(REN), 1C, After REN., Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELK	**Elko**	**1.14**	**27**	*e*Pg	Pg	16 32 24.8	0.0
ELK				*e*Sg	Sg	16 32 40.8	+1.2
BMN	**Battle Mountai**	**1.22 305**	↑	*e*Pg	Pg	16 32 26.4	-0.1

13nm,0.3s,baz=354,slow=18,SNR=2.2
CBIJ S **Sn** **16 52 32.2 -0.3**
20nm,0.3s,baz=311,slow=20,SNR=5.2
CBIJ LR LR 16 52 37.6
comp=Z,652nm,19.2s,baz=143,slow=30
MJAR Matsushiro Arr 8.28 335 P **Pn** **16 53 31.9 -2.4**
1.4nm,0.3s,baz=155,slow=11,SNR=14
ULN Ulaanbaatar 33.14 314 *e*P **P** **16 58 09.6 +0.8**
2.1nm,0.7s,mb4.2
ULN *e*pP pP 16 58 21.8 +1.0
SONM Songino Array 33.55 314 P **P** **16 58 12.6 +0.3**
1.1nm,0.7s,mb3.9,baz=113,slow=7.4,SNR=11
SONM pP pP 16 58 24.4 +0.1
1.7nm,0.7s,baz=101,slow=6.5,SNR=10
WRAB Tennant Creek 49.39 190 *e*P **P** **17 00 22.8 +0.9**
WRA Warramunga Arr 49.40 190 P **P** **17 00 22.4 +0.3**
0.5nm,0.4s,mb3.9,baz=8.5,slow=8.6,SNR=10
WRA pP pP 17 00 34.3 -0.2
1.2nm,0.7s,baz=8.7,slow=8.4,SNR=5.2
MKAR Makanchi Array 49.49 308 P **P** **17 00 23.2 +0.4**
0.5nm,0.4s,mb3.9,baz=94,slow=9.7,SNR=18
MKAR pP pP 17 00 34.5 -0.8
0.9nm,0.6s,baz=79,slow=6.3,SNR=8.4
MKAR Makanchi Array 49.49 308 P **P** **17 00 23.2 +0.4**
MKAR pP pP 17 00 34.5 -0.8
KURK Kurchatov 51.85 313 *e*P **P** **17 00 40.9 +0.4**
5.2nm,0.8s,mb4.5
KURK *e*pP pP 17 00 52.9 -0.2
ASAR Alice Springs 53.12 190 P **P** **17 00 50.2 +0.3**
0.2nm,0.5s,mb3.4,baz=14,slow=8.0,SNR=7.3
ILAR Eielson Array 55.80 29 P **P** **17 01 09.2 -0.2**
0.3nm,0.8s,mb3.4,baz=273,slow=6.2,SNR=3.3
ILAR pP pP 17 01 21.3 -0.7
0.4nm,0.7s,baz=256,slow=6.8,SNR=3.4
YKA Yellowknife Ar 70.22 29 P **P** **17 02 45.0 -0.1**
0.2nm,0.4s,mb3.4,baz=294,slow=6.6,SNR=4.4
YKA pP pP 17 02 57.8 -0.3
0.3nm,0.6s,baz=296,slow=6.2,SNR=2.7
YKA Yellowknife Ar 70.22 29 P **P** **17 02 45.0 -0.1**
YKA pP pP 17 02 57.8 -0.3

GUC 14 16:55:32.5±0.6, 2457S×6760W, h180km, ML3.7, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**2.55**	**268**	⇑*i*P	Pn	16 56 17.9	+2.2
CPN1				*i* S	Sn	16 56 52.4	+3.1
CPN1				AMP		16 56 54.6	
	comp=N,172nm,0.2s						
CEN1	**Los Morros**	**2.65**	**296**	⇓*i*P	Pn	16 56 18.7	+1.8
CEN1				*i* S	Sn	16 56 53.6	+2.2
CEN1				AMP		16 56 56.0	
	comp=N,84nm,0.3s						
ANCH	**Antofagasta**	**2.71**	**288**	⇑*i*P	Pn	16 56 15.8	-1.8
ANCH				*i* S	Sn	16 56 51.3	-1.4
ANCH				AMP		16 56 52.6	
	comp=E,327nm,0.0s						
CRCH	**Chaqaral**	**3.25**	**236**	*i* S	Sn	16 57 08.6	+4.1
CDCH	**Caldera**	**3.83**	**229**	*i* S	Sn	16 57 19.5	+2.1
CDCH				AMP		16 57 26.7	
	comp=N,72nm,0.7s						

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*ISCJB **14** 17:06:36.5±0.6, 5147N±003×16.10E±003, h0km, Error ellipse: s-maj=4.8km s-min=2.8km az=25.3*
*NEIC **14** 17:06:37.2±4.0, 5155N×1609E, h5km, MG2.5(WAR), Error ellipse: s-maj=52.1km s-min=11.1km az=209.0*
*WAR **14** 17:06:39, 5147N×1611E, ML2.5, Mining Induced*
*CSEM **14** 17:06:40.0±0.3, 5140N×1602E, h0km, ML2.5/3, Error ellipse: s-maj=6.6km s-min=2.9km az=15.0, Suspected Mining induced.*
*VIE **14** 17:06:40.1±0.7, 5132N×1615E, h0km, mb2.3/3, ML2.5/3, Error ellipse: s-maj=4.1km s-min=3.8km az=171.0 65 km WNW of Breslau Suspected Mining induced.*

ISC 14 17:06:37.9±0.6, 5149N±003×1611E±003, h0km, n22, σ0§95/48, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**170**	⇓*i*Pg	**Pg**	**17 06 50.9**	**+0.5**
KSP				*e*Sg	**Sg**	**17 06 59.4**	**+0.4**
UPC	**Upice**	**0.98**	**184**	*e*PG	**Pg**	**17 06 57.0**	**+0.3**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	**17 06 59.7**	**-0.2**
DPC				*e*SG	**Sg**	**17 07 14.3**	**-0.4**
	24nm,0.6s						
BRG	**Berggiesshubel**	**1.50**	**247**	Pg	**Pg**	**17 07 06.6**	**+0.1**
BRG	**Berggiesshubel**	**1.50**	**247**	PN	**Pn**	**17 07 05.7**	**-0.3**
BRG				PG	**Pg**	**17 07 06.6**	**+0.1**
BRG				SG	**Sg**	**17 07 26.6**	**+0.7**
	14nm,0.6s						
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**17 07 09.9**	**-0.3**
PRU				*e*PG	**Pg**	**17 07 11.8**	**-0.6**
PRU				*e*SG	**Sg**	**17 07 35.1**	**-0.7**
	12nm,0.4s						
PRU	**Pruhonice**	**1.80**	**214**	*e*Pg	**Pg**	**17 07 11.8**	**-0.6**
PRU				*e*Sg	**Sg**	**17 07 35.1**	**-0.7**
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**17 07 11.6**	**-0.5**
MORC				*e*Sn	**Sn**	**17 07 37.2**	**0.0**
MORC				*e*Sg	**Sg**	**17 07 39.2**	**-1.0**
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**17 07 11.6**	**-0.4**
MORC				*e*Sn	**Sn**	**17 07 37.2**	**+0.1**
CLL	**Collm**	**1.96**	**266**	*e*Pg	**Pg**	**17 07 14.0**	**-1.3**
CLL				*i* Sg	**Sg**	**17 07 40.8**	**+0.1**
	comp=Z,11nm,0.8s						
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	**Pg**	**17 07 17.2**	**-0.9**
OKC				*e*SG	**Sg**	**17 07 43.2**	**-2.2**
	comp=Z,5.8nm,0.6s						
VRAC	**Vranov**	**2.21**	**172**	*e*Sg	**Sg**	**17 07 47.4**	**-1.3**
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**17 07 21.9**	**+0.2**
NKC				*e*PG	**Pg**	**17 07 27.9**	**-0.5**
NKC				*e*SG	**Sg**	**17 08 03.8**	**+1.2**
	comp=Z,15nm,0.6s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*Pg	**Pg**	**17 07 27.9**	**-0.5**
NKC				*e*Sg	**Sg**	**17 08 03.8**	**+1.2**
	comp=Z,15nm,0.6s						
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**17 07 29.4**	**+0.5**
OJC				*e*Sg	**Sg**	**17 08 05.2**	**+1.8**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**17 07 25.0**	**+0.2**
KHC				*e*PG	**Pg**	**17 07 30.7**	**-2.1**
KHC				*e*SN	**Sn**	**17 08 00.9**	**+1.0**
KHC				*e*SG	**Sg**	**17 08 10.5**	**+0.6**
	comp=Z,7.9nm,0.6s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*Pg	**Pg**	**17 07 30.7**	**-2.1**
KHC				*e*Sg	**Sg**	**17 08 10.5**	**+0.6**
	comp=Z,7.9nm,0.6s						
MOX	**Moxa**	**2.96**	**255**	*e*PG	**Pg**	**17 07 34.3**	**-0.3**
MOX				*e*SG	**Sg**	**17 08 14.0**	**+1.1**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**17 07 34.9**	**-1.4**
BSD				*i* S	**Sn**	**17 08 15.9**	**-4.7**
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**17 07 38.8**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**17 08 41.8**	**+0.7**
	comp=Z,4.9nm,0.5s						
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PN	**Pn**	**17 07 40.2**	**+1.4**
STHS				*e*PG	**Pg**	**17 07 52.8**	**+0.5**
STHS				*e*SG	**Sg**	**17 08 45.5**	**+2.9**
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*Pg	**Pg**	**17 07 52.8**	**+0.5**
STHS				*e*Sg	**Sg**	**17 08 45.5**	**+2.9**

IDC 14 17:38:58.5±1.9, 089N×12522E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=185.0km s-min=24.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.55**	**157**	P	P	17 43 59.8	-0.4
	1.1nm,0.3s,baz=335,slow=11,SNR=39						
ASAR	**Alice Springs**	**25.83**	**161**	P	P	17 44 32.4	+0.8
	0.4nm,0.4s,baz=346,slow=10,SNR=19						
MKAR	**Makanchi Array**	**59.05**	**327**	P	P	17 49 00.4	+0.1
	0.2nm,0.5s,baz=124,slow=8.5,SNR=4.9						

IDC 14 17:42:47.6±1.2, 458N×12470E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=142.2km s-min=20.6km az=68.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.15**	**159**	P	P	17 48 23.9	+0.5
	1.1nm,0.6s,baz=340,slow=10,SNR=12						
ASAR	**Alice Springs**	**29.48**	**163**	P	P	17 48 53.5	+0.3
	0.2nm,0.7s,baz=348,slow=7.2,SNR=4.0						
SONM	**Songino Array**	**45.87**	**343**	P	P	17 51 12.8	+1.2
	0.4nm,0.9s,baz=160,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**55.71**	**326**	P	P	17 52 24.9	-0.9
	0.9nm,0.8s,baz=127,slow=8.1,SNR=9.1						

IDC 14 18:00:23.4±10.0, 1897S×17726W, h514km±97km, mb3.1/5, mb1 3.4/5, mb1mx3.2/14, mbtmp4.0/5, Error ellipse: s-maj=128.1km s-min=38.3km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.09**	**243**	P	P	18 07 05.8	-0.2
	1.2nm,0.6s,baz=76,slow=8.3,SNR=3.9						
WRA	**Warramunga Arr**	**45.52**	**260**	P	P	18 07 56.8	+0.2
	1.0nm,0.4s,baz=96,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**45.57**	**255**	P	P	18 07 57.3	+0.5
	4.0nm,1.0s,baz=95,slow=6.9,SNR=42						
ASAR				PcP	PcP	18 09 24.9	+0.2
	0.7nm,0.6s,baz=111,slow=4.1,SNR=7.0						
ILAR	**Eielson Array**	**86.68**	**13**	P	P	18 12 11.2	-1.1
	0.6nm,0.7s,baz=223,slow=4.9,SNR=5.0						
YKA	**Yellowknife Ar**	**94.84**	**24**	P	P	18 12 49.8	-0.1
	0.2nm,0.6s,baz=243,slow=4.8,SNR=4.8						
MKAR	**Makanchi Array**	**110.66**	**314**	PKiKP	PKiKP	18 17 56.2	-1.2
	0.2nm,0.5s,baz=139,slow=1.9,SNR=7.2						
ARCES	**ARCESS Array B**	**127.55**	**350**	PKP	PKPdf	18 18 29.1	-0.6
	2.2nm,0.7s,baz=352,slow=2.5,SNR=5.6						
FINES	**FINESS Array B**	**134.50**	**345**	PKP	PKPdf	18 18 42.7	-0.2
	2.1nm,1.0s,baz=18,slow=2.4,SNR=3.7						
BRTR	**Keskin Array B**	**146.31**	**314**	PKPbc	PKPbc	18 19 06.2	-0.1
	1.0nm,0.7s,baz=151,slow=5.6,SNR=4.8						
GERES	**GERESS Array B**	**148.91**	**346**	PKPbc	PKPbc	18 19 12.7	-0.3
	1.2nm,0.9s,baz=7.4,slow=4.2,SNR=7.1						

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*MAN **14** 18:01:47.5, 521N×12734E, h88km, mb4.3, ML5.2*
*ISCJB **14** 18:01:57.2±1.5, 555N±010×1269E±02, h93km±14km, mb4.1/10, Error ellipse: s-maj=34.4km s-min=11.2km az=139.0*
*IDC **14** 18:01:57.6±10.0, 542N×12660E, h75km±99km, mb3.7/5, mb1 3.8/5, mb1mx3.5/17, mbtmp4.0/5, MS3.6/2, Ms1 3.7/2, ms1mx3.1/34, Error ellipse: s-maj=162.5km s-min=20.1km az=69.0*
*NEIC **14** 18:01:57.4±2.2, 558N×12667E, h79km±19km, mb4.3/5, Error ellipse: s-maj=55.6km s-min=12.6km az=71.0*

ISC 14 18:01:59.2±1.5, 559N±010×1268E±02, h95km±13km, n24, σ1§28/25, mb4.1/10, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.94**	**320**	*e*Pn	**Pn**	**18 02 27.0**	**-3.7**
DAV				*e*Sn	**Sn**	**18 02 54.4**	**-0.3**
KCP	**Kidapawan**	**2.24**	**309**	⇓*e*P	**Pn**	**18 02 33.6**	**-1.1**
KCP				*i* S	**Sn**	**18 03 03.2**	**+1.3**
BUKP	**Musuan**	**2.88**	**322**	*e*P	**Pn**	**18 02 40.0**	**-3.2**
BUKP				*e*S	**Sn**	**18 03 20.9**	**+3.8**
CGP	**Cagayan de Oro**	**3.56**	**323**	*i* S	**Sn**	**18 03 39.2**	**+5.9**
BUTP	**Butuan**	**3.57**	**340**	*e*P	**Pn**	**18 02 52.5**	**0.0**
BUTP				*e*S	**Sn**	**18 03 43.5**	**+10**
GUMO	**Guam**	**19.46**	**65**	LR	LR	18 12 42.0	
	comp=Z,95nm,18.6s,baz=242,slow=33						
WRAB	**Tennant Creek**	**26.41**	**164**	*e*P	**P**	**18 07 28.1**	**+1.2**
	17nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**26.42**	**164**	P	**P**	**18 07 28.3**	**+1.4**
	1.5nm,0.5s,mb3.7,baz=342,slow=10,SNR=18						
WB2	**Warramunga Arr**	**26.42**	**164**	*e*P	**P**	**18 07 28.7**	**+1.7**
MBWA	**Marble Bar**	**27.48**	**195**	P	**P**	**18 07 35.1**	**-1.4**
ASPA	**Alice Springs**	**29.88**	**167**	*e*P	**P**	**18 07 57.4**	**-0.4**
STKA	**Stephens Creek**	**39.82**	**160**	*e*P	**P**	**18 09 22.0**	**-1.1**
	3.1nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**39.82**	**160**	P	**P**	**18 09 21.1**	**-2.0**
	1.7nm,0.9s,mb3.9,baz=342,slow=9.6,SNR=2.7						
STKA	**Stephens Creek**	**39.82**	**160**	*e*P	**P**	**18 09 20.7**	**-2.5**
SONM	**Songino Array**	**45.59**	**341**	P	**P**	**18 10 11.7**	**+2.0**
	0.3nm,0.7s,mb3.1,baz=154,slow=8.3,SNR=3.9						
MKAR	**Makanchi Array**	**56.11**	**325**	P	**P**	**18 11 28.6**	**0.0**
	1.8nm,0.7s,mb4.2,baz=120,slow=6.8,SNR=20						
MKAR				PcP	PcP	18 12 26.2	+0.6
	1.1nm,0.8s,baz=111,slow=5.3,SNR=4.9						
KURK	**Kurchatov**	**60.25**	**327**	*e*P	**P**	**18 11 57.2**	**-0.3**
	5.7nm,0.8s,mb4.7						
BRVK	**Borovoye**	**65.91**	**327**	P	**P**	**18 12 32.7**	**-2.3**
	2.7nm,0.8s,mb4.1						
ARU	**Arti**	**73.44**	**327**	*e*P	**P**	**18 13 21.5**	**+0.4**
	2.9nm,0.8s,mb4.2						
INK	**Inuvik**	**88.40**	**22**	P	**P**	**18 14 40.1**	**-0.5**
	1.0nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**88.75**	**340**	P	**P**	**18 14 42.4**	**+0.2**
	4.8nm,1.0s,mb4.5,baz=64,slow=5.5,SNR=3.6						
ARCES	**ARCESS Array B**	**88.75**	**340**	P	**P**	**18 14 42.4**	**+0.2**
NOA	**NORSAR Array B**	**97.18**	**334**	LR	LR	19 08 13.7	
	comp=Z,50nm,18.7s,baz=15,slow=41						
TORD	**Torodi Ar. Bea**	**122.43**	**289**	PKP	PKPdf	18 20 45.6	+2.2
	0.3nm,0.5s,baz=65,slow=2.0,SNR=4.1						

WEL 14 18:13:29.3±0.2, 3766S×17631E, h214km±2km, ML4.0/15, 1D, Error ellipse: s-maj=3.4km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.88**	**134**	⇓PN	Pn	18 13 59.9	+0.1
URZ				SN	S	18 14 23.2	-0.4
MWZ	**Matawai**	**1.18**	**125**	PN	Pn	18 14 01.8	0.0
MWZ				SN	S	18 14 27.3	+0.2
BKZ	**Black Stump Fm**	**1.52**	**175**	PN	Pn	18 14 04.5	+0.1
BKZ				SN	S	18 14 31.4	-0.4
PUZ	**Puketiti**	**1.60**	**106**	PN	Pn	18 14 05.1	0.0
PUZ				SN	S	18 14 32.1	-1.0
TUVZ	**Tukino**	**1.69**	**197**	*e*PN	Pn	18 14 06.5	+0.5
FWVZ	**Far West T-bar**	**1.70**	**200**	*e*PN	Pn	18 14 07.0	+0.9
FWVZ				SN	S	18 14 35.3	+0.5
KNZ	**Kokohu**	**1.74**	**142**	PN	Pn	18 14 06.8	+0.4
KNZ				SN	S	18 14 34.7	-0.6
WNVZ	**Wahianoa**	**1.76**	**198**	PN	Pn	18 14 06.9	+0.4
PKVZ	**Pokaka**	**1.80**	**204**	PN	Pn	18 14 07.0	+0.1
MOVZ	**Moawhango**	**1.80**	**194**	PN	Pn	18 14 06.5	-0.5
MTVZ	**Mangateitei**	**1.85**	**201**	PN	Pn	18 14 07.6	+0.2
PXZ	**Pawanui**	**2.41**	**170**	PN	Pn	18 14 12.8	-0.3
TSZ	**Takapari Road**	**2.42**	**186**	PN	Pn	18 14 12.5	-0.7
TSZ				SN	S	18 14 45.5	-2.1
MRZ	**Mangatainoka R**	**3.06**	**190**	PN	Pn	18 14 18.8	-1.6
KIW	**Kapiti Island**	**3.38**	**198**	PN	Pn	18 14 22.1	-2.1
MTW	**Mount Morrison**	**3.55**	**190**	PN	Pn	18 14 24.0	-2.2
CAW	**Cannon Point**	**3.58**	**195**	PN	Pn	18 14 24.3	-2.1
DUWZ	**D'Urville Isla**	**3.65**	**210**	PN	Pn	18 14 24.9	-2.4
TRWZ	**Traveller**	**3.77**	**187**	PN	Pn	18 14 26.8	-2.0
MRW	**Makara Radio**	**3.78**	**199**	PN	Pn	18 14 26.5	-2.4
PAWZ	**Paruwai Farm**	**3.78**	**190**	PN	Pn	18 14 26.6	-2.3
MSWZ	**Moikau Station**	**3.84**	**192**	PN	Pn	18 14 27.2	-2.5
MSWZ				SN	S	18 15 12.2	-5.0
SNZO	**South Karori**	**3.85**	**198**	PN	Pn	18 14 27.3	-2.5
TCW	**Tory Channel**	**3.88**	**203**	PN	Pn	18 14 27.8	-2.3
TUWZ	**Tuamarina**	**4.19**	**205**	PN	Pn	18 14 31.3	-2.7
NNZ	**Nelson**	**4.22**	**212**	PN	Pn	18 14 31.7	-2.6
QRZ	**Quartz Range**	**4.32**	**222**	PN	Pn	18 14 32.4	-3.1

IDC 14 18:16:36.8±1.9, 968S×12213E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.6/14, mbtmp3.5/5, ML3.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/23, Error ellipse: s-maj=165.3km s-min=22.8km az=58.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.59**	**132**	Pn	Pn	18 20 18.5	+0.6
	0.1nm,0.3s,baz=306,slow=14,SNR=6.6						
WRA				Sn	Sn	18 22 59.6	-12
	0.2nm,0.3s,baz=319,slow=24,SNR=7.9						
ASAR	**Alice Springs**	**17.89**	**142**	P	Pn	18 20 46.9	-0.2
	0.0nm,0.3s,baz=319,slow=13,SNR=4.4						
ASAR				S	Sn	18 23 55.8	-11
	0.0nm,0.3s,baz=314,slow=26,SNR=3.5						
CTA	**Charters Tower**	**25.47**	**117**	LR	LR	18 32 57.2	
	comp=Z,95nm,18.1s,baz=229,slow=38						
STKA	**Stephens Creek**	**28.52**	**144**	P	P	18 22 34.3	+0.4
	1.0nm,0.6s,baz=349,slow=10,SNR=4.2						
SONM	**Songino Array**	**58.94**	**348**	P	P	18 26 37.6	-0.3
	0.1nm,0.4s,baz=171,slow=5.2,SNR=4.3						
MKAR	**Makanchi Array**	**66.50**	**331**	P	P	18 27 28.6	+0.4
	0.8nm,0.7s,baz=118,slow=8.6,SNR=8.7						

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*ISCJB **14** 18:17:48.2±0.4, 2795N±004×1405E±01, h262km±5km, mb3.9/19, Error ellipse: s-maj=15.8km s-min=5.9km az=147.7*
*IDC **14** 18:17:48.2±0.8, 2794N×14028E, h242km±9km, mb3.6/10, mb1 3.8/12, mb1mx3.6/20, mbtmp4.2/12, Error ellipse: s-maj=21.7km s-min=9.4km az=77.0*
*JMA **14** 18:17:49.8±0.2, 2804N×14080E, h263km, M4.5*
*NEIC **14** 18:17:51.0±1.8, 2794N×14036E, h272km±17km, mb3.8/5, Error ellipse: s-maj=18.3km s-min=10.5km az=87.0*

ISC 14 18:17:49.3±0.4, 2798N±005×1406E±01, h258km±5km, n45, σ1§01/51, mb3.9/19, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.67**	**121**	P	**Pn**	**18 18 30.0**	**+0.4**
	227nm,0.3s,baz=120,slow=6.3,SNR=35						
CBIJ				S	**S**	**18 19 00.8**	**-0.6**
	174nm,0.3s,baz=273,slow=22,SNR=7.4						
CBIJ	**Chichi jima**	**1.67**	**121**	P	**Pn**	**18 18 29.9**	**+0.3**
JHHJ	**Haha-jima-NKT**	**1.95**	**133**	P	**Pn**	**18 18 32.0**	**+0.1**
JHHJ				*e*S	**S**	**18 19 05.1**	**-0.5**
JHJ2	**Mitsune**	**5.16**	**353**	P	**Pn**	**18 19 08.1**	**+1.0**
JHJ2				*e*S	**S**	**18 20 08.9**	**-0.5**
JHJ	**Hachijo jima 2**	**5.17**	**353**	P	**Pn**	**18 19 07.8**	**+0.5**
	59nm,0.3s,baz=71,slow=22,SNR=21						
JHJ				S	**S**	**18 20 07.8**	**-1.9**
	32nm,0.3s,baz=336,slow=19,SNR=5.0						
BSO1	**Boso 1**	**6.66**	**3**	P	**Pn**	**18 19 25.6**	**-0.1**
BSO1				*e*S	**S**	**18 20 38.3**	**-4.9**
JIE	**Ise**	**7.20**	**334**	P	**Pn**	**18 19 34.4**	**+1.9**
JOD2	**Odawara 2**	**7.37**	**350**	P	**Pn**	**18 19 35.4**	**+0.8**
JOD2				*e*S	**S**	**18 20 55.2**	**-4.2**
JRY	**Ryogami san**	**8.14**	**350**	P	**Pn**	**18 19 44.7**	**+0.4**
JRY				*e*S	**S**	**18 21 11.0**	**-6.1**
MJAR	**Matsushiro Arr**	**8.77**	**347**	P	**Pn**	**18 19 52.2**	**0.0**
	0.5nm,0.3s,baz=209,slow=8.1,SNR=5.2						
MJAR	**Matsushiro Arr**	**8.77**	**347**	P	**Pn**	**18 19 52.2**	**0.0**
JMK	**Ichinoseki**	**10.96**	**3**	*e*S	**S**	**18 22 14.4**	**-7.9**
KS15	**Wonju Array Si**	**14.25**	**315**	*e*Pn	**Pn**	**18 21 02.3**	**+2.2**
ENH	**Enshi**	**27.22**	**282**	P	**P**	**18 23 08.5**	**-1.1**
	4.2nm,0.6s,mb4.0						
SONM	**Songino Array**	**33.09**	**316**	P	**P**	**18 23 59.8**	**-1.3**
	0.3nm,0.5s,mb3.1,baz=126,slow=6.0,SNR=5.2						
BILL	**Bilibino**	**42.93**	**14**	*e*P	**P**	**18 25 24.6**	**+1.7**
	2.1nm,0.7s,mb3.5						
LSA	**Lhasa**	**43.07**	**285**	*e*P	**P**	**18 25 25.0**	**+1.0**
	3.3nm,0.6s,mb3.7						
JIRN	**Jiri**	**47.76**	**283**	*e*P	**P**	**18 26 01.3**	**+0.7**
	25nm,0.6s,mb4.7						
GUN	**Gumba**	**47.97**	**283**	*e*P	**P**	**18 26 02.8**	**+0.6**
	30nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**48.01**	**188**	*e*P	**P**	**18 26 02.4**	**-0.2**
	10.0nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**48.02**	**188**	*e*P	**P**	**18 26 02.8**	**+0.2**
WRA	**Warramunga Arr**	**48.02**	**188**	P	**P**	**18 26 02.8**	**+0.2**
	6.5nm,0.3s,mb4.4,baz=6.1,slow=7.8,SNR=156						
PKI	**Pulchoki**	**48.45**	**283**	*e*P	**P**	**18 26 05.7**	**-0.2**
KKN	**Kakani**	**48.51**	**283**	*e*P	**P**	**18 26 06.2**	**-0.2**
DMN	**Daman**	**48.71**	**283**	*e*P	**P**	**18 26 07.8**	**0.0**
MKAR	**Makanchi Array**	**48.82**	**309**	P	**P**	**18 26 07.4**	**-1.3**
	0.2nm,0.3s,mb3.0,baz=89,slow=13,SNR=6.9						
GKN	**Gorkha**	**49.02**	**284**	*e*P	**P**	**18 26 10.1**	**-0.1**
	5.5nm,0.4s,mb4.3						
DANN	**Dangsing**	**49.68**	**285**	*e*P	**P**	**18 26 16.0**	**+0.8**
KOLN	**Koldanda**	**49.96**	**284**	*e*P	**P**	**18 26 18.2**	**+0.9**
KURK	**Kurchatov**	**51.35**	**314**	*e*P	**P**	**18 26 25.7**	**-1.9**
	1.1nm,0.5s,mb3.4						
AS31	**Alice Springs**	**51.75**	**188**	*e*P	**P**	**18 26 30.4**	**-0.1**
ASAR	**Alice Springs**	**51.75**	**188**	P	**P**	**18 26 30.6**	**+0.1**
	1.1nm,0.5s,mb3.5,baz=354,slow=3.8,SNR=25						
ASPA	**Alice Springs**	**51.75**	**188**	*e*P	**P**	**18 26 30.4**	**-0.1**
ILAR	**Eielson Array**	**57.62**	**29**	P	**P**	**18 27 14.0**	**+1.4**
	0.7nm,0.7s,mb3.2,baz=254,slow=5.3,SNR=7.5						
YKA	**Yellowknife Ar**	**72.04**	**28**	P	**P**	**18 28 46.7**	**+1.5**
	0.6nm,0.5s,mb3.5,baz=296,slow=5.9,SNR=13						
YKA	**Yellowknife Ar**	**72.04**	**28**	P	**P**	**18 28 46.7**	**+1.5**
ARCES	**ARCESS Array B**	**72.24**	**340**	P	**P**	**18 28 46.6**	**+0.2**
	8.5nm,1.0s,mb4.3,baz=69,slow=8.9,SNR=16						
JOF	**Joensuu**	**73.66**	**333**	*e*p	**P**	**18 28 51.4**	**-3.3**
KAF	**Kangasniemi**	**76.06**	**334**	*e*p	**P**	**18 29 06.7**	**-1.7**
	1.0nm,0.4s,mb3.8,baz=57,slow=5.7						
FINES	**FINESS Array B**	**76.53**	**333**	P	**P**	**18 29 10.3**	**-0.7**
	2.0nm,0.3s,mb4.3,baz=69,slow=4.9,SNR=46						
FINES	**FINESS Array B**	**76.53**	**333**	P	**P**	**18 29 10.3**	**-0.7**
AKASG	**Malin Array Be**	**81.06**	**323**	P	**P**	**18 29 34.5**	**-1.1**
	0.5nm,0.4s,mb3.6,baz=51,slow=5.9

MLR	**Muntele Rosu**	**5.04**	**1**	⇓P	**Pn**	**19 04 09.1**	**+2.1**
MLR	**Muntele Rosu**	**5.04**	**1**	⇓P	**Pn**	**19 04 09.1**	**+2.1**
VRI	**Vrincioaia**	**5.46**	**6**	⇑P	**Pn**	**19 04 13.5**	**+0.8**
VRI	**Vrincioaia**	**5.46**	**6**	⇑P	**Pn**	**19 04 13.5**	**+0.8**
BZS	**Buzias**	**6.02**	**330**	⇓P	**Pn**	**19 04 20.2**	**-0.3**
BZS	**Buzias**	**6.02**	**330**	⇓P	**Pn**	**19 04 20.2**	**-0.3**

IDC 14 19:10:42.7±2.1, 690S×12887E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/13, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=148.7km s-min=31.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.01**	**158**	Pn	Pn	19 14 03.1	+0.7
	0.1nm,0.3s,baz=341,slow=13,SNR=5.6						
WRA				Sn	Sn	19 16 23.9	-15
	0.2nm,0.3s,baz=335,slow=22,SNR=8.4						
ASAR	**Alice Springs**	**17.36**	**164**	P	Pn	19 14 46.3	-0.1
	0.1nm,0.3s,baz=338,slow=9.4,SNR=7.7						
MKAR	**Makanchi Array**	**67.53**	**327**	P	P	19 21 40.9	+0.2
	0.2nm,0.4s,baz=118,slow=7.7,SNR=8.2						

*NEIC **14** 19:41:55.4±0.8, 2473N×122.19E, h10km, mb4.8/1, Error ellipse: s-maj=16.8km s-min=10.7km az=224.0*
*ISCJB **14** 19:41:56.3±0.7, 2471N±008×12230E±004, h30km±6km, mb4.2/4, Error ellipse: s-maj=12.8km s-min=5.0km az=19.1*
*IDC **14** 19:41:56.5±2.0, 2441N×122.14E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.6/19, mbtmp4.0/3, MS2.8/1, Ms1 2.8/1, ms1mx2.1/34, Error ellipse: s-maj=307.4km s-min=25.6km az=70.0*
*JMA **14** 19:41:56.3±0.2, 2491N×12239E, h35km, M3.2*
ISC 14 19:41:55.5±1.1, 2471N±007×12234E±006, h12km±10km, n13, σ0°76/20, mb4.2/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.66**	**112**	P	**Pb**	**19 42 09.9**	**+0.9**
YOJ				S	**Sb**	**19 42 19.6**	**+1.4**
TATO	**Taipei**	**0.81**	**289**	*e*Pg	**Pg**	**19 42 11.4**	**+0.2**
TATO				*e*Sg	**Sg**	**19 42 22.1**	**+0.4**
NACB	**Ninganchiao**	**0.86**	**232**	*e*Pg	**Pg**	**19 42 11.9**	**-0.1**
NACB				*e*Sg	**Sg**	**19 42 22.4**	**-1.0**
YHNB	**Yeheng**	**0.87**	**267**	*e*Pg	**Pg**	**19 42 12.1**	**-0.2**
IRIF	**Iriomote-Funau**	**1.32**	**106**	P	**Pn**	**19 42 19.1**	**-0.7**
IRIF				*e*S	**Sn**	**19 42 36.6**	**-0.8**
HATJ	**Hateruma jima**	**1.49**	**116**	P	**Pn**	**19 42 22.2**	**+0.1**
HATJ				*e*S	**Sn**	**19 42 41.3**	**-0.2**
JKRS	**Kuro-shima**	**1.60**	**107**	P	**Pn**	**19 42 23.6**	**0.0**
JKRS				*e*S	**Sn**	**19 42 43.8**	**-0.3**
JIJ	**Ishigaki jima**	**1.68**	**101**	P	**Pn**	**19 42 24.2**	**-0.5**
JIJ				*e*S	**Sn**	**19 42 45.2**	**-1.1**
ULN	**Ulaanbaatar**	**26.09**	**336**	P	**P**	**19 47 28.4**	**-0.7**
SONM	**Songino Array**	**26.31**	**335**	P	**P**	**19 47 35.7**	**+4.7**
	1.3nm,1.0s,mb3.4,baz=154,slow=9.7,SNR=6.5						
SONM				LR	LR	19 59 29.8	
	comp=Z,18nm,19.6s,baz=103,slow=40						
WRAB	**Tennant Creek**	**45.89**	**164**	*e*P	**P**	**19 50 18.4**	**+0.6**
	6.7nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**45.90**	**164**	P	**P**	**19 50 18.7**	**+0.8**
	5.0nm,0.7s,mb4.6,baz=346,slow=8.7,SNR=53						
ASAR	**Alice Springs**	**49.38**	**166**	P	**P**	**19 50 46.2**	**+1.3**
	1.3nm,0.8s,mb4.0,baz=342,slow=8.1,SNR=21						

IDC 14 20:05:41.0±1.3, 1223N×14119E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/20, mbtmp4.0/6, Error ellipse: s-maj=68.7km s-min=20.1km az=80.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.67**	**192**	P	P	20 12 14.9	+0.2
	2.2nm,0.6s,baz=10,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**36.38**	**191**	P	P	20 12 48.1	+1.3
	0.8nm,0.6s,baz=18,slow=12,SNR=19						
STKA	**Stephens Creek**	**43.85**	**180**	P	P	20 13 47.0	-1.9
	0.9nm,0.6s,baz=357,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**60.01**	**317**	P	P	20 15 49.7	+0.3
	0.5nm,0.8s,baz=111,slow=6.5,SNR=4.7						
BVAR	**Borovoye Array**	**68.79**	**322**	P	P	20 16 47.4	+0.5
	2.4nm,0.5s,baz=102,slow=7.1,SNR=13						
FINES	**FINESS Array B**	**90.85**	**334**	P	P	20 18 44.7	-1.7
	0.6nm,0.5s,baz=47,slow=3.4,SNR=5.9						
LPAZ	**La Paz**	**151.31**	**102**	PKPbc	PKPbc	20 25 39.2	+2.7
	0.9nm,0.6s,baz=232,slow=5.1,SNR=4.3						

*IDC **14** 20:20:13.7±1.6, 1791S×17404W, h0km, mb4.6/6, mb1 4.7/7, mb1mx4.3/18, mbtmp4.6/7, ML2.0/1, Error ellipse: s-maj=50.1km s-min=21.1km az=128.0*
*ISCJB **14** 20:20:15.3±6.3, 179S±02×1740W±02, h23km±48km, mb4.5/8, Error ellipse: s-maj=46.8km s-min=13.1km az=74.1*
*NEIC **14** 20:20:17.8±5.2, 1791S×17402W, h28km±41km, mb4.8/4, Error ellipse: s-maj=26.8km s-min=13.3km az=130.0*
ISC 14 20:20:18.2±6.6, 180S±02×1739W±02, h31km±51km, n16, σ0°47/19, mb4.5/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.54**	**28**	Pn	**Pn**	**20 21 24.6**	**-0.1**
	4.1nm,0.3s,baz=198,slow=13,SNR=2.7						
AFI				Sn	**Sn**	**20 22 16.7**	**+0.3**
	12nm,0.3s,baz=227,slow=19,SNR=4.0						
AFI	**Afiamalu**	**4.54**	**28**	Pn	**Pn**	**20 21 24.6**	**-0.1**
AFI				*e*Sn	**Sn**	**20 22 07.5**	**-8.9**
AFI				Sn	**Sn**	**20 22 16.7**	**+0.3**
RPZ	**Rata Peaks**	**28.63**	**203**	P	**P**	**20 26 12.2**	**+0.4**
	18nm,0.5s,mb5.0,baz=37,slow=6.7,SNR=14						
CTA	**Charters Tower**	**37.64**	**260**	*e*P	**P**	**20 27 30.5**	**+0.3**
	4.4nm,0.4s,mb4.5						
CTA	**Charters Tower**	**37.64**	**260**	P	**P**	**20 27 30.5**	**+0.3**
	4.7nm,0.4s,mb4.6,baz=85,slow=10.0,SNR=17						
CTAO	**Charters Tower**	**37.64**	**260**	*e*P	**P**	**20 27 30.1**	**-0.1**
	8.1nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**42.35**	**242**	P	**P**	**20 28 07.9**	**-1.5**
	1.1nm,0.6s,mb3.7,baz=85,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**42.35**	**242**	*e*P	**P**	**20 28 04.9**	**-4.4**
WB2	**Warramunga Arr**	**48.80**	**259**	*e*P	**P**	**20 29 00.3**	**0.0**
WRAB	**Tennant Creek**	**48.80**	**259**	*e*P	**P**	**20 28 59.9**	**-0.5**
	16nm,1.2s,mb4.9						
WRA	**Warramunga Arr**	**48.81**	**259**	P	**P**	**20 29 00.3**	**-0.1**
	1.3nm,0.3s,mb4.4,baz=96,slow=7.6,SNR=112						
AS31	**Alice Springs**	**48.87**	**254**	*e*P	**P**	**20 29 01.0**	**+0.1**
ASAR	**Alice Springs**	**48.87**	**254**	P	**P**	**20 29 00.9**	**+0.1**
	5.7nm,0.6s,mb4.8,baz=92,slow=8.1,SNR=90						
ASPA	**Alice Springs**	**48.88**	**254**	*e*P	**P**	**20 29 01.0**	**+0.1**
KAKA	**Kakadu**	**51.84**	**268**	*e*P	**P**	**20 29 24.2**	**+0.9**
	6.6nm,0.4s,mb4.9						
ILAR	**Eielson Array**	**85.05**	**11**	P	**P**	**20 32 50.3**	**-0.5**
	0.3nm,0.6s,mb3.6,baz=230,slow=6.3,SNR=4.4						

*ISCJB **14** 22:00:21.6±0.7, 5848N±008×1564W±02, h200km±11km, mb3.4/1, Error ellipse: s-maj=15.3km s-min=10.6km az=91.4*
*IDC **14** 22:00:22.3±1.9, 5881N×15648W, h168km±26km, mb3.2/2, mb1 3.5/5, mb1mx3.1/22, mbtmp3.9/5, Error ellipse: s-maj=29.7km s-min=21.0km az=108.0*
*NEIC **14** 22:00:24.5, 5849N×15647W, h186km, MG3.2(AEIC), After AEIC.*
ISC 14 22:00:22.5±0.7, 5848N±008×1564W±02, h197km±11km, n15, σ0°96/19, mb3.4/1, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.13**	**107**	P	**Pn**	**22 01 02.5**	**+0.4**
	35nm,0.3s,baz=312,slow=14,SNR=803						
KDAK				S	**Sn**	**22 01 32.7**	**-0.2**
	25nm,0.3s,baz=148,slow=23,SNR=9.4						
KDAK	**Kodiak Island**	**2.13**	**107**	P	**Pn**	**22 01 02.5**	**+0.4**
KDAK				S	**Sn**	**22 01 32.5**	**-0.4**
SVW2	**Sparrevohn**	**2.66**	**8**	P	**Pn**	**22 01 08.4**	**+0.5**
SLKM	**Skilak Lake**	**3.75**	**54**	P	**Pn**	**22 01 21.5**	**+0.6**
SDPT	**Sand Point**	**3.86**	**217**	P	**Pn**	**22 01 22.4**	**+0.1**
RC01	**Rabbit Creek A**	**4.26**	**49**	P	**Pn**	**22 01 27.5**	**+0.1**
RC01				S	**Sn**	**22 02 13.5**	**-4.8**
TT01	**Tatalina**	**4.45**	**2**	P	**Pn**	**22 01 30.1**	**+0.5**
BMRM	**Bremner River**	**6.46**	**62**	P	**Pn**	**22 01 56.0**	**+0.4**
UNV	**Unalaska Valle**	**7.31**	**235**	P	**Pn**	**22 02 05.9**	**-0.7**
IM3	**Indian Mountai**	**7.63**	**8**	P	**Pn**	**22 02 10.9**	**+0.1**
ILAR	**Eielson Array**	**7.76**	**32**	P	**Pn**	**22 02 09.4**	**-3.1**
	1.2nm,0.3s,baz=223,slow=13,SNR=50						
ILAR				S	**Sn**	**22 03 32.5**	**-7.5**
	0.5nm,0.3s,baz=213,slow=22,SNR=13						
INK	**Inuvik**	**14.10**	**36**	P	**Pn**	**22 03 30.8**	**-3.0**
	0.5nm,0.3s,baz=231,slow=11,SNR=9.2						
INK	**Inuvik**	**14.10**	**36**	P	**Pn**	**22 03 30.8**	**-3.0**
YKA	**Yellowknife Ar**	**20.69**	**61**	P	**P**	**22 04 48.1**	**+0.8**
	1.2nm,0.5s,baz=276,slow=10,SNR=26						
SONM	**Songino Array**	**54.25**	**305**	P	**P**	**22 09 28.6**	**+0.6**
	0.6nm,0.5s,mb3.4,baz=39,slow=6.2,SNR=9.8						

IDC 14 22:04:59.7±1.5, 331S×12762E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/17, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=141.4km s-min=23.3km az=69.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.79**	**159**	P	Pn	22 09 07.5	-1.2
	0.3nm,0.3s,baz=341,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.13**	**164**	P	P	22 09 47.2	+1.1
	4.8nm,0.8s,baz=346,slow=12,SNR=41						
SONM	**Songino Array**	**54.22**	**343**	P	P	22 14 27.6	+0.5
	1.2nm,1.1s,baz=167,slow=7.0,SNR=6.3						
MKAR	**Makanchi Array**	**63.86**	**327**	P	P	22 15 33.9	-0.1
	0.5nm,0.7s,baz=120,slow=8.5,SNR=6.5						

IDC 14 22:15:08.3±40.0, 612N×12780E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/18, mbtmp3.7/3, Error ellipse: s-maj=681.5km s-min=210.4km az=160.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.68**	**166**	P	P	22 20 49.0	0.0
	0.4nm,0.3s,baz=346,slow=10,SNR=22						
ASAR	**Alice Springs**	**30.20**	**169**	P	P	22 21 21.2	+0.9
	0.4nm,0.4s,baz=353,slow=8.1,SNR=9.6						
STKA	**Stephens Creek**	**40.01**	**162**	P	P	22 22 44.7	-0.1
	0.6nm,0.3s,baz=333,slow=12,SNR=3.3						

*MAN **14** 22:37:11.2, 968N×12644E, h1km, mb3.6, ML4.7, MS3.0*
*NEIC **14** 22:37:12.6±0.5, 975N×12629E, h35km, mb4.3/7, Error ellipse: s-maj=31.7km s-min=8.9km az=72.0*
*BJI **14** 22:37:12.5, 980N×12630E, h35km, mb4.5*
*ISCJB **14** 22:37:13.2±1.0, 976N±005×12653E±007, h62km±8km, mb4.3/25, Error ellipse: s-maj=12.6km s-min=7.2km az=148.1*
*IDC **14** 22:37:16.6±9.2, 968N×12626E, h75km±86km, mb3.8/12, mb1 4.0/12, mb1mx3.8/19, mbtmp4.1/12, MS3.6/1, Ms1 3.6/1, ms1mx2.6/33, Error ellipse: s-maj=52.1km s-min=17.7km az=75.0*
ISC 14 22:37:15.0±1.1, 975N±005×12648E±009, h61km±9km, n50, σ1°05/57, mb4.3/25, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.97**	**272**	*e*P	**Pn**	**22 37 29.8**	**-2.9**
SCPH				*e*S	**Sn**	**22 37 45.0**	**-0.8**
BUTP	**Butuan**	**1.15**	**227**	*e*P	**Pn**	**22 37 32.6**	**-2.5**
BUTP				*e*S	**Sn**	**22 37 50.8**	**+0.9**
BIPH	**Bislig**	**1.56**	**184**	⇑P	**Pn**	**22 37 37.0**	**-3.6**
BIPH				*i* S	**Sn**	**22 37 53.9**	**-5.9**
MSLP	**Maasin**	**1.64**	**283**	*e*P	**Pn**	**22 37 41.1**	**-0.4**
PLP	**Palo**	**2.03**	**314**	*e*P	**Pn**	**22 37 46.2**	**-0.7**
PLP				*e*S	**Sn**	**22 38 04.3**	**-6.9**
CGP	**Cagayan de Oro**	**2.18**	**234**	⇑*e*P	**Pn**	**22 37 47.7**	**-1.2**
CGP				*i* S	**Sn**	**22 38 15.0**	**+0.2**
BUKP	**Musuan**	**2.33**	**217**	*e*P	**Pn**	**22 37 51.3**	**+0.4**
LLP	**Lapu-Lapu**	**2.53**	**283**	*e*P	**Pn**	**22 37 54.4**	**+0.7**
LLP				*e*S	**Sn**	**22 38 18.6**	**-4.9**
TBP	**Tagbilaran**	**2.58**	**269**	*e*P	**Pn**	**22 37 54.5**	**+0.1**
TBP				*e*S	**Sn**	**22 38 24.3**	**-0.2**
SNPH	**Sibulan**	**3.22**	**263**	⇑*e*P	**Pn**	**22 38 03.8**	**+0.7**
DCPH	**Dipolog City**	**3.30**	**250**	⇓*e*P	**Pn**	**22 38 03.8**	**-0.3**
DCPH				*e*S	**Sn**	**22 38 46.0**	**+3.9**
PAGZ	**Pagadian**	**3.60**	**238**	*e*P	**Pn**	**22 38 09.3**	**+1.0**
GUIM	**Jordan**	**3.92**	**283**	*e*P	**Pn**	**22 38 14.9**	**+2.2**
RCP	**Roxas**	**4.08**	**296**	⇓*e*P	**Pn**	**22 38 16.0**	**+1.1**
PVCP	**Virac**	**4.44**	**329**	*e*P	**Pn**	**22 38 21.8**	**+2.0**
ENH	**Enshi**	**25.84**	**325**	*e*P	**P**	**22 42 41.2**	**+0.5**
	2.5nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.69**	**182**	*e*P	**P**	**22 42 57.7**	**+0.4**
	8.3nm,1.0s,mb4.3						
XAN	**Xi'an**	**29.05**	**329**	P	**P**	**22 43 08.3**	**-1.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**30.50**	**165**	P	**P**	**22 43 26.2**	**+4.0**
WRA	**Warramunga Arr**	**30.51**	**165**	P	**P**	**22 43 22.7**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.5,baz=342,slow=8.0,SNR=4.7						
ASAR	**Alice Springs**	**34.00**	**168**	P	**P**	**22 43 52.5**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=349,slow=7.4,SNR=8.6						
CTAO	**Charters Tower**	**35.47**	**147**	P	**P**	**22 44 07.8**	**+2.2**
	comp=Z,26nm,1.3s,mb5.0						
GTA	**Gaotai**	**37.92**	**326**	*e*P	**P**	**22 44 26.6**	**+0.3**
GTA				AP	pP	22 44 34.3	-7.3
GTA				XP	sP	22 44 37.4	-11
GTA				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.4						
HNR	**Honiara**	**38.38**	**119**	LR	LR	22 59 18.8	
	comp=Z,77nm,19.3s,baz=0.5,slow=34						
ULN	**Ulaanbaatar**	**41.37**	**340**	*e*P	**P**	**22 44 56.2**	**+1.1**
	comp=Z,3.3nm,0.8s,mb4.0						
SONM	**Songino Array**	**41.57**	**340**	P	**P**	**22 44 57.3**	**+0.6**
	comp=Z,1.6nm,0.6s,mb3.9,baz=156,slow=9.9,SNR=18						
JIRN	**Jiri**	**41.87**	**301**	*e*P	**P**	**22 44 59.4**	**+0.3**
	comp=Z,5.7nm,0.6s,mb4.4						
GUN	**Gumba**	**42.20**	**301**	*e*P	**P**	**22 45 02.0**	**+0.2**
	comp=Z,10nm,0.9s,mb4.5						
KKN	**Kakani**	**42.68**	**301**	*e*P	**P**	**22 45 05.1**	**-0.6**
DMN	**Daman**	**42.77**	**300**	*e*P	**P**	**22 45 07.0**	**+0.6**
GKN	**Gorkha**	**43.28**	**301**	*e*P	**P**	**22 45 10.5**	**-0.1**
NWAO	**Narrogin (SRO)**	**43.35**	**191**	P	**P**	**22 45 11.2**	**+0.2**
	comp=Z,6.4nm,0.7s,mb4.5,baz=27,slow=9.1,SNR=3.8						
NWAO	**Narrogin (SRO)**	**43.35**	**191**	P	**P**	**22 45 12.7**	**+1.6**
STKA	**Stephens Creek**	**43.85**	**161**	*e*P	**P**	**22 45 13.1**	**-2.0**
	comp=Z,2.9nm,1.2s,mb3.9						
STKA	**Stephens Creek**	**43.85**	**161**	P	**P**	**22 45 11.4**	**-3.7**
	comp=Z,0.9nm,0.4s,mb3.9,baz=340,slow=11,SNR=4.3						
KOLN	**Koldanda**	**44.10**	**300**	*e*P	**P**	**22 45 17.0**	**-0.1**
MKAR	**Makanchi Array**	**52.56**	**323**	P	**P**	**22 46 21.6**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.2,baz=121,slow=8.5,SNR=28						
ZAL	**Zalesovo**	**55.18**	**331**	P	**P**	**22 46 41.1**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=0.4,slow=11,SNR=3.9						
KURK	**Kurchatov**	**56.60**	**326**	*e*P	**P**	**22 46 51.4**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**62.95**	**325**	*e*P	**P**	**22 47 34.4**	**-0.8**
	comp=Z,3.9nm,1.0s,mb4.5						
JOF	**Joensuu**	**83.74**	**333**	*e*p	**P**	**22 49 37.1**	**-0.3**
	comp=Z,2.2nm,0.5s,mb4.5						
ARCES	**ARCESS Array B**	**84.75**	**340**	P	**P**	**22 49 42.7**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.6,baz=71,slow=5.3,SNR=10						
ARCES	**ARCESS Array B**	**84.75**	**340**	P	**P**	**22 49 42.7**	**+0.2**
KAF	**Kangasniemi**	**86.17**	**332**	*e*p	**P**	**22 49 47.8**	**-1.8**
	comp=Z,4.0nm,0.7s,mb4.8						
FINES	**FINESS Array B**	**86.44**	**332**	P	**P**	**22 49 50.7**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.6,baz=77,slow=5.3,SNR=25						
FINES	**FINESS Array B**	**86.44**	**332**	P	**P**	**22 49 50.7**	**-0.2**
AKASG	**Malin Array Be**	**87.09**	**321**	P	**P**	**22 49 52.9**	**-1.2**
	comp=Z,0.7nm,0.5s,mb4.2,baz=65,slow=4.0,SNR=4.1						
KMBO	**Kilima Mbogo**	**89.42**	**269**	P	**P**	**22 50 05.8**	**+0.7**
	comp=Z,0.6nm,0.4s,mb4.3,baz=72,slow=9.2,SNR=5.5						
NOA	**NORSAR Array B**	**93.31**	**334**	P	**P**	**22 50 21.4**	**-1.7**
	comp=Z,1.0nm,0.9s,mb4.3,baz=63,slow=4.9,SNR=4.4						
YKA	**Yellowknife Ar**	**94.14**	**24**	P	**P**	**22 50 28.0**	**+1.0**
	comp=Z,0.4nm,0.7s,mb4.0,baz=304,slow=4.6,SNR=10						

*ISCJB **14** 22:42:07.0±0.7, 3514N±003×395W±004, h10km±5km, Error ellipse: s-maj=6.3km s-min=4.9km az=136.8*
*CSEM **14** 22:42:06.7±0.2, 3512N×388W, h10km, MD3.1, Error ellipse: s-maj=6.1km s-min=3.6km az=84.0*
*MDD **14** 22:42:07.5±0.5, 3513N×396W, h0km, mbLg1.9/9, Error ellipse: s-maj=7.4km s-min=3.4km az=60.0, PRXIMO*
*CNRM **14** 22:42:08.2, 3509N×394W, h0km, MD3.1*
ISC 14 22:42:07.3±0.7, 3515N±003×393W±005, h8km±6km, n27, σ1°36/46, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.08**	**353**	*i* P	**Pg**	**22 42 10.0**	**+0.7**
TOU	**Touzarine**	**0.23**	**142**	P	**Pg**	**22 42 11.5**	**-0.4**
TOU				S	**Sg**	**22 42 15.5**	**+0.4**
TOU	**Touzarine**	**0.23**	**142**	*i* P	**Pg**	**22 42 11.5**	**-0.4**
EMEL	**Melilla**	**0.81**	**79**	P	**Pg**	**22 42 19.1**	**-3.8**
	97nm,0.2s,SNR=7.9						
EMEL				S	**Sg**	**22 42 30.6**	**-2.9**
	70nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.82**	**79**	P	**Pg**	**22 42 19.1**	**-3.9**
	97nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**0.99**	**100**	*i* P	**Pg**	**22 42 26.0**	**-0.3**
ZAI				*i* S	**Sg**	**22 42 39.5**	**+0.4**
EMIJ	**Mijas**	**1.57**	**334**	P	**Pn**	**22 42 33.6**	**-1.9**
	1.0nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**22 42 53.9**	**-2.2**
	4.3nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.71**	**10**	P	**Pn**	**22 42 35.9**	**-1.5**
	0.5nm,0.4s,SNR=4.0						
EGUA				S	**Sn**	**22 42 58.2**	**-1.4**
	0.8nm,0.2s,SNR=4.0						
ERON	**Agron**	**1.87**	**3**	P	**Pn**	**22 42 40.8**	**+1.1**
	1.4nm,0.1s,SNR=4.0						
ERON				S	**Sn**	**22 43 02.1**	**-1.4**
	2.3nm,0.2s,SNR=4.0						
EBER	**Berja**	**1.94**	**25**	P	**Pn**	**22 42 39.7**	**-1.0**
	0.8nm,0.1s,SNR=5.2						
EBER				S	**Sn**	**22 43 05.5**	**+0.3**
	5.4nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.94**	**25**	P	**Pn**	**22 42 39.7**	**-0.9**
	0.8nm,0.1s,SNR=5.2						
EBER				S	**Sn**	**22 43 05.5**	**+0.3**
	5.4nm,0.4s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.01**	**355**	P	**Pn**	**22 42 41.2**	**-0.3**
	0.6nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**2.09**	**11**	S	**Sn**	**22 43 11.1**	**+2.1**
	0.4nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.15**	**8**	P	**Pn**	**22 42 45.1**	**+1.6**
	2.1nm,0.3s,SNR=7.9						
ECOG				S	**Sn**	**22 43 11.9**	**+1.6**
	2.5nm,0.4s,SNR=7.9						
CZD	**Col de Zad**	**2.30**	**204**	*e*P	**Pn**	**22 42 46.0**	**+0.5**
CZD				*i* S	**Sn**	**22 43 14.0**	**-0.1**
ESPR	**Espera**	**2.32**	**318**	P	**Pn**	**22 42 47.8**	**+2.0**
	0.5nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**22 43 16.2**	**+1.6**
	1.5nm,0.2s,SNR=4.0						
ESPR	**Espera**	**2.32**	**318**	P	**Pn**	**22 42 47.8**	**+1.9**
	0.5nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**22 43 16.2**	**+1.6**
	1.5nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**2.43**	**354**	P	**Pn**	**22 42 49.4**	**+2.2**
	1.2nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**22 43 18.8**	**+1.6**
	1.0nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.43**	**354**	P	**Pn**	**22 42 49.4**	**+2.1**
	1.2nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**22 43 18.8**	**+1.6**
	1.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.74**	**14**	P	**Pn**	**22 42 52.9**	**+1.3**
	0.9nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**22 43 25.1**	**+0.1**
	4.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.74**	**14**	P	**Pn**	**22 42 52.9**	**+1.3**
	0.9nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**22 43 25.1**	**+0.1**
	4.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.06**	**350**	P	**Pn**	**22 42 57.0**	**+1.0**
	0.2nm,0.1s,SNR=5.9						
EADA	**Adamuz**	**3.06**	**350**	P	**Pn**	**22 42 57.0**	**+1.0**
	0.2nm,0.1s,SNR=5.9						
EMIN	**Mina Concepcio**	**3.43**	**321**	P	**Pn**	**22 43 01.3**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**22 43 38.8**	**-3.0**
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.73**	**311**	P	**Pn**	**22 43 04.2**	**-1.0**
	0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**22 43 46.4**	**-3.0**
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.98**	**28**	P	**Pn**	**22 43 08.0**	**-0.7**
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.37**	**326**	P	**Pn**	**22 43 14.1**	**+0.1**
	0.2nm,0.1s,SNR=5.0						
EBAD				S	**Sn**	**22 44 03.3**	**-1.8**

DMN Daman 12.33 122 *e*Pn **Pn 23 14 52.7 -0.5**
DMN Daman 12.33 122 *e*Sn **Sn 23 17 05.7 -4.9**
comp=Z,15nm,0.6s

KKN Kakani 12.34 121 *e*Pn **Pn 23 14 52.7 -0.7**
KKN Kakani 12.34 121 *e*Sn **Sn 23 17 04.7 -6.2**
comp=Z,11nm,0.5s

PKI Pulchoki 12.56 121 *e*Pn **Pn 23 14 56.1 -0.3**
PKI *e*Sn **Sn 23 17 10.5 -5.9**
comp=Z,30nm,0.7s

GUN Gumba 12.70 119 *e*Pn **Pn 23 14 58.4 +0.1**
GUN *e*Sn **Sn 23 17 12.8 -6.9**
comp=Z,9.7nm,0.4s

JIRN Jiri 13.07 119 *e*Pn **Pn 23 15 02.5 -0.8**
JIRN *e*Sn **Sn 23 17 22.1 -6.6**
comp=Z,12nm,0.3s

MK31 Makanchi Array 13.88 27 P **Pn 23 15 16.8 +2.5**
comp=Z,0.7nm,0.6s,baz=204,slow=14,SNR=4.7

MKAR Makanchi Array 13.88 27 Pn **Pn 23 15 14.7 +0.4**
comp=Z,0.1nm,0.3s,baz=225,slow=14,SNR=4.3

KURK Kurchatov 16.49 12 *e*Pn **Pn 23 15 53.5 +4.5**
comp=Z,0.5nm,0.3s

AB31 Akbulak array 17.58 330 ⇑P **Pn 23 16 01.4 -1.4**
comp=Z,1.1nm,0.6s,baz=139,slow=14,SNR=28

BVA0 Borovoye Array 18.45 354 P **Pn 23 16 13.6 +0.2**
comp=Z,0.5nm,1.1s,baz=165,slow=12,SNR=8.9

BVAR Borovoye Array 18.45 354 P **Pn 23 16 12.7 -0.7**
comp=Z,0.6nm,0.3s,baz=158,slow=9.1,SNR=9.8

BRVK Borovoye 18.49 354 *e*P **Pn 23 16 15.1 +1.2**
BRVK pmax pmax
comp=Z,1.0nm,0.4s

BRVK Borovoye 18.49 354 *e*P **Pn 23 16 15.1 +1.2**
comp=Z,0.7nm,0.4s

ZRNK Zerenda 18.52 352 ⇓P **Pn 23 16 14.3 +0.1**
comp=Z,4.5nm,1.2s

AKTK Aktyubinsk 19.29 329 P **Pn 23 16 22.7 -0.8**
AKTO Aktyubinsk 19.29 329 P **Pn 23 16 22.7 -0.8**
comp=Z,0.8nm,0.3s,baz=146,slow=9.1,SNR=12

AKTO Aktyubinsk 19.29 329 P **Pn 23 16 22.7 -0.8**
AKTO pmax pmax
comp=Z,1.0nm,0.3s

ZAL Zalesovo 20.89 19 P **P 23 16 39.6 -0.3**
comp=Z,4.7nm,0.4s,baz=251,slow=3.8,SNR=19

QRN Al-Qurain 22.35 262 *e*P **P 23 16 56.1 +0.4**
QRN AMb AMB 23 16 58.8
comp=Z,6.5nm,0.3s,mb4.5

MIB Mutribah 22.46 265 *e*P **P 23 16 56.5 -0.2**
MIB AMb AMB 23 16 58.0
comp=Z,13nm,0.8s,mb4.4

RDF Al-Radifah 22.59 262 *e*P **P 23 16 58.0 -0.2**
RDF AMb AMB 23 17 01.8
comp=Z,11nm,0.6s,mb4.5

NAY Al-Naaiem 22.73 263 *e*P **P 23 16 59.5 -0.1**
NAY AMb AMB 23 17 05.5
comp=Z,6.6nm,1.0s,mb4.0

GNI Garni 23.27 292 P **P 23 17 08.1 +2.8**
comp=Z,0.8nm,0.4s,mb3.5,baz=121,slow=5.9,SNR=3.4

SONM Songino Array 27.91 52 P **P 23 17 48.9 +1.1**
comp=Z,0.3nm,0.8s,mb3.0,baz=260,slow=8.5,SNR=3.6

MALT Malatya 28.16 288 *e*P **P 23 17 49.2 -0.8**
comp=Z,0.6nm,0.6s,mb3.4

JOF Joensuu 38.37 330 *e*p **P 23 19 18.5 -0.4**
comp=Z,2.5nm,0.4s,mb4.3

JOF Joensuu 38.37 330 *e*P **P 23 19 18.5 -0.4**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4

FINES FINESS Array B 40.03 327 P **P 23 19 32.2 -0.6**
comp=Z,0.4nm,0.3s,mb3.6,baz=119,slow=10,SNR=8.8

FINES FINESS Array B 40.03 327 P **P 23 19 32.2 -0.6**
ARCES ARCESS Array B 43.53 338 P **P 23 20 01.4 0.0**
comp=Z,7.0nm,1.0s,mb4.4,baz=118,slow=8.3,SNR=13

ARCES ARCESS Array B 43.53 338 P **P 23 20 01.4 0.0**
NOA NORSAR Array B 46.95 324 P **P 23 20 27.1 -1.5**
comp=Z,0.3nm,0.3s,mb3.6,baz=103,slow=8.1,SNR=3.0

TORD Torodi Ar. Bea 67.58 271 P **P 23 22 53.0 -1.3**
comp=Z,1.6nm,0.4s,mb4.4,baz=47,slow=5.8,SNR=60

ILAR Eielson Array 76.00 17 P **P 23 23 46.2 +1.3**
comp=Z,0.4nm,0.9s,mb3.4,baz=324,slow=5.6,SNR=4.3

BOSA Boshof 77.61 222 P **P 23 23 53.5 -0.5**
comp=Z,2.3nm,0.6s,mb4.3,baz=32,slow=4.5,SNR=7.7

BOSA Boshof 77.61 222 P **P 23 23 53.5 -0.5**
WRA Warramunga Arr 79.44 123 P **P 23 24 04.3 +0.1**
comp=Z,0.9nm,0.5s,mb3.9,baz=323,slow=5.0,SNR=24

WRAB Tennant Creek 79.44 123 *e*P **P 23 24 04.9 +0.8**
WRAB pmax pmax
comp=Z,2.0nm,0.6s,mb4.2

WRAB Tennant Creek 79.44 123 *e*P **P 23 24 04.9 +0.7**
comp=Z,2.2nm,0.6s,mb4.3

ASAR Alice Springs 81.68 126 P **P 23 24 16.1 0.0**
comp=Z,0.8nm,0.6s,mb3.8,baz=312,slow=5.2,SNR=9.3

YKA Yellowknife Ar 82.95 4 P **P 23 24 21.7 -1.1**
comp=Z,0.4nm,0.5s,mb3.7,baz=347,slow=5.4,SNR=8.3

IDC 14 23:15:08.9±2.7, 824S×10864E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=138.6km s-min=26.9km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.46**	**118**	P	P	23 20 57.1	+0.4
	3.1nm,0.9s,baz=291,slow=11,SNR=17						
ASAR	**Alice Springs**	**28.66**	**125**	P	P	23 21 08.4	+1.1
	1.9nm,0.8s,baz=305,slow=9.0,SNR=17						
STKA	**Stephens Creek**	**38.61**	**132**	P	P	23 22 33.1	-0.7
	1.9nm,0.7s,baz=297,slow=9.2,SNR=4.6						
MKAR	**Makanchi Array**	**59.60**	**339**	P	P	23 25 14.6	+0.1
	0.1nm,0.5s,baz=157,slow=7.8,SNR=4.3						

MOS ***14*** *23:31:40.5± 1.0, 1945N× 10894W, h10km, mb5.3/23, Error ellipse: s-maj=9.3km s-min=4.4km az=93.0*
BJI ***14*** *23:31:40.7, 1970N× 10844W, h14km, mB5.7, mb5.3, Ms5.4, Msz4.8*
IDC ***14*** *23:31:40.4± 0.8, 1957N× 109.17W, h0km, mb4.7/18, mb1 4.9/18, mb1mx4.7/23, mbtmp4.7/18, MS4.7/24, Ms1 4.7/24, ms1mx4.6/32, Error ellipse: s-maj=27.4km s-min=12.5km az=59.0*
ISCJB ***14*** *23:31:41.2± 0.3, 1949N± 004× 10890W± 003, h10km, mb5.0/51, MS4.8/33, Error ellipse: s-maj=6.0km s-min=3.2km az=73.6*
HRVD ***14*** *23:31:42.3± 0.3, 1967N× 10884W, h21km± 1km, MW5.4/53, Centroid moment Tensor Solution. LP body waves: s52, c82; Mantle waves: s53, c94; Half duration: 1§3 Moment tensor: Scale 10^17 Nm; M_{rr}=0.20±.03; $M_{\theta\theta}$=-1.36±.03; $M_{\phi\phi}$=1.56±.04; $M_{r\theta}$=-0.13±.05; $M_{r\phi}$=-0.74±.03; $M_{\theta\phi}$=0.29±.06; Best double couple: M_0=1.66100×10^17 NP1:ϕ_s=32.00000°, δ=82.00000°, λ=4.00000°. NP2: ϕ_s=301.00000°, δ=86.00000°, λ=172.00000°. Principal axes: T 1.7840, Plg9.0000°, Azm256.0000°; N -0.2460, Plg81.0000°, Azm93.0000°; P -1.5380, Plg3.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *23:31:42.3± 0.4, 1943N× 10897W, h10km, mb5.2/40 Error ellipse: s-maj=6.9km s-min=4.6km az=222.0*
MEX ***14*** *23:31:42.5± 4.6, 1948N× 10894W, h20km± 215km, MD5.2*
ISC 14 23:31:43.1±0.3, 1950N±004×10895W±003, h10km, n247, σ1§16/225, mb5.0/51, MS4.8/33, 7D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**3.69**	**89**	*e*P	**Pn**	**23 32 35.7**	**-4.4**
CJM				*i* S	**Sn**	23 33 17.1	-6.5
MAIG	**Mazatlaan**	**4.36**	**32**	*i* P	**Pn**	23 32 45.6	-3.7
MAIG				*i* S	**Sn**	23 33 33.3	-6.9
LPIG	**La Paz**	**4.75**	**345**	*i* P	**Pn**	23 32 52.2	-2.6
LPIG				*i* S	**Sn**	23 33 46.4	-3.4
COLM	**Colima**	**4.97**	**93**	*i* P	**Pn**	23 32 55.7	-2.2
SFJM	**Santa Fe**	**5.64**	**79**	*e*P	**Pn**	23 33 04.5	-2.5
ZAIG	**Zacatecas**	**6.79**	**60**	*e*P	**Pn**	23 33 20.1	-2.7
ZAIG				*i* S	**Sn**	23 34 33.2	-6.8
MRX	**Morelia**	**7.32**	**87**	*e*P	**Pn**	23 33 30.0	0.0
MOIG	**Morelia**	**7.32**	**87**	*i* P	**Pn**	23 33 30.4	+0.4
CAIG	**El Cayaco**	**8.60**	**105**	*i* P	**Pn**	23 33 49.5	+1.9
ACX	**Acapulco**	**8.98**	**106**	*i* P	**Pn**	23 33 54.0	+1.2
MEIG	**Mezcala**	**8.98**	**99**	*i* P	**Pn**	23 33 52.5	-0.3
PLIG	**Platanillo**	**9.01**	**96**	*e*P	**Pn**	23 33 53.7	+0.4
UNM	**Universidad Na**	**9.22**	**89**	*e*P	**Pn**	23 33 58.0	+1.8
YAIG	**Yautepec**	**9.36**	**92**	*i* P	**Pn**	23 33 59.2	+1.1
PPM	**Popocatepetl**	**9.76**	**91**	*e*P	**Pn**	23 34 04.0	+0.5
PPM				*e*P		23 34 05.4	
LNIG	**Linares**	**10.29**	**57**	*i* P	**Pn**	23 34 05.3	-5.5
UTMO	**Huajuapan**	**10.70**	**97**	*i* P	**Pn**	23 34 16.0	-0.3
LTX	**Lajitas**	**10.90**	**25**	*e*P	**Pn**	23 34 20.0	+0.8
VHO	**Vista Hermosa**	**11.85**	**100**	*i* P	**Pn**	23 34 33.1	+0.9
OXX	**Oaxaca**	**11.86**	**100**	*i* P	**Pn**	23 34 32.0	-0.3
MNTX	**Cornudas Mount**	**12.56**	**14**	⇓*i*Pn	**Pn**	23 34 43.5	+1.6
MNTX				*e*S	**Sn**	23 37 13.2	+11
GDL2	**Guadalupe Moun**	**13.30**	**17**	Pn	**Pn**	23 34 54.7	+2.8
CLNB	**Carlsbad**	**13.50**	**19**	Pn	**Pn**	23 34 54.6	-0.1
CMIG	**Matias Romero**	**13.57**	**98**	*i* P	**Pn**	23 34 56.0	+0.3
JCT	**Junction City**	**13.71**	**35**	P	**Pn**	23 34 58.9	+1.4
CPRX	**Cap Rock**	**14.22**	**18**	*e*Pn	**Pn**	23 35 05.0	+0.5
GLA	**Glamis**	**14.48**	**340**	⇓*e*P	**Pn**	23 35 09.1	+1.0
LENM	**Lemitar**	**14.71**	**6**	Pn	**Pn**	23 35 13.4	+2.2
BNM	**Barren Site**	**14.73**	**8**	Pn	**Pn**	23 35 13.7	+2.2
BAR	**Barrett**	**14.83**	**334**	*e*Pn	**Pn**	23 35 12.9	0.0
LPM	**Los Pinos Moun**	**14.89**	**7**	Pn	**Pn**	23 35 15.4	+1.8
LAZ	**Ladron**	**14.93**	**6**	*e*Pn	**Pn**	23 35 15.8	+1.6
ANMO	**Albuquerque**	**15.54**	**8**	Pn	**Pn**	23 35 23.5	+1.2
	0.1nm,0.3s,baz=194,slow=12,SNR=48						
ANMO				LR	LR	23 42 22.8	
	comp=Z,1μm,18.7s,baz=120,slow=41						
ANMO	**Albuquerque**	**15.54**	**8**	⇓*i*P	**Pn**	23 35 23.6	+1.3
ANMO				*e*		23 38 21.2	
ANMO				pmax	pmax		
	comp=Z,103nm,1.3s						
ANMO	**Albuquerque**	**15.54**	**8**	⇓*i*Pn	**Pn**	23 35 23.6	+1.3
	comp=Z,103nm,1.3s						
ANMO				*e*Sn	**Sn**	23 38 21.2	+6.7
PFO	**Pinyon Flat Ob**	**15.56**	**336**	Pn	**Pn**	23 35 23.6	+1.1
	comp=Z,403nm,1.1s,SNR=17						
PFO	**Pinyon Flat Ob**	**15.56**	**336**	P	**Pn**	23 35 23.2	+0.7
PFO				pmax	pmax		
	comp=Z,94nm,1.1s						
PFO	**Pinyon Flat Ob**	**15.56**	**336**	Pn	**Pn**	23 35 23.2	+0.7
	comp=Z,94nm,1.1s						
HKT	**Hockley**	**15.80**	**46**	P	**Pn**	23 35 25.4	-0.2
WUAZ	**Wupatki**	**16.09**	**353**	Pn	**Pn**	23 35 31.3	+1.9
	comp=Z,323nm,1.2s						
CCIG	**Comitan**	**16.32**	**99**	*e*P	**Pn**	23 35 29.0	-3.3
LDFC	**Landfair**	**16.44**	**342**	⇓*i*Pn	**Pn**	23 35 36.4	+2.5
SNCC	**San Nicolas Is**	**16.63**	**327**	Pn	**Pn**	23 35 37.9	+1.6
	comp=Z,269nm,1.4s						
MWC	**Mount Wilson**	**16.75**	**333**	P	**Pn**	23 35 38.5	+0.7
NEN	**Nelson**	**16.90**	**343**	*e*Pn	**Pn**	23 35 41.1	+1.4
GSC	**Goldstone**	**17.20**	**338**	P	**Pn**	23 35 44.9	+1.4
WMOK	**Wichita Mounta**	**17.65**	**29**	P	**Pn**	23 35 48.3	-0.7
WMOK				pmax	pmax		
	comp=Z,152nm,1.4s						
WMOK	**Wichita Mounta**	**17.65**	**29**	Pn	**Pn**	23 35 48.3	-0.8
	comp=Z,152nm,1.4s						
NATX	**Nacogdoches**	**17.72**	**44**	Pn	**Pn**	23 35 49.6	-0.3
SHPR	**Sheep Range**	**17.80**	**343**	Pn	**Pn**	23 35 52.4	+1.6
ISA	**Isabella**	**18.16**	**334**	P	**Pn**	23 35 56.2	+0.9
DAC	**Darwin (Calif)**	**18.36**	**337**	P	**Pn**	23 35 58.7	+0.9
DAC				pmax	pmax		
	comp=Z,105nm,1.3s						
DAC	**Darwin (Calif)**	**18.36**	**337**	Pn	**Pn**	23 35 58.7	+1.0
	comp=Z,105nm,1.3s						
SDCO	**Great Sand Dun**	**18.42**	**9**	Pn	**Pn**	23 35 59.6	+1.0
PV01	**Paradox Valley**	**18.57**	**1**	Pn	**Pn**	23 36 00.8	+0.5
ARUT	**Antelope Range**	**18.64**	**349**	*e*P	**Pn**	23 36 02.2	+1.1
PV10	**Paradox Valley**	**18.81**	**360**	*e*P	**Pn**	23 36 02.5	-0.7
MVU	**Marysvale**	**19.14**	**352**	Pn	**Pn**	23 36 15.0	+7.7
MSU	**Marysvale**	**19.15**	**352**	P	**Pn**	23 36 07.9	+0.5
TEIG	**Tepich**	**19.46**	**84**	P	**Pn**	23 36 10.6	-0.5
SRU	**San Rafael**	**19.59**	**356**	P	**Pn**	23 36 12.2	-0.4
MTUM	**Tungsten Hills**	**19.67**	**337**	Pn	**Pn**	23 36 13.6	0.0
SMCO	**Snowmass**	**19.68**	**5**	*e*P	**Pn**	23 36 13.8	0.0
	comp=Z,356nm,1.3s						
TMUT	**Trail Mountain**	**19.82**	**355**	Pn	**Pn**	23 36 15.2	-0.2
TPH	**Tonopah**	**19.86**	**340**	P	**Pn**	23 36 15.3	-0.5
TPH				pmax	pmax		
	comp=Z,194nm,1.3s						
TPH	**Tonopah**	**19.86**	**340**	Pn	**Pn**	23 36 15.3	-0.5
	comp=Z,194nm,1.3s						
MIAR	**Mount Ida**	**20.26**	**39**	P	**P**	23 36 18.2	-0.4
SAO	**San Andreas Ge**	**20.39**	**330**	P	**P**	23 36 20.7	+0.7
SAO				pmax	pmax		
	comp=Z,193nm,1.4s						
SAO	**San Andreas Ge**	**20.39**	**330**	P	**P**	23 36 20.7	+0.7
	comp=Z,193nm,1.4s						
ISCO	**Idaho Springs**	**20.43**	**7**	P	**P**	23 36 21.5	+1.0
ISCO				pmax	pmax		
	comp=Z,114nm,1.2s						
ISCO	**Idaho Springs**	**20.43**	**7**	P	**P**	23 36 21.5	+1.0
	comp=Z,114nm,1.2s						
NVAR	**Mina Array Bea**	**20.53**	**339**	P	**P**	23 36 22.8	+1.2
	comp=Z,98nm,1.0s,baz=153,slow=11,SNR=62						
NLU	**North Lily Min**	**20.56**	**353**	P	**P**	23 36 20.1	-1.7
MPU	**Maple Canyon**	**20.57**	**354**	P	**P**	23 36 23.2	+1.2
CBKS	**Cedar Bluff**	**20.83**	**21**	P	**P**	23 36 24.0	-0.8
DUG	**Dugway**	**20.89**	**352**	P	**P**	23 36 26.5	+1.1
DUG				pmax	pmax		
	comp=Z,126nm,1.1s						
DUG	**Dugway**	**20.89**	**352**	P	**P**	23 36 26.5	+1.1
	comp=Z,126nm,1.1s						
DAU	**Daniels Canyon**	**20.93**	**355**	P	**P**	23 36 27.6	+1.7
CMB	**Columbia Colle**	**20.98**	**334**	P	**P**	23 36 26.3	-0.1
UALR	**University of**	**21.16**	**41**	P	**P**	23 36 27.5	-0.8
NOQ	**North Oquirrh**	**21.25**	**353**	P	**P**	23 36 29.5	+0.2
BGU	**Big Grassy Mou**	**21.64**	**352**	P	**P**	23 36 34.7	+1.2
TCUT	**Toone Canyon**	**21.65**	**355**	P	**P**	23 36 34.1	+0.5
ELK	**Elko**	**21.85**	**347**	P	**P**	23 36 35.1	-0.6
	comp=Z,48nm,1.0s,mb4.9,baz=169,slow=8.7,SNR=45						
ELK	**Elko**	**21.85**	**347**	P	**P**	23 36 36.2	+0.5
ELK				pmax	pmax		
	comp=Z,129nm,1.3s						
ELK	**Elko**	**21.85**	**347**	P	**P**	23 36 36.2	+0.4
	comp=Z,129nm,1.3s,mb5.2						
PHWY	**Pilot Hill**	**21.93**	**7**	P	**P**	23 36 36.8	+0.1
SPUT	**South Promonto**	**21.94**	**353**	P	**P**	23 36 37.4	+0.7
BMN	**Battle Mountai**	**22.03**	**343**	P	**P**	23 36 38.7	+1.0
BMN				pmax	pmax		
	comp=Z,125nm,1.4s,mb5.2						
BMN	**Battle Mountai**	**22.03**	**343**	P	**P**	23 36 38.7	+0.9
	comp=Z,125nm,1.4s,mb5.2						
HWUT	**Hardware Ranch**	**22.14**	**355**	P	**P**	23 36 39.1	+0.1
	comp=Z,118nm,1.1s,mb5.2						
RWWY	**Rawlins**	**22.16**	**3**	P	**P**	23 36 40.9	+1.7
KSU1	**Kansas State U**	**22.25**	**26**	P	**P**	23 36 39.4	-0.7
HVU	**Hansel Valley**	**22.44**	**352**	P	**P**	23 36 42.0	-0.1
OHCM	**Honcut**	**22.53**	**334**	P	**P**	23 36 44.1	+1.0
OXF	**Oxford**	**22.88**	**45**	*e*P	**P**	23 36 44.9	-1.9
OXF				pmax	pmax		
	comp=Z,62nm,1.2s,mb4.9						
OXF	**Oxford**	**22.88**	**45**	*e*P	**P**	23 36 44.9	-1.9
	comp=Z,62nm,1.2s,mb4.9						
BW06	**Boulder Array**	**23.20**	**359**	P	**P**	23 36 49.0	-1.1
	comp=Z,180nm,1.7s,mb5.2						
PDAR	**Pinedale Array**	**23.20**	**359**	P	**P**	23 36 48.9	-1.2
	comp=Z,18nm,0.8s,mb4.5,baz=168,slow=8.6,SNR=79						
PDAR				LR	LR	23 45 43.5	
	comp=Z,1μm,19.0s,MS4.4,baz=23,slow=36						
AHID	**Auburn Hatcher**	**23.26**	**356**	P	**P**	23 36 50.0	-0.8
GNAR	**Gosnell**	**23.38**	**42**	*e*P	**P**	23 36 52.3	+0.3
	comp=Z,628nm,1.5s,mb5.8						
LRAL	**Lakeview Retre**	**23.79**	**51**	P	**P**	23 36 56.2	+0.2
REDW	**Red Top Meadow**	**23.84**	**357**	P	**P**	23 36 56.1	-0.3
SNOW	**Snow King Moun**	**23.93**	**357**	P	**P**	23 36 57.4	+0.1
WDC	**Whiskeytown Da**	**24.02**	**334**	P	**P**	23 36 56.9	-1.2
PLAL	**Pickwick Lake**	**24.05**	**46**	P	**P**	23 36 57.7	-0.7
CCM	**Cathedral Cave**	**24.06**	**36**	P	**P**	23 36 57.6	-0.8
LOHW	**Long Hollow**	**24.08**	**357**	P	**P**	23 36 58.1	-0.5
WVOR	**Wild Horse Val**	**24.29**	**342**	*e*P	**P**	23 37 00.4	-0.1
WVOR				pmax	pmax		
	comp=Z,93nm,1.1s,mb5.1						
WVOR	**Wild Horse Val**	**24.29**	**342**	*e*P	**P**	23 37 00.4	-0.1
	comp=Z,93nm,1.1s,mb5.1						
MOD	**Modoc**	**24.32**	**339**	P	**P**	23 37 01.5	+0.6
SOR	**Soroa**	**24.40**	**78**	*e*P	**P**	23 37 01.3	-0.3
HLID	**Hailey**	**24.42**	**350**	P	**P**	23 37 02.1	+0.3
	comp=Z,60nm,1.0s,mb5.0						
FVM	**French Village**	**24.47**	**37**	P	**P**	23 37 01.3	-0.9
FVM				pmax	pmax		
	comp=Z,78nm,1.5s,mb4.9						
FVM	**French Village**	**24.47**	**37**	P	**P**	23 37 01.2	-0.9
	comp=Z,78nm,1.5s,mb4.9						
FLWY	**Flagg Ranch**	**24.55**	**357**	*e*P	**P**	23 37 02.7	-0.2
	comp=Z,111nm,1.1s,mb5.3						
KHMM	**Horse Mountain**	**24.77**	**332**	P	**P**	23 37 07.0	+2.0
WVT	**Waverly**	**24.88**	**44**	*e*P	**P**	23 37 05.6	-0.3
WVT				pmax	pmax		
	comp=Z,54nm,1.6s,mb4.8						
WVT	**Waverly**	**24.88**	**44**	*e*P	**P**	23 37 05.6	-0.4
	comp=Z,54nm,1.6s,mb4.8						
RSSD	**Black Hills**	**24.89**	**8**	P	**P**	23 37 05.7	-0.3
RSSD				pmax	pmax		
	comp=Z,52nm,1.1s,mb5.0						
RSSD	**Black Hills**	**24.89**	**8**	P	**P**	23 37 05.7	-0.3
	comp=Z,52nm,1.1s,mb5.0						
JTS	**JuntasAbangare**	**24.90**	**108**	P	**P**	23 37 07.5	+1.3
	comp=Z,7.9nm,0.9s,mb4.2,baz=323,slow=10,SNR=4.3						
JTS	**JuntasAbangare**	**24.90**	**108**	P	**P**	23 37 08.2	+2.0
JTS				pmax	pmax		
	comp=Z,62nm,1.4s						
JTS	**JuntasAbangare**	**24.90**	**108**	P	**P**	23 37 08.2	+2.1
	comp=Z,62nm,1.4s,mb4.9						
YFT	**Old Faithful**	**24.93**	**357**	P	**P**	23 37 07.2	+0.9
LKWY	**Lake**	**25.02**	**358**	P	**P**	23 37 08.1	+0.9
LKWY				pmax	pmax		
	comp=Z,165nm,1.5s,mb5.3						
LKWY	**Lake**	**25.02**	**358**	P	**P**	23 37 08.1	+0.8
	comp=Z,165nm,1.5s,mb5.3						
YBH	**Yreka Blue Hor**	**25.06**	**335**	P	**P**	23 37 04.8	-2.8
	comp=Z,7.4nm,0.9s,mb4.2,baz=146,slow=7.1,SNR=5.8						
YBH				LR	LR	23 46 28.7	
	comp=Z,2μm,20.4s,MS4.5,baz=158,slow=36						
QLMT	**Earthquake Lak**	**25.34**	**356**	P	**P**	23 37 10.7	+0.6
MCMT	**McKenzie Canyo**	**25.46**	**354**	*e*P	**P**	23 37 11.7	+0.5
SWET	**Sewanee**	**25.65**	**48**	P	**P**	23 37 12.7	-0.3
DLMT	**Dillon**	**25.96**	**354**	*e*P	**P**	23 37 16.1	+0.3
	comp=Z,93nm,1.2s,mb5.2						
USIN	**University of**	**26.10**	**41**	P	**P**	23 37 16.9	0.0
	comp=Z,95nm,1.3s,mb5.2						
BOZ	**Bozeman (W)**	**26.17**	**356**	P	**P**	23 37 13.6	-4.0
BOZ				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.0						
BOZ	**Bozeman (W)**	**26.17**	**356**	P	**P**	23 37 13.6	-4.0
	comp=Z,55nm,1.2s,mb5.0						
BMO	**Blue Mountains**	**26.22**	**346**	P	**P**	23 37 16.9	-1.1
GCMT	**Greycliff**	**26.22**	**359**	*e*P	**P**	23 37 17.3	-0.8
LRM	**Limekiln Ridge**	**26.41**	**354**	P	**P**	23 37 19.5	-0.3
CPCT	**Cooper Cave**	**26.76**	**49**	P	**P**	23 37 22.1	-0.9
MYNC	**Murphy**	**26.86**	**50**	P	**P**	23 37 24.0	+0.1
WCI	**Wyandotte Cave**	**27.11**	**42**	P	**P**	23 37 25.5	-0.6
WCI				pmax	pmax		
	comp=Z,101nm,1.8s,mb5.0						
WCI	**Wyandotte Cave**	**27.11**	**42**	P	**P**	23 37 25.5	-0.6
	comp=Z,101nm,1.8s,mb5.0						
BROR	**Big Rock Looko**	**27.15**	**338**	P	**P**	23 37 26.0	-0.5
MGV	**Manicaragua**	**27.19**	**79**	*e*P	**P**	23 37 23.4	-3.5
LAO	**LASA Array**	**27.20**	**4**	P	**P**	23 37 25.8	-1.2
HRY	**Holter Researc**	**27.24**	**356**	P	**P**	23 37 27.1	-0.2
MSO	**Missoula**	**27.56**	**353**	P	**P**	23 37 29.3	-0.8
	comp=Z,76nm,1.4s,mb5.1						
CHMT	**Chamberlain Mo**	**27.57**	**354**	P	**P**	23 37 29.8	-0.4
HOOD	**Mount Hood Mea**	**27.82**	**341**	P	**P**	23 37 31.6	-0.9
TZTN	**Tazewell**	**28.00**	**47**	P	**P**	23 37 35.0	+1.0
HAWA	**Hanford**	**28.20**	**344**	P	**P**	23 37 36.1	+0.3
EGMT	**Eagleton**	**28.46**	**359**	*e*P	**P**	23 37 37.3	-0.9
	comp=Z,44nm,1.3s,mb4.9						
BSMT	**Bassoo Peak**	**28.67**	**352**	P	**P**	23 37 39.3	-0.8
EBG	**Ellensburg**	**28.95**	**343**	P	**P**	23 37 43.3	+0.8
EPH	**Ephrata**	**29.11**	**345**	P	**P**	23 37 44.0	0.0
LON	**Longmire**	**29.15**	**342**	P	**P**	23 37 44.4	+0.1
DGMT	**Dagmar**	**29.15**	**6**	P	**P**	23 37 43.8	-0.6
NEW	**Newport**	**29.45**	**349**	P	**P**	23 37 45.6	-1.4
	comp=Z,13nm,0.9s,mb4.7,baz=155,slow=8.5,SNR=19						
NEW				LR	LR	23 50 19.8	
	comp=Z,1μm,19.3s,MS4.5,baz=159,slow=38						
NEW	**Newport**	**29.45**	**349**	P	**P**	23 37 46.3	-0.7
NEW				pmax	pmax		
	comp=Z,59nm,1.4s						
NEW	**Newport**	**29.45**	**349**	P	**P**	23 37 46.2	-0.7
	comp=Z,59nm,1.4s,mb5.1						
WTV	**Waterville**	**29.52**	**345**	P	**P**	23 37 47.9	+0.3
WRW	**Wenatchee Ridg**	**29.90**	**344**	P	**P**	23 37 51.5	+0.5
GNW	**Green Mountain**	**30.19**	**341**	P	**P**	23 37 53.3	-0.2
ACSO	**Alum Creek Sta**	**30.37**	**42**	P	**P**	23 37 58.5	+3.4
	comp=Z,54nm,1.6s,mb5.0						
EYMN	**Ely**	**31.71**	**23**	P	**P**	23 38 05.2	-1.8
ULM	**Lac du Bonnet**	**32.40**	**16**	P	**P**	23 38 10.8	-2.1
	comp=Z,42nm,1.1s,mb5.2,baz=204,slow=8.6,SNR=32

TBI	**Tubuai**	**58.10 225**	*e*T			00 44 18.2	
	comp=Z,3.4nm,0.3s						
TNA	**Tin City**	**59.73 336**	P		**P**	**23 41 47.0**	**-1.0**
RAR	**Rarotonga**	**64.11 234**	LR		LR	00 02 38.9	
	comp=Z,1μm,18.9s,MS5.0,baz=310,slow=29						
SUMG	**Summit**	**65.71 18**	*e*P		**P**	**23 42 25.9**	**-2.0**
	comp=Z,47nm,1.3s,mb5.4						
CPUP	**Villa Florida**	**67.72 131**	P		**P**	**23 42 41.3**	**+0.7**
	comp=Z,7.4nm,0.8s,mb4.7,baz=304,slow=6.7,SNR=3.1						
CPUP			LR		LR	00 11 42.0	
	comp=Z,265nm,18.2s,MS4.5,baz=128,slow=35						
CPUP	**Villa Florida**	**67.72 131**	P		**P**	**23 42 41.9**	**+1.2**
BDFB	**Brasilia**	**69.35 116**	P		**P**	**23 42 51.1**	**+0.1**
	comp=Z,5.6nm,0.9s,mb4.5,baz=302,slow=7.1,SNR=5.9						
PLCA	**Paso Flores**	**69.75 150**	P		**P**	**23 42 54.6**	**+1.3**
	comp=Z,7.5nm,1.1s,mb4.5,baz=329,slow=7.7,SNR=6.3						
PLCA			LR		LR	00 06 31.7	
	comp=Z,620nm,18.6s,MS4.9,baz=324,slow=30						
BILL	**Bilibino**	**70.14 337**	*e*P		**P**	**23 42 54.7**	**-1.0**
BILL			pmax		pmax		
	comp=Z,20nm,1.2s,mb4.9						
BILL	**Bilibino**	**70.14 337**	*e*P		**P**	**23 42 54.7**	**-1.0**
	comp=Z,20nm,1.2s,mb4.9						
AFI	**Afiamalu**	**70.18 247**	LR		LR	00 07 50.0	
	comp=Z,477nm,18.2s,MS4.8,baz=120,slow=31						
DAG	**Danmarks Havn**	**71.23 14**	⇓*i*P		**P**	**23 43 00.2**	**-2.2**
	comp=Z,28nm,1.2s,mb5.1						
DAG	**Danmarks Havn**	**71.23 14**	⇓*i*P		**P**	**23 43 00.2**	**-2.2**
DAG			pmax		pmax		
	comp=Z,28nm,1.2s,mb5.1						
SEY	**Seymchan**	**76.70 332**	*e*P		**P**	**23 43 33.2**	**-1.2**
SEY			*e*			23 46 23.5	
SEY			*e*S		S	23 53 17.7	-3.5
SEY			*e*SS		SS	23 58 22.6	+5.8
SEY			pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SEY			pmax		pmax		
	comp=N,10.0nm,1.0s						
SEY			pmax		pmax		
	comp=E,3.0nm,0.7s						
SEY			smax				
	comp=N,230nm,26.0s						
SEY			smax				
	comp=E,224nm,21.7s						
SEY			MLR		MLR		
	comp=Z,583nm,37.0s,MS4.6						
SEY			MLR		MLR		
	comp=N,360nm,26.0s						
MA2	**Magadan**	**78.47 329**	*e*P		**P**	**23 43 42.5**	**-1.8**
MA2			pmax		pmax		
	comp=Z,19nm,1.7s,mb4.8						
TIXI	**Tiksi**	**81.05 344**	P		**P**	**23 43 56.5**	**-1.8**
RAO	**Raoul Island**	**82.27 235**	LR		LR	00 11 36.8	
	comp=Z,483nm,19.6s,MS4.9,baz=355,slow=29						
ARCES	**ARCESS Array B**	**85.51 15**	P		**P**	**23 44 19.5**	**-1.8**
	comp=Z,6.4nm,0.8s,mb4.9,baz=308,slow=4.5,SNR=9.1						
ARCES			LR		LR	00 22 59.7	
	comp=Z,847nm,20.9s,MS5.1,baz=105,slow=36						
ARCES	**ARCESS Array B**	**85.51 15**	P		**P**	**23 44 19.5**	**-1.8**
ARCES			LR		LR	00 22 59.7	
NOA	**NORSAR Array B**	**86.61 25**	P		**P**	**23 44 24.4**	**-2.3**
	comp=Z,0.8nm,0.8s,mb4.0,baz=335,slow=2.8,SNR=2.8						
NOA			LR		LR	00 23 43.7	
	comp=Z,310nm,18.2s,MS4.8,baz=310,slow=36						
NOA	**NORSAR Array B**	**86.61 25**	P		**P**	**23 44 24.4**	**-2.4**
NOA			LR		LR	00 23 43.6	
URZ	**Urewera**	**89.96 229**	LR		LR	00 15 35.8	
	comp=Z,781nm,20.3s,MS5.1,baz=281,slow=29						
FINES	**FINESS Array B**	**91.70 20**	LR		LR	00 25 17.2	
	comp=Z,705nm,20.4s,MS5.1,baz=120,slow=35						
DZM	**Mont Dzumac**	**92.39 248**	LR		LR	00 16 40.8	
	comp=Z,667nm,20.7s,MS5.1,baz=31,slow=29						
GRF	**Grafenberg Arr**	**93.18 34**	*e*PP		PP	23 48 36.4	-4.5
GRF			*e*L			00 24 57.3	
	comp=Z,777nm,21.5s						
HNR	**Honiara**	**94.13 262**	LR		LR	00 17 55.4	
	comp=Z,574nm,21.2s,MS5.0,baz=7.2,slow=30						
GERES	**GERESS Array B**	**95.00 34**	LR		LR	00 26 23.3	
	comp=Z,637nm,20.4s,MS5.1,baz=303,slow=34						
BOD	**Bodaibo**	**95.11 339**	*e*P		**P**	**23 45 02.8**	**-3.7**
BOD			pmax		pmax		
	comp=Z,5.0nm,1.4s,mb4.8						
MJAR	**Matsushiro Arr**	**95.63 312**	LR		LR	00 20 45.3	
	comp=Z,245nm,19.6s,MS4.7,baz=75,slow=31						
RPZ	**Rata Peaks**	**96.30 226**	LR		LR	00 20 07.9	
	comp=Z,568nm,19.2s,MS5.1,baz=23,slow=30						
MDJ	**Mudanjiang**	**96.85 322**	P		**P**	**23 45 13.0**	**-1.4**
MDJ			S			23 56 33.4	
MDJ			AMB		AMB		
	comp=Z,6.0nm,1.2s,mb4.9						
MDJ			AMB		AMB		
	comp=Z,56nm,6.0s						
MDJ			LR		LR		
	comp=N,335nm,35.0s,MS4.6						
MDJ			LR		LR		
	comp=E,172nm,35.0s,MS4.6						
MDJ			LR		LR		
	comp=Z,76nm,23.2s						
CN2	**Changchun**	**99.72 323**	*e*P		Pdif	23 45 26.8	-0.4
OBN	**Obninsk**	**100.09 19**	P		Pdif	23 45 26.0	-2.9
OBN						23 49 32.0	
OBN			MLR		MLR		
	comp=Z,600nm,18.0s,MS5.1						
BJI	**Beijing**	**107.36 325**	PDIF		Pdif	23 46 02.0	+0.8
BJI			S		Sdif	23 57 58.3	-6.3
BJI			LR		LR		
	comp=N,187nm,15.5s,MS4.9						
BJI			LR		LR		
	comp=E,171nm,16.3s,MS4.9						
BJI			LR		LR		
	comp=Z,125nm,21.2s,MS4.4						
HHC	**Hu-ho-hao-te**	**109.14 329**	*e*PDIF		Pdif	23 46 04.0	-5.1
HHC			PP		PP	23 50 40.5	-0.9
HHC			S		Sdif	23 58 18.3	-1.1
HHC			LR		LR		
	comp=N,278nm,18.6s						
HHC			LR		LR		
	comp=E,207nm,9.3s						
HHC			LR		LR		
	comp=Z,226nm,20.6s,MS4.7						
NJ2	**Nanjing**	**111.27 318**	*e*PKP		PKiKP	23 50 13.5	-3.7
NJ2			PP		PP	23 51 04.0	+7.1
NJ2			PKS			23 53 49.0	
NJ2			SKS		SKSdf	23 57 20.0	-9.3
NJ2			SKKS		SKKSac	23 57 49.0	-11
NJ2			PP		PP		
	comp=Z,230nm,9.9s						
NJ2			LR		LR		
	comp=N,1μm,22.3s,MS5.5						
NJ2			LR		LR		
	comp=E,430nm,21.2s,MS5.5						
NJ2			LR		LR		
	comp=Z,2μm,23.3s,MS5.6						
MKAR	**Makanchi Array**	**113.24 352**	PKiKP		PKiKP	23 50 18.7	-2.2
	comp=Z,0.1nm,0.7s,baz=23,slow=4.8,SNR=2.3						
WMQ	**Urumqi**	**115.17 347**	*e*PKP		PKiKP	23 50 23.8	-0.8
WMQ			LR		LR		
	comp=N,241nm,20.8s,MS5.0						
WMQ			LR		LR		
	comp=E,312nm,20.8s,MS5.0						
WMQ			LR		LR		
	comp=Z,254nm,19.4s,MS4.8						
LZH	**Lanzhou**	**116.60 331**	*e*PKP		PKPdf	23 50 23.0	-4.4
LZH			LR		LR		
	comp=N,431nm,18.6s						
LZH			LR		LR		
	comp=Z,591nm,20.2s,MS5.2						
WRA	**Warramunga Arr**	**120.76 258**	PKP		PKPdf	23 50 34.6	-0.8
	comp=Z,1.2nm,0.5s,baz=79,slow=2.5,SNR=32						
CD2	**Chengdu**	**120.84 327**	*e*PKP		PKPdf	23 50 30.1	-5.4
CD2			PP		PP	23 52 02.8	-1.1
CD2			PKS			23 54 05.5	
CD2			PP		PP		
	comp=Z,80nm,9.3s						
CD2			LR		LR		
	comp=N,110nm,22.8s						
CD2			LR		LR		
	comp=Z,140nm,20.4s,MS4.6						
ASAR	**Alice Springs**	**121.81 254**	PKP		PKPdf	23 50 36.3	-1.1
	comp=Z,1.1nm,0.7s,baz=84,slow=2.3,SNR=11						
KMI	**Kunming**	**125.98 324**	PKP		PKPdf	23 50 44.9	-0.5
KMI			XPKP			23 50 49.8	
KMI			LR		LR		
	comp=N,137nm,17.2s,MS4.8						
KMI			LR		LR		
	comp=E,163nm,21.4s,MS4.8						
KMI			LR		LR		
	comp=Z,211nm,23.0s,MS4.8						
PSI	**Prapat**	**144.76 306**	PKP		PKPdf	23 51 18.8	-1.4
	comp=Z,25nm,0.9s,baz=20,slow=3.2,SNR=20						

IDC 14 23:43:09.5±9.9, 109N×9699E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/21, mbtmp3.6/4, Error ellipse: s-maj=187.6km s-min=48.3km az=176.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.58**	**49**	Pn	Pn	23 43 51.7	-0.7
	2.8nm,0.3s,baz=231,slow=14,SNR=8.3						
SONM	**Songino Array**	**47.27**	**9**	P	P	23 51 44.5	0.0
	0.3nm,0.5s,baz=190,slow=9.2,SNR=5.5						
MKAR	**Makanchi Array**	**47.30**	**346**	P	P	23 51 44.8	+0.1
	0.4nm,0.5s,baz=147,slow=8.6,SNR=12						
ZAL	**Zalesovo**	**53.63**	**351**	P	P	23 52 32.3	-0.2
	1.0nm,0.7s,baz=298,slow=8.3,SNR=6.3						

IDC 15 00:08:14.6±1.6, 1693S×167.12E, h0km, mb4.4/5, mb1 4.5/6, mb1mx4.3/14, mbtmp4.4/6, ML3.9/1, Error ellipse: s-maj=45.9km s-min=23.2km az=105.0
LDG 15 00:08:18.6±0.2, 1685S×16607E, h10km, Mb4.5/2, Error ellipse: s-maj=37.0km s-min=4.4km az=81.0
ISCJB 15 00:08:19.2±0.7, 1702S±006×1670E±02, h33km, mb4.6/15, Error ellipse: s-maj=22.6km s-min=8.1km az=174.2
BJI 15 00:08:20.0, 1700S×16680E, h30km, mB5.5, mb4.8
MOS 15 00:08:21.5±2.0, 1682S×16650E, h33km, mb5.0/4, Error ellipse: s-maj=24.7km s-min=18.7km az=111.7
NEIC 15 00:08:22.8±0.4, 1701S×16681E, h40km, mb4.8/6, Error ellipse: s-maj=18.6km s-min=14.1km az=116.0
ISC 15 00:08:20.7±0.7, 1698S±006×1671E±02, h35km, (h21km±4.9km:pP-P), n62, σ1§09/26, mb4.6/15, 1Ĉ-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.26**	**123**	⇓*i*P	Pn	**00 08 27.3**	**-15**
BKM				S	Sn	**00 08 43.2**	**-14**
DZM	**Mont Dzumac**	**5.11**	**187**	Pn	Pn	**00 09 33.2**	**-1.5**
	4.7nm,0.3s,baz=55,slow=18,SNR=38						
DZM				Sn	Sn	**00 10 32.7**	**+0.4**
	4.5nm,0.3s,baz=318,slow=22,SNR=3.2						
STKA	**Stephens Creek**	**27.48**	**233**	P	P	**00 14 02.5**	**-1.0**
	5.7nm,0.7s,mb4.2,baz=64,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**31.22**	**259**	P	P	**00 14 35.0**	**-1.7**
	1.3nm,0.8s,mb3.8,baz=89,slow=8.9,SNR=11						
WRA				PcP	PcP	00 17 31.3	+0.5
	1.2nm,0.9s,baz=89,slow=2.9,SNR=4.9						
ASAR	**Alice Springs**	**31.81**	**252**	P	P	**00 14 42.1**	**+0.2**
	7.3nm,0.7s,mb4.6,baz=79,slow=8.3,SNR=61						
ASAR				PcP	PcP	00 17 32.9	+0.5
	1.3nm,0.8s,baz=104,slow=3.0,SNR=5.5						
TBI	**Tubuai**	**41.12**	**106**	*e*LR	LR	00 27 36.0	
	143nm,23.8s						
PPT	**Papeete**	**41.28**	**97**	*e*LR	LR	00 27 40.9	
	132nm,27.5s						
MBWA	**Marble Bar**	**44.87**	**257**	*e*P	P	**00 16 33.0**	**+1.5**
	6.3nm,0.9s,mb4.5						
RKT	**Rikitea**	**54.44**	**107**	*e*LR	LR	00 33 39.7	
MJAR	**Matsushiro Arr**	**59.84**	**333**	P	P	**00 18 21.1**	**-1.4**
	3.3nm,0.6s,mb4.5,baz=169,slow=8.0,SNR=5.9						
SBA	**Scott Base**	**60.90**	**180**	*e*P	P	**00 18 30.6**	**+0.7**
MDJ	**Mudanjiang**	**70.20**	**332**	*e*P	P	**00 19 30.3**	**+0.4**
	3.7nm,0.3s,mb4.8						
CN2	**Changchun**	**71.50**	**329**	*e*P	P	**00 19 38.1**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
ENH	**Enshi**	**72.69**	**310**	*e*P	P	**00 19 45.8**	**+0.8**
KLR	**Kul'dur**	**73.00**	**337**	*e*P	P	**00 19 43.5**	**-3.3**
QSPA	**South Pole Qui**	**73.06**	**180**	*e*P	P	**00 19 47.7**	**+0.6**
	comp=Z,9.2nm,1.1s,mb4.6						
LZH	**Lanzhou**	**79.73**	**313**	*e*P	P	**00 20 27.0**	**+2.0**
LZH				AP	pP	00 20 35.0	-0.9
LZH				XP	sP	00 20 39.5	-0.5
LZH				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.8						
ULN	**Ulaanbaatar**	**83.87**	**324**	*e*P	P	**00 20 46.5**	**-0.2**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
ULN	**Ulaanbaatar**	**83.87**	**324**	*e*P	P	**00 20 46.5**	**-0.3**
	comp=Z,10nm,1.4s,mb4.8						
GTA	**Gaotai**	**84.12**	**314**	*e*P	P	**00 20 49.5**	**+1.5**
GTA				AP	pP	00 20 54.0	-5.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**84.22**	**324**	P	P	**00 20 48.0**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.3,baz=151,slow=5.6,SNR=17						
BILL	**Bilibino**	**84.78**	**360**	*e*P	P	**00 20 50.0**	**-1.4**
BILL				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.2						
BILL	**Bilibino**	**84.78**	**360**	*e*P	P	**00 20 50.0**	**-1.4**
	comp=Z,30nm,1.4s,mb5.2						
ZAK	**Zakamensk**	**87.30**	**325**	*e*P	P	**00 20 58.1**	**-5.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.5						
SNAA	**Sanae**	**91.31**	**183**	*e*P	P	**00 21 22.6**	**0.0**
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SNAA	**Sanae**	**91.31**	**183**	*e*P	P	**00 21 22.6**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.8						
VNA2	**Neumayer--Watz**	**92.24**	**182**	⇑*i*	P	**00 21 27.4**	**+0.5**
	baz=176,slow=3.6						
VNA2				*e*	pP	00 21 35.9	-2.2
FINES	**FINESS Array B**	**127.75**	**338**	PKP	PKPdf	00 27 20.4	-2.0
	comp=Z,0.3nm,0.5s,baz=49,slow=5.8,SNR=5.2						
CDF	**Champ du Feu**	**144.59**	**337**	*e*PKP1	PKPdf	00 27 52.3	-1.2
	comp=Z,29nm,0.9s						
BRMO	**Bormio**	**144.83**	**332**	P	PKPdf	00 27 54.1	+0.2
HINF	**Hinteralfeld**	**145.24**	**336**	*e*PKP1	PKPbc	00 27 54.1	-0.2
	comp=Z,27nm,0.7s						
HAU	**Haudompre**	**145.27**	**337**	*e*PKP1	PKPbc	00 27 55.5	+1.1
	comp=Z,74nm,0.9s						
MEZF	**Maizieres J'vi**	**145.32**	**339**	*e*PKP1	PKPbc	00 27 55.1	+0.5
	comp=Z,87nm,1.0s						
VAI	**Varese**	**146.01**	**333**	PKP2	PKPab	00 27 56.9	-0.4
MCGN	**Macugnaga**	**146.28**	**333**	P	PKPdf	00 27 58.6	+2.2
CABF	**La Chapelle**	**146.53**	**336**	*e*PKP1	PKPbc	00 27 58.9	+0.6
	comp=Z,11nm,0.8s						
ORO	**Oropa**	**146.55**	**333**	PKP2	PKPab	00 27 58.2	-1.2
FLN	**La Foliniere**	**146.73**	**345**	*e*PKP1	PKPbc	00 27 58.4	-0.4
	comp=Z,26nm,0.8s						
LOR	**Lormes**	**146.79**	**339**	*e*PKP1	PKPbc	00 27 59.4	+0.4
	comp=Z,19nm,0.8s						
LDF	**La Drutiere**	**146.79**	**344**	*e*PKP1	PKPbc	00 27 58.6	-0.4
	comp=Z,9.9nm,0.6s						
SSF	**Saint Saulge**	**147.09**	**339**	*e*PKP1	PKPbc	00 28 00.0	+0.1
	comp=Z,24nm,1.0s						
LPL	**La Plagne**	**147.16**	**334**	*e*PKP1	PKPbc	00 28 00.8	+0.7
	comp=Z,8.9nm,0.7s						
GRR	**Gorron**	**147.17**	**345**	*e*PKP1	PKPbc	00 27 59.9	-0.2
	comp=Z,13nm,0.8s						
LPG	**La Plagne**	**147.17**	**334**	*e*PKP1	PKPbc	00 28 00.9	+0.8
	comp=Z,21nm,0.9s						
SMF	**Signal de Mont**	**147.33**	**338**	*e*PKP1	PKPbc	00 28 00.5	0.0
	comp=Z,33nm,1.2s						
AVF	**Avril sur Loir**	**147.38**	**339**	*e*PKP1	PKPbc	00 28 00.6	-0.1
	comp=Z,20nm,1.1s						
BGF	**Bois d'Agland**	**147.75**	**339**	*e*PKP1	PKPbc	00 28 01.7	0.0
	comp=Z,31nm,1.1s						
MBDF	**Montbardon**	**147.78**	**333**	*e*PKP1	PKPbc	00 28 01.8	0.0
	comp=Z,7.0nm,0.6s						
ORIF	**Oris-en-Rattie**	**148.00**	**334**	*e*PKP1	PKPbc	00 28 02.7	+0.3
	comp=Z,12nm,0.8s						
SBF	**Sospel**	**148.17**	**332**	*e*PKP1	PKPbc	00 28 02.6	-0.2
	comp=Z,32nm,0.9s						
TCF	**Toulx Ste Croi**	**148.20**	**340**	*e*PKP1	PKPbc	00 28 02.8	-0.1
PGF	**Pioggiola**	**148.41**	**328**	*e*PKP1	PKPbc	00 28 03.6	+0.2
	comp=Z,28nm,0.8s						
VIVF	**Saint-Julien-l**	**148.54**	**336**	*e*PKP1	PKPbc	00 28 04.1	+0.3
	comp=Z,7.0nm,0.8s						
MFF	**Saint Martin d**	**148.63**	**343**	*e*PKP1	PKPbc	00 28 03.8	-0.2
	comp=Z,18nm,0.9s						
FRF	**La Foret Royal**	**148.76**	**332**	*e*PKP1	PKPbc	00 28 04.3	0.0
	comp=Z,18nm,1.0s						
SMRF	**Simiane la Rot**	**148.90**	**334**	*e*PKP1	PKPbc	00 28 05.2	+0.5
LMR	**La Mourre**	**149.00**	**332**	*e*PKP1	PKPbc	00 28 05.0	+0.1
	comp=Z,17nm,1.0s						
LASF	**Ste Croix**	**149.51**	**336**	*e*PKP1	PKPbc	00 28 06.6	+0.4
	comp=Z,30nm,1.4s						
MTLF	**Montolieu**	**150.76**	**337**	*e*PKP1	PKPbc	00 28 09.9	+0.7
	comp=Z,24nm,1.2s						
EPF	**Esparros**	**151.70**	**339**	*e*PKP1	PKPbc	00 28 11.3	-0.1
ETSF	**Etsaut**	**152.12**	**340**	*e*PKP1	PKPbc	00 28 13.5	+1.1
	comp=Z,8.0nm,0.7s						
SJPF	**Ste Jean**	**152.13**	**342**	*e*PKP1	PKPbc	00 28 13.4	+1.0

JMA 15 00:24:26.4±0.4, 3333N×14248E, h75km, M3.4
ISCJB 15 00:24:27.0±2.3, 333N±0.1×1424E±02, h33km±21km, mb3.4/3, Error ellipse: s-maj=26.2km s-min=9.7km az=111.5
IDC 15 00:24:28.5±1.4, 3269N×14133E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/19, mbtmp3.3/5, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/20, Error ellipse: s-maj=42.0km s-min=25.3km az=69.0
ISC 15 00:24:27.3±2.4, 333N±01×1424E±02, h20km±19km, n16, σ0§93/21, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.79**	**319**	P	Pn	**00 24 56.1**	**-1.0**
BSO1				S	Sn	**00 25 19.0**	**-0.3**
BSO2	**Boso 2**	**1.99**	**317**	S	Sn	**00 25 24.8**	**+0.7**
BSO3	**Boso 3**	**2.17**	**314**	P	Pn	**00 25 01.8**	**-0.5**
BSO3				S	Sn	**00 25 29.1**	**+0.6**
JHJ2	**Mitsune**	**2.17**	**266**	P	Pn	**00 25 02.5**	**+0.1**
BSO4	**Boso 4**	**2.40**	**315**	P	Pn	**00 25 05.6**	**+0.1**
BSO4				S	Sn	**00 25 34.5**	**+0.2**
JIM2	**Oshima 3**	**2.84**	**301**	P	Pn	**00 25 10.5**	**-1.0**
JIM2				S	Sn	**00 25 45.2**	**0.0**
JOD2	**Odawara 2**	**3.37**	**306**	P	Pn	**00 25 18.6**	**-0.2**
JOD2				S	Sn	**00 25 57.6**	**-0.6**
JYN	**Shimob**	**3.87**	**306**	P	Pn	**00 25 26.0**	**+0.4**
JAG	**Ashikaga**	**3.94**	**323**	P	Pn	**00 25 26.3**	**-0.4**
JAG				S	Sn	**00 26 10.4**	**-2.0**
MJAR	**Matsushiro Arr**	**4.72**	**314**	Pn	Pn	**00 25 39.6**	**+2.2**
	1.3nm,0.3s,baz=339,slow=20,SNR=4.7						
MJAR				Sn	Sn	**00 26 31.6**	**+0.1**
	1.7nm,0.3s,baz=151,slow=18,SNR=5.9						
MAT	**Matsushiro**	**4.72**	**314**	*e*S	Sn	**00 26 31.9**	**+0.3**
CBIJ	**Chichi jima**	**6.19**	**182**	LR	LR	00 27 55.0	
	comp=Z,239nm,18.0s,baz=134,slow=37						
SONM	**Songino Array**	**30.65**	**309**	P	P	**00 30 41.4**	**+1.1**
	0.3nm,0.6s,mb3.3,baz=114,slow=8.5,SNR=3.8						
MKAR	**Makanchi Array**	**46.86**	**305**	P	P	**00 32 58.0**	**+2.0**
	0.2nm,0.6s,mb3.2,baz=119,slow=5.3,SNR=3.6						
WRA	**Warramunga Arr**	**53.50**	**189**	P	P	**00 33 45.0**	**-1.3**
	1.2nm,1.1s,mb3.8,baz=8.7,slow=7.8,SNR=6.3						
YKA	**Yellowknife Ar**	**66.64**	**30**	P	pP	00 35 26.6	+3.8
	0.1nm,0.6s,baz=304,slow=6.7,SNR=4.6						

IDC 15 00:25:15.3±7.2, 2173S×17957W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.9/13, mbtmp3.9/3, Error ellipse: s-maj=311.0km s-min=37.5km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.82**	**258**	P	P	00 33 16.3	+1.4
	3.6nm,0.6s,baz=88,slow=8.4,SNR=53						
WRA	**Warramunga Arr**	**42.99**	**264**	P	P	00 33 15.2	-1.1
	0.3nm,0.4s,baz=102,slow=8.2,SNR=6.7						
ILAR	**Eielson Array**	**89.84**	**13**	P	P	00 38 15.4	-0.5
	0.4nm,0.9s,baz=234,slow=7.7,SNR=3.1						

NEIC 15 00:27:14.7±1.0, 5160N×16.13E, h5km, MG2.5(WAR), Error ellipse: s-maj=13.9km s-min=8.3km az=68.0
ISCJB 15 00:27:15.5±0.5, 5137N±002×1607E±003, h0km, Error ellipse: s-maj=3.6km s-min=2.3km az=42.1
CSEM 15 00:27:16.6±0.2, 5147N×16.10E, h0km, ML3.1/9, Error ellipse: s-maj=3.8km s-min=2.3km az=25.0
IPEC 15 00:27:16.6±0.3, 5148N×16.15E, h9km±1km, ML2.2/4, Error ellipse: s-maj=2.0km s-min=0.8km az=27.0
WAR 15 00:27:16.4, 5152N×16.11E, ML2.5, Mining Induced
PRU 15 00:27:17.3, 5144N×1607E, h0km
VIE 15 00:27:18.1±0.7, 5130N×16.11E, h0km, mb2.4/4, ML2.7/5, Error ellipse: s-maj=4.4km s-min=4.0km az=124.0 67 km WNW of Breslau Suspected Mining induced.
ISC 15 00:27:15.4±0.5, 5149N±002×1610E±003, h0km, n51, σ1§02/94, 8C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**169**	*i* Pgd	Pg	**00 27 28.9**	**+0.9**
KSP				*e*Sg	Sg	**00 27 37.8**	**+1.3**
KSP	**Ksiaz**	**0.66**	**169**	⇓*i*Pg	Pg	**00 27 28.9**	**+0.9**
KSP				*e*Sg	Sg	**00 27 37.6**	**+1.1**
KSP	**Ksiaz**	**0.66**	**169**	⇓*i*Pg	Pg	**00 27 28.9**	**+0.9**
KSP				*e*Sg	Sg	**00 27 37.8**	**+1.3**
UPC	**Upice**	**0.98**	**183**	*e*PG	Pg	**00 27 35.0**	**+0.7**
UPC	**Upice**	**0.98**	**183**	*e*Pg	Pg	**00 27 34.9**	**+0.6**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	Pg	**00 27 37.7**	**+0.3**
DPC				*e*SG	Sg	**00 27 52.7**	**+0.4**
	53nm,0.9s						
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*Pg	Pg	**00 27 37.5**	**+0.1**
DPC				*e*Sg	Sg	**00 27 52.5**	**+0.2**
PVCC	**Panska Ves**	**1.37**	**226**	*e*Pn	Pn	**00 27 41.7**	**0.0**
PVCC	**Panska Ves**	**1.37**	**226**	*e*Pg	Pg	**00 27 42.2**	**+0.6**
PVCC				*e*Sg	Sg	**00 28 00.9**	**+1.6**
BRG	**Berggiesshubel**	**1.49**	**246**	*e*Pn	Pn	**00 27 43.9**	**+0.5**
BRG	**Berggiesshubel**	**1.49**	**246**	Pg	Pg	**00 27 44.0**	**0.0**
BRG				*e*Sg	Sg	**00 28 04.1**	**+0.7**
BRG	**Berggiesshubel**	**1.49**	**246**	Pg	Pg	**00 27 44.0**	**0.0**
BRG				Sg	Sg	**00 28 04.5**	**+1.1**
RUE	**Ruedersdorf**	**1.75**	**306**	*e*Pn	Pn	**00 27 43.7**	**-3.2**
RUE				*e*S	Sn	**00 28 11.4**	**+1.5**
RUE	**Ruedersdorf**	**1.75**	**306**	*e*Pn	Pn	**00 27 43.7**	**-3.2**
RUE				*e*S	Sn	**00 28 11.4**	**+1.6**
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	Pn	**00 27 48.1**	**+0.4**
P

KHC	**Kasperske Hory**	**2.86 215**	*e*Pn	**Pn**	**00 28 02.4**	**+0.1**
KHC	**Kasperske Hory**	**2.86 215**	*e*Pg	**Pg**	**00 28 08.5**	**-1.8**
KHC			*e*Sn	**Sn**	**00 28 36.1**	**-1.3**
KHC			*e*Sg	**Sg**	**00 28 45.8**	**-1.6**
	comp=Z,9.8nm,0.4s					
MOX	**Moxa**	**2.96 255**	*e*Pg	**Pg**	**00 28 11.5**	**-0.5**
GEC2	**GERESS Array S**	**3.06 211**	*e*Pn	**Pn**	**00 28 06.2**	**+1.1**
GEC2			*e*Sg	**Sg**	**00 28 52.2**	**-1.7**
WET	**Wettzell**	**3.13 223**	*e*Pn	**Pn**	**00 28 06.2**	**+0.3**
WET			*e*Sg	**Sg**	**00 28 52.5**	**-3.4**
ZST	**Bratislava**	**3.36 169**	*e*SG	**Sg**	**00 29 02.4**	**-0.9**
NIE	**Niedzica**	**3.40 126**	*e*P	**Pg**	**00 28 19.6**	**-0.9**
NIE			*e*S	**Sg**	**00 29 05.9**	**+1.4**
VYHS	**Vyhne**	**3.48 148**	*e*SG	**Sg**	**00 29 07.9**	**+0.7**
CLZ	**Clausthal**	**3.59 278**	*e*Pn	**Pn**	**00 28 12.7**	**+0.5**
GRA1	**Grafenberg Arr**	**3.59 242**	*e*Pn	**Pn**	**00 28 11.2**	**-1.1**
GRA1			*e*Sg	**Sg**	**00 29 11.0**	**+0.1**
BSD	**Bornholm Skovb**	**3.70 349**	*i* P	**Pn**	**00 28 11.8**	**-2.0**
BSD			*i* S	**Sn**	**00 28 54.0**	**-4.1**
MOA	**Molln**	**3.83 199** ⇑	*i*Sg	**Sg**	**00 29 19.6**	**+1.0**
	comp=Z,11nm,0.5s					
MOA	**Molln**	**3.83 199** ⇑	*i*Pn	**Pn**	**00 28 16.3**	**+0.7**
MOA		⇑	*i*Sg	**Sg**	**00 29 19.6**	**+1.0**
	comp=Z,11nm,0.5s					
STHS	**Stebnicka Huta**	**3.88 120**	*e*PG	**Pg**	**00 28 29.9**	**0.0**
STHS			*e*SG	**Sg**	**00 29 24.1**	**+3.9**
ARSA	**Arzberg**	**4.26 185** ⇑	*i*Sg	**Sg**	**00 29 33.0**	**+0.8**
	comp=Z,9.8nm,0.7s					
ARSA	**Arzberg**	**4.26 185** ⇑	*i*Pn	**Pn**	**00 28 22.0**	**+0.5**
ARSA		⇑	*i*Sg	**Sg**	**00 29 33.0**	**+0.8**
	comp=Z,9.8nm,0.7s					
KBA	**Koelnbreinsper**	**4.77 203** ⇑	*i*Sg	**Sg**	**00 29 48.8**	**+0.2**
	comp=Z,4.9nm,0.6s					
KBA	**Koelnbreinsper**	**4.77 203** ⇓	*i*Pn	**Pn**	**00 28 29.5**	**+1.0**
KBA		⇑	*i*Sg	**Sg**	**00 29 48.8**	**+0.2**
	comp=Z,4.9nm,0.6s					

MAN 15 00:33:06.7, 767N×12441E, h17km, mb3.8, ML4.9, MS4.2, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.47**	**200** ⇑	*e*P	Pg	00 33 16.0	-0.2
CTBH				*i* S	Sg	00 33 27.8	+5.2
CGP	**Cagayan de Oro**	**0.83**	**20** ⇑	*i*P	Pb	00 33 22.0	-0.6
CGP				*i* S	Sb	00 33 35.4	+2.0
DCPH	**Dipolog City**	**1.38**	**311** ⇑	*e*P	Pn	00 33 32.3	+1.1
DCPH				*e*S	Sn	00 33 50.7	+1.7

ISCJB ***15*** *00:37:27.6±0.9, 1695S±007×16760E±010, h33km, mb4.2/7, MS3.1/2, Error ellipse: s-maj=15.1km s-min=8.1km az=116.6*
IDC ***15*** *00:37:27.4±2.5, 1691S×16720E, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.2/14, mbtmp4.2/6, ML3.8/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/21, Error ellipse: s-maj=60.0km s-min=24.3km az=100.0*
LDG ***15*** *00:37:32.1±0.2, 1682S×16586E, h10km, Mb4.4/2, Error ellipse: s-maj=42.4km s-min=7.0km az=80.0*
NEIC ***15*** *00:37:33.1±1.1, 1693S×167.14E, h35km, mb4.4/2, Error ellipse: s-maj=24.3km s-min=13.6km az=76.0*

ISC 15 00:37:29.8±1.0, 1695S±007×1677E±01, h35km, n37, σ1§20/12, mb4.2/7, MS3.1/2, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.89**	**144** ⇑	*i*P	**Pn**	**00 37 40.5**	**-5.4**
BKM				S	**Sn**	**00 37 56.3**	**-1.2**
DZM	**Mont Dzumac**	**5.23**	**193**	Pn	**Pn**	**00 38 47.4**	**+2.0**
	3.5nm,0.3s,baz=54,slow=18,SNR=23						
DZM				Sn	**Sn**	**00 39 45.1**	**+0.6**
	4.2nm,0.3s,baz=127,slow=23,SNR=6.5						
HNR	**Honiara**	**10.61**	**314**	LR	LR	00 42 47.6	
	comp=Z,138nm,18.4s,baz=179,slow=31						
AFI	**Afiamalu**	**20.02**	**84**	LR	LR	00 47 26.7	
	comp=Z,92nm,18.1s,MS3.2,baz=142,slow=29						
PMG	**Port Moresby**	**21.33**	**288**	LR	LR	00 48 32.0	
	comp=Z,62nm,18.4s,MS3.0,baz=195,slow=32						
PMG	**Port Moresby**	**21.33**	**288**	P	**P**	**00 42 12.0**	**-1.7**
STKA	**Stephens Creek**	**27.93**	**233**	P	**P**	**00 43 15.7**	**-1.0**
	3.3nm,0.7s,mb4.1,baz=61,slow=8.5,SNR=8.1						
WRAB	**Tennant Creek**	**31.74**	**259**	*e*P	**P**	**00 43 50.3**	**-0.1**
	11nm,1.2s,mb4.5						
WRA	**Warramunga Arr**	**31.75**	**259**	P	**P**	**00 43 49.6**	**-0.8**
	0.9nm,0.7s,mb3.7,baz=89,slow=9.0,SNR=7.6						
ASAR	**Alice Springs**	**32.33**	**252**	P	**P**	**00 43 55.3**	**-0.3**
	6.7nm,0.7s,mb4.6,baz=80,slow=8.3,SNR=58						
MJAR	**Matsushiro Arr**	**60.05**	**333**	P	**P**	**00 47 34.0**	**+0.8**
	2.6nm,0.7s,mb4.4,baz=162,slow=6.5,SNR=4.6						
QSPA	**South Pole Qui**	**73.09**	**180**	*e*P	**P**	**00 49 00.9**	**+4.5**
	3.3nm,1.0s,mb4.2						
SONM	**Songino Array**	**84.51**	**324**	P	**P**	**00 50 01.1**	**+2.0**
	1.2nm,0.9s,mb4.0,baz=149,slow=5.9,SNR=9.6						
CDF	**Champ du Feu**	**144.77**	**337**	*e*PKP1	PKPdf	00 57 05.4	+2.5
	17nm,0.9s						
HINF	**Hinteralfeld**	**145.42**	**337**	*e*PKP1	PKPbc	00 57 07.2	+3.2
	14nm,0.7s						
HAU	**Haudompre**	**145.45**	**338**	*e*PKP1	PKPbc	00 57 08.6	+4.5
	41nm,0.9s						
CABF	**La Chapelle**	**146.72**	**337**	*e*PKP1	PKPbc	00 57 11.9	+4.0
FLN	**La Foliniere**	**146.83**	**346**	*e*PKP1	PKPbc	00 57 11.5	+3.3
	17nm,0.8s						
LDF	**La Druitiere**	**146.90**	**345**	*e*PKP1	PKPbc	00 57 11.7	+3.3
	5.5nm,0.6s						
LOR	**Lormes**	**146.95**	**340**	*e*PKP1	PKPbc	00 57 12.6	+4.0
	9.5nm,0.9s						
SSF	**Saint Saulge**	**147.25**	**340**	*e*PKP1	PKPbc	00 57 13.0	+3.6
GRR	**Gorron**	**147.27**	**346**	*e*PKP1	PKPbc	00 57 12.9	+3.4
	10nm,0.9s						
LPL	**La Plagne**	**147.37**	**335**	*e*PKP1	PKPbc	00 57 13.9	+4.2
	4.6nm,0.7s						
LPG	**La Plagne**	**147.37**	**335**	*e*PKP1	PKPbc	00 57 14.0	+4.3
	8.4nm,0.7s						
SMF	**Signal de Mont**	**147.50**	**339**	*e*PKP1	PKPbc	00 57 13.4	+3.3
AVF	**Avril sur Loir**	**147.53**	**340**	*e*PKP1	PKPbc	00 57 13.6	+3.4
BGF	**Bois d'Agland**	**147.90**	**340**	*e*PKP1	PKPbc	00 57 14.8	+3.6
MBDF	**Montbardon**	**147.99**	**334**	*e*PKP1	PKPbc	00 57 14.9	+3.5
	3.2nm,0.8s						
ORIF	**Oris-en-Rattie**	**148.20**	**335**	*e*PKP1	PKPbc	00 57 15.9	+3.9
	9.1nm,1.0s						
SBF	**Sospel**	**148.39**	**332**	*e*PKP1	PKPbc	00 57 15.6	+3.1
PGF	**Pioggiola**	**148.66**	**329**	*e*PKP1	PKPbc	00 57 16.8	+3.6
	14nm,0.7s						
VIVF	**Saint-Julien-l**	**148.73**	**336**	*e*PKP1	PKPbc	00 57 17.2	+3.9
MFF	**Saint Martin d**	**148.75**	**344**	*e*PKP1	PKPbc	00 57 17.0	+3.6
	7.2nm,0.7s						
FRF	**La Foret Royal**	**148.98**	**333**	*e*PKP1	PKPbc	00 57 17.5	+3.5
	8.6nm,0.9s						
SMRF	**Simiane la Rot**	**149.10**	**334**	*e*PKP1	PKPbc	00 57 18.3	+4.0
	6.1nm,0.8s						
LMR	**La Mourre**	**149.22**	**333**	*e*PKP1	PKPbc	00 57 18.1	+3.5
	22nm,1.3s						
ETSF	**Etsaut**	**152.26**	**341**	*e*PKP1	PKPbc	00 57 26.1	+4.3
	5.8nm,0.8s						

SKHL ***15*** *00:46:00.4±0.5, 5050N×158.10E, h33km, mb5.2/2*
ISCJB ***15*** *00:46:03.5±0.4, 5123N±005×157.13E±007, h142km±2km, mb4.2/48, Error ellipse: s-maj=9.8km s-min=4.0km az=99.7*
MOS ***15*** *00:46:03.5±1.1, 5129N×157.05E, h137km, mb4.1/19, Error ellipse: s-maj=11.5km s-min=5.7km az=79.1*
KRSC ***15*** *00:46:03.0±1.2, 5105N×15751E, h115km±6km, ML4.6*
IDC ***15*** *00:46:04.3±2.8, 5141N×15693E, h133km±26km, mb3.7/16, mb1 4.0/19, mb1mx3.9/24, mbtmp4.2/19, Error ellipse: s-maj=15.7km s-min=11.1km az=152.0*
BJI ***15*** *00:46:04.0, 5121N×157.12E, h158km, mB5.0, mb4.7*
NEIC ***15*** *00:46:06.2±0.4, 5133N×15702E, mb4.2/21, Error ellipse: s-maj=10.8km s-min=6.7km az=141.0*

ISC 15 00:46:04.7±0.4, 5125N±005×15712E±007, h140km±2km, h153km±.5km: pP-P, n157, σ0§98/183, mb4.2/48, 6C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.29**	**319**	*i* P	**Pn**	**00 46 23.4**	**-0.5**
PAU				*e*S	**Sn**	**00 46 38.2**	**-0.3**
SKR	**Severo-Kuril's**	**0.85**	**228**	*i* P	**Pn**	**00 46 22.5**	**-4.7**
SKR				AMB	AMB	00 46 22.9	
	2μm,0.4s						
SKR				AMB	AMB	00 46 22.9	
	1μm,0.4s						
SKR				AMB	AMB	00 46 22.9	
	2μm,0.4s						
SKR			⇑	*i*S	**Sn**	**00 46 38.7**	**-5.6**
SKR				A		00 46 39.0	
	9μm,0.4s						
SKR				A		00 46 39.0	
	6μm,0.4s						
SKR				A		00 46 39.0	
	3μm,0.4s						
SKR				A		00 46 40.0	
	28μm,1.0s						
SKR				A		00 46 40.0	
	10μm,1.0s						
SKR				A		00 46 40.0	
	3μm,1.0s						
SKR				A		00 46 40.0	
	30μm,1.0s						
SKR				A		00 46 40.0	
	10μm,1.0s						
SKR	**Severo-Kuril's**	**0.85**	**228**	*i* P	**Pn**	**00 46 22.5**	**-4.7**
SKR				*i* S	**Sn**	**00 46 38.7**	**-5.6**
MIPR	**Malaya Ipel'ka**	**1.05**	**348**	*i* P	**Pn**	**00 46 29.1**	**+0.2**
MIPR				*i* S	**Sn**	**00 46 48.0**	**+0.6**
ALID	**Alaid**	**1.06**	**250**	*e*P	**Pn**	**00 46 28.4**	**-0.6**
ALID				*e*S	**Sn**	**00 46 47.1**	**-0.4**
GRL	**Gorelyy**	**1.43**	**24**	*i* P	**Pn**	**00 46 32.8**	**+0.1**
GRL				*e*S	**Sn**	**00 46 53.9**	**-0.2**
RUS	**Russkaya**	**1.47**	**36**	P	**Pn**	**00 46 31.7**	**-1.4**
RUS				S	**Sn**	**00 46 52.2**	**-2.6**
RUS	**Russkaya**	**1.47**	**36**	*i* P	**Pn**	**00 46 31.7**	**-1.4**
RUS				*i* S	**Sn**	**00 46 52.3**	**-2.5**
APC	**Apacha**	**1.68**	**1**	*i* P	**Pn**	**00 46 35.9**	**+0.5**
APC				*i* S	**Sn**	**00 46 59.8**	**+0.8**
APC				Smax			
	1μm,1.6s						
PET	**Petropavlovsk**	**2.01**	**27**	*e*P	**Pn**	**00 46 38.8**	**-0.5**
PET	**Petropavlovsk**	**2.01**	**27**	*i* P	**Pn**	**00 46 38.8**	**-0.5**
PET				*e*S	**Sn**	**00 47 04.9**	**-1.0**
PET	**Petropavlovsk**	**2.01**	**27** ⇑	*i*Pn	**Pn**	**00 46 38.7**	**-0.7**
PET				*e*Sn	**Sn**	**00 47 05.2**	**-0.7**
UGLR	**Uglovaya**	**2.23**	**27**	*i* P	**Pn**	**00 46 42.2**	**+0.3**
UGLR				*e*S	**Sn**	**00 47 09.6**	**-0.9**
KOK	**Koryaka**	**2.25**	**24**	*i* P	**Pn**	**00 46 43.0**	**+0.8**
KOK				*e*S	**Sn**	**00 47 12.4**	**+1.4**
AVH	**Avacha**	**2.25**	**26**	*i* P	**Pn**	**00 46 42.9**	**+0.7**
SMAR	**Somma**	**2.27**	**27**	*i* P	**Pn**	**00 46 42.7**	**+0.3**
SMAR				*e*S	**Sn**	**00 47 12.5**	**+1.1**
NLC	**Nalytchevo**	**2.36**	**35**	*i* P	**Pn**	**00 46 41.8**	**-1.8**
NLC				*i* S	**Sn**	**00 47 09.2**	**-4.3**
GNL	**Ganaly**	**2.50**	**11**	*i* P	**Pn**	**00 46 45.9**	**+0.6**
SPN	**Mys Shipunski**	**2.58**	**43**	P	**Pn**	**00 46 44.9**	**-1.3**
SPN				S	**Sn**	**00 47 14.4**	**-3.8**
SPN	**Mys Shipunski**	**2.58**	**43**	*i* P	**Pn**	**00 46 44.9**	**-1.3**
SPN				*e*S	**Sn**	**00 47 14.2**	**-4.0**
KII	**Karymskiy**	**3.13**	**26**	*e*P	**Pn**	**00 46 53.7**	**+0.4**
KII				*e*S	**Sn**	**00 47 31.2**	**+0.3**
MKZ	**Mys Kozlova**	**4.33**	**38**	P	**Pn**	**00 47 07.3**	**-1.7**
MKZ				S	**Sn**	**00 47 53.7**	**-5.3**
MKZ	**Mys Kozlova**	**4.33**	**38**	*i* P	**Pn**	**00 47 07.3**	**-1.7**
TUMR	**Tumrok**	**4.43**	**23**	*e*P	**Pn**	**00 47 11.1**	**+0.8**
KPT	**Kopyto**	**5.07**	**20**	*i* P	**Pn**	**00 47 19.2**	**+0.3**
KOZ	**Kozyrevsk**	**5.09**	**18**	P	**Pn**	**00 47 20.2**	**+1.1**
KOZ	**Kozyrevsk**	**5.09**	**18**	*e*P	**Pn**	**00 47 20.1**	**+1.0**
KOZR	**Kozyr**	**5.10**	**18**	PN	**Pn**	**00 47 20.2**	**+1.0**
ZLN	**Zelenaya**	**5.26**	**23**	*e*P	**Pn**	**00 47 22.6**	**+1.3**
LGNR	**Loginova**	**5.29**	**22**	*i* P	**Pn**	**00 47 22.9**	**+1.2**
SRDR	**Sredinnyy**	**5.31**	**16**	*e*P	**Pn**	**00 47 22.4**	**+0.4**
CIRR	**Tsirk**	**5.33**	**22**	*e*P	**Pn**	**00 47 22.9**	**+0.6**
KRSR	**Krestovskiy**	**5.38**	**21**	*e*P	**Pn**	**00 47 23.4**	**+0.4**
KLY	**Klyuchi**	**5.49**	**21**	P	**Pn**	**00 47 25.7**	**+1.3**
KLY	**Klyuchi**	**5.49**	**21**	*i* P	**Pn**	**00 47 25.6**	**+1.2**
BDR	**Baidarnaya**	**5.85**	**23**	*e*P	**Pn**	**00 47 29.8**	**+0.6**
SRKR	**Sorokina**	**5.92**	**22**	*i* P	**Pn**	**00 47 30.4**	**+0.3**
SMKR	**Semkarok**	**5.93**	**24**	*e*P	**Pn**	**00 47 30.0**	**-0.3**
KBTR	**Krutoberegovo**	**6.01**	**32**	P	**Pn**	**00 47 30.2**	**-1.2**
KBTR				S	**Sn**	**00 48 33.9**	**-5.2**
KBTR	**Krutoberegovo**	**6.01**	**32**	*e*P	**Pn**	**00 47 30.0**	**-1.4**
KBTR				*e*S	**Sn**	**00 48 34.5**	**-4.6**
BKI	**Bering**	**6.63**	**50**	*e*P	**Pn**	**00 47 37.1**	**-2.6**
BKI				*e*S	**Sn**	**00 48 44.5**	**-9.5**
BKI				Smax			
	650nm,0.3s						
MA2	**Magadan**	**9.09**	**339**	*e*PN	**Pn**	**00 48 13.5**	**+0.9**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MA2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FX1	**Attu Island--F**	**10.02**	**74**	P	**Pn**	**00 48 24.5**	**-0.5**
	comp=Z,7.5nm,0.3s,baz=306,slow=4.5,SNR=37						
FX1				S	**Sn**	**00 50 07.4**	**-8.4**
	comp=Z,37nm,0.3s,baz=14,slow=23,SNR=18						
FX1	**Attu Island--F**	**10.02**	**74**	PN	**Pn**	**00 48 24.5**	**-0.5**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.3s						
FX1	**Attu Island--F**	**10.02**	**74**	*e*Pn	**Pn**	**00 48 24.6**	**-0.4**
NKL	**Nikolayevsk**	**10.27**	**287**	*e*P	**Pn**	**00 48 39.0**	**+11**
YSS	**Yuzh-Sakhalins**	**10.35**	**251** ⇑	*e*P	**Pn**	**00 48 31.4**	**+2.0**
YSS				AMB	AMB	00 48 32.5	
	comp=Z,20nm,0.8s						
YSS				*e*S	**Sn**	**00 50 25.0**	**+1.3**
YSS	**Yuzh-Sakhalins**	**10.35**	**251** ⇑	*e*PN	**Pn**	**00 48 31.4**	**+2.0**
YSS				*e*S	**Sn**	**00 50 25.0**	**+1.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
SEY	**Seymchan**	**11.99**	**350** ⇑	*e*PN	**Pn**	**00 48 57.1**	**+6.1**
ASAJ	**Asahikawa**	**12.10**	**240**	P	**Pn**	**00 48 52.1**	**-0.3**
	comp=Z,8.8nm,0.3s,baz=71,slow=16,SNR=28						
ASAJ	**Asahikawa**	**12.10**	**240**	PN	**Pn**	**00 48 52.1**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
HABR	**Khabarovsk**	**14.49**	**268**	*e*P	**Pn**	**00 49 28.7**	**+5.6**
KLR	**Kul'dur**	**16.33**	**273**	*e*P	**Pn**	**00 49 44.6**	**-1.2**
BILL	**Bilibino**	**17.43**	**12**	*e*P	**Pn**	**00 49 58.5**	**-0.6**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BILL	**Bilibino**	**17.43**	**12**	*e*Pn	**Pn**	**00 49 58.5**	**-0.6**
	comp=Z,7.4nm,0.4s						
MDJ	**Mudanjiang**	**19.52**	**261**	P	**P**	**00 50 19.1**	**-2.0**
MDJ				AP		00 50 45.1	
MDJ				XP	sP	00 51 04.4	+0.9
MDJ				S	**S**	**00 53 50.8**	**-3.3**
MDJ				PCP	PcP	00 54 33.9	-1.7
MDJ				SCP	ScP	00 57 55.8	-2.7
MDJ				PCS	PcS	00 58 11.4	-1.5
MDJ				SCS	ScS	01 01 37.1	-3.5
MDJ				AMB	AMB		
	comp=Z,21nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,32nm,4.8s						
MDJ	**Mudanjiang**	**19.52**	**261**	*e*P	**P**	**00 50 19.5**	**-1.6**
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**19.96**	**230**	*e*P	**P**	**00 50 26.0**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,109nm,0.8s						
MAJO	**Matsushiro**	**19.96**	**230**	*e*P	**P**	**00 50 26.0**	**+0.3**
	comp=Z,109nm,0.8s						
MAT	**Matsushiro**	**19.96**	**230**	P	**P**	**00 50 26.5**	**+0.7**
MAT	**Matsushiro**	**19.96**	**230**	*e*P	**P**	**00 50 27.0**	**+1.2**
MAT				pmax	pmax		
	comp=Z,98nm,0.8s						
MAT	**Matsushiro**	**19.96**	**230**	*e*P	**P**	**00 50 27.0**	**+1.2**
	comp=Z,98nm,0.8s						
MJAR	**Matsushiro Arr**	**19.96**	**230**	P	**P**	**00 50 26.6**	**+0.8**
	comp=Z,6.0nm,0.3s,baz=22,slow=11,SNR=122						
CN2	**Changchun**	**22.51**	**263**	*e*P	**P**	**00 50 51.3**	**-1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
TIXI	**Tiksi**	**24.06**	**338** ⇓	*i*P	**P**	**00 51 05.9**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
BOD	**Bodaibo**	**25.50**	**302**	*e*P	**P**	**00 51 18.7**	**-1.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
PMR	**Palmer**	**30.59**	**49**	P	**P**	**00 52 07.7**	**+2.5**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
PMR	**Palmer**	**30.59**	**49**	P	**P**	**00 52 07.7**	**+2.5**
	comp=Z,7.7nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**31.42**	**43**	P	**P**	**00 52 11.2**	**-1.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=270,slow=6.8,SNR=8.2						
ULN	**Ulaanbaatar**	**32.14**	**284**	*e*P	**P**	**00 52 19.2**	**+0.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ULN	**Ulaanbaatar**	**32.14**	**284**	*e*P	**P**	**00 52 19.2**	**+0.4**
	comp=Z,0.8nm,0.4s,mb3.8						
SONM	**Songino Array**	**32.56**	**284**	P	**P**	**00 52 22.2**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=68,slow=7.7,SNR=8.2						
SONM				PcP	PcP	00 55 05.0	-0.7
	comp=Z,0.5nm,0.7s,baz=73,slow=1.7,SNR=4.0						
NJ2	**Nanjing**	**33.92**	**250**	*e*P	**P**	**00 52 36.4**	**+2.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
INK	**Inuvik**	**36.45**	**36**	P	**P**	**00 52 56.0**	**+0.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=294,slow=7.3,SNR=2.2						
INK	**Inuvik**	**36.45**	**36**	P	**P**	**00 52 56.0**	**+0.1**
ENH	**Enshi**	**40.84**	**258**	*e*P	**P**	**00 53 32.4**	**-0.1**
	comp=Z,4.9nm,0.4s,mb4.5						
NVS	**Novosibirsk**	**42.66**	**305**	*e*P	**P**	**00 53 43.5**	**-3.8**
NVS				*e*	pP	00 54 17.3	-1.2
NVS				pmax	pmax		
	comp=Z,73nm,3.4s						
YKA	**Yellowknife Ar**	**45.76**	**40**	P	**P**	**00 54 11.7**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.5,baz=298,slow=7.8,SNR=13						
YKA				PcP	PcP	00 55 46.7	-0.6
	comp=Z,0.2nm,0.5s,baz=301,slow=3.4,SNR=4.2						
YKA	**Yellowknife Ar**	**45.76**	**40**	P	**P**	**00 54 11.7**	**-0.2**
YKA				PcP	PcP	00 55 46.7	-0.6
KURK	**Kurchatov**	**47.15**	**302**	*e*P	**P**	**00 54 21.9**	**-0.9**
KURK				*e*PP	pP	00 54 55.9	+1.3
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**47.15**	**302**	*e*P	**P**	**00 54 21.9**	**-0.9**
	comp=Z,8.1nm,0.6s,mb4.5						
KURK				*e*pP	pP	00 54 55.9	+1.3
MKAR	**Makanchi Array**	**47.30**	**296**	P	**P**	**00 54 23.1**	**-0.9**
	comp=Z,1.5nm,0.4s,mb4.0,baz=66,slow=5.1,SNR=60						
BVAR	**Borovoye Array**	**50.09**	**308**	P	**P**	**00 54 44.0**	**-1.3**
	comp=Z,3.8nm,0.5s,mb4.3,baz=58,slow=8.2,SNR=30						
BRVK	**Borovoye**	**50.13**	**308**	*e*P	**P**	**00 54 44.5**	**-1.0**
ZRNK	**Zerenda**	**50.82**	**309**	*e*P	**P**	**00 54 49.3**	**-1.4**
ZRNK				*e*PP	pP	00 55 23.9	+1.0
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**50.82**	**309**	*e*P	**P**	**00 54 49.2**	**-1.5**
	comp=Z,2.3nm,0.6s,mb4.0						
ZRNK				*e*pP	pP	00 55 23.9	+1.0
ARU	**Arti**	**53.50**	**317** ⇑	*i*P	**P**	**00 55 08.7**	**-1.8**
ARU				*e*	pP	00 55 43.9	+0.9
ARU				*e*		00 57 12.0	
ARU				*e*PPP		00 58 29.0	
ARU				*e*S	**S**	**01 02 42.6**	**+10**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**54.46**	**341**	P	**P**	**00 55 14.0**	**-3.5**
	comp=Z,5.5nm,0.9s,mb4.3,baz=19,slow=7.7,SNR=3.5						
JIRN	**Jiri**	**57.23**	**274**	*e*P	**P**	**00 55 37.6**	**+0.4**
	comp=Z,2.6nm,0.2s,mb4.6						
GUN	**Gumba**	**57.24**	**275**	*e*P	**P**	**00 55 37.4**	**+0.1**
	comp=Z,5.7nm,0.4s,mb4.7						
KKN	**Kakani**	**57.40**	**275**	*e*P	**P**	**00 55 40.6**	**+0.1**
	comp=Z,12nm,0.6s,mb4.9						
DMN	**Daman**	**57.94**	**275**	*e*P	**P**	**00 55 42.8**	**+0.6**
	comp=Z,8.8nm,0.5s,mb4.8						
GKN	**Gorkha**	**57.95**	**276**	*e*P	**P**	**00 55 42.5**	**+0.2**
	comp=Z,5.6nm,0.3s,mb4.9						
NVAR	**Mina Array Bea**	**58.12**	**67**	P	**P**	**00 55 44.6**	**+1.2**
	comp=Z,2.4nm,0.7s,mb4.1,baz=285,slow=9.7,SNR=10						
DANN	**Dangsing**	**58.26**	**277**	*e*P	**P**	**00 55 44.7**	**+0.3**
KOLN	**Koldanda**	**58.77**	**276**	*e*P	**P**	**00 55 48.2**	**+0.3**
	comp=Z,7.4nm,0.6s,mb4.7						
PDAR	**Pinedale Array**	**60.04**	**58**	P	**P**	**00 55 57.5**	**+0.9**
	comp=Z,3.6nm,0.8s,mb4.2,baz=325,slow=2.4,SNR=31						
FINES	**FINESS Array B**	**61.06**	**336**	P	**P**	**00 56 01.5**	**-2.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=44,slow=9.0,SNR=9.1						
FINES	**FINESS Array B**	**61.06**	**336**	*i* P	**P**	**00 56 02.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						

LPL	**La Plagne**	**80.28 339**	*e*P	**P**	**00 58 01.0**	**+1.2**
LPL			pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.1						
LPL	**La Plagne**	**80.28 339**	*e*P	**P**	**00 58 01.0**	**+1.2**
comp=Z,5.4nm,0.9s,mb4.2						
LPG	**La Plagne**	**80.29 339**	*e*P	**P**	**00 58 01.2**	**+1.3**
comp=Z,6.4nm,0.6s,mb4.1						
LPG	**La Plagne**	**80.29 339**	*e*P	**P**	**00 58 01.2**	**+1.3**
LPG			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.1						
LPG	**La Plagne**	**80.29 339**	*e*P	**P**	**00 58 01.2**	**+1.3**
comp=Z,3.2nm,0.6s,mb4.1						
TCF	**Toulx Ste Croi**	**80.46 343**	*e*P	**P**	**00 58 01.2**	**+0.4**
MFF	**Saint Martin d**	**80.58 344**	*e*P	**P**	**00 58 01.4**	**-0.1**
comp=Z,5.4nm,0.7s,mb4.0						
MFF	**Saint Martin d**	**80.58 344**	*e*P	**P**	**00 58 01.4**	**-0.1**
MFF			pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.0						
MFF	**Saint Martin d**	**80.58 344**	*e*P	**P**	**00 58 01.4**	**-0.1**
comp=Z,2.7nm,0.7s,mb4.0						
MBDF	**Montbardon**	**81.02 339**	*e*P	**P**	**00 58 05.1**	**+1.3**
ORIF	**Oris-en-Rattie**	**81.03 340**	*e*P	**P**	**00 58 04.7**	**+0.8**
RJF	**Les Rejaudoux**	**81.54 343**	*e*P	**P**	**00 58 07.3**	**+0.7**
SBF	**Sospel**	**81.68 338**	*e*P	**P**	**00 58 09.0**	**+1.7**
comp=Z,22nm,0.8s,mb4.5						
SBF	**Sospel**	**81.68 338**	*e*P	**P**	**00 58 09.0**	**+1.7**
SBF			pmax	pmax		
comp=Z,11nm,0.8s,mb4.5						
SBF	**Sospel**	**81.68 338**	*e*P	**P**	**00 58 09.0**	**+1.7**
comp=Z,11nm,0.8s,mb4.5						
CAF	**Calviac**	**81.80 342**	*e*P	**P**	**00 58 08.8**	**+0.9**
LFF	**La Frestale**	**82.03 343**	*e*P	**P**	**00 58 09.9**	**+0.8**
PLCA	**Paso Flores**	**145.81 91**	PKPbc	PKPbc	01 05 27.1	-0.3
comp=Z,3.2nm,0.8s,baz=319,slow=4.3,SNR=8.0						

SKO ***15*** *00:54:20.7, 41.71N×25.61E, h3km*
ISCJB ***15*** *00:54:21.3±0.9, 41.70N±005×25.60E±006, h10km, Error ellipse: s-maj=8.4km s-min=5.9km az=66.0*
CSEM ***15*** *00:54:22.8±0.2, 41.74N×25.67E, h37km±2km, ML2.7, Error ellipse: s-maj=7.6km s-min=4.2km az=142.0*
THE ***15*** *00:54:23.8, 41.65N×25.63E, h20km, ML2.7*

ISC 15 00:54:22.0±0.8, 4169N±005×2557E±006, h10km, n6, σ1§08/11, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.87**	**156**	*e*Pg	**Pg**	**00 54 38.6**	**-0.2**
ALN				*e*Sg	**Sg**	**00 54 50.6**	**+0.6**
JMB	**Yambol**	**1.08**	**44**	*e*Pg	**Pg**	**00 54 42.1**	**-0.7**
SRS	**Serrai**	**1.59**	**250**	*e*Pb	**Pb**	**00 54 49.5**	**-2.0**
SRS				*e*Sb	**Sb**	**00 55 10.2**	**-1.4**
VTS	**Vitosha**	**1.97**	**298**	*e*Pn	**Pn**	**00 54 56.3**	**+0.9**
VTS				*e*Sn	**Sn**	**00 55 20.3**	**+0.1**
VAY	**Valandovo**	**2.28**	**262**	*e*Pn	**Pn**	**00 55 00.6**	**+0.9**
VAY				*e*Sn	**Sn**	**00 55 29.5**	**+1.6**
VAY	**Valandovo**	**2.28**	**262**	*e*Pn	**Pn**	**00 55 00.6**	**+0.9**
VAY				*e*Sn	**Sn**	**00 55 29.4**	**+1.6**

CSEM ***15*** *00:57:31.9±0.2, 36.38N×26.76E, h99km±3km, MD3.3, Error ellipse: s-maj=3.9km s-min=2.0km az=139.0*
ISCJB ***15*** *00:57:33.5±0.8, 36.33N±005×26.69E±005, h99km±9km, Error ellipse: s-maj=8.9km s-min=5.1km az=110.5*
ISK ***15*** *00:57:33.3, 36.28N×26.73E, h89km, MD3.3*
ATH ***15*** *00:57:34.8, 36.33N×26.62E, h40km±5km, MD3.4/6*
THE ***15*** *00:57:36.8, 36.27N×26.76E, h22km*

ISC 15 00:57:34.2±0.9, 3633N±005×2669E±005, h96km±11km, n26, σ1§58/34, 2C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.82**	**61**	PG	**Pn**	**00 57 52.4**	**+0.1**
DAT				SG	**Sn**	**00 58 04.9**	**-1.0**
KARP	**Karpathos**	**0.87**	**154**	⇑*e*P	**Pn**	**00 57 52.9**	**+0.1**
KARP				*e*S	**Sn**	**00 58 07.6**	**+0.8**
BODT	**Bodrum**	**0.88**	**34**	PG	**Pn**	**00 57 53.2**	**+0.2**
BODT				SG	**Sn**	**00 58 06.5**	**-0.6**
THR1	**Thera Island**	**0.99**	**273**	*e*Pg	**Pn**	**00 57 55.1**	**+0.9**
SANT	**Santorini**	**1.00**	**273**	*e*Pg	**Pn**	**00 57 54.7**	**+0.5**
ARG	**Arkhangelos**	**1.17**	**95**	⇑*e*P	**Pn**	**00 57 56.4**	**+0.3**
ARG				*e*S	**Sn**	**00 58 13.5**	**+0.8**
APE	**Apeiranthos**	**1.19**	**309**	*e*PN	**Pn**	**00 57 56.3**	**-0.1**
APE	**Apeiranthos**	**1.19**	**309**	⇓*e*P	**Pn**	**00 57 56.7**	**+0.3**
APE	**Apeiranthos**	**1.19**	**309**	*e*Pg	**Pn**	**00 57 57.4**	**+1.0**
ZKR	**Zakros**	**1.27**	**198**	*e*Pg	**Pn**	**00 57 57.8**	**+0.4**
MLSB	**Milas**	**1.30**	**42**	*e*PN	**Pn**	**00 57 57.5**	**-0.2**
NPS	**Neapolis**	**1.38**	**220**	*e*P	**Pn**	**00 57 58.2**	**-0.5**
NPS				*e*S	**Sn**	**00 58 16.3**	**-0.9**
NPS	**Neapolis**	**1.38**	**220**	*e*P	**Pn**	**00 57 58.2**	**-0.5**
NPS				*e*S	**Sn**	**00 58 17.0**	**-0.2**
SMG	**Samos**	**1.38**	**5**	⇓*e*P	**Pn**	**00 57 59.3**	**+0.6**
SMG	**Samos**	**1.38**	**5**	*e*P	**Pn**	**00 57 59.3**	**+0.6**
YER	**Yerkesik**	**1.51**	**57**	*e*PN	**Pn**	**00 58 00.8**	**+0.5**
LAST	**Lasithi**	**1.53**	**221**	*e*Pg	**Pn**	**00 58 00.0**	**-0.5**
LAST				*e*Sg	**Sn**	**00 58 20.1**	**-0.4**
XRY	**Khrisi**	**1.66**	**210**	*e*P	**Pn**	**00 58 02.5**	**+0.3**
FETY	**Fethiye**	**1.95**	**80**	*e*PN	**Pn**	**00 58 04.8**	**-1.1**
SIVA	**Sivas**	**2.02**	**230**	*e*Pn	**Pn**	**00 58 07.0**	**+0.2**
VAM	**Vamos**	**2.22**	**246**	*e*P	**Pn**	**00 58 09.6**	**+0.1**
VAM				*e*S	**Sn**	**00 58 35.8**	**-0.7**
VAM	**Vamos**	**2.22**	**246**	*e*P	**Pn**	**00 58 09.0**	**-0.5**
ELL	**Elmali**	**2.62**	**80**	*e*PN	**Pn**	**00 58 14.1**	**-0.7**
VLI	**Veliai**	**3.05**	**278**	*e*P	**Pn**	**00 58 21.5**	**+1.1**
VLI	**Veliai**	**3.05**	**278**	*e*P	**Pn**	**00 58 20.0**	**-0.4**
ITM	**Ithomi**	**3.92**	**284**	*e*P	**Pn**	**00 58 32.0**	**-0.1**

IDC ***15*** *01:09:28.0±2.7, 1358S×16798E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/13, mbtmp4.1/4, MS3.9/1, Ms1 3.9/1, ms1mx2.7/24, Error ellipse: s-maj=105.2km s-min=36.8km az=131.0*
ISCJB ***15*** *01:09:32.4±1.9, 138S±03×1679E±03, h33km, mb4.0/6, MS3.9/1, Error ellipse: s-maj=38.1km s-min=35.8km az=114.8*
NEIC ***15*** *01:09:33.6±1.0, 1363S×16795E, h35km, mb4.0/2, Error ellipse: s-maj=27.6km s-min=21.8km az=140.0*

ISC 15 01:09:34.0±1.9, 137S±03×1680E±03, h35km, n11, σ0§44/8, mb4.0/6, MS3.9/1, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.18**	**229**	P	**P**	**01 15 41.4**	**+0.6**
3.7nm,0.4s,mb4.4,baz=47,slow=8.5,SNR=14							
WRAB	**Tennant Creek**	**32.74**	**254**	*e*P	**P**	**01 16 04.1**	**+0.8**
0.2nm,0.3s,mb3.5							
WRA	**Warramunga Arr**	**32.75**	**254**	P	**P**	**01 16 02.9**	**-0.5**
0.4nm,0.4s,mb3.7,baz=86,slow=9.3,SNR=6.1							
ASAR	**Alice Springs**	**33.69**	**248**	P	**P**	**01 16 11.2**	**-0.4**
1.5nm,0.5s,mb4.2,baz=75,slow=9.2,SNR=33							
MBWA	**Marble Bar**	**46.48**	**254**	*e*P	**P**	**01 17 57.2**	**-0.4**
NWAO	**Narrogin (SRO)**	**49.86**	**238**	LR	LR	01 38 55.4	
comp=Z,123nm,20.9s,MS3.9,baz=243,slow=35							
NWAO	**Narrogin (SRO)**	**49.86**	**238**	*e*P	**P**	**01 18 23.7**	**-0.1**
1.8nm,0.5s,mb4.4							
VNDA	**Vanda**	**63.89**	**181**	*e*P	**P**	**01 20 03.0**	**-0.2**
MKAR	**Makanchi Array**	**96.95**	**316**	P	**P**	**01 23 01.9**	**+0.2**
0.4nm,0.7s,mb4.0,baz=104,slow=5.1,SNR=5.6							
ARCES	**ARCESS Array B**	**119.44**	**346**	PKP	PKPdf	01 28 18.1	-1.6
6.9nm,1.0s,baz=8.9,slow=2.7,SNR=7.2							
TORD	**Torodi Ar. Bea**	**166.65**	**269**	PKPab	PKPab	01 30 38.0	-0.3
0.3nm,0.6s,baz=91,slow=5.0,SNR=4.2							

ISCJB ***15*** *01:17:33.4±0.7, 489N±007×7534W±008, h33km, mb3.8/2, MS3.4/1, Error ellipse: s-maj=12.6km s-min=8.6km az=79.5*
IDC ***15*** *01:17:34.3±4.5, 483N×7530W, h26km±34km, mb3.6/1, mb1 4.1/2, mb1mx3.3/20, mbtmp3.9/2, ML3.9/1, MS3.5/1, Ms1 3.4/1, ms1mx2.6/18, Error ellipse: s-maj=47.6km s-min=32.9km az=152.0*
NEIC ***15*** *01:17:35.2±1.0, 480N×7532W, h36km±11km, mb3.8/1, Error ellipse: s-maj=11.1km s-min=9.6km az=119.0*

ISC 15 01:17:33.3±2.0, 488N±008×7533W±008, h15km±13km, n15, σ1§14/14, mb3.8/2, MS3.4/1, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.00**	**91**	Pg	**Pg**	**01 17 52.4**	**-0.2**
28nm,0.3s,baz=109,slow=8.2,SNR=36							
ROSC				Lg		01 18 06.4	
74nm,0.3s,baz=261,slow=18,SNR=14							
OTAV	**Otavalo**	**5.56**	**214**	*e*Pn	**Pn**	**01 18 55.6**	**+0.1**
SDV	**Santo Domingo**	**6.13**	**49**	Pn	**Pn**	**01 19 04.0**	**+0.7**
2.6nm,0.3s,baz=182,slow=3.6,SNR=14							
SDV				Sn	**Sn**	**01 20 11.8**	**-1.3**
3.7nm,0.3s,baz=271,slow=23,SNR=7.0							
SDV	**Santo Domingo**	**6.13**	**49**	*e*Pn	**Pn**	**01 19 03.9**	**+0.6**
SDV				*e*Sn	**Sn**	**01 20 12.8**	**-0.3**
SJG	**San Juan**	**15.92**	**34**	*e*Pn	**Pn**	**01 21 17.9**	**+1.2**
SAML	**Samuel**	**18.31**	**139**	*e*P	**Pn**	**01 21 46.0**	**-0.7**
TEIG	**Tepich**	**19.78**	**322**	*e*P	**Pn**	**01 22 03.2**	**-1.3**
BDFB	**Brasilia**	**33.87**	**128**	LR	LR	01 38 35.1	
comp=Z,66nm,19.0s,MS3.4,baz=295,slow=37							
RCBR	**Riachuelo**	**40.78**	**105**	*e*P	**P**	**01 25 14.5**	**+0.7**
TRQA	**Tornquist**	**44.48**	**165**	*e*P	**P**	**01 25 41.4**	**-2.4**
PLCA	**Paso Flores**	**45.60**	**175**	*e*P	**P**	**01 25 55.0**	**+2.2**
0.5nm,0.4s,mb3.8							
NVAR	**Mina Array Bea**	**51.33**	**317**	P	**P**	**01 26 37.2**	**+0.3**
0.9nm,0.8s,mb3.8,baz=143,slow=5.4,SNR=3.6							
NVAR	**Mina Array Bea**	**51.33**	**317**	P	**P**	**01 26 37.2**	**+0.3**
ASAR	**Alice Springs**	**146.20**	**234**	PKPbc	PKPbc	01 37 12.1	-0.9
0.3nm,0.5s,baz=100,slow=4.0,SNR=4.4							
WRA	**Warramunga Arr**	**147.47**	**240**	PKPbc	PKPbc	01 37 16.3	-0.3
0.5nm,0.4s,baz=111,slow=2.5,SNR=5.3							

IDC ***15*** *02:01:23.1±0.6, 343S×13127E, h0km, mb4.8/12, mb1 4.9/13, mb1mx4.8/16, mbtmp4.8/13, ML3.7/1, MS4.3/13, Ms1 4.4/13, ms1mx4.2/22, Error ellipse: s-maj=26.0km s-min=14.3km az=72.0*
ISCJB ***15*** *02:01:24.4±0.3, 360S±003×13132E±006, h23km, mb5.0/69, MS4.3/29, Error ellipse: s-maj=8.8km s-min=4.1km az=157.2*
BJI ***15*** *02:01:25.3, 358S×13139E, h30km, mB5.1, mb5.0, Ms4.9, Msz4.2*
NEIC ***15*** *02:01:26.9±0.3, 347S×131.19E, mb4.9/26, Error ellipse: s-maj=9.0km s-min=5.4km az=65.0*
MOS ***15*** *02:01:26.8±1.1, 343S×13124E, h33km, mb5.0/22, Error ellipse: s-maj=13.5km s-min=7.1km az=111.5*
HRVD ***15*** *02:01:26.9±0.3, 336S×13128E, h16km±1km, MW5.0/75, Centroid moment Tensor Solution. LP body waves: s42,c51;Mantle waves: s75,c101; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.04±.18; $M_{\theta\theta}$-1.88±.12; $M_{\phi\phi}$-1.16±.14; $M_{r\theta}$-1.73±.34; $M_{\theta\phi}$1.07±.07; $M_{\phi r}$1.87±.40; Best double couple: $M_0$3.81500×10^{16} NP1:ϕ_s121.00000°, δ25.00000°, λ79.00000°. NP2: ϕ_s313.00000°, δ66.00000°, λ95.00000°. Principal axes: T 4.0310, Plg69.0000°, Azm233.0000°; N -0.4320, Plg5.0000°, Azm131.0000°; P -3.5990, Plg21.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 02:01:26.8±0.3, 356S±003×13141E±006, h24km, h24km±.8km:pP-P, n161, σ1§16/162, mb5.0/69, MS4.3/29, 6C-4D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.68**	**357**	P	**Pn**	**02 02 06.0**	**-2.4**
739nm,0.9s							
KAKA	**Kakadu**	**9.15**	**174**	*e*P	**Pn**	**02 03 37.8**	**+0.6**
47nm,0.4s							
KAKA				*e*S	**Sn**	**02 05 17.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**15.52**	**201**	*e*P	**Pn**	**02 04 59.4**	**-4.5**
22nm,0.4s							
WRAB	**Tennant Creek**	**16.53**	**170**	*e*P	**Pn**	**02 05 14.7**	**-2.2**
WRAB	**Tennant Creek**	**16.53**	**170**	*e*Pn	**Pn**	**02 05 14.1**	**-2.8**
79nm,0.9s							
WRAB				*e*Sn	**Sn**	**02 08 09.4**	**-10**
WRA	**Warramunga Arr**	**16.53**	**170**	Pn	**Pn**	**02 05 13.7**	**-3.3**
1.3nm,0.3s,baz=346,slow=13,SNR=20							
WRA				Sn	**Sn**	**02 08 13.7**	**-6.1**
2.0nm,0.3s,baz=360,slow=24,SNR=5.4							
WB2	**Warramunga Arr**	**16.54**	**170**	*e*P	**Pn**	**02 05 14.2**	**-2.8**
WB2				*e*S	**Sn**	**02 08 11.8**	**-8.0**
PMG	**Port Moresby**	**16.69**	**111**	Pn	**Pn**	**02 05 21.0**	**+2.1**
1.0nm,0.3s,baz=245,slow=12,SNR=5.4							
PMG	**Port Moresby**	**16.69**	**111**	*e*P	**Pn**	**02 05 22.8**	**+3.9**
PMG	**Port Moresby**	**16.69**	**111**	*e*P	**Pn**	**02 05 23.1**	**+4.2**
75nm,1.3s							
KKM	**Kota Kinabalu**	**17.92**	**302**	*e*P	**Pn**	**02 05 32.4**	**-1.9**
ASAR	**Alice Springs**	**20.14**	**173**	P	**P**	**02 06 01.6**	**+2.5**
86nm,0.9s,baz=350,slow=11,SNR=381							
ASAR				S	**S**	**02 09 39.5**	**-4.5**
4.7nm,0.7s,baz=358,slow=28,SNR=5.1							
TGY	**Tagaytay City**	**20.39**	**330**	P	**P**	**02 06 04.2**	**+2.5**
164nm,0.4s,baz=203,slow=7.7,SNR=3.8							
MBWA	**Marble Bar**	**20.86**	**212**	*e*P	**P**	**02 06 05.5**	**-1.3**
49nm,0.9s							
GUMO	**Guam**	**21.65**	**38**	LR	LR	02 14 16.8	
comp=Z,371nm,19.8s,MS3.8,baz=170,slow=36							
KSM	**Kuching**	**21.67**	**283**	*e*P	**P**	**02 06 14.2**	**-1.4**
CTA	**Charters Tower**	**21.90**	**140**	*e*P	**P**	**02 06 21.4**	**+3.4**
16nm,0.8s,mb4.5							
CTA	**Charters Tower**	**21.90**	**140**	P	**P**	**02 06 20.8**	**+2.8**
19nm,1.0s,mb4.5,baz=320,slow=12,SNR=7.4							
CTA	**Charters Tower**	**21.90**	**140**	*e*P	**P**	**02 06 21.4**	**+3.4**
CTA				pmax	pmax		
comp=Z,16nm,0.8s							
CTAO	**Charters Tower**	**21.90**	**140**	*e*P	**P**	**02 06 20.2**	**+2.2**
CTAO				pmax	pmax		
comp=Z,40nm,1.1s,mb4.8							
CTAO	**Charters Tower**	**21.90**	**140**	*e*P	**P**	**02 06 20.2**	**+2.2**
comp=Z,40nm,1.1s,mb4.8							
FORT	**Forrest**	**27.26**	**186**	*e*P	**P**	**02 07 10.3**	**+1.3**
comp=Z,71nm,0.6s,mb5.4							
STKA	**Stephens Creek**	**29.75**	**162**	*e*P	**P**	**02 07 31.8**	**+0.6**
comp=Z,15nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**29.75**	**162**	P	**P**	**02 07 31.9**	**+0.6**
comp=Z,17nm,0.8s,mb4.8,baz=331,slow=9.4,SNR=29							
STKA				LR	LR	02 21 27.0	
comp=Z,937nm,19.3s,MS4.4,baz=102,slow=40							
JOW	**Kunigami**	**30.36**	**354**	LR	LR	02 17 52.1	
comp=Z,654nm,21.0s,MS4.2,baz=134,slow=33							
KLBR	**Kellerberrin**	**30.70**	**203**	*e*P	**P**	**02 07 39.7**	**+0.1**
comp=Z,16nm,0.5s,mb5.1							
QIZ	**Qiongzhong**	**30.89**	**317**	*e*P	**P**	**02 07 42.0**	**+0.7**
QIZ				*e*S	**S**	**02 12 45.8**	**+1.9**
QIZ				LR	LR		
comp=Z,369nm,24.1s,MS4.0							
MUN	**Mundaring**	**31.67**	**205**	*e*P	**P**	**02 07 47.9**	**-0.3**
GZH	**Guangzhou**	**31.81**	**327**	P	**P**	**02 07 50.8**	**+1.4**
GZH				S	**S**	**02 12 55.8**	**-2.5**
GZH				LR	LR		
comp=N,414nm,15.2s,MS4.4							
GZH				LR	LR		
comp=E,494nm,16.5s,MS4.4							
GZH				LR	LR		
comp=Z,693nm,26.5s							
KULM	**Kulim**	**31.95**	**286**	*e*P	**P**	**02 07 48.6**	**-2.0**
NWAO	**Narrogin (SRO)**	**32.09**	**203**	P	**P**	**02 07 51.5**	**-0.3**
comp=Z,5.8nm,0.5s,mb4.7,baz=25,slow=7.7,SNR=9.8							
CBIJ	**Chichi jima**	**32.20**	**18**	LR	LR	02 19 48.3	
comp=Z,512nm,18.4s,MS4.2,baz=127,slow=34							
PSI	**Prapat**	**33.07**	**281**	P	**P**	**02 07 59.1**	**-1.4**
comp=Z,15nm,0.9s,mb4.9,baz=128,slow=4.1,SNR=8.4							
KKTK	**Khon Kaen**	**34.48**	**306**	P	**P**	**02 08 13.0**	**+0.3**
comp=Z,586nm,0.6s							
SSE	**Sheshan**	**35.81**	**345**	P	**P**	**02 08 25.8**	**+1.6**
SSE				AP	pP	02 08 34.5	+3.1
SSE				XP	sP	02 08 37.8	+3.4
SSE				PP	PP	02 09 47.4	+1.7
SSE				S	**S**	**02 14 02.1**	**+1.9**
SSE				XS	sS	02 14 17.6	+5.4
SSE				AMB	AMB		
comp=Z,35nm,0.7s,mb5.4							
SSE				AMB	AMB		
comp=Z,44nm,3.3s							
SSE				LR	LR		
comp=N,132nm,20.6s,MS4.1							
SSE				LR	LR		
comp=E,302nm,20.6s,MS4.1							
SSE				LR	LR		
comp=Z,292nm,21.3s,MS4.0							
TOO	**Toolangi**	**36.23**	**161**	*e*P	**P**	**02 08 31.7**	**+4.0**
comp=Z,11nm,0.7s,mb4.9							
TOO	**Toolangi**	**36.23**	**161**	*e*P	**P**	**02 08 31.7**	**+4.0**
TOO				pmax	pmax		
comp=Z,11nm,0.7s,mb4.9							
NST	**Nakhon Sawan**	**36.37**	**303**	P	**P**	**02 08 29.0**	**+0.1**
JHJ	**Hachijo jima 2**	**37.33**	**12**	LR	LR	02 20 42.6	
comp=Z,952nm,21.6s,MS4.5,baz=5.1,slow=31							
NJ2	**Nanjing**	**37.37**	**342**	*e*P	**P**	**02 08 38.3**	**+0.9**
NJ2				AP	pP	02 08 45.5	+0.8
NJ2				XP	sP	02 08 48.9	+1.2
NJ2				PP	PP	02 10 05.8	+3.0
NJ2				S	**S**	**02 14 23.0**	**-1.0**
NJ2				XS	sS	02 14 34.0	-2.0
NJ2				AMB	AMB		
comp=Z,220nm,11.2s							
NJ2				LR	LR		
comp=N,860nm,25.8s,MS5.0							
NJ2				LR	LR		
comp=E,3μm,25.6s,MS5.0							
NJ2				LR	LR		
comp=Z,510nm,28.7s,MS4.2							
WHN	**Wuhan**	**37.62**	**336**	*e*P	**P**	**02 08 40.5**	**+0.9**
GYA	**Guiyang**	**38.25**	**323**	⇑*e*P	**P**	**02 08 44.8**	**-0.1**
GYA				AP	pP	02 08 51.3	-0.9
GYA				XP	sP	02 08 54.8	-0.4
GYA				PP	PP	02 10 14.9	+2.4
GYA				S	**S**	**02 14 35.3**	**-2.1**
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.9							
GYA				AMB	AMB		
comp=Z,110nm,3.9s							
GYA				LR	LR		
comp=N,570nm,17.8s,MS4.6							
GYA				LR	LR		
comp=E,640nm,18.0s,MS4.6							
GYA				LR	LR		
comp=Z,630nm,17.6s,MS4.5							
ENH	**Enshi**	**39.63**	**330**	*e*P	**P**	**02 08 55.1**	**-1.3**
comp=Z,20nm,0.9s,mb4.8							
KMI	**Kunming**	**39.84**	**317**	P	**P**	**02 08 59.0**	**+0.8**
KMI				AP	pP	02 09 05.8	+0.3
KMI				AMB	AMB		
comp=Z,15nm,1.0s,mb4.7							
KMI				LR	LR		
comp=N,233nm,23.8s,MS4.2							
KMI				LR	LR		
comp=E,352nm,23.8s,MS4.2							
KMI				LR	LR		
comp=Z,251nm,23.8s,MS4.0							
MAJO	**Matsushiro**	**40.39**	**8**	*e*P	**P**	**02 09 00.5**	**-2.3**
MAJO				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.6							
MAJO	**Matsushiro**	**40.39**	**8**	*e*P	**P**	**02 09 00.5**	**-2.3**
comp=Z,9.5nm,0.7s,mb4.6							
MAT	**Matsushiro**	**40.39**	**8**	P	**P**	**02 09 00.9**	**-1.9**
MAT				S	**S**	**02 15 11.2**	**+1.7**
MAT	**Matsushiro**	**40.39**	**8**	*e*P	**P**	**02 09 01.0**	**-1.8**
MAT				*e*S	**S**	**02 15 11.0**	**+1.5**
MAT				pmax	pmax		
comp=Z,11nm,1.0s,mb4.5							
MAT	**Matsushiro**	**40.39**	**8**	*e*P	**P**	**02 09 01.0**	**-1.8**
comp=Z,11nm,1.0s,mb4.5							
MAT				*e*S	**S**	**02 15 11.0**	**+1.5**
MJAR	**Matsushiro Arr**	**40.39**	**8**	P	**P**	**02 09 00.7**	**-2.1**
comp=Z,6.7nm,0.8s,mb4.5,baz=188,slow=8.4,SNR=13							
MJAR				LR	LR	02 24 55.1	
comp=Z,253nm,18.8s,MS4.1,baz=160,slow=35							
XAN	**Xi'an**	**42.99**	**332**	P	**P**	**02 09 23.0**	**-1.0**
XAN				AP	pP	02 09 30.3	-1.1
XAN				AMB	AMB		
comp=Z,14nm,1.3s,mb4.5							
XAN				LR	LR		
comp=N,224nm,26.4s,MS4.1							
XAN				LR	LR		
comp=E,277nm,31.2s,MS4.1							
XAN				LR	LR		
comp=Z,297nm,28.8s,MS4.0							
CD2	**Chengdu**	**43.25**	**324**	P	**P**	**02 09 25.8**	**-0.3**
CD2				AP	pP	02 09 33.3	-0.2
CD2				XP	sP	02 09 36.6	+0.2
CD2				PP	PP	02 11 08.6	+1.8
CD2				S	**S**	**02 15 50.8**	**-0.9**
CD2				XS	sS	02 16 03.1	-0.8
CD2				SS	SS	02 18 57.3	-8.0
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
CD2				AMB	AMB		
comp=Z,60nm,8.3s							
CD2				LR	LR		
comp=E,160nm,18.0s							
CD2				LR	LR		
comp=Z,240nm,16.8s,MS4.2							
BJI	**Beijing**	**45.59**	**344**	*e*P	**P**	**02 09 44.9**	**+0.1**
BJI				PP	PP	02 11 32.4	+0.7
BJI				S	**S**	**02 16 26.3**	**+0.6**
BJI				AMB	AMB		
comp=Z,39nm,0.8s,mb5.4							
BJI				LR	LR		
comp=N,219nm,22.4s,MS4.2							
BJI				LR	LR		
comp=E,244nm,23.8s,MS4.2							
BJI				LR	LR		
comp=Z,230nm,30.4s							
LZH	**Lanzhou**	**47.11**	**329**	P	**P**	**02 09 57.3**	**+0.5**
LZH				AP	pP	02 10 04.9	+0.7
LZH				XP	sP	02 10 08.5	+1.3
LZH				PP	PP	02 11 50.0	+2.3
LZH				S	**S**	**02 16 53.3**	**+5.7**
LZH				XS	sS	02 17 05.0	+5.2
LZH				AMB	AMB		
comp=Z,50nm,1.1s,mb5.4							
LZH				AMB	AMB		
comp=Z,140nm,4.2s							
LZH				LR	LR		
comp=N,640nm,14.0s							
LZH				LR	LR		
comp=Z,2μm,15.4s,MS5.2							
CN2	**Changchun**	**47.45**	**354**	*e*P	**P**	**02 09 58.1**	**-1.3**
CN2				*e*PP	PP

comp=Z,12nm,0.8s,mb4.9
LSA Lhasa 50.78 313 *e*P **P 02 10 25.6 +0.7**
comp=Z,12nm,0.8s,mb4.9
GTA Gaotai 51.71 329 ⇑P **P 02 10 32.3 +0.4**
GTA PP PP 02 12 29.8 +0.3
GTA S **S 02 17 53.4 +1.4**
GTA XS sS 02 18 05.9 +1.6
GTA SS SS 02 21 28.6 +0.1
GTA AMB AMB
comp=Z,16nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,97nm,5.3s
GTA LR LR
comp=N,158nm,24.7s
GTA LR LR
comp=E,167nm,18.6s
GTA LR LR
comp=Z,213nm,22.1s,MS4.1
PALK Pallekele 51.73 282 *e*P **P 02 10 31.6 -0.4**
comp=Z,31nm,1.5s,mb5.0
HABR Khabarovsk 51.91 3 *e*P **P 02 10 32.8 -0.6**
KLR Kul'dur 52.57 0 *e*P **P 02 10 35.4 -2.9**
RPZ Rata Peaks 53.15 145 LR LR 02 35 11.6
comp=Z,470nm,19.1s,MS4.6,baz=78,slow=38
JIRN Jiri 53.48 308 *e*P **P 02 10 45.0 0.0**
comp=Z,28nm,0.9s,mb5.2
GUN Gumba 53.84 309 *e*P **P 02 10 47.6 0.0**
PKI Pulchoki 54.05 308 *e*P **P 02 10 48.6 -0.5**
comp=Z,21nm,0.9s,mb5.0
KKN Kakani 54.25 308 *e*P **P 02 10 50.4 -0.2**
comp=Z,25nm,0.7s,mb5.2
DMN Daman 54.30 308 *e*P **P 02 10 50.9 -0.1**
comp=Z,42nm,0.9s,mb5.4
GKN Gorkha 54.85 308 *e*P **P 02 10 54.7 -0.3**
comp=Z,48nm,0.9s,mb5.5
ULN Ulaanbaatar 55.48 340 *e*P **P 02 11 00.0 +0.5**
ULN pmax pmax
comp=Z,26nm,1.2s,mb5.1
ULN Ulaanbaatar 55.48 340 *e*P **P 02 10 60.0 +0.5**
comp=Z,26nm,1.2s,mb5.1
KOLN Koldanda 55.57 307 *e*P **P 02 11 00.2 0.0**
comp=Z,50nm,0.8s,mb5.6
SONM Songino Array 55.68 340 P **P 02 11 00.9 0.0**
comp=Z,6.7nm,1.0s,mb4.6,baz=162,slow=5.9,SNR=29
SONM LR LR 02 36 07.0
comp=Z,168nm,21.7s,MS4.1,baz=159,slow=38
DANN Dangsing 55.70 308 *e*P **P 02 11 01.6 +0.5**
HYB Hyderabad 56.15 294 *i*P **P 02 11 03.5 -0.8**
HYB Hyderabad 56.15 294 *e*P **P 02 11 03.5 -0.8**
ZAK Zakamensk 58.92 339 *e*P **P 02 11 23.1 -0.8**
ZAK *e* 02 12 13.3
ZAK pmax pmax
comp=Z,14nm,1.8s,mb4.7
ZAK pmax pmax
comp=Z,10.0nm,1.9s,mb4.5
BHPL Bhopal 58.96 300 *e*P **P 02 11 23.6 -0.5**
BHPL AMb AMB 02 11 25.4
comp=Z,14nm,1.1s,mb4.9
AGRA Agra 59.93 304 *e*P **P 02 11 29.6 -1.3**
MOY Mondy 60.80 339 *e*P **P 02 11 37.7 +0.9**
PET Petropavlovsk 60.86 18 *e*P **P 02 11 43.7 +6.5**
PET *e*S **S 02 19 59.2 +5.8**
PET *e*SS SS 02 23 48.8 -3.8
PET pmax pmax
comp=Z,100nm,15.1s
PET smax
comp=N,100nm,14.5s
PET MLR MLR
comp=Z,100nm,17.0s,MS4.0
SONA Sohna 61.02 305 *e*P **P 02 11 37.0 -1.3**
SONA AMb AMB 02 11 38.5
comp=Z,37nm,0.8s,mb5.5
AYAN Aya Nagar 61.07 305 *e*P **P 02 11 37.1 -1.5**
AYAN AMb AMB 02 11 38.6
comp=Z,14nm,0.8s,mb5.1
WMQ Urumqi 61.34 325 P **P 02 11 41.3 +0.9**
WMQ AP pP 02 11 47.3 -0.7
WMQ XP sP 02 11 50.3 -0.6
WMQ PCP PcP 02 12 23.6 +1.0
WMQ PP PP 02 13 58.3 +2.8
WMQ *e*S **S 02 19 58.3 -1.1**
WMQ SS SS 02 23 59.8 -0.2
WMQ AMB AMB
comp=Z,29nm,0.8s,mb5.5
WMQ AMB AMB
comp=Z,165nm,4.1s
WMQ LR LR
comp=N,267nm,24.0s,MS4.4
WMQ LR LR
comp=E,216nm,23.2s,MS4.4
WMQ LR LR
comp=Z,206nm,24.0s,MS4.2
KLP Kalpa 61.38 309 *e*P **P 02 11 40.6 -0.1**
KLP AMb AMB 02 11 41.9
comp=Z,7.9nm,0.8s,mb4.9
KHET Khetri 62.00 304 *e*P **P 02 11 43.9 -1.0**
KHET AMb AMB 02 11 44.9
comp=Z,20nm,1.0s,mb5.2
BOD Bodaibo 62.77 350 *e*P **P 02 11 49.8 -0.2**
BOD pmax pmax
comp=Z,65nm,1.1s,mb5.7
MA2 Magadan 64.77 11 *e*P **P 02 12 04.1 +0.9**
MA2 *e*S **S 02 20 42.1 -0.4**
MA2 *e*PS 02 21 06.3
MA2 *e*SSS 02 27 45.1
MA2 pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
MA2 MLR MLR
comp=Z,300nm,24.0s,MS4.4
YAK Yakutsk 65.42 359 *e*P **P 02 12 08.8 +1.4**
YAK pmax pmax
comp=Z,21nm,1.0s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK Yakutsk 65.42 359 *e*P **P 02 12 07.1 -0.3**
comp=E,27nm,0.6s,mb5.5
MK31 Makanchi Array 66.17 325 *i*P **P 02 12 12.1 -0.1**
MK31 pmax pmax
comp=Z,21nm,0.9s,mb5.2
MKAR Makanchi Array 66.17 325 P **P 02 12 12.6 +0.4**
comp=Z,12nm,0.8s,mb5.0,baz=137,slow=7.6,SNR=110
MKAR LR LR 02 44 30.9
comp=Z,124nm,18.9s,MS4.1,baz=358,slow=39
KSH Kashi 66.49 316 *e*P **P 02 12 16.8 +2.5**
KSH AP pP 02 12 22.9 +0.9
KSH XP sP 02 12 25.5 +0.7
KSH PCP PcP 02 12 46.6 +2.9
KSH PP PP 02 14 45.0 +4.3
KSH SCP 02 16 47.4
KSH PCS 02 16 49.5
KSH S S 02 21 03.9 +0.5
KSH XS sS 02 21 20.5 +4.5
KSH SCS ScS 02 22 10.4 +0.8
KSH AMB AMB
comp=Z,18nm,0.5s,mb5.4
KSH AMB AMB
comp=Z,88nm,2.6s,mb5.3
KSH LR LR
comp=N,171nm,6.2s
KSH LR LR
comp=E,249nm,5.2s
KSH LR LR
comp=Z,217nm,5.9s
KZA Kyzart 68.12 318 P **P 02 12 26.6 +2.0**
SNR=6.5
SEY Seymchan 68.19 10 *e*P **P 02 12 24.1 -1.0**
SEY *e* 02 14 52.2
SEY *e*S S 02 21 26.2 +2.3
SEY *e*SS SS 02 25 49.8 +3.0
SEY *e*SSS 02 28 39.8
SEY pmax pmax
comp=N,10.0nm,1.1s
SEY pmax pmax
comp=Z,21nm,1.1s,mb5.1
SEY pmax pmax
comp=E,5.0nm,0.8s
SEY smax
comp=N,100nm,27.9s
SEY smax
comp=E,191nm,27.9s
SEY MLR MLR
comp=N,80nm,20.0s,MS4.1
SEY MLR MLR
comp=E,78nm,20.0s,MS4.1
SEY MLR MLR
comp=Z,1μm,20.0s,MS5.1
KBK Karagaybulak 68.58 319 P **P 02 12 28.4 +0.9**
SNR=5.9
UCH Uchtor 68.68 318 P **P 02 12 29.3 +1.2**
SNR=8.9
AAK Ala-Archa 68.87 318 *e*P **P 02 12 29.1 -0.2**
AAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AAK Ala-Archa 68.87 318 *e*P **P 02 12 28.6 -0.7**
comp=Z,8.0nm,1.1s,mb4.6
USP Ospenovka 69.15 319 P **P 02 12 31.6 +0.6**
SNR=10
AML Almayashu 69.18 318 P **P 02 12 32.4 +1.2**
SNR=8.2
KURK Kurchatov 70.36 327 *e*P **P 02 12 38.5 0.0**
KURK *e* pP 02 12 45.0 -1.2
KURK pmax pmax
comp=Z,33nm,0.9s,mb5.3
KURK Kurchatov 70.36 327 *e*P **P 02 12 38.5 0.0**
comp=Z,33nm,0.9s,mb5.3
KURK *e* pP 02 12 45.0 -1.2
NVS Novosibirsk 70.44 333 ⇑*i*P **P 02 12 37.3 -1.7**
NVS pmax pmax
comp=Z,26nm,1.6s,mb4.9
NVS pmax pmax
comp=N,37nm,2.2s
KK31 Karatay Array 71.72 318 *i*P **P 02 12 46.8 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KKAR Karatay Array 71.72 318 *i*P **P 02 12 46.8 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TIXI Tiksi 75.09 359 *e*P **P 02 13 05.5 -1.1**
TIXI pmax pmax
comp=Z,11nm,0.8s,mb4.8
WBK Wadi Bani Khal 75.24 294 ⇑P **P 02 13 09.3 +1.8**
VOSK Vostochnaya 75.48 327 P **P 02 13 08.3 -0.6**
VOSK pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
VNDA Vanda 75.68 173 P **P 02 13 11.2 +1.2**
comp=Z,5.2nm,0.7s,mb4.6,baz=318,slow=5.7,SNR=18
VNDA LR LR 02 46 34.6
comp=Z,425nm,18.6s,MS4.8,baz=349,slow=36
VNDA Vanda 75.68 173 *e*P **P 02 13 11.5 +1.5**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA Vanda 75.68 173 *e*P **P 02 13 11.5 +1.5**
comp=Z,8.9nm,1.0s,mb4.7
BVA0 Borovoye Array 75.94 327 *i*P **P 02 13 10.9 -0.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRVK Borovoye 76.01 327 *e*P **P 02 13 11.4 -0.5**
BRVK *e**PP pP 02 13 18.1 -1.6
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRVK Borovoye 76.01 327 *e*P **P 02 13 11.4 -0.5**
comp=Z,11nm,0.8s,mb4.8
BRVK *e*pP pP 02 13 18.1 -1.5
SMDO Samad 76.16 295 P **P 02 13 13.7 +1.0**
SNR=5.1
BIDO Bidbid 76.17 295 P **P 02 13 14.4 +1.6**
SNR=7.1
ZRNK Zerenda 76.66 327 *e*P **P 02 13 15.0 -0.6**
ZRNK *e**PP pP 02 13 22.4 -1.0
ZRNK pmax pmax
comp=Z,24nm,1.1s,mb5.0
ZRNK Zerenda 76.66 327 *e*P **P 02 13 15.0 -0.6**
comp=Z,24nm,1.1s,mb5.0
ZRNK *e*pP pP 02 13 22.4 -1.0
BSY Bisya 76.88 294 P **P 02 13 18.1 +1.3**
SNR=5.5
HOQ Hoqain 76.91 295 P **P 02 13 18.7 +1.7**
SNR=7.8
BANOM Banah 78.22 297 ⇓P **P 02 13 26.3 +2.0**
ASHO Ashiyiah 78.23 296 P **P 02 13 25.4 +1.1**
SNR=8.1
PPT Papeete 78.47 107 *e*LR LR 02 37 59.9
comp=Z,334nm,24.2s
TBI Tubuai 78.62 113 *e*LR LR 02 38 03.9
comp=Z,217nm,24.8s
RBK Rabkut 78.90 289 P **P 02 13 29.1 +1.1**
SNR=5.8
WHFO Wadi Hawf 79.36 289 P **P 02 13 31.1 +0.5**
SNR=10
AB31 Akbulak array 80.72 321 *i*P **P 02 13 37.0 -0.9**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ARU Arti 83.55 328 *e*P **P 02 13 52.5 -0.2**
ARU *e* 02 17 05.5
ARU *e*PPP 02 18 55.3
ARU *e*S S 02 24 11.7 -1.5
ARU *e*SS SS 02 29 41.1 +1.7
ARU Arti 83.55 328 *e*P **P 02 13 52.0 -0.7**
comp=Z,32nm,1.6s,mb5.2
QRN Al-Qurain 85.99 299 *e*P **P 02 14 05.1 +0.1**
QRN AMb AMB 02 14 06.6
comp=Z,38nm,0.8s,mb5.7
RDF Al-Radifah 86.33 299 *e*P **P 02 14 07.0 +0.3**
RDF AMb AMB 02 14 08.4
comp=Z,25nm,0.6s,mb5.6
QSPA South Pole Qui 86.39 180 *e*P **P 02 14 08.2 +1.2**
comp=Z,12nm,1.1s,mb5.0
MIB Mutribah 86.61 300 *e*P **P 02 14 08.4 +0.4**
MIB AMb AMB 02 14 09.7
comp=Z,37nm,0.9s,mb5.6
NAY Al-Naaiem 86.63 299 *e*P **P 02 14 08.5 +0.3**
NAY AMb AMB 02 14 11.8
comp=Z,28nm,0.8s,mb5.5
SYO Syowa Base 87.36 201 ⇓*e*PcP PcP 02 14 14.7 +1.0
SYO Syowa Base 87.36 201 ⇓*e*P **P 02 14 12.7 +1.0**
SYO ⇓*e*PcP PcP 02 14 14.7 +1.0
ILAR Eielson Array 89.66 25 P **P 02 14 21.6 -1.0**
comp=Z,1.8nm,0.7s,mb4.5,baz=265,slow=4.2,SNR=21
ILAR LR LR 02 48 45.3
comp=Z,102nm,21.7s,MS4.2,baz=90,slow=32
RKT Rikitea 91.94 113 *e*LR LR 02 44 14.2
comp=Z,116nm,24.8s
SOC Sochi 93.65 313 *c i*P **P 02 14 36.3 -4.8**
SOC *e**PP pP 02 14 54.4 +5.4
SOC *e*S 02 25 06.0
SOC *e* 02 25 43.5
SOC *e*SS SS 02 32 09.2 +2.8
SOC pmax pmax
comp=Z,20nm,1.1s,mb5.5
KMBO Kilima Mbogo 94.08 269 P **P 02 14 43.7 +0.6**
comp=Z,2.8nm,1.0s,mb4.7,baz=87,slow=4.9,SNR=7.0
KMBO LR LR 02 54 38.6
comp=Z,268nm,20.4s,MS4.7,baz=93,slow=34
KMBO Kilima Mbogo 94.08 269 ⇑*e*P **P 02 14 44.9 +1.8**
KMBO Kilima Mbogo 94.08 269 P **P 02 14 44.8 +1.8**
comp=Z,2.7nm,1.0s,mb4.6
INK Inuvik 95.17 22 *e*P **P 02 14 47.7 -0.3**
INK pmax pmax
comp=Z,9.0nm,1.3s
INK Inuvik 95.17 22 *e*P **P 02 14 47.7 -0.3**
comp=Z,8.5nm,1.3s,mb5.0
ARCES ARCESS Array B 98.85 340 P **P 02 15 03.5 -1.3**
comp=Z,6.4nm,1.0s,mb5.1,baz=72,slow=7.8,SNR=5.1
ARCES LR LR 03 01 10.8
comp=Z,241nm,19.2s,MS4.7,baz=82,slow=36
BOSA Boshof 102.40 240 P Pdif 02 15 21.3 +0.8
comp=Z,2.2nm,0.8s,baz=127,slow=6.9,SNR=3.6
YKA Yellowknife Ar 104.06 26 Pdiff Pdif 02 15 27.3 -0.6
comp=Z,0.3nm,0.9s,baz=269,slow=3.8,SNR=3.4
PDAR Pinedale Array 113.48 45 PKKPbc PKKPbc 02 30 48.5 +1.9
comp=Z,0.9nm,0.9s,baz=119,slow=5.2,SNR=5.8
MNTX Cornudas Mount 119.88 55 *e*PKPdf PKPdf 02 20 17.3 +2.3
JCT Junction City 124.81 55 *e*PKIKP PKPdf 02 20 26.9 +2.4
TORD Torodi Ar. Bea 129.43 284 PKP PKPdf 02 20 33.6 +0.3
comp=Z,2.5nm,0.8s,baz=73,slow=1.1,SNR=14
DBIC Dimbokro 136.34 276 PKP PKPdf 02 20 47.8 +1.6
comp=Z,5.2nm,1.1s,baz=90,slow=2.5,SNR=3.5
DBIC Dimbokro 136.34 276 PKPdf PKPdf 02 20 48.2 +2.0
CPUP Villa Florida 149.11 165 *e*PKPbc PKPbc 02 21 14.1 +1.1
comp=Z,4.4nm,0.7s,baz=179,slow=1.4,SNR=12
CPUP Villa Florida 149.11 165 *e*PKPbc PKPbc 02 21 15.1 +2.2
OTAV Otavalo 149.98 96 *e*PKPbc PKPbc 02 21 17.4 +2.3
LPAZ La Paz 152.40 136 PKPbc PKPbc 02 21 24.5 +3.8
comp=Z,4.5nm,0.9s,baz=98,slow=0.7,SNR=12
LPAZ La Paz 152.40 136 *e*PKPbc PKPbc 02 21 24.8 +4.2
LPAZ PKPab PKPab 02 21 35.7 +4.8

ISCJB ***15*** *02:47:24.9±0.8,5146N±004×16.10E±004, h0km, Error ellipse: s-maj=5.9km s-min=3.0km az=28.4*
IPEC ***15*** *02:47:25.0±0.2,5157N×1618E, h0km, ML2.0/2, Error ellipse: s-maj=1.7km s-min=1.0km az=24.0*
WAR ***15*** *02:47:26.6,5152N×16.11E, ML2.4, Mining Induced*
CSEM ***15*** *02:47:26.7±0.1,5149N×16.11E, h1km, ML3.0/6, Error ellipse: s-maj=2.7km s-min=1.4km az=9.0*
NEIC ***15*** *02:47:26.9±2.7,5143N×1607E, h5km, ML2.2(BRG), ML2.5(SZGRF), Error ellipse: s-maj=29.9km s-min=10.8km az=24.0*
PRU ***15*** *02:47:27.0,5147N×16.11E, h0km*
VIE ***15*** *02:47:27.6±0.6,5136N×1607E, h0km, mb2.0/2, ML2.6/3, Error ellipse: s-maj=3.6km s-min=3.4km az=168.0 72 km WNW of Breslau Suspected Mining induced.*
ISC 15 02:47:25.8±0.8,5150N±004×1612E±004, h0km, n22, σ0°97/43, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**02 47 39.2**	**+0.7**
KSP				*e*Sg	**Sg**	**02 47 48.4**	**+1.2**
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**02 47 39.1**	**+0.6**
KSP				*e*Sg	**Sg**	**02 47 48.4**	**+1.2**
UPC	**Upice**	**0.99**	**184**	*e*PG	**Pg**	**02 47 45.2**	**+0.4**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**02 47 48.1**	**+0.1**
DPC				*e*SG	**Sg**	**02 48 03.4**	**+0.5**
	19nm,0.2s						
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*Pg	**Pg**	**02 47 47.9**	**-0.1**
DPC				*e*Sg	**Sg**	**02 48 03.0**	**+0.1**
PVCC	**Panska Ves**	**1.38**	**226**	*e*Pn	**Pn**	**02 47 52.4**	**+0.1**
PVCC				*e*Sg	**Sg**	**02 48 11.3**	**+1.3**
BRG	**Berggiesshubel**	**1.50**	**246**	*e*Pn	**Pn**	**02 47 54.0**	**0.0**
BRG				*e*Sg	**Sg**	**02 48 14.6**	**+0.5**
BRG	**Berggiesshubel**	**1.50**	**246**	Pg	**Pg**	**02 47 54.3**	**-0.3**
BRG				Sg	**Sg**	**02 48 14.5**	**+0.4**
PRU	**Pruhonice**	**1.81**	**214**	*e*PG	**Pg**	**02 48 00.2**	**-0.3**
PRU				*e*SG	**Sg**	**02 48 23.6**	**-0.4**
	26nm,0.3s						
PRU	**Pruhonice**	**1.81**	**214**	*e*Pn	**Pn**	**02 47 58.6**	**+0.4**
PRU	**Pruhonice**	**1.81**	**214**	*e*Pg	**Pg**	**02 48 00.2**	**-0.3**
PRU				*e*Sg	**Sg**	**02 48 23.3**	**-0.7**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**02 47 59.7**	**-0.4**
MORC				*e*Sg	**Sg**	**02 48 28.0**	**-0.4**
	10nm,0.3s						
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**02 47 59.5**	**-0.6**
MORC				*e*S	**Sn**	**02 48 27.3**	**+2.1**
CLL	**Collm**	**1.96**	**266**	*e*Pg	**Pg**	**02 48 01.0**	**-2.4**
CLL				*e*x	x	02 48 05.0	
CLL				*i* Sg	**Sg**	**02 48 28.9**	**+0.2**
	comp=Z,13nm,0.7s						
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	**Pg**	**02 48 05.8**	**-0.4**
OKC				*e*SG	**Sg**	**02 48 32.8**	**-0.7**
	comp=Z,4.3nm,0.3s						
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**02 48 04.2**	**+0.4**
VRAC				*e*Sg	**Sg**	**02 48 35.9**	**-1.0**
	comp=Z,7.6nm,0.2s						
NKC	**Novy Kostel**	**2.65**	**243**	*e*PG	**Pg**	**02 48 16.8**	**+0.3**
NKC				*e*SG	**Sg**	**02 48 52.5**	**+1.7**
	comp=Z,21nm,0.3s						
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**02 48 16.8**	**0.0**
OJC				*e*Sg	**Sg**	**02 48 51.8**	**+0.5**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PG	**Pg**	**02 48 18.6**	**-2.3**
KHC				*e*SN	**Sn**	**02 48 47.0**	**-1.1**
KHC				*e*SG	**Sg**	**02 48 56.8**	**-1.3**
	comp=Z,4.4nm,0.3s						
MOX	**Moxa**	**2.96**	**255**	*e*Pg	**Pg**	**02 48 22.6**	**0.0**
MOX				*e*Sg	**Sg**	**02 49 02.5**	**+1.5**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pg	**Pg**	**02 48 23.9**	**-0.8**
GEC2				*e*Sg	**Sg**	**02 49 02.8**	**-1.8**
MOA	**Molln**	**3.84**	**199**	⇑*i*Pn	**Pn**	**02 48 26.8**	**+0.6**
MOA				⇑*i*Sg	**Sg**	**02 49 30.6**	**+1.3**
	comp=Z,5.1nm,0.3s						

ISCJB ***15*** *03:11:25.0±2.2,8.1N±01×744W±02, h119km±20km, mb3.9/2, Error ellipse: s-maj=31.7km s-min=11.7km az=71.5*
IDC ***15*** *03:11:25.6±2.6,8.13N×7442W, h99km±29km, mb3.6/2, mb1 3.8/4, mb1mx3.3/22, mbtmp3.9/4, Error ellipse: s-maj=32.0km s-min=11.4km az=125.0*
NEIC ***15*** *03:11:26.0±1.9,802N×7436W, h108km±18km, mb3.6/2, Error ellipse: s-maj=29.8km s-min=16.9km az=107.0*
ISC 15 03:11:26.3±2.1,81N±01×744W±02, h111km±19km, n6, σ1°41/8, mb3.9/2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.24**	**179**	P	**Pn**	**03 12 14.3**	**-1.2**
	8.2nm,0.3s,baz=205,slow=5.5,SNR=18						
ROSC				S	**Sn**	**03 12 54.4**	**+0.9**
	14nm,0.3s,baz=81,slow=20,SNR=6.3						
SDV	**Santo Domingo**	**3.79**	**78**	P	**Pn**	**03 12 22.9**	**+0.1**
	5.9nm,0.3s,baz=213,slow=2.8,SNR=98						
SDV				S	**Sn**	**03 13 07.0**	**+0.3**
	27nm,0.3s,baz=32,slow=18,SNR=13						
SAML	**Samuel**	**20.30**	**146**	*e*P	**P**	**03 15 51.5**	**-1.7**
	1.2nm,0.6s						
LPAZ	**La Paz**	**25.03**	**166**	P	**P**	**03 16 41.4**	**+1.4**
	1.9nm,0.9s,mb3.5,baz=3.0,slow=5.8,SNR=5.1						
LPAZ	**La Paz**	**25.03**	**166**	*e*P	**P**	**03 16 41.0**	**+1.1**
	3.3nm,1.0s,mb3.7						
YKA	**Yellowknife Ar**	**61.62**	**340**	P	**P**	**03 21 32.4**	**+0.3**
	1.2nm,0.5s,mb4.2,baz=133,slow=6.9,SNR=30						

ISCJB ***15*** *03:17:10.5±0.2,3638N±001×2830E±002, h77km±2km, mb3.8/24, Error ellipse: s-maj=2.7km s-min=2.3km az=103.2*
CSEM ***15*** *03:17:10.0±0.0,3640N×2837E, h74km, mb4.0/13, Error ellipse: s-maj=1.3km s-min=0.8km az=45.0*
ISK ***15*** *03:17:11.4,3652N×2815E, h82km, MD3.7*
ATH ***15*** *03:17:11.2,3651N×2824E, h63km±1km, ML4.4*
MOS ***15*** *03:17:11.4±0.9,3639N×2820E, h80km, mb3.9/15, Error ellipse: s-maj=7.7km s-min=4.7km az=127.1*
NEIC ***15*** *03:17:11.3,3651N×2824E, h62km, mb3.9/28, After ATH.*
IDC ***15*** *03:17:12.8±2.0,3647N×2823E, h73km±19km, mb3.6/10, mb1 3.7/15, mb1mx3.6/27, mbtmp3.9/15, Error ellipse: s-maj=23.4km s-min=11.1km az=148.0*
THE ***15*** *03:17:15.3,3647N×2807E, h30km, ML4.1*
HLW ***15*** *03:17:16.3,3593N×2824E, h33km, Mb4.4*
ISC 15 03:17:12.0±0.2,3639N±001×2827E±002, h73km±2km, n262, σ1°11/315, mb3.8/24, 2C-15D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.21**	**214**	*e*P	**Pn**	**03 17 22.9**	**0.0**
ARG				*e*S	**Sn**	**03 17 30.0**	**-1.0**
ARG	**Arkhangelos**	**0.21**	**214**	*e*P	**Pn**	**03 17 22.9**	**0.0**
ARG				*e*S	**Sn**	**03 17 29.9**	**-1.1**
DAT	**Datca**	**0.65**	**301**	*i* PG	**Pn**	**03 17 25.7**	**-0.8**
FETY	**Fethiye**	**0.70**	**69**	*i* PG	**Pn**	**03 17 27.6**	**+0.5**
YER	**Yerkesik**	**0.74**	**1**	*i* PG	**Pn**	**03 17 27.7**	**+0.2**
NISR	**Nisiros**	**0.94**	**284**	*e*P	**Pn**	**03 17 28.5**	**-1.4**
MLSB	**Milas**	**0.99**	**337**	*i* PG	**Pn**	**03 17 30.0**	**-0.4**
MLSB				*i* SG	**Sn**	**03 17 42.2**	**-2.0**
BODT	**Bodrum**	**1.02**	**311**	*i* PG	**Pn**	**03 17 30.0**	**-0.8**
BODT				*i* SG	**Sn**	**03 17 42.6**	**-2.3**
KSL	**Kastellorizon**	**1.09**	**102**	*e*P	**Pn**	**03 17 32.0**	**+0.3**
KARP	**Karpathos**	**1.23**	**227**	*e*P	**Pn**	**03 17 34.0**	**+0.5**
KARP				*e*S	**Sn**	**03 17 50.3**	**+0.7**
KARP	**Karpathos**	**1.23**	**227**	*e*P	**Pn**	**03 17 34.1**	**+0.6**
KARP				*e*S	**Sn**	**03 17 50.5**	**+0.9**
AYDN	**Tasoluk**	**1.31**	**346**	*i* P	**Pn**	**03 17 34.5**	**+0.1**
AYDN				*i* S	**Sn**	**03 17 50.6**	**-0.8**
AYDN	**Tasoluk**	**1.31**	**346**	*i* P	**Pn**	**03 17 34.5**	**0.0**
AYDN				*i* S	**Sn**	**03 17 50.6**	**-0.8**
GOLH	**Golhisar**	**1.34**	**50**	*i* P	**Pn**	**03 17 36.4**	**+1.6**
GOLH				*i* S	**Sn**	**03 17 55.0**	**+2.9**
ELL	**Elmali**	**1.37**	**74**	*i* PN	**Pn**	**03 17 37.1**	**+1.8**
DENT	**Denizli**	**1.49**	**24**	*i* PN	**Pn**	**03 17 36.9**	**0.0**
SMG	**Samos**	**1.74**	**319**	*e*P	**Pn**	**03 17 39.1**	**-1.1**
SMG				*e*S	**Sn**	**03 17 58.8**	**-2.9**
SMG	**Samos**	**1.74**	**319**	*e*P	**Pn**	**03 17 39.3**	**-0.9**
SMG				*e*S	**Sn**	**03 17 58.9**	**-2.8**
ZKR	**Zakros**	**2.10**	**233**	*e*Pn	**Pn**	**03 17 46.2**	**+1.2**
MANT	**Manisa**	**2.11**	**6**	*i* P	**Pn**	**03 17 44.6**	**-0.5**
MANT				*i* S	**Sn**	**03 18 10.0**	**-0.4**
BCK	**Bucak**	**2.14**	**59**	PN	**Pn**	**03 17 47.3**	**+1.7**
IZM	**Izmir**	**2.16**	**339**	*i* PN	**Pn**	**03 17 45.0**	**-0.8**

KDAG Bornova 2.16 339 *i* P **Pn 03 17 45.1 -0.7**
KDAG *i* S **Sn 03 18 11.9 +0.2**
KHL Karahalli 2.17 27 PN **Pn 03 17 46.2 +0.2**
BLCB Balcova 2.22 334 PN **Pn 03 17 45.8 -0.8**
SANT Santorini 2.27 270 *e*Pn **Pn 03 17 47.8 +0.5**
SANT *e*Sn **Sn 03 18 12.1 -2.1**
SANT Santorini 2.27 270 *e*Pn **Pn 03 17 47.5 +0.3**
SANT *e*Sn **Sn 03 18 12.1 -2.1**
SANT Santorini 2.27 270 *e*Pn **Pn 03 17 47.5 +0.2**
SANT *e*Sn **Sn 03 18 12.1 -2.2**
THR1 Thera Island 2.27 270 *e*Pn **Pn 03 17 47.8 +0.5**
APE Apeiranthos 2.30 288 PN **Pn 03 17 46.9 -0.8**
APE Apeiranthos 2.30 288 *e*P **Pn 03 17 47.6 -0.1**
APE *e*S **Sn 03 18 14.4 -0.6**
APE Apeiranthos 2.30 288 *e*Pn **Pn 03 17 47.7 0.0**
ISP Isparta 2.30 50 PN **Pn 03 17 47.9 +0.2**
ISP Isparta 2.30 50 *i* P **Pn 03 17 48.3 +0.6**
ISP Isparta 2.30 50 ⇓*i*Pn **Pn 03 17 48.3 +0.6**
URLA Izmir 2.38 326 *i* P **Pn 03 17 45.1 -3.6**
URLA *i* S **Sn 03 18 16.5 -0.3**
NPS Neapolis 2.43 243 *e*P **Pn 03 17 49.8 +0.3**
NPS *e*S **Sn 03 18 17.9 -0.4**
AKS Akhisar 2.51 352 PN **Pn 03 17 49.4 -1.1**
LAST Lasithi 2.58 242 *e*Pn **Pn 03 17 52.2 +0.7**
LAST *e*Sn **Sn 03 18 21.3 -0.4**
XRY Khrisi 2.58 235 *e*P **Pn 03 17 52.5 +1.0**
IDI Anoyia 2.96 249 P **Pn 03 17 57.1 +0.5**
9.7nm,0.3s,baz=275,slow=15,SNR=182
IDI S **Sn 03 18 28.2 -2.8**
24nm,0.3s,baz=281,slow=22,SNR=3.6
IDI Anoyia 2.96 249 P **Pn 03 17 57.1 +0.5**
IDI S **Sn 03 18 28.1 -2.9**
ALT Altintas 3.03 28 PN **Pn 03 17 57.8 +0.2**
SIVA Sivas 3.13 245 *e*Pn **Pn 03 18 00.7 +1.8**
AYVA Ayvalik 3.17 337 *i* P **Pn 03 17 59.5 0.0**
AYVA *i* S **Sn 03 18 35.7 -0.5**
DST Dursunbey 3.22 5 *e*PN **Pn 03 17 59.8 -0.4**
BALB Balikesir 3.26 355 *e*PN **Pn 03 17 59.8 -0.9**
PRK Paraskevi 3.26 332 *e*P **Pn 03 18 00.3 -0.4**
PRK *e*S **Sn 03 18 35.2 -3.1**
PRK Paraskevi 3.26 332 *e*P **Pn 03 18 00.6 -0.1**
PRK *e*S **Sn 03 18 35.1 -3.2**
BTOK Tokmak 3.37 357 *i* P **Pn 03 18 01.2 -1.0**
BTOK *i* S **Sn 03 18 40.7 -0.3**
VAM Vamos 3.45 255 *e*P **Pn 03 18 04.4 +1.2**
VAM *e*S **Sn 03 18 43.0 +0.1**
VAM Vamos 3.45 255 *e*P **Pn 03 18 04.5 +1.3**
VAM *e*S **Sn 03 18 43.0 +0.1**
KONT Konya--Tatoy 3.62 63 *e*PN **Pn 03 18 07.3 +1.7**
ORLT Orhaneli 3.68 8 *e*PN **Pn 03 18 05.9 -0.6**
GVD Gavdhos 3.74 247 *e*Pn **Pn 03 18 08.9 +1.7**
GVD *e*Sn **Sn 03 18 50.1 0.0**
GVD Gavdhos 3.74 247 Pn **Pn 03 18 06.8 -0.5**
GVD *e*Sn **Sn 03 18 50.1 0.0**
GVD Gavdhos 3.74 247 Pn **Pn 03 18 06.8 -0.5**
EZN Ezine 3.76 337 *e*PN **Pn 03 18 06.7 -0.8**
KIZT Kizilcal 3.79 48 *e*PN **Pn 03 18 09.1 +1.1**
KCT Karacabey 3.87 1 *e*PN **Pn 03 18 08.1 -0.9**
KVR Kavouri 3.87 293 *e*P **Pn 03 18 10.0 +1.0**
PTL Penteli 3.88 297 *e*P **Pn 03 18 10.0 +0.8**
ATH Athens Observa 3.96 295 *e*P **Pn 03 18 11.4 +1.1**
ATH Athens Observa 3.96 295 *e*P **Pn 03 18 11.5 +1.2**
EDC Edincik 3.96 356 *e*PN **Pn 03 18 09.3 -1.0**
BNT Bandirma 3.97 356 *e*PN **Pn 03 18 10.0 -0.4**
MPAR Parnis Oros 4.02 297 *e*P **Pn 03 18 12.5 +1.1**
MPAR Parnis Oros 4.02 297 *e*P **Pn 03 18 12.5 +1.4**
NAIG Nisos Aigina 4.06 291 *e*P **Pn 03 18 13.0 +1.4**
LPK Lapseki 4.15 344 *e*PN **Pn 03 18 12.6 -0.2**
GPA Golpazari 4.21 22 *e*PN **Pn 03 18 13.4 -0.2**
KYTH Kithira 4.23 270 *e*P **Pn 03 18 15.5 +1.6**
YLV Yalova 4.26 11 *e*PN **Pn 03 18 13.4 -0.9**
LIA Limnos Island 4.26 326 *e*P **Pn 03 18 14.5 +0.1**
LIA Limnos Island 4.26 326 *e*P **Pn 03 18 14.6 +0.2**
MGER Gerania Oros 4.30 293 *e*P **Pn 03 18 16.5 +1.6**
VLI Veliai 4.30 276 *e*P **Pn 03 18 16.0 +1.1**
VLI Veliai 4.30 276 *e*P **Pn 03 18 16.4 +1.5**
LOS Limnos 4.34 326 *e*Pn **Pn 03 18 16.1 +0.7**
CSS Prodhromos 4.36 108 *e*Pn **Pn 03 18 15.4 -0.3**
CSS *e*Sn **Sn 03 19 01.5 -3.7**
CSS Prodhromos 4.36 108 *e*Pn **Pn 03 18 15.4 -0.3**
CSS *e*Sn **Sn 03 19 01.5 -3.7**
MFT Murefte 4.46 350 *e*PN **Pn 03 18 15.5 -1.5**
BADT Buyukada 4.50 8 *e*PN **Pn 03 18 16.6 -1.1**
LKR Lokris 4.76 300 *e*P **Pn 03 18 22.1 +1.0**
ALN Alexandroupoli 4.82 340 *e*Pn **Pn 03 18 22.3 +0.3**
LOD Lodumlu 4.97 44 *e*PN **Pn 03 18 24.4 +0.3**
ANTO Ankara 4.98 44 *e*PN **Pn 03 18 24.5 +0.4**
ANTO Ankara 4.98 44 *i* P **Pn 03 18 25.6 +1.5**
ANTO Ankara 4.98 44 ⇓*i*Pn **Pn 03 18 25.6 +1.5**
ITM Ithomi 5.15 281 *e*P **Pn 03 18 28.5 +2.0**
ITM Ithomi 5.15 281 *e*P **Pn 03 18 27.6 +1.1**
OUR Ouranopolis 5.18 321 *e*Pn **Pn 03 18 27.6 +0.7**
RDO Rodhopi 5.21 337 *e*P **Pn 03 18 27.0 -0.2**
RDO Rodhopi 5.21 337 *e*P **Pn 03 18 26.9 -0.3**
BRTR Keskin Array B 5.39 50 P **Pn 03 18 30.9 +1.2**
1.6nm,0.3s,baz=237,slow=18,SNR=79
BRTR S **Sn 03 19 30.5 +0.1**
1.7nm,0.3s,baz=222,slow=25,SNR=8.4
BR131 Keskin Array S 5.39 50 *e*Pn **Pn 03 18 30.4 +0.7**
8.3nm,0.4s
BR131 *e*Sn **Sn 03 19 30.2 -0.2**
BR131 Keskin Array S 5.39 50 *e*Pn **Pn 03 18 30.4 +0.6**
8.3nm,0.4s
BR131 *e*Sn **Sn 03 19 30.2 -0.2**
SLUM 5.51 208 ⇓P **Pn 03 18 31.0 -0.4**
EDRB Edirne 5.58 348 *e*PN **Pn 03 18 30.4 -1.9**
RLS Riolos of Patr 5.68 289 *e*P **Pn 03 18 36.1 +2.4**
EVR Evrytania 5.71 298 *e*P **Pn 03 18 35.6 +1.4**
RZN Rozhen 5.97 333 P **Pn 03 18 38.8 +1.1**
SRS Serrai 5.97 324 *e*Pn **Pn 03 18 38.5 +0.8**
NVR Nevrokopi 6.03 327 *e*P **Pn 03 18 39.0 +0.5**
MMB Musomiste 6.28 327 P **Pn 03 18 42.5 +0.6**
GRG Griva 6.47 317 *e*Pn **Pn 03 18 46.7 +2.2**
BHL Bhannes 6.54 110 *e*Pn **Pn 03 18 44.8 -0.6**
HNTI Hanita 6.57 118 Pn **Pn 03 18 45.5 -0.4**
HNTI Sn **Sn 03 19 55.5 -3.9**
HWQ Hawqa 6.62 106 *e*Pn **Pn 03 18 46.5 -0.1**
OFRI 'Ofer 6.70 122 Pn **Pn 03 18 48.2 +0.6**
OFRI Sn **Sn 03 19 57.9 -4.6**
MMA0 Mount Meron ar 6.77 118 Pn **Pn 03 18 48.5 -0.1**
MMA0 Sn **Sn 03 20 00.6 -3.7**
KKB Krupnik 6.79 325 *e*P **Pn 03 18 51.0 +2.1**
KSDI Kefar Szold 6.87 116 Pn **Pn 03 18 49.6 -0.3**
KSDI Sn **Sn 03 20 02.9 -3.7**
FNA Florina 6.96 311 *e*Pn **Pn 03 18 53.5 +2.3**
SLTI Sal'it 6.96 125 Sn **Sn 03 20 04.5 -4.5**
IGT Igoumenitsa 7.01 299 *e*Pn **Pn 03 18 54.5 +2.6**
HNAT Natroun 7.02 163 P **Pn 03 18 52.0 0.0**
KOT Kottamia 7.10 154 P **Pn 03 18 53.2 0.0**
KOT S **Sn 03 20 04.2 -8.2**
MMLI Mount Malkishu 7.10 122 Pn **Pn 03 18 53.1 -0.1**
MMLI Sn **Sn 03 20 08.9 -3.5**
HHAG Hagoal 7.18 152 P **Pn 03 18 54.5 +0.3**
HHAG S **Sn 03 20 06.0 -8.2**
HSAF As Saff 7.29 157 ⇓P **Pn 03 18 55.5 -0.3**
VTS Vitosha 7.32 329 *e*P **Pn 03 18 58.0 +1.8**
AMAZ Amatzia 7.34 129 Pn **Pn 03 18 55.9 -0.6**
AMAZ Sn **Sn 03 20 13.6 -4.7**
GLL Jalalah 7.38 156 ⇑P **Pn 03 18 56.6 -0.4**
SWA1 7.43 198 ⇓P **Pn 03 18 57.1 -0.4**
SWA1 S **Sn 03 20 10.0 -10**
KZIT Kziot 7.48 135 Pn **Pn 03 18 58.0 -0.4**
KZIT Sn **Sn 03 20 17.0 -4.7**
SWA2 7.51 199 ⇓P **Pn 03 18 58.0 -0.7**
SUZ 7.57 148 P **Pn 03 18 59.8 +0.2**
SVTA Shivta 7.59 134 Pn **Pn 03 18 59.6 -0.3**
SVTA Sn **Sn 03 20 19.5 -4.9**
MZDA Masada 7.78 129 Pn **Pn 03 19 02.1 -0.3**
MZDA Sn **Sn 03 20 24.5 -4.4**
ZAF 7.95 152 ⇓P **Pn 03 19 04.7 0.0**
ZNM 7.99 150 ⇓P **Pn 03 19 06.0 +0.6**
HNKL Nakhl 8.03 142 P **Pn 03 19 05.2 -0.5**
HNKL Nakhl 8.03 142 P **Pn 03 19 05.2 -0.6**
AWBH 8.06 176 ⇓P **Pn 03 19 05.1 -1.2**
HRFI Mount Harif 8.50 136 Pn **Pn 03 19 11.7 -0.6**
HRFI Sn **Sn 03 20 41.4 -5.2**
EIL Elat 8.74 138 Pn **Pn 03 19 15.2 -0.3**
EIL Sn **Sn 03 20 47.4 -5.0**
EIL Elat 8.74 138 *e*Pn **Pn 03 19 13.4 -2.1**
262nm,0.6s
EIL *e*Sn **Sn 03 20 44.8 -7.5**
HBST Basata 8.98 141 P **Pn 03 19 19.1 +0.2**
HFRF Wahat Farafira 9.21 180 P **Pn 03 19 21.1 -0.9**
MLR Muntele Rosu 9.26 350 P **Pn 03 19 23.9 +1.3**
0.2nm,0.3s,baz=165,slow=8.0,SNR=7.0
MLR S **Sn 03 21 05.7 +0.6**
0.5nm,0.3s,baz=79,slow=21,SNR=5.1
MLR Muntele Rosu 9.26 350 ⇓P **Pn 03 19 24.1 +1.5**
MLR Muntele Rosu 9.26 350 P **Pn 03 19 23.9 +1.3**
MLR S **Sn 03 21 05.7 +0.6**
MLR smax
comp=N,1.0nm,0.3s
MLR Muntele Rosu 9.26 350 ⇓P **Pn 03 19 24.1 +1.5**
MLR Muntele Rosu 9.26 350 ⇓P **Pn 03 19 24.1 +1.5**
HDHB Dhahab 9.33 143 P **Pn 03 19 24.2 +0.6**
TIP Timpagrande 9.53 290 *e*Pn **Pn 03 19 27.1 +0.8**
TIP Timpagrande 9.53 290 *e*Pn **Pn 03 19 27.1 +0.8**
TIP Sn **Sn 03 21 05.8 -5.9**
TR1 9.64 148 ⇑P **Pn 03 19 27.8 -0.1**
HHRG Al Ghardaqah 10.19 152 P **Pn 03 19 35.4 0.0**
BZS Buzias 10.49 333 ⇓P **Pn 03 19 40.7 +1.2**
VAE Valguarnera 11.15 280 S **Sn 03 21 48.1 -3.1**
comp=N,0.9nm,0.3s,baz=37,slow=18,SNR=3.2
DRGR 11.19 340 ⇓P **Pn 03 19 50.7 +1.8**
DRGR 11.19 340 ⇓P **Pn 03 19 50.7 +1.8**
AQU L'Aquila 12.95 302 P **Pn 03 20 16.0 +3.1**
VRAC Vranov 15.46 330 P **Pn 03 20 46.2 +0.5**
comp=N,0.2nm,0.3s,baz=23,slow=12,SNR=2.0
PGF Pioggiola 16.09 298 *e*P **Pn 03 20 55.4 +1.8**
GERES GERESS Array B 16.39 324 P **Pn 03 20 58.0 +0.6**
comp=N,0.2nm,0.3s,baz=134,slow=13,SNR=11
BRG Berggiesshubel 17.76 329 *e*P **Pn 03 21 15.5 +1.3**
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 17.76 329 *e*P **Pn 03 21 15.5 +1.3**
comp=Z,2.5nm,0.8s
FRF La Foret Royal 18.02 300 *e*P **Pn 03 21 16.5 -0.9**
comp=Z,7.7nm,0.8s
FRF La Foret Royal 18.02 300 *e*P **Pn 03 21 16.5 -0.9**
FRF pmax pmax
comp=Z,4.0nm,0.8s
FRF La Foret Royal 18.02 300 *e*P **Pn 03 21 16.5 -0.9**
comp=Z,3.8nm,0.8s
MBDF Montbardon 18.30 304 *e*P **Pn 03 21 19.9 -0.8**
comp=Z,13nm,0.7s
MBDF Montbardon 18.30 304 *e*P **Pn 03 21 19.9 -0.8**
MBDF pmax pmax
comp=Z,6.0nm,0.7s
MBDF Montbardon 18.30 304 *e*P **Pn 03 21 19.9 -0.8**
comp=Z,6.3nm,0.7s
BNI Bardonecchia 18.47 305 *e*P **Pn 03 21 23.4 +0.6**
BNI pmax pmax
comp=Z,2.0nm,0.5s
BNI Bardonecchia 18.47 305 *e*P **Pn 03 21 23.4 +0.6**
comp=Z,2.2nm,0.5s
BNI Bardonecchia 18.47 305 *e*P **Pn 03 21 23.4 +0.6**
comp=Z,2.2nm,0.5s
CLL Collm 18.48 329 *e*P **Pn 03 21 24.0 +1.1**
comp=Z,6.0nm,1.0s
LPG La Plagne 18.58 306 *e*P **Pn 03 21 23.8 -0.3**
comp=Z,12nm,0.7s
LPG La Plagne 18.58 306 *e*P **Pn 03 21 23.8 -0.3**
LPG pmax pmax
comp=Z,6.0nm,0.7s
LPG La Plagne 18.58 306 *e*P **Pn 03 21 23.8 -0.3**
comp=Z,5.9nm,0.7s
LPL La Plagne 18.60 306 *e*P **Pn 03 21 24.3 -0.1**
comp=Z,11nm,0.5s
LPL La Plagne 18.60 306 *e*P **Pn 03 21 24.3 -0.1**
LPL pmax pmax
comp=Z,6.0nm,0.5s
LPL La Plagne 18.60 306 *e*P **Pn 03 21 24.3 -0.1**
comp=Z,5.7nm,0.5s
SMRF Simiane la Rot 18.89 301 *e*P **Pn 03 21 26.4 -1.4**
comp=Z,44nm,1.5s
SMRF Siniane la Rot 18.89 301 *e*P **Pn 03 21 26.4 -1.4**
comp=Z,22nm,1.5s
ORIF Oris-en-Rattie 18.96 304 *e*P **Pn 03 21 27.6 -1.0**
comp=Z,5.8nm,0.7s
ORIF Oris-en-Rattie 18.96 304 *e*P **Pn 03 21 27.6 -1.0**
ORIF pmax pmax
comp=Z,3.0nm,0.7s
ORIF Oris-en-Rattie 18.96 304 *e*P **Pn 03 21 27.6 -1.0**
comp=Z,2.9nm,0.7s
CABF La Chapelle 19.44 309 *e*P **Pn 03 21 32.6 -1.7**
comp=Z,1.7nm,0.7s
CABF La Chapelle 19.44 309 *e*P **Pn 03 21 32.6 -1.7**
CABF pmax pmax
comp=Z,9.0nm,0.7s
CABF La Chapelle 19.44 309 *e*P **Pn 03 21 32.6 -1.7**
comp=Z,8.5nm,0.7s
HINF Hinteralfeld 19.50 312 *e*P **Pn 03 21 32.9 -2.1**
CDF Champ du Feu 19.54 314 *e*P **Pn 03 21 33.2 -2.3**
comp=Z,6.3nm,0.8s
CDF Champ du Feu 19.54 314 *e*P **Pn 03 21 33.2 -2.3**
CDF pmax pmax
comp=Z,3.0nm,0.8s
CDF Champ du Feu 19.54 314 *e*P **Pn 03 21 33.2 -2.3**
comp=Z,3.2nm,0.8s
VIVF Saint-Julien-I 19.76 303 *e*P **Pn 03 21 36.0 -2.0**
comp=Z,10.0nm,0.5s
VIVF Saint-Julien-I 19.76 303 *e*P **Pn 03 21 36.0 -2.0**
VIVF pmax pmax
comp=Z,5.0nm,0.5s
VIVF Saint-Julien-I 19.76 303 *e*P **Pn 03 21 36.0 -2.0**
comp=Z,5.0nm,0.5s
HAU Haudompre 19.89 313 *e*P **Pn 03 21 39.5 -0.1**
comp=Z,8.2nm,0.6s
HAU Haudompre 19.89 313 *e*P **Pn 03 21 39.5 -0.1**
HAU pmax pmax
comp=Z,4.0nm,0.6s
HAU Haudompre 19.89 313 *e*P **Pn 03 21 39.5 -0.1**
comp=Z,4.1nm,0.6s
LASF Ste Croix 20.11 300 *e*P **P 03 21 40.2 +0.5**
comp=Z,32nm,1.5s
LASF Ste Croix 20.11 300 *e*P **P 03 21 40.2 +0.5**
comp=Z,16nm,1.5s
SMF Signal de Mont 20.89 307 *e*P **P 03 21 47.3 -0.8**
comp=Z,6.7nm,0.4s
SMF Signal de Mont 20.89 307 *e*P **P 03 21 47.3 -0.8**
SMF pmax pmax
comp=Z,3.0nm,0.4s
SMF Signal de Mont 20.89 307 *e*P **P 03 21 47.3 -0.8**
comp=Z,3.3nm,0.4s
LOR Lormes 21.10 309 *e*P **P 03 21 50.0 -0.4**
MTLF Montolieu 21.11 297 *e*P **P 03 21 49.6 -1.0**
comp=Z,6.5nm,0.8s,mb3.7
MTLF Montolieu 21.11 297 *e*P **P 03 21 49.6 -1.0**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb3.7
MTLF Montolieu 21.11 297 *e*P **P 03 21 49.6 -1.0**
comp=Z,3.2nm,0.8s,mb3.7
SSF Saint Saulge 21.25 308 *e*P **P 03 21 51.3 -0.7**
comp=Z,8.2nm,0.5s,mb4.0
SSF Saint Saulge 21.25 308 *e*P **P 03 21 51.3 -0.7**
SSF pmax pmax
comp=Z,4.0nm,0.5s,mb4.0
SSF Saint Saulge 21.25 308 *e*P **P 03 21 51.3 -0.7**
comp=Z,4.1nm,0.5s,mb4.0
AVF Avril sur Loir 21.25 307 *e*P **P 03 21 50.6 -1.4**
comp=Z,2.5nm,0.4s,mb3.6
AVF Avril sur Loir 21.25 307 *e*P **P 03 21 50.6 -1.4**
AVF pmax pmax
comp=Z,1.0nm,0.4s,mb3.5
AVF Avril sur Loir 21.25 307 *e*P **P 03 21 50.6 -1.4**
comp=Z,1.2nm,0.4s,mb3.6
BGF Bois d'Agland 21.50 306 *e*P **P 03 21 52.0 -2.7**
comp=Z,3.9nm,0.5s,mb3.7
BGF Bois d'Agland 21.50 306 *e*P **P 03 21 52.0 -2.7**
BGF pmax pmax
comp=Z,2.0nm,0.5s,mb3.7
BGF Bois d'Agland 21.50 306 *e*P **P 03 21 52.0 -2.7**
comp=Z,2.0nm,0.5s,mb3.7
CAF Calviac 21.56 301 *e*P **P 03 21 54.9 -0.4**
TCF Toulx Ste Croi 21.84 305 *e*P **P 03 21 59.6 +1.3**
comp=Z,22nm,1.2s,mb4.1
TCF Toulx Ste Croi 21.84 305 *e*P **P 03 21 59.6 +1.3**
TCF pmax pmax
comp=Z,11nm,1.2s,mb4.1
TCF Toulx Ste Croi 21.84 305 *e*P **P 03 21 59.6 +1.3**
comp=Z,11nm,1.2s,mb4.1
RJF Les Rejaudoux 22.03 302 *e*P **P 03 21 59.5 -0.8**
EPF Esparros 22.42 296 *e*P **P 03 22 04.2 -0.3**
ETSF Etsaut 23.06 295 *e*P **P 03 22 09.9 -1.3**
MFF Saint Martin d 23.49 305 *e*P **P 03 22 14.2 -0.9**
comp=Z,6.4nm,0.6s,mb3.8
MFF Saint Martin d 23.49 305 *e*P **P 03 22 14.2 -0.9**
MFF pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
MFF Saint Martin d 23.49 305 *e*P **P 03 22 14.2 -0.9**
comp=Z,3.2nm,0.6s,mb3.8
SJPF Ste Jean 23.57 296 *e*P **P 03 22 16.0 +0.2**
comp=Z,2.6nm,0.5s,mb3.5
SJPF Ste Jean 23.57 296 *e*P **P 03 22 16.0 +0.2**
SJPF pmax pmax
comp=Z,1.0nm,0.5s,mb3.4
SJPF Ste Jean 23.57 296 *e*P **P 03 22 16.0 +0.2**
comp=Z,1.3nm,0.5s,mb3.5
LDF La Druitiere 24.08 309 *e*P **P 03 22 19.9 -0.6**
comp=Z,4.4nm,0.4s,mb3.8
LDF La Druitiere 24.08 309 *e*P **P 03 22 19.9 -0.6**
LDF pmax pmax
comp=Z,2.0nm,0.4s,mb3.8
LDF La Druitiere 24.08 309 *e*P **P 03 22 19.9 -0.6**
comp=Z,2.2nm,0.4s,mb3.8
FLN La Foliniere 24.36 309 *e*P **P 03 22 21.1 -1.9**
comp=Z,6.8nm,0.5s,mb4.0
FLN La Foliniere 24.36 309 *e*P **P 03 22 21.1 -1.9**
FLN pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
FLN La Foliniere 24.36 309 *e*P **P 03 22 21.1 -1.9**
comp=Z,3.4nm,0.5s,mb4.0
GRR Gorron 24.47 308 *e*P **P 03 22 22.8 -1.2**
comp=Z,8.9nm,0.4s,mb4.1
GRR Gorron 24.47 308 *e*P **P 03 22 22.8 -1.2**
GRR pmax pmax
comp=Z,4.0nm,0.4s,mb4.1
GRR Gorron 24.47 308 *e*P **P 03 22 22.8 -1.2**
comp=Z,4.4nm,0.4s,mb4.1
FINES FINESS Array B 25.11 358 P **P 03 22 29.7 -0.2**
comp=Z,0.9nm,0.5s,mb3.5,baz=163,slow=11,SNR=8.3
FINES FINESS Array B 25.11 358 P **P 03 22 29.7 -0.2**
ESDC Sonseca Array 25.52 287 P **P 03 22 33.6 0.0**
comp=Z,1.3nm,0.5s,mb3.6,baz=84,slow=9.4,SNR=14
HFS Hagfors 25.55 343 P **P 03 22 33.2 -0.6**
comp=Z,1.7nm,0.8s,mb3.5,baz=54,slow=7.4,SNR=3.9
AKTK Aktyubinsk 25.56 47 P **P 03 22 34.4 +0.5**
AKTK Aktyubinsk 25.56 47 P **P 03 22 34.4 +0.5**
AKTO Aktyubinsk 25.56 47 P **P 03 22 34.4 +0.5**
comp=Z,1.6nm,0.5s,mb3.7,baz=256,slow=9.1,SNR=6.3
AKTO Aktyubinsk 25.56 47 P **P 03 22 34.4 +0.5**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
QUIF Quistinic 25.82 306 *e*P **P 03 22 34.7 -1.5**
ROSF Rostrenen 26.00 307 *e*P **P 03 22 35.9 -2.0**
MDT Midelt 27.23 272 P **P 03 22 49.9 +0.9**
comp=Z,2.2nm,0.8s,mb3.7,baz=82,slow=12,SNR=8.2
ZRNK Zerenda 32.83 47 *e*P **P 03 23 40.0 +1.5**
ZRNK pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
ZRNK Zerenda 32.83 47 *e*P **P 03 23 40.0 +1.5**
comp=Z,1.5nm,0.8s,mb3.9
ZRNK Zerenda 32.83 47 *e*P **P 03 23 40.0 +1.5**
comp=Z,1.5nm,0.8s,mb3.9
TORD Torodi Ar. Bea 33.23 233 P **P 03 23 43.6 +1.6**
comp=Z,1.2nm,0.6s,mb3.9,baz=33,slow=8.6,SNR=39
ARCES ARCESS Array B 33.24 358 P **P 03 23 41.3 -0.7**
comp=Z,8.5nm,1.1s,mb4.5,baz=302,slow=2.7,SNR=4.1
AAK Ala-Archa 35.85 65 P **P 03 24 06.7 +2.2**
AAK pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
AAK Ala-Archa 35.85 65 P **P 03 24 06.7 +2.2**
comp=Z,0.9nm,0.3s,mb4.2
KURK Kurchatov 38.44 52 *e*P **P 03 24 27.4 +0.9**
KURK pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
KURK Kurchatov 38.44 52 *e*P **P 03 24 27.4 +0.9**
comp=Z,2.0nm,1.0s,mb3.9
KURK Kurchatov 38.44 52 *e*P **P 03 24 27.4 +0.9**
comp=Z,2.0nm,1.0s,mb3.9
MKAR Makanchi Array 40.98 58 P **P 03 24 47.6 0.0**
comp=Z,0.4nm,0.5s,mb3.5,baz=281,slow=8.5,SNR=5.3
DBIC Dimbokro 42.32 234 P **P 03 24 59.1 +0.6**
comp=Z,8.9nm,1.3s,mb4.3,baz=91,slow=14,SNR=5.1
DBIC Dimbokro 42.32 234 P **P 03 24 59.2 +0.7**
DBIC pmax pmax
comp=Z,9.0nm,1.3s
DBIC Dimbokro 42.32 234 P **P 03 24 59.4 +0.9**
comp=Z,0.8nm,0.6s,mb3.6
SUMG Summit 48.75 338 P **P 03 25 50.8 +1.5**
comp=Z,1.7nm,0.6s,mb4.2
SUMG Summit 48.75 338 P **P 03 25 50.8 +1.5**
comp=Z,1.7nm,0.6s,mb4.2
SONM Songino Array 56.75 52 P **P 03 26 49.8 +1.6**
comp=Z,0.2nm,0.5s,mb3.4,baz=269,slow=5.8,SNR=3.3

ISCJB ***15*** *03:23:26.5±1.2, 553S±02×1249W±03, h10km, mb4.0/5, MS4.0/12, Error ellipse: s-maj=34.6km s-min=21.8km az=29.7*
IDC ***15*** *03:23:26.9±1.1, 5552S×12490W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/16, mbtmp4.0/5, MS4.0/12, Ms1 4.0/12, ms1mx3.8/20, Error ellipse: s-maj=50.5km s-min=27.8km az=177.0*
ISC 15 03:23:28.4±1.2, 555S±02×1249W±03, h10km, n21, σ0.39/7, mb4.0/5, MS4.0/12, 2C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**31.54**	**113**	LR	LR	03 38 26.2	
	comp=Z,320nm,19.0s,MS4.0,baz=333,slow=29						
PPT	**Papeete**	**42.23**	**324**	LR	LR	03 43 46.6	
	comp=Z,299nm,20.2s,MS4.2,baz=273,slow=29						
VNA3	**Neumayer Olymp**	**45.64**	**156**	⇑*i*		**P**	**03 31 49.5 +0.5**
VNA2	**Neumayer--Watz**	**46.39**	**156**	⇑*i*		**P**	**03 31 55.2 +0.2**
	baz=222,slow=9.4						
SNAA	**Sanae**	**46.84**	**158**	P		**P**	**03 31 57.8 -0.7**
	2.7nm,0.8s,mb4.2,baz=234,slow=6.9,SNR=6.6						
AFI	**Afiamalu**	**54.93**	**300**	LR	LR	03 53 28.6	
	comp=Z,57nm,18.2s,MS3.7,baz=125,slow=33						
CPUP	**Villa Florida**	**56.13**	**88**	LR	LR	03 53 37.4	
	comp=Z,120nm,19.7s,MS4.0,baz=212,slow=32						
MAW	**Mawson**	**57.11**	**184**	LR	LR	03 55 49.0	
	comp=Z,158nm,20.2s,MS4.1,baz=176,slow=34						
LPAZ	**La Paz**	**58.10**	**71**	LR	LR	03 52 07.9	
	comp=Z,98nm,21.1s,MS3.9,baz=99,slow=30						
SIV	**San Ignacio**	**62.21**	**77**	P		**P**	**03 33 50.1 0.0**
	2.0nm,1.0s,mb4.2,baz=250,slow=14,SNR=4.0						
STKA	**Stephens Creek**	**66.25**	**248**	P		**P**	**03 34 16.5 -0.1**
	1.3nm,0.7s,mb4.1,baz=135,slow=8.6,SNR=3.6						
STKA				LR	LR	03 56 00.7	
	comp=Z,108nm,21.8s,MS4.0,baz=90,slow=30						
BDFB	**Brasília**	**69.86**	**88**	LR	LR	04 02 44.2	
	comp=Z,138nm,18.3s,MS4.2,baz=26,slow=34						
CTA	**Charters Tower**	**73.03**	**259**	LR	LR	04 05 17.6	
	comp=Z,71nm,18.1s,MS4.0,baz=229,slow=34						
ASAR	**Alice Springs**	**76.87**	**247**	P		**P**	**03 35 20.4 -0.3**
	0.8nm,0.7s,mb3.7,baz=152,slow=5.8,SNR=8.1						
WRA	**Warramunga Arr**	**79.69**	**250**	P		**P**	**03 35 36.7 +0.5**
	1.5nm,0.8s,mb4.0,baz=147,slow=5.1,SNR=5.9						
BOSA	**Boshof**	**92.45**	**154**	LR	LR	04 12 54.6	
	comp=Z,73nm,18.7s,MS4.2,baz=168,slow=32						
NVAR	**Mina Array Bea**	**93.70**	**5**	LR	LR	04 09 18.3	
	comp=Z,41nm,20.9s,MS3.9,baz=135,slow=29						
PDAR	**Pinedale Array**	**98.73**	**11**	LR	LR	04 12 08.3	
	comp=Z,86nm,20.4s,MS4.2,baz=345,slow=30						
TORD	**Torodi Ar. Bea**	**121.12**	**114**	PKP	PKPdf	03 42 20.2	-1.2
	0.2nm,0.5s,baz=232,slow=1.7,SNR=5.5						
SONM	**Songino Array**	**147.90**	**278**	PKPbc	PKPbc	03 43 14.0	+0.2
	0.2nm,0.5s,baz=134,slow=4.2,SNR=2.4						
MKAR	**Makanchi Array**	**160.94**	**254**	PKPab	PKPab	03 44 09.6	-1.9
	0.3nm,0.6s,baz=131,slow=6.7,SNR=3.9						

ISCJB ***15*** *03:25:12.8±0.3, 4157N±003×14203E±005, h73km±3km, mb3.9/18, Error ellipse: s-maj=6.7km s-min=4.4km az=71.1*
JMA ***15*** *03:25:13.2±0.2, 4156N×14205E, h66km±3km, M3.6*
JMA Felt I J1.
MOS ***15*** *03:25:13.4±1.1, 4155N×14205E, h83km, mb4.1/9, Error ellipse: s-maj=16.1km s-min=9.3km az=92.9*
IDC ***15*** *03:25:14.8±1.9, 4148N×14200E, h77km±17km, mb3.6/9, mb1 3.7/11, mb1mx3.5/23, mbtmp3.8/11, Error ellipse: s-maj=25.3km s-min=13.5km az=99.0*
NEIC ***15*** *03:25:16.6±0.6, 4142N×14205E, h100km, mb4.1/8, Error ellipse: s-maj=15.8km s-min=7.7km az=112.0*
NEIC Recorded [1 JMA] in southwestern Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.
ISC 15 03:25:13.8±0.3, 4158N±003×14204E±005, h67km±3km,

n47,σ0°79/57, mb3.9/18, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.77**	**256**	P	**Pn**	**03 25 29.0**	**-0.2**
JOT				S	**Sn**	**03 25 40.9**	**+0.3**
JKB	**Kayabe**	**0.81**	**293**	⇓P	**Pn**	**03 25 29.2**	**-0.6**
JKB				*e*S	**Sn**	**03 25 41.0**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.88**	**37**	⇓P	**Pn**	**03 25 29.6**	**-1.0**
JEM	**Erimo**	**0.95**	**62**	P	**Pn**	**03 25 30.7**	**-0.7**
JEM				S	**Sn**	**03 25 43.5**	**-1.0**
JANG	**Nango**	**1.27**	**198**	P	**Pn**	**03 25 35.0**	**-0.5**
JANG				*e*S	**Sn**	**03 25 51.2**	**-0.6**
JEW	**Eniwo**	**1.33**	**341**	⇓P	**Pn**	**03 25 36.7**	**+0.3**
JEW				*e*S	**Sn**	**03 25 53.1**	**-0.3**
JCH	**Churui**	**1.43**	**43**	P	**Pn**	**03 25 38.0**	**+0.3**
JCH				*e*S	**Sn**	**03 25 57.6**	**+1.9**
JOSM	**Okushiri--Mats**	**1.98**	**286**	P	**Pn**	**03 25 44.9**	**-0.2**
JOSM				*e*S	**Sn**	**03 26 08.4**	**-0.4**
JAR	**Ashorobuto**	**2.14**	**36**	P	**Pn**	**03 25 47.4**	**+0.1**
JAR				*e*S	**Sn**	**03 26 12.8**	**0.0**
JOM	**Ohasama**	**2.18**	**195**	⇓P	**Pn**	**03 25 47.9**	**+0.1**
JOM				*e*S	**Sn**	**03 26 13.9**	**+0.2**
ASAJ	**Asahikawa**	**2.57**	**9**	P	**Pn**	**03 25 54.4**	**+1.3**
	13nm,0.3s,baz=239,slow=17,SNR=42						
ASAJ				S	**Sn**	**03 26 27.8**	**+4.6**
	16nm,0.3s,baz=317,slow=32,SNR=7.6						
ASAJ	**Asahikawa**	**2.57**	**9**	P	**Pn**	**03 25 54.4**	**+1.3**
ASAJ				S	**Sn**	**03 26 27.8**	**+4.6**
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
ASAJ				smax			
	comp=N,16nm,0.3s						
MAJO	**Matsushiro**	**5.84**	**212**	*e*P	**Pn**	**03 26 38.9**	**+1.1**
MAT	**Matsushiro**	**5.84**	**212**	P	**Pn**	**03 26 39.5**	**+1.7**
MAT	**Matsushiro**	**5.84**	**212**	*e*P	**Pn**	**03 26 40.0**	**+2.2**
MJAR	**Matsushiro Arr**	**5.84**	**212**	P	**Pn**	**03 26 38.2**	**+0.4**
	comp=N,1.1nm,0.3s,baz=22,slow=14,SNR=7.0						
KLR	**Kul'dur**	**10.52**	**320**	*e*P	**Pn**	**03 27 42.0**	**+0.3**
ULN	**Ulaanbaatar**	**25.48**	**296**	P	**P**	**03 30 37.1**	**+1.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
ULN	**Ulaanbaatar**	**25.48**	**296**	P	**P**	**03 30 37.1**	**+1.4**
	comp=Z,1.8nm,0.9s,mb3.5						
SONM	**Songino Array**	**25.93**	**296**	P	**P**	**03 30 40.3**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.4,baz=89,slow=8.5,SNR=8.0						
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**03 33 00.2**	**-0.3**
	comp=Z,1.3nm,0.9s,mb3.7,baz=132,slow=3.4,SNR=7.6						
KURK	**Kurchatov**	**43.63**	**305**	*e*P	**P**	**03 33 11.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
KURK	**Kurchatov**	**43.63**	**305**	*e*P	**P**	**03 33 11.4**	**-0.2**
	comp=Z,1.9nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**45.44**	**35**	P	**P**	**03 33 26.7**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.5,baz=276,slow=6.0,SNR=9.2						
BVAR	**Borovoye Array**	**47.97**	**309**	P	**P**	**03 33 46.0**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.1,baz=75,slow=8.9,SNR=12						
BRVK	**Borovoye**	**48.02**	**310**	*e*P	**P**	**03 33 47.2**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
BRVK	**Borovoye**	**48.02**	**310**	*e*P	**P**	**03 33 47.2**	**+1.1**
	comp=Z,1.3nm,0.9s,mb3.8						
ZRNK	**Zerenda**	**48.79**	**310**	*e*P	**P**	**03 33 52.3**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**48.79**	**310**	*e*P	**P**	**03 33 52.3**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**48.88**	**295**	*e*P	**P**	**03 33 52.5**	**-0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
AAK	**Ala-Archa**	**48.88**	**295**	*e*P	**P**	**03 33 52.5**	**-0.3**
	comp=Z,1.2nm,0.3s,mb4.3						
INK	**Inuvik**	**50.15**	**29**	*e*P	**P**	**03 34 02.7**	**+0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**50.15**	**29**	*e*P	**P**	**03 34 02.7**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.2						
RES	**Resolute Bay**	**58.09**	**15**	*e*P	**P**	**03 34 59.5**	**-0.7**
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
RES	**Resolute Bay**	**58.09**	**15**	*e*P	**P**	**03 34 59.5**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**61.62**	**188**	P	**P**	**03 35 23.0**	**-1.4**
	comp=Z,1.0nm,0.7s,mb4.0,baz=0.8,slow=7.2,SNR=6.9						
WRA	**Warramunga Arr**	**61.62**	**188**	P	**P**	**03 35 23.0**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
JOF	**Joensuu**	**62.20**	**331**	*e*p	**P**	**03 35 25.8**	**-2.5**
	comp=Z,2.7nm,1.0s,mb4.2						
KAF	**Kangasniemi**	**64.51**	**332**	*e*p	**P**	**03 35 42.9**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.0						
KAF	**Kangasniemi**	**64.51**	**332**	*e*P	**P**	**03 35 42.9**	**-0.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
FINES	**FINESS Array B**	**65.04**	**332**	P	**P**	**03 35 46.5**	**-0.5**
	comp=Z,1.5nm,0.8s,mb3.9,baz=45,slow=8.4,SNR=8.1						
FINES	**FINESS Array B**	**65.04**	**332**	P	**P**	**03 35 46.5**	**-0.5**
ASAR	**Alice Springs**	**65.35**	**188**	P	**P**	**03 35 48.6**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.5,baz=5.2,slow=6.4,SNR=6.9						
HFS	**Hagfors**	**70.16**	**335**	P	**P**	**03 36 18.8**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.9,baz=62,slow=10,SNR=4.3						
NOA	**NORSAR Array B**	**70.19**	**337**	P	**P**	**03 36 19.4**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.6,baz=36,slow=6.1,SNR=3.2						
CLL	**Collm**	**77.40**	**330**	*e*P	**P**	**03 37 02.0**	**+0.4**
RKT	**Rikitea**	**100.01**	**112**	*e*LR	LR	03 38 23.7	
	comp=Z,522nm,28.5s,baz=171						

ISCJB ***15*** *03:39:12.7±0.7, 1369N±009×1207E±02, h108km±7km, mb4.2/6, Error ellipse: s-maj=29.3km s-min=14.8km az=173.1*

IDC ***15*** *03:39:13.5±1.9, 1377N×12078E, h98km±22km, mb3.4/4, mb1 3.5/4, mb1mx3.2/19, mbtmp3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.7/14, Error ellipse: s-maj=109.4km s-min=21.5km az=68.0*

MAN ***15*** *03:39:13.6, 1368N×12047E, h72km, mb2.6, ML4.1, MS2.8*

ISC 15 03:39:14.0±0.7, 1370N±009×1207E±02, h101km±7km, n15, σ0°52/17, mb4.2/6, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.29**	**131**	⇑*i*P	**Pn**	**03 39 29.0**	**+0.3**
PGP				*i* S	**Sn**	**03 39 39.8**	**+0.1**
TGY	**Tagaytay City**	**0.45**	**27**	P	**Pn**	**03 39 29.4**	**-0.2**
	355nm,0.3s,baz=269,slow=1.5,SNR=14						
TGY				S	**Sn**	**03 39 41.2**	**-0.1**
	1μm,0.3s,baz=2.7,slow=22,SNR=38						
TGY	**Tagaytay City**	**0.45**	**27**	⇓*i*P	**Pn**	**03 39 20.2**	**-9.4**
TGY				*i* S	**Sn**	**03 39 41.4**	**+0.1**
PPR	**Puerto Princes**	**4.36**	**207**	⇓*e*P	**Pn**	**03 40 17.3**	**-0.7**
JOW	**Kunigami**	**14.86**	**27**	LR	LR	03 47 39.8	
	comp=Z,52nm,21.5s,baz=111,slow=34						
JIRN	**Jiri**	**35.03**	**299**	*e*P	**P**	**03 45 57.2**	**+0.3**
	11nm,0.4s,mb5.0						
GUN	**Gumba**	**35.37**	**299**	*e*P	**P**	**03 46 00.1**	**+0.3**
	12nm,0.4s,mb5.1						
PKI	**Pulchoki**	**35.67**	**298**	*e*P	**P**	**03 46 03.5**	**+1.1**
KKN	**Kakani**	**35.84**	**299**	*e*P	**P**	**03 46 03.5**	**-0.3**
DMN	**Daman**	**35.94**	**298**	*e*P	**P**	**03 46 05.3**	**+0.6**
WRA	**Warramunga Arr**	**36.01**	**158**	P	**P**	**03 46 05.6**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=338,slow=9.5,SNR=5.1						
SONM	**Songino Array**	**36.07**	**344**	P	**P**	**03 46 05.2**	**-0.5**
	1.8nm,0.5s,mb4.2,baz=165,slow=9.7,SNR=17						
KOLN	**Koldanda**	**37.28**	**298**	*e*P	**P**	**03 46 15.7**	**-0.3**
MKAR	**Makanchi Array**	**46.05**	**324**	P	**P**	**03 47 27.1**	**-0.4**
	0.1nm,0.3s,mb3.0,baz=135,slow=6.7,SNR=5.6						
BVAR	**Borovoye Array**	**55.79**	**326**	P	**P**	**03 48 39.7**	**-0.8**
	0.9nm,0.7s,mb3.9,baz=128,slow=9.6,SNR=5.5						

ISCJB ***15*** *03:53:53.2±3.0, 55S±02×1474E±02, h170km±28km, mb4.2/3, Error ellipse: s-maj=40.3km s-min=27.3km az=96.1*

IDC ***15*** *03:53:55.7±4.7, 571S×14775E, h193km±52km, mb3.5/2, mb1 3.9/4, mb1mx3.4/13, mbtmp4.2/4, Error ellipse: s-maj=101.2km s-min=28.0km az=130.0*

ISC 15 03:53:54.0±3.1, 55S±02×1475E±02, h169km±29km, n11, σ0°84/10, mb4.2/3, 1C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.91**	**185**	P	**Pn**	**03 54 55.4**	**+1.8**
	12nm,0.3s,baz=333,slow=6.0,SNR=27						
PMG				S	**Sn**	**03 55 38.8**	**-1.3**
	10nm,0.3s,baz=183,slow=22,SNR=11						
CTA	**Charters Tower**	**14.57**	**185**	P	**Pn**	**03 57 16.9**	**+4.7**
	0.5nm,0.3s,baz=5.1,slow=16,SNR=4.4						
KAKA	**Kakadu**	**16.49**	**243**	⇑*i*P	**Pn**	**03 57 34.9**	**-0.7**
	17nm,0.5s						
WB2	**Warramunga Arr**	**19.23**	**220**	⇓*i*P	**P**	**03 58 05.6**	**+0.4**
WRA	**Warramunga Arr**	**19.23**	**220**	P	**P**	**03 58 05.3**	**0.0**
	4.1nm,0.3s,baz=47,slow=12,SNR=80						
ASAR	**Alice Springs**	**22.31**	**215**	P	**P**	**03 58 37.9**	**+0.2**
	8.5nm,0.7s,mb4.3,baz=49,slow=8.6,SNR=46						
ASPA	**Alice Springs**	**22.31**	**215**	*e*P	**P**	**03 58 38.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**24.74**	**238**	⇓*i*P	**P**	**03 59 00.0**	**+0.2**
	16nm,0.4s,mb4.9						
RKT	**Rikitea**	**76.43**	**112**	*e*T		04 04 55.8	
	6.9nm,0.2s						
ILAR	**Eielson Array**	**84.82**	**23**	P	**P**	**04 06 08.7**	**-0.8**
	0.5nm,0.8s,mb3.3,baz=255,slow=5.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**145.42**	**285**	PKPbc	PKPbc	04 13 11.4	-0.6
	0.2nm,0.4s,baz=68,slow=3.1,SNR=9.2						

ISCJB ***15*** *04:06:55.2±2.0, 207S±01×686W±0.1, h124km±20km, mb3.8/3, Error ellipse: s-maj=20.3km s-min=15.9km az=62.5*

IDC ***15*** *04:06:56.0±2.8, 2063S×6874W, h121km±23km, mb3.4/5, mb1 3.5/7, mb1mx3.4/17, mbtmp3.9/7, MS3.5/1, Ms1 3.4/1, ms1mx2.5/15, Error ellipse: s-maj=31.6km s-min=21.7km az=88.0*

NEIC ***15*** *04:06:55.6±1.6, 2057S×6874W, h117km±16km, mb3.4/1, Error ellipse: s-maj=21.5km s-min=17.3km az=104.0*

ISC 15 04:06:56.7±1.7, 207S±01×686W±0.1, h120km±18km, n13, σ1°24/13, mb3.8/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.39**	**6**	P	**Pn**	**04 08 00.1**	**-1.4**
	2.2nm,0.3s,baz=183,slow=8.1,SNR=41						
LPAZ				S	**Sn**	**04 08 52.6**	**+0.8**
	0.4nm,0.3s,baz=185,slow=25,SNR=2.4						
ARE	**Arequipa**	**5.01**	**326**	*e*P	**Pn**	**04 08 01.0**	**-8.7**
ARE				*e*S	**Sn**	**04 09 08.0**	**+1.4**
SIV	**San Ignacio**	**8.54**	**58**	P	**Pn**	**04 08 56.6**	**-0.8**
	3.2nm,0.3s,baz=249,slow=12,SNR=73						
SAML	**Samuel**	**12.79**	**25**	P	**Pn**	**04 09 48.4**	**-5.7**
	0.7nm,0.7s						
PLCA	**Paso Flores**	**20.05**	**184**	P	**P**	**04 11 20.8**	**+0.5**
	1.7nm,0.8s,baz=24,slow=12,SNR=4.8						
BDFB	**Brasilia**	**20.19**	**79**	P	**P**	**04 11 22.5**	**+0.7**
	2.2nm,0.6s,baz=266,slow=9.8,SNR=4.0						
BDFB				LR	LR	04 20 15.4	
	comp=Z,131nm,20.2s,baz=337,slow=39						
BDFB	**Brasilia**	**20.19**	**79**	P	**P**	**04 11 22.5**	**+0.7**
BDFB				LR	LR	04 20 15.3	
DBIC	**Dimbokro**	**68.23**	**74**	P	**P**	**04 17 45.3**	**+1.0**
	3.9nm,1.1s,mb4.2,baz=334,slow=8.5,SNR=4.8						
VAH	**Vaihoa**	**74.70**	**259**	*e*T		04 18 21.8	
	128nm,0.3s						
PMOR	**Pomariorio Ree**	**75.02**	**259**	*e*T		04 18 44.1	
	5.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**76.82**	**70**	P	**P**	**04 18 35.6**	**+0.5**
	0.7nm,0.7s,mb3.5,baz=254,slow=5.2,SNR=12						
YKA	**Yellowknife Ar**	**90.51**	**340**	P	**P**	**04 19 42.5**	**-2.4**
	0.3nm,0.6s,mb3.6,baz=134,slow=5.0,SNR=7.7						
YKA	**Yellowknife Ar**	**90.51**	**340**	P	**P**	**04 19 42.5**	**-2.4**

IDC 15 04:14:08.7±4.7, 2209S×14866E, h0km, mb1 3.4/4, mb1mx3.3/11, mbtmp3.2/4, ML3.2/4, Error ellipse: s-maj=44.4km s-min=22.0km az=76.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**3.00**	**311**	Pn	Pn	04 14 59.2	+1.7
	0.5nm,0.3s,baz=142,slow=17,SNR=3.1						
CTA				Pg	Pg	04 15 02.7	-3.6
	1.4nm,0.3s,baz=136,slow=17,SNR=27						
CTA				Lg		04 15 44.9	
	21nm,0.3s,baz=65,slow=19,SNR=18						
STKA	**Stephens Creek**	**11.60**	**211**	Pn	Pn	04 16 54.1	-1.4
	0.3nm,0.3s,baz=19,slow=13,SNR=4.4						
STKA				Lg		04 20 15.3	
	0.2nm,0.3s,baz=122,slow=22,SNR=2.1						
WRA	**Warramunga Arr**	**13.55**	**276**	Pn	Pn	04 17 21.6	-0.4
	0.1nm,0.3s,baz=97,slow=12,SNR=6.0						
WRA				Lg		04 21 17.4	
	0.1nm,0.3s,baz=110,slow=28,SNR=5.5						
ASAR	**Alice Springs**	**13.69**	**261**	Pn	Pn	04 17 26.1	+2.0
	0.1nm,0.3s,baz=93,slow=14,SNR=4.0						
ASAR				Lg		04 21 23.5	
	0.1nm,0.3s,baz=80,slow=29,SNR=4.4						

IDC 15 04:15:04.0±1.4, 317S×12779E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/16, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=123.1km s-min=23.3km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.86**	**160**	P	Pn	04 19 12.3	-1.4
	0.3nm,0.3s,baz=339,slow=12,SNR=8.5						
ASAR	**Alice Springs**	**21.22**	**164**	P	P	04 19 51.8	+0.5
	4.3nm,0.9s,baz=345,slow=12,SNR=31						
SONM	**Songino Array**	**54.14**	**342**	P	P	04 24 31.9	+1.1
	0.4nm,0.8s,baz=149,slow=6.7,SNR=3.4						
MKAR	**Makanchi Array**	**63.83**	**327**	P	P	04 25 37.6	-0.4
	0.4nm,0.7s,baz=140,slow=7.8,SNR=4.9						

NNC ***15*** *04:28:52.0±1.9, 4123N×7336E, h17km±73km, mb3.6, mpv3.2, Error ellipse: s-maj=120.4km s-min=1.2km az=178.0*

KNET ***15*** *04:28:52.5±0.7, 4163N×7335E, h15km±2km, ml2.7, Error ellipse: s-maj=4.5km s-min=3.6km az=102.0*

ISCJB ***15*** *04:28:53.3±1.2, 4158N±007×7333E±007, h10km, Error ellipse: s-maj=10.2km s-min=7.2km az=152.1*

ISC 15 04:28:54.2±1.2, 4160N±007×7338E±007, h10km, n11, σ1°39/22, 8C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.58**	**24**	P	**Pg**	**04 29 03.7**	**-1.8**
	91nm,0.1s,SNR=514						
AML				⇑S	**Sg**	**04 29 13.0**	**-0.2**
	326nm,0.1s						
UCH	**Uchtor**	**1.06**	**53**	⇓P	**Pg**	**04 29 12.4**	**-2.1**
	26nm,0.2s,SNR=137						
UCH				⇑S	**Sg**	**04 29 28.4**	**+0.1**
	108nm,0.2s						
EKS2	**Erkin-Say**	**1.10**	**16**	⇓P	**Pb**	**04 29 12.7**	**-2.7**
	17nm,0.1s,SNR=6.0						
EKS2				⇑S	**Sg**	**04 29 28.2**	**-1.5**
	43nm,0.1s						
AAK	**Ala-Archa**	**1.33**	**39**	⇓P	**Pn**	**04 29 17.3**	**-1.4**
	28nm,0.2s,SNR=65						
AAK				⇓S	**Sb**	**04 29 36.1**	**-0.2**
	55nm,0.2s						
KZA	**Kyzart**	**1.48**	**71**	⇑P	**Pn**	**04 29 19.9**	**-1.0**
	22nm,0.2s,SNR=14						
KZA				⇓S	**Sn**	**04 29 41.1**	**+0.8**
	38nm,0.2s						
KBK	**Karagaybulak**	**1.57**	**47**	⇓P	**Pn**	**04 29 22.3**	**+0.1**
	16nm,0.1s,SNR=23						
KBK				⇓S	**Sn**	**04 29 44.8**	**+2.2**
	152nm,0.3s						
CHMS	**Chumysh**	**1.73**	**36**	⇓P	**Pn**	**04 29 24.6**	**+0.2**
	16nm,0.2s,SNR=16						
CHMS				⇓S	**Sn**	**04 29 48.3**	**+1.8**
	62nm,0.3s						
USP	**Ospenovka**	**1.86**	**26**	⇑P	**Pn**	**04 29 26.3**	**+0.1**
	45nm,0.4s,SNR=28						
USP				⇓S	**Sn**	**04 29 52.3**	**+2.6**
	99nm,0.3s						
TKM2	**Tokmak 2**	**2.11**	**51**	⇓P	**Pn**	**04 29 30.7**	**+1.1**
	21nm,0.2s,SNR=34						
TKM2				⇓S	**Sn**	**04 30 00.5**	**+4.6**
	29nm,0.1s						
TKM2	**Tokmak 2**	**2.11**	**51**	⇑P	**Pn**	**04 29 30.4**	**+0.8**
	22nm,0.5s						
TKM2				⇓S	**Sn**	**04 30 00.2**	**+4.4**
	102nm,0.9s						
KK31	**Karatay Array**	**2.60**	**306**	⇑P	**Pn**	**04 29 36.5**	**+0.2**
	1.2nm,0.3s,baz=135,slow=12,SNR=35						
KK31				⇑S	**Sn**	**04 30 11.0**	**+3.1**
	5.6nm,0.3s,baz=128,slow=26,SNR=13						

IDC ***15*** *04:30:19.0±0.6, 4192N×8835E, h0km, mb3.9/14, mb1 4.0/16, mb1mx3.9/25, mbtmp3.9/16, ML3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/30, Error ellipse: s-maj=20.1km s-min=13.6km az=42.0*

MOS ***15*** *04:30:23.2±1.1, 4198N×8834E, h37km, mb4.4/9, Error ellipse: s-maj=13.9km s-min=7.2km az=126.1*

NEIC ***15*** *04:30:24.9±1.3, 4194N×8833E, h40km±11km, mb4.2/13, Error ellipse: s-maj=13.5km s-min=10.2km az=192.0*

BJI ***15*** *04:30:24.3, 4185N×8820E, h39km, mB4.4, mb4.6, ML4.4, Ms3.7, Msz3.6*

NNC ***15*** *04:30:26.1±3.1, 4216N×8806E, h18km±26km, mb4.1, mpv4.2, Error ellipse: s-maj=31.1km s-min=19.9km az=102.0*

ISCJB ***15*** *04:30:27.5±0.9, 4214N±006×8828E±006, h74km±9km, mb4.0/22, Error ellipse: s-maj=11.9km s-min=6.1km az=60.1*

ISC 15 04:30:27.0±0.8, 4205N±007×8831E±006, h59km±8km, n82, σ1°23/93, mb4.1/23, 26C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.83**	**346**	⇓*i*P	**Pn**	**04 30 57.0**	**+0.8**
WMQ				S	**Sn**	**04 31 22.0**	**+3.7**
WMQ				Smax			
	comp=N,7μm,0.4s						
WMQ				Smax			
	comp=E,8μm,0.4s						
MK31	**Makanchi Array**	**6.41**	**320**	⇓Pn	**Pn**	**04 31 57.6**	**-1.2**
	comp=E,6.4nm,0.3s,baz=143,slow=14,SNR=338						
MK31				⇑Sn	**Sn**	**04 33 13.4**	**+2.8**
	comp=E,16nm,0.3s						
MK31				⇓Lg		04 33 44.7	
	comp=E,22nm,0.5s,baz=135,slow=34,SNR=4.1						
MK31	**Makanchi Array**	**6.41**	**320**	⇓Pn	**Pn**	**04 31 57.6**	**-1.2**
	comp=E,6.4nm,0.3s						
MK31				Sn	**Sn**	**04 33 13.4**	**+2.8**
MK31				Lg		04 33 44.7	
MKAR	**Makanchi Array**	**6.41**	**320**	Pn	**Pn**	**04 31 57.5**	**-1.3**
	comp=E,3.4nm,0.3s,baz=140,slow=14,SNR=81						
MKAR				Sn	**Sn**	**04 33 09.7**	**-0.9**
	comp=E,3.6nm,0.3s,baz=155,slow=19,SNR=4.0						
MKAR				Lg		04 33 46.6	
	comp=E,10nm,0.3s,baz=70,slow=15,SNR=5.5						
MKAR	**Makanchi Array**	**6.41**	**320**	P	**Pn**	**04 31 57.5**	**-1.3**
MKAR						04 33 09.7	
MKAR	**Makanchi Array**	**6.41**	**320**	Pn	**Pn**	**04 31 57.5**	**-1.4**
MKAR				Sn	**Sn**	**04 33 09.7**	**-0.9**
MKAR				Lg		04 33 46.6	
GTA	**Gaotai**	**9.12**	**103**	*e*P	**Pn**	**04 32 33.8**	**-2.1**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.4s						
GTA				LR	LR		
	comp=N,255nm,9.1s						
GTA				LR	LR		
	comp=E,172nm,6.8s						
GTA				LR	LR		
	comp=Z,148nm,7.2s						
TKM2	**Tokmak 2**	**9.44**	**280**	P	**Pn**	**04 32 46.2**	**+6.0**
	SNR=8.7						
TKM2	**Tokmak 2**	**9.44**	**280**	⇑Pn	**Pn**	**04 32 39.9**	**-0.3**
	comp=Z,39nm,0.7s						
TKM2				⇓Sn	**Sn**	**04 34 22.1**	**-2.6**
	comp=Z,29nm,0.7s						
TKM2				⇑Lg		04 35 18.9	
	comp=Z,23nm,0.6s						
TKM2	**Tokmak 2**	**9.44**	**280**	⇑P	**Pn**	**04 32 39.9**	**-0.3**
TKM2						04 34 22.1	
TKM2				pmax	pmax		
	comp=Z,39nm,0.6s						
TKM2	**Tokmak 2**	**9.44**	**280**	⇑Pn	**Pn**	**04 32 39.9**	**-0.3**
	comp=Z,39nm,0.6s						
TKM2				Sn	**Sn**	**04 34 22.1**	**-2.6**
TKM2				Lg		04 35 18.9	
KBK	**Karagaybulak**	**9.91**	**278**	P	**Pn**	**04 32 52.0**	**+5.3**
	SNR=11						
AAK	**Ala-Archa**	**10.25**	**278**	P	**Pn**	**04 32 55.4**	**+4.1**
	SNR=6.0						
AAK	**Ala-Archa**	**10.25**	**278**	*e*Pn	**Pn**	**04 32 47.2**	**-4.1**
UCH	**Uchtor**	**10.25**	**276**	P	**Pn**	**04 32 56.7**	**+5.3**
	SNR=6.4						
EKS2	**Erkin-Say**	**10.78**	**278**	P	**Pn**	**04 33 02.3**	**+3.8**
	SNR=6.4						
KURK	**Kurchatov**	**10.95**	**326**	⇑Pn	**Pn**	**04 33 01.9**	**+1.1**
	comp=Z,1.9nm,0.4s						
KURK				⇑Sn	**Sn**	**04 34 58.6**	**-3.1**
	comp=Z,3.4nm,0.8s						
KURK	**Kurchatov**	**10.95**	**326**	⇑Pn	**Pn**	**04 33 01.9**	**+1.1**
KURK				Sn	**Sn**	**04 34 58.6**	**-3.1**
KK31	**Karatay Array**	**13.16**	**281**	⇑Pn	**Pn**	**04 33 31.8**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=162,slow=11,SNR=20						
KK31	**Karatay Array**	**13.16**	**281**	⇑P	**Pn**	**04 33 31.8**	**+0.7**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KK31	**Karatay Array**	**13.16**	**281**	⇑Pn	**Pn**	**04 33 31.8**	**+0.7**
	comp=Z,1.2nm,0.3s						
KKAR	**Karatay Array**	**13.16**	**281**	P	**Pn**	**04 33 31.7**	**+0.6**
ZAK	**Zakamensk**	**13.28**	**46**	*e*P	**Pn**	**04 33 33.3**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ZAK				pmax	pmax		
	comp=Z,31nm,1.7s						
**LZH

AB31	**Akbulak array**	**21.02 300**	⇑P	**P**	**04 35 05.6**	**-0.1**
AB31			pmax	pmax		
comp=Z,1.0nm,0.3s,mb3.6						
AB31	**Akbulak array**	**21.02 300**	⇑P	**P**	**04 35 05.6**	**0.0**
comp=Z,0.8nm,0.3s,mb3.5						
AKTK	**Aktyubinsk**	**22.45 302**	P	**P**	**04 35 19.3**	**-1.7**
AKTO	**Aktyubinsk**	**22.45 302**	P	**P**	**04 35 19.3**	**-1.6**
comp=Z,3.2nm,0.6s,mb3.9,baz=88,slow=12,SNR=6.1						
AKTO	**Aktyubinsk**	**22.45 302**	P	**P**	**04 35 19.3**	**-1.6**
AKTO			pmax	pmax		
comp=Z,3.0nm,0.6s,mb3.9						
ARU	**Arti**	**23.93 317**	*e*P	**P**	**04 35 35.8**	**+0.3**
ARU			pmax	pmax		
comp=Z,5.0nm,0.5s,mb4.2						
ARU	**Arti**	**23.93 317**	*e*P	**P**	**04 35 35.8**	**+0.3**
comp=Z,5.4nm,0.5s,mb4.2						
NJ2	**Nanjing**	**26.22 102**	*e*P	**P**	**04 35 56.1**	**-0.2**
NJ2			AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.6						
BRTR	**Keskin Array B**	**40.81 286**	P	**P**	**04 38 04.0**	**+1.3**
comp=Z,0.3nm,0.4s,mb3.3,baz=67,slow=11,SNR=2.6						
FINES	**FINESS Array B**	**41.25 320**	P	**P**	**04 38 06.5**	**+0.3**
comp=Z,0.3nm,0.5s,mb3.1,baz=187,slow=30,SNR=2.7						
ARCES	**ARCESS Array B**	**41.90 332**	P	**P**	**04 38 11.8**	**+0.2**
comp=Z,2.6nm,0.8s,mb3.9,baz=97,slow=7.6,SNR=3.7						
NB2	**NORSAR Subarra**	**48.41 321**	P	**P**	**04 39 07.9**	**+4.7**
comp=Z,1.1nm,0.6s,mb4.1,baz=73,slow=7.9						
NB2	**NORSAR Subarra**	**48.41 321**	P	**P**	**04 39 07.9**	**+4.7**
NB2			pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**48.41 321**	P	**P**	**04 39 03.0**	**-0.1**
comp=Z,0.5nm,0.7s,mb3.6,baz=358,slow=17,SNR=2.4						
LPG	**La Plagne**	**56.55 304**	⇑*i*P	**P**	**04 40 10.0**	**+6.6**
comp=Z,5.1nm,0.6s,mb4.4						
LPG	**La Plagne**	**56.55 304**	⇑*i*P	**P**	**04 40 10.0**	**+6.6**
LPG			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5						
LPG	**La Plagne**	**56.55 304**	⇑*i*P	**P**	**04 40 10.0**	**+6.6**
comp=Z,2.5nm,0.6s,mb4.4						
LPL	**La Plagne**	**56.55 304**	⇑*i*P	**P**	**04 40 10.0**	**+6.6**
comp=Z,4.7nm,0.5s,mb4.5						
LPL	**La Plagne**	**56.55 304**	⇑*i*P	**P**	**04 40 10.0**	**+6.6**
LPL			pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.4						
LPL	**La Plagne**	**56.55 304**	⇑*i*P	**P**	**04 40 10.0**	**+6.6**
comp=Z,2.3nm,0.5s,mb4.5						
MBDF	**Montbardon**	**56.90 303**	*e*P	**P**	**04 40 11.1**	**+5.2**
ORIF	**Oris-en-Rattie**	**57.37 303**	*e*P	**P**	**04 40 14.8**	**+5.6**
LMR	**La Mourre**	**57.74 301**	*e*P	**P**	**04 40 17.3**	**+5.5**
comp=Z,3.2nm,0.7s,mb4.2						
LMR	**La Mourre**	**57.74 301**	*e*P	**P**	**04 40 17.3**	**+5.5**
LMR			pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3						
LMR	**La Mourre**	**57.74 301**	*e*P	**P**	**04 40 17.3**	**+5.5**
comp=Z,1.6nm,0.7s,mb4.2						
TCF	**Toulx Ste Croi**	**58.95 306**	*e*P	**P**	**04 40 26.0**	**+5.8**
comp=Z,5.0nm,0.7s,mb4.3						
TCF	**Toulx Ste Croi**	**58.95 306**	*e*P	**P**	**04 40 26.0**	**+5.8**
TCF			pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4						
TCF	**Toulx Ste Croi**	**58.95 306**	*e*P	**P**	**04 40 26.0**	**+5.8**
comp=Z,2.5nm,0.7s,mb4.3						
KMBO	**Kilima Mbogo**	**62.93 241**	P	**P**	**04 40 47.1**	**-0.1**
comp=Z,0.4nm,0.4s,mb3.9,baz=0.0,slow=6.1,SNR=3.7						
ILAR	**Eielson Array**	**65.13 23**	P	**P**	**04 41 01.6**	**0.0**
comp=Z,0.5nm,0.5s,mb3.8,baz=320,slow=4.8,SNR=12						
INK	**Inuvik**	**65.60 16**	P	**P**	**04 41 04.7**	**0.0**
comp=Z,0.5nm,0.5s,mb3.8,baz=319,slow=9.3,SNR=4.0						
INK	**Inuvik**	**65.60 16**	*e*P	**P**	**04 41 05.4**	**+0.7**
INK			pmax	pmax		
comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**65.60 16**	*e*P	**P**	**04 41 05.3**	**+0.6**
comp=Z,1.0nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**74.19 11**	P	**P**	**04 41 57.8**	**+0.4**
comp=Z,0.2nm,0.4s,mb3.4,baz=338,slow=5.6,SNR=5.4						
WRAB	**Tennant Creek**	**74.91 135**	*e*P	**P**	**04 42 01.9**	**+0.3**
WRAB			pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**74.91 135**	*e*P	**P**	**04 42 01.9**	**+0.4**
comp=Z,5.9nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**74.91 135**	P	**P**	**04 42 01.8**	**+0.2**
comp=Z,2.9nm,0.7s,mb4.3,baz=334,slow=5.7,SNR=23						
ASAR	**Alice Springs**	**77.78 138**	P	**P**	**04 42 18.4**	**+0.5**
comp=Z,1.5nm,0.5s,mb4.2,baz=327,slow=5.3,SNR=18						
TORD	**Torodi Ar. Bea**	**78.83 278**	P	**P**	**04 42 23.7**	**0.0**
comp=Z,1.3nm,0.7s,mb4.0,baz=43,slow=5.3,SNR=29						
FFC	**Flin Flon**	**83.20 6**	*e*P	**P**	**04 42 47.3**	**+0.4**
FFC			pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4						
FFC	**Flin Flon**	**83.20 6**	*e*P	**P**	**04 42 47.3**	**+0.5**
comp=Z,3.1nm,0.8s,mb4.4						
DBIC	**Dimbokro**	**87.93 277**	P	**P**	**04 43 10.2**	**-0.1**
comp=Z,1.1nm,0.6s,mb4.2,baz=16,slow=7.4,SNR=4.1						
STKA	**Stephens Creek**	**88.38 137**	P	**P**	**04 43 10.5**	**-2.0**
comp=Z,1.6nm,0.5s,mb4.5,baz=336,slow=4.4,SNR=5.5						
STKA	**Stephens Creek**	**88.38 137**	P	**P**	**04 43 10.0**	**-2.5**

ISCJB ***15*** *04:39:53.0±0.8, 2301S±005×663W±0.1, h247km±21km, mb3.8/1, Error ellipse: s-maj=22.1km s-min=7.3km az=27.2*
IDC ***15*** *04:39:53.2±1.5, 2298S×66.16W, h227km±19km, mb3.6/1, mb1 3.2/6, mb1mx3.1/18, mbtmp3.8/6, Error ellipse: s-maj=31.6km s-min=13.5km az=100.0*
NEIC ***15*** *04:39:53.8±0.7, 2298S×6623W, h226km±15km, Error ellipse: s-maj=19.4km s-min=8.7km az=115.0*
GUC ***15*** *04:39:56.3±0.5, 2319S×6647W, h260km, ML4.6*

ISC 15 04:39:53.7±0.8, 2299S±006×663W±02, h229km±22km, n14, σ1§32/21, mb3.8/1, 1C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.65**	**263**	⇓*i*P	**Pn**	**04 40 57.5**	**+5.1**
CEN1				*i* S	**S**	**04 41 44.0**	**+5.2**
CEN1				AMP		04 41 46.8	
comp=N,260nm,0.7s							
ANCH	**Antofagasta**	**3.88**	**259**	⇑*i*P	**Pn**	**04 40 55.1**	**0.0**
ANCH				*i* S	**S**	**04 41 42.0**	**-1.7**
CPN1	**Cerro Paranal**	**4.13**	**246**	⇓*i*P	**Pn**	**04 41 01.4**	**+3.2**
CPN1				*i* S	**S**	**04 41 51.0**	**+1.8**
CRCH	**Chaqaral**	**5.18**	**229**	*i* S	**S**	**04 42 12.5**	**-0.2**
CDCH	**Caldera**	**5.80**	**225**	*i* P	**Pn**	**04 41 18.9**	**0.0**
CDCH				*i* S	**S**	**04 42 23.6**	**-3.1**
LPAZ	**La Paz**	**6.90**	**345**	P	**Pn**	**04 41 34.3**	**+1.5**
comp=N,0.3nm,0.3s,baz=154,slow=11,SNR=7.9							
LPAZ				S	**S**	**04 42 51.2**	**-0.9**
comp=N,0.2nm,0.3s,baz=311,slow=19,SNR=5.4							
LPAZ	**La Paz**	**6.90**	**345**	P	**Pn**	**04 41 34.3**	**+1.5**
LPAZ				S	**S**	**04 42 51.2**	**-0.9**
SIV	**San Ignacio**	**8.51**	**36**	P	**Pn**	**04 41 53.2**	**-0.3**
comp=N,1.8nm,0.3s,baz=223,slow=8.0,SNR=58							
CFAA	**Coronel Fontan**	**8.76**	**191**	P	**Pn**	**04 41 57.1**	**+0.5**
comp=N,0.1nm,0.3s,baz=35,slow=13,SNR=13							
CFAA				S	**S**	**04 43 32.2**	**-3.3**
comp=N,0.2nm,0.3s,baz=106,slow=22,SNR=8.7							
CFAA	**Coronel Fontan**	**8.76**	**191**	P	**Pn**	**04 41 57.1**	**+0.5**
CFAA				S	**S**	**04 43 32.2**	**-3.3**
PLCA	**Paso Flores**	**18.05**	**191**	P	**P**	**04 43 49.5**	**+1.3**
comp=N,0.1nm,0.3s,baz=350,slow=9.7,SNR=5.1							
BDFB	**Brasilia**	**18.70**	**70**	P	**P**	**04 43 55.3**	**+0.2**
comp=N,0.3nm,0.3s,baz=249,slow=11,SNR=4.3							
TORD	**Torodi Ar. Bea**	**75.57**	**69**	P	**P**	**04 51 11.8**	**-1.3**
comp=N,0.9nm,0.4s,mb3.8,baz=256,slow=6.0,SNR=44							
MKAR	**Makanchi Array**	**145.32**	**39**	PKPbc	PKPbc	04 59 04.3	0.0
comp=N,1.0nm,0.7s,baz=289,slow=3.7,SNR=6.3							

JMA 15 05:02:52.7±0.3, 2995N×13982E, h434km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.52**	**143**	S	S	05 04 58.8	-0.7
JIM2	**Oshima 3**	**4.76**	**356**	P	P	05 04 14.4	+0.5
BSO1	**Boso 1**	**4.79**	**12**	P	P	05 04 16.8	+2.6
BSO1				S	S	05 05 22.7	+2.1
BSO3	**Boso 3**	**4.87**	**7**	S	S	05 05 23.1	+1.1
BSO4	**Boso 4**	**5.04**	**5**	S	S	05 05 27.8	+2.7
JHU	**Hanno**	**5.90**	**356**	P	P	05 04 25.6	+0.2
JHU				S	S	05 05 39.5	-1.6
JRY	**Ryogami san**	**6.10**	**353**	P	P	05 04 28.3	+0.9
JAG	**Ashikaga**	**6.46**	**357**	P	P	05 04 31.2	-0.1
JAG				S	S	05 05 48.2	-3.7
JHO	**Hitachi**	**6.67**	**5**	P	P	05 04 35.5	+2.0
JHO				S	S	05 05 54.6	-1.3

NEIC ***15*** *05:07:49.9, 19.19N×6365W, h25km, MD3.7(RSPR), After RSPR.*
RSPR ***15*** *05:07:49.9, 19.19N×6365W, h25km±27km, MD3.7/16, MD3.7/16*
ISCJB ***15*** *05:07:50.1±1.1, 1923N±007×6387W±004, h25km, Error ellipse: s-maj=10.5km s-min=5.5km az=14.7*

ISC 15 05:07:51.2±1.1, 1917N±008×6384W±005, h25km, n28, σ1§01/43, 15C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.05**	**224**	*e*S	**Sb**	**05 08 22.4**	**-1.7**
TBVI	**Tortola**	**1.05**	**224**	⇑*e*P	**Pn**	**05 08 08.5**	**-1.8**
TBVI				*e*S	**Sb**	**05 08 22.4**	**-1.7**
STMA	**St. Maarten, A**	**1.32**	**148**	*e*P	**Pn**	**05 08 16.0**	**+1.9**
STMA				*e*S	**Sn**	**05 08 33.6**	**+2.8**
STVI	**Saint Thomas**	**1.34**	**233**	*e*S	**Sn**	**05 08 30.6**	**-0.8**
STVI	**Saint Thomas**	**1.34**	**233**	⇑*i*P	**Pn**	**05 08 12.9**	**-1.4**
STVI				*e*S	**Sn**	**05 08 30.6**	**-0.8**
CDVI	**St. Croix**	**1.67**	**212**	*e*S	**Sn**	**05 08 39.0**	**-0.3**
CDVI	**St. Croix**	**1.67**	**212**	⇑*e*P	**Pn**	**05 08 18.5**	**-0.3**
CDVI				*e*S	**Sn**	**05 08 39.0**	**-0.3**
MTP	**Monte Pirata**	**1.95**	**237**	*e*S	**Sn**	**05 08 46.6**	**+0.2**
MTP	**Monte Pirata**	**1.95**	**237**	⇑*e*P	**Pn**	**05 08 21.6**	**-1.1**
MTP				*e*S	**Sn**	**05 08 46.6**	**+0.2**
CBYP	**Canovanas**	**2.11**	**245**	*e*S	**Sn**	**05 08 51.1**	**+0.8**
CBYP	**Canovanas**	**2.11**	**245**	⇑*e*P	**Pn**	**05 08 23.6**	**-1.3**
CBYP				*e*S	**Sn**	**05 08 51.1**	**+0.8**
HUMP	**Col San Antoni**	**2.17**	**242**	*e*S	**Sn**	**05 08 51.5**	**-0.2**
HUMP	**Col San Antoni**	**2.17**	**242**	⇑*e*P	**Pn**	**05 08 24.6**	**-1.0**
HUMP				*e*S	**Sn**	**05 08 51.5**	**-0.2**
CPD	**Cerro la Pandu**	**2.27**	**241**	*e*S	**Sn**	**05 08 54.9**	**+0.6**
CPD	**Cerro la Pandu**	**2.27**	**241**	⇑*e*P	**Pn**	**05 08 26.8**	**-0.3**
CPD				*e*S	**Sn**	**05 08 54.9**	**+0.6**
SJG	**San Juan**	**2.43**	**245**	*e*S	**Sn**	**05 08 58.9**	**+0.6**
SJG	**San Juan**	**2.43**	**245**	⇑*e*P	**Pn**	**05 08 28.7**	**-0.6**
SJG				*e*S	**Sn**	**05 08 58.5**	**+0.2**
SJG	**San Juan**	**2.43**	**245**	⇑*e*P	**Pn**	**05 08 28.6**	**-0.8**
SJG				*e*S	**Sn**	**05 08 58.9**	**+0.6**
CELP	**Cerrillos**	**2.82**	**248**	⇑*e*P	**Pn**	**05 08 34.0**	**-0.7**
CELP				*e*S	**Sn**	**05 09 08.3**	**+0.5**
AOPR	**Arecibo Observ**	**2.88**	**254**	*e*S	**Sn**	**05 09 10.4**	**+1.2**
AOPR	**Arecibo Observ**	**2.88**	**254**	⇑*e*P	**Pn**	**05 08 35.7**	**+0.2**
AOPR				*e*S	**Sn**	**05 09 10.4**	**+1.2**
LRS	**Lares**	**2.98**	**253**	⇑*e*P	**Pn**	**05 08 36.9**	**+0.1**
LRS				*e*S	**Sn**	**05 09 13.7**	**+1.9**
LSP	**Las Mesas**	**3.23**	**253**	*e*S	**Sn**	**05 09 18.7**	**+0.6**
LSP	**Las Mesas**	**3.23**	**253**	⇑*e*P	**Pn**	**05 08 40.0**	**-0.3**
LSP				*e*S	**Sn**	**05 09 18.7**	**+0.6**
MGP	**Maguayo**	**3.29**	**250**	⇑*e*P	**Pn**	**05 08 41.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**3.31**	**250**	*e*S	**Sn**	**05 09 21.6**	**+1.7**
CRPR	**Cabo Rojo, PR**	**3.31**	**250**	⇑*e*P	**Pn**	**05 08 41.4**	**-0.1**
CRPR				*e*S	**Sn**	**05 09 21.6**	**+1.7**
LZG	**Guadaloupe-1**	**3.60**	**147**	*e*P	**Pn**	**05 08 46.2**	**+0.8**

IDC ***15*** *05:25:00.5±1.5, 1690S×16742E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.2/15, mbtmp4.1/7, ML3.9/1, Error ellipse: s-maj=44.1km s-min=22.1km az=113.0*
ISCJB ***15*** *05:25:02.4±0.8, 1700S±007×16764E±010, h33km, mb4.0/6, Error ellipse: s-maj=13.7km s-min=8.5km az=138.1*
LDG ***15*** *05:25:05.7±0.2, 1683S×16598E, h10km, Mb4.4/2, Error ellipse: s-maj=36.5km s-min=6.5km az=81.0*

ISC 15 05:25:04.2±0.8, 1698S±006×1678E±01, h35km, n39, σ1§00/10, mb4.0/6, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.82**	**146**	⇑*i*P	**Pn**	**05 25 14.2**	**-5.1**
BKM				S	**Sn**	**05 25 29.3**	**-0.9**
DZM	**Mont Dzumac**	**5.22**	**194**	Pn	**Pn**	**05 26 21.2**	**+1.6**
4.6nm,0.3s,baz=67,slow=18,SNR=42							
DZM				Sn	**Sn**	**05 27 19.2**	**+0.6**
3.8nm,0.3s,baz=332,slow=22,SNR=3.7							
STKA	**Stephens Creek**	**27.97**	**233**	P	**P**	**05 30 50.8**	**-0.6**
2.2nm,0.6s,mb4.0,baz=86,slow=8.2,SNR=3.7							
WRA	**Warramunga Arr**	**31.81**	**259**	P	**P**	**05 31 23.9**	**-1.5**
0.8nm,0.8s,mb3.6,baz=85,slow=8.5,SNR=6.0							
ASAR	**Alice Springs**	**32.39**	**253**	P	**P**	**05 31 29.6**	**-0.9**
2.8nm,0.6s,mb4.2,baz=79,slow=8.7,SNR=38							
MJAR	**Matsushiro Arr**	**60.11**	**333**	P	**P**	**05 35 07.9**	**0.0**
1.7nm,0.5s,mb4.3,baz=149,slow=2.6,SNR=6.6							
SONM	**Songino Array**	**84.58**	**324**	P	**P**	**05 37 35.3**	**+1.4**
1.6nm,0.9s,mb4.1,baz=132,slow=2.9,SNR=7.9							
ILAR	**Eielson Array**	**88.51**	**18**	P	**P**	**05 37 53.5**	**+0.4**
0.4nm,0.6s,mb4.0,baz=243,slow=4.6,SNR=6.1							
ARCES	**ARCESS Array B**	**122.54**	**345**	PKP	PKPdf	05 43 57.6	+1.7
6.1nm,0.9s,baz=18,slow=4.2,SNR=5.7							
CDF	**Champ du Feu**	**144.83**	**337**	*e*PKP1	PKPdf	05 44 39.1	+1.7
19nm,0.9s							
HINF	**Hinterzarfeld**	**145.48**	**337**	*e*PKP1	PKPbc	05 44 40.9	+2.3
20nm,0.7s							
HAU	**Haudompre**	**145.51**	**338**	*e*PKP1	PKPbc	05 44 42.4	+3.7
49nm,0.8s							
MEZF	**Maizieres J'vi**	**145.53**	**340**	*e*PKP1	PKPbc	05 44 41.9	+3.2
50nm,0.8s							
CABF	**La Chapelle**	**146.77**	**337**	*e*PKP1	PKPbc	05 44 45.7	+3.2
4.7nm,0.7s							
FLN	**La Foiniiere**	**146.88**	**346**	*e*PKP1	PKPbc	05 44 45.3	+2.5
18nm,0.7s							
LDF	**La Druitiere**	**146.95**	**345**	*e*PKP1	PKPbc	05 44 45.5	+2.5
9.7nm,0.7s							
LOR	**Lormes**	**147.00**	**340**	*e*PKP1	PKPbc	05 44 46.2	+3.1
14nm,0.9s							
SSF	**Saint Saulge**	**147.30**	**340**	*e*PKP1	PKPbc	05 44 47.2	+3.3
14nm,0.9s							
GRR	**Gorron**	**147.32**	**346**	*e*PKP1	PKPbc	05 44 46.7	+2.7
LPL	**La Plagne**	**147.43**	**335**	*e*PKP1	PKPbc	05 44 47.6	+3.3
7.3nm,0.7s							
LPG	**La Plagne**	**147.43**	**335**	*e*PKP1	PKPbc	05 44 47.7	+3.4
9.7nm,0.6s							
SMF	**Signal de Mont**	**147.55**	**339**	*e*PKP1	PKPbc	05 44 47.5	+2.9
19nm,1.1s							
AVF	**Avril sur Loir**	**147.59**	**340**	*e*PKP1	PKPbc	05 44 47.5	+2.8
8.2nm,0.8s							
BGF	**Bois d'Agland**	**147.96**	**340**	*e*PKP1	PKPbc	05 44 48.5	+2.8
7.1nm,0.6s							
MBDF	**Montbardon**	**148.05**	**334**	*e*PKP1	PKPbc	05 44 48.6	+2.6
5.0nm,0.6s							
ORIF	**Oris-en-Rattie**	**148.26**	**335**	*e*PKP1	PKPbc	05 44 49.6	+3.1
6.5nm,0.7s							
TCF	**Toulx Ste Croi**	**148.40**	**341**	*e*PKP1	PKPbc	05 44 49.8	+2.9
1.9nm,0.5s							
SBF	**Sospel**	**148.45**	**332**	*e*PKP1	PKPbc	05 44 49.5	+2.5
43nm,1.0s							
PGF	**Pioggiola**	**148.72**	**329**	*e*PKP1	PKPbc	05 44 50.5	+2.8
19nm,0.8s							
VIVF	**Saint-Julien-l**	**148.78**	**336**	*e*PKP1	PKPbc	05 44 51.0	+3.1
MFF	**Saint Martin d**	**148.80**	**344**	*e*PKP1	PKPbc	05 44 50.8	+2.9
FRF	**La Foret Royal**	**149.04**	**333**	*e*PKP1	PKPbc	05 44 51.1	+2.6
SMRF	**Simiane la Rot**	**149.16**	**334**	*e*PKP1	PKPbc	05 44 51.9	+3.1
18nm,1.0s							
LMR	**La Mourre**	**149.28**	**333**	*e*PKP1	PKPbc	05 44 51.8	+2.7
9.3nm,0.8s							
LASF	**Ste Croix**	**149.76**	**337**	*e*PKP1	PKPbc	05 44 53.9	+3.6
MTLF	**Montolieu**	**150.99**	**338**	*e*PKP1	PKPbc	05 44 56.6	+3.3
EPF	**Esparros**	**151.91**	**340**	*e*PKP1	PKPbc	05 44 58.2	+2.8
ETSF	**Etsaut**	**152.31**	**341**	*e*PKP1	PKPbc	05 45 00.3	+4.0
5.5nm,0.7s							
SJPF	**Ste Jean**	**152.31**	**342**	*e*PKP1	PKPbc	05 45 00.9	+4.6

IDC ***15*** *05:27:50.2±0.4, 1689S×167.19E, h0km, mb4.9/19, mb1 5.0/20, mb1mx4.9/22, mbtmp4.9/20, ML4.8/1, MS5.0/20, Ms1 5.0/20, ms1mx4.8/30, Error ellipse: s-maj=16.0km s-min=13.5km az=97.0*
CSEM ***15*** *05:27:51.6, 1731S×167.11E, h10km, mb5.5*
ISCJB ***15*** *05:27:52.7±0.2, 1685S±004×167.16E±004, h29km, mb5.3/84, MS5.1/61, Error ellipse: s-maj=6.0km s-min=5.2km az=17.0*
LDG ***15*** *05:27:52.5±0.1, 1681S×16665E, h10km, Mb5.6/4, Ms5.1/8, Error ellipse: s-maj=21.1km s-min=4.5km az=86.0*
HRVD ***15*** *05:27:54.4±0.1, 1681S×167.11E, h13km, MW5.6/99, Centroid moment Tensor Solution. LP body waves: s93,c163; Mantle waves: s99,c215; Half duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.76±.04; $M_{\theta\theta}$0.26±.04; $M_{\phi\phi}$2.50±.04; $M_{r\theta}$-0.89±.09; $M_{\theta\phi}$1.03±.03; $M_{\phi r}$0.29±.09; Best double couple: $M_0$2.98100×10^{17}*
NP1:ϕ_s*184.00000°,* δ*47.00000°,* λ*-115.00000°. NP2:* ϕ_s*38.00000°,* δ*48.00000°,* λ*-66.00000°. Principal axes: T 2.9020, Plg1.0000°, Azm111.0000°; N 0.1560, Plg18.0000°, Azm202.0000°; P -3.0590, Plg72.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***15*** *05:27:54.0, 16.17S×167.16E, h19km, mB5.8, mb5.3, Ms5.3, Msz5.1*
NEIC ***15*** *05:27:54.4±0.1, 1687S×16724E, mb5.4/41, MS5.2/13, MW5.6, Error ellipse: s-maj=6.2km s-min=5.0km az=146.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.17; $M_{\theta\theta}$1.09; $M_{\phi\phi}$1.09; $M_{r\theta}$0.50; $M_{\theta\phi}$1.22; $M_{\phi r}$1.43; Best double couple: $M_0$2.70000×10^{17} NP1:* ϕ_s*211.00000°,* δ*62.00000°,* λ*-104.00000°. NP2:* ϕ_s*59.00000°,* δ*31.00000°,* λ*-66.00000°. Principal axes: T 2.7000, Plg16.0000°, Azm311.0000°; N 0.0100, Plg12.0000°, Azm218.0000°; P -2.7100, Plg70.0000°, Azm92.0000°;*
MOS ***15*** *05:27:55.7±1.8, 1654S×16698E, h33km, mb5.7/27, MS5.2/28 Error ellipse: s-maj=9.7km s-min=7.8km az=122.0*

ISC 15 05:27:54.8±0.2, 1687S±003×16723E±004, h31km, h31km±.6km: pP-P, n504, σ1§01/183, mb5.3/84, MS5.1/61, 21C-99D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.26**	**129**	⇑*i*P	**Pn**	**05 28 01.9**	**-14**
DZM	**Mont Dzumac**	**5.23**	**188**	Pn	**Pn**	**05 29 09.3**	**-1.5**
37nm,0.3s,baz=44,slow=18,SNR=44							
DZM				Sn	**Sn**	**05 30 08.5**	**-1.4**
42nm,0.3s,baz=138,slow=23,SNR=6.4							
HNR	**Honiara**	**10.24**	**315**	*e*P	**Pn**	**05 30 20.9**	**+1.4**
FUNA	**Funafuti**	**14.31**	**56**	*e*Pn	**Pn**	**05 31 16.2**	**+1.0**
RAO	**Raoul Island**	**18.38**	**135**	LR	LR	05 37 47.7	
comp=Z,7μm,21.6s,baz=122,slow=32							
CTA	**Charters Tower**	**20.14**	**258**	*e*P	**P**	**05 32 28.1**	**+1.8**
28nm,0.9s							
CTA				*e*S	**S**	**05 36 14.4**	**+3.6**
CTA	**Charters Tower**	**20.14**	**258**	P	**P**	**05 32 26.5**	**+0.2**
17nm,0.8s,baz=90,slow=11,SNR=12							
CTA				LR	LR	05 38 59.9	
comp=Z,8μm,19.8s,MS5.1,baz=80,slow=33							
CTA	**Charters Tower**	**20.14**	**258**	*e*P	**P**	**05 32 28.1**	**+1.8**
CTA				*e*S	**S**	**05 36 14.4**	**+3.6**
CTA				pmax	pmax		
comp=Z,28nm,0.9s							
CTAO	**Charters Tower**	**20.14**	**258**	*e*P	**P**	**05 32 27.9**	**+1.6**
CTAO				pmax	pmax		
comp=Z,77nm,1.1s							
CTAO	**Charters Tower**	**20.14**	**258**	*e*P	**P**	**05 32 27.9**	**+1.6**
comp=Z,77nm,1.1s							
AFI	**Afiamalu**	**20.46**	**85**	P	**P**	**05 32 31.5**	**+1.8**
comp=Z,42nm,1.0s,baz=124,slow=3.4,SNR=5.4							
AFI	**Afiamalu**	**20.46**	**85**	*e*P	**P**	**05 32 30.9**	**+1.2**
AFI				pmax	pmax		
comp=Z,112nm,1.0s							
AFI	**Afiamalu**	**20.46**	**85**	*e*P	**P**	**05 32 30.9**	**+1.3**
comp=Z,112nm,1.0s							
PMG	**Port Moresby**	**20.89**	**288**	P	**P**	**05 32 34.6**	**+0.3**
comp=Z,34nm,0.9s,baz=94,slow=5.4,SNR=13							
PMG				LR	LR	05 39 45.0	
comp=Z,12μm,19.3s,MS5.3,baz=108,slow=34							
PMG	**Port Moresby**	**20.89**	**288**	*e*P	**P**	**05 32 36.0**	**+1.7**
PMG				pmax	pmax		
comp=Z,160nm,1.1s							
PMG	**Port Moresby**	**20.89**	**288**	*e*P	**P**	**05 32 36.0**	**+1.7**
comp=Z,160nm,1.1s							
RIV	**Riverview**	**22.22**	**218**	*e*P	**P**	**05 32 52.4**	**+3.8**
HIZ	**Hauiti**	**22.58**	**164**	PN	**P**	**05 32 54.4**	**+2.0**
URZ	**Urewera**	**23.01**	**160**	P	**P**

comp=Z,1μm,27.2s
RKT eLQ 05 50 45.1
comp=Z,702nm,27.2s
RKT eLR LR 05 53 09.9
comp=Z,6μm,28.0s
KKM Kota Kinabalu 55.32 290 eP P 05 37 26.4 +1.0
KKM epP pP 05 37 35.6 +0.7
JHJ Hachijo jima 2 56.20 332 LR LR 05 57 40.8
comp=Z,1μm,18.9s,MS5.0,baz=79,slow=32
JOW Kunigami 57.59 318 P P 05 37 42.6 +1.0
comp=Z,15nm,0.6s,mb5.2,baz=123,slow=8.0,SNR=6.8
JOW LR LR 05 59 46.2
comp=Z,1μm,20.4s,MS5.0,baz=106,slow=33
KSM Kuching 58.99 282 eP P 05 37 52.2 +0.8
KSM epP pP 05 38 00.6 -0.3
MJAR Matsushiro Arr 59.77 333 P **P 05 37 56.0 -0.7**
comp=Z,12nm,0.9s,mb4.9,baz=162,slow=7.7,SNR=22
MJAR LR LR 06 00 50.1
comp=Z,1μm,21.9s,MS5.0,baz=205,slow=33
MAJO Matsushiro 59.78 333 eP P 05 37 55.7 -1.1
MAJO e*PP pP 05 38 05.8 -0.5
MAJO pmax pmax
comp=Z,89nm,1.1s,mb5.7
MAJO Matsushiro 59.78 333 eP P 05 37 55.7 -1.0
comp=Z,89nm,1.1s,mb5.7
MAJO epP pP 05 38 05.8 -0.5
MAT Matsushiro 59.78 333 P **P 05 37 55.4 -1.4**
MAT S **S 05 46 06.0 +0.1**
MAT Matsushiro 59.78 333 eP P 05 37 55.0 -1.8
MAT eS **S 05 46 06.0 +0.1**
MAT pmax pmax
comp=Z,185nm,1.7s,mb5.8
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.8
MAT Matsushiro 59.78 333 eP P 05 37 55.0 -1.8
comp=Z,185nm,1.7s,mb5.8
MAT eS **S 05 46 06.0 +0.1**
MAT LR LR
comp=Z,710nm,20.0s,MS4.8
VNDA Vanda 60.74 181 P **P 05 38 03.9 +0.6**
comp=Z,9.8nm,1.3s,mb4.8,baz=22,slow=5.6,SNR=3.3
VNDA LR LR 06 00 45.1
comp=Z,817nm,20.8s,MS4.9,baz=19,slow=32
VNDA Vanda 60.74 181 eP P 05 38 02.2 -1.1
VNDA pmax pmax
comp=Z,57nm,1.7s
VNDA MLR MLR
comp=Z,1μm,19.0s
VNDA Vanda 60.74 181 eP P 05 38 02.2 -1.2
comp=Z,57nm,1.7s,mb5.4
VNDA LR LR
comp=Z,1μm,19.0s,MS5.1
QZH Quanzhou 63.03 310 *i* PR **P 05 38 19.3 +0.6**
QZH S **S 05 46 51.3 +4.1**
QZH AMB AMB
comp=Z,1μm,5.5s
QZH LR LR
comp=N,3μm,21.8s,MS5.5
QZH LR LR
comp=E,1μm,18.2s,MS5.5
QZH LR LR
comp=Z,3μm,45.4s
ASAJ Asahikawa 64.73 341 P **P 05 38 31.4 +1.5**
comp=Z,18nm,0.5s,mb5.3,baz=203,slow=7.1,SNR=6.4
SSE Sheshan 65.04 317 P **P 05 38 31.8 -0.1**
SSE AP pP 05 38 41.3 -0.3
SSE XP sP 05 38 45.8 +0.5
SSE PCP PcP 05 39 04.9 +0.2
SSE S S 05 47 11.9 -0.2
SSE XS sS 05 47 27.8 -0.2
SSE SS SS 05 51 24.4 +0.1
SSE AMB AMB
comp=Z,29nm,1.0s,mb5.3
SSE AMB AMB
comp=Z,392nm,5.7s
SSE LR LR
comp=N,423nm,27.1s,MS4.8
SSE LR LR
comp=E,830nm,27.0s,MS4.8
SSE LR LR
comp=Z,1μm,22.5s,MS5.0
GZH Guangzhou 65.96 305 P **P 05 38 36.4 -1.5**
GZH S S 05 47 21.4 -2.0
GZH LR LR
comp=N,605nm,23.3s,MS5.0
GZH LR LR
comp=E,923nm,27.0s,MS5.0
GZH LR LR
comp=Z,2μm,30.1s,MS5.2
INCN Inchon 66.19 326 eP P 05 38 40.5 +1.2
comp=Z,70nm,1.0s,mb5.7
INCN epP pP 05 38 49.6 +0.6
QIZ Qiongzhong 66.75 300 ⇑P **P 05 38 47.0 +4.1**
QIZ S S 05 47 34.8 +1.9
QIZ AMB AMB
comp=Z,473nm,4.3s
QIZ LR LR
comp=E,864nm,29.0s
QIZ LR LR
comp=Z,2μm,30.0s,MS5.1
NJ2 Nanjing 67.18 316 eP P 05 38 46.3 +0.6
NJ2 AP pP 05 38 56.6 +1.2
NJ2 XP sP 05 39 00.5 +1.5
NJ2 PP PP 05 41 16.3 +2.4
NJ2 S S 05 47 37.0 -1.1
NJ2 AMB AMB
comp=Z,180nm,7.2s
NJ2 LR LR
comp=N,1μm,16.4s
NJ2 LR LR
comp=E,2μm,32.1s
NJ2 LR LR
comp=Z,880nm,23.5s
YSS Yuzh-Sakhalins 67.23 342⇑ *i P* **P 05 38 48.0 +2.0**
YSS *e* pP 05 38 57.0 +1.3
YSS pmax pmax
comp=Z,370nm,2.0s,mb6.1
YSS Yuzh-Sakhalins 67.23 342 eP P 05 38 46.3 +0.3
VLA Vladivostok 67.94 333 eP P 05 38 50.6 +0.1
WHN Wuhan 69.34 313 ⇑P **P 05 39 00.6 +1.4**
WHN S S 05 48 07.0 +3.1
KULM Kulim 69.35 282 eP P 05 38 59.8 +0.5
KULM epP pP 05 39 09.2 +0.2
FX1 Attu Island--F 69.65 4 P **P 05 39 01.2 +0.1**
comp=Z,53nm,0.6s,mb5.7,baz=194,slow=3.8,SNR=20
FX1 Attu Island--F 69.65 4 eP P 05 39 00.3 -0.8
FX1 epP pP 05 39 10.8 -0.1
DL2 Dalian 69.98 324 *i* PR 05 39 03.6
DL2 PP PP 05 41 35.5 -2.6
DL2 S S 05 48 12.8 +1.5
DL2 AMB AMB
comp=Z,70nm,1.2s,mb5.5
DL2 AMB AMB
comp=Z,520nm,5.2s
DL2 LR LR
comp=N,310nm,24.7s,MS4.8
DL2 LR LR
comp=E,680nm,24.1s,MS4.8
DL2 LR LR
comp=Z,1μm,26.3s,MS5.0
PET Petropavlovsk 69.99 355 eP P 05 39 03.3 +0.1
PET eS S 05 48 11.8 +0.3
PET *e* 05 48 56.9
PET pmax pmax
comp=Z,500nm,8.0s
PET pmax pmax
comp=Z,78nm,1.2s,mb5.5
PET smax
comp=E,300nm,17.0s
PET MLR MLR
comp=Z,400nm,16.0s,MS4.8
PET Petropavlovsk 69.99 355 eP P 05 39 02.5 -0.7
comp=Z,39nm,0.9s,mb5.3
PET epP pP 05 39 11.8 -1.1
MDJ Mudanjiang 70.14 332 P **P 05 39 04.6 +0.5**
MDJ AP pP 05 39 11.3 -2.6
MDJ XP sP 05 39 13.6 -3.9
MDJ PCP PcP 05 39 26.3 +0.3
MDJ PP PP 05 41 39.4 -0.1
MDJ S S 05 48 15.6 +2.4
MDJ XS sS 05 48 26.3 -3.0
MDJ SCS ScS 05 49 05.3 +0.9
MDJ AMB AMB
comp=Z,69nm,1.9s,mb5.3
MDJ AMB AMB
comp=Z,636nm,6.5s
MDJ LR LR
comp=N,927nm,26.9s,MS5.0
MDJ LR LR
comp=E,794nm,27.9s,MS5.0
MDJ LR LR
comp=Z,1μm,30.6s,MS5.0
MDJ Mudanjiang 70.14 332 eP P 05 39 04.8 +0.7
comp=Z,149nm,1.2s,mb5.8
MDJ epP pP 05 39 13.8 -0.1
MDJ LR LR
comp=Z,797nm,21.0s,MS4.9
PSI Prapat 70.15 279 LR LR 06 11 24.0
comp=Z,1μm,19.9s,MS5.2,baz=127,slow=37
TIA Tai'an 70.91 319 eP P 05 39 08.1 -0.7
SNY Shenyang 70.96 327 PR 05 39 09.3
SNY AP pP 05 39 19.9 +1.0
SNY XP sP 05 39 23.3 +0.8
SNY SKS 05 49 07.6
SNY AMB AMB
comp=Z,40nm,2.0s,mb5.0
SNY AMB AMB
comp=Z,578nm,6.5s
SNY LR LR
comp=N,893nm,19.2s,MS5.1
SNY LR LR
comp=E,608nm,19.8s,MS5.1
SNY LR LR
comp=Z,971nm,26.4s
HABR Khabarovsk 71.09 338 *i* P **P 05 39 10.6 +0.7**
HABR *e* pP 05 39 20.2 +0.5
HABR eS S 05 48 25.5 +1.2
HABR MLR MLR
comp=Z,622nm,19.6s,MS4.9
CN2 Changchun 71.45 329 eP P 05 39 11.9 -0.2
CN2 eAP pP 05 39 21.4 -0.5
CN2 eXP sP 05 39 25.0 -0.5
CN2 eS S 05 48 29.0 +0.5
CN2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
CN2 AMB AMB
comp=Z,100nm,6.0s
CN2 LR LR
comp=N,900nm,18.0s,MS5.2
CN2 LR LR
comp=E,700nm,18.0s,MS5.2
CN2 LR LR
comp=Z,1μm,21.0s,MS5.1
ENH Enshi 72.69 310 eP P 05 39 19.9 +0.3
comp=Z,168nm,1.4s,mb5.8
ENH epP pP 05 39 29.6 +0.3
ENH LR LR
comp=Z,1μm,22.0s,MS5.1
GYA Guiyang 72.90 305⇓ *i P* **P 05 39 21.6 +0.8**
GYA AP pP 05 39 29.4 -1.1
GYA XP sP 05 39 32.8 -1.4
GYA PP PP 05 42 05.1 +1.9
GYA S S 05 48 43.8 -1.3
GYA SKS 05 49 21.4
GYA SS SS 05 53 26.8 +1.2
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,550nm,5.7s
GYA LR LR
comp=N,870nm,18.9s,MS5.3
GYA LR LR
comp=E,1μm,19.0s,MS5.3
GYA LR LR
comp=Z,970nm,19.4s,MS5.1
KLR Kul'dur 72.94 337α *i P* **P 05 39 18.3 -2.7**
KLR *e* pP 05 39 28.3 -2.5
KLR pmax pmax
comp=E,110nm,2.0s
KLR pmax pmax
comp=Z,500nm,2.0s,mb6.1
KLR pmax pmax
comp=Z,1μm,11.0s
QSPA South Pole Qui 73.17 180 eP P 05 39 22.5 +0.1
comp=Z,95nm,1.0s,mb5.7
BJT Baijiatuau 73.89 322 eP P 05 39 27.0 +0.4
BJT e*PP pP 05 39 36.7 +0.3
BJT pmax pmax
comp=Z,175nm,1.4s
BJT Baijiatuau 73.89 322 eP P 05 39 27.0 +0.4
comp=Z,175nm,1.4s,mb5.8
BJT epP pP 05 39 36.7 +0.3
BJI Beijing 73.90 322 P **P 05 39 27.0 +0.3**
BJI AP pP 05 39 36.3 -0.1
BJI XP sP 05 39 40.3 +0.2
BJI S S 05 49 00.3 +3.9
BJI AMB AMB
comp=Z,77nm,2.1s,mb5.3
BJI AMB AMB
comp=Z,1μm,2.8s,mb6.3
BJI LR LR
comp=N,990nm,26.4s,MS5.2
BJI LR LR
comp=E,1μm,25.0s,MS5.2
BJI LR LR
comp=Z,3μm,30.8s
UNV Unalaska Valle 73.95 16 eP P 05 39 25.9 -1.1
comp=Z,56nm,0.9s,mb5.5
XAN Xi'an 75.10 313 P **P 05 39 33.4 -0.2**
XAN AP pP 05 39 43.8 +0.3
XAN PP PP 05 42 23.8 +1.9
XAN S S 05 49 14.1 +4.2
XAN SS SS 05 53 56.5 -2.7
XAN AMB AMB
comp=Z,60nm,2.0s,mb5.2
XAN AMB AMB
comp=Z,504nm,7.6s
XAN LR LR
comp=E,813nm,25.6s
XAN LR LR
comp=Z,1μm,27.9s,MS5.0
KMI Kunming 75.40 302 P **P 05 39 35.8 +0.5**
KMI AP pP 05 39 43.4 -1.8
KMI XP sP 05 39 46.5 -2.3
KMI PP PP 05 42 26.3 +1.9
KMI S S 05 49 10.9 -2.2
KMI AMB AMB
comp=Z,20nm,2.0s,mb4.7
KMI AMB AMB
comp=Z,471nm,5.4s
KMI LR LR
comp=N,494nm,23.1s,MS4.9
KMI LR LR
comp=E,590nm,26.4s,MS4.9
KMI LR LR
comp=Z,2μm,35.0s
HHC Hu-ho-hao-te 77.18 320 eP P 05 39 46.1 +0.6
HHC AP pP 05 39 55.3 0.0
HHC PCP PcP 05 39 57.0 +0.9
HHC XP sP 05 39 58.6 -0.3
HHC PP PP 05 42 42.3 +2.9
HHC S S 05 49 34.0 +1.3
HHC XS sS 05 49 47.0 -1.9
HHC SKS 05 49 48.5
HHC SCS ScS 05 49 59.4 -1.3
HHC AMB AMB
comp=Z,28nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,638nm,5.2s
HHC LR LR
comp=N,731nm,22.1s,MS5.1
HHC LR LR
comp=E,713nm,20.6s,MS5.1
HHC LR LR
comp=Z,1μm,23.0s,MS5.2
CD2 Chengdu 77.28 308 eP P 05 39 47.0 +1.0
CD2 XP sP 05 40 01.3 +1.8
CD2 PP PP 05 42 45.0 +4.8
CD2 S S 05 49 36.6 +2.8
CD2 AMB AMB
comp=Z,20nm,1.8s,mb4.8
CD2 LR LR
comp=N,600nm,27.6s
CD2 LR LR
comp=Z,800nm,22.8s,MS5.0
MA2 Magadan 77.34 352*c i P* **P 05 39 44.8 -1.6**
MA2 eS S 05 49 38.4 +3.9
MA2 *e* 06 42 40.2
MA2 ePS 06 50 13.9
MA2 pmax pmax
comp=Z,60nm,2.4s,mb5.1
MA2 MLR MLR
comp=Z,700nm,22.0s,MS4.9
MA2 Magadan 77.34 352 *e P* **P 05 39 45.2 -1.2**
comp=Z,24nm,0.9s,mb5.1
MA2 epP pP 05 39 55.1 -1.1
BTO Baotou 78.00 319 *e P* **P 05 39 50.6 +0.6**
HIA Hailar 78.11 330 *e P* **P 05 39 49.7 -1.0**
HIA pmax pmax
comp=Z,64nm,1.4s
HIA Hailar 78.11 330 *e P* **P 05 39 49.7 -1.0**
comp=Z,64nm,1.4s,mb5.4
LZH Lanzhou 79.72 313 ⇑P **P 05 40 01.5 +2.0**
LZH AP pP 05 40 10.8 +1.4
LZH XP sP 05 40 15.8 +2.8
LZH S S 05 50 03.4 +3.5
LZH SKS 05 50 12.0
LZH AMB AMB
comp=Z,180nm,1.6s,mb5.8
LZH AMB AMB
comp=Z,660nm,5.0s
LZH LR LR
comp=N,2μm,18.0s
LZH LR LR
comp=Z,2μm,19.0s,MS5.5
MAW Mawson 79.90 202 LR LR 06 10 44.4
comp=Z,630nm,19.1s,MS5.0,baz=86,slow=32
SEY Seymchan 80.39 353 *e P* **P 05 40 02.0 -1.1**
SEY pP 05 40 10.5 -2.5
SEY 05 43 06.3
SEY eS S 05 50 05.1 -1.8
SEY SS SS 05 55 19.6 +0.8
SEY eSSS 05 58 44.6
SEY pmax pmax
comp=Z,96nm,2.0s,mb5.4
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=E,5.0nm,0.9s
SEY smax
comp=N,210nm,8.9s
SEY smax
comp=E,340nm,10.8s
SEY MLR MLR
comp=Z,880nm,21.0s,MS5.1
SEY MLR MLR
comp=N,300nm,22.0s,MS4.8
SEY MLR MLR
comp=E,240nm,17.0s,MS4.8
SEY Seymchan 80.39 353 *e P* **P 05 40 02.4 -0.7**
CLNS Chul'man 81.48 338 *e P* **P 05 40 08.9 0.0**
CLNS e*PP pP 05 40 17.8 -1.0
CLNS *e* 05 43 13.5
CLNS ePPP 05 45 01.4
CLNS eS S 05 50 16.1 -2.2
CLNS ePS 05 51 04.5
CLNS eSSS 05 58 59.9
CLNS pmax pmax
comp=Z,35nm,1.3s,mb5.1
CLNS pmax pmax
comp=N,30nm,1.5s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,0.7s
CLNS smax
comp=N,216nm,11.8s
CLNS smax
comp=Z,121nm,11.2s
CLNS smax
comp=E,406nm,13.1s
ULN Ulaanbaatar 83.83 324 *e P* **P 05 40 21.2 +0.1**
ULN e*PP pP 05 40 30.8 -0.2
ULN pmax pmax
comp=Z,117nm,1.4s,mb5.8
ULN MLR MLR
comp=Z,808nm,21.0s,MS5.1
ULN Ulaanbaatar 83.83 324 *e P* **P 05 40 21.2 +0.1**
comp=Z,117nm,1.4s,mb5.8
ULN epP pP 05 40 30.8 -0.3
ULN LR LR
comp=Z,808nm,21.0s,MS5.1
YAK Yakutsk 84.05 343 *e P* **P 05 40 21.2 -1.1**
YAK e*PP pP 05 40 31.3 -0.9
YAK eS 05 50 42.4
YAK *e* 05 51 39.3
YAK pmax pmax
comp=Z,14nm,0.8s,mb5.1
YAK pmax pmax
comp=N,9.0nm,1.7s
YAK pmax pmax
comp=E,7.0nm,1.7s
YAK smax
comp=N,206nm,11.8s
YAK smax
comp=E,129nm,9.4s
YAK Yakutsk 84.05 343 *i Pr* **P 05 40 21.1 -1.2**
GTA Gaotai 84.11 314 *e P* **P 05 40 23.5 +0.9**
GTA AP pP 05 40 32.8 +0.3
GTA XP sP 05 40 37.4 +1.3
GTA PP PP 05 43 41.8 +5.0
GTA SKS 05 50 41.4
GTA S 05 50 47.5
GTA XS sS 05 51 01.6 +0.1
GTA AMB AMB
comp=Z,46nm,1.8s,mb5.3
GTA AMB AMB
comp=Z,657nm,5.7s
GTA LR LR
comp=N,719nm,19.4s,MS5.2
GTA LR LR
comp=E,713nm,23.6s,MS5.2
GTA LR LR
comp=Z,1μm,27.4s,MS5.2
SONM Songino Array 84.18 324 P **P 05 40 22.9 0.0**
comp=Z,8.9nm,0.8s,mb4.9,baz=143,slow=5.0,SNR=44
TNA Tin City 84.30 10 *e P* **P 05 40 22.6 -0.9**
comp=Z,69nm,2.0s,mb5.4
TNA epP pP 05 40 32.7 -0.8
SHL Shillong 84.54 299 *i P* **P 05 40 25.0 +0.2**
SHL eSKS 05 50 56.0
BILL Bilibino 84.67 360 *e P* **P 05 40 24.0 -1.4**
BILL e*PP pP 05 40 34.1 -1.2
BILL pmax pmax
comp=Z,96nm,1.0s,mb5.9
BILL Bilibino 84.67 360 *e P* **P 05 40 24.0 -1.3**
comp=Z,96nm,1.0s,mb5.9
BILL epP pP 05 40 34.1 -1.2
BOD Bodaibo 86.38 335 *e P* **P 05 40 32.2 -1.7**
BOD pmax pmax
comp=Z,25nm,2.0s,mb5.1
CAL Calcutta 86.53 295 *e P* **P 05 40 36.4 +1.8**
CAL *ex* x 05 51 21.9
LSA Lhasa 86.66 302 P **P 05 40 36.4 +1.1**
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.5
LSA Lhasa 86.66 302 *e P* **P 05 40 36.5 +1.2**
LSA pmax pmax
comp=Z,57nm,1.4s,mb5.6
LSA Lhasa 86.66 302 *e P* **P 05 40 36.5 +1.2**
comp=Z,57nm,1.4s,mb5.6
SYO Syowa Base 86.66 197⇓ *e P* **P 05 40 32.5 -2.8**
MCK McKinley 87.19 18 *e P* **P 05 40 37.5 -0.4**
MCK pmax pmax
comp=Z,1.0nm,0.4s,mb4.4
MCK McKinley 87.19 18 *e P* **P 05 40 37.5 -0.4**
comp=Z,1.2nm,0.4s,mb4.5
ZAK Zakamensk 87.26 325⇓ *i P* **P 05 40 37.8 -0.4**
ZAK pmax pmax
comp=Z,124nm,1.9s,mb5.8
MTUM Tungsten Hills 88.08 50 *e P* **P 05 40 42.5 +0.4**
COLA College 88.35 18 *e P* **P 05 40 41.0 -2.5**
comp=Z,10nm,1.0s,mb5.0
COLA LR LR
comp=Z,582nm,20.0s,MS5.0
ILAR Eielson Array 88.56 18 P **P 05 40 41.5 -2.9**
comp=Z,2.0nm,0.7s,mb4.5,baz=237,slow=3.9,SNR=23
BBB Bella Bella 88.56 34 LR LR 06 13 16.2
comp=Z,572nm,18.9s,MS5.0,baz=261,slow=31
NVAR Mina Array Bea 88.69 49 P **P 05 40 46.2 +1.2**
comp=Z,0.9nm,0.7s,baz=216,slow=5.7,SNR=8.9

NVAR PKKPbc PKKPbc 05 58 27.9 +2.7
comp=Z,0.6nm,0.7s,baz=104,slow=3.8,SNR=4.4
NVAR Mina Array Bea 88.69 49 P **P** **05 40 46.2 +1.2**
NVAR PKKPbc PKKPbc 05 58 27.9 +2.7
PALK Pallekele 88.78 278 *e*P **P** **05 40 47.2 +1.8**
comp=Z,100nm,1.8s,mb5.8
BOK Bokaro 89.06 295 *e*P **P** **05 40 45.6 -1.1**
BOK AMb AMB 05 40 52.8
comp=Z,29nm,2.0s,mb5.3
MOY Mondy 89.16 325 *e*P **P** **05 40 46.7 -0.5**
MOY pmax pmax
comp=Z,103nm,2.1s,mb5.8
VIS Vishakhapatnam 89.44 289 *e*P **P** **05 40 49.4 +0.8**
LDFC Landfair 89.84 53 *e*P **P** **05 40 50.2 -0.2**
WVOR Wild Horse Val 90.01 45 *e*P **P** **05 40 50.6 -0.6**
WVOR pmax pmax
comp=Z,28nm,1.6s,mb5.3
WVOR Wild Horse Val 90.01 45 *e*P **P** **05 40 50.6 -0.6**
comp=Z,28nm,1.6s,mb5.3
JIRN Jiri 90.05 299 *e*P **P** **05 40 50.7 -0.7**
comp=Z,105nm,1.5s,mb6.0
BMN Battle Mountai 90.22 48 *e*P **P** **05 40 52.8 +0.6**
BMN pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
BMN MLR MLR
comp=Z,936nm,20.0s,MS5.2
BMN Battle Mountai 90.22 48 *e*P **P** **05 40 52.8 +0.6**
comp=Z,2.8nm,0.5s,mb4.8
BMN LR LR
comp=Z,936nm,20.0s,MS5.2
NEN Nelson 90.24 53 *e*P **P** **05 40 53.8 +1.5**
GUN Gumba 90.39 299 *e*P **P** **05 40 53.2 +0.2**
comp=Z,64nm,1.4s,mb5.8
PKI Pulchoki 90.67 299 *e*P **P** **05 40 54.2 -0.1**
comp=Z,114nm,1.5s,mb6.0
KKN Kakani 90.85 299 *e*P **P** **05 40 54.6 -0.5**
comp=Z,162nm,1.8s,mb6.0
DMN Daman 90.94 298 *e*P **P** **05 40 55.4 -0.1**
comp=Z,89nm,1.3s,mb5.9
NVL N'lazarevskaya 90.94 188 ⇓*i*P **P** **05 40 56.8 +1.3**
NVL *e* 05 53 07.9
NVL *e* 05 58 11.1
NVL pmax pmax
comp=Z,140nm,2.0s,mb6.0
NVL MLR MLR
comp=Z,1μm,17.5s,MS5.5
SNAA Sanae 91.42 183 LR LR 06 20 35.4
comp=Z,364nm,18.8s,MS4.8,baz=198,slow=35
SNAA Sanae 91.42 183 ⇑*i*P **P** **05 40 58.6 +0.8**
SNAA ⇓*i* pP 05 41 07.0 -0.8
SNAA *e* pP 05 41 09.6 +1.8
SNAA Sanae 91.42 183 *e*P **P** **05 40 57.8 0.0**
SNAA Sanae 91.42 183 *e*P **P** **05 40 57.6 -0.2**
comp=Z,123nm,1.3s,mb6.1
SNAA *e*pP pP 05 41 05.7 -2.1
GKN Gorkha 91.46 299 *e*P **P** **05 40 57.5 -0.4**
comp=Z,141nm,1.7s,mb6.0
ELK Elko 91.75 48 *e*P **P** **05 41 00.0 +0.7**
ELK pmax pmax
comp=Z,5.0nm,1.1s
ELK MLR MLR
comp=Z,889nm,20.0s
ELK Elko 91.75 48 *e*P **P** **05 41 00.0 +0.7**
comp=Z,4.8nm,1.1s,mb4.7
ELK LR LR
comp=Z,889nm,20.0s,MS5.2
BMO Blue Mountains 91.82 44 *e*P **P** **05 40 59.5 -0.1**
BMO *e**PP pP 05 41 08.6 -1.0
BMO pmax pmax
comp=Z,16nm,1.8s,mb5.0
BMO Blue Mountains 91.82 44 *e*P **P** **05 40 59.5 -0.1**
comp=Z,16nm,1.8s,mb5.0
BMO *e*pP pP 05 41 08.6 -1.0
TIXI Tiksi 92.05 349 *e*P **P** **05 40 57.4 -3.2**
TIXI *e*S 05 51 26.5
TIXI *e* 05 52 01.3
TIXI pmax pmax
comp=Z,12nm,1.5s,mb5.0
TIXI smax
comp=N,153nm,10.3s
TIXI smax
comp=E,43nm,8.0s
TIXI MLR MLR
comp=Z,370nm,17.0s,MS4.9
TIXI Tiksi 92.05 349 *e*P **P** **05 40 58.1 -2.5**
VNA3 Neumayer Olymp 92.09 181 ⇑*i*P **P** **05 41 01.0 +0.1**
VNA3 *e* 05 41 05.3
VNA3 ⇓*i* pP 05 41 09.9 -0.9
VNA3 *e* pP 05 41 12.2 +1.4
VNA3 *e* 05 41 19.7
KOLN Koldanda 92.26 298 *e*P **P** **05 41 00.9 -0.7**
comp=Z,92nm,1.9s,mb5.8
TUC Tucson 92.32 57 *e*P **P** **05 41 01.7 -0.2**
TUC *e**PP pP 05 41 11.2 -0.7
TUC pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
TUC Tucson 92.32 57 *e*P **P** **05 41 01.7 -0.2**
comp=Z,4.8nm,0.9s,mb4.8
TUC *e*pP pP 05 41 11.2 -0.7
VNA2 Neumayer--Watz 92.36 182 ⇑*i*P **P** **05 41 02.4 +0.3**
baz=175,slow=3.4
VNA2 *e* 05 41 06.2
VNA2 ⇓*i* pP 05 41 11.4 -0.7
VNA2 *e* 05 41 14.0
VNA2 *e* 05 41 21.3
VNA1 Neumayer--Stat 92.66 182 ⇑*i*P **P** **05 41 04.8 +1.3**
VNA1 ⇓*i* pP 05 41 13.0 -0.5
HYB Hyderabad 93.70 287 *i* P **P** **05 41 08.5 +0.2**
HYB Hyderabad 93.70 287 *e*P **P** **05 41 08.5 +0.2**
WMQ Urumqi 94.19 314 P **P** **05 41 11.3 +0.8**
WMQ AP pP 05 41 19.3 -1.2
WMQ XP sP 05 41 22.4 -1.7
WMQ PP PP 05 45 01.0 +3.7
WMQ SKS 05 51 43.0
WMQ *e*S 05 52 18.3
WMQ AMB AMB
comp=Z,43nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,312nm,5.0s
WMQ LR LR
comp=N,1μm,24.4s,MS5.4
WMQ LR LR
comp=E,1μm,24.0s,MS5.4
WMQ LR LR
comp=Z,1μm,24.0s,MS5.3
INK Inuvik 94.92 19 LR LR 06 20 40.3
comp=Z,541nm,19.6s,MS5.0,baz=247,slow=33
BHPL Bhopal 96.32 292 *e*P **P** **05 41 21.1 +0.8**
BHPL AMb AMB 05 41 23.5
comp=Z,24nm,1.5s,mb5.4
PDAR Pinedale Array 96.42 47 P **P** **05 41 20.7 0.0**
comp=Z,0.4nm,0.6s,baz=239,slow=7.0,SNR=2.6
PDAR PKKPbc PKKPbc 05 58 06.0 +0.7
comp=Z,1.0nm,0.9s,baz=88,slow=5.7,SNR=6.5
PDAR LR LR 06 22 20.7
comp=Z,338nm,18.2s,MS4.9,baz=261,slow=34
MNTX Cornudas Mount 96.53 59 *e*P **P** **05 41 21.4 +0.2**
comp=Z,1.7nm,0.9s,mb4.5
MNTX *e*pP pP 05 41 29.9 -1.3
ANMO Albuquerque 96.54 56 *e*P **P** **05 41 21.7 +0.4**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 96.54 56 *e*P **P** **05 41 21.7 +0.4**
comp=Z,2.2nm,0.9s,mb4.6
AGRA Agra 96.92 296 *e*P **P** **05 41 22.4 -0.6**
KLP Kalpa 97.78 300 *e*P **P** **05 41 26.0 -0.9**
KLP AMb AMB 05 41 29.9
comp=Z,12nm,1.2s,mb5.3
SONA Sohna 97.92 297 *e*P **P** **05 41 25.7 -1.8**
SONA AMb AMB 05 41 38.7
comp=Z,11nm,0.8s,mb5.4
AYAN Aya Nagar 97.95 297 *e*P **P** **05 41 26.8 -0.8**
KUDL Kundal 98.41 297 *e*P **P** **05 41 28.1 -1.5**
MKAR Makanchi Array 98.71 316 P **P** **05 41 31.3 +0.3**
comp=Z,1.2nm,0.7s,mb4.6,baz=134,slow=3.5,SNR=9.0
MKAR PP PP 05 45 30.1 -2.1
comp=Z,0.2nm,0.3s,baz=102,slow=12,SNR=3.8
MKAR LR LR 06 24 40.9
comp=Z,442nm,21.3s,MS4.9,baz=92,slow=35
MKAR Makanchi Array 98.71 316 P **P** **05 41 31.3 +0.3**
MKAR 05 45 30.1
KHET Khetri 98.97 297 *e*P **P** **05 41 31.2 -1.0**
KHET AMb AMB 05 41 43.0
comp=Z,10nm,1.0s,mb5.3
ZAL Zalesovo 99.09 324 P **P** **05 41 32.2 -0.5**
comp=Z,1.0nm,0.3s,mb4.8,baz=346,slow=6.8,SNR=3.7
ZAL Zalesovo 99.09 324 P **P** **05 41 32.2 -0.6**
YKA Yellowknife Ar 99.45 27 P **P** **05 41 33.1 -1.3**
comp=Z,0.8nm,0.8s,mb4.3,baz=254,slow=4.6,SNR=11
YKA PKiKP PKiKP 05 46 02.5 -1.1
comp=Z,0.2nm,0.6s,baz=247,slow=1.3,SNR=6.0
YKA PKKPbc PKKPbc 05 57 55.4 -1.5
comp=Z,0.5nm,0.8s,baz=70,slow=3.0,SNR=6.7
YKA LR LR 06 29 40.9
comp=Z,372nm,18.2s,MS4.9,baz=265,slow=37
AJM Ajmer 99.59 295 *e*P Pdif 05 41 34.4 -0.5
KURK Kurchatov 101.99 319 *e*P Pdif 05 41 45.2 -0.4
KURK pmax pmax
comp=Z,14nm,1.5s
KURK Kurchatov 101.99 319 *e*Pdif Pdif 05 41 45.2 -0.4
comp=Z,14nm,1.5s
ULM Lac du Bonnet 107.15 42 PKiKP PKiKP 05 46 18.7 +1.0
comp=Z,0.8nm,0.3s,baz=314,slow=4.7,SNR=2.9
BVAR Borovoye Array 107.38 321 PKiKP PKiKP 05 46 18.0 -0.1
comp=Z,1.6nm,0.9s,baz=108,slow=3.4,SNR=5.3
BRVK Borovoye 107.44 321 *e*PKP PKiKP 05 46 18.9 +0.7
ZRNK Zerenda 108.20 321 *e*PKP PKiKP 05 46 19.5 -0.1
FCC Fort Churchill 108.75 33 *e*PKP PKiKP 05 46 19.7 -1.0
ARU Arti 114.20 325 *i* PKIKP PKiKP 05 46 30.8 -0.2
ARU *e* 05 47 31.6
ARU *e* 05 53 16.4
ARU *e*PS PS 05 57 05.2 +1.3
ARU *e*SS SS 06 03 23.2 +8.0
ARU MLR MLR
comp=Z,1μm,24.5s,MS5.3
ARU MLR MLR
comp=N,200nm,24.0s,MS5.2
ARU MLR MLR
comp=E,700nm,21.0s,MS5.2
ARU Arti 114.20 325 *e*PKP PKiKP 05 46 30.2 -0.8
AKTK Aktyubinsk 115.03 318 PKP PKiKP 05 46 32.9 +0.3
AKTO Aktyubinsk 115.03 318 PKP PKiKP 05 46 32.9 +0.3
comp=E,2.5nm,0.7s,baz=24,slow=2.3,SNR=8.5
LPAZ La Paz 116.26 118 PKP PKPdf 05 46 37.3 +2.4
comp=E,0.6nm,0.9s,baz=333,slow=22,SNR=2.1
LPAZ La Paz 116.26 118 *e*PKPdf PKPdf 05 46 36.7 +1.8
LPAZ *ep*PKPdf pPKPdf 05 46 45.5 +0.3
BOSA Boshof 121.72 220 PKP PKPdf 05 46 46.3 +0.9
comp=E,4.4nm,0.8s,baz=137,slow=2.7,SNR=8.4
BOSA Boshof 121.72 220 *e*PKPdf PKPdf 05 46 46.3 +0.9
BOSA *ep*PKPdf pPKPdf 05 46 55.5 -0.2
SIV San Ignacio 122.26 122 PKP PKPdf 05 46 46.8 +0.3
comp=E,0.6nm,0.5s,baz=292,slow=0.6,SNR=6.1
ARCES ARCESS Array B 122.30 345 PKP PKPdf 05 46 45.8 -0.7
comp=E,11nm,0.7s,baz=87,slow=1.9,SNR=18
ARE0 ARCESS Array S 122.30 345 *e*PKPdf PKPdf 05 46 46.3 -0.2
SUMG Summit 122.34 9 *e*PKPdf PKPdf 05 46 47.9 +1.3
SUMG *ep*PKPdf pPKPdf 05 46 54.6 -2.3
KLMR Klimovskoe 122.56 333 *i* PKIKP PKPdf 05 46 47.0 -0.1
KLMR pmax pmax
comp=Z,70nm,1.5s
SDV Santo Domingo 123.20 90 *e*PKPdf PKPdf 05 46 48.0 -0.3
SDV *ep*PKPdf pPKPdf 05 46 57.9 -0.7
RDF Al-Radifah 123.66 294 *e*P PKPdf 05 46 50.2 +1.0
RDF AMb AMB 05 47 01.6
comp=Z,102nm,1.3s
MIB Mutribah 123.87 295 *e*P PKPdf 05 46 50.6 +1.0
MIB AMb AMB 05 47 01.8
comp=Z,76nm,1.1s
NAY Al-Naaiem 123.94 294 *e*P PKPdf 05 46 50.8 +1.1
NAY AMb AMB 05 47 01.8
comp=Z,30nm,1.1s
SAML Samuel 123.94 113 *e*PKPdf PKPdf 05 46 49.9 +0.2
LBTB Lobatse 124.05 223 *e*PKIKP PKPdf 05 46 50.3 +0.4
LBTB *e* 05 47 00.0
SCHQ Schefferville 124.08 34 PKP PKPdf 05 46 49.6 -0.4
comp=Z,4.5nm,0.9s,baz=227,slow=7.8,SNR=3.7
JOF Joensuu 124.83 337 *ep* PKPdf 05 46 46.4 -5.0
comp=Z,14nm,1.0s
GNI Garni 125.41 308 PKP PKPdf 05 46 55.0 +2.5
comp=Z,1.9nm,0.3s,baz=15,slow=23,SNR=3.2
ZEI Tsey 125.62 311 *e*PKIKP PKPdf 05 46 54.2 +1.3
MOS Moscow 125.66 328 *e*PKIKP PKPdf 05 46 51.6 -1.4
MOS *e* 05 47 01.2
MOS *e* 05 48 52.2
ATD Arta Tunnel 125.96 272 PKP PKPdf 05 46 56.9 +3.4
comp=Z,1.8nm,0.4s,baz=99,slow=23,SNR=4.8
ATD Arta Tunnel 125.96 272 PKP PKPdf 05 46 56.9 +3.3
BHD Baghdad 126.34 299 *ex* x 05 46 52.0
VOR Voronezh 126.34 323 PKIKP PKPdf 05 46 54.0 -0.3
VOR pmax pmax
comp=Z,90nm,2.0s
VOR pmax pmax
comp=N,140nm,1.3s
VOR pmax pmax
comp=E,140nm,1.4s
OBN Obninsk 126.47 327 ⇓*e*PKIKP PKPdf 05 46 55.2 +0.6
OBN *i* 05 47 04.2
OBN *e* 05 48 56.0
OBN *e*SS SS 06 06 08.5 +16
OBN pmax pmax
comp=Z,14nm,1.0s
OBN pmax pmax
comp=Z,52nm,1.2s
OBN MLR MLR
comp=Z,500nm,20.0s,MS5.2
KAF Kangasniemi 127.16 338 *ep* PKPdf 05 46 54.5 -1.4
comp=Z,4.3nm,0.7s
MSL Mosul 127.16 303 *ex* x 05 46 55.0
KMBO Kilima Mbogo 127.55 255 PKP PKPdf 05 46 58.3 +1.7
comp=Z,3.1nm,1.0s,baz=83,slow=3.4,SNR=13
KMBO Kilima Mbogo 127.55 255 *e*PKPdf PKPdf 05 46 58.4 +1.8
KMBO *ep*PKPdf pPKPdf 05 47 07.8 +1.0
FINES FINESS Array B 127.68 338 PKP PKPdf 05 46 56.5 -0.4
comp=Z,3.1nm,0.8s,baz=50,slow=1.8,SNR=12
SOC Sochi 128.44 313 *i* PKIKP PKPdf 05 46 56.4 -1.9
SOC *e* 05 48 58.5
SOC *e* 05 54 02.9
SOC *e*PS PS 05 59 02.4 -8.5
SOC *e*SSS 06 11 01.8
SOC MLR MLR
comp=Z,493nm,19.0s,MS5.2
LSZ Lusaka 128.49 234 PKP PKPdf 05 47 00.8 +2.4
comp=Z,4.2nm,0.7s,baz=76,slow=1.1,SNR=11
LSZ Lusaka 128.49 234 *e*PKPdf PKPdf 05 47 00.3 +1.9
LSZ *ep*PKPdf pPKPdf 05 47 09.3 +0.6
SJG San Juan 129.23 80 PKP PKPdf 05 47 00.5 +0.7
comp=Z,13nm,0.7s,baz=166,slow=13,SNR=4.5
SJG San Juan 129.23 80 *e*PKPdf PKPdf 05 46 59.8 0.0
SJG *ep*PKPdf pPKPdf 05 47 08.7 -1.3
MALT Malatya 130.54 306 *e*PKIKP PKPdf 05 47 04.3 +2.0
MALT *e* 05 47 12.7
AKASG Malin Array Be 132.46 325 PKP PKPdf 05 47 06.1 +0.1
comp=Z,5.3nm,0.8s,baz=65,slow=2.0,SNR=15
AKASG PP PP 05 49 34.1 +4.8
comp=Z,1.5nm,0.7s,baz=53,slow=5.9,SNR=5.5
AKASG Malin Array Be 132.46 325 PKP PKPdf 05 47 06.1 +0.1
AKASG PP PP 05 49 34.1 +4.8
BDFB Brasilia 132.55 131 PKP PKPdf 05 47 08.6 +2.5
comp=Z,4.6nm,1.1s,baz=222,slow=8.3,SNR=3.2
NB2 NORSAR Subarra132.66 344 PKPd PKPdf 05 47 06.0 -0.3
comp=Z,134nm,2.5s,baz=31,slow=1.9
NB2 NORSAR Subarra132.66 344 PKPd PKPdf 05 47 06.0 -0.3
baz=31,slow=1.9
NOA NORSAR Array B132.66 344 PKP PKPdf 05 47 05.4 -0.9
comp=Z,4.9nm,0.8s,baz=36,slow=2.0,SNR=24
HFS Hagfors 132.74 342 PKP PKPdf 05 47 06.6 +0.2
comp=Z,5.3nm,0.7s,baz=122,slow=1.9,SNR=9.9
NAO01 NORSAR Array S 132.91 344 *e*PKPdf PKPdf 05 47 07.2 +0.4
TSUM Tsumeb 133.36 221 *e*PKPdf PKPdf 05 47 09.8 +2.2
BRTR Keskin Array B 133.84 309 PKP PKPdf 05 47 09.7 +1.2
comp=Z,1.2nm,0.8s,baz=106,slow=4.4,SNR=5.7
ANTO Ankara 134.43 310 *e*PKIKP PKPdf 05 47 10.7 +1.1
ANTO *e* 05 47 19.3
EIL Elat 134.63 295 *e*PKPdf PKPdf 05 47 11.2 +1.2
LVV L'vov 135.75 326 *e*PKIKP pPKPdf 05 47 21.8 -0.6
BURAR Bucovina Array 136.29 323 ⇑P PKPdf 05 47 15.4 +2.3
BURAR Bucovina Array 136.29 323 ⇑P PKPdf 05 47 15.4 +2.3
KWP Kalwaria 136.56 327 *e*PKIKP PKPdf 05 47 13.6 0.0
MLR Muntele Rosu 136.93 320 PKP PKPdf 05 47 16.1 +1.8
comp=Z,2.9nm,0.8s,baz=303,slow=8.1,SNR=3.9
MLR Muntele Rosu 136.93 320 ⇑P PKPdf 05 47 15.7 +1.4
MLR Muntele Rosu 136.93 320 ⇑P PKPdf 05 47 15.7 +1.4
STHS Stebnicka Huta 137.45 327 *e*PKP PKPdf 05 47 17.4 +2.1
STHS *e* 05 47 26.2
STHS *e*PP PP 05 50 08.5 +7.6
CRVS Cervenica-Dubn 137.65 327 *e* pPKPdf 05 47 26.2 +0.3
OJC Ojcow 137.68 329 *e*PKPdf PKPdf 05 47 21.1 +5.4
OJC *e*PP PP 05 50 00.7 -1.6
NIE Niedzica 137.93 328 *e*PKP PKPdf 05 47 17.9 +1.8
KECS Kecovo 138.42 327 *e* pPKPdf 05 47 27.1 -0.2
OKC Ostrava-Krasne 138.73 330 *ep*PKP pPKPdf 05 47 27.6 -0.3
OKC *e*PP PP 05 50 14.1 +5.2
KSP Ksiaz 138.90 332 *e*PKIKP PKPdf 05 47 19.7 +1.8
KSP MLR MLR
comp=Z,3μm,22.5s,MS5.9
MORC Moravsky Berou 139.06 330 *e*PKIKP PKPdf 05 47 18.7 +0.5
MORC *e* 05 47 29.9
PSZ Piszkesteto 139.07 326 *e*PKIKP PKPdf 05 47 18.6 +0.4
DPC Dobruska-Polom 139.24 332 *e*PKPDF PKPdf 05 47 20.3 +1.8
DPC *e*PP PP 05 50 13.3 +1.3
DPC AMS AMS 06 47 50.0
comp=Z,1μm,22.1s
VYHS Vyhne 139.27 328 *e*PKP PKPdf 05 47 19.1 +0.5
VYHS *e*PP PP 05 50 12.7 +0.5
UPC Upice 139.27 332 *e*PKPDF PKPdf 05 47 23.0 +4.4
UPC *e*PP PP 05 50 13.6 +1.4
BZS Buzias 139.46 322 ⇓P PKPdf 05 47 19.9 +1.0
BZS Buzias 139.46 322 ⇓P PKPdf 05 47 19.9 +0.9
VRAC Vranov 139.83 330 PKP PKPdf 05 47 20.6 +0.9
comp=Z,1.6nm,0.3s,baz=82,slow=15,SNR=7.7
VRAC PP PP 05 50 17.1 +1.4
comp=Z,2.3nm,0.4s,baz=270,slow=21,SNR=4.1
PVCC Panska Ves 139.89 333 *e*PKPDF PKPdf 05 47 24.5 +4.8
PVCC *e*PP PP 05 50 17.6 +1.6
PVCC AMS AMS 06 49 00.0
PVCC Panska Ves 139.89 333 *e*PKIKP PKPdf 05 47 24.5 +4.8
PVCC *e* 05 50 17.6
BRG Berggiesshubel 139.91 334 *e*PKIKP PKPdf 05 47 15.3 -4.5
BRG *i* 05 47 20.6
BRG 05 50 15.0
BRG MLR MLR
comp=Z,540nm,28.8s,MS5.1
BRG Berggiesshubel 139.91 334 *e*PKP PKPdf 05 47 15.3 -4.4
BRG *i* 05 47 20.6
BRG PP PP 05 50 15.0 -1.1
BRG SS SS 06 08 42.0 +6.6
BRG LR LR
comp=Z,540nm,28.8s,MS5.1
BRG Berggiesshubel 139.91 334 *e*PKP PKPdf 05 47 15.3 -4.4
comp=Z,3.7nm,0.8s
BRG *i* 05 47 20.6
comp=Z,53nm,2.0s
BRG PP PP 05 50 15.0 -1.1
BRG SS SS 06 08 42.0 +6.6
BRG
comp=N,237nm,18.3s
BRG
comp=E,264nm,17.0s
BRG
comp=Z,536nm,28.9s
CLL Collm 139.97 335 *e*PKPpre 05 47 15.0
CLL *e*PKPdf PKPdf 05 47 21.2 +1.3
comp=Z,83nm,2.2s
CLL *ep*PKPdf pPKPdf 05 47 29.0 -1.1
CLL *es*PKPdf 05 47 32.2
CLL *e*PP PP 05 50 20.8 +4.3
CLL *e*PKSdf 05 50 58.3
CLL *e*SKKSac SKKSac 05 57 11.8 +3.6
CLL *e*Sdiff Sdif 05 59 00.3 +18
CLL *e*PPS 06 02 36.8
CLL *e*SS SS 06 08 41.9 +5.8
CLL *e*SSS 06 14 02.1
CLL *e*L 06 49 14.9
comp=Z,730nm,22.0s
CLL Collm 139.97 335 *i* PKPdf PKPdf 05 47 21.3 +1.4
comp=Z,78nm,2.2s
CLL *i* pPKPdf pPKPdf 05 47 28.2 -1.9
CLL *i* sPKPdf 05 47 32.0
CLL *ex* x 05 47 54.0
CLL *es*PP 05 50 31.0
CLL *e*PKSdf 05 50 58.0
CLL *e*SKKSac SKKSac 05 57 13.0 +4.8
CLL *e*Sdif Sdif 05 59 00.0 +17
CLL *e*PPS 06 02 37.0
CLL *e*SS SS 06 08 42.0 +5.9
CLL *e*SSS 06 14 24.0
CLL Collm 139.97 335 *i* PKIKP PKPdf 05 47 21.3 +1.4
CLL *i* 05 47 28.2
CLL *i* 05 47 32.0
CLL MLR MLR
comp=Z,700nm,22.3s,MS5.4
CLL Collm 139.97 335 *i* PKP PKPdf 05 47 21.3 +1.4
CLL *i* pPKP pPKPdf 05 47 28.2 -1.9
CLL *i* 05 47 32.0
CLL *e*PKS 05 50 58.0
CLL LR LR
comp=Z,700nm,22.3s,MS5.4
VTS Vitosha 140.05 317 ⇓PKIKP PKPdf 05 47 20.2 +0.2
PRU Pruhonice 140.30 332 *e*PKPDF PKPdf 05 47 23.2 +2.7
PRU *e*PP PP 05 50 18.9 +0.4
PRU AMS AMS 06 43 40.0
comp=Z,1μm,26.5s
ZST Bratislava 140.34 329 *e*PKP PKPdf 05 47 20.0 -0.5
ZST *e*PP PP 05 50 21.7 +2.9
PKSM Moragy 140.80 325 ⇑PKIKP PKPdf 05 47 22.3 +0.9
EKA Eskdalemuir Ar 140.90 351 PKP PKPdf 05 47 22.9 +1.3
comp=Z,1.7nm,0.8s,baz=30,slow=2.0,SNR=3.5
NKC Novy Kostel 141.02 334 *e*PKPDF PKPdf 05 47 22.3 +0.5
NKC AMS AMS 06 49 40.0
comp=Z,900nm,18.2s
MOX Moxa 141.04 335 *e*PKP PKPdf 05 47 22.3 +0.5
comp=Z,49nm,1.9s
MOX
comp=Z,300nm,22.0s
VAY Valandovo 141.07 316 *e*PKP PKPdf 05 47 22.7 +0.8
STIP Stip 141.15 317 *e*PKP PKPdf 05 47 23.8 +1.8
KHC Kasperske Hory 141.35 332 *e*PKPDF PKPdf 05 47 24.2 +1.8
KHC *e*PP PP 05 50 26.3 +1.3
KHC AMS AMS 06 49 00.0
comp=Z,2μm,26.2s
SKO Skopje 141.50 318 *e*PKP PKPdf 05 47 23.3 +0.7
GERES GERESS Array B 141.51 332 PKP PKPdf 05 47 21.5 -1.1
comp=Z,1.0nm,0.7s,baz=45,slow=0.4,SNR=7.9
GRA1 Grafenberg Arr 141.94 335 *e*PKPdf PKPdf 05 47 19.4 -4.0
GRA1 *e*PP PP 05 50 28.8 +0.3
GRA1 LR LR
comp=Z,600nm,21.6s,MS5.3
GRF Grafenberg Arr 141.94 335 *e*PKPdf PKPdf 05 47 19.4 -4.0
GRF *e*PP PP 05 50 28.8 +0.3
GRF *e*L 06 50 55.9
comp=Z,629nm,21.6s
BIA Bitola 142.04 316 *e*PKP PKPdf 05 47 23.1 -0.5
OHR Ohrid 142.34 317 *e*PKP PKPdf 05 47 25.8 +1.6
KBA Koelnbreinsper 142.95 330 ⇑*i*P PKPdf 05 47 23.7 -1.5
comp=Z,36nm,1.2s
TOD Tromm 142.97 337 PKIKP PKPdf 05 47 22.5 -2.7
BOJS Bojanci 143.07 327 *e*PKPbc PKPdf 05 47 22.5 -2.9
MEM Membach 143.12 340 PKP PKPdf 05 47 22.1 -3.4
MEM APKP 05 47 32.3
ABH Alteburg 143.20 338 PKP PKPdf 05 47 21.3 -4.4
DLF Lyons Farm 143.32 354 *e*P PKPdf 05 47 26.0 +0.1
CEY Cerknica 143.35 328 *e*PKPbc PKPdf 05 47 22.9 -3.0
DCN Croghan 143.35 354 *e*P PKPdf 05 47 25.0 -0.9
VOY Vojsko 143.42 328 *e*PKPbc PKPdf 05 47 22.9 -3.1
VOY *e* 05 47 33.1
PTCC Patocco-Chiusa 143.42 329 PKP PKPdf 05 47 23.3 -2.7
RUP Ruppelstein 143.53 338 PKHKP 05 47 23.2
GMNA Gemona 143.57 329 PKP PKPdf 05 47 25.8 -0.5
WATA Walderalm 143.58 332 ⇑*i*P PKPdf 05 47 24.4 -1.9
comp=Z,58nm,1.4s
SNF Seneffe 143.75 342 PKP PKPdf 05 47 24.9 -1.8
SNF APKP 05 47 33.5
MOTA Moosalm 143.79 332 ⇑*i*P PKPdf 05 47 24.8 -1.9
comp=Z,58nm,1.1s
SQTA Sankt Quirin 143.84 332 ⇓*i*P PKPdf 05 47 25.1 -1.7
comp=Z,81nm,1.2s
LANF Langenberg 143.85 337 PKP PKPdf 05 47 23.9 -2.9
WLF Walferdange 143.88 339 PKP PKPdf 05 47 25.6 -1.2
WLF APKP 05 47 35.6
WLF Walferdange 143.88 339 *e*PKPdf PKPdf 05 47 25.4 -1.5
WLF *ep*PKPdf pPKPdf 05 47 35.6 -1.5
GIVF Givet 143.94 341 *e*PKP1 PKPdf 05 47 25.4 -1.5
DOU Dourbes 144.01 341 PKP PKPdf 05 47 25.3 -1.7
DOU APKP 05 47 37.0
BFO Black Forest 144.18 336 *e*PKIKP PKPdf 05 47 25.4 -2.0
BFO *e* 05 47 35.7
DAVA Damuels 144.37 333 ⇑*i*P PKPdf 05 47 27.0 -0.7
comp=Z,121nm,1.1s
APPI Appiano 144.38 331 PKP PKPdf 05 47 26.1 -1.6
WLS Welschbruch 144.49 337 PKP PKPdf 05 47 26.7 -1.2

CTI	Castel Tesino	144.50 330	PKIKP	PKPdf	05 47 27.4	-0.5
CDF	Champ du Feu	144.52 337	⇓iPKP1	PKPdf	05 47 26.5	-1.5
	comp=Z,418nm,1.3s					
LIENZ	Alp Oberkamor	144.53 334	⇓iP	PKPdf	05 47 26.2	-1.8
SLE	Schleitheim	144.57 335	⇓iP	PKPdf	05 47 26.2	-1.9
	comp=Z,503nm,2.3s					
SLE	Schleitheim	144.57 335	⇓iP	PKPdf	05 47 26.5	-1.6
LIBD	Limburg	144.61 336	PKIKP	PKPdf	05 47 26.3	-1.8
FELD	Feldberg	144.68 336	PKP	PKPdf	05 47 26.9	-1.3
WILA	Wila	144.68 334	eP	PKPdf	05 47 26.2	-2.0
	comp=Z,343nm,1.8s					
WILA	Wila	144.68 334	eP	PKPdf	05 47 26.9	-1.3
FUORN	Ofenpass	144.71 332	⇓eP	PKPdf	05 47 27.2	-1.1
	comp=Z,801nm,2.1s					
FUORN	Ofenpass	144.71 332	⇓eP	PKPdf	05 47 27.6	-0.7
ECH	Echery	144.73 337	PKP	PKPdf	05 47 26.9	-1.4
DAVOX	Davos	144.76 333	PKP	PKPdf	05 47 28.1	-0.3
	comp=Z,35nm,0.7s,baz=347,slow=2.2,SNR=37					
DAVOX	Davos	144.76 333	⇓iP	PKPdf	05 47 27.2	-1.2
	comp=Z,490nm,2.4s					
DAVOX	Davos	144.76 333	⇓iP	PKPdf	05 47 27.9	-0.5
PLONS	Plons	144.77 333	⇓eP	PKPdf	05 47 27.2	-1.2
	comp=Z,395nm,2.1s					
BRMO	Bormio	144.77 332	PKP	PKPdf	05 47 28.1	-0.3
ZUR	Zurich	144.85 335	⇓eP	PKPdf	05 47 26.5	-2.0
	comp=Z,457nm,1.9s					
ZUR	Zurich	144.85 335	⇓eP	PKPdf	05 47 27.0	-1.5
SULZ	Sulz-Cheisache	144.91 335	⇓eP	PKPdf	05 47 26.9	-1.8
	comp=Z,438nm,1.8s					
SULZ	Sulz-Cheisache	144.91 335	⇓eP	PKPdf	05 47 27.2	-1.5
BERNI	Berninapass	144.98 332	⇓iP	PKPdf	05 47 28.7	-0.1
	comp=Z,472nm,1.9s					
MOF	Molkenrain	145.04 336	PKP	PKPdf	05 47 28.0	-0.9
LLS	Linth-Limmern	145.09 334	⇓iP	PKPbc	05 47 27.9	-0.5
	comp=Z,413nm,2.5s					
LLS	Linth-Limmern	145.09 334	⇓iP	PKPbc	05 47 28.6	+0.2
MUO	Muotathal	145.15 334	⇓iP	PKPbc	05 47 28.6	0.0
	comp=Z,734nm,2.0s					
MUO	Muotathal	145.15 334	⇓iP	PKPbc	05 47 28.8	+0.2
THEF	They Montfort	145.15 338	PKP	PKPdf	05 47 28.9	-0.2
VDL	Val di Lei	145.17 333	⇓eP	PKPbc	05 47 28.8	+0.1
	comp=Z,782nm,2.7s					
VDL	Val di Lei	145.17 333	⇓eP	PKPbc	05 47 28.7	0.0
HINF	Hinteralfeld	145.17 337	⇓iPKP1	PKPbc	05 47 28.4	-0.3
	comp=Z,181nm,0.8s					
HAU	Haudompre	145.21 337	⇓iPKP1	PKPbc	05 47 29.7	+0.9
	comp=Z,734nm,1.1s					
HAU			eR			
	comp=Z,666nm,22.2s					
HAU	Haudompre	145.21 337	⇓iPKP	PKPdf	05 47 29.7	+0.6
HAU			LR	LR		
	comp=Z,670nm,22.3s,MS5.4					
BBS	Basel-Blauen	145.21 336	PKIKP	PKPdf	05 47 28.6	-0.6
TUE	Stuetta	145.23 333	PKP	PKPdf	05 47 29.5	+0.3
BALST	Balsthal	145.24 335	⇓iP	PKPbc	05 47 27.6	-1.3
	comp=Z,578nm,1.9s					
BALST	Balsthal	145.24 335	⇓iP	PKPbc	05 47 28.8	-0.1
MEZF	Maizieres J'vi	145.25 339	⇓iPKP1	PKPbc	05 47 29.4	+0.4
	comp=Z,1μm,1.2s					
RGNG	Rignano Grg	145.31 321	PKP	PKPdf	05 47 30.1	+0.8
BNALP	Bannalp	145.31 334	⇓iP	PKPbc	05 47 28.8	-0.4
	comp=Z,427nm,1.4s					
BNALP	Bannalp	145.31 334	⇓iP	PKPbc	05 47 29.5	+0.3
BOURR	Bourrignon	145.38 336	⇓iP	PKPbc	05 47 28.7	-0.7
	comp=Z,724nm,2.0s					
BOURR	Bourrignon	145.38 336	⇓iP	PKPbc	05 47 29.3	-0.1
HASLI	Hasliberg	145.52 334	⇓iP	PKPdf	05 47 29.3	-0.4
	comp=Z,791nm,2.0s					
HASLI	Hasliberg	145.52 334	⇓iP	PKPdf	05 47 29.8	+0.1
FUSIO	Fusio	145.54 333	⇓eP	PKPdf	05 47 29.5	-0.2
	comp=Z,507nm,1.2s					
FUSIO	Fusio	145.54 333	⇓eP	PKPdf	05 47 30.1	+0.4
LOMF	Lomont	145.57 336	PKP	PKPdf	05 47 30.6	+0.8
CING	Cingoli	145.59 326	PKP	PKPdf	05 47 31.1	+1.3
PTRP	Pietrapertosa	145.69 319	PKP	PKPdf	05 47 32.2	+2.2
ORI	Oriolo Calabro	145.71 318	PKIKP	PKPdf	05 47 31.6	+1.6
MUGIO	Muggio	145.79 333	⇓eP	PKPdf	05 47 30.7	+0.5
	comp=Z,666nm,2.2s					
MUGIO	Muggio	145.79 333	⇓eP	PKPdf	05 47 29.7	-0.5
WIMIS	Wimmis	145.81 335	⇓eP	PKPdf	05 47 29.7	-0.5
	comp=Z,418nm,1.9s					
WIMIS	Wimmis	145.81 335	⇓eP	PKPdf	05 47 29.9	-0.3
TORNY	Torny	145.99 335	⇓eP	PKPdf	05 47 29.9	-0.6
	comp=Z,769nm,1.9s					
TORNY	Torny	145.99 335	⇓eP	PKPdf	05 47 31.3	+0.8
TIP	Timpagrande	145.99 317	ePKPdf	PKPdf	05 47 31.5	+1.0
TIP			ePKPbc	PKPbc	05 47 32.5	+1.2
BADI	Badiali	146.01 327	PKP	PKPdf	05 47 32.9	+2.4
MURB	Monte Urbino	146.03 326	PKP	PKPdf	05 47 32.3	+1.7
CII	Carovilli	146.04 322	PKP	PKPdf	05 47 33.5	+2.9
BRANT	Les Verrieres	146.04 336	⇓eP	PKPdf	05 47 29.8	-0.8
	comp=Z,758nm,2.1s					
BRANT	Les Verrieres	146.04 336	⇓eP	PKPdf	05 47 31.5	+0.9
FNVD	Fontana Vidola	146.12 328	PKP	PKPdf	05 47 31.5	+0.8
AQU	L'Aquila	146.15 324	PKP2	PKPab	05 47 32.9	+0.4
MMK	Mattmark	146.16 334	⇓iP	PKPdf	05 47 31.5	+0.7
	comp=Z,756nm,2.2s					
MMK	Mattmark	146.16 334	⇓iP	PKPdf	05 47 33.0	+2.2
SENIN	Lac Senin	146.19 335	⇓eP	PKPdf	05 47 31.3	+0.5
	comp=Z,581nm,2.2s					
SENIN	Lac Senin	146.19 335	⇓eP	PKPdf	05 47 32.1	+1.3
MGR	Morigerati	146.23 319	PKP	PKPdf	05 47 31.0	+0.1
AIGLE	Aigle	146.34 335	⇓iP	PKPdf	05 47 32.8	+1.7
	comp=Z,522nm,1.8s					
AIGLE	Aigle	146.34 335	⇓iP	PKPdf	05 47 32.7	+1.6
DIX	Grande Dixence	146.37 334	⇓iP	PKPdf	05 47 32.7	+1.6
	comp=Z,300nm,1.7s					
DIX	Grande Dixence	146.37 334	⇓iP	PKPdf	05 47 33.5	+2.4
BDI	Bagni Di Lucca	146.46 329	PKIKP	PKPdf	05 47 30.4	-0.9
CABF	La Chapelle	146.46 336	⇓iPKP1	PKPbc	05 47 33.2	+0.5
	comp=Z,730nm,1.4s					
BOB	Bobbio (Coli)	146.49 331	PKIKP	PKPdf	05 47 31.9	+0.6
VLC	Villacollemand	146.49 329	ePKPbc	PKPbc	05 47 33.1	+0.3
SALAN	Lac Salanfe	146.50 335	⇓iP	PKPdf	05 47 33.4	+2.0
	comp=Z,406nm,2.3s					
SALAN	Lac Salanfe	146.50 335	⇓iP	PKPdf	05 47 33.2	+1.9
CSNT	Castellina Chi	146.53 327	PKP	PKPdf	05 47 32.2	+0.8
FLN	La Foliniere	146.64 345	⇓iPKP1	PKPbc	05 47 32.8	-0.4
	comp=Z,314nm,1.1s					
FLN			eR			
	comp=Z,563nm,21.2s					
FLN	La Foliniere	146.64 345	⇓iPKP	PKPdf	05 47 32.8	+1.2
FLN			LR	LR		
	comp=Z,560nm,21.3s,MS5.3					
CERT	Cerreto	146.65 324	PKP	PKPdf	05 47 33.5	+1.9
SHEL	Horse Pasture	146.66 192	ePKPbc	PKPbc	05 47 35.8	+2.6
SHEL			epPKPdf	pPKPdf	05 47 44.7	+2.8
LDF	La Druitiere	146.71 345	⇓iPKP1	PKPbc	05 47 33.0	-0.4
	comp=Z,233nm,1.1s					
LOR	Lormes	146.72 339	⇓iPKP1	PKPbc	05 47 33.5	+0.1
	comp=Z,297nm,1.2s					
LOR			eR			
	comp=Z,848nm,22.8s					
LOR	Lormes	146.72 339	⇓iPKP	PKPdf	05 47 33.5	+1.8
LOR			LR	LR		
	comp=Z,850nm,22.8s,MS5.5					
PII	Pisa	146.74 328	PKP2	PKPab	05 47 33.3	-1.4
SSF	Saint Saulge	147.02 339	⇓iPKP1	PKPbc	05 47 34.5	+0.2
	comp=Z,454nm,1.3s					
SOI	Samo	147.05 316	PKIKP	PKPdf	05 47 33.8	+1.5
GRR	Gorron	147.08 345	⇓iPKP1	PKPbc	05 47 34.2	-0.3
	comp=Z,300nm,1.2s					
LPL	La Plagne	147.10 334	⇓iPKP1	PKPbc	05 47 35.1	+0.6
	comp=Z,274nm,1.3s					
LPG	La Plagne	147.11 334	⇓iPKP1	PKPbc	05 47 35.1	+0.6
	comp=Z,202nm,1.1s					
TOLF	Tolfa	147.12 325	PKP	PKPdf	05 47 34.9	+2.5
SMF	Signal de Mont	147.26 339	⇓iPKP1	PKPbc	05 47 34.9	-0.1
	comp=Z,400nm,1.4s					
AVF	Avril sur Loir	147.30 339	⇓iPKP1	PKPbc	05 47 34.9	-0.2
	comp=Z,184nm,1.2s					
BNI	Bardonecchia	147.50 334	PKHKP		05 47 29.6	
BNI			e		05 47 33.8	
BNI			e		05 47 35.7	
GDM	Grand'Maison	147.61 335	PKP	PKPbc	05 47 36.8	+0.9
ROSF	Rostrenen	147.66 348	⇓iPKP1	PKPbc	05 47 37.4	+1.3
	comp=Z,134nm,1.2s					
BGF	Bois d'Agland	147.68 340	⇓iPKP1	PKPbc	05 47 36.1	0.0
	comp=Z,178nm,1.1s					
MBDF	Montbardon	147.72 333	⇓iPKP1	PKPbc	05 47 36.1	-0.1
	comp=Z,134nm,1.3s					
GRN	Grenoble	147.73 335	PKP	PKPbc	05 47 37.1	+0.9
RCBR	Riachuelo	147.89 133	ePKPdf	PKPdf	05 47 34.5	+0.8
RCBR			ePKPbc	PKPbc	05 47 37.1	+0.4
SURF	Saint Ours	147.90 333	PKP	PKPbc	05 47 37.9	+1.2
PLDF	La Plantade	147.92 338	PKP	PKPbc	05 47 37.9	+1.1
ORIF	Oris-en-Rattie	147.94 335	⇓iPKP1	PKPbc	05 47 37.0	+0.2
	comp=Z,134nm,1.0s					
ORIF			eR			
	comp=Z,467nm,20.8s					
SAOF	Saorge	147.96 332	PKP	PKPbc	05 47 37.2	+0.3
AUTN	L'Aution	148.01 332	PKP	PKPbc	05 47 37.5	+0.5
AGO	Saint Agoulin	148.02 339	PKP	PKPbc	05 47 37.5	+0.5
QUIF	Quistinic	148.04 348	ePKP1	PKPbc	05 47 37.0	-0.1
SBF	Sospel	148.11 332	⇓iPKP1	PKPbc	05 47 36.9	-0.4
	comp=Z,272nm,1.0s					
TCF	Toulx Ste Croi	148.12 340	⇓iPKP1	PKPbc	05 47 37.5	+0.2
	comp=Z,321nm,1.3s					
MVIF	Mont Vial	148.21 332	PKP	PKPbc	05 47 38.0	+0.5
REVF	Revere	148.24 332	PKP	PKPbc	05 47 37.5	-0.1
PYM	Petit Puy Mans	148.33 339	PKP	PKPbc	05 47 38.2	+0.4
PGF	Pioggiola	148.36 328	⇓iPKP1	PKPbc	05 47 37.8	-0.1
	comp=Z,182nm,0.9s					
CORF	Corte	148.47 328	PKP	PKPdf	05 47 38.2	+3.6
VIVF	Saint-Julien-I	148.47 336	⇓iPKP1	PKPbc	05 47 38.3	+0.1
	comp=Z,630nm,1.9s					
MFF	Saint Martin d	148.55 343	⇓iPKP1	PKPbc	05 47 38.2	-0.2
	comp=Z,160nm,1.0s					
STOF	St-Etienne Org	148.68 334	PKP	PKPbc	05 47 39.5	+0.8
LBL	Lubilhac	148.69 338	PKP	PKPbc	05 47 39.6	+0.8
FRF	La Foret Royal	148.70 332	⇓iPKP1	PKPbc	05 47 38.6	-0.2
	comp=Z,270nm,1.3s					
SMRF	Simiane la Rot	148.83 334	⇓iPKP1	PKPbc	05 47 39.5	+0.4
	comp=Z,272nm,1.4s					
VILF	Villemus	148.88 334	PKP	PKPbc	05 47 40.2	+1.0
TAVF	Tavernes	148.92 333	PKP	PKPbc	05 47 40.2	+0.8
LMR	La Mourre	148.94 332	⇓iPKP1	PKPbc	05 47 39.2	-0.2
	comp=Z,492nm,1.5s					
PUYF	Puyloubier	149.14 333	PKP	PKPbc	05 47 40.2	+0.3
PRAF	Pradon	149.14 334	PKP	PKPbc	05 47 40.2	+0.3
TREF	Trevaresse	149.20 334	PKP	PKPbc	05 47 40.6	+0.5
RJF	Les Rejaudoux	149.22 340	⇓iPKP1	PKPbc	05 47 40.6	+0.5
	comp=Z,488nm,1.7s					
RJF			eR			
	comp=Z,499nm,20.2s					
RJF	Les Rejaudoux	149.22 340	⇓iPKP	PKPbc	05 47 40.6	+0.5
RJF			LR	LR		
	comp=Z,500nm,20.3s,MS5.3					
CAF	Calviac	149.37 339	⇓iPKP1	PKPbc	05 47 40.9	+0.4
	comp=Z,246nm,1.7s					
GELF	Grande-Etoile	149.38 333	PKP	PKPbc	05 47 40.6	+0.1
LASF	Ste Croix	149.45 336	⇓iPKP1	PKPbc	05 47 41.1	+0.4
	comp=Z,452nm,1.4s					
LFF	La Frestale	149.79 341	⇓iPKP1	PKPbc	05 47 41.7	+0.2
	comp=Z,211nm,1.3s					
VSL	Villasalto	150.33 324	ePKPbc	PKPbc	05 47 42.9	+0.1
MTLF	Montolieu	150.69 337	⇓iPKP1	PKPbc	05 47 44.0	+0.3
	comp=Z,150nm,1.1s					
LRDF	Laroque-de-Fa	150.92 336	PKP	PKPdf	05 47 42.0	+3.5
EJON	La Jonquera	151.20 335	PKP	PKPbc	05 47 46.8	+1.9
MLS	Moulis	151.43 338	PKP	PKPbc	05 47 46.4	+1.0
VALF	Valcebollere	151.58 337	PKP	PKPdf	05 47 42.7	+3.2
EPF	Esparros	151.63 340	⇓iPKP1	PKPbc	05 47 45.5	-0.4
	comp=Z,220nm,1.7s					
LABF	Labassere	151.70 340	PKP	PKPdf	05 47 41.5	+1.8
RESF	Ens	151.83 339	PKP	PKPbc	05 47 49.4	+3.1
RESF	Ens	151.83 339	PKP	PKPdf	05 47 42.5	+2.6
RESF	Ens	151.83 339	PKP	PKPdf	05 47 42.5	+2.6
RESF			PKP	PKPbc	05 47 49.4	+3.1
VIEF	Viey	151.86 340	PKP	PKPbc	05 47 47.8	+1.4
EBIE	Bielsa	152.00 339	PKP	PKPbc	05 47 48.0	+1.3
EALK	Alkurruntz	152.04 342	PKP	PKPbc	05 47 49.1	+2.3
ETSF	Etsaut	152.04 341	⇓iPKP1	PKPbc	05 47 47.8	+1.0
	comp=Z,113nm,1.2s					
LARF	Larrau	152.05 341	PKP	PKPdf	05 47 41.8	+1.6
SJPF	Ste Jean	152.05 342	⇓iPKP1	PKPbc	05 47 47.5	+0.7
	comp=Z,45nm,1.0s					
EMIR	Miracle	152.18 337	PKP	PKPbc	05 47 50.7	+3.6
EGRA	Graus	152.38 339	PKP	PKPbc	05 47 50.7	+3.1
ELAN	Lanestosa	152.54 345	PKP	PKPbc	05 47 49.1	+1.2
EPOB	Poblet	152.84 337	PKP	PKPbc	05 47 49.3	+0.7
EARI	Arriondas	152.88 348	PKP	PKPbc	05 47 50.4	+1.7
ESAC	San Caprasio	153.06 339	PKP	PKPbc	05 47 51.6	+2.5
EPON	Pontenova	153.19 351	PKP	PKPbc	05 47 51.1	+1.7
ETOS	Mallorca	153.46 332	PKP	PKPbc	05 47 49.3	-0.6
ERTA	Horta de San J	153.46 337	PKP	PKPbc	05 47 51.6	+1.7
EBR	Ebro Roquetas	153.52 337	ePKPDF	PKPbc	05 47 48.5	-1.6
STS	Santiago	153.82 353	PKIKP	PKPbc	05 47 52.8	+2.1
EMOS	Mosqueruela	154.27 338	PKP	PKPbc	05 47 53.5	+1.8
PBRG	Braganca	154.61 349	ePKPdf	PKPdf	05 47 46.0	+2.1
GUD	Guadarrama	155.16 344	PKP	pPKPdf	05 47 58.2	+3.3
PVRL	Vila Real	155.29 351	ePKPab	PKPab	05 48 10.4	+0.4
EBEN	Beniarda	155.63 336	PKP	pPKPdf	05 47 59.0	+3.4
PVIS	Viseu	155.86 351	ePKPdf	PKPdf	05 47 46.7	+1.1
ESDC	Sonseca Array	156.01 343	PKP	PKPdf	05 47 48.0	+2.2
	comp=Z,0.2nm,0.4s,baz=341,slow=31,SNR=2.7					
ESDC			PKPab	PKPab	05 48 13.5	+0.4
	comp=Z,2.1nm,0.7s,baz=22,slow=3.6,SNR=4.8					
ESDC	Sonseca Array	156.01 343	PKP	PKPdf	05 47 48.0	+2.2
ESDC			PKP	PKPdf	05 47 55.4	+10
ESDC			PKPab	PKPab	05 48 13.5	+0.4
MTE	Manteigas	156.12 350	ePKPdf	PKPdf	05 47 47.7	+1.7
MTE	Manteigas	156.12 350	eLR	LR	06 46 37.8	
	comp=Z,537nm,10.9s					
ETOB	Tobarra	156.18 338	PKP	pPKPdf	05 47 56.4	0.0
PCBR	Castelo Branco	156.65 350	ePKPdf	PKPdf	05 47 48.5	+1.8
PTOM	Tomar	157.01 351	ePKPdf	PKPdf	05 47 49.2	+2.1
PLOU	Loures	157.84 352	ePKPdf	PKPdf	05 47 49.5	+1.3
PBEJ	Beja	158.48 349	ePKPdf	PKPdf	05 47 51.4	+2.5
PBEJ	Beja	158.48 349	ePKPab	PKPab	05 48 27.1	+3.3
PTEO	Sao Teotonio	159.09 351	ePKPab	PKPab	05 48 28.3	+1.9
MDT	Midelt	162.49 337	PKP	PKPdf	05 47 55.0	+1.6
	comp=Z,1.8nm,0.8s,baz=102,slow=1.3,SNR=8.6					
MDT			PKPab	PKPab	05 48 42.6	+1.4
	comp=Z,2.8nm,0.9s,baz=53,slow=3.5,SNR=5.3					
TORD	Torodi Ar. Bea	165.54 257	PKP	PKPdf	05 47 57.3	+1.2
	comp=Z,4.0nm,0.9s,baz=15,slow=0.7,SNR=19					
TORD			PKPab	PKPab	05 48 55.7	+1.0
	comp=Z,5.3nm,0.8s,baz=104,slow=4.0,SNR=8.3					
TORD			PP	PP	05 52 41.7	+0.1
	comp=Z,1.8nm,1.1s,baz=122,slow=5.4,SNR=3.8					
DBIC	Dimbokro	167.25 218	PKP	PKPdf	05 47 58.6	+1.1
	comp=Z,5.1nm,0.9s,baz=309,slow=1.6,SNR=6.0					
DBIC			PKPab	PKPab	05 49 02.2	0.0
	comp=Z,6.0nm,0.8s,baz=139,slow=4.3,SNR=9.8					
DBIC	Dimbokro	167.25 218	ePKPdf	PKPdf	05 47 58.7	+1.3
DBIC			epPKPdf	pPKPdf	05 48 07.1	-0.7
DBIC			ePKPab	PKPab	05 49 03.4	+1.2

*IDC **15** 05:28:32.1±1.4, 3436N×2330E, h0km, mb4.0/6, mb1 4.0/8, mb1mx3.7/24, mbtmp3.9/8, ML3.5/2, Error ellipse: s-maj=30.6km s-min=19.5km az=156.0*
*ISCJB **15** 05:28:35.4±0.6, 3429N±004×2334E±007, h33km, mb3.9/6, Error ellipse: s-maj=8.9km s-min=5.0km az=163.0*
*HLW **15** 05:28:36.3, 3447N×2341E, h33km, Mb3.8*
*CSEM **15** 05:28:38.3±0.1, 3426N×2355E, h82km±2km, MD3.8, Error ellipse: s-maj=6.1km s-min=2.1km az=65.0*
*ATH **15** 05:28:44.2, 3482N×2391E, h33km±1km, MD3.8/5*
*NEIC **15** 05:28:44.2, 3482N×2391E, h33km, MD3.8(ATH), After ATH.*

ISC 15 05:28:36.2±1.6, 3434N±004×2331E±007, h25km±13km, n26, σ1°32/29, mb3.8/6, 1C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.81	52	ePB		Pb	05 28 50.5	-1.1
VAM	Vamos	1.29	34	ePN		Pn	05 28 57.5	-1.1
IDI	Anoyia	1.60	54	Pn		Pn	05 29 03.4	+0.5
	12nm,0.3s,baz=244,slow=14,SNR=34							
IDI				Sn		Sn	05 29 24.8	+2.0
	26nm,0.3s,baz=346,slow=18,SNR=13							
KYTH	Kithira	1.95	353	ePN		Pn	05 29 12.5	+4.9
NPS	Neapolis	2.10	64	ePN		Pn	05 29 10.0	+0.2
SANT	Santorini	2.68	40	ePn		Pn	05 29 15.4	-2.3
SLUM		3.26	150	P		Pn	05 29 27.4	+1.7
SLUM				S		Sn	05 30 02.5	-1.3
KARP	Karpathos	3.38	68	ePN		Pn	05 29 28.2	+0.8
HMAT	Matruh	4.55	134	‖P		Pn	05 29 44.0	+0.7
SWA2		5.40	160	‖P		Pn	05 29 56.3	+1.1
SWA1		5.46	157	P		Pn	05 29 56.7	+0.8
SWA1				S		Sn	05 30 56.1	-1.9
TIP	Timpagrande	7.14	314	ePn		Pn	05 30 16.7	-2.2
AWBH		7.67	140	P		Pn	05 30 26.4	+0.1
HNAT	Natroun	7.78	125	P		Pn	05 30 28.0	+0.2
HFRF	Wahat Farafira	8.36	148	‖P		Pn	05 30 35.8	+0.1
GLL	Jalalah	8.57	121	P		Pn	05 30 39.0	+0.5
GLL	Jalalah	8.57	121	P		Pn	05 30 39.0	+0.4
BRTR	Keskin Array B	9.85	54	Pn		Pn	05 30 55.5	-0.6
	0.1nm,0.3s,baz=239,slow=14,SNR=4.9							
GERES	GERESS Array B	16.15	337	Pn		Pn	05 32 23.4	+1.9
	0.1nm,0.3s,baz=144,slow=12,SNR=13							
KHC	Kasperske Hory	16.44	337	eP		Pn	05 32 27.4	+2.3
HFS	Hagfors	26.56	349	P		P	05 34 10.5	-1.5
	0.8nm,0.5s,mb3.5,baz=144,slow=10,SNR=3.8							
EKA	Eskdalemuir Ar	27.86	327	P		P	05 34 24.7	+1.0
	2.1nm,0.8s,mb3.8,baz=123,slow=8.6,SNR=6.2							
TORD	Torodi Ar. Bea	28.81	228	P		P	05 34 32.2	+0.1
	0.5nm,0.6s,mb3.4,baz=32,slow=9.6,SNR=4.7							
ARCES	ARCESS Array B	35.27	1	P		P	05 35 25.9	-2.8
	8.5nm,1.1s,mb4.6,baz=182,slow=8.1,SNR=3.0							
MKAR	Makanchi Array	45.49	56	P		P	05 36 51.3	-2.1
	0.9nm,0.5s,mb3.9,baz=278,slow=8.5,SNR=6.3							
SONM	Songino Array	61.18	50	P		P	05 38 49.4	+0.8
	0.4nm,0.6s,mb3.8,baz=288,slow=7.8,SNR=3.8							

IDC 15 05:48:35.9±1.4, 1000N×9414E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=57.2km s-min=20.8km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	38.03	347	P		P	05 55 55.1	-0.7
	1.0nm,0.7s,baz=163,slow=8.9,SNR=10.0							
SONM	Songino Array	39.11	13	P		P	05 56 05.3	+0.5
	0.4nm,0.7s,baz=188,slow=8.7,SNR=2.8							
WRA	Warramunga Arr	49.51	127	P		P	05 57 28.4	+0.3
	0.8nm,0.6s,baz=304,slow=9.0,SNR=15							
ASAR	Alice Springs	51.29	131	P		P	05 57 42.0	+0.4
	0.9nm,0.6s,baz=308,slow=6.4,SNR=12							
BRTR	Keskin Array B	61.06	310	P		P	05 58 52.4	+0.9
	0.9nm,0.7s,baz=116,slow=8.9,SNR=5.5							

*NEIC **15** 05:49:25.8±0.6, 1067N×9433E, h10km, mb4.4/2, Error ellipse: s-maj=17.3km s-min=8.5km az=51.0*
*BJI **15** 05:49:25.0, 1026N×9466E, h34km, mB4.5, mb4.2*
*ISCJB **15** 05:49:26.3±0.7, 106N±0.1×942E±0.1, h33km, mb4.1/13, MS4.7/4, Error ellipse: s-maj=19.4km s-min=8.5km az=90.3*
*IDC **15** 05:49:26.7±0.8, 1086N×9501E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/21, mbtmp4.1/10, MS4.4/5, Ms1 4.4/5, ms1mx3.8/32, Error ellipse: s-maj=38.5km s-min=18.0km az=54.0*

ISC 15 05:49:28.9±0.7, 106N±01×942E±01, h35km, n32, σ0°82/28, mb4.1/13, MS4.7/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	8.28	129	Pn		Pn	05 51 25.2	-1.2
PSI	Prapat	9.06	149	LR		LR	05 55 40.0	
	comp=Z,738nm,19.8s,baz=185,slow=42							
VIS	Vishakhapatnam	12.70	305	iP		Pn	05 52 26.6	-0.4
VIS				ex		x	05 52 27.2	
VIS				AMb		AMB	05 52 28.6	
	comp=Z,19nm,1.5s							
VIS				iS		Sn	05 54 35.8	-11
HYB	Hyderabad	16.63	296	iP		Pn	05 53 20.0	+0.7
HYB	Hyderabad	16.63	296	eP		Pn	05 53 20.0	+0.7
JIRN	Jiri	18.56	337	eP		Pn	05 53 43.7	+0.6
	comp=Z,71nm,1.5s							
PKI	Pulchoki	18.79	335	eP		Pn	05 53 46.5	+0.6
GUN	Gumba	18.90	337	eP		Pn	05 53 46.0	-1.2
DMN	Daman	18.95	334	eP		Pn	05 53 48.1	+0.3
KKN	Kakani	19.04	335	eP		Pn	05 53 49.0	+0.1
LSA	Lhasa	19.20	352	P		Pn	05 53 57.3	+6.5

1.9nm,0.3s,baz=319,slow=22,SNR=4.1
HNR Honiara 10.29 315 LR LR 06 06 50.1
comp=Z,522nm,19.2s,baz=354,slow=34
CTA Charters Tower 20.18 258 LR LR 06 12 41.0
comp=Z,155nm,18.0s,MS3.4,baz=178,slow=34
STKA Stephens Creek 27.64 233 P **P** **06 06 49.8 0.0**
4.2nm,0.7s,mb4.2,baz=50,slow=8.0,SNR=10
STKA pP pP 06 06 58.2 -0.5
3.2nm,0.7s,baz=72,slow=6.4,SNR=3.6
STKA Stephens Creek 27.64 233 P **P** **06 06 49.8 0.0**
STKA *e*pP pP 06 06 58.0 -0.8
STKA pP pP 06 06 58.2 -0.5
WRA Warramunga Arr 31.37 259 P **P** **06 07 22.2 -0.6**
1.2nm,0.7s,mb3.9,baz=89,slow=8.8,SNR=12
WRA pP pP 06 07 31.7 -0.1
1.0nm,0.8s,baz=87,slow=8.9,SNR=3.7
ASAR Alice Springs 31.96 252 P **P** **06 07 28.2 +0.2**
5.8nm,0.7s,mb4.5,baz=80,slow=8.4,SNR=60
ASAR pP pP 06 07 37.4 +0.3
4.3nm,0.5s,baz=81,slow=8.3,SNR=13
QSPA South Pole Qui 73.14 180 *e*P **P** **06 12 33.6 +1.2**
7.9nm,1.2s,mb4.5
QSPA *e*pP pP 06 12 43.1 +0.9
SONM Songino Array 84.24 324 P **P** **06 13 35.0 +1.5**
0.8nm,0.7s,mb4.0,baz=142,slow=4.9,SNR=4.8
ILAR pP pP 06 14 02.2 -2.5
comp=Z,0.2nm,0.8s,baz=231,slow=6.5,SNR=1.8
CDF Champ du Feu 144.57 337 *e*PKP1 PKPdf 06 20 38.1 -0.2
HINF Hinteralfeld 145.22 337 *e*PKP1 PKPbc 06 20 40.0 +0.9
comp=Z,7.5nm,0.6s
HAU Haudompre 145.25 337 *e*PKP1 PKPbc 06 20 41.4 +2.2
comp=Z,13nm,0.6s
MEZF Maizieres J'vi 145.29 339 *e*PKP1 PKPbc 06 20 40.9 +1.5
comp=Z,13nm,0.5s
FLN La Foliniere 146.69 345 *e*PKP1 PKPbc 06 20 44.4 +0.8
LDF La Druitiere 146.75 345 *e*PKP1 PKPbc 06 20 44.5 +0.7
comp=Z,8.0nm,0.8s
LOR Lormes 146.76 339 *e*PKP1 PKPbc 06 20 45.3 +1.5
comp=Z,6.3nm,0.7s
SSF Saint Saulge 147.06 339 *e*PKP1 PKPbc 06 20 46.3 +1.6
comp=Z,4.1nm,0.6s
GRR Gorron 147.13 345 *e*PKP1 PKPbc 06 20 45.8 +0.9
LPL La Plagne 147.15 334 *e*PKP1 PKPbc 06 20 46.7 +1.8
comp=Z,3.7nm,0.6s
LPG La Plagne 147.16 334 *e*PKP1 PKPbc 06 20 46.9 +2.0
comp=Z,4.8nm,0.6s
MBDF Montbardon 147.77 334 *e*PKP1 PKPbc 06 20 47.6 +1.0
ORIF Oris-en-Rattie 147.99 335 *e*PKP1 PKPbc 06 20 48.7 +1.5
SBF Sospel 148.16 332 *e*PKP1 PKPbc 06 20 48.4 +0.7
TCF Toulx Ste Croi 148.17 340 *e*PKP1 PKPbc 06 20 49.1 +1.4
PGF Pioggiola 148.41 329 *e*PKP1 PKPbc 06 20 49.5 +1.2
comp=Z,16nm,0.8s
VIVF Saint-Julien-l 148.52 336 *e*PKP1 PKPbc 06 20 50.1 +1.5
MFF Saint Martin d 148.59 343 *e*PKP1 PKPbc 06 20 49.9 +1.1
comp=Z,5.6nm,0.6s
SMRF Simiane la Rot 148.88 334 *e*PKP1 PKPbc 06 20 51.2 +1.7
LMR La Mourre 148.99 332 *e*PKP1 PKPbc 06 20 51.0 +1.2
MTLF Montolieu 150.74 337 *e*PKP1 PKPbc 06 20 55.8 +1.7
comp=Z,4.6nm,0.7s
ETSF Etsaut 152.09 341 *e*PKP1 PKPbc 06 20 59.3 +2.1

*ISCJB **15** 06:09:49.5±2.7,379S±005×14005E±009,h14km±17km, mb4.5/17,MS4.0/2,Error ellipse: s-maj=15.0km s-min=8.2km az=171.7*
*IDC **15** 06:09:49.3±0.6,357S×140.14E,h0km,mb4.3/6,mb1 4.5/8, mb1mx4.4/12,mbtmp4.4/8,ML3.9/1,MS3.9/1,Ms1 3.9/1, ms1mx2.9/22,Error ellipse: s-maj=30.1km s-min=19.0km az=60.0*
*BJI **15** 06:09:51.6,433S×14006E,h49km,mB4.9,mb4.8,Msz4.2*
*MOS **15** 06:09:52.5±1.7,379S×13996E,h33km,mb4.4/2,Error ellipse: s-maj=19.3km s-min=9.9km az=100.3*
*NEIC **15** 06:09:53.3±4.0,377S×14002E,h28km±28km,mb4.6/5, Error ellipse: s-maj=13.5km s-min=10.5km az=209.0*
ISC 15 06:09:56.1±1.7,386S±006×14013E±009,h52km±18km, n53,σ1°17/50,mb4.5/17,MS4.0/2,1C,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.89**	**129**	Pn	**Pn**	**06 12 03.1**	**+1.2**
	baz=296,slow=16,SNR=3.5						
PMG				Sn	**Sn**	**06 13 35.3**	**-5.3**
	0.5nm,0.3s,baz=41,slow=20,SNR=3.4						
PMG	**Port Moresby**	**8.89**	**129**	*i* P	**Pn**	**06 12 03.5**	**+1.6**
WRAB	**Tennant Creek**	**16.94**	**199**	*i* P	**Pn**	**06 13 48.3**	**-1.1**
WRAB	**Tennant Creek**	**16.94**	**199**	*e*P	**Pn**	**06 13 48.0**	**-1.4**
	63nm,0.8s						
WRAB				*e*S	**S**	**06 16 49.1**	**-15**
WB2	**Warramunga Arr**	**16.95**	**199**	*e*P	**Pn**	**06 13 47.0**	**-2.5**
WRA	**Warramunga Arr**	**16.95**	**199**	P	**Pn**	**06 13 46.4**	**-3.1**
	0.6nm,0.3s,baz=14,slow=13,SNR=36						
WRA				S	**S**	**06 16 47.1**	**-18**
	0.7nm,0.3s,baz=20,slow=22,SNR=4.2						
CTA	**Charters Tower**	**17.20**	**160**	*e*P	**Pn**	**06 13 57.0**	**+4.4**
	11nm,0.8s						
CTA	**Charters Tower**	**17.20**	**160**	P	**Pn**	**06 13 53.9**	**+1.3**
	0.3nm,0.3s,baz=352,slow=15,SNR=3.5						
CTA	**Charters Tower**	**17.20**	**160**	P	**Pn**	**06 13 53.9**	**+1.3**
CTA				*e*P		06 13 57.0	
CTAO	**Charters Tower**	**17.20**	**160**	*e*P	**Pn**	**06 13 52.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,14nm,0.8s						
CTAO	**Charters Tower**	**17.20**	**160**	*e*P	**Pn**	**06 13 52.9**	**+0.3**
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.04**	**224**	*e*P	**P**	**06 14 24.9**	**+0.2**
	comp=Z,31nm,1.0s						
FITZ				*e*S	**S**	**06 17 57.2**	**-10**
AS31	**Alice Springs**	**20.59**	**196**	*e*P	**P**	**06 14 31.8**	**+1.2**
ASAR	**Alice Springs**	**20.59**	**196**	P	**P**	**06 14 31.8**	**+1.2**
	comp=Z,20nm,0.6s,baz=28,slow=9.0,SNR=107						
ASAR				S	**S**	**06 18 17.4**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=12,slow=28,SNR=3.4						
ASPA	**Alice Springs**	**20.59**	**196**	*e*P	**P**	**06 14 31.8**	**+1.2**
KKM	**Kota Kinabalu**	**25.83**	**292**	*e*P	**P**	**06 15 22.8**	**+0.4**
MBWA	**Marble Bar**	**26.24**	**227**	*e*P	**P**	**06 15 25.8**	**-0.4**
	comp=Z,4.6nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**27.90**	**177**	P	**P**	**06 15 39.9**	**-1.2**
	comp=Z,1.7nm,0.7s,mb3.8,baz=329,slow=5.9,SNR=2.5						
STKA	**Stephens Creek**	**27.90**	**177**	P	**P**	**06 15 39.9**	**-1.2**
STKA				P		06 15 40.7	
NWAO	**Narrogin (SRO)**	**35.98**	**214**	LR	LR	06 32 43.8	
	comp=Z,212nm,21.6s,MS3.9,baz=198,slow=38						
SSE	**Sheshan**	**39.18**	**334**	P	**P**	**06 17 19.8**	**+1.0**
SSE				AMB	AMB		
	comp=Z,15nm,0.6s,mb4.9						
SSE				AMB	AMB		
	comp=Z,125nm,10.6s						
KULM	**Kulim**	**40.47**	**283**	*e*P	**P**	**06 17 28.7**	**-0.8**
NJ2	**Nanjing**	**41.04**	**332**	*e*P	**P**	**06 17 34.3**	**0.0**
NJ2				AP	pP	06 17 44.0	-3.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,200nm,10.8s						
NJ2				LR	LR		
	comp=Z,480nm,27.0s,MS4.2						
PSI	**Prapat**	**41.71**	**279**	P	**P**	**06 17 39.9**	**+0.2**
	comp=Z,10nm,0.6s,mb4.6,baz=130,slow=3.0,SNR=10						
HABR	**Khabarovsk**	**52.30**	**356**	*e*P	**P**	**06 19 00.6**	**-1.7**
HABR				*e*S	**S**	**06 26 24.2**	**+0.3**
KLR	**Kul'dur**	**53.37**	**353**	*e*P	**P**	**06 19 08.7**	**-1.5**
GTA	**Gaotai**	**56.83**	**323**	*e*P	**P**	**06 19 34.0**	**-1.2**
GTA				AP	pP	06 19 47.4	-2.0
GTA				XP	sP	06 19 51.8	-3.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb4.7						
SONM	**Songino Array**	**59.36**	**334**	P	**P**	**06 19 51.2**	**-1.6**
	comp=Z,0.1nm,0.3s,mb3.3,baz=142,slow=7.3,SNR=2.5						
JIRN	**Jiri**	**60.65**	**305**	*e*P	**P**	**06 20 03.2**	**+1.5**
GUN	**Gumba**	**61.00**	**305**	*e*P	**P**	**06 20 04.3**	**+0.2**
PKI	**Pulchoki**	**61.26**	**304**	*e*P	**P**	**06 20 06.9**	**+1.1**
KKN	**Kakani**	**61.45**	**304**	*e*P	**P**	**06 20 08.1**	**+1.0**
	comp=Z,11nm,0.7s,mb5.1						
DMN	**Daman**	**61.53**	**304**	*e*P	**P**	**06 20 09.0**	**+1.4**
	comp=Z,11nm,0.7s,mb5.1						
GKN	**Gorkha**	**62.06**	**304**	*e*P	**P**	**06 20 11.6**	**+0.4**
	comp=Z,12nm,0.6s,mb5.2						
KOLN	**Koldanda**	**62.83**	**304**	*e*P	**P**	**06 20 17.2**	**+0.9**
	comp=Z,8.9nm,0.8s,mb5.0						
DANN	**Dangsing**	**62.90**	**304**	*e*P	**P**	**06 20 15.8**	**-1.0**
BOD	**Bodaibo**	**64.98**	**345**	*e*P	**P**	**06 20 30.0**	**-0.5**
MKAR	**Makanchi Array**	**71.56**	**322**	P	**P**	**06 21 11.0**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=108,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**71.56**	**322**	*i* P	**P**	**06 21 12.6**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**75.01**	**316**	*e*P	**P**	**06 21 38.1**	**+6.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.3						
TIXI	**Tiksi**	**75.73**	**356**	*e*P	**P**	**06 21 38.0**	**+1.9**
BVAR	**Borovoye Array**	**81.06**	**325**	P	**P**	**06 22 05.6**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=120,slow=8.9,SNR=8.0						
QSPA	**South Pole Qui**	**86.09**	**180**	*e*P	**P**	**06 22 32.3**	**+1.0**
	comp=Z,8.2nm,1.0s,mb4.9						
ILAR	**Eielson Array**	**86.29**	**24**	P	**P**	**06 22 30.4**	**-1.9**
	comp=Z,1.6nm,0.6s,mb4.4,baz=264,slow=4.6,SNR=42						
INK	**Inuvik**	**92.21**	**22**	P	**P**	**06 22 59.5**	**-0.6**
	comp=Z,0.4nm,0.4s,mb4.1,baz=238,slow=9.5,SNR=4.6						
PLCA	**Paso Flores**	**127.49**	**151**	PKP	PKPdf	06 28 55.8	+0.6
	comp=Z,1.7nm,0.8s,baz=242,slow=1.0,SNR=4.4						
DBIC	**Dimbokro**	**145.03**	**276**	PKPbc	PKPbc	06 29 29.2	+2.3
	comp=Z,17nm,0.7s,baz=74,slow=3.4,SNR=34						
CPUP	**Villa Florida**	**145.56**	**152**	PKPbc	PKPbc	06 29 30.8	+2.2
	comp=Z,4.5nm,0.8s,baz=200,slow=2.8,SNR=9.4						
CPUP	**Villa Florida**	**145.56**	**152**	PKPbc	PKPbc	06 29 30.8	+2.2
LPAZ	**La Paz**	**145.63**	**126**	PKPbc	PKPbc	06 29 32.6	+3.7
	comp=Z,4.7nm,0.8s,baz=299,slow=2.0,SNR=16						
SDV	**Santo Domingo**	**149.04**	**79**	*e*PKPbc	PKPbc	06 29 39.7	+1.4
SIV	**San Ignacio**	**151.21**	**134**	PKPbc	PKPbc	06 29 46.2	+2.6
	comp=Z,4.7nm,0.8s,baz=251,slow=2.0,SNR=26						
BDFB	**Brasilia**	**159.01**	**158**	PKPab	PKPab	06 30 27.2	+2.4
	comp=Z,2.5nm,0.6s,baz=262,slow=2.8,SNR=7.1						

*IDC **15** 06:10:53.2±1.0,6068S×4450W,h0km,mb4.4/11, mb1 4.4/12,mb1mx4.3/19,mbtmp4.4/12,ML3.5/1,MS3.9/1, Ms1 3.8/1,ms1mx3.4/21,Error ellipse: s-maj=38.5km s-min=15.2km az=35.0*
*ISCJB **15** 06:10:54.3±0.4,6048S±009×4411W±02,h10km,mb4.3/19, MS3.9/1,Error ellipse: s-maj=16.3km s-min=6.9km az=92.1*
*NEIC **15** 06:10:55.2±0.5,6054S×4401W,h10km,mb4.6/10,Error ellipse: s-maj=19.0km s-min=9.4km az=36.0*
ISC 15 06:10:55.8±0.4,6052S±009×441W±02,h10km,n46, σ0°99/31,mb4.3/19,MS3.9/1,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**11.76**	**313**	*e*Pn	**Pn**	**06 13 45.5**	**+1.8**
	12nm,0.8s						
USHA	**Ushuaia**	**14.14**	**283**	Pn	**Pn**	**06 14 18.8**	**+2.8**
	0.5nm,0.3s,baz=104,slow=16,SNR=5.4						
VNA3	**Neumayer Olymp**	**17.39**	**142**	*e*	**Pn**	**06 14 57.6**	**-0.9**
VNA3				*e*		06 15 03.1	
VNA3				*e*		06 15 06.0	
VNA3				*e*		06 15 18.5	
VNA1	**Neumayer--Stat**	**17.64**	**140**	*e*	**Pn**	**06 15 03.0**	**+1.4**
VNA1				*e*		06 15 08.0	
VNA1				*e*		06 15 10.8	
VNA1				*e*		06 15 22.3	
VNA2	**Neumayer--Watz**	**17.99**	**140**	*e*	**Pn**	**06 15 06.9**	**+0.9**
	baz=289,slow=15						
VNA2				*e*		06 15 12.6	
VNA2				*e*		06 15 16.0	
VNA2				*e*		06 15 26.7	
SNAA	**Sanae**	**19.61**	**142**	P	**Pn**	**06 15 23.8**	**-1.7**
	0.1nm,0.3s,baz=278,slow=8.3,SNR=13						
SNAA	**Sanae**	**19.61**	**142**	*e*	**Pn**	**06 15 24.2**	**-1.3**
SNAA				*e*		06 15 28.9	
SNAA				*e*		06 15 32.0	
SNAA	**Sanae**	**19.61**	**142**	*e*P	**Pn**	**06 15 24.1**	**-1.4**
	23nm,1.0s						
TRQA	**Tornquist**	**25.15**	**325**	*e*P	**P**	**06 16 20.8**	**-0.3**
	19nm,1.3s,mb4.5						
PLCA	**Paso Flores**	**25.63**	**309**	P	**P**	**06 16 23.9**	**-1.6**
	2.7nm,0.8s,mb3.8,baz=162,slow=8.2,SNR=7.1						
PLCA	**Paso Flores**	**25.63**	**309**	*e*P	**P**	**06 16 25.2**	**-0.3**
	14nm,0.9s,mb4.5						
PLCA				*e*pP	pP	06 16 40.3	+12
QSPA	**South Pole Qui**	**29.71**	**180**	P	**P**	**06 17 01.5**	**-0.5**
	11nm,0.8s,mb4.6						
QSPA				*e*P	pP	06 17 02.9	-2.2
CFAA	**Coronel Fontan**	**33.02**	**320**	P	**P**	**06 17 30.0**	**-1.1**
	0.1nm,0.6s,mb2.9,baz=175,slow=12,SNR=3.8						
CPUP	**Villa Florida**	**35.36**	**339**	P	**P**	**06 17 51.5**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=75,slow=5.3,SNR=2.9						
BDFB	**Brasilia**	**44.90**	**355**	P	**P**	**06 19 10.5**	**0.0**
	3.5nm,0.8s,mb4.2,baz=185,slow=3.6,SNR=6.1						
BDFB				LR	LR	06 34 02.7	
	comp=Z,157nm,20.8s,MS3.9,baz=234,slow=31						
SIV	**San Ignacio**	**46.13**	**337**	P	**P**	**06 19 19.6**	**-0.7**
	2.4nm,0.4s,mb4.5,baz=166,slow=6.9,SNR=23						
LPAZ	**La Paz**	**47.45**	**328**	P	**P**	**06 19 30.2**	**-0.4**
	1.9nm,0.6s,mb4.2,baz=157,slow=4.0,SNR=9.1						
LPAZ	**La Paz**	**47.45**	**328**	*e*P	**P**	**06 19 31.2**	**+0.6**
	1.7nm,0.6s,mb4.2						
SUR	**Sutherland**	**50.18**	**86**	P	**P**	**06 19 51.9**	**+0.3**
	2.8nm,0.7s,mb4.4,baz=218,slow=7.5,SNR=6.9						
SUR	**Sutherland**	**50.18**	**86**	P	**P**	**06 19 51.9**	**+0.3**
SAML	**Samuel**	**53.40**	**336**	*e*P	**P**	**06 20 15.0**	**-0.7**
	7.1nm,0.9s,mb4.6						
BOSA	**Boshof**	**55.45**	**88**	P	**P**	**06 20 30.3**	**-0.2**
	5.0nm,0.7s,mb4.6,baz=209,slow=7.1,SNR=15						
LBTB	**Lobatse**	**58.61**	**86**	P	**P**	**06 20 52.6**	**-0.3**
	8.6nm,0.6s,mb5.0,baz=230,slow=7.7,SNR=18						
OTAV	**Otavalo**	**66.11**	**322**	*e*P	**P**	**06 21 44.2**	**+1.0**
	5.9nm,0.9s,mb4.6						
LSZ	**Lusaka**	**68.13**	**82**	*e*P	**P**	**06 21 56.3**	**+0.3**
	9.3nm,0.8s,mb4.9						
SDV	**Santo Domingo**	**72.30**	**332**	*e*P	**P**	**06 22 19.8**	**-1.7**
	3.2nm,0.8s,mb4.3						
DBIC	**Dimbokro**	**73.74**	**41**	P	**P**	**06 22 30.5**	**+0.5**
	4.7nm,0.8s,mb4.5,baz=171,slow=7.2,SNR=6.9						
DBIC	**Dimbokro**	**73.74**	**41**	P	**P**	**06 22 30.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**82.00**	**45**	P	**P**	**06 23 16.7**	**+0.7**
	7.6nm,0.9s,mb4.6,baz=210,slow=5.7,SNR=32						
KMBO	**Kilima Mbogo**	**84.78**	**83**	P	**P**	**06 23 31.6**	**+1.3**
	0.5nm,0.4s,mb4.0,baz=221,slow=11,SNR=3.6						
TEIG	**Tepich**	**88.01**	**319**	*e*P	**P**	**06 23 45.1**	**-1.1**
	0.7nm,0.8s,mb3.9						
GERES	**GERESS Array B**	**118.59**	**40**	PKP	PKPdf	06 29 41.5	-2.4
	0.5nm,0.7s,baz=227,slow=2.9,SNR=4.4						
AKASG	**Malin Array Be**	**125.50**	**48**	PKP	PKPdf	06 29 54.1	-3.1
	3.0nm,0.7s,baz=243,slow=1.7,SNR=15						
NB2	**NORSAR Subarra**	**128.49**	**31**	PKPd	PKPdf	06 29 59.5	-3.4
	comp=Z,0.9nm,0.8s,baz=202,slow=1.9						
NOA	**NORSAR Array B**	**128.49**	**31**	PKP	PKPdf	06 30 00.0	-2.9
	comp=Z,1.6nm,0.8s,baz=205,slow=1.8,SNR=5.6						
FINES	**FINESS Array B**	**132.98**	**38**	PKP	PKPdf	06 30 08.4	-3.0
	comp=Z,2.0nm,0.6s,baz=117,slow=2.1,SNR=10.0						
KAF	**Kangasniemi**	**133.57**	**38**	*e*p	PKPdf	06 30 08.3	-4.2
	comp=Z,3.2nm,0.6s						
YKA	**Yellowknife Ar**	**133.87**	**323**	PKP	PKPdf	06 30 09.9	-3.1
	comp=Z,1.4nm,0.6s,baz=134,slow=1.9,SNR=15						
YKA	**Yellowknife Ar**	**133.87**	**323**	PKP	PKPdf	06 30 09.9	-3.1
JOF	**Joensuu**	**135.72**	**39**	*e*p	PKPdf	06 30 13.3	-3.2
	comp=Z,1.7nm,0.6s						
ARCES	**ARCESS Array B**	**138.86**	**30**	PKhKP		06 30 08.8	
	comp=Z,4.0nm,0.9s,baz=194,slow=1.6,SNR=7.4						
ARCES				PKP	PKPdf	06 30 17.5	-4.8
	comp=Z,3.7nm,0.8s,baz=15,slow=5.0,SNR=4.9						
ARCES	**ARCESS Array B**	**138.86**	**30**	PKP	PKPdf	06 30 17.5	-4.8
ENH	**Enshi**	**145.01**	**138**	*e*PKPdf	PKPdf	06 30 30.3	-3.0
ILAR	**Eielson Array**	**146.31**	**311**	PKPbc	PKPbc	06 30 33.9	-2.8
	comp=Z,7.6nm,0.8s,baz=161,slow=2.4,SNR=26						
MKAR	**Makanchi Array**	**146.44**	**90**	PKPbc	PKPbc	06 30 35.0	-2.1
	comp=Z,7.4nm,0.6s,baz=226,slow=3.2,SNR=69						
KURK	**Kurchatov**	**147.25**	**81**	*e*PKPbc	PKPbc	06 30 37.1	-2.3
KURK				*e*PKPab	PKPab	06 30 39.2	-2.0

*MOS **15** 06:21:22.8±1.0,5135N×17856W,h46km,mb5.0/53,Error ellipse: s-maj=9.4km s-min=5.9km az=87.3*
*ISCJB **15** 06:21:23.2±0.8,5133N±006×17853W±004,h49km±6km, mb4.7/116,MS4.2/15,Error ellipse: s-maj=9.9km s-min=3.9km az=175.5*
*SZGRF **15** 06:21:23.3,51.18N×17825W,h33km,mb4.7,Andreanof Islands, Aleutian Islands, United States*
*NEIC **15** 06:21:24.4±0.2,5134N×17858W,mb4.7/72,ML4.8(AEIC), Error ellipse: s-maj=6.7km s-min=3.2km az=180.0*
*BJI **15** 06:21:25.6,51.93N×17932W,h40km,mB5.1,mb4.9,Ms4.6, Msz4.3*
*IDC **15** 06:21:26.9±2.1,5140N×17858W,h71km±17km,mb4.1/25, mb1 4.3/26,mb1mx4.3/29,mbtmp4.4/26,MS4.1/7, Ms1 4.1/7,ms1mx3.8/33,Error ellipse: s-maj=16.2km s-min=9.5km az=172.0*
ISC 15 06:21:25.0±0.7,5141N±006×17855W±004,h51km±5km, h47km±1.1km:pP-P,n302,σ0°93/289,mb4.7/116,MS4.2/15, 11C-5D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.25**	**67**	P	**Pn**	**06 21 45.0**	**-1.2**
ADK				S	**Sn**	**06 22 01.6**	**-0.4**
ATKA	**Atka Island**	**2.82**	**72**	P	**Pn**	**06 22 06.6**	**-0.9**
ATKA				S	**Sn**	**06 22 39.2**	**-1.0**
SMY	**Shemya**	**4.72**	**289**	P	**Pn**	**06 22 34.0**	**+0.3**
FX1	**Attu Island--F**	**5.31**	**289**	P	**Pn**	**06 22 41.4**	**-0.3**
	6.9nm,0.3s,baz=230,slow=20,SNR=47						
FX1				S	**Sn**	**06 23 46.6**	**+5.1**
	10nm,0.3s,baz=90,slow=20,SNR=2.7						
FX1				LR	LR	06 24 49.9	
	comp=Z,96nm,19.1s,baz=340,slow=38						
FX1	**Attu Island--F**	**5.31**	**289**	P	**Pn**	**06 22 41.4**	**-0.3**
FX1				S	**Sn**	**06 23 46.6**	**+5.0**
FX1				pmax	pmax		
	comp=Z,7.0nm,0.3s						
FX1				smax			
	comp=N,11nm,0.3s						
FX1				MLR	MLR		
	comp=Z,96nm,19.1s						
FX1	**Attu Island--F**	**5.31**	**289**	P	**Pn**	**06 22 42.6**	**+0.9**
OKCD	**Okmok Cone D**	**6.70**	**68**	P	**Pn**	**06 23 03.5**	**+2.8**
UNV	**Unalaska Valle**	**7.73**	**67**	P	**Pn**	**06 23 15.6**	**+0.8**
TNA	**Tin City**	**15.20**	**17**	Pn	**Pn**	**06 24 57.4**	**+1.0**
	comp=Z,38nm,1.7s						
KDAK	**Kodiak Island**	**16.27**	**57**	P	**Pn**	**06 25 06.2**	**-3.8**
	comp=Z,6.0nm,0.3s,baz=278,slow=5.6,SNR=36						
KDAK				S	**S**	**06 28 06.6**	**-13**
	comp=Z,0.4nm,0.3s,baz=323,slow=20,SNR=5.3						
SLKM	**Skilak Lake**	**18.15**	**49**	*e*P	**Pn**	**06 25 32.9**	**-0.4**
BILL	**Bilibino**	**18.25**	**342**	*e*P	**Pn**	**06 25 37.1**	**+2.6**
BILL				pmax	pmax		
	comp=Z,31nm,1.2s						
BILL	**Bilibino**	**18.25**	**342**	*e*P	**Pn**	**06 25 37.1**	**+2.6**
	comp=Z,31nm,1.2s						
MA2	**Magadan**	**19.05**	**307**	*i* P	**Pn**	**06 25 47.9**	**+3.7**
SEY	**Seymchan**	**19.32**	**318**	*e*P	**Pn**	**06 25 51.5**	**+4.1**
SEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MCK	**McKinley**	**19.88**	**40**	*e*P	**Pn**	**06 25 51.7**	**-2.2**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MCK	**McKinley**	**19.88**	**40**	*e*P	**Pn**	**06 25 51.7**	**-2.3**
	comp=Z,6.1nm,0.7s						
DIV	**Divide**	**20.42**	**49**	*e*P	**P**	**06 25 47.4**	**-10**
COLA	**College**	**20.79**	**38**	*i* P	**P**	**06 26 05.1**	**+3.3**
COLA	**College**	**20.79**	**38**	*e*P	**P**	**06 26 02.5**	**+0.7**
	comp=Z,28nm,1.1s						
ILAR	**Eielson Array**	**21.12**	**39**	P	**P**	**06 26 04.0**	**-1.4**
	comp=Z,2.5nm,0.6s,mb3.7,baz=244,slow=8.2,SNR=36						
ILAR				PcP	PcP	06 30 08.3	-1.5
	comp=Z,0.8nm,0.6s,baz=263,slow=3.2,SNR=8.4						
YSS	**Yuzh-Sakhalins**	**25.47**	**275**	*i* P	**P**	**06 26 50.1**	**+1.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.7						
YSS	**Yuzh-Sakhalins**	**25.47**	**275**	*e*P	**P**	**06 26 49.0**	**+0.7**
	comp=Z,24nm,0.6s,mb4.9						
ASAJ	**Asahikawa**	**26.86**	**270**	LR	LR	06 35 31.5	
	comp=Z,204nm,22.0s,MS3.6,baz=176,slow=32						
INK	**Inuvik**	**27.34**	**35**	P	**P**	**06 27 04.3**	**-0.8**
	comp=Z,2.4nm,0.4s,mb4.1,baz=243,slow=7.3,SNR=28						
INK				PcP	PcP	06 30 22.4	-0.9
	comp=Z,2.2nm,0.6s,baz=270,slow=3.0,SNR=4.6						
INK	**Inuvik**	**27.34**	**35**	*e*P	**P**	**06 27 04.4**	**-0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	**Inuvik**	**27.34**	**35**	*e*P	**P**	**06 27 04.4**	**-0.7**
	comp=Z,2.5nm,0.4s,mb4.1						
KLR	**Kul'dur**	**31.32**	**286**	*e*P	**P**	**06 27 37.2**	**-3.2**
KLR				pmax	pmax		
	comp=E,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.1						
MAJO	**Matsushiro**	**33.94**	**261**	*e*P	**P**	**06 28 03.5**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**33.94**	**261**	*e*P	**P**	**06 28 03.5**	**+0.2**
	comp=Z,7.6nm,0.7s,mb4.7						
MAT	**Matsushiro**	**33.94**	**261**	P	**P**	**06 28 03.2**	**-0.1**
MAT	**Matsushiro**	**33.94**	**261**	P	**P**	**06 28 03.0**	**

NEW Newport 38.73 70 P **P** **06 28 44.3 +0.2**
NEW LR LR 06 43 55.4
RES Resolute Bay 39.65 24 *e*P **P** **06 28 51.8 0.0**
RES pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
RES Resolute Bay 39.65 24 *e*P **P** **06 28 51.8 -0.1**
comp=Z,3.0nm,1.0s,mb4.0
WVOR Wild Horse Val 40.84 78 *e*P **P** **06 29 02.4 +0.7**
WVOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
WVOR Wild Horse Val 40.84 78 *e*P **P** **06 29 02.4 +0.7**
comp=Z,8.7nm,0.8s,mb4.4
MSO Missoula 41.31 70 *e*P **P** **06 29 05.2 -0.3**
comp=Z,6.7nm,0.9s,mb4.3
CHMT Chamberlain Mo 41.67 70 *e*P **P** **06 29 08.1 -0.4**
HRY Holter Researc 42.61 69 *e*P **P** **06 29 16.1 0.0**
HRY *e*pP pP 06 29 28.2 -1.5
HLID Hailey 42.78 74 *e*P **P** **06 29 17.9 +0.4**
comp=Z,8.3nm,0.8s,mb4.5
MCMT McKenzie Canyo 43.02 72 *e*P **P** **06 29 19.4 0.0**
EGMT Eagleton 43.12 66 *e*P **P** **06 29 20.0 -0.3**
comp=Z,12nm,0.8s,mb4.7
BOZ Bozeman (W) 43.30 70 *e*P **P** **06 29 21.9 +0.2**
BOZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
BOZ Bozeman (W) 43.30 70 *e*P **P** **06 29 21.9 +0.2**
comp=Z,9.0nm,0.8s,mb4.5
NVAR Mina Array Bea 43.39 83 P **P** **06 29 23.2 +0.8**
comp=Z,1.1nm,0.6s,mb3.7,baz=283,slow=10,SNR=7.5
QLMT Earthquake Lak 43.86 71 *e*P **P** **06 29 25.4 -0.8**
ELK Elko 43.90 78 P **P** **06 29 27.0 +0.5**
comp=Z,5.5nm,0.8s,mb4.4,baz=293,slow=8.5,SNR=26
ELK Elko 43.90 78 *e*P **P** **06 29 27.1 +0.6**
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 43.90 78 *e*P **P** **06 29 27.1 +0.6**
comp=Z,5.9nm,0.8s,mb4.4
YMR Madison River 44.23 71 *e*P **P** **06 29 29.3 +0.2**
comp=Z,20nm,1.1s,mb4.8
TPH Tonopah 44.28 83 *e*P **P** **06 29 33.4 +3.8**
GCMT Greycliff 44.37 69 *e*P **P** **06 29 30.8 +0.5**
LKWY Lake 44.62 71 *e*P **P** **06 29 34.0 +1.7**
LKWY pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
LKWY Lake 44.62 71 *e*P **P** **06 29 34.0 +1.7**
comp=Z,9.2nm,0.9s,mb4.6
FLWY Flagg Ranch 44.71 72 *e*P **P** **06 29 34.2 +1.1**
comp=Z,12nm,0.9s,mb4.7
HVU Hansel Valley 44.79 75 *e*P **P** **06 29 33.9 +0.2**
HVU pmax pmax
comp=Z,13nm,0.9s,mb4.8
HVU Hansel Valley 44.79 75 *e*P **P** **06 29 33.9 +0.2**
comp=Z,13nm,0.9s,mb4.8
LOHW Long Hollow 45.04 72 *e*P **P** **06 29 35.6 -0.1**
comp=Z,2.4nm,0.7s,mb4.1
BJI Beijing 45.52 282 *e*P **P** **06 29 36.9 -2.5**
BJI AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
HWUT Hardware Ranch 45.63 75 *e*P **P** **06 29 40.2 -0.1**
comp=Z,7.0nm,0.8s,mb4.6
DUG Dugway 45.71 77 *e*P **P** **06 29 41.2 +0.3**
DUG pmax pmax
comp=Z,11nm,0.9s,mb4.8
DUG Dugway 45.71 77 *e*P **P** **06 29 41.2 +0.3**
comp=Z,11nm,0.9s,mb4.8
LAO LASA Array 45.87 66 *e*P **P** **06 29 42.4 +0.2**
comp=Z,9.2nm,0.6s,mb4.9
BW06 Boulder Array 46.15 72 *e*P **P** **06 29 44.5 +0.1**
comp=Z,7.2nm,0.5s,mb4.9
BW06 *e*pP pP 06 29 57.2 -0.9
PDAR Pinedale Array 46.15 72 P **P** **06 29 44.6 +0.2**
comp=Z,9.7nm,0.6s,mb4.9,baz=306,slow=3.6,SNR=102
NLU North Lily Min 46.31 77 *e*P **P** **06 29 42.9 -2.7**
ULN Ulaanbaatar 46.38 296 *e*P **P** **06 29 46.5 +0.2**
ULN pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ULN Ulaanbaatar 46.38 296 *e*P **P** **06 29 46.5 +0.3**
comp=Z,4.9nm,0.6s,mb4.6
SONM Songino Array 46.77 297 P **P** **06 29 49.2 -0.1**
comp=Z,5.0nm,0.8s,mb4.5,baz=60,slow=8.3,SNR=25
SONM PcP PcP 06 31 22.2 +0.4
comp=Z,1.2nm,0.5s,baz=103,slow=1.9,SNR=6.2
ZAK Zakamensk 47.07 301 *e*P **P** **06 29 52.4 +0.8**
ZAK *e* 06 31 22.9
ZAK pmax pmax
comp=Z,12nm,1.4s,mb4.6
ZAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.3
ZAK pmax pmax
comp=Z,10.0nm,1.8s,mb4.4
TMUT Trail Mountain 47.24 77 *e*P **P** **06 29 53.2 +0.3**
SRU San Rafael 47.77 77 *e*P **P** **06 29 57.4 +0.3**
SRU pmax pmax
comp=Z,11nm,0.7s,mb5.0
SRU San Rafael 47.77 77 *e*P **P** **06 29 57.4 +0.3**
comp=Z,11nm,0.7s,mb5.0
HHC Hu-ho-hao-te 47.83 286 *e*P **P** **06 29 57.6 +0.1**
HHC AP pP 06 30 09.8 -1.5
HHC XP sP 06 30 15.3 -1.9
HHC PCP PcP 06 31 26.8 +1.2
HHC PP PP 06 31 49.4 -0.2
HHC S **S** **06 36 50.1 -0.6**
HHC XS sS 06 37 10.3 -3.5
HHC SCS ScS 06 39 44.8 -1.5
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,95nm,4.5s
HHC LR LR
comp=N,158nm,16.2s,MS4.4
HHC LR LR
comp=E,318nm,16.2s,MS4.4
HHC LR LR
comp=Z,315nm,18.1s,MS4.3
SSE Sheshan 48.15 269 P **P** **06 29 59.9 -0.1**
SSE AMB AMB
comp=Z,17nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,114nm,5.5s
RSSD Black Hills 48.60 68 *e*P **P** **06 30 02.7 -0.8**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
RSSD Black Hills 48.60 68 *e*P **P** **06 30 02.7 -0.8**
comp=Z,5.1nm,0.8s,mb4.6
NJ2 Nanjing 48.97 272 *e*P **P** **06 30 09.1 +2.8**
NJ2 AP pP 06 30 21.5 +1.5
NJ2 XP sP 06 30 26.8 +0.8
NJ2 PP PP 06 32 03.0 +3.0
NJ2 S **S** **06 37 10.0 +3.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,90nm,10.6s
NJ2 LR LR
comp=N,350nm,24.0s
NJ2 LR LR
comp=E,90nm,17.0s
NJ2 LR LR
comp=Z,500nm,25.6s,MS4.4
PV10 Paradox Valley 49.13 77 *e*P **P** **06 30 08.2 +0.7**
ULM Lac du Bonnet 49.53 57 P **P** **06 30 09.9 -0.6**
comp=Z,1.4nm,0.3s,mb4.4,baz=292,slow=5.1,SNR=3.8
PV01 Paradox Valley 49.57 77 *e*P **P** **06 30 10.8 -0.1**
SMCO Snowmass 49.88 75 *e*P **P** **06 30 12.4 -0.8**
comp=Z,31nm,0.6s,mb5.5
ISCO Idaho Springs 50.31 73 *e*P **P** **06 30 17.2 +0.7**
ISCO pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ISCO Idaho Springs 50.31 73 *e*P **P** **06 30 17.2 +0.7**
comp=Z,5.8nm,0.9s,mb4.6
LAZ Ladron 52.88 79 *e*P **P** **06 30 36.5 +0.9**
ANMO Albuquerque 52.93 78 P **P** **06 30 35.8 -0.2**
comp=Z,1.2nm,0.7s,mb3.9,baz=295,slow=5.6,SNR=7.2
ANMO Albuquerque 52.93 78 *e*P **P** **06 30 36.2 +0.2**
ANMO pmax pmax
comp=Z,8.0nm,1.4s
ANMO Albuquerque 52.93 78 *e*P **P** **06 30 36.2 +0.2**
comp=Z,7.8nm,1.4s,mb4.5
EYMN Ely 53.22 57 *e*P **P** **06 30 37.9 -0.2**
SUMG Summit 53.23 14 *e*P **P** **06 30 38.6 +0.4**
comp=Z,10nm,1.2s,mb4.6
XAN Xi'an 53.81 281 P **P** **06 30 39.1 -3.4**
LZH Lanzhou 55.52 286 *e*P **P** **06 30 55.5 +0.6**
LZH AP pP 06 31 08.0 -0.9
LZH XP sP 06 31 13.5 -1.3
LZH PP PP 06 33 01.1 +1.9
LZH *e*S **S** **06 38 36.1 -0.4**
LZH XS sS 06 38 56.5 -3.5
LZH AMB AMB
comp=Z,43nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,126nm,4.2s
LZH LR LR
comp=E,536nm,14.6s
LZH LR LR
comp=Z,635nm,15.3s,MS4.8
KSU1 Kansas State U 56.08 68 *e*P **P** **06 30 58.2 -0.7**
WMOK Wichita Mounta 57.74 73 *e*P **P** **06 31 10.6 0.0**
WMOK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
WMOK Wichita Mounta 57.74 73 *e*P **P** **06 31 10.6 0.0**
comp=Z,7.0nm,0.7s,mb4.8
ARCES ARCESS Array B 58.08 350 P **P** **06 31 11.2 -1.8**
comp=Z,4.6nm,0.5s,mb4.8,baz=22,slow=7.6,SNR=32
KURK Kurchatov 59.11 314 *i* P **P** **06 31 21.1 +0.9**
CD2 Chengdu 59.12 282 P **P** **06 31 19.3 -0.9**
CD2 AP pP 06 31 32.0 -2.4
CD2 XP sP 06 31 37.3 -2.9
CD2 PP PP 06 33 31.8 +0.6
CD2 S **S** **06 39 21.3 -2.4**
CD2 XS sS 06 39 42.3 -5.1
CD2 SS SS 06 43 16.8 -1.6
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,80nm,9.3s
CD2 LR LR
comp=E,120nm,16.8s
CD2 LR LR
comp=Z,80nm,15.6s,MS4.0
WMQ Urumqi 59.45 303 *e*P **P** **06 31 25.0 +2.5**
WMQ AP pP 06 31 37.9 +1.2
WMQ XP sP 06 31 43.1 +0.6
WMQ PCP PcP 06 32 12.0 +2.2
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,69nm,4.2s
WMQ LR LR
comp=N,198nm,20.8s,MS4.4
WMQ LR LR
comp=E,196nm,20.0s,MS4.4
WMQ LR LR
comp=Z,223nm,20.0s,MS4.3
SCHQ Schefferville 59.88 38 P **P** **06 31 24.9 -0.6**
comp=Z,3.8nm,1.0s,mb4.4,baz=301,slow=12,SNR=4.8
JCT Junction City 60.07 78 *e*P **P** **06 31 28.6 +1.8**
JCT pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
JCT Junction City 60.07 78 *e*P **P** **06 31 28.6 +1.8**
comp=Z,4.7nm,0.6s,mb4.7
MKAR Makanchi Array 60.13 309 P **P** **06 31 25.9 -1.3**
comp=Z,1.0nm,0.3s,mb4.3,baz=47,slow=6.8,SNR=9.9
MKAR Makanchi Array 60.13 309 *i* P **P** **06 31 26.5 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MIAR Mount Ida 60.97 70 *e*P **P** **06 31 32.6 -0.3**
MIAR pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
MIAR Mount Ida 60.97 70 *e*P **P** **06 31 32.6 -0.3**
comp=Z,8.9nm,0.7s,mb5.0
BRVK Borovoye 60.98 320 P **P** **06 31 31.8 -1.2**
BRVK *e* 06 32 15.2
ZRNK Zerenda 61.57 321 P **P** **06 31 36.5 -0.5**
ZRNK pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
ZRNK Zerenda 61.57 321 *e*P **P** **06 31 36.2 -0.8**
comp=Z,4.2nm,0.6s,mb4.8
WCI Wyandotte Cave 62.55 62 *e*P **P** **06 31 43.3 -0.2**
WCI pmax pmax
comp=Z,28nm,0.9s,mb5.4
WCI Wyandotte Cave 62.55 62 *e*P **P** **06 31 43.3 -0.3**
comp=Z,28nm,0.9s,mb5.4
JOF Joensuu 63.60 345 *e*p **P** **06 31 49.0 -1.5**
comp=Z,4.7nm,0.6s,mb4.7
PLAL Pickwick Lake 63.85 66 *e*P **P** **06 31 51.4 -0.8**
comp=Z,23nm,0.9s,mb5.2
KMI Kunming 63.88 278 P **P** **06 31 55.8 +3.5**
KMI AP pP 06 32 07.6 +1.0
KMI XP sP 06 32 14.3 +1.9
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.9
KMI LR LR
comp=Z,79nm,30.0s,MS3.7
KAF Kangasniemi 65.11 347 *e*p **P** **06 31 58.5 -1.9**
comp=Z,4.6nm,0.6s,mb4.7
KAF Kangasniemi 65.11 347 *e*P **P** **06 31 58.5 -1.9**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
TZTN Tazewell 65.28 62 *e*P **P** **06 32 01.5 0.0**
AFI Afiamalu 65.31 173 LR LR 06 57 32.6
comp=Z,137nm,19.3s,MS4.2,baz=322,slow=33
FINES FINESS Array B 65.78 347 P **P** **06 32 03.4 -1.4**
comp=Z,3.3nm,0.7s,mb4.5,baz=20,slow=8.0,SNR=12
LRAL Lakeview Retre 65.88 67 *e*P **P** **06 32 03.8 -1.5**
comp=Z,5.7nm,0.6s,mb4.8
LRAL *e*pP pP 06 32 18.3 -1.3
AAK Ala-Archa 66.96 310 *i* P **P** **06 32 13.0 +0.7**
AAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
AAK Ala-Archa 66.96 310 *e*P **P** **06 32 11.1 -1.2**
comp=Z,3.3nm,0.6s,mb4.5
LSA Lhasa 67.58 290 *e*P **P** **06 32 18.2 +2.0**
LSA pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
LSA Lhasa 67.58 290 *e*P **P** **06 32 18.2 +2.1**
comp=Z,10nm,0.5s,mb5.1
NB2 NORSAR Subarra 67.63 355 P **P** **06 32 14.4 -2.1**
comp=Z,1.8nm,0.6s,mb4.3,baz=7.1,slow=6.5
NB2 NORSAR Subarra 67.63 355 P **P** **06 32 14.4 -2.1**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
NOA NORSAR Array B 67.63 355 P **P** **06 32 15.7 -0.8**
comp=Z,2.4nm,0.9s,mb4.2,baz=5.8,slow=6.3,SNR=5.9
NOA PcP PcP 06 32 42.1 -1.1
comp=Z,1.2nm,0.6s,baz=358,slow=3.1,SNR=4.2
AKTO Aktyubinsk 67.75 325 LR LR 07 04 21.4
comp=Z,276nm,19.1s,MS4.5,baz=322,slow=38
AB31 Akbulak array 68.00 323 P **P** **06 32 17.9 -1.0**
OBN Obninsk 69.89 339⇑ *e*P **P** **06 32 31.1 +0.5**
OBN *i* 06 41 37.7
OBN *e*SS SS 06 46 05.5 -0.6
OBN pmax pmax
comp=Z,14nm,0.8s,mb4.9
OBN pmax pmax
comp=Z,18nm,0.5s,mb5.3
OBN pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
OBN pmax pmax
comp=Z,76nm,1.4s,mb5.4
OBN pmax pmax
comp=Z,73nm,1.4s,mb5.4
OBN pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
PMOR Pomariorio Ree 71.33 149 *e*T 07 50 35.7
comp=Z,10nm,0.2s
JIRN Jiri 72.00 292 *e*P **P** **06 32 44.7 +1.4**
comp=Z,197nm,0.7s
KKN Kakani 72.43 292 *e*P **P** **06 32 47.0 +1.1**
comp=Z,113nm,0.6s
PKI Pulchoki 72.52 292 *e*P **P** **06 32 47.3 +0.9**
comp=Z,90nm,0.6s
GKN Gorkha 72.64 293 *e*P **P** **06 32 47.9 +0.8**
comp=Z,125nm,0.7s
DMN Daman 72.66 292 *e*P **P** **06 32 48.4 +1.1**
DANN Dangsing 72.88 294 *e*P **P** **06 32 49.9 +1.3**
PPT Papeete 73.22 151 *e*LR LR 06 54 51.4
comp=Z,205nm,26.2s
PPT Papeete 73.22 151 *e*T 07 52 56.7
comp=Z,6.0nm,0.2s
PPT Papeete 73.22 151 LR LR 07 00 14.8
comp=Z,122nm,18.8s,MS4.2,baz=29,slow=32
PAE Paea 73.30 151 *e*T 07 53 03.1
comp=Z,5.1nm,0.3s
KOLN Koldanda 73.41 294 *e*P **P** **06 32 52.5 +0.8**
comp=Z,70nm,0.9s,mb5.6
KLP Kalpa 73.52 300 *e*P **P** **06 32 52.8 +0.4**
KLP AMb AMB 06 32 55.2
comp=Z,21nm,1.1s,mb5.0
KALG Kalgarh 74.81 298 *e*x x 06 32 50.5
BOK Bokaro 75.10 289 *e*P **P** **06 33 02.4 +0.8**
BOK AMb AMB 06 33 05.1
comp=Z,30nm,1.1s,mb5.1
AKASG Malin Array Be 75.56 342 P **P** **06 33 03.2 -1.0**
comp=Z,1.9nm,0.3s,mb4.5,baz=17,slow=5.5,SNR=16
AKASG Malin Array Be 75.56 342 P **P** **06 33 03.2 -1.0**
AYAN Aya Nagar 76.50 299 *e*P **P** **06 33 08.8 -0.7**
AYAN AMb AMB 06 33 11.2
comp=Z,7.5nm,1.0s,mb4.6
SONA Sohna 76.70 299 *e*P **P** **06 33 10.4 -0.2**
SONA AMb AMB 06 33 12.7
comp=Z,8.8nm,0.7s,mb4.8
AGRA Agra 77.02 297 *e*P **P** **06 33 11.9 -0.6**
KHET Khetri 77.54 299 *e*P **P** **06 33 14.6 -0.8**
KHET AMb AMB 06 33 16.9
comp=Z,6.8nm,0.8s,mb4.6
CTA Charters Tower 77.59 214 P **P** **06 33 15.1 -0.6**
comp=Z,1.0nm,0.3s,mb4.2,baz=23,slow=7.8,SNR=3.6
CTA Charters Tower 77.59 214 P **P** **06 33 15.1 -0.6**
DPC Dobruska-Polom 77.83 350 *e*P **P** **06 33 17.7 +0.7**
STHS Stebnicka Huta 78.14 347 *e*P **P** **06 33 18.9 +0.2**
MEM Membach 78.28 357 ⇑P **P** **06 33 19.9 +0.4**
NKC Novy Kostel 78.30 353 *e*P **P** **06 33 20.1 +0.5**
TBI Tubuai 78.71 153 *e*LR LR 06 57 25.3
comp=Z,193nm,23.8s
TBI Tubuai 78.71 153 *e*T 07 59 48.2
comp=Z,2.6nm,0.2s
GIVF Givet 78.82 358 *e*P **P** **06 33 22.5 0.0**
DOU Dourbes 78.83 358 ⇓P **P** **06 33 22.8 +0.3**
comp=Z,4.3nm,0.0s
GRA1 Grafenberg Arr 78.93 354 *e*P **P** **06 33 23.3 +0.2**
comp=Z,9.0nm,1.1s,mb4.6
GRF Grafenberg Arr 78.93 354 *e*P **P** **06 33 23.3 +0.2**
comp=Z,9.0nm,1.1s,mb4.6
GRF Grafenberg Arr 78.93 354 *e*P **P** **06 33 23.3 +0.2**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
KECS Kecovo 79.16 347 *e*P **P** **06 33 24.2 -0.1**
ZEI Tsey 79.21 330 *e*P **P** **06 33 23.8 -0.8**
ZEI *i* *PP pP 06 33 37.9 -1.4
ZEI pmax pmax
comp=Z,27nm,1.2s,mb5.0
BURAR Bucovina Array 79.26 344 ⇑P **P** **06 33 24.8 -0.1**
KHC Kasperske Hory 79.30 352 *e*P **P** **06 33 25.7 +0.6**
VYHS Vyhne 79.36 348 *e*P **P** **06 33 25.8 +0.4**
AJM Ajmer 79.43 299 *e*x x 06 33 21.2
AJM AMb AMB 06 33 26.6
comp=Z,17nm,0.9s,mb5.0
GERES GERESS Array B 79.57 352 P **P** **06 33 26.6 0.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=28,slow=6.0,SNR=11
PSZ Piszkesteto 79.79 348 *e*P **P** **06 33 28.3 +0.6**
PSZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
PSZ Piszkesteto 79.79 348 *e*P **P** **06 33 28.3 +0.6**
comp=Z,2.4nm,0.8s,mb4.2
FLN La Foliniere 80.19 1 *e*P **P** **06 33 29.5 -0.4**
comp=Z,40nm,1.1s,mb5.0
FLN La Foliniere 80.19 1 *e*P **P** **06 33 29.5 -0.4**
FLN pmax pmax
comp=Z,20nm,1.1s,mb5.0
FLN La Foliniere 80.19 1 *e*P **P** **06 33 29.5 -0.4**
comp=Z,20nm,1.1s,mb5.0
LDF La Druitiere 80.36 1 *e*P **P** **06 33 30.1 -0.7**
comp=Z,24nm,0.8s,mb4.8
LDF La Druitiere 80.36 1 *e*P **P** **06 33 30.1 -0.7**
LDF pmax pmax
comp=Z,12nm,0.8s,mb4.9
LDF La Druitiere 80.36 1 *e*P **P** **06 33 30.1 -0.7**
comp=Z,12nm,0.8s,mb4.9
BHPL Bhopal 80.43 295 *e*P **P** **06 33 30.8 -0.4**
BHPL AMb AMB 06 33 31.9
comp=Z,33nm,1.0s,mb5.2
ROSF Rostrenen 80.55 3 *e*P **P** **06 33 31.8 0.0**
GRR Gorron 80.56 2 *e*P **P** **06 33 31.4 -0.5**
QUIF Quistinic 80.97 3 *e*P **P** **06 33 34.2 +0.1**
ARSA Arzberg 80.97 350⇑ *i*P **P** **06 33 35.2 +1.1**
comp=Z,4.8nm,0.9s,mb4.4
CFR Carcaliu 81.06 341 ⇓P **P** **06 33 34.9 +0.3**
CFR Carcaliu 81.06 341 ⇑P **P** **06 33 35.1 +0.5**
CFR Carcaliu 81.06 341 ⇓P **P** **06 33 34.9 +0.3**
MLR Muntele Rosu 81.19 343 ⇑P **P** **06 33 35.8 +0.6**
MLR Muntele Rosu 81.19 343 ⇑P **P** **06 33 35.8 +0.6**
KBA Koelnbreinsper 81.36 352⇓ *i*P **P** **06 33 36.9 +0.8**
comp=Z,25nm,1.0s,mb5.1
VOIR 81.40 343 ⇑P **P** **06 33 37.1 +0.7**
VOIR 81.40 343 ⇑P **P** **06 33 37.1 +0.7**
LOR Lormes 81.68 358 *e*P **P** **06 33 37.7 -0.1**
comp=Z,37nm,1.5s,mb4.8
LOR Lormes 81.68 358 *e*P **P** **06 33 37.7 -0.1**
LOR pmax pmax
comp=Z,19nm,1.5s,mb4.8
LOR Lormes 81.68 358 *e*P **P** **06 33 37.7 -0.1**
comp=Z,19nm,1.5s,mb4.8
SSF Saint Saulge 81.89 359 *e*P **P** **06 33 38.9 0.0**
comp=Z,23nm,1.1s,mb4.7
SSF Saint Saulge 81.89 359 *e*P **P** **06 33 38.9 0.0**
SSF pmax pmax
comp=Z,12nm,1.1s,mb4.7
SSF Saint Saulge 81.89 359 *e*P **P** **06 33 38.9 0.0**
comp=Z,12nm,1.1s,mb4.7
WRA Warramunga Arr 82.14 224 P **P** **06 33 38.3 -2.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=38,slow=6.4,SNR=7.9
AVF Avril sur Loir 82.16 359 *e*P **P** **06 33 40.2 -0.2**
comp=Z,19nm,1.0s,mb4.7
AVF Avril sur Loir 82.16 359 *e*P **P** **06 33 40.2 -0.2**
AVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
AVF Avril sur Loir 82.16 359 *e*P **P** **06 33 40.2 -0.2**
comp=Z,9.6nm,1.0s,mb4.7
CABF La Chapelle 82.28 357 *e*P **P** **06 33 40.5 -0.5**
comp=Z,25nm,1.1s,mb4.8
CABF La Chapelle 82.28 357 *e*P **P** **06 33 40.5 -0.5**
CABF pmax pmax
comp=Z,13nm,1.1s,mb4.8
CABF La Chapelle 82.28 357 *e*P **P** **06 33 40.5 -0.5**
comp=Z,12nm,1.1s,mb4.8
SMF Signal de Mont 82.30 358 *e*P **P** **06 33 41.0 -0.1**
comp=Z,32nm,1.0s,mb4.9
SMF Signal de Mont 82.30 358 *e*P **P** **06 33 41.0 -0.1**
SMF pmax pmax
comp=Z,16nm,1.0s,mb4.9
SMF Signal de Mont 82.30 358 *e*P **P** **06 33 41.0 -0.1**
comp=Z,16nm,1.0s,mb4.9
MFF Saint Martin d 82.36 1 *e*P **P** **06 33 41.4 0.0**
comp=Z,22nm,0.9s,mb4.8
MFF Saint Martin d 82.36 1 *e*P **P** **06 33 41.4 0.0**
MFF pmax pmax
comp=Z,11nm,0.9s,mb4.8
MFF Saint Martin d 82.36 1 *e*P **P** **06 33 41.4 0.0**
comp=Z,11nm,0.9s,mb4.8
BGF Bois d'Agland 82.40 359 *e*P **P** **06 33 41.6 0.0**
TCF Toulx Ste Croi 82.68 359 *e*P **P** **06 33 42.9 -0.2**
comp=Z,11nm,0.9s,mb4.6
TCF Toulx Ste Croi 82.68 359 *e*P **P** **06 33 42.9 -0.2**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 82.68 359 *e*P **P** **06 33 42.9 -0.2**
comp=Z,5.4nm,0.9s,mb4.6
LPL La Plagne 83.34 356 *e*P **P** **06 33 46.7 +0.2**
LPG La Plagne 83.36 356 *e*P **P** **06 33 46.6 0.0**
RKT Rikitea 83.49 140 *e*LR LR 06 59 38.2
comp=Z,205nm,27.9s
RKT Rikitea 83.49 140 *e*T 08 05 47.3
comp=Z,3.5nm,0.3s
RJF Les Rejaudoux 83.66 360 *e*P **P** **06 33 48.1 0.0**
comp=Z,30nm,1.2s,mb5.0
RJF Les Rejaudoux 83.66 360 *e*P **P** **06 33 48.1 0.0**
RJF pmax pmax
comp=Z,15nm,1.2s,mb5.0
RJF Les Rejaudoux 83.66 360 *e*P **P** **06 33 48.1 0.0**
comp=Z,15nm,1.2s,mb5.0
ORIF Oris-en-Rattie 83.97 357 *e*P **P** **06 33 50.6 +0.9**
comp=Z,20nm,0.9s,mb5.0
ORIF Oris-en-Rattie 83.97 357 *e*P **P** **06 33 50.6 +0.9**
ORIF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
ORIF Oris-en-Rattie 83.97 357 *e*P **P** **06 33 50.6 +0.9**
comp=Z,10nm,0.9s,mb5.0
LFF La Frestale 84.03 1 *e*P **P** **06 33 50.2 +0.2**
comp=Z,46nm,1.1s,mb5.2
LFF La Frestale 84.03 1 *e*P **P** **06 33 50.2 +0.2**
LFF pmax pmax
comp=Z,23nm,1.1s,mb5.2
LFF La Frestale 84.03 1 *e*P **P** **06 33 50.2 +0.2**

comp=Z,23nm,1.1s,mb5.2
CAF Calviac 84.04 360 *e*P **P 06 33 50.3 +0.2**
comp=Z,20nm,0.9s,mb5.0
CAF Calviac 84.04 360 *e*P **P 06 33 50.3 +0.2**
CAF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
CAF Calviac 84.04 360 *e*P **P 06 33 50.3 +0.2**
comp=Z,9.9nm,0.9s,mb4.9
VIVF Saint-Julien-I 84.07 358 *e*P **P 06 33 50.6 +0.4**
comp=Z,12nm,0.9s,mb4.7
VIVF Saint-Julien-I 84.07 358 *e*P **P 06 33 50.6 +0.4**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
VIVF Saint-Julien-I 84.07 358 *e*P **P 06 33 50.6 +0.4**
comp=Z,5.9nm,0.9s,mb4.7
MBDF Montbardon 84.13 356 *e*P **P 06 33 51.3 +0.8**
comp=Z,13nm,0.8s,mb4.8
MBDF Montbardon 84.13 356 *e*P **P 06 33 51.3 +0.8**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
MBDF Montbardon 84.13 356 *e*P **P 06 33 51.3 +0.8**
comp=Z,6.5nm,0.8s,mb4.8
VTS Vitosha 84.48 344 ⇑P **P 06 33 52.0 -0.3**
LASF Ste Croix 84.87 358 *e*P **P 06 33 54.6 +0.3**
comp=Z,25nm,1.2s,mb4.9
SMRF Simiane la Rot 84.92 357 *e*P **P 06 33 55.5 +1.0**
comp=Z,20nm,0.9s,mb5.0
SMRF Simiane la Rot 84.92 357 *e*P **P 06 33 55.5 +1.0**
comp=Z,20nm,0.9s,mb5.3
SBF Sospel 84.96 356 *e*P **P 06 33 54.6 -0.1**
comp=Z,40nm,0.9s,mb5.2
SBF Sospel 84.96 356 *e*P **P 06 33 54.6 -0.1**
SBF pmax pmax
comp=Z,20nm,0.9s,mb5.2
SBF Sospel 84.96 356 *e*P **P 06 33 54.6 -0.1**
comp=Z,20nm,0.9s,mb5.2
MALT Malatya 84.97 332 ⇑P **P 06 33 55.5 +0.8**
MALT Malatya 84.97 332 *e*P **P 06 33 55.4 +0.6**
comp=Z,14nm,1.2s,mb5.0
BR131 Keskin Array S 84.98 336 *e*P **P 06 33 54.9 +0.1**
comp=Z,3.9nm,0.7s,mb4.7
BRTR Keskin Array B 84.98 336 P **P 06 33 54.5 -0.4**
comp=Z,5.2nm,0.7s,mb4.8,baz=37,slow=3.1,SNR=21
BRTR Keskin Array B 84.98 336 *i* P **P 06 33 55.0 +0.2**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
FRF La Foret Royal 85.30 356 *e*P **P 06 33 56.2 -0.2**
LMR La Mourre 85.53 356 *e*P **P 06 33 57.5 -0.1**
comp=Z,21nm,1.0s,mb5.0
LMR La Mourre 85.53 356 *e*P **P 06 33 57.5 -0.1**
LMR pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
LMR La Mourre 85.53 356 *e*P **P 06 33 57.5 -0.1**
comp=Z,10nm,1.0s,mb5.0
ASAR Alice Springs 85.62 223 P **P 06 33 57.0 -1.0**
comp=Z,2.4nm,0.8s,mb4.5,baz=25,slow=5.6,SNR=19
MTLF Montolieu 85.62 359 *e*P **P 06 33 58.3 +0.3**
comp=Z,6.9nm,0.7s,mb4.7
MTLF Montolieu 85.62 359 *e*P **P 06 33 58.3 +0.3**
MTLF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
MTLF Montolieu 85.62 359 *e*P **P 06 33 58.3 +0.3**
comp=Z,3.5nm,0.7s,mb4.7
SJPF Ste Jean 85.83 2 *e*P **P 06 33 59.6 +0.6**
comp=Z,7.1nm,0.8s,mb4.7
SJPF Ste Jean 85.83 2 *e*P **P 06 33 59.6 +0.6**
SJPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
SJPF Ste Jean 85.83 2 *e*P **P 06 33 59.6 +0.6**
comp=Z,3.5nm,0.8s,mb4.6
EPF Esparros 85.93 1 *e*P **P 06 33 59.0 -0.6**
comp=Z,17nm,1.1s,mb4.9
EPF Esparros 85.93 1 *e*P **P 06 33 59.0 -0.6**
EPF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
EPF Esparros 85.93 1 *e*P **P 06 33 59.0 -0.6**
comp=Z,8.4nm,1.1s,mb4.9
ETSF Etsaut 86.05 1 *e*P **P 06 34 00.7 +0.6**
comp=Z,8.4nm,0.7s,mb4.8
ETSF Etsaut 86.05 1 *e*P **P 06 34 00.7 +0.6**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ETSF Etsaut 86.05 1 *e*P **P 06 34 00.7 +0.6**
comp=Z,4.2nm,0.7s,mb4.8
PGF Pioggiola 86.19 354 *e*P **P 06 34 00.7 -0.1**
comp=Z,35nm,0.9s,mb5.3
PGF Pioggiola 86.19 354 *e*P **P 06 34 00.7 -0.1**
PGF pmax pmax
comp=Z,18nm,0.9s,mb5.3
PGF Pioggiola 86.19 354 *e*P **P 06 34 00.7 -0.1**
comp=Z,18nm,0.9s,mb5.3
KAD Karad 86.97 294 *e*P **P 06 34 04.4 -0.2**
KAD AMb AMB 06 34 05.3
comp=Z,25nm,1.3s,mb5.3
ESDC Sonseca Array 89.17 4 P **P 06 34 13.1 -1.9**
comp=Z,1.8nm,0.6s,mb4.6,baz=359,slow=4.4,SNR=8.5
STKA Stephens Creek 90.04 213 P **P 06 34 16.8 -2.4**
comp=Z,5.5nm,0.7s,mb5.0,baz=354,slow=7.2,SNR=9.4
MBWA Marble Bar 90.16 235 *e*P **P 06 34 18.9 -0.8**
comp=Z,6.7nm,1.0s,mb4.9
TORD Torodi Ar. Bea 115.71 360 PKP PKPdf 06 40 00.7 -0.9
comp=Z,0.4nm,0.3s,baz=351,slow=2.4,SNR=9.7
DBIC Dimbokro 121.89 7 PKP PKPdf 06 40 13.0 -0.5
comp=Z,1.8nm,0.4s,baz=0.8,slow=3.6,SNR=9.0
DBIC Dimbokro 121.89 7 PKIKP PKPdf 06 40 13.0 -0.5
DBIC pmax pmax
comp=Z,2.0nm,0.4s
PLCA Paso Flores 130.83 107 PKP PKPdf 06 40 29.4 -1.2
comp=Z,1.5nm,1.0s,baz=274,slow=4.1,SNR=3.1
PLCA Paso Flores 130.83 107 PKIKP PKPdf 06 40 29.4 -1.2
PLCA pmax pmax
comp=Z,2.0nm,1.0s
QSPA South Pole Qui 141.17 180 *e*PKPdf PKPdf 06 40 48.0 -1.7
TSUM Tsumeb 145.43 332 *e*PKPdf PKPdf 06 40 57.3 0.0
LBTB Lobatse 147.81 316 *e*PKP2 PKPab 06 41 04.4 -2.3
BOSA Boshof 151.07 313 PKPbc PKPbc 06 41 12.1 -0.2
comp=Z,3.9nm,0.5s,baz=58,slow=2.3,SNR=21
BOSA Boshof 151.07 313 *e*PKPbc PKPbc 06 41 12.1 -0.2
BOSA *e*PKPab PKPab 06 41 20.0 -0.1
BOSA *e*PKPab PKPab 06 41 26.9 +6.9

NEIC ***15*** *06:36:00.6±1.9, 1879N×10875W, h10km, mb4.4/3, Error ellipse: s-maj=25.6km s-min=16.4km az=163.0*
IDC ***15*** *06:36:02.7±6.4, 1925N×10838W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/20, mbtmp3.8/7, ML3.2/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/26, Error ellipse: s-maj=103.3km s-min=74.4km az=178.0*
ISCJB ***15*** *06:36:06.0±1.7, 192N±02×10885W±009, h33km, mb3.9/8, MS3.8/1, Error ellipse: s-maj=24.5km s-min=7.7km az=44.7*
ISC 15 06:36:07.4±1.7,191N±02×10886W±008,h35km,n33, σ1§03/34,mb3.9/8,MS3.8/1,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**3.62**	**83**		*i* P	**Pn**	**06 37 01.1**	**+0.1**
CJM					*i* S	**Sn**	**06 37 41.9**	**-0.7**
LPIG	**La Paz**	**5.13**	**345**		*i* P	**Pn**	**06 37 18.5**	**-3.3**
SFJM	**Santa Fe**	**5.65**	**75**		*e*P	**Pn**	**06 37 31.0**	**+2.2**
ACX	**Acapulco**	**8.80**	**103**		*i* P	**Pn**	**06 38 20.0**	**+7.9**
PPM	**Popocatepetl**	**9.68**	**89**		*e*P	**Pn**	**06 38 30.0**	**+5.9**
MNTX	**Cornudas Mount**	**12.91**	**13**		*e*P	**Pn**	**06 39 09.1**	**+0.9**
14nm,1.4s
TUC	**Tucson**	**13.24**	**353**		*e*Pn	**Pn**	**06 39 13.4**	**+0.5**
18nm,1.3s
GDL2	**Guadalupe Moun**	**13.63**	**16**		*e*Pn	**Pn**	**06 39 20.0**	**+1.8**
JCT	**Junction City**	**13.97**	**34**		*e*Pn	**Pn**	**06 39 20.5**	**-2.3**
1.6nm,0.4s
GLA	**Glamis**	**14.86**	**340**		*e*Pn	**Pn**	**06 39 34.0**	**-0.9**
LENM	**Lemitar**	**15.07**	**6**		*e*Pn	**Pn**	**06 39 38.7**	**+1.0**
BNM	**Barren Site**	**15.10**	**7**		*e*Pn	**Pn**	**06 39 38.6**	**+0.7**
LPM	**Los Pinos Moun**	**15.26**	**7**		*e*Pn	**Pn**	**06 39 40.1**	**0.0**
LAZ	**Ladron**	**15.29**	**5**		*e*P	**Pn**	**06 39 40.5**	**-0.1**
ANMO	**Albuquerque**	**15.91**	**7**		Pn	**Pn**	**06 39 47.9**	**-0.6**
0.1nm,0.3s,baz=193,slow=12,SNR=3.9
ANMO	**Albuquerque**	**15.91**	**7**		Pn	**Pn**	**06 39 47.9**	**-0.6**
LDFC	**Landfair**	**16.83**	**342**		*e*P	**Pn**	**06 40 01.7**	**+1.5**
NEN	**Nelson**	**17.29**	**343**		*e*P	**Pn**	**06 40 05.6**	**-0.3**
CCUT	**Cedar City**	**18.77**	**349**		*e*P	**Pn**	**06 40 24.9**	**+0.7**
PV01	**Paradox Valley**	**18.94**	**1**		*e*P	**Pn**	**06 40 26.4**	**+0.2**
ARUT	**Antelope Range**	**19.02**	**349**		*e*P	**Pn**	**06 40 26.4**	**-0.7**
PV10	**Paradox Valley**	**19.18**	**360**		*e*P	**Pn**	**06 40 27.1**	**-1.9**
NVAR	**Mina Array Bea**	**20.91**	**339**		P	**P**	**06 40 47.8**	**+1.0**
4.1nm,0.9s,baz=148,slow=12,SNR=19
DUG	**Dugway**	**21.27**	**352**		*e*P	**P**	**06 40 51.5**	**+0.9**
11nm,1.1s,mb4.1
ELK	**Elko**	**22.23**	**347**		P	**P**	**06 41 00.6**	**-0.3**
2.2nm,0.8s,mb3.6,baz=169,slow=8.8,SNR=7.7
PDAR	**Pinedale Array**	**23.57**	**359**		P	**P**	**06 41 13.9**	**-0.9**
2.1nm,0.8s,mb3.6,baz=166,slow=9.4,SNR=3.8
SNOW	**Snow King Moun**	**24.32**	**357**		*e*P	**P**	**06 41 21.8**	**+0.2**
9.9nm,1.0s,mb4.2
LOHW	**Long Hollow**	**24.46**	**357**		*e*P	**P**	**06 41 22.9**	**0.0**
30nm,1.5s,mb4.5
HRY	**Holter Researc**	**27.62**	**356**		*e*P	**P**	**06 41 51.3**	**-0.2**
ULM	**Lac du Bonnet**	**32.74**	**15**		P	**P**	**06 42 35.5**	**-1.2**
2.2nm,0.8s,mb4.2,baz=196,slow=11,SNR=4.4
YKA	**Yellowknife Ar**	**43.51**	**356**		P	**P**	**06 44 06.6**	**-0.8**
1.0nm,0.8s,mb3.6,baz=171,slow=7.9,SNR=25
YKA					LR	LR	07 02 32.6	
comp=Z,112nm,19.6s,MS3.8,baz=355,slow=37
YKA	**Yellowknife Ar**	**43.51**	**356**		P	**P**	**06 44 06.6**	**-0.8**
YKA					LR	LR	07 02 32.6	
ILAR	**Eielson Array**	**52.16**	**340**		P	**P**	**06 45 14.8**	**+0.4**
0.5nm,0.7s,mb3.5,baz=150,slow=5.9,SNR=9.8

IDC ***15*** *06:52:37.1±1.1, 1113N×95.19E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/21, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.9/28, Error ellipse: s-maj=55.6km s-min=20.1km az=52.0*
ISCJB ***15*** *06:52:38.9±1.1, 111N±02×949E±03, h33km, mb3.8/6, Error ellipse: s-maj=48.3km s-min=12.1km az=107.2*
ISC 15 06:52:41.8±1.0,112N±02×950E±03,h35km,n14,σ1§10/12, mb3.8/6,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.27**	**282**		*e*P	Px	06 53 22.5	
PBA					*e*S	Sx	06 53 50.3	
PBA					*e*x	x	06 54 13.9	
comp=N,449nm,0.0s
PBA					*e*x	x	06 54 15.8	
comp=E,667nm,1.0s
PSI	**Prapat**	**9.19**	**155**		LR	LR	06 58 37.6	
comp=E,123nm,18.2s,baz=181,slow=39
JIRN	**Jiri**	**18.37**	**334**		*e*P	**Pn**	**06 56 54.3**	**+0.7**
PKI	**Pulchoki**	**18.63**	**332**		*e*P	**Pn**	**06 56 56.7**	**-0.1**
GUN	**Gumba**	**18.72**	**334**		*e*P	**Pn**	**06 56 57.2**	**-0.7**
DMN	**Daman**	**18.80**	**332**		*e*P	**Pn**	**06 56 59.5**	**+0.6**
GKN	**Gorkha**	**19.36**	**331**		*e*P	**Pn**	**06 57 04.4**	**-1.2**
KOLN	**Koldanda**	**19.67**	**329**		*e*P	**Pn**	**06 57 07.2**	**-2.1**
comp=E,11nm,0.7s
MKAR	**Makanchi Array**	**37.09**	**345**		P	**P**	**06 59 48.7**	**0.0**
comp=E,0.4nm,0.6s,mb3.5,baz=171,slow=8.5,SNR=5.2
SONM	**Songino Array**	**37.77**	**13**		P	**P**	**06 59 55.7**	**+1.2**
comp=E,0.6nm,0.9s,mb3.3,baz=201,slow=7.9,SNR=3.9
WRA	**Warramunga Arr**	**49.56**	**128**		P	**P**	**07 01 28.8**	**-0.5**
comp=E,1.6nm,0.7s,mb4.2,baz=304,slow=8.9,SNR=18
ASAR	**Alice Springs**	**51.44**	**133**		P	**P**	**07 01 42.9**	**-0.6**
comp=E,1.5nm,0.7s,mb4.0,baz=309,slow=6.7,SNR=14
BRTR	**Keskin Array B**	**60.97**	**309**		P	**P**	**07 02 53.0**	**+1.5**
comp=E,1.4nm,0.8s,mb4.2,baz=111,slow=7.4,SNR=6.3
GERES	**GERESS Array B**	**75.96**	**318**		P	**P**	**07 04 28.7**	**+3.6**
comp=E,0.3nm,0.2s,mb3.8,baz=72,slow=6.3,SNR=4.2

ISCJB ***15*** *07:02:56.8±0.8, 5505N±006×1946E±008, h0km, Error ellipse: s-maj=9.2km s-min=5.3km az=110.5*
IDC ***15*** *07:02:56.1±1.4, 5464N×1940E, h0km, mb1 3.4/5, mb1mx3.2/22, mbtmp3.4/5, ML3.4/5, Error ellipse: s-maj=20.7km s-min=11.8km az=50.0*
HEL ***15*** *07:02:57.5±0.1, 5474N×1948E, h0km, Explosion*
ISC 15 07:02:57.9±0.8,5494N±006×1944E±008,h0km,n19, σ0§92/32,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GKP	**Gorka Klasztor**	**2.12**	**219**		*e*Pn	**Pn**	**07 03 28.4**	**-6.2**
SUW	**Suwalki**	**2.37**	**112**		*e*Pn	**Pn**	**07 03 37.3**	**-0.8**
BSD	**Bornholm Skovb**	**2.61**	**276**		*i* P	**Pn**	**07 03 40.2**	**-1.2**
BSD					*i*		07 03 57.9	
BSD					*e*S	**Sn**	**07 04 14.6**	**+0.8**
BSD					*i*		07 04 30.3	
VSU	**Vasula**	**5.35**	**46**		*e*P	**Pn**	**07 04 19.4**	**+0.5**
VSU					*e*S	**Sn**	**07 05 21.2**	**0.0**
MEF	**Metsahovi**	**5.92**	**25**		*e*P	**Pn**	**07 04 28.6**	**+1.7**
MEF					*e*S	**Sn**	**07 05 36.4**	**+1.0**
HFS	**Hagfors**	**6.05**	**332**		Pn	**Pn**	**07 04 28.5**	**-0.1**
0.7nm,0.3s,baz=144,slow=13,SNR=24
RAF	**Rauma**	**6.22**	**10**		*e*P	**Pn**	**07 04 32.6**	**+1.6**
RAF					*e*S	**Sn**	**07 05 43.8**	**+1.0**
PVF	**Pernaja**	**6.58**	**29**		*e*P	**Pn**	**07 04 36.9**	**+0.9**
PVF					*e*S	**Sn**	**07 05 51.9**	**+0.2**
VJF	**Virojoki**	**7.09**	**34**		*e*P	**Pn**	**07 04 42.6**	**-0.3**
VJF					*e*S	**Sn**	**07 06 03.4**	**-0.8**
AKASG	**Malin Array Be**	**7.29**	**122**		Pn	**Pn**	**07 04 39.0**	**-6.6**
2.7nm,0.3s,baz=310,slow=12,SNR=11
FIA0	**FINESS Array S**	**7.40**	**26**		*e*P	**Pn**	**07 04 47.5**	**+0.3**
FIA0					*e*S	**Sn**	**07 06 11.6**	**-0.2**
FINES	**FINESS Array B**	**7.40**	**26**		Pn	**Pn**	**07 04 48.0**	**+0.8**
0.7nm,0.3s,baz=206,slow=12,SNR=19
FINES					Sn	**Sn**	**07 06 11.7**	**-0.1**
1.1nm,0.3s,baz=214,slow=21,SNR=5.9
NOA	**NORSAR Array B**	**7.51**	**328**		Pn	**Pn**	**07 04 46.6**	**-2.1**
0.3nm,0.3s,baz=147,slow=12,SNR=2.8
KEF	**Keuruu**	**7.78**	**19**		*e*P	**Pn**	**07 04 53.2**	**+0.8**
KEF					*e*S	**Sn**	**07 06 20.8**	**-0.4**
KAF	**Kangasniemi**	**8.03**	**24**		*e*P	**Pn**	**07 04 56.1**	**+0.3**
KAF					*e*S	**Sn**	**07 06 26.7**	**-0.7**
VAF	**Ylistaro**	**8.29**	**10**		*e*P	**Pn**	**07 04 59.7**	**+0.2**
VAF					*e*S	**Sn**	**07 06 32.8**	**-1.0**
SUF	**Sumiainen**	**8.54**	**21**		*e*P	**Pn**	**07 05 03.1**	**+0.4**
SUF					*e*S	**Sn**	**07 06 38.6**	**-1.2**
JOF	**Joensuu**	**10.06**	**33**		*e*P	**Pn**	**07 05 22.5**	**-1.2**
JOF					*e*S	**Sn**	**07 07 13.3**	**-4.0**
ARCES	**ARCESS Array B**	**14.90**	**8**		Pn	**Pn**	**07 06 25.5**	**-4.4**
0.2nm,0.3s,baz=191,slow=13,SNR=9.2

IDC 15 07:03:04.0±1.9,5456N×1923E,h0km,mb1 3.3/5, mb1mx3.1/22,mbtmp3.3/5,ML3.4/5,Error ellipse: s-maj=33.0km s-min=14.2km az=44.0,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.34**	**334**		Pn	Pn	07 04 36.7	-2.0
0.4nm,0.3s,baz=149,slow=17,SNR=7.2
AKASG	**Malin Array Be**	**7.21**	**118**		Pn	Pn	07 04 47.7	-2.9
1.4nm,0.3s,baz=307,slow=12,SNR=4.2
NOA	**NORSAR Array B**	**7.78**	**330**		Pn	Pn	07 04 55.1	-3.3
0.4nm,0.3s,baz=125,slow=11,SNR=2.5
FINES	**FINESS Array B**	**7.80**	**25**		Pn	Pn	07 04 57.2	-1.6
0.5nm,0.3s,baz=204,slow=11,SNR=8.2
ARCES	**ARCESS Array B**	**15.30**	**8**		Pn	Pn	07 06 34.5	-6.9
0.4nm,0.3s,baz=188,slow=13,SNR=17

IDC 15 07:03:12.3±1.4,5464N×1944E,h0km,mb1 3.5/5, mb1mx3.3/22,mbtmp3.5/5,ML3.5/5,Error ellipse: s-maj=21.7km s-min=12.4km az=49.0,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.32**	**333**		Pn	Pn	07 04 44.8	-2.0
1.0nm,0.3s,baz=145,slow=14,SNR=15
AKASG	**Malin Array Be**	**7.14**	**120**		Pn	Pn	07 04 55.1	-2.9
2.9nm,0.3s,baz=309,slow=12,SNR=7.8
FINES	**FINESS Array B**	**7.68**	**25**		Pn	Pn	07 05 03.7	-1.7
0.6nm,0.3s,baz=217,slow=12,SNR=6.5
FINES					Sn	Sn	07 06 28.5	-4.5
1.1nm,0.3s,baz=213,slow=22,SNR=5.3
NOA	**NORSAR Array B**	**7.77**	**329**		Pn	Pn	07 05 03.1	-3.5
0.4nm,0.3s,baz=130,slow=13,SNR=2.4
ARCES	**ARCESS Array B**	**15.21**	**8**		Pn	Pn	07 06 41.9	-6.4
0.2nm,0.3s,baz=192,slow=12,SNR=4.0

IDC 15 07:03:20.2±1.8,5455N×1928E,h0km,mb1 3.4/5, mb1mx3.2/22,mbtmp3.3/5,ML3.5/5,Error ellipse: s-maj=34.5km s-min=12.9km az=47.0,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.36**	**334**		Pn	Pn	07 04 52.9	-2.3
0.6nm,0.3s,baz=143,slow=18,SNR=5.0
AKASG	**Malin Array Be**	**7.17**	**118**		Pn	Pn	07 05 03.4	-2.9
1.6nm,0.3s,baz=316,slow=16,SNR=3.9
FINES	**FINESS Array B**	**7.80**	**25**		Pn	Pn	07 05 13.4	-1.4
0.5nm,0.3s,baz=203,slow=13,SNR=5.8
NOA	**NORSAR Array B**	**7.80**	**330**		Pn	Pn	07 05 11.8	-3.1
0.4nm,0.3s,baz=123,slow=16,SNR=2.4
ARCES	**ARCESS Array B**	**15.31**	**8**		Pn	Pn	07 06 50.3	-7.2
0.4nm,0.3s,baz=190,slow=12,SNR=7.8

IDC ***15*** *07:30:39.2±0.6, 1069N×9439E, h0km, mb4.1/18, mb1 4.2/19, mb1mx4.2/26, mbtmp4.1/19, ML3.6/1, MS4.2/15, Ms1 4.2/15, ms1mx3.9/30, Error ellipse: s-maj=24.5km s-min=13.9km az=55.0*
BJI ***15*** *07:30:39.6, 1017N×9428E, h38km, mB5.0, mb4.5, Ms4.5, Msz4.2*
NEIC ***15*** *07:30:40.9±0.3, 1065N×9445E, h10km, mb4.8/11, Error ellipse: s-maj=12.7km s-min=6.7km az=53.0*
ISCJB ***15*** *07:30:41.8±0.4, 1059N±004×9431E±004, h32km, mb4.4/49, MS4.2/27, Error ellipse: s-maj=6.6km s-min=5.3km az=50.9*
MOS ***15*** *07:30:42.2±1.0, 1066N×9446E, h33km, mb4.7/14, MS4.2/5, Error ellipse: s-maj=13.1km s-min=6.7km az=107.3*
ISC 15 07:30:44.3±0.4,1061N±005×9433E±003,h34km, h34km±1.9km:pP-P,n117,σ1§05/120,mb4.4/49,MS4.2/27, 6C-6D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.87**	**304**		*ex*	x	07 31 26.7	
PBA					*e*S	**Sn**	**07 31 38.3**	**+2.1**
KULM	**Kulim**	**8.20**	**130**		*e*Pn	**Pn**	**07 32 38.4**	**-2.4**
PSI	**Prapat**	**9.00**	**149**		Pn	**Pn**	**07 32 52.2**	**+0.4**
0.6nm,0.3s,baz=307,slow=10,SNR=3.2
PSI					LR	LR	07 37 04.3	
comp=Z,2μm,18.1s,baz=298,slow=42
VIS	**Vishakhapatnam**	**12.79**	**305**		*e*P	**Pn**	**07 33 41.1**	**-2.5**
VIS					AMb	AMB	07 33 54.3	
comp=Z,79nm,1.4s
VIS					*e*S	**Sn**	**07 35 53.7**	**-11**
VIS					*i* S	**Sn**	**07 35 56.2**	**-8.5**
CAL	**Calcutta**	**13.17**	**335**		*ex*	x	07 33 58.7	
CAL					*ex*	x	07 36 28.9	
SHL	**Shillong**	**15.05**	**351**		*e*P	**Pn**	**07 34 09.5**	**-4.9**
SHL	**Shillong**	**15.05**	**351**		*e*P	**Pn**	**07 34 10.0**	**-4.4**
SHL					*e*S	**Sn**	**07 37 12.0**	**+12**
BOK	**Bokaro**	**15.38**	**330**		*e*P	**Pn**	**07 34 17.9**	**-0.7**
BOK					AMb	AMB	07 34 33.7	
comp=Z,39nm,1.3s
KMI	**Kunming**	**16.49**	**28**		P	**Pn**	**07 34 34.9**	**+1.9**
KMI					AP	pP	07 34 45.6	+1.4
KMI					XP	sP	07 34 51.4	+2.9
KMI					S	**Sn**	**07 37 46.8**	**+12**
KMI					AMB	AMB		
comp=Z,26nm,1.3s
KMI					AMB	AMB		
comp=Z,119nm,3.1s
KMI					LR	LR		
comp=N,897nm,10.6s
KMI					LR	LR		
comp=E,427nm,10.6s
KMI					LR	LR		
comp=Z,575nm,13.2s
HYB	**Hyderabad**	**16.72**	**296**	⇓	*i* P	**Pn**	**07 34 39.0**	**+3.1**
HYB					*e*S	**Sn**	**07 37 43.5**	**+3.0**
HYB	**Hyderabad**	**16.72**	**296**	⇓	*e*P	**Pn**	**07 34 39.0**	**+3.1**
HYB					*e*S	**Sn**	**07 37 43.5**	**+3.0**
QIZ	**Qiongzhong**	**17.16**	**59**		*e*P	**Pn**	**07 34 43.4**	**+2.0**
QIZ					*e*S	**Sn**	**07 37 52.4**	**+1.2**
QIZ					AMB	AMB		
comp=Z,35nm,2.4s
QIZ					AMB	AMB		
comp=Z,425nm,2.7s
QIZ					LR	LR		
comp=N,932nm,8.6s
QIZ					LR	LR		
comp=E,931nm,9.5s
QIZ					LR	LR		
comp=Z,817nm,9.2s
TRD	**Trivandrum**	**17.25**	**265**		*e*P	**Pn**	**07 34 43.4**	**+0.9**
NGP	**Nagpur**	**18.03**	**307**	⇑	*e*P	**Pn**	**07 34 51.6**	**-0.5**
NGP					*ex*	x	07 35 07.0	
comp=Z,52nm,1.6s
NGP					*ex*	x	07 38 21.0	
JIRN	**Jiri**	**18.60**	**337**		*e*P	**Pn**	**07 34 59.0**	**-0.1**
comp=Z,266nm,1.5s
PKI	**Pulchoki**	**18.84**	**335**		*e*P	**Pn**	**07 35 01.8**	**-0.1**
comp=Z,192nm,1.3s
GUN	**Gumba**	**18.95**	**336**		*e*P	**Pn**	**07 35 03.0**	**-0.2**
comp=Z,476nm,1.8s
DMN	**Daman**	**19.00**	**334**		*e*P	**Pn**	**07 35 03.6**	**-0.3**
KKN	**Kakani**	**19.09**	**335**		*e*P	**Pn**	**07 35 04.1**	**-0.8**
LSA	**Lhasa**	**19.22**	**352**		P	**Pn**	**07 35 06.0**	**-0.5**
LSA					AP	pP	07 35 13.3	-1.0
LSA					S	**Sn**	**07 38 34.9**	**-6.0**
LSA					AMB	AMB		
comp=Z,10.0nm,1.0s
LSA					LR	LR		
comp=N,100nm,18.0s
LSA					LR	LR		
comp=E,350nm,20.0s
LSA					LR	LR		
comp=Z,420nm,20.0s
LSA	**Lhasa**	**19.22**	**352**		*e*P	**Pn**	**07 35 06.0**	**-0.5**
LSA					pmax	pmax		
comp=Z,195nm,1.6s
LSA	**Lhasa**	**19.22**	**352**		*e*P	**Pn**	**07 35 06.0**	**-0.5**
comp=Z,195nm,1.6s
GKN	**Gorkha**	**19.55**	**334**		*e*P	**Pn**	**07 35 09.5**	**-0.9**
comp=Z,75nm,0.6s
KOLN	**Koldanda**	**19.82**	**331**		*e*P	**Pn**	**07 35 12.6**	**-1.1**
comp=Z,168nm,1.2s
DANN	**Dangsing**	**20.24**	**332**		*e*P	**P**	**07 35 16.8**	**+0.3**
BHPL	**Bhopal**	**20.44**	**310**		*e*P	**P**	**07 35 18.9**	**+0.2**
BHPL					AMb	AMB	07 35 23.1	
comp=Z,33nm,1.5s
KAD	**Karad**	**20.64**	**291**		*e*P	**P**	**07 35 20.8**	**0.0**
KAD					AMb	AMB	07 35 27.1	
comp=Z,40nm,1.7s
POO	**Poona**	**21.31**	**294**		*ex*	x	07 35 39.7	
POO					AMb	AMB	07 35 49.1	
comp=Z,29nm,1.1s,mb4.5
CD2	**Chengdu**	**22.01**	**22**	⇑	*i* P	**P**	**07 35 35.9**	**+0.3**
CD2					AP		07 35 45.1	
CD2					XP	sP	07 35 49.3	+0.4
CD2					PP		07 36 05.3	
CD2					S	**S**	**07 39 37.8**	**+1.2**
CD2					SS		07 40 22.3	
CD2					AMB	AMB		
comp=Z,30nm,1.6s,mb4.5
CD2					AMB	AMB		
comp=Z,120nm,4.1s
CD2					LR	LR		
comp=E,420nm,10.8s
CD2					LR	LR		
comp=Z,390nm,10.8s,MS4.1
LGTI	**Lohaghat**	**22.89**	**327**		*e*P	**P**	**07 35 50.0**	**+5.1**
NDI	**New Delhi**	**24.08**	**321**		*e*P	**P**	**07 35 55.5**	**-1.0**
NDI					*e*P		07 35 56.0	
NDI					*e*S	**S**	**07 40 11.0**	**-0.8**
NDI					*ex*	x	07 40 11.0	
ENH	**Enshi**	**24.12**	**34**		*e*P	**P**	**07 35 56.4**	**-0.4**
comp=Z,100nm,1.4s,mb5.1
DDI	**Dehra Dun**	**24.78**	**325**		*ex*	x	07 35 02.6	
DDI					*ex*	x	07 39 04.1	
BHJ	**Bhuj**

XAN				AP	pP	07 36 30.8	-0.8
XAN				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.0						
XAN				LR	LR		
	comp=N,404nm,17.6s,MS4.2						
XAN				LR	LR		
	comp=E,359nm,16.5s,MS4.2						
XAN				LR	LR		
	comp=Z,375nm,12.1s,MS4.2						
WHN	**Wuhan**	**27.20**	**40**	*e*P	**P**	**07 36 25.5**	**+0.8**
WHN				S	**S**	**07 40 57.0**	**-4.3**
GTA	**Gaotai**	**29.09**	**9**	*e*P	**P**	**07 36 42.9**	**+1.3**
GTA				AP	pP	07 36 58.8	+7.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.0						
GTA				AMB	AMB		
	comp=Z,165nm,6.5s						
GTA				LR	LR		
	comp=N,197nm,12.2s,MS4.1						
GTA				LR	LR		
	comp=E,206nm,12.2s,MS4.1						
GTA				LR	LR		
	comp=Z,137nm,9.5s						
NJ2	**Nanjing**	**31.11**	**43**	*e*P	**P**	**07 36 59.3**	**-0.2**
NJ2				AP	pP	07 37 08.8	-0.5
NJ2				XP	sP	07 37 12.8	-0.6
NJ2				PP	PP	07 38 01.6	-8.4
NJ2				S	**S**	**07 42 01.0**	**-1.8**
NJ2				XS	sS	07 42 17.0	-2.0
NJ2				AMB	AMB		
	comp=Z,110nm,8.2s						
NJ2				LR	LR		
	comp=N,480nm,11.2s						
NJ2				LR	LR		
	comp=E,690nm,22.9s						
NJ2				LR	LR		
	comp=Z,280nm,18.9s						
SSE	**Sheshan**	**32.18**	**47**	P	**P**	**07 37 06.6**	**-2.2**
SSE				AP	pP	07 37 15.5	-3.1
SSE				PP	PP	07 38 19.8	-2.0
SSE				PCP	PcP	07 39 54.9	-2.2
SSE				S	**S**	**07 42 17.9**	**-1.5**
SSE				SCS	ScS	07 47 34.9	-2.1
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,70nm,6.3s						
SSE				LR	LR		
	comp=N,326nm,11.6s,MS4.4						
SSE				LR	LR		
	comp=E,263nm,11.6s,MS4.4						
SSE				LR	LR		
	comp=Z,449nm,11.2s,MS4.4						
WMQ	**Urumqi**	**33.58**	**351**	P	**P**	**07 37 22.0**	**+0.9**
WMQ				AP	pP	07 37 27.9	-3.0
WMQ				PP	PP	07 38 34.3	-3.1
WMQ				PCP	PcP	07 40 03.3	+2.3
WMQ				*e*S	**S**	**07 42 41.8**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,21nm,1.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,169nm,4.2s						
WMQ				LR	LR		
	comp=N,478nm,22.0s,MS4.3						
WMQ				LR	LR		
	comp=E,499nm,22.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,469nm,22.0s,MS4.2						
HHC	**Hu-ho-hao-te**	**33.74**	**24**	*e*P	**P**	**07 37 23.0**	**+0.5**
HHC				AP	pP	07 37 33.0	+0.6
HHC				XP	sP	07 37 36.8	+0.3
HHC				AMB	AMB		
	comp=Z,6.0nm,0.3s,mb5.0						
HHC				LR	LR		
	comp=N,381nm,10.6s,MS4.5						
HHC				LR	LR		
	comp=E,447nm,14.1s,MS4.5						
HHC				LR	LR		
	comp=Z,282nm,11.8s,MS4.2						
BJI	**Beijing**	**35.13**	**30**	*e*P	**P**	**07 37 35.8**	**+1.2**
BJI				S	**S**	**07 43 12.3**	**+7.1**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
BJI				LR	LR		
	comp=N,246nm,19.2s,MS4.2						
BJI				LR	LR		
	comp=E,312nm,15.5s,MS4.2						
BJI				LR	LR		
	comp=Z,169nm,24.4s						
AAK	**Ala-Archa**	**36.30**	**335⇑**	*e*P	**P**	**07 37 44.2**	**-0.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
AAK				MLR	MLR		
	comp=Z,700nm,24.0s,MS4.3						
AAK	**Ala-Archa**	**36.30**	**335**	*e*P	**P**	**07 37 45.2**	**+0.7**
	comp=Z,12nm,1.4s,mb4.6						
MK31	**Makanchi Array**	**37.48**	**346**	*i* P	**P**	**07 37 54.0**	**-0.6**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
MKAR	**Makanchi Array**	**37.48**	**346**	P	**P**	**07 37 54.4**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.2,baz=166,slow=8.6,SNR=32						
MKAR				LR	LR	07 56 24.3	
	comp=Z,197nm,18.9s,MS3.9,baz=164,slow=41						
KK31	**Karatay Array**	**38.43**	**332**	*i* P	**P**	**07 38 03.6**	**+1.0**
KKAR	**Karatay Array**	**38.43**	**332**	*i* P	**P**	**07 38 03.6**	**+1.0**
SONM	**Songino Array**	**38.47**	**13**	P	**P**	**07 38 03.5**	**+0.5**
	comp=Z,9.7nm,1.3s,mb4.4,baz=199,slow=5.1,SNR=23						
SONM				LR	LR	07 56 01.6	
	comp=Z,255nm,18.6s,MS4.1,baz=38,slow=40						
ULN	**Ulaanbaatar**	**38.65**	**14⇓**	*e*P	**P**	**07 38 04.8**	**+0.4**
ULN	**Ulaanbaatar**	**38.65**	**14**	*e*P	**P**	**07 38 05.0**	**+0.6**
	comp=Z,9.4nm,1.5s,mb4.3						
ZAK	**Zakamensk**	**40.33**	**9**	*e*P	**P**	**07 38 15.7**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.3						
KURK	**Kurchatov**	**42.02**	**345**	*e*P	**P**	**07 38 32.6**	**+0.3**
KURK				pmax	pmax		
	comp=Z,26nm,1.4s,mb4.7						
KURK	**Kurchatov**	**42.02**	**345**	*e*P	**P**	**07 38 32.6**	**+0.3**
	comp=Z,26nm,1.4s,mb4.7						
CN2	**Changchun**	**42.64**	**34**	*e*P	**P**	**07 38 38.0**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
ZAL	**Zalesovo**	**43.88**	**352**	P	**P**	**07 38 47.4**	**0.0**
	comp=Z,1.4nm,0.6s,mb3.9,baz=302,slow=8.5,SNR=10						
HIA	**Hailar**	**43.95**	**24**	*e*P	**P**	**07 38 48.4**	**+0.4**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HIA	**Hailar**	**43.95**	**24**	*e*P	**P**	**07 38 48.4**	**+0.4**
	comp=Z,6.4nm,0.9s,mb4.3						
NVS	**Novosibirsk**	**44.98**	**351**	*e*P	**P**	**07 38 54.7**	**-1.5**
NVS				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.8						
NVS				pmax	pmax		
	comp=N,30nm,1.8s						
KRAR	**Krasnoyarsk**	**45.30**	**359**	*i* P	**P**	**07 38 59.1**	**+0.4**
BVAR	**Borovoye Array**	**46.48**	**340**	P	**P**	**07 39 07.3**	**-0.7**
	comp=N,0.9nm,0.8s,mb3.8,baz=123,slow=11,SNR=5.4						
BRVK	**Borovoye**	**46.54**	**340**	*e*P	**P**	**07 39 08.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BRVK	**Borovoye**	**46.54**	**340**	*e*P	**P**	**07 39 08.8**	**+0.3**
	comp=Z,4.1nm,1.1s,mb4.3						
MJAR	**Matsushiro Arr**	**47.22**	**50**	P	**P**	**07 39 13.1**	**-0.8**
	comp=Z,0.6nm,0.3s,mb4.0,baz=265,slow=4.5,SNR=3.8						
MJAR				PcP	PcP	07 40 46.3	+1.5
	comp=Z,4.0nm,1.0s,baz=268,slow=3.0,SNR=5.1						
MJAR				LR	LR	08 00 40.5	
	comp=Z,94nm,19.4s,MS3.8,baz=260,slow=38						
MJAR	**Matsushiro Arr**	**47.22**	**50**	P	**P**	**07 39 13.1**	**-0.7**
MJAR						07 40 46.3	
AB31	**Akbulak array**	**47.95**	**330**	P	**P**	**07 39 18.9**	**-0.5**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
NWAO	**Narrogin (SRO)**	**48.50**	**154**	LR	LR	07 59 41.0	
	comp=Z,214nm,19.4s,MS4.1,baz=325,slow=36						
KLR	**Kul'dur**	**49.46**	**32**	*e*P	**P**	**07 39 25.0**	**-6.1**
BOD	**Bodaibo**	**49.46**	**14**	*e*P	**P**	**07 39 30.9**	**-0.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,2.2s,mb4.2						
BOD				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6						
AKTO	**Aktyubinsk**	**49.66**	**330**	LR	LR	08 05 51.2	
	comp=Z,157nm,19.4s,MS4.0,baz=7.4,slow=43						
WRA	**Warramunga Arr**	**49.74**	**128**	P	**P**	**07 39 34.1**	**+0.9**
	comp=Z,7.0nm,0.6s,mb4.8,baz=304,slow=9.0,SNR=83						
WRA	**Warramunga Arr**	**49.74**	**128**	*i* P	**P**	**07 39 34.0**	**+0.8**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WRAB	**Tennant Creek**	**49.74**	**128⇓**	*e*P	**P**	**07 39 34.2**	**+1.0**
WRAB	**Tennant Creek**	**49.74**	**128**	*e*P	**P**	**07 39 34.2**	**+1.0**
	comp=Z,15nm,0.7s,mb5.1						
ATD	**Arta Tunnel**	**50.47**	**276**	LR	LR	07 56 59.2	
	comp=Z,92nm,21.6s,MS3.8,baz=105,slow=31						
ASAR	**Alice Springs**	**51.56**	**132**	P	**P**	**07 39 47.4**	**+0.5**
	comp=Z,3.8nm,0.6s,mb4.5,baz=308,slow=6.7,SNR=88						
GNI	**Garni**	**52.69**	**313**	P	**P**	**07 39 57.2**	**+1.9**
	comp=Z,3.5nm,0.5s,mb4.6,baz=162,slow=3.2,SNR=6.0						
ARU	**Arti**	**53.46**	**336**	*e*P	**P**	**07 40 06.4**	**+5.4**
ARU				*e*		07 41 09.5	
ARU				*e*		07 42 07.2	
ARU				*e*S	**S**	**07 47 39.5**	**+8.2**
ARU				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,200nm,19.0s,MS4.3						
ZEI	**Tsey**	**54.20**	**316**	*i* P	**P**	**07 40 06.9**	**+0.5**
ZEI				*i* *PP	pP	07 40 16.9	+0.2
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
YSS	**Yuzh-Sakhalins**	**54.54**	**39**	*i* P	**P**	**07 40 08.7**	**-0.2**
SOC	**Sochi**	**57.35**	**315**	*e*P	**P**	**07 40 28.6**	**-0.4**
SOC				*e**PP	pP	07 40 45.6	+6.3
SOC				*e*		07 42 38.9	
SOC				*e*S	**S**	**07 48 22.5**	**-0.7**
SOC				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.1						
SOC				MLR	MLR		
	comp=Z,167nm,16.0s,MS4.2						
YAK	**Yakutsk**	**57.36**	**19**	*e*P	**P**	**07 40 28.2**	**-0.8**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
KMBO	**Kilima Mbogo**	**57.95**	**262**	P	**P**	**07 40 36.1**	**+3.0**
	comp=E,0.4nm,0.4s,mb3.8,baz=228,slow=23,SNR=3.1						
KMBO				LR	LR	08 02 36.5	
	comp=E,89nm,18.8s,MS3.9,baz=76,slow=33						
KMBO	**Kilima Mbogo**	**57.95**	**262⇑**	*e*P	**P**	**07 40 36.0**	**+2.8**
ANN	**Anapa**	**59.28**	**316**	*e*P	**P**	**07 40 47.9**	**+5.4**
ANN				*i* *PP	pP	07 40 58.6	+5.8
ANN				*i*		07 41 28.8	
ANN				*e*S	**S**	**07 49 00.2**	**+12**
ANN				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
CTA	**Charters Tower**	**59.51**	**121**	LR	LR	08 06 37.5	
	comp=Z,184nm,21.1s,MS4.2,baz=127,slow=36						
BRTR	**Keskin Array B**	**60.81**	**310**	*i* P	**P**	**07 40 58.5**	**+5.5**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STKA	**Stephens Creek**	**61.88**	**135**	P	**P**	**07 40 59.4**	**-0.8**
	comp=Z,1.0nm,0.3s,mb4.4,baz=327,slow=5.4,SNR=3.8						
STKA				LR	LR	08 07 56.1	
	comp=Z,230nm,21.0s,MS4.3,baz=340,slow=36						
STKA	**Stephens Creek**	**61.88**	**135**	*e*P	**P**	**07 41 00.2**	**0.0**
OBN	**Obninsk**	**63.18**	**327**	*e*P	**P**	**07 41 10.3**	**+1.4**
	comp=Z,8.9nm,0.4s,mb5.2						
MA2	**Magadan**	**64.27**	**28⇓**	*e*P	**P**	**07 41 16.6**	**+0.5**
MA2				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
MA2				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.0						
MA2	**Magadan**	**64.27**	**28**	*e*P	**P**	**07 41 17.2**	**+1.2**
	comp=Z,18nm,1.3s,mb4.9						
TIXI	**Tiksi**	**64.53**	**11⇑**	*e*P	**P**	**07 41 17.1**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
SEY	**Seymchan**	**66.38**	**25⇓**	*e*P	**P**	**07 41 30.2**	**+0.5**
FINES	**FINESS Array B**	**70.39**	**332**	P	**P**	**07 41 53.8**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=76,slow=8.0,SNR=3.4						
FINES				LR	LR	08 13 59.2	
	comp=Z,107nm,18.7s,MS4.1,baz=32,slow=37						
ARCES	**ARCESS Array B**	**72.77**	**340**	P	**P**	**07 42 09.2**	**+0.1**
	comp=Z,6.7nm,1.1s,mb4.5,baz=90,slow=6.1,SNR=8.0						
ARCES				LR	LR	08 16 27.5	
	comp=Z,370nm,19.7s,MS4.7,baz=110,slow=38						
BILL	**Bilibino**	**73.49**	**22**	*i* P	**P**	**07 42 11.2**	**-2.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
GERES	**GERESS Array B**	**75.92**	**318**	P	**P**	**07 42 27.0**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=106,slow=4.3,SNR=3.5						
HFS	**Hagfors**	**76.20**	**329**	P	**P**	**07 42 27.7**	**-1.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=94,slow=10,SNR=3.2						
MIR	**Mirnyy**	**76.96**	**181⇑**	*i*P	sP	07 42 48.2	+0.3
NOA	**NORSAR Array B**	**77.45**	**330**	P	**P**	**07 42 35.4**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.5,baz=90,slow=5.7,SNR=2.4						
NOA				LR	LR	08 22 35.6	
	comp=Z,92nm,19.2s,MS4.1,baz=75,slow=40						
NOA	**NORSAR Array B**	**77.45**	**330**	P	**P**	**07 42 35.4**	**-0.7**
NOA				LR	LR	08 22 35.6	
LPG	**La Plagne**	**80.83**	**315**	*e*P	**P**	**07 42 54.1**	**-0.5**
	comp=Z,5.7nm,0.7s,mb4.3						
LPG	**La Plagne**	**80.83**	**315**	*e*P	**P**	**07 42 54.1**	**-0.5**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LPG	**La Plagne**	**80.83**	**315**	*e*P	**P**	**07 42 54.1**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.3						
EKA	**Eskdalemuir Ar**	**85.58**	**325**	P	**P**	**07 43 19.1**	**+0.1**
	comp=Z,2.6nm,1.0s,mb4.4,baz=102,slow=5.2,SNR=3.7						
RPZ	**Rata Peaks**	**87.84**	**135**	LR	LR	08 24 10.5	
	comp=Z,656nm,20.1s,MS5.0,baz=280,slow=37						
TORD	**Torodi Ar. Bea**	**90.15**	**283**	P	**P**	**07 43 41.4**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.9,baz=86,slow=4.4,SNR=4.2						
TORD				PP	PP	07 47 21.9	+7.2
	comp=Z,2.0nm,1.1s,baz=71,slow=5.0,SNR=7.1						
MDT	**Midelt**	**91.72**	**304**	LR	LR	08 29 17.7	
	comp=Z,122nm,18.0s,MS4.4,baz=160,slow=38						
ILAR	**Eielson Array**	**92.15**	**22**	P	**P**	**07 43 48.8**	**-1.5**
	comp=Z,0.5nm,0.5s,mb4.1,baz=304,slow=4.6,SNR=14						
NVAR	**Mina Array Bea**	**122.48**	**30**	PKP	PKPdf	07 49 37.6	+1.6
	comp=Z,0.5nm,0.6s,baz=61,slow=27,SNR=7.1						
PDAR	**Pinedale Array**	**122.56**	**21**	PKP	PKPdf	07 49 36.2	0.0
	comp=Z,0.3nm,0.6s,baz=151,slow=3.3,SNR=4.2						
ANMO	**Albuquerque**	**130.59**	**23**	*i* PKIKP	PKPdf	07 49 54.5	+3.0
MTP	**Monte Pirata**	**145.24**	**325**	*e*PKPbc	PKPbc	07 50 20.0	+2.0
CPD	**Cerro la Pandu**	**145.49**	**325**	*e*PKP2	PKPab	07 50 20.2	+1.2
PLCA	**Paso Flores**	**147.16**	**201**	PKPbc	PKPbc	07 50 25.3	+1.5
	comp=Z,1.6nm,0.6s,baz=171,slow=3.7,SNR=10						

PRE 15 07:31:49.2±1.6, 2120S×3316E, h5km, ML5.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**5.30**	**212**	*e*P	Pn	07 33 10.3	+1.3
BFT				*e*S	Sn	07 34 09.9	-0.6
BFT				AML	AML	07 34 51.3	
	comp=Z,162nm,0.5s						
SLR	**Silverton**	**6.36**	**224**	*e*P	Pn	07 33 24.5	+0.9
SLR				*e*S	Sn	07 34 33.7	-2.8
SLR				AML	AML	07 35 21.3	
	comp=Z,132nm,0.4s						
KSR	**Koster**	**7.38**	**230**	*e*P	Pn	07 33 39.1	+1.6
KSR				*e*S	Sn	07 34 41.9	-20
	comp=Z,277nm,0.7s						
KSR				AML	AML	07 35 06.3	
	comp=Z,277nm,0.7s						
LBTB	**Lobatse**	**7.93**	**240**	*e*P	Pn	07 33 46.8	+1.7
LBTB				*e*S	Sn	07 35 12.3	-2.9
LBTB				AML	AML	07 36 10.8	
	comp=Z,78nm,0.6s						
BOSA	**Boshof**	**10.29**	**223**	*e*P	Pn	07 34 19.0	+1.6
BOSA				*e*S	Sn	07 36 07.2	-5.9
BOSA				AML	AML	07 37 27.1	
	comp=Z,45nm,0.6s						
PKA	**Prieska**	**12.62**	**226**	*e*P	Pn	07 34 50.4	+1.0
SUR	**Sutherland**	**15.65**	**222**	*e*P	Pn	07 35 33.6	+3.2
SUR				*e*S	Sn	07 38 17.1	-7.2
CVNA	**Calvinia**	**15.77**	**227**	*e*P	Pn	07 35 34.0	+2.0
CVNA				*e*S	Sn	07 38 18.0	-9.0
CVNA				AML	AML	07 40 23.0	
	comp=Z,43nm,0.7s						

IDC 15 07:36:07.1±1.0, 1072N×9462E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, Error ellipse: s-maj=47.0km s-min=19.2km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.06**	**297**	*e*P	Pn	07 36 47.6	+4.6
PBA				*e*S	Sn	07 37 00.1	-9.4
PBA				*e*x	x	07 37 44.9	
	comp=E,692nm,1.1s						
PBA				*e*x	x	07 38 07.7	
	comp=N,429nm,1.1s						
MKAR	**Makanchi Array**	**37.45**	**346**	P	P	07 43 20.7	-1.4
	comp=N,0.6nm,0.7s,baz=158,slow=7.9,SNR=4.4						
SONM	**Songino Array**	**38.30**	**13**	P	P	07 43 29.1	-0.2
	comp=N,0.2nm,0.3s,baz=188,slow=9.9,SNR=2.9						
WRA	**Warramunga Arr**	**49.57**	**128**	P	P	07 45 00.2	+0.4
	comp=N,2.1nm,0.7s,baz=305,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**51.41**	**132**	P	P	07 45 13.8	+0.1
	comp=N,2.1nm,0.8s,baz=313,slow=7.3,SNR=15						
BRTR	**Keskin Array B**	**60.97**	**310**	P	P	07 46 23.6	+1.5
	comp=N,0.9nm,0.7s,baz=136,slow=6.8,SNR=3.7						
STKA	**Stephens Creek**	**61.74**	**135**	P	P	07 46 27.9	+0.6
	comp=N,0.7nm,0.4s,baz=339,slow=14,SNR=2.6						
ILAR	**Eielson Array**	**91.95**	**22**	P	P	07 49 19.1	+1.5
	comp=N,0.3nm,0.5s,baz=273,slow=5.5,SNR=5.9						
PLCA	**Paso Flores**	**147.36**	**201**	PKPbc	PKPbc	07 55 51.6	-1.1
	comp=N,1.5nm,1.1s,baz=225,slow=2.9,SNR=2.5						

*ISCJB **15** 07:51:03.6±0.6, 38S×02×1268E±04, h33km, mb3.9/6, Error ellipse: s-maj=60.9km s-min=9.7km az=127.7*
*NEIC **15** 07:51:07.4±0.7, 4.11S×126.48E, h55km, mb4.3/1, Error ellipse: s-maj=71.1km s-min=10.6km az=62.0*
*IDC **15** 07:51:07.2±3.2, 364S×12697E, h45km±30km, mb3.8/7, mb1 4.0/7, mb1mx3.8/18, mbtmp4.1/7, Error ellipse: s-maj=71.6km s-min=11.5km az=66.0*
ISC 15 07:51:06.1±0.7, 37S±02×1270E±04, h35km, n13, σ1°20/14, mb3.9/6, 2C, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**17.71**	**157**	*e*P	**Pn**	**07 55 07.2**	**-2.7**
	28nm,1.0s						
WRA	**Warramunga Arr**	**17.72**	**157**	P	**Pn**	**07 55 06.9**	**-3.0**
	0.8nm,0.3s,baz=341,slow=12,SNR=21						
WRA				ScP	ScP	08 03 18.8	-0.4
	0.0nm,0.3s,baz=329,slow=2.2,SNR=4.8						
WB2	**Warramunga Arr**	**17.72**	**157**	*e*P	**Pn**	**07 55 06.9**	**-3.1**
AS31	**Alice Springs**	**21.00**	**162⇑**	*i*P	**P**	**07 55 47.3**	**+0.9**
ASAR	**Alice Springs**	**21.00**	**162**	P	**P**	**07 55 47.2**	**+0.9**
	33nm,0.8s,baz=343,slow=11,SNR=309						
ASAR				S	**S**	**07 59 39.9**	**+1.6**
	6.9nm,1.1s,baz=343,slow=21,SNR=13						
ASAR				ScP	ScP	08 03 26.0	-0.7
	0.4nm,0.6s,baz=351,slow=2.0,SNR=7.1						
ASPA	**Alice Springs**	**21.00**	**162⇑**	*i*P	**P**	**07 55 47.3**	**+0.9**
CTA	**Charters Tower**	**24.91**	**133**	P	**P**	**07 56 26.2**	**+0.5**
	11nm,1.1s,mb4.3,baz=303,slow=17,SNR=2.9						
STKA	**Stephens Creek**	**31.26**	**156**	P	**P**	**07 57 22.6**	**+0.1**
	1.8nm,0.8s,mb4.0,baz=323,slow=10,SNR=2.7						
SONM	**Songino Array**	**54.35**	**343**	P	**P**	**08 00 30.1**	**+0.9**
	0.4nm,0.8s,mb3.4,baz=164,slow=7.0,SNR=3.5						
MKAR	**Makanchi Array**	**63.79**	**327**	P	**P**	**08 01 34.9**	**+0.3**
	1.6nm,0.6s,mb4.2,baz=134,slow=7.0,SNR=20						
BVAR	**Borovoye Array**	**73.64**	**328**	P	**P**	**08 02 35.8**	**-0.2**
	0.7nm,0.7s,mb3.7,baz=128,slow=9.7,SNR=3.8						
AKTK	**Aktyubinsk**	**79.60**	**323**	P	**P**	**08 03 08.9**	**-0.6**
AKTO	**Aktyubinsk**	**79.60**	**323**	P	**P**	**08 03 08.9**	**-0.6**
	1.4nm,0.9s,mb3.9,baz=56,slow=7.3,SNR=3.7						

*MOS **15** 08:06:03.7±1.1, 1948S×6895W, h103km, mb4.8/20, Error ellipse: s-maj=19.6km s-min=6.8km az=117.6*
*ISCJB **15** 08:06:04.4±0.3, 1951S±006×6895W±007, h113km, mb4.7/52, Error ellipse: s-maj=11.1km s-min=5.5km az=98.0*
*IDC **15** 08:06:05.8±0.6, 1967S×6899W, h114km±4km, mb4.2/13, mb1 4.3/16, mb1mx4.3/19, mbtmp4.6/16, MS3.6/7, Ms1 3.6/7, ms1mx3.3/18, Error ellipse: s-maj=15.6km s-min=10.3km az=86.0*
*NEIC **15** 08:06:05.7±0.2, 1960S×6894W, mb4.8/44, Error ellipse: s-maj=9.3km s-min=5.6km az=60.0*
NEIC Felt [IV] at Cerro Colorado and Pozo Almonte; [III] at Alto Hospicio, Huara and Iquique.
*BJI **15** 08:06:06.7, 1960S×6890W, h112km, mB5.2*
ISC 15 08:06:06.4±0.3, 1955S±006×6896W±007, h115km, h115km±1.4km: pP-P, n161, σ0°94/130, mb4.7/52, 3C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.34**	**14**	P	**Pn**	**08 07 00.4**	**+3.4**
	30nm,0.3s,baz=201,slow=8.4,SNR=803						
LPAZ				S	**Sn**	**08 07 42.0**	**+5.9**
	11nm,0.3s,baz=51,slow=13,SNR=2.1						
LPAZ				LR	LR	08 07 54.7	
	comp=Z,458nm,19.3s,baz=240,slow=31						
LPAZ	**La Paz**	**3.34**	**14**	*e*Pn	**Pn**	**08 07 00.5**	**+3.5**
ARE	**Arequipa**	**3.91**	**321**	*e*P	**Pn**	**08 07 02.0**	**-2.5**
ARE				*e*S	**Sn**	**08 07 47.0**	**-2.6**
SIV	**San Ignacio**	**8.30**	**66**	P	**Pn**	**08 08 03.2**	**-0.7**
	19nm,0.3s,baz=258,slow=11,SNR=911						
CFAA	**Coronel Fontan**	**12.02**	**177**	P	**Pn**	**08 08 47.0**	**-6.8**
	0.1nm,0.3s,baz=356,slow=13,SNR=20						
CFAA	**Coronel Fontan**	**12.02**	**177**	P	**Pn**	**08 08 47.0**	**-6.8**
CPUP	**Villa Florida**	**12.65**	**124**	P	**Pn**	**08 09 01.6**	**-0.6**
	1.8nm,0.3s,baz=287,slow=11,SNR=27						
CPUP				LR	LR	08 14 55.4	
	comp=Z,73nm,20.9s,ba

comp=Z,14nm,0.7s,mb5.1
SWET Sewanee 56.80 343 *e*P **P 08 15 37.6 -1.0**
SWET *e*pP pP 08 16 04.5 -1.6
ELN Prospectdale 57.56 349 P **P 08 15 44.2 +0.2**
WVT Waverly 58.19 342 P **P 08 15 46.8 -1.5**
WVT *e**PP pP 08 16 14.0 -1.9
WVT pmax pmax
comp=Z,16nm,0.9s,mb5.0
WVT Waverly 58.19 342 P **P 08 15 46.8 -1.5**
comp=Z,16nm,0.9s,mb5.1
WVT *e*pP pP 08 16 14.0 -1.9
MIAR Mount Ida 58.67 336 *e*P **P 08 15 51.0 -0.7**
MIAR pmax pmax
comp=Z,32nm,1.3s,mb5.2
MIAR Mount Ida 58.67 336 *e*P **P 08 15 51.0 -0.7**
comp=Z,32nm,1.3s,mb5.2
WCI Wyandotte Cave 59.74 344 P **P 08 15 57.2 -1.8**
WCI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WCI Wyandotte Cave 59.74 344 P **P 08 15 57.2 -1.8**
comp=Z,9.5nm,0.8s,mb4.9
FVM French Village 60.69 341 *e*P **P 08 16 04.8 -0.7**
FVM pmax pmax
comp=Z,120nm,1.5s,mb5.7
FVM French Village 60.69 341 *e*P **P 08 16 04.8 -0.7**
comp=Z,120nm,1.5s,mb5.7
ACSO Alum Creek Sta 60.90 348 *e*P **P 08 16 05.5 -1.4**
comp=Z,15nm,0.9s,mb5.0
WMOK Wichita Mounta 60.98 332 *e*P **P 08 16 05.7 -1.8**
CCM Cathedral Cave 61.01 340 *e*P **P 08 16 06.4 -1.3**
CCM pmax pmax
comp=Z,24nm,1.1s,mb5.1
CCM Cathedral Cave 61.01 340 *e*P **P 08 16 06.4 -1.2**
comp=Z,24nm,1.1s,mb5.1
GDL2 Guadalupe Moun 61.63 326 *e*P **P 08 16 11.3 -0.5**
MNTX Cornudas Mount 61.78 325 *e*P **P 08 16 11.6 -1.3**
comp=Z,12nm,1.2s,mb4.8
VNA3 Neumayer Olymp 61.93 162 *e* **P 08 16 09.7 -4.1**
VNA3 Neumayer Olymp 61.93 162 *e*P **P 08 16 13.4 -0.4**
VNA3 Neumayer Olymp 61.93 162 *e*P **P 08 16 13.4 -0.4**
VNA2 Neumayer--Watz 62.49 161 *e*P **P 08 16 17.8 +0.2**
baz=39,slow=16
VNA2 Neumayer--Watz 62.49 161 *e*P **P 08 16 17.8 +0.2**
baz=296,slow=8.7
KSU1 Kansas State U 63.83 336 *e*P **P 08 16 25.2 -1.2**
SNAA Sanae 64.13 161 *e*P **P 08 16 28.6 +0.2**
SNAA Sanae 64.13 161 *e*P **P 08 16 28.6 +0.2**
SNAA Sanae 64.13 161 *i* P **P 08 16 28.5 +0.1**
SNAA Sanae 64.13 161 *e*P **P 08 16 28.8 -1.5**
comp=Z,37nm,1.4s,mb5.0
SNAA *e*pP pP 08 16 56.1 -0.3
LAZ Ladron 64.80 326 *e*P **P 08 16 32.5 -0.3**
CBKS Cedar Bluff 64.83 334 *e*P **P 08 16 33.0 0.0**
CBKS pmax pmax
comp=Z,26nm,0.8s,mb5.1
CBKS Cedar Bluff 64.83 334 *e*P **P 08 16 33.0 +0.1**
comp=Z,26nm,0.8s,mb5.1
ANMO Albuquerque 64.86 326 *i* P **P 08 16 33.4 +0.3**
ANMO Albuquerque 64.86 326 *e*P **P 08 16 33.3 +0.1**
comp=Z,3.5nm,1.0s,mb4.1
TUC Tucson 65.29 322 *e*P **P 08 16 36.1 +0.2**
TUC pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
TUC Tucson 65.29 322 *e*P **P 08 16 36.1 +0.2**
comp=Z,6.4nm,1.2s,mb4.3
DBIC Dimbokro 68.23 74 P **P 08 16 55.1 +0.5**
comp=Z,16nm,0.6s,mb5.0,baz=226,slow=6.2,SNR=44
DBIC Dimbokro 68.23 74 *e*P **P 08 16 54.3 -0.3**
DBIC pmax pmax
comp=Z,18nm,0.7s
DBIC Dimbokro 68.23 74 *e*P **P 08 16 54.3 -0.3**
comp=Z,18nm,0.7s,mb5.0
ISCO Idaho Springs 68.24 330 *e*P **P 08 16 55.0 +0.4**
ISCO pmax pmax
comp=Z,14nm,1.2s,mb4.7
ISCO Idaho Springs 68.24 330 *e*P **P 08 16 55.0 +0.4**
comp=Z,14nm,1.2s,mb4.7
PHWY Pilot Hill 69.36 331 *e*P **P 08 17 01.4 -0.2**
PFO Pinyon Flat Ob 69.61 319 *e*P **P 08 17 04.3 +1.2**
PFO pmax pmax
comp=Z,12nm,1.1s,mb4.6
PFO Pinyon Flat Ob 69.61 319 *e*P **P 08 17 04.3 +1.2**
comp=Z,12nm,1.1s,mb4.7
NEN Nelson 70.03 322 *e*P **P 08 17 05.9 +0.2**
SRU San Rafael 70.13 327 *e*P **P 08 17 06.7 +0.4**
SRU pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
SRU San Rafael 70.13 327 *e*P **P 08 17 06.7 +0.4**
comp=Z,8.8nm,0.8s,mb4.6
MSU Marysvale 70.56 325 *e*P **P 08 17 10.1 +1.2**
QSPA South Pole Qui 70.63 180 *e*P **P 08 17 09.8 +0.5**
comp=Z,16nm,0.9s,mb4.8
ARUT Antelope Range 70.73 324 *e*P **P 08 17 11.3 +1.4**
RSSD Black Hills 71.03 334 *e*P **P 08 17 11.9 +0.1**
RSSD pmax pmax
comp=Z,11nm,0.8s,mb4.7
RSSD Black Hills 71.03 334 *e*P **P 08 17 11.9 +0.2**
comp=Z,12nm,0.8s,mb4.8
MPU Maple Canyon 71.37 327 *e*P **P 08 17 14.5 +0.6**
comp=Z,14nm,1.1s,mb4.7
DAC Darwin (Calif) 72.09 320 *e*P **P 08 17 18.5 +0.4**
DAC pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
DAC Darwin (Calif) 72.09 320 *e*P **P 08 17 18.5 +0.4**
comp=Z,7.5nm,0.8s,mb4.6
DUG Dugway 72.12 326 *e*P **P 08 17 19.1 +0.8**
DUG pmax pmax
comp=Z,19nm,1.3s,mb4.8
DUG Dugway 72.12 326 *e*P **P 08 17 19.1 +0.8**
comp=Z,19nm,1.3s,mb4.8
BW06 Boulder Array 72.41 330 *e*P **P 08 17 20.0 0.0**
comp=Z,3.0nm,0.7s,mb4.2
PDAR Pinedale Array 72.41 330 P **P 08 17 19.9 -0.2**
comp=Z,2.5nm,0.8s,mb4.1,baz=121,slow=8.3,SNR=19
PDAR LR LR 08 53 32.3
comp=Z,109nm,18.4s,baz=253,slow=39
HWUT Hardware Ranch 72.52 328 *e*P **P 08 17 20.8 +0.2**
comp=Z,10nm,0.8s,mb4.7
HWUT *e*pP pP 08 17 50.2 +0.9
ULM Lac du Bonnet 73.46 342 P **P 08 17 25.0 -1.2**
comp=Z,5.6nm,0.5s,mb4.6,baz=153,slow=6.3,SNR=15
ULM Lac du Bonnet 73.46 342 P **P 08 17 25.0 -1.2**
REDW Red Top Meadow 73.48 329 *e*P **P 08 17 26.4 0.0**
comp=Z,18nm,1.2s,mb4.8
SNOW Snow King Moun 73.51 330 *e*P **P 08 17 27.0 +0.5**
comp=Z,19nm,1.0s,mb4.6
LOHW Long Hollow 73.55 330 *e*P **P 08 17 27.1 +0.3**
comp=Z,3.3nm,0.7s,mb4.2
ELK Elko 73.81 325 *e*P **P 08 17 28.6 +0.4**
ELK pmax pmax
comp=Z,10.0nm,1.2s
ELK Elko 73.81 325 *e*P **P 08 17 28.6 +0.4**
comp=Z,9.8nm,1.2s,mb4.4
NVAR Mina Array Bea 73.94 322 P **P 08 17 30.1 +1.0**
comp=Z,4.9nm,0.9s,mb4.2,baz=150,slow=7.1,SNR=31
FLWY Flagg Ranch 73.95 330 *e*P **P 08 17 29.9 +0.8**
comp=Z,28nm,1.0s,mb5.0
LAO LASA Array 74.02 334 *e*P **P 08 17 29.6 +0.1**
comp=Z,29nm,1.3s,mb4.8
SCHQ Schefferville 74.10 1 P **P 08 17 28.9 -1.0**
comp=Z,3.5nm,0.7s,mb4.2,baz=5.9,slow=15,SNR=7.9
SCHQ Schefferville 74.10 1 P **P 08 17 28.9 -1.0**
LKWY Lake 74.18 331 *e*P **P 08 17 32.0 +1.6**
LKWY pmax pmax
comp=Z,15nm,0.8s,mb4.8
LKWY Lake 74.18 331 *e*P **P 08 17 32.0 +1.6**
comp=Z,15nm,0.8s,mb4.8
YMR Madison River 74.52 330 *e*P **P 08 17 33.8 +1.4**
comp=Z,26nm,1.1s,mb4.9
GCMT Greycliff 74.78 332 *e*P **P 08 17 34.1 +0.2**
GCMT *e*pP pP 08 18 02.1 -0.6
HLID Hailey 75.38 328 *e*P **P 08 17 38.4 +1.1**
comp=Z,17nm,1.0s,mb4.7
MCMT McKenzie Canyo 75.53 329 *e*P **P 08 17 39.2 +1.0**
BOZ Bozeman (W) 75.57 331 *e*P **P 08 17 38.6 +0.2**
BOZ *e**PP pP 08 18 07.3 0.0
BOZ pmax pmax
comp=Z,17nm,1.5s,mb4.5
BOZ Bozeman (W) 75.57 331 *e*P **P 08 17 38.6 +0.2**
comp=Z,17nm,1.5s,mb4.5
BOZ *e*pP pP 08 18 07.3 0.0
HRY Holter Researc 76.46 331 *e*P **P 08 17 44.2 +0.8**
EGMT Eagleton 76.55 333 *e*P **P 08 17 43.8 -0.2**
comp=Z,20nm,1.1s,mb4.8
TORD Torodi Ar. Bea 76.75 71 P **P 08 17 45.3 +0.2**
comp=Z,4.4nm,0.4s,mb4.5,baz=253,slow=5.5,SNR=87
TORD pP pP 08 18 14.2 +0.1
comp=Z,20nm,0.9s,baz=254,slow=5.5,SNR=12
CHMT Chamberlain Mo 77.26 331 *e*P **P 08 17 48.0 +0.1**
BMO Blue Mountains 77.76 327 *e*P **P 08 17 51.2 +0.4**
comp=Z,34nm,1.5s,mb4.8
SYO Syowa Base 78.33 160⇑ *e*P **P 08 17 47.6 -6.3**
SYO Syowa Base 78.33 160⇓ *e*PcP PcP 08 18 13.7 +11
VNDA Vanda 78.75 190 P **P 08 17 56.4 +0.2**
comp=Z,3.8nm,1.0s,mb4.2,baz=99,slow=9.3,SNR=3.6
VNDA Vanda 78.75 190 P **P 08 17 56.4 +0.2**
FFC Flin Flon 79.18 341 *e*P **P 08 17 57.7 -0.8**
NEW Newport 80.05 330 *e*P **P 08 18 02.5 -0.7**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 80.05 330 *e*P **P 08 18 02.5 -0.7**
comp=Z,4.2nm,0.9s,mb4.3
GBL Gable Mountain 80.06 327 P **P 08 18 04.3 +1.0**
OD2 Odessa Site #2 80.22 328 P **P 08 18 04.7 +0.5**
FCC Fort Churchill 80.73 347 *e*P **P 08 18 06.3 -0.6**
FCC pmax pmax
comp=Z,11nm,1.1s,mb4.6
FCC Fort Churchill 80.73 347 *e*P **P 08 18 06.3 -0.6**
comp=Z,11nm,1.1s,mb4.6
EBG Ellensburg 80.83 327 P **P 08 18 08.8 +1.4**
WTV Waterville 81.05 328 P **P 08 18 09.3 +0.7**
ETW Entiat 81.17 328 P **P 08 18 10.3 +1.1**
NLW Nelson Butte 81.49 328 P **P 08 18 11.3 +0.4**
RMW Rattlesnake Mo 81.83 327 P **P 08 18 12.6 -0.1**
EDM Edmonton 81.99 335 *e*P **P 08 18 12.6 -0.9**
EDM *e**PP pP 08 18 41.0 -1.8
BOSA Boshof 84.40 118 P **P 08 18 25.4 -0.5**
comp=Z,1.5nm,0.5s,mb4.0,baz=210,slow=13,SNR=5.1
BOSA pP pP 08 18 55.7 +0.4
comp=Z,7.2nm,1.0s,baz=203,slow=4.9,SNR=4.8
BOSA LR LR 08 52 49.4
comp=Z,71nm,18.6s,baz=325,slow=33
BOSA Boshof 84.40 118 P **P 08 18 25.4 -0.5**
BOSA *PP pP 08 18 55.7 +0.4
ESDC Sonseca Array 84.48 45 P **P 08 18 26.9 +0.6**
comp=Z,0.8nm,0.4s,mb3.9,baz=224,slow=5.4,SNR=5.0
ESDC pP pP 08 18 54.9 -0.8
comp=Z,0.5nm,0.4s,baz=257,slow=5.9,SNR=2.0
YKA Yellowknife Ar 89.34 341 P **P 08 18 49.3 -0.5**
comp=Z,24nm,0.8s,mb5.3,baz=133,slow=4.6,SNR=392
YKA pP pP 08 19 17.8 -1.7
comp=Z,3.9nm,0.7s,baz=133,slow=4.8,SNR=3.3
YKA Yellowknife Ar 89.34 341 P **P 08 18 49.3 -0.5**
YKA pP pP 08 19 17.8 -1.7
ILAR Eielson Array 102.48 335 Pdiff Pdiff 08 19 48.5 -0.9
comp=Z,0.2nm,0.7s,baz=155,slow=4.3,SNR=5.2
SOC Sochi 116.61 50 *i* PKIKP PKPdf 08 24 36.6 -0.3
SOC *e* 08 25 42.0
SOC *e*SS SS 08 41 47.2 +4.7
SOC *e*SSS 08 46 07.9
STKA Stephens Creek 121.07 210 PKP PKPdf 08 24 43.8 -1.7
comp=Z,2.2nm,0.7s,baz=98,slow=4.3,SNR=4.4
TIXI Tiksi 126.86 353 *i* PKIKP PKPdf 08 24 55.3 -1.2
SEY Seymchan 128.30 337⇑ *i*PKIKP PKPdf 08 24 59.4 +0.1
ASAR Alice Springs 131.60 208 PKP PKPdf 08 25 05.8 +0.2
comp=Z,3.5nm,0.7s,baz=132,slow=1.7,SNR=26
ASAR SKPbc SKPbc 08 28 21.1 +0.5
comp=Z,0.9nm,0.9s,baz=103,slow=4.2,SNR=5.8
WRA Warramunga Arr 134.59 211 PKhKP 08 24 59.6
comp=Z,0.4nm,0.6s,baz=143,slow=1.4,SNR=9.5
WRA PKP PKPdf 08 25 11.8 +0.6
comp=Z,5.1nm,0.7s,baz=160,slow=1.7,SNR=34
WRA Warramunga Arr 134.59 211 PKIKP PKPdf 08 25 11.8 +0.6
WRAB Tennant Creek 134.60 212⇑ *i*PKIKP PKPdf 08 25 13.0 +1.8
WRAB Tennant Creek 134.60 212 *e*PKPdf PKPdf 08 25 11.6 +0.4
MBWA Marble Bar 138.66 192 *e*PKPdf PKPdf 08 25 18.3 -0.4
NVS Novosibirsk 138.93 24 *e*PKIKP PKPdf 08 25 18.5 -0.7
AAK Ala-Archa 141.59 45 *i* PKIKP PKPdf 08 25 25.0 +1.0
BOD Bodaibo 141.72 357 *e*PKHKP 08 25 16.7
BOD pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 144.07 34 PKP PKPdf 08 25 26.6 -1.8
comp=Z,2.2nm,0.6s,baz=330,slow=3.0,SNR=19
MKAR pPKP pPKPdf 08 25 59.0 -0.5
comp=Z,1.8nm,0.9s,baz=336,slow=2.7,SNR=2.6
KLR Kul'dur 146.05 335 *e*PKIKP PKPdf 08 25 28.8 -3.0
MOY Mondy 146.99 12 *e*PKP2 PKPab 08 25 35.6 -1.7
DDI Dehra Dun 148.33 64 *e*P PKPbc 08 25 41.9 +2.8
DDI *e*S 08 26 11.1
ZAK Zakamensk 148.62 10 *e*PKP2 PKPab 08 25 39.9 -3.9
ZAK pmax pmax
comp=Z,13nm,1.4s
ZAK pmax pmax
comp=Z,8.0nm,1.4s
WMQ Urumqi 148.90 34 *e*PKP PKPdf 08 25 35.1 -1.4
WMQ LR LR
comp=N,335nm,18.0s
WMQ LR LR
comp=E,299nm,20.0s
WMQ LR LR
comp=Z,367nm,22.0s
HYB Hyderabad 149.13 89 *i* PKP PKPdf 08 25 38.0 +1.1
HYB *e* 08 25 42.5
HYB *e*pPKP pPKPdf 08 26 12.0 +4.0
HIA Hailar 149.54 349 *i* PKP2 PKPab 08 25 42.2 -5.3
MDJ Mudanjiang 150.62 332 PKP PKPdf 08 25 38.0 -1.2
MJAR Matsushiro Arr 150.80 311 PKPbc PKPbc 08 25 45.3 +0.1
comp=Z,9.7nm,0.7s,baz=87,slow=1.5,SNR=28
MAJO Matsushiro 150.80 311 *e*PKIKP PKPbc 08 25 45.6 +0.4
MAT Matsushiro 150.80 311 PKP PKPdf 08 25 45.3 +5.8
SONM Songino Array 151.54 7 PKP PKPdf 08 25 41.6 +0.9
comp=Z,1.7nm,0.8s,baz=325,slow=1.6,SNR=16
SONM PKPbc PKPbc 08 25 47.6 +0.7
comp=Z,18nm,0.8s,baz=313,slow=1.5,SNR=91
SONM pPKPbc pPKPbc 08 26 17.8 0.0
comp=Z,3.5nm,0.7s,baz=319,slow=2.3,SNR=4.3
ULN Ulaanbaatar 151.57 6 *e*PKPdf PKPdf 08 25 41.6 +0.9
ULN *e*PKPbc PKPbc 08 25 47.5 +0.5
ULN *e*PKPab PKPab 08 25 57.2 +1.3
GTA Gaotai 157.96 24 PKP PKPdf 08 25 51.0 +1.5
GTA APKP 08 26 16.6
GTA XPKP 08 26 28.8
GTA PP PP 08 30 08.8 +5.7
GTA SKS SKSdf 08 32 40.5 -4.2
GTA SKKS SKKSac 08 36 43.4 +2.0
GTA PP PP
comp=Z,78nm,6.8s
GTA LR LR
comp=N,114nm,13.7s
GTA LR LR
comp=E,130nm,13.7s
GTA LR LR
comp=Z,116nm,15.2s
HHC Hu-ho-hao-te 158.77 359 *e*PKP PKPdf 08 25 50.8 +0.4
HHC APKP 08 26 17.8
HHC XPKP 08 26 28.1
HHC PKP2 PKPab 08 26 29.4 +2.7
HHC PKS 08 29 22.9
HHC PP PP 08 30 11.1 +3.6
HHC SKS SKSdf 08 32 44.8 -0.7
HHC SKKS SKKSac 08 36 47.9 +2.3
HHC LR LR
comp=N,111nm,4.9s
HHC LR LR
comp=E,149nm,3.9s
HHC LR LR
comp=Z,129nm,5.7s
LZH Lanzhou 162.35 20 *e*PKP PKPdf 08 25 54.6 +0.2
LZH APKP 08 26 22.6
LZH XPKP 08 26 33.1
LZH LR LR
comp=N,351nm,19.6s
LZH LR LR
comp=Z,572nm,20.2s
CD2 Chengdu 166.92 29 *e*PKP PKPdf 08 25 58.9 +0.6

IDC ***15*** *08:08:34.2±0.9, 2076S×17438W, h0km, mb4.4/9, mb1 4.6/11, mb1mx4.4/19, mbtmp4.4/11, ML3.8/2, MS4.0/9, Ms1 4.0/9, ms1mx3.7/27, Error ellipse: s-maj=35.5km s-min=17.5km az=140.0*
NEIC ***15*** *08:08:37.2±0.5, 2052S×17445W, h15km, mb5.0/5, Error ellipse: s-maj=20.1km s-min=9.7km az=140.0*
BJI ***15*** *08:08:37.2, 2050S×17440W, h15km, mB5.4, mb5.0*
HRVD ***15*** *08:08:37.2±0.7, 2087S×17360W, h29km±1km, MW4.9/41, Centroid moment Tensor Solution. LP body waves: s21,c25;Mantle waves: s41,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.14±.28; $M_{\theta\theta}$-1.44±.23; $M_{\phi\phi}$-1.70±.19; $M_{r\theta}$-0.15±.32; $M_{\theta\phi}$-0.95±.12; $M_{r\phi}$1.24±.26; Best double couple: $M_0$3.06200×10^{16} NP1:ϕ_s231.00000°, δ38.00000°, λ110.00000°. NP2: ϕ_s27.0000°, δ55.0000°, λ75.00000°. Principal axes: T 3.4680, Plg75.0000°, Azm253.0000°; N -0.8110, Plg12.0000°, Azm35.0000°; P -2.6560, Plg9.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***15*** *08:08:38.0±0.5, 208S±01×1745W±0.1, h33km, mb4.6/14, MS4.0/7 Error ellipse: s-maj=18.1km s-min=10.5km az=97.1*
SZGRF ***15*** *08:08:39.4, 2109S×17460W, h33km, Tonga Islands*
MOS ***15*** *08:08:49.6±1.4, 1788S×17648W, h33km, mb4.9/3, Error ellipse: s-maj=27.9km s-min=14.2km az=151.6*

ISC 15 08:08:39.8±0.5, 208S±01×1744W±01, h35km, n80, σ0.88/32, mb4.6/14, MS4.0/7, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.28**	**21**	Pn	**Pn**	**08 10 17.2**	**-6.4**
	14nm,0.3s,baz=258,slow=5.3,SNR=14						
AFI				Sn	**Sn**	**08 11 34.0**	**-11**
	9.5nm,0.3s,baz=252,slow=20,SNR=3.4						
AFI	**Afiamalu**	**7.28**	**21**	*e*P	**Pn**	**08 10 17.2**	**-6.5**
AFI				*e*		08 11 32.3	
AFI				pmax	pmax		
	comp=Z,46nm,0.3s						
AFI	**Afiamalu**	**7.28**	**21**	*e*Pn	**Pn**	**08 10 17.1**	**-6.5**
	comp=Z,46nm,0.3s						
AFI				*e*Sn	**Sn**	**08 11 32.3**	**-13**
RAR	**Rarotonga**	**13.69**	**94**	Pn	**Pn**	**08 11 38.1**	**-13**
	comp=Z,12nm,0.3s,baz=253,slow=7.9,SNR=25						
RAR				LR	LR	08 15 32.4	
	comp=Z,203nm,21.0s,baz=278,slow=31						
DZM	**Mont Dzumac**	**17.87**	**262**	P	**Pn**	**08 12 45.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=317,slow=19,SNR=2.2						
URZ	**Urewera**	**18.90**	**201**	P	**Pn**	**08 12 58.4**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=9.6,slow=4.2,SNR=5.7						
URZ				LR	LR	08 19 27.3	
	comp=Z,496nm,21.3s,baz=220,slow=34						
TBI	**Tubuai**	**23.26**	**101**	*e*LR	LR	08 18 53.8	
	comp=Z,668nm,28.2s						
PPT	**Papeete**	**23.67**	**86**	*e*LR	LR	08 18 57.7	
	comp=Z,705nm,26.2s,baz=253						
PPT	**Papeete**	**23.67**	**86**	LR	LR	08 20 50.2	
	comp=Z,242nm,18.5s,MS3.7,baz=266,slow=31						
RPZ	**Rata Peaks**	**25.89**	**205**	P	**P**	**08 14 07.4**	**-0.9**
	comp=Z,7.2nm,0.8s,mb4.2,baz=72,slow=3.2,SNR=3.2						
HNR	**Honiara**	**27.15**	**291**	LR	LR	08 23 24.4	
	comp=Z,264nm,20.0s,MS3.8,baz=185,slow=33						
TAOE	**Nuku Hiva Isla**	**35.10**	**75**	*e*LR	LR	08 24 11.1	
	comp=Z,944nm,29.3s						
RKT	**Rikitea**	**36.59**	**101**	*e*LR	LR	08 25 04.0	
	comp=Z,478nm,28.5s						
CTA	**Charters Tower**	**36.80**	**264**	P	**P**	**08 15 45.7**	**+1.5**
	comp=Z,2.8nm,0.5s,mb4.4,baz=96,slow=12,SNR=5.7						
CTA	**Charters Tower**	**36.80**	**264**	P	**P**	**08 15 45.7**	**+1.5**
CTAO	**Charters Tower**	**36.80**	**264**	*e*P	**P**	**08 15 44.4**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
CTAO	**Charters Tower**	**36.80**	**264**	*e*P	**P**	**08 15 44.4**	**+0.1**
	comp=Z,9.5nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**40.70**	**245**	P	**P**	**08 16 15.0**	**-1.9**
	comp=Z,2.1nm,0.5s,mb4.0,baz=88,slow=7.8,SNR=5.5						
STKA				LR	LR	08 31 54.2	
	comp=Z,226nm,19.2s,MS4.0,baz=31,slow=34						
STKA	**Stephens Creek**	**40.70**	**245**	P	**P**	**08 16 15.0**	**-1.9**
STKA				*e*P		08 16 18.7	
STKA				LR	LR	08 31 54.2	
ASAR	**Alice Springs**	**47.72**	**256**	P	**P**	**08 17 13.3**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.5,baz=93,slow=8.0,SNR=32						
WB2	**Warramunga Arr**	**47.87**	**262**	*e*P	**P**	**08 17 14.3**	**0.0**
WRAB	**Tennant Creek**	**47.87**	**262**	*e*P	**P**	**08 17 14.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**47.87**	**262**	*e*P	**P**	**08 17 14.3**	**0.0**
	comp=Z,6.8nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**47.88**	**262**	P	**P**	**08 17 14.0**	**-0.4**
	comp=Z,2.5nm,0.5s,mb4.5,baz=96,slow=7.6,SNR=49						
VNDA	**Vanda**	**57.95**	**186**	LR	LR	08 41 42.3	
	comp=Z,155nm,18.1s,MS4.2,baz=100,slow=34						
CBIJ	**Chichi jima**	**63.49**	**317**	LR	LR	08 43 50.7	
	comp=Z,113nm,19.1s,MS4.1,baz=44,slow=33						
QSPA	**South Pole Qui**	**69.29**	**180**	*e*P	**P**	**08 19 44.8**	**+1.4**
	comp=Z,15nm,1.1s,mb4.8						
MJAR	**Matsushiro Arr**	**72.47**	**322**	P	**P**	**08 20 02.3**	**-0.4**
	comp=Z,3.8nm,0.7s,mb4.4,baz=157,slow=5.1,SNR=7.8						
NVAR	**Mina Array Bea**	**78.96**	**42**	P	**P**	**08 20 40.0**	**+0.2**
	comp=Z,3.6nm,0.9s,mb4.3,baz=217,slow=6.1,SNR=12						
BMO	**Blue Mountains**	**83.48**	**37**	*e*P	**P**	**08 21 03.4**	**-0.4**
HLID	**Hailey**	**84.38**	**39**	*e*P	**P**	**08 21 08.2**	**-0.2**
CN2	**Changchun**	**84.60**	**321**	*e*P	**P**	**08 21 11.8**	**+2.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
MCMT	**McKenzie Canyo**	**86.03**	**39**	P	**P**	**08 21 17.3**	**+0.6**
PLCA	**Paso Flores**	**86.63**	**132**	LR	LR	08 54 17.3	
	comp=Z,127nm,18.4s,MS4.3,baz=174,slow=32						
PDAR	**Pinedale Array**	**86.89**	**42**	P	**P**	**08 21 20.1**	**-0.8**
	comp=Z,1.2nm,1.0s,mb4.1,baz=201,slow=2.5,SNR=4.5						
COLA	**College**	**87.80**	**11**	*e*P	**P**	**08 21 24.7**	**-0.6**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
COLA	**College**	**87.80**	**11**	*e*P	**P**	**08 21 24.7**	**-0.6**
	comp=Z,7.1nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**87.88**	**11**	P	**P**	**08 21 24.9**	**-0.8**
	comp=Z,3.7nm,1.2s,mb4.5,baz=207,slow=4.8,SNR=12						
ENH	**Enshi**	**88.99**	**303**	*e*P	**P**	**08 21 32.2**	**+1.3**
	comp=Z,44nm,1.6s,mb5.5						
LPAZ	**La Paz**	**98.84**	**111**	LR	LR	09 00 55.8	
	comp=Z,51nm,18.2s,MS4.1,baz=323,slow=32						
ARCES	**ARCESS Array B**	**129.76**	**351**	PKP	PKPdf	08 27 48.6	+3.4
	comp=Z,4.7nm,0.9s,baz=8.1,slow=1.9,SNR=5.5						
AKASG	**Malin Array Be**	**144.82**	**334**	PKP	PKPdf	08 28 11.6	-1.4
	comp=Z,1.5nm,0.4s,baz=39,slow=4.2,SNR=13						
AKASG	**Malin Array Be**	**144.82**	**334**	PKP	PKPdf	08 28 11.6	-1.4
BSEG	**Bad Segeberg**	**146.70**	**355**	*e*PKPbc	PKPbc	08 28 18.4	+0.5
MALT	**Malatya**	**146.74**	**309**	*e*PKIKP	PKPdf	08 28 20.5	+4.3
MALT				*e*		08 28 25.2	
LVV	**L'vov**	**147.53**	**338**	*e*PKHKP		08 28 19.2	
RUE	**Ruedersdorf**	**147.72**	**351**	*e*PKPbc	PKPbc	08 28 21.3	+0.6
IBBN	**Ibbenburen**	**148.49**	**357**	*e*PKPbc	PKPbc	08 28 23.0	+0.3
CLZ	**Clausthal**	**148.77**	**354**	*e*PKPbc	PKPbc	08 28 24.1	+0.6
STHS	**Stebnicka Huta**	**148.82**	**340**	*e*PKP	PKPdf	08 28 24.8	+5.1
KSP	**Ksiaz**	**148.83**	**347**	*e*PKIKP	PKPdf	08 28 24.5	+4.8
CLL	**Collm**	**148.98**	**351**	*e*PKPbc	PKPbc	08 28 24.2	+0.2
CLL	**Collm**	**148.98**	**351⇑**	*i*P	PKPdf	08 28 23.8	+3.9
	comp=Z,15nm,1.0s						
CLL	**Collm**	**148.98**	**351⇑**	*i*PKIKP	PKPdf	08 28 23.8	+3.9
CLL				pmax	pmax		
	comp=Z,15nm,1.0s						
UPC	**Upice**	**149.21**	**347**	*e*P	PKPdf	08 28 25.7	+5.4
BRG	**Berggiesshubel**	**149.25**	**350**	*e*PKPdf	PKPdf	08 28 22.2	+1.8
BRG				*e*PKPbc	PKPbc	08 28 25.5	+0.8
BRG	**Berggiesshubel**	**149.25**	**350**	*e*P	PKPdf	08 28 22.6	+2.3
	comp=Z,3.1nm,1.6s						
BRG				*e*		08 28 25.7	
	comp=Z,21nm,1.8s						
DPC	**Dobruska-Polom**	**149.29**	**346**	*e*P	PKPdf	08 28 25.7	+5.3
OKC	**Ostrava-Krasne**	**149.33**	**344**	*e*P	PKPdf	08 28 25.6	+5.1
OKC				*e*P		08 28 25.9	
BUG	**Bochum--Univer**	**149.37**	**358**	*e*PKPbc	PKPbc	08 28 25.6	+0.6
BR131	**Keskin Array S**	**149.47**	**314**	*e*PKPdf	PKPdf	08 28 26.4	+5.6
BRTR	**Keskin Array B**	**149.47**	**314**	PKPbc	PKPbc	08 28 26.5	+1.3
	comp=Z,3.2nm,0.9s,baz=141,slow=4.5,SNR=9.1						
MOX	**Moxa**	**149.82**	**352**	*e*PKPbc	PKPbc	08 28 26.7	+0.6
MOX	**Moxa**	**149.82**	**352**	*e*PKP	PKPdf	08 28 26.5	+5.2
	comp=Z,22nm,1.6s						
MOX	**Moxa**	**149.82**	**352**	*e*PKIKP	PKPdf	08 28 26.5	+5.2
MOX				pmax	pmax		
	comp=Z,22nm,1.6s						
KECS	**Kecovo**	**149.88**	**340**	*e*PKP	PKPdf	08 28 27.7	+6.3
KECS				*e*		08 28 36.0	
WERD	**Werda**	**149.92**	**351

comp=Z,2.2nm,0.8s,baz=45,slow=2.1,SNR=15
EIL Elat 152.06 294 *e*PKPbc PKPbc 08 28 33.4 +2.1
EIL *e*PKPab PKPab 08 28 40.3 -0.5
BFO Black Forest 152.42 356 *e*PKPbc PKPbc 08 28 32.7 +0.6

NEIC ***15*** *08:16:05.7, 1932N×6877W, h133km, MD3.8(RSPR), After RSPR.*
RSPR 15 08:16:05.7, 1932N×6877W, h133km±5km, MD3.8/5, MD3.8/5,7C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.96**	**125**	*e*S	Sn	08 17 05.4	+0.4
LSP	**Las Mesas**	**1.96**	**125**	*e*P	Pn	08 16 39.3	0.0
LSP				*e*S	Sn	08 17 05.4	+0.4
CRPR	**Cabo Rojo, PR**	**2.04**	**129**	*e*S	Sn	08 17 07.4	+0.4
CRPR	**Cabo Rojo, PR**	**2.04**	**129**	*e*P	Pn	08 16 40.1	-0.2
CRPR				*e*S	Sn	08 17 07.4	+0.4
AOPR	**Arecibo Observ**	**2.14**	**116**	*e*S	Sn	08 17 09.3	+0.2
AOPR	**Arecibo Observ**	**2.14**	**116**	*e*P	Pn	08 16 41.6	+0.1
AOPR				*e*S	Sn	08 17 09.3	+0.2
CELP	**Cerrillos**	**2.42**	**120**	*e*P	Pn	08 16 45.5	+0.5
CELP				*e*S	Sn	08 17 15.4	+0.2
CBYP	**Canovanas**	**2.95**	**110**	*e*S	Sn	08 17 28.1	+0.8
CBYP	**Canovanas**	**2.95**	**110**	*e*P	Pn	08 16 51.9	+0.2
CBYP				*e*S	Sn	08 17 28.1	+0.8
CPD	**Cerro la Pandu**	**2.99**	**115**	*e*S	Sn	08 17 29.1	+0.9
HUMP	**Col San Antoni**	**3.00**	**112**	*e*S	Sn	08 17 29.1	+0.5
HUMP	**Col San Antoni**	**3.00**	**112**	*e*P	Pn	08 16 52.5	0.0
HUMP				*e*S	Sn	08 17 29.1	+0.5
MTP	**Monte Pirata**	**3.28**	**111**	*e*S	Sn	08 17 36.0	+1.1
MTP	**Monte Pirata**	**3.28**	**111**	*e*P	Pn	08 16 56.3	+0.3
MTP				*e*S	Sn	08 17 36.0	+1.1

BJI ***15*** *08:29:57.4, 4195×12790E, h65km, mB5.0, mb4.9, Msz4.6*
MOS ***15*** *08:29:59.2±1.1, 3575×12732E, h33km, mb4.8/4, Error ellipse: s-maj=32.2km s-min=10.6km az=108.2*
IDC ***15*** *08:30:01.4±2.7, 3505×12741E, h37km±20km, mb4.2/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.4/10, ML4.0/1, MS3.8/3, Ms1 3.8/3, ms1mx3.2/28, Error ellipse: s-maj=37.6km s-min=11.0km az=70.0*
ISCJB ***15*** *08:30:02.2±2.1, 3655±008×1274E±0.1, h61km±21km, mb4.6/21, Error ellipse: s-maj=18.7km s-min=9.7km az=118.5*
NEIC ***15*** *08:30:04.8±2.2, 3645×12735E, h75km±22km, mb4.5/5, Error ellipse: s-maj=21.2km s-min=11.8km az=64.0*
ISC 15 08:30:04.1±1.8, 3625±008×1274E±01, h58km±19km, n46, σ1§06/46, mb4.6/21, MS4.0/5, 2C-3D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.31**	**151**	*e*P	**Pn**	**08 32 29.6**	**+0.3**
	26nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.50**	**187**	*e*P	**Pn**	**08 33 27.1**	**+1.1**
	12nm,0.7s						
WRAB	**Tennant Creek**	**17.57**	**158**	*d i*P	**Pn**	**08 34 04.3**	**-0.6**
WRAB	**Tennant Creek**	**17.57**	**158**	*e*P	**Pn**	**08 34 04.2**	**-0.7**
	31nm,0.9s						
WRA	**Warramunga Arr**	**17.58**	**158**	P	**Pn**	**08 34 03.3**	**-1.7**
	0.5nm,0.3s,baz=339,slow=10,SNR=24						
WRA				ScP	ScP	08 42 14.4	+2.5
	0.0nm,0.3s,baz=326,slow=2.4,SNR=5.2						
WB2	**Warramunga Arr**	**17.58**	**158**	*e*P	**Pn**	**08 34 05.6**	**+0.6**
KSM	**Kuching**	**17.83**	**286**	*e*P	**Pn**	**08 34 06.6**	**-1.4**
MBWA	**Marble Bar**	**18.97**	**203**	P	**Pn**	**08 34 18.1**	**-3.7**
	22nm,1.3s						
ASAR	**Alice Springs**	**20.90**	**163**	P	**P**	**08 34 43.1**	**+1.6**
	51nm,0.9s,baz=345,slow=11,SNR=270						
ASAR				S	**S**	**08 38 35.9**	**+4.6**
	9.3nm,1.1s,baz=344,slow=21,SNR=16						
ASAR				ScP	ScP	08 42 21.1	+1.8
	0.5nm,0.6s,baz=346,slow=2.1,SNR=6.5						
ASAR	**Alice Springs**	**20.90**	**163**	P	**P**	**08 34 43.1**	**+1.6**
ASAR				S	**S**	**08 38 35.9**	**+4.6**
CTA	**Charters Tower**	**24.61**	**133**	LR	LR	08 46 11.7	
	comp=Z,167nm,18.7s,MS3.6,baz=152,slow=39						
FORT	**Forrest**	**27.03**	**179**	*e*P	**P**	**08 35 41.8**	**+1.1**
	17nm,0.8s,mb4.6						
PSI	**Prapat**	**29.18**	**282**	P	**P**	**08 35 59.6**	**-0.3**
	10nm,0.8s,mb4.6,baz=188,slow=1.3,SNR=12						
STKA	**Stephens Creek**	**31.11**	**156**	P	**P**	**08 36 16.3**	**-0.6**
	0.8nm,0.4s,mb3.9,baz=346,slow=15,SNR=3.7						
SSE	**Sheshan**	**35.02**	**351**	P	**P**	**08 36 52.5**	**+1.5**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,88nm,7.4s						
NJ2	**Nanjing**	**36.39**	**348**	*e*P	**P**	**08 37 02.6**	**-0.1**
NJ2				PP	PP	08 38 26.6	+0.2
NJ2				S	**S**	**08 42 41.0**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,210nm,8.1s						
NJ2				LR	LR		
	comp=Z,1μm,28.9s,MS4.5						
MJAR	**Matsushiro Arr**	**41.20**	**13**	P	**P**	**08 37 42.3**	**-0.7**
	comp=Z,1.3nm,0.5s,mb3.8,baz=188,slow=11,SNR=4.3						
MJAR				LR	LR	08 54 04.9	
	comp=Z,130nm,18.4s,MS3.8,baz=150,slow=35						
ASAJ	**Asahikawa**	**49.43**	**14**	LR	LR	08 56 14.2	
	comp=Z,103nm,20.1s,MS3.8,baz=34,slow=32						
GTA	**Gaotai**	**49.79**	**332**	*e*P	**P**	**08 38 52.6**	**+1.7**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.3						
JIRN	**Jiri**	**50.44**	**311**	*e*P	**P**	**08 38 56.4**	**+0.6**
GUN	**Gumba**	**50.80**	**311**	*e*P	**P**	**08 38 58.6**	**+0.1**
PKI	**Pulchoki**	**50.98**	**310**	*e*P	**P**	**08 39 01.0**	**+1.1**
KKN	**Kakani**	**51.19**	**310**	*e*P	**P**	**08 39 02.0**	**+0.5**
DMN	**Daman**	**51.23**	**310**	*e*P	**P**	**08 39 02.4**	**+0.6**
GKN	**Gorkha**	**51.79**	**310**	*e*P	**P**	**08 39 06.3**	**+0.4**
	comp=Z,11nm,0.4s,mb5.1						
KOLN	**Koldanda**	**52.47**	**309**	*e*P	**P**	**08 39 11.0**	**0.0**
	comp=Z,16nm,0.7s,mb5.1						
ULN	**Ulaanbaatar**	**54.28**	**343**	*i* P	**P**	**08 39 24.7**	**+0.4**
ULN	**Ulaanbaatar**	**54.28**	**343**	*e*P	**P**	**08 39 24.3**	**+0.1**
	comp=Z,14nm,0.6s,mb4.1						
SONM	**Songino Array**	**54.45**	**343**	P	**P**	**08 39 25.6**	**+0.1**
	comp=Z,1.9nm,1.0s,mb4.0,baz=147,slow=10,SNR=4.9						
BOD	**Bodaibo**	**62.18**	**352**	*e*P	**P**	**08 40 17.4**	**-2.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**64.00**	**327**	P	**P**	**08 40 30.8**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.3,baz=130,slow=7.1,SNR=22						
MKAR	**Makanchi Array**	**64.00**	**327**	*i* P	**P**	**08 40 31.1**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**64.00**	**327**	P	**P**	**08 40 30.8**	**-0.7**
YAK	**Yakutsk**	**65.48**	**1**	*i* P	**P**	**08 40 41.5**	**+0.4**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
KRAR	**Krasnoyarsk**	**65.80**	**340**	*i* P	**P**	**08 40 42.7**	**-0.4**
ZAL	**Zalesovo**	**67.43**	**334**	P	**P**	**08 40 51.6**	**-1.9**
	comp=Z,1.1nm,0.4s,mb4.3,baz=13,slow=8.7,SNR=4.2						
KURK	**Kurchatov**	**68.31**	**329**	*c i*P	**P**	**08 40 58.0**	**-1.0**
SEY	**Seymchan**	**69.01**	**12**	*e*P	**P**	**08 41 04.4**	**+1.0**
TIXI	**Tiksi**	**75.13**	**0**	*e*P	**P**	**08 41 40.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
VNDA	**Vanda**	**76.10**	**173**	P	**P**	**08 41 45.0**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=323,slow=12,SNR=4.6						
VNDA	**Vanda**	**76.10**	**173**	P	**P**	**08 41 45.0**	**-0.6**
ARU	**Arti**	**81.49**	**328**	*i* P	**P**	**08 42 16.0**	**+0.9**
ARU				*e*		08 45 23.6	
ARU				*e*S	S	08 52 28.2	+6.0
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**86.34**	**180**	*e*P	**P**	**08 42 36.0**	**-3.8**
	comp=Z,15nm,1.4s,mb5.0						
SOC	**Sochi**	**90.79**	**313**	*e*P	**P**	**08 42 57.2**	**-3.7**
SOC				*e*S		08 53 25.3	
SOC				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.5						
ARCES	**ARCESS Array B**	**97.53**	**340**	P	**P**	**08 43 29.3**	**-2.5**
	comp=Z,4.3nm,1.0s,mb4.9,baz=84,slow=8.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**125.57**	**284**	PKP	PKPdf	08 48 59.2	+0.5
	comp=Z,0.7nm,0.7s,baz=44,slow=1.1,SNR=4.6						

IDC ***15*** *08:40:58.9±0.7, 1059N×9426E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/23, mbtmp4.1/14, ML3.6/1, MS3.8/6, Ms1 3.8/6, ms1mx3.6/23, Error ellipse: s-maj=35.3km s-min=14.8km az=55.0*
BJI ***15*** *08:40:59.4, 1066N×9441E, h5km, mB4.9, mb4.4, Ms4.5, Msz4.1*
ISCJB ***15*** *08:41:00.0±1.6, 1063N±005×9434E±004, h18km±11km, mb4.4/40, MS4.0/13, Error ellipse: s-maj=9.9km s-min=5.8km az=67.1*
NEIC ***15*** *08:41:00.5±0.4, 1061N×9429E, h10km, mb4.5/7, Error ellipse: s-maj=15.6km s-min=6.1km az=53.0*
MOS ***15*** *08:41:02.0±0.8, 1067N×9438E, h33km, mb4.7/14, Error ellipse: s-maj=18.8km s-min=8.6km az=105.1*
ISC 15 08:41:04.0±1.5, 1068N±005×9434E±004, h30km±11km, h33km±3.3km: pP-P, n86, σ1§04/86, mb4.4/40, MS4.0/13, 2C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.84**	**302**	*e*x	x	08 41 47.4	
PBA				*e*S	**Sn**	**08 41 55.6**	**-0.2**
NNT	**Nongplab**	**5.62**	**70**	P	**Pn**	**08 42 24.5**	**-1.0**
SNG	**Songkhla**	**7.11**	**119**	P	**Pn**	**08 42 47.0**	**+1.0**
NST	**Nakhon Sawan**	**7.52**	**48**	P	**Pn**	**08 42 51.4**	**-0.1**
	107nm,0.8s						
BDT	**Bhumibol Dam**	**7.95**	**34**	P	**Pn**	**08 42 58.5**	**+1.1**
	17nm,0.5s						
KULM	**Kulim**	**8.23**	**130**	*e*Pn	**Pn**	**08 42 59.4**	**-1.8**
PSI	**Prapat**	**9.05**	**149**	Pn	**Pn**	**08 43 13.5**	**+0.9**
	0.6nm,0.3s,baz=329,slow=16,SNR=2.4						
PSI	**Prapat**	**9.05**	**149**	Pn	**Pn**	**08 43 13.5**	**+0.9**
VIS	**Vishakhapatnam**	**12.76**	**305**	*e*P	**Pn**	**08 44 02.4**	**-1.0**
VIS				AMb	AMB	08 44 11.3	
	comp=Z,39nm,1.2s						
VIS				*i* S	**Sn**	**08 46 10.0**	**-14**
BOK	**Bokaro**	**15.33**	**329**	*e*P	**Pn**	**08 44 40.2**	**+2.0**
BOK				AMb	AMB	08 44 55.3	
	comp=Z,24nm,1.7s						
JIRN	**Jiri**	**18.55**	**337**	*e*P	**Pn**	**08 45 18.3**	**-0.3**
	comp=Z,294nm,1.7s						
PKI	**Pulchoki**	**18.79**	**335**	*e*P	**Pn**	**08 45 21.0**	**-0.5**
	comp=Z,196nm,1.4s						
GUN	**Gumba**	**18.90**	**336**	*e*P	**Pn**	**08 45 22.8**	**0.0**
	comp=Z,106nm,1.1s						
DMN	**Daman**	**18.95**	**334**	*e*P	**Pn**	**08 45 22.8**	**-0.6**
	comp=Z,76nm,1.0s						
KKN	**Kakani**	**19.04**	**335**	*e*P	**Pn**	**08 45 24.5**	**+0.1**
LSA	**Lhasa**	**19.16**	**352**	P	**Pn**	**08 45 23.0**	**-2.9**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GKN	**Gorkha**	**19.50**	**333**	*e*P	**Pn**	**08 45 29.1**	**-0.9**
	comp=Z,115nm,1.2s						
KOLN	**Koldanda**	**19.77**	**331**	*e*P	**Pn**	**08 45 32.4**	**-0.9**
	comp=Z,57nm,0.9s						
BHPL	**Bhopal**	**20.41**	**310**	*e*P	**P**	**08 45 40.9**	**+2.3**
BHPL				AMb	AMB	08 45 50.6	
	comp=Z,27nm,1.4s						
KAD	**Karad**	**20.63**	**291**	*e*P	**P**	**08 45 42.5**	**+1.7**
KAD				AMb	AMB	08 45 51.2	
	comp=Z,24nm,1.0s						
POO	**Poona**	**21.29**	**294**	*e*P	**P**	**08 45 49.0**	**+1.0**
CD2	**Chengdu**	**21.95**	**22**	*e*P	**P**	**08 45 55.3**	**+0.2**
CD2				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.6						
KKM	**Kota Kinabalu**	**22.12**	**100**	P	**P**	**08 45 57.3**	**+0.4**
NDI	**New Delhi**	**24.04**	**321**	*e*P	**P**	**08 46 15.5**	**-0.8**
NDI				*e*S	**S**	**08 50 30.0**	**-1.6**
NDI	**New Delhi**	**24.04**	**321**	*e*x	x	08 46 15.0	
NDI				*e*S	**S**	**08 50 40.0**	**+8.4**
ENH	**Enshi**	**24.06**	**34**	*e*P	**P**	**08 46 17.2**	**+0.6**
	comp=Z,36nm,1.0s,mb4.8						
ENH				*e*pP		08 46 23.7	
AJM	**Ajmer**	**24.35**	**313**	*e*P	**P**	**08 46 22.9**	**+3.7**
AJM				AMb	AMB	08 46 33.0	
	comp=Z,28nm,1.4s,mb4.5						
DDI	**Dehra Dun**	**24.73**	**325**	*e*P	**P**	**08 46 24.1**	**+1.5**
LZH	**Lanzhou**	**26.73**	**17**	*e*P	**P**	**08 46 41.5**	**+0.8**
LZH				AP	pP	08 46 51.1	+1.6
LZH				XP	sP	08 46 55.1	+1.9
LZH				PP		08 47 28.9	
LZH				*e*S	**S**	**08 51 16.8**	**+2.5**
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,128nm,4.2s						
LZH				LR	LR		
	comp=N,563nm,13.9s						
LZH				LR	LR		
	comp=Z,1μm,14.8s,MS4.6						
XAN	**Xi'an**	**26.82**	**28**	P	**P**	**08 46 47.1**	**+5.6**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.2						
XAN				LR	LR		
	comp=N,257nm,9.8s						
XAN				LR	LR		
	comp=Z,260nm,9.8s						
GTA	**Gaotai**	**29.03**	**9**	*e*P	**P**	**08 47 02.4**	**+1.1**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb3.8						
GTA				AMB	AMB		
	comp=Z,158nm,4.9s						
GTA				LR	LR		
	comp=N,114nm,13.7s,MS3.9						
GTA				LR	LR		
	comp=E,148nm,12.5s,MS3.9						
GTA				LR	LR		
	comp=Z,130nm,15.2s,MS3.7						
NJ2	**Nanjing**	**31.06**	**43**	*e*P	**P**	**08 47 20.6**	**+1.3**
NJ2				AP	pP	08 47 30.1	+2.0
NJ2				PP	PP	08 48 24.8	-4.8
NJ2				S	**S**	**08 52 23.0**	**+0.5**
NJ2				XS	sS	08 52 39.0	+1.9
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,200nm,3.9s						
NJ2				LR	LR		
	comp=N,180nm,21.2s,MS4.7						
NJ2				LR	LR		
	comp=E,2μm,22.1s,MS4.7						
NJ2				LR	LR		
	comp=Z,1μm,18.9s,MS4.6						
SSE	**Sheshan**	**32.13**	**47**	P	**P**	**08 47 30.3**	**+1.7**
SSE				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
SSE				AMB	AMB		
	comp=Z,28nm,5.7s						
WMQ	**Urumqi**	**33.52**	**351**	P	**P**	**08 47 41.5**	**+0.7**
WMQ				AP	pP	08 47 51.5	+1.8
WMQ				XP	sP	08 47 55.5	+2.1
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,64nm,4.2s						
WMQ				LR	LR		
	comp=N,125nm,22.6s,MS3.8						
WMQ				LR	LR		
	comp=E,168nm,24.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,144nm,24.0s,MS3.6						
HHC	**Hu-ho-hao-te**	**33.68**	**24**	*e*P	**P**	**08 47 42.6**	**+0.4**
HHC				AP	pP	08 47 52.5	+1.4
HHC				XP	sP	08 47 56.0	+1.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,103nm,3.9s						
HHC				LR	LR		
	comp=N,248nm,10.0s						
HHC				LR	LR		
	comp=E,269nm,5.3s						
HHC				LR	LR		
	comp=Z,220nm,11.3s,MS4.1						
MK31	**Makanchi Array**	**37.42**	**346**	*i* P	**P**	**08 48 13.9**	**-0.4**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**37.42**	**346**	P	**P**	**08 48 14.1**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.1,baz=164,slow=8.1,SNR=26						
MKAR	**Makanchi Array**	**37.42**	**346**	*i* P	**P**	**08 48 13.9**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**38.41**	**13**	P	**P**	**08 48 23.1**	**+0.5**
	comp=Z,4.2nm,1.2s,mb4.1,baz=196,slow=4.8,SNR=15						
SONM				LR	LR	09 06 23.3	
	comp=Z,110nm,19.3s,MS3.7,baz=195,slow=40						
ULN	**Ulaanbaatar**	**38.58**	**14**	*e*P	**P**	**08 48 24.7**	**+0.6**
ULN				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.5						
ULN	**Ulaanbaatar**	**38.58**	**14**	*e*P	**P**	**08 48 24.7**	**+0.6**
	comp=Z,16nm,1.6s,mb4.5						
ZAK	**Zakamensk**	**40.27**	**9**	*e*P	**P**	**08 48 35.9**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
KURK	**Kurchatov**	**41.96**	**345**	*e*P	**P**	**08 48 51.9**	**-0.2**
KURK				*e*PP	pP	08 48 58.4	-2.8
KURK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.0						
KURK	**Kurchatov**	**41.96**	**345**	*e*P	**P**	**08 48 51.9**	**-0.2**
	comp=Z,6.4nm,1.4s,mb4.1						
KURK				*e*pP	pP	08 48 58.4	-2.8
CN2	**Changchun**	**42.59**	**34**	*e*P	**P**	**08 48 57.8**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NVS	**Novosibirsk**	**44.92**	**351**	*e*P	**P**	**08 49 15.2**	**-0.8**
BVA0	**Borovoye Array**	**46.42**	**340**	*i* P	**P**	**08 49 27.1**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BVAR	**Borovoye Array**	**46.42**	**340**	P	**P**	**08 49 27.3**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=141,slow=9.6,SNR=5.8						
BVAR				PcP	PcP	08 51 03.1	+0.9
	comp=Z,0.8nm,0.6s,baz=184,slow=4.3,SNR=2.2						
BRVK	**Borovoye**	**46.49**	**340**	*e*P	**P**	**08 49 27.6**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**46.49**	**340**	*e*P	**P**	**08 49 27.6**	**-0.7**
	comp=Z,2.8nm,0.9s,mb4.2						
MJAR	**Matsushiro Arr**	**47.18**	**50**	PcP	PcP	08 51 05.6	+0.6
	comp=Z,3.1nm,0.9s,baz=234,slow=3.7,SNR=6.1						
NWAO	**Narrogin (SRO)**	**48.55**	**154**	LR	LR	09 10 47.5	
	comp=Z,133nm,18.6s,MS4.0,baz=75,slow=37						
BOD	**Bodaibo**	**49.40**	**14**	*e*P	**P**	**08 49 50.5**	**-0.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
WRA	**Warramunga Arr**	**49.77**	**128**	P	**P**	**08 49 53.5**	**-0.2**
	comp=Z,4.0nm,0.6s,mb4.6,baz=304,slow=9.2,SNR=52						
WRA	**Warramunga Arr**	**49.77**	**128**	*i* P	**P**	**08 49 54.2**	**+0.6**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WB2	**Warramunga Arr**	**49.77**	**128**	*e*P	**P**	**08 49 53.8**	**+0.1**
ATD	**Arta Tunnel**	**50.48**	**276**	LR	LR	09 08 03.1	
	comp=Z,55nm,19.0s,MS3.6,baz=74,slow=32						
HABR	**Khabarovsk**	**50.72**	**34**	*e*P	**P**	**08 49 59.1**	**-1.7**
ASAR	**Alice Springs**	**51.59**	**132**	P	**P**	**08 50 07.7**	**+0.2**
	comp=Z,5.7nm,0.9s,mb4.5,baz=306,slow=6.4,SNR=8.0						
GNI	**Garni**	**52.66**	**313**	P	**P**	**08 50 15.6**	**+0.2**
	comp=Z,2.2nm,0.3s,mb4.5,baz=76,slow=4.2,SNR=5.5						
GNI				LR	LR	09 16 00.6	
	comp=Z,74nm,18.0s,MS3.8,baz=205,slow=40						
ARU	**Arti**	**53.41**	**336**	*i*,*i* P	**P**	**08 50 26.6**	**+5.7**
ARU				*e*		08 52 26.1	
ARU				*e*S	**S**	**08 58 04.0**	**+13**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
ARU				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,100nm,21.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,200nm,19.0s,MS4.2						
GOF	**Gofitskoye**	**55.57**	**318**	*e*P	**P**	**08 50 28.0**	**-8.6**
MALT	**Malatya**	**56.84**	**309**	*e*P	**P**	**08 50 46.7**	**+1.1**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
MALT	**Malatya**	**56.84**	**309**	*e*P	**P**	**08 50 46.7**	**+1.1**
	comp=Z,3.6nm,0.8s,mb4.5						
YAK	**Yakutsk**	**57.30**	**19**	*c i*P	**P**	**08 50 48.3**	**-0.6**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
SOC	**Sochi**	**57.32**	**315**	*e*P	**P**	**08 50 44.3**	**-4.7**
SOC				*e*PP	pP	08 51 00.5	+2.2
SOC				*e*PPP		08 54 24.5	
SOC				*e*S	**S**	**08 58 36.3**	**-7.0**
SOC				*e*		09 00 32.4	
SOC				*e*SS	SS	09 02 35.0	+2.2
SOC				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SOC				MLR	MLR		
	comp=Z,142nm,16.0s,MS4.2						
BRTR	**Keskin Array B**	**60.78**	**310**	P	**P**	**08 51 12.0**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=121,slow=6.3,SNR=6.2						
STKA	**Stephens Creek**	**61.91**	**135**	P	**P**	**08 51 18.8**	**-1.9**
	comp=Z,1.1nm,0.6s,mb4.2,baz=300,slow=12,SNR=3.1						
STKA				LR	LR	09 17 15.9	
	comp=Z,182nm,21.4s,MS4.2,baz=256,slow=35						
STKA	**Stephens Creek**	**61.91**	**135**	P	**P**	**08 51 18.8**	**-1.9**
STKA				P		08 51 19.4	
STKA				LR	LR	09 17 15.9	
MA2	**Magadan**	**64.21**	**28**	*i* P	**P**	**08 51 36.3**	**+0.4**
MA2				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.7						
TIXI	**Tiksi**	**64.47**	**11**	*e*P	**P**	**08 51 36.3**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6						
SEY	**Seymchan**	**66.32**	**25**	*e*P	**P**	**08 51 55.5**	**+5.9**
SEY				*e*		09 01 13.2	
SEY				*e*		09 04 48.6	
FINES	**FINESS Array B**	**70.34**	**332**	P	**P**	**08 52 15.7**	**+0.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=56,slow=5.2,SNR=2.8						
ARCES	**ARCESS Array B**	**72.71**	**340**	P	**P**	**08 52 28.7**	**-0.3**
	comp=Z,6.9nm,1.0s,mb4.5,baz=92,slow=6.3,SNR=3.2						
BILL	**Bilibino**	**73.43**	**22**	*e*P	**P**	**08 52 31.3**	**-2.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
GERES	**GERESS

comp=Z,440nm,21.2s,baz=174,slow=35
RAO Raoul Island 18.39 134 LR LR 09 06 15.7
comp=Z,765nm,20.1s,baz=332,slow=31
CTA Charters Tower 20.04 258 *eP* **P** **09 01 20.3 +3.0**
6.1nm,0.9s
CTA Charters Tower 20.04 258 P **P** **09 01 20.1 +2.8**
7.3nm,1.0s,baz=80,slow=11,SNR=4.1
CTA LR LR 09 07 41.2
comp=Z,428nm,21.3s,MS3.8,baz=289,slow=33
PMG Port Moresby 20.83 289 LR LR 09 08 17.4
comp=Z,591nm,19.3s,MS4.0,baz=126,slow=33
URZ Urewera 22.96 160 P **P** **09 01 50.4 +1.7**
19nm,1.0s,mb4.5,baz=350,slow=12,SNR=5.3
URZ LR LR 09 09 05.4
comp=Z,332nm,19.3s,MS3.8,baz=273,slow=32
RPZ Rata Peaks 26.88 174 LR LR 09 11 43.2
comp=Z,211nm,19.9s,MS3.7,baz=165,slow=33
STKA Stephens Creek 27.50 233 *eP* **P** **09 02 30.1 -0.6**
5.6nm,0.8s,mb4.2
STKA Stephens Creek 27.50 233 P **P** **09 02 30.0 -0.8**
6.9nm,0.7s,mb4.3,baz=36,slow=7.8,SNR=13
WB2 Warramunga Arr 31.21 259 *eP* **P** **09 03 00.0 -3.7**
WRA Warramunga Arr 31.22 259 P **P** **09 03 04.0 +0.3**
1.6nm,0.8s,mb3.9,baz=82,slow=6.2,SNR=16
RAR Rarotonga 31.53 103 LR LR 09 13 06.1
comp=Z,182nm,19.4s,MS3.8,baz=59,slow=31
AS31 Alice Springs 31.82 252 *eP* **P** **09 03 09.5 +0.5**
ASAR Alice Springs 31.82 252 P **P** **09 03 09.3 +0.3**
10nm,0.7s,mb4.8,baz=79,slow=8.6,SNR=121
ASPA Alice Springs 31.82 252 *eP* **P** **09 03 09.5 +0.5**
GUMO Guam 37.48 323 LR LR 09 17 15.0
comp=Z,321nm,21.0s,MS4.1,baz=98,slow=33
TBI Tubuai 41.13 106 *eS* **S** **09 10 44.6 +3.0**
100nm,24.6s
TBI *e*LR LR 09 15 51.4
535nm,27.2s
PPT Papeete 41.28 97 *e*LR LR 09 15 54.6
582nm,27.8s
PPT Papeete 41.28 97 LR LR 09 17 56.7
comp=Z,202nm,19.7s,MS4.0,baz=286,slow=31
RKT Rikitea 54.45 107 *e*LR LR 09 22 02.0
370nm,31.0s
JOW Kunigami 57.60 318 LR LR 09 26 32.1
comp=Z,119nm,20.7s,MS4.0,baz=114,slow=31
MJAR Matsushiro Arr 59.81 333 P **P** **09 06 48.9 -0.8**
2.7nm,0.8s,mb4.3,baz=348,slow=0.5,SNR=6.8
ASAJ Asahikawa 64.78 341 LR LR 09 30 52.6
comp=Z,141nm,21.1s,MS4.1,baz=332,slow=32
PSI Prapat 70.07 279 P **P** **09 07 56.0 -0.4**
1.3nm,0.4s,mb4.2,baz=132,slow=5.4,SNR=3.5
QSPA South Pole Qui 73.08 180 *eP* **P** **09 08 14.7 +0.1**
10.0nm,1.1s,mb4.7
LZH Lanzhou 79.72 313 *eP* **P** **09 08 56.3 +4.0**
LZH AP pP 09 09 01.3 +6.3
LZH XP sP 09 09 04.5 +8.5
LZH AMB AMB
comp=Z,22nm,1.4s,mb4.9
ULN Ulaanbaatar 83.85 324 *eP* **P** **09 09 13.2 -0.8**
comp=Z,2.2nm,0.8s,mb4.3
GTA Gaotai 84.11 314 *eP* **P** **09 09 17.3 +1.9**
GTA AP pP 09 09 21.9 +3.8
GTA XP sP 09 09 24.8 +5.7
GTA PP PP 09 12 35.5 +6.1
GTA SKS 09 19 36.8
GTA S 09 19 43.6
GTA XS sS 09 19 51.6 +6.8
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,89nm,4.6s
GTA LR LR
comp=N,296nm,19.0s,MS4.8
GTA LR LR
comp=E,238nm,15.2s,MS4.8
GTA LR LR
comp=Z,368nm,24.3s
SONM Songino Array 84.20 324 P **P** **09 09 15.7 -0.2**
comp=Z,1.7nm,0.8s,mb4.2,baz=146,slow=5.7,SNR=10.0
ILAR Eielson Array 88.67 18 P **P** **09 09 34.5 -3.3**
comp=Z,0.3nm,0.6s,mb3.8,baz=242,slow=4.9,SNR=6.5
MKAR Makanchi Array 98.71 316 P **P** **09 10 22.7 -1.2**
comp=Z,0.2nm,0.6s,mb3.9,baz=79,slow=7.0,SNR=3.4
NOA NORSAR Array B 132.72 344 PKP PKPdf 09 15 58.6 -0.8
comp=Z,0.5nm,0.8s,baz=33,slow=2.0,SNR=4.0
GERES GERESS Array B 141.54 332 PKP PKPdf 09 16 15.1 -0.6
comp=Z,0.3nm,0.4s,baz=27,slow=4.6,SNR=2.3
CDF Champ du Feu 144.57 337 *e*PKP1 PKPdf 09 16 19.0 -2.0
comp=Z,16nm,0.8s
DAVOX Davos 144.80 333 PKP PKPdf 09 16 20.7 -0.7
comp=Z,8.9nm,0.6s,baz=10,slow=1.3,SNR=9.9
HINF Hinteralfeld 145.22 337 *e*PKP1 PKPbc 09 16 20.8 -1.0
comp=Z,21nm,0.6s
HAU Haudompre 145.25 337 *e*PKP1 PKPbc 09 16 22.3 +0.4
comp=Z,43nm,0.8s
HAU *e*R
comp=Z,153nm,19.2s
MEZF Maizieres J'vi 145.30 339 *e*PKP1 PKPbc 09 16 21.8 -0.2
comp=Z,40nm,0.7s
CABF La Chapelle 146.51 336 *e*PKP1 PKPbc 09 16 25.5 -0.2
comp=Z,16nm,0.8s
FLN La Foliniere 146.71 345 *e*PKP1 PKPbc 09 16 25.2 -1.1
comp=Z,29nm,0.8s
FLN *e*R
comp=Z,125nm,21.8s
LOR Lormes 146.77 339 *e*PKP1 PKPbc 09 16 26.2 -0.3
comp=Z,21nm,0.9s
LOR *e*R
comp=Z,99nm,21.0s
LDF La Druitiere 146.77 344 *e*PKP1 PKPbc 09 16 25.3 -1.2
comp=Z,13nm,0.6s
SSF Saint Saulge 147.07 339 *e*PKP1 PKPbc 09 16 26.8 -0.5
comp=Z,18nm,1.0s
LPL La Plagne 147.14 334 *e*PKP1 PKPbc 09 16 27.4 -0.1
comp=Z,10nm,0.8s
GRR Gorron 147.15 345 *e*PKP1 PKPbc 09 16 26.5 -1.1
comp=Z,19nm,0.8s
LPG La Plagne 147.15 334 *e*PKP1 PKPbc 09 16 27.6 0.0
comp=Z,16nm,0.7s
SMF Signal de Mont 147.31 338 *e*PKP1 PKPbc 09 16 27.5 -0.5
AVF Avril sur Loir 147.35 339 *e*PKP1 PKPbc 09 16 27.3 -0.8
comp=Z,6.2nm,0.7s
MBDF Montbardon 147.76 333 *e*PKP1 PKPbc 09 16 29.2 0.0
comp=Z,16nm,0.9s
ORIF Oris-en-Rattie 147.98 334 *e*PKP1 PKPbc 09 16 29.4 -0.4
comp=Z,14nm,0.8s
ORIF *e*R
comp=Z,101nm,21.8s
QUIF Quistinic 148.11 348 *e*PKP1 PKPbc 09 16 29.3 -0.9
SBF Sospel 148.15 332 *e*PKP1 PKPbc 09 16 29.4 -0.9
comp=Z,32nm,0.8s
PGF Pioggiola 148.39 328 *e*PKP1 PKPbc 09 16 30.3 -0.6
comp=Z,26nm,0.7s
MFF Saint Martin d 148.61 343 *e*PKP1 PKPbc 09 16 30.6 -0.9
comp=Z,15nm,0.7s
FRF La Foret Royal 148.74 332 *e*PKP1 PKPbc 09 16 31.2 -0.6
SMRF Simiane la Rot 148.87 334 *e*PKP1 PKPbc 09 16 31.3 -0.9
comp=Z,16nm,1.1s
LMR La Mourre 148.98 332 *e*PKP1 PKPbc 09 16 31.6 -0.8
comp=Z,18nm,0.9s
RJF Les Rejaudoux 149.27 340 *e*PKP1 PKPbc 09 16 32.4 -0.8
CAF Calviac 149.42 339 *e*PKP1 PKPbc 09 16 33.0 -0.5
LASF Ste Croix 149.49 336 *e*PKP1 PKPbc 09 16 33.6 -0.1
MTLF Montolieu 150.74 337 *e*PKP1 PKPbc 09 16 36.1 -0.6
ETSF Etsaut 152.09 340 *e*PKP1 PKPbc 09 16 40.2 +0.4
comp=Z,8.3nm,0.7s
SJPF Ste Jean 152.11 342 *e*PKP1 PKPbc 09 16 39.0 -0.9
TORD Torodi Ar. Bea 165.44 257 PKP PKPdf 09 16 48.9 -0.1
comp=Z,0.6nm,1.0s,baz=144,slow=1.6,SNR=3.7
TORD PKPab PKPab 09 17 48.0 +0.9
comp=Z,0.5nm,0.7s,baz=106,slow=3.7,SNR=3.7
DBIC Dimbokro 167.12 218 PKPab PKPab 09 17 55.3 +0.8
comp=Z,1.9nm,0.7s,baz=92,slow=4.7,SNR=3.7

*ISCJB **15** 09:01:07.9±5.7, 92N±0.1×9289E±008, h10km±35km, mb3.9/9, Error ellipse: s-maj=20.0km s-min=12.5km az=179.3*
*IDC **15** 09:01:08.7±1.1, 932N×9302E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=48.6km s-min=18.8km az=54.0*
*NEIC **15** 09:01:12.8±0.5, 924N×9293E, h30km, mb4.3/1, Error ellipse: s-maj=15.7km s-min=11.1km az=213.0*

ISC 15 09:01:09.9±6.6, 93N±01×9295E±007, h8km±41km, n12, σ0°61/11, mb3.9/9, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PBA Port Blair 2.36 355 *eP* Px 09 02 07.8
PBA *e*S Sx 09 02 23.0
PBA *e*x x 09 02 45.5
comp=N,312nm,0.5s
PBA *e*x x 09 02 53.9
comp=E,258nm,0.5s
PSI Prapat 8.76 137 LR LR 09 07 10.3
comp=E,92nm,20.4s,baz=197,slow=41
PALK Pallekele 12.29 262 Pn **Pn** **09 04 05.0 -0.2**
PALK *e*Sn **Sn** **09 06 22.2 -0.1**
MKAR Makanchi Array 38.47 348 P **P** **09 08 32.3 0.0**
comp=E,0.7nm,0.7s,mb3.5,baz=164,slow=9.1,SNR=7.6
SONM Songino Array 40.06 14 P **P** **09 08 45.9 +0.2**
comp=E,1.6nm,0.9s,mb3.8,baz=203,slow=6.1,SNR=10
BVAR Borovoye Array 47.28 342 P **P** **09 09 43.4 -0.3**
comp=E,0.4nm,0.3s,mb3.9,baz=183,slow=7.4,SNR=5.2
WRA Warramunga Arr 50.03 126 P **P** **09 10 05.7 +0.7**
comp=E,0.9nm,0.5s,mb4.0,baz=304,slow=8.7,SNR=14
WRA PcP PcP 09 11 25.9 +1.2
comp=E,0.3nm,0.7s,baz=313,slow=2.9,SNR=5.8
WRAB Tennant Creek 50.04 126 *eP* **P** **09 10 05.0 +0.1**
comp=E,1.9nm,0.6s,mb4.3
ASAR Alice Springs 51.72 130 P **P** **09 10 17.0 -0.6**
comp=E,0.6nm,0.6s,mb3.7,baz=303,slow=6.8,SNR=9.4
BRTR Keskin Array B 60.62 310 P **P** **09 11 21.9 +0.7**
comp=E,0.6nm,0.6s,mb3.9,baz=132,slow=8.6,SNR=3.1
GERES GERESS Array B 76.00 318 P **P** **09 12 58.4 +0.9**
comp=E,0.3nm,0.4s,mb3.6,baz=97,slow=8.0,SNR=3.5
ILAR Eielson Array 93.88 22 P **P** **09 14 26.6 -1.4**
comp=E,0.6nm,0.8s,mb4.1,baz=294,slow=5.0,SNR=6.0

IDC 15 09:19:06.2±1.7, 2309S×6657W, h228km±28km, mb3.0/1, mb1 3.1/6, mb1mx3.0/18, mbtmp3.6/6, Error ellipse: s-maj=37.5km s-min=16.2km az=102.0, Jujuy Province

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
LPAZ La Paz 6.92 347 P Pn 09 20 47.5 +1.9
1.4nm,0.3s,baz=172,slow=5.3,SNR=27
LPAZ S S 09 22 06.4 +1.3
baz=253,slow=19,SNR=3.4
CFAA Coronel Fontan 8.61 190 P Pn 09 21 07.0 -0.2
0.1nm,0.3s,baz=42,slow=15,SNR=14
SIV San Ignacio 8.76 37 P Pn 09 21 07.6 -1.5
0.2nm,0.3s,baz=217,slow=13,SNR=17
PLCA Paso Flores 17.91 190 P P 09 22 59.3 +0.1
0.1nm,0.3s,baz=353,slow=15,SNR=3.3
BDFB Brasilia 19.00 70 P P 09 23 12.5 +1.6
0.3nm,0.3s,baz=255,slow=10,SNR=4.7
TORD Torodi Ar. Bea 75.87 69 P P 09 30 27.9 +0.3
0.2nm,0.3s,baz=258,slow=5.6,SNR=6.6

IDC 15 09:22:52.1±12.0, 065S×6666E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=386.7km s-min=31.9km az=71.0, Carlsberg Ridge

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MKAR Makanchi Array 49.20 14 P P 09 31 42.0 +0.1
0.2nm,0.7s,baz=184,slow=5.5,SNR=3.1
SONM Songino Array 59.35 30 P P 09 32 56.1 +0.1
1.5nm,1.0s,baz=230,slow=5.9,SNR=7.6
WRA Warramunga Arr 68.83 111 P P 09 33 58.8 +0.6
1.6nm,0.9s,baz=283,slow=6.2,SNR=5.6
ASAR Alice Springs 68.95 115 P P 09 33 60.0 +0.9
0.8nm,0.9s,baz=282,slow=5.3,SNR=3.9

IDC 15 09:27:41.7±1.2, 099S×6749E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, MS4.1/13, Ms1 4.1/13, ms1mx3.9/23, Error ellipse: s-maj=34.1km s-min=32.5km az=98.0, Carlsberg Ridge

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ATD Arta Tunnel 27.46 298 LR LR 09 42 55.1
comp=Z,82nm,19.0s,baz=129,slow=33
KMBO Kilima Mbogo 30.23 269 LR LR 09 44 01.3
comp=Z,374nm,19.8s,baz=97,slow=32
PSI Prapat 31.65 83 LR LR 09 44 32.7
comp=Z,527nm,21.4s,baz=243,slow=32
LSZ Lusaka 41.31 248 LR LR 09 51 18.7
comp=Z,569nm,18.9s,baz=145,slow=34
BOSA Boshof 48.77 232 LR LR 09 53 33.8
comp=Z,526nm,20.0s,baz=348,slow=32
MKAR Makanchi Array 49.32 13 P P 09 36 31.9 -0.6
0.4nm,0.8s,baz=197,slow=6.2,SNR=4.1
MKAR LR LR 09 58 16.2
comp=Z,186nm,21.3s,baz=267,slow=37
TSUM Tsumeb 52.11 246 P P 09 36 54.2 +0.7
2.9nm,1.1s,baz=78,slow=15,SNR=3.6
NWAO Narrogin (SRO) 56.45 130 LR LR 09 56 26.2
comp=Z,117nm,20.0s,baz=1.0,slow=30
ZAL Zalesovo 56.59 12 LR LR 10 01 40.2
comp=Z,149nm,18.3s,baz=264,slow=36
MLR Muntele Rosu 59.05 327 LR LR 10 03 52.2
comp=Z,83nm,20.9s,baz=203,slow=37
SONM Songino Array 59.23 30 P P 09 37 45.4 +0.7
0.4nm,0.6s,baz=230,slow=6.9,SNR=3.2
MAW Mawson 66.57 182 LR LR 09 59 40.5
comp=Z,405nm,18.9s,baz=260,slow=29
WRA Warramunga Arr 67.94 111 P P 09 38 42.2 -0.1
1.1nm,0.9s,baz=286,slow=5.9,SNR=4.6
ASAR Alice Springs 68.06 115 P P 09 38 44.5 +1.4
0.5nm,0.8s,baz=275,slow=4.6,SNR=3.8
FINES FINESS Array B 69.80 340 LR LR 10 08 27.5
comp=Z,104nm,18.9s,baz=204,slow=35
DBIC Dimbokro 72.59 277 LR LR 10 09 41.4
comp=Z,90nm,20.3s,baz=95,slow=35
STKA Stephens Creek 76.00 123 LR LR 10 11 13.4
comp=Z,101nm,20.4s,baz=207,slow=34

*ISCJB **15** 09:40:54.7±0.6, 09S×01×6753E±010, h10km, mb4.2/14, MS3.9/8, Error ellipse: s-maj=18.3km s-min=11.5km az=107.6*
*IDC **15** 09:40:54.4±0.9, 093S×6755E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/22, mbtmp3.8/10, MS3.9/8, Ms1 3.9/8, ms1mx3.7/23, Error ellipse: s-maj=27.2km s-min=20.7km az=131.0*
*MOS **15** 09:40:54.7±1.1, 084S×6756E, h10km, mb4.9/3, Error ellipse: s-maj=24.9km s-min=15.2km az=64.6*
*BJI **15** 09:40:55.9, 088S×67.14E, h22km, mB5.1, mb4.9*
*NEIC **15** 09:40:56.4±0.4, 088S×6758E, h10km, mb4.8/3, Error ellipse: s-maj=14.4km s-min=9.5km az=137.0*

ISC 15 09:40:57.1±0.6, 08S×01×6752E±010, h10km, n38, σ0°97/27, mb4.2/14, MS3.9/8, 2C, Carlsberg Ridge

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ATD Arta Tunnel 27.43 297 LR LR 09 55 33.3
comp=Z,68nm,19.4s,MS3.2,baz=49,slow=32
KMBO Kilima Mbogo 30.27 269 LR LR 09 57 24.5
comp=Z,202nm,19.1s,MS3.8,baz=95,slow=33
PSI Prapat 31.60 83 LR LR 09 57 34.3
comp=Z,268nm,19.8s,MS3.9,baz=271,slow=32
KULM Kulim 33.64 79 P **P** **09 47 37.2 -0.7**
LSA Lhasa 37.83 35 *eP* **P** **09 48 16.8 +3.0**
LSA Lhasa 37.83 35 *eP* **P** **09 48 14.6 +0.8**
7.5nm,0.7s,mb4.5
LSZ Lusaka 41.39 248 P **P** **09 48 44.0 +0.5**
2.1nm,0.6s,mb4.0,baz=62,slow=12,SNR=2.9
LSZ Lusaka 41.39 248 P **P** **09 48 44.0 +0.5**
LBTB Lobatse 47.07 236 *eP* **P** **09 49 29.5 +0.5**
LBTB pmax pmax
comp=Z,20nm,1.5s,mb4.8
LBTB Lobatse 47.07 236 *eP* **P** **09 49 29.5 +0.5**
comp=Z,20nm,1.5s,mb4.8
BOSA Boshof 48.89 232 P **P** **09 49 42.0 -1.1**
comp=Z,1.1nm,0.5s,mb4.1,baz=89,slow=11,SNR=4.9
BOSA LR LR 10 06 46.4
comp=Z,256nm,20.3s,MS4.2,baz=248,slow=32
BOSA Boshof 48.89 232 *eP* **P** **09 49 43.2 +0.1**
BOSA pmax pmax
comp=Z,16nm,1.5s,mb4.8
BOSA Boshof 48.89 232 *eP* **P** **09 49 43.2 +0.1**
comp=Z,16nm,1.5s,mb4.8
MKAR Makanchi Array 49.18 13 P **P** **09 49 44.2 -1.1**
comp=Z,0.5nm,0.7s,mb3.7,baz=178,slow=7.3,SNR=6.7
MKAR LR LR 10 11 18.1
comp=Z,103nm,18.6s,MS3.9,baz=267,slow=37
BRTR Keskin Array B 50.88 326 P **P** **09 49 58.5 +0.3**
comp=Z,3.0nm,0.9s,mb4.2,baz=115,slow=8.8,SNR=3.8
AKTK Aktyubinsk 51.72 352 P **P** **09 50 04.6 +0.1**
AKTO Aktyubinsk 51.72 352 *eP* **P** **09 50 04.6 +0.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=167,slow=9.3,SNR=3.6
KURK Kurchatov 52.23 9⇑ *eP* **P** **09 50 09.3 +1.0**
BVAR Borovoye Array 53.73 2 P **P** **09 50 18.9 -0.5**
comp=Z,0.3nm,0.5s,mb3.5,baz=175,slow=5.4,SNR=3.2
ZAL Zalesovo 56.44 12 LR LR 10 16 08.9
comp=Z,99nm,18.3s,MS3.9,baz=271,slow=37
NVS Novosibirsk 56.98 11 *eP* **P** **09 50 39.2 -3.6**
NJ2 Nanjing 58.48 51 *eP* **P** **09 50 55.1 +1.8**
NJ2 AP pP 09 51 05.3 +8.7
NJ2 XP sP 09 51 09.1 +11
NJ2 PP PP 09 53 06.9 +4.2
NJ2 S **S** **09 58 55.0 -1.7**
NJ2 XS sS 09 59 12.0 +10
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,50nm,3.6s
SONM Songino Array 59.09 30 P **P** **09 50 57.9 +0.3**
comp=Z,2.3nm,1.0s,mb4.2,baz=233,slow=6.9,SNR=13
ULN Ulaanbaatar 59.43 30 *eP* **P** **09 51 00.1 +0.1**
AKASG Malin Array Be 60.80 333 P **P** **09 51 08.1 -1.3**
comp=Z,1.5nm,0.7s,mb4.2,baz=130,slow=5.5,SNR=4.1
JOW Kunigami 64.53 60 LR LR 10 19 45.2
comp=Z,87nm,19.5s,MS4.0,baz=258,slow=36
TORD Torodi Ar. Bea 66.70 285 P **P** **09 51 47.4 -0.8**
comp=Z,2.3nm,1.4s,mb4.0,baz=77,slow=5.5,SNR=4.8
MAW Mawson 66.71 182 LR LR 10 14 41.8
comp=Z,241nm,19.4s,MS4.4,baz=74,slow=30
HIA Hailar 67.03 34 *i P* **P** **09 51 51.0 +0.7**
WRA Warramunga Arr 67.96 111 P **P** **09 51 55.4 -0.8**
comp=Z,1.5nm,1.0s,mb4.0,baz=279,slow=5.9,SNR=7.2
TIXI Tiksi 82.06 16 *eP* **P** **09 53 14.1 -3.6**
TIXI pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
SEY Seymchan 88.39 27⇑ *eP* **P** **09 53 50.4 +1.1**
INK Inuvik 111.13 8 *e*PKIKP PKiKP 09 59 23.6 -7.4
YKA Yellowknife Ar 118.48 1 PKP PKPdf 09 59 43.0 -2.0
comp=Z,0.1nm,0.6s,baz=342,slow=2.7,SNR=3.5
YKA Yellowknife Ar 118.48 1 PKP PKPdf 09 59 43.0 -2.0
PDAR Pinedale Array 138.18 357 PKP PKPdf 10 00 21.9 -0.5
comp=Z,0.2nm,0.5s,baz=126,slow=3.8,SNR=3.7
OTAV Otavalo 145.97 269 *e*PKPdf PKPdf 10 00 37.9 +1.7
MNTX Cornudas Mount 148.58 348 *e*PKPbc PKPbc 10 00 45.0 +0.7
MNTX *e*PKPab PKPab 10 00 51.3 +3.5

*IDC **15** 09:49:27.0±1.2, 3873N×5637E, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.8/23, mbtmp3.9/10, ML4.0/3, MS4.0/3, Ms1 4.0/3, ms1mx3.2/22, Error ellipse: s-maj=26.5km s-min=18.4km az=133.0*
*NEIC **15** 09:49:28.9±1.0, 3888N×5644E, h10km, mb3.9/2, Error ellipse: s-maj=18.5km s-min=10.5km az=157.0*
*ISCJB **15** 09:49:29.3±2.8, 3904N±007×5635E±009, h21km±22km, mb3.9/6, MS4.1/3, Error ellipse: s-maj=13.3km s-min=9.0km az=84.8*
*CSEM **15** 09:49:30.1±0.3, 3877N×5640E, h33km±2km, ML3.8/3, Error ellipse: s-maj=7.0km s-min=2.8km az=171.0*
*MOS **15** 09:49:31.8±1.8, 3906N×5624E, h33km, mb4.0/1, Error ellipse: s-maj=16.7km s-min=11.3km az=71.9*
*NNC **15** 09:49:38.5±3.0, 3950N×5758E, h0km, mb3.9, Error ellipse: s-maj=32.1km s-min=16.1km az=59.0*

ISC 15 09:49:29.3±3.0, 3895N±007×5643E±008, h11km±20km, n33, σ0°98/39, mb3.9/6, MS4.1/3, 6C-3D, Iran-Turkmenistan border region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GNI Garni 9.11 281 P **Pn** **09 51 42.7 +2.0**
GNI pmax pmax
comp=Z,15nm,0.5s
GNI Garni 9.11 281 P **Pn** **09 51 42.7 +2.0**
comp=Z,15nm,0.5s
GNI Garni 9.11 281 Pn **Pn** **09 51 42.7 +2.0**
comp=Z,15nm,0.5s
AB31 Akbulak array 10.61 13 ⇓Pn **Pn** **09 52 01.0 -0.2**
comp=Z,3.0nm,0.6s,baz=198,slow=13,SNR=30
AB31 ⇓Sn **Sn** **09 53 55.5 -4.6**
comp=Z,18nm,0.8s,baz=200,slow=25,SNR=15
KK31 Karatay Array 11.42 64 ⇑Pn **Pn** **09 52 10.2 -2.1**
comp=Z,0.8nm,0.3s,baz=242,slow=16,SNR=22
KK31 ⇑Sn **Sn** **09 54 10.9 -8.9**
comp=Z,3.9nm,0.5s,baz=261,slow=24,SNR=10
AKTK Aktyubinsk 11.54 5 Pn **Pn** **09 52 13.3 -0.7**
AKTK Aktyubinsk 11.54 5 Pn **Pn** **09 52 13.3 -0.7**
AKTK Sn **Sn** **09 54 22.8 -0.1**
AKTO Aktyubinsk 11.54 5 Pn **Pn** **09 52 13.3 -0.7**
comp=Z,3.2nm,0.3s,baz=180,slow=14,SNR=43
AKTO Sn **Sn** **09 54 22.8 -0.1**
comp=Z,1.8nm,0.3s,baz=82,slow=22,SNR=6.9
AKTO Aktyubinsk 11.54 5 P **Pn** **09 52 13.3 -0.7**
AKTO 09 54 22.8
AKTO pmax pmax
comp=Z,3.0nm,0.3s
AKTO smax
comp=N,2.0nm,0.3s
BRVK Borovoye 17.04 30 *eP* **Pn** **09 53 27.7 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 17.04 30 *e*Pn **Pn** **09 53 27.7 +0.2**
comp=Z,2.9nm,0.6s
BVA0 Borovoye Array 17.05 30 ⇑Pn **Pn** **09 53 27.6 -0.1**
comp=Z,1.1nm,0.7s,baz=206,slow=12,SNR=42
BVA0 ⇑Sn **Sn** **09 56 27.4 -10**
comp=Z,1.1nm,1.1s,baz=208,slow=27,SNR=7.0
BVAR Borovoye Array 17.05 30 P **Pn** **09 53 27.5 -0.2**
comp=Z,0.7nm,0.3s,baz=216,slow=10.0,SNR=28
BVAR S **Sn** **09 56 28.2 -9.0**
comp=Z,0.3nm,0.3s,baz=232,slow=40,SNR=3.8
BVAR Borovoye Array 17.05 30 Pn **Pn** **09 53 27.6 -0.1**
comp=Z,1.1nm,0.7s,SNR=42
BVAR Sn **Sn** **09 56 27.4 -10**
comp=Z,1.1nm,1.1s,SNR=7.0
VOSK Vostochnaya 17.06 31 ⇓Pn **Pn** **09 53 27.4 -0.3**
comp=Z,7.1nm,1.2s
VOSK ⇑Sn **Sn** **09 56 28.4 -8.9**
comp=Z,4.3nm,1.2s
ARU Arti 17.55 4 *eP* **Pn** **09 53 34.4 +0.5**
ARU pmax pmax
comp=Z,31nm,1.1s
ARU Arti 17.55 4 *e*P **Pn** **09 53 34.4 +0.5**
comp=Z,31nm,1.1s
BRTR Keskin Array B 17.64 280 P **Pn** **09 53 34.1 -0.9**
comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=3.8
KURK Kurchatov 19.57 46 *i P* **Pn** **09 53 58.9 +0.5**
MK31 Makanchi Array 20.45 59 ⇑P **Pn** **09 54 08.6 +1.8**
comp=Z,2.8nm,0.9s,baz=255,slow=9.8,SNR=14
MKAR Makanchi Array 20.45 59 P **P** **09 54 08.3 +1.6**
comp=Z,1.3nm,0.7s,baz=255,slow=11,SNR=9.9
MKAR Makanchi Array 20.45 59 P **P** **09 54 08.3 +1.6**
AKASG Malin Array Be 22.46 310 P **P** **09 54 28.7 +0.4**
comp=Z,2.7nm,0.5s,mb3.9,baz=108,slow=7.9,SNR=12
NOA NORSAR Array B 35.49 323 P **P** **09 56 25.5 -0.3**
comp=Z,1.0nm,0.9s,mb3.8,baz=110,slow=8.3,SNR=2.8
ULN Ulaanbaatar 37.26 59 *i P* **P** **09 56 45.2 +4.2**
TIXI Tiksi 48.06 24 *i P* **P** **09 58 12.1 +3.4**
TORD Torodi Ar. Bea 54.54 258 P **P** **09 58 56.6 -0.7**
comp=Z,1.7nm,1.0s,mb4.0,baz=53,slow=7.1,SNR=7.0
DBIC Dimbokro 63.62 257 P **P** **09 59 59.5 -0.7**
comp=Z,1.7nm,0.7s,mb4.2,baz=39,slow=11,SNR=3.4
DBIC Dimbokro 63.62 257 P **P** **09 59 59.5 -0.7**
ILAR Eielson Array 75.01 10 LR LR 10 38 56.5
comp=Z,102nm,18.4s,MS4.2,baz=358,slow=40
YKA Yellowknife Ar 78.65 356 P **P** **10 01 32.1 +0.8**
comp=Z,0.5nm,0.9s,mb3.5,baz=5.0,slow=6.4,SNR=7.9
YKA LR LR 10 38 16.7
comp=Z,69nm,19.9s,MS4.0,baz=240,slow=37
WRA Warramunga Arr 93.36 113 P **P** **10 02 43.3 -1.1**
comp=Z,0.4nm,0.7s,mb4.0,baz=319,slow=4.2,SNR=5.4
PMG Port Moresby 96.40 97 LR LR 10 50 09.8
comp=Z,59nm,18.2s,MS4.1,baz=9.1,slow=38

IDC 15 10:42:43.3±2.0, 289S×12851E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=136.9km s-min=25.8km az=68.0, Ceram Sea

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 17.88 162 P Pn 10 46 52.1 -1.3
0.1nm,0.3s,baz=340,slow=12,SNR=11
WB2 Warramunga Arr 17.88 162 *eP* Pn 10 46 56.7 +3.3

ASAR	**Alice Springs**	**21.30 166**	P	P	10 47 31.9	+0.4
	1.9nm,0.6s,baz=346,slow=12,SNR=17					
MKAR	**Makanchi Array**	**64.00 326**	P	P	10 53 18.9	+0.5
	0.4nm,0.8s,baz=139,slow=6.8,SNR=3.5					

IDC 15 10:45:57.5±7.9, 600S×14567E, h164km±113km, mb3.0/2, mb1 3.4/4, mb1mx3.2/13, mbtmp3.8/4, Error ellipse: s-maj=123.0km s-min=35.9km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.70**	**156**	P	Pn	10 46 54.5	+0.3
	7.4nm,0.3s,baz=13,slow=3.3,SNR=20						
PMG				S	Sn	10 47 38.9	+0.5
	27nm,0.3s,baz=151,slow=21,SNR=26						
WB2	**Warramunga Arr**	**17.69**	**217**	*eP*	Pn	10 49 52.5	-1.3
WRA	**Warramunga Arr**	**17.70**	**217**	P	Pn	10 49 52.4	-1.5
	0.3nm,0.3s,baz=40,slow=12,SNR=29						
ASAR	**Alice Springs**	**20.90**	**212**	P	P	10 50 27.4	+0.5
	2.0nm,0.7s,baz=40,slow=8.7,SNR=10						
MKAR	**Makanchi Array**	**76.65**	**321**	P	P	10 57 30.3	+0.2
	0.5nm,0.8s,baz=101,slow=6.3,SNR=4.2						

CASC 15 11:05:56.0±3.6, 1459N×8972W, h20km±34km, MD3.5, ML3.5, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.47**	**176**	*eP*	Pg	11 06 17.9	+12
RBDL				*eS*	Sg	11 06 25.6	+13
RTR	**El Retiro**	**0.69**	**174**	*eP*	Pb	11 06 15.9	+6.6
RTR				*eS*	Sb	11 06 28.2	+10
SNJE	**San Jose**	**0.72**	**171**	*eP*	Pb	11 06 15.5	+5.5
SNJE				*eS*	Sb	11 06 25.3	+5.9
SBLS	**San Blas**	**0.75**	**173**	*eP*	Pb	11 06 14.8	+4.4
SBLS				*eS*	Sb	11 06 24.8	+4.6
IXG	**Ixpaco**	**0.82**	**240**	*eP*	Pb	11 06 09.4	-2.3
IXG				*eS*	Sb	11 06 24.4	+2.1
LBRS	**Las Brisas**	**1.07**	**142**	*eP*	Pb	11 06 18.3	+2.5
LBRS				*eS*	Sb	11 06 31.7	+2.3
FUG	**Fuego 3**	**1.09**	**263**	*eP*	Pn	11 06 15.8	-0.4
LFRS	**El Faro**	**1.15**	**146**	⇓*eP*	Pn	11 06 16.8	-0.2
LCBS	**La Ceiba**	**1.17**	**142**	*eP*	Pn	11 06 18.0	+0.7
SNVI	**San Vicente**	**1.29**	**138**	*eP*	Pn	11 06 19.6	+0.6
VSM	**San Miguel**	**1.82**	**129**	*eP*	Pn	11 06 26.4	+0.3
CNCH	**Conchagua**	**2.25**	**125**	*eP*	Pn	11 06 31.8	-0.3

*ISCJB **15** 11:32:06.2±0.7, 3774S±005×17656E±008, h232km±5km, mb3.6/3, Error ellipse: s-maj=10.0km s-min=7.6km az=14.9*
*IDC **15** 11:32:06.9±0.7, 3801S×17668E, h222km±9km, mb3.2/2, mb1 3.5/3, mb1mx3.3/12, mbtmp3.9/3, Error ellipse: s-maj=39.2km s-min=19.3km az=136.0*
*NEIC **15** 11:32:09.5, 3759S×17648E, h200km, MG4.7(WEL), After WEL.*
*BJI **15** 11:32:09.5, 3760S×17650E, h200km, mB4.9, mb4.7*
*WEL **15** 11:32:09.8±0.4, 3760S×17645E, h197km±3km, ML4.6/20, Error ellipse: s-maj=1.8km s-min=1.5km az=90.0*

ISC 15 11:32:07.2±0.7, 3775S±005×17655E±008, h226km±5km, n105, σ1§16/113, mb3.6/3, 3C-3D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.23**	**273**	PN	**Pn**	**11 32 35.8**	**-0.8**
TGRZ	**Tauranga**	**0.23**	**273**	P	**Pn**	**11 32 35.8**	**-0.8**
TAZ	**Tarawera**	**0.49**	**183**	PN	**Pn**	**11 32 38.0**	**+0.7**
WIZ	**White Island**	**0.56**	**67**	PN	**Pn**	**11 32 37.3**	**-0.2**
PATZ	**Paeroa**	**0.68**	**200**	PN	**Pn**	**11 32 38.1**	**+0.2**
URZ	**Urewera**	**0.68**	**139**	P	**Pn**	**11 32 38.1**	**+0.1**
	143nm,0.3s,baz=269,slow=3.3,SNR=913						
URZ				S	**S**	**11 33 00.1**	**-2.0**
	201nm,0.3s,baz=137,slow=16,SNR=24						
URZ	**Urewera**	**0.68**	**139**	PN	**Pn**	**11 32 37.8**	**-0.2**
URZ				SN	**S**	**11 32 59.1**	**-3.0**
URZ	**Urewera**	**0.68**	**139**	P	**Pn**	**11 32 37.8**	**-0.2**
TOZ	**Tahuroa Road**	**0.83**	**271**	⇓PN	**Pn**	**11 32 38.0**	**-0.7**
TOZ	**Tahuroa Road**	**0.83**	**271**	P	**Pn**	**11 32 38.0**	**-0.7**
MWZ	**Matawai**	**0.97**	**128**	PN	**Pn**	**11 32 39.9**	**+0.4**
MWZ				SN	**S**	**11 33 06.2**	**-1.5**
MWZ	**Matawai**	**0.97**	**128**	P	**Pn**	**11 32 39.9**	**+0.4**
MWZ				S	**S**	**11 33 03.3**	**-1.5**
WHTZ	**Whakaora**	**1.03**	**206**	PN	**Pn**	**11 32 41.1**	**+1.2**
WHTZ	**Whakaora**	**1.03**	**206**	P	**Pn**	**11 32 41.1**	**+1.3**
WATZ	**Wairara**	**1.16**	**213**	PN	**Pn**	**11 32 41.6**	**+0.9**
WATZ	**Wairara**	**1.16**	**213**	P	**Pn**	**11 32 41.6**	**+1.0**
KUZ	**Kuaotunu**	**1.19**	**326**	⇑PN	**Pn**	**11 32 39.0**	**-1.9**
KUZ	**Kuaotunu**	**1.19**	**326**	P	**Pn**	**11 32 39.0**	**-1.9**
HATZ	**Hinemaiaia**	**1.20**	**197**	PN	**Pn**	**11 32 41.7**	**+0.8**
HATZ				SN	**S**	**11 33 06.0**	**-1.3**
HATZ	**Hinemaiaia**	**1.20**	**197**	P	**Pn**	**11 32 41.7**	**+0.8**
RATZ	**Rangitukua**	**1.28**	**208**	⇑PN	**Pn**	**11 32 42.5**	**+1.0**
RATZ	**Rangitukua**	**1.28**	**208**	P	**Pn**	**11 32 42.5**	**+1.0**
RITZ	**Rihia Road**	**1.34**	**203**	PN	**Pn**	**11 32 43.3**	**+1.3**
RITZ	**Rihia Road**	**1.34**	**203**	P	**Pn**	**11 32 43.3**	**+1.3**
PUZ	**Puketiti**	**1.39**	**104**	PN	**Pn**	**11 32 43.1**	**+0.8**
PUZ				SN	**S**	**11 33 08.9**	**-1.0**
PUZ	**Puketiti**	**1.39**	**104**	P	**Pn**	**11 32 43.1**	**+0.7**
PUZ				S	**S**	**11 33 08.9**	**-1.0**
KATZ	**Kakaramea**	**1.40**	**208**	PN	**Pn**	**11 32 43.4**	**+1.0**
KATZ	**Kakaramea**	**1.40**	**208**	P	**Pn**	**11 32 43.4**	**+1.0**
MXZ	**Matakaoa Point**	**1.41**	**83**	PN	**Pn**	**11 32 43.1**	**+0.6**
MXZ				SN	**S**	**11 33 09.0**	**-1.2**
MXZ	**Matakaoa Point**	**1.41**	**83**	P	**Pn**	**11 32 43.1**	**+0.6**
BKZ	**Black Stump Fm**	**1.42**	**182**	PN	**Pn**	**11 32 43.5**	**+0.9**
BKZ				SN	**S**	**11 33 09.4**	**-0.9**
BKZ	**Black Stump Fm**	**1.42**	**182**	*eP*	**Pn**	**11 32 43.5**	**+0.9**
OTAZ	**Otara**	**1.52**	**301**	PN	**Pn**	**11 32 42.0**	**-1.3**
OTAZ	**Otara**	**1.52**	**301**	P	**Pn**	**11 32 42.0**	**-1.3**
KRVZ	**Karewarewa**	**1.52**	**207**	PN	**Pn**	**11 32 44.3**	**+0.9**
HIZ	**Hauiti**	**1.54**	**240**	PN	**Pn**	**11 32 43.8**	**+0.2**
HIZ	**Hauiti**	**1.54**	**240**	P	**Pn**	**11 32 43.8**	**+0.3**
KNZ	**Kokohu**	**1.55**	**146**	⇑PN	**Pn**	**11 32 45.4**	**+1.8**
KNZ	**Kokohu**	**1.55**	**146**	P	**Pn**	**11 32 45.4**	**+1.8**
WTVZ	**West Tongariro**	**1.56**	**208**	PN	**Pn**	**11 32 44.7**	**+0.9**
WTVZ	**West Tongariro**	**1.56**	**208**	P	**Pn**	**11 32 44.7**	**+1.0**
OTVZ	**Oturere**	**1.58**	**206**	PN	**Pn**	**11 32 45.1**	**+1.3**
TWVZ	**Taurewa**	**1.59**	**213**	PN	**Pn**	**11 32 44.9**	**+1.0**
TWVZ	**Taurewa**	**1.59**	**213**	P	**Pn**	**11 32 44.9**	**+1.0**
NGZ	**Ngauruhoe**	**1.61**	**207**	PN	**Pn**	**11 32 45.1**	**+1.0**
NGZ	**Ngauruhoe**	**1.61**	**207**	P	**Pn**	**11 32 45.1**	**+1.0**
MTAZ	**Motutapu**	**1.62**	**306**	⇓PN	**Pn**	**11 32 42.8**	**-1.4**
WPVZ	**Whakapapa**	**1.66**	**208**	PN	**Pn**	**11 32 45.5**	**+1.0**
WPVZ	**Whakapapa**	**1.66**	**208**	P	**Pn**	**11 32 45.5**	**+1.0**
TUVZ	**Tukino**	**1.68**	**204**	PN	**Pn**	**11 32 45.9**	**+1.2**
TUVZ	**Tukino**	**1.68**	**204**	P	**Pn**	**11 32 45.9**	**+1.2**
FWVZ	**Far West T-bar**	**1.70**	**207**	PN	**Pn**	**11 32 45.8**	**+0.9**
TRVZ	**Turoa**	**1.74**	**206**	PN	**Pn**	**11 32 46.4**	**+1.2**
WNVZ	**Wahianoa**	**1.75**	**205**	PN	**Pn**	**11 32 46.4**	**+1.0**
WNVZ	**Wahianoa**	**1.75**	**205**	P	**Pn**	**11 32 46.4**	**+1.1**
WTAZ	**Waiatarua**	**1.77**	**297**	PN	**Pn**	**11 32 44.2**	**-1.3**
WTAZ	**Waiatarua**	**1.77**	**297**	P	**Pn**	**11 32 44.2**	**-1.3**
MOVZ	**Moawhango**	**1.77**	**200**	PN	**Pn**	**11 32 46.2**	**+0.6**
MOVZ	**Moawhango**	**1.77**	**200**	P	**Pn**	**11 32 46.2**	**+0.6**
PKVZ	**Pokaka**	**1.81**	**211**	PN	**Pn**	**11 32 46.7**	**+0.8**
MTVZ	**Mangateitei**	**1.84**	**207**	PN	**Pn**	**11 32 47.1**	**+0.9**
VRZ	**Vera Road**	**1.97**	**225**	*eP*	**Pn**	**11 32 46.4**	**-0.9**
RAEZ	**Rainy Point**	**2.29**	**227**	P	**Pn**	**11 32 52.4**	**+1.9**
PXZ	**Pawanui**	**2.30**	**174**	PN	**Pn**	**11 32 52.1**	**+1.5**
WAZ	**Wanganui**	**2.35**	**211**	P	**Pn**	**11 32 52.1**	**+1.0**
TSZ	**Takapari Road**	**2.36**	**191**	PN	**Pn**	**11 32 52.1**	**+0.9**
TSZ	**Takapari Road**	**2.36**	**191**	P	**Pn**	**11 32 52.2**	**+1.0**
NEZ	**North Egmont**	**2.45**	**231**	P	**Pn**	**11 32 54.2**	**+2.0**
PKE	**Pukeiti**	**2.48**	**233**	P	**Pn**	**11 32 53.8**	**+1.3**
WCZ	**Waipu Caves**	**2.52**	**315**	⇓PN	**Pn**	**11 32 51.3**	**-1.7**
WCZ	**Waipu Caves**	**2.52**	**315**	P	**Pn**	**11 32 51.3**	**-1.6**
NRZ	**Ngariki Road**	**2.59**	**231**	P	**Pn**	**11 32 54.9**	**+1.2**
NWEZ	**Newall Road**	**2.60**	**233**	P	**Pn**	**11 32 55.4**	**+1.6**
BFZ	**Birch Farm**	**2.94**	**184**	*eP*	**Pn**	**11 32 58.4**	**+0.9**
MRZ	**Mangatainoka R**	**3.01**	**194**	P	**Pn**	**11 32 58.6**	**+0.3**
KIW	**Kapiti Island**	**3.36**	**202**	P	**Pn**	**11 33 02.1**	**-0.2**
MTW	**Mount Morrison**	**3.50**	**193**	P	**Pn**	**11 33 03.7**	**-0.3**
CAW	**Cannon Point**	**3.55**	**198**	P	**Pn**	**11 33 04.2**	**-0.3**
PAWZ	**Paruwai Farm**	**3.73**	**193**	P	**Pn**	**11 33 05.5**	**-1.2**
MRW	**Makara Radio**	**3.76**	**202**	P	**Pn**	**11 33 06.7**	**-0.3**
WEL	**Wellington**	**3.79**	**201**	P	**Pn**	**11 33 07.1**	**-0.3**
MSWZ	**Moikau Station**	**3.80**	**195**	P	**Pn**	**11 33 06.0**	**-1.5**
SNZO	**South Karori**	**3.83**	**201**	P	**Pn**	**11 33 07.2**	**-0.7**
BHW	**Baring Head**	**3.88**	**199**	P	**Pn**	**11 33 06.8**	**-1.7**
TCW	**Tory Channel**	**3.88**	**206**	P	**Pn**	**11 33 08.0**	**-0.5**
NNZ	**Nelson**	**4.25**	**214**	*eP*	**Pn**	**11 33 11.7**	**-1.2**
BSWZ	**Blackbirch Sta**	**4.47**	**207**	P	**Pn**	**11 33 14.1**	**-1.5**
THZ	**Tophouse**	**4.90**	**214**	*eP*	**Pn**	**11 33 20.3**	**-0.6**
KHZ	**Kahutara**	**5.21**	**205**	P	**Pn**	**11 33 24.1**	**-0.7**
DSZ	**Denniston Nort**	**5.42**	**221**	*eP*	**Pn**	**11 33 25.6**	**-1.8**
LTZ	**Lake Taylor**	**6.00**	**212**	*eP*	**Pn**	**11 33 33.2**	**-1.6**
MQZ	**McQueen's Vall**	**6.65**	**205**	*eP*	**Pn**	**11 33 40.9**	**-2.2**
RPZ	**Rata Peaks**	**7.28**	**213**	P	**Pn**	**11 33 50.3**	**-0.8**
	1.6nm,0.3s,baz=29,slow=1.2,SNR=9.3						
RPZ				S	**S**	**11 35 08.2**	**-6.0**
	4.4nm,0.3s,baz=194,slow=23,SNR=13						
RPZ	**Rata Peaks**	**7.28**	**213**	*eP*	**Pn**	**11 33 50.2**	**-0.9**
FOZ	**Fox Glacier**	**7.80**	**220**	*eP*	**Pn**	**11 33 55.6**	**-2.3**
ODZ	**Otahua Downs**	**8.53**	**209**	*eP*	**Pn**	**11 34 06.3**	**-0.9**
JCZ	**Jackson Bay**	**8.64**	**221**	*eP*	**Pn**	**11 34 07.0**	**-1.6**
WKZ	**Wanaka**	**9.06**	**216**	*eP*	**Pn**	**11 34 12.1**	**-1.9**
MSZ	**Milford Sound**	**9.49**	**220**	*eP*	**Pn**	**11 34 19.3**	**-0.1**
TUZ	**Tuapeka**	**9.69**	**210**	*eP*	**Pn**	**11 34 22.2**	**+0.2**
ASAR	**Alice Springs**	**38.92**	**279**	P	**P**	**11 39 12.8**	**+1.8**
	0.7nm,0.6s,mb3.4,baz=118,slow=6.1,SNR=17						
WRA	**Warramunga Arr**	**40.62**	**284**	P	**P**	**11 39 26.3**	**+1.4**
	0.6nm,0.4s,mb3.4,baz=124,slow=8.4,SNR=39						
MDJ	**Mudanjiang**	**92.30**	**329**	P	**P**	**11 44 58.1**	**+6.5**
MDJ				AP	pP	11 45 47.4	+0.5
MDJ				XP	sP	11 46 08.3	-2.2
MDJ				PP	PP	11 48 41.8	+6.5
MDJ				S		11 55 44.3	
MDJ				XS	sS	11 57 11.4	-0.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,41nm,3.8s						
ARCES	**ARCESS Array B**	**144.54**	**343**	PKP	PKPdf	11 51 15.2	-1.3
	comp=Z,3.0nm,1.0s,baz=35,slow=3.3,SNR=4.4						
FINES	**FINESS Array B**	**150.00**	**332**	PKPbc	PKPbc	11 51 30.1	-0.6
	comp=Z,0.5nm,0.6s,baz=46,slow=4.0,SNR=3.3						
FINES				PKPab	PKPab	11 51 35.9	-1.4
	comp=Z,0.6nm,0.7s,baz=66,slow=4.6,SNR=4.7						

*NEIC **15** 11:41:46.9, 3709S×7344W, h15km, ML4.0(GUC), After GUC.*

GUC 15 11:41:46.9±1.0, 3709S×7344W, h15km±10km, ML4.0, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.09**	**29**	⇓*iP*	Pb	11 42 05.8	-1.7
COCH				*i* S	Sb	11 42 19.8	-1.8
CCHI	**Chillan**	**1.20**	**66**	⇑*iP*	Pn	11 42 07.7	-1.3
CCHI				*i* S	Sb	11 42 23.4	-1.1
CCHI				AMP		11 42 30.4	
	comp=N,4μm,0.6s						
CCHI				AMP		11 42 30.6	
	comp=N,6μm,0.7s						
CCHI	**Chillan**	**1.20**	**66**	⇑*iP*	Pn	11 42 07.7	-1.3
CCHI				*i* S	Sb	11 42 23.4	-1.1
TMU	**Temuco**	**1.77**	**158**	*i* P	Pn	11 42 16.7	-0.2
TMU				*i* S	Sn	11 42 39.0	-0.1
LNCH	**Linares**	**1.93**	**50**	*i* P	Pn	11 42 19.9	+0.7
LNCH				*i* S	Sn	11 42 43.9	+0.7
LNCH				AMP		11 42 51.3	
	comp=N,2μm,0.5s						
LNCH	**Linares**	**1.93**	**50**	*i* P	Pn	11 42 19.9	+0.7
LNCH				*i* S	Sn	11 42 43.9	+0.7
TALC	**Talca**	**2.23**	**41**	⇑*iP*	Pn	11 42 24.4	+1.1
TALC				*i* S	Sn	11 42 52.2	+1.5
TALC				AMP		11 43 01.7	
	comp=E,2μm,0.5s						
TALC	**Talca**	**2.23**	**41**	⇑*iP*	Pn	11 42 24.4	+1.1
TALC				*i* S	Sn	11 42 52.2	+1.5
PLCA	**Paso Flores**	**4.27**	**149**	*e*Pn	Pn	11 42 51.9	+0.5

*PRE **15** 11:52:49.5±1.6, 2074S×3315E, h5km, ML5.8*
*BJI **15** 11:52:52.5, 2076S×3340E, h8km, mB5.4, mb5.0, Ms5.3, Ms2.4.8*
*IDC **15** 11:52:52.4±0.5, 2110S×3339E, h0km, mb4.7/21, mb1 4.8/25, mb1mx4.8/27, mbtmp4.7/25, ML5.0/5, MS4.6/22, Ms1 4.6/22, ms1mx4.6/25, Error ellipse: s-maj=16.1km s-min=10.8km az=102.0*
*MOS **15** 11:52:53.1±1.0, 2095S×3356E, h10km, mb5.5/61, MS4.6/21, Error ellipse: s-maj=14.1km s-min=4.7km az=100.1*
*ISCJB **15** 11:52:53.1±0.2, 2118S±003×3351E±004, h17km, mb5.1/146, MS4.9/103, Error ellipse: s-maj=5.9km s-min=4.0km az=61.3*
*NEIC **15** 11:52:54.1±0.2, 2119S×3353E, h10km, mb5.3/84, MS4.9/73, Error ellipse: s-maj=8.3km s-min=6.4km az=98.0*
NEIC Felt at Beira, Manica, Maputo and Sofala. Also felt at Mutare, Zimbabwe.
*HRVD **15** 11:52:54.1±0.2, 2093S×3335E, h12km, MW5.1/80, Centroid moment Tensor Solution. LP body waves: s42,c56;Mantle waves: s80,c121; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.85±.17; $M_{\theta\theta}$0.03±.17; $M_{\phi\phi}$3.83±.14; $M_{r\theta}$0.39±.50; $M_{\theta\phi}$-3.17±.14; $M_{r\phi}$0.73±.44; Best double couple: $M_0$4.86200×10^{16} NP1:ϕ_s314.00000°, δ45.00000°, λ-114.00000°. NP2: ϕ_s166.00000°, δ50.00000°, λ-68.00000°. Principal axes: T 5.6460, Plg3.0000°, Azm241.0000°; N -1.5610, Plg17.0000°, Azm332.0000°; P -4.0780, Plg73.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **15** 11:53:04.4, 1966S×3326E, h33km, mb5.4, MS4.6, Mozambique*

ISC 15 11:52:55.2±0.2, 2120S±003×3348E±004, h18km, h18km±1.5km: pP-P, n494, σ1§12/409, mb5.1/146, MS4.9/103, 29C-8D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**5.47**	**215**	*eP*	**Pn**	**11 54 16.5**	**+0.7**
BFT				*eS*	**Sn**	**11 55 19.2**	**+0.9**
BFT				AML	AML	11 55 52.4	
	comp=Z,2μm,0.7s						
SLR	**Silverton**	**6.57**	**226**	*eP*	**Pn**	**11 54 30.0**	**-1.0**
SLR				*eS*	**Sn**	**11 55 41.8**	**-3.7**
SLR				AML	AML	11 56 27.5	
	comp=Z,2μm,0.5s						
KSR	**Koster**	**7.61**	**231**	*eP*	**Pn**	**11 54 43.0**	**-2.3**
KSR				*eS*	**Sn**	**11 55 59.7**	**-11**
LSZ	**Lusaka**	**7.75**	**319**	Pn	**Pn**	**11 54 43.1**	**-4.0**
	comp=Z,42nm,0.3s,baz=142,slow=14,SNR=80						
LSZ				Sn	**Sn**	**11 56 01.7**	**-13**
	comp=Z,115nm,0.3s,baz=159,slow=14,SNR=6.2						
LSZ				Lg		11 56 43.5	
	comp=Z,536nm,0.3s,baz=66,slow=16,SNR=19						
LSZ				LR	LR	11 57 59.5	
	comp=Z,2μm,19.8s,baz=139,slow=40						
LSZ	**Lusaka**	**7.75**	**319**	*eP*	**Pn**	**11 54 42.9**	**-4.2**
LSZ				pmax	pmax		
	comp=Z,662nm,0.7s						
LSZ	**Lusaka**	**7.75**	**319**	*e*Pn	**Pn**	**11 54 42.9**	**-4.2**
	comp=Z,662nm,0.7s						
LSZ				*e*Sn	**Sn**	**11 56 00.8**	**-14**
LBTB	**Lobatse**	**8.19**	**241**	*eP*	**Pn**	**11 54 50.0**	**-3.2**
LBTB				*eS*	**Sn**	**11 56 18.2**	**-7.1**
LBTB				AML	AML	11 57 26.1	
	comp=Z,1μm,0.6s						
LBTB	**Lobatse**	**8.19**	**241**	Pn	**Pn**	**11 54 51.9**	**-1.3**
	comp=Z,13nm,0.3s,baz=66,slow=13,SNR=215						
LBTB				Sn	**Sn**	**11 56 21.9**	**-3.4**
	comp=Z,68nm,0.3s,baz=326,slow=21,SNR=6.9						
LBTB				Lg		11 57 00.3	
	comp=Z,70nm,0.3s,baz=354,slow=17,SNR=6.9						
LBTB				LR	LR	11 58 08.6	
	comp=Z,11μm,19.4s,baz=66,slow=39						
LBTB	**Lobatse**	**8.19**	**241**	*eP*	**Pn**	**11 54 51.8**	**-1.4**
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LBTB	**Lobatse**	**8.19**	**241**	*e*Pn	**Pn**	**11 54 51.8**	**-1.4**
	comp=Z,2.2nm,0.5s						
LBTB				*e*Sn	**Sn**	**11 56 21.1**	**-4.1**
SEK	**Senekal**	**8.87**	**216**	*eP*	**Pn**	**11 55 02.8**	**+0.4**
SEK				*eS*	**Sn**	**11 56 39.1**	**-2.7**
BOSA	**Boshof**	**10.49**	**224**	*eP*	**Pn**	**11 55 23.9**	**-0.9**
BOSA				*eS*	**Sn**	**11 57 16.1**	**-5.8**
BOSA				AML	AML	11 58 26.5	
	comp=Z,398nm,0.7s						
BOSA	**Boshof**	**10.49**	**224**	Pn	**Pn**	**11 55 23.5**	**-1.3**
	comp=Z,13nm,0.3s,baz=50,slow=13,SNR=100						
BOSA				Sn	**Sn**	**11 57 16.3**	**-5.6**
	comp=Z,22nm,0.3s,baz=314,slow=18,SNR=5.3						
BOSA				Lg		11 58 19.6	
	comp=Z,39nm,0.3s,baz=149,slow=12,SNR=4.1						
BOSA				LR	LR	11 59 42.5	
	comp=Z,8μm,19.4s,baz=52,slow=39						
BOSA	**Boshof**	**10.49**	**224**	*e*Pn	**Pn**	**11 55 23.9**	**-0.9**
	comp=Z,2.2nm,0.5s						
BOSA				*e*Sn	**Sn**	**11 57 10.2**	**-12**
PKA	**Prieska**	**12.84**	**227**	*eP*	**Pn**	**11 55 54.7**	**-2.2**
OPO	**Ambohidratompo**	**13.16**	**81**	Pn	**Pn**	**11 55 59.6**	**-1.5**
	comp=Z,3.0nm,0.3s,baz=252,slow=13,SNR=14						
OPO				Sn	**Sn**	**11 58 21.0**	**-6.0**
	comp=Z,13nm,0.3s,baz=145,slow=22,SNR=6.5						
TSUM	**Tsumeb**	**15.06**	**275**	Pn	**Pn**	**11 56 20.1**	**-7.0**
	comp=Z,1.7nm,0.3s,baz=101,slow=11,SNR=44						
TSUM				Sn	**Sn**	**11 58 57.7**	**-16**
	comp=Z,3.5nm,0.3s,baz=259,slow=23,SNR=5.9						
TSUM				Lg		12 00 36.4	
	comp=Z,12nm,0.3s,baz=223,slow=11,SNR=4.6						
TSUM				LR	LR	12 02 18.6	
	comp=Z,3μm,20.9s,baz=86,slow=38						
TSUM	**Tsumeb**	**15.06**	**275**	*e*Pn	**Pn**	**11 56 19.8**	**-7.3**
	comp=Z,94nm,0.8s						
SUR	**Sutherland**	**15.86**	**223**	Pn	**Pn**	**11 56 36.4**	**-1.1**
	comp=Z,1μm,0.8s,SNR=31						
SUR	**Sutherland**	**15.86**	**223**	*eP*	**Pn**	**11 56 38.0**	**+0.5**
SUR				*eS*	**Sn**	**11 59 24.5**	**-8.4**
SUR	**Sutherland**	**15.86**	**223**	Pn	**Pn**	**11 56 37.0**	**-0.5**
	comp=Z,6.4nm,0.3s,baz=52,slow=15,SNR=54						
SUR				Sn	**Sn**	**11 59 23.6**	**-9.2**
	comp=Z,6.1nm,0.3s,baz=28,slow=15,SNR=4.6						
SUR				Lg		12 01 06.8	
	comp=Z,9.4nm,0.3s,baz=322,slow=22,SNR=7.7						
SUR				LR	LR	12 02 56.5	
	comp=Z,7μm,18.9s,baz=49,slow=38						
SUR	**Sutherland**	**15.86**	**223**	*e*Pn	**Pn**	**11 56 36.5**	**-1.1**
	comp=Z,244nm,1.0s						
SUR				*e*Sn	**Sn**	**11 59 22.2**	**-11**
CVNA	**Calvinia**	**15.99**	**227**	*eP*	**Pn**	**11 56 39.3**	**+0.1**
CVNA				*eS*	**Sn**	**11 59 27.8**	**-8.3**
CER	**Ceres**	**17.46**	**223**	*eP*	**Pn**	**11 56 56.3**	**-1.6**
KMBO	**Kilima Mbogo**	**20.29**	**11**	P	**P**	**11 57 29.6**	**-0.3**
	comp=Z,8.0nm,0.9s,baz=192,slow=12,SNR=13						
KMBO				S	**S**	**12 01 20.2**	**+3.5**
	comp=Z,8.2nm,0.9s,baz=266,slow=18,SNR=2.6						
KMBO				Lg		12 03 12.8	
	comp=Z,56nm,0.9s,baz=289,slow=23,SNR=4.6						
KMBO				LR	LR	12 04 42.0	
	comp=Z,1μm,19.3s,MS4.3,baz=152,slow=35						
ABTO	**Aybut**	**42.96**	**28**	⇓P	**P**	**12 00 53.0**	**-0.1**
RBK	**Rabkut**	**43.50**	**29**	⇑P	**P**	**12 00 57.4**	**-0.1**
	SNR=9.1						
SHAO	**Shalim**	**44.61**	**31**	⇑P	**P**	**12 01 06.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**46.26**	**315**	P	**P**	**12 01 17.7**	**-1.8**
	comp=Z,77nm,1.0s,mb5.6,baz=128,slow=7.3,SNR=126						
TORD				PP	PP	12 03 06.3	-1.8
	comp=Z,16nm,1.1s,baz=128,slow=9.3,SNR=6.0						
LIC	**Lamto**	**46.59**	**302**	*eP*	**P**	**12 01 20.5**	**-1.6**
	comp=Z,73nm,1.4s,mb5.1						
LIC				*e*R			
	comp=Z,1μm,21.2s						
LIC	**Lamto**	**46.59**	**302**	*eP*	**P**	**12 01 20.5**	**-1.6**
	comp=Z,36nm,1.4s,mb5.1						
LIC				LR	LR		
	comp=Z,600nm,21.3s,MS4.5						
DBIC	**Dimbokro**	**46.72**	**302**	P	**P**	**12 01 23.2**	**+0.1**
	comp=Z,18nm,1.0s,mb4.9,baz=109,slow=10.0,SNR=12						
DBIC				PP	PP	12 03 11.1	-1.9
	comp=Z,6.5nm,0.8s,baz=116,slow=12,SNR=4.0						
DBIC				LR	L

COCO West Island 61.01 92 PFAKE 12 03 20.0 +12
COCO LR LR
comp=Z,1µm,21.0s,MS5.0
BHPL Bhopal 61.51 47 *e*P **P 12 03 10.8 -0.2**
BHPL AMb AMB 12 03 14.6
comp=Z,43nm,1.8s,mb5.3
GNI Garni 61.93 10 P **P 12 03 14.0 +0.2**
baz=338,slow=16
GNI Garni 61.93 10 *e*P **P 12 03 14.0 +0.2**
GNI pmax pmax
comp=Z,55nm,1.4s
GNI MLR MLR
comp=Z,292nm,20.0s
GNI Garni 61.93 10 *e*P **P 12 03 14.0 +0.2**
comp=Z,55nm,1.4s,mb5.5
GNI LR LR
comp=Z,292nm,20.0s,MS4.4
AJM Ajmer 61.95 42 *e*P **P 12 03 13.8 -0.1**
VIS Vishakhapatnam 62.30 55 *e*P **P 12 03 15.3 -1.0**
VIS AMb AMB 12 03 18.6
comp=Z,25nm,1.2s,mb5.2
BIA Bitola 62.92 350 *e*P **P 12 03 21.1 +0.6**
VAY Valandovo 63.02 351 *e*P **P 12 03 20.7 -0.4**
OHR Ohrid 63.10 349 *e*P **P 12 03 21.7 0.0**
STIP Stip 63.44 351 *e*P **P 12 03 22.8 -1.1**
SKO Skopje 63.83 350 *e*P **P 12 03 27.4 +0.9**
ZEI Tsey 64.37 8 *i* P **P 12 03 27.4 -2.6**
ZEI *i* *PP pP 12 03 33.6 -2.1
ZEI pmax pmax
comp=Z,21nm,1.3s,mb5.0
VSL Villasalto 64.45 339 *e*P **P 12 03 32.6 +2.0**
comp=Z,89nm,1.5s,mb5.6
CASY Casey 65.58 154 PFAKE 12 03 50.0 +12
CASY LR LR
comp=Z,1µm,19.0s,MS5.2
MLR Muntele Rosu 66.72 354 ⇑P **P 12 03 47.5 +2.3**
MLR Muntele Rosu 66.72 354 ⇑P **P 12 03 47.5 +2.3**
VOIR 66.76 354 ⇑P **P 12 03 46.8 +1.3**
VOIR 66.76 354 ⇑P **P 12 03 44.3 -1.1**
CORF Corte 67.06 341 *e*P **P 12 03 49.7 +2.3**
EMUR La Murta 67.19 331 P **P 12 03 51.1 +2.9**
EBER Berja 67.21 329 P **P 12 03 50.2 +1.9**
comp=Z,21nm,1.1s,mb5.1
PGF Pioggiola 67.33 341 *e*P **P 12 03 48.3 -0.8**
comp=Z,97nm,1.3s,mb5.4
PGF Pioggiola 67.33 341 *e*P **P 12 03 48.3 -0.8**
PGF pmax pmax
comp=Z,49nm,1.3s,mb5.4
PGF Pioggiola 67.33 341 *e*P **P 12 03 48.3 -0.8**
comp=Z,49nm,1.3s,mb5.4
BZS Buzias 67.36 351 ⇓P **P 12 03 49.3 0.0**
BZS Buzias 67.36 351 ⇓P **P 12 03 49.3 0.0**
EBEN Beniarda 67.45 332 P **P 12 03 53.9 +4.0**
BOK Bokaro 67.84 52 *e*P **P 12 03 52.1 -0.2**
ETOB Tobarra 67.99 331 P **P 12 03 55.4 +2.1**
PSI Prapat 68.29 78 P **P 12 03 56.4 +1.2**
comp=Z,4.2nm,0.4s,mb4.8,baz=201,slow=10,SNR=7.6
DRGR 68.37 352 ⇑P **P 12 03 56.3 +0.7**
DRGR 68.37 352 ⇑P **P 12 03 56.4 +0.7**
PKSM Moragy 68.43 349 ⇓P **P 12 03 55.6 -0.4**
ESPR Espera 68.65 327 P **P 12 03 58.4 +1.0**
comp=Z,24nm,1.1s,mb5.0
KOLN Koldanda 68.68 47 *e*P **P 12 03 56.3 -1.3**
comp=Z,69nm,1.3s,mb5.4
GCIS Gornji Cirnik 68.69 347 *e*P **P 12 03 57.5 -0.1**
RCBR Riachuelo 68.71 272 *e*P **P 12 03 56.3 -1.5**
comp=Z,36nm,1.4s,mb5.1
RCBR LR LR
comp=Z,684nm,22.0s,MS4.8
GOLS Golise 68.83 347 *e*P **P 12 04 01.5 +3.0**
CEY Cerknica 68.83 346 *e*P **P 12 03 58.4 -0.2**
LEGS Legarje 68.83 347 *e*P **P 12 03 58.1 -0.5**
LMR La Mourre 68.84 339 *e*P **P 12 03 57.8 -0.8**
comp=Z,108nm,1.5s,mb5.3
LMR La Mourre 68.84 339 *e*P **P 12 03 57.8 -0.8**
LMR pmax pmax
comp=Z,54nm,1.5s,mb5.3
LMR La Mourre 68.84 339 *e*P **P 12 03 57.8 -0.8**
comp=Z,54nm,1.5s,mb5.3
BURAR Bucovina Array 68.89 354 ⇑P **P 12 03 59.5 +0.6**
BURAR Bucovina Array 68.89 354 ⇑P **P 12 03 59.5 +0.5**
EMOS Mosqueruela 68.93 333 P **P 12 04 02.4 +3.2**
comp=Z,26nm,1.2s,mb5.0
QSPA South Pole Qui 68.96 180 *e*P **P 12 04 01.7 +2.4**
comp=Z,44nm,1.6s,mb5.1
FRF La Foret Royal 69.00 339 *e*P **P 12 03 58.8 -0.7**
comp=Z,59nm,1.4s,mb5.0
FRF La Foret Royal 69.00 339 *e*P **P 12 03 58.8 -0.7**
FRF pmax pmax
comp=Z,29nm,1.4s,mb5.0
FRF La Foret Royal 69.00 339 *e*P **P 12 03 58.8 -0.7**
comp=Z,29nm,1.4s,mb5.0
PDKS Podkum 69.01 346 *e*P **P 12 03 59.6 -0.1**
SBF Sospel 69.01 340 *e*P **P 12 03 59.0 -0.6**
comp=Z,147nm,1.5s,mb5.4
SBF Sospel 69.01 340 *e*P **P 12 03 59.0 -0.6**
SBF pmax pmax
comp=Z,74nm,1.5s,mb5.4
SBF Sospel 69.01 340 *e*P **P 12 03 59.0 -0.6**
comp=Z,74nm,1.5s,mb5.4
EADA Adamuz 69.03 329 P **P 12 04 00.3 +0.5**
JAVS Javornik 69.06 346 *e*P **P 12 03 59.6 -0.3**
SAOF Saorge 69.08 340 *e*P **P 12 04 02.2 +2.1**
EPOB Poblet 69.11 334 P **P 12 04 03.1 +2.8**
comp=Z,11nm,1.0s,mb4.8
AUTN L'Aution 69.13 340 *e*P **P 12 04 03.0 +2.6**
DANN Dangsing 69.16 47 *e*P **P 12 03 59.2 -1.4**
VOY Vojsko 69.23 346 *e*P **P 12 04 00.7 -0.3**
VOY *e* 12 04 03.7
TAVF Tavernes 69.24 339 *e*P **P 12 04 01.5 +0.4**
ECAB El Cabril 69.37 328 P **P 12 04 04.9 +3.0**
comp=Z,5.6nm,0.8s,mb4.5
TREF Trevaresse 69.47 339 *e*P **P 12 04 06.0 +3.5**
OBKA Obir 69.53 346 ⇑*i*P **P 12 04 03.3 +0.4**
comp=Z,42nm,1.6s,mb5.1
GKN Gorkha 69.54 47 *e*P **P 12 04 01.8 -1.1**
comp=Z,36nm,0.9s,mb5.3
DMN Daman 69.61 48 *e*P **P 12 04 02.5 -0.9**
comp=Z,25nm,1.0s,mb5.1
STOF St-Etienne Org 69.63 339 *e*P **P 12 04 07.1 +3.6**
PRAF Pradon 69.71 339 *e*P **P 12 04 05.2 +1.3**
PTCC Patocco-Chiusa 69.71 345 P **P 12 04 04.1 +0.1**
SMRF Simiane la Rot 69.72 339 *e*P **P 12 04 04.5 +0.5**
comp=Z,94nm,1.5s,mb5.2
SMRF Simiane la Rot 69.72 339 *e*P **P 12 04 04.5 +0.5**
comp=Z,94nm,1.5s,mb5.5
EMIN Mina Concepcio 69.76 327 P **P 12 04 06.1 +1.8**
comp=Z,12nm,1.0s,mb4.8
CTI Castel Tesino 69.80 344 P **P 12 04 04.9 +0.4**
CTI pmax pmax
comp=Z,44nm,1.3s,mb5.2
CTI Castel Tesino 69.80 344 P **P 12 04 04.9 +0.4**
comp=Z,44nm,1.3s,mb5.2
PKI Pulchoki 69.80 48 *e*P **P 12 04 03.4 -1.1**
comp=Z,79nm,1.2s,mb5.5
KKN Kakani 69.85 48 *e*P **P 12 04 03.9 -0.9**
comp=Z,71nm,1.4s,mb5.4
PSZ Piszkesteto 69.87 350 ⇑*i* **P 12 04 04.3 -0.7**
PSZ Piszkesteto 69.87 350 *e*P **P 12 04 03.8 -1.2**
PSZ pmax pmax
comp=Z,50nm,1.2s,mb5.3
PSZ Piszkesteto 69.87 350 *e*P **P 12 04 03.8 -1.2**
comp=Z,50nm,1.2s,mb5.3
ESDC Sonseca Array 69.93 330 P **P 12 04 05.0 -0.3**
comp=Z,26nm,1.1s,mb5.0,baz=143,slow=5.7,SNR=25
ESDC Sonseca Array 69.93 330 P **P 12 04 07.4 +2.0**
comp=Z,11nm,0.9s,mb4.8
ESLA Sonseca Array 69.93 330 *e*P **P 12 04 05.3 -0.1**
comp=Z,14nm,1.3s,mb4.7
ESLA LR LR
comp=Z,1µm,19.0s,MS5.2
MBDF Montbardon 70.00 340 *e*P **P 12 04 05.9 +0.2**
comp=Z,65nm,1.3s,mb5.1
MBDF Montbardon 70.00 340 *e*P **P 12 04 05.9 +0.2**
MBDF pmax pmax
comp=Z,33nm,1.3s,mb5.1
MBDF Montbardon 70.00 340 *e*P **P 12 04 05.9 +0.2**
comp=Z,32nm,1.3s,mb5.1
SRO1 Iza 70.00 349 *e*P **P 12 04 07.5 +1.8**
ARSA Arzberg 70.03 347 ⇑*i*P **P 12 04 06.1 +0.2**
comp=Z,23nm,1.6s,mb4.8
SRO Srobarova 70.03 349 *e*P **P 12 04 06.8 +0.8**
ESAC San Caprasio 70.06 334 P **P 12 04 09.7 +3.6**
comp=Z,12nm,0.8s,mb4.9
EGRA Graus 70.13 334 P **P 12 04 09.2 +2.6**

SALF Salau 70.26 335 *e*P **P 12 04 08.1 +0.8**
SEST Monte Rota 70.31 345 P **P 12 04 09.2 +1.6**
BNI Bardonecchia 70.32 340 P **P 12 04 07.5 -0.2**
BNI pmax pmax
comp=Z,37nm,1.4s,mb5.1
BNI Bardonecchia 70.32 340 P **P 12 04 07.5 -0.2**
comp=Z,37nm,1.4s,mb5.1
KECS Kecovo 70.33 351 *e*P **P 12 04 06.9 -0.9**
KECS *e* 12 04 17.2
GUN Gumba 70.34 48 *e*P **P 12 04 07.2 -0.6**
comp=Z,96nm,1.1s,mb5.6
OCF Saint Nazaire 70.34 339 *e*P **P 12 04 09.4 +1.5**
OG26 St.-Nazaire-De 70.34 339 *e*P **P 12 04 09.4 +1.5**
KBA Koelnbreinsper 70.35 346 ⇑*i*P **P 12 04 08.1 +0.3**
comp=Z,32nm,1.1s,mb5.1
MTLF Montolieu 70.36 336 *e*P **P 12 04 07.2 -0.8**
comp=Z,75nm,1.5s,mb5.1
MTLF Montolieu 70.36 336 *e*P **P 12 04 07.2 -0.8**
MTLF pmax pmax
comp=Z,37nm,1.5s,mb5.1
MTLF Montolieu 70.36 336 *e*P **P 12 04 07.2 -0.8**
comp=Z,37nm,1.5s,mb5.1
BRES Bressanone 70.38 344 P **P 12 04 11.1 +3.0**
JIRN Jiri 70.40 49 *e*P **P 12 04 07.3 -0.9**
comp=Z,47nm,1.1s,mb5.3
LASF Ste Croix 70.40 338 *e*P **P 12 04 07.9 -0.3**
comp=Z,108nm,1.5s,mb5.3
ORIF Oris-en-Rattie 70.45 340 *e*P **P 12 04 08.6 +0.1**
comp=Z,109nm,1.5s,mb5.3
ORIF *e*R
comp=Z,355nm,19.0s
ORIF Oris-en-Rattie 70.45 340 *e*P **P 12 04 08.6 +0.1**
ORIF pmax pmax
comp=Z,55nm,1.5s,mb5.3
ORIF Oris-en-Rattie 70.45 340 *e*P **P 12 04 08.6 +0.1**
comp=Z,54nm,1.5s,mb5.3
BRMO Bormio 70.53 343 P **P 12 04 11.8 +2.8**
CRVS Cervenica-Dubn 70.60 352 *e*P **P 12 04 07.8 -1.6**
CRVS *e* 12 04 10.7
VYHS Vyhne 70.60 350 *e*P **P 12 04 08.5 -0.9**
VYHS *e* 12 04 17.5
EBIE Bielsa 70.61 335 P **P 12 04 11.8 +2.3**
comp=Z,5.0nm,0.8s,mb4.5
ZST Bratislava 70.62 348 *e*P **P 12 04 08.8 -0.7**
ZST *e* 12 04 11.0
ZST Bratislava 70.62 348 *e*P **P 12 04 11.0 +1.5**
EBAD Badajoz 70.69 327 P **P 12 04 12.6 +2.6**
comp=Z,9.1nm,1.0s,mb4.7
LPG La Plagne 70.69 340 *e*P **P 12 04 09.3 -0.7**
comp=Z,65nm,1.3s,mb5.1
LPG La Plagne 70.69 340 *e*P **P 12 04 09.3 -0.7**
LPG pmax pmax
comp=Z,33nm,1.3s,mb5.1
LPG La Plagne 70.69 340 *e*P **P 12 04 09.3 -0.7**
comp=Z,32nm,1.3s,mb5.1
LPL La Plagne 70.72 340 *e*P **P 12 04 09.4 -0.7**
comp=Z,94nm,1.4s,mb5.2
LPL La Plagne 70.72 340 *e*P **P 12 04 09.4 -0.7**
LPL pmax pmax
comp=Z,47nm,1.4s,mb5.2
LPL La Plagne 70.72 340 *e*P **P 12 04 09.4 -0.7**
comp=Z,47nm,1.4s,mb5.2
GUD Guadarrama 70.79 331 P **P 12 04 12.3 +1.7**
GUD pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
GUD Guadarrama 70.79 331 P **P 12 04 12.3 +1.7**
comp=Z,2.0nm,0.5s,mb4.3
VIVF Saint-Julien-l 70.80 339 *e*P **P 12 04 10.4 -0.2**
comp=Z,57nm,1.4s,mb5.0
VIVF Saint-Julien-l 70.80 339 *e*P **P 12 04 10.4 -0.2**
VIVF pmax pmax
comp=Z,28nm,1.4s,mb5.0
VIVF Saint-Julien-l 70.80 339 *e*P **P 12 04 10.4 -0.2**
comp=Z,28nm,1.4s,mb5.0
TUE Stuetta 70.81 343 P **P 12 04 10.4 -0.3**
comp=Z,47nm,1.6s,mb5.2
EPF Esparros 70.82 335 *e*P **P 12 04 10.4 -0.4**
comp=Z,148nm,1.7s,mb5.3
EPF Esparros 70.82 335 *e*P **P 12 04 10.4 -0.4**
EPF pmax pmax
comp=Z,74nm,1.7s,mb5.3
EPF Esparros 70.82 335 *e*P **P 12 04 10.4 -0.4**
comp=Z,74nm,1.7s,mb5.3
MOA Molln 70.86 346 ⇑*i*P **P 12 04 11.0 -0.1**
comp=Z,59nm,1.4s,mb5.3
KULM Kulim 70.87 76 *e*P **P 12 04 11.4 +0.3**
SQTA Sankt Quirin 71.00 344 ⇑*i*P **P 12 04 12.0 +0.1**
comp=Z,34nm,1.4s,mb5.1
WATA Walderalm 71.01 344 ⇑*i*P **P 12 04 12.1 +0.2**
comp=Z,40nm,1.6s,mb5.1
ETSF Etsaut 71.07 334 *e*P **P 12 04 11.8 -0.5**
STHS Stebnicka Huta 71.14 352 *e*P **P 12 04 12.0 -0.7**
STHS *e* 12 04 12.2
STHS *e* 12 04 22.1
STHS Stebnicka Huta 71.14 352 *e*P **P 12 04 12.2 -0.5**
STHS *e* 12 04 12.0
MOTA Moosalm 71.14 344 ⇑*i*P **P 12 04 12.6 -0.1**
comp=Z,33nm,1.3s,mb5.1
KWP Kalwaria 71.16 353 *e*P **P 12 04 12.6 -0.2**
NIE Niedzica 71.27 351 *e*P **P 12 04 13.3 -0.2**
DAVA Damuels 71.41 343 ⇑*i*P **P 12 04 14.6 +0.2**
comp=Z,42nm,1.2s,mb5.2
SJPF Ste Jean 71.52 334 *e*P **P 12 04 14.5 -0.5**
comp=Z,87nm,1.4s,mb5.2
SJPF Ste Jean 71.52 334 *e*P **P 12 04 14.5 -0.5**
SJPF pmax pmax
comp=Z,43nm,1.4s,mb5.2
SJPF Ste Jean 71.52 334 *e*P **P 12 04 14.5 -0.5**
comp=Z,43nm,1.4s,mb5.2
COLF Collangettes 71.71 338 *e*P **P 12 04 15.5 -0.7**
CAF Calviac 71.78 337 *e*P **P 12 04 16.2 -0.4**
comp=Z,103nm,1.6s,mb5.2
CAF Calviac 71.78 337 *e*P **P 12 04 16.2 -0.4**
CAF pmax pmax
comp=Z,51nm,1.6s,mb5.2
CAF Calviac 71.78 337 *e*P **P 12 04 16.2 -0.4**
comp=Z,52nm,1.6s,mb5.2
FUR Furstenfeldbru 71.86 345 *e*P **P 12 04 16.9 -0.2**
comp=Z,116nm,1.3s,mb5.7
FUR Furstenfeldbru 71.86 345 *e*P **P 12 04 16.9 -0.2**
FUR pmax pmax
comp=Z,116nm,1.3s,mb5.7
CABF La Chapelle 71.90 341 *e*P **P 12 04 16.8 -0.5**
comp=Z,150nm,1.5s,mb5.4
CABF La Chapelle 71.90 341 *e*P **P 12 04 16.8 -0.5**
CABF pmax pmax
comp=Z,75nm,1.5s,mb5.4
CABF La Chapelle 71.90 341 *e*P **P 12 04 16.8 -0.5**
comp=Z,75nm,1.5s,mb5.4
GEC2 GERESS Array S 71.93 346 *e*P **P 12 04 16.9 -0.6**
comp=Z,44nm,1.4s,mb5.2
GEC2 GERESS Array S 71.93 346 *e*P **P 12 04 16.9 -0.6**
GEC2 pmax pmax
comp=Z,44nm,1.4s,mb5.2
GERES GERESS Array B 71.93 346 P **P 12 04 16.8 -0.7**
comp=Z,11nm,1.1s,mb4.7,baz=158,slow=4.3,SNR=17
GERES LR LR 12 39 44.7
comp=Z,247nm,19.6s,MS4.5,baz=33,slow=39
TREC Trest 71.98 348 *e*P **P 12 04 19.2 +1.4**
TREC AMS AMS 12 39 50.0
comp=Z,300nm,15.3s
OKC Ostrava-Krasne 72.02 350 *e*P **P 12 04 16.8 -1.2**
OKC AMS AMS 12 42 20.0
MORC Moravsky Berou 72.06 349 *e*P **P 12 04 16.8 -1.5**
MORC pmax pmax
comp=Z,23nm,1.2s,mb5.0
MORC Moravsky Berou 72.06 349 *e*P **P 12 04 16.8 -1.4**
comp=Z,23nm,1.2s,mb5.0
OJC Ojcow 72.13 351 *e*P **P 12 04 18.0 -0.6**
PLDF La Plantade 72.13 339 *e*P **P 12 04 20.8 +2.1**
PYM Petit Puy Mans 72.15 338 *e*P **P 12 04 19.1 +0.3**
MTE Manteigas 72.21 328 *e*P **P 12 04 20.9 +1.8**
comp=Z,23nm,1.4s,mb4.9
KHC Kasperske Hory 72.23 346 *e*P **P 12 04 18.6 -0.6**
KHC x x 12 04 28.0
KHC AMS AMS 12 39 20.0
comp=Z,400nm,14.8s
KHC Kasperske Hory 72.23 346 ⇑*e*P **P 12 04 19.0 -0.2**
KHC Kasperske Hory 72.23 346 ⇑*e*P **P 12 04 19.0 -0.2**
BBS Basel-Blauen 72.23 342 *e*P **P 12 04 17.9 -1.4**
KSH Kashi 72.28 33 P **P 12 04 20.1 +0.6**
KSH AP pP 12 04 24.8 -0.5
KSH XP sP 12 04 27.0 -0.4
KSH PCP PcP 12 04 38.4 +0.8
KSH PP PP 12 07 02.3 +2.1

KSH S S 12 13 40.0 -1.7
KSH XS sS 12 13 48.1 -3.2
KSH SKS 12 14 20.8
KSH SCS ScS 12 14 22.4 -2.8
KSH SS SS 12 18 20.8 +1.2
KSH AMB AMB
comp=Z,23nm,0.7s,mb5.2
KSH LR LR
comp=N,305nm,6.4s
KSH LR LR
comp=E,337nm,5.4s
KSH LR LR
comp=Z,310nm,7.7s
RJF Les Rejaudoux 72.30 337 *e*P **P 12 04 19.1 -0.6**
comp=Z,148nm,1.7s,mb5.3
RJF *e*R
comp=Z,429nm,18.2s
RJF Les Rejaudoux 72.30 337 *e*P **P 12 04 19.1 -0.6**
RJF pmax pmax
comp=Z,74nm,1.7s,mb5.3
RJF MLR MLR
comp=Z,430nm,18.3s,MS4.8
RJF Les Rejaudoux 72.30 337 *e*P **P 12 04 19.1 -0.6**
comp=Z,74nm,1.7s,mb5.3
RJF LR LR
comp=Z,430nm,18.3s,MS4.8
VRHR Novokhopersk 72.33 5 *e*P **P 12 04 18.6 -1.3**
VRHR pmax pmax
comp=Z,120nm,1.7s,mb5.5
VRHR pmax pmax
comp=N,160nm,2.0s
VRHR pmax pmax
comp=E,20nm,0.9s
WET Wettzell 72.39 346 *e*P **P 12 04 19.7 -0.6**
comp=Z,22nm,1.3s,mb4.9
WET Wettzell 72.39 346 *e*P **P 12 04 19.7 -0.6**
WET pmax pmax
comp=Z,22nm,1.3s,mb4.9
KK31 Karatay Array 72.49 28 *i* P **P 12 04 20.3 -0.5**
KKAR Karatay Array 72.49 28 *i* P **P 12 04 20.2 -0.6**
KKAR pmax pmax
comp=Z,23nm,0.8s,mb5.2
ELAN Lanestosa 72.55 333 P **P 12 04 23.6 +2.4**
comp=Z,28nm,1.3s,mb5.0
SMF Signal de Mont 72.65 339 *e*P **P 12 04 20.9 -0.9**
comp=Z,123nm,1.6s,mb5.3
SMF Signal de Mont 72.65 339 *e*P **P 12 04 20.9 -0.9**
SMF pmax pmax
comp=Z,62nm,1.6s,mb5.3
SMF Signal de Mont 72.65 339 *e*P **P 12 04 20.9 -0.9**
comp=Z,62nm,1.6s,mb5.3
HINF Hinteralfeld 72.74 342 *e*P **P 12 04 21.4 -0.9**
comp=Z,127nm,1.6s,mb5.3
HINF Hinteralfeld 72.74 342 *e*P **P 12 04 21.4 -0.9**
HINF pmax pmax
comp=Z,63nm,1.6s,mb5.3
HINF Hinteralfeld 72.74 342 *e*P **P 12 04 21.4 -0.9**
comp=Z,63nm,1.6s,mb5.3
BFO Black Forest 72.79 343 *e*P **P 12 04 22.6 0.0**
comp=Z,22nm,1.6s,mb4.8
BFO Black Forest 72.79 343 *e*P **P 12 04 22.6 0.0**
BFO pmax pmax
comp=Z,22nm,1.6s,mb4.8
DPC Dobruska-Polom 72.83 349 *e*P **P 12 04 22.0 -0.9**
DPC AMS AMS 12 41 40.0
PRU Pruhonice 72.83 347 AMS AMS 12 43 30.0
comp=Z,300nm,19.2s
TCF Toulx Ste Croi 72.90 338 *e*P **P 12 04 23.0 -0.2**
comp=Z,139nm,1.6s,mb5.3
TCF Toulx Ste Croi 72.90 338 *e*P **P 12 04 23.0 -0.2**
TCF pmax pmax
comp=Z,69nm,1.6s,mb5.3
TCF Toulx Ste Croi 72.90 338 *e*P **P 12 04 23.0 -0.2**
comp=Z,69nm,1.6s,mb5.3
BGF Bois d'Agland 72.91 338 *e*P **P 12 04 22.8 -0.5**
comp=Z,60nm,1.4s,mb5.0
BGF Bois d'Agland 72.91 338 *e*P **P 12 04 22.8 -0.5**
BGF pmax pmax
comp=Z,30nm,1.4s,mb5.0
BGF Bois d'Agland 72.91 338 *e*P **P 12 04 22.8 -0.5**
comp=Z,30nm,1.4s,mb5.0
AVF Avril sur Loir 72.94 339 *e*P **P 12 04 22.7 -0.8**
comp=Z,109nm,1.6s,mb5.2
AVF Avril sur Loir 72.94 339 *e*P **P 12 04 22.7 -0.8**
AVF pmax pmax
comp=Z,54nm,1.6s,mb5.2
AVF Avril sur Loir 72.94 339 *e*P **P 12 04 22.7 -0.8**
comp=Z,54nm,1.6s,mb5.2
STU Stuttgart 72.95 343 *e*P **P 12 04 23.2 -0.4**
comp=Z,18nm,0.4s,mb5.3
ECAL Calabor 73.01 330 P **P 12 04 25.8 +1.8**
comp=Z,7.1nm,0.9s,mb4.6
ECH Echery 73.01 342 *e*P **P 12 04 23.8 -0.1**
UPC Upice 73.04 348 *e*P **P 12 04 23.4 -0.7**
HAU Haudompre 73.06 341 *e*P **P 12 04 24.3 +0.1**
comp=Z,147nm,1.6s,mb5.4
HAU *e*R
comp=Z,331nm,17.2s
HAU Haudompre 73.06 341 *e*P **P 12 04 24.3 +0.1**
HAU pmax pmax
comp=Z,74nm,1.6s,mb5.4
HAU MLR MLR
comp=Z,330nm,17.3s,MS4.7
HAU Haudompre 73.06 341 *e*P **P 12 04 24.3 +0.1**
comp=Z,74nm,1.6s,mb5.4
HAU LR LR
comp=Z,330nm,17.3s,MS4.7
SSF Saint Saulge 73.13 339 *e*P **P 12 04 23.5 -1.1**
ROTZ Rotzenmuhle 73.13 346 *e*P **P 12 04 24.3 -0.3**
comp=Z,67nm,1.3s,mb5.4
WLS Welschbruch 73.14 342 *e*P **P 12 04 26.4 +1.7**
AML Almayashu 73.15 30 P **P 12 04 24.7 -0.1**
SNR=22
CDF Champ du Feu 73.16 342 *e*P **P 12 04 23.6 -1.2**
comp=Z,70nm,1.5s,mb5.1
CDF Champ du Feu 73.16 342 *e*P **P 12 04 23.6 -1.2**
CDF pmax pmax
comp=Z,35nm,1.5s,mb5.1
CDF Champ du Feu 73.16 342 *e*P **P 12 04 23.6 -1.2**
comp=Z,35nm,1.5s,mb5.1
LOR Lormes 73.19 339 *e*P **P 12 04 24.0 -1.0**
comp=Z,71nm,1.7s,mb5.0
LOR *e*R
comp=Z,415nm,17.0s
LOR Lormes 73.19 339 *e*P **P 12 04 24.0 -1.0**
LOR pmax pmax
comp=Z,35nm,1.7s,mb5.0
LOR MLR MLR
comp=Z,420nm,17.0s,MS4.8
LOR Lormes 73.19 339 *e*P **P 12 04 24.0 -1.0**
comp=Z,36nm,1.7s,mb5.0
LOR LR LR
comp=Z,420nm,17.0s,MS4.8
GRA1 Grafenberg Arr 73.29 345 *e*P **P 12 04 25.6 0.0**
comp=Z,65nm,1.3s,mb5.4
GRA1 *e*PP PP 12 07 06.3 -2.6
GRA1 LR LR
comp=Z,300nm,18.9s,MS4.6
GRF Grafenberg Arr 73.29 345 *e*P **P 12 04 25.6 0.0**
comp=Z,65nm,1.3s,mb5.4
GRF *e*PP PP 12 07 06.3 -2.6
GRF *e*L 12 41 07.9
comp=Z,291nm,18.9s
GRF Grafenberg Arr 73.29 345 *e*P **P 12 04 25.6 0.0**
GRF *e* 12 07 06.3
GRF pmax pmax
comp=Z,65nm,1.3s,mb5.4
GRF MLR MLR
comp=Z,300nm,18.9s,MS4.6
KSP Ksiaz 73.31 349 *e*P **P 12 04 27.7 +2.0**
MANZ Manzenberg 73.36 346 *e*P **P 12 04 26.0 0.0**
comp=Z,54nm,1.4s,mb5.3
THEF They Montfort 73.37 341 *e*P **P 12 04 25.8 -0.2**
NKC Novy Kostel 73.51 346 AMS AMS 12 44 00.0
comp=Z,400nm,16.9s
LANF Langenberg 73.52 343 *e*P **P 12 04 29.0 +2.1**
EKS2 Erkin-Say 73.60 30 P **P 12 04 27.4 0.0**
SNR=14
UCH Uchtor 73.61 31 P **P 12 04 30.8 +3.3**
SNR=16
NWAO Narrogin (SRO) 73.75 119 PFAKE 12 04 40.0 +12
NWAO LR LR
comp=Z,308nm,20.0s,MS4.6
WERD Werda 73.75 346 *e*P **P 12 04 28.4 +0.1**
comp=Z,55nm,1.3s,mb5.3
BRG Berggiesshubel 73.80 347 *e*P **P 12 04 28.1 -0.4**
comp=Z,12nm,1.0s,mb4.8

BRG	**Berggiesshubel**	**73.80**	**347**	*e*P	**P**	**12 04 27.9**	**-0.6**
BRG				pmax	pmax		
comp=Z,7.0nm,1.4s,mb4.4							
BRG	**Berggiesshubel**	**73.80**	**347**	*e*P	**P**	**12 04 27.9**	**-0.7**
comp=Z,6.8nm,1.4s,mb4.4							
TOD	**Tromm**	**73.82**	**344**	*e*P	**P**	**12 04 28.5**	**-0.2**
MEZF	**Maizieres J'vi**	**73.90**	**341**	*e*P	**P**	**12 04 28.8**	**-0.3**
comp=Z,145nm,1.5s,mb5.4							
MEZF	**Maizieres J'vi**	**73.90**	**341**	*e*P	**P**	**12 04 28.8**	**-0.3**
comp=Z,145nm,1.5s,mb5.7							
AAK	**Ala-Archa**	**73.92**	**30**	P	**P**	**12 04 29.6**	**+0.4**
SNR=9.1							
AAK	**Ala-Archa**	**73.92**	**30**	P	**P**	**12 04 28.3**	**-1.0**
comp=Z,58nm,1.7s,mb5.2,SNR=5.8							
AB31	**Akbulak array**	**73.99**	**18**	*i* P	**P**	**12 04 28.0**	**-1.7**
AB31				pmax	pmax		
comp=Z,14nm,0.8s,mb4.9							
MFF	**Saint Martin d**	**74.02**	**337**	*e*P	**P**	**12 04 29.3**	**-0.5**
comp=Z,136nm,1.6s,mb5.3							
MFF	**Saint Martin d**	**74.02**	**337**	*e*P	**P**	**12 04 29.3**	**-0.5**
MFF				pmax	pmax		
comp=Z,68nm,1.6s,mb5.3							
MFF	**Saint Martin d**	**74.02**	**337**	*e*P	**P**	**12 04 29.3**	**-0.5**
comp=Z,68nm,1.6s,mb5.3							
MOX	**Moxa**	**74.09**	**346**	*e*P	**P**	**12 04 30.4**	**+0.1**
comp=Z,25nm,1.2s,mb5.0							
MOX	**Moxa**	**74.09**	**346**	*e*P	**P**	**12 04 29.9**	**-0.4**
comp=Z,35nm,1.5s,mb5.1							
MOX							
comp=Z,200nm,17.0s							
MOX	**Moxa**	**74.09**	**346**	*e*P	**P**	**12 04 29.9**	**-0.4**
MOX				pmax	pmax		
comp=Z,35nm,1.5s,mb5.1							
MOX				MLR	MLR		
comp=Z,200nm,17.0s,MS4.5							
KBK	**Karagaybulak**	**74.15**	**31**	P	**P**	**12 04 30.9**	**+0.3**
SNR=18							
RUP	**Ruppelstein**	**74.38**	**343**	*e*P	**P**	**12 04 32.2**	**+0.2**
CLL	**Collm**	**74.40**	**347**	*e*P	**P**	**12 04 32.5**	**+0.4**
comp=Z,43nm,1.5s,mb5.2							
CLL	**Collm**	**74.40**	**347**	*i* P	**P**	**12 04 31.2**	**-0.9**
comp=Z,15nm,1.4s,mb4.7							
CLL				*i* pP	pP	12 04 34.2	-3.7
comp=Z,35nm,1.3s							
CLL				*e*x	x	12 04 42.0	
CLL				*i* PcP	PcP	12 04 45.7	-1.0
CLL				*e*PP	PP	12 07 16.0	-2.3
CLL	**Collm**	**74.40**	**347**	*i* P	**P**	**12 04 31.2**	**-0.9**
CLL				*i* *PP	pP	12 04 34.2	-3.7
CLL				*i*		12 04 45.7	
CLL				pmax	pmax		
comp=Z,15nm,1.4s,mb4.7							
CLL				MLR	MLR		
comp=Z,400nm,14.9s,MS4.8							
CLL	**Collm**	**74.40**	**347**	*i* P	**P**	**12 04 31.2**	**-0.9**
comp=Z,15nm,1.4s,mb4.7							
CLL				*i* pP	pP	12 04 34.2	-3.7
CLL				*i*		12 04 45.7	
CLL				LR	LR		
comp=Z,400nm,14.9s,MS4.8							
TNS	**Taunus Mts**	**74.48**	**344**	*e*P	**P**	**12 04 31.9**	**-0.6**
comp=Z,29nm,1.5s,mb5.0							
TNS	**Taunus Mts**	**74.48**	**344**	*e*P	**P**	**12 04 31.9**	**-0.6**
TNS				pmax	pmax		
comp=Z,29nm,1.5s,mb5.0							
EFI	**East Falkland**	**74.60**	**220**	PFAKE		12 04 50.0	+17
EFI				LR	LR		
comp=Z,490nm,19.0s,MS4.8							
WLF	**Walferdange**	**74.61**	**342**	*e*P	**P**	**12 04 33.7**	**+0.4**
comp=Z,39nm,1.7s,mb5.1							
UBBA	**Unterbreizbach**	**74.63**	**345**	*e*P	**P**	**12 04 33.5**	**+0.1**
comp=Z,19nm,1.4s,mb4.8							
TKM2	**Tokmak 2**	**74.66**	**31**	P	**P**	**12 04 33.8**	**+0.2**
SNR=11							
LSA	**Lhasa**	**75.11**	**50**	*e*P	**P**	**12 04 36.5**	**+0.3**
LSA	**Lhasa**	**75.11**	**50**	PFAKE		12 04 50.0	+14
LSA				LR	LR		
comp=Z,649nm,20.0s,MS4.9							
RUE	**Ruedersdorf**	**75.35**	**348**	*e*P	**P**	**12 04 37.9**	**+0.3**
comp=Z,79nm,1.2s,mb5.5							
GIVF	**Givet**	**75.39**	**341**	*e*P	**P**	**12 04 37.1**	**-0.7**
SUW	**Suwalki**	**75.42**	**354**	*e*P	**P**	**12 04 37.1**	**-0.9**
DOU				PKPab	**P**	**12 04 44.0**	**+5.9**
DOU	**Dourbes**	**75.45**	**341**	PKP	**P**	**12 04 40.0**	**+1.8**
CLZ	**Clausthal**	**75.49**	**345**	*e*P	**P**	**12 04 38.2**	**-0.2**
comp=Z,30nm,1.7s,mb5.0							
CLZ	**Clausthal**	**75.49**	**345**	*e*P	**P**	**12 04 38.2**	**-0.2**
CLZ				pmax	pmax		
comp=Z,30nm,1.7s,mb5.0							
LDF	**La Druitiere**	**75.69**	**338**	*e*P	**P**	**12 04 38.4**	**-1.1**
comp=Z,100nm,1.7s,mb5.2							
LDF	**La Druitiere**	**75.69**	**338**	*e*P	**P**	**12 04 38.4**	**-1.1**
LDF				pmax	pmax		
comp=Z,50nm,1.7s,mb5.2							
LDF	**La Druitiere**	**75.69**	**338**	*e*P	**P**	**12 04 38.4**	**-1.1**
comp=Z,50nm,1.7s,mb5.2							
GRR	**Gorron**	**75.78**	**337**	*e*P	**P**	**12 04 39.0**	**-1.0**
comp=Z,104nm,1.6s,mb5.2							
GRR	**Gorron**	**75.78**	**337**	*e*P	**P**	**12 04 39.0**	**-1.0**
GRR				pmax	pmax		
comp=Z,52nm,1.6s,mb5.2							
GRR	**Gorron**	**75.78**	**337**	*e*P	**P**	**12 04 39.0**	**-1.0**
comp=Z,52nm,1.6s,mb5.2							
BUG	**Bochum--Univer**	**75.90**	**343**	*e*P	**P**	**12 04 40.8**	**+0.1**
comp=Z,54nm,1.3s,mb5.3							
SNF	**Seneffe**	**75.91**	**341**	PKP	**P**	**12 04 43.1**	**+2.3**
FLN	**La Foliniere**	**75.96**	**338**	*e*P	**P**	**12 04 39.8**	**-1.3**
comp=Z,92nm,1.5s,mb5.2							
FLN				*e*R			
comp=Z,394nm,18.8s							
FLN	**La Foliniere**	**75.96**	**338**	*e*P	**P**	**12 04 39.8**	**-1.3**
FLN				pmax	pmax		
comp=Z,46nm,1.5s,mb5.2							
FLN				MLR	MLR		
comp=Z,390nm,18.8s,MS4.7							
FLN	**La Foliniere**	**75.96**	**338**	*e*P	**P**	**12 04 39.8**	**-1.3**
comp=Z,46nm,1.5s,mb5.2							
FLN				LR	LR		
comp=Z,390nm,18.8s,MS4.7							
OBN	**Obninsk**	**76.05**	**2**	*i* P	**P**	**12 04 40.4**	**-1.2**
OBN				LR	LR		
comp=Z,200nm,20.0s,MS4.4							
MOS	**Moscow**	**76.71**	**2**	*e*P	**P**	**12 04 43.8**	**-1.5**
MOS				*e*		12 04 57.4	
MOS				pmax	pmax		
comp=Z,97nm,1.3s,mb5.6							
BDFB	**Brasilia**	**76.75**	**258**	P	**P**	**12 04 46.8**	**+1.3**
comp=Z,8.3nm,0.7s,mb4.8,baz=99,slow=6.0,SNR=9.2							
BDFB				LR	LR	12 34 40.8	
comp=Z,1μm,19.6s,MS5.2,baz=113,slow=33							
VNDA	**Vanda**	**77.00**	**170**	P	**P**	**12 04 49.2**	**+2.2**
comp=Z,2.6nm,0.7s,mb4.2,baz=263,slow=11,SNR=9.4							
VNDA				LR	LR	12 35 26.0	
comp=Z,582nm,19.8s,MS4.9,baz=220,slow=33							
VNDA	**Vanda**	**77.00**	**170**	*e*P	**P**	**12 04 49.2**	**+2.2**
VNDA				pmax	pmax		
comp=Z,12nm,1.1s							
VNDA	**Vanda**	**77.00**	**170**	*e*P	**P**	**12 04 49.1**	**+2.2**
comp=Z,12nm,1.1s,mb4.7							
BSEG	**Bad Segeberg**	**77.45**	**346**	*e*P	**P**	**12 04 50.2**	**+0.8**
comp=Z,55nm,1.4s,mb5.3							
MBWA	**Marble Bar**	**79.28**	**109**	*e*P	**P**	**12 05 01.0**	**+1.4**
comp=Z,7.1nm,0.7s,mb4.7							
VSU	**Vasula**	**79.56**	**356**	*i* P	**P**	**12 05 00.3**	**-0.8**
ARU	**Arti**	**80.18**	**14**	P	**P**	**12 05 03.3**	**-1.2**
comp=Z,178nm,1.3s,mb5.8,SNR=5.4							
ARU	**Arti**	**80.18**	**14**	⇑*i* P	**P**	**12 05 03.7**	**-0.8**
ARU				*e*		12 08 05.4	
ARU				*e*PPP		12 09 55.3	
ARU				*e*S	S	12 15 05.8	-2.8
ARU				*e*SS	SS	12 20 12.9	-6.3
ARU				pmax	pmax		
comp=Z,43nm,1.2s,mb5.2							
ARU				MLR	MLR		
comp=Z,400nm,19.0s,MS4.8							
ARU				MLR	MLR		
comp=N,200nm,18.0s,MS4.7							
ARU				MLR	MLR		
comp=E,200nm,17.0s,MS4.7							
ARU	**Arti**	**80.18**	**14**	*e*P	**P**	**12 05 02.9**	**-1.6**
comp=E,48nm,1.3s,mb5.3							
ARU				LR	LR		
comp=Z,570nm,20.0s,MS4.9							
VOSK	**Vostochnaya**	**80.50**	**22**	P	**P**	**12 05 04.4**	**-1.8**
VOSK				pmax	pmax		
comp=Z,23nm,1.3s,mb5.0							
BRVK	**Borovoye**	**80.54**	**22**	P	**P**	**12 05 05.1**	**-1.3**
comp=Z,82nm,1.5s,mb5.4,SNR=9.4							
BRVK	**Borovoye**	**80.54**	**22**	*e*P	**P**	**12 05 05.0**	**-1.4**
BRVK				pmax	pmax		
comp=Z,13nm,1.2s,mb4.7							
BRVK				MLR	MLR		
comp=Z,161nm,20.0s,MS4.4							
BRVK	**Borovoye**	**80.54**	**22**	*e*P	**P**	**12 05 05.0**	**-1.4**
comp=Z,13nm,1.2s,mb4.7							
BRVK				LR	LR		
comp=Z,161nm,20.0s,MS4.4							
BVA0	**Borovoye Array**	**80.55**	**22**	*i* P	**P**	**12 05 05.3**	**-1.1**
BVA0				pmax	pmax		
comp=Z,9.0nm,1.4s,mb4.5							
MKAR	**Makanchi Array**	**80.73**	**32**	P	**P**	**12 05 06.1**	**-1.3**
comp=Z,5.6nm,0.9s,mb4.5,baz=213,slow=5.6,SNR=14							
MKAR				LR	LR	12 41 01.1	
comp=Z,260nm,21.8s,MS4.5,baz=23,slow=36							
TRQA	**Tornquist**	**81.34**	**233**	*e*P	**P**	**12 05 12.5**	**+1.9**
comp=Z,74nm,1.8s,mb5.3							
TRQA				LR	LR		
comp=Z,659nm,20.0s,MS5.0							
KMI	**Kunming**	**81.50**	**59**	P	**P**	**12 05 11.8**	**+0.3**
KMI				AP	pP	12 05 16.8	-0.6
KMI				XP	sP	12 05 18.8	-0.7
KMI				PP	PP	12 08 18.3	+0.5
KMI				S	S	12 15 23.8	+1.4
KMI				AMB	AMB		
comp=Z,13nm,1.3s,mb4.7							
KMI				AMB	AMB		
comp=Z,92nm,4.2s							
KMI				LR	LR		
comp=N,144nm,20.8s,MS4.6							
KMI				LR	LR		
comp=E,233nm,18.8s,MS4.6							
KMI				LR	LR		
comp=Z,263nm,15.8s,MS4.7							
WMQ	**Urumqi**	**81.55**	**36**	*e*P	**P**	**12 05 12.0**	**+0.2**
WMQ				AP	pP	12 05 16.8	-0.8
WMQ				XP	sP	12 05 19.0	-0.7
WMQ				PP	PP	12 08 20.8	+2.6
WMQ				*e*S	S	12 15 22.3	-0.6
WMQ				SS	SS	12 20 42.6	+2.9
WMQ				AMB	AMB		
comp=Z,28nm,0.8s,mb5.2							
WMQ				AMB	AMB		
comp=Z,162nm,4.0s							
WMQ				LR	LR		
comp=N,252nm,21.2s,MS4.7							
WMQ				LR	LR		
comp=E,233nm,24.0s,MS4.7							
WMQ				LR	LR		
comp=Z,255nm,20.0s,MS4.6							
CPUP	**Villa Florida**	**81.56**	**245**	P	**P**	**12 05 13.1**	**+1.3**
comp=Z,3.3nm,0.8s,mb4.3,baz=134,slow=4.5,SNR=4.3							
CPUP				LR	LR	12 38 03.5	
comp=Z,702nm,18.2s,MS5.1,baz=97,slow=33							
CPUP	**Villa Florida**	**81.56**	**245**	*e*P	**P**	**12 05 15.4**	**+3.5**
CPUP				pmax	pmax		
comp=Z,93nm,1.6s							
CPUP				MLR	MLR		
comp=Z,148nm,20.0s							
CPUP	**Villa Florida**	**81.56**	**245**	*e*P	**P**	**12 05 15.4**	**+3.5**
comp=Z,93nm,1.6s,mb5.5							
CPUP				LR	LR		
comp=Z,148nm,20.0s,MS4.3							
KURK	**Kurchatov**	**81.90**	**27**	*e*P	**P**	**12 05 13.0**	**-0.6**
KURK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
KURK				MLR	MLR		
comp=Z,362nm,20.0s,MS4.7							
KURK	**Kurchatov**	**81.90**	**27**	*e*P	**P**	**12 05 13.0**	**-0.6**
comp=Z,2.4nm,0.6s,mb4.3							
KURK				LR	LR		
comp=Z,362nm,20.0s,MS4.7							
KLMR	**Klimovskoe**	**81.91**	**3**	*e*P	**P**	**12 05 15.1**	**+1.4**
KLMR				pmax	pmax		
comp=Z,80nm,2.2s,mb5.3							
FINES	**FINESS Array B**	**82.57**	**356**	P	**P**	**12 05 16.0**	**-1.1**
comp=Z,4.2nm,0.9s,mb4.5,baz=126,slow=3.3,SNR=8.4							
FINES				LR	LR	12 42 26.7	
comp=Z,98nm,20.1s,MS4.2,baz=191,slow=36							
FINES	**FINESS Array B**	**82.57**	**356**	P	**P**	**12 05 16.0**	**-1.1**
FINES				LR	LR	12 42 26.7	
HFS	**Hagfors**	**82.63**	**350**	LR	LR	12 46 30.3	
comp=Z,167nm,18.6s,MS4.4,baz=1.3,slow=39							
SOKR	**Solikamsk**	**82.72**	**12**	*e*P	**P**	**12 05 17.8**	**-0.1**
SOKR				pmax	pmax		
comp=Z,60nm,1.0s,mb5.6							
SOKR				MLR	MLR		
comp=Z,520nm,16.0s,MS5.0							
NB2	**NORSAR Subarra**	**83.90**	**349**	P	**P**	**12 05 21.8**	**-2.2**
comp=Z,42nm,1.4s,mb5.4,baz=159,slow=5.3							
NB2	**NORSAR Subarra**	**83.90**	**349**	P	**P**	**12 05 21.8**	**-2.2**
NB2				pmax	pmax		
comp=Z,42nm,1.4s,mb5.4							
NOA	**NORSAR Array B**	**83.90**	**349**	P	**P**	**12 05 22.8**	**-1.3**
comp=Z,12nm,1.2s,mb4.9,baz=153,slow=4.8,SNR=4.4							
NOA				LR	LR	12 47 45.2	
comp=Z,89nm,19.1s,MS4.2,baz=185,slow=39							
QIZ	**Qiongzhong**	**84.74**	**67**	*e*P	**P**	**12 05 32.1**	**+3.8**
QIZ				S		12 15 53.9	
QIZ				AMB	AMB		
comp=Z,279nm,4.5s							
QIZ				LR	LR		
comp=Z,343nm,16.3s,MS4.8							
QIZ	**Qiongzhong**	**84.74**	**67**	PFAKE		12 05 40.0	+12
QIZ				LR	LR		
comp=Z,305nm,21.0s,MS4.7							
CD2	**Chengdu**	**85.01**	**54**	⇓*i* P	**P**	**12 05 29.8**	**+0.2**
CD2				AP	pP	12 05 34.5	-1.0
CD2				PP	PP	12 08 48.9	+2.4
CD2				SKS		12 15 50.6	
CD2				S		12 15 57.8	
CD2				SS	SS	12 21 34.9	+3.9
CD2				AMB	AMB		
comp=Z,20nm,1.8s,mb5.0							
CD2				AMB	AMB		
comp=Z,130nm,10.8s							
CD2				LR	LR		
comp=N,140nm,21.6s							
CD2				LR	LR		
comp=Z,150nm,21.6s,MS4.3							
GYA	**Guiyang**	**85.25**	**59**	⇑*i* P	**P**	**12 05 31.0**	**+0.1**
GYA				AP	pP	12 05 35.9	-0.8
GYA				XP	sP	12 05 38.6	-0.2
GYA				PP	PP	12 08 50.4	+1.9
GYA				SKS		12 15 52.3	
GYA				S		12 16 01.3	
GYA				SS	SS	12 21 38.9	+4.3
GYA				AMB	AMB		
comp=Z,30nm,1.2s,mb5.3							
GYA				AMB	AMB		
comp=Z,130nm,4.6s							
GYA				LR	LR		
comp=N,970nm,18.6s,MS5.3							
GYA				LR	LR		
comp=E,840nm,19.0s,MS5.3							
GYA				LR	LR		
comp=Z,1μm,18.6s,MS5.3							
GTA	**Gaotai**	**86.39**	**45**	*e*P	**P**	**12 05 36.6**	**+0.1**
GTA				AP	pP	12 05 39.8	-2.6
GTA				XP	sP	12 05 42.0	-2.5
GTA				SKS		12 16 02.0	
GTA				S		12 16 15.8	
GTA				XS	sS	12 16 25.5	+4.2
GTA				AMB	AMB		
comp=Z,9.0nm,1.1s,mb4.9							
GTA				AMB	AMB		
comp=Z,124nm,5.7s							
GTA				LR	LR		
comp=N,351nm,19.0s,MS5.0							
GTA				LR	LR		
comp=E,559nm,20.5s,MS5.0							
GTA				LR	LR		
comp=Z,658nm,20.5s,MS5.0							
PLCA	**Paso Flores**	**86.46**	**228**	P	**P**	**12 05 39.0**	**+2.1**
comp=Z,3.2nm,1.1s,mb4.5,baz=110,slow=12,SNR=3.3							
PLCA				LR	LR	12 38 09.2	
comp=Z,359nm,21.0s,MS4.8,baz=128,slow=31							
PLCA	**Paso Flores**	**86.46**	**228**	*e*P	**P**	**12 05 38.9**	**+2.1**
PLCA				pmax	pmax		
comp=Z,6.0nm,1.1s							
PLCA	**Paso Flores**	**86.46**	**228**	*e*P	**P**	**12 05 38.9**	**+2.1**
comp=Z,5.7nm,1.1s,mb4.7							
NVS	**Novosibirsk**	**86.82**	**26**	*i* P	**P**	**12 05 36.3**	**-2.3**
NVS				*i* S		12 16 17.6	
NVS				pmax	pmax		
comp=Z,19nm,1.2s,mb5.2							
NVS				pmax	pmax		
comp=N,8.0nm,0.9s							
NVS				pmax	pmax		
comp=E,3.0nm,0.6s							
NVS				smax			
comp=N,12nm,1.7s							
NVS				smax			
comp=E,39nm,2.1s							
ZAL	**Zalesovo**	**86.85**	**28**	LR	LR	12 45 18.7	
comp=E,342nm,20.1s,MS4.8,baz=239,slow=36							
LZH	**Lanzhou**	**87.52**	**50**	*e*P	**P**	**12 05 42.5**	**+0.5**
LZH				AP	pP	12 05 49.8	+1.9
LZH				XP	sP	12 05 54.3	+4.3
LZH				PP	PP	12 09 13.0	+6.2
LZH				S		12 16 23.0	
LZH				XS	sS	12 16 37.0	+4.8
LZH				AMB	AMB		
comp=Z,30nm,1.1s,mb5.4							
LZH				AMB	AMB		
comp=Z,190nm,5.2s							
LZH				LR	LR		
comp=E,570nm,16.4s							
LZH				LR	LR		
comp=Z,930nm,18.2s,MS5.2							
ENH	**Enshi**	**89.14**	**57**	PFAKE		12 06 00.0	+10
ENH				LR	LR		
comp=Z,196nm,19.0s,MS4.5							
XAN	**Xi'an**	**90.31**	**53**	P	**P**	**12 05 54.4**	**-0.7**
XAN				AP	pP	12 06 03.1	+2.1
XAN				AMB	AMB		
comp=Z,6.0nm,1.7s,mb4.7							
ASAR	**Alice Springs**	**90.65**	**116**	P	**P**	**12 05 58.6**	**+1.9**
comp=Z,4.8nm,0.8s,mb4.8,baz=244,slow=3.9,SNR=7.3							
ARCES	**ARCESS Array B**	**90.66**	**357**	LR	LR	12 48 39.2	
comp=Z,277nm,18.7s,MS4.7,baz=163,slow=37							
WRA	**Warramunga Arr**	**92.49**	**112**	P	**P**	**12 06 06.4**	**+1.1**
comp=Z,2.9nm,1.0s,mb4.6,baz=254,slow=2.9,SNR=10							
WRAB	**Tennant Creek**	**92.50**	**112**	*e*P	**P**	**12 06 06.7**	**+1.4**
WRAB				pmax	pmax		
comp=Z,11nm,1.0s,mb5.2							
WRAB				MLR	MLR		
comp=Z,453nm,19.0s,MS4.9							
WRAB	**Tennant Creek**	**92.50**	**112**	*e*P	**P**	**12 06 06.7**	**+1.4**
comp=Z,11nm,1.0s,mb5.3							
WRAB				LR	LR		
comp=Z,453nm,19.0s,MS4.9							
SAML	**Samuel**	**92.95**	**259**	PFAKE		12 06 20.0	+13
SAML				LR	LR		
comp=Z,249nm,19.0s,MS4.7							
STKA	**Stephens Creek**	**93.32**	**126**	P	**P**	**12 06 09.6**	**+0.5**
comp=Z,3.3nm,0.9s,mb4.8,baz=163,slow=7.9,SNR=4.4							
STKA				LR	LR	12 44 40.8	
comp=Z,251nm,18.1s,MS4.7,baz=206,slow=33							
STKA	**Stephens Creek**	**93.32**	**126**	*e*P	**P**	**12 06 09.4**	**+0.3**
ZAK	**Zakamensk**	**94.01**	**37**	*e*P	**P**	**12 06 12.0**	**-0.2**
ZAK				pmax	pmax		
comp=Z,10.0nm,1.7s,mb5.0							
DAV	**Davao City (W)**	**94.47**	**84**	PFAKE		12 06 30.0	+16
DAV				LR	LR		
comp=Z,379nm,20.0s,MS4.9							
LPAZ	**La Paz**	**94.60**	**251**	P	**P**	**12 06 17.1**	**+2.1**
comp=Z,1.5nm,0.7s,mb4.5,baz=157,slow=3.1,SNR=8.4							
LPAZ				LR	LR	12 45 49.9	
comp=Z,451nm,19.5s,MS4.9,baz=125,slow=34							
LPAZ	**La Paz**	**94.60**	**251**	*e*P	**P**	**12 06 16.9**	**+2.0**
LPAZ				pmax	pmax		
comp=Z,25nm,1.6s							
LPAZ				MLR	MLR		
comp=Z,495nm,19.0s							
LPAZ	**La Paz**	**94.60**	**251**	*e*P	**P**	**12 06 16.9**	**+2.0**
comp=Z,25nm,1.6s,mb5.4							
LPAZ				LR	LR		
comp=Z,495nm,19.0s,MS5.0							
SONM	**Songino Array**	**94.64**	**40**	P	**P**	**12 06 14.1**	**-1.0**
comp=Z,1.1nm,1.0s,mb4.2,baz=232,slow=4.0,SNR=6.4							
SONM				LR	LR	12 48 12.7	
comp=Z,404nm,21.3s,MS4.9,baz=72,slow=35							
HHC	**Hu-ho-hao-te**	**95.05**	**48**	*e*P	**P**	**12 06 17.9**	**+0.9**
HHC				AP	pP	12 06 22.6	-0.3
HHC				XP	sP	12 06 24.8	-0.2
HHC				PP	PP	12 10 10.4	+4.0
HHC				SKS		12 16 51.6	
HHC				S		12 17 29.6	
HHC				XS	sS	12 17 37.9	-2.8
HHC				AMB	AMB		
comp=Z,8.0nm,0.4s,mb5.5							
HHC				AMB	AMB		
comp=Z,106nm,4.9s							
HHC				LR	LR		
comp=N,261nm,17.7s,MS5.0							
HHC				LR	LR		
comp=E,394nm,19.6s,MS5.0							
HHC				LR	LR		
comp=Z,483nm,22.1s,MS4.9							
ULN	**Ulaanbaatar**	**95.05**	**40**	*e*P	**P**	**12 06 16.4**	**-0.6**
ULN				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.8							
ULN				MLR	MLR		
comp=Z,298nm,20.0s,MS4.8							
ULN	**Ulaanbaatar**	**95.05**	**40**	*e*P	**P**	**12 06 16.4**	**-0.6**
comp=Z,3.9nm,1.1s,mb4.8							
ULN				LR	LR		
comp=Z,298nm,20.0s,MS4.8							
NJ2	**Nanjing**	**97.23**	**59**	*e*P	**P**	**12 06 27.1**	**+0.2**
NJ2				AP	pP	12 06 33.5	+0.7
NJ2				XP	sP	12 06 36.3	+1.4
NJ2				PP	PP	12 10 26.9	+3.6
NJ2				S		12 17 45.0	
NJ2				XS	sS	12 17 56.0	-3.6
NJ2				LR	LR		
comp=N,740nm,23.2s							
NJ2				LR	LR		
comp=E,560nm,30.6s							
NJ2				LR	LR		
comp=Z,400nm,21.3s,MS4.9							
BJT	**Baijiatuau**	**97.99**	**50**	PFAKE		12 06 40.0	+10
BJT				LR	LR		
comp=Z,562nm,20.0s,MS5.0							
BJI	**Beijing**	**98.00**	**50**	*e*P	**P**	**12 06 29.4**	**-1.0**
BJI				SKS		12 17 03.4	
BJI				S		12 17 54.9	
BJI				SS	SS	12 24 37.9	-0.2
BJI				LR	LR		
comp=N,237nm,18.0s,MS4.9							
BJI				LR	LR		
comp=E,297nm,20.5s,MS4.9							
BJI				LR	LR		
comp=Z,372nm,25.0s,MS4.8							
SSE	**Sheshan**	**98.78**	**60**	P	**P**	**12 06 35.5**	**+1.6**
SSE				XP	sP	12 06 40.1	-1.8
SSE				PP	PP	12 10 35.9	+0.7
SSE				S		12 18 02.3	
SSE				XS	sS	12 18 07.8	-5.0
SSE				SS	SS	12 24 44.5	-4.6
SSE				AMB	AMB		
comp=Z,28nm,4.3s							
SSE				LR	LR		
comp=N,112nm,23.3s,MS4.4							
SSE				LR	LR		
comp=E,100nm,23.3s,MS4.4							
SSE				LR	LR		
comp=Z,137nm,21.4s,MS4.4							
HIA	**Hailar**	**103.40**	**42**	PFAKE		12 07 10.0	+16
HIA				LR	LR		
comp=Z,424nm

MDJ LR LR
comp=E,88nm,32.7s,MS4.2
MDJ LR LR
comp=Z,141nm,30.7s,MS4.3
MDJ Mudanjiang 108.82 49 PFAKE 12 11 40.0 +17
MDJ LR LR
comp=Z,229nm,21.0s,MS4.7
OTAV Otavalo 110.49 262 PFAKE 12 11 40.0 +13
OTAV LR LR
comp=Z,598nm,21.0s,MS5.2
YAK Yakutsk 111.38 30 PFAKE 12 11 40.0 +12
YAK LR LR
comp=Z,230nm,20.0s,MS4.8
TIXI Tiksi 111.64 20 PFAKE 12 11 40.0 +11
TIXI LR LR
comp=Z,282nm,22.0s,MS4.8
SCHQ Schefferville 112.95 322 PFAKE 12 11 40.0 +8.8
SCHQ LR LR
comp=Z,608nm,20.0s,MS5.2
MAJO Matsushiro 113.84 58 PFAKE 12 11 50.0 +17
MAJO LR LR
comp=Z,207nm,22.0s,MS4.7
WES Weston 114.72 308 PFAKE 12 11 50.0 +15
WES LR LR
comp=Z,543nm,21.0s,MS5.1
LBNH Lisbon 115.35 310 PFAKE 12 11 50.0 +14
LBNH LR LR
comp=Z,340nm,20.0s,MS5.0
YSS Yuzh-Sakhalins 118.22 47 PFAKE 12 11 50.0 +8.7
YSS LR LR
comp=Z,315nm,21.0s,MS4.9
JTS JuntasAbangare 120.07 270 PFAKE 12 12 00.0 +15
JTS LR LR
comp=Z,596nm,21.0s,MS5.2
MA2 Magadan 121.81 32 ⇑ *i*PKIKP PKPdf 12 11 48.0 -0.2
MA2 Magadan 121.81 32 PFAKE 12 12 00.0 +12
MA2 LR LR
comp=Z,253nm,20.0s,MS4.9
AAM Ann Arbor 123.84 307 PFAKE 12 12 00.0 +7.9
AAM LR LR
comp=Z,347nm,19.0s,MS5.0
LRAL Lakeview Retre 126.34 296 PFAKE 12 12 10.0 +13
LRAL LR LR
comp=Z,358nm,20.0s,MS5.0
ULM Lac du Bonnet 130.96 319 PKP PKPdf 12 12 05.2 -0.5
comp=Z,2.9nm,0.6s,baz=73,slow=4.2,SNR=5.9
ULM Lac du Bonnet 130.96 319 PKP PKPdf 12 12 05.2 -0.5
MIAR Mount Ida 131.84 298 PFAKE 12 12 20.0 +13
MIAR LR LR
comp=Z,226nm,19.0s,MS4.9
NATX Nacogdoches 132.78 294 PFAKE 12 12 20.0 +11
NATX LR LR
comp=Z,336nm,20.0s,MS5.0
YKA Yellowknife Ar 133.33 340 PKP PKPdf 12 12 09.4 -0.8
comp=Z,0.9nm,0.6s,baz=39,slow=2.1,SNR=21
YKA PP PP 12 14 38.9 +1.6
comp=Z,1.0nm,1.1s,baz=46,slow=4.4,SNR=5.1
YKA Yellowknife Ar 133.33 340 PKP PKPdf 12 12 09.4 -0.8
YKA PP PP 12 14 38.9 +1.6
TNA Tin City 133.50 12 PFAKE 12 12 20.0 +10
TNA LR LR
comp=Z,127nm,19.2s,MS4.7
RKT Rikitea 134.54 195 *e*LR LR 12 55 19.2
comp=Z,184nm,31.8s
TBI Tubuai 135.63 176 *e*LR LR 12 55 49.6
comp=Z,205nm,27.8s
WMOK Wichita Mounta 136.12 298 PFAKE 12 12 30.0 +15
WMOK LR LR
comp=Z,243nm,20.0s,MS4.9
COLA College 136.34 1 PFAKE 12 12 30.0 +14
COLA LR LR
comp=Z,127nm,19.0s,MS4.7
ILAR Eielson Array 136.45 0 PKP PKPdf 12 12 15.1 -0.9
comp=Z,1.8nm,1.1s,baz=325,slow=2.9,SNR=9.1
DGMT Dagmar 136.68 319 PFAKE 12 12 30.0 +14
DGMT LR LR
comp=Z,310nm,19.0s,MS5.1
JCT Junction City 137.20 292 PFAKE 12 12 30.0 +13
JCT LR LR
comp=Z,260nm,19.0s,MS5.0
LAO LASA Array 138.65 318 PFAKE 12 12 30.0 +10
LAO LR LR
comp=Z,374nm,21.0s,MS5.1
EDM Edmonton 139.19 330 *e*PKIKP PKPdf 12 12 21.0 0.0
PMR Palmer 139.60 2 PFAKE 12 12 30.0 +8.2
PMR LR LR
comp=Z,212nm,19.0s,MS4.9
FIB Fire Island 139.99 3 PFAKE 12 12 30.0 +7.5
FIB LR LR
comp=Z,1μm,20.0s,MS5.6
DIV Divide 140.10 359 PFAKE 12 12 30.0 +7.3
DIV LR LR
comp=Z,790nm,19.0s,MS5.5
EGMT Eagleton 140.20 321 *e*PKPdf PKPdf 12 12 23.6 +0.7
SDCO Great Sand Dun 141.01 304 PFAKE 12 12 40.0 +16
SDCO LR LR
comp=Z,682nm,21.0s,MS5.4
PPT Papeete 141.36 175 *e*LR LR 12 58 28.8
comp=Z,205nm,22.5s
MNTX Cornudas Mount 141.91 295 PFAKE 12 12 40.0 +14
MNTX LR LR
comp=Z,181nm,19.0s,MS4.8
LKWY Lake 142.21 317 PFAKE 12 12 40.0 +14
LKWY LR LR
comp=Z,363nm,20.0s,MS5.1
ANMO Albuquerque 142.35 300 ⇑ *i*PKIKP PKPdf 12 12 27.3 +0.6
ANMO Albuquerque 142.35 300 PFAKE 12 12 40.0 +13
ANMO LR LR
comp=Z,296nm,19.0s,MS5.1
PDAR Pinedale Array 142.40 313 PKP PKPdf 12 12 24.7 -2.1
comp=Z,1.3nm,0.9s,baz=100,slow=4.4,SNR=7.1
BW06 Boulder Array 142.40 313 PFAKE 12 12 40.0 +13
BW06 LR LR
comp=Z,218nm,21.0s,MS4.9
BOZ Bozeman (W) 142.48 319 *e*PKIKP PKPdf 12 12 29.0 +2.0
BOZ MLR MLR
comp=Z,236nm,19.0s,MS5.0
YMR Madison River 142.52 317 PFAKE 12 12 40.0 +13
YMR LR LR
comp=Z,851nm,21.0s,MS5.5
DLMT Dillon 143.21 319 *e*PKPdf PKPdf 12 12 27.3 -1.0
PV01 Paradox Valley 143.26 306 *e*PKPdf PKPdf 12 12 27.6 -0.7
AHID Auburn Hatcher 143.44 314 PFAKE 12 12 40.0 +11
AHID LR LR
comp=Z,430nm,20.0s,MS5.2
PV10 Paradox Valley 143.54 306 *e*PKPdf PKPdf 12 12 28.1 -0.7
HWUT Hardware Ranch 144.23 313 *e*PKPdf PKPdf 12 12 29.2 -0.8
HWUT LR LR
comp=Z,312nm,19.0s,MS5.1
TCUT Toone Canyon 144.32 312 *e*PKPdf PKPdf 12 12 30.4 +0.2
SRU San Rafael 144.41 308 *e*PKIKP PKPdf 12 12 29.4 -1.0
TMUT Trail Mountain 144.85 309 *e*PKPdf PKPdf 12 12 31.2 +0.1
MPU Maple Canyon 144.90 310 PFAKE 12 12 40.0 +8.8
MPU LR LR
comp=Z,859nm,21.0s,MS5.5
HVU Hansel Valley 144.98 314 *e*PKIKP PKPdf 12 12 31.7 +0.3
HLID Hailey 145.23 317 *e*PKPdf PKPdf 12 12 32.3 +0.5
NLU North Lily Min 145.23 310 *e*PKPdf PKPdf 12 12 30.1 -1.7
BGU Big Grassy Mou 145.52 312 *e*PKPdf PKPdf 12 12 36.4 +4.1
DUG Dugway 145.66 311 *e*PKIKP PKPdf 12 12 33.7 +1.2
MSU Marysvale 145.83 308 *e*PKP2 PKPab 12 12 34.7 +0.9
MVU Marysvale 145.86 308 *e*PKPdf pPKPdf 12 12 42.8 +3.9
MVU LR LR
comp=Z,387nm,21.0s,MS5.2
NLW Nelson Butte 145.92 328 P PKPdf 12 12 34.2 +1.2
WTV Waterville 145.98 327 P PKPdf 12 12 34.4 +1.3
WUAZ Wupatki 146.14 303 *e*PKPab PKPab 12 12 36.0 +1.1
WUAZ LR LR
comp=Z,311nm,19.0s,MS5.1
RPW Rockport 146.23 330 P PKPdf 12 12 34.6 +1.2
BMO Blue Mountains 146.31 321 *e*PKHKP 12 12 34.8
TUC Tucson 146.37 297 *e*PKP2 PKPab 12 12 36.3 +0.5
HAWA Hanford 146.62 325 *e*PKPab PKPab 12 12 36.5 -0.3
ARUT Antelope Range 147.02 307 *e*PKP2 PKPab 12 12 38.2 -0.2
ELK Elko 147.11 313 PFAKE 12 12 50.0 +15
ELK LR LR
comp=Z,245nm,19.0s,MS5.0
WVOR Wild Horse Val 148.46 319 *e*PKIKP PKPdf 12 12 38.6 +1.4
WVOR *e* 12 12 44.1
BMN Battle Mountai 148.59 314 *e*PKP2 PKPab 12 12 43.7 -0.9
BMN MLR MLR
comp=Z,564nm,21.0s,MS5.3
NEN Nelson 148.80 304 *e*PKPdf PKPdf 12 12 40.3 +2.5
NEN *e*PKPbc PKPbc 12 12 43.0 +1.4
NEN *e*PKPab PKPab 12 12 46.0 +0.5
LDFC Landfair 149.19 303 *e*PKPbc PKPbc 12 12 44.3 +1.7
TPH Tonopah 149.66 310 *e*PKP2 PKPbc 12 12 44.4 +0.6
NVAR Mina Array Bea 150.27 312 PKPbc PKPbc 12 12 43.0 -2.2
comp=Z,12nm,1.1s,baz=106,slow=3.1,SNR=20
BBOR Butler Butte 150.59 323 P PKPbc 12 12 46.0 0.0
DAC Darwin (Calif) 150.66 307 *e*PKIKP PKPbc 12 12 46.0 -0.2
DAC MLR MLR
comp=Z,747nm,21.0s,MS5.5
MTUM Tungsten Hills 150.93 310 *e*PKPbc PKPbc 12 12 44.0 -2.9
BAR Barrett 151.14 300 *e*PKPbc PKPbc 12 12 48.4 +1.1
BAR *e*PKPab PKPab 12 12 54.9 -0.1
YBH Yreka Blue Hor 151.33 321 *e*PKIKP PKPbc 12 12 47.9 +0.1
OHCM Honcut 151.96 316 *e*PKPdf PKPdf 12 12 44.5 +1.8
OHCM *e*PKPab PKPab 12 12 58.7 +0.2

*ATH **15** 12:00:05.9, 38.22N×26.84E, h31km, MD2.9/3*
*ISK **15** 12:00:05.9, 38.14N×26.63E, h13km, MD3.1*
*CSEM **15** 12:00:05.6±0.1, 38.16N×26.65E, h12km, MD3.1, Error ellipse: s-maj=3.3km s-min=2.1km az=69.0*
*NEIC **15** 12:00:05.6, 38.13N×26.66E, h40km, MD2.9(ATH), MD3.2(ISK), After ATH.*
*ISCJB **15** 12:00:06.1±0.8, 38.15N±003×26.58E±007, h18km±6km, Error ellipse: s-maj=9.0km s-min=5.1km az=152.0*
ISC 15 12:00:06.8±0.7, 3818N±003×2662E±006, h19km±4km, n20, σ1°00/30, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**354**	*i* P	**Pg**	**12 00 11.3**	**-0.2**
URLA				*i* S	**Sg**	**12 00 15.0**	**+0.2**
SMG	**Samos**	**0.50**	**160**	*e*PN	**Pg**	**12 00 17.0**	**+0.2**
SMG				*e*SN	**Sg**	**12 00 25.0**	**+1.4**
SMG	**Samos**	**0.50**	**160**	*e*P	**Pg**	**12 00 16.0**	**-0.8**
PRK	**Paraskevi**	**1.10**	**346**	*e*PN	**Pn**	**12 00 27.0**	**-0.2**
PRK				*e*SN	**Sn**	**12 00 42.1**	**+0.2**
AYDN	**Tasoluk**	**1.12**	**117**	*i* P	**Pn**	**12 00 26.8**	**-0.6**
AYDN				*i* S	**Sb**	**12 00 41.7**	**0.0**
AKS	**Akhisar**	**1.17**	**53**	PN	**Pn**	**12 00 28.5**	**+0.4**
AKS				SN	**Sn**	**12 00 45.6**	**+2.1**
AKS	**Akhisar**	**1.17**	**53**	*e*Pn	**Pn**	**12 00 28.5**	**+0.4**
AKS				Sg	**Sg**	**12 00 42.4**	**-2.3**
AKS				*e*Sn	**Sn**	**12 00 45.6**	**+2.1**
AKS	**Akhisar**	**1.17**	**53**	Pn	**Pn**	**12 00 26.4**	**-1.7**
AKS				Sg	**Sg**	**12 00 42.4**	**-2.3**
BODT	**Bodrum**	**1.24**	**154**	*e*PN	**Pn**	**12 00 29.7**	**+0.6**
BODT	**Bodrum**	**1.24**	**154**	Pn	**Pn**	**12 00 27.3**	**-1.7**
MLSB	**Milas**	**1.27**	**134**	*e*PN	**Pn**	**12 00 29.2**	**-0.3**
MLSB				*e*SN	**Sn**	**12 00 46.4**	**+0.4**
MLSB	**Milas**	**1.27**	**134**	Pn	**Pn**	**12 00 28.1**	**-1.4**
APE	**Apeiranthos**	**1.41**	**218**	*e*PN	**Pn**	**12 00 31.3**	**0.0**
APE	**Apeiranthos**	**1.41**	**218**	*e*PN	**Pn**	**12 00 33.5**	**+2.2**
APE	**Apeiranthos**	**1.41**	**218**	*e*P	**Pn**	**12 00 30.0**	**-1.3**
APE	**Apeiranthos**	**1.41**	**218**	*e*Pn	**Pn**	**12 00 31.3**	**0.0**
DAT	**Datca**	**1.63**	**152**	*e*PN	**Pn**	**12 00 34.7**	**+0.2**
YER	**Yerkesik**	**1.68**	**128**	*e*PN	**Pn**	**12 00 35.5**	**+0.4**
YER	**Yerkesik**	**1.68**	**128**	Pn	**Pn**	**12 00 34.1**	**-1.0**
BTOK	**Tokmak**	**1.93**	**34**	*i* P	**Pn**	**12 00 38.0**	**-0.5**
BTOK				*i* S	**Sg**	**12 01 10.1**	**+1.3**

*PRU **15** 12:20:51.3, 50.28N×18.58E, h0km*
WAR 15 12:20:50.7, 5021N×1873E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.53**	**226**	*e*PG	Pg	12 21 01.1	+0.2
OKC				*e*SG	Sg	12 21 08.7	+1.0
	20nm,0.6s						
OJC	**Ojcow**	**0.69**	**89**	*e*Pg	Pg	12 21 04.0	+0.2
OJC				*e*Sg	Sg	12 21 13.9	+1.2
NIE	**Niedzica**	**1.29**	**127**	*e*Pg	Pg	12 21 15.3	-0.2
NIE				*e*Sg	Sg	12 21 33.5	+1.2
DPC	**Dobruska-Polom**	**1.55**	**276**	*e*PG	Pg	12 21 18.4	-2.1
DPC				*e*SG	Sg	12 21 39.3	-1.3
	24nm,0.6s						
KSP	**Ksiaz**	**1.68**	**293**	*e*Pg	Pg	12 21 21.7	-1.2
KSP				*e*Sg	Sg	12 21 42.6	-2.1
VYHS	**Vyhne**	**1.72**	**178**	*e*PN	Pn	12 21 21.1	-0.7
VYHS				*e*SN	Sn	12 21 44.2	-0.3
STHS	**Stebnicka Huta**	**1.81**	**115**	*e*PN	Pn	12 21 24.8	+1.7
STHS				*e*SN	Sn	12 21 50.8	+4.0
KECS	**Kecovo**	**2.07**	**146**	*e*PN	Pn	12 21 30.9	+4.2
KECS				*e*SN	Sn	12 21 56.6	+3.3
CRVS	**Cervenica-Dubn**	**2.21**	**125**	*e*PN	Pn	12 21 32.5	+3.9
CRVS				*e*SN	Sn	12 22 01.0	+4.4
PRU	**Pruhonice**	**2.71**	**267**	*e*SG	Sg	12 22 14.0	-3.7
	6.3nm,0.6s						
BRG	**Berggiesshubel**	**3.13**	**284**	SG	Sg	12 22 27.4	-3.8
	3.4nm,0.6s						
BRG	**Berggiesshubel**	**3.13**	**284**	Sg	Sb	12 22 27.4	+1.5
KHC	**Kasperske Hory**	**3.52**	**254**	*e*PG	Pg	12 21 54.5	-3.6
KHC				*e*SG	Sg	12 22 41.0	-2.7
	7.0nm,0.4s						
NKC	**Novy Kostel**	**4.04**	**273**	*e*SG	Sg	12 22 56.9	-3.5
	3.7nm,0.4s						

*ISCJB **15** 12:54:20.7±2.8, 213S±02×178.7W±0.1, h572km±35km, mb4.2/14, Error ellipse: s-maj=23.6km s-min=19.6km az=174.2*
*IDC **15** 12:54:21.7±3.5, 2134S×17860W, h574km±40km, mb3.6/8, mb1 3.8/10, mb1mx3.6/17, mbtmp4.6/10, Error ellipse: s-maj=28.4km s-min=21.7km az=162.0*
*NEIC **15** 12:54:22.2±2.3, 2133S×17859W, h581km±26km, mb4.5/10, Error ellipse: s-maj=16.5km s-min=13.9km az=191.0*
*MOS **15** 12:54:56.6±1.9, 1613S×17704E, h792km, mb4.8/4, Error ellipse: s-maj=34.9km s-min=18.2km az=161.8*
ISC 15 12:54:18.7±2.9, 213S±01×1785W±01, h536km±34km, n53, σ0°75/31, mb4.2/14, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.05**	**264**	P	**P**	**12 57 18.2**	**-0.2**
	0.7nm,0.3s,baz=48,slow=22,SNR=5.9						
URZ	**Urewera**	**17.37**	**192**	P	**P**	**12 57 51.3**	**0.0**
	2.7nm,0.3s,baz=321,slow=3.2,SNR=18						
CTA	**Charters Tower**	**32.99**	**266**	*e*P	**P**	**13 00 10.3**	**+1.0**
	9.3nm,0.4s,mb4.7						
CTA	**Charters Tower**	**32.99**	**266**	P	**P**	**13 00 09.8**	**+0.5**
	10nm,0.4s,mb4.7,baz=90,slow=10,SNR=19						
CTA	**Charters Tower**	**32.99**	**266**	*e*P	**P**	**13 00 10.3**	**+1.0**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
CTAO	**Charters Tower**	**32.99**	**266**	*e*P	**P**	**13 00 09.8**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.7						
CTAO	**Charters Tower**	**32.99**	**266**	*e*P	**P**	**13 00 09.8**	**+0.5**
	comp=Z,12nm,0.5s,mb4.7						
PMG	**Port Moresby**	**35.09**	**284**	P	**P**	**13 00 27.1**	**+0.1**
	comp=Z,14nm,0.8s,mb4.5,baz=73,slow=4.4,SNR=5.4						
PMG	**Port Moresby**	**35.09**	**284**	*e*P	**P**	**13 00 26.8**	**-0.2**
PMG				pmax	pmax		
	comp=Z,19nm,0.8s						
PMG	**Port Moresby**	**35.09**	**284**	*e*P	**P**	**13 00 26.8**	**-0.2**
	comp=Z,19nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**37.07**	**245**	⇓ *i*P	**P**	**13 00 42.7**	**-0.6**
	comp=Z,4.6nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**13 00 42.3**	**-1.0**
	comp=Z,6.4nm,0.7s,mb4.2,baz=83,slow=7.1,SNR=14						
AS31	**Alice Springs**	**43.92**	**258**	⇓ *i*P	**P**	**13 01 38.5**	**+0.6**
ASAR	**Alice Springs**	**43.92**	**258**	P	**P**	**13 01 38.2**	**+0.3**
	comp=Z,8.7nm,0.5s,mb4.5,baz=92,slow=8.1,SNR=301						
ASAR				PcP	PcP	13 03 12.2	+0.2
	comp=Z,2.2nm,0.7s,baz=106,slow=3.7,SNR=14						
ASPA	**Alice Springs**	**43.92**	**258**	⇓ *i*P	**P**	**13 01 38.5**	**+0.5**
WB2	**Warramunga Arr**	**44.06**	**263**	⇓ *i*P	**P**	**13 01 38.8**	**-0.2**
WRAB	**Tennant Creek**	**44.06**	**263**	*e*P	**P**	**13 01 38.7**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,37nm,1.3s,mb4.8						
WRAB	**Tennant Creek**	**44.06**	**263**	*e*P	**P**	**13 01 38.7**	**-0.3**
	comp=Z,37nm,1.3s,mb4.8						
WRA	**Warramunga Arr**	**44.07**	**263**	P	**P**	**13 01 38.5**	**-0.5**
	comp=Z,4.0nm,0.3s,mb4.5,baz=96,slow=7.3,SNR=418						
KAKA	**Kakadu**	**47.56**	**272**	*e*P	**P**	**13 02 05.6**	**0.0**
	comp=Z,15nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.50**	**263**	*e*P	**P**	**13 02 42.8**	**+1.0**
	comp=Z,4.5nm,0.3s,mb4.3						
MBWA	**Marble Bar**	**57.26**	**258**	*e*P	**P**	**13 03 15.1**	**0.0**
	comp=Z,7.6nm,0.4s,mb4.3						
QSPA	**South Pole Qui**	**68.81**	**180**	P	**P**	**13 04 28.8**	**-0.6**
NVAR	**Mina Array Bea**	**81.88**	**43**	P	**P**	**13 05 43.7**	**+1.7**
	comp=Z,0.7nm,0.6s,mb3.2,baz=218,slow=5.8,SNR=6.3						
NVAR	**Mina Array Bea**	**81.88**	**43**	P	**P**	**13 05 43.7**	**+1.7**
MCK	**McKinley**	**87.81**	**13**	*e*P	**P**	**13 06 10.1**	**-0.7**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
MCK	**McKinley**	**87.81**	**13**	*e*P	**P**	**13 06 10.1**	**-0.7**
	comp=Z,1.5nm,0.8s,mb3.8						
COLA	**College**	**89.04**	**13**	*e*P	**P**	**13 06 15.4**	**-1.2**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
COLA	**College**	**89.04**	**13**	*e*P	**P**	**13 06 15.4**	**-1.2**
	comp=Z,2.9nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**89.15**	**13**	P	**P**	**13 06 15.9**	**-1.2**
	comp=Z,0.9nm,0.8s,mb3.7,baz=224,slow=5.7,SNR=15						
PDAR	**Pinedale Array**	**89.81**	**43**	P	**P**	**13 06 21.4**	**+1.3**
	comp=Z,1.1nm,0.7s,mb3.8,baz=200,slow=3.8,SNR=11						
MKAR	**Makanchi Array**	**111.40**	**313**	PKIKP	PKiKP	13 11 49.7	-2.1
	comp=Z,0.2nm,0.4s,baz=154,slow=1.2,SNR=7.5						
MKAR	**Makanchi Array**	**111.40**	**313**	PKPdf	PKiKP	13 11 49.7	-2.1
ARU	**Arti**	**125.57**	**325**	*e*PKIKP	PKPdf	13 12 18.1	-1.0
ARU	**Arti**	**125.57**	**325**	*e*PKPdf	PKPdf	13 12 18.1	-0.9
ARCES	**ARCESS Array B**	**129.59**	**349**	PKP	PKPdf	13 12 25.2	-1.5
	comp=Z,4.6nm,0.9s,baz=340,slow=1.8,SNR=6.1						
NB2	**NORSAR Subarra**	**139.68**	**353**	PKPa		13 12 38.7	
	comp=Z,0.5nm,0.6s,baz=15,slow=3.2						
NOA	**NORSAR Array B**	**139.68**	**353**	PKhKP		13 12 37.9	
	comp=Z,0.4nm,0.6s,baz=19,slow=3.9,SNR=4.7						
AKASG	**Malin Array Be**	**143.46**	**330**	PKP	PKPdf	13 12 49.1	-3.1
	comp=Z,9.7nm,0.5s,baz=44,slow=4.2,SNR=36						
MALT	**Malatya**	**144.03**	**306**	*e*PKHKP		13 12 53.0	
BR131	**Keskin Array S**	**147.02**	**311**	*e*PKPbc	PKPbc	13 13 00.8	-0.5
BRTR	**Keskin Array B**	**147.02**	**311**	PKPbc	PKPbc	13 13 01.1	-0.1
	comp=Z,2.6nm,0.6s,baz=139,slow=4.8,SNR=11						
STHS	**Stebnicka Huta**	**147.83**	**336**	*e*	PKPab	13 13 11.4	+3.6
CLL	**Collm**	**148.70**	**346**	*i* P	PKPbc	13 13 05.6	+0.1
	comp=Z,9.0nm,1.1s						
CLL	**Collm**	**148.70**	**346**	*i* PKHKP		13 13 05.6	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
DPC	**Dobruska-Polom**	**148.71**	**342**	*e*P	PKPbc	13 13 06.0	+0.4
EIL	**Elat**	**148.77**	**292**	*e*PKPbc	PKPbc	13 13 05.7	-0.1
KECS	**Kecovo**	**148.88**	**335**	*e*PKP	PKPbc	13 13 07.0	+1.0
PVCC	**Panska Ves**	**149.04**	**344**	*e*P	PKPbc	13 13 07.8	+1.4
PRU	**Pruhonice**	**149.54**	**343**	*e*P	PKPbc	13 13 09.0	+1.4
NKC	**Novy Kostel**	**149.83**	**346**	*e*P	PKPbc	13 13 08.6	+0.4
KHC	**Kasperske Hory**	**150.58**	**344**	*e*P	PKPbc	13 13 10.4	+0.4
GERES	**GERESS Array B**	**150.81**	**343**	PKPbc	PKPbc	13 13 08.2	-2.3
	comp=Z,1.6nm,0.7s,baz=40,slow=2.3,SNR=13						

ISC 15 13:00:49.6±1.7, 4601N±009×1368E±007, h0km, n5, σ0°72/8, 1C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOJS	**Vojsko**	**0.14**	**83**	*i* Pg	**Pg**	**13 00 53.0**	**+0.7**
DRE	**Drenchia**	**0.16**	**351**	⇑ *i*Pg	**Pg**	**13 00 51.7**	**-1.0**
DRE				*i* Sg	**Sg**	**13 00 55.0**	**+0.2**
CADS	**Cadrg**	**0.22**	**10**	*i* Pg	**Pg**	**13 00 53.2**	**-0.6**
COLI	**Coloredo**	**0.24**	**300**	⇓ *i*Pg	**Pg**	**13 00 53.7**	**-0.5**
COLI				*i* Sg	**Sg**	**13 00 58.5**	**+1.1**
GORS	**Gorjuse**	**0.37**	**36**	*i* Pg	**Pg**	**13 00 56.3**	**-0.5**
GORS				*i* Sg	**Sg**	**13 01 02.4**	**+0.7**

IDC 15 13:12:43.8±2.0, 110N×9700E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/21, mbtmp3.2/5, Error ellipse: s-maj=54.1km s-min=24.3km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.56**	**49**	Pn	Pn	13 13 26.2	-0.3
	1.7nm,0.3s,baz=277,slow=9.5,SNR=7.3						
WRA	**Warramunga Arr**	**42.15**	**122**	P	P	13 20 38.4	+0.5
	0.3nm,0.6s,baz=302,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**43.50**	**127**	P	P	13 20 49.0	+0.1
	0.1nm,0.4s,baz=302,slow=7.8,SNR=6.0						
SONM	**Songino Array**	**47.26**	**9**	P	P	13 21 18.6	-0.1
	0.3nm,0.7s,baz=189,slow=8.2,SNR=3.5						
MKAR	**Makanchi Array**	**47.29**	**346**	P	P	13 21 18.9	+0.1
	0.4nm,0.5s,baz=153,slow=8.0,SNR=10						

*INMG **15** 13:22:36.1±1.4, 3696N×494W, h5km±3km, ML3.1, Error ellipse: s-maj=2.2km s-min=1.9km az=22.0*
*NEIC **15** 13:22:36.6, 3694N×495W, h10km, MN3.2(MDD), After MDD.*
*CSEM **15** 13:22:36.9±0.1, 3701N×497W, h10km, ML3.5/17, Error ellipse: s-maj=1.7km s-min=1.1km az=178.0*
*SFS **15** 13:22:36.0, 3690N×498W, h15km, ML2.8*
MDD 15 13:22:36.7±0.3, 3693N×495W, h11km, mbLg3.1/31, Error ellipse: s-maj=2.5km s-min=1.8km az=178.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.37**	**266**	P	Pg	13 22 44.4	+0.4
LIJA				S	Sg	13 22 48.8	-0.2
LIJA	**Lijar**	**0.37**	**266**	*i* P	Pg	13 22 44.4	+0.4
EMIJ	**Mijas**	**0.39**	**159**	Pg	Pg	13 22 43.2	-1.3
	173nm,0.2s,SNR=4.0						
EMIJ				Lg		13 22 49.1	
	3μm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**0.39**	**159**	Pg	Pg	13 22 43.2	-1.3
	173nm,0.2s,SNR=4.0						
EMIJ				Lg		13 22 49.2	
	3μm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**0.39**	**159**	Pg	Pg	13 22 43.2	-1.3
EMIJ				Lg		13 22 49.3	
EMAL	**Malaga-Limoner**	**0.45**	**112**	Lg		13 22 50.9	
	267nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.45**	**112**	Lg		13 22 50.9	
	267nm,0.2s,SNR=7.9						
REAL	**Reales**	**0.49**	**205**	P	Pg	13 22 45.9	-0.5
REAL				S	Sg	13 22 51.9	-1.1
EJIF	**Jimena Fronter**	**0.64**	**221**	Pg	Pg	13 22 49.1	-0.1
	87nm,0.3s,SNR=4.0						
EJIF				Lg		13 22 57.9	
	250nm,0.5s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.64**	**221**	Pg	Pg	13 22 49.1	0.0
	87nm,0.3s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.64**	**221**	Pg	Pg	13 22 48.8	-0.3
EJIF				Lg		13 22 59.5	
ELOJ	**Sierra Loja**	**0.67**	**71**	Pg	Pg	13 22 48.6	-1.1
	73nm,0.4s,SNR=4.0						
ELOJ				Lg		13 22 56.8	
	353nm,0.6s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.67**	**71**	Pg	Pg	13 22 48.7	-1.0
ELOJ	**Sierra Loja**	**0.67**	**71**	Pg	Pg	13 22 48.6	-1.1
ELOJ				Lg		13 23 00.7	
ESPR	**Espera**	**0.73**	**265**	Pg	Pg	13 22 51.3	+0.3
	86nm,0.3s,SNR=4.0						
ESPR				Lg		13 22 59.9	
	575nm,0.6s,SNR=4.0						
ESPR	**Espera**	**0.73**	**265**	Pg	Pg	13 22 51.1	+0.2
ESPR	**Espera**	**0.73**	**265**	Pg	Pg	13 22 51.1	+0.2

ECOG				Lg		13 23 14.4	
	101nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.16**	**72**	Pg	Pg	13 22 59.5	+0.6
	59nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.16**	**72**	Pg	Pg	13 22 59.5	+0.6
ECOG				Lg		13 23 14.5	
ECAB	**El Cabril**	**1.20**	**342**	Pg	Pg	13 22 57.7	-2.2
	139nm,0.5s,SNR=4.0						
ECAB				Lg		13 23 13.9	
	194nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**1.20**	**342**	Pg	Pg	13 22 57.7	-2.1
	139nm,0.5s,SNR=4.0						
ECAB	**El Cabril**	**1.20**	**342**	Pg	Pg	13 22 57.7	-2.2
ECAB				Lg		13 23 14.4	
EQUE	**Quentar**	**1.23**	**77**	Pg	Pg	13 22 59.7	-0.7
	47nm,0.3s,SNR=4.0						
EQUE				Lg		13 23 16.0	
	166nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.27**	**13**	Pg	Pg	13 22 59.0	-2.0
	141nm,0.3s,SNR=4.0						
EADA				Lg		13 23 15.6	
	168nm,0.2s,SNR=15						
EADA	**Adamuz**	**1.27**	**13**	Pg	Pg	13 22 59.0	-2.1
	141nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**1.27**	**13**	Pg	Pg	13 22 59.0	-2.0
EMIN	**Mina Concepcio**	**1.61**	**302**	Pg	Pg	13 23 05.3	-2.3
	24nm,0.2s,SNR=4.0						
EMIN				Lg		13 23 26.1	
	80nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.61**	**302**	Pg	Pg	13 23 05.3	-2.3
	24nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**1.61**	**302**	Pg	Pg	13 23 05.4	-2.2
EMIN				Lg		13 23 25.9	
EBER	**Berja**	**1.65**	**91**	Pg	Pg	13 23 07.6	-0.7
	66nm,0.5s,SNR=7.9						
EBER				Lg		13 23 30.2	
	128nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.65**	**91**	Pg	Pg	13 23 07.6	-0.8
	66nm,0.5s,SNR=7.9						
EBER	**Berja**	**1.65**	**91**	Pg	Pg	13 23 07.2	-1.1
EBER				Lg		13 23 32.9	
EQES	**Quesada**	**1.73**	**59**	Pg	Pg	13 23 08.2	-1.7
	51nm,0.3s,SNR=4.0						
EQES				Lg		13 23 31.6	
	364nm,0.5s,SNR=4.0						
EQES	**Quesada**	**1.73**	**59**	Pg	Pg	13 23 08.2	-1.7
	51nm,0.3s,SNR=4.0						
EQES	**Quesada**	**1.73**	**59**	Pg	Pg	13 23 08.3	-1.6
EQES				Lg		13 23 31.2	
ERIP	**Rio Piedras**	**1.90**	**284**	Pg	Pg	13 23 11.0	-2.1
	13nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	13 23 30.7	-2.3
	65nm,0.3s,SNR=7.9						
ERIP				Lg		13 23 36.1	
	144nm,0.3s,SNR=7.9						
ERIP	**Rio Piedras**	**1.90**	**284**	Pg	Pg	13 23 11.0	-2.1
	13nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	13 23 30.7	-2.3
	65nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.07**	**64**	Pg	Pg	13 23 15.2	-1.2
	8.5nm,0.2s,SNR=4.0						
EHUE				Sn	Sn	13 23 36.6	-0.7
	5.0nm,0.2s,SNR=7.9						
EHUE				Lg		13 23 42.5	
	28nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.07**	**64**	Pg	Pg	13 23 15.2	-1.2
	8.5nm,0.2s,SNR=4.0						
EHUE				Sn	Sn	13 23 36.6	-0.7
	5.0nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.11**	**287**	Pn	Pn	13 23 09.6	-2.4
	5.9nm,0.1s,SNR=7.9						
EGRO				Pg	Pg	13 23 13.1	-4.2
	15nm,0.2s,SNR=16						
EGRO				Sn	Sn	13 23 35.8	-2.5
	35nm,0.3s,SNR=7.9						
EGRO				Lg		13 23 40.8	
	108nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**2.11**	**287**	Pn	Pn	13 23 09.6	-2.4
	5.9nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.11**	**287**	Pg	Pg	13 23 13.1	-4.2
	15nm,0.2s,SNR=16						
EGRO				Sn	Sn	13 23 35.8	-2.5
	35nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**2.11**	**287**	Pn	Pn	13 23 09.6	-2.4
EGRO				Sn	Sn	13 23 36.2	-2.1
EGRO				Lg		13 23 41.9	
ENIJ	**Nijar**	**2.19**	**88**	Pg	Pg	13 23 17.1	-1.7
	29nm,0.5s,SNR=4.0						
ENIJ				Lg		13 23 44.8	
	18nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.19**	**88**	Pg	Pg	13 23 17.1	-1.7
	29nm,0.5s,SNR=4.0						
ENIJ	**Nijar**	**2.19**	**88**	Pg	Pg	13 23 17.1	-1.7
EBAD	**Badajoz**	**2.45**	**319**	Pn	Pn	13 23 14.3	-2.4
	9.4nm,0.2s,SNR=7.9						
EBAD				Pg	Pg	13 23 21.9	-1.8
	10nm,0.2s,SNR=14						
EBAD				Sn	Sn	13 23 44.4	-2.2
	34nm,0.2s,SNR=7.9						
EBAD				Lg		13 23 52.0	
	58nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.45**	**319**	Pn	Pn	13 23 14.3	-2.4
	9.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.45**	**319**	Pg	Pg	13 23 21.9	-1.8
	10nm,0.2s,SNR=14						
EBAD				Sn	Sn	13 23 44.3	-2.3
	34nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.45**	**319**	Pn	Pn	13 23 14.3	-2.4
EBAD				Sn	Sn	13 23 44.7	-1.9
EBAD				Lg		13 23 52.9	
PBEJ	**Beja**	**2.57**	**296**	*e*Pn	Pn	13 23 17.6	-0.7
PBEJ				*e*Sn	Sn	13 23 48.1	-1.4
PBEJ				*e*Sg	Sg	13 23 57.8	-1.4
PBEJ							
	43nm,0.8s						
PBEJ	**Beja**	**2.57**	**296**	*e*Pn	Pn	13 23 17.6	-0.7
PBEJ				*e*Sn	Sn	13 23 48.1	-1.4
PBEJ				*e*Sg	Sg	13 23 57.8	-1.4
	43nm,0.8s						
ESDC	**Sonseca Array**	**2.84**	**15**	Pn	Pn	13 23 21.0	-1.1
	8.2nm,0.2s,baz=196,slow=12,SNR=7.9						
ESDC				Pg	Pg	13 23 28.4	-2.8
	14nm,0.2s,baz=200,slow=17,SNR=7.4						
ESDC				Sn	Sn	13 23 52.7	-3.6
	4.7nm,0.2s,baz=196,slow=23,SNR=5.9						
ESDC				Lg		13 24 05.6	
	47nm,0.4s,baz=195,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**2.84**	**15**	Pn	Pn	13 23 21.0	-1.1
	8.2nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.84**	**15**	Pg	Pg	13 23 28.4	-2.9
	14nm,0.2s,SNR=7.4						
ESDC				Sn	Sn	13 23 52.7	-3.7
	4.7nm,0.2s,SNR=5.9						
ESDC	**Sonseca Array**	**2.84**	**15**	Pn	Pn	13 23 21.3	-0.8
ESDC				Lg		13 24 05.6	
ESLA	**Sonseca Array**	**2.84**	**15**	*e*Pn	Pn	13 23 20.7	-1.4
ESLA	**Sonseca Array**	**2.84**	**15**	*e*Pn	Pn	13 23 20.7	-1.4
ESLA				*e*Sn	Sn	13 23 57.2	+0.9
PTEO	**Sao Teotonio**	**3.08**	**283**	*e*Pn	Pn	13 23 23.4	-1.9
PTEO				*e*Sn	Sn	13 24 00.0	-2.1
PTEO				*e*Sg	Sg	13 24 12.7	-2.9
PTEO							
	71nm,0.7s						
PTEO	**Sao Teotonio**	**3.08**	**283**	*e*Pn	Pn	13 23 23.4	-1.9
PTEO				*e*Sn	Sn	13 24 00.0	-2.1
PTEO				*e*Sg	Sg	13 24 12.7	-2.9
	71nm,0.7s						
EMUR	**La Murta**	**3.09**	**72**	Pg	Pg	13 23 33.7	-2.2
	19nm,0.4s,SNR=7.9						
EMUR				Sn	Sn	13 23 60.0	-2.4
	12nm,0.4s,SNR=7.9						
EMUR				Lg		13 24 15.2	
	46nm,0.6s,SNR=5.4						
EMUR	**La Murta**	**3.09**	**72**	Pg	Pg	13 23 33.7	-2.2
	19nm,0.4s,SNR=7.9						
EMUR				Sn	Sn	13 24 00.0	-2.3
	12nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.09**	**72**	Pg	Pg	13 23 34.9	-1.0
MOE	**Montemor**	**3.13**	**301**	*e*Pn	Pn	13 23 25.6	-0.5
MOE				*e*Sn	Sn	13 24 00.8	-2.7
MOE				*e*Sg	Sg	13 24 15.4	-2.0
ETOB	**Tobarra**	**3.19**	**57**	Pn	Pn	13 23 25.9	-1.0
	2.2nm,0.2s,SNR=7.9						
ETOB				Pg	Pg	13 23 35.6	-2.2
	5.5nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	13 24 03.1	-1.7
	12nm,0.4s,SNR=4.0						
ETOB				Lg		13 24 16.6	
	46nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.19**	**57**	Pn	Pn	13 23 25.9	-0.9
	2.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.19**	**57**	Pg	Pg	13 23 35.7	-2.1
	5.5nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	13 23 59.8	-5.0
	12nm,0.4s,SNR=4.0						
ETOB	**Tobarra**	**3.19**	**57**	Pn	Pn	13 23 25.9	-1.0
ETOB				Lg		13 24 17.9	
PCBR	**Castelo Branco**	**3.52**	**326**	*e*Pn	Pn	13 23 30.5	-0.9
PCBR				*e*Sn	Sn	13 24 10.1	-2.9
PCBR				*e*Sg	Sg	13 24 26.1	-3.7
PCBR							
	32nm,0.6s						
PCBR	**Castelo Branco**	**3.52**	**326**	*e*Pn	Pn	13 23 30.5	-0.9
PCBR				*e*Sn	Sn	13 24 10.1	-2.9
PCBR				*e*Sg	Sg	13 24 26.1	-3.7
	32nm,0.6s						
GUD	**Guadarrama**	**3.76**	**9**	Pn	Pn	13 23 33.5	-1.1
	5.6nm,0.3s,SNR=15						
GUD				Pg	Pg	13 23 45.9	-2.9
	2.6nm,0.2s,SNR=7.0						
GUD				Lg		13 24 34.1	
	38nm,0.6s,SNR=7.9						
GUD	**Guadarrama**	**3.76**	**9**	Pn	Pn	13 23 33.5	-1.1
	5.6nm,0.3s,SNR=15						
GUD	**Guadarrama**	**3.76**	**9**	Pg	Pg	13 23 45.9	-2.8
	2.6nm,0.2s,SNR=7.0						
GUD	**Guadarrama**	**3.76**	**9**	Pn	Pn	13 23 33.5	-1.1
GUD				Lg		13 24 34.1	
PTOM	**Tomar**	**3.83**	**316**	*e*Pn	Pn	13 23 33.1	-2.5
PTOM				*e*Sn	Sn	13 24 18.1	-2.4
PTOM				*e*Sg	Sg	13 24 36.6	-3.0
PTOM							
	50nm,0.8s						
PTOM	**Tomar**	**3.83**	**316**	*e*Pn	Pn	13 23 33.1	-2.5
PTOM				*e*Sn	Sn	13 24 18.1	-2.4
PTOM				*e*Sg	Sg	13 24 36.6	-3.0
	50nm,0.8s						
MTE	**Manteigas**	**4.02**	**330**	*e*Sn	Sn	13 24 21.2	-4.0
MTE				*e*Sg	Sg	13 24 39.6	-6.1
MTE							
	69nm,0.7s						
ECHE	**Chera**	**4.10**	**48**	Pn	Pn	13 23 38.4	-1.0
	1.7nm,0.3s,SNR=7.9						
ECHE				Pg	Pg	13 23 51.6	-3.8
	6.2nm,0.4s,SNR=5.5						
ECHE				Lg		13 24 45.6	
	25nm,0.6s,SNR=7.9						
ECHE	**Chera**	**4.10**	**48**	Pg	Pg	13 23 51.6	-3.8
	6.2nm,0.4s,SNR=5.5						
ECHE	**Chera**	**4.10**	**48**	Pn	Pn	13 23 38.6	-0.8
EBEN	**Beniarda**	**4.13**	**63**	Pn	Pn	13 23 39.1	-0.8
	1.6nm,0.2s,SNR=7.9						
EBEN				Sn	Sn	13 24 25.3	-2.8
	4.5nm,0.3s,SNR=7.9						
EBEN				Lg		13 24 47.1	
	12nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**4.13**	**63**	Pn	Pn	13 23 39.1	-0.7
	1.6nm,0.2s,SNR=7.9						
EBEN				Sn	Sn	13 24 25.3	-2.9
	4.5nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.13**	**63**	Pn	Pn	13 23 39.3	-0.5
EBEN				Lg		13 24 46.5	
PVIS	**Viseu**	**4.42**	**330**	*e*Pn	Pn	13 23 42.6	-1.2
PVIS				*e*Sn	Sn	13 24 30.6	-4.7
PVIS				*e*Sg	Sg	13 24 54.6	-4.2
PVIS							
	24nm,0.5s						
PVIS	**Viseu**	**4.42**	**330**	Pn	Pn	13 23 42.6	-1.2
PVIS				Sn	Sn	13 24 30.6	-4.7
PVIS				Lg		13 24 54.6	
	12nm,0.5s						
EMOS	**Mosqueruela**	**4.90**	**44**	Pn	Pn	13 23 49.1	-1.3
	3.7nm,0.4s,SNR=7.9						
EMOS				Pg	Pg	13 24 06.8	-3.7
	1.2nm,0.2s,SNR=7.9						
EMOS				Lg		13 25 10.4	
	35nm,0.8s,SNR=7.9						
EMOS	**Mosqueruela**	**4.90**	**44**	Pn	Pn	13 23 49.1	-1.2
	3.7nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.90**	**44**	Pg	Pg	13 24 06.8	-3.8
	1.2nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**5.06**	**345**	*e*Sn	Sn	13 24 46.4	-4.6
PBRG				*e*Sg	Sg	13 25 14.1	-5.1
PBRG							
	16nm,0.6s						
ECAL	**Calabor**	**5.19**	**345**	Sn	Sn	13 24 49.2	-5.0
	10nm,0.3s,SNR=7.9						
ECAL				Lg		13 25 19.9	
	79nm,0.7s,SNR=7.9						
ECAL	**Calabor**	**5.19**	**345**	Sn	Sn	13 24 49.2	-5.0
	10nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**5.39**	**65**	Pn	Pn	13 23 54.2	-2.9
	0.2nm,0.1s,SNR=4.0						
EIBI				Sn	Sn	13 24 55.3	-3.8
	2.3nm,0.3s,SNR=4.0						
EIBI	**Ibiza**	**5.39**	**65**	Pn	Pn	13 23 54.2	-2.9
	0.2nm,0.1s,SNR=4.0						
EIBI				Sn	Sn	13 24 55.3	-3.8
	2.3nm,0.3s,SNR=4.0						
ELOB	**Lobios**	**5.49**	**335**	Pn	Pn	13 23 56.8	-1.6
	1.7nm,0.2s						
ELOB				Sn	Sn	13 24 56.3	-5.3
	3.4nm,0.3s,SNR=7.9						
ELOB				Lg		13 25 27.9	
	19nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**5.49**	**335**	Pn	Pn	13 23 56.8	-1.6
	1.7nm,0.2s						
ELOB				Sn	Sn	13 24 56.3	-5.2
	3.4nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**5.71**	**343**	Pn	Pn	13 23 59.8	-1.7
	2.6nm,0.3s,SNR=7.9						
ERUA				Sn	Sn	13 25 01.8	-5.2
	4.7nm,0.4s,SNR=7.9						
ERUA				Lg		13 25 34.4	
	15nm,0.6s,SNR=5.6						
ERUA	**La Rua**	**5.71**	**343**	Pn	Pn	13 23 59.8	-1.7
	2.6nm,0.3s,SNR=7.9						
ERUA				Sn	Sn	13 25 01.8	-5.2
	4.7nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.75**	**44**	Lg		13 25 34.7	
	9.5nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**5.91**	**35**	Sn	Sn	13 25 07.4	-4.5
	19nm,0.4s,SNR=7.9						
ESAC				Lg		13 25 42.9	
	45nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**5.91**	**35**	Sn	Sn	13 25 07.4	-4.5
	19nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**6.37**	**358**	Sn	Sn	13 25 16.0	-7.1
	1.1nm,0.4s,SNR=7.9						
EARI				Lg		13 25 57.4	
	3.9nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**6.40**	**10**	Sn	Sn	13 25 18.7	-5.3
	1.7nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**6.40**	**10**	Sn	Sn	13 25 18.7	-5.3
	1.7nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**6.61**	**346**	Pn	Pn	13 24 13.4	-0.4
	2.0nm,0.2s,SNR=4.0						
EPON				Sn	Sn	13 25 22.4	-6.7
	SNR=4.0						
EPON				Lg		13 26 05.7	
	7.6nm,0.5s,SNR=4.0						
EPON	**Pontenova**	**6.61**	**346**	Pn	Pn	13 24 13.4	-0.4
	2.0nm,0.2s,SNR=4.0						
EPON				Sn	Sn	13 25 22.4	-6.7
	SNR=4.0						
EGRA	**Graus**	**6.64**	**36**	Lg		13 26 06.4	
	6.7nm,0.6s,SNR=4.0						
EALK	**Alkurruntz**	**6.81**	**22**	Pn	Pn	13 24 15.3	-1.3
	4.9nm,0.3s,SNR=6.0						
EALK				Sn	Sn	13 25 27.8	-6.3
	SNR=7.9						
EALK				Lg		13 26 10.8	
	16nm,0.5s,SNR=7.9						
EALK	**Alkurruntz**	**6.81**	**22**	Pn	Pn	13 24 15.3	-1.3
EALK				Sn	Sn	13 25 27.8	-6.3
EBIE	**Bielsa**	**6.95**	**33**	Pn	Pn	13 24 17.6	-1.0
	0.8nm,0.1s,SNR=4.5						
EBIE				Sn	Sn	13 25 32.1	-5.6
	3.3nm,0.6s,SNR=5.0						
EBIE				Lg		13 26 17.6	
	3.5nm,0.5s,SNR=4.0						
EBIE	**Bielsa**	**6.95**	**33**	Pn	Pn	13 24 17.6	-1.0
EBIE				Sn	Sn	13 25 32.1	-5.5

IDC ***15*** *13:54:13.0±1.4, 1184N×12069E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML4.4/1, Error ellipse: s-maj=81.0km s-min=21.7km az=74.0*
MAN ***15*** *13:54:14.8, 12.12N×12096E, h20km, mb1.6, ML3.5, MS3.3*
ISCJB ***15*** *13:54:15.7±1.0, 1200N±0.10×1210E±0.1, h33km, mb3.5/3, Error ellipse: s-maj=19.7km s-min=12.0km az=126.3*
ISC 15 13:54:17.9±1.0, 121N±01×1211E±01, h35km, n8, σ1§35/9, mb3.5/3, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.96**	**74**	*e*P	**Pn**	**13 54 33.9**	**-0.9**
OTRP				*e*S	**Sn**	**13 54 34.2**	**-13**
KALP	**Kalibo**	**1.30**	**109**	‖ *e*P	**Pn**	**13 54 42.3**	**+2.8**
PGP	**Puerto Galera**	**1.40**	**355**	*e*P	**Pn**	**13 54 38.8**	**-2.1**
RCP	**Roxas**	**1.71**	**108**	‖ *e*P	**Pn**	**13 54 45.3**	**+0.1**
TGY	**Tagaytay City**	**2.00**	**356**	Pn	**Pn**	**13 54 50.9**	**+1.8**
	101nm,0.3s,baz=210,slow=8.6,SNR=8.8						
WRA	**Warramunga Arr**	**34.41**	**158**	P	**P**	**14 01 00.5**	**-1.2**
	0.6nm,0.8s,mb3.6,baz=329,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**37.69**	**161**	P	**P**	**14 01 30.1**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=341,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**47.54**	**324**	P	**P**	**14 02 50.4**	**+0.7**
	0.4nm,0.8s,mb3.5,baz=123,slow=8.8,SNR=3.6						

MAN 15 13:55:23.6, 1229N×12099E, h33km, mb2.2, ML3.9, MS2.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.83**	**250**	*e*P	Pn	13 55 39.5	+0.6
BUSP				*e*S	Sn	13 55 50.5	+0.5
CUYO	**Cuyo Island**	**1.43**	**179**	*e*P	Pn	13 55 47.3	0.0
CUYO				*e*S	Sn	13 56 05.6	+0.4
ENPP	**El Nido**	**1.88**	**235**	*e*P	Pn	13 55 53.8	+0.4

SZGRF ***15*** *14:19:42.9, 2168S×35.14E, h14km, mb5.6, MS5.3, Mozambique*
IDC ***15*** *14:19:46.8±0.4, 2100S×3357E, h0km, mb5.1/31, mb1 5.2/32, mb1mx5.2/32, mbtmp5.1/32, ML4.7/1, MS5.3/24, Ms1 5.3/24, ms1mx5.3/24, Error ellipse: s-maj=16.8km s-min=11.5km az=82.0*
PRE ***15*** *14:19:46.0±2.3, 2104S×3335E, h5km, ML6.3*
ISCJB ***15*** *14:19:47.4±0.2, 2109S±003×3361E±004, h12km, mb5.4/223, MS5.4/174, Error ellipse: s-maj=4.7km s-min=4.2km az=3.4*
MOS ***15*** *14:19:47.5±0.9, 2093S×3369E, h10km, mb5.6/81, MS5.3/42, Error ellipse: s-maj=12.7km s-min=3.9km az=99.2*
HRVD ***15*** *14:19:48.7±0.1, 2098S×3336E, h12km, MW5.6/99, Centroid moment Tensor Solution. LP body waves: s83,c153;Mantle waves: s99,c200; Half duration: 1§5 Moment tensor: Scale 10^17Nm; Mrr-1.75±.04; Mθθ-0.36±.04; Mφφ2.11±.04; Mrθ0.88±.11; Mθφ-1.65±.04; Mφr0.90±.11; Best double couple: M0:2.84200×10^17 NP1:φs301.00000°, δ52.00000°, λ-141.00000°. NP2: φs185.00000°, δ61.00000°, λ-46.00000°. Principal axes: T 2.9740, Plg5.0000°, Azm245.0000°; N -0.2690, Plg38.0000°, Azm339.0000°; P -2.7100, Plg52.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***15*** *14:19:48.0±0.2, 2116S×3358E, h7km, mb5.5/157, ME5.7, MS5.5/137, MW5.6 Error ellipse: s-maj=5.9km s-min=5.2km az=74.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^17Nm; Mrr-1.97; Mθθ0.06; Mφφ1.92; Mrθ0.85; Mθφ-2.13; Mφr1.18; Best double couple: M0:3.20000×10^17 NP1:φs178.00000°, δ61.00000°, λ-46.00000°. NP2:φs295.00000°, δ51.00000°, λ-142.00000°. Principal axes: T 3.3700, Plg6.0000°, Azm238.0000°; N -0.3000, Plg38.0000°, Azm333.0000°; P -3.0700, Plg52.0000°, Azm141.0000°; Broadband fault plane solution: P waves. NP1:φs78.00000°, δ42.00000°, λ-23.00000°. NP2:φs185.00000°, δ75.00000°, λ130.00000°. Principal axes: T Plg20.0000°, Azm304.0000°; N Plg0.0000°, Azm0.0000°; P Plg45.0000°, Azm55.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Beira. Felt at Maputo and Matola. Also felt at Mbabane, Swaziland and Harare and Mutare, Zimbabwe.
BJI ***15*** *14:19:48.2, 2072S×3353E, h13km, mB5.8, mb5.4, Ms5.6, Ms25.2*
ISC 15 14:19:49.3±0.2, 2113S±003×3358E±003, h13km, h13km±1.0km: pP-P, n796, σ1§16/629, mb5.4/223, MS5.4/174, 32C-36D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.81**	**277**	Pn	**Pn**	**14 20 56.8**	**-4.7**
	68nm,0.3s,baz=95,slow=14,SNR=308						
MATP				Sn	**Sn**	**14 21 49.9**	**-7.2**
	195nm,0.3s,baz=202,slow=23,SNR=6.4						
MATP				Lg		14 22 07.3	
	2μm,0.3s,baz=3.1,slow=17,SNR=11						
MATP				LR	LR	14 23 03.5	
	comp=Z,30μm,21.2s,baz=95,slow=41						
BFT	**Belfast (SA)**	**5.58**	**215**	*e*P	**Pn**	**14 21 10.9**	**-1.2**
BFT				*e*S	**Sn**	**14 22 11.7**	**-4.5**
BFT				AML	AML	14 22 56.5	
	comp=Z,4μm,0.6s						
SLR	**Silverton**	**6.69**	**226**	*e*P	**Pn**	**14 21 24.8**	**-2.5**
SLR				*e*S	**Sn**	**14 22 35.9**	**-7.6**
SLR				AML	AML	14 23 25.0	
	comp=Z,6μm,0.6s						
KSR	**Koster**	**7.73**	**231**	*e*P	**Pn**	**14 21 38.5**	**-3.1**
LSZ	**Lusaka**	**7.75**	**318**	Pn	**Pn**	**14 21 35.7**	**-6.3**
LSZ	**Lusaka**	**7.75**	**318**	Pn	**Pn**	**14 21 35.7**	**-6.2**
	comp=Z,54nm,0.3s,baz=141,slow=14,SNR=76						
LSZ				Sn	**Sn**	**14 22 58.2**	**-11**
	comp=Z,109nm,0.3s,baz=212,slow=21,SNR=8.2						
LSZ				Lg		14 23 35.0	
	comp=Z,677nm,0.3s,baz=63,slow=14,SNR=7.4						
LSZ				LR	LR	14 24 36.4	
	comp=Z,37μm,18.2s,baz=138,slow=38						
LSZ	**Lusaka**	**7.75**	**318**	*e*P	**Pn**	**14 21 35.6**	**-6.3**
LSZ				pmax	pmax		
	comp=Z,1μm,0.6s						
LSZ	**Lusaka**	**7.75**	**318**	*e*Pn	**Pn**	**14 21 35.6**	**-6.3**
	comp=Z,1μm,0.6s						
LSZ				*e*Sn	**Sn**	**14 22 58.3**	**-11**
LSZ				*e*Sg	Sn	14 23 36.8	+27
LBTB	**Lobatse**

comp=Z,33µm,19.7s,baz=52,slow=38
BOSA Boshof 10.61 224⇑ *e*P Pn 14 22 17.8 -3.3
BOSA pmax pmax
comp=Z,2.0nm,0.3s
BOSA Boshof 10.61 224⇑ *e*Pn Pn 14 22 17.8 -3.3
comp=Z,2.4nm,0.3s
BOSA *e*Sn **Sn 14 24 11.1 -8.8**
PKA Prieska 12.96 227 *e*P3 14 22 49.0
OPO Ambohidratompo 13.05 81 Pn **Pn 14 22 55.0 +0.5**
comp=Z,3.7nm,0.3s,baz=253,slow=12,SNR=24
OPO Sn **Sn 14 25 13.8 -5.7**
comp=Z,25nm,0.3s,baz=339,slow=22,SNR=6.2
GRM Grahamstown 13.67 206 *e*P **Pn 14 23 02.4 -0.5**
GRM *e*S **Sn 14 25 25.1 -9.5**
TSUM Tsumeb 15.14 274 Pn **Pn 14 23 14.6 -8.3**
comp=Z,5.4nm,0.3s,baz=95,slow=12,SNR=62
TSUM Sn **Sn 14 25 54.4 -16**
baz=23,slow=16,SNR=4.1
TSUM Lg 14 27 35.5
comp=Z,28nm,0.3s,baz=16,slow=5.8,SNR=7.1
TSUM LR LR 14 29 04.9
comp=Z,20µm,18.1s,baz=85,slow=37
TSUM Tsumeb 15.14 274⇑ *e*Pn Pn 14 23 14.1 -8.9
comp=Z,239nm,0.9s
SUR Sutherland 15.98 223 Pn **Pn 14 23 29.8 -4.0**
comp=Z,3µm,0.8s,SNR=29
SUR Sutherland 15.98 223 *e*P **Pn 14 23 30.0 -3.8**
SUR *e*S **Sn 14 26 19.3 -11**
SUR Sutherland 15.98 223 Pn **Pn 14 23 30.4 -3.4**
comp=Z,12nm,0.3s,baz=51,slow=12,SNR=113
SUR Sn **Sn 14 26 17.0 -14**
comp=Z,13nm,0.3s,baz=22,slow=13,SNR=7.7
SUR Lg 14 27 59.6
comp=Z,24nm,0.3s,baz=135,slow=22,SNR=3.9
SUR LR LR 14 29 52.5
comp=Z,29µm,19.0s,baz=48,slow=38
SUR Sutherland 15.98 223 *e*Pn **Pn 14 23 29.1 -4.7**
comp=Z,2µm,1.1s
SUR *e*Sn **Sn 14 26 16.4 -14**
CVNA Calvinia 16.11 227 *e*P **Pn 14 23 32.1 -3.4**
CER Ceres 17.58 223 *e*P **Pn 14 23 49.6 -4.5**
KMBO Kilima Mbogo 20.20 11 P **P 14 24 23.3 -0.5**
KMBO Kilima Mbogo 20.20 11 P **P 14 24 23.1 -0.7**
comp=Z,7.0nm,0.8s,baz=199,slow=15,SNR=13
KMBO Lg 14 30 03.1
comp=Z,62nm,0.9s,baz=246,slow=23,SNR=3.9
KMBO LR LR 14 31 38.6
comp=Z,6µm,19.3s,MS5.0,baz=178,slow=36
KMBO Kilima Mbogo 20.20 11 *e*P **P 14 24 23.5 -0.3**
KMBO pmax pmax
comp=Z,19nm,0.8s
KMBO Kilima Mbogo 20.20 11 *e*P **P 14 24 23.5 -0.3**
comp=Z,19nm,0.8s
ATD Arta Tunnel 33.70 17 LR LR 14 40 05.9
comp=Z,4µm,19.2s,MS5.1,baz=339,slow=36
SHEL Horse Pasture 37.57 271 PFAKE 14 27 10.0 +6.5
SHEL LR LR
comp=Z,3µm,19.0s,MS5.1
DGAR Diego Garcia 39.93 76 P **P 14 27 30.0 +6.8**
DGAR MLR MLR
comp=Z,3µm,20.0s,MS5.1
DGAR Diego Garcia 39.93 76 PFAKE 14 27 30.0 +6.8
DGAR LR LR
comp=Z,3µm,20.0s,MS5.1
TRIS Tristan da Cun 42.72 238 PFAKE 14 28 00.0 +14
TRIS LR LR
comp=Z,5µm,21.0s,MS5.4
ABTO Aybut 42.85 28 P **P 14 27 47.8 +0.6**
SNR=7.7
RBK Rabkut 43.39 29 P **P 14 27 52.5 +1.0**
SNR=9.6
WHFO Wadi Hawf 43.55 28 P **P 14 27 53.3 +0.4**
SNR=6.5
TORD Torodi Ar. Bea 46.27 315 P **P 14 28 12.5 -2.0**
comp=Z,113nm,0.8s,mb5.9,baz=127,slow=7.0,SNR=115
TORD PP PP 14 30 01.0 -2.1
comp=Z,23nm,0.9s,baz=133,slow=8.5,SNR=4.0
DBIC Dimbokro 46.76 302 P **P 14 28 18.6 +0.2**
comp=Z,41nm,1.0s,mb5.3,baz=113,slow=10,SNR=24
DBIC PP PP 14 30 04.6 -3.7
comp=Z,39nm,1.1s,baz=109,slow=11,SNR=6.4
DBIC LR LR 14 46 00.8
comp=Z,4µm,20.0s,MS5.3,baz=116,slow=34
DBIC Dimbokro 46.76 302 P **P 14 28 16.4 -2.0**
DBIC pmax pmax
comp=Z,120nm,1.2s
DBIC Dimbokro 46.76 302 *e*P **P 14 28 16.1 -2.3**
comp=Z,122nm,1.3s,mb5.7
DBIC *e*PP PP 14 30 04.2 -4.1
DBIC LR LR
comp=Z,4µm,20.0s,MS5.4
SYO Syowa Base 48.03 177⇓ *e*pP pP 14 28 30.8 -1.4
SYO Syowa Base 48.03 177 *e*P **P 14 28 28.9 +0.7**
SYO ⇓ *e*pP pP 14 28 30.8 -1.4
ASCN Ascension 48.04 278 PFAKE 14 28 40.0 +12
ASCN LR LR
comp=Z,2µm,19.0s,MS5.1
BSY Bisya 49.31 29 P **P 14 28 38.1 0.0**
SNR=26
JMDO Jabal Madar 49.41 30 P **P 14 28 39.0 +0.2**
SNR=7.9
ARQ Araqi 49.52 28 P **P 14 28 40.0 +0.3**
SNR=18
SMDO Samad 49.97 30 P **P 14 28 43.2 +0.1**
SNR=8.9
MAW Mawson 49.99 166 P **P 14 28 43.9 +0.6**
comp=Z,28nm,0.6s,mb5.5,baz=285,slow=22,SNR=11
MAW LR LR 14 45 45.7
comp=Z,3µm,20.2s,MS5.2,baz=325,slow=31
MAW Mawson 49.99 166 *e*P **P 14 28 43.8 +0.6**
MAW pmax pmax
comp=Z,44nm,0.7s
MAW Mawson 49.99 166 *e*P **P 14 28 43.8 +0.5**
comp=Z,44nm,0.7s,mb5.6
WBK Wadi Bani Khal 50.03 31 P **P 14 28 44.4 +0.8**
SNR=14
BIDO Bidbid 50.41 30 P **P 14 28 46.2 -0.2**
SNR=7.6
ASHO Ashiyiah 50.51 27 P **P 14 28 47.2 +0.1**
SNR=16
ASHO P 14 28 47.3
SNR=19
EIL Elat 50.52 2 *e*P **P 14 28 47.6 +0.3**
comp=Z,2µm,1.4s,mb6.8
NVL N'lazarevskaya 51.29 189⇑ *i*P **P 14 28 54.6 +1.5**
NVL pmax pmax
comp=Z,89nm,1.4s,mb5.5
MAIT Maitri 51.31 189 *e*P **P 14 28 54.3 +1.1**
MAIT *e*PcP PcP 14 30 13.1 +5.0
MAIT *e*S **S 14 36 29.8 +18**
QRN Al-Qurain 51.47 16 *e*P **P 14 28 55.0 +0.5**
RDF Al-Radifah 51.55 16 *e*P **P 14 28 55.3 +0.3**
RDF AMb AMB 14 28 57.3
comp=Z,141nm,1.0s,mb5.8
BANOM Banah 51.70 26 P **P 14 28 55.8 -0.4**
SNR=6.4
NAY Al-Naaiem 51.78 15 *e*P **P 14 28 56.8 0.0**
NAY AMb AMB 14 28 58.8
comp=Z,80nm,1.1s,mb5.6
TRD Trivandrum 51.79 60 *e*P **P 14 28 56.6 -0.2**
TRD AMb AMB 14 28 59.5
comp=Z,75nm,1.4s,mb5.4
KBD Kabd 51.83 16 *e*P **P 14 28 57.5 +0.4**
KBD AMb AMB 14 28 59.5
comp=Z,629nm,0.9s,mb6.5
UMR Umm Al-Rimmam 52.19 16 *e*P **P 14 29 00.2 +0.4**
UMR AMb AMB 14 29 02.1
comp=Z,577nm,0.9s,mb6.5
MIB Mutribah 52.34 15 *e*P **P 14 29 01.2 +0.4**
MIB AMb AMB 14 29 03.0
comp=Z,290nm,0.8s,mb6.2
PALK Pallekele 54.18 64 P **P 14 29 15.8 +1.3**
comp=Z,280nm,1.1s,mb6.1,SNR=6.2
PALK Pallekele 54.18 64 *e*P **P 14 29 15.2 +0.7**
comp=Z,22nm,0.6s,mb5.3
PALK *e* 14 29 21.2
PALK LR LR
comp=Z,766nm,20.0s,MS4.8
SNAA Sanae 54.72 193 P **P 14 29 18.7 +0.3**
comp=Z,16nm,1.1s,mb4.9,baz=48,slow=6.8,SNR=15
SNAA Sanae 54.72 193⇓ *i*P **P 14 29 18.0 -0.4**
SNAA *e* pP 14 29 21.7 -0.7
SNAA *e* 14 29 36.0
SNAA Sanae 54.72 193 P **P 14 29 19.0 +0.6**
SNAA pmax pmax
comp=Z,81nm,1.3s

SNAA Sanae 54.72 193 *e*P **P 14 29 18.7 +0.3**
comp=Z,81nm,1.4s,mb5.6
BHD Baghdad 55.06 11 *e*x x 14 29 17.0
BHD *e*x x 14 37 03.0
KAD Karad 55.16 49 *e*P **P 14 29 20.8 -0.9**
VNA2 Neumayer--Watz 55.24 195⇓ *i*P **P 14 29 22.3 +0.1**
baz=33,slow=6.2
VNA2 *e* pP 14 29 25.2 -1.0
VNA1 Neumayer--Stat 55.28 196⇓ *i*P **P 14 29 22.1 -0.3**
POO Poona 55.75 48 *e*P **P 14 29 24.3 -1.5**
POO *e*P pP 14 29 26.0 -3.9
POO Poona 55.75 48 *e*P **P 14 29 26.0 +0.1**
CSS Prodhromos 55.78 360 *e*P **P 14 29 25.4 -0.6**
comp=Z,86nm,1.4s,mb5.6
VNA3 Neumayer Olymp 56.01 196⇓ *i*P **P 14 29 27.6 -0.1**
VNA3 *e* pP 14 29 30.0 -1.7
VNA3 *e* 14 29 47.1
BHJ Bhuj 56.40 41 *e*P **P 14 29 30.3 -0.2**
BHJ AMb AMB 14 29 44.2
comp=Z,70nm,1.4s,mb5.5
IDI Anoyia 56.70 351 P **P 14 29 32.5 -0.1**
comp=Z,32nm,1.1s,mb5.3,baz=169,slow=4.4,SNR=7.2
MSL Mosul 57.80 9 *e*x x 14 29 41.0
MSL *e*x x 14 37 57.0
APE Apeiranthos 58.38 352 *d i*P **P 14 29 43.9 -0.5**
APE Apeiranthos 58.38 352⇓ P **P 14 29 41.4 -3.1**
HYB Hyderabad 58.40 52⇓ *i*P **P 14 29 44.0 -0.6**
comp=Z,40nm,1.0s,mb5.4
HYB *e*S **S 14 37 46.0 -1.2**
HYB Hyderabad 58.40 52⇓ *e*P **P 14 29 44.0 -0.6**
HYB *e*S **S 14 37 46.0 -1.2**
HYB pmax pmax
comp=Z,40nm,1.0s,mb5.4
HYB Hyderabad 58.40 52⇓ *e*P **P 14 29 44.0 -0.6**
comp=Z,40nm,1.0s,mb5.4
HYB *e*S **S 14 37 46.0 -1.2**
ISP Isparta 58.72 357 P **P 14 29 49.7 +2.9**
ISP pmax pmax
comp=Z,120nm,1.4s,mb5.7
ISP Isparta 58.72 357 *e*P **P 14 29 46.7 -0.1**
comp=Z,123nm,1.4s,mb5.7
MALT Malatya 59.30 4 ⇑P **P 14 29 51.7 +0.9**
MALT Malatya 59.30 4 *e*P **P 14 29 51.4 +0.6**
comp=Z,46nm,1.3s,mb5.3
BRTR Keskin Array B 60.53 0 P **P 14 29 57.9 -1.4**
comp=Z,12nm,0.9s,mb5.0,baz=179,slow=8.4,SNR=23
BRTR Keskin Array B 60.53 0 *i* P **P 14 29 58.9 -0.4**
BRTR pmax pmax
comp=Z,12nm,0.9s
BR131 Keskin Array S 60.53 0 *e*P **P 14 29 58.4 -0.9**
comp=Z,10nm,0.8s,mb5.0
BR131 LR LR
comp=Z,644nm,19.0s,MS4.8
ANTO Ankara 60.68 359 *e*P **P 14 30 02.2 +1.9**
ANTO pmax pmax
comp=Z,30nm,1.1s,mb5.3
ANTO MLR MLR
comp=Z,1µm,19.0s,MS5.0
ANTO Ankara 60.68 359 *e*P **P 14 30 02.2 +1.9**
comp=Z,30nm,1.1s,mb5.3
ANTO LR LR
comp=Z,1µm,19.0s,MS5.0
COCO West Island 60.92 93 PFAKE 14 30 10.0 +8.0
COCO LR LR
comp=Z,3µm,20.0s,MS5.4
VAE Valguarnera 61.02 343 P **P 14 30 03.1 +0.5**
comp=Z,4.9nm,0.4s,mb5.0,baz=190,slow=19,SNR=2.0
SOI Samo 61.14 344 P **P 14 30 03.9 +0.4**
SOI pmax pmax
comp=Z,140nm,1.7s,mb5.8
SOI Samo 61.14 344 P **P 14 30 03.9 +0.4**
comp=Z,140nm,1.7s,mb5.8
BHPL Bhopal 61.39 47 *e*P **P 14 30 05.2 0.0**
BHPL AMb AMB 14 30 07.5
comp=Z,89nm,1.6s,mb5.7
HOPE Hope Point 61.52 219 PFAKE 14 30 20.0 +14
HOPE LR LR
comp=Z,2µm,20.0s,MS5.3
CSLB Castelbuono 61.55 343 P **P 14 30 08.3 +2.1**
AJM Ajmer 61.83 42 *e*P **P 14 30 07.9 -0.2**
GNI Garni 61.84 10 P **P 14 30 08.0 -0.1**
comp=Z,5.8nm,0.3s,mb5.2,baz=9.1,slow=5.7,SNR=8.0
GNI LR LR 14 55 36.3
comp=Z,1µm,19.1s,MS5.0,baz=12,slow=35
GNI Garni 61.84 10 P **P 14 30 08.8 +0.7**
GNI pmax pmax
comp=Z,110nm,1.5s
GNI Garni 61.84 10 P **P 14 30 08.8 +0.7**
comp=Z,110nm,1.5s,mb5.8
TIP Timpagrande 62.02 345 *e*P **P 14 30 09.2 -0.2**
comp=Z,83nm,1.5s,mb5.6
VIS Vishakhapatnam 62.19 55 *e*P **P 14 30 11.1 +0.6**
VIS AMb AMB 14 30 13.2
comp=Z,53nm,1.3s,mb5.5
TDS Terranova Siba 62.58 345 P **P 14 30 14.4 +1.3**
TDS pmax pmax
comp=Z,410nm,1.4s,mb6.4
TDS Terranova Siba 62.58 345 P **P 14 30 14.4 +1.3**
comp=Z,410nm,1.4s,mb6.4
BIA Bitola 62.87 350 *e*P **P 14 30 15.2 +0.2**
VAY Valandovo 62.96 351 *e*P **P 14 30 15.6 0.0**
OHR Ohrid 63.05 349 *e*P **P 14 30 16.2 0.0**
ABKT Ailbek 63.11 22 P **P 14 30 16.6 -0.1**
comp=Z,191nm,0.8s,mb6.3,SNR=5.8
ABKT Ailbek 63.11 22 P **P 14 30 16.2 -0.5**
MGR Morigerati 63.22 345 P **P 14 30 16.6 -0.8**
comp=Z,55nm,1.3s,mb5.5
SGO Sicignano 63.68 345 P **P 14 30 20.5 +0.1**
SGO pmax pmax
comp=Z,102nm,1.6s,mb5.6
SGO Sicignano 63.68 345 P **P 14 30 20.5 +0.1**
comp=Z,102nm,1.6s,mb5.6
SKO Skopje 63.77 350 *e*P **P 14 30 22.0 +0.9**
VTS Vitosha 64.11 351⇑P **P 14 30 22.7 -0.6**
ZEI Tsey 64.28 8 *i* P **P 14 30 21.2 -3.2**
ZEI *i* *PP pP 14 30 29.0 +0.5
ZEI pmax pmax
comp=Z,42nm,1.0s,mb5.4
ZEI Tsey 64.28 8 *i* P **P 14 30 21.2 -3.2**
ZEI *i* pP pP 14 30 29.0 +0.5
VSL Villasalto 64.41 339 *e*P **P 14 30 25.2 -0.1**
comp=Z,127nm,1.4s,mb5.8
SOC Sochi 64.63 5 *e*P **P 14 30 24.3 -2.4**
SOC *e* 14 32 56.9
SOC *e*S **S 14 39 00.1 -6.2**
SOC *e**SS sS 14 39 22.7 +10
SOC *e*SS SS 14 43 14.4 -2.5
SOC pmax pmax
comp=Z,64nm,1.6s,mb5.4
SOC MLR MLR
comp=Z,917nm,12.0s,MS5.2
SOC Sochi 64.63 5 *e*P **P 14 30 24.3 -2.4**
comp=Z,64nm,1.6s,mb5.4
SOC *e* 14 32 56.9
SOC *e*S **S 14 39 00.1 -6.2**
SOC *e*sS sS 14 39 22.7 +10
SOC *e*SS SS 14 43 14.4 -2.5
SOC LR LR
comp=Z,920nm,12.0s,MS5.2
MDT Midelt 64.88 325 P **P 14 30 27.7 -0.6**
comp=Z,20nm,1.0s,mb5.1,baz=140,slow=6.1,SNR=36
NDI New Delhi 65.00 42 *e*P **P 14 30 28.0 -1.1**
NDI *e*S S 14 39 15.0 +4.2
KIV Kislovodsk 65.29 7 P **P 14 30 31.6 +0.6**
comp=Z,484nm,1.2s,mb6.4,SNR=7.6
KIV Kislovodsk 65.29 7 *e*P **P 14 30 30.4 -0.6**
KIV *e*S S 14 39 10.3 -4.1
KIV pmax pmax
comp=Z,113nm,1.2s,mb5.8
KIV pmax pmax
comp=Z,284nm,2.2s,mb5.9
KIV MLR MLR
comp=Z,994nm,17.0s,MS5.1
KIV Kislovodsk 65.29 7 *e*P **P 14 30 30.4 -0.6**
comp=Z,113nm,1.2s,mb5.8
KIV *e*S S 14 39 10.3 -4.1
KIV LR LR
comp=Z,990nm,17.0s,MS5.1
CASY Casey 65.61 154 PFAKE 14 30 40.0 +7.0
CASY LR LR
comp=Z,2µm,19.0s,MS5.4
ANN Anapa 65.70 3 *e*P **P 14 30 33.0 -0.6**
ANN *i* 14 31 01.7
ANN *i* 14 32 53.9
ANN *e*S S 14 39 19.9 +0.6

ANN *i* SS SS 14 43 38.3 +4.8
ANN pmax pmax
comp=Z,88nm,1.9s,mb5.5
ANN MLR MLR
comp=Z,820nm,18.0s,MS5.0
ANN Anapa 65.70 3 *e*P **P 14 30 33.0 -0.6**
comp=Z,88nm,1.9s,mb5.5
ANN *i* 14 31 01.7
ANN *i* 14 32 53.9
ANN *e*S S 14 39 19.9 +0.6
ANN *i* SS SS 14 43 38.3 +4.8
ANN LR LR
comp=Z,820nm,18.0s,MS5.0
SIM Simferopol' 65.75 0 *e*P **P 14 30 36.8 +2.8**
SIM *e*S S 14 39 23.4 +3.4
SIM pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SIM MLR MLR
comp=Z,670nm,16.5s,MS4.9
SIM Simferopol' 65.75 0 *e*P **P 14 30 36.8 +2.8**
comp=Z,10.0nm,0.7s,mb5.0
SIM *e*S S 14 39 23.4 +3.4
SIM LR LR
comp=Z,670nm,16.5s,MS4.9
GRUS Gruza 65.76 350 *i* P **P 14 30 33.8 -0.2**
TOLF Tolfa 65.96 343 P **P 14 30 35.9 +0.6**
SVIS Svilajnac 66.08 350⇑ *i*P **P 14 30 36.2 +0.2**
CFR Carcaliu 66.17 356⇓ P **P 14 30 36.0 -0.6**
CFR Carcaliu 66.17 356⇓ P **P 14 30 36.0 -0.6**
ISR Istrita 66.23 355⇓ P **P 14 30 38.1 +1.1**
ISR Istrita 66.23 355⇓ P **P 14 30 38.1 +1.1**
NRCA Norcia 66.38 344 P **P 14 30 39.5 +1.5**
GOF Gofitskoye 66.42 7 *e*P **P 14 30 36.3 -2.0**
MTUR Matau 66.48 353⇑P **P 14 30 38.9 +0.2**
MTUR Matau 66.48 353 P **P 14 30 39.6 +0.9**
MTUR Matau 66.48 353⇑P **P 14 30 38.9 +0.3**
SNX Sinaia 66.56 354⇑P **P 14 30 39.6 +0.4**
SNX Sinaia 66.56 354⇑P **P 14 30 39.6 +0.4**
MLR Muntele Rosu 66.66 354 P **P 14 30 39.1 -0.6**
comp=Z,32nm,0.9s,mb5.4,baz=158,slow=3.1,SNR=12
MLR Muntele Rosu 66.66 354⇓P **P 14 30 39.8 0.0**
MLR Muntele Rosu 66.66 354 P **P 14 30 40.3 +0.5**
MLR Muntele Rosu 66.66 354⇓P **P 14 30 39.8 0.0**
VOIR 66.69 353⇓P **P 14 30 39.3 -0.7**
VOIR 66.69 353⇓P **P 14 30 39.3 -0.7**
ENIJ Nijar 66.92 329 P **P 14 30 44.6 +3.1**
ENIJ pmax pmax
comp=Z,15nm,0.8s,mb5.1
ENIJ Nijar 66.92 329 P **P 14 30 44.6 +3.2**
comp=Z,15nm,0.8s,mb5.1
VRI Vrincioaia 66.96 355⇓P **P 14 30 40.7 -1.0**
VRI Vrincioaia 66.96 355 P **P 14 30 41.9 +0.2**
VRI Vrincioaia 66.96 355⇓P **P 14 30 40.7 -1.0**
CORF Corte 67.02 341 *e*P **P 14 30 42.4 +0.3**
EIBI Ibiza 67.02 333 P **P 14 30 45.5 +3.4**
comp=Z,71nm,1.2s,mb5.6
EMUR La Murta 67.18 331 P **P 14 30 46.1 +3.0**
comp=Z,29nm,0.8s,mb5.3
EBER Berja 67.19 329 P **P 14 30 46.7 +3.6**
comp=Z,34nm,0.9s,mb5.4
PGF Pioggiola 67.30 341 *e*P **P 14 30 43.2 -0.6**
comp=Z,179nm,1.3s,mb5.6
PGF Pioggiola 67.30 341 *e*P **P 14 30 43.2 -0.6**
PGF pmax pmax
comp=Z,90nm,1.3s,mb5.6
PGF Pioggiola 67.30 341 *e*P **P 14 30 43.2 -0.6**
comp=Z,90nm,1.3s,mb5.6
BZS Buzias 67.31 351⇑P **P 14 30 43.9 0.0**
BZS Buzias 67.31 351⇑P **P 14 30 43.9 0.0**
CFTV Fuerteventura 67.40 315 P **P 14 30 46.7 +2.2**
comp=Z,21nm,0.9s,mb5.2
EFAM Famara 67.52 316 P **P 14 30 46.9 +1.7**
comp=Z,193nm,2.3s,mb5.7
BOK Bokaro 67.72 52 *e*P **P 14 30 45.6 -0.9**
BOK AMb AMB 14 30 48.7
comp=Z,56nm,1.3s,mb5.4
ERON Agron 67.73 328 P **P 14 30 49.8 +3.3**
comp=Z,32nm,0.9s,mb5.3
ECOG Cogollos-Vega 67.82 329 P **P 14 30 49.9 +2.8**
ECOG pmax pmax
comp=Z,49nm,0.8s,mb5.6
ECOG Cogollos-Vega 67.82 329 P **P 14 30 49.9 +2.7**
comp=Z,48nm,0.8s,mb5.6
EMIJ Mijas 67.86 327 P **P 14 30 47.3 -0.1**
comp=Z,31nm,1.0s,mb5.3
KIS Kishinev 67.94 356 *e*P **P 14 30 50.0 +2.1**
KIS *e* 14 33 20.0
KIS *e*S S 14 39 50.0 +3.6
KIS MLR MLR
comp=Z,900nm,15.0s,MS5.1
KIS MLR MLR
comp=Z,800nm,16.0s
KIS Kishinev 67.94 356 *e*P **P 14 30 50.0 +2.1**
KIS *e* 14 33 20.0
KIS *e*S S 14 39 50.0 +3.6
KIS LR LR
comp=Z,900nm,15.0s,MS5.1
ETOB Tobarra 67.97 331 P **P 14 30 50.5 +2.5**
comp=Z,12nm,0.9s,mb4.9
EQES Quesada 68.00 329 P **P 14 30 49.8 +1.6**
comp=Z,59nm,0.9s,mb5.6
ELOJ Sierra Loja 68.00 328 P **P 14 30 51.3 +3.0**
ELOJ pmax pmax
comp=Z,13nm,0.6s,mb5.1
ELOJ Sierra Loja 68.00 328 P **P 14 30 51.3 +3.0**
comp=Z,13nm,0.6s,mb5.1
EJIF Jimena Fronter 68.12 327 P **P 14 30 50.5 +1.5**
EJIF pmax pmax
comp=Z,46nm,1.2s,mb5.4
EJIF Jimena Fronter 68.12 327 P **P 14 30 50.5 +1.5**
comp=Z,46nm,1.2s,mb5.4
DRGR 68.31 352⇓P **P 14 30 50.3 +0.1**
DRGR 68.31 352 P **P 14 30 50.4 +0.2**
DRGR 68.31 352⇓P **P 14 30 50.3 +0.1**
PKSM Moragy 68.37 349 P **P 14 30 50.3 -0.3**
PKSM Moragy 68.37 349⇓ *e*P **P 14 30 49.7 -0.9**
ELUQ Luque 68.39 328 P **P 14 30 51.9 +1.2**
ELUQ pmax pmax
comp=Z,46nm,0.9s,mb5.5
ELUQ Luque 68.39 328 P **P 14 30 51.9 +1.2**
comp=Z,46nm,0.9s,mb5.5
EVIA Vianos 68.40 330 P **P 14 30 54.1 +3.3**
EVIA pmax pmax
comp=Z,19nm,0.9s,mb5.1
EVIA Vianos 68.40 330 P **P 14 30 54.1 +3.3**
comp=Z,19nm,0.9s,mb5.1
GSCL Gusciola 68.47 342 P **P 14 30 51.1 -0.1**
ECHE Chera 68.48 332 P **P 14 30 54.3 +3.0**
ECHE pmax pmax
comp=Z,27nm,1.0s,mb5.2
ECHE Chera 68.48 332 P **P 14 30 54.3 +3.0**
comp=Z,27nm,1.0s,mb5.2
KOLN Koldanda 68.56 47 *e*P **P 14 30 50.9 -0.9**
comp=Z,192nm,1.6s,mb5.8
EBAN Banos Encina 68.63 329 P **P 14 30 53.1 +0.9**
EBAN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EBAN Banos Encina 68.63 329 P **P 14 30 53.1 +0.9**
comp=Z,9.1nm,0.8s,mb4.8
GCIS Gornji Cirnik 68.64 347 *e*P **P 14 30 52.3 0.0**
ESPR Espera 68.64 327 P **P 14 30 53.8 +1.5**
comp=Z,44nm,1.1s,mb5.3
GOLS Golise 68.78 347 *e*P **P 14 30 50.7 -2.4**
LEGS Legarje 68.78 346 *e*P **P 14 30 48.5 -4.7**
CEY Cerknica 68.78 346 *e*P **P 14 30 52.9 -0.3**
CEY *e*S S 14 40 00.9 +4.4
RCBR Riachuelo 68.80 272 *e*P **P 14 30 54.6 +1.4**
comp=Z,84nm,1.5s,mb5.5
RCBR LR LR
comp=Z,3µm,22.0s,MS5.4
CAL Calcutta 68.80 54 *e*x **P 14 30 55.8 +2.6**
CAL *i* x x 14 33 29.5
CAL *e*x x 14 39 45.9
LMR La Mourre 68.80 339 *e*P **P 14 30 52.7 -0.6**
comp=Z,178nm,1.6s,mb5.5
LMR La Mourre 68.80 339 *e*P **P 14 30 52.7 -0.6**
LMR pmax pmax
comp=Z,89nm,1.6s,mb5.5
LMR La Mourre 68.80 339 *e*P **P 14 30 52.7 -0.6**
comp=Z,89nm,1.6s,mb5.5
BURAR Bucovina Array 68.83 354⇑P **P 14 30 54.3 +0.8**
BURAR Bucovina Array 68.83 354⇑P **P 14 30 54.3 +0.8**
EBR Ebro Roquetas 68.88 334 *e*P **P 14 30 56.5 +2.7**
REVF Revere 68.89 340 *e*P **P 14 30 54.4 +0.6**

EMOS	Mosqueruela	68.91 333	P	P	14 30 57.0	+3.1
	comp=Z,40nm,0.9s,mb5.3					
FRF	La Foret Royal	68.96 339	eP	P	14 30 53.7	-0.6
	comp=Z,169nm,1.5s,mb5.4					
FRF	La Foret Royal	68.96 339	eP	P	14 30 53.7	-0.6
FRF			pmax	pmax		
	comp=Z,84nm,1.5s,mb5.5					
FRF	La Foret Royal	68.96 339	eP	P	14 30 53.7	-0.6
	comp=Z,84nm,1.5s,mb5.5					
PDKS	Podkum	68.96 346	eP	P	14 30 53.9	-0.4
CCAN	Las Canadas	68.96 313	P	P	14 30 55.2	+0.9
	comp=Z,17nm,1.0s,mb4.9					
SBF	Sospel	68.97 340	eP	P	14 30 53.7	-0.7
	comp=Z,272nm,1.3s,mb5.7					
SBF	Sospel	68.97 340	eP	P	14 30 53.7	-0.7
SBF			pmax	pmax		
	comp=Z,136nm,1.3s,mb5.7					
SBF	Sospel	68.97 340	eP	P	14 30 53.7	-0.7
	comp=Z,136nm,1.3s,mb5.7					
EADA	Adamuz	69.01 329	P	P	14 30 56.7	+2.1
	comp=Z,16nm,0.8s,mb5.0					
QSPA	South Pole Qui	69.03 180	eP	P	14 30 55.3	+0.6
	comp=Z,82nm,1.4s,mb5.5					
DANN	Dangsing	69.04 46	eP	P	14 30 54.1	-0.7
SAOF	Saorge	69.05 340	eP	P	14 30 54.7	-0.1
ERTA	Horta de San J	69.06 334	P	P	14 30 58.4	+3.5
	comp=Z,17nm,0.9s,mb5.0					
KOGS	Kog	69.06 347	i P	P	14 30 54.3	-0.6
EPOB	Poblet	69.09 334	P	P	14 30 58.0	+2.9
	comp=Z,33nm,0.9s,mb5.3					
MVIF	Mont Vial	69.09 340	eP	P	14 30 55.7	+0.6
VOJS	Vojsko	69.19 345	eP	P	14 30 55.3	-0.4
VOJS			e	pP	14 30 58.5	-1.3
PUYF	Puyloubier	69.25 339	eP	P	14 30 57.0	+0.9
EGOM	La Gomera	69.34 313	P	P	14 31 00.2	+3.6
	comp=Z,19nm,0.7s,mb5.1					
ECAB	El Cabril	69.36 328	P	P	14 30 59.1	+2.4
	comp=Z,18nm,0.8s,mb5.0					
EMIR	Miracle	69.38 335	P	P	14 30 59.5	+2.6
	comp=Z,20nm,0.8s,mb5.1					
CADS	Cadrg	69.41 345	eP	P	14 30 56.6	-0.4
GKN	Gorkha	69.42 47	eP	P	14 30 56.2	-0.9
	comp=Z,73nm,0.7s,mb5.7					
PERS	Pernice	69.48 347	eP	P	14 30 57.3	-0.2
PERS			eS	S	14 40 09.6	+4.8
OBKA	Obir	69.48 346	‖ i P	P	14 30 57.7	+0.2
	comp=Z,76nm,1.6s,mb5.4,SNR=14					
DMN	Daman	69.49 48	eP	P	14 30 57.1	-0.5
	comp=Z,46nm,0.8s,mb5.5					
VILF	Villemus	69.53 339	eP	P	14 30 58.6	+0.8
GMNA	Gemona	69.57 345	P	P	14 30 58.6	+0.6
CHIE	El Hierro	69.58 312	P	P	14 31 00.8	+2.6
	comp=Z,28nm,0.8s,mb5.2					
VALF	Valcebollere	69.61 336	eP	P	14 30 58.4	+0.1
PTCC	Patocco-Chiusa	69.66 345	P	P	14 30 58.8	+0.2
PRAF	Pradon	69.67 338	eP	P	14 30 59.3	+0.6
PKI	Pulchoki	69.68 48	eP	P	14 30 58.0	-0.7
	comp=Z,236nm,1.6s,mb5.9					
SMRF	Simiane la Rot	69.69 339	eP	P	14 30 59.0	+0.2
	comp=Z,240nm,1.6s,mb5.6					
SMRF	Simiane la Rot	69.69 339	eP	P	14 30 59.0	+0.2
	comp=Z,240nm,1.6s,mb5.9					
KKN	Kakani	69.73 48	eP	P	14 30 58.5	-0.5
	comp=Z,52nm,0.8s,mb5.5					
SURF	Saint Ours	69.73 340	eP	P	14 31 00.2	+1.2
EMIN	Mina Concepcio	69.75 327	P	P	14 31 00.3	+1.1
	comp=Z,24nm,0.9s,mb5.1					
CTI	Castel Tesino	69.75 344	P	P	14 30 59.2	0.0
PSZ	Piszkesteto	69.81 350 ⇑	i P	P	14 30 58.8	-0.8
PSZ	Piszkesteto	69.81 350	P	P	14 30 59.0	-0.6
ESDC	Sonseca Array	69.91 330	P	P	14 30 59.2	-0.9
	comp=Z,46nm,1.0s,mb5.4,baz=143,slow=5.9,SNR=38					
ESDC	Sonseca Array	69.91 330	P	P	14 31 02.1	+2.0
	comp=Z,37nm,0.9s,mb5.3					
ESLA	Sonseca Array	69.91 330	eP	P	14 30 59.6	-0.6
	comp=Z,21nm,1.1s,mb5.0					
ESLA			LR	LR		
	comp=Z,7µm,19.0s,MS5.9					
SRO2	Moca	69.91 349	eP	P	14 31 00.2	0.0
SRO1	Iza	69.94 349	eP	P	14 30 59.9	-0.4
MBDF	Montbardon	69.96 340	eP	P	14 31 00.7	+0.3
	comp=Z,99nm,1.0s,mb5.4					
MBDF	Montbardon	69.96 340	eP	P	14 31 00.7	+0.3
MBDF			pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4					
MBDF	Montbardon	69.96 340	eP	P	14 31 00.7	+0.3
	comp=Z,50nm,1.0s,mb5.4					
ARSA	Arzberg	69.98 347 ⇑	i P	P	14 31 00.4	-0.2
	comp=Z,37nm,1.4s,mb5.1					
SRO	Srobarova	69.98 349	eP	P	14 30 59.9	-0.7
EGRO	El Granado	69.99 326	P	P	14 31 03.0	+2.4
	comp=Z,12nm,0.9s,mb4.8					
PAB	San Pablo	69.99 330	pP	pP	14 31 03.0	-1.7
ESAC	San Caprasio	70.03 334	P	P	14 31 03.3	+2.5
	comp=Z,24nm,0.8s,mb5.2					
EGRA	Graus	70.10 334	P	P	14 31 04.1	+2.8
	comp=Z,22nm,0.8s,mb5.1					
UZH	Uzhgorod	70.17 352	i P	P	14 31 00.0	-1.7
UZH			eS	S	14 40 17.0	+4.2
GUN	Gumba	70.22 48	eP	P	14 31 02.0	0.0
	comp=Z,125nm,0.8s,mb5.9					
SALF	Salau	70.23 335	eP	P	14 31 02.5	+0.4
KECS	Kecovo	70.27 351	eP	P	14 31 00.5	-1.9
JIRN	Jiri	70.28 48	eP	P	14 31 01.7	-0.7
	comp=Z,92nm,0.8s,mb5.8					
BNI	Bardonecchia	70.28 340	P	P	14 31 04.9	+2.5
KBA	Koelnbreinsper	70.30 345	‖ i P	P	14 31 02.4	-0.1
	comp=Z,90nm,1.7s,mb5.4,SNR=31					
OCF	Saint Nazaire	70.31 339	eP	P	14 31 02.4	-0.2
OG26	St.-Nazaire-De	70.31 339	eP	P	14 31 02.4	-0.2
MTLF	Montolieu	70.33 336	eP	P	14 31 01.9	-0.8
	comp=Z,143nm,1.5s,mb5.4					
MTLF	Montolieu	70.33 336	eP	P	14 31 01.9	-0.8
MTLF			pmax	pmax		
	comp=Z,71nm,1.5s,mb5.4					
MTLF	Montolieu	70.33 336	eP	P	14 31 01.9	-0.8
	comp=Z,71nm,1.5s,mb5.4					
BRES	Bressanone	70.34 344	P	P	14 31 04.1	+1.3
LASF	Ste Croix	70.37 338	eP	P	14 31 02.8	-0.1
	comp=Z,195nm,1.4s,mb5.5					
ORIF	Oris-en-Rattie	70.42 339	eP	P	14 31 03.5	+0.2
	comp=Z,93nm,1.3s,mb5.3					
ORIF			eR			
	comp=Z,2µm,18.0s					
ORIF	Oris-en-Rattie	70.42 339	eP	P	14 31 03.5	+0.2
ORIF			pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2					
ORIF	Oris-en-Rattie	70.42 339	eP	P	14 31 03.5	+0.2
	comp=Z,46nm,1.3s,mb5.2					
BRMO	Bormio	70.49 343	P	P	14 31 04.3	+0.6
CRVS	Cervenica-Dubn	70.54 352	eP	P	14 31 05.0	+1.0
VYHS	Vyhne	70.55 350	i P	P	14 31 03.0	-1.0
VYHS			epP	pP	14 31 05.7	-2.4
PBEJ	Beja	70.56 326	eP	P	14 31 04.3	+0.2
	comp=Z,25nm,1.3s,mb5.0					
ZST	Bratislava	70.57 348	eP	P	14 31 02.5	-1.7
EBIE	Bielsa	70.58 334	P	P	14 31 07.0	+2.8
	comp=Z,19nm,0.9s,mb5.0					
GDM	Grand'Maison	70.59 340	eP	P	14 31 05.5	+1.2
PTEO	Sao Teotonio	70.65 325	eP	P	14 31 07.5	+2.8
	comp=Z,49nm,0.9s,mb5.4					
LPG	La Plagne	70.66 340	eP	P	14 31 04.2	-0.5
	comp=Z,118nm,1.4s,mb5.3					
LPG	La Plagne	70.66 340	eP	P	14 31 04.2	-0.5
LPG			pmax	pmax		
	comp=Z,59nm,1.4s,mb5.3					
LPG	La Plagne	70.66 340	eP	P	14 31 04.2	-0.5
	comp=Z,59nm,1.4s,mb5.3					
EBAD	Badajoz	70.68 327	P	P	14 31 06.7	+1.9
	comp=Z,24nm,0.9s,mb5.1					
LPL	La Plagne	70.68 340	eP	P	14 31 04.3	-0.5
	comp=Z,121nm,1.3s,mb5.4					
LPL	La Plagne	70.68 340	eP	P	14 31 04.3	-0.5
LPL			pmax	pmax		
	comp=Z,61nm,1.3s,mb5.4					
LPL	La Plagne	70.68 340	eP	P	14 31 04.3	-0.5
	comp=Z,61nm,1.3s,mb5.4					
GRN	Grenoble	70.75 340	eP	P	14 31 05.9	+0.6
VIVF	Saint-Julien-I	70.77 339	eP	P	14 31 05.2	-0.2
	comp=Z,138nm,1.5s,mb5.4					
VIVF	Saint-Julien-I	70.77 339	eP	P	14 31 05.2	-0.2
VIVF			pmax	pmax		
	comp=Z,69nm,1.5s,mb5.4					
VIVF	Saint-Julien-I	70.77 339	eP	P	14 31 05.2	-0.2
	comp=Z,69nm,1.5s,mb5.4					
GUD	Guadarrama	70.77 330	P	P	14 31 07.8	+2.4
GUD			pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9					
GUD	Guadarrama	70.77 330	P	P	14 31 07.8	+2.4
	comp=Z,15nm,1.0s,mb4.9					
EPF	Esparros	70.80 335	eP	P	14 31 05.2	-0.4
	comp=Z,101nm,1.1s,mb5.3					
EPF	Esparros	70.80 335	eP	P	14 31 05.2	-0.4
EPF			pmax	pmax		
	comp=Z,50nm,1.1s,mb5.4					
EPF	Esparros	70.80 335	eP	P	14 31 05.2	-0.4
	comp=Z,50nm,1.1s,mb5.4					
MOA	Molln	70.81 346	i P	P	14 31 05.1	-0.5
	comp=Z,87nm,1.6s,mb5.4,SNR=37					
DAVOX	Davos	70.90 343	P	P	14 31 05.1	-1.1
	comp=Z,24nm,0.8s,mb5.2,baz=193,slow=10,SNR=8.4					
LABF	Labassere	70.92 335	eP	P	14 31 06.6	+0.3
SQTA	Sankt Quirin	70.95 344	‖ i P	P	14 31 06.3	-0.2
	comp=Z,51nm,1.2s,mb5.3,SNR=6.8					
WATA	Walderalm	70.97 344	‖ i P	P	14 31 06.4	-0.2
	comp=Z,117nm,1.8s,mb5.5					
ETSF	Etsaut	71.05 334	eP	P	14 31 06.4	-0.7
	comp=Z,74nm,1.0s,mb5.3					
ETSF	Etsaut	71.05 334	eP	P	14 31 06.4	-0.7
ETSF			pmax	pmax		
	comp=Z,37nm,1.0s,mb5.3					
ETSF	Etsaut	71.05 334	eP	P	14 31 06.4	-0.7
	comp=Z,37nm,1.0s,mb5.3					
STHS	Stebnicka Huta	71.08 352	eP	P	14 31 06.7	-0.6
STHS			epP	pP	14 31 09.6	-1.8
MOTA	Moosalm	71.10 344 ⇑	i P	P	14 31 07.3	-0.1
	comp=Z,44nm,1.1s,mb5.3					
KWP	Kalwaria	71.10 353	eP	P	14 31 06.5	-0.9
KWP			epP	pP	14 31 09.7	-1.8
KWP			L		15 04 56.5	
	comp=Z,1.2nm,20.2s					
KWP	Kalwaria	71.10 353	eP	P	14 31 06.5	-0.9
KWP			epP	pP	14 31 09.7	-1.8
NIE	Niedzica	71.21 351	eP	P	14 31 07.3	-0.8
DAVA	Damuels	71.36 343	i P	P	14 31 08.9	-0.1
	comp=Z,59nm,1.4s,mb5.3,SNR=14					
SJPF	Ste Jean	71.50 334	eP	P	14 31 09.3	-0.5
	comp=Z,93nm,1.1s,mb5.3					
SJPF	Ste Jean	71.50 334	eP	P	14 31 09.3	-0.5
SJPF			pmax	pmax		
	comp=Z,47nm,1.1s,mb5.3					
SJPF	Ste Jean	71.50 334	eP	P	14 31 09.3	-0.5
	comp=Z,46nm,1.1s,mb5.3					
AKASG	Malin Array Be	71.61 357	P	P	14 31 08.6	-1.9
	comp=Z,14nm,0.8s,mb4.9,baz=182,slow=5.8,SNR=40					
ELIZ	Elizondo	71.66 334	P	P	14 31 12.6	+1.8
COLF	Collangettes	71.68 338	eP	P	14 31 11.1	+0.2
EALK	Alkurruntz	71.70 334	P	P	14 31 13.8	+2.8
	comp=Z,12nm,0.7s,mb4.9					
VRAC	Vranov	71.73 348	P	P	14 31 09.4	-1.8
	comp=Z,17nm,1.0s,mb4.9,baz=169,slow=6.9,SNR=16					
VRAC	Vranov	71.73 348	P	P	14 31 10.5	-0.7
PCBR	Castelo Branco	71.74 328	eP	P	14 31 13.2	+1.9
	comp=Z,29nm,1.5s,mb5.0					
CAF	Calviac	71.75 337	eP	P	14 31 11.0	-0.3
	comp=Z,207nm,1.6s,mb5.5					
CAF	Calviac	71.75 337	eP	P	14 31 11.0	-0.3
CAF			pmax	pmax		
	comp=Z,104nm,1.6s,mb5.5					
CAF	Calviac	71.75 337	eP	P	14 31 11.0	-0.3
	comp=Z,104nm,1.6s,mb5.5					
FUR	Furstenfeldbru	71.81 344	eP	P	14 31 10.9	-0.8
	comp=Z,226nm,1.4s,mb5.9					
FUR			eS	S	14 40 33.0	+1.1
FUR	Furstenfeldbru	71.81 344	eP	P	14 31 10.9	-0.8
FUR			eS	S	14 40 33.0	+1.1
FUR			pmax	pmax		
	comp=Z,226nm,1.4s,mb5.9					
CABF	La Chapelle	71.86 340	eP	P	14 31 11.7	-0.3
	comp=Z,353nm,1.5s,mb5.8					
CABF	La Chapelle	71.86 340	eP	P	14 31 11.7	-0.3
CABF			pmax	pmax		
	comp=Z,177nm,1.5s,mb5.8					
CABF	La Chapelle	71.86 340	eP	P	14 31 11.7	-0.3
	comp=Z,177nm,1.5s,mb5.8					
PLOU	Loures	71.87 326	eP	P	14 31 15.1	+3.1
	comp=Z,43nm,0.9s,mb5.4					
GEC2	GERESS Array S	71.88 346	eP	P	14 31 10.8	-1.3
	comp=Z,94nm,1.5s,mb5.5					
GEC2			eS	S	14 40 35.7	+3.0
GEC2	GERESS Array S	71.88 346	eP	P	14 31 10.8	-1.3
GEC2			eS	S	14 40 35.7	+3.0
GEC2			pmax	pmax		
	comp=Z,94nm,1.5s,mb5.5					
GERES	GERESS Array B	71.88 346	P	P	14 31 10.5	-1.6
	comp=Z,12nm,0.8s,mb4.9,baz=151,slow=5.8,SNR=35					
GERES			LR	LR	15 06 49.9	
	comp=Z,1µm,18.6s,MS5.3,baz=159,slow=39					
TREC	Trest	71.93 348	eP	P	14 31 11.4	-1.0
TREC			AMS	AMS	15 08 50.0	
	comp=Z,1µm,17.4s					
VORD	Divnogorie	71.95 4	eP	P	14 31 10.8	-1.7
VORD			pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0					
VORD			pmax	pmax		
	comp=E,20nm,0.6s					
OKC	Ostrava-Krasne	71.96 350	eP	P	14 31 11.6	-1.0
FRNF	Fournols	71.96 338	eP	P	14 31 13.5	+0.9
MORC	Moravsky Berou	72.01 349	P	P	14 31 11.6	-1.3
MORC			pmax	pmax		
	comp=Z,64nm,1.4s,mb5.4					
MORC	Moravsky Berou	72.01 349	eP	P	14 31 11.5	-1.3
	comp=Z,64nm,1.4s,mb5.4					
PTOM	Tomar	72.04 327	eP	P	14 31 15.9	+2.8
	comp=Z,60nm,1.5s,mb5.3					
OJC	Ojcow	72.07 351	eP	P	14 31 11.4	-1.8
OJC			ePcP	PcP	14 31 28.9	-2.8
OJC			ePP	PP	14 33 55.6	+2.3
OJC			eS	S	14 40 34.9	+0.1
OJC			L		15 01 24.7	
	comp=Z,4.6nm,23.1s					
PLDF	La Plantade	72.10 339	eP	P	14 31 15.2	+1.8
PYM	Petit Puy Mans	72.12 338	eP	P	14 31 14.2	+0.6
KSH	Kashi	72.16 33	eP	P	14 31 13.9	+0.1
KSH			AP	pP	14 31 18.8	+0.9
KSH			XP	sP	14 31 20.8	+1.4
KSH			PCP	PcP	14 31 32.4	+0.3
KSH			PP	PP	14 33 55.4	+1.3
KSH			S	S	14 40 33.1	-2.8
KSH			XS	sS	14 40 40.8	-1.9
KSH			SKS		14 41 12.3	
KSH			SCS	ScS	14 41 15.3	-4.6
KSH			SS	SS	14 45 12.4	-0.9
KSH			AMB	AMB		
	comp=Z,93nm,1.4s,mb5.5					
KSH			AMB	AMB		
	comp=Z,468nm,6.8s					
KSH			LR	LR		
	comp=N,1µm,15.0s,MS5.5					
KSH			LR	LR		
	comp=E,2µm,18.2s,MS5.5					
KSH			LR	LR		
	comp=Z,2µm,21.0s,MS5.3					
KHC	Kasperske Hory	72.18 346	eP	P	14 31 13.6	-0.3
KHC			x	x	14 31 36.5	
KHC			eS	S	14 40 42.8	+6.7
KHC			AMS	AMS	15 06 20.0	
	comp=Z,2µm,17.9s					
KHC	Kasperske Hory	72.18 346	eP	P	14 31 13.6	-0.3
KHC			e		14 31 36.5	
KHC			eS	S	14 40 42.8	+6.7
KHC			MLR	MLR		
	comp=Z,2µm,17.9s,MS5.4					
KHC	Kasperske Hory	72.18 346	i Pr	P	14 31 12.5	-1.4
BBS	Basel-Blauen	72.19 342	eP	P	14 31 13.9	-0.1
MTE	Manteigas	72.20 328	eP	P	14 31 16.1	+2.1
	comp=Z,60nm,1.6s,mb5.3					
MTE			eS	S	14 40 37.6	+1.3
MTE	Manteigas	72.20 328	eLQ		14 58 33.8	
MTE						
	comp=Z,2µm,18.0s					
MTE	Manteigas	72.20 328	eP	P	14 31 15.3	+1.3
	comp=Z,73nm,1.4s,mb5.4					
LFF	La Frestale	72.25 336	eP	P	14 31 13.9	-0.4
	comp=Z,322nm,1.5s,mb5.7					
LFF	La Frestale	72.25 336	eP	P	14 31 13.9	-0.4
LFF			pmax	pmax		
	comp=Z,161nm,1.5s,mb5.7					
LFF	La Frestale	72.25 336	eP	P	14 31 13.9	-0.4
	comp=Z,161nm,1.5s,mb5.7					
VRHR	Novokhopersk	72.25 5	eP	P	14 31 13.2	-1.1
VRHR			pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5					
VRHR			pmax	pmax		
	comp=N,140nm,1.8s					
VRHR			pmax	pmax		
	comp=E,60nm,1.5s					
RJF	Les Rejaudoux	72.27 337	eP	P	14 31 13.9	-0.6
	comp=E,101nm,1.3s,mb5.3					
RJF			eR			
	comp=E,3µm,18.2s					
RJF	Les Rejaudoux	72.27 337	eP	P	14 31 13.9	-0.6
RJF			pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3					
RJF			MLR	MLR		
	comp=Z,3µm,18.3s,MS5.5					
RJF	Les Rejaudoux	72.27 337	eP	P	14 31 13.9	-0.6
	comp=Z,50nm,1.3s,mb5.3					
RJF			LR	LR		
	comp=Z,3µm,18.3s,MS5.5					
AGO	Saint Agoulin	72.34 338	eP	P	14 31 17.5	+2.6
WET	Wettzell	72.34 346	eP	P	14 31 13.3	-1.6
	comp=Z,53nm,1.5s,mb5.2					
WET			eS	S	14 40 41.7	+3.7
WET	Wettzell	72.34 346	eP	P	14 31 13.3	-1.6
WET			eS	S	14 40 41.7	+3.7
WET			pmax	pmax		
	comp=Z,53nm,1.5s,mb5.2					
KK31	Karatay Array	72.38 27	i P	P	14 31 14.4	-0.7
KKAR	Karatay Array	72.38 27	i P	P	14 31 14.4	-0.7
KKAR			pmax	pmax		
	comp=Z,84nm,1.0s,mb5.6					
KKAR	Karatay Array	72.38 27	i P	P	14 31 14.4	-0.7
	comp=Z,84nm,1.0s,mb5.6					
ELAN	Lanestosa	72.52 333	P	P	14 31 18.8	+2.8
	comp=Z,339nm,1.6s,mb6.0					
PVIS	Viseu	72.61 328	eP	P	14 31 18.8	+2.3
	comp=Z,63nm,1.3s,mb5.4					
SMF	Signal de Mont	72.61 339	eP	P	14 31 15.7	-0.8
	comp=Z,102nm,1.2s,mb5.3					
SMF	Signal de Mont	72.61 339	eP	P	14 31 15.7	-0.8
SMF			pmax	pmax		
	comp=Z,51nm,1.2s,mb5.3					
SMF	Signal de Mont	72.61 339	eP	P	14 31 15.7	-0.8
	comp=Z,51nm,1.2s,mb5.3					
HINF	Hinteralfeld	72.70 341	eP	P	14 31 16.2	-0.8
	comp=Z,222nm,1.6s,mb5.5					
HINF	Hinteralfeld	72.70 341	eP	P	14 31 16.2	-0.8
HINF			pmax	pmax		
	comp=Z,111nm,1.6s,mb5.5					
HINF	Hinteralfeld	72.70 341	eP	P	14 31 16.2	-0.8
	comp=Z,111nm,1.6s,mb5.5					
BFO	Black Forest	72.74 343	eP	P	14 31 16.2	-1.1
	comp=Z,54nm,1.7s,mb5.2					
BFO			eS	S	14 40 47.1	+4.5
BFO	Black Forest	72.74 343	P	P	14 31 17.1	-0.2
DPC	Dobruska-Polom	72.78 349	eP	P	14 31 16.1	-1.4
DPC			eS	S	14 40 47.7	+4.7
DPC			AMS	AMS	15 03 10.0	
	comp=Z,1µm,22.3s					
PRU	Pruhonice	72.78 347	eP	P	14 31 16.3	-1.2
PRU			eS	S	14 40 46.8	+3.8
PRU			AMS	AMS	15 10 20.0	
	comp=Z,1µm,14.8s					
LIBD	Limburg	72.79 342	eP	P	14 31 17.7	+0.2
TCF	Toulx Ste Croi	72.86 338	eP	P	14 31 17.5	-0.5
	comp=Z,247nm,1.5s,mb5.6					
TCF	Toulx Ste Croi	72.86 338	eP	P	14 31 17.5	-0.5
TCF			pmax	pmax		
	comp=Z,123nm,1.5s,mb5.6					
TCF	Toulx Ste Croi	72.86 338	eP	P	14 31 17.5	-0.5
	comp=Z,123nm,1.5s,mb5.6					
BGF	Bois d'Agland	72.88 338	eP	P	14 31 17.4	-0.7
PBRG	Braganca	72.89 330	eP	P	14 31 20.6	+2.5
	comp=Z,16nm,0.9s,mb5.0					
AVF	Avril sur Loir	72.91 339	eP	P	14 31 17.5	-0.7
	comp=Z,133nm,1.2s,mb5.4					
AVF	Avril sur Loir	72.91 339	eP	P	14 31 17.5	-0.7
AVF			pmax	pmax		
	comp=Z,66nm,1.2s,mb5.4					
AVF	Avril sur Loir	72.91 339	eP	P	14 31 17.5	-0.7
	comp=Z,66nm,1.2s,mb5.4					
STU	Stuttgart	72.91 343	eP	P	14 31 17.4	-0.9
	comp=Z,42nm,0.9s,mb5.4					
STU			eS	S	14 40 49.8	+5.3
STU	Stuttgart	72.91 343	eP	P	14 31 17.8	-0.5
PVRL	Vila Real	72.95 329	eP	P	14 31 21.2	+2.7
	comp=Z,56nm,1.5s,mb5.3					
ECH	Echery	72.97 342	eP	P	14 31 18.2	-0.4
UPC	Upice	72.99 348	eP	P	14 31 17.8	-0.9
ECAL	Calabor	72.99 330	P	P	14 31 21.5	+2.8
	comp=Z,21nm,1.0s,mb5.0					
HAU	Haudompre	73.02 341	eP	P	14 31 19.2	+0.3
	comp=Z,182nm,1.3s,mb5.5					
HAU			eR			
	comp=Z,2µm,17.0s					
HAU	Haudompre	73.02 341	eP	P	14 31 19.2	+0.3
HAU			pmax	pmax		
	comp=Z,91nm,1.3s,mb5.5					
HAU			MLR	MLR		
	comp=Z,2µm,17.0s,MS5.4					
HAU	Haudompre	73.02 341	eP	P	14 31 19.2	+0.3
	comp=Z,91nm,1.3s,mb5.5					
HAU			LR	LR		
	comp=Z,2µm,17.0s,MS5.4					
AML	Almayashu	73.04 30	P	P	14 31 19.6	+0.6
	SNR=26					
ROTZ	Rotzenmuhle	73.08 346	eP	P	14 31 18.2	-1.1
	comp=Z,149nm,1.4s,mb5.7					
ROTZ			eS	S	14 40 51.6	+5.2
SSF	Saint Saulge	73.09 339	eP	P	14 31 18.3	-1.0
	comp=Z,46nm,1.2s,mb5.0					
SSF	Saint Saulge	73.09 339	eP	P	14 31 18.3	-1.0
SSF			pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0					
SSF	Saint Saulge	73.09 339	eP	P	14 31 18.3	-1.0
	comp=Z,23nm,1.2s,mb5.0					
WLS	Welschbruch	73.09 342	eP	P	14 31 18.9	-0.5
MUN	Mundaring	73.10 118	eP	P	14 31 21.4	+2.0
CDF	Champ du Feu	73.12 342	eP	P	14 31 18.4	-1.1
	comp=Z,163nm,1.6s,mb5.4					
CDF	Champ du Feu	73.12 342	eP	P	14 31 18.4	-1.1
CDF			pmax	pmax		
	comp=Z,82nm,1.6s,mb5.4					
CDF	Champ du Feu	73.12 342	eP	P	14 31 18.4	-1.1
	comp=Z,82nm,1.6s,mb5.4					
LOR	Lormes	73.15 339	eP	P	14 31 18.9	-0.8
	comp=Z,72nm,1.2s,mb5.2					
LOR			eR			
	comp=Z,2µm,21.8s					
LOR	Lormes	73.15 339	eP	P	14 31 18.9	-0.8
LOR			pmax	pmax		
	comp=Z,36nm,1.2s,mb5.2					
LOR			MLR	MLR		
	comp=Z,2µm,21.8s,MS5.3					
LOR	Lormes	73.15 339	eP	P	14 31 18.9	-0.8
	comp=Z,36nm,1.2s,mb5.2					
LOR			LR	LR		
	comp=Z,2µm,21.8s,MS5.3					
GRA1	Graf

comp=Z,2μm,21.3s,MS5.3
PVCC Panska Ves 73.29 347 eP P 14 31 22.3 +1.8
PVCC AMS AMS 15 08 50.0
MANZ Manzenberg 73.31 346 eP P 14 31 19.6 -1.0
comp=Z,102nm,1.4s,mb5.6
MANZ eS S 14 40 53.2 +4.2
THEF They Montfort 73.33 341 eP P 14 31 20.8 +0.1
EARI Arriondas 73.36 331 P **P 14 31 24.0 +3.1**
comp=Z,15nm,1.0s,mb4.9
NKC Novy Kostel 73.47 346 eP P 14 31 21.4 -0.1
NKC eS S 14 40 56.0 +5.2
NKC AMS AMS 15 10 50.0
comp=Z,2μm,14.1s
EKS2 Erkin-Say 73.49 30 P **P 14 31 22.0 +0.3**
SNR=15
UCH Uchtor 73.50 30 P **P 14 31 22.1 +0.4**
SNR=21
HYF Humbligny 73.56 339 eP P 14 31 21.5 -0.6
ELOB Lobios 73.57 329 P **P 14 31 25.0 +2.8**
comp=Z,28nm,1.0s,mb5.2
WERD Werda 73.70 346 eP P 14 31 22.0 -0.9
comp=Z,107nm,1.3s,mb5.6
NWAO Narrogin (SRO) 73.70 119 P **P 14 31 24.4 +1.4**
comp=Z,35nm,1.1s,mb5.2,baz=240,slow=5.6,SNR=6.0
NWAO Narrogin (SRO) 73.70 119 P **P 14 31 25.1 +2.2**
NWAO pmax pmax
comp=Z,33nm,1.1s
NWAO Narrogin (SRO) 73.70 119 eP P 14 31 24.9 +2.0
comp=Z,33nm,1.1s,mb5.2
NWAO LR LR
comp=Z,2μm,20.0s,MS5.3
KZA Kyzart 73.74 31 P **P 14 31 23.6 +0.4**
SNR=11
BRG Berggiesshubel 73.74 347 eP P 14 31 21.5 -1.7
comp=Z,61nm,1.6s,mb5.3
BRG Berggiesshubel 73.74 347 eP P 14 31 22.6 -0.6
BRG S S 14 40 57.0 +3.1
BRG SS SS 14 45 37.0 -0.5
BRG pmax pmax
comp=Z,21nm,1.9s,mb4.7
BRG MLR MLR
comp=Z,650nm,15.8s,MS5.0
BRG Berggiesshubel 73.74 347 eP P 14 31 22.6 -0.6
comp=Z,21nm,1.9s,mb4.7
BRG S S 14 40 57.0 +3.1
BRG SS SS 14 45 37.0 -0.5
BRG
comp=N,673nm,15.9s
BRG
comp=E,429nm,17.3s
BRG
comp=Z,650nm,15.8s
TOD Tromm 73.78 344 eP P 14 31 23.3 -0.1
AAK Ala-Archa 73.81 30 P **P 14 31 23.8 +0.3**
SNR=18
AAK Ala-Archa 73.81 30 P **P 14 31 22.3 -1.2**
comp=Z,149nm,1.7s,mb5.6,SNR=16
MEZF Maizieres J'vi 73.86 341 eP P 14 31 23.7 -0.2
AB31 Akbulak array 73.89 18 *i* P **P 14 31 22.3 -1.8**
AB31 pmax pmax
comp=Z,19nm,0.7s,mb5.1
AB31 Akbulak array 73.89 18 *i* P **P 14 31 22.3 -1.8**
comp=Z,19nm,0.7s,mb5.1
MFF Saint Martin d 73.99 337 eP P 14 31 24.1 -0.5
comp=Z,246nm,1.6s,mb5.6
MFF Saint Martin d 73.99 337 eP P 14 31 24.1 -0.5
MFF pmax pmax
comp=Z,123nm,1.6s,mb5.6
MFF Saint Martin d 73.99 337 eP P 14 31 24.1 -0.5
comp=Z,123nm,1.6s,mb5.6
FRU Bishkek 74.02 30 eP P 14 31 25.0 +0.2
FRU pmax pmax
comp=Z,100nm,1.8s,mb5.4
FRU Bishkek 74.02 30 eP P 14 31 25.0 +0.2
comp=Z,100nm,1.8s,mb5.4
KBK Karagaybulak 74.04 30 P **P 14 31 25.4 +0.5**
SNR=26
MOX Moxa 74.04 346 eP P 14 31 23.7 -1.2
comp=Z,88nm,1.5s,mb5.5
MOX eS S 14 40 59.9 +2.6
MOX Moxa 74.04 346 eP P 14 31 24.4 -0.5
MOX pmax pmax
comp=Z,71nm,1.5s,mb5.4
MOX MLR MLR
comp=Z,1μm,19.0s,MS5.1
MOX Moxa 74.04 346 eP P 14 31 24.4 -0.5
comp=Z,71nm,1.5s,mb5.4
MOX eS S 14 41 04.0 +6.7
MOX LR LR
comp=Z,1μm,19.0s,MS5.1
EZAM Zamans 74.09 329 P **P 14 31 29.2 +4.0**
comp=Z,4.5nm,0.4s,mb4.8
CHMS Chumysh 74.21 30 P **P 14 31 25.5 -0.4**
SNR=12
USP Ospenovka 74.30 30 P **P 14 31 25.8 -0.7**
SNR=13
PMSA Palmer Station 74.30 206 PFAKE 14 31 40.0 +14
PMSA LR LR
comp=Z,2μm,19.0s,MS5.5
RUP Ruppelstein 74.34 342 eP P 14 31 25.9 -0.8
CLL Collm 74.35 347 eP P 14 31 25.3 -1.4
comp=Z,110nm,1.6s,mb5.5
CLL *e*P 14 31 26.2
comp=Z,82nm,1.3s
CLL *e*PP PP 14 34 16.3 +3.5
CLL *e*PPP 14 36 03.4
CLL *e*S S 14 40 59.9 -0.9
CLL *e*SS SS 14 45 54.2 +7.5
CLL *e*(SSS) 14 49 16.2
CLL *e*L 15 08 03.6
comp=Z,1μm,20.0s
CLL Collm 74.35 347⇑ *i*P **P 14 31 26.2 -0.5**
comp=Z,31nm,1.4s,mb5.0
CLL *i* pP pP 14 31 29.0 -1.9
comp=Z,110nm,1.6s
CLL *e*x x 14 31 48.0
CLL *e*PP PP 14 34 13.0 +0.2
CLL *e*S S 14 41 04.0 +3.2
CLL *e*PPS 14 41 44.0
CLL *e*SS SS 14 45 54.0 +7.3
CLL *e*SSS 14 49 12.0
CLL Collm 74.35 347⇑ *i*P **P 14 31 26.2 -0.5**
CLL *i* *PP pP 14 31 29.0 -1.9
CLL *e*S S 14 41 04.0 +3.2
CLL pmax pmax
comp=Z,31nm,1.4s,mb5.0
CLL MLR MLR
comp=Z,2μm,14.4s,MS5.4
CLL Collm 74.35 347⇑ *i*P **P 14 31 26.2 -0.5**
comp=Z,31nm,1.4s,mb5.0
CLL *i* pP pP 14 31 29.0 -1.9
CLL *e*S S 14 41 04.0 +3.2
CLL LR LR
comp=Z,2μm,14.4s,MS5.4
TNS Taunus Mts 74.44 344 eP P 14 31 26.3 -0.9
comp=Z,38nm,1.3s,mb5.2
TNS *e*S S 14 41 07.3 +5.6
TNS Taunus Mts 74.44 344 eP P 14 31 26.3 -0.9
TNS *e*S S 14 41 07.3 +5.6
TNS pmax pmax
comp=Z,38nm,1.3s,mb5.2
AKTK Aktyubinsk 74.45 16 P **P 14 31 25.9 -1.4**
AKTO Aktyubinsk 74.45 16 P **P 14 31 25.9 -1.4**
comp=Z,24nm,0.8s,mb5.2,baz=196,slow=5.4,SNR=45
KLBR Kellerberrin 74.47 118 eP P 14 31 28.8 +1.4
comp=Z,67nm,1.3s,mb5.4
TKM2 Tokmak 2 74.55 31 P **P 14 31 27.8 -0.1**
SNR=20
WLF Walferdange 74.57 342 eP P 14 31 27.1 -0.9
comp=Z,55nm,1.3s,mb5.3
WLF *e*S S 14 41 07.6 +4.4
WLF Walferdange 74.57 342 ⇑P **P 14 31 27.3 -0.7**
WLF AP pP 14 31 30.1 -2.0
WLF Walferdange 74.57 342 P **P 14 31 29.6 +1.6**
WLF pmax pmax
comp=Z,120nm,1.7s,mb5.5
WLF Walferdange 74.57 342 eP P 14 31 28.6 +0.6
comp=Z,124nm,1.7s,mb5.6
UBBA Unterbreizbach 74.59 345 eP P 14 31 27.4 -0.7
comp=Z,42nm,1.5s,mb5.2
UBBA *e*S S 14 41 10.7 +7.3
EFI East Falkland 74.71 220 PFAKE 14 31 40.0 +11
EFI LR LR
comp=Z,2μm,19.0s,MS5.4
NST Nakhon Sawan 74.83 66 P **P 14 31 30.0 +0.5**
LSA Lhasa 74.99 49 P **P 14 31 31.4 +1.0**
LSA S S 14 41 01.8 -6.1
LSA AMB AMB
comp=Z,50nm,1.3s,mb5.3
LSA AMB AMB
comp=Z,80nm,5.0s
LSA LR LR
comp=N,760nm,30.0s
LSA LR LR
comp=E,2μm,24.0s
LSA LR LR
comp=Z,2μm,26.0s,MS5.3
LSA Lhasa 74.99 49 eP P 14 31 31.3 +0.9
LSA pmax pmax
comp=Z,40nm,0.9s,mb5.3
LSA MLR MLR
comp=Z,3μm,19.0s,MS5.6
LSA Lhasa 74.99 49 eP P 14 31 31.2 +0.8
comp=Z,40nm,0.9s,mb5.3
LSA LR LR
comp=Z,3μm,19.0s,MS5.6
RUE Ruedersdorf 75.30 348 eP P 14 31 31.0 -1.2
comp=Z,185nm,1.4s,mb5.8
RUE *e*S S 14 41 16.0 +4.7
RUE Ruedersdorf 75.30 348 eP P 14 31 31.6 -0.6
comp=Z,181nm,1.4s,mb5.8
GIVF Givet 75.35 341 eP P 14 31 31.8 -0.7
SUW Suwalki 75.36 354 eP P 14 31 31.7 -0.9
SUW *e*pP pP 14 31 34.9 -1.8
SUW L 15 03 20.6
comp=Z,0.6nm,23.4s
SUW Suwalki 75.36 354 eP P 14 31 31.7 -0.9
SUW *e*pP pP 14 31 34.9 -1.8
DOU Dourbes 75.41 341 ⇑P **P 14 31 32.7 -0.2**
DOU AP pP 14 31 35.8 -1.2
DOU XP sP 14 31 37.0 -1.5
comp=Z,5.2nm,1.9s
GKP Gorka Klasztor 75.43 350 eP P 14 31 32.9 0.0
GKP *e*pP pP 14 31 35.6 -1.5
GKP L 15 05 54.6
comp=Z,1.0nm,21.2s
CLZ Clausthal 75.44 345 eP P 14 31 32.2 -0.8
comp=Z,49nm,1.5s,mb5.2
CLZ *e*S S 14 41 18.3 +5.4
CLZ Clausthal 75.44 345 eP P 14 31 32.2 -0.8
CLZ *e*S S 14 41 18.3 +5.4
CLZ pmax pmax
comp=Z,49nm,1.5s,mb5.2
MNK Minsk 75.47 357 eP P 14 31 31.0 -2.2
HGN Heimansgroeve 75.61 342 eP P 14 31 34.4 +0.4
comp=Z,42nm,1.2s,mb5.3
HGN *e*S S 14 41 14.7 -0.2
LDF La Druitiere 75.66 338 eP P 14 31 33.2 -1.1
comp=Z,73nm,1.1s,mb5.2
LDF La Druitiere 75.66 338 eP P 14 31 33.2 -1.1
LDF pmax pmax
comp=Z,36nm,1.1s,mb5.2
LDF La Druitiere 75.66 338 eP P 14 31 33.2 -1.1
comp=Z,36nm,1.1s,mb5.2
GRR Gorron 75.75 337 eP P 14 31 33.8 -1.0
comp=Z,183nm,1.6s,mb5.5
GRR Gorron 75.75 337 eP P 14 31 33.8 -1.0
GRR pmax pmax
comp=Z,92nm,1.6s,mb5.5
GRR Gorron 75.75 337 eP P 14 31 33.8 -1.0
comp=Z,92nm,1.6s,mb5.5
BUG Bochum--Univer 75.86 343 eP P 14 31 34.7 -0.7
comp=Z,114nm,1.5s,mb5.6
BUG *e*S S 14 41 23.4 +5.9
SNF Seneffe 75.87 341 ⇑P **P 14 31 35.2 -0.3**
SNF AP pP 14 31 39.0 -0.7
comp=Z,12nm,0.0s
FLN La Foliniere 75.93 338 eP P 14 31 34.6 -1.2
FLN *e*R
comp=Z,2μm,18.8s
FLN La Foliniere 75.93 338 eP P 14 31 34.6 -1.2
FLN LR LR
comp=Z,2μm,18.8s,MS5.4
OBN Obninsk 75.97 2 eP P 14 31 34.5 -1.6
comp=Z,212nm,1.5s,mb5.8
OBN LR LR
comp=Z,1μm,21.0s,MS5.2
QUIF Quistinic 76.22 336 eP P 14 31 36.7 -0.8
comp=Z,46nm,1.1s,mb5.0
QUIF Quistinic 76.22 336 eP P 14 31 36.7 -0.8
QUIF pmax pmax
comp=Z,23nm,1.1s,mb5.0
QUIF Quistinic 76.22 336 eP P 14 31 36.7 -0.8
comp=Z,23nm,1.1s,mb5.0
WTSB Winterswijk 76.46 343 eP P 14 31 39.2 +0.4
comp=Z,76nm,2.0s,mb5.3
IBBN Ibbenburen 76.52 344 eP P 14 31 38.5 -0.7
comp=Z,39nm,0.9s,mb5.3
MOS Moscow 76.63 2 eP P 14 31 38.2 -1.6
MOS pmax pmax
comp=Z,214nm,1.4s,mb5.9
MOS MLR MLR
comp=Z,700nm,17.0s,MS5.0
MOS Moscow 76.63 2 eP P 14 31 38.2 -1.6
comp=Z,214nm,1.4s,mb5.9
MOS LR LR
comp=Z,700nm,17.0s,MS5.0
BDFB Brasilia 76.85 258 P **P 14 31 41.7 +0.7**
comp=Z,41nm,0.8s,mb5.4,baz=90,slow=4.3,SNR=41
BDFB LR LR 15 01 46.3
comp=Z,6μm,19.2s,MS5.9,baz=112,slow=33
VNDA Vanda 77.06 170 P **P 14 31 43.0 +0.7**
comp=Z,24nm,1.1s,mb5.0,baz=252,slow=8.0,SNR=19
VNDA LR LR 15 02 51.7
comp=Z,2μm,19.1s,MS5.5,baz=219,slow=34
VNDA Vanda 77.06 170 P **P 14 31 43.0 +0.7**
VNDA LR LR 15 02 51.7
DRV Dumont d'Urvil 77.09 157 P **P 14 31 41.0 -1.4**
BSEG Bad Segeberg 77.40 346 eP P 14 31 42.9 -1.2
comp=Z,145nm,1.5s,mb5.7
SBA Scott Base 77.59 171 PFAKE 14 31 50.0 +4.8
SBA LR LR
comp=Z,4μm,19.0s,MS5.7
KSM Kuching 78.16 84 eP P 14 31 49.5 +1.1
HEX Exmoor 79.04 337 eP P 14 31 53.6 +0.4
HEX Exmoor 79.04 337 eP P 14 31 53.6 +0.4
MBWA Marble Bar 79.22 109 eP P 14 31 54.6 +0.4
comp=Z,66nm,1.3s,mb5.4
MBWA LR LR
comp=Z,1μm,19.0s,MS5.2
HAE Alders End 79.39 338 eP P 14 31 57.1 +1.9
HAE AMb AMB 14 32 00.3
comp=Z,145nm,1.6s,mb5.7
HAE Alders End 79.39 338 eP P 14 31 57.1 +1.9
HAE AMb AMB 14 32 00.3
comp=Z,145nm,1.6s,mb5.7
VSU Vasula 79.49 356 *i* P **P 14 31 54.2 -1.5**
MCH1 Michaelchurch 79.52 338 eP P 14 31 57.9 +2.0
MCH1 Michaelchurch 79.52 338 eP P 14 31 57.9 +2.0
USHA Ushuaia 79.64 215 LR LR 15 01 36.2
comp=Z,2μm,21.6s,MS5.4,baz=67,slow=32
HTR Trewern Hill 79.68 338 eP P 14 31 58.0 +1.3
HTR AMb AMB 14 32 02.1
comp=Z,40nm,1.5s,mb5.1
HTR Trewern Hill 79.68 338 eP P 14 31 58.0 +1.3
HTR AMb AMB 14 32 02.1
comp=Z,40nm,1.5s,mb5.1
SSP1 Stoney Pound 79.91 338 eP P 14 31 59.9 +1.9
SSP1 AMb AMB 14 32 03.4
comp=Z,76nm,1.8s,mb5.3
SSP1 Stoney Pound 79.91 338 eP P 14 31 59.9 +1.9
SSP1 AMb AMB 14 32 03.4
comp=Z,76nm,1.8s,mb5.3
HLM1 Long Mynd 79.91 338 eP P 14 31 59.0 +1.0
HLM1 Long Mynd 79.91 338 eP P 14 31 59.0 +1.0
ARU Arti 80.08 14 P **P 14 31 57.4 -1.5**
comp=Z,402nm,1.2s,mb6.2,SNR=25
ARU Arti 80.08 14⇓ *i*P **P 14 31 57.8 -1.1**
ARU *e* 14 35 00.2
ARU *e*PPP 14 36 48.1
ARU *e*S S 14 42 01.6 -1.5
ARU *e*SS SS 14 47 09.6 -3.6
ARU pmax pmax
comp=Z,73nm,1.1s,mb5.5
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.4
ARU MLR MLR
comp=N,1μm,20.0s,MS5.3
ARU MLR MLR
comp=E,800nm,18.0s,MS5.3
ARU Arti 80.08 14⇓ *i*P **P 14 31 57.8 -1.1**
comp=E,73nm,1.1s,mb5.5
ARU *e* 14 35 00.2
ARU *e*PPP 14 36 48.1
ARU *e*S S 14 42 01.6 -1.5
ARU *e*SS SS 14 47 09.6 -3.6
ARU LR LR
comp=Z,2μm,19.0s,MS5.4
SBD1 Bryn Du 80.36 338 eP P 14 32 01.5 +1.1
SBD1 Bryn Du 80.36 338 eP P 14 32 01.5 +1.1
BRVK Borovoye 80.44 21 P **P 14 31 59.1 -1.7**
comp=Z,270nm,0.8s,mb6.2,SNR=28
BRVK Borovoye 80.44 21 eP P 14 31 59.5 -1.3
BRVK pmax pmax
comp=Z,27nm,0.9s,mb5.2
BRVK MLR MLR
comp=Z,499nm,20.0s,MS4.9
BRVK Borovoye 80.44 21 eP P 14 31 59.5 -1.3
comp=Z,27nm,0.9s,mb5.2
BRVK LR LR
comp=Z,500nm,20.0s,MS4.9
BVA0 Borovoye Array 80.44 22 *i* P **P 14 31 59.6 -1.2**
BVA0 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BVA0 Borovoye Array 80.44 22 *i* P **P 14 31 59.6 -1.2**
comp=Z,6.0nm,0.8s,mb4.6
BVAR Borovoye Array 80.44 22 P **P 14 31 59.2 -1.6**
comp=Z,36nm,0.7s,mb5.4,baz=216,slow=7.0,SNR=105
BVAR Borovoye Array 80.44 22 P **P 14 31 59.2 -1.6**
MK31 Makanchi Array 80.62 32 *i* P **P 14 32 00.3 -1.5**
MKAR Makanchi Array 80.62 32 P **P 14 31 59.5 -2.3**
comp=Z,6.2nm,0.7s,mb4.6,baz=224,slow=5.1,SNR=35
MKAR LR LR 15 07 56.9
comp=Z,1μm,22.0s,MS5.2,baz=242,slow=36
MKAR Makanchi Array 80.62 32 *i* P **P 14 32 00.7 -1.1**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
KMI Kunming 81.38 59 P **P 14 32 06.3 +0.4**
KMI AP pP 14 32 10.3 +0.3
KMI XP sP 14 32 12.6 +1.1
KMI AMB AMB
comp=Z,25nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,405nm,5.3s
KMI LR LR
comp=N,939nm,22.7s
KMI LR LR
comp=E,183nm,9.7s
KMI LR LR
comp=Z,934nm,22.7s,MS5.1
KMI Kunming 81.38 59 P **P 14 32 06.2 +0.3**
comp=Z,25nm,1.3s,mb5.0
KMI pP pP 14 32 10.3 +0.3
KMI sP sP 14 32 12.6 +1.1
KMI PP PP 14 35 11.5 -0.2
KMI PPP 14 36 50.6
KMI S S 14 42 12.7 -3.9
KMI PS 14 42 18.3
KMI SS SS 14 47 25.2 -7.4
KMI SSS 14 50 46.5
KMI LR LR
comp=Z,930nm,22.7s,MS5.1
WMQ Urumqi 81.44 36 P **P 14 32 06.0 -0.1**
WMQ AP pP 14 32 10.8 +0.5
WMQ XP sP 14 32 13.0 +1.2
WMQ PP PP 14 35 14.8 +2.7
WMQ *e*S S 14 42 16.3 -0.9
WMQ AMB AMB
comp=Z,68nm,0.8s,mb5.6
WMQ AMB AMB
comp=Z,562nm,4.2s
WMQ LR LR
comp=N,1μm,21.2s,MS5.4
WMQ LR LR
comp=E,1μm,24.0s,MS5.4
WMQ LR LR
comp=Z,1μm,20.0s,MS5.3
TRQA Tornquist 81.46 233 eP P 14 32 07.0 +0.8
comp=Z,49nm,0.9s,mb5.4
TRQA LR LR
comp=Z,2μm,21.0s,MS5.4
CPUP Villa Florida 81.68 245 P **P 14 32 07.5 +0.1**
comp=Z,18nm,1.1s,mb4.9,baz=88,slow=5.1,SNR=11
CPUP LR LR 15 04 59.1
comp=Z,3μm,18.9s,MS5.6,baz=102,slow=33
CPUP Villa Florida 81.68 245 P **P 14 32 08.9 +1.5**
CPUP pmax pmax
comp=Z,90nm,1.2s
CPUP Villa Florida 81.68 245 eP P 14 32 08.2 +0.7
comp=Z,90nm,1.2s,mb5.6
CPUP LR LR
comp=Z,552nm,20.0s,MS4.9
KURK Kurchatov 81.79 27 P **P 14 32 07.0 -1.0**
comp=Z,236nm,1.0s,mb6.1,SNR=31
KURK Kurchatov 81.79 27 eP P 14 32 07.3 -0.7
KURK pmax pmax
comp=Z,57nm,1.1s,mb5.4
KURK MLR MLR
comp=Z,2μm,22.0s,MS5.4
KLMR Klimovskoe 81.83 3 eP P 14 32 06.9 -1.3
KLMR *i* S S 14 42 12.7 -8.5
KLMR pmax pmax
comp=Z,80nm,1.3s,mb5.5
KLMR smax
comp=E,1μm,5.0s
BHH Howats Hill 82.15 340 eP P 14 32 11.6 +1.7
BHH Howats Hill 82.15 340 eP P 14 32 11.6 +1.7
ESK Eskdalemuir 82.33 340 PFAKE 14 32 20.0 +9.1
ESK LR LR
comp=Z,852nm,21.0s,MS5.1
FINES FINESS Array B 82.50 356 P **P 14 32 10.2 -1.6**
comp=Z,9.4nm,0.8s,mb4.8,baz=134,slow=5.5,SNR=18
FINES LR LR 15 09 33.8
comp=Z,568nm,21.1s,MS4.9,baz=166,slow=36
FINES FINESS Array B 82.50 356 *i* P **P 14 32 13.8 +2.1**
FINES pmax pmax
comp=Z,9.0nm,0.8s
SOKR Solikamsk 82.62 12 *d i*P **P 14 32 11.6 -0.8**
SOKR pmax pmax
comp=Z,120nm,0.8s,mb6.0
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.5
SOKR Solikamsk 82.62 12 *i* Pr **P 14 32 11.6 -0.8**
comp=Z,120nm,0.8s,mb6.0
SOKR LR LR
comp=Z,2μm,21.0s,MS5.5
KONO Kongsberg 82.85 348 PFAKE 14 32 20.0 +6.5
KONO LR LR
comp=Z,990nm,21.0s,MS5.2
FORT Forrest 83.12 120 eP P 14 32 17.5 +2.5
comp=Z,38nm,0.9s,mb5.4
KAF Kangasniemi 83.15 357 *ep* **P 14 32 12.9 -2.2**
comp=Z,20nm,0.9s,mb5.1,baz=171,slow=4.7
KAF Kangasniemi 83.15 357 eP P 14 32 12.9 -2.2
KAF pmax pmax
comp=Z,20nm,0.9s,mb5.2
NAO01 NORSAR Array S 83.72 349 eP P 14 32 16.9 -1.2
comp=Z,58nm,1.4s,mb5.5
JOF Joensuu 83.78 359 *ep* **P 14 32 15.0 -3.3**
NB2 NORSAR Subarra 83.84 349 P **P 14 32 17.3 -1.4**
comp=Z,112nm,1.7s,mb5.7,baz=159,slow=5.3
NB2 NORSAR Subarra 83.84 349 P **P 14 32 17.3 -1.4**
NB2 pmax pmax
comp=Z,112nm,1.7s,mb5.7
NOA NORSAR Array B 83.84 349 P **P 14 32 16.9 -1.8**
comp=Z,9.4nm,0.9s,mb4.9,baz=152,slow=4.8,SNR=7.7
NOA LR LR 15 14 31.8
comp=Z,438nm,19.6s,MS4.8,baz=200,slow=39
QIZ Qiongzhong 84.63 67 PR **P 14 32 22.3 -0.3**
QIZ XP sP 14 32 29.0 +0.7
QIZ S 14 42 48.9
QIZ SS SS 14 48 25.4 +4.7
QIZ LR LR
comp=N,674nm,16.9s,MS5.3
QIZ LR LR
comp=E,773nm,18.2s,MS5.3
QIZ LR LR
comp=Z,1μm,17.7s,MS5.4
QIZ Qiongzhong 84.63 67 PFAKE 14 32 30.0 +7.4
QIZ LR LR
comp=Z,1μm,19.0s,MS5.3
KPL Plockton 84.78 340 eP P 14 32 24.1 +0.7
KPL Plockton 84.78 340 eP P 14 32 24.1 +0.7
CD2 Chengdu 84.89 54⇓ *i*P **P 14 32 24.3 +0.3**
CD2 AP pP 14 32 29.1 +0.9
CD2 XP sP 14 32 31.3 +1.6
CD2 PP PP 14 35 42.9 +2.4

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CD2                                SKS                14 42 44.9
CD2                                S                  14 42 51.1
CD2                                XS    sS           14 43 00.4 +1.2
CD2                                SS    SS           14 48 27.5 +2.8
CD2                                AMB   AMB
     comp=Z,50nm,1.4s,mb5.5
CD2                                AMB   AMB
     comp=Z,250nm,10.2s
CD2                                LR    LR
     comp=N,520nm,22.8s
CD2                                LR    LR
     comp=Z,480nm,22.8s,MS4.8
GYA  Guiyang          85.14  59⇓ iP    P            14 32 25.6 +0.4
GYA                                AP    pP           14 32 31.4 +2.0
GYA                                XP    sP           14 32 32.8 +1.9
GYA                                S                  14 42 54.4
GYA                                SS    SS           14 48 30.8 +2.5
GYA                                AMB   AMB
     comp=Z,40nm,0.9s,mb5.5
GYA                                AMB   AMB
     comp=Z,590nm,6.3s
GYA                                LR    LR
     comp=N,670nm,21.0s,MS5.2
GYA                                LR    LR
     comp=E,870nm,18.9s,MS5.2
GYA                                LR    LR
     comp=Z,890nm,20.1s,MS5.2
REB  Eisghbrachaidh   85.29 340 eP    P            14 32 25.7 -0.3
REB  Eisghbrachaidh   85.29 340 eP    P            14 32 25.7 -0.3
FITZ Fitzroy Crossi   85.48 108⇑ iP    P            14 32 28.8 +1.9
     comp=Z,36nm,1.8s,mb5.2
GTA  Gaotai           86.28  45 ⇓P    P            14 32 31.1 +0.2
GTA                                AP    pP           14 32 34.8 -0.3
GTA                                XP    sP           14 32 37.9 +1.4
GTA                                AMB   AMB
     comp=Z,22nm,1.2s,mb5.3
GTA                                AMB   AMB
     comp=Z,447nm,6.5s
GTA                                LR    LR
     comp=N,369nm,22.4s,MS4.8
GTA                                LR    LR
     comp=E,195nm,20.9s,MS4.8
GTA                                LR    LR
     comp=Z,192nm,21.7s,MS4.5
PLCA Paso Flores      86.58 228 P     P            14 32 32.7 +0.3
     comp=Z,8.8nm,1.0s,mb4.9,baz=92,slow=6.4,SNR=12
PLCA                               LR    LR           15 09 05.6
     comp=Z,964nm,18.7s,MS5.2,baz=122,slow=34
NVS  Novosibirsk      86.71  26 i P     P            14 32 30.0 -3.0
NVS                                eS                14 43 04.0
NVS                                pmax  pmax
     comp=N,20nm,0.9s
NVS                                pmax  pmax
     comp=Z,29nm,0.9s,mb5.5
NVS                                pmax  pmax
     comp=E,9.0nm,0.8s
NVS                                smax
     comp=N,19nm,1.9s
NVS                                smax
     comp=E,39nm,2.1s
NVS  Novosibirsk      86.71  26 i P     P            14 32 30.0 -3.0
     comp=E,29nm,0.9s,mb5.5
NVS                                eS                14 43 04.0
LZH  Lanzhou          87.40  50 P     P            14 32 37.0 +0.6
LZH                                AP    pP           14 32 42.8 +2.2
LZH                                XP    sP           14 32 45.8 +3.7
LZH                                AMB   AMB
     comp=Z,240nm,1.6s,mb6.2
LZH                                AMB   AMB
     comp=Z,600nm,4.8s
LZH                                LR    LR
     comp=E,1μm,16.4s
LZH                                LR    LR
     comp=Z,3μm,18.0s,MS5.8
LZH  Lanzhou          87.40  50 P     P            14 32 37.0 +0.6
     comp=Z,240nm,1.6s,mb6.2
LZH                                pP    pP           14 32 42.8 +2.2
LZH                                sP    sP           14 32 45.7 +3.6
LZH                                PP    PP           14 35 59.0 -1.8
LZH                                SKS                14 43 01.0
LZH                                S                  14 43 10.0
LZH                                sS    sS           14 43 25.0 +1.3
LZH                                PS                 14 44 15.0
LZH                                eSS   SS           14 48 53.0 -8.5
LZH                                LR    LR
     comp=Z,3μm,18.0s,MS5.8
APA  Apatity          88.43 360⇑ eP    P            14 32 45.0 +3.7
APA                                pmax  pmax
     comp=Z,13nm,1.0s,mb5.1
APA  Apatity          88.43 360⇑ eP    P            14 32 45.0 +3.7
     comp=Z,13nm,1.0s,mb5.1
LVZ  Lovozero         88.76   0 PFAKE                14 32 50.0 +7.2
LVZ                                LR    LR
     comp=Z,780nm,20.0s,MS5.1
ENH  Enshi            89.03  57 eP    P            14 32 43.3 -0.8
     comp=Z,27nm,1.2s,mb5.5
ENH                                LR    LR
     comp=Z,652nm,21.0s,MS5.0
XAN  Xi'an            90.19  53 P     P            14 32 48.9 -0.6
XAN                                AP    pP           14 33 00.5 +6.8
XAN                                AMB   AMB
     comp=Z,14nm,1.5s,mb5.1
ARCES ARCESS Array B  90.59 357 P     P            14 32 50.4 -1.0
     comp=Z,3.7nm,0.8s,mb4.8,baz=334,slow=24,SNR=4.3
ARCES                              LR    LR           15 15 23.0
     comp=Z,770nm,20.6s,MS5.1,baz=169,slow=37
ARCES ARCESS Array B  90.59 357 P     P            14 32 50.4 -1.0
ARCES                              LR    LR           15 15 23.0
ASPA Alice Springs    90.59 116 eP    P            14 32 53.1 +1.7
ASAR Alice Springs    90.59 116 P     P            14 32 50.9 -0.5
     comp=Z,10nm,0.8s,mb5.2,baz=245,slow=3.7,SNR=47
ASAR                               PKKPbc PKKPbc     14 50 17.3 -0.7
     comp=Z,0.3nm,0.8s,baz=217,slow=40,SNR=2.4
AS31 Alice Springs    90.59 116 eP    P            14 32 53.1 +1.7
KEV  Kevo             90.75 358 PFAKE                14 33 00.0 +7.9
KEV                                LR    LR
     comp=Z,730nm,20.0s,MS5.1
KRAR Krasnoyarsk      91.64  29⇓ eP    P            14 32 56.1 -0.2
KRAR                               MLR   MLR
     comp=Z,800nm,22.0s,MS5.1
TAU  Tasmania Unive   91.89 138 PFAKE                14 33 10.0 +13
TAU                                LR    LR
     comp=Z,959nm,20.0s,MS5.2
WRA  Warramunga Arr   92.43 112 P     P            14 33 00.8 +0.9
     comp=Z,9.7nm,1.1s,mb5.0,baz=243,slow=2.6,SNR=22
WB2  Warramunga Arr   92.44 112 eP    P            14 33 00.8 +0.8
WRAB Tennant Creek    92.44 112 i P   P            14 33 00.9 +0.9
WRAB Tennant Creek    92.44 112 PFAKE                14 33 10.0 +10
WRAB                               LR    LR
     comp=Z,2μm,20.0s,MS5.6
WHN  Wuhan            92.98  59 eP    P            14 33 02.5 +0.1
SAML Samuel           93.06 259 eP    P            14 33 02.9 +0.1
     comp=Z,26nm,1.4s,mb5.5
SAML                               LR    LR
     comp=Z,3μm,20.0s,MS5.8
STKA Stephens Creek   93.29 126 eP    P            14 33 03.7 -0.2
     comp=Z,6.1nm,0.9s,mb5.0
STKA Stephens Creek   93.29 126 P     P            14 33 02.9 -0.9
     comp=Z,7.5nm,0.9s,mb5.1,baz=246,slow=5.6,SNR=6.7
STKA                               LR    LR           15 09 43.0
     comp=Z,886nm,19.3s,MS5.2,baz=228,slow=32
BTO  Baotou           93.76  48 eP    P            14 33 04.8 -1.3
ZAK  Zakamensk        93.89  37 eP    P            14 33 05.7 -0.9
ZAK                                pmax  pmax
     comp=Z,20nm,1.7s,mb5.3
ZAK                                pmax  pmax
     comp=Z,7.0nm,1.9s,mb4.8
ZAK  Zakamensk        93.89  37 eP    P            14 33 05.7 -0.9
     comp=Z,20nm,1.7s,mb5.3
DAV  Davao City (W)   94.36  84 PFAKE                14 33 20.0 +11
DAV                                LR    LR
     comp=Z,597nm,21.0s,MS5.0
QZH  Quanzhou         94.39  65 P     P            14 33 09.9 +1.0
QZH                                PP    PP           14 36 56.6 +0.4
QZH                                SKS                14 43 45.0
QZH                                S                  14 44 19.3
QZH                                LR    LR
     comp=N,2μm,19.4s,MS5.7
QZH                                LR    LR
     comp=E,600nm,14.7s,MS5.7
QZH                                LR    LR
     comp=Z,2μm,21.9s
SONM Songino Array    94.52  40 P     P            14 33 08.4 -1.2
     comp=Z,2.1nm,0.9s,mb4.6,baz=241,slow=4.4,SNR=15
SONM                               PKKP  PKKPbc     14 50 09.7 +1.7
     comp=Z,0.4nm,0.9s,baz=73,slow=1.6,SNR=3.6
SONM                               LR    LR           15 15 08.2
     comp=Z,2μm,21.4s,MS5.5,baz=253,slow=35
LPAZ La Paz           94.71 251 P     P            14 33 10.9 +0.5
     comp=Z,9.1nm,1.1s,mb5.1,baz=91,slow=5.4,SNR=17
LPAZ                               PKKPbc PKKPbc     14 50 09.2 +1.8
     comp=Z,0.7nm,0.5s,baz=299,slow=9.7,SNR=4.4
LPAZ                               LR    LR           15 12 45.8
     comp=Z,2μm,19.8s,MS5.6,baz=122,slow=34
LPAZ La Paz           94.71 251 P     P            14 33 11.9 +1.5
LPAZ                               pmax  pmax
     comp=Z,46nm,1.5s
LPAZ La Paz           94.71 251 eP    P            14 33 11.6 +1.2
     comp=Z,46nm,1.5s,mb5.7
LPAZ                               LR    LR
     comp=Z,2μm,20.0s,MS5.6
HHC  Hu-ho-hao-te     94.93  48 eP    P            14 33 11.8 +0.4
HHC                                AP    pP           14 33 16.3 +0.7
HHC                                XP    sP           14 33 18.5 +1.4
HHC                                AMB   AMB
     comp=Z,14nm,0.4s,mb5.7
HHC                                AMB   AMB
     comp=Z,163nm,6.1s
HHC                                LR    LR
     comp=N,966nm,19.6s,MS5.5
HHC                                LR    LR
     comp=E,1μm,21.1s,MS5.5
HHC                                LR    LR
     comp=Z,2μm,20.1s,MS5.5
ULN  Ulaanbaatar      94.94  40 i P   P            14 33 10.5 -0.9
ULN  Ulaanbaatar      94.94  40 eP    P            14 33 10.3 -1.1
     comp=Z,13nm,1.4s,mb5.2
ULN                                LR    LR
     comp=Z,1μm,20.0s,MS5.3
TATO Taipei           96.86  66 PFAKE                14 33 30.0 +10
TATO                               LR    LR
     comp=Z,557nm,21.0s,MS5.0
NJ2  Nanjing          97.11  59 eP    P            14 33 21.9 +0.5
NJ2                                AP    pP           14 33 28.3 +2.7
NJ2                                XP    sP           14 33 31.0 +4.0
NJ2                                PP    PP           14 37 21.0 +3.7
NJ2                                S                  14 44 42.0
NJ2                                XS    sS           14 44 54.0 +2.7
NJ2                                AMB   AMB
     comp=Z,10.0nm,0.5s,mb5.5
NJ2                                AMB   AMB
     comp=Z,620nm,6.6s
NJ2                                LR    LR
     comp=N,4μm,23.3s,MS5.9
NJ2                                LR    LR
     comp=E,3μm,24.0s,MS5.9
NJ2                                LR    LR
     comp=Z,350nm,24.4s,MS4.8
BJT  Baijiatuau       97.87  50 PFAKE                14 33 30.0 +5.2
BJT                                LR    LR
     comp=Z,2μm,21.0s,MS5.6
BJI  Beijing          97.88  50 eP    P            14 33 25.9 +1.1
BJI                                LR    LR
     comp=N,801nm,18.8s,MS5.4
BJI                                LR    LR
     comp=E,1μm,21.3s,MS5.4
BJI                                LR    LR
     comp=Z,2μm,26.9s
BJI  Beijing          97.88  50 eP    P            14 33 25.9 +1.1
BJI                                PP    PP           14 37 21.1 -2.1
BJI                                SKS                14 43 58.4
BJI                                S                  14 44 59.0
BJI                                PS    PS           14 46 18.4 +3.0
BJI                                SS    SS           14 51 43.1 +11
BJI                                LR    LR
     comp=Z,2μm,26.9s,MS5.4
SSE  Sheshan          98.66  60 P     P            14 33 29.1 +0.8
SSE                                AP    pP           14 33 32.5 0.0
SSE                                XP    sP           14 33 33.8 -0.2
SSE                                PP    PP           14 37 27.8 -1.4
SSE                                S                  14 44 55.1
SSE                                XS    sS           14 45 01.0 -3.5
SSE                                SS    SS           14 51 37.8 -5.0
SSE                                AMB   AMB
     comp=Z,31nm,0.7s,mb6.0
SSE                                AMB   AMB
     comp=Z,73nm,3.8s
SSE                                LR    LR
     comp=N,359nm,23.4s,MS5.0
SSE                                LR    LR
     comp=E,484nm,23.4s,MS5.0
SSE                                LR    LR
     comp=Z,571nm,24.8s,MS5.0
SSE  Sheshan          98.66  60 P     P            14 33 29.1 +0.8
     comp=Z,31nm,0.7s,mb6.0
SSE                                pP    pP           14 33 32.5 0.0
SSE                                sP    sP           14 33 33.7 -0.3
SSE                                PP    PP           14 37 27.7 -1.5
SSE                                S                  14 44 55.1
SSE                                sS    sS           14 45 01.0 -3.5
SSE                                SS    SS           14 51 37.7 -5.2
SSE                                LR    LR
     comp=Z,570nm,24.8s,MS5.0
KBS  Kingsbay         100.59 356 PFAKE                14 33 50.0 +13
KBS                                LR    LR
     comp=Z,916nm,20.0s,MS5.3
CTAO Charters Tower   102.47 117 PFAKE                14 34 00.0 +15
CTAO                               LR    LR
     comp=Z,1μm,19.0s,MS5.4
HIA  Hailar           103.28  42 PFAKE                14 34 00.0 +11
HIA                                LR    LR
     comp=Z,2μm,21.0s,MS5.6
NNA  Nana             104.17 251 PFAKE                14 34 00.0 +7.2
NNA                                LR    LR
     comp=Z,937nm,20.0s,MS5.3
SJG  San Juan         105.12 284 PFAKE                14 38 20.0 +8.5
SJG                                LR    LR
     comp=Z,1μm,20.0s,MS5.4
SDV  Santo Domingo    106.35 273 PFAKE                14 38 20.0 +6.2
SDV                                LR    LR
     comp=Z,1μm,19.0s,MS5.4
BBSR BB Station       107.74 298 PFAKE                14 38 30.0 +14
BBSR                               LR    LR
     comp=Z,965nm,19.0s,MS5.4
PMG  Port Moresby     108.08 108 PFAKE                14 38 30.0 +13
PMG                                LR    LR
     comp=Z,2μm,19.0s,MS5.7
SNZO South Karori     108.17 150 PFAKE                14 38 30.0 +13
SNZO                               LR    LR
     comp=Z,2μm,20.0s,MS5.7
MDJ  Mudanjiang       108.70  49 PDIF  Pdif          14 34 13.3 +0.4
MDJ                                PP    PP           14 38 42.3 -1.8
MDJ                                PP    PP
     comp=Z,62nm,23.2s
MDJ                                LR    LR
     comp=N,539nm,26.5s
MDJ                                LR    LR
     comp=E,461nm,33.7s
MDJ                                LR    LR
     comp=Z,579nm,32.5s
MDJ  Mudanjiang       108.70  49 PFAKE                14 38 30.0 +12
MDJ                                LR    LR
     comp=Z,754nm,20.0s,MS5.3
OTAV Otavalo          110.59 262 PFAKE                14 38 30.0 +8.3
OTAV                               LR    LR
     comp=Z,3μm,20.0s,MS5.8
YAK  Yakutsk          111.27  30 i PKPdf PKiKP        14 38 17.3 -5.7
YAK                                LR    LR
     comp=Z,862nm,21.0s,MS5.3
TIXI Tiksi            111.53  20 i PKIKP PKiKP        14 38 19.6 -3.9
TIXI                               e                  14 39 01.0
TIXI                               ePPP               14 41 23.3
TIXI                               eSP   SP           14 48 28.8 -6.2
TIXI                               e                  14 49 36.9
TIXI                               eSSS               14 58 40.2
TIXI                               pmax  pmax
     comp=Z,2.0nm,1.3s
TIXI                               MLR   MLR
     comp=Z,617nm,19.0s,MS5.2
TIXI Tiksi            111.53  20 i PKPdf PKiKP        14 38 19.6 -3.9
TIXI                               e                  14 39 01.0
TIXI                               ePPP               14 41 23.3
TIXI                               eSP   SP           14 48 28.8 -6.2
TIXI                               e                  14 49 36.9
TIXI                               eSSS               14 58 40.2
SCHQ Schefferville    112.95 322 PFAKE                14 38 40.0 +14
SCHQ                               LR    LR
     comp=Z,2μm,20.0s,MS5.8
MAJO Matsushiro       113.72  58 PFAKE                14 38 40.0 +12
MAJO                               LR    LR
     comp=Z,707nm,22.0s,MS5.2
MAT  Matsushiro       113.72  58 PP    PP           14 39 18.0 -2.1
WES  Weston           114.74 308 PFAKE                14 38 40.0 +10
WES                                LR    LR
     comp=Z,1μm,21.0s,MS5.4
LBNH Lisbon           115.37 310 PFAKE                14 38 40.0 +9.2
LBNH                               LR    LR
     comp=Z,1μm,20.0s,MS5.5
NCB  Newcomb          117.00 310 PFAKE                14 38 40.0 +6.0
NCB                                LR    LR
     comp=Z,971nm,20.0s,MS5.4
YSS  Yuzh-Sakhalins   118.10  47 PFAKE                14 38 50.0 +14
YSS                                LR    LR
     comp=Z,628nm,20.0s,MS5.2
BINY Binghamton       118.17 307 PFAKE                14 38 50.0 +14
BINY                               LR    LR
     comp=Z,1μm,21.0s,MS5.5
HNR  Honiara          119.20 114 PFAKE                14 38 50.0 +12
HNR                                LR    LR
     comp=Z,650nm,19.0s,MS5.3
JTS  JuntasAbangare   120.17 270 PFAKE                14 38 50.0 +10
JTS                                LR    LR
     comp=Z,2μm,20.0s,MS5.6
NHSC New Hope         120.70 297 PFAKE                14 38 50.0 +8.9
NHSC                               LR    LR
     comp=Z,2μm,19.0s,MS5.7
MCWV Mont Chateau     120.95 304 PFAKE                14 38 50.0 +8.5
MCWV                               LR    LR
     comp=Z,995nm,19.0s,MS5.5
DWPF Disney           121.11 291 PFAKE                14 38 50.0 +8.1
DWPF                               LR    LR
     comp=Z,272nm,19.0s,MS4.9
ERPA Erie             121.14 307 PFAKE                14 38 50.0 +8.1
ERPA                               LR    LR
     comp=Z,1μm,20.0s,MS5.5
BLA  Blacksburg       121.26 301 PFAKE                14 38 50.0 +7.9
BLA                                LR    LR
     comp=Z,951nm,20.0s,MS5.4
SEY  Seymchan         121.62  28 ePKIKP PKPdf         14 38 43.1 +0.3
SEY                                e                  14 40 22.7
SEY                                e                  14 57 01.4
SEY                                pmax  pmax
     comp=Z,7.0nm,1.2s
SEY  Seymchan         121.62  28 ePKPdf PKPdf         14 38 43.1 +0.3
SEY                                e                  14 40 22.7
SEY                                e                  14 57 01.4
MA2  Magadan          121.70  32⇑ iPKPdf PKPdf        14 38 42.1 -0.9
MA2                                LR    LR
     comp=Z,750nm,19.0s,MS5.4
ACSO Alum Creek Sta   123.38 305 PFAKE                14 39 00.0 +14
ACSO                               LR    LR
     comp=Z,971nm,20.0s,MS5.5
AAM  Ann Arbor        123.87 307 PFAKE                14 39 00.0 +13
AAM                                LR    LR
     comp=Z,962nm,21.0s,MS5.4
BILL Bilibino         124.76  20⇑ iPKIKP PKPdf        14 38 48.7 -0.1
TEIG Tepich           125.87 280 ePKPdf PKPdf         14 38 50.9 -0.1
TEIG                               LR    LR
     comp=Z,195nm,20.0s,MS4.8
WCI  Wyandotte Cave   125.95 302 PFAKE                14 39 00.0 +8.9
WCI                                LR    LR
     comp=Z,245nm,19.0s,MS4.9
LRAL Lakeview Retre   126.40 296 PFAKE                14 39 00.0 +8.0
LRAL                               LR    LR
     comp=Z,1μm,19.0s,MS5.6
FCC  Fort Churchill   127.09 329 PKIKP PKPdf          14 38 51.2 -2.1
WVT  Waverly          127.18 300 PFAKE                14 39 00.0 +6.5
WVT                                LR    LR
     comp=Z,963nm,20.0s,MS5.5
PLAL Pickwick Lake    127.36 298 PFAKE                14 39 00.0 +6.2
PLAL                               LR    LR
     comp=Z,1μm,20.0s,MS5.5
PET  Petropavlovsk    127.56  39 PFAKE                14 39 00.0 +5.8
PET                                LR    LR
     comp=Z,691nm,21.0s,MS5.3
OXF  Oxford           128.45 298 PFAKE                14 39 10.0 +14
OXF                                LR    LR
     comp=Z,964nm,19.0s,MS5.5
EYMN Ely              128.75 315 ePKPdf PKPdf         14 38 53.9 -2.6
EYMN                               LR    LR
     comp=Z,15μm,20.0s,MS6.7
CCM  Cathedral Cave   129.85 302 ePKIKP PKPdf         14 38 58.4 -0.2
CCM                                MLR   MLR
     comp=Z,220nm,20.0s,MS4.8
ULM  Lac du Bonnet    130.97 319 PKP   PKPdf          14 38 59.2 -1.5
     comp=Z,10nm,0.9s,baz=85,slow=1.7,SNR=8.2
ULM                                PP    PP           14 41 14.7 -2.4
     baz=76,slow=10,SNR=3.1
MIAR Mount Ida        131.89 298 PKIKP PKPdf          14 39 03.2 +0.8
MIAR Mount Ida        131.89 298 ePKPdf PKPdf         14 39 02.9 +0.5
MIAR                               LR    LR
     comp=Z,935nm,22.0s,MS5.5
INK  Inuvik           132.14 354 PKIKP PKPdf          14 39 01.3 -1.6
INK  Inuvik           132.14 354 ePKPdf PKPdf         14 39 00.3 -2.6
FFC  Flin Flon        132.73 326 PFAKE                14 39 10.0 +6.0
FFC                                LR    LR
     comp=Z,1μm,19.0s,MS5.6
NATX Nacogdoches      132.84 294 PFAKE                14 39 10.0 +5.8
NATX                               LR    LR
     comp=Z,1μm,21.0s,MS5.6
YKA  Yellowknife Ar   133.29 340 PKP   PKPdf          14 39 02.9 -2.2
     comp=Z,3.2nm,0.8s,baz=41,slow=2.1,SNR=14
YKA                                PP    PP           14 41 28.2 -3.8
     comp=Z,0.8nm,0.8s,baz=44,slow=2.5,SNR=4.7
YKA  Yellowknife Ar   133.29 340 PKP   PKPdf          14 39 02.9 -2.2
YKA                                PP    PP           14 41 28.2 -3.8
TNA  Tin City         133.41  12 PFAKE                14 39 10.0 +4.7
TNA                                LR    LR
     comp=Z,391nm,21.0s,MS5.1
HKT  Hockley          133.83 292 PFAKE                14 39 20.0 +14
HKT                                LR    LR
     comp=Z,213nm,19.0s,MS4.9
RKT  Rikitea          134.63 195 ePP   PP             14 41 33.6 -7.0
     comp=Z,80nm,28.8s
RKT  Rikitea          134.63 195 eSS   SS             14 59 26.8 -5.1
     comp=Z,269nm,33.5s
RKT                                eLR   LR           15 22 15.6
     comp=Z,661nm,23.8s
TBI  Tubuai           135.70 176 ePP   PP             14 41 39.8 -7.5
     comp=Z,85nm,27.0s
TBI  Tubuai           135.70 176 eSS   SS             14 59 40.6 -4.1
     comp=Z,352nm,28.0s
TBI                                eLR   LR           15 22 47.2
     comp=Z,922nm,27.2s
WMOK Wichita Mounta   136.16 299 PFAKE                14 39 20.0 +10
WMOK                               LR    LR
     comp=Z,988nm,21.0s,MS5.5
COLA College          136.26   1 i PKIKP PKPdf        14 39 08.8 -1.8
COLA College          136.26   1 PFAKE                14 39 20.0 +9.4
COLA                               LR    LR
     comp=Z,633nm,19.0s,MS5.4
ILAR Eielson Array    136.37   0 PKP   PKPdf          14 39 08.2 -2.6
     comp=Z,2.8nm,1.1s,baz=319,slow=3.5,SNR=5.6
ILAR                               PP    PP           14 41 50.9 -0.7
     comp=Z,1.4nm,1.1s,baz=5.0,slow=5.1,SNR=5.3
CBKS Cedar Bluff      136.39 305 PFAKE                14 39 20.0 +9.1
CBKS                               LR    LR
     comp=Z,959nm,21.0s,MS5.5
DGMT Dagmar           136.68 319 PFAKE                14 39 20.0 +8.6
DGMT                               LR    LR
     comp=Z,1μm,21.0s,MS5.6
JCT  Junction City    137.26 292 ePKIKP PKPdf         14 39 10.7 -1.8
JCT                                MLR   MLR
     comp=Z,850nm,20.0s,MS5.5
MCK  McKinley         137.38   2 PFAKE                14 39 20.0 +7.3
MCK                                LR    LR
     comp=Z,314nm,20.0s,MS5.0
LAO  LASA Array       138.66 318 PKPdf PKPdf          14 39 15.5 +0.4
LAO                                LR    LR
     comp=Z,1μm,21.0s,MS5.7
EDM  Edmonton         139.18 330 PKIKP PKPdf          14 39 16.8 +0.8
EDM  Edmonton         139.18 330 ePKPdf PKPdf         14 39 15.1 -0.9
PMR  Palmer           139.52   2 PFAKE                14 39 30.0 +13
PMR                                LR    LR
     comp=Z,775nm,21.0s,MS5.4
FIB  Fire Island      139.91   3 PFAKE                14 39 30.0 +13
FIB                                LR    LR
     comp=Z,1μm,20.0s,MS5.6
DIV  Divide           140.03 360 PFAKE                14 39 30.0 +12
DIV                                LR    LR
     comp=Z,2μm,19.0s,MS5.9
EGMT Eagleton         140.20 321 ePKPdf PKPdf         14 39 17.8 -0.1
EGMT                               LR    LR
     comp=Z,1μm,20.0s,MS5.6
ISCO Idaho Springs    140.61 307 PFAKE                14 39 30.0 +11
ISCO                               LR    LR
```

comp=Z,1μm,19.0s,MS5.6
LTX Lajitas 140.65 291 PKIKP PKPdf 14 39 15.5 -3.2
LTX LR LR
LTX Lajitas 140.65 291 PFAKE 14 39 30.0 +11
LTX LR LR
comp=Z,1μm,22.0s,MS5.6
SDCO Great Sand Dun 141.05 304 PFAKE 14 39 30.0 +11
SDCO LR LR
comp=Z,1μm,22.0s,MS5.6
ADK Adak 141.35 30 PFAKE 14 39 30.0 +10
ADK LR LR
comp=Z,758nm,19.0s,MS5.5
PPT Papeete 141.42 175 *e*LQ 15 19 32.1
comp=Z,923nm,25.0s
PPT Papeete 141.42 175 *e*PP PP 14 42 15.9 -6.9
comp=Z,101nm,22.2s
PPT Papeete 141.42 175 *e*SS SS 15 00 51.0 -1.4
comp=Z,399nm,24.2s
PPT *e*LR LR 15 25 21.2
comp=Z,937nm,22.2s
SMCO Snowmass 141.80 307 *e*PKPpre 14 39 17.4
SMCO *e*PKPdf PKPdf 14 39 21.2 +0.4
MNTX Cornudas Mount 141.97 295 *e*PKPpre 14 39 17.8
MNTX LR LR
comp=Z,941nm,20.0s,MS5.5
HRY Holter Researc 142.08 321 PKPdf PKPdf 14 39 22.9 +1.7
LKWY Lake 142.22 317 PFAKE 14 39 30.0 +8.5
LKWY LR LR
comp=Z,2μm,19.0s,MS5.8
ANMO Albuquerque 142.39 300 PFAKE 14 39 30.0 +8.2
ANMO LR LR
comp=Z,920nm,19.0s,MS5.6
BW06 Boulder Array 142.42 314 PFAKE 14 39 30.0 +8.2
BW06 LR LR
comp=Z,1μm,20.0s,MS5.7
PDAR Pinedale Array 142.42 314 PKP PKPdf 14 39 19.7 -2.1
comp=Z,3.4nm,0.8s,baz=91,slow=6.0,SNR=9.6
BOZ Bozeman (W) 142.49 319 *e*PKIKP PKPdf 14 39 22.3 +0.3
BOZ MLR MLR
comp=Z,1μm,20.0s,MS5.7
YMR Madison River 142.53 317 *e*PKPdf PKPdf 14 39 20.0 -2.1
YMR LR LR
comp=Z,1μm,21.0s,MS5.6
LPM Los Pinos Moun 142.65 299 *e*PKPdf PKPdf 14 39 21.6 -0.7
BNM Barren Site 142.67 299 *e*PKPdf PKPdf 14 39 21.5 -0.8
QLMT Earthquake Lak 142.75 318 *e*PKPdf PKPdf 14 39 21.8 -0.6
CHMT Chamberlain Mo 142.81 322 *e*PKPpre 14 39 19.1
REDW Red Top Meadow 143.04 315 *e*PKPdf PKPdf 14 39 22.2 -0.8
LAZ Ladron 143.04 299 *e*PKPpre 14 39 16.8
SIT Sitka 143.19 350 PFAKE 14 39 30.0 +6.8
SIT LR LR
comp=Z,1μm,19.0s,MS5.6
DLMT Dillon 143.22 319 *e*PKPdf PKPdf 14 39 21.8 -1.5
MSO Missoula 143.25 322 *e*PKPpre 14 39 19.8
MSO LR LR
comp=Z,748nm,22.0s,MS5.4
PV01 Paradox Valley 143.29 306 *e*PKPpre 14 39 21.8
AHID Auburn Hatcher 143.46 314 PFAKE 14 39 30.0 +6.3
AHID LR LR
comp=Z,1μm,19.0s,MS5.7
PV10 Paradox Valley 143.57 307 *e*PKP PKPdf 14 39 23.0 -0.9
VAH Vaihoa 143.85 178 *e*PKIKP PKPdf 14 39 24.8 +0.4
comp=Z,31nm,0.9s
UNV Unalaska Valle 143.92 20 PFAKE 14 39 30.0 +5.5
UNV LR LR
comp=Z,3μm,20.0s,MS6.0
NEW Newport 144.16 326 PFAKE 14 39 30.0 +5.1
NEW LR LR
comp=Z,1μm,20.0s,MS5.6
HWUT Hardware Ranch 144.25 313 *e*PKP PKPdf 14 39 23.0 -2.1
HWUT LR LR
comp=Z,1μm,20.0s,MS5.6
TCUT Toone Canyon 144.34 312 *e*PKP PKPdf 14 39 24.4 -0.9
SRU San Rafael 144.44 308 PKIKP PKPdf 14 39 24.8 -0.6
SRU San Rafael 144.44 308 *e*PKP PKPdf 14 39 24.1 -1.3
DAU Daniels Canyon 144.50 311 PKIKP PKPdf 14 39 25.2 -0.3
DAU Daniels Canyon 144.50 311 *e*PKP PKPdf 14 39 24.4 -1.1
TMUT Trail Mountain 144.88 309 *e*PKPdf PKPdf 14 39 25.5 -0.7
MPU Maple Canyon 144.92 310 *e*PKP PKPdf 14 39 25.1 -1.1
MPU LR LR
comp=Z,1μm,21.0s,MS5.7
HVU Hansel Valley 145.00 314 PKIKP PKPdf 14 39 26.1 -0.3
HVU Hansel Valley 145.00 314 *e*PKP PKPdf 14 39 25.8 -0.6
HLID Hailey 145.24 317 *e*PKP PKPdf 14 39 26.9 +0.1
HLID LR LR
comp=Z,870nm,20.0s,MS5.5
NLU North Lily Min 145.26 310 *e*PKP PKPdf 14 39 23.6 -3.2
OD2 Odessa Site #2 145.54 326 P PKPdf 14 39 26.9 -0.4
DUG Dugway 145.69 311 *e*PKIKP PKPdf 14 39 27.9 +0.4
DUG MLR MLR
comp=Z,1μm,20.0s,MS5.6
SAW Saint Andrews 145.69 327 P PKPdf 14 39 28.0 +0.5
MSU Marysvale 145.86 308 PKP2 PKPab 14 39 29.1 +0.2
MSU Marysvale 145.86 308 *e*PKP PKPdf 14 39 29.0 +1.2
MVU Marysvale 145.89 308 PFAKE 14 39 40.0 +12
MVU LR LR
comp=Z,809nm,20.0s,MS5.5
NLW Nelson Butte 145.91 328 P PKPdf 14 39 28.7 +0.7
WTV Waterville 145.97 327 P PKPdf 14 39 28.3 +0.3
EPH Ephrata 146.02 327 P PKPdf 14 39 29.1 +1.0
WUAZ Wupatki 146.18 303 *e*PKPbc PKPbc 14 39 30.2 +0.8
WUAZ LR LR
comp=Z,786nm,21.0s,MS5.5
RPW Rockport 146.22 330 P PKPdf 14 39 29.1 +0.6
CRF Corfu 146.26 326 P PKPdf 14 39 30.1 +1.6
BMO Blue Mountains 146.31 321 *e*PKHKP 14 39 29.5
BMO MLR MLR
comp=Z,1μm,20.0s,MS5.7
TUC Tucson 146.42 297 PKP2 PKPab 14 39 31.0 0.0
TUC Tucson 146.42 297 *e*PKPbc PKPbc 14 39 30.7 +0.6
TUC LR LR
comp=Z,881nm,19.0s,MS5.6
GBL Gable Mountain 146.44 326 PKP2 PKPab 14 39 30.4 -0.7
HAWA Hanford 146.61 325 *e*PKPbc PKPbc 14 39 30.3 -0.4
HAWA LR LR
comp=Z,1μm,21.0s,MS5.6
PGC Sidney 146.95 332 *e*PKPbc PKPbc 14 39 31.9 +0.2
ARUT Antelope Range 147.05 308 *e*PKP2 PKPab 14 39 31.7 -1.7
CCUT Cedar City 147.07 307 *e*PKPbc PKPbc 14 39 31.2 -0.8
ELK Elko 147.12 314 PKP2 PKPab 14 39 32.5 -1.2
ELK Elko 147.12 314 *e*PKPbc PKPbc 14 39 31.9 -0.3
WVOR Wild Horse Val 148.47 319 *e*PKIKP PKPdf 14 39 33.7 +1.5
WVOR MLR MLR
comp=Z,1μm,20.0s,MS5.7
BMN Battle Mountai 148.60 314 *e*PKIKP PKPdf 14 39 34.0 +1.6
BMN MLR MLR
comp=Z,1μm,22.0s,MS5.7
NEN Nelson 148.84 305 *e*PKPbc PKPbc 14 39 34.3 -2.4
LDFC Landfair 149.23 304 *e*PKPbc PKPbc 14 39 35.7 -2.0
TAOE Nuku Hiva Isla 149.58 192 *e*PKPab PKPab 14 39 44.1 +0.5
comp=Z,1μm,1.1s
TAOE Nuku Hiva Isla 149.58 192 *e*SS SS 15 02 29.7 +4.3
comp=Z,989nm,33.6s
TAOE *e*LR LR 15 29 03.8
comp=Z,2μm,24.0s
TPH Tonopah 149.68 310 *e*PKHKP 14 39 36.4
TPH MLR MLR
comp=Z,1μm,20.0s,MS5.6
MOD Modoc 149.79 319 *e*PKPbc PKPbc 14 39 35.9 -3.2
MOD LR LR
comp=Z,3μm,21.0s,MS6.0
NVAR Mina Array Bea 150.29 312 PKPbc PKPbc 14 39 37.6 -2.7
comp=Z,17nm,1.0s,baz=132,slow=1.3,SNR=47
DAC Darwin (Calif) 150.69 307 *e*PKIKP PKPdf 14 39 37.4 +1.7
DAC *e* 14 39 42.6
DAC MLR MLR
comp=Z,1μm,20.0s,MS5.6
PFO Pinyon Flat Ob 150.74 301 *e*PKIKP PKPdf 14 39 42.1 +6.3
PFO MLR MLR
comp=Z,961nm,20.0s,MS5.6
HUMO Hull Mountain 150.92 323 *e*PKPbc PKPbc 14 39 37.4 -4.4
HUMO LR LR
comp=Z,992nm,20.0s,MS5.6
MTUM Tungsten Hills 150.96 310 *e*PKPdf PKPdf 14 39 34.8 -1.4
LHEM Herd Peak 151.11 321 P PKPdf 14 39 38.0 +1.6
BAR Barrett 151.18 300 *e*PKPbc PKPbc 14 39 42.7 +0.3
ISA Isabella 151.59 307 PFAKE 14 39 50.0 +13
ISA LR LR
comp=Z,1μm,20.0s,MS5.8
MWC Mount Wilson 151.80 304 PKIKP PKPdf 14 39 37.5 +0.1
CMB Columbia Colle 151.92 313 *e*PKIKP PKPdf 14 39 38.6 +1.0
CMB MLR MLR
comp=Z,864nm,21.0s,MS5.5
WDC Whiskeytown Da 151.93 319 PFAKE 14 39 50.0 +12
WDC LR LR
comp=Z,812nm,20.0s,MS5.5
OHCM Honcut 151.98 316 *e*PKPdf PKPdf 14 39 37.4 -0.3
HOPS Hopland 153.19 317 PFAKE 14 39 50.0 +11
HOPS LR LR
comp=Z,670nm,19.0s,MS5.5

ISCJB ***15*** *14:27:50.7±3.7,26N±0.1×956E±0.1,h16km±26km, mb4.5/16,MS4.2/2,Error ellipse: s-maj=19.8km s-min=16.3km az=115.7*
IDC ***15*** *14:27:50.1±1.2,260N×9562E,h0km,mb4.3/9,mb1 4.3/10, mb1mx4.1/22,mbtmp4.2/10,ML3.5/1,Error ellipse: s-maj=48.0km s-min=17.7km az=45.0*
BJI ***15*** *14:27:52.5,261N×9558E,h30km,mB5.0,mb4.8,Ms4.6, Msz4.5*
NEIC ***15*** *14:27:54.6±0.6,257N×9565E,h30km,mb4.3/1,Error ellipse: s-maj=16.1km s-min=8.4km az=211.0*
ISC 15 14:27:56.9±2.1,26N±01×957E±01,h46km±18km,n24, σ0∓73/25,mb4.4/16,MS4.2/2,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.21**	**87**	Pn	**Pn**	**14 28 44.5**	**-0.3**
	4.7nm,0.3s,baz=288,slow=6.9,SNR=22						
KULM	**Kulim**	**5.59**	**62**	⇑*i*P	**Pn**	**14 29 17.1**	**-0.3**
SNG	**Songkhla**	**6.65**	**47**	P	**Pn**	**14 29 32.0**	**0.0**
	202nm,0.8s						
KKTK	**Khon Kaen**	**15.32**	**27**	PG	**Pn**	**14 31 34.0**	**+4.1**
KKTK				SG	pP	14 31 40.0	-4.6
KMI	**Kunming**	**23.37**	**16**	P	**P**	**14 33 02.8**	**+1.3**
KMI				AP		14 33 09.3	
KMI				XP	sP	14 33 12.8	-5.5
KMI				S	**S**	**14 37 10.1**	**-0.7**
KMI				XS	sS	14 37 21.3	-9.4
KMI				SS		14 37 59.3	
KMI				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,109nm,3.9s						
KMI				LR	LR		
	comp=N,422nm,14.2s,MS4.1						
KMI				LR	LR		
	comp=E,265nm,16.8s,MS4.1						
KMI				LR	LR		
	comp=Z,271nm,12.4s,MS3.9						
LSA	**Lhasa**	**27.28**	**351**	*e*P	**P**	**14 33 38.2**	**+1.3**
XAN	**Xi'an**	**33.60**	**20**	P	**P**	**14 34 31.6**	**-1.1**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
XAN				AMB	AMB		
	comp=Z,85nm,4.6s						
XAN				LR	LR		
	comp=E,709nm,24.5s						
XAN				LR	LR		
	comp=Z,983nm,22.3s,MS4.5						
LZH	**Lanzhou**	**34.14**	**12**	*e*P	**P**	**14 34 37.1**	**-0.3**
LZH				AP	pP	14 34 43.5	-6.0
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.9						
GTA	**Gaotai**	**36.80**	**5**	*e*P	**P**	**14 34 59.9**	**-0.4**
GTA				AP	pP	14 35 05.3	-7.2
GTA				XP	sP	14 35 08.8	-9.1
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.7						
HHC	**Hu-ho-hao-te**	**40.66**	**19**	*e*P	**P**	**14 35 33.3**	**+0.8**
HHC				AMB	AMB		
	comp=Z,8.0nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,60nm,3.3s						
BJI	**Beijing**	**41.61**	**24**	*e*P	**P**	**14 35 41.9**	**+1.5**
BJI				AMB	AMB		
	comp=Z,15nm,0.5s,mb4.9						
WRA	**Warramunga Arr**	**44.04**	**122**	P	**P**	**14 35 59.9**	**-0.1**
	comp=Z,3.3nm,0.9s,mb4.1,baz=299,slow=9.4,SNR=9.6						
ASAR	**Alice Springs**	**45.43**	**127**	P	**P**	**14 36 11.4**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.8,baz=299,slow=8.1,SNR=8.9						
MKAR	**Makanchi Array**	**45.52**	**347**	P	**P**	**14 36 11.2**	**-0.6**
	comp=Z,8.6nm,0.5s,mb5.0,baz=156,slow=9.0,SNR=86						
SONM	**Songino Array**	**45.97**	**10**	P	**P**	**14 36 15.1**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.5,baz=190,slow=9.1,SNR=40						
SONM				PcP	PcP	14 37 52.8	+1.2
	comp=Z,1.4nm,0.6s,baz=190,slow=3.7,SNR=8.1						
ULN	**Ulaanbaatar**	**46.12**	**11**	*e*P	**P**	**14 36 16.2**	**-0.3**
KURK	**Kurchatov**	**50.05**	**346**	*e*P	**P**	**14 36 47.6**	**+0.7**
BVAR	**Borovoye Array**	**54.43**	**341**	P	**P**	**14 37 18.5**	**-0.9**
	comp=Z,4.7nm,0.6s,mb4.6,baz=143,slow=9.1,SNR=12						
BRVK	**Borovoye**	**54.50**	**341**	*e*P	**P**	**14 37 19.6**	**-0.3**
	comp=Z,2.3nm,0.7s,mb4.2						
AKTK	**Aktyubinsk**	**57.29**	**332**	P	**P**	**14 37 39.8**	**-0.1**
AKTO	**Aktyubinsk**	**57.29**	**332**	P	**P**	**14 37 39.8**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=104,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**78.06**	**333**	P	**P**	**14 39 50.1**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=115,slow=16,SNR=4.8						
ARCES	**ARCESS Array B**	**80.71**	**340**	P	**P**	**14 40 04.4**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.3,baz=90,slow=4.0,SNR=9.5						
GERES	**GERESS Array B**	**82.77**	**319**	P	**P**	**14 40 16.9**	**+0.8**
	comp=Z,0.2nm,0.3s,mb3.7,baz=145,slow=2.4,SNR=3.4						

IDC 15 14:43:23.6±2.1,299S×12847E,h0km,mb3.6/2,mb1 3.9/3, mb1mx3.6/15,mbtmp3.6/3,ML3.6/1,Error ellipse: s-maj=136.0km s-min=27.4km az=68.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.80**	**162**	P	Pn	14 47 31.7	-1.0
	0.2nm,0.3s,baz=340,slow=12,SNR=14						
WB2	**Warramunga Arr**	**17.80**	**162**	*e*P	Pn	14 47 35.1	+2.4
ASAR	**Alice Springs**	**21.22**	**166**	P	P	14 48 11.3	+0.5
	5.4nm,0.9s,baz=345,slow=11,SNR=33						
ASPA	**Alice Springs**	**21.22**	**166**	*e*P	P	14 48 11.5	+0.6
MKAR	**Makanchi Array**	**64.06**	**327**	P	P	14 53 59.6	+0.4
	0.1nm,0.4s,baz=121,slow=6.7,SNR=4.3						

IDC ***15*** *14:50:55.7±3.0,3185S×178.12W,h0km,mb4.1/2, mb1 4.2/3,mb1mx3.9/14,mbtmp4.0/3,ML3.6/1,Error ellipse: s-maj=68.4km s-min=36.1km az=114.0*
ISCJB ***15*** *14:50:58.4±1.8,3193S±008×1785W±03,h10km,mb4.2/4, Error ellipse: s-maj=32.3km s-min=12.0km az=5.6*
NEIC ***15*** *14:50:58.4±1.5,3174S×17831W,h10km,mb4.5/2,Error ellipse: s-maj=30.9km s-min=20.1km az=77.0*
ISC 15 14:50:59.8±1.8,3186S±009×1784W±03,h10km,n13, σ0∓60/12,mb4.2/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**7.25**	**206**	PN	**Pn**	**14 52 44.5**	**-1.3**
URZ	**Urewera**	**7.35**	**209**	Pn	**Pn**	**14 52 46.8**	**-0.4**
	0.9nm,0.3s,baz=2.8,slow=17,SNR=10						
URZ				Sn	**Sn**	**14 54 11.2**	**+0.6**
	1.7nm,0.3s,baz=123,slow=12,SNR=7.4						
URZ	**Urewera**	**7.35**	**209**	PN	**Pn**	**14 52 47.2**	**+0.1**
OUZ	**Omahuta**	**7.44**	**241**	PN	**Pn**	**14 52 56.5**	**+8.1**
AS31	**Alice Springs**	**42.67**	**269**	*e*P	**P**	**14 58 57.1**	**+0.5**
ASAR	**Alice Springs**	**42.68**	**269**	P	**P**	**14 58 56.4**	**-0.3**
	1.0nm,0.6s,mb3.8,baz=106,slow=7.5,SNR=31						
ASPA	**Alice Springs**	**42.68**	**269**	*e*P	**P**	**14 58 57.1**	**+0.4**
WB2	**Warramunga Arr**	**43.79**	**274**	*e*P	**P**	**14 59 05.8**	**+0.2**
WRAB	**Tennant Creek**	**43.79**	**274**	*e*P	**P**	**14 59 05.0**	**-0.7**
	4.2nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**43.80**	**274**	P	**P**	**14 59 05.8**	**+0.1**
	1.4nm,0.3s,mb4.2,baz=112,slow=8.0,SNR=62						
QSPA	**South Pole Qui**	**58.25**	**180**	*e*P	**P**	**15 00 55.1**	**+0.6**
	2.7nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**146.38**	**339**	PKPbc	PKPbc	15 10 37.2	-3.7
	1.5nm,0.6s,baz=38,slow=4.2,SNR=7.0						
FINES	**FINESS Array B**	**146.38**	**339**	PKPbc	PKPbc	15 10 37.2	-3.7

WEL 15 15:15:51.5±0.3,3912S×17493E,h216km±2km,ML3.6/18, 2C,Error ellipse: s-maj=2.6km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.14**	**266**	PN	Pn	15 16 19.1	-0.4
PKVZ	**Pokaka**	**0.36**	**118**	⇑PN	Pn	15 16 19.8	-0.1
PKVZ				SN	S	15 16 41.6	-0.5
TWVZ	**Taurewa**	**0.40**	**84**	⇑PN	Pn	15 16 19.8	-0.2
TWVZ				SN	S	15 16 41.5	-0.7
RAEZ	**Rainy Point**	**0.45**	**248**	PN	Pn	15 16 19.9	-0.3
WPVZ	**Whakapapa**	**0.48**	**101**	PN	Pn	15 16 20.3	0.0
MTVZ	**Mangateitei**	**0.50**	**123**	PN	Pn	15 16 20.3	0.0
MTVZ				SN	S	15 16 42.1	-0.7
FWVZ	**Far West T-bar**	**0.50**	**106**	PN	Pn	15 16 20.5	+0.1
WTVZ	**West Tongariro**	**0.51**	**90**	PN	Pn	15 16 20.2	-0.1
WTVZ				SN	S	15 16 42.2	-0.7
TRVZ	**Turoa**	**0.51**	**111**	PN	Pn	15 16 20.5	+0.2
WNVZ	**Wahianoa**	**0.56**	**112**	PN	Pn	15 16 20.8	+0.3
TUVZ	**Tukino**	**0.58**	**105**	PN	Pn	15 16 20.7	+0.1
HIZ	**Hauiti**	**0.60**	**354**	PN	Pn	15 16 19.9	-0.8
HIZ				SN	S	15 16 42.4	-1.1
WAZ	**Wanganui**	**0.64**	**176**	PN	Pn	15 16 21.2	+0.3
WAZ				SN	S	15 16 43.8	+0.1
NEZ	**North Egmont**	**0.67**	**256**	PN	Pn	15 16 21.1	+0.1
MOVZ	**Moawhango**	**0.70**	**115**	PN	Pn	15 16 20.8	-0.3
MOVZ				SN	S	15 16 42.6	-1.6
PKE	**Pukeiti**	**0.74**	**264**	PN	Pn	15 16 21.1	-0.2
NRZ	**Ngariki Road**	**0.81**	**254**	PN	Pn	15 16 21.4	-0.2
NWEZ	**Newall Road**	**0.84**	**259**	PN	Pn	15 16 21.7	-0.2
BKZ	**Black Stump Fm**	**1.21**	**93**	PN	Pn	15 16 23.9	-0.3
BKZ				SN	S	15 16 48.1	-1.7
TSZ	**Takapari Road**	**1.23**	**140**	PN	Pn	15 16 24.5	+0.1
MRZ	**Mangatainoka R**	**1.62**	**162**	PN	Pn	15 16 27.1	-0.5
KIW	**Kapiti Island**	**1.74**	**181**	PN	Pn	15 16 28.0	-0.6
PXZ	**Pawanui**	**1.75**	**122**	PN	Pn	15 16 28.6	-0.1
DUWZ	**D'Urville Isla**	**1.85**	**204**	PN	Pn	15 16 29.0	-0.7
BFZ	**Birch Farm**	**1.86**	**148**	PN	Pn	15 16 29.2	-0.5
URZ	**Urewera**	**1.91**	**64**	PN	Pn	15 16 28.4	-1.8
CAW	**Cannon Point**	**1.99**	**177**	PN	Pn	15 16 30.3	-0.7
MTW	**Mount Morrison**	**2.09**	**168**	PN	Pn	15 16 31.0	-1.0
MRW	**Makara Radio**	**2.12**	**185**	PN	Pn	15 16 31.4	-0.9
KNZ	**Kokohu**	**2.14**	**88**	PN	Pn	15 16 31.8	-0.7
TCW	**Tory Channel**	**2.15**	**193**	PN	Pn	15 16 32.0	-0.6
WEL	**Wellington**	**2.17**	**183**	PN	Pn	15 16 31.8	-1.0
MWZ	**Matawai**	**2.17**	**70**	PN	Pn	15 16 31.3	-1.5
SNZO	**South Karori**	**2.20**	**184**	PN	Pn	15 16 32.0	-1.1
BHW	**Baring Head**	**2.29**	**181**	PN	Pn	15 16 32.9	-1.1
PAWZ	**Paruwai Farm**	**2.29**	**171**	PN	Pn	15 16 33.1	-0.9
MSWZ	**Moikau Station**	**2.31**	**174**	PN	Pn	15 16 33.2	-1.0
NNZ	**Nelson**	**2.41**	**209**	PN	Pn	15 16 34.1	-1.3
TUWZ	**Tuamarina**	**2.43**	**198**	PN	Pn	15 16 34.6	-0.9
QRZ	**Quartz Range**	**2.52**	**226**	PN	Pn	15 16 34.2	-2.2
BSWZ	**Blackbirch Sta**	**2.72**	**197**	PN	Pn	15 16 37.9	-0.7

MEX 15 16:06:44.4±1.3,1678N×9481W,h113km±10km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.32**	**347**	*i* P	Pn	16 06 59.4	-1.1
CMIG				*i* S	Sn	16 07 10.8	-1.9
HUIG	**Huatulco**	**1.60**	**231**	*i* P	Pn	16 07 10.4	-2.1
HUIG				*i* S	Sn	16 07 33.1	-0.9
OXX	**Oaxaca**	**1.86**	**280**	*i* P	Pn	16 07 14.5	-1.2
OXX				*i* S	Sn	16 07 37.5	-2.1
VHO	**Vista Hermosa**	**1.87**	**279**	*i* P	Pn	16 07 15.6	-0.2
VHO				*i* S	Sn	16 07 38.6	-1.2
SCX	**San Cristobal**	**2.08**	**91**	*e*P	Pn	16 07 17.0	-1.5
SCX				*i* S	Sn	16 07 42.0	-2.6
CCIG	**Comitan**	**2.61**	**101**	*i* P	Pn	16 07 25.8	+0.5
CCIG				*i* S	Sn	16 07 54.8	-2.0

IDC 15 16:15:17.3±7.9,2139S×17567W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.7/15,mbtmp3.5/3,MS3.5/1,Ms1 3.5/1, ms1mx3.1/14,Error ellipse: s-maj=343.8km s-min=36.6km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.31**	**27**	LR	LR	16 19 54.7	
	comp=Z,334nm,21.5s,baz=78,slow=33						
ASAR	**Alice Springs**	**46.44**	**257**	P	P	16 23 45.1	-0.6
	0.1nm,0.3s,baz=97,slow=7.4,SNR=4.6						
WRA	**Warramunga Arr**	**46.64**	**262**	P	P	16 23 48.3	+1.0
	0.8nm,1.0s,baz=99,slow=6.9,SNR=18						
ILAR	**Eielson Array**	**88.71**	**12**	P	P	16 28 12.2	-0.5
	0.6nm,0.6s,baz=226,slow=5.7,SNR=19						

ISCJB ***15*** *16:27:36.1±0.4,675N±003×7289W±004,h168km±4km, mb4.2/16,Error ellipse: s-maj=6.1km s-min=5.6km az=44.6*
IDC ***15*** *16:27:36.6±0.6,671N×7299W,h154km±6km,mb3.9/10, mb1 4.1/14,mb1mx3.9/25,mbtmp4.5/14,Error ellipse: s-maj=11.7km s-min=6.8km az=121.0*
FUNV ***15*** *16:27:36.6,672N×73.19W,h151km,MW4.4*
BJI ***15*** *16:27:36.0,670N×7300W,h159km,mB5.3*
NEIC ***15*** *16:27:37.0±0.6,672N×7300W,h159km±6km,mb4.6/12, Error ellipse: s-maj=8.2km s-min=5.8km az=73.0*
ISC 15 16:27:37.3±0.4,677N±004×7292W±004,h158km±4km,n66, σ1∓03/74,mb4.2/16,10C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**29**	⇑*i*P	**Pn**	**16 28 05.9**	**+1.0**
CAPV				*e*S	**Sn**	**16 28 25.9**	**-0.1**
ROSC	**El Rosal**	**2.37**	**217**	P	**Pn**	**16 28 17.7**	**+0.5**
	118nm,0.3s,baz=84,slow=9.6,SNR=132						
ROSC				S	**Sn**	**16 28 46.0**	**-1.9**
	202nm,0.3s,baz=92,slow=14,SNR=16						
ROSC	**El Rosal**	**2.37**	**217**	⇑*e*Pn	**Pn**	**16 28 17.4**	**+0.3**
ROSC				*e*Sn	**Sn**	**16 28 42.6**	**-5.3**
SOCV	**Socops**	**2.54**	**54**	*i* P	**Pn**	**16 28 20.7**	**+1.5**
SOCV				*e*S	**Sn**	**16 28 52.3**	**+0.7**
VIGV	**El Vigia**	**2.56**	**37**	⇑*i*P	**Pn**	**16 28 20.5**	**+0.9**
VIGV				*e*S	**Sn**	**16 28 52.1**	**-0.1**
SDV	**Santo Domingo**	**3.09**	**47**	P	**Pn**	**16 28 27.3**	**+1.3**
	151nm,0.3s,baz=241,slow=6.7,SNR=624						
SDV				S	**Sn**	**16 29 05.3**	**+1.5**
	358nm,0.3s,baz=95,slow=18,SNR=21						
SDV	**Santo Domingo**	**3.09**	**47**	⇑*e*Pn	**Pn**	**16 28 27.4**	**+1.3**
SDV				*e*Sn	**Sn**	**16 29 04.6**	**+0.8**
VIRV	**Villa del Rosa**	**3.74**	**8**	*i* P	**Pn**	**16 28 32.9**	**-1.4**
VIRV				*e*S	**Sn**	**16 29 15.5**	**-3.2**
QARV	**Quebrada Arrib**	**4.15**	**35**	⇑*i*P	**Pn**	**16 28 40.5**	**+0.8**
QARV				*e*S	**Sn**	**16 29 27.4**	**-0.8**
SANV	**Sanarito**	**4.31**	**51**	*e*P	**Pn**	**16 28 42.3**	**+0.6**
SANV				*e*S	**Sn**	**16 29 31.3**	**-0.6**
CURV	**Curarigua**	**4.35**	**42**	⇑*i*P	**Pn**	**16 28 42.8**	**+0.5**
DABV	**Dabajuro**	**4.70**	**29**	*e*P	**Pn**	**16 28 47.0**	**+0.2**
DABV				*e*S	**Sn**	**16 29 39.0**	**-2.1**
TEPV	**Terepaima**	**4.86**	**49**	*e*P	**Pn**	**16 28 49.7**	**+0.7**
SIQV	**Siquisique**	**4.93**	**38**	⇑*i*P	**Pn**	**16 28 50.0**	**+0.1**
PAYV	**Puerto Ayacuch**	**5.40**	**104**	*i* P	**Pn**	**16 28 56.7**	**+0.6**
JACV	**Jacura**	**5.89**	**43**	*e*P	**Pn**	**16 29 02.7**	**+0.2**
JACV				*e*S	**Sn**	**16 30 06.9**	**-2.4**
IMOV	**Isla Los Monje**	**5.89**	**20**	*e*P	**Pn**	**16 29 01.4**	**-1.2**
TURV	**Turiamo**	**6.21**	**54**	*e*P	**Pn**	**16 29 06.9**	**+0.1**
TURV				*e*S	**Sn**	**16 30 14.7**	**-2.2**
CAOV	**Caicara del Or**	**6.57**	**85**	*e*S	**Sn**	**16 30 22.8**	**-2.8**
FUNV	**FUNVISIS**	**7.07**	**58**	*e*P	**Pn**	**16

9.2nm,1.0s,mb4.2
SIV San Ignacio 25.48 153 P **P 16 32 50.5 -0.2**
4.4nm,0.9s,mb4.0,baz=336,slow=9.6,SNR=19
PLAL Pickwick Lake 31.35 336 *e*P **P 16 33 43.7 +0.8**
6.0nm,0.8s,mb4.4
WVT Waverly 32.25 337 *e*P **P 16 33 50.1 -0.7**
5.1nm,0.3s,mb4.7
BDFB Brasilia 33.23 132 P **P 16 34 00.9 +1.7**
4.4nm,0.5s,mb4.4,baz=305,slow=13,SNR=6.3
CCM Cathedral Cave 35.30 335 *e*P **P 16 34 17.2 +0.2**
22nm,0.8s,mb4.8
LTX Lajitas 36.65 312 *e*P **P 16 34 28.3 -0.2**
CFAA Coronel Fontan 38.42 174 P **P 16 34 41.0 -2.4**
0.2nm,0.5s,baz=336,slow=8.3,SNR=3.7
CFAA Coronel Fontan 38.42 174 P **P 16 34 41.0 -2.5**
MNTX Cornudas Mount 39.15 314 *e*P **P 16 34 49.4 -0.1**
8.9nm,0.7s,mb4.5
PLCA Paso Flores 47.32 178 P **P 16 35 53.5 -1.5**
0.9nm,0.5s,mb3.7,baz=333,slow=6.1,SNR=3.8
PLCA Paso Flores 47.32 178 P **P 16 35 53.5 -1.5**
ULM Lac du Bonnet 47.40 340 P **P 16 35 54.7 -0.9**
6.2nm,0.4s,mb4.6,baz=138,slow=7.3,SNR=15
ULM Lac du Bonnet 47.40 340 P **P 16 35 54.7 -0.9**
SCHQ Schefferville 48.17 5 P **P 16 36 01.8 +0.2**
1.7nm,0.5s,mb3.9,baz=183,slow=8.7,SNR=11
BW06 Boulder Array 48.23 324 *e*P **P 16 36 01.8 -0.2**
1.4nm,0.4s,mb3.9
PDAR Pinedale Array 48.23 324 P **P 16 36 01.9 0.0**
2.6nm,0.6s,mb4.0,baz=126,slow=9.7,SNR=23
REDW Red Top Meadow 49.35 324 *e*P **P 16 36 10.6 +0.1**
4.8nm,0.7s,mb4.2
NVAR Mina Array Bea 51.66 315 P **P 16 36 28.4 +0.5**
1.3nm,0.6s,mb3.8,baz=118,slow=7.9,SNR=12
EDM Edmonton 56.76 332 *e*P **P 16 37 03.9 -0.7**
YKA Yellowknife Ar 63.38 340 P **P 16 37 49.1 -0.6**
4.4nm,0.5s,mb4.5,baz=132,slow=6.7,SNR=103
YKA pP pP 16 38 26.6 -0.4
1.7nm,0.6s,baz=129,slow=7.2,SNR=8.8
DBIC Dimbokro 67.54 86 P **P 16 38 17.7 +1.3**
2.3nm,0.7s,mb4.0,baz=254,slow=5.3,SNR=4.1
MKAR Makanchi Array 122.30 20 PKP PKPdf 16 46 13.3 -0.1
0.2nm,0.4s,baz=312,slow=2.7,SNR=7.5
MDJ Mudanjiang 124.98 341 PKP PKPdf 16 46 18.4 -0.2
SONM Songino Array 125.63 1 PKP PKPdf 16 46 21.2 +1.4
0.2nm,0.4s,baz=306,slow=2.4,SNR=5.0
WMQ Urumqi 126.67 17 *e*PKP PKPdf 16 46 21.4 -0.4
HHC Hu-ho-hao-te 132.43 355 *e*PKP PKPdf 16 46 32.1 -0.6
HHC PP PP 16 49 00.3 +2.5
HHC PKS 16 50 07.3
HHC SKS SKSdf 16 53 25.4 -3.8
HHC SKKS SKKSac 16 55 33.3 -4.9
HHC SS SS 17 06 22.3 -1.8
HHC LR LR
comp=N,91nm,8.3s
HHC LR LR
comp=E,127nm,5.7s
HHC LR LR
comp=Z,107nm,11.3s
NJ2 Nanjing 139.79 344 *e*PKP PKPdf 16 46 45.9 -0.5
ASAR Alice Springs 149.25 234 PKPbc PKPbc 16 47 07.2 0.0
comp=Z,3.4nm,0.6s,baz=121,slow=3.2,SNR=26
WB2 Warramunga Arr 150.48 241 *e*P PKPbc 16 47 10.4 +0.3
WRA Warramunga Arr 150.49 241 PKPbc PKPbc 16 47 10.4 +0.2
comp=Z,2.6nm,0.4s,baz=107,slow=2.9,SNR=30

IDC 15 16:47:09.7±59.0, 1929S×17869W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/13, mbtmp3.9/3, Error ellipse: s-maj=1069.0km s-min=157.4km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.74**	**243**	P	P	16 54 26.9	-0.3
	3.8nm,0.9s,baz=85,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**44.13**	**261**	P	P	16 55 20.7	+0.8
	0.3nm,0.3s,baz=96,slow=7.5,SNR=24						
ASAR	**Alice Springs**	**44.17**	**256**	P	P	16 55 20.4	+0.2
	1.0nm,0.8s,baz=87,slow=8.4,SNR=15						

*ISCJB **15** 17:02:15.1±0.4, 5147N±002×16.11E±002, h0km, Error ellipse: s-maj=3.2km s-min=1.9km az=33.9*
*MOS **15** 17:02:15.2±0.8, 5163N×1618E, h10km, mb3.7/1, Error ellipse: s-maj=12.9km s-min=5.9km az=80.6*
*NEIC **15** 17:02:16.4±1.0, 5158N×1615E, h5km±9km, ML2.6(BRG), ML3.0(FUR), Error ellipse: s-maj=6.1km s-min=4.8km az=116.0*
*IPEC **15** 17:02:16.9±0.3, 5152N×1617E, h2km±1km, ML2.5/3, Error ellipse: s-maj=2.0km s-min=0.7km az=26.0*
*BGR **15** 17:02:16.6±0.5, 5152N×1615E, h1km, ML3.1/14, Error ellipse: s-maj=7.8km s-min=4.4km az=162.0*
*IDC **15** 17:02:18.0±0.7, 5147N×1598E, h0km, mb1 3.4/9, mb1mx3.3/26, mbtmp3.3/9, ML3.1/9, Error ellipse: s-maj=12.1km s-min=6.8km az=102.0*
*PRU **15** 17:02:18.6, 5145N×1607E, h0km, Felt In Harrachov*
*CSEM **15** 17:02:18.1±0.1, 5146N×1611E, h1km, ML3.3/7, Error ellipse: s-maj=2.0km s-min=1.2km az=10.0*
*VIE **15** 17:02:18.8±0.7, 5131N×1602E, h0km, mb2.5/4, ML3.0/4, Error ellipse: s-maj=4.3km s-min=4.2km az=29.0 73 km WNW of Breslau Suspected Mining induced.*
*WAR **15** 17:02:18.2, 5149N×1610E, ML2.7, Mining Induced*
*UPP **15** 17:02:38.2, 5305N×1546E, h0km, ML2.8, Suspected Mining explosion.*

ISC 15 17:02:16.5±0.3, 5150N±002×1611E±002, h0km, n78, σ0°85/134, 3C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**170**	⇓*i*Pg	**Pg**	**17 02 30.2**	**+0.8**
KSP				*e*Sg	**Sg**	**17 02 38.9**	**+0.8**
UPC	**Upice**	**1.00**	**183**	*e*PG	**Pg**	**17 02 36.2**	**+0.5**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**17 02 39.0**	**+0.2**
DPC				*e*SG	**Sg**	**17 02 54.0**	**+0.1**
	58nm,0.5s						
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*P	**Pg**	**17 02 39.0**	**+0.2**
DPC				*e*		17 02 54.0	
DPC				smax			
	comp=N,58nm,0.5s						
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*Pg	**Pg**	**17 02 38.9**	**+0.1**
DPC				*e*Sg	**Sg**	**17 02 53.4**	**-0.5**
PVCC	**Panska Ves**	**1.38**	**225**	*e*Pg	**Pg**	**17 02 43.2**	**+0.2**
PVCC				*e*Sg	**Sg**	**17 03 02.4**	**+1.6**
BRG	**Berggiesshubel**	**1.50**	**246**	*e*Pn	**Pn**	**17 02 44.2**	**-0.5**
BRG				*e*Sg	**Sg**	**17 03 05.9**	**+1.1**
BRG	**Berggiesshubel**	**1.50**	**246**	Pg	**Pg**	**17 02 45.5**	**+0.2**
BRG				*e*Sg	**Sg**	**17 03 05.1**	**+0.3**
BRG				S	**Sg**	**17 03 06.0**	**+1.2**
BRG	**Berggiesshubel**	**1.50**	**246**	Pn	**Pn**	**17 02 44.1**	**-0.6**
BRG				Pg	**Pg**	**17 02 45.5**	**+0.2**
BRG				Sg	**Sg**	**17 03 06.0**	**+1.2**
BRG	**Berggiesshubel**	**1.50**	**246**	PN	**Pn**	**17 02 44.1**	**-0.6**
BRG				PG	**Pg**	**17 02 45.5**	**+0.2**
BRG				SG	**Sg**	**17 03 06.0**	**+1.2**
	comp=N,78nm,0.4s						
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pn	**Pn**	**17 02 47.6**	**-0.4**
RUE				*e*Sg	**Sg**	**17 03 13.7**	**+1.2**
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pn	**Pn**	**17 02 47.6**	**-0.4**
RUE				*e*Sg	**Sg**	**17 03 13.7**	**+1.2**
PRU	**Pruhonice**	**1.81**	**214**	*e*PN	**Pn**	**17 02 49.6**	**+0.6**
PRU				*e*PG	**Pg**	**17 02 51.1**	**-0.2**
PRU				*e*SG	**Sg**	**17 03 14.1**	**-0.7**
	comp=N,44nm,0.6s						
PRU	**Pruhonice**	**1.81**	**214**	*e*P	**Pn**	**17 02 49.6**	**+0.6**
PRU				*e*		17 03 14.1	
PRU				smax			
	comp=N,44nm,0.6s						
PRU	**Pruhonice**	**1.81**	**214**	*e*Pn	**Pn**	**17 02 48.8**	**-0.2**
PRU	**Pruhonice**	**1.81**	**214**	*e*Pg	**Pg**	**17 02 51.1**	**-0.2**
PRU				*e*Sg	**Sg**	**17 03 13.9**	**-0.9**
FBE	**Freiberg**	**1.83**	**252**	*e*Pn	**Pn**	**17 02 49.4**	**+0.2**
FBE				*e*Sg	**Sg**	**17 03 15.5**	**+0.2**
RAC	**Raciborz**	**1.94**	**136**	*e*Pg	**Pg**	**17 02 54.4**	**+0.6**
RAC				*e*S	**Sg**	**17 03 20.4**	**+1.4**
RAC				*e*Sg	**Sg**	**17 03 20.4**	**+1.4**
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	**17 02 50.5**	**-0.4**
CLL				*e*Sg	**Sg**	**17 03 19.7**	**+0.4**
CLL	**Collm**	**1.95**	**265**	*i* Pn	**Pn**	**17 02 50.5**	**-0.4**
CLL				*i* Pg	**Pg**	**17 02 53.1**	**-0.9**
CLL				*i x*	*x*	17 02 57.8	
CLL				*i* Sg	**Sg**	**17 03 19.6**	**+0.2**
	comp=Z,27nm,0.5s						
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	**17 02 50.6**	**-0.3**
CLL	**Collm**	**1.95**	**265**	*i* Pg	**Pg**	**17 02 53.1**	**-0.9**
CLL				Sg	**Sg**	**17 03 19.7**	**+0.3**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**17 02 50.7**	**-0.3**
MORC				*e*Sg	**Sg**	**17 03 17.6**	**-1.8**
	comp=Z,34nm,0.5s						
MORC				*e*Sn	**Sn**	**17 03 18.4**	**+2.2**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**17 02 50.7**	**-0.2**
MORC				*e*Sn	**Sn**	**17 03 18.4**	**+2.2**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG	**Pg**	**17 02 56.6**	**-0.5**
OKC				*e*SG	**Sg**	**17 03 23.6**	**-0.9**
	comp=Z,21nm,0.7s						
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*P	**Pg**	**17 02 56.6**	**-0.5**
OKC				*e*		17 03 23.6	
OKC				smax			
	comp=N,21nm,0.7s						
VRAC	**Vranov**	**2.22**	**172**	Pn	**Pn**	**17 02 55.5**	**+0.9**
	comp=N,2.4nm,0.3s,baz=329,slow=16,SNR=16						
VRAC				Lg		17 03 26.4	
	comp=N,2.3nm,0.3s,baz=245,slow=20,SNR=4.5						
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**17 02 55.4**	**+0.8**
VRAC				*e*Sg	**Sg**	**17 03 26.9**	**-1.0**
	comp=N,26nm,0.5s						
KRUC	**Moravsky**	**2.45**	**176**	*e*Pn	**Pn**	**17 02 58.4**	**+0.6**
KRUC				*e*Sg	**Sg**	**17 03 34.5**	**-0.8**
	comp=N,17nm,0.3s						
TANN	**Tannenbergstha**	**2.55**	**246**	*e*Pn	**Pn**	**17 02 59.5**	**+0.3**
TANN				*e*Sg	**Sg**	**17 03 37.2**	**-1.3**
WERD	**Werda**	**2.62**	**248**	*e*Pn	**Pn**	**17 03 00.7**	**+0.5**
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**17 03 01.3**	**+0.9**
NKC				*e*PG	**Pg**	**17 03 07.4**	**+0.2**
NKC				*e*SG	**Sg**	**17 03 42.6**	**+1.1**
	comp=N,62nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*P	**Pn**	**17 03 01.3**	**+0.9**
NKC				*e*		17 03 42.6	
NKC				smax			
	comp=N,62nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*Pn	**Pn**	**17 03 00.9**	**+0.5**
NKC	**Novy Kostel**	**2.64**	**243**	*e*P	**Pn**	**17 03 01.3**	**+0.9**
NKC	**Novy Kostel**	**2.64**	**243**	*e*Pg	**Pg**	**17 03 07.4**	**+0.2**
NKC				*e*Sg	**Sg**	**17 03 41.7**	**+0.2**
WERN	**Wernitzgruen**	**2.66**	**244**	*e*Pn	**Pn**	**17 03 01.4**	**+0.7**
WERN				*e*Sg	**Sg**	**17 03 40.7**	**-1.2**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**17 03 07.9**	**+0.2**
OJC				*e*Sg	**Sg**	**17 03 43.1**	**+0.8**
NEUB	**Neuenburg**	**2.73**	**265**	*e*Sg	**Sg**	**17 03 44.8**	**+0.5**
JAVC	**Velka Javorina**	**2.83**	**159**	*e*Pn	**Pn**	**17 03 04.2**	**+1.2**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	**17 03 03.8**	**+0.2**
KHC				*e*PG	**Pg**	**17 03 09.8**	**-1.9**
KHC				*e*SN	**Sn**	**17 03 39.1**	**+0.2**
KHC				*e*SG	**Sg**	**17 03 49.0**	**+0.1**
	comp=N,30nm,0.8s						
KHC	**Kasperske Hory**	**2.88**	**215**	*e*Pg	**Pg**	**17 03 10.0**	**-1.7**
KHC				*e*Sn	**Sn**	**17 03 39.1**	**+0.2**
KHC				*e*Sg	**Sg**	**17 03 49.0**	**+0.1**
	comp=N,30nm,0.8s						
MANZ	**Manzenberg**	**2.96**	**241**	*e*Pn	**Pn**	**17 03 05.2**	**+0.5**
MANZ				*e*Sg	**Sg**	**17 03 51.8**	**+0.1**
MOX	**Moxa**	**2.96**	**255**	*e*Pn	**Pn**	**17 03 04.9**	**+0.1**
MOX				*e*Sg	**Sg**	**17 03 51.5**	**-0.1**
MOX	**Moxa**	**2.96**	**255**	*e*PN	**Pn**	**17 03 04.8**	**0.0**
MOX				*e*PG	**Pg**	**17 03 13.1**	**-0.2**
MOX				*e*SG	**Sg**	**17 03 52.8**	**+1.1**
MOX	**Moxa**	**2.96**	**255**	*e*Pg	**Pg**	**17 03 13.1**	**-0.2**
MOX				Sg	**Sg**	**17 03 51.5**	**-0.2**
MOX	**Moxa**	**2.96**	**255**	*e*Pn	**Pn**	**17 03 04.8**	**0.0**
MOX				*e*Pg	**Pg**	**17 03 13.1**	**-0.2**
MOX				*e*Sg	**Sg**	**17 03 52.8**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.03**	**237**	*e*Pn	**Pn**	**17 03 06.3**	**+0.6**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**17 03 07.0**	**+0.6**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**17 03 07.0**	**+0.6**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**17 03 07.1**	**+0.7**
	comp=N,2.0nm,0.3s,baz=29,slow=12,SNR=50						
GERES				Pg	**Pg**	**17 03 13.3**	**-2.3**
	comp=N,3.8nm,0.3s,baz=26,slow=17,SNR=27						
GERES				Lg		17 03 52.8	
	comp=N,4.9nm,0.3s,baz=30,slow=27,SNR=9.9						
GERES	**GERESS Array B**	**3.08**	**211**	Pg	**Pg**	**17 03 13.3**	**-2.2**
WET	**Wettzell**	**3.14**	**222**	*e*Pn	**Pn**	**17 03 07.3**	**+0.1**
WET	**Wettzell**	**3.14**	**222**	*e*Pn	**Pn**	**17 03 07.3**	**0.0**
ZST	**Bratislava**	**3.37**	**169**	*e*SG	**Sg**	**17 04 05.2**	**+0.3**
NIE	**Niedzica**	**3.40**	**126**	*e*P	**Pg**	**17 03 21.4**	**-0.4**
NIE				*e*S	**Sg**	**17 04 06.6**	**+0.7**
CLZ	**Clausthal**	**3.59**	**278**	*e*Pn	**Pn**	**17 03 14.6**	**+1.2**
GRA1	**Grafenberg Arr**	**3.60**	**242**	Sg	**Sg**	**17 04 12.2**	**-0.1**
GRF	**Grafenberg Arr**	**3.60**	**242**	*e*Sg	**Sg**	**17 04 12.2**	**-0.1**
MOA	**Molln**	**3.85**	**199**	⇑*i*Sg	**Sg**	**17 04 19.7**	**-0.5**
	comp=N,20nm,0.5s						
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**17 03 16.2**	**-0.8**
MOA				⇑*i*Sg	**Sg**	**17 04 19.7**	**-0.5**
	comp=N,20nm,0.5s						
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PN	**Pn**	**17 03 18.3**	**+0.7**
STHS				*e*PG	**Pg**	**17 03 31.7**	**+0.6**
STHS				*e*SG	**Sg**	**17 04 25.6**	**+4.1**
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*Pg	**Pg**	**17 03 31.7**	**+0.6**
KECS	**Kecovo**	**4.14**	**135**	*e*PG	**Pg**	**17 03 35.3**	**-0.5**
KECS				*e*SG	**Sg**	**17 04 28.9**	**-0.6**
ARSA	**Arzberg**	**4.27**	**185**	⇓*i*Sg	**Sg**	**17 04 32.1**	**-1.7**
	comp=N,18nm,0.7s						
ARSA	**Arzberg**	**4.27**	**185**	⇓*i*Pn	**Pn**	**17 03 21.8**	**-1.0**
ARSA				⇓*i*Sg	**Sg**	**17 04 32.1**	**-1.7**
	comp=N,18nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*PG	**Pg**	**17 03 39.7**	**+0.5**
CRVS				*e*SG	**Sg**	**17 04 35.3**	**+0.2**
BLEU	**Blekinge**	**4.81**	**358**	P	**Pn**	**17 03 30.4**	**+0.1**
DAVOS	**Davos**	**6.25**	**223**	Pn	**Pn**	**17 03 50.5**	**+0.5**
	comp=N,0.4nm,0.3s,baz=143,slow=20,SNR=4.0						
DAVOS	**Davos**	**6.25**	**223**	Pn	**Pn**	**17 03 50.5**	**+0.5**
AKASG	**Malin Array Be**	**8.30**	**90**	Pn	**Pn**	**17 04 16.9**	**-1.2**
	comp=N,1.0nm,0.3s,baz=280,slow=12,SNR=8.2						
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**17 04 22.9**	**-1.5**
	comp=N,0.1nm,0.3s,baz=172,slow=23,SNR=3.6						
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**17 04 22.9**	**-1.5**
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**17 04 22.9**	**-1.5**
NOA	**NORSAR Array B**	**9.94**	**346**	Pn	**Pn**	**17 04 39.6**	**-0.9**
	comp=N,0.1nm,0.3s,baz=298,slow=20,SNR=2.3						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**17 04 59.0**	**-1.2**
	comp=N,0.1nm,0.3s,baz=206,slow=11,SNR=4.0						
FINES				Sn	**Sn**	**17 06 59.6**	**-8.3**
	comp=N,0.2nm,0.3s,baz=213,slow=20,SNR=4.0						
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn	**Pn**	**17 05 09.0**	**-1.3**
	comp=N,0.1nm,0.3s,baz=98,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**Pn**	**17 06 31.9**	**-3.9**
	comp=N,0.2nm,0.3s,baz=194,slow=14,SNR=5.4						

MAN 15 17:03:18.5, 1832N×12093E, h29km, mb2.9, ML4.3, MS3.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.29**	**271**	⇑*i*P	Pb	17 03 27.7	+1.9
PIP				*i* S	Sb	17 03 33.9	+3.2
CVP	**Callao Caves**	**1.05**	**126**	*e*P	Pn	17 03 37.0	-0.3

*ISCJB **15** 17:03:39.3±1.1, 2910N±007×1680W±005, h10km, Error ellipse: s-maj=9.6km s-min=6.0km az=149.9*
*NEIC **15** 17:03:43.0, 2898N×1676W, h60km, MG4.1(MDD), After MDD.*
*MDD **15** 17:03:43.0±0.5, 2909N×1679W, h30km, mbLg3.1/8, Error ellipse: s-maj=5.0km s-min=1.8km az=165.0, PRXIMO TT-MODEL: CANARY*
*CSEM **15** 17:03:43.0±0.5, 2898N×1676W, h60km±6km, mb4.1/10, Error ellipse: s-maj=6.7km s-min=1.8km az=165.0, After MDD*

ISC 15 17:03:39.7±1.0, 2909N±006×1683W±005, h10km, n23, σ1°23/42, 9C, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBAJ	**Bajamar**	**0.69**	**142**	⇑P	**Pg**	**17 03 54.8**	**+1.7**
	172nm,0.2s,SNR=18						
EBAJ				S	**Sg**	**17 04 02.5**	**+0.4**
	287nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**0.69**	**142**	P	**Pg**	**17 03 54.8**	**+1.7**
	SNR=18						
EBAJ				S	**Sg**	**17 04 02.5**	**+0.4**
	287nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**0.69**	**142**	⇑P	**Pg**	**17 03 54.8**	**+1.7**
EBAJ				S	**Sg**	**17 04 01.1**	**-1.0**
CICO	**Icod de los Vi**	**0.74**	**173**	⇑P	**Pg**	**17 03 55.8**	**+1.8**
	16nm,0.1s,SNR=18						
CHIO	**Chio**	**0.84**	**179**	⇑P	**Pg**	**17 03 57.0**	**+1.0**
	151nm,0.2s,SNR=18						
CRAJ	**Montana Rajada**	**0.84**	**166**	⇑P	**Pg**	**17 03 56.9**	**+0.9**
	375nm,0.1s,SNR=18						
CRAJ	**Montana Rajada**	**0.84**	**166**	P	**Pg**	**17 03 56.9**	**+1.0**
	375nm,0.1s,SNR=18						
CCAN	**Las Canadas**	**0.89**	**167**	⇑P	**Pg**	**17 03 57.3**	**+0.6**
	163nm,0.1s,SNR=18						
CCAN				S	**Sg**	**17 04 07.6**	**-0.6**
	82nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**0.89**	**167**	⇑P	**Pg**	**17 03 57.3**	**+0.6**
CCAN				S	**Sg**	**17 04 05.7**	**-2.6**
EGOM	**La Gomera**	**0.98**	**200**	⇑P	**Pg**	**17 03 58.4**	**-0.1**
	131nm,0.1s,SNR=18						
EGOM				S	**Sg**	**17 04 09.5**	**-1.9**
	253nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**0.98**	**200**	P	**Pg**	**17 03 58.4**	**-0.2**
	131nm,0.1s,SNR=18						
EGOM				S	**Sg**	**17 04 09.5**	**-1.8**
	253nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**0.98**	**200**	⇑P	**Pg**	**17 03 58.4**	**-0.1**
EGOM				S	**Sg**	**17 04 09.3**	**-2.0**
EHIG	**Higuera**	**1.01**	**239**	P	**Pg**	**17 04 00.3**	**+1.3**
	16nm,0.1s,SNR=7.9						
EHIG				S	**Sg**	**17 04 12.0**	**-0.1**
	200nm,0.1s,SNR=7.9						
EHIG	**Higuera**	**1.01**	**239**	P	**Pg**	**17 04 00.3**	**+1.3**
	16nm,0.1s,SNR=7.9						
EHIG				S	**Sg**	**17 04 12.0**	**-0.1**
	200nm,0.1s,SNR=7.9						
EHIG	**Higuera**	**1.01**	**239**	P	**Pg**	**17 04 00.1**	**+1.1**
EHIG				S	**Sg**	**17 04 11.6**	**-0.5**
CHIE	**El Hierro**	**1.68**	**217**	P	**Pn**	**17 04 08.4**	**-0.7**
	14nm,0.1s,SNR=7.9						
CHIE				S	**Sn**	**17 04 27.2**	**-3.5**
	39nm,0.1s,SNR=7.9						
CHIE	**El Hierro**	**1.68**	**217**	P	**Pn**	**17 04 08.5**	**-0.6**
CHIE				S	**Sn**	**17 04 27.1**	**-3.6**
CFTV	**Fuerteventura**	**2.50**	**105**	P	**Pn**	**17 04 19.0**	**-1.4**
	1.6nm,0.1s,SNR=7.9						
CFTV				S	**Sn**	**17 04 44.4**	**-6.6**
	8.6nm,0.1s,SNR=7.9						
CFTV	**Fuerteventura**	**2.50**	**105**	P	**Pn**	**17 04 19.5**	**-0.9**
CFTV				S	**Sn**	**17 04 44.0**	**-7.0**
CFUE	**Fuerteventura**	**2.58**	**99**	P	**Pn**	**17 04 20.0**	**-1.4**
	6.3nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**17 04 46.9**	**-5.9**
	16nm,0.1s,SNR=7.9						
EFAM	**Famara**	**2.89**	**88**	P	**Pn**	**17 04 24.9**	**-0.8**
	2.4nm,0.1s,SNR=4.0						
EFAM				S	**Sn**	**17 04 54.3**	**-6.2**
	9.7nm,0.2s,SNR=7.9						
EFAM	**Famara**	**2.89**	**88**	P	**Pn**	**17 04 24.9**	**-0.8**
	2.4nm,0.1s,SNR=4.0						
EFAM				S	**Sn**	**17 04 54.3**	**-6.2**
	9.7nm,0.2s,SNR=7.9						
EFAM	**Famara**	**2.89**	**88**	P	**Pn**	**17 04 27.2**	**+1.5**
EFAM				S	**Sn**	**17 04 53.8**	**-6.7**

MEX 15 17:14:28.5±0.7, 1568N×9465W, h16km±11km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.41**	**274**	*i* P	Pn	17 14 49.9	-3.7
HUIG				*i* S	Sn	17 15 06.4	-5.3
CMIG	**Matias Romero**	**1.42**	**351**	*i* P	Pn	17 14 50.4	-3.2
CMIG				*i* S	Sn	17 15 06.4	-5.6
OXX	**Oaxaca**	**2.43**	**305**	*e*P	Pn	17 15 06.0	-1.5
VHO	**Vista Hermosa**	**2.43**	**305**	*i* P	Pn	17 15 05.7	-1.9
VHO				*i* S	Sn	17 15 32.4	-4.7
CCIG	**Comitan**	**2.48**	**76**	*i* P	Pn	17 15 04.8	-3.5
CCIG				*i* S	Sn	17 15 34.1	-4.2

IDC 15 17:25:27.1±2.0, 281S×12855E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.7/16, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=138.4km s-min=25.7km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.94**	**162**	P	Pn	17 29 36.7	-1.2
	0.3nm,0.3s,baz=340,slow=12,SNR=17						
WB2	**Warramunga Arr**	**17.94**	**162**	*e*P	Pn	17 29 37.4	-0.6
ASAR	**Alice Springs**	**21.37**	**166**	P	P	17 30 16.3	+0.3
	7.0nm,0.8s,baz=347,slow=12,SNR=106						
ASPA	**Alice Springs**	**21.37**	**166**	*e*P	P	17 30 16.3	+0.3
MKAR	**Makanchi Array**	**63.96**	**326**	P	P	17 36 02.6	+0.5
	0.2nm,0.5s,baz=124,slow=7.3,SNR=4.2						

IDC 15 17:49:53.5±53.0, 1531S×16487E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=894.2km s-min=96.1km az=65.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.87**	**228**	P	P	17 55 35.7	-0.2
	2.0nm,0.4s,baz=51,slow=8.0,SNR=12						
WB2	**Warramunga Arr**	**29.43**	**257**	*e*P	P	17 55 59.4	+0.7
WRA	**Warramunga Arr**	**29.44**	**257**	P	P	17 55 59.4	+0.6
	0.7nm,

BOSA Boshof 10.34 221 *eP* **Pn 18 11 27.1 -1.0**
BOSA *eS* **Sn 18 13 12.3 -12**
BOSA AML AML 18 14 46.1
comp=Z,105nm,0.7s
BOSA Boshof 10.34 221 Pn **Pn 18 11 27.3 -0.9**
comp=Z,2.7nm,0.3s,baz=51,slow=13,SNR=50
BOSA Sn **Sn 18 13 25.1 +0.9**
comp=Z,4.3nm,0.3s,baz=356,slow=16,SNR=7.4
BOSA Lg 18 14 26.7
comp=Z,4.9nm,0.3s,baz=127,slow=17,SNR=5.7
BOSA LR LR 18 15 44.7
comp=Z,1μm,19.0s,baz=49,slow=39
BOSA Boshof 10.34 221 *eP* **Pn 18 11 27.0 -1.2**
comp=Z,1.8nm,1.7s
BOSA *eS* **Sn 18 13 24.5 +0.4**
PKA Prieska 12.65 224 *eP* **Pn 18 11 58.7 -1.1**
OPO Ambohidratompo 13.66 83 Pn **Pn 18 12 04.1 -9.4**
comp=Z,2.2nm,0.3s,baz=256,slow=12,SNR=14
OPO Sn **Sn 18 14 24.5 -21**
comp=Z,1.0nm,0.3s,baz=333,slow=20,SNR=3.2
TSUM Tsumeb 14.48 274 Pn **Pn 18 12 24.5 -0.3**
comp=Z,0.5nm,0.3s,baz=102,slow=10,SNR=15
TSUM Sn **Sn 18 15 03.9 -1.5**
comp=Z,0.6nm,0.3s,baz=59,slow=23,SNR=4.7
TSUM Lg 18 16 41.0
comp=Z,4.0nm,0.3s,baz=8.5,slow=9.7,SNR=6.4
TSUM LR LR 18 17 37.2
comp=Z,167nm,19.1s,baz=300,slow=35
TSUM Tsumeb 14.48 274 *eP* **Pn 18 12 23.8 -1.0**
comp=Z,18nm,0.7s
TSUM *eS* **Sn 18 15 03.8 -1.6**
SUR Sutherland 15.71 221 *eP* **Pn 18 12 41.0 0.0**
SUR *eS* **Sn 18 15 19.7 -16**
SUR Sutherland 15.71 221 Pn **Pn 18 12 41.2 +0.1**
comp=Z,1.6nm,0.3s,baz=45,slow=14,SNR=17
SUR Sn **Sn 18 15 28.9 -6.3**
comp=Z,0.7nm,0.3s,baz=5.0,slow=16,SNR=4.3
SUR Lg 18 17 12.5
comp=Z,3.4nm,0.3s,baz=332,slow=18,SNR=5.9
SUR Sutherland 15.71 221 *eP* **Pn 18 12 41.0 -0.1**
comp=Z,42nm,0.8s
SUR *eS* **Sn 18 15 29.3 -6.0**
CVNA Calvinia 15.79 225 *eP* **Pn 18 12 43.0 +0.9**
CER Ceres 17.31 221 *eP* **Pn 18 13 03.0 +1.5**
KMBO Kilima Mbogo 20.11 13 P **P 18 13 33.4 -0.3**
comp=Z,0.5nm,0.5s,baz=212,slow=19,SNR=2.6
KMBO LR LR 18 20 45.5
comp=Z,112nm,21.1s,MS3.2,baz=100,slow=35
KMBO Kilima Mbogo 20.11 13 P **P 18 13 34.5 +0.8**
comp=Z,2.4nm,0.8s
TORD Torodi Ar. Bea 45.66 315 P **P 18 17 20.8 +0.2**
comp=Z,12nm,0.8s,mb4.9,baz=125,slow=6.5,SNR=49
SYO Syowa Base 48.28 177⇑ *eP* **P 18 17 42.6 +1.6**
BRTR Keskin Array B 60.31 1 P **P 18 19 10.8 +2.1**
comp=Z,1.5nm,0.9s,mb4.0,baz=161,slow=7.9,SNR=6.3
MDT Midelt 64.33 325 LR LR 18 48 20.6
comp=Z,59nm,21.7s,MS3.7,baz=156,slow=37
PSI Prapat 68.77 78 LR LR 18 45 56.6
comp=Z,158nm,18.4s,MS4.3,baz=239,slow=32
ESDC Sonseca Array 69.40 330 P **P 18 20 09.5 +1.7**
comp=Z,1.2nm,0.7s,mb4.0,baz=142,slow=5.7,SNR=6.9
AKASG Malin Array Be 71.36 358 P **P 18 20 20.1 +0.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=183,slow=5.9,SNR=6.7
GERES GERESS Array B 71.52 347 P **P 18 20 20.8 0.0**
comp=Z,0.6nm,0.5s,mb3.8,baz=160,slow=4.3,SNR=6.5
LSA Lhasa 75.34 50 *eP* **P 18 20 42.3 -1.0**
comp=Z,3.4nm,0.7s,mb4.4
BDFB Brasilia 76.27 258 P **P 18 20 50.2 +1.6**
comp=Z,3.8nm,0.6s,mb4.5,baz=122,slow=5.5,SNR=5.0
BDFB LR LR 18 51 03.1
comp=Z,173nm,18.3s,MS4.4,baz=348,slow=33
VNDA Vanda 77.39 170 LR LR 18 54 56.7
comp=Z,156nm,18.7s,MS4.4,baz=68,slow=36
VNDA Vanda 77.39 170 P **P 18 20 50.7 -4.2**
BRVK Borovoye 80.47 22 *eP* **P 18 21 11.1 -0.7**
comp=Z,1.6nm,0.9s,mb4.0
BVAR Borovoye Array 80.48 22 P **P 18 21 10.9 -1.0**
comp=Z,2.0nm,0.7s,mb4.2,baz=217,slow=6.6,SNR=17
MKAR Makanchi Array 80.77 32 P **P 18 21 11.9 -1.6**
comp=Z,0.5nm,0.7s,mb3.5,baz=211,slow=4.2,SNR=5.6
TRQA Tornquist 81.08 233 P **P 18 21 17.2 +2.1**
comp=Z,9.7nm,1.3s,mb4.6
CPUP Villa Florida 81.19 245 LR LR 18 52 13.5
comp=Z,150nm,20.1s,MS4.3,baz=113,slow=32
WMQ Urumqi 81.64 37 *eP* **P 18 21 16.8 -1.3**
WMQ AP pP 18 21 21.5 +0.1
WMQ XP sP 18 21 23.8 +1.2
WMQ AMB AMB
comp=Z,6.0nm,1.2s,mb4.4
WMQ AMB AMB
comp=Z,42nm,4.2s
CD2 Chengdu 85.29 55 *eP* **P 18 21 37.1 +0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,50nm,9.2s
PLCA Paso Flores 86.25 228 LR LR 18 55 24.1
comp=Z,102nm,18.4s,MS4.3,baz=183,slow=32
LZH Lanzhou 87.76 50 *eP* **P 18 21 49.3 +0.4**
LZH AP pP 18 21 54.5 +2.2
LZH XP sP 18 21 56.1 +2.7
LZH PP PP 18 25 17.6 +3.2
LZH AMB AMB
comp=Z,23nm,1.4s,mb5.2
CFAA Coronel Fontan 88.22 237 LR LR 18 55 43.5
comp=Z,18nm,21.1s,MS3.5,baz=86,slow=32
ASAR Alice Springs 91.27 116 P **P 18 22 03.7 -1.7**
comp=Z,1.6nm,0.8s,mb4.4,baz=250,slow=3.2,SNR=11
LPAZ La Paz 94.18 251 P **P 18 22 21.8 +3.0**
comp=Z,0.5nm,0.3s,mb4.4,baz=142,slow=22,SNR=3.9
LPAZ LR LR 19 00 51.8
comp=Z,77nm,19.4s,MS4.2,baz=146,slow=33
HHC Hu-ho-hao-te 95.27 48 *eP* **P 18 22 22.8 -1.0**
HHC AP pP 18 22 27.6 +0.5
HHC XP sP 18 22 29.8 +1.5
HHC SKS 18 32 56.9
HHC S 18 33 36.0
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,145nm,4.9s
NJ2 Nanjing 97.55 59 *eP* **P 18 22 34.6 +0.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
MSU Marysvale 145.22 308 *eP*KPdf PKPdf 18 28 38.8 +1.2
NVAR Mina Array Bea 149.66 311 PKPbc PKPbc 18 28 47.9 -1.7
comp=Z,1.4nm,0.8s,baz=135,slow=4.2,SNR=4.3

MOS ***15*** *18:23:00.4±1.2, 1480N×11947E, h33km, mb4.7/2, Error ellipse: s-maj=23.7km s-min=11.7km az=112.3*
MAN ***15*** *18:23:02.8, 1494N×11975E, h14km, mb3.6, ML4.7, MS8.2*
ISCJB ***15*** *18:23:03.9±1.5, 1486N±005×1198E±01, h63km±13km, mb4.0/15, Error ellipse: s-maj=23.6km s-min=7.4km az=161.4*
NEIC ***15*** *18:23:06.3±1.7, 1472N×11972E, h72km±15km, mb4.5/2, Error ellipse: s-maj=23.6km s-min=8.4km az=72.0*
IDC ***15*** *18:23:06.0±3.0, 1472N×11960E, h71km±27km, mb3.8/12, mb1 3.9/12, mb1mx3.7/22, mbtmp4.1/12, Error ellipse: s-maj=38.6km s-min=13.8km az=70.0*
ISC 15 18:23:05.8±1.5, 1488N±005×1198E±02, h64km±13km, n42, σ1907/45, mb4.0/15, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.32**	**126**	P		**Pn**	**18 23 28.9**	**+0.8**
	241nm,0.3s,baz=292,slow=4.0,SNR=24							
TGY				S		**Sn**	**18 23 48.5**	**+3.7**
	431nm,0.3s,baz=327,slow=23,SNR=7.4							
TGY	**Tagaytay City**	**1.32**	**126⇓**	*eP*		**Pn**	**18 23 27.6**	**-0.5**
TGY				*eS*		**Sn**	**18 23 36.0**	**-8.9**
PCPH	**Palayan**	**1.40**	**61**	*eP*		**Pn**	**18 23 26.6**	**-2.6**
BOLP	**Bolinao**	**1.50**	**3**	*eP*		**Pn**	**18 23 23.4**	**-7.2**
BCPH	**Baguio City Da**	**1.66**	**26⇓**	*eP*		**Pn**	**18 23 29.9**	**-2.8**
BCPH				*i* S		**Sn**	**18 23 53.1**	**0.0**
PGP	**Puerto Galera**	**1.75**	**141**	*eP*		**Pn**	**18 23 34.9**	**+1.1**
BALP	**Baler**	**1.89**	**63**	*eP*		**Pn**	**18 23 34.4**	**-1.4**
POLP	**Polilio Island**	**2.04**	**94**	*eP*		**Pn**	**18 23 38.5**	**+0.7**
BOAC	**Boac**	**2.41**	**126**	*eP*		**Pn**	**18 23 42.3**	**-0.5**
CAUP	**Cauayan**	**2.81**	**43**	*eP*		**Pn**	**18 23 48.4**	**+0.1**
PALP	**Palanan**	**3.31**	**49**	*eP*		**Pn**	**18 23 55.7**	**+0.6**
CVP	**Callao Caves**	**3.40**	**34**	*eP*		**Pn**	**18 23 57.0**	**+0.7**
PVCP	**Virac**	**4.38**	**106**	*eP*		**Pn**	**18 24 12.0**	**+2.3**
JNU	**Nakatsue**	**20.75**	**27**	P		**P**	**18 27 44.6**	**+3.5**
	17nm,0.5s,baz=204,slow=1.4,SNR=4.2							
SONM	**Songino Array**	**34.70**	**344**	P		**P**	**18 29 48.9**	**-0.5**
	0.3nm,0.4s,mb3.6,baz=164,slow=8.5,SNR=3.2							
WRAB	**Tennant Creek**	**37.42**	**157**	*eP*		**P**	**18 30 11.7**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.5							
WRAB	**Tennant Creek**	**37.42**	**157**	*eP*		**P**	**18 30 11.7**	**-0.9**
	comp=Z,6.9nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**37.42**	**157**	P		**P**	**18 30 11.8**	**-0.8**
	comp=Z,2.7nm,0.5s,mb4.3,baz=330,slow=10,SNR=37							
WB2	**Warramunga Arr**	**37.43**	**157**	*eP*		**P**	**18 30 11.8**	**-0.9**
AS31	**Alice Springs**	**40.70**	**160**	*eP*		**P**	**18 30 40.3**	**+0.4**
ASPA	**Alice Springs**	**40.70**	**160**	*eP*		**P**	**18 30 40.3**	**+0.3**
ASAR	**Alice Springs**	**40.70**	**160**	P		**P**	**18 30 40.3**	**+0.3**
	comp=Z,2.0nm,0.5s,mb4.0,baz=335,slow=6.8,SNR=67							
MKAR	**Makanchi Array**	**44.59**	**323**	P		**P**	**18 31 12.6**	**+1.1**
	comp=Z,0.4nm,0.8s,mb3.3,baz=138,slow=9.7,SNR=4.5							
KURK	**Kurchatov**	**48.75**	**326⇑**	*eP*		**P**	**18 31 47.3**	**+3.3**
KURK	**Kurchatov**	**48.75**	**326**	P		**P**	**18 31 44.3**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.4							
MA2	**Magadan**	**50.08**	**20**	P		**P**	**18 31 54.4**	**+0.3**
MA2				*e*			18 41 41.2	
MA2				*e*			18 44 04.1	
MA2				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.9							
STKA	**Stephens Creek**	**50.95**	**156**	P		**P**	**18 31 58.8**	**-1.9**
	comp=Z,3.5nm,1.0s,mb4.2,baz=313,slow=10,SNR=2.4							
SEY	**Seymchan**	**53.15**	**18**	*i* P		**P**	**18 32 18.1**	**+1.1**
BVAR	**Borovoye Array**	**54.33**	**326**	P		**P**	**18 32 25.3**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=99,slow=9.2,SNR=4.6							
BRVK	**Borovoye**	**54.41**	**326**	P		**P**	**18 32 28.0**	**+1.8**
TIXI	**Tiksi**	**57.01**	**3⇑**	*eP*		**P**	**18 32 43.9**	**-0.9**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
MCK	**McKinley**	**77.34**	**27**	*eP*		**P**	**18 34 53.4**	**-0.1**
ARCES	**ARCESS Array B**	**77.69**	**339**	P		**P**	**18 34 54.4**	**-1.0**
	comp=Z,2.9nm,1.0s,mb4.2,baz=54,slow=4.6,SNR=8.5							
ARCES	**ARCESS Array B**	**77.69**	**339**	P		**P**	**18 34 54.4**	**-1.0**
FINES	**FINESS Array B**	**78.86**	**331**	P		**P**	**18 35 01.5**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=61,slow=5.9,SNR=12							
INK	**Inuvik**	**82.31**	**21**	P		**P**	**18 35 19.9**	**-0.4**
	comp=Z,1.5nm,0.9s,mb3.9,baz=238,slow=8.4,SNR=3.5							
INK	**Inuvik**	**82.31**	**21**	P		**P**	**18 35 20.3**	**0.0**
NB2	**NORSAR Subarra**	**85.84**	**332**	P		**P**	**18 35 37.9**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.4,baz=69,slow=4.8							
NOA	**NORSAR Array B**	**85.84**	**332**	P		**P**	**18 35 38.8**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.5,baz=66,slow=4.9,SNR=7.4							
RES	**Resolute Bay**	**88.01**	**9**	*eP*		**P**	**18 35 49.0**	**+0.2**
YKA	**Yellowknife Ar**	**92.02**	**22**	P		**P**	**18 36 08.5**	**+1.0**
	comp=Z,0.6nm,0.7s,mb4.1,baz=310,slow=4.3,SNR=14							
YKA	**Yellowknife Ar**	**92.02**	**22**	P		**P**	**18 36 08.5**	**+1.0**

ISCJB ***15*** *18:33:31.7±2.0, 5327N±007×16390W±006, h13km±12km, mb4.5/44, MS4.0/7, Error ellipse: s-maj=11.2km s-min=5.9km az=176.1*
BJI ***15*** *18:33:31.9, 5340N×164.10W, h19km, mB4.6, mb4.6*
NEIC ***15*** *18:33:35.9, 5337N×164.13W, h19km, mb4.6/20, ML3.8(AEIC), ML4.3(PMR), After AEIC.*
IDC ***15*** *18:33:36.3±1.4, 5416N×16453W, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.2/24, mbtmp4.3/14, ML3.8/2, MS3.9/6, Ms1 3.9/6, ms1mx3.4/27, Error ellipse: s-maj=35.2km s-min=15.1km az=166.0*
MOS ***15*** *18:33:37.1±0.7, 5438N×16433W, h10km, mb4.7/18, Error ellipse: s-maj=20.6km s-min=7.8km az=91.7*
SZGRF ***15*** *18:33:39.7, 5341N×16140W, h33km, mb4.6, South of Alaska*
ISC 15 18:33:33.7±2.0, 5336N±008×16393W±006, h14km±12km, n114, σ0992/112, mb4.5/44, MS4.0/7, 4C-1D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AKUT	**Akutan**	**1.34**	**306**	P		**Pn**	**18 33 57.6**	**-0.3**
AKUT				S		**Sn**	**18 34 15.8**	**+0.3**
AKLV	**Akutan Long Va**	**1.45**	**305**	P		**Pn**	**18 33 58.8**	**-0.6**
AKLV				S		**Sn**	**18 34 19.1**	**+1.0**
UNV	**Unalaska Valle**	**1.61**	**289**	P		**Pn**	**18 34 01.1**	**-0.5**
UNV				S		**Sn**	**18 34 21.3**	**-0.8**
OKCD	**Okmok Cone D**	**2.50**	**273**	P		**Pn**	**18 34 14.1**	**+0.2**
OKCE	**Okmok Cone E**	**2.54**	**273**	P		**Pn**	**18 34 14.7**	**+0.4**
SDPT	**Sand Point**	**2.84**	**44**	P		**Pn**	**18 34 19.7**	**+1.2**
NIKO	**Nikolski**	**2.99**	**264**	P		**Pn**	**18 34 19.9**	**-0.7**
ATKA	**Atka Island**	**6.33**	**264**	P		**Pn**	**18 35 06.2**	**-0.4**
KDAK	**Kodiak Island**	**7.81**	**51**	Pn		**Pn**	**18 35 25.7**	**-1.1**
	1.5nm,0.3s,baz=142,slow=7.9,SNR=23							
ADK	**Adak**	**7.90**	**264**	*eP*		**Pn**	**18 35 28.1**	**0.0**
SVW2	**Sparrevohn**	**8.97**	**27**	*eP*		**Pn**	**18 35 46.1**	**+3.3**
SLKM	**Skilak Lake**	**10.35**	**41**	*eP*		**Pn**	**18 36 01.7**	**+0.1**
PMR	**Palmer**	**11.44**	**38**	P		**Pn**	**18 36 23.5**	**+6.9**
TNA	**Tin City**	**12.40**	**352**	*eP*		**Pn**	**18 36 32.7**	**+3.0**
	5.5nm,0.9s							
FX1	**Attu Island--F**	**13.75**	**277**	Pn		**Pn**	**18 36 49.7**	**+1.6**
	2.6nm,0.3s,baz=94,slow=14,SNR=23							
FX1	**Attu Island--F**	**13.75**	**277**	*eP*		**Pn**	**18 36 49.7**	**+1.5**
ILAR	**Eielson Array**	**14.34**	**30**	Pn		**Pn**	**18 36 51.2**	**-5.0**
	0.1nm,0.3s,baz=231,slow=12,SNR=8.1							
ILAR				LR		LR	18 42 58.9	
	comp=Z,341nm,19.8s,baz=56,slow=41							
BILL	**Bilibino**	**20.39**	**328⇑**	*eP*		**P**	**18 38 11.2**	**+1.2**
BILL				pmax		pmax		
	comp=Z,11nm,0.9s							
BILL				MLR		MLR		
	comp=Z,500nm,15.0s,MS4.0							
BILL	**Bilibino**	**20.39**	**328**	*eP*		**P**	**18 38 10.3**	**+0.3**
	comp=Z,8.1nm,0.8s							
INK	**Inuvik**	**20.73**	**32**	P		**P**	**18 38 12.0**	**-1.7**
	comp=Z,2.5nm,0.5s,baz=217,slow=14,SNR=8.3							
INK	**Inuvik**	**20.73**	**32**	*eP*		**P**	**18 38 11.3**	**-2.4**
INK				pmax		pmax		
	comp=Z,29nm,1.0s							
INK	**Inuvik**	**20.73**	**32**	*eP*		**P**	**18 38 11.3**	**-2.4**
	comp=Z,29nm,1.0s							
SEY	**Seymchan**	**24.48**	**310⇑**	*eP*		**P**	**18 38 53.0**	**+0.8**
MA2	**Magadan**	**25.36**	**302**	*eP*		**P**	**18 38 58.8**	**-1.4**
MA2				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb3.8							
MA2	**Magadan**	**25.36**	**302**	*eP*		**P**	**18 38 58.9**	**-1.3**
	comp=Z,2.3nm,0.6s,mb3.9							
YKA	**Yellowknife Ar**	**27.08**	**51**	P		**P**	**18 39 16.6**	**+0.8**
	comp=Z,3.4nm,0.8s,mb3.9,baz=271,slow=9.3,SNR=46							
YKA	**Yellowknife Ar**	**27.08**	**51**	P		**P**	**18 39 16.6**	**+0.8**
YBH	**Yreka Blue Hor**	**29.74**	**96**	LR		LR	18 48 41.0	
	comp=Z,170nm,19.2s,MS3.7,baz=328,slow=30							
TIXI	**Tiksi**	**33.61**	**328⇓**	*eP*		**P**	**18 40 12.2**	**-1.3**
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
TIXI				MLR		MLR		
	comp=Z,300nm,19.0s,MS4.0							
NVAR	**Mina Array Bea**	**34.45**	**97**	P		sP	18 40 31.1	+4.3
	comp=Z,0.4nm,0.6s,baz=298,slow=8.1,SNR=3.8							
REDW	**Red Top Meadow**	**35.88**	**84**	P		**P**	**18 40 37.8**	**+4.7**
MDJ	**Mudanjiang**	**43.02**	**286**	P		**P**	**18 41 32.1**	**-0.5**
MDJ				AMB		AMB		
	comp=Z,4.0nm,2.0s,mb3.8							
MDJ				AMB		AMB		
	comp=Z,24nm,4.5s							
BOD	**Bodaibo**	**43.91**	**310**	*eP*		**P**	**18 41 38.0**	**-1.8**
BOD				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.4							
CN2	**Changchun**	**45.88**	**288**	*eP*		**P**	**18 41 54.0**	**-1.6**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
SUMG	**Summit**	**48.81**	**19**	*eP*		**P**	**18 42 19.2**	**+0.8**
	comp=Z,15nm,0.9s,mb5.0							
ULN	**Ulaanbaatar**	**53.22**	**303**	*eP*		**P**	**18 42 51.1**	**-0.4**
ULN				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
ULN	**Ulaanbaatar**	**53.22**	**303**	*eP*		**P**	**18 42 51.1**	**-0.5**
	comp=Z,10nm,0.9s,mb4.8							
ZAK	**Zakamensk**	**53.40**	**307**	*eP*		**P**	**18 42 48.4**	**-4.4**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.6s,mb4.3							
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.8s,mb4.1							
SONM	**Songino Array**	**53.57**	**303**	P		**P**	**18 42 54.1**	**0.0**
	comp=Z,4.6nm,0.9s,mb4.4,baz=40,slow=7.7,SNR=16							
SONM				PcP		PcP	18 44 01.3	+0.7
	comp=Z,1.0nm,0.9s,baz=46,slow=2.7,SNR=2.5							
ARCES	**ARCESS Array B**	**57.22**	**356**	P		**P**	**18 43 18.2**	**-2.1**
	comp=Z,4.3nm,0.8s,mb4.5,baz=4.8,slow=7.3,SNR=5.9							
ARCES				LR		LR	19 09 16.1	
	comp=Z,112nm,18.1s,MS4.0,baz=357,slow=38							
NJ2	**Nanjing**	**57.63**	**281**	*eP*		**P**	**18 43 25.8**	**+2.5**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.1							
GTA	**Gaotai**	**62.90**	**300**	*eP*		**P**	**18 43 58.9**	**-0.4**
GTA				AP		pP	18 44 05.3	+1.4
GTA				XP		sP	18 44 08.8	+3.2
GTA				AMB		AMB		
	comp=Z,4.0nm,1.0s,mb4.5							
JOF	**Joensuu**	**63.45**	**352**	*ep*		**P**	**18 44 02.9**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.5							
KURK	**Kurchatov**	**63.75**	**321**	*c iP*		**P**	**18 44 04.4**	**-0.6**
KURK	**Kurchatov**	**63.75**	**321**	*eP*		**P**	**18 44 04.1**	**-0.9**
	comp=Z,5.2nm,0.8s,mb4.6							
ENH	**Enshi**	**64.38**	**287**	*eP*		**P**	**18 44 08.9**	**-0.2**
	comp=Z,4.0nm,0.6s,mb4.6							
KAF	**Kangasniemi**	**64.59**	**355**	*ep*		**P**	**18 44 08.6**	**-1.9**
	comp=Z,3.9nm,0.6s,mb4.6,baz=2.3,slow=6.2							
KAF	**Kangasniemi**	**64.59**	**355**	*eP*		**P**	**18 44 08.6**	**-1.9**
KAF				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
BVA0	**Borovoye Array**	**64.74**	**327**	*i* P		**P**	**18 44 11.2**	**-0.2**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.9							
BVAR	**Borovoye Array**	**64.74**	**327**	P		**P**	**18 44 11.3**	**-0.1**
	comp=Z,7.6nm,0.7s,mb4.9,baz=47,slow=6.8,SNR=42							
BRVK	**Borovoye**	**64.74**	**327**	*eP*		**P**	**18 44 11.1**	**-0.4**
ARU	**Arti**	**65.16**	**336⇑**	*i* P		**P**	**18 44 13.5**	**-0.7**
ARU				*e*			18 46 32.5	
ARU				*e*PPP			18 48 12.6	
ARU				*eS*		S	18 52 56.0	-0.7
ARU				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.7							
ARU	**Arti**	**65.16**	**336**	*eP*		**P**	**18 44 12.6**	**-1.6**
	comp=Z,7.9nm,1.0s,mb4.7							
FINES	**FINESS Array B**	**65.27**	**355**	P		**P**	**18 44 14.3**	**-0.6**
	comp=Z,2.3nm,0.6s,mb4.4,baz=19,slow=9.2,SNR=15							
FINES				LR		LR	19 15 32.5	
	comp=Z,65nm,18.2s,MS3.9,baz=24,slow=39							
FINES	**FINESS Array B**	**65.27**	**355**	P		**P**	**18 44 14.3**	**-0.6**
FINES				LR		LR	19 15 32.5	
MK31	**Makanchi Array**	**65.44**	**316**	*i* P		**P**	**18 44 14.9**	**-1.1**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb4.3							
MKAR	**Makanchi Array**	**65.44**	**316**	P		**P**	**18 44 15.0**	**-1.0**
	comp=Z,3.1nm,0.7s,mb4.4,baz=50,slow=6.5,SNR=23							
MKAR				LR		LR	19 14 13.2	
	comp=Z,89nm,19.1s,MS4.0,baz=272,slow=38							
MKAR	**Makanchi Array**	**65.44**	**316**	P		**P**	**18 44 15.0**	**-1.0**
MKAR				LR		LR	19 14 13.2	
NB2	**NORSAR Subarra**	**65.88**	**3**	P		**P**	**18 44 18.0**	**-0.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=358,slow=6.2							
NB2	**NORSAR Subarra**	**65.88**	**3**	P		**P**	**18 44 18.0**	**-0.9**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.0							
NOA	**NORSAR Array B**	**65.88**	**3**	P		**P**	**18 44 18.2**	**-0.6**
	comp=Z,2.5nm,0.9s,mb4.2,baz=359,slow=6.3,SNR=4.5							
AB31	**Akbulak array**	**71.24**	**331**	*i* P		**P**	**18 44 52.2**	**-0.1**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
USP	**Ospenovka**	**71.49**	**319**	P		**P**	**18 44 54.9**	**+1.0**
	SNR=5.1							
KBK	**Karagaybulak**	**71.83**	**318**	P		**P**	**18 44 56.8**	**+0.9**
	SNR=8.2							
AAK	**Ala-Archa**	**72.03**	**319**	P		**P**	**18 44 57.8**	**+0.7**
	SNR=11							
EKS2	**Erkin-Say**	**72.28**	**319**	P		**P**	**18 44 59.6**	**+1.0**
	SNR=10							
AML	**Almayashu**	**72.77**	**319**	P		**P**	**18 45 03.0**	**+1.5**
	SNR=8.4							
KK31	**Karatay Array**	**73.16**	**321**	*i* P		**P**	**18 45 03.8**	**0.0**
KK31				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.6							
KKAR	**Karatay Array**	**73.16**	**321**	*i* P		**P**	**18 45 03.8**	**0.0**
KKAR				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
LSA	**Lhasa**	**74.91**	**299**	*eP*		**P**	**18 45 15.7**	**+1.7**
LSA				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
LSA	**Lhasa**	**74.91**	**299**	*eP*		**P**	**18 45 15.7**	**+1.7**
	comp=Z,6.5nm,0.8s,mb4.6							
AKASG	**Malin Array Be**	**75.72**	**351**	P		**P**	**18 45 17.8**	**-1.0**
	comp=Z,3.2nm,0.6s,mb4.4,baz=11,slow=5.6,SNR=22							
GRA1	**Grafenberg Arr**	**77.24**	**3**	*eP*		**P**	**18 45 28.0**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.3							
GRF	**Grafenberg Arr**	**77.24**	**3**	*eP*		**P**	**18 45 28.0**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.3							
GRF	**Grafenberg Arr**	**77.24**	**3**	*eP*		**P**	**18 45 28.0**	**+0.7**
GRF				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
GERES	**GERESS Array B**	**78.15**	**2**	P		**P**	**18 45 32.7**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=1,4,slow=5.3,SNR=4.9							
HAU	**Haudompre**	**78.67**	**7**	*eP*		**P**	**18 45 35.4**	**+0.1**
GUN	**Gumba**	**79.07**	**302**	*eP*		**P**	**18 45 38.1**	**+0.7**
	comp=Z,18nm,0.5s,mb5.2							
JIRN	**Jiri**	**79.11**	**302**	*eP*		**P**	**18 45 38.6**	**+0.9**
	comp=Z,44nm,0.7s,mb5.5							
LOR	**Lormes**	**79.21**	**8**	*eP*		**P**	**18 45 38.2**	**0.0**

*IDC **15** 18:34:30.2±1.4, 531N×9440E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/21, mbtmp4.0/7, Error ellipse: s-maj=63.6km s-min=18.9km az=54.0*
*ISCJB **15** 18:34:33.4±0.8, 52N±02×943E±02, h33km, mb4.1/13, Error ellipse: s-maj=30.7km s-min=6.6km az=93.5*
*NEIC **15** 18:34:34.4±0.9, 5.18N×94.18E, h30km, mb4.2/2, Error ellipse: s-maj=37.8km s-min=8.5km az=52.0*
ISC 15 18:34:35.8±0.8, 52N±02×943E±02, h35km, n23, σ0§70/25, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.23**	**117**	Pn	**Pn**	**18 35 53.9**	**+2.5**
	1.9nm,0.3s,baz=295,slow=12,SNR=7.5						
PSI				Sn	**Sn**	**18 36 50.1**	**-0.4**
	1.5nm,0.3s,baz=136,slow=22,SNR=2.9						
PSI	**Prapat**	**5.23**	**117**	Pn	**Pn**	**18 35 53.9**	**+2.5**
PSI				Sn	**Sn**	**18 36 50.1**	**-0.4**
JIRN	**Jiri**	**23.59**	**342**	*e*P	**P**	**18 39 43.1**	**-0.2**
	11nm,0.5s,mb4.5						
PKI	**Pulchoki**	**23.76**	**340**	*e*P	**P**	**18 39 45.3**	**+0.4**
DMN	**Daman**	**23.89**	**340**	*e*P	**P**	**18 39 46.4**	**+0.3**
GUN	**Gumba**	**23.92**	**341**	*e*P	**P**	**18 39 46.5**	**+0.2**
	8.6nm,0.4s,mb4.5						
KKN	**Kakani**	**24.00**	**340**	*e*P	**P**	**18 39 47.2**	**+0.1**
GKN	**Gorkha**	**24.42**	**339**	*e*P	**P**	**18 39 50.7**	**-0.2**
	5.1nm,0.3s,mb4.4						
LSA	**Lhasa**	**24.50**	**353**	*e*P	**P**	**18 39 53.0**	**+1.3**
	2.8nm,0.5s,mb4.0						
KOLN	**Koldanda**	**24.60**	**337**	*e*P	**P**	**18 39 53.4**	**+0.8**
	12nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**42.67**	**348**	P	**P**	**18 42 28.7**	**-0.3**
	2.8nm,0.6s,mb4.2,baz=166,slow=8.9,SNR=43						
SONM	**Songino Array**	**43.69**	**12**	P	**P**	**18 42 35.7**	**-1.5**
	1.5nm,0.7s,mb3.8,baz=190,slow=8.2,SNR=17						
WRA	**Warrarmunga Arr**	**46.66**	**124**	P	**P**	**18 43 00.4**	**-0.4**
	1.8nm,0.6s,mb4.2,baz=304,slow=9.6,SNR=29						
WRAB	**Tennant Creek**	**46.67**	**124**	*e*P	**P**	**18 43 00.6**	**-0.3**
WB2	**Warrarmunga Arr**	**46.67**	**124**	*e*P	**P**	**18 43 00.5**	**-0.4**
KURK	**Kurchatov**	**47.18**	**346**	*e*P	**P**	**18 43 05.0**	**+0.1**
	3.5nm,0.8s,mb4.3						
ASPA	**Alice Springs**	**48.16**	**128**	*e*P	**P**	**18 43 12.6**	**+0.2**
AS31	**Alice Springs**	**48.16**	**128**	*e*P	**P**	**18 43 12.6**	**+0.2**
ASAR	**Alice Springs**	**48.16**	**128**	P	**P**	**18 43 12.2**	**-0.2**
	1.0nm,0.7s,mb4.0,baz=302,slow=8.1,SNR=26						
BVAR	**Borovoye Array**	**51.51**	**342**	P	**P**	**18 43 37.8**	**-0.1**
	1.0nm,0.5s,mb4.0,baz=136,slow=8.9,SNR=14						
BRVK	**Borovoye**	**51.57**	**342**	*e*P	**P**	**18 43 37.3**	**-1.0**
FINES	**FINESS Array B**	**75.09**	**333**	P	**P**	**18 46 13.6**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=122,slow=10,SNR=3.2						
GERES	**GERESS Array B**	**79.87**	**319**	P	**P**	**18 46 40.9**	**+0.1**
	0.2nm,0.4s,mb3.4,baz=73,slow=6.0,SNR=5.1						

*ISCJB **15** 19:15:06.9±1.6, 337S±02×1795W±04, h320km±19km, mb3.5/3, Error ellipse: s-maj=52.5km s-min=19.4km az=48.1*
*NEIC **15** 19:15:11.5±1.8, 3367S×17974E, h299km±19km, mb3.9/1, Error ellipse: s-maj=34.8km s-min=24.2km az=112.0*
*IDC **15** 19:15:11.6±4.7, 3358S×17966E, h290km±50km, mb3.3/2, mb1 3.5/4, mb1mx3.3/14, mbtmp4.1/4, Error ellipse: s-maj=58.1km s-min=43.0km az=167.0*
ISC 15 19:15:10.3±1.5, 338S±02×1797W±04, h325km±19km, n40, σ0§84/45, mb3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.05**	**203**	PN	**Pn**	**19 16 18.8**	**+0.4**
MXZ	**Matakaoa Point**	**4.05**	**203**	P	**Pn**	**19 16 18.8**	**+0.4**
PUZ	**Puketiti**	**4.54**	**201**	PN	**Pn**	**19 16 21.7**	**-1.9**
PUZ				SN	**S**	**19 17 18.0**	**-4.6**
PUZ	**Puketiti**	**4.54**	**201**	*e*P	**Pn**	**19 16 22.2**	**-1.4**
PUZ				S	**S**	**19 17 18.0**	**-4.6**
MWZ	**Matawai**	**5.01**	**206**	PN	**Pn**	**19 16 27.3**	**-1.7**
MWZ				SN	**S**	**19 17 32.8**	**+0.4**
MWZ	**Matawai**	**5.01**	**206**	*e*P	**Pn**	**19 16 29.2**	**+0.3**
URZ	**Urewera**	**5.11**	**209**	P	**Pn**	**19 16 29.9**	**-0.1**
	4.3nm,0.3s,baz=9.5,slow=18,SNR=33						
URZ				S	**S**	**19 17 33.4**	**-0.9**
	12nm,0.3s,baz=66,slow=22,SNR=19						
URZ	**Urewera**	**5.11**	**209**	PN	**Pn**	**19 16 29.7**	**-0.3**
URZ				SN	**S**	**19 17 33.5**	**-0.8**
URZ	**Urewera**	**5.11**	**209**	P	**Pn**	**19 16 29.9**	**-0.1**
KNZ	**Kokohu**	**5.58**	**201**	PN	**Pn**	**19 16 36.3**	**+0.9**
KNZ	**Kokohu**	**5.58**	**201**	*e*P	**Pn**	**19 16 36.3**	**+0.9**
BKZ	**Black Stump Fm**	**6.13**	**209**	PN	**Pn**	**19 16 42.0**	**+0.2**
BKZ	**Black Stump Fm**	**6.13**	**209**	*e*P	**Pn**	**19 16 42.6**	**+0.8**
OTVZ	**Oturere**	**6.49**	**214**	PN	**Pn**	**19 16 46.5**	**+0.5**
NGZ	**Ngauruhoe**	**6.53**	**214**	PN	**Pn**	**19 16 47.8**	**+1.4**
TUVZ	**Tukino**	**6.58**	**213**	PN	**Pn**	**19 16 48.0**	**+0.9**
FWVZ	**Far West T-bar**	**6.62**	**214**	PN	**Pn**	**19 16 48.6**	**+1.2**
FWVZ	**Far West T-bar**	**6.62**	**214**	*e*P	**Pn**	**19 16 48.6**	**+1.1**
MOVZ	**Moawhango**	**6.65**	**212**	PN	**Pn**	**19 16 47.2**	**-0.7**
TSZ	**Takapari Road**	**7.11**	**208**	*e*P	**Pn**	**19 16 53.5**	**+0.1**
BFZ	**Birch Farm**	**7.55**	**204**	*e*P	**Pn**	**19 16 59.3**	**+0.7**
MRZ	**Mangatainoka R**	**7.78**	**208**	*e*P	**Pn**	**19 17 01.4**	**+0.1**
KIW	**Kapiti Island**	**8.21**	**210**	P	**Pn**	**19 17 06.4**	**-0.2**
TCW	**Tory Channel**	**8.77**	**211**	P	**Pn**	**19 17 12.2**	**-1.2**
QRZ	**Quartz Range**	**9.32**	**219**	*e*P	**Pn**	**19 17 19.1**	**-0.8**
THZ	**Tophouse**	**9.83**	**214**	*e*PN	**Pn**	**19 17 25.3**	**-0.9**
THZ	**Tophouse**	**9.83**	**214**	*e*P	**Pn**	**19 17 25.7**	**-0.5**
KHZ	**Kahutara**	**10.08**	**210**	*e*P	**Pn**	**19 17 27.2**	**-1.9**
DSZ	**Denniston Not**	**10.36**	**218**	*e*P	**Pn**	**19 17 32.8**	**+0.2**
LTZ	**Lake Taylor**	**10.92**	**213**	*e*PN	**Pn**	**19 17 39.2**	**-0.2**
LTZ	**Lake Taylor**	**10.92**	**213**	*e*P	**Pn**	**19 17 38.8**	**-0.6**
RPZ	**Rata Peaks**	**12.21**	**213**	P	**Pn**	**19 17 54.9**	**+0.2**
	0.8nm,0.3s,baz=353,slow=10,SNR=6.3						
RPZ				S	**S**	**19 20 10.5**	**+0.2**
	1.9nm,0.3s,baz=353,slow=23,SNR=11						
ODZ	**Otahua Downs**	**13.43**	**211**	*e*P	**Pn**	**19 18 12.8**	**+3.4**
JCZ	**Jackson Bay**	**13.59**	**218**	PN	**Pn**	**19 18 11.8**	**+0.6**
JCZ	**Jackson Bay**	**13.59**	**218**	*e*P	**Pn**	**19 18 11.9**	**+0.7**
ASAR	**Alice Springs**	**41.62**	**272**	P	**P**	**19 22 28.0**	**+0.6**
	1.0nm,0.7s,mb3.0,baz=110,slow=7.8,SNR=21						
WB2	**Warrarmunga Arr**	**42.91**	**277**	*e*P	**P**	**19 22 37.6**	**-0.1**
WRAB	**Tennant Creek**	**42.92**	**277**	*e*P	**P**	**19 22 37.3**	**-0.5**
	8.2nm,1.0s,mb3.8						
WRA	**Warrarmunga Arr**	**42.92**	**277**	P	**P**	**19 22 37.5**	**-0.3**
	1.6nm,0.3s,mb3.6,baz=117,slow=7.9,SNR=63						
FINES	**FINESS Array B**	**147.81**	**337**	PKPbc	PKPbc	19 34 19.6	+2.6
	0.5nm,0.5s,baz=62,slow=4.5,SNR=4.8						

*ISK **15** 19:45:59.8, 4008N×2867E, h15km, MD3.4*
*CSEM **15** 19:45:59.4±0.1, 4007N×2867E, h10km, MD3.4, Error ellipse: s-maj=1.5km s-min=1.3km az=144.0*
*ISCJB **15** 19:46:00.1±0.3, 4009N±002×2866E±002, h10km±3km, Error ellipse: s-maj=3.5km s-min=2.9km az=128.5*
*SOF **15** 19:46:03.6, 4008N×2827E, h10km, MD2.8*
*NEIC **15** 19:46:08.8, 4016N×2766E, h10km, MD3.5(ISK), MD3.6(ATH), After ATH.*
*ATH **15** 19:46:08.8, 4016N×2766E, h10km, MD3.6/3*
ISC 15 19:46:00.8±0.3, 4008N±002×2866E±002, h9km±3km, n53, σ1§02/65, 1C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.18**	**101**	*i* PG	**Pg**	**19 46 04.5**	**-0.1**
ORLT				*i* SG	**Sg**	**19 46 07.6**	**+0.4**
KCT	**Karacabey**	**0.30**	**309**	*i* PG	**Pg**	**19 46 06.9**	**+0.2**
ULDT	**Uludag**	**0.37**	**80**	*i* P	**Pg**	**19 46 07.7**	**-0.3**
ULDT				*i* S	**Sg**	**19 46 13.7**	**+0.7**
ULDT	**Uludag**	**0.37**	**80**	*i* P	**Pg**	**19 46 07.7**	**-0.3**
ULDT				*i* S	**Sg**	**19 46 13.6**	**+0.7**
DST	**Dursunbey**	**0.47**	**183**	*i* PG	**Pg**	**19 46 09.6**	**-0.4**
BTOK	**Tokmak**	**0.58**	**237**	*i* P	**Pg**	**19 46 11.6**	**-0.4**
BTOK				*i* S	**Sg**	**19 46 20.3**	**+0.8**
BNT	**Bandirma**	**0.63**	**296**	*i* PG	**Pg**	**19 46 12.5**	**-0.4**
EDC	**Edincik**	**0.67**	**294**	*i* PG	**Pg**	**19 46 12.9**	**-0.7**
YLV	**Yalova**	**0.73**	**48**	PG	**Pg**	**19 46 14.2**	**-0.6**
YLV				SG	**Sg**	**19 46 25.3**	**+0.9**
BALB	**Balikesir**	**0.74**	**234**	PG	**Pg**	**19 46 14.9**	**-0.2**
BALB				SG	**Sg**	**19 46 26.0**	**+1.2**
BADT	**Buyukada**	**0.85**	**24**	PG	**Pg**	**19 46 16.7**	**-0.4**
MRMT	**Marmara Adasi**	**0.97**	**303**	PG	**Pg**	**19 46 18.2**	**-1.2**
ISK	**Istanbul-Kandi**	**1.03**	**17**	PG	**Pg**	**19 46 19.9**	**-0.7**
HRT	**Hereke**	**1.07**	**46**	PG	**Pg**	**19 46 19.7**	**-1.6**
ELBA	**Catalca**	**1.08**	**351**	*i* P	**Pg**	**19 46 20.9**	**-0.6**
ELBA				*i* S	**Sg**	**19 46 36.4**	**+0.9**
CTT	**Catalca**	**1.08**	**351**	PG	**Pg**	**19 46 20.9**	**-0.6**
MFT	**Murefte**	**1.27**	**304**	PN	**Pn**	**19 46 23.5**	**-1.2**
GPA	**Golpazari**	**1.28**	**80**	PN	**Pn**	**19 46 23.9**	**-1.0**
AKS	**Akhisar**	**1.37**	**209**	PN	**Pn**	**19 46 25.6**	**-0.5**
BORA	**Eskisehir**	**1.39**	**98**	*i* P	**Pn**	**19 46 26.1**	**-0.3**
BORA				*i* S	**Sg**	**19 46 47.8**	**+2.2**
LPK	**Lapseki**	**1.48**	**282**	PN	**Pn**	**19 46 26.7**	**-1.0**
MANT	**Manisa**	**1.59**	**183**	*i* P	**Pn**	**19 46 28.9**	**-0.3**
MANT				*i* S	**Sn**	**19 46 52.2**	**+2.4**
EZN	**Ezine**	**1.81**	**263**	PN	**Pn**	**19 46 31.8**	**-0.4**
HENT	**Hendek**	**1.86**	**66**	*i* P	**Pn**	**19 46 32.4**	**-0.5**
HENT				*i* S	**Sg**	**19 47 02.3**	**+1.6**
KHL	**Karahalli**	**1.88**	**159**	*e*PN	**Pn**	**19 46 31.8**	**-1.3**
MDU	**Mudurnu**	**1.99**	**78**	*e*PN	**Pn**	**19 46 33.5**	**-1.1**
KDAG	**Bornova**	**1.99**	**213**	*i* P	**Pn**	**19 46 35.5**	**+0.8**
KDAG				*i* S	**Sg**	**19 47 06.4**	**+1.5**
PRK	**Paraskevi**	**2.02**	**246**	*e*PB	**Pb**	**19 46 35.4**	**-2.3**
BLCB	**Balcova**	**2.11**	**217**	*e*PN	**Pn**	**19 46 35.9**	**-0.3**
EDRB	**Edirne**	**2.29**	**321**	*e*PN	**Pn**	**19 46 37.6**	**-1.1**
DENT	**Denizli**	**2.34**	**173**	*e*PN	**Pn**	**19 46 38.4**	**-1.1**
TKTP	**Tekketepe**	**2.41**	**147**	*i* P	**Pn**	**19 46 42.3**	**+1.8**
TKTP				*i* S	**Sg**	**19 47 17.2**	**-1.1**
RDO	**Rodhopi**	**2.60**	**295**	*e*PN	**Pn**	**19 46 43.3**	**+0.2**
ISP	**Isparta**	**2.66**	**147**	*e*PN	**Pn**	**19 46 43.4**	**-0.4**
SMG	**Samos**	**2.76**	**212**	*e*PN	**Pn**	**19 46 52.4**	**+7.2**
KIZT	**Kizilcal**	**2.77**	**115**	*e*PN	**Pn**	**19 46 44.8**	**-0.5**
JMB	**Yambol**	**2.85**	**327**	*i* P	**Pn**	**19 46 47.5**	**+1.0**
MLSB	**Milas**	**2.87**	**194**	*e*PN	**Pn**	**19 46 46.7**	**0.0**
YER	**Yerkesik**	**2.96**	**186**	*e*PN	**Pn**	**19 46 46.7**	**-1.2**
DIM	**Dimitrovgrad**	**3.08**	**311**	P	**Pn**	**19 46 51.5**	**+2.0**
ANTO	**Ankara**	**3.18**	**92**	*e*PN	**Pn**	**19 46 50.9**	**-0.1**
BODT	**Bodrum**	**3.19**	**200**	*e*PN	**Pn**	**19 46 50.9**	**-0.3**
PRD	**Provadia**	**3.26**	**344**	P	**Pn**	**19 46 57.5**	**+5.5**
SAFT	**Safranbolu**	**3.27**	**68**	*e*PN	**Pn**	**19 46 52.5**	**+0.2**
RZN	**Rozhen**	**3.39**	**300**	*i* P	**Pn**	**19 46 54.0**	**+0.1**
TIRR	**Tirgusor**	**4.38**	**358**	⇑P	**Pn**	**19 47 07.8**	**+0.3**
KKB	**Krupnik**	**4.58**	**295**	P	**Pn**	**19 47 13.0**	**+2.7**
VAY	**Valandovo**	**4.79**	**287**	*e*Pn	**Pn**	**19 47 15.7**	**+2.5**
VAY	**Valandovo**	**4.79**	**287**	*e*Pn	**Pn**	**19 47 15.6**	**+2.5**
VTS	**Vitosha**	**4.81**	**303**	P	**Pn**	**19 47 14.0**	**+0.6**
CFR	**Carcaliu**	**5.11**	**356**	⇓P	**Pn**	**19 47 17.6**	**+0.1**
MLR	**Muntele Rosu**	**5.76**	**341**	⇓P	**Pn**	**19 47 28.1**	**+1.6**
MLR	**Muntele Rosu**	**5.76**	**341**	⇓P	**Pn**	**19 47 28.1**	**+1.6**

*ISCJB **15** 20:11:02.4±5.2, 58S±03×1459E±03, h92km±35km, mb3.9/3, Error ellipse: s-maj=64.2km s-min=32.4km az=75.2*
*IDC **15** 20:11:02.0±8.2, 570S×14592E, h76km±61km, mb3.7/2, mb1 4.0/4, mb1mx3.6/14, mbtmp4.2/4, ML3.2/1, Error ellipse: s-maj=83.1km s-min=51.0km az=48.0*
*NEIC **15** 20:11:04.4±7.5, 589S×14584E, h78km±38km, mb4.1/3, Error ellipse: s-maj=92.9km s-min=38.3km az=193.0*
ISC 15 20:11:03.1±5.0, 58S±03×1459E±03, h79km±35km, n11, σ0§54/12, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**161**	P	**Pn**	**20 11 59.6**	**-0.2**
	14nm,0.3s,baz=0.0,slow=11,SNR=69						
PMG				S	**Sn**	**20 12 44.1**	**+0.2**
	13nm,0.3s,baz=285,slow=20,SNR=5.7						
KAKA	**Kakadu**	**14.94**	**242**	*e*P	**Pn**	**20 14 37.5**	**+7.6**
	5.4nm,0.4s						
WRAB	**Tennant Creek**	**18.00**	**217**	*e*P	**Pn**	**20 15 08.2**	**+0.3**
	10nm,0.4s						
WB2	**Warrarmunga Arr**	**18.01**	**217**	*e*P	**Pn**	**20 15 08.5**	**+0.5**
WRA	**Warrarmunga Arr**	**18.02**	**217**	P	**Pn**	**20 15 08.5**	**+0.4**
	2.0nm,0.3s,baz=38,slow=11,SNR=151						
AS31	**Alice Springs**	**21.21**	**212**	*e*P	**P**	**20 15 41.6**	**-0.7**
ASAR	**Alice Springs**	**21.21**	**212**	P	**P**	**20 15 41.5**	**-0.8**
	3.3nm,0.4s,mb4.0,baz=48,slow=8.2,SNR=78						
ASPA	**Alice Springs**	**21.21**	**212**	*e*P	**P**	**20 15 41.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**23.25**	**236**	*e*P	**P**	**20 16 04.1**	**+0.5**
	3.7nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**26.29**	**188**	*e*P	**P**	**20 16 31.9**	**+0.7**
	1.9nm,0.9s,mb3.5						
STKA	**Stephens Creek**	**26.29**	**188**	P	**P**	**20 16 31.7**	**+0.5**
	1.6nm,0.6s,mb3.6,baz=8.2,slow=6.7,SNR=5.8						

IDC 15 20:20:23.0±2.1, 1809S×6949W, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=49.2km s-min=32.4km az=159.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.21**	**36**	Pn	Pn	20 21 01.3	+0.3
	6.3nm,0.3s,baz=215,slow=14,SNR=105						
LPAZ				Sn	Sn	20 21 32.5	+3.4
	2.9nm,0.3s,baz=308,slow=19,SNR=2.7						
SIV	**San Ignacio**	**8.32**	**77**	Pn	Pn	20 22 24.7	-0.1
	0.6nm,0.3s,baz=268,slow=13,SNR=8.8						
SIV				Sn	Sn	20 23 58.9	-0.6
	0.1nm,0.3s,baz=342,slow=20,SNR=2.7						
SIV				Lg		20 24 38.3	
	0.2nm,0.3s,baz=342,slow=20,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.76**	**71**	P	P	20 32 17.4	+1.1
	0.6nm,0.9s,baz=246,slow=5.7,SNR=3.8						
YKA	**Yellowknife Ar**	**87.81**	**341**	P	P	20 33 13.3	-0.8
	0.1nm,0.5s,baz=131,slow=4.7,SNR=6.3						

*NEIC **15** 20:33:12.2, 3605N×1304E, h10km, ML3.3(ROM), After ROM.*
*CSEM **15** 20:33:13.1±0.4, 3592N×1297E, h25km, ML4.1/4, Error ellipse: s-maj=7.6km s-min=3.6km az=36.0*
ROM 15 20:33:12.2±0.3, 3605N×1304E, h10km, Md3.3/8, Ml3.3/16, 2D, Error ellipse: s-maj=5.2km s-min=2.6km az=21.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTS	**Pantelleria**	**1.13**	**312**	Pn	Pn	20 33 33.1	-0.9
	73nm,0.2s						
WDD	**Wield Dalam**	**1.22**	**98**	Pn	Pn	20 33 34.6	-0.7
WDD				Sn	Sn	20 33 51.5	-0.4
	356nm,0.6s						
FAVR	**Favara**	**1.31**	**23**	Pn	Pn	20 33 37.9	+1.3
	185nm,0.5s						
CLTB	**Caltabellotta**	**1.53**	**5**	Pn	Pn	20 33 39.2	-0.3
	178nm,0.4s						
RAFF	**Raffo Rosso**	**1.58**	**42**	Pn	Pn	20 33 40.2	-0.1
RAFF				Sn	Sn	20 34 02.0	+1.2
	297nm,0.4s						
HMDC	**Modica**	**1.67**	**57**	Pn	Pn	20 33 41.6	+0.1
HMDC				Sn	Sn	20 34 02.3	-0.7
	330nm,0.8s						
HVZN	**Vizzini**	**1.76**	**50**	Pn	Pn	20 33 43.3	+0.6
	705nm,0.9s						
HAVL	**Avola**	**1.91**	**61**	Pn	Pn	20 33 44.6	-0.2
HAVL				Sn	Sn	20 34 09.0	+0.1
	216nm,0.5s						
SSY	**Sortino**	**1.97**	**56**	Pn	Pn	20 33 46.2	+0.6
	474nm,0.6s						
ERC	**Erice**	**2.01**	**350**	Pn	Pn	20 33 46.7	+0.5
	149nm,0.6s						
CSLB	**Castelbuono**	**2.05**	**23**	Pn	Pn	20 33 47.9	+1.2
	51nm,0.2s						
GIB	**Gibilmanna**	**2.09**	**22**	Pn	Pn	20 33 48.4	+1.2
	271nm,0.5s						
MMME	**Mongiuffi-Meli**	**2.58**	**43**	Pn	Pn	20 33 55.3	+1.2
	92nm,0.6s						
USI	**Ustica**	**2.65**	**2**	Pn	Pn	20 33 55.0	0.0
	184nm,0.7s						
IFIL	**Filicudi I Eol**	**2.79**	**26**	Pn	Pn	20 33 56.9	+0.1
	395nm,0.6s						
VPL	**Vulcano Piano**	**2.79**	**33**	Pn	Pn	20 33 57.7	+0.8
	211nm,1.1s						
LLI	**Lipari**	**2.83**	**32**	Pn	Pn	20 33 58.2	+0.7
	371nm,0.7s						
MTTG	**Motta San Giov**	**2.88**	**47**	Pn	Pn	20 33 59.7	+1.5
	30nm,0.6s						
SLNA	**Salina**	**2.89**	**29**	Pn	Pn	20 33 58.8	+0.6
	32nm,0.4s						
MSRU	**Castanea**	**2.96**	**41**	*i* Pn	Pn	20 34 00.6	+1.4
	140nm,1.2s						
SOI	**Samo**	**3.15**	**49**	Pn	Pn	20 34 02.8	+1.0
	22nm,0.6s						
CEL	**Celeste**	**3.17**	**45**	⇓*i* Pn	Pn	20 34 03.6	+1.5
	36nm,0.7s						
PLAC	**Placanica**	**3.62**	**48**	Pn	Pn	20 34 09.6	+1.3
	7.0nm,0.7s						
SERS	**Sersale**	**4.16**	**43**	Pn	Pn	20 34 17.2	+1.5
TIP	**Timpagrande**	**4.30**	**42**	*e*P	Pn	20 34 18.4	+0.8
TIP	**Timpagrande**	**4.30**	**42**	*e*P	Pn	20 34 18.4	+0.8
VSL	**Villasalto**	**4.49**	**321**	Pn	Pn	20 34 20.8	+0.5
	24nm,1.4s						

*IDC **15** 20:33:28.1±1.1, 421N×12636E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, Error ellipse: s-maj=85.9km s-min=15.8km az=70.0*
*NEIC **15** 20:33:29.6±0.6, 429N×12649E, h10km, mb4.4/7, Error ellipse: s-maj=35.4km s-min=8.5km az=70.0*
*ISCJB **15** 20:33:40.9±1.3, 42N±01×1264E±02, h126km±12km, mb4.0/13, Error ellipse: s-maj=41.6km s-min=9.9km az=140.2*
ISC 15 20:33:42.2±1.3, 420N±010×1264E±02, h119km±12km, n23, σ0§97/24, mb4.0/13, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.08**	**335**	⇓*e*P	**Pn**	**20 34 29.4**	**-0.1**
KCP				*i* S	**Sn**	**20 35 07.0**	**+1.1**
IPIL	**Ipil**	**5.21**	**313**	*e*P	**Pn**	**20 34 55.7**	**-2.3**
FITZ	**Fitzroy Crossi**	**22.18**	**182**	*e*P	**P**	**20 38 30.2**	**+1.6**
	11nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**25.23**	**162**	*e*P	**P**	**20 38 55.7**	**-1.2**
	28nm,1.0s,mb4.7						
WRA	**Warrarmunga Arr**	**25.23**	**162**	P	**P**	**20 38 56.2**	**-0.7**
	1.5nm,0.5s,mb3.7,baz=339,slow=10,SNR=36						
WB2	**Warrarmunga Arr**	**25.23**	**162**	*e*P	**P**	**20 38 57.2**	**+0.2**
MBWA	**Marble Bar**	**26.04**	**194**	*e*P	**P**	**20 39 04.2**	**0.0**
	10.0nm,0.9s,mb4.2						
AS31	**Alice Springs**	**28.65**	**166**	*e*P	**P**	**20 39 28.4**	**+0.8**
ASAR	**Alice Springs**	**28.65**	**166**	P	**P**	**20 39 28.1**	**+0.5**
	0.9nm,0.6s,mb3.6,baz=348,slow=7.4,SNR=20						
ASPA	**Alice Springs**	**28.65**	**166**	*e*P	**P**	**20 39 28.4**	**+0.8**
MUN	**Mundaring**	**37.27**	**194**	*e*P	**P**	**20 40 42.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.94**	**193**	P	**P**	**20 40 47.6**	**-0.4**
	10.0nm,1.0s,mb4.6,baz=18,slow=8.7,SNR=5.7						
NWAO	**Narrogin (SRO)**	**37.94**	**193**	*e*P	**P**	**20 40 47.8**	**-0.3**
	15nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**38.68**	**159**	*e*P	**P**	**20 40 53.5**	**-0.8**
	4.3nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**38.68**	**159**	P	**P**	**20 40 53.0**	**-1.3**
	5.3nm,0.7s,mb4.5,baz=322,slow=8.2,SNR=11						
LSA	**Lhasa**	**41.88**	**311**	*e*P	**P**	**20 41 22.7**	**+2.0**
SONM	**Songino Array**	**46.75**	**342**	P	**P**	**20 41 59.7**	**+0.3**
	0.8nm,0.7s,mb3.6,baz=157,slow=7.7,SNR=7.9						
MKAR	**Makanchi Array**	**56.98**	**325**	P	**P**	**20 43 14.7**	**-0.6**
	0.4nm,0.4s,mb3.8,baz=117,slow=7.7,SNR=9.7						
KURK	**Kurchatov**	**61.17**	**327**	*e*P	**P**	**20 43 43.8**	**-0.3**
	2.7nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**66.75**	**327**	P	**P**	**20 44 21.2**	**+0.6**
	0.9nm,0.8s,mb3.6,baz=120,slow=8.5,SNR=4.1						
BRVK	**Borovoye**	**66.82**	**327**	*e*P	**P**	**20 44 19.6**	**-1.5**
	0.4nm,0.6s,mb3.4						
VNDA	**Vanda**	**83.93**	**173**	P	**P**	**20 45 59.2**	**+0.3**
	2.3nm,1.1s,mb3.9,baz=344,slow=7.4,SNR=3.6						
VNDA	**Vanda**	**83.93**	**173**	P	**P**	**20 45 59.2**	**+0.3**

MAN 15 20:34:31.9, 898N×12564E, h13km, mb3.4, ML4.6, MS1.8, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.02**	**234**	*e*P	Pg	20 34 34.9	+0.6
SCPH	**Surigao**	**0.81**	**350**	*e*P	Pg	20 34 46.8	-0.9
SCPH				*e*S	Sg	20 35 02.5	+4.2
CGP	**Cagayan de Oro**	**1.07**	**241**	⇑*i* P	Pb	20 34 51

σ0°97/33, **mb5.0/1, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**68**	*eP*	**Pg**	**21 06 29.4**	**+0.7**
PHWY	**Pilot Hill**	**2.47**	**184**	*eP*	**Pn**	**21 06 52.4**	**+0.2**
RWWY	**Rawlins**	**2.53**	**216**	*eP*	**Pn**	**21 06 53.8**	**+0.7**
LAO	**LASA Array**	**3.00**	**347**	*eP*	**Pn**	**21 07 01.3**	**+1.8**
PDAR	**Pinedale Array**	**3.31**	**254**	Pn	**Pn**	**21 07 03.6**	**-0.1**
	2.5nm,0.3s,baz=77,slow=16,SNR=44						
PDAR				Pg	**Pg**	**21 07 08.1**	**-6.0**
	6.4nm,0.3s,baz=66,slow=16,SNR=55						
PDAR				Lg		21 07 48.8	
	7.5nm,0.3s,baz=86,slow=26,SNR=6.9						
BW06	**Boulder Array**	**3.31**	**254**	*eP*	**Pn**	**21 07 03.6**	**-0.1**
BW06				*eS*	**Sn**	**21 07 48.7**	**+5.0**
LKWY	**Lake**	**3.79**	**284**	*eP*	**Pn**	**21 07 11.6**	**+1.2**
LOHW	**Long Hollow**	**3.89**	**270**	*eP*	**Pn**	**21 07 12.0**	**+0.3**
FLWY	**Flagg Ranch**	**3.95**	**276**	*eP*	**Pn**	**21 07 13.2**	**+0.6**
ISCO	**Idaho Springs**	**3.97**	**184**	*ePn*	**Pn**	**21 07 13.1**	**+0.2**
SNOW	**Snow King Moun**	**4.01**	**268**	*eP*	**Pn**	**21 07 20.8**	**+7.3**
YFT	**Old Faithful**	**4.09**	**282**	P	**Pn**	**21 07 12.1**	**-2.3**
REDW	**Red Top Meadow**	**4.10**	**266**	*ePn*	**Pn**	**21 07 15.1**	**+0.6**
REDW				*ePg*	**Pg**	**21 07 22.0**	**-7.3**
YMR	**Madison River**	**4.21**	**284**	Pn	**Pn**	**21 07 16.5**	**+0.4**
QLMT	**Earthquake Lak**	**4.57**	**286**	Pn	**Pn**	**21 07 23.3**	**+2.3**
QLMT				*ePg*	**Pg**	**21 07 32.7**	**-5.5**
HWUT	**Hardware Ranch**	**5.14**	**247**	*ePn*	**Pn**	**21 07 28.3**	**-0.5**
	9.0nm,0.6s						
TCUT	**Toone Canyon**	**5.27**	**242**	*ePn*	**Pn**	**21 07 30.6**	**-0.2**
EGMT	**Eagleton**	**5.29**	**325**	*eP*	**Pn**	**21 07 31.6**	**+0.6**
	8.5nm,0.6s						
DLMT	**Dillon**	**5.49**	**289**	Pn	**Pn**	**21 07 34.6**	**+0.9**
	0.8nm,0.4s						
HVU	**Hansel Valley**	**5.89**	**253**	*ePn*	**Pn**	**21 07 39.4**	**+0.2**
	6.2nm,0.7s						
SRU	**San Rafael**	**6.11**	**222**	*ePn*	**Pn**	**21 07 41.7**	**-0.5**
	12nm,0.5s						
PV01	**Paradox Valley**	**6.17**	**205**	*ePn*	**Pn**	**21 07 41.7**	**-1.3**
TMUT	**Trail Mountain**	**6.32**	**227**	*ePn*	**Pn**	**21 07 45.1**	**0.0**
CHMT	**Chamberlain Mo**	**6.46**	**302**	*eP*	**Pn**	**21 07 47.1**	**0.0**
CHMT				*eS*	**Sg**	**21 09 36.5**	**-1.8**
MSU	**Marysvale**	**7.41**	**227**	*ePn*	**Pn**	**21 07 59.8**	**-0.3**
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**21 08 22.0**	**-1.3**
	0.6nm,0.3s,baz=229,slow=12,SNR=4.1						
ULM				Lg		21 10 59.6	
	0.3nm,0.3s,baz=142,slow=18,SNR=3.3						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**Pn**	**21 10 40.2**	**-0.8**
	0.2nm,0.6s,baz=159,slow=12,SNR=5.0						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**21 16 26.9**	**-1.6**
	14nm,1.1s,mb5.0,baz=341,slow=7.9,SNR=4.1						

*NEIC **15** 21:06:42.0, 3745N×3760E, h6km, ML4.0(ISK), After ISK.*
*CSEM **15** 21:06:42.6±0.0, 3744N×3759E, h5km, MD3.8, Error ellipse: s-maj=1.1km s-min=0.9km az=149.0*
*GRAL **15** 21:06:42.8±0.7, 3740N×3844E, h15km, MD4.4*
*ISK **15** 21:06:42.7, 3747N×3759E, h4km, MD3.8, ML3.8*
*IDC **15** 21:06:43.4±1.7, 3742N×3756E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=33.9km s-min=20.9km az=22.0*
*ISCJB **15** 21:06:43.5±0.5, 3743N±002×3759E±003, h8km±4km, mb3.6/2, Error ellipse: s-maj=3.7km s-min=2.7km az=66.0*

ISC 15 21:06:44.1±0.5, 3742N±002×3759E±003, h5km±4km, n74, σ0°93/92, mb3.6/2, 11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.07**	**199**	*iP*	**Pg**	**21 06 45.9**	**+0.2**
GZT				*iS*	**Sg**	**21 06 50.9**	**+4.1**
GAZ	**Gaziantep**	**0.39**	**231**	*i* PG	**Pg**	**21 06 51.6**	**0.0**
ATAB	**Bozova**	**0.56**	**84**	*iP*	**Pg**	**21 06 54.5**	**-0.4**
ATAB				*iS*	**Sg**	**21 07 02.8**	**+0.5**
URFA	**Urfa**	**0.98**	**88**	*i* PG	**Pg**	**21 07 01.9**	**-1.0**
URFA				*i* SG	**Sg**	**21 07 16.5**	**+0.8**
MALT	**Malatya**	**1.11**	**36**	PG	**Pg**	**21 07 03.2**	**-2.3**
MALT				SG	**Sg**	**21 07 19.4**	**-0.5**
MALT	**Malatya**	**1.11**	**36**	*eP*	**Pg**	**21 07 03.3**	**-2.2**
MALT				*eS*	**Sg**	**21 07 19.3**	**-0.7**
MYA	**Malataya**	**1.12**	**36**	PN	**Pn**	**21 07 04.0**	**-2.5**
SLMH	**Al Salmeh**	**1.23**	**167**	⇓*iP*	**Pg**	**21 07 07.3**	**-0.4**
SLMH				⇓*iS*	**Sg**	**21 07 24.8**	**+1.1**
COBT	**Iskenderun**	**1.39**	**230**	*iP*	**Pn**	**21 07 08.8**	**-1.4**
COBT				*iS*	**Sb**	**21 07 28.3**	**-0.4**
KOZT	**Kozan**	**1.41**	**273**	PN	**Pn**	**21 07 09.7**	**-0.6**
KOZT				SN	**Sn**	**21 07 29.4**	**+0.2**
CEYT	**Ceyhan**	**1.53**	**255**	PN	**Pn**	**21 07 11.0**	**-1.0**
ELZG	**Elazig**	**1.54**	**45**	*iP*	**Pn**	**21 07 11.0**	**-1.2**
ELZG				*iS*	**Sn**	**21 07 32.3**	**-0.3**
BTCH	**Batrach**	**1.65**	**214**	⇓*iP*	**Pn**	**21 07 12.8**	**-0.9**
BTCH				⇓*iS*	**Sn**	**21 07 35.0**	**-0.2**
HTY	**Hatay**	**1.74**	**222**	PN	**Pn**	**21 07 15.9**	**+0.9**
JHLN	**Al Jahlan**	**1.87**	**158**	⇓*iP*	**Pn**	**21 07 15.9**	**-0.8**
JHLN				⇓*iS*	**Sn**	**21 07 41.2**	**+0.5**
KRTS	**Karatas**	**1.96**	**245**	PN	**Pn**	**21 07 17.9**	**-0.1**
KARA	**Karaisali**	**2.03**	**266**	*ePN*	**Pn**	**21 07 18.5**	**-0.4**
SLNF	**Slenfeh**	**2.12**	**212**	⇓*iP*	**Pn**	**21 07 20.2**	**-0.1**
SLNF				⇓*iS*	**Sn**	**21 07 46.8**	**-0.2**
WRDH	**Warideh**	**2.13**	**207**	⇓*iP*	**Pn**	**21 07 19.3**	**-1.0**
DIY	**Diyarbakir**	**2.15**	**76**	*ePN*	**Pn**	**21 07 20.2**	**-0.3**
KFRA	**Kufra**	**2.29**	**196**	⇑*iP*	**Pn**	**21 07 22.6**	**+0.1**
KFRA				⇑*iS*	**Sn**	**21 07 50.8**	**-0.3**
SVST	**Sivas**	**2.41**	**348**	*eP*	**Pn**	**21 07 25.3**	**+1.2**
NIG	**Nigde**	**2.46**	**287**	*ePN*	**Pn**	**21 07 24.9**	**0.0**
MERS	**Mersin**	**2.51**	**258**	*ePN*	**Pn**	**21 07 25.6**	**0.0**
SVSK	**Karacayir**	**2.54**	**350**	*ePN*	**Pn**	**21 07 25.6**	**-0.3**
MARD	**Mardin**	**2.54**	**91**	*iP*	**Pn**	**21 07 24.1**	**-1.9**
MARD				*iS*	**Sn**	**21 08 00.8**	**+3.6**
AVNT	**Avonos**	**2.55**	**303**	*iP*	**Pn**	**21 07 25.6**	**-0.5**
AVNT	**Avonos**	**2.55**	**303**	*iP*	**Pn**	**21 07 25.6**	**-0.5**
BIDA	**Albida**	**2.61**	**204**	⇓*iP*	**Pn**	**21 07 26.4**	**-0.5**
BIDA				⇓*iS*	**Sn**	**21 07 57.5**	**-1.4**
EZC	**Erzincan**	**2.91**	**36**	*ePN*	**Pn**	**21 07 27.7**	**-3.3**
KELT	**Kelkit**	**3.02**	**25**	*iP*	**Pn**	**21 07 32.3**	**-0.3**
ROOS	**tl_alroos**	**3.25**	**184**	⇑*iP*	**Pn**	**21 07 35.6**	**-0.1**
ROOS				⇑*iS*	**Sn**	**21 08 13.9**	**-0.8**
FKH	**Fakeheh**	**3.32**	**197**	*ePn*	**Pn**	**21 07 36.6**	**-0.1**
FKH				Sn	**Sn**	**21 08 16.5**	**+0.1**
IKL	**Isikli**	**3.35**	**251**	*ePN*	**Pn**	**21 07 36.6**	**-0.4**
CDAG	**Cicekdag**	**3.35**	**312**	*eP*	**Pn**	**21 07 39.4**	**+2.3**
GUMT	**Gumushane**	**3.38**	**25**	*ePN*	**Pn**	**21 07 37.3**	**-0.2**
HWQ	**Hawqa**	**3.41**	**204**	*ePn*	**Pn**	**21 07 38.3**	**+0.4**
HWQ				Sn	**Sn**	**21 08 20.1**	**+1.5**
CORM	**Corum**	**3.60**	**321**	*ePN*	**Pn**	**21 07 40.8**	**+0.3**
KAMT	**Kaman**	**3.62**	**304**	*ePN*	**Pn**	**21 07 41.2**	**+0.4**
BHL	**Bhannes**	**3.84**	**205**	*ePn*	**Pn**	**21 07 45.3**	**+1.5**
KVT	**Kavak**	**3.85**	**342**	*ePN*	**Pn**	**21 07 44.3**	**+0.3**
EZM	**Erzurum**	**3.86**	**49**	*ePN*	**Pn**	**21 07 43.6**	**-0.5**
BR131	**Keskin Array S**	**3.86**	**308**	*eP*	**Pn**	**21 07 43.8**	**-0.3**
BR131	**Keskin Array S**	**3.86**	**308**	*eP*	**Pn**	**21 07 43.8**	**-0.3**
BRTR	**Keskin Array B**	**3.86**	**308**	Pn	**Pn**	**21 07 44.4**	**+0.2**
	0.8nm,0.3s,baz=136,slow=16,SNR=13						
BRTR				Pg	**Pg**	**21 07 54.0**	**-4.2**
	1.8nm,0.3s,baz=136,slow=19,SNR=19						
BRTR				Lg		21 08 45.0	
	3.7nm,0.3s,baz=133,slow=27,SNR=9.5						
BRTR	**Keskin Array B**	**3.86**	**308**	Pn	**Pn**	**21 07 44.3**	**+0.2**
BRTR	**Keskin Array B**	**3.86**	**308**	Pg	**Pg**	**21 07 54.0**	**-4.1**
ERZM	**Erzurum**	**3.86**	**49**	*eP*	**Pn**	**21 07 44.5**	**+0.4**
CTKT	**Corum**	**3.87**	**327**	*iP*	**Pn**	**21 07 45.4**	**+1.1**
BRBR	**Barbar**	**4.21**	**199**	⇑*iP*	**Pn**	**21 07 49.7**	**+0.7**
BRBR				⇑*iS*	**Sn**	**21 08 37.2**	**-1.3**
CSS	**Prodhromos**	**4.23**	**236**	*eP*	**Pn**	**21 07 47.4**	**-1.7**
CSS	**Prodhromos**	**4.23**	**236**	*eP*	**Pn**	**21 07 47.4**	**-1.8**
CANT	**Cankiri**	**4.44**	**317**	*ePN*	**Pn**	**21 07 52.4**	**+0.3**
ANTO	**Ankara**	**4.48**	**305**	*ePN*	**Pn**	**21 07 53.3**	**+0.6**
ANTO	**Ankara**	**4.48**	**305**	P	**Pn**	**21 07 58.5**	**+5.8**
LOD	**Lodumlu**	**4.51**	**305**	*ePN*	**Pn**	**21 07 53.6**	**+0.5**
MSL	**Mosul**	**4.55**	**103**	*ex*	x	21 08 11.0	
MSL				*i* x	x	21 09 12.0	
BYBT	**Boyabat**	**4.60**	**332**	*ePN*	**Pn**	**21 07 55.5**	**+1.2**
TVAN	**Van**	**4.73**	**75**	*eP*	**Pb**	**21 08 08.1**	**+0.6**
KIZT	**Kizilcal**	**4.73**	**290**	*ePN*	**Pn**	**21 07 57.0**	**+0.9**
MMA0	**Mount Meron ar**	**4.74**	**203**	Pn	**Pn**	**21 07 57.2**	**+1.0**
HNTI	**Hanita**	**4.75**	**205**	Pn	**Pn**	**21 07 57.6**	**+1.2**
CUKT	**Cukurca**	**4.80**	**90**	*ePN*	**Pn**	**21 07 58.5**	**+1.5**
HKR	**Hakkari**	**4.89**	**86**	*ePN*	**Pn**	**21 07 59.3**	**+1.0**
CLDR	**Caldiran**	**5.27**	**69**	*ePN*	**Pn**	**21 08 04.8**	**+1.4**
MMLI	**Mount Malkishu**	**5.28**	**200**	Pn	**Pn**	**21 08 05.4**	**+1.8**
GNI	**Garni**	**6.22**	**62**	P	**Pn**	**21 08 21.2**	**+4.7**
	11nm,0.9s						
BHD	**Baghdad**	**6.92**	**125**	*ex*	x	21 08 54.0	
BHD				*i* x	x	21 10 24.0	
GERES	**GERESS Array B**	**20.75**	**311**	P	**P**	**21 11 25.2**	**-0.4**
	1.8nm,0.7s,baz=116,slow=9.1,SNR=14						
PRU	**Pruhonice**	**20.77**	**315**	*eP*	**P**	**21 11 21.5**	**-4.3**
PRU				x	x	21 11 27.0	
KHC	**Kasperske Hory**	**20.94**	**312**	*eP*	**P**	**21 11 28.0**	**+0.3**
MKAR	**Makanchi Array**	**34.06**	**60**	P	**P**	**21 13 29.4**	**+0.2**
	0.5nm,0.7s,mb3.6,baz=276,slow=8.2,SNR=6.4						
MKAR	**Makanchi Array**	**34.06**	**60**	P	**P**	**21 13 29.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**40.09**	**242**	P	**P**	**21 14 20.4**	**-0.1**
	0.9nm,0.8s,mb3.5,baz=41,slow=8.9,SNR=7.1						

IDC 15 21:08:26.4±1.0, 1036S×16155E, h87km±7km, mb3.3/5, mb1 3.5/5, mb1mx3.4/13, mbtmp3.6/5, Error ellipse: s-maj=20.8km s-min=11.4km az=31.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.82**	**300**	P	Pn	21 08 55.7	-0.5
	80nm,0.3s,baz=109,slow=1.4,SNR=14						
HNR				S	Sn	21 09 19.2	+0.4
	280nm,0.3s,baz=92,slow=22,SNR=10						
DZM	**Mont Dzumac**	**12.55**	**159**	P	Pn	21 11 25.7	+4.0
	0.7nm,0.3s,baz=258,slow=22,SNR=6.2						
DZM				S	Sn	21 13 40.5	+0.9
	0.4nm,0.3s,baz=242,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**27.89**	**247**	P	P	21 14 07.9	-0.2
	0.6nm,0.4s,baz=77,slow=8.9,SNR=9.7						
WRA				pP	pP	21 14 30.1	+2.3
	1.8nm,0.7s,baz=77,slow=9.5,SNR=7.6						
ASAR	**Alice Springs**	**29.48**	**240**	P	P	21 14 21.6	-0.6
	0.2nm,0.5s,baz=61,slow=11,SNR=3.5						
ASAR				pP	pP	21 14 43.3	+1.2
	0.3nm,0.5s,baz=62,slow=10,SNR=2.4						
SONM	**Songino Array**	**75.71**	**325**	P	P	21 20 03.2	+0.8
	0.3nm,0.4s,baz=138,slow=5.4,SNR=5.8						
SONM				pP	pP	21 20 23.9	-1.2
	1.1nm,0.7s,baz=141,slow=5.7,SNR=6.3						
ILAR	**Eielson Array**	**84.22**	**20**	P	P	21 20 48.8	+0.5
	0.4nm,0.9s,baz=258,slow=5.1,SNR=4.6						
ILAR				pP	pP	21 21 09.8	-1.4
	0.2nm,0.6s,baz=242,slow=5.6,SNR=2.2						
MKAR	**Makanchi Array**	**90.22**	**318**	P	P	21 21 17.4	+0.2
	0.2nm,0.5s,baz=87,slow=6.2,SNR=7.3						
MKAR				pP	pP	21 21 42.1	+1.7
	0.3nm,0.7s,baz=90,slow=4.3,SNR=2.7						

*NIED **15** 21:24:00, 3530N×137.10E, h53km, Mw3.9 Best double couple: M0:8.86000×10^14 NP1:φ=202.00000°, δ=74.00000°, λ=81.00000°. NP2:φ=53.00000°, δ=19.00000°, λ=120.00000°.*
*ISCJB **15** 21:24:21.1±0.4, 3525N±004×13706E±005, h57km±6km, mb3.5/5, Error ellipse: s-maj=6.3km s-min=5.8km az=126.5*
*JMA **15** 21:24:21.6, 3528N×13705E, h43km, M4.0 Broadband fault plane solution: P waves. NP1:φ=45.00000°, δ=17.00000°, λ=114.00000°. NP2:φ=200.00000°, δ=74.00000°, λ=83.00000°. Principal axes: T Plg=60.0000°, Azm=100.0000°; N Plg=7.0000°, Azm=202.0000°; P Plg=29.0000°, Azm=296.0000°;*
JMA Felt II J1.
*IDC **15** 21:24:22.1±1.9, 3523N×137.12E, h54km±24km, mb3.0/4, mb1 3.4/6, mb1mx3.2/22, mbtmp3.4/6, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/6 Error ellipse: s-maj=27.4km s-min=12.8km az=56.0*
*NEIC **15** 21:24:22.4±1.0, 3528N×13709E, h58km±13km, mb4.1/1, Error ellipse: s-maj=17.9km s-min=11.6km az=143.0*

ISC 15 21:24:21.9±0.4, 3526N±003×13705E±005, h48km±6km, n21, σ0°71/29, mb3.5/5, 1C-8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.17**	**87**	⇓*iP*	**Pn**	**21 24 28.9**	**-0.9**
JGM	**Miyama**	**0.52**	**328**	⇑*iP*	**Pn**	**21 24 32.6**	**-0.7**
JGM				*eS*	**Sn**	**21 24 40.4**	**-1.0**
TSUJ	**Tsu 2**	**0.75**	**224**	⇓*iP*	**Pn**	**21 24 36.3**	**0.0**
JIE	**Ise**	**0.91**	**198**	⇓*iP*	**Pn**	**21 24 38.5**	**+0.2**
JIE				*eS*	**Sn**	**21 24 51.5**	**+1.1**
SHZ3	**Shizuoka 3**	**0.97**	**101**	⇓*iP*	**Pn**	**21 24 38.4**	**-0.7**
SHZ3				*eS*	**Sn**	**21 24 51.5**	**-0.3**
TK04	**Tokai 4**	**1.10**	**142**	⇓*iP*	**Pn**	**21 24 41.3**	**+0.3**
JKG	**Kaga**	**1.17**	**330**	⇓*iP*	**Pn**	**21 24 41.9**	**0.0**
JKG				*eS*	**Sn**	**21 24 57.3**	**+0.5**
JKN2	**Miekihoku**	**1.20**	**213**	⇓*iP*	**Pn**	**21 24 42.1**	**-0.2**
JYN	**Shimob**	**1.24**	**78**	⇓*iP*	**Pn**	**21 24 42.7**	**-0.2**
JHE	**Heguri**	**1.27**	**242**	P	**Pn**	**21 24 43.4**	**+0.1**
MAJO	**Matsushiro**	**1.59**	**36**	*eP*	**Pn**	**21 24 47.6**	**0.0**
MAT	**Matsushiro**	**1.59**	**36**	P	**Pn**	**21 24 47.8**	**+0.2**
MAT				S	**Sn**	**21 25 09.4**	**+2.5**
MAT	**Matsushiro**	**1.59**	**36**	*eP*	**Pn**	**21 24 48.0**	**+0.4**
MAT				*eS*	**Sn**	**21 25 09.0**	**+2.1**
MJAR	**Matsushiro Arr**	**1.59**	**36**	P	**Pn**	**21 24 47.9**	**+0.3**
	48nm,0.3s,baz=218,slow=12,SNR=277						
MJAR				S	**Sn**	**21 25 00.9**	**-6.0**
	71nm,0.3s,baz=218,slow=15,SNR=46						
JHJ	**Hachijo jima 2**	**3.11**	**133**	P	**Pn**	**21 25 08.7**	**+0.3**
	11nm,0.3s,baz=319,slow=11,SNR=6.5						
JHJ				S	**Sn**	**21 25 44.0**	**-0.3**
	20nm,0.3s,baz=75,slow=19,SNR=6.0						
JHJ				LR	LR	21 25 47.2	
	comp=Z,160nm,19.5s,baz=204,slow=28						
JNU	**Nakatsue**	**5.54**	**249**	P	**Pn**	**21 25 42.9**	**+1.0**
	3.4nm,0.3s,baz=20,slow=13,SNR=10						
ENH	**Enshi**	**23.67**	**266**	*eP*	**P**	**21 29 28.8**	**-0.3**
	4.2nm,0.6s,mb4.0						
SONM	**Songino Array**	**25.98**	**308**	P	**P**	**21 29 48.7**	**-1.3**
	0.3nm,0.5s,mb3.1,baz=107,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**42.10**	**303**	P	**P**	**21 32 09.9**	**+0.7**
	0.1nm,0.4s,mb2.8,baz=84,slow=8.4,SNR=2.3						
WRA	**Warramunga Arr**	**54.95**	**183**	P	**P**	**21 33 47.0**	**-1.1**
	0.7nm,0.9s,mb3.7,baz=359,slow=7.5,SNR=7.5						
WRA				pP	pP	21 33 58.7	-2.6
	0.3nm,0.5s,baz=359,slow=7.6,SNR=2.0						
ASAR	**Alice Springs**	**58.68**	**183**	P	**P**	**21 34 14.7**	**+0.3**
	0.4nm,0.7s,mb3.6,baz=14,slow=13,SNR=5.8						

*IDC **15** 21:40:01.5±1.5, 1069N×8403W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=58.2km s-min=11.3km az=152.0*
*ISCJB **15** 21:40:04.0±0.7, 954N±005×8432W±004, h28km±5km, mb3.7/3, Error ellipse: s-maj=10.0km s-min=4.1km az=63.2*
*CASC **15** 21:40:04.4±2.4, 957N×8429W, h26km±5km, MD4.1, ML4.4*

ISC 15 21:40:03.8±0.8, 952N±004×8433W±003, h19km±4km, n34, σ0°82/44, mb3.7/3, 9C-10D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.39**	**56**	⇓*iP*	**Pg**	**21 40 13.0**	**+1.0**
LAJ	**Bijagual**	**0.40**	**31**	⇑*iP*	**Pg**	**21 40 13.0**	**+0.9**
PRS1	**Puriscal**	**0.46**	**2**	⇑*iP*	**Pg**	**21 40 12.5**	**-0.7**
SJS	**Escuela Geolog**	**0.49**	**33**	⇓*eP*	**Pg**	**21 40 14.0**	**+0.1**
SJS				*eS*	**Sg**	**21 40 20.9**	**+0.4**
CGA2	**Cerro Gallo 2**	**0.51**	**345**	⇑*iP*	**Pg**	**21 40 14.2**	**+0.1**
OCM	**Ochomogo**	**0.52**	**44**	⇓*iP*	**Pg**	**21 40 14.2**	**0.0**
OCM				*eS*	**Sg**	**21 40 21.6**	**+0.3**
OCM				AML	AML	21 40 24.5	
	comp=N,29μm,0.4s						
EPA	**Esparza**	**0.53**	**330**	⇓*iP*	**Pg**	**21 40 14.6**	**0.0**
BUS	**Buena Vista**	**0.56**	**86**	⇑*iP*	**Pg**	**21 40 16.2**	**+1.1**
IRZ2	**Volcan Irazu 2**	**0.61**	**44**	⇓*iP*	**Pg**	**21 40 15.8**	**-0.3**
POA2	**Poas 2**	**0.66**	**7**	⇑*iP*	**Pb**	**21 40 16.1**	**-0.5**
ICR	**Volcan Irazu**	**0.67**	**47**	⇓*eP*	**Pb**	**21 40 17.0**	**0.0**
ICR				*eS*	**Sb**	**21 40 25.9**	**0.0**
VPS2	**Volcan Poas 2**	**0.67**	**8**	⇓*iP*	**Pb**	**21 40 16.2**	**-0.8**
PICA	**Picada**	**0.73**	**47**	⇓*eP*	**Pb**	**21 40 17.9**	**-0.1**
VTU	**Volcan Turrial**	**0.75**	**48**	⇓*iP*	**Pb**	**21 40 17.7**	**-0.6**
CAO	**Cobano**	**0.79**	**283**	⇑*iP*	**Pb**	**21 40 18.8**	**-0.1**
JTS	**JuntasAbangare**	**0.98**	**321**	Pg	**Pg**	**21 40 21.2**	**-1.7**
	comp=N,1μm,0.3s,baz=99,slow=10,SNR=2231						
JTS				Lg		21 40 33.7	
	comp=N,2μm,0.3s,baz=319,slow=20,SNR=46						
JTS	**JuntasAbangare**	**0.98**	**321**	⇑*iP*	**Pb**	**21 40 21.2**	**-1.0**
VACR	**Volcan Arenal**	**1.01**	**340**	⇑*iP*	**Pb**	**21 40 21.3**	**-1.3**
VACR				*eS*	**Sb**	**21 40 35.3**	**-0.3**
VCR	**Vista de Mar**	**1.42**	**295**	⇓*eP*	**Pn**	**21 40 27.7**	**-1.0**
VCR				*eS*	**Sn**	**21 40 48.5**	**+1.7**
ACR	**Cerro Adams**	**1.43**	**127**	*eP*	**Pn**	**21 40 28.9**	**+0.1**
ACR				*eS*	**Sn**	**21 40 48.0**	**+0.8**
LIM1	**Limonal**	**1.48**	**322**	*iP*	**Pn**	**21 40 28.2**	**-1.3**
LIM1				*i* S	**Sn**	**21 40 49.0**	**+0.5**
RIN3	**Volcan Rincon**	**1.63**	**321**	*eP*	**Pn**	**21 40 30.2**	**-1.4**
RIN3				*eS*	**Sn**	**21 40 52.1**	**0.0**
CTCR	**Cotoan**	**1.67**	**112**	⇑*iP*	**Pn**	**21 40 32.4**	**+0.3**
CTCR				*eS*	**Sn**	**21 40 51.1**	**-1.9**
TICN	**Ticuantepe**	**3.12**	**323**	*eP*	**Pn**	**21 40 52.4**	**+0.4**
TICN				*eS*	**Sn**	**21 41 29.9**	**+1.1**
APYN	**Apoyeque**	**3.35**	**324**	*eP*	**Pn**	**21 40 56.6**	**+1.4**
COPN	**Copaltepe**	**3.45**	**320**	*eP*	**Pn**	**21 40 57.1**	**+0.5**
MOMJ	**Momotombo**	**3.60**	**323**	*eP*	**Pn**	**21 40 58.1**	**-0.5**
MIRN	**Miramar**	**3.73**	**321**	*eP*	**Pn**	**21 41 01.0**	**+0.6**
CNGN	**Cerro Negro**	**3.77**	**322**	*eP*	**Pn**	**21 41 01.6**	**+0.7**
TEL3	**Telica 3**	**3.91**	**321**	*eP*	**Pn**	**21 41 03.8**	**+0.9**
CRIN	**San Cristobal**	**4.14**	**320**	*eP*	**Pn**	**21 41 06.7**	**+0.7**
YKA	**Yellowknife Ar**	**57.24**	**344**	P	**P**	**21 49 43.3**	**-6.7**
	comp=N,0.2nm,0.5s,mb3.4,baz=142,slow=7.0,SNR=4.8						
ESDC	**Sonseca Array**	**76.59**	**51**	P	**P**	**21 51 48.1**	**-5.0**
	comp=N,1.7nm,0.8s,mb4.0,baz=270,slow=5.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**84.04**	**78**	P	**P**	**21 52 32.8**	**-0.4**
	comp=N,0.6nm,1.1s,mb3.6,baz=312,slow=4.1,SNR=2.2						

*IDC **15** 21:53:44.0±2.7, 4930N×12904W, h0km, mb3.7/1, mb1 3.4/5, mb1mx3.3/21, mbtmp3.1/5, ML3.7/2, Error ellipse: s-maj=42.4km s-min=12.6km az=75.0*
*ISCJB **15** 21:53:45.9±1.3, 4894N±006×12839W±009, h10km, mb3.7/1, Error ellipse: s-maj=11.3km s-min=5.2km az=92.8*
*NEIC **15** 21:53:45.3, 4881N×12864W, h10km, MW4.1(PGC), After PGC.*
*PGC **15** 21:53:45.3, 4881N×12864W, h10km, MLSn3.5/1, Mw4.1, 202km southwest of Tofino, Bc West of Vancouver Island, British Columbia*

ISC 15 21:53:46.3±1.3, 4893N±006×12841W±010, h10km, n34, σ1°06/52, mb3.7/1, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.29**	**18**	Pn	**Pn**	**21 54 09.1**	**-1.3**
BPBC				Sn	**Sn**	**21 54 27.4**	**-0.4**
	comp=Z,152nm,0.4s						
BPBC				Trac		21 54 35.7	
	comp=Z,152nm,0.4s						
BPBC	**Brooks Peninsu**	**1.29**	**18**	*eP*	**Pn**	**21 54 09.1**	**-1.3**
BPBC				Sn	**Sn**	**21 54 27.4**	**-0.4**
ETB	**Estevan Point**	**1.30**	**69**	Pn	**Pn**	**21 54 10.8**	**+0.2**
MAYB	**Maynard**	**1.68**	**28**	Pn	**Pn**	**21 54 15.4**	**-0.3**
MAYB				Sn	**Sn**	**21 54 36.9**	**-0.3**
	comp=Z,44nm,0.4s						
MAYB				Trac		21 54 45.

TUVZ	**Tukino**	**0.62 103**	PN	Pn	21 54 33.4	+0.1
TUVZ	**Tukino**	**0.62 103**	P	Pn	21 54 33.4	0.0
WAZ	**Wanganui**	**0.63 173**	PN	Pn	21 54 33.8	+0.4
WAZ			SN	S	21 54 56.7	-0.4
WAZ	**Wanganui**	**0.63 173**	P	Pn	21 54 33.8	+0.4
WAZ			S	S	21 54 56.7	-0.4
MOVZ	**Moawhango**	**0.73 113**	PN	Pn	21 54 33.5	-0.3
MOVZ			SN	S	21 54 55.4	-2.5
MOVZ	**Moawhango**	**0.73 113**	P	Pn	21 54 33.5	-0.4
TSZ	**Takapari Road**	**1.25 138**	PN	Pn	21 54 37.2	+0.2
TSZ			SN	S	21 55 02.0	-1.5
TSZ	**Takapari Road**	**1.25 138**	P	Pn	21 54 37.2	+0.2
BKZ	**Black Stump Fm**	**1.25 92**	PN	Pn	21 54 36.5	-0.5
BKZ	**Black Stump Fm**	**1.25 92**	*e*P	Pn	21 54 36.5	-0.5
MRZ	**Mangatainoka R**	**1.62 161**	PN	Pn	21 54 39.6	-0.3
MRZ			SN	S	21 55 07.1	-1.7
MRZ	**Mangatainoka R**	**1.62 161**	P	Pn	21 54 39.6	-0.4
MRZ			S	S	21 55 07.3	-1.5
KIW	**Kapiti Island**	**1.73 179**	PN	Pn	21 54 40.6	-0.3
KIW			SN	S	21 55 08.3	-2.2
KIW	**Kapiti Island**	**1.73 179**	P	Pn	21 54 40.6	-0.3
PXZ	**Pawanui**	**1.78 121**	PN	Pn	21 54 41.3	0.0
DUWZ	**D'Urville Isla**	**1.83 203**	PN	Pn	21 54 41.5	-0.3
BFZ	**Birch Farm**	**1.87 146**	PN	Pn	21 54 41.9	-0.3
URZ	**Urewera**	**1.95 64**	PN	Pn	21 54 40.9	-2.0
URZ	**Urewera**	**1.95 64**	*e*P	Pn	21 54 40.9	-2.0
CAW	**Cannon Point**	**1.98 176**	PN	Pn	21 54 42.9	-0.4
CAW	**Cannon Point**	**1.98 176**	P	Pn	21 54 42.9	-0.4
MTW	**Mount Morrison**	**2.08 167**	PN	Pn	21 54 43.6	-0.6
MRW	**Makara Radio**	**2.10 184**	PN	Pn	21 54 44.0	-0.5
MRW	**Makara Radio**	**2.10 184**	P	Pn	21 54 44.0	-0.4
TCW	**Tory Channel**	**2.13 192**	PN	Pn	21 54 44.5	-0.2
TCW	**Tory Channel**	**2.13 192**	P	Pn	21 54 44.5	-0.2
SNZO	**South Karori**	**2.18 183**	PN	Pn	21 54 44.6	-0.7
SNZO	**South Karori**	**2.18 183**	P	Pn	21 54 44.6	-0.6
MWZ	**Matawai**	**2.22 70**	PN	Pn	21 54 44.1	-1.5
MWZ	**Matawai**	**2.22 70**	*e*P	Pn	21 54 44.1	-1.5
BHW	**Baring Head**	**2.28 180**	PN	Pn	21 54 45.4	-0.8
BHW	**Baring Head**	**2.28 180**	P	Pn	21 54 44.4	-1.8
PAWZ	**Paruwai Farm**	**2.29 170**	PN	Pn	21 54 45.7	-0.6
PAWZ	**Paruwai Farm**	**2.29 170**	P	Pn	21 54 44.7	-1.6
MSWZ	**Moikau Station**	**2.30 173**	PN	Pn	21 54 45.8	-0.7
MSWZ	**Moikau Station**	**2.30 173**	P	Pn	21 54 44.8	-1.6
TRWZ	**Traveller**	**2.35 165**	PN	Pn	21 54 46.4	-0.5
NNZ	**Nelson**	**2.38 208**	PN	Pn	21 54 46.6	-0.7
NNZ	**Nelson**	**2.38 208**	P	Pn	21 54 46.6	-0.7
TUWZ	**Tuamarina**	**2.41 197**	PN	Pn	21 54 47.1	-0.5
QRZ	**Quartz Range**	**2.48 226**	PN	Pn	21 54 46.5	-1.8
QRZ	**Quartz Range**	**2.48 226**	*e*P	Pn	21 54 46.7	-1.6
BSWZ	**Blackbirch Sta**	**2.69 196**	P	Pn	21 54 49.4	-1.2
THZ	**Tophouse**	**3.03 209**	PN	Pn	21 54 52.9	-1.5
THZ	**Tophouse**	**3.03 209**	P	Pn	21 54 53.4	-1.0
KHZ	**Kahutara**	**3.44 197**	PN	Pn	21 54 58.1	-1.0
KHZ	**Kahutara**	**3.44 197**	*e*P	Pn	21 54 58.1	-1.0
DSZ	**Denniston Nort**	**3.52 221**	*e*P	Pn	21 54 58.2	-1.8
LTZ	**Lake Taylor**	**4.15 208**	PN	Pn	21 55 05.9	-1.7
LTZ	**Lake Taylor**	**4.15 208**	P	Pn	21 55 06.0	-1.6
MQZ	**McQueen's Vall**	**4.87 199**	*e*P	Pn	21 55 13.8	-2.7
WVZ	**Waitaha Valley**	**5.04 217**	*e*P	Pn	21 55 16.2	-2.4
RPZ	**Rata Peaks**	**5.41 211**	*e*P	Pn	21 55 21.0	-2.3
LBZ	**Lake Benmore**	**6.32 212**	*e*P	Pn	21 55 31.9	-2.9
ODZ	**Otahua Downs**	**6.70 207**	*e*P	Pn	21 55 38.2	-1.5
JCZ	**Jackson Bay**	**6.74 221**	*e*P	Pn	21 55 37.3	-2.9

*NEIC **15** 21:59:24.2, 4880N×12868W, h10km, MW3.8(PGC), After PGC.*

PGC 15 21:59:24.2, 4880N×12868W, h10km, MLSn3.2/1, Mw3.8, 1C, 205km southwest of Tofino, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.48**	**43**	Pn	Pn	21 59 48.4	-2.5
EDB				Sn	Sn	22 00 05.8	-4.4
EDB				Trac		22 00 06.4	
	comp=Z,21nm,0.1s						
EDB	**Eliza Dome**	**1.48**	**43**	Pn	Pn	21 59 48.4	-2.5
EDB				Sn	Sn	22 00 05.8	-4.4
BPBC	**Brooks Peninsu**	**1.48**	**23**	Pn	Pn	21 59 48.5	-2.3
BPBC				Sn	Sn	22 00 06.2	-4.1
	comp=Z,163nm,0.2s						
BPBC				Trac		22 00 07.3	
	comp=Z,163nm,0.2s						
BPBC	**Brooks Peninsu**	**1.48**	**23**	Pn	Pn	21 59 48.5	-2.3
BPBC				Sn	Sn	22 00 06.2	-4.1
ETB	**Estevan Point**	**1.52**	**67**	Pn	Pn	21 59 49.7	-1.6
ETB				Sn	Sn	22 00 08.3	-2.9
	comp=Z,26nm,0.1s						
ETB				Trac		22 00 09.4	
	comp=Z,26nm,0.1s						
ETB	**Estevan Point**	**1.52**	**67**	Pn	Pn	21 59 49.7	-1.6
ETB				Sn	Sn	22 00 08.3	-2.9
HOLB	**Holberg**	**1.88**	**11**	Pn	Pn	21 59 54.1	-2.2
HOLB				Sn	Sn	22 00 18.6	-1.4
	comp=Z,151nm,0.2s						
HOLB				Trac		22 00 19.1	
	comp=Z,151nm,0.2s						
HOLB	**Holberg**	**1.88**	**11**	Pn	Pn	21 59 54.1	-2.2
HOLB				Sn	Sn	22 00 18.6	-1.4
MAYB	**Maynard**	**1.88**	**31**	Pn	Pn	21 59 54.7	-1.7
MAYB				Sn	Sn	22 00 16.2	-3.8
	comp=Z,48nm,0.1s						
MAYB				Trac		22 00 18.2	
	comp=Z,48nm,0.1s						
MAYB	**Maynard**	**1.88**	**31**	Pn	Pn	21 59 54.7	-1.7
MAYB				Sn	Sn	22 00 16.2	-3.8
GDR	**Gold River**	**1.99**	**59**	Pn	Pn	21 59 56.4	-1.4
GDR				Sn	Sn	22 00 19.2	-3.6
	comp=Z,14nm,0.2s						
GDR				Trac		22 00 20.6	
	comp=Z,14nm,0.2s						
GDR	**Gold River**	**1.99**	**59**	Pn	Pn	21 59 56.4	-1.4
GDR				Sn	Sn	22 00 19.2	-3.6
OZB	**Mount Ozzard**	**2.11**	**84**	Pn	Pn	21 59 57.1	-2.3
OZB				Sn	Sn	22 00 21.6	-4.1
OZB				Trac		22 00 22.7	
	comp=Z,35nm,0.2s						
OZB	**Mount Ozzard**	**2.11**	**84**	Pn	Pn	21 59 57.1	-2.3
OZB				Sn	Sn	22 00 21.6	-4.1
BTB	**Buttle Lake**	**2.18**	**71**	⇑Pn	Pn	21 59 58.9	-1.5
BTB				Sn	Sn	22 00 24.4	-3.1
	comp=Z,57nm,0.2s						
BTB				Trac		22 00 26.8	
	comp=Z,57nm,0.2s						
BTB	**Buttle Lake**	**2.18**	**71**	Pn	Pn	21 59 58.9	-1.5
BTB				Sn	Sn	22 00 24.4	-3.1
CBB	**Campbell River**	**2.49**	**59**	Pn	Pn	22 00 04.0	-0.7
CBB				Sn	Sn	22 00 32.5	-2.7
CBB				Trac		22 00 35.3	
	comp=Z,23nm,0.3s						
CBB	**Campbell River**	**2.49**	**59**	Pn	Pn	22 00 04.0	-0.7
CBB				Sn	Sn	22 00 32.5	-2.7
ALB	**Alberni**	**2.57**	**78**	Pn	Pn	22 00 04.1	-1.7
ALB				Sn	Sn	22 00 34.0	-3.2
	comp=Z,8.0nm,0.2s						
ALB				Trac		22 00 34.9	
	comp=Z,8.0nm,0.2s						
MGB	**Mount Grey**	**2.64**	**84**	Pn	Pn	22 00 04.9	-1.8
MGB				Sn	Sn	22 00 34.7	-4.0
MGB				Trac		22 00 37.6	
	comp=Z,12nm,0.2s						
MGB	**Mount Grey**	**2.64**	**84**	Pn	Pn	22 00 04.9	-1.8
MGB				Sn	Sn	22 00 34.7	-4.0
PFB	**Port Renfrew**	**2.82**	**93**	Trac		22 00 42.6	
	comp=Z,5.0nm,0.3s						
PFB	**Port Renfrew**	**2.82**	**93**	Sn	Sn	22 00 39.1	-4.0
TXB	**Texada**	**2.92**	**71**	Pn	Pn	22 00 09.8	-0.8
TXB				Sn	Sn	22 00 44.1	-1.6
	comp=Z,12nm,0.2s						
TXB				Trac		22 00 46.2	
	comp=Z,12nm,0.2s						
TXB	**Texada**	**2.92**	**71**	Pn	Pn	22 00 09.8	-0.8
TXB				Sn	Sn	22 00 44.1	-1.6
NLLB	**Nanaimo Lost L**	**3.12**	**80**	Pn	Pn	22 00 13.4	+0.1
NLLB				Sn	Sn	22 00 48.9	-1.7
NLLB				Trac		22 00 51.5	
	comp=Z,12nm,0.3s						
NLLB	**Nanaimo Lost L**	**3.12**	**80**	Pn	Pn	22 00 13.4	+0.1
NLLB				*e*		22 00 48.9	
SHB	**Sechelt**	**3.25**	**74**	Pn	Pn	22 00 14.7	-0.5
SHB				Sn	Sn	22 00 52.2	-1.6
SHB				Trac		22 00 58.6	
	comp=Z,11nm,0.2s						
SHB	**Sechelt**	**3.25**	**74**	Pn	Pn	22 00 14.7	-0.5
SHB				Sn	Sn	22 00 52.2	-1.6
BBB	**Bella Bella**	**3.41**	**6**	Pn	Pn	22 00 16.4	-0.9
BBB				Sn	Sn	22 00 54.4	-3.4
BBB				Trac		22 00 57.4	
	comp=Z,20nm,0.2s						
BBB	**Bella Bella**	**3.41**	**6**	Pn	Pn	22 00 16.4	-0.9
BBB				Sn	Sn	22 00 54.4	-3.4
WPB	**Watts Point**	**3.68**	**74**	Pn	Pn	22 00 21.2	0.0
WPB				Sn	Sn	22 01 03.7	-0.9
	comp=Z,4.0nm,0.2s						
WPB				Trac		22 01 08.8	
	comp=Z,4.0nm,0.2s						
WPB	**Watts Point**	**3.68**	**74**	Pn	Pn	22 00 21.2	0.0
WPB				Sn	Sn	22 01 03.7	-0.9
WSLR	**Whistler**	**3.98**	**68**	Pn	Pn	22 00 24.9	-0.3
WSLR				Sn	Sn	22 01 11.3	-0.6
WSLR				Trac		22 01 16.8	
	comp=Z,5.0nm,0.3s						
WSLR	**Whistler**	**3.98**	**68**	Pn	Pn	22 00 24.9	-0.3
WSLR				Sn	Sn	22 01 11.3	-0.6
LLLB	**Lillooet**	**4.77**	**65**	Pn	Pn	22 00 36.3	+0.3
LLLB				Sn	Sn	22 01 29.5	-1.8
LLLB				Trac		22 01 38.5	
	comp=Z,4.0nm,0.5s						
LLLB	**Lillooet**	**4.77**	**65**	Pn	Pn	22 00 36.3	+0.3
LLLB				Sn	Sn	22 01 29.5	-1.8

*ISCJB **15** 22:04:44.4±0.4, 2644S±003×2741E±004, h2km, mb4.0/3, Error ellipse: s-maj=5.2km s-min=4.4km az=93.1*
*PRE **15** 22:04:45.3±1.0, 2639S×2744E, h2km, ML3.9*
*IDC **15** 22:04:46.6±4.2, 2636S×2724E, h0km, mb3.9/2, mb1 3.8/3, mb1mx3.5/21, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=87.4km s-min=16.5km az=110.0*
*NEIC **15** 22:04:47.4±0.8, 2633S×2738E, h5km, mb4.1/1, Error ellipse: s-maj=16.7km s-min=12.7km az=77.0*

ISC 15 22:04:45.8±0.4, 2643S±003×2741E±004, h2km, n20, σ1°34/37, mb4.0/3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.73**	**321**	*e*P	**Pg**	**22 04 59.5**	**-0.3**
KSR				*e*S	**Sg**	**22 05 09.0**	**-0.4**
KSR				AML	AML	22 05 17.8	
	comp=Z,2μm,0.4s						
SLR	**Silverton**	**1.04**	**49**	*e*P	**Pg**	**22 05 04.3**	**-1.5**
SLR				*e*S	**Sg**	**22 05 18.8**	**-0.6**
SLR				AML	AML	22 05 24.7	
	comp=Z,524nm,0.5s						
LBTB	**Lobatse**	**2.15**	**310**	*e*P	**Pn**	**22 05 23.4**	**+0.7**
LBTB				*e*S	**Sn**	**22 05 49.9**	**-0.2**
LBTB				AML	AML	22 05 54.9	
	comp=Z,528nm,0.3s						
LBTB	**Lobatse**	**2.15**	**310**	*e*P	**Pn**	**22 05 24.8**	**+2.1**
LBTB				*e*S	**Sn**	**22 05 54.1**	**+4.1**
BFT	**Belfast (SA)**	**2.48**	**73**	*e*P	**Pn**	**22 05 26.9**	**-0.3**
BFT				*e*S	**Sn**	**22 05 57.5**	**-0.6**
BFT				AML	AML	22 06 02.8	
	comp=Z,228nm,0.4s						
BOSA	**Boshof**	**2.90**	**221**	*e*P	**Pn**	**22 05 33.9**	**+0.9**
BOSA				*e*S	**Sn**	**22 06 09.0**	**+0.6**
BOSA				AML	AML	22 06 37.2	
	comp=Z,984nm,0.3s						
BOSA	**Boshof**	**2.90**	**221**	Pn	**Pn**	**22 05 34.2**	**+1.2**
	comp=Z,11nm,0.3s,baz=42,slow=13,SNR=350						
BOSA				Pg	**Pg**	**22 05 39.5**	**-1.8**
	comp=Z,12nm,0.3s,baz=40,slow=16,SNR=30						
BOSA				Sn	**Sn**	**22 06 08.3**	**0.0**
	comp=Z,11nm,0.3s,baz=28,slow=11,SNR=7.6						
BOSA				Lg		22 06 16.6	
	comp=Z,76nm,0.3s,baz=323,slow=21,SNR=28						
BOSA	**Boshof**	**2.90**	**221**	Pn	**Pn**	**22 05 34.2**	**+1.2**
BOSA				Pg	**Pg**	**22 05 39.5**	**-1.8**
BOSA				Sn	**Sn**	**22 06 08.3**	**0.0**
BOSA				Lg		22 06 16.6	
PKA	**Prieska**	**5.23**	**231**	*e*P	**Pn**	**22 06 05.2**	**+0.2**
PKA				*e*S	**Sn**	**22 07 03.0**	**-2.9**
PKA				AML	AML	22 07 36.0	
	comp=Z,158nm,0.6s						
GRM	**Grahamstown**	**6.91**	**186**	*e*P	**Pn**	**22 06 28.9**	**+0.8**
GRM				*e*S	**Sn**	**22 07 44.7**	**-2.5**
GRM				AML	AML	22 08 23.7	
	comp=Z,34nm,0.6s						
SUR	**Sutherland**	**8.26**	**223**	*e*P	**Pn**	**22 06 47.8**	**+1.1**
SUR				*e*S	**Sn**	**22 08 17.8**	**-2.8**
CVNA	**Calvinia**	**8.38**	**231**	*e*P	**Pn**	**22 06 49.9**	**+1.7**
CVNA				*e*S	**Sn**	**22 08 20.0**	**-3.5**
CER	**Ceres**	**9.86**	**224**	*e*P	**Pn**	**22 07 08.8**	**+0.2**
CER				*e*S	**Sn**	**22 08 56.1**	**-3.8**
CER				AML	AML	22 09 54.8	
	comp=Z,23nm,0.8s						
LSZ	**Lusaka**	**11.12**	**4**	*e*Pn	**Pn**	**22 07 24.4**	**-1.4**
	comp=Z,3.2nm,0.4s						
LSZ				*e*Sn	**Sn**	**22 09 23.8**	**-6.9**
TSUM	**Tsumeb**	**11.56**	**306**	*e*Pn	**Pn**	**22 07 32.4**	**+0.6**
	comp=Z,4.0nm,0.4s						
TSUM				*e*Sn	**Sn**	**22 09 46.5**	**+4.9**
DBIC	**Dimbokro**	**45.40**	**312**	P	**P**	**22 13 05.7**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.0,baz=116,slow=12,SNR=2.9						
TORD	**Torodi Ar. Bea**	**46.61**	**324**	P	**P**	**22 13 15.5**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=141,slow=7.1,SNR=17						
DGAR	**Diego Garcia**	**46.76**	**74**	*e*P	**P**	**22 13 19.0**	**+2.5**
SNAA	**Sanae**	**48.32**	**192**	*e*P	**P**	**22 13 30.4**	**+1.8**
	comp=Z,1.5nm,0.8s,mb4.1						
CASY	**Casey**	**63.37**	**153**	P	**P**	**22 15 18.4**	**+1.8**

PGC 15 22:09:50.5, 4882N×12859W, h10km, MLSn3.2/1, Mw3.8, 198km southwest of Tofino, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.43**	**42**	Pn	Pn	22 10 13.7	-2.7
EDB				Sn	Sn	22 10 31.1	-4.2
EDB				Trac		22 10 32.7	
	comp=Z,5.0nm,0.1s						
BPBC	**Brooks Peninsu**	**1.44**	**22**	Pn	Pn	22 10 14.1	-2.5
BPBC				Sn	Sn	22 10 32.4	-3.3
	comp=Z,35nm,0.2s						
BPBC				Trac		22 10 40.6	
	comp=Z,35nm,0.2s						
MAYB	**Maynard**	**1.83**	**30**	Pn	Pn	22 10 20.5	-1.5
MAYB				Sn	Sn	22 10 41.9	-3.4
	comp=Z,31nm,0.3s						
MAYB				Trac		22 10 50.5	
	comp=Z,31nm,0.3s						
HOLB	**Holberg**	**1.85**	**9**	Pn	Pn	22 10 19.7	-2.5
HOLB				Sn	Sn	22 10 44.2	-1.4
	comp=Z,15nm,0.1s						
HOLB				Trac		22 10 44.5	
	comp=Z,15nm,0.1s						
GDR	**Gold River**	**1.93**	**59**	Pn	Pn	22 10 22.6	-0.8
GDR				Sn	Sn	22 10 43.0	-4.7
	comp=Z,7.0nm,0.4s						
GDR				Trac		22 10 59.8	
	comp=Z,7.0nm,0.4s						
OZB	**Mount Ozzard**	**2.05**	**85**	Pn	Pn	22 10 23.2	-1.8
OZB				Sn	Sn	22 10 46.7	-4.0
OZB				Trac		22 10 48.8	
	comp=Z,3.0nm,0.1s						
BTB	**Buttle Lake**	**2.12**	**71**	Pn	Pn	22 10 24.9	-1.1
BTB				Sn	Sn	22 10 48.5	-3.8
	comp=Z,28nm,0.4s						
BTB				Trac		22 10 52.3	
	comp=Z,28nm,0.4s						
CBB	**Campbell River**	**2.43**	**59**	Pn	Pn	22 10 30.1	-0.1
CBB				Sn	Sn	22 10 55.2	-4.8
CBB				Trac		22 11 02.1	
	comp=Z,9.0nm,0.3s						
ALB	**Alberni**	**2.52**	**78**	Sn	Sn	22 10 57.4	-4.8
	comp=Z,5.0nm,0.4s						
ALB				Trac		22 10 59.5	
	comp=Z,5.0nm,0.4s						
MGB	**Mount Grey**	**2.58**	**85**	Pn	Pn	22 10 30.6	-1.6
MGB				Sn	Sn	22 11 00.1	-3.6
MGB				Trac		22 11 03.8	
	comp=Z,8.0nm,0.3s						
PFB	**Port Renfrew**	**2.76**	**94**	Trac		22 11 08.3	
	comp=Z,3.0nm,0.3s						
PFB	**Port Renfrew**	**2.76**	**94**	Sn	Sn	22 11 05.0	-3.1
TXB	**Texada**	**2.86**	**71**	Pn	Pn	22 10 35.7	-0.4
TXB				Sn	Sn	22 11 06.3	-4.3
	comp=Z,8.0nm,0.4s						
TXB				Trac		22 11 13.4	
	comp=Z,8.0nm,0.4s						
BBB	**Bella Bella**	**3.38**	**5**	Pn	Pn	22 10 42.3	-1.0
BBB				Sn	Sn	22 11 20.1	-3.4
BBB				Trac		22 11 22.9	
	comp=Z,26nm,0.5s						

*ISCJB **15** 22:24:59.7±0.5, 4702N±002×1328E±003, h13km±6km, Error ellipse: s-maj=4.2km s-min=3.3km az=38.4*
*CSEM **15** 22:25:00.3±0.1, 4700N×1326E, h12km, ML2.7/8, Error ellipse: s-maj=1.4km s-min=1.1km az=171.0*
*VIE **15** 22:25:00.0±0.2, 4700N×1328E, h9km±2km, mb1.5/1, ML2.2/7, Error ellipse: s-maj=1.7km s-min=1.0km az=13.0*
*ROM **15** 22:25:03.3±1.0, 4692N×1312E, h10km, Md2.5/5, Ml1.5/3, Error ellipse: s-maj=12.3km s-min=7.9km az=30.0*

ISC 15 22:25:00.8±0.5, 4701N±002×1328E±003, h10km±7km, n29, σ0°70/46, 20C-4D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBA	**Koelnbreinsper**	**0.08**	**35**	⇑*i*Pg	**Pg**	**22 25 03.1**	**0.0**
	comp=Z,26nm,0.1s						
KBA				⇑*i*Sg	**Sg**	**22 25 04.6**	**-0.2**
	comp=E,177nm,0.1s						
PLRO	**Paularo**	**0.47**	**191**	⇑*i*Pg	**Pg**	**22 25 09.7**	**-0.2**
PLRO				*i* Sg	**Sg**	**22 25 15.7**	**-0.4**
FVI	**Forni Avoltri**	**0.54**	**220**	Pg	**Pg**	**22 25 11.0**	**-0.2**
FVI				Sg	**Sg**	**22 25 17.9**	**-0.3**
	25nm,0.4s						
PTCC	**Patocco-Chiusa**	**0.61**	**175**	Pg	**Pg**	**22 25 14.3**	**+1.7**
	5.0nm,0.3s						
CSMI	**Casera Mimoias**	**0.66**	**221**	*i* Pg	**Pg**	**22 25 13.6**	**+0.1**
SEST	**Monte Rota**	**0.77**	**251**	Pg	**Pg**	**22 25 15.4**	**-0.3**
	12nm,0.2s						
CADS	**Cadrg**	**0.84**	**158**	*e*Pg	**Pg**	**22 25 16.8**	**-0.3**
CADS				*i* Sg	**Sg**	**22 25 27.8**	**-0.3**
CADS							
	comp=Z,7.0nm,0.1s						
CADS	**Cadrg**	**0.84**	**158**	*e*Pg	**Pg**	**22 25 16.8**	**-0.3**
CADS				*i* Sg	**Sg**	**22 25 27.8**	**-0.3**
	comp=Z,7.0nm,0.1s						
GORS	**Gorjuse**	**0.85**	**144**	*e*Pg	**Pg**	**22 25 16.7**	**-0.5**
GORS				*i* Sg	**Sg**	**22 25 28.0**	**-0.3**
GORS							
	comp=Z,3.0nm,0.1s						
GORS	**Gorjuse**	**0.85**	**144**	Pg	**Pg**	**22 25 16.7**	**-0.5**
GORS				*i* Sg	**Sg**	**22 25 28.0**	**-0.3**
	comp=Z,3.0nm,0.1s						
OBKA	**Obir**	**1.01**	**119**	⇑*i*Sg	**Sg**	**22 25 32.9**	**-0.4**
	comp=Z,6.1nm,0.1s						
OBKA	**Obir**	**1.01**	**119**	⇓*i*Pg	**Pg**	**22 25 19.6**	**-0.6**
	comp=Z,0.7nm,0.1s						
OBKA				⇑*i*Sg	**Sg**	**22 25 32.9**	**-0.4**
	comp=Z,6.1nm,0.1s						
VOJS	**Vojsko**	**1.06**	**157**	*e*Pg	**Pg**	**22 25 22.9**	**+1.7**
VOY	**Vojsko**	**1.07**	**156**	*e*Sg	**Sg**	**22 25 36.8**	**+1.6**
MOA	**Molln**	**1.08**	**38**	⇓*i*Sg	**Sg**	**22 25 36.2**	**+0.7**
	comp=Z,10nm,0.2s						
MOA	**Molln**	**1.08**	**38**	⇑*i*Pg	**Pg**	**22 25 21.3**	**-0.2**
	comp=Z,1.1nm,0.1s						
MOA				⇓*i*Sg	**Sg**	**22 25 36.2**	**+0.7**
	comp=Z,10nm,0.2s						
WATA	**Walderalm**	**1.20**	**286**	⇑*i*Sg	**Sg**	**22 25 40.4**	**+0.9**
	comp=Z,8.0nm,0.2s						
WATA	**Walderalm**	**1.20**	**286**	⇑*i*Pg	**Pg**	**22 25 23.4**	**-0.5**
	comp=Z,12nm,0.2s						
WATA				⇑*i*Sg	**Sg**	**22 25 40.4**	**+0.9**
	comp=Z,8.0nm,0.2s						
SQTA	**Sankt Quirin**	**1.43**	**279**	⇑*i*Pn	**Pn**	**22 25 26.4**	**-0.3**
SQTA				⇑*i*Pg	**Pg**	**22 25 27.4**	**-0.7**
SQTA	**Sankt Quirin**	**1.43**	**279**	⇑*i*Sg	**Sg**	**22 25 47.4**	**+0.7**
	comp=Z,14nm,0.3s						
SQTA	**Sankt Quirin**	**1.43**	**279**	⇑*i*Pn	**Pn**	**22 25 26.4**	**-0.3**
SQTA				⇑*i*Pg	**Pg**	**22 25 27.4**	**-0.7**
SQTA				⇑*i*Sg	**Sg**	**22 25 47.4**	**+0.7**
	comp=Z,14nm,0.3s						
SQTA	**Sankt Quirin**	**1.43**	**279**	Pg	**Pg**	**22 25 27.4**	**-0.8**
SQTA				Sg	**Sg**	**22 25 47.4**	**+0.7**
	comp=Z,14nm,0.3s						
CTI	**Castel Tesino**	**1.48**	**230**	Pg	**Pg**	**22 25 28.7**	**-0.5**
APPI	**Appiano**	**1.50**	**250**	Pg	**Pg**	**22 25 29.0**	**-0.7**
	comp=Z,11nm,0.4s						
MOTA	**Moosalm**	**1.52**	**284**	⇑*i*Sg	**Sg**	**22 25 50.6**	**+1.0**
	comp=Z,9.4nm,0.3s						
MOTA	**Moosalm**	**1.52**	**284**	⇓*i*Pg	**Pg**	**22 25 29.1**	**-0.8**
	comp=Z,1.1nm,0.1s						
MOTA				⇑*i*Sg	**Sg**	**22 25 50.6**	**+1.0**
	comp=Z,9.4nm,0.3s						
MOTA	**Moosalm**	**1.52**	**284**	Pg	**Pg**	**22 25 29.1**	**-0.8**
	comp=Z,1.1nm,0.1s						
MOTA				Sg	**Sg**	**22 25 50.6**	**+1.0**
	comp=Z,9.4nm,0.3s						
ARSA	**Arzberg**	**1.55**	**80**	⇑*i*Sg	**Sg**	**22 25 51.1**	**+0.3**
	comp=Z,1.5nm,0.3s						
ARSA	**Arzberg**	**1.55**	**80**	⇑*i*Pg	**Pg**	**22 25 30.0**	**-0.6**
	comp=Z,0.9nm,0.2s						
ARSA				⇑*i*Sg	**Sg**	**22 25 51.1**	**+0.3**
	comp=Z,1.5nm,0.3s						

**IDC 15 22:27:10.2±2.3

EMIR				Pg	Pg	22 55 37.6	+1.4
	6.0nm,0.3s,SNR=40						
EMIR				Lg		22 55 54.7	
	40nm,0.1s,SNR=20						
EMIR	**Miracle**	**1.23**	**25**	Pn	Pn	22 55 36.5	+1.2
	0.6nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**1.23**	**25**	Pg	Pg	22 55 37.6	+1.3
	6.0nm,0.3s,SNR=40						
ESAC	**San Caprasio**	**1.35**	**313**	Pg	Pg	22 55 39.6	+1.0
	15nm,0.3s,SNR=14						
ESAC				Lg		22 55 58.6	
	160nm,0.3s,SNR=27						
ESAC	**San Caprasio**	**1.35**	**313**	Pg	Pg	22 55 39.6	+1.0
	15nm,0.3s,SNR=14						
EGRA	**Graus**	**1.45**	**344**	Pg	Pg	22 55 41.4	+0.9
	5.1nm,0.2s,SNR=43						
EGRA				Lg		22 56 01.8	
	5.4nm,0.2s,SNR=8.5						
CORG	**Organya**	**1.47**	**14**	Pn	Pn	22 55 38.8	+0.1
CORG				Pg	Pg	22 55 40.9	-0.1
CFON	**Fontmartina**	**1.54**	**51**	Pn	Pn	22 55 39.1	-0.5
CBRU	**Bruguera**	**1.79**	**34**	Pn	Pn	22 55 44.0	+0.9
EIBI	**Ibiza**	**1.81**	**167**	Pn	Pn	22 55 44.6	+1.3
	0.5nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	22 56 05.6	-0.5
	2.4nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**1.81**	**167**	Pn	Pn	22 55 44.6	+1.3
	0.5nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	22 56 05.6	-0.5
	2.4nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**1.83**	**124**	Pn	Pn	22 55 44.3	+0.7
	0.5nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	22 56 06.9	+0.4
	1.7nm,0.2s,SNR=4.0						
ETOS	**Mallorca**	**1.83**	**124**	Pn	Pn	22 55 44.3	+0.8
	0.5nm,0.1s,SNR=7.9						
ECHE	**Chera**	**1.84**	**229**	Pg	Pg	22 55 47.0	-1.0
	4.2nm,0.2s,SNR=7.9						
ECHE				Lg		22 56 09.3	
	2.0nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**1.88**	**27**	Pg	Pg	22 55 49.4	+0.6
EBIE	**Bielsa**	**1.96**	**345**	Pg	Pg	22 55 50.0	-0.2
	1.8nm,0.3s,SNR=15						
EBIE				Lg		22 56 16.8	
	4.6nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.96**	**345**	Pg	Pg	22 55 50.0	-0.2
	1.8nm,0.3s,SNR=15						
RESF	**Ens**	**2.04**	**350**	Pn	Pn	22 55 51.3	+4.8
RESF				Sn	Sn	22 56 19.5	+7.8
CARF	**Carcanieres**	**2.14**	**26**	Pn	Pn	22 55 54.3	+6.5
CARF				Sn	Sn	22 56 22.1	+8.1
EBEN	**Beniarda**	**2.25**	**202**	Pn	Pn	22 55 50.0	+0.7
	0.3nm,0.1s,SNR=7.9						
EBEN				Pg	Pg	22 55 54.0	-1.8
	0.6nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	22 56 14.4	-2.4
	5.1nm,0.5s,SNR=7.9						
EBEN				Lg		22 56 22.4	
	0.4nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**2.25**	**202**	Pn	Pn	22 55 50.0	+0.7
	0.3nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.25**	**202**	Pg	Pg	22 55 54.0	-1.8
	0.6nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	22 56 14.4	-2.4
	5.1nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**2.25**	**42**	Pn	Pn	22 55 51.2	+1.8
	1.0nm,0.1s,SNR=7.9						
EJON				Pg	Pg	22 55 56.2	+0.3
	1.3nm,0.1s,SNR=4.0						
EJON				Lg		22 56 26.1	
	6.3nm,0.2s,SNR=8.7						
EJON	**La Jonquera**	**2.25**	**42**	Pn	Pn	22 55 51.2	+1.8
	1.0nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.25**	**42**	Pg	Pg	22 55 56.2	+0.3
	1.3nm,0.1s,SNR=4.0						
EPF	**Esparros**	**2.26**	**351**	*e*Pn	Pn	22 55 49.8	+0.3
EPF	**Esparros**	**2.26**	**351**	*e*Pg	Pg	22 55 56.0	0.0
EPF				*e*Sg	Sg	22 56 26.0	+0.7
	12nm,0.2s						
EPF	**Esparros**	**2.26**	**351**	Pn	Pn	22 55 49.8	+0.3
EPF				Pg	Pg	22 55 56.0	0.0
EPF				Lg		22 56 26.0	
	6.2nm,0.2s						
EPF	**Esparros**	**2.26**	**351**	*e*Pg	Pg	22 55 56.0	0.0
EPF				*e*Sg	Sg	22 56 26.0	+0.7
	6.2nm,0.2s						
ETSF	**Etsaut**	**2.34**	**334**	*e*Pn	Pn	22 55 50.9	+0.3
ETSF	**Etsaut**	**2.34**	**334**	*e*Pg	Pg	22 55 57.5	-0.1
ETSF				*e*Sg	Sg	22 56 28.3	+0.3
	7.0nm,0.2s						
ETSF	**Etsaut**	**2.34**	**334**	*e*Pg	Pg	22 55 57.5	-0.1
ETSF				*e*Sg	Sg	22 56 28.3	+0.3
	3.5nm,0.2s						
IUNC	**Unciti**	**2.62**	**319**	Lg		22 56 36.5	
	6.0nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**2.67**	**318**	Lg		22 56 38.1	
	7.5nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.74**	**22**	*e*Pn	Pn	22 55 56.3	+0.2
MTLF	**Montolieu**	**2.74**	**22**	*e*Pg	Pg	22 56 04.5	-0.6
MTLF				*e*Sn	Sn	22 56 28.4	-0.5
MTLF				*e*Sg	Sg	22 56 39.9	-0.7
	9.6nm,0.3s						
MTLF	**Montolieu**	**2.74**	**22**	Pn	Pn	22 55 56.3	+0.2
MTLF				Pg	Pg	22 56 04.5	-0.6
MTLF				Sn	Sn	22 56 28.4	-0.5
MTLF				Lg		22 56 39.9	
	4.8nm,0.3s						
MTLF	**Montolieu**	**2.74**	**22**	*e*Pg	Pg	22 56 04.5	-0.6
MTLF				*e*Sn	Sn	22 56 28.4	-0.5
MTLF				*e*Sg	Sg	22 56 39.9	-0.7
	4.8nm,0.3s						
SJPF	**Ste Jean**	**2.78**	**327**	*e*Pn	Pn	22 55 56.8	+0.2
SJPF	**Ste Jean**	**2.78**	**327**	*e*Pg	Pg	22 56 05.4	-0.5
SJPF				*e*Sn	Sn	22 56 29.1	-0.7
SJPF				*e*Sg	Sg	22 56 41.1	-0.8
	3.9nm,0.2s						
SJPF	**Ste Jean**	**2.78**	**327**	Pn	Pn	22 55 56.8	+0.2
SJPF				Pg	Pg	22 56 05.4	-0.5
SJPF				Sn	Sn	22 56 29.1	-0.7
SJPF				Lg		22 56 41.1	
	1.9nm,0.2s						
SJPF	**Ste Jean**	**2.78**	**327**	*e*Pg	Pg	22 56 05.4	-0.5
SJPF				*e*Sn	Sn	22 56 29.1	-0.7
SJPF				*e*Sg	Sg	22 56 41.1	-0.8
	2.0nm,0.2s						
ETOB	**Tobarra**	**2.83**	**221**	Pn	Pn	22 55 57.0	-0.3
	0.6nm,0.4s,SNR=7.9						
ETOB				Pg	Pg	22 56 05.4	-1.5
	0.1nm,0.3s,SNR=7.9						
ETOB				Sn	Sn	22 56 27.9	-3.3
	2.0nm,0.6s,SNR=7.9						
ETOB				Lg		22 56 41.3	
	1.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**2.83**	**221**	Pn	Pn	22 55 57.0	-0.3
	0.6nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**2.83**	**221**	Pg	Pg	22 56 05.4	-1.5
	0.1nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**2.95**	**324**	Pg	Pg	22 56 06.7	-2.4
	1.6nm,0.4s,SNR=7.9						
ELIZ				Lg		22 56 46.3	
	2.1nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**2.95**	**324**	Pg	Pg	22 56 09.2	0.0
	1.6nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**2.98**	**325**	Pn	Pn	22 56 02.1	+2.7
	1.1nm,0.4s,SNR=4.0						
EALK				Pg	Pg	22 56 07.9	-1.9
	0.3nm,0.2s,SNR=7.9						
EALK				Lg		22 56 49.0	
	9.2nm,0.3s,SNR=5.6						
EALK	**Alkurruntz**	**2.98**	**325**	Pg	Pg	22 56 09.6	-0.2
	0.3nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.37**	**209**	Pn	Pn	22 56 05.5	+0.8
	1.2nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.37**	**209**	Pn	Pn	22 56 05.5	+0.8
	1.2nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**3.80**	**269**	Pn	Pn	22 56 12.7	+2.1
	0.5nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**3.84**	**255**	Pn	Pn	22 56 12.5	+1.3
	0.2nm,0.4s,baz=77,slow=14,SNR=7.9						
ESDC				Pg	Pg	22 56 22.9	-3.4
	0.8nm,0.2s,baz=69,slow=18,SNR=7.9						
ESDC				Lg		22 57 14.4	
	0.7nm,0.3s,baz=72,slow=30,SNR=4.4						
ESDC	**Sonseca Array**	**3.84**	**255**	Pn	Pn	22 56 12.5	+1.3
	0.2nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**3.84**	**255**	Pg	Pg	22 56 22.9	-3.4
	0.8nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**3.96**	**33**	*e*Pn	Pn	22 56 12.9	0.0
LASF	**Ste Croix**	**3.96**	**33**	*e*Pg	Pg	22 56 27.4	-1.2
LASF				*e*Sn	Sn	22 56 57.4	-1.7
LASF				*e*Sg	Sg	22 57 19.1	-0.8
	1.1nm,0.2s						
LASF	**Ste Croix**	**3.96**	**33**	Pn	Pn	22 56 12.9	0.0
LASF				Pg	Pg	22 56 27.4	-1.2
LASF				Sn	Sn	22 56 57.4	-1.7
LASF	**Ste Croix**	**3.96**	**33**	*e*Pg	Pg	22 56 27.4	-1.2
LASF				*e*Sn	Sn	22 56 57.4	-1.7
LASF				*e*Sg	Sg	22 57 19.1	-0.8
	0.6nm,0.2s						
ELAN	**Lanestosa**	**4.00**	**309**	Pg	Pg	22 56 28.3	-1.0
	0.4nm,0.5s,SNR=7.9						
ELAN				Lg		22 57 17.5	
	1.5nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**4.14**	**359**	*e*Pn	Pn	22 56 15.0	-0.3
LFF	**La Frestale**	**4.14**	**359**	*e*Pg	Pg	22 56 30.4	-1.5
LFF				*e*Sg	Sg	22 57 24.4	-1.1
	3.3nm,0.3s						
LFF	**La Frestale**	**4.14**	**359**	Pn	Pn	22 56 15.0	-0.3
LFF				Pg	Pg	22 56 30.4	-1.5
LFF				Lg		22 57 24.4	
	1.6nm,0.3s						
LFF	**La Frestale**	**4.14**	**359**	*e*Pg	Pg	22 56 30.4	-1.5
LFF				*e*Sg	Sg	22 57 24.4	-1.1
	1.6nm,0.3s						
CAF	**Calviac**	**4.22**	**12**	*e*Pn	Pn	22 56 16.5	+0.1
CAF	**Calviac**	**4.22**	**12**	*e*Pg	Pg	22 56 32.1	-1.4
CAF				*e*Sg	Sg	22 57 27.1	-1.1
	3.0nm,0.2s						
CAF	**Calviac**	**4.22**	**12**	Pn	Pn	22 56 16.5	+0.1
CAF				Pg	Pg	22 56 32.1	-1.4
CAF				Lg		22 57 27.1	
	1.5nm,0.2s						
CAF	**Calviac**	**4.22**	**12**	*e*Pg	Pg	22 56 32.1	-1.4
CAF				*e*Sg	Sg	22 57 27.1	-1.1
	1.5nm,0.2s						
EQES	**Quesada**	**4.26**	**227**	Lg		22 57 23.7	
	0.6nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**5.15**	**301**	Lg		22 57 54.5	
	0.3nm,0.2s,SNR=4.0						

NEIC ***15*** *22:55:44.0, 4880N×12866W, h6km, mb4.6/1, MW4.5(PGC), After PGC.*
PGC ***15*** *22:55:44.7, 4880N×12866W, h10km, MLSn4.0/1, Mw4.5, 203km southwest of Tofino, Bc West of Vancouver Island, British Columbia*
ISCJB ***15*** *22:55:45.2±1.4, 4890N±004×12850W±006, h19km±16km, mb3.7/2, MS3.6/3, Error ellipse: s-maj=8.2km s-min=4.3km az=83.2*
IDC ***15*** *22:55:46.2±1.8, 4901N×12855W, h0km, mb3.7/2, mb1 3.8/10, mb1mx3.6/26, mbtmp3.6/10, ML3.3/6, MS3.5/10, Ms1 3.5/10, ms1mx3.3/30, Error ellipse: s-maj=30.2km s-min=10.8km az=67.0*

ISC 15 22:55:46.5±1.3, 4895N±005×12846W±008, h14km±12km, n56, σ1§26/76, mb3.7/2, MS3.6/3, 1C-1D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.27**	**43**	Pn	Pn	22 56 08.7	-1.2
EDB				Sn	Sn	22 56 26.5	-0.3
EDB				Trac		22 56 27.8	
	comp=Z,24nm,0.1s						
BPBC	**Brooks Peninsu**	**1.29**	**20**	⇓Pn	Pn	22 56 08.8	-1.3
BPBC				Sn	Sn	22 56 27.0	-0.2
	comp=Z,119nm,0.1s						
BPBC				Trac		22 56 28.0	
	comp=Z,119nm,0.1s						
ETB	**Estevan Point**	**1.33**	**71**	Pn	Pn	22 56 10.3	-0.4
ETB				Sn	Sn	22 56 27.9	-0.4
	comp=Z,44nm,0.2s						
ETB				Trac		22 56 29.7	
	comp=Z,44nm,0.2s						
MAYB	**Maynard**	**1.68**	**30**	Pn	Pn	22 56 15.2	-0.3
MAYB				Sn	Sn	22 56 36.7	-0.1
	comp=Z,126nm,0.5s						
MAYB				Trac		22 56 45.4	
	comp=Z,126nm,0.5s						
HOLB	**Holberg**	**1.70**	**7**	Pn	Pn	22 56 14.4	-1.4
HOLB				Sn	Sn	22 56 39.0	+1.6
	comp=Z,149nm,0.2s						
HOLB				Trac		22 56 40.3	
	comp=Z,149nm,0.2s						
GDR	**Gold River**	**1.79**	**62**	Pn	Pn	22 56 16.7	-0.4
GDR				Trac		22 56 53.9	
	comp=Z,69nm,0.5s						
OZB	**Mount Ozzard**	**1.96**	**89**	⇑Pn	Pn	22 56 17.6	-1.7
OZB				Sn	Sn	22 56 41.7	-2.0
OZB				Trac		22 56 43.9	
	comp=Z,26nm,0.1s						
BTB	**Buttle Lake**	**2.00**	**74**	Pn	Pn	22 56 19.4	-0.4
BTB				Sn	Sn	22 56 43.7	-1.0
	comp=Z,153nm,0.4s						
BTB				Trac		22 56 46.9	
	comp=Z,153nm,0.4s						
CBB	**Campbell River**	**2.29**	**61**	Pn	Pn	22 56 24.3	+0.4
CBB				Sn	Sn	22 56 51.8	-0.2
CBB				Trac		22 56 55.7	
	comp=Z,24nm,0.3s						
ALB	**Alberni**	**2.41**	**81**	Pn	Pn	22 56 24.7	-0.9
ALB				Sn	Sn	22 56 54.5	-0.4
	comp=Z,6.0nm,0.1s						
ALB				Trac		22 56 56.1	
	comp=Z,6.0nm,0.1s						
MGB	**Mount Grey**	**2.49**	**87**	Pn	Pn	22 56 25.1	-1.5
MGB				Sn	Sn	22 56 55.4	-1.3
MGB				Trac		22 56 58.2	
	comp=Z,21nm,0.2s						
PFB	**Port Renfrew**	**2.69**	**97**	Pn	Pn	22 56 28.1	-1.3
PFB				Sn	Sn	22 56 59.7	-2.0
PFB				Trac		22 57 03.3	
	comp=Z,10.0nm,0.3s						
TXB	**Texada**	**2.74**	**73**	Pn	Pn	22 56 30.3	+0.2
TXB				Sn	Sn	22 57 04.5	+1.5
	comp=Z,33nm,0.3s						
TXB				Trac		22 57 12.2	
	comp=Z,33nm,0.3s						
NLLB	**Nanaimo Lost L**	**2.96**	**83**	Pn	Pn	22 56 33.8	+0.7
NLLB				Sn	Sn	22 57 09.1	+0.8
NLLB				Trac		22 57 12.6	
	comp=Z,14nm,0.2s						
SHB	**Sechelt**	**3.07**	**76**	Pn	Pn	22 56 34.8	+0.2
SHB				Sn	Sn	22 57 12.5	+1.3
SHB				Trac		22 57 20.0	
	comp=Z,40nm,0.3s						
LZB	**Mount Lazard**	**3.09**	**95**	Pn	Pn	22 56 33.8	-1.1
LZB				Sn	Sn	22 57 10.1	-1.5
LZB				Trac		22 57 12.8	
	comp=Z,1.0nm,0.1s						
BBB	**Bella Bella**	**3.24**	**4**	Pn	Pn	22 56 36.6	-0.4
	50nm,0.3s,baz=188,slow=6.7,SNR=1144						
BBB				Sn	Sn	22 57 14.2	-1.3
	10nm,0.3s,baz=281,slow=23,SNR=10						
BBB				LR	LR	22 58 01.3	
	comp=Z,616nm,18.8s,baz=148,slow=42						
BBB	**Bella Bella**	**3.24**	**4**	Pn	Pn	22 56 36.7	-0.3
BBB				Sn	Sn	22 57 15.2	-0.2
BBB				Trac		22 57 24.1	
	comp=Z,217nm,0.7s						
BIB	**Bowen Island**	**3.41**	**80**	Pn	Pn	22 56 39.6	+0.2
BIB				Sn	Sn	22 57 20.2	+0.6
	comp=Z,3.0nm,0.1s						
BIB				Trac		22 57 22.4	
	comp=Z,3.0nm,0.1s						
VGZ	**Gonzales**	**3.45**	**97**	Trac		22 57 20.7	
	comp=Z,9.0nm,0.2s						
VGZ	**Gonzales**	**3.45**	**97**	Sn	Sn	22 57 18.3	-2.2
WPB	**Watts Point**	**3.51**	**76**	Pn	Pn	22 56 41.6	+0.9
WPB				Sn	Sn	22 57 24.1	+2.1
	comp=Z,10.0nm,0.3s						
WPB				Trac		22 57 26.7	
	comp=Z,10.0nm,0.3s						
WSLR	**Whistler**	**3.80**	**70**	Pn	Pn	22 56 46.0	+1.4
WSLR				Sn	Sn	22 57 31.9	+2.8
WSLR				Trac		22 57 37.7	
	comp=Z,37nm,0.8s						
HNB	**Haney**	**3.88**	**83**	Pn	Pn	22 56 46.1	+0.4
HNB				Sn	Sn	22 57 31.0	-0.2
HNB				Trac		22 57 39.5	
	comp=Z,38nm,0.9s						
VDB	**Vedder Mountai**	**4.19**	**87**	Pn	Pn	22 56 50.2	+0.2
VDB				Sn	Sn	22 57 41.2	+2.4
	comp=Z,5.0nm,0.3s						
VDB				Trac		22 57 45.3	
	comp=Z,5.0nm,0.3s						
LLLB	**Lillooet**	**4.58**	**66**	Pn	Pn	22 56 56.6	+1.2
LLLB				Sn	Sn	22 57 48.1	-0.2
LLLB				Trac		22 58 04.0	
	comp=Z,13nm,0.6s						
BNAB	**Bonilla**	**4.75**	**344**	Pn	Pn	22 56 56.3	-1.4
RUBB	**Prince Rupert**	**5.50**	**349**	Pn	Pn	22 57 07.5	-0.4
RUBB				Trac		22 58 41.7	
	comp=Z,26nm,0.7s						
DOWB	**Downie Slide**	**6.88**	**64**	Pn	Pn	22 57 25.6	-1.3
SLEB	**Sale Mountain**	**7.01**	**68**	Pn	Pn	22 57 30.3	+1.6
MNB	**Mounoet Dainar**	**7.19**	**59**	Pn	Pn	22 57 34.0	+2.7
NEW	**Newport**	**7.55**	**91**	Pn	Pn	22 57 38.0	+1.8
	baz=304,slow=11,SNR=2.5						
NEW				LR	LR	23 00 38.5	
	comp=Z,534nm,19.0s,baz=311,slow=38						
NEW	**Newport**	**7.55**	**91**	Pn	Pn	22 57 36.7	+0.5
BMBC	**Bull Mountain**	**8.08**	**26**	Pn	Pn	22 57 46.3	+2.8
YBH	**Yreka Blue Hor**	**8.28**	**149**	Pn	Pn	22 57 49.2	+3.0
	0.2nm,0.3s,baz=312,slow=16,SNR=2.4						
YBH				LR	LR	23 00 34.6	
	comp=Z,180nm,19.6s,baz=224,slow=34						
SIT	**Sitka**	**9.11**	**336**	*e*Pn	Pn	22 57 53.0	-4.6
WVOR	**Wild Horse Val**	**9.47**	**130**	Pn	Pn	22 58 01.7	-0.8
HLID	**Hailey**	**11.12**	**114**	*e*Pn	Pn	22 58 30.6	+5.5
HLID				*e*Sn	Sn	23 00 28.2	-0.9
NVAR	**Mina Array Bea**	**12.82**	**141**	Pn	Pn	22 58 54.2	+5.8
	0.1nm,0.3s,baz=320,slow=13,SNR=3.7						
NVAR				LR	LR	23 03 54.6	
	comp=Z,120nm,20.3s,baz=170,slow=38						
PDAR	**Pinedale Array**	**14.54**	**108**	Pn	Pn	22 59 17.6	+5.8
	0.0nm,0.3s,baz=311,slow=5.7,SNR=6.2						
YKA	**Yellowknife Ar**	**15.60**	**24**	Pn	Pn	22 59 25.1	-0.8
	baz=209,slow=12,SNR=14						
YKA				LR	LR	23 06 05.6	
	comp=Z,141nm,18.4s,baz=180,slow=40						
YKW3	**Yellowknife Ar**	**15.65**	**24**	P	Pn	22 59 25.4	-1.3
YKW3	**Yellowknife Ar**	**15.65**	**24**	*e*P	Pn	22 59 25.4	-1.3
SML	**Sawmill**	**17.02**	**327**	*e*Pn	Pn	22 59 43.5	-0.7
FFC	**Flin Flon**	**17.30**	**60**	*e*Pn	Pn	22 59 49.7	+2.1
	66nm,1.3s						
PV10	**Paradox Valley**	**17.54**	**120**	Pn	Pn	22 59 45.6	-5.0
PV01	**Paradox Valley**	**17.97**	**120**	*e*Pn	Pn	22 59 57.0	+1.0
ILAR	**Eielson Array**	**18.66**	**335**	P	Pn	23 00 05.4	+1.1
	0.0nm,0.3s,baz=152,slow=12,SNR=7.1						
ILAR				LR	LR	23 07 04.4	
	comp=Z,59nm,19.1s,baz=336,slow=36						
COLA	**College**	**19.01**	**334**	*e*P	Pn	23 00 10.2	+1.6
INK	**Inuvik**	**19.58**	**354**	P	Pn	23 00 14.6	-0.8
	0.1nm,0.3s,baz=191,slow=14,SNR=3.0						
INK				LR	LR	23 08 03.3	
	comp=Z,194nm,18.9s,baz=213,slow=38						
INK	**Inuvik**	**19.58**	**354**	*e*P	Pn	23 00 13.5	-1.9
ULM	**Lac du Bonnet**	**21.07**	**74**	P	P	23 00 32.4	+2.0
	6.1nm,0.8s,mb4.0,baz=284,slow=10,SNR=13						
ANMO	**Albuquerque**	**21.43**	**123**	P	P	23 00 37.0	+2.9
	1.5nm,0.7s,mb3.4,baz=340,slow=12,SNR=4.4						
SADO	**Sadowa**	**33.51**	**78**	LR	LR	23 15 25.1	
	comp=Z,59nm,18.9s,MS3.3,baz=250,slow=35						
SCHQ	**Schefferville**	**37.39**	**57**	LR	LR	23 19 00.1	
	comp=Z,110nm,18.8s,MS3.7,baz=7.4,slow=37						
SONM	**Songino Array**	**72.54**	**325**	LR	LR	23 39 32.9	
	comp=Z,44nm,19.5s,MS3.7,baz=274,slow=36						

ISCJB ***15*** *22:57:16.1±0.8, 4092N±004×083E±005, h10km, Error ellipse: s-maj=6.6km s-min=4.4km az=116.9*
LDG ***15*** *22:57:16.2±0.2, 4077N×083E, h10km, Md2.6/1, Ml2.0/5, Error ellipse: s-maj=3.8km s-min=2.2km az=174.0*
MDD ***15*** *22:57:16.5±0.7, 4075N×085E, h10km±1km, mbLg1.8/7, Error ellipse: s-maj=6.5km s-min=3.1km az=162.0, PRXIMO*

ISC 15 22:57:16.0±0.9, 4083N±005×086E±004, h10km, n25, σ0§81/31, 1C-2D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBR	**Ebro Roquetas**	**0.28**	**268**	*e*SG	Sg	22 57 26.0	+0.6
ERTA	**Horta de San J**	**0.42**	**288**	⇑Pg	Pg	22 57 24.7	+0.5
	1.1nm,0.1s,SNR=18						
ERTA				Lg		22 57 31.3	
	26nm,0.2s,SNR=7.9						
CGAR	**Garraf**	**0.51**	**24**	Pg	Pg	22 57 34.9	+9.0
EPOB	**Poblet**	**0.55**	**18**	⇓Pg	Pg	22 57 28.1	+1.4
	2.9nm,0.1s,SNR=18						
EPOB				Lg		22 57 36.9	
	11nm,0.2s,SNR=7.9						
CAVN	**Les Avellanes**	**1.05**	**356**	Pg	Pg	22 57 37.5	+1.2
EMOS	**Mosqueruela**	**1.11**	**246**	Pg	Pg	22 57 36.2	-1.2
	0.5nm,0.1s,SNR=7.9						
EMOS				Lg		22 57 50.4	
	1.8nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**1.19**	**25**	⇓Pg	Pg	22 57 40.1	+1.1
	1.6nm,0.1s,SNR=18						
EMIR				Lg		22 57 57.1	
	6.1nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**312**	Pg	Pg	22 57 42.2	+0.5
	2.1nm,0.2s,SNR=7.9						
ESAC				Lg		22 58 00.7	
	19nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.42**	**344**	Pg	Pg	22 57 43.9	+0.6
	1.0nm,0.2s,SNR=7.9						
EGRA				Lg		22 58 04.3	
	0.7nm,0.2s,SNR=7.9						
CORG	**Organya**	**1.44**	**14**	Pg	Pg	22 57 43.5	-0.1
CFON	**Fontmartina**	**1.51**	**51**	Pn	Pn	22 57 42.0	-1.0
CFON				Pg	Pg	22 57 45.5	+0.5
CSOR	**Sort**	**1.56**	**8**	Pg	Pg	22 57 46.4	+0.5
CBRU	**Bruguera**	**1.76**	**34**	Pg	Pg	22 57 50.4	+0.6

178nm,0.1s
KZA Kyzart 1.05 276 ⇑P **Pg 22 59 55.6 -3.1**
22nm,0.2s,SNR=71
KZA ⇓S **Sg 23 00 10.6 -1.9**
69nm,0.2s
TKM2 Tokmak 2 1.23 321 ⇑P **Pn 22 59 59.8 -1.9**
0.3nm,0.0s,SNR=69
TKM2 ⇑S **Sb 23 00 17.7 0.0**
126nm,0.1s
TKM2 Tokmak 2 1.23 321 ⇑P **Pn 22 59 59.8 -1.9**
4.1nm,0.2s
TKM2 ⇑S **Sb 23 00 17.0 -0.7**
21nm,0.2s
KNDC Almaty 1.26 10 ⇑P **Pn 23 00 00.6 -1.6**
1μm,0.7s
KNDC ⇑S **Sb 23 00 19.0 +0.3**
2μm,0.3s
KBK Karagaybulak 1.44 299 ⇑P **Pn 23 00 03.6 -1.0**
13nm,0.1s,SNR=34
KBK ⇓S **Sn 23 00 24.3 +0.7**
90nm,0.2s
UCH Uchtor 1.61 280 ⇑P **Pn 23 00 06.1 -0.9**
9.9nm,0.2s,SNR=18
UCH ⇑S **Sn 23 00 29.3 +1.4**
23nm,0.1s
AAK Ala-Archa 1.73 293 ⇓P **Pn 23 00 08.5 -0.1**
13nm,0.2s,SNR=16
AAK ⇑S **Sn 23 00 32.1 +1.3**
35nm,0.2s
CHMS Chumysh 1.74 307 ⇓P **Pn 23 00 08.8 0.0**
8.4nm,0.2s,SNR=9.1
CHMS ⇑S **Sn 23 00 32.8 +1.8**
46nm,0.2s
USP Ospenovka 2.05 310 ⇓P **Pn 23 00 14.1 +1.1**
19nm,0.3s,SNR=44
AML Almayashu 2.21 275 ⇑P **Pn 23 00 16.8 +1.6**
16nm,0.2s,SNR=27
AML ⇓S **Sn 23 00 47.4 +4.7**
49nm,0.2s
KK31 Karatay Array 4.68 286 ⇑Pg **Pb 23 01 01.6 +0.9**
0.6nm,0.3s,baz=101,slow=16,SNR=28
KK31 ⇑Lg 23 02 03.1
1.9nm,0.3s,baz=100,slow=29,SNR=4.8
MK31 Makanchi Array 6.28 38 ⇑Pn **Pn 23 01 12.6 +1.4**
0.6nm,0.4s,baz=213,slow=15,SNR=9.2
MK31 ⇑Lg 23 02 53.4
1.1nm,0.5s,baz=220,slow=29,SNR=4.5
KURK Kurchatov 8.85 8 ⇑Lg 23 04 16.8
7.6nm,1.6s
VOSK Vostochnaya 11.42 342 ⇑Lg 23 05 35.8
3.5nm,0.9s
BVA0 Borovoye Array 11.84 341 ⇑Lg 23 05 47.9
0.7nm,1.3s,baz=147,slow=26,SNR=5.0

MEX 15 23:43:38.0±0.6, 1630N×9836W, h5km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**68**	*i* P		Pg	23 43 42.4	-0.4
PNIG				*i* S		Sg	23 43 46.3	+0.3
ACX	**Acapulco**	**1.59**	**291**	*e*P		Pn	23 44 05.0	-1.9
ACX				*i* S		Sn	23 44 21.5	-6.3
UTMO	**Huajuapan**	**1.61**	**19**	*i* P		Pn	23 44 03.7	-3.4
UTMO				*e*S		Sn	23 44 23.5	-4.8
VHO	**Vista Hermosa**	**1.74**	**64**	*i* P		Pn	23 44 06.6	-2.3
VHO				*i* S		Sn	23 44 27.2	-4.2
OXX	**Oaxaca**	**1.75**	**64**	*i* P		Pn	23 44 07.5	-1.6
OXX				*i* S		Sn	23 44 27.5	-4.3
MEIG	**Mezcala**	**2.01**	**324**	*e*P		Pn	23 44 10.3	-2.3
MEIG				*i* S		Sn	23 44 35.0	-3.2
PLIG	**Platanillo**	**2.35**	**333**	*e*P		Pn	23 44 13.6	-3.7
PLIG				*i* S		Sn	23 44 43.0	-3.5
YAIG	**Yautepec**	**2.63**	**345**	*e*P		Pn	23 44 19.1	-2.1
PPM	**Popocatepetl**	**2.76**	**355**	*e*P		Pn	23 44 22.3	-0.6
PPM				*e*P			23 44 25.0	
PPM				*i* S		Sn	23 44 52.5	-4.2
PPM				*i* S		Sn	23 44 54.2	-2.5
CMIG	**Matias Romero**	**3.42**	**76**	*i* P		Pn	23 44 28.2	-3.9
CMIG				*i* S		Sn	23 45 09.7	-3.4

*CSEM **16** 00:00:52.9±0.3, 3757N×1996E, h2km, MD3.5, Error ellipse: s-maj=5.9km s-min=4.1km az=62.0*
*NEIC **16** 00:00:53.0, 3759N×1997E, h18km, MD3.5(ATH), After ATH.*
*ATH **16** 00:00:53.0, 3759N×1997E, h18km±1km, MD3.5/5*
*ISCJB **16** 00:00:54.0±1.8, 3764N±009×20.1E±0.1, h10km, Error ellipse: s-maj=17.1km s-min=10.7km az=109.5*
ISC 16 00:00:52.1±2.9, 3754N±009×199E±01, h3km±14km, n8, σ0$92/13, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.83**	**40**	*e*PN		**Pn**	**00 01 07.4**	**-3.2**
VLS				*e*SN		**Sg**	**00 01 18.9**	**+0.2**
RLS	**Riolos of Patr**	**1.33**	**67**	*e*PN		**Pn**	**00 01 17.2**	**-0.3**
ITM	**Ithomi**	**1.64**	**102**	*e*PN		**Pn**	**00 01 22.6**	**+0.8**
EVR	**Evrytania**	**2.02**	**47**	*e*PN		**Pn**	**00 01 27.3**	**+0.2**
EVR				*e*SN		**Sn**	**00 01 52.8**	**-0.1**
KEK	**Kerkira**	**2.17**	**358**	*e*PN		**Pn**	**00 01 29.8**	**+0.7**
KEK				*e*SN		**Sn**	**00 01 57.0**	**+0.5**
JAN	**Janina**	**2.23**	**19**	*e*PN		**Pn**	**00 01 30.5**	**+0.5**
OHR	**Ohrid**	**3.63**	**11**	*e*Pn		**Pn**	**00 01 47.5**	**-1.7**
OHR				*e*Sn		**Sn**	**00 02 26.4**	**-6.0**
OHR	**Ohrid**	**3.63**	**11**	*e*Pn		**Pn**	**00 01 47.4**	**-1.8**
OHR				*e*Sn		**Sn**	**00 02 26.4**	**-6.1**

*IDC **16** 00:17:22.7±1.2, 240N×12691E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/16, mbtmp4.1/7, MS3.5/3, Ms1 3.5/3, ms1mx3.0/26, Error ellipse: s-maj=174.5km s-min=16.3km az=68.0*
*ISCJB **16** 00:17:26.4±0.5, 235N±007×1267E±0.1, h33km, mb4.4/16, MS3.7/4, Error ellipse: s-maj=19.4km s-min=7.1km az=127.2*
*MOS **16** 00:17:26.7±1.0, 231N×12659E, h33km, mb4.7/6, Error ellipse: s-maj=51.8km s-min=12.6km az=113.8*
*NEIC **16** 00:17:27.8±0.5, 243N×12698E, h35km, mb4.5/9, Error ellipse: s-maj=18.1km s-min=7.0km az=60.0*
ISC 16 00:17:28.6±0.5, 233N±007×1267E±01, h35km, n40, σ0$69/38, mb4.4/16, MS3.7/4, 2C-1D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.13**	**290**	*e*Pn		**Pn**	**00 20 09.5**	**+4.4**
KAKA	**Kakadu**	**15.98**	**159**	*e*P		**Pn**	**00 21 16.0**	**+5.4**
	16nm,0.6s							
KSM	**Kuching**	**16.45**	**267**	Pn		**Pn**	**00 21 16.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.34**	**183**	*e*P		**P**	**00 22 02.9**	**+1.2**
	11nm,0.6s							
GUMO	**Guam**	**21.12**	**57**	LR		LR	00 30 16.6	
	comp=Z,57nm,18.2s,MS3.0,baz=248,slow=37							
WRAB	**Tennant Creek**	**23.35**	**162**	*e*P		**P**	**00 22 33.9**	**0.0**
WRAB				pmax		pmax		
	comp=Z,18nm,0.7s,mb4.6							
WRAB	**Tennant Creek**	**23.35**	**162**	*e*P		**P**	**00 22 33.9**	**0.0**
	comp=Z,18nm,0.7s,mb4.6							
WRA	**Warramunga Arr**	**23.36**	**162**	P		**P**	**00 22 33.6**	**-0.4**
	comp=Z,11nm,0.6s,mb4.5,baz=342,slow=10,SNR=94							
WB2	**Warramunga Arr**	**23.36**	**162**	*e*P		**P**	**00 22 33.9**	**-0.1**
WB2				*e*S		**S**	**00 26 50.1**	**+5.9**
AS31	**Alice Springs**	**26.77**	**165**	*e*P		**P**	**00 23 05.1**	**+0.1**
ASAR	**Alice Springs**	**26.77**	**165**	P		**P**	**00 23 05.0**	**-0.1**
	comp=Z,2.3nm,0.7s,mb3.8,baz=343,slow=6.7,SNR=28							
ASAR				PcP		PcP	00 26 28.6	+1.2
	comp=Z,1.3nm,0.7s,baz=344,slow=2.7,SNR=7.1							
ASPA	**Alice Springs**	**26.77**	**165**	*e*P		**P**	**00 23 05.1**	**+0.1**
PSI	**Prapat**	**27.80**	**272**	LR		LR	00 33 00.9	
	comp=Z,87nm,21.2s,MS3.3,baz=334,slow=34							
FORT	**Forrest**	**32.95**	**178**	*e*P		**P**	**00 24 00.6**	**+0.8**
	comp=Z,28nm,0.7s,mb5.3							
STKA	**Stephens Creek**	**36.83**	**159**	*e*P		**P**	**00 24 31.6**	**-1.6**
	comp=Z,5.4nm,0.7s,mb4.5							
STKA	**Stephens Creek**	**36.83**	**159**	P		**P**	**00 24 31.4**	**-1.9**
	comp=Z,6.1nm,0.7s,mb4.6,baz=335,slow=7.4,SNR=16							
LSA	**Lhasa**	**43.38**	**312**	P		**P**	**00 25 28.4**	**+0.9**
JIRN	**Jiri**	**46.21**	**307**	*e*P		**P**	**00 25 49.9**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8							
GUN	**Gumba**	**46.56**	**307**	*e*P		**P**	**00 25 52.6**	**-0.2**
	comp=Z,6.0nm,0.4s,mb4.8							
KKN	**Kakani**	**46.99**	**307**	*e*P		**P**	**00 25 55.9**	**-0.3**
DMN	**Daman**	**47.05**	**306**	*e*P		**P**	**00 25 56.4**	**-0.3**
GKN	**Gorkha**	**47.60**	**307**	*e*P		**P**	**00 26 00.3**	**-0.6**
KOLN	**Koldanda**	**48.34**	**306**	*e*P		**P**	**00 26 06.3**	**-0.3**
ULN	**Ulaanbaatar**	**48.44**	**342**	⇑*e*P		**P**	**00 26 09.0**	**+1.6**
SONM	**Songino Array**	**48.62**	**342**	P		**P**	**00 26 08.5**	**-0.3**
	comp=Z,1.3nm,0.8s,mb4.0,baz=161,slow=8.0,SNR=8.3							
MKAR	**Makanchi Array**	**58.71**	**326**	P		**P**	**00 27 22.0**	**-0.7**
	comp=Z,0.6nm,0.4s,mb4.0,baz=120,slow=8.8,SNR=21							
KURK	**Kurchatov**	**62.92**	**328**	*i* P		**P**	**00 27 51.2**	**-0.1**
KURK	**Kurchatov**	**62.92**	**328**	*e*P		**P**	**00 27 50.3**	**-1.0**
	comp=Z,4.4nm,0.6s,mb4.8							
SEY	**Seymchan**	**63.38**	**13**	*i* P		**P**	**00 27 55.7**	**+1.3**
BVAR	**Borovoye Array**	**68.49**	**327**	P		**P**	**00 28 27.2**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.8,baz=84,slow=4.6,SNR=4.0							
BRVK	**Borovoye**	**68.56**	**327**	*e*P		**P**	**00 28 27.1**	**-0.6**
	comp=Z,0.5nm,0.3s,mb3.9							
ARU	**Arti**	**76.12**	**328**	⇓*e*P		**P**	**00 29 12.7**	**0.0**
ARU				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.4							
ARU	**Arti**	**76.12**	**328**	*e*P		**P**	**00 29 11.8**	**-1.0**
	comp=Z,2.4nm,0.6s,mb4.3							
VNDA	**Vanda**	**82.05**	**173**	P		**P**	**00 29 45.0**	**-0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=322,slow=8.5,SNR=4.7							
GNI	**Garni**	**82.38**	**310**	*i* P		**P**	**00 29 53.4**	**+6.5**
GNI				pmax		pmax		
	comp=Z,7.0nm,1.4s							
GNI	**Garni**	**82.38**	**310**	*e*P		**P**	**00 29 53.0**	**+6.1**
MALT	**Malatya**	**87.25**	**308**	*e*P		**P**	**00 30 11.9**	**+0.5**
MALT				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.4							
MALT	**Malatya**	**87.25**	**308**	*e*P		**P**	**00 30 11.9**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.3							
OBN	**Obninsk**	**88.20**	**325**	⇑*e*P		**P**	**00 30 16.1**	**+0.1**
OBN				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.8							
OBN				MLR		MLR		
	comp=Z,100nm,19.0s,MS4.2							
INK	**Inuvik**	**91.45**	**22**	LR		LR	01 11 04.8	
	comp=Z,65nm,18.8s,MS4.1,baz=77,slow=35							

*ISCJB **16** 00:36:40.9±0.8, 129N±02×874W±02, h173km±5km, mb3.5/3, Error ellipse: s-maj=38.0km s-min=10.4km az=92.3*
*CASC **16** 00:36:41.3±1.8, 1246N×8777W, h149km, MD3.9, ML3.4, mb3.6(NEIC)*
*NEIC **16** 00:36:43.6±1.5, 1293N×8715W, h181km±20km, mb3.6/1, Error ellipse: s-maj=32.6km s-min=17.8km az=223.0*
*IDC **16** 00:36:44.4±3.8, 1279N×8696W, h203km±68km, mb3.3/3, mb1 3.3/4, mb1mx3.0/20, mbtmp3.8/4, Error ellipse: s-maj=74.3km s-min=67.7km az=58.0*
ISC 16 00:36:41.7±0.9, 128N±02×874W±02, h170km±4km, n29, σ1$02/33, mb3.5/3, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.39**	**102**	*e*P		**Pn**	**00 37 04.5**	**-0.3**
CRIN				*e*S		**Sn**	**00 37 22.6**	**+0.1**
TEL3	**Telica 3**	**0.61**	**110**	*e*P		**Pn**	**00 37 05.2**	**-0.5**
TEL3				*e*S		**Sn**	**00 37 23.1**	**-1.2**
	comp=Z,696nm,0.7s							
TELN	**Telica**	**0.62**	**106**	*e*P		**Pn**	**00 37 05.1**	**-0.7**
TELN				*e*S		**Sn**	**00 37 25.7**	**+1.4**
LEON	**Leon**	**0.64**	**124**	*e*P		**Pn**	**00 37 05.3**	**-0.6**
LEON				*e*S		**Sn**	**00 37 23.4**	**-1.2**
CNGN	**Cerro Negro**	**0.77**	**111**	*e*P		**Pn**	**00 37 06.3**	**-0.4**
CNGN				*e*S		**Sn**	**00 37 26.8**	**+0.9**
MIRN	**Miramar**	**0.79**	**115**	*e*P		**Pn**	**00 37 06.5**	**-0.3**
MIRN				*e*S		**Sn**	**00 37 25.7**	**-0.4**
COPN	**Copaltepe**	**1.02**	**126**	⇑*e*P		**Pn**	**00 37 08.1**	**-0.4**
COPN				*e*S		**Sn**	**00 37 27.3**	**-1.8**
BLLM	**Bellamira**	**1.02**	**310**	*e*P		Px	00 37 24.4	
BLLM				*e*S		Sx	00 37 43.6	
APYN	**Apoyeque**	**1.19**	**117**	*e*P		**Pn**	**00 37 10.0**	**+0.1**
APYN				*e*S		**Sn**	**00 37 33.6**	**+2.0**
MGAN	**Managua**	**1.32**	**118**	*e*S		**Sn**	**00 37 35.1**	**+1.5**
	comp=E,320nm,0.4s							
TICN	**Ticuantepe**	**1.39**	**122**	*e*P		**Pn**	**00 37 12.3**	**+0.6**
TICN				*e*S		**Sn**	**00 37 34.9**	**+0.1**
APON	**Apoyo**	**1.59**	**123**	*e*P		**Pn**	**00 37 13.9**	**+0.2**
APON				*e*S		**Sn**	**00 37 39.1**	**+0.8**
LCBS	**La Ceiba**	**1.73**	**300**	*e*P		Px	00 37 31.1	
LCBS				*e*S		Sx	00 37 55.3	
LFRS	**El Faro**	**1.79**	**298**	*e*P		Px	00 37 32.0	
LFRS				*e*S		Sx	00 37 57.3	
BOQS	**Boqueron**	**2.03**	**298**	*e*P		Px	00 37 35.0	
BOQS				*e*S		Sx	00 38 03.7	
SNJE	**San Jose**	**2.37**	**297**	*e*P		Px	00 37 39.2	
SNJE				*e*S		Sx	00 38 09.2	
SBLS	**San Blas**	**2.37**	**297**	*e*P		Px	00 37 39.2	
SBLS				*e*S		Sx	00 38 10.0	
RTR	**El Retiro**	**2.42**	**298**	*e*P		Px	00 37 40.4	
RTR				*e*S		Sx	00 38 13.7	
JTS	**JuntasAbangare**	**3.47**	**135**	P		**Pn**	**00 37 37.0**	**+1.3**
	comp=E,5.1nm,0.3s,baz=319,slow=18,SNR=12							
JTS				S		**Sn**	**00 38 17.0**	**-0.7**
	comp=E,11nm,0.3s,baz=304,slow=19,SNR=9.8							
JTS	**JuntasAbangare**	**3.47**	**135**	P		**Pn**	**00 37 37.0**	**+1.3**
JTS				S		**Sn**	**00 38 17.0**	**-0.7**
SDV	**Santo Domingo**	**16.95**	**102**	*e*P		**Pn**	**00 40 27.6**	**-1.2**
	comp=E,0.8nm,0.3s							
WMOK	**Wichita Mounta**	**24.16**	**337**	*e*P		**P**	**00 41 43.3**	**+1.2**
ANMO	**Albuquerque**	**28.00**	**325**	*e*P		**P**	**00 42 18.8**	**+2.3**
ULM	**Lac du Bonnet**	**38.00**	**351**	P		**P**	**00 43 43.7**	**+0.6**
	comp=E,1.1nm,0.4s,mb3.9,baz=174,slow=3.6,SNR=2.8							
ULM	**Lac du Bonnet**	**38.00**	**351**	P		**P**	**00 43 43.7**	**+0.6**
SCHQ	**Schefferville**	**44.96**	**17**	P		**P**	**00 44 38.0**	**-1.7**
	comp=E,1.2nm,0.5s,mb3.8,baz=221,slow=14,SNR=6.7							
YKA	**Yellowknife Ar**	**53.30**	**345**	P		**P**	**00 45 42.0**	**-1.0**
	comp=E,0.2nm,0.7s,mb3.0,baz=138,slow=7.8,SNR=6.6							
YKA	**Yellowknife Ar**	**53.30**	**345**	P		**P**	**00 45 42.0**	**-1.0**
WRA	**Warramunga Arr**	**139.37**	**254**	PKP		PKPdf	00 55 50.7	+2.1
	comp=E,0.4nm,0.6s,baz=85,slow=2.2,SNR=6.2							

IDC 16 00:49:07.8±2.0, 312S×12816E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=135.3km s-min=26.3km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.78**	**161**	P		Pn	00 53 15.0	-1.6
	0.2nm,0.3s,baz=339,slow=12,SNR=18							
WB2	**Warramunga Arr**	**17.78**	**161**	*e*P		Pn	00 53 17.3	+0.6
ASAR	**Alice Springs**	**21.17**	**165**	*e*P		P	00 53 55.2	+0.6
	5.4nm,0.9s,baz=344,slow=12,SNR=40							
ASPA	**Alice Springs**	**21.17**	**165**	*e*P		P	00 53 55.6	+1.0
MKAR	**Makanchi Array**	**63.99**	**327**	P		P	00 59 43.5	+0.5
	0.4nm,0.7s,baz=119,slow=7.5,SNR=6.6							

IDC 16 00:56:10.6±2.8, 1134S×12249E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.4/12, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=228.4km s-min=33.3km az=50.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.25**	**128**	Pn		Pn	00 59 32.3	-1.4
	0.1nm,0.3s,baz=302,slow=14,SNR=16							
WRA				Sn		Sn	01 02 01.6	-11
	0.3nm,0.3s,baz=300,slow=25,SNR=7.9							
ASAR	**Alice Springs**	**16.38**	**140**	Pn		Pn	01 00 03.6	+1.8
	0.1nm,0.3s,baz=316,slow=11,SNR=6.8							
MKAR	**Makanchi Array**	**68.11**	**331**	P		P	01 07 12.4	+0.1
	0.3nm,0.5s,baz=132,slow=7.6,SNR=6.5							

IDC 16 00:58:22.3±2.7, 1073S×12319E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/13, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=257.7km s-min=33.7km az=52.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.12**	**132**	Pn		Pn	01 01 43.1	-0.5
	0.1nm,0.3s,baz=306,slow=14,SNR=4.4							
WRA				Sn		Sn	01 04 12.6	-8.2
	0.2nm,0.3s,baz=299,slow=24,SNR=4.9							
ASAR	**Alice Springs**	**16.43**	**143**	Pn		Pn	01 02 15.1	+0.9
	0.1nm,0.3s,baz=321,slow=12,SNR=4.0							
MKAR	**Makanchi Array**	**67.92**	**331**	P		P	01 09 22.9	+0.1
	0.3nm,0.6s,baz=132,slow=7.3,SNR=4.6							

MEX 16 01:24:20.9±0.4, 1614N×9859W, h24km±25km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.51**	**61**	*i* P		Pb	01 24 29.6	-1.6
PNIG				*i* S		Sb	01 24 36.2	-2.0
ACX	**Acapulco**	**1.46**	**300**	*e*P		Pn	01 24 42.5	-3.3
UTMO	**Huajuapan**	**1.84**	**24**	*e*P		Pn	01 24 49.7	-1.3
UTMO				*i* S		Sn	01 25 10.6	-2.8
VHO	**Vista Hermosa**	**2.00**	**62**	*i* P		Pn	01 24 53.3	+0.1
VHO				*i* S		Sn	01 25 14.4	-3.2
MEIG	**Mezcala**	**2.03**	**331**	*i* P		Pn	01 24 51.7	-1.9
MEIG				*i* S		Sn	01 25 14.9	-3.2
PLIG	**Platanillo**	**2.40**	**339**	*i* S		Sn	01 25 24.6	-2.8
YAIG	**Yautepec**	**2.74**	**351**	*i* P		Pn	01 25 09.2	+5.8
YAIG				*i* S		Sn	01 25 32.5	-3.2
PPM	**Popocatepetl**	**2.91**	**359**	*i* S		Sn	01 25 35.5	-4.3

*ISCJB **16** 01:26:10.4±0.6, 3787N±002×2681E±004, h7km±4km, Error ellipse: s-maj=5.1km s-min=3.7km az=151.1*
*CSEM **16** 01:26:10.9±0.1, 3790N×2687E, h15km, MD3.2, Error ellipse: s-maj=2.9km s-min=1.2km az=93.0*
*NEIC **16** 01:26:10.0, 3781N×2688E, h27km, MD3.2(ATH), After ATH.*
*ATH **16** 01:26:10.0, 3781N×2688E, h27km±2km, MD3.2/3*
*ISK **16** 01:26:10.9, 3790N×2685E, h20km, MD3.4*
ISC 16 01:26:11.4±0.5, 3788N±002×2683E±004, h11km±3km, n25, σ0$74/39, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.17**	**179**	⇑*i*PB		**Pg**	**01 26 15.2**	**0.0**
SMG				*e*SB		**Sg**	**01 26 18.6**	**+0.7**
URLA	**Izmir**	**0.51**	**339**	*i* P		**Pg**	**01 26 20.8**	**-0.6**
URLA				*i* S		**Sg**	**01 26 28.5**	**+0.4**
BLCB	**Balcova**	**0.53**	**18**	*i* PG		**Pg**	**01 26 21.4**	**-0.2**
BLCB				*i* SG		**Sg**	**01 26 29.2**	**+0.6**
IZM	**Izmir**	**0.61**	**33**	*i* PG		**Pg**	**01 26 23.3**	**0.0**
IZM				*i* SG		**Sg**	**01 26 31.6**	**+0.2**
KDAG	**Bornova**	**0.62**	**33**	*i* P		**Pg**	**01 26 23.3**	**-0.1**
KDAG				*i* S		**Sg**	**01 26 31.3**	**-0.3**
AYDN	**Tasoluk**	**0.86**	**105**	*i* P		**Pg**	**01 26 27.6**	**-0.4**
AYDN				*i* S		**Sg**	**01 26 39.5**	**+0.4**
BODT	**Bodrum**	**0.90**	**155**	PG		**Pg**	**01 26 29.1**	**+0.3**
MLSB	**Milas**	**0.95**	**128**	PG		**Pg**	**01 26 29.2**	**-0.5**
MLSB				SG		**Sg**	**01 26 42.5**	**+0.4**
AKS	**Akhisar**	**1.26**	**37**	PN		**Pn**	**01 26 34.3**	**-0.5**
AKS				SN		**Sn**	**01 26 50.4**	**-1.3**
DAT	**Datca**	**1.30**	**153**	PN		**Pn**	**01 26 35.2**	**-0.2**
APE	**Apeiranthos**	**1.32**	**232**	PN		**Pn**	**01 26 34.6**	**-1.1**
APE				SN		**Sn**	**01 26 52.6**	**-0.6**
APE	**Apeiranthos**	**1.32**	**232**	*e*PN		**Pn**	**01 26 34.4**	**-1.3**
YER	**Yerkesik**	**1.37**	**123**	PN		**Pn**	**01 26 36.2**	**-0.2**
AYVA	**Ayvalik**	**1.43**	**356**	*i* P		**Pn**	**01 26 37.9**	**+0.7**
PRK	**Paraskevi**	**1.43**	**342**	*e*PN		**Pn**	**01 26 37.1**	**-0.1**
PRK				*e*SN		**Sn**	**01 26 57.3**	**+1.3**
MANT	**Manisa**	**1.49**	**65**	*i* P		**Pn**	**01 26 39.5**	**+1.5**
MANT				*i* S		**Sn**	**01 26 58.3**	**+0.9**
DENT	**Denizli**	**1.75**	**94**	PN		**Pn**	**01 26 40.6**	**-1.0**
BALB	**Balikesir**	**1.94**	**25**	*e*PN		**Pn**	**01 26 44.1**	**0.0**
EZN	**Ezine**	**1.98**	**349**	*e*PN		**Pn**	**01 26 44.1**	**-0.7**
BTOK	**Tokmak**	**2.10**	**26**	*i* P		**Pn**	**01 26 48.7**	**+2.3**
BTOK				*i* S		**Sn**	**01 27 17.6**	**+5.2**
FETY	**Fethiye**	**2.19**	**124**	*e*PN		**Pn**	**01 26 47.9**	**+0.3**
DST	**Dursunbey**	**2.22**	**39**	*e*PN		**Pn**	**01 26 47.8**	**-0.3**
LIA	**Limnos Island**	**2.39**	**328**	*e*PN		**Pn**	**01 26 50.9**	**+0.5**
TKTP	**Tekketepe**	**2.76**	**86**	*i* P		**Pg**	**01 27 04.4**	**+0.1**
TKTP				*i* S		**Sg**	**01 27 45.1**	**+5.1**
ULDT	**Uludag**	**2.88**	**38**	*i* P		**Pg**	**01 27 05.7**	**-0.9**
ULDT				*i* S		**Sg**	**01 27 42.6**	**-1.3**

*NEIC **16** 02:07:28.8±5.9, 2722N×14054E, h475km±58km, mb3.5/3, Error ellipse: s-maj=77.7km s-min=12.3km az=74.0*
*ISCJB **16** 02:07:29.3±0.7, 271N±0.1×1403E±02, h492km±9km, mb3.5/12, Error ellipse: s-maj=27.4km s-min=19.0km az=147.8*
*IDC **16** 02:07:30.2±0.5, 2718N×14041E, h486km±10km, mb3.1/9, mb1 3.3/10, mb1mx3.1/21, mbtmp4.1/10, Error ellipse: s-maj=31.8km s-min=13.1km az=75.0*
ISC 16 02:07:30.1±0.7, 272N±01×1404E±02, h489km±8km, n17, σ0$51/18, mb3.5/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.57**	**94**	P		**P**	**02 08 32.8**	**+0.6**
	23nm,0.3s,baz=48,slow=24,SNR=17							
CBIJ				S		**S**	**02 09 22.3**	**-0.3**
	37nm,0.3s,baz=284,slow=21,SNR=7.7							
JOW	**Kunigami**	**10.85**	**271**	P		**P**	**02 09 56.0**	**-0.4**
	3.5nm,0.3s,baz=257,slow=26,SNR=5.0							
SONM	**Songino Array**	**33.55**	**317**	P		**P**	**02 13 28.9**	**+0.5**
	0.3nm,0.4s,mb3.1,baz=126,slow=8.0,SNR=2.3							
WRA	**Warramunga Arr**	**47.25**	**188**	P		**P**	**02 15 18.0**	**-0.2**
	0.6nm,0.3s,mb3.5,baz=6.4,slow=7.7,SNR=19							
MKAR	**Makanchi Array**	**49.19**	**310**	P		**P**	**02 15 32.9**	**+0.2**
	0.4nm,0.4s,mb3.1,baz=88,slow=10,SNR=18							
ASAR	**Alice Springs**	**50.98**	**188**	P		**P**	**02 15 46.2**	**+0.3**
	0.2nm,0.4s,mb2.8,baz=12,slow

IDC 16 02:49:56.6±2.9, 282N×9573E, h22km±6km, mb3.6/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.7/4, Error ellipse: s-maj=112.1km s-min=19.1km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.14**	**123**	P	P	02 58 03.5	+0.1
	0.9nm,0.7s,baz=297,slow=9.5,SNR=6.7						
WRA				pP	pP	02 58 10.8	+0.5
	1.2nm,1.0s,baz=299,slow=9.7,SNR=2.7						
MKAR	**Makanchi Array**	**45.33**	**347**	P	P	02 58 12.9	0.0
	2.8nm,0.8s,baz=161,slow=8.9,SNR=28						
MKAR				pP	pP	02 58 19.8	0.0
	3.0nm,0.5s,baz=162,slow=8.4,SNR=20						
ASAR	**Alice Springs**	**45.54**	**127**	P	P	02 58 15.2	+0.7
	0.3nm,0.6s,baz=289,slow=8.4,SNR=4.9						
SONM	**Songino Array**	**45.77**	**10**	P	P	02 58 16.4	+0.1
	0.8nm,0.7s,baz=190,slow=7.3,SNR=4.6						
SONM				pP	pP	02 58 23.4	+0.1
	1.6nm,0.8s,baz=191,slow=8.9,SNR=6.4						

MAN 16 03:02:33.7, 1796N×12145E, h30km, mb2.4, ML3.9, MS1.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.22**	**243**	*e*P	Pb	03 02 41.7	+1.6
APYP				*e*S	Sb	03 02 47.7	+3.2
CVP	**Callao Caves**	**0.44**	**126**	*e*P	Pb	03 02 44.0	+0.8
CVP				*e*S	Sb	03 02 50.0	+0.3
CAUP	**Cauayan**	**1.07**	**160**	*e*P	Pn	03 02 53.4	+0.7

*ISCJB **16** 03:06:05.8±0.4, 4239N±002×149E±002, h7km±3km, Error ellipse: s-maj=3.6km s-min=2.8km az=148.1*
*CSEM **16** 03:06:07.7±0.1, 4235N×145E, h5km, ML2.5/10, Error ellipse: s-maj=1.4km s-min=1.1km az=152.0*
*NEIC **16** 03:06:07.6, 4234N×145E, h5km, ML2.3(STR), ML2.5(LDG), MN1.9(MDD), After STR.*
*LDG **16** 03:06:07.5±0.1, 4234N×144E, h2km, Md2.6/2, Ml2.5/10, Error ellipse: s-maj=1.2km s-min=0.9km az=7.0*
*STR **16** 03:06:07.6±0.2, 4234N×145E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **16** 03:06:08.1±0.2, 4234N×145E, h0km, mbLg1.9/13, Error ellipse: s-maj=2.3km s-min=2.0km az=65.0, PRXIMO*

ISC 16 03:06:07.0±0.4, 4236N±002×147E±002, h13km±3km, n57, σ0989/101, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.41**	**84**	Pg	**Pg**	**03 06 15.7**	**+0.7**
VALF				Sg	**Sg**	**03 06 22.2**	**+1.7**
EMIR	**Miracle**	**0.45**	**175**	Pg	**Pg**	**03 06 15.8**	**0.0**
	7.6nm,0.1s,SNR=29						
EMIR				Lg		03 06 22.1	
	15nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.45**	**175**	Pg	**Pg**	**03 06 15.8**	**0.0**
	7.6nm,0.1s,SNR=29						
SALF	**Salau**	**0.45**	**332**	Pg	**Pg**	**03 06 16.3**	**+0.4**
SALF				Sg	**Sg**	**03 06 22.8**	**+0.9**
CARF	**Carcanieres**	**0.59**	**53**	Pg	**Pg**	**03 06 19.0**	**+0.6**
CARF				Sg	**Sg**	**03 06 27.7**	**+1.5**
MLS	**Moulis**	**0.66**	**335**	Pg	**Pg**	**03 06 20.4**	**+0.6**
MLS				Sg	**Sg**	**03 06 29.8**	**+1.4**
MELF	**Melles**	**0.73**	**314**	P	**Pg**	**03 06 21.6**	**+0.3**
MELF				S	**Sg**	**03 06 31.6**	**+0.7**
FILF	**Fillols**	**0.83**	**76**	Pg	**Pg**	**03 06 21.9**	**-1.1**
FILF				Sg	**Sg**	**03 06 32.0**	**-1.8**
EGRA	**Graus**	**0.88**	**259**	Pg	**Pg**	**03 06 23.6**	**-0.3**
	1.3nm,0.1s,SNR=18						
EGRA				Lg		03 06 36.0	
	3.4nm,0.2s,SNR=7.9						
RESF	**Ens**	**0.95**	**298**	S	**Sg**	**03 06 38.5**	**+0.8**
EBIE	**Bielsa**	**1.04**	**289**	Pg	**Pg**	**03 06 26.7**	**-0.3**
	0.8nm,0.1s,SNR=17						
EBIE				Lg		03 06 40.4	
	3.9nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.04**	**289**	Pg	**Pg**	**03 06 26.7**	**-0.2**
	0.8nm,0.1s,SNR=17						
EPOB	**Poblet**	**1.05**	**196**	Pg	**Pg**	**03 06 27.0**	**-0.3**
	0.8nm,0.1s,SNR=13						
EPOB				Lg		03 06 40.2	
	13nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.05**	**196**	Pg	**Pg**	**03 06 27.0**	**-0.2**
	0.8nm,0.1s,SNR=13						
EJON	**La Jonquera**	**1.05**	**85**	Pg	**Pg**	**03 06 28.5**	**+1.2**
	2.1nm,0.1s,SNR=11						
EJON				Lg		03 06 43.0	
	3.6nm,0.1s,SNR=4.8						
EJON	**La Jonquera**	**1.05**	**85**	Pg	**Pg**	**03 06 28.5**	**+1.3**
	2.1nm,0.1s,SNR=11						
EPF	**Esparros**	**1.07**	**309**	*e*Pg	**Pg**	**03 06 27.4**	**-0.2**
EPF				*e*Sg	**Sg**	**03 06 42.3**	**+0.8**
	12nm,0.2s,SNR=1.0						
EPF	**Esparros**	**1.07**	**309**	*e*Pg	**Pg**	**03 06 27.4**	**-0.2**
EPF				*e*Sg	**Sg**	**03 06 42.3**	**+0.8**
	6.1nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**1.12**	**29**	*e*Pg	**Pg**	**03 06 28.7**	**+0.1**
MTLF	**Montolieu**	**1.12**	**29**	*e*P	**Pb**	**03 06 30.2**	**+2.0**
MTLF				*e*Sg	**Sg**	**03 06 44.2**	**+1.0**
	15nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**1.12**	**29**	*e*P	**Pb**	**03 06 30.2**	**+2.0**
MTLF				*e*Sg	**Sg**	**03 06 44.2**	**+1.0**
	7.3nm,0.2s,SNR=1.0						
VIEF	**Viey**	**1.19**	**296**	S	**Sb**	**03 06 45.6**	**+0.9**
LABF	**Labassere**	**1.24**	**304**	S	**Sb**	**03 06 47.0**	**+0.8**
ESAC	**San Caprasio**	**1.58**	**247**	Pg	**Pg**	**03 06 36.3**	**-1.0**
	3.8nm,0.1s,SNR=7.9						
ESAC				Lg		03 06 58.4	
	22nm,0.2s,SNR=5.9						
ESAC	**San Caprasio**	**1.58**	**247**	Pg	**Pg**	**03 06 36.3**	**-1.1**
	3.8nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.59**	**290**	*e*Pg	**Pg**	**03 06 36.7**	**-0.9**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**03 06 55.0**	**-0.4**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**03 06 58.4**	**+0.1**
	12nm,0.3s,SNR=1.0						
ETSF	**Etsaut**	**1.59**	**290**	*e*Pg	**Pg**	**03 06 36.7**	**-0.9**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**03 06 55.0**	**-0.4**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**03 06 58.4**	**+0.1**
	6.2nm,0.3s,SNR=1.0						
ETSF	**Etsaut**	**1.59**	**290**	*e*Pn	**Pn**	**03 06 34.4**	**-0.5**
ETSF				*e*Pg	**Pg**	**03 06 36.7**	**-0.9**
ETSF				*e*Sn	**Sn**	**03 06 55.0**	**-0.4**
ETSF				*e*Sg	**Sg**	**03 06 58.4**	**+0.1**
ERTA	**Horta de San J**	**1.64**	**212**	Pg	**Pg**	**03 06 38.1**	**-0.5**
	0.3nm,0.3s,SNR=7.5						
ERTA				Lg		03 06 58.6	
	12nm,0.2s,SNR=7.3						
ERTA	**Horta de San J**	**1.64**	**212**	Pg	**Pg**	**03 06 38.1**	**-0.4**
	0.3nm,0.3s,SNR=7.5						
EBR	**Ebro Roquetas**	**1.71**	**206**	*e*SN	**Sn**	**03 07 00.5**	**+2.3**
SJPF	**Ste Jean**	**2.12**	**292**	*e*Pg	**Pg**	**03 06 46.5**	**-1.2**
SJPF				*e*Sg	**Sg**	**03 07 14.5**	**-0.8**
	4.6nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**2.12**	**292**	*e*Pg	**Pg**	**03 06 46.5**	**-1.2**
SJPF				*e*Sg	**Sg**	**03 07 14.5**	**-0.8**
	2.3nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**2.12**	**292**	*e*Pn	**Pn**	**03 06 42.0**	**-0.2**
SJPF				*e*Pg	**Pg**	**03 06 46.5**	**-1.2**
SJPF				*e*Sg	**Sg**	**03 07 14.5**	**-0.8**
IUNC	**Unciti**	**2.23**	**281**	Lg		03 07 20.9	
	2.0nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**2.29**	**281**	Lg		03 07 21.8	
	5.2nm,0.2s,SNR=4.0						
IUSE	**Utxeti**	**2.30**	**286**	Lg		03 07 22.6	
	2.2nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**2.35**	**291**	Pg	**Pg**	**03 06 51.8**	**-0.3**
	0.6nm,0.2s,SNR=7.9						
ELIZ				Lg		03 07 23.8	
	1.9nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.36**	**292**	Pg	**Pg**	**03 06 52.4**	**+0.3**
	0.5nm,0.2s,SNR=7.9						
EALK				Lg		03 07 22.5	
	7.1nm,0.3s,SNR=6.8						
LASF	**Ste Croix**	**2.44**	**45**	*e*Pg	**Pg**	**03 06 53.3**	**-0.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**03 07 16.3**	**-0.1**
LASF				*e*Sg	**Sg**	**03 07 25.4**	**-0.1**
	2.1nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.44**	**45**	*e*Pn	**Pn**	**03 06 47.2**	**+0.6**
LASF				*e*Pg	**Pg**	**03 06 53.3**	**-0.5**
LASF				*e*Sn	**Sn**	**03 07 16.3**	**-0.1**
LASF				*e*Sg	**Sg**	**03 07 25.4**	**-0.1**
EMOS	**Mosqueruela**	**2.48**	**217**	Pg	**Pg**	**03 06 53.6**	**-0.9**
	0.4nm,0.2s,SNR=4.0						
EMOS				Lg		03 07 24.0	
	1.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.48**	**217**	Pg	**Pg**	**03 06 53.6**	**-0.8**
CAF	**Calviac**	**2.60**	**9**	*e*Pg	**Pg**	**03 06 56.4**	**-0.4**
CAF				*e*Sg	**Sg**	**03 07 30.5**	**0.0**
	3.3nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.60**	**9**	*e*Pg	**Pg**	**03 06 56.4**	**-0.4**
CAF				*e*Sg	**Sg**	**03 07 30.5**	**0.0**
	1.6nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.60**	**9**	*e*Pn	**Pn**	**03 06 48.7**	**0.0**
CAF				*e*Pg	**Pg**	**03 06 56.4**	**-0.4**
CAF				*e*Sg	**Sg**	**03 07 30.5**	**0.0**
LFF	**La Frestale**	**2.63**	**349**	*e*Pg	**Pg**	**03 06 56.6**	**-0.8**
LFF				*e*Sn	**Sn**	**03 07 20.4**	**-0.6**
LFF				*e*Sg	**Sg**	**03 07 30.4**	**-1.1**
	4.4nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**2.63**	**349**	*e*Pg	**Pg**	**03 06 56.6**	**-0.8**
LFF				*e*Sn	**Sn**	**03 07 20.4**	**-0.6**
LFF				*e*Sg	**Sg**	**03 07 30.4**	**-1.1**
	2.2nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**2.63**	**349**	*e*Pn	**Pn**	**03 06 50.0**	**+0.8**
LFF				*e*Pg	**Pg**	**03 06 56.6**	**-0.8**
LFF				*e*Sn	**Sn**	**03 07 20.4**	**-0.6**
LFF				*e*Sg	**Sg**	**03 07 30.4**	**-1.1**
RJF	**Les Rejaudoux**	**2.94**	**1**	*e*Pg	**Pg**	**03 07 02.5**	**-0.9**
RJF				*e*Sn	**Sn**	**03 07 27.9**	**-0.7**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**03 07 41.1**	**-0.4**
	1.5nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.94**	**1**	*e*Pg	**Pg**	**03 07 02.5**	**-0.9**
RJF				*e*Sn	**Sn**	**03 07 27.9**	**-0.7**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**03 07 41.1**	**-0.4**
	0.8nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.41**	**42**	*e*Pg	**Pg**	**03 07 10.9**	**-1.4**
VIVF				*e*Sn	**Sn**	**03 07 39.1**	**-1.0**
VIVF				*e*Sg	**Sg**	**03 07 55.9**	**-0.5**
	1.7nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.41**	**42**	*e*Pg	**Pg**	**03 07 10.9**	**-1.4**
VIVF				*e*Sn	**Sn**	**03 07 39.1**	**-1.0**
VIVF				*e*Sg	**Sg**	**03 07 55.9**	**-0.5**
	0.9nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.96**	**7**	*e*Pn	**Pn**	**03 07 08.4**	**+0.9**
	SNR=1.0						
BGF	**Bois d'Agland**	**4.31**	**13**	*e*Sg	**Sg**	**03 08 23.7**	**-1.6**
	5.4nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.31**	**13**	*e*Sg	**Sg**	**03 08 23.7**	**-1.6**
	2.7nm,0.4s,SNR=1.0						

CASC 16 03:08:11.0±2.4, 1344N×9037W, h32km±7km, MD3.2, ML3.8, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.73**	**354⇑**	*e*P	Pn	03 08 24.9	-0.1
IXG				*e*S	Sb	03 08 36.8	+1.7
IXG				AML	AML	03 08 40.8	
	comp=N,3μm,0.5s						
SBLS	**San Blas**	**0.83**	**61**	*e*P	Pn	03 08 45.0	+19
SBLS				*e*S	Sn	03 08 56.2	+19
RTR	**El Retiro**	**0.84**	**57**	*e*P	Pn	03 08 45.4	+19
RTR				*e*S	Sn	03 08 57.8	+20
SNJE	**San Jose**	**0.86**	**60**	*e*P	Pn	03 08 45.7	+19
SNJE				*e*S	Sn	03 08 57.8	+20
RBDL	**Robledal**	**0.94**	**45**	*e*P	Pn	03 08 46.2	+18
RBDL				*e*S	Sn	03 08 59.5	+19
BOQS	**Boqueron**	**1.10**	**74**	*e*P	Pn	03 08 48.5	+18
BOQS				*e*S	Sn	03 09 03.9	+20
FUG	**Fuego 3**	**1.10**	**335**	*e*P	Pn	03 08 30.8	+0.6
FUG				*e*S	Sn	03 08 45.4	+1.2
SNET	**Serv Nac Est T**	**1.13**	**77⇓**	*e*P	Pn	03 08 35.6	+5.0
SNET				*e*S	Sn	03 08 51.9	+6.9
LFRS	**El Faro**	**1.28**	**82⇓**	*e*P	Pn	03 08 51.0	+18
LFRS				*e*S	Sn	03 09 07.3	+18
LCBS	**La Ceiba**	**1.37**	**81**	*e*P	Pn	03 08 52.3	+18
LCBS				*e*S	Sn	03 09 10.2	+19
SNVI	**San Vicente**	**1.50**	**83**	*e*S	Sn	03 09 13.8	+20

*BJI **16** 03:24:28.8, 806S×12996E, h130km, mB4.8, mb4.8*
*MOS **16** 03:24:34.2±1.1, 700S×12930E, h107km, mb4.6/15, Error ellipse: s-maj=16.7km s-min=7.9km az=112.5*
*ISCJB **16** 03:24:36.5±1.2, 709S±004×12951E±007, h133km±12km, mb4.5/48, Error ellipse: s-maj=11.1km s-min=6.0km az=144.7*
*NEIC **16** 03:24:37.9±1.4, 707S×12935E, h130km±13km, mb4.6/18, Error ellipse: s-maj=12.8km s-min=8.1km az=57.0*
*IDC **16** 03:24:37.7±3.9, 708S×12949E, h127km±36km, mb4.2/13, mb1 4.3/15, mb1mx4.2/20, mbtmp4.6/15, Error ellipse: s-maj=22.9km s-min=12.5km az=64.0*

ISC 16 03:24:40.0±1.1, 7225S±005×12949E±006, h153km±12km, h141km±2.0km: pP-P, n100, σ1521/105, mb4.5/48, 2C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.18**	**152**	*e*P	**Pn**	**03 26 11.1**	**+2.1**
	130nm,0.3s						
KAKA				*e*S	**Sn**	**03 27 17.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**11.45**	**199**	*e*P	**Pn**	**03 27 18.7**	**-0.2**
	32nm,0.6s						
FITZ				*e*S	**Sn**	**03 29 20.2**	**-5.2**
WRAB	**Tennant Creek**	**13.48**	**160⇓**	*e*P	**Pn**	**03 27 44.9**	**-0.3**
WRAB	**Tennant Creek**	**13.48**	**160**	*e*Pn	**Pn**	**03 27 44.6**	**-0.6**
	50nm,0.3s						
WRAB				*e*Sn	**Sn**	**03 30 05.5**	**-9.0**
WRA	**Warramunga Arr**	**13.49**	**160**	P	**Pn**	**03 27 44.1**	**-1.1**
	3.4nm,0.3s,baz=342,slow=13,SNR=65						
WRA				S	**Sn**	**03 30 07.2**	**-7.4**
	11nm,0.3s,baz=339,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.49**	**160**	*e*P	**Pn**	**03 27 44.6**	**-0.7**
WB2				*e*S	**Sn**	**03 30 08.9**	**-5.8**
MBWA	**Marble Bar**	**16.76**	**213**	*e*Pn	**Pn**	**03 28 27.4**	**+1.6**
MBWA				*e*S	**S**	**03 31 30.3**	**-1.8**
AS31	**Alice Springs**	**16.89**	**166**	*e*P	**Pn**	**03 28 29.6**	**+2.3**
AS31				*e*S	**S**	**03 31 31.0**	**-3.9**
ASAR	**Alice Springs**	**16.89**	**166**	P	**Pn**	**03 28 28.8**	**+1.5**
	11nm,0.3s,baz=339,slow=9.4,SNR=506						
ASAR				S	**S**	**03 31 28.8**	**-6.1**
	1.6nm,0.3s,baz=335,slow=21,SNR=5.2						
ASAR				ScP	ScP	03 36 24.4	-0.8
	baz=337,slow=1.9,SNR=5.1						
ASAR	**Alice Springs**	**16.89**	**166**	P	**Pn**	**03 28 28.8**	**+1.5**
ASAR				S	**S**	**03 31 28.8**	**-6.1**
ASAR	**Alice Springs**	**16.89**	**166**	P	**Pn**	**03 28 28.8**	**+1.5**
ASAR				S	**S**	**03 31 28.8**	**-6.1**
ASAR				ScP	ScP	03 36 24.4	-0.8
ASPA	**Alice Springs**	**16.89**	**166**	*e*P	**Pn**	**03 28 29.6**	**+2.3**
ASPA				*e*S	**S**	**03 31 31.0**	**-3.9**
PMG	**Port Moresby**	**17.61**	**98**	*e*P	**Pn**	**03 28 39.3**	**+3.3**
PMG				pmax	pmax		
	comp=Z,22nm,0.8s						
PMG	**Port Moresby**	**17.61**	**98**	*e*P	**Pn**	**03 28 39.3**	**+3.3**
	comp=Z,22nm,0.8s						
KKM	**Kota Kinabalu**	**18.69**	**315**	P	**P**	**03 28 44.7**	**-1.7**
CTA	**Charters Tower**	**20.68**	**130**	*e*P	**P**	**03 29 11.3**	**+3.4**
	comp=Z,7.8nm,0.9s						
CTA	**Charters Tower**	**20.68**	**130**	P	**P**	**03 29 09.9**	**+2.0**
	comp=Z,7.5nm,0.7s,baz=307,slow=12,SNR=5.5						
CTA	**Charters Tower**	**20.68**	**130**	*e*P	**P**	**03 29 11.3**	**+3.4**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**20.68**	**130**	*e*P	**P**	**03 29 11.0**	**+3.1**
CTAO				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**20.68**	**130**	*e*P	**P**	**03 29 11.0**	**+3.1**
	comp=Z,13nm,0.9s						
KSM	**Kuching**	**21.00**	**294**	P	**P**	**03 29 07.8**	**-3.6**
FORT	**Forrest**	**23.47**	**183**	*e*P	**P**	**03 29 38.1**	**+2.4**
	comp=Z,53nm,0.6s,mb5.2						
KLBR	**Kellerberrin**	**26.61**	**203**	*e*P	**P**	**03 30 06.2**	**+2.2**
	comp=Z,24nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**27.00**	**157**	*e*P	**P**	**03 30 07.7**	**+0.2**
	comp=Z,6.8nm,0.8s,mb4.3						
STKA				*e*		03 30 11.7	
STKA	**Stephens Creek**	**27.00**	**157**	P	**P**	**03 30 07.8**	**+0.3**
	comp=Z,12nm,0.4s,mb4.9,baz=347,slow=8.8,SNR=38						
PSI	**Prapat**	**32.09**	**287**	P	**P**	**03 30 52.6**	**+0.2**
	comp=Z,9.3nm,0.8s,mb4.5,baz=198,slow=2.9,SNR=8.0						
DZM	**Mont Dzumac**	**38.54**	**117**	P	**P**	**03 31 49.3**	**+1.7**
	comp=Z,6.4nm,0.7s,mb4.3,baz=270,slow=15,SNR=5.3						
SSE	**Sheshan**	**38.92**	**349**	P	**P**	**03 31 51.1**	**+0.4**
SSE				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.7						
GYA	**Guiyang**	**40.15**	**327**	*e*P	**P**	**03 32 02.8**	**+1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2	**Nanjing**	**40.35**	**346**	*e*P	**P**	**03 32 03.4**	**+0.8**
NJ2				AP	pP	03 32 34.8	-1.3
NJ2				XP	sP	03 32 50.9	-2.5
NJ2				PP	PP	03 33 42.1	+3.5
NJ2				S	**S**	**03 37 59.0**	**+0.1**
NJ2				XS	sS	03 38 54.0	-3.4
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,200nm,10.6s						
NJ2				LR	LR		
	comp=N,1μm,19.0s						
NJ2				LR	LR		
	comp=E,2μm,35.2s						
NJ2				LR	LR		
	comp=Z,460nm,32.2s						
KMI	**Kunming**	**41.38**	**322**	P	**P**	**03 32 12.4**	**+1.5**
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5						
MJAR	**Matsushiro Arr**	**44.30**	**10**	P	**P**	**03 32 33.2**	**-1.2**
	comp=Z,7.1nm,0.7s,mb4.4,baz=191,slow=9.9,SNR=15						
MJAR	**Matsushiro Arr**	**44.30**	**10**	P	**P**	**03 32 33.2**	**-1.2**
MAJO	**Matsushiro**	**44.30**	**10**	*e*P	**P**	**03 32 32.5**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
MAJO	**Matsushiro**	**44.30**	**10**	*e*P	**P**	**03 32 32.5**	**-2.0**
	comp=Z,11nm,0.7s,mb4.6						
MAT	**Matsushiro**	**44.30**	**10**	P	**P**	**03 32 32.9**	**-1.5**
MAT	**Matsushiro**	**44.30**	**10**	*e*P	**P**	**03 32 33.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
MAT	**Matsushiro**	**44.30**	**10**	*e*P	**P**	**03 32 33.0**	**-1.4**
	comp=Z,6.7nm,0.8s,mb4.3						
CD2	**Chengdu**	**45.22**	**328**	*e*P	**P**	**03 32 42.1**	**+0.3**
CD2				AP	pP	03 33 13.8	-2.2
CD2				XP	sP	03 33 29.8	-3.3
CD2				PP	PP	03 34 30.8	+0.2
CD2				S	**S**	**03 39 10.9**	**+0.8**
CD2				XS	sS	03 40 06.6	-2.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,5.3s						
BJT	**Baijiatuau**	**48.59**	**346**	*e*P	**P**	**03 33 07.1**	**-0.8**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJT	**Baijiatuau**	**48.59**	**346**	*e*P	**P**	**03 33 07.1**	**-0.8**
	comp=Z,7.8nm,0.5s,mb4.6						
LZH	**Lanzhou**	**49.37**	**332**	*e*P	**P**	**03 33 19.0**	**+5.2**
LZH				AP	pP	03 33 49.5	+1.0
LZH				*e*S	**S**	**03 40 13.0**	**+4.3**
LZH				XS	sS	03 41 13.0	+4.0
LZH				SS	SS	03 43 46.0	+3.7
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,110nm,4.9s						
HHC	**Hu-ho-hao-te**	**50.60**	**342**	*e*P	**P**	**03 33 24.9**	**+1.8**
HHC				AP	pP	03 33 57.5	-0.5
HHC				XP	sP	03 34 13.0	-2.0
HHC				PCP	PcP	03 34 40.4	+1.9
HHC				PP	PP	03 35 24.0	+3.6
HHC				S	**S**	**03 40 28.3**	**+2.5**
HHC				XS	sS	03 41 25.3	-1.0
HHC				SCS	ScS	03 42 58.3	+0.1
HHC				SS	SS	03 44 03.5	+1.7
HHC				AMB	AMB		
	comp=Z,8.0nm,0.2s,mb5.0						
HHC				AMB	AMB		
	comp=Z,52nm,5.3s						
HHC				LR	LR		
	comp=N,110nm,5.1s						
HHC				LR	LR		
	comp=E,163nm,5.9s						
HHC				LR	LR		
	comp=Z,81nm,5.3s						
CN2	**Changchun**	**50.92**	**356**	*e*P	**P**	**03 33 25.9**	**+0.4**
CN2				*e*XP	sP	03 34 16.0	-1.4
CN2				*e*S	**S**	**03 40 32.1**	**+1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
MDJ	**Mudanjiang**	**51.60**	**0**	P	**P**	**03 33 30.0**	**-0.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.5						
ASAJ	**Asahikawa**	**52.46**	**12**	P	**P**	**03 33 36.8**	**-0.1**
	comp=Z,4.1nm,0.3s,mb4.5,baz=207,slow=9.0,SNR=6.7						
JIRN	**Jiri**	**54.35**	**312**	*e*P	**P**	**03 33 51.0**	**+0.3**
GUN	**Gumba**	**54.72**	**312**	*e*P	**P**	**03 33 53.8**	**+0.4**
	comp=Z,31nm,0.8s,mb5.1						
PKI	**Pulchoki**	**54.89**	**311**	*e*P	**P**	**03 33 54.5**	**-0.1**
	comp=Z,9.2nm,0.6s,mb4.7						
KKN	**Kakani**	**55.10**	**311**	*e*P	**P**	**03 33 55.9**	**-0.2**
	comp=Z,17nm,0.8s,mb4.8						
DMN	**Daman**	**55.14**	**311**	*e*P	**P**	**03 33 56.5**	**+0.2**
	comp=Z,26nm,0.9s,mb5.0						
GKN

BVA0				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.5								
BVAR	**Borovoye Array**	**77.98**	**328**		**P**		**P**	**03 36 20.7**	**-0.5**
	comp=Z,6.7nm,0.8s,mb4.3,baz=129,slow=5.9,SNR=36								
BRVK	**Borovoye**	**78.06**	**328**	*eP*			**P**	**03 36 21.1**	**-0.6**
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.3								
BRVK	**Borovoye**	**78.06**	**328**	*eP*			**P**	**03 36 21.1**	**-0.5**
	comp=Z,5.7nm,0.8s,mb4.2								
ZRNK	**Zerenda**	**78.68**	**328**	*eP*			**P**	**03 36 24.3**	**-0.8**
ZRNK				pmax	pmax				
	comp=Z,14nm,0.9s,mb4.6								
ZRNK	**Zerenda**	**78.68**	**328**	*eP*			**P**	**03 36 24.3**	**-0.8**
	comp=Z,14nm,0.9s,mb4.6								
TIXI	**Tiksi**	**78.71**	**360⇑**	*eP*			**P**	**03 36 24.2**	**-1.0**
TIXI				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.0								
AB31	**Akbulak array**	**82.37**	**322**	P			**P**	**03 36 44.2**	**-0.5**
AB31				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.0								
AKTK	**Aktyubinsk**	**83.94**	**322**	P			**P**	**03 36 52.9**	**+0.1**
AKTO	**Aktyubinsk**	**83.94**	**322**	P			**P**	**03 36 52.9**	**+0.1**
	comp=Z,2.9nm,0.4s,mb4.3,baz=108,slow=6.7,SNR=17								
ARU	**Arti**	**85.63**	**328**	⇓*iP*			**P**	**03 37 00.2**	**-1.0**
ARU				*eS*				03 47 04.9	
ARU				*e*SS		SS		03 52 59.3	-0.6
ARU				pmax	pmax				
	comp=Z,13nm,0.9s,mb4.7								
ARU	**Arti**	**85.63**	**328**	*eP*			**P**	**03 36 59.8**	**-1.4**
	comp=Z,14nm,0.8s,mb4.7								
KDAK	**Kodiak Island**	**89.67**	**32**	P			**P**	**03 37 20.6**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.3,baz=248,slow=9.1,SNR=3.5								
MCK	**McKinley**	**92.70**	**26**	*eP*			**P**	**03 37 33.2**	**-1.4**
MCK				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.3								
MCK	**McKinley**	**92.70**	**26**	*eP*			**P**	**03 37 33.2**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.2								
COLA	**College**	**93.37**	**25**	P			**P**	**03 37 36.2**	**-1.5**
COLA				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.5								
COLA	**College**	**93.37**	**25**	P			**P**	**03 37 36.1**	**-1.5**
	comp=Z,2.9nm,0.8s,mb4.5								
ILAR	**Eielson Array**	**93.76**	**25**	P			**P**	**03 37 37.5**	**-2.0**
	comp=Z,2.0nm,0.8s,mb4.3,baz=269,slow=4.2,SNR=19								
OBN	**Obninsk**	**97.55**	**325⇓**	*eP*			**P**	**03 37 54.9**	**-1.8**
OBN				*PP	pP			03 38 38.3	+2.8
OBN				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb5.1								
SNOW	**Snow King Moun**	**116.37**	**45**	*e*PKPdf		PKPdf		03 43 07.7	+2.4
LOHW	**Long Hollow**	**116.43**	**45**	*e*PKPdf		PKPdf		03 43 06.5	+1.0
PDAR	**Pinedale Array**	**117.41**	**45**	PKP		PKPdf		03 43 07.9	+0.6
	comp=Z,0.4nm,0.7s,baz=112,slow=1.6,SNR=4.8								
ULM	**Lac du Bonnet**	**122.91**	**33**	PKP		PKPdf		03 43 17.6	-0.2
	comp=Z,0.7nm,0.3s,baz=46,slow=2.9,SNR=2.7								
MNTX	**Cornudas Mount**	**123.50**	**57**	*e*PKPdf		PKPdf		03 43 20.9	+1.9
TORD	**Torodi Ar. Bea**	**128.36**	**281**	PKP		PKPdf		03 43 29.7	+1.4
	comp=Z,1.7nm,0.7s,baz=84,slow=1.9,SNR=19								
JCT	**Junction City**	**128.44**	**57**	*e*PKIKP		PKPdf		03 43 30.4	+1.9
DBIC	**Dimbokro**	**134.69**	**272**	PKP		PKPdf		03 43 43.0	+2.8
	comp=Z,0.8nm,0.4s,baz=45,slow=4.3,SNR=3.5								
CPUP	**Villa Florida**	**146.00**	**169**	PKPbc		PKPbc		03 44 03.7	+2.1
	comp=Z,0.6nm,0.3s,baz=191,slow=5.2,SNR=3.3								
CPUP	**Villa Florida**	**146.00**	**169**	PKPbc		PKPbc		03 44 03.7	+2.1
LPAZ	**La Paz**	**150.85**	**143**	PKPbc		PKPbc		03 44 18.0	+3.7
	comp=Z,1.9nm,0.4s,baz=179,slow=3.4,SNR=6.1								

*ISCJB **16** 03:48:55.7±0.6,3937N±004×2063E±005,h2km, Error ellipse: s-maj=5.9km s-min=4.6km az=74.8*
*THE **16** 03:48:55.9,3928N×2055E,h4km,ML3.1*
*ATH **16** 03:48:56.3,3949N×2065E,h18km±2km,MD3.4/6*
*NEIC **16** 03:48:56.3,3949N×2065E,h18km,MD3.4(ATH),After ATH.*
*CSEM **16** 03:48:56.5±0.1,3946N×2065E,h2km,MD3.4,Error ellipse: s-maj=2.7km s-min=2.4km az=26.0*
*SKO **16** 03:48:56.4,3932N×2053E,h7km*

ISC 16 03:48:56.5±0.5,3942N±003×2064E±004,h2km,n23, σ1§19/31,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**296**	*e*Pg	**Pg**	**03 49 01.1**	**-0.5**
IGT				*e*Sg	**Sg**	**03 49 06.5**	**+1.4**
JAN	**Janina**	**0.29**	**34**	*e*PB	**Pg**	**03 49 00.9**	**-1.2**
JAN				*e*SB	**Sg**	**03 49 05.4**	**-0.4**
KEK	**Kerkira**	**0.72**	**295**	*e*PN	**Pg**	**03 49 09.8**	**-0.5**
LSK	**Leskovik**	**0.73**	**357**	*i* Pg	**Pg**	**03 49 09.9**	**-0.7**
LSK				*i* Sg	**Sg**	**03 49 23.7**	**+3.6**
TPE	**Tepelena**	**1.00**	**331**	*i* Pg	**Pg**	**03 49 15.2**	**-0.6**
TPE				*i* Sg	**Sg**	**03 49 33.6**	**+4.9**
EVR	**Evrytania**	**1.03**	**119**	*e*PN	**Pn**	**03 49 16.3**	**-1.7**
VLS	**Valsamata**	**1.24**	**182**	*e*PN	**Pn**	**03 49 21.1**	**+0.2**
VLS				*e*SB	**Sb**	**03 49 40.2**	**+3.1**
KZN	**Kozani**	**1.24**	**44**	*e*PN	**Pn**	**03 49 19.4**	**-1.5**
AGG	**Agios Georgios**	**1.37**	**106**	*e*Pg	**Pg**	**03 49 21.8**	**-0.9**
FNA	**Florina**	**1.48**	**22**	*e*Pb	**Pb**	**03 49 23.2**	**-1.5**
FNA				*e*Sb	**Sb**	**03 49 47.3**	**+3.4**
RLS	**Riolos of Patr**	**1.50**	**154**	*e*PN	**Pn**	**03 49 25.4**	**+0.9**
LIT	**Litokhoron**	**1.58**	**64**	*e*Pb	**Pb**	**03 49 25.6**	**-0.9**
LIT				*e*Sb	**Sb**	**03 49 48.8**	**+1.9**
LIT	**Litokhoron**	**1.58**	**64**	*e*Pb	**Pb**	**03 49 25.5**	**-0.9**
BIA	**Bitola**	**1.68**	**18**	*e*Pb	**Pb**	**03 49 27.0**	**-1.2**
BIA				*e*Sb	**Sb**	**03 49 51.7**	**+1.9**
OHR	**Ohrid**	**1.70**	**4**	*e*Pb	**Pb**	**03 49 28.2**	**-0.2**
OHR	**Ohrid**	**1.70**	**4**	*e*Pn	**Pn**	**03 49 28.0**	**+0.9**
GRG	**Griva**	**2.04**	**41**	*e*Pn	**Pn**	**03 49 32.8**	**+0.8**
PAIG	**Paliouri**	**2.40**	**77**	*e*Pn	**Pn**	**03 49 36.4**	**-0.4**
VAY	**Valandovo**	**2.40**	**37**	*e*Pn	**Pn**	**03 49 37.9**	**+1.1**
VAY	**Valandovo**	**2.40**	**37**	*e*Pn	**Pn**	**03 49 38.3**	**+1.4**
OUR	**Ouranopolis**	**2.73**	**69**	*e*Pn	**Pn**	**03 49 41.9**	**+0.6**
SRS	**Serrai**	**2.82**	**52**	*e*Pn	**Pn**	**03 49 43.7**	**+1.0**
SG1	**Sgolgore (BA)**	**3.35**	**296**	*e*Pn	**Pn**	**03 49 48.9**	**-1.1**

*NIED **16** 04:07:00,3820N×14470E,h11km,Mw3.5 Best double couple: M0:2.22000×10^14 NP1:φ0±249.00000°,δ68.00000°, λ-73.00000°. NP2:φ0±28.00000°,δ27.00000°, λ-127.00000°.*

JMA 16 04:07:15.1±0.2,3825N×14468E,h55km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.50**	**290**	P	Pn	04 07 54.6	+1.3
MIYJ	**Miyakonagasawa**	**2.59**	**302**	P	Pn	04 07 55.6	+1.0
MIYJ				*e*S	Sn	04 08 25.6	+0.7
JIO	**Ouri**	**2.63**	**275**	P	Pn	04 07 56.2	+1.2
JIO				*e*S	Sn	04 08 27.1	+1.4
JMK	**Ichinoseki**	**2.80**	**286**	P	Pn	04 07 59.0	+1.6
JOT	**Ohata**	**4.20**	**319**	P	Pn	04 08 17.5	+1.0
JOT				*e*S	Sn	04 09 03.7	-0.5
JCH	**Churui**	**4.47**	**347**	P	Pn	04 08 19.3	-1.0
JCH				*e*S	Sn	04 09 07.7	-3.4
JKB	**Kayabe**	**4.59**	**324**	P	Pn	04 08 23.1	+1.2
JRY	**Ryogami san**	**5.13**	**246**	P	Pn	04 08 30.4	+1.1
JRY				*e*S	Sn	04 09 26.4	-0.7
NEM2	**Nemuro 2**	**5.17**	**9**	P	Pn	04 08 26.6	-3.3
NEM2				*e*S	Sn	04 09 20.8	-7.5
MAT	**Matsushiro**	**5.43**	**254**	P	Pn	04 08 36.1	+2.7
MAT				S	Sn	04 09 37.2	+2.7
JTKR	**Abashiri--Toko**	**5.75**	**354**	P	Pn	04 08 36.9	-0.9
JTKR				*e*S	Sn	04 09 38.8	-3.5
JHR	**Hokuryu**	**5.92**	**339**	P	Pn	04 08 41.9	+1.7
JHR				*e*S	Sn	04 09 47.2	+0.5

MEX 16 04:08:15.3±1.7,1512N×9480W,h17km±493km,MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.42**	**297**	*i* P	Pn	04 08 36.4	-3.8
HUIG				*i* S	Sn	04 08 52.8	-5.7
CMIG	**Matias Romero**	**1.96**	**358**	*i* P	Pn	04 08 43.9	-3.9
CMIG				*i* S	Sn	04 09 07.3	-4.6
SCX	**San Cristobal**	**2.63**	**52**	*e*P	Pn	04 08 53.0	-4.0
SCX				*i* S	Sn	04 09 26.0	-2.5
OXX	**Oaxaca**	**2.69**	**317**	*e*P	Pn	04 08 55.5	-2.2
VHO	**Vista Hermosa**	**2.69**	**317**	*i* P	Pn	04 08 56.5	-1.2
VHO				*i* S	Sn	04 09 27.5	-2.3
CCIG	**Comitan**	**2.81**	**65**	*i* P	Pn	04 08 57.8	-1.6
CCIG				*i* S	Sn	04 09 29.0	-4.0
PPM	**Popocatepetl**	**5.36**	**318**	*e*P	Pn	04 09 34.0	-0.5
PPM				*i* P		04 09 35.4	
PPM				*i* S	Sn	04 10 37.7	+1.8

*ISCJB **16** 04:14:09.5±0.6,5025N±004×1863E±003,h0km, Error ellipse: s-maj=6.6km s-min=2.6km az=33.6*
*NEIC **16** 04:14:10.1±1.1,5025N×1882E,h5km,MG2.5(WAR), Error ellipse: s-maj=18.5km s-min=7.0km az=177.0*
*WAR **16** 04:14:10.4,5023N×1882E,ML2.5,Mining Induced*
*VIE **16** 04:14:14.7±0.5,4996N×1864E,h0km,mb1.7/2,ML2.2/3, Error ellipse: s-maj=3.8km s-min=3.1km az=153.0 31 km ENE of Ostrava Suspected Mining induced.*

ISC 16 04:14:10.7±0.6,5026N±004×1871E±003,h0km,n16, σ1§15/28,2C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.56**	**221**	*e*PG	**Pg**	**04 14 21.9**	**+0.6**
OKC				*e*SG	**Sg**	**04 14 30.2**	**+1.6**
	10.0nm,0.6s						
OJC	**Ojcow**	**0.70**	**93**	*i* Pgd		04 14 22.3	
OJC				*e*Sg	**Sg**	**04 14 31.8**	**-1.3**
MORC	**Moravsky Berou**	**0.90**	**238**	*e*Pg	**Pg**	**04 14 28.2**	**+0.4**
MORC				*e*Sg	**Sg**	**04 14 39.6**	**+0.2**
NIE	**Niedzica**	**1.33**	**128**	*e*Pg	**Pg**	**04 14 34.3**	**-1.9**
NIE				*e*Sg	**Sg**	**04 14 52.8**	**-0.7**
DPC	**Dobruska-Polom**	**1.54**	**274**	*e*PG	**Pg**	**04 14 39.1**	**-1.0**
DPC				*e*SG	**Sg**	**04 15 00.3**	**+0.3**
	13nm,0.4s						
KSP	**Ksiaz**	**1.65**	**292**	*e*Pg	**Pg**	**04 14 42.4**	**+0.1**
KSP				*e*Sg	**Sg**	**04 15 04.7**	**+1.0**
VYHS	**Vyhne**	**1.77**	**177**	*e*PN	**Pn**	**04 14 40.8**	**-1.7**
VYHS				*e*SN	**Sn**	**04 15 03.8**	**-1.9**
STHS	**Stebnicka Huta**	**1.84**	**116**	*i* PN	**Pn**	**04 14 43.8**	**+0.3**
STHS				*e*SN	**Sn**	**04 15 08.9**	**+1.4**
KECS	**Kecovo**	**2.12**	**146**	*e*PN	**Pn**	**04 14 48.0**	**+0.7**
KECS				*e*SN	**Sn**	**04 15 15.9**	**+1.5**
CRVS	**Cervenica-Dubn**	**2.25**	**126**	*e*PN	**Pn**	**04 14 50.5**	**+1.5**
CRVS				*e*SN	**Sn**	**04 15 18.8**	**+1.4**
PRU	**Pruhonice**	**2.70**	**266**	*e*PG	**Pg**	**04 15 00.6**	**-1.8**
PRU				*e*SG	**Sg**	**04 15 36.8**	**-0.6**
	4.2nm,0.4s						
BRG	**Berggiesshubel**	**3.10**	**283**	SG	**Sg**	**04 15 51.2**	**+0.8**
	2.0nm,0.4s						
KHC	**Kasperske Hory**	**3.52**	**253**	*e*PG	**Pg**	**04 15 15.5**	**-2.6**
KHC				*e*SG	**Sg**	**04 16 02.7**	**-1.1**
	6.1nm,0.6s						
CLL	**Collm**	**3.77**	**288**	*e*Sg	**Sg**	**04 16 13.0**	**+1.1**
MOA	**Molln**	**3.79**	**232⇑**	*i*Pn	**Pn**	**04 15 11.0**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**04 16 12.8**	**+0.4**
	comp=Z,2.1nm,0.4s						
NKC	**Novy Kostel**	**4.02**	**272**	*e*SG	**Sg**	**04 16 19.3**	**-0.6**
	3.6nm,0.7s						

MAN 16 04:17:08.2,1746N×12244E,h1km,mb2.8,ML4.3,MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.39**	**181**	*e*P	Pg	04 17 15.5	-0.2
PALP				*e*S	Sg	04 17 26.9	+6.0
CVP	**Callao Caves**	**0.63**	**293**	*e*P	Pg	04 17 22.0	+1.6
CVP				*e*S	Sg	04 17 35.0	+6.4
CAUP	**Cauayan**	**0.78**	**229**	*e*P	Pg	04 17 26.7	+3.6
SGCP	**Mt. Cagua**	**0.86**	**335**	*e*P	Pg	04 17 24.5	-0.3
APYP	**Conner**	**1.21**	**290**	*e*P	Pg	04 17 31.8	+0.4
ABRA	**Dolores**	**1.66**	**277**	*e*P	Pn	04 17 39.2	+0.8
BALP	**Baler**	**1.90**	**206**	*e*P	Pn	04 17 42.3	+0.6

*ISCJB **16** 04:18:11.0±3.6,5046N±007×176.1W±0.1,h14km±23km, mb3.9/13,Error ellipse: s-maj=12.5km s-min=11.5km az=88.3*
*IDC **16** 04:18:11.4±2.1,5058N×176.17W,h0km,mb3.7/11, mb1 3.9/11,mb1mx3.7/25,mbtmp3.8/11,Error ellipse: s-maj=55.2km s-min=22.2km az=167.0*
*NEIC **16** 04:18:12.8±7.7,5056N×176.14W,h9km±46km,mb3.9/4, ML3.2(AEIC),Error ellipse: s-maj=27.2km s-min=11.6km az=182.0*

ISC 16 04:18:11.7±3.9,5055N±008×1761W±01,h5km±25km,n20, σ0§69/22,mb3.9/13,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.38**	**345**	P	**Pn**	**04 18 38.2**	**+0.6**
ADK				S	**Sn**	**04 18 57.0**	**+0.8**
ATKA	**Atka Island**	**2.05**	**35**	P	**Pn**	**04 18 46.6**	**-0.1**
ATKA				S	**Sn**	**04 19 12.1**	**-0.6**
UNV	**Unalaska Valle**	**6.77**	**57**	*e*Pn	**Pn**	**04 19 52.8**	**+1.1**
	14μm,1.2s						
KDAK	**Kodiak Island**	**15.51**	**53**	Pn	**Pn**	**04 21 47.0**	**-4.1**
	1.3nm,0.3s,baz=256,slow=4.4,SNR=22						
BILL	**Bilibino**	**19.57**	**340**	P	**Pn**	**04 22 40.6**	**-1.0**
	1.1nm,0.4s						
MCK	**McKinley**	**19.59**	**37**	*e*P	**Pn**	**04 22 41.5**	**-0.4**
	2.1nm,0.8s						
ILAR	**Eielson Array**	**20.88**	**36**	P	**P**	**04 22 53.4**	**-1.2**
	0.7nm,0.5s,baz=238,slow=10.0,SNR=22						
INK	**Inuvik**	**27.20**	**33**	P	**P**	**04 23 55.5**	**-0.7**
	0.6nm,0.4s,mb3.4,baz=241,slow=4.6,SNR=2.1						
YKA	**Yellowknife Ar**	**34.59**	**46**	P	**P**	**04 25 02.3**	**+0.9**
	0.2nm,0.4s,mb3.4,baz=276,slow=9.0,SNR=9.8						
JNU	**Nakatsue**	**42.18**	**266**	P	**P**	**04 26 05.3**	**+0.1**
	15nm,0.7s,mb4.7,baz=27,slow=2.0,SNR=3.7						
PDAR	**Pinedale Array**	**44.94**	**73**	P	**P**	**04 26 27.7**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=305,slow=4.1,SNR=4.6						
FCC	**Fort Churchill**	**45.31**	**47**	*e*P	**P**	**04 26 30.9**	**+0.4**
	5.2nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**61.87**	**310**	P	**P**	**04 28 30.7**	**-1.2**
	0.2nm,0.5s,mb3.5,baz=54,slow=6.2,SNR=4.4						
ZRNK	**Zerenda**	**63.21**	**322**	*e*P	**P**	**04 28 40.9**	**0.0**
	1.1nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**66.95**	**349**	P	**P**	**04 29 04.8**	**-0.4**
	1.4nm,0.9s,mb4.0,baz=15,slow=7.9,SNR=3.6						
NOA	**NORSAR Array B**	**68.61**	**356**	P	**P**	**04 29 15.8**	**+0.2**
	0.4nm,0.5s,mb3.6,baz=348,slow=5.0,SNR=3.1						
AKTO	**Aktyubinsk**	**69.33**	**326**	P	**P**	**04 29 20.5**	**+0.4**
	1.5nm,0.5s,mb4.2,baz=45,slow=7.4,SNR=6.7						
HFS	**Hagfors**	**69.39**	**355**	P	**P**	**04 29 20.1**	**-0.3**
	0.9nm,0.5s,mb4.0,baz=21,slow=5.0,SNR=8.5						
EKA	**Eskdalemuir Ar**	**74.33**	**4**	P	**P**	**04 29 51.0**	**+0.9**
	3.4nm,0.9s,mb4.3,baz=351,slow=4.5,SNR=4.7						
AKASG	**Malin Array Be**	**76.84**	**344**	P	**P**	**04 30 04.8**	**+0.2**
	0.2nm,0.4s,mb3.4,baz=22,slow=6.4,SNR=4.0						

*IDC **16** 04:22:36.2±0.7,5140N×17741E,h0km,mb4.3/25, mb1 4.5/26,mb1mx4.4/31,mbtmp4.3/26,ML4.4/1,MS3.7/14, Ms1 3.8/14,ms1mx3.5/30,Error ellipse: s-maj=21.2km s-min=13.3km az=168.0*
*MOS **16** 04:22:40.9±1.2,5143N×17748E,h47km,mb4.7/24,Error ellipse: s-maj=11.5km s-min=7.0km az=96.4*
*BJI **16** 04:22:40.5,5140N×17740E,h53km,mB4.8,mb4.5,Ms4.4, Msz4.0*
*ISCJB **16** 04:22:42.2±0.9,5144N±008×17743E±005,h55km±7km, mb4.5/65,MS3.8/17,Error ellipse: s-maj=12.8km s-min=5.0km az=8.6*
*NEIC **16** 04:22:43.6±1.1,5144N×17737E,h54km±8km,mb4.4/26, ML4.4(AEIC),Error ellipse: s-maj=13.5km s-min=5.8km az=190.0*

ISC 16 04:22:44.3±0.9,5150N±008×17742E±005,h59km±6km, h39km±2.7km:pP-P,n153,σ1§24/150,mb4.5/65,MS3.8/17, 2C-3D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.39**	**302**	P	**Pn**	**04 23 20.1**	**-0.9**
SMY				S	**Sn**	**04 23 52.3**	**+3.2**
FX1	**Attu Island--F**	**2.96**	**300**	Pn	**Pn**	**04 23 28.5**	**-0.3**
	118nm,0.3s,baz=309,slow=13,SNR=52						
FX1				Sn	**Sn**	**04 24 08.8**	**+5.7**
	209nm,0.3s,baz=345,slow=23,SNR=12						
FX1	**Attu Island--F**	**2.96**	**300**	P	**Pn**	**04 23 28.5**	**-0.3**
FX1						04 24 08.8	
FX1				pmax	pmax		
	comp=Z,118nm,0.3s						
FX1				smax			
	comp=N,209nm,0.3s						
FX1	**Attu Island--F**	**2.96**	**300**	P	**Pn**	**04 23 28.3**	**-0.6**
ADK	**Adak**	**3.69**	**82**	P	**Pn**	**04 23 36.8**	**-2.0**
ATKA	**Atka Island**	**5.25**	**79**	P	**Pn**	**04 24 00.8**	**+0.7**
UNV	**Unalaska Valle**	**10.05**	**70**	P	**Pn**	**04 25 05.3**	**-0.5**
PET	**Petropavlovsk**	**11.60**	**285**	*e*P	**Pn**	**04 25 16.6**	**-10**
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
TNA	**Tin City**	**15.97**	**22**	*e*P	**Pn**	**04 26 27.3**	**+2.1**
	comp=Z,18nm,1.2s						
MA2	**Magadan**	**17.01**	**309**	*e*P	**Pn**	**04 26 40.9**	**+2.7**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BILL	**Bilibino**	**17.46**	**346⇓**	*e*P	**Pn**	**04 26 45.1**	**+1.4**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s						
BILL	**Bilibino**	**17.46**	**346**	*e*P	**Pn**	**04 26 44.7**	**+1.0**
	comp=Z,13nm,0.7s						
SEY	**Seymchan**	**17.60**	**320**	*i* P	**Pn**	**04 26 49.7**	**+4.3**
SVW2	**Sparrevohn**	**17.67**	**47**	*e*P	**Pn**	**04 26 47.5**	**+1.3**
KDAK	**Kodiak Island**	**18.36**	**58**	P	**Pn**	**04 26 52.6**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=230,slow=8.2,SNR=14						
SLKM	**Skilak Lake**	**20.02**	**51**	*e*P	**P**	**04 27 11.1**	**-1.1**
SML	**Sawmill**	**21.20**	**48**	*e*P	**P**	**04 27 25.2**	**+0.2**
MCK	**McKinley**	**21.48**	**42**	*e*P	**P**	**04 27 27.0**	**-0.9**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
MCK	**McKinley**	**21.48**	**42**	*e*P	**P**	**04 27 27.0**	**-0.9**
	comp=Z,6.8nm,0.9s,mb4.0						
COLA	**College**	**22.31**	**40⇓**	*e*P	**P**	**04 27 36.5**	**-0.2**
COLA	**College**	**22.31**	**40**	*e*P	**P**	**04 27 36.2**	**-0.6**
	comp=Z,11nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**22.66**	**40**	P	**P**	**04 27 38.6**	**-1.8**
	comp=Z,1.6nm,0.5s,mb3.7,baz=254,slow=8.4,SNR=26						
ILAR				LR	LR	04 36 18.5	
	comp=Z,131nm,18.0s,MS3.4,baz=9.2,slow=36						
ASAJ	**Asahikawa**	**24.34**	**266**	P	**P**	**04 27 57.2**	**+0.7**
	comp=Z,7.0nm,0.7s,mb4.2,baz=79,slow=5.2,SNR=3.3						
ASAJ	**Asahikawa**	**24.34**	**266**	P	**P**	**04 27 57.3**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YAK	**Yakutsk**	**27.56**	**311**	*e*P	**P**	**04 28 25.2**	**-0.4**
YAK				*e**PP	pP	04 28 47.4	+7.3
YAK				*e*		04 29 21.2	
YAK				*e*		04 31 37.3	
YAK				*e*S	**S**	**04 33 03.3**	**+0.7**
YAK				*e*SS		04 34 30.3	
YAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.8						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
YAK				pmax	pmax		
	comp=N,3.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				smax			
	comp=E,6.0nm,1.2s						
YAK				smax			
	comp=N,4.0nm,1.0s						
INK	**Inuvik**	**28.73**	**36**	P	**P**	**04 28 36.0**	**-0.1**
	comp=N,1.6nm,0.4s,mb4.1,baz=261,slow=14,SNR=9.5						
INK				LR	LR	04 40 32.2	
	comp=N,156nm,19.1s,MS3.6,baz=239,slow=37						
INK	**Inuvik**	**28.73**	**36**	P	**P**	**04 28 36.0**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK				MLR	MLR		
	comp=Z,156nm,19.1s						
INK	**Inuvik**	**28.73**	**36**	*e*P	**P**	**04 28 35.8**	**-0.2**
	comp=Z,4.4nm,0.8s,mb4.2						
KLR	**Kul'dur**	**28.86**	**284**	*e*P	**P**	**04 28 34.0**	**-3.2**
TIXI	**Tiksi**	**29.38**	**331**	*i* P	**P**	**04 28 44.1**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,200nm,24.0s,MS3.7						
TIXI	**Tiksi**	**29.38**	**331**	P	**P**	**04 28 42.0**	**+0.2**
MDJ	**Mudanjiang**	**32.21**	**277**	P	**P**	**04 29 04.8**	**-2.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
BBB	**Bella Bella**	**32.99**	**67**	LR	LR	04 41 25.9	
	comp=Z,73nm,18.1s,MS3.4,baz=286,slow=34						
CN2	**Changchun**	**35.19**	**278**	*e*P	**P**	**04 29 27.3**	**-5.4**
CN2				*e*XP	sP	04 29 45.8	-8.5
BOD	**Bodaibo**	**35.99**	**305⇑**	*i*P	**P**	**04 29 38.7**	**-0.8**
BOD				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
HIA	**Hailar**	**36.03**	**290**	*i* P	**P**	**04 29 39.2**	**-0.6**
YKA	**Yellowknife Ar**	**36.86**	**46**	P	**P**	**04 29 46.0**	**-0.8**
	comp=Z,1.0nm,0.9s,mb3.6,baz=282,

GTA	**Gaotai**	**53.31 289**	*e*P	**P**	**04 31 57.8**	**+0.5**
GTA			PCP	PcP	04 33 06.1	+1.9
GTA			PP	PP	04 33 58.8	+0.9
GTA			S	**S**	**04 39 24.6**	**+0.1**
GTA			SS	SS	04 43 03.3	-1.6
GTA			AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4					
GTA			AMB	AMB		
	comp=Z,54nm,4.9s					
GTA			LR	LR		
	comp=N,235nm,17.9s,MS4.6					
GTA			LR	LR		
	comp=E,384nm,17.5s,MS4.6					
GTA			LR	LR		
	comp=Z,106nm,17.5s,MS4.0					
TUC	**Tucson**	**54.51 81**	P	**P**	**04 32 05.2**	**-0.9**
TUC			pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2					
TUC	**Tucson**	**54.51 81**	P	**P**	**04 32 05.2**	**-0.8**
	comp=Z,1.7nm,0.9s,mb4.1					
CD2	**Chengdu**	**56.62 279**	*e*P	**P**	**04 32 21.0**	**-0.2**
CD2			AP	pP	04 32 33.8	-3.1
CD2			PP	PP	04 34 28.8	+1.2
CD2			S	**S**	**04 40 07.9**	**-1.0**
CD2			XS	sS	04 40 26.5	-8.8
CD2			SS	SS	04 43 56.5	-0.7
CD2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9					
CD2			AMB	AMB		
	comp=Z,40nm,5.2s					
CD2			LR	LR		
	comp=N,90nm,7.2s					
CD2			LR	LR		
	comp=Z,70nm,6.0s					
KURK	**Kurchatov**	**57.20 312**⇑	*e*P	**P**	**04 32 24.8**	**-0.5**
WMQ	**Urumqi**	**57.27 301**	*e*P	**P**	**04 32 28.9**	**+3.1**
WMQ			AP	pP	04 32 38.9	-2.5
WMQ			XP	sP	04 32 42.9	-5.2
WMQ			AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6					
WMQ			AMB	AMB		
	comp=Z,48nm,4.6s					
WMQ			LR	LR		
	comp=N,92nm,18.0s					
WMQ			LR	LR		
	comp=Z,91nm,18.0s,MS3.9					
ARCES	**ARCESS Array B**	**57.54 349**	P	**P**	**04 32 27.0**	**-0.6**
	comp=Z,9.1nm,1.0s,mb4.8,baz=356,slow=9.7,SNR=3.9					
ARCES			LR	LR	04 57 13.7	
	comp=Z,93nm,20.1s,MS3.9,baz=143,slow=36					
MKAR	**Makanchi Array**	**58.08 306**	P	**P**	**04 32 30.7**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.2,baz=50,slow=6.0,SNR=20					
MKAR			LR	LR	04 58 33.1	
	comp=Z,80nm,19.6s,MS3.8,baz=89,slow=37					
MNTX	**Cornudas Mount**	**58.25 78**	P	**P**	**04 32 33.5**	**+0.8**
BVAR	**Borovoye Array**	**59.24 318**	P	**P**	**04 32 39.9**	**+0.4**
	comp=Z,9.5nm,0.7s,mb5.0,baz=47,slow=7.0,SNR=28					
BRVK	**Borovoye**	**59.26 318**	*e*P	**P**	**04 32 39.6**	**-0.1**
ZRNK	**Zerenda**	**59.87 318**	P	**P**	**04 32 44.0**	**+0.1**
ZRNK			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9					
ZRNK	**Zerenda**	**59.87 318**	P	**P**	**04 32 44.0**	**+0.1**
	comp=Z,6.6nm,0.6s,mb4.8					
WMOK	**Wichita Mounta**	**60.11 71**	P	**P**	**04 32 48.5**	**+3.0**
WMOK			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3					
WMOK	**Wichita Mounta**	**60.11 71**	P	**P**	**04 32 48.5**	**+3.0**
	comp=Z,2.1nm,0.6s,mb4.3					
ARU	**Arti**	**61.22 326**⇓	*i*P	**P**	**04 32 53.4**	**+0.3**
ARU			*e*S	**S**	**04 41 13.7**	**+5.2**
ARU			*e*SS	SS	04 45 15.2	+5.9
ARU			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9					
SCHQ	**Schefferville**	**61.34 36**	P	**P**	**04 32 56.5**	**+2.6**
	comp=Z,2.7nm,0.4s,mb4.7,baz=313,slow=4.8,SNR=20					
HNR	**Honiara**	**62.53 200**	LR	LR	04 55 35.2	
	comp=Z,84nm,18.9s,MS3.9,baz=2.0,slow=32					
JOF	**Joensuu**	**62.84 343**	*e*p	**P**	**04 33 02.2**	**-1.7**
	comp=Z,3.6nm,0.6s,mb4.7					
KLMR	**Klimovskoe**	**63.03 338**	*e*P	**P**	**04 33 03.9**	**-1.3**
KLMR			pmax	pmax		
	comp=Z,20nm,1.9s,mb4.9					
KAF	**Kangasniemi**	**64.44 345**	*e*p	**P**	**04 33 13.2**	**-1.2**
	comp=Z,3.0nm,0.8s,mb4.4					
KAF	**Kangasniemi**	**64.44 345**	*e*P	**P**	**04 33 13.2**	**-1.2**
KAF			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4					
FINES	**FINESS Array B**	**65.10 345**	P	**P**	**04 33 17.9**	**-0.9**
	comp=Z,2.7nm,0.8s,mb4.3,baz=4.6,slow=9.6,SNR=7.0					
FINES			LR	LR	05 08 28.1	
	comp=Z,42nm,18.9s,MS3.6,baz=34,slow=42					
AKTK	**Aktyubinsk**	**66.18 322**	P	**P**	**04 33 26.4**	**+0.6**
AKTO	**Aktyubinsk**	**66.18 322**	P	**P**	**04 33 26.4**	**+0.6**
	comp=Z,10nm,0.8s,mb4.9,baz=50,slow=6.9,SNR=29					
AKTO	**Aktyubinsk**	**66.18 322**	P	**P**	**04 33 26.4**	**+0.7**
AKTO			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9					
NB2	**NORSAR Subarra**	**67.27 353**	P	**P**	**04 33 31.8**	**-0.8**
	comp=Z,6.4nm,0.8s,mb4.7,baz=10,slow=6.5					
NB2	**NORSAR Subarra**	**67.27 353**	P	**P**	**04 33 31.8**	**-0.8**
NB2			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7					
NOA	**NORSAR Array B**	**67.27 353**	P	**P**	**04 33 32.4**	**-0.2**
	comp=Z,5.6nm,0.9s,mb4.6,baz=9.9,slow=6.4,SNR=15					
NOA			LR	LR	05 08 31.9	
	comp=Z,30nm,18.8s,MS3.5,baz=245,slow=41					
NOA	**NORSAR Array B**	**67.27 353**	P	**P**	**04 33 32.4**	**-0.2**
NOA			LR	LR	05 08 31.9	
HFS	**Hagfors**	**67.95 351**	P	**P**	**04 33 36.4**	**-0.5**
	comp=Z,3.4nm,0.8s,mb4.4,baz=25,slow=4.9,SNR=12					
GUN	**Gumba**	**69.60 289**	*e*P	**P**	**04 33 48.3**	**+1.1**
	comp=Z,33nm,0.8s,mb5.3					
JIRN	**Jiri**	**69.60 289**	*e*P	**P**	**04 33 48.2**	**+1.0**
	comp=Z,29nm,0.8s,mb5.3					
KKN	**Kakani**	**70.04 290**	*e*P	**P**	**04 33 51.6**	**+1.7**
PKI	**Pulchoki**	**70.13 289**	*e*P	**P**	**04 33 51.2**	**+0.8**
GKN	**Gorkha**	**70.26 290**	*e*P	**P**	**04 33 52.2**	**+0.9**
	comp=Z,21nm,0.7s,mb5.2					
DMN	**Daman**	**70.28 290**	*e*P	**P**	**04 33 52.5**	**+1.1**
DANN	**Dangsing**	**70.52 291**	*e*P	**P**	**04 33 52.8**	**0.0**
KOLN	**Koldanda**	**71.04 291**	*e*P	**P**	**04 33 56.5**	**+0.5**
	comp=Z,13nm,0.8s,mb4.9					
EKA	**Eskdalemuir Ar**	**73.54 0**	P	**P**	**04 34 10.3**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.1,baz=356,slow=5.6,SNR=2.9					
DZM	**Mont Dzumac**	**73.88 191**	LR	LR	05 00 29.4	
	comp=Z,127nm,21.9s,MS4.2,baz=20,slow=31					
PPT	**Papeete**	**74.58 147**	*e*LR	LR	04 56 43.8	
	comp=Z,133nm,23.2s					
PPT	**Papeete**	**74.58 147**	LR	LR	05 05 04.1	
	comp=Z,74nm,18.1s,MS4.0,baz=180,slow=34					
AKASG	**Malin Array Be**	**74.66 340**	P	**P**	**04 34 17.4**	**0.0**
	comp=Z,2.0nm,0.4s,mb4.4,baz=24,slow=5.9,SNR=8.6					
KWP	**Kalwaria**	**76.97 343**	*e*P	**P**	**04 34 32.2**	**+1.6**
KIV	**Kislovodsk**	**77.16 328**	*e*P	**P**	**04 34 33.0**	**+1.3**
KIV			pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6					
ZEI	**Tsey**	**77.81 327**	*e*P	**P**	**04 34 35.7**	**+0.4**
VRAC	**Vranov**	**78.25 347**	P	**P**	**04 34 37.6**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=52,slow=7.3,SNR=3.1					
GERES	**GERESS Array B**	**79.07 349**	P	**P**	**04 34 42.5**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=22,slow=4.3,SNR=6.8					
TBI	**Tubuai**	**80.00 149**	*e*LR	LR	04 59 15.1	
	comp=Z,105nm,21.5s					
CDF	**Champ du Feu**	**80.11 353**	*e*P	**P**	**04 34 46.5**	**-1.4**
	comp=Z,9.9nm,0.9s,mb4.4					
CDF	**Champ du Feu**	**80.11 353**	*e*P	**P**	**04 34 46.5**	**-1.4**
CDF			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
CDF	**Champ du Feu**	**80.11 353**	*e*P	**P**	**04 34 46.5**	**-1.4**
	comp=Z,4.9nm,0.9s,mb4.4					
LDF	**La Druitiere**	**80.27 358**	*e*P	**P**	**04 34 47.1**	**-1.6**
	comp=Z,26nm,1.0s,mb4.8					
LDF	**La Druitiere**	**80.27 358**	*e*P	**P**	**04 34 47.1**	**-1.6**
LDF			pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8					
LDF	**La Druitiere**	**80.27 358**	*e*P	**P**	**04 34 47.1**	**-1.6**
	comp=Z,13nm,1.0s,mb4.8					
MLR	**Muntele Rosu**	**80.30 340**	P	**P**	**04 34 49.9**	**+1.0**
	comp=Z,1.9nm,0.6s,mb4.2,baz=146,slow=7.3,SNR=3.3					
GRR	**Gorron**	**80.48 359**	*e*P	**P**	**04 34 47.7**	**-2.2**
WRA	**Warramunga Arr**	**80.51 221**	P	**P**	**04 34 48.5**	**-1.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=35,slow=6.0,SNR=6.6					
HINF	**Hinteralfeld**	**80.73 354**	*e*P	**P**	**04 34 48.7**	**-2.5**
DAVOX	**Davos**	**81.52 351**	P	**P**	**04 34 56.0**	**+0.6**
	comp=Z,2.2nm,0.6s,mb4.3,baz=29,slow=6.8,SNR=3.1					
SSF	**Saint Saulge**	**81.68 356**	*e*P	**P**	**04 34 54.0**	**-2.2**
MFF	**Saint Martin d**	**82.26 358**	*e*P	**P**	**04 34 57.9**	**-1.4**
	comp=Z,16nm,1.0s,mb4.6					
MFF	**Saint Martin d**	**82.26 358**	*e*P	**P**	**04 34 57.9**	**-1.4**
MFF			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6					
MFF	**Saint Martin d**	**82.26 358**	*e*P	**P**	**04 34 57.9**	**-1.4**
	comp=Z,8.1nm,1.0s,mb4.6					
LPG	**La Plagne**	**83.05 353**	*e*P	**P**	**04 35 01.7**	**-1.7**
	comp=Z,9.9nm,1.0s,mb4.5					
LPG	**La Plagne**	**83.05 353**	*e*P	**P**	**04 35 01.7**	**-1.7**
LPG			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5					
LPG	**La Plagne**	**83.05 353**	*e*P	**P**	**04 35 01.7**	**-1.7**
	comp=Z,4.9nm,1.0s,mb4.5					
RJF	**Les Rejaudoux**	**83.51 357**	*e*P	**P**	**04 35 03.9**	**-1.9**
MALT	**Malatya**	**83.64 329**	P	**P**	**04 35 08.4**	**+2.0**
MALT			*PP	pP	04 35 19.1	-3.8
MALT			pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6					
MALT	**Malatya**	**83.64 329**	P	**P**	**04 35 08.4**	**+2.0**
	comp=Z,6.4nm,1.1s,mb4.7					
MALT			pP	pP	04 35 19.1	-3.8
ORIF	**Oris-en-Rattie**	**83.69 354**	*e*P	**P**	**04 35 04.4**	**-2.2**
	comp=Z,15nm,1.1s,mb4.7					
ORIF	**Oris-en-Rattie**	**83.69 354**	*e*P	**P**	**04 35 04.4**	**-2.2**
ORIF			pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7					
ORIF	**Oris-en-Rattie**	**83.69 354**	*e*P	**P**	**04 35 04.4**	**-2.2**
	comp=Z,7.3nm,1.1s,mb4.7					
BR131	**Keskin Array S**	**83.80 333**	*e*P	**P**	**04 35 07.6**	**+0.4**
	comp=Z,2.4nm,0.9s,mb4.3					
BR131			pP	pP	04 35 19.4	-4.3
BRTR	**Keskin Array B**	**83.80 333**	P	**P**	**04 35 08.2**	**+0.9**
	comp=Z,1.8nm,0.8s,mb4.2,baz=52,slow=3.5,SNR=9.1					
MBDF	**Montbardon**	**83.81 353**	*e*P	**P**	**04 35 08.3**	**+1.0**
	comp=Z,8.9nm,0.8s,mb4.7					
MBDF	**Montbardon**	**83.81 353**	*e*P	**P**	**04 35 08.3**	**+1.0**
MBDF			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6					
MBDF	**Montbardon**	**83.81 353**	*e*P	**P**	**04 35 08.3**	**+1.0**
	comp=Z,4.4nm,0.8s,mb4.6					
ASAR	**Alice Springs**	**84.03 219**	P	**P**	**04 35 07.2**	**-1.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=23,slow=5.6,SNR=12					
TORD	**Torodi Ar. Bea**	**115.52 355**	PKP	PKPdf	04 41 21.5	+1.9
	comp=Z,0.4nm,0.7s,baz=8.7,slow=2.3,SNR=6.5					
BOSA	**Boshof**	**149.08 307**	PKPbc	PKPbc	04 42 26.2	+0.4
	comp=Z,3.1nm,0.9s,baz=51,slow=4.9,SNR=3.2					

ISCJB ***16*** *04:46:52.8±5.8, 59S±07×1514E±07, h99km±38km, mb3.9/3, Error ellipse: s-maj=156.8km s-min=47.1km az=98.7*
IDC ***16*** *04:46:55.8±8.3, 586S×151.18E, h117km±57km, mb3.5/2, mb1 3.7/3, mb1mx3.3/13, mbtmp3.9/3, Error ellipse: s-maj=112.6km s-min=53.1km az=120.0*

ISC 16 04:46:53.5±5.7, 61S±08×1516E±06, h93km±36km, n6, σ1§62/6, mb3.9/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.48**	**233**	P	**Pn**	**04 48 12.6**	**-0.1**
	3.5nm,0.3s,baz=36,slow=8.7,SNR=5.3						
PMG				S	**Sn**	**04 49 14.2**	**-0.1**
	2.1nm,0.3s,baz=354,slow=19,SNR=3.3						
WB2	**Warramunga Arr**	**21.68**	**229**	*e*P	**P**	**04 51 38.9**	**+2.3**
WRA	**Warramunga Arr**	**21.69**	**229**	P	**P**	**04 51 36.0**	**-0.6**
	2.9nm,0.6s,mb3.8,baz=53,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**24.38**	**222**	P	**P**	**04 52 02.2**	**-0.7**
	1.8nm,0.6s,mb3.6,baz=61,slow=8.6,SNR=24						
FITZ	**Fitzroy Crossi**	**27.99**	**243**	*e*P	**P**	**04 52 35.2**	**-0.2**
	5.0nm,0.5s,mb4.3						
TORD	**Torodi Ar. Bea**	**149.54**	**286**	PKPbc	PKPbc	05 06 31.1	-0.9
	0.9nm,0.5s,baz=86,slow=2.5,SNR=29						

ISCJB ***16*** *04:58:28.6±0.6, 27N±01×1285E±02, h100km, mb4.4/15, Error ellipse: s-maj=28.3km s-min=9.3km az=130.5*
NEIC ***16*** *04:58:30.1±0.5, 258N×12847E, h100km, mb4.3/4, Error ellipse: s-maj=42.7km s-min=9.0km az=74.0*
IDC ***16*** *04:58:32.0±8.0, 256N×12858E, h118km±77km, mb3.8/6, mb1 3.9/6, mb1mx3.7/16, mbtmp4.1/6, Error ellipse: s-maj=60.3km s-min=14.6km az=77.0*

ISC 16 04:58:30.3±0.6, 26N±01×1286E±02, h100km, n20, σ0§61/19, mb4.4/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.11**	**166**	*e*P	**P**	**05 03 27.8**	**+0.3**
	11nm,0.8s,mb4.2						
WRAB				*e*		05 03 37.2	
WRA	**Warramunga Arr**	**23.12**	**166**	P	**P**	**05 03 27.9**	**+0.3**
	3.5nm,0.6s,mb3.9,baz=344,slow=10,SNR=12						
WB2	**Warramunga Arr**	**23.12**	**166**	*e*P	**P**	**05 03 28.3**	**+0.7**
ASAR	**Alice Springs**	**26.63**	**169**	P	**P**	**05 03 59.7**	**+0.2**
	0.5nm,0.5s,mb3.3,baz=356,slow=8.1,SNR=8.3						
ASAR				PcP	PcP	05 07 21.0	+0.1
	0.5nm,0.4s,baz=350,slow=2.3,SNR=6.8						
MJAR	**Matsushiro Arr**	**34.91**	**14**	P	**P**	**05 05 12.6**	**+0.4**
	0.6nm,0.5s,mb3.7,baz=182,slow=9.1,SNR=7.1						
STKA	**Stephens Creek**	**36.46**	**161**	P	**P**	**05 05 24.3**	**-1.3**
	3.2nm,0.5s,mb4.5,baz=346,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**36.46**	**161**	*e*P	**P**	**05 05 23.8**	**-1.7**
STKA				*e*		05 05 28.5	
JIRN	**Jiri**	**47.52**	**306**	*e*P	**P**	**05 06 55.9**	**+0.5**
	14nm,0.6s,mb5.0						
GUN	**Gumba**	**47.88**	**306**	*e*P	**P**	**05 06 58.6**	**+0.4**
	22nm,0.5s,mb5.2						
PKI	**Pulchoki**	**48.12**	**305**	*e*P	**P**	**05 06 59.8**	**-0.3**
KKN	**Kakani**	**48.31**	**306**	*e*P	**P**	**05 07 01.4**	**-0.1**
	17nm,0.8s,mb4.9						
DMN	**Daman**	**48.38**	**305**	*e*P	**P**	**05 07 02.3**	**+0.2**
	9.1nm,0.6s,mb4.8						
ULN	**Ulaanbaatar**	**48.76**	**341**	*e*P	**P**	**05 07 05.1**	**+0.1**
	3.9nm,0.8s,mb4.4						
GKN	**Gorkha**	**48.92**	**305**	*e*P	**P**	**05 07 06.1**	**-0.1**
SONM	**Songino Array**	**48.95**	**340**	P	**P**	**05 07 07.2**	**+0.8**
	1.6nm,0.6s,mb4.1,baz=152,slow=8.3,SNR=17						
KOLN	**Koldanda**	**49.68**	**305**	*e*P	**P**	**05 07 12.3**	**+0.3**
	18nm,0.6s,mb5.2						
MKAR	**Makanchi Array**	**59.52**	**325**	P	**P**	**05 08 22.9**	**-0.2**
	2.1nm,0.4s,mb4.5,baz=116,slow=8.4,SNR=62						
KURK	**Kurchatov**	**63.67**	**327**	*e*P	**P**	**05 08 50.1**	**-0.9**
	4.2nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**69.99**	**326**	*e*P	**P**	**05 09 29.7**	**-1.3**
	4.6nm,1.1s,mb4.2						
TORD	**Torodi Ar. Bea**	**125.03**	**288**	PKP	PKPdf	05 17 18.9	+0.1
	0.4nm,0.6s,baz=70,slow=2.0,SNR=6.4						

IDC 16 05:06:40.4±5.8, 550S×14742E, h206km±61km, mb3.4/1, mb1 3.5/3, mb1mx3.1/13, mbtmp3.9/3, Error ellipse: s-maj=113.0km s-min=43.5km az=124.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.89**	**184**	P	Pn	05 07 42.8	+1.8
	3.2nm,0.3s,baz=336,slow=12,SNR=5.1						
PMG				S	Sn	05 08 28.4	-0.3
	3.9nm,0.3s,baz=352,slow=19,SNR=4.7						
WB2	**Warramunga Arr**	**19.17**	**220**	*e*P	P	05 10 48.5	0.0
WRA	**Warramunga Arr**	**19.18**	**220**	P	P	05 10 48.6	+0.1
	0.6nm,0.3s,baz=44,slow=9.7,SNR=19						
ASAR	**Alice Springs**	**22.26**	**214**	P	P	05 11 21.6	+1.1
	2.6nm,0.6s,baz=45,slow=7.7,SNR=33						
ASPA	**Alice Springs**	**22.26**	**214**	*e*P	P	05 11 21.5	+1.0
TORD	**Torodi Ar. Bea**	**145.36**	**285**	PKPbc	PKPbc	05 25 53.4	-0.6
	0.3nm,0.8s,baz=67,slow=3.4,SNR=4.9						

ISCJB ***16*** *05:20:46.9±0.1, 49315N±0010×688E±001, h0km, Error ellipse: s-maj=1.4km s-min=1.3km az=94.0*
MOS ***16*** *05:20:48.2±1.1, 4937N×673E, h10km, mb4.0/1, Error ellipse: s-maj=8.5km s-min=4.7km az=79.2*
NEIC ***16*** *05:20:49.4, 4937N×685E, h1km, ML3.2(CLL), ML3.2(STR), ML3.3(SZGRF), ML3.7(LDG), After STR.*
UCC ***16*** *05:20:49.6±0.6, 4935N×685E, h1km±4km, ML2.9*
CSEM ***16*** *05:20:49.4±0.1, 4936N×693E, h1km, ML3.8/37, Error ellipse: s-maj=1.1km s-min=0.7km az=140.0*
LDG ***16*** *05:20:49.7±0.1, 4937N×690E, h1km, Md3.5/3, Ml3.7/35, Error ellipse: s-maj=1.3km s-min=1.0km az=167.0, Suspected Mining induced.*
STR ***16*** *05:20:49.3±0.3, 4938N×685E, h1km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LEDBW ***16*** *05:20:49.9±0.2, 4938N×690E, h1km, ML3.2, Error ellipse: s-maj=6.0km s-min=2.0km az=104.0*
BGR ***16*** *05:20:50.0±0.3, 4939N×693E, h1km, ML3.3/13, Error ellipse: s-maj=4.4km s-min=2.2km az=104.0*
BNS ***16*** *05:20:50.8±0.8, 4941N×691E, h1km, ML3.2*
PRU ***16*** *05:20:52.1, 4920N×722E, h0km*

ISC 16 05:20:48.1±0.1, 49351N±0008×685E±001, h0km, n218, σ1§35/431, 16C-19D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.38**	**21**⇓	*i*P*	**Pg**	**05 20 56.6**	**+1.3**
RUP	**Ruppelstein**	**0.38**	**21**	Pg	**Pg**	**05 20 56.5**	**+1.2**
RUP				Sg	**Sg**	**05 21 01.3**	**+1.1**
WLF	**Walferdange**	**0.55**	**305**	⇑P	**Pg**	**05 21 00.8**	**+2.1**
WLF				S	**Sg**	**05 21 07.3**	**+1.4**
	comp=N,362nm,0.0s						
ABH	**Alteburg**	**0.70**	**40**⇓	*i*P*	**Pg**	**05 21 02.1**	**+0.6**
ABH	**Alteburg**	**0.70**	**40**	Pg	**Pg**	**05 21 02.0**	**+0.5**
ABH				Sg	**Sg**	**05 21 10.5**	**0.0**
LANF	**Langenberg**	**0.73**	**120**	Pg	**Pg**	**05 21 03.4**	**+1.4**
LANF	**Langenberg**	**0.73**	**120**⇑	*i*P*	**Pb**	**05 21 03.5**	**-0.2**
LANF	**Langenberg**	**0.73**	**120**⇑	*i*P	**Pb**	**05 21 03.5**	**-0.2**
KTD	**Kalmit**	**0.81**	**92**	P*	**Pb**	**05 21 04.9**	**-0.1**
KTD	**Kalmit**	**0.81**	**92**	Pg	**Pg**	**05 21 05.0**	**+1.4**
KTD				Sg	**Sg**	**05 21 16.9**	**+2.9**
BGG	**Burgeitz**	**0.91**	**20**	*e*Pg	**Pg**	**05 21 06.8**	**+1.2**
BGG				*e*Sg	**Sg**	**05 21 18.3**	**+0.9**
	comp=N,548nm,0.4s						
HILG	**Hillesheim**	**0.95**	**353**	*e*Pg	**Pg**	**05 21 07.8**	**+1.6**
HILG				*e*Sg	**Sg**	**05 21 20.1**	**+1.5**
	comp=N,714nm,0.6s						
HILG	**Hillesheim**	**0.95**	**353**	Pg	**Pg**	**05 21 07.8**	**+1.5**
HILG				Sg	**Sg**	**05 21 20.1**	**+1.5**
	comp=N,714nm,0.6s						
STR	**Strasbourg**	**0.97**	**141**	*e*Pg	**Pg**	**05 21 09.4**	**+2.6**
	SNR=3.3						
CDF	**Champ du Feu**	**0.98**	**163**	*e*Pn	**Pn**	**05 21 09.5**	**+0.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**05 21 21.3**	**+1.7**
	comp=N,244nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**0.98**	**163**	*e*Sg	**Sg**	**05 21 21.3**	**+1.7**
	comp=N,122nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**0.98**	**163**	*e*Pg	**Pg**	**05 21 08.4**	**+1.5**
CDF				*e*Pn	**Pn**	**05 21 09.5**	**+0.4**
CDF				*e*Sg	**Sg**	**05 21 21.3**	**+1.7**
WLS	**Welschbruch**	**0.99**	**160**	Pn	**Pn**	**05 21 09.0**	**-0.3**
WLS	**Welschbruch**	**0.99**	**160**	P	**Pg**	**05 21 08.7**	**+1.5**
ECH	**Echery**	**1.15**	**170**	Pn	**Pn**	**05 21 11.5**	**0.0**
ECH				Sg	**Sg**	**05 21 27.3**	**+2.1**
ECH	**Echery**	**1.15**	**170**	P	**Pg**	**05 21 11.8**	**+1.6**
ECH	**Echery**	**1.15**	**170**	P	**Pg**	**05 21 11.8**	**+1.6**
ECH				Sg	**Sg**	**05 21 27.3**	**+2.1**
RFYF	**Reffroy**	**1.16**	**232**	*e*Pg	**Pg**	**05 21 12.0**	**+1.7**
	baz=42						
RFYF				*e*Sg	**Sg**	**05 21 27.6**	**+2.2**
	comp=N,461nm,0.3s						
RFYF	**Reffroy**	**1.16**	**232**	*e*Pg	**Pg**	**05 21 12.0**	**+1.7**
RFYF				*e*Sg	**Sg**	**05 21 27.6**	**+2.2**
	comp=N,231nm,0.3s						
SWS	**Schriesheim**	**1.22**	**83**	Pn	**Pn**	**05 21 11.6**	**-0.8**
SWS				Sg	**Sg**	**05 21 28.1**	**+0.9**
STB	**Steinbach**	**1.25**	**360**	*e*Pg	**Pg**	**05 21 12.2**	**+0.2**
STB				*e*Sg	**Sg**	**05 21 29.5**	**+1.4**
	comp=N,277nm,0.7s						
THEF	**They Montfort**	**1.26**	**207**	Pn	**Pn**	**05 21 13.4**	**+0.4**
THEF				Sg	**Sg**	**05 21 30.8**	**+2.1**
THEF	**They Montfort**	**1.26**	**207**⇓	*i*P	**Pg**	**05 21 13.6**	**+1.3**
THEF	**They Montfort**	**1.26**	**207**	P	**Pg**	**05 21 13.6**	**+1.3**
THEF				Sg	**Sg**	**05 21 30.8**	**+2.1**
TOD	**Tromm**	**1.30**	**78**	Pn	**Pn**	**05 21 12.7**	**-0.8**
TOD				Sg	**Sg**	**05 21 30.8**	**+1.0**
TOD	**Tromm**	**1.30**	**78**	Pn	**Pn**	**05 21 12.6**	**-0.9**
TOD				Sg	**Sg**	**05 21 30.9**	**+1.1**
LIBD	**Limburg**	**1.30**	**157**	P*	**Pb**	**05 21 15.4**	**+2.0**
LIBD	**Limburg**	**1.30**	**157**	Pn	**Pn**	**05 21 14.6**	**+1.1**
KLL	**Kalltalsperre**	**1.34**	**345**	*e*Pg	**Pg**	**05 21 13.7**	**-0.1**
KLL				*e*Sg	**Sg**	**05 21 31.8**	**+0.5**
	comp=N,171nm,0.4s						
TNS	**Taunus Mts**	**1.35**	**49**⇓	*i*Pn	**Pn**	**05 21 13.5**	**-0.8**
TNS				*i* Sg	**Sg**	**05 21 32.0**	**+0.4**
TNS	**Taunus Mts**	**1.35**	**49**	Pn	**Pn**	**05 21 13.5**	**-0.7**
TNS				Sg	**S

DOU			S	Sn	05 21 42.4	+2.4
	comp=N,144nm,0.0s					
STU	**Stuttgart**	**1.65 110**	*e*Pg	Pg	05 21 19.1	-0.6
	SNR=3.2					
STU			*e*Sg	Sg	05 21 38.8	-2.2
STU	**Stuttgart**	**1.65 110**	*e*P	Pn	05 21 18.4	+0.1
STU			*e*		05 21 39.6	
STU	**Stuttgart**	**1.65 110**	*e*Pg	Pg	05 21 18.0	-1.7
STU			*e*S	Sn	05 21 39.6	-0.5
STU	**Stuttgart**	**1.65 110**	*e*Pg	Pg	05 21 18.0	-1.6
SFTF	**Sexfontaines**	**1.66 227**	*e*Pn	Pn	05 21 19.1	+0.7
	baz=49					
SFTF	**Sexfontaines**	**1.66 227**	*e*Pg	Pg	05 21 21.1	+1.2
	baz=52					
SFTF			*e*Sg	Sg	05 21 43.2	+1.8
	comp=N,103nm,0.2s					
SFTF	**Sexfontaines**	**1.66 227**	*e*Pg	Pg	05 21 21.1	+1.2
SFTF			*e*Sg	Sg	05 21 43.2	+1.8
	comp=N,51nm,0.2s					
SFTF	**Sexfontaines**	**1.66 227**	*e*Pn	Pn	05 21 19.1	+0.7
SFTF			*e*Pg	Pg	05 21 21.1	+1.2
SFTF			*e*Sg	Sg	05 21 43.2	+1.8
FELD	**Feldberg**	**1.66 152**	*e*Pn	Pn	05 21 19.5	+1.0
	SNR=1.6					
FELD			Pg	Pg	05 21 21.6	+1.6
FELD	**Feldberg**	**1.66 152**	P	Pg	05 21 21.6	+1.6
FELD	**Feldberg**	**1.66 152**	Pn	Pn	05 21 19.4	+0.9
HOBG	**Hohbusch**	**1.66 11**	*e*Pg	Pg	05 21 18.8	-1.2
HOBG			*e*Sg	Sg	05 21 38.8	-2.7
	comp=N,716nm,0.5s					
SPAK	**Spaichingen**	**1.79 134**	P	Pn	05 21 23.7	+3.4
SIND	**Sindeldorf**	**1.80 89**	P	Pn	05 21 19.8	-0.6
BBS	**Basel-Blauen**	**1.94 167**	P	Pn	05 21 23.3	+1.0
GUT	**Gutenstein**	**1.97 130**	P	Pn	05 21 23.8	+1.1
SNF	**Seneffe**	**2.02 306**	P	Pn	05 21 24.7	+1.2
SNF			S	Sn	05 21 50.2	+0.8
	comp=Z,74nm,0.0s					
SNF	**Seneffe**	**2.02 306**	P	Pn	05 21 24.6	+1.1
SNF			S	Sn	05 21 50.2	+0.7
BUG	**Bochum--Univer**	**2.11 7**	*e*Pn	Pn	05 21 25.3	+0.6
	SNR=1.9					
BUG			*e*Sg	Sg	05 21 53.1	-2.8
BUG	**Bochum--Univer**	**2.11 7**	*e*Pg	Pg	05 21 25.2	-3.3
BUG			*e*Sg	Sg	05 21 55.2	-0.7
UCC	**Uccle**	**2.16 313**	P	Pn	05 21 26.5	+1.1
UCC			S	Sn	05 21 54.0	+1.2
SISB	**Singen-Sch Ber**	**2.18 139**	P	Pn	05 21 27.5	+1.9
HDH	**Heidenheim**	**2.34 108**	Pg	Pg	05 21 32.6	-0.4
HDH			Sg	Sg	05 22 03.7	+0.4
UBBA	**Unterbreizbach**	**2.50 53**	*e*Pg	Pg	05 21 35.8	-0.3
	SNR=3.5					
UBBA			*e*Sg	Sg	05 22 07.5	-1.1
WTSB	**Winterswijk**	**2.62 359**	*e*Pn	Pn	05 21 32.3	+0.7
	comp=Z,7.0nm,0.2s					
WTSB	**Winterswijk**	**2.62 359**	*e*Pg	Pg	05 21 37.4	-0.9
	comp=Z,40nm,0.7s					
WTSB			*e*Sg	Sg	05 22 09.8	-2.5
UBR	**Uberruh**	**2.73 126**	P	Pn	05 21 35.1	+1.8
CABF	**La Chapelle**	**2.79 191**	*e*Pn	Pn	05 21 34.6	+0.6
	SNR=1.0					
CABF			*e*Sg	Sg	05 22 18.4	+0.7
	comp=Z,109nm,0.5s,SNR=1.0					
CABF	**La Chapelle**	**2.79 191**	*e*Sg	Sg	05 22 18.4	+0.7
	comp=Z,54nm,0.5s,SNR=1.0					
GRA1	**Grafenberg Arr**	**2.87 82**	*e*Pn	Pn	05 21 36.6	+1.5
GRA1			*e*Sg	Sg	05 22 19.9	-0.4
GRF	**Grafenberg Arr**	**2.87 82**	*e*Pn	Pn	05 21 36.4	+1.3
	SNR=1.4					
GRF			*e*Sg	Sg	05 22 19.8	-0.4
GRF	**Grafenberg Arr**	**2.87 82**	*e*Pn	Pn	05 21 36.6	+1.5
GRF			*e*Sg	Sg	05 22 19.9	-0.4
LOR	**Lormes**	**2.89 225**	*e*Pn	Pn	05 21 35.4	+0.1
	baz=52,SNR=1.0					
LOR			*e*Sn	Sn	05 22 09.1	-1.6
LOR			*e*Sg	Sg	05 22 20.9	+0.1
	comp=Z,78nm,0.3s,SNR=1.0					
LOR	**Lormes**	**2.89 225**	*e*P	Pn	05 21 35.4	+0.1
LOR			*e*		05 22 09.1	
LOR	**Lormes**	**2.89 225**	*e*Pn	Pn	05 21 35.4	+0.1
	SNR=1.0					
LOR			*e*Sn	Sn	05 22 09.1	-1.6
LOR			*e*Sg	Sg	05 22 20.9	+0.1
	comp=Z,39nm,0.3s,SNR=1.0					
DAVA	**Damuels**	**2.89 134**	⇓*i*Sg	Sg	05 22 21.3	+0.4
	comp=Z,70nm,0.6s					
DAVA	**Damuels**	**2.89 134**	⇑*e*Pn	Pn	05 21 37.6	+2.2
	SNR=13					
DAVA			⇑*i*Sg	Sg	05 22 24.5	+3.5
	comp=Z,64nm,0.7s					
IBBN	**Ibbenburen**	**3.02 11**	*e*Sg	Sg	05 22 22.9	-2.1
SSF	**Saint Saulge**	**3.20 226**	*e*Pn	Pn	05 21 39.7	0.0
	SNR=1.0					
SSF			*e*Sn	Sn	05 22 16.9	-1.6
SSF			*e*Sg	Sg	05 22 30.6	-0.4
	comp=Z,66nm,0.4s,SNR=1.0					
SSF	**Saint Saulge**	**3.20 226**	*e*P	Pn	05 21 39.7	0.0
SSF			*e*		05 22 16.9	
SSF	**Saint Saulge**	**3.20 226**	*e*Pn	Pn	05 21 39.7	0.0
	SNR=1.0					
SSF			*e*Sn	Sn	05 22 16.9	-1.6
SSF			*e*Sg	Sg	05 22 30.6	-0.4
	comp=Z,33nm,0.4s,SNR=1.0					
MOX	**Moxa**	**3.34 65**	*e*Pn	Pn	05 21 42.0	+0.5
	SNR=3.6					
MOX			*e*Pg	Pg	05 21 50.9	-1.1
	SNR=10					
MOX			*e*Sn	Sn	05 22 20.8	-1.0
MOX			*e*Sg	Sg	05 22 33.9	-1.4
MOX	**Moxa**	**3.34 65**	*e*PN	Pn	05 21 41.7	+0.2
MOX			*e*PG	Pg	05 21 51.2	-0.8
MOX			*e*SG	Sg	05 22 35.2	-0.1
MOX	**Moxa**	**3.34 65**	*e*Pg	Pg	05 21 51.2	-0.8
CLZ	**Clausthal**	**3.35 41**	*e*Pn	Pn	05 21 41.7	0.0
	SNR=3.9					
CLZ			*e*Pg	Pg	05 21 53.4	+1.0
	SNR=10					
CLZ			*e*Sg	Sg	05 22 34.0	-1.9
CLZ	**Clausthal**	**3.35 41**	*e*Pn	Pn	05 21 41.1	-0.7
CLZ			*e*Sg	Sg	05 22 34.1	-1.8
SMF	**Signal de Mont**	**3.38 218**	*e*Pn	Pn	05 21 41.8	-0.3
	SNR=1.0					
SMF			*e*Sn	Sn	05 22 20.4	-2.5
	SNR=1.0					
SMF			*e*Sg	Sg	05 22 36.7	+0.1
	comp=Z,48nm,0.3s,SNR=1.0					
SMF	**Signal de Mont**	**3.38 218**	*e*P	Pn	05 21 41.8	-0.3
SMF			*e*		05 22 20.4	
SMF	**Signal de Mont**	**3.38 218**	*e*Pn	Pn	05 21 41.8	-0.3
	SNR=1.0					
SMF			*e*Sn	Sn	05 22 20.4	-2.5
	SNR=1.0					
SMF			*e*Sg	Sg	05 22 36.7	+0.1
	comp=Z,24nm,0.3s,SNR=1.0					
AVF	**Avril sur Loir**	**3.47 224**	*e*Pn	Pn	05 21 43.0	-0.4
	SNR=1.0					
AVF			*e*Sn	Sn	05 22 23.1	-2.1
	SNR=1.0					
AVF			*e*Sg	Sg	05 22 39.5	-0.2
	comp=Z,58nm,0.7s					
AVF	**Avril sur Loir**	**3.47 224**	*e*P	Pn	05 21 43.0	-0.4
AVF			*e*		05 22 23.1	
AVF	**Avril sur Loir**	**3.47 224**	*e*Pn	Pn	05 21 43.0	-0.4
	SNR=1.0					
AVF			*e*Sn	Sn	05 22 23.1	-2.1
	SNR=1.0					
AVF			*e*Sg	Sg	05 22 39.5	-0.2
	comp=Z,29nm,0.7s					
MANZ	**Manzenberg**	**3.47 77**	*e*Sg	Sg	05 22 38.3	-1.4
MOTA	**Moosalm**	**3.47 124**	⇑*i*Sn	Sn	05 22 23.4	-1.8
MOTA	**Moosalm**	**3.47 124**	⇓*i*Sg	Sg	05 22 39.4	-0.4
	comp=Z,24nm,0.5s					
MOTA	**Moosalm**	**3.47 124**	⇑*i*Pn	Pn	05 21 45.4	+2.0
	SNR=8.7					
MOTA			⇑*i*Sn	Sn	05 22 23.4	-1.8
MOTA			⇓*i*Sg	Sg	05 22 41.8	+2.1
	comp=Z,24nm,0.5s					
HYF	**Humbligny**	**3.50 235**	*e*Pg	Pg	05 21 55.3	+0.1
HYF			*e*Sg	Sg	05 22 41.0	+0.5
HYF	**Humbligny**	**3.50 235**	*e*Pn	Pn	05 21 44.1	+0.4
HYF			*e*Pg	Pg	05 21 55.3	+0.1
HYF			*e*Sg	Sg	05 22 41.0	+0.5
ROTZ	**Rotzenmuhle**	**3.51 81**	*e*Pn	Pn	05 21 45.8	+1.8
ROTZ			*e*Sg	Sg	05 22 40.7	-0.2
SQTA	**Sankt Quirin**	**3.61 125**	⇑*i*Sn	Sn	05 22 26.9	-1.6
SQTA	**Sankt Quirin**	**3.61 125**	⇑*i*Sg	Sg	05 22 43.1	-0.9
	comp=Z,10nm,0.3s					
SQTA	**Sankt Quirin**	**3.61 125**	⇓*i*Pn	Pn	05 21 47.0	+1.8
	SNR=13					
SQTA			⇑*i*Sn	Sn	05 22 26.9	-1.6
SQTA			⇑*i*Sg	Sg	05 22 43.1	-0.9
	comp=Z,10nm,0.3s					
NEUB	**Neuenburg**	**3.67 58**	*e*Sg	Sg	05 22 44.4	-1.4
WERD	**Werda**	**3.69 71**	*e*Pn	Pn	05 21 47.4	+1.0
	SNR=3.9					
WERD			*e*Pg	Pg	05 21 57.9	-1.0
	SNR=8.5					
WERD			*e*Sg	Sg	05 22 44.9	-1.9
NKC	**Novy Kostel**	**3.73 74**	*e*PN	Pn	05 21 48.8	+1.9
NKC			*e*SG	Sg	05 22 45.4	-2.6
	comp=Z,42nm,0.5s					
WATA	**Walderalm**	**3.74 121**	⇓*i*Sn	Sn	05 22 30.1	-1.7
WATA	**Walderalm**	**3.74 121**	⇓*i*Sg	Sg	05 22 48.4	+0.1
	comp=Z,7.2nm,0.4s					
WATA	**Walderalm**	**3.74 121**	⇓*i*Pn	Pn	05 21 49.0	+2.0
WATA			⇓*i*Sn	Sn	05 22 30.1	-1.7
WATA			⇓*i*Sg	Sg	05 22 48.4	+0.1
	comp=Z,7.2nm,0.4s					
TANN	**Tannenbergstha**	**3.78 72**	*e*Pn	Pn	05 21 48.9	+1.3
	SNR=3.6					
TANN			*e*Pg	Pg	05 21 59.4	-1.2
	SNR=10					
TANN			*e*Sg	Sg	05 22 47.0	-2.6
LPL	**La Plagne**	**3.84 181**	*e*Pn	Pn	05 21 48.8	+0.4
	SNR=1.0					
LPL			*e*Sn	Sn	05 22 33.5	-0.7
	SNR=1.0					
LPL			*e*Sg	Sg	05 22 49.5	-1.9
	comp=Z,14nm,0.4s,SNR=1.0					
LPL	**La Plagne**	**3.84 181**	*e*P	Pn	05 21 48.8	+0.4
LPL			*e*		05 22 33.5	
LPL	**La Plagne**	**3.84 181**	*e*Sn	Sn	05 22 33.5	-0.7
	SNR=1.0					
LPL			*e*Sg	Sg	05 22 49.5	-1.9
	comp=Z,7.2nm,0.4s,SNR=1.0					
LPG	**La Plagne**	**3.85 181**	*e*Pg	Pg	05 22 01.7	-0.3
	SNR=1.0					
LPG			*e*Sn	Sn	05 22 32.5	-2.1
	SNR=1.0					
LPG			*e*Sg	Sg	05 22 51.0	-1.0
	comp=Z,16nm,0.3s,SNR=1.0					
LPG	**La Plagne**	**3.85 181**	*e*P	Pn	05 21 49.3	+0.7
LPG			*e*		05 22 32.5	
LPG	**La Plagne**	**3.85 181**	*e*Pg	Pg	05 22 01.7	-0.3
	SNR=1.0					
LPG			*e*Sn	Sn	05 22 32.5	-2.1
	SNR=1.0					
LPG			*e*Sg	Sg	05 22 51.0	-1.0
	comp=Z,8.0nm,0.3s,SNR=1.0					
LPG	**La Plagne**	**3.85 181**	*e*Pn	Pn	05 21 49.3	+0.7
LPG			*e*Pg	Pg	05 22 01.7	-0.3
LPG			*e*Sn	Sn	05 22 32.5	-2.1
LPG			*e*Sg	Sg	05 22 51.0	-1.0
BGF	**Bois d'Agland**	**3.88 225**	*e*Pn	Pn	05 21 48.5	-0.5
	SNR=1.0					
BGF			*e*Sn	Sn	05 22 32.6	-2.6
	SNR=1.0					
BGF			*e*Sg	Sg	05 22 52.0	-0.8
	comp=Z,190nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**3.88 225**	*e*P	Pn	05 21 48.5	-0.5
BGF			*e*		05 22 32.6	
BGF	**Bois d'Agland**	**3.88 225**	*e*Pn	Pn	05 21 48.5	-0.5
	SNR=1.0					
BGF			*e*Sn	Sn	05 22 32.6	-2.6
	SNR=1.0					
BGF			*e*Sg	Sg	05 22 52.0	-0.8
	comp=Z,95nm,0.4s,SNR=1.0					
WET	**Wettzell**	**3.95 91**	*e*Pn	Pn	05 21 51.0	+1.0
	SNR=24					
WET			*e*Sn	Sn	05 22 35.1	-2.0
WET			*e*Sg	Sg	05 22 54.1	-1.0
TCF	**Toulx Ste Croi**	**4.38 227**	*e*Pg	Pg	05 22 11.4	-0.6
	SNR=1.0					
TCF			*e*Sg	Sg	05 23 07.9	-0.8
	comp=Z,29nm,0.4s					
TCF	**Toulx Ste Croi**	**4.38 227**	*e*Pg	Pg	05 22 11.4	-0.6
	SNR=1.0					
TCF			*e*Sg	Sg	05 23 07.9	-0.8
	comp=Z,14nm,0.4s					
TCF	**Toulx Ste Croi**	**4.38 227**	*e*Pn	Pn	05 21 55.6	-0.2
TCF			*e*Pg	Pg	05 22 11.4	-0.6
TCF			*e*Sg	Sg	05 23 07.9	-0.8
CLL	**Collm**	**4.40 61**	*e*Pn	Pn	05 21 58.0	+1.9
CLL			*e*Pg	Pg	05 22 10.0	-2.4
CLL			*e*Sg	Sg	05 23 07.0	-2.5
CLL	**Collm**	**4.40 61**	*e*Pn	Pn	05 21 58.0	+1.9
CLL			*e*Pg	Pg	05 22 10.0	-2.4
CLL			*e*Sg	Sg	05 23 08.0	-1.5
	comp=Z,30nm,0.7s					
CLL	**Collm**	**4.40 61**	*e*Pg	Pg	05 22 10.0	-2.4
KHC	**Kasperske Hory**	**4.41 90**	*e*PN	Pn	05 21 57.3	+1.0
KHC			x	x	05 22 13.5	
KHC			*e*SN	Sn	05 22 45.5	-2.9
KHC			*e*SG	Sg	05 23 04.2	-5.7
	comp=Z,12nm,0.5s					
KHC	**Kasperske Hory**	**4.41 90**	*e*P	Pn	05 21 57.3	+1.0
KHC			*e*		05 22 45.5	
KHC	**Kasperske Hory**	**4.41 90**	*e*Pn	Pn	05 21 57.3	+1.0
KHC			*e*		05 22 13.5	
KHC			*e*Sn	Sn	05 22 45.5	-2.9
KHC			*e*Sg	Sg	05 23 04.2	-5.7
ORIF	**Oris-en-Rattie**	**4.48 189**	*e*Pg	Pg	05 22 13.9	-0.1
	SNR=1.0					
ORIF			*e*Sg	Sg	05 23 11.4	-0.8
	comp=Z,26nm,0.5s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**4.48 189**	*e*Pg	Pg	05 22 13.9	-0.1
	SNR=1.0					
ORIF			*e*Sg	Sg	05 23 11.4	-0.8
	comp=Z,13nm,0.5s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**4.48 189**	*e*Pn	Pn	05 21 56.9	-0.4
ORIF			*e*Pg	Pg	05 22 13.9	-0.1
ORIF			*e*Sg	Sg	05 23 11.4	-0.8
GEC2	**GERESS Array S**	**4.53 94**	*e*Pn	Pn	05 21 59.0	+1.1
	SNR=66					
GEC2			*e*Sn	Sn	05 22 50.1	-1.2
GEC2			*e*Sg	Sg	05 23 12.3	-1.3
MBDF	**Montbardon**	**4.63 181**	*e*Sg	Sg	05 23 15.0	-1.7
	comp=Z,28nm,0.7s					
MBDF	**Montbardon**	**4.63 181**	*e*P	Pn	05 21 59.9	+0.7
MBDF			*e*		05 22 49.0	
MBDF	**Montbardon**	**4.63 181**	*e*Sn	Sn	05 22 49.0	-4.6
	SNR=1.0					
MBDF			*e*Sg	Sg	05 23 15.0	-1.7
	comp=Z,14nm,0.7s					
MBDF	**Montbardon**	**4.63 181**	*e*Pn	Pn	05 21 59.9	+0.7
MBDF			*e*Sn	Sn	05 22 49.0	-4.6
MBDF			*e*Sg	Sg	05 23 15.0	-1.7
LDF	**La Druitiere**	**4.66 263**	*e*Sn	Sn	05 22 50.7	-3.7
	SNR=1.0					
LDF			*e*Sg	Sg	05 23 16.6	-1.1
	comp=Z,29nm,0.4s,SNR=1.0					
LDF	**La Druitiere**	**4.66 263**	*e*P	Pn	05 21 59.9	+0.3
LDF			*e*		05 22 50.7	
LDF	**La Druitiere**	**4.66 263**	*e*Pg	Pg	05 22 15.9	-1.4
	SNR=1.0					
LDF			*e*Sn	Sn	05 22 50.7	-3.7
	SNR=1.0					
LDF	**La Druitiere**	**4.66 263**	*e*Pn	Pn	05 21 59.9	+0.3
LDF			*e*Pg	Pg	05 22 15.9	-1.4
LDF			*e*Sn	Sn	05 22 50.7	-3.7
LDF			*e*Sg	Sg	05 23 16.6	-1.1
VIVF	**Saint-Julien-l**	**4.74 199**	*e*Pg	Pg	05 22 17.9	-1.0
	SNR=1.0					
VIVF			*e*Sn	Sn	05 22 52.5	-3.9
	SNR=1.0					
VIVF			*e*Sg	Sg	05 23 18.6	-1.7
	comp=Z,12nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	**4.74 199**	*e*Pg	Pg	05 22 17.9	-1.0
	SNR=1.0					
VIVF			*e*Sn	Sn	05 22 52.5	-3.9
	SNR=1.0					
VIVF			*e*Sg	Sg	05 23 18.6	-1.7
	comp=Z,5.8nm,0.3s,SNR=1.0					
BRG	**Berggiesshubel**	**4.81 69**	*e*Sg	Sg	05 23 20.1	-2.6
BRG	**Berggiesshubel**	**4.81 69**	Pg	Pg	05 22 18.2	-2.1
BRG	**Berggiesshubel**	**4.81 69**	PN	Pn	05 22 03.3	+1.5
BRG			PG	Pg	05 22 18.2	-2.1
BRG			SG	Sg	05 23 22.8	+0.1
	comp=Z,8.8nm,0.9s					
FLN	**La Foliniere**	**4.86 266**	*e*Pn	Pn	05 22 03.2	+0.8
	baz=89,SNR=1.0					
FLN	**La Foliniere**	**4.86 266**	*e*Pg	Pg	05 22 20.4	-0.8
	baz=80,SNR=1.0					
FLN			*e*Sn	Sn	05 22 55.1	-4.3
	SNR=1.0					
FLN			*e*Sg	Sg	05 23 23.1	-1.1
	comp=Z,66nm,0.6s					
FLN	**La Foliniere**	**4.86 266**	*e*P	Pn	05 22 03.2	+0.8
FLN			*e*		05 22 55.1	
FLN	**La Foliniere**	**4.86 266**	*e*Pg	Pg	05 22 20.4	-0.8
	SNR=1.0					
FLN			*e*Sn	Sn	05 22 55.1	-4.3
	SNR=1.0					
FLN			*e*Sg	Sg	05 23 23.1	-1.1
	comp=Z,33nm,0.6s					
FLN	**La Foliniere**	**4.86 266**	*e*Pn	Pn	05 22 03.2	+0.8
FLN			*e*Pg	Pg	05 22 20.4	-0.8
FLN			*e*Sn	Sn	05 22 55.1	-4.3
FLN			*e*Sg	Sg	05 23 23.1	-1.1
KBA	**Koelnbreinsper**	**4.90 115**	⇑*i*Sn	Sn	05 22 59.2	-1.2
KBA	**Koelnbreinsper**	**4.90 115**	⇑*i*Pn	Pn	05 22 04.7	+1.7
	SNR=9.0					
KBA			⇓*i*Sn	Sn	05 23 00.6	+0.2
PRU	**Pruhonice**	**5.04 80**	*e*PN	Pn	05 22 06.1	+1.2
PRU			*e*SG	Sg	05 23 25.3	-4.6
	comp=Z,35nm,1.0s					
PRU	**Pruhonice**	**5.04 80**	*e*Pn	Pn	05 22 06.1	+1.2
	comp=Z,35nm,1.0s					
PRU			*e*Sg	Sg	05 23 25.3	-4.6
MOA	**Molln**	**5.14 104**	⇓*i*Sn	Sn	05 23 03.7	-2.7
MOA	**Molln**	**5.14 104**	⇓*i*Pn	Pn	05 22 07.9	+1.6
	SNR=25					
MOA			⇓*i*Sn	Sn	05 23 03.7	-2.7
GRR	**Gorron**	**5.18 262**	*e*Pg	Pg	05 22 26.5	-0.8
	SNR=1.0					
GRR			*e*Sn	Sn	05 23 02.9	-4.4
	SNR=1.0					
GRR			*e*Sg	Sg	05 23 32.8	-1.7
	comp=Z,13nm,0.3s					
GRR	**Gorron**	**5.18 262**	*e*P	Pn	05 22 07.5	+0.7
GRR			*e*		05 23 02.9	
GRR	**Gorron**	**5.18 262**	*e*Pg	Pg	05 22 26.5	-0.8
	SNR=1.0					
GRR			*e*Sn	Sn	05 23 02.9	-4.4
	SNR=1.0					
GRR			*e*Sg	Sg	05 23 32.8	-1.7
	comp=Z,6.5nm,0.3s					
GRR	**Gorron**	**5.18 262**	*e*Pn	Pn	05 22 07.5	+0.7
GRR			*e*Pg	Pg	05 22 26.5	-0.8
GRR			*e*Sn	Sn	05 23 02.9	-4.4
GRR			*e*Sg	Sg	05 23 32.8	-1.7
RJF	**Les Rejaudoux**	**5.43 224**	*e*Pn	Pn	05 22 09.4	-0.9
RJF			*e*Sn	Sn	05 23 09.4	-4.2
	SNR=1.0					
RJF			*e*Sg	Sg	05 23 40.7	-2.0
	comp=Z,30nm,0.5s					
RJF	**Les Rejaudoux**	**5.43 224**	*e*P	Pn	05 22 09.4	-0.9
RJF			*e*		05 23 09.4	
RJF	**Les Rejaudoux**	**5.43 224**	*e*Pn	Pn	05 22 09.4	-0.9
RJF			*e*Sn	Sn	05 23 09.4	-4.2
	SNR=1.0					
RJF			*e*Sg	Sg	05 23 40.7	-2.0
	comp=Z,15nm,0.5s					
MFF	**Saint Martin d**	**5.44 242**	*e*Pg	Pg	05 22 31.1	-1.3
MFF			*e*Sn	Sn	05 23 09.6	-4.2
	SNR=1.0					
MFF			*e*Sg	Sg	05 23 41.5	-1.5
	comp=Z,25nm,0.6s					
MFF	**Saint Martin d**	**5.44 242**	*e*P	Pn	05 22 10.7	+0.2
MFF			*e*		05 23 09.6	
MFF	**Saint Martin d**	**5.44 242**	*e*Pg	Pg	05 22 31.1	-1.3
MFF			*e*Sn	Sn	05 23 09.6	-4.2
	SNR=1.0					
MFF			*e*Sg	Sg	05 23 41.5	-1.5
	comp=Z,12nm,0.6s					
MFF	**Saint Martin d**	**5.44 242**	*e*Pn	Pn	05 22 10.7	+0.2
MFF			*e*Pg	Pg	05 22 31.1	-1.3
MFF			*e*Sn	Sn	05 23 09.6	-4.2
MFF			*e*Sg	Sg	05 23 41.5	-1.5
CAF	**Calviac**	**5.50 218**	*e*Pn	Pn	05 22 10.4	-0.8
	SNR=1.0					
CAF			*e*Sg	Sg	05 23 43.0	-1.8
	comp=Z,19nm,0.6s					
CAF	**Calviac**	**5.50 218**	*e*Pn	Pn	05 22 10.4	-0.8
	SNR=1.0					
CAF			*e*Sg	Sg	05 23 43.0	-1.8
	comp=Z,9.6nm,0.6s					
LASF	**Ste Croix**	**5.66 202**	*e*Pn	Pn	05 22 13.4	-0.1
LASF			*e*Sg	Sg	05 23 48.0	-2.0
	comp=Z,57nm,0.9s					
LASF	**Ste Croix**	**5.66 202**	*e*Pn	Pn	05 22 13.4	-0.1
LASF			*e*Sg	Sg	05 23 48.0	-2.0
	comp=Z,28nm,0.9s					
FRF	**La Foret Royal**	**5.79 181**	*e*Sn	Sn	05 23 19.1	-3.3
	comp=Z,7.4nm,0.7s,SNR=1.0					
FRF	**La Foret Royal**	**5.79 181**	*e*Sn	Sn	05 23 19.1	-3.3
	comp=Z,3.7nm,0.7s,SNR=1.0					
LFF	**La Frestale**	**6.07 226**	*e*Pn	Pn	05 22 18.7	-0.4
LFF			*e*Sg	Sg	05 24 01.3	-1.7
	comp=Z,43nm,0.6s					
LFF	**La Frestale**	**6.07 226**	*e*Pn	Pn	05 22 18.7	-0.4
LFF			*e*Sg	Sg	05 24 01.3	-1.7
	comp=Z,22nm,0.6s					
ARSA	**Arzberg**	**6.16 107**	⇓*i*Sn	Sn	05 23 27.4	-3.9
ARSA	**Arzberg**	**6.16 107**	⇑*i*Pn	Pn	05 22 22.4	+2.2
ARSA			⇓*i*Sn	Sn	05 23 27.4	-3.9
PERS	**Pernice**	**6.18 113**	*e*Pn	Pn	05 22 23.3	+2.8
PERS			*i* Sn	Sn	05 23 28.1	-3.7
DPC	**Dobruska-Polom**	**6.21 77**	*e*SG	Sg	05 24 03.2	-4.3
SGMF	**Saint Gilles**	**6.31 264**	*e*Pn	Pn	05 22 22.2	-0.2
	SNR=1.0					
SGMF			*e*Sn	Sn	05 23 30.7	-4.5
	SNR=1.0					
SGMF			*e*Sg	Sg	05 24 07.8	-3.1
	comp=Z,20nm,0.5s					
**SGM

s-maj=45.5km s-min=27.5km az=92.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.28**	**159**	Pn	Pn	05 27 41.2	+0.9
	9.0nm,0.3s,baz=355,slow=11,SNR=14						
PMG				Sn	Sn	05 28 08.8	-0.3
	26nm,0.3s,baz=148,slow=21,SNR=28						
WRA	**Warramunga Arr**	**17.16**	**222**	P	Pn	05 31 01.3	-1.5
	0.3nm,0.3s,baz=56,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**20.22**	**215**	P	P	05 31 39.0	+0.9
	1.0nm,0.7s,baz=37,slow=13,SNR=9.8						
ILAR	**Eielson Array**	**86.89**	**23**	P	P	05 39 47.8	-0.4
	0.2nm,0.5s,baz=254,slow=4.8,SNR=4.4						

IDC 16 05:38:31.9±81.0, 1753S×17779W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/14, mbtmp4.0/3, Error ellipse: s-maj=1487.0km s-min=185.9km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.33**	**241**	P	P	05 46 02.9	+0.2
	1.2nm,0.7s,baz=84,slow=9.2,SNR=3.0						
WRA	**Warramunga Arr**	**45.28**	**259**	P	P	05 46 51.5	+0.2
	0.5nm,0.3s,baz=95,slow=7.3,SNR=7.7						
ASAR	**Alice Springs**	**45.46**	**254**	P	P	05 46 53.1	+0.5
	2.3nm,0.6s,baz=87,slow=8.7,SNR=38						

*BJI **16** 05:43:06.7, 740S×10670E, h20km, mB5.1, mb5.1, Ms4.7, Msz4.4*
*ISCJB **16** 05:43:07.7±0.2, 736S±004×10677E±004, h19km, mb5.2/118, MS4.3/38, Error ellipse: s-maj=6.2km s-min=4.1km az=99.4*
*HRVD **16** 05:43:09.7±0.3, 789S×10676E, h50km±1km, MW5.0/69, Centroid moment Tensor Solution. LP body waves: s58,c86;Mantle waves: s69,c104; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.70±.19; $M_{\theta\theta}$-4.18±.13; $M_{\phi\phi}$0.47±.17; $M_{r\theta}$2.07±.11; $M_{\theta\phi}$1.51±.13; $M_{\phi r}$-0.13±.14; Best double couple: M_0=4.66000×10^{16} NP1:ϕ_s295.00000°, δ33.00000°, λ104.00000°. NP2: ϕ_s99.00000°, δ58.00000°, λ81.00000°. Principal axes: T 4.2270, Plg75.0000°, Azm345.0000°; N 0.8640, Plg7.0000°, Azm104.0000°; P -5.0930, Plg13.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 05:43:09.7±1.7, 737S×10672E, h20km±11km, mb5.2/46 Error ellipse: s-maj=6.5km s-min=3.9km az=47.0*
NEIC Felt [III] at Bandung and [II] at Tangerang.
*MOS **16** 05:43:10.9±1.3, 7.11S×10677E, h33km, mb5.4/34, Error ellipse: s-maj=10.1km s-min=5.9km az=115.2*
*IDC **16** 05:43:11.9±1.3, 737S×10672E, h36km±9km, mb4.7/25, mb1 4.8/26, mb1mx4.8/27, mbtmp4.9/26, ML4.2/1, MS4.2/17, Ms1 4.2/17, ms1mx4.1/20, Error ellipse: s-maj=15.4km s-min=9.9km az=45.0*

ISC 16 05:43:10.1±0.2, 735S±003×10677E±004, h21km, h21km±1.6km: pP-P, n394, σ1§06/281, mb5.2/118, MS4.3/38, 16C-15D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi**	**1.71**	**60**	P	**Pn**	**05 43 44.3**	**+5.6**
	11μm,0.8s						
PSI	**Prapat**	**12.77**	**322**	Pn	**Pn**	**05 46 08.4**	**-2.0**
	1.5nm,0.3s,baz=149,slow=11,SNR=12						
PSI				LR	LR	05 52 10.2	
	comp=Z,654nm,18.5s,baz=138,slow=42						
KULM	**Kulim**	**13.97**	**334**	*e*P	**Pn**	**05 46 28.8**	**+2.0**
SNG	**Songkhla**	**15.69**	**337**	P	**Pn**	**05 46 53.0**	**+3.2**
KKM	**Kota Kinabalu**	**16.30**	**36**	*e*P	**Pn**	**05 47 04.4**	**+6.7**
MBWA	**Marble Bar**	**18.58**	**139**	*e*P	**Pn**	**05 47 24.9**	**-1.1**
	22nm,0.6s						
MBWA				*e*Sn	**Sn**	**05 50 36.2**	**-17**
NNT	**Nongplab**	**21.01**	**341**	P	**P**	**05 47 53.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**21.25**	**122**	*e*P	**P**	**05 47 56.2**	**+1.4**
	108nm,0.9s,mb5.2						
FITZ				*e*S	**S**	**05 51 39.8**	**-10**
FITZ	**Fitzroy Crossi**	**21.25**	**122**	P	**P**	**05 47 56.2**	**+1.4**
	31nm,0.7s,mb4.8,baz=282,slow=8.6,SNR=31						
FITZ				S	**S**	**05 51 44.7**	**-5.4**
	6.3nm,0.8s,baz=165,slow=20,SNR=4.2						
FITZ				LR	LR	05 56 07.8	
	comp=Z,464nm,20.0s,MS3.9,baz=0.0,slow=36						
NST	**Nakhon Sawan**	**23.80**	**344**	P	**P**	**05 48 21.0**	**-0.5**
	50nm,0.5s,mb5.2						
SWI	**Sorong**	**25.25**	**76**	P	**P**	**05 48 35.6**	**+1.0**
	98nm,0.9s,mb5.3						
KAKA	**Kakadu**	**25.82**	**104**	*e*P	**P**	**05 48 39.9**	**+0.1**
	60nm,0.6s,mb5.3						
QIZ	**Qiongzhong**	**26.39**	**7**	P	**P**	**05 48 47.5**	**+2.5**
QIZ				S	**S**	**05 53 18.6**	**+1.4**
QIZ				LR	LR		
	comp=N,724nm,20.1s						
QIZ				LR	LR		
	comp=Z,838nm,20.1s,MS4.3						
NWAO	**Narrogin (SRO)**	**27.24**	**161**	P	**P**	**05 48 50.8**	**-1.8**
	comp=Z,5.6nm,0.8s,mb4.2,baz=351,slow=11,SNR=5.4						
NWAO				LR	LR	05 58 23.9	
	comp=Z,1μm,21.9s,MS4.4,baz=339,slow=34						
WRA	**Warramunga Arr**	**29.50**	**118**	P	**P**	**05 49 13.3**	**+0.5**
	comp=Z,8.7nm,0.4s,mb4.8,baz=288,slow=12,SNR=52						
WRA				PcP	PcP	05 52 18.5	+0.6
	comp=Z,6.5nm,0.7s,baz=300,slow=2.3,SNR=6.9						
WRA				ScP	ScP	05 55 57.2	-1.3
	comp=Z,8.5nm,1.2s,baz=297,slow=3.1,SNR=8.0						
WRAB	**Tennant Creek**	**29.51**	**118**	P	**P**	**05 49 13.3**	**+0.4**
	comp=Z,185nm,0.6s,mb6.0,SNR=12						
WRAB	**Tennant Creek**	**29.51**	**118**	*e*P	**P**	**05 49 13.2**	**+0.3**
WRAB				*e*		05 52 18.0	
WRAB				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**29.51**	**118**	*e*P	**P**	**05 49 13.2**	**+0.3**
	comp=Z,24nm,0.6s,mb5.1						
WRAB				*e*PcP	PcP	05 52 18.0	+0.1
WB2	**Warramunga Arr**	**29.52**	**118**	*e*P	**P**	**05 49 13.4**	**+0.5**
PALK	**Pallekele**	**29.79**	**299**	*e*P	**P**	**05 49 16.4**	**+1.1**
	comp=Z,18nm,1.0s,mb4.8						
FORT	**Forrest**	**30.66**	**142**	*e*P	**P**	**05 49 23.3**	**+0.2**
	comp=Z,16nm,0.5s,mb5.1						
ASPA	**Alice Springs**	**30.67**	**125**	*e*P	**P**	**05 49 23.6**	**+0.5**
ASAR	**Alice Springs**	**30.67**	**125**	P	**P**	**05 49 23.5**	**+0.4**
	comp=Z,8.2nm,0.7s,mb4.7,baz=298,slow=7.8,SNR=48						
ASAR				PcP	PcP	05 52 21.5	+0.6
	comp=Z,9.8nm,0.8s,baz=315,slow=2.2,SNR=12						
ASAR				ScP	ScP	05 56 00.8	-1.6
	comp=Z,7.4nm,0.9s,baz=303,slow=3.5,SNR=17						
ASAR				PKiKP	PKiKP	05 59 51.0	-0.8
	comp=Z,0.8nm,0.8s,baz=321,slow=1.8,SNR=4.1						
ASAR	**Alice Springs**	**30.67**	**125**	P	**P**	**05 49 23.5**	**+0.4**
ASAR						05 52 21.5	
ASAR	**Alice Springs**	**30.67**	**125**	P	**P**	**05 49 23.5**	**+0.4**
ASAR				PcP	PcP	05 52 21.5	+0.6
ASAR				ScP	ScP	05 56 00.8	-1.6
AS31	**Alice Springs**	**30.67**	**125**	*e*P	**P**	**05 49 23.6**	**+0.5**
KMI	**Kunming**	**32.52**	**353**	P	**P**	**05 49 42.5**	**+3.1**
KMI				AP	pP	05 49 47.0	+1.3
KMI				XP	sP	05 49 49.3	+1.1
KMI				S	**S**	**05 54 58.9**	**+5.5**
KMI				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
KMI				LR	LR		
	comp=N,854nm,11.9s,MS4.7						
KMI				LR	LR		
	comp=E,258nm,11.0s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,12.5s,MS4.7						
GYA	**Guiyang**	**33.61**	**360**	⇑*i*P	**P**	**05 49 49.9**	**+1.0**
GYA				AP	pP	05 49 54.3	-0.9
GYA				XP	sP	05 49 58.6	+0.8
GYA				PP	PP	05 51 02.8	-2.3
GYA				PCP	PcP	05 52 30.3	+1.4
GYA				S	**S**	**05 55 10.9**	**+0.5**
GYA				SCP	ScP	05 56 13.3	+1.0
GYA				SCS	ScS	06 00 12.4	-1.2
GYA				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
GYA				AMB	AMB		
	comp=Z,130nm,3.9s						
GYA				LR	LR		
	comp=N,1μm,17.8s,MS4.8						
GYA				LR	LR		
	comp=E,870nm,17.4s,MS4.8						
GYA				LR	LR		
	comp=Z,940nm,17.0s,MS4.6						
VIS	**Vishakhapatnam**	**34.02**	**317**	*e*P	**P**	**05 49 51.5**	**-1.0**
VIS				AMb	AMB	05 49 56.0	
	comp=Z,32nm,1.0s,mb5.2						
SHL	**Shillong**	**35.78**	**337**	*e*P	**P**	**05 50 07.0**	**-0.7**
BOK	**Bokaro**	**37.08**	**327**	*e*P	**P**	**05 50 18.3**	**-0.5**
BOK				AMb	AMB	05 50 19.2	
	comp=Z,34nm,0.7s,mb5.3						
HYB	**Hyderabad**	**37.20**	**312**	*i*P	**P**	**05 50 20.0**	**+0.2**
	comp=Z,100nm,1.0s,mb5.6						
HYB	**Hyderabad**	**37.20**	**312**	*e*P	**P**	**05 50 20.0**	**+0.2**
HYB				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.6						
HYB	**Hyderabad**	**37.20**	**312**	*e*P	**P**	**05 50 20.0**	**+0.2**
	comp=Z,100nm,1.0s,mb5.6						
ENH	**Enshi**	**37.50**	**4**	*e*P	**P**	**05 50 22.5**	**+0.2**
	comp=Z,13nm,0.6s,mb4.9						
CD2	**Chengdu**	**38.15**	**356**	P	**P**	**05 50 27.8**	**-0.1**
CD2				AP	pP	05 50 33.6	-0.6
CD2				XP	sP	05 50 36.6	-0.2
CD2				PP	PP	05 51 59.3	+4.1
CD2				PPP		05 52 21.6	
CD2				S	**S**	**05 56 21.3**	**+1.3**
CD2				XS	sS	05 56 31.3	+0.9
CD2				SS	SS	05 59 01.0	-7.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CD2				AMB	AMB		
	comp=Z,70nm,5.1s						
CD2				LR	LR		
	comp=N,280nm,17.4s						
CD2				LR	LR		
	comp=Z,370nm,18.6s,MS4.2						
LSA	**Lhasa**	**39.79**	**339**	*e*P	**P**	**05 50 41.5**	**0.0**
LSA				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.2						
LSA				MLR	MLR		
	comp=Z,237nm,20.0s,MS4.0						
LSA	**Lhasa**	**39.79**	**339**	*e*P	**P**	**05 50 41.5**	**0.0**
	comp=Z,27nm,0.6s,mb5.2						
LSA				LR	LR		
	comp=Z,237nm,20.0s,MS4.0						
JOW	**Kunigami**	**39.87**	**31**	P	**P**	**05 50 45.2**	**+3.0**
	comp=Z,18nm,0.4s,mb5.1,baz=102,slow=5.5,SNR=7.7						
PMG	**Port Moresby**	**39.99**	**96**	P	**P**	**05 50 44.4**	**+1.2**
	comp=Z,35nm,0.6s,mb5.3,baz=273,slow=3.5,SNR=11						
PMG				LR	LR	06 09 26.4	
	comp=Z,107nm,19.9s,MS3.7,baz=257,slow=39						
PMG	**Port Moresby**	**39.99**	**96**	*e*P	**P**	**05 50 44.4**	**+1.2**
PMG				pmax	pmax		
	comp=Z,71nm,0.9s						
PMG	**Port Moresby**	**39.99**	**96**	*e*P	**P**	**05 50 44.4**	**+1.2**
	comp=Z,71nm,0.9s,mb5.4						
JIRN	**Jiri**	**40.10**	**331**	*e*P	**P**	**05 50 43.4**	**-0.8**
CTA	**Charters Tower**	**40.27**	**112**	*e*P	**P**	**05 50 47.0**	**+1.4**
	comp=Z,28nm,1.1s,mb4.9						
CTA	**Charters Tower**	**40.27**	**112**	P	**P**	**05 50 47.5**	**+1.9**
	comp=Z,29nm,0.9s,mb5.0,baz=275,slow=12,SNR=20						
CTA				PcP	PcP	05 52 49.1	+0.1
	comp=Z,8.5nm,0.8s,baz=281,slow=6.0,SNR=4.0						
CTA				LR	LR	06 07 26.4	
	comp=Z,373nm,21.2s,MS4.2,baz=268,slow=36						
CTA	**Charters Tower**	**40.27**	**112**	*e*P	**P**	**05 50 47.0**	**+1.4**
CTA				pmax	pmax		
	comp=Z,28nm,1.1s						
CTAO	**Charters Tower**	**40.27**	**112**	*e*P	**P**	**05 50 46.9**	**+1.3**
CTAO				*e*		05 52 49.4	
CTAO				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.2						
CTAO				MLR	MLR		
	comp=Z,497nm,19.0s,MS4.4						
CTAO	**Charters Tower**	**40.27**	**112**	*e*P	**P**	**05 50 46.9**	**+1.3**
	comp=Z,46nm,1.0s,mb5.2						
CTAO				*e*PcP	PcP	05 52 49.4	+0.3
CTAO				LR	LR		
	comp=Z,497nm,19.0s,MS4.4						
PKI	**Pulchoki**	**40.41**	**330**	*e*P	**P**	**05 50 45.5**	**-1.2**
	comp=Z,26nm,0.7s,mb5.1						
GUN	**Gumba**	**40.46**	**331**	*e*P	**P**	**05 50 46.5**	**-0.6**
	comp=Z,92nm,0.6s,mb5.7						
KAD	**Karad**	**40.47**	**308**	*e*P	**P**	**05 50 47.5**	**+0.3**
KAD				AMb	AMB	05 50 49.8	
	comp=Z,43nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**40.57**	**132**	*e*P	**P**	**05 50 46.4**	**-1.7**
	comp=Z,48nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**40.57**	**132**	P	**P**	**05 50 46.6**	**-1.5**
	comp=Z,64nm,0.7s,mb5.4,baz=307,slow=7.8,SNR=72						
STKA				PcP	PcP	05 52 48.6	-1.5
	comp=Z,13nm,0.7s,baz=330,slow=2.9,SNR=3.3						
STKA				LR	LR	06 08 50.5	
	comp=Z,464nm,18.8s,MS4.4,baz=109,slow=38						
STKA				PKKP		06 14 44.5	
	comp=Z,1.3nm,0.8s,baz=149,slow=9.9,SNR=3.7						
DMN	**Daman**	**40.59**	**330**	*e*P	**P**	**05 50 47.2**	**-1.0**
	comp=Z,55nm,0.7s,mb5.3						
SSE	**Sheshan**	**40.65**	**19**	P	**P**	**05 50 50.3**	**+1.6**
SSE				XP	sP	05 50 58.9	+1.3
SSE				PP	PP	05 52 24.8	+2.4
SSE				PCP	PcP	05 52 49.8	-0.5
SSE				S	**S**	**05 57 03.1**	**+5.7**
SSE				XS	sS	05 57 12.5	+4.6
SSE				SCS	ScS	06 00 53.1	0.0
SSE				AMB	AMB		
	comp=Z,34nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,87nm,3.6s						
SSE				LR	LR		
	comp=N,166nm,25.4s,MS3.9						
SSE				LR	LR		
	comp=E,126nm,25.1s,MS3.9						
SSE				LR	LR		
	comp=Z,220nm,26.8s,MS3.9						
KKN	**Kakani**	**40.65**	**330**	*e*P	**P**	**05 50 47.6**	**-1.1**
	comp=Z,35nm,0.7s,mb5.1						
NJ2	**Nanjing**	**40.84**	**16**	*e*P	**P**	**05 50 53.9**	**+3.6**
NJ2				AP	pP	05 51 01.3	+4.6
NJ2				XP	sP	05 51 04.8	+5.6
NJ2				PP	PP	05 52 32.1	+7.5
NJ2				S	**S**	**05 57 05.0**	**+4.6**
NJ2				XS	sS	05 57 17.0	+6.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,80nm,11.5s						
NJ2				LR	LR		
	comp=N,270nm,16.7s						
NJ2				LR	LR		
	comp=E,430nm,27.8s						
NJ2				LR	LR		
	comp=Z,190nm,24.2s						
GKN	**Gorkha**	**41.15**	**330**	*e*P	**P**	**05 50 51.6**	**-1.2**
	comp=Z,44nm,0.4s,mb5.4						
XAN	**Xi'an**	**41.22**	**3**	P	**P**	**05 50 53.6**	**+0.2**
XAN				AMB	AMB		
	comp=Z,22nm,0.7s,mb4.9						
POO	**Poona**	**41.43**	**309**	*e*P	sP	05 51 06.2	+2.1
POO				AMb	AMB	05 51 07.9	
	comp=Z,54nm,0.5s,mb5.5						
POO	**Poona**	**41.43**	**309**	⇑*i*P	**P**	**05 50 55.0**	**-0.1**
	comp=Z,61nm,0.8s,mb5.3						
KOLN	**Koldanda**	**41.49**	**328**	*e*P	**P**	**05 50 54.7**	**-0.9**
	comp=Z,134nm,0.7s,mb5.7						
BHPL	**Bhopal**	**41.81**	**317**	*e*P	**P**	**05 50 58.1**	**-0.1**
BHPL				AMb	AMB	05 50 59.4	
	comp=Z,74nm,1.0s,mb5.3						
DANN	**Dangsing**	**41.88**	**329**	*e*P	**P**	**05 50 57.8**	**-1.0**
LZH	**Lanzhou**	**43.30**	**357**	*e*P	**P**	**05 51 11.0**	**+0.7**
LZH				AP	pP	05 51 16.0	-0.7
LZH				XP	sP	05 51 20.0	+0.8
LZH				PP	PP	05 52 54.4	+3.4
LZH				PCP	PcP	05 53 00.8	+1.8
LZH				SCP	ScP	05 56 47.8	-1.4
LZH				PCS	PcS	05 56 49.5	-2.1
LZH				*e*S	**S**	**05 57 39.3**	**+2.7**
LZH				XS	sS	05 57 47.0	-0.1
LZH				SS	SS	06 00 44.5	-5.7
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,130nm,5.0s						
LZH				LR	LR		
	comp=E,510nm,15.3s						
LZH				LR	LR		
	comp=Z,915nm,16.8s,MS4.8						
NDI	**New Delhi**	**45.78**	**323**	*e*P	**P**	**05 51 28.0**	**-2.2**
NDI				*e*S	**S**	**05 58 08.0**	**-4.7**
NDI	**New Delhi**	**45.78**	**323**	*e*P	**P**	**05 51 28.0**	**-2.2**
NDI				*e*S	**S**	**05 58 08.0**	**-4.7**
AJM	**Ajmer**	**45.86**	**318**	*e*P	**P**	**05 51 30.7**	**0.0**
AJM				AMb	AMB	05 51 32.0	
	comp=Z,66nm,0.6s,mb5.8						
GTA	**Gaotai**	**46.97**	**353**	P	**P**	**05 51 40.0**	**+0.5**
GTA				AP	pP	05 51 44.5	-1.5
GTA				PCP	PcP	05 53 13.0	+1.3
GTA				PP	PP	05 53 30.0	0.0
GTA				SCP	ScP	05 57 04.0	-0.3
GTA				S	**S**	**05 58 29.6**	**-0.1**
GTA				SCS	ScS	06 01 29.3	-3.5
GTA				SS	SS	06 01 48.4	-8.2
GTA				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,117nm,4.2s						
GTA				LR	LR		
	comp=N,488nm,20.2s,MS4.6						
GTA				LR	LR		
	comp=E,493nm,18.3s,MS4.6						
GTA				LR	LR		
	comp=Z,551nm,19.4s,MS4.5						
BHJ	**Bhuj**	**47.35**	**311**	*e*P	**P**	**05 51 45.3**	**+2.8**
BHJ				AMb	AMB	05 51 45.8	
	comp=Z,64nm,0.5s,mb5.8						
BJI	**Beijing**	**47.95**	**10**	*e*P	**P**	**05 51 49.3**	**+2.2**
BJI				AP	pP	05 51 55.3	+1.7
BJI				XP	sP	05 51 58.1	+2.0
BJI				PCP	PcP	05 53 15.9	+0.7
BJI				S	**S**	**05 58 46.3**	**+2.7**
BJI				SS	SS	06 02 08.6	-3.8
BJI				AMB	AMB		
	comp=Z,15nm,0.7s,mb5.1						
BJI				LR	LR		
	comp=N,356nm,13.6s,MS4.5						
BJI				LR	LR		
	comp=E,163nm,15.1s,MS4.5						
BJI				LR	LR		
	comp=Z,252nm,23.1s						
HHC	**Hu-ho-hao-te**	**48.17**	**5**	*e*P	**P**	**05 51 51.0**	**+2.2**
HHC				AP	pP	05 52 00.8	+5.5
HHC				XP	sP	05 52 04.8	+7.0
HHC				PCP	PcP	05 53 17.6	+1.6
HHC				PP	PP	05 53 43.4	+2.3
HHC				S	**S**	**05 58 48.1**	**+1.4**
HHC				XS	sS	05 59 04.8	+7.5
HHC				SCS	ScS	06 01 38.9	-1.8
HHC				SS	SS	06 02 13.3	-2.6
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,148nm,4.7s						
HHC				LR	LR		
	comp=N,257nm,23.0s						
HHC				LR	LR		
	comp=E,389nm,15.2s						
HHC				LR	LR		
	comp=Z,287nm,28.5s						
KS15	**Wonju Array Si**	**48.74**	**22**	*e*P	**P**	**05 51 54.5**	**+1.3**
SNY	**Shenyang**	**51.30**	**16**	⇑P	**P**	**05 52 12.4**	**-0.3**
SNY				PP	PP	05 54 08.3	-1.4
SNY				S	**S**	**05 59 26.3**	**-4.3**
SNY				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.9						
SNY				AMB	AMB		
	comp=Z,171nm,4.1s						
SNY				LR	LR		
	comp=E,507nm,18.6s						
SNY				LR	LR		
	comp=Z,245nm,23.3s,MS4.2						
MAJO	**Matsushiro**	**52.69**	**32**	*e*P	**P**	**05 52 21.4**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
MAJO				MLR	MLR		
	comp=Z,154nm,19.0s,MS4.1						
MAJO	**Matsushiro**	**52.69**	**32**	*e*P	**P**	**05 52 21.4**	**-1.6**
	comp=Z,19nm,0.9s,mb5.0						
MAJO				LR	LR		
	comp=Z,154nm,19.0s,MS4.1						
MAT	**Matsushiro**	**52.69**	**32**	P	**P**	**05 52 22.0**	**-1.0**
MAT	**Matsushiro**	**52.69**	**32**	*e*P	**P**	**05 52 22.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
MAT	**Matsushiro**	**52.69**	**32**	*e*P	**P**	**05 52 22.0**	**-1.0**
	comp=Z,13nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**52.69**	**32**	P	**P**	**05 52 22.1**	**-0.9**
	comp=Z,8.0nm,0.6s,mb4.8,baz=213,slow=8.0,SNR=16						
MJAR				LR	LR	06 15 52.8	
	comp=Z,87nm,20.1s,MS3.8,baz=230,slow=37						
CN2	**Changchun**	**53.65**	**17**	*e*P	**P**	**05 52 30.0**	**-0.1**
CN2				PCP	PcP	05 53 36.6	+0.3
CN2				*e*S	**S**	**06 00 02.0**	**-0.7**
CN2				*e*SS	SS	06 03 42.8	-0.5
CN2				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.6						
CN2				LR	LR		
	comp=N,400nm,19.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,19.0s,MS4.6						
CN2				LR	LR		
	comp=Z,300nm,23.0s,MS4.3						
WMQ	**Urumqi**	**53.79**	**343**	P	**P**	**05 52 31.3**	**+0.2**
WMQ				PCP	PcP	05 53 36.9	+0.1
WMQ				PP	PP	05 54 33.8	+1.7
WMQ				PPP		05 55 42.5	
WMQ				*e*S	**S**	**06 00 03.8**	**-0.7**
WMQ				SS	SS	06 03 44.1	-1.3
WMQ				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,105nm,4.2s						
WMQ				LR	LR		
	comp=N,1μm,24.0s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,22.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
KSH	**Kashi**	**54.66**	**331**	*e*P	**P**	**05 52 38.1**	**+0.7**
KSH				*e*AP	pP	05 52 42.9	-1.1
KSH				PCP	PcP	05 53 42.0	+1.9
KSH				PP	PP	05 54 41.3	+1.4
KSH				PPP		05 55 52.6	
KSH				SCP	ScP	05 57 38.4	+1.0
KSH				PCS	PcS	05 57 39.3	-0.5
KSH				S	**S**	**06 00 14.4**	**-1.9**
KSH				SCS	ScS	06 02 23.3	-2.2
KSH				SS	SS	06 03 56.3	-2.9
KSH				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
KSH				LR	LR		
	comp=N,265nm,4.5s						
KSH				LR	LR		
	comp=E,240nm,5.6s						
KSH				LR	LR		
	comp=Z,245nm,7.4s						
SONM	**Songino Array**	**54.95**	**360**	P	**P**	**05 52 39.9**	**+0.4**
	comp=Z,9.3nm,0.9s,mb4.8,baz=181,slow=8.2,SNR=48						
SONM				ScP	ScP	05 57 39.5	+0.8
	comp=Z,1.0nm,0.7s,baz=174,slow=5.3,SNR=4.4						
SONM				LR	LR	06 18 01.6	
	comp=Z,458nm,20.9s,MS4.5,baz=186,slow=38						
ULN	**Ulaanbaatar**	**54.98**	**0**	*i*P	**P**	**05 52 39.9**	**+0.2**
ULN	**Ulaanbaatar**	**54.98**	**0**	*e*P	**P**	**05 52 39.4**	**-0.4**
	comp=Z,18nm,1.0s,mb5.1

comp=Z,62nm,4.1s
MDJ LR LR
comp=N,124nm,23.5s,MS4.0
MDJ LR LR
comp=E,88nm,25.6s,MS4.0
MDJ LR LR
comp=Z,135nm,21.3s,MS4.0
MDJ Mudanjiang 55.67 20 *e*P **P 05 52 44.7 0.0**
comp=Z,30nm,0.8s,mb5.4
SMDO Samad 56.42 304 P **P 05 52 51.4 +1.4**
SNR=35
SMDO P 05 52 51.6
SNR=20
BIDO Bidbid 56.56 304 P **P 05 52 52.6 +1.6**
SNR=19
BIDO P 05 52 52.8
SNR=9.5
BSY Bisya 56.98 303 P **P 05 52 55.4 +1.3**
SNR=16
BSY P 05 52 55.6
SNR=14
KZA Kyzart 57.01 332 P **P 05 52 55.2 +1.0**
SNR=8.5
HOQ Hoqain 57.26 304 P **P 05 52 57.5 +1.5**
SNR=15
HOQ P 05 52 57.6
SNR=20
RBK Rabkut 57.50 296 P **P 05 52 59.0 +1.2**
SNR=14
HIA Hailar 57.51 10 *e*P **P 05 52 56.9 -0.9**
HIA pmax pmax
comp=Z,6.0nm,0.5s
HIA MLR MLR
comp=Z,236nm,19.0s
HIA Hailar 57.51 10 *e*P **P 05 52 56.9 -1.0**
comp=Z,5.8nm,0.5s,mb4.9
HIA LR LR
comp=Z,236nm,19.0s,MS4.3
TKM2 Tokmak 2 57.51 333 P **P 05 52 58.8 +0.9**
SNR=7.2
ZAK Zakamensk 57.58 357 *e*P **P 05 52 56.9 -1.4**
ZAK *e* 05 53 51.5
ZAK pmax pmax
comp=Z,8.0nm,1.8s,mb4.5
ZAK pmax pmax
comp=Z,29nm,1.4s,mb5.1
KBK Karagaybulak 57.60 333 P **P 05 52 58.0 -0.5**
SNR=13
AML Almayashu 57.77 331 P **P 05 52 59.0 -0.6**
SNR=15
AAK Ala-Archa 57.79 332 P **P 05 53 00.5 +0.7**
SNR=5.2
ARQ Araqi 57.80 303 P **P 05 53 00.9 +1.0**
SNR=10
ARQ P 05 53 01.3
SNR=7.8
WHFO Wadi Hawf 58.03 296 P **P 05 53 02.0 +0.5**
SNR=8.9
WHFO P 05 53 02.2
SNR=6.2
MK31 Makanchi Array 58.14 340 *i*P **P 05 53 00.6 -1.6**
MKAR Makanchi Array 58.14 340 P **P 05 53 00.8 -1.5**
comp=Z,18nm,0.5s,mb5.3,baz=149,slow=8.2,SNR=269
MKAR LR LR 06 21 41.5
comp=Z,260nm,21.3s,MS4.3,baz=90,slow=40
EKS2 Erkin-Say 58.14 332 P **P 05 53 01.6 -0.7**
SNR=13
ABTO Aybut 58.26 296 P **P 05 53 04.0 +0.9**
SNR=17
ABTO P 05 53 04.3
SNR=11
USP Ospenovka 58.28 333 P **P 05 53 02.4 -0.8**
SNR=7.1
ASHO Ashiyiah 58.77 305 P **P 05 53 07.5 +0.9**
SNR=14
OPO Ambohidratompo 58.90 253 P **P 05 53 08.2 +0.7**
comp=Z,3.6nm,0.7s,mb4.5,baz=98,slow=9.9,SNR=6.4
MOY Mondy 58.99 356 *e*P **P 05 53 08.8 +0.6**
DZM Mont Dzumac 59.20 111 P **P 05 53 10.6 +1.0**
comp=Z,11nm,0.9s,mb4.9,baz=270,slow=12,SNR=5.4
KK31 Karatay Array 60.05 330 *i*P **P 05 53 14.1 -1.4**
KK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
KKAR Karatay Array 60.05 330 *i*P **P 05 53 14.1 -1.4**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KLR Kul'dur 60.44 19 *e*P **P 05 53 14.8 -3.3**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,60nm,1.0s,mb5.6
HABR Khabarovsk 60.90 21 *e*P **P 05 53 20.8 -0.4**
HABR *e*S **S 06 01 29.2 -8.8**
KURK Kurchatov 62.75 340 P **P 05 53 32.4 -1.3**
comp=Z,197nm,0.5s,SNR=32
KURK Kurchatov 62.75 340 P **P 05 53 32.4 -1.3**
KURK pmax pmax
comp=Z,27nm,1.1s,mb5.3
KURK Kurchatov 62.75 340 *e*P **P 05 53 32.1 -1.6**
comp=Z,29nm,0.8s,mb5.5
KURK LR LR
comp=Z,336nm,20.0s,MS4.5
YSS Yuzh-Sakhalins 62.79 27⇑ *i*P **P 05 53 34.8 +0.8**
YSS pmax pmax
comp=Z,70nm,0.9s,mb5.8
YSS Yuzh-Sakhalins 62.79 27 *e*P **P 05 53 33.4 -0.6**
comp=Z,60nm,1.0s,mb5.7
ABKT Ailbek 63.88 319 P **P 05 53 41.5 +0.3**
comp=Z,430nm,0.4s,SNR=13
NVS Novosibirsk 65.02 345 *e*P **P 05 53 47.1 -1.6**
NVS pmax pmax
comp=Z,20nm,1.3s,mb5.0
NVS pmax pmax
comp=N,18nm,1.2s
NVS pmax pmax
comp=E,5.0nm,0.5s
BOD Bodaibo 65.22 4 *e*P **P 05 53 49.0 -0.9**
BOD *e* 05 54 21.2
BOD pmax pmax
comp=Z,18nm,1.1s,mb5.0
BOD pmax pmax
comp=Z,80nm,0.8s,mb5.8
RPZ Rata Peaks 66.44 135 P **P 05 53 58.0 +0.2**
comp=Z,3.4nm,0.3s,mb4.8,baz=202,slow=3.5,SNR=8.5
RPZ Rata Peaks 66.44 135 P **P 05 53 58.0 +0.2**
MAW Mawson 66.96 197 LR LR 06 16 18.6
comp=Z,360nm,20.5s,MS4.6,baz=170,slow=30
QRN Al-Qurain 67.07 305 *e*P **P 05 54 01.9 0.0**
QRN AMb AMB 05 54 06.1
comp=Z,122nm,0.8s,mb6.0
VOSK Vostochnaya 67.14 337 P **P 05 54 00.7 -1.6**
VOSK pmax pmax
comp=Z,12nm,0.6s,mb5.1
KBD Kabd 67.42 306 *e*P **P 05 54 04.2 +0.2**
KBD AMb AMB 05 54 06.7
comp=Z,282nm,1.0s,mb6.2
RDF Al-Radifah 67.44 305 *e*P **P 05 54 04.0 -0.2**
RDF AMb AMB 05 54 06.7
comp=Z,165nm,1.2s,mb6.0
UMR Umm Al-Rimmam 67.54 306 *e*P **P 05 54 04.9 +0.1**
UMR AMb AMB 05 54 05.9
comp=Z,106nm,0.4s,mb6.2
BVA0 Borovoye Array 67.60 337 *i*P **P 05 54 03.9 -1.3**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BVAR Borovoye Array 67.60 337 P **P 05 54 04.1 -1.1**
comp=Z,24nm,0.4s,mb5.5,baz=142,slow=9.3,SNR=93
BRVK Borovoye 67.67 337 P **P 05 54 04.4 -1.2**
comp=Z,292nm,0.4s,SNR=18
BRVK Borovoye 67.67 337 *e*P **P 05 54 04.0 -1.6**
BRVK pmax pmax
comp=Z,21nm,0.7s,mb5.3
BRVK Borovoye 67.67 337 *e*P **P 05 54 04.0 -1.7**
comp=Z,21nm,0.7s,mb5.3
NAY Al-Naaiem 67.81 306 *e*P **P 05 54 06.2 -0.3**
NAY AMb AMB 05 54 07.8
comp=Z,40nm,0.9s,mb5.4
MIB Mutribah 67.94 306 *e*P **P 05 54 07.4 0.0**
MIB AMb AMB 05 54 09.9
comp=Z,77nm,0.6s,mb5.9
ZRNK Zerenda 68.09 336 *i*P **P 05 54 07.0 -1.3**
ZRNK pmax pmax
comp=Z,28nm,0.7s,mb5.4
ZRNK Zerenda 68.09 336 *e*P **P 05 54 06.7 -1.6**
comp=Z,32nm,0.6s,mb5.5
KMBO Kilima Mbogo 69.55 272 P **P 05 54 17.6 +0.2**
comp=Z,2.8nm,0.7s,mb4.3,baz=53,slow=10.0,SNR=9.6
KMBO LR LR 06 18 41.1
comp=Z,235nm,21.4s,MS4.4,baz=273,slow=31
KMBO Kilima Mbogo 69.55 272 *e*P **P 05 54 17.7 +0.3**
KMBO pmax pmax
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 69.55 272 *e*P **P 05 54 17.7 +0.4**
comp=Z,5.7nm,1.1s,mb4.4
AB31 Akbulak array 69.60 329 *e*P **P 05 54 16.8 -0.9**
AB31 pmax pmax
comp=Z,32nm,0.5s,mb5.5
URZ Urewera 70.05 128 P **P 05 54 20.8 +0.3**
comp=Z,6.4nm,0.5s,mb4.8,baz=308,slow=1.1,SNR=13
YAK Yakutsk 71.42 11*c* *i*P **P 05 54 27.6 -1.2**
YAK pmax pmax
comp=Z,94nm,0.7s,mb5.8
YAK Yakutsk 71.42 11 *e*P **P 05 54 27.4 -1.4**
comp=Z,96nm,0.8s,mb5.8
YAK LR LR
comp=Z,166nm,20.0s,MS4.3
MSL Mosul 73.72 311 *e*x x 05 54 45.0
GNI Garni 74.04 315⇓ *e*P **P 05 54 44.6 +0.2**
GNI pmax pmax
comp=Z,27nm,1.6s
GNI Garni 74.04 315 *e*P **P 05 54 43.6 -0.8**
comp=Z,12nm,0.6s,mb5.0
DGRG David-gareji 74.15 317 P **P 05 54 46.4 +1.4**
PET Petropavlovsk 74.42 30 *e*P **P 05 54 47.4 +0.8**
PET *e*S S 06 04 42.5 +22
PET pmax pmax
comp=Z,30nm,1.1s,mb5.1
PET pmax pmax
comp=Z,40nm,20.9s
PET Petropavlovsk 74.42 30 *e*P **P 05 54 45.8 -0.8**
comp=Z,28nm,1.0s,mb5.2
MTA Mtatsminda 74.65 317 P **P 05 54 49.0 +1.1**
TBLG Delisi 74.70 317 P **P 05 54 49.1 +0.9**
TBLG Delisi 74.70 317 *e*P **P 05 54 45.9 -2.3**
ARU Arti 74.84 335 P **P 05 54 49.6 +0.6**
comp=Z,691nm,1.2s,SNR=5.4
ARU Arti 74.84 335⇑ *i*P **P 05 54 49.0 0.0**
ARU *e* 05 57 38.2
ARU *e*PPP 05 59 21.3
ARU *e*S S 06 04 17.8 -7.0
ARU *e*SS SS 06 09 08.5 -4.4
ARU pmax pmax
comp=Z,117nm,1.2s,mb5.7
ARU Arti 74.84 335 *e*P **P 05 54 48.4 -0.6**
comp=Z,120nm,1.0s,mb5.8
DUS Dusheti 74.88 317 P **P 05 54 49.8 +0.6**
SYO Syowa Base 75.09 200⇑ *e*pP pP 05 54 56.1 -1.1
SYO Syowa Base 75.09 200⇓ *e*PcP PcP 05 55 04.9 +0.9
SYO Syowa Base 75.09 200⇓ *e*P **P 05 54 47.9 -2.6**
SYO *e**PP pP 05 54 56.1 -1.1
SYO *e* 05 55 04.9
MA2 Magadan 75.30 21 *e*P **P 05 54 51.4 -0.3**
MA2 *e* 05 55 12.4
MA2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MA2 Magadan 75.30 21 *e*P **P 05 54 51.2 -0.5**
comp=Z,18nm,0.8s,mb5.1
AKH Akhalkalaki 75.42 316 P pP 05 55 05.4 +6.3
BKR Bakuriani 75.55 316 P **P 05 54 53.8 +0.7**
BEST Besiri 75.66 312 *i*P **P 05 54 54.4 +0.7**
VNDA Vanda 75.66 169 P **P 05 54 52.6 -1.2**
comp=Z,5.4nm,0.9s,mb4.5,baz=296,slow=5.0,SNR=20
VNDA LR LR 06 22 27.1
comp=Z,329nm,21.8s,MS4.6,baz=302,slow=31
VNDA Vanda 75.66 169 *e*P **P 05 54 52.6 -1.1**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
VNDA Vanda 75.66 169 *e*P **P 05 54 52.6 -1.2**
comp=Z,8.0nm,0.9s,mb4.7
ZEI Tsey 75.70 317 *e*P **P 05 54 54.3 +0.3**
ZEI pmax pmax
comp=Z,25nm,0.6s,mb5.3
KIV Kislovodsk 76.99 318 *e*P **P 05 55 01.0 -0.3**
KIV *e*S S 06 04 41.1 -7.4
KIV pmax pmax
comp=Z,17nm,0.6s,mb5.2
LSZ Lusaka 77.13 256 *e*P **P 05 55 02.1 0.0**
LSZ pmax pmax
comp=Z,11nm,0.8s,mb4.8
LSZ MLR MLR
comp=Z,343nm,21.0s,MS4.7
LSZ Lusaka 77.13 256 *e*P **P 05 55 02.1 0.0**
comp=Z,11nm,0.8s,mb4.8
LSZ LR LR
comp=Z,343nm,21.0s,MS4.7
SOKR Solikamsk 77.57 336*c* *i*P **P 05 55 04.2 -0.3**
SOKR pmax pmax
comp=Z,150nm,1.7s,mb5.7
MALT Malatya 77.91 312 *e*P **P 05 55 06.3 -0.1**
MALT pmax pmax
comp=Z,20nm,1.3s,mb4.9
MALT Malatya 77.91 312 *e*P **P 05 55 06.3 -0.1**
comp=Z,20nm,1.3s,mb4.9
EIL Elat 78.07 302 *e*P **P 05 55 07.2 -0.1**
comp=Z,972nm,1.3s
SEY Seymchan 78.21 20 *e*P **P 05 55 07.1 -1.0**
SEY 05 55 16.0
SEY *e*S S 06 04 57.7 -4.0
SEY *e**SS sS 06 05 34.2 +21
SEY *e*SSS 06 13 21.9
SEY pmax pmax
comp=E,4.0nm,0.6s
SEY pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SEY smax
comp=N,30nm,4.9s
SEY smax
comp=E,60nm,4.9s
SEY MLR MLR
comp=Z,183nm,21.0s,MS4.4
SEY MLR MLR
comp=N,160nm,20.0s,MS4.3
SEY MLR MLR
comp=E,66nm,24.0s,MS4.3
SEY Seymchan 78.21 20⇓ *e*P **P 05 55 07.0 -1.1**
GZT Gaziantep 78.25 310 *i*P **P 05 55 08.2 -0.1**
SOC Sochi 78.84 317 *e*P **P 05 55 09.8 -1.7**
SOC *e*S S 06 04 56.4 -12
SOC *e**SS sS 06 05 41.8 +22
SOC pmax pmax
comp=Z,61nm,1.2s,mb5.4
LBTB Lobatse 78.96 246 *e*P **P 05 55 12.0 -0.2**
LBTB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LBTB Lobatse 78.96 246 *e*P **P 05 55 12.0 -0.2**
comp=Z,6.2nm,0.8s,mb4.6
COBT Iskenderun 78.98 309 *i*P **P 05 55 13.1 +0.8**
BOSA Boshof 79.09 242 P **P 05 55 13.5 +0.6**
comp=Z,2.7nm,0.5s,mb4.5,baz=103,slow=4.8,SNR=14
BOSA LR LR 06 21 09.1
comp=Z,86nm,21.1s,MS4.1,baz=341,slow=29
BOSA Boshof 79.09 242 *e*P **P 05 55 12.8 -0.1**
BOSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BOSA Boshof 79.09 242 *e*P **P 05 55 12.8 -0.1**
comp=Z,2.8nm,0.5s,mb4.5
TIXI Tiksi 80.18 7*c* *i*P **P 05 55 16.9 -2.0**
TIXI pmax pmax
comp=Z,36nm,0.8s,mb5.3
TIXI Tiksi 80.18 7⇑ *i*P **P 05 55 16.0 -2.9**
VRHR Novokhopersk 80.55 325 *e*P **P 05 55 20.2 -0.6**
VRHR pmax pmax
comp=Z,60nm,0.5s,mb5.8
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
CSS Prodhromos 80.81 307 *e*P **P 05 55 22.8 +0.5**
comp=E,39nm,0.8s,mb5.4
CTKT Corum 81.31 313 *i*P **P 05 55 25.1 +0.2**
BOYT Boyabat 81.47 314 *i*P **P 05 55 25.9 +0.2**
BR131 Keskin Array S 81.89 312 *e*P **P 05 55 27.4 -0.6**
comp=E,7.7nm,0.5s,mb4.9
BRTR Keskin Array B 81.89 312 P **P 05 55 27.6 -0.3**
comp=E,8.3nm,0.5s,mb4.9,baz=147,slow=7.0,SNR=39
ELDT Eldivan 82.27 312 *i*P **P 05 55 30.2 +0.2**
ANTO Ankara 82.56 312 *e*P **P 05 55 31.3 -0.2**
ANTO pmax pmax
comp=Z,31nm,1.2s,mb5.2
ANTO Ankara 82.56 312 *e*P **P 05 55 31.3 -0.1**
comp=Z,31nm,1.2s,mb5.2
QSPA South Pole Qui 82.64 180 *e*P **P 05 55 29.8 -2.1**
comp=Z,6.7nm,0.5s,mb4.9
SUR Sutherland 82.71 238 *e*P **P 05 55 33.1 +0.8**
comp=Z,53nm,1.4s,mb5.4
SIM Simferopol' 83.08 317 *e*P **P 05 55 35.1 +0.9**
SIM pmax pmax
comp=Z,24nm,0.9s,mb5.2
TKTP Tekketepe 83.95 309 *i*P **P 05 55 38.1 -0.5**
MOS Moscow 84.56 328 *e*P **P 05 55 38.5 -3.2**
MOS *e* 05 55 54.6
MOS pmax pmax
comp=Z,93nm,0.8s,mb6.0
OBN Obninsk 84.90 327⇓ *e*P **P 05 55 43.3 -0.1**
OBN *e* 05 59 00.8
OBN *e*S 06 06 00.1
OBN pmax pmax
comp=Z,93nm,1.0s,mb5.9
OBN MLR MLR
comp=Z,100nm,23.0s,MS4.1
OBN Obninsk 84.90 327 *e*P **P 05 55 41.9 -1.6**
comp=Z,61nm,0.6s,mb5.9
ULDT Uludag 85.35 311 *i*P **P 05 55 45.5 -0.2**
KLMR Klimovskoe 85.59 333*c* *i*P **P 05 55 46.2 -0.7**
KLMR pmax pmax
comp=Z,130nm,1.5s,mb5.9
AYDN Tasoluk 85.74 309 *i*P **P 05 55 48.4 +0.7**
BILL Bilibino 85.90 19⇑ *e*P **P 05 55 47.1 -1.3**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
BILL MLR MLR
comp=Z,100nm,23.0s,MS4.2
BILL Bilibino 85.90 19 *e*P **P 05 55 46.6 -1.8**
comp=Z,3.9nm,0.6s,mb4.8
KDAG Bornova 86.37 309 *i*P **P 05 55 50.9 +0.1**
TSUM Tsumeb 86.86 251 *e*P **P 05 55 53.2 +0.1**
comp=Z,7.2nm,0.9s,mb4.9
TIRR Tirgusor 86.87 315 ⇑P **P 05 55 53.9 +0.7**
TIRR Tirgusor 86.87 315 ⇑P **P 05 55 53.9 +0.6**
CFR Carcaliu 87.23 316 ⇓P **P 05 55 55.4 +0.4**
CFR Carcaliu 87.23 316 ⇓P **P 05 55 55.4 +0.5**
PRD Provadia 87.31 314 P **P 05 56 01.0 +5.7**
SANT Santorini 87.37 307 *e*P **P 05 55 54.7 -0.9**
comp=Z,85nm,1.1s,mb5.9
AKASG Malin Array Be 87.83 322 P **P 05 55 56.6 -1.2**
comp=Z,9.9nm,0.5s,mb5.3,baz=89,slow=4.7,SNR=41
AKASG PP PP 05 59 20.2 -3.5
comp=Z,0.8nm,0.5s,baz=98,slow=6.5,SNR=5.8
AKASG PKiKP PKiKP 06 00 59.9 -0.7
comp=Z,0.4nm,0.4s,baz=88,slow=1.8,SNR=4.2
AKASG Malin Array Be 87.83 322 P **P 05 55 56.6 -1.2**
AKASG 05 59 20.2
AKASG Malin Array Be 87.83 322 P **P 05 55 56.6 -1.2**
AKASG PP PP 05 59 20.2 -3.5
VRI Vrincioaia 88.35 316 ⇓P **P 05 56 01.2 +0.9**
VRI Vrincioaia 88.35 316 ⇓P **P 05 56 01.2 +0.9**
SZH Strazhica 88.37 314 P **P 05 56 02.0 +1.6**
DIM Dimitrovgrad 88.42 313 P **P 05 56 01.0 +0.4**
MLR Muntele Rosu 88.81 316 ⇓P **P 05 56 03.3 +0.8**
MLR Muntele Rosu 88.81 316 ⇓P **P 05 56 03.3 +0.8**
RZN Rozhen 88.95 312 P **P 05 56 03.0 -0.1**
SNAA Sanae 89.12 197 P **P 05 56 04.0 0.0**
comp=Z,3.0nm,0.8s,mb4.7,baz=131,slow=6.6,SNR=8.6
SNAA Sanae 89.12 197 *e*P **P 05 56 04.3 +0.3**
SNAA *e* 05 56 05.5
SNAA *e* 05 56 21.1
VOIR 89.41 316 ⇑P **P 05 56 05.3 0.0**
VOIR 89.41 316 ⇑P **P 05 56 05.3 0.0**
PGB Panagyurishte 89.50 313 P **P 05 56 06.0 +0.3**
BURAR Bucovina Array 89.72 318 ⇓P **P 05 56 07.6 +0.9**
BURAR Bucovina Array 89.72 318 ⇓P **P 05 56 07.6 +0.9**
JOF Joensuu 89.95 334 *e*p **P 05 56 03.2 -4.6**
comp=Z,20nm,0.7s,mb5.6
LVZ Lovozero 90.14 339 *i*P **P 05 56 07.3 -1.4**
KKB Krupnik 90.18 312 P **P 05 56 09.0 +0.1**
VTS Vitosha 90.21 313 P **P 05 56 12.0 +3.0**
VNA2 Neumayer--Watz 90.77 197 *e*P **P 05 56 12.7 +1.1**
baz=109,slow=2.8
VNA2 *e* 05 56 13.3
VNA2 *e* 05 56 16.0
VNA2 *e* pP 05 56 17.8 -0.7
VNA2 *e* 05 56 30.6
LVV L'vov 90.90 320 *e*P **P 05 56 08.0 -4.2**
BZS Buzias 91.82 316 ⇓P **P 05 56 16.5 0.0**
BZS Buzias 91.82 316 ⇓P **P 05 56 16.5 0.0**
FINES FINESS Array B 91.97 332 P **P 05 56 16.5 -0.7**
comp=Z,8.8nm,0.6s,mb5.2,baz=104,slow=4.3,SNR=36
FINES PKiKP PKiKP 06 01 07.0 -0.6
comp=Z,1.0nm,0.5s,baz=94,slow=4.2,SNR=4.8
FINES LR LR 06 41 37.1
comp=Z,107nm,20.9s,MS4.3,baz=328,slow=38
KAF Kangasniemi 92.00 332 *e*p **P 05 56 12.0 -5.4**
comp=Z,10nm,0.9s,mb5.2,baz=94,slow=4.1
KAF Kangasniemi 92.00 332 *e*P **P 05 56 12.0 -5.4**
KAF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
SUW Suwalki 92.14 324 *e*P **P 05 56 18.3 +0.3**
SUW pmax pmax
comp=Z,32nm,0.5s,mb5.9
SUW Suwalki 92.14 324 *e*P **P 05 56 18.3 +0.3**
comp=Z,32nm,0.5s,mb5.9
STHS Stebnicka Huta 92.62 319 *e*P **P 05 56 22.4 +2.2**
KECS Kecovo 92.99 318 *e*P **P 05 56 21.7 -0.2**
ARCES ARCESS Array B 93.79 340 P **P 05 56 24.4 -1.2**
comp=Z,7.8nm,0.9s,mb5.2,baz=92,slow=6.4,SNR=13
ARCES LR LR 06 42 08.3
comp=Z,159nm,18.1s,MS4.5,baz=107,slow=38
ARCES ARCESS Array B 93.79 340 P **P 05 56 24.4 -1.2**
ARCES LR LR 06 42 08.3
UNV Unalaska Valle 93.95 36 *e*P **P 05 56 25.6 -0.7**
comp=Z,66nm,0.6s,mb6.2
MORC Moravsky Berou 95.06 319 *e*P **P 05 56 31.2 -0.2**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
MORC Moravsky Berou 95.06 319 *e*P **P 05 56 31.2 -0.2**
comp=Z,8.8nm,0.8s,mb4.7
GERES GERESS Array B 97.50 318 P **P 05 56 44.0 +1.5**
comp=Z,0.5nm,0.5s,mb4.3,baz=106,slow=4.9,SNR=6.8
GERES PP PP 06 00 39.3 -0.4
comp=Z,1.5nm,0.8s,baz=88,slow=6.8,SNR=6.3
GERES LR LR 06 42 09.8
comp=Z,76nm,20.4s,MS4.2,baz=278,slow=36
GERES GERESS Array B 97.50 318 P **P 05 56 44.0 +1.5**
GERES 06 00 39.3
NB2 NORSAR Subarra 99.08 331 P **P 05 56 50.1 +0.5**
comp=Z,2.3nm,0.8s,mb4.8,baz=87,slow=4.4
NB2 NORSAR Subarra 99.08 331 P **P 05 56 50.1 +0.5**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.7
NOA NORSAR Array B 99.08 331 P **P 05 56 50.4 +0.8**
comp=Z,1.6nm,0.8s,mb4.6,baz=89,slow=4.4,SNR=5.8
NOA PP PP 06 00 52.3 +0.4
comp=Z,1.5nm,0.8s,baz=96,slow=7.6,SNR=3.3
NOA LR LR 06 46 18.7
comp=Z,82nm,19.8s,MS4.2,baz=325,slow=38
NOA NORSAR Array B 99.08 331 P **P 05 56 50.4 +0.8**
NOA 06 00 52.3
TBI Tubuai 99.60 115 *e*LR LR 06 29 24.7
comp=Z,169nm,23.0s
PPT Papeete 100.67 109 *e*LR LR 06 29 53.6
comp=Z,125nm,24.5s
LPG La Plagne 102.23 315 *e*PP PP 06 01 13.3 -2.4
comp=Z,12nm,0.9s
MBDF Montbardon 102.24 314 *e*PP PP 06 01 14.0 -1.7
comp=Z,19nm,1.1s
LPL La Plagne 102.24 315 *e*PP PP 06 01 13.2 -2.6
comp=Z,8.1nm,0.8s
MCK McKinley 102.87 26 *e*P Pdif 05 57 06.1 -0.4
ILAR Eielson Array 103.56 25 Pdiff Pdif 05 57 08.1 -1.5
comp=Z,0.3nm,0.7s,baz=290,slow=3.8,SNR=5.7
ILAR PKiKP PKiKP 06 01 26.6 -1.5
comp=Z,0.5nm,0.6s,baz=284,slow=3.5,SNR=8.1
ILAR PKKPbc PKKPbc 06 13 01.4 -0.6
comp=Z,0.4nm,0.8s,baz=126,slow=2.3,SNR=4.3
AVF Avril sur Loir 104.51 316 *e*PP PP 06 01 30.5 -2.2
comp=Z,40nm,1.4s
TORD Torodi Ar. Bea 106.27 282 PKiKP PKiKP 06 01 32.9 -0.1
comp=Z,1.3nm,0.7s,baz=83,slow=1.7,SNR=9.2
INK Inuvik 107.50 20 *e*PKP PKiKP 06 01 34.3 -1.0
RES Resolute Bay 111.56 6 *e*PKiKP PKiKP 06 01 41.9 -1.0
DBIC Dimbokro 112.20 274 PKiKP PKiKP 06 01 44.0 -0.2
comp=Z,4.0nm,0.9s,baz=333,slow=12,SNR=4.1
DBIC Dimbokro 112.20 274 *e*PKP PKiKP 06 01 44.2 +0.1
RKT Rikitea 112.50 119 *e*LR LR 06 35 23.4
comp=Z,173nm,35.8s
YKW3 Yellowknife Ar 117.22 20 *e*PKPdf PKPdf 06 01 52.7 -1.0
YKA Yellowknife Ar 117.27 20 PKP PKPdf 06 01 52.8 -1.0

comp=Z,1.9nm,0.4s,baz=315,slow=2.5,SNR=107
YKA PKKPbc PKKPbc 06 12 20.0 +2.6
comp=Z,0.2nm,0.5s,baz=121,slow=4.5,SNR=6.4
VDB Vedder Mountai 121.68 36 P PKPdf 06 02 02.5 +0.1
TBM Table Mountain 123.45 37 P PKPdf 06 02 06.7 +1.0
WTV Waterville 123.58 36 P PKPdf 06 02 06.5 +0.5
EBG Ellensburg 123.60 37 P PKPdf 06 02 07.1 +1.1
FRIS Frissel Point 123.88 41 P PKPdf 06 02 07.8 +1.2
EDM Edmonton 123.89 28 *e*PKIKP PKPdf 06 02 06.6 0.0
EPH Ephrata 123.96 36 P PKPdf 06 02 07.3 +0.6
HUMO Hull Mountain 123.99 43 *e*PKPdf PKPdf 06 02 07.7 +1.0
BKCOR Black Crater 124.11 40 P PKPdf 06 02 08.4 +1.5
HAWA Hanford 124.47 37 *e*PKPdf PKPdf 06 02 08.8 +1.1
WRD Warden 124.50 37 P PKPdf 06 02 08.8 +1.0
H2OWA Water 124.54 37 P PKPdf 06 02 09.2 +1.4
NEW Newport 124.90 34 *e*PKIKP PKPdf 06 02 08.2 -0.3
NSHM Saint Helena R 125.83 47 *e*PKPdf PKPdf 06 02 11.4 +1.2
FCC Fort Churchill 126.27 13 *e*PKIKP PKPdf 06 02 10.1 -1.0
OHCM Honcut 126.33 46 *e*PKPdf PKPdf 06 02 12.0 +0.8
WVOR Wild Horse Val 126.94 41 *e*PKIKP PKPdf 06 02 13.5 +1.1
FFC Flin Flon 127.45 21 *e*PKIKP PKPdf 06 02 12.9 -0.5
MSO Missoula 127.49 34 *e*PKPdf PKPdf 06 02 14.1 +0.6
CHMT Chamberlain Mo 127.83 34 *e*PKPdf PKPdf 06 02 14.2 +0.1
HRY Holter Researc 128.73 33 *e*PKPdf PKPdf 06 02 15.6 -0.2
NVAR Mina Array Bea 128.96 46 PKP PKPdf 06 02 17.7 +1.4
comp=Z,4.1nm,0.7s,baz=267,slow=1.7,SNR=30
NVAR SKPbc 06 05 33.6
comp=Z,1.7nm,0.7s,baz=268,slow=3.8,SNR=8.3
NVAR Mina Array Bea 128.96 46 PKP PKPdf 06 02 17.7 +1.4
NVAR SKPbc 06 05 33.6
EGMT Eagleton 129.00 31 *e*PKPdf PKPdf 06 02 16.5 +0.1
HLID Hailey 129.04 38 *e*PKPdf PKPdf 06 02 17.6 +1.2
DLMT Dillon 129.11 35 *e*PKPdf PKPdf 06 02 17.5 +1.0
DLMT *e*SKP 06 05 34.9
MCMT McKenzie Canyo 129.27 36 *e*PKPdf PKPdf 06 02 18.5 +1.7
BOZ Bozeman (W) 129.49 34 *e*PKIKP PKPdf 06 02 18.2 +0.9
ELK Elko 129.99 42 *e*PKPdf PKPdf 06 02 19.3 +1.1
ELK *e*SKP 06 05 37.7
QLMT Earthquake Lak 130.09 35 *e*PKPdf PKPdf 06 02 20.2 +1.8
YMR Madison River 130.45 35 *e*PKPdf PKPdf 06 02 21.1 +2.0
GCMT Greycliff 130.48 33 *e*PKPdf PKPdf 06 02 20.1 +1.0
YFT Old Faithful 130.65 35 *e*PKPdf PKPdf 06 02 20.1 +0.6
LKWY Lake 130.83 35 *e*PKIKP PKPdf 06 02 21.7 +1.9
HVU Hansel Valley 131.03 39 *e*PKIKP PKPdf 06 02 21.3 +1.1
LOHW Long Hollow 131.29 36 *e*PKPdf PKPdf 06 02 21.5 +0.8
SNOW Snow King Moun 131.29 36 *e*PKPdf PKPdf 06 02 22.1 +1.4
REDW Red Top Meadow 131.29 36 *e*PKPdf PKPdf 06 02 21.6 +0.9
BGU Big Grassy Mou 131.33 40 *e*PKPdf PKPdf 06 02 26.0 +5.2
LAO LASA Array 131.68 30 *e*PKPdf PKPdf 06 02 21.7 +0.3
LAO *e*SKP 06 05 44.2
HWUT Hardware Ranch 131.88 39 *e*PKPdf PKPdf 06 02 22.7 +0.9
PLCA Paso Flores 132.09 183 PKP PKPdf 06 02 22.6 +0.4
comp=Z,2.0nm,0.9s,baz=263,slow=4.8,SNR=5.3
PLCA SKPbc SKPbc 06 05 44.0 -3.3
comp=Z,3.1nm,1.1s,baz=316,slow=3.4,SNR=3.6
PLCA Paso Flores 132.09 183 *e*PKPdf PKPdf 06 02 22.7 +0.5
TCUT Toone Canyon 132.25 39 *e*PKPdf PKPdf 06 02 23.2 +0.7
SCHQ Scheefferville 132.38 355 PKP PKPdf 06 02 22.7 0.0
comp=Z,4.8nm,0.5s,baz=24,slow=2.0,SNR=29
SCHQ SKPbc SKPbc 06 05 45.8 -2.5
comp=Z,3.5nm,0.8s,baz=274,slow=3.5,SNR=7.0
BW06 Boulder Array 132.41 36 *e*PKPdf PKPdf 06 02 23.5 +0.7
PDAR Pinedale Array 132.41 36 PKP PKPdf 06 02 23.9 +1.2
comp=Z,2.7nm,0.5s,baz=13,slow=2.0,SNR=4.0
PDAR SKPbc SKPbc 06 05 46.0 -2.4
comp=Z,3.6nm,1.1s,baz=5.7,slow=1.5,SNR=9.7
NEN Nelson 132.66 47 *e*PKPdf PKPdf 06 02 24.6 +1.3
NEN *e*SKP 06 05 49.3
LDFC Landfair 132.72 48 *e*PKPdf PKPdf 06 02 24.7 +1.3
LDFC *e*SKP 06 05 48.8
DAU Daniels Canyon 132.74 40 *e*PKIKP PKPdf 06 02 24.9 +1.5
MSU Marysvale 133.16 43 *e*PKPdf PKPdf 06 02 25.8 +1.6
MSU *e*SKP 06 05 50.3
ULM Lac du Bonnet 133.25 20 PKP PKPdf 06 02 24.1 -0.2
comp=Z,8.0nm,0.8s,baz=304,slow=4.0,SNR=18
ULM SKPbc SKPbc 06 05 48.1 -3.1
comp=Z,8.3nm,1.1s,baz=317,slow=4.0,SNR=5.4
TMUT Trail Mountain 133.38 41 *e*PKPdf PKPdf 06 02 25.8 +1.2
TRQA Tornquist 133.62 192 *e*PKPdf PKPdf 06 02 25.5 +0.4
SRU San Rafael 133.93 41 *e*PKIKP PKPdf 06 02 26.7 +1.1
RSSD Black Hills 134.57 31 *e*PKPdf PKPdf 06 02 27.1 +0.3
RSSD *e*SKP 06 05 53.2
WUAZ Wupatki 135.22 46 *e*PKPdf PKPdf 06 02 29.2 +1.1
WUAZ *e*SKP 06 05 56.9
PV10 Paradox Valley 135.30 41 *e*PKPdf PKPdf 06 02 29.8 +1.5
PV10 *e*SKPbc SKPbc 06 05 57.7 -0.3
PV10 *e*SKPdf SKPdf 06 06 01.9 -0.2
PV01 Paradox Valley 135.74 41 *e*PKPdf PKPdf 06 02 30.3 +1.3
PV01 *e*SKP 06 05 58.0
SMCO Snowmass 136.14 39 *e*PKPdf PKPdf 06 02 31.5 +1.7
SMCO *e*SKPbc SKPbc 06 05 59.9 -0.7
EYMN Ely 136.67 18 *e*PKPdf PKPdf 06 02 31.3 +0.5
TUC Tucson 137.18 49 *e*PKIKP PKPdf 06 02 25.7 -6.0
TUC *e* 06 02 30.5
ANMO Albuquerque 138.94 43 *e*PKPdf PKPdf 06 02 36.0 +1.1
ANMO *e*SKPdf SKPdf 06 06 07.8 -0.8
MNTX Cornudas Mount 141.47 47 *e*PKPpre 06 02 36.0
MNTX *e*SKP 06 06 14.3
GDL2 Guadalupe Moun 141.92 45 *e*PKPdf PKPdf 06 02 40.8 +0.3
LONY Lake Ozonia 142.86 2 *e*PKPdf PKPdf 06 02 37.7 -4.3
CPUP Villa Florida 143.13 204 PKhKP 06 02 38.9
comp=Z,3.2nm,0.6s,baz=79,slow=3.4,SNR=6.7
CPUP PKP PKPdf 06 02 43.1 +0.7
comp=Z,3.2nm,0.6s,baz=90,slow=2.0,SNR=9.2
CPUP SKPbc SKPbc 06 06 15.9 -3.7
comp=Z,1.9nm,0.8s,baz=132,slow=3.5,SNR=3.7
CPUP Villa Florida 143.13 204 *e*PKHKP 06 02 39.2
CPUP 06 02 43.2
CPUP Villa Florida 143.13 204 *e*PKPpre 06 02 39.2
CPUP *e*PKPdf PKPdf 06 02 42.2 -0.2
CPUP PKP PKPdf 06 02 43.1 +0.7
CPUP SKPbc SKPbc 06 06 15.9 -3.6
MIV Mineville/With 143.42 0 *e*PKPpre 06 02 38.8
MIV *e*PKPdf PKPdf 06 02 43.2 +0.2
NCB Newcomb 143.52 1 *e*PKPpre 06 02 40.0
NCB *e*PKPdf PKPdf 06 02 43.9 +0.7
LTX Lajitas 143.97 49 *e*PKIKP PKPdf 06 02 43.6 -0.4
WMOK Wichita Mounta 144.01 37 *e*PKIKP PKPdf 06 02 42.3 -1.7
WMOK *e* 06 02 47.7
ACCN Adirondack Com 144.11 1 *e*PKPdf PKPdf 06 02 41.7 -2.5
ERPA Erie 144.87 9 *e*PKPdf PKPdf 06 02 44.2 -1.3
QUA2 Belchertown 145.21 359 *e*PKPdf PKPdf 06 02 45.6 -0.5
BINY Binghamton 145.21 4 *e*PKPbc PKPbc 06 02 45.5 -0.3
SLM Saint Louis 145.28 24 *e*PKIKP PKPdf 06 02 45.4 -0.8
CCM Cathedral Cave 145.35 25 *e*PKIKP PKPdf 06 02 46.1 -0.3
FVM French Village 145.76 25 *e*PKP2 PKPab 06 02 47.7 -0.2
JCT Junction City 146.10 44 *e*PKP2 PKPab 06 02 48.8 -0.4
ACSO Alum Creek Sta 146.12 13 *e*PKPbc PKPbc 06 02 47.9 -0.7
BLO Bloomington 146.13 19 *e*PKP2 PKPab 06 02 48.3 -1.0
BDFB Brasilia 146.15 227 PKPbc PKPbc 06 02 49.0 +0.3
comp=Z,17nm,0.8s,baz=66,slow=2.5,SNR=25
PAL Palisades 146.49 1 *e*PKP2 PKPab 06 02 49.5 -1.1
WCI Wyandotte Cave 147.07 19 *e*PKIKP PKPdf 06 02 49.5 +0.2
WCI *e* 06 02 51.7
MIAR Mount Ida 147.08 32 *e*PKIKP PKPdf 06 02 49.8 +0.5
MIAR *e* 06 02 52.1
MCWV Mont Chateau 147.29 9 *e*PKPbc PKPbc 06 02 52.2 +0.2
UALR University of 147.53 30 *e*PKPdf PKPdf 06 02 49.8 -0.2
UALR *e*PKPab PKPab 06 02 53.0 -1.7
GNAR Gosnell 147.64 26 *e*PKPbc PKPbc 06 02 53.1 +0.1
UTMT University of 147.80 24 *e*PKPbc PKPbc 06 02 53.7 +0.3
WVT Waverly 148.40 23 *e*PKIKP PKPdf 06 02 51.4 -0.1
WVT *e* 06 02 55.2
NATX Nacogdoches 148.55 37 *e*PKPbc PKPbc 06 02 56.2 +0.9
CBN Corbin 149.06 6 *e*PKPbc PKPbc 06 02 56.7 +0.1
HKT Hockley 149.08 40 *e*PKIKP PKPdf 06 02 52.6 0.0
HKT *e* 06 02 58.5
OXF Oxford 149.13 27 *e*PKP2 PKPbc 06 02 56.9 +0.1
FWV Forest Hill 149.13 12 *e*PKPbc PKPbc 06 02 56.4 -0.4
PLAL Pickwick Lake 149.30 24 *e*PKPdf PKPdf 06 02 52.5 -0.5
PLAL *e*PKPbc PKPbc 06 02 57.0 -0.2
PLAL *e*PKPab PKPab 06 03 02.0 +0.1
TZTN Tazewell 149.46 16 *e*PKPdf PKPdf 06 02 53.7 +0.5
TZTN *e*PKPbc PKPbc 06 02 57.9 +0.2
TZTN *e*PKPab PKPab 06 03 02.9 +0.4
ELN Prospectdale 149.48 12 *e*PKPbc PKPbc 06 02 57.0 -0.8
BLA Blacksburg 149.57 11 *e*PKP2 PKPbc 06 02 57.7 -0.2
SWET Sewanee 149.91 21 *e*PKPbc PKPbc 06 02 58.4 -0.4
SWET *e*PKPab PKPab 06 03 04.3 -0.1
CPCT Cooper Cave 150.18 19 *e*PKPdf PKPdf 06 02 55.0 +0.7
CPCT *e*PKPbc PKPbc 06 02 60.0 +0.6
CPCT *e*PKPab PKPab 06 03 05.4 0.0
LRAL Lakeview Retre 151.43 25 *e*PKPdf PKPdf 06 02 56.7 +0.5
LRAL *e*PKPbc PKPbc 06 03 02.5 +0.2
JSC Jenkinsville 152.20 14 *e*PKIKP PKPdf 06 02 58.3 +0.9
JSC *e* 06 03 04.5
COW Cow Castle Cre 153.19 14 *e*PKPdf PKPdf 06 03 00.0 +1.1
COW *e*PKPbc PKPbc 06 03 07.0 +0.7
COW *e*PKPab PKPab 06 03 18.4 +0.4
SIV San Ignacio 153.87 207 PKP PKPdf 06 03 01.0 +1.1
comp=Z,4.3nm,0.8s,baz=119,slow=2.4,SNR=22
SIV PKPbc PKPbc 06 03 08.6 +0.8
comp=Z,14nm,0.8s,baz=133,slow=2.5,SNR=49
SIV PKPab PKPab 06 03 20.3 -0.6
comp=Z,9.7nm,0.9s,baz=244,slow=0.6,SNR=7.6
LPAZ La Paz 155.98 192 PKP PKPdf 06 03 04.6 +1.9
comp=Z,2.4nm,0.8s,baz=86,slow=2.2,SNR=6.9
LPAZ PKPab PKPab 06 03 30.2 +0.3
comp=Z,1.5nm,0.6s,baz=46,slow=7.3,SNR=3.6
LPAZ La Paz 155.98 192 *e*PKPdf PKPdf 06 03 04.6 +1.8
SAML Samuel 160.96 212 *e*PKPdf PKPdf 06 03 08.8 +0.1
OTAV Otavalo 171.22 143 *e*PKPdf PKPdf 06 03 17.7 +0.8
SDV Santo Domingo 177.01 301 PKP PKPdf 06 03 18.4 -0.5
comp=Z,2.9nm,0.8s,baz=275,slow=6.0,SNR=3.9
SDV PKPab PKPab 06 05 02.8 +0.3
comp=Z,8.5nm,0.8s,baz=17,slow=2.3,SNR=10

CSEM ***16*** *05:53:08.0±0.2,3780N×2025E,h2km,MD3.6,Error ellipse: s-maj=6.7km s-min=2.8km az=88.0*
ISCJB ***16*** *05:53:09.8±0.7,3786N±004×20.35E±006,h17km,Error ellipse: s-maj=7.5km s-min=5.0km az=114.9*
THE ***16*** *05:53:10.2,3776N×2039E,h14km,ML3.3*
ATH ***16*** *05:53:12.0,3805N×2051E,h17km,MD3.6/9*
NEIC ***16*** *05:53:12.0,3805N×2051E,h17km,MD3.6(ATH),After ATH.*
HLW ***16*** *05:53:13.1,3786N×2030E,h33km,Mb3.5*
SKO ***16*** *05:53:14.1,38.11N×2050E,h13km*
ISC 16 05:53:10.5±1.4,3794N±004×2042E±007,h3km±8km,n29, σ0=76/37,4C-2D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.27**	**30**	*e*PB	**Pg**	**05 53 16.6**	**+0.9**
VLS				*e*SB	**Sg**	**05 53 19.4**	**+0.1**
RLS	**Riolos of Patr**	**0.84**	**82**	*e*PN	**Pg**	**05 53 26.3**	**-0.3**
RLS				*e*SN	**Sg**	**05 53 37.0**	**-0.4**
ITM	**Ithomi**	**1.42**	**122**	*e*PN	**Pn**	**05 53 38.8**	**+1.6**
EVR	**Evrytania**	**1.46**	**48**	*e*PN	**Pn**	**05 53 37.2**	**-0.6**
IGT	**Igoumenitsa**	**1.59**	**358**	*e*Pb	**Pb**	**05 53 39.8**	**-0.7**
IGT				*e*Sb	**Sb**	**05 54 02.8**	**+1.8**
JAN	**Janina**	**1.75**	**11**	*e*PN	**Pn**	**05 53 42.1**	**+0.4**
KEK	**Kerkira**	**1.83**	**345**	*e*PN	**Pn**	**05 53 43.4**	**+0.5**
AGG	**Agios Georgios**	**1.85**	**54**	*e*Pb	**Pb**	**05 53 43.0**	**-1.9**
LKR	**Lokris**	**2.15**	**70**	*e*PN	**Pn**	**05 53 47.8**	**+0.5**
NEO	**Neokhori**	**2.59**	**57**	*e*PN	**Pn**	**05 53 53.5**	**+0.2**
XOR	**Xorichti**	**2.60**	**56**	*e*Pn	**Pn**	**05 53 53.5**	**+0.1**
XOR	**Xorichti**	**2.60**	**56**	*e*Pn	**Pn**	**05 53 53.5**	**+0.1**
MPAR	**Parnis Oros**	**2.63**	**84**	*e*PN	**Pn**	**05 53 54.0**	**+0.1**
MPAR				*e*SN	**Sn**	**05 54 26.5**	**+0.2**
LIT	**Litokhoron**	**2.69**	**36**	*e*Pn	**Pn**	**05 53 55.0**	**+0.2**
FNA	**Florina**	**2.93**	**14**	*e*Pn	**Pn**	**05 53 58.5**	**+0.5**
BIA	**Bitola**	**3.15**	**13**	*e*Pn	**Pn**	**05 54 00.3**	**-0.7**
OHR	**Ohrid**	**3.18**	**5**	*e*Pn	**Pn**	**05 54 02.1**	**+0.7**
OHR	**Ohrid**	**3.18**	**5**	*e*Pn	**Pn**	**05 54 01.9**	**+0.5**
PAIG	**Paliouri**	**3.23**	**51**	*e*Pn	**Pn**	**05 54 01.6**	**-0.4**
TIR	**Tirane**	**3.43**	**353**	*e*Pn	**Pn**	**05 54 05.7**	**+0.8**
OUR	**Ouranopolis**	**3.66**	**48**	*e*Pn	**Pn**	**05 54 07.9**	**-0.1**
VAY	**Valandovo**	**3.76**	**26**	*e*Pn	**Pn**	**05 54 08.6**	**-0.9**
VAY	**Valandovo**	**3.76**	**26**	*e*Pn	**Pn**	**05 54 08.5**	**-0.9**
STON	**Ston**	**5.34**	**338**	*i* Pn	**Pn**	**05 54 29.8**	**-1.4**
STON				*i* Sn	**Sn**	**05 55 27.5**	**-5.7**
SLUM		**7.55**	**147**	⇓P	**Pn**	**05 55 01.6**	**+0.2**
HMAT	**Matruh**	**8.77**	**139**	⇑P	**Pn**	**05 55 18.5**	**+0.3**
HMAT				S	**Sn**	**05 56 50.1**	**-7.6**
OBKA	**Obir**	**9.60**	**335**	⇓*i*Pn	**Pn**	**05 55 30.2**	**+0.5**
OBKA	comp=Z,3.2nm,0.8s			⇑*i*Sn	**Sn**	**05 57 16.8**	**-1.3**
SWA2		**9.64**	**153**	⇑*e*P	**Pn**	**05 55 29.7**	**-0.4**
SWA1		**9.71**	**151**	⇑*e*P	**Pn**	**05 55 30.9**	**-0.3**
SWA1				S	**Sn**	**05 57 12.2**	**-8.5**

ISCJB ***16*** *05:55:50.2±2.3,437N±02×782E±0.3,h10km,Error ellipse: s-maj=38.4km s-min=20.0km az=116.0*
NNC ***16*** *05:55:50.8±5.9,44.14N×7725E,h0km,mb3.1,mpv3.8, Error ellipse: s-maj=74.7km s-min=26.2km az=84.0*
ISC 16 05:55:51.8±1.9,436N±02×781E±02,h10km,n12,σ0=98/13, 4C-1D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.94**	**245**	⇑P	**Pg**	**05 56 09.0**	**-0.8**
KNDC	5μm,0.3s			⇑S	**Sg**	**05 56 22.1**	**+0.2**
ULHL	**Ulahol**	**1.95**	**226**	P	**Pn**	**05 56 24.5**	**-0.4**
TKM2	11μm,0.7s SNR=16 **Tokmak 2**	**1.97**	**250**	P	**Pn**	**05 56 21.2**	**-4.0**
TKM2	SNR=18 **Tokmak 2**	**1.97**	**250**	⇓P	**Pn**	**05 56 21.3**	**-4.0**
KBK	3.1nm,0.2s **Karagaybulak**	**2.52**	**249**	P	**Pn**	**05 56 31.3**	**-1.4**
KZA	SNR=19 **Kyzart**	**2.62**	**235**	P	**Pn**	**05 56 34.5**	**+0.4**
USP	SNR=9.2 **Ospenovka**	**2.66**	**264**	P	**Pn**	**05 56 34.2**	**-0.5**
AAK	SNR=5.4 **Ala-Archa**	**2.83**	**251**	P	**Pn**	**05 56 36.7**	**-0.3**
UCH	SNR=8.7 **Uchtor**	**3.00**	**244**	P	**Pn**	**05 56 39.8**	**+0.5**
EKS2	SNR=12 **Erkin-Say**	**3.32**	**255**	P	**Pn**	**05 56 45.0**	**+1.2**
AML	SNR=11 **Almayashu**	**3.58**	**247**	P	**Pn**	**05 56 50.4**	**+3.1**
KK31	SNR=12 **Karatay Array**	**5.58**	**267**	⇑Pg	**Pn**	**05 57 22.7**	**+8.0**
KK31	0.4nm,0.4s,baz=85,slow=18,SNR=8.2 1.3nm,0.5s,baz=82,slow=29,SNR=4.6			⇑Lg		05 58 30.0	

MAN 16 06:51:00.6,1919N×12112E,h40km,mb2.8,ML4.3,MS4.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.99**	**209**	*e*P	Pn	06 51 18.0	0.0
SGCP	**Mt. Cagua**	**1.29**	**137**	*e*P	Pn	06 51 22.6	+0.4
SGCP				*e*S	Sn	06 51 39.3	+1.1
APYP	**Conner**	**1.33**	**175**	*e*P	Pn	06 51 23.2	+0.6
CVP	**Callao Caves**	**1.63**	**156**	*e*P	Pn	06 51 27.0	+0.2
CVP				*e*S	Sn	06 51 48.0	+1.5
CAUP	**Cauayan**	**2.34**	**163**	*e*P	Pn	06 51 38.7	+2.2
PALP	**Palanan**	**2.46**	**149**	*e*P	Pn	06 51 40.5	+2.3

KNET ***16*** *06:54:10.8±0.5,4303N×7491E,h11km±4km,ml1.9,Error ellipse: s-maj=2.7km s-min=1.9km az=177.0*
ISCJB ***16*** *06:54:11.2±0.7,4306N±004×7491E±004,h6km±5km, Error ellipse: s-maj=6.0km s-min=4.9km az=19.2*
NNC ***16*** *06:54:11.4±1.6,4281N×7495E,h2km±20km,mb3.0, mpv2.6,Error ellipse: s-maj=48.7km s-min=13.6km az=169.0*
ISC 16 06:54:11.7±0.7,4306N±003×7490E±004,h4km±9km,n12, σ0=73/22,17C-6D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.12**	**242**	⇑P	**Pg**	**06 54 14.0**	**-0.2**
CHMS	194nm,0.2s,SNR=285			⇓S	**Sg**	**06 54 15.9**	**+0.1**
USP	487nm,0.3s **Ospenovka**	**0.36**	**306**	P	**Pg**	**06 54 18.8**	**+0.2**
USP	72nm,0.2s,SNR=154			⇑S	**Sg**	**06 54 24.0**	**+0.7**
KBK	152nm,0.2s **Karagaybulak**	**0.40**	**174**	⇑P	**Pg**	**06 54 19.5**	**0.0**
KBK	144nm,0.2s,SNR=124			⇓S	**Sg**	**06 54 25.6**	**+1.0**
AAK	224nm,0.2s **Ala-Archa** 26nm,0.2s,SNR=53	**0.52**	**215**	⇑P	**Pg**	**06 54 21.4**	**-0.2**
AAK	64nm,0.2s			⇑S	**Sg**	**06 54 28.6**	**+0.3**
TKM2	**Tokmak 2** 16nm,0.1s,SNR=66	**0.53**	**104**	⇑P	**Pg**	**06 54 21.3**	**-0.6**
TKM2				⇑S	**Sg**	**06 54 28.5**	**-0.3**
TKM2	46nm,0.1s **Tokmak 2** 11nm,0.6s	**0.53**	**104**	⇓P	**Pg**	**06 54 21.3**	**-0.7**
TKM2				⇑S	**Sg**	**06 54 28.3**	**-0.5**
UCH	12nm,0.3s **Uchtor** 6.8nm,0.2s,SNR=8.8	**0.87**	**199**	⇑P	**Pg**	**06 54 27.9**	**-0.6**
UCH				⇓S	**Sg**	**06 54 39.6**	**-0.2**
EKS2	7.9nm,0.2s **Erkin-Say** 11nm,0.2s,SNR=46	**0.91**	**245**	⇑P	**Pg**	**06 54 29.0**	**-0.2**
EKS2				⇑S	**Sg**	**06 54 41.9**	**+0.8**
KZA	12nm,0.2s **Kyzart** 12nm,0.3s,SNR=26	**1.01**	**165**	⇑P	**Pg**	**06 54 30.6**	**-0.5**
KZA				⇓S	**Sg**	**06 54 45.0**	**+0.8**
AML	28nm,0.4s **Almayashu** 8.3nm,0.2s,SNR=33	**1.28**	**224**	⇑P	**Pn**	**06 54 35.5**	**-0.9**
AML				⇑S	**Sg**	**06 54 52.6**	**-0.2**
KK31	18nm,0.2s **Karatay Array** 0.5nm,0.3s,baz=92,slow=15,SNR=25	**3.21**	**272**	⇓Pg	**Pg**	**06 55 11.6**	**-1.6**
KK31				⇑Lg		06 55 53.4	
MK31	1.3nm,0.3s,baz=92,slow=30,SNR=7.5 **Makanchi Array** 0.3nm,0.3s,baz=230,slow=14,SNR=18	**6.44**	**52**	⇑Pn	**Pn**	**06 55 49.1**	**+1.7**
MK31	0.6nm,0.6s,baz=228,slow=31			⇑Lg		06 57 39.3	

CSEM ***16*** *06:57:10.6±0.1,3673N×725W,h20km,ML3.2/13,Error ellipse: s-maj=3.4km s-min=1.5km az=20.0*
INMG ***16*** *06:57:11.3±1.1,3669N×722W,h15km±3km,ML2.6,Error ellipse: s-maj=4.1km s-min=2.1km az=39.0*
SFS ***16*** *06:57:12.0,3683N×708W,h11km,ML2.5*
IGIL ***16*** *06:57:12.3,3680N×720W,h20km,ML2.7*
NEIC ***16*** *06:57:13.1,3682N×702W,h11km,ML2.6(LIS), ML2.6(CSEM),MN2.8(MDD),After MDD.*
MDD 16 06:57:12.3±0.7,3676N×717W,h24km±2km,mbLg2.7/13, 1C-5D,Error ellipse: s-maj=6.3km s-min=3.4km az=33.0, PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras** 303nm,0.1s,SNR=18	**0.62**	**354**	⇓Pg	Pb	06 57 24.4	0.0
ERIP				Lg		06 57 32.7	
EGRO	547nm,0.2s,SNR=18 **El Granado** 21nm,0.1s,SNR=18	**0.81**	**342**	⇓Pg	Pb	06 57 27.1	-0.6
EGRO				Lg		06 57 37.7	
EGRO	117nm,0.1s,SNR=69 **El Granado** 21nm,0.1s,SNR=18	**0.81**	**342**	Pg	Pb	06 57 27.1	-0.7
EGRO	**El Granado**	**0.81**	**342**	Pg	Pb	06 57 27.1	-0.6
EGRO				Lg		06 57 37.8	
GIBL	**Gibalbin**	**0.97**	**85**	S	Sb	06 57 43.7	+1.0
GIBL	**Gibalbin**	**0.97**	**85**	*e*P	Pn	06 57 33.4	+3.1
GIBL				*e*S	Sb	06 57 43.7	+1.0
ESPR	**Espera** 3.3nm,0.1s,SNR=37	**1.06**	**84**	⇓Pg	Pn	06 57 30.8	-0.8
ESPR				Sn	Sn	06 57 43.0	-2.6
ESPR	7.9nm,0.1s,SNR=4.0 **Espera**	**1.06**	**84**	Pg	Pn	06 57 30.9	-0.7
ESPR				Sn	Sn	06 57 43.0	-2.6
ESPR	7.9nm,0.1s,SNR=4.0 **Espera**	**1.06**	**84**	Pg	Pn	06 57 30.9	-0.7
ESPR				Lg		06 57 44.0	
EMIN	**Mina Concepcio** 0.1nm,0.0s,SNR=18	**1.08**	**21**	⇓Pg	Pn	06 57 30.5	-1.4
EMIN				Sn	Sn	06 57 43.6	-2.5
EMIN	17nm,0.1s,SNR=5.0			Lg		06 57 45.3	
EMIN	**Mina Concepcio** 103nm,0.1s,SNR=21	**1.08**	**21**	Pg	Pn	06 57 30.9	-1.0
EMIN				Sn	Sn	06 57 43.6	-2.5
EMIN	17nm,0.1s,SNR=5.0 **Mina Concepcio**	**1.08**	**21**	Pg	Pn	06 57 30.9	-1.0
EMIN				Lg		06 57 43.7	
MORF	**Marmelete**	**1.30**	**295**	*e*P	Pn	06 57 33.4	-1.6
MORF				*e*S	Sn	06 57 48.6	-3.0
MORF				*e*S	Sn	06 57 48.6	-3.0
MORF				AML	AML	06 57 50.6	
MORF	comp=E,105nm,0.2s **Marmelete**	**1.30**	**295**	P	Pn	06 57 33.4	-1.6
MORF				S	Sn	06 57 48.6	-3.0
MORF	**Marmelete**	**1.30**	**295**	*e*P	Pn	06 57 33.4	-1.6
MORF				*e*S	Sn	06 57 48.6	-3.0
PBEJ	**Beja**	**1.38**	**337**	*e*P	Pn	06 57 34.9	-1.1
PBEJ				*e*S	Sn	06 57 53.7	+0.2
PBEJ	comp=E,40nm,0.2s						
PBEJ	**Beja**	**1.38**	**337**	*e*P	Pn	06 57 34.9	-1.1
PBEJ				*e*S	Sn	06 57 53.7	+0.2
PBEJ	comp=E,40nm,0.2s **Beja**	**1.38**	**337**	*e*P	Pn	06 57 34.8	-1.2
EJIF	**Jimena Fronter** comp=E,1.8nm,0.2s,SNR=7.9	**1.40**	**102**	Pg	Pn	06 57 36.6	+0.3
EJIF				Lg		06 57 55.4	
EJIF	comp=E,3.7nm,0.2s,SNR=7.9 **Jimena Fronter**	**1.40**	**102**	Pg	Pn	06 57 36.7	+0.4
EJIF	**Jimena Fronter**	**1.40**	**102**	Pg	Pn	06 57 36.7	+0.4
EJIF				Lg		06 57 55.9	
LIJA	**Lijar**	**1.42**	**84**	*e*S	Sn	06 57 56.9	+2.3
PTEO	**Sao Teotonio**	**1.47**	**303**	*e*P	Pn	06 57 36.2	-1.0
PTEO				*e*S	Sn	06 57 53.9	-1.8
PTEO	comp=E,42nm,0.3s						
PTEO	**Sao Teotonio**	**1.47**	**303**	*e*P	Pn	06 57 36.2	-1.0
PTEO				*e*S	Sn	06 57 53.9	-1.8
ECAB	comp=E,42nm,0.3s **El Cabril** comp=E,0.1nm,0.1s,SNR=9.9	**1.92**	**46**	Pn	Pn	06 57 41.9	-1.4
ECAB	SNR=7.9			Pg	Pn	06 57 43.1	-0.3
ECAB				Sn	Sn	06 58 03.1	-3.6
ECAB	comp=E,8.2nm,0.1s,SNR=9.0			Lg		06 58 09.5	
ECAB	comp=E,11nm,0.2s,SNR=8.5 **El Cabril**	**1.92**	**46**	Pn	Pn	06 57 41.9	-1.5
ECAB	comp=E,0.1nm,0.1s,SNR=9.9			Sn	Sn	06 58 04.9	-1.8
ECAB	**El Cabril**	**1.92**	**46**	Pn	Pn	06 57 43.9	+0.6
ECAB				Sn	Sn	06 58 04.9	-1.8
ECAB				Lg		06 58 09.9	
EMIJ	**Mijas** comp=E,0.3nm,0.

comp=E,5.3nm,0.2s,SNR=4.0
ELUQ Sn Sn 06 58 18.5 -1.5
comp=E,6.2nm,0.2s,SNR=4.7
EADA Adamuz 2.50 55 Pn Pn 06 57 51.6 +0.2
comp=E,1.0nm,0.1s,SNR=7.9
EADA Pg Pn 06 57 56.0 +4.6
comp=E,3.9nm,0.3s,SNR=4.0
EADA Sn Sn 06 58 17.6 -3.4
comp=E,10nm,0.1s,SNR=5.7
EADA Lg 06 58 27.6
comp=E,14nm,0.2s,SNR=6.2
EADA Adamuz 2.50 55 Pn Pn 06 57 51.6 +0.2
comp=E,1.0nm,0.1s,SNR=7.9
EADA Adamuz 2.50 55 Pg Pn 06 57 56.7 +5.3
comp=E,3.9nm,0.3s,SNR=4.0
EADA Sn Sn 06 58 19.2 -1.8
EADA Adamuz 2.50 55 Pn Pn 06 57 51.9 +0.5
EADA Sn Sn 06 58 19.2 -1.8
EADA Lg 06 58 27.6
PLOU Loures 2.64 324 *e*P Pn 06 57 52.7 -0.6
PLOU Loures 2.64 324 *e*P Pn 06 57 52.7 -0.6
ERON Agron 2.71 84 Sn Sn 06 58 24.0 -2.3
comp=E,4.5nm,0.2s,SNR=7.9
PTOM Tomar 3.02 341 *e*Pn Pn 06 57 57.3 -1.2
PTOM *e*Sn Sn 06 58 30.9 -3.0
PTOM
comp=E,33nm,0.4s
PTOM Tomar 3.02 341 *e*Pn Pn 06 57 57.3 -1.2
PTOM *e*Sn Sn 06 58 30.9 -3.0
comp=E,33nm,0.4s
PTOM Tomar 3.02 341 *e*P Pn 06 57 57.3 -1.2
EQUE Quentar 3.02 80 Sn Sn 06 58 32.3 -1.7
comp=E,4.4nm,0.2s,SNR=5.0
EBAN Banos Encina 3.04 61 ⇑Pn Pn 06 57 57.8 -0.9
comp=E,2.7nm,0.1s,SNR=18
EBAN Sn Sn 06 58 29.5 -4.8
comp=E,3.3nm,0.2s,SNR=6.4
PCBR Castelo Branco 3.08 356 *e*Pn Pn 06 57 58.4 -1.1
PCBR *e*Sn Sn 06 58 32.8 -2.8
PCBR *e*Sg Sn 06 58 48.8 +13
PCBR
comp=E,14nm,0.4s
PCBR Castelo Branco 3.08 356 *e*Pn Pn 06 57 58.4 -1.1
PCBR *e*Sn Sn 06 58 32.8 -2.8
PCBR *e*Sg Sn 06 58 48.8 +13
comp=E,14nm,0.4s
PCBR Castelo Branco 3.08 356 *e*P Pn 06 57 58.4 -1.1
EQES Quesada 3.43 71 Sn Sn 06 58 41.6 -2.5
comp=E,4.1nm,0.1s,SNR=4.9
EQES Quesada 3.43 71 Sn Sn 06 58 41.6 -2.5
comp=E,4.1nm,0.1s,SNR=4.9
EBER Berja 3.44 86 Sn Sn 06 58 42.7 -1.5
comp=E,8.1nm,0.3s,SNR=7.9
EBER Berja 3.44 86 Sn Sn 06 58 42.7 -1.5
comp=E,8.1nm,0.3s,SNR=7.9
MTE Manteigas 3.65 355 *e*Pn Pn 06 58 06.1 -1.1
MTE *e*Sn Sn 06 58 45.8 -3.6
MTE *e*Sg Sn 06 59 05.5 +16
MTE
comp=E,34nm,0.6s
MTE Manteigas 3.65 355 *e*Pn Pn 06 58 06.1 -1.1
MTE *e*Sn Sn 06 58 45.8 -3.6
MTE *e*Sg Sn 06 59 05.5 +16
comp=E,34nm,0.6s
ESDC Sonseca Array 3.85 40 Pn Pn 06 58 09.3 -0.7
comp=E,1.3nm,0.1s,baz=223,slow=13,SNR=3.9
ESDC Sn Sn 06 58 49.0 -5.5
comp=E,2.0nm,0.2s,baz=221,slow=23,SNR=3.5
ESDC Lg 06 59 10.4
comp=E,2.3nm,0.3s,baz=224,slow=28,SNR=5.0
ESDC Sonseca Array 3.85 40 Pn Pn 06 58 09.3 -0.7
comp=E,1.3nm,0.1s,SNR=3.9
ESDC Sonseca Array 3.85 40 Pg Pn 06 58 20.9 +11
ESDC Sonseca Array 3.85 40 Pn Pn 06 58 09.4 -0.7
ESDC Pg Pn 06 58 20.9 +11
ESDC Sn Sn 06 58 49.5 -5.0
ESDC Lg 06 59 10.4
PVIS Viseu 3.99 352 *e*Sn Sn 06 58 55.7 -2.2
PVIS
comp=E,9.1nm,0.4s
PVIS Viseu 3.99 352 Sn Sn 06 58 55.7 -2.2
comp=E,4.6nm,0.4s
PVRL Vila Real 4.53 355 *e*Pn Pn 06 58 18.4 -0.9
PVRL *e*Sn Sn 06 59 07.5 -3.7
PVRL
comp=E,4.3nm,0.1s
GUD Guadarrama 4.54 30 Sn Sn 06 59 07.3 -4.1
comp=E,6.0nm,0.4s,SNR=7.9
ETOB Tobarra 4.84 65 Pn Pn 06 58 22.2 -1.4
comp=E,0.6nm,0.1s,SNR=10
ETOB Sn Sn 06 59 13.4 -5.4
comp=E,6.1nm,0.2s,SNR=17
ETOB Tobarra 4.84 65 Pn Pn 06 58 22.2 -1.4
comp=E,0.6nm,0.1s,SNR=10
ETOB Sn Sn 06 59 14.5 -4.3
ETOB Tobarra 4.84 65 Pn Pn 06 58 22.2 -1.4
ETOB Sn Sn 06 59 14.5 -4.4
PBRG Braganca 5.05 4 *e*Pn Pn 06 58 25.6 -0.9
PBRG *e*Sn Sn 06 59 20.2 -3.8
PBRG
comp=E,5.0nm,0.4s
PBRG Braganca 5.05 4 *e*P Pn 06 58 25.6 -0.9
ELOB Lobios 5.15 353 Pn Pn 06 58 26.6 -1.2
comp=E,0.6nm,0.1s,SNR=5.8
ELOB Sn Sn 06 59 22.9 -3.5
comp=E,0.6nm,0.2s,SNR=7.9
ELOB Lg 06 59 53.7
comp=E,5.7nm,0.3s,SNR=7.9
ELOB Lobios 5.15 353 Pn Pn 06 58 26.6 -1.2
comp=E,0.6nm,0.1s,SNR=5.8
ELOB Sn Sn 06 59 22.9 -3.5
comp=E,0.6nm,0.2s,SNR=7.9
ELOB Lobios 5.15 353 Pn Pn 06 58 26.6 -1.2
ELOB Sn Sn 06 59 22.5 -3.9
ELOB Lg 06 59 54.4
ECAL Calabor 5.19 4 Pn Pn 06 58 27.2 -1.2
comp=E,2.2nm,0.3s,SNR=7.5
ECAL Sn Sn 06 59 22.9 -4.5
comp=E,4.4nm,0.2s,SNR=7.9
ECAL Lg 06 59 53.7
comp=E,14nm,0.4s,SNR=4.0
ECAL Calabor 5.19 4 Pn Pn 06 58 27.2 -1.1
comp=E,2.2nm,0.3s,SNR=7.5
ECAL Sn Sn 06 59 24.8 -2.6
ECAL Calabor 5.19 4 Pn Pn 06 58 27.5 -0.8
ECAL Sn Sn 06 59 24.8 -2.6
ECAL Lg 06 59 53.9
ECHE Chera 5.64 58 Pn Pn 06 58 33.4 -1.2
comp=E,0.7nm,0.4s,SNR=4.0
EBEN Beniarda 5.84 68 Sn Sn 06 59 38.2 -5.2
comp=E,1.8nm,0.3s,SNR=7.9
EMOS Mosqueruela 6.36 54 Pn Pn 06 58 44.4 -0.1
comp=E,0.4nm,0.2s,SNR=7.9
EMOS Sn Sn 06 59 51.2 -5.1
comp=E,0.3nm,0.1s,SNR=7.9
EMOS Mosqueruela 6.36 54 Pn Pn 06 58 44.4 -0.1
EARI Arriondas 6.70 12 Pn Pn 06 58 49.5 +0.3
comp=E,0.2nm,0.2s,SNR=7.9
EARI Sn Sn 06 59 57.8 -7.0
comp=E,0.3nm,0.2s,SNR=7.9
EARI Lg 07 00 43.4
comp=E,0.5nm,0.3s,SNR=7.9

ISCJB ***16*** *07:10:41.6±1.6, 127N±0.1×1438E±02, h98km±17km, mb3.8/8, Error ellipse: s-maj=39.0km s-min=17.7km az=17.4*
IDC ***16*** *07:10:43.5±1.5, 1266N×14398E, h103km±16km, mb3.5/7, mb1 3.7/7, mb1mx3.6/20, mbtmp3.8/7, Error ellipse: s-maj=32.5km s-min=15.5km az=99.0*
NEIC ***16*** *07:10:43.3±1.4, 1266N×14396E, h101km±15km, mb4.6/1, Error ellipse: s-maj=31.6km s-min=13.7km az=97.0*
ISC 16 07:10:43.5±1.5, 127N±01×1439E±02, h100km±17km, n12, σ0§81/14, mb3.8/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.28**	**45**	P		**Pn**	**07 11 07.4**	**+0.3**
	51nm,0.3s,baz=294,slow=2.0,SNR=31						
GUMO				S		**Sn**	**07 11 25.0**	**0.0**
	309nm,0.3s,baz=18,slow=20,SNR=31						
GUMO	**Guam**	**1.28**	**45**	*e*Pn		**Pn**	**07 11 07.0**	**-0.2**
GUMO				*e*Sn		**Sn**	**07 11 24.9**	**-0.1**
WRAB	**Tennant Creek**	**33.75**	**196**	*e*P		**P**	**07 17 15.8**	**+0.4**
	14nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**33.76**	**196**	P		**P**	**07 17 16.0**	**+0.5**
	0.6nm,0.4s,mb3.8,baz=21,slow=9.5,SNR=7.5						
ASAR	**Alice Springs**	**37.42**	**195**	P		**P**	**07 17 47.5**	**+0.7**
	1.1nm,0.7s,mb3.9,baz=19,slow=12,SNR=16						
STKA	**Stephens Creek**	**44.35**	**183**	P		**P**	**07 18 41.5**	**-2.2**
	1.4nm,0.5s,mb4.0,baz=352,slow=9.3,SNR=5.1						
STKA	**Stephens Creek**	**44.35**	**183**	P		**P**	**07 18 41.5**	**-2.2**
SONM	**Songino Array**	**46.97**	**326**	P		**P**	**07 19 04.2**	**-0.1**
	0.2nm,0.5s,mb3.1,baz=138,slow=6.6,SNR=3.1						
MKAR	**Makanchi Array**	**61.53**	**317**	P		**P**	**07 20 49.8**	**-0.1**
	0.4nm,0.5s,mb3.8,baz=91,slow=8.0,SNR=6.9						
YKA	**Yellowknife Ar**	**84.08**	**27**	P		**P**	**07 23 02.4**	**-0.7**
	0.5nm,0.4s,mb3.7,baz=286,slow=5.1,SNR=18						
YKA	**Yellowknife Ar**	**84.08**	**27**	P		**P**	**07 23 02.4**	**-0.7**
NVAR	**Mina Array Bea**	**88.19**	**51**	P		**P**	**07 23 24.4**	**+1.1**
	0.8nm,0.7s,mb3.9,baz=261,slow=6.2,SNR=6.1						

IDC ***16*** *07:23:39.0±5.0, 563S×1509E, h65km±46km, mb3.5/6, mb1 3.8/7, mb1mx3.7/14, mbtmp3.8/7, ML2.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/18, Error ellipse: s-maj=102.5km s-min=26.9km az=136.0*
ISCJB ***16*** *07:23:39.9±3.7, 55S±05×1507E±05, h83km±34km, mb3.6/6, Error ellipse: s-maj=116.9km s-min=23.9km az=88.1*
ISC 16 07:23:40.6±3.3, 55S±05×1508E±05, h79km±31km, n10, σ0§97/9, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.30**	**223**	P		**Pn**	**07 24 57.3**	**+0.1**
	2.1nm,0.3s,baz=49,slow=6.2,SNR=5.1						
PMG				S		**Sn**	**07 25 57.0**	**+0.1**
	6.4nm,0.3s,baz=128,slow=14,SNR=7.7						
HNR	**Honiara**	**9.83**	**114**	LR		LR	07 29 22.0	
	comp=Z,64nm,20.4s,baz=184,slow=36						
WB2	**Warramunga Arr**	**21.50**	**227**	*e*P		**P**	**07 28 22.5**	**-0.4**
WRA	**Warramunga Arr**	**21.50**	**227**	P		**P**	**07 28 22.3**	**-0.7**
	0.6nm,0.5s,mb3.2,baz=56,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**24.31**	**220**	P		**P**	**07 28 50.0**	**-0.7**
	1.9nm,0.8s,mb3.5,baz=56,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**27.59**	**241**	P		**P**	**07 29 21.9**	**+1.6**
	1.3nm,0.5s,mb3.7,baz=56,slow=7.3,SNR=4.5						
ILAR	**Eielson Array**	**83.57**	**22**	P		**P**	**07 35 58.9**	**-1.2**
	1.3nm,0.6s,mb3.9,baz=249,slow=5.3,SNR=28						
NVAR	**Mina Array Bea**	**94.08**	**52**	P		**P**	**07 36 52.1**	**+1.9**
	0.3nm,0.6s,mb3.8,baz=266,slow=8.9,SNR=2.9						
YKA	**Yellowknife Ar**	**96.98**	**28**	P		**P**	**07 37 02.9**	**-0.4**
	0.2nm,0.6s,mb3.7,baz=272,slow=4.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.65**	**286**	PKPbc		PKPbc	07 43 20.6	+2.0
	2.0nm,0.6s,baz=68,slow=3.1,SNR=14						

ISCJB ***16*** *07:31:47.0±1.5, 7631N±008×230E±03, h4km±12km, Error ellipse: s-maj=14.2km s-min=7.8km az=64.0*
BER ***16*** *07:31:46.7±6.3, 7669N×2679E, h15km, MD1.6, ML2.5, ML2.0(NAO)*
CSEM ***16*** *07:31:50.9±0.8, 7629N×2259E, h5km, ML2.0, Error ellipse: s-maj=52.3km s-min=8.4km az=66.0*
NAO ***16*** *07:31:51.5±5.0, 7630N×2273E, h26km±29km, ML2.0*
ISC 16 07:31:48.4±1.4, 7630N±007×232E±03, h12km±12km, n5, σ1§03/12, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPEN	**Hopen**	**0.48**	**63**	⇑*i*P		**Pg**	**07 31 58.4**	**+0.6**
HOPEN				*e*Sg		**Sg**	**07 32 03.7**	**-0.4**
HOPEN				AML		AML	07 32 04.5	
	comp=N,357nm,0.2s						
HSP	**Hornsund**	**1.91**	**296**	*e*P		**Pn**	**07 32 22.3**	**+1.5**
HSP				*e*S		**Sn**	**07 32 50.8**	**+6.0**
SPA0	**Spitsbergen Ar**	**2.42**	**325**	Pn		**Pn**	**07 32 28.8**	**+1.0**
	baz=145,slow=18						
SPA0				Pg		**Pg**	**07 32 33.9**	**-1.0**
	baz=142,slow=18						
SPA0				Sn		**Sn**	**07 32 56.5**	**-0.8**
	baz=130,slow=18						
SPA0				Lg			07 33 05.8	
	baz=132,slow=28						
SPA0	**Spitsbergen Ar**	**2.42**	**325**	Pg		**Pg**	**07 32 33.9**	**-0.9**
	SNR=91						
SPA0				Sn		**Sn**	**07 32 56.5**	**-0.8**
SPA0				Sg		**Sg**	**07 33 05.8**	**-0.4**
	SNR=91						
ARA0	**ARCESS Array S**	**6.83**	**173**	Pn		**Pn**	**07 33 29.4**	**+1.0**
	baz=1.1,slow=10						
ARA0				Sn		**Sn**	**07 34 44.3**	**-1.8**
	baz=1.9,slow=22						

GUC 16 07:50:09.9±0.6, 3123S×6877W, h145km, MD3.5, ML3.2, 1C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.91**	**271**	⇓*i*P		Pn	07 50 44.1	+0.5
CMCH				*i* S		Sn	07 51 10.3	+0.8
CMCH				AMP			07 51 14.9	
	comp=N,632nm,0.5s						
FCH	**Farellones**	**2.46**	**211**	*e*P		Pn	07 50 51.9	+1.7
FCH				*e*S		Sn	07 51 23.4	+2.2
FCH				AMP			07 51 33.5	
	comp=E,39nm,0.4s						
ANTU	**Antumapu**	**2.82**	**213**	*i* S		Sn	07 51 30.0	+0.7
ANTU				AMP			07 51 31.8	
	comp=E,40nm,0.2s						
RCDM	**Rinconada Maip**	**2.84**	**217**	⇑*i*P		Pn	07 50 55.5	+0.6
RCDM				*i* S		Sn	07 51 30.2	+0.5
RCDM				AMP			07 51 34.8	
	comp=E,68nm,0.2s						

ISC 16 07:59:23.0±0.8, 3734N±008×3728E±008, h10km, n7, σ0§90/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.18**	**198**	*i* PG		**Pg**	**07 59 26.1**	**-0.8**
GZT	**Gaziantep**	**0.23**	**87**	*i* P		**Pg**	**07 59 26.1**	**-1.6**
GZT				*i* S		**Sg**	**07 59 31.3**	**+0.4**
ATAB	**Bozova**	**0.82**	**81**	*i* P		**Pg**	**07 59 38.9**	**0.0**
ATAB				*i* S		**Sg**	**07 59 53.1**	**+3.6**
COBT	**Iskenderun**	**1.16**	**225**	*i* P		**Pb**	**07 59 44.7**	**-0.5**
COBT				*i* S		**Sb**	**08 00 01.4**	**+1.1**
MALT	**Malatya**	**1.33**	**43**	PN		**Pn**	**07 59 48.0**	**+0.4**
MALT				SN		**Sn**	**08 00 04.8**	**-0.5**
MYA	**Malataya**	**1.34**	**42**	PN		**Pn**	**07 59 47.7**	**0.0**
ELZG	**Elazig**	**1.77**	**49**	*i* P		**Pn**	**07 59 54.4**	**+0.6**
ELZG				*i* S		**Sn**	**08 00 22.3**	**+5.9**

IDC ***16*** *08:00:32.5±3.8, 2146S×3293E, h0km, mb3.6/1, mb1 4.0/2, mb1mx3.5/22, mbtmp3.9/2, ML4.2/1, Error ellipse: s-maj=89.5km s-min=28.3km az=116.0*
NEIC ***16*** *08:00:33.8±1.7, 2138S×3306E, h10km, mb4.3/1, Error ellipse: s-maj=27.2km s-min=14.2km az=99.0*
PRE ***16*** *08:00:34.0±1.5, 2112S×3245E, h5km, ML4.8*
ISCJB ***16*** *08:00:36.3±1.4, 2137S±004×324E±0.1, h10km, mb3.7/1, Error ellipse: s-maj=16.3km s-min=6.4km az=177.5*
ISC 16 08:00:37.8±1.4, 2137S±005×326E±01, h10km, n14, σ1§11/22, mb3.7/1, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFT	**Belfast (SA)**	**4.88**	**208**	*e*P		**Pn**	**08 01 50.8**	**-0.4**
BFT				*e*S		**Sn**	**08 02 48.5**	**+0.7**
BFT				AML		AML	08 03 19.6	
	comp=Z,137nm,0.5s						
SLR	**Silverton**	**5.85**	**221**	*e*P		**Pn**	**08 02 04.6**	**-0.1**
SLR				*e*S		**Sn**	**08 03 08.9**	**-2.9**
SLR				AML		AML	08 03 57.2	
	comp=Z,89nm,0.4s						
KSR	**Koster**	**6.84**	**228**	*e*P		**Pn**	**08 02 18.2**	**0.0**
LSZ	**Lusaka**	**7.34**	**325**	*e*Pn		**Pn**	**08 02 25.8**	**+0.8**
	comp=Z,13nm,0.4s						
LSZ				*e*Sn		**Sn**	**08 03 47.0**	**-1.3**
LBTB	**Lobatse**	**7.36**	**239**	*e*Pn		**Pn**	**08 02 27.9**	**+2.6**
	comp=Z,16nm,0.3s						
LBTB				Sn		**Sn**	**08 03 54.7**	**+5.9**
BOSA	**Boshof**	**9.79**	**221**	Pn		**Pn**	**08 02 58.4**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=49,slow=13,SNR=38						
BOSA				Sn		**Sn**	**08 04 48.0**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=25,slow=17,SNR=2.4						
BOSA				Lg			08 05 48.6	
	comp=Z,2.4nm,0.3s,baz=139,slow=20,SNR=4.5						
BOSA	**Boshof**	**9.79**	**221**	Pn		**Pn**	**08 02 58.4**	**-0.2**
BOSA				Sn		**Sn**	**08 04 48.0**	**-0.5**
BOSA				Lg			08 05 48.6	
PKA	**Prieska**	**12.10**	**225**	*e*P		**Pn**	**08 03 29.1**	**-1.2**
TSUM	**Tsumeb**	**14.21**	**276**	*e*Pn		**Pn**	**08 04 00.9**	**+1.8**
	comp=Z,3.6nm,0.6s						
TSUM				Sn		**Sn**	**08 06 37.0**	**+0.3**
SUR	**Sutherland**	**15.15**	**221**	*e*P		**Pn**	**08 04 13.1**	**+1.3**
SUR				*e*S		**Sn**	**08 06 52.9**	**-6.8**
SUR	**Sutherland**	**15.15**	**221**	*e*P		**Pn**	**08 04 12.7**	**+0.9**
	comp=Z,17nm,1.1s						
CVNA	**Calvinia**	**15.24**	**226**	*e*P		**Pn**	**08 04 13.1**	**0.0**
CVNA				*e*S		**Sn**	**08 06 54.4**	**-7.5**
CVNA				AML		AML	08 08 57.7	
	comp=Z,22nm,0.7s						
TORD	**Torodi Ar. Bea**	**45.77**	**316**	P		**P**	**08 08 58.4**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=134,slow=7.4,SNR=11						
YKA	**Yellowknife Ar**	**133.19**	**340**	PKP		PKPdf	08 19 49.3	-4.5
	comp=Z,0.1nm,0.6s,baz=35,slow=2.1,SNR=3.7						

HLW ***16*** *08:05:07.5, 3466N×2624E, h33km, Mb2.9*
ATH ***16*** *08:05:08.0, 3431N×2638E, h26km±5km, MD3.0/4*
ISCJB ***16*** *08:05:09.8±1.2, 3439N±007×262E±02, h71km±29km, Error ellipse: s-maj=25.5km s-min=10.2km az=34.3*
CSEM ***16*** *08:05:09.6±0.2, 3438N×2626E, h60km, ML2.9, Error ellipse: s-maj=10.2km s-min=4.1km az=81.0*
ISC 16 08:05:11.0±1.3, 3442N±007×262E±02, h64km±33km, n9, σ0§53/12, 4C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.62**	**317**	*e*PN		**Pn**	**08 05 23.5**	**-1.1**
XRY				*e*SN		**Sn**	**08 05 35.0**	**+0.4**
NPS	**Neapolis**	**0.97**	**330**	*e*PN		**Pn**	**08 05 29.5**	**+0.6**
KARP	**Karpathos**	**1.37**	**34**	*e*PN		**Pn**	**08 05 33.5**	**-0.6**
ARG	**Arkhangelos**	**2.38**	**41**	*e*PN		**Pn**	**08 05 48.0**	**+0.3**
SLUM		**3.04**	**196**	⇑P		**Pn**	**08 05 57.2**	**+0.5**
HMAT	**Matruh**	**3.40**	**167**	⇑*e*P		**Pn**	**08 06 01.6**	**0.0**
HMAT				S		**Sn**	**08 06 41.1**	**+0.4**
SWA1		**5.16**	**185**	⇑*e*P		**Pn**	**08 06 25.4**	**-0.2**
SWA1				S		**Sn**	**08 07 23.0**	**-0.8**
SWA2		**5.20**	**187**	⇑P		**Pn**	**08 06 26.3**	**+0.1**
HFRF	**Wahat Farafira**	**7.47**	**165**	⇓*e*P		**Pn**	**08 06 57.5**	**+0.2**

ISCJB ***16*** *08:20:17.0±0.8, 26S±0.1×1277E±02, h33km, mb3.7/5, MS3.7/1, Error ellipse: s-maj=33.4km s-min=9.1km az=135.1*
IDC ***16*** *08:20:18.9±5.5, 267S×12779E, h32km±42km, mb3.7/5, mb1 4.0/6, mb1mx3.8/18, mbtmp4.0/6, ML4.5/1, MS3.8/1, Ms1 3.7/1, ms1mx2.7/20, Error ellipse: s-maj=69.4km s-min=11.1km az=69.0*
NEIC ***16*** *08:20:19.8±2.6, 264S×12770E, h40km±25km, mb4.2/4, Error ellipse: s-maj=25.5km s-min=13.7km az=63.0*
ISC 16 08:20:19.7±0.8, 27S±01×1276E±02, h35km, n15, σ0§86/19, mb3.7/5, MS3.7/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.03**	**155**	*e*P		**Pn**	**08 22 55.1**	**+0.2**
	22nm,0.9s						
KAKA				*e*S		**Sn**	**08 24 55.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**15.44**	**187**	*e*P		**Pn**	**08 24 03.7**	**+9.0**
	13nm,0.9s						
WRAB	**Tennant Creek**	**18.35**	**160**	*e*P		**Pn**	**08 24 30.7**	**-0.6**
	9.0nm,0.5s						
WRA	**Warramunga Arr**	**18.35**	**160**	P		**Pn**	**08 24 30.9**	**-0.4**
	1.7nm,0.3s,baz=340,slow=12,SNR=46						
WRA				S		**S**	**08 27 53.4**	**-5.6**
	0.4nm,0.3s,baz=341,slow=23,SNR=5.5						
WB2	**Warramunga Arr**	**18.36**	**160**	*e*P		**Pn**	**08 24 31.0**	**-0.4**
WB2				*e*S		**S**	**08 27 51.4**	**-7.7**
MBWA	**Marble Bar**	**19.90**	**202**	P		**Pn**	**08 24 49.3**	**-0.6**
	40nm,1.6s						
AS31	**Alice Springs**	**21.71**	**164**	*e*P		**P**	**08 25 09.2**	**+1.5**
ASAR	**Alice Springs**	**21.72**	**164**	P		**P**	**08 25 08.5**	**+0.8**
	1.1nm,0.3s,mb3.7,baz=346,slow=11,SNR=26						
ASAR				S		**S**	**08 29 06.9**	**+0.9**
	4.1nm,0.9s,baz=347,slow=17,SNR=11						
ASPA	**Alice Springs**	**21.72**	**164**	*e*P		**P**	**08 25 09.2**	**+1.5**
CTA	**Charters Tower**	**25.09**	**135**	P		**P**	**08 25 41.3**	**+0.3**
	2.5nm,0.8s,mb3.8,baz=325,slow=12,SNR=3.5						
CTAO	**Charters Tower**	**25.09**	**135**	*e*P		**P**	**08 25 41.7**	**+0.8**
	1.9nm,0.7s,mb3.7						
STKA	**Stephens Creek**	**31.87**	**157**	P		**P**	**08 26 40.3**	**-1.1**
	0.9nm,0.4s,mb3.9,baz=333,slow=11,SNR=1.9						
STKA				LR		LR	08 40 21.0	
	comp=Z,158nm,18.7s,MS3.7,baz=347,slow=38						
STKA	**Stephens Creek**	**31.87**	**157**	P		**P**	**08 26 40.3**	**-1.1**
STKA				LR		LR	08 40 21.0	
SONM	**Songino Array**	**53.64**	**342**	P		**P**	**08 29 36.9**	**-0.7**
	0.4nm,0.7s,mb3.5,baz=154,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**63.35**	**327**	P		**P**	**08 30 45.3**	**0.0**
	0.3nm,0.5s,mb3.6,baz=119,slow=8.1,SNR=6.8						

CASC 16 08:29:08.7±2.7, 1324N×8991W, h20km±10km, MD3.7, ML4.1, 2C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.66**	**25**	*e*P		Pb	08 29 42.8	+21
SBLS				*e*S		Sb	08 29 53.3	+23
SNJE	**San Jose**	**0.70**	**25**	⇓*e*P		Pb	08 29 43.1	+21
SNJE				*e*S		Sb	08 29 53.1	+22
RTR	**El Retiro**	**0.71**	**22**	*e*P		Pb	08 29 43.5	+21
RTR				*e*S		Sb	08 29 54.0	+22
BOQS	**Boqueron**	**0.79**	**51**	⇑*e*P		Pb	08 29 43.8	+20
BOQS				*e*S		Sb	08 29 54.7	+21
SNET	**Serv Nac Est T**	**0.80**	**56**	⇑*e*P		Pb	08 29 42.6	+19
SNET				*e*S		Sb	08 29 53.9	+20
RBDL	**Robledal**	**0.90**	**14**	*e*P		Pb	08 29 46.6	+21
RBDL				*e*S		Sb	08 30 00.5	+23
LFRS	**El Faro**	**0.91**	**65**	⇓*e*P		Pb	08 29 44.8	+19
LFRS				*e*S		Sb	08 29 56.8	+19
LFU	**La Fuente**	**0.93**	**57**	*e*P		Pb	08 29 45.7	+20
LFU				*e*S		Sb	08 29 57.7	+20
LBRS	**Las Brisas**	**0.98**	**59**	⇓*e*P		Pb	08 29 46.4	+19
LBRS				*e*S		Sb	08 29 59.6	+20
IXG	**Ixpaco**	**1.07**	**331**	⇓*e*P		Pb	08 29 27.4	-1.1
IXG				*e*S		Sb	08 29 42.3	+0.3
IXG				AML		AML	08 29 49.7	
	comp=E,5μm,0.4s						
SNVI	**San Vicente**	**1.11**	**70**	*e*P		Pn	08 29 47.8	+19
SNVI				*e*S		Sb	08 30 03.4	+20
MTO2	**Montecristo 2**	**1.27**	**25**	*e*P		Pn	08 29 51.6	+20
MTO2				*e*S		Sn	08 30 09.0	+21
FUG	**Fuego 3**	**1.50**	**323**	*e*P		Pn	08 29 34.9	+0.4
FUG				*e*S		Sn	08 29 54.9	+1.4
VSM	**San Miguel**	**1.61**	**83**	*e*P		Pn	08 29 55.1	+19
VSM				*e*S		Sn	08 30 15.8	+20
BLLM	**Bellamira**	**1.64**	**83**	*e*P		Pn	08 29 55.4	+19
BLLM				*e*S		Sn	08 30 15.6	+19
MRL	**Marmol**	**1.83**	**7**	⇓*e*P		Pn	08 29 39.0	0.0
MRL				*e*S		Sn	08 30 03.9	+2.3
TP2	**Tecpan 2**	**1.88**	**325**	*e*P		Pn	08 29 40.8	+1.2
TP2				*e*S	

ISC 16 09:05:08.3±1.4, 409N±01×3008E±006, h10km, n7, σ1°39/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRT	Hereke	0.33	255	*i* PG	Pg	09 05 15.6	+0.8
HENT	Hendek	0.62	98	*i* P	Pg	09 05 19.7	-0.7
HENT				*i* S	Sg	09 05 28.5	-0.1
YLV	Yalova	0.64	238	*i* PG	Pg	09 05 19.3	-1.4
YLV				*i* SG	Sg	09 05 26.5	-2.5
MDU	Mudurnu	0.97	117	*e*PG	Pg	09 05 27.2	+0.3
ULDT	Uludag	1.05	224	*e*P	Pg	09 05 26.4	-2.2
ULDT				*i* S	Sg	09 05 43.8	+1.6
SGKT	Sivrigoynuk	1.54	102	*i* P	Pn	09 05 36.0	+0.2
SGKT				*i* S	Sn	09 06 00.2	+4.5
BTOK	Tokmak	1.94	235	*i* P	Pn	09 05 43.7	+2.4
BTOK				*i* S	Sn	09 06 11.3	+5.5

MEX 16 09:45:37.1±0.8, 1691N×9987W, h26km±10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.06	226	*i* P	Pb	09 45 40.0	-1.6
ACX				*i* S	Sb	09 45 43.5	-1.1
CAIG	El Cayaco	0.41	290	*i* P	Pb	09 45 44.5	-1.2
CAIG				*i* S	Sb	09 45 49.9	-1.8
MEIG	Mezcala	1.04	13	*i* P	Pn	09 45 53.8	-2.2
MEIG				*i* S	Sb	09 46 05.8	-3.8

IDC 16 10:01:07.5±7.2, 1917S×17591W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.0/3, Error ellipse: s-maj=311.1km s-min=36.2km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	46.74	260	*e*P	P	10 09 37.9	-0.4
WRA	Warramunga Arr	46.75	260	P	P	10 09 38.3	-0.1
	1.3nm,0.3s,baz=98,slow=6.7,SNR=83						
ASAR	Alice Springs	46.75	255	P	P	10 09 39.2	+0.8
	1.8nm,0.5s,baz=86,slow=8.1,SNR=48						
ILAR	Eielson Array	86.60	12	P	P	10 13 52.3	-0.4
	0.1nm,0.4s,baz=223,slow=5.1,SNR=8.0						

IDC 16 10:15:17.7±1.3, 1224N×9258E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=57.2km s-min=21.2km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	0.60	165	*e*P	Px	10 15 59.0	
PBA				*e*P	Px	10 15 59.0	
PBA				*e*S	Sx	10 16 19.4	
PBA				*e*S	Sx	10 16 19.4	
PBA				*e*x	x	10 16 22.5	
	comp=E,4μm,0.4s						
PBA				*e*x	x	10 16 22.9	
	comp=N,4μm,0.3s						
VIS	Vishakhapatnam	10.47	302	*e*P	Pn	10 17 38.7	-10
VIS				*e*S	Sn	10 19 20.3	-27
BHPL	Bhopal	18.10	309	*e*P	Pn	10 19 21.6	-8.9
BHPL				AMb	AMB	10 19 33.7	
	comp=Z,17nm,0.7s						
BHPL				*e*x	x	10 21 45.0	
MKAR	Makanchi Array	35.52	348	P	P	10 22 15.5	-0.7
	comp=Z,1.8nm,0.8s,baz=162,slow=9.1,SNR=13						
SONM	Songino Array	37.32	15	P	P	10 22 31.9	+0.3
	comp=Z,0.5nm,0.6s,baz=206,slow=7.8,SNR=4.3						
WRA	Warramunga Arr	52.07	127	P	P	10 24 29.9	+0.6
	comp=Z,0.3nm,0.4s,baz=300,slow=9.8,SNR=5.2						
WRA				PcP	PcP	10 25 40.7	-0.7
	comp=Z,0.4nm,0.5s,baz=319,slow=3.1,SNR=8.2						
ASAR	Alice Springs	53.91	131	P	P	10 24 43.8	+1.0
	comp=Z,0.3nm,0.4s,baz=310,slow=6.7,SNR=10						
BRTR	Keskin Array B	58.47	309	P	P	10 25 16.6	+1.2
	comp=Z,0.9nm,0.7s,baz=136,slow=10.0,SNR=5.1						

IDC 16 10:15:24.4±14.0, 3537S×10935W, h0km, mb4.0/3, mb1 4.4/3, mb1mx3.9/16, mbtmp3.9/3, Error ellipse: s-maj=585.7km s-min=346.5km az=66.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	73.90	353	P	P	10 27 01.4	+0.2
	1.0nm,0.8s,baz=187,slow=6.4,SNR=7.7						
PDAR	Pinedale Array	77.77	360	P	P	10 27 23.3	0.0
	1.5nm,0.8s,baz=168,slow=5.4,SNR=12						
YKA	Yellowknife Ar	97.62	358	P	P	10 28 59.7	-1.1
	0.1nm,0.7s,baz=172,slow=5.0,SNR=4.1						

*CSEM **16** 10:18:51.5±0.1, 3983N×3300E, h12km, MD2.6, Error ellipse: s-maj=4.9km s-min=1.8km az=22.0*
*NEIC **16** 10:18:51.3, 3979N×3297E, h18km, MD2.6(ISK), After ISK.*
*ISK **16** 10:18:51.4, 3979N×3296E, h18km, MD2.6*
*ISCJB **16** 10:18:52.3±0.6, 3987N±004×3305E±004, h4km±8km, Error ellipse: s-maj=7.4km s-min=5.5km az=27.0*

ISC 16 10:18:52.4±0.6, 3985N±004×3300E±005, h12km±7km, n16, σ0°94/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	Ankara	0.16	276	PG	Pg	10 18 55.4	-0.8
ANTO				SG	Sg	10 18 58.9	+0.2
ANTO	Ankara	0.16	276	*i* P	Pg	10 18 55.8	-0.4
ANTO				*i* S	Sg	10 18 59.3	+0.5
ANTO	Ankara	0.16	276	Pg	Pg	10 18 55.5	-0.7
ANTO	Ankara	0.16	276	*i* P	Pg	10 18 55.8	-0.4
ANTO				*e*Sg	Sg	10 18 58.9	+0.2
ANTO	Ankara	0.16	276	Pg	Pg	10 18 55.5	-0.7
ANTO				Sg	Sg	10 18 58.5	-0.3
LOD	Lodumlu	0.19	282	PG	Pg	10 18 56.5	-0.1
LOD				SG	Sg	10 19 00.5	+1.1
LOD	Lodumlu	0.19	282	Pg	Pg	10 18 56.5	0.0
LOD				Sg	Sg	10 19 00.6	+1.1
ELDT	Eldivan	0.72	27	*i* P	Pg	10 19 05.7	-0.6
ELDT				*i* S	Sg	10 19 15.6	-0.2
KAMT	Kaman	0.73	131	PG	Pg	10 19 05.9	-0.7
KAMT				SG	Sg	10 19 16.5	+0.3
KAMT	Kaman	0.73	131	Pg	Pg	10 19 06.0	-0.7
KAMT				Sg	Sg	10 19 15.9	-0.3
SGKT	Sivrigoynuk	1.02	315	*i* P	Pg	10 19 12.1	0.0
SGKT				*i* S	Sg	10 19 31.7	+6.2
CORM	Corum	1.29	75	*e*PN	Pn	10 19 16.5	+0.2
CORM				*e*SN	Sn	10 19 33.7	+0.2
KIZT	Kizilcal	1.30	222	*e*PN	Pn	10 19 14.3	-2.1
KIZT	Kizilcal	1.30	222	Pn	Pn	10 19 14.4	-2.0
KIZT	Kizilcal	1.30	222	Pn	Pn	10 19 14.4	-2.0
AVNT	Avonos	1.79	126	*i* P	Pn	10 19 25.8	+2.6
AVNT				*i* S	Sn	10 19 51.6	+5.7

MAN 16 10:39:33.1, 1003N×12599E, h19km, mb2.7, ML4.2, MS2.0, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.56	243	‖ *i*P	Pb	10 39 44.2	0.0
SCPH				*i* S	Sg	10 39 53.5	+1.8
BUTP	Butuan	1.12	199	*e*P	Pn	10 39 50.3	-3.4
MSLP	Maasin	1.12	275	*e*P	Pn	10 39 53.6	-0.2
MSLP				*e*S	Sb	10 40 14.7	+6.7
PLP	Palo	1.50	319	*e*P	Pn	10 39 58.8	-0.2
PLP				*e*S	Sn	10 40 18.5	+0.4
TBP	Tagbilaran	2.13	261	*e*P	Pn	10 40 07.9	+0.3
TBP				*e*S	Sn	10 40 34.5	+1.1
BUKP	Musuan	2.33	203	*e*P	Pn	10 40 10.9	+0.5

*IDC **16** 10:41:08.3±2.1, 3258S×17887W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.9/13, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=60.1km s-min=38.6km az=135.0*
*ISCJB **16** 10:41:12.2±2.6, 332S±0.1×1783W±0.3, h81km±22km, mb3.6/2, Error ellipse: s-maj=37.1km s-min=18.1km az=24.3*

ISC 16 10:41:13.3±2.4, 331S±01×1782W±03, h77km±20km, n17, σ0°57/19, mb3.6/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	5.71	209	PN	Pn	10 42 36.5	+1.1
PUZ				SN	Sn	10 43 39.7	+0.1
MWZ	Matawai	6.25	213	PN	Pn	10 42 42.8	0.0
MWZ				SN	Sn	10 43 53.1	+0.4
URZ	Urewera	6.38	215	Pn	Pn	10 42 45.0	+0.4
	2.7nm,0.3s,baz=284,slow=1.3,SNR=19						
URZ				Sn	Sn	10 43 55.7	-0.3
	2.4nm,0.3s,baz=95,slow=23,SNR=6.5						
URZ	Urewera	6.38	215	PN	Pn	10 42 44.8	+0.2
URZ				SN	Sn	10 43 55.5	-0.6
WCZ	Waipu Caves	6.76	243	PN	Pn	10 42 50.6	+0.8
KNZ	Kokohu	6.76	208	PN	Pn	10 42 49.5	-0.3
OUZ	Omahuta	7.11	251	PN	Pn	10 42 53.8	-0.8
PXZ	Pawanui	7.95	209	PN	Pn	10 43 04.8	-1.2
MRZ	Mangatainoka R	9.02	212	SN	Sn	10 44 54.5	-5.9
THZ	Tophouse	11.14	217	SN	Sn	10 45 43.6	-8.6
LTZ	Lake Taylor	12.21	215	SN	Sn	10 46 07.2	-11
MQZ	McQueen's Vall	12.76	211	SN	Sn	10 46 19.3	-12
ASAR	Alice Springs	42.86	270	P	P	10 49 03.9	+0.1
	0.5nm,0.6s,mb3.4,baz=107,slow=7.6,SNR=10						
WB2	Warramunga Arr	44.08	275	*e*P	P	10 49 13.8	+0.1
WRA	Warramunga Arr	44.09	275	P	P	10 49 13.6	-0.2
	0.9nm,0.4s,mb3.9,baz=114,slow=7.8,SNR=26						
FINES	FINESS Array B	147.62	338	PKPbc	PKPbc	11 00 51.1	+2.3
	0.6nm,0.4s,baz=44,slow=4.2,SNR=7.7						
NOA	NORSAR Array B	151.41	350	PKPbc	PKPbc	11 01 01.6	+3.5
	0.9nm,0.8s,baz=14,slow=4.0,SNR=3.6						

*ISCJB **16** 11:07:01.9±1.8, 170S±0.1×167.7E±0.1, h33km, mb3.8/3, Error ellipse: s-maj=21.8km s-min=11.3km az=94.4*
*IDC **16** 11:07:04.4±14.0, 1706S×16701E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/17, Error ellipse: s-maj=241.1km s-min=38.7km az=66.0*

ISC 16 11:07:03.5±2.0, 169S±01×1678E±02, h35km, n6, σ0°80/7, mb3.8/3, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	0.84	151	‖ *i*P	Pn	11 07 13.8	-5.1
BKM				S	Sn	11 07 29.8	-0.3
DZM	Mont Dzumac	5.28	194	Pn	Pn	11 08 21.0	+1.2
	1.4nm,0.3s,baz=21,slow=21,SNR=22						
DZM				Sn	Sn	11 09 18.9	-0.4
	0.1nm,0.3s,baz=280,slow=24,SNR=3.3						
HNR	Honiara	10.68	313	LR	LR	11 12 45.7	
	comp=Z,101nm,19.2s,baz=182,slow=33						
STKA	Stephens Creek	28.03	233	P	P	11 12 52.0	+0.8
	1.2nm,0.8s,mb3.6,baz=50,slow=7.9,SNR=2.0						
WRA	Warramunga Arr	31.86	259	P	P	11 13 25.2	0.0
	0.8nm,1.0s,mb3.5,baz=90,slow=8.6,SNR=4.3						
ASAR	Alice Springs	32.44	252	P	P	11 13 29.0	-1.3
	2.2nm,0.7s,mb4.1,baz=79,slow=8.1,SNR=24						

*NEIC **16** 11:17:04.7, 1798N×6160W, h23km, mb4.3/7, MD4.0(TRN), MD4.3(RSPR), MD4.6(FDF), After TRN.*
*ISCJB **16** 11:17:05.8±0.8, 1805N±005×6156W±004, h38km±8km, mb4.1/20, MS3.6/3, Error ellipse: s-maj=9.3km s-min=4.5km az=68.6*
*TRN **16** 11:17:05.6, 1794N×6161W, h27km, MD4.0, M3.6(FDF)*
*IDC **16** 11:17:07.4±4.1, 1803N×6151W, h34km±34km, mb3.9/13, mb1 4.1/16, mb1mx3.9/27, mbtmp4.2/16, ML3.3/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/26, Error ellipse: s-maj=20.4km s-min=12.8km az=53.0*
*RSPR **16** 11:17:08.6, 1912N×6176W, h19km±49km, MD4.3/5, MD4.3/5*

ISC 16 11:17:06.4±1.0, 1802N±003×6157W±003, h25km±7km, n67, σ1°03/86, mb4.1/20, MS3.6/3, 9C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	Codrington	0.45	213	‖ *i*P	Pb	11 17 14.8	-1.0
CPB				*e*S	Sb	11 17 22.2	-0.1
BPA	Boggy Peak	1.01	196	‖ *i*P	Pn	11 17 22.4	-2.5
BPA				*e*S	Sb	11 17 34.5	-3.6
SKTB	Turtle Beach	1.29	231	*e*P	Pn	11 17 29.1	+0.4
SKTB				*e*S	Sn	11 17 45.1	0.0
NVRH	Round Hill, Ne	1.29	230	*e*P	Pn	11 17 28.9	+0.2
NVRH				*e*S	Sn	11 17 44.6	-0.6
SKI	Saint Kitts	1.31	239	*e*P	Pn	11 17 29.7	+0.6
SKI				*e*S	Sn	11 17 45.5	-0.2
SKDB	Saint Kitts 2	1.34	242	*e*P	Pn	11 17 30.1	+0.7
SKDB				*e*S	Sn	11 17 46.4	+0.1
SKDB	Saint Kitts 2	1.34	242	*e*P	Pn	11 17 30.1	+0.7
SKDB				*e*S	Sn	11 17 41.0	-5.3
NVBH	Bath Hotel, Ne	1.35	228	*e*P	Pn	11 17 29.6	0.0
BSK	Brimstone Hill	1.39	241	*e*P	Pn	11 17 31.1	+1.0
BSK				*e*S	Sn	11 17 41.4	-6.1
BSK				*e*S	Sn	11 17 45.3	-2.3
STAT	Sint Eustatius	1.44	249	‖ *e*P	Pn	11 17 32.1	+1.2
STAT				*e*S	Sn	11 17 49.3	+0.3
STAT	Sint Eustatius	1.44	249	‖ *e*P	Pn	11 17 32.1	+1.2
STAT				*e*S	Sn	11 17 51.9	+2.9
SEG	Port Louis	1.61	178	*e*P	Pn	11 17 32.4	-0.7
SABS	Saba	1.65	256	*e*P	Pn	11 17 35.9	+2.3
SABS				*e*S	Sn	11 18 02.3	+8.4
SABT	Saba	1.65	256	*e*P	Pn	11 17 35.9	+2.3
SABT				*e*S	Sn	11 18 02.3	+8.4
DEG	La Desirade	1.77	164	*e*P	Pn	11 17 34.2	-1.1
SFG	Saint Francois	1.80	169	*e*P	Pn	11 17 35.5	-0.2
LZG	Guadaloupe-1	1.88	186	‖ *e*P	Pn	11 17 35.9	-1.0
DOG	Dongo Capester	1.98	181	*e*P	Pn	11 17 37.4	-0.8
SCG	Saint Claude	1.99	183	*e*P	Pn	11 17 37.1	-1.2
PHG	Guadaloupe-2	2.00	182	*e*P	Pn	11 17 38.5	+0.1
MGG	Marie-Galante	2.11	173	*e*P	Pn	11 17 40.3	+0.3
TBG	Guadaloupe-3	2.16	182	*e*P	Pn	11 17 39.9	-0.9
DWS	Wesley	2.45	174	*e*P	Pn	11 17 45.5	+0.8
DWS				*e*S	Sn	11 18 14.2	+0.3
DWS	Wesley	2.45	174	*e*P	Pn	11 17 47.9	+3.1
DWS				*e*S	Sn	11 18 14.2	+0.3
FDF	Fort de France	3.30	173	*e*P	Pn	11 17 56.3	0.0
FDF				*e*S	Sn	11 18 37.8	+3.2
CRM	Caravelle	3.31	169	*e*P	Pn	11 17 56.6	+0.1
MVM	Montagne Vaucl	3.51	169	*e*P	Pn	11 17 59.2	-0.1
MTP	Monte Pirata	3.80	272	*e*Pn	Pn	11 18 03.2	0.0
MTP				*e*Sn	Sn	11 18 43.1	-3.9
CPD	Cerro la Pandu	4.14	271	*e*Pn	Pn	11 18 08.3	+0.4
SJG	San Juan	4.36	272	‖ *e*P	Pn	11 18 11.4	+0.5
SJG				*e*S	Sn	11 18 59.7	-1.2
SJG	San Juan	4.36	272	Pn	Pn	11 18 11.8	+0.9
	25nm,0.3s,baz=99,slow=12,SNR=47						
SJG				Sn	Sn	11 19 03.3	+2.4
	22nm,0.3s,baz=20,slow=13,SNR=3.6						
SSV	Crater Summit	4.68	176	*e*P	Pn	11 18 15.6	+0.2
SVB	Belmont	4.73	176	*e*P	Pn	11 18 16.4	+0.4
CELP	Cerrillos	4.77	271	‖ *e*P	Pn	11 18 17.9	+1.3
CELP				*e*S	Sn	11 19 09.8	-1.2
LRS	Lares	5.02	274	‖ *e*P	Pn	11 18 19.5	-0.6
LRS				*e*S	Sn	11 19 16.0	-1.3
LSP	Las Mesas	5.25	273	*e*S	Sn	11 19 20.7	-2.1
LSP	Las Mesas	5.25	273	‖ *e*P	Pn	11 18 21.9	-1.3
LSP				*e*S	Sn	11 19 20.7	-2.1
MGP	Maguayo	5.25	271	‖ *e*P	Pn	11 18 23.8	+0.6
MGP				*e*S	Sn	11 19 22.5	-0.5
SDV	Santo Domingo	12.65	225	Pn	Pn	11 20 07.4	+2.7
	0.3nm,0.3s,baz=75,slow=12,SNR=12						
SDV				LR	LR	11 25 04.1	
	comp=Z,91nm,18.2s,baz=345,slow=38						
ROSC	El Rosal	18.08	225	P	Pn	11 21 17.8	+2.1
	1.6nm,0.3s,baz=84,slow=19,SNR=3.5						
JTS	JuntasAbangare	23.92	254	*e*P	P	11 22 21.6	+3.4
	25nm,1.2s,mb4.5						
OTAV	Otavalo	24.25	225	*e*P	P	11 22 21.7	+0.5
	12nm,0.9s,mb4.3						
OTAV				*e*pP		11 22 31.4	
OTAV				*e*sP	sP	11 22 36.5	+4.7
TEIG	Tepich	25.32	279	*e*P	P	11 22 31.2	+0.2
	1.7nm,0.8s,mb3.6						
SWET	Sewanee	27.59	313	*e*P	P	11 22 52.2	+0.8
SADO	Sadowa	30.46	335	P	P	11 23 17.4	+0.5
	6.6nm,0.8s,mb4.4,baz=162,slow=9.6,SNR=3.8						
SIV	San Ignacio	33.80	179	P	P	11 23 45.6	-0.7
	3.1nm,0.5s,mb4.5,baz=8.5,slow=8.6,SNR=23						
LPAZ	La Paz	34.70	191	LR	LR	11 38 56.6	
	comp=Z,81nm,20.2s,MS3.5,baz=66,slow=38						
SCHQ	Schefferville	36.96	355	P	P	11 24 11.7	-1.7
	3.1nm,1.1s,mb4.1,baz=117,slow=14,SNR=3.4						
MNTX	Cornudas Mount	41.75	298	*e*P	P	11 24 53.2	-0.2
	2.4nm,0.8s,mb3.9						
MNTX				*e*pP	pP	11 25 00.9	-0.1
ULM	Lac du Bonnet	42.24	327	P	P	11 24 57.1	-0.2
	2.2nm,0.6s,mb4.0,baz=133,slow=8.7,SNR=6.3						
CPUP	Villa Florida	44.28	175	P	P	11 25 13.9	0.0
	0.5nm,0.3s,mb3.7,baz=348,slow=9.8,SNR=2.7						
FCC	Fort Churchill	47.11	338	*e*P	P	11 25 35.5	-0.8
	1.4nm,0.6s,mb4.1						
PDAR	Pinedale Array	47.39	312	P	P	11 25 39.2	+0.8
	0.7nm,0.7s,mb3.7,baz=117,slow=9.4,SNR=7.7						
NVAR	Mina Array Bea	53.11	305	P	P	11 26 22.6	+0.8
	0.4nm,0.7s,mb3.5,baz=89,slow=4.9,SNR=3.9						
NEW	Newport	53.95	317	*e*P	P	11 26 27.4	-0.5
	3.0nm,0.8s,mb4.3						
DBIC	Dimbokro	56.34	94	P	P	11 26 45.4	+0.3
	3.3nm,0.6s,mb4.5,baz=269,slow=6.8,SNR=10						
DBIC	Dimbokro	56.34	94	P	P	11 26 45.4	+0.3
YKA	Yellowknife Ar	57.45	334	P	P	11 26 52.4	-0.6
	2.5nm,0.6s,mb4.4,baz=104,slow=7.5,SNR=75						
YKA	Yellowknife Ar	57.45	334	P	P	11 26 52.4	-0.6
PLCA	Paso Flores	59.05	188	P	P	11 27 03.9	-0.2
	1.7nm,0.7s,mb4.2,baz=6.1,slow=6.0,SNR=4.7						
TORD	Torodi Ar. Bea	60.89	85	P	P	11 27 16.9	+0.1
	2.2nm,0.7s,mb4.4,baz=290,slow=6.4,SNR=18						
NOA	NORSAR Array B	66.06	31	LR	LR	11 50 35.8	
	comp=Z,37nm,18.9s,MS3.6,baz=310,slow=30						
INK	Inuvik	66.73	337	*e*P	P	11 27 54.4	-0.9
	1.5nm,0.6s,mb4.2						
ILAR	Eielson Array	71.87	333	P	P	11 28 26.4	-0.7
	1.1nm,0.8s,mb3.9,baz=96,slow=5.3,SNR=17						
FINES	FINESS Array B	73.23	30	LR	LR	11 55 41.5	
	comp=Z,36nm,18.3s,MS3.7,baz=321,slow=32						
BRTR	Keskin Array B	82.58	51	P	P	11 29 28.0	+0.9
	0.8nm,0.7s,mb3.9,baz=288,slow=2.0,SNR=4.4						
ASAR	Alice Springs	164.49	246	PKPab	PKPab	11 38 03.2	+0.7
	0.4nm,0.7s,baz=96,slow=4.1,SNR=4.1						

IDC 16 11:28:09.5±4.6, 628S×14688E, h51km±51km, mb3.3/1, mb1 3.7/3, mb1mx3.3/13, mbtmp3.6/3, ML3.4/2, Error ellipse: s-maj=67.4km s-min=21.8km az=106.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.12	175	P	Pn	11 28 57.0	+0.9
	14nm,0.3s,baz=343,slow=4.8,SNR=44						
PMG				S	Sn	11 29 32.5	+0.5
	12nm,0.3s,baz=140,slow=22,SNR=5.7						
WB2	Warramunga Arr	18.23	221	*e*P	Pn	11 32 18.9	+0.1
WRA	Warramunga Arr	18.24	221	P	Pn	11 32 18.7	-0.2
	0.2nm,0.3s,baz=42,slow=12,SNR=19						
ASAR	Alice Springs	21.32	214	P	P	11 32 52.4	+0.4
	1.1nm,0.4s,baz=47,slow=9.0,SNR=23						
ASAR				S	S	11 36 47.4	+1.6
	0.6nm,0.7s,baz=29,slow=22,SNR=5.7						
ASPA	Alice Springs	21.32	214	*e*P	P	11 32 52.8	+0.8
TORD	Torodi Ar. Bea	145.04	284	PKPbc	PKPbc	11 47 40.8	+0.2
	1.8nm,0.8s,baz=92,slow=4.2,SNR=11						

*IDC **16** 12:08:13.8±1.0, 1809N×6147W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/23, mbtmp3.7/5, ML5.3/1, Error ellipse: s-maj=28.7km s-min=17.3km az=60.0*
*ISCJB **16** 12:08:15.5±1.6, 1810N±006×6149W±005, h20km±11km, mb3.7/3, Error ellipse: s-maj=11.0km s-min=7.1km az=57.5*
*NEIC **16** 12:08:20.4, 1768N×6161W, h20km, MD3.6(TRN), MD3.7(FDF), After TRN.*
*TRN **16** 12:08:20.9, 1769N×6165W, h21km, MD3.6, M3.7(FDF)*

ISC 16 12:08:16.4±1.5, 1801N±006×6152W±005, h10km±7km, n17, σ1°09/25, mb3.7/3, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	Codrington	0.47	219	‖ *e*P	Pg	12 08 27.5	+1.9
CPB				*e*S	Sg	12 08 31.4	-0.4
BPA	Boggy Peak	1.01	199	*e*P	Pg	12 08 35.1	-0.8
BPA				*e*S	Sg	12 08 47.5	-1.6
SKI	Saint Kitts	1.35	240	*e*P	Pn	12 08 41.9	+0.7
SKI				*e*S	Sb	12 08 58.5	-0.4
SKI	Saint Kitts	1.35	240	*e*P	Pn	12 08 41.0	-0.2
SKI				*e*S	Sb	12 08 58.5	-0.4
STAT	Sint Eustatius	1.49	250	*e*P	Pn	12 08 45.5	+2.5
STAT				*e*S	Sn	12 09 03.6	+1.0
SEG	Port Louis	1.60	180	*e*P	Pn	12 08 44.8	+0.2
DEG	La Desirade	1.75	165	*e*P	Pn	12 08 45.7	-0.9
DEG				*e*S	Sn	12 09 08.8	-0.1
LZG	Guadaloupe-1	1.88	188	*e*P	Pn	12 08 48.2	-0.3
DOG	Dongo Capester	1.97	183	*e*P	Pn	12 08 50.5	+0.7
TBG	Guadaloupe-3	2.15	183	*e*P	Pn	12 08 53.0	+0.7
BBL	Barber's Block	2.47	179	*e*P	Pn	12 08 58.0	+1.3
MTP	Monte Pirata	3.85	272	*e*Pn	Pn	12 09 14.8	-0.7
MTP				*e*Sn	Sn	12 09 58.5	-2.3
CPD	Cerro la Pandu	4.19	271	*e*Pn	Pn	12 09 21.9	+1.6
SJG	San Juan	4.41	272	Pn	Pn	12 09 23.7	+0.4
	3.3nm,0.3s,baz=133,slow=22,SNR=6.0						
SJG				Sn	Sn	12 10 14.7	0.0
	10nm,0.3s,baz=325,slow=19,SNR=3.7						
PDAR	Pinedale Array	47.43	312	P	P	12 16 50.6	-0.4
	0.4nm,0.8s,mb3.4,baz=130,slow=8.4,SNR=3.3						
YKA	Yellowknife Ar	57.48	334	P	P	12 18 03.7	-1.8
	1.0nm,0.5s,mb4.1,baz=103,slow=7.4,SNR=36						
TORD	Torodi Ar. Bea	60.84	85	P	P	12 18 28.4	-0.4
	0.4nm,0.7s,mb3.7,baz=295,slow=6.5,SNR=6.1						

**IDC 16 12:11:41.6±6.3, 271S×12858E, h55km±63km, mb3.4/2, mb1 3.6/3, mb1mx3.4/15,

1.0nm,0.7s,baz=346,slow=13,SNR=16
MKAR Makanchi Array 63.82 326 P P 12 39 37.5 +0.7
0.2nm,0.6s,baz=123,slow=9.6,SNR=3.9

KRSC 16 12:30:54.0±1.4, 5119N×15813E, h40km±23km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.87**	**289**	*e*P	Pn	12 31 10.2	+0.4
PAU				*i* S	Sn	12 31 21.3	0.0
PAU				Smax			
	500nm,0.2s						
RUS	**Russkaya**	**1.27**	**11**	*e*P	Pn	12 31 14.5	-0.7
RUS				*e*S	Sn	12 31 30.2	-0.8
GRL	**Gorelyy**	**1.36**	**359**	*e*P	Pn	12 31 17.0	+0.5
GRL				*e*S	Sn	12 31 34.0	+0.6
MIPR	**Malaya Ipel'ka**	**1.38**	**322**	*e*P	Pn	12 31 17.8	+1.0
MIPR				*e*S	Sn	12 31 35.6	+1.8
ALID	**Alaid**	**1.66**	**260**	*e*P	Pn	12 31 20.6	0.0
ALID				*e*S	Sn	12 31 41.1	+0.4
APC	**Apacha**	**1.84**	**341**	*i* P	Pn	12 31 24.2	+1.2
APC				*e*S	Sn	12 31 47.1	+2.0
APC				Smax			
	60nm,0.9s						
PET	**Petropavlovsk**	**1.86**	**10**	*e*P	Pn	12 31 23.6	+0.2
PET				*e*S	Sn	12 31 45.9	+0.2
UGLR	**Uglovaya**	**2.07**	**12**	*e*P	Pn	12 31 27.1	+0.9
UGLR				*e*S	Sn	12 31 51.6	+0.9
AVH	**Avacha**	**2.11**	**10**	*e*P	Pn	12 31 28.0	+1.2
AVH				*e*S	Sn	12 31 52.7	+0.9
SMAR	**Somma**	**2.12**	**11**	*e*P	Pn	12 31 28.2	+1.3
SMAR				*e*S	Sn	12 31 52.8	+0.9
NLC	**Nalytchevo**	**2.12**	**20**	*e*P	Pn	12 31 28.4	+1.5
NLC				*e*S	Sn	12 31 50.4	-1.6
KOK	**Koryaka**	**2.13**	**8**	*e*P	Pn	12 31 28.5	+1.5
KOK				*e*S	Sn	12 31 53.4	+1.2
SPN	**Mys Shipunski**	**2.24**	**31**	*e*S	Sn	12 31 54.9	0.0
GNL	**Ganaly**	**2.51**	**357**	*e*P	Pn	12 31 33.5	+1.2
GNL				*e*S	Sn	12 32 02.8	+1.1
KII	**Karymskiy**	**2.96**	**15**	*e*P	Pn	12 31 40.5	+2.0
KII				*e*S	Sn	12 32 15.1	+2.3
MKZ	**Mys Kozlova**	**4.02**	**31**	*e*S	Sn	12 32 39.1	+0.4
ZLN	**Zelenaya**	**5.09**	**17**	*e*P	Pn	12 32 10.5	+2.8
LGNR	**Loginova**	**5.13**	**16**	*e*P	Pn	12 32 11.3	+3.0
KBTR	**Krutoberegovo**	**5.75**	**27**	*e*P	Pn	12 32 18.0	+1.3

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*NNC **16** 13:15:28.4±6.7, 3669N×7105E, h102km±89km, mb3.4, mpv4.2, Error ellipse: s-maj=74.0km s-min=44.6km az=56.0*
*ISCJB **16** 13:15:29.1±3.9, 368N±02×712E±03, h127km±51km, Error ellipse: s-maj=46.9km s-min=26.2km az=93.5*
ISC 16 13:15:29.6±3.8, 367N±02×712E±03, h127km±41km, n11, σ0°76/12, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.72**	**19**	P	**Pn**	**13 16 52.4**	**0.0**
	SNR=34						
UCH	**Uchtor**	**6.05**	**24**	P	**Pn**	**13 16 56.9**	**+0.1**
	SNR=6.1						
EKS2	**Erkin-Say**	**6.24**	**18**	P	**Pn**	**13 16 59.6**	**+0.2**
	SNR=9.5						
KK31	**Karatay Array**	**6.38**	**355**	⇓P	**Pn**	**13 17 01.1**	**-0.2**
	14nm,0.5s,baz=180,slow=13,SNR=73						
KK31				⇑S	**Sn**	**13 18 12.8**	**0.0**
	13nm,0.6s,baz=180,slow=24,SNR=14						
AAK	**Ala-Archa**	**6.41**	**22**	P	**Pn**	**13 17 01.9**	**+0.2**
	SNR=9.7						
USP	**Ospenovka**	**7.00**	**20**	P	**Pn**	**13 17 09.8**	**+0.2**
	SNR=6.7						
TKM2	**Tokmak 2**	**7.04**	**27**	⇑P	**Pn**	**13 17 09.8**	**-0.4**
	14nm,1.2s						
AB31	**Akbulak array**	**14.96**	**330**	⇓P	**Pn**	**13 18 53.2**	**-1.3**
	1.6nm,0.6s,baz=142,slow=12,SNR=29						
VOSK	**Vostochnaya**	**15.99**	**360**	⇑P	**Pn**	**13 19 05.9**	**-1.4**
ZRNK	**Zerenda**	**16.29**	**355**	⇑P	**Pn**	**13 19 12.2**	**+1.2**
AKTO	**Aktyubinsk**	**16.66**	**329**	⇑P	**Pn**	**13 19 16.9**	**+1.3**
	0.7nm,0.8s						

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*IDC **16** 13:39:32.4±4.8, 3044N×13675E, h236km±71km, mb3.1/2, mb1 3.3/5, mb1mx2.9/22, mbtmp3.9/5, Error ellipse: s-maj=92.3km s-min=17.7km az=69.0*
*ISCJB **16** 13:39:37.6±0.7, 3158N±009×139.1E±02, h415km±13km, mb3.1/2, Error ellipse: s-maj=25.3km s-min=14.4km az=162.8*
*JMA **16** 13:39:38.3±0.3, 3146N×13889E, h391km, M3.5*
ISC 16 13:39:39.1±0.7, 317N±01×1391E±02, h409km±14km, n19, σ1°13/26, mb3.1/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.56**	**20**	P	**Pn**	**13 40 34.1**	**+0.7**
	18nm,0.3s,baz=270,slow=16,SNR=5.5						
JHJ				S	**S**	**13 41 20.4**	**+3.1**
	12nm,0.3s,baz=261,slow=19,SNR=2.4						
BSO3	**Boso 3**	**3.34**	**20**	S	**S**	**13 41 40.5**	**+0.6**
JHMK	**Hamakita**	**3.36**	**340**	P	**Pn**	**13 40 45.7**	**-0.2**
BSO1	**Boso 1**	**3.37**	**27**	P	**Pn**	**13 40 47.3**	**+1.3**
HMMJ	**Hamamatsu 2**	**3.41**	**340**	P	**Pn**	**13 40 46.5**	**+0.2**
JIE	**Ise**	**3.41**	**324**	P	**Pn**	**13 40 45.2**	**-1.1**
BSO4	**Boso 4**	**3.48**	**17**	*e*S	**S**	**13 41 42.1**	**+0.1**
JAO	**Obara**	**3.93**	**337**	P	**Pn**	**13 40 51.4**	**+0.4**
JHU	**Hanno**	**4.19**	**2**	P	**Pn**	**13 40 54.0**	**+0.5**
JHU				S	**S**	**13 41 51.8**	**-2.1**
JRY	**Ryogami san**	**4.36**	**358**	P	**Pn**	**13 40 56.4**	**+1.3**
JYT	**Yasato**	**4.65**	**11**	P	**Pn**	**13 40 58.3**	**+0.4**
JYT				S	**S**	**13 41 59.6**	**-2.5**
JAG	**Ashikaga**	**4.77**	**3**	P	**Pn**	**13 40 59.4**	**+0.3**
JAG				S	**S**	**13 42 02.0**	**-2.2**
MJAR	**Matsushiro Arr**	**4.94**	**351**	P	**Pn**	**13 41 00.9**	**+0.1**
	2.0nm,0.3s,baz=173,slow=11,SNR=16						
MAT	**Matsushiro**	**4.94**	**351**	P	**Pn**	**13 41 02.0**	**+1.2**
JHO	**Hitachi**	**5.09**	**13**	P	**Pn**	**13 41 03.6**	**+1.2**
JHO				S	**S**	**13 42 09.3**	**-0.9**
CBIJ	**Chichi jima**	**5.26**	**149**	P	**Pn**	**13 40 57.7**	**-6.5**
	2.2nm,0.3s,baz=285,slow=20,SNR=1.8						
CBIJ				S	**S**	**13 42 06.0**	**-7.6**
	14nm,0.3s,baz=105,slow=23,SNR=9.6						
CBIJ	**Chichi jima**	**5.26**	**149**	P	**Pn**	**13 41 02.3**	**-1.9**
CBIJ				*e*S	**S**	**13 42 06.3**	**-7.2**
WRA	**Warramunga Arr**	**51.51**	**186**	P	**P**	**13 48 04.2**	**-0.7**
	0.6nm,0.4s,mb3.2,baz=1.2,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**55.23**	**186**	P	**P**	**13 48 31.2**	**-0.4**
	0.4nm,0.4s,mb3.0,baz=19,slow=10,SNR=23						

IGQ 16 13:47:50.9, 319S×8105W, h21km±8km, Mb4.1, Ms3.9, 7C-9D, Error ellipse: s-maj=9.2km s-min=6.3km az=166.4, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**1.00**	**3**	⇓P	Pb	13 48 10.5	+1.1
SALI				S	Sb	13 48 21.2	-0.9
IGUA	**Igualata**	**2.94**	**55**	⇓P	Pn	13 48 38.6	+2.2
JAMA	**Jama**	**3.03**	**16**	P	Pn	13 48 39.3	+1.8
ARRY	**Arrayan**	**3.08**	**57**	⇓P	Pn	13 48 40.2	+1.9
ARRY				S	Sn	13 49 17.6	+3.0
CUSU	**Cusua**	**3.10**	**56**	⇓P	Pn	13 48 40.4	+1.8
JUIV	**Juive**	**3.12**	**56**	P	Pn	13 48 40.1	+1.3
QIL1	**Quilotoa**	**3.15**	**42**	P	Pn	13 48 40.9	+1.8
ULBA	**Ulba**	**3.16**	**57**	⇓P	Pn	13 48 42.6	+3.3
MAG1	**Magdalena**	**3.35**	**22**	P	Pn	13 48 44.4	+2.4
PISA	**Pisayambo**	**3.40**	**52**	⇓P	Pn	13 48 46.7	+4.0
CAMI	**Rancho Maria**	**3.56**	**46**	⇑P	Pn	13 48 49.0	+4.0
TAMB	**Tambo**	**3.65**	**47**	⇓P	Pn	13 48 50.0	+3.9
VC1	**Cotopaxi 1**	**3.66**	**46**	P	Pn	13 48 50.7	+4.4
JUA2	**San Juan 2**	**3.83**	**40**	⇓P	Pn	13 48 51.7	+3.1
TERV	**Terraza Guagua**	**3.87**	**39**	⇑P	Pn	13 48 52.7	+3.6
TERV				S	Sn	13 49 39.3	+5.4
GGP	**Refugio Guagua**	**3.87**	**39**	⇑P	Pn	13 48 52.1	+3.0
GGP				S	Sn	13 49 38.7	+4.7
PINO	**Pino**	**3.88**	**39**	⇑P	Pn	13 48 52.1	+2.9
YANA	**Yana**	**3.93**	**39**	⇑P	Pn	13 48 52.7	+2.7
ANTI	**Antisana**	**3.97**	**47**	⇑P	Pn	13 48 55.1	+4.6
ANTI				S	Sn	13 49 42.9	+6.5
CAYR	**Refugio Cayamb**	**4.40**	**44**	⇓P	Pn	13 49 00.8	+4.3
ANGU	**Angureal**	**4.42**	**43**	⇑P	Pn	13 49 00.8	+4.0
ANGU				S	Sn	13 49 57.0	+9.4

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*CSEM **16** 13:55:59.8±0.1, 3788N×2696E, h15km, MD2.9, Error ellipse: s-maj=3.8km s-min=1.9km az=107.0*
*ISCJB **16** 13:56:00.0±0.5, 3788N±002×2680E±004, h11km±4km, Error ellipse: s-maj=5.8km s-min=4.0km az=13.5*
*ISK **16** 13:56:00.9, 3791N×2702E, h24km, MD2.9*
*ATH **16** 13:56:00.6, 3783N×2671E, h12km±5km, MD2.9/3*
ISC 16 13:56:00.2±0.5, 3788N±002×2679E±004, h14km±4km, n15, σ0°96/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.17**	**168**	*e*PG	**Pg**	**13 56 04.2**	**0.0**
SMG				*e*SG	**Sg**	**13 56 07.0**	**0.0**
URLA	**Izmir**	**0.51**	**342**	*i* P	**Pg**	**13 56 10.6**	**+0.4**
URLA				*i* S	**Sg**	**13 56 17.7**	**+0.7**
IZM	**Izmir**	**0.64**	**35**	PG	**Pg**	**13 56 12.1**	**-0.6**
IZM				SG	**Sg**	**13 56 20.0**	**-1.2**
KDAG	**Bornova**	**0.65**	**35**	*i* P	**Pg**	**13 56 12.4**	**-0.4**
KDAG				*i* S	**Sg**	**13 56 20.4**	**-0.9**
KDAG	**Bornova**	**0.65**	**35**	*i* P	**Pg**	**13 56 12.4**	**-0.4**
KDAG				*i* S	**Sg**	**13 56 20.5**	**-0.8**
AYDN	**Tasoluk**	**0.89**	**104**	*i* P	**Pg**	**13 56 17.0**	**-0.4**
AYDN				*i* S	**Sg**	**13 56 30.4**	**+1.4**
BODT	**Bodrum**	**0.91**	**153**	PG	**Pg**	**13 56 18.3**	**+0.5**
BODT				SG	**Sg**	**13 56 30.3**	**+0.6**
AKS	**Akhisar**	**1.28**	**38**	*e*PN	**Pn**	**13 56 22.5**	**-1.2**
APE	**Apeiranthos**	**1.29**	**232**	*e*PB	**Pb**	**13 56 23.5**	**-0.7**
APE				*e*SB	**Sb**	**13 56 40.0**	**-0.6**
APE	**Apeiranthos**	**1.29**	**232**	*e*Pn	**Pn**	**13 56 25.0**	**+1.2**
DAT	**Datca**	**1.30**	**151**	*e*Pn	**Pn**	**13 56 23.3**	**-0.7**
DAT				*e*Sn	**Sn**	**13 56 40.4**	**-0.8**
YER	**Yerkesik**	**1.40**	**121**	*e*PN	**Pn**	**13 56 24.1**	**-1.2**
PRK	**Paraskevi**	**1.43**	**344**	*e*PB	**Pb**	**13 56 28.0**	**+1.4**
MANT	**Manisa**	**1.52**	**66**	*i* P	**Pn**	**13 56 30.0**	**+3.0**
MANT				*i* S	**Sn**	**13 56 47.9**	**+1.4**
MANT	**Manisa**	**1.52**	**66**	*i* S	**Sn**	**13 56 47.9**	**+1.3**

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*NIED **16** 13:57:00, 3140N×14260E, h11km, Mw3.8 Best double couple: M0:6.39000×10^14 NP1:φs:311.00000°, δ69.00000°, λ44.00000°. NP2:φs:202.00000°, δ49.00000°, λ152.00000°.*
*IDC **16** 13:57:38.7±0.6, 3127N×14184E, h0km, mb4.1/13, mb1 4.3/16, mb1mx4.2/23, mbtmp4.1/16, ML4.1/3, MS4.8/1, Ms1 4.8/1, ms1mx2.9/25, Error ellipse: s-maj=21.7km s-min=14.4km az=78.0*
*JMA **16** 13:57:39.4±0.3, 3142N×14256E, h37km, M4.2*
*ISCJB **16** 13:57:40.6±1.6, 3132N±003×14194E±009, h29km±12km, mb4.2/21, MS4.9/2, Error ellipse: s-maj=13.6km s-min=4.8km az=152.5*
*BJI **16** 13:57:40.1, 31.16N×14189E, h45km, mB4.6, mb4.3, Ms4.4, Msz4.1*
*MOS **16** 13:57:41.3±0.8, 3121N×14178E, h33km, mb4.7/10, Error ellipse: s-maj=24.1km s-min=8.2km az=116.2*
*NEIC **16** 13:57:44.0±0.3, 3124N×14183E, mb4.5/8, MW3.8(NIED), Error ellipse: s-maj=9.4km s-min=5.1km az=70.0*
ISC 16 13:57:42.1±1.7, 3131N±003×14199E±009, h25km±12km, h37km±1.2km: pP-P, n73, σ1°04/81, mb4.2/21, MS4.9/2, 2C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.57**	**315**	P	**Pn**	**13 58 23.4**	**+1.3**
BSO1	**Boso 1**	**3.44**	**346**	P	**Pn**	**13 58 33.5**	**-0.5**
BSO3	**Boso 3**	**3.69**	**341**	P	**Pn**	**13 58 37.2**	**-0.4**
CBIJ	**Chichi jima**	**4.21**	**178**	Pn	**Pn**	**13 58 44.6**	**0.0**
	44nm,0.3s,baz=351,slow=20,SNR=26						
CBIJ				Sn	**Sn**	**13 59 32.4**	**-0.6**
	34nm,0.3s,baz=293,slow=22,SNR=6.0						
JOD2	**Odawara 2**	**4.63**	**329**	P	**Pn**	**13 58 52.8**	**+2.4**
HMMJ	**Hamamatsu 2**	**5.03**	**316**	P	**Pn**	**13 59 00.0**	**+4.1**
JHU	**Hanno**	**5.06**	**334**	P	**Pn**	**13 58 57.3**	**+1.0**
JHU				S	**Sn**	**13 59 55.0**	**+1.1**
JYT	**Yasato**	**5.12**	**344**	P	**Pn**	**13 58 57.0**	**-0.2**
JYT				S	**Sn**	**13 59 56.1**	**+0.5**
JRY	**Ryogami san**	**5.35**	**332**	P	**Pn**	**13 59 01.5**	**+1.2**
JHO	**Hitachi**	**5.41**	**348**	P	**Pn**	**13 58 59.6**	**-1.6**
JHO				S	**Sn**	**14 00 00.9**	**-1.8**
JAG	**Ashikaga**	**5.52**	**338**	P	**Pn**	**13 59 03.0**	**+0.4**
JAG				S	**Sn**	**14 00 04.0**	**-1.2**
MJAR	**Matsushiro Arr**	**6.09**	**330**	Pn	**Pn**	**13 59 11.0**	**+0.5**
	2.5nm,0.3s,baz=157,slow=11,SNR=51						
MJAR				Sn	**Sn**	**14 00 19.4**	**0.0**
	baz=142,slow=20,SNR=2.4						
MAJO	**Matsushiro**	**6.09**	**330**	*e*P	**Pn**	**13 59 11.8**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,20nm,0.5s						
MAJO	**Matsushiro**	**6.09**	**330**	*e*Pn	**Pn**	**13 59 11.8**	**+1.3**
	comp=Z,20nm,0.5s						
MAJO				*e*		13 59 22.9	
MAT	**Matsushiro**	**6.09**	**330**	P	**Pn**	**13 59 11.8**	**+1.3**
MAT				S	**Sn**	**14 00 20.0**	**+0.7**
MAT	**Matsushiro**	**6.09**	**330**	*e*P	**Pn**	**13 59 12.0**	**+1.5**
MAT				*e*S	**Sn**	**14 00 20.0**	**+0.7**
MAT				pmax	pmax		
	comp=Z,14nm,0.7s						
MAT	**Matsushiro**	**6.09**	**330**	*e*P	**Pn**	**13 59 12.0**	**+1.5**
	comp=Z,14nm,0.7s						
MAT				*e*S	**Sn**	**14 00 20.0**	**+0.7**
JFK	**Kawauchi**	**6.11**	**352**	P	**Pn**	**13 59 09.2**	**-1.5**
JFK				S	**Sn**	**14 00 14.9**	**-4.9**
JMK	**Ichinoseki**	**7.65**	**355**	P	**Pn**	**13 59 30.8**	**-1.1**
ASAJ	**Asahikawa**	**12.79**	**2**	Pn	**Pn**	**14 00 40.5**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=238,slow=10,SNR=9.9						
ASAJ	**Asahikawa**	**12.79**	**2**	P	**Pn**	**14 00 40.6**	**-1.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**16.46**	**327**	P	**Pn**	**14 01 31.3**	**0.0**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,51nm,4.3s						
CN2	**Changchun**	**18.05**	**318**	*e*P	**Pn**	**14 01 49.9**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**19.49**	**340**	*e*P	**Pn**	**14 02 05.5**	**-3.1**
NJ2	**Nanjing**	**19.70**	**278**	*e*P	**Pn**	**14 02 12.1**	**+1.0**
NJ2				AP	pP	14 02 20.8	+4.5
NJ2				XP	sP	14 02 25.3	+5.8
NJ2				PP		14 02 30.6	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,150nm,8.9s						
NJ2				LR	LR		
	comp=N,210nm,28.5s						
NJ2				LR	LR		
	comp=E,430nm,13.7s						
NJ2				LR	LR		
	comp=Z,310nm,21.5s						
HIA	**Hailar**	**24.54**	**323**	*e*P	**P**	**14 02 59.6**	**-0.1**
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**24.54**	**323**	*e*P	**P**	**14 02 59.6**	**-0.1**
	comp=Z,15nm,1.0s,mb4.5						
GZH	**Guangzhou**	**26.71**	**259**	P	**P**	**14 03 18.1**	**-1.2**
GZH				LR	LR		
	comp=N,1μm,18.6s,MS4.9						
GZH				LR	LR		
	comp=E,2μm,13.7s,MS4.9						
GZH				LR	LR		
	comp=Z,2μm,13.3s,MS4.8						
BTO	**Baotou**	**27.36**	**299**	*e*P	**P**	**14 03 24.3**	**-0.9**
ULN	**Ulaanbaatar**	**31.26**	**312**	*e*P	**P**	**14 04 00.5**	**+0.7**
ULN				*e*PP	pP	14 04 11.0	+3.8
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
ULN	**Ulaanbaatar**	**31.26**	**312**	*e*P	**P**	**14 04 00.5**	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.3						
ULN				*e*pP	pP	14 04 11.0	+3.8
SONM	**Songino Array**	**31.67**	**312**	P	**P**	**14 04 04.3**	**+0.9**
	comp=Z,4.6nm,0.9s,mb4.3,baz=109,slow=7.3,SNR=20						
ZAK	**Zakamensk**	**34.42**	**315**	*e*P	**P**	**14 04 24.7**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,15nm,1.9s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,19nm,2.0s,mb4.7						
NVS	**Novosibirsk**	**47.26**	**318**	*e*P	**P**	**14 06 11.8**	**-1.4**
MKAR	**Makanchi Array**	**47.74**	**307**	P	**P**	**14 06 17.0**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.3,baz=97,slow=8.2,SNR=27						
KURK	**Kurchatov**	**49.98**	**312**	*e*P	**P**	**14 06 33.7**	**-0.4**
KURK				*e*PP	pP	14 06 44.3	+2.6
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**49.98**	**312**	*e*P	**P**	**14 06 33.7**	**-0.4**
	comp=Z,6.6nm,0.8s,mb4.7						
KURK				*e*pP	pP	14 06 44.3	+2.6
WRAB	**Tennant Creek**	**51.48**	**189**	*e*P	**P**	**14 06 44.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
WRAB	**Tennant Creek**	**51.48**	**189**	*e*P	**P**	**14 06 44.9**	**-0.5**
	comp=Z,4.4nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**51.49**	**189**	*e*P	**P**	**14 06 45.2**	**-0.3**
WRA	**Warramunga Arr**	**51.49**	**189**	P	**P**	**14 06 45.3**	**-0.2**
	comp=Z,3.5nm,0.5s,mb4.5,baz=6.4,slow=7.7,SNR=84						
ILAR	**Eielson Array**	**54.13**	**30**	P	**P**	**14 07 05.5**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=260,slow=7.0,SNR=11						
BVAR	**Borovoye Array**	**54.88**	**316**	P	**P**	**14 07 10.5**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.3,baz=103,slow=7.2,SNR=12						
BRVK	**Borovoye**	**54.94**	**316**	*e*P	**P**	**14 07 11.2**	**+0.3**
AS31	**Alice Springs**	**55.21**	**189**	*e*P	**P**	**14 07 13.1**	**+0.3**
ASAR	**Alice Springs**	**55.21**	**189**	P	**P**	**14 07 12.7**	**-0.2**
	comp=Z,1.5nm,0.7s,mb4.1,baz=2.9,slow=5.3,SNR=48						
ASPA	**Alice Springs**	**55.22**	**189**	*e*P	**P**	**14 07 13.1**	**+0.2**
ZRNK	**Zerenda**	**55.72**	**316**	*e*P	**P**	**14 07 16.2**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**55.72**	**316**	*e*P	**P**	**14 07 16.2**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.3						
ARU	**Arti**	**61.02**	**321**	*e*P	**P**	**14 07 53.1**	**-0.4**
ARU				*e*PP	pP	14 08 03.4	+2.1
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
ARU	**Arti**	**61.02**	**321**	*e*P	**P**	**14 07 53.1**	**-0.4**
	comp=Z,5.5nm,0.7s,mb4.8						
ARU				*e*pP	pP	14 08 03.4	+2.1
AKTO	**Aktyubinsk**	**62.93**	**314**	P	**P**	**14 08 05.8**	**-0.5**
	comp=Z,4.2nm,0.7s,mb4.7,baz=98,slow=10,SNR=9.8						
AKTO	**Aktyubinsk**	**62.93**	**314**	P	**P**	**14 08 05.8**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
YKA	**Yellowknife Ar**	**68.54**	**29**	P	**P**	**14 08 43.2**	**+0.8**
	comp=Z,0.2nm,0.7s,mb3.2,baz=295,slow=6.4,SNR=5.1						
YKA	**Yellowknife Ar**	**68.54**	**29**	P	**P**	**14 08 43.2**	**+0.8**
ARCES	**ARCESS Array B**	**69.52**	**340**	P	**P**	**14 08 48.2**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.3,baz=44,slow=3.9,SNR=3.8						
ARCES	**ARCESS Array B**	**69.52**	**340**	P	**P**	**14 08 48.2**	**-0.4**
FINES	**FINESS Array B**	**74.11**	**333**	P	**P**	**14 09 15.9**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=120,slow=6.8,SNR=4.2						
NVAR	**Mina Array Bea**	**78.07**	**52**	P	**P**	**14 09 41.0**	**+2.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=285,slow=5.6,SNR=14						
NB2	**NORSAR Subarra**	**79.65**	**338**	P	**P**	**14 09 47.2**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=42,slow=5.9						
NB2	**NORSAR Subarra**	**79.65**	**338**	P	**P**	**14 09 47.2**	**-0.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NOA	**NORSAR Array B**	**79.65**	**338**	P	**P**	**14 09 47.3**	**0.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=41,slow=5.3,SNR=4.5						
PDAR	**Pinedale Array**	**81.35**	**45**	P	**P**	**14 09 58.2**	**+1.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=266,slow=2.6,SNR=7.3						
SRU	**San Rafael**	**82.83**	**48**	*e*P	**P**	**14 10 05.6**	**+1.3**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
SRU	**San Rafael**	**82.83**	**48**	*e*P	**P**	**14 10 05.6**	**+1.4**
	comp=Z,3.2nm,0.8s,mb4.4						
BURAR	**Bucovina Array**	**83.11**	**323**	⇓P	**P**	**14 10 10.5**	**+4.8**
BURAR	**Bucovina Array**	**83.11**	**323**	⇓P	**P**	**14 10 10.5**	**+4.8**
TIRR	**Tirgusor**	**83.35**	**319**	⇑P	**P**	**14 10 10.9**	**+4.0**
TIRR	**Tirgusor**	**83.35**	**319**	⇑P	**P**	**14 10 10.9**	**+4.0**
MLR	**Muntele Rosu**	**84.07**	**321**	⇓P	**P**	**14 10 14.3**	**+3.6**
MLR	**Muntele Rosu**	**84.07**	**321**	⇓P	**P**	**14 10 14.3**	**+3.6**
DAVOX	**Davos**	**91.07**	**329**	LR	LR	14 55 48.4	
	comp=Z,480nm,20.1s,MS4.9,baz=353,slow=38						
LPAZ	**La Paz**	**148.77**	**68**	PKPbc	PKPbc	14 17 30.6	+3.3
	comp=Z,0.5nm,0.6s,baz=210,slow=1.7,SNR=5.5						

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*IDC **16** 13:59:17.9±0.4, 1073N×9433E, h0km, mb4.6/24, mb1 4.7/25, mb1mx4.7/28, mbtmp4.6/25, ML3.8/1, MS5.0/18, Ms1 4.9/18, ms1mx4.8/27, Error ellipse: s-maj=16.8km s-min=11.4km az=56.0*
*ISCJB **16** 13:59:20.3±0.2, 1079N±003×9445E±003, h24km, mb4.8/80, MS5.0/53, Error ellipse: s-maj=5.0km s-min=3.6km az=68.1*
*BJI **16** 13:59:20.7, 1066N×9427E, h34km, mB5.3, mb4.7, Ms5.3, Msz5.0*
*MOS **16** 13:59:21.7±1.5, 1086N×9448E, h33km, mb5.1/36, MS5.1/22, Error ellipse: s-maj=10.1km s-min=5.4km az=114.1*
*HRVD

comp=Z,933nm,7.9s
KMI LR LR
comp=N,6μm,12.4s
KMI LR LR
comp=E,4μm,11.3s
KMI LR LR
comp=Z,4μm,11.9s
HYB Hyderabad 16.76 295 *i* P **Pn 14 03 16.5 +0.8**
comp=Z,50nm,1.0s
HYB *e*S **Sn 14 06 23.0 +1.8**
HYB LR LR 14 12 00.0
comp=Z,5.4nm,16.0s
HYB Hyderabad 16.76 295 *e*P **Pn 14 03 16.5 +0.8**
HYB *e*S **Sn 14 06 23.0 +1.8**
HYB pmax pmax
comp=Z,50nm,1.0s
HYB Hyderabad 16.76 295 *e*P **Pn 14 03 16.5 +0.8**
comp=Z,50nm,1.0s
HYB *e*S **Sn 14 06 23.0 +1.8**
QIZ Qiongzhong 16.94 59 P **Pn 14 03 20.6 +2.6**
QIZ PP 14 03 32.5
QIZ S **Sn 14 06 34.9 +9.4**
QIZ AMB AMB
comp=Z,521nm,7.0s
QIZ LR LR
comp=N,4μm,9.2s
QIZ LR LR
comp=E,3μm,11.5s
QIZ LR LR
comp=Z,5μm,9.9s
TRD Trivandrum 17.41 264 *ex* **Pn 14 03 27.9 +4.0**
TRD AMb pP 14 03 31.2 -0.6
comp=Z,78nm,0.8s
TRD *ex* x 14 06 45.8
NGP Nagpur 18.01 307⇑ *ex* **Pn 14 03 32.8 +1.5**
NGP *ex* x 14 04 10.1
comp=Z,100nm,1.6s
NGP *ex* x 14 07 02.6
KSM Kuching 18.27 119 *e*Pn **Pn 14 03 34.3 -0.1**
JIRN Jiri 18.47 336 *e*P **Pn 14 03 36.4 -0.5**
comp=Z,317nm,1.2s
JBP Jabalpur 18.49 313⇑ *e*P **Pn 14 03 38.0 +0.9**
JBP *ex* x 14 04 32.6
comp=Z,155nm,1.8s
JBP *ex* Sn 14 07 27.3 +24
PKI Pulchoki 18.71 334 *e*P **Pn 14 03 39.5 -0.3**
comp=Z,320nm,1.1s
GUN Gumba 18.82 336 *e*P **Pn 14 03 40.6 -0.5**
comp=Z,320nm,1.2s
DMN Daman 18.88 334 *e*P **Pn 14 03 40.6 -1.2**
comp=Z,199nm,1.0s
KKN Kakani 18.96 334 *e*P **Pn 14 03 41.5 -1.3**
comp=Z,210nm,1.3s
LSA Lhasa 19.04 351 P **Pn 14 03 44.3 +0.5**
LSA S **Sn 14 07 20.1 +3.9**
LSA AMB AMB
comp=Z,2μm,9.7s
LSA LR LR
comp=N,2μm,27.4s
LSA LR LR
comp=E,3μm,18.6s
LSA LR LR
comp=Z,4μm,27.0s
LSA Lhasa 19.04 351 *e*P **Pn 14 03 43.6 -0.2**
LSA pmax pmax
comp=Z,79nm,1.2s
LSA Lhasa 19.04 351 *e*P **Pn 14 03 43.6 -0.2**
comp=Z,79nm,1.2s
GYA Guiyang 19.35 35⇑ *i*P **Pn 14 03 47.3 -0.3**
GYA AP pP 14 03 52.8 -0.4
GYA PP 14 04 06.3
GYA S **Sn 14 07 25.5 +1.6**
GYA XS sS 14 07 31.6 -3.4
GYA SS 14 07 51.8
GYA AMB AMB
comp=Z,40nm,1.0s
GYA AMB AMB
comp=Z,990nm,8.7s
GYA LR LR
comp=N,3μm,18.8s
GYA LR LR
comp=E,4μm,14.8s
GYA LR LR
comp=Z,4μm,16.8s
GKN Gorkha 19.43 333 *e*P **Pn 14 03 46.4 -2.0**
comp=Z,118nm,0.8s
KOLN Koldanda 19.71 330 *e*P **Pn 14 03 49.0 -2.8**
comp=Z,229nm,1.0s
DANN Dangsing 20.12 332 *e*P **P 14 03 54.7 0.0**
BHPL Bhopal 20.42 309 *e*P **P 14 03 58.7 +0.8**
BHPL AMb AMB 14 04 10.5
comp=Z,106nm,1.2s
BHPL *e*S **S 14 07 46.1 +0.8**
KAD Karad 20.69 290 *e*P **P 14 04 02.1 +1.2**
KAD AMb AMB 14 04 07.0
comp=Z,59nm,1.5s
POO Poona 21.35 293 *e*PP 14 04 34.0
POO AMb AMB 14 04 39.3
comp=Z,82nm,1.2s,mb4.9
POO *i* PPP 14 04 43.7
POO *e*PCP PcP 14 08 06.5 -5.0
POO *i* S **S 14 08 08.0 +4.2**
POO *ex* x 14 08 25.5
POO *ex* x 14 08 44.5
POO *i* SSS 14 09 00.0
POO *ex* x 14 09 32.0
GZH Guangzhou 21.76 53 P **P 14 04 18.1 +5.7**
GZH LR LR
comp=N,1μm,18.6s,MS4.7
GZH LR LR
comp=E,2μm,13.7s,MS4.7
GZH LR LR
comp=Z,2μm,13.3s,MS4.7
CD2 Chengdu 21.77 22⇑ *i*P **P 14 04 12.3 -0.2**
CD2 AP 14 04 19.8
CD2 XP sP 14 04 22.8 +0.2
CD2 PP 14 04 38.8
CD2 PPP 14 04 51.6
CD2 S **S 14 08 11.9 -0.1**
CD2 XS sS 14 08 23.5 +0.4
CD2 SS 14 08 52.0
CD2 AMB AMB
comp=Z,30nm,1.3s,mb4.6
CD2 AMB AMB
comp=Z,570nm,4.2s
CD2 LR LR
comp=N,2μm,9.3s
CD2 LR LR
comp=Z,1μm,8.4s
KKM Kota Kinabalu 22.02 101 *e*P **P 14 04 17.2 +2.0**
HKC Hong Kong 22.04 56 P **P 14 04 20.0 +4.6**
LGTI Lohaghat 22.80 326 *e*P **P 14 04 25.0 +1.5**
ENH Enshi 23.87 34 *e*P **P 14 04 33.3 -0.9**
comp=Z,77nm,1.1s,mb5.0
NDI New Delhi 24.01 320 *e*P **P 14 04 34.0 -1.5**
NDI *ex* x 14 09 00.0
AJM Ajmer 24.34 312 *i* P **P 14 04 38.0 -0.5**
AJM *e*P 14 04 40.0
AJM AMb AMB 14 04 48.5
comp=Z,60nm,0.9s,mb5.0
DDI Dehra Dun 24.69 324 *e*P **P 14 04 40.4 -1.3**
TGY Tagaytay City 26.05 80 LR LR 14 14 18.2
comp=Z,6.0nm,21.6s,baz=39,slow=34
LZH Lanzhou 26.55 17 *e*P **P 14 05 02.1 +3.6**
LZH AP pP 14 05 07.3 +1.4
LZH XP sP 14 05 09.8 +0.8
LZH PP 14 05 49.4
LZH S **S 14 09 39.3 +7.8**
LZH XS sS 14 09 48.6 +4.9
LZH AMB AMB
comp=Z,88nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,480nm,4.4s
LZH LR LR
comp=N,14μm,15.3s
LZH LR LR
comp=Z,16μm,16.8s,MS5.6
XAN Xi'an 26.63 28 P **P 14 04 59.5 +0.3**
XAN AMB AMB
comp=Z,8.0nm,0.9s,mb4.2
BHJ Bhuj 26.70 301 *e*P **P 14 05 03.4 +3.5**
QZH Quanzhou 26.85 55 P **P 14 05 01.3 +0.1**
QZH S **S 14 09 36.0 -0.2**
QZH AMB AMB
comp=Z,800nm,11.6s
QZH LR LR
comp=N,2μm,9.7s
QZH LR LR
comp=E,5μm,17.7s
QZH LR LR
comp=Z,4μm,11.8s
WHN Wuhan 26.95 40 *e*P **P 14 05 05.3 +3.1**
WHN S **S 14 09 45.0 +7.2**
WHN LR LR
comp=Z,6μm,11.0s,MS5.4
GTA Gaotai 28.87 9 *e*P **P 14 05 19.8 +0.5**
GTA AP pP 14 05 26.3 -0.4
GTA PP PP 14 06 12.1 -12
GTA S **S 14 10 04.8 -3.2**
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,402nm,6.5s
GTA LR LR
comp=N,3μm,19.4s,MS5.0
GTA LR LR
comp=E,2μm,17.1s,MS5.0
GTA LR LR
comp=Z,4μm,21.7s,MS5.0
NJ2 Nanjing 30.87 43 *e*P **P 14 05 38.4 +1.4**
NJ2 AP pP 14 05 45.6 +1.2
NJ2 XP sP 14 05 49.0 +1.5
NJ2 PP PP 14 06 40.6 -6.2
NJ2 S **S 14 10 40.0 +0.6**
NJ2 XS sS 14 10 52.0 +0.4
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,130nm,8.3s
NJ2 LR LR
comp=N,5μm,17.8s,MS5.4
NJ2 LR LR
comp=E,5μm,13.3s,MS5.4
NJ2 LR LR
comp=Z,2μm,12.1s,MS5.0
SSE Sheshan 31.94 47 P **P 14 05 46.8 +0.4**
SSE PP PP 14 06 59.3 +0.6
SSE PCP PcP 14 08 34.6 -1.7
SSE S **S 14 10 58.9 +2.9**
SSE XS sS 14 11 09.3 +1.0
SSE PCS PcS 14 12 18.8 -2.2
SSE AMB AMB
comp=Z,18nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,181nm,4.3s
SSE LR LR
comp=N,1μm,20.5s,MS4.6
SSE LR LR
comp=E,294nm,20.5s,MS4.6
SSE LR LR
comp=Z,497nm,23.8s,MS4.1
KSH Kashi 32.97 333 P **P 14 05 56.6 +1.1**
KSH *e*AP pP 14 06 03.4 +0.5
KSH XP sP 14 06 07.8 +1.8
KSH PCP PcP 14 08 41.3 +2.2
KSH S **S 14 11 10.5 -1.7**
KSH XS sS 14 11 23.3 -1.2
KSH SCP ScP 14 12 22.3 +0.7
KSH PCS PcS 14 12 25.5 +1.0
KSH SS SS 14 13 09.0 -26
KSH SCS ScS 14 16 20.1 -1.7
KSH AMB AMB
comp=Z,31nm,1.0s,mb5.2
KSH AMB AMB
comp=Z,246nm,6.0s
KSH LR LR
comp=N,2μm,12.2s,MS5.1
KSH LR LR
comp=E,1μm,11.6s,MS5.1
KSH LR LR
comp=Z,4μm,24.1s
WMQ Urumqi 33.40 351 P **P 14 06 00.8 +1.6**
WMQ AP pP 14 06 08.0 +1.4
WMQ XP sP 14 06 11.3 +1.6
WMQ PP PP 14 07 12.8 -2.1
WMQ PPP 14 07 29.6
WMQ PCP PcP 14 08 42.0 +1.7
WMQ S **S 14 11 19.4 +0.6**
WMQ SS SS 14 13 22.8 -20
WMQ SCS ScS 14 16 23.1 -0.9
WMQ AMB AMB
comp=Z,25nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,195nm,4.2s
WMQ LR LR
comp=N,1μm,20.0s,MS4.8
WMQ LR LR
comp=E,1μm,19.2s,MS4.8
WMQ LR LR
comp=Z,1μm,20.0s,MS4.6
HHC Hu-ho-hao-te 33.50 24 *e*P **P 14 06 00.0 -0.1**
HHC AP pP 14 06 07.3 -0.2
HHC XP sP 14 06 10.6 0.0
HHC PP PP 14 07 12.0 -4.0
HHC PCP PcP 14 08 41.0 +0.4
HHC S **S 14 11 20.5 +0.1**
HHC SS SS 14 13 23.6 -22
HHC SCS ScS 14 16 22.3 -2.2
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,324nm,5.1s
HHC LR LR
comp=N,2μm,15.2s,MS5.2
HHC LR LR
comp=E,3μm,14.7s,MS5.2
HHC LR LR
comp=Z,1μm,28.5s
BJT Baijiatuau 34.87 30 *e*P **P 14 06 14.0 +2.1**
BJI Beijing 34.89 30 P **P 14 06 13.9 +1.8**
BJI S **S 14 11 48.5 +6.7**
BJI AMB AMB
comp=Z,13nm,0.8s,mb4.9
BJI AMB AMB
comp=Z,521nm,4.3s
BJI LR LR
comp=N,3μm,15.4s,MS5.1
BJI LR LR
comp=E,1μm,15.4s,MS5.1
BJI LR LR
comp=Z,2μm,19.8s,MS4.8
JOW Kunigami 35.59 59 LR LR 14 23 10.1
comp=Z,757nm,19.2s,MS4.5,baz=280,slow=40
AAA Alma-Ata 35.74 338 *e*P **P 14 06 21.9 +2.5**
AAA *e*S **S 14 12 00.7 +5.8**
AAA pmax pmax
comp=Z,600nm,4.6s
AAA smax
comp=E,700nm,8.2s
AAA MLR MLR
comp=Z,2μm,19.7s,MS4.9
WBK Wadi Bani Khal 35.86 294 ⇓P **P 14 06 22.2 +1.8**
SNR=7.3
FRU Bishkek 36.28 335 *e*P **P 14 06 26.0 +1.9**
FRU pmax pmax
comp=Z,50nm,2.0s,mb5.1
FRU MLR MLR
comp=N,3μm,23.0s
FRU MLR MLR
comp=Z,4μm,23.0s,MS5.1
JMDO Jabal Madar 36.59 293 ⇑P **P 14 06 28.0 +1.3**
SNR=5.9
SMDO Samad 36.79 294 P **P 14 06 30.1 +1.6**
SNR=15
BIDO Bidbid 36.83 295 P **P 14 06 30.3 +1.5**
SNR=7.4
DL2 Dalian 37.00 36 P **P 14 06 30.3 +0.2**
DL2 S **S 14 12 18.4 +4.3**
DL2 AMB AMB
comp=Z,180nm,4.7s
DL2 LR LR
comp=N,870nm,13.1s,MS4.8
DL2 LR LR
comp=E,490nm,14.8s,MS4.8
DL2 LR LR
comp=Z,870nm,15.3s,MS4.7
MKAR Makanchi Array 37.31 346 P **P 14 06 32.4 -0.5**
comp=Z,9.3nm,0.9s,mb4.6,baz=98,slow=8.8,SNR=12
BSY Bisya 37.49 293 P **P 14 06 36.1 +1.8**
SNR=22
ARQ Araqi 38.22 294 P **P 14 06 42.5 +2.0**
SNR=6.2
SONM Songino Array 38.24 13 P **P 14 06 40.6 0.0**
comp=Z,14nm,1.2s,mb4.6,baz=197,slow=7.8,SNR=19
SONM PcP PcP 14 08 55.0 +0.3
comp=Z,1.9nm,0.8s,baz=198,slow=4.4,SNR=4.3
SONM LR LR 14 24 07.1
comp=Z,4μm,19.0s,MS5.3,baz=191,slow=39
SONM Songino Array 38.24 13 P **P 14 06 40.6 0.0**
SONM 14 08 55.0
SONM Songino Array 38.24 13 P **P 14 06 40.6 0.0**
SONM PcP PcP 14 08 55.0 +0.3
SONM LR LR 14 24 07.1
KK31 Karatay Array 38.32 331 *i* P **P 14 06 40.3 -1.0**
KKAR Karatay Array 38.32 331 *i* P **P 14 06 40.3 -1.0**
KKAR pmax pmax
comp=Z,34nm,1.2s,mb5.0
ULN Ulaanbaatar 38.41 14⇓ *i*P **P 14 06 41.6 -0.5**
ULN Ulaanbaatar 38.41 14 *e*P **P 14 06 41.4 -0.7**
comp=Z,6.1nm,0.9s,mb4.3
WHFO Wadi Hawf 39.98 285 P **P 14 06 56.3 +1.0**
SNR=15
KURK Kurchatov 41.86 345 *e*P **P 14 07 11.4 +0.7**
KURK pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
KURK Kurchatov 41.86 345 *e*P **P 14 07 11.4 +0.7**
comp=Z,10nm,0.6s,mb4.6
IRK Irkutsk 42.07 9 *e*P **P 14 07 07.6 -4.8**
IRK *e* 14 13 35.7
IRK pmax pmax
comp=Z,37nm,4.2s
FITZ Fitzroy Crossi 42.11 133 P **P 14 07 13.8 +1.0**
comp=Z,3.2nm,0.7s,mb4.1,baz=321,slow=11,SNR=3.7
ABKT Ailbek 42.28 316 P **P 14 07 14.4 +0.3**
comp=Z,869nm,0.5s,SNR=35
CN2 Changchun 42.39 34 *e*P **P 14 07 15.3 +0.2**
CN2 *e*AP pP 14 07 21.9 -0.7
CN2 *e*S **S 14 13 35.6 +0.6**
CN2 *e*SS SS 14 16 39.0 -5.3
CN2 AMB AMB
comp=Z,20nm,1.1s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,16.0s,MS5.3
CN2 LR LR
comp=E,2μm,16.0s,MS5.3
CN2 LR LR
comp=Z,2μm,17.0s,MS5.1
HIA Hailar 43.71 24 *e*P **P 14 07 26.3 +0.6**
HIA pmax pmax
comp=Z,53nm,1.7s
HIA Hailar 43.71 24 *e*P **P 14 07 26.3 +0.7**
comp=Z,52nm,1.7s,mb5.0
KRAR Krasnoyarsk 45.10 359 *e*P **P 14 07 37.1 +0.3**
KRAR pmax pmax
comp=Z,58nm,1.2s,mb5.3
MDJ Mudanjiang 45.22 35 P **P 14 07 38.3 +0.6**
MDJ AP pP 14 07 44.3 -1.1
MDJ PP PP 14 09 25.3 +1.7
MDJ SCP ScP 14 13 08.9 +0.4
MDJ S **S 14 14 17.3 +1.1**
MDJ AMB AMB
comp=Z,6.0nm,1.1s,mb4.3
MDJ AMB AMB
comp=Z,170nm,5.6s
MDJ LR LR
comp=N,782nm,18.6s,MS4.7
MDJ LR LR
comp=E,334nm,21.4s,MS4.7
MDJ LR LR
comp=Z,932nm,16.7s,MS4.8
VLA Vladivostok 45.71 38 *i* P **P 14 07 42.1 +0.5**
VLA pmax pmax
comp=Z,24nm,1.1s,mb5.0
VLA MLR MLR
comp=Z,2μm,15.1s,MS5.1
VOSK Vostochnaya 45.88 340 P **P 14 07 41.1 -1.9**
VOSK pmax pmax
comp=Z,28nm,1.3s,mb5.0
BVA0 Borovoye Array 46.33 340 *i* P **P 14 07 45.3 -1.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BVAR Borovoye Array 46.33 340 P **P 14 07 47.0 +0.4**
comp=Z,9.9nm,1.0s,mb4.7,baz=142,slow=7.5,SNR=14
BRVK Borovoye 46.40 340 *e*P **P 14 07 45.2 -1.9**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRVK Borovoye 46.40 340 *e*P **P 14 07 45.2 -1.9**
comp=Z,7.5nm,0.9s,mb4.6
ZRNK Zerenda 46.75 339 *i* P **P 14 07 49.0 -0.8**
ZRNK pmax pmax
comp=Z,14nm,1.1s,mb4.8
ZRNK Zerenda 46.75 339 *e*P **P 14 07 48.9 -0.9**
comp=Z,9.1nm,1.0s,mb4.7
MAT Matsushiro 46.98 50 P **P 14 07 55.0 +3.3**
MAT S **S 14 14 50.0 +8.4**
MAT Matsushiro 46.98 50 *e*P **P 14 07 55.0 +3.3**
MAT *e*S **S 14 14 50.0 +8.4**
MAT LR LR
comp=Z,710nm,20.0s,MS4.6
MJAR Matsushiro Arr 46.99 50 P **P 14 07 52.6 +1.0**
comp=Z,3.3nm,1.1s,mb4.2,baz=257,slow=8.7,SNR=4.2
MJAR PcP PcP 14 09 25.2 +1.4
comp=Z,6.3nm,0.9s,baz=257,slow=4.1,SNR=8.8
MJAR LR LR 14 30 53.3
comp=Z,796nm,20.0s,MS4.7,baz=260,slow=40
MJAR Matsushiro Arr 46.99 50 P **P 14 07 52.7 +1.0**
MJAR 14 09 25.2
MUN Mundaring 47.37 155 *e*P **P 14 07 54.0 -0.7**
KLBR Kellerberrin 47.71 153 *e*P **P 14 07 54.7 -2.6**
comp=Z,26nm,0.8s,mb5.3
AB31 Akbulak array 47.84 330 *e*P **P 14 07 56.6 -1.7**
AB31 pmax pmax
comp=Z,12nm,1.0s,mb4.9
NWAO Narrogin (SRO) 48.62 154 P **P 14 08 03.6 -0.8**
comp=Z,12nm,0.7s,mb5.0,baz=334,slow=10,SNR=7.9
NWAO Narrogin (SRO) 48.62 154 *e*P **P 14 08 04.6 +0.2**
NWAO pmax pmax
comp=Z,12nm,0.8s
NWAO Narrogin (SRO) 48.62 154 *e*P **P 14 08 04.6 +0.3**
comp=Z,12nm,0.8s,mb5.0
KLR Kul'dur 49.21 32 *e*P **P 14 08 05.7 -3.2**
KLR *e*S **S 14 15 06.0 -7.1**
KLR *e*SS SS 14 18 35.5 -9.0
KLR MLR MLR
comp=N,1μm,13.0s,MS5.2
KLR MLR MLR
comp=E,1μm,13.0s,MS5.2
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.5
BOD Bodaibo 49.23 14 *e*P **P 14 08 07.1 -1.9**
BOD pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
AKTK Aktyubinsk 49.55 330 P **P 14 08 05.8 -5.7**
AKTO Aktyubinsk 49.55 330 LR LR 14 34 40.3
comp=Z,1μm,19.6s,MS4.9,baz=0.0,slow=43
WRA Warramunga Arr 49.75 128 P **P 14 08 12.3 -0.7**
comp=Z,16nm,0.9s,mb5.1,baz=304,slow=8.5,SNR=47
WRAB Tennant Creek 49.76 128 P **P 14 08 13.1 +0.1**
comp=Z,109nm,1.1s,mb5.8,SNR=5.2
WRAB Tennant Creek 49.76 128 *e*P **P 14 08 13.8 +0.8**
WRAB pmax pmax
comp=Z,19nm,0.8s,mb5.2
WRAB Tennant Creek 49.76 128 *e*P **P 14 08 13.8 +0.7**
comp=Z,19nm,0.8s,mb5.2
WB2 Warramunga Arr 49.76 128 *e*P **P 14 08 12.6 -0.5**
BHD Baghdad 50.95 304 *ex* x 14 08 18.0
CLNS Chul'man 51.58 21 *e*P **P 14 08 25.2 -1.6**
CLNS *e*PP pP 14 08 32.3 -2.2
CLNS *e* 14 09 41.2
CLNS *e*S **S 14 15 37.0 -9.0**
CLNS pmax pmax
comp=Z,25nm,1.2s,mb5.0
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,14nm,1.2s
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax
comp=E,169nm,11.0s

CLNS smax
comp=Z,140nm,8.9s
CLNS smax
comp=N,58nm,9.5s
CLNS MLR MLR
comp=Z,2μm,11.0s,MS5.3
CLNS MLR MLR
comp=N,200nm,14.0s,MS5.2
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.2
ASPA Alice Springs 51.59 132 *e*P **P 14 08 26.5 -0.4**
AS31 Alice Springs 51.59 132 *e*P **P 14 08 26.5 -0.4**
ASAR Alice Springs 51.59 132 P **P 14 08 26.2 -0.7**
comp=E,21nm,0.7s,mb5.2,baz=307,slow=6.4,SNR=14
MAK Makhachkala 51.77 317*c i*P **P 14 08 26.7 -1.5**
MAK *e* 14 10 30.0
MAK *e*S **S 14 15 47.2 -1.4**
MAK pmax pmax
comp=Z,362nm,1.0s
MAK MLR MLR
comp=Z,2μm,20.0s
DGRG David-gareji 52.65 314 P **P 14 08 37.2 +2.5**
GNI Garni 52.65 313 P **P 14 08 35.1 +0.3**
comp=Z,19nm,0.8s,mb5.1,baz=353,slow=4.0,SNR=12
GNI LR LR 14 34 21.9
comp=Z,2μm,21.3s,MS5.0,baz=120,slow=40
GNI Garni 52.65 313 *e*P **P 14 08 35.1 +0.3**
GNI pmax pmax
comp=Z,64nm,1.0s
GNI Garni 52.65 313 *e*P **P 14 08 35.1 +0.3**
comp=Z,64nm,1.0s,mb5.5
MSL Mosul 52.74 308 *e*x x 14 08 38.0
ASAJ Asahikawa 53.01 42 P **P 14 08 39.2 +1.8**
comp=Z,13nm,1.1s,mb4.8,baz=230,slow=27,SNR=4.1
ASAJ LR LR 14 31 52.8
comp=Z,743nm,19.1s,MS4.8,baz=85,slow=37
MTA Mtatsminda 53.15 314 P **P 14 08 39.7 +1.3**
TBLG Delisi 53.20 315 P **P 14 08 40.6 +1.9**
ARU Arti 53.33 336 *e*P **P 14 08 37.3 -2.5**
ARU *e* 14 09 40.4
ARU *e* 14 10 39.2
ARU *e*S **S 14 16 07.9 -2.1**
ARU *e*SS SS 14 19 51.4 +1.5
ARU MLR MLR
comp=Z,4μm,21.0s,MS5.4
ARU MLR MLR
comp=N,2μm,20.0s,MS5.3
ARU MLR MLR
comp=E,2μm,20.5s,MS5.3
DUS Dusheti 53.35 315 P **P 14 08 38.8 -1.1**
ZEI Tsey 54.15 315 *e*P **P 14 08 46.0 +0.3**
ZEI *i* *PP pP 14 08 57.4 +3.9
ZEI pmax pmax
comp=Z,15nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 54.29 39 P **P 14 08 43.0 -3.8**
YSS *e**SP sP 14 08 54.0 -3.5
YSS *e* 14 09 54.0
YSS 14 10 52.0
YSS *e*S **S 14 16 12.0 -11**
YSS *e* 14 16 28.0
YSS *e* 14 16 44.0
YSS Yuzh-Sakhalins 54.29 39 *e*P **P 14 08 48.5 +1.8**
comp=Z,26nm,1.1s,mb5.1
MARD Mardin 54.80 308 *i*P **P 14 08 50.6 +0.1**
OPO Ambohidratompo 55.02 238 P **P 14 08 51.9 -0.2**
comp=Z,3.3nm,0.9s,mb4.3,baz=53,slow=2.4,SNR=4.3
KIV Kislovodsk 55.39 316 *e*P **P 14 08 55.8 +1.1**
KIV *e* 14 09 53.2
KIV *e* 14 10 59.6
KIV *e*S **S 14 16 36.8 -0.9**
KIV *e*SS SS 14 20 26.4 +4.0
KIV pmax pmax
comp=Z,32nm,0.9s,mb5.3
KIV MLR MLR
comp=Z,674nm,18.0s,MS4.8
KIV Kislovodsk 55.39 316 *e*P **P 14 08 56.0 +1.3**
comp=Z,104nm,1.4s,mb5.7
KELT Kelkit 56.67 311 *i*P **P 14 09 02.5 -1.4**
MALT Malatya 56.85 309 *e*P **P 14 09 02.4 -2.8**
MALT pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
MALT Malatya 56.85 309 *e*P **P 14 09 02.4 -2.7**
comp=Z,3.3nm,0.4s,mb4.7
YAK Yakutsk 57.12 19⇑*e*P **P 14 09 05.9 -1.2**
YAK pmax pmax
comp=Z,35nm,1.0s,mb5.3
YAK MLR MLR
comp=Z,2μm,19.0s,MS5.3
YAK Yakutsk 57.12 19 *e*P **P 14 09 05.4 -1.7**
comp=Z,41nm,1.1s,mb5.4
SOC Sochi 57.30 315 *e*P **P 14 09 06.4 -2.0**
SOC *e**PP pP 14 09 19.5 +3.3
SOC *e* 14 11 20.6
SOC *e*PPP 14 12 32.9
SOC *e*S **S 14 16 59.9 -3.2**
SOC *e**SS sS 14 17 14.8 -1.1
SOC *e*SS SS 14 20 54.6 +2.1
SOC pmax pmax
comp=Z,32nm,0.9s,mb5.3
SOC MLR MLR
comp=Z,2μm,23.0s,MS5.1
KMBO Kilima Mbogo 58.11 262 P **P 14 09 14.1 0.0**
comp=Z,1.0nm,0.6s,mb4.0,baz=60,slow=13,SNR=7.8
KMBO LR LR 14 33 20.7
comp=Z,448nm,19.2s,MS4.6,baz=88,slow=35
KMBO Kilima Mbogo 58.11 262 *e*P **P 14 09 16.6 +2.5**
KMBO pmax pmax
comp=Z,36nm,1.9s
KMBO Kilima Mbogo 58.11 262 *e*P **P 14 09 16.6 +2.5**
comp=Z,36nm,1.9s,mb5.1
EIL Elat 58.29 298 *e*P **P 14 09 14.3 -1.0**
comp=Z,99nm,0.9s,mb5.8
EIL *e*pP pP 14 09 22.8 -0.3
ANN Anapa 59.23 316 *e*P **P 14 09 18.1 -3.8**
ANN *e*PPP 14 12 54.4
ANN *e*S **S 14 17 23.5 -4.7**
ANN *e*SS SS 14 21 21.0 -1.8
ANN pmax pmax
comp=Z,165nm,6.1s
CTA Charters Tower 59.50 121 *e*P **P 14 09 24.3 +0.6**
comp=Z,11nm,0.9s,mb4.9
CTA Charters Tower 59.50 121 *e*P **P 14 09 24.3 +0.6**
CTA pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 59.50 121 *e*P **P 14 09 25.1 +1.4**
CTAO *e**PP pP 14 09 31.4 -0.2
CTAO pmax pmax
comp=Z,22nm,1.1s,mb5.1
CTAO Charters Tower 59.50 121 *e*P **P 14 09 25.1 +1.4**
comp=Z,22nm,1.1s,mb5.1
CTAO *e*pP pP 14 09 31.4 -0.2
BOYT Boyabat 60.18 312 *i*P **P 14 09 24.6 -3.8**
VOR Voronezh 60.38 324 P **P 14 09 34.0 +4.2**
VOR pmax pmax
comp=Z,60nm,1.0s,mb5.6
VOR pmax pmax
comp=Z,70nm,1.4s,mb5.5
BR131 Keskin Array S 60.79 310 *e*P **P 14 09 31.1 -1.4**
comp=Z,10nm,0.9s,mb5.0
BRTR Keskin Array B 60.79 310 P **P 14 09 30.0 -2.5**
comp=Z,1.4nm,0.7s,mb4.2,baz=259,slow=20,SNR=14
ELDT Eldivan 61.09 310 *i*P **P 14 09 34.3 -0.3**
SIM Simferopol' 61.55 315 *e*P **P 14 09 38.3 +0.6**
SIM pmax pmax
comp=Z,14nm,0.8s,mb5.1
SIM Simferopol' 61.55 315 *e*P **P 14 09 38.3 +0.6**
SIM *e*S **S 14 17 57.6 -0.3**
SIM pmax pmax
comp=Z,14nm,0.8s,mb5.1
SIM MLR MLR
comp=Z,990nm,20.8s,MS5.0
STKA Stephens Creek 61.92 135 *e*P **P 14 09 38.2 -2.0**
comp=Z,14nm,0.9s,mb5.1
STKA Stephens Creek 61.92 135 P **P 14 09 38.2 -2.0**
comp=Z,16nm,0.9s,mb5.2,baz=312,slow=5.9,SNR=19
STKA LR LR 14 36 59.8
comp=Z,1μm,22.0s,MS5.1,baz=304,slow=36
SGKT Sivrigoynuk 62.13 310 *i*P **P 14 09 39.1 -2.5**
TKTP Tekketepe 63.08 307 *i*P **P 14 09 46.8 -1.2**
OBN Obninsk 63.09 327⇓*e*P **P 14 09 48.0 0.0**
OBN *e* 14 12 01.0
OBN *i*S **S 14 18 16.2 -1.1**
OBN pmax pmax
comp=Z,33nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.3
OBN Obninsk 63.09 327 *e*P **P 14 09 48.7 +0.7**
OBN LR LR
comp=Z,2μm,20.0s,MS5.3
KLMR Klimovskoe 63.97 334 *e*P **P 14 09 57.2 +3.4**
KLMR *e*S **S 14 18 25.6 -2.7**
KLMR pmax pmax
comp=Z,20nm,1.9s,mb4.8
KLMR smax
comp=E,480nm,4.3s
KLMR MLR MLR
comp=Z,1μm,18.0s,MS5.2
MA2 Magadan 64.03 28*ce*P **P 14 09 54.5 +0.3**
MA2 *e*S **S 14 18 28.9 -0.1**
MA2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
MA2 MLR MLR
comp=N,5μm,17.0s
TIXI Tiksi 64.30 11 *e*P **P 14 09 50.5 -5.5**
TIXI *e* 14 12 13.4
TIXI *e*S **S 14 18 23.5 -8.9**
TIXI *e*SS SS 14 22 33.5 -8.6
TIXI pmax pmax
comp=Z,22nm,1.1s,mb5.1
TIXI MLR MLR
comp=Z,940nm,15.0s,MS5.1
TIXI Tiksi 64.30 11⇑*i*P **P 14 09 53.6 -2.4**
PET Petropavlovsk 65.98 37 *e*P **P 14 10 12.0 +5.1**
PET *e*PPP 14 14 08.0
PET *e*S S 14 19 05.5 +12
PET pmax pmax
comp=Z,100nm,11.7s
PET MLR MLR
comp=Z,900nm,20.0s,MS5.0
PET MLR MLR
comp=N,1μm,21.0s,MS5.2
PET MLR MLR
comp=E,1μm,22.0s,MS5.2
AKASG Malin Array Be 66.07 321 P **P 14 10 05.2 -2.3**
comp=E,0.2nm,0.3s,baz=84,slow=5.8,SNR=3.3
SEY Seymchan 66.14 25 *e*P **P 14 10 04.6 -3.3**
SEY *e* 14 12 33.3
SEY *e*PPP 14 14 12.5
SEY *e*S S 14 18 50.3 -4.6
SEY *e*SS SS 14 23 11.9 +1.2
SEY pmax pmax
comp=E,4.0nm,1.3s
SEY pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
SEY smax
comp=N,340nm,32.0s
SEY smax
comp=E,285nm,23.0s
SEY MLR MLR
comp=Z,3μm,21.0s,MS5.5
SEY MLR MLR
comp=N,2μm,20.0s,MS5.4
SEY MLR MLR
comp=E,1μm,23.0s,MS5.4
SEY Seymchan 66.14 25⇓*i*P **P 14 10 07.0 -0.9**
VRI Vrincioaia 66.83 315⇑P **P 14 10 14.2 +1.9**
VRI Vrincioaia 66.83 315⇑P **P 14 10 14.2 +1.9**
MLR Muntele Rosu 67.32 315 P **P 14 10 15.2 -0.2**
comp=E,2.1nm,0.6s,mb4.3,baz=266,slow=9.1,SNR=3.2
ARMA Armidale 68.52 129 *e*P **P 14 10 25.8 +2.8**
APA Apatity 69.23 339⇑*i*P **P 14 10 33.5 +6.1**
APA *i* 14 10 52.8
APA pmax pmax
comp=Z,140nm,1.6s,mb5.6
APA MLR MLR
comp=Z,3μm,19.0s,MS5.5
DRGR 69.70 316⇑P **P 14 10 30.8 +0.5**
DRGR 69.70 316⇑P **P 14 10 30.8 +0.5**
FINES FINESS Array B 70.28 332 P **P 14 10 32.9 -1.0**
comp=Z,2.1nm,0.7s,mb4.2,baz=102,slow=8.4,SNR=7.6
KAF Kangasniemi 70.34 332 *e*p **P 14 10 28.2 -6.0**
comp=Z,2.2nm,0.9s,mb4.1
KAF Kangasniemi 70.34 332 *e*P **P 14 10 28.2 -6.0**
KAF pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
LSZ Lusaka 70.57 250 *e*P **P 14 10 36.5 +0.8**
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LSZ Lusaka 70.57 250 *e*P **P 14 10 36.5 +0.8**
comp=Z,3.0nm,0.6s,mb4.4
CRVS Cervenica-Dubn 70.75 318 *e* **P 14 10 40.2 +3.4**
CRVS *e* 14 11 18.1
STHS Stebnicka Huta 70.95 319 *e*P **P 14 10 37.3 -0.6**
KECS Kecovo 71.36 318 *e*P **P 14 10 40.6 +0.2**
OJC Ojcow 71.95 319 *e*P **P 14 10 43.4 -0.6**
VYHS Vyhne 72.45 317 *e*P **P 14 10 47.8 +0.8**
VYHS *e* 14 11 43.7
ARCES ARCESS Array B 72.62 340 P **P 14 10 48.0 0.0**
comp=Z,10nm,0.9s,mb4.8,baz=90,slow=6.5,SNR=19
ARCES LR LR 14 45 59.3
comp=Z,2μm,20.7s,MS5.5,baz=114,slow=39
BILL Bilibino 73.25 22⇑*e*P **P 14 10 52.1 +0.4**
BILL *e* 14 13 33.2
BILL *i*S S 14 20 16.0 -2.5
BILL pmax pmax
comp=Z,11nm,1.3s,mb4.6
BILL MLR MLR
comp=Z,2μm,20.0s,MS5.3
BILL Bilibino 73.25 22 *e*P **P 14 10 50.7 -1.0**
comp=Z,9.2nm,1.1s,mb4.6
DPC Dobruska-Polom 74.19 319 AMS AMS 14 46 30.0
comp=Z,700nm,29.8s
KSP Ksiaz 74.22 320 *e*P **P 14 10 58.8 +1.4**
KSP *e*S S 14 20 26.5 -3.0
KSP MLR MLR
comp=Z,1μm,20.8s,MS5.2
TREC Trest 74.69 318 AMS AMS 14 46 10.0
comp=Z,800nm,20.2s
PRU Pruhonice 75.32 319 AMS AMS 14 47 10.0
comp=Z,700nm,25.1s
BRG Berggiesshubel 75.71 320 *e*P pP 14 11 18.4 +4.3
BRG *e* 14 11 36.4
BRG S S 14 20 46.0 -0.1
BRG SS SS 14 25 38.0 +0.2
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG pmax pmax
comp=Z,11nm,1.4s,mb4.6
BRG MLR MLR
comp=N,159nm,16.8s,MS4.7
BRG MLR MLR
comp=E,286nm,21.3s,MS4.7
BRG MLR MLR
comp=Z,382nm,15.5s
BRG Berggiesshubel 75.71 320 *e*P pP 14 11 18.4 +4.3
comp=Z,3.4nm,1.0s
BRG *e* 14 11 36.4
comp=Z,3.1nm,0.9s
BRG *e* 14 12 04.1
comp=Z,11nm,1.4s
BRG S S 14 20 46.0 -0.1
BRG SS SS 14 25 38.0 +0.2
BRG
comp=N,159nm,16.8s
BRG
comp=E,286nm,21.3s
BRG
comp=Z,382nm,15.5s
GERES GERESS Array B 75.87 318 P **P 14 11 06.0 -0.9**
comp=Z,2.1nm,0.8s,mb4.1,baz=93,slow=5.3,SNR=11
GERES LR LR 14 49 53.8
comp=Z,584nm,20.6s,MS4.9,baz=93,slow=40
LBTB Lobatse 75.94 241 *e*P **P 14 11 08.5 +1.1**
LBTB pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
LBTB Lobatse 75.94 241 *e*P **P 14 11 08.5 +1.2**
comp=Z,6.2nm,1.1s,mb4.5
KHC Kasperske Hory 75.95 318 AMS AMS 14 43 30.0
comp=Z,700nm,29.4s
CLL Collm 76.31 320 *e*P **P 14 11 10.1 +0.7**
CLL *e* 14 11 41.3
CLL *e* 14 12 08.3
CLL *e*PPP 14 15 46.1
CLL *e*S S 14 20 51.1 -1.5
CLL *e*SP 14 21 24.4
CLL *e*SSS 14 29 12.1
CLL *e*LR LR 14 35 56.8
CLL *e*L 14 51 19.3
comp=Z,966nm,20.0s
CLL Collm 76.31 320 *ex* x 14 11 39.0
CLL *ex* x 14 12 02.0
CLL *e*PPP 14 15 54.0
CLL *e*S S 14 20 51.0 -1.6
CLL *e*SP 14 21 25.0
CLL *e*SSS 14 29 12.0
CLL *ex* x 14 30 12.0
CLL LmV 14 50 00.0
comp=Z,1μm,21.0s
NKC Novy Kostel 76.67 319 AMS AMS 14 48 00.0
comp=Z,800nm,22.6s
NB2 NORSAR Subarra 77.34 330 P **P 14 11 12.8 -2.5**
comp=Z,4.0nm,1.0s,mb4.3,baz=90,slow=5.9
NB2 NORSAR Subarra 77.34 330 P **P 14 11 12.8 -2.5**
NB2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
NOA NORSAR Array B 77.34 330 P **P 14 11 13.2 -2.1**
comp=Z,1.7nm,0.8s,mb4.0,baz=90,slow=5.8,SNR=6.3
BOSA Boshof 77.42 237 P **P 14 11 14.2 -1.5**
comp=Z,3.8nm,0.7s,mb4.5,baz=60,slow=3.9,SNR=5.0
BOSA LR LR 14 40 48.0
comp=Z,388nm,18.7s,MS4.8,baz=256,slow=32
GRA1 Grafenberg Arr 77.47 319 *e*P **P 14 11 16.7 +0.7**
GRA1 LR LR
comp=Z,400nm,19.8s,MS4.7
GRF Grafenberg Arr 77.47 319 *e*P **P 14 11 16.7 +0.7**
GRF *e*L 14 52 04.7
comp=Z,405nm,19.8s
CASY Casey 77.80 173 *e*P **P 14 11 16.6 -1.2**
comp=Z,126nm,1.4s,mb5.7
KBS Kingsbay 78.01 349 *e*PP PP 14 14 14.5 -0.7
KBS *e*S S 14 21 10.5 -0.7
KBS AMS AMS 14 53 05.6
comp=Z,610nm,15.6s,MS5.0
KONO Kongsberg 78.15 329 *e*P **P 14 11 22.3 +2.5**
KONO *e*S S 14 21 08.7 -4.0
KONO Kongsberg 78.15 329 *e*P **P 14 11 22.3 +2.5**
KONO *e* 14 21 11.2
BER Bergen 80.25 330 *e*P **P 14 11 34.8 +3.5**
BER *e*S S 14 21 30.8 -4.2
BER AMS AMS 14 51 25.4
comp=Z,1μm,23.1s,MS5.2
LPG La Plagne 80.78 315 *e*P **P 14 11 34.5 +0.4**
comp=Z,27nm,0.8s,mb4.9
LPG La Plagne 80.78 315 *e*P **P 14 11 34.5 +0.4**
LPG pmax pmax
comp=Z,13nm,0.8s,mb4.9
LPG La Plagne 80.78 315 *e*P **P 14 11 34.5 +0.4**
comp=Z,13nm,0.8s,mb4.9
MAW Mawson 81.47 192 LR LR 14 42 31.9
comp=Z,950nm,19.0s,MS5.2,baz=36,slow=32
JMIC Jan Mayen 84.04 341 LR LR 14 51 40.9
comp=Z,1μm,20.5s,MS5.2,baz=75,slow=37
DAG Danmarks Havn 84.68 348 *i*P **P 14 11 50.0 -4.4**
comp=Z,4.5nm,0.8s,mb4.7
DAG Danmarks Havn 84.68 348 *e*P **P 14 11 50.0 -4.4**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
DAG Danmarks Havn 84.68 348 *e*P **P 14 11 50.0 -4.4**
comp=Z,4.5nm,0.8s,mb4.7
TORD Torodi Ar. Bea 90.24 283 P **P 14 12 20.8 -0.4**
comp=Z,2.8nm,0.8s,mb4.6,baz=83,slow=4.0,SNR=18
TORD PP PP 14 15 54.9 -0.1
comp=Z,2.2nm,0.9s,baz=54,slow=6.7,SNR=7.9
MCK McKinley 91.64 23 *e*P **P 14 12 26.6 -1.1**
MCK *e**PP pP 14 12 33.7 -2.2
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
MCK McKinley 91.64 23 *e*P **P 14 12 26.6 -1.1**
comp=Z,6.0nm,1.0s,mb4.9
MCK *e*pP pP 14 12 33.7 -2.1
ILAR Eielson Array 91.91 22 P **P 14 12 27.8 -1.2**
comp=Z,1.9nm,0.8s,mb4.5,baz=297,slow=4.4,SNR=22
ILAR PKKPbc PKKPbc 14 29 47.5 +1.4
comp=Z,0.4nm,1.0s,baz=142,slow=1.9,SNR=4.7
ILAR LR LR 14 58 36.2
comp=Z,766nm,19.1s,MS5.2,baz=80,slow=39
ILAR Eielson Array 91.91 22 P **P 14 12 27.8 -1.1**
ILAR 14 29 47.5
INK Inuvik 94.09 16 P **P 14 12 38.7 -0.3**
comp=Z,2.9nm,0.6s,mb4.9,baz=358,slow=6.5,SNR=17
INK LR LR 15 00 58.9
comp=Z,631nm,21.1s,MS5.0,baz=354,slow=39
VNDA Vanda 95.73 168 P **P 14 12 45.0 -1.4**
comp=Z,2.5nm,1.0s,mb4.6,baz=118,slow=12,SNR=3.8
VNDA LR LR 14 54 43.4
comp=Z,664nm,19.3s,MS5.1,baz=301,slow=35
VNDA Vanda 95.73 168 *e*P **P 14 12 47.0 +0.5**
DBIC Dimbokro 97.85 278 *e*P **P 14 12 51.9 -4.2**
SFJD Kangerlussuaq 98.34 347 LR LR 15 04 48.1
comp=Z,773nm,19.9s,MS5.2,baz=13,slow=40
YKA Yellowknife Ar 103.50 13 Pdiff Pdif 14 13 20.0 -1.2
comp=Z,0.4nm,0.9s,baz=328,slow=5.4,SNR=4.1
YKA PP PP 14 17 35.1 -2.2
comp=Z,1.1nm,1.0s,baz=332,slow=7.7,SNR=6.6
YKA PKKPbc PKKPbc 14 29 14.1 0.0
comp=Z,0.2nm,0.7s,baz=148,slow=2.8,SNR=5.8
YKA Yellowknife Ar 103.50 13 P Pdif 14 13 20.1 -1.2
YKA 14 17 35.1
PPT Papeete 117.79 104 *e*PS PS 14 29 07.4 +2.1
comp=Z,163nm,30.5s
PPT Papeete 117.79 104 *e*SS SS 14 35 30.1 -1.4
comp=Z,114nm,28.2s
PPT *e*LR LR 14 53 58.8
comp=Z,491nm,24.2s
TBI Tubuai 118.06 111 *e*PS PS 14 28 59.7 -8.1
comp=Z,114nm,26.2s
TBI Tubuai 118.06 111 *e*LR LR 14 54 07.0
comp=Z,816nm,30.5s
ULM Lac du Bonnet 118.52 8 PKP PKPdf 14 18 06.5 -1.8
comp=Z,1.5nm,0.6s,baz=3.0,slow=5.5,SNR=4.4
NVAR Mina Array Bea 122.23 30 PKP PKPdf 14 18 15.2 -0.1
comp=Z,2.8nm,0.8s,baz=285,slow=1.8,SNR=17
PDAR Pinedale Array 122.32 21 PKP PKPdf 14 18 16.6 +1.0
comp=Z,2.1nm,0.8s,baz=48,slow=1.3,SNR=9.9
MSU Marysvale 124.98 25 *e*PKIKP PKPdf 14 18 21.6 +1.0
ANMO Albuquerque 130.35 23 PKP PKPdf 14 18 31.5 +0.6
comp=Z,2.2nm,0.8s,baz=26,slow=5.1,SNR=3.6
RKT Rikitea 131.37 111 *e*SS SS 14 38 20.3 -2.4
comp=Z,94nm,34.0s
RKT *e*LR LR 15 00 17.1
comp=Z,554nm,34.8s
BLA Blacksburg 131.98 355 *e*PKIKP PKPdf 14 18 33.3 -0.7
ELN Prospectdale 132.00 355 *e*PKPdf PKPdf 14 18 35.0 +1.0
JCT Junction City 136.71 18 *e*PKIKP PKPdf 14 18 43.5 +0.7
BDFB Brasilia 143.20 258 PKP PKPdf 14 18 53.1 -1.4
comp=Z,8.0nm,0.8s,baz=93,slow=1.6,SNR=6.9
MTP Monte Pirata 145.15 325 *e*PKPdf PKPdf 14 18 59.3 +1.3
CPD Cerro la Pandu 145.40 326 *e*PKIKP PKPdf 14 18 58.4 0.0
TRQA Tornquist 145.63 214 *e*PKPdf PKPdf 14 18 58.1 -0.8
PLCA Paso Flores 147.40 201 PKPbc PKPbc 14 19 04.0 -0.3
comp=Z,8.9nm,0.8s,baz=160,slow=2.3,SNR=15
CPUP Villa Florida 149.24 236 PKPbc PKPbc 14 19 06.8 -2.3
comp=Z,5.4nm,0.8s,baz=135,slow=2.6,SNR=13
CPUP Villa Florida 149.24 236 *e*PKPdf PKPdf 14 19 06.6 +1.8
LPAZ La Paz 162.24 250 PKP PKPdf 14 19 24.2 +2.2
comp=Z,1.5nm,1.1s,baz=20,slow=6.6,SNR=3.9
LPAZ PKPab PKPab 14 20 10.6 +1.5
comp=Z,1.2nm,0.7s,baz=112,slow=5.0,SNR=4.6
LPAZ La Paz 162.24 250 PKP PKPdf 14 19 24.2 +2.2
LPAZ PKPab PKPab 14 20 10.6 +1.5

IDC 16 14:03:15.4±7.6, 995N×9301E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.7/3, Error ellipse: s-maj=399.5km s-min=29.0km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.84**	**348**	P	P	14 10 33.6	0.0
	0.8nm,0.6s,baz=164,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**50.37**	**126**	P	P	14 12 14.2	0.0
	0.8nm,0.6s,baz=305,slow=8.7,SNR=5.9						
ASAR	**Alice Springs**	**52.10**	**130**	P	P	14 12 28.1	+0.9
	1.0nm,0.7s,baz=306,slow=6.2,SNR=5.1						

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*IDC **16** 14:09:44.3±0.9, 5167N×17350W, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.1/24, mbtmp3.9/17, ML4.8/1, Error ellipse: s-maj=24.8km s-min=17.8km az=169.0*
*ISCJB **16** 14:09:50.0±1.2, 518N±0.1×17330W±0.07, h48km±8km, mb4.2/26, Error ellipse: s-maj=17.6km s-min=7.1km az=160.0*

*MOS **16** 14:09:49.2±1.3,5170N×17329W,h48km,mb4.5/6,Error ellipse: s-maj=19.1km s-min=10.7km az=82.0*
*NEIC **16** 14:09:50.7±1.1,5171N×17337W,h42km±8km,mb4.2/8, Error ellipse: s-maj=13.7km s-min=6.8km az=170.0*

ISC 16 14:09:51.2±1.1,518N±01×17332W±007,h45km±8km,n48, σ0§98/50,mb4.2/26,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.68**	**308**	P	**Pn**	**14 10 03.9**	**-0.6**
ATKA				S	**Sn**	**14 10 13.9**	**-0.2**
ADK	**Adak**	**2.09**	**274**	P	**Pn**	**14 10 22.6**	**-1.1**
ADK				S	**Sn**	**14 10 49.4**	**+0.9**
UNV	**Unalaska Valle**	**4.62**	**61**	P	**Pn**	**14 10 59.5**	**+1.0**
KDAK	**Kodiak Island**	**13.36**	**55**	Pn	**Pn**	**14 12 57.6**	**-0.6**
	0.6nm,0.3s,baz=7.2,slow=21,SNR=8.3						
SLKM	**Skilak Lake**	**15.48**	**47**	*e*P	**Pn**	**14 13 28.0**	**+1.6**
PMR	**Palmer**	**16.42**	**44**	P	**Pn**	**14 13 43.2**	**+4.8**
MCK	**McKinley**	**17.53**	**38**	*e*P	**Pn**	**14 13 52.3**	**0.0**
ILAR	**Eielson Array**	**18.84**	**36**	P	**Pn**	**14 14 05.5**	**-2.7**
	1.3nm,0.3s,baz=225,slow=8.8,SNR=108						
BILL	**Bilibino**	**19.07**	**336**	*e*P	**Pn**	**14 14 12.7**	**+1.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL	**Bilibino**	**19.07**	**336**	*e*Pn	**Pn**	**14 14 12.7**	**+1.8**
	comp=Z,3.6nm,0.9s						
INK	**Inuvik**	**25.18**	**34**	P	**P**	**14 15 11.9**	**-0.6**
	comp=Z,2.7nm,0.3s,mb4.2,baz=245,slow=6.1,SNR=26						
YKA	**Yellowknife Ar**	**32.45**	**48**	P	**P**	**14 16 16.8**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=273,slow=7.9,SNR=12						
YKA				PcP	PcP	14 19 03.9	+0.4
	comp=Z,0.2nm,0.6s,baz=283,slow=2.7,SNR=2.8						
YKA	**Yellowknife Ar**	**32.45**	**48**	P	**P**	**14 16 16.8**	**-0.3**
YKA				PcP	PcP	14 19 03.9	+0.4
NVAR	**Mina Array Bea**	**40.11**	**87**	P	**P**	**14 17 23.8**	**+1.3**
	comp=Z,0.5nm,0.8s,mb3.3,baz=300,slow=7.2,SNR=3.9						
BW06	**Boulder Array**	**42.91**	**76**	*e*P	**P**	**14 17 45.6**	**+0.2**
	comp=Z,1.5nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**42.91**	**76**	P	**P**	**14 17 45.9**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=310,slow=3.8,SNR=8.0						
FCC	**Fort Churchill**	**43.17**	**48**	*e*P	**P**	**14 17 46.8**	**-0.8**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
FCC	**Fort Churchill**	**43.17**	**48**	*e*P	**P**	**14 17 46.8**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.0						
RSSD	**Black Hills**	**45.42**	**71**	P	**P**	**14 18 10.8**	**+5.3**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
RSSD	**Black Hills**	**45.42**	**71**	P	**P**	**14 18 10.8**	**+5.2**
	comp=Z,2.4nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**49.10**	**299**	P	**P**	**14 18 34.3**	**+0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**49.10**	**299**	P	**P**	**14 18 34.3**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.1						
SONM	**Songino Array**	**49.48**	**299**	P	**P**	**14 18 35.4**	**-1.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=54,slow=7.7,SNR=5.8						
ARCES	**ARCESS Array B**	**58.21**	**352**	P	**P**	**14 19 40.4**	**-0.4**
	comp=Z,7.9nm,1.1s,mb4.7,baz=11,slow=7.7,SNR=7.0						
MKAR	**Makanchi Array**	**62.39**	**311**	P	**P**	**14 20 08.8**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.7,baz=48,slow=6.4,SNR=7.1						
BVAR	**Borovoye Array**	**62.72**	**322**	P	**P**	**14 20 11.7**	**+0.1**
	comp=Z,2.7nm,0.4s,mb4.7,baz=55,slow=5.9,SNR=20						
ZRNK	**Zerenda**	**63.29**	**323**	*e*P	**P**	**14 20 15.1**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**63.29**	**323**	*e*P	**P**	**14 20 15.1**	**-0.3**
	comp=Z,3.0nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**66.06**	**350**	P	**P**	**14 20 32.1**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=354,slow=9.6,SNR=5.4						
NOA	**NORSAR Array B**	**67.47**	**358**	P	**P**	**14 20 41.8**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.7,baz=4.4,slow=6.6,SNR=2.4						
AKTK	**Aktyubinsk**	**69.25**	**328**	P	**P**	**14 20 53.7**	**+0.2**
AKTO	**Aktyubinsk**	**69.25**	**328**	P	**P**	**14 20 53.7**	**+0.2**
	comp=Z,2.6nm,0.5s,mb4.4,baz=47,slow=6.3,SNR=8.8						
AKTO	**Aktyubinsk**	**69.25**	**328**	P	**P**	**14 20 53.7**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
PMG	**Port Moresby**	**69.78**	**222**	P	**P**	**14 20 57.1**	**+0.3**
PMG				pmax	pmax		
	comp=Z,31nm,1.2s						
PMG	**Port Moresby**	**69.78**	**222**	P	**P**	**14 20 57.1**	**+0.2**
	comp=Z,31nm,1.2s,mb5.1						
LSA	**Lhasa**	**70.47**	**293**	*e*P	**P**	**14 21 03.1**	**+2.0**
LSA				*e*	pP	14 21 15.7	+1.7
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**70.47**	**293**	*e*P	**P**	**14 21 03.1**	**+2.0**
	comp=Z,5.3nm,0.6s,mb4.7						
LSA				*e*	pP	14 21 15.7	+1.7
GUN	**Gumba**	**74.81**	**296**	*e*P	**P**	**14 21 27.9**	**+1.0**
	comp=Z,12nm,0.4s,mb5.1						
JIRN	**Jiri**	**74.83**	**295**	*e*P	**P**	**14 21 27.9**	**+0.9**
	comp=Z,9.8nm,0.5s,mb5.0						
KKN	**Kakani**	**75.24**	**296**	*e*P	**P**	**14 21 29.7**	**+0.4**
PKI	**Pulchoki**	**75.34**	**296**	*e*P	**P**	**14 21 30.4**	**+0.5**
	comp=Z,1.5nm,0.2s,mb4.5						
GKN	**Gorkha**	**75.44**	**297**	*e*P	**P**	**14 21 30.9**	**+0.5**
DMN	**Daman**	**75.48**	**296**	*e*P	**P**	**14 21 31.5**	**+0.8**
AKASG	**Malin Array Be**	**76.11**	**345**	P	**P**	**14 21 33.4**	**-0.9**
	comp=Z,1.6nm,0.4s,mb4.3,baz=16,slow=6.0,SNR=7.4						
GERES	**GERESS Array B**	**79.57**	**355**	P	**P**	**14 21 53.1**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=32,slow=5.3,SNR=6.4						
WRA	**Warramunga Arr**	**84.76**	**228**	P	**P**	**14 22 18.0**	**-2.7**
	comp=Z,0.6nm,1.0s,mb3.7,baz=27,slow=5.8,SNR=3.2						
BRTR	**Keskin Array B**	**85.88**	**339**	P	**P**	**14 22 27.4**	**+1.1**
	comp=Z,1.0nm,0.8s,mb4.1,baz=46,slow=3.9,SNR=4.9						
ASAR	**Alice Springs**	**88.18**	**227**	P	**P**	**14 22 36.1**	**-1.3**
	comp=Z,0.3nm,0.6s,mb3.7,baz=22,slow=4.9,SNR=6.6						

IDC 16 14:09:53.5±24.0,1127S×6531E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/19,mbtmp3.6/3,Error ellipse: s-maj=735.7km s-min=44.3km az=68.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**66.06**	**111**	P	P	14 20 42.9	+0.8
	0.4nm,0.6s,baz=266,slow=6.1,SNR=6.6						
WRA	**Warramunga Arr**	**66.67**	**107**	P	P	14 20 46.6	+0.6
	0.6nm,0.7s,baz=274,slow=5.6,SNR=7.5						
SONM	**Songino Array**	**69.22**	**28**	P	P	14 21 02.4	+0.3
	0.4nm,0.6s,baz=211,slow=2.5,SNR=4.1						

*ISCJB **16** 14:25:03.3±1.2,5939N±004×27.1E±03,h0km,Error ellipse: s-maj=21.2km s-min=5.1km az=3.2*
*HEL **16** 14:25:06.5±0.4,5932N×2737E,h0km,ML2.2(NAO), Explosion*
*NAO **16** 14:25:06.8±2.1,5929N×2699E,ML2.2*
*BER **16** 14:25:07.0±1.8,5931N×2728E,h0km,ML2.2(NAO), Suspected explosion*
*IDC **16** 14:25:08.7±2.0,5942N×2707E,h0km,mb1 3.2/4, mb1mx3.0/21,mbtmp3.2/4,ML2.7/4,Error ellipse: s-maj=18.5km s-min=11.8km az=116.0*

ISC 16 14:25:06.2±0.8,5936N±004×268E±01,h0km,n10, σ1§07/16,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.90**	**183**	*i* P	**Pg**	**14 25 23.2**	**-0.3**
VSU				*i* S	**Sg**	**14 25 34.7**	**-0.4**
FIA0	**FINESS Array S**	**2.13**	**350**	*e*P	**Pn**	**14 25 44.5**	**+1.5**
FIA0				*e*SG	**Sg**	**14 26 14.7**	**+0.1**
FIA0				*e*RG		14 26 29.4	
FIA0	**FINESS Array S**	**2.13**	**350**	Pn	**Pn**	**14 25 44.6**	**+1.6**
	baz=167,slow=16						
FIA0				Lg		14 26 16.3	
	baz=167,slow=28						
FIA0				Rg		14 26 28.3	
	baz=164,slow=37						
FINES	**FINESS Array B**	**2.13**	**350**	Pn	**Pn**	**14 25 44.8**	**+1.8**
	1.6nm,0.3s,baz=162,slow=15,SNR=53						
FINES				Pg	**Pg**	**14 25 46.0**	**-1.0**
	1.6nm,0.3s,baz=163,slow=16,SNR=54						
FINES				Lg		14 26 14.8	
	2.6nm,0.3s,baz=169,slow=26,SNR=17						
FINES				Rg		14 26 28.0	
	4.7nm,0.7s,baz=164,slow=35,SNR=7.5						
HFS	**Hagfors**	**6.68**	**282**	Pn	**Pn**	**14 26 47.7**	**+2.1**
	0.1nm,0.3s,baz=95,slow=18,SNR=3.0						
HFS				Lg		14 28 39.7	
	0.4nm,0.3s,baz=91,slow=30,SNR=5.6						
NB2	**NORSAR Subarra**	**7.96**	**289**	*e*P	**Pn**	**14 27 04.0**	**+0.9**
NB2				*e*SG	**Sg**	**14 29 20.5**	**-1.2**
NOA	**NORSAR Array B**	**7.96**	**289**	Pn	**Pn**	**14 27 03.9**	**+0.8**
	0.2nm,0.3s,baz=92,slow=13,SNR=2.6						
NOA				Lg		14 29 22.1	
	0.3nm,0.3s,baz=87,slow=15,SNR=3.4						
ARA0	**ARCESS Array S**	**10.24**	**357**	Pn	**Pn**	**14 27 33.5**	**-0.8**
	baz=174,slow=14						
ARA0				Sn	**Sn**	**14 29 23.6**	**-6.2**
	baz=174,slow=28						
ARA0	**ARCESS Array S**	**10.24**	**357**	*e*P	**Pn**	**14 27 33.5**	**-0.8**
ARA0				*e*S	**Sn**	**14 29 23.6**	**-6.2**
ARCES	**ARCESS Array B**	**10.24**	**357**	Pn	**Pn**	**14 27 33.6**	**-0.8**
	0.1nm,0.3s,baz=174,slow=14,SNR=5.1						

MDD 16 14:33:08.5±4.4,3236N×773W,h0km,mb4.2/2,Error ellipse: s-maj=72.9km s-min=37.9km az=100.0,PRXIMO SIN SOLUCIN,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**5.17**	**2**	P	Pn	14 34 25.9	-1.2
	1.0nm,0.1s,SNR=6.4						
EGRO				S	Sn	14 35 23.2	-4.2
	6.9nm,0.6s,SNR=7.9						
EGRO	**El Granado**	**5.17**	**2**	P	Pn	14 34 25.9	-1.2
	1.0nm,0.1s,SNR=6.4						
EGRO				S	Sn	14 35 23.2	-4.2
	6.9nm,0.6s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.47**	**9**	P	Pn	14 34 29.4	-1.8
	0.8nm,0.1s,SNR=8.9						
EMIN				S	Sn	14 35 29.5	-5.2
	7.7nm,0.4s,SNR=18						
EMIN	**Mina Concepcio**	**5.47**	**9**	P	Pn	14 34 29.4	-1.8
	0.8nm,0.1s,SNR=8.9						
EMIN				S	Sn	14 35 29.5	-5.3
	7.7nm,0.4s,SNR=18						
ECAB	**El Cabril**	**6.01**	**18**	P	Pn	14 34 38.2	-0.4
	0.4nm,0.2s,SNR=4.0						
ECAB				S	Sn	14 35 42.7	-5.5
	5.6nm,0.4s,SNR=11						
ECAB	**El Cabril**	**6.01**	**18**	P	Pn	14 34 38.2	-0.4
	0.4nm,0.2s,SNR=4.0						
ECAB				S	Sn	14 35 42.7	-5.4
	5.6nm,0.4s,SNR=11						
EADA	**Adamuz**	**6.34**	**23**	P	Pn	14 34 42.2	-1.0
	2.3nm,0.2s,SNR=7.9						
EADA				S	Sn	14 35 50.3	-6.1
	2.6nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.34**	**23**	P	Pn	14 34 42.2	-1.0
	2.3nm,0.2s,SNR=7.9						
EADA				S	Sn	14 35 50.3	-6.1
	2.6nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**6.41**	**5**	P	Pn	14 34 42.8	-1.4
	2.1nm,0.3s,SNR=4.0						
EBAD				S	Sn	14 35 52.9	-5.1
	2.1nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**6.41**	**5**	P	Pn	14 34 42.8	-1.4
	2.1nm,0.3s,SNR=4.0						
EBAD				S	Sn	14 35 52.9	-5.1
	2.1nm,0.3s,SNR=7.9						

CASC 16 14:35:15.6±4.0,1288N×8886W,h57km±105km,MD4.0, ML4.7,3C-5D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.72**	**1**	*e*P	Pn	14 35 53.5	+24
SNVI				*e*S	Sn	14 36 04.2	+24
LFRS	**El Faro**	**0.76**	**345**	*e*P	Pn	14 35 53.5	+23
LFRS				*e*S	Sn	14 36 07.7	+26
LCBS	**La Ceiba**	**0.78**	**351**	⇓*i*P	Pn	14 35 54.0	+23
LCBS				*e*S	Sn	14 36 09.7	+28
BLLM	**Bellamira**	**0.82**	**47**	⇓*e*P	Pn	14 35 55.1	+24
BLLM				*e*S	Sn	14 36 08.4	+26
PICS	**Picacho**	**0.94**	**335**	⇓*e*P	Pn	14 35 58.1	+25
PICS				*e*S	Sn	14 36 14.4	+29
BOQS	**Boqueron**	**0.94**	**334**	⇑*e*P	Pn	14 35 56.2	+24
BOQS				*e*S	Sn	14 36 08.5	+23
CNCH	**Conchagua**	**1.07**	**69**	⇑*e*P	Pn	14 35 58.5	+24
CNCH				*e*S	Sn	14 36 13.9	+26
SBLS	**San Blas**	**1.21**	**322**	*e*P	Pn	14 36 00.2	+24
SBLS				*e*S	Sn	14 36 14.9	+23
SNJE	**San Jose**	**1.22**	**323**	*e*P	Pn	14 36 00.2	+24
SNJE				*e*S	Sn	14 36 15.3	+23
RTR	**El Retiro**	**1.27**	**323**	*e*P	Pn	14 36 00.9	+24
RTR				*e*S	Sn	14 36 16.7	+24
RBDL	**Robledal**	**1.47**	**327**	*e*P	Pn	14 36 03.7	+24
RBDL				*e*S	Sn	14 36 22.9	+25
MTO2	**Montecristo 2**	**1.58**	**342**	*e*P	Pn	14 36 05.5	+24
MTO2				*e*S	Sn	14 36 24.8	+24
CRIN	**San Cristobal**	**1.77**	**96**	*e*P	Pn	14 35 45.0	+1.1
CRIN				*e*S	Sn	14 36 04.8	-0.5
LEON	**Leon**	**1.97**	**103**	*e*P	Pn	14 35 46.8	+0.2
TEL3	**Telica 3**	**1.99**	**99**	⇑*e*P	Pn	14 35 47.3	+0.5
TEL3				*e*S	Sn	14 36 10.3	-0.2
TELN	**Telica**	**2.00**	**98**	*e*P	Pn	14 35 46.8	-0.2
IXG	**Ixpaco**	**2.02**	**310**	⇓*e*P	Pn	14 35 47.5	+0.3
IXG				*e*S	Sn	14 36 10.8	-0.4
IXG				AML	AML	14 36 14.9	
	comp=E,10μm,0.3s						
MIRN	**Miramar**	**2.14**	**102**	*e*P	Pn	14 35 49.2	+0.3
CNGN	**Cerro Negro**	**2.14**	**100**	*e*P	Pn	14 35 50.9	+2.0
MRL	**Marmol**	**2.31**	**340**	⇓*e*P	Pn	14 35 52.5	+1.2
COPN	**Copaltepe**	**2.32**	**107**	*e*P	Pn	14 35 52.2	+0.8
COPN				*e*S	Sn	14 36 18.5	-0.2
APYN	**Apoyeque**	**2.53**	**105**	*e*P	Pn	14 35 55.0	+0.7
WILN	**Americas 2**	**2.70**	**105**	*e*S	Sn	14 36 29.4	+1.3
TP2	**Tecpan 2**	**2.83**	**312**	*e*P	Pn	14 36 01.3	+3.0

IDC 16 14:39:31.1±2.4,264N×12758E,h0km,mb3.2/3,mb1 3.4/3, mb1mx3.3/15,mbtmp3.2/3,Error ellipse: s-maj=190.4km s-min=25.6km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.40**	**164**	P	P	14 44 41.9	+0.2
	0.5nm,0.8s,baz=342,slow=9.9,SNR=9.2						
ASAR	**Alice Springs**	**26.86**	**167**	P	P	14 45 12.4	-1.0
	0.1nm,0.3s,baz=340,slow=7.5,SNR=10						
MKAR	**Makanchi Array**	**58.93**	**325**	P	P	14 49 33.5	+1.5
	0.2nm,0.6s,baz=97,slow=8.5,SNR=4.1						

*IDC **16** 15:00:04.1±0.8,088S×12282E,h0km,mb4.1/8,mb1 4.2/9, mb1mx4.1/19,mbtmp4.1/9,ML3.5/1,MS3.7/1,Ms1 3.7/1, ms1mx2.7/24,Error ellipse: s-maj=36.1km s-min=16.3km az=57.0*
*MOS **16** 15:00:06.5±1.2,077S×12290E,h33km,mb4.7/7,Error ellipse: s-maj=30.7km s-min=12.6km az=126.9*
*ISCJB **16** 15:00:07.7±1.7,079S±007×12300E±009,h36km±18km, mb4.4/17,Error ellipse: s-maj=17.6km s-min=7.5km az=113.2*
*NEIC **16** 15:00:10.6±1.1,082S×12292E,h51km±12km,mb4.5/8, Error ellipse: s-maj=13.2km s-min=6.1km az=58.0*

ISC 16 15:00:10.3±1.3,085S±007×12296E±009,h39km±14km, n41,σ0§94/40,mb4.4/17,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**8.29**	**18**	*e*Pn	**Pn**	**15 02 07.3**	**-0.6**
KKM	**Kota Kinabalu**	**9.60**	**316**	P	**Pn**	**15 02 26.0**	**+0.1**
KAKA	**Kakadu**	**15.07**	**142**	*e*P	**Pn**	**15 03 42.7**	**+2.3**
	27nm,1.0s						
FITZ	**Fitzroy Crossi**	**17.35**	**171**	P	**Pn**	**15 04 09.5**	**+0.1**
	0.1nm,0.3s,baz=346,slow=8.3,SNR=3.1						
WRAB	**Tennant Creek**	**22.00**	**150**	*e*P	**P**	**15 05 00.1**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,35nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**22.00**	**150**	*e*P	**P**	**15 05 00.1**	**-0.9**
	comp=Z,34nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**22.00**	**150**	P	**P**	**15 05 00.8**	**-0.2**
	comp=Z,10nm,0.8s,mb4.3,baz=328,slow=10,SNR=44						
WB2	**Warramunga Arr**	**22.01**	**150**	*e*P	**P**	**15 05 00.6**	**-0.5**
KULM	**Kulim**	**23.10**	**286**	P	**P**	**15 05 12.5**	**-0.2**
PSI	**Prapat**	**24.30**	**279**	P	**P**	**15 05 22.4**	**-1.6**
	comp=Z,5.4nm,0.7s,mb4.1,baz=260,slow=3.6,SNR=6.2						
ASPA	**Alice Springs**	**25.04**	**156**	*e*P	**P**	**15 05 30.5**	**-0.2**
AS31	**Alice Springs**	**25.04**	**156**	*e*P	**P**	**15 05 30.5**	**-0.2**
ASAR	**Alice Springs**	**25.04**	**156**	P	**P**	**15 05 31.2**	**+0.5**
	comp=Z,5.8nm,0.8s,mb4.1,baz=346,slow=16,SNR=49						
ASAR				PcP	PcP	15 09 05.1	+0.4
	comp=Z,0.7nm,0.8s,baz=351,slow=2.0,SNR=4.7						
PMG	**Port Moresby**	**25.53**	**110**	P	**P**	**15 05 35.3**	**+0.1**
	comp=Z,14nm,0.8s,mb4.6,baz=294,slow=4.8,SNR=6.2						
PMG	**Port Moresby**	**25.53**	**110**	*e*P	**P**	**15 05 34.3**	**-0.9**
PMG				pmax	pmax		
	comp=Z,22nm,0.9s						
PMG	**Port Moresby**	**25.53**	**110**	*e*P	**P**	**15 05 34.3**	**-0.9**
	comp=Z,22nm,0.9s,mb4.7						
CTA	**Charters Tower**	**29.75**	**131**	*e*P	**P**	**15 06 13.1**	**+0.2**
	comp=Z,5.8nm,1.1s,mb4.2						
CTA	**Charters Tower**	**29.75**	**131**	LR	LR	15 17 26.0	
	comp=Z,131nm,19.6s,baz=233,slow=35						
CTA	**Charters Tower**	**29.75**	**131**	*e*P	**P**	**15 06 13.1**	**+0.2**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CTAO	**Charters Tower**	**29.75**	**131**	*e*P	**P**	**15 06 12.8**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.8						
CTAO	**Charters Tower**	**29.75**	**131**	*e*P	**P**	**15 06 12.8**	**-0.1**
	comp=Z,23nm,1.3s,mb4.7						
STKA	**Stephens Creek**	**35.53**	**152**	*e*P	**P**	**15 06 57.7**	**-5.7**
	comp=Z,3.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**35.53**	**152**	P	**P**	**15 07 01.4**	**-2.0**
	comp=Z,3.4nm,0.8s,mb4.3,baz=292,slow=9.3,SNR=6.1						
STKA	**Stephens Creek**	**35.53**	**152**	P	**P**	**15 06 57.5**	**-5.9**
JIRN	**Jiri**	**45.28**	**312**	*e*P	**P**	**15 08 24.3**	**+0.3**
	comp=Z,7.5nm,0.6s,mb4.7						
GUN	**Gumba**	**45.65**	**312**	*e*P	**P**	**15 08 27.0**	**+0.1**
	comp=Z,12nm,0.6s,mb5.0						
KKN	**Kakani**	**46.03**	**311**	*e*P	**P**	**15 08 31.1**	**+1.2**
	comp=Z,3.1nm,0.5s,mb4.5						
DMN	**Daman**	**46.07**	**311**	*e*P	**P**	**15 08 31.6**	**+1.4**
GKN	**Gorkha**	**46.63**	**311**	*e*P	**P**	**15 08 35.3**	**+0.7**
KOLN	**Koldanda**	**47.30**	**310**	*e*P	**P**	**15 08 40.7**	**+0.9**
	comp=Z,14nm,0.7s,mb5.0						
DANN	**Dangsing**	**47.47**	**311**	*e*P	**P**	**15 08 41.3**	**+0.1**
ULN	**Ulaanbaatar**	**50.46**	**346**	P	**P**	**15 09 03.8**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**50.46**	**346**	P	**P**	**15 09 03.8**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.2						
SONM	**Songino Array**	**50.59**	**346**	P	**P**	**15 09 04.2**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=158,slow=7.7,SNR=6.1						
MKAR	**Makanchi Array**	**59.31**	**329**	P	**P**	**15 10 07.1**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=122,slow=8.6,SNR=11						
KURK	**Kurchatov**	**63.69**	**330**	*e*P	**P**	**15 10 35.7**	**-1.9**
MA2	**Magadan**	**64.06**	**15**	P	**P**	**15 10 40.5**	**+0.5**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
MA2	**Magadan**	**64.06**	**15**	P	**P**	**15 10 40.5**	**+0.4**
	comp=Z,6.6nm,1.1s,mb4.6						
ZRNK	**Zerenda**	**69.86**	**329**	P	**P**	**15 11 12.7**	**-4.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**69.86**	**329**	P	**P**	**15 11 12.7**	**-4.2**
	comp=Z,1.8nm,0.9s,mb4.0						
ILAR	**Eielson Array**	**90.82**	**25**	P	**P**	**15 13 11.4**	**+1.9**
	comp=Z,0.2nm,0.6s,mb3.6,baz=248,slow=5.3,SNR=4.5						

*ISCJB **16** 15:02:22.4±0.8,3818N±003×2670E±004,h7km±5km, Error ellipse: s-maj=5.8km s-min=4.7km az=123.4*
*CSEM **16** 15:02:22.1±0.1,3819N×2671E,h9km±1km,MD3.0,Error ellipse: s-maj=3.0km s-min=2.5km az=73.0*
*ATH **16** 15:02:22.3,3815N×2678E,h34km±1km,MD3.0/3*
*ISK **16** 15:02:23.7,3821N×2678E,h21km,MD3.0*

ISC 16 15:02:23.0±0.6,3818N±003×2670E±004,h10km±4km,n18, σ0§78/29,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**335**	*i* P	**Pg**	**15 02 27.3**	**0.0**
URLA				*i* S	**Sg**	**15 02 30.8**	**+0.8**
SMG	**Samos**	**0.48**	**167**	*e*PB	**Pg**	**15 02 32.5**	**0.0**
SMG				*e*SB	**Sg**	**15 02 39.8**	**+1.0**
IZM	**Izmir**	**0.49**	**64**	PG	**Pg**	**15 02 32.7**	**+0.1**
IZM				SG	**Sg**	**15 02 39.9**	**+0.8**
KDAG	**Bornova**	**0.50**	**63**	*i* P	**Pg**	**15 02 32.7**	**0.0**
KDAG				*i* S	**Sg**	**15 02 39.5**	**+0.3**
AYDN	**Tasoluk**	**1.06**	**119**	*i* P	**Pb**	**15 02 43.0**	**-0.5**
AYDN				*i* S	**Sg**	**15 02 57.6**	**+0.2**
AKS	**Akhisar**	**1.11**	**51**	PG	**Pg**	**15 02 43.5**	**-1.0**
AKS				SG	**Sg**	**15 02 58.2**	**-0.8**
PRK	**Paraskevi**	**1.12**	**343**	*e*PN	**Pn**	**15 02 43.9**	**-0.7**
PRK				*e*SN	**Sn**	**15 02 59.8**	**-0.2**
AYVA	**Ayvalik**	**1.13**	**359**	*i* P	**Pb**	**15 02 44.5**	**-0.1**

MOS ***16*** *15:12:13.4±0.9,525N×9483E,h33km,mb5.5/81,MS4.7/6, Error ellipse: s-maj=8.2km s-min=4.1km az=121.6*
ISCJB ***16*** *15:12:14.6±0.2,508N±003×9478E±002,h49km, mb5.2/165,MS4.5/36,Error ellipse: s-maj=4.8km s-min=3.5km az=12.3*
BJI ***16*** *15:12:14.7,499N×9473E,h59km,mB5.1,mb5.3,Ms4.8, Msz4.5*
CRAAG ***16*** *15:12:15.8,528N×9483E,Mb5.3*
HRVD ***16*** *15:12:16.4±0.4,484N×9464E,h46km±1km,MW5.0/64, Centroid moment Tensor Solution. LP body waves: s45,c66;Mantle waves: s64,c97; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.43±.20; $M_{\theta\theta}$-1.71±.13; $M_{\phi\phi}$-1.72±.16; $M_{r\theta}$2.01±.11; $M_{\theta\phi}$1.93±.11; $M_{\phi r}$-1.20±.12; Best double couple: M_o4.24400×10^{16} NP1:ϕ_s324.00000°,δ29.00000°,λ105.00000°. NP2: ϕ_s127.00000°,δ62.00000°,λ82.00000°. Principal axes: T 4.1720, Plg72.0000°, Azm18.0000°; N 0.1440, Plg7.0000°, Azm131.0000°; P -4.3160, Plg16.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***16*** *15:12:16.5±0.5,509N×9479E,h52km±4km,mb4.6/30, mb1 4.7/31,mb1mx4.7/33,mbtmp4.9/31,MS4.3/13, Ms1 4.3/13,ms1mx4.1/24 Error ellipse: s-maj=12.6km s-min=7.6km az=38.0*
NEIC ***16*** *15:12:16.4±0.1,507N×9478E,mb5.3/75,Error ellipse: s-maj=5.4km s-min=3.4km az=204.0*
NEIC Felt [III] at Banda Aceh.

ISC 16 15:12:16.9±0.2,512N±003×9478E±002,h51km, h51km±.3km:pP-P,n485,σ0:89/462,mb5.2/165,MS4.5/36, 103C-9D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.73**	**119**	P			**Pn**	**15 13 26.9**	**+1.3**
	16nm,0.3s,baz=318,slow=15,SNR=34								
PSI				S			**Sn**	**15 14 22.4**	**+3.4**
	12nm,0.3s,baz=181,slow=9.1,SNR=8.4								
PSI				LR			LR	15 15 35.8	
	comp=Z,3μm,21.0s,baz=280,slow=42								
PSI	**Prapat**	**4.73**	**119**	P			**Pn**	**15 13 26.9**	**+1.3**
PSI				S			**Sn**	**15 14 22.5**	**+3.4**
KULM	**Kulim**	**5.84**	**88**	*e*Pn			**Pn**	**15 13 41.2**	**+0.3**
KULM				*e*S			**Sn**	**15 14 45.7**	**-0.9**
SNG	**Songkhla**	**6.15**	**70**	P			**Pn**	**15 13 46.0**	**+0.9**
	812nm,1.0s								
PBA	**Port Blair**	**6.80**	**343**	*e*P			Px	15 14 15.5	
PBA				*e*S			Sx	15 15 28.1	
PBA				*ex*			x	15 15 41.5	
	comp=N,339nm,0.8s								
PBA				*ex*			x	15 15 45.2	
	comp=E,262nm,1.0s								
NNT	**Nongplab**	**8.89**	**33**	P			**Pn**	**15 14 26.1**	**+3.5**
NST	**Nakhon Sawan**	**11.73**	**26**	P			**Pn**	**15 15 05.0**	**+3.5**
	comp=E,75nm,0.6s								
PALK	**Pallekele**	**14.16**	**279**	*e*Pn			**Pn**	**15 15 32.6**	**-2.0**
PALK				*e*S			**Sn**	**15 17 54.1**	**-16**
KSM	**Kuching**	**15.91**	**103**	*e*P			**Pn**	**15 15 60.0**	**+2.6**
VIS	**Vishakhapatnam**	**16.81**	**319**	*i* P			**Pn**	**15 16 07.2**	**-1.4**
VIS				AMb			AMB	15 16 23.6	
	comp=Z,80nm,1.3s								
VIS				*ex*			x	15 19 01.7	
HYB	**Hyderabad**	**20.05**	**309**	*i* P			**P**	**15 16 47.0**	**+1.4**
HYB				*e*S			**S**	**15 20 24.0**	**-4.1**
HYB	**Hyderabad**	**20.05**	**309**	*e*P			**P**	**15 16 47.0**	**+1.4**
HYB				*e*S			**S**	**15 20 37.5**	**+9.4**
QIZ	**Qiongzhong**	**20.17**	**45**	P			**P**	**15 16 49.1**	**+2.1**
QIZ				AP				15 17 00.4	
QIZ				S			**S**	**15 20 29.0**	**-1.7**
QIZ				XS			sS	15 20 42.3	-7.2
QIZ				SS				15 20 56.1	
QIZ				AMB			AMB		
	comp=Z,214nm,6.5s								
QIZ				LR			LR		
	comp=N,855nm,16.5s,MS4.3								
QIZ				LR			LR		
	comp=E,684nm,16.5s,MS4.3								
QIZ				LR			LR		
	comp=Z,1μm,17.7s,MS4.3								
QIZ	**Qiongzhong**	**20.17**	**45**	*e*P			**P**	**15 16 48.8**	**+1.8**
	comp=Z,31nm,0.9s								
BOK	**Bokaro**	**20.45**	**336**	*e*S			**S**	**15 20 37.6**	**+1.4**
SHL	**Shillong**	**20.52**	**353**	*ex*			**S**	**15 20 35.0**	**-2.6**
KMI	**Kunming**	**21.31**	**20**	P			**P**	**15 17 01.1**	**+1.8**
KMI				AP				15 17 11.4	
KMI				XP			sP	15 17 17.5	+0.1
KMI				PP				15 17 26.8	
KMI				PPP				15 17 36.5	
KMI				S			**S**	**15 20 52.3**	**-0.7**
KMI				XS			sS	15 21 10.8	-1.3
KMI				SS				15 21 27.3	
KMI				SSS				15 21 43.1	
KMI				AMB			AMB		
	comp=Z,51nm,1.1s,mb4.8								
KMI				AMB			AMB		
	comp=Z,219nm,4.2s								
KMI				LR			LR		
	comp=N,644nm,15.1s,MS4.4								
KMI				LR			LR		
	comp=E,882nm,14.3s,MS4.4								
KMI				LR			LR		
	comp=Z,965nm,21.3s								
NGP	**Nagpur**	**22.07**	**318**	⇑*ex*			**P**	**15 17 15.0**	**+7.6**
NGP				*ex*			x	15 17 32.7	
	comp=Z,136nm,2.3s								
NGP				*e*S			**S**	**15 21 11.4**	**+3.5**
LATR	**Latur**	**22.17**	**308**	*e*P			**P**	**15 17 10.0**	**+1.5**
LATR				*ex*			**S**	**15 21 09.7**	**-0.1**
KAD	**Karad**	**23.53**	**303**	*ex*			sP	15 17 42.3	+1.2
KAD				*e*S			**S**	**15 21 33.6**	**+1.1**
JIRN	**Jiri**	**23.86**	**341**	*e*P			**P**	**15 17 24.6**	**-0.9**
	comp=Z,111nm,0.6s,mb5.5								
PKI	**Pulchoki**	**24.05**	**339**	*e*P			**P**	**15 17 26.3**	**-0.9**
	comp=Z,107nm,1.0s,mb5.2								
GYA	**Guiyang**	**24.07**	**27**	⇑*i*P			**P**	**15 17 27.8**	**+0.5**
GYA				AP				15 17 42.1	
GYA				XP			sP	15 17 49.5	+3.1
GYA				PP				15 18 04.3	
GYA				S			**S**	**15 21 37.6**	**-3.6**
GYA				XS			sS	15 22 03.4	+0.4
GYA				AMB			AMB		
	comp=Z,220nm,0.8s,mb5.6								
GYA				AMB			AMB		
	comp=Z,290nm,4.2s								
GYA				LR			LR		
	comp=N,1μm,17.3s,MS4.5								
GYA				LR			LR		
	comp=E,670nm,15.0s,MS4.5								
GYA				LR			LR		
	comp=Z,2μm,17.4s,MS4.5								
DMN	**Daman**	**24.19**	**339**	*e*P			**P**	**15 17 28.1**	**-0.4**
	comp=Z,131nm,0.9s,mb5.4								
GUN	**Gumba**	**24.20**	**340**	*e*P			**P**	**15 17 27.5**	**-1.0**
	comp=Z,171nm,0.8s,mb5.5								
KKN	**Kakani**	**24.30**	**339**	*e*P			**P**	**15 17 28.6**	**-0.8**
	comp=Z,0.7nm,0.1s,mb4.3								
POO	**Poona**	**24.40**	**305**	*e*P			**P**	**15 17 28.0**	**-2.4**
POO				*ex*			x	15 18 14.5	
POO				*e*PPP				15 18 26.0	
POO				*i* x			x	15 22 05.0	
POO				*i* x			x	15 23 03.0	
POO				*i* x			x	15 23 18.0	
BHPL	**Bhopal**	**24.60**	**319**	*e*P			**P**	**15 17 33.6**	**+1.4**
BHPL				AMb			AMB	15 17 37.2	
	comp=Z,59nm,1.2s,mb5.0								
BHPL				*ex*			x	15 22 03.5	
LSA	**Lhasa**	**24.69**	**352**	P			**P**	**15 17 34.3**	**+1.3**
LSA	**Lhasa**	**24.69**	**352**	*e*P			**P**	**15 17 33.1**	**+0.1**
LSA				pmax			pmax		
	comp=Z,62nm,0.6s,mb5.3								
LSA	**Lhasa**	**24.69**	**352**	*e*P			**P**	**15 17 33.1**	**+0.1**
	comp=Z,62nm,0.6s,mb5.3								
GKN	**Gorkha**	**24.72**	**338**	*e*P			**P**	**15 17 33.1**	**-0.2**
	comp=Z,346nm,1.1s,mb5.8								
KOLN	**Koldanda**	**24.92**	**336**	*e*P			**P**	**15 17 35.9**	**+0.8**
	comp=Z,303nm,0.8s,mb5.9								
GZH	**Guangzhou**	**25.30**	**43**	P			**P**	**15 17 42.9**	**+4.3**
GZH				S			**S**	**15 22 01.1**	**+0.2**
GZH				LR			LR		
	comp=N,826nm,18.5s,MS4.4								
GZH				LR			LR		
	comp=E,587nm,17.6s,MS4.4								
GZH				LR			LR		
	comp=Z,1μm,18.5s,MS4.4								
DANN	**Dangsing**	**25.37**	**337**	*e*P			**P**	**15 17 39.9**	**+0.7**
CD2	**Chengdu**	**27.01**	**17**	P			**P**	**15 17 53.8**	**-0.2**
CD2				AP			pP	15 18 06.6	-0.4
CD2				XP			sP	15 18 13.8	+0.7
CD2				PP				15 18 44.8	
CD2				PPP				15 18 56.6	
CD2				S			**S**	**15 22 27.1**	**-0.9**
CD2				XS			sS	15 22 49.3	-0.7
CD2				SS				15 23 43.5	
CD2				AMB			AMB		
	comp=Z,50nm,1.1s,mb5.0								
CD2				AMB			AMB		
	comp=Z,80nm,4.5s								
CD2				LR			LR		
	comp=N,550nm,15.6s								
CD2				LR			LR		
	comp=Z,280nm,12.9s,MS4.0								
TGY	**Tagaytay City**	**27.26**	**69**	P			**P**	**15 17 56.7**	**+0.5**
	comp=Z,230nm,0.8s,baz=197,slow=5.1,SNR=11								
ENH	**Enshi**	**28.61**	**27**	*e*P			**P**	**15 18 07.7**	**-0.5**
	comp=Z,30nm,0.7s,mb5.1								
AJM	**Ajmer**	**28.66**	**320**	*e*P			**P**	**15 18 10.3**	**+1.6**
QZH	**Quanzhou**	**30.18**	**47**	*e*P			**P**	**15 18 25.0**	**+2.8**
QZH				*e*S			**S**	**15 23 20.5**	**+2.7**
QZH				LR			LR		
	comp=N,4μm,16.4s,MS5.2								
QZH				LR			LR		
	comp=E,3μm,19.7s,MS5.2								
QZH				LR			LR		
	comp=Z,2μm,25.2s								
WHN	**Wuhan**	**31.29**	**34**	⇑P			**P**	**15 18 32.8**	**+0.8**
XAN	**Xi'an**	**31.63**	**23**	P			**P**	**15 18 34.3**	**-0.7**
XAN				AP			pP	15 18 45.9	-2.2
XAN				AMB			AMB		
	comp=Z,137nm,0.9s,mb5.8								
XAN				AMB			AMB		
	comp=Z,67nm,5.4s								
XAN				LR			LR		
	comp=N,643nm,16.5s,MS4.5								
XAN				LR			LR		
	comp=E,497nm,15.9s,MS4.5								
XAN				LR			LR		
	comp=Z,1μm,17.4s,MS4.6								
LZH	**Lanzhou**	**31.93**	**14**	⇑P			**P**	**15 18 37.3**	**-0.3**
LZH				AP			pP	15 18 50.5	-0.2
LZH				XP			sP	15 18 57.0	+0.2
LZH				PP			PP	15 19 44.0	-6.4
LZH				PCP			PcP	15 21 28.0	+1.1
LZH				*e*S			**S**	**15 23 44.0**	**-1.1**
LZH				XS			sS	15 24 05.0	-2.3
LZH				SCP			ScP	15 25 06.5	+0.4
LZH				PCS			PcS	15 25 09.9	-1.7
LZH				SS			SS	15 25 38.3	-25
LZH				AMB			AMB		
	comp=Z,57nm,1.2s,mb5.3								
LZH				AMB			AMB		
	comp=Z,200nm,4.0s								
LZH				LR			LR		
	comp=N,2μm,13.8s								
LZH				LR			LR		
	comp=Z,2μm,16.2s,MS4.9								
GTA	**Gaotai**	**34.44**	**7**	⇑*i*P			**P**	**15 18 59.6**	**+0.1**
GTA				AP			pP	15 19 12.1	-0.6
GTA				XP			sP	15 19 17.3	-1.4
GTA				PP			PP	15 20 15.4	-2.8
GTA				PCP			PcP	15 21 34.9	+0.9
GTA				S			**S**	**15 24 23.0**	**-1.1**
GTA				XS			sS	15 24 44.3	-2.1
GTA				SCP			ScP	15 25 15.1	+0.3
GTA				SS			SS	15 26 36.0	-19
GTA				SCS			ScS	15 29 17.9	+0.3
GTA				AMB			AMB		
	comp=Z,64nm,1.0s,mb5.5								
GTA				AMB			AMB		
	comp=Z,132nm,5.7s								
GTA				LR			LR		
	comp=N,289nm,18.6s,MS4.2								
GTA				LR			LR		
	comp=E,322nm,19.8s,MS4.2								
GTA				LR			LR		
	comp=Z,392nm,20.9s,MS4.1								
NJ2	**Nanjing**	**35.01**	**37**	*e*P			**P**	**15 19 05.3**	**+0.9**
NJ2				AP			pP	15 19 17.4	-0.2
NJ2				XP			sP	15 19 22.8	-0.8
NJ2				PP			PP	15 20 24.5	0.0
NJ2				S			**S**	**15 24 32.0**	**-0.8**
NJ2				AMB			AMB		
	comp=Z,70nm,0.8s,mb5.6								
NJ2				AMB			AMB		
	comp=Z,80nm,5.6s								
NJ2				LR			LR		
	comp=N,3μm,23.8s								
NJ2				LR			LR		
	comp=E,2μm,12.8s								
NJ2				LR			LR		
	comp=Z,890nm,12.6s								
SSE	**Sheshan**	**35.82**	**41**	P			**P**	**15 19 11.8**	**+0.4**
SSE				XP			sP	15 19 30.8	+0.2
SSE				PP			PP	15 20 33.8	+0.4
SSE				PCP			PcP	15 21 37.8	-0.2
SSE				S			**S**	**15 24 46.8**	**+1.5**
SSE				XS			sS	15 25 08.8	+1.2
SSE				AMB			AMB		
	comp=Z,21nm,0.7s,mb5.2								
SSE				AMB			AMB		
	comp=Z,171nm,4.2s								
SSE				LR			LR		
	comp=N,228nm,21.6s,MS4.0								
SSE				LR			LR		
	comp=E,227nm,21.9s,MS4.0								
SSE				LR			LR		
	comp=Z,382nm,20.7s,MS4.2								
TIA	**Tai'an**	**37.14**	**31**	⇑P			**P**	**15 19 23.0**	**+0.4**
TIA				AMB			AMB		
	comp=Z,55nm,1.0s,mb5.3								
BTO	**Baotou**	**37.89**	**19**	*e*P			**P**	**15 19 28.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**38.19**	**128**	*e*P			**P**	**15 19 29.8**	**-1.7**
	comp=Z,13nm,0.8s,mb4.7								
FITZ	**Fitzroy Crossi**	**38.19**	**128**	P			**P**	**15 19 30.2**	**-1.3**
	comp=Z,9.2nm,0.9s,mb4.5,baz=279,slow=5.7,SNR=8.0								
FITZ				LR			LR	15 36 20.1	
	comp=Z,221nm,19.9s,MS4.0,baz=307,slow=38								
KSH	**Kashi**	**38.23**	**336**	*i* PR				15 19 33.1	
KSH				*e*AP			pP	15 19 44.8	-0.4
KSH				XP			sP	15 19 50.5	-0.7
KSH				PP			PP	15 21 03.5	+3.5
KSH				PPP				15 21 25.3	
KSH				PCP			PcP	15 21 47.8	+2.5
KSH				S			**S**	**15 25 21.0**	**-1.0**
KSH				SCP			ScP	15 25 30.3	+1.5
KSH				PCS			PcS	15 25 35.6	+1.2
KSH				SS			SS	15 27 59.0	-13
KSH				SCS			ScS	15 29 38.3	-0.3
KSH				AMB			AMB		
	comp=Z,34nm,0.6s,mb5.2								
KSH				LR			LR		
	comp=N,185nm,4.7s								
KSH				LR			LR		
	comp=E,246nm,5.1s								
KSH				LR			LR		
	comp=Z,167nm,5.4s								
JOW	**Kunigami**	**38.55**	**52**	P			**P**	**15 19 34.6**	**+0.1**
	comp=Z,35nm,0.8s,mb5.1,baz=256,slow=7.5,SNR=5.6								
JOW				LR			LR	15 34 57.5	
	comp=Z,517nm,21.9s,MS4.3,baz=286,slow=35								
HHC	**Hu-ho-hao-te**	**38.63**	**21**	*e*P			**P**	**15 19 35.8**	**+0.6**
HHC				AP			pP	15 19 49.8	+1.3
HHC				XP			sP	15 19 55.6	+1.1
HHC				S			**S**	**15 25 28.9**	**+0.9**
HHC				XS			sS	15 25 48.8	-1.7
HHC				SS			SS	15 28 11.3	-8.3
HHC				SCS			ScS	15 29 40.0	-0.9
HHC				AMB			AMB		
	comp=Z,56nm,1.1s,mb5.2								
HHC				LR			LR		
	comp=N,673nm,19.1s,MS4.6								
HHC				LR			LR		
	comp=E,520nm,17.6s,MS4.6								
HHC				LR			LR		
	comp=Z,689nm,25.4s								
WMQ	**Urumqi**	**39.05**	**352**	⇑*i*P			**P**	**15 19 39.0**	**+0.3**
WMQ				AP			pP	15 19 52.8	+0.7
WMQ				XP			sP	15 19 59.0	+1.0
WMQ				PP			PP	15 21 13.1	+4.2
WMQ				PPP				15 21 36.8	
WMQ				S			**S**	**15 25 32.8**	**-1.5**
WMQ				SS			SS	15 28 18.0	-10
WMQ				SCS			ScS	15 29 40.8	-2.5
WMQ				AMB			AMB		
	comp=Z,36nm,0.8s,mb5.2								
WMQ				AMB			AMB		
	comp=Z,285nm,4.8s								
WMQ				LR			LR		
	comp=N,2μm,22.0s,MS5.3								
WMQ				LR			LR		
	comp=E,4μm,24.0s,MS5.3								
WMQ				LR			LR		
	comp=Z,2μm,24.0s,MS4.9								
BJT	**Baijiatuau**	**39.73**	**26**	*e*P			**P**	**15 19 45.8**	**+1.4**
BJT				pmax			pmax		
	comp=Z,164nm,1.1s								
BJT	**Baijiatuau**	**39.73**	**26**	*e*P			**P**	**15 19 45.8**	**+1.4**
	comp=Z,164nm,1.1s,mb5.7								
BJI	**Beijing**	**39.76**	**26**	P			**P**	**15 19 45.8**	**+1.2**
BJI				S			**S**	**15 25 50.1**	**+5.2**
BJI				AMB			AMB		
	comp=Z,124nm,0.9s,mb5.6								
BJI				AMB			AMB		
	comp=Z,375nm,3.7s								
BJI				LR			LR		
	comp=N,513nm,19.5s,MS4.5								
BJI				LR			LR		
	comp=E,370nm,16.9s,MS4.5								
BJI				LR			LR		
	comp=Z,583nm,25.5s								
KZA	**Kyzart**	**40.71**	**338**	P			**P**	**15 19 54.0**	**+1.5**
	SNR=10.0								
UCH	**Uchtor**	**41.12**	**337**	P			**P**	**15 19 57.1**	**+1.3**
	SNR=59								
TKM2	**Tokmak 2**	**41.31**	**339**	P			**P**	**15 19 58.5**	**+1.1**
	SNR=6.5								
TKM2	**Tokmak 2**	**41.31**	**339**	P			**P**	**15 19 58.4**	**+1.0**
TKM2				pmax			pmax		
	comp=Z,88nm,1.7s,mb5.1								
KBK	**Karagaybulak**	**41.32**	**338**	P			**P**	**15 19 58.9**	**+1.4**
	SNR=44								
AML	**Almayashu**	**41.37**	**336**	P			**P**	**15 19 58.4**	**+0.5**
	SNR=45								
KAKA	**Kakadu**	**41.40**	**116**	*e*P			**P**	**15 19 59.6**	**+1.5**
	comp=Z,12nm,0.6s,mb4.7								
AAK	**Ala-Archa**	**41.48**	**337**	P			**P**	**15 20 00.1**	**+1.3**
	SNR=36								
AAK	**Ala-Archa**	**41.48**	**337**	P			**P**	**15 19 59.2**	**+0.5**
	comp=Z,219nm,0.8s,mb5.8,SNR=21								
DL2	**Dalian**	**41.51**	**32**	⇑P			**P**	**15 20 00.0**	**+1.0**
DL2				*e*S			**S**	**15 26 07.9**	**-3.1**
DL2				AMB			AMB		
	comp=Z,60nm,0.8s,mb5.3								
DL2				AMB			AMB		
	comp=Z,130nm,5.0s								
DL2				LR			LR		
	comp=N,270nm,15.9s,MS4.3								
DL2				LR			LR		
	comp=E,210nm,15.2s,MS4.3								
DL2				LR			LR		
	comp=Z,510nm,18.5s,MS4.4								
FRU	**Bishkek**	**41.60**	**338**	*e*P			**P**	**15 20 00.0**	**+0.2**
FRU				*e*			pP	15 20 14.0	+0.8
FRU				pmax			pmax		
	comp=Z,310nm,2.8s,mb5.4								
CHMS	**Chumysh**	**41.69**	**338**	P			**P**	**15 20 01.3**	**+0.8**
	SNR=9.2								
EKS2	**Erkin-Say**	**41.78**	**337**	P			**P**	**15 20 02.6**	**+1.3**
	SNR=22								
USP	**Ospenovka**	**42.02**	**338**	P			**P**	**15 20 04.0**	**+0.8**
	SNR=43								
MKAR	**Makanchi Array**	**42.90**	**347**	P			**P**	**15 20 10.5**	**+0.2**
	comp=Z,53nm,0.7s,mb5.3,baz=163,slow=8.7,SNR=480								
MKAR				pP			pP	15 20 23.9	0.0
	comp=Z,19nm,0.8s,baz=162,slow=8.4,SNR=7.7								
INCN	**Inchon**	**43.38**	**38**	*e*P			**P**	**15 20 14.0**	**-0.3**
	comp=Z,46nm,0.9s,mb5.2								
NWAO	**Narrogin (SRO)**	**43.42**	**152**	P			**P**	**15 20 12.2**	**-2.4**
	comp=Z,5.2nm,0.9s,mb4.2,baz=207,slow=8.9,SNR=1.9								
KKAR	**Karatay Array**	**43.50**	**334**	*i* P			**P**	**15 20 15.1**	**-0.1**
KKAR				pmax			pmax		
	comp=Z,41nm,1.0s,mb5.1								
JNU	**Nakatsue**	**43.65**	**46**	P			**P**	**15 20 15.3**	**-1.1**
	comp=Z,44nm,1.0s,mb5.2,baz=322,slow=0.8,SNR=7.2								
SONM	**Songino Array**	**43.71**	**11**	P			**P**	**15 20 16.6**	**-0.3**
	comp=Z,27nm,0.8s,mb5.0,baz=190,slow=8.3,SNR=192								
SONM				pP			pP	15 20 29.5	-0.9
	comp=Z,13nm,1.0s,baz=190,slow=7.8,SNR=5.7								
SONM				PcP			PcP	15 22 03.3	+0.2
	comp=Z,13nm,0.8s,baz=194,slow=3.8,SNR=9.8								
SONM				ScP			ScP	15 25 51.2	+0.8
	comp=Z,2.9nm,1.1s,baz=200,slow=3.5,SNR=6.2								
SONM	**Songino Array**	**43.71**	**11**	P			**P**	**15 20 16.6**	**-0.3**
SONM				*PP			pP	15 20 29.5	-0.9
SONM								15 22 03.3	
ULN	**Ulaanbaatar**	**43.87**	**12**	*c i*P			**P**	**15 20 17.7**	**-0.5**
ULN	**Ulaanbaatar**	**43.87**	**12**	*e*P			**P**	**15 20 17.2**	**-1.0**
KS15	**Wonju Array Si**	**44.13**	**39**	*e*P			**P**	**15 20 20.1**	**-0.1**
SNY	**Shenyang**	**44.66**	**31**	⇑P			**P**	**15 20 24.5**	**0.0**
SNY				AP			pP	15 20 37.1	-1.0
SNY				XP			sP	15 20 42.5	-1.5
SNY				AMB			AMB		
	comp=Z,30nm,1.3s,mb5.0								
SNY				AMB			AMB		
	comp=Z,167nm,3.9s								
SNY				LR			LR		
	comp=N,609nm,20.1s,MS4.6								
SNY				LR			LR		
	comp=E,370nm,21.2s,MS4.6								
SNY				LR			LR		
	comp=Z,641nm,19.6s,MS4.5								
ZAK	**Zakamensk**	**45.67**	**8**	*e*P			**P**	**15 20 31.1**	**-1.4**
ZAK				*e*			pP	15 20 41.4	-4.7
ZAK				pmax			pmax		
	comp=Z,23nm,1.7s,mb4.8								
ZAK				pmax			pmax		
	comp=Z,26nm,1.3s,mb5.0								
WRA	**Warramunga Arr**	**46.17**	**124**	P			**P**	**15 20 35.9**	**-0.5**
	comp=Z,52nm,0.9s,mb5.5,baz=303,slow=9.0,SNR=190								
WRAB	**Tennant Creek**	**46.18**	**124**	P			**P**	**15 20 36.0**	**-0.5**
	comp=Z,464nm,1.1s,mb6.3,SNR=23								
WRAB	**Tennant Creek**	**46.18**	**124**	P			**P**	**15 20 36.2**	**-0.3**
WB2	**Warramunga Arr**	**46.19**	**124**	⇑*i*P			**P**	**15 20 36.0**	**-0.5**
ABKT	**Ailbek**	**46.68**	**320**	P			**P**	**15 20 41.6**	**+1.2**
	comp=Z,384nm,0.9s,mb6.3,SNR=17								
MOY	**Mondy**	**46.68**	**5**	*e*P			**P**	**15 20 38.5**	**-1.9**
CN2	**Changchun**	**47.04**	**30**	*e*P			**P**	**15 20 43.4**	**+0.2**
CN2				*e*AP			pP	15 20 57.8	+0.9
CN2				*e*S			**S**	**15 27 31.4**	**0.0**
CN2				AMB			AMB		
	comp=Z,30nm,1.0s,mb5.2								
CN2				AMB			AMB		
	comp=Z,200nm,6.0s								
CN2				LR			LR		
	comp=N,400nm,17.0s,MS4.7								
CN2				LR			LR		
	comp=E,500nm,17.0s,MS4.7								
CN2				L

comp=Z,14nm,0.6s
HIA Hailar 48.81 22 *e*P **P 15 20 57.0 0.0**
comp=Z,14nm,0.6s,mb5.2
HIA *e*pP pP 15 21 09.7 -1.0
MDJ Mudanjiang 49.75 32 P **P 15 21 04.8 +0.7**
MDJ AP pP 15 21 17.9 0.0
MDJ XP sP 15 21 24.1 +0.3
MDJ PP PP 15 22 58.0 -1.0
MDJ S **S 15 28 10.8 +1.2**
MDJ AMB AMB
comp=Z,35nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,111nm,5.3s
MDJ LR LR
comp=E,261nm,18.1s
MDJ LR LR
comp=Z,365nm,22.2s,MS4.3
MDJ Mudanjiang 49.75 32 *e*P **P 15 21 04.7 +0.6**
comp=Z,60nm,1.3s,mb5.5
GUMO Guam 50.05 77 LR LR 15 41 57.8
comp=Z,112nm,19.6s,MS3.9,baz=256,slow=36
VLA Vladivostok 50.06 35 *i* P **P 15 21 05.6 -0.8**
VLA pmax pmax
comp=Z,107nm,2.1s,mb5.5
VLA MLR MLR
comp=Z,600nm,15.3s,MS4.7
NVS Novosibirsk 50.45 351⇑ *i*P **P 15 21 07.8 -1.6**
NVS *i* pP 15 21 21.2 -2.0
NVS *e*S **S 15 28 16.7 -2.6**
NVS pmax pmax
comp=Z,51nm,1.3s,mb5.4
NVS pmax pmax
comp=N,36nm,1.2s
NVS pmax pmax
comp=E,11nm,0.7s
NVS smax
comp=N,30nm,1.9s
NVS smax
comp=E,15nm,1.9s
KBD Kabd 50.50 304 *e*P **P 15 21 11.1 +1.3**
MAJO Matsushiro 50.57 46 P **P 15 21 11.9 +1.6**
MAJO pmax pmax
comp=Z,48nm,1.4s,mb5.2
MAJO Matsushiro 50.57 46 P **P 15 21 11.9 +1.6**
comp=Z,48nm,1.4s,mb5.2
MAT Matsushiro 50.57 46 P **P 15 21 09.5 -0.8**
MAT Matsushiro 50.57 46 *e*P **P 15 21 12.0 +1.7**
MAT pmax pmax
comp=Z,61nm,1.5s,mb5.3
MAT Matsushiro 50.57 46 *e*P **P 15 21 12.0 +1.7**
comp=Z,61nm,1.5s,mb5.3
MJAR Matsushiro Arr 50.57 46 P **P 15 21 11.2 +0.9**
comp=Z,8.7nm,0.8s,mb4.7,baz=249,slow=8.5,SNR=29
MJAR PcP PcP 15 22 27.6 +0.2
comp=Z,4.6nm,0.9s,baz=240,slow=1.9,SNR=5.3
MJAR LR LR 15 44 28.4
comp=Z,416nm,18.8s,MS4.5,baz=265,slow=38
MJAR Matsushiro Arr 50.57 46 P **P 15 21 11.2 +0.9**
MJAR 15 22 27.7
KRAR Krasnoyarsk 50.77 359⇓ *i*P **P 15 21 11.8 0.0**
KRAR pmax pmax
comp=Z,138nm,1.5s,mb5.7
NAY Al-Naaiem 50.90 304 *e*P **P 15 21 13.3 +0.5**
MIB Mutribah 51.00 305 *e*P **P 15 21 14.1 +0.6**
VOSK Vostochnaya 51.34 342 P **P 15 21 16.0 -0.1**
VOSK pmax pmax
comp=Z,58nm,0.9s,mb5.5
BVA0 Borovoye Array 51.79 341 *i* P **P 15 21 19.2 -0.2**
BVA0 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BVAR Borovoye Array 51.79 341 P **P 15 21 19.2 -0.2**
comp=Z,42nm,0.8s,mb5.4,baz=143,slow=8.2,SNR=249
BRVK Borovoye 51.85 341 P **P 15 21 19.2 -0.7**
comp=Z,370nm,0.8s,SNR=39
BRVK Borovoye 51.85 341 P **P 15 21 19.8 -0.1**
ZRNK Zerenda 52.17 341 P **P 15 21 22.1 -0.2**
AB31 Akbulak array 52.95 332 *i* P **P 15 21 28.2 +0.2**
AB31 pmax pmax
comp=Z,31nm,0.8s,mb5.3
KLR Kul'dur 53.94 29 *e*P **P 15 21 33.2 -2.1**
KLR *e* 15 22 34.0
KLR pmax pmax
comp=E,50nm,2.0s
KLR pmax pmax
comp=Z,100nm,2.0s,mb5.4
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.0
PMG Port Moresby 54.15 105 P **P 15 21 36.8 -0.1**
comp=Z,21nm,1.0s,mb5.0,baz=312,slow=6.6,SNR=6.0
PMG Port Moresby 54.15 105 P **P 15 21 39.4 +2.5**
BHD Baghdad 54.53 308 *ex* x 15 21 35.0
AKTK Aktyubinsk 54.66 332 P **P 15 21 40.2 -0.3**
AKTK ScP ScP 15 26 37.3 +0.4
AKTO Aktyubinsk 54.66 332 P **P 15 21 40.2 -0.3**
comp=Z,17nm,0.8s,mb5.1,baz=132,slow=7.7,SNR=56
AKTO ScP ScP 15 26 37.3 +0.4
comp=Z,2.4nm,0.9s,baz=94,slow=3.9,SNR=4.4
AKTO Aktyubinsk 54.66 332 P **P 15 21 40.1 -0.4**
AKTO pmax pmax
comp=Z,13nm,1.5s,mb4.7
BOD Bodaibo 54.68 12 *e*P **P 15 21 39.6 -1.0**
BOD pmax pmax
comp=Z,22nm,1.0s,mb5.1
HABR Khabarovsk 55.12 32 *i* P **P 15 21 43.8 0.0**
HABR pmax pmax
comp=Z,38nm,1.2s,mb5.3
HABR MLR MLR
comp=Z,731nm,18.4s,MS4.8
CTA Charters Tower 56.43 118 *e*P **P 15 21 51.8 -1.4**
comp=Z,11nm,0.9s,mb4.9
CTA Charters Tower 56.43 118 P **P 15 21 53.1 -0.1**
comp=Z,14nm,0.9s,mb5.0,baz=280,slow=10,SNR=9.2
CTA LR LR 15 46 51.0
comp=Z,361nm,19.4s,MS4.5,baz=284,slow=37
CTA Charters Tower 56.43 118 *e*P **P 15 21 51.8 -1.4**
CTA pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 56.43 118 P **P 15 21 52.4 -0.8**
CTAO pmax pmax
comp=Z,30nm,1.2s,mb5.2
CTAO Charters Tower 56.43 118 P **P 15 21 52.4 -0.9**
comp=Z,30nm,1.2s,mb5.2
GNI Garni 56.82 315 P **P 15 21 55.8 -0.2**
comp=Z,19nm,0.9s,mb5.1,baz=246,slow=6.4,SNR=11
GNI Garni 56.82 315 P **P 15 21 56.8 +0.8**
GNI pmax pmax
comp=Z,32nm,1.0s
GNI Garni 56.82 315 P **P 15 21 56.8 +0.8**
comp=Z,32nm,1.0s,mb5.3
ASAJ Asahikawa 57.09 39 P **P 15 21 58.4 +0.5**
comp=Z,14nm,0.7s,mb5.1,baz=258,slow=9.9,SNR=18
STKA Stephens Creek 57.76 133 *e*P **P 15 21 59.8 -2.8**
comp=Z,8.6nm,1.0s,mb4.7
STKA Stephens Creek 57.76 133 P **P 15 21 59.5 -3.1**
comp=Z,16nm,1.1s,mb5.0,baz=327,slow=8.0,SNR=10.0
STKA LR LR 15 46 14.4
comp=Z,298nm,19.6s,MS4.4,baz=16,slow=35
KMBO Kilima Mbogo 57.80 265 P **P 15 22 01.8 -1.1**
comp=Z,2.1nm,0.9s,baz=51,slow=20,SNR=4.2
ZEI Tsey 58.49 318 *e*P **P 15 22 07.5 -0.2**
ZEI *i* 15 24 18.9
ZEI pmax pmax
comp=Z,23nm,1.2s,mb5.1
YSS Yuzh-Sakhalins 58.58 37⇑ *i*P **P 15 22 08.8 +0.5**
YSS *e* pP 15 22 20.8 -1.6
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.7
YSS MLR MLR
comp=Z,200nm,19.0s,MS4.3
YSS Yuzh-Sakhalins 58.58 37 P **P 15 22 08.4 +0.1**
comp=Z,48nm,1.0s,mb5.5
ARU Arti 58.66 337 P **P 15 22 08.0 -0.9**
comp=Z,149nm,1.0s,mb6.0,SNR=6.8
ARU Arti 58.66 337⇑ *i*P **P 15 22 08.0 -0.9**
ARU *e* 15 22 55.7
ARU *e* 15 24 18.6
ARU *e*S **S 15 30 03.8 -5.9**
ARU *e*SS SS 15 33 59.9 -3.2
ARU pmax pmax
comp=Z,31nm,1.1s,mb5.2
ARU Arti 58.66 337 P **P 15 22 08.4 -0.5**
comp=Z,28nm,1.0s,mb5.2
KIV Kislovodsk 59.79 319 P **P 15 22 16.2 -0.5**
KIV *e**PP pP 15 22 29.2 -1.6

KIV Kislovodsk 59.79 319 P **P 15 22 16.2 -0.5**
KIV *e*pP pP 15 22 29.2 -1.6
GOF Gofitskoye 60.03 320 *e*P **P 15 22 17.0 -1.4**
ELZG Elazig 60.38 312 *i* P **P 15 22 20.9 +0.2**
MALT Malatya 60.74 311 P **P 15 22 23.9 +0.7**
GZT Gaziantep 61.10 310 *i* P **P 15 22 26.4 +0.8**
EIL Elat 61.36 301 P **P 15 22 28.6 +1.2**
EIL pP pP 15 22 44.1 +2.5
SOKR Solikamsk 61.59 339 *e*P **P 15 22 28.8 -0.1**
SOKR pmax pmax
comp=Z,40nm,1.4s,mb5.4
GRSN GIRESUNGRSN 61.69 314 *i* P **P 15 22 26.6 -3.0**
YAK Yakutsk 62.40 18 *c i*P **P 15 22 32.9 -1.5**
YAK pmax pmax
comp=Z,79nm,1.0s,mb5.8
YAK Yakutsk 62.40 18 P **P 15 22 32.7 -1.7**
AVNT Avonos 63.55 311 *i* P **P 15 22 42.5 +0.4**
ANN Anapa 63.59 318 *e*P pP 15 23 01.9 +5.4
ANN pmax pmax
comp=Z,76nm,5.4s
CSS Prodhromos 63.80 306 *e*P **P 15 22 44.4 +0.7**
comp=Z,8.2nm,0.7s,mb4.9
CSS *e*pP pP 15 22 57.9 0.0
CDAG Cicekdag 64.14 312 *i* P **P 15 22 45.0 -0.9**
BOYT Boyabat 64.26 314 *i* P **P 15 22 46.5 -0.1**
BR131 Keskin Array S 64.72 312 P **P 15 22 49.2 -0.5**
BRTR Keskin Array B 64.72 312 P **P 15 22 49.2 -0.5**
comp=Z,19nm,1.0s,mb5.1,baz=120,slow=7.3,SNR=63
ARMA Armidale 64.79 127 *e*P **P 15 22 51.2 +1.1**
VORD Divnogorie 64.82 325 *e*P **P 15 22 48.9 -1.5**
VORD pmax pmax
comp=Z,20nm,0.6s,mb5.3
VORD pmax pmax
comp=E,40nm,0.9s
ELDT Eldivan 65.07 312 *i* P **P 15 22 51.6 -0.4**
ANTO Ankara 65.38 312 *e*P **P 15 22 53.5 -0.5**
ANTO pmax pmax
comp=Z,30nm,1.1s,mb5.2
ANTO Ankara 65.38 312 *e*P **P 15 22 53.5 -0.5**
comp=Z,30nm,1.1s,mb5.2
SIM Simferopol' 65.87 317 *e*P **P 15 22 57.2 +0.1**
SIM pmax pmax
comp=Z,26nm,1.1s,mb5.2
SGKT Sivrigoynuk 66.11 312 *i* P **P 15 22 58.8 +0.1**
TKTP Tekketepe 66.83 309 *i* P **P 15 23 03.0 -0.3**
GOLH Golhisar 67.26 308 *i* P **P 15 23 05.6 -0.4**
MOS Moscow 67.75 329⇓ *i*P **P 15 23 06.9 -2.2**
MOS *e* pP 15 23 19.4 -4.1
MOS pmax pmax
comp=Z,66nm,1.0s,mb5.6
OBN Obninsk 68.04 328 *c i*P **P 15 23 09.8 -1.1**
OBN *e* 15 25 41.8
OBN *e*S S 15 32 03.4 -3.1
OBN pmax pmax
comp=Z,49nm,1.3s,mb5.4
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
ULDT Uludag 68.18 311 *i* P **P 15 23 11.6 -0.1**
MANT Manisa 68.28 309 *i* P **P 15 23 12.2 -0.2**
MA2 Magadan 68.91 27 *c e*P **P 15 23 15.6 -0.8**
MA2 *e* 15 33 08.2
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 pmax pmax
comp=E,6.0nm,1.1s
MA2 Magadan 68.91 27 P **P 15 23 15.2 -1.1**
comp=E,34nm,1.0s,mb5.2
BTOK Tokmak 68.93 311 *i* P **P 15 23 16.0 -0.5**
LSZ Lusaka 68.98 252 P **P 15 23 16.0 -0.8**
comp=E,1.9nm,0.7s,mb4.2,baz=90,slow=13,SNR=3.1
LSZ Lusaka 68.98 252 P **P 15 23 19.2 +2.4**
KLMR Klimovskoe 69.20 335 *e*P **P 15 23 17.6 -0.6**
KLMR pmax pmax
comp=Z,70nm,1.6s,mb5.3
KDAG Bornova 69.26 309 *i* P **P 15 23 18.4 -0.2**
TIRR Tirgusor 69.65 316⇓ P **P 15 23 20.5 -0.4**
TIRR Tirgusor 69.65 316 P **P 15 23 21.0 +0.1**
TIRR Tirgusor 69.65 316 *e*P **P 15 23 20.4 -0.6**
TIXI Tiksi 69.80 11 *c i*P **P 15 23 19.9 -1.9**
TIXI pmax pmax
comp=Z,70nm,1.4s,mb5.4
TIXI Tiksi 69.80 11 P **P 15 23 18.4 -3.4**
KIS Kishinev 69.98 318 *e*P **P 15 23 22.0 -1.0**
KIS *e* pP 15 23 37.0 -0.4
CFR Carcaliu 70.01 316⇑ P **P 15 23 23.3 +0.2**
CFR Carcaliu 70.01 316⇑ P **P 15 23 23.3 +0.2**
PET Petropavlovsk 70.39 35 P **P 15 23 24.6 -0.9**
PET pmax pmax
comp=Z,31nm,1.0s,mb5.2
PET Petropavlovsk 70.39 35 P **P 15 23 24.6 -0.9**
comp=Z,31nm,1.0s,mb5.2
IDI Anoyia 70.67 305 P **P 15 23 27.9 +0.8**
comp=Z,22nm,0.8s,mb5.2,baz=90,slow=6.8,SNR=9.9
AKASG Malin Array Be 70.70 322 P **P 15 23 26.0 -1.4**
comp=Z,9.1nm,0.7s,mb4.8,baz=95,slow=4.8,SNR=42
VRI Vrincioaia 71.13 317⇑ P **P 15 23 30.5 +0.6**
VRI Vrincioaia 71.13 317 P **P 15 23 30.6 +0.7**
VRI Vrincioaia 71.13 317⇑ P **P 15 23 30.4 +0.5**
SEY Seymchan 71.16 24 *e*P **P 15 23 28.6 -1.5**
SEY *e* 15 26 09.0
SEY *e*S S 15 32 37.5 -5.7
SEY *e* 15 33 31.4
SEY pmax pmax
comp=Z,12nm,1.2s,mb4.7
SEY pmax pmax
comp=E,1.0nm,1.0s
SEY smax
comp=N,40nm,18.8s
SEY smax
comp=E,34nm,21.6s
SEY MLR MLR
comp=Z,336nm,29.0s,MS4.4
SEY MLR MLR
comp=N,390nm,25.0s,MS4.6
SEY MLR MLR
comp=E,76nm,21.0s,MS4.6
PLOR Plostina 71.18 317⇑ P **P 15 23 31.0 +0.7**
MLR Muntele Rosu 71.58 316 P **P 15 23 33.1 +0.3**
comp=E,43nm,1.0s,mb5.3,baz=97,slow=2.3,SNR=35
MLR Muntele Rosu 71.58 316 P **P 15 23 33.2 +0.5**
MLR Muntele Rosu 71.58 316⇑ P **P 15 23 33.1 +0.4**
MTUR Matau 72.14 316 P **P 15 23 36.3 +0.2**
BURAR Bucovina Array 72.51 318⇑ P **P 15 23 38.6 +0.3**
BURAR Bucovina Array 72.51 318⇑ P **P 15 23 38.6 +0.4**
MNK Minsk 72.58 326 *e*P **P 15 23 36.0 -2.6**
VTS Vitosha 73.01 313⇓ P **P 15 23 41.7 +0.5**
VAY Valandovo 73.30 312 *i* P **P 15 23 41.5 -1.4**
LVV L'vov 73.73 320 *i* P **P 15 23 45.0 -0.4**
LVV *e*S S 15 33 44.0 +31
LVV *e* 15 33 59.4
DRGR 74.04 317⇓ P **P 15 23 47.5 +0.3**
DRGR 74.04 317 P **P 15 23 47.8 +0.6**
SKO Skopje 74.22 312 *e*P **P 15 23 46.9 -1.4**
KWP Kalwaria 74.54 320 *e*P **P 15 23 50.4 +0.3**
KWP Kalwaria 74.54 320 *e*P **P 15 23 50.1 0.0**
comp=E,58nm,0.9s,mb5.5
OHR Ohrid 74.59 311 *i* P **P 15 23 48.6 -1.9**
BZS Buzias 74.60 316⇑ P **P 15 23 50.0 -0.5**
BZS Buzias 74.60 316 P **P 15 23 50.8 +0.3**
BZS Buzias 74.60 316⇑ P **P 15 23 50.0 -0.5**
APA Apatity 74.64 340⇑ *i*P **P 15 23 49.8 -0.9**
APA *i* pP 15 24 05.4 +0.1
APA *e*S S 15 33 19.0 -3.7
APA pmax pmax
comp=Z,31nm,1.0s,mb5.2
BOSA Boshof 74.69 239 P **P 15 23 52.1 +1.1**
comp=Z,7.2nm,1.0s,mb4.5,baz=67,slow=6.5,SNR=6.5
BOSA pP pP 15 24 07.2 +1.7
comp=Z,10nm,0.9s,baz=121,slow=2.3,SNR=4.3
BOSA LR LR 15 50 42.5
comp=Z,267nm,19.2s,MS4.5,baz=167,slow=31
BOSA Boshof 74.69 239 *e*P **P 15 23 51.4 +0.4**
BOSA pmax pmax
comp=Z,35nm,1.4s,mb5.1
BOSA Boshof 74.69 239 *e*P **P 15 23 51.4 +0.4**
comp=Z,35nm,1.4s,mb5.1
SUW Suwalki 75.11 325 *e*P **P 15 23 52.7 -0.7**
CRVS Cervenica-Dubn 75.22 319 *e*P **P 15 23 54.4 +0.3**
FINES FINESS Array B 75.43 332 P **P 15 23 54.6 -0.7**
comp=Z,5.6nm,0.8s,mb4.5,baz=94,slow=5.8,SNR=24
FINES pP pP 15 24 09.2 -0.7
comp=Z,3.6nm,0.4s,baz=100,slow=7.9,SNR=9.3
STHS Stebnicka Huta 75.44 320 *i* P **P 15 23 56.1 +0.7**
STHS *e* pP 15 24 08.8 -1.1

KAF Kangasniemi 75.52 333 *ep* **P 15 23 54.4 -1.4**
comp=Z,11nm,0.9s,mb4.8,baz=105,slow=5.5
KAF Kangasniemi 75.52 333 *e*P **P 15 23 54.4 -1.4**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.8
KECS Kecovo 75.79 319 *i* P **P 15 23 57.6 +0.2**
MAW Mawson 75.98 192 LR LR 15 54 09.3
comp=Z,324nm,18.2s,MS4.7,baz=60,slow=33
NIE Niedzica 76.04 320 *e*P **P 15 23 59.7 +0.9**
PSZ Piszkesteto 76.10 318 *e*P **P 15 23 58.9 -0.2**
PSZ pmax pmax
comp=Z,27nm,0.9s,mb5.2
PSZ Piszkesteto 76.10 318 *e*P **P 15 23 58.9 -0.2**
comp=Z,27nm,0.9s,mb5.2
OJC Ojcow 76.49 320 *i* Pc 15 24 01.5
OJC *e*PcP PcP 15 24 15.1 +2.3
BUD Budapest 76.63 317 *e*P **P 15 24 02.3 +0.2**
PKSM Moragy 76.74 316⇑ *e*P **P 15 24 02.4 -0.3**
VYHS Vyhne 76.88 319 *i* P **P 15 24 03.5 0.0**
PKSG 77.04 317⇓ *e*P **P 15 24 04.8 +0.3**
SRO Srobarova 77.14 318 *e*P **P 15 24 05.7 +0.7**
SRO1 Iza 77.19 318 *e*P **P 15 24 05.9 +0.6**
OKC Ostrava-Krasne 77.49 320 *e*P **P 15 24 07.4 +0.4**
TIP Timpagrande 77.50 309 *e*P **P 15 24 06.1 -0.9**
MORC Moravsky Berou 77.87 320 P **P 15 24 09.5 +0.4**
MORC *e**PP pP 15 24 23.8 +0.1
MORC pmax pmax
comp=Z,33nm,1.0s,mb5.2
MORC Moravsky Berou 77.87 320⇑ P **P 15 24 09.9 +0.8**
MORC Moravsky Berou 77.87 320 P **P 15 24 09.5 +0.4**
comp=Z,33nm,1.0s,mb5.2
MORC *e*pP pP 15 24 23.8 +0.1
ZST Bratislava 77.99 318 *i* P **P 15 24 10.4 +0.6**
ZST *e*pP pP 15 24 23.5 -0.9
ARCES ARCESS Array B 78.06 340 P **P 15 24 09.8 -0.3**
comp=Z,11nm,0.8s,mb4.8,baz=101,slow=6.4,SNR=22
ARCES pP pP 15 24 24.2 -0.5
comp=Z,17nm,0.9s,baz=97,slow=5.4,SNR=5.8
ARCES ARCESS Array B 78.06 340 P **P 15 24 09.8 -0.3**
ARCES pP pP 15 24 24.2 -0.5
ARE0 ARCESS Array S 78.06 340 P **P 15 24 09.7 -0.4**
ARE0 *e*pP pP 15 24 24.1 -0.6
BILL Bilibino 78.40 21⇓ *e*P **P 15 24 10.1 -1.9**
BILL *e*S S 15 34 52.6 +49
BILL pmax pmax
comp=Z,26nm,1.5s,mb4.9
BILL MLR MLR
comp=Z,700nm,18.0s,MS5.0
BILL Bilibino 78.40 21 *e*P **P 15 24 10.8 -1.2**
comp=Z,26nm,1.3s,mb5.0
KOGS Kog 78.41 316 *i* P **P 15 24 12.2 +0.2**
KOGS *i* 15 24 17.8
KOGS *e* pP 15 24 26.6 -0.1
VRAC Vranov 78.44 319⇑ P **P 15 24 13.1 +0.9**
GKP Gorka Klasztor 78.47 323 *e*P **P 15 24 12.2 -0.2**
DPC Dobruska-Polom 78.72 320 *e*P **P 15 24 14.6 +0.9**
KSP Ksiaz 78.78 321 *e*P **P 15 24 14.8 +0.7**
KSP Ksiaz 78.78 321⇑ *e*P **P 15 24 14.5 +0.4**
GCIS Gornji Cirnik 78.80 316 *e*P **P 15 24 14.3 +0.1**
UPC Upice 78.93 320 *e*P **P 15 24 15.5 +0.6**
ARSA Arzberg 78.97 317 *i* P **P 15 24 15.7 +0.5**
comp=Z,70nm,1.4s,mb5.4,SNR=17
BOJS Bojanci 79.03 315 *i* P **P 15 24 15.5 0.0**
BOJS *i* 15 24 19.8
BOJS *i* 15 24 35.0
TREC Trest 79.16 319 *e*P **P 15 24 16.5 +0.3**
PERS Pernice 79.20 316 *i* P **P 15 24 16.8 +0.4**
PERS *e* pP 15 24 32.9 +1.9
LJU Ljubljana 79.57 316 *i* P **P 15 24 18.9 +0.5**
LJU *i* 15 24 24.0
OBKA Obir 79.59 316 *i* P **P 15 24 19.1 +0.6**
comp=Z,114nm,1.6s,mb5.5,SNR=7.7
PRU Pruhonice 79.83 320 *e*P **P 15 24 20.1 +0.3**
PVCC Panska Ves 79.85 320 *e*P **P 15 24 20.8 +0.9**
MOA Molln 79.86 318⇑ *i*P **P 15 24 19.8 -0.2**
comp=Z,40nm,1.4s,mb5.1,SNR=8.7
AQU L'Aquila 80.21 312 *e*P **P 15 24 22.1 +0.3**
AQU pmax pmax
comp=Z,52nm,1.1s,mb5.4
AQU L'Aquila 80.21 312 *e*P **P 15 24 22.1 +0.2**
comp=Z,52nm,1.1s,mb5.4
BRG Berggiesshubel 80.27 321 *e*P **P 15 24 22.5 +0.3**
comp=Z,30nm,1.1s,mb5.1
BRG Berggiesshubel 80.27 321 *i* P **P 15 24 22.5 +0.3**
BRG pmax pmax
comp=Z,18nm,1.1s,mb4.9
BRG Berggiesshubel 80.27 321 *i* P **P 15 24 22.5 +0.3**
comp=Z,18nm,1.1s,mb4.9
GEC2 GERESS Array S 80.30 319 *e*P **P 15 24 22.8 +0.5**
comp=Z,72nm,1.0s,mb5.6
GEC2 GERESS Array S 80.30 319 *e*P **P 15 24 22.8 +0.5**
GEC2 pmax pmax
comp=Z,72nm,1.0s,mb5.6
GERES GERESS Array B 80.30 319 P **P 15 24 22.7 +0.4**
comp=Z,38nm,0.8s,mb5.4,baz=93,slow=5.3,SNR=202
KHC Kasperske Hory 80.40 319 *e*P **P 15 24 22.9 0.0**
KHC pP pP 15 24 37.5 0.0
KHC Kasperske Hory 80.40 319 *c i*P **P 15 24 23.0 +0.1**
KHC Kasperske Hory 80.40 319 *e*P **P 15 24 22.9 0.0**
KHC *e* pP 15 24 37.5 0.0
KBA Koelnbreinsper 80.44 317 *i* P **P 15 24 22.9 -0.2**
comp=Z,30nm,1.2s,mb5.1,SNR=9.4
RUE Ruedersdorf 80.48 322 *e*P **P 15 24 23.3 0.0**
comp=Z,66nm,1.0s,mb5.5
RUE Ruedersdorf 80.48 322 *e*P **P 15 24 22.9 -0.5**
comp=Z,30nm,0.8s,mb5.3
WET Wettzell 80.86 319 *e*P **P 15 24 25.6 +0.3**
comp=Z,36nm,1.0s,mb5.3
WET Wettzell 80.86 319 *e*P **P 15 24 25.6 +0.3**
WET pmax pmax
comp=Z,36nm,1.0s,mb5.3
CLL Collm 80.89 321 *e*P **P 15 24 25.2 -0.3**
comp=Z,23nm,1.0s,mb5.1
CLL Collm 80.89 321⇑ *i*P **P 15 24 25.2 -0.3**
comp=Z,23nm,1.0s,mb5.1
CLL *e*pP pP 15 24 40.0 -0.2
CLL *i* sP sP 15 24 46.3 +0.4
CLL Collm 80.89 321⇑ *i*P **P 15 24 25.2 -0.3**
CLL *e**PP pP 15 24 40.0 -0.2
CLL pmax pmax
comp=Z,23nm,1.0s,mb5.1
NKC Novy Kostel 81.19 320 *e*P **P 15 24 27.7 +0.6**
WERD Werda 81.29 320 *e*P **P 15 24 27.7 +0.1**
comp=Z,18nm,1.0s,mb5.0
ROTZ Rotzenmuhle 81.32 319 *e*P **P 15 24 28.5 +0.7**
comp=Z,32nm,1.0s,mb5.2
MANZ Manzenberg 81.39 320 *e*P **P 15 24 29.0 +0.8**
comp=Z,47nm,1.1s,mb5.3
WATA Walderalm 81.66 317⇑ *i*P **P 15 24 28.9 -0.7**
comp=Z,21nm,1.0s,mb5.0
MOX Moxa 81.73 320 *e*P **P 15 24 30.0 0.0**
comp=Z,24nm,1.3s,mb5.0
MOX Moxa 81.73 320 *e*P **P 15 24 30.0 0.0**
MOX pmax pmax
comp=Z,27nm,1.4s,mb5.0
FUR Furstenfeldbru 81.88 318 *e*P **P 15 24 30.6 -0.2**
comp=Z,26nm,0.7s,mb5.3
FUR Furstenfeldbru 81.88 318 *e*P **P 15 24 30.6 -0.2**
FUR pmax pmax
comp=Z,26nm,0.7s,mb5.3
SQTA Sankt Quirin 81.91 317⇑ *i*P **P 15 24 30.5 -0.4**
comp=Z,25nm,0.9s,mb5.1,SNR=12
GRA1 Grafenberg Arr 81.96 319 *e*P **P 15 24 31.7 +0.5**
comp=Z,52nm,1.0s,mb5.4
GRF Grafenberg Arr 81.96 319 *e*P **P 15 24 31.7 +0.5**
comp=Z,52nm,1.0s,mb5.4
GRF Grafenberg Arr 81.96 319 *e*P **P 15 24 31.7 +0.5**
GRF pmax pmax
comp=Z,52nm,1.0s,mb5.4
GRF Grafenberg Arr 81.96 319 *e*P **P 15 24 31.7 +0.5**
GRF pmax pmax
comp=Z,52nm,1.0s,mb5.4
MOTA Moosalm 81.98 317 *i* P **P 15 24 30.9 -0.4**
comp=Z,37nm,1.0s,mb5.2,SNR=17
NB2 NORSAR Subarra 82.43 331 P **P 15 24 32.5 -1.1**
comp=Z,8.8nm,0.9s,mb4.7,baz=95,slow=5.3
NB2 NORSAR Subarra 82.43 331 P **P 15 24 32.5 -1.1**
NB2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
NOA NORSAR Array B 82.43 331 P **P 15 24 32.9 -0.8**
comp=Z,5.2nm,0.8s,mb4.5,baz=94,slow=5.4,SNR=11
NOA pP pP 15 24 48.2 -0.1
comp=Z,6.6nm,1.0s,baz=93,slow=5.6,SNR=5.7
CLZ Clausthal 82.55 321 *e*P **P 15 24 34.4 +0.1**
comp=Z,34nm,1.0s,mb5.3

CLZ Clausthal 82.55 321 *eP* **P 15 24 34.4 +0.1**
CLZ pmax pmax
comp=Z,34nm,1.0s,mb5.3
BSEG Bad Segeberg 82.63 324 *eP* **P 15 24 34.9 +0.2**
comp=Z,43nm,1.0s,mb5.4
UBBA Unterbreizbach 82.77 320 *eP* **P 15 24 35.5 +0.1**
DAVA Damuels 82.81 317⇑*iP* **P 15 24 35.7 +0.1**
comp=Z,58nm,1.2s,mb5.5
SYO Syowa Base 82.98 197⇓*ePcP* PcP 15 24 41.5 +0.4
SYO Syowa Base 82.98 197⇓*epP* pP 15 24 51.8 +0.6
STU Stuttgart 83.28 318 *eP* **P 15 24 37.8 -0.2**
comp=Z,14nm,0.6s,mb5.2
PGF Pioggiola 83.47 312⇑*iP* **P 15 24 39.0 0.0**
comp=Z,84nm,1.4s,mb5.3
PGF Pioggiola 83.47 312⇑*iP* **P 15 24 39.0 0.0**
PGF pmax pmax
comp=Z,42nm,1.4s,mb5.3
PGF Pioggiola 83.47 312⇑*iP* **P 15 24 39.0 0.0**
comp=Z,42nm,1.4s,mb5.3
TNS Taunus Mts 83.75 320 *eP* **P 15 24 40.7 +0.2**
comp=Z,25nm,1.0s,mb5.3
TNS Taunus Mts 83.75 320 *eP* **P 15 24 40.7 +0.2**
TNS pmax pmax
comp=Z,25nm,1.0s,mb5.3
BFO Black Forest 83.85 318 *eP* **P 15 24 40.5 -0.5**
comp=Z,23nm,0.9s,mb5.3
BFO Black Forest 83.85 318 P **P 15 24 40.8 -0.2**
comp=Z,128nm,0.9s,mb6.0,SNR=6.1
BFO Black Forest 83.85 318 *eP* **P 15 24 40.5 -0.5**
BFO pmax pmax
comp=Z,23nm,0.9s,mb5.3
IBBN Ibbenburen 84.17 322 *eP* **P 15 24 42.7 +0.1**
comp=Z,36nm,0.9s,mb5.5
IBBN *eP* pP 15 24 55.0 -2.3
BUG Bochum--Univer 84.48 321 *eP* **P 15 24 44.2 0.0**
comp=Z,33nm,0.7s,mb5.6
CDF Champ du Feu 84.55 318⇑*iP* **P 15 24 44.0 -0.5**
comp=Z,28nm,1.0s,mb5.0
CDF Champ du Feu 84.55 318⇑*iP* **P 15 24 44.0 -0.5**
CDF pmax pmax
comp=Z,14nm,1.0s,mb5.0
CDF Champ du Feu 84.55 318⇑*iP* **P 15 24 44.0 -0.5**
comp=Z,14nm,1.0s,mb5.0
SBF Sospel 84.58 313⇑*iP* **P 15 24 44.5 -0.1**
comp=Z,145nm,1.2s,mb5.7
SBF Sospel 84.58 313⇑*iP* **P 15 24 44.5 -0.1**
SBF pmax pmax
comp=Z,72nm,1.2s,mb5.7
SBF Sospel 84.58 313⇑*iP* **P 15 24 44.5 -0.1**
comp=Z,72nm,1.2s,mb5.7
ABSA Djebel Ababsia 84.84 306 P **P 15 24 48.0 +2.1**
HINF Hinteralfeld 84.86 317 *eP* **P 15 24 45.2 -0.8**
CMAH Djebel Manchou 84.87 306 P **P 15 24 47.0 +0.9**
LPG La Plagne 85.01 315⇑*iP* **P 15 24 47.1 +0.3**
comp=Z,62nm,0.9s,mb5.4
LPG La Plagne 85.01 315⇑*iP* **P 15 24 47.1 +0.3**
LPG pmax pmax
comp=Z,31nm,0.9s,mb5.4
LPG La Plagne 85.01 315⇑*iP* **P 15 24 47.1 +0.3**
comp=Z,31nm,0.9s,mb5.4
LPL La Plagne 85.02 315⇑*iP* **P 15 24 47.1 +0.2**
comp=Z,76nm,1.0s,mb5.5
LPL La Plagne 85.02 315⇑*iP* **P 15 24 47.1 +0.2**
LPL pmax pmax
comp=Z,38nm,1.0s,mb5.5
LPL La Plagne 85.02 315⇑*iP* **P 15 24 47.1 +0.2**
comp=Z,38nm,1.0s,mb5.5
MBDF Montbardon 85.02 314 *eP* **P 15 24 47.2 +0.3**
comp=Z,24nm,1.0s,mb5.0
MBDF Montbardon 85.02 314 *eP* **P 15 24 47.2 +0.3**
MBDF pmax pmax
comp=Z,12nm,1.0s,mb5.0
MBDF Montbardon 85.02 314 *eP* **P 15 24 47.2 +0.3**
comp=Z,12nm,1.0s,mb5.0
BNI Bardonecchia 85.08 315 *eP* **P 15 24 45.8 -1.4**
BNI pmax pmax
comp=Z,23nm,1.0s,mb5.3
BNI Bardonecchia 85.08 315 *eP* **P 15 24 45.8 -1.3**
comp=Z,23nm,1.0s,mb5.3
FRF La Foret Royal 85.16 313⇑*iP* **P 15 24 47.7 +0.1**
comp=Z,54nm,1.1s,mb5.3
FRF La Foret Royal 85.16 313⇑*iP* **P 15 24 47.7 +0.1**
FRF pmax pmax
comp=Z,27nm,1.1s,mb5.3
FRF La Foret Royal 85.16 313⇑*iP* **P 15 24 47.7 +0.1**
comp=Z,27nm,1.1s,mb5.3
HAU Haudompre 85.19 318⇑*iP* **P 15 24 48.2 +0.5**
comp=Z,79nm,1.0s,mb5.5
HAU Haudompre 85.19 318⇑*iP* **P 15 24 48.2 +0.5**
HAU pmax pmax
comp=Z,39nm,1.0s,mb5.5
HAU Haudompre 85.19 318⇑*iP* **P 15 24 48.2 +0.5**
comp=Z,40nm,1.0s,mb5.5
WLF Walferdange 85.25 319 *eP* **P 15 24 48.6 +0.6**
comp=Z,21nm,1.1s,mb5.2
WLF Walferdange 85.25 319 ⇑P **P 15 24 48.8 +0.8**
WLF AP pP 15 25 04.1 +1.3
WLF XP sP 15 25 08.0 -0.5
LMR La Mourre 85.27 313 *eP* **P 15 24 48.1 0.0**
comp=Z,93nm,1.3s,mb5.5
LMR La Mourre 85.27 313 *eP* **P 15 24 48.1 0.0**
LMR pmax pmax
comp=Z,46nm,1.3s,mb5.5
LMR La Mourre 85.27 313 *eP* **P 15 24 48.1 0.0**
comp=Z,46nm,1.3s,mb5.5
MEM Membach 85.31 320 ⇑P **P 15 24 48.3 0.0**
CABF La Chapelle 85.42 316⇑*iP* **P 15 24 49.0 +0.1**
comp=Z,38nm,0.9s,mb5.2
CABF La Chapelle 85.42 316⇑*iP* **P 15 24 49.0 +0.1**
CABF pmax pmax
comp=Z,19nm,0.9s,mb5.2
CABF La Chapelle 85.42 316⇑*iP* **P 15 24 49.0 +0.1**
comp=Z,19nm,0.9s,mb5.2
CASM Ain Smara 85.63 306 P **P 15 24 50.0 +0.1**
ORIF Oris-en-Rattie 85.65 315⇑*iP* **P 15 24 50.3 +0.3**
comp=Z,25nm,1.0s,mb5.1
ORIF Oris-en-Rattie 85.65 315⇑*iP* **P 15 24 50.3 +0.3**
ORIF pmax pmax
comp=Z,12nm,1.0s,mb5.1
ORIF Oris-en-Rattie 85.65 315⇑*iP* **P 15 24 50.3 +0.3**
comp=Z,12nm,1.0s,mb5.1
SMRF Simiane la Rot 85.92 314⇑*iP* **P 15 24 51.9 +0.6**
comp=Z,41nm,1.1s,mb5.2
SMRF Simiane la Rot 85.92 314⇑*iP* **P 15 24 51.9 +0.6**
comp=Z,41nm,1.1s,mb5.6
MEZF Maizieres J'vi 86.03 318 *eP* **P 15 24 51.5 -0.4**
GIVF Givet 86.09 320 *eP* **P 15 24 52.0 -0.2**
comp=Z,31nm,0.9s,mb5.2
GIVF Givet 86.09 320 *eP* **P 15 24 52.0 -0.2**
GIVF pmax pmax
comp=Z,16nm,0.9s,mb5.2
GIVF Givet 86.09 320 *eP* **P 15 24 52.0 -0.2**
comp=Z,16nm,0.9s,mb5.2
DFRA Djebel Bou Aff 86.11 306 P **P 15 24 56.0 +3.7**
DOU Dourbes 86.24 320 P **P 15 24 53.1 +0.2**
DOU AP pP 15 25 06.2 -1.5
DOU XP sP 15 25 14.0 +0.7
SNF Seneffe 86.41 320 ⇑P **P 15 24 54.0 +0.2**
SNF AP pP 15 25 08.9 +0.3
SNF XP sP 15 25 15.8 +1.6
BAIF Baives 86.49 320⇑*iP* **P 15 24 54.1 0.0**
comp=Z,34nm,0.8s,mb5.3
BAIF Baives 86.49 320⇑*iP* **P 15 24 54.1 0.0**
BAIF pmax pmax
comp=Z,17nm,0.8s,mb5.3
BAIF Baives 86.49 320⇑*iP* **P 15 24 54.1 0.0**
comp=Z,17nm,0.8s,mb5.3
VIVF Saint-Julien-l 86.51 315⇑*iP* **P 15 24 54.2 0.0**
comp=Z,48nm,1.1s,mb5.3
VIVF Saint-Julien-l 86.51 315⇑*iP* **P 15 24 54.2 0.0**
VIVF pmax pmax
comp=Z,24nm,1.1s,mb5.3
VIVF Saint-Julien-l 86.51 315⇑*iP* **P 15 24 54.2 0.0**
comp=Z,24nm,1.1s,mb5.3
SET Setif 86.52 306 P **P 15 25 00.5 +6.2**
LOR Lormes 86.91 317⇑*iP* **P 15 24 55.9 -0.3**
comp=Z,57nm,1.0s,mb5.4
LOR Lormes 86.91 317⇑*iP* **P 15 24 55.9 -0.3**
LOR pmax pmax
comp=Z,28nm,1.0s,mb5.5
LOR Lormes 86.91 317⇑*iP* **P 15 24 55.9 -0.3**
comp=Z,28nm,1.0s,mb5.5
SMF Signal de Mont 86.97 316⇑*iP* **P 15 24 56.1 -0.4**
comp=Z,58nm,1.0s,mb5.5
SMF Signal de Mont 86.97 316⇑*iP* **P 15 24 56.1 -0.4**
SMF pmax pmax
comp=Z,29nm,1.0s,mb5.5
SMF Signal de Mont 86.97 316⇑*iP* **P 15 24 56.1 -0.4**
comp=Z,29nm,1.0s,mb5.5
LASF Ste Croix 87.15 314⇑*iP* **P 15 24 57.7 +0.3**
comp=Z,59nm,1.4s,mb5.3
SSF Saint Saulge 87.17 317⇑*iP* **P 15 24 57.3 -0.1**
comp=Z,29nm,1.0s,mb5.2
SSF Saint Saulge 87.17 317⇑*iP* **P 15 24 57.3 -0.1**
SSF pmax pmax
comp=Z,14nm,1.0s,mb5.2
SSF Saint Saulge 87.17 317⇑*iP* **P 15 24 57.3 -0.1**
comp=Z,14nm,1.0s,mb5.2
AVF Avril sur Loir 87.29 317⇑*iP* **P 15 24 57.7 -0.4**
comp=Z,58nm,1.1s,mb5.4
AVF Avril sur Loir 87.29 317⇑*iP* **P 15 24 57.7 -0.4**
AVF pmax pmax
comp=Z,29nm,1.1s,mb5.4
AVF Avril sur Loir 87.29 317⇑*iP* **P 15 24 57.7 -0.4**
comp=Z,29nm,1.1s,mb5.4
BGF Bois d'Agland 87.66 316 *eP* **P 15 25 00.0 +0.2**
TCF Toulx Ste Croi 88.12 316 *eP* **P 15 25 02.2 +0.2**
comp=Z,11nm,0.9s,mb4.8
TCF Toulx Ste Croi 88.12 316 *eP* **P 15 25 02.2 +0.2**
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 88.12 316 *eP* **P 15 25 02.2 +0.2**
comp=Z,5.7nm,0.9s,mb4.8
CAF Calviac 88.35 315 *eP* **P 15 25 03.5 +0.4**
comp=Z,35nm,1.2s,mb5.2
CAF Calviac 88.35 315 *eP* **P 15 25 03.5 +0.4**
CAF pmax pmax
comp=Z,17nm,1.2s,mb5.2
CAF Calviac 88.35 315 *eP* **P 15 25 03.5 +0.4**
comp=Z,17nm,1.2s,mb5.2
MTLF Montolieu 88.39 313⇑*iP* **P 15 25 02.9 -0.4**
comp=Z,20nm,0.9s,mb5.0
MTLF Montolieu 88.39 313⇑*iP* **P 15 25 02.9 -0.4**
MTLF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
MTLF Montolieu 88.39 313⇑*iP* **P 15 25 02.9 -0.4**
comp=Z,10nm,0.9s,mb5.0
TNA Tin City 88.40 24 P **P 15 25 02.6 -0.8**
comp=Z,15nm,1.2s,mb5.1
RJF Les Rejaudoux 88.70 315 *eP* **P 15 25 05.2 +0.5**
comp=Z,23nm,0.9s,mb5.2
RJF Les Rejaudoux 88.70 315 *eP* **P 15 25 05.2 +0.5**
RJF pmax pmax
comp=Z,12nm,0.9s,mb5.2
RJF Les Rejaudoux 88.70 315 *eP* **P 15 25 05.2 +0.5**
comp=Z,12nm,0.9s,mb5.2
LFF La Frestale 89.28 315 *eP* **P 15 25 08.1 +0.6**
LDF La Druitiere 89.44 319 *eP* **P 15 25 08.2 0.0**
comp=Z,103nm,1.1s,mb5.8
LDF La Druitiere 89.44 319 *eP* **P 15 25 08.2 0.0**
LDF pmax pmax
comp=Z,51nm,1.1s,mb5.8
LDF La Druitiere 89.44 319 *eP* **P 15 25 08.2 0.0**
comp=Z,51nm,1.1s,mb5.8
FLN La Foliniere 89.66 319⇑*iP* **P 15 25 09.2 -0.1**
comp=Z,83nm,1.0s,mb5.7
FLN La Foliniere 89.66 319⇑*iP* **P 15 25 09.2 -0.1**
FLN pmax pmax
comp=Z,42nm,1.0s,mb5.7
FLN La Foliniere 89.66 319⇑*iP* **P 15 25 09.2 -0.1**
comp=Z,42nm,1.0s,mb5.7
MFF Saint Martin d 89.70 317⇑*iP* **P 15 25 09.6 +0.1**
comp=Z,54nm,1.2s,mb5.5
MFF Saint Martin d 89.70 317⇑*iP* **P 15 25 09.6 +0.1**
MFF pmax pmax
comp=Z,27nm,1.2s,mb5.5
MFF Saint Martin d 89.70 317⇑*iP* **P 15 25 09.6 +0.1**
comp=Z,27nm,1.2s,mb5.5
GRR Gorron 89.96 318 *eP* **P 15 25 10.8 +0.2**
comp=Z,79nm,1.4s,mb5.5
GRR Gorron 89.96 318 *eP* **P 15 25 10.8 +0.2**
GRR pmax pmax
comp=Z,40nm,1.4s,mb5.6
GRR Gorron 89.96 318 *eP* **P 15 25 10.8 +0.2**
comp=Z,40nm,1.4s,mb5.5
VNDA Vanda 90.12 168 P **P 15 25 11.6 +0.2**
comp=Z,2.7nm,1.0s,mb4.5,baz=271,slow=3.9,SNR=4.2
VNDA LR LR 16 00 34.1
comp=Z,292nm,20.6s,MS4.7,baz=314,slow=32
VNDA Vanda 90.12 168 P **P 15 25 11.6 +0.2**
VNDA LR LR 16 00 34.1
ETSF Etsaut 90.46 313 *eP* **P 15 25 13.8 +0.8**
comp=Z,33nm,1.1s,mb5.3
ETSF Etsaut 90.46 313 *eP* **P 15 25 13.8 +0.8**
ETSF pmax pmax
comp=Z,17nm,1.1s,mb5.3
ETSF Etsaut 90.46 313 *eP* **P 15 25 13.8 +0.8**
comp=Z,17nm,1.1s,mb5.3
SJPF Ste Jean 90.92 313 *eP* **P 15 25 15.9 +0.8**
QUIF Quistinic 91.55 318 *eP* **P 15 25 17.9 -0.2**
comp=Z,17nm,0.8s,mb5.1
QUIF Quistinic 91.55 318 *eP* **P 15 25 17.9 -0.2**
QUIF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
QUIF Quistinic 91.55 318 *eP* **P 15 25 17.9 -0.2**
comp=Z,8.6nm,0.8s,mb5.1
ROSF Rostrenen 91.56 319⇑*iP* **P 15 25 18.1 0.0**
comp=Z,65nm,1.2s,mb5.5
ROSF Rostrenen 91.56 319⇑*iP* **P 15 25 18.1 0.0**
ROSF pmax pmax
comp=Z,33nm,1.2s,mb5.5
ROSF Rostrenen 91.56 319⇑*iP* **P 15 25 18.1 0.0**
comp=Z,32nm,1.2s,mb5.5
TORD Torodi Ar. Bea 91.85 283 P **P 15 25 20.6 +1.1**
comp=Z,3.2nm,1.0s,mb4.6,baz=79,slow=5.4,SNR=16
ALE Alert 91.88 357 P **P 15 25 19.0 -0.5**
comp=Z,60nm,0.7s,mb6.0,SNR=6.2
ESDC Sonseca Array 93.47 310 P **P 15 25 28.0 +1.0**
comp=Z,1.2nm,0.5s,mb4.5,baz=44,slow=5.4,SNR=5.1
MCK McKinley 96.71 24 P **P 15 25 40.1 -1.6**
MCK pmax pmax
comp=Z,19nm,1.8s,mb5.2
MCK McKinley 96.71 24 P **P 15 25 40.0 -1.7**
comp=Z,19nm,1.8s,mb5.2
SUMG Summit 96.96 347 *eP* **P 15 25 41.8 -1.0**
comp=Z,7.6nm,1.0s,mb5.1
ILAR Eielson Array 97.04 22 P **P 15 25 41.1 -2.0**
comp=Z,1.0nm,0.7s,mb4.3,baz=281,slow=4.5,SNR=13
ILAR PP PP 15 29 31.6 -7.7
comp=Z,0.7nm,0.9s,baz=286,slow=5.2,SNR=4.2
ILAR LR LR 16 12 04.1
comp=Z,140nm,20.1s,MS4.4,baz=360,slow=37
SNAA Sanae 97.23 198 LR LR 15 59 33.1
comp=Z,58nm,20.3s,MS4.1,baz=278,slow=29
DBIC Dimbokro 98.94 278 LR LR 16 06 03.5
comp=Z,132nm,19.7s,MS4.4,baz=54,slow=33
RES Resolute Bay 100.11 3 P Pdif 15 25 57.0 +0.1
YKA Yellowknife Ar 108.94 14 PP PP 15 31 02.9 -5.5
comp=Z,0.3nm,0.6s,baz=336,slow=7.8,SNR=5.5
FCC Fort Churchill 115.93 5 PP PP 15 31 54.7 -3.6
HAWA Hanford 120.36 27 PKPdf PKPdf 15 31 02.9 +0.5
MSO Missoula 122.37 23 *e*PKPdf PKPdf 15 31 05.6 -0.7
ULM Lac du Bonnet 124.09 8 PKP PKPdf 15 31 08.3 -1.2
comp=Z,3.8nm,0.8s,baz=222,slow=2.6,SNR=7.4
ULM Lac du Bonnet 124.09 8 PKP PKPdf 15 31 08.3 -1.2
BOZ Bozeman (W) 124.24 22 *e*PKIKP PKPdf 15 31 07.2 -2.7
HLID Hailey 124.84 26 PKPdf PKPdf 15 31 11.7 +0.7
LAO LASA Array 125.16 18 PKPdf PKPdf 15 31 12.8 +1.2
LKWY Lake 125.62 22 PKIKP PKPdf 15 31 14.9 +2.4
LOHW Long Hollow 126.35 23 PKPdf PKPdf 15 31 14.8 +0.9
REDW Red Top Meadow 126.47 23 PKPdf PKPdf 15 31 15.3 +1.1
ELK Elko 126.70 28 PKIKP PKPdf 15 31 15.1 +0.5
NVAR Mina Array Bea 126.92 32 PKP PKPdf 15 31 16.4 +1.5
comp=Z,2.5nm,0.8s,baz=292,slow=0.7,SNR=17
NVAR Mina Array Bea 126.92 32 PKP PKPdf 15 31 16.4 +1.5
BW06 Boulder Array 127.47 22 PKPdf PKPdf 15 31 16.7 +0.7
PDAR Pinedale Array 127.47 22 PKP PKPdf 15 31 16.2 +0.2
comp=Z,4.0nm,1.0s,baz=46,slow=1.8,SNR=21
HWUT Hardware Ranch 127.65 25 PKPdf PKPdf 15 31 16.9 +0.5
RSSD Black Hills 128.14 17 PKIKP PKPdf 15 31 16.5 -0.8
DAC Darwin (Calif) 128.87 34 PKIKP PKPdf 15 31 20.1 +1.4
RWWY Rawlins 129.28 21 PKPdf PKPdf 15 31 20.4 +0.9
TMUT Trail Mountain 129.71 26 PKPdf PKPdf 15 31 22.8 +2.5
MSU Marysvale 129.91 28 PKIKP PKPdf 15 31 23.4 +2.7
SRU San Rafael 130.16 26 PKIKP PKPdf 15 31 22.8 +1.7
PFO Pinyon Flat Ob 131.45 35 SKPbc SKPbc 15 34 45.8 +1.3
ISCO Idaho Springs 131.51 21 SKPbc SKPbc 15 34 45.1 +0.3
PV01 Paradox Valley 131.81 25 SKPbc SKPbc 15 34 46.3 +0.5
WUAZ Wupatki 132.70 29 PKPdf PKPdf 15 31 28.8 +2.8
WUAZ SKPbc SKPbc 15 34 50.3 +1.4
MNTX Cornudas Mount 138.65 26 PKPdf PKPdf 15 31 37.3 +0.3
LTX Lajitas 141.43 26 PKIKP PKPdf 15 31 45.7 +3.6
JCT Junction City 141.95 21 *e*PKPpre 15 31 37.2
JCT SKPbc SKPbc 15 35 16.8 +0.6
BDFB Brasilia 142.01 251 PKP PKPdf 15 31 45.5 +2.4
comp=Z,3.6nm,0.7s,baz=184,slow=0.6,SNR=3.2
PLCA Paso Flores 142.17 198 PKP PKPdf 15 31 43.6 +0.2
comp=Z,2.1nm,0.9s,baz=346,slow=3.1,SNR=2.1
CPUP Villa Florida 146.01 229 PKPbc PKPbc 15 31 51.2 +0.3
comp=Z,7.0nm,0.8s,baz=104,slow=4.5,SNR=13
CPUP Villa Florida 146.01 229 *e*PKPdf PKPdf 15 31 50.6 +0.5
MTP Monte Pirata 149.87 320 PKPdf PKPbc 15 32 02.2 +0.9
HUMP Col San Antoni 150.01 321 PKPdf PKPdf 15 31 58.3 +1.7
CPD Cerro la Pandu 150.13 321 *e*PKIKP PKPbc 15 32 02.3 +0.4
LPAZ La Paz 159.90 235 PKP PKPdf 15 32 12.3 +2.1
comp=Z,2.3nm,0.8s,baz=0.6,slow=2.6,SNR=6.3
LPAZ PKPab PKPab 15 32 52.1 +2.5
comp=Z,1.3nm,0.8s,baz=182,slow=2.6,SNR=2.7
LPAZ La Paz 159.90 235 PKP PKPdf 15 32 12.3 +2.1
LPAZ PKPab PKPab 15 32 52.1 +2.5

IDC 16 15:22:35.5±1.9, 055N×12537E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=174.7km s-min=26.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.18**	**157**	P	P	15 27 34.2	+1.0
	3.5nm,0.8s,baz=338,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**25.46**	**162**	P	P	15 28 04.5	-0.5
	1.3nm,0.8s,baz=341,slow=15,SNR=11						
MKAR	**Makanchi Array**	**59.42**	**327**	P	P	15 32 40.3	+0.5
	0.1nm,0.4s,baz=127,slow=8.8,SNR=4.8						

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*NEIC **16** 15:46:02.9, 3122S×69.15W, h150km, MD3.7(GUC), After GUC.*

GUC 16 15:46:02.9±0.7, 3122S×6915W, h150km, MD3.7, ML3.8, 6C-9D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.58**	**271**	⇓*iP*	Pn	15 46 34.0	+0.7
CMCH				*i* S	Sn	15 46 57.6	+1.0
CMCH				AMP		15 46 59.2	
	comp=N,2μm,0.4s						
CMCH	**Combarbala**	**1.58**	**271**	⇓*iP*	Pn	15 46 34.0	+0.7
CMCH				*i* S	Sn	15 46 57.6	+1.0
JACH	**Jahuel**	**1.90**	**220**	⇑*iP*	Pn	15 46 37.9	+1.1
CHNG	**Los Chungos**	**2.11**	**251**	⇓*iP*	Pn	15 46 39.3	+0.1
CHNG				*i* S	Sn	15 47 07.3	+0.1
CHNG				AMP		15 47 14.6	
	comp=E,304nm,0.6s						
FCH	**Farellones**	**2.31**	**204**	⇑*iP*	Pn	15 46 43.0	+1.3
FCH				*i* S	Sn	15 47 13.8	+2.2
FCH				AMP		15 47 15.4	
	comp=N,274nm,0.2s						
PEL	**Peldehue**	**2.32**	**214**	⇓*iP*	Pn	15 46 42.1	+0.4
PEL				*i* S	Sn	15 47 12.4	+0.7
PEL				AMP		15 47 18.9	
	comp=N,409nm,0.3s						
PEL	**Peldehue**	**2.32**	**214**	⇓*iP*	Pn	15 46 42.1	+0.4
PEL				*i* S	Sn	15 47 12.4	+0.7
ROCH	**El Roble**	**2.35**	**222**	*eP*	Pn	15 46 42.9	+0.7
ROCH				*i* S	Sn	15 47 14.0	+1.6
CLCH	**Cerro Calan**	**2.46**	**208**	⇑*iP*	Pn	15 46 44.4	+0.9
CLCH				*i* S	Sn	15 47 15.2	+0.3
CLCH				AMP		15 47 52.8	
	comp=E,254nm,0.8s						
PCH	**Pirque**	**2.66**	**205**	⇑*iP*	Pn	15 46 46.9	+1.0
RCDM	**Rinconada Maip**	**2.66**	**211**	⇓*iP*	Pn	15 46 46.5	+0.5
RCDM				*i* S	Sn	15 47 20.0	+0.8
RCDM				AMP		15 47 22.0	
	comp=N,404nm,0.1s						
RCDM	**Rinconada Maip**	**2.66**	**211**	⇓*iP*	Pn	15 46 46.5	+0.5
RCDM				*i* S	Sn	15 47 20.0	+0.8
LMEL	**Las Melosas**	**2.77**	**198**	*eP*	Pn	15 46 48.6	+1.3
LMEL				AMP		15 47 31.4	
	comp=N,160nm,0.2s						
TACH	**Talagante**	**2.86**	**211**	⇑*iP*	Pn	15 46 48.5	+0.1
CHCH	**Chadas Angostu**	**2.99**	**205**	⇓*iP*	Pn	15 46 50.6	+0.6
CHCH				*i* S	Sn	15 47 22.5	+1.0
LCCH	**Las Cruces**	**3.04**	**222**	*eP*	Pn	15 46 51.0	+0.3
CACH	**El Canelo**	**3.13**	**203**	⇑*iP*	Pn	15 46 53.0	+1.0
CICH	**Cipreses**	**3.27**	**199**	⇓*iP*	Pn	15 46 54.7	+1.1

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*NEIC **16** 16:32:18.4±2.0, 479S×15103E, h248km±17km, mb4.3/1, Error ellipse: s-maj=24.7km s-min=17.2km az=151.0*
*IDC **16** 16:32:19.9±3.2, 480S×15103E, h266km±29km, mb3.2/5, mb1 3.4/6, mb1mx3.2/14, mbtmp3.9/6, Error ellipse: s-maj=30.5km s-min=23.5km az=142.0*
*ISCJB **16** 16:32:22.8±3.5, 49S±02×1510E±02, h308km±29km, mb3.6/6, Error ellipse: s-maj=39.4km s-min=26.5km az=141.3*

ISC 16 16:32:19.4±2.9, 47S±02×1511E±02, h264km±23km, n10, σ0:95/11, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.07**	**219**	P	**Pn**	**16 33 46.3**	**-2.4**
	4.4nm,0.3s,baz=42,slow=17,SNR=17						
PMG				S	**S**	**16 35 02.0**	**+1.8**
	1.0nm,0.3s,baz=47,slow=13,SNR=2.4						
WRAB	**Tennant Creek**	**22.23**	**226**	*eP*	**P**	**16 36 54.0**	**-0.2**
	7.4nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**22.23**	**226**	*eP*	**P**	**16 36 54.6**	**+0.3**
WRA	**Warramunga Arr**	**22.24**	**226**	P	**P**	**16 36 54.6**	**+0.3**
	1.1nm,0.3s,mb3.6,baz=51,slow=9.8,SNR=38						
DZM	**Mont Dzumac**	**22.81**	**141**	P	**P**	**16 37 00.1**	**+0.5**
	8.9nm,1.0s,mb4.0,baz=17,slow=23,SNR=5.7						
AS31	**Alice Springs**	**25.09**	**220**	*eP*	**P**	**16 37 20.1**	**0.0**
ASAR	**Alice Springs**	**25.09**	**220**	P	**P**	**16 37 19.5**	**-0.6**
	0.5nm,0.4s,mb3.3,baz=50,slow=8.8,SNR=50						
ASPA	**Alice Springs**	**25.09**	**220**	*eP*	**P**	**16 37 20.1**	**0.0**
STKA	**Stephens Creek**	**28.46**	**197**	P	**P**	**16 37 49.2**	**-0.9**
	1.5nm,0.8s,mb3.5,baz=21,slow=8.6,SNR=2.4						
ILAR	**Eielson Array**	**82.72**	**22**	P	**P**	**16 44 14.6**	**+0.9**
	0.4nm,0.7s,mb3.4,baz=252,slow=4.6,SNR=6.6						

MEX 16 16:39:09.1±1.0, 1721N×9537W, h120km±12km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.48**	**104**	*i* P	Pn	16 39 25.8	-1.1
CMIG				*i* S	Sn	16 39 38.4	-2.0
OXX	**Oaxaca**	**1.30**	**265**	*i* P	Pn	16 39 33.5	-0.8
OXX				*i* S	Sn	16 39 52.0	-1.4
VHO	**Vista Hermosa**	**1.31**	**264**	*i* P	Pn	16 39 33.0	-1.3
VHO				*i* S	Sn	16 39 51.7	-1.8
HUIG	**Huatulco**	**1.60**	**206**	*i* P	Pn	16 39 35.7	-2.0
HUIG				*i* S	Sn	16 39 58.1	-1.3
PPM	**Popocatepetl**	**3.61**	**301**	*i* P	Pn	16 40 02.1	-1.3
PPM				*i* S	Sn	16 40 39.7	-5.7

IDC 16 16:40:24.1±1.7, 828S×12447E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=118.2km s-min=26.4km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.83**	**173**	Pn	Pn	16 42 45.6	-1.2
	0.2nm,0.3s,baz=89,slow=23,SNR=4.3						
FITZ				Sn	Sn	16 44 23.8	-14
	0.7nm,0.3s,baz=200,slow=13,SNR=7.2						
WRA	**Warramunga Arr**	**15.02**	**142**	Pn	Pn	16 43 58.3	+0.6
	0.2nm,0.3s,baz=321,slow=14,SNR=12						
WRA				Sn	Sn	16 46 33.5	-11
	0.3nm,0.3s,baz=313,slow=26,SNR=12						
ASAR	**Alice Springs**	**17.77**	**151**	P	Pn	16 44 34.0	+1.1
	0.2nm,0.3s,baz=319,slow=11,SNR=16						
ASAR				S	Sn	16 47 39.7	-12
	0.1nm,0.3s,baz=313,slow=20,SNR=7.8						
MKAR	**Makanchi Array**	**66.42**	**330**	P	P	16 51 15.3	+0.2
	0.2nm,0.5s,baz=139,slow=6.8,SNR=3.8						

MAN 16 16:44:50.4, 929N×12525E, h1km, mb2.9, ML4.3, MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.49**	**131**	*e*P	Pg	16 44 59.2	-0.5
BUTP				*e*S	Sg	16 45 16.2	+10
MSLP	**Maasin**	**0.92**	**335**	*e*P	Pg	16 45 08.0	0.0
BUKP	**Musuan**	**1.42**	**188**	*e*P	Pn	16 45 16.8	-0.5

*CSEM **16** 16:51:08.4±0.7,3730N×2454W,h5km,ML2.5,Error ellipse: s-maj=5.8km s-min=2.1km az=85.0,After PDA*
*PDA **16** 16:51:08.4±0.7,3730N×2454W,h5km,MD2.3,ML2.5, Error ellipse: s-maj=5.8km s-min=2.1km az=85.0*
SVSA 16 16:51:08.4±0.7,3730N×2454W,h5km,MD2.3,ML2.5, Error ellipse: s-maj=5.8km s-min=2.1km az=85.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.52**	**235**	*e*P	Pg	16 51 17.3	-1.1
PSMN				*e*S	Sg	16 51 24.1	-1.0
MIRA	**Miradouro**	**0.76**	**310**	*e*S	Sg	16 51 30.4	-2.6
FRA1	**Furnas**	**0.79**	**304**	*e*S	Sg	16 51 31.0	-2.8
PFAD	**Fenais da Ajud**	**0.82**	**311**	*e*P	Pg	16 51 21.9	-2.3
PFAD				*e*S	Sg	16 51 31.4	-3.5
PCNG	**Congro**	**0.83**	**304**	*e*S	Sg	16 51 32.1	-2.9
PCNG	82nm,0.1s						
VIF	**Vila Franca**	**0.84**	**302**	*e*S	Sg	16 51 32.3	-3.3
VIF	65nm,0.2s						
PRCH	**Ribeira Ch**	**0.86**	**300**	*e*S	Sg	16 51 32.4	-3.8
PRCH	117nm,0.2s						
MESC	**Monte Escuro**	**0.88**	**304**	*e*S	Sg	16 51 33.2	-3.3
LFA	**Lagoa do Fogo**	**0.89**	**302**	*e*P	Pg	16 51 22.8	-2.7
PMAT	**Coroa da Mata**	**0.90**	**305**	*e*S	Sg	16 51 33.8	-3.7
PMAT	3.9nm,0.3s						
PDA	**Ponta Delgada**	**1.00**	**297**	*e*P	Pg	16 51 23.5	-4.1
PDA				*e*S	Sg	16 51 35.6	-5.0

*NEIC **16** 16:54:47.4, 1847N×6868W,h166km,MD4.1(RSPR), After RSPR.*
RSPR 16 16:54:47.4,1847N×6868W,h166km±4km,MD4.1/5, MD4.1/5,5C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.56**	**107**	*e*S	Sn	16 55 43.4	+0.5
CRPR	**Cabo Rojo, PR**	**1.56**	**107⇑**	*e*P	Pn	16 55 17.9	-0.8
CRPR				*e*S	Sn	16 55 43.4	+0.5
MGP	**Maguayo**	**1.58**	**106⇑**	*e*P	Sn	16 55 18.9	0.0
AOPR	**Arecibo Observ**	**1.84**	**93**	*e*S	Sn	16 55 48.5	+0.4
AOPR	**Arecibo Observ**	**1.84**	**93⇓**	*e*P	Pn	16 55 21.8	+0.2
AOPR				*e*S	Sn	16 55 48.5	+0.4
CELP	**Cerrillos**	**2.04**	**101⇑**	*e*P	Pn	16 55 24.3	+0.5
CBYP	**Canovanas**	**2.69**	**94**	*e*S	Sn	16 56 07.0	+1.2
CBYP	**Canovanas**	**2.69**	**94⇑**	*e*P	Pn	16 55 31.6	+0.1
CBYP				*e*S	Sn	16 56 07.0	+1.2
MTP	**Monte Pirata**	**2.99**	**97**	*e*S	Sn	16 56 12.9	+0.6
MTP	**Monte Pirata**	**2.99**	**97⇑**	*e*P	Pn	16 55 36.1	+0.9
MTP				*e*S	Sn	16 56 12.9	+0.6

*MOS **16** 17:08:50.3±0.9,5161N×1614E,h10km,mb3.7/1,Error ellipse: s-maj=11.7km s-min=5.6km az=80.1*
*ISCJB **16** 17:08:51.3±0.3,5138N±002×1601E±004,h0km,mb3.4/1, Error ellipse: s-maj=2.8km s-min=1.8km az=25.8*
*NEIC **16** 17:08:51.3±0.3,5157N×1611E,h5km,ML2.6(BRG), ML2.9(CLL),Error ellipse: s-maj=4.8km s-min=4.1km az=89.0*
*BGR **16** 17:08:52.1±0.5,5145N×1611E,h1km,ML3.1/14,Error ellipse: s-maj=4.4km s-min=4.4km az=123.0,Poland*
*IDC **16** 17:08:52.8±0.6,5149N×1596E,h0km,mb3.3/1,mb1 3.6/8, mb1mx3.4/23,mbtmp3.4/8,ML3.3/7,MS2.5/1,Ms1 2.5/1, ms1mx2.1/18,Error ellipse: s-maj=13.3km s-min=6.4km az=104.0*
*CSEM **16** 17:08:53.7±0.1,5145N×1601E,h1km,ML3.5/6,Error ellipse: s-maj=3.0km s-min=1.5km az=13.0*
*WAR **16** 17:08:53.3,5148N×1604E,ML2.8,Mining Induced*
*VIE **16** 17:08:54.7±0.7,5127N×1612E,h0km,mb2.5/5,ML3.0/5, Error ellipse: s-maj=4.0km s-min=3.1km az=0.0 65 km WNW of Breslau Suspected Mining induced.*
ISC 16 17:08:51.5±0.3,5150N±002×1606E±002,h0km,n72, σ1§01/138,mb3.4/1,6C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**167**	*e*Pg	**Pg**	**17 09 05.3**	**+0.9**
KSP				*e*Sg	**Sg**	**17 09 14.1**	**+0.9**
KSP	**Ksiaz**	**0.67**	**167**	*i* Pgd	**Pg**	**17 09 05.3**	**+0.9**
KSP				e		17 09 12.9	
KSP				*e*Sg	**Sg**	**17 09 14.0**	**+0.8**
KSP				eL		17 09 19.5	
KSP	**Ksiaz**	**0.67**	**167⇓**	*i*Pg	**Pg**	**17 09 05.3**	**+0.9**
KSP				*e*		17 09 12.9	
KSP				*e*Sg	**Sg**	**17 09 14.0**	**+0.8**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	**Pg**	**17 09 14.0**	**+0.2**
DPC				*e*SG	**Sg**	**17 09 28.7**	**-0.2**
	87nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**225**	*e*PG	**Pg**	**17 09 17.8**	**+0.4**
BRG	**Berggiesshubel**	**1.47**	**246**	*e*Pg	**Pg**	**17 09 19.0**	**-0.7**
BRG				*e*Sg	**Sg**	**17 09 40.0**	**+1.2**
BRG	**Berggiesshubel**	**1.47**	**246**	Pg	**Pg**	**17 09 20.2**	**+0.5**
BRG				Sg	**Sg**	**17 09 40.0**	**+1.2**
BRG	**Berggiesshubel**	**1.47**	**246**	PN	**Pn**	**17 09 18.7**	**-0.5**
BRG				PG	**Pg**	**17 09 20.2**	**+0.5**
BRG				SG	**Sg**	**17 09 39.6**	**+0.9**
	66nm,0.3s						
RUE	**Ruedersdorf**	**1.72**	**306**	*e*Pn	**Pn**	**17 09 22.3**	**-0.4**
RUE				*e*Sg	**Sg**	**17 09 48.5**	**+1.9**
RUE	**Ruedersdorf**	**1.72**	**306**	*e*Pn	**Pn**	**17 09 22.5**	**-0.4**
RUE				*e*Sn	**Sn**	**17 09 48.5**	**+3.3**
PRU	**Pruhonice**	**1.79**	**213**	*e*PN	**Pn**	**17 09 23.5**	**-0.2**
PRU				*e*PG	**Pg**	**17 09 25.2**	**-0.7**
PRU				*ex*	x	17 09 42.3	
PRU				*e*SG	**Sg**	**17 09 48.6**	**-0.5**
	62nm,0.9s						
PRU	**Pruhonice**	**1.79**	**213**	*e*Pg	**Pg**	**17 09 25.2**	**-0.7**
PRU				*e*Sg	**Sg**	**17 09 48.6**	**-0.5**
	62nm,0.9s						
FBE	**Freiberg**	**1.80**	**252**	*e*Pn	**Pn**	**17 09 24.1**	**+0.4**
FBE				*e*Sg	**Sg**	**17 09 49.4**	**+0.2**
GKP	**Gorka Klasztor**	**1.92**	**22**	*e*Pg	**Pg**	**17 09 35.0**	**+6.8**
GKP				*e*Sg	**Sg**	**17 10 00.5**	**+7.5**
CLL	**Collm**	**1.92**	**265**	*e*Pn	**Pn**	**17 09 25.2**	**-0.3**
CLL				*e*Sg	**Sg**	**17 09 53.6**	**+0.3**
CLL	**Collm**	**1.92**	**265**	*e*Pn	**Pn**	**17 09 25.0**	**-0.5**
CLL				*i* Pg	**Pg**	**17 09 27.8**	**-0.6**
CLL				*e*Sg	**Sg**	**17 09 53.0**	**-0.3**
	comp=Z,49nm,0.4s						
CLL	**Collm**	**1.92**	**265**	*i* Pg	**Pg**	**17 09 27.8**	**-0.6**
CLL				Sg	**Sg**	**17 09 53.6**	**+0.3**
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn	**Pn**	**17 09 25.9**	**-0.2**
MORC				*e*Sn	**Sn**	**17 09 51.5**	**+0.1**
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn	**Pn**	**17 09 25.9**	**-0.2**
MORC				*e*Sn	**Sn**	**17 09 51.5**	**+0.1**
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*PG	**Pg**	**17 09 31.8**	**-0.5**
OKC				*e*SG	**Sg**	**17 09 58.6**	**-1.3**
	comp=Z,19nm,0.5s						
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*Pg	**Pg**	**17 09 31.8**	**-0.5**
OKC				*e*Sg	**Sg**	**17 09 58.6**	**-1.3**
VRAC	**Vranov**	**2.22**	**171**	Pn	**Pn**	**17 09 30.0**	**+0.5**
	comp=Z,4.3nm,0.3s,baz=330,slow=15,SNR=18						
VRAC				Lg		17 10 02.8	
	comp=Z,10nm,0.3s,baz=73,slow=16,SNR=15						
TANN	**Tannenbergstha**	**2.52**	**246**	*e*Pn	**Pn**	**17 09 34.0**	**+0.3**
TANN				*e*Sg	**Sg**	**17 10 12.1**	**-0.4**
WERD	**Werda**	**2.59**	**248**	*e*Pn	**Pn**	**17 09 35.1**	**+0.4**
WERD				*e*Sg	**Sg**	**17 10 14.4**	**-0.4**
WERD	**Werda**	**2.59**	**248**	Pn	**Pn**	**17 09 35.1**	**+0.4**
WERD				Sg	**Sg**	**17 10 14.4**	**-0.5**
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN	**Pn**	**17 09 35.5**	**+0.5**
NKC				*e*PG	**Pg**	**17 09 41.9**	**+0.3**
NKC				*e*SG	**Sg**	**17 10 16.9**	**+1.4**
	comp=Z,72nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**242**	*e*Pg	**Pg**	**17 09 41.9**	**+0.3**
NKC				*e*Sg	**Sg**	**17 10 16.9**	**+1.4**
	comp=Z,72nm,0.3s						
WERN	**Wernitzgruen**	**2.63**	**244**	*e*Pn	**Pn**	**17 09 35.7**	**+0.5**
WERN				*e*Sg	**Sg**	**17 10 16.2**	**+0.2**
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**17 09 44.6**	**+1.5**
OJC				*e*Sg	**Sg**	**17 10 20.2**	**+2.1**
NEUB	**Neuenburg**	**2.70**	**265**	*e*Pg	**Pg**	**17 09 42.7**	**-0.6**
NEUB				*e*Sg	**Sg**	**17 10 18.5**	**+0.3**
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	**Pn**	**17 09 38.3**	**0.0**
KHC				*e*PG	**Pg**	**17 09 44.2**	**-2.0**
KHC				*e*SN	**Sn**	**17 10 11.7**	**-1.6**
KHC				*e*SG	**Sg**	**17 10 23.5**	**+0.3**
	comp=Z,16nm,0.4s						
KHC	**Kasperske Hory**	**2.85**	**215**	*e*P	**Pn**	**17 09 38.3**	**0.0**
KHC				*e*		17 10 11.7	
KHC	**Kasperske Hory**	**2.85**	**215**	*e*Pg	**Pg**	**17 09 44.2**	**-2.0**
KHC				*e*Sn	**Sn**	**17 10 11.7**	**-1.6**
KHC				*e*Sg	**Sg**	**17 10 23.5**	**+0.3**
	comp=Z,16nm,0.4s						
MOX	**Moxa**	**2.93**	**255**	*e*Pn	**Pn**	**17 09 39.3**	**0.0**
MOX	**Moxa**	**2.93**	**255**	*e*PN	**Pn**	**17 09 39.3**	**0.0**
MOX				*e*PG	**Pg**	**17 09 47.6**	**-0.1**
MOX				*e*SG	**Sg**	**17 10 27.2**	**+1.6**
MOX	**Moxa**	**2.93**	**255**	*e*Pg	**Pg**	**17 09 47.6**	**-0.1**
MOX	**Moxa**	**2.93**	**255**	*e*Pn	**Pn**	**17 09 39.3**	**0.0**
MOX				*e*Pg	**Pg**	**17 09 47.6**	**-0.1**
MOX				*e*Sg	**Sg**	**17 10 27.2**	**+1.6**
MANZ	**Manzenberg**	**2.93**	**240**	*e*Pn	**Pn**	**17 09 40.0**	**+0.7**
MANZ				*e*Sg	**Sg**	**17 10 24.7**	**-1.0**
ROTZ	**Rotzenmuhle**	**3.00**	**236**	*e*Pn	**Pn**	**17 09 41.1**	**+0.8**
ROTZ				*e*Sg	**Sg**	**17 10 26.7**	**-1.3**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**17 09 42.0**	**+0.9**
GEC2				*e*Sg	**Sg**	**17 10 27.9**	**-1.9**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**17 09 42.0**	**+0.9**
GEC2				*e*Sg	**Sg**	**17 10 27.9**	**-1.9**
GERES	**GERESS Array B**	**3.06**	**211**	Pn	**Pn**	**17 09 41.9**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=28,slow=12,SNR=46						
GERES				Pg	**Pg**	**17 09 48.2**	**-2.0**
	comp=Z,7.2nm,0.3s,baz=32,slow=17,SNR=44						
GERES				Sn	**Sn**	**17 10 19.4**	**+1.0**
	comp=Z,3.2nm,0.3s,baz=35,slow=26,SNR=7.1						
GERES				Lg		17 10 29.3	
	comp=Z,6.0nm,0.3s,baz=34,slow=28,SNR=8.1						
GERES	**GERESS Array B**	**3.06**	**211**	P	**Pn**	**17 09 41.9**	**+0.8**
GERES						17 10 19.4	
GERES	**GERESS Array B**	**3.06**	**211**	Pg	**Pg**	**17 09 48.2**	**-1.9**
GERES				S	**Sn**	**17 10 19.4**	**+1.0**
WET	**Wettzell**	**3.12**	**222**	*e*Pn	**Pn**	**17 09 42.3**	**+0.4**
WET				*e*Sg	**Sg**	**17 10 30.1**	**-1.6**
WET	**Wettzell**	**3.12**	**222**	*e*Pn	**Pn**	**17 09 42.3**	**+0.4**
WET				*e*Sg	**Sg**	**17 10 30.1**	**-1.5**
ZST	**Bratislava**	**3.38**	**168**	*e*PG	**Pg**	**17 09 54.9**	**-1.3**
ZST				*e*SG	**Sg**	**17 10 39.4**	**-0.5**
NIE	**Niedzica**	**3.42**	**126**	*e*P	**Pg**	**17 09 56.5**	**-0.6**
NIE				*e*S	**Sg**	**17 10 42.1**	**+0.6**
VYHS	**Vyhne**	**3.50**	**148**	*e*PN	**Pn**	**17 09 48.0**	**+0.8**
VYHS				*e*PG	**Pg**	**17 09 57.7**	**-0.9**
VYHS				*e*SG	**Sg**	**17 10 43.5**	**-0.5**
VYHS	**Vyhne**	**3.50**	**148**	*e*Pg	**Pg**	**17 09 57.7**	**-0.9**
VYHS				*e*Sg	**Sg**	**17 10 43.5**	**-0.5**
GRA1	**Grafenberg Arr**	**3.57**	**241**	Pn	**Pn**	**17 09 48.8**	**+0.6**
GRA1				Sg	**Sg**	**17 10 46.5**	**+0.2**
GRA1	**Grafenberg Arr**	**3.57**	**241**	*e*Pn	**Pn**	**17 09 48.8**	**+0.6**
GRA1				*e*Sg	**Sg**	**17 10 46.5**	**+0.2**
GRF	**Grafenberg Arr**	**3.57**	**241**	*e*Pn	**Pn**	**17 09 48.8**	**+0.7**
GRF				*e*Sg	**Sg**	**17 10 46.5**	**+0.2**
BSD	**Bornholm Skovb**	**3.69**	**350**	*i* P	**Pn**	**17 09 49.0**	**-0.7**
BSD				*i* S	**Sn**	**17 10 30.4**	**-3.4**
MOA	**Molln**	**3.83**	**198⇓**	*i*Sg	**Sg**	**17 10 56.2**	**+1.5**
	comp=Z,26nm,0.7s						
MOA	**Molln**	**3.83**	**198⇑**	*i*Pn	**Pn**	**17 09 52.6**	**+0.9**
	SNR=7.8						
MOA				⇓*i*Sg	**Sg**	**17 10 56.2**	**+1.5**
	comp=Z,26nm,0.7s						
STHS	**Stebnicka Huta**	**3.92**	**120**	*e*Pn	**Pn**	**17 09 54.2**	**+1.4**
STHS				*e*PG	**Pg**	**17 10 07.6**	**+1.1**
STHS				*e*SG	**Sg**	**17 11 01.4**	**+4.1**
STHS	**Stebnicka Huta**	**3.92**	**120**	*e*Pg	**Pg**	**17 10 07.6**	**+1.1**
KECS	**Kecovo**	**4.16**	**135**	*e*PG	**Pg**	**17 10 09.7**	**-1.5**
KECS				*e*SG	**Sg**	**17 11 09.1**	**+4.1**
ARSA	**Arzberg**	**4.27**	**185⇑**	*i*Sg	**Sg**	**17 11 07.7**	**-0.9**
	comp=Z,24nm,0.7s						
ARSA	**Arzberg**	**4.27**	**185⇓**	*i*Pn	**Pn**	**17 09 57.7**	**+0.1**
ARSA				⇑*i*Sg	**Sg**	**17 11 07.7**	**-0.9**
	comp=Z,24nm,0.7s						
ARSA	**Arzberg**	**4.27**	**185**	Pn	**Pn**	**17 09 57.7**	**0.0**
ARSA				Sg	**Sg**	**17 11 07.7**	**-0.9**
	comp=Z,24nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.34**	**125**	*e*PG	**Pg**	**17 10 13.9**	**-0.7**
CRVS				*e*SG	**Sg**	**17 11 12.5**	**+1.7**
KBA	**Koelnbreinsper**	**4.77**	**203⇑**	*i*Sg	**Sg**	**17 11 25.3**	**+0.7**
	comp=Z,12nm,0.6s						
KBA	**Koelnbreinsper**	**4.77**	**203⇑**	*i*Pn	**Pn**	**17 10 05.8**	**+1.2**
KBA				⇑*i*Sg	**Sg**	**17 11 25.3**	**+0.7**
	comp=Z,12nm,0.6s						
AKASG	**Malin Array Be**	**8.33**	**90**	Pn	**Pn**	**17 10 52.1**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=279,slow=12,SNR=8.7						
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**17 10 58.2**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=199,slow=12,SNR=9.5						
MLR	**Muntele Rosu**	**8.90**	**129**	LR	LR	17 14 46.2	
	comp=Z,26nm,18.3s,baz=256,slow=40						
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	**Pn**	**17 11 13.1**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=160,slow=18,SNR=1.6						
FINES	**FINESS Array B**	**11.39**	**25**	Pn	**Pn**	**17 11 33.1**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=211,slow=11,SNR=24						
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**Pn**	**17 13 06.5**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=187,slow=14,SNR=12						
YKA	**Yellowknife Ar**	**59.85**	**336**	P	**P**	**17 18 59.4**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.4,baz=27,slow=6.9,SNR=4.6						

IGQ 16 17:45:20.6,186S×8012W,h12km±4km,Mb4.0,Ms3.8, 3C-3D,Error ellipse: s-maj=3.7km s-min=1.7km az=77.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.93**	**250**	P	Pg	17 45 36.2	-2.3
SALI				S	Sg	17 45 50.1	-0.6
IGUA	**Igualata**	**1.53**	**76**	P	Pn	17 45 49.4	+1.7
IGUA				S	Sn	17 46 10.3	+2.9
QIL1	**Quilotoa**	**1.56**	**50**	P	Pn	17 45 48.9	+0.8
QIL1				S	Sn	17 46 10.0	+1.8
JAMA	**Jama**	**1.59**	**357**	P	Pn	17 45 50.4	+1.9
CUSU	**Cusua**	**1.69**	**76**	P	Pn	17 45 52.2	+2.3
CUSU				S	Sn	17 46 14.5	+3.0
ARRY	**Arrayan**	**1.70**	**78**	⇓P	Pn	17 45 51.4	+1.3
JUIV	**Juive**	**1.71**	**75**	P	Pn	17 45 52.4	+2.2
JUIV				S	Sn	17 46 14.9	+3.0
PATA	**Patacocha**	**1.72**	**78**	P	Pn	17 45 53.0	+2.6
ULBA	**Ulba**	**1.76**	**77**	P	Pn	17 45 52.9	+2.0
ULBA				S	Sn	17 46 16.5	+3.3
MAG1	**Magdalena**	**1.81**	**11**	P	Pn	17 45 52.4	+0.8
PISA	**Pisayambo**	**1.91**	**65**	P	Pn	17 45 56.2	+3.3
PISA				S	Sn	17 46 22.3	+5.4
CAMI	**Rancho Maria**	**2.00**	**54**	⇑P	Pn	17 45 58.0	+3.9
NAS1	**Nasa**	**2.04**	**53**	⇓P	Pn	17 45 59.0	+4.2
TAMB	**Tambo**	**2.10**	**57**	P	Pn	17 45 59.0	+3.5
TAMB				S	Sn	17 46 29.5	+7.9
VC1	**Cotopaxi 1**	**2.10**	**55**	⇓P	Pn	17 45 59.7	+4.1
JUA2	**San Juan 2**	**2.23**	**43**	P	Pn	17 46 00.3	+3.0
TERV	**Terraza Guagua**	**2.26**	**42**	P	Pn	17 46 01.0	+3.3
GGP	**Refugio Guagua**	**2.27**	**42**	P	Pn	17 46 01.4	+3.6
PINO	**Pino**	**2.27**	**42**	⇑P	Pn	17 46 00.1	+2.3
YANA	**Yana**	**2.32**	**42**	P	Pn	17 46 00.7	+2.1
YANA				S	Sn	17 46 32.2	+5.2
ANTI	**Antisana**	**2.41**	**54**	P	Pn	17 46 04.1	+4.4
ANTI				S	Sn	17 46 38.3	+9.1
CAYR	**Refugio Cayamb**	**2.82**	**49**	⇑P	Pn	17 46 11.0	+5.6
ANGU	**Angureal**	**2.84**	**48**	P	Pn	17 46 09.9	+4.3

MAN 16 18:02:04.7,900N×12553E,h4km,mb3.4,ML4.6,MS2.1, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.10**	**110**	*e*P	Pg	18 02 07.1	+0.4
BUTP				*e*S	Sg	18 02 10.3	+2.2
CGP	**Cagayan de Oro**	**0.99**	**237⇑**	*e*P	Pg	18 02 23.3	-0.2
CGP				*i* S	Sg	18 02 38.9	+2.6
BUKP	**Musuan**	**1.21**	**202**	*e*P	Pg	18 02 27.6	-0.2
BUKP				*e*S	Sg	18 02 45.3	+1.9
MSLP	**Maasin**	**1.30**	**330**	*e*P	Pn	18 02 28.0	-1.6
PAGZ	**Pagadian**	**2.41**	**242**	*e*P	Pn	18 02 46.9	+2.0

MAN 16 18:18:31.0,1851N×12066E,h31km,mb1.5,ML3.4,MS5.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.19**	**192**	*e*P	Pb	18 18 38.4	+1.1
PIP				*e*S	Sb	18 18 44.2	+2.8
APYP	**Conner**	**0.85**	**139**	*e*P	Pn	18 18 46.4	-0.5
APYP				*e*S	Sn	18 18 59.1	+0.9
ABRA	**Dolores**	**0.86**	**177**	*e*P	Pn	18 18 47.7	+0.7

IDC 16 18:20:20.0±6.5,2055S×6712W,h191km±44km,mb3.6/2, mb1 3.6/4,mb1mx3.3/17,mbtmp4.0/4,Error ellipse: s-maj=71.7km s-min=21.7km az=16.0,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.34**	**347**	P	Pn	18 21 26.1	+0.4
	1.3nm,0.3s,baz=153,slow=8.3,SNR=38						
LPAZ				S	Sn	18 22 19.2	+1.8
	0.1nm,0.3s,baz=175,slow=24,SNR=2.6						
SIV	**San Ignacio**	**7.32**	**53**	P	Pn	18 22 04.7	+0.5
	2.6nm,0.3s,baz=249,slow=11,SNR=40						
SIV				S	Sn	18 23 27.2	+0.3
	0.1nm,0.3s,baz=143,slow=22,SNR=6.8						
TORD	**Torodi Ar. Bea**	**75.46**	**70**	P	P	18 31 43.6	+0.7
	1.1nm,0.4s,baz=250,slow=5.6,SNR=19						
YKA	**Yellowknife Ar**	**90.86**	**340**	P	P	18 33 01.1	-0.6
	0.4nm,0.6s,baz=131,slow=4.2,SNR=10						
MKAR	**Makanchi Array**	**143.88**	**36**	PKP	PKPdf	18 39 31.4	-0.9
	0.2nm,0.5s,baz=306,slow=3.1,SNR=5.5						

IDC 16 18:31:58.5±1.9,049N×12590E,h0km,mb3.2/3,mb1 3.4/3, mb1mx3.3/16,mbtmp3.3/3,Error ellipse: s-maj=185.2km s-min=25.2km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.92**	**158**	P	P	18 36 54.8	+1.5
	0.2nm,0.5s,baz=337,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**25.23**	**163**	P	P	18 37 25.6	-0.5
	0.6nm,0.9s,baz=334,slow=8.3,SNR=6.4						
MKAR	**Makanchi Array**	**59.76**	**327**	P	P	18 42 05.3	+0.2
	0.3nm,0.4s,baz=126,slow=8.3,SNR=8.0						

*CSEM **16** 18:53:03.2,3820N×2046E,h24km,MD3.5/4,After ATH*
*NEIC **16** 18:53:03.2,3820N×2046E,h24km,MD3.5(ATH),After ATH.*
ATH 16 18:53:03.2,3820N×2046E,h24km±4km,MD3.5/4,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.10**	**103**	*e*PB	Pb	18 53 08.1	+0.4
RLS	**Riolos of Patr**	**0.81**	**100**	*e*PN	Pn	18 53 18.7	-0.3
EVR	**Evrytania**	**1.28**	**55**	*e*PN	Pn	18 53 27.8	+2.3
KEK	**Kerkira**	**1.60**	**341**	*e*PN	Pn	18 53 32.0	+2.1
KEK				*e*SN	Sn	18 53 53.1	+3.3

*NSSP **16** 18:56:15.8,3863N×4322E,h8km,ML3.1*
*CSEM **16** 18:56:16.3±0.1,3862N×4334E,h10km,MD3.7,Error ellipse: s-maj=2.2km s-min=1.8km az=93.0*
*ISK **16** 18:56:16.5,3863N×4330E,h9km,MD3.7*
*ISCJB **16** 18:56:17.0±0.4,3865N±003×4326E±004,h9km,Error ellipse: s-maj=4.6km s-min=3.3km az=80.2*
ISC 16 18:56:17.3±0.4,3865N±002×4325E±004,h9km,n32, σ1§17/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.17**	**134**	*i* P	**Pg**	**18 56 20.5**	**-0.5**
TVAN				*i* S	**Sg**	**18 56 28.7**	**+5.2**
VANT	**Van**	**0.23**	**152**	*i* PG	**Pg**	**18 56 21.2**	**-0.9**
CLDR	**Caldiran**	**0.72**	**47**	PG	**Pg**	**18 56 30.1**	**-1.1**
CLDR				SG	**Sg**	**18 56 41.2**	**+0.7**
CLDR	**Caldiran**	**0.72**	**47**	P	**Pg**	**18 56 30.4**	**-0.8**
CLDR				*e*Sg	**Sg**	**18 56 41.2**	**+0.7**
CLDR				S	**Sg**	**18 56 41.4**	**+0.9**
HKR	**Hakkari**	**1.14**	**160**	PN	**Pn**	**18 56 38.2**	**-1.2**
CUKT	**Cukurca**	**1.43**	**168**	PN	**Pn**	**18 56 42.8**	**-0.6**
CUKT	**Cukurca**	**1.43**	**168**	P	**Pn**	**18 56 43.5**	**+0.1**
CUKT				S	**Sn**	**18 57 03.5**	**+1.2**
BNGL	**BINGOL**	**1.67**	**281**	*i* P	**Pn**	**18 56 46.1**	**-0.6**
BNGL				*i* S	**Sn**	**18 57 07.8**	**-0.4**
BNGL	**BINGOL**	**1.67**	**281**	*i* S	**Sn**	**18 57 07.8**	**-0

KEK **Kerkira** **1.71 348** *e*PN Pn 19 13 27.0 +2.3
KEK *e*SN Sn 19 13 48.1 +2.4

IDC 16 19:13:24.9±1.9, 234S×12691E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=154.1km s-min=26.4km az=66.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.95**	**158**	P	Pn	19 17 46.6	-1.4
	0.3nm,0.3s,baz=336,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**22.26**	**163**	P	P	19 18 24.5	+1.2
	0.6nm,0.6s,baz=351,slow=9.5,SNR=5.7						
MKAR	**Makanchi Array**	**62.66**	**327**	P	P	19 23 51.4	+0.1
	0.2nm,0.3s,baz=114,slow=8.1,SNR=5.6						

WEL 16 19:27:34.6±0.1, 3807S×17835E, h53km±1km, ML3.6/4, 1C-2D, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.07**	**268**	↑PN	Pn	19 27 43.0	+0.3
PUZ				SN	Sn	19 27 48.2	-0.2
MXZ	**Matakaoa Point**	**0.51**	**356**	↓PN	Pn	19 27 45.9	-0.2
MXZ				SN	Sn	19 27 54.1	-0.2
MWZ	**Matawai**	**0.70**	**248**	↓PN	Pn	19 27 48.2	-0.2
MWZ				SN	Sn	19 27 58.3	-0.2
URZ	**Urewera**	**0.99**	**259**	PN	Pn	19 27 52.2	0.0
URZ				SN	Sn	19 28 05.1	-0.3
KNZ	**Kokohu**	**1.09**	**209**	PN	Pn	19 27 53.3	-0.3
BKZ	**Black Stump Fm**	**1.82**	**232**	PN	Pn	19 28 03.3	-0.1
PXZ	**Pawanui**	**2.27**	**210**	*e*PN	Pn	19 28 07.9	-1.8
TUVZ	**Tukino**	**2.42**	**240**	PN	Pn	19 28 11.3	-0.4
KUZ	**Kuaotunu**	**2.48**	**301**	PN	Pn	19 28 10.4	-2.0
WNVZ	**Wahianoa**	**2.49**	**239**	PN	Pn	19 28 11.8	-0.8
TSZ	**Takapari Road**	**2.72**	**222**	PN	Pn	19 28 13.8	-2.0
BFZ	**Birch Farm**	**3.07**	**211**	PN	Pn	19 28 18.1	-2.5
MRZ	**Mangatainoka R**	**3.36**	**219**	PN	Pn	19 28 21.8	-2.8
KIW	**Kapiti Island**	**3.85**	**223**	PN	Pn	19 28 28.2	-3.1
CAW	**Cannon Point**	**3.95**	**219**	PN	Pn	19 28 29.2	-3.4
TCW	**Tory Channel**	**4.44**	**224**	PN	Pn	19 28 36.0	-3.3
TUWZ	**Tuamarina**	**4.77**	**224**	PN	Pn	19 28 40.1	-3.8
THZ	**Tophouse**	**5.58**	**227**	PN	Pn	19 28 51.1	-3.9
KHZ	**Kahutara**	**5.69**	**219**	PN	Pn	19 28 52.7	-3.8

*ISCJB **16** 19:37:15.8±0.5, 2431N±004×12695E±003, h37km, mb4.2/26, Error ellipse: s-maj=6.4km s-min=3.2km az=107.8*
*JMA **16** 19:37:15.4±0.3, 2430N×12691E, h82km, M3.4*
*BJI **16** 19:37:15.2, 2428N×12724E, h44km, mB4.5, mb4.2, Ms3.8, Msz3.5*
*IDC **16** 19:37:17.6±0.6, 2424N×12709E, h37km±4km, mb3.7/12, mb1 3.9/14, mb1mx3.8/22, mbtmp3.9/14, ML4.2/2, Error ellipse: s-maj=21.0km s-min=12.6km az=79.0*
*NEIC **16** 19:37:17.4±0.5, 2422N×12700E, mb4.4/4, Error ellipse: s-maj=11.7km s-min=9.5km az=98.0*

ISC 16 19:37:18.0±0.5, 2435N±004×12690E±004, h39km, h39km±1.7km: pP-P, n52, σ1°30/68, mb4.2/26, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.42**	**287**	P	**Pn**	**19 37 40.7**	**-0.6**
JOGS				S	**Sn**	**19 37 58.8**	**0.0**
JMJ	**Miyako jima 2**	**1.54**	**288**	P	**Pn**	**19 37 41.9**	**-1.0**
JMJ				*e*S	**Sn**	**19 38 01.7**	**+0.1**
JJT2	**Tamagusuku 2**	**1.94**	**23**	P	**Pn**	**19 37 47.4**	**-1.0**
JJT2				*e*S	**Sn**	**19 38 11.1**	**-0.4**
JKE	**Kume jima 2**	**1.97**	**357**	P	**Pn**	**19 37 48.4**	**-0.4**
JKE				*e*S	**Sn**	**19 38 12.5**	**+0.2**
NAH1	**Naha**	**1.98**	**21**	P	**Pn**	**19 37 48.0**	**-0.9**
NAH1				*e*S	**Sn**	**19 38 12.3**	**-0.2**
JTJ	**Tarama**	**2.03**	**279**	P	**Pn**	**19 37 48.2**	**-1.4**
JTJ				*e*S	**Sn**	**19 38 12.6**	**-1.1**
JAGN	**Aguni-jima**	**2.25**	**8**	P	**Pn**	**19 37 52.5**	**-0.2**
JAGN				*e*S	**Sn**	**19 38 19.4**	**+0.2**
JIJ	**Ishigaki jima**	**2.52**	**271**	P	**Pn**	**19 37 54.6**	**-1.7**
JIJ				S	**Sn**	**19 38 22.5**	**-3.3**
JKRS	**Kuro-shima**	**2.64**	**268**	P	**Pn**	**19 37 56.5**	**-1.6**
JKRS				*e*S	**Sn**	**19 38 26.6**	**-2.3**
JOW	**Kunigami**	**2.77**	**26**	Pn	**Pn**	**19 37 59.0**	**-0.7**
	31nm,0.3s,baz=209,slow=11,SNR=132						
JOW				Sn	**Sn**	**19 38 31.1**	**-0.8**
	30nm,0.3s,baz=113,slow=26,SNR=10.0						
JOW	**Kunigami**	**2.77**	**26**	P	**Pn**	**19 37 58.9**	**-0.8**
JOW				*e*S	**Sn**	**19 38 31.3**	**-0.6**
JIH	**Iheya**	**2.84**	**20**	P	**Pn**	**19 38 00.1**	**-0.7**
JIH				*e*S	**Sn**	**19 38 33.1**	**-0.7**
HATJ	**Hateruma jima**	**2.84**	**265**	*e*S	**Sn**	**19 38 31.5**	**-2.3**
IRIF	**Iriomote-Funau**	**2.90**	**270**	P	**Pn**	**19 37 59.8**	**-1.7**
IRIF				*e*S	**Sn**	**19 38 32.8**	**-2.3**
JTK	**Tokunoshima**	**3.89**	**28**	P	**Pn**	**19 38 14.2**	**-0.9**
JTK				*e*S	**Sn**	**19 38 58.3**	**-1.2**
JMZ	**Minamidaito 2**	**4.18**	**69**	P	**Pn**	**19 38 15.7**	**-3.5**
JMZ				*e*S	**Sn**	**19 39 00.5**	**-6.2**
JAM	**Amami Oshima**	**4.71**	**30**	P	**Pn**	**19 38 25.4**	**-1.1**
JAM				*e*S	**Sn**	**19 39 19.3**	**-0.7**
YHNB	**Yeheng**	**5.05**	**275**	*e*P	**Pn**	**19 38 30.1**	**-1.0**
JNU	**Nakatsue**	**9.41**	**21**	Pn	**Pn**	**19 39 30.9**	**0.0**
	4.0nm,0.3s,baz=202,slow=9.8,SNR=15						
XAN	**Xi'an**	**18.41**	**306**	P	**Pn**	**19 41 30.8**	**+0.8**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s						
CN2	**Changchun**	**19.44**	**357**	*e*P	**Pn**	**19 41 44.6**	**+2.1**
HHC	**Hu-ho-hao-te**	**20.87**	**326**	*e*P	**P**	**19 41 57.6**	**+1.1**
HHC				AMB	AMB		
	comp=Z,6.0nm,0.3s						
HHC				AMB	AMB		
	comp=Z,100nm,4.5s						
CD2	**Chengdu**	**21.50**	**293**	P	**P**	**19 42 04.0**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CD2				AMB	AMB		
	comp=Z,40nm,5.3s						
KMI	**Kunming**	**21.96**	**277**	P	**P**	**19 42 11.3**	**+3.1**
KMI				XP	sP	19 42 22.3	-0.8
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
LZH	**Lanzhou**	**23.05**	**306**	*e*P	**P**	**19 42 22.0**	**+2.2**
LZH				AP		19 42 33.5	
LZH				XP	sP	19 42 38.0	+3.3
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.4						
LZH				AMB	AMB		
	comp=Z,113nm,5.0s						
ASAJ	**Asahikawa**	**23.53**	**29**	P	**P**	**19 42 23.4**	**-1.2**
	comp=Z,3.2nm,0.7s,mb3.8,baz=194,slow=8.3,SNR=3.7						
ULN	**Ulaanbaatar**	**28.26**	**331**	*e*P	**P**	**19 43 08.7**	**+1.3**
	comp=Z,6.2nm,1.1s,mb4.2						
SONM	**Songino Array**	**28.53**	**330**	P	**P**	**19 43 10.8**	**+1.0**
	comp=Z,2.2nm,0.8s,mb4.0,baz=148,slow=11,SNR=12						
SONM				pP	pP	19 43 23.5	+2.9
	comp=Z,2.0nm,0.6s,baz=145,slow=9.2,SNR=9.5						
LSA	**Lhasa**	**32.21**	**287**	*e*P	**P**	**19 43 45.1**	**+2.8**
	comp=Z,3.4nm,0.6s,mb4.3						
JIRN	**Jiri**	**36.63**	**284**	*e*P	**P**	**19 44 23.0**	**+2.5**
	comp=Z,15nm,0.8s,mb4.9						
GUN	**Gumba**	**36.88**	**285**	*e*P	**P**	**19 44 24.9**	**+2.2**
	comp=Z,22nm,0.8s,mb5.1						
PKI	**Pulchoki**	**37.32**	**284**	*e*P	**P**	**19 44 27.6**	**+1.2**
	comp=Z,7.1nm,0.6s,mb4.7						
KKN	**Kakani**	**37.42**	**284**	*e*P	**P**	**19 44 28.7**	**+1.5**
	comp=Z,8.5nm,0.6s,mb4.8						
DMN	**Daman**	**37.59**	**284**	*e*P	**P**	**19 44 30.4**	**+1.7**
	comp=Z,7.0nm,0.5s,mb4.6						
YAK	**Yakutsk**	**37.71**	**2**	*e*P	**P**	**19 44 29.7**	**0.0**
	comp=Z,6.1nm,0.8s,mb4.4						
YAK				*e*pP	pP	19 44 40.8	+0.1
GKN	**Gorkha**	**37.97**	**285**	*e*P	**P**	**19 44 33.3**	**+1.4**
	comp=Z,5.9nm,0.5s,mb4.6						
KOLN	**Koldanda**	**38.91**	**285**	*e*P	**P**	**19 44 41.4**	**+1.7**
	comp=Z,12nm,0.9s,mb4.6						
MKAR	**Makanchi Array**	**41.93**	**314**	P	**P**	**19 45 05.5**	**+0.8**
	comp=Z,1.2nm,0.5s,mb3.8,baz=100,slow=10,SNR=35						
MKAR				pP	pP	19 45 16.4	+0.6
	comp=Z,1.0nm,0.6s,baz=100,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**44.62**	**170**	P	**P**	**19 45 24.8**	**-1.6**
	comp=Z,0.9nm,0.3s,mb4.0,baz=348,slow=8.8,SNR=28						
ASAR	**Alice Springs**	**48.21**	**171**	P	**P**	**19 45 53.6**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.8,baz=356,slow=14,SNR=14						
ASAR				pP	pP	19 46 05.2	-0.7
	comp=Z,0.7nm,0.7s,baz=356,slow=14,SNR=4.7						
BVAR	**Borovoye Array**	**50.90**	**320**	P	**P**	**19 46 16.1**	**+1.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=99,slow=8.1,SNR=14						
BVAR				pP	pP	19 46 27.5	+1.1
	comp=Z,0.5nm,0.7s,baz=105,slow=5.2,SNR=4.0						
ZRNK	**Zerenda**	**51.71**	**319**	*e*P	**P**	**19 46 22.4**	**+1.3**
	comp=Z,4.3nm,0.7s,mb4.5						
ZRNK				*e*pP	pP	19 46 33.1	+0.6
STKA	**Stephens Creek**	**57.65**	**165**	P	**P**	**19 47 02.0**	**-2.1**
	comp=Z,2.9nm,1.1s,mb4.2,baz=10,slow=11,SNR=3.1						
ARU	**Arti**	**58.13**	**323**	*e*P	**P**	**19 47 08.2**	**+0.6**
ARU				*e*pP	pP	19 47 19.0	-0.1
ILAR	**Eielson Array**	**66.66**	**28**	P	**P**	**19 48 05.4**	**+0.8**
	comp=Z,0.3nm,0.7s,mb3.5,baz=262,slow=4.6,SNR=4.9						
ILAR				pP	pP	19 48 14.4	-1.8
	comp=Z,0.4nm,0.8s,baz=295,slow=9.5,SNR=3.5						
FINES	**FINESS Array B**	**73.91**	**331**	P	**P**	**19 48 50.2**	**+1.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=47,slow=3.9,SNR=8.7						
FINES				pP	pP	19 49 00.5	-0.2
	comp=Z,1.0nm,0.8s,baz=57,slow=7.0,SNR=3.2						
FINES	**FINESS Array B**	**73.91**	**331**	P	**P**	**19 48 50.2**	**+1.4**
FINES				pP	pP	19 49 00.5	-0.2
AKASG	**Malin Array Be**	**76.18**	**320**	P	**P**	**19 49 02.9**	**+0.9**
	comp=Z,1.1nm,0.6s,mb4.0,baz=58,slow=6.3,SNR=7.1						
AKASG				pP	pP	19 49 14.4	+0.5
	comp=Z,1.0nm,0.6s,baz=62,slow=6.4,SNR=3.6						
AKASG	**Malin Array Be**	**76.18**	**320**	P	**P**	**19 49 02.9**	**+0.9**
AKASG				pP	pP	19 49 14.4	+0.5
YKA	**Yellowknife Ar**	**80.73**	**24**	P	**P**	**19 49 28.1**	**+1.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=299,slow=5.1,SNR=12						
YKA				pP	pP	19 49 39.0	0.0
	comp=Z,0.3nm,0.5s,baz=300,slow=5.7,SNR=3.7						
YKA	**Yellowknife Ar**	**80.73**	**24**	P	**P**	**19 49 28.1**	**+1.0**
YKA				pP	pP	19 49 39.0	0.0
GERES	**GERESS Array B**	**85.96**	**323**	P	**P**	**19 49 55.7**	**+1.7**
	comp=Z,0.2nm,0.5s,mb3.6,baz=57,slow=3.6,SNR=3.9						

IDC 16 19:58:34.7±1.6, 3488S×10863W, h0km, mb4.0/4, mb1 4.4/4, mb1mx4.0/16, mbtmp4.0/4, MS4.1/16, Ms1 4.1/16, ms1mx4.0/22, Error ellipse: s-maj=61.1km s-min=29.9km az=27.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.75**	**355**	LR	LR	20 02 42.2	
	comp=Z,1μm,19.8s,baz=161,slow=32						
PLCA	**Paso Flores**	**30.48**	**112**	P	P	20 04 48.8	-0.4
	2.4nm,0.8s,baz=267,slow=7.6,SNR=3.1						
PLCA				LR	LR	20 13 25.9	
	comp=Z,216nm,21.9s,baz=258,slow=29						
PPT	**Papeete**	**40.26**	**285**	LR	LR	20 19 08.9	
	comp=Z,216nm,19.2s,baz=108,slow=31						
LPAZ	**La Paz**	**40.61**	**73**	P	P	20 06 16.4	+0.3
	1.6nm,0.9s,baz=212,slow=3.6,SNR=5.2						
LPAZ				LR	LR	20 19 06.9	
	comp=Z,149nm,19.8s,baz=125,slow=30						
CPUP	**Villa Florida**	**44.56**	**94**	LR	LR	20 23 00.9	
	comp=Z,136nm,18.3s,baz=136,slow=33						
ROSC	**El Rosal**	**51.03**	**46**	LR	LR	20 25 08.2	
	comp=Z,194nm,21.7s,baz=23,slow=31						
VNDA	**Vanda**	**56.15**	**195**	LR	LR	20 28 42.9	
	comp=Z,150nm,20.1s,baz=204,slow=32						
BDFB	**Brasilia**	**57.23**	**87**	LR	LR	20 29 42.6	
	comp=Z,189nm,20.9s,baz=133,slow=33						
URZ	**Urewera**	**58.23**	**243**	LR	LR	20 27 45.7	
	comp=Z,365nm,20.8s,baz=95,slow=30						
AFI	**Afiamalu**	**60.23**	**274**	LR	LR	20 27 59.0	
	comp=Z,203nm,21.7s,baz=84,slow=29						
RPZ	**Rata Peaks**	**60.51**	**235**	LR	LR	20 30 02.3	
	comp=Z,233nm,18.0s,baz=261,slow=31						
NVAR	**Mina Array Bea**	**73.49**	**352**	P	P	20 10 09.8	+0.7
	1.2nm,0.8s,baz=169,slow=8.2,SNR=6.8						
NVAR				LR	LR	20 33 04.6	
	comp=Z,37nm,21.4s,baz=245,slow=28						
DZM	**Mont Dzumac**	**73.74**	**254**	LR	LR	20 33 46.5	
	comp=Z,142nm,21.4s,baz=220,slow=29						
PDAR	**Pinedale Array**	**77.28**	**359**	P	P	20 10 30.3	-0.6
	1.8nm,1.0s,baz=134,slow=4.3,SNR=5.7						
STKA	**Stephens Creek**	**86.42**	**233**	LR	LR	20 43 18.0	
	comp=Z,216nm,18.6s,baz=45,slow=31						
CTA	**Charters Tower**	**90.41**	**245**	LR	LR	20 47 44.9	
	comp=Z,167nm,19.3s,baz=293,slow=33						
YKA	**Yellowknife Ar**	**97.15**	**357**	LR	LR	20 48 15.9	
	comp=Z,65nm,18.4s,baz=250,slow=31						
BRTR	**Keskin Array B**	**149.75**	**70**	PKPbc	PKPbc	20 18 28.6	+2.1
	1.1nm,1.0s,baz=266,slow=3.3,SNR=4.1						
SONM	**Songino Array**	**150.96**	**307**	PKPbc	PKPbc	20 18 28.1	-1.3
	0.9nm,1.0s,baz=61,slow=2.7,SNR=6.0						
SONM				PKPab	PKPab	20 18 35.8	-0.9
	1.2nm,1.0s,baz=116,slow=3.4,SNR=7.3						

*NEIC **16** 20:19:03.2, 3659S×17799E, h121km, MG4.8(WEL), After WEL.*
*ISCJB **16** 20:19:06.6±0.9, 3697S±006×17790E±009, h116km±5km, mb4.3/5, Error ellipse: s-maj=13.0km s-min=8.5km az=119.4*
*WEL **16** 20:19:08.0±0.3, 3687S×17782E, h90km±3km, ML4.7/19, Error ellipse: s-maj=1.8km s-min=1.8km az=90.0*
*IDC **16** 20:19:10.9±1.5, 3733S×17768E, h132km±11km, mb4.0/4, mb1 4.1/5, mb1mx3.9/13, mbtmp4.3/5, Error ellipse: s-maj=28.9km s-min=25.9km az=0.0*

ISC 16 20:19:07.7±0.9, 3694S±006×17790E±009, h106km±6km, n107, σ1°32/111, mb4.3/5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.70**	**152**	P*	**Pn**	**20 19 25.2**	**-0.4**
MXZ				S*	**Sn**	**20 19 38.7**	**-0.4**
MXZ	**Matakaoa Point**	**0.70**	**152**	P	**Pn**	**20 19 25.2**	**-0.4**
MXZ				S	**Sn**	**20 19 41.0**	**+1.9**
PUZ	**Puketiti**	**1.17**	**166**	PN	**Pn**	**20 19 30.7**	**+0.4**
PUZ				SN	**Sn**	**20 19 47.5**	**+0.1**
PUZ	**Puketiti**	**1.17**	**166**	P	**Pn**	**20 19 30.8**	**+0.5**
PUZ				S	**Sn**	**20 19 53.5**	**+6.1**
MYRZ	**Mayor Island**	**1.36**	**255**	P*	**Pn**	**20 19 31.7**	**-0.8**
MWZ	**Matawai**	**1.42**	**192**	P*	**Pn**	**20 19 33.7**	**+0.4**
MWZ				S*	**Sn**	**20 19 53.2**	**+0.5**
MWZ	**Matawai**	**1.42**	**192**	P	**Pn**	**20 19 33.7**	**+0.4**
MARZ	**Manawahe**	**1.43**	**223**	P*	**Pn**	**20 19 33.0**	**-0.3**
MARZ	**Manawahe**	**1.43**	**223**	P	**Pn**	**20 19 33.1**	**-0.2**
URZ	**Urewera**	**1.46**	**205**	P	**Pn**	**20 19 33.6**	**-0.1**
	78nm,0.3s,baz=355,slow=2.4,SNR=373						
URZ				S	**Sn**	**20 19 52.3**	**-1.1**
	123nm,0.3s,baz=221,slow=20,SNR=30						
URZ	**Urewera**	**1.46**	**205**	P*	**Pn**	**20 19 33.5**	**-0.2**
URZ				S*	**Sn**	**20 19 53.5**	**+0.1**
URZ	**Urewera**	**1.46**	**205**	P	**Pn**	**20 19 33.6**	**-0.1**
TGRZ	**Tauranga**	**1.52**	**238**	P*	**Pn**	**20 19 33.9**	**-0.6**
LIRZ	**Lichensteins R**	**1.60**	**228**	P*	**Pn**	**20 19 35.4**	**-0.1**
LIRZ	**Lichensteins R**	**1.60**	**228**	P	**Pn**	**20 19 35.4**	**-0.1**
MKRZ	**Makatiti**	**1.65**	**223**	P*	**Pn**	**20 19 36.5**	**+0.5**
MKRZ	**Makatiti**	**1.65**	**223**	P	**Pn**	**20 19 36.5**	**+0.5**
KUZ	**Kuaotunu**	**1.75**	**276**	PN	**Pn**	**20 19 36.0**	**-1.3**
KUZ	**Kuaotunu**	**1.75**	**276**	P	**Pn**	**20 19 36.1**	**-1.2**
TOZ	**Tahuroa Road**	**2.06**	**247**	PN	**Pn**	**20 19 40.8**	**-0.5**
KNZ	**Kokohu**	**2.08**	**185**	PN	**Pn**	**20 19 41.2**	**-0.3**
KNZ	**Kokohu**	**2.08**	**185**	P	**Pn**	**20 19 41.3**	**-0.2**
MKAZ	**Moumakai**	**2.19**	**265**	PN	**Pn**	**20 19 42.2**	**-0.6**
MKAZ	**Moumakai**	**2.19**	**265**	P	**Pn**	**20 19 42.2**	**-0.7**
OTAZ	**Otara**	**2.38**	**269**	PN	**Pn**	**20 19 45.1**	**-0.2**
OTAZ	**Otara**	**2.38**	**269**	P	**Pn**	**20 19 45.1**	**-0.2**
MTAZ	**Motutapu**	**2.40**	**273**	PN	**Pn**	**20 19 45.1**	**-0.5**
MTAZ	**Motutapu**	**2.40**	**273**	P	**Pn**	**20 19 45.1**	**-0.5**
HATZ	**Hinemaiaia**	**2.41**	**216**	P	**Pn**	**20 19 46.3**	**+0.5**
WATZ	**Wairara**	**2.46**	**223**	P	**Pn**	**20 19 47.0**	**+0.6**
BKZ	**Black Stump Fm**	**2.48**	**206**	PN	**Pn**	**20 19 46.7**	**0.0**
BKZ	**Black Stump Fm**	**2.48**	**206**	*e*P	**Pn**	**20 19 47.1**	**+0.4**
RATZ	**Rangitukua**	**2.56**	**220**	PN	**Pn**	**20 19 48.5**	**+0.9**
RATZ	**Rangitukua**	**2.56**	**220**	P	**Pn**	**20 19 48.6**	**+1.0**
KAAZ	**Kauri Point**	**2.56**	**272**	PN	**Pn**	**20 19 47.5**	**-0.2**
KAAZ	**Kauri Point**	**2.56**	**272**	P	**Pn**	**20 19 47.9**	**+0.2**
RITZ	**Rihia Road**	**2.59**	**218**	P	**Pn**	**20 19 50.1**	**+1.9**
WTAZ	**Waiatarua**	**2.66**	**269**	P	**Pn**	**20 19 48.6**	**-0.4**
KATZ	**Kakaramea**	**2.67**	**220**	PN	**Pn**	**20 19 50.7**	**+1.5**
KATZ	**Kakaramea**	**2.67**	**220**	P	**Pn**	**20 19 51.4**	**+2.2**
KRVZ	**Karewarewa**	**2.79**	**219**	PN	**Pn**	**20 19 51.5**	**+0.7**
OTVZ	**Oturere**	**2.83**	**218**	PN	**Pn**	**20 19 52.6**	**+1.3**
WTVZ	**West Tongariro**	**2.83**	**219**	PN	**Pn**	**20 19 52.2**	**+0.9**
WTVZ	**West Tongariro**	**2.83**	**219**	P	**Pn**	**20 19 52.4**	**+1.1**
NGZ	**Ngauruhoe**	**2.87**	**218**	PN	**Pn**	**20 19 53.3**	**+1.4**
NGZ	**Ngauruhoe**	**2.87**	**218**	P	**Pn**	**20 19 53.3**	**+1.4**
HIZ	**Hauiti**	**2.88**	**236**	PN	**Pn**	**20 19 52.4**	**+0.5**
HIZ	**Hauiti**	**2.88**	**236**	*e*P	**Pn**	**20 19 52.4**	**+0.5**
TWVZ	**Taurewa**	**2.88**	**222**	PN	**Pn**	**20 19 52.8**	**+0.9**
TUVZ	**Tukino**	**2.92**	**217**	PN	**Pn**	**20 19 53.4**	**+0.9**
TUVZ	**Tukino**	**2.92**	**217**	P	**Pn**	**20 19 53.4**	**+0.9**
WPVZ	**Whakapapa**	**2.92**	**219**	PN	**Pn**	**20 19 53.9**	**+1.4**
WPVZ	**Whakapapa**	**2.92**	**219**	*e*P	**Pn**	**20 19 54.1**	**+1.6**
FWVZ	**Far West T-bar**	**2.96**	**218**	PN	**Pn**	**20 19 53.6**	**+0.6**
FWVZ	**Far West T-bar**	**2.96**	**218**	P	**Pn**	**20 19 54.1**	**+1.1**
MOVZ	**Moawhango**	**2.99**	**214**	PN	**Pn**	**20 19 53.0**	**-0.3**
MOVZ	**Moawhango**	**2.99**	**214**	P	**Pn**	**20 19 53.0**	**-0.3**
WNVZ	**Wahianoa**	**2.99**	**217**	PN	**Pn**	**20 19 54.0**	**+0.6**
WNVZ	**Wahianoa**	**2.99**	**217**	P	**Pn**	**20 19 54.0**	**+0.6**
TRVZ	**Turoa**	**3.00**	**217**	PN	**Pn**	**20 19 54.6**	**+1.1**
WCZ	**Waipu Caves**	**3.03**	**288**	PN	**Pn**	**20 19 52.9**	**-1.1**
WCZ	**Waipu Caves**	**3.03**	**288**	*e*P	**Pn**	**20 19 52.9**	**-1.0**
PKVZ	**Pokaka**	**3.09**	**220**	PN	**Pn**	**20 19 55.6**	**+0.9**
TSZ	**Takapari Road**	**3.46**	**205**	PN	**Pn**	**20 19 58.2**	**-1.5**
TSZ	**Takapari Road**	**3.46**	**205**	P	**Pn**	**20 19 58.2**	**-1.5**
RAEZ	**Rainy Point**	**3.62**	**229**	P	**Pn**	**20 20 03.9**	**+2.1**
WAZ	**Wanganui**	**3.62**	**218**	P	**Pn**	**20 20 02.3**	**+0.4**
NEZ	**North Egmont**	**3.79**	**231**	PN	**Pn**	**20 20 06.3**	**+2.2**
NEZ	**North Egmont**	**3.79**	**231**	P	**Pn**	**20 20 06.5**	**+2.4**
PKE	**Pukeiti**	**3.82**	**233**	P	**Pn**	**20 20 06.1**	**+1.6**
BFZ	**Birch Farm**	**3.95**	**199**	PN	**Pn**	**20 20 04.0**	**-2.2**
BFZ	**Birch Farm**	**3.95**	**199**	*e*P	**Pn**	**20 20 04.0**	**-2.3**
MRZ	**Mangatainoka R**	**4.13**	**205**	P	**Pn**	**20 20 06.0**	**-2.7**
KIW	**Kapiti Island**	**4.56**	**210**	P	**Pn**	**20 20 11.6**	**-2.8**
MTW	**Mount Morrison**	**4.61**	**203**	PN	**Pn**	**20 20 11.4**	**-3.7**
MTW	**Mount Morrison**	**4.61**	**203**	P	**Pn**	**20 20 11.5**	**-3.6**
PAWZ	**Paruwai Farm**	**4.83**	**203**	P	**Pn**	**20 20 14.1**	**-4.0**
MSWZ	**Moikau Station**	**4.92**	**204**	P	**Pn**	**20 20 14.9**	**-4.4**
MRW	**Makara Radio**	**4.95**	**209**	PN	**Pn**	**20 20 16.4**	**-3.3**
MRW	**Makara Radio**	**4.95**	**209**	P	**Pn**	**20 20 16.6**	**-3.2**
SNZO	**South Karori**	**5.02**	**209**	P	**Pn**	**20 20 17.2**	**-3.5**
BHW	**Baring Head**	**5.04**	**207**	P	**Pn**	**20 20 16.6**	**-4.4**
TCW	**Tory Channel**	**5.11**	**212**	PN	**Pn**	**20 20 18.1**	**-3.8**
TCW	**Tory Channel**	**5.11**	**212**	P	**Pn**	**20 20 18.4**	**-3.5**
NNZ	**Nelson**	**5.53**	**218**	*e*P	**Pn**	**20 20 25.1**	**-2.5**
BSWZ	**Blackbirch Sta**	**5.70**	**212**	P	**Pn**	**20 20 25.6**	**-4.2**
QRZ	**Quartz Range**	**5.71**	**226**	PN	**Pn**	**20 20 26.9**	**-3.1**
QRZ	**Quartz Range**	**5.71**	**226**	*e*P	**Pn**	**20 20 26.9**	**-3.1**
THZ	**Tophouse**	**6.18**	**217**	P	**Pn**	**20 20 32.9**	**-3.4**
KHZ	**Kahutara**	**6.42**	**210**	*e*P	**Pn**	**20 20 35.3**	**-4.3**
DSZ	**Denniston Nort**	**6.73**	**223**	*e*P	**Pn**	**20 20 40.2**	**-3.7**
LTZ	**Lake Taylor**	**7.26**	**215**	*e*P	**Pn**	**20 20 46.3**	**-4.8**
MQZ	**McQueen's Vall**	**7.86**	**209**	*e*P	**Pn**	**20 20 53.3**	**-5.8**
RPZ	**Rata Peaks**	**8.55**	**216**	P	**Pn**	**20 21 04.1**	**-4.4**
	2.1nm,0.3s,baz=77,slow=5.0,SNR=5.1						
RPZ				S	**Sn**	**20 22 32.6**	**-11**
	2.1nm,0.3s,baz=81,slow=1

Error ellipse: s-maj=30.6km s-min=20.1km az=51.0
*IDC **16** 21:12:58.5±5.5, 69.9S×129.58E, h158km±55km, mb3.3/4, mb1 3.6/7, mb1mx3.5/15, mbtmp4.0/7, Error ellipse: s-maj=51.3km s-min=20.7km az=63.0*
*ISCJB **16** 21:12:59.8±3.1, 70S±0.1×129.6E±0.1, h195km±32km, mb3.9/8, Error ellipse: s-maj=24.6km s-min=14.2km az=108.4*
ISC 16 21:13:00.1±2.2, 70.5S±009×129.5E±02, h171km±21km, n15, σ0§45/19, mb4.1/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.60**	**198**	P	**Pn**	**21 15 40.9**	**+0.4**
	0.5nm,0.3s,baz=34,slow=11,SNR=20						
FITZ				S	**Sn**	**21 17 48.7**	**-0.4**
	1.4nm,0.3s,baz=176,slow=18,SNR=5.6						
WRAB	**Tennant Creek**	**13.66**	**160**	*e*P	**Pn**	**21 16 06.3**	**-0.4**
	8.8nm,0.6s						
WRAB				*e*S	**Sn**	**21 18 31.7**	**-6.8**
WRA	**Warramunga Arr**	**13.66**	**160**	P	**Pn**	**21 16 06.6**	**-0.2**
	1.4nm,0.3s,baz=338,slow=13,SNR=41						
WRA				S	**Sn**	**21 18 33.3**	**-5.2**
	2.4nm,0.3s,baz=344,slow=22,SNR=12						
MBWA	**Marble Bar**	**16.89**	**213**	*e*P	**Pn**	**21 16 51.5**	**+5.1**
ASAR	**Alice Springs**	**17.06**	**166**	P	**Pn**	**21 16 49.2**	**+0.8**
	0.7nm,0.3s,baz=350,slow=10.0,SNR=48						
ASAR				S	**S**	**21 19 56.3**	**-0.2**
	0.5nm,0.3s,baz=354,slow=28,SNR=5.5						
STKA	**Stephens Creek**	**27.17**	**157**	P	**P**	**21 18 28.0**	**+0.5**
	1.1nm,0.5s,mb3.7,baz=347,slow=7.3,SNR=3.9						
JIRN	**Jiri**	**54.22**	**311**	*e*P	**P**	**21 22 08.5**	**+0.5**
	3.1nm,0.3s,mb4.5						
GUN	**Gumba**	**54.59**	**312**	*e*P	**P**	**21 22 10.0**	**-0.6**
	6.9nm,0.4s,mb4.8						
KKN	**Kakani**	**54.97**	**311**	*e*P	**P**	**21 22 13.6**	**+0.3**
	3.4nm,0.5s,mb4.4						
GKN	**Gorkha**	**55.56**	**311**	*e*P	**P**	**21 22 17.8**	**+0.2**
	5.5nm,0.3s,mb4.9						
KOLN	**Koldanda**	**56.22**	**310**	*e*P	**P**	**21 22 22.7**	**+0.4**
SONM	**Songino Array**	**58.32**	**342**	P	**P**	**21 22 36.3**	**-0.7**
	0.3nm,0.6s,mb3.3,baz=153,slow=6.0,SNR=3.4						
MKAR	**Makanchi Array**	**67.98**	**327**	P	**P**	**21 23 40.6**	**+0.1**
	0.8nm,0.5s,mb3.7,baz=116,slow=8.2,SNR=17						
BVAR	**Borovoye Array**	**77.82**	**328**	P	**P**	**21 24 38.3**	**-0.1**
	0.8nm,0.8s,mb3.4,baz=130,slow=7.3,SNR=6.6						
ZRNK	**Zerenda**	**78.52**	**328**	*e*P	**P**	**21 24 41.8**	**-0.5**

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*IDC **16** 21:37:37.7±2.5, 069S×122.96E, h16km±14km, mb4.4/16, mb1 4.4/17, mb1mx4.3/24, mbtmp4.5/17, ML3.8/1, MS4.3/14, Ms1 4.3/14, ms1mx4.1/23, Error ellipse: s-maj=21.9km s-min=12.0km az=61.0*
*BJI **16** 21:37:38.6, 080S×123.10E, h25km, mB4.9, mb4.7, Ms4.4, Msz4.1*
*MOS **16** 21:37:39.2±1.1, 077S×123.17E, h33km, mb4.8/15, Error ellipse: s-maj=16.7km s-min=8.4km az=116.0*
*ISCJB **16** 21:37:40.0±1.0, 082S±004×123.09E±005, h43km±9km, mb4.7/56, MS4.3/24, Error ellipse: s-maj=9.6km s-min=5.8km az=117.8*
*NEIC **16** 21:37:44.6±1.2, 081S×123.09E, h75km±12km, mb4.7/12, Error ellipse: s-maj=13.8km s-min=6.7km az=59.0*
ISC 16 21:37:42.7±0.8, 084S±004×123.05E±005, h49km±8km, h26km±4.2km: pP-P, n119, σ1§29/114, mb4.7/56, MS4.3/24, 4C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**3.22**	**269**	P	**Pn**	**21 38 29.0**	**-1.7**
	2μm,1.0s						
DAV	**Davao City (W)**	**8.25**	**18**	*e*P	**Pn**	**21 39 40.1**	**+0.4**
	156nm,0.6s						
KKM	**Kota Kinabalu**	**9.66**	**315**	*e*P	**Pn**	**21 40 00.7**	**+1.7**
KKM				*e*S	**Sn**	**21 41 52.8**	**+6.7**
KSM	**Kuching**	**12.95**	**280**	*e*P	**Pn**	**21 40 48.2**	**+4.3**
BJII	**Banjamegara**	**14.79**	**244**	P	**Pn**	**21 41 09.6**	**+0.9**
	75nm,1.4s						
KAKA	**Kakadu**	**15.03**	**142**	*e*P	**Pn**	**21 41 14.5**	**+2.7**
	37nm,0.8s						
JCJI	**Jatiwangi**	**15.78**	**249**	P	**Pn**	**21 41 27.2**	**+5.7**
	145nm,1.3s						
FITZ	**Fitzroy Crossi**	**17.34**	**172**	*e*P	**Pn**	**21 41 41.9**	**+0.7**
	18nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.34**	**172**	P	**Pn**	**21 41 40.4**	**-0.8**
	0.2nm,0.3s,baz=334,slow=16,SNR=6.0						
FITZ				LR	LR	21 49 07.3	
	comp=Z,649nm,20.4s,baz=348,slow=39						
MBWA	**Marble Bar**	**20.46**	**189**	*e*P	**P**	**21 42 15.8**	**-0.3**
WRAB	**Tennant Creek**	**21.96**	**150**	*e*P	**P**	**21 42 31.6**	**-0.6**
WRAB	**Tennant Creek**	**21.96**	**150**	*e*P	**P**	**21 42 31.2**	**-1.0**
	133nm,1.2s,mb5.2						
WRA	**Warramunga Arr**	**21.97**	**151**	P	**P**	**21 42 31.3**	**-1.0**
	16nm,0.9s,mb4.4,baz=335,slow=10.0,SNR=47						
WRA				ScP	ScP	21 50 06.8	+4.3
	0.5nm,0.6s,baz=325,slow=2.6,SNR=5.4						
WB2	**Warramunga Arr**	**21.97**	**150**	*e*P	**P**	**21 42 31.1**	**-1.2**
KULM	**Kulim**	**23.19**	**285**	*e*P	**P**	**21 42 45.0**	**-0.2**
QIZ	**Qiongzhong**	**23.62**	**327**	P	**P**	**21 42 50.1**	**+0.8**
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
PSI	**Prapat**	**24.39**	**279**	P	**P**	**21 42 55.6**	**-0.7**
	comp=Z,55nm,1.1s,mb4.9,baz=122,slow=4.1,SNR=22						
PSI				LR	LR	21 52 52.7	
	comp=Z,1μm,21.2s,MS4.3,baz=106,slow=38						
TSI	**Tuntungan**	**24.85**	**280**	P	**P**	**21 43 03.8**	**+3.3**
	comp=Z,129nm,1.2s,mb5.3						
AS31	**Alice Springs**	**25.02**	**156**	*e*P	**P**	**21 43 02.1**	**+0.2**
ASAR	**Alice Springs**	**25.02**	**156**	P	**P**	**21 43 02.0**	**+0.1**
	comp=Z,8.9nm,0.8s,mb4.3,baz=330,slow=7.2,SNR=76						
ASAR				PcP	PcP	21 46 37.3	+1.5
	comp=Z,1.3nm,0.6s,baz=342,slow=2.1,SNR=5.5						
ASAR				ScP	ScP	21 50 17.1	+6.4
	comp=Z,0.5nm,0.9s,baz=338,slow=4.2,SNR=2.9						
ASAR	**Alice Springs**	**25.02**	**156**	P	**P**	**21 43 02.0**	**+0.1**
ASAR						21 46 37.3	
ASPA	**Alice Springs**	**25.02**	**156**	*e*P	**P**	**21 43 02.1**	**+0.2**
YHNB	**Yeheng**	**25.41**	**356**	*e*P	**P**	**21 43 06.4**	**+0.9**
PMG	**Port Moresby**	**25.45**	**110**	P	**P**	**21 43 06.3**	**+0.4**
	comp=Z,26nm,0.8s,mb4.8,baz=284,slow=6.0,SNR=7.2						
GZH	**Guangzhou**	**25.59**	**339**	P	**P**	**21 43 12.8**	**+5.7**
GZH				S	**S**	**21 47 39.9**	**+8.3**
GZH				LR	LR		
	comp=N,423nm,18.7s,MS4.1						
GZH				LR	LR		
	comp=E,281nm,14.3s,MS4.1						
GZH				LR	LR		
	comp=Z,650nm,18.0s,MS4.2						
KKTK	**Khon Kaen**	**26.27**	**311**	PG	**P**	**21 43 13.5**	**+0.2**
KKTK				SG		21 43 18.5	
NNT	**Nongplab**	**26.71**	**301**	P	**P**	**21 43 20.0**	**+2.7**
NST	**Nakhon Sawan**	**27.96**	**307**	P	**P**	**21 43 28.0**	**-0.5**
CTA	**Charters Tower**	**29.68**	**132**	*e*P	**P**	**21 43 43.8**	**0.0**
	comp=Z,10nm,1.0s,mb4.5						
CTA	**Charters Tower**	**29.68**	**132**	P	**P**	**21 43 44.6**	**+0.8**
	comp=Z,10nm,0.9s,mb4.6,baz=306,slow=11,SNR=7.1						
CTA				LR	LR	21 56 19.3	
	comp=Z,369nm,21.8s,MS4.0,baz=311,slow=38						
CTA	**Charters Tower**	**29.68**	**132**	*e*P	**P**	**21 43 43.8**	**0.0**
CTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CTAO	**Charters Tower**	**29.68**	**132**	*e*P	**P**	**21 43 43.7**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.9						
CTAO	**Charters Tower**	**29.68**	**132**	*e*P	**P**	**21 43 43.7**	**0.0**
	comp=Z,30nm,1.3s,mb4.9						
BDT	**Bhumibol Dam**	**29.74**	**308**	P	**P**	**21 43 45.0**	**+0.7**
GYA	**Guiyang**	**31.41**	**331**	P	**P**	**21 44 03.0**	**+4.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
SSE	**Sheshan**	**31.81**	**357**	*e*P	**P**	**21 44 01.5**	**-1.0**
SSE				XP	sP	21 44 14.3	-6.9
SSE				PCP	PcP	21 46 48.8	-3.8
SSE				S	**S**	**21 49 13.8**	**+4.5**
SSE				XS	sS	21 49 28.3	-2.6
SSE				AMB	AMB		
	comp=Z,31nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,85nm,4.1s						
SSE				LR	LR		
	comp=N,231nm,31.0s,MS3.9						
SSE				LR	LR		
	comp=E,298nm,31.4s,MS3.9						
SSE				LR	LR		
	comp=Z,330nm,25.1s						
NWAO	**Narrogin (SRO)**	**32.39**	**189**	LR	LR	22 00 35.2	
	comp=Z,419nm,18.3s,MS4.2,baz=161,slow=42						
KMI	**Kunming**	**32.45**	**324**	P	**P**	**21 44 05.8**	**-2.3**
KMI				PP	PP	21 45 13.9	-8.2
KMI				S	**S**	**21 49 18.8**	**-0.5**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
KMI				AMB	AMB		
	comp=Z,63nm,4.0s						
KMI				LR	LR		
	comp=N,324nm,15.0s						
KMI				LR	LR		
	comp=E,291nm,21.1s						
KMI				LR	LR		
	comp=Z,381nm,30.7s						
NJ2	**Nanjing**	**32.95**	**353**	*e*P	**P**	**21 44 12.6**	**+0.1**
NJ2				AP	pP	21 44 22.3	-3.1
NJ2				XP	sP	21 44 26.1	-5.1
NJ2				PP	PP	21 45 23.5	-4.2
NJ2				S	**S**	**21 49 29.0**	**+1.9**
NJ2				XS	sS	21 49 44.0	-4.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,200nm,5.4s						
NJ2				LR	LR		
	comp=N,440nm,23.2s						
NJ2				LR	LR		
	comp=E,1μm,36.5s						
NJ2				LR	LR		
	comp=Z,550nm,28.0s,MS4.1						
CBIJ	**Chichi jima**	**33.32**	**32**	P	**P**	**21 44 14.9**	**-0.8**
	comp=Z,81nm,0.6s,mb5.8,baz=109,slow=23,SNR=4.3						
ENH	**Enshi**	**33.53**	**338**	*e*P	**P**	**21 44 16.9**	**-0.6**
	comp=Z,36nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**35.50**	**152**	*e*P	**P**	**21 44 32.4**	**-2.2**
	comp=Z,8.7nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**35.50**	**152**	P	**P**	**21 44 32.8**	**-1.8**
	comp=Z,11nm,0.9s,mb4.8,baz=330,slow=7.9,SNR=14						
STKA				LR	LR	22 01 02.4	
	comp=Z,553nm,19.2s,MS4.3,baz=103,slow=39						
CD2	**Chengdu**	**36.51**	**331**	⇓*i*P	**P**	**21 44 42.5**	**-0.8**
CD2				AP	pP	21 44 51.4	-4.8
CD2				XP	sP	21 44 57.8	-4.3
CD2				PP	PP	21 46 07.3	+0.3
CD2				PCP	PcP	21 47 06.6	+0.5
CD2				S	**S**	**21 50 24.3**	**+2.3**
CD2				XS	sS	21 50 37.8	-6.0
CD2				SS	SS	21 52 51.0	-12
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,40nm,5.1s						
CD2				LR	LR		
	comp=N,270nm,12.0s						
CD2				LR	LR		
	comp=Z,160nm,10.2s,MS4.1						
XAN	**Xi'an**	**37.15**	**340**	P	**P**	**21 44 48.3**	**-0.3**
XAN				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
MJAR	**Matsushiro Arr**	**39.77**	**19**	P	**P**	**21 45 09.4**	**-1.2**
	comp=Z,6.8nm,0.9s,mb4.4,baz=192,slow=7.9,SNR=10						
MJAR				LR	LR	21 59 17.6	
	comp=Z,225nm,21.7s,MS4.0,baz=185,slow=33						
ARMA	**Armidale**	**40.02**	**140**	*e*P	**P**	**21 45 14.3**	**+1.6**
LZH	**Lanzhou**	**40.86**	**336**	*e*P	**P**	**21 45 21.3**	**+1.6**
LZH				AP	pP	21 45 30.3	-2.5
LZH				XP	sP	21 45 33.9	-4.7
LZH				PP	PP	21 47 01.0	+6.5
LZH				S	**S**	**21 51 35.0**	**+7.6**
LZH				XS	sS	21 51 48.3	-1.2
LZH				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,180nm,4.8s						
LZH				LR	LR		
	comp=E,635nm,15.2s						
LZH				LR	LR		
	comp=Z,820nm,16.5s,MS4.7						
BJT	**Baijiatuau**	**41.14**	**352**	*e*P	**P**	**21 45 23.1**	**+1.1**
LSA	**Lhasa**	**43.00**	**318**	P	**P**	**21 45 37.8**	**+0.7**
LSA	**Lhasa**	**43.00**	**318**	*e*P	**P**	**21 45 37.6**	**+0.5**
LSA				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
LSA	**Lhasa**	**43.00**	**318**	*e*P	**P**	**21 45 37.6**	**+0.5**
	comp=Z,14nm,0.6s,mb4.9						
JIRN	**Jiri**	**45.34**	**312**	*e*P	**P**	**21 45 55.6**	**-0.3**
	comp=Z,38nm,0.8s,mb5.3						
GTA	**Gaotai**	**45.36**	**335**	*e*P	**P**	**21 45 58.4**	**+2.4**
GTA				PCP	PcP	21 47 38.5	+3.7
GTA				PP	PP	21 47 46.0	+3.2
GTA				S	**S**	**21 52 34.3**	**+0.9**
GTA				SS	SS	21 55 49.6	-7.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,78nm,5.7s						
GTA				LR	LR		
	comp=N,195nm,17.9s,MS4.2						
GTA				LR	LR		
	comp=E,196nm,18.6s,MS4.2						
GTA				LR	LR		
	comp=Z,277nm,16.0s,MS4.3						
MDJ	**Mudanjiang**	**45.63**	**7**	P	**P**	**21 45 59.3**	**+1.2**
MDJ				AP	pP	21 46 06.6	-4.8
MDJ				S	**S**	**21 52 35.3**	**-1.9**
MDJ				SS	SS	21 55 51.8	-10
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
MDJ				LR	LR		
	comp=N,136nm,28.8s,MS4.2						
MDJ				LR	LR		
	comp=E,406nm,27.5s,MS4.2						
MDJ				LR	LR		
	comp=Z,128nm,22.5s,MS3.8						
GUN	**Gumba**	**45.71**	**312**	*e*P	**P**	**21 45 58.5**	**-0.3**
	comp=Z,76nm,0.9s,mb5.6						
PKI	**Pulchoki**	**45.88**	**311**	*e*P	**P**	**21 45 59.8**	**-0.3**
KKN	**Kakani**	**46.09**	**311**	*e*P	**P**	**21 46 00.9**	**-0.9**
	comp=Z,23nm,0.8s,mb5.1						
DMN	**Daman**	**46.13**	**311**	*e*P	**P**	**21 46 01.6**	**-0.5**
	comp=Z,44nm,1.0s,mb5.3						
GKN	**Gorkha**	**46.69**	**311**	*e*P	**P**	**21 46 05.7**	**-0.8**
	comp=Z,23nm,0.7s,mb5.2						
KOLN	**Koldanda**	**47.36**	**310**	*e*P	**P**	**21 46 10.4**	**-1.3**
	comp=Z,26nm,0.8s,mb5.2						
HYB	**Hyderabad**	**47.42**	**295**	*i* P	**P**	**21 46 15.0**	**+2.8**
HYB	**Hyderabad**	**47.42**	**295**	*e*P	**P**	**21 46 15.0**	**+2.8**
ASAJ	**Asahikawa**	**48.04**	**19**	P	**P**	**21 46 15.8**	**-1.2**
	comp=Z,6.9nm,0.8s,mb4.7,baz=230,slow=14,SNR=4.5						
KLR	**Kul'dur**	**50.43**	**7**	*e*P	**P**	**21 46 32.8**	**-2.5**
ULN	**Ulaanbaatar**	**50.47**	**346**	*c i* P	**P**	**21 46 35.7**	**+0.2**
ULN	**Ulaanbaatar**	**50.47**	**346**	*e*P	**P**	**21 46 35.6**	**+0.1**
	comp=Z,5.8nm,0.9s,mb4.6						
SONM	**Songino Array**	**50.60**	**346**	P	**P**	**21 46 35.4**	**-1.2**
	comp=Z,5.1nm,0.9s,mb4.5,baz=162,slow=7.2,SNR=18						
SONM				PcP	PcP	21 47 52.1	-1.5
	comp=Z,3.0nm,0.8s,baz=166,slow=4.3,SNR=3.8						
SONM				ScP	ScP	21 51 47.3	+1.8
	comp=Z,0.6nm,0.8s,baz=150,slow=6.2,SNR=4.0						
SONM				LR	LR	22 08 23.5	
	comp=Z,307nm,21.9s,MS4.3,baz=273,slow=37						
SONM	**Songino Array**	**50.60**	**346**	P	**P**	**21 46 35.4**	**-1.1**
SONM						21 47 52.1	
YSS	**Yuzh-Sakhalins**	**50.63**	**17**	*e*P	**P**	**21 46 36.8**	**0.0**
YSS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ZAK	**Zakamensk**	**53.75**	**344**	*e*P	**P**	**21 46 56.0**	**-3.9**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3						
WMQ	**Urumqi**	**54.53**	**329**	*e*P	**P**	**21 47 07.0**	**+1.4**
WMQ				AP	pP	21 47 12.0	-7.2
WMQ				XP	sP	21 47 14.0	-11
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,75nm,4.2s						
WMQ				LR	LR		
	comp=N,312nm,24.0s,MS4.4						
WMQ				LR	LR		
	comp=E,209nm,21.8s,MS4.4						
WMQ				LR	LR		
	comp=Z,225nm,22.0s,MS4.2						
MOY	**Mondy**	**55.54**	**344**	*e*P	**P**	**21 47 14.5**	**+1.6**
BOD	**Bodaibo**	**58.92**	**354**	*e*P	**P**	**21 47 34.7**	**-2.0**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
MKAR	**Makanchi Array**	**59.35**	**329**	P	**P**	**21 47 37.8**	**-1.9**
	comp=Z,2.6nm,0.8s,mb4.3,baz=131,slow=8.9,SNR=18						
MKAR				ScP	ScP	21 52 24.7	+0.9
	comp=Z,0.6nm,0.7s,baz=135,slow=5.5,SNR=4.6						
MKAR				LR	LR	22 15 51.6	
	comp=Z,128nm,21.7s,MS4.0,baz=269,slow=39						
MKAR	**Makanchi Array**	**59.35**	**329**	P	**P**	**21 47 37.8**	**-1.9**
MKAR				ScP	ScP	21 52 24.7	+0.9
MKAR				LR	LR	22 15 51.6	
RPZ	**Rata Peaks**	**60.32**	**142**	P	**P**	**21 47 47.8**	**+1.4**
	comp=Z,44nm,0.9s,mb5.5,baz=72,slow=1.0,SNR=18						
RPZ				LR	LR	22 13 46.0	
	comp=Z,547nm,19.7s,MS4.7,baz=3.2,slow=36						
URZ	**Urewera**	**61.90**	**134**	LR	LR	22 10 15.3	
	comp=Z,359nm,21.9s,MS4.5,baz=28,slow=32						
YAK	**Yakutsk**	**62.91**	**4**	*e*P	**P**	**21 48 04.5**	**+0.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
KURK	**Kurchatov**	**63.72**	**330**	*e*P	**P**	**21 48 09.3**	**+0.1**
KURK	**Kurchatov**	**63.72**	**330**	*e*P	**P**	**21 48 06.4**	**-2.8**
	comp=Z,8.0nm,0.8s,mb4.8						
MA2	**Magadan**	**64.02**	**15**	*e*P	**P**	**21 48 12.6**	**+1.5**
MA2				*e*S	**S**	**21 56 46.2**	**+2.4**
MA2				*e*SS	SS	22 00 54.1	+1.0
MA2				*e*SSS		22 03 44.0	
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MA2				pmax	pmax		
	comp=N,4.0nm,0.8s						
MA2				MLR	MLR		
	comp=Z,400nm,25.2s,MS4.5						
NVS	**Novosibirsk**	**64.38**	**336**	*e*P	**P**	**21 48 08.9**	**-4.6**
NVS				pmax	pmax		
	comp=N,12nm,1.8s						
NVS				pmax	pmax		
	comp=Z,16nm,1.8s,mb4.8						
NVS				pmax	pmax		
	comp=E,12nm,1.7s						
SEY	**Seymchan**	**67.30**	**14**	⇑*e*P	**P**	**21 48 33.2**	**+0.9**
BVAR	**Borovoye Array**	**69.22**	**329**	P	**P**	**21 48 41.3**	**-3.0**
	comp=E,1.9nm,0.9s,mb4.0,baz=148,slow=8.7,SNR=8.3						
BRVK	**Borovoye**	**69.29**	**329**	*e*P	**P**	**21 48 44.6**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BRVK	**Borovoye**	**69.29**	**329**	*e*P	**P**	**21 48 44.6**	**-0.2**
	comp=Z,4.3nm,1.1s,mb4.3						
ZRNK	**Zerenda**	**69.90**	**329**	*e*P	**P**	**21 48 45.3**	**-3.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**69.90**	**329**	*e*P	**P**	**21 48 45.3**	**-3.2**
	comp=Z,3.7nm,0.8s,mb4.4						
TIXI	**Tiksi**	**72.46**	**2**	⇑*e*P	**P**	**21 49 03.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BILL	**Bilibino**	**74.89**	**15**	⇓*e*P	**P**	**21 49 21.4**	**+3.2**
BILL				*e*S	S	21 58 58.3	+6.6
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
AKTK	**Aktyubinsk**	**75.01**	**323**	P	**P**	**21 49 17.1**	**-1.7**
AKTO	**Aktyubinsk**	**75.01**	**323**	P	**P**	**21 49 17.1**	**-1.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=141,slow=6.5,SNR=4.0						
ARU	**Arti**	**76.87**	**329**	⇓*i*P	**P**	**21 49 29.7**	**+0.2**
ARU				*e*		21 52 22.5	
ARU				*e*S	S	21 59 15.4	+1.9
ARU				*e*SS	SS	22 04 14.3	+3.8
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
MAW	**Mawson**	**78.23**	**200**	LR	LR	22 24 03.7	
	comp=Z,388nm,18.8s,MS4.8,baz=240,slow=36						
VNDA	**Vanda**	**79.42**	**172**	P	**P**	**21 49 44.5**	**+0.9**
GNI	**Garni**	**81.61**	**311**	*e*P	**P**	**21 49 55.4**	**+0.1**
GNI				pmax	pmax		
	comp=Z,11nm,1.7s						
ZEI	**Tsey**	**82.61**	**313**	*e*P	**P**	**21 50 02.8**	**+2.3**
KIV	**Kislovodsk**	**83.64**	**314**	*e*P	**P**	**21 50 05.7**	**-0.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
KIV				MLR	MLR		
	comp=Z,62nm,19.0s,MS4.0						
SOC	**Sochi**	**85.74**	**314**	*e*P	**P**	**21 50 12.6**	**-3.9**
SOC				*e*PPP		21 55 29.8	
SOC				*e*S		22 00 34.1	
SOC				*e*SSS		22 09 59.8	
SOC				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.4						
SOC				MLR	MLR		
	comp=Z,154nm,18.0s,MS4.4						
KMBO	**Kilima Mbogo**	**85.79**	**269**	LR	LR	22 26 18.4	
	comp=Z,185nm,19.2s,MS4.5,baz=89,slow=34						
PPT	**Papeete**	**87.24**	**107**	*e*SS	SS	22 06 45.7	+1.0
	comp=Z,706nm,26.8s						
PPT				*e*LR	LR	22 18 10.7	
	comp=Z,123nm,25.2s						
TBI	**Tubuai**	**87.36**	**113**	*e*SS	SS	22 06 50.3	+3.9
	comp=Z,575nm,27.5s						
TBI				*e*LR	LR	22 18 14.1	
	comp=Z,149nm,26.5s						
KDAK	**Kodiak Island**	**87.69**	**32**	P	**P**	**21 50 26.9**	**+0.9**
	comp=Z,7.7nm,0.8s,mb5.0,baz=213,slow=7.1,SNR=3.5						
OBN	**Obninsk**	**88.66**	**325**	⇑*e*P	**P**	**21 50 29.8**	**-0.8**
OBN				*e*		21 54 03.1	
OBN				*e*S		22 01 04.1	
OBN				*e*SS	SS	22 07 06.1	+0.7
OBN				pmax	pmax		
	comp=Z,18nm,2.5s,mb5.0						
QSPA	**South Pole Qui**	**89.10**	**180**	*e*P	**P**	**21 50 35.7**	**+3.1**
	comp=Z,4.8nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**90.08**	**310**	P	**P**	**21 50 37.5**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.9,baz=101,slow=2.2,SNR=3.7						
ILAR	**Eielson Array**	**90.78**	**25**	P	**P**	**21 50 38.3**	**-2.2**
	comp=Z,0.3nm,0.7s,mb3.8,baz=239,slow=5.5,SNR=4.5						
ILAR				LR	LR	22 30 18.8	
	comp=Z,59nm,19.4s,MS4.0,baz=357,slow=35						
AKASG	**Malin Array Be**	**93.08**	**321**	P	**P**	**21 50

PLCA	**Paso Flores**	**24.43 178**	P		**P**	**21 44 58.3**	**+0.4**
	3.2nm,0.8s,mb3.8,baz=358,slow=12,SNR=4.3						
SDV	**Santo Domingo**	**25.00 3**	P		**P**	**21 45 03.5**	**+0.4**
	6.1nm,0.9s,mb4.1,baz=189,slow=19,SNR=5.2						
SDV	**Santo Domingo**	**25.00 3**	P		**P**	**21 45 03.5**	**+0.4**
SDV			*e*P			21 45 03.6	
JTS	**JuntasAbangare**	**29.39 333**	LR		LR	21 57 33.6	
	comp=Z,73nm,20.0s,MS3.3,baz=150,slow=36						
PDAR	**Pinedale Array**	**68.20 331**	P		**P**	**21 50 39.1**	**-0.3**
	0.8nm,0.6s,mb4.0,baz=108,slow=4.8,SNR=6.6						
ULM	**Lac du Bonnet**	**69.51 344**	P		**P**	**21 50 47.1**	**-0.6**
	3.2nm,0.5s,mb4.5,baz=171,slow=6.8,SNR=10.0						
NVAR	**Mina Array Bea**	**69.67 323**	P		**P**	**21 50 49.4**	**+0.7**
	0.3nm,0.6s,mb3.4,baz=150,slow=6.7,SNR=4.7						
DBIC	**Dimbokro**	**70.05 77**	P		**P**	**21 50 50.5**	**-0.5**
	2.3nm,0.8s,mb4.2,baz=264,slow=5.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**78.31 73**	P		**P**	**21 51 38.8**	**-0.4**
	1.2nm,0.5s,mb4.1,baz=268,slow=4.8,SNR=31						
YKA	**Yellowknife Ar**	**85.34 342**	P		**P**	**21 52 15.5**	**-0.6**
	3.3nm,0.6s,mb4.6,baz=136,slow=5.1,SNR=90						
YKA	**Yellowknife Ar**	**85.34 342**	P		**P**	**21 52 15.5**	**-0.7**
MAW	**Mawson**	**90.12 164**	P		**P**	**21 52 37.1**	**-2.0**
	5.5nm,0.2s,mb5.5,baz=259,slow=19,SNR=7.3						
SUMG	**Summit**	**91.34 10**	*e*P		**P**	**21 52 45.6**	**+0.8**
	3.4nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**142.73 30**	PKhKP			21 59 08.0	
	0.1nm,0.5s,baz=327,slow=2.4,SNR=3.2						
MKAR			PKP		PKPdf	21 59 12.4	+0.3
	0.3nm,0.6s,baz=2.6,slow=2.7,SNR=5.1						
MJAR	**Matsushiro Arr**	**146.56 313**	PKPbc		PKPbc	21 59 19.0	-1.3
	7.7nm,0.9s,baz=82,slow=3.3,SNR=6.7						

BJI ***16*** *21:50:11.3, 7.81S×12629E, h470km, mB4.6, mb4.7*
MOS ***16*** *21:50:15.8±0.7, 7.06S×12576E, h450km, mb4.7/21, Error ellipse: s-maj=13.8km s-min=6.5km az=110.1*
ISCJB ***16*** *21:50:17.1±0.8, 7.13S±004×12579E±005, h469km±10km, mb4.6/88, Error ellipse: s-maj=8.3km s-min=4.6km az=121.5*
NEIC ***16*** *21:50:18.2±0.5, 7.14S×12576E, h470km±5km, mb4.8/25, Error ellipse: s-maj=6.9km s-min=4.0km az=65.0*
IDC ***16*** *21:50:18.8±0.9, 7.17S×12579E, h475km±9km, mb4.1/18, mb1 4.2/21, mb1mx4.2/24, mbtmp5.0/21, Error ellipse: s-maj=12.4km s-min=6.9km az=68.0*
ISC 16 21:50:18.5±0.7, 719S±004×12584E±005, h472km±8km, h454km±3.2km; pP-P, n211, σ0.94/164, mb4.6/87, 20C-15D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.50**	**131**	⇑*i*P	**P**	**21 52 20.2**	**+0.6**
	827nm,0.7s						
FITZ	**Fitzroy Crossi**	**10.85**	**181**	⇑*i*P	**P**	**21 52 45.7**	**+0.9**
	151nm,0.6s						
FITZ				*e*S	**S**	**21 54 43.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**10.85**	**181**	P	**P**	**21 52 45.4**	**+0.6**
	12nm,0.3s,baz=12,slow=8.8,SNR=350						
FITZ				S	**S**	**21 54 42.8**	**-2.5**
	9.7nm,0.3s,baz=184,slow=19,SNR=32						
MBWA	**Marble Bar**	**15.10**	**202**	⇑*e*P	**P**	**21 53 29.7**	**-0.4**
	16nm,0.5s						
WRAB	**Tennant Creek**	**15.12**	**148**	*c i*P	**P**	**21 53 30.4**	**0.0**
WRAB	**Tennant Creek**	**15.12**	**148**	⇑*i*P	**P**	**21 53 30.3**	**-0.1**
	224nm,0.9s						
WRAB				*e*S	**S**	**21 56 08.4**	**-0.5**
WRA	**Warramunga Arr**	**15.12**	**148**	P	**P**	**21 53 29.8**	**-0.7**
	21nm,0.3s,baz=323,slow=13,SNR=667						
WRA				S	**S**	**21 56 06.8**	**-2.1**
	0.2nm,0.3s,baz=332,slow=20,SNR=5.6						
WB2	**Warramunga Arr**	**15.13**	**148**	⇑*i*P	**P**	**21 53 30.5**	**0.0**
WB2				*e*S	**S**	**21 56 08.8**	**-0.2**
BJII	**Banjamegara**	**16.01**	**268**	P	**P**	**21 53 43.1**	**+3.3**
	55nm,0.9s						
KKM	**Kota Kinabalu**	**16.28**	**324**	*e*P	**P**	**21 53 41.9**	**-0.7**
JCJI	**Jatiwangi**	**17.46**	**271**	P	**P**	**21 53 55.0**	**+0.1**
	346nm,1.2s						
KSM	**Kuching**	**17.73**	**298**	*e*P	**P**	**21 53 56.6**	**-1.1**
ASAR	**Alice Springs**	**18.12**	**156**	P	**P**	**21 54 01.8**	**+0.3**
	16nm,0.3s,baz=338,slow=9.6,SNR=605						
ASAR				S	**S**	**21 57 03.8**	**+0.3**
	1.4nm,0.3s,baz=347,slow=25,SNR=13						
ASAR				ScP	ScP	22 00 58.6	-0.7
	0.7nm,0.3s,baz=333,slow=2.0,SNR=8.7						
ASAR	**Alice Springs**	**18.12**	**156**	P	**P**	**21 54 01.8**	**+0.4**
ASAR				S	**S**	**21 57 03.8**	**+0.3**
PMG	**Port Moresby**	**21.21**	**97**	P	**P**	**21 54 30.4**	**+0.9**
	11nm,0.5s,mb4.7,baz=106,slow=1.8,SNR=8.6						
FORT	**Forrest**	**23.56**	**175**	⇑*i*P	**P**	**21 54 51.1**	**+0.3**
	85nm,0.6s,mb5.3						
CTA	**Charters Tower**	**23.58**	**125**	⇑*i*P	**P**	**21 54 52.0**	**+1.1**
	14nm,0.8s,mb4.5						
CTA	**Charters Tower**	**23.58**	**125**	P	**P**	**21 54 51.8**	**+0.8**
	19nm,0.8s,mb4.6,baz=308,slow=11,SNR=15						
CTA	**Charters Tower**	**23.58**	**125**	⇑*i*P	**P**	**21 54 52.0**	**+1.1**
CTA				pmax	pmax		
	comp=Z,14nm,0.8s						
KLBR	**Kellerberrin**	**25.43**	**196**	*e*P	**P**	**21 55 07.0**	**-0.3**
	comp=Z,11nm,0.7s,mb4.4						
NWAO	**Narrogin (SRO)**	**26.83**	**196**	P	**P**	**21 55 20.1**	**+0.4**
	comp=Z,13nm,0.3s,mb4.8,baz=32,slow=7.0,SNR=47						
STKA	**Stephens Creek**	**28.62**	**151**	⇑*i*P	**P**	**21 55 34.4**	**-1.1**
	comp=Z,61nm,0.8s,mb5.1						
STKA				*e*PP	PP	21 56 51.7	-3.3
STKA				*e*S	**S**	**21 59 46.0**	**-3.9**
STKA				*e*		22 01 24.8	
STKA	**Stephens Creek**	**28.62**	**151**	P	**P**	**21 55 34.5**	**-1.0**
	comp=Z,72nm,0.7s,mb5.2,baz=322,slow=8.6,SNR=123						
STKA				ScP	ScP	22 01 24.9	-2.9
	comp=Z,9.8nm,0.8s,baz=309,slow=5.4,SNR=5.3						
PSI	**Prapat**	**28.64**	**289**	P	**P**	**21 55 34.9**	**-0.7**
	comp=Z,42nm,0.9s,mb4.9,baz=128,slow=4.8,SNR=32						
PSI				ScP	ScP	22 01 27.0	-0.8
	comp=Z,9.2nm,0.8s,baz=142,slow=5.0,SNR=8.2						
PSI	**Prapat**	**28.64**	**289**	P	**P**	**21 55 34.9**	**-0.7**
PSI				ScP	ScP	22 01 27.0	-0.8
ADE	**Adelaide**	**30.07**	**159**	⇑*i*P	**P**	**21 55 49.8**	**+1.7**
QIZ	**Qiongzhong**	**30.45**	**329**	*e*P	**P**	**21 55 50.9**	**-0.4**
GZH	**Guangzhou**	**32.48**	**338**	P	**P**	**21 56 12.1**	**+3.3**
ARMA	**Armidale**	**33.45**	**137**	⇑*i*P	**P**	**21 56 19.1**	**+2.1**
ARMA				*e*PP	PP	21 57 45.3	-1.6
JOW	**Kunigami**	**33.90**	**4**	P	**P**	**21 56 18.9**	**-1.9**
	comp=Z,16nm,0.8s,mb4.5,baz=228,slow=15,SNR=3.3						
NST	**Nakhon Sawan**	**34.12**	**312**	P	**P**	**21 56 23.0**	**+0.3**
	comp=Z,42nm,1.0s,mb4.8						
TOO	**Toolangi**	**35.12**	**152**	*e*P	**P**	**21 56 33.3**	**+2.2**
	comp=Z,14nm,0.6s,mb4.5						
TOO	**Toolangi**	**35.12**	**152**	*e*P	**P**	**21 56 33.3**	**+2.2**
TOO				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
CNB	**Canberra Magne**	**35.35**	**146**	*e*P	**P**	**21 56 34.8**	**+1.7**
	comp=Z,20nm,0.7s,mb4.7						
BDT	**Bhumibol Dam**	**35.96**	**313**	P	**P**	**21 56 39.5**	**+1.4**
GYA	**Guiyang**	**38.27**	**332**	P	**P**	**21 56 58.3**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
SSE	**Sheshan**	**38.32**	**354**	P	**P**	**21 56 59.0**	**+1.4**
SSE				AMB	AMB		
	comp=Z,43nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,99nm,4.3s						
KMI	**Kunming**	**39.21**	**326**	P	**P**	**21 57 06.6**	**+1.8**
KMI				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.6						
NJ2	**Nanjing**	**39.58**	**351**	*e*P	**P**	**21 57 08.6**	**+0.7**
NJ2				AP	pP	21 58 32.5	-1.6
NJ2				PP	PP	21 58 52.8	+0.6
NJ2				XP	sP	21 59 21.9	-5.9
NJ2				S	**S**	**22 02 41.0**	**+5.2**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,160nm,10.5s						
NJ2				LR	LR		
	comp=N,1μm,25.4s						
NJ2				LR	LR		
	comp=E,370nm,18.8s						
NJ2				LR	LR		
	comp=Z,180nm,15.2s						
ENH	**Enshi**	**40.42**	**338**	⇓*e*P	**P**	**21 57 14.1**	**-0.5**
	comp=Z,32nm,0.7s,mb4.9						
CD2	**Chengdu**	**43.39**	**332**	⇓*i*P	**P**	**21 57 37.8**	**-0.3**
CD2				AP	pP	21 59 03.3	-3.1
CD2				S	**S**	**22 03 29.8**	**-1.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,80nm,5.9s						
CD2				LR	LR		
	comp=N,170nm,7.8s						
CD2				LR	LR		
	comp=Z,120nm,17.4s						
XAN	**Xi'an**	**44.02**	**340**	P	**P**	**21 57 42.1**	**-1.0**
XAN				AMB	AMB		
	comp=Z,26nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**45.02**	**14**	*e*P	**P**	**21 57 50.4**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**45.02**	**14**	*e*P	**P**	**21 57 50.4**	**-0.3**
	comp=Z,49nm,0.8s,mb5.0						
MAT	**Matsushiro**	**45.02**	**14**	P	**P**	**21 57 50.2**	**-0.6**
MAT	**Matsushiro**	**45.02**	**14**	*e*P	**P**	**21 57 50.0**	**-0.8**
MAT				pmax	pmax		
	comp=Z,41nm,0.9s,mb4.9						
MAT	**Matsushiro**	**45.02**	**14**	*e*P	**P**	**21 57 50.0**	**-0.8**
	comp=Z,41nm,0.9s,mb4.9						
MJAR	**Matsushiro Arr**	**45.02**	**14**	P	**P**	**21 57 50.2**	**-0.6**
	comp=Z,44nm,0.8s,mb5.0,baz=191,slow=8.5,SNR=80						
LZH	**Lanzhou**	**47.75**	**336**	*e*P	**P**	**21 58 12.0**	**+0.4**
LZH				PCP	PcP	21 59 32.8	+1.1
LZH				AP	pP	21 59 40.0	-2.1
LZH				PP	PP	22 00 09.5	+0.5
LZH				SCP	ScP	22 02 42.1	+1.7
LZH				S	**S**	**22 04 31.3**	**-1.0**
LZH				SCS	ScS	22 07 13.9	+0.6
LZH				SS	SS	22 08 10.3	+2.2
LZH				AMB	AMB		
	comp=Z,48nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,210nm,4.1s						
BJT	**Baijiatuau**	**47.81**	**350**	*e*P	**P**	**21 58 11.6**	**-0.4**
BJT				*e*		21 59 32.8	
BJT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJT	**Baijiatuau**	**47.81**	**350**	*e*P	**P**	**21 58 11.6**	**-0.5**
	comp=Z,5.6nm,0.6s,mb4.1						
BJT				*e*PcP	PcP	21 59 32.8	+0.8
BJI	**Beijing**	**47.83**	**350**	*e*P	**P**	**21 58 11.5**	**-0.7**
BJI				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.4						
VIS	**Vishakhapatnam**	**48.74**	**301**	*e*P	**P**	**21 58 19.5**	**+0.5**
LSA	**Lhasa**	**49.57**	**319**	P	**P**	**21 58 26.3**	**+1.2**
LSA	**Lhasa**	**49.57**	**319**	*e*P	**P**	**21 58 26.4**	**+1.3**
LSA				pmax	pmax		
	comp=Z,65nm,0.6s,mb5.1						
LSA	**Lhasa**	**49.57**	**319**	*e*P	**P**	**21 58 26.4**	**+1.3**
	comp=Z,65nm,0.6s,mb5.1						
HHC	**Hu-ho-hao-te**	**49.57**	**346**	*e*P	**P**	**21 58 26.8**	**+1.6**
HHC				AP	pP	21 59 54.9	-1.7
HHC				PP	PP	22 00 29.3	+3.9
HHC				XP	sP	22 00 43.0	-5.8
HHC				S	**S**	**22 05 01.8**	**+4.5**
HHC				SCS	ScS	22 07 27.8	+2.1
HHC				SS	SS	22 08 41.0	+4.2
HHC				AMB	AMB		
	comp=Z,9.0nm,0.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,74nm,4.5s						
HHC				LR	LR		
	comp=N,170nm,8.2s						
HHC				LR	LR		
	comp=E,197nm,5.9s						
HHC				LR	LR		
	comp=Z,111nm,9.8s						
BOK	**Bokaro**	**49.70**	**310**	*e*P	**P**	**21 58 26.5**	**+0.4**
BOK				AMb	AMB	21 58 26.9	
	comp=Z,10nm,0.4s,mb4.5						
VLA	**Vladivostok**	**50.37**	**6**	*e*P	**P**	**21 58 30.0**	**-1.0**
VLA				pmax	pmax		
	comp=Z,66nm,1.1s,mb4.9						
CN2	**Changchun**	**50.75**	**360**	*e*P	**P**	**21 58 33.1**	**-0.7**
CN2				*e*AP	pP	22 00 04.0	-1.8
CN2				*e*S	**S**	**22 05 15.4**	**+2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
TRD	**Trivandrum**	**51.16**	**287**	*e*P	**P**	**21 58 37.2**	**+0.3**
TRD				AMb	AMB	21 58 37.7	
	comp=Z,20nm,0.6s,mb4.7						
JIRN	**Jiri**	**51.67**	**314**	⇓*i*P	**P**	**21 58 41.1**	**+0.6**
	comp=Z,108nm,0.5s,mb5.4						
MDJ	**Mudanjiang**	**51.67**	**3**	P	**P**	**21 58 41.0**	**+0.4**
MDJ				AP	pP	22 00 11.5	-1.5
MDJ				XP	sP	22 00 59.4	-5.5
MDJ				AMB	AMB		
	comp=Z,58nm,0.8s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,72nm,4.2s						
GUN	**Gumba**	**52.04**	**314**	⇓*i*P	**P**	**21 58 43.7**	**+0.5**
	comp=Z,279nm,0.7s,mb5.7						
PKI	**Pulchoki**	**52.18**	**313**	⇓*i*P	**P**	**21 58 44.4**	**+0.2**
	comp=Z,136nm,0.5s,mb5.6						
GTA	**Gaotai**	**52.26**	**335**	⇓P	**P**	**21 58 45.4**	**+0.6**
GTA				PCP	PcP	21 59 49.6	+1.1
GTA				AP	pP	22 00 15.0	-2.5
GTA				PP	PP	22 00 51.5	+2.1
GTA				S	**S**	**22 05 35.8**	**+2.2**
GTA				SCS	ScS	22 07 43.4	-1.0
GTA				SS	SS	22 09 22.8	+3.7
GTA				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.5						
GTA				AMB	AMB		
	comp=Z,95nm,4.6s						
GTA				LR	LR		
	comp=N,137nm,14.5s						
GTA				LR	LR		
	comp=E,174nm,14.8s						
GTA				LR	LR		
	comp=Z,120nm,14.4s						
KKN	**Kakani**	**52.40**	**313**	⇓*i*P	**P**	**21 58 46.0**	**+0.2**
	comp=Z,88nm,0.5s,mb5.4						
DMN	**Daman**	**52.42**	**313**	⇓*i*P	**P**	**21 58 46.4**	**+0.4**
	comp=Z,86nm,0.6s,mb5.3						
GKN	**Gorkha**	**52.98**	**313**	⇓*i*P	**P**	**21 58 50.3**	**+0.3**
	comp=Z,200nm,0.4s,mb5.8						
ASAJ	**Asahikawa**	**53.26**	**15**	P	**P**	**21 58 52.5**	**+0.5**
	comp=Z,34nm,0.9s,mb4.7,baz=236,slow=10,SNR=24						
KOLN	**Koldanda**	**53.61**	**312**	⇓*i*P	**P**	**21 58 55.0**	**+0.5**
	comp=Z,178nm,0.7s,mb5.5						
RPZ	**Rata Peaks**	**53.67**	**140**	P	**P**	**21 58 56.0**	**+1.1**
	comp=Z,41nm,0.8s,mb4.8,baz=261,slow=2.2,SNR=31						
DANN	**Dangsing**	**53.82**	**313**	*e*P	**P**	**21 58 56.4**	**+0.4**
URZ	**Urewera**	**55.57**	**132**	P	**P**	**21 59 08.3**	**0.0**
	comp=Z,3.5nm,0.4s,mb4.0,baz=345,slow=16,SNR=4.3						
YSS	**Yuzh-Sakhalins**	**55.96**	**14**	*i* P	**P**	**21 59 12.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.4						
HABR	**Khabarovsk**	**56.01**	**7**	*e*P	**P**	**21 59 12.0**	**+0.6**
HABR				*e*S	**S**	**22 06 25.8**	**+2.8**
HABR				pmax	pmax		
	comp=Z,40nm,0.9s,mb4.8						
BHPL	**Bhopal**	**56.15**	**304**	*e*P	**P**	**21 59 11.6**	**-0.8**
BHPL				AMb	AMB	21 59 12.2	
	comp=Z,20nm,0.5s,mb4.7						
KLR	**Kul'dur**	**56.41**	**5**	*e*P	**P**	**21 59 11.2**	**-3.0**
HIA	**Hailar**	**56.47**	**355**	*e*P	**P**	**21 59 15.2**	**+0.7**
HIA				*e*		22 00 05.1	
HIA				pmax	pmax		
	comp=Z,12nm,0.8s						
HIA	**Hailar**	**56.47**	**355**	*e*P	**P**	**21 59 15.2**	**+0.7**
	comp=Z,12nm,0.8s,mb4.3						
HIA				*e*PcP	PcP	22 00 05.1	+0.3
KAD	**Karad**	**56.55**	**296**	*e*P	**P**	**21 59 14.4**	**-0.7**
KAD				AMb	AMB	21 59 14.9	
	comp=Z,21nm,0.4s,mb4.8						
ULN	**Ulaanbaatar**	**57.27**	**345**	*d i*P	**P**	**21 59 20.3**	**+0.2**
POO	**Poona**	**57.29**	**297**	*e*P	**P**	**21 59 27.3**	**+7.2**
POO				AMb	AMB	21 59 30.4	
	comp=Z,21nm,0.5s,mb4.7						
POO	**Poona**	**57.29**	**297**	*ex*	x	21 59 19.0	
SONM	**Songino Array**	**57.41**	**345**	P	**P**	**21 59 21.3**	**+0.2**
	comp=Z,8.5nm,0.7s,mb4.2,baz=159,slow=8.0,SNR=82						
SONM				PcP	PcP	22 00 08.3	-0.2
	comp=Z,3.5nm,0.7s,baz=161,slow=4.0,SNR=6.2						
SONM				ScP	ScP	22 03 22.3	-0.1
	comp=Z,2.8nm,0.7s,baz=164,slow=4.8,SNR=12						
SONM	**Songino Array**	**57.41**	**345**	P	**P**	**21 59 21.3**	**+0.3**
SONM						22 00 08.3	
NDI	**New Delhi**	**58.88**	**310**	*e*P	**P**	**21 59 28.5**	**-2.5**
ZAK	**Zakamensk**	**60.58**	**344**	*e*P	**P**	**21 59 41.6**	**-0.8**
WMQ	**Urumqi**	**61.38**	**329**	P	**P**	**21 59 48.0**	**+0.4**
WMQ				PCP	PcP	22 00 25.3	+0.8
WMQ				AP	pP	22 01 21.4	-2.9
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,103nm,4.6s						
IRK	**Irkutsk**	**62.01**	**345**	*e*P	**P**	**21 59 51.6**	**-0.2**
IRK				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.3						
MOY	**Mondy**	**62.38**	**343**	*e*P	**P**	**21 59 54.0**	**-0.2**
BOD	**Bodaibo**	**65.50**	**353**	*e*P	**P**	**22 00 13.6**	**-0.5**
BOD				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
PET	**Petropavlovsk**	**66.13**	**21**	*c i*P	**P**	**22 00 18.9**	**+0.8**
PET				pmax	pmax		
	comp=Z,93nm,1.7s,mb5.1						
MK31	**Makanchi Array**	**66.19**	**329**	*i* P	**P**	**22 00 18.4**	**0.0**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.4						
MKAR	**Makanchi Array**	**66.19**	**329**	P	**P**	**22 00 18.5**	**0.0**
	comp=Z,5.5nm,0.4s,mb4.5,baz=123,slow=7.6,SNR=154						
MKAR				S	S	22 08 26.4	-3.0
	comp=Z,0.2nm,0.8s,baz=134,slow=8.3,SNR=5.0						
TKM2	**Tokmak 2**	**67.56**	**322**	*i* P	**P**	**22 00 27.3**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.0						
YAK	**Yakutsk**	**69.07**	**2**	*e*P	**P**	**22 00 36.0**	**-0.2**
YAK				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.2						
YAK	**Yakutsk**	**69.07**	**2**	*e*P	**P**	**22 00 36.0**	**-0.2**
	comp=Z,62nm,0.8s,mb5.2						
MA2	**Magadan**	**69.45**	**13**	*e*P	**P**	**22 00 38.8**	**+0.3**
MA2				*e*		22 00 58.2	
MA2				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.0						
MA2	**Magadan**	**69.45**	**13**	*e*P	**P**	**22 00 38.8**	**+0.4**
	comp=Z,55nm,1.0s,mb5.0						
MA2				*e*PcP	PcP	22 00 58.2	+0.1
KURK	**Kurchatov**	**70.58**	**330**	*d i*P	**P**	**22 00 45.0**	**-0.2**
KURK	**Kurchatov**	**70.58**	**330**	*e*P	**P**	**22 00 44.9**	**-0.3**
	comp=Z,23nm,0.8s,mb4.8						
KK31	**Karatay Array**	**70.81**	**320**	*i* P	**P**	**22 00 46.8**	**+0.3**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
KKAR	**Karatay Array**	**70.81**	**320**	*i* P	**P**	**22 00 46.8**	**+0.3**
NVS	**Novosibirsk**	**71.27**	**336**	⇓*i*P	**P**	**22 00 47.4**	**-1.9**
NVS				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.6						
NVS				pmax	pmax		
	comp=N,7.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.8s						
JMDO	**Jabal Madar**	**72.49**	**296**	⇑P	**P**	**22 00 55.8**	**-0.6**
SMDO	**Samad**	**72.72**	**297**	P	**P**	**22 00 58.3**	**+0.6**
	SNR=9.7						
SMDO	**Samad**	**72.72**	**297**	P	**P**	**22 00 58.3**	**+0.6**
	SNR=9.7						
BIDO	**Bidbid**	**72.78**	**297**	⇑P	**P**	**22 00 58.5**	**+0.5**
VNDA	**Vanda**	**72.79**	**172**	P	**P**	**22 00 58.2**	**+0.1**
	comp=E,1.6nm,0.7s,mb3.7,baz=325,slow=8.2,SNR=11						
VNDA	**Vanda**	**72.79**	**172**	P	**P**	**22 00 58.2**	**0.0**
SEY	**Seymchan**	**72.81**	**12**	*e*P	**P**	**22 00 58.4**	**+0.2**
SEY				*e*S	S	22 09 43.0	-2.5
SEY				pmax	pmax		
	comp=Z,26nm,0.7s,mb4.9						
SEY				pmax	pmax		
	comp=N,10.0nm,0.6s						
SEY				pmax	pmax		
	comp=E,5.0nm,0.6s						
SEY				smax			
	comp=N,110nm,5.9s						
SEY				smax			
	comp=E,78nm,5.9s						
BSY	**Bisya**	**73.39**	**296**	P	**P**	**22 01 02.0**	**+0.4**
	SNR=7.0						
BSY	**Bisya**	**73.39**	**296**	P	**P**	**22 01 02.0**	**+0.4**
	SNR=7.0						
HOQ	**Hoqain**	**73.52**	**297**	⇑P	**P**	**22 01 02.8**	**+0.5**
ARQ	**Araqi**	**74.15**	**297**	⇑P	**P**	**22 01 06.1**	**+0.2**
RBK	**Rabkut**	**74.86**	**290**	⇑P	**P**	**22 01 09.7**	**-0.2**
VOSK	**Vostochnaya**	**75.60**	**329**	P	**P**	**22 01 13.5**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
ABTO	**Aybut**	**75.68**	**290**	P	**P**	**22 01 14.9**	**+0.4**
	SNR=11						
ABTO	**Aybut**	**75.68**	**290**	P	**P**	**22 01 14.9**	**+0.4**
	SNR=11						
BVA0	**Borovoye Array**	**76.06**	**329**	*i* P	**P**	**22 01 16.4**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.9						
BRVK	**Borovoye**	**76.14**	**329**	*e*P	**P**	**22 01 16.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
BRVK	**Borovoye**	**76.14**	**329**	*e*P	**P**	**22 01 16.7**	**-0.4**
	comp=Z,14nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**76.73**	**329**	*i* P	**P**	**22 01 19.9**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**76.73**	**329**	*e*P	**P**	**22 01 19.7**	**-0.7**
	comp=Z,26nm,0.8s,mb4.8						
OPO	**Ambohidratompo**	**77.03**	**253**	P	**P**	**22 01 23.3**	**+1.3**
	comp=Z,2.1nm,0.5s,mb3.9,baz=84,slow=3.2,SNR=9.2						
TIXI	**Tiksi**	**78.70**	**1**	*d i

BRTR	**Keskin Array B**	**96.23 309**	P	**P**		**22 02 54.1**	**-1.2**
	comp=Z,1.5nm,0.7s,mb4.2,baz=132,slow=5.1,SNR=10						
BRTR			PP	PP		22 06 52.4	-3.7
	comp=Z,0.7nm,0.7s,baz=90,slow=4.9,SNR=4.0						
AKASG	**Malin Array Be**	**99.71 320**	P	Pdif		22 03 09.8	-1.1
	comp=Z,0.4nm,0.4s,baz=80,slow=5.1,SNR=6.5						
AKASG			PKIKP	PKiKP		22 07 35.9	-0.7
	comp=Z,0.1nm,0.2s,baz=69,slow=2.6,SNR=4.4						
ARCES	**ARCESS Array B**	**100.31 339**	PKiKP	PKiKP		22 07 36.5	-1.1
	comp=Z,3.6nm,1.0s,baz=94,slow=2.2,SNR=12						
FINES	**FINESS Array B**	**100.94 331**	PKiKP	PKiKP		22 07 38.3	-0.5
	comp=Z,2.4nm,1.0s,baz=98,slow=3.5,SNR=13						
NOA	**NORSAR Array B**	**108.05 332**	PKiKP	PKiKP		22 07 51.0	-0.9
	comp=Z,1.2nm,0.8s,baz=262,slow=3.3,SNR=4.3						
YKA	**Yellowknife Ar**	**109.71 25**	Pdiff	Pdif		22 03 57.2	+1.9
	comp=Z,0.3nm,0.8s,baz=290,slow=4.8,SNR=6.1						
YKA			PKiKP	PKiKP		22 07 53.9	-1.1
	comp=Z,1.6nm,0.6s,baz=304,slow=1.8,SNR=24						
YKA			SKiKP			22 10 42.7	
	comp=Z,0.4nm,0.7s,baz=298,slow=1.9,SNR=5.6						
YKA			PKKPbc	PKKPbc		22 18 59.1	-0.5
	comp=Z,0.2nm,0.4s,baz=120,slow=3.8,SNR=5.4						
YKA	**Yellowknife Ar**	**109.71 25**	Pdif	Pdif		22 03 57.2	+1.9
YKA			PKPdf	PKiKP		22 07 53.9	-1.1
YKA			PKKPbc	PKKPbc		22 18 59.1	-0.5
GERES	**GERESS Array B**	**109.90 319**	PKiKP	PKiKP		22 07 55.0	-0.4
	comp=Z,0.9nm,0.6s,baz=71,slow=1.9,SNR=13						
GERES			SKiKP			22 10 44.8	
	comp=Z,0.3nm,0.6s,baz=110,slow=2.0,SNR=4.9						
EDM	**Edmonton**	**113.88 34**	*e*PKIKP	PKiKP		22 08 02.8	-0.2
CDF	**Champ du Feu**	**114.13 320**	*e*PKP1	PKiKP		22 08 02.9	-0.5
PGF	**Pioggiola**	**114.51 314**	*e*PKP1	PKiKP		22 08 03.5	-0.7
	comp=Z,9.4nm,0.8s						
HINF	**Hinteralfeld**	**114.58 320**	*e*PKP1	PKiKP		22 08 03.2	-1.1
	comp=Z,7.4nm,0.7s						
NVAR	**Mina Array Bea**	**114.63 51**	PKP	PKPdf		22 08 06.0	+1.6
	comp=Z,1.2nm,0.8s,baz=295,slow=0.4,SNR=7.7						
HAU	**Haudompre**	**114.84 320**	*e*PKP1	PKPdf		22 08 04.5	-0.3
SBF	**Sospel**	**115.30 315**	*e*PKP1	PKPdf		22 08 05.0	-0.7
	comp=Z,17nm,0.8s						
LPG	**La Plagne**	**115.32 317**	*e*PKP1	PKPdf		22 08 05.6	-0.1
	comp=Z,4.4nm,0.6s						
LPL	**La Plagne**	**115.33 317**	*e*PKP1	PKPdf		22 08 05.5	-0.2
	comp=Z,8.2nm,0.6s						
CABF	**La Chapelle**	**115.44 318**	*e*PKP1	PKPdf		22 08 05.7	-0.2
	comp=Z,8.0nm,0.5s						
BAIF	**Baives**	**115.50 323**	*e*PKP1	PKPdf		22 08 05.6	-0.5
	comp=Z,16nm,1.0s						
MBDF	**Montbardon**	**115.52 316**	*e*PKP1	PKPdf		22 08 06.7	+0.6
	comp=Z,6.0nm,0.7s						
FRF	**La Foret Royal**	**115.93 315**	*e*PKP1	PKPdf		22 08 06.3	-0.6
ORIF	**Oris-en-Rattie**	**116.08 317**	*e*PKP1	PKPdf		22 08 06.7	-0.5
	comp=Z,6.1nm,0.6s						
SMRF	**Simiane la Rot**	**116.56 316**	*e*PKP1	PKPdf		22 08 08.1	0.0
	comp=Z,2.7nm,0.5s						
LOR	**Lormes**	**116.68 320**	*e*PKP1	PKPdf		22 08 07.8	-0.5
	comp=Z,6.3nm,0.9s						
VIVF	**Saint-Julien-l**	**116.91 317**	*e*PKP1	PKPdf		22 08 08.3	-0.5
	comp=Z,4.5nm,0.6s						
SSF	**Saint Saulge**	**116.97 320**	*e*PKP1	PKPdf		22 08 08.4	-0.5
	comp=Z,11nm,0.7s						
AVF	**Avril sur Loir**	**117.16 319**	*e*PKP1	PKPdf		22 08 08.3	-1.0
	comp=Z,10.0nm,0.9s						
BGF	**Bois d'Agland**	**117.57 319**	*e*PKP1	PKPdf		22 08 09.8	-0.3
	comp=Z,23nm,0.6s						
LASF	**Ste Croix**	**117.71 316**	*e*PKP1	PKPdf		22 08 10.0	-0.3
	comp=Z,11nm,1.0s						
TCF	**Toulx Ste Croi**	**118.08 319**	*e*PKP1	PKPdf		22 08 10.6	-0.4
CAF	**Calviac**	**118.64 318**	*e*PKP1	PKPdf		22 08 12.1	0.0
	comp=Z,9.9nm,0.8s						
LDF	**La Druitiere**	**118.67 322**	*e*PKP1	PKPdf		22 08 11.2	-1.0
FLN	**La Foliniere**	**118.82 323**	*e*PKP1	PKPdf		22 08 11.6	-0.9
REDW	**Red Top Meadow**	**118.84 44**	*e*P	PKPdf		22 08 13.7	+1.2
SNOW	**Snow King Moun**	**118.88 44**	*e*P	PKPdf		22 08 14.1	+1.5
RJF	**Les Rejaudoux**	**118.88 318**	*e*PKP1	PKPdf		22 08 12.4	-0.2
LOHW	**Long Hollow**	**118.93 44**	*e*P	PKPdf		22 08 13.8	+1.2
MTLF	**Montolieu**	**119.07 316**	*e*PKP1	PKPdf		22 08 12.5	-0.4
	comp=Z,6.4nm,0.7s						
GRR	**Gorron**	**119.20 322**	*e*PKP1	PKPdf		22 08 12.6	-0.6
MFF	**Saint Martin d**	**119.47 320**	*e*PKP1	PKPdf		22 08 13.1	-0.6
	comp=Z,16nm,0.8s						
LFF	**La Frestale**	**119.52 318**	*e*PKP1	PKPdf		22 08 13.8	0.0
	comp=Z,16nm,0.7s						
TMUT	**Trail Mountain**	**119.81 49**	*e*P	PKPdf		22 08 16.2	+1.8
PDAR	**Pinedale Array**	**119.93 44**	PKP	PKPdf		22 08 14.9	+0.3
	comp=Z,2.6nm,0.7s,baz=209,slow=0.6,SNR=20						
PDAR			PKKPbc	PKKPbc		22 18 28.4	+3.3
	comp=Z,0.5nm,0.5s,baz=123,slow=6.1,SNR=4.8						
SRU	**San Rafael**	**120.37 49**	*e*PKIKP	PKPdf		22 08 16.5	+1.1
EPF	**Esparros**	**120.47 316**	*e*PKP1	PKPdf		22 08 14.7	-0.9
WUAZ	**Wupatki**	**120.67 53**	*e*P	PKPdf		22 08 17.7	+1.7
ETSF	**Etsaut**	**121.13 316**	*e*PKP1	PKPdf		22 08 17.3	+0.4
	comp=Z,17nm,0.9s						
SJPF	**Ste Jean**	**121.51 317**	*e*PKP1	PKPdf		22 08 18.0	+0.4
	comp=Z,3.7nm,0.5s						
ESDC	**Sonseca Array**	**124.70 314**	PKP	PKPdf		22 08 24.2	+0.4
	comp=Z,0.3nm,0.3s,baz=15,slow=3.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**124.80 281**	PKP	PKPdf		22 08 24.7	+0.8
	comp=Z,5.7nm,0.6s,baz=38,slow=2.0,SNR=51						
TORD			SKP			22 11 13.5	
	comp=Z,1.3nm,0.8s,baz=59,slow=1.8,SNR=10.0						
TORD			PKKPbc	PKKPbc		22 18 07.1	+0.4
	comp=Z,0.4nm,0.8s,baz=286,slow=5.7,SNR=5.5						
BNM	**Barren Site**	**124.80 53**	*e*P	PKPdf		22 08 25.8	+1.8
ULM	**Lac du Bonnet**	**124.80 31**	PKP	PKPdf		22 08 23.4	-0.5
	comp=Z,3.3nm,0.6s,baz=324,slow=3.3,SNR=8.5						
PLCA	**Paso Flores**	**129.99 164**	SKPbc	SKPbc		22 11 11.4	-0.5
	comp=Z,3.0nm,0.8s,baz=130,slow=6.3,SNR=4.4						
DBIC	**Dimbokro**	**131.08 273**	PKP	PKPdf		22 08 36.8	+0.9
	comp=Z,2.8nm,0.5s,baz=72,slow=1.8,SNR=11						
DBIC			SKPbc	SKPbc		22 11 16.3	+0.4
	comp=Z,5.8nm,0.7s,baz=138,slow=3.8,SNR=11						
LIC	**Lamto**	**131.22 272**	*e*PKP2	PKPdf		22 08 37.0	+0.9
	comp=Z,10.0nm,0.6s						
SCHQ	**Schefferville**	**131.41 10**	PKP	PKPdf		22 08 37.1	+0.6
	comp=Z,4.0nm,0.4s,baz=37,slow=1.4,SNR=24						
SCHQ			SKPbc	SKPbc		22 11 16.4	-0.7
	comp=Z,15nm,0.7s,baz=359,slow=3.8,SNR=33						
JCT	**Junction City**	**131.42 55**	*e*P	PKPdf		22 08 38.2	+1.7
JCT			*e*SKP			22 11 17.9	
CPUP	**Villa Florida**	**146.54 175**	PKPbc	PKPbc		22 09 07.0	+0.7
	comp=Z,8.4nm,0.6s,baz=172,slow=3.2,SNR=13						
CPUP	**Villa Florida**	**146.54 175**	*e*PKPbc	PKPbc		22 09 07.4	+1.1
JTS	**JuntasAbangare**	**149.41 82**	PKPbc	PKPbc		22 09 15.0	+1.5
	comp=Z,39nm,0.8s,baz=332,slow=3.0,SNR=13						
LPAZ	**La Paz**	**152.88 149**	PKPbc	PKPbc		22 09 24.0	+2.5
	comp=Z,1.8nm,0.5s,baz=60,slow=2.7,SNR=3.1						
LPAZ			PKPab	PKPab		22 09 37.2	+2.3
	comp=Z,6.3nm,0.5s,baz=186,slow=3.9,SNR=12						

IDC 16 21:56:33.6±2.3, 1536S×17512W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, ML1.7/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/18, Error ellipse: s-maj=172.9km s-min=29.7km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.54**	**66**	Pn	Pn	21 57 29.8	0.0
	4.0nm,0.3s,baz=89,slow=16,SNR=5.8						
AFI				Sn	Sn	21 58 07.7	-4.6
	5.4nm,0.3s,baz=65,slow=14,SNR=3.0						
DZM	**Mont Dzumac**	**18.69**	**246**	LR	LR	22 06 32.2	
	comp=Z,326nm,20.9s,baz=201,slow=32						
HNR	**Honiara**	**25.05**	**281**	LR	LR	22 09 55.9	
	comp=Z,272nm,18.5s,baz=178,slow=32						
CTA	**Charters Tower**	**37.04**	**257**	LR	LR	22 15 59.8	
	comp=Z,151nm,20.8s,baz=56,slow=32						
STKA	**Stephens Creek**	**42.63**	**239**	LR	LR	22 21 41.7	
	comp=Z,129nm,18.2s,baz=25,slow=35						
WRA	**Warramunga Arr**	**48.24**	**257**	P	P	22 05 16.5	+0.3
	1.0nm,0.9s,baz=91,slow=8.7,SNR=3.8						
ASAR	**Alice Springs**	**48.55**	**252**	P	P	22 05 19.0	+0.5
	2.4nm,0.8s,baz=85,slow=8.2,SNR=13						
MJAR	**Matsushiro Arr**	**67.85**	**321**	LR	LR	22 31 15.7	
	comp=Z,134nm,21.7s,baz=170,slow=31						
BRTR	**Keskin Array B**	**145.07**	**320**	PKPbc	PKPbc	22 16 12.2	-0.2
	1.2nm,0.8s,baz=46,slow=3.6,SNR=6.2						
KHC	**Kasperske Hory**	**145.57**	**350**	*e*P	PKPdf	22 16 18.0	+4.2

IDC 16 22:13:13.8±75.0, 1860S×17570E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, MS3.7/2, Ms1 3.8/2, ms1mx3.2/20, Error ellipse: s-maj=1314.0km s-min=138.4km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.35**	**247**	LR	LR	22 17 48.8	
	comp=Z,220nm,18.0s,baz=184,slow=29						
STKA	**Stephens Creek**	**33.42**	**240**	P	P	22 19 54.4	+0.2
	2.5nm,1.2s,baz=80,slow=6.1,SNR=3.0						
WRA	**Warramunga Arr**	**39.00**	**261**	P	P	22 20 42.0	+0.1
	0.3nm,0.6s,baz=95,slow=7.9,SNR=7.7						
ASAR	**Alice Springs**	**39.21**	**255**	P	P	22 20 44.2	+0.5
	2.1nm,0.6s,baz=88,slow=8.4,SNR=31						
NVAR	**Mina Array Bea**	**83.87**	**46**	LR	LR	22 53 54.7	
	comp=Z,92nm,21.3s,baz=325,slow=29						

*ISCJB **16** 22:49:10.8±0.5, 671N×004×7294W±006, h172km±5km, mb4.0/20, Error ellipse: s-maj=9.8km s-min=6.7km az=33.8*

*NEIC **16** 22:49:11.8±0.7, 674N×7294W, h165km±7km, mb4.1/10, Error ellipse: s-maj=9.2km s-min=7.1km az=91.0*

*BJI **16** 22:49:11.8, 670N×7290W, h165km, mB5.0*

*IDC **16** 22:49:11.0±0.6, 676N×7300W, h159km±6km, mb3.7/16, mb1 3.9/19, mb1mx3.8/26, mbtmp4.2/19, Error ellipse: s-maj=11.2km s-min=7.2km az=124.0*

ISC 16 22:49:11.9±0.5, 674N±004×7295W±006, h164km±5km, n47, σ0:89/46, mb4.0/20, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.32**	**216**	P	**Pn**	**22 49 52.4**	**+0.8**
	110nm,0.3s,baz=285,slow=2.4,SNR=175						
ROSC				S	**Sn**	**22 50 21.0**	**-1.2**
	261nm,0.3s,baz=106,slow=20,SNR=18						
SDV	**Santo Domingo**	**3.14**	**47**	P	**Pn**	**22 50 02.4**	**+0.8**
	22nm,0.3s,baz=249,slow=11,SNR=82						
SDV				S	**Sn**	**22 50 40.0**	**-0.1**
	96nm,0.3s,baz=90,slow=22,SNR=30						
SDV	**Santo Domingo**	**3.14**	**47**	*e*Pn	**Pn**	**22 50 02.2**	**+0.6**
SDV				*e*Sn	**Sn**	**22 50 39.9**	**-0.2**
OTAV	**Otavalo**	**8.47**	**221**	*e*Pn	**Pn**	**22 51 10.2**	**-1.2**
	4.9nm,0.6s						
OTAV				*e*Sn	**Sn**	**22 52 50.3**	**+4.5**
PCJ	**Portland Cotta**	**11.68**	**340⇓**	*e*P	**Pn**	**22 51 53.2**	**-0.4**
PCJ				*e*S	**Sn**	**22 53 52.9**	**-10**
CMJ	**Castle Mountai**	**11.81**	**344⇑**	*e*P	**Pn**	**22 51 56.6**	**+1.3**
GWJ	**Greenwich**	**11.86**	**342⇑**	*e*P	**Pn**	**22 51 56.7**	**+0.8**
STH	**Stony Hill**	**11.88**	**342⇓**	*e*P	**Pn**	**22 51 55.5**	**-0.7**
BBJ	**Bamboo Saint A**	**12.32**	**340⇑**	*e*P	**Pn**	**22 52 02.4**	**+0.6**
SJG	**San Juan**	**13.11**	**30**	P	**Pn**	**22 52 10.9**	**-1.0**
	2.3nm,0.3s,baz=206,slow=17,SNR=4.5						
SAML	**Samuel**	**18.37**	**148**	*e*P	**P**	**22 53 13.0**	**-1.1**
	4.1nm,0.5s						
PAYG	**Puerto Ayora**	**18.80**	**248**	P	**P**	**22 53 19.4**	**+0.7**
TEIG	**Tepich**	**20.02**	**314**	*e*P	**P**	**22 53 35.2**	**+3.3**
	1.4nm,0.5s						
LPAZ	**La Paz**	**23.37**	**168**	P	**P**	**22 54 06.9**	**+1.3**
	0.6nm,0.3s,mb3.5,baz=349,slow=12,SNR=7.3						
LPAZ	**La Paz**	**23.37**	**168**	*e*P	**P**	**22 54 07.4**	**+1.8**
	2.0nm,0.6s,mb3.7						
LPAZ				*e*		22 54 40.8	
SIV	**San Ignacio**	**25.46**	**153**	P	**P**	**22 54 24.5**	**-0.1**
	0.3nm,0.4s,mb3.2,baz=323,slow=16,SNR=2.8						
CPUP	**Villa Florida**	**36.20**	**156**	P	**P**	**22 56 00.7**	**+1.9**
	0.5nm,0.3s,mb3.6,baz=326,slow=15,SNR=2.6						
WUAZ	**Wupatki**	**45.40**	**315**	*e*P	**P**	**22 57 14.8**	**+0.8**
	9.3nm,0.9s,mb4.4						
PLCA	**Paso Flores**	**47.28**	**178**	P	**P**	**22 57 29.2**	**+0.5**
ULM	**Lac du Bonnet**	**47.42**	**340**	P	**P**	**22 57 28.6**	**-1.2**
	5.5nm,0.5s,mb4.5,baz=144,slow=8.1,SNR=14						
SCHQ	**Schefferville**	**48.21**	**5**	P	**P**	**22 57 35.8**	**-0.1**
	6.4nm,0.5s,mb4.5,baz=192,slow=6.0,SNR=25						
PDAR	**Pinedale Array**	**48.24**	**324**	P	**P**	**22 57 36.0**	**-0.1**
	1.4nm,0.6s,mb3.8,baz=128,slow=8.9,SNR=12						
PDAR				PcP	PcP	22 59 00.6	+0.1
	0.5nm,0.4s,baz=116,slow=8.1,SNR=4.5						
TCUT	**Toone Canyon**	**48.40**	**321**	*e*P	**P**	**22 57 37.8**	**+0.6**
DGMT	**Dagmar**	**49.30**	**333**	*e*P	**P**	**22 57 43.9**	**-0.2**
	11nm,0.6s,mb4.7						
BGU	**Big Grassy Mou**	**49.31**	**320**	*e*P	**P**	**22 57 49.2**	**+5.0**
LOHW	**Long Hollow**	**49.36**	**324**	*e*P	**P**	**22 57 45.2**	**+0.6**
	2.0nm,0.6s,mb3.9						
NVAR	**Mina Array Bea**	**51.66**	**315**	P	**P**	**22 58 01.9**	**+0.1**
	1.6nm,0.8s,mb3.7,baz=116,slow=8.3,SNR=10						
NVAR				PcP	PcP	22 59 13.8	+0.7
	0.5nm,0.5s,baz=149,slow=4.4,SNR=4.4						
YBH	**Yreka Blue Hor**	**56.12**	**317**	P	**P**	**22 58 32.1**	**-2.0**
	1.8nm,0.5s,mb4.2,baz=45,slow=2.9,SNR=4.9						
YKA	**Yellowknife Ar**	**63.40**	**340**	P	**P**	**22 59 22.9**	**-0.9**
	5.5nm,0.6s,mb4.6,baz=132,slow=6.7,SNR=164						
YKA	**Yellowknife Ar**	**63.40**	**340**	P	**P**	**22 59 22.9**	**-0.9**
DBIC	**Dimbokro**	**67.58**	**86**	P	**P**	**22 59 50.5**	**-0.1**
	1.6nm,0.4s,mb4.1,baz=282,slow=5.5,SNR=16						
DBIC	**Dimbokro**	**67.58**	**86**	*e*P	**P**	**22 59 50.8**	**+0.2**
	3.1nm,0.4s,mb4.4						
SUMG	**Summit**	**69.04**	**11**	*e*P	**P**	**22 59 59.7**	**0.0**
	14nm,0.8s,mb4.8						
INK	**Inuvik**	**73.16**	**340**	P	**P**	**23 00 24.1**	**-0.4**
	2.0nm,0.5s,mb4.1,baz=98,slow=5.4,SNR=12						
TORD	**Torodi Ar. Bea**	**73.59**	**78**	P	**P**	**23 00 26.6**	**-0.5**
	0.7nm,0.4s,mb3.8,baz=283,slow=6.4,SNR=16						
ILAR	**Eielson Array**	**77.11**	**335**	P	**P**	**23 00 46.4**	**-0.7**
	1.0nm,0.7s,mb3.6,baz=114,slow=4.5,SNR=8.7						
NB2	**NORSAR Subarra**	**81.32**	**29**	P	**P**	**23 01 09.9**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.4,baz=268,slow=5.6						
NOA	**NORSAR Array B**	**81.32**	**29**	P	**P**	**23 01 10.0**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=268,slow=5.4,SNR=4.3						
NOA	**NORSAR Array B**	**81.32**	**29**	P	**P**	**23 01 10.0**	**+0.1**
GERES	**GERESS Array B**	**82.78**	**42**	P	**P**	**23 01 17.7**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.4,baz=270,slow=4.0,SNR=6.4						
ARCES	**ARCESS Array B**	**86.69**	**20**	P	**P**	**23 01 36.5**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.1,baz=281,slow=3.3,SNR=11						
MKAR	**Makanchi Array**	**122.35**	**20**	PKP	PKPdf	23 07 47.0	-0.3
	comp=Z,0.9nm,0.4s,baz=296,slow=3.0,SNR=14						
SONM	**Songino Array**	**125.66**	**1**	PKP	PKPdf	23 07 54.4	+0.7
	comp=Z,0.7nm,0.6s,baz=292,slow=1.1,SNR=8.2						
NJ2	**Nanjing**	**139.82**	**344**	*e*PKP	PKPdf	23 08 21.1	+0.8
ASAR	**Alice Springs**	**149.20**	**234**	PKP	PKPdf	23 08 37.1	+0.6
	comp=Z,4.5nm,0.7s,baz=119,slow=1.5,SNR=11						
ASAR				PKPbc	PKPbc	23 08 40.7	-0.2
	comp=Z,5.4nm,0.7s,baz=116,slow=3.6,SNR=70						
WB2	**Warramunga Arr**	**150.43**	**241⇑**	*i*P	PKPdf	23 08 44.1	+5.7
WB2				*e*S		23 13 00.0	
WRA	**Warramunga Arr**	**150.44**	**241**	PKP	PKPdf	23 08 39.2	+0.7
	comp=Z,3.0nm,0.5s,baz=94,slow=1.8,SNR=9.6						
WRA				PKPbc	PKPbc	23 08 44.1	+0.2
	comp=Z,4.6nm,0.4s,baz=107,slow=2.6,SNR=130						
WRA				pPKPbc	pPKPbc	23 09 25.4	-1.5
	comp=Z,2.2nm,0.6s,baz=108,slow=2.5,SNR=8.2						

*IDC **16** 23:02:15.4±3.5, 3599N×7167E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, ML3.7/3, Error ellipse: s-maj=68.4km s-min=30.4km az=2.0*

*MOS **16** 23:02:17.6±1.0, 3585N×7150E, h33km, mb4.2/1, Error ellipse: s-maj=27.7km s-min=11.9km az=88.4*

*NEIC **16** 23:02:20.7±1.6, 3598N×7158E, h35km, mb3.4/5, Error ellipse: s-maj=25.8km s-min=15.5km az=181.0*

*BJI **16** 23:02:24.7, 3600N×7160E, h35km, ML4.0*

*ISCJB **16** 23:02:36.0±0.9, 3699N±004×7174E±009, h147km±10km, mb3.4/6, Error ellipse: s-maj=13.5km s-min=5.2km az=130.2*

*NNC **16** 23:02:43.1±3.1, 3751N×7180E, h165km±29km, mb3.0, mpv4.5, Error ellipse: s-maj=33.2km s-min=16.1km az=30.0*

ISC 16 23:02:36.0±0.9, 3693N±005×7167E±010, h135km±10km, n48, σ1:25/60, mb3.4/6, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.26**	**51**	P	**Pn**	**23 03 41.6**	**+2.4**
KSH				S	**Sn**	**23 04 28.0**	**-0.3**
KSH				Smax			
	comp=N,189nm,0.4s						
KSH				Smax			
	comp=E,166nm,0.5s						
AML	**Almayashu**	**5.43**	**16**	P	**Pn**	**23 03 55.2**	**+0.4**
	SNR=573						
DLH	**Dalhousie**	**5.62**	**140**	*e*P	**Pn**	**23 04 00.0**	**+2.6**
DLH				*e*S	**Sn**	**23 05 02.0**	**+1.0**
UCH	**Uchtor**	**5.73**	**22**	P	**Pn**	**23 03 59.5**	**+0.7**
	SNR=112						
KZA	**Kyzart**	**5.84**	**27**	P	**Pn**	**23 04 00.4**	**+0.1**
	SNR=77						
EKS2	**Erkin-Say**	**5.95**	**15**	P	**Pn**	**23 04 02.2**	**+0.4**
	SNR=87						
AAK	**Ala-Archa**	**6.10**	**20**	P	**Pn**	**23 04 04.6**	**+0.8**
	SNR=120						
KK31	**Karatay Array**	**6.23**	**352**	P	**Pn**	**23 04 05.7**	**0.0**
	comp=E,10nm,0.2s,baz=170,slow=11,SNR=1069						
KK31				⇓S	**Sn**	**23 05 10.6**	**-5.0**
	comp=E,82nm,0.6s,baz=169,slow=21,SNR=21						
KBK	**Karagaybulak**	**6.25**	**23**	P	**Pn**	**23 04 06.5**	**+0.6**
	SNR=41						
ULHL	**Ulahol**	**6.37**	**32**	P	**Pn**	**23 04 07.6**	**0.0**
	SNR=38						
CHMS	**Chumysh**	**6.51**	**20**	P	**Pn**	**23 04 09.4**	**+0.1**
	SNR=35						
USP	**Ospenovka**	**6.69**	**18**	P	**Pn**	**23 04 11.4**	**-0.4**
	SNR=33						
TKM2	**Tokmak 2**	**6.70**	**26**	P	**Pn**	**23 04 12.2**	**+0.3**
	SNR=12						
TKM2	**Tokmak 2**	**6.70**	**26**	⇓P	**Pn**	**23 04 12.2**	**+0.3**
	comp=E,30nm,0.6s						
SDNR	**Sundarnagar**	**6.97**	**139**	*e*P	**Pn**	**23 04 16.5**	**+1.0**
SDNR				*e*S	**Sn**	**23 05 30.0**	**-3.3**
MK31	**Makanchi Array**	**12.63**	**35**	P	**Pn**	**23 05 29.1**	**-1.6**
	comp=E,0.7nm,0.5s,baz=215,slow=11,SNR=15						
MKAR	**Makanchi Array**	**12.63**	**35**	Pn	**Pn**	**23 05 28.9**	**-1.9**
	comp=E,0.3nm,0.3s,baz=223,slow=16,SNR=20						
KOLN	**Koldanda**	**13.59**	**129**	*e*Pn	**Pn**	**23 05 42.9**	**-0.3**
KOLN				*e*Sn	**Sn**	**23 08 04.3**	**-9.0**
	comp=E,8.3nm,0.4s						
GKN	**Gorkha**	**14.09**	**125**	*e*Pn	**Pn**	**23 05 49.0**	**-0.6**
GKN				*e*Sn	**Sn**	**23 08 14.9**	**-10**
	comp=E,23nm,0.3s						
KURK	**Kurchatov**	**14.66**	**18**	*e*P	**Pn**	**23 05 59.6**	**+2.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**14.66**	**18**	*e*P	**Pn**	**23 05 59.6**	**+2.9**
	comp=Z,2.5nm,0.7s						
KKN	**Kakani**	**14.66**	**125**	*e*Pn	**Pn**	**23 05 56.4**	**-0.3**
KKN				*e*Sn	**Sn**	**23 08 28.4**	**-11**
	comp=Z,10nm,0.4s						
DMN	**Daman**	**14.66**	**125**	*e*Pn	**Pn**	**23 05 57.5**	**+0.7**
DMN				*e*Sn	**Sn**	**23 08 27.6**	**-12**
	comp=Z,28nm,0.8s						
PKI	**Pulchoki**	**14.89**	**125**	*e*Pn	**Pn**	**23 06 01.1**	**+1.5**
PKI				*e*Sn	**Sn**	**23 08 33.8**	**-11**
	comp=Z,23nm,0.7s						
GUN	**Gumba**	**14.98**	**123**	*e*Pn	**Pn**	**23 06 02.4**	**+1.7**
GUN				*e*Sn	**Sn**	**23 08 35.9**	**-11**
AB31	**Akbulak array**	**14.98**	**329**	⇑P	**Pn**	**23 05 59.6**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=140,slow=12,SNR=60						
AB31				S	**Sn**	**23 08 36.7**	**-18**
	comp=Z,2.8nm,0.6s,baz=143,slow=23,SNR=9.1						
JIRN	**Jiri**	**15.35**	**123**	*e*Pn	**Pn**	**23 06 05.4**	**+0.1**
JIRN				*e*Sn	**Sn**	**23 08 44.1**	**-11**
	comp=Z,10nm,0.3s						
VOSK	**Vostochnaya**	**15.80**	**358**	⇑P	**Pn**	**23 06 09.1**

1.3nm,0.5s,mb3.7,baz=53,slow=8.0,SNR=20
STKA Stephens Creek 29.30 201 *e*P **P 23 35 38.9 -2.4**
2.4nm,0.6s,mb4.0
STKA Stephens Creek 29.30 201 P **P 23 35 39.3 -2.0**
3.1nm,0.6s,mb4.1,baz=31,slow=9.6,SNR=9.0
FITZ Fitzroy Crossi 30.31 242 *e*P **P 23 35 49.6 -0.6**
15nm,0.6s,mb4.8
FITZ Fitzroy Crossi 30.31 242 P **P 23 35 50.2 0.0**
7.5nm,0.6s,mb4.5,baz=65,slow=7.7,SNR=24
FORT Forrest 35.33 220 *e*P **P 23 36 33.9 0.0**
24nm,0.5s,mb5.3
MBWA Marble Bar 36.62 240 *e*P **P 23 36 44.9 0.0**
7.0nm,0.8s,mb4.6
ENH Enshi 54.52 312 *e*P **P 23 39 05.1 -0.7**
LSA Lhasa 68.68 304 *e*P **P 23 40 43.1 +2.2**
1.7nm,0.4s,mb4.2
VNDA Vanda 72.98 178 P **P 23 41 07.2 +0.3**
1.2nm,0.7s,mb3.9,baz=331,slow=5.9,SNR=8.2
MKAR Makanchi Array 80.62 319 P **P 23 41 50.5 +0.7**
0.4nm,0.5s,mb3.5,baz=96,slow=6.3,SNR=6.4
ILAR Eielson Array 81.76 22 P **P 23 41 55.2 -0.6**
0.5nm,0.6s,mb3.5,baz=256,slow=5.8,SNR=5.4
ZRNK Zerenda 90.31 323 *e*P **P 23 42 36.7 -1.3**
BDFB Brasilia 150.72 134 PKPbc PKPbc 23 49 31.3 +2.7
1.5nm,0.3s,baz=316,slow=5.3,SNR=3.3
TORD Torodi Ar. Bea 150.87 289 PKPbc PKPbc 23 49 30.0 +1.0
1.7nm,0.8s,baz=94,slow=2.1,SNR=17
TORD PKPab PKPab 23 49 35.1 -1.5

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*ISCJB **16** 23:41:21.1±1.1, 1280N±008×909W±0.1, h33km, mb3.7/5, Error ellipse: s-maj=16.4km s-min=10.4km az=148.0*
*IDC **16** 23:41:22.8±13.0, 1371N×9004W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=256.8km s-min=95.4km az=160.0*
*CASC **16** 23:41:23.6±3.0, 1309N×9107W, h19km±15km, MD4.1, ML4.1, mb3.5(NEIC)*
*NEIC **16** 23:41:31.9±2.8, 1311N×8993W, h118km±30km, mb3.5/1, Error ellipse: s-maj=52.4km s-min=17.3km az=65.0*
ISC 16 23:41:22.9±1.2, 1285N±008×909W±01, h35km, n15, σ1°19/15, mb3.7/5, 2C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.39**	**19⇑**	*e*P	**Pn**	**23 41 45.2**	**-0.6**
IXG				*e*S	**Sn**	**23 42 03.0**	**+0.1**
IXG				AML	AML	23 42 11.3	
	comp=E,4μm,0.5s						
FUG	**Fuego 3**	**1.59**	**3⇓**	*e*P	**Pn**	**23 41 48.2**	**-0.3**
JAT	**Jato**	**1.61**	**335**	*e*P	**Pn**	**23 41 48.7**	**-0.1**
RBDL	**Robledal**	**1.74**	**44**	*e*P	Px	23 42 19.2	
RBDL				*e*S	Sx	23 42 40.0	
BOQS	**Boqueron**	**1.83**	**61⇑**	*e*P	Px	23 42 22.3	
BOQS				*e*S	Sx	23 42 48.6	
TP2	**Tecpan 2**	**1.92**	**357⇓**	*e*P	**Pn**	**23 41 52.6**	**-0.5**
TP2				*e*S	**Sn**	**23 42 14.7**	**-1.3**
MRL	**Marmol**	**2.51**	**28**	*e*P	**Pn**	**23 42 02.9**	**+1.8**
JTS	**JuntasAbangare**	**6.38**	**113**	Pn	**Pn**	**23 42 53.1**	**-1.2**
TEIG	**Tepich**	**7.76**	**19**	*e*Pn	**Pn**	**23 43 15.5**	**+2.2**
TUC	**Tucson**	**26.58**	**320**	*e*P	**P**	**23 47 03.0**	**+5.4**
	comp=E,0.6nm,0.4s,mb3.5						
NVAR	**Mina Array Bea**	**35.22**	**321**	P	**P**	**23 48 18.4**	**+4.7**
	comp=E,1.3nm,0.8s,mb3.9,baz=130,slow=9.7,SNR=8.1						
ULM	**Lac du Bonnet**	**37.51**	**355**	P	**P**	**23 48 31.9**	**-1.4**
	comp=E,1.4nm,0.3s,mb4.1,baz=180,slow=9.5,SNR=4.3						
YKA	**Yellowknife Ar**	**52.38**	**346**	P	**P**	**23 50 31.4**	**0.0**
	comp=E,0.2nm,0.4s,mb3.4,baz=150,slow=7.7,SNR=5.5						
YKA	**Yellowknife Ar**	**52.38**	**346**	P	**P**	**23 50 31.4**	**0.0**
ILAR	**Eielson Array**	**64.30**	**337**	P	**P**	**23 51 56.8**	**+2.1**
	comp=E,0.6nm,0.9s,mb3.6,baz=145,slow=6.9,SNR=4.9						

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*CSEM **16** 23:55:07.7±0.2, 8019N×2425E, h2km, ML2.5, Error ellipse: s-maj=5.9km s-min=3.2km az=6.0*
*BER **16** 23:55:11.7±3.8, 7989N×2489E, h1km±24km, ML2.5(NAO)*
*ISCJB **16** 23:55:12.8±3.0, 794N±02×252E±06, h2km, Error ellipse: s-maj=23.9km s-min=13.6km az=45.2*
*NAO **16** 23:55:13.3±5.6, 8005N×2311E, h32km±48km, ML2.5*
ISC 16 23:55:14.0±3.2, 795N±02×246E±06, h0km±16km, n4, σ1°05/9, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.10**	**234**	Pn	**Pn**	**23 55 48.6**	**-1.8**
SPA0				Pg	**Pg**	**23 55 54.2**	**-0.1**
	baz=35,slow=18						
SPA0				Sn	**Sn**	**23 56 17.0**	**-0.4**
	baz=41,slow=16						
SPA0				Lg		23 56 24.9	
	baz=58,slow=28						
SPA0	**Spitsbergen Ar**	**2.10**	**234**	Pg	**Pg**	**23 55 54.2**	**-0.2**
	SNR=9.7						
SPA0				Sn	**Sn**	**23 56 17.0**	**-0.3**
HSP	**Hornsund**	**3.14**	**221**	*e*P	**Pn**	**23 56 05.9**	**+1.2**
HSP				*e*S	**Sn**	**23 56 43.9**	**+1.1**
ARA0	**ARCESS Array S**	**10.06**	**178**	Pn	**Pn**	**23 57 40.6**	**+1.0**
	baz=357,slow=11						
ARA0				Sn	**Sn**	**23 59 32.2**	**-1.0**
	baz=9.7,slow=18						

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*IDC **17** 00:03:15.3±1.2, 1342N×9272E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=85.4km s-min=20.9km az=48.0*
*ISCJB **17** 00:03:18.3±1.0, 135N±03×928E±03, h33km, mb4.0/7, Error ellipse: s-maj=61.0km s-min=14.5km az=101.2*
*NEIC **17** 00:03:19.9±0.7, 1352N×9281E, h30km, mb4.6/2, Error ellipse: s-maj=47.0km s-min=11.3km az=51.0*
ISC 17 00:03:21.1±0.9, 136N±03×929E±03, h35km, n9, σ0°43/8, mb4.0/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.92**	**183**	*e*P	Px	00 04 07.5	
PBA				*e*S	Sx	00 04 45.9	
PBA				*ex*	x	00 04 52.0	
	comp=N,834nm,0.8s						
PBA				*ex*	x	00 05 01.6	
	comp=E,966nm,0.9s						
MKAR	**Makanchi Array**	**34.28**	**347**	P	**P**	**00 10 04.2**	**+0.3**
	comp=E,0.2nm,0.6s,mb3.2,baz=163,slow=10,SNR=3.4						
KURK	**Kurchatov**	**38.80**	**346**	P	**P**	**00 10 41.9**	**-0.5**
WRA	**Warramunga Arr**	**52.69**	**128**	P	**P**	**00 12 31.8**	**-0.2**
	comp=E,1.8nm,0.6s,mb4.2,baz=307,slow=7.9,SNR=12						
WRAB	**Tennant Creek**	**52.69**	**128**	*e*P	**P**	**00 12 32.6**	**+0.6**
	comp=E,5.3nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**54.60**	**132**	P	**P**	**00 12 45.8**	**-0.3**
	comp=E,0.8nm,0.6s,mb4.0,baz=310,slow=6.8,SNR=11						
BRTR	**Keskin Array B**	**57.83**	**308**	P	**P**	**00 13 08.6**	**-0.5**
	comp=E,0.6nm,0.8s,mb3.7,baz=119,slow=6.4,SNR=5.1						
CTAO	**Charters Tower**	**62.27**	**122**	*e*P	**P**	**00 13 39.3**	**-0.2**
	comp=E,3.9nm,0.9s,mb4.5						
GERES	**GERESS Array B**	**72.78**	**317**	P	**P**	**00 14 46.5**	**+0.7**
	comp=E,0.6nm,0.9s,mb3.5,baz=90,slow=5.3,SNR=4.4						

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*CSEM **17** 00:56:10.2±0.1, 4299N×2320E, h2km, MD3.0, Error ellipse: s-maj=4.6km s-min=2.6km az=96.0*
*SKO **17** 00:56:10.7, 4288N×2361E, h0km*
*THE **17** 00:56:11.0, 4296N×2345E, h10km, ML3.4*
*ISCJB **17** 00:56:10.5±0.7, 4295N±003×2337E±004, h6km±5km, Error ellipse: s-maj=5.2km s-min=3.7km az=75.8*
*SOF **17** 00:56:11.2, 4288N×2346E, h16km, MD3.0*
*NEIC **17** 00:56:13.8, 4270N×2350E, h11km, MD3.0(SOF), After SOF.*
ISC 17 00:56:11.3±0.7, 4293N±003×2335E±004, h8km±5km, n57, σ1°06/75, 20C-1D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOF	**Sofiya**	**0.25**	**182**	Pg	**Pg**	**00 56 17.4**	**+1.1**
SOF	**Sofiya**	**0.25**	**182**	*i* Pg	**Pg**	**00 56 17.5**	**+1.2**
SOF	**Sofiya**	**0.25**	**182**	*i* Pg	**Pg**	**00 56 17.5**	**+1.2**
VTS	**Vitosha**	**0.36**	**197**	*i* Pg	**Pg**	**00 56 18.3**	**0.0**
VTS	**Vitosha**	**0.36**	**197⇑**	*i*P	**Pg**	**00 56 18.8**	**+0.5**
VTS				S	**Sg**	**00 56 23.7**	**+0.7**
VTS	**Vitosha**	**0.36**	**197**	*e*Pg	**Pg**	**00 56 18.1**	**-0.2**
VTS	**Vitosha**	**0.36**	**197⇑**	*i*P	**Pg**	**00 56 18.8**	**+0.5**
PGB	**Panagyurishte**	**0.72**	**122**	*i* Pg	**Pg**	**00 56 24.5**	**-0.6**
PGB	**Panagyurishte**	**0.72**	**122**	*i* Pg	**Pg**	**00 56 24.5**	**-0.6**
KKB	**Krupnik**	**1.08**	**190**	*i* Pg	**Pg**	**00 56 32.0**	**-0.1**
PLD	**Plovdiv**	**1.30**	**129**	Pg	**Pg**	**00 56 34.5**	**-1.8**
PLD	**Plovdiv**	**1.30**	**129**	*i* Pg	**Pg**	**00 56 34.5**	**-1.8**
BOLS	**Boljevac**	**1.35**	**312⇓**	*i*Pn	**Pn**	**00 56 36.4**	**0.0**
BOLS				Sn	**Sn**	**00 56 55.0**	**+0.4**
MMB	**Musomiste**	**1.37**	**168**	*i* Pg	**Pg**	**00 56 37.5**	**-0.2**
CRAR	**CRAIOVA**	**1.43**	**13⇑**	*i*P	**Pn**	**00 56 37.4**	**-0.1**
CRAR				S	**Sn**	**00 56 57.2**	**+0.7**
PVL	**Pavlikeni**	**1.48**	**78**	P	**Pn**	**00 56 37.0**	**-1.3**
RZN	**Rozhen**	**1.61**	**140**	P	**Pn**	**00 56 40.0**	**0.0**
RZN				Pg	**Pg**	**00 56 42.0**	**-0.1**
RZN	**Rozhen**	**1.61**	**140**	*i* P	**Pn**	**00 56 40.0**	**0.0**
ZIMR		**1.64**	**63⇑**	*i*P	**Pn**	**00 56 41.7**	**+1.2**
ZIMR				S	**Sn**	**00 57 01.1**	**-0.7**
ZIMR		**1.64**	**63⇑**	*i*P	**Pn**	**00 56 41.7**	**+1.2**
VAY	**Valandovo**	**1.71**	**200**	*e*Pb	**Pb**	**00 56 41.7**	**-1.3**
VAY	**Valandovo**	**1.71**	**200**	*e*Pn	**Pn**	**00 56 41.5**	**0.0**
VAY				*e*Sg	**Sg**	**00 57 05.6**	**-0.8**
VAY	**Valandovo**	**1.71**	**200**	*e*Pn	**Pn**	**00 56 41.4**	**0.0**
KNT	**Kendrikon**	**1.80**	**191**	*e*Pb	**Pb**	**00 56 43.3**	**-1.2**
KNT				*e*Sb	**Sb**	**00 57 08.4**	**+1.1**
SRS	**Serrai**	**1.82**	**174**	*e*Pb	**Pb**	**00 56 43.1**	**-1.8**
SRS				*e*Sb	**Sb**	**00 57 08.9**	**+1.0**
SRS	**Serrai**	**1.82**	**174**	*e*Pb	**Pb**	**00 56 43.1**	**-1.8**
SRS				*e*Sb	**Sb**	**00 57 08.9**	**+1.0**
GRG	**Griva**	**2.10**	**200**	*e*Pn	**Pn**	**00 56 47.6**	**+0.9**
SOH	**Sokhos**	**2.11**	**180**	*e*Pn	**Pn**	**00 56 47.4**	**+0.5**
GRUS	**Gruza**	**2.14**	**297**	*i* Pn	**Pn**	**00 56 44.8**	**-2.5**
GRUS				Sn	**Sn**	**00 57 12.2**	**-1.8**
GRUS	**Gruza**	**2.14**	**297**	Pn	**Pn**	**00 56 44.8**	**-2.5**
GRUS				Sn	**Sn**	**00 57 12.2**	**-1.9**
BUC1	**Bucharest**	**2.41**	**53⇑**	*i*P	**Pn**	**00 56 52.0**	**+1.0**
BUC1	**Bucharest**	**2.41**	**53⇑**	*i*P	**Pn**	**00 56 52.0**	**+1.0**
JMB	**Yambol**	**2.43**	**100**	P	**Pn**	**00 56 50.3**	**-1.0**
JMB	**Yambol**	**2.43**	**100**	*e*Pn	**Pn**	**00 56 50.4**	**-1.0**
BIA	**Bitola**	**2.44**	**219**	*e*Pn	**Pn**	**00 56 53.6**	**+2.2**
BIA	**Bitola**	**2.44**	**219**	*e*Pn	**Pn**	**00 56 53.5**	**+2.1**
FNA	**Florina**	**2.60**	**215**	*e*Pn	**Pn**	**00 56 54.9**	**+1.2**
OUR	**Ouranopolis**	**2.64**	**169**	*e*Pn	**Pn**	**00 56 54.0**	**-0.2**
DIVS	**Divcibare**	**2.70**	**297**	*i* Pn	**Pn**	**00 56 55.7**	**+0.7**
DIVS				Sn	**Sn**	**00 57 26.1**	**-1.8**
DIVS	**Divcibare**	**2.70**	**297**	*e*Pn	**Pn**	**00 56 56.5**	**+1.4**
DIVS	**Divcibare**	**2.70**	**297**	*e*Pn	**Pn**	**00 56 56.5**	**+1.4**
DIVS				Sn	**Sn**	**00 57 26.1**	**-1.9**
VOIR		**2.79**	**26⇑**	*i*P	**Pn**	**00 56 56.0**	**-0.2**
VOIR				S	**Sn**	**00 57 30.0**	**0.0**
VOIR		**2.79**	**26⇑**	*i*P	**Pn**	**00 56 56.0**	**-0.2**
VOIR				S	**Sn**	**00 57 29.9**	**-0.1**
VOIR		**2.79**	**26⇑**	*i*P	**Pn**	**00 56 56.0**	**-0.2**
ALN	**Alexandroupoli**	**2.86**	**134**	*e*Pn	**Pn**	**00 56 57.4**	**+0.1**
PRD	**Provadia**	**2.98**	**84**	*e*P	**Pn**	**00 56 59.0**	**+0.1**
PAIG	**Paliouri**	**3.02**	**175**	*e*Pn	**Pn**	**00 56 59.3**	**0.0**
MLR	**Muntele Rosu**	**3.17**	**35⇑**	*i*P	**Pn**	**00 57 02.3**	**+0.9**
MLR	**Muntele Rosu**	**3.17**	**35⇑**	*i*P	**Pn**	**00 57 02.3**	**+0.9**
ISR	**Istrita**	**3.18**	**45**	⇑P	**Pn**	**00 57 03.0**	**+1.4**
ISR	**Istrita**	**3.18**	**45**	⇑P	**Pn**	**00 57 03.0**	**+1.5**
PLOR	**Plostina**	**3.76**	**38⇑**	*i*P	**Pn**	**00 57 11.2**	**+1.7**
PLOR				S	**Sn**	**00 57 55.6**	**+1.6**
VRI	**Vrincioaia**	**3.80**	**38⇑**	*i*P	**Pn**	**00 57 11.2**	**+1.0**
VRI	**Vrincioaia**	**3.80**	**38⇑**	*i*P	**Pn**	**00 57 11.2**	**+1.0**
TIRR	**Tirgusor**	**3.98**	**66⇑**	*i*P	**Pn**	**00 57 12.3**	**-0.3**
TIRR				S	**Sn**	**00 57 57.5**	**-1.9**
CFR	**Carcaliu**	**4.12**	**55⇑**	*i*P	**Pn**	**00 57 14.4**	**-0.1**
CFR				S	**Sn**	**00 58 01.7**	**-1.2**
CFR	**Carcaliu**	**4.12**	**55⇑**	*i*P	**Pn**	**00 57 14.4**	**-0.1**

GUC 17 01:11:53.2±0.7, 3355S×7190W, h19km±13km, MD3.5, ML2.2, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.29**	**75⇑**	*i*P	Pg	01 11 59.5	-0.1
LCCH				*i* S	Sg	01 12 04.5	+0.6
LNV	**Longovilo**	**0.58**	**135⇓**	*i*P	Pb	01 12 04.0	-0.6
LNV				*i* S	Sb	01 12 12.5	0.0
RCDM	**Rinconada Maip**	**0.92**	**87**	*e*P	Pb	01 12 09.5	-1.0
RCDM				*i* S	Sb	01 12 21.7	-0.6
RCDM				AMP		01 12 23.2	
	comp=E,154nm,0.1s						
ROCH	**El Roble**	**0.94**	**53**	*i* S	Sb	01 12 23.9	+1.0
PEL	**Peldehue**	**1.09**	**69**	*i* S	Sb	01 12 27.9	+0.5
PEL				AMP		01 12 33.4	
	comp=E,104nm,0.2s						
CHCH	**Chadas Angostu**	**1.11**	**111**	*e*P	Pn	01 12 12.5	-1.2
CHCH				*e*S	Sb	01 12 26.5	-1.3
PCH	**Pirque**	**1.16**	**94**	*e*P	Pn	01 12 13.8	-0.5
PCH				*i* S	Sb	01 12 28.7	-0.5
CACH	**El Canelo**	**1.22**	**118⇑**	*i*P	Pn	01 12 15.4	+0.1
CACH				*i* S	Sb	01 12 32.4	+1.4
FCH	**Farellones**	**1.36**	**81⇓**	*i*P	Pn	01 12 17.4	+0.2
FCH				*i* S	Sn	01 12 35.6	+0.9
FCH				AMP		01 12 40.8	
	comp=N,61nm,0.4s						
JACH	**Jahuel**	**1.40**	**52**	*i* S	Sn	01 12 35.3	-0.2
CICH	**Cipreses**	**1.45**	**122⇑**	*i*P	Pn	01 12 18.7	+0.3

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*NEIC **17** 01:29:36.9, 3745S×17938E, h12km, ML4.1(WEL), After WEL.*
WEL 17 01:29:36.5±0.3, 3734S×17945E, h33km, ML3.9/5, Error ellipse: s-maj=2.8km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.93**	**256**	PN	Pn	01 29 52.6	-0.7
MXZ				SN	Sn	01 30 05.1	-0.4
MXZ	**Matakaoa Point**	**0.93**	**256**	P	Pn	01 29 52.6	-0.7
MXZ				S	Sn	01 30 05.1	-0.4
PUZ	**Puketiti**	**1.20**	**232**	PN	Pn	01 29 56.6	-0.2
PUZ				SN	Sn	01 30 11.5	-0.5
PUZ	**Puketiti**	**1.20**	**232**	P	Pn	01 29 56.7	-0.2
PUZ				S	Sn	01 30 11.5	-0.4
MWZ	**Matawai**	**1.82**	**236**	PN	Pn	01 30 05.3	-0.1
MWZ				SN	Sn	01 30 25.8	-1.4
MWZ	**Matawai**	**1.82**	**236**	P	Pn	01 30 05.3	-0.1
MWZ				S	Sn	01 30 25.8	-1.5
URZ	**Urewera**	**2.07**	**243**	P	Pn	01 30 09.7	+0.9
KNZ	**Kokohu**	**2.19**	**219**	PN	Pn	01 30 09.8	-0.6
BKZ	**Black Stump Fm**	**2.96**	**231**	PN	Pn	01 30 20.8	-0.3
BKZ				SN	Sn	01 30 54.4	-1.0
BKZ	**Black Stump Fm**	**2.96**	**231**	*e*P	Pn	01 30 20.8	-0.3
KUZ	**Kuaotunu**	**3.04**	**280**	PN	Pn	01 30 22.0	-0.2
KUZ				*e*SN	Sn	01 30 55.9	-1.5
KUZ	**Kuaotunu**	**3.04**	**280**	*e*P	Pn	01 30 22.3	+0.1
PXZ	**Pawanui**	**3.37**	**216**	PN	Pn	01 30 24.2	-2.5
OTVZ	**Oturere**	**3.49**	**237**	PN	Pn	01 30 28.5	0.0
NGZ	**Ngauruhoe**	**3.54**	**238**	PN	Pn	01 30 29.3	+0.2
NGZ	**Ngauruhoe**	**3.54**	**238**	P	Pn	01 30 29.4	+0.3
MOVZ	**Moawhango**	**3.56**	**233**	PN	Pn	01 30 29.1	-0.3
MOVZ	**Moawhango**	**3.56**	**233**	P	Pn	01 30 29.5	+0.1
WNVZ	**Wahianoa**	**3.62**	**236**	PN	Pn	01 30 29.4	-0.8
WNVZ	**Wahianoa**	**3.62**	**236**	P	Pn	01 30 29.7	-0.5
TSZ	**Takapari Road**	**3.85**	**224**	PN	Pn	01 30 31.5	-1.8
TSZ				SN	Sn	01 31 13.3	-4.1
TSZ	**Takapari Road**	**3.85**	**224**	P	Pn	01 30 31.6	-1.8
BFZ	**Birch Farm**	**4.17**	**216**	PN	Pn	01 30 35.3	-2.5
BFZ	**Birch Farm**	**4.17**	**216**	*e*P	Pn	01 30 34.9	-2.8
WCZ	**Waipu Caves**	**4.33**	**287**	*e*PN	Pn	01 30 41.4	+1.4
WCZ	**Waipu Caves**	**4.33**	**287**	*e*P	Pn	01 30 41.6	+1.6
MRZ	**Mangatainoka R**	**4.48**	**221**	PN	Pn	01 30 39.3	-2.8
MRZ				SN	Sn	01 31 28.0	-5.0
MRZ	**Mangatainoka R**	**4.48**	**221**	P	Pn	01 30 39.4	-2.7
MTW	**Mount Morrison**	**4.89**	**218**	PN	Pn	01 30 44.3	-3.4
MTW	**Mount Morrison**	**4.89**	**218**	P	Pn	01 30 44.3	-3.4
KIW	**Kapiti Island**	**4.98**	**224**	P	Pn	01 30 46.1	-2.8
CAW	**Cannon Point**	**5.07**	**221**	P	Pn	01 30 46.7	-3.5
OUZ	**Omahuta**	**5.17**	**292**	PN	Pn	01 30 53.9	+2.3
OUZ	**Omahuta**	**5.17**	**292**	*e*P	Pn	01 30 52.6	+1.0
TCW	**Tory Channel**	**5.57**	**224**	P	Pn	01 30 53.9	-3.1
NNZ	**Nelson**	**6.10**	**229**	*e*P	Pn	01 31 02.5	-1.7
THZ	**Tophouse**	**6.71**	**227**	*e*P	Pn	01 31 09.6	-3.1

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*LDG **17** 02:15:14.4±0.3, 1339S×16766E, h130km, Mb4.3/2, Error ellipse: s-maj=58.1km s-min=7.9km az=92.0*
*ISCJB **17** 02:15:21.1±2.9, 138S±02×1670E±02, h205km±33km, mb4.0/10, Error ellipse: s-maj=37.7km s-min=16.7km az=75.9*
*NEIC **17** 02:15:22.3±2.3, 1397S×16718E, h209km±23km, mb4.3/5, Error ellipse: s-maj=23.5km s-min=12.8km az=160.0*
*IDC **17** 02:15:23.2±2.5, 1396S×16708E, h213km±24km, mb3.8/8, mb1 3.9/9, mb1mx3.8/16, mbtmp4.3/9, Error ellipse: s-maj=30.9km s-min=14.6km az=139.0*
ISC 17 02:15:23.0±2.6, 139S±02×1672E±02, h218km±31km, n54, σ0°58/18, mb4.0/10, 5C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.12**	**185**	P	**Pn**	**02 17 17.0**	**-0.7**
	1.3nm,0.3s,baz=8.2,slow=18,SNR=9.9						
DZM				S	**S**	**02 18 50.2**	**+0.7**
	0.9nm,0.3s,baz=345,slow=20,SNR=2.2						
CTA	**Charters Tower**	**20.94**	**250**	*e*P	**P**	**02 19 49.4**	**+0.4**
	7.4nm,0.8s						
CTA	**Charters Tower**	**20.94**	**250**	P	**P**	**02 19 48.8**	**-0.2**
	7.9nm,0.7s,baz=86,slow=12,SNR=9.8						
CTAO	**Charters Tower**	**20.94**	**250**	*e*P	**P**	**02 19 49.3**	**+0.2**
	12nm,0.8s						
STKA	**Stephens Creek**	**29.47**	**228**	*e*P	**P**	**02 21 06.0**	**-0.5**
	5.7nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**29.47**	**228**	P	**P**	**02 21 06.2**	**-0.3**
	6.3nm,0.4s,mb4.6,baz=52,slow=8.4,SNR=32						
STKA	**Stephens Creek**	**29.47**	**228**	*e*P	**P**	**02 21 05.9**	**-0.6**
WRA	**Warramunga Arr**	**31.97**	**255**	P	**P**	**02 21 28.1**	**-0.5**
	0.6nm,0.5s,mb3.4,baz=85,slow=9.5,SNR=7.2						
ASAR	**Alice Springs**	**32.91**	**248**	P	**P**	**02 21 36.4**	**-0.3**
	1.9nm,0.5s,mb3.9,baz=76,slow=9.4,SNR=26						
ASAR				S	**S**	**02 26 37.9**	**-0.1**
	1.5nm,1.0s,baz=84,slow=16,SNR=7.0						
FORT	**Forrest**	**39.66**	**238**	*e*P	**P**	**02 22 33.8**	**+0.1**
	7.7nm,0.5s,mb4.4						
ULN	**Ulaanbaatar**	**81.47**	**324**	*e*P	**P**	**02 27 16.5**	**+0.7**
	2.6nm,0.9s,mb3.9						
BILL	**Bilibino**	**81.76**	**360**	*e*P	**P**	**02 27 17.0**	**-0.3**
	3.5nm,0.8s,mb4.0						
SONM	**Songino Array**	**81.84**	**324**	P	**P**	**02 27 18.6**	**+0.9**
	0.3nm,0.3s,mb3.4,baz=131,slow=4.2,SNR=7.0						
ILAR	**Eielson Array**	**85.80**	**18**	P	**P**	**02 27 37.1**	**-0.6**
	0.7nm,0.7s,mb3.5,baz=239,slow=5.0,SNR=14						
MKAR	**Makanchi Array**	**96.60**	**316**	P	**P**	**02 28 28.9**	**+1.0**
	1.7nm,0.8s,mb4.3,baz=114,slow=6.0,SNR=18						
ZAL	**Zalesovo**	**96.74**	**324**	P	**P**	**02 28 28.0**	**-0.6**
	1.0nm,0.6s,mb4.3,baz=346,slow=6.5,SNR=4.5						
ARCES	**ARCESS Array B**	**119.48**	**346**	PKP	PKPdf	02 33 46.8	+0.3
	5.2nm,1.1s,baz=50,slow=1.7,SNR=15						
FINES	**FINESS Array B**	**124.98**	**338**	PKP	PKPdf	02 33 57.8	+0.8
	0.2nm,0.3s,baz=80,slow=2.1,SNR=7.0						
NOA	**NORSAR Array B**	**129.86**	**345**	PKP	PKPdf	02 34 06.3	0.0
	0.5nm,0.6s,baz=29,slow=1.9,SNR=3.4						
AKASG	**Malin Array Be**	**130.06**	**326**	PKP	PKPdf	02 34 07.4	+0.7
	0.2nm,0.3s,baz=66,slow=1.4,SNR=4.0						
GERES	**GERESS Array B**	**138.92**	**333**	PKP	PKPdf	02 34 24.7	+1.4
	0.7nm,1.0s,baz=27,slow=0.6,SNR=3.5						
GIVF	**Givet**	**141.18**	**342**	*e*PKP1	PKPdf	02 34 28.3	+1.0
CDF	**Champ du Feu**	**141.83**	**338**	*e*PKP1	PKPdf	02 34 29.2	+0.7
	12nm,1.1s						
HINF	**Hinterlaifeld**	**142.49**	**338**	*e*PKP1	PKPdf	02 34 30.9	+1.2
HAU	**Haudompre**	**142.51**	**339**	*e*PKP1	PKPdf	02 34 31.0	+1.3
CABF	**La Chapelle**	**143.78**	**338**	*e*PKP1	PKPdf	02 34 32.2	+0.2
	8.4nm,0.9s						
LOR	**Lormes**	**143.98**	**341**	*e*PKP1	PKPdf	02 34 32.9	+0.6
GRR	**Gorron**	**144.26**	**346**	*e*PKP1	PKPdf	02 34 32.3	-0.5
	8.3nm,0.7s						
SSF	**Saint Saulge**	**144.28**	**341**	*e*PKP1	PKPdf	02 34 32.9	+0.1
	9.5nm,0.9s						
LPL	**La Plagne**	**144.46**	**336**	*e*PKP1	PKPdf	02 34 34.0	+0.9
	4.4nm,0.7s						
LPG	**La Plagne**	**144.47**	**336**	*e*PKP1	PKPdf	02 34 34.1	+1.0
	6.5nm,0.7s						
SMF	**Signal de Mont**	**144.54**	**340**	*e*PKP1	PKPdf	02 34 33.5	+0.2
	49nm,1.3s						
AVF	**Avril sur Loir**	**144.57**	**341**	*e*PKP1	PKPdf	02 34 33.5	+0.2
	11nm,0.9s						
ROSF	**Rostrenen**	**144.81**	**349**	*e*PKP1

ANTU			AMP			02 16 53.9
	comp=E,748nm,0.3s					
ANTU	**Antumapu**	**1.10 207**	⇓*i*P	Pn	02 16 34.7	+0.5
ANTU			*i* S	Sn	02 16 52.2	+1.3
PCH	**Pirque**	**1.10 202**	⇓*i*P	Pn	02 16 34.9	+0.6
PCH			*i* S	Sn	02 16 52.4	+1.3
RCDM	**Rinconada Maip**	**1.11 216**	⇑*i*P	Pn	02 16 34.8	+0.5
RCDM			*i* S	Sn	02 16 52.3	+1.2
RCDM			AMP		02 16 52.8	
	comp=N,1μm,0.2s					
PACH	**Papudo**	**1.19 272**	⇑*i*P	Pn	02 16 35.3	+0.1
LMEL	**Las Melosas**	**1.26 187**	⇓*i*P	Pn	02 16 36.9	+0.9
LMEL			*i* S	Sn	02 16 58.3	+4.2
LMEL			AMP		02 17 02.1	
	comp=N,360nm,0.1s					
LMEL	**Las Melosas**	**1.26 187**	⇓*i*P	Pn	02 16 36.9	+0.9
LMEL			S	Sn	02 16 58.3	+4.2
TACH	**Talagante**	**1.30 216**	⇓*i*P	Pn	02 16 36.8	+0.3
TACH			*i* S	Sn	02 16 55.9	+0.9
CHNG	**Los Chungos**	**1.43 299**	⇓*i*P	Pn	02 16 38.3	+0.4
CHNG			*i* S	Sn	02 16 58.3	+0.6
CHNG			AMP		02 17 02.6	
	comp=E,233nm,0.6s					
CHCH	**Chadas Angostu**	**1.44 201**	⇑*i*P	Pn	02 16 38.9	+0.9
CHCH			*i* S	Sn	02 16 58.4	+0.6
LCCH	**Las Cruces**	**1.57 235**	⇑*i*P	Pn	02 16 39.8	+0.3
LCCH			*i* S	Sn	02 17 00.5	0.0
CACH	**El Canelo**	**1.59 197**	⇓*i*P	Pn	02 16 41.2	+1.3
CACH			*i* S	Sn	02 17 03.4	+2.3
CMCH	**Combarbala**	**1.64 329**	⇓*i*P	Pn	02 16 41.0	+0.5
CMCH			*i* S	Sn	02 17 03.2	+1.1
CMCH			AMP		02 17 05.6	
	comp=E,2μm,0.5s					
CMCH	**Combarbala**	**1.64 329**	⇓*i*P	Pn	02 16 41.0	+0.5
CMCH			*i* S	Sn	02 17 03.2	+1.1
CICH	**Cipreses**	**1.75 191**	⇓*i*P	Pn	02 16 43.3	+1.4
LNV	**Longovilo**	**1.79 220**	⇓*i*P	Pn	02 16 42.0	-0.3
LNV			*i* S	Sn	02 17 04.6	-0.7
SFDO	**San Fernando**	**2.18 202**	*e*P	Pn	02 16 47.4	+0.2
SFDO			*i* S	Sn	02 17 14.0	-0.2

MOS ***17*** *02:47:10.0±1.8, 3535N×2196E, h10km, mb4.0/3, Error ellipse: s-maj=11.2km s-min=5.5km az=86.7*
ISCJB ***17*** *02:47:13.2±0.4, 3527N±003×2188E±004, h56km±5km, mb3.9/16, Error ellipse: s-maj=6.9km s-min=3.0km az=112.9*
NEIC ***17*** *02:47:13.9, 3544N×2213E, h18km, mb3.7/3, ML3.9(ATH), After ATH.*
ATH ***17*** *02:47:13.9, 3544N×2213E, h18km±1km, MD3.9/24, ML3.9*
CSEM ***17*** *02:47:14.9±0.1, 3535N×2195E, h60km, mb3.7/3, Error ellipse: s-maj=3.0km s-min=1.5km az=58.0*
HLW ***17*** *02:47:15.2, 3573N×2271E, h23km, Mb3.9*
THE ***17*** *02:47:16.7, 3547N×2204E, h20km, ML3.7*
IDC ***17*** *02:47:18.5±1.9, 3557N×2226E, h51km±19km, mb3.6/12, mb1 3.7/16, mb1mx3.6/30, mbtmp3.8/16, ML3.4/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/27, Error ellipse: s-maj=20.6km s-min=12.6km az=175.0*

ISC 17 02:47:15.4±0.4, 3531N±003×2196E±004, h44km±5km, n138, σ1§22/148, mb3.9/16, 17C-12D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.30**	**42**	*e*PN	**Pn**	**02 47 35.5**	**-1.6**
VLI	**Veliai**	**1.61**	**29**	*e*PN	**Pn**	**02 47 40.9**	**-0.4**
VLI				*e*SN	**Sn**	**02 48 00.5**	**-0.4**
GVD	**Gavdhos**	**1.81**	**105**	*e*PN	**Pn**	**02 47 44.6**	**+0.6**
GVD	**Gavdhos**	**1.81**	**105**	*e*Pb	**Pn**	**02 47 45.0**	**+1.0**
VAM	**Vamos**	**1.83**	**86**	*e*PN	**Pn**	**02 47 45.0**	**+0.6**
VAM				*e*SN	**Sn**	**02 48 07.4**	**+1.1**
ITM	**Ithomi**	**1.86**	**359**	*e*PN	**Pn**	**02 47 45.9**	**+1.1**
ITM				*e*SN	**Sn**	**02 48 08.5**	**+1.4**
SIVA	**Sivas**	**2.35**	**96**	*e*Pn	**Pn**	**02 47 52.8**	**+1.3**
IDI	**Anoyia**	**2.39**	**90**	P	**Pn**	**02 47 52.8**	**+0.7**
	9.8nm,0.3s,baz=275,slow=15,SNR=63						
IDI				S	**Sn**	**02 48 22.3**	**+2.1**
	27nm,0.3s,baz=297,slow=18,SNR=6.2						
NAIG	**Nisos Aigina**	**2.73**	**26**	*e*PN	**Pn**	**02 47 57.0**	**+0.3**
RLS	**Riolos of Patr**	**2.77**	**352**	*e*PB	**Pn**	**02 47 59.3**	**+2.1**
MGER	**Gerania Oros**	**2.87**	**21**	*e*PN	**Pn**	**02 47 59.0**	**+0.4**
LAST	**Lasithi**	**2.88**	**92**	*e*Pn	**Pn**	**02 48 00.1**	**+1.3**
KVR	**Kavouri**	**2.90**	**30**	*e*PN	**Pn**	**02 47 59.0**	**-0.1**
NPS	**Neapolis**	**2.99**	**90**	*e*PN	**Pn**	**02 48 00.8**	**+0.6**
ATH	**Athens Observa**	**3.01**	**27**	*e*PN	**Pn**	**02 48 00.5**	**0.0**
SANT	**Santorini**	**3.03**	**69**	*e*Pn	**Pn**	**02 47 59.7**	**-1.1**
SANT	**Santorini**	**3.03**	**69**	*e*Pn	**Pn**	**02 47 59.7**	**-1.1**
THR1	**Thera Island**	**3.03**	**69**	*e*Pn	**Pn**	**02 48 00.4**	**-0.4**
VLS	**Valsamata**	**3.06**	**339**	*e*PN	**Pn**	**02 48 02.8**	**+1.5**
XRY	**Khrisi**	**3.09**	**97**	*e*PN	**Pn**	**02 48 03.0**	**+1.3**
PTL	**Penteli**	**3.13**	**29**	*e*PN	**Pn**	**02 48 02.3**	**+0.1**
MPAR	**Parnis Oros**	**3.17**	**26**	*e*PN	**Pn**	**02 48 03.0**	**+0.2**
APE	**Apeiranthos**	**3.38**	**58**	*e*PN	**Pn**	**02 48 05.5**	**-0.1**
LKR	**Lokris**	**3.43**	**14**	*e*PN	**Pn**	**02 48 06.5**	**+0.1**
EVR	**Evrytania**	**3.60**	**358**	*e*PN	**Pn**	**02 48 10.8**	**+2.2**
AGG	**Agios Georgios**	**3.71**	**4**	*e*Pn	**Pn**	**02 48 10.9**	**+0.7**
NEO	**Neokhori**	**4.11**	**14**	*e*PN	**Pn**	**02 48 16.5**	**+0.8**
XOR	**Xorichti**	**4.16**	**13**	*e*Pn	**Pn**	**02 48 16.4**	**0.0**
KARP	**Karpathos**	**4.25**	**85**	*e*PN	**Pn**	**02 48 18.0**	**+0.4**
IGT	**Igoumenitsa**	**4.41**	**343**	*e*PN	**Pn**	**02 48 20.1**	**+0.4**
JAN	**Janina**	**4.43**	**349**	*e*PN	**Pn**	**02 48 21.0**	**+1.0**
SLUM		**4.68**	**144**	⇑P	**Pn**	**02 48 24.0**	**+0.5**
SLUM				S	**Sn**	**02 49 15.1**	**-1.4**
KEK	**Kerkira**	**4.72**	**339**	*e*PN	**Pn**	**02 48 26.0**	**+2.0**
LIT	**Litokhoron**	**4.80**	**5**	*e*Pn	**Pn**	**02 48 25.4**	**+0.3**
PAIG	**Paliouri**	**4.80**	**16**	*e*Pn	**Pn**	**02 48 25.2**	**+0.1**
KZN	**Kozani**	**4.99**	**358**	*e*PN	**Pn**	**02 48 29.5**	**+1.8**
PLG	**Polygyros**	**5.19**	**13**	*e*PN	**Pn**	**02 48 30.5**	**+0.1**
OUR	**Ouranopolis**	**5.26**	**17**	*e*Pn	**Pn**	**02 48 31.4**	**-0.1**
FNA	**Florina**	**5.48**	**355**	*e*Pn	**Pn**	**02 48 35.1**	**+0.7**
SOH	**Sokhos**	**5.61**	**11**	*e*Pn	**Pn**	**02 48 36.3**	**0.0**
GRG	**Griva**	**5.65**	**3**	*e*Pn	**Pn**	**02 48 36.9**	**+0.2**
TIP	**Timpagrande**	**5.67**	**314**	*e*Pn	**Pn**	**02 48 38.3**	**+1.3**
TIP	**Timpagrande**	**5.67**	**314**	*e*Pn	**Pn**	**02 48 38.3**	**+1.2**
BIA	**Bitola**	**5.72**	**355**	*e*Pn	**Pn**	**02 48 37.8**	**+0.1**
BIA	**Bitola**	**5.72**	**355**	*e*Pn	**Pn**	**02 48 37.7**	**-0.1**
OHR	**Ohrid**	**5.86**	**351**	*e*Pn	**Pn**	**02 48 39.9**	**+0.2**
OHR	**Ohrid**	**5.86**	**351**	*e*Pn	**Pn**	**02 48 39.6**	**-0.1**
KNT	**Kendrikon**	**5.89**	**7**	*e*PN	**Pn**	**02 48 40.5**	**+0.4**
SRS	**Serrai**	**5.94**	**12**	*e*Pn	**Pn**	**02 48 40.2**	**-0.5**
HMAT	**Matruh**	**6.02**	**133**	⇓P	**Pn**	**02 48 40.8**	**-1.1**
HMAT				S	**Sn**	**02 49 42.9**	**-6.5**
VAY	**Valandovo**	**6.02**	**4**	*e*Pn	**Pn**	**02 48 41.3**	**-0.5**
VAY	**Valandovo**	**6.02**	**4**	*e*Pn	**Pn**	**02 48 41.2**	**-0.6**
TIR	**Tirane**	**6.25**	**345**	*e*Pn	**Pn**	**02 48 45.3**	**+0.4**
STIP	**Stip**	**6.37**	**2**	*e*Pn	**Pn**	**02 48 46.8**	**+0.1**
VAE	**Valguarnera**	**6.46**	**292**	P	**Pn**	**02 48 51.9**	**+4.0**
	2.7nm,0.3s,baz=256,slow=2.8,SNR=12						
VAE				S	**Sn**	**02 50 09.2**	**+8.8**
	2.0nm,0.3s,baz=340,slow=24,SNR=2.9						
PE1	**Pezze di Greco**	**6.55**	**328**	*e*Pn	**Pn**	**02 48 49.2**	**+0.1**
SKO	**Skopje**	**6.66**	**357**	*e*PN	**Pn**	**02 48 50.8**	**+0.1**
SKO	**Skopje**	**6.66**	**357**	*e*Pn	**Pn**	**02 48 50.7**	**0.0**
SWA2		**6.74**	**153**	⇑P	**Pn**	**02 48 53.9**	**+2.2**
SWA2				S	**Sn**	**02 50 06.4**	**-0.7**
SWA1		**6.81**	**151**	⇑P	**Pn**	**02 48 55.2**	**+2.5**
SWA1				S	**Sn**	**02 50 07.6**	**-1.4**
SWA1		**6.81**	**151**	P	**Pn**	**02 48 55.2**	**+2.4**
SG1	**Sgolgore (BA)**	**6.91**	**325**	*e*Pn	**Pn**	**02 48 54.7**	**+0.6**
BAI	**Bari**	**7.03**	**327**	*e*Pn	**Pn**	**02 48 55.7**	**-0.1**
STON	**Ston**	**8.24**	**338**	*i* Pn	**Pn**	**02 49 10.1**	**-2.3**
STON				*i* Sn	**Sn**	**02 50 38.5**	**-5.7**
GRUS	**Gruza**	**8.62**	**354**	*i* P	**Pn**	**02 49 15.2**	**-2.3**
DIVS	**Divcibare**	**8.90**	**351**	*i* P	**Pn**	**02 49 19.4**	**-2.0**
AWBH		**9.13**	**138**	⇓P	**Pn**	**02 49 24.4**	**-0.1**
HFRF	**Wahat Farafira**	**9.78**	**145**	⇓P	**Pn**	**02 49 34.4**	**+1.0**
HSAF	**As Saff**	**9.89**	**122**	⇓P	**Pn**	**02 49 32.7**	**-2.2**
GLL	**Jalalah**	**10.02**	**122**	⇑P	**Pn**	**02 49 34.5**	**-2.2**
BRTR	**Keskin Array B**	**10.27**	**61**	P	**Pn**	**02 49 39.0**	**-1.0**
	0.2nm,0.3s,baz=243,slow=16,SNR=6.3						
BZS	**Buzias**	**10.30**	**359**	⇑P	**Pn**	**02 49 37.6**	**-2.9**
BZS	**Buzias**	**10.30**	**359**	⇑P	**Pn**	**02 49 37.6**	**-2.9**
AMAG	**Maghara**	**10.53**	**113**	⇓P	**Pn**	**02 49 39.5**	**-4.1**
MLR	**Muntele Rosu**	**10.61**	**15**	P	**Pn**	**02 49 44.2**	**-0.6**
	0.1nm,0.3s,baz=131,slow=17,SNR=2.8						
MLR	**Muntele Rosu**	**10.61**	**15**	P	**Pn**	**02 49 45.8**	**+1.1**
MLR	**Muntele Rosu**	**10.61**	**15**	⇑P	**Pn**	**02 49 45.8**	**+1.0**
SUZ		**10.67**	**118**	⇑P	**Pn**	**02 49 42.4**	**-3.2**
ASUT		**11.38**	**131**	⇑P	**Pn**	**02 49 54.6**	**-0.7**
BOJS	**Bojanci**	**11.39**	**335**	*i* Pn	**Pn**	**02 49 54.6**	**-0.8**
BOJS				*e*Sn	**Sn**	**02 51 53.9**	**-7.3**
DRGR		**11.48**	**3**	⇑P	**Pn**	**02 49 55.7**	**-1.0**
DRGR		**11.48**	**3**	⇑P	**Pn**	**02 49 55.7**	**-1.0**
CRES	**Cresnjev**	**11.60**	**337**	*i* Pn	**Pn**	**02 49 56.6**	**-1.7**
HDK1	**Dakhla**	**11.66**	**145**	⇓P	**Pn**	**02 49 59.5**	**+0.5**
VISS	**Visnje**	**11.79**	**335**	*i* Pn	**Pn**	**02 50 00.5**	**-0.4**
TR2		**12.14**	**121**	⇓P	**Pn**	**02 50 03.7**	**-2.1**
GROS	**Grobnik**	**12.16**	**338**	*i* Pn	**Pn**	**02 50 03.8**	**-2.1**
AKRG	**Al Kharijah**	**12.23**	**141**	⇓P	**Pn**	**02 50 07.8**	**+0.8**
HKAT	**Jabal Katrina**	**12.25**	**120**	⇑P	**Pn**	**02 50 04.8**	**-2.4**
GTR	**Jabal at Tayr**	**12.26**	**141**	⇑P	**Pn**	**02 50 08.7**	**+1.3**
VOY	**Vojsko**	**12.33**	**333**	*e*Pn	**Pn**	**02 50 08.4**	**+0.2**
VOY				*e*		02 52 16.0	
VOY				*e*		02 52 20.3	
PERS	**Pernice**	**12.43**	**338**	*i* Pn	**Pn**	**02 50 07.3**	**-2.3**
OBKA	**Obir**	**12.50**	**336**	⇑*i*P	**Pn**	**02 50 09.8**	**-0.8**
	comp=Z,4.0nm,0.5s						
PSZ	**Piszkesteto**	**12.69**	**354**	*e*P	**Pn**	**02 50 11.4**	**-1.8**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PSZ	**Piszkesteto**	**12.69**	**354**	*e*Pn	**Pn**	**02 50 11.4**	**-1.8**
	comp=Z,3.9nm,0.5s						
ARSA	**Arzberg**	**12.87**	**340**	⇓*i*P	**Pn**	**02 50 13.7**	**-1.9**
	comp=Z,2.5nm,0.5s						
KECS	**Kecovo**	**13.21**	**356**	*e*PG	**Pn**	**02 50 18.6**	**-1.6**
KECS				*e*SG		02 50 26.7	
KBA	**Koelnbreinsper**	**13.41**	**334**	⇑*i*P	**Pn**	**02 50 24.0**	**+0.9**
	comp=Z,2.8nm,0.5s						
MOA	**Molln**	**13.78**	**338**	⇓*i*P	**Pn**	**02 50 26.4**	**-1.6**
	comp=Z,5.0nm,0.6s						
GERES	**GERESS Array B**	**14.83**	**338**	P	**Pn**	**02 50 39.8**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=157,slow=14,SNR=8.3						
DAVA	**Damuels**	**15.00**	**327**	⇓*i*P	**Pn**	**02 50 47.7**	**+3.4**
	comp=Z,2.6nm,0.5s						
DAVA	**Damuels**	**15.00**	**327**	⇓*i*P	**Pn**	**02 50 47.7**	**+3.4**
KHC	**Kasperske Hory**	**15.13**	**338**	*e*P	**Pn**	**02 50 43.5**	**-2.5**
KHC				*e*pP	pP	02 50 53.0	-8.0
AKASG	**Malin Array Be**	**16.26**	**17**	P	**Pn**	**02 50 56.9**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=206,slow=12,SNR=3.6						
GNI	**Garni**	**18.64**	**68**	LR	LR	02 59 40.6	
	comp=Z,30nm,19.8s,baz=138,slow=40						
DOU	**Dourbes**	**19.45**	**325**	⇑P	**Pn**	**02 51 41.9**	**+2.2**
SNF	**Seneffe**	**19.88**	**325**	⇑P	**Pn**	**02 51 46.7**	**+1.9**
ESDC	**Sonseca Array**	**21.00**	**290**	P	**P**	**02 51 59.7**	**+4.7**
	comp=Z,2.6nm,0.5s,baz=78,slow=9.1,SNR=22						
MDT	**Midelt**	**22.14**	**271**	P	**P**	**02 52 12.7**	**+5.6**
	comp=Z,1.9nm,0.8s,mb3.6,baz=87,slow=9.4,SNR=3.6						
HFS	**Hagfors**	**25.41**	**350**	P	**P**	**02 52 39.3**	**+0.7**
	comp=Z,1.9nm,0.4s,mb4.0,baz=161,slow=9.4,SNR=22						
HFS	**Hagfors**	**25.41**	**350**	P	**P**	**02 52 39.3**	**+0.6**
FINES	**FINESS Array B**	**26.28**	**4**	P	**P**	**02 52 46.2**	**-0.4**
	comp=Z,0.9nm,0.5s,mb3.6,baz=175,slow=12,SNR=8.3						
FINES	**FINESS Array B**	**26.28**	**4**	P	**P**	**02 52 46.2**	**-0.4**
EKA	**Eskdalemuir Ar**	**26.45**	**327**	P	**P**	**02 52 48.4**	**+0.3**
	comp=Z,4.0nm,0.7s,mb4.1,baz=129,slow=8.6,SNR=13						
NB2	**NORSAR Subarra**	**26.65**	**348**	P	**P**	**02 52 50.5**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.3,baz=160,slow=9.3						
NB2	**NORSAR Subarra**	**26.65**	**348**	P	**P**	**02 52 50.5**	**+0.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
NOA	**NORSAR Array B**	**26.65**	**348**	P	**P**	**02 52 50.7**	**+0.8**
	comp=Z,0.5nm,0.4s,mb3.4,baz=152,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**28.67**	**225**	P	**P**	**02 53 13.7**	**+5.7**
	comp=Z,0.6nm,0.6s,mb3.5,baz=33,slow=7.7,SNR=11						
AKTK	**Aktyubinsk**	**30.09**	**49**	P	**P**	**02 53 17.9**	**-2.6**
AKTO	**Aktyubinsk**	**30.09**	**49**	P	**P**	**02 53 17.9**	**-2.6**
	comp=Z,0.4nm,0.4s,mb3.5,baz=248,slow=5.4,SNR=3.6						
ARCES	**ARCESS Array B**	**34.33**	**2**	P	**P**	**02 53 57.8**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.2,baz=187,slow=8.6,SNR=21						
ZRNK	**Zerenda**	**37.31**	**47**	P	**P**	**02 54 22.8**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
ZRNK	**Zerenda**	**37.31**	**47**	P	**P**	**02 54 22.8**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.7						
ZRNK	**Zerenda**	**37.31**	**47**	P	**P**	**02 54 22.8**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.7						
BRVK	**Borovoye**	**38.09**	**47**	P	**P**	**02 54 28.3**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
BRVK	**Borovoye**	**38.09**	**47**	P	**P**	**02 54 28.3**	**-1.5**
	comp=Z,1.1nm,0.8s,mb3.6						
MKAR	**Makanchi Array**	**45.87**	**56**	P	**P**	**02 55 33.1**	**-0.1**
	comp=Z,1.7nm,0.5s,mb4.2,baz=274,slow=7.4,SNR=28						
KOLN	**Koldanda**	**52.34**	**80**	*e*P	**P**	**02 56 23.4**	**+0.7**
	comp=Z,6.5nm,1.0s,mb4.5						
GKN	**Gorkha**	**53.08**	**79**	*e*P	**P**	**02 56 29.0**	**+0.8**
	comp=Z,10.0nm,0.6s,mb4.9						
DMN	**Daman**	**53.62**	**80**	*e*P	**P**	**02 56 32.3**	**+0.1**
	comp=Z,11nm,0.7s,mb4.9						
KKN	**Kakani**	**53.68**	**79**	*e*P	**P**	**02 56 32.2**	**-0.4**
PKI	**Pulchoki**	**53.88**	**79**	*e*P	**P**	**02 56 34.9**	**+0.8**
GUN	**Gumba**	**54.11**	**79**	*e*P	**P**	**02 56 36.8**	**+1.0**
JIRN	**Jiri**	**54.47**	**79**	*e*P	**P**	**02 56 39.2**	**+0.8**
SONM	**Songino Array**	**61.40**	**50**	P	**P**	**02 57 26.9**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.6,baz=286,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**76.47**	**341**	P	**P**	**02 59 02.4**	**+1.9**
	comp=Z,0.2nm,0.4s,mb3.4,baz=30,slow=5.4,SNR=3.8						
YKA	**Yellowknife Ar**	**76.47**	**341**	P	**P**	**02 59 02.4**	**+1.9**
YKA	**Yellowknife Ar**	**76.47**	**341**	P	**P**	**02 59 02.4**	**+1.9**

ISC 17 02:49:52.8±1.2, 3786N±004×2679E±009, h10km, n6, σ0§81/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.52**	**343**	*i* P	**Pg**	**02 50 02.9**	**-0.1**
URLA				*i* S	**Sg**	**02 50 10.1**	**+0.1**
IZM	**Izmir**	**0.65**	**34**	PG	**Pg**	**02 50 04.7**	**-0.8**
IZM				SG	**Sg**	**02 50 13.6**	**-0.4**
KDAG	**Bornova**	**0.66**	**34**	*i* P	**Pg**	**02 50 04.9**	**-0.7**
KDAG				*i* S	**Sg**	**02 50 14.9**	**+0.7**
BODT	**Bodrum**	**0.90**	**152**	*e*PG	**Pg**	**02 50 10.7**	**+0.6**
MLSB	**Milas**	**0.96**	**125**	*e*PG	**Pg**	**02 50 10.1**	**-1.3**
MANT	**Manisa**	**1.53**	**65**	*i* P	**Pn**	**02 50 21.9**	**+1.7**
MANT				*i* S	**Sn**	**02 50 40.3**	**+0.2**

ATH ***17*** *02:58:26.8, 3912N×2424E, h35km±3km, MD2.7/6*
NEIC ***17*** *02:58:26.4, 3919N×2426E, h42km, MD2.7(ATH), After ATH.*
ISCJB ***17*** *02:58:27.6±1.2, 3912N±005×2423E±008, h26km±12km, Error ellipse: s-maj=10.6km s-min=7.9km az=9.2*
CSEM ***17*** *02:58:27.4±0.1, 3910N×2419E, h20km, MD2.7, Error ellipse: s-maj=3.7km s-min=2.2km az=100.0*
THE ***17*** *02:58:28.1, 3914N×2421E, h18km, ML2.3*

ISC 17 02:58:27.6±1.3, 3912N±005×2422E±008, h22km±13km, n12, σ0§36/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.80**	**284**	*e*PN	**Pn**	**02 58 42.5**	**-1.0**
NEO				*e*SN	**Sn**	**02 58 54.5**	**-0.2**
XOR	**Xorichti**	**0.84**	**288**	*e*Pg	**Pb**	**02 58 43.3**	**-0.1**
PAIG	**Paliouri**	**0.91**	**333**	*e*Pg	**Pb**	**02 58 44.4**	**-0.3**
PAIG				*e*Sg	**Sb**	**02 58 57.0**	**+0.6**
MPAR	**Parnis Oros**	**1.04**	**202**	*e*PN	**Pn**	**02 58 46.8**	**+0.1**
MPAR				*e*SN	**Sn**	**02 59 00.5**	**0.0**
LOS	**Limnos**	**1.05**	**39**	*e*Pg	**Pn**	**02 58 47.0**	**+0.1**
LKR	**Lokris**	**1.06**	**244**	*e*PN	**Pn**	**02 58 46.9**	**-0.2**
LKR				*e*SN	**Sn**	**02 59 01.8**	**+0.6**
PTL	**Penteli**	**1.10**	**195**	*e*PN	**Pn**	**02 58 47.5**	**-0.1**
OUR	**Ouranopolis**	**1.23**	**351**	*e*Pg	**Pn**	**02 58 49.3**	**-0.1**
KVR	**Kavouri**	**1.33**	**196**	*e*PN	**Pn**	**02 58 51.0**	**+0.2**
NAIG	**Nisos Aigina**	**1.47**	**203**	*e*PN	**Pn**	**02 58 53.0**	**+0.2**
AGG	**Agios Georgios**	**1.48**	**267**	*e*Pg	**Pn**	**02 58 52.8**	**0.0**
SRS	**Serrai**	**2.06**	**347**	*e*Pn	**Pn**	**02 59 01.1**	**+0.3**

IDC 17 03:02:43.6±9.2, 4882N×14860E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=241.2km s-min=42.4km az=168.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.31**	**293**	P	P	03 10 47.1	0.0
	0.2nm,0.5s,baz=60,slow=6.8,SNR=3.7						
YKA	**Yellowknife Ar**	**51.08**	**36**	P	P	03 11 47.4	-0.3
	0.3nm,0.7s,baz=296,slow=7.4,SNR=5.0						
FINES	**FINESS Array B**	**60.83**	**332**	P	P	03 12 56.4	-1.2
	0.6nm,0.8s,baz=54,slow=7.1,SNR=4.2						

IDC 17 03:24:36.8±2.2, 551S×13062E, h0km, mb4.0/1, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, ML4.0/3, MS3.4/1, Ms1 3.3/1, ms1mx2.4/16, Error ellipse: s-maj=94.6km s-min=27.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.43**	**201**	Pn	Pn	03 27 49.0	+0.5
	0.2nm,0.3s,baz=66,slow=18,SNR=3.0						
FITZ				Sn	Sn	03 30 03.9	-15
	0.7nm,0.3s,baz=138,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**14.79**	**166**	Pn	Pn	03 28 08.1	+1.0
	0.8nm,0.3s,baz=349,slow=13,SNR=16						
WRA				Sn	Sn	03 30 38.0	-14
	0.7nm,0.3s,baz=332,slow=24,SNR=7.6						
ASAR	**Alice Springs**	**18.32**	**170**	P	Pn	03 28 51.8	-0.6
	1.1nm,0.3s,baz=351,slow=10.0,SNR=55						
ASAR				S	Sn	03 32 01.1	-16
	0.2nm,0.3s,baz=357,slow=28,SNR=4.9						
STKA	**Stephens Creek**	**28.17**	**160**	LR	LR	03 42 48.3	
	comp=Z,75nm,18.2s,baz=206,slow=39						
MKAR	**Makanchi Array**	**67.33**	**326**	P	P	03 35 33.8	+0.2
	0.7nm,0.4s,baz=125,slow=8.0,SNR=13						

IDC 17 03:40:12.0±2.0, 2050S×6908W, h84km±9km, mb3.4/2, mb1 3.6/4, mb1mx3.3/16, mbtmp3.7/4, Error ellipse: s-maj=49.1km s-min=33.1km az=4.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.28**	**12**	P	Pn	03 41 15.8	+1.0
	0.7nm,0.3s,baz=184,slow=8.5,SNR=26						
SIV	**San Ignacio**	**8.82**	**61**	P	Pn	03 42 16.6	-0.1
	1.0nm,0.3s,baz=263,slow=9.6,SNR=28						
SIV				sP		03 42 38.8	
	1.0nm,0.3s,baz=252,slow=9.8,SNR=7.2						
NVAR	**Mina Array Bea**	**74.61**	**322**	pP	pP	03 52 02.6	-1.3
	0.4nm,0.4s,baz=355,slow=17,SNR=3.6						
TORD	**Torodi Ar. Bea**	**77.17**	**71**	P	P	03 51 57.2	+0.6
	0.2nm,0.5s,baz=255,slow=5.5,SNR=5.4						
TORD				pP	pP	03 52 19.4	+0.9
	0.2nm,0.4s,baz=252,slow=5.4,SNR=2.7						
YKA	**Yellowknife Ar**	**90.19**	**341**	P	P	03 53 02.5	-0.5
	0.5nm,0.7s,baz=136,slow=4.5,SNR=12						
YKA				pP	pP	03 53 24.7	-0.8
	0.6nm,0.7s,baz=130,slow=4.6,SNR=6.3						
SONM	**Songino Array**	**152.48**	**7**	pPKPbc	pPKPbc	04 00 21.3	-0.5
	0.4nm,0.5s,baz=199,slow=3.1,SNR=3.2						

IDC ***17

BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BVA0 Borovoye Array 16.91 30 ⇓P Pn 04 22 53.9 +1.6
comp=Z,1.3nm,0.6s
BVA0 S Sn 04 25 52.4 -8.0
BVAR Borovoye Array 16.91 30 Pn Pn 04 22 53.5 +1.2
comp=Z,1.5nm,0.3s,baz=212,slow=10,SNR=29
BVAR Sn Sn 04 25 58.8 -1.6
comp=Z,0.5nm,0.3s,baz=236,slow=30,SNR=4.0
VOSK Vostochnaya 16.91 31 ⇑P Pn 04 22 52.8 +0.5
comp=Z,8.5nm,1.1s
VOSK ⇑S Sn 04 25 54.4 -6.1
comp=Z,5.9nm,0.8s
VOSK Vostochnaya 16.91 31 ⇑P Pn 04 22 52.8 +0.5
VOSK S Sn 04 25 54.4 -6.1
VOSK pmax pmax
comp=Z,9.0nm,1.0s
VOSK Vostochnaya 16.91 31 ⇑P Pn 04 22 52.8 +0.4
comp=Z,8.5nm,1.0s
VOSK S Sn 04 25 54.4 -6.2
ARU Arti 17.44 4⇑*i*P Pn 04 23 01.2 +2.2
ARU *e*S Sn 04 26 17.4 +4.1
ARU pmax pmax
comp=Z,32nm,1.2s
ARU Arti 17.44 4 *e*P Pn 04 23 00.6 +1.6
comp=Z,34nm,1.1s
ARU Arti 17.44 4 *e*P Pn 04 23 00.6 +1.7
comp=Z,34nm,1.1s
BR131 Keskin Array S 17.74 279 *e*P Pn 04 23 01.5 -1.1
comp=Z,0.6nm,0.5s
BR131 Keskin Array S 17.74 279 *e*P Pn 04 23 01.5 -1.1
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 17.74 279 P Pn 04 23 00.8 -1.7
comp=Z,0.1nm,0.3s,baz=96,slow=12,SNR=8.5
BRTR Keskin Array B 17.74 279 *i* P Pn 04 23 01.3 -1.3
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 17.74 279 *i* P Pn 04 23 01.3 -1.3
comp=Z,2.0nm,1.0s
KURK Kurchatov 19.42 46 ⇑P Pn 04 23 25.2 +2.2
comp=Z,2.8nm,1.0s
MK31 Makanchi Array 20.30 59 *i* P P 04 23 33.2 +1.6
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 20.30 59 *i* P P 04 23 33.2 +1.6
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 20.30 59 P P 04 23 33.1 +1.5
comp=Z,1.6nm,0.7s,baz=254,slow=9.3,SNR=14
OBN Obninsk 20.95 327⇓*e*P P 04 23 39.9 +1.3
OBN pmax pmax
comp=Z,32nm,1.2s
OBN Obninsk 20.95 327 *e*P P 04 23 39.9 +1.3
comp=Z,32nm,1.2s
AKASG Malin Array Be 22.48 310 P P 04 23 54.6 -0.4
comp=Z,4.6nm,0.7s,mb4.0,baz=107,slow=7.9,SNR=26
AKASG Malin Array Be 22.48 310 *i* P P 04 23 56.0 +1.0
AKASG pmax pmax
comp=Z,5.0nm,0.7s
MLR Muntele Rosu 23.47 296 P P 04 24 06.9 +1.4
comp=Z,2.0nm,0.7s,mb3.7,baz=113,slow=7.7,SNR=5.6
KLMR Klimovskoe 24.28 340 *e*P P 04 24 19.6 +6.6
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.0
KOLN Koldanda 25.12 108 *e*P P 04 24 20.4 -0.2
comp=Z,17nm,1.1s,mb4.5
IDI Anoyia 25.45 271 P P 04 24 21.8 -1.9
comp=Z,3.7nm,0.7s,mb4.0,baz=70,slow=9.2,SNR=4.7
GKN Gorkha 25.76 107 *e*P P 04 24 26.3 -0.2
DMN Daman 26.32 107 *e*P P 04 24 31.9 +0.3
KKN Kakani 26.36 107 *e*P P 04 24 32.4 +0.6
PKI Pulchoki 26.57 107 *e*P P 04 24 34.0 +0.2
comp=Z,20nm,0.7s,mb4.8
GUN Gumba 26.74 106 *e*P P 04 24 35.5 +0.2
comp=Z,36nm,1.1s,mb4.8
JIRN Jiri 27.11 106 *e*P P 04 24 39.0 +0.4
comp=Z,18nm,1.0s,mb4.5
ATD Arta Tunnel 30.00 208 LR LR 04 37 06.0
comp=Z,54nm,18.7s,MS3.2,baz=85,slow=37
GERES GERESS Array B 32.00 302 P P 04 25 21.9 -0.1
comp=Z,0.6nm,0.7s,mb3.5,baz=96,slow=9.5,SNR=4.5
ARCES ARCESS Array B 34.72 341 LR LR 04 42 21.0
comp=Z,76nm,18.8s,MS3.5,baz=21,slow=40
NOA NORSAR Array B 35.47 323 P P 04 25 53.6 +1.4
comp=Z,0.4nm,0.6s,mb3.5,baz=109,slow=8.4,SNR=3.6
ULN Ulaanbaatar 37.11 59 *e*P P 04 26 07.3 +1.1
ULN pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
ULN Ulaanbaatar 37.11 59 *e*P P 04 26 07.3 +1.1
comp=Z,4.1nm,1.1s,mb4.2
BOD Bodaibo 41.03 43 *e*P P 04 26 33.2 -5.9
TIXI Tiksi 47.93 24 *e*P P 04 27 35.7 +1.5
TORD Torodi Ar. Bea 54.67 258 P P 04 28 21.3 -3.5
comp=Z,2.6nm,1.1s,mb4.2,baz=51,slow=5.6,SNR=9.9
MA2 Magadan 59.27 36 *e*P P 04 28 59.0 +1.7
MA2 pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
ILAR Eielson Array 74.89 10 P P 04 30 36.4 -0.3
comp=Z,0.5nm,1.0s,mb3.4,baz=345,slow=3.1,SNR=4.2
YKA Yellowknife Ar 78.56 356 P P 04 30 57.1 -0.2
comp=Z,0.5nm,0.8s,mb3.5,baz=5.6,slow=6.2,SNR=9.4
ULM Lac du Bonnet 87.83 343 P P 04 31 43.5 -1.7
comp=Z,1.9nm,0.9s,mb4.3,baz=76,slow=4.2,SNR=3.1
WRA Warramunga Arr 93.30 113 P P 04 32 06.3 -4.4
comp=Z,0.9nm,0.9s,mb4.2,baz=317,slow=4.5,SNR=4.4

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*IDC **17** 04:30:26.3±1.7, 965S×15599E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/14, mbtmp3.9/5, MS3.3/3, Ms1 3.3/3, ms1mx3.0/17, Error ellipse: s-maj=50.3km s-min=28.5km az=112.0*
*ISCJB **17** 04:30:27.8±2.4, 99S±02×156.4E±05, h33km, mb4.0/8, Error ellipse: s-maj=69.0km s-min=18.5km az=42.4*
*NEIC **17** 04:30:31.6±0.8, 970S×156.00E, h35km, mb4.3/3, Error ellipse: s-maj=25.8km s-min=13.8km az=116.0*
ISC 17 04:30:30.5±2.5, 98S±02×156.3E±05, h35km, n13, σ0°33/9, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.98**	**272**	LR	LR	04 35 47.7	
	comp=Z,228nm,20.9s,baz=38,slow=37						
CTA	**Charters Tower**	**14.07**	**222**	LR	LR	04 36 52.3	
	comp=Z,38nm,21.6s,baz=228,slow=28						
DZM	**Mont Dzumac**	**15.63**	**143**	LR	LR	04 39 10.1	
	comp=Z,262nm,18.7s,baz=230,slow=33						
WRAB	**Tennant Creek**	**23.42**	**242**	*e*P	**P**	**04 35 36.4**	**-0.1**
	7.0nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**23.44**	**242**	P	**P**	**04 35 36.5**	**-0.1**
	4.6nm,0.8s,mb4.0,baz=66,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.41**	**234**	P	**P**	**04 35 55.0**	**+0.3**
	2.0nm,0.9s,mb3.6,baz=66,slow=10.0,SNR=12						
STKA	**Stephens Creek**	**25.83**	**210**	P	**P**	**04 35 58.1**	**-0.3**
	1.5nm,0.3s,mb3.9,baz=13,slow=13,SNR=4.5						
STKA	**Stephens Creek**	**25.83**	**210**	*e*P	**P**	**04 35 58.6**	**+0.1**
ULN	**Ulaanbaatar**	**72.03**	**328**	P	**P**	**04 41 50.8**	**0.0**
	0.9nm,0.5s,mb4.0						
SONM	**Songino Array**	**72.36**	**327**	P	**P**	**04 41 52.8**	**+0.1**
	1.1nm,1.0s,mb3.7,baz=121,slow=7.1,SNR=4.7						
MKAR	**Makanchi Array**	**86.32**	**319**	P	**P**	**04 43 08.1**	**-0.7**
	0.4nm,0.6s,mb3.9,baz=103,slow=5.5,SNR=6.7						
KURK	**Kurchatov**	**89.80**	**322**	P	**P**	**04 43 25.8**	**+0.5**
	1.2nm,0.6s,mb4.4						
BDFB	**Brasilia**	**145.12**	**136**	PKPbc	PKPbc	04 50 07.4	+3.7
	3.0nm,0.7s,baz=180,slow=2.7,SNR=4.0						

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*ISCJB **17** 04:40:10.6±5.1, 377N±03×719E±04, h100km, Error ellipse: s-maj=56.5km s-min=18.7km az=85.9*
*NNC **17** 04:40:11.0±3.1, 3774N×7192E, h17km±110km, mb3.8, mpv3.5, Error ellipse: s-maj=140.7km s-min=6.9km az=7.0*
ISC 17 04:40:11.1±5.1, 376N±03×719E±04, h100km, n9, σ0°61/10, 1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.76**	**17**	P	**Pn**	**04 41 21.0**	**+0.5**
	SNR=122						
UCH	**Uchtor**	**5.07**	**23**	P	**Pn**	**04 41 25.1**	**+0.5**
	SNR=24						
KZA	**Kyzart**	**5.19**	**29**	P	**Pn**	**04 41 25.7**	**-0.6**
	SNR=6.5						
EKS2	**Erkin-Say**	**5.28**	**15**	P	**Pn**	**04 41 28.6**	**+1.1**
	SNR=26						
AAK	**Ala-Archa**	**5.43**	**21**	P	**Pn**	**04 41 30.3**	**+0.7**
	SNR=8.4						
KK31	**Karatay Array**	**5.62**	**350**	P	**Pn**	**04 41 31.6**	**-0.4**
	2.9nm,0.5s,baz=168,slow=11,SNR=28						
KK31				S	**Sn**	**04 42 35.1**	**-0.2**
	6.9nm,0.5s,baz=168,slow=23,SNR=26						
ULHL	**Ulahol**	**5.74**	**34**	P	**Pn**	**04 41 33.1**	**-0.7**
	SNR=6.3						
USP	**Ospenovka**	**6.02**	**19**	P	**Pn**	**04 41 37.0**	**-0.6**
	SNR=8.2						
TKM2	**Tokmak 2**	**6.04**	**27**	⇓P	**Pn**	**04 41 37.7**	**-0.2**
	2.9nm,0.7s						

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*NEIC **17** 04:41:20.7±0.7, 2321S×6880W, h77km±7km, mb4.2/5, Error ellipse: s-maj=10.6km s-min=8.3km az=137.0*
*ISCJB **17** 04:41:21.6±0.7, 2338S±006×6865W±008, h101km±9km, mb4.1/8, Error ellipse: s-maj=13.1km s-min=9.8km az=43.2*
*GUC **17** 04:41:23.3±0.6, 2346S×6894W, h115km*
*IDC **17** 04:41:24.0±0.9, 2321S×6860W, h103km±6km, mb3.8/7, mb1 3.9/10, mb1mx3.7/18, mbtmp4.2/10, Error ellipse: s-maj=23.9km s-min=19.8km az=36.0*
ISC 17 04:41:22.9±0.6, 2337S±006×6868W±007, h97km±8km, n28, σ1°17/28, mb4.1/8, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.39**	**269**	⇓*i*P	**Pn**	**04 41 48.5**	**+0.9**
CEN1				*i* S	**Sn**	**04 42 07.4**	**+1.1**
ANCH	**Antofagasta**	**1.61**	**259**	⇑*i*P	**Pn**	**04 41 46.2**	**-4.2**
ANCH				*i* S	**Sn**	**04 42 05.5**	**-5.7**
CPN1	**Cerro Paranal**	**2.01**	**231**	⇑*i*P	**Pn**	**04 41 54.8**	**-0.6**
CPN1				*i* S	**Sn**	**04 42 19.5**	**-0.7**
CRCH	**Chaqaral**	**3.45**	**210**	*e*P	**Pn**	**04 42 13.7**	**-0.7**
LPAZ	**La Paz**	**7.06**	**4**	P	**Pn**	**04 43 04.4**	**+0.9**
	0.3nm,0.3s,baz=214,slow=11,SNR=8.1						
LPAZ	**La Paz**	**7.06**	**4**	Pn	**Pn**	**04 43 04.0**	**+0.5**
ARE	**Arequipa**	**7.36**	**338**	*e*P	**Pn**	**04 43 18.0**	**+10**
CFAA	**Coronel Fontan**	**8.21**	**177**	P	**Pn**	**04 43 18.4**	**-0.8**
	0.2nm,0.3s,baz=351,slow=13,SNR=32						
CFAA				S	**Sn**	**04 44 44.8**	**-5.4**
	0.1nm,0.3s,baz=238,slow=19,SNR=3.1						
SIV	**San Ignacio**	**10.26**	**46**	P	**Pn**	**04 43 44.8**	**-2.2**
	7.5nm,0.3s,baz=241,slow=12,SNR=95						
SIV				S	**Sn**	**04 45 34.9**	**-5.1**
	0.3nm,0.3s,baz=156,slow=20,SNR=4.4						
CPUP	**Villa Florida**	**10.72**	**108**	P	**Pn**	**04 43 54.8**	**+1.4**
	1.2nm,0.3s,baz=267,slow=11,SNR=12						
SAML	**Samuel**	**15.28**	**21**	*e*P	**Pn**	**04 44 55.1**	**+2.0**
	1.4nm,0.7s						
TRQA	**Tornquist**	**15.72**	**160**	*e*P	**Pn**	**04 45 03.6**	**+4.8**
	3.6nm,0.5s						
BDFB	**Brasilia**	**20.93**	**72**	P	**P**	**04 45 56.8**	**-0.9**
	6.3nm,0.5s,baz=250,slow=11,SNR=12						
SDV	**Santo Domingo**	**32.11**	**356**	P	**P**	**04 47 39.0**	**-1.9**
	1.8nm,0.5s,mb4.1						
SNAA	**Sanae**	**60.45**	**161**	P	**P**	**04 51 23.3**	**+0.9**
	1.2nm,0.6s,mb4.1,baz=293,slow=8.6,SNR=4.4						
SNAA	**Sanae**	**60.45**	**161**	P	**P**	**04 51 22.9**	**+0.6**
	4.3nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**66.83**	**180**	*e*P	**P**	**04 52 05.7**	**+1.4**
	5.2nm,0.5s,mb4.6						
DBIC	**Dimbokro**	**69.08**	**73**	P	**P**	**04 52 18.6**	**+0.2**
	3.7nm,0.9s,mb4.2,baz=236,slow=8.3,SNR=6.4						
PDAR	**Pinedale Array**	**75.83**	**330**	P	**P**	**04 52 58.5**	**+0.2**
	0.2nm,0.5s,mb3.1,baz=129,slow=7.1,SNR=4.2						
ULM	**Lac du Bonnet**	**77.15**	**342**	P	**P**	**04 53 04.7**	**-1.2**
	1.5nm,0.5s,mb4.0,baz=163,slow=6.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**77.79**	**70**	P	**P**	**04 53 10.5**	**+1.1**
	3.0nm,0.7s,mb4.2,baz=254,slow=5.4,SNR=55						
TORD				pP	pP	04 53 36.4	+2.0
	2.6nm,0.6s,baz=252,slow=5.4,SNR=5.2						
YKA	**Yellowknife Ar**	**93.01**	**340**	P	**P**	**04 54 25.0**	**-0.4**
	0.5nm,0.6s,mb4.0,baz=134,slow=4.3,SNR=11						
YKA				pP	pP	04 54 52.9	+1.9
	0.2nm,0.6s,baz=133,slow=4.1,SNR=2.9						
YKA	**Yellowknife Ar**	**93.01**	**340**	P	**P**	**04 54 25.1**	**-0.4**
YKA				pP	pP	04 54 52.9	+1.9
ASAR	**Alice Springs**	**128.35**	**207**	PKP	PKPdf	05 00 19.4	+1.3
	0.8nm,0.8s,baz=130,slow=1.6,SNR=8.8						
WRA	**Warramunga Arr**	**131.45**	**209**	PKP	PKPdf	05 00 25.1	+1.1
	0.4nm,0.6s,baz=154,slow=1.7,SNR=3.9						
ZAL	**Zalesovo**	**143.54**	**26**	PKP	PKPdf	05 00 46.8	+0.6
	1.1nm,0.5s,baz=45,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**147.00**	**38**	PKPbc	PKPbc	05 00 53.5	-0.7
	1.0nm,0.7s,baz=321,slow=1.7,SNR=12						
MKAR				pPKPbc	pPKPbc	05 01 20.8	+0.2
	1.3nm,0.6s,baz=303,slow=2.7,SNR=8.4						
MKAR	**Makanchi Array**	**147.00**	**38**	PKPbc	PKPbc	05 00 53.5	-0.7
MKAR				pPKPbc	pPKPbc	05 01 20.8	+0.1

IDC 17 04:53:36.4±1.7, 2432S×6703W, h161km±27km, mb3.3/1, mb1 3.5/4, mb1mx3.3/16, mbtmp3.9/4, Error ellipse: s-maj=45.2km s-min=14.7km az=95.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.33**	**188**	P	Pn	04 55 22.0	+1.2
	0.1nm,0.3s,baz=5.2,slow=12,SNR=4.3						
CFAA				S	Sn	04 56 42.5	-0.5
	0.1nm,0.3s,baz=232,slow=19,SNR=4.8						
LPAZ	**La Paz**	**8.06**	**352**	P	Pn	04 55 31.1	+0.7
	1.2nm,0.3s,baz=175,slow=12,SNR=36						
LPAZ				S	Sn	04 57 02.7	+2.3
	0.2nm,0.3s,baz=172,slow=14,SNR=3.6						
SIV	**San Ignacio**	**10.00**	**35**	P	Pn	04 55 55.0	-1.1
	0.3nm,0.3s,baz=216,slow=14,SNR=5.2						
BDFB	**Brasilia**	**19.83**	**68**	P	P	04 57 55.6	+1.0
	0.7nm,0.3s,baz=245,slow=12,SNR=13						
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	P	05 05 10.1	+0.5
	0.5nm,0.6s,baz=253,slow=5.3,SNR=11						

FUNV 17 04:57:43.9, 1002N×7308W, h29km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.82**	**54**	*e*P	Pn	04 57 59.4	0.0
VIRV				*e*S	Sb	04 58 10.5	+0.3
VIGV	**El Vigia**	**2.06**	**125**	*e*P	Pn	04 58 15.1	-1.4
VIGV				*e*S	Sn	04 58 40.0	-1.2
CAPV	**Capacho**	**2.27**	**161**	*e*P	Pn	04 58 19.6	+0.2
CAPV				*e*		04 58 44.3	
CAPV				*e*S	Sn	04 58 44.8	-1.6
QARV	**Quebrada Arrib**	**2.52**	**86**	*e*P	Pn	04 58 22.4	-0.5
QARV				*e*S	Sn	04 58 50.5	-2.1
DABV	**Dabajuro**	**2.56**	**69**	*e*P	Pn	04 58 22.9	-0.6
DABV				*e*S	Sn	04 58 51.6	-2.1
SOCV	**Socops**	**2.79**	**128**	*e*P	Pn	04 58 25.5	-1.1
SIQV	**Siquisique**	**3.28**	**79**	*e*P	Pn	04 58 32.5	-0.8
SIQV				*e*S	Sn	04 59 08.3	-3.0
SANV	**Sanarito**	**3.53**	**98**	*e*P	Pn	04 58 36.0	-0.8
SANV				*e*S	Sn	04 59 14.4	-3.0
MONV	**Montecano**	**3.61**	**57**	*e*P	Pn	04 58 36.8	-1.0

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*NIED **17** 05:32:00, 3170N×13030E, h200km, Mw3.8 Best double couple: M0:5.51000×10^14 NP1:φs308.00000°, δ57.00000°, λ-72.00000°. NP2:φs97.00000°, δ37.00000°, λ-115.00000°.*
JMA 17 05:32:29.9±0.1, 3166N×13028E, h215km±2km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.21**	**136**	P	Pn	05 32 58.2	+0.2
JSJ	**Shimokoshiki**	**0.48**	**272**	P	Pn	05 32 58.7	+0.1
JSJ				S	S	05 33 21.4	+0.4
JTZ	**Takazaki**	**0.73**	**71**	P	Pn	05 32 59.7	0.0
JTZ				S	S	05 33 22.1	-0.7
JIU2	**Izumi 2**	**0.99**	**27**	P	Pn	05 33 01.3	+0.2
JTN	**Tanegashima 3**	**1.17**	**149**	P	Pn	05 33 02.8	+0.5
JTN				*e*S	S	05 33 26.7	-0.9
JNN	**Nakanoshima**	**1.85**	**191**	P	Pn	05 33 07.9	-0.1

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*ISCJB **17** 05:41:28.8±0.3, 4835N±002×660E±002, h13km±3km, Error ellipse: s-maj=3.5km s-min=2.2km az=152.0*
*CSEM **17** 05:41:30.8±0.1, 4835N×665E, h10km, ML2.4/8, Error ellipse: s-maj=1.1km s-min=0.8km az=162.0*
*LDG **17** 05:41:30.9±0.1, 4834N×664E, h11km, Md2.4/2, Ml2.5/10, Error ellipse: s-maj=1.3km s-min=0.9km az=161.0*
*STR **17** 05:41:30.9±0.2, 4834N×669E, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **17** 05:41:30.9, 4834N×664E, h11km, ML2.1(STR), ML2.5(LDG), After LDG.*
*BGR **17** 05:41:31.8±1.5, 4838N×675E, h5km, ML1.8/2, Error ellipse: s-maj=20.0km s-min=6.7km az=45.0*
ISC 17 05:41:29.9±0.3, 4835N±002×663E±002, h19km±3km, n51, σ0°69/101, 2C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.38**	**110**	⇑*i*P*	**Pb**	**05 41 38.2**	**+0.1**
ECH				*i* S*	**Sg**	**05 41 42.9**	**-0.4**
ECH	**Echery**	**0.38**	**110**	Pg	**Pg**	**05 41 38.0**	**+0.1**
ECH				Sg	**Sg**	**05 41 42.5**	**-0.7**
HAU	**Haudompre**	**0.39**	**209**	*e*Pn	**Pg**	**05 41 39.7**	**+1.6**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**05 41 43.8**	**+0.3**
	42nm,0.3s						
HAU	**Haudompre**	**0.39**	**209**	*e*Pn	**Pg**	**05 41 39.7**	**+1.6**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**05 41 43.8**	**+0.3**
	21nm,0.3s						
CDF	**Champ du Feu**	**0.44**	**81**	*e*Pg	**Pg**	**05 41 39.3**	**+0.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**05 41 44.4**	**-0.6**
	12nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.44**	**81**	*e*Pg	**Pg**	**05 41 39.3**	**+0.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**05 41 44.4**	**-0.6**
	5.8nm,0.2s,SNR=1.0						
THEF	**They Montfort**	**0.44**	**254**	Pg	**Pg**	**05 41 39.8**	**+0.8**
THEF	**They Montfort**	**0.44**	**254**	P*	**Pb**	**05 41 39.9**	**+0.8**
WLS	**Welschbruch**	**0.49**	**82**	⇑*i*P*	**Pb**	**05 41 40.3**	**+0.3**
WLS				S*	**Sb**	**05 41 46.5**	**-0.3**
WLS	**Welschbruch**	**0.49**	**82**	Pg	**Pg**	**05 41 40.1**	**+0.3**
WLS				Sg	**Sg**	**05 41 46.1**	**-0.4**
HINF	**Hinteralfeld**	**0.55**	**164**	*e*Pg	**Pg**	**05 41 41.3**	**+0.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**05 41 48.2**	**-0.3**
	34nm,0.2s						
HINF				*e*Sn	**Sg**	**05 41 51.1**	**+2.6**
HINF	**Hinteralfeld**	**0.55**	**164**	*e*Pg	**Pg**	**05 41 41.3**	**+0.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**05 41 48.2**	**-0.3**
	17nm,0.2s						
HINF				*e*Sn	**Sg**	**05 41 51.1**	**+2.6**
MOF	**Molkenrain**	**0.60**	**145**	Pg	**Pg**	**05 41 42.7**	**+0.8**
RFYF	**Reffroy**	**0.82**	**291**	*e*Pg	**Pg**	**05 41 46.6**	**+0.7**
	baz=117						
KIZ	**Kirchzarten**	**0.95**	**114**	Pg	**Pg**	**05 41 48.6**	**+0.2**
KIZ				Sg	**Sg**	**05 42 00.7**	**-0.3**
LANF	**Langenberg**	**1.01**	**51**	Pg	**Pg**	**05 41 49.3**	**-0.2**
LOMF	**Lomont**	**1.01**	**172**	Pg	**Pg**	**05 41 50.0**	**+0.5**
LOMF				Sg	**Sg**	**05 42 03.3**	**+0.6**
LOMF	**Lomont**	**1.01**	**172**	Sg	**Sg**	**05 42 03.4**	**+0.7**
MEZF	**Maizieres J'vi**	**1.06**	**279**	*e*Pg	**Pg**	**05 41 51.1**	**+0.6**
MEZF				*e*Sg	**Sg**	**05 42 04.9**	**+0.5**
	6.9nm,0.2s						
MEZF	**Maizieres J'vi**	**1.06**	**279**	*e*Pg	**Pg**	**05 41 51.1**	**+0.6**
MEZF				*e*Sg	**Sg**	**05 42 04.9**	**+0.5**
	3.5nm,0.2s						
SFTF	**Sexfontaines**	**1.07**	**263**	*e*Pg	**Pg**	**05 41 51.2**	**+0.5**
SFTF				*e*Sg	**Sg**	**05 42 05.2**	**+0.5**
	10nm,0.2s						
SFTF	**Sexfontaines**	**1.07**	**263**	*e*Pg	**Pg**	**05 41 51.2**	**+0.5**
SFTF				*e*Sg	**Sg**	**05 42 05.2**	**+0.5**
	5.2nm,0.2s						
SFTF	**Sexfontaines**	**1.07**	**263**	*e*Pn	**Pn**	**05 41 50.4**	**+0.5**
SFTF				*e*Pg	**Pg**	**05 41 51.2**	**+0.5**
SFTF				*e*Sg	**Sg**	**05 42 05.2**	**+0.5**
BFO	**Black Forest**	**1.14**	**90**	*e*Pg	**Pg**	**05 41 52.3**	**+0.4**
	SNR=3.0						
BFO				*e*Sg	**Sg**	**05 42 04.7**	**-2.2**
WLF	**Walferdange**	**1.35**	**347**	*e*Sg	**Sg**	**05 42 14.2**	**+0.5**
RUP	**Ruppelstein**	**1.39**	**12**	Pg	**Pg**	**05 41 57.2**	**+0.6**
LBG	**Lerchenberg**	**1.48**	**77**	Pn	**Pn**	**05 41 55.7**	**+0.2**
LBG				Sg	**Sg**	**05 42 17.4**	**-0.3**
GUT	**Gutenstein**	**1.69**	**99**	Pg	**Pg**	**05 42 02.6**	**+0.1**
GUT				Sg	**Sg**	**05 42 24.1**	**-0.3**
CABF	**La Chapelle**	**1.78**	**192**	*e*Pg	**Pg**	**05 42 04.5**	**+0.4**
CABF				*e*Sg	**Sg**	**05 42 27.6**	**+0.4**
	2.9nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**1.78**	**192**	*e*Pg	**Pg**	**05 42 04.5**	**+0.4**
CABF				*e*Sg	**Sg**	**05 42 27.6**	**+0.4**
	1.5nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**1.78**	**192**	*e*Pn	**Pn**	**05 42 00.4**	**+0.8**
CABF				*e*Pg	**Pg**	**05 42 04.5**	**+0.4**
CABF				*e*Sg	**Sg**	**05 42 27.6**	**+0.4**
LOR	**Lormes**	**2.15**	**241**	*e*Pn	**Pn**	**05 42 05.3**	**+0.5**
	baz=66,SNR=1.0						
LOR	**Lormes**	**2.15**	**241**	*e*Pg	**Pg**	**05 42 10.9**	**-0.4**
	baz=68,SNR=1.0						
LOR				*e*Sg	**Sg**	**05 42 38.7**	**-0.6**
	4.8nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.15**	**241**	*e*Pg	**Pg**	**05 42 10.9**	**-0.4**
	baz=68,SNR=1.0						
LOR				*e*Sg	**Sg**	**05 42 38.7**	**-0.6**
	2.4nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.15**	**241**	*e*Pn	**Pn**	**05 42 05.3**	**+0.5**
LOR				*e*Pg	**Pg**	**05 42 10.9**	**-0.4**
LOR				*e*Sg	**Sg**	**05 42 38.7**	**-0.6**
SIND	**Sindeldorf**	**2.21**	**62**	Sg	**Sg**	**05 42 41.1**	**+0.1**
TNS	**Taunus Mts**	**2.22**	**32**	*e*Sg	**Sg**	**05 42 40.6**	**-0.9**
BAIF	**Baives**	**2.33**	**318**	*e*Pg	**Pg**	**05 42 14.2**	**-0.5**
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**05 42 17.0**	**-0.3**
SSF				*e*Sg	**Sg**	**05 42 48.2**	**-1.1**
	3.3nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**05 42 17.0**	**-0.3**
SSF				*e*Sg	**Sg**	**05 42 48.2**	**-1.1**
	1.6nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pn	**Pn**	**05 42 09.6**	**+0.4**
SSF				*e*Pg	**Pg**	**05 42 17.0**	**-0.3**
SSF				*e*Sg	**Sg**	**05 42 48.2**	**-1.1**
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg

VAY	**Valandovo**	**0.52 198**	*e*Pg	Pb	06 10 42.5	+0.9
VAY			*e*Sg	Sb	06 10 49.5	+0.5
KNT	**Kendrikon**	**0.66 172**	*e*Pg	Pb	06 10 44.3	+0.3
VTS	**Vitosha**	**0.83 22**	*e*Pg	Pn	06 10 48.1	+1.4
VTS			*e*Sg	Sb	06 10 59.8	+2.2
GRG	**Griva**	**0.91 198**	*e*Pg	Pn	06 10 49.3	+1.7
SRS	**Serrai**	**0.93 139**	*e*Pg	Pn	06 10 48.5	+0.6
SRS			*e*Sg	Sn	06 11 02.5	+2.2
SRS	**Serrai**	**0.93 139**	*e*Pg	Pn	06 10 48.5	+0.5
SRS			*e*Sg	Sn	06 11 02.5	+2.2

SKO 17 06:10:33.7, 4179N×2283E, h31km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.49**	**259**	*e*Pg	Pb	06 10 44.5	+0.5
STIP				*e*Sg	Sb	06 10 51.6	+0.6
VAY	**Valandovo**	**0.51**	**203**	*e*Pg	Pb	06 10 45.0	+0.7
VAY				*e*Sg	Sb	06 10 52.1	+0.7

*ISCJB **17** 06:31:10.3±0.7, 11.12N±004×6226W±004, h128km±6km, Error ellipse: s-maj=7.0km s-min=4.7km az=93.9*
*FUNV **17** 06:31:11.2, 11.11N×6213W, h128km, MW3.1*
*NEIC **17** 06:31:14.4, 11.18N×6198W, h117km, MD3.0(TRN), After TRN.*
*TRN **17** 06:31:14.4, 11.18N×6198W, h118km, MD3.0*
ISC 17 06:31:11.1±0.7, 1112N±004×6226W±004, h126km±7km, n20, σ1§13/40, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.47**	**176**	*e*P	**Pn**	**06 31 30.1**	**+0.6**
GUIV				*e*S	**Sn**	**06 31 42.5**	**-0.9**
ITEV	**Isla Los Testi**	**0.89**	**285**	*e*P	**Pn**	**06 31 32.7**	**+0.1**
ITEV				*e*S	**Sn**	**06 31 48.8**	**-0.1**
TRN	**Trinidad (W)**	**0.96**	**119**	*e*P	**Pn**	**06 31 34.4**	**+1.2**
TRN				*e*S	**Sn**	**06 31 48.3**	**-1.7**
CRUV	**Carupano**	**1.06**	**246**	*e*P	**Pn**	**06 31 35.8**	**+1.6**
CRUV				*e*S	**Sn**	**06 31 52.8**	**+1.1**
TPP	**Pointe-a-Pierr**	**1.12**	**135**	*e*P	**Pn**	**06 31 36.2**	**+1.4**
TPP				*e*S	**Sn**	**06 31 55.6**	**+2.8**
GUNV	**Guanoco**	**1.17**	**215**	*e*P	**Pn**	**06 31 37.0**	**+1.7**
GUNV				*e*S	**Sn**	**06 31 54.1**	**+0.5**
GRW	**Mount Saint Ca**	**1.19**	**29**	*e*P	**Pn**	**06 31 36.9**	**+1.4**
GRW				*e*S	**Sn**	**06 31 52.0**	**-2.0**
GRHS	**Sauteurs**	**1.25**	**29**	*e*P	**Pn**	**06 31 36.6**	**+0.5**
GRHS				*e*S	**Sn**	**06 31 54.1**	**-1.1**
TBH	**Brigand Hill**	**1.33**	**118**	*e*P	**Pn**	**06 31 38.3**	**+1.4**
TBH				*e*S	**Sn**	**06 31 55.6**	**-1.0**
GRSS	**Sisters**	**1.33**	**28**	*e*P	**Pn**	**06 31 37.7**	**+0.7**
GRSS				*e*S	**Sn**	**06 31 56.4**	**-0.3**
GRIC	**Isle de Caille**	**1.33**	**29**	*e*P	**Pn**	**06 31 37.6**	**+0.6**
GRIC				*e*S	**Sn**	**06 31 56.1**	**-0.6**
TPR	**Prospect**	**1.45**	**87**	*e*P	**Pn**	**06 31 38.9**	**+0.5**
TPR				*e*S	**Sn**	**06 31 59.3**	**+0.2**
BOT	**Bacolet**	**1.51**	**88**	*e*P	**Pn**	**06 31 39.3**	**+0.3**
BOT				*e*S	**Sn**	**06 31 55.6**	**-4.6**
GRCU	**Cariacou**	**1.56**	**30**	*e*P	**Pn**	**06 31 39.9**	**+0.4**
GRCU				*e*S	**Sn**	**06 32 00.1**	**-1.1**
ORIV	**Oritupano**	**2.33**	**209**	*e*P	**Pn**	**06 31 48.0**	**-0.9**
ORIV				*e*S	**Sn**	**06 32 16.4**	**-1.5**
CUPV	**Cœpira**	**3.63**	**253**	*e*P	**Pn**	**06 32 07.0**	**+1.2**
CUPV				*e*S	**Sn**	**06 32 47.7**	**-0.5**
LUEV	**Luepa**	**5.30**	**171**	*e*P	**Pn**	**06 32 25.9**	**-2.2**
LUEV				*e*S	**Sn**	**06 33 21.2**	**-6.9**
CAOV	**Caicara del Or**	**5.50**	**227**	*e*P	**Pn**	**06 32 29.4**	**-1.5**
CAOV				*e*S	**Sn**	**06 33 28.7**	**-4.3**
BAUV	**El Baul**	**6.09**	**250**	*e*P	**Pn**	**06 32 38.4**	**-0.4**
BAUV				*e*S	**Sn**	**06 33 42.1**	**-5.1**
PAYV	**Puerto Ayacuch**	**7.78**	**224**	*e*P	**Pn**	**06 33 00.4**	**-1.2**
PAYV				*e*S	**Sn**	**06 34 20.5**	**-7.6**

IDC 17 07:07:23.8±2.0, 146N×12523E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=193.1km s-min=25.4km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.07**	**158**	P	P	07 12 30.7	-0.1
	1.5nm,0.4s,baz=336,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**26.36**	**162**	P	P	07 13 02.0	+0.5
	0.5nm,0.5s,baz=345,slow=8.9,SNR=9.5						
MKAR	**Makanchi Array**	**58.59**	**327**	P	P	07 17 22.6	+0.3
	0.3nm,0.4s,baz=120,slow=8.8,SNR=5.8						

*NEIC **17** 07:09:45.8, 3744S×17948E, h12km, ML4.0(WEL), After WEL.*
WEL 17 07:09:46.0±0.4, 3746S×17947E, h12km, ML4.0/7, 3C, Error ellipse: s-maj=3.7km s-min=3.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.93**	**263**	⇑P*	Pb	07 10 02.8	-1.2
MXZ				S*	Sb	07 10 15.7	-0.6
MXZ	**Matakaoa Point**	**0.93**	**263**	P	Pg	07 10 02.8	-1.1
MXZ				S	Sg	07 10 15.7	-0.3
PUZ	**Puketiti**	**1.14**	**237**	⇑P*	Pb	07 10 06.9	-0.7
PUZ				S*	Sb	07 10 22.2	-0.2
PUZ	**Puketiti**	**1.14**	**237**	P	Pb	07 10 06.9	-0.7
PUZ				S	Sb	07 10 22.2	-0.1
MWZ	**Matawai**	**1.77**	**240**	PN	Pn	07 10 15.2	-1.1
MWZ	**Matawai**	**1.77**	**240**	P	Pn	07 10 15.5	-0.9
WIZ	**White Island**	**1.81**	**267**	PN	Pn	07 10 16.4	-0.6
WIZ	**White Island**	**1.81**	**267**	P	Pn	07 10 16.4	-0.6
URZ	**Urewera**	**2.03**	**246**	PN	Pn	07 10 19.5	-0.4
URZ				SN	Sn	07 10 43.9	-1.4
URZ	**Urewera**	**2.03**	**246**	P	Pn	07 10 19.6	-0.4
KNZ	**Kokohu**	**2.11**	**222**	PN	Pn	07 10 19.8	-1.2
KNZ	**Kokohu**	**2.11**	**222**	P	Pn	07 10 19.8	-1.2
MKRZ	**Makatiti**	**2.47**	**253**	PN	Pn	07 10 25.5	-0.6
BKZ	**Black Stump Fm**	**2.90**	**233**	⇑PN	Pn	07 10 30.8	-1.1
BKZ				SN	Sn	07 11 03.9	-2.7
BKZ	**Black Stump Fm**	**2.90**	**233**	P	Pn	07 10 30.9	-1.0
KUZ	**Kuaotunu**	**3.08**	**282**	PN	Pn	07 10 32.2	-2.1
KUZ	**Kuaotunu**	**3.08**	**282**	P	Pn	07 10 32.3	-2.1
PXZ	**Pawanui**	**3.28**	**218**	PN	Pn	07 10 34.8	-2.4
OTVZ	**Oturere**	**3.44**	**239**	PN	Pn	07 10 38.5	-0.9
NGZ	**Ngauruhoe**	**3.49**	**239**	PN	Pn	07 10 38.9	-1.2
NGZ	**Ngauruhoe**	**3.49**	**239**	P	Pn	07 10 39.0	-1.1
MOVZ	**Moawhango**	**3.51**	**235**	PN	Pn	07 10 39.2	-1.1
MOVZ	**Moawhango**	**3.51**	**235**	P	Pn	07 10 39.3	-1.0
WPVZ	**Whakapapa**	**3.54**	**239**	*e*PN	Pn	07 10 39.3	-1.4
WPVZ	**Whakapapa**	**3.54**	**239**	*e*P	Pn	07 10 39.8	-1.0
WNVZ	**Wahianoa**	**3.57**	**237**	PN	Pn	07 10 39.8	-1.3
WNVZ	**Wahianoa**	**3.57**	**237**	P	Pn	07 10 39.8	-1.3
MTVZ	**Mangateitei**	**3.68**	**237**	*e*PN	Pn	07 10 41.5	-1.2
HIZ	**Hauiti**	**3.79**	**252**	PN	Pn	07 10 43.9	-0.3
HIZ	**Hauiti**	**3.79**	**252**	P	Pn	07 10 43.9	-0.3
BFZ	**Birch Farm**	**4.08**	**217**	PN	Pn	07 10 44.7	-3.4
BFZ	**Birch Farm**	**4.08**	**217**	*e*P	Pn	07 10 45.1	-3.1
WAZ	**Wanganui**	**4.20**	**235**	*e*PN	Pn	07 10 48.4	-1.4
WAZ	**Wanganui**	**4.20**	**235**	P	Pn	07 10 49.7	0.0
WCZ	**Waipu Caves**	**4.39**	**289**	PN	Pn	07 10 51.8	-0.6
WCZ	**Waipu Caves**	**4.39**	**289**	*e*P	Pn	07 10 51.8	-0.6
MRZ	**Mangatainoka R**	**4.41**	**222**	PN	Pn	07 10 49.9	-2.7
MRZ	**Mangatainoka R**	**4.41**	**222**	P	Pn	07 10 49.9	-2.7
PKE	**Pukeiti**	**4.65**	**246**	*e*PN	Pn	07 10 56.9	+1.0
PKE	**Pukeiti**	**4.65**	**246**	P	Pn	07 10 56.9	+1.0
TRWZ	**Traveller**	**4.91**	**215**	*e*PN	Pn	07 10 54.8	-4.7
KIW	**Kapiti Island**	**4.91**	**225**	PN	Pn	07 10 55.9	-3.6
CAW	**Cannon Point**	**5.00**	**222**	PN	Pn	07 10 56.5	-4.2
CAW	**Cannon Point**	**5.00**	**222**	P	Pn	07 10 56.5	-4.2
PAWZ	**Paruwai Farm**	**5.02**	**217**	*e*PN	Pn	07 10 56.6	-4.4
MSWZ	**Moikau Station**	**5.13**	**218**	*e*PN	Pn	07 10 57.9	-4.6
TUWZ	**Tuamarina**	**5.83**	**225**	*e*PN	Pn	07 11 07.6	-4.6
THZ	**Tophouse**	**6.65**	**228**	PN	Pn	07 11 17.7	-5.7
THZ	**Tophouse**	**6.65**	**228**	*e*P	Pn	07 11 18.6	-4.8
DSZ	**Denniston Nort**	**7.30**	**232**	PN	Pn	07 11 27.4	-5.1
DSZ	**Denniston Nort**	**7.30**	**232**	*e*P	Pn	07 11 28.1	-4.3
LTZ	**Lake Taylor**	**7.66**	**224**	*e*PN	Pn	07 11 33.1	-4.2
LTZ	**Lake Taylor**	**7.66**	**224**	*e*P	Pn	07 11 33.2	-4.1
MQZ	**McQueen's Vall**	**8.11**	**218**	PN	Pn	07 11 38.0	-5.5

*CSEM **17** 07:27:46.1±0.3, 3261N×541W, h25km, MD3.2, Error ellipse: s-maj=9.3km s-min=3.4km az=132.0*
*ISCJB **17** 07:27:47.3±0.6, 3289N±004×570W±005, h10km, Error ellipse: s-maj=6.9km s-min=4.3km az=74.3*
*MDD **17** 07:27:47.8±1.1, 3261N×546W, h12km±12km, mb3.6/5, Error ellipse: s-maj=18.6km s-min=4.7km az=134.0, PRXIMO*
*CNRM **17** 07:27:47.2, 3254N×541W, h0km, MD3.2*
*NEIC **17** 07:27:50.1, 3282N×579W, h0km, MG3.6(MDD), After MDD.*
ISC 17 07:27:47.9±0.8, 3273N±006×556W±006, h10km, n16, σ1§44/26, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZD	**Col de Zad**	**0.54**	**55**	P	**Pg**	**07 27 58.5**	**+0.2**
CZD				S	**Sg**	**07 28 05.0**	**-0.3**
CZD	**Col de Zad**	**0.54**	**55**	*i* P	**Pg**	**07 27 58.5**	**+0.2**
MIF	**Mishlifen**	**0.74**	**22**	*i* P	**Pg**	**07 28 03.0**	**+0.9**
MIF				*i* S	**Sg**	**07 28 15.0**	**+3.3**
TZC	**Tazercounte**	**0.97**	**234**	*e*P	**Pg**	**07 28 05.0**	**-1.6**
TZC				*i* S	**Sg**	**07 28 19.0**	**-0.2**
AVE	**Averroes**	**1.66**	**291**	P	**Pn**	**07 28 19.8**	**+2.8**
AVE				S	**Sn**	**07 28 40.0**	**+1.7**
CIA	**Chichaoua**	**2.95**	**248**	*e*P	**Pn**	**07 28 34.0**	**-0.7**
CIA				*i* S	**Sn**	**07 29 10.0**	**-0.1**
EGRO	**El Granado**	**5.05**	**342**	P	**Pn**	**07 29 04.0**	**+0.4**
	1.2nm,0.1s,SNR=6.8						
EGRO				S	**Sn**	**07 29 58.2**	**-3.8**
	3.5nm,0.2s						
EGRO	**El Granado**	**5.05**	**342**	P	**Pn**	**07 29 04.1**	**+0.5**
EMIN	**Mina Concepcio**	**5.11**	**350**	P	**Pn**	**07 29 04.8**	**+0.3**
	0.2nm,0.1s,SNR=5.7						
EMIN				S	**Sn**	**07 29 59.6**	**-3.9**
	0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.11**	**350**	P	**Pn**	**07 29 04.8**	**+0.3**
	0.2nm,0.1s,SNR=5.7						
ECAB	**El Cabril**	**5.34**	**1**	P	**Pn**	**07 29 08.0**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**07 30 06.6**	**-2.6**
	0.9nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.34**	**1**	P	**Pn**	**07 29 08.0**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.49**	**8**	P	**Pn**	**07 29 11.7**	**+2.1**
	0.0nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**07 30 10.2**	**-2.6**
	1.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.49**	**8**	P	**Pn**	**07 29 11.7**	**+2.0**
	SNR=4.0						
EBAD	**Badajoz**	**6.13**	**349**	P	**Pn**	**07 29 18.8**	**+0.3**
	0.8nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**07 30 24.5**	**-4.1**
	2.3nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**6.13**	**349**	P	**Pn**	**07 29 18.8**	**+0.3**
	0.8nm,0.1s,SNR=7.9						

*PRE **17** 07:29:02.2±1.4, 2113S×3322E, h5km, ML5.8*
*ISCJB **17** 07:29:05.3±0.3, 2152S±004×3321E±005, h10km, mb4.7/46, MS4.2/12, Error ellipse: s-maj=7.1km s-min=3.8km az=75.4*
*IDC **17** 07:29:05.9±0.5, 2145S×3353E, h0km, mb4.4/18, mb1 4.5/20, mb1mx4.5/25, mbtmp4.4/20, ML4.5/2, MS4.0/16, Ms1 4.0/16, ms1mx3.9/24, Error ellipse: s-maj=17.9km s-min=16.0km az=63.0*
*MOS **17** 07:29:05.6±1.3, 2145S×3323E, h10km, mb5.0/13, Error ellipse: s-maj=12.9km s-min=7.3km az=94.4*
*BJI **17** 07:29:05.2, 2181S×3370E, h5km, mB5.3, mb5.0, Ms4.8, Msz4.4*
*NEIC **17** 07:29:07.3±0.4, 2148S×3331E, h10km, mb4.8/18, Error ellipse: s-maj=11.0km s-min=7.5km az=112.0*
*SZGRF **17** 07:29:10.2, 2142S×3527E, h33km, mb4.7, Mozambique*
ISC 17 07:29:07.2±0.3, 2151S±004×3326E±005, h10km, (h14km±9km:pP-P), n137, σ1§09/136, mb4.7/46, MS4.2/12, 6C-4D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.58**	**283**	Pn	**Pn**	**07 30 18.1**	**+1.5**
	30401μm,0.3s,baz=100,slow=14,SNR=323						
MATP				Sn	**Sn**	**07 31 09.8**	**0.0**
	126870μm,0.3s,baz=195,slow=21,SNR=14						
MATP				Lg		07 31 28.7	
	370822μm,0.3s,baz=20,slow=22,SNR=15						
BFT	**Belfast (SA)**	**5.10**	**215**	*e*P	**Pn**	**07 30 24.8**	**+1.2**
BFT				*e*S	**Sn**	**07 31 24.4**	**+1.8**
BFT				AML	AML	07 31 58.6	
	comp=Z,924nm,0.7s						
SLR	**Silverton**	**6.21**	**226**	*e*P	**Pn**	**07 30 38.3**	**-0.6**
SLR				*e*S	**Sn**	**07 31 48.4**	**-1.5**
SLR				AML	AML	07 32 40.5	
	comp=Z,529nm,0.7s						
KSR	**Koster**	**7.26**	**232**	*e*P	**Pn**	**07 30 53.3**	**0.0**
KSR				*e*S	**Sn**	**07 32 14.2**	**-1.6**
KSR				AML	AML	07 32 59.1	
	comp=Z,1μm,0.7s						
LSZ	**Lusaka**	**7.85**	**321**	Pn	**Pn**	**07 31 00.4**	**-1.0**
	comp=Z,19nm,0.3s,baz=144,slow=15,SNR=58						
LSZ				Sn	**Sn**	**07 32 23.8**	**-6.5**
	comp=Z,47nm,0.3s,baz=56,slow=22,SNR=10						
LSZ				Lg		07 33 08.4	
	comp=Z,84nm,0.3s,baz=29,slow=16,SNR=18						
LSZ				LR	LR	07 33 30.2	
	comp=Z,182nm,20.1s,baz=319,slow=33						
LSZ	**Lusaka**	**7.85**	**321**	*e*P	**Pn**	**07 31 00.0**	**-1.4**
LSZ				*e*		07 32 23.9	
LSZ				pmax	pmax		
	comp=Z,281nm,0.8s						
LSZ	**Lusaka**	**7.85**	**321**	*e*Pn	**Pn**	**07 31 00.0**	**-1.4**
	comp=Z,281nm,0.8s						
LSZ				*e*Sn	**Sn**	**07 32 23.9**	**-6.3**
LBTB	**Lobatse**	**7.87**	**242**	Pn	**Pn**	**07 31 03.7**	**+2.1**
	comp=Z,11nm,0.3s,baz=66,slow=13,SNR=148						
LBTB				Sn	**Sn**	**07 32 31.4**	**+0.8**
	comp=Z,35nm,0.3s,baz=171,slow=23,SNR=7.9						
LBTB				Lg		07 33 18.4	
	comp=Z,44nm,0.3s,baz=345,slow=22,SNR=17						
LBTB	**Lobatse**	**7.87**	**242**	*e*P	**Pn**	**07 31 03.2**	**+1.6**
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LBTB	**Lobatse**	**7.87**	**242**	*e*Pn	**Pn**	**07 31 03.2**	**+1.6**
	comp=Z,4.1nm,0.6s						
LBTB				Sn	**Sn**	**07 32 20.9**	**-10**
SEK	**Senekal**	**8.50**	**216**	*e*S	**Sn**	**07 32 44.8**	**-1.4**
SEK				AML	AML	07 33 44.3	
	comp=Z,548nm,0.8s						
BOSA	**Boshof**	**10.13**	**224**	*e*P	**Pn**	**07 31 33.4**	**+0.7**
BOSA				*e*S	**Sn**	**07 33 23.0**	**-3.4**
BOSA				AML	AML	07 34 37.6	
	comp=Z,173nm,0.8s						
BOSA	**Boshof**	**10.13**	**224**	Pn	**Pn**	**07 31 33.1**	**+0.5**
	comp=Z,4.6nm,0.3s,baz=54,slow=13,SNR=61						
BOSA				Sn	**Sn**	**07 33 22.2**	**-4.2**
	comp=Z,11nm,0.3s,baz=338,slow=15,SNR=9.5						
BOSA				Lg		07 34 25.6	
	comp=Z,13nm,0.3s,baz=321,slow=20,SNR=5.6						
BOSA				LR	LR	07 35 49.5	
	comp=Z,1μm,20.3s,baz=53,slow=39						
BOSA	**Boshof**	**10.13**	**224**	*e*P	**Pn**	**07 31 32.6**	**-0.1**
BOSA				*e*		07 33 23.0	
BOSA				pmax	pmax		
	comp=Z,2μm,2.6s						
BOSA	**Boshof**	**10.13**	**224**	*e*Pn	**Pn**	**07 31 32.6**	**-0.1**
	comp=Z,2μm,2.6s						
BOSA				*e*Sn	**Sn**	**07 33 23.0**	**-3.4**
PKA	**Prieska**	**12.48**	**227**	*e*P	**Pn**	**07 32 04.0**	**-0.9**
OPO	**Ambohidratompo**	**13.41**	**80**	Pn	**Pn**	**07 32 13.4**	**-4.0**
	comp=Z,1.4nm,0.3s,baz=246,slow=11,SNR=7.2						
OPO				Sn	**Sn**	**07 34 34.2**	**-12**
	comp=Z,7.9nm,0.3s,baz=138,slow=20,SNR=8.5						
TSUM	**Tsumeb**	**14.88**	**276**	Pn	**Pn**	**07 32 36.0**	**-1.6**
	comp=Z,2.5nm,0.3s,baz=107,slow=12,SNR=27						
TSUM				Sn	**Sn**	**07 35 16.6**	**-6.0**
	comp=Z,1.9nm,0.3s,baz=305,slow=18,SNR=4.1						
TSUM				Lg		07 36 55.0	
	comp=Z,5.3nm,0.3s,baz=237,slow=4.1,SNR=4.4						
TSUM				LR	LR	07 38 36.5	
	comp=Z,549nm,19.7s,baz=83,slow=38						
TSUM	**Tsumeb**	**14.88**	**276**	*e*Pn	**Pn**	**07 32 34.3**	**-3.3**
	comp=Z,43nm,0.9s						
TSUM				*e*Sn	**Sn**	**07 35 16.5**	**-6.1**
SUR	**Sutherland**	**15.49**	**223**	*e*P	**Pn**	**07 32 47.2**	**+1.5**
SUR				*e*S	**Sn**	**07 35 32.9**	**-4.5**
SUR	**Sutherland**	**15.49**	**223**	Pn	**Pn**	**07 32 45.7**	**0.0**
	comp=Z,4.3nm,0.3s,baz=53,slow=13,SNR=25						
SUR				Sn	**Sn**	**07 35 29.8**	**-7.6**
	comp=Z,3.4nm,0.3s,baz=132,slow=18,SNR=9.4						
SUR				Lg		07 37 11.5	
	comp=Z,3.6nm,0.3s,baz=103,slow=7.4,SNR=4.1						
SUR				LR	LR	07 39 54.0	
	comp=Z,290nm,18.0s,baz=221,slow=41						
SUR	**Sutherland**	**15.49**	**223**	*e*Pn	**Pn**	**07 32 46.8**	**+1.1**
	comp=Z,41nm,0.6s						
SUR				*e*Sn	**Sn**	**07 35 29.2**	**-8.2**
CVNA	**Calvinia**	**15.63**	**228**	*e*P	**Pn**	**07 32 48.7**	**+1.2**
CVNA				*e*S	**Sn**	**07 35 34.5**	**-6.2**
CVNA				AML	AML	07 37 29.0	
	comp=Z,200nm,0.7s						
KMBO	**Kilima Mbogo**	**20.63**	**11**	P	**P**	**07 33 49.2**	**+2.5**
	comp=Z,3.2nm,0.7s,baz=189,slow=16,SNR=9.1						
KMBO				Lg		07 39 40.3	
	comp=Z,3.7nm,0.5s,baz=64,slow=23,SNR=6.8						
KMBO				LR	LR	07 41 20.6	
	comp=Z,92nm,19.3s,MS3.2,baz=92,slow=36						
KMBO	**Kilima Mbogo**	**20.63**	**11**	*e*P	**P**	**07 33 49.2**	**+2.5**
KMBO				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KMBO	**Kilima Mbogo**	**20.63**	**11**	*e*P	**P**	**07 33 49.2**	**+2.5**
	comp=Z,9.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**46.33**	**315**	P	**P**	**07 37 34.0**	**+0.8**
	comp=Z,13nm,0.9s,mb4.8,baz=127,slow=6.3,SNR=18						
TORD				PP	PP	07 39 22.9	+1.0
	comp=Z,5.6nm,0.9s,baz=135,slow=8.5,SNR=5.5						
LIC	**Lamto**	**46.58**	**302**	*e*P	**P**	**07 37 35.8**	**+0.6**
	comp=Z,18nm,1.0s,mb4.7						
LIC	**Lamto**	**46.58**	**302**	*e*P	**P**	**07 37 35.8**	**+0.6**
	comp=Z,9.1nm,1.0s,mb4.7						
DBIC	**Dimbokro**	**46.71**	**303**	P	**P**	**07 37 37.5**	**+1.2**
	comp=Z,7.4nm,1.0s,mb4.6,baz=121,slow=12,SNR=6.6						
DBIC				LR	LR	07 55 28.9	
	comp=Z,177nm,18.6s,MS4.0,baz=119,slow=34						
DBIC	**Dimbokro**	**46.71**	**303**	*e*P	**P**	**07 37 35.2**	**-1.1**
DBIC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DBIC	**Dimbokro**	**46.71**	**303**	*e*P	**P**	**07 37 35.2**	**-1.0**
	comp=Z,8.3nm,0.9s,mb4.7						
MAW	**Mawson**	**49.69**	**166**	P	**P**	**07 37 58.9**	**-0.3**
	comp=Z,14nm,0.9s,mb5.0,baz=65,slow=22,SNR=3.4						
MAW				LR	LR	07 53 56.4	
	comp=Z,219nm,19.4s,MS4.2,baz=242,slow=30						
SNAA	**Sanae**	**54.28**	**193**	P	**P**	**07 38 33.3**	**-0.2**
	comp=Z,2.2nm,1.0s,mb4.0,baz=35,slow=4.7,SNR=4.7						
VNA2	**Neumayer--Watz**	**54.80**	**195**	*e*P	**P**	**07 38 40.5**	**+3.3**
VNA2				*e*	pP	07 38 44.3	+3.9
VNA3	**Neumayer Olymp**	**55.57**	**195**	*e*P	**P**	**07 38 47.2**	**+4.4**
VNA3				*e*	pP	07 38 50.9	+5.0
BR131	**Keskin Array S**	**60.91**	**0**	*e*P	**P**	**07 39 20.1**	**-0.1**
	comp=Z,1.2nm,0.7s,mb4.1						
BRTR	**Keskin Array B**	**60.91**	**0**	P	**P**	**07 39 20.2**	**+0.1**
	comp=Z,2.1nm,0.9s,mb4.3,baz=172,slow=10.0,SNR=6.5						
GNI	**Garni**	**62.26**	**10⇓**	*e*P	**P**	**07 39 30.4**	**+1.1**
GNI				pmax	pmax		
	comp=Z,18nm,2.5s						
KIV	**Kislovodsk**	**65.71**	**7⇓**	*e*P	**P**	**07 39 52.4**	**+0.5**
KIV				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
PGF	**Pioggiola**	**67.56**	**341**	*e*P	**P**	**07 40 04.2**	**+0.5**
	comp=Z,26nm,1.1s,mb4.9						
PGF	**Pioggiola**	**67.56**	**341**	*e*P	**P**	**07 40 04.2**	**+0.5**
PGF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
PGF	**Pioggiola**	**67.56**	**341**	*e*P	**P**	**07 40 04.2**	**+0.5**
	comp=Z,13nm,1.1s,mb4.9						
PSI	**Prapat**	**68.55**	**78**	P	**P**	**07 40 09.3**	**-0.6**
	comp=Z,3.0nm,0.5s,mb4.5,baz=70,slow=7.7,SNR=5.3						
QSPA	**South Pole Qui**	**68.65**	**180**	*e*P	**P**	**07 40 11.2**	**+0.6**
	comp=Z,6.1nm,1.0s,mb4.5						
SMRF	**Simiane la Rot**	**69.93**	**339**	*e*P	**P**	**07 40 19.6**	**+1.0**
	comp=Z,31nm,1.2s,mb4.8						
SMRF	**Simiane la Rot**	**69.93**	**339**	*e*P	**P**	**07 40 19.6**	**+1.0**
	comp=Z,31nm,1.2s,mb5.1						
ESDC	**Sonseca Array**	**70.09**	**330**	P	**P**	**07 40 21.4**	**+1.9**
	comp=Z,4.2nm,0.8s,mb4.4,baz=143,slow=6.2,SNR=11						
ESLA	**Sonseca Array**	**70.09**	**330**	*e*Pn	**P**	**07 40 24.3**	**+4.8**
	comp=Z,5.8nm,1.3s,mb4.3						
MBDF	**Montbardon**	**70.22**	**340**	*e*P	**P**	**07 40 21.2**	**+0.9**
	comp=Z,28nm,1.3s,mb4.8						
MBDF	**Montbardon**	**70.22**	**340**	*e*P	**P**	**07 40 21.2**

LDF	La Druitiere	75.90	338	eP		P		07 40 53.0	-0.9
	comp=Z,134nm,1.7s,mb5.3								
OBN	Obninsk	76.36	2⇑	eP		P		07 40 57.3	+0.7
OBN				pmax	pmax				
	comp=Z,24nm,1.6s,mb4.9								
BDFB	Brasilia	76.48	258	P		P		07 41 00.5	+3.3
	comp=Z,7.8nm,0.8s,mb4.7,baz=70,slow=5.2,SNR=9.8								
BDFB				LR	LR			08 11 12.6	
	comp=Z,286nm,18.2s,MS4.6,baz=105,slow=33								
VNDA	Vanda	76.74	170	P		P		07 40 59.8	+1.1
	comp=Z,4.9nm,1.1s,mb4.3,baz=234,slow=9.1,SNR=7.7								
VNDA				LR	LR			08 10 42.0	
	comp=Z,217nm,19.9s,MS4.5,baz=78,slow=32								
VSU	Vasula	79.85	357	i	P	P		07 41 17.1	+1.2
ZRNK	Zerenda	80.38	21	eP		P		07 41 17.3	-1.5
ZRNK				pmax	pmax				
	comp=Z,5.0nm,1.1s,mb4.4								
ZRNK	Zerenda	80.38	21	eP		P		07 41 17.3	-1.5
	comp=Z,5.4nm,1.1s,mb4.4								
ARU	Arti	80.52	14⇑	i	P	P		07 41 21.8	+2.3
ARU				e				07 44 25.5	
ARU				eS	S			07 51 27.0	+0.8
ARU				eSS	SS			07 56 39.9	+1.6
ARU				pmax	pmax				
	comp=Z,10.0nm,1.1s,mb4.7								
BRVK	Borovoye	80.90	22	eP		P		07 41 20.6	-1.0
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.1								
BRVK	Borovoye	80.90	22	eP		P		07 41 20.6	-1.0
	comp=Z,0.7nm,0.4s,mb3.9								
MKAR	Makanchi Array	81.10	32	P		P		07 41 21.2	-1.4
	comp=Z,0.8nm,0.7s,mb3.8,baz=217,slow=5.2,SNR=11								
MKAR				LR	LR			08 19 02.0	
	comp=Z,62nm,18.1s,MS4.0,baz=90,slow=37								
CPUP	Villa Florida	81.25	245	LR		LR		08 12 42.2	
	comp=Z,123nm,20.2s,MS4.3,baz=136,slow=32								
WMQ	Urumqi	81.92	36	eP		P		07 41 27.3	+0.3
WMQ				AP	pP			07 41 31.8	+1.5
WMQ				XP	sP			07 41 34.3	+2.8
WMQ				AMB	AMB				
	comp=Z,4.0nm,1.0s,mb4.3								
WMQ				AMB	AMB				
	comp=Z,28nm,4.2s								
WMQ				LR	LR				
	comp=N,179nm,20.0s								
WMQ				LR	LR				
	comp=Z,212nm,22.0s,MS4.5								
KURK	Kurchatov	82.26	27⇑	i	P	P		07 41 28.0	-0.8
KURK	Kurchatov	82.26	27	eP		P		07 41 27.8	-1.0
	comp=Z,8.9nm,1.3s,mb4.5								
FINES	FINESS Array B	82.86	357	P		P		07 41 33.0	+1.2
	comp=Z,3.1nm,0.8s,mb4.4,baz=172,slow=3.9,SNR=8.4								
NB2	NORSAR Subarra	84.17	349	P		P		07 41 38.6	0.0
	comp=Z,10.0nm,1.1s,mb4.9,baz=154,slow=4.8								
NOA	NORSAR Array B	84.17	349	P		P		07 41 39.3	+0.7
	comp=Z,4.1nm,1.0s,mb4.5,baz=151,slow=4.7,SNR=4.9								
CD2	Chengdu	85.36	54	P		P		07 41 44.8	+0.2
CD2				AMB	AMB				
	comp=Z,10.0nm,1.1s,mb4.9								
CD2				AMB	AMB				
	comp=Z,50nm,5.9s								
PLCA	Paso Flores	86.10	228	P		P		07 41 50.0	+1.6
	comp=Z,1.5nm,0.8s,mb4.2,baz=235,slow=4.3,SNR=3.0								
PLCA				LR	LR			08 17 18.7	
	comp=Z,137nm,21.1s,MS4.3,baz=144,slow=34								
NVS	Novosibirsk	87.18	26	eP		P		07 41 53.2	-0.4
ZAL	Zalesovo	87.22	28	LR		LR		08 28 45.0	
	comp=Z,416nm,18.0s,MS4.9,baz=5.4,slow=41								
LZH	Lanzhou	87.88	50	eP		P		07 41 57.5	+0.6
LZH				AP	pP			07 42 00.5	+0.2
LZH				AMB	AMB				
	comp=Z,13nm,1.0s,mb5.1								
LVZ	Lovozero	89.14	1⇑	eP		P		07 42 00.0	-2.9
LVZ				pmax	pmax				
	comp=Z,117nm,2.5s								
ASAR	Alice Springs	90.70	116	P		P		07 42 10.0	-0.2
	comp=Z,4.5nm,0.8s,mb4.8,baz=244,slow=4.1,SNR=29								
ARCES	ARCESS Array B	90.96	357	LR		LR		08 24 17.9	
	comp=Z,33nm,19.1s,MS3.8,baz=353,slow=36								
WRA	Warramunga Arr	92.56	112	P		P		07 42 17.8	-1.0
	comp=Z,0.9nm,0.7s,mb4.3,baz=246,slow=4.0,SNR=5.1								
LPAZ	La Paz	94.31	251	P		P		07 42 30.4	+3.5
	comp=Z,3.1nm,1.1s,mb4.6,baz=94,slow=6.2,SNR=5.1								
LPAZ				LR	LR			08 21 00.8	
	comp=Z,109nm,21.8s,MS4.3,baz=274,slow=33								
HHC	Hu-ho-hao-te	95.41	48	eP		P		07 42 30.4	-1.5
HHC				AP	pP			07 42 35.0	-0.2
HHC				PP	PP			07 46 23.6	+1.3
HHC				SKS				07 53 04.9	
HHC				S				07 53 44.4	
HHC				AMB	AMB				
	comp=Z,11nm,0.4s,mb5.6								
HHC				AMB	AMB				
	comp=Z,86nm,5.9s								
HHC				LR	LR				
	comp=N,442nm,24.5s								
HHC				LR	LR				
	comp=E,923nm,12.7s								
HHC				LR	LR				
	comp=Z,89nm,4.9s								
NJ2	Nanjing	97.57	59	eP		P		07 42 43.1	+1.4
NJ2				AP	pP			07 42 47.9	+2.9
NJ2				XP	sP			07 42 50.1	+3.9
NJ2				PP	PP			07 46 43.5	+4.5
NJ2				S				07 54 04.0	
NJ2				XS	sS			07 54 12.0	-0.3
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.5s,mb5.6								
NJ2				AMB	AMB				
	comp=Z,200nm,11.2s								
NJ2				LR	LR				
	comp=N,120nm,19.4s								
NJ2				LR	LR				
	comp=E,320nm,26.4s								
NJ2				LR	LR				
	comp=Z,100nm,25.2s								
SSE	Sheshan	99.11	60	P		P		07 42 47.0	-1.6
SSE				AMB	AMB				
	comp=Z,46nm,5.1s								
KBS	Kingsbay	100.95	356⇑	eP		Pdif		07 42 53.2	-3.6
TIXI	Tiksi	112.00	20	i	PKIKP	PKiKP		07 47 44.7	+2.1
SEY	Seymchan	122.10	28	i	PKIKP	PKPdf		07 48 01.7	-0.3
YKA	Yellowknife Ar	133.55	340	PKP		PKPdf		07 48 23.6	-0.2
	comp=Z,1.0nm,0.7s,baz=38,slow=2.0,SNR=21								
ILAR	Eielson Array	136.75	0	PKP		PKPdf		07 48 28.8	-1.0
	comp=Z,1.0nm,1.1s,baz=294,slow=3.4,SNR=4.8								
PDAR	Pinedale Array	142.46	313	PKhKP				07 48 35.9	
	comp=Z,0.4nm,0.9s,baz=318,slow=2.0,SNR=2.3								
PDAR				PKP		PKPdf		07 48 41.3	+1.1
	comp=Z,0.6nm,0.8s,baz=132,slow=4.2,SNR=4.5								
SRU	San Rafael	144.44	308	ePKIKP		PKPdf		07 48 44.4	+0.7
TMUT	Trail Mountain	144.88	308	ePKPdf		PKPdf		07 48 45.5	+1.1
HVU	Hansel Valley	145.05	313	ePKIKP		PKPdf		07 48 44.6	-0.1
HLID	Hailey	145.32	317	ePKPdf		PKPdf		07 48 47.3	+2.1
MSU	Marysvale	145.86	308	ePKP2		PKPab		07 48 53.0	+5.9
MVU	Marysvale	145.89	308	ePKPdf		PKPdf		07 48 56.7	+10
MVU				ePKPbc		PKPbc		07 49 01.1	+14
BMO	Blue Mountains	146.42	321	ePKIKP		PKPdf		07 48 49.3	+2.2
BMO				e				07 48 53.5	
NEN	Nelson	148.81	304	P		PKPdf		07 48 59.7	+8.7
MNV	Mina	150.21	311	ePKIKP		PKPdf		07 48 55.7	+2.4
NVAR	Mina Array Bea	150.32	311	PKP		PKPdf		07 48 55.6	+2.1
	comp=Z,1.5nm,0.8s,baz=124,slow=1.9,SNR=7.6								
NVAR				PKPbc		PKPbc		07 49 00.2	+1.5
	comp=Z,2.0nm,0.9s,baz=68,slow=3.1,SNR=10								
NVAR				PKPab		PKPab		07 49 06.2	+1.2
	comp=Z,2.7nm,0.7s,baz=63,slow=3.2,SNR=9.5								

CASC 17 07:32:21.4±3.4, 1317N×8968W, h40km±75km, MD3.5, ML3.4, 4C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.67	5⇓	eP		Pn	07 33 05.5 +31
SBLS				eS		Sn	07 33 16.9 +33
SNET	Serv Nac Est T	0.68	40⇓	eP		Pn	07 33 06.4 +32
SNET				eS		Sn	07 33 17.5 +34
BOQS	Boqueron	0.69	34⇑	eP		Pn	07 33 06.0 +31
BOQS				eS		Sn	07 33 16.7 +33
SNJE	San Jose	0.70	6⇓	eP		Pn	07 33 05.9 +31
SNJE				eS		Sn	07 33 19.2 +35
RTR	El Retiro	0.73	2⇓	eP		Pn	07 33 06.3 +31
RTR				eS		Sn	07 33 19.4 +34
LFRS	El Faro	0.75	53⇓	i	P	Pn	07 33 06.9 +31
LFRS				eS		Sn	07 33 17.8 +32
LFU	La Fuente	0.80	43⇓	eP		Pn	07 33 07.7 +32
LFU				eS		Sn	07 33 18.2 +31
LCBS	La Ceiba	0.84	54	eP		Pn	07 33 08.2 +32
LCBS				eS		Sn	07 33 20.0 +32
LBRS	Las Brisas	0.84	47⇓	eP		Pn	07 33 08.3 +32
LBRS				eS		Sn	07 33 21.1 +33
RBDL	Robledal	0.94	359	eP		Pn	07 33 09.4 +31
RBDL				eS		Sn	07 33 21.9 +32
IXG	Ixpaco	1.25	323⇑	eP		Pn	07 32 41.9 -0.5
IXG				eS		Sn	07 32 58.3 +0.2
MTO2	Montecristo 2	1.27	14	eP		Pn	07 33 13.8 +31
MTO2				eS		Sn	07 33 29.9 +32
BLLM	Bellamira	1.43	79⇑	eP		Pn	07 33 16.9 +32
BLLM				eS		Sn	07 33 34.7 +32
FUG	Fuego 3	1.70	319	eP		Pn	07 32 49.7 +1.1
FUG				eS		Sn	07 33 10.5 +1.4
CNCH	Conchagua	1.80	86	eP		Pn	07 33 23.2 +33
CNCH				eS		Sn	07 33 46.3 +35
TP2	Tecpan 2	2.07	321⇑	eP		Pn	07 32 55.1 +1.4
TP2				eS		Sn	07 33 21.5 +3.3
JAT	Jato	2.22	301	eP		Pn	07 32 57.3 +1.6

ISCJB 17 07:40:35.7±0.4, 5010N±010×1844E±003, h0km, Error ellipse: s-maj=4.2km s-min=2.3km az=22.7
CSEM 17 07:40:37.0±0.1, 5004N×1841E, h2km, ML3.2/4, Error ellipse: s-maj=2.1km s-min=1.1km az=3.0
NEIC 17 07:40:37.8±0.7, 5006N×1837E, h5km, ML2.9(BRG), Error ellipse: s-maj=11.3km s-min=6.3km az=9.0
IPEC 17 07:40:37.1±0.1, 5001N×1844E, h2km±1km, ML2.2/4, Error ellipse: s-maj=2.0km s-min=0.7km az=161.0
WAR 17 07:40:37.1, 5004N×1844E, ML2.6, Mining Induced
VIE 17 07:40:39.6±0.6, 4975N×1833E, h0km, mb1.6/2, ML2.6/3, Error ellipse: s-maj=4.1km s-min=2.2km az=81.0 11 km
SSE of Ostrava Suspected Mining induced.

ISC 17 07:40:36.9±0.4, 5007N±003×1842E±003, h0km, n25, σ1§02/48, 1C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.15	274	⇓i	Pg	Pg	07 40 41.0 +1.3
RAC				eSg		Sg	07 40 44.3 +2.7
OKC	Ostrava-Krasne	0.29	217	ePG		Pg	07 40 42.7 +0.1
OKC				eSG		Sg	07 40 47.2 +0.8
	204nm,0.5s						
MORC	Moravsky Berou	0.64	243	ePg		Pg	07 40 48.9 -0.3
MORC				eSg		Sg	07 40 57.1 -0.4
	47nm,0.3s						
MORC	Moravsky Berou	0.64	243	ePg		Pg	07 40 48.9 -0.3
MORC				eSg		Sg	07 40 56.3 -1.2
OJC	Ojcow	0.90	80	ePg		Pg	07 40 54.3 +0.2
OJC				eSg		Sg	07 41 06.3 +0.5
JAVC	Velka Javorina	1.31	202	ePg		Pg	07 41 01.9 -0.1
JAVC				eSg		Sg	07 41 21.3 +2.3
	26nm,0.3s						
DPC	Dobruska-Polom	1.38	282	ePG		Pg	07 41 02.8 -0.5
DPC				eSG		Sg	07 41 21.9 +0.7
	57nm,0.5s						
DPC	Dobruska-Polom	1.38	282	ePg		Pg	07 41 02.8 -0.5
DPC				eSg		Sg	07 41 21.4 +0.2
NIE	Niedzica	1.39	117	ePg		Pg	07 41 03.2 -0.4
NIE				eSg		Sg	07 41 22.8 +1.2
VRAC	Vranov	1.41	238	ePg		Pg	07 41 03.0 -1.0
VRAC				eSg		Sg	07 41 20.6 -1.7
	39nm,0.3s						
KSP	Ksiaz	1.56	300	ePg		Pn	07 41 05.0 -0.9
KSP				e			07 41 08.2
KSP				eSg		Sn	07 41 26.7 -0.2
VYHS	Vyhne	1.60	170	e		Pn	07 41 06.0 -0.5
VYHS				e			07 41 26.4
UPC	Upice	1.61	287	ePG		Pg	07 41 06.9 -0.8
UPC				eSG		Sg	07 41 28.2 -0.3
KRUC	Moravsky	1.66	233	ePn		Pn	07 41 06.8 -0.5
KRUC				eSg		Sn	07 41 28.3 -1.0
	15nm,0.3s						
SMOL	Smolenice	1.69	203	eSN		Sn	07 41 30.0 0.0
STHS	Stebnicka Huta	1.94	109	ePN		Pg	07 41 13.8 -0.4
STHS				eSN		Sg	07 41 40.4 +1.0
ZST	Bratislava	2.07	205	ePN		Pn	07 41 13.0 +0.1
ZST				eSN		Sn	07 41 39.5 +0.1
KECS	Kecovo	2.09	139	e		Pn	07 41 12.2 -0.9
KECS				e			07 41 37.2
CRVS	Cervenica-Dubn	2.30	119	ePN		Pg	07 41 19.3 -1.8
CRVS				eSN		Sg	07 41 50.8 -0.1
PRU	Pruhonice	2.50	270	ePG		Pb	07 41 22.7 0.0
PRU				eSG		Sb	07 41 54.5 +0.4
BRG	Berggiesshubel	2.97	287	PN		Pb	07 41 29.8 -0.9
BRG				PG		Pg	07 41 32.9 -1.0
BRG				SG		Sg	07 42 12.1 -0.3
	5.8nm,0.4s						
KHC	Kasperske Hory	3.29	255	ePN		Pn	07 41 30.0 +0.3
KHC				ePG		Pb	07 41 37.9 +1.8
KHC				eSG		Sb	07 42 18.5 +1.8
	17nm,0.4s						
KHC	Kasperske Hory	3.29	255	ePg		Pb	07 41 37.9 +1.8
KHC				eSg		Sb	07 42 18.5 +1.8
	17nm,0.4s						
MOA	Molln	3.53	232	⇑iPg		Pb	07 41 41.7 +1.5
MOA				⇓iSg		Sg	07 42 27.6 -2.7
	comp=Z,6.7nm,0.5s						
CLL	Collm	3.66	292	eSg		Sg	07 42 36.0 +1.5

IDC 17 07:49:12.8±64.0, 5689S×14648E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/11, mbtmp3.7/3, Error ellipse: s-maj=1094.0km s-min=246.1km az=151.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	25.24	350	P		P	07 54 40.4 0.0
	2.1nm,0.9s,baz=189,slow=8.7,SNR=4.2						
ASAR	Alice Springs	34.43	339	P		P	07 56 02.4 +0.4
	0.3nm,0.6s,baz=163,slow=9.2,SNR=6.7						
WRA	Warramunga Arr	37.98	341	P		P	07 56 31.5 -0.9
	1.4nm,0.7s,baz=168,slow=7.9,SNR=4.6						

MAN 17 07:55:48.6, 949N×12642E, h1km, mb2.9, ML4.3, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.95	237	eP		Pg	07 56 07.8 +1.1
BUTP				eS		Sg	07 56 21.1 +2.1
SCPH	Surigao	0.96	288	eP		Pg	07 56 06.7 -0.3
SCPH				eS		Sg	07 56 18.5 -1.0
SCPH	Surigao	0.96	288	eP		Pg	07 57 09.0 +62
SCPH				eS		Sg	07 57 20.4 +61
BIPH	Bislig	1.30	183	⇑iP		Pg	07 56 12.6 -0.9
BIPH				i S		Sg	07 56 31.0 +0.7
MSLP	Maasin	1.67	293	eP		Pn	07 56 19.9 +1.0
MSLP				eS		Sn	07 56 41.2 +0.2
BUKP	Musuan	2.09	220	eP		Pn	07 56 26.7 +2.0

ISCJB 17 08:06:19.3±0.3, 3697N±007×13496E±006, h379km±4km, mb3.6/15, Error ellipse: s-maj=12.2km s-min=6.5km az=142.6
NEIC 17 08:06:19.8, 3697N×13492E, h377km, MG3.4(JMA), After JMA.
JMA 17 08:06:19.7±0.2, 3697N×13492E, h377km±2km, M3.4
IDC 17 08:06:19.9±0.9, 3697N×13488E, h370km±10km, mb3.1/11, mb1 3.4/14, mb1mx3.3/24, mbtmp3.9/14, Error ellipse: s-maj=16.2km s-min=11.3km az=113.0

ISC 17 08:06:20.1±0.3, 3698N±008×13494E±006, h372km±4km, n39, σ0§78/46, mb3.6/15, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	Yasaka	1.35	174	P		Pn	08 07 10.0 +0.3
JKY				S		S	08 07 49.4 -0.2
JWT	Wachi	1.73	167	P		Pn	08 07 12.3 +0.5
JWT				S		S	08 07 53.2 -0.2
JGM	Miyama	1.92	131	S		S	08 07 55.5 0.0
JSZ	Suzu	1.99	76	P		Pn	08 07 14.0 +0.6
JHS	Saijyo	2.47	217	P		Pn	08 07 16.8 0.0
JHS				S		S	08 08 01.6 -0.8
MAJO	Matsushiro	2.66	98	ePn		Pn	08 07 18.6 +0.3
MAT	Matsushiro	2.66	98	P		Pn	08 07 18.5 +0.2
MAT	Matsushiro	2.66	98	P		Pn	08 07 18.7 +0.4
MAT				eS		S	08 08 08.2 +3.0
MAT	Matsushiro	2.66	98	eP		Pn	08 07 19.0 +0.7
MJAR	Matsushiro Arr	2.66	98	P		Pn	08 07 18.2 -0.1
	7.8nm,0.3s,baz=279,slow=9.8,SNR=111						
JSD	Sado	2.85	67	P		Pn	08 07 20.2 +0.4
JGT	Gotsu	2.87	228	P		Pn	08 07 20.2 +0.2
JGT				S		S	08 08 08.2 -0.1
JRY	Ryogami san	3.34	106	P		Pn	08 07 24.7 +0.6
JOD2	Odawara 2	3.77	116	P		Pn	08 07 28.7 +0.5
JNU	Nakatsue	5.09	222	P		Pn	08 07 41.7 +0.1
	2.0nm,0.3s,baz=73,slow=11,SNR=3.4						
JNU				S		S	08 08 48.0 +0.2
	0.4nm,0.3s,baz=86,slow=19,SNR=2.2						
JMK	Ichinoseki	5.34	66	P		Pn	08 07 44.1 -0.3
BSO1	Boso 1	5.43	114	P		Pn	08 07 43.7 -1.6
BSO1				S		S	08 08 51.7 -2.8
KS15	Wonju Array Si	5.65	277	ePn		Pn	08 07 47.0 -0.8
ASAJ	Asahikawa	9.21	37	P		Pn	08 08 27.1 -1.5
	17nm,0.3s,baz=230,slow=11,SNR=53						
ASAJ				S		S	08 10 06.3 -7.7
	2.0nm,0.3s,baz=22,slow=31,SNR=7.7						
SONM	Songino Array	23.57	306	P		P	08 10 58.3 -0.5
	1.1nm,0.5s,mb3.4,baz=113,slow=9.7,SNR=7.9						
MKAR	Makanchi Array	39.73	301	P		P	08 13 18.1 +0.1
	0.6nm,0.4s,mb3.1,baz=97,slow=11,SNR=4.1						
MKAR				ScP	ScP		08 18 27.2 -1.4
	0.3nm,0.7s,baz=101,slow=6.3,SNR=4.0						
MKAR	Makanchi Array	39.73	301	P		P	08 13 18.1 +0.1
MKAR				ScP	ScP		08 18 27.2 -1.4
JIRN	Jiri	41.85	272	eP		P	08 13 36.0 +0.9
	8.7nm,0.4s,mb4.2						
GUN	Gumba	41.99	272	eP		P	08 13 36.1 -0.1
KKN	Kakani	42.52	272	eP		P	08 13 40.4 0.0
	5.8nm,0.4s,mb4.1						
DMN	Daman	42.74	272	eP		P	08 13 43.7 +1.5
GKN	Gorkha	42.94	273	eP		P	08 13 43.6 -0.2
	5.1nm,0.3s,mb4.1						
KOLN	Koldanda	43.87	273	eP		P	08 13 51.5 +0.4
	4.7nm,0.3s,mb4.2						
ILAR	Eielson Array	52.30	32	P		P	08 14 55.0 +0.1
	0.7nm,0.6s,mb3.2,baz=266,slow=6.2,SNR=19						
WB2	Warramunga Arr	56.62	181	eP		P	08 15 25.2 -0.4
WRA	Warramunga Arr	56.62	181	P		P	08 15 25.2 -0.3
	2.2nm,0.3s,mb3.9,baz=357,slow=7.5,SNR=12						
ASAR	Alice Springs	60.33	181	P		P	08 15 50.8 -0.1
	0.8nm,0.6s,mb3.3,baz=357,slow=6.2,SNR=15						
ARCES	ARCESS Array B	62.16	338	P		P	08 16 01.8 -1.3
	2.7nm,1.0s,mb3.7,baz=54,slow=9.1,SNR=5.2						
YKA	Yellowknife Ar	66.39	28	P		P	08 16 29.7 -0.5
	0.1nm,0.3s,mb3.0,baz=312,slow=6.6,SNR=7.5						
NOA	NORSAR Array B	72.13	335	P		P	08 17 04.3 -0.7
	0.6nm,0.7s,mb3.4,baz=46,slow=6.6,SNR=2.3						
NVAR	Mina Array Bea	79.08	50	P		P	08 17 45.6 +1.5
	0.5nm,0.5s,mb3.5,baz=291,slow=5.1,SNR=5.1						
PDAR	Pinedale Array	81.30	42	P		P	08 17 56.6 +0.9
	0.4nm,0.7s,mb3.3,baz=300,slow=1.2,SNR=4.3						
ULM	Lac du Bonnet	82.28	30	P		P	08 18 00.8 0.0
	0.7nm,0.3s,mb3.9,baz=320,slow=7.7,SNR=3.9						
LPAZ	La Paz	150.99	51	PKPbc		PKPbc	08 25 30.8 +1.5
	0.9nm,0.6s,baz=323,slow=6.0,SNR=4.6						

ISCJB 17 08:12:37.7±1.2, 1299N±010×1433E±02, h210km±13km, mb3.8/12, Error ellipse: s-maj=34.2km s-min=15.2km az=14.0
NEIC 17 08:12:39.3±1.1, 1300N×14338E, h212km±11km, mb4.1/3, Error ellipse: s-maj=23.0km s-min=11.4km az=95.0
IDC 17 08:12:39.2±1.0, 1300N×14345E, h211km±10km, mb3.6/9, mb1 3.9/9, mb1mx3.7/20, mbtmp4.2/9, Error ellipse: s-maj=27.3km s-min=12.1km az=104.0

ISC 17 08:12:39.3±1.1, 1303N±010×1434E±02, h211km±12km, n19, σ0§93/20, mb3.8/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.52	68	P		Pn	08 13 14.9 +0.7
	22nm,0.3s,baz=101,slow=22,SNR=9.5						
GUMO				S		S	08 13 41.0 -0.4
	38nm,0.3s,baz=348,slow=23,SNR=13						
GUMO	Guam	1.52	68	ePn		Pn	08 13 14.6 +0.4
GUMO				P			08 13 14.9
GUMO				S		S	08 13 41.0 -0.4
WB2	Warramunga Arr	33.95	195	eP		P	08 19 03.4 +0.8
WRA	Warramunga Arr	33.96	195	P		P	08 19 03.3 +0.6
	5.8nm,0.6s,mb4.3,baz=17,slow=9.5,SNR=18						
ASAR	Alice Springs	37.63	194	P		P	08 19 33.5 -0.3
	1.8nm,0.8s,mb3.7,baz=19,slow=11,SNR=22						
STKA	Stephens Creek	44.68	182	P		P	08 20 29.6 -1.5
	1.0nm,0.4s,mb3.5,baz=359,slow=12,SNR=4.4						
MKAR	Makanchi Array	60.91	316	P		P	08 22 30.8 +1.0
	0.7nm,0.6s,mb3.5,baz=104,slow=7.3,SNR=13						
MKAR	Makanchi Array	60.91	316	P		P	08 22 30.8 +1.0
KURK	Kurchatov	64.10	320	eP		P	08 22 50.5 -0.4
	5.0nm,0.9s,mb4.1						
BRVK	Borovoye	69.56	322	eP		P	08 23 25.6 +0.4
	2.0nm,0.5s,mb4.0						
ILAR	Eielson Array	69.68	25	P		P	08 23 25.1 -0.9
	1.2nm,0.6s,mb3.7,baz=249,slow=6.0,SNR=34						
ZRNK	Zerenda	70.32	322	eP		P	08 23 29.8 0.0
	1.4nm,0.5s,mb3.9						
YKA	Yellowknife Ar	84.01	27	P		P	08 24 46.2 +0.3
	0.8nm,0.5s,mb3.7,baz=290,slow=5.3,SNR=20						
YKA	Yellowknife Ar	84.01	27	P		P	08 24 46.2 +0.3
ARCES	ARCESS Array B	87.18	342	P		P	08 25 01.3 -0.2
	1.3nm,0.8s,mb3.7,baz=80,slow=6.7,SNR=9.7						
ARCES	ARCESS Array B	87.18	342	P		P	08 25 01.3 -0.2
NVAR	Mina Array Bea	88.38	51	P		P	08 25 09.3 +2.1
	1.1nm,0.8s,mb3.8,baz=262,slow=4.7,SNR=8.8						
FIN

PCND	**Candelaria**	**0.85 128**	*e*S	Sg	08 28 43.6	-3.9
PCND						
	44nm,0.2s					
PICO	**Pico**	**0.85 126**	*i* P	Pg	08 28 33.6	-2.9
PICO			*e*S	Sg	08 28 43.5	-4.2
PICO	**Pico**	**0.85 126**	*e*S	Sg	08 28 43.5	-4.2
ROSA	**Rosais**	**0.88 108**	*i* P	Pg	08 28 33.7	-3.4
ROSA			*e*S	Sg	08 28 44.0	-4.5
ROSA	**Rosais**	**0.88 108**	*e*S	Sg	08 28 44.0	-4.5
PBOI	**Pico dos Bois**	**0.92 127**	*e*S	Sg	08 28 46.0	-3.9
PBOI						
	32nm,0.1s					
PMAN	**Manadas**	**1.02 111**	*e*S	Sg	08 28 47.5	-5.6
PMAN						
	27nm,0.1s					

*ISCJB **17** 08:31:26.8±0.7,4180N±003×2289E±006,h15km,Error ellipse: s-maj=7.0km s-min=4.6km az=33.7*
*CSEM **17** 08:31:27.7±0.1,4183N×2285E,h20km,ML2.0,Error ellipse: s-maj=3.3km s-min=2.1km az=103.0*
*THE **17** 08:31:27.4,4181N×2282E,h15km,ML2.7*
*SKO **17** 08:31:27.2,4180N×2287E,h24km,M1.9,ML2.0*
ISC 17 08:31:27.6±0.7,4179N±004×2287E±008,h25km±12km, n11,σ0°59/19,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.52**	**206**	*e*Pg	**Pb**	**08 31 37.1**	**-1.0**
VAY				*e*Sg	**Sb**	**08 31 45.3**	**+0.1**
VAY	**Valandovo**	**0.52**	**206**	*e*Pg	**Pb**	**08 31 38.7**	**+0.6**
VAY				*e*Sg	**Sb**	**08 31 44.8**	**-0.4**
VAY				*e*Lg		08 31 45.9	
	comp=E,45nm,0.2s						
VAY				*e*Lg		08 31 46.1	
	comp=N,56nm,0.2s						
VAY	**Valandovo**	**0.52**	**206**	*e*Pg	**Pb**	**08 31 38.7**	**+0.6**
VAY				*e*Sg	**Sb**	**08 31 45.3**	**+0.1**
STIP	**Stip**	**0.52**	**260**	*e*Pg	**Pb**	**08 31 38.1**	**0.0**
STIP				*e*Sg	**Sb**	**08 31 45.2**	**-0.2**
STIP				*e*Lg		08 31 45.4	
	comp=E,45nm,0.2s						
STIP				*e*Lg		08 31 45.5	
	comp=N,70nm,0.3s						
STIP	**Stip**	**0.52**	**260**	*e*Pg	**Pb**	**08 31 38.1**	**-0.1**
STIP				*e*Sg	**Sb**	**08 31 45.1**	**-0.2**
KNT	**Kendrikon**	**0.62**	**178**	*e*Pg	**Pb**	**08 31 40.3**	**+0.4**
KNT				*e*Sg	**Sb**	**08 31 48.9**	**+0.7**
VTS	**Vitosha**	**0.84**	**17**	*e*Pg	**Pb**	**08 31 43.4**	**-0.3**
VTS				*e*Sg	**Sb**	**08 31 55.0**	**+0.4**
VTS	**Vitosha**	**0.84**	**17**	*e*Pg	**Pb**	**08 31 43.3**	**-0.3**
VTS				*e*Sg	**Sb**	**08 31 55.0**	**+0.5**
SRS	**Serrai**	**0.86**	**141**	*e*Pg	**Pn**	**08 31 44.4**	**+0.3**
GRG	**Griva**	**0.90**	**203**	*e*Pg	**Pn**	**08 31 44.8**	**+0.1**
OUR	**Ouranopolis**	**1.68**	**150**	*e*Pb	**Pb**	**08 31 56.3**	**-1.5**

IDC 17 08:32:33.8±8.3,4987N×14606E,h674km±101km,mb2.6/6, mb1 2.9/6,mb1mx2.6/20,mbtmp3.7/6,Error ellipse: s-maj=112.1km s-min=19.4km az=163.0,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**25.97**	**281**	P	P	08 37 18.4	+1.1
	0.2nm,0.4s,baz=73,slow=8.6,SNR=3.9						
ILAR	**Eielson Array**	**37.16**	**41**	P	P	08 38 50.2	-1.0
	0.7nm,0.7s,baz=269,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**41.37**	**291**	P	P	08 39 23.9	-0.8
	0.6nm,0.5s,baz=68,slow=6.6,SNR=9.5						
YKA	**Yellowknife Ar**	**51.21**	**36**	P	P	08 40 38.6	+0.5
	0.3nm,0.6s,baz=304,slow=6.9,SNR=7.8						
NVAR	**Mina Array Bea**	**65.04**	**60**	P	P	08 42 10.7	+0.1
	0.6nm,0.6s,baz=288,slow=8.7,SNR=5.5						
PDAR	**Pinedale Array**	**66.58**	**51**	P	P	08 42 20.4	+0.3
	0.9nm,0.5s,baz=23,slow=1.3,SNR=9.3						

*NEIC **17** 08:36:51.6, 1836N×6821W,h152km,MD3.9(RSPR), After RSPR.*
RSPR 17 08:36:51.6,1836N×6821W,h152km±2km,MD3.9/9, MD3.9/9,10C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.08**	**99**	*e*S	Sn	08 37 36.9	0.0
LSP	**Las Mesas**	**1.08**	**99**	⇑*e*P	Pn	08 37 17.6	+0.3
LSP				*e*S	Sn	08 37 36.9	0.0
CRPR	**Cabo Rojo, PR**	**1.10**	**108**	*e*S	Sn	08 37 37.4	+0.2
CRPR	**Cabo Rojo, PR**	**1.10**	**108**	⇓*e*P	Pn	08 37 16.6	-0.9
CRPR				*e*S	Sn	08 37 37.4	+0.2
MGP	**Maguayo**	**1.12**	**108**	⇑*e*P	Pn	08 37 16.9	-0.7
MGP				*e*S	Sn	08 37 37.9	+0.5
LRS	**Lares**	**1.30**	**93**	⇑*e*P	Pn	08 37 18.9	-0.4
LRS				*e*S	Sn	08 37 40.7	+0.3
AOPR	**Arecibo Observ**	**1.39**	**90**	*e*S	Sn	08 37 42.5	+0.5
AOPR	**Arecibo Observ**	**1.39**	**90**	⇑*e*P	Pn	08 37 20.2	0.0
AOPR				*e*S	Sn	08 37 42.5	+0.5
OBIP	**Obispado Ponce**	**1.56**	**101**	*e*S	Sn	08 37 45.1	0.0
OBIP	**Obispado Ponce**	**1.56**	**101**	⇑*e*P	Pn	08 37 22.3	+0.4
OBIP				*e*S	Sn	08 37 45.1	0.0
CELP	**Cerrillos**	**1.58**	**100**	⇑*e*P	Pn	08 37 22.6	+0.5
ICM	**Isla Caja Muer**	**1.67**	**106**	*e*S	Sn	08 37 47.9	+0.5
ICM	**Isla Caja Muer**	**1.67**	**106**	⇑*e*P	Pn	08 37 23.0	-0.1
ICM				*e*S	Sn	08 37 47.9	+0.5
CPD	**Cerro la Pandu**	**2.21**	**98**	*e*Pn	Pn	08 37 28.7	-0.5
CPD				*e*Sn	Sn	08 37 56.5	-1.7
CBYP	**Canovanas**	**2.24**	**92**	*e*S	Sn	08 37 59.5	+0.6
CBYP	**Canovanas**	**2.24**	**92**	⇑*e*P	Pn	08 37 29.4	-0.3
CBYP				*e*S	Sn	08 37 59.5	+0.6
HUMP	**Col San Antoni**	**2.25**	**95**	*e*S	Sn	08 37 59.3	+0.1
HUMP	**Col San Antoni**	**2.25**	**95**	⇑*e*P	Pn	08 37 30.0	+0.2
HUMP				*e*S	Sn	08 37 59.3	+0.1
MTP	**Monte Pirata**	**2.54**	**96**	*e*S	Sn	08 38 06.3	+0.9
MTP	**Monte Pirata**	**2.54**	**96**	⇑*e*P	Pn	08 37 33.9	+0.6
MTP				*e*S	Sn	08 38 06.3	+0.9

JMA 17 08:41:31.9±0.5,4514N×15088E,h83km,M3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.09**	**246**	P	Pn	08 42 33.2	+1.1
NEM2				*e*S	Sn	08 43 20.4	+1.6
JNK	**Nakash**	**4.68**	**253**	P	Pn	08 42 41.9	+1.8
JAK	**Akkeshi**	**4.94**	**246**	P	Pn	08 42 45.2	+1.5
JAK				*e*S	Sn	08 43 40.8	+1.3
JTKR	**Abashiri--Toko**	**5.12**	**259**	P	Pn	08 42 47.5	+1.5
JAR	**Ashorobuto**	**5.43**	**253**	P	Pn	08 42 52.2	+1.9
JOB	**Onbets**	**5.55**	**249**	P	Pn	08 42 53.8	+1.9
JOB				*e*S	Sn	08 43 56.7	+2.4
JKK2	**Kamakawa 2**	**5.95**	**261**	P	Pn	08 42 59.0	+1.6
JCH	**Churui**	**5.99**	**248**	P	Pn	08 42 59.7	+1.8
JCH				*e*S	Sn	08 44 05.8	+0.7
JBT2	**Biratori 2**	**6.58**	**252**	P	Pn	08 43 07.2	+1.2
JKB	**Kayabe**	**7.86**	**249**	*e*S	Sn	08 44 48.5	-2.3
JANG	**Nango**	**8.37**	**239**	P	Pn	08 43 30.3	-0.1
JANG				*e*S	Sn	08 45 00.9	-2.4
JTM	**Tenmabayashi**	**8.41**	**242**	*e*S	Sn	08 45 01.9	-2.2

JMA 17 08:48:20.5±0.3,4405N×14777E,h0km,M3.9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.62**	**246**	P	Pn	08 48 50.3	0.0
NEM2				*e*S	Sn	08 49 12.2	+0.3
JRA	**Rausu**	**1.91**	**268**	P	Pn	08 48 54.8	+0.5
JNK	**Nakash**	**2.26**	**259**	P	Pn	08 48 59.7	+0.6
JAK	**Akkeshi**	**2.47**	**246**	P	Pn	08 49 02.7	+0.7
JTKR	**Abashiri--Toko**	**2.79**	**270**	P	Pn	08 49 07.9	+1.5
JAR	**Ashorobuto**	**3.00**	**257**	P	Pn	08 49 10.9	+1.6
JOB	**Onbets**	**3.08**	**250**	P	Pn	08 49 11.5	+1.1
JOB				*e*S	Sn	08 49 49.2	+1.2
JCH	**Churui**	**3.52**	**247**	P	Pn	08 49 18.0	+1.6
JCH				*e*S	Sn	08 50 00.1	+1.3
JNBK	**Urakawa-nobuka**	**4.07**	**246**	P	Pn	08 49 25.6	+1.6

IDC 17 08:53:29.6±2.8,1992S×7091W,h0km,mb3.6/2, mb1 3.7/4,mb1mx3.6/17,mbtmp3.6/4,ML3.5/2,Error ellipse: s-maj=79.8km s-min=44.4km az=171.0,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.48**	**37**	Pn	Pn	08 54 39.3	+0.7
	0.6nm,0.3s,baz=198,slow=5.9,SNR=17						
SIV	**San Ignacio**	**10.14**	**69**	Pn	Pn	08 55 56.5	+0.1
	0.8nm,0.3s,baz=273,slow=10,SNR=19						
TORD	**Torodi Ar. Bea**	**78.61**	**71**	P	P	09 05 33.9	+0.7
	0.6nm,0.9s,baz=264,slow=4.3,SNR=2.5						
YKA	**Yellowknife Ar**	**89.09**	**341**	P	P	09 06 26.2	-0.5
	0.2nm,0.6s,baz=130,slow=4.7,SNR=7.8						

IDC 17 08:59:58.3±1.9,5232N×3554E,h0km,mb3.4/2,mb1 3.7/4, mb1mx3.4/18,mbtmp3.5/4,ML3.5/3,Error ellipse: s-maj=23.4km s-min=11.7km az=117.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.26**	**250**	Pn	Pn	09 01 03.8	-0.7
	1.2nm,0.3s,baz=62,slow=15,SNR=3.8						
AKASG				Pg	Pg	09 01 12.9	-7.2
	1.4nm,0.3s,baz=60,slow=15,SNR=4.2						
AKASG				Sn	Sn	09 01 52.5	-2.4
	3.4nm,0.3s,baz=61,slow=26,SNR=5.1						
AKASG				Lg		09 02 09.4	
	4.1nm,0.3s,baz=56,slow=22,SNR=5.5						
FINES	**FINESS Array B**	**10.50**	**334**	Pn	Pn	09 02 26.3	-3.7
	0.3nm,0.3s,baz=161,slow=12,SNR=8.4						
FINES				Sn	Sn	09 04 18.9	-9.4
	0.3nm,0.3s,baz=147,slow=23,SNR=4.5						
FINES				Lg		09 05 25.4	
	0.4nm,0.3s,baz=156,slow=29,SNR=5.8						
ARCES	**ARCESS Array B**	**17.90**	**349**	P	Pn	09 04 07.5	-1.2
	0.4nm,0.3s,baz=158,slow=10,SNR=16						
TORD	**Torodi Ar. Bea**	**47.54**	**227**	P	P	09 08 35.4	-0.1
	0.4nm,0.7s,baz=8.3,slow=7.6,SNR=2.8						
YKA	**Yellowknife Ar**	**63.13**	**345**	P	P	09 10 25.6	-2.2
	0.2nm,0.5s,baz=14,slow=6.7,SNR=6.4						

*IDC **17** 09:01:24.1±3.4,5377N×16424W,h0km,mb3.9/8, mb1 3.9/10,mb1mx3.7/26,mbtmp3.9/10,ML3.5/2,Error ellipse: s-maj=78.4km s-min=24.9km az=163.0*
*NEIC **17** 09:01:30.9,5375N×16401W,h16km,ML3.5(AEIC),After AEIC.*
*ISCJB **17** 09:01:32.3±1.0,546N±03×1642W±03,h36km±20km, mb4.0/7,Error ellipse: s-maj=59.9km s-min=8.3km az=128.1*
ISC 17 09:01:33.4±0.9,545N±03×1642W±02,h38km±14km,n16, σ0°94/18,mb4.0/7,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**0.97**	**247**	P	**Pn**	**09 01 49.7**	**-0.8**
AKA				S	**Sn**	**09 02 03.5**	**+0.4**
AKLV	**Akutan Long Va**	**1.06**	**251**	P	**Pn**	**09 01 51.2**	**-0.6**
SDPT	**Sand Point**	**2.33**	**67**	P	**Pn**	**09 02 10.9**	**+1.7**
KDAK	**Kodiak Island**	**7.29**	**59**	Pn	**Pn**	**09 03 17.4**	**+0.1**
	1.1nm,0.3s,baz=199,slow=14,SNR=15						
KDAK				Sn	**Sn**	**09 04 37.0**	**-1.8**
	baz=343,slow=21,SNR=2.3						
ILAR	**Eielson Array**	**13.46**	**33**	Pn	**Pn**	**09 04 43.4**	**+1.6**
	0.1nm,0.3s,baz=231,slow=12,SNR=6.8						
INK	**Inuvik**	**19.86**	**34**	P	**Pn**	**09 06 01.9**	**-1.0**
	1.3nm,0.4s,baz=242,slow=14,SNR=10						
INK	**Inuvik**	**19.86**	**34**	P	**Pn**	**09 06 01.9**	**-1.0**
INK				*e*P		09 06 02.0	
YKA	**Yellowknife Ar**	**26.51**	**52**	P	**P**	**09 07 07.3**	**+0.1**
	0.2nm,0.6s,mb2.9,baz=273,slow=9.7,SNR=7.2						
ARCES	**ARCESS Array B**	**56.05**	**356**	P	**P**	**09 11 08.5**	**0.0**
	2.3nm,0.8s,mb4.2,baz=6.2,slow=7.8,SNR=8.3						
JOF	**Joensuu**	**62.27**	**352**	*e*p	**P**	**09 11 50.6**	**-0.9**
	1.2nm,0.4s						
KAF	**Kangasniemi**	**63.42**	**354**	*e*p	**P**	**09 11 57.6**	**-1.5**
	1.9nm,0.5s						
BVAR	**Borovoye Array**	**63.67**	**327**	P	**P**	**09 12 01.4**	**+0.7**
	1.1nm,0.7s,mb4.0,baz=44,slow=11,SNR=5.1						
FINES	**FINESS Array B**	**64.10**	**355**	P	**P**	**09 12 03.8**	**+0.2**
	1.0nm,0.5s,mb4.1,baz=20,slow=7.8,SNR=14						
HFS	**Hagfors**	**65.69**	**1**	P	**P**	**09 12 14.3**	**+0.4**
	1.6nm,0.5s,mb4.3,baz=23,slow=3.3,SNR=18						
AKTO	**Aktyubinsk**	**69.60**	**333**	P	**P**	**09 12 39.0**	**+0.4**
	2.0nm,0.6s,mb4.2,baz=22,slow=5.4,SNR=8.2						
BRTR	**Keskin Array B**	**84.88**	**346**	P	**P**	**09 14 05.2**	**+1.0**
	1.1nm,0.8s,mb4.0,baz=346,slow=1.5,SNR=5.7						

*NEIC **17** 09:14:57.2,3690N×2783E,h29km,MD2.9(ATH), MD2.9(ISK),After ISK.*
*ISK **17** 09:14:57.9,3692N×2781E,h27km,MD2.8*
*CSEM **17** 09:14:58.9±0.1,3693N×2780E,h8km,MD2.8,Error ellipse: s-maj=3.2km s-min=2.1km az=123.0*
*ISCJB **17** 09:14:59.6±0.6,3691N±002×2779E±005,h10km±4km, Error ellipse: s-maj=6.3km s-min=3.9km az=24.6*
*ATH **17** 09:15:00.9,3689N×2771E,h36km±4km,MD2.9/5*
ISC 17 09:14:60.0±0.5,3691N±003×2780E±005,h12km±4km,n20, σ0°98/33,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.25**	**224**	PG	**Pg**	**09 15 05.3**	**0.0**
DAT				SG	**Sg**	**09 15 09.9**	**+1.1**
MLSB	**Milas**	**0.39**	**358**	PG	**Pg**	**09 15 07.0**	**-0.6**
MLSB				SG	**Sg**	**09 15 13.0**	**+0.2**
MLSB	**Milas**	**0.39**	**358**	Pg	**Pg**	**09 15 06.8**	**-0.8**
MLSB				*e*Sg	**Sg**	**09 15 13.0**	**+0.2**
MLSB	**Milas**	**0.39**	**358**	Pg	**Pg**	**09 15 06.8**	**-0.9**
BODT	**Bodrum**	**0.42**	**291**	PG	**Pg**	**09 15 07.6**	**-0.7**
BODT	**Bodrum**	**0.42**	**291**	Pg	**Pg**	**09 15 07.5**	**-0.7**
YER	**Yerkesik**	**0.45**	**60**	PG	**Pg**	**09 15 08.2**	**-0.6**
YER				SG	**Sg**	**09 15 14.5**	**-0.3**
NISR	**Nisiros**	**0.61**	**241**	*e*PN	**Pg**	**09 15 12.5**	**+0.6**
ARG	**Arkhangelos**	**0.74**	**159**	*e*PN	**Pn**	**09 15 15.1**	**-1.1**
ARG				*e*SN	**Sg**	**09 15 27.5**	**+3.4**
ARG	**Arkhangelos**	**0.74**	**159**	*e*Pb	**Pb**	**09 15 14.4**	**-0.4**
ARG				*e*Sn	**Sg**	**09 15 27.5**	**+3.4**
AYDN	**Tasoluk**	**0.75**	**5**	*i* P	**Pg**	**09 15 14.2**	**-0.4**
AYDN				*i* S	**Sg**	**09 15 24.3**	**-0.1**
AYDN	**Tasoluk**	**0.75**	**5**	*i* P	**Pg**	**09 15 14.1**	**-0.5**
AYDN				*i* S	**Sg**	**09 15 24.3**	**-0.1**
FETY	**Fethiye**	**1.07**	**104**	*e*PG	**Pg**	**09 15 17.4**	**-3.2**
FETY	**Fethiye**	**1.07**	**104**	Pg	**Pg**	**09 15 16.1**	**-4.5**
SMG	**Samos**	**1.10**	**316**	*e*PN	**Pn**	**09 15 21.4**	**+0.2**
SMG				*e*SN	**Sn**	**09 15 36.1**	**-0.3**
GOLH	**Golhisar**	**1.45**	**76**	*i* P	**Pn**	**09 15 31.9**	**+5.9**
GOLH				*i* S	**Sn**	**09 15 52.4**	**+7.5**
KARP	**Karpathos**	**1.45**	**201**	*e*PN	**Pn**	**09 15 25.7**	**-0.3**
KARP				*e*SN	**Sn**	**09 15 44.4**	**-0.6**
KDAG	**Bornova**	**1.55**	**344**	*i* P	**Pn**	**09 15 29.0**	**+1.7**
KDAG				*i* S	**Sn**	**09 15 46.3**	**-1.0**
MANT	**Manisa**	**1.69**	**21**	*i* P	**Pn**	**09 15 30.9**	**+1.6**
MANT				*i* S	**Sn**	**09 15 52.9**	**+2.1**
APE	**Apeiranthos**	**1.82**	**276**	*e*PN	**Pn**	**09 15 30.3**	**-0.8**

IDC 17 09:37:03.4±4.2,803S×7327W,h83km±40km,mb3.8/4, mb1 3.7/7,mb1mx3.5/21,mbtmp4.0/7,Error ellipse: s-maj=69.2km s-min=29.0km az=52.0,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.62**	**149**	P	Pn	09 39 18.4	-0.5
	0.1nm,0.3s,baz=320,slow=11,SNR=4.0						
SIV	**San Ignacio**	**14.31**	**125**	P	Pn	09 40 23.9	+2.0
	0.6nm,0.3s,baz=300,slow=12,SNR=33						
SDV	**Santo Domingo**	**17.00**	**9**	P	Pn	09 40 56.1	+0.3
	0.3nm,0.3s,baz=82,slow=7.1,SNR=5.6						
BDFB	**Brasilia**	**25.83**	**109**	P	P	09 42 28.1	+1.3
	2.2nm,0.5s,baz=305,slow=6.2,SNR=3.4						
DBIC	**Dimbokro**	**69.76**	**80**	P	P	09 48 05.3	+0.8
	2.0nm,0.4s,baz=221,slow=4.0,SNR=4.2						
YKA	**Yellowknife Ar**	**77.15**	**342**	P	P	09 48 48.1	+0.3
	0.0nm,0.4s,baz=134,slow=6.7,SNR=3.9						
YKA				pP	pP	09 49 08.7	-1.0
	0.3nm,0.4s,baz=139,slow=5.9,SNR=9.7						
TORD	**Torodi Ar. Bea**	**77.35**	**75**	P	P	09 48 49.3	+0.2
	1.5nm,0.6s,baz=268,slow=4.7,SNR=19						

*BER **17** 09:59:47.0±4.1,6465N×3181E,h0km,ML2.0(NAO), Suspected explosion*
*ISCJB **17** 09:59:48.1±1.0,6476N±004×3072E±02,h0km,Error ellipse: s-maj=10.9km s-min=5.3km az=22.0*
*IDC **17** 09:59:48.6±2.3,6459N×3163E,h0km,mb1 3.0/4, mb1mx2.9/22,mbtmp3.0/4,ML2.7/4,Error ellipse: s-maj=28.7km s-min=9.8km az=103.0*
*NAO **17** 09:59:48.3±3.3,6469N×3136E,ML2.0*
*HEL **17** 09:59:50.5±0.5,6470N×3081E,h0km,ML1.6, ML2.0(NAO),Explosion*
ISC 17 09:59:49.8±0.9,6469N±004×3072E±01,h0km,n16, σ1°33/30,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.42**	**246**	*e*P	**Pn**	**10 00 16.1**	**-0.8**
KJN				*e*S	**Sg**	**10 00 36.0**	**+0.6**
JOF	**Joensuu**	**1.81**	**171**	*e*P	**Pn**	**10 00 22.4**	**+0.3**
JOF				MSG		10 00 52.4	
	comp=Z,5.0nm,0.1s						
OUL	**Oulu**	**2.07**	**283**	*e*P	**Pn**	**10 00 27.2**	**+1.4**
OUL				*e*S	**Sn**	**10 00 53.9**	**+1.5**
SUF	**Sumiainen**	**2.82**	**227**	*e*P	**Pn**	**10 00 38.3**	**+2.2**
SUF				*e*SG	**Sg**	**10 01 18.0**	**-2.5**
SUF				MSG		10 01 20.3	
	comp=Z,1.6nm,0.1s						
FIA0	**FINESS Array S**	**3.87**	**215**	Pn	**Pn**	**10 00 50.9**	**+0.4**
	baz=31,slow=16						
FIA0				Sn	**Sn**	**10 01 37.0**	**+0.2**
	baz=42,slow=28						
FIA0				Lg		10 01 52.3	
	baz=42,slow=28						
FIA0	**FINESS Array S**	**3.87**	**215**	*e*P	**Pn**	**10 00 50.9**	**+0.4**
FIA0				*e*S	**Sn**	**10 01 37.0**	**+0.2**
FIA0				*e*SG	**Sg**	**10 01 52.3**	**-1.9**
FINES	**FINESS Array B**	**3.87**	**215**	Pn	**Pn**	**10 00 50.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=36,slow=14,SNR=7.0						
FINES				Pg	**Pg**	**10 00 59.0**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=33,slow=17,SNR=8.3						
FINES				Sn	**Sn**	**10 01 39.4**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=50,slow=26,SNR=5.5						
FINES				Lg		10 01 50.8	
	comp=Z,1.4nm,0.3s,baz=43,slow=28,SNR=9.6						
ARA0	**ARCESS Array S**	**5.26**	**340**	Pn	**Pn**	**10 01 09.1**	**-0.6**
	baz=156,slow=16						
ARA0				Sn	**Sn**	**10 02 09.7**	**-1.3**
	baz=157,slow=28						
ARA0				Lg		10 02 34.0	
	baz=142,slow=37						
ARA0	**ARCESS Array S**	**5.26**	**340**	*e*P	**Pn**	**10 01 09.1**	**-0.6**
ARA0				*e*S	**Sn**	**10 02 09.7**	**-1.3**
ARA0				*e*SG	**Sg**	**10 02 34.0**	**-4.9**
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn	**Pn**	**10 01 09.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=156,slow=14,SNR=12						
ARCES				Sn	**Sn**	**10 02 10.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=153,slow=22,SNR=5.4						
ARCES				Lg		10 02 31.8	
	comp=Z,0.7nm,0.3s,baz=160,slow=29,SNR=5.8						
HFS	**Hagfors**	**9.09**	**248**	Pn	**Pn**	**10 02 02.3**	**+0.1**
	baz=73,slow=12						
HFS				Sn	**Sn**	**10 03 48.2**	**+3.0**
	baz=60,slow=28						
HFS	**Hagfors**	**9.09**	**248**	*e*P	**Pn**	**10 02 02.3**	**+0.1**
HFS				*e*		10 03 48.2	
HFS	**Hagfors**	**9.09**	**248**	Pn	**Pn**	**10 02 01.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=64,slow=13,SNR=7.7						
HFS				Lg		10 04 32.8	
	comp=Z,0.2nm,0.3s,baz=64,slow=27,SNR=3.4						
NB2	**NORSAR Subarra**	**9.60**	**257**	Pn	**Pn**	**10 02 10.1**	**+0.9**
	baz=59,slow=14						
NB2	**NORSAR Subarra**	**9.60**	**257**	*e*P	**Pn**	**10 02 10.1**	**+0.9**
NOA	**NORSAR Array B**	**9.60**	**257**	Pn	**Pn**	**10 02 09.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=68,slow=13,SNR=3.1						
NOA				Sn	**Sn**	**10 03 55.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=138,slow=22,SNR=2.4						
NOA				Lg		10 04 48.5	
	comp=Z,0.2nm,0.3s,baz=255,slow=10,SNR=3.9						

*ISCJB **17** 10:01:51.4±3.2,438N±02×704E±02,h10km,Error ellipse: s-maj=29.3km s-min=8.0km az=90.9*
*NNC **17** 10:01:51.5±0.2,4362N×6988E,h0km,mb3.6,mpv2.7, Error ellipse: s-maj=1.9km s-min=0.9km az=138.0*
ISC 17 10:01:51.1±3.4,438N±01×702E±02,h10km,n13,σ0°37/14, 4C,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.69**	**158**	P	**Pg**	**10 02 04.5**	**0.0**
KK05	**Karatay Array**	**0.70**	**157**	P	**Pg**	**10 02 04.6**	**-0.1**
KK04	**Karatay Array**	**0.70**	**158**	P	**Pg**	**10 02 04.8**	**+0.1**
KK08	**Karatay Array**	**0.70**	**159**	P	**Pg**	**10 02 04.8**	**0.0**
KK01	**Karatay Array**	**0.71**	**158**	P	**Pg**	**10 02 04.8**	**0.0**
KK02	**Karatay Array**	**0.71**	**158**	P	**Pg**	**10 02 04.9**	**0.0**
KK31	**Karatay Array**	**0.71**	**158**	⇑P	**Pg**	**10 02 04.9**	**+0.1**
	1.7nm,0.3s,baz=321,slow=17,SNR=88						
KK31				⇑S	**Sg**	**10 02 14.4**	**+0.2**
	36nm,0.5s,baz=308,slow=28,SNR=84						
EKS2	**Erkin-Say**	**2.87**	**111**	P	**Pg**	**10 02 46.7**	**+0.5**
	SNR=14						
AML	**Almayashu**	**3.07**	**121**	P	**Pg**	**10 02 49.4**	**-0.6**
	SNR=7.6						
USP	**Ospenovka**	**3.21**	**97**	P	**Pg**	**10 02 53.5**	**+0.9**
	SNR=9.9						
AAK	**Ala-Archa**	**3.37**	**108**	P

*NEIC **17** 10:14:15.0±0.7, 18.11N×6142W, h10km, mb4.2/1, MD3.8(TRN), MD4.4(RSPR), Error ellipse: s-maj=9.5km s-min=5.8km az=56.0*
*ISCJB **17** 10:14:17.4±1.0, 1803N±007×6157W±005, h40km±10km, mb3.8/7, MS3.3/3, Error ellipse: s-maj=12.6km s-min=4.9km az=64.5*
*RSPR **17** 10:14:19.6, 1800N×6158W, h52km±28km, MD4.3/12, MD4.3/12*
*TRN **17** 10:14:19.9, 1772N×6163W, h32km, MD3.8*

ISC 17 10:14:17.2±1.2, 1808N±005×6152W±004, h22km±9km, n47, σ1º00/57, mb3.8/7, MS3.3/3, 17C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.52**	**214**	⇑*iP*	**Pb**	**10 14 27.4**	**-0.3**
CPB				*eS*	**Sb**	**10 14 33.4**	**-1.5**
BPA	**Boggy Peak**	**1.08**	**197**	⇑*iP*	**Pn**	**10 14 34.8**	**-2.2**
BPA				*eS*	**Sb**	**10 14 46.0**	**-4.8**
STAT	**Sint Eustatius**	**1.50**	**248**	⇑*iP*	**Pn**	**10 14 43.4**	**+0.6**
STAT				*eS*	**Sn**	**10 15 02.9**	**+1.1**
MDN	**Morne-Daniel**	**2.75**	**177**	*eP*	**Pn**	**10 15 01.7**	**+1.8**
DSHT	**Scott's Head**	**2.85**	**177**	*eP*	**Pn**	**10 15 09.2**	**+7.8**
TBVI	**Tortola**	**2.95**	**277**	*eS*	**Sn**	**10 15 36.9**	**-0.7**
TBVI	**Tortola**	**2.95**	**277**	*eP*	**Pn**	**10 15 02.5**	**-0.3**
TBVI				*eS*	**Sn**	**10 15 36.9**	**-0.7**
CDVI	**St. Croix**	**3.11**	**264**	⇓*eP*	**Pn**	**10 15 05.3**	**+0.4**
STVI	**Saint Thomas**	**3.28**	**275**	*eS*	**Sn**	**10 15 44.0**	**-1.6**
STVI	**Saint Thomas**	**3.28**	**275**	⇑*eP*	**Pn**	**10 15 06.6**	**-0.7**
STVI				*eS*	**Sn**	**10 15 44.0**	**-1.6**
FDF	**Fort de France**	**3.35**	**174**	⇓*eP*	**Pn**	**10 15 07.5**	**-0.7**
FDF				*eS*	**Sn**	**10 15 49.5**	**+2.2**
CRM	**Caravelle**	**3.36**	**170**	*eP*	**Pn**	**10 15 07.1**	**-1.3**
MVM	**Montagne Vaucl**	**3.56**	**170**	*eP*	**Pn**	**10 15 10.5**	**-0.6**
MTP	**Monte Pirata**	**3.84**	**271**	*eS*	**Sn**	**10 15 58.8**	**-0.6**
MTP	**Monte Pirata**	**3.84**	**271**	⇑*iP*	**Pn**	**10 15 14.5**	**-0.4**
MTP				*eS*	**Sn**	**10 15 58.8**	**-0.6**
HUMP	**Col San Antoni**	**4.12**	**272**	⇑*eP*	**Pn**	**10 15 18.8**	**0.0**
CBYP	**Canovanas**	**4.12**	**273**	*eS*	**Sn**	**10 16 05.6**	**-0.9**
CBYP	**Canovanas**	**4.12**	**273**	⇑*eP*	**Pn**	**10 15 18.8**	**-0.1**
CBYP				*eS*	**Sn**	**10 16 05.6**	**-0.9**
CPD	**Cerro la Pandu**	**4.18**	**270**	*eS*	**Sn**	**10 16 06.9**	**-0.9**
CPD	**Cerro la Pandu**	**4.18**	**270**	⇑*eP*	**Pn**	**10 15 19.8**	**+0.1**
CPD				*eS*	**Sn**	**10 16 06.9**	**-0.9**
SJG	**San Juan**	**4.40**	**271**	Pn	**Pn**	**10 15 24.0**	**+1.3**
	15nm,0.3s,baz=112,slow=18,SNR=20						
SJG				Sn	**Sn**	**10 16 15.1**	**+1.8**
	9.2nm,0.3s,baz=2.8,slow=18,SNR=2.3						
ICM	**Isla Caja Muer**	**4.76**	**269**	⇑*eP*	**Pn**	**10 15 28.6**	**+1.0**
CELP	**Cerrillos**	**4.81**	**271**	⇑*eP*	**Pn**	**10 15 29.7**	**+1.4**
CELP				*eS*	**Sn**	**10 16 22.8**	**-0.6**
OBIP	**Obispado Ponce**	**4.84**	**270**	⇑*eP*	**Pn**	**10 15 30.0**	**+1.4**
AOPR	**Arecibo Observ**	**4.98**	**274**	*eS*	**Sn**	**10 16 26.6**	**-0.9**
AOPR	**Arecibo Observ**	**4.98**	**274**	⇑*eP*	**Pn**	**10 15 31.4**	**+0.8**
AOPR				*eS*	**Sn**	**10 16 26.6**	**-0.9**
LRS	**Lares**	**5.07**	**273**	⇑*eP*	**Pn**	**10 15 32.7**	**+0.9**
LRS				*eS*	**Sn**	**10 16 29.6**	**-0.1**
LSP	**Las Mesas**	**5.29**	**272**	*eS*	**Sn**	**10 16 35.0**	**-0.3**
LSP	**Las Mesas**	**5.29**	**272**	⇑*eP*	**Pn**	**10 15 36.4**	**+1.4**
LSP				*eS*	**Sn**	**10 16 35.0**	**-0.3**
MGP	**Maguayo**	**5.30**	**270**	⇑*eP*	**Pn**	**10 15 36.1**	**+1.1**
CRPR	**Cabo Rojo, PR**	**5.32**	**270**	⇑*eP*	**Pn**	**10 15 34.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**5.32**	**270**	*eS*	**Sn**	**10 16 35.5**	**-0.4**
SDV	**Santo Domingo**	**12.72**	**225**	Pn	**Pn**	**10 17 19.2**	**+2.4**
	0.1nm,0.3s,baz=84,slow=11,SNR=7.1						
SDV	**Santo Domingo**	**12.72**	**225**	*eP*	**Pn**	**10 17 19.5**	**+2.8**
ROSC	**El Rosal**	**18.15**	**225**	LR	LR	10 26 05.7	
	comp=Z,95nm,18.1s,baz=5.1,slow=39						
JTS	**JuntasAbangare**	**23.98**	**254**	LR	LR	10 28 28.2	
	comp=Z,37nm,21.0s,MS2.8,baz=119,slow=35						
OTAV	**Otavalo**	**24.32**	**225**	*eP*	**P**	**10 19 33.0**	**-0.1**
	3.5nm,0.6s,mb4.0						
TEIG	**Tepich**	**25.36**	**279**	*eP*	**P**	**10 19 42.9**	**+0.3**
SIV	**San Ignacio**	**33.86**	**179**	P	**P**	**10 20 57.6**	**-0.4**
	1.3nm,0.5s,mb4.2,baz=9.9,slow=8.1,SNR=16						
ULM	**Lac du Bonnet**	**42.21**	**327**	P	**P**	**10 22 08.4**	**-0.1**
	0.9nm,0.5s,mb3.6,baz=98,slow=9.7,SNR=3.2						
PDAR	**Pinedale Array**	**47.38**	**312**	P	**P**	**10 22 50.0**	**+0.3**
	0.5nm,0.7s,mb3.6,baz=99,slow=9.2,SNR=5.0						
DBIC	**Dimbokro**	**56.30**	**94**	LR	LR	10 43 07.0	
	comp=Z,64nm,18.8s,MS3.7,baz=58,slow=31						
YKA	**Yellowknife Ar**	**57.42**	**334**	P	**P**	**10 24 03.4**	**-0.7**
	0.7nm,0.5s,mb4.0,baz=102,slow=7.4,SNR=24						
YKA	**Yellowknife Ar**	**57.42**	**334**	P	**P**	**10 24 03.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**60.84**	**85**	P	**P**	**10 24 26.6**	**-1.2**
	0.7nm,0.6s,mb4.0,baz=260,slow=6.1,SNR=6.1						
NOA	**NORSAR Array B**	**65.99**	**31**	LR	LR	10 49 12.2	
	comp=Z,21nm,19.8s,MS3.4,baz=140,slow=32						
ILAR	**Eielson Array**	**71.84**	**333**	P	**P**	**10 25 37.7**	**-0.6**
	0.5nm,0.8s,mb3.5,baz=103,slow=4.6,SNR=9.4						

*ISK **17** 10:15:04.7, 3824N×2651E, h13km, MD3.3*
*CSEM **17** 10:15:05.6±0.1, 3823N×2657E, h15km, MD3.3, Error ellipse: s-maj=2.8km s-min=2.1km az=89.0*
*ATH **17** 10:15:05.1, 3824N×2693E, h58km±10km, MD3.2/3*
*ISCJB **17** 10:15:06.7±0.7, 3823N±003×2657E±005, h12km±4km, Error ellipse: s-maj=6.6km s-min=4.6km az=164.9*

ISC 17 10:15:06.8±0.7, 3824N±003×2656E±005, h14km±4km, n18, σ1º01/29, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.12**	**13**	*iP*	**Pg**	**10 15 10.2**	**0.0**
URLA				*iS*	**Sg**	**10 15 12.9**	**+0.4**
IZM	**Izmir**	**0.57**	**74**	*e*PG	**Pg**	**10 15 17.8**	**-0.3**
IZM				*e*SG	**Sg**	**10 15 25.5**	**-0.2**
SMG	**Samos**	**0.57**	**157**	*eP*	**Pg**	**10 15 17.6**	**-0.5**
SMG				*eS*	**Sg**	**10 15 27.5**	**+1.8**
PRK	**Paraskevi**	**1.03**	**347**	*eP*	**Pb**	**10 15 26.1**	**-0.3**
PRK				*eS*	**Sb**	**10 15 40.5**	**+0.7**
AYVA	**Ayvalik**	**1.07**	**5**	*iP*	**Pb**	**10 15 27.3**	**+0.1**
AYVA				*iS*	**Sb**	**10 15 45.0**	**+4.0**
AKS	**Akhisar**	**1.17**	**57**	PN	**Pn**	**10 15 27.3**	**-1.5**
AKS				SN	**Sn**	**10 15 45.1**	**+0.5**
AYDN	**Tasoluk**	**1.19**	**119**	*iP*	**Pn**	**10 15 29.8**	**+0.6**
AYDN				*iS*	**Sb**	**10 15 44.5**	**-0.1**
BODT	**Bodrum**	**1.32**	**153**	PN	**Pn**	**10 15 30.0**	**-0.8**
MLSB	**Milas**	**1.35**	**134**	*e*PN	**Pn**	**10 15 30.3**	**-1.0**
MLSB				*e*SN	**Sn**	**10 15 48.7**	**-0.3**
APE	**Apeiranthos**	**1.43**	**215**	PN	**Pn**	**10 15 30.5**	**-1.8**
APE	**Apeiranthos**	**1.43**	**215**	*eP*	**Pn**	**10 15 31.9**	**-0.4**
APE				*eS*	**Sn**	**10 15 53.0**	**+2.1**
APE	**Apeiranthos**	**1.43**	**215**	*e*Pn	**Pn**	**10 15 31.0**	**-1.3**
MANT	**Manisa**	**1.59**	**80**	*iP*	**Pn**	**10 15 36.1**	**+1.5**
MANT				*iS*	**Sn**	**10 15 56.7**	**+1.8**
DAT	**Datca**	**1.71**	**151**	*e*PN	**Pn**	**10 15 35.8**	**-0.5**
BALB	**Balikesir**	**1.74**	**36**	PN	**Pn**	**10 15 35.9**	**-0.7**
YER	**Yerkesik**	**1.76**	**128**	*e*PN	**Pn**	**10 15 36.1**	**-0.8**
BTOK	**Tokmak**	**1.90**	**37**	*iP*	**Pn**	**10 15 43.5**	**+4.6**
BTOK				*iS*	**Sn**	**10 16 08.2**	**+5.6**
DST	**Dursunbey**	**2.11**	**49**	*e*PN	**Pn**	**10 15 40.4**	**-1.4**

*ISCJB **17** 10:29:02.3±1.4, 198S±02×178.1W±01, h565km±19km, mb3.8/8, Error ellipse: s-maj=35.0km s-min=12.8km az=119.4*
*IDC **17** 10:29:07.5±2.7, 1998S×17805W, h622km±30km, mb3.3/8, mb1 3.5/9, mb1mx3.4/15, mbtmp4.3/9, Error ellipse: s-maj=47.3km s-min=14.9km az=151.0*
*NEIC **17** 10:29:11.2±2.0, 1986S×17825W, h662km±24km, mb4.1/2, Error ellipse: s-maj=21.9km s-min=16.3km az=139.0*

ISC 17 10:29:02.7±1.4, 198S±02×1780W±01, h558km±18km, n27, σ0º82/20, mb3.8/8, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.31**	**46**	S	**S**	**10 32 42.4**	**-0.4**
	3.0nm,0.3s,baz=180,slow=20,SNR=5.2						
DZM	**Mont Dzumac**	**14.75**	**258**	P	**P**	**10 32 13.2**	**+3.8**
	0.4nm,0.3s,baz=110,slow=18,SNR=3.1						
CTA	**Charters Tower**	**33.61**	**263**	*eP*	**P**	**10 34 58.1**	**+0.9**
	4.5nm,0.4s,mb4.3						
CTA	**Charters Tower**	**33.61**	**263**	P	**P**	**10 34 58.2**	**+1.0**
	8.0nm,0.5s,mb4.5,baz=97,slow=11,SNR=20						
CTAO	**Charters Tower**	**33.61**	**263**	*eP*	**P**	**10 34 57.6**	**+0.4**
STKA	**Stephens Creek**	**38.14**	**243**	*eP*	**P**	**10 35 33.6**	**-1.1**
	2.0nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**38.14**	**243**	P	**P**	**10 35 33.6**	**-1.0**
	3.3nm,0.9s,mb3.9,baz=107,slow=7.9,SNR=6.8						
AS31	**Alice Springs**	**44.73**	**256**	*eP*	**P**	**10 36 26.9**	**+0.3**
ASAR	**Alice Springs**	**44.73**	**256**	P	**P**	**10 36 26.9**	**+0.2**
	7.3nm,0.7s,mb4.3,baz=88,slow=8.0,SNR=113						
ASAR				PcP	PcP	10 37 56.0	-0.8
	1.1nm,0.7s,baz=107,slow=4.1,SNR=5.5						
ASAR				S	**S**	**10 42 19.7**	**-3.4**
	1.3nm,0.9s,baz=92,slow=14,SNR=9.0						
ASPA	**Alice Springs**	**44.73**	**256**	*eP*	**P**	**10 36 26.9**	**+0.3**
WB2	**Warramunga Arr**	**44.73**	**261**	⇑*iP*	**P**	**10 36 26.7**	**0.0**
WRAB	**Tennant Creek**	**44.73**	**261**	*eP*	**P**	**10 36 26.6**	**-0.1**
WRA	**Warramunga Arr**	**44.74**	**261**	P	**P**	**10 36 26.3**	**-0.4**
	2.9nm,0.5s,mb4.1,baz=98,slow=7.9,SNR=20						
MBWA	**Marble Bar**	**58.05**	**257**	*eP*	**P**	**10 38 02.3**	**-0.5**
MJAR	**Matsushiro Arr**	**69.66**	**323**	P	**P**	**10 39 16.9**	**+0.3**
	1.6nm,0.3s,mb4.0,baz=144,slow=5.8,SNR=7.4						
QSPA	**South Pole Qui**	**70.28**	**180**	*eP*	**P**	**10 39 20.3**	**0.0**
NVAR	**Mina Array Bea**	**80.48**	**43**	P	**P**	**10 40 18.5**	**+1.6**
	0.5nm,0.7s,mb2.9,baz=244,slow=14,SNR=4.0						
ILAR	**Eielson Array**	**87.61**	**13**	P	**P**	**10 40 50.6**	**-1.3**
	1.1nm,0.8s,mb3.6,baz=216,slow=5.1,SNR=18						
PDAR	**Pinedale Array**	**88.41**	**43**	P	**P**	**10 40 55.9**	**+0.2**
	0.4nm,0.5s,mb3.4,baz=222,slow=4.2,SNR=4.0						
MKAR	**Makanchi Array**	**110.73**	**314**	PKiKP	PKiKP	10 46 30.5	-1.9
	0.2nm,0.6s,baz=175,slow=2.0,SNR=3.4						
ZRNK	**Zerenda**	**119.39**	**320**	*e*PKPdf	PKPdf	10 46 47.2	-1.8
ARCES	**ARCESS Array B**	**128.22**	**350**	PKP	PKPdf	10 47 04.2	-1.7
	3.2nm,1.0s,baz=90,slow=2.4,SNR=5.8						
AKASG	**Malin Array Be**	**142.41**	**332**	PKhKP		10 47 27.0	
	1.2nm,0.3s,baz=46,slow=4.1,SNR=6.0						
AKASG	**Malin Array Be**	**142.41**	**332**	PKP		10 47 27.0	
BRTR	**Keskin Array B**	**146.38**	**313**	PKPbc	PKPbc	10 47 40.0	-1.4
	1.2nm,0.6s,baz=135,slow=5.0,SNR=7.2						
KHC	**Kasperske Hory**	**149.29**	**345**	*e*PKPbc	PKPbc	10 47 48.0	-0.8
GERES	**GERESS Array B**	**149.52**	**345**	PKPbc	PKPbc	10 47 48.1	-1.2
	1.0nm,0.6s,baz=343,slow=2.8,SNR=10						

*NEIC **17** 10:29:44.9, 2490S×7026W, h55km, MD3.8(GUC), After GUC.*

GUC 17 10:29:44.9±0.9, 2490S×7026W, h55km, MD3.8, ML3.5, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.30**	**333**	*eP*	Pn	10 29 55.7	+1.2
CPN1				*i* S	Sn	10 30 03.1	+1.8
CPN1				AMP		10 30 04.1	
	comp=N,9μm,0.2s						
ANCH	**Antofagasta**	**1.22**	**353**	*eP*	Pn	10 30 03.1	-2.6
ANCH				*i* S	Sn	10 30 18.6	-2.5
ANCH				AMP		10 30 21.6	
	comp=N,3μm,0.4s						
ANCH	**Antofagasta**	**1.22**	**353**	*eP*	Pn	10 30 03.1	-2.6
ANCH				*i* S	Sn	10 30 18.6	-2.5
CRCH	**Chaqaral**	**1.48**	**193**	⇓*iP*	Pn	10 30 09.5	+0.3
CRCH				*i* S	Sn	10 30 28.7	+1.2
CRCH				AMP		10 30 30.6	
	comp=N,958nm,0.2s						
CRCH	**Chaqaral**	**1.48**	**193**	⇓*iP*	Pn	10 30 09.5	+0.3
CRCH				*i* S	Sn	10 30 28.7	+1.2
CEN1	**Los Morros**	**1.50**	**2**	*eP*	Pn	10 30 07.6	-1.9
CEN1				*i* S	Sn	10 30 24.8	-3.1
CEN1				AMP		10 30 27.3	
	comp=N,685nm,0.3s						
CDCH	**Caldera**	**2.23**	**193**	⇓*iP*	Pn	10 30 18.5	-0.9
CDCH				*i* S	Sn	10 30 47.2	+1.5
CDCH				AMP		10 31 02.1	
	comp=N,296nm,0.2s						
CDCH	**Caldera**	**2.23**	**193**	P	Pn	10 30 18.5	-0.9
CDCH				*i* S	Sn	10 30 47.2	+1.5
CPCH	**Copiapo**	**2.45**	**182**	⇑*iP*	Pn	10 30 22.5	0.0
CPCH				*e*S	Sn	10 30 52.5	+1.2

*ISCJB **17** 10:43:23.2±0.3, 1777N±003×9585W±002, h104km±4km, mb3.4/5, Error ellipse: s-maj=5.6km s-min=3.6km az=20.8*
*MEX **17** 10:43:24.2±1.5, 1779N×9584W, h115km±13km, MD4.5*
*NEIC **17** 10:43:27.9±1.9, 1799N×9553W, h127km±17km, mb4.1/3, Error ellipse: s-maj=23.0km s-min=8.9km az=49.0*
*IDC **17** 10:43:28.1±5.6, 1797N×9556W, h127km±52km, mb3.3/5, mb1 3.6/7, mb1mx3.4/23, mbtmp3.8/7, Error ellipse: s-maj=65.2km s-min=17.8km az=47.0*

ISC 17 10:43:24.4±0.3, 1776N±004×9585W±002, h97km±5km, n36, σ1º32/52, mb3.4/5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVV	**El Vigia**	**0.84**	**35**	*eP*	**Pn**	**10 43 43.6**	**+0.7**
EVV				*i* S	**Sn**	**10 43 57.0**	**+0.3**
OXX	**Oaxaca**	**1.07**	**231**	*iP*	**Pn**	**10 43 46.2**	**+0.8**
OXX				*i* S	**Sn**	**10 44 02.5**	**+1.3**
VHO	**Vista Hermosa**	**1.09**	**231**	*iP*	**Pn**	**10 43 46.2**	**+0.7**
VHO				*i* S	**Sn**	**10 44 03.0**	**+1.6**
CMIG	**Matias Romero**	**1.14**	**126**	*iP*	**Pn**	**10 43 46.7**	**+0.5**
CMIG				*i* S	**Sn**	**10 44 02.3**	**-0.3**
TUIG	**Tuzandepetl**	**1.39**	**79**	*iP*	**Pn**	**10 43 49.5**	**+0.4**
TUIG				*i* S	**Sn**	**10 44 07.2**	**-0.6**
UTMO	**Huajuapan**	**1.86**	**272**	*iP*	**Pn**	**10 43 55.8**	**+0.7**
UTMO				*i* S	**Sn**	**10 44 18.5**	**+0.1**
HUIG	**Huatulco**	**2.00**	**187**	*iP*	**Pn**	**10 43 56.1**	**-0.7**
HUIG				*i* S	**Sn**	**10 44 20.5**	**-1.1**
LVIG	**Laguna Verde**	**2.02**	**345**	*iP*	**Pn**	**10 43 55.8**	**-1.4**
LVIG				*i* S	**Sn**	**10 44 19.8**	**-2.3**
PNIG	**Pinotepa**	**2.57**	**238**	*iP*	**Pn**	**10 44 02.0**	**-2.3**
PNIG				*i* S	**Sn**	**10 44 33.9**	**-1.0**
PPM	**Popocatepetl**	**2.94**	**297**	*iP*	**Pn**	**10 44 11.4**	**+2.2**
PPM				*i* P		10 44 12.0	
PPM				*i* S	**Sn**	**10 44 43.5**	**-0.2**
SCX	**San Cristobal**	**3.24**	**108**	*iP*	**Pn**	**10 44 14.0**	**+0.7**
SCX				*i* S	**Sn**	**10 44 50.0**	**-1.0**
YAIG	**Yautepec**	**3.24**	**290**	*iP*	**Pn**	**10 44 14.9**	**+1.6**
YAIG				*i* S	**Sn**	**10 44 50.0**	**-1.0**
UNM	**Universidad Na**	**3.52**	**297**	*eP*	**Pn**	**10 44 20.0**	**+3.0**
PLIG	**Platanillo**	**3.53**	**281**	*iP*	**Pn**	**10 44 18.0**	**+0.8**
PLIG				*i* S	**Sn**	**10 44 56.3**	**-1.6**
MEIG	**Mezcala**	**3.59**	**273**	*iP*	**Pn**	**10 44 18.3**	**+0.3**
MEIG				*i* S	**Sn**	**10 44 55.9**	**-3.5**
CCIG	**Comitan**	**3.85**	**112**	*iP*	**Pn**	**10 44 22.0**	**+0.6**
CCIG				*i* S	**Sn**	**10 45 05.0**	**-0.6**
ACX	**Acapulco**	**3.98**	**258**	*iP*	**Pn**	**10 44 20.5**	**-2.8**
CAIG	**El Cayaco**	**4.28**	**261**	*iP*	**Pn**	**10 44 25.6**	**-1.7**
CAIG				*i* S	**Sn**	**10 45 13.7**	**-2.2**
MOIG	**Morelia**	**5.40**	**291**	*iP*	**Pn**	**10 44 43.9**	**+1.4**
MOIG				*i* S	**Sn**	**10 45 42.8**	**-0.6**
MRX	**Morelia**	**5.42**	**292**	*eP*	**Pn**	**10 44 44.5**	**+1.8**
SFJM	**Santa Fe**	**7.31**	**293**	*iP*	**Pn**	**10 45 11.5**	**+3.0**
TEIG	**Tepich**	**7.58**	**70**	*eP*	**Pn**	**10 45 10.1**	**-1.9**
	7.1nm,0.5s						
TEIG				*e*S	**Sn**	**10 46 29.5**	**-6.7**
JTS	**JuntasAbangare**	**12.92**	**124**	P	**Pn**	**10 46 25.7**	**+1.4**
	2.2nm,0.3s,baz=316,slow=19,SNR=8.2						
MNTX	**Cornudas Mount**	**16.34**	**330**	*eP*	**Pn**	**10 47 09.9**	**+2.0**
ANMO	**Albuquerque**	**19.55**	**333**	P	**Pn**	**10 47 45.0**	**-1.7**
	0.1nm,0.3s,baz=150,slow=12,SNR=7.4						
WVT	**Waverly**	**19.63**	**20**	*eP*	**Pn**	**10 47 43.4**	**-4.1**
	2.6nm,0.3s						
SDV	**Santo Domingo**	**26.05**	**107**	P	**P**	**10 48 48.3**	**-0.3**
	5.0nm,0.8s,mb4.0,baz=324,slow=6.9,SNR=7.3						
SDV	**Santo Domingo**	**26.05**	**107**	*eP*	**P**	**10 48 48.6**	**+0.1**
	3.7nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**27.51**	**338**	P	**P**	**10 49 02.4**	**+0.7**
	0.3nm,0.7s,mb3.0,baz=150,slow=9.3,SNR=2.8						
NVAR	**Mina Array Bea**	**28.43**	**321**	P	**P**	**10 49 11.8**	**+1.9**
	0.2nm,0.6s,mb2.9,baz=127,slow=9.0,SNR=4.4						
NVAR				pP	pP	10 49 31.1	-0.6
	0.8nm,0.8s,baz=130,slow=10,SNR=5.3						
NVAR	**Mina Array Bea**	**28.43**	**321**	P	**P**	**10 49 11.8**	**+1.9**
NVAR				pP	pP	10 49 31.1	-0.6
YKA	**Yellowknife Ar**	**46.57**	**348**	P	**P**	**10 51 41.0**	**-1.3**
	0.4nm,0.7s,mb3.3,baz=149,slow=7.2,SNR=8.4						
YKA				pP	pP	10 52 04.8	-0.6
	0.5nm,0.7s,baz=152,slow=7.4,SNR=7.0						
YKA	**Yellowknife Ar**	**46.57**	**348**	P	**P**	**10 51 41.0**	**-1.3**
YKA				pP	pP	10 52 04.8	-0.6
ILAR	**Eielson Array**	**57.94**	**337**	P	**P**	**10 53 06.5**	**0.0**
	0.8nm,0.8s,mb3.8,baz=152,slow=4.3,SNR=14						
WRA	**Warramunga Arr**	**132.59**	**259**	PKP	PKPdf	11 02 28.3	+0.7
	0.8nm,0.7s,baz=84,slow=2.7,SNR=11						
ASAR	**Alice Springs**	**133.27**	**254**	PKP	PKPdf	11 02 29.8	+0.8
	0.3nm,0.8s,baz=100,slow=1.7,SNR=6.7						

*NIED **17** 11:20:00, 2420N×12530E, h56km, Mw3.9 Best double couple: $M_0$7.45000×10^14 NP1:ϕ_s292.00000°, δ82.00000°, λ114.00000°. NP2:ϕ_s40.00000°, δ25.00000°, λ20.00000°.*
*IDC **17** 11:20:02.3±1.4, 2423N×12509E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/20, mbtmp3.3/4, ML2.3/1, Error ellipse: s-maj=43.4km s-min=26.4km az=74.0*
*ISCJB **17** 11:20:04.9±1.7, 2428N±0.1×12539E±006, h21km±14km, mb3.4/3, Error ellipse: s-maj=18.1km s-min=7.7km az=147.8*
*JMA **17** 11:20:06.0±0.2, 2424N×12525E, h0km, M3.5*

ISC 17 11:20:04.6±1.5, 2414N±007×12533E±005, h5km±10km, n12, σ0º73/17, mb3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.62**	**6**	P	**Pg**	**11 20 17.1**	**+0.7**
JOGS				S	**Sg**	**11 20 25.1**	**+0.6**
JMJ	**Miyako jima 2**	**0.67**	**357**	P	**Pg**	**11 20 17.5**	**+0.1**
JMJ				*e*S	**Sg**	**11 20 25.8**	**-0.3**
JTJ	**Tarama**	**0.76**	**311**	P	**Pg**	**11 20 19.0**	**-0.1**
JTJ				S	**Sg**	**11 20 28.1**	**-0.9**
JIJ	**Ishigaki jima**	**1.11**	**282**	P	**Pg**	**11 20 25.4**	**-0.4**
JIJ				*e*S	**Sg**	**11 20 40.2**	**0.0**
JKRS	**Kuro-shima**	**1.21**	**275**	P	**Pg**	**11 20 27.7**	**-0.1**
HATJ	**Hateruma jima**	**1.40**	**267**	P	**Pn**	**11 20 32.3**	**+1.6**
IRIF	**Iriomote-Funau**	**1.47**	**278**	P	**Pn**	**11 20 32.6**	**+0.8**
IRIF				*e*S	**Sn**	**11 20 51.6**	**+0.2**
YOJ	**Yonaguni jima**	**2.14**	**279**	P	**Pn**	**11 20 40.9**	**0.0**
JOW	**Kunigami**	**3.77**	**44**	Pn	**Pn**	**11 21 03.0**	**-0.4**
	0.5nm,0.3s,baz=134,slow=16,SNR=2.4						
MKAR	**Makanchi Array**	**41.04**	**314**	P	**P**	**11 27 45.5**	**-3.3**
	0.2nm,0.3s,mb3.2,baz=104,slow=9.3,SNR=6.5						
WRA	**Warramunga Arr**	**44.69**	**168**	P	**P**	**11 28 17.9**	**-0.5**
	0.3nm,0.5s,mb3.4,baz=348,slow=8.9,SNR=6.4						
ASAR	**Alice Springs**	**48.25**	**169**	P	**P**	**11 28 46.1**	**-0.2**
	0.2nm,0.4s,mb3.5,baz=356,slow=7.8,SNR=7.0						

*ISCJB **17** 12:02:35.9±0.3, 4238N±002×145E±002, h8km±3km, Error ellipse: s-maj=3.3km s-min=2.7km az=3.3*
*CSEM **17** 12:02:37.3±0.1, 4236N×145E, h10km, ML2.7/10, Error ellipse: s-maj=1.4km s-min=1.1km az=157.0*
*MDD **17** 12:02:37.7±0.2, 4236N×144E, h7km±5km, mbLg1.9/14, Error ellipse: s-maj=1.9km s-min=1.8km az=70.0, PRXIMO*
*STR **17** 12:02:37.2±0.1, 4234N×145E, h4km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **17** 12:02:37.2, 4234N×145E, h4km, ML2.4(STR), ML2.6(LDG), MN1.8(MDD), After STR.*
*LDG **17** 12:02:37.2±0.1, 4235N×144E, h2km, Ml2.6/9, Error ellipse: s-maj=1.5km s-min=0.9km az=10.0*

ISC 17 12:02:36.7±0.3, 4236N±002×145E±002, h11km±4km, n66, σ0º87/108, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORG	**Organya**	**0.16**	**218**	Pg	**Pg**	**12 02 38.8**	**-1.6**
CSOR	**Sort**	**0.24**	**274**	Pg	**Pg**	**12 02 41.7**	**+0.1**
CLLI	**Llivia**	**0.40**	**72**	Pg	**Pg**	**12 02 45.0**	**+0.3**
VALF	**Valcebollere**	**0.42**	**84**	Pg	**Pg**	**12 02 45.3**	**+0.3**
VALF				Sg	**Sg**	**12 02 51.7**	**+1.1**
VALF	**Valcebollere**	**0.42**	**84**	P	**Pg**	**12 02 45.3**	**+0.4**
VALF				S	**Sg**	**

14nm,0.4s,SNR=12
EBR Ebro Roquetas 1.70 205 *e*SN **Sn 12 03 31.0 +3.1**
SJPF Ste Jean 2.11 292 *e*Pg **Pg 12 03 16.3 -0.9**
SNR=1.0
SJPF *e*Sg **Sg 12 03 44.0 -0.6**
7.0nm,0.3s,SNR=1.0
SJPF Ste Jean 2.11 292 Pn **Pn 12 03 11.7 -0.2**
SJPF Pg **Pg 12 03 16.3 -0.9**
SJPF Lg 12 03 44.0
0.0nm,0.3s
SJPF Ste Jean 2.11 292 *e*Pg **Pg 12 03 16.3 -0.9**
SNR=1.0
SJPF *e*Sg **Sg 12 03 44.0 -0.6**
3.5nm,0.3s,SNR=1.0
SJPF Ste Jean 2.11 292 *e*Pn **Pn 12 03 11.7 -0.2**
SJPF *e*Pg **Pg 12 03 16.3 -0.9**
SJPF *e*Sg **Sg 12 03 44.0 -0.6**
IUNC Unciti 2.22 281 Lg 12 03 49.2
0.7nm,0.1s,SNR=7.9
IUSE Utxeti 2.29 286 Lg 12 03 52.3
0.6nm,0.1s,SNR=7.9
ELIZ Elizondo 2.34 291 Pg **Pg 12 03 19.9 -1.6**
0.4nm,0.2s,SNR=7.9
ELIZ Lg 12 03 52.9
1.6nm,0.2s,SNR=7.9
EALK Alkurruntz 2.34 293 Pn **Pn 12 03 14.8 -0.3**
32nm,1.3s,SNR=7.9
EALK Lg 12 03 52.4
2.1nm,0.2s,SNR=5.7
LASF Ste Croix 2.46 45 *e*P **Pn 12 03 18.4 +1.7**
SNR=1.0
LASF Ste Croix 2.46 45 *e*Pg **Pg 12 03 22.7 -1.1**
SNR=1.0
LASF *e*Sg **Sg 12 03 54.6 -1.0**
7.1nm,0.4s,SNR=1.0
LASF Ste Croix 2.46 45 Pn **Pn 12 03 16.4 -0.3**
LASF Pg **Pg 12 03 22.7 -1.1**
LASF Lg 12 03 54.6
3.5nm,0.4s
LASF Ste Croix 2.46 45 *e*P **Pn 12 03 18.4 +1.7**
SNR=1.0
LASF Ste Croix 2.46 45 *e*Pg **Pg 12 03 22.7 -1.1**
SNR=1.0
LASF *e*Sg **Sg 12 03 54.6 -1.0**
3.5nm,0.4s,SNR=1.0
LASF Ste Croix 2.46 45 *e*Pn **Pn 12 03 16.4 -0.3**
LASF *e*P 12 03 18.4
LASF *e*Pg **Pg 12 03 22.7 -1.1**
LASF *e*Sg **Sg 12 03 54.6 -1.0**
CAF Calviac 2.60 10 *e*Pg **Pg 12 03 25.4 -1.2**
CAF *e*Sg **Sg 12 04 00.0 -0.4**
5.0nm,0.2s,SNR=1.0
CAF Calviac 2.60 10 Pn **Pn 12 03 18.6 -0.1**
CAF Pg **Pg 12 03 25.4 -1.2**
CAF Lg 12 04 00.0
0.0nm,0.2s
CAF Calviac 2.60 10 *e*Pg **Pg 12 03 25.4 -1.2**
CAF *e*Sg **Sg 12 04 00.0 -0.4**
2.5nm,0.2s,SNR=1.0
CAF Calviac 2.60 10 *e*Pn **Pn 12 03 18.6 -0.1**
CAF *e*Pg **Pg 12 03 25.4 -1.2**
CAF *e*Sg **Sg 12 04 00.0 -0.4**
LFF La Frestale 2.63 349 *e*Pn **Pn 12 03 18.7 -0.4**
LFF *e*Sg **Sg 12 04 00.6 -0.6**
7.8nm,0.3s
LFF La Frestale 2.63 349 *e*Pn **Pn 12 03 18.7 -0.4**
LFF *e*Sg **Sg 12 04 00.6 -0.6**
3.9nm,0.3s
RJF Les Rejaudoux 2.94 1 *e*Sg **Sg 12 04 10.6 -0.7**
3.2nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.94 1 *e*Sg **Sg 12 04 10.6 -0.7**
1.6nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 3.42 42 *e*Sg **Sg 12 04 25.0 -1.5**
2.1nm,0.3s
VIVF Saint-Julien-l 3.42 42 *e*Sg **Sg 12 04 25.0 -1.5**
1.0nm,0.3s

MAN 17 12:24:47.0, 1783N×12010E, h28km, mb2.5, ML4.0, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.61**	**107**	*e*P	Pb	12 24 59.5	+0.3
PIP	**Pasuquin**	**0.69**	**45**	⇑*i*P	Pb	12 25 00.8	+0.2
PIP				*i* S	Sb	12 25 11.9	+2.0
APYP	**Conner**	**1.08**	**88**	*e*P	Pn	12 25 06.6	+0.2
APYP				*e*S	Sn	12 25 20.1	-0.3
BOLP	**Bolinao**	**1.45**	**187**	*e*P	Pn	12 25 11.1	-0.3
CAUP	**Cauayan**	**1.86**	**118**	*e*P	Pn	12 25 18.5	+1.5

IDC ***17*** *12:26:11.1±0.5, 358N×12868E, h0km, mb4.5/17, mb1 4.6/17, mb1mx4.5/24, mbtmp4.5/17, MS3.6/8, Ms1 3.6/8, ms1mx3.3/33, Error ellipse: s-maj=30.1km s-min=11.8km az=74.0*
BJI ***17*** *12:26:14.9, 372N×12924E, h43km, mB4.9, mb4.9, Ms4.3, Msz4.2*
MOS ***17*** *12:26:14.6±0.9, 358N×12857E, h33km, mb4.7/11, Error ellipse: s-maj=21.5km s-min=8.3km az=111.0*
ISCJB ***17*** *12:26:15.5±0.3, 354N±005×1287E±0.1, h41km, mb4.6/40, MS3.7/9, Error ellipse: s-maj=16.5km s-min=5.4km az=146.2*
NEIC ***17*** *12:26:17.1±0.3, 354N×12862E, mb4.9/11, Error ellipse: s-maj=13.6km s-min=5.2km az=76.0*
HRVD ***17*** *12:26:17.1±1.2, 391N×12838E, h29km±2km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s7,c7;Mantle waves: s39,c46; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.20±.30; Mθθ0.79±.19; Mφφ0.41±.26; Mrθ0.51±.18; Mθφ-0.88±.13; Mφr0.70±.28; Best double couple: M0 1.61400×10^16 NP1:ϕs282.00000°, δ52.00000°, λ-131.00000°. NP2:ϕs157.00000°, δ54.00000°, λ-50.00000°. Principal axes: T 1.5020, Plg1.0000°, Azm220.0000°; N 0.2260, Plg31.0000°, Azm310.0000°; P -1.7250, Plg59.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 12:26:17.5±0.3, 356N±005×1288E±01, h43km, h43km±1.5km: pP-P, n76, σ1ϑ03/66, mb4.6/40, MS3.7/9, 3C-1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.57**	**167**	*e*P	**Pn**	**12 30 07.3**	**+0.7**
17nm,0.6s							
GUMO	**Guam**	**18.77**	**57**	LR	LR	12 35 34.9	
comp=Z,34nm,20.6s,baz=249,slow=30							
FITZ	**Fitzroy Crossi**	**21.74**	**188**	*e*P	**P**	**12 31 04.5**	**-0.6**
10nm,0.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**21.74**	**188**	P	**P**	**12 31 04.9**	**-0.2**
7.1nm,0.6s,mb4.3,baz=23,slow=8.9,SNR=22							
FITZ				LR	LR	12 40 06.3	
comp=Z,100nm,18.4s,MS3.3,baz=3.6,slow=38							
PMG	**Port Moresby**	**22.40**	**125**	P	**P**	**12 31 14.2**	**+2.1**
10nm,0.7s,mb4.3,baz=329,slow=8.7,SNR=5.6							
JOW	**Kunigami**	**23.15**	**359**	LR	LR	12 38 45.7	
comp=Z,123nm,19.0s,MS3.4,baz=91,slow=33							
WRAB	**Tennant Creek**	**23.98**	**167**	*e*P	**P**	**12 31 28.2**	**+0.3**
WRAB				pmax	pmax		
comp=Z,26nm,0.6s,mb4.8							
WRAB	**Tennant Creek**	**23.98**	**167**	*e*P	**P**	**12 31 28.2**	**+0.3**
comp=Z,26nm,0.6s,mb4.8							
WRA	**Warramunga Arr**	**23.99**	**167**	P	**P**	**12 31 28.1**	**+0.1**
comp=Z,14nm,0.5s,mb4.7,baz=348,slow=10,SNR=117							
WB2	**Warramunga Arr**	**23.99**	**167**	*e*P	**P**	**12 31 28.2**	**+0.2**
MBWA	**Marble Bar**	**26.11**	**199**	*e*P	**P**	**12 31 46.2**	**-1.1**
AS31	**Alice Springs**	**27.52**	**170**	*e*P	**P**	**12 31 59.9**	**0.0**
AS31				*e*PcP	PcP	12 35 18.6	+1.4
ASAR	**Alice Springs**	**27.52**	**170**	P	**P**	**12 31 60.0**	**+0.1**
comp=Z,2.0nm,0.4s,mb4.1,baz=351,slow=8.1,SNR=52							
ASAR				PcP	PcP	12 35 18.7	+1.5
comp=Z,3.2nm,0.6s,baz=356,slow=2.1,SNR=22							
ASPA	**Alice Springs**	**27.52**	**170**	*e*P	**P**	**12 31 59.9**	**0.0**
ASPA				*e*PCP	PcP	12 35 18.6	+1.4
SSE	**Sheshan**	**28.31**	**346**	P	**P**	**12 32 04.1**	**-2.8**
SSE				AMB	AMB		
comp=Z,24nm,0.7s,mb4.9							
SSE				AMB	AMB		
comp=Z,42nm,5.2s							
CTA	**Charters Tower**	**29.11**	**145**	P	**P**	**12 32 14.4**	**+0.4**
comp=Z,3.2nm,0.8s,mb4.1,baz=306,slow=14,SNR=2.7							
CTAO	**Charters Tower**	**29.11**	**145**	P	**P**	**12 32 15.5**	**+1.5**
JNU	**Nakatsue**	**29.48**	**4**	LR	LR	12 44 26.2	
comp=Z,175nm,19.3s,MS3.7,baz=175,slow=37							
NJ2	**Nanjing**	**29.83**	**343**	*e*P	**P**	**12 32 18.8**	**-1.7**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.8							
HNR	**Honiara**	**33.65**	**113**	LR	LR	12 46 09.0	
comp=Z,81nm,18.1s,MS3.5,baz=0.4,slow=36							
MJAR	**Matsushiro Arr**	**33.96**	**14**	P	**P**	**12 32 54.9**	**-1.8**
comp=Z,6.0nm,0.6s,mb4.3,baz=187,slow=10.0,SNR=9.3							
MJAR				LR	LR	12 46 57.4	
comp=Z,109nm,19.1s,MS3.6,baz=190,slow=37							
FORT	**Forrest**	**34.15**	**181**	*e*P	**P**	**12 32 58.0**	**-0.3**
comp=Z,17nm,0.7s,mb5.1							
FORT				*e*pP	pP	12 33 09.9	-0.1
KLBR	**Kellerberrin**	**36.49**	**196**	*e*P	**P**	**12 33 18.0**	**-0.5**
comp=Z,21nm,0.9s,mb5.1							
KLBR				*e*pP	pP	12 33 29.7	-0.5
STKA	**Stephens Creek**	**37.29**	**162**	*e*P	**P**	**12 33 23.5**	**-1.8**
comp=Z,12nm,0.6s,mb4.9							
STKA				*e*pP	pP	12 33 35.8	-1.2
STKA				*e*PCP	PcP	12 35 43.5	-0.5
STKA	**Stephens Creek**	**37.29**	**162**	P	**P**	**12 33 23.7**	**-1.5**
comp=Z,20nm,0.7s,mb5.0,baz=338,slow=8.1,SNR=41							
STKA				PcP	PcP	12 35 43.8	-0.2
comp=Z,3.0nm,0.6s,baz=330,slow=6.3,SNR=4.9							
MUN	**Mundaring**	**37.30**	**198**	*e*P	**P**	**12 33 25.0**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.90**	**196**	P	**P**	**12 33 30.1**	**-0.3**
comp=Z,11nm,0.9s,mb4.6,baz=13,slow=9.3,SNR=3.7							
NWAO	**Narrogin (SRO)**	**37.90**	**196**	*e*P	**P**	**12 33 29.4**	**-0.9**
NWAO				*e*pP	pP	12 33 42.1	0.0
LZH	**Lanzhou**	**39.70**	**328**	*e*P	**P**	**12 33 47.8**	**+2.3**
LZH				AP	pP	12 33 58.8	+1.4
LZH				XP	sP	12 34 03.3	+0.8
LZH				AMB	AMB		
comp=Z,34nm,1.1s,mb5.0							
LZH				AMB	AMB		
comp=Z,160nm,5.6s							
LZH				LR	LR		
comp=E,210nm,13.9s							
LZH				LR	LR		
comp=Z,280nm,15.0s,MS4.2							
GTA	**Gaotai**	**44.31**	**328**	*e*P	**P**	**12 34 24.1**	**+1.0**
GTA				AMB	AMB		
comp=Z,6.0nm,0.7s,mb4.4							
ULN	**Ulaanbaatar**	**47.93**	**340**	*e*P	**P**	**12 34 52.0**	**+0.4**
ULN				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
ULN	**Ulaanbaatar**	**47.93**	**340**	*e*P	**P**	**12 34 52.0**	**+0.5**
comp=Z,4.4nm,0.9s,mb4.5							
SONM	**Songino Array**	**48.13**	**340**	P	**P**	**12 34 53.4**	**+0.3**
comp=Z,4.0nm,1.2s,mb4.3,baz=155,slow=9.4,SNR=12							
SONM				PcP	PcP	12 36 21.1	+0.9
comp=Z,1.4nm,0.7s,baz=154,slow=3.9,SNR=6.0							
SONM				LR	LR	12 54 56.6	
comp=Z,38nm,19.1s,MS3.4,baz=166,slow=36							
SONM	**Songino Array**	**48.13**	**340**	P	**P**	**12 34 53.4**	**+0.3**
SONM						12 36 21.1	
WMQ	**Urumqi**	**54.04**	**324**	*e*P	**P**	**12 35 38.8**	**+1.4**
WMQ				AMB	AMB		
comp=Z,11nm,0.8s,mb4.8							
WMQ				AMB	AMB		
comp=Z,72nm,4.6s							
BOD	**Bodaibo**	**55.35**	**350**	*e*P	**P**	**12 35 46.1**	**-0.8**
BOD				pmax	pmax		
comp=Z,5.0nm,2.1s,mb4.2							
YAK	**Yakutsk**	**58.34**	**1**	⇑*i*P	**P**	**12 36 04.5**	**-3.6**
YAK				pmax	pmax		
comp=Z,19nm,1.3s,mb5.0							
MK31	**Makanchi Array**	**58.86**	**324**	*i* P	**P**	**12 36 12.1**	**+0.3**
MK31				pmax	pmax		
comp=Z,5.0nm,0.3s,mb5.0							
MKAR	**Makanchi Array**	**58.86**	**324**	P	**P**	**12 36 12.1**	**+0.3**
comp=Z,7.8nm,0.3s,mb5.2,baz=121,slow=7.7,SNR=122							
RAO	**Raoul Island**	**60.59**	**126**	LR	LR	12 58 02.8	
comp=Z,195nm,21.3s,MS4.2,baz=166,slow=32							
KZA	**Kyzart**	**61.12**	**317**	P	**P**	**12 36 29.5**	**+2.2**
SNR=8.1							
TKM2	**Tokmak 2**	**61.23**	**318**	P	**P**	**12 36 29.0**	**+1.1**
SNR=6.5							
UCH	**Uchtor**	**61.68**	**317**	P	**P**	**12 36 32.9**	**+1.8**
SNR=14							
USP	**Ospenovka**	**62.10**	**318**	P	**P**	**12 36 34.6**	**+0.7**
SNR=9.9							
AML	**Almayashu**	**62.20**	**316**	P	**P**	**12 36 36.1**	**+1.6**
SNR=13							
EKS2	**Erkin-Say**	**62.35**	**317**	P	**P**	**12 36 36.8**	**+1.3**
SNR=5.7							
KURK	**Kurchatov**	**62.98**	**327**	*e*P	**P**	**12 36 39.4**	**-0.3**
KURK				*e*PP	pP	12 36 50.6	-1.6
KURK				pmax	pmax		
comp=Z,16nm,0.6s,mb5.3							
KURK	**Kurchatov**	**62.98**	**327**	*e*P	**P**	**12 36 39.4**	**-0.4**
comp=Z,16nm,0.6s,mb5.3							
KURK				*e*pP	pP	12 36 50.5	-1.7
KK31	**Karatay Array**	**64.75**	**316**	*i* P	**P**	**12 36 51.4**	**+0.1**
KK31				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.6							
KKAR	**Karatay Array**	**64.75**	**316**	P	**P**	**12 36 51.4**	**+0.1**
KKAR				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
TIXI	**Tiksi**	**68.00**	**0**	⇓*e*P	**P**	**12 37 11.4**	**-0.7**
TIXI				pmax	pmax		
comp=Z,7.0nm,1.3s,mb4.5							
BVA2	**Borovoye Array**	**68.57**	**326**	P	**P**	**12 37 15.2**	**-0.5**
BVA2				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.8							
BVAR	**Borovoye Array**	**68.58**	**326**	P	**P**	**12 37 15.3**	**-0.4**
comp=Z,6.4nm,0.7s,mb4.7,baz=125,slow=7.6,SNR=40							
BRVK	**Borovoye**	**68.65**	**326**	*e*P	**P**	**12 37 16.0**	**-0.2**
BRVK				*e*PP	pP	12 37 27.4	-1.4
BRVK				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.7							
BRVK	**Borovoye**	**68.65**	**326**	*e*P	**P**	**12 37 16.0**	**-0.2**
comp=Z,9.0nm,0.9s,mb4.7							
BRVK				*e*pP	pP	12 37 27.4	-1.4
ZRNK	**Zerenda**	**69.31**	**326**	*e*P	**P**	**12 37 19.9**	**-0.4**
ZRNK				*e*PP	pP	12 37 31.5	-1.5
ZRNK				pmax	pmax		
comp=Z,11nm,0.6s,mb5.0							
ZRNK	**Zerenda**	**69.31**	**326**	*e*P	**P**	**12 37 19.9**	**-0.5**
comp=Z,11nm,0.6s,mb5.0							
ZRNK				*e*pP	pP	12 37 31.5	-1.5
AB31	**Akbulak array**	**73.57**	**320**	P	**P**	**12 37 45.6**	**-0.4**
AB31				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
AKTK	**Aktyubinsk**	**75.06**	**321**	P	**P**	**12 37 54.5**	**-0.1**
AKTO	**Aktyubinsk**	**75.06**	**321**	P	**P**	**12 37 54.5**	**-0.2**
comp=Z,3.4nm,0.4s,mb4.6,baz=101,slow=7.4,SNR=16							
ARU	**Arti**	**76.17**	**327**	⇑*e*P	**P**	**12 37 59.0**	**-2.0**
ARU				pmax	pmax		
comp=Z,6.0nm,1.7s,mb4.2							
VNDA	**Vanda**	**83.01**	**173**	P	**P**	**12 38 38.2**	**0.0**
comp=Z,2.0nm,0.8s,mb4.2,baz=304,slow=5.0,SNR=6.6							
VNDA	**Vanda**	**83.01**	**173**	P	**P**	**12 38 38.2**	**0.0**
COLA	**College**	**83.98**	**25**	*e*P	**P**	**12 38 44.0**	**+0.9**
ILAR	**Eielson Array**	**84.39**	**25**	P	**P**	**12 38 45.3**	**+0.1**
comp=Z,1.1nm,0.6s,mb4.1,baz=247,slow=5.2,SNR=18							
LVZ	**Lovozero**	**88.28**	**338**	*e*P	**P**	**12 39 04.7**	**+0.4**
OBN	**Obninsk**	**88.37**	**325**	⇑*e*P	**P**	**12 39 03.5**	**-1.2**
OBN				pmax	pmax		
comp=Z,11nm,0.5s,mb5.3							
OBN				MLR	MLR		
comp=Z,100nm,19.0s,MS4.2							
AKASG	**Malin Array Be**	**93.30**	**321**	P	**P**	**12 39 25.9**	**-1.8**
comp=Z,0.4nm,0.4s,mb4.2,baz=74,slow=4.4,SNR=5.5							
QSPA	**South Pole Qui**	**93.47**	**180**	*e*P	**P**	**12 39 28.7**	**+0.3**
comp=Z,3.3nm,1.0s,mb4.7							
YKA	**Yellowknife Ar**	**98.81**	**25**	P	**P**	**12 39 53.3**	**+0.7**
comp=Z,0.7nm,0.9s,mb4.2,baz=302,slow=4.5,SNR=8.6							
HFS	**Hagfors**	**99.11**	**333**	P	**P**	**12 39 52.2**	**-1.8**
comp=Z,2.5nm,0.8s,mb4.8,baz=132,slow=6.2,SNR=5.1							
TORD	**Torodi Ar. Bea**	**124.90**	**289**	PKP	PKPdf	12 45 13.8	+1.1
comp=Z,1.5nm,0.8s,baz=59,slow=1.9,SNR=9.8							
DBIC	**Dimbokro**	**132.60**	**282**	PKP	PKPdf	12 45 28.9	+1.6
comp=Z,4.5nm,1.1s,baz=127,slow=9.0,SNR=3.1							
DBIC	**Dimbokro**	**132.60**	**282**	PKP	PKPdf	12 45 28.9	+1.6
PLCA	**Paso Flores**	**139.10**	**157**	PKP	PKPdf	12 45 39.8	+0.4
comp=Z,1.9nm,0.9s,baz=241,slow=10,SNR=3.4							
LPAZ	**La Paz**	**159.12**	**128**	PKPab	PKPab	12 46 52.7	+4.9
comp=Z,2.1nm,0.7s,baz=208,slow=4.8,SNR=8.5							

MOS ***17*** *13:07:11.1±0.9, 736S×12494E, h299km, mb5.5/41, MS4.6/6, Error ellipse: s-maj=9.4km s-min=5.5km az=113.2*

BJI ***17*** *13:07:18.3, 779S×12547E, h409km, mB4.9, mb4.9*
ISCJB ***17*** *13:07:19.2±0.1, 752S±002×12511E±003, h384km, mb5.2/124, Error ellipse: s-maj=4.4km s-min=2.4km az=140.1*
HRVD ***17*** *13:07:20.6±0.2, 744S×12523E, h394km±1km, MW5.6/93, Centroid moment Tensor Solution. LP body waves: s93,c178; Half duration: 1ϑ6 Moment tensor: Scale 10^17 Nm; Mrr-3.09±.07; Mθθ3.11±.10; Mφφ-0.01±.13; Mrθ0.07±.12; Mθφ0.72±.11; Mφr0.68±.11; Best double couple: M0 3.25400×10^17 NP1:ϕs89.00000°, δ44.00000°, λ-73.00000°. NP2:ϕs246.00000°, δ48.00000°, λ-106.00000°. Principal axes: T 3.2740, Plg2.0000°, Azm347.0000°; N -0.0330, Plg12.0000°, Azm257.0000°; P -3.2340, Plg78.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***17*** *13:07:20.6±0.1, 747S×12507E, mb5.2/34, MW5.6 Error ellipse: s-maj=4.8km s-min=3.1km az=65.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^17Nm; Mrr-2.80; Mθθ2.72; Mφφ0.08; Mrθ0.11; Mθφ0.44; Mφr0.43; Best double couple: M0 2.80000×10^17 NP1:ϕs253.00000°, δ47.00000°, λ-101.00000°. NP2:ϕs89.00000°, δ44.00000°, λ-78.00000°. Principal axes: T 2.8000, Plg2.0000°, Azm351.0000°; N 0.0600, Plg8.0000°, Azm260.0000°; P -2.8600, Plg82.0000°, Azm93.0000°;*
NEIC Felt [IV] at Mobello. Felt [IV] at Dili, East Timor. Also at Darwin, Australia.
IDC ***17*** *13:07:21.1±0.3, 748S×12507E, h389km±3km, mb4.8/30, mb1 4.8/33, mb1mx4.8/33, mbtmp5.6/33 Error ellipse: s-maj=8.8km s-min=5.5km az=62.0*

ISC 17 13:07:20.9±0.1, 752S±002×12516E±003, h386km, h386km±1.9km: pP-P, n558, σ1ϑ05/364, mb5.2/123, 32C-47D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.83**	**126**	⇑*i*P	**Pn**	**13 09 25.9**	**+0.8**
2μm,0.7s							
SWI	**Sorong**	**8.98**	**43**	P	**Pn**	**13 09 26.2**	**-0.7**
10μm,0.9s							
FITZ	**Fitzroy Crossi**	**10.53**	**178**	*e*P	**Pn**	**13 09 45.5**	**+0.5**
4μm,1.5s							
FITZ				*e*		13 09 54.8	
FITZ				*e*S	**S**	**13 11 40.0**	**-3.5**
FITZ	**Fitzroy Crossi**	**10.53**	**178**	P	**Pn**	**13 09 45.5**	**+0.6**
44nm,0.3s,baz=8.0,slow=9.7,SNR=656							
FITZ				S	**S**	**13 11 40.6**	**-2.9**
12nm,0.3s,baz=87,slow=19,SNR=3.0							
KCP	**Kidapawan**	**14.43**	**360**	⇑*e*P	**P**	**13 10 30.0**	**+2.3**
DAV	**Davao City (W)**	**14.50**	**2**	*e*P	**P**	**13 10 29.9**	**+1.5**
2μm,0.6s							
DAV				*e*S	**S**	**13 13 02.8**	**-0.9**
MBWA	**Marble Bar**	**14.54**	**201**	⇑*i*P	**P**	**13 10 29.1**	**+0.2**
MMPI	**Merauke**	**15.10**	**95**	P	**P**	**13 10 35.8**	**+0.8**
1μm,1.4s							
WRAB	**Tennant Creek**	**15.22**	**145**	P	**P**	**13 10 36.0**	**-0.2**
2μm,1.5s							
WRAB	**Tennant Creek**	**15.22**	**145**	*e*P	**P**	**13 10 36.7**	**+0.5**
WRAB				*e*S	**S**	**13 13 15.7**	**-2.4**
WRAB				pmax	pmax		
comp=Z,358nm,0.7s							
WRAB	**Tennant Creek**	**15.22**	**145**	*e*P	**P**	**13 10 36.7**	**+0.5**
comp=Z,358nm,0.7s							
WRAB				*e*S	**S**	**13 13 15.7**	**-2.4**
WRA	**Warramunga Arr**	**15.22**	**145**	P	**P**	**13 10 36.4**	**+0.1**
comp=Z,14nm,0.3s,baz=326,slow=11,SNR=466							
WRA				S	**S**	**13 13 14.5**	**-3.6**
baz=314,slow=20,SNR=5.7							
WB2	**Warramunga Arr**	**15.23**	**145**	⇑*i*P	**P**	**13 10 36.8**	**+0.5**
WB2				*e*S	**S**	**13 13 15.6**	**-2.6**
BUKP	**Musuan**	**15.29**	**360**	*e*P	**P**	**13 10 38.0**	**+1.0**
BUKP						20 32 38.0	
PAGZ	**Pagadian**	**15.37**	**353**	*e*P	**P**	**13 10 39.6**	**+1.8**
IPIL	**Ipil**	**15.42**	**350**	*e*P	**P**	**13 10 40.2**	**+1.8**
BIPH	**Bislig**	**15.64**	**4**	⇑*i*P	**P**	**13 10 41.0**	**+0.2**
BIPH				*i* S	**S**	**13 13 25.0**	**-1.4**
DCPH	**Dipolog City**	**16.10**	**354**	⇑*i*P	**P**	**13 10 48.2**	**+2.6**
KKM	**Kota Kinabalu**	**16.16**	**326**	*e*P	**P**	**13 10 47.4**	**+1.0**
KKM				*e*S	**S**	**13 13 35.6**	**-1.0**
BUTP	**Butuan**	**16.38**	**2**	*e*P	**P**	**13 10 50.0**	**+1.2**
JCJI	**Jatiwangi**	**16.80**	**272**	P	**P**	**13 10 58.6**	**+5.4**
comp=Z,491nm,1.0s							
SNPH	**Sibulan**	**16.86**	**353**	⇑*e*P	**P**	**13 10 55.0**	**+1.1**
comp=Z,6μm,1.0s							
TBP	**Tagbilaran**	**17.14**	**356**	*e*P	**P**	**13 10 57.8**	**+0.9**
SCPH	**Surigao**	**17.19**	**1**	*e*P	**P**	**13 10 58.5**	**+1.2**
KSM	**Kuching**	**17.30**	**300**	⇑*i*P	**P**	**13 10 58.7**	**+0.2**
KSM				*e*S	**S**	**13 13 52.6**	**-6.2**
MSLP	**Maasin**	**17.54**	**359**	*e*P	**P**	**13 11 01.7**	**+0.6**
LLP	**Lapu-Lapu**	**17.76**	**356**	⇑*i*P	**P**	**13 11 03.9**	**+0.5**
BATP	**Bataraza**	**17.79**	**336**	*e*P	**P**	**13 11 04.4**	**+0.7**
ASPA	**Alice Springs**	**18.11**	**153**	⇑*i*P	**P**	**13 11 08.2**	**+1.0**
AS31	**Alice Springs**	**18.12**	**153**	⇑*i*P	**P**	**13 11 08.2**	**+1.0**
ASAR	**Alice Springs**	**18.12**	**153**	P	**P**	**13 11 07.8**	**+0.6**
comp=Z,40nm,0.3s,baz=334,slow=13,SNR=1159							
ASAR				S	**S**	**13 14 13.6**	**-0.9**
comp=Z,11nm,0.3s,baz=333,slow=22,SNR=5.5							
GUIM	**Jordan**	**18.20**	**352**	*e*P	**P**	**13 11 07.2**	**-1.0**
PPR	**Puerto Princes**	**18.34**	**339**	⇓*e*P	**P**	**13 11 10.2**	**+0.7**
OCLP	**Ormoc**	**18.45**	**358**	*e*P	**P**	**13 11 12.4**	**+1.7**
PLP	**Palo**	**18.56**	**359**	*e*P	**P**	**13 11 12.2**	**+0.4**
CUYO	**Cuyo Island**	**18.71**	**347**	*e*P	**P**	**13 11 13.9**	**+0.5**
RCP	**Roxas**	**19.10**	**353**	⇑*e*P	**P**	**13 11 17.3**	**-0.3**
KALP	**Kalibo**	**19.27**	**352**	*e*P	**P**	**13 11 25.2**	**+5.8**
ENPP	**El Nido**	**19.46**	**343**	*e*P	**P**	**13 11 21.2**	**0.0**
MMPH	**Masbate**	**19.80**	**356**	⇓*e*P	**P**	**13 11 25.4**	**+1.0**
CNP	**Catarman**	**19.90**	**359**	*e*P	**P**	**13 11 24.9**	**-0.4**
OTRP	**Odiongan**	**20.00**	**351**	*e*P	**P**	**13 11 27.1**	**+1.0**
BUSP	**Coron**	**20.01**	**346**	*e*P	**P**	**13 11 26.7**	**+0.4**
AUQP	**San Andres**	**20.85**	**353**	*e*P	**P**	**13 11 36.4**	**+2.4**
PVCP	**Virac**	**21.00**	**357**	*e*P	**P**	**13 11 35.3**	**-0.1**
BOAC	**Boac**	**21.10**	**351**	*e*P	**P**	**13 11 35.9**	**-0.4**
PGP	**Puerto Galera**	**21.30**	**349**	⇓*i*P

MUN	**Mundaring**	**25.73**	**198**	*e*P	**P**	**13 12 17.6**	**-0.3**
MUN				*i* S	**S**	**13 16 15.9**	**-2.0**
NWAO	**Narrogin (SRO)**	**26.33**	**195**	P	**P**	**13 12 23.4**	**+0.1**
	comp=Z,28nm,0.5s,mb5.0,baz=24,slow=8.7,SNR=51						
NWAO	**Narrogin (SRO)**	**26.33**	**195**	*e*P	**P**	**13 12 23.2**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,27nm,0.6s						
NWAO	**Narrogin (SRO)**	**26.33**	**195**	*e*P	**P**	**13 12 23.2**	**-0.1**
	comp=Z,27nm,0.6s,mb4.8						
KULM	**Kulim**	**27.57**	**297**	⇓*i*P	**P**	**13 12 34.5**	**+0.3**
KULM				*e*pP		13 13 41.0	
KULM				*e*		13 16 46.1	
PSI	**Prapat**	**28.11**	**290**	P	**P**	**13 12 38.8**	**-0.2**
	comp=Z,144nm,0.9s,mb5.3,baz=131,slow=5.1,SNR=92						
PSI				pP		13 13 49.3	
	comp=Z,75nm,1.1s,baz=127,slow=7.8,SNR=2.0						
PSI				S	**S**	**13 16 54.1**	**-1.2**
	comp=Z,22nm,1.0s,baz=253,slow=19,SNR=6.0						
PSI				ScP	ScP	13 18 46.3	+0.9
	comp=Z,18nm,0.9s,baz=191,slow=7.5,SNR=4.3						
PSI	**Prapat**	**28.11**	**290**	P	**P**	**13 12 38.8**	**-0.2**
PSI				S	**S**	**13 16 54.1**	**-1.2**
STKA	**Stephens Creek**	**28.67**	**150**	⇓*i*P	**P**	**13 12 43.1**	**-0.8**
	comp=Z,26nm,0.6s,mb4.7						
STKA				*e*		13 13 39.5	
STKA				*i*		13 13 55.1	
STKA				*e*S	**S**	**13 17 01.8**	**-2.2**
STKA				*e*sS	sS	13 19 11.5	-2.4
STKA	**Stephens Creek**	**28.67**	**150**	P	**P**	**13 12 43.1**	**-0.7**
	comp=Z,26nm,0.5s,mb4.8,baz=320,slow=9.2,SNR=132						
STKA				pP		13 13 55.0	
	comp=Z,256nm,0.9s,baz=317,slow=10,SNR=13						
STKA				S	**S**	**13 17 01.8**	**-2.2**
	comp=Z,58nm,0.9s,baz=118,slow=15,SNR=2.5						
GUMO	**Guam**	**28.68**	**43**	P	**P**	**13 12 43.6**	**-0.4**
	comp=Z,121nm,0.7s,mb5.4,baz=160,slow=12,SNR=7.0						
GUMO	**Guam**	**28.68**	**43**	P	**P**	**13 12 43.9**	**-0.1**
GUMO				pmax	pmax		
	comp=Z,428nm,1.4s,mb5.6						
GUMO	**Guam**	**28.68**	**43**	P	**P**	**13 12 43.9**	**-0.1**
	comp=Z,428nm,1.4s,mb5.6						
ADE	**Adelaide**	**30.02**	**157**	*e*P	**P**	**13 12 57.7**	**+1.9**
QIZ	**Qiongzhong**	**30.40**	**330**	P	**P**	**13 12 59.0**	**0.0**
QIZ				AP	pP	13 14 11.4	+1.5
QIZ				S	**S**	**13 17 28.3**	**-2.6**
QIZ				AMB	AMB		
	comp=Z,43nm,1.0s,mb4.7						
NACB	**Ninganchiao**	**31.69**	**354**	*e*P	**P**	**13 13 10.0**	**-0.2**
YHNB	**Yeheng**	**32.20**	**354**	*e*P	**P**	**13 13 12.3**	**-2.4**
YHNB				*e*pP	pP	13 14 29.3	+3.3
NNT	**Nongplab**	**32.21**	**308**	P	**P**	**13 13 15.8**	**+1.0**
KKTK	**Khon Kaen**	**32.41**	**317**	⇓P	**P**	**13 13 17.2**	**+0.7**
	comp=Z,864nm,0.8s,mb6.1						
GZH	**Guangzhou**	**32.54**	**339**	P	**P**	**13 13 21.1**	**+3.5**
GZH				S	**S**	**13 18 02.1**	**-1.9**
QZH	**Quanzhou**	**32.89**	**349**	⇓*i*P	**P**	**13 13 20.8**	**+0.2**
QZH				S	**S**	**13 18 07.3**	**-2.1**
QZH				AMB	AMB		
	comp=Z,140nm,1.2s,mb5.2						
ARMA	**Armidale**	**33.67**	**136**	*e*P	**P**	**13 13 29.6**	**+2.3**
NST	**Nakhon Sawan**	**33.85**	**313**	⇑P	**P**	**13 13 29.3**	**+0.6**
	comp=Z,86nm,0.9s,mb5.1						
JOW	**Kunigami**	**34.28**	**5**	P	**P**	**13 13 32.4**	**0.0**
	comp=Z,24nm,0.6s,mb4.7,baz=198,slow=6.5,SNR=10						
JOW				pP	pP	13 14 46.1	+1.7
	comp=Z,63nm,0.9s,baz=187,slow=9.0,SNR=2.5						
HNR	**Honiara**	**34.45**	**96**	P	**P**	**13 13 34.3**	**+0.4**
	comp=Z,489nm,1.1s,mb5.8,baz=219,slow=0.8,SNR=6.0						
HNR	**Honiara**	**34.45**	**96**	P	**P**	**13 13 34.5**	**+0.6**
HNR				pmax	pmax		
	comp=Z,430nm,1.1s,mb5.7						
HNR	**Honiara**	**34.45**	**96**	*e*P	**P**	**13 13 33.5**	**-0.4**
	comp=Z,432nm,1.1s,mb5.7						
TOO	**Toolangi**	**35.15**	**151**	⇓*i*P	**P**	**13 13 42.2**	**+2.5**
	comp=Z,18nm,0.6s,mb4.6						
TOO				*e*S	**S**	**13 18 42.0**	**-1.7**
TOO	**Toolangi**	**35.15**	**151**	⇓*i*P	**P**	**13 13 42.2**	**+2.5**
TOO				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.6						
CNB	**Canberra Magne**	**35.47**	**145**	*e*P	**P**	**13 13 44.4**	**+1.9**
	comp=Z,74nm,1.4s,mb4.8						
BDT	**Bhumibol Dam**	**35.69**	**314**	⇓P	**P**	**13 13 45.5**	**+1.2**
	comp=Z,47nm,0.9s,mb4.8						
CHRT	**Chiangrai**	**36.94**	**318**	⇑P	**P**	**13 13 56.0**	**+1.2**
	comp=Z,868nm,0.9s,mb6.1						
CBIJ	**Chichi jima**	**38.16**	**25**	P	**P**	**13 14 05.2**	**+0.4**
	comp=Z,156nm,0.6s,mb5.5,baz=297,slow=17,SNR=3.7						
GYA	**Guiyang**	**38.25**	**333**	⇑*i*P	**P**	**13 14 06.3**	**+0.7**
GYA				AP	pP	13 15 19.9	+0.8
GYA				PP	PP	13 15 46.0	+3.0
GYA				PCP	PcP	13 16 12.4	+1.8
GYA				S	**S**	**13 19 28.3**	**-2.0**
GYA				SS	SS	13 22 32.0	-5.6
GYA				SCS	ScS	13 23 30.9	-1.1
GYA				AMB	AMB		
	comp=Z,70nm,1.1s,mb4.9						
SSE	**Sheshan**	**38.58**	**355**	P	**P**	**13 14 08.9**	**+0.6**
SSE				XP	sP	13 16 13.4	+7.3
SSE				S	**S**	**13 19 31.6**	**-3.6**
SSE				XS	sS	13 21 53.1	+4.1
SSE				SS	SS	13 22 41.8	-2.3
SSE				AMB	AMB		
	comp=Z,69nm,0.8s,mb5.0						
KMI	**Kunming**	**39.11**	**327**	⇑P	**P**	**13 14 14.5**	**+1.9**
KMI				AP	pP	13 15 32.3	+5.8
KMI				PP	PP	13 15 57.5	+5.3
KMI				PCP	PcP	13 16 15.4	+2.1
KMI				XP	sP	13 16 19.4	+8.9
KMI				SCP	ScP	13 19 23.3	-0.9
KMI				S	**S**	**13 19 43.6**	**+0.6**
KMI				PCS	PcS	13 20 03.3	-0.3
KMI				XS	sS	13 22 02.9	+5.9
KMI				SS	SS	13 22 51.1	-3.3
KMI				SCS	ScS	13 23 32.0	-5.1
KMI				AMB	AMB		
	comp=Z,52nm,1.6s,mb4.6						
WHN	**Wuhan**	**39.24**	**345**	P	**P**	**13 14 14.9**	**+1.2**
WHN				AP	pP	13 15 33.0	+5.4
WHN				S	**S**	**13 19 43.0**	**-2.0**
WHN				AMB	AMB		
	comp=Z,119nm,1.2s,mb5.1						
NJ2	**Nanjing**	**39.80**	**352**	*e*P	**P**	**13 14 19.1**	**+0.8**
NJ2				AP	pP	13 15 33.5	+1.1
NJ2				PP	PP	13 16 02.1	+2.5
NJ2				S	**S**	**13 19 54.0**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,190nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,400nm,3.7s						
JNU	**Nakatsue**	**40.78**	**7**	P	**P**	**13 14 26.6**	**+0.4**
	comp=Z,53nm,1.0s,mb4.8,baz=164,slow=9.7,SNR=12						
DZM	**Mont Dzumac**	**42.29**	**115**	P	**P**	**13 14 39.5**	**+1.1**
	comp=Z,110nm,1.2s,mb5.1,baz=281,slow=7.6,SNR=18						
CD2	**Chengdu**	**43.37**	**333**	P	**P**	**13 14 46.3**	**-0.5**
CD2				AP	pP	13 16 06.5	+4.1
CD2				PP	PP	13 16 36.6	-0.1
CD2				XP	sP	13 16 52.4	+6.5
CD2				S	**S**	**13 20 44.0**	**-1.1**
CD2				XS	sS	13 23 07.4	+6.0
CD2				SS	SS	13 24 04.3	-6.3
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.3						
CD2				AMB	AMB		
	comp=Z,70nm,5.7s						
XAN	**Xi'an**	**44.10**	**341**	P	**P**	**13 14 51.8**	**-0.8**
XAN				AP	pP	13 16 08.4	-0.1
XAN				AMB	AMB		
	comp=Z,43nm,0.8s,mb4.8						
XAN				AMB	AMB		
	comp=Z,118nm,6.9s						
TIA	**Tai'an**	**44.15**	**351**	*e*P	**P**	**13 14 52.1**	**-0.9**
INCN	**Inchon**	**44.79**	**2**	*e*P	**P**	**13 14 56.2**	**-1.7**
KS15	**Wonju Array Si**	**44.80**	**3**	*e*P	**P**	**13 14 59.0**	**+0.9**
MJAR	**Matsushiro Arr**	**45.51**	**15**	P	**P**	**13 15 03.1**	**-0.4**
	comp=Z,92nm,0.9s,mb5.1,baz=192,slow=8.5,SNR=156						
MJAR				ScP	ScP	13 19 48.3	-1.7
	comp=Z,22nm,1.1s,baz=198,slow=5.0,SNR=5.3						
MJAR				S	**S**	**13 21 13.6**	**-2.1**
	comp=Z,20nm,1.0s,baz=193,slow=15,SNR=14						
MAJO	**Matsushiro**	**45.51**	**15**	P	**P**	**13 15 03.4**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,125nm,1.0s,mb5.2						
MAJO	**Matsushiro**	**45.51**	**15**	P	**P**	**13 15 03.4**	**-0.2**
	comp=Z,126nm,1.0s,mb5.2						
MAJO				*e*pP	pP	13 16 20.8	+0.9
MAT	**Matsushiro**	**45.51**	**15**	P	**P**	**13 15 03.2**	**-0.3**
MAT				S	**S**	**13 21 12.2**	**-3.5**
MAT	**Matsushiro**	**45.51**	**15**	*e*P	**P**	**13 15 03.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,93nm,0.8s,mb5.2						
MAT	**Matsushiro**	**45.51**	**15**	*e*P	**P**	**13 15 03.0**	**-0.5**
	comp=Z,92nm,0.8s,mb5.2						
MAT				*e*S	**S**	**13 21 12.0**	**-3.7**
SHL	**Shillong**	**46.14**	**317**	*e*P	**P**	**13 15 09.0**	**+0.6**
SHL				*e*S	PcP	13 16 33.0	-4.1
SHL	**Shillong**	**46.14**	**317**	*i* P	**P**	**13 15 09.0**	**+0.6**
SHL				*ex*	x	13 16 34.0	
SHL				*e*S	**S**	**13 21 21.0**	**-3.6**
DL2	**Dalian**	**46.30**	**356**	P	**P**	**13 15 09.3**	**-0.4**
DL2				AP	pP	13 16 28.1	+1.7
DL2				S	**S**	**13 21 23.3**	**-3.6**
DL2				SCS	ScS	13 24 19.8	-2.3
DL2				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.7						
DL2				AMB	AMB		
	comp=Z,210nm,8.0s						
PALK	**Pallekele**	**46.71**	**287**	P	**P**	**13 15 13.6**	**+0.8**
	comp=Z,335nm,1.0s,mb5.6,SNR=6.2						
PALK	**Pallekele**	**46.71**	**287**	P	**P**	**13 15 12.5**	**-0.3**
	comp=Z,92nm,1.3s,mb5.0						
PALK				*e*pP	pP	13 16 28.8	-0.8
CAL	**Calcutta**	**46.83**	**311**	⇓*i*x	**P**	**13 15 12.9**	**-0.8**
	baz=261,slow=8.6						
CAL				*e*P		13 15 14.0	
CAL				*e*P		13 15 14.0	
CAL				*ex*	x	13 16 35.0	
CAL				*e*S	**S**	**13 21 33.8**	**-0.4**
CAL				AMP		13 25 05.3	
	comp=Z,297nm,20.2s						
LZH	**Lanzhou**	**47.78**	**337**	*e*P	**P**	**13 15 22.3**	**+1.4**
LZH				AP	pP	13 16 42.6	+4.4
LZH				PP	PP	13 17 20.0	+3.1
LZH				XP	sP	13 17 23.3	+2.0
LZH				SCP	ScP	13 20 00.3	+0.7
LZH				PCS	PcS	13 20 40.4	+1.2
LZH				S	**S**	**13 21 45.3**	**-2.3**
LZH				SCS	ScS	13 24 29.9	-2.1
LZH				SS	SS	13 25 23.0	+1.3
LZH				AMB	AMB		
	comp=Z,101nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,428nm,4.1s						
BJI	**Beijing**	**48.04**	**351**	P	**P**	**13 15 22.3**	**-0.6**
BJI				AP	pP	13 16 44.4	+4.1
BJI				PP	PP	13 17 18.0	-1.3
BJI				XP	sP	13 17 32.0	+8.6
BJI				AMB	AMB		
	comp=Z,33nm,1.1s,mb4.6						
BJI				AMB	AMB		
	comp=Z,229nm,3.6s						
VIS	**Vishakhapatnam**	**48.33**	**302**	*e*P	**P**	**13 15 23.4**	**-1.7**
VIS				AMb	AMB	13 15 27.4	
	comp=Z,92nm,1.1s,mb5.0						
VIS				*e*S	**S**	**13 21 46.5**	**-8.8**
VIS	**Vishakhapatnam**	**48.33**	**302**	*i x*	**P**	**13 15 24.6**	**-0.5**
VIS				*i* S	PcP	13 16 42.6	-2.3
SNY	**Shenyang**	**49.12**	**358**	⇓P	**P**	**13 15 30.8**	**-0.3**
SNY				AP	pP	13 16 47.8	-1.0
SNY				XP	sP	13 17 38.3	+6.5
SNY				SCP	ScP	13 20 03.5	-1.8
SNY				SCS	ScS	13 24 38.8	-2.3
SNY				AMB	AMB		
	comp=Z,37nm,1.5s,mb4.5						
SNY				AMB	AMB		
	comp=Z,268nm,11.8s						
LSA	**Lhasa**	**49.38**	**320**	P	**P**	**13 15 34.9**	**+1.9**
LSA				S	**S**	**13 22 07.0**	**-2.7**
BOK	**Bokaro**	**49.39**	**310**	*e*P	**P**	**13 15 32.9**	**-0.2**
BOK				AMb	AMB	13 15 37.5	
	comp=Z,74nm,1.6s,mb4.8						
HHC	**Hu-ho-hao-te**	**49.73**	**346**	*e*P	**P**	**13 15 35.3**	**-0.3**
HHC				AP	pP	13 16 58.1	+4.5
HHC				PP	PP	13 17 36.8	+2.2
HHC				XP	sP	13 17 43.5	+7.0
HHC				S	**S**	**13 22 11.8**	**-2.7**
HHC				SCS	ScS	13 24 39.3	-5.9
HHC				SS	SS	13 25 51.3	-1.2
HHC				AMB	AMB		
	comp=Z,115nm,2.1s,mb4.8						
BTO	**Baotou**	**49.88**	**345**	*e*P	**P**	**13 15 36.0**	**-0.7**
TRD	**Trivandrum**	**50.61**	**287**	*ex*	**P**	**13 15 49.4**	**+7.3**
VLA	**Vladivostok**	**50.77**	**6***c*	*i*P	**P**	**13 15 43.6**	**+0.3**
VLA				*i* S	**S**	**13 22 28.2**	**-0.5**
VLA				pmax	pmax		
	comp=Z,176nm,1.2s,mb5.2						
VLA				MLR	MLR		
	comp=Z,400nm,21.4s						
VLA	**Vladivostok**	**50.77**	**6**	⇑*i*P	**P**	**13 15 43.4**	**+0.1**
CN2	**Changchun**	**51.08**	**0**	*e*P	**P**	**13 15 45.0**	**-0.5**
CN2				PCP	PcP	13 16 54.9	-0.2
CN2				*e*AP	pP	13 17 08.3	+4.3
CN2				*e*XP	sP	13 17 53.8	+7.0
CN2				SCP	ScP	13 20 12.5	-1.2
CN2				*e*S	**S**	**13 22 29.9**	**-3.0**
CN2				AMB	AMB		
	comp=Z,50nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,350nm,6.0s						
JIRN	**Jiri**	**51.41**	**314**	*e*P	**P**	**13 15 48.9**	**+0.9**
	comp=Z,572nm,1.1s,mb5.7						
GUN	**Gumba**	**51.78**	**315**	⇓*i*P	**P**	**13 15 51.5**	**+0.8**
	comp=Z,808nm,1.1s,mb5.9						
PKI	**Pulchoki**	**51.91**	**314**	⇓*i*P	**P**	**13 15 52.1**	**+0.4**
	comp=Z,160nm,0.6s,mb5.5						
MDJ	**Mudanjiang**	**52.05**	**4**	P	**P**	**13 15 53.3**	**+0.7**
MDJ				PP	PP	13 17 56.3	+0.9
MDJ				PCS	PcS	13 20 55.6	-2.0
MDJ				S	**S**	**13 22 37.5**	**-8.5**
MDJ				SCS	ScS	13 25 01.0	-0.3
MDJ				SS	SS	13 26 25.8	-3.3
MDJ				AMB	AMB		
	comp=Z,237nm,1.0s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,218nm,6.1s						
KKN	**Kakani**	**52.13**	**314**	⇓*i*P	**P**	**13 15 53.8**	**+0.5**
	comp=Z,606nm,1.2s,mb5.7						
DMN	**Daman**	**52.15**	**314**	⇓*i*P	**P**	**13 15 54.1**	**+0.7**
	comp=Z,668nm,1.1s,mb5.8						
DGAR	**Diego Garcia**	**52.23**	**266**	P	**P**	**13 15 53.9**	**-0.1**
DGAR				pmax	pmax		
	comp=Z,364nm,1.4s,mb5.4						
DGAR	**Diego Garcia**	**52.23**	**266**	P	**P**	**13 15 53.9**	**-0.1**
	comp=Z,364nm,1.4s,mb5.4						
GTA	**Gaotai**	**52.27**	**335**	⇓P	**P**	**13 15 55.1**	**+0.9**
GTA				PCP	PcP	13 17 00.8	+1.2
GTA				AP	pP	13 17 16.6	+3.5
GTA				PP	PP	13 17 58.8	+1.4
GTA				XP	sP	13 18 02.8	+7.0
GTA				SCP	ScP	13 20 18.4	-0.5
GTA				S	**S**	**13 22 44.3**	**-4.7**
GTA				SCS	ScS	13 25 01.0	-1.8
GTA				XS	sS	13 25 12.5	+2.2
GTA				AMB	AMB		
	comp=Z,51nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,234nm,5.7s						
HYB	**Hyderabad**	**52.29**	**299**	⇓*i*P	**P**	**13 15 53.5**	**-0.9**
	comp=Z,100nm,1.0s,mb5.0						
HYB				*e*		13 16 15.0	
HYB				*e*PcP	PcP	13 17 01.0	+1.3
HYB				*e*pP	pP	13 17 14.0	+0.7
HYB				*e*	pP	13 17 17.0	+3.7
HYB				*e*PP	PP	13 18 03.0	+5.4
HYB				*e*S	**S**	**13 22 44.0**	**-5.3**
HYB	**Hyderabad**	**52.29**	**299**	*e*P	**P**	**13 15 53.5**	**-0.9**
HYB				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.0						
HYB	**Hyderabad**	**52.29**	**299**	*e*P	**P**	**13 15 53.5**	**-0.9**
	comp=Z,100nm,1.0s,mb5.0						
HYB				*e*	pP	13 17 13.5	+0.2
HYB				*e*S	**S**	**13 22 44.0**	**-5.3**
GKN	**Gorkha**	**52.72**	**314**	⇓*i*P	**P**	**13 15 58.0**	**+0.5**
	comp=Z,732nm,1.0s,mb5.9						
KOLN	**Koldanda**	**53.33**	**313**	⇓*i*P	**P**	**13 16 02.6**	**+0.7**
	comp=Z,1μm,1.0s,mb6.0						
NGP	**Nagpur**	**53.49**	**303**	*ex*	**P**	**13 16 06.0**	**+2.9**
	comp=Z,190nm,1.4s,mb5.1						
NGP				*e*S	pP	13 17 26.0	+3.6
NGP				*ex*	x	13 17 33.6	
	comp=E,77nm,1.9s						
DANN	**Dangsing**	**53.55**	**314**	⇓*i*P	**P**	**13 16 03.9**	**+0.4**
JBP	**Jabalpur**	**53.67**	**306**	⇓*i*P	**P**	**13 16 04.4**	**0.0**
JBP				*ex*	x	13 16 06.2	
	comp=Z,320nm,1.1s						
RPZ	**Rata Peaks**	**53.85**	**140**	P	**P**	**13 16 06.7**	**+1.0**
	comp=Z,158nm,0.8s,mb5.3,baz=267,slow=1.8,SNR=43						
SNZO	**South Karori**	**55.24**	**136**	P	**P**	**13 16 15.1**	**-0.3**
	comp=Z,175nm,1.3s,mb5.1						
BHPL	**Bhopal**	**55.78**	**305**	*e*P	**P**	**13 16 17.9**	**-1.3**
BHPL				AMb	AMB	13 16 20.5	
	comp=Z,158nm,1.3s,mb5.2						
BHPL				*e*S	**S**	**13 23 28.8**	**-6.8**
URZ	**Urewera**	**55.86**	**131**	P	**P**	**13 16 19.9**	**0.0**
	comp=Z,38nm,0.8s,mb4.8,baz=314,slow=3.5,SNR=15						
KAD	**Karad**	**56.09**	**297**	*e*P	**P**	**13 16 20.0**	**-1.4**
KAD				AMb	AMB	13 16 22.8	
	comp=Z,126nm,1.3s,mb5.1						
HABR	**Khabarovsk**	**56.43**	**8**	*i* P	**P**	**13 16 24.6**	**+0.8**
HABR				*e*S	**S**	**13 23 43.4**	**-0.6**
HABR				pmax	pmax		
	comp=Z,174nm,1.1s,mb5.3						
YSS	**Yuzh-Sakhalins**	**56.44**	**14**	*e*P	**P**	**13 16 24.6**	**+0.7**
YSS				*e*		13 17 16.7	
YSS				*e*		13 18 37.0	
YSS				*e*SSS		13 30 20.0	
YSS				pmax	pmax		
	comp=N,110nm,1.3s						
YSS				pmax	pmax		
	comp=Z,110nm,1.3s,mb5.0						
YSS	**Yuzh-Sakhalins**	**56.44**	**14**	P	**P**	**13 16 23.5**	**-0.4**
	comp=Z,138nm,1.3s,mb5.1						
LGTI	**Lohaghat**	**56.71**	**313**	*e*P	**P**	**13 16 25.0**	**-0.8**
KLR	**Kul'dur**	**56.80**	**5**	⇑*i*P	**P**	**13 16 23.7**	**-2.7**
KLR				*e*		13 17 13.8	
KLR				*e*S	**S**	**13 23 43.5**	**-5.4**
KLR				pmax	pmax		
	comp=Z,100nm,1.8s,mb4.8						
KLR				smax			
	comp=N,900nm,10.0s						
KLR				smax			
	comp=E,500nm,10.0s						
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,800nm,13.0s						
POO	**Poona**	**56.84**	**298**	AMb	AMB	13 16 38.0	
	comp=Z,109nm,0.9s,mb5.2						
POO	**Poona**	**56.84**	**298**	⇓*i*P	**P**	**13 16 26.0**	**-0.7**
	comp=Z,150nm,1.0s,mb5.3						
SONM	**Songino Array**	**57.56**	**345**	P	**P**	**13 16 31.9**	**+0.3**
	comp=Z,24nm,1.0s,mb4.5,baz=164,slow=7.9,SNR=132						
SONM				pP	pP	13 17 53.7	+1.3
	comp=Z,21nm,1.1s,baz=163,slow=6.8,SNR=4.0						
SONM				S	**S**	**13 23 56.2**	**-2.4**
	comp=Z,1.0nm,0.9s,baz=167,slow=6.8,SNR=2.5						
SONM				PKPPKP		13 46 05.1	
	comp=Z,1.0nm,1.0s,baz=333,slow=0.7,SNR=4.3						
SONM				P4KP		13 55 16.3	
	comp=Z,0.7nm,0.8s,baz=155,slow=4.0,SNR=4.9						
SONM	**Songino Array**	**57.56**	**345**	P	**P**	**13 16 31.9**	**+0.3**
SONM				S	**S**	**13 23 56.2**	**-2.4**
SONM	**Songino Array**	**57.56**	**345**	P	**P**	**13 16 31.9**	**+0.3**
SONM				pP	pP	13 17 53.7	+1.3
SONM				S	**S**	**13 23 56.2**	**-2.4**
SONM				P'P'		13 46 05.1	
NDI	**New Delhi**	**58.57**	**310**	*e*P	**P**	**13 16 37.0**	**-1.6**
NDI				*e*S	**S**	**13 24 04.0**	**-7.6**
NDI	**New Delhi**	**58.57**	**310**	*e*P	**P**	**13 16 37.0**	**-1.6**
NDI				*e*S	**S**	**13 24 05.0**	**-6.6**
DDI	**Dehra Dun**	**58.78**	**312**	*e*P	**P**	**13 16 38.9**	**-1.1**
AJM	**Ajmer**	**59.51**	**307**	*i* P	**P**	**13 16 44.0**	**-0.9**
AJM				*e*P		13 16 44.1	
AJM				AMb	AMB	13 16 46.2	
	comp=Z,153nm,1.2s,mb5.3						
AJM				*i* P		13 24 19.0	
DRV	**Dumont d'Urvil**	**59.93**	**173**	S	**S**	**13 24 25.0**	**-3.9**
ZAK	**Zakamensk**	**60.71**	**344**	*e*P	**P**	**13 16 52.8**	**-0.2**
ZAK				*e*		13 17 31.9	
ZAK				*e*		13 19 06.4	
ZAK				*e*		13 24 37.7	
ZAK				pmax	pmax		
	comp=Z,47nm,1.8s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,59nm,1.5s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,48nm,1.7s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,51nm,1.1s,mb4.9						
ZAK				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.4						
PONG	**Pong**	**61.17**	**313**	*e*P	**P**	**13 16 56.0**	**-0.1**
WMQ	**Urumqi**	**61.32**	**330**	⇓*i*P	**P**	**13 16 57.5**	**+0.5**
WMQ				PCP	PcP	13 17 35.5	+0.3
WMQ				AP	pP	13 18 25.5	+6.5
WMQ				XP	sP	13 19 09.0	+8.2
WMQ				PP	PP	13 19 20.8	+3.3
WMQ				PPP		13 20 54.8	
WMQ				S	**S**	**13 24 44.3**	**-2.0**
WMQ				SCS	ScS	13 26 04.1	-5.0
WMQ				SS	SS	13 28 54.9	+0.4
WMQ				AMB	AMB		
	comp=Z,122nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,759nm,4.8s						
IRK	**Irkutsk**	**62.15**	**346**	⇑*i*P	**P**	**13 17 01.8**	**-0.7**
IRK				*e*S	**S**	**13 24 54.8**	**-1.9**
IRK				*e*		13 25 26.3	
IRK				*e*		13 26 13.3	
IRK				pmax	pmax		
	comp=Z,72nm,1.9s,mb4.9						
BHJ	**Bhuj**	**62.26**	**301**	*e*P	**P**	**13 16 59.8**	**-3.5**
BHJ				AMb	AMB	13 17 05.0	
	comp=Z,100nm,1.3s,mb5.2						
MOY	**Mondy**	**62.50**	**343**	*e*P	**P**	**13 17 05.4**	**+0.6**
MOY				pmax	pm

MKAR pP pP 13 18 52.3 +0.8
comp=Z,49nm,0.9s,baz=138,slow=8.2,SNR=3.9
MKAR S S 13 25 43.8 -1.1
comp=Z,15nm,1.1s,baz=147,slow=11,SNR=17
MKAR PKPPKP 13 45 56.7
comp=Z,1.5nm,1.0s,baz=335,slow=4.6,SNR=3.9
MKAR P4KP 13 55 53.4
comp=Z,0.8nm,0.8s,baz=150,slow=5.1,SNR=4.6
MKAR Makanchi Array 66.12 329 P P 13 17 28.5 +0.5
MKAR S S 13 25 43.8 -1.1
MKAR Makanchi Array 66.12 329 P P 13 17 28.5 +0.5
MKAR pP pP 13 18 52.3 +0.8
MKAR S S 13 25 43.8 -1.1
MKAR P'P' 13 45 56.7
ULHL Ulahol 66.63 322 P **P 13 17 32.3 +1.1**
SNR=5.2
PET Petropavlovsk 66.68 21⇓*i*P **P 13 17 31.5 0.0**
PET *e* 13 17 56.9
PET *i* S S 13 25 54.4 +2.9
PET *e*SP 13 26 21.5
PET *e*SS SS 13 30 20.9 +3.3
PET *e*SSS 13 33 28.4
PET pmax pmax
comp=Z,123nm,1.1s,mb5.5
PET pmax pmax
comp=Z,300nm,7.1s
PET pmax pmax
comp=Z,53nm,1.4s,mb5.0
PET pmax pmax
comp=Z,200nm,17.1s
PET pmax pmax
comp=Z,71nm,1.4s,mb5.1
PET smax
comp=E,38nm,2.3s
PET smax
comp=N,43nm,3.2s
PET smax
comp=E,900nm,8.8s
PET MLR MLR
comp=Z,500nm,18.0s
PET Petropavlovsk 66.68 21 P **P 13 17 32.1 +0.6**
PET *e*pP pP 13 18 49.5 -5.6
KZA Kyzart 67.13 322 P **P 13 17 35.6 +1.2**
SNR=23
TKM2 Tokmak 2 67.41 323 P **P 13 17 36.5 +0.5**
SNR=47
KBK Karagaybulak 67.65 322 P **P 13 17 38.4 +0.9**
SNR=48
UCH Uchtor 67.67 322 P **P 13 17 38.7 +1.1**
SNR=65
AAK Ala-Archa 67.91 322 P **P 13 17 39.9 +0.7**
SNR=73
FRU Bishkek 67.95 322⇓*i*P **P 13 17 39.5 +0.1**
FRU *i* S S 13 26 06.0 -0.5
FRU *e* 13 26 29.0
FRU pmax pmax
comp=Z,120nm,1.8s,mb5.2
FRU smax
comp=E,250nm,2.5s
CHMS Chumysh 67.96 322 P **P 13 17 39.4 -0.1**
SNR=10
AML Almayashu 68.12 321 P **P 13 17 41.4 +0.9**
SNR=120
USP Ospenovka 68.26 323 P **P 13 17 41.6 +0.2**
SNR=59
EKS2 Erkin-Say 68.36 322 P **P 13 17 42.7 +0.8**
SNR=77
YAK Yakutsk 69.43 2*d i*P **P 13 17 48.4 0.0**
YAK *e* 13 18 04.4
YAK *i* S S 13 26 22.2 -1.6
YAK *i* 13 27 05.5
YAK pmax pmax
comp=Z,170nm,1.0s,mb5.6
YAK pmax pmax
comp=N,74nm,1.2s
YAK pmax pmax
comp=E,27nm,1.0s
YAK pmax pmax
comp=Z,31nm,0.9s,mb4.9
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,14nm,1.3s
YAK smax
comp=N,77nm,1.4s
YAK smax
comp=E,85nm,1.5s
YAK Yakutsk 69.43 2⇓*i*P **P 13 17 47.9 -0.6**
YAK *e*pP pP 13 19 10.8 -2.1
MA2 Magadan 69.93 14*d i*P **P 13 17 51.9 +0.4**
MA2 *e* 13 18 11.0
MA2 *i* S S 13 26 30.2 +0.6
MA2 *e* 13 27 00.2
MA2 pmax pmax
comp=Z,100nm,1.0s,mb5.3
MA2 pmax pmax
comp=E,20nm,1.2s
MA2 pmax pmax
comp=N,50nm,1.1s
MA2 Magadan 69.93 14⇓*i*P **P 13 17 51.7 +0.2**
MA2 *e*pP pP 13 19 16.8 +0.8
KURK Kurchatov 70.53 331 P **P 13 17 54.1 -1.0**
comp=N,824nm,1.0s,mb6.2,SNR=98
KURK Kurchatov 70.53 331⇓*i*P **P 13 17 54.6 -0.4**
KURK *e*pP pP 13 19 16.3 -3.5
KURK *e*S S 13 26 27.4 -9.2
KK31 Karatay Array 70.63 321 *i*P **P 13 17 55.3 -0.4**
KKAR Karatay Array 70.63 321 *i*P **P 13 17 55.3 -0.4**
KKAR pmax pmax
comp=Z,118nm,1.6s,mb5.2
NVS Novosibirsk 71.30 336 *e*P **P 13 17 57.4 -2.2**
NVS pmax pmax
comp=N,104nm,1.4s
NVS pmax pmax
comp=E,95nm,1.4s
NVS pmax pmax
comp=Z,165nm,1.4s,mb5.4
JMDO Jabal Madar 72.03 296 P **P 13 18 04.7 +0.8**
SNR=5.1
BIDO Bidbid 72.33 298 P **P 13 18 06.6 +0.9**
SNR=5.5
VNDA Vanda 72.55 172 P **P 13 18 07.0 0.0**
comp=Z,9.0nm,0.7s,mb4.4,baz=318,slow=5.7,SNR=35
VNDA pP pP 13 19 31.5 -0.8
comp=Z,5.5nm,0.7s,baz=40,slow=2.4,SNR=2.0
VNDA S S 13 26 59.6 +0.3
comp=Z,2.1nm,1.0s,baz=65,slow=21,SNR=7.2
VNDA Vanda 72.55 172 P **P 13 18 07.0 0.0**
FX1 Attu Island--F 72.62 28 *e*P **P 13 18 07.9 +0.5**
FX1 *e*pP pP 13 19 37.0 +4.4
MAW Mawson 72.74 201 P **P 13 18 07.8 -0.3**
comp=Z,33nm,1.0s,mb4.8,baz=19,slow=8.2,SNR=6.2
MAW pP pP 13 19 34.4 +1.0
comp=Z,16nm,0.9s,baz=57,slow=23,SNR=2.1
HOQ Hoqain 73.07 297 P **P 13 18 10.7 +0.7**
SNR=8.6
SEY Seymchan 73.28 13 *e*P **P 13 18 11.6 +0.4**
SEY 13 20 54.1
SEY *e*S S 13 27 06.8 -0.6
SEY *e*SS SS 13 32 02.3 +3.8
SEY pmax pmax
comp=N,40nm,0.7s
SEY pmax pmax
comp=Z,134nm,0.7s,mb5.6
SEY pmax pmax
comp=E,70nm,1.4s
SEY smax
comp=N,100nm,4.5s
SEY smax
comp=E,190nm,5.7s
SEY Seymchan 73.28 13⇓*e*P **P 13 18 11.4 +0.2**
SBA Scott Base 73.50 172 P **P 13 18 13.5 +1.1**
ARQ Araqi 73.69 297 P **P 13 18 14.2 +0.7**
SNR=5.1
WHFO Wadi Hawf 74.84 291 P **P 13 18 20.4 +0.2**
SNR=12
ABTO Aybut 75.15 290 P **P 13 18 22.6 +0.7**
SNR=12
VOSK Vostochnaya 75.54 329 P **P 13 18 23.3 -0.8**
VOSK pmax pmax
comp=Z,93nm,1.0s,mb5.4
BVA0 Borovoye Array 76.00 329 *i*P **P 13 18 26.4 -0.3**
BVA0 pmax pmax
comp=Z,98nm,1.5s,mb5.2
BVAR Borovoye Array 76.00 329 P **P 13 18 26.4 -0.3**
comp=Z,89nm,1.0s,mb5.3,baz=134,slow=6.4,SNR=288
BVAR pP pP 13 19 53.4 +0.6
comp=Z,44nm,1.0s,baz=151,slow=6.4,SNR=4.0
BVAR S S 13 27 32.8 -4.5
comp=Z,1.1nm,0.9s,baz=133,slow=6.1,SNR=3.9
BRVK Borovoye 76.07 329 P **P 13 18 26.0 -1.1**
comp=Z,829nm,1.2s,mb6.2
BRVK Borovoye 76.07 329⇓*i*P **P 13 18 26.8 -0.3**
BRVK *e*pP pP 13 19 47.4 -5.8
OPO Ambohidratompo 76.28 253 P **P 13 18 28.9 +0.7**
comp=Z,15nm,1.1s,mb4.5,baz=80,slow=4.8,SNR=18
OPO pP pP 13 19 54.6 +0.2
comp=Z,15nm,0.9s,baz=150,slow=3.2,SNR=3.4
ZRNK Zerenda 76.67 329 P **P 13 18 29.9 -0.4**
ZRNK Zerenda 76.67 329⇓*i*P **P 13 18 29.8 -0.6**
ZRNK *e*pP pP 13 19 51.6 -5.1
ABKT Ailbek 76.92 312 P **P 13 18 32.7 +0.9**
comp=Z,499nm,1.2s,mb6.0,SNR=20
TIXI Tiksi 79.04 1 *e*P **P 13 18 39.2 -4.1**
TIXI *e* 13 18 46.9
TIXI *e*PPP 13 23 39.6
TIXI *e*SSS 13 36 46.2
TIXI pmax pmax
comp=Z,88nm,1.1s,mb5.3
TIXI MLR MLR
comp=Z,188nm,19.0s
TIXI Tiksi 79.04 1 *i* Pr **P 13 18 41.5 -1.8**
AB31 Akbulak array 79.97 323 *i* P **P 13 18 47.5 -0.8**
BILL Biiibino 80.76 15*de*P **P 13 18 51.7 -0.7**
BILL pmax pmax
comp=Z,51nm,2.5s,mb4.8
BILL Biiibino 80.76 15 *e*P **P 13 18 51.4 -1.0**
comp=Z,15nm,0.9s,mb4.7
SYO Syowa Base 81.44 201⇓*e*P **P 13 18 55.1 -0.8**
SYO Syowa Base 81.44 201⇑*e*PcP PcP 13 19 01.4 +0.6
SYO Syowa Base 81.44 201⇑*e*pP pP 13 20 22.1 -1.3
AKTK Aktyubinsk 81.58 323 P **P 13 18 56.4 -0.3**
AKTK S S 13 28 32.5 -3.3
AKTK PKKPbc PKKPbc 13 37 26.6 +0.5
AKTO Aktyubinsk 81.58 323 P **P 13 18 56.4 -0.3**
comp=Z,59nm,0.9s,mb5.3,baz=110,slow=6.1,SNR=174
AKTO S S 13 28 32.5 -3.3
comp=Z,0.4nm,0.4s,baz=341,slow=22,SNR=10
AKTO PKKPbc PKKPbc 13 37 26.6 +0.5
comp=Z,1.3nm,0.6s,baz=285,slow=4.3,SNR=5.2
AKTO Aktyubinsk 81.58 323 *i* P **P 13 18 56.3 -0.4**
AKTO pmax pmax
comp=Z,38nm,1.3s,mb5.0
QSPA South Pole Qui 82.46 180⇓*i*P **P 13 19 01.4 +0.2**
comp=Z,113nm,1.3s,mb5.4
QRN Al-Qurain 82.53 300 *e*P **P 13 19 01.7 +0.2**
KBD Kabd 82.81 301 *e*P **P 13 19 03.0 0.0**
KBD AMb AMB 13 19 05.2
comp=Z,362nm,1.6s,mb5.8
UMR Umm Al-Rimmam 82.88 301 *e*P **P 13 19 03.2 -0.1**
RDF Al-Radifah 82.88 300 *e*P **P 13 19 03.3 -0.1**
RDF AMb AMB 13 19 05.4
comp=Z,215nm,1.2s,mb5.7
NAY Al-Naaiem 83.21 301 *e*P **P 13 19 04.7 -0.3**
NAY AMb AMB 13 19 06.8
comp=Z,118nm,1.1s,mb5.5
PPT Papeete 83.28 107 P **P 13 19 08.3 +3.0**
comp=Z,30nm,0.9s,mb5.0,baz=282,slow=2.5,SNR=5.8
ARU Arti 83.64 329 P **P 13 19 06.8 -0.4**
comp=Z,489nm,1.6s,mb6.0,SNR=16
ARU Arti 83.64 329⇑*i*P **P 13 19 06.2 -1.0**
ARU *e* 13 22 25.9
ARU pmax pmax
comp=Z,160nm,1.7s,mb5.5
ARU Arti 83.64 329 P **P 13 19 06.2 -0.9**
ARU *e*pP pP 13 20 29.8 -5.4
ATD Arta Tunnel 84.02 282 P **P 13 19 10.8 +1.7**
comp=Z,31nm,1.0s,mb5.0,baz=255,slow=20
SOKR Solikamsk 85.75 332*d i*P **P 13 19 15.8 -1.8**
SOKR pmax pmax
comp=Z,140nm,1.1s,mb5.6
MAK Makhachkala 86.14 314 *e*P **P 13 19 17.8 -1.7**
MAK *e* 13 22 48.1
MAK *e* 13 29 18.5
MAK *e* 13 31 02.7
MAK pmax pmax
comp=Z,288nm,1.5s,mb5.8
BHD Baghdad 86.44 304 *ex* x 13 19 17.0
BHD *ex* x 13 29 04.0
BHD *ex* x 13 29 18.0
DGRG David-gareji 87.34 312 P **P 13 19 26.2 +1.1**
SDPT Sand Point 87.36 33 *e*P **P 13 19 24.5 -0.8**
comp=Z,382nm,1.4s,mb5.9
TNA Tin City 87.50 23 P **P 13 19 25.0 -0.9**
TNA *e*pP pP 13 20 51.6 -3.2
GNI Garni 87.53 311 P **P 13 19 26.0 0.0**
comp=Z,10nm,0.8s,mb4.6,baz=174,slow=23,SNR=9.7
GNI Garni 87.53 311 P **P 13 19 27.3 +1.2**
GNI pmax pmax
comp=Z,47nm,1.4s
GNI Garni 87.53 311 P **P 13 19 27.3 +1.2**
comp=Z,47nm,1.4s,mb5.0
GNI *e*pP pP 13 20 53.5 -1.5
KMBO Kilima Mbogo 87.78 269 P **P 13 19 27.4 +0.2**
comp=Z,27nm,1.2s,mb4.9,baz=80,slow=5.1,SNR=39
KMBO pP pP 13 20 56.1 -0.1
comp=Z,5.1nm,0.9s,baz=58,slow=5.9,SNR=3.6
KMBO Kilima Mbogo 87.78 269 P **P 13 19 28.6 +1.4**
KMBO pmax pmax
comp=Z,102nm,1.7s
KMBO Kilima Mbogo 87.78 269 P **P 13 19 28.6 +1.3**
comp=Z,102nm,1.7s,mb5.3
KMBO pP pP 13 20 56.1 -0.1
SAMG Sameba 87.80 312 P **P 13 19 27.3 0.0**
MTA Mtatsminda 87.82 312 P **P 13 19 27.3 -0.1**
TBLG Delisi 87.86 312 P **P 13 19 28.3 +0.7**
DUS Dusheti 87.96 313 P **P 13 19 28.9 +0.8**
ZEI Tsey 88.68 313 *e*P **P 13 19 32.1 +0.6**
ZEI pmax pmax
comp=Z,67nm,1.1s,mb5.3
AKH Akhalkalaki 88.72 312 P **P 13 19 32.5 +0.9**
BKR Bakuriani 88.77 312 P **P 13 19 32.4 +0.6**
GOF Gofitskoye 89.74 315 *e*P **P 13 19 34.3 -2.1**
GOF pmax pmax
comp=Z,100nm,1.3s,mb5.5
KIV Kislovodsk 89.78 314 P **P 13 19 36.6 0.0**
KIV pmax pmax
comp=Z,38nm,1.1s,mb5.1
KIV Kislovodsk 89.78 314 P **P 13 19 36.6 0.0**
comp=Z,38nm,1.1s,mb5.1
KIV *e*pP pP 13 21 07.7 +1.9
NVL N'lazarevskaya 90.43 198 *e*P **P 13 19 40.1 +0.5**
NVL pmax pmax
comp=Z,41nm,1.4s,mb5.1
SOC Sochi 91.84 314*d i*P **P 13 19 44.1 -2.0**
SOC *e* 13 23 34.3
SOC *e*PPP 13 25 34.6
SOC *e* 13 30 12.1
SOC *e*SS SS 13 36 27.6 -3.9
SOC *e*SSS 13 40 12.8
SOC pmax pmax
comp=Z,17nm,1.0s,mb4.9
MALT Malatya 92.05 308 P **P 13 19 47.8 +0.7**
MALT pmax pmax
comp=Z,44nm,1.4s,mb5.2
MALT Malatya 92.05 308 *e*P **P 13 19 47.6 +0.5**
comp=Z,44nm,1.4s,mb5.2
MALT *e*pP pP 13 21 16.3 -0.2
VOR Voronezh 93.34 322 *e*P **P 13 19 51.5 -1.5**
VOR *e*S 13 30 20.5
VOR pmax pmax
comp=Z,130nm,1.4s,mb5.7
VOR pmax pmax
comp=E,130nm,1.3s
VOR smax
comp=N,140nm,1.4s
VOR smax
comp=E,120nm,1.5s
ANN Anapa 93.63 315 *e*P **P 13 19 52.6 -1.7**
ANN pmax pmax
comp=Z,29nm,1.1s,mb5.2
SLKM Skilak Lake 93.84 30 P **P 13 19 54.1 -1.1**
SLKM *e*pP pP 13 21 21.4 -3.3
EIL Elat 93.85 299 *e*P **P 13 19 55.1 -0.2**
EIL *e*pP pP 13 21 24.1 -0.7
SNAA Sanae 94.00 194⇑*i*P **P 13 19 54.2 -1.8**
SNAA *e* 13 21 29.6
KLMR Klimovskoe 94.39 331*d i*P **P 13 19 55.5 -2.3**
KLMR *e* 13 23 51.5
KLMR pmax pmax
comp=Z,80nm,1.4s,mb5.6
KLMR pmax pmax
comp=Z,60nm,5.7s
PMR Palmer 94.51 29 P **P 13 19 57.1 -1.2**
PMR pmax pmax
comp=Z,47nm,1.3s,mb5.4
PMR Palmer 94.51 29 *e*P **P 13 19 56.7 -1.6**
comp=Z,64nm,1.5s,mb5.4
LSZ Lusaka 94.71 254 *e*P **P 13 19 59.6 +0.3**
LSZ pmax pmax
comp=Z,44nm,1.7s,mb5.2
LSZ Lusaka 94.71 254 *e*P **P 13 19 59.6 +0.3**
comp=Z,44nm,1.7s,mb5.2
LSZ *e*pP pP 13 21 26.3 -2.5
MOS Moscow 94.77 325 *e*P **P 13 19 55.1 -4.4**
MOS *e* 13 23 59.9
MOS pmax pmax
comp=Z,58nm,1.3s,mb5.5
MCK McKinley 94.87 26 P **P 13 19 58.1 -1.9**
MCK pmax pmax
comp=Z,26nm,1.2s,mb5.1
MCK McKinley 94.87 26 P **P 13 19 58.1 -1.8**
comp=Z,26nm,1.2s,mb5.1
MCK *e*pP pP 13 21 25.0 -4.5
SML Sawmill 94.92 28 *e*P **P 13 19 58.7 -1.5**
SML *e*pP pP 13 21 28.9 -0.8
BOSA Boshof 95.05 240 P **P 13 20 01.1 +0.3**
comp=Z,8.9nm,0.9s,mb4.8,baz=76,slow=3.6,SNR=6.9
BOSA pP pP 13 21 30.6 +0.2
comp=Z,12nm,1.0s,baz=107,slow=4.3,SNR=6.8
BOSA PKKPbc PKKPbc 13 36 54.5 +1.1
comp=Z,2.1nm,0.8s,baz=185,slow=6.4,SNR=3.6
BOSA Boshof 95.05 240 *e*P **P 13 20 01.3 +0.5**
BOSA pmax pmax
comp=Z,42nm,1.4s,mb5.3
BOSA Boshof 95.05 240 *e*P **P 13 20 01.3 +0.5**
comp=Z,42nm,1.4s,mb5.3
BOSA *e*pP pP 13 21 30.7 +0.3
OBN Obninsk 95.30 325*c i*P **P 13 20 00.5 -1.4**
OBN pmax pmax
comp=Z,85nm,1.3s,mb5.6
OBN Obninsk 95.30 325 *e*P **P 13 20 00.8 -1.1**
comp=Z,240nm,1.6s,mb6.0
OBN *e*pP pP 13 21 29.5 -2.0
LBTB Lobatse 95.44 244 *e*P **P 13 20 03.2 +0.6**
LBTB pmax pmax
comp=Z,29nm,1.3s,mb5.2
LBTB Lobatse 95.44 244 *e*P **P 13 20 03.2 +0.6**
comp=Z,29nm,1.3s,mb5.2
LBTB *e*pP pP 13 21 29.3 -2.8
COLA College 95.47 25⇑*i*P **P 13 20 00.9 -1.8**
COLA College 95.47 25 *e*P **P 13 20 00.1 -2.6**
comp=Z,32nm,1.5s,mb5.1
COLA *e*pP pP 13 21 28.9 -3.4
VNA2 Neumayer--Watz 95.61 194⇑*i*P **P 13 20 03.0 -0.3**
VNA2 *e* pP 13 21 36.6 +3.7
VNA2 *e* 13 21 44.1
ILAR Eielson Array 95.87 26 P **P 13 20 02.2 -2.3**
comp=Z,14nm,1.1s,mb5.0,baz=253,slow=4.8,SNR=0.6
ILAR pP pP 13 21 33.1 -1.0
comp=Z,1.7nm,0.9s,baz=248,slow=5.5,SNR=0.7
ILAR PKKPbc PKKPbc 13 36 50.3 -1.0
comp=Z,0.9nm,0.8s,baz=96,slow=1.8,SNR=7.8
BR131 Keskin Array S 95.92 309 *e*P **P 13 20 03.0 -1.7**
comp=Z,12nm,1.0s,mb5.0
BR131 *e*pP pP 13 21 32.0 -2.3
BRTR Keskin Array B 95.92 309 P **P 13 20 03.4 -1.3**
comp=Z,8.9nm,0.9s,mb4.9,baz=116,slow=5.6,SNR=37
BRTR pP pP 13 21 32.5 -1.8
comp=Z,2.6nm,0.8s,baz=125,slow=5.5,SNR=3.8
VNA1 Neumayer--Stat 96.01 194⇑*i*P **P 13 20 05.0 -0.1**
DIV Divide 96.07 29 *e*P **P 13 20 05.0 -0.4**
DIV *e*pP pP 13 21 35.1 +0.1
DIV *e* 13 21 40.7
LVZ Lovozero 97.10 338 *i*P **P 13 20 09.0 -1.1**
ISP Isparta 98.23 307⇑*e*P **P 13 20 13.7 -1.4**
AKASG Malin Array Be 99.53 320 P Pdif 13 20 19.6 -1.3
comp=Z,16nm,1.0s,baz=82,slow=4.2,SNR=64
AKASG pP pP 13 21 49.5 -1.2
comp=Z,4.9nm,0.6s,baz=80,slow=4.5,SNR=2.7
AKASG PP PP 13 24 34.0 +3.9
comp=Z,4.3nm,0.8s,baz=80,slow=6.4,SNR=11
ARCES ARCESS Array B 100.38 339 P Pdif 13 20 22.9 -1.7
comp=Z,9.6nm,1.1s,baz=60,slow=7.7,SNR=6.8
ARCES PKiKP PKiKP 13 24 47.7 -1.6
comp=Z,4.2nm,1.0s,baz=49,slow=1.5,SNR=7.6
ARCES ARCESS Array B 100.38 339 P Pdif 13 20 22.9 -1.7
VSU Vasula 100.78 328 *i* P Pdif 13 20 24.9 -1.5
VSU Vasula 100.78 328 *i* P Pdif 13 20 24.0 -2.4
FINES FINESS Array B 100.91 331 P Pdif 13 20 25.0 -2.0
comp=Z,1.9nm,1.0s,baz=55,slow=7.2,SNR=3.9
FINES PKiKP PKiKP 13 24 49.5 -0.8
comp=Z,3.0nm,0.8s,baz=72,slow=6.2,SNR=4.6
INK Inuvik 101.13 22 PKiKP PKiKP 13 24 49.6 -1.0
comp=Z,5.4nm,1.1s,baz=302,slow=8.8,SNR=5.7
INK SKSac SKSac 13 30 25.4 -3.6
comp=Z,3.0nm,1.1s,baz=136,slow=33,SNR=8.6
INK PKKPbc PKKPbc 13 36 37.2 +0.4
comp=Z,3.0nm,1.1s,baz=177,slow=3.1,SNR=4.1
MLR Muntele Rosu 101.78 315 P Pdif 13 20 30.0 -0.8
comp=Z,5.1nm,0.9s,baz=66,slow=4.9,SNR=5.9
MLR SKSac SKSac 13 30 31.8 -0.3
comp=Z,1.5nm,0.3s,baz=149,slow=22,SNR=5.5
CRVS Cervenica-Dubn 104.63 319 *e* PP 13 25 13.7 +5.6
STHS Stebnicka Huta 104.72 319 *e* PP 13 25 12.3 +3.5
STHS *e* 13 25 29.3
KECS Kecovo 105.32 318 *e* PP 13 25 16.1 +3.0
KECS *e* 13 25 34.5
VYHS Vyhne 106.41 318 *e*PP PP 13 25 24.0 +2.9
OKC Ostrava-Krasne 106.67 320 *e*PP PP 13 25 27.0 +4.0
MORC Moravsky Berou 107.07 320 *e*PKiKP PKiKP 13 25 01.7 +0.1
MORC *e*PP PP 13 25 29.9 +4.1
ZST Bratislava 107.59 318 *e*PP PP 13 25 33.3 +3.6
DPC Dobruska-Polom 107.75 320 *e*PP PP 13 25 33.7 +2.9
UPC Upice 107.92 321 *e*PP PP 13 25 37.4 +5.4
NB2 NORSAR Subarra108.02 332 PKPd PKiKP 13 25 01.4 -1.9
comp=Z,2.0nm,0.8s,baz=68,slow=1.9
NOA NORSAR Array B108.02 332 Pdiff Pdif 13 20 56.0 -2.7
comp=Z,1.4nm,0.9s,baz=72,slow=4.9,SNR=3.7
NOA PKiKP PKiKP 13 25 02.5 -0.8
comp=Z,5.7nm,1.0s,baz=260,slow=3.2,SNR=9.9
DAG Danmarks Havn 108.11 352⇓*i*P PKiKP 13 25 02.1 -1.4
comp=Z,3.7nm,0.8s
DAG Danmarks Havn 108.11 352⇓*e*P PKiKP 13 25 02.1 -1.4
PRU Pruhonice 108.94 320 *e*PP PP 13 25 43.8 +4.4
RES Resolute Bay 109.08 10 P Pdif 13 21 03.7 +0.4
BRG Berggiesshubel 109.14 321 *e*P Pdif 13 21 04.1 +0.5
BRG pmax pmax
comp=Z,4.0nm,1.3s
BRG Berggiesshubel 109.14 321 *e*(P) Pdif 13 21 04.1 +0.5
comp=Z,3.9nm,1.3s
BRG Berggiesshubel 109.14 321 *e*P PKiKP 13 25 05.5 0.0
comp=Z,16nm,2.0s
BRG *e* 13 25 44.7
comp=Z,26nm,2.1s
BRG *i* 13 34 27.0
BRG *e* 13 36 28.4
comp=Z,7.7nm,1.3s
CLL Collm 109.63 322 *e*PKiKP PKiKP 13 25 06.3 0.0
comp=Z,9.0nm,0.8s
CLL *e*PP PP 13 25 41.1 -3.2
CLL *e*PKKPdf PKKPdf 13 36 26.2 +0.1
CLL Collm 109.63 322 *e*PKiKP PKiKP 13 25 06.0 -0.3
comp=Z,8.0nm,0.8s
CLL *e*PP PP 13 25 41.0 -3.3
CLL *ex* x 13 25 47.0
GERES GERESS Array B 109.71 319 PKiKP PKiKP 13 25 05.6 -0.9
comp=Z,0.9nm,0.7s,baz=127,slow=0.7,SNR=6.3
GERES PP PP 13 25 41.1 -3.8
comp=Z,0.6nm,0.4s,baz=72,slow=4.3,SNR=4.2
GERES PKKPab PKKPab 13 36 24.0 +0.1
comp=Z,0.9nm,0.7s,baz=235,slow=3.5,SNR=5.1
KHC Kasperske Hory 109.73 320 *e*PKP PKiKP 13 25 05.3 -1.2
KHC *e*PP PP 13 25 48.9 +3.9
VOJS Vojsko 110.12 316 *e*PP PP 13 25 48.5 +0.7
CADS Cadrg 110.18 316 *e*PP PP 13 25 49.3 +1.1
NKC Novy Kostel 110.21 321 *e*PP PP 13 25 53.5 +5.0
YKW3 Yellowknife Ar 110.27 25 *e*PKiKP PKiKP 13 25 06.2 -1.3
YKA Yellowknife Ar 110.30 25 Pdiff Pdif 13 21 08.6 -0.1
comp=Z,1.2nm,0.9s,baz=292,slow=5.0,SNR=10
YKA PKiKP PKiKP 13 25 06.6 -1.0
comp=Z,5.8nm,0.8s,baz=302,slow=1.7,SNR=48
YKA PP PP 13 25 47.5 -1.6
comp=Z,1.3nm,0.9s,baz=293,slow=6.8,SNR=4.6
YKA PKKPbc PKKPbc 13 36 07.8 -1.2

comp=Z,1.3nm,0.8s,baz=106,slow=2.7,SNR=16
YKA PKKPab PKKPab 13 36 19.8 -1.5
comp=Z,0.6nm,0.7s,baz=103,slow=3.8,SNR=5.5
YKA Yellowknife Ar 110.30 25 P Pdif 13 21 08.7 0.0
YKA 13 25 47.5
YKA Yellowknife Ar 110.30 25 Pdif Pdif 13 21 08.7 -0.1
YKA PKPdf PKiKP 13 25 06.6 -1.0
YKA PP PP 13 25 47.5 -1.6
YKA PKKPbc PKKPbc 13 36 07.8 -1.2
YKA PKKPab PKKPab 13 36 19.8 -1.5
CMW Cultus Mountai 110.61 41 P PKiKP 13 25 09.1 +0.9
MOX Moxa 110.64 321 *e*(PKP) 13 25 40.6
comp=Z,28nm,1.6s
MOX
comp=Z,2μm,18.0s
JCW Jim Creek 110.78 41 P PKiKP 13 25 09.5 +1.0
GRA1 Grafenberg Arr 111.11 320 *e*PKP PKiKP 13 25 08.7 -0.4
GRA1 *e* 13 25 55.4
GRA1 *e*PKKP PKKPbc 13 36 19.1 +13
GRF Grafenberg Arr 111.11 320 *e*PKiKP PKiKP 13 25 08.7 -0.4
GRF *e*PP PP 13 25 55.4 +0.5
GRF *e*PKKP PKKPbc 13 36 19.1 +13
GRF Grafenberg Arr 111.11 320 *e*PKIKP PKiKP 13 25 08.7 -0.4
GRF *e* 13 25 55.4
GRF Grafenberg Arr 111.11 320 *e*PKIKP PKiKP 13 25 08.7 -0.4
GRF *e* 13 25 55.4
FMW Mount Fremont 111.22 43 P PKiKP 13 25 10.2 +0.9
TBM Table Mountain 111.89 42 P PKiKP 13 25 11.3 +0.7
OHCM Honcut 112.76 51 *e*PKiKP PKiKP 13 25 12.3 0.0
SCO Scoresbysund 113.72 349 *i* P PKiKP 13 25 13.7 -0.4
comp=Z,4.4nm,1.0s
NEW Newport 113.88 40 *e*PKIKP PKiKP 13 25 14.0 -0.4
CDF Champ du Feu 113.95 320 *e*PKIKP PKiKP 13 25 13.5 -1.0
SUMG Summit 114.24 355 *e*PKiKP PKiKP 13 25 15.3 +0.2
PGF Pioggiola 114.24 313 *e*PKIKP PKiKP 13 25 14.6 -0.5
comp=Z,39nm,1.2s
WVOR Wild Horse Val 114.30 47 *e*PKIKP PKiKP 13 25 15.9 +0.7
PTRM Twissleman Ran 114.33 54 *e*PKiKP PKiKP 13 25 14.7 -0.6
HINF Hinteralfeld 114.39 319 *e*PKIKP PKiKP 13 25 14.3 -1.1
comp=Z,22nm,1.1s
EDM Edmonton 114.54 34 *e*PKIKP PKiKP 13 25 15.4 -0.3
EDM *e* 13 26 17.7
HAU Haudompre 114.66 320 *e*PKIKP PKiKP 13 25 16.2 +0.3
comp=Z,76nm,1.4s
BMO Blue Mountains 114.67 44 *e*PKiKP PKiKP 13 25 15.5 -0.4
BMO *e*PP PP 13 26 18.5 -1.5
GIVF Givet 114.96 322 *e*PKIKP PKPdf 13 25 16.1 -0.4
comp=Z,70nm,1.3s
SBF Sospel 115.05 315 *e*PKIKP PKPdf 13 25 16.1 -0.6
comp=Z,24nm,0.8s
LPG La Plagne 115.10 317 *e*PKIKP PKPdf 13 25 16.6 -0.2
comp=Z,22nm,1.0s
LPL La Plagne 115.11 317 *e*PKIKP PKPdf 13 25 16.5 -0.3
comp=Z,31nm,1.1s
CABF La Chapelle 115.23 318 *e*PKIKP PKPdf 13 25 16.8 -0.2
comp=Z,119nm,1.4s
MBDF Montbardon 115.29 316 *e*PKIKP PKPdf 13 25 17.1 0.0
comp=Z,16nm,1.0s
MEZF Maizieres J'vi 115.33 320 *e*PKIKP PKPdf 13 25 16.8 -0.4
BAIF Baives 115.35 322 *e*PKIKP PKPdf 13 25 16.9 -0.3
comp=Z,25nm,1.0s
MTUM Tungsten Hills 115.36 52 *e*PKIKP PKiKP 13 25 19.0 +1.8
NVAR Mina Array Bea 115.36 51 PKP PKPdf 13 25 18.8 +1.5
comp=Z,9.5nm,0.9s,baz=253,slow=0.9,SNR=39
NVAR PP PP 13 26 20.6 -4.2
comp=Z,7.0nm,1.1s,baz=268,slow=6.0,SNR=5.9
NVAR PKKPbc PKKPbc 13 35 55.6 +3.4
comp=Z,1.4nm,1.0s,baz=128,slow=7.4,SNR=6.3
MNV Mina 115.48 51 *e*PKIKP PKPdf 13 25 18.6 +1.1
FRF La Foret Royal 115.68 315 *e*PKIKP PKPdf 13 25 17.6 -0.3
comp=Z,34nm,1.2s
LMR La Mourre 115.83 315 *e*PKIKP PKPdf 13 25 17.7 -0.5
ORIF Oris-en-Rattie 115.85 316 *e*PKIKP PKPdf 13 25 17.6 -0.6
comp=Z,22nm,1.1s
MWC Mount Wilson 116.29 56 *e*PKIKP PKPdf 13 25 19.9 +0.8
DAC Darwin (Calif) 116.32 53 *e*PKIKP PKPdf 13 25 20.5 +1.4
SMRF Simiane la Rot 116.32 316 *e*PKIKP PKPdf 13 25 19.0 -0.1
comp=Z,49nm,1.3s
MSO Missoula 116.36 41 *e*PKiKP PKiKP 13 25 18.9 -0.3
MSO *e*PP PP 13 26 29.7 -2.1
LOR Lormes 116.49 319 *e*PKIKP PKPdf 13 25 18.9 -0.5
comp=Z,34nm,1.2s
VIVF Saint-Julien-l 116.69 317 *e*PKIKP PKPdf 13 25 19.3 -0.5
comp=Z,42nm,1.1s
SMF Signal de Mont 116.70 319 *e*PKIKP PKPdf 13 25 19.1 -0.7
comp=Z,50nm,1.4s
SSF Saint Saulge 116.78 319 *e*PKIKP PKPdf 13 25 19.5 -0.5
comp=Z,74nm,1.1s
AVF Avril sur Loir 116.97 319 *e*PKIKP PKPdf 13 25 19.4 -1.0
comp=Z,28nm,1.1s
HLID Hailey 117.02 45 *e*PKPdf PKPdf 13 25 21.7 +1.3
ELK Elko 117.17 48 *e*PKIKP PKPdf 13 25 21.7 +1.0
ELK *e* 13 26 35.5
BGF Bois d'Agland 117.38 319 *e*PKIKP PKPdf 13 25 20.9 -0.2
comp=Z,88nm,1.0s
PFO Pinyon Flat Ob 117.71 56 *e*PKIKP PKPdf 13 25 23.2 +1.4
DLMT Dillon 117.72 42 *e*PKPdf PKPdf 13 25 22.5 +0.7
MCMT McKenzie Canyo 117.72 43 *e*PKPdf PKPdf 13 25 22.6 +0.8
HRY Holter Researc 117.77 41 *e*PKPdf PKPdf 13 25 21.7 -0.2
TCF Toulx Ste Croi 117.88 319 *e*PKIKP PKPdf 13 25 21.8 -0.3
comp=Z,70nm,1.2s
BOZ Bozeman (W) 118.27 42 *e*PKIKP PKPdf 13 25 23.6 +0.8
BOZ *e* 13 26 43.1
CAF Calviac 118.43 317 *e*PKIKP PKPdf 13 25 23.1 -0.1
comp=Z,83nm,1.2s
LDF La Druitiere 118.52 322 *e*PKIKP PKPdf 13 25 22.6 -0.7
comp=Z,38nm,1.1s
LDFC Landfair 118.53 54 *e*PKPdf PKPdf 13 25 25.0 +1.6
EGMT Eagleton 118.61 39 *e*PKPdf PKPdf 13 25 23.6 +0.1
NEN Nelson 118.63 53 *e*PKPdf PKPdf 13 25 24.7 +1.2
FLN La Foliniere 118.67 322 *e*PKIKP PKPdf 13 25 22.9 -0.7
comp=Z,72nm,1.2s
RJF Les Rejaudoux 118.67 318 *e*PKIKP PKPdf 13 25 23.6 0.0
comp=Z,47nm,1.3s
QLMT Earthquake Lak 118.67 43 *e*PKPdf PKPdf 13 25 25.1 +1.5
HVU Hansel Valley 118.68 46 *e*PKIKP PKPdf 13 25 24.6 +0.9
HVU *e* 13 26 45.6
BGU Big Grassy Mou 118.74 47 *e*PKPdf PKPdf 13 25 29.1 +5.4
MTLF Montolieu 118.83 316 *e*PKIKP PKPdf 13 25 23.4 -0.5
comp=Z,38nm,1.2s
YMR Madison River 119.04 43 *e*PKPdf PKPdf 13 25 26.3 +1.9
GRR Gorron 119.05 322 *e*PKIKP PKPdf 13 25 23.7 -0.7
comp=Z,109nm,1.4s
SPUT South Promonto 119.05 47 *e*PKPdf PKPdf 13 25 25.2 +0.9
DUG Dugway 119.10 48 *e*PKIKP PKPdf 13 25 25.4 +0.9
YFT Old Faithful 119.20 43 *e*PKPdf PKPdf 13 25 27.4 +2.8
ARUT Antelope Range 119.25 51 *e*PKIKP PKPdf 13 25 26.2 +1.5
MFF Saint Martin d 119.29 320 *e*PKIKP PKPdf 13 25 24.1 -0.7
comp=Z,93nm,1.3s
LFF La Frestale 119.31 318 *e*PKIKP PKPdf 13 25 24.8 -0.1
comp=Z,84nm,1.2s
CCUT Cedar City 119.36 51 *e*PKPdf PKPdf 13 25 24.9 0.0
CCUT *e*PP PP 13 26 48.0 -4.3
FLWY Flagg Ranch 119.42 43 *e*PKPdf PKPdf 13 25 26.3 +1.2
NOQ North Oquirrh 119.48 47 *e*PKPdf PKPdf 13 25 26.5 +1.3
GCMT Greycliff 119.50 41 *e*PKPdf PKPdf 13 25 26.0 +0.8
REDW Red Top Meadow 119.55 44 *e*PKPdf PKPdf 13 25 26.4 +1.0
AHID Auburn Hatcher 119.57 45 *e*PKPdf PKPdf 13 25 26.1 +0.8
SNOW Snow King Moun 119.58 44 *e*PKPdf PKPdf 13 25 26.8 +1.4
HWUT Hardware Ranch 119.60 46 *e*PKPdf PKPdf 13 25 26.1 +0.7
HWUT *e*PP PP 13 26 52.1 -1.9
LOHW Long Hollow 119.64 44 *e*PKPdf PKPdf 13 25 26.5 +1.0
NLU North Lily Min 119.71 48 *e*PKPdf PKPdf 13 25 23.8 -1.8
NLU *e*PP PP 13 26 49.9 -4.8
FFC Flin Flon 119.81 29 *e*PKIKP PKPdf 13 25 25.2 -0.6
TCUT Toone Canyon 119.86 47 *e*PKPdf PKPdf 13 25 27.1 +1.1
MPU Maple Canyon 120.02 48 *e*PKPdf PKPdf 13 25 27.2 +1.0
MSU Marysvale 120.03 50 *e*PKIKP PKPdf 13 25 27.9 +1.7
MSU *e* 13 26 55.7
DAU Daniels Canyon 120.18 47 *e*PKIKP PKPdf 13 25 28.1 +1.6
DAU *e* 13 26 54.0
EPF Esparros 120.23 316 *e*PKIKP PKPdf 13 25 26.3 -0.3
comp=Z,44nm,1.4s
EPOB Poblet 120.26 314 PKP PKPdf 13 25 26.8 +0.1
EBIE Bielsa 120.49 316 PKP PKPdf 13 25 27.3 +0.2
ROSF Rostrenen 120.54 323 *e*PKIKP PKPdf 13 25 26.3 -0.9
comp=Z,142nm,1.4s
TMUT Trail Mountain 120.54 49 *e*PKPdf PKPdf 13 25 28.4 +1.2
SFJD Kangerlussuaq 120.54 358 *i* P PKPdf 13 25 25.7 -1.5
comp=Z,34nm,1.2s
SFJD Kangerlussuaq 120.54 358 *i* P PKPdf 13 25 25.7 -1.5
SFJD *e*S 13 38 45.5
SFJD *e* SS 13 42 53.2 -5.5
SFJD LR LR
comp=Z,250nm,29.0s
PDAR Pinedale Array 120.64 44 PKP PKPdf 13 25 27.2 -0.2
comp=Z,14nm,0.8s,baz=200,slow=1.4,SNR=93
PDAR PKKPbc PKKPbc 13 35 34.6 +1.1
comp=Z,1.7nm,0.8s,baz=109,slow=3.7,SNR=9.8
QUIF Quistinic 120.65 322 *e*PKIKP PKPdf 13 25 26.8 -0.6
comp=Z,78nm,1.3s
FCC Fort Churchill 120.74 23 *e*PKIKP PKPdf 13 25 26.4 -1.2
ETSF Etsaut 120.90 316 *e*PKIKP PKPdf 13 25 28.4 +0.5
comp=Z,49nm,1.3s
SRU San Rafael 121.10 49 *e*PKIKP PKPdf 13 25 29.2 +0.9
LAO LASA Array 121.35 39 *e*PKPdf PKPdf 13 25 29.5 +0.7
WUAZ Wupatki 121.41 53 *e*PKPdf PKPdf 13 25 30.1 +1.2
EMOS Mosqueruela 121.68 313 PKP PKPdf 13 25 27.8 -1.6
DGMT Dagmar 121.79 36 *e*PKPdf PKPdf 13 25 30.0 +0.4
EBEN Beniarda 122.02 311 PKP PKPdf 13 25 30.4 +0.3
ECHE Chera 122.29 312 PKIKP PKPdf 13 25 29.8 -0.8
PV10 Paradox Valley 122.43 49 *e*PKPdf PKPdf 13 25 32.2 +1.4
TUC Tucson 122.64 56 *e*PKPdf PKPdf 13 25 32.6 +1.4
TUC *e*pPKPdf pPKPdf 13 27 05.1 -0.6
TUC *e*PP PP 13 27 13.7 -0.7
RWWY Rawlins 122.65 45 *e*PKPdf PKPdf 13 25 31.9 +0.6
PV01 Paradox Valley 122.85 49 *e*PKPdf PKPdf 13 25 32.9 +1.2
ETOB Tobarra 123.02 312 PKP PKPdf 13 25 31.9 -0.1
SMCO Snowmass 123.70 48 *e*PKPdf PKPdf 13 25 35.0 +1.7
EVIA Vianos 123.73 312 PKIKP PKPdf 13 25 34.3 +1.0
RSSD Black Hills 123.83 41 *e*PKIKP PKPdf 13 25 33.8 +0.3
PHWY Pilot Hill 124.02 45 *e*PKPdf PKPdf 13 25 33.9 0.0
ENIJ Nijar 124.04 310 PKIKP PKPdf 13 25 34.0 +0.1
TORD Torodi Ar. Bea 124.19 281 PKP PKPdf 13 25 34.5 +0.3
comp=Z,25nm,1.2s,baz=66,slow=1.1,SNR=52
TORD pPKP pPKPdf 13 27 07.3 -1.3
comp=Z,6.7nm,0.8s,baz=61,slow=2.0,SNR=6.6
TORD PKKPbc PKKPbc 13 35 19.8 -0.3
comp=Z,3.4nm,1.1s,baz=287,slow=3.3,SNR=5.9
EQES Quesada 124.43 311 PKP PKPdf 13 25 33.7 -1.0
ESDC Sonseca Array 124.44 313 PKP PKPdf 13 25 35.1 +0.4
comp=Z,8.0nm,1.0s,baz=34,slow=2.6,SNR=23
ESDC pPKP pPKPdf 13 27 09.2 0.0
comp=Z,1.9nm,0.6s,baz=89,slow=2.7,SNR=2.9
ESDC Sonseca Array 124.44 313 PKP PKPdf 13 25 35.1 +0.4
ISCO Idaho Springs 124.47 46 *e*PKIKP PKPdf 13 25 35.9 +1.1
EBER Berja 124.58 310 PKP PKPdf 13 25 34.6 -0.4
LAZ Ladron 125.06 53 *e*PKPdf PKPdf 13 25 37.8 +1.9
LENM Lemitar 125.26 53 *e*PKPdf PKPdf 13 25 38.1 +1.8
ELUQ Luque 125.40 311 PKIKP PKPdf 13 25 36.9 +0.4
EADA Adamuz 125.42 312 PKP PKPdf 13 25 36.7 +0.2
ULM Lac du Bonnet 125.44 31 PKP PKPdf 13 25 35.8 -0.8
comp=Z,26nm,0.8s,baz=310,slow=2.4,SNR=54
ULM pPKP pPKPdf 13 27 12.6 +1.5
comp=Z,11nm,1.0s,baz=298,slow=3.1,SNR=5.3
ELOJ Sierra Loja 125.46 311 PKIKP PKPdf 13 25 36.4 -0.2
LPM Los Pinos Moun 125.49 53 *e*PKPdf PKPdf 13 25 38.0 +1.3
BNM Barren Site 125.54 53 *e*PKPdf PKPdf 13 25 38.7 +1.9
ECAB El Cabril 126.08 312 PKP PKPdf 13 25 38.4 +0.5
EMIJ Mijas 126.12 310 PKP PKPdf 13 25 35.6 -2.3
EMIN Mina Concepcio 127.11 312 PKP PKPdf 13 25 40.1 +0.3
MDT Midelt 127.18 306 SKPbc 13 28 19.4
MNTX Cornudas Mount 127.23 56 *e*PKPdf PKPdf 13 25 41.1 +1.0
GDL2 Guadalupe Moun 127.92 55 *e*PKPdf PKPdf 13 25 43.2 +1.8
EYMN Ely 129.12 31 *e*PKPdf PKPdf 13 25 43.1 -0.5
LTX Lajitas 129.29 58 *e*PKPdf PKPdf 13 25 45.2 +1.2
LTX *e* 13 28 28.7
PLCA Paso Flores 129.85 164 PKP PKPdf 13 25 45.8 +0.8
comp=Z,6.5nm,0.8s,baz=208,slow=3.6,SNR=8.5
PLCA PP PP 13 28 03.6 +1.8
comp=Z,3.5nm,0.8s,baz=272,slow=5.3,SNR=3.7
DBIC Dimbokro 130.41 272 PKP PKPdf 13 25 47.5 +1.4
comp=Z,13nm,1.0s,baz=82,slow=3.3,SNR=12
DBIC pPKP pPKPdf 13 27 22.6 +2.0
comp=Z,2.1nm,0.6s,baz=111,slow=3.2,SNR=1.8
DBIC SKPbc SKPbc 13 28 32.5 -0.2
comp=Z,12nm,1.0s,baz=90,slow=5.1,SNR=6.6
DBIC Dimbokro 130.41 272 *e*PKPdf PKPdf 13 25 47.5 +1.4
DBIC *e*SKP 13 28 32.6
LIC Lamto 130.55 272 *e*PKIKP PKPdf 13 25 46.4 +0.1
comp=Z,144nm,1.6s
KSU1 Kansas State U 131.07 43 *e*PKPdf PKPdf 13 25 47.2 -0.1
KSU1 *e*SKP 13 28 34.9
WMOK Wichita Mounta 131.43 50 *e*PKIKP PKPdf 13 25 48.3 +0.3
SCHQ Schefferville 131.85 9 PKP PKPdf 13 25 48.5 -0.3
comp=Z,15nm,0.7s,baz=32,slow=1.9,SNR=23
SCHQ PP PP 13 28 14.9 +0.3
comp=Z,8.0nm,0.9s,baz=62,slow=8.1,SNR=3.8
SCHQ SKPbc SKPbc 13 28 37.2 -0.6
comp=Z,26nm,1.1s,baz=4.2,slow=4.8,SNR=10
SCHQ Schefferville 131.85 9 *e*PKPdf PKPdf 13 25 48.9 +0.1
SCHQ *e*pPKPdf pPKPdf 13 27 19.5 -3.8
SCHQ *e*SKP 13 28 37.2
JCT Junction City 132.16 55 *e*PKPdf PKPdf 13 25 50.3 +0.9
JCT *e*SKP 13 28 38.3
CCM Cathedral Cave 135.21 42 *e*PKIKP PKPdf 13 25 54.8 -0.3
MIAR Mount Ida 135.38 47 *e*PKIKP PKPdf 13 25 56.3 +0.9
HKT Hockley 135.57 54 *e*PKHKP 13 25 49.8
HKT *e* 13 25 57.3
HKT Hockley 135.57 54 *e*PKPpre 13 25 49.8
HKT *e*PKPdf PKPdf 13 25 57.3 +1.6
HKT *e*SKP 13 28 50.8
FVM French Village 135.79 41 *e*PKHKP 13 25 42.2
FVM *e* 13 25 56.4
BLO Bloomington 137.53 37 *e*PKIKP PKPdf 13 25 59.7 +0.3
WCI Wyandotte Cave 138.26 38 *e*PKHKP 13 25 50.9
OXF Oxford 138.38 45 *e*PKHKP 13 25 52.3
WVT Waverly 138.55 42 *e*PKHKP 13 25 52.2
WVT *e* 13 28 57.5
ACSO Alum Creek Sta 138.85 33 *e*PKPpre 13 25 52.1
PLAL Pickwick Lake 139.04 43 *e*PKPpre 13 25 52.9
LONY Lake Ozonia 139.24 22 *e*PKPpre 13 25 53.3
NCB Newcomb 139.93 22 *e*PKPpre 13 25 55.9
MIV Mineville/With 140.09 21 *e*PKPpre 13 25 57.5
SWET Sewanee 140.34 41 *e*PKPpre 13 25 57.0
ACCN Adirondack Com 140.64 22 *e*PKPpre 13 25 58.5
BINY Binghamton 140.73 25 *e*PKPpre 13 26 00.1
HNH Hanover 140.85 20 *e*PKPpre 13 25 59.2
LRAL Lakeview Retre 140.86 45 *e*PKPpre 13 26 00.7
MCWV Mont Chateau 140.92 31 *e*PKPpre 13 25 59.7
TZTN Tazewell 141.02 38 *e*PKPpre 13 26 00.3
CPCT Cooper Cave 141.11 40 *e*PKPpre 13 25 58.8
FWV Forest Hill 141.91 34 *e*PKPpre 13 26 02.2
QUA2 Belchertown 142.08 21 *e*PKPpre 13 26 03.6
ELN Prospectdale 142.20 35 *e*PKPpre 13 26 03.3
WES Weston 142.35 20 *e*PKIKP PKPdf 13 26 06.2 -1.9
MVL Millersville 142.36 27 *e*PKPpre 13 26 03.3
BLA Blacksburg 142.40 34 *e*PKHKP 13 26 04.1
PAL Palisades 142.58 24 *e*PKHKP 13 26 05.0
BRNJ Basking Ridge 142.58 25 *e*PKPpre 13 26 06.2
CPNY Central Park 142.74 24 *e*PKPpre 13 26 05.6
CBN Corbin 143.28 30 *e*PKPpre 13 26 07.8
PAYG Puerto Ayora 143.72 101 *e*PKPdf PKPdf 13 26 11.6 +1.1
TP2 Tecpan 2 143.81 75 *e*P PKPdf 13 26 11.8 +1.1
JSC Jenkinsville 143.91 39 *e*PKIKP PKPdf 13 26 09.9 -1.0
IXG Ixpaco 144.43 76 *e*P PKPdf 13 26 13.4 +1.7
TEIG Tepich 145.25 65 *e*PKPdf PKPdf 13 26 14.2 +1.0
NHSC New Hope 145.37 39 *e*PKPdf PKPdf 13 26 14.5 +1.2
CPUP Villa Florida 146.27 176 PKPbc PKPbc 13 26 16.0 -0.7
comp=Z,68nm,0.9s,baz=168,slow=2.1,SNR=104
CPUP pPKPbc pPKPbc 13 27 50.6 +0.8
comp=Z,15nm,0.8s,baz=136,slow=1.1,SNR=3.0
CPUP Villa Florida 146.27 176 *e*PKPdf PKPdf 13 26 16.3 +1.4
DWPF Disney 147.58 48 PKPdf PKPdf 13 26 18.2 +1.1
DWPF PKPbc PKPbc 13 26 21.1 +0.8
DWPF PKPab PKPab 13 26 25.2 +1.5
DWPF Disney 147.58 48 *e*PKPdf PKPdf 13 26 18.4 +1.3
DWPF *e*PKPbc PKPbc 13 26 21.5 +1.1
CAM4 Nova Friburgo 147.97 202 *e*P PKPdf 13 26 13.5 -4.2
CAM4 *i* 13 26 23.2
CAM4 *i* 13 26 26.7
CAM4 *i* 13 26 57.9
LEON Leon 148.07 79 *e*P PKPdf 13 26 23.0 +5.1
TELN Telica 148.11 78 *e*P PKPdf 13 26 23.2 +5.3
MIRN Miramar 148.25 79 *i* P PKPdf 13 26 22.6 +4.4
COPN Copaltepe 148.39 79 *e*P PKPdf 13 26 23.8 +5.4
CAM3 Guarapari 148.60 206 *i*P PKPdf 13 26 20.1 +1.4
CAM3 *i* 13 26 24.5
CAM3 *i* 13 26 27.2
CAM3 *i* 13 26 43.0
SOR Soroa 148.95 58 *e*P PKPdf 13 26 20.9 +1.6
SSNN San Juan del S 149.19 81 *e*P PKPdf 13 26 26.6 +6.9
JTS JuntasAbangare 150.13 82 *e*PKPdf PKPdf 13 26 22.4 +1.3
JTS *e*PKPbc PKPbc 13 26 27.8 +1.2
MGV Manicaragua 151.76 56 *e*S 13 26 25.5
LPAZ La Paz 152.94 151 PKP PKPdf 13 26 27.7 +2.3
comp=Z,11nm,1.2s,baz=1.2,slow=1.9,SNR=23
LPAZ PKPbc PKPbc 13 26 35.2 +2.2
comp=Z,15nm,0.9s,baz=163,slow=1.6,SNR=14
LPAZ PKPab PKPab 13 26 47.9 +1.9
comp=Z,14nm,0.8s,baz=181,slow=4.6,SNR=12
LPAZ La Paz 152.94 151 *e*PKPdf PKPdf 13 26 28.0 +2.6
LPAZ *e*PKPbc PKPbc 13 26 35.5 +2.5
OTAV Otavalo 155.37 106 PKPdf PKPdf 13 26 31.0 +2.2
OTAV Otavalo 155.37 106 *e*PKPdf PKPdf 13 26 31.2 +2.4
SIV San Ignacio 155.84 165 PKP PKPdf 13 26 30.8 +1.4
comp=Z,12nm,1.1s,baz=231,slow=1.8,SNR=22
SIV PKPab PKPab 13 26 59.0 +0.6
comp=Z,19nm,0.8s,baz=199,slow=3.6,SNR=22
BDFB Brasilia 156.02 196 PKP PKPdf 13 26 30.9 +1.3
comp=Z,4.9nm,0.9s,baz=75,slow=2.1,SNR=5.0
BDFB PKPab PKPab 13 26 59.1 -0.1
comp=Z,6.6nm,0.7s,baz=207,slow=2.0,SNR=5.6
ROSC El Rosal 160.44 97 PKP PKPdf 13 26 36.9 +2.0
comp=Z,5.0nm,0.4s,baz=92,slow=20,SNR=16
ROSC PKPab PKPab 13 27 22.0 +3.6
comp=Z,14nm,0.8s,baz=90,slow=20,SNR=4.4
SAML Samuel 161.65 153 *e*PKPdf PKPdf 13 26 37.4 +1.2
SDV Santo Domingo 164.31 84 PKP PKPdf 13 26 39.0 +0.3
comp=Z,44nm,1.2s,baz=303,slow=4.5,SNR=19
SDV PKPab PKPab 13 27 37.2 +1.8
comp=Z,10nm,0.8s,baz=301,slow=5.4,SNR=6.3
SDV Santo Domingo 164.31 84 *e*PKPdf PKPdf 13 26 38.7 0.0
SJG San Juan 164.76 45 PKPab PKPab 13 27 38.6 +1.3
comp=Z,25nm,0.6s,baz=308,slow=20,SNR=8.1

MEX 17 13:08:35.1±0.5, 1877N×10262W, h26km±17km, MD4.2, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.59**	**136**	*i* P	Pn	13 08 59.1	-2.5
ZIIG				*i* S	Sn	13 09 18.0	-3.3
MOIG	**Morelia**	**1.62**	**56**	*i* P	Pn	13 08 60.0	-2.1
MOIG				*i* S	Sn	13 09 19.0	-3.1
MRX	**Morelia**	**1.64**	**55**	*e*P	Pn	13 09 01.5	-0.7
SFJM	**Santa Fe**	**1.76**	**347**	*i* P	Pn	13 09 02.0	-1.8
SFJM				*i* S	Sn	13 09 18.0	-7.3
CJM	**Chamela**	**2.41**	**288**	*e*P	Pn	13 09 11.1	-1.7
CJM				*i* S	Sn	13 09 38.6	-2.8
CAIG	**El Cayaco**	**2.82**	**127**	*i* P	Pn	13 09 16.7	-1.7
CAIG				*i* S	Sn	13 09 47.6	-3.9
MEIG	**Mezcala**	**2.97**	**106**	*i* P	Pn	13 09 18.6	-1.8
MEIG				*i* S	Sn	13 09 52.3	-2.9
PLIG	**Platanillo**	**2.98**	**97**	*i* P	Pn	13 09 20.3	-0.3
PLIG				*i* S	Sn	13 09 53.4	-2.0
ACX	**Acapulco**	**3.19**	**126**	*e*P	Pn	13 09 25.5	+1.9
YAIG	**Yautepec**	**3.36**	**88**	*i* P	Pn	13 09 26.0	+0.1
YAIG				*i* S	Sn	13 10 03.7	-1.3
PPM	**Popocatepetl**	**3.79**	**85**	*i* P	Pn	13 09 28.6	-3.1
PPM				*e*P		13 09 35.0	
PPM				*i* S	Sn	13 10 14.6	-0.9
ZAIG	**Zacatecas**	**3.98**	**1**	*i* P	Pn	13 09 33.2	-1.2
ZAIG				*i* S	Sn	13 10 17.4	-2.9

ISC 17 13:17:23.6±1.0, 4092N±006×4028E±004, h14km±7km, n7, σ0.94/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACK	**Trabzon**	**0.39**	**274**	*i* P	**Pg**	**13 17 31.4**	**+0.1**
MACK				*i* S	**Sg**	**13 17 39.3**	**+2.8**
GUMT	**Gumushane**	**0.76**	**233**	PG	**Pg**	**13 17 37.4**	**-1.0**
GUMT				SG	**Sg**	**13 17 47.9**	**-0.4**
KELT	**Kelkit**	**1.09**	**226**	*i* P	**Pb**	**13 17 43.6**	**-0.7**
KELT				*i* S	**Sb**	**13 17 57.9**	**-0.5**
ARTV	**Artvin**	**1.28**	**77**	*i* P	**Pn**	**13 17 46.4**	**-0.6**
ARTV				*i* S	**Sb**	**13 18 03.1**	**-0.6**
EZM	**Erzurum**	**1.31**	**140**	PG	**Pg**	**13 17 48.7**	**0.0**
EZM				SG	**Sg**	**13 18 05.5**	**-0.2**
ERZM	**Erzurum**	**1.31**	**140**	*i* P	**Pn**	**13 17 48.7**	**+1.3**
ERZM				*i* S	**Sb**	**13 18 07.8**	**+3.2**
GRSN	**GIRESUNGRSN**	**1.52**	**271**	*i* P	**Pn**	**13 17 50.3**	**-0.1**
GRSN				*i* S	**Sn**	**13 18 10.2**	**+0.2**

*CSEM **17** 13:35:21.9, 1507S×16758E, h33km, mb5.6*
*ISCJB **17** 13:35:32.2±0.2, 1496S±004×16736E±005, h118km, mb5.1/65, Error ellipse: s-maj=6.5km s-min=5.1km az=165.3*
*BJI **17** 13:35:32.1, 1452S×16758E, h106km, mB5.1, mb5.0*
*NEIC **17** 13:35:33.3±0.2, 1494S×16743E, mb5.2/24, Error ellipse: s-maj=7.0km s-min=5.8km az=118.0*
*HRVD **17** 13:35:33.3±0.5, 1493S×16726E, h113km±4km, MW5.1/44, Centroid moment Tensor Solution. LP body waves: s19,c20;Mantle waves: s44,c64; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}5.52±.31; $M_{\theta\theta}$-0.33±.39; $M_{\phi\phi}$-5.20±.33; $M_{r\theta}$-1.47±.35; $M_{\theta\phi}$-1.29±.37; $M_{\phi r}$0.70±.36; Best double couple: $M_0$5.74400×10^16 NP1:ϕ_s208.00000°, δ45.00000°, λ111.00000°. NP2: ϕ_s359.00000°, δ49.00000°, λ70.00000°. Principal axes: T 5.9570, Plg75.0000°, Azm200.0000°; N -0.4310, Plg15.0000°, Azm13.0000°; P -5.5310, Plg2.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **17** 13:35:33.2±0.6, 1493S×16746E, h118km±5km, mb4.7/14, mb1 4.8/16, mb1mx4.8/17, mbtmp5.1/16, MS3.9/1, Ms1 3.9/1, ms1mx3.3/25 Error ellipse: s-maj=11.1km s-min=9.7km az=91.0*
*LDG **17** 13:35:35.3±0.2, 1500S×16663E, h120km, Mb5.0/4, Error ellipse: s-maj=35.0km s-min=7.6km az=85.0*
*MOS **17** 13:35:36.0±1.7, 1495S×16725E, h142km, mb5.0/20, Error ellipse: s-maj=9.4km s-min=8.7km az=103.1*

ISC 17 13:35:34.0±0.2, 1496S±004×16743E±005, h119km, h119km±1.7km: pP-P, n207, σ1.05/131, mb5.1/65, 35C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.81**	**164**	*i* P	**Pn**	**13 36 07.1**	**-11**
DZM	**Mont Dzumac**	**7.14**	**187**	P	**Pn**	**13 37 16.2**	**+0.5**
	34nm,0.3s,baz=38,slow=17,SNR=118						
DZM				S	**Sn**	**13 38 36.9**	**+1.6**
	81nm,0.3s,baz=315,slow=19,SNR=14						
HNR	**Honiara**	**9.14**	**306**	P	**Pn**	**13 37 42.9**	**0.0**
	12nm,0.3s,baz=272,slow=2.0,SNR=14						
HNR				S	**Sn**	**13 39 24.5**	**+0.7**
	6.3nm,0.3s,baz=84,slow=19,SNR=2.4						
HNR	**Honiara**	**9.14**	**306**	*e*P	**Pn**	**13 37 42.7**	**-0.2**
HNR				*e*		13 39 28.6	
HNR				pmax	pmax		
	comp=Z,531nm,1.0s						
HNR	**Honiara**	**9.14**	**306**	*e*Pn	**Pn**	**13 37 42.6**	**-0.2**
	comp=Z,531nm,1.0s						
HNR				*e*Sn	**Sn**	**13 39 28.6**	**+4.7**
AFI	**Afiamalu**	**20.17**	**90**	P	**P**	**13 40 02.9**	**+4.0**
	comp=Z,62nm,0.8s,baz=310,slow=5.9,SNR=5.3						
AFI	**Afiamalu**	**20.17**	**90**	*e*P	**P**	**13 40 01.0**	**+2.1

URZ S **S** **13 44 58.4 +0.8**
comp=Z,12nm,1.1s,baz=137,slow=19,SNR=3.4
CNB Canberra Magne 25.96 215 *eP* **P** **13 40 55.9 +0.7**
comp=Z,55nm,1.0s,mb4.9
RPZ Rata Peaks 28.83 175 P **P** **13 41 20.5 -0.3**
comp=Z,35nm,0.7s,mb5.1,baz=158,slow=7.1,SNR=17
RPZ LR LR 13 50 48.8
comp=Z,252nm,19.4s,baz=14,slow=32
STKA Stephens Creek 28.96 230⇑ *iP* **P** **13 41 21.1 -0.9**
comp=Z,93nm,0.6s,mb5.6
STKA Stephens Creek 28.96 230 P **P** **13 41 21.1 -0.9**
comp=Z,121nm,0.7s,mb5.7,baz=41,slow=7.5,SNR=296
STKA PcP PcP 13 44 25.9 -2.0
comp=Z,22nm,0.8s,baz=36,slow=2.6,SNR=9.0
STKA ScP ScP 13 47 56.7 -1.6
comp=Z,3.6nm,0.9s,baz=52,slow=6.7,SNR=3.7
TOO Toolangi 29.76 217 *eP* **P** **13 41 29.6 +0.5**
comp=Z,30nm,1.0s,mb4.9
TOO Toolangi 29.76 217 *eP* **P** **13 41 29.6 +0.5**
TOO pmax pmax
comp=Z,30nm,1.0s,mb4.9
WB2 Warramunga Arr 31.91 256 *eP* **P** **13 41 46.8 -1.2**
WB2 *e*PCP PcP 13 44 35.9 +0.3
WRAB Tennant Creek 31.91 256 *eP* **P** **13 41 46.8 -1.2**
WRAB *e* 13 44 34.7
WRAB pmax pmax
comp=Z,29nm,1.0s,mb5.0
WRAB Tennant Creek 31.91 256 *eP* **P** **13 41 46.8 -1.2**
comp=Z,29nm,1.0s,mb5.0
WRAB *e*PcP PcP 13 44 34.7 -0.9
WRA Warramunga Arr 31.92 256 P **P** **13 41 46.6 -1.5**
comp=Z,14nm,0.9s,mb4.7,baz=85,slow=8.9,SNR=59
WRA PcP PcP 13 44 35.6 0.0
comp=Z,11nm,0.9s,baz=81,slow=2.7,SNR=15
WRA S **S** **13 46 43.8 -6.5**
comp=Z,1.6nm,0.9s,baz=96,slow=14,SNR=4.2
WRA PKiKP PKiKP 13 52 02.7 -1.2
comp=Z,1.0nm,0.8s,baz=351,slow=0.1,SNR=12
WRA Warramunga Arr 31.92 256 P **P** **13 41 46.6 -1.5**
WRA PcP PcP 13 44 35.6 0.0
WRA S **S** **13 46 43.8 -6.5**
AS31 Alice Springs 32.73 249 *eP* **P** **13 41 54.5 -0.7**
AS31 *ep*P pP 13 42 24.7 +3.3
ASAR Alice Springs 32.73 249 P **P** **13 41 54.6 -0.6**
comp=Z,57nm,0.8s,mb5.4,baz=81,slow=9.2,SNR=367
ASAR pP pP 13 42 21.9 +0.4
comp=Z,18nm,0.8s,baz=79,slow=9.0,SNR=4.2
ASAR PcP PcP 13 44 37.2 -0.6
comp=Z,7.7nm,0.8s,baz=81,slow=3.1,SNR=10
ASAR S **S** **13 46 57.3 -5.6**
comp=Z,2.9nm,1.0s,baz=73,slow=18,SNR=8.0
ASAR ScP ScP 13 48 11.9 +1.1
comp=Z,1.9nm,0.8s,baz=88,slow=3.5,SNR=7.6
ASAR PKiKP PKiKP 13 52 02.6 -1.8
comp=Z,0.5nm,0.7s,baz=101,slow=1.5,SNR=8.0
ASAR Alice Springs 32.73 249 P **P** **13 41 54.6 -0.6**
ASAR *PP pP 13 42 21.9 +0.5
ASAR 13 44 37.3
ASAR S **S** **13 46 57.3 -5.7**
ASAR Alice Springs 32.73 249 P **P** **13 41 54.6 -0.6**
ASAR pP pP 13 42 21.9 +0.4
ASAR PcP PcP 13 44 37.2 -0.6
ASAR S **S** **13 46 57.3 -5.6**
ASAR ScP ScP 13 48 11.9 +1.1
ASPA Alice Springs 32.74 249 *eP* **P** **13 41 54.5 -0.7**
ASPA *ep*P pP 13 42 24.7 +3.3
TAU Tasmania Unive 32.77 208 *eP* **P** **13 41 54.8 -0.7**
TAU pmax pmax
comp=Z,39nm,1.1s,mb5.2
TAU Tasmania Unive 32.77 208 *eP* **P** **13 41 54.8 -0.7**
comp=Z,39nm,1.1s,mb5.2
KAKA Kakadu 34.02 269 *eP* **P** **13 42 05.9 -0.5**
comp=Z,110nm,1.9s,mb5.4
FORT Forrest 39.31 240⇑ *iP* **P** **13 42 51.4 +0.2**
comp=Z,136nm,0.7s,mb5.9
FITZ Fitzroy Crossi 40.12 260 *eP* **P** **13 42 57.7 -0.2**
comp=Z,58nm,0.9s,mb5.4
PAE Paea 41.29 100 *eP* **P** **13 43 08.7 +1.2**
comp=Z,104nm,1.1s,mb5.6
PPT Papeete 41.30 100 *eP* **P** **13 43 09.1 +1.5**
comp=Z,44nm,1.2s,mb5.2
PPT Papeete 41.30 100 *e*LQ 13 52 52.0
comp=Z,342nm,23.8s
PPT *e*LR LR 13 54 58.4
comp=Z,488nm,29.8s
PPT Papeete 41.30 100 P **P** **13 43 08.7 +1.1**
comp=Z,20nm,0.8s,mb5.0,baz=217,slow=7.6,SNR=4.4
TBI Tubuai 41.45 108 *e*LR LR 13 54 55.0
comp=Z,371nm,30.2s
TVO Taravao 41.60 100 *eP* **P** **13 43 11.5 +1.5**
comp=Z,59nm,0.8s,mb5.4
MEH Mehetia 42.72 100 *eP* **P** **13 43 20.5 +1.4**
comp=Z,111nm,1.2s,mb5.5
MBWA Marble Bar 45.63 255 *eP* **P** **13 43 42.3 0.0**
comp=Z,65nm,0.8s,mb5.4
KLBR Kellerberrin 48.12 241 *eP* **P** **13 44 00.8 -0.9**
comp=Z,22nm,0.7s,mb5.1
NWAO Narrogin (SRO) 48.76 239 *eP* **P** **13 44 05.9 -0.7**
NWAO pmax pmax
comp=Z,55nm,1.0s
NWAO Narrogin (SRO) 48.76 239 *eP* **P** **13 44 05.9 -0.7**
comp=Z,55nm,1.0s,mb5.4
NWAO *ep*P pP 13 44 32.4 -2.0
MUN Mundaring 49.48 241 *eP* **P** **13 44 11.7 -0.4**
RKT Rikitea 54.77 108 *eS* **S** **13 52 25.4 +2.8**
comp=Z,160nm,24.9s
RKT *e*LR LR 14 00 59.6
comp=Z,252nm,36.5s
MJAR Matsushiro Arr 58.17 332 P **P** **13 45 14.8 -0.5**
comp=Z,12nm,1.0s,mb4.9,baz=166,slow=7.2,SNR=17
MAJO Matsushiro 58.18 332 *eP* **P** **13 45 15.1 -0.2**
MAJO pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MAJO Matsushiro 58.18 332 *eP* **P** **13 45 15.1 -0.2**
comp=Z,10nm,0.8s,mb4.9
MAT Matsushiro 58.18 332 P **P** **13 45 14.6 -0.7**
MAT Matsushiro 58.18 332 *eP* **P** **13 45 15.0 -0.3**
MAT pmax pmax
comp=Z,13nm,0.9s,mb5.0
MAT Matsushiro 58.18 332 *eP* **P** **13 45 15.0 -0.3**
comp=Z,13nm,0.9s,mb5.0
KSM Kuching 58.80 281 *eP* **P** **13 45 20.3 +0.6**
YHNB Yeheng 59.74 311 *eP* **P** **13 45 25.9 -0.3**
VNDA Vanda 62.64 181 P **P** **13 45 45.0 -0.6**
comp=Z,13nm,0.5s,mb5.1,baz=3.9,slow=7.3,SNR=59
VNDA Vanda 62.64 181 *eP* **P** **13 45 44.6 -1.0**
VNDA pmax pmax
comp=Z,60nm,1.3s
VNDA Vanda 62.64 181 *eP* **P** **13 45 44.6 -1.1**
comp=Z,60nm,1.3s,mb5.4
SBA Scott Base 62.91 180 *eP* **P** **13 45 47.8 +0.3**
SBA pmax pmax
comp=Z,151nm,1.3s,mb5.8
SBA Scott Base 62.91 180 *eP* **P** **13 45 47.8 +0.3**
comp=Z,151nm,1.3s,mb5.8
CASY Casey 63.37 202 *eP* **P** **13 45 48.8 -1.7**
SSE Sheshan 63.79 316 P **P** **13 45 54.3 +1.1**
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,125nm,8.4s
YSS Yuzh-Sakhalins 65.49 342 *eP* **P** **13 46 06.3 +2.0**
YSS *e* pP 13 46 37.0 +3.4
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 65.49 342 *eP* **P** **13 46 05.1 +0.8**
comp=Z,40nm,1.0s,mb5.2
NJ2 Nanjing 65.94 316 *eP* **P** **13 46 08.1 +0.9**
NJ2 AP pP 13 46 35.5 -1.0
NJ2 S S 13 54 43.0 -2.1
NJ2 XS sS 13 55 33.0 -2.5
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,170nm,11.3s
NJ2 LR LR
comp=N,400nm,14.6s
NJ2 LR LR
comp=E,490nm,26.1s
NJ2 LR LR
comp=Z,340nm,27.6s
QIZ Qiongzhong 65.98 299 P **P** **13 46 08.8 +1.4**
VLA Vladivostok 66.34 332⇑ *iP* **P** **13 46 10.3 +0.5**
VLA pmax pmax
comp=Z,47nm,1.7s,mb5.0
PET Petropavlovsk 68.12 354⇓ *eP* **P** **13 46 21.0 0.0**

PET pmax pmax
comp=Z,23nm,1.0s,mb5.0
MDJ Mudanjiang 68.55 332 P **P** **13 46 24.4 +0.8**
MDJ AP pP 13 46 51.8 -1.3
MDJ XP sP 13 47 04.0 -2.1
MDJ PP PP 13 48 56.4 0.0
MDJ S S 13 55 18.3 +1.9
MDJ AMB AMB
comp=Z,22nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,45nm,3.9s
MDJ LR LR
comp=N,727nm,16.4s
MDJ LR LR
comp=E,480nm,16.4s
MDJ LR LR
comp=Z,570nm,18.6s
DL2 Dalian 68.57 323 P **P** **13 46 24.5 +0.7**
DL2 S S 13 55 20.6 +4.0
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
HABR Khabarovsk 69.40 338 *eP* **P** **13 46 30.0 +1.1**
HABR *eS* S 13 55 27.6 +1.2
HABR pmax pmax
comp=Z,43nm,1.4s,mb5.1
CN2 Changchun 69.92 329 *eP* **P** **13 46 32.3 +0.2**
CN2 *e*AP pP 13 47 03.3 +1.6
CN2 *eS* S 13 55 30.3 -2.1
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,330nm,6.0s
KLR Kul'dur 71.28 336 *eP* **P** **13 46 37.4 -2.9**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,68nm,1.6s,mb5.2
GYA Guiyang 71.97 305⇑ *iP* **P** **13 46 45.4 +0.9**
GYA AP pP 13 47 13.3 -0.9
GYA XP sP 13 47 25.6 -1.5
GYA PP PP 13 49 28.1 +2.4
GYA S S 13 55 55.4 -0.7
GYA SKS 13 56 34.1
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,120nm,3.9s
GYA LR LR
comp=N,460nm,18.6s
GYA LR LR
comp=E,570nm,18.4s
GYA LR LR
comp=Z,620nm,19.0s
BJI Beijing 72.54 321 P **P** **13 46 48.3 +0.5**
BJI AMB AMB
comp=Z,18nm,1.6s,mb4.7
BJI AMB AMB
comp=Z,135nm,5.9s
KMI Kunming 74.55 302 P **P** **13 47 01.6 +2.0**
KMI PCP PcP 13 47 14.8 +1.3
KMI AP pP 13 47 31.5 +1.9
KMI PP PP 13 49 52.4 +4.7
KMI S S 13 56 24.0 -1.3
KMI SKS 13 56 50.3
KMI AMB AMB
comp=Z,28nm,1.1s,mb4.9
KMI LR LR
comp=N,254nm,12.7s
KMI LR LR
comp=E,441nm,19.0s
KMI LR LR
comp=Z,360nm,16.5s
QSPA South Pole Qui 75.07 180⇑ *iP* **P** **13 47 02.1 -0.5**
comp=Z,101nm,1.0s,mb5.5
MA2 Magadan 75.49 351⇑ *eP* **P** **13 47 04.2 -0.8**
MA2 pmax pmax
comp=Z,19nm,1.7s,mb4.5
MA2 Magadan 75.49 351 *eP* **P** **13 47 04.0 -1.1**
HHC Hu-ho-hao-te 75.86 320 *eP* **P** **13 47 08.1 +1.0**
HHC PP PP 13 50 02.0 +3.3
HHC S S 13 56 39.0 -0.7
HHC SKS 13 56 59.5
HHC SCS ScS 13 57 06.4 -4.1
HHC AMB AMB
comp=Z,16nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,247nm,9.6s
HHC LR LR
comp=N,730nm,19.0s
HHC LR LR
comp=E,1μm,19.8s
HHC LR LR
comp=Z,747nm,23.0s
CD2 Chengdu 76.27 308 P **P** **13 47 10.3 +0.9**
CD2 AP pP 13 47 38.5 -1.0
CD2 XP sP 13 47 50.8 -1.5
CD2 PP PP 13 50 05.3 +3.1
CD2 S S 13 56 45.0 +0.8
CD2 XS sS 13 57 34.0 -1.9
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,90nm,10.2s
CD2 LR LR
comp=N,940nm,19.8s
CD2 LR LR
comp=Z,1μm,21.0s
BTO Baotou 76.69 319 *eP* **P** **13 47 12.6 +0.8**
SEY Seymchan 78.53 353⇓ *eP* **P** **13 47 21.9 -0.1**
LZH Lanzhou 78.58 312 *eP* **P** **13 47 24.0 +1.7**
LZH PCP PcP 13 47 32.6 +1.7
LZH AP pP 13 47 54.3 +1.8
LZH PP PP 13 50 25.6 +4.0
LZH *eS* S 13 57 11.1 +1.9
LZH *e*SKS 13 57 23.3
LZH XS sS 13 58 01.0 -0.2
LZH AMB AMB
comp=Z,57nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,150nm,4.0s
LZH LR LR
comp=N,236nm,17.2s
LZH LR LR
comp=Z,345nm,18.1s
MAW Mawson 81.73 202 P **P** **13 47 38.7 -0.5**
comp=Z,29nm,0.9s,mb5.1,baz=88,slow=3.7,SNR=5.5
YAK Yakutsk 82.29 343 *d iP* **P** **13 47 42.1 0.0**
YAK *e*PP pP 13 48 14.7 +2.1
YAK pmax pmax
comp=Z,90nm,1.3s,mb5.4
ULN Ulaanbaatar 82.41 324 *eP* **P** **13 47 43.1 +0.4**
ULN pmax pmax
comp=Z,59nm,1.5s,mb5.2
ULN Ulaanbaatar 82.41 324 *eP* **P** **13 47 43.1 +0.4**
comp=Z,59nm,1.5s,mb5.2
ULN pP pP 13 48 12.1 -1.0
SONM Songino Array 82.77 324 P **P** **13 47 44.9 +0.2**
comp=Z,5.9nm,0.9s,mb4.4,baz=150,slow=4.9,SNR=31
BILL Bilibino 82.77 360 *eP* **P** **13 47 44.0 -0.6**
BILL pmax pmax
comp=Z,40nm,0.9s,mb5.2
BILL Bilibino 82.77 360 *eP* **P** **13 47 44.0 -0.6**
comp=Z,3.9nm,0.9s,mb4.2
BILL *ep*P pP 13 48 13.7 -1.4
GTA Gaotai 82.93 314 P **P** **13 47 46.8 +1.3**
GTA AP pP 13 48 17.0 +1.1
GTA PP PP 13 51 02.0 +4.5
GTA SKS 13 57 53.4
GTA S S 13 57 56.0 +1.6
GTA AMB AMB
comp=Z,22nm,1.2s,mb4.9
GTA AMB AMB
comp=Z,105nm,6.1s
GTA LR LR
comp=N,564nm,22.1s
GTA LR LR
comp=E,647nm,19.8s
GTA LR LR
comp=Z,1μm,22.1s
BOD Bodaibo 84.75 334 *eP* **P** **13 47 51.4 -3.3**
MCK McKinley 85.32 18 *eP* **P** **13 47 55.3 -2.3**
MCK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
MCK McKinley 85.32 18 *eP* **P** **13 47 55.3 -2.2**
comp=Z,6.3nm,1.1s,mb4.5

MCK *ep*P pP 13 48 25.7 -2.4
ZAK Zakamensk 85.82 325⇑ *eP* **P** **13 47 59.7 -0.3**
ZAK pmax pmax
comp=Z,38nm,1.4s,mb5.1
IRK Irkutsk 86.21 327 *eP* **P** **13 47 55.6 -6.3**
IRK pmax pmax
comp=Z,32nm,2.1s,mb4.9
COLA College 86.49 18 *eP* **P** **13 48 02.0 -1.3**
ILAR Eielson Array 86.70 18 P **P** **13 48 02.6 -1.7**
comp=Z,1.8nm,0.8s,mb4.1,baz=243,slow=4.5,SNR=23
ILAR pP pP 13 48 32.6 -2.4
comp=Z,5.3nm,0.8s,baz=242,slow=4.6,SNR=4.2
ILAR PKKPbc PKKPbc 14 05 56.0 -2.3
comp=Z,0.5nm,1.0s,baz=298,slow=1.3,SNR=5.3
NVAR Mina Array Bea 87.31 49 P **P** **13 48 06.5 -0.7**
comp=Z,1.2nm,0.9s,mb3.8,baz=236,slow=11,SNR=5.7
NVAR pP pP 13 48 38.5 +0.6
comp=Z,4.8nm,1.0s,baz=220,slow=5.7,SNR=7.6
NVAR PKPPKP 14 14 05.8
comp=Z,0.7nm,0.9s,baz=74,slow=3.1,SNR=4.7
SYO Syowa Base 88.53 197⇓ *eP* **P** **13 48 12.8 -0.3**
JIRN Jiri 89.30 299 *eP* **P** **13 48 16.8 +0.1**
comp=Z,34nm,1.0s,mb5.3
GUN Gumba 89.64 299 *eP* **P** **13 48 17.9 -0.3**
comp=Z,30nm,0.9s,mb5.4
PKI Pulchoki 89.94 298 *eP* **P** **13 48 19.3 -0.3**
comp=Z,42nm,0.9s,mb5.6
KKN Kakani 90.11 299 *eP* **P** **13 48 20.4 -0.1**
comp=Z,24nm,0.9s,mb5.3
DMN Daman 90.21 298 *eP* **P** **13 48 21.0 +0.1**
comp=Z,65nm,1.0s,mb5.7
TIXI Tiksi 90.22 349⇓ *eP* **P** **13 48 19.5 -1.5**
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
GKN Gorkha 90.72 299 *eP* **P** **13 48 22.8 -0.5**
comp=Z,26nm,0.9s,mb5.4
KOLN Koldanda 91.53 298 *eP* **P** **13 48 26.3 -0.8**
NVL N'lazarevskaya 92.85 188⇓ *iP* **P** **13 48 32.4 -0.7**
NVL pmax pmax
comp=Z,36nm,0.9s,mb5.7
WMQ Urumqi 92.99 315 P **P** **13 48 34.3 +0.5**
WMQ AP pP 13 49 03.4 -1.3
WMQ XP sP 13 49 15.3 -2.0
WMQ PP PP 13 52 20.9 +2.8
WMQ AMB AMB
comp=Z,19nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,125nm,4.6s
WMQ LR LR
comp=Z,102nm,18.0s
SNAA Sanae 93.33 183 *eP* **P** **13 48 33.5 -1.8**
SNAA *e* 13 48 35.1
SNAA Sanae 93.33 183 *eP* **P** **13 48 33.5 -1.8**
SNAA pmax pmax
comp=Z,29nm,1.1s
SNAA Sanae 93.33 183 *eP* **P** **13 48 33.5 -1.8**
comp=Z,29nm,1.1s,mb5.5
VNA3 Neumayer Olymp 93.99 181 *eP* **P** **13 48 36.4 -2.0**
VNA3 *e* 13 48 37.6
VNA2 Neumayer--Watz 94.26 182 *eP* **P** **13 48 37.8 -1.8**
baz=189,slow=5.5
VNA2 *e* 13 48 39.1
VNA2 *e* 13 48 41.6
VNA2 *e* 13 48 48.4
MKAR Makanchi Array 97.47 316 P **P** **13 48 54.0 -0.2**
comp=Z,5.0nm,0.8s,mb5.0,baz=108,slow=6.5,SNR=32
MKAR pP pP 13 49 25.0 -0.2
comp=Z,1.8nm,0.8s,baz=126,slow=6.2,SNR=3.1
YKA Yellowknife Ar 97.68 27 P **P** **13 48 53.4 -1.7**
comp=Z,0.6nm,0.8s,mb4.2,baz=251,slow=4.4,SNR=9.3
YKA pP pP 13 49 23.9 -2.2
comp=Z,0.2nm,0.3s,baz=88,slow=21,SNR=5.0
YKA PKKPbc PKKPbc 14 05 28.8 -1.4
comp=Z,1.0nm,0.8s,baz=66,slow=2.7,SNR=10
YKA Yellowknife Ar 97.68 27 P **P** **13 48 53.4 -1.7**
YKA pP pP 13 49 23.9 -2.2
YKA PKKPbc PKKPbc 14 05 28.8 -1.4
KURK Kurchatov 100.67 320 *i* P Pdif 13 49 07.8 -0.7
LVZ Lovozero 119.07 341⇓ *i* PKIKP PKPdf 13 54 03.3 -5.3
APA Apatity 119.64 341 *e*PKIKP PKPdf 13 54 08.7 -1.0
ARCES ARCESS Array B 120.51 345 PKP PKPdf 13 54 09.7 -1.6
comp=Z,4.9nm,0.7s,baz=90,slow=1.6,SNR=23
BOSA Boshof 123.30 220 PKP PKPdf 13 54 16.6 -0.1
comp=Z,9.7nm,1.0s,baz=135,slow=1.6,SNR=8.2
OBN Obninsk 124.97 328 *i* PKIKP PKPdf 13 54 19.5 -0.4
OBN pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 125.11 313⇑ *i* PKIKP PKPdf 13 54 18.7 -1.5
FINES FINESS Array B 125.99 338 PKP PKPdf 13 54 20.5 -1.4
comp=Z,2.0nm,0.8s,baz=110,slow=2.8,SNR=8.6
KMBO Kilima Mbogo 128.20 256 PKP PKPdf 13 54 27.2 +1.1
comp=Z,4.9nm,0.9s,baz=49,slow=6.4,SNR=11
KMBO Kilima Mbogo 128.20 256 *e*PKPdf PKPdf 13 54 28.0 +1.9
ANN Anapa 128.49 316 *i* PKIKP PKPdf 13 54 19.4 -7.2
ANN *e* 13 54 52.6
ANN *e* 14 01 11.2
ANN pmax pmax
comp=Z,23nm,1.0s
ANN MLR MLR
comp=N,687nm,25.0s
ANN MLR MLR
comp=E,3μm,25.0s
ANN MLR MLR
comp=Z,1μm,25.0s
LSZ Lusaka 129.75 235 *e*PKIKP PKPdf 13 54 30.2 +1.2
NB2 NORSAR Subarra130.88 345 PKPd PKPdf 13 54 28.9 -2.3
comp=Z,2.0nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B130.88 345 PKP PKPdf 13 54 29.7 -1.5
comp=Z,1.4nm,0.8s,baz=37,slow=2.1,SNR=5.6
NOA SKPbc SKPbc 13 57 45.8 +1.3
comp=Z,2.2nm,0.9s,baz=33,slow=2.9,SNR=5.3
AKASG Malin Array Be 131.01 326 PKP PKPdf 13 54 30.2 -1.2
comp=Z,0.3nm,0.2s,baz=51,slow=1.5,SNR=9.1
AKASG SKPbc SKPbc 13 57 44.2 -0.7
comp=Z,1.5nm,0.6s,baz=50,slow=4.6,SNR=7.5
BRTR Keskin Array B 132.77 311 PKP PKPdf 13 54 34.5 -0.3
comp=Z,0.8nm,0.6s,baz=113,slow=3.2,SNR=6.3
DPC Dobruska-Polom 137.65 333 *e*PKPdf PKPdf 13 54 45.3 +1.4
DPC *ep*PKP pPKPdf 13 55 18.3 +2.2
BRG Berggiesshubel 138.28 335 *e*(P) PKPdf 13 54 42.2 -2.8
comp=Z,1.9nm,0.7s
CLL Collm 138.32 336 *e*PKPdf PKPdf 13 54 44.0 -1.1
CLL *e*(pPKPdf) 13 55 23.0
KHC Kasperske Hory 139.75 333 *e*PKPdf PKPdf 13 54 47.3 -0.4
GERES GERESS Array B 139.91 333 PKP PKPdf 13 54 44.7 -3.3
comp=Z,0.6nm,0.7s,baz=135,slow=0.2,SNR=3.8
GERES SKPbc SKPbc 13 58 15.5 +2.7
comp=Z,0.4nm,0.7s,baz=33,slow=3.2,SNR=4.6
CDF Champ du Feu 142.84 338 *e*PKP1 PKPdf 13 54 49.7 -3.5
comp=Z,20nm,1.2s
HINF Hinteralfeld 143.50 338 *e*PKP1 PKPdf 13 54 52.4 -2.0
HAU Haudompre 143.52 339 *e*PKP1 PKPdf 13 54 52.7 -1.7
LOMF Lomont 143.90 337 PKP PKPdf 13 54 53.9 -1.2
AQU L'Aquila 144.71 326 *e*PKIKP PKPdf 13 54 56.2 -0.3
TIP Timpagrande 144.72 319 *e*PKPdf PKPdf 13 54 55.9 -0.7
CABF La Chapelle 144.79 338⇑ *i* PKP1 PKPdf 13 54 56.8 +0.1
comp=Z,288nm,1.3s
FLN La Foliniere 144.85 346⇑ *i* PKP1 PKPdf 13 54 56.0 -0.8
comp=Z,123nm,1.2s
LDF La Druitiere 144.93 346 *e*PKP1 PKPdf 13 54 56.1 -0.8
comp=Z,86nm,1.4s
LOR Lormes 145.00 340⇑ *i* PKP1 PKPbc 13 54 57.0 +0.4
comp=Z,240nm,1.3s
GRR Gorron 145.29 346⇑ *i* PKP1 PKPbc 13 54 57.6 +0.1
comp=Z,208nm,1.2s
SSF Saint Saulge 145.30 341⇑ *i* PKP1 PKPbc 13 54 58.1 +0.5
comp=Z,279nm,1.2s
LPL La Plagne 145.46 336⇑ *i* PKP1 PKPbc 13 54 59.1 +1.0
comp=Z,176nm,1.3s
LPG La Plagne 145.47 336⇑ *i* PKP1 PKPbc 13 54 59.2 +1.1
comp=Z,220nm,1.3s
OG05 Jujurieux 145.51 338 PKP PKPdf 13 54 58.6 +0.7
SMF Signal de Mont 145.56 340⇑ *i* PKP1 PKPbc 13 54 58.7 +0.3
comp=Z,240nm,1.4s
AVF Avril sur Loir 145.59 341⇑ *i* PKP1 PKPbc 13 54 58.7 +0.2
comp=Z,164nm,1.5s
BNI Bardonecchia 145.87 335 *e*PKP2 PKPab 13 54 59.9 0.0
BGF Bois d'Agland 145.96 341 *e*PKP1 PKPbc 13 54 59.8 +0.2
comp=Z,66nm,1.0s
GDM Grand'Maison 145.96 336 PKP PKPdf 13 55 00.4 +1.7
GRN Grenoble 146.08 337 PKP PKPdf 13 55 00.8 +1.9
MBDF Montbardon 146.10 335⇑ *i* PKP1 PKPbc 13 55 00.3 +0.3
comp=Z,35nm,1.0s
PLDF La Plantade 146.22 340 PKP PKPdf 13 55 00.8 +1.7
SURF Saint Ours 146.28 335 PKP PKPdf 13 54 59.7 +0.5
ORIF Oris-en-Rattie 146.29 336⇑ *i* PKP1 PKPbc 13 55 01.2 +0.6

comp=Z,57nm,0.9s
SAOF Saorge 146.37 333 PKP PKPdf 13 55 00.7 +1.4
TCF Toulx Ste Croi 146.40 341⇑*i*PKP1 PKPbc 13 55 01.2 +0.3
comp=Z,92nm,1.2s
AUTN L'Aution 146.41 333 PKP PKPdf 13 55 02.0 +2.6
SBF Sospel 146.51 333⇑*i*PKP1 PKPbc 13 55 01.2 0.0
comp=Z,174nm,1.2s
MVIF Mont Vial 146.61 334 PKP PKPdf 13 55 01.5 +1.7
PYM Petit Puy Mans 146.62 340 PKP PKPdf 13 55 02.2 +2.4
MFF Saint Martin d 146.78 344⇑*i*PKP1 PKPbc 13 55 02.2 +0.2
comp=Z,83nm,0.9s
VERF Verneugheol 146.79 341 PKP PKPdf 13 55 02.9 +2.8
VERF Verneugheol 146.79 341 PKP PKPdf 13 55 02.1 +2.0
VERF Verneugheol 146.79 341 PKP PKPdf 13 55 02.1 +2.0
VERF PKP PKPdf 13 55 02.9 +2.8
VIVF Saint-Julien-l 146.81 337⇑*i*PKP1 PKPbc 13 55 02.6 +0.5
comp=Z,82nm,1.3s
PGF Pioggiola 146.83 330⇑*i*PKP1 PKPbc 13 55 02.3 +0.2
comp=Z,141nm,1.3s
CORF Corte 146.94 330 PKP PKPdf 13 55 02.4 +2.1
LBL Lubilhac 146.99 339 PKP PKPdf 13 55 03.4 +3.0
FRF La Foret Royal 147.10 334⇑*i*PKP1 PKPbc 13 55 02.9 0.0
comp=Z,158nm,1.4s
SMRF Simiane la Rot 147.20 335⇑*i*PKP1 PKPbc 13 55 03.8 +0.6
comp=Z,117nm,1.5s
VILF Villemus 147.25 335 PKP PKPdf 13 55 03.6 +2.8
LMR La Mourre 147.34 334⇑*i*PKP1 PKPbc 13 55 03.6 +0.1
comp=Z,89nm,1.1s
RJF Les Rejaudoux 147.49 341⇑*i*PKP1 PKPbc 13 55 04.3 +0.3
comp=Z,116nm,1.4s
PRAF Pradon 147.50 336 PKP PKPdf 13 55 04.8 +3.5
TREF Trevaresse 147.57 335 PKP PKPdf 13 55 05.0 +3.6
CAF Calviac 147.66 340⇑*i*PKP1 PKPbc 13 55 04.9 +0.5
comp=Z,75nm,1.4s
BERF Bertagne 147.70 335 PKP PKPdf 13 55 05.0 +3.4
LASF Ste Croix 147.78 338⇑*i*PKP1 PKPbc 13 55 05.2 +0.5
comp=Z,83nm,1.3s
LFF La Frestale 148.06 342⇑*i*PKP1 PKPbc 13 55 05.7 +0.2
comp=Z,129nm,1.1s
MTLF Montolieu 149.01 339⇑*i*PKP1 PKPbc 13 55 08.3 +0.4
comp=Z,82nm,1.2s
EPF Esparros 149.91 341⇑*i*PKP1 PKPbc 13 55 10.4 +0.3
comp=Z,27nm,0.9s
SJPF Ste Jean 150.30 343 *e*PKP1 PKPbc 13 55 11.6 +0.6
comp=Z,44nm,1.3s
ETSF Etsaut 150.30 342⇑*i*PKP1 PKPbc 13 55 11.9 +0.8
comp=Z,29nm,0.9s
EGRA Graus 150.67 340 PKP PKPdf 13 55 11.4 +5.1
EPOB Poblet 151.16 338 PKP PKPdf 13 55 11.6 +4.5
CMAH Djebel Manchou 152.01 324 P PKPbc 13 55 15.0 0.0
ABSA Djebel Ababsia 152.23 324 P PKPbc 13 55 16.0 +0.5
CKFL Kef-Lekhel 152.57 325 P PKPbc 13 55 17.0 +0.7
DFRA Djebel Bou Aff 152.93 326 P PKPbc 13 55 18.0 +1.0
SET Setif 153.44 326 P PKPbc 13 55 20.0 +1.8
TORD Torodi Ar. Bea 166.04 264 PKP PKPdf 13 55 24.3 -0.4
comp=Z,4.6nm,0.9s,baz=63,slow=0.8,SNR=21
TORD PKPab PKPab 13 56 25.9 +0.3
comp=Z,6.0nm,0.9s,baz=105,slow=4.5,SNR=12
DBIC Dimbokro 168.81 223 PKP PKPdf 13 55 26.3 -0.4
comp=Z,6.0nm,1.0s,baz=70,slow=4.3,SNR=4.5
DBIC PKPab PKPab 13 56 38.0 +0.2
comp=Z,3.3nm,0.9s,baz=156,slow=7.6,SNR=3.3

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*ISCJB **17** 13:48:11.8±0.9, 484S±003×14977E±004, h2km±5km, mb5.2/95, MS5.1/49, Error ellipse: s-maj=7.2km s-min=4.8km az=16.4*
*IDC **17** 13:48:12.6±0.5, 482S×14985E, h0km, mb4.8/15, mb1 5.0/16, mb1mx5.0/18, mbtmp4.8/16, ML3.7/2, MS5.1/23, Ms1 5.1/23, ms1mx5.1/25, Error ellipse: s-maj=18.8km s-min=12.0km az=85.0*
*CRAAG **17** 13:48:12.6, 484S×14975E, Mb5.4*
*CSEM **17** 13:48:12.6, 484S×14975E, h10km, ML5.6*
*HRVD **17** 13:48:16.6±0.1, 476S×14981E, h13km, MW5.6/103, Centroid moment Tensor Solution. LP body waves: s78,c151;Mantle waves: s103,c214; Half duration: 1s6 Moment tensor: Scale 1017Nm; Mrr-1.52±.05; Mθθ3.66±.04; Mφφ-2.14±.05; Mrθ0.65±.11; Mθφ1.42±.04; Mφr-0.54±.14; Best double couple: M0 3.43200×1017 NP1:φs35.00000°, δ67.00000°, λ-163.00000°. NP2: φs298.00000°, δ75.00000°, λ-24.00000°. Principal axes: T 4.0370, Plg5.0000°, Azm348.0000°; N -1.2110, Plg61.0000°, Azm87.0000°; P -2.8260, Plg28.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 13:48:16.6±3.0, 482S×14974E, h23km±21km, mb5.2/30, MS5.1/2, MW5.5 Error ellipse: s-maj=9.2km s-min=6.5km az=85.0, Moment Tensor Solution. s9 Moment tensor: Scale 1017Nm; Mrr-1.63; Mθθ2.08; Mφφ-0.45; Mrθ0.40; Mθφ-0.75; Mφr1.08; Best double couple: M0 2.30000×1017 NP1:φs256.00000°, δ55.00000°, λ-132.00000°. NP2: φs134.00000°, δ52.00000°, λ-46.00000°. Principal axes: T 2.2900, Plg2.0000°, Azm15.0000°; N 0.1000, Plg33.0000°, Azm283.0000°; P -2.3900, Plg56.0000°, Azm107.0000°;*
*BJI **17** 13:48:16.1, 498S×14968E, h30km, mB5.6, mb5.1, Ms5.3, Msz5.1*
*MOS **17** 13:48:17.2±1.2, 478S×14966E, h33km, mb5.4/29, MS5.0/10, Error ellipse: s-maj=11.8km s-min=6.6km az=86.5*
ISC 17 13:48:15.2±1.0, **486S**±003×**14986E**±004, **h13**km±6km, **h22**km±1.7km; **pP-P, n236,** σ1♀**13**/222, **mb5.2**/95, **MS5.1**/49, **6C-13D, Bismarck Sea**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.25 211**	Pn	**Pn**	**13 49 35.1**	**+1.8**
PMG	**Port Moresby**	**5.25 211**	Pn	**Pn**	**13 49 34.9**	**+1.6**
	38nm,0.3s,baz=30,slow=5.8,SNR=115					
PMG			Sn	**Sn**	**13 50 34.7**	**+1.0**
	53nm,0.3s,baz=41,slow=19,SNR=4.8					
PMG	**Port Moresby**	**5.25 211**	*e*P	**Pn**	**13 49 35.8**	**+2.5**
PMG			*e*		13 50 36.7	
PMG			pmax	pmax		
	comp=Z,1μm,0.6s					
PMG	**Port Moresby**	**5.25 211**	*e*Pn	**Pn**	**13 49 35.8**	**+2.4**
	comp=Z,1μm,0.6s					
PMG			*e*Sn	**Sn**	**13 50 36.7**	**+3.0**
HNR	**Honiara**	**10.99 115**	LR	LR	13 54 42.8	
	comp=Z,9μm,18.7s,baz=344,slow=35					
CTA	**Charters Tower**	**15.54 193**	*e*P	**Pn**	**13 52 02.6**	**+8.7**
	comp=Z,44nm,1.5s					
CTA			*i* S	**Sn**	**13 54 51.0**	**+5.2**
CTA	**Charters Tower**	**15.54 193**	Pn	**Pn**	**13 51 53.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=117,slow=9.0,SNR=2.4					
CTA			LR	LR	13 57 12.1	
	comp=Z,8μm,21.4s,baz=15,slow=35					
CTA	**Charters Tower**	**15.54 193**	P	**Pn**	**13 51 53.8**	**-0.1**
CTA			*i* S	**Sn**	**13 54 51.0**	**+5.2**
CTA	**Charters Tower**	**15.54 193**	Pn	**Pn**	**13 51 53.8**	**0.0**
CTA			*i* S	**Sn**	**13 54 51.0**	**+5.2**
CTA			LR	LR	13 57 12.1	
CTAO	**Charters Tower**	**15.54 193**	*e*P	**Pn**	**13 51 57.0**	**+3.1**
CTAO			pmax	pmax		
	comp=Z,304nm,1.7s					
CTAO	**Charters Tower**	**15.54 193**	*e*P	**Pn**	**13 51 57.0**	**+3.2**
	comp=Z,304nm,1.7s					
KAKA	**Kakadu**	**18.89 244**	*e*P	**Pn**	**13 52 33.9**	**-1.9**
	comp=Z,121nm,0.7s					
GUMO	**Guam**	**18.99 345**	LR	LR	13 58 18.7	
	comp=Z,7μm,21.8s,baz=150,slow=32					
WRAB	**Tennant Creek**	**21.27 224**	P	**P**	**13 53 01.0**	**-0.2**
	comp=Z,2μm,0.7s,SNR=69					
WRAB	**Tennant Creek**	**21.27 224**	*e*P	**P**	**13 53 00.5**	**-0.7**
WRAB			pmax	pmax		
	comp=Z,276nm,0.8s,mb5.6					
WRAB	**Tennant Creek**	**21.27 224**	*e*P	**P**	**13 53 00.5**	**-0.7**
	comp=Z,276nm,0.8s,mb5.6					
WB2	**Warramunga Arr**	**21.28 224**	*e*P	**P**	**13 53 01.0**	**-0.2**
WB2			*e*S	**S**	**13 56 49.9**	**-7.3**
WRA	**Warramunga Arr**	**21.28 224**	P	**P**	**13 53 01.1**	**-0.2**
	comp=Z,156nm,0.8s,mb5.4,baz=50,slow=11,SNR=520					
WRA			S	**S**	**13 56 52.4**	**-5.0**
	comp=Z,16nm,1.2s,baz=50,slow=21,SNR=6.5					
DZM	**Mont Dzumac**	**23.47 138**	P	**P**	**13 53 25.6**	**+1.0**
	comp=Z,32nm,0.5s,mb5.0,baz=290,slow=6.6,SNR=45					
DZM			LR	LR	14 00 55.6	
	comp=Z,14μm,20.0s,MS5.4,baz=320,slow=32					
AS31	**Alice Springs**	**24.21 218**	*e*P	**P**	**13 53 30.8**	**-0.6**
ASAR	**Alice Springs**	**24.21 218**	P	**P**	**13 53 31.4**	**0.0**
	comp=Z,27nm,0.7s,mb4.8,baz=52,slow=8.8,SNR=201					
ASAR			S	**S**	**13 57 46.9**	**-2.5**
	comp=Z,1.4nm,0.8s,baz=44,slow=14,SNR=3.8					
ASPA	**Alice Springs**	**24.21 218**	*e*P	**P**	**13 53 30.8**	**-0.6**
ARMA	**Armidale**	**25.48 176**	*e*P	**P**	**13 53 44.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**27.09 239**	*e*P	**P**	**13 53 56.3**	**-1.2**
	comp=Z,303nm,0.8s,mb5.9					
FITZ			*e*S	**S**	**13 58 33.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**27.09 239**	P	**P**	**13 53 56.7**	**-0.8**
	comp=Z,162nm,0.8s,mb5.6,baz=74,slow=10.0,SNR=50					
FITZ			S	**S**	**13 58 32.9**	**-2.2**
	comp=Z,7.3nm,0.9s,baz=325,slow=16,SNR=2.0					
FITZ			LR	LR	14 05 33.7	
	comp=Z,3μm,19.9s,MS4.9,baz=67,slow=38					
STKA	**Stephens Creek**	**27.97 195**	*e*P	**P**	**13 54 03.6**	**-1.8**
	comp=Z,6.9nm,0.5s,mb4.5					
STKA			*e*S	**S**	**13 58 44.9**	**-4.2**
STKA	**Stephens Creek**	**27.97 195**	P	**P**	**13 54 04.0**	**-1.4**
	comp=Z,3.8nm,0.8s,baz=20,slow=8.6,SNR=7.9					
STKA			LR	LR	14 05 13.9	
	comp=Z,6μm,21.0s,MS5.1,baz=137,slow=36					
FUNA	**Funafuti**	**29.36 99**	*e*P	**P**	**13 54 15.4**	**-2.4**
TBP	**Tagbilaran**	**29.66 299**	*e*P	**P**	**13 54 19.1**	**-1.4**
CNB	**Canberra Magne**	**30.31 181**	*e*P	**P**	**13 54 27.5**	**+1.3**
	comp=Z,31nm,1.0s,mb5.0					
TOO	**Toolangi**	**32.80 186**	*e*P	**P**	**13 54 49.1**	**+1.0**
	comp=Z,12nm,1.0s,mb4.8					
TOO	**Toolangi**	**32.80 186**	*e*P	**P**	**13 54 49.1**	**+1.0**
TOO			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8					
FORT	**Forrest**	**32.95 216**	*e*P	**P**	**13 54 48.6**	**-0.8**
	comp=Z,74nm,0.7s,mb5.7					
MBWA	**Marble Bar**	**33.42 238**	*e*P	**P**	**13 54 51.6**	**-1.9**
	comp=Z,57nm,0.9s,mb5.5					
TGY	**Tagaytay City**	**34.32 304**	P	**P**	**13 55 02.0**	**+0.6**
	comp=Z,112nm,0.3s,baz=188,slow=12,SNR=4.3					
AFI	**Afiamalu**	**38.85 106**	LR	LR	14 09 48.3	
	comp=Z,2μm,19.9s,MS4.9,baz=276,slow=33					
JHJ	**Hachijo jima 2**	**38.96 346**	LR	LR	14 11 05.7	
	comp=Z,2μm,18.6s,MS5.0,baz=171,slow=35					
KSM	**Kuching**	**40.01 278**	*e*P	**P**	**13 55 49.1**	**-0.5**
KLBR	**Kellerberrin**	**40.16 225**	*e*P	**P**	**13 55 49.0**	**-1.9**
	comp=Z,37nm,0.8s,mb5.2					
YHNB	**Yeheng**	**40.37 318**	*e*P	**P**	**13 55 52.3**	**-0.3**
NWAO	**Narrogin (SRO)**	**41.29 223**	LR	LR	14 13 14.3	
	comp=Z,4μm,19.5s,MS5.3,baz=228,slow=36					
NWAO	**Narrogin (SRO)**	**41.29 223**	*e*P	**P**	**13 55 58.6**	**-1.6**
MUN	**Mundaring**	**41.47 225**	*e*P	**P**	**13 56 00.7**	**-1.0**
URZ	**Urewera**	**41.47 147**	P	**P**	**13 56 02.5**	**+0.8**
	comp=Z,7.5nm,0.8s,mb4.4,baz=34,slow=3.6,SNR=5.1					
URZ			LR	LR	14 10 39.7	
	comp=Z,5μm,22.0s,MS5.3,baz=304,slow=32					
JNU	**Nakatsue**	**41.84 336**	P	**P**	**13 56 04.1**	**-0.6**
	comp=Z,46nm,0.9s,mb5.1,baz=123,slow=5.8,SNR=8.9					
JNU			LR	LR	14 11 46.7	
	comp=Z,2μm,20.9s,MS5.0,baz=167,slow=34					
QZH	**Quanzhou**	**42.45 316**	*i* PR		13 56 09.4	
QZH			PP	PP	13 57 49.0	+1.0
QZH			S	**S**	**14 02 31.4**	**+0.4**
QZH			AMB	AMB		
	comp=Z,900nm,5.2s					
QZH			LR	LR		
	comp=N,3μm,15.6s,MS5.3					
QZH			LR	LR		
	comp=E,2μm,14.8s,MS5.3					
QZH			LR	LR		
	comp=Z,5μm,27.4s					
MJAR	**Matsushiro Arr**	**42.60 346**	P	**P**	**13 56 09.6**	**-1.3**
	comp=Z,8.3nm,1.1s,mb4.4,baz=160,slow=10,SNR=7.4					
MJAR			LR	LR	14 11 11.1	
	comp=Z,2μm,21.9s,MS5.0,baz=185,slow=32					
MAT	**Matsushiro**	**42.60 346**	P	**P**	**13 56 09.3**	**-1.6**
MAT			S	**S**	**14 02 32.0**	**-1.4**
MAT	**Matsushiro**	**42.60 346**	*e*P	**P**	**13 56 09.0**	**-1.9**
MAT			*e*S	**S**	**14 02 33.0**	**-0.4**
MAT			pmax	pmax		
	comp=Z,68nm,1.8s,mb5.1					
MAT			MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0					
MAT	**Matsushiro**	**42.60 346**	*e*P	**P**	**13 56 09.0**	**-1.9**
	comp=Z,68nm,1.8s,mb5.1					
MAT			*e*S	**S**	**14 02 33.0**	**-0.4**
MAT			LR	LR		
	comp=Z,2μm,20.0s,MS5.0					
RPZ	**Rata Peaks**	**42.98 157**	P	**P**	**13 56 13.7**	**-0.3**
	comp=Z,20nm,0.8s,mb4.9,baz=90,slow=2.7,SNR=7.7					
RPZ			LR	LR	14 11 26.0	
	comp=Z,7μm,21.8s,MS5.5,baz=318,slow=32					
RPZ	**Rata Peaks**	**42.98 157**	P	**P**	**13 56 13.7**	**-0.3**
RPZ			LR	LR	14 11 25.9	
SSE	**Sheshan**	**45.03 324**	P	**P**	**13 56 30.8**	**+0.4**
SSE			AP	pP	13 56 37.3	+2.6
SSE			XP	sP	13 56 39.8	+3.5
SSE			PCP	PcP	13 58 10.3	-1.0
SSE			S	**S**	**14 03 10.3**	**+1.5**
SSE			XS	sS	14 03 21.3	+5.6
SSE			AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2					
SSE			AMB	AMB		
	comp=Z,357nm,6.1s					
SSE			LR	LR		
	comp=N,2μm,22.2s,MS5.0					
SSE			LR	LR		
	comp=E,1μm,22.5s,MS5.0					
SSE			LR	LR		
	comp=Z,2μm,19.0s,MS5.1					
GZH	**Guangzhou**	**45.20 309**	P	**P**	**13 56 33.8**	**+2.0**
GZH			S	**S**	**14 03 15.8**	**+4.6**
GZH			LR	LR		
	comp=N,824nm,23.6s					
GZH			LR	LR		
	comp=E,2μm,18.0s					
GZH			LR	LR		
	comp=Z,3μm,20.2s,MS5.2					
QIZ	**Qiongzhong**	**46.00 302**	P	**P**	**13 56 38.8**	**+0.7**
QIZ			S	**S**	**14 03 19.9**	**-2.8**
QIZ			SS	SS	14 06 36.8	-11
QIZ			AMB	AMB		
	comp=Z,39nm,0.8s,mb5.4					
QIZ			AMB	AMB		
	comp=Z,437nm,7.5s					
QIZ			LR	LR		
	comp=E,1μm,21.8s					
QIZ			LR	LR		
	comp=Z,2μm,25.0s,MS5.0					
KS15	**Wonju Array Si**	**46.80 336**	*e*P	**P**	**13 56 43.3**	**-1.2**
NJ2	**Nanjing**	**47.09 323**	*e*P	**P**	**13 56 47.9**	**+1.2**
NJ2			S	**S**	**14 03 37.0**	**-1.4**
NJ2			AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0					
NJ2			AMB	AMB		
	comp=Z,580nm,11.1s					
NJ2			LR	LR		
	comp=N,7μm,20.8s,MS5.7					
NJ2			LR	LR		
	comp=E,3μm,16.8s,MS5.7					
NJ2			LR	LR		
	comp=Z,2μm,21.2s,MS5.1					
INCN	**Inchon**	**47.35 335**	*e*P	**P**	**13 56 49.8**	**+1.1**
	comp=Z,145nm,1.4s,mb5.7					
WHN	**Wuhan**	**48.91 318**	P	**P**	**13 57 02.0**	**+1.2**
WHN			S	**S**	**14 04 06.5**	**+2.3**
WHN			LR	LR		
	comp=Z,4μm,20.6s,MS5.4					
KULM	**Kulim**	**50.17 281**	*e*P	**P**	**13 57 09.6**	**-0.8**
VLA	**Vladivostok**	**50.45 343**	*e*P	**P**	**13 57 09.5**	**-3.0**
VLA			*e**PP	pP	13 57 18.0	+1.2
VLA			*e**SP	sP	13 57 22.5	+4.1
VLA			*e*S	**S**	**14 04 20.8**	**-4.9**
VLA			*e*		14 07 00.8	
VLA			pmax	pmax		
	comp=Z,49nm,2.0s,mb5.2					
SNG	**Songkhla**	**50.57 283**	P	**P**	**13 57 14.0**	**+0.6**
	comp=Z,204nm,0.9s,mb6.1					
DL2	**Dalian**	**50.78 332**	P	**P**	**13 57 15.0**	**0.0**
DL2			AP	pP	13 57 28.8	+10
DL2			PP	PP	13 59 08.5	-2.6
DL2			S	**S**	**14 04 30.6**	**+0.4**
DL2			SS	SS	14 08 04.8	+0.1
DL2			AMB	AMB		
	comp=Z,40nm,1.1s,mb5.3					
DL2			AMB	AMB		
	comp=Z,260nm,5.6s					
DL2			LR	LR		
	comp=N,570nm,20.5s,MS4.7					
DL2			LR	LR		
	comp=E,620nm,21.0s,MS4.7					
DL2			LR	LR		
	comp=Z,1μm,21.0s,MS4.9					
KKTK	**Khon Kaen**	**51.06 295**	⇑P	**P**	**13 57 13.2**	**-3.9**
	comp=Z,309nm,0.6s					
TIA	**Tai'an**	**51.07 326**	*e*P	**P**	**13 57 16.5**	**-0.7**
RAR	**Rarotonga**	**51.44 113**	LR	LR	14 14 34.1	
	comp=Z,965nm,21.8s,MS4.8,baz=351,slow=31					
YSS	**Yuzh-Sakhalins**	**51.97 354**	*e*P	**P**	**13 57 24.6**	**+0.7**
YSS			*e*	pP	13 57 30.0	+1.8
YSS			*e*		13 57 42.1	
YSS					13 59 25.0	
YSS			*e*S	**S**	**14 04 47.0**	**+0.3**
YSS			*e*PS		14 05 00.0	
YSS			MLR	MLR		
	comp=Z,1μm,19.0s,MS4.9					
YSS			MLR	MLR		
	comp=N,1μm,17.0s					
YSS	**Yuzh-Sakhalins**	**51.97 354**	*e*P	**P**	**13 57 23.3**	**-0.6**
	comp=N,41nm,1.2s,mb5.2					
GYA	**Guiyang**	**52.12 309**⇓	*i*P	**P**	**13 57 26.0**	**+0.9**
GYA			PCP	PcP	13 58 38.5	+1.6
GYA			PP	PP	13 59 25.1	+1.8
GYA			SCP	ScP	14 02 28.6	-4.9
GYA			S	**S**	**14 04 46.9**	**-2.0**
GYA			SCS	ScS	14 07 07.8	-7.0
GYA			SS	SS	14 08 17.3	-8.8
GYA			AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9					
GYA			AMB	AMB		
	comp=Z,340nm,7.2s					
GYA			LR	LR		
	comp=N,1μm,20.3s,MS5.0					
GYA			LR	LR		
	comp=E,740nm,17.3s,MS5.0					
GYA			LR	LR		
	comp=Z,1μm,18.8s,MS4.9					
SNY	**Shenyang**	**52.28 335**	⇑P	**P**	**13 57 25.8**	**-0.4**
SNY			AP	pP	13 57 38.3	+7.8
SNY			XP	sP	13 57 44.8	+13
SNY			S	**S**	**14 04 51.5**	**+0.6**
SNY			SS	SS	14 08 27.5	-1.0
SNY			AMB	AMB		
	comp=Z,475nm,6.9s					
SNY			LR	LR		
	comp=N,988nm,17.6s,MS4.9					
SNY			LR	LR		
	comp=E,467nm,19.6s,MS4.9					
SNY			LR	LR		
	comp=Z,1μm,17.2s,MS5.0					
MDJ	**Mudanjiang**	**52.51 342**	P	**P**	**13 57 28.9**	**+1.0**
MDJ			PCP	PcP	13 58 38.0	-0.3
MDJ			PP	PP	13 59 28.4	+1.6
MDJ			S	**S**	**14 04 48.8**	**-5.3**
MDJ			SCS	ScS	14 07 14.4	-3.1
MDJ			SS	SS	14 08 27.3	-4.8
MDJ			AMB	AMB		
	comp=Z,14nm,1.6s,mb4.6					
MDJ			AMB	AMB		
	comp=Z,396nm,8.8s					
MDJ			LR	LR		
	comp=N,2μm,30.6s,MS5.1					
MDJ			LR	LR		
	comp=E,1μm,28.2s,MS5.1					
MDJ			LR	LR		
	comp=Z,3μm,30.2s,MS5.1					
CN2	**Changchun**	**53.20 338**	*e*P	**P**	**13 57 37.1**	**+4.0**
CN2			*e*S	**S**	**14 05 05.5**	**+1.9**
CN2			AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9					
CN2			AMB	AMB		
	comp=Z,470nm,5.0s					
CN2			LR	LR		
	comp=N,2μm,18.0s,MS5.4					
CN2			LR	LR		
	comp=E,2μm,18.0s,MS5.4					
CN2			LR	LR		
	comp=Z,2μm,25.0s					
NST	**Nakhon Sawan**	**53.28 294**	P	**P**	**13 57 34.1**	**+0.5**
BJI	**Beijing**	**54.36 328**	P	**P**	**13 57 40.3**	**-1.2**
BJI			AP	pP	13 57 46.8	+1.0
BJI			S	**S**	**14 05 10.6**	**-8.7**
BJI			SS	SS	14 08 59.3	-2.1
BJI			AMB	AMB		
	comp=Z,12nm,1.5s,mb4.6					
BJI			AMB	AMB		
	comp=Z,478nm,6.2s					
BJI			LR	LR		
	comp=N,1μm,21.8s,MS5.1					
BJI			LR	LR		
	comp=E,1μm,21.8s,MS5.1					
BJI			LR	LR		
	comp=Z,2μm,24.2s,MS5.1					
KMI	**Kunming**	**54.61 305**	⇓P	**P**	**13 57 44.9**	**+1.6**
KMI			AP	pP	13 57 54.5	+6.9
KMI			PP	PP	13 59 50.6	+4.9
KMI			PPP		14 01 01.4	
KMI			S	**S**	**14 05 26.0**	**+3.4**
KMI			PS		14 05 37.1	
KMI			SS	SS	14 09 06.0	+0.7
KMI			AMB	AMB		
	comp=Z,40nm,1.6s,mb5.2					
KMI			AMB	AMB		
	comp=Z,480nm,5.8s					
KMI			LR	LR		
	comp=N,1μm,21.3s,MS5.2					
KMI			LR	LR		
	comp=E,1μm,18.2s,MS5.2					
KMI			LR	LR		
	comp=Z,2μm,22.3s,MS5.0					
HABR	**Khabarovsk**	**54.67 348**	*e*P	**P**	**13 57 35.7**	**-8.1**
HABR			*e*S	**S**	**14 05 21.4**	**-2.0**
HABR			pmax	pmax		
	comp=Z,57nm,2.0s,mb5.2					
HABR			MLR	MLR		
	comp=Z,697nm,16.1s,MS4.8					
XAN	**Xi'an**	**54.68 318**	P	**P**	**13 57 43.4**	**-0.4**
XAN			AP	pP	13 57 49.3	+1.2
XAN			AMB	AMB		
	comp=Z,28nm,1.4s,mb5.1					
BDT	**Bhumibol Dam**	**54.81 295**	P	**P**	**13 57 45.0**	**+0.2**
CHRT	**Chiangrai**	**55.01 298**	⇓P	**P**	**13 57 47.5**	**+1.3**
	comp=Z,253nm,0.9s,mb6.2					
KLR	**Kul'dur**	**56.13 346**	*e*P	**P**	**13 57 50.8**	**-3.5**
KLR			*e*S	**S**	**14 05 32.5**	**-10**
KLR			smax			
	comp=N,1μm,14.0s					
KLR			smax			
	comp=E,700nm,14.0s					
CD2	**Chengdu**	**56.58 312**⇑	*i*P	**P**	**13 57 57.6**	**+0.1**
CD2			PP	PP	14 00 05.6	+2.3
CD2			S	**S**	**14 05 41.4**	**-7.4**
CD2			SS	SS	14 09 30.1	-6.2
CD2			AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2					
CD2			AMB	AMB		
	comp=Z,290nm,6.1s					
CD2			LR	LR		
	comp=N,940nm,19.8s					
CD2			LR	LR		
	comp=Z,1μm,21.0s,MS4.9					
HHC	**Hu-ho-hao-te**	**57.42 326**	*e*P	**P**	**13 58 04.1**	**+0.6**
HHC			PCP	PcP	13 58 56.3	-0.9
HHC			PP	PP	14 00 13.6	+2.8
HHC			S	**S**	**14 05 55.8**	**-4.2**
HHC			SCS	ScS	14 07 42.5	-10
HHC			SS	SS	14 09 45.5	-4.1
HHC			AMB	AMB		
	comp=Z,15nm,0.5s,mb5.3					
HHC			AMB	AMB		
	comp=Z,413nm,5.1s					
HHC			LR	LR		
	comp=N,1μm,19.6s,MS5.2					
HHC			LR	LR		
	comp=E,885nm,17.2s,MS5.2					
HHC			LR	LR		
	comp=Z,2μm,22.1s,MS5.2					
BTO	**Baotou**	**58.13 325**	*e*P	**P**	**13 58 08.8**	**+0.4**
BTO			S	**S**	**14 06 09.3**	**0.0**
PET	**Petropavlovsk**	**58.15 6**	*e*P	**P**	**13 58 08.9**	**+0.4**
PET			*e*S	**S**	**14 06 07.8**	**-1.7**
PET			*e*SS	SS	14 10 02.4	+1.4
PET			pmax	pmax		
	comp=Z,400nm,10.7s					
PET			pmax	pmax		

comp=Z,22nm,0.9s,mb5.2
PET smax
comp=E,700nm,21.5s
PET MLR MLR
comp=Z,1μm,16.0s,MS5.0
LZH Lanzhou 59.26 317 *e*P **P 13 58 17.6 +1.3**
LZH PP PP 14 00 30.3 +3.2
LZH S **S 14 06 23.1 -0.9**
LZH SS SS 14 10 16.0 -2.4
LZH AMB AMB
comp=Z,103nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,320nm,4.5s
LZH LR LR
comp=N,1μm,13.8s
LZH LR LR
comp=Z,2μm,16.0s,MS5.3
PPT Papeete 60.50 107 *e*S **S 14 06 42.3 +2.3**
comp=Z,2μm,27.2s
PPT *e*LQ 14 13 46.8
comp=Z,2μm,23.2s
PPT *e*LR LR 14 16 21.2
comp=Z,868nm,23.5s
PPT Papeete 60.50 107 LR LR 14 17 39.3
comp=Z,841nm,21.2s,MS4.9,baz=274,slow=29
TBI Tubuai 61.21 114 *e*S **S 14 06 50.6 +1.6**
comp=Z,1μm,29.8s
TBI *e*SS SS 14 10 52.2 +3.1
comp=Z,816nm,26.2s
TBI *e*LQ 14 14 09.2
comp=Z,6μm,35.8s
TBI *e*LR LR 14 16 46.4
comp=Z,3μm,32.2s
DRV Dumont d'Urvil 62.08 184 S **S 14 07 00.0 0.0**
GTA Gaotai 63.73 319 *e*P **P 13 58 47.4 +0.9**
GTA AP pP 13 58 53.8 +2.9
GTA XP sP 13 58 56.6 +4.1
GTA PP PP 14 01 10.5 +3.9
GTA S **S 14 07 22.3 +1.5**
GTA XS sS 14 07 32.6 +4.7
GTA PS 14 07 44.0
GTA SS SS 14 11 32.3 +3.7
GTA AMB AMB
comp=Z,13nm,1.5s,mb4.7
GTA AMB AMB
comp=Z,517nm,6.5s
GTA LR LR
comp=N,564nm,19.8s,MS5.0
GTA LR LR
comp=E,673nm,17.5s,MS5.0
GTA LR LR
comp=Z,957nm,19.0s,MS5.0
SHL Shillong 63.82 301 *e*P **P 13 58 48.0 +0.9**
SHL *e*S **S 14 07 24.0 +2.1**
MA2 Magadan 64.24 1 *e*P **P 13 58 49.8 0.0**
MA2 pmax pmax
comp=Z,27nm,1.3s,mb5.1
MA2 Magadan 64.24 1 *e*P **P 13 58 49.8 0.0**
comp=Z,27nm,1.3s,mb5.1
ULN Ulaanbaatar 64.53 330 *d i*P **P 13 58 52.8 +1.1**
ULN Ulaanbaatar 64.53 330 *e*P **P 13 58 52.7 +1.0**
comp=Z,33nm,1.2s,mb5.2
CLNS Chul'man 64.78 345 *e*P **P 13 58 54.1 +0.8**
CLNS *e* 13 59 22.9
CLNS *e* 14 01 12.5
CLNS *e*S **S 14 07 23.9 -10**
CLNS pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax
comp=N,172nm,11.8s
CLNS smax
comp=Z,284nm,12.3s
CLNS smax
comp=E,191nm,11.2s
CLNS MLR MLR
comp=Z,300nm,14.0s,MS4.6
CLNS MLR MLR
comp=N,200nm,12.0s,MS4.8
CLNS MLR MLR
comp=E,300nm,14.0s,MS4.8
SONM Songino Array 64.84 329 P **P 13 58 54.2 +0.4**
comp=E,5.2nm,0.8s,mb4.6,baz=146,slow=4.2,SNR=39
SONM LR LR 14 26 29.1
comp=E,2μm,20.2s,MS5.2,baz=136,slow=35
LSA Lhasa 65.87 305 P **P 13 59 02.0 +1.6**
CAL Calcutta 65.97 297 *e*P **P 13 59 02.2 +1.0**
CAL AMP 14 02 28.9
comp=Z,227nm,17.2s
CAL *e*S S 14 07 53.1 +4.7
SEY Seymchan 67.63 1 *e*P **P 13 59 11.0 -0.7**
SEY *e*S S 14 08 08.8 +0.4
SEY *e*PS 14 08 34.3
SEY *e* 14 09 02.7
SEY *e*SS SS 14 12 32.4 +3.2
SEY *e*SSS 14 15 25.3
SEY pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
SEY smax
comp=N,490nm,8.3s
SEY smax
comp=E,677nm,12.5s
SEY MLR MLR
comp=Z,1μm,18.0s,MS5.1
SEY MLR MLR
comp=N,530nm,19.0s,MS4.9
SEY MLR MLR
comp=E,473nm,18.0s,MS4.9
ZAK Zakamensk 68.05 330⇑ *i*P **P 13 59 14.6 +0.3**
ZAK pmax pmax
comp=Z,57nm,1.6s,mb5.3
BOK Bokaro 68.48 298 *e*P **P 13 59 17.2 +0.2**
BOK AMb AMB 13 59 21.6
comp=Z,65nm,1.7s,mb5.4
YAK Yakutsk 68.48 350 *d i*P **P 13 59 17.2 +0.2**
YAK pmax pmax
comp=Z,72nm,1.3s,mb5.5
YAK Yakutsk 68.48 350 *e*P **P 13 59 17.8 +0.7**
comp=Z,46nm,0.8s,mb5.6
IRK Irkutsk 68.75 332 *e*P **P 13 59 18.6 -0.1**
IRK *e* 13 59 48.3
IRK *e*S S 14 08 20.0 -1.7
IRK pmax pmax
comp=Z,43nm,3.8s
BOD Bodaibo 68.83 340 *e*P **P 13 59 18.5 -0.7**
BOD pmax pmax
comp=Z,14nm,1.6s,mb4.6
JIRN Jiri 69.32 302 *e*P **P 13 59 22.8 +0.6**
comp=Z,192nm,1.2s,mb5.9
VIS Vishakhapatnam 69.34 291 *e*P **P 13 59 22.2 -0.2**
VIS AMb AMB 13 59 27.3
comp=Z,83nm,2.2s,mb5.3
GUN Gumba 69.65 302 *e*P **P 13 59 25.0 +0.7**
comp=Z,124nm,0.7s,mb6.0
PKI Pulchoki 69.95 302 *e*P **P 13 59 26.5 +0.4**
comp=Z,380nm,1.5s,mb6.1
MOY Mondy 69.98 330 *e*P **P 13 59 27.3 +1.0**
MOY pmax pmax
comp=Z,66nm,1.8s,mb5.3
KKN Kakani 70.13 302 *e*P **P 13 59 27.4 +0.2**
comp=Z,164nm,0.9s,mb6.0
DMN Daman 70.22 301 *e*P **P 13 59 28.0 +0.2**
comp=Z,377nm,1.2s,mb6.2
GKN Gorkha 70.73 302 *e*P **P 13 59 30.6 -0.3**
comp=Z,186nm,0.9s,mb6.0
KOLN Koldanda 71.55 301 *e*P **P 13 59 36.1 +0.2**
comp=Z,169nm,0.9s,mb6.0
DANN Dangsing 71.57 302 *e*P **P 13 59 35.6 -0.4**
comp=Z,0.1nm,0.0s
VNDA Vanda 72.89 177 P **P 13 59 43.7 -0.2**
comp=Z,17nm,1.1s,mb4.9,baz=331,slow=6.0,SNR=20
VNDA LR LR 14 27 02.9
comp=Z,1μm,21.1s,MS5.2,baz=337,slow=32
VNDA Vanda 72.89 177 P **P 13 59 43.7 -0.2**
VNDA LR LR 14 27 02.9
SBA Scott Base 73.49 176 *e*P **P 13 59 49.1 +1.7**
SBA pmax pmax
comp=Z,32nm,1.2s,mb5.1
SBA Scott Base 73.49 176 *e*P **P 13 59 49.1 +1.7**
comp=Z,32nm,1.2s,mb5.1
BILL Biiibino 73.65 6 *e*P **P 13 59 48.1 -0.2**
BILL pmax pmax
comp=Z,11nm,1.0s,mb4.7
BILL Biiibino 73.65 6 *e*P **P 13 59 48.1 -0.3**
comp=Z,11nm,1.0s,mb4.7
HYB Hyderabad 73.75 290⇓ *i*P **P 13 59 49.0 +0.1**
comp=Z,40nm,1.0s,mb5.3
HYB Hyderabad 73.75 290 *e*P **P 13 59 49.0 +0.1**
WMQ Urumqi 73.81 318 ⇓P **P 13 59 50.3 +1.0**
WMQ PCP PcP 14 00 05.8 +0.9
WMQ PP PP 14 02 37.0 +3.0
WMQ S S 14 09 15.0 -5.4
WMQ SCS ScS 14 09 50.8 -7.9
WMQ SS SS 14 14 01.8 -2.4
WMQ AMB AMB
comp=Z,28nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,179nm,4.6s
WMQ LR LR
comp=N,812nm,24.0s,MS5.0
WMQ LR LR
comp=E,699nm,24.0s,MS5.0
WMQ LR LR
comp=Z,959nm,22.6s,MS5.0
TRD Trivandrum 73.89 280 *e*P **P 13 59 49.3 -0.5**
TRD AMb AMB 13 59 54.1
comp=Z,64nm,1.4s,mb5.4
NGP Nagpur 74.00 293⇓ *e*P **P 13 59 51.9 +1.5**
NGP *i* x x 13 59 53.9
baz=104,slow=6.9
NGP *e*x x 13 59 54.7
comp=Z,76nm,1.9s
NGP *e*x S 14 09 25.9 +3.4
RKT Rikitea 74.47 113 *e*S S 14 09 28.7 +0.9
comp=Z,678nm,32.8s
RKT *e*SS SS 14 14 14.5 +0.3
comp=Z,521nm,28.2s
RKT *e*LQ 14 19 53.3
comp=Z,2μm,38.0s
RKT *e*LR LR 14 22 58.4
comp=Z,2μm,32.0s
BHPL Bhopal 75.90 295 *e*P **P 14 00 00.8 -0.6**
BHPL AMb AMB 14 00 05.4
comp=Z,61nm,1.2s,mb5.4
TNA Tin City 76.67 17 *e*P **P 14 00 05.1 -0.7**
comp=Z,7.3nm,1.0s,mb4.6
TIXI Tiksi 77.59 353 *e*P **P 14 00 10.6 -0.3**
TIXI *e*S S 14 09 53.6 -8.5
TIXI *e* 14 10 19.0
TIXI *e**SS ScS 14 10 27.7 -1.4
TIXI pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
TIXI smax
comp=N,442nm,15.2s
TIXI smax
comp=E,183nm,12.1s
KAD Karad 77.84 289 *e*P **P 14 00 10.0 -2.3**
KAD AMb AMB 14 00 14.2
comp=Z,111nm,1.6s,mb5.5
POO Poona 78.35 290⇑ *i*P **P 14 00 15.0 -0.1**
comp=Z,182nm,1.2s,mb5.9
POO *e*x x 14 00 22.5
POO AMb AMB 14 00 27.5
comp=Z,114nm,1.4s,mb5.6
MK31 Makanchi Array 78.46 320 *i* P **P 14 00 15.8 +0.1**
MK31 pmax pmax
comp=Z,90nm,2.1s,mb5.3
MKAR Makanchi Array 78.46 320 P **P 14 00 15.9 +0.2**
comp=Z,5.5nm,1.0s,mb4.4,baz=108,slow=6.5,SNR=24
AJM Ajmer 79.01 298 *e*P **P 14 00 18.8 -0.1**
AJM AMb AMB 14 00 22.8
comp=Z,105nm,1.4s,mb5.6
ZAL Zalesovo 79.60 327 P **P 14 00 21.4 -0.6**
comp=Z,3.4nm,0.8s,mb4.3,baz=8.8,slow=7.0,SNR=14
ZAL LR LR 14 36 42.7
comp=Z,1μm,18.1s,MS5.3,baz=349,slow=37
ZAL Zalesovo 79.60 327 P **P 14 00 21.4 -0.6**
ZAL LR LR 14 36 42.7
SLKM Skilak Lake 79.98 26 *e*P **P 14 00 24.8 +0.7**
FIB Fire Island 80.32 25 P **P 14 00 24.2 -1.7**
FIB pmax pmax
comp=Z,20nm,0.8s,mb5.1
FIB Fire Island 80.32 25 P **P 14 00 24.2 -1.7**
comp=Z,20nm,0.8s,mb5.1
KSH Kashi 80.76 311 P **P 14 00 30.0 +1.7**
KSH PP PP 14 03 37.3 +5.0
KSH S S 14 10 33.9 -1.9
KSH SKS 14 10 38.9
KSH SS SS 14 15 51.1 +2.1
KSH AMB AMB
comp=Z,87nm,1.2s,mb5.6
KSH AMB AMB
comp=Z,515nm,4.6s
KSH LR LR
comp=N,521nm,8.0s
KSH LR LR
comp=E,1μm,8.2s
KSH LR LR
comp=Z,677nm,14.2s,MS5.1
NVS Novosibirsk 80.79 327 *e*P **P 14 00 26.5 -1.9**
NVS *e*S S 14 10 30.7 -5.4
NVS pmax pmax
comp=Z,48nm,1.9s,mb5.1
NVS pmax pmax
comp=N,44nm,1.7s
NVS pmax pmax
comp=E,29nm,1.7s
NVS smax
comp=N,27nm,2.8s
NVS smax
comp=E,23nm,2.4s
PMR Palmer 80.97 25 *e*P **P 14 00 29.0 -0.4**
PMR pmax pmax
comp=Z,44nm,1.4s,mb5.2
PMR Palmer 80.97 25 *e*P **P 14 00 29.0 -0.4**
comp=Z,44nm,1.4s,mb5.2
SML Sawmill 81.40 25 *e*P **P 14 00 32.4 +0.7**
SML *e* pP 14 00 37.2 +1.0
NIL Nilore 81.60 305 P **P 14 00 33.8 +1.1**
comp=Z,123nm,0.6s,mb6.0,SNR=5.2
TKM2 Tokmak 2 81.87 314 P **P 14 00 34.8 +0.6**
SNR=9.5
KZA Kyzart 81.91 314 P **P 14 00 36.1 +1.7**
SNR=20
KURK Kurchatov 82.02 323 P **P 14 00 34.7 -0.3**
comp=Z,97nm,1.3s,mb5.6,SNR=16
KURK Kurchatov 82.02 323 *e*P **P 14 00 34.6 -0.4**
KURK *e* 14 00 43.7
KURK pmax pmax
comp=Z,23nm,1.0s,mb5.1
KURK Kurchatov 82.02 323 *e*P **P 14 00 34.6 -0.3**
comp=Z,23nm,1.0s,mb5.1
KURK *e* 14 00 43.7
MCK McKinley 82.06 23 *e*P **P 14 00 33.9 -1.2**
MCK *e* pP 14 00 39.9 +0.3
MCK pmax pmax
comp=Z,47nm,1.0s,mb5.4
MCK McKinley 82.06 23 *e*P **P 14 00 33.9 -1.3**
comp=Z,48nm,1.0s,mb5.4
MCK *e* 14 00 39.9
DIV Divide 82.21 26 *e*P **P 14 00 33.3 -2.7**
comp=Z,35nm,1.1s,mb5.2
DIV *e* 14 00 42.0
UCH Uchtor 82.48 314 P **P 14 00 39.1 +1.8**
SNR=21
CHMS Chumysh 82.49 314 P **P 14 00 38.0 +0.6**
SNR=5.8
FRU Bishkek 82.55 314⇓ *e*P **P 14 00 38.0 +0.3**
FRU *e* 14 00 48.0
FRU pmax pmax
comp=Z,60nm,1.9s,mb5.3
AAK Ala-Archa 82.59 314 P **P 14 00 38.9 +1.0**
SNR=9.6
USP Ospenovka 82.73 315 P **P 14 00 39.3 +0.7**
SNR=14
BHJ Bhuj 82.94 294 *e*P **P 14 00 39.6 -0.2**
BHJ AMb AMB 14 00 42.9
comp=Z,157nm,1.1s,mb6.0
COLA College 83.01 22⇓ *i*P **P 14 00 39.3 -0.8**
COLA College 83.01 22 *e*P **P 14 00 38.3 -1.8**
comp=Z,30nm,0.8s,mb5.4
COLA *e* 14 00 44.5
AML Almayashu 83.05 313 P **P 14 00 42.0 +1.7**
SNR=41
EKS2 Erkin-Say 83.11 314 P **P 14 00 41.7 +1.1**
SNR=13
ILAR Eielson Array 83.33 23 P **P 14 00 39.8 -2.0**
comp=Z,8.5nm,0.7s,mb4.9,baz=252,slow=4.6,SNR=89
ILAR LR LR 14 38 22.9
comp=Z,419nm,18.5s,MS4.8,baz=69,slow=36
ILAR Eielson Array 83.33 23 P **P 14 00 39.8 -2.0**
ILAR LR LR 14 38 22.9
MAW Mawson 84.39 203 LR LR 14 36 28.3
comp=Z,2μm,19.4s,MS5.5,baz=73,slow=34
KK31 Karatay Array 85.55 314 *i* P **P 14 00 53.6 +0.6**
KK31 pmax pmax
comp=Z,58nm,1.1s,mb5.7
KKAR Karatay Array 85.55 314 *i* P **P 14 00 53.6 +0.6**
KKAR pmax pmax
comp=Z,64nm,1.1s,mb5.8
VOSK Vostochnaya 87.13 323 P **P 14 00 59.3 -1.5**
VOSK pmax pmax
comp=Z,68nm,2.9s,mb5.4
BVA0 Borovoye Array 87.54 324 *i* P **P 14 01 01.1 -1.7**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s,mb4.4
BRVK Borovoye 87.61 324 P **P 14 01 02.2 -0.9**
comp=Z,74nm,1.0s,mb5.9,SNR=8.1
BRVK Borovoye 87.61 324 *e*P **P 14 01 01.4 -1.7**
BRVK pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
BRVK Borovoye 87.61 324 *e*P **P 14 01 01.4 -1.7**
comp=Z,10nm,1.1s,mb5.0
ZRNK Zerenda 88.35 323 *e*P **P 14 01 04.9 -1.7**
ZRNK pmax pmax
comp=Z,13nm,1.2s,mb5.0
ZRNK Zerenda 88.35 323 *e*P **P 14 01 04.9 -1.7**
comp=Z,13nm,1.2s,mb5.0
INK Inuvik 89.57 21 *e*P **P 14 01 11.3 -1.0**
INK *e* pP 14 01 17.3 +0.5
INK pmax pmax
comp=Z,36nm,1.2s
INK Inuvik 89.57 21 *e*P **P 14 01 11.2 -1.1**
comp=Z,36nm,1.2s,mb5.6
INK *e* pP 14 01 17.3 +0.4
SYO Syowa Base 92.63 200⇓ *e*X **P 14 01 20.5 -6.1**
SYO Syowa Base 92.63 200⇓ *e*pP pP 14 01 45.6 +15
AB31 Akbulak array 93.59 319 *i* P **P 14 01 28.9 -2.1**
AB31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
MTUM Tungsten Hills 94.17 53 P **P 14 01 35.4 +1.8**
NVAR Mina Array Bea 94.43 52 P **P 14 01 35.5 +0.6**
comp=Z,1.1nm,0.9s,mb4.3,baz=250,slow=11,SNR=5.6
NVAR LR LR 14 38 55.5
comp=Z,628nm,19.7s,MS5.1,baz=265,slow=32
NVAR Mina Array Bea 94.43 52 P **P 14 01 35.5 +0.6**
NVAR LR LR 14 38 55.5
MNV Mina 94.55 52 P **P 14 01 36.3 +0.9**
MNV pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
MNV Mina 94.55 52 P **P 14 01 36.3 +0.9**
comp=Z,6.2nm,1.1s,mb5.0
ARU Arti 94.73 326 *e*SP SP 14 14 07.6 +2.7
ARU MLR MLR
comp=Z,2μm,23.0s,MS5.5
ARU MLR MLR
comp=N,400nm,20.0s,MS5.5
ARU MLR MLR
comp=E,2μm,22.0s,MS5.5
AKTO Aktyubinsk 94.89 320 LR LR 14 43 54.9
comp=E,1μm,21.8s,MS5.4,baz=276,slow=35
AKTO Aktyubinsk 94.89 320 *i* P **P 14 01 35.0 -1.9**
AKTO pmax pmax
comp=Z,3.0nm,1.3s,mb4.6
DAC Darwin (Calif) 94.90 54 *e*P **P 14 01 37.6 +0.6**
DAC pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
DAC Darwin (Calif) 94.90 54 *e*P **P 14 01 37.6 +0.6**
comp=Z,8.5nm,1.1s,mb5.1
YKW3 Yellowknife Ar 96.84 28 *e*P **P 14 01 46.1 +0.3**
YKW3 *e* pP 14 01 51.9 +1.6
YKA Yellowknife Ar 96.84 28 P **P 14 01 45.3 -0.6**
comp=Z,2.5nm,1.0s,mb4.6,baz=278,slow=4.4,SNR=25
YKA LR LR 14 41 01.8
comp=Z,626nm,21.8s,MS5.1,baz=290,slow=33
YKA Yellowknife Ar 96.84 28 P **P 14 01 45.3 -0.6**
YKA LR LR 14 41 01.8
EDM Edmonton 97.94 37 P **P 14 01 49.4 -1.4**
PDAR Pinedale Array 101.05 48 P Pdif 14 02 04.3 -0.4
comp=Z,0.6nm,0.9s,baz=279,slow=1.7,SNR=2.1
APA Apatity 104.36 339⇓ *e*P Pdif 14 02 30.0 +11
APA *e*SS SS 14 21 33.0 +5.4
APA pmax pmax
comp=Z,18nm,1.0s
APA MLR MLR
comp=Z,1μm,20.0s,MS5.3
KIV Kislovodsk 105.70 314 *e*P Pdif 14 02 36.4 +11
KIV *e* 14 06 46.8
KIV *i* SS SS 14 21 40.6 -5.3
KIV pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 109.88 335 Pdiff Pdif 14 02 46.3 +2.4
comp=Z,1.0nm,0.9s,baz=19,slow=6.5,SNR=3.0
NOA NORSAR Array B 115.95 339 PKP PKPdf 14 06 56.4 -1.3
comp=Z,0.6nm,0.8s,baz=18,slow=4.2,SNR=3.3
DPC Dobruska-Polom 120.29 327 AMS AMS 14 59 40.0
comp=Z,1μm,20.0s
BRG Berggiesshubel 121.24 329 *e*PKIKP PKPdf 14 07 08.8 +1.0
BRG *i* 14 25 12.0
BRG MLR MLR
comp=Z,590nm,21.5s,MS5.2
BRG Berggiesshubel 121.24 329 *e*P PKPdf 14 07 08.8 +1.0
comp=Z,12nm,1.7s
BRG *i* 14 25 12.0
BRG
comp=N,853nm,24.1s
BRG
comp=E,562nm,25.7s
BRG
comp=Z,587nm,21.5s
PRU Pruhonice 121.44 328 AMS AMS 15 00 00.0
comp=Z,600nm,15.6s
CLL Collm 121.46 330 *e*PKPdf PKPdf 14 07 08.0 -0.2
CLL *e*PP PP 14 08 41.3 +1.6
CLL *e*pPP 14 08 59.3
CLL *e*SS SS 14 25 13.9 -0.2
CLL *e*SSS 14 29 46.4
CLL *e*LR LR 14 46 41.1
CLL *e*L 15 02 43.4
comp=Z,1μm,22.0s
CLL Collm 121.46 330 *i* PKPdf PKPdf 14 07 08.1 -0.1
CLL *e*PP PP 14 08 36.0 -3.7
CLL *e*x x 14 15 13.0
CLL *e*x x 14 17 35.0
CLL *e*SS SS 14 25 16.0 +1.9
CLL *e*SSS 14 29 54.0
CLL Collm 121.46 330 *i* PKP PKPdf 14 07 08.1 -0.1
CLL LR LR
comp=Z,1μm,24.5s,MS5.5
NKC Novy Kostel 122.39 329 AMS AMS 15 00 30.0
comp=Z,1μm,20.2s
KHC Kasperske Hory 122.44 327 *e*PKPdf PKPdf 14 07 10.0 -0.1
KHC Kasperske Hory 122.44 327⇑ *i*PKIKP PKPdf 14 07 10.3 +0.2
GERES GERESS Array B 122.54 327 PKP PKPdf 14 07 10.2 -0.1
comp=Z,1.3nm,0.6s,baz=70,slow=1.6,SNR=10
GRA1 Grafenberg Arr 123.34 329 *e*PKP PKPdf 14 07 11.5 -0.4
GRF Grafenberg Arr 123.34 329 *e*PKPdf PKPdf 14 07 11.5 -0.4
CDF Champ du Feu 126.16 330 *e*PKIKP PKPdf 14 07 17.6 +0.3
HINF Hinteralfeld 126.77 330 *e*PKIKP PKPdf 14 07 18.8 +0.4
HAU Haudompre 126.89 330 *e*PKIKP PKPdf 14 07 20.0 +1.3
MEZF Maizieres J'vi 127.19 331 *e*PKIKP PKPdf 14 07 20.3 +1.1
CABF La Chapelle 127.96 329 *e*PKIKP PKPdf 14 07 21.8 +1.1
comp=Z,170nm,1.8s
LOR Lormes 128.62 331 *e*PKIKP PKPdf 14 07 22.7 +0.7
comp=Z,70nm,1.4s
PGF Pioggiola 128.89 323 *e*PKIKP PKPdf 14 07 23.1 +0.6
SSF Saint Sauige 128.94 331 *e*PKIKP PKPdf 14 07 23.6 +1.0
comp=Z,20nm,1.1s
SMF Signal de Mont 129.07 330 *e*PKIKP PKPdf 14 07 23.6 +0.8
AVF Avril sur Loir 129.21 331 *e*PKIKP PKPdf 14 07 23.6 +0.5
LDF La Druitiere 129.47 335 *e*PKIKP PKPdf 14 07 24.1 +0.5
comp=Z,84nm,1.5s
FLN La Foliniere 129.50 335 *e*PKIKP PKPdf 14 07 25.4 +1.8
comp=Z,204nm,1.7s
FRF La Foret Royal 129.64 326 *e*PKIKP PKPdf 14 07 24.5 +0.6
LMR La Mourre 129.86 325 *e*PKIKP PKPdf 14 07 24.9 +0.6
TCF Toulx Ste Croi 130.12 331 *e*PKIKP PKPdf 14 07 25.6 +0.8
LASF Ste Croix 130.83 328 *e*PKIKP PKPdf 14 07 27.3 +1.2

LPAZ	**La Paz**	**136.95 120**	PKP	PKPdf	14 07 39.6	+2.0
	comp=Z,3.9nm,1.1s,baz=185,slow=1.0,SNR=8.0					
LPAZ	**La Paz**	**136.95 120**	*e*PKPdf	PKPdf	14 07 39.3	+1.6
SDV	**Santo Domingo**	**139.62 82**	*e*PKPdf	PKPdf	14 07 43.0	+0.5
SAML	**Samuel**	**144.32 113**	*e*PKPpre		14 07 49.2	
SAML			*e*		14 07 55.9	
TORD	**Torodi Ar. Bea**	**147.53 287**	PKPbc	PKPbc	14 07 59.4	+0.4
	comp=Z,18nm,1.0s,baz=44,slow=3.2,SNR=42					
TORD			PP	PP	14 11 24.2	-0.9
	comp=Z,6.2nm,1.2s,baz=70,slow=3.4,SNR=3.8					
BDFB	**Brasilia**	**153.02 139**	PKP	PKPdf	14 08 04.8	-0.1
	comp=Z,2.6nm,0.6s,baz=97,slow=8.1,SNR=3.2					
BDFB			PKPbc	PKPbc	14 08 11.8	-0.5
	comp=Z,7.5nm,0.9s,baz=32,slow=2.7,SNR=4.8					

TRN 17 13:55:18.7, 1778N×6195W, h31km, MD3.2, M3.6(FDF), 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.18**	**139**	⇑*i*P	Pb	13 55 26.4	+1.6
CPB				*e*S	Sb	13 55 31.1	+2.2
BPA	**Boggy Peak**	**0.73**	**173**	*e*P	Pn	13 55 34.0	+1.1
BPA				*e*S	Sb	13 55 45.5	+2.7
SEG	**Port Louis**	**1.43**	**163**	*e*P	Pn	13 55 45.0	+2.5
LZG	**Guadaloupe-1**	**1.64**	**174**	*e*P	Pn	13 55 47.4	+2.0
LZG				*e*S	Sn	13 56 11.8	+6.5
DEG	**La Desirade**	**1.69**	**150**	*e*P	Pn	13 55 46.4	+0.4
DEG				*e*S	Sn	13 56 09.5	+2.8

IDC 17 14:02:50.1±1.9, 470S×14977E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/14, mbtmp3.9/5, ML3.0/1, Error ellipse: s-maj=90.7km s-min=25.0km az=123.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.35**	**209**	Pn	Pn	14 04 13.3	+2.2
	3.0nm,0.3s,baz=24,slow=5.0,SNR=8.5						
PMG				Sn	Sn	14 05 13.2	-0.2
	6.6nm,0.3s,baz=79,slow=14,SNR=7.0						
WRA	**Warramunga Arr**	**21.34**	**223**	P	P	14 07 38.7	0.0
	3.8nm,0.7s,baz=50,slow=11,SNR=22						
ASAR	**Alice Springs**	**24.29**	**218**	P	P	14 08 09.2	+0.1
	0.8nm,0.6s,baz=52,slow=8.3,SNR=22						
FITZ	**Fitzroy Crossi**	**27.10**	**239**	P	P	14 08 34.9	+0.4
	4.1nm,0.7s,baz=47,slow=12,SNR=7.3						
ILAR	**Eielson Array**	**83.22**	**23**	P	P	14 15 18.1	-0.2
	0.2nm,0.7s,baz=242,slow=6.1,SNR=4.7						

*IDC **17** 14:21:34.7±0.4, 5.13S×123.06E, h0km, mb5.0/20, mb1 5.0/22, mb1mx5.0/24, mbtmp5.0/22, ML4.4/2, MS5.1/14, Ms1 5.1/14, ms1mx4.9/25, Error ellipse: s-maj=15.8km s-min=9.8km az=47.0*

*BJI **17** 14:21:35.0, 5.10S×123.10E, h10km, mB5.6, mb5.1, Ms5.3, Msz5.0*

*ISCJB **17** 14:21:35.1±0.2, 5.17S±0.03×123.14E±0.04, h13km, mb5.4/98, MS5.1/47, Error ellipse: s-maj=5.5km s-min=3.1km az=130.8*

*HRVD **17** 14:21:35.0±0.2, 4.88S×123.27E, h12km, MW5.6/100, Centroid moment Tensor Solution. LP body waves: s81,c128;Mantle waves: s100,c209; Half duration: 1±5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.24±.04; $M_{\theta\theta}$1.53±.03; $M_{\phi\phi}$-2.77±.04; $M_{r\theta}$-0.83±.10; $M_{\theta\phi}$0.93±.03; $M_{\phi r}$1.58±.10; Best double couple: $M_0$2.91600×10^{17} NP1:ϕ_s210.00000°, δ42.00000°, λ156.00000°. NP2:ϕ_s318.00000°, δ75.00000°, λ51.00000°. Principal axes: T 2.2530, Plg46.0000°, Azm188.0000°; N 1.3250, Plg38.0000°, Azm330.0000°; P -3.5780, Plg20.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **17** 14:21:35.0±2.3, 5.12S×123.11E, h1km±14km, mb5.5/36, MS5.1/11 Error ellipse: s-maj=7.5km s-min=4.9km az=66.0*

*MOS **17** 14:21:39.6±1.1, 5.06S×123.13E, h43km, mb5.7/41, MS5.0/11, Error ellipse: s-maj=10.7km s-min=6.4km az=108.4*

ISC 17 14:21:37.3±0.2, 516S±002×12313E±004, h14km, h14km±1.1km: pP-P, n300, σ1§22/271, mb5.4/98, MS5.1/47, 18C-11D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**9.17**	**63**	P	**Pn**	**14 23 50.8**	**+1.6**
	162nm,1.9s						
KAKA	**Kakadu**	**11.86**	**130**	*e*P	**Pn**	**14 24 25.9**	**-0.1**
	169nm,0.6s						
DAV	**Davao City (W)**	**12.39**	**11**	*e*Pn	**Pn**	**14 24 32.9**	**-0.4**
	2μm,1.5s						
FITZ	**Fitzroy Crossi**	**13.09**	**169**	*e*P	**Pn**	**14 24 42.5**	**-0.3**
	68nm,0.6s						
FITZ				*e*S	**Sn**	**14 27 07.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**13.09**	**169**	Pn	**Pn**	**14 24 41.0**	**-1.8**
	1.3nm,0.3s,baz=7.8,slow=11,SNR=14						
FITZ				LR	LR	14 30 38.5	
	comp=Z,7μm,18.4s,baz=86,slow=41						
CGP	**Cagayan de Oro**	**13.62**	**7**	⇓*i*P	**Pn**	**14 25 00.4**	**+10**
	4379μm,8.0s						
KSM	**Kuching**	**14.40**	**297**	*e*P	**Pn**	**14 25 02.0**	**+1.3**
TBP	**Tagbilaran**	**14.77**	**3**	*e*P	**Pn**	**14 25 08.0**	**+2.3**
CUYO	**Cuyo Island**	**16.05**	**352**	*e*P	**Pn**	**14 25 25.8**	**+3.4**
MBWA	**Marble Bar**	**16.24**	**191**	*e*P	**Pn**	**14 25 24.1**	**-0.9**
	561nm,1.6s						
WRAB	**Tennant Creek**	**18.30**	**144**	Pn	**Pn**	**14 25 48.4**	**-2.3**
	761nm,0.7s,SNR=12						
WRAB	**Tennant Creek**	**18.30**	**144**	⇓*i*P	**Pn**	**14 25 48.9**	**-1.8**
WRAB	**Tennant Creek**	**18.30**	**144**	*e*P	**Pn**	**14 25 47.8**	**-2.9**
	148nm,0.8s						
WRA	**Warramunga Arr**	**18.30**	**144**	P	**Pn**	**14 25 49.2**	**-1.5**
	1.2nm,0.3s,baz=315,slow=13,SNR=44						
WRA				S	**Sn**	**14 29 07.6**	**-7.3**
	baz=342,slow=24,SNR=2.6						
WB2	**Warramunga Arr**	**18.31**	**144**	*e*P	**Pn**	**14 25 48.1**	**-2.7**
PVCP	**Virac**	**18.66**	**3**	*e*P	**Pn**	**14 25 54.5**	**-0.6**
LUBP	**Lubang**	**18.99**	**351**	*e*P	**Pn**	**14 26 01.7**	**+2.6**
TGY	**Tagaytay City**	**19.26**	**354**	P	**Pn**	**14 26 03.0**	**+0.6**
	36nm,0.3s,baz=217,slow=10,SNR=4.3						
TGY	**Tagaytay City**	**19.26**	**354**	*e*P	**Pn**	**14 26 08.0**	**+5.6**
BALP	**Baler**	**20.83**	**356**	*e*P	**P**	**14 26 19.2**	**+0.8**
SCZP	**Santa Cruz**	**21.05**	**351**	*e*P	**P**	**14 26 22.5**	**+1.8**
ASPA	**Alice Springs**	**21.12**	**152**	⇑*i*P	**P**	**14 26 22.9**	**+1.3**
AS31	**Alice Springs**	**21.12**	**152**	⇑*i*P	**P**	**14 26 22.9**	**+1.3**
ASAR	**Alice Springs**	**21.12**	**152**	P	**P**	**14 26 22.3**	**+0.7**
	132nm,1.1s,mb5.2,baz=330,slow=9.6,SNR=231						
ASAR				PcP	PcP	14 30 28.8	+1.3
	5.8nm,0.7s,baz=338,slow=1.8,SNR=7.0						
ASAR				ScP	ScP	14 34 04.0	+0.1
	3.7nm,1.1s,baz=2.9,slow=2.5,SNR=4.6						
ASAR	**Alice Springs**	**21.12**	**152**	P	**P**	**14 26 22.3**	**+0.7**
ASAR						14 30 28.8	
BCPH	**Baguio City Da**	**21.55**	**353**	⇓*i*P	**P**	**14 26 26.9**	**+0.7**
BOLP	**Bolinao**	**21.64**	**352**	*e*P	**P**	**14 26 25.3**	**-1.9**
CAUP	**Cauayan**	**22.00**	**357**	*e*P	**P**	**14 26 31.2**	**+0.1**
CVP	**Callao Caves**	**22.76**	**357**	*e*P	**P**	**14 26 40.0**	**+0.9**
APYP	**Conner**	**22.95**	**355**	*e*P	**P**	**14 26 39.8**	**-1.4**
PMG	**Port Moresby**	**24.20**	**101**	P	**P**	**14 26 52.8**	**-0.5**
	42nm,0.9s,mb4.9,baz=319,slow=9.6,SNR=13						
PMG				S	**S**	**14 31 11.0**	**-0.2**
	2.4nm,0.5s,baz=42,slow=16,SNR=1.5						
PMG	**Port Moresby**	**24.20**	**101**	*e*P	**P**	**14 26 51.8**	**-1.5**
PMG				pmax	pmax		
	comp=Z,327nm,1.4s						
PMG	**Port Moresby**	**24.20**	**101**	*e*P	**P**	**14 26 51.8**	**-1.6**
	comp=Z,327nm,1.4s,mb5.6						
KULM	**Kulim**	**24.73**	**294**	*e*P	**P**	**14 26 58.9**	**+0.7**
PSI	**Prapat**	**25.44**	**288**	P	**P**	**14 27 05.3**	**+0.7**
	comp=Z,68nm,0.8s,mb5.3,baz=90,slow=6.9,SNR=58						
PSI				S	**S**	**14 31 30.1**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=177,slow=18,SNR=2.8						
PSI				LR	LR	14 38 15.4	
	comp=Z,9μm,19.8s,MS5.3,baz=117,slow=40						
PSI	**Prapat**	**25.44**	**288**	P	**P**	**14 27 05.4**	**+0.8**
PSI				S	**S**	**14 31 30.1**	**-1.0**
SNG	**Songkhla**	**25.59**	**298**	P	**P**	**14 27 08.0**	**+2.0**
	comp=Z,390nm,1.0s,mb5.9						
FORT	**Forrest**	**25.90**	**170**	*e*P	**P**	**14 27 09.0**	**+0.2**
	comp=Z,65nm,0.8s,mb5.2						
KLBR	**Kellerberrin**	**26.77**	**190**	*e*P	**P**	**14 27 16.3**	**-0.3**
	comp=Z,115nm,1.1s,mb5.3						
CTA	**Charters Tower**	**26.95**	**125**	*e*P	**P**	**14 27 19.3**	**+1.1**
	comp=Z,39nm,1.2s,mb4.8						
CTA				*e*S	**S**	**14 31 52.9**	**-2.0**
CTA	**Charters Tower**	**26.95**	**125**	P	**P**	**14 27 19.3**	**+1.1**
	comp=Z,28nm,1.1s,mb4.7,baz=305,slow=11,SNR=8.4						
CTA				S	**S**	**14 31 59.1**	**+4.2**
	comp=Z,5.1nm,1.0s,baz=132,slow=16,SNR=1.8						
CTA				LR	LR	14 39 42.3	
	comp=Z,5μm,18.4s,MS5.1,baz=305,slow=40						
CTA	**Charters Tower**	**26.95**	**125**	*e*P	**P**	**14 27 19.3**	**+1.1**
CTA				*e*S	**S**	**14 31 52.9**	**-2.0**
CTA				pmax	pmax		
	comp=Z,39nm,1.2s						
CTAO	**Charters Tower**	**26.95**	**125**	*e*P	**P**	**14 27 18.9**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,121nm,1.4s,mb5.2						
CTAO	**Charters Tower**	**26.95**	**125**	*e*P	**P**	**14 27 18.9**	**+0.7**
	comp=Z,121nm,1.4s,mb5.2						
QIZ	**Qiongzhong**	**27.37**	**332**	P	**P**	**14 27 22.8**	**+0.8**
QIZ				S	**S**	**14 32 02.6**	**+1.0**
QIZ				AMB	AMB		
	comp=Z,538nm,8.8s						
QIZ				LR	LR		
	comp=N,4μm,13.2s,MS5.3						
QIZ				LR	LR		
	comp=E,3μm,12.2s,MS5.3						
QIZ				LR	LR		
	comp=Z,3μm,21.1s						
MUN	**Mundaring**	**27.45**	**193**	*e*P	**P**	**14 27 23.2**	**+0.4**
MUN				*e*S	**S**	**14 32 17.9**	**+15**
NWAO	**Narrogin (SRO)**	**28.16**	**191**	P	**P**	**14 27 27.9**	**-1.3**
	comp=Z,14nm,0.8s,mb4.6,baz=34,slow=8.1,SNR=8.2						
NWAO				LR	LR	14 40 05.8	
	comp=Z,3μm,18.1s,MS4.9,baz=7.0,slow=39						
NWAO	**Narrogin (SRO)**	**28.16**	**191**	*e*P	**P**	**14 27 29.0**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,96nm,1.5s						
NWAO				MLR	MLR		
	comp=Z,3μm,20.0s						
NWAO	**Narrogin (SRO)**	**28.16**	**191**	*e*P	**P**	**14 27 29.0**	**-0.1**
	comp=Z,96nm,1.5s,mb5.2						
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
GZH	**Guangzhou**	**29.66**	**342**	P	**P**	**14 27 46.8**	**+4.4**
GZH				LR	LR		
	comp=N,3μm,16.2s						
GZH				LR	LR		
	comp=E,2μm,22.4s						
GZH				LR	LR		
	comp=Z,4μm,16.5s,MS5.2						
QZH	**Quanzhou**	**30.25**	**352**	⇑*i*P	**P**	**14 27 46.4**	**-1.2**
QZH				S	**S**	**14 32 47.3**	**+0.5**
QZH				AMB	AMB		
	comp=Z,720nm,11.0s						
QZH				LR	LR		
	comp=N,2μm,10.0s,MS5.4						
QZH				LR	LR		
	comp=E,4μm,10.1s,MS5.4						
QZH				LR	LR		
	comp=Z,5μm,16.2s						
NST	**Nakhon Sawan**	**30.77**	**313**	P	**P**	**14 28 02.0**	**+10**
STKA	**Stephens Creek**	**31.71**	**149**	*e*P	**P**	**14 27 58.8**	**-1.7**
	comp=Z,44nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**31.71**	**149**	P	**P**	**14 27 59.3**	**-1.3**
	comp=Z,49nm,0.8s,mb5.4,baz=317,slow=8.9,SNR=55						
STKA				LR	LR	14 41 51.0	
	comp=Z,6μm,19.3s,MS5.3,baz=316,slow=38						
BDT	**Bhumibol Dam**	**32.62**	**314**	P	**P**	**14 28 09.0**	**+0.5**
CHRT	**Chiangrai**	**33.85**	**318**	⇓P	**P**	**14 28 20.0**	**+0.7**
GYA	**Guiyang**	**35.25**	**334**	P	**P**	**14 28 32.4**	**+1.0**
GYA				AP	pP	14 28 36.8	+1.2
GYA				XP	sP	14 28 39.6	+2.3
GYA				PP	PP	14 29 51.4	0.0
GYA				S	**S**	**14 34 04.6**	**0.0**
GYA				SCP	ScP	14 34 47.5	+0.2
GYA				SS	SS	14 36 20.8	-17
GYA				SCS	ScS	14 38 49.9	-1.5
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
GYA				AMB	AMB		
	comp=Z,270nm,6.0s						
GYA				LR	LR		
	comp=N,1μm,17.9s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,18.0s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,17.6s,MS4.6						
KMI	**Kunming**	**36.05**	**328**	P	**P**	**14 28 41.1**	**+2.9**
KMI				AP	pP	14 28 44.5	+2.1
KMI				XP	sP	14 28 46.0	+1.8
KMI				PP	PP	14 30 01.3	+1.2
KMI				PPP		14 30 27.0	
KMI				PCP	PcP	14 31 07.6	+3.3
KMI				S	**S**	**14 34 19.1**	**+2.3**
KMI				XS	sS	14 34 26.9	+3.1
KMI				SCP	ScP	14 34 49.1	-1.1
KMI				PCS	PcS	14 34 54.3	+2.5
KMI				SS	SS	14 36 42.6	-11
KMI				SCS	ScS	14 38 57.5	+1.8
KMI				AMB	AMB		
	comp=Z,28nm,1.4s,mb5.0						
KMI				AMB	AMB		
	comp=Z,429nm,4.4s						
KMI				LR	LR		
	comp=N,3μm,17.6s						
KMI				LR	LR		
	comp=E,3μm,22.7s						
KMI				LR	LR		
	comp=Z,3μm,24.0s						
SSE	**Sheshan**	**36.10**	**357**	P	**P**	**14 28 40.1**	**+1.4**
SSE				AP	pP	14 28 44.5	+1.6
SSE				PP	PP	14 30 01.1	+0.3
SSE				PCP	PcP	14 31 07.9	+3.4
SSE				S	**S**	**14 34 18.3**	**+0.7**
SSE				XS	sS	14 34 23.0	-1.7
SSE				SCP	ScP	14 34 54.0	+3.6
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,562nm,5.0s						
SSE				LR	LR		
	comp=N,1μm,21.4s,MS4.9						
SSE				LR	LR		
	comp=E,2μm,21.6s,MS4.9						
SSE				LR	LR		
	comp=Z,2μm,27.5s						
WHN	**Wuhan**	**36.48**	**347**	*e*P	**P**	**14 28 43.8**	**+1.9**
WHN				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
HNR	**Honiara**	**36.75**	**99**	P	**P**	**14 28 44.7**	**+0.5**
	comp=Z,152nm,0.8s,mb5.9,baz=274,slow=0.9,SNR=4.5						
HNR				LR	LR	14 43 48.1	
	comp=Z,1μm,21.1s,MS4.7,baz=358,slow=36						
HNR	**Honiara**	**36.75**	**99**	*e*P	**P**	**14 28 46.1**	**+1.9**
HNR				pmax	pmax		
	comp=Z,440nm,0.9s,mb6.3						
HNR	**Honiara**	**36.75**	**99**	*e*P	**P**	**14 28 46.1**	**+1.9**
	comp=Z,440nm,0.9s,mb6.3						
ARMA	**Armidale**	**36.76**	**136**	*e*P	**P**	**14 28 48.3**	**+4.0**
CBIJ	**Chichi jima**	**36.99**	**29**	P	**P**	**14 28 46.0**	**-0.2**
	comp=Z,276nm,0.8s,mb6.1,baz=288,slow=20,SNR=2.6						
NJ2	**Nanjing**	**37.23**	**354**	*e*P	**P**	**14 28 50.3**	**+2.0**
NJ2				AP	pP	14 28 54.8	+2.2
NJ2				S	**S**	**14 34 37.0**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,650nm,8.1s						
NJ2				LR	LR		
	comp=N,12μm,23.8s						
NJ2				LR	LR		
	comp=E,4μm,13.7s						
NJ2				LR	LR		
	comp=Z,7μm,28.8s,MS5.3						
TOO	**Toolangi**	**38.17**	**151**	*e*P	**P**	**14 28 58.6**	**+2.3**
	comp=Z,27nm,1.2s,mb4.8						
TOO	**Toolangi**	**38.17**	**151**	*e*P	**P**	**14 28 58.6**	**+2.3**
TOO				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.8						
CNB	**Canberra Magne**	**38.55**	**145**	*e*P	**P**	**14 29 00.9**	**+1.5**
	comp=Z,61nm,1.1s,mb5.2						
CD2	**Chengdu**	**40.37**	**334**	P	**P**	**14 29 15.0**	**+0.4**
CD2				AP	pP	14 29 19.5	+0.6
CD2				XP	sP	14 29 22.0	+1.4
CD2				PP	PP	14 30 54.3	+6.8
CD2				S	**S**	**14 35 25.8**	**+3.6**
CD2				XS	sS	14 35 33.5	+4.3
CD2				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.8						
CD2				AMB	AMB		
	comp=Z,350nm,7.1s						
CD2				LR	LR		
	comp=N,2μm,13.8s						
CD2				LR	LR		
	comp=Z,2μm,18.0s,MS4.9						
XAN	**Xi'an**	**41.24**	**342**	P	**P**	**14 29 20.8**	**-1.0**
XAN				AP	pP	14 29 33.1	+7.0
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.7						
TIA	**Tai'an**	**41.54**	**353**	*e*P	**P**	**14 29 23.4**	**-0.9**
KS15	**Wonju Array Si**	**42.62**	**6**	*e*P	**P**	**14 29 32.9**	**-0.2**
SHL	**Shillong**	**43.05**	**317**	*e*P	**P**	**14 29 38.0**	**+1.4**
SHL				*e*P	pP	14 29 41.0	+0.1
SHL				*e*S	**S**	**14 36 06.0**	**+4.1**
SHL				*e*S	**S**	**14 36 08.0**	**+6.1**
CAL	**Calcutta**	**43.77**	**310**	*e*P	**P**	**14 29 43.1**	**+0.7**
CAL				AMP		14 35 59.4	
	comp=Z,555nm,23.5s						
CAL				*e*S	**S**	**14 36 11.8**	**-0.6**
MAJO	**Matsushiro**	**43.82**	**18**	*e*P	**P**	**14 29 41.0**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,83nm,1.5s,mb5.2						
MAJO	**Matsushiro**	**43.82**	**18**	*e*P	**P**	**14 29 41.0**	**-1.8**
	comp=Z,83nm,1.5s,mb5.2						
MAT	**Matsushiro**	**43.82**	**18**	P	**P**	**14 29 40.3**	**-2.5**
MAT				S	**S**	**14 36 24.0**	**+11**
MAT	**Matsushiro**	**43.82**	**18**	*e*P	**P**	**14 29 40.0**	**-2.8**
MAT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
MAT				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.1						
MAT	**Matsushiro**	**43.82**	**18**	*e*P	**P**	**14 29 40.0**	**-2.8**
	comp=Z,11nm,1.0s,mb4.5						
MAT				*e*S	**S**	**14 36 25.0**	**+12**
MAT				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
MJAR	**Matsushiro Arr**	**43.82**	**18**	P	**P**	**14 29 41.0**	**-1.8**
	comp=Z,10.0nm,0.8s,mb4.6,baz=190,slow=8.8,SNR=25						
MJAR				LR	LR	14 46 26.4	
	comp=Z,1μm,21.3s,MS4.8,baz=200,slow=34						
DL2	**Dalian**	**43.87**	**358**	*i*PR	**P**	**14 29 44.0**	**+0.8**
DL2				PP	PP	14 31 28.6	+3.3
DL2				S	**S**	**14 36 14.8**	**+0.9**
DL2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.2						
DL2				AMB	AMB		
	comp=Z,350nm,6.7s						
DL2				LR	LR		
	comp=N,360nm,12.9s,MS4.8						
DL2				LR	LR		
	comp=E,640nm,15.0s,MS4.8						
DL2				LR	LR		
	comp=Z,760nm,13.3s,MS4.8						
LZH	**Lanzhou**	**44.84**	**338**	*e*P	**P**	**14 29 52.3**	**+1.4**
LZH				AP	pP	14 29 55.4	+0.1
LZH				XP	sP	14 29 57.3	+0.3
LZH				PP	PP	14 31 38.8	+3.1
LZH				S	**S**	**14 36 30.0**	**+2.0**
LZH				XS	sS	14 36 37.0	+1.9
LZH				SS	SS	14 39 43.0	-6.0
LZH				AMB	AMB		
	comp=Z,74nm,1.7s,mb5.2						
LZH				AMB	AMB		
	comp=Z,335nm,5.5s						
LZH				LR	LR		
	comp=E,5μm,14.9s						
LZH				LR	LR		
	comp=Z,5μm,17.0s,MS5.5						
DZM	**Mont Dzumac**	**45.12**	**116**	P	**P**	**14 29 54.1**	**+0.9**
	comp=Z,9.7nm,0.7s,mb4.7,baz=320,slow=10,SNR=7.1						
VIS	**Vishakhapatnam**	**45.39**	**301**	*e*P	**P**	**14 29 53.5**	**-1.8**
VIS				AMb	AMB	14 30 04.8	
	comp=Z,185nm,1.2s,mb5.8						
VIS				*i*S	**S**	**14 36 35.4**	**-0.5**
BJI	**Beijing**	**45.43**	**353**	P	**P**	**14 29 55.0**	**-0.7**
BJI				PP	PP	14 31 41.9	-0.1
BJI				S	**S**	**14 36 35.4**	**-1.2**
BJI				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.1						
BJI				AMB	AMB		
	comp=Z,670nm,4.4s						
BJI				LR	LR		
	comp=N,1μm,19.6s,MS5.0						
BJI				LR	LR		
	comp=E,1μm,18.9s,MS5.0						
BJI				LR	LR		
	comp=Z,2μm,22.5s,MS5.0						
LSA	**Lhasa**	**46.29**	**320**	P	**P**	**14 30 04.1**	**+1.7**
LSA				AP	pP	14 30 05.8	-1.0
LSA				PP	PP	14 31 52.3	+1.3
LSA				S	**S**	**14 36 46.9**	**-2.0**
LSA				LR	LR		
	comp=N,1μm,18.9s						
LSA				LR	LR		
	comp=E,3μm,25.8s						
LSA				LR	LR		
	comp=Z,2μm,18.9s,MS5.2						
BOK	**Bokaro**	**46.34**	**310**	*e*P	**P**	**14 30 01.4**	**-1.4**
BOK				AMb	AMB	14 30 12.3	
	comp=Z,93nm,0.7s,mb5.8						
SNY	**Shenyang**	**46.77**	**0**	P	**P**	**14 30 05.6**	**-0.6**
SNY				AP	pP	14 30 10.0	-0.5
SNY				XP	sP	14 30 14.4	+2.2
SNY				PCP	PcP	14 31 37.9	-1.4
SNY				PP	PP	14 31 58.8	+2.7
SNY				S	**S**	**14 36 54.3**	**-1.4**
SNY				XS	sS	14 37 02.3	-0.6
SNY				SS	SS	14 40 16.1	-6.0
SNY				AMB	AMB		
	comp=Z,32nm,1.6s,mb5.0						
SNY				LR	LR		
	comp=N,1μm,18.0s,MS5.0						
SNY				LR	LR		
	comp=E,637nm,14.5s,MS5.0						
SNY				LR	LR		
	comp=Z,1μm,18.1s,MS5.0						
HHC	**Hu-ho-hao-te**	**47.00**	**348**	*e*P	**P**	**14 30 07.8**	**-0.2**
HHC				PCP	PcP	14 31 38.5	-1.7
HHC				S	**S**	**14 36 58.4**	**-0.7**
HHC				SCS	ScS	14 39 57.8	-4.3
HHC				SS	SS	14 40 19.8	-6.1
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,548nm,3.9s						
HHC				LR	LR		
	comp=N,1μm,17.2s,MS5.0						
HHC				LR	LR		
	comp=E,858nm,15.7s,MS5.0						
HHC				LR	LR		
	comp=Z,1μm,19.1s,MS5.0						
BTO	**Baotou**	**47.11**	**346**	*e*P	**P**	**14 30 08.3**	**-0.5**
JIRN	**Jiri**	**48.33**	**314**	*e*P	**P**	**14 30 18.3**	**0.0**
	comp=Z,590nm,1.6s,mb6.4						
GUN	**Gumba**	**48.70**	**315**	*e*P	**P**	**14 30 21.0**	**-0.2**
	comp=Z,389nm,1.1s,mb6.4						
VLA	**Vladivostok**	**48.71**	**9**	*e*P	**P**	**14 30 22.6**

KKN Kakani 49.06 314 *e*P **P 14 30 23.3 -0.6**
comp=Z,554nm,1.7s,mb6.3
DMN Daman 49.08 314 *e*P **P 14 30 23.7 -0.3**
comp=Z,295nm,1.2s,mb6.2
GTA Gaotai 49.30 336 P **P 14 30 26.1 +0.3**
GTA AP pP 14 30 30.3 +0.2
GTA XP sP 14 30 32.6 +0.8
GTA PP PP 14 32 19.5 -0.2
GTA SCP ScP 14 35 45.9 +2.6
GTA S **S 14 37 29.4 -2.2**
GTA SS SS 14 40 55.9 -7.2
GTA AMB AMB
comp=Z,19nm,1.4s,mb4.9
GTA AMB AMB
comp=Z,507nm,4.9s
GTA LR LR
comp=N,2μm,19.0s,MS5.3
GTA LR LR
comp=E,2μm,22.0s,MS5.3
GTA LR LR
comp=Z,2μm,21.3s,MS5.0
HYB Hyderabad 49.40 298 *i* P **P 14 30 26.5 0.0**
comp=Z,50nm,1.0s,mb5.5
HYB *e*S **S 14 37 32.0 -1.0**
HYB Hyderabad 49.40 298 *e*P **P 14 30 26.5 0.0**
HYB *e*S **S 14 37 32.0 -1.0**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 49.40 298 *e*P **P 14 30 26.5 0.0**
comp=Z,50nm,1.0s,mb5.5
HYB *e*S **S 14 37 32.0 -1.0**
GKN Gorkha 49.64 314 *e*P **P 14 30 28.4 0.0**
comp=Z,701nm,1.7s,mb6.4
MDJ Mudanjiang 49.89 6 P **P 14 30 29.1 -1.2**
MDJ AP pP 14 30 32.3 -2.3
MDJ PCP PcP 14 31 49.9 -0.7
MDJ PP PP 14 32 23.8 -1.2
MDJ SCP ScP 14 35 44.9 -0.9
MDJ S **S 14 37 35.9 -4.0**
MDJ SS SS 14 41 11.4 -1.2
MDJ AMB AMB
comp=Z,23nm,0.7s,mb5.3
MDJ LR LR
comp=N,1μm,25.4s
MDJ LR LR
comp=E,981nm,18.2s
MDJ LR LR
comp=Z,1μm,23.0s,MS4.9
KOLN Koldanda 50.26 313 *e*P **P 14 30 32.9 -0.2**
comp=Z,715nm,1.5s,mb6.5
DGAR Diego Garcia 50.40 265 *e*P **P 14 30 34.7 +0.6**
DGAR pmax pmax
comp=Z,123nm,0.9s,mb5.9
DGAR Diego Garcia 50.40 265 *e*P **P 14 30 34.7 +0.5**
comp=Z,123nm,0.9s,mb5.9
DANN Dangsing 50.47 314 *e*P **P 14 30 34.1 -0.6**
NGP Nagpur 50.52 303⇑ *e*P **P 14 30 36.1 +1.1**
NGP *i* x x 14 30 37.1
baz=114,slow=7.9
NGP *e*x x 14 30 45.3
comp=Z,157nm,1.7s
NGP *e*x **S 14 37 47.2 -1.4**
BHPL Bhopal 52.79 304 *e*P **P 14 30 51.5 -0.5**
BHPL AMb AMB 14 31 00.2
comp=Z,92nm,1.5s,mb5.5
KAD Karad 53.24 296 *e*P **P 14 30 52.0 -3.3**
KAD AMb AMB 14 31 03.4
comp=Z,76nm,1.6s,mb5.4
POO Poona 53.97 297 *e*P **P 14 31 01.5 +0.9**
POO *e*x x 14 31 06.6
POO AMb AMB 14 31 21.2
comp=Z,61nm,1.0s,mb5.5
HABR Khabarovsk 54.42 10 *i* P **P 14 31 03.0 -1.0**
HABR *e*S **S 14 38 41.2 -0.9**
ULN Ulaanbaatar 54.66 347 *e*P **P 14 31 05.3 -0.4**
ULN pmax pmax
comp=Z,94nm,1.3s,mb5.7
ULN MLR MLR
comp=Z,1μm,19.0s,MS5.0
ULN Ulaanbaatar 54.66 347 *e*P **P 14 31 05.2 -0.5**
comp=Z,94nm,1.3s,mb5.7
ULN LR LR
comp=Z,1μm,19.0s,MS5.0
YSS Yuzh-Sakhalins 54.72 16 *e*P **P 14 31 06.1 0.0**
YSS *e*PPP 14 34 21.0
YSS *e*S **S 14 38 51.0 +4.9**
YSS *e*PS 14 39 01.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,1μm,20.0s,MS5.0
YSS MLR MLR
comp=N,1μm,19.0s
YSS Yuzh-Sakhalins 54.72 16 *e*P **P 14 31 04.9 -1.3**
comp=N,37nm,1.1s,mb5.3
YSS LR LR
comp=Z,1μm,19.0s,MS5.0
SONM Songino Array 54.79 346 P **P 14 31 06.2 -0.4**
comp=Z,7.3nm,0.6s,mb4.9,baz=163,slow=8.1,SNR=52
SONM PcP PcP 14 32 10.1 +1.1
comp=Z,8.6nm,0.7s,baz=167,slow=6.4,SNR=5.5
NDI New Delhi 55.51 310 *e*P **P 14 31 09.5 -2.4**
NDI *e*P 14 31 09.5
NDI *e*S **S 14 38 52.0 -4.7**
NDI *e*S **S 14 38 52.0 -4.7**
AJM Ajmer 56.49 306 *e*P **P 14 31 16.6 -2.3**
AJM AMb AMB 14 31 26.9
comp=Z,98nm,1.5s,mb5.6
DSZ Denniston Nort 56.53 138 *e*PN **P 14 31 20.6 +1.4**
THZ Tophouse 57.28 137 *e*PN **P 14 31 25.6 +1.1**
LTZ Lake Taylor 57.30 139 *e*PN **P 14 31 27.0 +2.3**
ZAK Zakamensk 57.92 345 *e*P **P 14 31 28.4 -0.6**
ZAK pmax pmax
comp=Z,71nm,1.6s,mb5.5
KHZ Kahutara 57.99 138 *e*PN **P 14 31 31.0 +1.5**
WMQ Urumqi 58.28 330 P **P 14 31 32.8 +1.3**
WMQ AP pP 14 31 37.3 +1.4
WMQ XP sP 14 31 39.8 +2.2
WMQ PCP PcP 14 32 23.5 +0.9
WMQ PP PP 14 33 43.5 +3.0
WMQ PPP 14 35 06.6
WMQ *e*S **S 14 39 32.8 -0.5**
WMQ SCS ScS 14 41 18.3 -2.6
WMQ SS SS 14 43 25.3 +0.2
WMQ AMB AMB
comp=Z,28nm,1.4s,mb5.1
WMQ AMB AMB
comp=Z,177nm,4.2s
WMQ LR LR
comp=N,2μm,20.0s,MS5.4
WMQ LR LR
comp=E,2μm,23.2s,MS5.4
WMQ LR LR
comp=Z,1μm,21.0s,MS5.0
MRZ Mangatainoka R 58.68 135 *e*PN **P 14 31 34.7 +0.4**
BFZ Birch Farm 59.16 135 *e*PN **P 14 31 39.0 +1.4**
BHJ Bhuj 59.33 301 *e*P **P 14 31 36.4 -2.3**
BHJ AMb AMB 14 31 46.9
comp=Z,75nm,1.6s,mb5.5
IRK Irkutsk 59.40 347 *e*P **P 14 31 38.7 -0.6**
IRK *e* 14 39 42.2
IRK pmax pmax
comp=Z,99nm,2.0s,mb5.5
MOY Mondy 59.69 344 *e*P **P 14 31 41.9 +0.6**
MOY pmax pmax
comp=Z,191nm,2.2s,mb5.7
CLNS Chul'man 61.80 1 *e*P **P 14 31 56.2 +0.5**
CLNS pmax pmax
comp=Z,20nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.0s
KSH Kashi 62.14 320 P **P 14 31 57.0 -0.9**
KSH AP pP 14 32 01.8 -0.6
KSH XP sP 14 32 04.6 +0.5
KSH PCP PcP 14 32 38.0 0.0
KSH PP PP 14 34 15.3 +0.7
KSH PPP 14 35 44.4
KSH SCP ScP 14 36 37.9 -1.7
KSH PCS PcS 14 36 39.3 -1.9
KSH S **S 14 40 18.5 -4.3**
KSH AMB AMB
comp=Z,151nm,1.4s,mb5.9
KSH AMB AMB
comp=Z,587nm,3.8s
KSH LR LR
comp=N,1μm,14.6s,MS5.4
KSH LR LR
comp=E,1μm,13.4s,MS5.4
KSH LR LR
comp=Z,2μm,17.7s,MS5.3
MKAR Makanchi Array 63.08 330 P **P 14 32 03.7 -0.5**
comp=Z,31nm,0.6s,mb5.6,baz=136,slow=7.7,SNR=168
MKAR PKPPKP 15 01 05.8
comp=Z,0.6nm,0.9s,baz=298,slow=2.6,SNR=3.5
MKAR LR LR 15 01 53.3
comp=Z,2μm,21.4s,MS5.2,baz=350,slow=38
MKAR Makanchi Array 63.08 330 P **P 14 32 03.9 -0.3**
MKAR pmax pmax
comp=Z,55nm,0.7s
MKAR Makanchi Array 63.08 330 P **P 14 32 03.7 -0.5**
MKAR P'P' 15 01 05.8
MKAR LR LR 15 01 53.3
BOD Bodaibo 63.21 355 *e*P **P 14 32 03.4 -1.6**
BOD pmax pmax
comp=Z,31nm,1.2s,mb5.3
KZA Kyzart 64.05 322 P **P 14 32 11.7 +1.1**
SNR=12
TKM2 Tokmak 2 64.32 323 P **P 14 32 13.2 +0.8**
SNR=22
KBK Karagaybulak 64.56 322 P **P 14 32 16.9 +2.9**
SNR=18
UCH Uchtor 64.58 322 P **P 14 32 16.4 +2.3**
SNR=16
AFI Afiamalu 64.62 103 LR LR 14 58 38.2
comp=Z,1μm,21.5s,MS5.1,baz=274,slow=34
AAK Ala-Archa 64.82 322 P **P 14 32 16.0 +0.3**
SNR=26
FRU Bishkek 64.86 323 *e*P **P 14 32 17.0 +1.1**
FRU *e* 14 32 36.0
FRU *e* 14 41 00.0
FRU pmax pmax
comp=Z,200nm,2.0s,mb5.8
AML Almayashu 65.03 321 P **P 14 32 18.1 +1.1**
SNR=46
USP Ospenovka 65.18 323 P **P 14 32 17.8 -0.2**
SNR=23
PET Petropavlovsk 65.27 23 *e*P **P 14 32 20.3 +1.8**
PET *e*S S 14 41 00.7 -0.9
PET *e*SS SS 14 45 16.0 +1.6
PET pmax pmax
comp=Z,46nm,1.3s,mb5.3
PET smax
comp=N,1μm,25.3s
PET Petropavlovsk 65.27 23⇑ *i*P **P 14 32 20.7 +2.2**
EKS2 Erkin-Say 65.28 322 P **P 14 32 19.6 +0.9**
SNR=28
ZAL Zalesovo 67.05 337 P **P 14 32 28.7 -1.3**
comp=N,12nm,0.9s,mb4.9,baz=331,slow=6.9,SNR=46
YAK Yakutsk 67.19 3 *e*P **P 14 32 30.3 -0.6**
YAK *e**PP pP 14 32 51.5 +16
YAK *e* 14 32 56.5
YAK *e* 14 35 00.6
YAK *e*S S 14 41 21.2 -3.9
YAK *e**SS sS 14 42 05.5 +33
YAK *e* 14 42 19.1
YAK *e*SS SS 14 45 46.4 +2.1
YAK pmax pmax
comp=Z,70nm,1.1s,mb5.6
YAK pmax pmax
comp=N,21nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.6s
YAK smax
comp=N,175nm,9.8s
YAK smax
comp=E,82nm,7.5s
YAK Yakutsk 67.19 3 *e*P **P 14 32 28.6 -2.2**
comp=E,74nm,0.7s,mb5.8
YAK LR LR
comp=Z,941nm,21.0s,MS5.0
KURK Kurchatov 67.51 331 P **P 14 32 32.8 -0.1**
comp=Z,676nm,0.9s,mb6.7,SNR=21
KURK Kurchatov 67.51 331 P **P 14 32 32.5 -0.4**
KURK pmax pmax
comp=Z,110nm,0.9s,mb5.9
KURK Kurchatov 67.51 331⇑ *e*P **P 14 32 31.9 -1.0**
comp=Z,109nm,0.9s,mb5.9
KKAR Karatay Array 67.54 321 P **P 14 32 33.5 +0.4**
KKAR pmax pmax
comp=Z,28nm,1.0s,mb5.2
MA2 Magadan 68.15 15 *e*P **P 14 32 35.7 -1.3**
MA2 *e*S S 14 41 32.0 -4.6
MA2 *e* 14 42 33.5
MA2 pmax pmax
comp=Z,30nm,1.3s,mb5.2
MA2 pmax pmax
comp=E,7.0nm,1.5s
MA2 pmax pmax
comp=N,9.0nm,1.2s
MA2 MLR MLR
comp=Z,1μm,25.0s,MS5.1
MA2 Magadan 68.15 15 *e*P **P 14 32 35.4 -1.6**
comp=Z,39nm,1.1s,mb5.3
NVS Novosibirsk 68.34 336 *e*P **P 14 32 35.1 -3.0**
NVS *e*S S 14 41 34.8 -4.0
NVS pmax pmax
comp=N,126nm,1.4s
NVS pmax pmax
comp=E,98nm,1.4s
NVS pmax pmax
comp=Z,147nm,1.4s,mb5.8
NVS smax
comp=N,44nm,2.3s
NVS smax
comp=E,33nm,2.3s
SEY Seymchan 71.45 14⇑ *i*P **P 14 32 57.4 +0.1**
SEY Seymchan 71.45 14⇑ *i*P **P 14 32 57.5 +0.2**
VOSK Vostochnaya 72.50 330 P **P 14 33 02.6 -0.9**
BVA2 Borovoye Array 72.96 330 P **P 14 33 05.6 -0.7**
BVA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BRVK Borovoye 73.03 330 P **P 14 33 06.1 -0.6**
comp=Z,396nm,1.2s,mb6.2,SNR=17
BRVK Borovoye 73.03 330 P **P 14 33 06.2 -0.5**
BRVK pmax pmax
comp=Z,66nm,1.2s,mb5.4
BRVK Borovoye 73.03 330⇑ *e*P **P 14 33 05.9 -0.8**
comp=Z,66nm,1.2s,mb5.4
BRVK LR LR
comp=Z,1μm,20.0s,MS5.1
ZRNK Zerenda 73.62 329⇑ *e*P **P 14 33 09.1 -1.1**
ZRNK pmax pmax
comp=Z,87nm,0.8s,mb5.7
ZRNK Zerenda 73.62 329⇑ *e*P **P 14 33 09.1 -1.1**
comp=Z,87nm,0.8s,mb5.7
ABKT Ailbek 73.86 312 P **P 14 33 12.1 +0.5**
comp=Z,417nm,1.2s,mb6.2,SNR=24
MAW Mawson 74.22 200 *e*P **P 14 33 14.5 +0.8**
comp=Z,29nm,1.0s,mb5.2
MAW Mawson 74.22 200 P **P 14 33 14.2 +0.5**
comp=Z,40nm,1.0s,mb5.3,baz=104,slow=6.6,SNR=6.5
MAW LR LR 15 04 34.1
comp=Z,2μm,18.3s,MS5.5,baz=54,slow=35
MAW Mawson 74.22 200 *e*P **P 14 33 14.5 +0.8**
MAW pmax pmax
comp=Z,29nm,1.0s
VNDA Vanda 75.15 172 P **P 14 33 19.0 -0.1**
comp=Z,3.6nm,0.7s,mb4.4,baz=320,slow=6.0,SNR=11
VNDA LR LR 15 05 39.7
comp=Z,3μm,18.7s,MS5.5,baz=328,slow=35
TIXI Tiksi 76.75 2⇑ *i*P **P 14 33 27.7 -0.5**
AB31 Akbulak array 76.89 323⇑ *e*P **P 14 33 28.0 -1.0**
BILL Bilibino 79.02 15 *e*P **P 14 33 40.4 -0.4**
BILL pmax pmax
comp=Z,21nm,1.3s,mb4.9
BILL Bilibino 79.02 15 *e*P **P 14 33 40.4 -0.5**
comp=Z,21nm,1.3s,mb4.9
ARU Arti 80.60 329 P **P 14 33 48.9 -0.5**
comp=Z,234nm,1.5s,mb5.9,SNR=11
ARU Arti 80.60 329⇑ *i*P **P 14 33 47.8 -1.6**
ARU *e* 14 36 51.5
ARU *e*S S 14 43 53.1 -3.0
ARU *e*SS SS 14 49 08.7 +0.1
ARU pmax pmax
comp=Z,55nm,1.1s,mb5.4
ARU Arti 80.60 329⇑ *e*P **P 14 33 47.3 -2.1**
comp=Z,54nm,1.1s,mb5.4
ARU LR LR
comp=Z,912nm,19.0s,MS5.2
SOKR Solikamsk 82.73 332 *d i*P **P 14 33 59.7 -1.0**
SOKR pmax pmax
comp=Z,60nm,1.3s,mb5.5
MAK Makhachkala 83.06 314 *e*P **P 14 33 56.7 -5.7**
MAK *e* 14 37 08.4
MAK *e*S S 14 44 14.2 -7.3
MAK pmax pmax
comp=Z,266nm,1.5s,mb6.0
MAK MLR MLR
comp=Z,1μm,23.0s,MS5.2
BHD Baghdad 83.45 304 *ex* x 14 34 01.0
DGRG David-gareji 84.27 312 P **P 14 34 09.2 +0.6**
GNI Garni 84.47 311 *c i*P **P 14 34 10.2 +0.6**
GNI pmax pmax
comp=Z,36nm,2.5s
GNI Garni 84.47 311 *e*P **P 14 34 11.2 +1.6**
comp=Z,33nm,1.1s,mb5.4
MTA Mtatsminda 84.75 313 P **P 14 34 11.9 +1.0**
TBLG Delisi 84.79 313 P **P 14 34 13.2 +2.0**
QSPA South Pole Qui 84.80 180 *e*P **P 14 34 11.0 -0.3**
comp=Z,13nm,1.3s,mb4.9
DUS Dusheti 84.89 313 P **P 14 34 12.6 +0.9**
TBI Tubuai 85.61 113 *e*S 14 44 44.5
comp=Z,711nm,30.0s
TBI *e*SS SS 14 50 23.4 +0.6
comp=Z,513nm,26.8s
TBI *e*LQ 14 57 55.3
comp=Z,2μm,34.5s
TBI *e*LR LR 15 01 29.5
comp=Z,2μm,30.8s
ZEI Tsey 85.61 313 *e*P **P 14 34 15.2 -0.1**
ZEI *i* *PP pP 14 34 23.5 +3.6
ZEI *i* 14 37 31.7
ZEI pmax pmax
comp=Z,23nm,1.3s,mb5.2
AKH Akhalkalaki 85.65 312 P **P 14 34 16.0 +0.5**
KMBO Kilima Mbogo 85.79 269 P **P 14 34 17.2 +1.0**
comp=Z,12nm,1.0s,mb5.1,baz=52,slow=5.9,SNR=19
KMBO LR LR 15 08 01.7
comp=Z,2μm,21.6s,MS5.4,baz=94,slow=32
KMBO Kilima Mbogo 85.79 269 P **P 14 34 17.0 +0.8**
KMBO pmax pmax
comp=Z,82nm,1.8s
KMBO Kilima Mbogo 85.79 269⇑ *e*P **P 14 34 17.6 +1.4**
comp=Z,82nm,1.8s,mb5.7
PPT Papeete 85.89 107 *e*S 14 44 47.2
comp=Z,1μm,27.0s
PPT *e*SS SS 14 50 27.9 +0.9
comp=Z,432nm,24.8s
PPT *e*LQ 14 58 14.0
comp=Z,3μm,29.8s
PPT *e*LR LR 15 01 35.7
comp=Z,2μm,29.8s
GOF Gofitskoye 86.65 316 *e*P **P 14 34 19.1 -1.4**
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.7
KIV Kislovodsk 86.70 314 P **P 14 34 22.1 +1.4**
comp=Z,149nm,1.6s,mb6.0,SNR=8.4
KIV Kislovodsk 86.70 314 *d i*P **P 14 34 21.4 +0.7**
KIV pmax pmax
comp=Z,37nm,2.5s,mb5.2
KIV MLR MLR
comp=Z,500nm,16.0s,MS5.0
KIV Kislovodsk 86.70 314 *e*P **P 14 34 22.0 +1.3**
comp=Z,69nm,1.4s,mb5.7
KIV LR LR
comp=Z,743nm,22.0s,MS5.0
SOC Sochi 88.76 314 *e*P **P 14 34 28.8 -1.8**
SOC *e*S 14 44 56.5
SOC *e*SSS 14 54 42.1
SOC pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
SOC pmax pmax
comp=Z,111nm,2.7s,mb5.7
SOC MLR MLR
comp=Z,1μm,23.0s,MS5.2
MALT Malatya 89.02 308 *e*P **P 14 34 31.4 -0.4**
MALT pmax pmax
comp=Z,37nm,1.6s,mb5.5
MALT Malatya 89.02 308 *e*P **P 14 34 31.4 -0.4**
comp=Z,37nm,1.6s,mb5.5
VOR Voronezh 90.26 322 *e*P **P 14 34 36.0 -1.6**
VOR pmax pmax
comp=Z,90nm,1.6s,mb5.8
SVW2 Sparrevohn 90.28 29 *e*P **P 14 34 37.0 -0.7**
ANN Anapa 90.55 315 *e*P **P 14 34 43.2 +4.3**
ANN pmax pmax
comp=Z,37nm,1.4s,mb5.5
ANN MLR MLR
comp=N,763nm,24.0s,MS5.4
ANN MLR MLR
comp=E,1μm,24.0s,MS5.4
ANN MLR MLR
comp=Z,647nm,24.0s,MS5.0
KLMR Klimovskoe 91.36 331 *e*P **P 14 34 40.7 -2.0**
KLMR pmax pmax
comp=Z,70nm,1.6s,mb5.7
MOS Moscow 91.69 326 *e*P **P 14 34 43.8 -0.4**
MOS MLR MLR
comp=Z,1μm,22.0s,MS5.2
NVL N'lazarevskaya 92.04 198⇓ *i*P **P 14 34 47.0 +1.2**
NVL pmax pmax
comp=Z,46nm,2.4s,mb5.4
NVL MLR MLR
comp=Z,2μm,21.0s,MS5.6
OBN Obninsk 92.22 325⇓ *i*P **P 14 34 46.3 -0.4**
OBN *i* 14 35 05.9
OBN pmax pmax
comp=Z,37nm,1.6s,mb5.5
OBN Obninsk 92.22 325 *e*P **P 14 34 46.2 -0.5**
comp=Z,176nm,1.6s,mb6.1
SLKM Skilak Lake 92.80 30 *e*P **P 14 34 49.0 -0.4**
SLKM Skilak Lake 92.80 30 *e*P **P 14 34 48.2 -1.2**
BRTR Keskin Array B 92.87 309 P **P 14 34 48.4 -1.3**
comp=Z,1.6nm,0.7s,mb4.5,baz=116,slow=2.9,SNR=5.2
LSZ Lusaka 93.40 254 P **P 14 34 52.5 +0.4**
LSZ pmax pmax
comp=Z,33nm,1.1s,mb5.7
LSZ Lusaka 93.40 254 P **P 14 34 51.6 -0.6**
comp=Z,33nm,1.1s,mb5.7
LSZ LR LR
comp=Z,2μm,20.0s,MS5.5
MCK McKinley 93.67 26 P **P 14 34 52.5 -0.9**
MCK pmax pmax
comp=Z,25nm,1.3s,mb5.5
MCK McKinley 93.67 26 *e*P **P 14 34 52.1 -1.3**
comp=Z,25nm,1.4s,mb5.5
SML Sawmill 93.82 28 P **P 14 34 54.7 +0.7**
SML Sawmill 93.82 28 P **P 14 34 52.1 -1.9**
COLA College 94.22 25⇑ *e*P **P 14 34 56.0 +0.1**
BOSA Boshof 94.44 241 P **P 14 34 55.7 -1.2**
comp=Z,5.6nm,0.8s,mb5.1,baz=109,slow=5.5,SNR=6.9
BOSA LR LR 15 08 58.4
comp=Z,1μm,21.9s,MS5.3,baz=101,slow=30
ILAR Eielson Array 94.63 25 P **P 14 34 55.7 -2.1**
comp=Z,2.1nm,0.6s,mb4.8,baz=247,slow=5.0,SNR=39
ILAR PP PP 14 38 44.0 -1.7
comp=Z,0.7nm,0.8s,baz=254,slow=6.5,SNR=4.1
ILAR PKKPbc PKKPbc 14 51 54.7 -0.7
comp=Z,1.1nm,0.9s,baz=87,slow=1.8,SNR=11
ILAR LR LR 15 11 23.9
comp=Z,342nm,21.1s,MS4.8,baz=71,slow=32
ILAR Eielson Array 94.63 25 P **P 14 34 55.7 -2.1**
ILAR 14 38 44.0
DIV Divide 95.02 29 *e*P **P 14 34 58.0 -1.6**
comp=Z,181nm,1.2s,mb6.4
SNAA Sanae 95.75 195 *e*P **P 14 35 05.3 +2.4**
SNAA *e* pP 14 35 08.4 +0.9
AKASG Malin Array Be 96.44 320 P **P 14 35 04.9 -1.1**
comp=Z,4.7nm,0.7s,mb5.0,baz=80,slow=4.4,SNR=16
VNA2 Neumayer--Watz 97.37 195 *e*P **P 14 35 11.1 +0.8**
VNA2 *e* pP 14 35 14.6 -0.3
VSU Vasula 97.72 328⇓ *i*P **P 14 35 11.2 -0.6**
VSU Vasula 97.72 328⇓ *i*P **P 14 35 11.3 -0.5**
FINES FINESS Array B 97.88 331 P **P 14 35 11.1 -1.5**
comp=Z,0.9nm,0.7s,mb4.4,baz=72,slow=9.1,SNR=3.1
RKT Rikitea 98.87 114 *e*SS SS 14 53 29.0 -4.3
comp=Z,584nm,34.5s
RKT *e*LR LR 15 07 35.9
comp=Z,848nm,25.5s
LVV L'vov 99.79 320 *e*P Pdif 14 35 26.2 +5.1

LVV			*e*		14 39 28.8		
LVV			*e*PS	PS	14 48 14.2	-10	
SUW	**Suwalki**	**100.00 324**	*e*P	Pdif	14 35 20.7	-1.3	
KWP	**Kalwaria**	**100.66 319**	P	Pdif	14 35 25.7	+0.7	
KWP			pmax	pmax			
comp=Z,50nm,0.6s							
DPC	**Dobruska-Polom**	**104.66 321**	*e*PKP	PKiKP	14 39 52.9	-5.5	
DPC			AMS	AMS	15 28 00.0		
comp=Z,900nm,24.7s							
UPC	**Upice**	**104.83 321**	*e*PKP	PP	14 40 10.4	+7.0	
NOA	**NORSAR Array B**	**105.01 332**	Pdiff	Pdif	14 35 43.0	-1.3	
comp=Z,0.8nm,0.7s,baz=77,slow=4.5,SNR=3.4							
NOA			PKiKP	PKiKP	14 39 59.4	+0.3	
comp=Z,0.7nm,0.8s,baz=265,slow=16,SNR=3.0							
NOA	**NORSAR Array B**	**105.01 332**	Pdif	Pdif	14 35 43.0	-1.3	
PRU	**Pruhonice**	**105.85 321**	AMS	AMS	15 26 40.0		
comp=Z,800nm,21.8s							
BRG	**Berggiesshubel**	**106.05 321**	*e*P	Pdif	14 35 55.7	+6.8	
BRG			pmax	pmax			
comp=Z,8.0nm,1.5s							
BRG	**Berggiesshubel**	**106.05 321**	*e*P	Pdif	14 35 55.7	+6.8	
comp=Z,7.8nm,1.5s							
BRG	**Berggiesshubel**	**106.05 321**	*e*P	PP	14 40 19.4	+7.0	
comp=Z,11nm,1.5s							
CLL	**Collm**	**106.54 322**	*e*PKiKP	PKiKP	14 40 03.0	+1.2	
CLL			*e*PP	PP	14 40 24.0	+8.0	
comp=Z,62nm,2.2s							
CLL			Lm		15 27 00.0		
comp=N,700nm,20.8s							
CLL			Lm		15 27 00.0		
comp=E,900nm,20.3s							
CLL			Lm		15 27 00.0		
comp=Z,1μm,20.3s							
GERES	**GERESS Array B**	**106.61 319**	PKiKP	PKiKP	14 40 02.4	+0.4	
comp=Z,1.3nm,0.8s,baz=90,slow=2.0,SNR=4.9							
KHC	**Kasperske Hory**	**106.64 320**	*e*PKP	PKiKP	14 39 56.4	-5.6	
KHC			AMS	AMS	15 28 00.0		
comp=Z,1μm,18.1s							
NKC	**Novy Kostel**	**107.12 321**	AMS	AMS	15 31 40.0		
comp=Z,1μm,18.5s							
YKA	**Yellowknife Ar**	**109.03 25**	Pdiff	Pdif	14 36 03.4	+1.2	
comp=Z,0.3nm,0.7s,baz=296,slow=4.8,SNR=5.8							
YKA			PKiKP	PKiKP	14 40 05.3	-1.1	
comp=Z,0.3nm,0.5s,baz=305,slow=1.9,SNR=6.4							
YKA			PKKPbc	PKKPbc	14 51 13.8	+0.4	
comp=Z,0.5nm,0.8s,baz=106,slow=3.0,SNR=8.8							
YKA	**Yellowknife Ar**	**109.03 25**	Pdif	Pdif	14 36 03.4	+1.2	
YKA			PKPdf	PKiKP	14 40 05.3	-1.1	
YKA			PKKPbc	PKKPbc	14 51 13.8	+0.4	
LPG	**La Plagne**	**112.01 317**	*e*PKIKP	PKiKP	14 40 12.1	0.0	
CABF	**La Chapelle**	**112.14 318**	*e*PKIKP	PKiKP	14 40 11.4	-1.0	
comp=Z,20nm,1.0s							
EDM	**Edmonton**	**113.71 33**	*e*PKIKP	PKiKP	14 40 15.1	-0.3	
TCF	**Toulx Ste Croi**	**114.79 319**	*e*PKIKP	PKiKP	14 40 15.8	-1.6	
NVAR	**Mina Array Bea**	**115.43 50**	PKP	PKPdf	14 40 20.8	+2.1	
comp=Z,1.3nm,0.8s,baz=252,slow=0.7,SNR=8.2							
NVAR			PKKPbc	PKKPbc	14 50 53.6	+1.5	
comp=Z,1.0nm,0.7s,baz=137,slow=3.8,SNR=4.7							
EGMT	**Eagleton**	**118.02 37**	*e*PKPdf	PKPdf	14 40 24.1	+0.5	
NEN	**Nelson**	**118.82 52**	*e*PKPdf	PKPdf	14 40 27.6	+2.5	
NEN			*e*PP	PP	14 41 44.9	+1.2	
REDW	**Red Top Meadow**	**119.23 43**	*e*PKPdf	PKPdf	14 40 27.2	+1.2	
SNOW	**Snow King Moun**	**119.26 42**	*e*PKPdf	PKPdf	14 40 28.2	+2.2	
MSU	**Marysvale**	**120.01 48**	*e*PKIKP	PKPdf	14 40 29.3	+1.8	
PDAR	**Pinedale Array**	**120.34 43**	PKP	PKPdf	14 40 28.1	+0.1	
comp=Z,1.1nm,0.8s,baz=221,slow=1.6,SNR=6.4							
PDAR			PKKPbc	PKKPbc	14 50 36.0	+1.4	
comp=Z,2.2nm,0.8s,baz=109,slow=4.4,SNR=16							
TMUT	**Trail Mountain**	**120.46 47**	*e*PKPdf	PKPdf	14 40 29.8	+1.5	
LAO	**LASA Array**	**120.76 37**	*e*PKPdf	PKPdf	14 40 29.8	+0.9	
ESDC	**Sonseca Array**	**121.36 314**	PKP	PKPdf	14 40 31.2	+1.1	
comp=Z,2.2nm,0.8s,baz=351,slow=3.8,SNR=5.0							
WUAZ	**Wupatki**	**121.57 51**	*e*PKPdf	PKPdf	14 40 32.1	+1.7	
TORD	**Torodi Ar. Bea**	**121.75 282**	PKP	PKPdf	14 40 31.6	+0.8	
comp=Z,5.3nm,0.6s,baz=71,slow=1.6,SNR=30							
TORD			PKKPbc	PKKPbc	14 50 30.9	+1.6	
comp=Z,0.7nm,0.8s,baz=286,slow=5.1,SNR=3.6							
RWWY	**Rawlins**	**122.37 43**	*e*PKPdf	PKPdf	14 40 32.7	+0.7	
PV01	**Paradox Valley**	**122.81 47**	*e*PKPdf	PKPdf	14 40 34.4	+1.6	
MDT	**Midelt**	**124.17 306**	PKP	PKPdf	14 40 37.4	+2.0	
comp=Z,5.0nm,1.1s,baz=86,slow=6.8,SNR=4.0							
ULM	**Lac du Bonnet**	**124.43 29**	PKP	PKPdf	14 40 36.2	+0.3	
comp=Z,4.0nm,0.8s,baz=323,slow=7.3,SNR=3.5							
ULM	**Lac du Bonnet**	**124.43 29**	PKP	PKPdf	14 40 36.2	+0.3	
LPM	**Los Pinos Moun**	**125.64 51**	*e*PKPdf	PKPdf	14 40 40.4	+2.1	
BNM	**Barren Site**	**125.70 51**	*e*PKPdf	PKPdf	14 40 40.4	+2.0	
MNTX	**Cornudas Mount**	**127.53 54**	*e*PKPdf	PKPdf	14 40 43.0	+1.2	
DBIC	**Dimbokro**	**128.26 274**	PKP	PKPdf	14 40 44.4	+1.2	
comp=Z,6.5nm,0.9s,baz=326,slow=3.3,SNR=5.8							
DBIC	**Dimbokro**	**128.26 274**	PKP	PKPdf	14 40 44.4	+1.2	
LIC	**Lamto**	**128.42 274**	*e*PKIKP	PKPdf	14 40 43.7	+0.1	
comp=Z,110nm,1.6s							
SCHQ	**Schefferville**	**129.83 7**	PKP	PKPdf	14 40 46.7	+0.5	
comp=Z,4.0nm,1.0s,baz=14,slow=8.3,SNR=2.8							
SCHQ	**Schefferville**	**129.83 7**	PKP	PKPdf	14 40 46.7	+0.5	
JCT	**Junction City**	**132.43 53**	*e*PKIKP	PKPdf	14 40 53.6	+2.4	
PLCA	**Paso Flores**	**132.63 166**	PKP	PKPdf	14 40 52.0	+0.4	
comp=Z,3.2nm,0.7s,baz=323,slow=3.9,SNR=9.1							
MIAR	**Mount Ida**	**135.20 44**	*e*PKIKP	PKPdf	14 40 56.5	+0.1	
WVT	**Waverly**	**138.07 39**	PKIKP	PKPdf	14 41 03.3	+1.6	
PLAL	**Pickwick Lake**	**138.64 40**	*e*PKPdf	PKPdf	14 41 04.5	+1.8	
LRAL	**Lakeview Retre**	**140.55 42**	PKPdf	PKPdf	14 41 08.1	+1.9	
TEIG	**Tepich**	**146.00 61**	*e*PKPdf	PKPdf	14 41 17.9	+2.1	
PAYG	**Puerto Ayora**	**146.13 99**	*e*PKPbc	PKPbc	14 41 19.4	+2.5	
CPUP	**Villa Florida**	**148.69 179**	PKPbc	PKPbc	14 41 23.4	-0.7	
comp=Z,16nm,0.7s,baz=132,slow=1.5,SNR=30							
CPUP	**Villa Florida**	**148.69 179**	*e*PKPdf	PKPdf	14 41 21.6	+1.3	
CPUP			*e*PKPbc	PKPbc	14 41 25.5	+1.5	
CAM4	**Nova Friburgo**	**149.28 207**	*e*P	PKPdf	14 41 26.8	+5.6	
CAM4			*i*		14 41 28.5		
CAM4			*i*		14 41 31.2		
CAM4			*i*		14 41 36.5		
CAM4			*i*		14 41 38.8		
CAM4			*i*		14 41 48.2		
CAM3	**Guarapari**	**149.67 211**	⇓*i*P	PKPdf	14 41 28.7	+6.8	
CAM3			*i*		14 41 29.8		
CAM3			*i*		14 41 32.5		
CAM3			*i*		14 41 35.1		
CAM3			*i*		14 41 39.2		
JTS	**JuntasAbangare**	**151.72 78**	*e*PKPdf	PKPdf	14 41 27.2	+2.1	
JTS			*e*PKPbc	PKPbc	14 41 32.7	+1.3	
LPAZ	**La Paz**	**155.95 153**	PKP	PKPdf	14 41 33.2	+2.1	
comp=Z,4.3nm,1.1s,baz=250,slow=3.2,SNR=7.7							
LPAZ			PKPab	PKPab	14 42 01.0	+2.9	
comp=Z,18nm,0.8s,baz=174,slow=2.1,SNR=22							
LPAZ	**La Paz**	**155.95 153**	*e*PKPdf	PKPdf	14 41 33.8	+2.8	
LPAZ			*e*PKPab	PKPab	14 42 01.2	+3.1	
LPAZ			*e*PP	PP	14 45 29.6	-5.6	
BDFB	**Brasilia**	**157.55 203**	PKP	PKPdf	14 41 33.8	+0.7	
comp=Z,4.0nm,1.0s,baz=117,slow=9.0,SNR=2.9							
OTAV	**Otavalo**	**157.90 102**	*e*PKPdf	PKPdf	14 41 35.6	+2.1	
ROSC	**El Rosal**	**162.60 90**	PKP	PKPdf	14 41 41.1	+2.4	
comp=Z,3.7nm,0.4s,baz=96,slow=19,SNR=3.5							
SAML	**Samuel**	**164.63 156**	*e*PKPdf	PKPdf	14 41 42.6	+1.9	
SAML			*e*PKPab	PKPab	14 42 37.0	+1.0	
SDV	**Santo Domingo**	**165.85 74**	*e*PKPdf	PKPdf	14 41 42.4	+0.7	

IDC 17 14:26:42.0±7.9, 1997S×6770W, h192km±51km, mb3.4/2, mb1 3.6/3, mb1mx3.3/16, mbtmp3.9/3, Error ellipse: s-maj=95.4km s-min=44.2km az=29.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.68**	**354**	P	Pn	14 27 40.2	+0.7
2.7nm,0.3s,baz=194,slow=7.1,SNR=56							
LPAZ				S	Sn	14 28 26.2	+1.6
baz=78,slow=20,SNR=2.2							
TORD	**Torodi Ar. Bea**	**75.78**	**70**	P	P	14 38 07.2	+0.7
0.3nm,0.3s,baz=251,slow=5.1,SNR=9.1							
YKA	**Yellowknife Ar**	**90.13**	**340**	P	P	14 39 19.7	-0.5
0.6nm,0.6s,baz=130,slow=4.4,SNR=12							

JMA 17 14:30:46.3±0.2, 4390N×14742E, h56km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.33**	**247**	P	Pn	14 31 09.1	+0.5
NEM2				*e*S	Sn	14 31 25.2	-0.1
JRA	**Rausu**	**1.66**	**272**	P	Pn	14 31 13.6	+0.5
JRA				*e*S	Sn	14 31 34.3	+1.0
JNK	**Nakash**	**1.98**	**262**	P	Pn	14 31 18.1	+0.7
JNK				*e*S	Sn	14 31 41.6	+0.5
JAK	**Akkeshi**	**2.18**	**246**	P	Pn	14 31 20.8	+0.7
JAK				*e*S	Sn	14 31 46.3	+0.4
JTKR	**Abashiri--Toko**	**2.54**	**273**	P	Pn	14 31 25.4	+0.4
JAR	**Ashorobuto**	**2.72**	**258**	P	Pn	14 31 29.2	+1.7
JAR				*e*S	Sn	14 32 01.1	+1.9
JOB	**Onbets**	**2.80**	**250**	P	Pn	14 31 30.1	+1.5
JOB				*e*S	Sn	14 32 02.7	+1.6
JMP	**Maruseppu**	**2.93**	**273**	P	Pn	14 31 31.0	+0.6
JCH	**Churui**	**3.23**	**248**	P	Pn	14 31 35.6	+1.1
JCH				*e*S	Sn	14 32 12.8	+1.1
JNBK	**Urakawa-nobuka**	**3.78**	**246**	P	Pn	14 31 43.3	+1.2

IDC 17 14:33:09.9±0.9, 508S×123.18E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.9/19, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=60.1km s-min=17.7km az=57.0
ISCJB 17 14:33:12.5±0.6, 50S±0.1×123.4E±0.2, h33km, mb4.0/11, Error ellipse: s-maj=33.1km s-min=9.7km az=117.8
NEIC 17 14:33:12.0±0.5, 498S×123.39E, h15km, mb4.3/5, Error ellipse: s-maj=30.0km s-min=8.8km az=59.0
ISC 17 14:33:14.9±0.6, 50S±0.1×1234E±0.2, h35km, n15, σ0.9±85/15, mb4.0/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.27**	**145**	*e*P	**Pn**	**14 37 24.3**	**-1.3**
17nm,1.2s							
WRA	**Warramunga Arr**	**18.28**	**145**	P	**Pn**	**14 37 25.1**	**-0.6**
0.2nm,0.3s,baz=315,slow=12,SNR=11							
ASAR	**Alice Springs**	**21.14**	**152**	P	**P**	**14 37 59.0**	**+2.2**
3.3nm,0.7s,mb3.8,baz=329,slow=13,SNR=19							
ASAR				PcP	PcP	14 42 03.1	+1.4
0.4nm,0.6s,baz=345,slow=2.1,SNR=2.9							
PSI	**Prapat**	**25.65**	**287**	P	**P**	**14 38 40.0**	**-1.2**
2.3nm,0.4s,mb4.0,baz=114,slow=10.0,SNR=4.3							
NWAO	**Narrogin (SRO)**	**28.38**	**191**	P	**P**	**14 39 06.8**	**+1.1**
23nm,1.3s,mb4.7							
STKA	**Stephens Creek**	**31.71**	**150**	P	**P**	**14 39 34.7**	**-0.5**
1.7nm,0.7s,mb4.0,baz=326,slow=9.2,SNR=4.2							
STKA	**Stephens Creek**	**31.71**	**150**	P	**P**	**14 39 34.5**	**-0.8**
SONM	**Songino Array**	**54.69**	**346**	P	**P**	**14 42 41.2**	**+0.7**
0.4nm,0.8s,mb3.5,baz=161,slow=7.8,SNR=3.6							
MKAR	**Makanchi Array**	**63.07**	**330**	P	**P**	**14 43 39.3**	**+0.7**
1.2nm,0.6s,mb4.2,baz=133,slow=8.4,SNR=16							
KURK	**Kurchatov**	**67.50**	**331**	*e*P	**P**	**14 44 07.0**	**-0.3**
4.8nm,1.3s,mb4.4							
BVAR	**Borovoye Array**	**72.96**	**330**	P	**P**	**14 44 40.5**	**-0.2**
0.9nm,0.8s,mb3.7,baz=142,slow=7.3,SNR=5.4							
BRVK	**Borovoye**	**73.03**	**330**	*e*P	**P**	**14 44 41.0**	**-0.1**
1.4nm,0.8s,mb3.9							
ZRNK	**Zerenda**	**73.62**	**329**	*e*P	**P**	**14 44 44.8**	**+0.1**
2.0nm,0.8s,mb4.1							
AKTK	**Aktyubinsk**	**78.53**	**324**	P	**P**	**14 45 12.6**	**0.0**
AKTO	**Aktyubinsk**	**78.53**	**324**	P	**P**	**14 45 12.6**	**0.0**
1.4nm,0.7s,mb4.0,baz=128,slow=5.8,SNR=7.5							

IDC 17 14:47:44.9±1.4, 451S×12388E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.4/16, mbtmp3.3/4, Error ellipse: s-maj=138.1km s-min=13.5km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.42**	**147**	P	Pn	14 52 00.7	-0.9
0.1nm,0.3s,baz=322,slow=13,SNR=6.7							
WRA				S	Sn	14 55 30.7	+2.7
0.1nm,0.3s,baz=332,slow=23,SNR=4.9							
ASAR	**Alice Springs**	**21.36**	**154**	P	P	14 52 32.2	-1.5
0.5nm,0.7s,baz=329,slow=11,SNR=8.0							
SONM	**Songino Array**	**54.34**	**346**	P	P	14 57 14.7	+1.5
0.2nm,0.6s,baz=161,slow=9.2,SNR=2.2							
MKAR	**Makanchi Array**	**62.90**	**329**	P	P	14 58 12.5	-0.3
0.5nm,0.6s,baz=128,slow=7.9,SNR=7.4							

IDC 17 14:55:50.2±1.7, 541S×12248E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=271.5km s-min=26.7km az=58.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.48**	**142**	P	Pn	15 00 07.0	-0.7
0.1nm,0.3s,baz=313,slow=13,SNR=5.7							
ASAR	**Alice Springs**	**21.22**	**150**	P	P	15 00 38.5	+0.9
1.0nm,0.7s,baz=341,slow=15,SNR=11							
MKAR	**Makanchi Array**	**62.97**	**330**	P	P	15 06 18.7	+0.1
0.5nm,0.6s,baz=134,slow=8.6,SNR=6.1							

MEX 17 15:01:04.7±1.4, 1635N×9818W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.07**	**49**	*i* P	P*g*	15 01 05.2	-1.0
PNIG				*i* S	S*g*	15 01 06.4	-1.0
UTMO	**Huajuapan**	**1.52**	**14**	*i* P	Pn	15 01 30.5	-2.0
UTMO				*i* S	Sn	15 01 48.0	-4.6
VHO	**Vista Hermosa**	**1.56**	**62**	*i* P	Pn	15 01 30.3	-2.9
VHO				*i* S	Sn	15 01 49.1	-4.6
OXX	**Oaxaca**	**1.58**	**62**	*e*P	Pn	15 01 32.5	-0.8
OXX				*i* S	Sn	15 01 50.0	-4.1
ACX	**Acapulco**	**1.74**	**288**	*i* P	Pn	15 01 31.0	-4.6
ACX				*i* S	Sn	15 01 54.0	-4.2
MEIG	**Mezcala**	**2.09**	**319**	*i* P	Pn	15 01 39.5	-0.8
MEIG				*i* S	Sn	15 02 02.9	-3.7

BJI 17 15:13:43.5, 620S×148.35E, h122km, mB5.1, mb4.8
IDC 17 15:13:44.5±1.6, 576S×148.52E, h90km±13km, mb4.4/15, mb1 4.5/17, mb1mx4.5/20, mbtmp4.7/17, MS3.8/2, Ms1 3.8/2, ms1mx3.3/25, Error ellipse: s-maj=13.9km s-min=10.1km az=104.0
MOS 17 15:13:44.9±1.1, 577S×148.54E, h105km, mb5.0/11, Error ellipse: s-maj=14.4km s-min=7.3km az=82.9
ISCJB 17 15:13:45.1±1.1, 580S±004×148.44E±006, h108km±10km, mb4.7/48, Error ellipse: s-maj=10.3km s-min=5.9km az=43.7
NEIC 17 15:13:46.4±1.3, 579S×148.54E, h108km±12km, mb4.8/16, Error ellipse: s-maj=8.8km s-min=7.5km az=90.0
ISC 17 15:13:45.3±1.1, 579S±004×14849E±006, h94km±10km, h109km±2.4km; pP-P, n87, σ1.9±08/90, mb4.7/48, 9C-7D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.83**	**200**	P	**Pn**	**15 14 43.3**	**+1.3**
192nm,0.3s,baz=29,slow=5.3,SNR=382							
PMG				S	**Sn**	**15 15 25.3**	**-0.7**
529nm,0.3s,baz=190,slow=22,SNR=12							
CTA	**Charters Tower**	**14.38**	**188**	*e*P	**Pn**	**15 17 05.3**	**+1.0**
10nm,0.3s							
CTA	**Charters Tower**	**14.38**	**188**	P	**Pn**	**15 17 05.3**	**+1.0**
4.6nm,0.3s,baz=0.6,slow=14,SNR=30							
CTA	**Charters Tower**	**14.38**	**188**	*e*P	**Pn**	**15 17 05.3**	**+1.0**
CTA				pmax	pmax		
comp=Z,10.0nm,0.3s							
CTAO	**Charters Tower**	**14.38**	**188**	*e*P	**Pn**	**15 17 05.2**	**+0.9**
CTAO				pmax	pmax		
comp=Z,33nm,0.8s							
CTAO	**Charters Tower**	**14.38**	**188**	*e*Pn	**Pn**	**15 17 05.2**	**+0.9**
comp=Z,33nm,0.8s							
KAKA	**Kakadu**	**17.26**	**245**	*e*P	**Pn**	**15 17 39.4**	**-1.0**
comp=Z,31nm,0.4s							
WRAB	**Tennant Creek**	**19.67**	**223**	*c i*P	**Pn**	**15 18 07.8**	**-1.2**
WRAB	**Tennant Creek**	**19.67**	**223**	*e*P	**Pn**	**15 18 07.6**	**-1.4**
comp=Z,251nm,0.6s							
WRAB				*e*S	**S**	**15 21 37.0**	**-6.4**
WB2	**Warramunga Arr**	**19.67**	**223**	⇑*i*P	**Pn**	**15 18 08.0**	**-1.1**
WB2				*e*S	**S**	**15 21 38.0**	**-5.6**
WRA	**Warramunga Arr**	**19.68**	**223**	P	**Pn**	**15 18 08.2**	**-1.0**
comp=Z,21nm,0.3s,baz=50,slow=11,SNR=486							
WRA				S	**S**	**15 21 38.5**	**-5.2**
comp=Z,0.7nm,0.3s,baz=40,slow=20,SNR=5.8							
AS31	**Alice Springs**	**22.65**	**217**	⇑*i*P	**P**	**15 18 39.4**	**+0.8**
AS31				*e*S	**S**	**15 22 41.8**	**+2.3**
ASAR	**Alice Springs**	**22.65**	**217**	P	**P**	**15 18 39.4**	**+0.8**
comp=Z,79nm,0.5s,mb5.3,baz=52,slow=9.2,SNR=1139							
ASAR				S	**S**	**15 22 40.9**	**+1.3**
comp=Z,48nm,0.9s,baz=30,slow=22,SNR=37							
ASPA	**Alice Springs**	**22.66**	**217**	⇑*i*P	**P**	**15 18 39.4**	**+0.7**
ASPA				*e*S	**S**	**15 22 41.8**	**+2.2**
DZM	**Mont Dzumac**	**23.74**	**135**	P	**P**	**15 18 49.0**	**+0.3**
comp=Z,31nm,0.9s,mb4.6,baz=332,slow=11,SNR=18							
DZM				LR	LR	15 25 02.6	
comp=Z,121nm,20.4s,baz=17,slow=29							
DZM	**Mont Dzumac**	**23.74**	**135**	P	**P**	**15 18 49.0**	**+0.3**
DZM				LR	LR	15 25 02.6	
ARMA	**Armidale**	**24.68**	**173**	*e*P	**P**	**15 18 58.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**25.45**	**239**	*e*P	**P**	**15 19 04.9**	**+0.6**
comp=Z,59nm,0.5s,mb5.3							
FITZ				*e*	pP	15 19 26.7	+1.5
FITZ				*e*S	**S**	**15 23 30.9**	**+6.5**
FITZ	**Fitzroy Crossi**	**25.45**	**239**	P	**P**	**15 19 05.0**	**+0.7**
comp=Z,29nm,0.5s,mb4.9,baz=65,slow=10.0,SNR=50							
STKA	**Stephens Creek**	**26.75**	**193**	*e*P	**P**	**15 19 13.7**	**-2.4**
comp=Z,12nm,0.5s,mb4.7							
STKA	**Stephens Creek**	**26.75**	**193**	P	**P**	**15 19 13.8**	**-2.2**
comp=Z,13nm,0.4s,mb4.8,baz=7.1,slow=9.3,SNR=26							
STKA				LR	LR	15 31 31.5	
comp=Z,384nm,18.3s,baz=22,slow=40							
FORT	**Forrest**	**31.41**	**215**	*e*P	**P**	**15 19 57.6**	**+0.2**
comp=Z,42nm,0.7s,mb5.3							
TOO	**Toolangi**	**31.75**	**185**	*e*P	**P**	**15 20 01.0**	**+0.6**
comp=Z,11nm,0.6s,mb4.8							
TOO	**Toolangi**	**31.75**	**185**	*e*P	**P**	**15 20 01.0**	**+0.6**
TOO				pmax	pmax		
comp=Z,11nm,0.6s,mb4.8							
MBWA	**Marble Bar**	**31.78**	**239**	*e*P	**P**	**15 20 00.8**	**+0.2**
comp=Z,9.9nm,0.7s,mb4.7							
KLBR	**Kellerberrin**	**38.55**	**224**	*e*P	**P**	**15 20 58.5**	**-0.3**
comp=Z,5.9nm,0.4s,mb4.8							
NWAO	**Narrogin (SRO)**	**39.69**	**223**	P	**P**	**15 21 08.4**	**+0.2**
comp=Z,5.2nm,0.6s,mb4.5,baz=50,slow=8.6,SNR=5.5							
MUN	**Mundaring**	**39.86**	**225**	*e*P	**P**	**15 21 10.2**	**+0.6**
AFI	**Afiamalu**	**39.92**	**105**	P	**P**	**15 21 08.3**	**-1.8**
comp=Z,56nm,1.0s,mb5.3,baz=329,slow=19,SNR=3.2							
URZ	**Urewera**	**41.47**	**145**	P	**P**	**15 21 23.1**	**+0.2**
comp=Z,3.7nm,0.4s,mb4.6,baz=54,slow=5.1,SNR=9.2							
RPZ	**Rata Peaks**	**42.68**	**156**	P	**P**	**15 21 33.2**	**+0.6**
comp=Z,6.2nm,0.8s,mb4.4,baz=38,slow=17,SNR=5.8							
MJAR	**Matsushiro Arr**	**43.19**	**348**	P	**P**	**15 21 37.5**	**+0.6**
comp=Z,9.4nm,0.9s,mb4.5,baz=168,slow=8.1,SNR=17							
MJAR	**Matsushiro Arr**	**43.19**	**348**	P	**P**	**15 21 37.5**	**+0.6**
MAT	**Matsushiro**	**43.20**	**348**	P	**P**	**15 21 38.1**	**+1.2**
MAT	**Matsushiro**	**43.20**	**348**	*e*P	**P**	**15 21 38.0**	**+1.1**
MAT				pmax	pmax		
comp=Z,24nm,1.0s,mb4.9							
MAT	**Matsushiro**	**43.20**	**348**	*e*P	**P**	**15 21 38.0**	**+1.1**
comp=Z,24nm,1.0s,mb4.9							
SSE	**Sheshan**	**45.01**	**326**	P	**P**	**15 21 50.8**	**-0.6**
SSE				AMB	AMB		
comp=Z,26nm,0.7s,mb5.1							
SSE				AMB	AMB		
comp=Z,55nm,4.2s							
NJ2	**Nanjing**	**47.04**	**325**	*e*P	**P**	**15 22 08.0**	**+0.7**
NJ2				AP	pP	15 22 33.8	+4.1
NJ2				XP	sP	15 22 46.8	+6.5
NJ2				PP	PP	15 24 00.0	+1.3
NJ2				S	**S**	**15 28 50.0**	**-2.0**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
NJ2				AMB	AMB		
comp=Z,110nm,11.6s							
NJ2				LR	LR		
comp=N,430nm,31.9s							
NJ2				LR	LR		
comp=E,540nm,34.0s							
NJ2				LR	LR		
comp=Z,500nm,25.9s							
KS15	**Wonju Array Si**	**47.11**	**338**	*e*P	**P**	**15 22 09.1**	**+1.2**
VLA	**Vladivostok**	**50.95**	**344**	⇑*e*P	**P**	**15 22 38.5**	**+1.3**
VLA				pmax	pmax		
comp=Z,17nm,1.3s,mb4.9							
RAR	**Rarotonga**	**52.34**	**112**	P	**P**	**15 22 47.0**	**-0.5**
comp=Z,12nm,0.9s,mb4.9,baz=238,slow=7.1,SNR=4.0							
YSS	**Yuzh-Sakhalins**	**52.76**	**355**	*de*P	**P**	**15 22 52.1**	**+1.5**
YSS				*i* *PP	pP	15 23 19.0	+5.6
YSS				pmax	pmax	

comp=Z,1.7nm,0.9s,mb4.6,baz=275,slow=4.9,SNR=21
YKA PKKPbc PKKPbc 15 43 41.6 -1.4
comp=Z,0.2nm,0.7s,baz=83,slow=2.7,SNR=5.3
YKA Yellowknife Ar 98.29 28 P **P 15 27 10.9 -1.3**
YKA PKKPbc PKKPbc 15 43 41.6 -1.4
PLCA Paso Flores 121.48 146 PKP PKPdf 15 32 27.6 -0.1
comp=Z,3.4nm,0.8s,baz=297,slow=2.3,SNR=7.1
LPAZ La Paz 137.65 122 PKP PKPdf 15 33 00.3 +2.0
comp=Z,2.1nm,0.5s,baz=96,slow=1.5,SNR=8.1
LPAZ SKPbc SKPbc 15 36 25.7 +2.1
comp=Z,1.0nm,0.8s,baz=292,slow=4.5,SNR=3.6
LPAZ La Paz 137.65 122 PKP PKPdf 15 33 00.3 +2.0
LPAZ SKPbc SKPbc 15 36 25.7 +2.1
CPUP Villa Florida 139.43 143 PKP PKPdf 15 33 02.1 +0.5
comp=Z,0.8nm,0.5s,baz=352,slow=0.2,SNR=4.0
SAML Samuel 145.20 115 *e*PKPdf PKPdf 15 33 11.2 -0.6
TORD Torodi Ar. Bea 146.47 285 PKPbc PKPbc 15 33 14.4 -1.2
comp=Z,3.3nm,0.5s,baz=89,slow=2.7,SNR=22
BDFB Brasilia 153.16 143 PKPbc PKPbc 15 33 32.7 +0.7
comp=Z,7.6nm,0.5s,baz=279,slow=0.7,SNR=10
BDFB PKPab PKPab 15 33 43.8 -0.3
comp=Z,4.9nm,0.6s,baz=160,slow=3.8,SNR=5.3

IDC 17 15:37:01.7±2.2, 581S×13027E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=94.6km s-min=27.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.03**	**200**	Pn	Pn	15 40 10.0	+2.0
	0.1nm,0.3s,baz=72,slow=18,SNR=3.3						
FITZ				Sn	Sn	15 42 24.4	-9.2
	0.2nm,0.3s,baz=158,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**14.59**	**165**	Pn	Pn	15 40 28.8	-0.6
	0.2nm,0.3s,baz=346,slow=13,SNR=20						
WRA				Sn	Sn	15 42 58.0	-14
	0.2nm,0.3s,baz=332,slow=21,SNR=7.1						
ASAR	**Alice Springs**	**18.09**	**169**	P	Pn	15 41 14.0	-0.5
	0.1nm,0.3s,baz=345,slow=10,SNR=8.0						
ASAR				S	Sn	15 44 23.5	-13
	0.1nm,0.3s,baz=360,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**67.38**	**326**	P	P	15 47 59.0	+0.2
	0.2nm,0.4s,baz=127,slow=6.5,SNR=7.7						

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*ISCJB **17** 15:38:53.2±1.6, 192S±0.1×1692E±0.1, h235km±14km, mb4.0/15, Error ellipse: s-maj=23.5km s-min=15.3km az=140.6*
*NEIC **17** 15:38:53.3±1.4, 19.10S×169.25E, h226km±13km, mb4.1/11, Error ellipse: s-maj=15.6km s-min=11.1km az=169.0*
*IDC **17** 15:38:54.1±2.0, 192.9S×169.33E, h239km±19km, mb3.7/9, mb1 3.9/10, mb1mx3.8/16, mbtmp4.3/10, Error ellipse: s-maj=40.3km s-min=14.9km az=153.0*
ISC 17 15:38:53.6±1.6, 191S±01×1693E±01, h227km±15km, n29, σ0§62/26, mb4.0/15, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.75**	**326**	⇑*i*P	**Pn**	**15 39 19.8**	**-12**
DZM	**Mont Dzumac**	**3.94**	**222**	P	**Pn**	**15 39 55.6**	**-0.2**
	6.0nm,0.3s,baz=60,slow=18,SNR=47						
CTA	**Charters Tower**	**21.70**	**264**	*e*P	**P**	**15 43 26.8**	**+0.1**
	5.8nm,1.7s,mb3.8						
CTA	**Charters Tower**	**21.70**	**264**	P	**P**	**15 43 26.7**	**0.0**
	3.5nm,0.7s,mb4.0,baz=103,slow=14,SNR=7.3						
CTAO	**Charters Tower**	**21.70**	**264**	*e*P	**P**	**15 43 26.9**	**+0.2**
	19nm,1.3s,mb4.5						
PMG	**Port Moresby**	**23.48**	**291**	P	**P**	**15 43 43.3**	**+0.4**
	7.8nm,0.7s,mb4.4,baz=116,slow=4.3,SNR=6.2						
PMG	**Port Moresby**	**23.48**	**291**	*e*P	**P**	**15 43 43.1**	**+0.1**
	8.9nm,0.7s,mb4.4						
PMG				*e*		15 44 13.7	
STKA	**Stephens Creek**	**27.93**	**238**	*e*P	**P**	**15 44 21.8**	**-1.0**
	2.6nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**27.93**	**238**	P	**P**	**15 44 21.9**	**-0.9**
	3.4nm,0.7s,mb4.1,baz=63,slow=9.2,SNR=12						
WB2	**Warramunga Arr**	**32.88**	**263**	*e*P	**P**	**15 45 05.7**	**-0.6**
WRAB	**Tennant Creek**	**32.88**	**263**	*e*P	**P**	**15 45 06.0**	**-0.3**
	2.9nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**32.89**	**263**	P	**P**	**15 45 06.1**	**-0.3**
	2.2nm,0.5s,mb4.0,baz=97,slow=8.5,SNR=19						
AS31	**Alice Springs**	**33.18**	**256**	*e*P	**P**	**15 45 09.2**	**+0.3**
ASAR	**Alice Springs**	**33.18**	**256**	P	**P**	**15 45 09.1**	**+0.2**
	16nm,0.6s,mb4.8,baz=83,slow=9.0,SNR=268						
ASAR				S	**S**	**15 50 10.8**	**-0.6**
	0.4nm,0.7s,baz=79,slow=16,SNR=4.5						
ASPA	**Alice Springs**	**33.18**	**256**	*e*P	**P**	**15 45 09.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**41.28**	**264**	*e*P	**P**	**15 46 17.9**	**+1.1**
	6.5nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**41.28**	**264**	P	**P**	**15 46 18.0**	**+1.2**
	3.7nm,0.6s,mb4.0,baz=100,slow=8.8,SNR=6.6						
MBWA	**Marble Bar**	**46.40**	**259**	*e*P	**P**	**15 46 58.0**	**+0.5**
	4.8nm,0.8s,mb3.9						
SBA	**Scott Base**	**58.77**	**181**	P	**P**	**15 48 28.4**	**+0.5**
	9.7nm,1.2s,mb4.3						
QSPA	**South Pole Qui**	**70.92**	**180**	*e*P	**P**	**15 49 46.2**	**0.0**
	2.2nm,0.6s,mb4.0						
BILL	**Bilibino**	**86.94**	**359**	*e*P	**P**	**15 51 13.0**	**0.0**
	2.1nm,0.8s,mb3.9						
CMB	**Columbia Colle**	**87.06**	**48**	P	**P**	**15 51 14.3**	**+0.8**
	2.6nm,0.9s,mb4.0						
SONM	**Songino Array**	**87.15**	**323**	P	**P**	**15 51 14.5**	**+0.5**
	0.8nm,0.9s,mb3.4,baz=140,slow=6.2,SNR=6.2						
NVAR	**Mina Array Bea**	**88.71**	**48**	P	**P**	**15 51 21.2**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=222,slow=6.3,SNR=4.5						
ILAR	**Eielson Array**	**90.12**	**17**	P	**P**	**15 51 26.1**	**-1.8**
	0.6nm,0.7s,mb3.6,baz=238,slow=5.1,SNR=12						
YKA	**Yellowknife Ar**	**100.56**	**27**	P	Pdif	15 52 15.3	0.0
	0.3nm,0.5s,baz=253,slow=4.6,SNR=8.0						
ARCES	**ARCESS Array B**	**124.97**	**345**	PKP	PKPdf	15 57 25.1	-1.5
	1.0nm,0.7s,baz=79,slow=2.6,SNR=6.2						
ARCES	**ARCESS Array B**	**124.97**	**345**	PKP	PKPdf	15 57 25.1	-1.5
GERES	**GERESS Array B**	**144.41**	**332**	PKP	PKPdf	15 58 01.5	-1.2
	1.2nm,0.7s,baz=27,slow=3.3,SNR=10						

CASC 17 15:48:07.8±1.3, 1349N×9093W, h2km±18km, MD3.9, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.82**	**35**	*e*P	Pg	15 48 24.6	+1.0
TP2	**Tecpan 2**	**1.28**	**356**	⇑*e*P	Pg	15 48 31.6	-0.8
TP2				*e*S	Sg	15 48 51.0	+1.9
RTR	**El Retiro**	**1.31**	**72**	*e*P	Pg	15 48 32.8	-0.3
RTR				*e*S	Sg	15 48 51.0	+1.0
SBLS	**San Blas**	**1.32**	**75**	*e*P	Pg	15 48 32.8	-0.3
SBLS				*e*S	Sg	15 48 52.2	+2.0
SNJE	**San Jose**	**1.34**	**74**	*e*P	Pn	15 48 33.2	-0.3
BOQS	**Boqueron**	**1.63**	**81**	*e*P	Pn	15 48 38.0	+0.6
BOQS				*e*S	Sn	15 49 01.1	+2.2
LFRS	**El Faro**	**1.82**	**86**	*e*P	Pn	15 48 40.2	+0.1
LFRS				*e*S	Sn	15 49 05.2	+1.4
LCBS	**La Ceiba**	**1.91**	**85**	*e*P	Pn	15 48 41.6	+0.3
LCBS				*e*S	Sn	15 49 07.3	+1.5
MRL	**Marmol**	**1.97**	**37**	*e*P	Pn	15 48 42.5	+0.3
SNVI	**San Vicente**	**2.04**	**86**	*e*S	Sn	15 49 11.3	+2.2

IDC 17 15:48:44.4±1.7, 556S×12229E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=320.7km s-min=25.3km az=58.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.49**	**142**	P	Pn	15 53 01.5	-0.5
	0.2nm,0.3s,baz=315,slow=13,SNR=23						
ASAR	**Alice Springs**	**21.20**	**149**	P	P	15 53 32.2	+0.8
	3.2nm,1.0s,baz=335,slow=13,SNR=15						
MKAR	**Makanchi Array**	**63.00**	**330**	P	P	15 59 13.1	+0.1
	0.8nm,0.7s,baz=143,slow=8.5,SNR=10						

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*ISCJB **17** 16:02:59.0±2.4, 123N±0.1×1439E±02, h40km±23km, mb3.8/11, Error ellipse: s-maj=32.6km s-min=17.1km az=29.7*
*NEIC **17** 16:03:00.2±0.6, 12.34N×144.01E, h35km, mb4.3/3, Error ellipse: s-maj=21.2km s-min=12.8km az=111.0*
*IDC **17** 16:03:01.1±2.8, 12.31N×144.06E, h42km±26km, mb3.4/8, mb1 3.7/8, mb1mx3.6/20, mbtmp3.7/8, MS3.5/1, Ms1 3.5/1, ms1mx2.4/27, Error ellipse: s-maj=34.6km s-min=16.1km az=111.0*
ISC 17 16:03:01.3±2.3, 123N±01×1441E±02, h47km±22km, n14, σ0§88/14, mb3.8/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.47**	**32**	P	**Pn**	**16 03 24.7**	**-0.7**
	52nm,0.3s,baz=182,slow=2.8,SNR=35						
GUMO				S	**Sn**	**16 03 43.8**	**+0.5**
	270nm,0.3s,baz=160,slow=24,SNR=14						
JHJ	**Hachijo jima 2**	**21.06**	**350**	LR	LR	16 14 02.7	
	comp=Z,122nm,20.2s,baz=174,slow=31						
WRA	**Warramunga Arr**	**33.48**	**197**	P	**P**	**16 09 36.3**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=19,slow=9.0,SNR=5.3						
ASAR	**Alice Springs**	**37.14**	**196**	P	**P**	**16 10 07.4**	**-0.1**
	0.5nm,0.7s,mb3.4,baz=15,slow=11,SNR=5.0						
SONM	**Songino Array**	**47.32**	**326**	P	**P**	**16 11 31.0**	**+0.7**
	0.2nm,0.4s,mb3.4,baz=142,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**61.86**	**317**	P	**P**	**16 13 16.8**	**+1.1**
	1.1nm,0.7s,mb4.1,baz=103,slow=8.8,SNR=12						
KURK	**Kurchatov**	**65.05**	**320**	*e*P	**P**	**16 13 36.8**	**+0.1**
	3.4nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**70.02**	**25**	P	**P**	**16 14 07.1**	**-1.1**
	0.5nm,0.9s,mb3.5,baz=254,slow=5.6,SNR=5.0						
BRVK	**Borovoye**	**70.50**	**322**	*e*P	**P**	**16 14 10.9**	**-0.2**
	1.1nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**71.26**	**322**	*e*P	**P**	**16 14 15.3**	**-0.4**
	3.2nm,1.0s,mb4.2						
YKA	**Yellowknife Ar**	**84.32**	**27**	P	**P**	**16 15 28.3**	**0.0**
	0.3nm,0.5s,mb3.7,baz=288,slow=5.2,SNR=7.6						
NVAR	**Mina Array Bea**	**88.30**	**51**	P	**P**	**16 15 50.8**	**+2.9**
	0.5nm,0.7s,mb3.9,baz=260,slow=9.5,SNR=5.2						
FINES	**FINESS Array B**	**91.97**	**335**	P	**P**	**16 16 03.5**	**-1.5**
	0.5nm,0.4s,mb4.2,baz=74,slow=6.3,SNR=7.7						
FINES	**FINESS Array B**	**91.97**	**335**	P	**P**	**16 16 03.5**	**-1.5**

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*ISCJB **17** 16:10:53.6±3.6, 183N±0.1×1274E±02, h113km±32km, mb4.1/12, Error ellipse: s-maj=32.5km s-min=11.1km az=134.7*
*NEIC **17** 16:10:57.8±4.3, 177N×127.37E, h142km±41km, mb4.1/8, Error ellipse: s-maj=24.4km s-min=9.2km az=62.0*
*IDC **17** 16:10:59.1±3.5, 187N×127.82E, h158km±30km, mb3.6/6, mb1 3.7/7, mb1mx3.6/17, mbtmp4.0/7, Error ellipse: s-maj=89.1km s-min=12.3km az=70.0*
ISC 17 16:10:57.8±3.4, 174N±010×1274E±02, h138km±31km, n18, σ0§89/18, mb4.0/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**17.05**	**269**	P	**Pn**	**16 14 46.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**19.79**	**185**	P	**P**	**16 15 18.7**	**+1.4**
	0.3nm,0.3s,baz=38,slow=12,SNR=3.9						
WRAB	**Tennant Creek**	**22.61**	**163**	*e*P	**P**	**16 15 46.7**	**-0.2**
	16nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**22.61**	**163**	P	**P**	**16 15 46.8**	**-0.1**
	7.2nm,0.5s,mb4.4,baz=339,slow=11,SNR=156						
WRA				S	**S**	**16 19 43.3**	**-0.8**
	0.8nm,0.8s,baz=333,slow=20,SNR=4.3						
WB2	**Warramunga Arr**	**22.61**	**163**	*e*P	**P**	**16 15 46.9**	**-0.1**
MBWA	**Marble Bar**	**23.96**	**198**	*e*P	**P**	**16 16 00.1**	**+0.8**
	6.9nm,1.0s,mb4.1						
ASAR	**Alice Springs**	**26.05**	**166**	P	**P**	**16 16 18.6**	**+0.4**
	1.7nm,0.5s,mb4.0,baz=351,slow=7.4,SNR=35						
NWAO	**Narrogin (SRO)**	**35.79**	**195**	P	**P**	**16 17 44.1**	**+0.5**
	3.4nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**36.06**	**159**	*e*P	**P**	**16 17 44.3**	**-1.6**
	2.9nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**36.06**	**159**	P	**P**	**16 17 44.4**	**-1.5**
	3.1nm,0.6s,mb4.1,baz=333,slow=8.0,SNR=9.9						
ULN	**Ulaanbaatar**	**49.19**	**342**	*e*P	**P**	**16 19 31.9**	**+0.1**
	1.9nm,1.1s,mb3.6						
SONM	**Songino Array**	**49.37**	**341**	P	**P**	**16 19 32.8**	**-0.4**
	0.3nm,0.5s,mb3.2,baz=159,slow=8.0,SNR=3.9						
MKAR	**Makanchi Array**	**59.54**	**326**	P	**P**	**16 20 46.8**	**+0.2**
	0.9nm,0.4s,mb4.0,baz=124,slow=8.2,SNR=14						
KURK	**Kurchatov**	**63.75**	**328**	*e*P	**P**	**16 21 17.7**	**+2.9**
	3.0nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**70.04**	**327**	*e*P	**P**	**16 21 54.1**	**-0.5**
	0.7nm,0.4s,mb3.7						
VNDA	**Vanda**	**81.39**	**173**	P	**P**	**16 22 58.6**	**-0.5**
	0.7nm,0.5s,mb3.5,baz=338,slow=5.3,SNR=4.1						
KMBO	**Kilima Mbogo**	**90.15**	**269**	P	**P**	**16 23 42.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**124.12**	**287**	PKP	PKPdf	16 29 40.2	+0.4
	0.2nm,0.3s,baz=85,slow=2.2,SNR=6.2						

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*ISCJB **17** 16:11:49.5±0.7, 3787N±004×14088E±007, h92km±4km, mb3.4/2, Error ellipse: s-maj=9.7km s-min=4.9km az=60.9*
*IDC **17** 16:11:50.9±2.2, 3795N×140.77E, h85km±23km, mb3.3/2, mb1 3.3/5, mb1mx3.0/23, mbtmp3.7/5, MS3.8/1, Ms1 3.8/1, ms1mx2.6/20, Error ellipse: s-maj=55.9km s-min=16.6km az=111.0*
*JMA **17** 16:11:50.6, 3789N×140.84E, h84km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs=133.00000°, δ24.00000°, λ-12.00000°. NP2: φs=234.00000°, δ85.00000°, λ-113.00000°. Principal axes: T Plg36.0000°, Azm344.0000°; N Plg23.0000°, Azm236.0000°; P Plg45.0000°, Azm121.0000°;*
ISC 17 16:11:50.4±0.7, 3787N±004×14087E±007, h87km±4km, n20, σ0§52/34, mb3.4/2, 4C-9D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.06**	**266**	⇑P	**Pn**	**16 12 02.4**	**-0.3**
JMM				S	**Sn**	**16 12 11.4**	**-0.3**
JFK	**Kawauchi**	**0.50**	**180**	⇑P	**Pn**	**16 12 05.0**	**+0.1**
JFK				S	**Sn**	**16 12 15.6**	**0.0**
JOU	**Okura**	**0.52**	**342**	⇓P	**Pn**	**16 12 05.0**	**0.0**
JOU				S	**Sn**	**16 12 16.0**	**+0.2**
JFT	**Otama**	**0.55**	**231**	⇑P	**Pn**	**16 12 05.2**	**-0.1**
JFT				S	**Sn**	**16 12 16.3**	**0.0**
JIO	**Ouri**	**0.69**	**33**	⇓P	**Pn**	**16 12 06.6**	**0.0**
JIO				S	**Sn**	**16 12 18.2**	**-0.4**
JYS	**Shiratake**	**0.73**	**299**	⇓P	**Pn**	**16 12 06.6**	**-0.3**
JYS				S	**Sn**	**16 12 18.9**	**-0.3**
JFY	**Yanaizu**	**1.04**	**244**	⇓P	**Pn**	**16 12 10.3**	**0.0**
JFY				S	**Sn**	**16 12 24.9**	**-0.3**
JMK	**Ichinoseki**	**1.11**	**14**	⇓P	**Pn**	**16 12 11.5**	**+0.3**
JMK				S	**Sn**	**16 12 27.2**	**+0.4**
JYK	**Kaneyama**	**1.12**	**339**	⇓P	**Pn**	**16 12 11.2**	**-0.1**
JYK				S	**Sn**	**16 12 26.8**	**-0.2**
JYA	**Atsumi**	**1.16**	**309**	⇓P	**Pn**	**16 12 11.6**	**-0.2**
JNS	**Sasagawa**	**1.23**	**268**	⇓P	**Pn**	**16 12 12.5**	**-0.2**
JNS				S	**Sn**	**16 12 29.3**	**-0.1**
JAW	**Awa shima**	**1.41**	**295**	⇓P	**Pn**	**16 12 14.5**	**-0.3**
JOM	**Ohasama**	**1.63**	**11**	⇑P	**Pn**	**16 12 18.3**	**+0.6**
JOM				S	**Sn**	**16 12 39.4**	**+1.0**
MJAR	**Matsushiro Arr**	**2.51**	**239**	P	**Pn**	**16 12 29.9**	**+0.7**
	3.3nm,0.3s,baz=34,slow=14,SNR=44						
MJAR				S	**Sn**	**16 13 11.6**	**+13**
	3.7nm,0.3s,baz=279,slow=11,SNR=7.8						
MAT	**Matsushiro**	**2.51**	**239**	P	**Pn**	**16 12 30.2**	**+1.0**
MAT				*e*S	**Sn**	**16 12 59.8**	**+0.8**
JHJ	**Hachijo jima 2**	**4.82**	**191**	P	**Pn**	**16 13 00.6**	**0.0**
	5.6nm,0.3s,baz=55,slow=13,SNR=4.4						
JHJ				S	**Sn**	**16 13 51.1**	**-4.0**
	6.0nm,0.3s,baz=46,slow=16,SNR=3.9						
ASAJ	**Asahikawa**	**6.38**	**11**	P	**Pn**	**16 13 20.1**	**-1.6**
	0.7nm,0.3s,baz=36,slow=31,SNR=11						
ASAJ				S	**Sn**	**16 14 33.6**	**+0.6**
	0.4nm,0.3s,baz=105,slow=20,SNR=2.7						
JNU	**Nakatsue**	**9.43**	**243**	LR	LR	16 16 59.7	
	comp=Z,585nm,21.2s,baz=191,slow=33						
MKAR	**Makanchi Array**	**43.31**	**301**	P	**P**	**16 19 43.7**	**+0.1**
	0.3nm,0.7s,mb3.1,baz=82,slow=11,SNR=3.7						
FINES	**FINESS Array B**	**67.88**	**332**	P	**P**	**16 22 38.7**	**-0.9**
	1.1nm,0.8s,mb3.7,baz=42,slow=6.4,SNR=2.9						

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*CSEM **17** 16:12:05.8±0.3, 40.35N×26.17E, h40km, ML2.8, Error ellipse: s-maj=8.0km s-min=3.0km az=110.0*
*ISCJB **17** 16:12:06.3±1.4, 40.39N×007.258E±02, h8km±9km, Error ellipse: s-maj=22.0km s-min=7.2km az=54.5*
*ATH **17** 16:12:06.7, 40.39N×25.90E, h27km±7km, MD3.0/3*
*THE **17** 16:12:08.1, 40.42N×25.87E, h14km, ML2.8*
ISC 17 16:12:07.4±1.5, 4042N±008×258E±02, h16km±9km, n11, σ0§90/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.51**	**22**	*e*Pg	**Pg**	**16 12 17.6**	**-0.1**
ALN				*e*Sg	**Sg**	**16 12 24.7**	**+0.2**
LIA	**Limnos Island**	**0.70**	**222**	*e*PN	**Pn**	**16 12 21.8**	**-0.8**
LIA				*e*SN	**Sg**	**16 12 31.8**	**+1.4**
LIA	**Limnos Island**	**0.70**	**222**	*e*Pn	**Pn**	**16 12 21.6**	**-1.0**
LIA				*e*Sn	**Sg**	**16 12 31.7**	**+1.3**
RDO	**Rodhopi**	**0.75**	**345**	*e*PB	**Pb**	**16 12 21.8**	**-0.3**
RDO				*e*SN	**Sn**	**16 12 34.4**	**0.0**
RDO	**Rodhopi**	**0.75**	**345**	*e*Pb	**Pb**	**16 12 21.5**	**-0.6**
RDO				*e*Sn	**Sn**	**16 12 34.8**	**+0.4**
OUR	**Ouranopolis**	**1.39**	**267**	*e*Pg	**Pg**	**16 12 32.9**	**-1.3**
OUR	**Ouranopolis**	**1.39**	**267**	*e*Pg	**Pg**	**16 12 32.8**	**-1.3**
PAIG	**Paliouri**	**1.69**	**254**	*e*Pb	**Pb**	**16 12 37.1**	**-1.1**
NVR	**Nevrokopi**	**1.73**	**303**	*e*PN	**Pn**	**16 12 38.3**	**+1.4**
NVR	**Nevrokopi**	**1.73**	**303**	*e*Pn	**Pn**	**16 12 37.3**	**+0.4**
KNT	**Kendrikon**	**2.32**	**290**	*e*Pn	**Pn**	**16 12 46.0**	**+1.1**

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*IDC **17** 16:27:01.1±0.9, 1170N×143.10E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.9/22, mbtmp3.8/9, ML4.1/1, Error ellipse: s-maj=43.2km s-min=18.1km az=115.0*
*ISCJB **17** 16:27:02.6±5.8, 117N±0.1×143.1E±02, h21km±42km, mb3.8/9, Error ellipse: s-maj=34.4km s-min=13.5km az=68.1*
*NEIC **17** 16:27:02.5±0.6, 1171N×143.10E, h10km, mb4.1/2, Error ellipse: s-maj=24.0km s-min=12.3km az=117.0*
ISC 17 16:27:04.8±6.2, 117N±01×1431E±02, h23km±44km, n14, σ0§97/16, mb3.8/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.53**	**43**	Pn	**Pn**	**16 27 45.1**	**+0.6**
	36nm,0.3s,baz=183,slow=8.0,SNR=17						
GUMO				Sn	**Sn**	**16 28 16.0**	**+1.4**
	24nm,0.3s,baz=194,slow=24,SNR=4.2						
GUMO	**Guam**	**2.53**	**43**	*e*Pn	**Pn**	**16 27 44.1**	**-0.3**
GUMO				*e*Sn	**Sn**	**16 28 12.7**	**-1.8**
WRA	**Warramunga Arr**	**32.63**	**195**	P	**P**	**16 33 33.6**	**-1.1**
	0.9nm,0.9s,mb3.7,baz=22,slow=8.5,SNR=7.9						
ASAR	**Alice Springs**	**36.31**	**194**	P	**P**	**16 34 07.3**	**+0.8**
	0.6nm,0.9s,mb3.5,baz=24,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**61.64**	**317**	P	**P**	**16 37 21.7**	**+1.1**
	0.3nm,0.5s,mb3.7,baz=108,slow=4.7,SNR=2.7						
ILAR	**Eielson Array**	**70.98**	**25**	P	**P**	**16 38 19.4**	**-1.1**
	1.3nm,0.8s,mb3.9,baz=258,slow=5.5,SNR=9.1						
ZRNK	**Zerenda**	**71.14**	**322**	*e*P	**P**	**16 38 20.9**	**-0.5**
	1.5nm,0.9s,mb3.9						
INK	**Inuvik**	**76.74**	**22**	P	**P**	**16 38 54.2**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=282,slow=6.0,SNR=3.4						
INK	**Inuvik**	**76.74**	**22**	P	**P**	**16 38 53.2**	**-0.9**
	1.8nm,0.9s,mb4.0						
YKA	**Yellowknife Ar**	**85.30**	**27**	P	**P**	**16 39 40.0**	**+0.3**
	0.5nm,0.5s,mb3.9,baz=288,slow=4.9,SNR=9.5						
YKA	**Yellowknife Ar**	**85.30**	**27**	P	**P**	**16 39 40.0**	**+0.3**
ARCES	**ARCESS Array B**	**88.31**	**342**	P	**P**	**16 39 53.9**	**-0.5**
	0.8nm,0.6s,mb4.2,baz=64,slow=8.2,SNR=5.1						
ARCES	**ARCESS Array B**	**88.31**	**342**	P	**P**	**16 39 53.9**	**-0.5**
NVAR	**Mina Array Bea**	**89.43**	**51**	P	**P**	**16 40 01.2**	**+1.5**
	0.3nm,0.5s,mb3.9,baz=268,slow=5.3,SNR=4.3						

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*MOS **17** 16:44:21.3±1.4, 4578N×149.97E, h120km, mb3.8/4, Error ellipse: s-maj=33.0km s-min=22.5km az=61.0*
*ISCJB **17** 16:44:24.7±1.1, 450N±0.1×1500E±0.1, h191km±10km, mb3.4/7, Error ellipse: s-maj=23.3km s-min=8.5km az=93.1*
*JMA **17** 16:44:24.8±0.4, 4494N×150.12E, h107km, M3.8*
*IDC **17** 16:44:25.7±3.6, 4575N×149.84E, h144km±34km, mb3.3/7, mb1 3.4/8, mb1mx3.1/22, mbtmp3.7/8, Error ellipse: s-maj=32.9km s-min=22.6km az=121.0*
ISC 17 16:44:25.8±1.2, 449N±01×1500E±02, h191km±12km, n40, σ1§00/52, mb3.4/7, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.53**	**283**	⇑*i*PN	**Pn**	**16 44 49.0**	**-10**
KUR				*i* S	**Sn**	**16 45 11.3**	**-13**
KUR				pmax	pmax		
	comp=N,240nm,0.4s						
KUR				pmax	pmax		
	comp=E,150nm,0.4s						
KUR				pmax	pmax		
	comp=Z,270nm,0.4s						
KUR				smax			
	comp=N,860nm,0.5s						
KUR				smax			
	comp=E,380nm,0.5s						
NEM2	**Nemuro 2**	**3.42**	**245**	P	**Pn**	**16 45 18.5**	**-1.5**
NEM2				*e*S	**Sn**	**16 45 59.5**	**-2.8**
JNK	**Nakash**	**4.00**	**253**	P	**Pn**	**16 45 26.9**	**-0.3**
JAK	**Akkeshi**	**4.26**	**245**	P	**Pn**	**16 45 29.7**	**-0.8**
JAK				*e*S	**Sn**	**16 46 20.1**	**-1.3**
JTKR	**Abashiri--Toko**	**4.45**	**260**	P	**Pn**	**16 45 32.5**	**-0.3**
JAR	**Ashorobuto**	**

PDAR	**Pinedale Array**	**15.90**	**4**	Pn	Pn	16 52 44.9	+3.8
	0.0nm,0.3s,baz=174,slow=9.7,SNR=3.0						
YBH	**Yreka Blue Hor**	**17.72 330**		LR	LR	16 59 17.4	
	comp=Z,144nm,18.5s,baz=180,slow=35						
NEW	**Newport**	**21.90 349**		LR	LR	17 03 04.8	
	comp=Z,71nm,20.8s,baz=219,slow=39						
YKA	**Yellowknife Ar**	**35.71 357**		P	P	16 55 55.8	-0.3
	0.1nm,0.4s,baz=179,slow=8.0,SNR=4.9						
YKA				LR	LR	17 11 39.9	
	comp=Z,63nm,19.1s,baz=155,slow=38						
ILAR	**Eielson Array**	**44.28 339**		P	P	16 57 07.0	-0.4
	0.2nm,0.9s,baz=146,slow=6.7,SNR=3.2						

*IDC **17** 16:56:11.7±4.8, 52.4S×150.21E, 75km±41km, mb3.8/8, mb1 4.0/9, mb1mx3.8/16, mbtmp4.1/9, ML3.4/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/23, Error ellipse: s-maj=47.6km s-min=24.7km az=110.0*

*ISCJB **17** 16:56:13.4±3.0, 50.5S±01.1×149.6E±0.2, h80km±26km, mb4.2/16, Error ellipse: s-maj=30.4km s-min=18.2km az=23.3*

*NEIC **17** 16:56:15.2±2.2, 50.5S×149.55E, h81km±17km, mb4.4/6, Error ellipse: s-maj=24.7km s-min=14.7km az=97.0*

ISC 17 16:56:16.1±2.7, 51S±01×149.6E±0.2, h89km±22km, n30, σ0§81/30, mb4.3/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.93 210**		P	**Pn**	**16 57 26.6**	**-1.0**
	8.4nm,0.3s,baz=357,slow=5.6,SNR=29						
PMG				S	**Sn**	**16 58 24.4**	**+1.0**
	5.7nm,0.3s,baz=131,slow=20,SNR=2.4						
PMG				LR	LR	16 59 09.5	
	comp=Z,73nm,18.8s,baz=24,slow=35						
PMG	**Port Moresby**	**4.93 210**		P	**Pn**	**16 57 26.6**	**-1.0**
PMG				*e*Sn	**Sn**	**16 58 24.1**	**+0.7**
PMG				S	**Sn**	**16 58 24.4**	**+1.0**
PMG				LR	LR	16 59 09.5	
CTA	**Charters Tower**	**15.25 192**		LR	LR	17 05 30.5	
	comp=Z,114nm,20.0s,baz=26,slow=37						
CTAO	**Charters Tower**	**15.25 192**		P	**Pn**	**16 59 46.8**	**+0.3**
	12nm,1.1s						
WRAB	**Tennant Creek**	**20.94 224**		*e*P	**P**	**17 00 51.3**	**-0.3**
	24nm,0.8s						
WB2	**Warramunga Arr**	**20.95 224**		*e*P	**P**	**17 00 51.7**	**-0.1**
WRA	**Warramunga Arr**	**20.95 224**		**P**	**P**	**17 00 52.1**	**+0.3**
	20nm,0.9s,baz=50,slow=11,SNR=77						
DZM	**Mont Dzumac**	**23.43 138**		LR	LR	17 08 34.0	
	comp=Z,160nm,19.3s,baz=11,slow=32						
AS31	**Alice Springs**	**23.88 218**		*e*P	**P**	**17 01 21.6**	**+0.2**
AS31				*e*		17 01 32.3	
ASAR	**Alice Springs**	**23.88 218**		P	**P**	**17 01 22.1**	**+0.7**
	4.6nm,0.7s,mb3.9,baz=50,slow=8.3,SNR=86						
ASPA	**Alice Springs**	**23.88 218**		*e*P	**P**	**17 01 21.6**	**+0.2**
ASPA				*e*		17 01 32.3	
FITZ	**Fitzroy Crossi**	**26.77 239**		*e*P	**P**	**17 01 47.1**	**-0.5**
	20nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**26.77 239**		P	**P**	**17 01 47.6**	**0.0**
	15nm,0.8s,mb4.6,baz=64,slow=8.8,SNR=20						
STKA	**Stephens Creek**	**27.68 195**		P	**P**	**17 01 51.8**	**-3.9**
	1.1nm,0.6s,mb3.5,baz=18,slow=9.6,SNR=3.7						
MBWA	**Marble Bar**	**33.10 238**		*e*P	**P**	**17 02 42.4**	**-1.2**
	9.4nm,1.2s,mb4.5						
ULN	**Ulaanbaatar**	**64.63 330**		P	**P**	**17 06 48.1**	**+3.8**
SONM	**Songino Array**	**64.94 329**		P	**P**	**17 06 46.3**	**0.0**
	1.1nm,0.7s,mb3.8,baz=138,slow=5.2,SNR=9.6						
JIRN	**Jiri**	**69.26 302**		*e*P	**P**	**17 07 13.0**	**-0.6**
	6.9nm,0.7s,mb4.6						
GUN	**Gumba**	**69.60 302**		*e*P	**P**	**17 07 16.2**	**+0.5**
	16nm,0.8s,mb4.9						
PKI	**Pulchoki**	**69.90 302**		*e*P	**P**	**17 07 18.6**	**+1.1**
KKN	**Kakani**	**70.07 302**		*e*P	**P**	**17 07 18.8**	**+0.2**
	10nm,0.8s,mb4.7						
DMN	**Daman**	**70.17 302**		*e*P	**P**	**17 07 19.3**	**+0.1**
	20nm,0.8s,mb5.0						
GKN	**Gorkha**	**70.68 302**		*e*P	**P**	**17 07 22.2**	**-0.1**
	11nm,0.7s,mb4.8						
KOLN	**Koldanda**	**71.49 301**		*e*P	**P**	**17 07 27.1**	**-0.1**
	8.6nm,0.7s,mb4.7						
VNDA	**Vanda**	**72.65 177**		P	**P**	**17 07 33.5**	**-0.6**
	2.2nm,1.0s,mb3.9						
MKAR	**Makanchi Array**	**78.50 320**		P	**P**	**17 08 06.8**	**-0.8**
	0.2nm,0.6s,mb3.1,baz=118,slow=5.2,SNR=2.8						
COLA	**College**	**83.32 22**		P	**P**	**17 08 35.1**	**+1.9**
	5.8nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**83.64 23**		P	**P**	**17 08 31.1**	**-3.7**
	0.8nm,0.6s,mb3.7,baz=249,slow=5.4,SNR=15						
BVAR	**Borovoye Array**	**87.61 324**		P	**P**	**17 08 54.2**	**-0.2**
	0.6nm,0.7s,mb3.7,baz=116,slow=6.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**147.39 286**		PKPbc	PKPbc	17 15 49.6	+0.1
	1.3nm,1.0s,baz=75,slow=4.5,SNR=5.7						

IDC 17 17:36:26.9±8.4, 1683N×14697E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.9/4, Error ellipse: s-maj=349.7km s-min=128.7km az=27.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**45.35 322**		P	P	17 44 46.8	0.0
	0.4nm,0.4s,baz=131,slow=6.8,SNR=7.5						
MKAR	**Makanchi Array**	**60.62 315**		P	P	17 46 39.8	+0.2
	0.4nm,0.6s,baz=114,slow=6.8,SNR=4.6						
BVAR	**Borovoye Array**	**68.68 321**		P	P	17 47 32.3	+0.1
	1.7nm,0.5s,baz=97,slow=7.7,SNR=18						
FINES	**FINESS Array B**	**89.08 336**		P	P	17 49 23.8	-0.2
	0.9nm,0.9s,baz=72,slow=6.2,SNR=6.5						

IDC 17 17:58:10.8±13.0, 249S×6776E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/24, Error ellipse: s-maj=422.4km s-min=41.8km az=71.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**31.59**	**81**	LR	LR	18 13 42.9	
	comp=Z,57nm,20.2s,baz=109,slow=30						
GNI	**Garni**	**47.38 336**		LR	LR	18 25 49.3	
	comp=Z,33nm,19.0s,baz=354,slow=35						
MKAR	**Makanchi Array**	**50.72**	**13**	P	P	18 07 12.3	0.0
	0.2nm,0.7s,baz=198,slow=7.6,SNR=4.1						
SONM	**Songino Array**	**60.40**	**29**	P	P	18 08 22.2	+0.3
	1.7nm,0.8s,baz=221,slow=6.9,SNR=15						
ASAR	**Alice Springs**	**67.19 115**		P	P	18 09 07.4	+0.7
	0.7nm,0.9s,baz=293,slow=5.9,SNR=4.1						

*ISCJB **17** 18:02:20.9±0.7, 51.49N±0.003×160.9E±0.04, h0km, Error ellipse: s-maj=5.1km s-min=3.3km az=28.9*

*CSEM **17** 18:02:21.1±0.3, 51.59N×160.0E, h2km, ML2.8/3, Error ellipse: s-maj=5.8km s-min=4.7km az=96.0, Suspected Mining induced.*

*PRU **17** 18:02:23.6, 51.46N×160.8E, h0km*

*VIE **17** 18:02:24.9±0.6, 51.30N×160.9E, h0km, mb1.9/2, ML2.5/3, Error ellipse: s-maj=4.4km s-min=3.8km az=80.0 68 km WNW of Breslau Suspected Mining induced.*

ISC 17 18:02:21.6±0.6, 51.54N±0.003×161.0E±0.04, h0km, n16, σ0§84/36, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71 170**		‖*i*Pg	**Pg**	**18 02 36.0**	**+0.8**
KSP				*e*Sg	**Sg**	**18 02 45.2**	**+0.8**
UPC	**Upice**	**1.03 183**		*e*PG	**Pg**	**18 02 41.9**	**+0.5**
DPC	**Dobruska-Polom**	**1.20 173**		*e*PG	**Pg**	**18 02 44.7**	**+0.1**
DPC				*e*SG	**Sg**	**18 02 59.7**	**-0.4**
	15nm,0.3s						
PVCC	**Panska Ves**	**1.40 224**		*e*PG	**Pg**	**18 02 48.7**	**+0.3**
PVCC				*e*SG	**Sg**	**18 03 07.0**	**+0.5**
BRG	**Berggiesshubel**	**1.51 245**		PN	**Pn**	**18 02 50.2**	**+0.4**
BRG				PG	**Pg**	**18 02 51.0**	**+0.5**
BRG				SG	**Sg**	**18 03 10.6**	**+0.4**
	13nm,0.4s						
PRU	**Pruhonice**	**1.84 213**		*e*PG	**Pg**	**18 02 54.8**	**-2.1**
PRU				*e*SG	**Sg**	**18 03 20.0**	**-0.7**
	11nm,0.6s						
CLL	**Collm**	**1.95 264**		*e*Pn	**Pn**	**18 02 56.0**	**+0.1**
CLL				*e*Pg	**Pg**	**18 02 59.0**	**0.0**
CLL				*i* x	x	18 03 02.9	
CLL				*i* Sg	**Sg**	**18 03 24.5**	**+0.2**
	comp=Z,10.0nm,0.7s						
MORC	**Moravsky Berou**	**1.99 152**		*e*Pn	**Pn**	**18 02 56.8**	**+0.3**
MORC				*e*Sg	**Sg**	**18 03 24.4**	**-1.1**
OKC	**Ostrava-Krasne**	**2.15 142**		*e*PG	**Pg**	**18 03 02.6**	**-0.1**
OKC				*e*SG	**Sg**	**18 03 29.2**	**-1.3**
NKC	**Novy Kostel**	**2.66 242**		*e*PN	**Pn**	**18 03 06.3**	**+0.7**
NKC				*e*SG	**Sg**	**18 03 47.9**	**+1.0**
	comp=Z,11nm,0.3s						
OJC	**Ojcow**	**2.69 118**		*e*Pg	**Pg**	**18 03 14.4**	**+1.2**
OJC				*e*Sg	**Sg**	**18 03 49.1**	**+1.0**
KHC	**Kasperske Hory**	**2.90 215**		*e*PN	**Pn**	**18 03 09.3**	**+0.3**
KHC				*e*PG	**Pg**	**18 03 15.3**	**-1.9**
KHC				*e*SN	**Sn**	**18 03 44.5**	**-0.1**
KHC				*e*SG	**Sg**	**18 03 53.8**	**-1.0**
KHC	**Kasperske Hory**	**2.90 215**		*e*Pg	**Pg**	**18 03 15.3**	**-1.9**
KHC				*e*Sn	**Sn**	**18 03 44.5**	**-0.1**
KHC				*e*Sg	**Sg**	**18 03 53.8**	**-1.0**
BSD	**Bornholm Skovb**	**3.65 349**		*i* P	**Pn**	**18 03 19.1**	**-0.2**
BSD				*i* S	**Sn**	**18 04 01.4**	**-1.6**
BSD	**Bornholm Skovb**	**3.65 349**		*e*P	**Pn**	**18 03 19.1**	**-0.2**
BSD				*i* S	**Sn**	**18 04 01.4**	**-1.6**
MOA	**Molln**	**3.88 199**		⇑*i*Pn	**Pn**	**18 03 23.2**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**18 04 26.2**	**-0.1**
	comp=Z,3.6nm,0.5s						

IDC 17 18:47:40.7±5.8, 1056S×12280E, h86km±59km, mb3.5/2, mb1 3.4/5, mb1mx3.3/15, mbtmp3.6/5, ML3.1/3, Error ellipse: s-maj=76.5km s-min=29.9km az=52.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.99 160**		P	Pn	18 49 33.8	-0.1
	0.1nm,0.3s,baz=325,slow=12,SNR=3.0						
FITZ				S	Sn	18 51 04.7	+2.1
	0.5nm,0.3s,baz=167,slow=20,SNR=5.5						
WRA	**Warramunga Arr**	**14.52 131**		P	Pn	18 51 00.9	-0.8
	0.1nm,0.3s,baz=306,slow=14,SNR=9.4						
WRA				S	Sn	18 53 40.5	-0.9
	0.1nm,0.3s,baz=305,slow=30,SNR=3.8						
WB2	**Warramunga Arr**	**14.52 131**		*e*P	Pn	18 51 02.2	+0.3
WB2				*e*S	Sn	18 53 43.7	+2.0
ASPA	**Alice Springs**	**16.79 142**		*e*P	Pn	18 51 32.5	+2.1
ASAR	**Alice Springs**	**16.79 142**		P	Pn	18 51 32.4	+2.0
	0.1nm,0.3s,baz=322,slow=13,SNR=15						
ASAR				S	S	18 54 36.3	-5.7
	0.1nm,0.3s,baz=318,slow=26,SNR=3.6						
STKA	**Stephens Creek**	**27.42 143**		P	P	18 53 18.3	+0.1
	1.1nm,0.7s,baz=320,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**67.58 331**		P	P	18 58 28.0	0.0
	0.6nm,0.8s,baz=146,slow=8.0,SNR=5.4						

*ISCJB **17** 18:57:41.7±0.9, 1359N±008×1450E±0.2, h132km±5km, mb3.7/15, Error ellipse: s-maj=36.9km s-min=13.6km az=4.8*

*IDC **17** 18:57:42.7±0.7, 1360N×144.90E, h124km±3km, mb3.6/10, mb1 3.8/10, mb1mx3.6/20, mbtmp3.9/10, Error ellipse: s-maj=29.0km s-min=14.0km az=91.0*

*NEIC **17** 18:57:43.2±0.8, 1360N×144.95E, h130km±7km, mb4.0/5, Error ellipse: s-maj=23.2km s-min=9.9km az=91.0*

ISC 17 18:57:42.6±0.9, 1362N±008×1451E±.02, h127km±5km, n23, σ0§68/19, mb3.9/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.21 263**		P	**Pn**	**18 58 00.7**	**+0.7**
	2μm,0.3s,baz=108,slow=2.8,SNR=3244						
GUMO				S	**Sn**	**18 58 12.7**	**-0.5**
	2μm,0.3s,baz=150,slow=22,SNR=62						
WRAB	**Tennant Creek**	**34.97 198**		*e*P	**P**	**19 04 23.7**	**+1.3**
	4.7nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**34.98 198**		P	**P**	**19 04 22.8**	**+0.3**
	2.2nm,0.8s,mb4.1,baz=19,slow=9.3,SNR=5.6						
FITZ	**Fitzroy Crossi**	**36.89 212**		P	**P**	**19 04 38.7**	**-0.1**
	1.0nm,0.3s,mb4.3,baz=45,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**38.63 197**		P	**P**	**19 04 53.6**	**+0.2**
	1.2nm,0.7s,mb3.8,baz=24,slow=12,SNR=13						
MBWA	**Marble Bar**	**42.59 216**		*e*P	**P**	**19 05 26.0**	**0.0**
	3.6nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**45.35 184**		P	**P**	**19 05 46.4**	**-1.6**
	1.5nm,0.3s,mb4.1,baz=8.5,slow=10,SNR=6.3						
SONM	**Songino Array**	**46.83 325**		P	**P**	**19 06 00.3**	**+0.8**
	0.4nm,0.6s,mb3.4,baz=128,slow=6.1,SNR=6.4						
SONM				PcP	PcP	19 07 31.2	+0.7
	0.2nm,0.5s,baz=155,slow=3.0,SNR=4.6						
MKAR	**Makanchi Array**	**61.61 316**		P	**P**	**19 07 46.7**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=104,slow=8.6,SNR=8.7						
KURK	**Kurchatov**	**64.70 320**		*e*P	**P**	**19 08 07.1**	**+0.1**
	1.9nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**68.46 25**		P	**P**	**19 08 31.0**	**+0.1**
	0.4nm,0.5s,mb3.5,baz=246,slow=6.1,SNR=7.8						
BVAR	**Borovoye Array**	**70.03 322**		P	**P**	**19 08 40.4**	**-0.2**
	baz=105,slow=7.7						
BRVK	**Borovoye**	**70.10 322**		*e*P	**P**	**19 08 40.7**	**-0.3**
	1.0nm,0.7s,mb3.8						
ZRNK	**Zerenda**	**70.86 322**		*e*P	**P**	**19 08 45.7**	**+0.1**
	0.4nm,0.5s,mb3.5						
YKA	**Yellowknife Ar**	**82.74 27**		P	**P**	**19 09 53.0**	**+0.8**
	0.2nm,0.4s,mb3.3,baz=285,slow=5.1,SNR=5.1						
YKA	**Yellowknife Ar**	**82.74 27**		P	**P**	**19 09 53.0**	**+0.8**
ARCES	**ARCESS Array B**	**87.12 342**		P	**P**	**19 10 13.8**	**-0.3**
	2.6nm,0.9s,mb4.2,baz=73,slow=9.0,SNR=3.7						
FINES	**FINESS Array B**	**91.22 335**		P	**P**	**19 10 31.9**	**-1.5**
	0.6nm,0.5s,mb4.0,baz=79,slow=4.5,SNR=9.3						
TORD	**Torodi Ar. Bea**	**135.02 305**		PKP	PKPdf	19 16 49.4	+2.7
	0.6nm,0.8s,baz=71,slow=1.0,SNR=2.9						
DBIC	**Dimbokro**	**143.98 302**		PKP	PKPdf	19 17 02.5	-0.4
	1.2nm,0.4s,baz=33,slow=4.7,SNR=5.6						
CFAA	**Coronel Fontan**	**144.61 126**		PKP	PKPdf	19 17 06.0	+1.9
	0.1nm,0.3s,baz=212,slow=2.0,SNR=3.6						
CFAA	**Coronel Fontan**	**144.61 126**		PKP	PKPdf	19 17 06.0	+1.9
LPAZ	**La Paz**	**147.82 99**		PKPbc	PKPbc	19 17 16.9	+4.3
	1.0nm,0.6s,baz=270,slow=3.0,SNR=4.4						

*IDC **17** 19:03:34.5±2.6, 43.31N×105.16W, h0km, mb4.2/1, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, ML4.2/1, Error ellipse: s-maj=57.2km s-min=9.8km az=155.0*

*ISCJB **17** 19:03:37.8±0.6, 43.71N±005×105.31W±008, h0km, mb4.3/1, Error ellipse: s-maj=8.6km s-min=7.1km az=31.6*

*NEIC **17** 19:03:38.6±0.6, 43.72N×105.25W, h0km, ML3.0, Error ellipse: s-maj=8.8km s-min=7.8km az=127.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 17 19:03:38.3±0.6, 43.72N±005×105.22W±008, h0km, n22, σ1§32/23, mb4.3/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94 65**		*e*P	**Pg**	**19 03 57.0**	**+0.7**
PHWY	**Pilot Hill**	**2.43 184**		*e*P	**Pn**	**19 04 19.4**	**+0.3**
RWWY	**Rawlins**	**2.51 217**		*e*P	**Pn**	**19 04 21.1**	**+0.8**
LAO	**LASA Array**	**3.05 347**		*e*P	**Pn**	**19 04 29.4**	**+1.7**
PDAR	**Pinedale Array**	**3.31 255**		Pn	**Pn**	**19 04 31.1**	**-0.3**
	2.9nm,0.3s,baz=72,slow=15,SNR=59						
PDAR				Lg		19 05 15.6	
	8.5nm,0.3s,baz=70,slow=30,SNR=9.3						
GCMT	**Greycliff**	**3.78 305**		*e*P	**Pn**	**19 04 37.3**	**-0.5**
LOHW	**Long Hollow**	**3.91 270**		*e*P	**Pn**	**19 04 40.0**	**+0.4**
ISCO	**Idaho Springs**	**3.93 184**		*e*P	**Pn**	**19 04 40.5**	**+0.7**
FLWY	**Flagg Ranch**	**3.98 277**		*e*P	**Pn**	**19 04 40.1**	**-0.4**
SNOW	**Snow King Moun**	**4.03 268**		P	**Pn**	**19 04 41.4**	**+0.2**
REDW	**Red Top Meadow**	**4.11 267**		*e*P	**Pn**	**19 04 42.6**	**+0.3**
QLMT	**Earthquake Lak**	**4.60 286**		P	**Pn**	**19 04 50.5**	**+1.5**
QLMT				*e*Pg	**Pg**	**19 05 00.2**	**-6.2**
DGMT	**Dagmar**	**4.80 8**		P	**Pn**	**19 04 55.3**	**+3.5**
BOZ	**Bozeman (W)**	**4.96 295**		*e*P	**Pn**	**19 04 52.5**	**-1.5**
TCUT	**Toone Canyon**	**5.27 243**		*e*P	**Pn**	**19 04 55.9**	**-2.3**
EGMT	**Eagleton**	**5.34 325**		*e*P	**Pn**	**19 04 58.4**	**-0.8**
MCMT	**McKenzie Canyo**	**5.59 284**		P	**Pn**	**19 05 05.1**	**+2.5**
PV10	**Paradox Valley**	**6.07 210**		*e*P	**Pn**	**19 05 10.3**	**+1.0**
SRU	**San Rafael**	**6.09 223**		P	**Pn**	**19 05 07.3**	**-2.2**
	7.5nm,0.5s						
ULM	**Lac du Bonnet**	**9.13 41**		P	**Pn**	**19 05 48.6**	**-2.5**
	0.4nm,0.3s,baz=230,slow=13,SNR=3.1						
ULM				Lg		19 08 24.8	
	0.2nm,0.3s,baz=139,slow=19,SNR=3.3						
YKA	**Yellowknife Ar**	**19.59 347**		P	**Pn**	**19 08 09.6**	**+0.5**
	baz=152,slow=8.2,SNR=4.3						
ARCES	**ARCESS Array B**	**61.42 18**		P	**P**	**19 13 53.6**	**-2.7**
	2.1nm,0.8s,mb4.3,baz=331,slow=7.2,SNR=4.9						

*ISCJB **17** 19:15:26.6±7.2, 45S±02×149.3E±.05, h31km±53km, mb3.7/4, Error ellipse: s-maj=90.9km s-min=18.1km az=45.4*

*NEIC **17** 19:15:29.3±3.9, 460S×149.52E, h45km±41km, mb4.2/1, Error ellipse: s-maj=128.4km s-min=21.0km az=130.0*

*IDC **17** 19:15:29.5±6.2, 499S×150.14E, h54km±57km, mb3.4/3, mb1 3.8/4, mb1mx3.4/14, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=128.5km s-min=34.9km az=125.0*

ISC 17 19:15:28.4±4.4, 45S±04×149.5E±06, h36km±44km, n8, σ0§23/9, mb3.7/4, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.39 205**		P	**Pn**	**19 16 46.2**	**-0.1**
	3.0nm,0.3s,baz=29,slow=5.1,SNR=14						
PMG				S	**Sn**	**19 17 47.3**	**+0.1**
	2.4nm,0.3s,baz=328,slow=19,SNR=3.3						
WRAB	**Tennant Creek**	**21.27 223**		*e*P	**P**	**19 20 11.1**	**-0.5**
	11nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**21.27 223**		*e*P	**P**	**19 20 11.9**	**+0.3**
WRA	**Warramunga Arr**	**21.28 223**		P	**P**	**19 20 12.0**	**+0.3**
	2.0nm,0.4s,mb3.8,baz=51,slow=11,SNR=23						
AS31	**Alice Springs**	**24.26 217**		*e*P	**P**	**19 20 42.0**	**0.0**
ASAR	**Alice Springs**	**24.26 217**		P	**P**	**19 20 41.9**	**-0.2**
	0.6nm,0.6s,mb3.2,baz=50,slow=8.3,SNR=20						
ASPA	**Alice Springs**	**24.27 217**		*e*P	**P**	**19 20 42.0**	**-0.1**
ILAR	**Eielson Array**	**83.14 23**		P	**P**	**19 27 50.7**	**+0.1**
	0.5nm,0.7s,mb3.7,baz=243,slow=5.6,SNR=5.8						

*IDC **17** 19:46:07.2±0.7, 16.00S×175.08W, h0km, mb4.7/13, mb1 4.9/14, mb1mx4.8/17, mbtmp4.7/14, ML3.9/1, MS5.2/21, Ms1 5.2/21, ms1mx5.0/29, Error ellipse: s-maj=34.0km s-min=15.2km az=154.0*

*ISCJB **17** 19:46:11.1±0.2, 15.44S±0.07×175.63W±005, h15km, mb5.0/84, MS5.3/128, Error ellipse: s-maj=11.1km s-min=5.8km az=122.4*

*NEIC **17** 19:46:11.5±0.2, 15.33S×175.73W, h10km, mb5.2/56, MS5.3/95, MW5.6, Error ellipse: s-maj=14.2km s-min=5.6km az=147.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.21; $M_{\theta\theta}$0.02; $M_{\phi\phi}$0.19; $M_{r\theta}$0.41; $M_{\theta\phi}$3.05; $M_{r\phi}$0.47; Best double couple: $M_0$3.10000×10^{17} NP1:ϕ_s359.00000°, δ83.00000°, λ172.00000°. NP2:ϕ_s90.00000°, δ82.00000°, λ7.00000°. Principal axes: T 3.2700, Plg10.0000°, Azm314.0000°; N -0.3200, Plg80.0000°, Azm139.0000°; P -2.9500, Plg1.0000°, Azm44.0000°;*

*HRVD **17** 19:46:11.5±0.1, 15.19S×175.12W, h14km, MW5.6/101, Centroid moment Tensor Solution. LP body waves: s90,c181;Mantle waves: s101,c222; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23±.04; $M_{\theta\theta}$1.89±.04; $M_{\phi\phi}$-1.65±.05; $M_{r\theta}$0.17±.09; $M_{\theta\phi}$3.11±.04; $M_{r\phi}$0.05±.09; Best double couple: $M_0$3.58300×10^{17} NP1:ϕ_s15.00000°, δ88.00000°, λ179.00000°. NP2: ϕ_s105.00000°, δ89.00000°, λ2.00000°. Principal axes: T 3.7060, Plg3.0000°, Azm330.0000°; N -0.2400, Plg87.0000°, Azm134.0000°; P -3.4590, Plg1.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **17** 19:46:12.0, 15.30S×175.70W, h10km, mB5.5, mb5.0, Ms5.5, Msz5.3*

*ORF **17** 19:46:14.3, 18.30S×174.42W, h30km, mb5.8*

*MOS **17** 19:46:18.6±2.0, 14.42S×175.19W, h33km, mb5.2/27, MS5.3/35, Error ellipse: s-maj=13.7km s-min=9.1km az=72.7*

ISC 17 19:46:13.0±0.2, 15.42S±007×175.61W±005, h15km, h15km±1.0km: pP-P, n401, σ1§10/174, mb5.0/84, MS5.3/128, 19C-17D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.00**	**68**	Pn	**Pn**	**19 46 59.9**	**-14**
	31nm,0.3s,baz=27,slow=2.3,SNR=16						
AFI				Sn	**Sn**	**19 47 41.4**	**-19**
	40nm,0.3s,baz=202,slow=22,SNR=3.6						
AFI				LR	LR	19 48 16.8	
	comp=Z,44μm,21.5s,baz=259,slow=34						
AFI				T		19 50 38.4	
	79nm,0.3s,baz=101,slow=20,SNR=5.5						
AFI	**Afiamalu**	**4.00**	**68**	*e*P	**Pn**	**19 46 59.8**	**-14**
AFI				*e*		19 50 05.0	
RAO	**Raoul Island**	**13.93 188**		LR	LR	19 53 24.1	
	comp=Z,7μm,19.7s,baz=213,slow=32						
RAR	**Rarotonga**	**16.09 113**		Pn	**Pn**	**19 49 45.5**	**-13**
	0.5nm,0.3s,baz=108,slow=19,SNR=2.5						
RAR				T		20 06 06.3	
	22nm,0.3s,baz=144,slow=8.3,SNR=7.9						
DZM	**Mont Dzumac**	**18.23 246**		Pn	**Pn**	**19 50 30.1**	**+4.8**
	0.5nm,0.3s,baz=71,slow=16,SNR=20						
URZ	**Urewera**	**23.64 194**		P	**P**	**19 51 21.6**	**-2.1**
	6.4nm,0.7s,mb4.1,baz=302,slow=7.4,SNR=5.2						
HNR	**Honiara**	**24.59 281**		LR	LR	19 59 41.2	
	comp=Z,12μm,21.2s,MS5.4,baz=170,slow=32						
HNR	**Honiara**	**24.59 281**		PFAKE		19 51 40.0	+7.6
HNR				LR

ASAR Alice Springs 48.08 252 P **P** **19 54 50.9 -1.0**
comp=Z,24nm,0.8s,mb5.3,baz=85,slow=8.1,SNR=64
ASPA Alice Springs 48.08 252 *e*P **P** **19 54 50.8 -1.0**
GUMO Guam 48.57 304 LR LR 20 12 14.4
comp=Z,2μm,19.4s,MS5.2,baz=122,slow=32
GUMO Guam 48.57 304 PFAKE 19 55 10.0 +14
GUMO LR LR
comp=Z,2μm,19.0s,MS5.2
KAKA Kakadu 50.37 266 *e*P **P** **19 55 14.9 +5.5**
comp=Z,23nm,0.7s,mb5.3
FORT Forrest 53.51 243 *e*P **P** **19 55 32.6 -0.1**
comp=Z,12nm,0.6s,mb5.0
FITZ Fitzroy Crossi 56.12 258 P **P** **19 55 52.5 +0.8**
comp=Z,3.8nm,0.9s,mb4.4,baz=110,slow=13,SNR=3.0
FITZ LR LR 20 17 39.8
comp=Z,3μm,21.1s,MS5.3,baz=101,slow=34
MBWA Marble Bar 61.31 254 *e*P **P** **19 56 27.4 -0.3**
comp=Z,8.8nm,0.8s,mb4.9
MBWA LR LR
comp=Z,4μm,19.0s,MS5.6
KLBR Kellerberrin 62.35 242 *e*P **P** **19 56 35.5 +0.8**
comp=Z,14nm,0.9s,mb5.1
DAV Davao City (W) 62.40 287 PFAKE 19 56 50.0 +15
DAV LR LR
comp=Z,2μm,19.0s,MS5.2
NWAO Narrogin (SRO) 62.75 241 PFAKE 19 56 50.0 +13
NWAO LR LR
comp=Z,3μm,20.0s,MS5.5
SBA Scott Base 63.06 184 PFAKE 19 56 50.0 +10
SBA LR LR
comp=Z,2μm,22.0s,MS5.2
VNDA Vanda 63.14 185 LR LR 20 20 43.8
comp=Z,1μm,19.4s,MS5.1,baz=35,slow=33
VNDA Vanda 63.14 185 *e*P **P** **19 56 40.8 +0.7**
comp=Z,21nm,1.4s,mb5.1
VNDA LR LR
comp=Z,1μm,20.0s,MS5.0
ADK Adak 67.03 359 PFAKE 19 57 20.0 +15
ADK LR LR
comp=Z,3μm,19.0s,MS5.6
MJAR Matsushiro Arr 67.60 321 P **P** **19 57 12.5 +3.6**
comp=Z,2.3nm,0.8s,mb4.2,baz=151,slow=6.7,SNR=6.0
MJAR LR LR 20 21 21.6
comp=Z,2μm,21.6s,MS5.2,baz=125,slow=31
MAJO Matsushiro 67.60 321 PFAKE 19 57 20.0 +11
MAJO LR LR
comp=Z,3μm,22.0s,MS5.5
MAT Matsushiro 67.60 321 P **P** **19 57 12.8 +3.9**
MAT S S 20 06 12.0 +6.7
MAT Matsushiro 67.60 321 P **P** **19 57 13.0 +4.1**
MAT *e*S S 20 06 13.0 +7.7
MAT LR LR
comp=Z,2μm,22.0s,MS5.3
FX1 Attu Island--F 68.71 353 LR LR 20 20 48.7
comp=Z,106nm,21.7s,baz=205,slow=30
TGY Tagaytay City 69.26 292 LR LR 20 22 28.1
comp=Z,8.3nm,20.4s,baz=202,slow=31
CASY Casey 69.50 205 PFAKE 19 57 30.0 +9.2
CASY LR LR
comp=Z,2μm,19.0s,MS5.4
PET Petropavlovsk 71.69 344 *e*P **P** **19 57 39.9 +5.8**
PET *e*PS 20 07 29.0
PET pmax pmax
comp=Z,100nm,9.8s
PET Petropavlovsk 71.69 344 PFAKE 19 57 40.0 +5.9
PET LR LR
comp=Z,3μm,22.0s,MS5.4
YSS Yuzh-Sakhalins 72.47 331 *e*P **P** **19 57 38.2 -0.6**
YSS *e* pP 19 57 44.0 +0.1
YSS *e*PS 20 07 33.0
YSS *e*SS SS 20 11 35.0 -5.9
YSS Yuzh-Sakhalins 72.47 331 *e*P **P** **19 57 37.4 -1.4**
comp=Z,38nm,1.1s,mb5.2
YSS *e* pP 19 57 43.4 -0.4
YSS LR LR
comp=Z,1μm,19.0s,MS5.3
SAO San Andreas Ge 72.78 43 PFAKE 19 57 50.0 +9.3
SAO LR LR
comp=Z,2μm,19.0s,MS5.3
LRV Little Rabbit 72.87 43 P **P** **19 57 41.8 +0.6**
HOPS Hopland 73.05 40 PFAKE 19 57 50.0 +7.7
HOPS LR LR
comp=Z,2μm,22.0s,MS5.4
TATO Taipei 73.28 302 PFAKE 19 57 50.0 +6.4
TATO LR LR
comp=Z,1μm,20.0s,MS5.2
MWC Mount Wilson 73.69 47 *e*P **P** **19 57 46.2 +0.2**
ISA Isabella 74.17 45 PFAKE 19 58 00.0 +11
ISA LR LR
comp=Z,582nm,20.0s,MS4.9
CMB Columbia Colle 74.20 42 *e*P **P** **19 57 49.0 0.0**
CMB pmax pmax
comp=Z,13nm,0.9s,mb4.9
CMB MLR MLR
comp=Z,1μm,19.0s,MS5.2
CMB Columbia Colle 74.20 42 *e*P **P** **19 57 49.0 0.0**
comp=Z,13nm,0.9s,mb4.9
CMB LR LR
comp=Z,1μm,19.0s,MS5.2
OHCM Honcut 74.25 41 *e*P **P** **19 57 49.2 -0.1**
QSPA South Pole Qui 74.62 180 *e*P **P** **19 57 52.1 +0.6**
comp=Z,80nm,1.8s,mb5.3
YBH Yreka Blue Hor 74.92 38 LR LR 20 23 01.7
comp=Z,646nm,20.1s,MS4.9,baz=241,slow=30
MTUM Tungsten Hills 75.02 44 *e*P **P** **19 57 54.5 +0.7**
DAC Darwin (Calif) 75.10 45 PFAKE 19 58 10.0 +16
DAC LR LR
comp=Z,3μm,21.0s,MS5.6
HUMO Hull Mountain 75.30 37 *e*P **P** **19 57 55.1 -0.3**
comp=Z,110nm,1.9s,mb5.5
HUMO LR LR
comp=Z,1μm,20.0s,MS5.2
INCN Inchon 75.57 316 PFAKE 19 58 10.0 +13
INCN LR LR
comp=Z,2μm,20.0s,MS5.3
QZH Quanzhou 75.64 301 P **P** **19 57 57.9 +0.6**
QZH S S 20 07 41.0 +3.0
QZH SKS 20 08 02.3
QZH LR LR
comp=N,970nm,14.6s,MS5.4
QZH LR LR
comp=E,1μm,17.6s,MS5.4
QZH LR LR
comp=Z,4μm,34.3s
NVAR Mina Array Bea 75.78 43 P **P** **19 57 56.1 -2.1**
comp=Z,12nm,0.9s,mb4.8,baz=216,slow=6.8,SNR=28
NVAR LR LR 20 24 29.3
comp=Z,1μm,19.3s,MS5.2,baz=265,slow=30
MNV Mina 75.88 43 *e*P **P** **19 57 58.9 +0.2**
MNV pmax pmax
comp=Z,49nm,1.4s,mb5.2
MNV MLR MLR
comp=Z,2μm,20.0s,MS5.3
MNV Mina 75.88 43 *e*P **P** **19 57 58.9 +0.2**
comp=Z,49nm,1.4s,mb5.2
MNV LR LR
comp=Z,2μm,20.0s,MS5.3
LDFC Landfair 76.21 47 *e*P **P** **19 58 01.5 +0.9**
SSE Sheshan 76.28 308 P **P** **19 57 59.3 -1.7**
SSE PP PP 20 00 49.8 -2.5
SSE S S 20 07 43.9 -1.2
SSE SCS ScS 20 08 14.1 -1.6
SSE SS SS 20 12 38.9 -0.1
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,108nm,5.3s
SSE LR LR
comp=N,502nm,25.6s,MS5.2
SSE LR LR
comp=E,1μm,25.8s,MS5.2
SSE LR LR
comp=Z,2μm,26.6s,MS5.3
TPH Tonopah 76.31 44 *e*P **P** **19 58 01.3 +0.2**
COR Corvallis 76.32 36 PFAKE 19 58 10.0 +8.8
COR LR LR
comp=Z,3μm,19.0s,MS5.5
MOD Modoc 76.47 39 *e*P **P** **19 58 02.3 +0.2**
comp=Z,19nm,1.0s,mb5.0
MOD LR LR
comp=Z,1μm,20.0s,MS5.2
NEN Nelson 76.69 47 *e*P **P** **19 58 03.6 +0.3**
HABR Khabarovsk 77.24 329 *e*P **P** **19 58 11.2 +4.8**
HABR *e*S S 20 07 59.1 +3.6
BMN Battle Mountai 77.57 42 *e*P **P** **19 58 08.5 +0.2**
BMN pmax pmax
comp=Z,14nm,0.9s,mb4.9
BMN MLR MLR
comp=Z,1μm,20.0s,MS5.2
BMN Battle Mountai 77.57 42 *e*P **P** **19 58 08.5 +0.3**
comp=Z,14nm,0.9s,mb4.9
BMN LR LR
comp=Z,1μm,20.0s,MS5.2
MDJ Mudanjiang 77.76 323 P **P** **19 58 06.5 -2.8**
MDJ S S 20 08 00.3 -0.8
MDJ SCS ScS 20 08 20.3 -7.4
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
MDJ AMB AMB
comp=Z,164nm,6.2s
MDJ LR LR
comp=N,2μm,22.3s
MDJ LR LR
comp=E,2μm,27.4s
MDJ LR LR
comp=Z,3μm,21.6s,MS5.6
WVOR Wild Horse Val 77.79 39 *e*P **P** **19 58 09.7 +0.2**
WVOR pmax pmax
comp=Z,19nm,1.0s,mb5.0
WVOR Wild Horse Val 77.79 39 *e*P **P** **19 58 09.7 +0.2**
comp=Z,19nm,1.0s,mb5.0
VFP Flag Point 77.80 36 P **P** **19 58 09.8 +0.2**
TUC Tucson 78.06 52 *e*P **P** **19 58 10.1 -0.9**
TUC pmax pmax
comp=Z,32nm,1.4s,mb5.1
TUC Tucson 78.06 52 *e*P **P** **19 58 10.1 -0.9**
comp=Z,32nm,1.4s,mb5.0
HDW Hoodsport 78.36 33 P **P** **19 58 13.3 +0.7**
SLKM Skilak Lake 78.38 13 *e*P **P** **19 58 12.6 -0.1**
NJ2 Nanjing 78.49 308 *e*P **P** **19 58 11.3 -2.1**
NJ2 AP pP 19 58 16.0 -2.4
NJ2 PP PP 20 01 08.5 -2.4
NJ2 S S 20 08 03.0 -6.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,160nm,6.0s
NJ2 LR LR
comp=Z,2μm,28.1s,MS5.2
WPW White Pass 78.59 35 P **P** **19 58 14.5 +0.6**
CCUT Cedar City 78.66 46 *e*P **P** **19 58 13.8 -0.5**
ARUT Antelope Range 78.73 46 *e*P **P** **19 58 15.2 +0.5**
FIB Fire Island 78.98 12 *e*P **P** **19 58 16.8 +0.7**
FIB pmax pmax
comp=Z,17nm,0.8s,mb5.0
FIB MLR MLR
comp=Z,602nm,20.0s,MS4.9
FIB Fire Island 78.98 12 *e*P **P** **19 58 16.8 +0.7**
comp=Z,17nm,0.8s,mb5.0
FIB LR LR
comp=Z,602nm,20.0s,MS4.9
ELK Elko 79.02 42 *e*P **P** **19 58 16.3 0.0**
ELK pmax pmax
comp=Z,12nm,1.1s
ELK MLR MLR
comp=Z,1μm,19.0s
ELK Elko 79.02 42 *e*P **P** **19 58 16.3 +0.1**
comp=Z,12nm,1.1s,mb4.7
ELK LR LR
comp=Z,1μm,19.0s,MS5.2
WUAZ Wupatki 79.09 48 *e*P **P** **19 58 17.8 +1.1**
comp=Z,88nm,1.5s,mb5.5
JCW Jim Creek 79.29 33 P **P** **19 58 17.9 +0.1**
CMW Cultus Mountai 79.33 33 P **P** **19 58 18.5 +0.6**
KLR Kul'dur 79.39 328 *e*P **P** **19 58 19.0 +0.7**
KLR *e*S S 20 08 20.5 +1.8
HAWA Hanford 79.53 36 *e*P **P** **19 58 18.6 -0.4**
comp=Z,2.0nm,1.2s,mb3.9
HAWA LR LR
comp=Z,132nm,20.0s,MS4.3
MA2 Magadan 79.56 343⇑ *e*P **P** **19 58 20.4 +1.2**
MA2 pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MA2 Magadan 79.56 343 *e*P **P** **19 58 16.5 -2.8**
comp=Z,22nm,1.1s,mb5.0
MA2 LR LR
comp=Z,2μm,21.0s,MS5.5
DL2 Dalian 79.69 315 P **P** **19 58 24.4 +4.5**
DL2 S S 20 08 27.3 +5.6
DL2 SKS 20 08 35.1
DL2 AMB AMB
comp=Z,210nm,4.6s
DL2 LR LR
comp=N,660nm,20.8s,MS5.1
DL2 LR LR
comp=E,580nm,21.4s,MS5.1
DL2 LR LR
comp=Z,690nm,20.9s,MS5.0
CN2 Changchun 79.75 321 *e*P **P** **19 58 20.6 +0.3**
CN2 XP sP 19 58 27.5 +0.3
CN2 *e*S S 20 08 21.1 -1.3
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,800nm,19.0s,MS5.4
CN2 LR LR
comp=E,1μm,19.0s,MS5.4
CN2 LR LR
comp=Z,2μm,21.0s,MS5.4
SNY Shenyang 79.87 318⇑ P **P** **19 58 24.5 +3.6**
SNY AP pP 19 58 28.5 +2.5
SNY XP sP 19 58 32.1 +4.3
SNY PCP PcP 19 58 33.9 +5.4
SNY XS sS 20 08 30.8 -1.3
SNY AMB AMB
comp=Z,312nm,4.7s
SNY LR LR
comp=N,470nm,22.0s,MS5.1
SNY LR LR
comp=E,894nm,19.6s,MS5.1
SNY LR LR
comp=Z,1μm,20.8s,MS5.2
MVU Marysvale 79.92 45 PFAKE 19 58 30.0 +8.8
MVU LR LR
comp=Z,2μm,19.0s,MS5.4
DIV Divide 79.92 14 *e*P **P** **19 58 21.0 -0.2**
comp=Z,93nm,1.0s,mb5.7
DIV LR LR
comp=Z,3μm,21.0s,MS5.6
BMO Blue Mountains 79.94 38 PFAKE 19 58 30.0 +8.7
BMO LR LR
comp=Z,1μm,19.0s,MS5.2
MSU Marysvale 79.95 45 *e*P **P** **19 58 22.4 +1.1**
DUG Dugway 80.34 44 *e*P **P** **19 58 22.2 -1.2**
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
DUG MLR MLR
comp=Z,1μm,19.0s,MS5.3
DUG Dugway 80.34 44 *e*P **P** **19 58 22.2 -1.2**
comp=Z,8.6nm,0.9s,mb4.7
DUG LR LR
comp=Z,1μm,19.0s,MS5.3
OD2 Odessa Site #2 80.56 35 P **P** **19 58 24.5 -0.1**
QIZ Qiongzhong 80.94 293 P **P** **19 58 29.9 +3.2**
QIZ S S 20 08 41.3 +6.3
QIZ SS SS 20 13 47.4 -1.6
QIZ AMB AMB
comp=Z,132nm,5.5s
QIZ LR LR
comp=E,868nm,19.7s
QIZ LR LR
comp=Z,2μm,20.7s,MS5.4
TNA Tin City 80.95 3 *e*P **P** **19 58 23.5 -3.2**
comp=Z,38nm,1.1s,mb5.2
TNA *e* 19 58 30.2
TMUT Trail Mountain 80.99 45 *e*P **P** **19 58 27.5 +0.6**
HLID Hailey 81.01 40 *e*P **P** **19 58 27.5 +0.4**
comp=Z,16nm,0.9s,mb4.9
HLID LR LR
comp=Z,1μm,21.0s,MS5.3
MPU Maple Canyon 81.04 44 *e*P **P** **19 58 27.9 +0.7**
comp=Z,19nm,1.2s,mb4.9
MPU LR LR
comp=Z,3μm,20.0s,MS5.6
SPUT South Promonto 81.12 43 *e*P **P** **19 58 27.5 -0.1**
HVU Hansel Valley 81.14 42 *e*P **P** **19 58 28.0 +0.2**
HVU pmax pmax
comp=Z,14nm,1.0s,mb4.8
HVU Hansel Valley 81.14 42 *e*P **P** **19 58 28.0 +0.2**
comp=Z,14nm,1.0s,mb4.8
SRU San Rafael 81.37 46 *e*P **P** **19 58 28.1 -0.8**
SRU pmax pmax
comp=Z,13nm,1.1s,mb4.8
SRU San Rafael 81.37 46 *e*P **P** **19 58 28.1 -0.8**
comp=Z,13nm,1.1s,mb4.8
MCK McKinley 81.56 12 *e*P **P** **19 58 25.9 -4.1**
MCK pmax pmax
comp=Z,49nm,1.7s,mb5.2
MCK MLR MLR
comp=Z,629nm,22.0s,MS4.9
MCK McKinley 81.56 12 *e*P **P** **19 58 25.9 -4.1**
comp=Z,49nm,1.7s,mb5.2
MCK LR LR
comp=Z,629nm,22.0s,MS4.9
LAZ Ladron 81.72 51 *e*P **P** **19 58 31.7 +0.9**
TCUT Toone Canyon 81.72 43 *e*P **P** **19 58 31.2 +0.4**
LENM Lemitar 81.74 51 *e*P **P** **19 58 31.8 +0.9**
HWUT Hardware Ranch 81.85 43 *e*P **P** **19 58 30.3 -1.2**
comp=Z,44nm,1.8s,mb5.1
HWUT LR LR
comp=Z,2μm,20.0s,MS5.4
NEW Newport 81.94 35 PFAKE 19 58 40.0 +8.0
NEW LR LR
comp=Z,1μm,20.0s,MS5.3
MNTX Cornudas Mount 81.95 54 *e*P **P** **19 58 31.2 -0.9**
comp=Z,52nm,1.8s,mb5.2
MNTX LR LR
comp=Z,2μm,20.0s,MS5.5
BNM Barren Site 82.00 51 *e*P **P** **19 58 33.5 +1.3**
SEY Seymchan 82.00 346 *e*P **P** **19 58 29.5 -2.8**
SEY 20 01 39.4
SEY *e*PPP 20 03 33.3
SEY *e*S S 20 08 42.0 -3.9
SEY *e*PS 20 09 39.7
SEY SS SS 20 14 03.6 -1.2
SEY pmax pmax
comp=N,20nm,1.1s
SEY pmax pmax
comp=Z,50nm,1.1s,mb5.4
SEY pmax pmax
comp=E,10.0nm,1.2s
SEY smax
comp=N,470nm,9.3s
SEY smax
comp=E,180nm,8.1s
SEY MLR MLR
comp=Z,960nm,19.0s,MS5.2
SEY MLR MLR
comp=N,830nm,16.0s,MS5.3
SEY MLR MLR
comp=E,920nm,21.0s,MS5.3
LPM Los Pinos Moun 82.06 51 *e*P **P** **19 58 33.4 +0.8**
PV10 Paradox Valley 82.06 47 *e*P **P** **19 58 33.1 +0.5**
PV01 Paradox Valley 82.29 47 *e*P **P** **19 58 34.1 +0.3**
LTX Lajitas 82.40 57 *e*P **P** **19 58 32.1 -2.3**
LTX pmax pmax
comp=Z,29nm,1.4s,mb5.0
LTX MLR MLR
comp=Z,2μm,22.0s,MS5.5
LTX Lajitas 82.40 57 *e*P **P** **19 58 32.1 -2.3**
comp=Z,29nm,1.4s,mb5.0
LTX LR LR
comp=Z,2μm,22.0s,MS5.5
ANMO Albuquerque 82.45 51 LR LR 20 28 59.7
comp=Z,2μm,18.0s,MS5.6,baz=259,slow=31
ANMO Albuquerque 82.45 51 *e*P **P** **19 58 35.3 +0.6**
ANMO pmax pmax
comp=Z,48nm,1.5s
ANMO MLR MLR
comp=Z,2μm,19.0s
ANMO Albuquerque 82.45 51 *e*P **P** **19 58 35.3 +0.6**
comp=Z,48nm,1.5s,mb5.2
ANMO LR LR
comp=Z,2μm,19.0s,MS5.6
AHID Auburn Hatcher 82.71 42 *e*P **P** **19 58 35.9 -0.1**
comp=Z,31nm,1.4s,mb5.2
AHID LR LR
comp=Z,857nm,19.0s,MS5.1
COLA College 82.80 12 *e*P **P** **19 58 37.3 +0.9**
COLA College 82.80 12 *e*P **P** **19 58 32.9 -3.6**
comp=Z,20nm,0.8s,mb5.2
COLA LR LR
comp=Z,1μm,22.0s,MS5.2
ILAR Eielson Array 82.89 12 P **P** **19 58 34.0 -2.9**
comp=Z,4.3nm,0.9s,mb4.5,baz=210,slow=5.7,SNR=17
GDL2 Guadalupe Moun 82.95 54 *e*P **P** **19 58 37.8 +0.5**
MSO Missoula 82.98 38 *e*P **P** **19 58 36.6 -0.8**
comp=Z,23nm,1.6s,mb5.0
MSO LR LR
comp=Z,944nm,20.0s,MS5.2
DLMT Dillon 83.04 39 *e*P **P** **19 58 37.6 -0.1**
comp=Z,28nm,1.0s,mb5.2
REDW Red Top Meadow 83.16 42 *e*P **P** **19 58 38.3 0.0**
comp=Z,38nm,1.2s,mb5.3
SNOW Snow King Moun 83.27 42 *e*P **P** **19 58 39.1 +0.2**
comp=Z,46nm,1.1s,mb5.4
LOHW Long Hollow 83.43 42 *e*P **P** **19 58 39.6 -0.1**
comp=Z,16nm,1.1s,mb5.0
FLWY Flagg Ranch 83.60 41 *e*P **P** **19 58 41.5 +0.9**
comp=Z,68nm,1.4s,mb5.6
CPRX Cap Rock 83.66 53 *e*P **P** **19 58 40.8 -0.1**
YFT Old Faithful 83.69 41 *e*P **P** **19 58 42.8 +1.8**
YMR Madison River 83.71 40 *e*P **P** **19 58 42.2 +1.1**
comp=Z,35nm,1.1s,mb5.4
BW06 Boulder Array 83.71 43 PFAKE 19 58 50.0 +8.8
BW06 LR LR
comp=Z,1μm,20.0s,MS5.3
PDAR Pinedale Array 83.71 43 P **P** **19 58 37.6 -3.5**
comp=Z,14nm,0.8s,mb5.1,baz=213,slow=2.7,SNR=38
PDAR LR LR 20 29 05.2
comp=Z,977nm,21.1s,MS5.2,baz=248,slow=31
BOZ Bozeman (W) 83.77 39 *e*P **P** **19 58 40.4 -1.1**
BOZ pmax pmax
comp=Z,31nm,1.4s,mb5.2
BOZ MLR MLR
comp=Z,1μm,22.0s,MS5.3
BOZ Bozeman (W) 83.77 39 *e*P **P** **19 58 40.4 -1.1**
comp=Z,31nm,1.4s,mb5.2
BOZ LR LR
comp=Z,1μm,22.0s,MS5.3
SMCO Snowmass 83.87 47 *e*P **P** **19 58 42.2 +0.3**
comp=Z,42nm,1.1s,mb5.5
BJI Beijing 83.95 314 P **P** **19 58 44.3 +1.9**
BJI PP PP 20 02 00.8 +4.8
BJI SS SS 20 14 35.8 +2.1
BJI AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
BJI AMB AMB
comp=Z,219nm,6.8s
BJI LR LR
comp=N,1μm,20.2s,MS5.3
BJI LR LR
comp=E,751nm,20.2s,MS5.3
BJI LR LR
comp=Z,2μm,24.9s,MS5.3
LKWY Lake 84.02 41 *e*P **P** **19 58 43.8 +1.1**
LKWY pmax pmax
comp=Z,25nm,1.0s,mb5.3
LKWY MLR MLR
comp=Z,1μm,19.0s,MS5.3
LKWY Lake 84.02 41 *e*P **P** **19 58 43.8 +1.0**
comp=Z,25nm,1.0s,mb5.3
LKWY LR LR
comp=Z,1μm,19.0s,MS5.3
BILL Bilibino 84.27 353 *e*P **P** **19 58 40.8 -3.2**
BILL *e* pP 19 58 46.6 -2.5
BILL *i* S 20 09 04.1
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
BILL MLR MLR
comp=Z,900nm,19.0s,MS5.2
BILL Bilibino 84.27 353 *e*P **P** **19 58 41.0 -3.0**
comp=Z,34nm,1.0s,mb5.4
BILL *e* pP 19 58 46.4 -2.7
BILL LR LR
comp=Z,2μm,20.0s,MS5.6
RWWY Rawlins 84.79 44 *e*P **P** **19 58 45.1 -1.5**
comp=Z,22nm,1.0s,mb5.2
PMSA Palmer Station 85.01 156 PFAKE 19 59 00.0 +12
PMSA LR LR
comp=Z,3μm,21.0s,MS5.6
ISCO Idaho Springs 85.08 47 *e*P **P** **19 58 47.0 -1.1**
ISCO pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
ISCO MLR MLR
comp=Z,2μm,20.0s,MS5.4

ISCO Idaho Springs 85.08 47 *e*P **P 19 58 47.0 -1.1**
comp=Z,8.0nm,1.0s,mb4.8
ISCO LR LR
comp=Z,2μm,20.0s,MS5.4
PHWY Pilot Hill 85.81 45 *e*P **P 19 58 51.0 -0.8**
JCT Junction City 85.94 57 PFAKE 19 59 00.0 +7.6
JCT LR LR
comp=Z,2μm,20.0s,MS5.4
EGMT Eagleton 86.05 38 *e*P **P 19 58 52.5 -0.4**
comp=Z,10nm,0.8s,mb5.1
EGMT LR LR
comp=Z,855nm,19.0s,MS5.2
GYA Guiyang 86.18 299 P **P 19 58 57.8 +4.2**
GYA AP pP 19 59 02.6 +3.9
GYA XP sP 19 59 05.8 +5.3
GYA S 20 09 35.3
GYA AMB AMB
comp=Z,20nm,1.4s,mb5.2
GYA AMB AMB
comp=Z,160nm,4.8s
GYA LR LR
comp=N,640nm,19.4s,MS5.2
GYA LR LR
comp=E,570nm,18.7s,MS5.2
GYA LR LR
comp=Z,580nm,19.0s,MS5.0
EDM Edmonton 86.63 32 *e*P **P 19 58 55.1 -0.7**
XAN Xi'an 86.93 306 P **P 19 58 56.6 -0.6**
XAN AP pP 19 59 01.1 -1.2
XAN AMB AMB
comp=Z,6.0nm,1.1s,mb4.7
MAW Mawson 87.08 199 LR LR 20 35 10.4
comp=Z,1μm,19.1s,MS5.4,baz=118,slow=34
USHA Ushuaia 87.09 146 LR LR 20 27 57.4
comp=Z,2μm,21.4s,MS5.4,baz=226,slow=29
HHC Hu-ho-hao-te 87.49 313 *e*P **P 19 59 02.8 +2.8**
HHC AP pP 19 59 07.4 +2.3
HHC XP sP 19 59 09.8 +2.9
HHC PP PP 20 02 30.8 +6.1
HHC SKS 20 09 27.9
HHC S 20 09 41.6
HHC XS sS 20 09 49.3 +0.3
HHC SS SS 20 15 28.9 +3.2
HHC AMB AMB
comp=Z,11nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,324nm,4.9s
HHC LR LR
comp=N,641nm,20.1s,MS5.2
HHC LR LR
comp=E,730nm,20.1s,MS5.2
HHC LR LR
comp=Z,1μm,24.5s,MS5.2
LAO LASA Array 87.59 40 PFAKE 19 59 10.0 +10
LAO LR LR
comp=Z,1μm,21.0s,MS5.2
RSSD Black Hills 87.92 43 *e*P **P 19 59 01.7 -0.3**
RSSD pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
RSSD MLR MLR
comp=Z,353nm,20.0s,MS4.8
RSSD Black Hills 87.92 43 *e*P **P 19 59 01.7 -0.3**
comp=Z,8.3nm,1.0s,mb4.9
RSSD LR LR
comp=Z,353nm,20.0s,MS4.8
YAK Yakutsk 88.31 337⇑*i*P **P 19 59 04.3 +0.5**
YAK pmax pmax
comp=Z,4.0nm,0.5s,mb4.9
BTO Baotou 88.48 313 *e*P **P 19 59 10.1 +5.4**
INK Inuvik 88.81 14 *e*P **P 19 59 03.4 -2.8**
INK pmax pmax
comp=Z,43nm,1.9s
INK Inuvik 88.81 14 *e*P **P 19 59 03.4 -2.8**
comp=Z,43nm,1.9s,mb5.5
CBKS Cedar Bluff 88.91 49 PFAKE 19 59 20.0 +13
CBKS LR LR
comp=Z,2μm,19.0s,MS5.5
HKT Hockley 89.01 59 *e*P **P 19 59 07.6 +0.5**
HKT pmax pmax
comp=Z,15nm,1.3s,mb5.2
HKT MLR MLR
comp=Z,527nm,20.0s,MS5.0
HKT Hockley 89.01 59 *e*P **P 19 59 07.6 +0.4**
comp=Z,15nm,1.3s,mb5.2
HKT LR LR
comp=Z,527nm,20.0s,MS5.0
KMI Kunming 89.12 296 P **P 19 59 08.6 +0.9**
KMI AP pP 19 59 11.8 -1.0
KMI XP sP 19 59 13.3 -1.4
KMI PP PP 20 02 41.9 +4.1
KMI S 20 09 55.5
KMI SS SS 20 15 48.4 -1.1
KMI AMB AMB
comp=Z,5.0nm,1.7s,mb4.6
KMI LR LR
comp=N,516nm,25.3s,MS5.2
KMI LR LR
comp=E,993nm,23.0s,MS5.2
KMI LR LR
comp=Z,2μm,23.0s,MS5.4
DGMT Dagmar 89.58 39 *e*P **P 19 59 10.2 +0.4**
comp=Z,31nm,0.9s,mb5.6
DGMT LR LR
comp=Z,984nm,21.0s,MS5.2
CD2 Chengdu 90.01 302 P **P 19 59 18.0 +6.1**
CD2 S 20 10 10.8
CD2 XS sS 20 10 19.9 +7.1
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.3
CD2 AMB AMB
comp=Z,60nm,5.9s
CD2 LR LR
comp=N,610nm,20.4s
CD2 LR LR
comp=Z,720nm,19.8s,MS5.1
YKA Yellowknife Ar 90.97 24 P **P 19 59 13.2 -3.1**
comp=Z,3.0nm,0.8s,mb4.7,baz=241,slow=4.6,SNR=18
YKA LR LR 20 36 49.8
comp=Z,609nm,18.7s,MS5.1,baz=250,slow=33
YKA Yellowknife Ar 90.97 24 P **P 19 59 13.2 -3.1**
YKA LR LR 20 36 49.8
YKW3 Yellowknife Ar 91.01 24 *e*P **P 19 59 16.2 -0.3**
PLCA Paso Flores 91.06 133 LR LR 20 31 48.0
comp=Z,1μm,20.1s,MS5.4,baz=232,slow=30
LZH Lanzhou 91.53 307 *e*P **P 19 59 23.6 +4.7**
LZH AP pP 19 59 29.3 +5.2
LZH XP sP 19 59 31.6 +5.7
LZH SKS 20 09 53.3
LZH *e*S 20 10 18.0
LZH XS sS 20 10 28.0 +1.3
LZH PS PS 20 11 32.0 +3.2
LZH SS SS 20 16 24.0 -0.3
LZH AMB AMB
comp=Z,26nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,148nm,6.0s
LZH LR LR
comp=E,1μm,16.7s
LZH LR LR
comp=Z,2μm,18.3s,MS5.5
SYO Syowa Base 92.14 192⇓*e*P **P 19 59 17.1 -4.7**
SYO Syowa Base 92.14 192⇓*e*PP PP 20 03 02.2 +0.4
MIAR Mount Ida 92.23 55 PFAKE 19 59 30.0 +7.9
MIAR LR LR
comp=Z,2μm,20.0s,MS5.5
VNA3 Neumayer Olymp 93.01 175 *e*P **P 19 59 26.6 +0.8**
ULN Ulaanbaatar 93.04 319⇑*i*P **P 19 59 26.0 +0.1**
ULN Ulaanbaatar 93.04 319 *e*P **P 19 59 24.7 -1.2**
comp=Z,11nm,1.5s,mb5.1
ULN LR LR
comp=Z,1μm,22.0s,MS5.2
FFC Flin Flon 93.30 34 PFAKE 19 59 40.0 +13
FFC LR LR
comp=Z,996nm,20.0s,MS5.3
JTS JuntasAbangare 93.31 80⇑*i*P **P 19 59 27.3 +0.2**
JTS JuntasAbangare 93.31 80 PFAKE 19 59 40.0 +13
JTS LR LR
comp=Z,2μm,20.0s,MS5.7
SONM Songino Array 93.45 319 P **P 19 59 28.3 +0.5**
comp=Z,0.9nm,0.9s,mb4.2,baz=79,slow=1.9,SNR=7.3
SONM LR LR 20 36 13.0
comp=Z,1μm,21.8s,MS5.3,baz=122,slow=32
VNA2 Neumayer--Watz 93.48 176 *e*P **P 19 59 28.6 +0.7**
EFI East Falkland 94.06 146 PFAKE 19 59 40.0 +9.4
EFI LR LR
comp=Z,1μm,19.0s,MS5.4
TIXI Tiksi 94.46 345 *e*P **P 19 59 29.4 -3.0**
TIXI *e*S 20 10 00.5
TIXI *e* 20 10 36.6
TIXI *e* 20 11 47.8
TIXI *e*SS SS 20 16 58.6 -7.7
TIXI pmax pmax
comp=Z,5.0nm,1.3s,mb4.8
TIXI MLR MLR
comp=Z,725nm,18.0s,MS5.2
TIXI Tiksi 94.46 345 PFAKE 19 59 40.0 +7.6
TIXI LR LR
comp=Z,1μm,21.0s,MS5.4
NNA Nana 95.12 104 PFAKE 19 59 50.0 +15
NNA LR LR
comp=Z,1μm,22.0s,MS5.3
ULM Lac du Bonnet 95.29 39 P **P 19 59 35.4 -0.9**
comp=Z,4.2nm,0.9s,mb4.8,baz=268,slow=6.4,SNR=5.4
ULM LR LR 20 38 25.4
comp=Z,788nm,19.1s,MS5.2,baz=14,slow=33
OXF Oxford 95.52 56 PFAKE 19 59 50.0 +13
OXF LR LR
comp=Z,2μm,20.0s,MS5.6
GTA Gaotai 95.54 309 *e*P **P 19 59 42.6 +5.2**
GTA AP pP 19 59 46.8 +4.3
GTA XP sP 19 59 49.6 +5.3
GTA SKS 20 10 16.5
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,61nm,4.2s
GTA LR LR
comp=N,683nm,20.5s,MS5.4
GTA LR LR
comp=E,1μm,24.3s,MS5.4
GTA LR LR
comp=Z,2μm,24.3s,MS5.6
PLAL Pickwick Lake 96.70 56 PFAKE 19 59 50.0 +7.3
PLAL LR LR
comp=Z,1μm,19.0s,MS5.4
OTAV Otavalo 96.96 92 PFAKE 20 00 00.0 +16
OTAV LR LR
comp=Z,749nm,21.0s,MS5.2
LRAL Lakeview Retre 97.11 58 PFAKE 20 00 00.0 +16
LRAL LR LR
comp=Z,1μm,19.0s,MS5.4
EYMN Ely 97.42 42 PFAKE 20 00 00.0 +14
EYMN LR LR
comp=Z,1μm,22.0s,MS5.3
CPCT Cooper Cave 99.64 56 *e*Pdif Pdif 19 59 57.6 +1.7
DWPF Disney 100.71 64 PFAKE 20 00 10.0 +9.4
DWPF LR LR
comp=Z,115nm,20.0s,MS4.4
AAM Ann Arbor 101.63 49 PFAKE 20 00 20.0 +15
AAM LR LR
comp=Z,1μm,22.0s,MS5.4
ACSO Alum Creek Sta 101.76 51 PFAKE 20 00 20.0 +15
ACSO LR LR
comp=Z,2μm,20.0s,MS5.6
LPAZ La Paz 101.80 111 PFAKE 20 00 20.0 +15
LPAZ LR LR
comp=Z,413nm,20.0s,MS5.0
HOPE Hope Point 102.33 157 PFAKE 20 00 20.0 +12
HOPE LR LR
comp=Z,1μm,20.0s,MS5.5
NHSC New Hope 102.72 59 PFAKE 20 00 20.0 +10
NHSC LR LR
comp=Z,1μm,19.0s,MS5.4
BLA Blacksburg 103.22 55 PFAKE 20 00 20.0 +8.2
BLA LR LR
comp=Z,153nm,21.0s,MS4.5
ERPA Erie 104.29 50 PFAKE 20 00 30.0 +13
ERPA LR LR
comp=Z,2μm,20.0s,MS5.6
CBN Corbin 105.76 54 PFAKE 20 04 50.0 +14
CBN LR LR
comp=Z,4μm,20.0s,MS5.9
SDV Santo Domingo 106.67 85 PFAKE 20 04 50.0 +13
SDV LR LR
comp=Z,625nm,20.0s,MS5.2
BINY Binghamton 107.26 50 PFAKE 20 04 50.0 +11
BINY LR LR
comp=Z,3μm,19.0s,MS5.8
NCB Newcomb 108.68 48 PFAKE 20 04 50.0 +8.7
NCB LR LR
comp=Z,860nm,19.0s,MS5.3
DGAR Diego Garcia 108.88 256 PFAKE 20 04 50.0 +8.4
DGAR LR LR
comp=Z,2μm,21.0s,MS5.6
MKAR Makanchi Array 109.33 315 PKiKP PKiKP 20 04 41.9 -0.6
comp=Z,0.9nm,0.8s,baz=107,slow=1.3,SNR=8.6
LBNH Lisbon 110.35 48 PFAKE 20 05 00.0 +16
LBNH LR LR
comp=Z,1μm,19.0s,MS5.5
KURK Kurchatov 111.76 319⇑*i*PKIKP PKiKP 20 04 48.1 +1.0
KURK Kurchatov 111.76 319 PFAKE 20 05 00.0 +13
KURK LR LR
comp=Z,2μm,20.0s,MS5.7
SJG San Juan 112.78 77 PFAKE 20 05 00.0 +11
SJG LR LR
comp=Z,592nm,20.0s,MS5.2
BVAR Borovoye Array 116.59 322 PKP PKPdf 20 04 53.1 -3.2
comp=Z,1.6nm,0.8s,baz=110,slow=1.7,SNR=11
BRVK Borovoye 116.65 322 PKIKP PKPdf 20 04 53.6 -2.8
ZRNK Zerenda 117.43 322 *e*PKIKP PKPdf 20 04 54.2 -3.7
ARU Arti 122.24 328 *i* PKIKP PKPdf 20 05 06.8 -0.4
ARU *e* 20 06 48.8
ARU *e*PPP 20 09 17.6
ARU *e* 20 12 03.7
ARU *e*SS SS 20 23 21.8 +0.5
ARU MLR MLR
comp=Z,2μm,20.5s,MS5.8
ARU MLR MLR
comp=N,500nm,20.0s,MS5.8
ARU MLR MLR
comp=E,2μm,21.0s,MS5.8
APA Apatity 124.59 347⇓*i*PKIKP PKPdf 20 05 11.0 -0.7
APA pmax pmax
comp=Z,26nm,1.3s
APA MLR MLR
comp=Z,1μm,20.0s,MS5.6
AKTK Aktyubinsk 124.68 321 PKP PKPdf 20 05 08.9 -2.9
AKTO Aktyubinsk 124.68 321 PKP PKPdf 20 05 08.9 -2.9
comp=Z,0.8nm,0.6s,baz=68,slow=7.4,SNR=2.6
OBN Obninsk 133.26 335⇑*i*PKIKP PKPdf 20 05 30.2 +2.0
OBN pmax pmax
comp=Z,28nm,2.1s
OBN MLR MLR
comp=Z,700nm,19.0s,MS5.4
NOA NORSAR Array B 134.18 355 PKP PKPdf 20 05 28.4 -1.4
comp=Z,0.6nm,0.9s,baz=21,slow=3.8,SNR=3.4
GNI Garni 137.15 313⇓*i*PKIKP PKPdf 20 05 37.6 +2.2
GNI MLR MLR
comp=Z,800nm,23.0s
SOC Sochi 138.88 320 *i* PKIKP PKPdf 20 05 44.4 +5.8
SOC *e*PPP 20 11 31.0
SOC *e*SS SS 20 27 14.6 +29
AKASG Malin Array Be 139.52 336 PKP PKPdf 20 05 36.5 -3.2
comp=Z,0.6nm,0.5s,baz=38,slow=3.4,SNR=4.7
AKASG Malin Array Be 139.52 336 *i* PKIKP PKPdf 20 05 38.7 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ANN Anapa 139.57 323 *i* PKIKP PKPdf 20 05 45.1 +5.2
ANN pmax pmax
comp=Z,18nm,1.7s
ANN MLR MLR
comp=N,843nm,22.0s
ANN MLR MLR
comp=Z,1μm,22.0s,MS5.5
MALT Malatya 142.36 314 PKIKP PKPdf 20 05 47.1 +2.2
MALT Malatya 142.36 314⇑P PKPdf 20 05 41.0 -3.9
MALT P 20 05 47.1
STHS Stebnicka Huta 143.41 341 *e*PKP PKPdf 20 05 47.3 +0.5
STHS *e* 20 05 51.6
CLL Collm 143.54 351 *e*PKPdf PKPdf 20 05 47.0 0.0
CLL *e*SS SS 20 27 42.0 +2.2
CLL *e*SSS 20 33 12.0
CLL Lm 21 07 00.0
comp=N,700nm,18.4s
CLL Lm 21 07 00.0
comp=E,500nm,20.7s
CLL Lm 21 07 00.0
comp=Z,1μm,19.5s
BURAR Bucovina Array 143.56 336⇑P PKPdf 20 05 44.8 -2.2
BURAR Bucovina Array 143.56 336⇑P PKPdf 20 05 44.9 -2.2
KMBO Kilima Mbogo 143.59 246 PKP PKPdf 20 05 43.3 -3.8
comp=Z,3.2nm,0.9s,baz=53,slow=21,SNR=5.9
KMBO Kilima Mbogo 143.59 246 *i* PKHKP 20 05 43.5
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 143.59 246 *e*PKPpre 20 05 44.1
UPC Upice 143.77 347 *e*PKP PKPdf 20 05 41.2 -6.2
BRG Berggiesshubel 143.81 350 *e*PKP PKPdf 20 05 50.4 +2.9
comp=Z,4.6nm,1.4s
BRG SS SS 20 27 37.0 -5.9
comp=N,735nm,23.9s
BRG
comp=E,261nm,26.3s
BRG
comp=Z,736nm,24.9s
DPC Dobruska-Polom 143.85 347 *e*PKP PKPdf 20 05 48.0 +0.5
DPC AMS AMS 21 07 30.0
comp=Z,2μm,23.6s
MORC Moravsky Berou 144.10 345⇑PKIKP PKPdf 20 05 48.9 +0.9
MORC Moravsky Berou 144.10 345 *e*PKPdf PKPdf 20 05 48.3 +0.3
MOX Moxa 144.39 352 *e*PKP PKPdf 20 05 51.3 +2.8
comp=Z,47nm,1.9s
MOX
comp=Z,400nm,20.0s
KECS Kecovo 144.47 341 *e*PKP PKPdf 20 05 47.4 -1.2
KECS *e* 20 05 50.5
WERD Werda 144.49 351 *e*PKPbc PKPdf 20 05 51.2 +2.6
PRU Pruhonice 144.55 349 *e*PKP PKPdf 20 05 50.8 +2.1
PRU AMS AMS 21 09 10.0
comp=Z,1μm,22.7s
TIRR Tirgusor 144.62 330⇓P PKPdf 20 05 52.0 +3.1
TIRR Tirgusor 144.62 330 PKIKP PKPdf 20 05 52.1 +3.2
TIRR Tirgusor 144.62 330 *e*PKPpre 20 05 45.8
TIRR ⇓P 20 05 52.0
NKC Novy Kostel 144.67 351 *e*PKP PKPdf 20 05 50.9 +1.9
NKC AMS AMS 21 07 50.0
comp=Z,1μm,22.2s
BEBN Eben Emael 144.70 359 E 20 06 15.3
UCC Uccle 144.72 0⇓PKP PKPdf 20 05 47.2 -1.8
HGN Heimansgroeve 144.73 358 *e*PKP PKPdf 20 05 48.5 -0.6
comp=Z,40nm,1.3s
VRAC Vranov 144.77 346 PKPbc PKPdf 20 05 46.6 -2.5
comp=Z,8.1nm,0.8s,baz=64,slow=13,SNR=3.1
VRAC Vranov 144.77 346 PKIKP PKPdf 20 05 52.3 +3.2
VRAC Vranov 144.77 346 PKPbc PKPdf 20 05 46.6 -2.5
VRAC P 20 05 52.3
BR131 Keskin Array S 144.81 319 *e*PKPpre 20 05 47.0
BRTR Keskin Array B 144.81 319 PKPbc PKPdf 20 05 46.4 -2.8
comp=Z,7.2nm,0.8s,baz=98,slow=2.5,SNR=37
BRTR Keskin Array B 144.81 319 *i* PKHKP 20 05 47.2
BRTR pmax pmax
comp=Z,7.0nm,0.8s
MEM Membach 144.88 358 PKP PKPdf 20 05 49.5 +0.2
MEM APKP 20 05 51.9
MENF Mencas 144.91 2 PKP PKPdf 20 05 50.2 +0.8
VYHS Vyhne 144.95 343 *i* PKP PKPdf 20 05 52.4 +3.0
MANZ Manzenberg 144.96 351 *e*PKPbc PKiKP 20 05 51.9 -1.4
MLR Muntele Rosu 144.97 333⇓PKHKP 20 05 47.8
MLR 20 05 53.3
SNF Seneffe 145.01 0 PKP PKPdf 20 05 47.4 -2.1
SNF APKP 20 05 52.4
SNF XPKiKP 20 05 59.8
SNF E 20 06 13.4
TNS Taunus Mts 145.14 355 *e*PKPbc PKiKP 20 05 53.0 -0.6
PSZ Piszkesteto 145.16 342 *e*PKPbc PKPbc 20 05 49.4 0.0
PSZ ⇑*e*P 20 05 53.1
PSZ P 20 05 53.6
ROTZ Rotzenmuhle 145.16 351 *e*PKPbc PKiKP 20 05 53.0 -0.7
DRGR 145.20 338⇑PKHKP 20 05 47.6
DRGR 20 05 53.5
ANTO Ankara 145.25 320 *e*PKHKP 20 05 49.0
GRA1 Grafenberg Arr 145.37 352 *e*PKPbc PKiKP 20 05 54.0 -0.1
GRA1 LR LR
comp=Z,800nm,20.8s,MS5.5
GRF Grafenberg Arr 145.37 352 *e*PKPbc PKiKP 20 05 54.0 -0.1
GRF *e*L 21 13 57.8
comp=Z,814nm,20.8s
VOIR 145.40 334⇓P PKiKP 20 05 54.1 -0.1
VOIR 145.40 334⇓P PKiKP 20 05 54.1 -0.1
GIVF Givet 145.41 360 *e*PKP1 PKPbc 20 05 48.0 -2.2
comp=Z,132nm,1.3s
DOU Dourbes 145.42 360 APKP 20 05 51.5
DOU XPKiKP 20 06 00.5
BAIF Baives 145.46 0 *e*PKP1 PKPbc 20 05 48.4 -1.9
comp=Z,171nm,1.2s
ABH Alteburg 145.54 356 PKP PKPdf 20 05 49.4 -1.0
KHC Kasperske Hory 145.55 349 *e*PKP PKPdf 20 05 48.1 -2.4
KHC *ep*PKP pPKPdf 20 05 54.4 -1.4
KHC AMS AMS 21 06 00.0
comp=Z,2μm,24.5s
KHC Kasperske Hory 145.55 349 *d* *i* PKHKP 20 05 48.2
WET Wettzell 145.66 350 *e*PKPbc PKPbc 20 05 54.1 +3.1
ZST Bratislava 145.68 345 *e*PKP PKPdf 20 05 49.8 -0.9
ZST *i* 20 05 55.3
SRO Srobarova 145.71 343 *e*PKP PKiKP 20 05 55.3 +0.5
TOD Tromm 145.72 355 PKIKP PKPdf 20 05 50.1 -0.7
RUP Ruppelstein 145.75 357 PKHKP 20 05 49.6
GEC2 GERESS Array S 145.81 349 *e*PKPbc PKiKP 20 05 55.0 0.0
GERES GERESS Array B 145.81 349 PKPbc PKPbc 20 05 49.3 -2.1
comp=Z,1.8nm,0.9s,baz=5.7,slow=2.7,SNR=12
WLF Walferdange 145.82 358 *e*PKPbc PKiKP 20 05 55.8 +0.8
WLF Walferdange 145.82 358 PKP PKPdf 20 05 49.5 -1.4
WLF XPKiKP 20 05 56.1
WLF Walferdange 145.82 358 *e*PKPdf PKPdf 20 05 49.6 -1.4
SOP Sopron 146.29 345⇑*ep*PKP/A pPKPdf 20 05 57.7 +0.7
BHL Bhannes 146.35 309 *e*P PKPdf 20 05 54.3 +2.5
LANF Langenberg 146.42 356 PKP PKiKP 20 05 56.3 0.0
STU Stuttgart 146.51 354 *e*PKPbc PKiKP 20 05 57.2 +0.7
FLN La Foliniere 146.51 6 *e*PKP1 PKPbc 20 05 51.6 -1.9
comp=Z,188nm,1.4s
FLN *e*R
comp=Z,1μm,22.0s
FLN La Foliniere 146.51 6 *e*PKP PKPdf 20 05 51.6 -0.5
FLN LR LR
comp=Z,1μm,22.0s,MS5.7
ROSF Rostrenen 146.58 9 *e*PKP1 PKPbc 20 05 51.4 -2.3
comp=Z,126nm,1.3s
BZS Buzias 146.60 338⇓P PKPdf 20 05 50.7 -1.5
BZS Buzias 146.60 338⇓P PKPdf 20 05 50.7 -1.5
LDF La Druitiere 146.72 5 *e*PKP1 PKPbc 20 05 51.8 -2.3
comp=Z,276nm,1.8s
GRR Gorron 146.84 6 *e*PKP1 PKPbc 20 05 52.3 -2.2
comp=Z,134nm,1.3s
FUR Furstenfeldbru 146.86 352 *e*PKPbc PKPbc 20 05 58.5 +4.0
ARSA Arzberg 146.95 346⇓*i*P PKiKP 20 05 59.1 +1.8
comp=Z,24nm,1.1s
ARSA Arzberg 146.95 346⇑*i*PKPab PKPab 20 05 54.6 -1.6
comp=Z,24nm,1.1s
MEZF Maizieres J'vi 147.01 359 *e*PKP1 PKPbc 20 05 53.1 -1.9
WLS Welschbruch 147.01 356 PKP PKPdf 20 05 54.2 +1.3
CDF Champ du Feu 147.02 356 *e*PKP1 PKPbc 20 05 53.2 -1.8
comp=Z,79nm,1.0s
BFO Black Forest 147.03 355 *e*PKPbc PKPbc 20 05 59.2 +4.2
BFO Black Forest 147.03 355 *e*PKPdf PKPdf 20 05 52.1 -0.9
BFO *e*PKPbc PKPbc 20 05 59.2 +4.2
PKSM Moragy 147.07 342⇑PKHKP 20 05 52.6
ECH Echery 147.22 357 PKP PKPdf 20 05 55.1 +1.8
THEF They Montfort 147.26 358 PKP PKPdf 20 05 54.6 +1.2
HAU Haudompre 147.47 358 *e*PKP1 PKPbc 20 05 55.4 -0.9
comp=Z,148nm,1.4s
HAU *e*R
comp=Z,1μm,22.8s
HAU Haudompre 147.47 358 *e*PKP PKPdf 20 05 55.4 +1.7
HAU LR LR
comp=Z,1μm,22.8s,MS5.6
KBA Koelnbreinsper 147.57 349⇑*i*P PKPdf 20 05 56.4 +2.5
comp=Z,17nm,1.1s
MOF Molkenrain 147.59 357 PKP PKiKP 20 05 59.6 +0.9
HINF Hinteralfeld 147.64 357 *e*PKP1 PKPbc 20 05 54.6 -2.1
comp=Z,60nm,1.3s
DAVA Damuels 147.91 353⇓*i*P PKPdf 20 05 57.4 +3.0
comp=Z,36nm,1.1s
PGB Panagyurishte 148.07 332 *e*P PKiKP 20 06 02.0 +2.3
LOMF Lomont 148.10 357 PKP PKPdf 20 05 56.0 +1.2
HYF Humbligny 148.22 2 *e*PKP1 PKPbc 20 05 56.8 -1.5
LOR Lormes 148.25 1 *e*PKP1 PKPbc 20 05 56.6 -1.7
comp=Z,88nm,1.3s
LOR *e*R
comp=Z,2μm,21.2s
LOR Lormes 148.25 1 *e*PKP PKPdf 20 05 56.6 +1.6
LOR LR LR
comp=Z,2μm,21.3s,MS5.8

DAVOX Davos 148.40 353 PKPbc PKPbc 20 05 59.3 +0.6
comp=Z,7.9nm,0.7s,baz=25,slow=3.8,SNR=7.4
SSF Saint Saulge 148.45 1 *e*PKP1 PKPbc 20 05 57.2 -1.7
comp=Z,187nm,1.4s
VISS Visnje 148.47 346 *e*PKPbc PKPbc 20 06 01.4 +2.5
VTS Vitosha 148.47 333 *e*P PKiKP 20 06 00.0 -0.5
VTS Vitosha 148.47 333 ⇑PKHKP 20 05 45.6
RZN Rozhen 148.49 330 *e*P PKPdf 20 06 00.0 +4.6
EIL Elat 148.54 302 *e*PKPbc PKPbc 20 05 58.9 -0.2
BOJS Bojanci 148.65 345 *e*PKPab PKPab 20 05 58.0 -5.0
MFF Saint Martin d 148.69 6 *e*PKP1 PKPbc 20 05 57.3 -2.2
comp=Z,62nm,1.2s
AVF Avril sur Loir 148.72 1 *e*PKP1 PKPbc 20 05 57.5 -2.0
comp=Z,51nm,1.1s
SMF Signal de Mont 148.87 1 *e*PKP1 PKPbc 20 05 58.0 -1.9
comp=Z,132nm,1.3s
CABF La Chapelle 148.88 358 *e*PKP1 PKPbc 20 05 58.8 -1.2
comp=Z,76nm,1.1s
BGF Bois d'Agland 148.93 2 *e*PKP1 PKPbc 20 05 58.3 -1.8
MMB Musomiste 149.03 331 *e*P PKPdf 20 05 59.5 +3.2
KKB Krupnik 149.11 332 *e*P PKPdf 20 05 59.5 +3.1
TCF Toulx Ste Croi 149.18 3 *e*PKP1 PKPbc 20 05 58.8 -1.9
comp=Z,83nm,1.3s
AGO Saint Agoulin 149.45 2 PKP PKiKP 20 06 01.5 -1.0
PYM Petit Puy Mans 149.75 2 PKP PKiKP 20 06 02.5 -0.6
VAY Valandovo 149.77 332 *e*PKP PKPdf 20 05 58.5 +1.1
LPL La Plagne 149.94 357 *e*PKP1 PKPbc 20 06 01.8 -0.8
LPG La Plagne 149.96 357 *e*PKP1 PKPbc 20 06 02.0 -0.6
comp=Z,62nm,1.2s
RJF Les Rejaudoux 150.12 4 *e*PKP1 PKPbc 20 06 00.8 -2.2
comp=Z,168nm,1.6s
RJF *e*R
comp=Z,2μm,22.2s
RJF Les Rejaudoux 150.12 4 *e*PKP PKPdf 20 06 00.8 +2.8
RJF LR LR
comp=Z,2μm,22.3s,MS5.8
LBL Lubilhac 150.27 2 PKP PKiKP 20 06 03.9 -0.3
BNI Bardonecchia 150.40 357 *e*PKHKP 20 06 03.1
LFF La Frestale 150.42 5 *e*PKP1 PKPbc 20 06 02.0 -1.7
comp=Z,84nm,1.1s
CAF Calviac 150.53 3 *e*PKP1 PKPbc 20 06 02.3 -1.7
ORIF Oris-en-Rattie 150.57 358 *e*PKP1 PKPbc 20 06 02.9 -1.2
comp=Z,44nm,1.1s
ORIF *e*R
comp=Z,906nm,21.8s
VIVF Saint-Julien-l 150.66 360 *e*PKP1 PKPbc 20 06 03.0 -1.3
comp=Z,62nm,1.2s
OHR Ohrid 150.72 334 *e*PKP PKPdf 20 06 00.9 +2.0
MBDF Montbardon 150.72 357 *e*PKP1 PKPbc 20 06 03.1 -1.4
comp=Z,54nm,1.3s
SAOF Saorge 151.41 355 PKP PKiKP 20 06 06.5 0.0
AUTN L'Aution 151.41 355 PKP PKiKP 20 06 09.5 +3.0
APE Apeiranthos 151.42 323 ⇑*i*PKIKP PKiKP 20 06 05.5 -1.1
LASF Ste Croix 151.44 1 *e*PKP1 PKPbc 20 06 04.9 -1.2
comp=Z,84nm,1.5s
SMRF Simiane la Rot 151.53 358 *e*PKP1 PKPbc 20 06 05.4 -0.9
comp=Z,65nm,1.4s
SBF Sospel 151.54 355 *e*PKP1 PKPbc 20 06 04.6 -1.8
FRF La Foret Royal 151.89 357 *e*PKP1 PKPbc 20 06 05.4 -1.8
comp=Z,27nm,1.0s
SANT Santorini 151.94 322 PKPbc PKPbc 20 06 04.6 -2.7
PUYF Puyloubier 151.96 358 PKP PKiKP 20 06 11.6 +3.9
SJPF Ste Jean 151.99 9 *e*PKP1 PKPbc 20 06 05.6 -1.8
comp=Z,31nm,1.1s
MTLF Montolieu 152.12 3 *e*PKP1 PKPbc 20 06 06.5 -1.2
comp=Z,45nm,1.4s
LMR La Mourre 152.13 357 *e*PKP1 PKPbc 20 06 06.1 -1.6
comp=Z,96nm,1.4s
EPF Esparros 152.27 6 *e*PKP1 PKPbc 20 06 06.3 -1.7
ETSF Etsaut 152.29 8 *e*PKP1 PKPbc 20 06 06.8 -1.3
comp=Z,32nm,1.0s
PGF Pioggiola 152.68 353 *e*PKP1 PKPbc 20 06 08.3 -0.7
comp=Z,90nm,1.7s
TORD Torodi Ar. Bea 176.54 131 PKP PKPdf 20 06 21.2 -1.3
comp=Z,1.7nm,0.9s,baz=312,slow=1.1,SNR=7.0
TORD PKPab PKPab 20 07 59.6 -4.5
comp=Z,0.5nm,0.9s,baz=242,slow=3.5,SNR=2.9
TORD PP PP 20 12 02.6 +5.6
comp=Z,1.3nm,1.2s,baz=201,slow=6.1,SNR=3.8

MAN 17 19:58:11.9, 1148N×12510E, h4km, mb1.4, ML3.4, MS4.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.33**	**201**	*i* P	Pg	19 58 23.4	+5.1
PLP				*i* S	Sg	19 58 31.7	+9.1
BESP	**Borongan**	**0.35**	**70**	*e*P	Pg	19 58 19.2	+0.5
BESP				*e*S	Sg	19 58 24.9	+1.6
OCLP	**Ormoc**	**0.64**	**229**	*e*P	Pg	19 58 19.3	-4.9
CNP	**Cataman**	**1.11**	**337**	*e*P	Pg	19 58 33.4	+0.2
CNP				*e*S	Sg	19 58 50.3	+2.6
MSLP	**Maasin**	**1.35**	**190**	*e*P	Pn	19 58 37.4	-0.2
MSLP				*e*S	Sg	19 58 55.4	0.0
PVCP	**Virac**	**2.30**	**336**	*e*P	Pn	19 58 50.5	0.0
PAGZ	**Pagadian**	**3.98**	**205**	*e*P	Pn	19 59 03.1	-11

NEIC ***17*** *20:03:56.3±1.0, 702N×12796E, h10km, mb4.3/1, Error ellipse: s-maj=27.2km s-min=14.3km az=51.0*
ISCJB ***17*** *20:04:07.0±1.4, 66N±0.1×127DE±02, h110km±14km, mb3.4/4, Error ellipse: s-maj=28.6km s-min=18.8km az=133.6*
IDC ***17*** *20:04:17.9±12.0, 531N×12445E, h158km±114km, mb3.0/3, mb1 3.2/3, mb1mx2.9/18, mbtmp3.5/3, Error ellipse: s-maj=207.6km s-min=22.4km az=63.0*
ISC 17 20:04:08.3±1.5, 66N±01×1270E±02, h100km±15km, n8, σ0°33/10, mb3.4/4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.52**	**288**	*e*P	**Pn**	**20 04 35.2**	**+0.4**
BIPH	**Bislig**	**1.71**	**337**	||*e*P	**Pn**	**20 04 37.3**	**+0.2**
BIPH				*e*S	**Sn**	**20 04 58.9**	**-0.2**
BUKP	**Musuan**	**2.33**	**303**	*e*P	**Pn**	**20 04 45.3**	**+0.1**
BUKP				*e*S	**Sn**	**20 05 13.1**	**-0.4**
WRA	**Warramunga Arr**	**27.34**	**165**	P	**P**	**20 09 43.2**	**-0.5**
	0.4nm,0.8s,mb3.0,baz=337,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**30.82**	**168**	P	**P**	**20 10 14.8**	**+0.1**
	0.1nm,0.3s,mb3.0,baz=336,slow=7.2,SNR=9.2						
ASAR				PcP	PcP	20 13 10.3	+0.9
	0.2nm,0.4s,baz=350,slow=2.5,SNR=5.3						
MKAR	**Makanchi Array**	**55.41**	**324**	P	**P**	**20 13 32.7**	**+0.5**
	0.5nm,0.5s,mb3.8,baz=131,slow=7.5,SNR=9.6						
MKAR	**Makanchi Array**	**55.41**	**324**	P	**P**	**20 13 32.7**	**+0.5**
ZRNK	**Zerenda**	**65.85**	**326**	*e*P	**P**	**20 14 42.8**	**-0.2**
	1.4nm,0.7s,mb3.9						

ISCJB ***17*** *20:31:14.4±3.1, 44S±02×1250E±0.3, h433km±38km, mb3.4/5, Error ellipse: s-maj=44.9km s-min=12.5km az=119.4*
NEIC ***17*** *20:31:14.8±2.9, 436S×125.13E, h422km±41km, mb4.2/2, Error ellipse: s-maj=30.2km s-min=17.5km az=45.0*
IDC ***17*** *20:31:16.6±3.2, 433S×12550E, h450km±39km, mb2.9/5, mb1 3.1/7, mb1mx3.0/19, mbtmp3.8/7, Error ellipse: s-maj=81.7km s-min=14.0km az=64.0*
ISC 17 20:31:17.8±1.9, 45S±02×1251E±02, h464km±25km, n16, σ0°74/17, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.53**	**178**	*e*P	**P**	**20 34 13.2**	**+0.3**
	2.4nm,0.2s						
FITZ	**Fitzroy Crossi**	**13.53**	**178**	P	**P**	**20 34 13.2**	**+0.3**
	0.6nm,0.3s,baz=17,slow=14,SNR=12						
MBWA	**Marble Bar**	**17.36**	**197**	*e*P	**P**	**20 34 52.6**	**-0.8**
	5.3nm,0.8s						
WRAB	**Tennant Creek**	**17.79**	**150**	*e*P	**P**	**20 34 57.5**	**-0.2**
WRA	**Warramunga Arr**	**17.79**	**150**	P	**P**	**20 34 56.5**	**-1.3**
	0.8nm,0.3s,baz=330,slow=11,SNR=69						
WRA				S	**S**	**20 37 57.2**	**-0.8**
	0.1nm,0.3s,baz=330,slow=19,SNR=2.7						
WB2	**Warramunga Arr**	**17.80**	**150**	*e*P	**P**	**20 34 57.5**	**-0.4**
AS31	**Alice Springs**	**20.86**	**157**	*e*P	**P**	**20 35 27.6**	**+1.5**
ASPA	**Alice Springs**	**20.86**	**157**	*e*P	**P**	**20 35 27.6**	**+1.5**
ASAR	**Alice Springs**	**20.86**	**157**	P	**P**	**20 35 26.8**	**+0.7**
	0.8nm,0.5s,baz=342,slow=15,SNR=16						
ASAR				PcP	PcP	20 39 14.8	+0.6
	0.4nm,0.3s,baz=355,slow=1.5,SNR=11						
SONM	**Songino Array**	**54.65**	**345**	P	**P**	**20 40 01.5**	**-0.2**
	0.5nm,0.8s,mb2.9,baz=164,slow=8.8,SNR=4.7						
MKAR	**Makanchi Array**	**63.52**	**329**	P	**P**	**20 41 02.0**	**+0.5**
	0.7nm,0.4s,mb3.6,baz=125,slow=8.1,SNR=23						
ZAL	**Zalesovo**	**67.25**	**335**	P	**P**	**20 41 24.6**	**-0.4**
	1.0nm,0.3s,mb3.9,baz=328,slow=4.8,SNR=4.0						
KURK	**Kurchatov**	**67.90**	**330**	*e*P	**P**	**20 41 28.7**	**-0.2**
BVAR	**Borovoye Array**	**73.40**	**329**	P	**P**	**20 42 01.6**	**0.0**
	0.3nm,0.4s,mb3.1,baz=126,slow=14,SNR=3.1						
BRVK	**Borovoye**	**73.47**	**329**	*e*P	**P**	**20 42 01.8**	**-0.2**
ZRNK	**Zerenda**	**74.08**	**329**	*e*P	**P**	**20 42 05.4**	**0.0**

BJI ***17*** *20:36:06.5, 032N×9857E, h30km, mB5.3, mb4.5*
IDC ***17*** *20:36:17.9±4.6, 079N×9860E, h79km±36km, mb3.9/11, mb1 4.0/11, mb1mx3.7/22, mbtmp4.2/11, Error ellipse: s-maj=62.0km s-min=13.5km az=55.0*
ISCJB ***17*** *20:36:18.9±1.8, 105N±009×986E±01, h91km±13km, mb4.4/29, Error ellipse: s-maj=25.9km s-min=9.8km az=118.2*
MOS ***17*** *20:36:20.8±1.0, 116N×9886E, h112km, mb4.5/5, Error ellipse: s-maj=30.2km s-min=10.7km az=107.0*
NEIC ***17*** *20:36:21.4±1.9, 106N×9882E, h100km±15km, mb4.3/6, Error ellipse: s-maj=33.2km s-min=9.5km az=60.0*
ISC 17 20:36:19.2±1.7, 099N±009×987E±01, h78km±13km, n46, σ1°04/50, mb4.4/29, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.82**	**8**	P	**Pn**	**20 36 48.9**	**+0.3**
	baz=156,slow=11						
PSI				S	**Sn**	**20 37 09.1**	**-1.8**
	80nm,0.3s,baz=139,slow=15,SNR=10.0						
PSI	**Prapat**	**1.82**	**8**	P	**Pn**	**20 36 48.9**	**+0.3**
PSI				S	**Sn**	**20 37 09.1**	**-1.8**
KULM	**Kulim**	**4.71**	**25**	*e*P	**Pn**	**20 37 28.8**	**+1.0**
KMI	**Kunming**	**24.31**	**9**	P	**P**	**20 41 30.0**	**+0.6**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb3.8						
SHL	**Shillong**	**25.30**	**346**	*e*P	**P**	**20 41 39.0**	**+0.7**
SHL				*e*S	**S**	**20 46 00.0**	**+1.4**
JIRN	**Jiri**	**29.09**	**337**	*e*P	**P**	**20 42 13.6**	**+1.3**
	comp=Z,9.5nm,0.7s,mb4.5						
LSA	**Lhasa**	**29.44**	**347**	P	**P**	**20 42 16.3**	**+0.9**
GUN	**Gumba**	**29.44**	**337**	*e*P	**P**	**20 42 16.7**	**+1.3**
	comp=Z,14nm,0.5s,mb4.9						
KKN	**Kakani**	**29.58**	**335**	*e*P	**P**	**20 42 16.5**	**-0.1**
	comp=Z,8.4nm,0.5s,mb4.6						
GKN	**Gorkha**	**30.04**	**335**	*e*P	**P**	**20 42 20.9**	**+0.2**
	comp=Z,18nm,0.5s,mb5.0						
KOLN	**Koldanda**	**30.30**	**333**	*e*P	**P**	**20 42 23.7**	**+0.8**
	comp=Z,7.2nm,0.4s,mb4.6						
MUN	**Mundaring**	**36.75**	**155**	*e*P	**P**	**20 43 21.6**	**+2.6**
GTA	**Gaotai**	**38.26**	**1**	*e*P	**P**	**20 43 31.9**	**+0.2**
GTA				AP	pP	20 43 37.3	-13
GTA				XP	sP	20 43 40.0	-19
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**40.68**	**123**	P	**P**	**20 43 50.4**	**-1.4**
	comp=Z,2.2nm,0.7s,mb4.1,baz=302,slow=8.7,SNR=12						
WB2	**Warramunga Arr**	**40.69**	**123**	*e*P	**P**	**20 43 55.8**	**+3.9**
HHC	**Hu-ho-hao-te**	**41.36**	**15**	*e*P	**P**	**20 43 58.4**	**+1.0**
HHC				AMB	AMB		
	comp=Z,5.0nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,378nm,8.7s						
BJI	**Beijing**	**42.01**	**20**	P	**P**	**20 44 03.6**	**+0.9**
BJI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
ASPA	**Alice Springs**	**42.10**	**128**	*e*P	**P**	**20 44 06.3**	**+2.9**
AS31	**Alice Springs**	**42.10**	**128**	*e*P	**P**	**20 44 06.3**	**+2.9**
ASAR	**Alice Springs**	**42.10**	**128**	P	**P**	**20 44 02.5**	**-1.0**
	comp=Z,1.0nm,0.6s,mb3.7,baz=298,slow=8.0,SNR=13						
ASAR				S	**S**	**20 50 10.8**	**-6.4**
	comp=Z,0.4nm,0.7s,baz=290,slow=15,SNR=3.6						
ASAR	**Alice Springs**	**42.10**	**128**	P	**P**	**20 44 02.4**	**-1.0**
FORT	**Forrest**	**42.18**	**141**	*e*P	**P**	**20 44 05.2**	**+1.1**
	comp=Z,9.0nm,0.6s,mb4.7						
SONM	**Songino Array**	**47.14**	**7**	P	**P**	**20 44 44.1**	**+0.6**
	comp=Z,5.1nm,0.5s,mb4.5,baz=190,slow=9.6,SNR=75						
ULN	**Ulaanbaatar**	**47.26**	**8**	*e*P	**P**	**20 44 44.7**	**+0.3**
	comp=Z,1.9nm,0.4s,mb4.2						
MKAR	**Makanchi Array**	**47.81**	**345**	P	**P**	**20 44 48.8**	**0.0**
	comp=Z,5.4nm,0.7s,mb4.5,baz=154,slow=8.1,SNR=53						
MKAR	**Makanchi Array**	**47.81**	**345**	P	**P**	**20 44 48.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CN2	**Changchun**	**48.84**	**26**	*e*P	**P**	**20 44 55.8**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
ZAK	**Zakamensk**	**49.37**	**4**	*e*P	**P**	**20 45 00.0**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb4.1						
STKA	**Stephens Creek**	**52.13**	**133**	*e*P	**P**	**20 45 19.3**	**-2.1**
	comp=Z,1.6nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**52.13**	**133**	P	**P**	**20 45 19.2**	**-2.2**
	comp=Z,1.8nm,0.6s,mb4.3,baz=293,slow=7.6,SNR=12						
KURK	**Kurchatov**	**52.39**	**344**	P	**P**	**20 45 23.0**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**52.39**	**344**	*e*P	**P**	**20 45 23.0**	**-0.3**
	comp=Z,3.0nm,0.7s,mb4.4						
ZAL	**Zalesovo**	**54.00**	**350**	P	**P**	**20 45 34.8**	**-0.4**
	comp=Z,5.9nm,0.3s,mb5.0,baz=313,slow=4.7,SNR=26						
BVA0	**Borovoye Array**	**56.94**	**340**	*i* P	**P**	**20 45 55.2**	**-1.1**
BVAR	**Borovoye Array**	**56.94**	**340**	P	**P**	**20 45 55.5**	**-0.7**
	comp=Z,1.8nm,0.5s,mb4.4,baz=142,slow=9.1,SNR=21						
BRVK	**Borovoye**	**57.01**	**340**	*e*P	**P**	**20 45 56.0**	**-0.7**
	comp=Z,1.2nm,0.4s,mb4.3						
ZRNK	**Zerenda**	**57.36**	**339**	*e*P	**P**	**20 45 58.1**	**-1.1**
	comp=Z,1.9nm,0.4s,mb4.5						
BOD	**Bodaibo**	**57.96**	**10**	*e*P	**P**	**20 46 03.3**	**-0.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
AB31	**Akbulak array**	**58.40**	**331**	*i* P	**P**	**20 46 05.7**	**-0.8**
SOKR	**Solikamsk**	**66.82**	**338**	P	**P**	**20 47 07.7**	**+5.2**
SOKR				MLR	MLR		
	comp=Z,940nm,20.0s						
BRTR	**Keskin Array B**	**70.34**	**312**	P	**P**	**20 47 24.4**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.4,baz=124,slow=7.8,SNR=4.1						
TIXI	**Tiksi**	**73.14**	**10**	*e*P	**P**	**20 47 37.8**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
FINES	**FINESS Array B**	**80.87**	**332**	P	**P**	**20 48 24.0**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=106,slow=6.2,SNR=5.4						
FINES	**FINESS Array B**	**80.87**	**332**	P	**P**	**20 48 24.0**	**-0.6**
ARCES	**ARCESS Array B**	**83.23**	**340**	P	**P**	**20 48 36.3**	**-0.7**
	comp=Z,5.4nm,1.0s,mb4.3,baz=73,slow=4.1,SNR=8.3						
HFS	**Hagfors**	**86.64**	**330**	P	**P**	**20 48 53.4**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.9,baz=141,slow=9.6,SNR=6.1						

IDC ***17*** *20:36:19.5±0.8, 4984N×17867W, h0km, mb3.7/11, mb1 4.0/12, mb1mx3.8/24, mbtmp3.8/12, ML3.4/1, Error ellipse: s-maj=21.4km s-min=14.4km az=16.0*
ISCJB ***17*** *20:36:23.6±0.7, 5010N±009×17885W±009, h33km, mb3.7/11, Error ellipse: s-maj=13.3km s-min=7.1km az=143.3*
NEIC ***17*** *20:36:24.4, 4999N×17849W, h42km, MG3.6(AEIC), After AEIC.*
ISC 17 20:36:25.3±0.7, 5008N±009×17880W±009, h35km, n20, σ0°84/22, mb3.7/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**2.25**	**36**	P	**Pn**	**20 36 59.2**	**-0.8**
ADK				S	**Sn**	**20 37 26.1**	**-0.4**
ATKA	**Atka Island**	**3.60**	**52**	P	**Pn**	**20 37 18.1**	**-0.4**
FX1	**Attu Island--F**	**5.75**	**302**	Pn	**Pn**	**20 37 49.2**	**+1.2**
	3.7nm,0.3s,baz=78,slow=20,SNR=7.1						
FX1				Sn	**Sn**	**20 38 51.9**	**-0.9**
	7.0nm,0.3s,baz=107,slow=22,SNR=6.0						
KDAK	**Kodiak Island**	**17.17**	**53**	P	**Pn**	**20 40 17.6**	**-4.7**
	0.9nm,0.3s,baz=308,slow=21,SNR=14						
KDAK				S	**S**	**20 43 29.2**	**-11**
	0.2nm,0.3s,baz=249,slow=14,SNR=4.2						
SLKM	**Skilak Lake**	**19.17**	**46**	*e*P	**Pn**	**20 40 46.6**	**-0.2**
ILAR	**Eielson Array**	**22.28**	**37**	P	**P**	**20 41 18.4**	**-0.8**
	0.3nm,0.7s,mb2.9,baz=218,slow=10,SNR=3.9						
YKA	**Yellowknife Ar**	**36.14**	**45**	P	**P**	**20 43 24.9**	**+0.9**
	0.8nm,0.8s,mb3.7,baz=279,slow=8.0,SNR=12						
YKA				PcP	PcP	20 45 49.5	+0.3
	0.2nm,0.5s,baz=284,slow=3.1,SNR=5.2						
YKA	**Yellowknife Ar**	**36.14**	**45**	P	**P**	**20 43 24.9**	**+0.9**
YKA				PcP	PcP	20 45 49.5	+0.3
EDM	**Edmonton**	**39.47**	**59**	*e*P	**P**	**20 43 54.4**	**+2.2**
PDAR	**Pinedale Array**	**46.72**	**71**	P	**P**	**20 44 50.4**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=0.0,slow=0.4,SNR=3.5						
ARCES	**ARCESS Array B**	**59.38**	**350**	P	**P**	**20 46 24.8**	**+0.8**
	1.3nm,0.6s,mb4.2,baz=26,slow=8.1,SNR=7.3						
MKAR	**Makanchi Array**	**60.85**	**309**	P	**P**	**20 46 34.7**	**+0.6**
	0.4nm,0.6s,mb3.7,baz=71,slow=4.3,SNR=2.0						
FINES	**FINESS Array B**	**67.06**	**347**	P	**P**	**20 47 14.8**	**-0.1**
	0.6nm,0.6s,mb3.8,baz=46,slow=8.2,SNR=5.8						
NOA	**NORSAR Array B**	**68.94**	**355**	P	**P**	**20 47 27.1**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=8.0,slow=6.3,SNR=3.5						
HFS	**Hagfors**	**69.68**	**353**	P	**P**	**20 47 31.6**	**+0.3**
	1.7nm,0.9s,mb4.0,baz=358,slow=5.2,SNR=5.8						
AKASG	**Malin Array Be**	**76.79**	**342**	P	**P**	**20 48 13.5**	**+0.3**
	0.3nm,0.3s,mb3.7,baz=18,slow=5.4,SNR=5.8						
AKASG	**Malin Array Be**	**76.79**	**342**	P	**P**	**20 48 13.5**	**+0.3**
WRA	**Warramunga Arr**	**81.07**	**224**	P	**P**	**20 48 35.3**	**-1.4**
	1.1nm,0.7s,mb3.9,baz=32,slow=6.0,SNR=8.3						
ASAR	**Alice Springs**	**84.52**	**223**	P	**P**	**20 48 53.9**	**-0.8**
	0.8nm,0.5s,mb4.1,baz=23,slow=5.6,SNR=10						
BOSA	**Boshof**	**151.84**	**311**	PKPbc	PKPbc	20 56 15.5	-0.8
	3.6nm,1.0s,baz=342,slow=3.2,SNR=3.5						

BJI ***17*** *20:54:31.6, 6045N×15167W, h96km, mB5.2, mb5.1*
IDC ***17*** *20:54:33.2±0.9, 6078N×15246W, h82km±7km, mb4.3/21, mb1 4.5/26, mb1mx4.5/29, mbtmp4.7/26, MS4.0/4, Ms1 4.0/4, ms1mx3.5/28, Error ellipse: s-maj=12.3km s-min=7.7km az=94.0*
MOS ***17*** *20:54:33.9±0.8, 6087N×15224W, h97km, mb4.7/58, Error ellipse: s-maj=9.5km s-min=4.3km az=88.1*
ISCJB ***17*** *20:54:35.8±0.2, 6095N±003×15209W±004, h111km, mb4.7/130, Error ellipse: s-maj=4.4km s-min=2.8km az=40.5*
NEIC ***17*** *20:54:36.0, 6072N×15195W, h80km, mb4.7/78, After AEIC.*
NEIC Felt [V] at Kasilof; [IV] at Soldotna and Sterling; [III] at Anchor Point, Anchorage, Eagle River, Homer and Kenai; [II] at Palmer. Also felt at Chugiak, Elmendorf AFB, Fort Richardson, Girdwood, Ninilchik, Seward, Valdez, Wasilla and Willow.
SZGRF ***17*** *20:54:52.1, 6300N×15096W, h122km, mb5.0, Central Alaska, United States*
ISC 17 20:54:37.4±0.2, 6098N±003×15205W±005, h113km, h113km±1.6km: pP-P, n358, σ0°87/357, mb4.7/130, 14C-5D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.93**	**77**	P	**Pn**	**20 54 56.2**	**-2.0**
SLKM	**Skilak Lake**	**1.02**	**117**	P	**Pn**	**20 54 53.8**	**-5.2**
RC01	**Rabbit Creek A**	**1.13**	**83**	P	**Pn**	**20 54 57.1**	**-3.1**
RC01				S	**Sn**	**20 55 14.6**	**-2.9**
PMR	**Palmer**	**1.54**	**65**	P	**Pn**	**20 55 02.7**	**-2.2**
PMR				S	**Sn**	**20 55 23.1**	**-2.6**
GHO	**Glory Hole Cre**	**1.71**	**61**	P	**Pn**	**20 55 04.9**	**-2.0**
SVW2	**Sparrevohn**	**1.72**	**276**	P	**Pn**	**20 55 03.6**	**-3.4**
SML	**Sawmill**	**1.98**	**63**	P	**Pn**	**20 55 08.1**	**-2.1**
TRF	**Thorofare Moun**	**2.62**	**18**	P	**Pn**	**20 55 18.9**	**+0.5**
KTH	**Kantishna Hill**	**2.64**	**11**	P	**Pn**	**20 55 19.2**	**+0.5**
TT01	**Tatalina**	**2.69**	**318**	P	**Pn**	**20 55 19.2**	**-0.3**
DIV	**Divide**	**3.06**	**84**	*e*P	**Pn**	**20 55 20.3**	**-4.0**
MCK	**McKinley**	**3.12**	**26**	P	**Pn**	**20 55 25.7**	**+0.6**
KDAK	**Kodiak Island**	**3.22**	**185**	P	**Pn**	**20 55 18.7**	**-7.6**
	109nm,0.3s,baz=28,slow=9.0,SNR=1150						
KDAK				S	**Sn**	**20 55 52.9**	**-11**
	294nm,0.3s,baz=344,slow=12,SNR=18						
KDAK	**Kodiak Island**	**3.22**	**185**	P	**Pn**	**20 55 18.8**	**-7.6**
MID	**Middleton Isla**	**3.25**	**116**	*e*P	**Pn**	**20 55 20.8**	**-6.0**
PAX	**Paxson**	**3.70**	**54**	P	**Pn**	**20 55 32.4**	**-0.3**
COLA	**College**	**4.36**	**24**	P	**Pn**	**20 55 41.7**	**+0.1**
GCSA	**Galena City Sc**	**4.38**	**332**	P	**Pn**	**20 55 43.1**	**+1.2**
MENT	**Mentasta**	**4.40**	**60**	*e*P	**Pn**	**20 55 40.7**	**-1.4**
IL1	**Eielson Array**	**4.48**	**30**	P	**Pn**	**20 55 43.2**	**0.0**
ILAR	**Eielson Array**	**4.48**	**30**	P	**Pn**	**20 55 42.8**	**-0.5**
	89nm,0.3s,baz=217,slow=13,SNR=2297						
ILAR				S	**Sn**	**20 56 34.6**	**+0.2**
	35nm,0.3s,baz=217,slow=21,SNR=7.3						
ILAR				ScP	ScP	21 06 14.8	-0.6
	0.2nm,0.3s,baz=297,slow=2.9,SNR=11						
ILAR	**Eielson Array**	**4.48**	**30**	P	**Pn**	**20 55 42.8**	**-0.5**
ILAR				S	**Sn**	**20 56 34.7**	**+0.3**
DOT	**Dot Lake**	**4.59**	**51**	P	**Pn**	**20 55 44.0**	**-0.7**
IM3	**Indian Mountai**	**5.08**	**352**	P	**Pn**	**20 55 52.0**	**+0.7**
PCA	**Pinnacle**	**5.89**	**93**	P	**Pn**	**20 55 57.7**	**-4.6**
COLD	**Coldfoot**	**6.33**	**7**	P	**Pn**	**20 56 08.9**	**+0.7**
PNL	**Peninsula**	**6.42**	**96**	P	**Pn**	**20 56 05.1**	**-4.4**
BM3	**Burnt Mountain**	**7.23**	**23**	P	**Pn**	**20 56 20.1**	**-0.3**
WHY	**Whitehorse**	**8.40**	**85**	P	**Pn**	**20 56 32.8**	**-3.5**
TNA	**Tin City**	**8.49**	**310**	⇑*i*P	**Pn**	**20 56 37.5**	**0.0**
	21nm,0.7s						
BESE	**Bessie Mountai**	**9.00**	**98**	P	**Pn**	**20 56 40.3**	**-4.1**
SIT	**Sit

comp=Z,8.0nm,0.9s,mb4.2
WVOR Wild Horse Val 27.35 117 *e*P **P 21 00 12.7 +0.9**
comp=Z,7.8nm,0.9s,mb4.2
MA2 Magadan 27.62 293 *e*P **P 21 00 13.7 -0.5**
MA2 pmax pmax
comp=Z,32nm,0.8s,mb4.9
MA2 Magadan 27.62 293 *e*P **P 21 00 13.7 -0.5**
comp=Z,32nm,0.8s,mb4.9
BOZ Bozeman (W) 28.04 105 *e*P **P 21 00 18.4 +0.5**
BOZ pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
BOZ Bozeman (W) 28.04 105 *e*P **P 21 00 18.4 +0.5**
comp=Z,8.1nm,0.7s,mb4.4
HLID Hailey 28.33 111 *e*P **P 21 00 20.1 -0.4**
comp=Z,4.5nm,0.9s,mb4.0
FCC Fort Churchill 28.37 68 *e*P **P 21 00 21.5 +0.7**
FCC *e**PP pP 21 00 45.1 -0.5
FCC pmax pmax
comp=Z,49nm,0.9s,mb5.0
FCC Fort Churchill 28.37 68 *e*P **P 21 00 21.5 +0.7**
comp=Z,49nm,0.9s,mb5.0
FCC *e*pP pP 21 00 45.1 -0.5
QLMT Earthquake Lak 28.74 106 *e*P **P 21 00 25.2 +1.1**
GCMT Greycliff 28.86 102 *e*P **P 21 00 26.4 +1.1**
GCMT *e*pP pP 21 00 49.8 -0.2
LKWY Lake 29.43 105 *e*P **P 21 00 32.5 +2.3**
LKWY pmax pmax
comp=Z,11nm,0.9s,mb4.5
LKWY Lake 29.43 105 *e*P **P 21 00 32.5 +2.3**
comp=Z,11nm,0.9s,mb4.5
ELK Elko 30.20 115 *e*P **P 21 00 38.0 +0.9**
ELK *e**PP pP 21 01 01.3 -0.6
ELK pmax pmax
comp=Z,15nm,0.8s
ELK Elko 30.20 115 *e*P **P 21 00 38.0 +0.9**
comp=Z,15nm,0.8s,mb4.7
ELK *e*pP pP 21 01 01.3 -0.7
NVAR Mina Array Bea 30.81 122 P **P 21 00 43.4 +0.9**
comp=Z,3.4nm,0.7s,mb4.2,baz=312,slow=8.4,SNR=13
NVAR ScP ScP 21 07 09.9 +0.7
comp=Z,1.0nm,0.5s,baz=259,slow=2.1,SNR=4.5
TIXI Tiksi 30.98 323⇑ *i*P **P 21 00 43.8 -0.1**
TIXI pmax pmax
comp=Z,3.0nm,1.3s,mb3.9
SPUT South Promonto 31.00 111 *e*P **P 21 00 45.0 +0.9**
SPUT *e*pP pP 21 01 08.4 -0.6
PDAR Pinedale Array 31.19 106 P **P 21 00 46.2 +0.4**
comp=Z,4.5nm,0.4s,mb4.5,baz=336,slow=4.3,SNR=72
PDAR ScP ScP 21 07 10.7 +0.2
comp=Z,1.0nm,0.8s,baz=67,slow=1.2,SNR=5.6
TCUT Toone Canyon 31.63 110 *e*P **P 21 00 50.2 +0.7**
TCUT *e*pP pP 21 01 14.1 -0.4
DUG Dugway 31.73 113 *e*P **P 21 00 50.5 0.0**
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
DUG Dugway 31.73 113 *e*P **P 21 00 50.5 0.0**
comp=Z,9.1nm,0.9s,mb4.5
ULM Lac du Bonnet 32.48 83 P **P 21 00 57.1 +0.1**
comp=Z,15nm,0.5s,mb5.0,baz=309,slow=9.0,SNR=45
ULM ScP ScP 21 07 15.7 +0.8
comp=Z,5.0nm,0.8s,baz=302,slow=3.2,SNR=7.2
RSSD Black Hills 32.80 99 *e*P **P 21 01 00.3 +0.5**
RSSD pmax pmax
comp=Z,19nm,0.8s,mb5.0
RSSD Black Hills 32.80 99 *e*P **P 21 01 00.3 +0.5**
comp=Z,19nm,0.8s,mb5.0
MSU Marysvale 33.39 114 *e*P **P 21 01 06.6 +1.6**
MSU *e**PP pP 21 01 28.9 -1.1
ARUT Antelope Range 33.43 116 *e*P **P 21 01 06.4 +1.1**
SRU San Rafael 33.64 111 *e*P **P 21 01 07.8 +0.6**
SRU pmax pmax
comp=Z,28nm,0.8s,mb5.1
SRU San Rafael 33.64 111 *e*P **P 21 01 07.8 +0.7**
comp=Z,28nm,0.8s,mb5.2
CCUT Cedar City 33.66 116 *e*P **P 21 01 08.1 +0.8**
NEN Nelson 34.63 120 *e*P **P 21 01 16.9 +1.2**
YAK Yakutsk 35.25 307 *e*P **P 21 01 20.2 -0.8**
YAK pmax pmax
comp=Z,11nm,1.2s,mb4.6
PV01 Paradox Valley 35.33 110 *e*P **P 21 01 22.6 +0.9**
EYMN Ely 36.15 83 *e*P **P 21 01 28.7 0.0**
comp=Z,35nm,0.6s,mb5.5
WUAZ Wupatki 36.23 116 *e*P **P 21 01 30.6 +1.1**
comp=Z,33nm,0.8s,mb5.3
WUAZ *e*pP pP 21 01 53.0 -1.7
ANMO Albuquerque 38.91 111 P **P 21 01 51.5 -0.5**
comp=Z,1.4nm,0.5s,mb4.1,baz=351,slow=7.7,SNR=4.6
ANMO ScP ScP 21 07 40.0 +1.8
comp=Z,1.6nm,0.6s,baz=342,slow=1.5,SNR=4.4
ANMO Albuquerque 38.91 111⇓ *i*P **P 21 01 53.4 +1.5**
ANMO *i* *PP pP 21 02 18.4 +0.9
ANMO Albuquerque 38.91 111 P **P 21 01 51.5 -0.5**
ANMO ScP ScP 21 07 40.0 +1.8
CBKS Cedar Bluff 38.94 100 *e*P **P 21 01 52.8 +0.6**
CBKS pmax pmax
comp=Z,32nm,0.8s,mb5.2
CBKS Cedar Bluff 38.94 100 *e*P **P 21 01 52.8 +0.7**
comp=Z,32nm,0.8s,mb5.2
LAZ Ladron 39.05 112 *e*P **P 21 01 54.2 +1.1**
LAZ *e*pP pP 21 02 18.0 -0.7
YSS Yuzh-Sakhalins 39.09 280 *e*P **P 21 01 53.2 -0.3**
YSS pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
YSS Yuzh-Sakhalins 39.09 280 *e*P **P 21 01 53.2 -0.2**
comp=Z,5.5nm,0.5s,mb4.6
SUMG Summit 39.32 26 *e*P **P 21 01 56.5 +1.1**
comp=Z,46nm,0.8s,mb5.4
DAG Danmarks Havn 39.43 15⇑ *i*P **P 21 01 56.8 +0.5**
comp=Z,5.3nm,0.6s,mb4.5
DAG Danmarks Havn 39.43 15⇑ *i*P **P 21 01 56.8 +0.5**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
SFJD Kangerlussuaq 40.11 37 P **P 21 02 02.9 +1.0**
comp=Z,31nm,0.6s,mb5.3,baz=303,slow=9.4,SNR=21
SFJD ScP ScP 21 07 43.6 +0.6
comp=Z,10nm,0.7s,baz=67,slow=2.3,SNR=6.3
SFJD Kangerlussuaq 40.11 37 *i* P **P 21 02 02.6 +0.7**
comp=Z,31nm,0.8s,mb5.2
SFJD *i* pP 21 02 29.6 +2.0
SFJD Kangerlussuaq 40.11 37 *i* P **P 21 02 02.6 +0.7**
SFJD *i* pP 21 02 29.6 +2.0
SFJD pmax pmax
comp=Z,31nm,0.8s,mb5.2
KSU1 Kansas State U 40.22 97 *e*P **P 21 02 02.4 -0.4**
KSU1 *e*pP pP 21 02 26.2 -2.3
HABR Khabarovsk 41.66 287 *e*P **P 21 02 13.4 -1.2**
HABR *e*S **S 21 08 23.2 +0.4**
MNTX Cornudas Mount 42.12 112 *e*P **P 21 02 19.1 +0.7**
comp=Z,6.2nm,0.8s,mb4.4
MNTX *e*pP pP 21 02 42.1 -2.1
SCHQ Schefferville 42.64 58 P **P 21 02 23.1 +0.4**
comp=Z,21nm,0.6s,mb5.0,baz=318,slow=7.9,SNR=45
SCHQ LR LR 21 19 25.4
comp=Z,315nm,18.1s,baz=356,slow=35
SCHQ Schefferville 42.64 58 *e*P **P 21 02 22.9 +0.2**
comp=Z,28nm,0.8s,mb5.0
KLR Kul'dur 42.65 290 *e*P **P 21 02 18.2 -4.4**
WMOK Wichita Mounta 42.66 103 *e*P **P 21 02 22.6 -0.2**
WMOK pmax pmax
comp=Z,30nm,0.7s,mb5.1
WMOK Wichita Mounta 42.66 103 *e*P **P 21 02 22.6 -0.2**
comp=Z,30nm,0.7s,mb5.1
BOD Bodaibo 43.98 310 *e*P **P 21 02 31.3 -2.1**
BOD *e* 21 08 55.8
BOD pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
SCO Scoresbysund 44.22 22 *i* P **P 21 02 35.7 +0.4**
comp=Z,6.4nm,0.9s,mb4.3
SCO Scoresbysund 44.22 22 *e*P **P 21 02 35.7 +0.4**
SCO pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
SCO Scoresbysund 44.22 22 *e*P **P 21 02 35.7 +0.4**
comp=Z,6.4nm,0.9s,mb4.3
MIAR Mount Ida 45.31 98 *e*P **P 21 02 43.2 -0.7**
MIAR pmax pmax
comp=Z,29nm,0.8s,mb5.1
MIAR Mount Ida 45.31 98 *e*P **P 21 02 43.2 -0.7**
comp=Z,29nm,0.8s,mb5.1
JCT Junction City 45.71 108 *e*P **P 21 02 47.4 +0.4**
JCT pmax pmax
comp=Z,85nm,1.0s,mb5.4
JCT Junction City 45.71 108 *e*P **P 21 02 47.4 +0.4**
comp=Z,85nm,1.0s,mb5.4
WCI Wyandotte Cave 45.92 89 *e*P **P 21 02 47.8 -0.9**
WCI pmax pmax
comp=Z,16nm,0.8s,mb4.8
WCI Wyandotte Cave 45.92 89 *e*P **P 21 02 47.8 -0.9**
comp=Z,16nm,0.8s,mb4.8
WVT Waverly 46.83 92 *e*P **P 21 02 55.0 -0.8**
WVT *e**PP pP 21 03 18.5 -3.6
WVT pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
WVT Waverly 46.83 92 *e*P **P 21 02 55.0 -0.8**
comp=Z,5.4nm,0.8s,mb4.3
WVT *e*pP pP 21 03 18.5 -3.6
MDJ Mudanjiang 47.05 287 P **P 21 02 56.6 -0.9**
MDJ AMB AMB
comp=Z,13nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,88nm,4.5s
VLA Vladivostok 47.10 284 *e*P **P 21 02 56.7 -1.3**
VLA pmax pmax
comp=Z,15nm,0.9s,mb4.7
OXF Oxford 47.36 94 *e*P **P 21 02 59.8 -0.1**
OXF pmax pmax
comp=Z,192nm,1.0s,mb5.8
OXF Oxford 47.36 94 *e*P **P 21 02 59.8 -0.2**
comp=Z,192nm,1.0s,mb5.8
PLAL Pickwick Lake 47.63 93 *e*P **P 21 03 01.4 -0.7**
comp=Z,47nm,1.8s,mb5.0
BINY Binghamton 47.82 77 *e*P **P 21 03 03.1 -0.3**
comp=Z,25nm,0.5s,mb5.3
HKT Hockley 48.01 104 *e*P **P 21 03 05.7 +0.7**
HKT pmax pmax
comp=Z,37nm,1.4s,mb5.0
HKT Hockley 48.01 104 *e*P **P 21 03 05.7 +0.8**
comp=Z,37nm,1.4s,mb5.0
TZTN Tazewell 48.59 88 *e*P **P 21 03 09.1 -0.3**
MJAR Matsushiro Arr 49.19 273 P **P 21 03 11.7 -2.3**
comp=Z,3.1nm,0.7s,mb4.4,baz=20,slow=7.2,SNR=9.2
MAJO Matsushiro 49.19 273 *e*P **P 21 03 12.7 -1.3**
MAJO pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MAJO Matsushiro 49.19 273 *e*P **P 21 03 12.7 -1.3**
comp=Z,10.0nm,0.7s,mb4.8
MAT Matsushiro 49.19 273 P **P 21 03 12.4 -1.6**
MAT Matsushiro 49.19 273 P **P 21 03 12.0 -2.0**
MAT pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MAT Matsushiro 49.19 273 P **P 21 03 12.0 -2.0**
comp=Z,9.2nm,0.9s,mb4.7
MVL Millersville 49.35 79 *e*P **P 21 03 15.2 0.0**
ELN Prospectdale 49.41 85 *e*P **P 21 03 14.8 -0.8**
ELN *e*pP pP 21 03 38.4 -3.8
KEV Kevo 49.56 0 *e*p **P 21 03 16.2 -0.6**
BLA Blacksburg 49.58 84 *e*P **P 21 03 16.7 -0.2**
BLA *e**PP pP 21 03 40.1 -3.4
BLA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BLA Blacksburg 49.58 84 *e*P **P 21 03 16.7 -0.3**
comp=Z,1.7nm,0.6s,mb4.2
BLA *e*pP pP 21 03 40.1 -3.4
CN2 Changchun 49.59 289 *e*P **P 21 03 16.0 -1.0**
CN2 *e*S **S 21 10 15.8 -0.8**
CN2 AMB AMB
comp=Z,80nm,0.7s,mb5.8
LRAL Lakeview Retre 49.73 93 *e*P **P 21 03 17.1 -0.9**
comp=Z,7.3nm,0.7s,mb4.7
ARCES ARCESS Array B 49.77 1 P **P 21 03 17.7 -0.7**
comp=Z,5.1nm,0.8s,mb4.5,baz=349,slow=5.5,SNR=29
ARCES PcP PcP 21 04 37.1 -0.5
comp=Z,6.4nm,0.9s,baz=1.4,slow=4.9,SNR=3.8
ARCES PP PP 21 05 09.2 -4.8
comp=Z,2.4nm,0.7s,baz=349,slow=3.7,SNR=4.0
ARCES ARCESS Array B 49.77 1 P **P 21 03 17.7 -0.7**
ARCES PcP PcP 21 04 37.1 -0.5
ARCES PP PP 21 05 09.2 -4.8
JSC Jenkinsville 51.51 87 *e*P **P 21 03 31.4 -0.1**
JSC *e**PP pP 21 03 54.3 -3.9
KRAR Krasnoyarsk 52.68 320⇓ *i*P **P 21 03 40.0 -0.1**
KRAR pmax pmax
comp=Z,41nm,1.3s,mb5.3
KS15 Wonju Array Si 53.45 283 *e*P **P 21 03 45.1 -0.6**
MOY Mondy 53.52 312 *e*P **P 21 03 48.4 +2.1**
MOY pmax pmax
comp=Z,23nm,1.8s,mb4.9
ZAK Zakamensk 53.73 310 *e*P **P 21 03 48.8 +1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.6s,mb4.4
ULN Ulaanbaatar 54.31 305 *e*P **P 21 03 51.8 -0.2**
ULN pmax pmax
comp=Z,20nm,0.7s,mb5.3
ULN Ulaanbaatar 54.31 305 *e*P **P 21 03 51.8 -0.2**
comp=Z,20nm,0.7s,mb5.2
SONM Songino Array 54.60 306 P **P 21 03 55.0 +0.9**
comp=Z,29nm,0.7s,mb5.4,baz=38,slow=6.7,SNR=252
JOF Joensuu 56.40 358 *e*p **P 21 04 07.4 +0.4**
NVS Novosibirsk 56.53 325 *e*P **P 21 04 05.4 -2.5**
NVS pmax pmax
comp=N,4.0nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.1s
NVS pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
BJI Beijing 56.78 293 P **P 21 04 09.4 -0.3**
BJI AMB AMB
comp=Z,16nm,1.2s,mb4.9
BJI LR LR
comp=Z,140nm,19.2s
KAF Kangasniemi 57.23 1 *e*p **P 21 04 12.8 0.0**
comp=Z,1.0nm,0.3s,mb4.3,baz=351,slow=7.0
NB2 NORSAR Subarra 57.63 10 P **P 21 04 15.0 -0.7**
comp=Z,5.8nm,0.8s,mb4.7,baz=350,slow=7.4
NB2 NORSAR Subarra 57.63 10 P **P 21 04 15.0 -0.7**
NB2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
NOA NORSAR Array B 57.63 10 P **P 21 04 15.1 -0.6**
comp=Z,3.9nm,0.7s,mb4.5,baz=351,slow=7.0,SNR=16
FINES FINESS Array B 57.90 1 P **P 21 04 17.3 -0.3**
comp=Z,3.2nm,0.7s,mb4.5,baz=5.4,slow=7.5,SNR=17
FINES ScP ScP 21 08 58.5 +0.3
comp=Z,2.0nm,0.8s,baz=7.6,slow=5.8,SNR=6.7
FINES PKPPKP 21 34 03.3
comp=Z,1.0nm,0.8s,baz=149,slow=5.9,SNR=4.3
FINES FINESS Array B 57.90 1 P **P 21 04 17.3 -0.3**
FINES ScP ScP 21 08 58.5 +0.3
FINES P'P' 21 34 03.3
HHC Hu-ho-hao-te 58.15 297 *e*P **P 21 04 18.9 -0.4**
HHC PCP PcP 21 05 08.9 -0.7
HHC PP PP 21 06 29.3 +0.1
HHC S **S 21 12 12.0 +0.1**
HHC SCS ScS 21 13 57.3 -0.7
HHC SS SS 21 16 06.5 +1.5
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,133nm,4.9s
HHC LR LR
comp=N,125nm,7.1s
HHC LR LR
comp=E,139nm,5.5s
HHC LR LR
comp=Z,114nm,5.3s
KLMR Klimovskoe 58.17 353 *e*P **P 21 04 19.8 +0.4**
KLMR pmax pmax
comp=Z,30nm,1.4s,mb5.1
ARU Arti 60.48 341 *e*P **P 21 04 34.7 -0.6**
ARU *e* 21 06 49.9
ARU *e*S **S 21 12 43.8 +2.0**
ARU *e*SS SS 21 16 46.6 +5.1
ARU Arti 60.48 341 *e*P **P 21 04 33.8 -1.5**
comp=Z,10nm,0.8s,mb4.9
VSU Vasula 60.89 1⇓ *i*P **P 21 04 38.8 +0.7**
BRVK Borovoye 61.41 332 *e*P **P 21 04 41.1 -0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRVK Borovoye 61.41 332 *e*P **P 21 04 41.1 -0.6**
comp=Z,4.0nm,0.9s,mb4.5
EKA Eskdalemuir Ar 61.45 20 P **P 21 04 41.5 -0.4**
comp=Z,4.9nm,0.6s,mb4.7,baz=338,slow=5.4,SNR=19
KURK Kurchatov 61.48 326 *e*P **P 21 04 41.6 -0.5**
KURK pmax pmax
comp=Z,12nm,1.1s,mb4.8
KURK Kurchatov 61.48 326 *e*P **P 21 04 41.6 -0.5**
comp=Z,12nm,1.1s,mb4.8
ZRNK Zerenda 61.80 333 *e*P **P 21 04 43.8 -0.4**
ZRNK pmax pmax
comp=Z,11nm,1.0s,mb4.8
ZRNK Zerenda 61.80 333 *e*P **P 21 04 43.8 -0.4**
comp=Z,11nm,1.0s,mb4.8
SSE Sheshan 61.82 284 P **P 21 04 45.8 +1.5**
SSE AMB AMB
comp=Z,21nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,80nm,5.2s
NJ2 Nanjing 62.12 286 *e*P **P 21 04 52.4 +6.0**
NJ2 AP pP 21 05 11.9 -2.1
NJ2 XP sP 21 05 20.5 -5.8
NJ2 PP PP 21 07 12.4 +8.1
NJ2 S **S 21 13 10.0 +7.4**
NJ2 XS sS 21 13 44.0 -6.0
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,130nm,6.3s
NJ2 LR LR
comp=N,370nm,23.0s
NJ2 LR LR
comp=E,200nm,16.0s
NJ2 LR LR
comp=Z,460nm,21.1s
MKAR Makanchi Array 63.96 322 P **P 21 04 57.4 -1.1**
comp=Z,3.8nm,0.8s,mb4.2,baz=34,slow=4.5,SNR=32
MKAR Makanchi Array 63.96 322 *i* P **P 21 04 57.7 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 64.05 355⇓ *i*P **P 21 04 59.4 +0.3**
OBN pmax pmax
comp=Z,30nm,1.6s,mb4.9
GTA Gaotai 64.25 305 ⇑P **P 21 05 00.3 -0.1**
GTA PCP PcP 21 05 38.1 +3.8
GTA PP PP 21 07 23.1 +0.1
GTA S **S 21 13 26.6 -2.5**
GTA AMB AMB
comp=Z,45nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,265nm,4.9s
GTA LR LR
comp=N,134nm,16.0s
GTA LR LR
comp=E,152nm,16.4s
GTA LR LR
comp=Z,118nm,16.3s
BSEG Bad Segeberg 64.58 11 *e*P **P 21 05 02.3 -0.3**
comp=Z,10.0nm,1.2s,mb4.5
BSEG *e*pP pP 21 05 31.8 +1.5
WMQ Urumqi 64.88 316 *e*P **P 21 05 10.3 +5.8**
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,82nm,4.8s
WMQ LR LR
comp=N,458nm,21.0s
WMQ LR LR
comp=Z,562nm,22.0s
LZH Lanzhou 65.44 300 *e*P **P 21 05 08.0 -0.1**
LZH PCP PcP 21 05 38.8 -0.4
LZH PP PP 21 07 35.4 +2.0
LZH SCP 21 09 33.3
LZH PCS 21 09 42.8
LZH S S 21 13 47.0 +3.3
LZH SS SS 21 17 59.3 +0.4
LZH AMB AMB
comp=Z,61nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,147nm,4.0s
LZH LR LR
comp=N,756nm,16.5s
LZH LR LR
comp=Z,1μm,17.2s
IBBN Ibbenburen 65.92 13 *e*P **P 21 05 11.3 +0.1**
comp=Z,10.0nm,0.7s,mb4.8
RUE Ruedersdorf 66.33 9 *e*P **P 21 05 14.3 +0.5**
comp=Z,17nm,0.6s,mb5.0
CLZ Clausthal 66.66 12 *e*P **P 21 05 16.5 +0.6**
comp=Z,11nm,0.8s,mb4.7
CLZ *e*pP pP 21 05 45.0 +1.2
CLZ Clausthal 66.66 12 *e*P **P 21 05 16.5 +0.6**
CLZ *e**PP pP 21 05 45.0 +1.2
CLZ pmax pmax
comp=Z,11nm,0.8s,mb4.7
MEM Membach 67.38 15 AP pP 21 05 49.5 +1.0
MEM XP sP 21 05 57.2 -3.5
CLL Collm 67.43 10 *e*P **P 21 05 20.4 -0.4**
comp=Z,4.0nm,0.8s,mb4.3
CLL *e*pP pP 21 05 49.5 +0.7
CLL Collm 67.43 10 *i* P **P 21 05 20.6 -0.2**
comp=Z,4.0nm,0.8s,mb4.3
CLL *i* pP pP 21 05 49.5 +0.7
CLL *i* (sP) sP 21 05 56.7 -4.3
CLL *i* x x 21 06 07.0
CLL Collm 67.43 10 *i* P **P 21 05 20.6 -0.2**
CLL *i* *PP pP 21 05 49.5 +0.7
CLL pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
CLL Collm 67.43 10 *i* P **P 21 05 20.6 -0.2**
comp=Z,4.0nm,0.8s,mb4.3
CLL *i* pP pP 21 05 49.5 +0.7
UBBA Unterbreizbach 67.63 12 *e*pP pP 21 05 51.4 +1.4
BAIF Baives 67.68 16 *e*P **P 21 05 21.4 -1.0**
comp=Z,14nm,1.0s,mb4.5
BAIF *e*pP pP 21 05 51.0 +0.6
BAIF Baives 67.68 16 *e*P **P 21 05 21.4 -1.0**
BAIF *e**PP pP 21 05 51.0 +0.6
BAIF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BAIF Baives 67.68 16 *e*P **P 21 05 21.4 -1.0**
comp=Z,7.2nm,1.0s,mb4.5
BAIF *e*pP pP 21 05 51.0 +0.6
DOU Dourbes 67.70 16 AP pP 21 05 51.0 +0.6
DOU XP sP 21 05 58.5 -4.2
GIVF Givet 67.72 16 *e*P **P 21 05 22.3 -0.3**
BRG Berggiesshubel 67.94 10 *e*P **P 21 05 24.5 +0.5**
comp=Z,6.0nm,0.9s,mb4.4
BRG *e*pP pP 21 05 54.4 +2.4
BRG Berggiesshubel 67.94 10 *e*P **P 21 05 24.6 +0.6**
comp=Z,3.8nm,0.9s,mb4.2
BRG *e* pP 21 05 54.5 +2.5
comp=Z,6.3nm,1.2s
BRG *e* 21 06 17.6
comp=Z,6.4nm,1.3s
MOX Moxa 67.96 11 *e*P **P 21 05 24.7 +0.6**
comp=Z,10.0nm,0.7s,mb4.8
MOX *e*pP pP 21 05 53.8 +1.7
MOX Moxa 67.96 11 *e*P **P 21 05 24.6 +0.5**
MOX *e* pP 21 05 53.6 +1.5
TNS Taunus Mts 68.05 13 *e*pP pP 21 05 54.1 +1.4
KSP Ksiaz 68.14 8 *e*P **P 21 05 26.0 +0.7**
KSP Ksiaz 68.14 8 *e*P **P 21 05 25.7 +0.4**
KSP *e*pP pP 21 05 54.7 +1.4
ROSF Rostrenen 68.16 22 *e*P **P 21 05 25.1 -0.3**
comp=Z,132nm,1.5s,mb5.3
ROSF Rostrenen 68.16 22 *e*P **P 21 05 25.1 -0.3**
ROSF pmax pmax
comp=Z,66nm,1.5s,mb5.2
ROSF Rostrenen 68.16 22 *e*P **P 21 05 25.1 -0.3**
comp=Z,66nm,1.5s,mb5.2
WERD Werda 68.22 11 *e*P **P 21 05 26.3 +0.5**
comp=Z,8.0nm,1.1s,mb4.5
FLN La Foliniere 68.23 20 *e*P **P 21 05 25.2 -0.7**
comp=Z,56nm,1.1s,mb5.0
FLN *e*pP pP 21 05 54.8 +0.9
FLN La Foliniere 68.23 20 *e*P **P 21 05 25.2 -0.7**
FLN *e**PP pP 21 05 54.8 +0.9
FLN pmax pmax
comp=Z,28nm,1.1s,mb5.0
FLN La Foliniere 68.23 20 *e*P **P 21 05 25.2 -0.7**
comp=Z,28nm,1.1s,mb5.0
FLN *e*pP pP 21 05 54.8 +0.9
WLF Walferdange 68.32 15 AP pP 21 05 55.9 +1.5
PVCC Panska Ves 68.33 9 *e*P **P 21 05 27.7 +1.3**
NKC Novy Kostel 68.44 11 *e*P **P 21 05 27.3 +0.1**
NKC *e*pP pP 21 05 57.5 +2.3
UPC Upice 68.45 8 *e*P **P 21 05 27.4 +0.2**
UPC *e*pP pP 21 05 55.5 +0.2
LDF La Druitiere 68.46 20 *e*P **P 21 05 26.6 -0.6**
GRR Gorron 68.53 20 *e*P **P 21 05 27.3 -0.4**
comp=Z,16nm,0.7s,mb4.7
GRR Gorron 68.53 20 *e*P **P 21 05 27.3 -0.4**
GRR pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
GRR Gorron 68.53 20 *e*P **P 21 05 27.3 -0.4**
comp=Z,8.2nm,0.7s,mb4.7
DPC Dobruska-Polom 68.63 8 *e*P **P 21 05 28.6 +0.3**
DPC *e*pP pP 21 05 58.6 +2.2

AKASG	**Malin Array Be**	68.67	359	P		**P**	**21 05 28.2**	**-0.4**
	comp=Z,10nm,0.6s,mb4.8,baz=0.8,slow=6.1,SNR=54							
AKASG	**Malin Array Be**	68.67	359	P		**P**	**21 05 28.2**	**-0.4**
PRU	**Pruhonice**	68.86	9	*e*P		**P**	**21 05 29.7**	**-0.1**
PRU				*ep*P		pP	21 05 58.0	+0.2
GRA1	**Grafenberg Arr**	68.86	12	*e*P		**P**	**21 05 30.4**	**+0.6**
	comp=Z,10.0nm,1.0s,mb4.6							
GRA1				*ep*P		pP	21 06 00.6	+2.8
GRF	**Grafenberg Arr**	68.86	12	*e*P		**P**	**21 05 30.4**	**+0.6**
	comp=Z,10.0nm,1.0s,mb4.6							
GRF				*ep*P		pP	21 06 00.6	+2.8
GRF	**Grafenberg Arr**	68.86	12	*e*P		**P**	**21 05 30.4**	**+0.6**
GRF				*e**PP		pP	21 06 00.6	+2.8
GRF				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.6							
GRF	**Grafenberg Arr**	68.86	12	*e*P		**P**	**21 05 30.4**	**+0.6**
GRF				*e**PP		pP	21 06 00.6	+2.8
GRF				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.6							
ROTZ	**Rotzenmuhle**	68.88	11	*e*P		**P**	**21 05 30.8**	**+0.9**
	comp=Z,7.0nm,0.9s,mb4.5							
ROTZ				*ep*P		pP	21 06 00.6	+2.6
OKC	**Ostrava-Krasne**	69.26	7	*e*P		**P**	**21 05 32.6**	**+0.4**
OKC				*ep*P		pP	21 06 03.1	+2.8
MEZF	**Maizieres J'vi**	69.32	16	*e*P		**P**	**21 05 32.4**	**-0.2**
	comp=Z,27nm,1.0s,mb4.7							
MEZF	**Maizieres J'vi**	69.32	16	*e*P		**P**	**21 05 32.4**	**-0.2**
	comp=Z,27nm,1.0s,mb5.0							
TKM2	**Tokmak 2**	69.45	325	P		**P**	**21 05 34.2**	**+0.9**
	SNR=5.6							
WET	**Wettzell**	69.56	10	*e*P		**P**	**21 05 35.0**	**+0.9**
	comp=Z,8.0nm,1.4s,mb4.4							
WET				*ep*P		pP	21 06 05.1	+2.9
WET	**Wettzell**	69.56	10	*e*P		**P**	**21 05 35.0**	**+0.9**
WET				pmax		pmax		
	comp=Z,8.0nm,1.4s,mb4.4							
CHMS	**Chumysh**	69.61	325	P		**P**	**21 05 34.5**	**+0.1**
	SNR=7.8							
KHC	**Kasperske Hory**	69.64	10	*e*P		**P**	**21 05 35.4**	**+0.9**
KHC				*ep*P		pP	21 06 05.8	+3.1
CDF	**Champ du Feu**	69.69	15	*e*P		**P**	**21 05 34.8**	**-0.1**
CDF				*ep*P		pP	21 06 03.8	+0.8
FRU	**Bishkek**	69.80	325	*e*P		**P**	**21 05 36.0**	**+0.4**
STHS	**Stebnicka Huta**	69.83	5	*i* P		**P**	**21 05 37.0**	**+1.3**
STHS				*e*			21 05 48.9	
STHS				*e*		pP	21 06 05.2	+1.4
KBK	**Karagaybulak**	69.88	325	P		**P**	**21 05 36.1**	**+0.2**
	SNR=12							
BFO	**Black Forest**	69.90	14	*ep*P		pP	21 06 06.6	+2.3
CD2	**Chengdu**	69.91	297	⇓*i*P		**P**	**21 05 36.1**	**-0.1**
CD2				PP		PP	21 08 10.5	-1.7
CD2				S		S	21 14 37.0	0.0
CD2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.1							
CD2				AMB		AMB		
	comp=Z,60nm,5.9s							
CD2				LR		LR		
	comp=N,110nm,6.0s							
CD2				LR		LR		
	comp=Z,90nm,4.6s							
GEC2	**GERESS Array S**	69.93	10	*e*P		**P**	**21 05 36.8**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.1							
GEC2	**GERESS Array S**	69.93	10	*e*P		**P**	**21 05 36.8**	**+0.5**
GEC2				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.1							
GERES	**GERESS Array B**	69.93	10	P		**P**	**21 05 37.0**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.0,baz=353,slow=4.3,SNR=15							
HAU	**Haudompre**	69.98	15	*e*P		**P**	**21 05 37.4**	**+0.8**
	comp=Z,49nm,1.3s,mb4.9							
HAU				*ep*P		pP	21 06 06.3	+1.5
HAU	**Haudompre**	69.98	15	*e*P		**P**	**21 05 37.4**	**+0.8**
HAU				*e**PP		pP	21 06 06.3	+1.5
HAU				pmax		pmax		
	comp=Z,25nm,1.3s,mb4.9							
HAU	**Haudompre**	69.98	15	*e*P		**P**	**21 05 37.4**	**+0.8**
	comp=Z,25nm,1.3s,mb4.9							
HAU				*ep*P		pP	21 06 06.3	+1.5
AAK	**Ala-Archa**	70.02	325	P		**P**	**21 05 37.0**	**+0.1**
	SNR=8.6							
EKS2	**Erkin-Say**	70.19	326	P		**P**	**21 05 38.3**	**+0.3**
	SNR=25							
HINF	**Hinteralfeld**	70.23	15	*e*P		**P**	**21 05 37.7**	**-0.4**
KZA	**Kyzart**	70.33	324	P		**P**	**21 05 39.5**	**+0.7**
	SNR=5.9							
LOR	**Lormes**	70.36	17	*e*P		**P**	**21 05 38.7**	**-0.3**
	comp=Z,46nm,1.2s,mb4.9							
LOR				*ep*P		pP	21 06 07.4	+0.3
LOR	**Lormes**	70.36	17	*e*P		**P**	**21 05 38.7**	**-0.3**
LOR				*e**PP		pP	21 06 07.4	+0.3
LOR				pmax		pmax		
	comp=Z,23nm,1.2s,mb4.9							
LOR	**Lormes**	70.36	17	*e*P		**P**	**21 05 38.7**	**-0.3**
	comp=Z,23nm,1.2s,mb4.9							
LOR				*ep*P		pP	21 06 07.4	+0.3
FUR	**Furstenfeldbru**	70.38	12	*e*P		**P**	**21 05 39.7**	**+0.6**
	comp=Z,13nm,0.8s,mb4.8							
FUR	**Furstenfeldbru**	70.38	12	*e*P		**P**	**21 05 39.7**	**+0.6**
FUR				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.8							
MFF	**Saint Martin d**	70.39	20	*e*P		**P**	**21 05 38.9**	**-0.2**
	comp=Z,26nm,1.1s,mb4.7							
MFF	**Saint Martin d**	70.39	20	*e*P		**P**	**21 05 38.9**	**-0.2**
MFF				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.7							
MFF	**Saint Martin d**	70.39	20	*e*P		**P**	**21 05 38.9**	**-0.2**
	comp=Z,13nm,1.1s,mb4.7							
SSF	**Saint Saulge**	70.51	17	*e*P		**P**	**21 05 39.6**	**-0.3**
	comp=Z,26nm,1.0s,mb4.7							
SSF				*ep*P		pP	21 06 08.3	+0.2
SSF	**Saint Saulge**	70.51	17	*e*P		**P**	**21 05 39.6**	**-0.3**
SSF				*e**PP		pP	21 06 08.3	+0.2
SSF				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.7							
SSF	**Saint Saulge**	70.51	17	*e*P		**P**	**21 05 39.6**	**-0.3**
	comp=Z,13nm,1.0s,mb4.7							
SSF				*ep*P		pP	21 06 08.3	+0.2
VYHS	**Vyhne**	70.64	6	*e*P		**P**	**21 05 41.4**	**+0.8**
VYHS				*e*		pP	21 06 06.4	-2.4
AML	**Almayashu**	70.71	326	P		**P**	**21 05 41.9**	**+0.8**
	SNR=14							
KECS	**Kecovo**	70.73	5	*e*P		**P**	**21 05 43.3**	**+2.1**
AVF	**Avril sur Loir**	70.75	18	*e*P		**P**	**21 05 40.9**	**-0.4**
	comp=Z,15nm,0.7s,mb4.7							
AVF	**Avril sur Loir**	70.75	18	*e*P		**P**	**21 05 40.9**	**-0.4**
AVF				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.6							
AVF	**Avril sur Loir**	70.75	18	*e*P		**P**	**21 05 40.9**	**-0.4**
	comp=Z,7.4nm,0.7s,mb4.6							
BGF	**Bois d'Agland**	70.91	18	*e*P		**P**	**21 05 41.8**	**-0.5**
	comp=Z,24nm,0.9s,mb4.7							
BGF	**Bois d'Agland**	70.91	18	*e*P		**P**	**21 05 41.8**	**-0.5**
BGF				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.7							
BGF	**Bois d'Agland**	70.91	18	*e*P		**P**	**21 05 41.8**	**-0.5**
	comp=Z,12nm,0.9s,mb4.7							
SMF	**Signal de Mont**	70.97	17	*e*P		**P**	**21 05 42.2**	**-0.4**
SMF				*ep*P		pP	21 06 10.9	0.0
TCF	**Toulx Ste Croi**	71.07	19	*e*P		**P**	**21 05 42.7**	**-0.6**
CABF	**La Chapelle**	71.31	16	*e*P		**P**	**21 05 44.8**	**+0.1**
	comp=Z,16nm,1.0s,mb4.5							
CABF	**La Chapelle**	71.31	16	*e*P		**P**	**21 05 44.8**	**+0.1**
CABF				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.5							
CABF	**La Chapelle**	71.31	16	*e*P		**P**	**21 05 44.8**	**+0.1**
	comp=Z,7.9nm,1.0s,mb4.5							
DAVOX	**Davos**	71.60	13	P		**P**	**21 05 47.3**	**+0.8**
	comp=Z,4.9nm,0.9s,mb4.4,baz=21,slow=11,SNR=4.2							
KBA	**Koelnbreinsper**	71.65	10	⇑*i*P		**P**	**21 05 47.9**	**+1.1**
	comp=Z,12nm,0.8s,mb4.8							
BURAR	**Bucovina Array**	71.74	2	⇑P		**P**	**21 05 48.0**	**+0.7**
BURAR	**Bucovina Array**	71.74	2	⇑P		**P**	**21 05 48.0**	**+0.7**
RJF	**Les Rejaudoux**	71.92	19	*e*P		**P**	**21 05 47.6**	**-0.8**
LFF	**La Frestale**	72.15	20	*e*P		**P**	**21 05 49.4**	**-0.3**
OBKA	**Obir**	72.32	10	⇑*i*P		**P**	**21 05 51.3**	**+0.5**
	comp=Z,18nm,0.8s,mb5.0							
OBKA	**Obir**	72.32	10	⇑*i*P		**P**	**21 05 51.3**	**+0.5**
CAF	**Calviac**	72.38	19	*e*P		**P**	**21 05 50.8**	**-0.3**
	comp=Z,19nm,1.0s,mb4.6							
CAF	**Calviac**	72.38	19	*e*P		**P**	**21 05 50.8**	**-0.3**
CAF				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.6							
CAF	**Calviac**	72.38	19	*e*P		**P**	**21 05 50.8**	**-0.3**
	comp=Z,9.5nm,1.0s,mb4.6							
GROS	**Grobnik**	72.44	9	*e*P		**P**	**21 05 51.7**	**+0.2**
GYA	**Guiyang**	72.46	293	⇑*i*P		**P**	**21 05 51.1**	**-0.5**
GYA				PP		PP	21 08 32.6	-1.4
GYA				S		S	21 15 02.0	-4.5
GYA				SKS			21 15 43.1	
GYA				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.2							
GYA				AMB		AMB		
	comp=Z,110nm,3.7s							
GYA				LR		LR		
	comp=N,420nm,18.7s							
GYA				LR		LR		
	comp=E,410nm,18.6s							
GYA				LR		LR		
	comp=Z,500nm,19.0s							
LPL	**La Plagne**	72.47	15	*e*P		**P**	**21 05 52.6**	**+1.0**
	comp=Z,22nm,1.3s,mb4.5							
LPL	**La Plagne**	72.47	15	*e*P		**P**	**21 05 52.6**	**+1.0**
LPL				pmax		pmax		
	comp=Z,11nm,1.3s,mb4.5							
LPL	**La Plagne**	72.47	15	*e*P		**P**	**21 05 52.6**	**+1.0**
	comp=Z,11nm,1.3s,mb4.5							
LPG	**La Plagne**	72.49	15	*e*P		**P**	**21 05 53.1**	**+1.3**
LPG				*ep*P		pP	21 06 21.9	+1.8
VIVF	**Saint-Julien-l**	72.84	17	*e*P		**P**	**21 05 53.7**	**-0.1**
	comp=Z,16nm,0.8s,mb4.6							
VIVF	**Saint-Julien-l**	72.84	17	*e*P		**P**	**21 05 53.7**	**-0.1**
VIVF				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.6							
VIVF	**Saint-Julien-l**	72.84	17	*e*P		**P**	**21 05 53.7**	**-0.1**
	comp=Z,7.8nm,0.8s,mb4.6							
ORIF	**Oris-en-Rattie**	72.95	16	*e*P		**P**	**21 05 54.6**	**+0.2**
	comp=Z,12nm,0.9s,mb4.4							
ORIF	**Oris-en-Rattie**	72.95	16	*e*P		**P**	**21 05 54.6**	**+0.2**
ORIF				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.4							
ORIF	**Oris-en-Rattie**	72.95	16	*e*P		**P**	**21 05 54.6**	**+0.2**
	comp=Z,5.8nm,0.9s,mb4.4							
MBDF	**Montbardon**	73.25	16	*e*P		**P**	**21 05 57.2**	**+0.9**
	comp=Z,8.5nm,0.7s,mb4.4							
MBDF	**Montbardon**	73.25	16	*e*P		**P**	**21 05 57.2**	**+0.9**
MBDF				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.4							
MBDF	**Montbardon**	73.25	16	*e*P		**P**	**21 05 57.2**	**+0.9**
	comp=Z,4.3nm,0.7s,mb4.4							
LASF	**Ste Croix**	73.48	18	*e*P		**P**	**21 05 57.8**	**+0.2**
	comp=Z,12nm,1.0s,mb4.4							
SJPF	**Ste Jean**	73.58	22	*e*P		**P**	**21 05 57.2**	**-1.0**
SMRF	**Simiane la Rot**	73.83	17	*e*P		**P**	**21 06 00.2**	**+0.6**
	comp=Z,23nm,1.0s,mb4.6							
SMRF	**Simiane la Rot**	73.83	17	*e*P		**P**	**21 06 00.2**	**+0.6**
	comp=Z,23nm,1.0s,mb4.9							
MLR	**Muntele Rosu**	73.88	1	⇑P		**P**	**21 06 03.0**	**+3.1**
MLR	**Muntele Rosu**	73.88	1	⇑P		**P**	**21 06 03.0**	**+3.1**
ETSF	**Etsaut**	73.91	21	*e*P		**P**	**21 05 59.9**	**-0.2**
	comp=Z,8.6nm,0.8s,mb4.2							
ETSF	**Etsaut**	73.91	21	*e*P		**P**	**21 05 59.9**	**-0.2**
ETSF				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.2							
ETSF	**Etsaut**	73.91	21	*e*P		**P**	**21 05 59.9**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.2							
MTLF	**Montolieu**	73.95	19	*e*P		**P**	**21 06 00.2**	**-0.1**
	comp=Z,8.9nm,0.7s,mb4.3							
MTLF	**Montolieu**	73.95	19	*e*P		**P**	**21 06 00.2**	**-0.1**
MTLF				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.3							
MTLF	**Montolieu**	73.95	19	*e*P		**P**	**21 06 00.2**	**-0.1**
	comp=Z,4.4nm,0.7s,mb4.3							
SBF	**Sospel**	74.19	15	*e*P		**P**	**21 06 00.8**	**-0.9**
FRF	**La Foret Royal**	74.38	16	*e*P		**P**	**21 06 02.8**	**0.0**
LMR	**La Mourre**	74.59	16	*e*P		**P**	**21 06 04.1**	**+0.1**
	comp=Z,16nm,1.1s,mb4.4							
LMR	**La Mourre**	74.59	16	*e*P		**P**	**21 06 04.1**	**+0.1**
LMR				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.4							
LMR	**La Mourre**	74.59	16	*e*P		**P**	**21 06 04.1**	**+0.1**
	comp=Z,7.8nm,1.1s,mb4.3							
KIV	**Kislovodsk**	74.74	349	*e*P		**P**	**21 06 05.7**	**+0.8**
KIV				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.4							
KIV	**Kislovodsk**	74.74	349	*e*P		**P**	**21 06 05.7**	**+0.8**
	comp=Z,5.5nm,0.8s,mb4.3							
TIRR	**Tirgusor**	74.92	360	⇑P		**P**	**21 06 06.3**	**+0.4**
TIRR	**Tirgusor**	74.92	360	*e*P		**P**	**21 06 06.2**	**+0.3**
TIRR				*ep*P		pP	21 06 34.0	-0.5
KMI	**Kunming**	75.36	295	P		**P**	**21 06 07.5**	**-1.0**
KMI				AMB		AMB		
	comp=Z,6.0nm,0.9s,mb4.3							
PGF	**Pioggiola**	75.68	14	*e*P		**P**	**21 06 10.2**	**-0.1**
	comp=Z,11nm,0.8s,mb4.3							
PGF				*ep*P		pP	21 06 39.3	+0.5
PGF	**Pioggiola**	75.68	14	*e*P		**P**	**21 06 10.2**	**-0.1**
PGF				*e**PP		pP	21 06 39.3	+0.5
PGF				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.4							
PGF	**Pioggiola**	75.68	14	*e*P		**P**	**21 06 10.2**	**-0.1**
	comp=Z,5.7nm,0.8s,mb4.3							
PGF				*ep*P		pP	21 06 39.3	+0.5
LSA	**Lhasa**	76.17	307	P		**P**	**21 06 14.5**	**+1.4**
ESDC	**Sonseca Array**	76.37	25	P		**P**	**21 06 15.1**	**+0.9**
	comp=Z,3.0nm,0.9s,mb4.0,baz=334,slow=6.1,SNR=8.0							
SDV	**Santo Domingo**	78.12	93	P		**P**	**21 06 25.3**	**+1.3**
	comp=Z,2.2nm,0.5s,mb4.1,baz=46,slow=7.0,SNR=5.4							
SDV	**Santo Domingo**	78.12	93	P		**P**	**21 06 24.0**	**0.0**
	comp=Z,6.3nm,0.9s,mb4.3							
SDV				*ep*P		pP	21 06 50.4	-2.3
GNI	**Garni**	78.30	347	*e*P		**P**	**21 06 24.8**	**-0.1**
GNI				pmax		pmax		
	comp=Z,13nm,1.7s							
BR131	**Keskin Array S**	79.54	356	*e*P		**P**	**21 06 32.5**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.2							
BRTR	**Keskin Array B**	79.54	356	P		**P**	**21 06 32.1**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.2,baz=18,slow=2.5,SNR=17							
GUN	**Gumba**	79.78	310	*e*P		**P**	**21 06 33.7**	**+0.7**
	comp=Z,47nm,1.1s,mb5.2							
JIRN	**Jiri**	79.89	310	*e*P		**P**	**21 06 34.2**	**+0.6**
	comp=Z,70nm,1.0s,mb5.4							
KKN	**Kakani**	80.11	311	*e*P		**P**	**21 06 34.5**	**-0.3**
	comp=Z,32nm,1.3s,mb5.0							
GKN	**Gorkha**	80.16	311	*e*P		**P**	**21 06 34.7**	**-0.4**
	comp=Z,47nm,1.1s,mb5.2							
PKI	**Pulchoki**	80.26	311	*e*P		**P**	**21 06 35.7**	**+0.1**
DMN	**Daman**	80.34	311	*e*P		**P**	**21 06 36.8**	**+0.8**
	comp=Z,17nm,0.7s,mb5.0							
KOLN	**Koldanda**	80.75	312	*e*P		**P**	**21 06 38.0**	**-0.2**
OTAV	**Otavalo**	81.88	104	P		**P**	**21 06 44.0**	**-0.2**
	comp=Z,1.4nm,0.7s,mb3.9							
OTAV				*ep*P		pP	21 07 09.9	-3.2
RAO	**Raoul Island**	92.35	202	LR		LR	21 45 08.8	
	comp=Z,214nm,19.1s,baz=104,slow=33							
CTA	**Charters Tower**	94.63	236	P		**P**	**21 07 43.4**	**-2.2**
	comp=Z,6.3nm,0.9s,mb5.0,baz=39,slow=8.6,SNR=3.7							
ASAR	**Alice Springs**	103.03	245	PKiKP		PKiKP	21 12 42.4	-0.2
	comp=Z,0.3nm,0.7s,baz=70,slow=2.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	103.22	26	PKKPbc		PKKPbc	21 24 15.4	-3.3
	comp=Z,1.6nm,0.6s,baz=167,slow=1.5,SNR=19							
KMBO	**Kilima Mbogo**	119.88	349	PKP		PKPdf	21 13 13.7	-0.7
	comp=Z,1.2nm,0.6s,baz=34,slow=11,SNR=5.8							
LBTB	**Lobatse**	144.02	4	*e*PKIKP		PKPdf	21 13 57.3	-2.3
LBTB				*e*			21 14 29.3	
BOSA	**Boshof**	147.59	4	PKPbc		PKPbc	21 14 07.9	-0.6
	comp=Z,11nm,0.7s,baz=351,slow=3.5,SNR=17							
BOSA	**Boshof**	147.59	4	*e*PKPbc		PKPbc	21 14 07.9	-0.5
BOSA				*ep*PKPdf		pPKPdf	21 14 31.7	-4.7

*ISCJB **17** 21:01:00.6±0.8, 2423S×006×667W±0.1, h221km±19km, mb3.4/1, Error ellipse: s-maj=17.2km s-min=10.1km az=179.0*

*NEIC **17** 21:01:01.3±0.8, 2409S×6677W, h185km±12km, mb4.0/2, Error ellipse: s-maj=14.9km s-min=13.4km az=77.0*

*IDC **17** 21:01:01.6±2.0, 2405S×6634W, h184km±20km, mb3.4/1, mb1 3.1/6, mb1mx3.1/18, mbtmp3.5/6, Error ellipse: s-maj=28.8km s-min=20.7km az=111.0*

*GUC **17** 21:01:02.8±0.8, 2433S×6704W, h220km, ML4.0*

ISC 17 21:01:01.4±0.8, 2425S×006×667W±01, h206km±18km, n15, σ1§32/19, mb3.4/1, 1C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	3.34	284	⇓*i*P		**Pn**	**21 01 57.0**	**+1.7**
CEN1				*i* S		**Sn**	**21 02 37.4**	**-0.1**
CEN1				AMP			21 02 41.0	
	comp=N,106nm,0.3s							
CPN1	**Cerro Paranal**	3.42	263	⇑*i*P		**Pn**	**21 01 57.5**	**+1.3**
CPN1				*i* S		**Sn**	**21 02 38.6**	**-0.6**
CPN1				AMP			21 02 41.6	
	comp=E,240nm,0.4s							
ANCH	**Antofagasta**	3.46	279	*e*P		**Pn**	**21 01 53.3**	**-3.5**
ANCH				*i* S		**Sn**	**21 02 34.5**	**-5.7**
CDCH	**Caldera**	4.68	232	⇓*i*P		**Pn**	**21 02 12.2**	**+0.4**
CDCH				*i* S		**Sn**	**21 03 06.1**	**-1.4**
CFAA	**Coronel Fontan**	7.46	190	P		**Pn**	**21 02 49.8**	**+2.3**
	comp=E,0.1nm,0.3s,baz=342,slow=6.4,SNR=3.7							
CFAA				S		**Sn**	**21 04 11.5**	**-0.5**
	comp=E,0.2nm,0.3s,baz=57,slow=17,SNR=4.7							
CFAA	**Coronel Fontan**	7.46	190	P		**Pn**	**21 02 49.8**	**+2.3**
CFAA				S		**Sn**	**21 04 11.5**	**-0.5**
LPAZ	**La Paz**	8.04	350	P		**Pn**	**21 02 54.5**	**-0.6**
	comp=E,0.2nm,0.3s,baz=166,slow=8.3,SNR=3.9							
CPUP	**Villa Florida**	8.71	106	P		**Pn**	**21 03 02.6**	**-1.2**
	comp=E,0.4nm,0.3s,baz=282,slow=9.3,SNR=3.7							
CPUP	**Villa Florida**	8.71	106	*e*P		**Pn**	**21 03 05.0**	**+1.2**
	comp=E,6.4nm,0.6s							
PLCA	**Paso Flores**	16.75	190	P		**P**	**21 04 49.0**	**+5.8**
	comp=E,0.1nm,0.3s,baz=0.0,slow=3.0,SNR=2.2							
PLCA	**Paso Flores**	16.75	190	P		**P**	**21 04 42.0**	**-1.1**
	comp=E,4.2nm,1.2s							
BDFB	**Brasilia**	19.51	67	P		**P**	**21 05 10.3**	**-2.7**
	comp=E,0.4nm,0.3s,baz=252,slow=3.2,SNR=2.8							
TORD	**Torodi Ar. Bea**	76.38	69	P		**P**	**21 12 28.8**	**+0.8**
	comp=E,0.6nm,0.6s,mb3.4,baz=255,slow=5.4,SNR=16							
WRA	**Warramunga Arr**	131.54	207	PKP		PKPdf	21 19 52.8	+3.4
	comp=E,0.7nm,1.1s,baz=154,slow=1.9,SNR=8.0							
MKAR	**Makanchi Array**	146.53	40	PKPbc		PKPbc	21 20 20.3	+1.9
	comp=E,0.3nm,0.5s,baz=311,slow=1.2,SNR=5.7							

IDC 17 21:34:38.7±2.2, 2182S×6797W, h110km±19km, mb3.8/3, mb1 3.6/6, mb1mx3.5/16, mbtmp4.0/6, MS2.8/1, Ms1 2.9/1, ms1mx2.4/25, Error ellipse: s-maj=29.7km s-min=18.0km az=108.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	5.50	358	P		Pn	21 36 00.2	+2.0
	0.9nm,0.3s,baz=186,slow=6.0,SNR=15							
LPAZ				LR		LR	21 38 08.1	
	comp=Z,84nm,19.8s,baz=96,slow=38							
SIV	**San Ignacio**	8.73	50	P		Pn	21 36 43.0	+1.0
	0.7nm,0.3s,baz=229,slow=12,SNR=8.7							
SIV				S		Sn	21 38 15.3	-3.2
	0.2nm,0.3s,baz=310,slow=22,SNR=9.1							
CFAA	**Coronel Fontan**	9.75	181	P		Pn	21 36 57.0	+1.1
	0.0nm,0.3s,baz=49,slow=11,SNR=2.4							
CFAA				S		Sn	21 38 41.3	-2.2
	0.1nm,0.3s,baz=90,slow=18,SNR=2.2							
BDFB	**Brasilia**	19.86	75	P		P	21 39 01.5	+0.5
	0.6nm,0.3s,baz=243,slow=9.3,SNR=3.1							
DBIC	**Dimbokro**	67.99	73	P		P	21 45 26.8	+0.9
	2.3nm,0.8s,baz=118,slow=3.7,SNR=4.3							
TORD	**Torodi Ar. Bea**	76.64	70	P		P	21 46 18.5	+1.2
	1.1nm,0.6s,baz=255,slow=5.3,SNR=19							
YKA	**Yellowknife Ar**	91.77	340	P		P	21 47 32.0	-2.0
	0.7nm,0.5s,baz=134,slow=4.4,SNR=16							
MKAR	**Makanchi Array**	145.37	37	PKPbc		PKPbc	21 54 03.4	-0.3
	0.2nm,0.6s,baz=349,slow=1.5,SNR=3.1							

IDC 17 21:35:41.1±73.0, 1607S×17324W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/16, mbtmp4.4/3, Error ellipse: s-maj=1400.0km s-min=189.1km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	43.84	241	P		P	21 43 48.9	-0.1
	2.3nm,0.7s,baz=83,slow=8.8,SNR=5.2							
WRA	**Warramunga Arr**	49.84	257	P		P	21 44 36.1	+0.1
	1.4nm,0.5s,baz=94,slow=7.0,SNR=32							
ASAR	**Alice

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.94**	**15**	Pn	Pn	21 49 57.8	+0.6
	0.7nm,0.3s,baz=188,slow=4.6,SNR=32						
SIV	**San Ignacio**	**9.40**	**59**	Pn	Pn	21 50 58.7	+0.2
	0.5nm,0.3s,baz=261,slow=10,SNR=11						
TORD	**Torodi Ar. Bea**	**77.67**	**71**	P	P	22 00 40.9	+0.7
	0.2nm,0.4s,baz=253,slow=5.2,SNR=11						
YKA	**Yellowknife Ar**	**90.65**	**341**	P	P	22 01 45.7	-0.5
	0.1nm,0.5s,baz=133,slow=4.8,SNR=7.7						

*IDC **17** 21:57:17.9±0.8, 208N×9658E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/23, mbtmp4.3/16, ML3.5/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/22, Error ellipse: s-maj=31.7km s-min=13.2km az=44.0*

*MOS **17** 21:57:21.7±1.0, 234N×9681E, h33km, mb4.9/16, Error ellipse: s-maj=13.9km s-min=7.5km az=104.5*

*BJI **17** 21:57:21.5, 197N×9687E, h53km, mB5.1, mb4.8, Ms4.1, Msz4.0*

*NEIC **17** 21:57:23.7±1.9, 217N×9668E, h39km±15km, mb4.7/9, Error ellipse: s-maj=17.8km s-min=5.8km az=53.0*

*ISCJB **17** 21:57:24.2±1.2, 221N±006×9680E±006, h59km±10km, mb4.7/54, MS4.0/11, Error ellipse: s-maj=11.6km s-min=7.5km az=95.5*

ISC 17 21:57:25.9±1.2, 222N±006×9680E±006, h55km±10km, h40km±6.9km: pP-P, n100, σ0§96/101, mb4.7/54, MS4.0/11, 7C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.17**	**54**	P	**Pn**	**21 57 59.9**	**+0.3**
	1μm,0.7s						
PSI	**Prapat**	**2.19**	**75**	Pn	**Pn**	**21 57 59.6**	**-0.3**
	11nm,0.3s,baz=272,slow=7.6,SNR=60						
KULM	**Kulim**	**4.90**	**51**	*e*P	**Pn**	**21 58 36.7**	**-0.3**
VIS	**Vishakhapatnam**	**20.31**	**320**	*i* P	**P**	**22 01 56.7**	**-0.5**
VIS				*i* S	**S**	**22 05 27.4**	**-14**
QIZ	**Qiongzhong**	**21.03**	**37**	P	**P**	**22 02 04.6**	**-0.4**
QIZ				S	**S**	**22 05 50.0**	**-6.0**
QIZ				LR	LR		
	comp=E,385nm,15.7s						
QIZ				LR	LR		
	comp=Z,430nm,16.2s,MS3.9						
HYB	**Hyderabad**	**23.44**	**311**	*e*P	**P**	**22 02 32.0**	**+1.7**
KMI	**Kunming**	**23.48**	**14**	P	**P**	**22 02 31.6**	**+1.0**
KMI				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=N,308nm,15.7s,MS4.0						
KMI				LR	LR		
	comp=E,240nm,13.8s,MS4.0						
KMI				LR	LR		
	comp=Z,346nm,16.6s,MS3.9						
SHL	**Shillong**	**23.69**	**349**	*e*P	**P**	**22 02 30.0**	**-2.5**
SHL				*e*S	**S**	**22 06 41.0**	**-2.5**
GYA	**Guiyang**	**25.89**	**21**	P	**P**	**22 02 51.9**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**27.26**	**339**	*e*P	**P**	**22 03 05.4**	**+0.5**
	comp=Z,81nm,1.0s,mb5.2						
PKI	**Pulchoki**	**27.47**	**338**	*e*P	**P**	**22 03 06.8**	**+0.1**
	comp=Z,14nm,0.7s,mb4.6						
GUN	**Gumba**	**27.60**	**339**	*e*P	**P**	**22 03 08.5**	**+0.6**
	comp=Z,36nm,0.6s,mb5.2						
DMN	**Daman**	**27.62**	**337**	*e*P	**P**	**22 03 08.1**	**0.0**
	comp=Z,23nm,0.9s,mb4.8						
KKN	**Kakani**	**27.71**	**338**	*e*P	**P**	**22 03 08.9**	**0.0**
	comp=Z,53nm,1.1s,mb5.1						
LSA	**Lhasa**	**27.85**	**349**	P	**P**	**22 03 11.0**	**+0.8**
GKN	**Gorkha**	**28.15**	**337**	*e*P	**P**	**22 03 13.0**	**+0.1**
	comp=Z,15nm,0.4s,mb5.0						
KOLN	**Koldanda**	**28.37**	**335**	*e*P	**P**	**22 03 15.3**	**+0.5**
	comp=Z,24nm,0.7s,mb5.0						
XAN	**Xi'an**	**33.62**	**18**	P	**P**	**22 03 59.8**	**-1.2**
XAN				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
LZH	**Lanzhou**	**34.32**	**10**	*e*P	**P**	**22 04 07.1**	**0.0**
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,100nm,4.0s						
LZH				LR	LR		
	comp=E,299nm,14.2s						
LZH				LR	LR		
	comp=Z,410nm,15.5s,MS4.3						
FITZ	**Fitzroy Crossi**	**34.84**	**127**	P	**P**	**22 04 11.7**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=332,slow=14,SNR=9.3						
NJ2	**Nanjing**	**36.22**	**33**	*e*P	**P**	**22 04 23.4**	**0.0**
NJ2				AP	pP	22 04 33.1	-4.3
NJ2				XP	sP	22 04 37.1	-6.8
NJ2				PP	PP	22 05 47.4	+0.9
NJ2				S	**S**	**22 10 02.0**	**+2.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,690nm,5.3s						
NJ2				LR	LR		
	comp=N,670nm,21.0s						
NJ2				LR	LR		
	comp=E,470nm,15.8s						
NJ2				LR	LR		
	comp=Z,390nm,24.6s,MS4.1						
GTA	**Gaotai**	**37.12**	**4**	P	**P**	**22 04 30.8**	**-0.2**
GTA				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.2						
HHC	**Hu-ho-hao-te**	**40.70**	**17**	*e*P	**P**	**22 05 01.8**	**+0.8**
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,116nm,5.7s						
BJI	**Beijing**	**41.55**	**23**	P	**P**	**22 05 08.5**	**+0.5**
BJI				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**42.91**	**123**	P	**P**	**22 05 19.4**	**+0.4**
	comp=Z,4.5nm,0.5s,mb4.4,baz=301,slow=9.1,SNR=47						
WRAB	**Tennant Creek**	**42.92**	**123**	⇓*i* P	**P**	**22 05 19.8**	**+0.7**
WRAB	**Tennant Creek**	**42.92**	**123**	*e*P	**P**	**22 05 19.2**	**+0.1**
	comp=Z,37nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**42.92**	**123**	*e*P	**P**	**22 05 19.5**	**+0.4**
WB2				*e*	pP	22 05 36.5	+3.0
ULHL	**Ulahol**	**43.91**	**338**	P	**P**	**22 05 27.6**	**+0.6**
	SNR=12						
KZA	**Kyzart**	**44.14**	**337**	P	**P**	**22 05 30.4**	**+1.5**
	SNR=9.0						
ASAR	**Alice Springs**	**44.32**	**128**	P	**P**	**22 05 30.8**	**+0.4**
	comp=Z,4.0nm,0.9s,mb4.2,baz=300,slow=8.1,SNR=36						
UCH	**Uchtor**	**44.56**	**336**	P	**P**	**22 05 33.6**	**+1.3**
	SNR=16						
TKM2	**Tokmak 2**	**44.73**	**338**	P	**P**	**22 05 34.5**	**+0.9**
	SNR=17						
KBK	**Karagaybulak**	**44.75**	**337**	P	**P**	**22 05 35.2**	**+1.4**
	SNR=23						
AML	**Almayashu**	**44.82**	**336**	P	**P**	**22 05 35.2**	**+0.9**
	SNR=17						
AAK	**Ala-Archa**	**44.91**	**337**	P	**P**	**22 05 35.8**	**+0.7**
	SNR=7.5						
FRU	**Bishkek**	**45.03**	**337**	*e*P	**P**	**22 05 37.0**	**+0.9**
CHMS	**Chumysh**	**45.12**	**337**	P	**P**	**22 05 37.5**	**+0.7**
	SNR=6.2						
EKS2	**Erkin-Say**	**45.22**	**336**	P	**P**	**22 05 38.7**	**+1.1**
	SNR=15						
USP	**Ospenovka**	**45.45**	**337**	P	**P**	**22 05 40.0**	**+0.6**
	SNR=20						
MK31	**Makanchi Array**	**46.16**	**346**	*i* P	**P**	**22 05 44.7**	**-0.3**
MK31				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
MKAR	**Makanchi Array**	**46.16**	**346**	P	**P**	**22 05 44.9**	**-0.1**
	comp=Z,16nm,0.7s,mb5.1,baz=161,slow=8.6,SNR=178						
MKAR				LR	LR	22 28 59.9	
	comp=Z,103nm,20.1s,MS3.8,baz=270,slow=41						
MKAR	**Makanchi Array**	**46.16**	**346**	P	**P**	**22 05 44.9**	**-0.1**
MKAR				LR	LR	22 28 59.9	
SONM	**Songino Array**	**46.19**	**9**	P	**P**	**22 05 45.4**	**+0.2**
	comp=Z,9.5nm,0.7s,mb4.8,baz=189,slow=8.8,SNR=95						
SONM				PcP	PcP	22 07 21.4	+1.2
	comp=Z,1.6nm,0.6s,baz=193,slow=3.4,SNR=6.7						
SONM				LR	LR	22 27 47.7	
	comp=Z,140nm,19.5s,MS3.9,baz=197,slow=40						
SONM	**Songino Array**	**46.19**	**9**	P	**P**	**22 05 45.4**	**+0.2**
SONM						22 07 21.4	
ULN	**Ulaanbaatar**	**46.33**	**10**	⇓*i* P	**P**	**22 05 45.8**	**-0.5**
ULN	**Ulaanbaatar**	**46.33**	**10**	*e*P	**P**	**22 05 45.6**	**-0.7**
	comp=Z,8.3nm,0.9s,mb4.7						
KK31	**Karatay Array**	**46.97**	**334**	*i* P	**P**	**22 05 52.0**	**+0.7**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KKAR	**Karatay Array**	**46.97**	**334**	*i* P	**P**	**22 05 52.0**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ZAK	**Zakamensk**	**48.30**	**6**	⇑*e*P	**P**	**22 06 01.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6						
CN2	**Changchun**	**48.58**	**28**	*e*P	**P**	**22 06 03.3**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				LR	LR		
	comp=Z,220nm,17.0s,MS4.2						
KURK	**Kurchatov**	**50.71**	**345**	*e*P	**P**	**22 06 19.8**	**-0.2**
KURK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
KURK	**Kurchatov**	**50.71**	**345**	*e*P	**P**	**22 06 19.8**	**-0.2**
	comp=Z,16nm,0.9s,mb4.9						
MJAR	**Matsushiro Arr**	**51.21**	**43**	P	**P**	**22 06 24.7**	**+1.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=203,slow=6.5,SNR=7.0						
VLA	**Vladivostok**	**51.33**	**33**	⇓*i* P	**P**	**22 06 24.7**	**+0.1**
VLA				pmax	pmax		
	comp=Z,48nm,1.7s,mb5.2						
PMG	**Port Moresby**	**51.48**	**104**	P	**P**	**22 06 27.0**	**+1.3**
	comp=Z,19nm,0.8s,mb5.1,baz=297,slow=6.8,SNR=5.7						
CTA	**Charters Tower**	**53.31**	**117**	P	**P**	**22 06 41.0**	**+1.7**
	comp=Z,2.8nm,0.7s,mb4.3,baz=326,slow=7.3,SNR=3.0						
NVS	**Novosibirsk**	**53.61**	**350**	*e*P	**P**	**22 06 39.6**	**-1.9**
NVS				pmax	pmax		
	comp=N,11nm,0.8s						
NVS				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
NVS				pmax	pmax		
	comp=E,9.0nm,0.7s						
KRAR	**Krasnoyarsk**	**53.72**	**357**	⇑*i* P	**P**	**22 06 41.4**	**-0.9**
KRAR				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**54.33**	**132**	P	**P**	**22 06 46.0**	**-0.8**
	comp=Z,2.2nm,0.8s,mb4.2,baz=318,slow=12,SNR=6.7						
STKA	**Stephens Creek**	**54.33**	**132**	*e*P	**P**	**22 06 45.8**	**-0.9**
	comp=Z,2.6nm,0.8s,mb4.2						
STKA				*e*P		22 06 45.8	
VOSK	**Vostochnaya**	**54.72**	**341**	P	**P**	**22 06 48.7**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BVA0	**Borovoye Array**	**55.16**	**341**	*i* P	**P**	**22 06 51.9**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**55.23**	**341**	*e*P	**P**	**22 06 52.2**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**55.23**	**341**	*e*P	**P**	**22 06 52.2**	**-1.0**
	comp=Z,4.9nm,0.8s,mb4.6						
KLR	**Kul'dur**	**55.53**	**27**	*e*P	**P**	**22 06 52.8**	**-2.6**
ZRNK	**Zerenda**	**55.56**	**340**	*e*P	**P**	**22 06 54.8**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**55.56**	**340**	*e*P	**P**	**22 06 54.8**	**-0.8**
	comp=Z,3.9nm,0.6s,mb4.6						
AB31	**Akbulak array**	**56.43**	**332**	*i* P	**P**	**22 07 01.5**	**-0.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
HABR	**Khabarovsk**	**56.57**	**30**	*e*P	**P**	**22 07 00.7**	**-2.1**
BOD	**Bodaibo**	**57.09**	**11**	*e*P	**P**	**22 07 04.0**	**-2.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
AKTO	**Aktyubinsk**	**58.15**	**332**	LR	LR	22 34 25.8	
	comp=Z,53nm,18.2s,MS3.7,baz=179,slow=38						
YSS	**Yuzh-Sakhalins**	**59.74**	**35**	⇑*i* P	**P**	**22 07 26.5**	**+1.5**
YSS				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
GNI	**Garni**	**60.29**	**316**	⇑*i* P	**P**	**22 07 25.2**	**-3.5**
GNI				pmax	pmax		
	comp=Z,9.0nm,2.0s						
ZEI	**Tsey**	**61.98**	**318**	*e*P	**P**	**22 07 35.3**	**-4.9**
ZEI				*i* *PP	pP	22 07 46.4	-8.8
ARU	**Arti**	**62.10**	**337**	⇑*i* P	**P**	**22 07 40.0**	**-1.0**
ARU				*e*		22 08 21.9	
ARU				*e*		22 09 59.2	
ARU				*e*PPP		22 11 25.4	
ARU				*e*S	**S**	**22 16 03.9**	**+2.0**
ARU				*e*SS	SS	22 20 08.6	+3.3
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
ARU	**Arti**	**62.10**	**337**	*e*P	**P**	**22 07 40.2**	**-0.8**
	comp=Z,8.0nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**63.28**	**319**	*d i*P	**P**	**22 07 49.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
YAK	**Yakutsk**	**64.56**	**16**	*c i*P	**P**	**22 07 56.5**	**-0.7**
YAK				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.4						
YAK	**Yakutsk**	**64.56**	**16**	*e*P	**P**	**22 07 56.2**	**-1.0**
BR131	**Keskin Array S**	**68.14**	**312**	*e*P	**P**	**22 08 19.6**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.9						
BR131				*e*		22 08 28.0	
BRTR	**Keskin Array B**	**68.14**	**312**	P	**P**	**22 08 19.5**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.8,baz=120,slow=7.3,SNR=5.4						
MA2	**Magadan**	**70.59**	**26**	*d i*P	**P**	**22 08 35.9**	**+0.6**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
MA2	**Magadan**	**70.59**	**26**	*e*P	**P**	**22 08 35.4**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.6						
OBN	**Obninsk**	**71.55**	**328**	⇓*e*P	**P**	**22 08 40.5**	**-0.6**
OBN				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
PET	**Petropavlovsk**	**71.61**	**34**	*i* P	**P**	**22 08 41.9**	**+0.4**
TIXI	**Tiksi**	**72.26**	**10**	⇑*e*P	**P**	**22 08 43.8**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,16nm,2.1s,mb4.6						
SEY	**Seymchan**	**72.98**	**23**	⇓*i*P	**P**	**22 08 49.8**	**+0.2**
TIRR	**Tirgusor**	**73.12**	**316**	*e*P	**P**	**22 08 49.9**	**-0.5**
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**22 08 56.0**	**-0.9**
	comp=Z,1.2nm,0.5s,mb4.0,baz=94,slow=5.1,SNR=9.3						
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**22 08 56.0**	**-0.9**
BOSA	**Boshof**	**74.94**	**240**	LR	LR	22 40 22.4	
	comp=Z,100nm,18.7s,MS4.1,baz=90,slow=35						
FINES	**FINESS Array B**	**78.92**	**332**	P	**P**	**22 09 22.9**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=72,slow=4.7,SNR=8.1						
FINES				LR	LR	22 51 42.0	
	comp=Z,47nm,18.0s,MS3.9,baz=91,slow=41						
ARCES	**ARCESS Array B**	**81.45**	**340**	P	**P**	**22 09 37.1**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=98,slow=6.9,SNR=7.9						
GERES	**GERESS Array B**	**83.79**	**319**	P	**P**	**22 09 50.0**	**+0.8**
	comp=Z,0.9nm,0.7s,mb4.0,baz=101,slow=5.6,SNR=9.9						
NOA	**NORSAR Array B**	**85.93**	**331**	P	**P**	**22 09 59.9**	**-0.1**
	comp=Z,0.7nm,0.8s,mb4.0,baz=95,slow=5.5,SNR=3.3						
NOA				LR	LR	22 52 51.1	
	comp=Z,28nm,19.5s,MS3.7,baz=225,slow=39						
VNA2	**Neumayer--Watz**	**96.71**	**199**	*e*P	**P**	**22 10 47.2**	**-3.1**
VNA2				*e*		22 10 51.0	
VNA3	**Neumayer Olymp**	**97.36**	**198**	*e*P	**P**	**22 10 51.9**	**-1.3**
VNA3				*e*		22 10 55.4	
YKA	**Yellowknife Ar**	**111.22**	**15**	PP	PP	22 16 35.8	+2.4
	comp=Z,0.1nm,0.3s,baz=318,slow=7.2,SNR=4.5						
PDAR	**Pinedale Array**	**129.29**	**25**	PKP	PKPdf	22 16 29.6	+1.5
	comp=Z,0.4nm,0.6s,baz=185,slow=2.1,SNR=4.0						

*NEIC **17** 22:00:52.3±1.7, 507S×15028E, h35km, mb4.8/3, Error ellipse: s-maj=62.2km s-min=14.6km az=115.0*

*ISCJB **17** 22:00:54.2±3.7, 50S±02×1499E±03, h63km±34km, mb4.5/13, Error ellipse: s-maj=53.2km s-min=23.1km az=51.3*

*IDC **17** 22:00:54.2±4.7, 508S×15020E, h50km±44km, mb4.2/4, mb1 4.5/5, mb1mx4.0/14, mbtmp4.5/5, ML3.3/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/21, Error ellipse: s-maj=65.1km s-min=29.0km az=120.0*

ISC 17 22:00:55.5±3.4, 51S±02×1502E±03, h65km±32km, n19, σ0§80/17, mb4.4/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.23**	**214**	P	**Pn**	**22 02 11.0**	**-0.1**
	7.2nm,0.3s,baz=23,slow=7.0,SNR=18						
PMG				S	**Sn**	**22 03 10.2**	**+0.2**
	15nm,0.3s,baz=64,slow=14,SNR=10						
PMG				LR	LR	22 04 34.1	
	comp=Z,528nm,20.4s,baz=11,slow=42						
CTA	**Charters Tower**	**15.40**	**194**	LR	LR	22 09 55.6	
	comp=Z,103nm,20.7s,baz=10,slow=35						
GUMO	**Guam**	**19.27**	**344**	LR	LR	22 10 39.5	
	comp=Z,140nm,19.8s,baz=111,slow=30						
WRAB	**Tennant Creek**	**21.32**	**225**	*e*P	**P**	**22 05 36.5**	**-0.4**
	66nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**21.34**	**225**	P	**P**	**22 05 36.2**	**-0.9**
	18nm,0.8s,mb4.4,baz=47,slow=10,SNR=44						
ASAR	**Alice Springs**	**24.23**	**219**	P	**P**	**22 06 06.8**	**+0.8**
	7.4nm,0.8s,mb4.0,baz=53,slow=8.7,SNR=14						
FITZ	**Fitzroy Crossi**	**27.23**	**240**	*e*P	**P**	**22 06 33.7**	**+0.5**
	21nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.23**	**240**	P	**P**	**22 06 34.2**	**+0.9**
	11nm,0.8s,mb4.5,baz=88,slow=12,SNR=7.8						
SONM	**Songino Array**	**65.18**	**329**	P	**P**	**22 11 31.2**	**+1.5**
	0.3nm,0.7s,mb3.3,baz=115,slow=4.2,SNR=3.1						
JIRN	**Jiri**	**69.68**	**302**	*e*P	**P**	**22 11 58.1**	**0.0**
	9.5nm,1.1s,mb4.5						
GUN	**Gumba**	**70.02**	**302**	*e*P	**P**	**22 11 59.8**	**-0.4**
	17nm,1.1s,mb4.8						
PKI	**Pulchoki**	**70.31**	**301**	*e*P	**P**	**22 12 02.4**	**+0.4**
KKN	**Kakani**	**70.49**	**302**	*e*P	**P**	**22 12 02.5**	**-0.6**
	6.6nm,0.7s,mb4.6						
DMN	**Daman**	**70.58**	**301**	*e*P	**P**	**22 12 04.0**	**+0.3**
	14nm,0.9s,mb4.8						
GKN	**Gorkha**	**71.09**	**302**	*e*P	**P**	**22 12 04.8**	**-2.0**
	5.6nm,0.7s,mb4.5						
KOLN	**Koldanda**	**71.91**	**301**	*e*P	**P**	**22 12 11.3**	**-0.4**
	6.1nm,0.8s,mb4.5						
KURK	**Kurchatov**	**82.37**	**323**	P	**P**	**22 13 11.5**	**+1.2**
	7.6nm,1.5s,mb4.3						
ILAR	**Eielson Array**	**83.41**	**23**	P	**P**	**22 13 15.1**	**-0.6**
	1.3nm,0.9s,mb3.8,baz=248,slow=5.2,SNR=9.4						
TORD	**Torodi Ar. Bea**	**147.87**	**287**	PKPbc	PKPbc	22 20 35.0	+1.9
	0.4nm,0.9s,baz=64,slow=3.4,SNR=3.1						

CASC 17 22:20:54.5±4.1, 1305N×9041W, h2km±20km, MD3.9, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.10**	**44**	⇑*e*P	Pg	22 21 17.9	+2.3
SBLS				*e*S	Sg	22 21 34.9	+5.0
IXG	**Ixpaco**	**1.12**	**358**	⇓*e*P	Pg	22 21 15.6	-0.4
IXG				*e*S	Sg	22 21 29.5	-1.1
RTR	**El Retiro**	**1.13**	**41**	*e*P	Pg	22 21 18.6	+2.4
RTR				*e*S	Sg	22 21 39.0	+8.3
SNJE	**San Jose**	**1.13**	**44**	*e*P	Pg	22 21 18.3	+2.1
SNJE				*e*S	Sg	22 21 35.6	+4.7
RBDL	**Robledal**	**1.27**	**34**	*e*P	Pg	22 21 21.0	+2.1
RBDL				*e*S	Sg	22 21 40.9	+5.5
BOQS	**Boqueron**	**1.30**	**58**	*e*P	Pg	22 21 20.0	+0.6
BOQS				*e*S	Sg	22 21 38.5	+2.3
LFRS	**El Faro**	**1.43**	**66**	*e*P	Pn	22 21 20.6	-0.9
LFRS				*e*S	Sg	22 21 40.5	-0.1
FUG	**Fuego 3**	**1.46**	**343**	⇑*e*P	Pn	22 21 21.6	-0.2
FUG				*e*S	Sb	22 21 43.1	+1.9
LBRS	**Las Brisas**	**1.50**	**63**	⇓*e*P	Pn	22 21 22.5	+0.1
LBRS				*e*S	Sb	22 21 43.5	+1.0
LCBS	**La Ceiba**	**1.52**	**66**	*e*P	Pn	22 21 22.0	-0.7
LCBS				*e*S	Sn	22 21 42.2	-0.8
MTO2	**Montecristo 2**	**1.69**	**37**	*e*P	Pn	22 21 27.2	+2.2
TP2	**Tecpan 2**	**1.83**	**341**	*e*P	Pn	22 21 26.9	+0.1
TP2				*e*S	Sn	22 21 53.5	+3.0
MRL	**Marmol**	**2.13**	**19**	*e*P	Pn	22 21 30.5	-0.5
BLLM	**Bellamira**	**2.15**	**79**	*e*P	Pn	22 21 30.4	-1.0

*IDC **17** 22:21:47.4±5.7, 251.8S×17969W, h464km±39km, mb3.3/4, mb1 3.5/4, mb1mx3.3/13, mbtmp4.2/4, Error ellipse: s-maj=113.7km s-min=53.1km az=153.0*

*NEIC **17** 22:21:51.4±3.3, 253S×17988W, h503km±39km, mb4.7/4, Error ellipse: s-maj=32.5km s-min=22.8km az=48.0*

*ISCJB **17** 22:21:52.1±4.5, 253S±03×1798E±06, h500km, mb4.1/7, Error ellipse: s-maj=82.6km s-min=22.6km az=136.6*

ISC 17 22:21:52.0±4.7, 254S±03×1800W±07, h500km, n11, σ0§58/10, mb4.1/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**16.49**	**194**	P	**P**	**22 25 17.6**	**-0.1**
HNR	**Honiara**	**24.83**	**306**	*e*P	**P**	**22 26 33.6**	**-0.3**
	70nm,0.9s,mb5.1						
CTA	**Charters Tower**	**31.55**	**273**	*e*P	**P**	**22 27 33.0**	**+0.4**
	7.8nm,0.3s,mb4.6						
CTAO	**Charters Tower**	**31.55**	**273**	*e*P	**P**	**22 27 32.8**	**+0.1**
	15nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**34.23**	**250**	P	**P**	**22 27 54.8**	**-0.6**
	1.1nm,0.4s,mb3.6,baz=91,slow=9.7,SNR=7.9						
ASAR	**Alice Springs**	**41.85**	**262**	P	**P**	**22 28 58.2**	**+0.7**
	1.3nm,0.4s,mb3.7,baz=89,slow=9.3,SNR=22						
WB2	**Warramunga Arr**	**42.35**	**268**	*e*P	**P**	**22 29 01.2**	**-0.3**
WRAB	**Tennant Creek**	**42.36**	**268**	*e*P	**P**	**22 29 00.9**	**-0.7**
	3.5nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**42.37**	**268**	P	**P**	**22 29 01.5**	**-0.2**
	1.6nm,0.3s,mb3.9,baz=104,slow=8.0,SNR=111						
WRA				ScP	ScP	22 33 49.3	+3.0
	0.4nm,0.8s,baz=104,slow=3.4,SNR=4.8						
FITZ	**Fitzroy Crossi**	**50.77**	**267**	P	**P**	**22 30 06.6**	**+1.2**
	2.4nm,0.7s,mb3.6,baz=170,slow=6.1,SNR=3.3						
HFS	**Hagfors**	**144.00**	**348**	PK

comp=Z,7.0nm,1.9s
ZAK pmax pmax
comp=Z,6.0nm,1.9s
ULN Ulaanbaatar 17.90 41 *e*P **Pn 23 09 19.2 +0.1**
ULN pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 17.90 41 *e*Pn **Pn 23 09 19.2 +0.1**
comp=Z,1.1nm,0.6s
ZAL Zalesovo 18.79 351 P **Pn 23 09 29.4 -0.5**
comp=Z,0.1nm,0.3s,baz=347,slow=14,SNR=5.7
ZAL LR LR 23 17 49.8
comp=Z,86nm,19.6s,baz=29,slow=40
ZAL Zalesovo 18.79 351 P **Pn 23 09 29.4 -0.4**
ZAL LR LR 23 17 49.8
NVS Novosibirsk 19.89 349 *e*P **Pn 23 09 42.9 0.0**
BJI Beijing 21.41 70 P **P 23 09 57.3 0.0**
BJI AMB AMB
comp=Z,10.0nm,1.0s,mb4.1
BJI LR LR
comp=N,104nm,18.3s,MS3.7
BJI LR LR
comp=E,259nm,18.3s,MS3.7
BJI LR LR
comp=Z,131nm,16.2s,MS3.4
BVAR Borovoye Array 22.22 328 P **P 23 10 07.6 +1.6**
comp=Z,2.0nm,0.8s,mb3.6,baz=134,slow=12,SNR=5.4
ZRNK Zerenda 22.78 327 *e*P **P 23 10 10.5 -1.4**
ZRNK pmax pmax
comp=Z,3.0nm,1.0s,mb3.7
ZRNK Zerenda 22.78 327 *e*P **P 23 10 10.4 -1.4**
comp=Z,2.6nm,1.0s,mb3.6
BOD Bodaibo 27.63 28 *e*P **P 23 10 55.6 -0.8**
BOD pmax pmax
comp=Z,3.0nm,1.8s,mb3.6
CN2 Changchun 28.61 62 *e*P **P 23 11 05.3 +0.2**
TIXI Tiksi 41.56 18⇓*i*P **P 23 12 55.2 -1.1**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
TIXI MLR MLR
comp=Z,61nm,16.0s,MS3.6
BRTR Keskin Array B 44.00 293 P **P 23 13 16.3 +0.2**
comp=Z,0.6nm,0.7s,mb3.4,baz=88,slow=10,SNR=5.0
AKASG Malin Array Be 45.43 309 P **P 23 13 27.6 +0.1**
comp=Z,0.8nm,0.7s,mb3.6,baz=77,slow=7.5,SNR=4.5
FINES FINESS Array B 47.08 324 P **P 23 13 40.8 +0.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=98,slow=12,SNR=4.5
NB2 NORSAR Subarra 54.27 324 P **P 23 14 37.2 +2.7**
comp=Z,0.6nm,0.7s,mb3.6,baz=81,slow=7.4
NB2 NORSAR Subarra 54.27 324 P **P 23 14 37.2 +2.7**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 54.27 324 P **P 23 14 32.9 -1.6**
comp=Z,1.6nm,0.9s,mb4.0,baz=80,slow=7.3,SNR=2.4
NOA LR LR 23 40 08.7
comp=Z,18nm,18.8s,MS3.2,baz=90,slow=39
GERES GERESS Array B 55.65 309 P **P 23 14 46.1 +1.6**
comp=Z,0.7nm,0.7s,mb3.8,baz=59,slow=5.1,SNR=6.3
WRA Warramunga Arr 69.49 135 P **P 23 16 16.3 -0.5**
comp=Z,2.6nm,0.9s,mb4.2,baz=326,slow=6.3,SNR=7.7
ILAR Eielson Array 70.79 22 P **P 23 16 24.9 +0.1**
comp=Z,1.5nm,1.0s,mb3.9,baz=306,slow=5.1,SNR=10
ASAR Alice Springs 72.19 138 P **P 23 16 32.9 -0.3**
comp=Z,1.4nm,0.9s,mb3.9,baz=323,slow=6.4,SNR=6.8
YKA Yellowknife Ar 80.44 11 P **P 23 17 20.0 0.0**
comp=Z,0.9nm,0.7s,mb3.8,baz=335,slow=5.3,SNR=16
TORD Torodi Ar. Bea 80.88 280 P **P 23 17 22.2 -0.1**
comp=Z,1.4nm,0.8s,mb3.9,baz=38,slow=5.4,SNR=8.4
CPUP Villa Florida 150.37 279 PKPbc PKPbc 23 24 59.0 -0.3
comp=Z,2.5nm,0.7s,baz=37,slow=2.2,SNR=6.8

GUC 17 23:16:48.2±0.9, 2754S×6938W, h93km±22km, ML3.6, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.88**	**282**	*i* P	Pn	23 17 07.0	+0.2
CPCH				*i* S	Sn	23 17 21.3	+0.6
CPCH				AMP		23 17 23.6	
comp=E,10μm,0.1s							
CDCH	**Caldera**	**1.37**	**290**	⇑*i* P	Pn	23 17 13.0	+0.6
CDCH				*i* S	Sn	23 17 30.9	+0.1
CDCH				AMP		23 17 31.9	
comp=N,655nm,0.5s							
CRCH	**Chaqaral**	**1.63**	**317**	*e*P	Pn	23 17 16.3	+0.6
CRCH				*i* S	Sn	23 17 37.3	+0.8
CRCH				AMP		23 17 39.8	
comp=E,445nm,0.5s							
CPN1	**Cerro Paranal**	**3.05**	**342**	⇑*i* P	Pn	23 17 35.3	+0.9
CPN1				AMP		23 18 11.0	
comp=N,142nm,0.5s							

IDC 17 23:34:56.7±16.0, 2563S×17982W, h525km±127km, mb2.8/2, mb1 3.2/3, mb1mx3.0/13, mbtmp4.0/3, Error ellipse: s-maj=215.1km s-min=52.9km az=139.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.06**	**283**	P	P	23 37 48.0	+1.8
0.9nm,0.3s,baz=100,slow=16,SNR=12							
ASAR	**Alice Springs**	**41.94**	**262**	P	P	23 42 01.6	+0.4
0.8nm,0.7s,baz=98,slow=6.8,SNR=7.9							
ASAR				PcP	PcP	23 43 44.7	+0.3
0.9nm,0.7s,baz=110,slow=3.6,SNR=5.3							
WRA	**Warramunga Arr**	**42.48**	**268**	P	P	23 42 04.4	-1.1
0.5nm,0.5s,baz=104,slow=7.3,SNR=5.8							
WRA				PcP	PcP	23 43 47.8	+1.5
2.0nm,1.0s,baz=100,slow=3.5,SNR=5.3							
ARCES	**ARCESS Array B**	**133.61**	**348**	PKP	PKPdf	23 53 11.8	-1.7
2.7nm,0.9s,baz=5.2,slow=4.0,SNR=4.5							
FINES	**FINESS Array B**	**140.13**	**341**	PKhKP		23 53 17.1	
0.9nm,0.8s,baz=64,slow=4.8,SNR=8.8							
NB2	**NORSAR Subarra**	**143.81**	**351**	PKPa		23 53 28.4	
comp=Z,1.1nm,0.5s,baz=11,slow=3.5							
NOA	**NORSAR Array B**	**143.81**	**351**	PKP	PKPdf	23 53 28.6	-3.5
comp=Z,3.3nm,0.9s,baz=14,slow=2.4,SNR=9.7							
AKASG	**Malin Array Be**	**146.50**	**326**	PKPbc	PKPbc	23 53 38.2	-0.8
comp=Z,2.3nm,0.6s,baz=44,slow=4.3,SNR=12							
BRTR	**Keskin Array B**	**148.72**	**305**	PKPbc	PKPbc	23 53 45.4	+0.6
comp=Z,0.8nm,0.6s,baz=147,slow=3.7,SNR=7.1							

IDC 17 23:35:51.3±2.2, 115S×12802E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/15, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=152.2km s-min=28.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.68**	**162**	P	Pn	23 40 22.7	-0.5
0.2nm,0.3s,baz=341,slow=12,SNR=8.7							
ASAR	**Alice Springs**	**23.10**	**166**	P	P	23 40 58.6	-0.1
0.6nm,0.6s,baz=347,slow=11,SNR=4.7							
MKAR	**Makanchi Array**	**62.29**	**326**	P	P	23 46 15.2	+0.1
0.2nm,0.4s,baz=134,slow=6.9,SNR=3.7							

*ROM **17** 23:52:59.4±0.2, 46.11N×1364E, h10km, Md2.5/4, Ml1.7/3, Error ellipse: s-maj=4.1km s-min=1.6km az=121.0*
*ISCJB **17** 23:53:00.5±0.3, 4604N±002×1350E±002, h8km, Error ellipse: s-maj=3.3km s-min=2.0km az=60.0*
*CSEM **17** 23:53:00.2±0.1, 4606N×1348E, h15km, ML2.8/6, Error ellipse: s-maj=1.4km s-min=0.9km az=25.0*
*LJU **17** 23:53:00.3, 4606N×1349E, h14km, ML1.6*
*VIE **17** 23:53:01.2±0.2, 46.11N×1358E, h8km, mb1.8/1, ML2.0/2, Error ellipse: s-maj=1.8km s-min=0.9km az=41.0 12 km E of Cividale*

ISC 17 23:53:00.6±0.5, 4606N±002×1350E±003, h17km±5km, n39, σ0°69/69, 9C-13D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLI	**Coloredo**	**0.11**	**311**	⇑*i*Pg	**Pg**	**23 53 03.7**	**-0.5**
COLI				*i* Sg	**Sg**	23 53 06.0	-0.6
DRE	**Drenchia**	**0.15**	**43**	⇓*i*Pg	**Pg**	**23 53 04.3**	**-0.4**
DRE				*i* Sg	**Sg**	23 53 07.3	-0.2
ROBS	**Robic**	**0.18**	**3**	⇓*i*Pg	**Pg**	**23 53 04.7**	**-0.5**
ROBS				*i* Sg	**Sg**	**23 53 07.9**	**-0.4**
ROBS							
comp=Z,79nm,0.1s							
ROBS	**Robic**	**0.18**	**3**	**Pg**	**Pg**	**23 53 04.7**	**-0.4**
ROBS				*i* Sg	**Sg**	**23 53 07.9**	**-0.4**
comp=Z,79nm,0.1s							
CADS	**Cadrg**	**0.24**	**45**	⇓*i*Pg	**Pg**	**23 53 05.5**	**-0.4**
CADS				*i* Sg	**Sg**	23 53 09.6	0.0
CADS							
comp=Z,22nm,0.1s							
CADS	**Cadrg**	**0.24**	**45**	⇓*i*Pg	**Pg**	**23 53 05.5**	**-0.5**
CADS				*i* Sg	**Sg**	23 53 09.6	0.0
comp=Z,22nm,0.1s							
BAD Bernadia		**0.25**	**315**	⇓*i*Pg	**Pg**	**23 53 05.5**	**-0.6**
BAD				*i* Sg	**Sg**	23 53 09.6	-0.3
VOJS Vojsko		**0.27**	**96**	⇓*i*Pg	**Pg**	23 53 06.2	-0.3
VOJS				*i* Sg	**Sg**	23 53 11.2	+0.5
VOJS Vojsko		**0.27**	**96**	⇓*i*Pg	**Pg**	23 53 06.2	-0.4
VOJS				*i* Sg	**Sg**	23 53 11.1	+0.5
GMNA Gemona		**0.28**	**320**	Pg	**Pg**	23 53 07.1	+0.4
GMNA				Sg	**Sg**	23 53 13.5	+2.7
comp=Z,54nm,0.3s							
BUA Buia		**0.30**	**301**	⇑*i*Pg	**Pg**	23 53 07.0	-0.1
BUA				*i* Sg	**Sg**	23 53 11.9	+0.4
BUA Buia		**0.30**	**301**	*i* Pg	**Pg**	23 53 06.9	-0.2
BUA				*i* Sg	**Sg**	23 53 11.9	+0.4
TLI Talmassons		**0.31**	**243**	⇑*i*Pg	**Pg**	23 53 06.8	-0.4
PTCC Patocco-Chiusa		**0.36**	**344**	Pg	**Pg**	23 53 07.3	-0.7
PTCC				Sg	**Sg**	23 53 13.1	+0.1
comp=Z,16nm,0.2s							
BOO Bordano		**0.38**	**313**	⇓*e*Pg	**Pg**	23 53 07.8	-0.6
MPRI Monte Prat		**0.40**	**297**	⇓*e*Pg	**Pg**	23 53 08.5	-0.2
MPRI				*e*Sg	**Sg**	23 53 15.2	+1.0
TRI Trieste		**0.40**	**152**	Pg	**Pg**	23 53 08.1	-0.7
TRI				Sg	**Sg**	23 53 14.3	0.0
comp=Z,36nm,0.1s							
LSR Lussari		**0.41**	**3**	⇓*e*Pg	**Pg**	23 53 08.4	-0.6
LSR				*e*Sg	**Sg**	23 53 15.6	+0.8
GORS Gorjuse		**0.43**	**54**	⇑*i*Pg	**Pg**	23 53 08.8	-0.5
GORS				*i* Sg	**Sg**	23 53 16.0	+0.8
GORS							
comp=Z,13nm,0.1s							
GORS Gorjuse		**0.43**	**54**	⇑*i*Pg	**Pg**	23 53 08.8	-0.5
GORS				*i* Sg	**Sg**	23 53 16.0	+0.8
comp=Z,13nm,0.1s							
JAVS Javornik		**0.43**	**113**	*i* Pg	**Pg**	23 53 09.5	+0.1
JAVS				*i* Sg	**Sg**	23 53 15.8	+0.6
JAVS							
comp=Z,5.0nm,0.1s							
JAVS Javornik		**0.43**	**113**	*i* Pg	**Pg**	23 53 09.5	+0.1
JAVS				*i* Sg	**Sg**	23 53 15.8	+0.6
comp=Z,5.0nm,0.1s							
PLRO Paularo		**0.54**	**334**	⇓*i*Pg	**Pg**	23 53 11.0	-0.4
PLRO				*i* Sg	**Sg**	23 53 20.2	+1.5
LJU Ljubljana		**0.72**	**91**	*i* Pg	**Pg**	23 53 14.7	0.0
LJU				*i*		23 53 15.3	
CEY Cerknica		**0.73**	**116**	*i* Pg	**Pg**	23 53 14.3	-0.5
CEY				*i*		23 53 14.9	
CEY				*i* Sg	**Sg**	23 53 25.9	+1.4
CEY							
comp=Z,4.0nm,0.1s							
CEY Cerknica		**0.73**	**116**	*i* Pg	**Pg**	23 53 14.3	-0.5
CEY				*i* Sg	**Sg**	23 53 25.9	+1.4
comp=Z,4.0nm,0.1s							
FVI Forni Avoltri		**0.73**	**317**	Pg	**Pg**	23 53 14.0	-0.8
comp=Z,10.0nm,0.2s							
OBKA Obir		**0.86**	**58**	⇑*i*Sg	**Sg**	23 53 27.3	-1.2
comp=Z,15nm,0.3s							
OBKA Obir		**0.86**	**58**	⇑*i*Pg	**Pg**	23 53 16.7	-0.5
OBKA				⇑*i*Sg	**Sg**	23 53 27.3	-1.2
comp=Z,15nm,0.3s							
VISS Visnje		**0.97**	**105**	*i* Pg	**Pg**	23 53 19.8	+0.3
VISS							
comp=Z,9.0nm,0.1s							
VISS Visnje		**0.97**	**105**	*i* Pg	**Pg**	23 53 19.8	+0.3
comp=Z,8.0nm,0.1s							
KBA Koelnbreinsper		**1.02**	**354**	⇓*i*Sg	**Sg**	23 53 33.9	+0.1
comp=Z,7.3nm,0.2s							
KBA Koelnbreinsper		**1.02**	**354**	⇑*i*Pg	**Pg**	23 53 20.6	+0.2
KBA				⇓*i*Sg	**Sg**	23 53 33.9	+0.1
comp=Z,7.3nm,0.2s							
PDKS Podkum		**1.05**	**90**	*i* Pg	**Pg**	23 53 20.8	-0.1
PDKS				*i* Sg	**Sg**	23 53 36.2	+1.7
PDKS							
comp=Z,6.0nm,0.1s							
PDKS Podkum		**1.05**	**90**	*i* Pg	**Pg**	23 53 20.8	-0.1
PDKS				*i* Sg	**Sg**	23 53 36.2	+1.6
comp=Z,6.0nm,0.1s							
CTI Castel Tesino		**1.28**	**270**	Pg	**Pg**	23 53 25.3	-0.1
CTI				Sg	**Sg**	23 53 43.1	+0.9
comp=Z,30nm,0.2s							
BOJS Bojanci		**1.35**	**114**	*i* Pg	**Pg**	23 53 26.5	-0.1
BOJS				*i* Sg	**Sg**	23 53 44.4	+0.2
BOJS							
comp=Z,5.0nm,0.1s							
BOJS Bojanci		**1.35**	**114**	*i* Pg	**Pg**	23 53 26.5	-0.1
BOJS				*i* Sg	**Sg**	23 53 44.4	+0.2
comp=Z,5.0nm,0.1s							
CRES Cresnjev		**1.39**	**99**	*i* Pg	**Pg**	23 53 26.8	-0.5

*KRSC **18** 00:14:55.8±0.7, 5284N×15458E, h557km±7km, ML4.0*
*ISCJB **18** 00:15:00.9±0.4, 5342N±007×1539E±01, h469km±6km, mb3.4/11, Error ellipse: s-maj=14.1km s-min=9.4km az=45.9*
*MOS **18** 00:15:00.0±1.0, 5340N×15478E, h515km, mb4.0/1, Error ellipse: s-maj=27.9km s-min=17.5km az=100.3*
*NEIC **18** 00:15:01.7±0.8, 5350N×15378E, h463km±10km, Error ellipse: s-maj=15.7km s-min=11.0km az=134.0*
*IDC **18** 00:15:02.9±1.6, 5350N×15377E, h478km±19km, mb3.1/11, mb1 3.3/12, mb1mx3.1/22, mbtmp4.0/12, Error ellipse: s-maj=16.0km s-min=11.5km az=133.0*

ISC 18 00:15:01.6±0.4, 5339N±007×1539E±01, h467km±6km, n52, σ1°06/63, mb3.4/11, 2C, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.06**	**122**	*e*P	**P**	**00 16 04.6**	**+0.7**
MIPR				*e*S	**S**	**00 16 55.0**	**+0.5**
GNL Ganaly		**2.43**	**81**	*i* P	**P**	00 16 06.4	+0.3
KRMR Karymshinskiy		**2.60**	**101**	*i* P	**P**	00 16 07.4	+0.2
PAU Pauzhetka		**2.62**	**136**	*e*P	**P**	00 16 07.6	+0.3
PAU				*e*S	**S**	00 17 00.1	-0.6
PAU				Smax			
140nm,0.8s							
GRL Gorelyy		**2.65**	**107**	*e*P	**P**	00 16 05.9	-1.6
ALID Alaid		**2.72**	**158**	*e*P	**P**	00 16 09.0	+1.1
KOK Koryaka		**2.84**	**90**	*i* P	**P**	00 16 09.6	+0.9
PET Petropavlovsk		**2.88**	**95**	P	**P**	00 16 09.1	+0.1
PET				S	**S**	00 17 01.8	-2.0
PET Petropavlovsk		**2.88**	**95**	*i* P	**P**	00 16 09.1	+0.1
PET				*e*S	**S**	00 17 01.5	-2.3
PET Petropavlovsk		**2.88**	**95**	*e*P	**P**	00 16 09.2	+0.1
AVH Avacha		**2.90**	**90**	*e*P	**P**	00 16 09.8	+0.6
SMAR Somma		**2.94**	**90**	*i* P	**P**	00 16 10.3	+0.9
RUS Russkaya		**2.95**	**107**	P	**P**	00 16 08.9	-0.6
RUS				S	**S**	00 17 01.8	-2.9
RUS Russkaya		**2.95**	**107**	*e*P	**P**	00 16 08.8	-0.7
RUS				*e*S	**S**	00 17 01.9	-2.8
UGLR Uglovaya		**2.96**	**92**	*e*P	**P**	00 16 10.4	+0.8
NLC Nalytchevo		**3.27**	**92**	P	**P**	00 16 11.1	-0.8
NLC				S	**S**	00 17 05.8	-3.3
NLC Nalytchevo		**3.27**	**92**	*e*P	**P**	00 16 11.1	-0.8
NLC				*e*S	**S**	00 17 07.1	-2.0
SPN Mys Shipunski		**3.69**	**92**	P	**P**	00 16 13.0	-2.2
SPN				S	**S**	00 17 08.8	-6.2
ESO Esso		**3.77**	**46**	*e*P	**P**	00 16 16.7	+0.9
TUMR Tumrok		**4.12**	**60**	*e*P	**P**	00 16 19.6	+0.8
KOZ Kozyrevsk		**4.37**	**50**	P	**P**	00 16 21.6	+0.6
KOZ Kozyrevsk		**4.37**	**50**	*e*P	**P**	00 16 21.5	+0.5
KOZR Kozyr		**4.39**	**50**	P	**P**	00 16 21.6	+0.5
SRDR Sredinnyy		**4.46**	**46**	*i* P	**P**	00 16 22.7	+0.9
KPT Kopyto		**4.48**	**52**	*e*P	**P**	00 16 22.0	0.0
MKZ Mys Kozlova		**4.76**	**73**	P	**P**	00 16 22.0	-2.6
MKZ				S	**S**	00 17 24.6	-7.6
MKZ Mys Kozlova		**4.76**	**73**	*e*P	**P**	00 16 21.9	-2.7
MKZ				*i* S	**S**	00 17 24.7	-7.5
LGNR Loginova		**4.77**	**53**	*i* P	**P**	00 16 25.2	+0.6
KRSR Krestovskiy		**4.78**	**51**	*e*P	**P**	00 16 24.2	-0.5
ZLN Zelenaya		**4.79**	**54**	*e*P	**P**	00 16 25.1	+0.3
CIRR Tsirk		**4.81**	**53**	*e*P	**P**	00 16 25.4	+0.4
KLY Klyuchi		**4.88**	**50**	*e*P	**P**	00 16 28.4	+2.8
BDR Baidarnaya		**5.27**	**50**	*i* P	**P**	00 16 29.8	+0.4
SRKR Sorokina		**5.30**	**49**	*e*P	**P**	00 16 30.0	+0.3
SMKR Semkarok		**5.40**	**51**	*e*P	**P**	00 16 29.6	-1.0
MA2 Magadan		**6.44**	**346**	*e*P	**P**	00 16 41.4	+0.4
MA2				pmax	pmax		
comp=Z,4.0nm,0.7s							
KAMR Kamenskoye		**11.18**	**31**	*i* P	**P**	**00 17 32.9**	**+1.5**
FX1 Attu Island--F		**11.58**	**85**	P	**P**	**00 17 36.8**	**+1.1**
comp=Z,2.3nm,0.3s,baz=183,slow=19,SNR=3.7							
FX1 Attu Island--F		**11.58**	**85**	P	**P**	**00 17 36.8**	**+1.1**
FX1				pmax	pmax		
comp=Z,2.0nm,0.3s							
MJAR Matsushiro Arr		**20.10**	**219**	P	**P**	**00 19 03.5**	**+0.7**
comp=Z,3.7nm,0.6s,baz=17,slow=11,SNR=13							
TIXI Tiksi		**21.34**	**338**	⇑*i* P	**P**	**00 19 12.6**	**-1.6**
TIXI				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.1							
SONM Songino Array		**30.20**	**279**	P	**P**	**00 20 33.0**	**+0.4**
comp=Z,0.5nm,0.3s,mb3.4,baz=66,slow=8.4,SNR=12							
SONM				ScP	ScP	00 26 15.2	-1.8
comp=Z,0.3nm,0.7s,baz=91,slow=0.6,SNR=4.2							
ILAR Eielson Array		**31.25**	**45**	P	**P**	**00 20 41.5**	**-0.1**
comp=Z,1.3nm,0.7s,mb3.4,baz=275,slow=9.0,SNR=16							
MKAR Makanchi Array		**44.63**	**292**	P	**P**	**00 22 30.9**	**-0.4**
comp=Z,0.3nm,0.5s,mb3.0,baz=58,slow=6.0,SNR=9.3							
MKAR				ScP	ScP	00 27 08.5	-2.9
comp=Z,0.2nm,0.8s,baz=73,slow=4.8,SNR=2.5							
YKA Yellowknife Ar		**45.41**	**41**	P	**P**	**00 22 37.2**	**0.0**
comp=Z,1.5nm,0.6s,mb3.6,baz=302,slow=7.4,SNR=33							
YKA Yellowknife Ar		**45.41**	**41**	P	**P**	**00 22 37.2**	**0.0**
ARCES ARCESS Array B		**51.78**	**339**	P	**P**	**00 23 22.7**	**-2.2**
comp=Z,5.3nm,1.1s,mb3.8,baz=42,slow=9.6,SNR=2.8							
FINES FINESS Array B		**58.28**	**334**	P	**P**	**00 24 09.0**	**-1.5**
comp=Z,0.8nm,0.8s,mb3.1,baz=23,slow=7.5,SNR=3.1							
PDAR Pinedale Array		**60.56**	**57**	P	**P**	**00 24 26.8**	**+1.0**
comp=Z,0.8nm,0.7s,mb3.2,baz=305,slow=3.1,SNR=4.9							
NOA NORSAR Array B		**62.12**	**341**	P	**P**	**00 24 34.7**	**-1.4**
comp=Z,0.2nm,0.6s,mb2.7,baz=63,slow=16,SNR=2.4							
WRA Warramunga Arr		**74.96**	**199**	P	**P**	**00 25 54.4**	**+0.3**
comp=Z,1.3nm,0.7s,mb3.6,baz=9.8,slow=5.9,SNR=4.4							
ASAR Alice Springs		**78.67**	**199**	P	**P**	**00 26 15.1**	**+0.7**
comp=Z,1.6nm,0.7s,mb3.6,baz=12,slow=5.4,SNR=16							

*CSEM **18** 01:11:52.9±0.2, 4000N×2438E, h8km, ML2.7, Error ellipse: s-maj=4.3km s-min=2.5km az=135.0*
*THE **18** 01:11:53.7, 4004N×2433E, h1km, ML2.7*
*SKO **18** 01:11:53.0, 3991N×2427E, h0km*
*ISCJB **18** 01:11:53.9±0.8, 4008N±005×2428E±005, h10km, Error ellipse: s-maj=6.6km s-min=6.0km az=24.3*
*ATH **18** 01:11:53.8, 40.15N×2437E, h10km, MD3.1/3*
*SOF **18** 01:11:55.3, 40.16N×2434E, h20km, MD2.7*

ISC 18 01:11:51.6±1.3, 3998N±006×2442E±006, h2km±9km, n18, σ0°89/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.49**	**317**	*e*Pg	**Pg**	**01 12 01.9**	**+1.0**
PAIG	**Paliouri**	**0.57**	**265**	*e*Pg	**Pg**	**01 12 03.1**	**+0.6**
PAIG				*e*Sg	**Sg**	**01 12 10.4**	**+0.5**
PLG	**Polygyros**	**0.84**	**298**	*e*PB	**Pb**	**01 12 07.5**	**-1.4**
SOH	**Sokhos**	**1.17**	**316**	*e*Pg	**Pg**	**01 12 14.2**	**+0.2**
SOH				*e*Sg	**Sg**	**01 12 28.7**	**-0.4**
SRS	**Serrai**	**1.30**	**331**	*e*Pg	**Pg**	**01 12 16.2**	**-0.2**
SRS				*e*Sg	**Sg**	**01 12 33.5**	**+0.2**
RDO	**Rodhopi**	**1.44**	**36**	*e*PB	**Pb**	**01 12 19.0**	**-0.1**
ALN	**Alexandroupoli**	**1.54**	**53**	*e*Pg	**Pg**	**01 12 20.7**	**-0.5**
PRK	**Paraskevi**	**1.61**	**117**	*e*PN	**Pn**	**01 12 26.0**	**+5.1**
KNT	**Kendrikon**	**1.65**	**316**	*e*Pg	**Pg**	**01 12 21.9**	**-1.4**
MMB	**Musomiste**	**1.69**	**342**	*e*P	**Pn**	**01 12 21.5**	**-0.5**
MMB				*e*Pg	**Pg**	**01 12 24.5**	**+0.5**
MMB	**Musomiste**	**1.69**	**342**	*e*Pg	**Pg**	**01 12 24.5**	**+0.5**
RZN	**Rozhen**	**1.72**	**7**	*e*P	**Pn**	**01 12 23.5**	**+1.0**
GRG	**Griva**	**1.82**	**303**	*e*Pb	**Pb**	**01 12 24.7**	**-0.9**
VAY	**Valandovo**	**1.94**	**314**	*e*Pb	**Pb**	**01 12 25.9**	**-1.7**
VAY	**Valandovo**	**1.94**	**314**	*e*Pn	**Pn**	**01 12 25.9**	**+0.4**
VAY				*e*Sg	**Sg**	**01 12 54.5**	**+0.5**
VAY	**Valandovo**	**1.94**	**314**	*e*Pn	**Pn**	**01 12 25.8**	**+0.3**
VAY				*e*Sg	**Sg**	**01 12 54.4**	**+0.5**
KKB	**Krupnik**	**2.14**	**332**	*e*P	**Pn**	**01 12 29.0**	**+0.8**
VTS	**Vitosha**	**2.76**	**341**	*e*P	**Pn**	**01 12 40.0**	**+3.2**

*NEIC **18** 01:43:41.9, 3768S×7451W, h28km, mb4.4/1, ML4.9(GUC), After GUC.*
*GUC **18** 01:43:41.9±0.6, 3768S×7451W, h28km±15km, ML4.9*
*IDC **18** 01:43:48.2±0.9, 3725S×7389W, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.1/20, mbtmp4.1/13, ML3.6/3, MS3.7/3, Ms1 3.7/3, ms1mx3.1/17, Error ellipse: s-maj=27.9km s-min=14.7km az=72.0*
*ISCJB **18** 01:43:51.8±0.6, 3726S±006×738W±0.1, h33km, mb4.2/12, MS4.0/1, Error ellipse: s-maj=13.6km s-min=6.5km az=46.3*

ISC 18 01:43:53.5±0.6, 3726S±007×738W±01, h35km, n41, σ0°94/51, mb4.2/12, MS4.0/1, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH Cobquecura		**1.39**	**36**	⇑*i*P	**Pn**	**01 44 15.8**	**-0.5**
COCH				*i* S	**Sn**	**01 44 42.0**	**+8.6**
CCHI Chillan		**1.53**	**65**	*e*P	**Pn**	**01 44 18.0**	**-0.2**
CCHI				*i* S	**Sn**	**01 44 45.6**	**+8.8**
CCHI				AMP		01 44 58.5	
comp=E,9μm,0.8s							
CCHI Chillan		**1.53**	**65**	*e*P	**Pn**	**01 44 18.0**	**-0.2**
CCHI				*i* S	**Sn**	**01 44 45.6**	**+8.8**
LNCH Linares		**2.26**	**52**	*e*P	**Pn**	**01 44 28.7**	**+0.4**
LNCH				*i* S	**Sn**	**01 45 03.2**	**+8.3**
LNCH				AMP		01 45 16.8	
comp=N,4μm,0.9s							
LNCH Linares		**2.26**	**52**	*e*P	**Pn**	**01 44 28.7**	**+0.4**
LNCH				*i* S	**Sn**	**01 45 03.2**

comp=N,2.0nm,0.8s,mb4.1,baz=221,slow=18,SNR=3.6
NVAR Mina Array Bea 85.77 326 P P 01 56 29.7 +0.6
comp=N,0.8nm,0.9s,mb3.9,baz=152,slow=5.8,SNR=4.5
NVAR Mina Array Bea 85.77 326 P P 01 56 29.7 +0.6
PDAR Pinedale Array 86.04 334 P P 01 56 30.6 +0.2
comp=N,1.1nm,1.0s,mb4.0,baz=180,slow=4.4,SNR=6.2
PDAR LR LR 02 29 43.0
comp=N,59nm,18.7s,MS4.0,baz=263,slow=32
TORD Torodi Ar. Bea 86.65 71 P P 01 56 34.0 +0.6
comp=N,1.5nm,0.6s,mb4.4,baz=217,slow=5.6,SNR=19
ULM Lac du Bonnet 89.28 346 P P 01 56 44.1 -1.9
comp=N,0.5nm,0.3s,mb4.3,baz=189,slow=10,SNR=3.0
LSZ Lusaka 90.12 109 P P 01 56 52.1 +2.2
comp=N,1.6nm,0.8s,mb4.4,baz=259,slow=8.2,SNR=3.6
LSZ Lusaka 90.12 109 P P 01 56 52.1 +2.2
BRTR Keskin Array B 124.62 63 PKP PKPdf 02 02 49.0 -0.2
comp=N,0.7nm,0.7s,baz=186,slow=4.1,SNR=7.3
MKAR Makanchi Array 159.91 54 PKP PKPdf 02 03 48.0 -0.7
comp=N,0.5nm,0.8s,baz=327,slow=2.0,SNR=4.3
MKAR PKPab PKPab 02 04 27.9 -0.3
comp=N,1.2nm,0.8s,baz=284,slow=4.9,SNR=9.9

*ISCJB **18** 01:47:08.8±0.6, 3821N±003×2654E±005, h18km±5km, Error ellipse: s-maj=6.6km s-min=4.4km az=162.7*
*ATH **18** 01:47:08.7, 3821N×2655E, h30km±6km, MD3.2/3*
*CSEM **18** 01:47:09.5±0.1, 3822N×2650E, h30km, MD3.3, Error ellipse: s-maj=2.6km s-min=1.5km az=99.0*
*ISK **18** 01:47:09.6, 3823N×2647E, h30km, MD3.3*
ISC 18 01:47:09.0±0.6, 3823N±003×2654E±005, h14km±3km, n26, σ0°76/36, 3C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.14**	**19**	*i* P	**Pg**	**01 47 12.7**	**+0.1**
URLA				*i* S	**Sg**	**01 47 15.2**	**0.0**
SMG	**Samos**	**0.57**	**155**	⇑*i* PN	**Pg**	**01 47 20.4**	**+0.3**
SMG				*e* SN	**Sg**	**01 47 28.7**	**+1.0**
KDAG	**Bornova**	**0.60**	**73**	*i* P	**Pg**	**01 47 20.2**	**-0.5**
KDAG				*i* S	**Sg**	**01 47 27.7**	**-1.0**
KDAG	**Bornova**	**0.60**	**73**	*i* P	**Pg**	**01 47 20.2**	**-0.5**
KDAG				*i* S	**Sg**	**01 47 27.7**	**-1.0**
PRK	**Paraskevi**	**1.04**	**349**	⇓*i* PN	**Pn**	**01 47 29.0**	**-0.1**
PRK				*e* SN	**Sn**	**01 47 43.4**	**0.0**
PRK	**Paraskevi**	**1.04**	**349**	⇓*i* Pb	**Pb**	**01 47 29.1**	**+0.4**
AYVA	**Ayvalik**	**1.09**	**6**	*i* P	**Pb**	**01 47 29.9**	**+0.3**
AYVA				*i* S	**Sb**	**01 47 45.0**	**+1.4**
AKS	**Akhisar**	**1.19**	**57**	PN	**Pn**	**01 47 30.7**	**-0.6**
AKS				SN	**Sn**	**01 47 47.1**	**-0.2**
AYDN	**Tasoluk**	**1.20**	**118**	*i* P	**Pn**	**01 47 30.9**	**-0.5**
AYDN				*i* S	**Sb**	**01 47 46.4**	**-0.5**
BODT	**Bodrum**	**1.31**	**152**	PN	**Pn**	**01 47 33.4**	**+0.5**
MLSB	**Milas**	**1.35**	**133**	PN	**Pn**	**01 47 33.2**	**-0.2**
APE	**Apeiranthos**	**1.40**	**215**	PN	**Pn**	**01 47 32.9**	**-1.2**
APE	**Apeiranthos**	**1.40**	**215**	⇑*i* PN	**Pn**	**01 47 34.2**	**+0.1**
APE	**Apeiranthos**	**1.40**	**215**	⇑*i* Pb	**Pb**	**01 47 33.9**	**-1.1**
EZN	**Ezine**	**1.61**	**354**	*e* PN	**Pn**	**01 47 36.4**	**-0.5**
MANT	**Manisa**	**1.61**	**80**	*i* P	**Pn**	**01 47 38.5**	**+1.5**
MANT				*i* S	**Sn**	**01 47 58.6**	**+1.1**
DAT	**Datca**	**1.71**	**151**	*e* PN	**Pn**	**01 47 38.4**	**+0.1**
BALB	**Balikesir**	**1.76**	**36**	*e* PN	**Pn**	**01 47 39.6**	**+0.6**
YER	**Yerkesik**	**1.76**	**128**	*e* PN	**Pn**	**01 47 39.4**	**+0.3**
BTOK	**Tokmak**	**1.93**	**37**	*i* P	**Pn**	**01 47 39.1**	**-2.2**
BTOK				*i* S	**Sn**	**01 48 04.2**	**-1.1**
DST	**Dursunbey**	**2.13**	**49**	*e* PN	**Pn**	**01 47 43.7**	**-0.5**
EDC	**Edincik**	**2.35**	**26**	*e* PN	**Pn**	**01 47 47.7**	**+0.5**
BNT	**Bandirma**	**2.38**	**26**	*e* PN	**Pn**	**01 47 47.7**	**+0.1**
MRMT	**Marmara Adasi**	**2.51**	**19**	*e* PN	**Pn**	**01 47 48.9**	**-0.5**
MFT	**Murefte**	**2.62**	**12**	*e* PN	**Pn**	**01 47 51.4**	**+0.5**
YLV	**Yalova**	**3.21**	**42**	*e* PN	**Pn**	**01 48 00.0**	**+1.1**

IDC 18 02:06:53.9±3.9, 953S×11748E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.6/3, Error ellipse: s-maj=438.0km s-min=27.2km az=53.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**21.07**	**134**	P	P	02 11 40.8	+1.2
	1.1nm,0.4s,baz=315,slow=9.8,SNR=15						
STKA	**Stephens Creek**	**31.53**	**138**	P	P	02 13 17.1	-0.5
	0.3nm,0.4s,baz=321,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**64.25**	**334**	P	P	02 17 30.9	+0.2
	0.2nm,0.5s,baz=136,slow=5.5,SNR=4.9						

*ATH **18** 02:11:50.4, 3921N×2232E, h92km±2km, ML3.6*
*CSEM **18** 02:11:50.4±0.1, 3923N×2225E, h80km, ML2.9, Error ellipse: s-maj=1.8km s-min=1.6km az=82.0*
*ISCJB **18** 02:11:50.4±0.4, 3920N±002×2225E±004, h95km±5km, Error ellipse: s-maj=4.9km s-min=3.5km az=112.1*
*SOF **18** 02:11:50.6, 3945N×2242E, h2km, MD2.7*
*THE **18** 02:11:51.4, 3922N×2225E, h88km, ML2.9*
*SKO **18** 02:11:57.9, 3972N×2205E, h28km, M1.4, ML2.2*
ISC 18 02:11:51.3±0.4, 3920N±002×2225E±003, h90km±5km, n54, σ0°90/78, 3C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.18**	**160**	*e* Pg	**Pn**	**02 12 04.4**	**+0.2**
AGG				*e* Sg	**Sn**	**02 12 13.9**	**+0.1**
EVR	**Evrytania**	**0.44**	**231**	⇓*i* P	**Pn**	**02 12 06.0**	**+0.4**
EVR				*e* S	**Sn**	**02 12 16.9**	**+0.7**
NEO	**Neokhori**	**0.77**	**81**	*e* P	**Pn**	**02 12 08.4**	**0.0**
NEO				*e* S	**Sn**	**02 12 20.5**	**-0.7**
LKR	**Lokris**	**0.80**	**133**	⇓*i* P	**Pn**	**02 12 08.8**	**0.0**
LKR				*e* S	**Sn**	**02 12 21.7**	**-0.1**
LIT	**Litokhoron**	**0.92**	**12**	*e* Pg	**Pn**	**02 12 10.0**	**-0.1**
LIT				*e* Sg	**Sn**	**02 12 24.0**	**-0.2**
KZN	**Kozani**	**1.17**	**342**	*e* P	**Pn**	**02 12 13.2**	**+0.2**
KZN				*e* S	**Sn**	**02 12 29.3**	**+0.1**
JAN	**Janina**	**1.18**	**294**	⇑*i* P	**Pn**	**02 12 14.4**	**+1.4**
JAN				*e* S	**Sn**	**02 12 30.9**	**+1.5**
RLS	**Riolos of Patr**	**1.29**	**209**	⇓*i* P	**Pn**	**02 12 14.8**	**+0.4**
PAIG	**Paliouri**	**1.33**	**56**	*e* Pg	**Pn**	**02 12 14.5**	**-0.3**
MGER	**Gerania Oros**	**1.44**	**146**	*e* P	**Pn**	**02 12 16.5**	**+0.2**
MGER				*e* S	**Sn**	**02 12 34.5**	**-0.7**
PLG	**Polygyros**	**1.50**	**38**	*e* P	**Pn**	**02 12 16.4**	**-0.6**
PLG				*e* S	**Sn**	**02 12 35.1**	**-1.3**
IGT	**Igoumenitsa**	**1.52**	**283**	*e* Pg	**Pn**	**02 12 17.3**	**0.0**
MPAR	**Parnis Oros**	**1.56**	**131**	*e* P	**Pn**	**02 12 18.3**	**+0.5**
MPAR				*e* S	**Sn**	**02 12 37.5**	**-0.4**
LSK	**Leskovik**	**1.59**	**307**	*i* Pn	**Pn**	**02 12 19.4**	**+1.2**
LSK				*i* Sn	**Sn**	**02 12 41.1**	**+2.6**
VLS	**Valsamata**	**1.65**	**232**	⇓*i* P	**Pn**	**02 12 19.0**	**+0.1**
VLS	**Valsamata**	**1.65**	**232**	⇓*i* P	**Pn**	**02 12 18.4**	**-0.5**
ATH	**Athens Observa**	**1.68**	**136**	*e* P	**Pn**	**02 12 18.4**	**-0.9**
ATH				*e* S	**Sn**	**02 12 40.0**	**-0.5**
PTL	**Penteli**	**1.71**	**132**	*e* P	**Pn**	**02 12 20.1**	**+0.4**
PTL				*e* S	**Sn**	**02 12 40.6**	**-0.6**
FNA	**Florina**	**1.72**	**337**	*e* Pb	**Pn**	**02 12 20.2**	**+0.3**
FNA				*e* Sb	**Sn**	**02 12 41.5**	**-0.1**
NAIG	**Nisos Aigina**	**1.73**	**145**	*e* P	**Pn**	**02 12 21.0**	**+1.0**
OUR	**Ouranopolis**	**1.75**	**49**	*e* Pb	**Pn**	**02 12 20.2**	**-0.1**
GRG	**Griva**	**1.76**	**4**	*e* Pb	**Pn**	**02 12 20.1**	**-0.3**
SOH	**Sokhos**	**1.83**	**27**	*e* Pb	**Pn**	**02 12 21.5**	**+0.2**
SOH				*e* Sb	**Sn**	**02 12 44.5**	**+0.4**
SRN	**Sarande**	**1.87**	**292**	*i* Pn	**Pn**	**02 12 21.7**	**-0.1**
SRN				*i* Sn	**Sn**	**02 12 43.3**	**-1.6**
BIA	**Bitola**	**1.96**	**339**	*e* Pb	**Pn**	**02 12 22.7**	**-0.2**
BIA	**Bitola**	**1.96**	**339**	*i* Pg	**Pn**	**02 12 22.7**	**-0.2**
BIA				*e* Sg	**Sn**	**02 12 43.4**	**-3.6**
BIA				*e* Lg		02 12 45.9	
	comp=N,12nm,0.2s						
BIA				*e* Lg		02 12 46.3	
	comp=E,26nm,0.7s						
BIA	**Bitola**	**1.96**	**339**	*i* Pg	**Pn**	**02 12 22.6**	**-0.3**
BIA				*e* Sg	**Sn**	**02 12 43.3**	**-3.7**
KNT	**Kendrikon**	**2.03**	**14**	*e* Pn	**Pn**	**02 12 24.0**	**+0.1**
ITM	**Ithomi**	**2.03**	**187**	*e* P	**Pn**	**02 12 24.6**	**+0.7**
VAY	**Valandovo**	**2.14**	**7**	*e* Pn	**Pn**	**02 12 24.8**	**-0.5**
VAY	**Valandovo**	**2.14**	**7**	*i* Pn	**Pn**	**02 12 24.7**	**-0.6**
VAY				*e* Sn	**Sn**	**02 12 45.3**	**-5.9**
VAY				*e* Lg		02 12 49.9	
	comp=E,32nm,0.5s						
VAY				*e* Lg		02 12 51.2	
	comp=N,68nm,0.9s						
VAY	**Valandovo**	**2.14**	**7**	*e* Pn	**Pn**	**02 12 24.8**	**-0.5**
VAY				*e* Sn	**Sn**	**02 12 45.3**	**-6.0**
SRS	**Serrai**	**2.18**	**28**	*e* Pn	**Pn**	**02 12 25.6**	**-0.2**
OHR	**Ohrid**	**2.21**	**330**	*i* Pn	**Pn**	**02 12 26.0**	**-0.3**
OHR				*e* Sg	**Sn**	**02 12 51.4**	**-1.7**
OHR				*e* Lg		02 12 51.9	
	comp=E,29nm,0.5s						
OHR	**Ohrid**	**2.21**	**330**	*i* Pn	**Pn**	**02 12 26.0**	**-0.3**
OHR				*e* Sg	**Sn**	**02 12 51.3**	**-1.7**
NVR	**Nevrokopi**	**2.48**	**29**	⇓*i* P	**Pn**	**02 12 29.6**	**-0.3**
VLI	**Veliai**	**2.53**	**167**	*e* P	**Pn**	**02 12 30.0**	**-0.5**
VLI	**Veliai**	**2.53**	**167**	*e* P	**Pn**	**02 12 29.8**	**-0.7**
KKB	**Krupnik**	**2.74**	**13**	*e* P	**Pn**	**02 12 33.0**	**-0.4**
RZN	**Rozhen**	**3.12**	**36**	*i* P	**Pn**	**02 12 39.0**	**+0.6**
RDO	**Rodhopi**	**3.19**	**51**	*e* P	**Pn**	**02 12 38.9**	**-0.4**
APE	**Apeiranthos**	**3.35**	**128**	*e* P	**Pn**	**02 12 42.1**	**+0.6**
APE	**Apeiranthos**	**3.35**	**128**	*e* Pn	**Pn**	**02 12 42.2**	**+0.7**
VTS	**Vitosha**	**3.47**	**12**	*e* P	**Pn**	**02 12 44.5**	**+1.4**
PE1	**Pezze di Greco**	**4.04**	**295**	*e* Pn	**Pn**	**02 12 49.8**	**-1.1**
BAI	**Bari**	**4.54**	**297**	*e* Pn	**Pn**	**02 12 55.8**	**-1.8**
SG1	**Sgolgore (BA)**	**4.58**	**293**	*e* Pn	**Pn**	**02 12 56.7**	**-1.5**
STON	**Ston**	**5.03**	**318**	*i* Pn	**Pn**	**02 13 01.9**	**-2.4**
STON				*i* Sn	**Sn**	**02 13 54.7**	**-6.4**
STON	**Ston**	**5.03**	**318**	*i* Pn	**Pn**	**02 13 01.8**	**-2.5**
STON				*i* Sn	**Sn**	**02 13 54.7**	**-6.5**
MLR	**Muntele Rosu**	**6.86**	**22**	⇑P	**Pn**	**02 13 30.4**	**+1.2**
HARR	**Harsova**	**6.93**	**36**	⇓P	**Pn**	**02 13 40.3**	**+10**
TIRR	**Tirgusor**	**6.99**	**39**	⇑P	**Pn**	**02 13 31.7**	**+0.8**
PLOR	**Plostina**	**7.40**	**25**	⇓P	**Pn**	**02 13 38.5**	**+1.9**
VRI	**Vrincioaia**	**7.44**	**25**	⇓P	**Pn**	**02 13 39.5**	**+2.4**

IDC 18 02:13:30.4±4.4, 578S×14672E, h62km±38km, mb3.4/6, mb1 3.6/7, mb1mx3.5/13, mbtmp3.7/7, ML2.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/8, Error ellipse: s-maj=37.2km s-min=26.7km az=84.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.62**	**173**	P	Pn	02 14 26.0	+2.0
	3.2nm,0.3s,baz=357,slow=4.5,SNR=7.5						
PMG				S	Sn	02 15 05.3	-0.2
	9.2nm,0.3s,baz=171,slow=23,SNR=5.6						
CTA	**Charters Tower**	**14.23**	**182**	LR	LR	02 20 55.5	
	comp=Z,54nm,21.2s,baz=49,slow=31						
ASAR	**Alice Springs**	**21.64**	**213**	P	P	02 18 16.4	+1.0
	0.7nm,0.5s,baz=51,slow=8.3,SNR=12						
FITZ	**Fitzroy Crossi**	**23.95**	**237**	P	P	02 18 38.8	+0.1
	1.3nm,0.5s,baz=130,slow=18,SNR=6.1						
FITZ				LR	LR	02 28 42.5	
	comp=Z,47nm,21.2s,baz=97,slow=38						
STKA	**Stephens Creek**	**26.40**	**190**	P	P	02 19 01.1	+0.2
	0.4nm,0.4s,baz=333,slow=11,SNR=3.2						
VNDA	**Vanda**	**72.14**	**177**	P	P	02 24 48.3	0.0
	1.2nm,0.4s,baz=358,slow=8.1,SNR=15						
MKAR	**Makanchi Array**	**77.15**	**321**	P	P	02 25 17.1	-0.2
	0.3nm,0.8s,baz=107,slow=7.6,SNR=2.8						
ILAR	**Eielson Array**	**85.39**	**23**	P	P	02 26 00.8	-0.2
	0.4nm,0.7s,baz=246,slow=4.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**144.77**	**285**	PKP	PKPdf	02 33 00.3	+0.2
	0.5nm,0.6s,baz=71,slow=3.2,SNR=9.7						

*MOS **18** 02:23:05.8±2.5, 5513N×11342E, h12km, mb4.0/1, Error ellipse: s-maj=29.5km s-min=20.5km az=102.4*
BYKL 18 02:23:06.1±0.2, 5517N×11338E, h13km±4km, 8C-3D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.35**	**24**	⇓*i* Pg	Pg	02 23 12.8	-0.4
UKT				*e* Sg	Sg	02 23 17.8	-0.1
UKT				Pmax			
	63nm,0.3s						
UKT				Smax			
	442nm,0.2s						
SVKR	**Severomuysk**	**0.95**	**6**	*e* Pg	Pg	02 23 24.7	+0.2
SVKR				*e* Pb	Pb	02 23 25.9	+1.4
SVKR				*e* Sg	Sg	02 23 38.3	+1.3
SVKR				*e* Sb	Sb	02 23 42.0	+5.0
SVKR				max			
	64nm,0.2s						
SVKR				max			
	1μm,0.2s						
SVKR	**Severomuysk**	**0.95**	**6**	*e* PG	Pg	02 23 24.5	0.0
SVKR				*e*		02 23 38.2	
SVKR				pmax	pmax		
	comp=Z,111nm,0.7s						
SVKR				smax			
	comp=E,1μm,0.4s						
YLYR	**Ulyunkhan**	**1.31**	**258**	⇑*i* Pg	Pg	02 23 29.7	-1.6
YLYR				*e* Sg	Sg	02 23 47.3	-1.1
YLYR				Pmax			
	comp=E,34nm,0.2s						
YLYR				Smax			
	comp=E,369nm,0.4s						
YLYR	**Ulyunkhan**	**1.31**	**258**	⇑*i* PG	Pg	02 23 29.7	-1.6
YLYR				*e*		02 23 47.0	
YLYR				pmax	pmax		
	comp=Z,40nm,0.2s						
YLYR				smax			
	comp=E,367nm,0.4s						
YOA	**Uoyan**	**1.35**	**316**	⇓*i* Pg	Pg	02 23 30.7	-1.3
YOA				*e* Sg	Sg	02 23 49.3	-0.2
YOA				Pmax			
	comp=E,647nm,0.2s						
YOA				Smax			
	comp=E,737nm,0.4s						
YOA	**Uoyan**	**1.35**	**316**	⇑*i* PG	Pg	02 23 30.4	-1.6
YOA				*i*		02 23 49.5	
YOA				pmax	pmax		
	comp=Z,646nm,0.2s						
YOA				smax			
	comp=N,784nm,0.4s						
KMO	**Kumora**	**1.43**	**301**	⇑*i* Pg	Pg	02 23 31.7	-1.9
KMO				*e* Sg	Sg	02 23 50.6	-1.6
KMO				Pmax			
	comp=N,131nm,0.4s						
KMO				Smax			
	comp=N,233nm,1.2s						
KMO	**Kumora**	**1.43**	**301**	⇑*i* PG	Pg	02 23 31.6	-2.0
KMO				*e*		02 23 50.4	
KMO				pmax	pmax		
	comp=Z,129nm,0.4s						
KMO				smax			
	comp=N,197nm,0.8s						
NLYR	**Nelyaty**	**1.86**	**44**	*e* Pn	Pn	02 23 38.1	+0.4
NLYR				⇓*i* Pg	Pg	02 23 39.5	-2.4
NLYR				*e* Sg	Sg	02 24 04.7	-1.3
NLYR				Pmax			
	comp=N,125nm,0.3s						
NLYR				Smax			
	comp=N,109nm,0.4s						
NIZ	**Nizh Angarsk**	**2.27**	**287**	⇑*i* Pn	Pn	02 23 44.0	+0.7
NIZ				*e* Pg	Pg	02 23 46.2	-3.4
NIZ				*e* Sg	Sg	02 24 15.8	-3.2
NIZ				Pmax			
	comp=N,17nm,0.2s						
NIZ				Smax			
	comp=N,85nm,0.8s						
SYVR	**Suvo**	**2.49**	**234**	⇑*i* Pg	Pg	02 23 50.3	-3.5
SYVR				*e* Sg	Sg	02 24 23.1	-3.0
SYVR				Pmax			
	comp=N,8.0nm,0.2s						
SYVR				Smax			
	comp=N,69nm,0.3s						
BOD	**Bodaibo**	**2.68**	**7**	*e* Pg	Pg	02 23 53.2	-4.2
BOD				*e* Sn	Sn	02 24 20.6	-0.6
BOD				*e* Sg	Sg	02 24 28.0	-4.2
BOD				Pmax			
	comp=N,5.0nm,0.2s						
BOD				Smax			
	comp=N,98nm,0.5s						
CIT	**Chita**	**3.16**	**178**	*e* Pg	Pg	02 24 02.3	-4.3
CIT				*e* Sg	Sg	02 24 43.5	-4.0
CIT				Pmax			
	comp=N,14nm,0.3s						
CIT				Smax			
	comp=N,113nm,0.6s						
CRS	**Chara**	**3.25**	**56**	*e* Pn	Pn	02 23 57.3	+0.6
CRS				⇑*i* Pg	Pg	02 24 04.2	-4.1
CRS				*e* Sg	Sg	02 24 47.1	-3.2
CRS				Pmax			
	comp=N,8.0nm,0.3s						
CRS				Smax			
	comp=N,87nm,0.8s						
CRS	**Chara**	**3.25**	**56**	*e* PN	Pn	02 24 04.1	+7.4
CRS				*e*		02 24 46.8	
CRS				pmax	pmax		
	comp=Z,20nm,0.6s						
CRS				smax			
	comp=E,87nm,0.9s						
MXMB	**Maximikha**	**3.33**	**237**	*e* Sg	Sg	02 24 49.6	-3.3
MXMB				*e* SgSg		02 24 54.4	
MXMB				max			
	comp=E,106nm,0.7s						
OGRR	**Ongureny**	**3.71**	**248**	*e* Pn	Pn	02 24 04.5	+1.4
OGRR				*e*		02 24 09.3	
OGRR				*e* Pg	Pg	02 24 11.7	-5.5
OGRR				*e* PgPg		02 24 14.2	
OGRR				*e* Sg	Sg	02 25 00.7	-4.6
OGRR				max			
	comp=E,4.0nm,0.4s						
OGRR				Smax			
	comp=E,23nm,1.2s						
TUP	**Tupik**	**3.88**	**98**	*e* Pn	Pn	02 24 05.5	+0.1
TUP				*e* Pg	Pg	02 24 15.7	-4.7
TUP				*e* Sg	Sg	02 25 06.0	-4.6
TUP				Pmax			
	comp=E,7.0nm,0.3s						
TUP				Smax			
	comp=E,126nm,0.8s						
TUP	**Tupik**	**3.88**	**98**	*e* PN	Pn	02 24 05.4	0.0
TUP				*e*		02 24 15.2	
TUP				*e* S	Sn	02 24 50.5	-0.3
TUP				*e*		02 25 05.2	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TUP				smax			
	comp=N,125nm,0.8s						
KELR	**Kotokel**	**3.95**	**235**	*e* Sg	Sg	02 25 07.6	-5.4
KELR				Smax			
	comp=N,74nm,0.3s						
TRTB	**Turuntaevo**	**4.51**	**232**	*e* Sg	Sg	02 25 26.4	-4.5
TRTB				Smax			
	comp=N,20nm,1.2s						
TRG	**Tyrgan**	**4.80**	**243**	*e* Sg	Sg	02 25 33.8	-6.5
TRG				Smax			
	comp=N,15nm,0.3s						
FFNB	**Fofonovo**	**5.03**	**234**	*e* Sg	Sg	02 25 42.4	-5.2
FFNB				Smax			
	comp=N,58nm,0.7s						
HRMR	**Khuramsha**	**5.23**	**230**	*e* Pg	Pg	02 24 40.4	-5.9
HRMR				*e* Sg	Sg	02 25 48.5	-5.5
HRMR				Pmax			
	comp=N,5.0nm,0.3s						
HRMR				Smax			
	comp=N,85nm,0.6s						
KPC	**Khapcheranga**	**5.51**	**187**	*e*	Pn	02 24 33.9	+6.1
KPC				*e*		02 24 47.5	
KPC				*e* Sg	Sg	02 25 56.4	-6.6
KPC				Smax			
	comp=N,30nm,0.9s						

*BJI **18** 02:40:13.7, 757S×12978E, h94km, mB5.0, mb5.0*
*IDC **18** 02:40:17.5±2.2, 691S×12954E, h72km±18km, mb4.5/15, mb1 4.6/17, mb1mx4.5/19, mbtmp4.8/17, MS3.3/3, Ms1 3.3/3, ms1mx2.8/26, Error ellipse: s-maj=23.1km s-min=12.4km az=74.0*
*MOS **18** 02:40:17.5±1.1, 685S×12933E, h80km, mb4.8/24, Error ellipse: s-maj=12.5km s-min=7.3km az=109.7*
*ISCJB **18** 02:40:20.4±1.2, 706S±004×12953E±005, h115km±11km, mb4.8/54, Error ellipse: s-maj=9.0km s-min=6.7km az=136.5*
*NEIC **18** 02:40:21.0±1.0, 702S×12956E, h106km±8km, mb4.7/22, Error ellipse: s-maj=9.4km s-min=5.9km az=69.0*
ISC 18 02:40:22.6±1.1, 707S±005×12972E±005, h122km±11km, h96km±1.4km: pP-P, n184, σ1°12/141, mb4.8/53, 8C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.22**	**155**	*e* P	**Pn**	**02 41 53.8**	**+1.9**
	447nm,0.6s						
KAKA				*e* S	**Sn**	**02 42 52.0**	**-10**
FITZ	**Fitzroy Crossi**	**11.66**	**200**	*e* P	**Pn**	**02 43 01.8**	**-3.3**
	223nm,0.6s						
FITZ				*e* S	**Sn**	**02 44 58.0**	**-16**
FITZ	**Fitzroy Crossi**	**11.66**	**200**	P	**Pn**	**02 43 02.5**	**-2.6**
	18nm,0.3s,baz=31,slow=11,SNR=233						
FITZ				S	**Sn**	**02 45 01.9**	**-12**
	13nm,0.3s,baz=58,slow=17,SNR=9.5						
FITZ				LR	LR	02 47 57.0	
	comp=Z,114nm,21.5s,baz=21,slow=39						
WRAB	**Tennant Creek**	**13.56**	**161**	*d i* P	**Pn**	**02 43 28.8**	**-1.0**
WRAB	**Tennant Creek**	**13.56**	**161**	*e* Pn	**Pn**	**02 43 28.7**	**-1.2**
	78nm,0.6s						
WRAB				*e* Sn	**Sn**	**02 45 50.9**	**-8.4**
WB2	**Warramunga Arr**	**13.57**	**161**	*e* P	**Pn**	**02 43 28.6**	**-1.3**
WB2				*e* S	**Sn**	**02 45 50.6**	**-8.9**
AS31	**Alice Springs**	**16.99**	**167**	*e* P	**Pn**	**02 44 13.7**	**+1.0**
ASAR	**Alice Springs**	**16.99**	**167**	P	**Pn**	**02 44 13.4**	**+0.8**
	1.8nm,0.3s,baz=336,slow=9.0,SNR=90						
ASAR				S	**S**	**02 47 15.3**	**-6.7**
	4.3nm,0.3s,baz=320,slow=11,SNR=11						
ASPA	**Alice Springs**	**16.99**	**167**	*e* P	**Pn**	**02 44 13.7**	**+1.0**
MBWA	**Marble Bar**	**17.02**	**214**	*e* P	**Pn**	**02 44 11.8**	**-1.2**
	38nm,0.6s						
MBWA				*e* Sn	**Sn**	**02 47 05.8**	**-17**
PMG	**Port Moresby**	**17.42**	**99**	P	**Pn**	**02 44 23.2**	**+5.3**
	1.9nm,0.3s,baz=354,slow=1.6,SNR=13						
PMG				S	**S**	**02 47 30.6**	**-1.2**
	3.8nm,0.3s,baz=246,slow=18,SNR=11						
PMG	**Port Moresby**	**17.42**	**99**	*ce* P	**Pn**	**02 44 21.3**	**+3.4**
PMG	**Port Moresby**	**17.42**	**99**	*e* P	**Pn**	**02 44 23.6**	**+5.7**
	48nm,0.8s						
KKM	**Kota Kinabalu**	**18.74**	**314**	*e* P	**P**	**02 44 32.4**	**+0.7**
KKM				*e* Pn	**Pn**	**02 44 35.3**	**+1.7**
CTA	**Charters Tower**	**20.61**	**131**	*e* P	**P**	**02 45 00.6**	**+8.6**
	11nm,0.9s						
CTA				*e* S	**S**	**02 48 46.3**	**+11**
CTA	**Charters Tower**	**20.61**	**131**	P	**P**	**02 44 56.9**	**+4.9**
	3.4nm,

GYA XP sP 02 48 20.1 -7.6
GYA PP PP 02 49 22.8 +1.8
GYA PPP 02 49 50.3
GYA S **S** **02 53 42.6 -1.0**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
GYA AMB AMB
comp=Z,80nm,3.9s
GYA LR LR
comp=N,390nm,17.9s
GYA LR LR
comp=E,360nm,17.6s
GYA LR LR
comp=Z,410nm,17.8s
NJ2 Nanjing 40.26 346 *e*P **P** **02 47 48.8 +1.5**
NJ2 AP pP 02 48 11.5 -3.3
NJ2 XP sP 02 48 22.1 -6.6
NJ2 PP PP 02 49 26.5 +4.2
NJ2 S **S** **02 53 47.0 +1.6**
NJ2 XS sS 02 54 25.0 -8.1
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.2
NJ2 AMB AMB
comp=Z,120nm,4.5s
NJ2 LR LR
comp=N,810nm,24.2s
NJ2 LR LR
comp=E,170nm,16.2s
NJ2 LR LR
comp=Z,150nm,14.5s
KMI Kunming 41.39 322 P **P** **02 47 57.3 +0.7**
KMI AMB AMB
comp=Z,19nm,0.9s,mb4.9
MJAR Matsushiro Arr 44.10 10 P **P** **02 48 17.4 -1.1**
comp=Z,5.4nm,0.6s,mb4.5,baz=189,slow=9.9,SNR=18
MAJO Matsushiro 44.10 10 *e*P **P** **02 48 17.5 -1.0**
MAJO pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
MAJO Matsushiro 44.10 10 *e*P **P** **02 48 17.5 -1.0**
comp=Z,8.6nm,0.7s,mb4.6
MAT Matsushiro 44.10 10 P **P** **02 48 18.3 -0.2**
MAT Matsushiro 44.10 10 *e*P **P** **02 48 18.0 -0.5**
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
MAT Matsushiro 44.10 10 *e*P **P** **02 48 18.0 -0.5**
comp=Z,10nm,0.8s,mb4.6
CD2 Chengdu 45.21 328 P **P** **02 48 26.4 -0.9**
CD2 AP pP 02 48 49.3 -6.0
CD2 XP sP 02 49 03.4 -5.7
CD2 PP PP 02 50 11.8 -3.5
CD2 PPP 02 50 54.9
CD2 S **S** **02 54 58.4 +0.5**
CD2 XS sS 02 55 39.6 -6.8
CD2 SS SS 02 58 16.0 -6.7
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
CD2 AMB AMB
comp=Z,60nm,6.0s
CD2 LR LR
comp=N,110nm,4.6s
CD2 LR LR
comp=Z,100nm,10.8s
BJI Beijing 48.51 346 P **P** **02 48 51.6 -1.4**
BJI AMB AMB
comp=Z,33nm,0.6s,mb5.4
LZH Lanzhou 49.33 332 *e*P **P** **02 49 00.3 +1.1**
LZH AP pP 02 49 22.9 -4.8
LZH XP sP 02 49 32.0 -9.3
LZH PCP PcP 02 50 20.0 0.0
LZH PP PP 02 50 59.3 +5.1
LZH AMB AMB
comp=Z,39nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,130nm,4.7s
HHC Hu-ho-hao-te 50.52 342 *e*P **P** **02 49 09.4 +1.2**
HHC AP pP 02 49 32.6 -4.2
HHC XP sP 02 49 43.8 -6.6
HHC PCP PcP 02 50 25.8 +1.4
HHC PP PP 02 51 07.6 +2.6
HHC S **S** **02 56 15.6 +2.8**
HHC XS sS 02 56 56.6 -5.5
HHC SCS ScS 02 58 47.6 +0.9
HHC SS SS 02 59 48.8 +0.5
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,73nm,3.6s
HHC LR LR
comp=N,77nm,5.3s
HHC LR LR
comp=E,175nm,5.9s
HHC LR LR
comp=Z,135nm,5.7s
CN2 Changchun 50.78 356 *e*P **P** **02 49 14.0 +3.9**
MDJ Mudanjiang 51.44 360 P **P** **02 49 16.6 +1.5**
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,104nm,5.0s
LSA Lhasa 52.05 317 P **P** **02 49 20.3 +0.7**
GTA Gaotai 53.89 331 P **P** **02 49 33.4 +0.3**
GTA AP pP 02 49 56.4 -5.6
GTA XP sP 02 50 06.9 -8.7
GTA PCP PcP 02 50 38.5 +1.4
GTA PP PP 02 51 37.9 +2.4
GTA SCP ScP 02 54 23.4 -0.2
GTA S **S** **02 56 58.8 -0.1**
GTA XS sS 02 57 40.3 -8.4
GTA SS SS 03 00 40.1 -1.5
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,93nm,5.3s
GTA LR LR
comp=N,87nm,12.9s
GTA LR LR
comp=E,87nm,13.7s
GTA LR LR
comp=Z,73nm,12.6s
JIRN Jiri 54.42 311 *e*P **P** **02 49 36.8 -0.1**
comp=Z,136nm,0.5s
GUN Gumba 54.78 311 *e*P **P** **02 49 39.4 -0.2**
comp=Z,382nm,0.7s
PKI Pulchoki 54.95 311 *e*P **P** **02 49 40.3 -0.5**
comp=Z,103nm,0.5s
YSS Yuzh-Sakhalins 55.02 11⇑ *e*P **P** **02 49 41.2 0.0**
YSS pmax pmax
comp=Z,13nm,1.3s,mb4.8
KKN Kakani 55.17 311 *e*P **P** **02 49 41.5 -0.8**
comp=Z,115nm,0.5s
DMN Daman 55.20 311 *e*P **P** **02 49 42.3 -0.3**
comp=Z,77nm,0.5s
HABR Khabarovsk 55.50 4 *e*P **P** **02 49 45.7 +1.0**
HABR *e*S **S** **02 57 25.0 +4.6**
GKN Gorkha 55.76 311 *e*P **P** **02 49 46.2 -0.4**
comp=Z,233nm,0.5s
KLR Kul'dur 56.09 2 *e*P **P** **02 49 46.4 -2.5**
HYB Hyderabad 56.09 296 *i*P **P** **02 49 46.5 -2.4**
HYB Hyderabad 56.09 296 *e*P **P** **02 49 46.5 -2.4**
KOLN Koldanda 56.42 310 *e*P **P** **02 49 51.1 -0.2**
comp=Z,203nm,0.8s
ULN Ulaanbaatar 58.24 342 *e*P **P** **02 50 04.8 +0.8**
ULN pmax pmax
comp=Z,14nm,0.6s,mb5.2
ULN Ulaanbaatar 58.24 342 *e*P **P** **02 50 04.8 +0.8**
comp=Z,14nm,0.6s,mb5.2
SONM Songino Array 58.41 342 P **P** **02 50 05.8 +0.5**
comp=Z,9.5nm,0.6s,mb5.0,baz=160,slow=6.0,SNR=43
ZAK Zakamensk 61.63 341⇑ *i*P **P** **02 50 27.6 +0.4**
ZAK *e* 02 51 03.4
ZAK pmax pmax
comp=Z,11nm,1.8s,mb4.6
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.3
WMQ Urumqi 63.30 327 P **P** **02 50 38.8 +0.5**
WMQ AP pP 02 51 03.0 -5.0
WMQ XP sP 02 51 14.0 -7.3
WMQ PP PP 02 53 00.3 +1.5
WMQ AMB AMB
comp=Z,8.0nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,65nm,5.6s
WMQ LR LR
comp=N,561nm,22.0s
WMQ LR LR
comp=Z,631nm,22.0s
MOY Mondy 63.48 340 *e*P **P** **02 50 40.4 +0.9**
BOD Bodaibo 65.92 351 *e*P **P** **02 50 54.6 -0.7**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
MK31 Makanchi Array 68.13 327 *i*P **P** **02 51 09.1 -0.2**
MK31 pmax pmax
comp=Z,19nm,0.4s,mb5.3
MKAR Makanchi Array 68.13 327 P **P** **02 51 09.3 0.0**
comp=Z,38nm,0.7s,mb5.4,baz=130,slow=8.2,SNR=310
MKAR Makanchi Array 68.13 327 P **P** **02 51 09.3 0.0**
MA2 Magadan 68.52 11 *e*P **P** **02 51 12.8 +1.1**
YAK Yakutsk 68.89 360 *e*P **P** **02 51 14.3 +0.3**
YAK pmax pmax
comp=Z,26nm,1.1s,mb5.0
YAK Yakutsk 68.89 360 *e*P **P** **02 51 14.0 0.0**
comp=Z,34nm,0.7s,mb5.3
KZA Kyzart 69.64 320 P **P** **02 51 20.2 +1.5**
SNR=8.3
KRAR Krasnoyarsk 69.82 339 *i*P **P** **02 51 19.3 -0.4**
TKM2 Tokmak 2 69.86 321 P **P** **02 51 20.4 +0.5**
SNR=27
UCH Uchtor 70.19 320 P **P** **02 51 23.6 +1.6**
SNR=26
AAK Ala-Archa 70.41 320 P **P** **02 51 24.5 +1.2**
SNR=13
CHMS Chumysh 70.43 320 P **P** **02 51 20.8 -2.7**
SNR=5.4
AML Almayashu 70.67 319 P **P** **02 51 26.0 +1.1**
SNR=38
USP Ospenovka 70.72 321 P **P** **02 51 25.5 +0.3**
SNR=22
EKS2 Erkin-Say 70.88 320 P **P** **02 51 27.0 +0.9**
SNR=26
SEY Seymchan 71.92 11 *e*P **P** **02 51 33.7 +1.3**
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
VNDA Vanda 72.42 173 P **P** **02 51 36.7 +1.4**
comp=Z,1.5nm,0.8s,mb3.9,baz=326,slow=7.3,SNR=5.5
VNDA Vanda 72.42 173 *e*P **P** **02 51 36.6 +1.2**
VNDA pmax pmax
comp=Z,10.0nm,1.5s
VNDA Vanda 72.42 173 *e*P **P** **02 51 36.6 +1.2**
comp=Z,9.8nm,1.5s,mb4.4
KURK Kurchatov 72.43 329 *c i*P **P** **02 51 35.2 -0.2**
KURK Kurchatov 72.43 329 *e*P **P** **02 51 35.1 -0.3**
comp=Z,25nm,0.7s,mb5.2
NVS Novosibirsk 72.80 334 *e*P **P** **02 51 35.6 -2.1**
NVS pmax pmax
comp=Z,13nm,0.8s,mb4.8
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,8.0nm,0.8s
KK31 Karatay Array 73.20 319 *i*P **P** **02 51 40.7 +0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.6
KKAR Karatay Array 73.20 319 *i*P **P** **02 51 40.7 +0.7**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
BVAR Borovoye Array 77.97 328 P **P** **02 52 06.6 -0.6**
comp=Z,8.0nm,0.7s,mb4.6,baz=133,slow=6.5,SNR=32
BRVK Borovoye 78.04 328 *e*P **P** **02 52 06.9 -0.7**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
BRVK Borovoye 78.04 328 *e*P **P** **02 52 06.9 -0.7**
comp=Z,6.3nm,0.8s,mb4.4
TIXI Tiksi 78.56 360⇓ *e*P **P** **02 52 09.7 -0.7**
TIXI pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
ZRNK Zerenda 78.67 327 *e*P **P** **02 52 10.2 -0.8**
ZRNK pmax pmax
comp=Z,16nm,0.8s,mb4.9
ZRNK Zerenda 78.67 327 *e*P **P** **02 52 10.2 -0.8**
comp=Z,16nm,0.8s,mb4.9
AB31 Akbulak array 82.39 322 P **P** **02 52 30.1 -0.8**
AB31 pmax pmax
comp=Z,15nm,0.7s,mb4.9
QSPA South Pole Qui 82.91 180 *e*P **P** **02 52 34.2 +0.6**
comp=Z,2.9nm,0.7s,mb4.2
AKTK Aktyubinsk 83.95 322 P **P** **02 52 38.2 -0.7**
AKTO Aktyubinsk 83.95 322 P **P** **02 52 38.2 -0.7**
comp=Z,7.8nm,0.4s,mb4.9,baz=103,slow=5.0,SNR=52
ARU Arti 85.61 328⇑ *i*P **P** **02 52 45.9 -1.3**
ARU *e* 02 56 05.5
ARU *e*S 03 03 02.1
ARU *e*SS SS 03 08 47.8 +0.2
ARU pmax pmax
comp=Z,20nm,0.8s,mb5.1
ARU Arti 85.61 328 *e*P **P** **02 52 45.5 -1.7**
comp=Z,24nm,0.8s,mb5.2
GNI Garni 90.68 310 P **P** **02 53 10.5 -0.8**
comp=Z,1.5nm,0.5s,mb4.4,baz=101,slow=10,SNR=2.5
GNI Garni 90.68 310⇑ *e*P **P** **02 53 11.3 0.0**
GNI pmax pmax
comp=Z,9.0nm,1.6s
GNI Garni 90.68 310 P **P** **02 53 10.5 -0.8**
KMBO Kilima Mbogo 92.31 269 P **P** **02 53 19.2 +0.3**
comp=Z,1.4nm,0.7s,mb4.3,baz=36,slow=9.9,SNR=5.2
KMBO Kilima Mbogo 92.31 269 *e*P **P** **02 53 21.3 +2.4**
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 92.31 269 *e*P **P** **02 53 21.2 +2.4**
comp=Z,1.6nm,1.0s,mb4.2
MCK McKinley 92.47 26 *e*P **P** **02 53 19.2 -0.4**
MCK pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
MCK McKinley 92.47 26 *e*P **P** **02 53 19.2 -0.4**
comp=Z,1.9nm,0.8s,mb4.4
KIV Kislovodsk 92.72 314⇑ *e*P **P** **02 53 19.8 -1.0**
KIV pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
ILAR Eielson Array 93.53 25 P **P** **02 53 23.1 -1.3**
comp=Z,1.7nm,0.7s,mb4.5,baz=251,slow=4.8,SNR=19
ILAR PKPPKP 03 18 48.2
comp=Z,0.2nm,0.9s,baz=91,slow=5.6,SNR=4.1
MALT Malatya 95.34 308 *e*P **P** **02 53 32.8 0.0**
MALT pmax pmax
comp=Z,1.0nm,0.4s,mb4.6
MALT Malatya 95.34 308 *e*P **P** **02 53 32.8 0.0**
comp=Z,0.6nm,0.4s,mb4.4
ANN Anapa 96.54 314 *e*P **P** **02 53 35.7 -2.6**
ANN *e**PP pP 02 53 59.1 -11
ANN *e*SS SS 03 11 23.8 -1.2
ANN pmax pmax
comp=Z,11nm,0.8s,mb5.3
OBN Obninsk 97.55 325⇓ *i*P **P** **02 53 40.8 -2.0**
OBN *e* 02 57 41.3
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb5.4
INK Inuvik 99.03 22 P **P** **02 53 48.6 -0.8**
comp=Z,1.7nm,1.1s,mb4.5,baz=5.0,slow=6.5,SNR=5.3
BRTR Keskin Array B 99.14 309 P **P** **02 53 48.5 -1.5**
comp=Z,0.5nm,0.7s,mb4.1,baz=126,slow=6.5,SNR=4.9
BRTR PP PP 02 57 48.9 -4.9
comp=Z,0.4nm,0.7s,baz=98,slow=6.3,SNR=3.7
LSZ Lusaka 99.17 253 *e*P **P** **02 53 50.1 0.0**
LSZ pmax pmax
comp=Z,1.0nm,0.6s,mb4.5
LSZ Lusaka 99.17 253 *e*P **P** **02 53 50.1 +0.1**
comp=Z,1.4nm,0.6s,mb4.7
BOSA Boshof 99.19 240 P **P** **02 53 51.7 +1.5**
comp=Z,2.6nm,0.9s,mb4.8,baz=351,slow=11,SNR=3.5
BOSA Boshof 99.19 240 P **P** **02 53 51.7 +1.5**
JOF Joensuu 100.08 333 *e*p Pdif 02 53 51.3 -2.8
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 101.54 340 P Pdif 02 53 58.4 -2.2
comp=Z,4.1nm,0.8s,baz=79,slow=7.5,SNR=9.6
ARCES ARCESS Array B 101.54 340 P Pdif 02 53 58.4 -2.2
AKASG Malin Array Be 102.08 320 P Pdif 02 54 00.9 -2.1
comp=Z,0.5nm,0.5s,baz=74,slow=4.4,SNR=5.2
KAF Kangasniemi 102.48 332 *e*p Pdif 02 54 00.3 -4.5
comp=Z,1.2nm,0.5s
KAF Kangasniemi 102.48 332 *e*P Pdif 02 54 00.3 -4.5
KAF pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 102.69 331 P Pdif 02 54 03.6 -2.0
comp=Z,0.6nm,0.5s,baz=72,slow=6.2,SNR=10.0
FINES PKiKP PKiKP 02 58 26.4 +0.5
comp=Z,0.6nm,0.6s,baz=107,slow=2.0,SNR=4.6
FINES FINESS Array B 102.69 331 *i*P Pdif 02 54 04.5 -1.2
FINES pmax pmax
comp=Z,1.0nm,0.5s
BBB Bella Bella 103.01 38 P Pdif 02 54 04.7 -2.4
comp=Z,8.9nm,0.9s,baz=263,slow=8.9,SNR=5.8
YKA Yellowknife Ar 107.94 26 PKiKP PKiKP 02 58 35.6 0.0
comp=Z,0.3nm,0.6s,baz=303,slow=1.8,SNR=7.4
YKA PKKPbc PKKPbc 03 09 48.4 +0.1
comp=Z,0.4nm,0.7s,baz=92,slow=2.6,SNR=7.4
MORC Moravsky Berou 109.63 320 *e*PKPdf PKiKP 02 58 39.5 +0.7
TIP Timpagrande 112.20 309 PKPdf PKiKP 02 58 44.3 +0.7
GERES GERESS Array B 112.29 320 PKiKP PKiKP 02 58 44.2 +0.4
comp=Z,1.3nm,0.5s,baz=66,slow=1.8,SNR=18
ELK Elko 113.50 49 *e*PKIKP PKiKP 02 58 48.0 +1.9
DUG Dugway 115.42 49 *e*PKIKP PKPdf 02 58 52.2 +2.4
SNOW Snow King Moun 116.10 45 *e*PKPdf PKPdf 02 58 53.9 +2.8
LOHW Long Hollow 116.17 45 *e*PKPdf PKPdf 02 58 53.1 +1.9
HINF Hinteralfeld 116.95 321 *e*PKIKP PKPdf 02 58 52.6 -0.1
comp=Z,4.5nm,0.6s
BW06 Boulder Array 117.14 45 *e*PKPdf PKPdf 02 58 54.5 +1.4
PDAR Pinedale Array 117.14 45 PKP PKPdf 02 58 55.1 +2.1
comp=Z,0.7nm,0.7s,baz=218,slow=1.2,SNR=8.2
PDAR PKKPbc PKKPbc 03 09 18.9 +1.2
comp=Z,0.5nm,0.9s,baz=116,slow=5.1,SNR=4.0
LPG La Plagne 117.82 318 *e*PKIKP PKPdf 02 58 55.2 +0.8
comp=Z,3.8nm,0.6s
LPL La Plagne 117.83 318 *e*PKIKP PKPdf 02 58 55.1 +0.7
comp=Z,5.2nm,0.5s
CABF La Chapelle 117.87 320 *e*PKIKP PKPdf 02 58 55.1 +0.6
comp=Z,8.6nm,0.5s
BNI Bardonecchia 118.02 318 *e*PKIKP PKPdf 02 58 55.4 +0.6
MBDF Montbardon 118.06 317 *e*PKIKP PKPdf 02 58 55.6 +0.7
ORIF Oris-en-Rattie 118.60 318 *e*PKIKP PKPdf 02 58 56.3 +0.4
comp=Z,4.8nm,0.6s
TUC Tucson 118.61 57 *e*PKIKP PKPdf 02 58 57.9 +2.0
PV10 Paradox Valley 118.70 50 *e*PKPdf PKPdf 02 58 58.3 +2.2
SMF Signal de Mont 119.29 320 *e*PKIKP PKPdf 02 58 57.2 0.0
VIVF Saint-Julien-l 119.42 318 *e*PKIKP PKPdf 02 58 57.8 +0.3
AVF Avril sur Loir 119.55 321 *e*PKIKP PKPdf 02 58 57.8 +0.1
comp=Z,2.2nm,0.5s
BGF Bois d'Agland 119.96 320 *e*PKIKP PKPdf 02 58 59.2 +0.7
comp=Z,12nm,0.6s
TCF Toulx Ste Croi 120.47 320 *e*PKIKP PKPdf 02 59 00.2 +0.7
RSSD Black Hills 120.50 42 *e*PKPdf PKPdf 02 59 00.3 +0.7
LENM Lemitar 121.35 54 *e*PKPdf PKPdf 02 59 01.5 +0.3
ANMO Albuquerque 121.57 53 PKP PKPdf 02 59 03.3 +1.7
comp=Z,1.9nm,0.8s,baz=244,slow=1.8,SNR=7.3
ANMO Albuquerque 121.57 53 *i*PKIKP PKPdf 02 59 02.5 +0.9
ANMO Albuquerque 121.57 53 *e*PKPdf PKPdf 02 59 03.8 +2.2
MTLF Montolieu 121.63 317 *e*PKIKP PKPdf 02 59 02.1 +0.4
MFF Saint Martin d 121.81 321 *e*PKIKP PKPdf 02 59 02.5 +0.4
LFF La Frestale 121.97 319 *e*PKIKP PKPdf 02 59 02.7 +0.3
ULM Lac du Bonnet 122.66 33 PKP PKPdf 02 59 03.5 -0.2
comp=Z,0.8nm,0.4s,baz=278,slow=5.1,SNR=6.3
EPF Esparros 123.01 317 *e*PKIKP PKPdf 02 59 04.8 +0.4
MNTX Cornudas Mount 123.23 57 *e*PKPdf PKPdf 02 59 06.9 +2.1
ESDC Sonseca Array 127.35 315 PP PP 03 01 14.4 +0.5
comp=Z,0.8nm,0.8s,baz=58,slow=8.9,SNR=4.3
WMOK Wichita Mounta 127.66 51 *e*PKIKP PKPdf 02 59 14.4 +1.1
JCT Junction City 128.17 57 *e*PKIKP PKPdf 02 59 16.8 +2.6
TORD Torodi Ar. Bea 128.54 281 PKhKP 02 59 07.0
comp=Z,0.5nm,0.9s,baz=97,slow=1.5,SNR=4.8
TORD PKP PKPdf 02 59 16.0 +1.0
comp=Z,2.9nm,0.7s,baz=90,slow=1.7,SNR=35
TORD SKPbc 03 02 21.4
comp=Z,0.8nm,0.7s,baz=76,slow=2.9,SNR=6.2
PLCA Paso Flores 128.91 160 SKPbc 03 02 24.4
comp=Z,2.2nm,1.0s,baz=153,slow=5.6,SNR=2.8
SCHQ Schefferville 130.55 13 SKPbc SKPbc 03 02 28.8 -2.3
comp=Z,4.4nm,0.9s,baz=295,slow=3.9,SNR=3.8
DBIC Dimbokro 134.91 272 PKhKP 02 59 17.0
comp=Z,2.7nm,0.9s,baz=45,slow=17,SNR=6.7
DBIC PKP PKPdf 02 59 29.5 +2.5
comp=Z,2.9nm,0.6s,baz=48,slow=2.4,SNR=9.8
DBIC SKPbc SKPbc 03 02 44.6 -1.5
comp=Z,7.0nm,0.9s,baz=92,slow=3.8,SNR=7.3
DBIC Dimbokro 134.91 272 PKP 02 59 17.0
DBIC *e*PKPdf PKPdf 02 59 29.2 +2.2
LIC Lamto 135.05 272 *e*PKIKP PKPdf 02 59 29.8 +2.5
comp=Z,8.2nm,0.5s
CFAA Coronel Fontan 137.89 157 SKP 03 02 55.4
comp=Z,0.2nm,0.5s,baz=203,slow=2.4,SNR=4.9
JTS JuntasAbangare 145.59 82 PKPbc PKPbc 02 59 49.5 +2.8
comp=Z,9.3nm,0.6s,baz=20,slow=9.1,SNR=6.3
JTS JuntasAbangare 145.59 82 *e*PKPbc PKPbc 02 59 49.2 +2.5
CPUP Villa Florida 146.11 169 PKPbc PKPbc 02 59 50.8 +2.5
comp=Z,4.7nm,0.6s,baz=188,slow=2.3,SNR=14
CPUP SKP 03 03 16.6
comp=Z,1.5nm,0.5s,baz=42,slow=2.9,SNR=4.6
CPUP Villa Florida 146.11 169 *e*PKPbc PKPbc 02 59 50.5 +2.2
CPUP *e* 03 03 16.4
LPAZ La Paz 150.84 143 PKP PKPdf 02 59 57.6 +2.8
comp=Z,1.7nm,0.9s,baz=143,slow=1.4,SNR=7.0
LPAZ PKPbc PKPbc 03 00 04.8 +4.3
comp=Z,3.5nm,0.4s,baz=55,slow=1.8,SNR=32
LPAZ La Paz 150.84 143 *e*PKPdf PKPdf 02 59 59.1 +4.3
LPAZ *e*PKPbc PKPbc 03 00 04.8 +4.2
SIV San Ignacio 154.72 155 PKP PKPdf 03 00 03.2 +2.8
comp=Z,0.8nm,0.8s,baz=191,slow=0.4,SNR=3.5
SIV PKPab PKPab 03 00 27.5 +2.9
comp=Z,2.5nm,0.7s,baz=192,slow=4.3,SNR=10

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*ISCJB **18** 03:12:57.0±1.0, 160S±02×1765W±0.1, h356km±15km, mb3.9/7, Error ellipse: s-maj=27.6km s-min=14.7km az=131.8*
*NEIC **18** 03:12:57.6±1.1, 1593S×17654W, h347km±13km, mb4.2/2, Error ellipse: s-maj=21.1km s-min=10.6km az=152.0*
*IDC **18** 03:12:57.2±1.5, 1611S×17646W, h342km±17km, mb3.5/5, mb1 3.7/7, mb1mx3.4/16, mbtmp4.3/7, Error ellipse: s-maj=36.0km s-min=13.1km az=139.0*

ISC 18 03:12:58.3±1.0, 159S±02×1765W±01, h354km±15km, n18, σ0.98/18, mb3.9/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.99**	**67**	P	**Pn**	**03 14 17.7**	**-0.3**
	7.7nm,0.3s,baz=54,slow=3.5,SNR=13						
AFI				S	**S**	**03 15 19.6**	**-2.9**
	baz=1.7,slow=23,SNR=2.2						
AFI	**Afiamalu**	**4.99**	**67**	*e*Pn	**Pn**	**03 14 17.0**	**-1.0**
	242nm,0.4s						
AFI				*e*Sn	**S**	**03 15 23.8**	**+1.3**
RAR	**Rarotonga**	**16.71**	**111**	P	**P**	**03 16 32.4**	**+1.3**
	1.1nm,0.3s,baz=268,slow=6.2,SNR=5.8						
DZM	**Mont Dzumac**	**17.23**	**247**	P	**P**	**03 16 37.9**	**+1.1**
	0.0nm,0.3s,baz=89,slow=20,SNR=3.6						
URZ	**Urewera**	**22.95**	**193**	P	**P**	**03 17 31.4**	**-1.4**
	2.7nm,0.3s,mb3.9,baz=76,slow=4.4,SNR=7.2						
STKA	**Stephens Creek**	**41.19**	**240**	P	**P**	**03 20 08.0**	**-1.5**
	1.0nm,0.4s,mb3.4,baz=96,slow=6.6,SNR=4.4						
STKA	**Stephens Creek**	**41.19**	**240**	*e*P	**P**	**03 20 08.3**	**-1.2**
WB2	**Warramunga Arr**	**46.80**	**257**	*e*P	**P**	**03 20 54.2**	**+0.6**
WRAB	**Tennant Creek**	**46.80**	**257**	*e*P	**P**	**03 20 53.1**	**-0.5**
	23nm,1.3s,mb4.2						
AS31	**Alice Springs**	**47.10**	**252**	*e*P	**P**	**03 20 56.5**	**+0.6**
ASAR	**Alice Springs**	**47.10**	**252**	P	**P**	**03 20 56.2**	**+0.3**
	8.4nm,0.5s,mb4.2,baz=88,slow=7.9,SNR=134						
ASAR				S	**S**	**03 27 19.4**	**-1.1**
	0.3nm,0.8s,baz=85,slow=16,SNR=5.1						
ASPA	**Alice Springs**	**47.10**	**252**	*e*P	**P**	**03 20 56.5**	**+0.6**
FORT	**Forrest**	**52.51**	**243**	*e*P	**P**	**03 21 36.4**	**+0.2**
	5.8nm,0.5s,mb4.2						
NVAR	**Mina Array Bea**	**76.74**	**43**	P	**P**	**03 24 12.1**	**+0.8**
	1.5nm,0.8s,mb3.8,baz=221,slow=8.9,SNR=5.5						
ILAR	**Eielson Array**	**83.56**	**12**	P	**P**	**03 24 46.5**	**-0.9**
	0.6nm,0.7s,mb3.5,baz=219,slow=5.4,SNR=5.9						
BRTR	**Keskin Array B**	**144.61**	**318**	PKP	PKPdf	03 31 52.9	-0.1
	0.3nm,0.7s,baz=326,slow=0.4,SNR=4.1						
MLR	**Muntele Rosu**	**145.01**	**332**	PKP	PKPdf	03 31 54.2	+0.5
	1.0nm,0.6s,baz=185,slow=4.3,SNR=3.1						
MLR				PKPbc	PKPbc	03 31 55.9	+1.9
	1.5nm,0.8s,baz=315,slow=7.1,SNR=3.4						
GERES	**GERESS Array B**	**146.12**	**348**	PKPbc	PKPbc	03 31 58.8	+1.6
	0.3nm,0.7s,baz=144,slow=39,SNR=3.5						

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*NEIC **18** 03:16:12.1, 3334S×7140W, h44km, MD3.8(GUC), After GUC.*

GUC 18 03:16:12.1±0.7, 3334S×7140W, h44km±2km, MD3.8, ML2.7, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.49**	**129**	*e*P	Pn	03 16 23.4	+0.5
TACH				*i*S	Sn	03 16 32.0	+1.4
RCDM	**Rinconada Maip**	**0.51**	**107**	*e*P	Pn	03 16 23.5	+0.3
RCDM				*i*S	Sn	03 16 32.1	+1.0
RCDM				AMP		03 16 33.0	
	comp=N,3μm,0.2s						
LNV	**Longovilo**	**0.61**	**181**	*e*P	Pn	03 16 24.6	+0.2

LNV				*i* S	Sn	03 16 33.9	+0.6
SAN	**Santiago**	**0.62**	**100**	*e*P	Pn	03 16 24.9	+0.3
SAN				*i* S	Sn	03 16 35.0	+1.4
PEL	**Peldehue**	**0.63**	**72**	*e*P	Pn	03 16 25.2	+0.6
PEL				*i* S	Sn	03 16 34.8	+1.2
PEL				AMP		03 16 36.8	
	comp=N,593nm,0.3s						
PEL	**Peldehue**	**0.63**	**72**	*e*P	Pn	03 16 25.2	+0.6
PEL				*i* S	Sn	03 16 34.8	+1.2
STL	**Santa Lucia**	**0.64**	**99**	*e*P	Pn	03 16 24.7	-0.1
STL				*i* S	Sn	03 16 34.8	+0.9
STL				AMP		03 16 35.3	
	comp=E,376nm,0.3s						
ANTU	**Antumapu**	**0.68**	**110**	*e*P	Pn	03 16 25.8	+0.5
ANTU				*i* S	Sn	03 16 36.1	+1.3
DSCH	**Colegio Aleman**	**0.69**	**95**	*e*P	Pn	03 16 25.4	-0.2
DSCH				*i* S	Sn	03 16 36.2	+1.0
CLCH	**Cerro Calan**	**0.72**	**94**	*e*P	Pn	03 16 26.4	+0.5
CLCH				*i* S	Sn	03 16 37.4	+1.5
CLCH				AMP		03 16 40.8	
	comp=E,506nm,0.5s						
FSR	**Penalolen**	**0.74**	**101**	*i* P	Pn	03 16 26.9	+0.8
FSR				*i* S	Sn	03 16 38.0	+1.7
FSR				AMP		03 16 38.6	
	comp=E,390nm,0.2s						
PCH	**Pirque**	**0.79**	**111**	*e*P	Pn	03 16 27.4	+0.6
PCH				*i* S	Sn	03 16 38.6	+1.2
CHCH	**Chadas Angostu**	**0.85**	**134**	*e*P	Pn	03 16 28.1	+0.4
CHCH				*i* S	Sn	03 16 40.9	+1.8
FCH	**Farellones**	**0.93**	**89**	⇓*i*P	Pn	03 16 29.2	+0.6
FCH				*i* S	Sn	03 16 42.5	+1.7
FCH				AMP		03 16 43.0	
	comp=E,470nm,0.2s						
JACH	**Jahuel**	**0.94**	**46**	*i* P	Pn	03 16 28.8	-0.1
JACH				*i* S	Sn	03 16 41.8	+0.5
CACH	**El Canelo**	**1.02**	**140**	*e*P	Pn	03 16 31.5	+1.6
CACH				*i* S	Sn	03 16 46.4	+3.3
LMEL	**Las Melosas**	**1.11**	**117**	⇑*i*P	Pn	03 16 32.4	+1.1
LMEL				*i* S	Sn	03 16 47.7	+2.2
LMEL				AMP		03 16 49.2	
	comp=E,460nm,0.1s						
LMEL	**Las Melosas**	**1.11**	**117**	⇑*i*P	Pn	03 16 32.4	+1.1
LMEL				*i* S	Sn	03 16 47.7	+2.2
CICH	**Cipreses**	**1.27**	**140**	*e*P	Pn	03 16 34.7	+1.4
CICH				*i* S	Sn	03 16 52.5	+3.3
SFDO	**San Fernando**	**1.31**	**166**	*e*P	Pn	03 16 34.8	+0.9

NNC 18 03:21:52.4±11.0, 3658N×7050E, h84km±262km, mb3.5, mpv4.0, 1C-5D, Error ellipse: s-maj=85.7km s-min=67.1km az=0.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.52**	**0**	⇓P	Pn	03 23 27.5	+1.8
	8.8nm,0.2s,baz=178,slow=13,SNR=35						
KK31				⇓S	Sn	03 24 40.0	+1.5
	1.2nm,0.1s,baz=183,slow=26,SNR=5.4						
TKM2	**Tokmak 2**	**7.46**	**30**	⇓P	Pn	03 23 36.4	-2.0
	1.4nm,0.6s						
TKM2				⇓S	Sn	03 25 01.6	+0.2
	0.9nm,0.6s						
AB31	**Akbulak array**	**14.82**	**332**	⇑P	Pn	03 25 19.6	+2.1
	0.4nm,0.7s,baz=162,slow=12,SNR=5.0						
AB31				⇓S	Sn	03 27 57.4	-3.4
	1.3nm,0.9s						

*NEIC **18** 03:27:58.3±4.9, 764S×12830E, h177km±51km, mb3.8/4, Error ellipse: s-maj=57.6km s-min=20.3km az=51.0*
*ISCJB **18** 03:28:00.7±4.0, 79S±02×128.1E±02, h221km±44km, mb3.7/6, Error ellipse: s-maj=32.2km s-min=26.9km az=124.9*
*IDC **18** 03:28:01.4±7.4, 785S×12801E, h206km±76km, mb3.5/3, mb1 3.5/5, mb1mx3.4/13, mbtmp4.0/5, Error ellipse: s-maj=80.7km s-min=19.9km az=61.0*

ISC 18 03:27:59.4±2.5, 78S±01×1280E±02, h186km±24km, n10, σ0§94/12, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.49**	**192**	P	**Pn**	**03 30 27.0**	**+2.0**
	0.6nm,0.3s,baz=29,slow=10.0,SNR=10						
FITZ				S	**Sn**	**03 32 20.6**	**-1.2**
	1.9nm,0.3s,baz=113,slow=21,SNR=7.7						
WRAB	**Tennant Creek**	**13.55**	**154**	P	**Pn**	**03 31 03.1**	**-1.1**
	5.7nm,0.6s						
ASAR	**Alice Springs**	**16.77**	**161**	P	**Pn**	**03 31 44.8**	**+1.2**
	0.7nm,0.3s,baz=339,slow=10,SNR=89						
ASAR				S	**S**	**03 34 48.6**	**+0.5**
	0.2nm,0.3s,baz=341,slow=25,SNR=4.6						
STKA	**Stephens Creek**	**27.11**	**154**	P	**P**	**03 33 24.2**	**-0.7**
	2.4nm,0.5s,mb4.1,baz=333,slow=10,SNR=7.5						
STKA	**Stephens Creek**	**27.11**	**154**	*e*P	**P**	**03 33 23.7**	**-1.2**
SONM	**Songino Array**	**58.59**	**343**	P	**P**	**03 37 36.6**	**0.0**
	0.3nm,0.4s,mb3.5,baz=157,slow=6.6,SNR=2.6						
MKAR	**Makanchi Array**	**67.81**	**328**	P	**P**	**03 38 38.0**	**+0.7**
	0.8nm,0.4s,mb3.8,baz=122,slow=8.0,SNR=18						
KURK	**Kurchatov**	**72.17**	**330**	*e*P	**P**	**03 39 03.7**	**-0.1**
	1.1nm,0.4s,mb3.9						
BRVK	**Borovoye**	**77.75**	**329**	P	**P**	**03 39 35.2**	**-0.6**
	0.7nm,0.6s,mb3.5						
ZRNK	**Zerenda**	**78.36**	**328**	*e*P	**P**	**03 39 38.8**	**-0.3**
	1.5nm,0.8s,mb3.7						

*IDC **18** 03:39:10.1±1.3, 544N×12620E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, MS3.8/2, Ms1 3.8/2, ms1mx2.8/26, Error ellipse: s-maj=124.9km s-min=20.2km az=75.0*
*ISCJB **18** 03:39:14.7±0.5, 505N±009×1253E±02, h33km, mb4.1/15, MS3.7/2, Error ellipse: s-maj=34.4km s-min=9.1km az=146.7*
*BJI **18** 03:39:14.9, 473N×12535E, h38km, mB5.0, mb4.6, Ms4.4, Msz4.3*
*NEIC **18** 03:39:18.6±1.9, 521N×12570E, h56km±20km, mb4.2/6, Error ellipse: s-maj=53.3km s-min=9.3km az=71.0*

ISC 18 03:39:17.0±0.5, 512N±010×1255E±02, h35km, n22, σ1§14/19, mb4.1/15, MS3.7/2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.94**	**4**	*e*Pn	**Pn**	**03 39 48.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**23.08**	**180**	P	**P**	**03 44 20.5**	**+1.1**
	1.6nm,0.7s,mb3.6,baz=12,slow=14,SNR=3.7						
WRAB	**Tennant Creek**	**26.39**	**161**	P	**P**	**03 44 49.1**	**-0.9**
	3.0nm,0.7s,mb3.9						
WB2	**Warramunga Arr**	**26.40**	**161**	*e*P	**P**	**03 44 48.7**	**-1.4**
NJ2	**Nanjing**	**27.49**	**348**	*e*P	**P**	**03 45 03.3**	**+3.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
JNU	**Nakatsue**	**28.31**	**10**	LR	LR	03 53 42.6	
	comp=Z,540nm,21.7s,MS4.1,baz=257,slow=31						
ASAR	**Alice Springs**	**29.78**	**164**	P	**P**	**03 45 21.3**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.1,baz=353,slow=9.1,SNR=5.1						
ASAR				PcP	PcP	03 48 21.5	-1.7
	comp=Z,0.4nm,0.8s,baz=3.8,slow=1.9,SNR=3.1						
CTAO	**Charters Tower**	**32.34**	**141**	*e*P	**P**	**03 45 44.1**	**+1.3**
	comp=Z,4.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**39.88**	**158**	P	**P**	**03 46 41.7**	**-5.6**
	comp=Z,1.6nm,0.8s,mb3.8,baz=312,slow=8.5,SNR=4.6						
STKA	**Stephens Creek**	**39.88**	**158**	*e*P	**P**	**03 46 46.0**	**-1.2**
ULN	**Ulaanbaatar**	**45.41**	**343**	*e*P	**P**	**03 47 31.3**	**-0.8**
	comp=Z,2.4nm,0.9s,mb4.0						
SONM	**Songino Array**	**45.58**	**342**	P	**P**	**03 47 32.3**	**-1.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=160,slow=9.5,SNR=5.8						
MKAR	**Makanchi Array**	**55.69**	**325**	P	**P**	**03 48 49.7**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=133,slow=8.5,SNR=14						
MKAR				LR	LR	04 13 49.6	
	comp=Z,27nm,19.1s,MS3.4,baz=280,slow=37						
MKAR	**Makanchi Array**	**55.69**	**325**	P	**P**	**03 48 49.7**	**-0.1**
MKAR				LR	LR	04 13 49.6	
KURK	**Kurchatov**	**59.89**	**328**	*e*P	**P**	**03 49 20.6**	**+1.4**
	comp=Z,2.3nm,0.6s,mb4.4						
BRVK	**Borovoye**	**65.54**	**327**	*e*P	**P**	**03 49 57.6**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**66.19**	**327**	*e*P	**P**	**03 50 01.4**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.3						
JOF	**Joensuu**	**87.37**	**333**	*e*p	**P**	**03 51 59.4**	**-1.0**
	comp=Z,1.0nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**88.71**	**340**	P	**P**	**03 52 03.6**	**-3.1**
	comp=Z,4.4nm,0.9s,mb4.8,baz=90,slow=6.1,SNR=6.9						
FINES	**FINESS Array B**	**90.01**	**332**	P	**P**	**03 52 12.7**	**-0.1**
	comp=Z,0.4nm,0.6s,mb4.0,baz=48,slow=5.4,SNR=7.9						
SYO	**Syowa Base**	**93.26**	**201**	⇓*e*pP	pP	03 52 38.2	-0.8
TORD	**Torodi Ar. Bea**	**121.27**	**289**	PKP	PKPdf	03 58 06.6	+0.4
	comp=Z,0.3nm,0.7s,baz=52,slow=2.0,SNR=5.0						

IDC 18 03:46:06.6±1.9, 2389S×6684W, h183km±18km, mb3.6/3, mb1 3.6/6, mb1mx3.4/16, mbtmp4.0/6, Error ellipse: s-maj=28.4km s-min=18.9km az=90.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.66**	**351**	P	Pn	03 47 57.3	+2.0
	0.4nm,0.3s,baz=179,slow=9.1,SNR=15						
LPAZ				S	Sn	03 49 22.1	+0.6
	0.2nm,0.3s,baz=250,slow=25,SNR=5.8						
CFAA	**Coronel Fontan**	**7.79**	**189**	P	Pn	03 47 56.9	-0.1
	0.1nm,0.3s,baz=15,slow=12,SNR=25						
CFAA				S	Sn	03 49 18.9	-5.6
	0.5nm,0.3s,baz=244,slow=14,SNR=12						
SIV	**San Ignacio**	**9.54**	**36**	P	Pn	03 48 19.9	-0.2
	0.4nm,0.3s,baz=225,slow=8.9,SNR=12						
BDFB	**Brasilia**	**19.50**	**69**	P	P	03 50 20.3	+0.5
	1.3nm,0.3s,baz=245,slow=11,SNR=16						
DBIC	**Dimbokro**	**67.62**	**71**	P	P	03 56 44.4	+0.7
	6.4nm,1.3s,baz=221,slow=11,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.39**	**69**	P	P	03 57 36.0	+0.3
	0.4nm,0.5s,baz=258,slow=6.0,SNR=19						
YKA	**Yellowknife Ar**	**94.07**	**340**	P	P	03 59 02.9	-1.2
	0.3nm,0.6s,baz=135,slow=4.5,SNR=6.0						
MKAR	**Makanchi Array**	**146.34**	**40**	PKPbc	PKPbc	04 05 25.7	-0.1
	0.2nm,0.6s,baz=316,slow=4.7,SNR=3.6						

*NEIC **18** 03:46:44.0±0.7, 174N×9766E, h30km, mb3.9/2, Error ellipse: s-maj=14.3km s-min=12.0km az=223.0*
*ISCJB **18** 03:46:49.1±5.1, 2.1N±02×98.1E±04, h83km±40km, mb3.8/9, Error ellipse: s-maj=67.1km s-min=19.7km az=117.8*
*IDC **18** 03:46:51.1±3.9, 2.10N×9824E, h80km±29km, mb3.5/7, mb1 3.5/7, mb1mx3.3/19, mbtmp3.8/7, Error ellipse: s-maj=62.4km s-min=20.9km az=60.0*

ISC 18 03:46:49.7±4.6, 20N±02×981E±03, h69km±36km, n12, σ0§93/14, mb3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.13**	**48**	P	**Pn**	**03 47 10.2**	**+0.5**
	8.1nm,0.3s,baz=262,slow=9.4,SNR=24						
PSI				S	**Sn**	**03 47 23.2**	**-1.5**
	15nm,0.3s,baz=309,slow=14,SNR=19						
PSI	**Prapat**	**1.13**	**48**	P	**Pn**	**03 47 10.2**	**+0.5**
PSI				S	**Sn**	**03 47 23.2**	**-1.6**
KULM	**Kulim**	**4.12**	**38**	*e*Pn	**Pn**	**03 47 51.9**	**+1.8**
ASAR	**Alice Springs**	**43.21**	**128**	P	**P**	**03 54 44.6**	**+0.8**
	0.2nm,0.4s,mb3.2,baz=302,slow=7.5,SNR=3.0						
SONM	**Songino Array**	**46.18**	**8**	P	**P**	**03 55 08.4**	**+1.0**
	0.3nm,0.4s,mb3.4,baz=191,slow=8.5,SNR=4.8						
MKAR	**Makanchi Array**	**46.65**	**345**	P	**P**	**03 55 12.0**	**+0.9**
	1.6nm,0.7s,mb3.9,baz=153,slow=8.2,SNR=16						
STKA	**Stephens Creek**	**53.27**	**133**	P	**P**	**03 56 00.4**	**-0.9**
	1.1nm,0.8s,mb3.9,baz=357,slow=13,SNR=2.6						
BVAR	**Borovoye Array**	**55.76**	**340**	P	**P**	**03 56 18.9**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=140,slow=9.7,SNR=8.7						
BRVK	**Borovoye**	**55.82**	**340**	*e*P	**P**	**03 56 19.3**	**-0.5**
	1.0nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**56.17**	**339**	P	**P**	**03 56 21.9**	**-0.4**
	0.4nm,0.3s,mb3.9						
FINES	**FINESS Array B**	**79.67**	**332**	P	**P**	**03 58 49.6**	**-0.1**
	0.9nm,0.9s,mb3.6,baz=96,slow=7.7,SNR=3.8						
ARCES	**ARCESS Array B**	**82.05**	**340**	P	**P**	**03 59 01.1**	**-1.2**
	5.1nm,1.1s,mb4.3,baz=108,slow=4.0,SNR=3.6						

*IDC **18** 04:00:00.5±5.9, 324N×12458E, h404km±69km, mb3.1/6, mb1 3.2/6, mb1mx3.1/17, mbtmp3.9/6, Error ellipse: s-maj=85.3km s-min=17.3km az=69.0*
*ISCJB **18** 04:00:02.7±0.7, 32N±02×1245E±05, h450km, mb3.5/9, Error ellipse: s-maj=76.0km s-min=9.9km az=134.5*
*NEIC **18** 04:00:04.7±3.2, 319N×12465E, h458km±44km, mb3.7/4, Error ellipse: s-maj=64.6km s-min=13.9km az=70.0*

ISC 18 04:00:04.4±4.6, 32N±02×1246E±06, h453km±62km, n16, σ0§41/15, mb3.5/9, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**17.62**	**154**	*e*P	**P**	**04 03 43.3**	**+0.3**
	7.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.18**	**177**	*e*P	**P**	**04 04 16.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**21.18**	**177**	P	**P**	**04 04 16.2**	**-0.1**
	1.5nm,0.3s,mb4.0,baz=356,slow=9.9,SNR=12						
WRAB	**Tennant Creek**	**24.90**	**158**	*e*P	**P**	**04 04 49.1**	**-0.6**
	0.8nm,0.3s,mb3.6						
WB2	**Warramunga Arr**	**24.91**	**158**	*e*P	**P**	**04 04 49.3**	**-0.4**
AS31	**Alice Springs**	**28.19**	**162**	*e*P	**P**	**04 05 19.1**	**+0.3**
ASAR	**Alice Springs**	**28.19**	**162**	P	**P**	**04 05 18.9**	**+0.1**
	0.4nm,0.3s,mb3.3,baz=341,slow=7.3,SNR=15						
ASPA	**Alice Springs**	**28.19**	**162**	*e*P	**P**	**04 05 19.1**	**+0.3**
STKA	**Stephens Creek**	**38.44**	**156**	P	**P**	**04 06 45.4**	**-0.4**
	1.3nm,0.3s,mb3.8,baz=348,slow=9.3,SNR=6.5						
STKA	**Stephens Creek**	**38.44**	**156**	*e*P	**P**	**04 06 45.3**	**-0.4**
SONM	**Songino Array**	**47.16**	**343**	P	**P**	**04 07 54.6**	**+0.2**
	0.4nm,0.6s,mb3.0,baz=158,slow=6.0,SNR=3.6						
MKAR	**Makanchi Array**	**56.80**	**326**	P	**P**	**04 09 03.8**	**-0.5**
	0.7nm,0.5s,mb3.2,baz=127,slow=7.9,SNR=15						
KURK	**Kurchatov**	**61.06**	**329**	*e*P	**P**	**04 09 32.8**	**-0.2**
	1.3nm,0.6s,mb3.5						
ZRNK	**Zerenda**	**67.33**	**327**	*e*P	**P**	**04 10 12.9**	**-0.2**
	1.0nm,0.6s,mb3.6						
FINES	**FINESS Array B**	**91.29**	**332**	P	**P**	**04 12 21.4**	**+0.9**
	1.0nm,0.9s,mb3.8,baz=43,slow=8.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**121.05**	**287**	PKP	PKPdf	04 18 06.8	+2.2
	0.3nm,0.6s,baz=77,slow=1.8,SNR=8.1						

*NEIC **18** 04:01:48.5, 2872S×7124W, h47km, MD4.2(GUC), After GUC.*

GUC 18 04:01:48.5±0.8, 2872S×7124W, h47km±999km, MD4.2, ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.57**	**30**	*e*P	Pn	04 02 14.9	+1.0
CPCH				*i* S	Sn	04 02 34.0	+1.1
CPCH				AMP		04 02 35.9	
	comp=E,12μm,0.1s						
CPCH	**Copiapo**	**1.57**	**30**	*e*P	Pn	04 02 14.9	+1.0
CPCH				*i* S	Sn	04 02 34.0	+1.1
CDCH	**Caldera**	**1.68**	**13**	*e*P	Pn	04 02 16.2	+0.8
CDCH				*i* S	Sn	04 02 36.5	+0.8
CRCH	**Chaqaral**	**2.43**	**13**	*e*P	Pn	04 02 26.2	+0.6
CRCH				*i* S	Sn	04 02 54.4	+0.3
CRCH				AMP		04 03 11.1	
	comp=E,413nm,0.3s						
CRCH	**Chaqaral**	**2.43**	**13**	*e*P	Pn	04 02 26.2	+0.6
CRCH				*i* S	Sn	04 02 54.4	+0.3
CMCH	**Combarbala**	**2.46**	**175**	*e*P	Pn	04 02 26.9	+0.9
CMCH				*i* S	Sn	04 02 55.6	+0.8
CMCH				AMP		04 03 09.3	
	comp=E,2μm,0.4s						
CMCH	**Combarbala**	**2.46**	**175**	*e*P	Pn	04 02 26.9	+0.9
CMCH				*i* S	Sn	04 02 55.6	+0.8
CEN1	**Los Morros**	**5.39**	**10**	*i* S	Sn	04 04 01.2	-5.8

CASC 18 04:30:51.3±3.0, 1360N×9074W, h20km±20km, MD3.5, ML3.4, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.64**	**25**	⇓*e*P	Pb	04 31 04.3	+0.6
IXG				*e*S	Sb	04 31 14.3	+2.2
IXG				AML	AML	04 31 18.8	
	comp=E,4μm,0.3s						
RTR	**El Retiro**	**1.10**	**74**	*e*P	Pn	04 31 17.1	+5.5
RTR				*e*S	Sb	04 31 32.8	+7.3
SBLS	**San Blas**	**1.11**	**77**	*e*P	Pn	04 31 16.9	+5.3
SBLS				*e*S	Sb	04 31 32.6	+6.9
SNJE	**San Jose**	**1.13**	**76**	*e*P	Pn	04 31 17.1	+5.1
SNJE				*e*S	Sb	04 31 31.1	+4.7
RBDL	**Robledal**	**1.14**	**63**	*e*P	Pn	04 31 18.4	+6.3
RBDL				*e*S	Sb	04 31 33.3	+6.6
TP2	**Tecpan 2**	**1.21**	**347**	*e*P	Pn	04 31 13.0	-0.1
TP2				*e*S	Sb	04 31 30.0	+1.3
TP2				AML	AML	04 31 30.9	
	comp=E,399nm,0.3s						
BOQS	**Boqueron**	**1.42**	**84**	*e*P	Pn	04 31 21.7	+5.8
BOQS				*e*S	Sn	04 31 40.5	+6.5
MTO2	**Montecristo 2**	**1.55**	**59**	*e*P	Pn	04 31 24.6	+6.9
MTO2				*e*S	Sn	04 31 46.2	+8.9
LFRS	**El Faro**	**1.63**	**89**	*e*P	Pn	04 31 25.2	+6.4
LFRS				*e*S	Sn	04 31 46.4	+7.3
LCBS	**La Ceiba**	**1.71**	**88**	*e*P	Pn	04 31 25.4	+5.5
LCBS				*e*S	Sn	04 31 48.8	+7.7

IDC 18 04:59:25.4±2.0, 2089S×17858W, h577km±24km, mb2.9/4, mb1 3.3/6, mb1mx3.1/15, mbtmp4.0/6, Error ellipse: s-maj=39.8km s-min=17.0km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.51**	**44**	P	P	05 01 39.8	+1.2
	4.8nm,0.3s,baz=308,slow=16,SNR=6.6						
AFI				S	S	05 03 25.9	-2.2
	1.1nm,0.3s,baz=78,slow=20,SNR=2.1						
URZ	**Urewera**	**17.71**	**191**	P	P	05 02 58.8	-0.4
	2.3nm,0.3s,baz=256,slow=3.7,SNR=11						
ASAR	**Alice Springs**	**43.90**	**257**	P	P	05 06 42.2	+0.6
	0.4nm,0.5s,baz=89,slow=8.7,SNR=14						
NVAR	**Mina Array Bea**	**81.68**	**44**	P	P	05 10 45.2	+1.1
	0.6nm,0.6s,baz=232,slow=7.8,SNR=4.0						
ILAR	**Eielson Array**	**88.81**	**13**	P	P	05 11 18.1	-0.4
	0.2nm,0.4s,baz=216,slow=5.0,SNR=6.8						
PDAR	**Pinedale Array**	**89.62**	**43**	P	P	05 11 23.5	+1.3
	0.4nm,0.6s,baz=211,slow=2.6,SNR=3.8						
ARCES	**ARCESS Array B**	**129.20**	**349**	PKP	PKPdf	05 17 28.1	-0.5
	3.8nm,0.9s,baz=25,slow=7.1,SNR=3.6						
AKASG	**Malin Array Be**	**143.09**	**330**	PKP	PKPdf	05 17 51.6	-2.6
	1.8nm,0.4s,baz=43,slow=4.2,SNR=19						
BRTR	**Keskin Array B**	**146.69**	**312**	PKPbc	PKPbc	05 18 02.1	-1.0
	0.7nm,0.6s,baz=121,slow=3.5,SNR=4.5						
GERES	**GERESS Array B**	**150.42**	**343**	PKPbc	PKPbc	05 18 12.1	-0.2
	0.4nm,0.6s,baz=3.8,slow=4.0,SNR=3.9						

*SZGRF **18** 05:11:10.5, 2525S×17735W, h33km, South of Fiji Islands*
*ISCJB **18** 05:11:12.9±0.5, 2325S±006×17620W±009, h33km, mb4.5/18, MS3.8/3, Error ellipse: s-maj=12.8km s-min=8.1km az=52.9*
*MOS **18** 05:11:12.8±2.6, 2327S×17586W, h33km, mb4.9/6, Error ellipse: s-maj=20.1km s-min=13.6km az=155.1*
*NEIC **18** 05:11:13.2±3.0, 2320S×176.15W, h23km±20km, mb4.8/13, Error ellipse: s-maj=13.4km s-min=7.8km az=134.0*
*IDC **18** 05:11:18.9±3.3, 2325S×176.15W, h72km±28km, mb4.0/10, mb1 4.3/11, mb1mx4.2/16, mbtmp4.4/11, MS3.6/5, Ms1 3.6/5, ms1mx3.2/27, Error ellipse: s-maj=22.8km s-min=15.4km az=153.0*

ISC 18 05:11:14.8±0.5, 2322S±006×17613W±009, h35km, n86, σ0§87/41, mb4.5/18, MS3.8/3, 2C-4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.22**	**195**	S	**Sn**	**05 13 53.6**	**-0.3**
	119nm,0.3s,baz=273,slow=23,SNR=3.6						
AFI	**Afiamalu**	**10.14**	**25**	P	**Pn**	**05 13 36.6**	**-1.2**
	1.9nm,0.3s,baz=162,slow=20,SNR=3.1						
AFI				S	**Sn**	**05 15 20.8**	**-9.4**
	1.5nm,0.3s,baz=78,slow=19,SNR=2.9						
AFI				LR	LR	05 16 51.5	
	comp=Z,220nm,19.2s,baz=183,slow=33						
RAR	**Rarotonga**	**15.28**	**86**	P	**Pn**	**05 14 39.8**	**-8.0**
	3.4nm,0.3s,baz=271,slow=6.7,SNR=11						
RAR				T		05 30 07.7	
	31nm,0.3s,baz=238,slow=12,SNR=11						
URZ	**Urewera**	**16.07**	**200**	P	**Pn**	**05 14 58.3**	**+0.2**
	2.3nm,0.3s,baz=335,slow=5.3,SNR=11						
DZM	**Mont Dzumac**	**16.13**	**271**	P	**Pn**	**05 15 08.1**	**+9.2**
	0.5nm,0.3s,baz=76,slow=17,SNR=9.0						
DZM				LR	LR	05 20 07.4	
	comp=Z,158nm,19.6s,baz=206,slow=33						
TBI	**Tubuai**	**24.48**	**96**	*e*LR	LR	05 22 16.0	
	178nm,26.5s						
PPT	**Papeete**	**25.49**	**82**	*e*LR	LR	05 22 40.7	
	204nm,25.8s						
CTA	**Charters Tower**	**35.04**	**268**	*e*P	**P**	**05 18 05.8**	**+1.6**
	9.0nm,0.4s,mb5.0						
CTA	**Charters Tower**	**35.04**	**268**	P	**P**	**05 18 05.7**	**+1.5**
	12nm,0.4s,mb5.2,baz=91,slow=11,SNR=34						
CTA	**Charters Tower**	**35.04**	**268**	*e*P	**P**	**05 18 05.8**	**+1.6**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
CTAO	**Charters Tower**	**35.04**	**268**	*e*P	**P**	**05 18 05.8**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
CTAO	**Charters Tower**	**35.04**	**268**	*e*P	**P**	**05 18 05.8**	**+1.6**
	comp=Z,21nm,0.8s,mb5.1						
PMG	**Port Moresby**	**37.69**	**285**	P	**P**	**05 18 28.2**	**+1.4**
	comp=Z,11nm,0.8s,mb4.6,baz=152,slow=6.5,SNR=5.4						
PMG	**Port Moresby**	**37.69**	**285**	*e*P	**P**	**05 18 28.8**	**+2.0**
PMG				pmax	pmax		
	comp=Z,17nm,0.9s						
PMG	**Port Moresby**	**37.69**	**285**	*e*P	**P**	**05 18 28.8**	**+2.

MKAR	**Makanchi Array**	**114.32 312**	PKP	PKiKP	05 29 49.7	-1.0
	comp=Z,0.3nm,0.5s,baz=154,slow=1.5,SNR=5.3					
KURK	**Kurchatov**	**117.16 316**	PKIKP	PKPdf	05 29 55.0	-1.2
ZRNK	**Zerenda**	**123.11 319**	*e*PKIKP	PKPdf	05 30 06.6	-1.0
ARCES	**ARCESS Array B**	**131.89 350**	PKP	PKPdf	05 30 24.5	+0.1
	comp=Z,3.2nm,1.0s,baz=47,slow=5.7,SNR=3.5					
FINES	**FINESS Array B**	**138.86 344**	PKP	PKPdf	05 30 37.9	+0.5
	comp=Z,0.7nm,0.7s,baz=132,slow=2.8,SNR=3.9					
AKASG	**Malin Array Be**	**146.23 331**	PKPbc	PKPbc	05 30 50.3	-1.2
	comp=Z,4.7nm,0.5s,baz=41,slow=3.9,SNR=34					
MALT	**Malatya**	**146.94 305**	*e*PKP2	PKPab	05 30 55.0	0.0
ESK	**Eskdalemuir**	**147.51 8**	*e*PKP2	PKPab	05 30 57.6	+0.3
BSEG	**Bad Segeberg**	**148.95 353**	*e*PKPbc	PKPbc	05 30 59.2	+0.3
KWP	**Kalwaria**	**149.77 335**	*e*PKP2	PKPbc	05 31 00.7	-0.3
RUE	**Ruedersdorf**	**149.82 348**	*e*PKPbc	PKPbc	05 31 01.5	+0.4
BR131	**Keskin Array S**	**149.93 310**	*e*PKPbc	PKPbc	05 31 01.6	+0.2
BRTR	**Keskin Array B**	**149.93 310**	PKPbc	PKPbc	05 31 00.6	-0.7
	comp=Z,2.4nm,0.9s,baz=155,slow=4.1,SNR=9.4					
BRTR			SKiKP		05 34 34.9	
	comp=Z,1.6nm,0.8s,baz=83,slow=3,1,SNR=8.6					
BURAR	**Bucovina Array**	**150.28 330** ⇑P		PKPbc	05 31 03.5	+1.3
STHS	**Stebnicka Huta**	**150.49 337**	*e*P	pPKPbc	05 31 14.5	+0.4
KSP	**Ksiaz**	**150.78 344**⇑	*e*P	PKPbc	05 31 04.1	+0.7
KSP			*e*pP		05 31 15.2	
TIRR	**Tirgusor**	**150.80 322** ⇓	P	PKPbc	05 31 03.6	+0.2
IBBN	**Ibbenburen**	**150.81 355**	*e*PKPbc	PKPbc	05 31 04.4	+0.9
CLZ	**Clausthal**	**150.99 352**	*e*PKPbc	PKPbc	05 31 04.5	+0.6
CLL	**Collm**	**151.08 348**	*e*PKPbc	PKPbc	05 31 04.2	+0.1
CLL	**Collm**	**151.08 348**⇓	*i*PKPbc	PKPbc	05 31 04.6	+0.5
	comp=Z,14nm,0.9s					
CLL			*i* PKPab	PKPab	05 31 15.3	+3.5
	comp=Z,11nm,1.2s					
CLL	**Collm**	**151.08 348**⇓	*iP*	PKPbc	05 31 04.6	+0.5
CLL			*i* pP		05 31 12.1	
CLL			*i* sP	PKPab	05 31 15.3	+3.5
CLL			LR	LR		
	comp=Z,500nm,16.3s					
UPC	**Upice**	**151.16 344**	*e*PKPbc	PKPbc	05 31 05.0	+0.7
UPC			*e*PKPab	PKPab	05 31 16.1	+4.0
UPC	**Upice**	**151.16 344**	*e*P	PKPbc	05 31 05.0	+0.7
UPC			*e*		05 31 16.1	
OKC	**Ostrava-Krasne**	**151.17 341**	*e*P	PKPbc	05 31 04.9	+0.6
BRG	**Berggiesshubel**	**151.31 347**	*e*PKPbc	PKPbc	05 31 05.0	+0.4
BRG	**Berggiesshubel**	**151.31 347**	*i* P	PKPbc	05 31 05.2	+0.5
	comp=Z,8.0nm,0.9s					
BRG						
	comp=N,320nm,21.7s					
BRG						
	comp=E,205nm,16.9s					
BRG						
	comp=Z,196nm,24.2s					
MORC	**Moravsky Berou**	**151.40 341**	*e*PKIKP	PKPbc	05 31 05.2	+0.4
MLR	**Muntele Rosu**	**151.44 326**	⇓P	PKPbc	05 31 05.5	+0.6
PVCC	**Panska Ves**	**151.49 346**	*e*PKPbc	PKPbc	05 31 05.7	+0.7
MOX	**Moxa**	**151.97 349**	*e*PKPbc	PKPbc	05 31 05.9	-0.2
PRU	**Pruhonice**	**152.00 345**	*e*PKPbc	PKPbc	05 31 06.8	+0.6
PRU			*e*PKPab	PKPab	05 31 16.7	+1.1
WERD	**Werda**	**152.04 348**	*e*PKPbc	PKPbc	05 31 06.5	+0.2
NKC	**Novy Kostel**	**152.22 348**	*e*PKPbc	PKPbc	05 31 07.1	+0.4
MANZ	**Manzenberg**	**152.52 348**	*e*PKPbc	PKPbc	05 31 06.6	-0.8
GRA1	**Grafenberg Arr**	**152.96 349**	*e*PKPbc	PKPbc	05 31 08.9	+0.6
GRF	**Grafenberg Arr**	**152.96 349**	*e*PKPbc	PKPbc	05 31 08.9	+0.6
KHC	**Kasperske Hory**	**153.03 346**	*e*PKPbc	PKPbc	05 31 07.5	-1.0
KHC			*e*PKPab	PKPab	05 31 20.3	+0.4
GEC2	**GERESS Array S**	**153.27 345**	*e*PKPbc	PKPbc	05 31 09.2	+0.2
GERES	**GERESS Array B**	**153.27 345**	PKPbc	PKPbc	05 31 08.6	-0.5
	comp=Z,1.3nm,0.9s,baz=48,slow=2.0,SNR=8.0					
GERES			PKPab	PKPab	05 31 20.1	-0.8
	comp=Z,1.0nm,0.9s,baz=14,slow=2.8,SNR=5.7					
WLF	**Walferdange**	**153.55 357**	*e*PKIKP	PKPdf	05 31 02.2	+0.3
TORD	**Torodi Ar. Bea**	**169.77 168**	PKP	PKPdf	05 31 17.9	-0.7
	comp=Z,0.7nm,1.0s,baz=99,slow=1.4,SNR=3.8					
TORD			PKPab	PKPab	05 32 32.5	-0.4
	comp=Z,1.7nm,0.8s,baz=182,slow=3.8,SNR=6.6					

NNC ***18*** *05:55:01.9±6.2, 4358N×8783E, h33km±39km, mb3.7, mpv3.2, Error ellipse: s-maj=70.9km s-min=50.6km az=47.0*

BJI 18 05:55:00.9, 4405N×8842E, h14km, ML3.0, 2C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.57**	**247**⇑	*i*PG	Pg	05 55 09.0	-3.1
WMQ				SG	Sg	05 55 18.0	-1.7
MK31	**Makanchi Array**	**5.11**	**305**	Pn	Pn	05 56 18.2	+1.2
	baz=136,slow=15,SNR=95						
MK31				⇓Pg	Pg	05 56 36.5	-2.3
	1.8nm,0.5s,baz=134,slow=18,SNR=4.8						
MK31				⇓Sn	Sn	05 57 18.8	+2.9
	2.6nm,0.4s,baz=106,slow=26,SNR=4.6						
MK31				⇓Lg		05 57 42.2	
	5.3nm,0.5s,baz=126,slow=26						
KURK	**Kurchatov**	**9.41**	**319**	⇑Pn	Pn	05 57 14.3	-1.7
	0.5nm,0.3s						
KURK				⇓Sn	Sn	05 58 59.4	-2.2
	0.8nm,0.5s						
KURK				⇓Lg		06 00 00.4	
	3.3nm,0.9s						

ISCJB ***18*** *06:03:44.1±1.5, 191S±02×1777W±02, h568km±25km, mb3.6/6, Error ellipse: s-maj=31.1km s-min=22.6km az=122.9*

IDC ***18*** *06:03:45.0±1.7, 1902S×17764W, h568km±22km, mb3.1/5, mb1 3.4/6, mb1mx3.2/15, mbtmp4.1/6, Error ellipse: s-maj=28.8km s-min=18.1km az=141.0*

NEIC ***18*** *06:03:45.5±1.1, 1901S×17767W, h575km±14km, mb4.2/1, Error ellipse: s-maj=21.5km s-min=15.5km az=143.0*

ISC 18 06:03:45.0±1.4, 191S±02×1776W±02, h565km±23km, n10, σ0§57/9, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.59**	**48**	P	**P**	**06 05 40.2**	**+1.1**
	9.0nm,0.3s,baz=236,slow=7.3,SNR=10						
AFI				S	**S**	**06 07 11.9**	**-0.8**
	1.6nm,0.3s,baz=74,slow=21,SNR=3.2						
WB2	**Warramunga Arr**	**45.17**	**261**	*e*P	**P**	**06 11 12.0**	**+0.2**
WRA	**Warramunga Arr**	**45.18**	**261**	P	**P**	**06 11 11.0**	**-0.9**
	1.1nm,0.4s,mb3.8,baz=97,slow=8.3,SNR=6.5						
ASAR	**Alice Springs**	**45.22**	**255**	P	**P**	**06 11 12.4**	**+0.2**
	1.0nm,0.5s,mb3.6,baz=88,slow=8.3,SNR=23						
ASAR				PcP	PcP	06 12 39.6	-0.5
	0.4nm,0.5s,baz=98,slow=3.9,SNR=5.3						
VNDA	**Vanda**	**59.36**	**185**	P	**P**	**06 12 53.1**	**-0.2**
	0.8nm,0.6s,mb3.1,baz=347,slow=10,SNR=6.0						
MJAR	**Matsushiro Arr**	**69.28**	**323**	P	**P**	**06 13 56.4**	**+0.3**
	0.7nm,0.3s,mb3.7,baz=156,slow=6.0,SNR=4.2						
QSPA	**South Pole Qui**	**70.99**	**180**	*e*P	**P**	**06 14 06.3**	**+0.1**
	5.1nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**87.67**	**43**	P	**P**	**06 15 33.9**	**0.0**
	0.3nm,0.7s,mb3.2,baz=181,slow=5.9,SNR=3.7						
ARCES	**ARCESS Array B**	**127.59**	**350**	PKP	PKPdf	06 21 44.3	-2.0
	4.9nm,1.0s,baz=20,slow=3.9,SNR=6.7						
GERES	**GERESS Array B**	**148.92**	**345**	PKPbc	PKPbc	06 22 28.8	-0.7
	0.6nm,0.5s,baz=231,slow=0.9,SNR=5.4						

WEL 18 06:43:49.8±1.3, 3417S×17742E, h33km, ML4.8/6, Error ellipse: s-maj=14.6km s-min=9.5km az=90.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.46**	**168**	*e*PN	Pn	06 44 41.0	-0.3
MXZ				SN	Sn	06 45 18.8	-2.3
PUZ	**Puketiti**	**3.95**	**170**	*e*PN	Pn	06 44 47.0	-1.1
PUZ				SN	Sn	06 45 29.7	-3.6
MWZ	**Matawai**	**4.16**	**179**	*e*PN	Pn	06 44 51.5	+0.6
PXZ	**Pawanui**	**5.87**	**184**	*e*PN	Pn	06 45 12.5	-1.9
BFZ	**Birch Farm**	**6.56**	**188**	*e*PN	Pn	06 45 21.9	-2.1
BFZ				SN	Sn	06 46 34.7	-3.0
MRZ	**Mangatainoka R**	**6.64**	**192**	*e*PN	Pn	06 45 23.2	-1.9
TCW	**Tory Channel**	**7.46**	**199**	*e*PN	Pn	06 45 35.4	-0.8
THZ	**Tophouse**	**8.37**	**204**	*e*PN	Pn	06 45 49.8	+0.9

NEIC ***18*** *06:51:14.0, 42.16S×17205E, h8km, ML3.8(WEL), After WEL.*

WEL 18 06:51:14.2±0.2, 4218S×17200E, h8km±1km, ML3.8/25, 3C-2D, Error ellipse: s-maj=1.5km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSZ	**Denniston Nort**	**0.46**	**341**⇑	P*	Pg	06 51 23.0	0.0
DSZ				SG	Sg	06 51 29.0	0.0
DSZ	**Denniston Nort**	**0.46**	**341**	P	Pg	06 51 23.0	0.0
LTZ	**Lake Taylor**	**0.64**	**162**⇑	P*	Pb	06 51 26.7	-0.8
LTZ				S*	Sb	06 51 34.7	-1.8
LTZ	**Lake Taylor**	**0.64**	**162**	P	Pg	06 51 26.7	+0.2
THZ	**Tophouse**	**0.79**	**59**⇓	P*	Pb	06 51 28.1	-2.0
THZ	**Tophouse**	**0.79**	**59**	P	Pg	06 51 28.1	-1.3
KHZ	**Kahutara**	**1.17**	**102**⇓	P*	Pb	06 51 36.4	-0.2
KHZ	**Kahutara**	**1.17**	**102**	P	Pb	06 51 36.4	-0.2
WVZ	**Waitaha Valley**	**1.29**	**226**	P*	Pb	06 51 37.6	-1.1
WVZ	**Waitaha Valley**	**1.29**	**226**	P	Pn	06 51 37.7	-0.8
QRZ	**Quartz Range**	**1.41**	**17**	PN	Pn	06 51 39.0	-1.0
QRZ	**Quartz Range**	**1.41**	**17**	P	Pn	06 51 39.2	-0.8
NNZ	**Nelson**	**1.41**	**48**⇑	PN	Pn	06 51 39.3	-0.8
NNZ	**Nelson**	**1.41**	**48**	P	Pn	06 51 38.5	-1.6
CRLZ	**Canterbury Las**	**1.47**	**162**	PN	Pn	06 51 40.1	-0.8
CRLZ	**Canterbury Las**	**1.47**	**162**	P	Pn	06 51 40.3	-0.6
BSWZ	**Blackbirch Sta**	**1.48**	**72**	PN	Pn	06 51 40.7	-0.3
BSWZ	**Blackbirch Sta**	**1.48**	**72**	P	Pn	06 51 39.8	-1.2
MQZ	**McQueen's Vall**	**1.60**	**163**	PN	Pn	06 51 41.5	-1.2
MQZ	**McQueen's Vall**	**1.60**	**163**	P	Pn	06 51 41.7	-1.0
TUWZ	**Tuamarina**	**1.63**	**63**	PN	Pn	06 51 43.0	-0.1
RPZ	**Rata Peaks**	**1.69**	**204**	PN	Pn	06 51 43.7	-0.2
RPZ	**Rata Peaks**	**1.69**	**204**	P	Pn	06 51 44.0	+0.1
TCW	**Tory Channel**	**1.96**	**61**	PN	Pn	06 51 47.5	-0.1
TCW	**Tory Channel**	**1.96**	**61**	P	Pn	06 51 47.6	0.0
DUWZ	**D'Urville Isla**	**1.99**	**47**	PN	Pn	06 51 48.2	+0.1
FOZ	**Fox Glacier**	**2.19**	**230**	PN	Pn	06 51 48.5	-2.4
FOZ	**Fox Glacier**	**2.19**	**230**	*e*P	Pn	06 51 47.8	-3.0
SNZO	**South Karori**	**2.20**	**68**	P	Pn	06 51 51.3	+0.3
MRW	**Makara Radio**	**2.23**	**66**	PN	Pn	06 51 51.6	+0.2
MRW	**Makara Radio**	**2.23**	**66**	P	Pn	06 51 51.8	+0.4
WEL	**Wellington**	**2.26**	**68**	PN	Pn	06 51 51.6	-0.1
WEL	**Wellington**	**2.26**	**68**	P	Pn	06 51 51.7	0.0
BHW	**Baring Head**	**2.28**	**71**	*e*PN	Pn	06 51 51.6	-0.5
BHW	**Baring Head**	**2.28**	**71**	P	Pn	06 51 50.7	-1.4
CAW	**Cannon Point**	**2.54**	**66**	PN	Pn	06 51 55.1	-0.5
CAW	**Cannon Point**	**2.54**	**66**	P	Pn	06 51 55.3	-0.3
MSWZ	**Moikau Station**	**2.55**	**74**	P	Pn	06 51 53.6	-2.1
KIW	**Kapiti Island**	**2.55**	**60**	PN	Pn	06 51 56.2	+0.4
KIW	**Kapiti Island**	**2.55**	**60**	P	Pn	06 51 56.5	+0.7
LBZ	**Lake Benmore**	**2.58**	**210**	PN	Pn	06 51 55.4	-0.7
LBZ	**Lake Benmore**	**2.58**	**210**	*e*P	Pn	06 51 55.6	-0.5
MTW	**Mount Morrison**	**2.81**	**70**	PN	Pn	06 51 58.2	-1.2
MTW	**Mount Morrison**	**2.81**	**70**	P	Pn	06 51 58.4	-1.0
ODZ	**Otahua Downs**	**3.03**	**198**	PN	Pn	06 52 01.3	-1.1
ODZ	**Otahua Downs**	**3.03**	**198**	P	Pn	06 52 01.4	-1.0
JCZ	**Jackson Bay**	**3.04**	**230**	PN	Pn	06 52 01.3	-1.1
JCZ	**Jackson Bay**	**3.04**	**230**	P	Pn	06 52 01.4	-1.1
MRZ	**Mangatainoka R**	**3.09**	**62**	*e*P	Pn	06 52 02.7	-0.5
NRZ	**Ngariki Road**	**3.19**	**28**	P	Pn	06 52 05.1	+0.5
WAZ	**Wanganui**	**3.31**	**44**	P	Pn	06 52 08.4	+2.2
NEZ	**North Egmont**	**3.31**	**29**	P	Pn	06 52 07.4	+1.2
PKE	**Pukeiti**	**3.34**	**28**	P	Pn	06 52 07.1	+0.5
WKZ	**Wanaka**	**3.42**	**218**	*e*P	Pn	06 52 06.0	-1.8
BFZ	**Birch Farm**	**3.53**	**66**	*e*P	Pn	06 52 07.7	-1.5
EAZ	**Earnscleugh**	**3.62**	**212**	*e*P	Pn	06 52 09.3	-1.2
VRZ	**Vera Road**	**3.70**	**35**	P	Pn	06 52 12.9	+1.3
WNVZ	**Wahianoa**	**3.95**	**45**	P	Pn	06 52 16.5	+1.5
WTVZ	**West Tongariro**	**4.10**	**43**	P	Pn	06 52 19.0	+1.9
TUZ	**Tuapeka**	**4.14**	**203**	*e*P	Pn	06 52 16.6	-1.1
MLZ	**Mavora Lakes**	**4.21**	**220**	*e*P	Pn	06 52 17.4	-1.2
WCZ	**Waipu Caves**	**6.49**	**17**	*e*PN	Pn	06 52 49.6	-0.3

NIED ***18*** *07:02:00, 2960N×130.10E, h8km, Mw3.8 Best double couple: M0=6.12000×10^14 NP1:φ=305.00000°, δ53.00000°, λ-94.00000°. NP2:φ=132.00000°, δ38.00000°, λ-85.00000°.*

IDC ***18*** *07:02:15.1±1.0, 2951N×130.31E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=39.3km s-min=19.1km az=92.0*

ISCJB ***18*** *07:02:16.7±0.9, 2954N±004×130.18E±008, h22km±8km, mb3.7/5, Error ellipse: s-maj=13.0km s-min=4.5km az=44.7*

NEIC ***18*** *07:02:17.5, 2959N×130.12E, h28km, MG3.8(JMA), After JMA.*

JMA ***18*** *07:02:17.4±0.1, 2959N×130.12E, h28km±3km, M3.8*

JMA Felt I J1.

ISC 18 07:02:15.6±1.1, 2952N±003×13025E±008, h7km±7km, n14, σ0§88/21, mb3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.46**	**315**	P	**Pg**	**07 02 24.9**	**+0.4**
JNN				*e*S	**Sg**	**07 02 30.5**	**0.0**
JKC	**Kuchinoerabu**	**0.94**	**357**	P	**Pg**	**07 02 33.7**	**0.0**
JKC				S	**Sg**	**07 02 46.0**	**+0.1**
JZK	**Kikaishima**	**1.23**	**192**	P	**Pb**	**07 02 40.8**	**+1.7**
JAM	**Amami Oshima**	**1.24**	**207**	P	**Pb**	**07 02 38.5**	**-0.9**
JAM				S	**Sg**	**07 02 54.5**	**-1.0**
JTN	**Tanegashima 3**	**1.30**	**29**	P	**Pn**	**07 02 39.9**	**-0.3**
JTN				*e*S	**Sb**	**07 02 57.4**	**+0.2**
JTSR	**Tashiro 2**	**1.74**	**19**	P	**Pn**	**07 02 45.8**	**-0.5**
JTSR				*e*S	**Sn**	**07 03 07.7**	**-1.1**
JSU	**Suzuyama**	**1.99**	**5**	P	**Pn**	**07 02 48.8**	**-0.9**
JTK	**Tokunoshima**	**2.07**	**214**	P	**Pn**	**07 02 50.5**	**-0.4**
JTK				*e*S	**Sn**	**07 03 14.8**	**-2.1**
JOW	**Kunigami**	**3.19**	**214**	Pn	**Pn**	**07 03 07.5**	**+1.2**
	11nm,0.3s,baz=83,slow=18,SNR=11						
JOW				Sn	**Sn**	**07 03 45.4**	**+0.7**
	20nm,0.3s,baz=81,slow=29,SNR=4.2						
SONM	**Songino Array**	**25.93**	**321**	P	**P**	**07 07 49.5**	**+0.9**
	0.4nm,0.6s,mb3.1,baz=139,slow=8.7,SNR=3.7						
WRA	**Warramunga Arr**	**49.33**	**175**	P	**P**	**07 11 05.3**	**-0.2**
	2.9nm,0.7s,mb4.4,baz=352,slow=8.1,SNR=14						
ASAR	**Alice Springs**	**52.99**	**176**	P	**P**	**07 11 34.1**	**+1.1**
	1.0nm,0.6s,mb3.9,baz=5.6,slow=14,SNR=15						
YKA	**Yellowknife Ar**	**74.80**	**26**	P	**P**	**07 13 56.4**	**-0.2**
	0.3nm,0.7s,mb3.3,baz=307,slow=5.7,SNR=8.7						
NOA	**NORSAR Array B**	**77.15**	**334**	P	**P**	**07 14 11.1**	**+1.1**
	0.8nm,0.8s,mb3.7,baz=50,slow=5.4,SNR=3.3						

CASC 18 07:04:25.4±3.2, 1312N×9110W, h25km±71km, MD3.9, 3C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**1.22**	**31**⇓	*e*P	Pn	07 04 46.2	-0.7
IXG				*e*S	Sn	07 05 04.1	+1.4
JAT	**Jato**	**1.30**	**337**⇑	*e*P	Pn	07 04 49.5	+1.6
FUG	**Fuego 3**	**1.34**	**11**⇑	*e*P	Pn	07 04 49.0	+0.5
SNJE	**San Jose**	**1.64**	**63**	*e*P	Pn	07 04 59.5	+7.0
SNJE				*e*S	Sn	07 05 18.1	+5.3
TP2	**Tecpan 2**	**1.66**	**3**⇓	*e*P	Pn	07 04 53.5	+0.6
TP2				*e*S	Sn	07 05 15.9	+2.5
SNET	**Serv Nac Est T**	**1.91**	**73**⇑	*e*P	Pn	07 04 56.2	-0.1
LFRS	**El Faro**	**2.05**	**76**	*e*P	Pn	07 05 06.4	+8.2
LFRS				*e*S	Sn	07 05 31.5	+8.5
MRL	**Marmol**	**2.37**	**35**	*e*P	Pn	07 05 04.1	+1.4

IDC ***18*** *07:33:42.6±0.6, 51.15N×178.77E, h0km, mb4.5/20, mb1 4.7/20, mb1mx4.6/23, mbtmp4.5/20, MS4.7/30, Ms1 4.7/30, ms1mx4.6/43, Error ellipse: s-maj=20.4km s-min=10.9km az=147.0*

ISCJB ***18*** *07:33:48.7±0.7, 5132N±006×178.89E±003, h43km±5km, mb4.9/126, MS4.8/64, Error ellipse: s-maj=10.1km s-min=3.4km az=0.1*

MOS ***18*** *07:33:48.4±1.2, 5130N×178.88E, h42km, mb5.2/52, MS4.7/20, Error ellipse: s-maj=7.6km s-min=6.3km az=100.4*

HRVD ***18*** *07:33:51.3±0.2, 5107N×178.89E, h20km, MW5.3/89, Centroid moment Tensor Solution. LP body waves: s78,c131;Mantle waves: s89,c176; Half duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr0.87±.02; Mθθ-0.93±.02; Mφφ0.06±.02; Mrθ0.78±.03; Mrφ-0.15±.01; Mθφ0.49±.04; Best double couple: M0=1.29800×10^17 NP1:φ=278.00000°, δ26.00000°, λ121.00000°. NP2: φ=65.00000°, δ68.00000°, λ76.00000°. Principal axes: T 1.2950, Plg64.0000°, Azm312.0000°; N 0.0050, Plg13.0000°, Azm70.0000°; P -1.3010, Plg22.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *07:33:51.3±0.3, 5127N×178.87E, mb5.0/65, ML5.0(AEIC) Error ellipse: s-maj=8.1km s-min=3.5km az=183.0*

BJI ***18*** *07:33:54.5, 5198N×177.94E, h53km, mB5.3, mb4.9, Ms4.9, Msz4.7*

ISC 18 07:33:51.4±0.7, 5141N±006×17890E±003, h50km±5km, h50km±2.3km: pP-P, n296, σ1§05/291, mb4.9/126, MS4.8/64, 16C-9D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADK	**Adak**	**2.79**	**78**	P	**Pn**	**07 34 32.6**	**-1.0**
ADK				S	**Sn**	**07 35 05.9**	**-0.1**
SMY	**Shemya**	**3.24**	**296**	*e*P	**Pn**	**07 34 41.1**	**+1.4**
SMY				*e*		07 35 19.8	
SMY	**Shemya**	**3.24**	**296**	P	**Pn**	**07 34 40.1**	**+0.4**
SMY				S	**Sn**	**07 35 21.9**	**+4.8**
FX1	**Attu Island--F**	**3.83**	**295**	Pn	**Pn**	**07 34 46.0**	**-1.8**
	107nm,0.3s,baz=174,slow=5.9,SNR=81						
FX1				Sn	**Sn**	**07 35 40.6**	**+9.1**
	166nm,0.3s,baz=137,slow=23,SNR=11						
FX1				LR	LR	07 36 14.8	
	comp=Z,422nm,18.9s,baz=132,slow=39						
FX1	**Attu Island--F**	**3.83**	**295**	P	**Pn**	**07 34 46.0**	**-1.8**
FX1						07 35 40.6	
FX1				pmax	pmax		
	comp=Z,107nm,0.3s						
FX1				smax			
	comp=N,166nm,0.3s						
FX1				MLR	MLR		
	comp=Z,423nm,18.9s						
FX1	**Attu Island--F**	**3.83**	**295**	P	**Pn**	**07 34 48.7**	**+1.0**
ATKA	**Atka Island**	**4.36**	**77**	P	**Pn**	**07 34 54.1**	**-1.0**
NIKO	**Nikolski**	**7.69**	**73**	P	**Pn**	**07 35 40.5**	**-0.2**
UNV	**Unalaska Valle**	**9.21**	**69**	P	**Pn**	**07 36 01.9**	**+0.4**
AKUT	**Akutan**	**9.69**	**68**	*e*P	**Pn**	**07 36 09.4**	**+1.4**
	comp=Z,28nm,0.3s						
PET	**Petropavlovsk**	**12.52**	**285**	*e*P	**Pn**	**07 36 48.1**	**+1.4**
PET				MLR	MLR		
	comp=Z,2μm,16.0s						
SDPT	**Sand Point**	**12.92**	**64**	*e*P	**Pn**	**07 36 51.0**	**-1.2**
	comp=Z,31nm,0.3s						
TNA	**Tin City**	**15.72**	**20**	*e*P	**Pn**	**07 37 33.2**	**+3.8**
	comp=Z,139nm,1.6s						
SVW2	**Sparrevohn**	**17.07**	**45**	*e*P	**Pn**	**07 37 48.6**	**+2.2**
KDAK	**Kodiak Island**	**17.62**	**58**	Pn	**Pn**	**07 37 51.0**	**-2.3**
	comp=Z,364nm,0.5s,SNR=19						
KDAK	**Kodiak Island**	**17.62**	**58**	P	**Pn**	**07 37 49.3**	**-4.0**
	comp=Z,6.6nm,0.3s,baz=269,slow=7.6,SNR=77						
KDAK				S	**S**	**07 41 06.4**	**-7.7**
	comp=Z,0.4nm,0.3s,baz=4.2,slow=20,SNR=6.5						
BILL	**Bilibino**	**17.79**	**344**⇑	*i*P	**Pn**	**07 37 58.0**	**+2.7**
BILL				pmax	pmax		
	comp=Z,64nm,1.5s						
BILL				MLR	MLR		
	comp=Z,3μm,15.0s						
BILL	**Bilibino**	**17.79**	**344**	*e*P	**Pn**	**07 37 58.1**	**+2.8**
	comp=Z,42nm,0.9s						
MA2	**Magadan**	**17.80**	**308**⇓	*i*P	**Pn**	**07 37 56.5**	**+1.1**
MA2				pmax	pmax		
	comp=Z,33nm,2.2s						
MA2				MLR	MLR		
	comp=Z,3μm,19.0s						
MA2	**Magadan**	**17.80**	**308**	*e*P	**Pn**	**07 37 56.9**	**+1.5**
	comp=Z,12nm,0.8s						
SEY	**Seymchan**	**18.27**	**319**	*e*P	**Pn**	**07 38 05.2**	**+4.0**
SEY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SEY				MLR	MLR		
	comp=Z,5μm,17.0s						
SEY				MLR	MLR		
	comp=E,2μm,15.0s						
SLKM	**Skilak Lake**	**19.37**	**50**	*e*P	**Pn**	**07 38 13.2**	**-1.2**
PMR	**Palmer**	**20.16**	**47**	*e*P	**P**	**07 38 21.3**	**-0.2**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PMR	**Palmer**	**20.16**	**47**	*e*P	**P**	**07 38 21.3**	**-0.2**
	comp=Z,7.9nm,0.6s						
SML	**Sawmill**	**20.59**	**47**	*e*P	**P**	**07 38 25.5**	**-0.6**
MCK	**McKinley**	**20.93**	**42**	*e*P	**P**	**07 38 29.7**	**-0.1**
MCK				pmax	pmax		
	comp=Z,44nm,1.2s						
MCK	**McKinley**	**20.93**	**42**	*e*P	**P**	**07

MAT pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
MAT MLR MLR
comp=Z,1µm,20.0s,MS4.5
MAT Matsushiro 32.37 259 *e*P **P 07 40 16.0 -0.1**
comp=Z,10.0nm,1.0s,mb4.6
MAT *e*S **S 07 45 29.0 +2.3**
MAT LR LR
comp=Z,1µm,20.0s,MS4.5
MDJ Mudanjiang 33.14 278 P **P 07 40 24.0 +1.2**
MDJ AP pP 07 40 37.3 +1.6
MDJ XP sP 07 40 43.5 +1.9
MDJ PCP PcP 07 43 03.1 -1.8
MDJ SCP ScP 07 46 42.3 -2.7
MDJ PCS PcS 07 46 48.8 -1.7
MDJ SCS ScS 07 50 45.3 -0.3
MDJ AMB AMB
comp=Z,12nm,2.0s,mb4.5
MDJ AMB AMB
comp=Z,131nm,7.7s
MDJ LR LR
comp=N,395nm,18.6s,MS4.5
MDJ LR LR
comp=E,819nm,21.0s,MS4.5
MDJ LR LR
comp=Z,1µm,23.4s,MS4.5
CN2 Changchun 36.12 279 *e*P **P 07 40 45.4 -3.2**
CN2 XP sP 07 41 05.0 -2.4
CN2 *e*PP PP 07 42 07.0 -4.4
CN2 *e*S **S 07 46 21.3 -3.3**
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,800nm,19.0s,MS4.8
CN2 LR LR
comp=E,1µm,19.0s,MS4.8
CN2 LR LR
comp=Z,2µm,19.0s,MS4.8
YKW3 Yellowknife Ar 36.23 46 *e*P **P 07 40 48.5 -1.0**
YKA Yellowknife Ar 36.26 46 P **P 07 40 48.9 -0.8**
comp=Z,8.4nm,0.7s,mb4.8,baz=282,slow=8.3,SNR=102
YKA PcP PcP 07 43 12.6 -1.4
comp=Z,0.9nm,0.5s,baz=289,slow=3.3,SNR=7.3
YKA ScP ScP 07 46 57.8 +1.6
comp=Z,0.8nm,0.7s,baz=291,slow=3.5,SNR=8.2
YKA LR LR 07 57 13.1
comp=Z,2µm,20.1s,MS4.9,baz=275,slow=39
YKA Yellowknife Ar 36.26 46 P **P 07 40 48.9 -0.8**
YKA 07 43 12.6
YKA Yellowknife Ar 36.26 46 P **P 07 40 48.9 -0.8**
YKA PcP PcP 07 43 12.6 -1.4
YKA ScP ScP 07 46 57.9 +1.7
YKA LR LR 07 57 13.1
BOD Bodaibo 36.80 306 *e*P **P 07 40 52.7 -1.6**
BOD pmax pmax
comp=Z,28nm,1.1s,mb5.0
EBG Ellensburg 38.86 72 P **P 07 41 12.6 +0.9**
EPH Ephrata 39.22 71 P **P 07 41 14.8 +0.1**
WAH2 Wahluke Slope 39.53 72 P **P 07 41 17.8 +0.5**
SNIWA Snively Ranch 39.62 72 P **P 07 41 18.8 +0.8**
GBL Gable Mountain 39.67 72 P **P 07 41 18.9 +0.4**
HAWA Hanford 39.73 72 *e*P **P 07 41 19.3 +0.3**
comp=Z,5.7nm,1.3s,mb4.1
H2OWA Water 39.80 72 P **P 07 41 20.1 +0.6**
EDM Edmonton 40.05 60 *e*P **P 07 41 21.0 -0.7**
NEW Newport 40.22 68 *e*P **P 07 41 22.7 -0.3**
NEW pmax pmax
comp=Z,11nm,0.8s
NEW Newport 40.22 68 *e*P **P 07 41 22.7 -0.4**
comp=Z,11nm,0.8s,mb4.7
YBH Yreka Blue Hor 40.30 80 *e*P **P 07 41 25.3 +1.6**
YBH pmax pmax
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 40.30 80 *e*P **P 07 41 25.3 +1.6**
comp=Z,19nm,1.1s,mb4.7
DL2 Dalian 41.25 275 *e*P **P 07 41 31.9 +0.4**
DL2 *e*S **S 07 47 45.1 +3.2**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
DL2 LR LR
comp=N,850nm,15.6s,MS4.8
DL2 LR LR
comp=E,570nm,15.6s,MS4.8
DL2 LR LR
comp=Z,400nm,15.2s,MS4.4
MOD Modoc 41.69 78 *e*P **P 07 41 36.0 +0.9**
comp=Z,21nm,1.1s,mb4.7
MOD LR LR
comp=Z,1µm,22.0s,MS4.8
BMO Blue Mountains 41.87 73 *e*P **P 07 41 36.8 +0.2**
comp=Z,51nm,1.5s,mb4.9
WVOR Wild Horse Val 42.40 77 *e*P **P 07 41 41.7 +0.7**
WVOR pmax pmax
comp=Z,23nm,1.0s,mb4.8
WVOR Wild Horse Val 42.40 77 *e*P **P 07 41 41.7 +0.8**
comp=Z,23nm,1.0s,mb4.8
OHCM Honcut 42.46 82 *e*P **P 07 41 41.2 -0.2**
MSO Missoula 42.81 69 *e*P **P 07 41 43.4 -0.9**
comp=Z,10nm,0.9s,mb4.5
ALE Alert 42.84 10 P **P 07 41 45.9 +1.4**
comp=Z,170nm,1.0s,mb5.7,SNR=19
CHMT Chamberlain Mo 43.16 68 *e*P **P 07 41 46.4 -0.7**
PAHR Pah Rah Range 43.53 81 *e*P **P 07 41 50.5 +0.4**
comp=Z,22nm,1.1s,mb4.8
BJI Beijing 43.95 281 P **P 07 41 49.1 -4.4**
BJI PP PP 07 43 32.5 -4.0
BJI S **S 07 48 16.6 -5.0**
BJI AMB AMB
comp=Z,8.0nm,2.0s,mb4.1
BJI AMB AMB
comp=Z,327nm,4.8s
BJI LR LR
comp=N,616nm,20.3s,MS4.7
BJI LR LR
comp=E,699nm,20.3s,MS4.7
BJI LR LR
comp=Z,779nm,21.5s,MS4.6
HRY Holter Researc 44.10 68 *e*P **P 07 41 53.9 -0.7**
IRK Irkutsk 44.20 302 *e*P **P 07 41 52.8 -2.7**
IRK *e* pP 07 42 03.4 -5.3
IRK pmax pmax
comp=Z,41nm,2.1s,mb4.8
HLID Hailey 44.32 73 *e*P **P 07 41 56.5 +0.2**
comp=Z,56nm,1.3s,mb5.1
HLID LR LR
comp=Z,793nm,22.0s,MS4.6
BMN Battle Mountai 44.43 78 *e*P **P 07 41 57.9 +0.6**
BMN pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
BMN Battle Mountai 44.43 78 *e*P **P 07 41 57.9 +0.6**
comp=Z,10nm,0.7s,mb4.7
MCMT McKenzie Canyo 44.53 70 *e*P **P 07 41 58.6 +0.4**
EGMT Eagleton 44.58 65 *e*P **P 07 41 57.3 -1.2**
comp=Z,12nm,0.8s,mb4.8
BOZ Bozeman (W) 44.80 69 *e*P **P 07 41 59.6 -0.6**
BOZ pmax pmax
comp=Z,13nm,0.7s,mb4.9
BOZ MLR MLR
comp=Z,758nm,19.0s,MS4.6
BOZ Bozeman (W) 44.80 69 *e*P **P 07 41 59.6 -0.6**
comp=Z,13nm,0.7s,mb4.9
BOZ LR LR
comp=Z,758nm,19.0s,MS4.6
ULN Ulaanbaatar 44.95 295 *e*P **P 07 42 01.5 +0.1**
ULN pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
ULN Ulaanbaatar 44.95 295 *e*P **P 07 42 01.5 +0.1**
comp=Z,9.5nm,0.8s,mb4.7
NVAR Mina Array Bea 44.98 81 P **P 07 42 01.6 -0.1**
comp=Z,1.8nm,0.5s,mb4.1,baz=295,slow=7.4,SNR=24
SONM Songino Array 45.34 295 P **P 07 42 03.6 -0.9**
comp=Z,7.8nm,0.9s,mb4.5,baz=54,slow=9.2,SNR=42
SONM LR LR 08 02 46.0
comp=Z,2µm,18.1s,MS5.0,baz=51,slow=38
QLMT Earthquake Lak 45.37 70 *e*P **P 07 42 04.8 +0.1**
ELK Elko 45.46 77 *e*P **P 07 42 05.9 +0.5**
ELK pmax pmax
comp=Z,16nm,0.9s
ELK MLR MLR
comp=Z,1µm,22.0s
ELK Elko 45.46 77 *e*P **P 07 42 05.9 +0.4**
comp=Z,16nm,0.9s,mb4.8
ELK LR LR
comp=Z,1µm,22.0s,MS4.8
MTUM Tungsten Hills 45.48 83 *e*P **P 07 42 06.8 +1.1**
ZAK Zakamensk 45.70 300⇑ *i*P **P 07 42 06.9 -0.4**
ZAK pmax pmax
comp=Z,44nm,1.8s,mb5.1
YMR Madison River 45.73 70 *e*P **P 07 42 07.5 -0.1**
comp=Z,23nm,0.8s,mb5.2
GCMT Greycliff 45.86 68 *e*P **P 07 42 07.8 -0.8**
TPH Tonopah 45.87 81 *e*P **P 07 42 09.2 +0.5**
TPH pmax pmax
comp=Z,68nm,1.5s,mb5.4
TPH Tonopah 45.87 81 *e*P **P 07 42 09.2 +0.6**
comp=Z,68nm,1.5s,mb5.4
YFT Old Faithful 45.93 70 *e*P **P 07 42 10.9 +1.7**
LKWY Lake 46.12 69 *e*P **P 07 42 11.4 +0.7**
LKWY pmax pmax
comp=Z,41nm,1.2s,mb5.2
LKWY Lake 46.12 69 *e*P **P 07 42 11.4 +0.7**
comp=Z,41nm,1.2s,mb5.2
FLWY Flagg Ranch 46.23 70 *e*P **P 07 42 12.1 +0.6**
comp=Z,37nm,1.1s,mb5.2
MOY Mondy 46.24 303 *e*P **P 07 42 12.4 +0.8**
HHC Hu-ho-hao-te 46.29 284 *e*P **P 07 42 12.3 +0.3**
HHC AP pP 07 42 26.4 +1.1
HHC XP sP 07 42 31.6 +0.5
HHC PCP PcP 07 43 47.4 +0.7
HHC PP PP 07 44 01.9 +0.6
HHC S **S 07 48 54.5 -0.9**
HHC SCS ScS 07 51 59.9 -3.0
HHC AMB AMB
comp=Z,14nm,0.7s,mb5.0
HHC AMB AMB
comp=Z,450nm,4.6s
HHC LR LR
comp=N,753nm,18.1s,MS4.8
HHC LR LR
comp=E,498nm,18.1s,MS4.8
HHC LR LR
comp=Z,402nm,22.6s,MS4.3
HVU Hansel Valley 46.34 74 *e*P **P 07 42 12.0 -0.4**
HVU pmax pmax
comp=Z,35nm,1.0s,mb5.2
HVU Hansel Valley 46.34 74 *e*P **P 07 42 12.0 -0.3**
comp=Z,35nm,1.0s,mb5.2
REDW Red Top Meadow 46.55 71 *e*P **P 07 42 14.0 0.0**
comp=Z,39nm,1.4s,mb5.2
LOHW Long Hollow 46.55 71 *e*P **P 07 42 14.0 0.0**
comp=Z,9.2nm,1.0s,mb4.7
SSE Sheshan 46.56 267 *e*P **P 07 42 16.1 +2.0**
SSE AP pP 07 42 27.6 +0.2
SSE XP sP 07 42 32.6 -0.6
SSE PCP PcP 07 43 51.1 +3.5
SSE PP PP 07 44 06.3 +2.2
SSE S **S 07 49 00.9 +1.7**
SSE XS sS 07 49 22.0 +0.4
SSE SCS ScS 07 52 07.3 +2.7
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,145nm,9.8s
SSE LR LR
comp=N,267nm,24.0s,MS4.1
SSE LR LR
comp=E,86nm,23.9s,MS4.1
SSE LR LR
comp=Z,289nm,23.4s,MS4.2
ISA Isabella 46.61 84 P **P 07 42 08.6 -5.9**
ISA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ISA Isabella 46.61 84 P **P 07 42 08.6 -5.9**
comp=Z,3.3nm,0.8s,mb4.3
GUMO Guam 46.63 228 LR LR 07 59 39.7
comp=Z,555nm,18.7s,MS4.5,baz=40,slow=34
BGU Big Grassy Mou 46.69 75 *e*P **P 07 42 20.4 +5.3**
SPUT South Promonto 46.81 74 *e*P **P 07 42 16.6 +0.5**
SPUT *e*pP pP 07 42 29.8 +0.4
FCC Fort Churchill 46.98 45 *e*P **P 07 42 16.6 -0.8**
FCC *e* 07 43 47.7
FCC pmax pmax
comp=Z,25nm,1.4s,mb5.0
FCC Fort Churchill 46.98 45 *e*P **P 07 42 16.6 -0.8**
comp=Z,25nm,1.4s,mb5.0
FCC *e*PcP PcP 07 43 47.7 -1.4
HWUT Hardware Ranch 47.17 73 *e*P **P 07 42 19.2 +0.4**
comp=Z,33nm,1.2s,mb5.1
DUG Dugway 47.27 76 *e*P **P 07 42 19.2 -0.4**
DUG pmax pmax
comp=Z,59nm,1.3s,mb5.4
DUG Dugway 47.27 76 *e*P **P 07 42 19.2 -0.4**
comp=Z,59nm,1.3s,mb5.4
NJ2 Nanjing 47.37 270 *e*P **P 07 42 23.1 +2.7**
NJ2 AP pP 07 42 38.6 +4.8
NJ2 XP sP 07 42 45.8 +6.2
NJ2 PP PP 07 44 14.4 +2.5
NJ2 S **S 07 49 11.0 +0.2**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,130nm,3.6s
NJ2 LR LR
comp=N,640nm,19.8s,MS4.7
NJ2 LR LR
comp=E,480nm,22.5s,MS4.7
NJ2 LR LR
comp=Z,550nm,20.6s,MS4.5
BTO Baotou 47.37 285 *e*P **P 07 42 20.8 +0.4**
NOQ North Oquirrh 47.41 75 *e*P **P 07 42 21.2 +0.5**
comp=Z,70nm,1.2s,mb5.5
TCUT Toone Canyon 47.55 74 *e*P **P 07 42 22.4 +0.5**
PDAR Pinedale Array 47.67 71 P **P 07 42 22.4 -0.4**
comp=Z,20nm,0.8s,mb5.2,baz=310,slow=3.3,SNR=139
PDAR LR LR 08 03 26.7
comp=Z,469nm,18.3s,MS4.5,baz=314,slow=37
NLU North Lily Min 47.86 75 *e*P **P 07 42 21.4 -2.8**
KRAR Krasnoyarsk 47.98 311⇓ *i*P **P 07 42 25.7 +0.5**
KRAR pmax pmax
comp=Z,43nm,0.5s,mb5.7
KRAR MLR MLR
comp=Z,1µm,17.0s,MS5.0
DAU Daniels Canyon 48.08 74 *e*P **P 07 42 26.9 +1.0**
ARUT Antelope Range 48.38 79 *e*P **P 07 42 28.4 +0.2**
MVU Marysvale 48.68 77 *e*P **P 07 42 38.9 +8.4**
comp=Z,13nm,0.9s,mb5.0
MSU Marysvale 48.69 77 *e*P **P 07 42 31.5 +0.8**
TMUT Trail Mountain 48.79 76 *e*P **P 07 42 32.1 +0.7**
TMUT *e*PcP PcP 07 43 59.6 +4.0
NEN Nelson 48.88 82 *e*P **P 07 42 31.6 -0.5**
SRU San Rafael 49.32 75 *e*P **P 07 42 35.8 +0.3**
SRU pmax pmax
comp=Z,36nm,1.0s,mb5.4
SRU San Rafael 49.32 75 *e*P **P 07 42 35.8 +0.4**
comp=Z,36nm,1.0s,mb5.3
KBS Kingsbay 49.70 357 *e*P **P 07 42 36.0 -2.3**
KBS AMS AMS 08 04 06.0
comp=Z,438nm,22.0s,MS4.4
RWWY Rawlins 49.71 71 *e*P **P 07 42 38.0 -0.4**
comp=Z,38nm,1.3s,mb5.3
PV10 Paradox Valley 50.69 75 *e*P **P 07 42 46.1 +0.3**
ULM Lac du Bonnet 50.87 56 P **P 07 42 46.1 -1.0**
comp=Z,1.2nm,0.4s,mb4.2,baz=296,slow=8.4,SNR=4.5
ULM LR LR 08 04 21.7
comp=Z,1µm,21.2s,MS4.8,baz=63,slow=36
WUAZ Wupatki 51.11 79 *e*P **P 07 42 49.4 +0.4**
comp=Z,11nm,0.8s,mb4.8
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.0
PV01 Paradox Valley 51.13 75 *e*P **P 07 42 49.2 +0.1**
SMCO Snowmass 51.42 73 *e*P **P 07 42 51.7 +0.3**
comp=Z,22nm,1.3s,mb4.9
DAG Danmarks Havn 51.61 5⇑ *i*P **P 07 42 52.6 -0.1**
comp=Z,5.9nm,0.4s,mb4.9
DAG Danmarks Havn 51.61 5⇑ *i*P **P 07 42 52.6 -0.1**
DAG pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
ISCO Idaho Springs 51.84 72 *e*P **P 07 42 54.9 +0.5**
ISCO pmax pmax
comp=Z,39nm,1.4s,mb5.1
ISCO Idaho Springs 51.84 72 *e*P **P 07 42 54.9 +0.5**
comp=Z,38nm,1.4s,mb5.1
XAN Xi'an 52.23 279 P **P 07 42 56.4 -1.0**
XAN AP pP 07 43 07.3 -3.6
XAN AMB AMB
comp=Z,14nm,1.3s,mb4.7
NVS Novosibirsk 53.12 314 *e*P **P 07 43 02.1 -1.8**
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,12nm,1.0s
NVS pmax pmax
comp=Z,20nm,1.0s,mb5.0
SUMG Summit 53.61 13 *e*P **P 07 43 08.1 +0.5**
comp=Z,17nm,1.0s,mb4.9
TUC Tucson 53.61 82 *e*P **P 07 43 07.5 0.0**
TUC pmax pmax
comp=Z,21nm,1.4s,mb4.9
TUC Tucson 53.61 82 *e*P **P 07 43 07.5 0.0**
comp=Z,21nm,1.4s,mb4.9
LZH Lanzhou 53.99 285 *e*P **P 07 43 11.0 +0.7**
LZH AP pP 07 43 26.4 +2.5
LZH XP sP 07 43 32.3 +2.7
LZH PCP PcP 07 44 16.4 +1.5
LZH PP PP 07 45 14.1 +2.2
LZH SCP ScP 07 48 10.0 +1.2
LZH *e*S **S 07 50 44.0 +1.5**
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,190nm,4.5s
LZH LR LR
comp=N,1µm,15.4s
LZH LR LR
comp=Z,2µm,18.0s,MS5.2
GTA Gaotai 54.21 290 P **P 07 43 12.5 +0.6**
GTA AP pP 07 43 23.9 -1.6
GTA XP sP 07 43 29.8 -1.4
GTA PCP PcP 07 44 16.6 +0.8
GTA PP PP 07 45 15.9 +1.9
GTA S **S 07 50 44.0 -1.5**
GTA XS sS 07 51 04.9 -3.4
GTA AMB AMB
comp=Z,25nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,247nm,5.7s
GTA LR LR
comp=N,952nm,16.0s,MS5.2
GTA LR LR
comp=E,1µm,17.5s,MS5.2
GTA LR LR
comp=Z,2µm,16.0s,MS5.2
ANMO Albuquerque 54.49 77 LR LR 08 06 38.1
comp=Z,562nm,19.1s,MS4.7,baz=0.0,slow=36
ANMO Albuquerque 54.49 77 *e*P **P 07 43 14.2 +0.2**
ANMO pmax pmax
comp=Z,18nm,1.6s
ANMO MLR MLR
comp=Z,729nm,20.0s
ANMO Albuquerque 54.49 77 *e*P **P 07 43 14.2 +0.2**
comp=Z,18nm,1.6s,mb4.8
ANMO LR LR
comp=Z,729nm,20.0s,MS4.7
BNM Barren Site 54.93 78 *e*P **P 07 43 17.9 +0.9**
MNTX Cornudas Mount 57.36 79 *e*P **P 07 43 34.6 +0.1**
comp=Z,9.9nm,1.0s,mb4.8
CD2 Chengdu 57.55 280 P **P 07 43 37.5 +1.7**
CD2 AP pP 07 43 51.9 +2.4
CD2 XP sP 07 43 58.0 +2.8
CD2 PP PP 07 45 46.8 +3.0
CD2 S **S 07 51 28.5 -1.4**
CD2 XS sS 07 51 52.5 -0.4
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CD2 AMB AMB
comp=Z,40nm,8.7s
CD2 LR LR
comp=N,60nm,4.9s
CD2 LR LR
comp=Z,60nm,6.3s
JMIC Jan Mayen 57.80 3 *e*P **P 07 43 36.5 -1.0**
ARCES ARCESS Array B 57.81 349 P **P 07 43 35.4 -2.2**
comp=Z,11nm,1.1s,mb4.8,baz=29,slow=5.5,SNR=11
ARCES LR LR 08 12 22.3
comp=Z,768nm,18.0s,MS4.8,baz=15,slow=40
ARCES ARCESS Array B 57.81 349 P **P 07 43 35.4 -2.2**
ARCES LR LR 08 12 22.3
KURK Kurchatov 57.95 312 P **P 07 43 38.5 -0.1**
comp=Z,171nm,0.7s,mb6.2,SNR=7.1
KURK Kurchatov 57.95 312 *c i*P **P 07 43 38.7 +0.1**
KURK Kurchatov 57.95 312 *e*P **P 07 43 38.3 -0.3**
comp=Z,14nm,0.6s,mb5.2
WMQ Urumqi 58.11 302 P **P 07 43 41.0 +1.3**
WMQ AP pP 07 43 55.4 +2.0
WMQ XP sP 07 44 01.5 +2.4
WMQ PCP PcP 07 44 31.8 +0.8
WMQ PP PP 07 45 51.8 +3.1
WMQ S **S 07 51 37.6 +0.4**
WMQ SCS ScS 07 53 23.0 -2.0
WMQ AMB AMB
comp=Z,21nm,1.4s,mb5.0
WMQ AMB AMB
comp=Z,176nm,4.2s
WMQ LR LR
comp=N,1µm,20.0s,MS5.1
WMQ LR LR
comp=E,1µm,20.0s,MS5.1
WMQ LR LR
comp=Z,2µm,20.5s,MS5.2
MK31 Makanchi Array 58.88 307 *i*P **P 07 43 43.9 -1.2**
MK31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
MKAR Makanchi Array 58.88 307 P **P 07 43 42.9 -2.2**
comp=Z,2.5nm,0.5s,mb4.5,baz=53,slow=4.7,SNR=24
MKAR LR LR 08 10 39.6
comp=Z,1µm,19.6s,MS5.0,baz=85,slow=38
MKAR Makanchi Array 58.88 307 *i*P **P 07 43 44.2 -0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
GYA Guiyang 58.88 274⇑ *i*P **P 07 43 44.3 -0.8**
GYA AP pP 07 44 00.4 +1.5
GYA XP sP 07 44 07.3 +2.8
GYA PP PP 07 45 56.5 +0.9
GYA S **S 07 51 49.0 +1.7**
GYA AMB AMB
comp=Z,20nm,1.7s,mb4.9
GYA AMB AMB
comp=Z,280nm,6.0s
GYA LR LR
comp=N,680nm,18.9s,MS4.9
GYA LR LR
comp=E,360nm,18.0s,MS4.9
GYA LR LR
comp=Z,560nm,19.5s,MS4.7
WMOK Wichita Mounta 59.26 72 *e*P **P 07 43 47.8 +0.1**
WMOK pmax pmax
comp=Z,37nm,1.3s,mb5.2
WMOK Wichita Mounta 59.26 72 *e*P **P 07 43 47.8 0.0**
comp=Z,37nm,1.3s,mb5.3
BVA0 Borovoye Array 59.93 319 *i*P **P 07 43 52.2 -0.1**
BVA0 pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
BRVK Borovoye 59.95 319 P **P 07 43 52.0 -0.4**
comp=Z,172nm,0.6s,mb6.3,SNR=18
BRVK Borovoye 59.95 319 *e*P **P 07 43 51.9 -0.5**
BRVK pmax pmax
comp=Z,22nm,1.0s,mb5.1
BRVK MLR MLR
comp=Z,1µm,21.0s,MS5.0
BRVK Borovoye 59.95 319 *e*P **P 07 43 51.9 -0.5**
comp=Z,22nm,1.0s,mb5.1
BRVK LR LR
comp=Z,1µm,21.0s,MS5.0
LTX Lajitas 60.07 80 P **P 07 43 53.4 +0.1**
LTX pmax pmax
comp=Z,14nm,1.1s,mb4.9
LTX Lajitas 60.07 80 P **P 07 43 53.4 +0.1**
comp=Z,14nm,1.1s,mb4.9
ZRNK Zerenda 60.55 319 *e*P **P 07 43 56.6 0.0**
ZRNK pmax pmax
comp=Z,18nm,0.7s,mb5.3
ZRNK Zerenda 60.55 319 *e*P **P 07 43 56.6 0.0**
comp=Z,18nm,0.7s,mb5.3
SCHQ Schefferville 60.87 37 P **P 07 43 58.4 -0.3**
comp=Z,1.9nm,0.4s,mb4.6,baz=322,slow=7.9,SNR=11
SCHQ LR LR 08 13 03.9
comp=Z,798nm,18.1s,MS4.9,baz=146,slow=39
JCT Junction City 61.63 76 *e*P **P 07 44 03.0 -0.9**
JCT pmax pmax
comp=Z,15nm,1.0s,mb5.1
JCT Junction City 61.63 76 *e*P **P 07 44 03.0 -0.9**
comp=Z,15nm,1.0s,mb5.1
ARU Arti 61.81 327⇑ *e*P **P 07 44 06.0 +0.9**
ARU pmax pmax
comp=Z,105nm,1.9s,mb5.6
ARU MLR MLR
comp=Z,1µm,19.0s,MS5.1

ARU Arti 61.81 327 *eP* **P 07 44 05.8 +0.7**
comp=Z,26nm,0.6s,mb5.5

FVM French Village 61.84 64 *eP* **P 07 44 03.6 -1.7**
FVM pmax pmax
comp=Z,8.0nm,0.4s,mb5.2

FVM French Village 61.84 64 *eP* **P 07 44 03.6 -1.7**
comp=Z,7.7nm,0.4s,mb5.2

KMI Kunming 62.29 276 P **P 07 44 12.9 +4.6**
KMI AP pP 07 44 24.8 +2.6
KMI XP sP 07 44 29.3 +1.5
KMI PCP PcP 07 44 52.3 +4.6
KMI PP PP 07 46 31.6 +5.9
KMI PPP 07 48 01.9
KMI S **S 07 52 34.8 +4.0**
KMI XS sS 07 52 53.8 -0.2
KMI SKS 07 53 56.5
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,144nm,6.3s
KMI LR LR
comp=N,383nm,14.7s,MS4.8
KMI LR LR
comp=E,407nm,16.6s,MS4.8
KMI LR LR
comp=Z,416nm,16.6s,MS4.7

QIZ Qiongzhong 62.32 266 P **P 07 44 08.3 -0.2**
QIZ XP sP 07 44 29.1 +1.1
QIZ S **S 07 52 29.3 -1.9**
QIZ AMB AMB
comp=Z,151nm,7.8s
QIZ LR LR
comp=E,233nm,17.4s
QIZ LR LR
comp=Z,275nm,16.1s,MS4.5

MIAR Mount Ida 62.46 68 *eP* **P 07 44 09.4 -0.1**
MIAR pmax pmax
comp=Z,76nm,1.4s,mb5.6
MIAR MLR MLR
comp=Z,365nm,19.0s,MS4.6

MIAR Mount Ida 62.46 68 *eP* **P 07 44 09.4 -0.1**
comp=Z,76nm,1.4s,mb5.6
MIAR LR LR
comp=Z,365nm,19.0s,MS4.6

HNR Honiara 62.77 201 LR LR 08 05 31.5
comp=Z,601nm,21.0s,MS4.7,baz=358,slow=30

JOF Joensuu 63.19 344 *ep* **P 07 44 14.1 -0.2**
comp=Z,2.0nm,0.5s,mb4.5

KLMR Klimovskoe 63.45 339 *eP* **P 07 44 13.6 -2.4**
KLMR pmax pmax
comp=Z,50nm,2.7s,mb5.2
KLMR MLR MLR
comp=Z,980nm,18.0s,MS5.0

AAA Alma-Ata 64.04 307 *eP* **P 07 44 21.1 +1.2**
AAA pmax pmax
comp=Z,290nm,5.6s

HKT Hockley 64.40 74 *eP* **P 07 44 23.0 +0.7**
HKT pmax pmax
comp=Z,72nm,1.5s,mb5.5

HKT Hockley 64.40 74 *eP* **P 07 44 23.0 +0.7**
comp=Z,72nm,1.5s,mb5.5

WVT Waverly 64.62 63 *eP* **P 07 44 22.9 -0.8**
WVT pmax pmax
comp=Z,10.0nm,0.9s,mb4.8

WVT Waverly 64.62 63 *eP* **P 07 44 22.9 -0.8**
comp=Z,10.0nm,0.9s,mb4.8

KAF Kangasniemi 64.75 346 *ep* **P 07 44 23.0 -1.6**
comp=Z,2.7nm,0.6s,mb4.5,baz=16,slow=5.9

KAF Kangasniemi 64.75 346 *eP* **P 07 44 23.0 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5

OXF Oxford 64.89 66 *eP* **P 07 44 25.2 -0.3**
OXF pmax pmax
comp=Z,164nm,1.4s,mb5.9

OXF Oxford 64.89 66 *eP* **P 07 44 25.2 -0.3**
comp=Z,164nm,1.4s,mb5.9

TKM2 Tokmak 2 64.97 308 *i P* **P 07 44 26.0 0.0**
TKM2 pmax pmax
comp=Z,29nm,2.1s,mb4.9

PLAL Pickwick Lake 65.31 64 *eP* **P 07 44 27.5 -0.7**
comp=Z,15nm,0.7s,mb5.1

FINES FINESS Array B 65.42 346 P **P 07 44 26.8 -2.1**
comp=Z,2.3nm,0.7s,mb4.3,baz=32,slow=7.6,SNR=8.9
FINES LR LR 08 18 02.9
comp=Z,542nm,18.3s,MS4.8,baz=253,slow=40

FINES FINESS Array B 65.42 346 P **P 07 44 26.8 -2.2**
FINES LR LR 08 18 02.9

FRU Bishkek 65.52 308 ⇓*iP* **P 07 44 31.4 +1.9**
FRU pmax pmax
comp=Z,85nm,2.0s,mb5.4

LSA Lhasa 66.07 288 P **P 07 44 34.0 +0.9**

PMG Port Moresby 66.48 214 LR LR 08 11 46.1
comp=Z,522nm,18.8s,MS4.8,baz=266,slow=34

AKTO Aktyubinsk 66.82 323 *i P* **P 07 44 37.9 +0.1**
AKTO pmax pmax
comp=Z,9.0nm,0.9s,mb4.8

AB31 Akbulak array 67.03 321 *eP* **P 07 44 39.8 +0.6**
AB31 pmax pmax
comp=Z,9.0nm,0.6s,mb5.0

KK31 Karatay Array 67.29 311 *i P* **P 07 44 40.6 -0.3**
KK31 pmax pmax
comp=Z,13nm,0.9s,mb5.0

KKAR Karatay Array 67.29 311 *i P* **P 07 44 40.6 -0.3**
KKAR pmax pmax
comp=Z,12nm,0.9s,mb4.9

NB2 NORSAR Subarra 67.47 354 P **P 07 44 41.3 -0.7**
comp=Z,2.1nm,0.6s,mb4.3,baz=8.8,slow=6.5

NB2 NORSAR Subarra 67.47 354 P **P 07 44 41.3 -0.7**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3

NOA NORSAR Array B 67.47 354 P **P 07 44 41.0 -1.1**
comp=Z,4.0nm,0.8s,mb4.5,baz=9.3,slow=6.3,SNR=15
NOA LR LR 08 16 17.4
comp=Z,284nm,18.8s,MS4.5,baz=30,slow=38

HFS Hagfors 68.18 352 LR LR 08 14 07.3
comp=Z,532nm,21.8s,MS4.7,baz=32,slow=35

BER Bergen 68.44 357 AMS AMS 08 21 37.1
comp=Z,235nm,17.0s,MS4.5

KONO Kongsberg 68.96 354 *eP* **P 07 44 55.7 +4.3**

OBN Obninsk 69.32 338⇑*eP* **P 07 44 53.4 -0.1**
OBN *e**SP sP 07 45 07.3 -5.9
OBN pmax pmax
comp=Z,14nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,2μm,19.0s,MS5.3

TAOE Nuku Hiva Isla 69.62 136 *e*LR LR 08 05 53.5
comp=Z,3μm,21.7s

GUN Gumba 70.50 290 *eP* **P 07 45 01.2 +0.4**
comp=Z,128nm,0.9s,mb5.8

JIRN Jiri 70.50 290 *eP* **P 07 45 01.9 +1.1**
comp=Z,4.4nm,0.3s,mb4.9

KKN Kakani 70.94 291 *eP* **P 07 45 03.6 +0.1**
comp=Z,67nm,0.9s,mb5.6

PKI Pulchoki 71.03 290 *eP* **P 07 45 04.3 +0.3**
comp=Z,132nm,1.4s,mb5.7

GKN Gorkha 71.16 291 *eP* **P 07 45 04.7 -0.1**
comp=Z,114nm,1.0s,mb5.8

DMN Daman 71.18 291 *eP* **P 07 45 05.1 +0.2**
comp=Z,66nm,1.0s,mb5.5

DANN Dangsing 71.41 292 *eP* **P 07 45 07.3 +1.0**

KOLN Koldanda 71.94 292 *eP* **P 07 45 09.3 -0.2**
comp=Z,42nm,1.0s,mb5.3

DDI Dehra Dun 73.16 297 *ex* x 07 45 21.6

BOK Bokaro 73.58 288 *eP* **P 07 45 18.7 -0.6**
BOK AMb AMB 07 45 21.5
comp=Z,20nm,0.8s,mb5.1

DZM Mont Dzumac 73.97 192 LR LR 08 11 14.0
comp=Z,690nm,21.5s,MS4.9,baz=347,slow=30

PPT Papeete 74.01 149 *eS* S 07 54 52.1 +1.6
comp=Z,2μm,28.0s
PPT *e*SS SS 07 59 38.6 +2.8
comp=Z,229nm,23.8s
PPT *e*LR LR 08 07 43.7
comp=Z,1μm,25.2s,baz=341

PPT Papeete 74.01 149 LR LR 08 13 38.9
comp=Z,1μm,20.3s,MS5.2,baz=323,slow=32

RAR Rarotonga 74.69 159 LR LR 08 12 24.3
comp=Z,1μm,19.8s,MS5.2,baz=289,slow=31

AKASG Malin Array Be 75.06 341 P **P 07 45 26.8 -1.1**
comp=Z,3.7nm,0.5s,mb4.6,baz=21,slow=6.6,SNR=13

AKASG Malin Array Be 75.06 341 P **P 07 45 26.8 -1.1**

GOF Gofitskoye 76.63 330 *eP* **P 07 45 37.9 +1.1**
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.4

CTA Charters Tower 76.73 211 LR LR 08 16 14.2
comp=Z,240nm,20.2s,MS4.5,baz=25,slow=33

BRG Berggiesshubel 77.30 350 *eP* **P 07 45 41.0 +0.4**
BRG MLR MLR
comp=Z,200nm,24.2s,MS4.3

BRG Berggiesshubel 77.30 350 *e* **P 07 45 41.0 +0.4**

DPC Dobruska-Polom 77.54 349 *es*P sP 07 46 10.0 +8.3
DPC *ex* x 07 46 37.2

KIV Kislovodsk 77.72 329*c i P* **P 07 45 43.5 +0.6**
KIV pmax pmax
comp=Z,14nm,1.3s,mb4.7

STHS Stebnicka Huta 77.76 345 *eP* **P 07 45 43.2 +0.1**

AJM Ajmer 78.03 297 *eP* **P 07 45 44.3 -0.3**

ZEI Tsey 78.39 328 *i P* **P 07 45 46.5 -0.1**
ZEI pmax pmax
comp=Z,17nm,0.8s,mb5.0

VRAC Vranov 78.53 348 LR LR 08 27 19.1
comp=Z,615nm,18.0s,MS5.0,baz=16,slow=41

ANN Anapa 78.55 333 *eP* **P 07 45 47.3 -0.2**
ANN pmax pmax
comp=Z,18nm,0.8s,mb5.0
ANN MLR MLR
comp=N,946nm,22.0s,MS5.7
ANN MLR MLR
comp=E,4μm,22.0s,MS5.7
ANN MLR MLR
comp=Z,733nm,22.0s,MS5.0

KECS Kecovo 78.79 346 *eP* **P 07 45 48.9 +0.1**

BURAR Bucovina Array 78.81 342⇑*P* **P 07 45 50.2 +1.3**

BURAR Bucovina Array 78.81 342⇑*P* **P 07 45 50.2 +1.3**

BHPL Bhopal 78.97 293 *eP* **P 07 45 48.6 -1.2**
BHPL AMb AMB 07 45 50.3
comp=Z,16nm,1.1s,mb4.9

SOC Sochi 78.99 331 *eP* **P 07 45 47.8 -2.1**
SOC *e* 07 48 49.6
SOC *e*S S 07 55 48.3 +3.4
SOC *e*SS SS 08 00 56.2 +5.2
SOC pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
SOC MLR MLR
comp=Z,553nm,17.0s,MS5.0

KHC Kasperske Hory 79.06 350 *eP* **P 07 45 51.3 +1.0**
KHC *es*P sP 07 46 18.0 +7.9

KHC Kasperske Hory 79.06 350 *eP* **P 07 45 47.5 -2.8**

SIM Simferopol' 79.31 335 *eP* **P 07 45 57.0 +5.3**

GERES GERESS Array B 79.33 350 P **P 07 45 53.0 +1.2**
comp=Z,0.7nm,0.7s,mb3.7,baz=28,slow=6.0,SNR=7.2
GERES LR LR 08 24 46.6
comp=Z,480nm,20.0s,MS4.8,baz=27,slow=38

TBI Tubuai 79.46 151 *eS* S 07 55 48.6 -1.3
comp=Z,565nm,32.2s
TBI *e*SS SS 08 00 56.0 -2.1
comp=Z,187nm,25.5s
TBI *e*LR LR 08 09 45.2
comp=Z,1μm,22.8s,baz=336

DRGR 80.06 344⇑*P* **P 07 45 56.9 +1.2**

DRGR 80.06 344⇑*P* **P 07 45 56.9 +1.2**

PLOR Plostina 80.21 341⇑*P* **P 07 46 00.1 +3.6**

GNI Garni 80.43 326⇓*eP* **P 07 45 59.6 +1.9**
GNI pmax pmax
comp=Z,29nm,1.4s

GNI Garni 80.43 326 *eP* **P 07 46 00.3 +2.6**
comp=Z,27nm,1.1s,mb5.1

CFR Carcaliu 80.53 339⇓*P* **P 07 46 01.5 +3.2**

CFR Carcaliu 80.53 339⇓*P* **P 07 46 01.4 +3.2**

MLR Muntele Rosu 80.70 341⇓*P* **P 07 46 02.4 +3.3**

WRA Warramunga Arr 81.05 222 P **P 07 45 57.1 -3.9**
comp=Z,3.0nm,0.6s,mb4.4,baz=32,slow=6.2,SNR=11

WRA Warramunga Arr 81.05 222 *i P* **P 07 45 59.0 -2.0**
WRA pmax pmax
comp=Z,3.0nm,0.6s

DAVOX Davos 81.74 352 LR LR 08 23 34.4
comp=Z,260nm,18.5s,MS4.6,baz=9.2,slow=36

HYB Hyderabad 82.85 289 *i P* **P 07 46 09.0 -1.5**

HYB Hyderabad 82.85 289 *eP* **P 07 46 09.0 -1.5**

BHJ Bhuj 83.33 299 *eP* **P 07 46 11.4 -1.6**

FITZ Fitzroy Crossi 83.36 230 LR LR 08 24 10.1
comp=Z,198nm,19.4s,MS4.5,baz=226,slow=36

MALT Malatya 84.19 330⇑*P* **P 07 46 19.9 +2.6**

MALT Malatya 84.19 330 *eP* **P 07 46 19.3 +2.0**
comp=Z,14nm,1.2s,mb5.0

BR131 Keskin Array S 84.30 334 *eP* **P 07 46 18.7 +0.8**
comp=Z,3.7nm,0.6s,mb4.7
BR131 LR LR
comp=Z,294nm,22.0s,MS4.6

BRTR Keskin Array B 84.30 334 P **P 07 46 17.7 -0.2**
comp=Z,4.6nm,0.7s,mb4.8,baz=43,slow=2.9,SNR=25

BRTR Keskin Array B 84.30 334 *i P* **P 07 46 19.1 +1.2**
BRTR pmax pmax
comp=Z,5.0nm,0.7s

RKT Rikitea 84.53 138 *eS* 07 56 41.4
comp=Z,291nm,36.5s
RKT *es*SS SS 08 02 11.1 -2.4
comp=Z,156nm,25.5s
RKT *e*LR LR 08 12 22.1
comp=Z,799nm,23.2s,baz=331

ASAR Alice Springs 84.55 221 P **P 07 46 16.6 -2.5**
comp=Z,2.1nm,0.7s,mb4.4,baz=24,slow=5.1,SNR=26

POO Poona 84.72 293⇓*iP* **P 07 46 19.5 -0.5**
comp=Z,30nm,1.0s,mb5.4

KAD Karad 85.50 292 *eP* **P 07 46 23.0 -0.9**
KAD AMb AMB 07 46 25.4
comp=Z,18nm,1.8s,mb4.9

STKA Stephens Creek 89.18 211 P **P 07 46 37.9 -3.8**
comp=Z,1.4nm,0.9s,mb4.3,baz=348,slow=8.2,SNR=4.2
STKA LR LR 08 26 17.9
comp=Z,589nm,18.7s,MS5.0,baz=24,slow=36

URZ Urewera 89.30 181 LR LR 08 20 46.4
comp=Z,644nm,21.3s,MS5.0,baz=51,slow=32

CPD Cerro la Pandu 90.79 59 *eP* **P 07 46 50.0 +0.8**

MTP Monte Pirata 90.93 59 *eP* **P 07 46 50.5 +0.6**

RPZ Rata Peaks 94.98 186 LR LR 08 23 07.3
comp=Z,735nm,19.9s,MS5.2,baz=295,slow=31

ROSC El Rosal 96.58 74 LR LR 08 32 19.5
comp=Z,98nm,18.9s,MS4.3,baz=202,slow=36

NWAO Narrogin (SRO) 99.89 229 LR LR 08 32 01.6
comp=Z,183nm,20.2s,MS4.6,baz=280,slow=35

TORD Torodi Ar. Bea 115.67 357 PKP PKPdf 07 52 26.3 -1.8
comp=Z,0.4nm,0.4s,baz=0.0,slow=2.0,SNR=11

LBTB Lobatse 146.67 312 *e*PKP2 PKPab 07 53 28.2 -0.5

BOSA Boshof 149.86 309 PKPbc PKPbc 07 53 34.5 -1.5
comp=Z,4.5nm,0.7s,baz=52,slow=2.6,SNR=14

BOSA Boshof 149.86 309 *e*PKHKP 07 53 30.5
BOSA *e* 07 53 36.1
BOSA Boshof 149.86 309 *e*PKPdf PKPdf 07 53 30.5 -0.6
BOSA *e*PKPbc PKPbc 07 53 36.1 +0.1
BOSA *e*PKPab PKPab 07 53 43.0 +1.5

IDC 18 07:34:22.9±2.7,050S×9815E,h0km,mb3.5/3,mb1 3.6/4, mb1mx3.5/19,mbtmp3.5/4,ML3.2/1,Error ellipse: s-maj=90.9km s-min=24.7km az=62.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.37**	**13**	Pn	Pn	07 35 16.0	-0.8
	2.3nm,0.3s,baz=221,slow=5.4,SNR=6.4						
WRA	**Warramunga Arr**	**40.34**	**121**	P	P	07 42 02.7	+0.6
	0.4nm,0.7s,baz=302,slow=9.0,SNR=2.7						
ASAR	**Alice Springs**	**41.62**	**126**	P	P	07 42 12.8	+0.1
	0.3nm,0.5s,baz=296,slow=8.1,SNR=5.2						
MKAR	**Makanchi Array**	**49.12**	**346**	P	P	07 43 12.1	-0.1
	0.7nm,0.6s,baz=155,slow=9.0,SNR=9.2						

*ISCJB **18** 07:35:49.7±0.5,3849N±002×2670E±003,h11km±3km, Error ellipse: s-maj=4.4km s-min=3.6km az=29.6*
*CSEM **18** 07:35:49.6±0.1,3850N×2672E,h10km,MD3.4,Error ellipse: s-maj=2.4km s-min=1.7km az=84.0*
*NEIC **18** 07:35:50.3,3844N×2652E,h31km,MD3.4(ISK), MD3.5(ATH),After ATH.*
*ISK **18** 07:35:50.1,3851N×2672E,h14km,MD3.4*
*ATH **18** 07:35:50.2,3846N×2657E,h29km±2km,MD3.5/4*
ISC 18 07:35:50.2±0.5,3848N±002×2668E±003,h14km±3km,n34, σ1º00/50,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.13**	**208**	*i P*	**Pg**	**07 35 54.4**	**+0.7**
URLA				*i* S	**Sg**	**07 35 57.1**	**+0.8**
IZM	**Izmir**	**0.47**	**100**	*i* PG	**Pg**	**07 35 59.3**	**-0.2**
IZM				*i* SG	**Sg**	**07 36 05.8**	**0.0**
KDAG	**Bornova**	**0.47**	**99**	*i P*	**Pg**	**07 35 58.9**	**-0.6**
SMG	**Samos**	**0.78**	**171**	*e*PN	**Pn**	**07 36 05.4**	**-1.3**
SMG				*e*SN	**Sn**	**07 36 17.1**	**-1.1**
SMG	**Samos**	**0.78**	**171**	*e*Pn	**Pn**	**07 36 05.3**	**-1.4**
SMG				*e*Sn	**Sn**	**07 36 17.4**	**-0.8**
AYVA	**Ayvalik**	**0.83**	**1**	*i P*	**Pg**	**07 36 06.5**	**+0.2**
AYVA				*i* S	**Sg**	**07 36 18.7**	**+1.6**
PRK	**Paraskevi**	**0.83**	**338**	*e*PN	**Pn**	**07 36 06.6**	**-0.8**
PRK				*e*SN	**Sn**	**07 36 18.2**	**-1.2**
PRK	**Paraskevi**	**0.83**	**338**	*e*Pn	**Pn**	**07 36 06.6**	**-0.8**
PRK				*e*Sn	**Sn**	**07 36 19.1**	**-0.3**
AKS	**Akhisar**	**0.98**	**65**	*i* PG	**Pg**	**07 36 08.4**	**-0.6**
AKS				*i* SG	**Sg**	**07 36 21.5**	**-0.3**
AYDN	**Tasoluk**	**1.25**	**130**	*i P*	**Pn**	**07 36 12.9**	**-0.3**
AYDN				*i* S	**Sb**	**07 36 28.8**	**-0.8**
EZN	**Ezine**	**1.37**	**349**	*e*PN	**Pn**	**07 36 14.4**	**-0.5**
MLSB	**Milas**	**1.47**	**143**	PN	**Pn**	**07 36 17.2**	**+1.0**
MANT	**Manisa**	**1.48**	**89**	*i P*	**Pn**	**07 36 17.7**	**+1.3**
MANT				*i* S	**Sn**	**07 36 35.9**	**+0.4**
BALB	**Balikesir**	**1.49**	**39**	PN	**Pn**	**07 36 16.4**	**-0.1**
BALB				SN	**Sn**	**07 36 35.9**	**+0.1**
BODT	**Bodrum**	**1.50**	**160**	PN	**Pn**	**07 36 17.1**	**+0.5**
BODT				SN	**Sn**	**07 36 38.2**	**+2.2**
BTOK	**Tokmak**	**1.66**	**39**	*i* P	**Pn**	**07 36 19.3**	**+0.4**
BTOK				*i* S	**Sn**	**07 36 39.0**	**-0.9**
APE	**Apeiranthos**	**1.67**	**213**	*e*PB	**Pb**	**07 36 18.3**	**-2.5**
APE				*e*SN	**Sn**	**07 36 39.9**	**-0.4**
YER	**Yerkesik**	**1.85**	**136**	PN	**Pn**	**07 36 22.9**	**+1.5**
DAT	**Datca**	**1.89**	**157**	PN	**Pn**	**07 36 22.2**	**+0.2**
DST	**Dursunbey**	**1.89**	**53**	PN	**Pn**	**07 36 22.9**	**+0.9**
LPK	**Lapseki**	**1.89**	**2**	PN	**Pn**	**07 36 21.8**	**-0.2**
EDC	**Edincik**	**2.08**	**26**	PN	**Pn**	**07 36 25.2**	**+0.6**
BNT	**Bandirma**	**2.11**	**27**	PN	**Pn**	**07 36 25.5**	**+0.5**
KCT	**Karacabey**	**2.21**	**36**	PN	**Pn**	**07 36 26.8**	**+0.4**
MRMT	**Marmara Adasi**	**2.24**	**18**	*e*PN	**Pn**	**07 36 26.1**	**-0.7**
SART	**Tekirdag**	**2.24**	**10**	*i P*	**Pn**	**07 36 27.4**	**+0.6**
GDZ	**Gediz**	**2.28**	**74**	*i P*	**Pg**	**07 36 32.3**	**-1.5**
GDZ				*i* S	**Sg**	**07 37 03.8**	**+0.5**
MFT	**Murefte**	**2.35**	**11**	*e*PN	**Pn**	**07 36 29.4**	**+1.0**
ULDT	**Uludag**	**2.53**	**48**	*i P*	**Pg**	**07 36 36.5**	**-2.2**
RDO	**Rodhopi**	**2.81**	**342**	*e*PN	**Pn**	**07 36 35.7**	**+1.1**
RDO	**Rodhopi**	**2.81**	**342**	*e*Pn	**Pn**	**07 36 34.3**	**-0.3**
TKTP	**Tekketepe**	**2.90**	**98**	*i P*	**Pg**	**07 36 44.1**	**-1.7**
TKTP				*i* S	**Sg**	**07 37 24.8**	**+1.3**
YLV	**Yalova**	**2.95**	**44**	*e*PN	**Pn**	**07 36 37.2**	**+0.6**
SGKT	**Sivrigoynuk**	**4.66**	**62**	*i P*	**Pb**	**07 37 08.6**	**-3.0**

*ISCJB **18** 07:43:08.4±0.8,198S±02×1786W±0.1,h600km,mb3.7/8, Error ellipse: s-maj=26.7km s-min=15.7km az=129.9*
*IDC **18** 07:43:09.1±6.3,1953S×17874W,h586km±74km,mb3.1/6, mb1 3.5/6,mb1mx3.2/13,mbtmp4.0/6,Error ellipse: s-maj=32.0km s-min=26.9km az=151.0*
*NEIC **18** 07:43:15.6±3.3,1962S×17887W,h670km±43km,mb4.2/3, Error ellipse: s-maj=27.9km s-min=24.3km az=146.0*
ISC 18 07:43:09.8±0.8,198S±02×1786W±02,h600km,n15, σ0º93/12,mb3.7/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.03**	**263**	*eP*	**P**	**07 48 57.8**	**+0.7**
	3.1nm,0.9s,mb3.9						
CTAO	**Charters Tower**	**33.03**	**263**	*eP*	**P**	**07 48 58.0**	**+0.9**
	5.2nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**44.16**	**261**	*eP*	**P**	**07 50 26.8**	**+0.2**
AS31	**Alice Springs**	**44.17**	**256**	*eP*	**P**	**07 50 26.6**	**0.0**
ASAR	**Alice Springs**	**44.17**	**256**	P	**P**	**07 50 26.6**	**-0.1**
	5.4nm,0.8s,mb4.1,baz=98,slow=7.6,SNR=45						
ASAR				PcP	PcP	07 51 58.9	+0.9
	1.4nm,1.0s,baz=116,slow=3.9,SNR=5.8						
ASPA	**Alice Springs**	**44.17**	**256**	*eP*	**P**	**07 50 26.6**	**-0.1**
WRA	**Warramunga Arr**	**44.17**	**261**	P	**P**	**07 50 26.2**	**-0.5**
	1.9nm,0.5s,mb3.9,baz=96,slow=8.5,SNR=8.4						
VNDA	**Vanda**	**58.60**	**185**	P	**P**	**07 52 11.5**	**+1.1**
	1.5nm,0.8s,mb3.2,baz=52,slow=9.1,SNR=5.6						
QSPA	**South Pole Qui**	**70.31**	**180**	*eP*	**P**	**07 53 21.5**	**-2.6**
	14nm,1.2s,mb4.3						
NVAR	**Mina Array Bea**	**80.86**	**44**	P	**P**	**07 54 23.4**	**+1.1**
	0.7nm,0.7s,mb3.2,baz=219,slow=8.5,SNR=6.6						
ILAR	**Eielson Array**	**87.71**	**13**	P	**P**	**07 54 54.3**	**-1.4**
	0.5nm,0.9s,mb3.2,baz=225,slow=5.4,SNR=4.2						
PDAR	**Pinedale Array**	**88.79**	**43**	P	**P**	**07 55 01.1**	**+0.3**
	0.7nm,0.6s,mb3.6,baz=202,slow=3.4,SNR=7.2						
AKASG	**Malin Array Be**	**142.10**	**331**	PKP	PKPdf	08 01 32.0	-2.6
	2.0nm,0.5s,baz=42,slow=4.2,SNR=19						
BRTR	**Keskin Array B**	**145.94**	**313**	PKPbc	PKPbc	08 01 42.4	-0.8
	0.6nm,0.5s,baz=122,slow=6.3,SNR=5.1						
GERES	**GERESS Array B**	**149.34**	**344**	PKPbc	PKPbc	08 01 52.2	+0.3
	0.1nm,0.3s,baz=41,slow=4.3,SNR=4.1						

*CSEM **18** 08:07:22.7±0.6,7510N×917E,h10km,ML2.5,Error ellipse: s-maj=20.4km s-min=7.7km az=94.0*
*ISCJB **18** 08:07:24.8±3.0,7498N±005×109E±05,h4km±21km, mb3.5/5,Error ellipse: s-maj=21.0km s-min=7.7km az=5.7*
*BER **18** 08:07:26.1±4.0,7492N×940E,h15km±34km,MD2.4,ML2.5, ML2.1(NAO)*
*NAO **18** 08:07:26.5±4.3,7503N×1029E,h13km±29km,ML2.1*
*IDC **18** 08:07:27.1±1.4,7506N×1126E,h0km,mb3.6/4,mb1 3.7/7, mb1mx3.5/20,mbtmp3.6/7,ML3.1/3,Error ellipse: s-maj=36.7km s-min=15.3km az=61.0*
*NEIC **18** 08:07:27.3±0.8,7500N×1096E,h10km,Error ellipse: s-maj=21.9km s-min=7.6km az=85.0*
ISC 18 08:07:26.1±3.5,7500N±005×108E±05,h4km±25km,n18, σ0º98/26,mb3.5/5,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**2.33**	**28**	*eP*	**Pn**	**08 08 04.5**	**-0.6**
HSP				*e*S	**Sn**	**08 08 33.2**	**-0.9**
HSP	**Hornsund**	**2.33**	**28**	P	**Pn**	**08 08 04.5**	**-0.6**
	SNR=55						
HSP				S	**Sn**	**08 08 33.2**	**-1.0**
	SNR=55						
SPA0	**Spitsbergen Ar**	**3.45**	**19**	Pn	**Pn**	**08 08 20.2**	**-0.3**
	baz=208,slow=18						
SPA0				Pg	**Pg**	**08 08 27.2**	**-5.0**
	baz=208,slow=18						
SPA0				Sn	**Sn**	**08 09 01.9**	**0.0**
	baz=207,slow=22						
SPA0	**Spitsbergen Ar**	**3.45**	**19**	Pg	**Pg**	**08 08 27.2**	**-5.0**
	SNR=90						
HOPEN	**Hopen**	**3.83**	**60**	*eP*	**Pn**	**08 08 27.5**	**+1.8**
HOPEN				*e*S	**Sn**	**08 09 15.7**	**+4.6**
HOPEN				AML	AML	08 09 21.8	
	comp=N,23nm,0.6s						
KBS	**Kingsbay**	**3.96**	**3**	*e*Pn	**Pn**	**08 08 27.8**	**+0.3**
ARA0	**ARCESS Array S**	**7.07**	**133**	Pn	**Pn**	**08 09 10.5**	**+0.3**
	baz=331,slow=11						
ARA0				Sn	**Sn**	**08 10 26.4**	**-4.6**
	baz=341,slow=22						
ARCES	**ARCESS Array B**	**7.07**	**133**	Pn	**Pn**	**08 09 10.6**	**+0.4**
	comp=N,0.8nm,0.3s,baz=328,slow=11,SNR=13						
ARCES				Sn	**Sn**	**08 10 26.1**	**-4.9**
	comp=N,0.2nm,0.3s,baz=325,slow=20,SNR=2.9						
ARCES	**ARCESS Array B**	**7.07**	**133**	Pn	**Pn**	**08 09 10.6**	**+0.3**
ARCES				Sn	**Sn**	**08 10 26.1**	**-4.9**
NB2	**NORSAR Subarra**	**14.03**	**179**	P	**Pn**	**08 10 44.7**	**-0.8**
FINES	**FINESS Array B**	**14.66**	**150**	Pn	**Pn**	**08 10 52.2**	**-1.9**
	comp=N,0.1nm,0.3s,baz=320,slow=13,SNR=2.4						
HFS	**Hagfors**	**14.97**	**174**	P	**Pn**	**08 10 58.3**	**-0.1**
	baz=338,slow=12						
HFS	**Hagfors**	**14.97**	**174**	Pn	**Pn**	**08 10 58.1**	**-0.3**
	comp=N,0.2nm,0.3s,baz=11,slow=10,SNR=5.5						
AKASG	**Malin Array Be**	**25.54**	**152**	P	**P**	**08 12 56.3**	**+0.5**
	comp=N,1.1nm,0.5s,mb3.6,baz=346,slow=9.5,SNR=7.8						
BRTR	**Keskin Array B**	**36.90**	**150**	P	**P**	**08 14 37.9**	**+2.2**
	comp=N,0.3nm,0.5s,mb3.4,baz=332,slow=4.8,SNR=3.6						
ILAR	**Eielson Array**	**39.73**	**345**	P	**P**	**08 14 59.9**	**+0.3**
	comp=N,1.0nm,0.9s,mb3.6,baz=1.2,slow=7.2,SNR=11						
MKAR	**Makanchi Array**	**40.69**	**92**	P	**P**	**08 15 07.3**	**-0.2**
	comp=N,0.3nm,0.7s,mb3.0,baz=353,slow=7.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**62.05**	**190**	P	**P**	**08 17 40.3**	**-7.3**
	comp=N,0.8nm,1.0s,mb3.8,baz=355,slow=5.4,SNR=3.6						

*ISCJB **18** 09:11:18.0±1.4,258S±01×1776W±02,h148km±21km, mb3.9/6,Error ellipse: s-maj=34.8km s-min=14.2km az=41.5*
*NEIC **18** 09:11:18.9±1.5,2576S×17757W,h142km±22km,mb4.2/2, Error ellipse: s-maj=31.5km s-min=14.1km az=110.0*
*IDC **18** 09:11:18.2±2.7,2576S×17770W,h131km±25km,mb3.6/4, mb1 4.0/7,mb1mx3.8/16,mbtmp4.3/7,Error ellipse: s-maj=35.8km s-min=23.2km az=93.0*

ISC 18 09:11:19.0±1.3, 258S±01×1775W±02, h143km±20km, n23, σ0°89/18, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.45**	**186**	P	**Pn**	**09 12 12.7**	**+0.8**
	83nm,0.3s,baz=278,slow=21,SNR=3.4						
RAO				S	**Sn**	**09 12 52.0**	**-0.8**
	234nm,0.3s,baz=65,slow=20,SNR=5.5						
RAO	**Raoul Island**	**3.45**	**186**	Pn	**Pn**	**09 12 12.1**	**+0.2**
RAO				S	**Sn**	**09 12 52.0**	**-0.8**
RAO				*e*Sn	**Sn**	**09 12 52.5**	**-0.3**
PUZ	**Puketiti**	**12.74**	**195**	SN	Sx	09 16 14.9	
AFI	**Afiamalu**	**13.01**	**26**	P	**Pn**	**09 14 18.1**	**-0.3**
	1.9nm,0.3s,baz=110,slow=21,SNR=4.1						
AFI				S	**Sn**	**09 16 29.5**	**-13**
	1.2nm,0.3s,baz=192,slow=22,SNR=2.7						
AFI	**Afiamalu**	**13.01**	**26**	*e*Pn	**Pn**	**09 14 18.3**	**-0.2**
AFI				S	**Sn**	**09 16 29.5**	**-13**
MWZ	**Matawai**	**13.18**	**197**	SN	Sx	09 16 26.6	
URZ	**Urewera**	**13.22**	**199**	P	**Pn**	**09 14 22.0**	**+0.8**
	3.8nm,0.3s,baz=321,slow=0.2,SNR=20						
URZ				S	**Sn**	**09 16 33.4**	**-14**
	2.7nm,0.3s,baz=121,slow=22,SNR=14						
PXZ	**Pawanui**	**14.95**	**197**	SN	Sx	09 17 06.6	
TSZ	**Takapari Road**	**15.22**	**199**	SN	Sx	09 17 13.3	
BFZ	**Birch Farm**	**15.72**	**198**	SN	Sx	09 17 23.6	
MRZ	**Mangatainoka R**	**15.89**	**199**	SN	Sx	09 17 26.5	
TCW	**Tory Channel**	**16.81**	**202**	SN	Sx	09 17 47.4	
QRZ	**Quartz Range**	**17.11**	**206**	SN	Sx	09 17 59.8	
NNZ	**Nelson**	**17.12**	**204**	SN	Sx	09 17 56.1	
KHZ	**Kahutara**	**18.13**	**202**	SN	Sx	09 18 17.9	
DSZ	**Dennis ton Nort**	**18.18**	**206**	SN	Sx	09 18 20.2	
CTAO	**Charters Tower**	**33.76**	**272**	*e*P	**P**	**09 17 49.4**	**+2.5**
	2.5nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**36.16**	**251**	P	**P**	**09 18 05.8**	**-1.7**
	0.5nm,0.4s,mb3.5,baz=113,slow=7.7,SNR=3.2						
ASAR	**Alice Springs**	**43.97**	**262**	P	**P**	**09 19 11.5**	**-0.3**
	1.9nm,0.8s,mb3.8,baz=93,slow=7.2,SNR=16						
WB2	**Warramunga Arr**	**44.53**	**267**	*e*P	**P**	**09 19 16.1**	**-0.2**
WRAB	**Tennant Creek**	**44.53**	**267**	*e*P	**P**	**09 19 16.2**	**-0.1**
	4.9nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**44.54**	**267**	P	**P**	**09 19 16.3**	**-0.1**
	1.7nm,0.3s,mb4.1,baz=104,slow=7.9,SNR=4.6						
VNDA	**Vanda**	**52.69**	**186**	P	**P**	**09 20 18.9**	**+0.2**
	1.3nm,0.7s,mb3.8,baz=58,slow=7.5,SNR=3.4						

*ISCJB **18** 09:22:35.9±0.8, 2005S±007×668W±0.1, h243km±12km, mb4.0/3, Error ellipse: s-maj=18.5km s-min=11.2km az=7.7*
*IDC **18** 09:22:36.6±1.7, 1998S×6680W, h234km±14km, mb3.8/3, mb1 3.8/6, mb1mx3.4/18, mbtmp4.4/6, Error ellipse: s-maj=24.7km s-min=18.5km az=45.0*
*NEIC **18** 09:22:37.2±0.9, 1996S×6684W, h238km±15km, mb4.0/2, Error ellipse: s-maj=16.8km s-min=12.9km az=104.0*

ISC 18 09:22:37.5±0.8, 1996S±008×669W±01, h241km±13km, n13, σ0°88/16, mb4.0/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.85**	**341**	P	**Pn**	**09 23 40.2**	**+1.1**
	2.5nm,0.3s,baz=148,slow=8.2,SNR=63						
LPAZ				S	**S**	**09 24 27.8**	**-0.1**
	1.2nm,0.3s,baz=36,slow=17,SNR=13						
LPAZ	**La Paz**	**3.85**	**341**	P	**Pn**	**09 23 40.2**	**+1.1**
LPAZ				S	**S**	**09 24 27.8**	**-0.1**
ARE	**Arequipa**	**5.62**	**308**	*e*P	**Pn**	**09 24 00.0**	**-0.6**
ARE				*e*S	**S**	**09 25 02.0**	**-4.9**
SIV	**San Ignacio**	**6.77**	**55**	P	**Pn**	**09 24 14.7**	**-0.5**
	11nm,0.3s,baz=248,slow=11,SNR=241						
CFAA	**Coronel Fontan**	**11.66**	**186**	P	**Pn**	**09 25 15.7**	**-1.4**
	0.1nm,0.3s,baz=321,slow=11,SNR=8.9						
CFAA				S	**S**	**09 27 18.1**	**-9.1**
	0.1nm,0.3s,baz=5.5,slow=19,SNR=5.9						
BDFB	**Brasilia**	**18.44**	**80**	P	**P**	**09 26 36.3**	**+1.0**
	1.9nm,0.3s,baz=265,slow=6.8,SNR=12						
TRQA	**Tornquist**	**18.52**	**168**	*e*P	**P**	**09 26 36.7**	**+0.5**
	5.5nm,1.1s						
PLCA	**Paso Flores**	**20.94**	**188**	*e*P	**P**	**09 27 03.3**	**+1.3**
	10.0nm,1.6s						
DBIC	**Dimbokro**	**66.45**	**73**	P	**P**	**09 32 59.7**	**-1.3**
	1.2nm,0.4s,mb3.9,baz=263,slow=12,SNR=4.1						
TORD	**Torodi Ar. Bea**	**75.03**	**70**	P	**P**	**09 33 52.2**	**-0.3**
	6.4nm,0.4s,mb4.6,baz=254,slow=5.5,SNR=160						
YKA	**Yellowknife Ar**	**90.40**	**340**	P	**P**	**09 35 11.7**	**+0.3**
	0.4nm,0.4s,mb3.6,baz=130,slow=4.7,SNR=20						
YKA	**Yellowknife Ar**	**90.40**	**340**	P	**P**	**09 35 11.7**	**+0.3**
SONM	**Songino Array**	**151.66**	**10**	PKPbc	PKPbc	09 42 04.1	+0.9
	0.6nm,0.5s,baz=271,slow=1.5,SNR=7.1						

IDC 18 09:28:05.5±3.1, 3137S×17881W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.9/9, Error ellipse: s-maj=68.7km s-min=36.3km az=105.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.65**	**205**	Pn	Pn	09 29 58.3	0.0
	0.6nm,0.3s,baz=281,slow=5.2,SNR=4.2						
URZ				Sn	Sn	09 31 24.7	-0.9
	0.6nm,0.3s,baz=171,slow=22,SNR=8.2						
RPZ	**Rata Peaks**	**14.70**	**210**	LR	LR	09 36 11.8	
	comp=Z,94nm,20.6s,baz=329,slow=33						
ASAR	**Alice Springs**	**42.38**	**268**	P	P	09 36 02.0	+0.5
	0.3nm,0.4s,baz=106,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**43.45**	**274**	P	P	09 36 10.4	+0.1
	0.7nm,0.3s,baz=112,slow=8.0,SNR=4.2						
FINES	**FINESS Array B**	**145.81**	**339**	PKPbc	PKPbc	09 47 44.9	-1.7
	0.5nm,0.5s,baz=40,slow=3.2,SNR=4.3						

WEL 18 10:03:08.2±0.1, 4217S×17202E, h5km, ML3.6/14, 2C-1D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.46**	**339**	⇑PG	Pg	10 03 17.3	+0.2
DSZ				SG	Sg	10 03 22.8	-0.1
DSZ				SG	Sg	10 03 23.4	+0.5
LTZ	**Lake Taylor**	**0.64**	**163**	⇑P*	Pb	10 03 20.9	-0.9
LTZ				SG	Sg	10 03 29.3	+0.6
THZ	**Tophouse**	**0.77**	**58**	P*	Pb	10 03 22.4	-1.8
KHZ	**Kahutara**	**1.15**	**103**	⇓P*	Pb	10 03 30.7	0.0
WVZ	**Waitaha Valley**	**1.31**	**226**	P*	Pb	10 03 31.8	-1.6
NNZ	**Nelson**	**1.39**	**47**	PN	Pn	10 03 33.1	-1.2
QRZ	**Quartz Range**	**1.40**	**16**	PN	Pn	10 03 33.3	-1.1
BSWZ	**Blackbirch Sta**	**1.46**	**72**	PN	Pn	10 03 35.1	-0.1
CRLZ	**Canterbury Las**	**1.47**	**163**	PN	Pn	10 03 34.4	-1.0
MQZ	**McQueen's Vall**	**1.60**	**163**	PN	Pn	10 03 35.9	-1.4
TUWZ	**Tuamarina**	**1.61**	**63**	PN	Pn	10 03 37.2	-0.1
RPZ	**Rata Peaks**	**1.70**	**204**	PN	Pn	10 03 37.8	-0.7
TCW	**Tory Channel**	**1.94**	**61**	PN	Pn	10 03 41.9	0.0
DUWZ	**D'Urville Isla**	**1.98**	**47**	PN	Pn	10 03 42.7	+0.3
FOZ	**Fox Glacier**	**2.21**	**230**	PN	Pn	10 03 42.8	-2.7
MRW	**Makara Radio**	**2.21**	**66**	*e*PN	Pn	10 03 45.8	+0.2
BHW	**Baring Head**	**2.26**	**71**	PN	Pn	10 03 46.2	-0.1
CAW	**Cannon Point**	**2.52**	**66**	PN	Pn	10 03 49.2	-0.6
MSWZ	**Moikau Station**	**2.53**	**74**	PN	Pn	10 03 48.9	-1.0
KIW	**Kapiti Island**	**2.53**	**60**	PN	Pn	10 03 50.6	+0.6
LBZ	**Lake Benmore**	**2.59**	**211**	PN	Pn	10 03 49.6	-1.2
MTW	**Mount Morrison**	**2.80**	**70**	*e*PN	Pn	10 03 52.3	-1.4
ODZ	**Otahua Downs**	**3.04**	**199**	*e*PN	Pn	10 03 55.3	-1.7
MRZ	**Mangatainoka R**	**3.07**	**62**	*e*PN	Pn	10 03 56.4	-1.0
PKE	**Pukeiti**	**3.33**	**27**	PN	Pn	10 04 01.4	+0.5
WCZ	**Waipu Caves**	**6.48**	**17**	PN	Pn	10 04 43.5	-0.7

*CSEM **18** 10:13:23.2±0.7, 3875N×2896W, h6km±3km, ML1.5, Error ellipse: s-maj=7.0km s-min=3.7km az=74.0, After PDA*
*PDA **18** 10:13:23.2±0.7, 3875N×2896W, h6km±3km, MD3.0, ML1.5, Error ellipse: s-maj=7.0km s-min=3.7km az=74.0*

SVSA 18 10:13:23.2±0.7, 3875N×2896W, h6km±3km, MD3.0, ML1.5, Error ellipse: s-maj=7.0km s-min=3.7km az=74.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.21**	**142**	*e*S	Sg	10 13 30.3	+0.2
PTCA							
	23nm,0.2s						
PCED	**Cedros**	**0.24**	**120**	*e*S	Sg	10 13 30.7	-0.3
PCED							
	69nm,0.3s						
CALA	**Caldeira**	**0.26**	**129**	*e*P	Pg	10 13 28.2	-0.2
CALA				*e*S	Sg	10 13 31.7	-0.2
HOR	**Horta**	**0.34**	**130**	*e*S	Sg	10 13 33.7	-0.6
PCND	**Candelaria**	**0.48**	**125**	*e*S	Sg	10 13 39.7	+0.9
PCND							
	13nm,0.2s						
PICO	**Pico**	**0.49**	**120**	*i* P	Pg	10 13 31.6	-1.0
PICO				*e*S	Sg	10 13 38.0	-1.0
PICO	**Pico**	**0.49**	**120**	*e*S	Sg	10 13 38.0	-1.0
ROSA	**Rosais**	**0.56**	**93**	*i* P	Pg	10 13 32.6	-1.5
ROSA				*e*S	Sg	10 13 40.0	-1.4
ROSA	**Rosais**	**0.56**	**93**	*e*S	Sg	10 13 40.0	-1.4

MEX 18 10:22:25.1±0.8, 1751N×10119W, h20km±20km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.28**	**290**	*i* P	Pb	10 22 29.9	-1.5
ZIIG				*i* S	Sb	10 22 35.1	-0.6
CAIG	**El Cayaco**	**1.00**	**117**	*i* P	Pb	10 22 40.8	-2.9
CAIG				*i* S	Sb	10 22 52.6	-3.8
ACX	**Acapulco**	**1.38**	**118**	*i* P	Pn	10 22 51.0	+1.8
ACX				*i* S	Sn	10 23 08.0	+1.2
MEIG	**Mezcala**	**1.55**	**74**	*e*P	Pn	10 22 49.6	-2.0
MEIG				*i* S	Sn	10 23 07.2	-4.0
MOIG	**Morelia**	**2.15**	**0**	*i* P	Pn	10 22 58.1	-1.8
MOIG				*i* S	Sn	10 23 22.0	-4.0

*NIED **18** 10:38:00, 4660N×15290E, h8km, Mw3.8 Best double couple: M0:5.64000×10^14 NP1:φ=237.00000°, δ=76.00000°, λ=22.00000°. NP2:φ=141.00000°, δ=68.00000°, λ=165.00000°.*
*ISCJB **18** 10:38:54.3±0.8, 457N±0.1×15322E±0.10, h33km, mb3.5/4, Error ellipse: s-maj=19.3km s-min=6.8km az=132.7*
*JMA **18** 10:38:55.1±0.6, 4658N×15293E, h30km, M4.7*
*MOS **18** 10:38:57.0±1.6, 4609N×15297E, h84km, mb3.8/1, Error ellipse: s-maj=33.4km s-min=17.0km az=145.2*
*SKHL **18** 10:38:58.5±1.8, 4570N×15300E, h57km±23km, mb5.5/2*
*IDC **18** 10:38:59.1±3.8, 4612N×15292E, h79km±53km, mb3.2/4, mb1 3.6/7, mb1mx3.3/24, mbtmp3.9/7, ML3.8/3, Error ellipse: s-maj=100.3km s-min=27.3km az=161.0*

ISC 18 10:38:56.5±0.7, 458N±01×1532E±01, h35km, n41, σ1°50/54, mb3.5/4, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.79**	**263**	*e*P	**Pn**	**10 39 52.0**	**-0.4**
KUR				AMB	AMB	10 39 53.4	
	140nm,0.9s						
KUR				AMB	AMB	10 39 53.4	
	430nm,0.9s						
KUR				*e*S	**Sn**	**10 40 33.5**	**-2.1**
KUR				A		10 40 45.0	
	750nm,0.8s						
KUR				A		10 40 45.0	
	380nm,0.8s						
KUR	**Kuril'sk**	**3.79**	**263**	*e*PN	**Pn**	**10 39 52.0**	**-0.4**
KUR				*e*S	**Sn**	**10 40 33.5**	**-2.1**
KUR				pmax	pmax		
	comp=N,140nm,0.9s						
KUR				pmax	pmax		
	comp=Z,430nm,0.9s						
KUR				smax			
	comp=N,750nm,0.8s						
KUR				smax			
	comp=E,380nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**253**	*i* P	**Pn**	**10 40 17.5**	**+1.5**
YUK				AMB	AMB	10 40 17.7	
	comp=E,420nm,0.2s						
YUK				*e*S	**Sn**	**10 41 21.1**	**+3.1**
YUK				A		10 41 31.5	
	comp=E,350nm,0.5s						
YUK				A		10 41 31.5	
	comp=E,210nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**253**	⇑*i*PN	**Pn**	**10 40 17.5**	**+1.5**
YUK				*i* S	**Sn**	**10 41 21.1**	**+3.1**
YUK				pmax	pmax		
	comp=Z,420nm,0.3s						
YUK				smax			
	comp=N,350nm,0.4s						
YUK				smax			
	comp=E,210nm,0.6s						
NEM2	**Nemuro 2**	**5.86**	**248**	P	**Pn**	**10 40 21.1**	**+0.2**
NEM2				*e*S	**Sn**	**10 41 25.2**	**-1.6**
JRA	**Rausu**	**6.04**	**254**	P	**Pn**	**10 40 25.5**	**+2.2**
JNK	**Nakash**	**6.44**	**253**	P	**Pn**	**10 40 30.3**	**+1.5**
JNK				*e*S	**Sn**	**10 41 41.1**	**+0.1**
JAK	**Akkeshi**	**6.71**	**248**	P	**Pn**	**10 40 32.7**	**+0.2**
JAK				*e*S	**Sn**	**10 41 45.9**	**-1.8**
JTKR	**Abashiri--Toko**	**6.85**	**257**	P	**Pn**	**10 40 36.2**	**+1.8**
JAR	**Ashorobuto**	**7.19**	**253**	P	**Pn**	**10 40 40.8**	**+1.7**
JAR				*e*S	**Sn**	**10 41 58.7**	**-0.8**
JMP	**Maruseppu**	**7.21**	**259**	P	**Pn**	**10 40 41.2**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.30**	**283**	*e*P	**Pn**	**10 40 42.4**	**+1.8**
JOB	**Onbets**	**7.31**	**250**	P	**Pn**	**10 40 41.7**	**+0.9**
JOB				*e*S	**Sn**	**10 42 00.7**	**-1.9**
JKK2	**Kamakawa 2**	**7.67**	**259**	P	**Pn**	**10 40 47.7**	**+2.0**
ASAJ	**Asahikawa**	**7.70**	**261**	P	**Pn**	**10 40 48.4**	**+2.2**
	comp=E,2.8nm,0.3s,baz=92,slow=17,SNR=27						
ASAJ	**Asahikawa**	**7.70**	**261**	P	**Pn**	**10 40 48.3**	**+2.1**
ASAJ	**Asahikawa**	**7.70**	**261**	PN	**Pn**	**10 40 48.4**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JCH	**Churui**	**7.76**	**249**	P	**Pn**	**10 40 47.4**	**+0.5**
JCH				*e*S	**Sn**	**10 42 10.5**	**-3.0**
JFR	**Furan**	**8.03**	**254**	P	**Pn**	**10 40 52.2**	**+1.6**
JEM	**Erimo**	**8.18**	**246**	P	**Pn**	**10 40 54.6**	**+1.8**
JNBK	**Urakawa-nobuka**	**8.31**	**248**	P	**Pn**	**10 40 54.5**	**0.0**
JNBK				*e*S	**Sn**	**10 42 22.7**	**-4.4**
JBT2	**Biratori 2**	**8.34**	**252**	P	**Pn**	**10 40 55.5**	**+0.6**
JNB	**Noboribetsu**	**9.36**	**253**	*e*S	**Sn**	**10 42 49.5**	**-3.3**
JKB	**Kayabe**	**9.62**	**250**	P	**Pn**	**10 41 12.1**	**-0.4**
JKB				*e*S	**Sn**	**10 42 53.4**	**-5.9**
JYM2	**Yakumo 2**	**9.96**	**253**	P	**Pn**	**10 41 16.9**	**-0.2**
JANG	**Nango**	**10.13**	**241**	P	**Pn**	**10 41 17.9**	**-1.5**
JANG				*e*S	Sx	10 43 03.9	
JTM	**Tenmabayashi**	**10.17**	**245**	P	**Pn**	**10 41 19.8**	**-0.2**
JTM				*e*S	Sx	10 43 05.7	
JTH	**Tanohata**	**10.18**	**239**	*e*S	**Sn**	**10 43 05.6**	**-7.5**
OFUJ	**Ofunato**	**10.86**	**236**	P	**Pn**	**10 41 29.0**	**-0.4**
OFUJ				*e*S	Sx	10 43 23.8	
JRG	**Rokugo**	**11.26**	**240**	P	**Pn**	**10 41 34.6**	**-0.3**
JRG				*e*S	Sx	10 43 34.2	
JIO	**Ouri**	**11.46**	**234**	P	**Pn**	**10 41 37.3**	**-0.4**
JIO				*e*S	Sx	10 43 37.7	
MAT	**Matsushiro**	**14.59**	**236**	P	**Pn**	**10 42 26.2**	**+5.9**
MJAR	**Matsushiro Arr**	**14.59**	**236**	P	**Pn**	**10 42 19.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=5.0						
FX1	**Attu Island--F**	**14.77**	**54**	P	**Pn**	**10 42 21.6**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=267,slow=21,SNR=5.8						
FX1				S	**Sn**	**10 44 50.8**	**-14**
	comp=Z,0.6nm,0.3s,baz=244,slow=20,SNR=3.5						
MKAR	**Makanchi Array**	**47.41**	**298**	P	**P**	**10 47 22.0**	**-5.4**
	comp=Z,0.2nm,0.5s,mb3.3,baz=70,slow=5.9,SNR=6.0						
YKA	**Yellowknife Ar**	**51.63**	**36**	P	**P**	**10 47 56.3**	**-3.2**
	comp=Z,0.1nm,0.3s,mb3.2,baz=298,slow=7.0,SNR=4.3						
YKA	**Yellowknife Ar**	**51.63**	**36**	P	**P**	**10 47 56.3**	**-3.2**
FINES	**FINESS Array B**	**64.89**	**335**	P	**P**	**10 49 25.5**	**-6.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=57,slow=7.0,SNR=4.5						
FINES	**FINESS Array B**	**64.89**	**335**	P	**P**	**10 49 25.5**	**-6.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**69.33**	**340**	P	**P**	**10 49 57.3**	**-3.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=40,slow=11,SNR=4.1						
HFS	**Hagfors**	**69.33**	**340**	P	**P**	**10 49 57.3**	**-3.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **18** 10:50:59.9, 3718S×17652E, h294km, MG3.8(WEL), After WEL.*

WEL 18 10:50:59.0±0.4, 3722S×17657E, h305km±5km, ML3.8/9, Error ellipse: s-maj=9.6km s-min=7.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.12**	**158**	PN	Pn	10 51 40.6	+0.1
URZ				SN	S	10 52 12.1	-1.4
URZ	**Urewera**	**1.12**	**158**	P	Pn	10 51 40.6	+0.1
MWZ	**Matawai**	**1.34**	**146**	PN	Pn	10 51 41.9	+0.2
MWZ				SN	S	10 52 15.8	+0.1
MWZ	**Matawai**	**1.34**	**146**	P	Pn	10 51 42.1	+0.4
MXZ	**Matakaoa Point**	**1.42**	**104**	PN	Pn	10 51 42.3	+0.2
MXZ	**Matakaoa Point**	**1.42**	**104**	P	Pn	10 51 42.4	+0.2
PUZ	**Puketiti**	**1.58**	**123**	PN	Pn	10 51 43.0	-0.1
PUZ				SN	S	10 52 17.4	-1.0
PUZ	**Puketiti**	**1.58**	**123**	*e*P	Pn	10 51 43.2	0.0
BKZ	**Black Stump Fm**	**1.94**	**182**	PN	Pn	10 51 45.9	+0.2
BKZ				SN	S	10 52 21.9	-1.1
BKZ	**Black Stump Fm**	**1.94**	**182**	P	Pn	10 51 46.0	+0.3
KNZ	**Kokohu**	**2.00**	**154**	PN	Pn	10 51 46.3	+0.2
KNZ	**Kokohu**	**2.00**	**154**	*e*P	Pn	10 51 46.5	+0.4
TUVZ	**Tukino**	**2.17**	**199**	PN	Pn	10 51 48.2	+0.7
WNVZ	**Wahianoa**	**2.24**	**200**	PN	Pn	10 51 48.7	+0.6
WNVZ	**Wahianoa**	**2.24**	**200**	P	Pn	10 51 48.9	+0.8
PXZ	**Pawanui**	**2.81**	**175**	PN	Pn	10 51 53.0	-0.3
PXZ				SN	S	10 52 36.3	-0.4
MRZ	**Mangatainoka R**	**3.52**	**192**	PN	Pn	10 51 59.4	-1.0
MRZ				SN	S	10 52 47.3	-2.1
KIW	**Kapiti Island**	**3.86**	**199**	PN	Pn	10 52 03.0	-0.9
KIW				SN	S	10 52 53.3	-2.6
KIW	**Kapiti Island**	**3.86**	**199**	P	Pn	10 52 03.3	-0.6
CAW	**Cannon Point**	**4.05**	**196**	*e*PN	Pn	10 52 05.0	-1.0
CAW	**Cannon Point**	**4.05**	**196**	P	Pn	10 52 05.3	-0.7
TCW	**Tory Channel**	**4.37**	**203**	*e*PN	Pn	10 52 08.5	-0.9
TCW	**Tory Channel**	**4.37**	**203**	P	Pn	10 52 08.8	-0.7
NNZ	**Nelson**	**4.70**	**211**	*e*PN	Pn	10 52 11.7	-1.5
NNZ				SN	S	10 53 09.7	-3.1
QRZ	**Quartz Range**	**4.78**	**220**	*e*P	Pn	10 52 12.3	-1.9
THZ	**Tophouse**	**5.35**	**211**	*e*PN	Pn	10 52 19.6	-1.1
MQZ	**McQueen's Vall**	**7.13**	**204**	SN	S	10 53 59.4	-6.0

*IDC **18** 10:56:36.9±1.0, 675N×9259E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/23, mbtmp4.1/10, ML4.0/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/28, Error ellipse: s-maj=53.1km s-min=14.7km az=53.0*
*NEIC **18** 10:56:39.4±4.9, 686N×9278E, h13km±31km, mb4.3/4, Error ellipse: s-maj=25.8km s-min=6.8km az=46.0*
*BJI **18** 10:56:39.4, 641N×9270E, h44km, mB4.4, mb4.4, Ms4.2, Msz3.8*
*ISCJB **18** 10:56:40.1±0.6, 670N±009×927E±0.1, h33km, mb4.3/18, MS3.7/4, Error ellipse: s-maj=19.6km s-min=6.6km az=100.2*

ISC 18 10:56:42.5±0.6, 672N±009×9262E±010, h35km, n35, σ0°82/33, mb4.3/18, MS3.7/4, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.39**	**122**	Pn	**Pn**	**10 58 26.8**	**-1.0**
	2.1nm,0.3s,baz=303,slow=15,SNR=6.0						
HYB	**Hyderabad**	**17.37**	**309**	*i* P	**Pn**	**11 00 43.0**	**+0.9**
HYB				*e*		11 03 52.5	
HYB				*e*S	**S**	**11 04 01.5**	**-0.4**
HYB	**Hyderabad**	**17.37**	**309**	*e*P	**Pn**	**11 00 43.0**	**+0.9**
HYB				*e*S	**S**	**11 04 01.5**	**-0.4**
KSM	**Kuching**	**18.39**	**106**	*e*P	**Pn**	**11 00 52.2**	**-2.4**
KMI	**Kunming**	**20.70**	**27**	P	**P**	**11 01 21.0**	**+1.4**
KMI				AP		11 01 33.8	
KMI				XP	sP	11 01 41.5	+8.3
KMI				AMB	AMB		
	comp=Z,13nm,1.2s						
KMI				LR	LR		
	comp=N,269nm,14.2s,MS3.9						
KMI				LR	LR		
	comp=E,224nm,11.8s,MS3.9						
KMI				LR	LR		
	comp=Z,249nm,13.6s,MS3.8						
JIRN	**Jiri**	**21.70**	**344**	*e*P	**P**	**11 01 30.9**	**+0.6**
PKI	**Pulchoki**	**21.84**	**343**	*e*P	**P**	**11 01 32.1**	**+0.3**
DMN	**Daman**	**21.96**	**342**	*e*P	**P**	**11 01 33.2**	**+0.1**
GUN	**Gumba**	**22.02**	**344**	*e*P	**P**	**11 01 34.3**	**+0.5**
	comp=Z,30nm,0.7s,mb4.8						
KKN	**Kakani**	**22.08**	**342**	*e*P	**P**	**11 01 34.8**	**+0.4**
GKN	**Gorkha**	**22.48**	**341**	*e*P	**P**	**11 01 38.9**	**+0.3**
	comp=Z,57nm,1.0s,mb4.9						
KOLN	**Koldanda**	**22.61**	**339**	*e*P	**P**	**11 01 40.5**	**+0.4**
	comp=Z,90nm,1.7s,mb4.9						
GYA	**Guiyang**	**23.75**	**33**	⇑*i*P	**P**	**11 01 51.6**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
CD2	**Chengdu**	**26.23**	**22**	P	**P**	**11 02 13.8**	**-0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.87**	**128**	P	**P**	**11 04 19.9**	**-1.0**
	comp=Z,1.8nm,0.8s,mb3.8,baz=292,slow=7.7,SNR=5.1						
MKAR	**Makanchi Array**	**40.90**	**349**	P	**P**	**11 04 20.7**	**-0.5**
	comp=Z,1.4nm,0.6s,mb3.8,baz=164,slow=8.9,SNR=16						
SONM	**Songino Array**	**42.62**	**14**	P	**P**	**11 04 35.4**	**+0.2**
	comp=Z,2.2nm,0.9s,mb3.9,baz=199,slow=8.0,SNR=15						
SONM				LR	LR

h89km$_\nu$2.3km**:pP-P,n272,**σ**1**$**09/262,mb5.0/112,24C-17D,**
Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.49**	**344**	‖ *e*P		**Pn**		**11 15 32.2**	**+2.0**
DAV	**Davao City (W)**	**2.49**	**344**	*e*Pn		**Pn**		**11 15 31.0**	**+0.8**
DAV				*e*Sn		**Sn**		**11 16 00.1**	**+0.3**
CGP	**Cagayan de Oro**	**4.08**	**337**	‖ *i*P		**Pn**		**11 15 54.5**	**+2.8**
CGP				*i* S		**Sn**		**11 16 53.2**	**+15**
DCPH	**Dipolog City**	**4.86**	**323**	‖ *e*P		**Pn**		**11 16 04.1**	**+1.8**
SCPH	**Surigao**	**5.14**	**351**	*e*P		**Pn**		**11 16 10.5**	**+4.4**
SCPH				*e*S		**Sn**		**11 17 09.8**	**+5.6**
TBP	**Tagbilaran**	**5.54**	**335**	*e*P		**Pn**		**11 16 12.7**	**+1.2**
TBP				*e*S		Sn		11 17 40.8	+27
SNPH	**Sibulan**	**5.54**	**327**	*i* P		**Pn**		**11 16 14.0**	**+2.5**
LLP	**Lapu-Lapu**	**6.06**	**338**	*e*P		**Pn**		**11 16 20.8**	**+2.1**
LLP				*e*S		**Sn**		**11 17 25.2**	**-1.4**
GUIM	**Jordan**	**6.96**	**329**	*e*P		**Pn**		**11 16 33.4**	**+2.5**
SWI	**Sorong**	**7.41**	**138**	P		**Pn**		**11 16 35.7**	**-1.3**
	655nm,0.7s								
RCP	**Roxas**	**7.69**	**333**	‖ *e*P		**Pn**		**11 16 43.9**	**+3.1**
KKM	**Kota Kinabalu**	**10.11**	**278**	Pn		**Pn**		**11 17 15.0**	**+1.2**
KSM	**Kuching**	**16.26**	**259**	*e*Pn		**Pn**		**11 18 36.7**	**+2.1**
KAKA	**Kakadu**	**18.32**	**161**	*e*P		**Pn**		**11 18 59.4**	**-0.3**
	32nm,0.6s								
NACB	**Ninganchiao**	**19.91**	**347**	P		**Pn**		**11 19 18.0**	**-0.5**
GUMO	**Guam**	**20.37**	**63**	P		**P**		**11 19 21.6**	**+0.6**
	28nm,0.7s,baz=168,slow=20,SNR=2.5								
GUMO				LR		LR		11 26 40.7	
	comp=Z,108nm,18.3s,baz=233,slow=35								
GUMO	**Guam**	**20.37**	**63**	*e*P		**P**		**11 19 22.7**	**+1.7**
YHNB	**Yeheng**	**20.44**	**347**	*e*P		**P**		**11 19 20.8**	**-1.0**
QIZ	**Qiongzhong**	**21.47**	**313**	P		**P**		**11 19 32.8**	**-0.1**
QIZ				S		**S**		**11 23 17.4**	**-8.5**
QIZ				AMB		AMB			
	comp=Z,13nm,1.3s,mb4.1								
QIZ				LR		LR			
	comp=N,262nm,15.5s								
QIZ				LR		LR			
	comp=Z,243nm,17.1s								
JOW	**Kunigami**	**22.13**	**5**	P		**P**		**11 19 41.0**	**+1.2**
	comp=Z,127nm,0.8s,mb5.3,baz=191,slow=6.3,SNR=13								
JOW				LR		LR		11 27 16.1	
	comp=Z,181nm,18.1s,baz=29,slow=34								
GZH	**Guangzhou**	**22.17**	**327**	P		**P**		**11 19 41.9**	**+1.6**
GZH				S		**S**		**11 23 43.1**	**+4.2**
GZH				LR		LR			
	comp=N,164nm,14.3s								
GZH				LR		LR			
	comp=E,183nm,15.2s								
GZH				LR		LR			
	comp=Z,463nm,16.2s								
FITZ	**Fitzroy Crossi**	**22.63**	**182**	*e*P		**P**		**11 19 44.4**	**-0.7**
	comp=Z,33nm,0.4s,mb5.0								
FITZ				*e*				11 19 47.2	
FITZ				*e*S		**S**		**11 23 47.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**22.63**	**182**	P		**P**		**11 19 45.4**	**+0.3**
	comp=Z,100nm,0.8s,mb5.2,baz=13,slow=10,SNR=93								
FITZ				PcP		PcP		11 23 36.5	+1.7
	comp=Z,5.1nm,0.7s,baz=117,slow=2.3,SNR=3.8								
PMG	**Port Moresby**	**25.07**	**124**	P		**P**		**11 20 07.6**	**-0.1**
	comp=Z,12nm,0.7s,mb4.4,baz=343,slow=7.5,SNR=6.2								
PMG	**Port Moresby**	**25.07**	**124**	*e*P		**P**		**11 20 07.5**	**-0.2**
PMG				pmax		pmax			
	comp=Z,12nm,0.8s								
PMG	**Port Moresby**	**25.07**	**124**	*e*P		**P**		**11 20 07.5**	**-0.3**
	comp=Z,12nm,0.8s,mb4.4								
KULM	**Kulim**	**25.54**	**272**	*e*P		**P**		**11 20 12.7**	**+0.7**
WRAB	**Tennant Creek**	**25.70**	**162**	P		**P**		**11 20 13.0**	**-0.4**
	comp=Z,425nm,0.7s,mb6.0,SNR=32								
WRAB	**Tennant Creek**	**25.70**	**162**	*e*P		**P**		**11 20 13.8**	**+0.4**
WRAB				pmax		pmax			
	comp=Z,99nm,0.9s,mb5.2								
WRAB	**Tennant Creek**	**25.70**	**162**	*e*P		**P**		**11 20 13.8**	**+0.4**
	comp=Z,98nm,0.9s,mb5.2								
WRA	**Warramunga Arr**	**25.71**	**162**	P		**P**		**11 20 13.6**	**+0.2**
	comp=Z,59nm,0.9s,mb5.0,baz=342,slow=9.9,SNR=64								
WRA				PcP		PcP		11 23 42.5	+1.1
	comp=Z,7.0nm,0.8s,baz=327,slow=2.1,SNR=6.0								
WRA				S		**S**		**11 24 33.8**	**-1.9**
	comp=Z,6.1nm,1.2s,baz=334,slow=16,SNR=5.2								
WRA				ScP		ScP		11 27 16.1	+3.2
	comp=Z,5.4nm,0.8s,baz=341,slow=3.3,SNR=11								
WRA	**Warramunga Arr**	**25.71**	**162**	P		**P**		**11 20 13.6**	**+0.1**
WRA								11 23 42.5	
WRA				S		**S**		**11 24 33.8**	**-1.9**
WB2	**Warramunga Arr**	**25.71**	**162**	*e*P		**P**		**11 20 13.7**	**+0.2**
WB2				*e*PCP		PcP		11 23 43.2	+1.7
WB2				*e*S		**S**		**11 24 44.8**	**+9.1**
KKTK	**Khon Kaen**	**25.77**	**298**	P		**P**		**11 20 15.0**	**+0.9**
	comp=Z,926nm,0.7s								
MBWA	**Marble Bar**	**26.45**	**194**	*e*P		**P**		**11 20 20.4**	**+0.1**
	comp=Z,38nm,0.8s,mb4.9								
MBWA				*e*pP		pP		11 20 39.8	-0.4
MBWA				*e*PcP		PcP		11 23 44.7	+1.5
SSE	**Sheshan**	**26.72**	**350**	*e*P		**P**		**11 20 25.0**	**+2.4**
SSE				AP		pP		11 20 47.3	+4.6
SSE				XP		sP		11 20 57.9	+4.9
SSE				PCP		PcP		11 23 46.3	+2.5
SSE				S		**S**		**11 24 53.8**	**+2.0**
SSE				XS		sS		11 25 32.3	+5.7
SSE				AMB		AMB			
	comp=Z,36nm,0.7s,mb5.0								
SSE				AMB		AMB			
	comp=Z,112nm,6.3s								
SSE				LR		LR			
	comp=N,21nm,40.7s								
SSE				LR		LR			
	comp=E,83nm,40.9s								
SSE				LR		LR			
	comp=Z,97nm,23.9s								
CBIJ	**Chichi jima**	**26.98**	**33**	LR		LR		11 28 35.0	
	comp=Z,380nm,21.3s,baz=264,slow=31								
PSI	**Prapat**	**27.36**	**267**	P		**P**		**11 20 28.1**	**-0.2**
	comp=Z,11nm,0.7s,mb4.5,baz=71,slow=6.6,SNR=6.3								
PSI				PcP		PcP		11 23 44.7	-0.7
	comp=Z,9.3nm,0.8s,baz=307,slow=5.1,SNR=3.8								
PSI				LR		LR		11 32 42.3	
	comp=Z,384nm,20.7s,baz=244,slow=39								
PSI	**Prapat**	**27.36**	**267**	P		**P**		**11 20 28.2**	**-0.1**
PSI								11 23 44.7	
NST	**Nakhon Sawan**	**27.92**	**295**	P		**P**		**11 20 33.3**	**0.0**
	comp=Z,50nm,0.8s,mb5.1								
WHN	**Wuhan**	**28.09**	**338**	⇑P		**P**		**11 20 34.8**	**-0.1**
WHN				LR		LR			
	comp=Z,1μm,35.4s								
NJ2	**Nanjing**	**28.12**	**347**	*e*P		**P**		**11 20 36.5**	**+1.4**
NJ2				AP		pP		11 20 58.0	+2.8
NJ2				XP		sP		11 21 09.8	+4.2
NJ2				PP		PP		11 21 30.5	-10
NJ2				S		**S**		**11 25 13.0**	**-0.7**
NJ2				XS		sS		11 25 50.0	+1.4
NJ2				AMB		AMB			
	comp=Z,30nm,0.7s,mb4.9								
NJ2				AMB		AMB			
	comp=Z,140nm,4.8s								
NJ2				LR		LR			
	comp=N,2μm,23.0s								
NJ2				LR		LR			
	comp=E,340nm,14.7s								
NJ2				LR		LR			
	comp=Z,270nm,17.9s								
JNU	**Nakatsue**	**28.64**	**8**	P		**P**		**11 20 37.5**	**-2.2**
	comp=Z,7.5nm,0.8s,mb4.4,baz=268,slow=0.8,SNR=2.6								
GYA	**Guiyang**	**28.66**	**321**	P		**P**		**11 20 41.5**	**+1.6**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.4s,mb4.8								
AS31	**Alice Springs**	**29.12**	**166**	⇑ *i*P		**P**		**11 20 44.5**	**+0.5**
AS31				*e*PcP		PcP		11 23 51.6	+1.9
ASAR	**Alice Springs**	**29.12**	**166**	P		**P**		**11 20 44.6**	**+0.6**
	comp=Z,7.6nm,0.6s,mb4.5,baz=348,slow=7.4,SNR=121								
ASAR				PcP		PcP		11 23 51.6	+1.9
	comp=Z,9.2nm,0.7s,baz=331,slow=2.3,SNR=12								
ASAR				S		**S**		**11 25 28.5**	**-1.0**
	comp=Z,4.1nm,1.2s,baz=344,slow=12,SNR=4.3								
ASAR				ScP		ScP		11 27 26.8	+3.5
	comp=Z,6.8nm,0.8s,baz=346,slow=2.6,SNR=17								
ASPA	**Alice Springs**	**29.12**	**166**	⇑ *i*P		**P**		**11 20 44.5**	**+0.5**
ASPA				*e*PCP		PcP		11 23 51.6	+1.9
KMI	**Kunming**	**30.41**	**314**	P		**P**		**11 20 57.8**	**+2.4**
KMI				AP		pP		11 21 20.6	+5.0
KMI				XP		sP		11 21 32.3	+6.4
KMI				PP		PP		11 22 01.0	-4.5
KMI				PCP		PcP		11 23 55.3	+2.3
KMI				S		**S**		**11 25 49.8**	**+0.2**
KMI				XS		sS		11 26 29.8	+5.2
KMI				SS		SS		11 27 37.1	-25
KMI				SSS				11 28 00.1	
KMI				AMB		AMB			
	comp=Z,15nm,0.9s,mb4.6								
KMI				LR		LR			
	comp=N,147nm,12.1s								
KMI				LR		LR			
	comp=E,201nm,12.9s								
KMI				LR		LR			
	comp=Z,353nm,21.5s								
CTA	**Charters Tower**	**31.47**	**142**	*e*P		**P**		**11 21 07.1**	**+2.3**
	comp=Z,14nm,1.4s,mb4.5								
CTA	**Charters Tower**	**31.47**	**142**	*e*P		**P**		**11 21 07.1**	**+2.3**
CTA				pmax		pmax			
	comp=Z,14nm,1.4s								
CTAO	**Charters Tower**	**31.47**	**142**	*e*P		**P**		**11 21 06.8**	**+2.0**
KS15	**Wonju Array Si**	**32.66**	**2**	*e*P		**P**		**11 21 15.4**	**+0.3**
XAN	**Xi'an**	**33.38**	**333**	P		**P**		**11 21 20.3**	**-1.1**
XAN				AMB		AMB			
	comp=Z,44nm,0.8s,mb5.3								
MAJO	**Matsushiro**	**33.57**	**18**	*e*P		**P**		**11 21 23.1**	**+0.1**
MAJO				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.6								
MAJO	**Matsushiro**	**33.57**	**18**	*e*P		**P**		**11 21 23.1**	**+0.1**
	comp=Z,8.3nm,0.8s,mb4.6								
MAT	**Matsushiro**	**33.57**	**18**	P		**P**		**11 21 22.1**	**-0.9**
MAT	**Matsushiro**	**33.57**	**18**	*e*P		**P**		**11 21 22.0**	**-1.0**
MJAR	**Matsushiro Arr**	**33.57**	**18**	P		**P**		**11 21 22.2**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.3,baz=186,slow=8.6,SNR=12								
MJAR				PcP		PcP		11 24 03.5	+1.9
	comp=Z,3.6nm,0.8s,baz=192,slow=3.1,SNR=6.6								
MJAR				LR		LR		11 34 00.8	
	comp=Z,85nm,18.8s,baz=240,slow=34								
MJAR	**Matsushiro Arr**	**33.57**	**18**	P		**P**		**11 21 22.2**	**-0.8**
MJAR								11 24 03.5	
CD2	**Chengdu**	**33.63**	**324**	P		**P**		**11 21 24.1**	**+0.5**
CD2				AP		pP		11 21 42.8	-1.1
CD2				XP		sP		11 21 59.5	+5.3
CD2				PP		PP		11 22 37.8	-3.4
CD2				S		**S**		**11 26 36.4**	**-3.4**
CD2				XS		sS		11 27 16.4	+1.4
CD2				AMB		AMB			
	comp=Z,20nm,1.1s,mb4.9								
CD2				AMB		AMB			
	comp=Z,60nm,9.6s								
CD2				LR		LR			
	comp=N,160nm,6.9s								
CD2				LR		LR			
	comp=Z,150nm,18.6s								
DL2	**Dalian**	**34.34**	**354**	P		**P**		**11 21 30.8**	**+1.0**
DL2				AP		pP		11 21 57.3	+7.1
DL2				S		**S**		**11 26 50.5**	**-0.3**
DL2				AMB		AMB			
	comp=Z,40nm,0.8s,mb5.3								
DL2				AMB		AMB			
	comp=Z,170nm,3.7s								
FORT	**Forrest**	**35.28**	**177**	⇑ *i*P		**P**		**11 21 38.4**	**+0.5**
	comp=Z,44nm,0.5s,mb5.5								
HNR	**Honiara**	**36.36**	**113**	P		**P**		**11 21 45.4**	**-1.7**
	comp=Z,59nm,0.7s,mb5.6,baz=264,slow=9.2,SNR=2.6								
HNR	**Honiara**	**36.36**	**113**	*e*P		**P**		**11 21 46.2**	**-0.9**
HNR				pmax		pmax			
	comp=Z,128nm,1.1s,mb5.8								
HNR	**Honiara**	**36.36**	**113**	*e*P		**P**		**11 21 46.2**	**-0.8**
	comp=Z,128nm,1.1s,mb5.8								
BJI	**Beijing**	**36.38**	**347**	P		**P**		**11 21 46.9**	**-0.3**
BJI				AP		pP		11 22 09.8	+2.0
BJI				S		**S**		**11 27 31.3**	**+9.3**
BJI				AMB		AMB			
	comp=Z,67nm,0.9s,mb5.6								
BJI				LR		LR			
	comp=Z,91nm,24.1s								
KLBR	**Kellerberrin**	**36.96**	**192**	*e*P		**P**		**11 21 52.3**	**+0.2**
	comp=Z,68nm,0.8s,mb5.6								
KLBR				*e*PCP		PcP		11 24 13.1	+1.5
SNY	**Shenyang**	**37.08**	**357**	⇑P		**P**		**11 21 54.4**	**+1.2**
SNY				AMB		AMB			
	comp=Z,131nm,0.8s,mb5.9								
LZH	**Lanzhou**	**37.47**	**329**	*e*P		**P**		**11 21 56.8**	**+0.3**
LZH				AP		pP		11 22 16.9	-0.2
LZH				XP		sP		11 22 29.3	+2.0
LZH				PP		PP		11 23 30.5	+6.9
LZH				PCP		PcP		11 24 15.0	+1.8
LZH				*e*S		**S**		**11 27 38.0**	**-0.6**
LZH				PCS		PcS		11 28 03.5	+1.7
LZH				SS		SS		11 30 18.0	-8.3
LZH				AMB		AMB			
	comp=Z,38nm,1.5s,mb5.1								
LZH				AMB		AMB			
	comp=Z,160nm,6.0s								
LZH				LR		LR			
	comp=E,654nm,13.5s								
LZH				LR		LR			
	comp=Z,975nm,17.3s								
MUN	**Mundaring**	**37.68**	**194**	⇑ *i*P		**P**		**11 21 58.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**38.36**	**192**	*e*P		**P**		**11 22 04.6**	**+0.7**
NWAO				pmax		pmax			
	comp=Z,49nm,0.8s								
NWAO	**Narrogin (SRO)**	**38.36**	**192**	*e*P		**P**		**11 22 04.6**	**+0.6**
	comp=Z,49nm,0.8s,mb5.4								
HHC	**Hu-ho-hao-te**	**38.37**	**342**	*e*P		**P**		**11 22 04.8**	**+0.7**
HHC				AP		pP		11 22 27.3	+2.5
HHC				XP		sP		11 22 39.1	+4.2
HHC				PP		PP		11 23 39.1	+5.7
HHC				PCP		PcP		11 24 16.8	+0.9
HHC				S		**S**		**11 27 53.0**	**+0.7**
HHC				XS		sS		11 28 32.3	+4.4
HHC				SS		SS		11 30 38.0	-6.4
HHC				SCS		ScS		11 32 02.8	-3.2
HHC				AMB		AMB			
	comp=Z,15nm,0.3s,mb5.3								
HHC				LR		LR			
	comp=N,127nm,5.3s								
HHC				LR		LR			
	comp=E,147nm,5.3s								
HHC				LR		LR			
	comp=Z,165nm,18.6s								
CN2	**Changchun**	**38.98**	**359**	*e*P		**P**		**11 22 09.8**	**+0.6**
CN2				*e*AP		pP		11 22 31.3	+1.4
CN2				PCP		PcP		11 24 19.5	+1.6
CN2				*e*S		**S**		**11 28 01.9**	**+0.5**
CN2				AMB		AMB			
	comp=Z,20nm,0.9s,mb5.0								
STKA	**Stephens Creek**	**39.16**	**159**	⇑ *i*P		**P**		**11 22 09.8**	**-0.8**
	comp=Z,27nm,0.9s,mb5.1								
STKA				*e*PCP		PcP		11 24 18.1	-0.3
STKA	**Stephens Creek**	**39.16**	**159**	P		**P**		**11 22 09.8**	**-0.8**
	comp=Z,33nm,0.8s,mb5.2,baz=333,slow=8.2,SNR=69								
STKA				PcP		PcP		11 24 18.1	-0.3
	comp=Z,13nm,0.6s,baz=311,slow=3.7,SNR=4.4								
STKA				ScP		ScP		11 28 00.5	+1.7
	comp=Z,2.6nm,0.7s,baz=321,slow=5.9,SNR=4.4								
STKA				LR		LR		11 39 17.8	
	comp=Z,171nm,21.0s,baz=11,slow=38								
MDJ	**Mudanjiang**	**39.90**	**4**	P		**P**		**11 22 18.5**	**+1.7**
MDJ				AP		pP		11 22 36.9	-0.7
MDJ				PP		PP		11 23 49.9	-0.1
MDJ				PCP		PcP		11 24 22.3	+1.5
MDJ				SCP		ScP		11 28 02.8	+1.1
MDJ				PCS		PcS		11 28 12.9	+1.9
MDJ				S		**S**		**11 28 18.5**	**+3.4**
MDJ				AMB		AMB			
	comp=Z,53nm,0.8s,mb5.4								
MDJ				AMB		AMB			
	comp=Z,96nm,4.3s								
MDJ				LR		LR			
	comp=N,83nm,36.9s								
MDJ				LR		LR			
	comp=E,37nm,24.6s								
MDJ				LR		LR			
	comp=Z,124nm,32.3s								
ADE	**Adelaide**	**41.12**	**164**	*e*P		**P**		**11 22 28.9**	**+2.1**
LSA	**Lhasa**	**41.49**	**311**	P		**P**		**11 22 32.3**	**+2.5**
ASAJ	**Asahikawa**	**41.84**	**18**	P		**P**		**11 22 30.4**	**-2.3**
	comp=Z,7.7nm,0.9s,mb4.5,baz=252,slow=8.3,SNR=7.7								
GTA	**Gaotai**	**42.07**	**329**	*e*P		**P**		**11 22 34.6**	**0.0**
GTA				AP		pP		11 22 55.8	+0.3
GTA				XP		sP		11 23 07.8	+2.2
GTA				PP		PP		11 24 15.4	+1.9
GTA				PCP		PcP		11 24 29.8	+2.0
GTA				S		**S**		**11 28 42.3**	**-5.0**
GTA				SCS		ScS		11 32 28.3	+0.3
GTA				AMB		AMB			
	comp=Z,8.0nm,0.8s,mb4.5								
GTA				AMB		AMB			
	comp=Z,109nm,5.7s								
GTA				LR		LR			
	comp=N,183nm,16.0s								
GTA				LR		LR			
	comp=E,177nm,19.8s								
GTA				LR		LR			
	comp=Z,216nm,22.1s								
ARMA	**Armidale**	**42.49**	**147**	*e*P		**P**		**11 22 40.3**	**+2.3**
ARMA				*e*PCP		PcP		11 24 33.1	+3.9
BOK	**Bokaro**	**43.30**	**300**	*e*P		**P**		**11 22 42.5**	**-2.1**
BOK				AMb		AMB		11 22 46.4	
	comp=Z,14nm,0.7s,mb4.8								
VIS	**Vishakhapatnam**	**43.96**	**291**	*e*P		**P**		**11 22 50.5**	**+0.6**
VIS				AMb		AMB		11 22 51.3	
	comp=Z,27nm,0.8s,mb5.0								
JIRN	**Jiri**	**44.46**	**305**	*e*P		**P**		**11 22 53.9**	**+0.1**
	comp=Z,42nm,0.7s,mb5.3								
YSS	**Yuzh-Sakhalins**	**44.47**	**16**	⇑ *e*P		**P**		**11 22 55.7**	**+1.8**
YSS				pmax		pmax			
	comp=Z,27nm,1.3s,mb4.8								
YSS				MLR		MLR			
	comp=Z,100nm,21.0s								
YSS	**Yuzh-Sakhalins**	**44.47**	**16**	P		**P**		**11 22 54.2**	**+0.3**
	comp=Z,8.5nm,0.6s,mb4.7								
KLR	**Kul'dur**	**44.65**	**5**	*e*P		**P**		**11 22 53.8**	**-1.5**
KLR				pmax		pmax			
	comp=Z,28nm,1.0s,mb5.0								
GUN	**Gumba**	**44.81**	**306**	*e*P		**P**		**11 22 56.5**	**-0.1**
	comp=Z,75nm,0.7s,mb5.5								
PKI	**Pulchoki**	**45.06**	**305**	*e*P		**P**		**11 22 57.9**	**-0.7**
	comp=Z,18nm,0.7s,mb4.9								
KKN	**Kakani**	**45.26**	**305**	*e*P		**P**		**11 22 59.5**	**-0.6**
	comp=Z,31nm,0.7s,mb5.1								
DMN	**Daman**	**45.33**	**305**	*e*P		**P**		**11 23 00.3**	**-0.4**
	comp=Z,29nm,0.8s,mb5.1								
TOO	**Toolangi**	**45.67**	**159**	*e*P		**P**		**11 23 05.9**	**+2.5**
	comp=Z,3.9nm,0.5s,mb4.4								
TOO	**Toolangi**	**45.67**	**159**	*e*P		**P**		**11 23 05.9**	**+2.5**
TOO				pmax		pmax			
	comp=Z,4.0nm,0.5s,mb4.4								
GKN	**Gorkha**	**45.86**	**305**	*e*P		**P**		**11 23 04.0**	**-0.9**
	comp=Z,16nm,0.4s,mb5.1								
ULN	**Ulaanbaatar**	**46.09**	**342**	⇑ *e*P		**P**		**11 23 06.9**	**+0.1**
ULN	**Ulaanbaatar**	**46.09**	**342**	*e*P		**P**		**11 23 06.2**	**-0.5**
ULN				*e*PcP		PcP		11 24 43.1	+1.5
SONM	**Songino Array**	**46.27**	**342**	P		**P**		**11 23 07.8**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.2,baz=163,slow=8.4,SNR=25								
SONM				pP		pP		11 23 26.5	-3.0
	comp=Z,2.3nm,0.6s,baz=163,slow=7.6,SNR=3.6								
SONM				PcP		PcP		11 24 43.6	+1.4
	comp=Z,11nm,0.7s,baz=161,slow=3.2,SNR=16								
SONM				pPcP				11 25 01.6	
	comp=Z,6.6nm,0.8s,baz=172,slow=1.8,SNR=5.3								
SONM				LR		LR		11 43 14.5	
	comp=Z,111nm,20.1s,baz=252,slow=37								
SONM	**Songino Array**	**46.27**	**342**	P		**P**		**11 23 07.8**	**-0.3**
SONM				*PP		pP		11 23 26.5	-2.9
SONM								11 24 43.6	
SONM								11 25 01.6	
KOLN	**Koldanda**	**46.62**	**304**	*e*P		**P**		**11 23 10.7**	**-0.2**
	comp=Z,78nm,0.7s,mb5.6								
DZM	**Mont Dzumac**	**47.44**	**126**	P		**P**		**11 23 18.5**	**+1.3**
	comp=Z,12nm,0.7s,mb4.8,baz=300,slow=6.6,SNR=16								
HYB	**Hyderabad**	**48.38**	**289**	*i* P		**P**		**11 23 24.0**	**-0.5**
HYB	**Hyderabad**	**48.38**	**289**	*e*P		**P**		**11 23 24.0**	**-0.5**
TRD	**Trivandrum**	**49.12**	**277**	*e*P		**P**		**11 23 31.1**	**+1.0**
TRD				AMb		AMB		11 23 32.2	
	comp=Z,69nm,0.7s,mb5.7								
ZAK	**Zakamensk**	**49.50**	**341**	*e*P		**P**		**11 23 27.9**	**-5.1**
ZAK				*e*				11 24 54.3	
ZAK				pmax		pmax			
	comp=Z,10.0nm,1.7s,mb4.5								
ZAK				pmax		pmax			
	comp=Z,14nm,1.5s,mb4.7								
BHPL	**Bhopal**	**50.58**	**296**	*e*P		**P**		**11 23 40.9**	**-0.3**
BHPL				AMb		AMB		11 23 42.8	
	comp=Z,21nm,0.6s,mb5.3								
IRK	**Irkutsk**	**50.81**	**343**	*e*P		**P**		**11 23 42.8**	**-0.1**
IRK				*e*				11 25 00.5	
IRK				pmax		pmax			
	comp=Z,20nm,2.2s,mb4.8								
TAU	**Tasmania Unive**	**51.05**	**160**	*e*P		**P**		**11 23 46.2**	**+1.5**
TAU				pmax		pmax			
	comp=Z,45nm,1.3s,mb5.3								
TAU	**Tasmania Unive**	**51.05**	**160**	*e*P		**P**		**11 23 46.2**	**+1.5**
	comp=Z,45nm,1.3s,mb5.3								
MOY	**Mondy**	**51.35**	**340**	P		**P**		**11 23 47.0**	**0.0**
MOY				pmax		pmax			
	comp=Z,14nm,1.5s,mb4.8								
WMQ	**Urumqi**	**51.70**	**325**	*e*P		**P**		**11 23 50.3**	**+0.7**
WMQ				AP		pP		11 24 13.8	+2.5
WMQ				XP		sP		11 24 25.0	+3.8
WMQ				PCP		PcP		11 25 02.5	+0.6
WMQ				PP		PP		11 25 50.0	+2.0
WMQ				AMB		AM

YAK *e* 11 34 10.3
YAK pmax pmax
comp=Z,39nm,0.8s,mb5.5
YAK pmax pmax
comp=N,26nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
YAK smax
comp=N,6.0nm,1.3s
YAK smax
comp=E,6.0nm,1.6s
YAK Yakutsk 57.29 2 *e*P **P 11 24 30.4 +0.4**
comp=E,85nm,0.8s,mb5.8
YAK *e*pP pP 11 24 52.2 +0.1
BHJ Bhuj 57.59 295 *e*P **P 11 24 32.8 +0.7**
MA2 Magadan 57.91 14 *e*P **P 11 24 35.1 +0.7**
MA2 pmax pmax
comp=Z,11nm,0.7s,mb5.0
MA2 Magadan 57.91 14 *e*P **P 11 24 35.1 +0.6**
comp=Z,11nm,0.7s,mb5.0
TKM2 Tokmak 2 58.75 318 P **P 11 24 40.2 0.0**
SNR=13
TKM2 Tokmak 2 58.75 318 *i* P **P 11 24 40.0 -0.3**
TKM2 pmax pmax
comp=Z,15nm,0.9s,mb5.0
KBK Karagaybulak 59.07 318 P **P 11 24 42.9 +0.4**
SNR=8.4
UCH Uchtor 59.18 317 P **P 11 24 35.0 -8.2**
SNR=8.6
USP Ospenovka 59.62 318 P **P 11 24 45.9 -0.4**
SNR=22
AML Almayashu 59.70 317 P **P 11 24 47.4 +0.6**
SNR=21
EKS2 Erkin-Say 59.86 317 P **P 11 24 47.9 0.0**
SNR=19
KURK Kurchatov 60.71 327 P **P 11 24 52.0 -1.7**
comp=Z,245nm,0.7s,SNR=40
KURK Kurchatov 60.71 327 *e*P **P 11 24 52.7 -1.0**
KURK *e**PP pP 11 25 15.2 -0.7
KURK pmax pmax
comp=Z,28nm,0.7s,mb5.4
KURK Kurchatov 60.71 327 *e*P **P 11 24 52.7 -1.1**
comp=Z,28nm,0.7s,mb5.4
KURK *e*pP pP 11 25 15.2 -0.8
NVS Novosibirsk 60.84 333 *i* P **P 11 24 52.9 -1.7**
NVS *i* 11 25 35.9
NVS pmax pmax
comp=Z,15nm,0.9s,mb5.0
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,14nm,1.0s
SEY Seymchan 61.23 13 *e*P **P 11 24 59.2 +2.0**
SEY *PP pP 11 25 20.5 +1.0
SEY 11 27 17.3
SEY *e*PPP 11 28 46.0
SEY *e*S **S 11 33 14.1 +3.9**
SEY *e*SSS 11 39 56.5
SEY pmax pmax
comp=Z,20nm,1.0s,mb5.1
SEY pmax pmax
comp=E,3.0nm,0.7s
SEY smax
comp=N,180nm,33.9s
SEY smax
comp=E,22nm,16.9s
SEY MLR MLR
comp=Z,1μm,30.0s
SEY MLR MLR
comp=N,160nm,14.0s
SEY MLR MLR
comp=E,430nm,23.0s
FX1 Attu Island--F 61.50 30 P **P 11 25 00.4 +1.3**
KK31 Karatay Array 62.24 317 *i* P **P 11 25 03.2 -0.8**
KK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
KKAR Karatay Array 62.24 317 *i* P **P 11 25 03.2 -0.8**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
RPZ Rata Peaks 62.78 145 P **P 11 25 06.5 -1.1**
comp=Z,10.0nm,0.8s,mb4.8,baz=355,slow=14,SNR=3.5
VOSK Vostochnaya 65.84 327 P **P 11 25 25.8 -1.8**
VOSK pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
BVA0 Borovoye Array 66.30 327 *e*P **P 11 25 29.4 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
BVAR Borovoye Array 66.30 327 P **P 11 25 29.7 -0.8**
comp=Z,13nm,0.8s,mb4.8,baz=124,slow=7.9,SNR=48
BVAR pP pP 11 25 47.9 -5.1
comp=Z,4.8nm,0.7s,baz=110,slow=8.1,SNR=3.9
BVAR sP sP 11 25 54.9 -7.8
comp=Z,8.2nm,0.5s,baz=132,slow=6.7,SNR=5.7
BRVK Borovoye 66.37 327 P **P 11 25 29.2 -1.7**
comp=Z,163nm,0.9s,mb5.9,SNR=11
BRVK Borovoye 66.37 327 *e*P **P 11 25 29.8 -1.1**
BRVK *e**PP pP 11 25 52.5 -1.0
BRVK pmax pmax
comp=Z,14nm,0.8s,mb4.8
BRVK Borovoye 66.37 327 *e*P **P 11 25 29.8 -1.2**
comp=Z,14nm,0.8s,mb4.8
BRVK *e*pP pP 11 25 52.5 -1.0
TIXI Tiksi 66.92 1 *e*P **P 11 25 31.6 -2.9**
TIXI *e**SP sP 11 25 53.5 -13
TIXI *e*PPP 11 29 36.3
TIXI *e*S S 11 34 17.3 -3.2
TIXI *e**SS sS 11 34 46.3 -13
TIXI pmax pmax
comp=Z,14nm,0.7s,mb4.9
ZRNK Zerenda 67.02 326 *i* P **P 11 25 34.0 -1.1**
ZRNK pmax pmax
comp=Z,16nm,0.7s,mb5.0
ZRNK Zerenda 67.02 326 *e*P **P 11 25 33.8 -1.3**
comp=Z,15nm,0.6s,mb5.0
BILL Bilibino 68.77 15 ⇓*i*P **P 11 25 46.2 +0.1**
BILL pmax pmax
comp=Z,19nm,2.5s,mb4.5
BILL Bilibino 68.77 15 *e*P **P 11 25 45.8 -0.3**
comp=Z,7.3nm,0.8s,mb4.6
AB31 Akbulak array 71.14 321 P **P 11 25 59.5 -1.1**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
AKTK Aktyubinsk 72.65 322 P **P 11 26 08.6 -1.0**
AKTO Aktyubinsk 72.65 322 P **P 11 26 08.6 -1.0**
comp=Z,18nm,0.7s,mb5.0,baz=101,slow=8.9,SNR=77
ARU Arti 73.91 328 ⇑*i*P **P 11 26 16.3 -0.7**
ARU pmax pmax
comp=Z,28nm,0.8s,mb5.0
ARU Arti 73.91 328 *e*P **P 11 26 14.7 -2.3**
comp=Z,26nm,0.6s,mb5.2
TNA Tin City 75.91 23 *e*P **P 11 26 28.2 -0.4**
comp=Z,2.2nm,0.9s
GNI Garni 80.54 310 LR LR 12 07 00.4
comp=Z,32nm,19.7s,baz=99,slow=39
ZEI Tsey 81.26 312 *i* P **P 11 26 55.7 -2.2**
ZEI pmax pmax
comp=Z,11nm,0.9s,mb4.7
KDAK Kodiak Island 81.35 32 P **P 11 26 57.0 -1.3**
comp=Z,20nm,0.7s,mb5.0,baz=256,slow=8.3,SNR=2.4
KIV Kislovodsk 82.17 314⇑*e*P **P 11 27 03.3 +0.6**
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
KIV Kislovodsk 82.17 314 P **P 11 27 02.0 -0.7**
PMR Palmer 83.35 29 *e*P **P 11 27 08.7 -0.1**
PMR pmax pmax
comp=Z,16nm,1.0s,mb4.8
PMR Palmer 83.35 29 *e*P **P 11 27 08.7 -0.1**
comp=Z,16nm,1.0s,mb4.8
PMR *e*pP pP 11 27 33.0 +0.8
MCK McKinley 83.53 26 *e*P **P 11 27 10.1 +0.4**
MCK pmax pmax
comp=Z,921nm,1.2s
MCK McKinley 83.53 26 *e*P **P 11 27 10.1 +0.3**
comp=Z,9μm,1.2s
SML Sawmill 83.73 28 *e*P **P 11 27 10.9 +0.1**
COLA College 84.05 25 *e*P **P 11 27 12.0 -0.4**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
COLA College 84.05 25 *e*P **P 11 27 12.0 -0.4**
comp=Z,7.7nm,0.8s,mb4.6
SOC Sochi 84.32 313 *e*P **P 11 27 14.3 +0.5**
SOC *e*PPP 11 32 23.3
SOC *e*S 11 37 33.8
SOC *e*SS SS 11 42 57.5 -6.2
SOC pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
VNDA Vanda 84.41 173 P **P 11 27 14.6 +0.4**
comp=Z,7.9nm,0.9s,mb4.6,baz=302,slow=4.9,SNR=17
VNDA LR LR 12 03 44.8
comp=Z,132nm,18.2s,baz=327,slow=35
VNDA Vanda 84.41 173 *e*P **P 11 27 14.1 -0.1**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
VNDA Vanda 84.41 173 *e*P **P 11 27 14.1 -0.1**
comp=Z,7.6nm,0.9s,mb4.5
ILAR Eielson Array 84.46 25 P **P 11 27 13.4 -1.0**
comp=Z,2.4nm,0.6s,mb4.2,baz=235,slow=5.2,SNR=25
ILAR pP pP 11 27 32.5 -5.4
comp=Z,3.8nm,1.0s,baz=243,slow=4.7,SNR=3.7
MAW Mawson 84.47 200 P **P 11 27 14.4 -0.1**
comp=Z,14nm,0.9s,mb4.8,baz=31,slow=6.7,SNR=5.2
MAW LR LR 12 02 30.1
comp=Z,152nm,18.6s,baz=247,slow=34
DIV Divide 84.96 29 *e*P **P 11 27 17.6 +0.7**
comp=Z,97nm,0.9s,mb5.7
MOS Moscow 85.42 325 *e*P **P 11 27 06.0 -13**
MALT Malatya 85.45 308 *e*P **P 11 27 20.3 +0.9**
MALT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MALT Malatya 85.45 308 *e*P **P 11 27 20.3 +0.9**
comp=Z,7.2nm,0.8s,mb4.7
PPT Papeete 85.83 108 *e*LR LR 11 54 46.3
comp=Z,261nm,31.8s
ANN Anapa 85.93 314 *e*P **P 11 27 20.3 -1.5**
ANN pmax pmax
comp=Z,45nm,1.1s,mb5.3
OBN Obninsk 86.04 325⇑*e*P **P 11 27 21.5 -0.8**
OBN *e* 11 30 40.3
OBN pmax pmax
comp=Z,31nm,0.7s,mb5.3
OBN MLR MLR
comp=Z,100nm,18.0s
OBN Obninsk 86.04 325 *e*P **P 11 27 21.6 -0.7**
comp=Z,25nm,0.6s,mb5.3
TBI Tubuai 86.58 114 *e*LR LR 11 55 06.5
comp=Z,195nm,31.2s
APA Apatity 86.82 337⇓*i*P **P 11 27 26.0 -0.2**
APA pmax pmax
comp=Z,39nm,1.0s,mb5.3
JOF Joensuu 88.15 333 *e*p **P 11 27 32.2 -0.3**
comp=Z,14nm,0.6s,mb5.2
EIL Elat 88.87 300 *e*P **P 11 27 36.1 +0.2**
comp=Z,255nm,0.9s
BR131 Keskin Array S 89.08 310 P **P 11 27 35.1 -1.8**
comp=Z,4.1nm,0.8s,mb4.5
BRTR Keskin Array B 89.08 310 P **P 11 27 36.0 -0.9**
comp=Z,6.6nm,0.9s,mb4.7,baz=114,slow=5.3,SNR=18
BRTR pP pP 11 27 58.3 -2.2
comp=Z,1.6nm,0.8s,baz=119,slow=5.3,SNR=1.7
KMBO Kilima Mbogo 89.12 269 P **P 11 27 37.4 +0.3**
comp=Z,3.7nm,0.7s,mb4.5,baz=248,slow=23,SNR=11
KMBO LR LR 12 03 11.1
comp=Z,84nm,20.6s,baz=97,slow=33
KMBO Kilima Mbogo 89.12 269 *e*P **P 11 27 37.7 +0.6**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 89.12 269 *e*P **P 11 27 37.7 +0.7**
comp=Z,2.3nm,0.6s,mb4.4
ARCES ARCESS Array B 89.42 340 P **P 11 27 38.2 -0.3**
comp=Z,60nm,0.7s,mb5.7,baz=81,slow=6.2,SNR=70
ARCES LR LR 12 08 55.5
comp=Z,103nm,18.4s,baz=46,slow=36
ARCES ARCESS Array B 89.42 340 P **P 11 27 38.2 -0.3**
ARCES LR LR 12 08 55.5
ARE0 ARCESS Array S 89.42 340 *e*P **P 11 27 37.8 -0.7**
INK Inuvik 89.46 21 P **P 11 27 39.0 +0.3**
comp=Z,9.4nm,0.8s,mb4.9,baz=279,slow=3.7,SNR=37
INK Inuvik 89.46 21 *e*P **P 11 27 38.9 +0.2**
INK pmax pmax
comp=Z,12nm,0.9s
INK Inuvik 89.46 21 *e*P **P 11 27 38.9 +0.2**
comp=Z,12nm,0.9s,mb4.9
KAF Kangasniemi 90.56 332 *e*p **P 11 27 42.5 -1.3**
comp=Z,8.9nm,0.6s,mb5.1,baz=75,slow=4.2
KAF Kangasniemi 90.56 332 *e*P **P 11 27 42.5 -1.3**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
FINES FINESS Array B 90.80 332 P **P 11 27 44.5 -0.4**
comp=Z,3.8nm,0.5s,mb4.8,baz=78,slow=5.1,SNR=74
FINES LR LR 12 09 42.3
comp=Z,50nm,18.9s,baz=42,slow=36
FINES FINESS Array B 90.80 332 P **P 11 27 44.5 -0.4**
FINES LR LR 12 09 42.3
AKASG Malin Array Be 90.89 321 P **P 11 27 43.9 -1.4**
comp=Z,1.0nm,0.4s,mb4.3,baz=70,slow=4.7,SNR=9.4
AKASG Malin Array Be 90.89 321 P **P 11 27 43.9 -1.4**
TIRR Tirgusor 92.36 315 ⇑P **P 11 27 51.5 -0.7**
TIRR Tirgusor 92.36 315 ⇑P **P 11 27 51.5 -0.6**
CFR Carcaliu 92.45 316 ⇓P **P 11 27 53.3 +0.8**
CFR Carcaliu 92.45 316 ⇓P **P 11 27 53.3 +0.7**
HARR Harsova 92.67 315 ⇑P **P 11 27 53.8 +0.2**
HARR Harsova 92.67 315 ⇑P **P 11 27 53.8 +0.3**
VRI Vrincioaia 93.31 316 ⇓P **P 11 27 55.9 -0.6**
VRI Vrincioaia 93.31 316 ⇓P **P 11 27 55.9 -0.6**
PLOR Plostina 93.37 316 ⇑P **P 11 27 56.6 -0.2**
MLR Muntele Rosu 93.92 316 P **P 11 27 58.2 -1.1**
comp=Z,5.2nm,0.6s,mb5.0,baz=285,slow=1.7,SNR=7.1
MLR LR LR 12 14 45.4
comp=Z,87nm,20.4s,baz=55,slow=38
MLR Muntele Rosu 93.92 316 ⇓P **P 11 27 57.5 -1.8**
MLR Muntele Rosu 93.92 316 ⇓P **P 11 27 57.5 -1.8**
BURAR Bucovina Array 94.01 318 ⇑P **P 11 28 00.0 +0.3**
BURAR Bucovina Array 94.01 318 ⇑P **P 11 28 00.0 +0.3**
QSPA South Pole Qui 94.56 180 *e*P **P 11 28 03.3 +1.0**
comp=Z,9.3nm,0.9s,mb5.2
DRGR 95.85 318 ⇑P **P 11 28 07.9 -0.2**
DRGR 95.85 318 ⇑P **P 11 28 07.9 -0.3**
DAG Danmarks Havn 96.27 352⇓*i*P **P 11 28 09.7 -0.4**
comp=Z,11nm,0.8s,mb5.3
DAG Danmarks Havn 96.27 352⇓*i*P **P 11 28 09.7 -0.4**
DAG pmax pmax
comp=Z,11nm,0.8s,mb5.3
IDI Anoyia 96.58 306 LR LR 12 20 35.3
comp=Z,23nm,19.2s,baz=93,slow=41
BZS Buzias 96.86 317 ⇑P **P 11 28 10.3 -2.4**
BZS Buzias 96.86 317 ⇑P **P 11 28 10.3 -2.4**
RES Resolute Bay 96.98 10 *e*P **P 11 28 13.9 +0.6**
RES pmax pmax
comp=Z,1.0nm,0.6s,mb4.4
RES Resolute Bay 96.98 10 *e*P **P 11 28 13.9 +0.7**
comp=Z,1.4nm,0.6s,mb4.6
HFS Hagfors 96.99 332 P **P 11 28 12.2 -1.1**
comp=Z,9.9nm,0.8s,mb5.3,baz=49,slow=4.5,SNR=17
HFS LR LR 12 14 37.5
comp=Z,50nm,21.0s,baz=67,slow=37
NB2 NORSAR Subarra 97.75 334 P **P 11 28 15.6 -1.2**
comp=Z,16nm,0.8s,mb5.6,baz=65,slow=4.4
NB2 NORSAR Subarra 97.75 334 P **P 11 28 15.6 -1.2**
NB2 pmax pmax
comp=Z,16nm,0.8s,mb5.6
NOA NORSAR Array B 97.75 334 P **P 11 28 15.8 -0.9**
comp=Z,12nm,0.7s,mb5.5,baz=66,slow=4.6,SNR=42
NOA pP pP 11 28 36.4 -4.1
comp=Z,1.7nm,0.7s,baz=66,slow=4.6,SNR=1.8
NOA LR LR 12 20 23.5
comp=Z,39nm,21.4s,baz=55,slow=40
NOA NORSAR Array B 97.75 334 P **P 11 28 15.9 -0.9**
NOA *PP pP 11 28 36.4 -4.1
NAO01 NORSAR Array S 97.98 333 *e*P **P 11 28 16.7 -1.1**
comp=Z,9.0nm,0.7s,mb5.4
PKSM Moragy 98.72 318 ⇓P **P 11 28 20.5 -0.6**
YKW3 Yellowknife Ar 98.80 24 *e*P **P 11 28 21.1 -0.4**
YKA Yellowknife Ar 98.84 24 P **P 11 28 22.5 +0.9**
comp=Z,3.3nm,0.8s,mb4.9,baz=302,slow=4.7,SNR=75
YKA pP pP 11 28 39.8 -5.6
comp=Z,1.0nm,0.8s,baz=299,slow=4.9,SNR=3.9
YKA PKKPbc PKKPbc 11 44 48.4 0.0
comp=Z,0.8nm,0.8s,baz=107,slow=2.2,SNR=11
YKA LR LR 12 15 15.5
comp=Z,46nm,20.5s,baz=325,slow=37
YKA Yellowknife Ar 98.84 24 P **P 11 28 22.6 +1.0**
YKA *PP pP 11 28 39.8 -5.6
YKA Yellowknife Ar 98.84 24 P **P 11 28 22.6 +0.9**
YKA pP pP 11 28 39.8 -5.6
YKA PKKPbc PKKPbc 11 44 48.4 0.0
YKA LR LR 12 15 15.5
LSZ Lusaka 99.00 255 *e*P **P 11 28 22.4 +0.1**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.8
LSZ Lusaka 99.00 255 *e*P **P 11 28 22.4 +0.1**
comp=Z,2.0nm,0.6s,mb4.8
RKT Rikitea 99.85 113 *e*LR LR 12 01 15.9
comp=Z,113nm,38.8s
GERES GERESS Array B 101.08 322 P Pdif 11 28 30.5 -1.1
comp=Z,0.4nm,0.7s,baz=84,slow=4.2,SNR=3.9
NVAR Mina Array Bea 106.62 48 PKKPbc PKKPbc 11 44 27.2 +1.7
comp=Z,1.4nm,0.8s,baz=146,slow=5.2,SNR=7.3
NVAR PKKPab PKKPab 11 44 43.2 +1.7
comp=Z,0.8nm,0.7s,baz=139,slow=5.0,SNR=5.1
PDAR Pinedale Array 110.95 41 PKKPbc PKKPbc 11 44 11.9 +0.1
comp=Z,0.4nm,0.6s,baz=134,slow=4.9,SNR=4.8
PDAR PKKPab PKKPab 11 44 22.8 +0.6
comp=Z,3.4nm,0.9s,baz=117,slow=6.1,SNR=24
PV10 Paradox Valley 113.32 45 *e*PKPdf PKiKP 11 33 20.3 +1.3
RSSD Black Hills 113.73 37 *e*PKIKP PKiKP 11 33 19.9 +0.1
ANMO Albuquerque 116.72 47 *e*PKIKP PKPdf 11 33 28.4 +2.9
MNTX Cornudas Mount 119.00 50 *e*PKPdf PKPdf 11 33 31.4 +1.4
SCHQ Schefferville 119.72 9 PKP PKPdf 11 33 32.2 +1.0
comp=Z,3.6nm,0.7s,baz=26,slow=7.8,SNR=10
TORD Torodi Ar. Bea 122.20 289 PKP PKPdf 11 33 37.4 +1.4
comp=Z,7.8nm,0.7s,baz=53,slow=1.9,SNR=53
TORD pPKP pPKPdf 11 33 57.0 -3.6
comp=Z,4.6nm,0.8s,baz=49,slow=1.3,SNR=4.8
WMOK Wichita Mounta 122.28 44 *e*PKIKP PKPdf 11 33 37.1 +0.9
JCT Junction City 123.79 48 *e*PKIKP PKPdf 11 33 40.2 +1.1
WVT Waverly 128.37 35 *e*PKIKP PKPdf 11 33 48.6 +0.7
DBIC Dimbokro 129.94 283 PKP PKPdf 11 33 52.4 +1.5
comp=Z,6.4nm,0.9s,baz=58,slow=4.2,SNR=8.0
DBIC pPKP pPKPdf 11 34 12.1 -3.4
comp=Z,8.1nm,0.9s,baz=154,slow=3.4,SNR=4.3
DBIC Dimbokro 129.94 283 *e*P PKPdf 11 33 52.9 +2.1
PLCA Paso Flores 141.00 160 PKP PKPdf 11 34 14.0 +2.5
comp=Z,7.9nm,0.9s,baz=225,slow=2.2,SNR=12
PLCA Paso Flores 141.03 160 *e*PKPdf PKPdf 11 34 12.2 +0.7
JTS JuntasAbangare 145.53 64 *e*PKP2 PKPab 11 34 22.4 +2.4
TRQA Tornquist 145.92 168 *e*PKPdf PKPdf 11 34 20.9 +0.9
TRQA *e*PKPbc PKPbc 11 34 22.8 +1.9
CFAA Coronel Fontan 149.94 155 PKP PKPdf 11 34 29.2 +2.6
comp=Z,4.0nm,0.9s,baz=241,slow=3.0,SNR=13
CFAA PKPbc PKPbc 11 34 33.5 +2.0
comp=Z,3.8nm,0.7s,baz=231,slow=3.1,SNR=32
CFAA pPKPbc pPKPbc 11 34 51.9 -4.2
comp=Z,0.8nm,0.8s,baz=311,slow=3.1,SNR=2.0
CPD Cerro la Pandu 154.44 28 *e*PKP2 PKPab 11 34 58.4 +2.0
OTAV Otavalo 154.82 80 *e*PKPbc PKPbc 11 34 42.9 +0.4
OTAV *e*PKPab PKPab 11 34 59.2 +1.2
CPUP Villa Florida 158.18 171 PKP PKPdf 11 34 41.0 +2.8
comp=Z,3.6nm,0.7s,baz=336,slow=0.4,SNR=8.3
CPUP pPKP pPKPdf 11 34 58.5 -4.4
comp=Z,1.0nm,0.4s,baz=135,slow=2.4,SNR=2.8
CPUP PKPab PKPab 11 35 14.4 +2.0
comp=Z,6.5nm,0.9s,baz=168,slow=5.7,SNR=6.1
CPUP Villa Florida 158.18 171 *e*PKPdf PKPdf 11 34 40.2 +2.0
SDV Santo Domingo 158.43 51 PKP PKPdf 11 34 41.0 +2.5
comp=Z,15nm,0.8s,baz=31,slow=1.6,SNR=22
SDV Santo Domingo 158.43 51 *e*PKPdf PKPdf 11 34 39.9 +1.4
SDV *e*pPKPdf pPKPdf 11 35 03.9 +0.7
LPAZ La Paz 161.74 130 PKP PKPdf 11 34 45.7 +3.5
comp=Z,4.9nm,1.0s,baz=329,slow=0.5,SNR=14
LPAZ pPKP pPKPdf 11 35 04.9 -2.1
comp=Z,2.1nm,0.9s,baz=68,slow=5.2,SNR=2.7
LPAZ PKPab PKPab 11 35 31.1 +3.1
comp=Z,3.0nm,0.8s,baz=191,slow=3.3,SNR=4.5
LPAZ La Paz 161.74 130 *e*PKPbc PKPdf 11 34 46.1 +3.9
LPAZ *e*PKPab PKPab 11 35 33.3 +5.3
SIV San Ignacio 166.63 148 PKP PKPdf 11 34 49.0 +2.4
comp=Z,4.8nm,0.9s,baz=94,slow=0.8,SNR=16
SIV pPKP pPKPdf 11 35 06.8 -4.6
comp=Z,2.8nm,1.0s,baz=131,slow=4.2,SNR=3.9
SIV PKPab PKPab 11 35 52.1 +2.6
comp=Z,2.2nm,0.8s,baz=184,slow=5.4,SNR=4.1
BDFB Brasilia 167.73 207 PKP PKPdf 11 34 50.0 +2.6
comp=Z,2.5nm,0.7s,baz=185,slow=11,SNR=3.4
BDFB PKPab PKPab 11 35 56.8 +2.4
comp=Z,12nm,0.8s,baz=196,slow=1.9,SNR=7.5

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*IDC **18** 11:20:42.9±1.8,2197S×17955W,h606km±18km,mb3.8/11, mb1 3.9/11,mb1mx3.7/17,mbtmp4.7/11,Error ellipse: s-maj=25.5km s-min=12.8km az=154.0*
*ISCJB **18** 11:20:43.9±2.8,219S±02×1797W±01,h631km±36km, mb4.4/26,Error ellipse: s-maj=24.3km s-min=14.8km az=139.9*
*MOS **18** 11:20:45.4±0.5,2185S×17975W,h650km,mb4.7/8,Error ellipse: s-maj=27.5km s-min=14.5km az=169.1*
*NEIC **18** 11:20:46.1±1.8,2185S×17968W,h643km±21km,mb4.6/18, Error ellipse: s-maj=15.4km s-min=9.9km az=161.0*
ISC 18 11:20:44.1±2.8,219S±02×1796W±01,h614km±35km,n61, σ0=52/53,mb4.4/26,13D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**27.15**	**246**	⇓*i*P	**P**	**11 25 41.4**	**+1.1**
CNB	**Canberra Magne**	**30.24**	**237**	⇓*i*P	**P**	**11 26 07.9**	**+0.9**
38nm,0.7s,mb5.1							
CTA	**Charters Tower**	**31.91**	**267**	⇓*i*P	**P**	**11 26 21.6**	**+0.4**
18nm,0.4s,mb5.1							
CTA	**Charters Tower**	**31.91**	**267**	⇓*i*P	**P**	**11 26 21.6**	**+0.4**
CTA				pmax	pmax		
comp=Z,18nm,0.4s							
CTAO	**Charters Tower**	**31.91**	**267**	*e*P	**P**	**11 26 21.5**	**+0.3**
CTAO				pmax	pmax		
comp=Z,23nm,0.5s,mb5.1							
CTAO	**Charters Tower**	**31.91**	**267**	*e*P	**P**	**11 26 21.5**	**+0.3**
comp=Z,23nm,0.5s,mb5.1							
TOO	**Toolangi**	**33.90**	**235**	⇓*i*P	**P**	**11 26 38.2**	**+0.3**
comp=Z,8.4nm,0.5s,mb4.6							
TOO	**Toolangi**	**33.90**	**235**	⇓*i*P	**P**	**11 26 38.2**	**+0.3**
TOO				pmax	pmax		
comp=Z,8.0nm,0.5s,mb4.6							
PMG	**Port Moresby**	**34.25**	**286**	P	**P**	**11 26 40.9**	**+0.2**
comp=Z,30nm,0.7s,mb5.1,baz=94,slow=6.2,SNR=20							
PMG	**Port Moresby**	**34.25**	**286**	*e*P	**P**	**11 26 40.5**	**-0.3**
PMG				pmax	pmax		
comp=Z,28nm,0.7s							
PMG	**Port Moresby**	**34.25**	**286**	*e*P	**P**	**11 26 40.5**	**-0.2**
comp=Z,28nm,0.7s,mb5.0							
STKA	**Stephens Creek**	**35.87**	**246**	⇓*i*P	**P**	**11 26 52.8**	**-1.4**
comp=Z,9.8nm,0.4s,mb4.7							
STKA	**Stephens Creek**	**35.87**	**246**	P	**P**	**11 26 52.8**	**-1.4**
comp=Z,16nm,0.6s,mb4.8,baz=91,slow=9.5,SNR=21							
STKA	**Stephens Creek**	**35.87**	**246**	*e*P	**P**	**11 26 52.6**	**-1.6**
AS31	**Alice Springs**	**42.78**	**258**	⇓*i*P	**P**	**11 27 49.4**	**+0.1**
ASAR	**Alice Springs**	**42.78**	**258**	P	**P**	**11 27 49.5**	**+0.1**
comp=Z,27nm,0.8s,mb4.8,baz=100,slow=8.0,SNR=103							
ASAR				PcP	PcP	11 29 26.6	+0.5
comp=Z,2.0nm,0.7s,baz=118,slow=4.0,SNR=5.2							
ASAR				ScP	ScP	11 32 23.8	+4.4
comp=Z,2.5nm,1.1s,baz=95,slow=3.9,SNR=5.4							
ASAR				S	**S**	**11 33 30.7**	**+0.4**
comp=Z,1.3nm,0.8s,baz=101,slow=16,SNR=7.6							
ASAR	**Alice Springs**	**42.78**	**258**	P	**P**	**11 27 49.5**	**+0.2**
ASAR						11 29 26.6	
ASAR				S	**S**	**11 33 30.7**	**+0.4**
ASPA	**Alice Springs**	**42.78**	**258**	⇓*i*P	**P**	**11 27 49.4**	**0.0**
WB2	**Warramunga Arr**	**42.95**	**264**	⇓*i*P	**P**	**11 27 50.2**	**-0.5**
WRAB	**Tennant Creek**	**42.96**	**264**	*e*P	**P**	**11 27 49.9**	**-0.8**
WRAB				pmax	pmax		
comp=Z,48nm,0.9s,mb5.0							
WRAB	**Tennant Creek**	**42.96**	**264**	*e*P	**P**	**11 27 49.9**	**-0.8**
comp=Z,48nm,0.9s,mb5.0							
WRA	**Warramunga Arr**	**42.97**	**264**	P	**P**	**11 27 50.3**	**-0.5**
comp=Z,9.4nm,0.4s,mb4.7,baz=96,slow=7.8,SNR=102							
WRA				ScP	ScP	11 32 23.3	+3.2
comp=Z,0.2nm,0.3s,baz=101,slow=3.9,SNR=6.1							
WRA	**Warramunga Arr**	**42.97**	**264**	P	**P**	**11 27 50.3**	**-0.5**
WRA				ScP	ScP	11 32 23.2	+3.2
KAKA	**Kakadu**	**46.55**	**273**	*e*P	**P**	**11 28 17.9**	**-0.2**
comp=Z,26nm,0.4s,mb5.1							
FORT	**Forrest**	**47.41**	**248**	⇓*i*P	**P**	**11 28 23.8**	**-0.7**
comp=Z,37nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**51.40**	**264**	⇓*i*P	**P**	**11 28 54.1**	**+0.4**
comp=Z,11nm,0.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**51.40**	**264**	P	**P**	**11 28 54.0**	**+0.3**
comp=Z,4.9nm,0.3s,mb4.4,baz=111,slow=4.7,SNR=22							
MBWA	**Marble Bar**	**56.12**	**259**	*e*P	**P**	**11 29 26.5**	**-0.4**
comp=Z,23nm,0.6s,mb4.6							
KLBR	**Kellerberrin**	**56.15**	**246**	⇓*i*P	**P**	**11 29 26.7**	**-0.3**
comp=Z,25nm,1.0s,mb4.4							
MUN	**Mundaring**	**57.41**	**245**	*e*P	**P**	**11 29 35.9**	**+0.3**
KKM	**Kota Kinabalu**	**68.69**	**286**	*e*P	**P**	**11 30 48.2**	**+0.6**
MJAR	**Matsushiro Arr**	**70.45**	**325**	P	**P**	**11 30 57.5**	**-0.6**
comp=Z,3.6nm,0.6s,mb4.0,baz=158,slow=5.6,SNR=14							
MAJO	**Matsushiro**	**70.45**	**325**	*e*P	**P**	**11 30 57.8**	**-0.2**
MAJO				pmax	pmax		

comp=Z,7.0nm,0.8s,mb4.1
MAJO Matsushiro 70.45 325 *e*P **P 11 30 57.8 -0.3**
comp=Z,7.1nm,0.8s,mb4.2
KSM Kuching 72.15 279 *e*P **P 11 31 08.1 +0.2**
ASAJ Asahikawa 74.23 333 P **P 11 31 20.9 +1.1**
comp=Z,3.6nm,0.7s,mb4.0,baz=210,slow=14,SNR=3.7
YBH Yreka Blue Hor 82.27 39 P **P 11 32 03.0 +0.4**
comp=Z,3.2nm,0.8s,mb3.9,baz=154,slow=7.4,SNR=5.2
NVAR Mina Array Bea 83.03 44 P **P 11 32 06.3 0.0**
comp=Z,1.9nm,0.8s,mb3.7,baz=217,slow=7.9,SNR=9.2
NVAR Mina Array Bea 83.03 44 P **P 11 32 06.3 0.0**
TUC Tucson 84.98 52 *e*P **P 11 32 16.3 +0.4**
TUC pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
TUC Tucson 84.98 52 *e*P **P 11 32 16.3 +0.4**
comp=Z,2.7nm,0.9s,mb3.9
WVOR Wild Horse Val 85.12 41 *e*P **P 11 32 16.6 +0.1**
WVOR pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
WVOR Wild Horse Val 85.12 41 *e*P **P 11 32 16.6 0.0**
comp=Z,1.6nm,0.6s,mb3.8
HLID Hailey 88.32 41 *e*P **P 11 32 31.2 -0.4**
comp=Z,2.3nm,1.0s,mb3.9
MNTX Cornudas Mount 88.74 55 *e*P **P 11 32 33.4 -0.1**
comp=Z,3.1nm,0.8s,mb4.2
LTX Lajitas 89.03 58 *e*P **P 11 32 35.2 +0.3**
LTX pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
LTX Lajitas 89.03 58 *e*P **P 11 32 35.2 +0.3**
comp=Z,1.9nm,0.7s,mb4.0
PLCA Paso Flores 89.40 134 P **P 11 32 36.5 -0.1**
comp=Z,1.6nm,0.7s,mb3.9,baz=248,slow=18,SNR=4.4
ANMO Albuquerque 89.41 52 *e*P **P 11 32 36.4 -0.2**
ANMO pmax pmax
comp=Z,4.0nm,1.4s
ANMO Albuquerque 89.41 52 *e*P **P 11 32 36.4 -0.2**
comp=Z,3.9nm,1.4s,mb4.0
PDAR Pinedale Array 90.96 44 P **P 11 32 43.2 -0.6**
comp=Z,0.9nm,0.9s,mb3.7,baz=228,slow=3.3,SNR=6.9
BVAR Borovoye Array 119.16 319 PKiKP PKiKP 11 38 23.0 -1.4
comp=Z,0.9nm,0.4s,baz=115,slow=1.0,SNR=8.3
ZRNK Zerenda 120.00 319 *e*PKIKP PKPdf 11 38 24.1 -1.9
FINES FINESS Array B 136.64 342 PKP PKPdf 11 38 58.6 +1.1
comp=Z,0.4nm,0.4s,baz=110,slow=3.9,SNR=5.5
FINES SKP 11 41 33.5
comp=Z,1.4nm,1.0s,baz=69,slow=10,SNR=3.8
AKASG Malin Array Be 143.45 329 PKP PKPdf 11 39 07.2 -2.6
comp=Z,2.8nm,0.3s,baz=43,slow=4.2,SNR=34
AKASG Malin Array Be 143.45 329 PKP PKPdf 11 39 07.2 -2.6
BR131 Keskin Array S 146.62 310 *e*PKPbc PKPbc 11 39 16.7 -1.2
BRTR Keskin Array B 146.62 310 PKPbc PKPbc 11 39 17.6 -0.3
comp=Z,1.8nm,0.6s,baz=128,slow=4.6,SNR=13
EIL Elat 148.03 291 *e*PKPbc PKPbc 11 39 20.6 -1.0
KHC Kasperske Hory 150.84 342 *e*PKPbc PKPbc 11 39 27.0 -1.3
GERES GERESS Array B 151.07 342 PKPbc PKPbc 11 39 27.7 -1.1
comp=Z,0.8nm,0.6s,baz=346,slow=2.8,SNR=7.0
GERES PKPab PKPab 11 39 39.0 -0.4
comp=Z,0.3nm,0.5s,baz=347,slow=4.0,SNR=3.4

IGQ 18 11:50:01.1, 096S×8096W, h20km±9km, Mb4.0, Ms3.8, 1C-6D, Error ellipse: s-maj=11.6km s-min=5.4km az=35.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.02**	**47**	P	Pb	11 50 19.9	-0.3
JAMA				S	Sb	11 50 32.8	-0.4
MAG1	**Magdalena**	**1.48**	**53**	⇓P	Pn	11 50 27.2	+0.7
MAG1				S	Sn	11 50 48.8	+3.4
CAMI	**Rancho Maria**	**2.47**	**83**	⇓P	Pn	11 50 44.2	+4.0
PINO	**Pino**	**2.48**	**71**	P	Pn	11 50 40.9	+0.5
PINO				S	Sn	11 51 10.9	+0.8
NAS1	**Nasa**	**2.50**	**83**	P	Pn	11 50 44.2	+3.5
YANA	**Yana**	**2.53**	**71**	⇓P	Pn	11 50 43.0	+1.9
ARRY	**Arrayan**	**2.56**	**102**	P	Pn	11 50 43.1	+1.8
ARRY				S	Sn	11 51 13.5	+1.5
VC1	**Cotopaxi 1**	**2.58**	**83**	⇑P	Pn	11 50 46.0	+4.3
ANTI	**Antisana**	**2.84**	**80**	⇓P	Pn	11 50 48.7	+3.3
ANTI				S	Sn	11 51 20.9	+1.9
CAYR	**Refugio Cayambe**	**3.11**	**72**	⇓P	Pn	11 50 53.8	+4.8
CAYR				S	Sn	11 51 29.8	+4.3
ANGU	**Angureal**	**3.12**	**71**	⇓P	Pn	11 50 53.8	+4.7

*ISCJB **18** 12:04:45.3±2.0, 171S±01×1744W±01, h65km±20km, mb4.4/12, Error ellipse: s-maj=26.3km s-min=12.8km az=94.6*
*IDC **18** 12:04:45.0±2.3, 1708S×17451W, h45km±24km, mb4.1/7, mb1 4.3/8, mb1mx4.0/16, mbtmp4.3/8, ML2.0/1, Error ellipse: s-maj=42.6km s-min=14.4km az=131.0*
*NEIC **18** 12:04:47.0±1.6, 171.5S×17433W, h67km±15km, mb4.9/6, Error ellipse: s-maj=20.2km s-min=10.1km az=139.0*
ISC 18 12:04:47.2±1.7, 171S±01×1743W±01, h69km±18km, n28, σ0°95/25, mb4.4/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.03**	**38**	P	**Pn**	**12 05 46.8**	**+0.4**
	5.1nm,0.3s,baz=82,slow=21,SNR=11						
AFI				S	**Sn**	**12 06 32.2**	**-0.2**
	30nm,0.3s,baz=91,slow=22,SNR=11						
URZ	**Urewera**	**22.35**	**198**	P	**P**	**12 09 39.1**	**-0.3**
	3.0nm,0.5s,mb3.9,baz=255,slow=20,SNR=7.1						
ARMA	**Armidale**	**33.72**	**241**	*e*P	**P**	**12 11 22.8**	**+0.9**
CTA	**Charters Tower**	**37.43**	**259**	*e*P	**P**	**12 11 54.4**	**+0.7**
	7.1nm,1.2s,mb4.5						
CTAO	**Charters Tower**	**37.43**	**259**	*e*P	**P**	**12 11 54.5**	**+0.8**
	29nm,1.3s,mb5.0						
PMG	**Port Moresby**	**38.22**	**277**	P	**P**	**12 11 59.0**	**-1.3**
STKA	**Stephens Creek**	**42.43**	**241**	*e*P	**P**	**12 12 33.2**	**-1.9**
	5.9nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**42.43**	**241**	P	**P**	**12 12 33.0**	**-2.1**
	6.5nm,0.8s,mb4.4,baz=69,slow=6.8,SNR=13						
STKA	**Stephens Creek**	**42.43**	**241**	*e*P	**P**	**12 12 33.1**	**-2.0**
WB2	**Warramunga Arr**	**48.60**	**258**	*e*P	**P**	**12 13 24.0**	**+0.1**
WRAB	**Tennant Creek**	**48.61**	**258**	*e*P	**P**	**12 13 23.8**	**-0.1**
	16nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**48.62**	**258**	P	**P**	**12 13 23.8**	**-0.2**
	3.3nm,0.5s,mb4.5,baz=97,slow=7.3,SNR=20						
AS31	**Alice Springs**	**48.76**	**253**	*e*P	**P**	**12 13 25.2**	**+0.1**
ASAR	**Alice Springs**	**48.76**	**253**	P	**P**	**12 13 25.1**	**0.0**
	20nm,0.7s,mb5.1,baz=89,slow=8.2,SNR=260						
ASPA	**Alice Springs**	**48.76**	**253**	*e*P	**P**	**12 13 25.2**	**+0.1**
KAKA	**Kakadu**	**51.52**	**267**	*e*P	**P**	**12 13 48.9**	**+3.0**
	35nm,1.5s,mb5.2						
MBWA	**Marble Bar**	**62.05**	**255**	*e*P	**P**	**12 15 00.3**	**-0.2**
	20nm,1.4s,mb5.0						
MUN	**Mundaring**	**63.95**	**242**	*e*P	**P**	**12 15 12.7**	**-0.4**
MJAR	**Matsushiro Arr**	**69.70**	**321**	P	**P**	**12 15 48.3**	**-1.4**
	0.6nm,0.5s,mb3.6,baz=141,slow=5.6,SNR=4.8						
QSPA	**South Pole Qui**	**72.92**	**180**	*e*P	**P**	**12 16 09.1**	**0.0**
	3.0nm,0.8s,mb4.2						
KSM	**Kuching**	**76.48**	**276**	*e*P	**P**	**12 16 31.7**	**+2.1**
PV10	**Paradox Valley**	**82.34**	**46**	P	**P**	**12 17 00.4**	**-1.1**
PDAR	**Pinedale Array**	**84.13**	**42**	P	**P**	**12 17 11.9**	**+1.2**
	0.8nm,0.8s,mb3.6,baz=226,slow=3.6,SNR=7.9						
ILAR	**Eielson Array**	**84.31**	**11**	P	**P**	**12 17 11.8**	**+0.1**
	0.8nm,0.7s,mb3.7,baz=228,slow=6.1,SNR=11						
BVAR	**Borovoye Array**	**118.70**	**321**	PKP	PKPdf	12 23 27.1	-0.3
	1.1nm,0.6s,baz=114,slow=1.2,SNR=11						
BR131	**Keskin Array S**	**146.91**	**319**	*e*PKPbc	PKPbc	12 24 22.9	+1.2
BRTR	**Keskin Array B**	**146.91**	**319**	PKPbc	PKPbc	12 24 23.1	+1.4
	2.2nm,0.9s,baz=146,slow=2.4,SNR=10						
GERES	**GERESS Array B**	**147.71**	**350**	PKPbc	PKPbc	12 24 23.6	-0.4
	0.8nm,0.8s,baz=323,slow=2.0,SNR=5.2						

*IDC **18** 12:14:16.1±1.5, 1605N×12166E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=69.3km s-min=24.4km az=81.0*
*ISCJB **18** 12:14:32.9±2.4, 138N±01×1199E±01, h30km±10km, mb3.5/2, Error ellipse: s-maj=26.1km s-min=13.0km az=69.9*
*MAN **18** 12:14:34.9, 1377N×11999E, h26km, mb2.9, ML4.3, MS2.3*
ISC 18 12:14:34.2±2.2, 138N±01×1199E±01, h27km±8km, n9, σ0°66/11, mb3.5/2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**97**	*e*P	**Pb**	**12 14 41.3**	**-0.1**
LUBP				*e*S	**Sb**	**12 14 46.1**	**-0.3**
PGP	**Puerto Galera**	**1.02**	**105**	*e*P	**Pn**	**12 14 53.1**	**+0.4**
TGY	**Tagaytay City**	**1.02**	**71**	Pn	**Pn**	**12 14 52.4**	**-0.3**
	131nm,0.3s,baz=327,slow=0.9,SNR=14						
TGY	**Tagaytay City**	**1.02**	**71**	*e*P	**Pn**	**12 14 52.3**	**-0.4**
TGY				*e*S	**Sn**	**12 15 06.0**	**-0.2**
SJMP	**San Jose**	**1.74**	**138**	*e*P	**Pn**	**12 15 03.3**	**+0.8**
BALP	**Baler**	**2.52**	**39**	*e*P	**Pn**	**12 15 14.0**	**+0.7**
CUYO	**Cuyo Island**	**3.09**	**160**	*e*P	**Pn**	**12 15 21.8**	**+0.7**
WRA	**Warramunga Arr**	**36.37**	**157**	P	**P**	**12 21 34.5**	**-1.5**
	0.4nm,0.4s,mb3.7,baz=332,slow=10.0,SNR=4.8						
ASAR	**Alice Springs**	**39.63**	**160**	P	**P**	**12 22 03.2**	**-0.3**
	0.3nm,0.6s,mb3.2,baz=336,slow=6.3,SNR=5.0						

*NEIC **18** 12:14:39.9±2.4, 1506S×16725E, h205km±20km, mb4.3/5, Error ellipse: s-maj=22.4km s-min=16.6km az=222.0*
*ISCJB **18** 12:14:40.6±3.1, 152S±02×167.1E±02, h218km±27km, mb4.1/10, Error ellipse: s-maj=31.4km s-min=23.9km az=108.0*
*IDC **18** 12:14:40.8±3.8, 1520S×16726E, h214km±33km, mb3.8/8, mb1 3.8/9, mb1mx3.7/18, mbtmp4.3/9, Error ellipse: s-maj=37.8km s-min=26.9km az=69.0*
ISC 18 12:14:39.9±3.0, 151S±02×1673E±02, h202km±25km, n22, σ0°72/23, mb4.1/10, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.96**	**186**	P	**Pn**	**12 16 19.9**	**+0.3**
	1.0nm,0.3s,baz=60,slow=20,SNR=20						
DZM				S	**Sn**	**12 17 37.9**	**-0.8**
	0.4nm,0.3s,baz=15,slow=17,SNR=1.9						
PMG	**Port Moresby**	**20.45**	**284**	P	**P**	**12 19 02.5**	**+0.7**
	4.6nm,0.6s,baz=81,slow=13,SNR=3.2						
CTA	**Charters Tower**	**20.62**	**253**	*e*P	**P**	**12 19 04.3**	**+0.6**
	5.8nm,0.8s						
CTA	**Charters Tower**	**20.62**	**253**	P	**P**	**12 19 04.4**	**+0.8**
	6.5nm,0.7s,baz=90,slow=13,SNR=4.9						
CTAO	**Charters Tower**	**20.62**	**253**	*e*P	**P**	**12 19 04.2**	**+0.6**
	12nm,0.9s						
ARMA	**Armidale**	**20.93**	**221**	*e*P	**P**	**12 19 09.1**	**+2.2**
STKA	**Stephens Creek**	**28.74**	**230**	⇓*i*P	**P**	**12 20 18.5**	**0.0**
	6.1nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**28.74**	**230**	P	**P**	**12 20 18.6**	**+0.1**
	8.4nm,0.5s,mb4.7,baz=49,slow=8.4,SNR=38						
WB2	**Warramunga Arr**	**31.72**	**256**	*e*P	**P**	**12 20 43.8**	**-0.8**
WRAB	**Tennant Creek**	**31.72**	**257**	*e*P	**P**	**12 20 43.6**	**-1.1**
	3.1nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**31.73**	**256**	P	**P**	**12 20 44.0**	**-0.7**
	2.8nm,0.9s,mb3.8,baz=86,slow=8.6,SNR=11						
AS31	**Alice Springs**	**32.53**	**250**	*e*P	**P**	**12 20 51.4**	**-0.3**
ASAR	**Alice Springs**	**32.53**	**250**	P	**P**	**12 20 51.4**	**-0.4**
	3.7nm,0.4s,mb4.3,baz=79,slow=9.1,SNR=137						
ASPA	**Alice Springs**	**32.54**	**250**	*e*P	**P**	**12 20 51.4**	**-0.4**
FORT	**Forrest**	**39.10**	**240**	*e*P	**P**	**12 21 48.3**	**+0.8**
	8.6nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**39.94**	**260**	*e*P	**P**	**12 21 54.8**	**+0.4**
	9.4nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**39.94**	**260**	P	**P**	**12 21 54.4**	**0.0**
	6.6nm,0.5s,mb4.3,baz=96,slow=8.7,SNR=18						
MBWA	**Marble Bar**	**45.44**	**255**	*e*P	**P**	**12 22 39.1**	**+0.5**
	7.1nm,0.7s,mb4.1						
KSM	**Kuching**	**58.68**	**281**	P	**P**	**12 24 15.4**	**-0.7**
QSPA	**South Pole Qui**	**74.91**	**180**	*e*P	**P**	**12 25 58.7**	**+0.2**
	8.8nm,1.3s,mb4.2						
SONM	**Songino Array**	**82.81**	**324**	P	**P**	**12 26 41.6**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=159,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**97.48**	**316**	P	**P**	**12 27 50.3**	**-0.4**
	0.3nm,0.6s,mb3.7,baz=120,slow=4.8,SNR=3.7						

NEIC 18 12:15:49.7, 2412N×12163E, h35km, ML4.1(TAP), After TAP., Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.06**	**329**	*e*Pn	Pn	12 15 56.5	+0.9
NACB				*e*Sn	Sn	12 16 00.0	+0.4
YHNB	**Yeheng**	**0.59**	**337**	*e*Pn	Pn	12 16 04.0	+2.3
YHNB				*e*Sn	Sn	12 16 12.6	+2.5
TATO	**Taipei**	**0.86**	**351**	*e*Pn	Pn	12 16 08.4	+3.1
BATP	**Bataraza**	**15.67**	**194**	*e*P	Pn	12 19 55.1	+27
CTAO	**Charters Tower**	**50.06**	**149**	P	P	12 24 39.1	-1.8
	9.3nm,1.0s						

*NIED **18** 12:19:00, 4160N×14190E, h53km, Mw3.8 Best double couple: M0=5.06000×10^14 NP1:φ0=21.00000°, δ70.00000°, λ90.00000°. NP2:φ0=202.00000°, δ20.00000°, λ91.00000°.*
*ISCJB **18** 12:19:18.3±0.3, 4157N±003×14192E±004, h72km±3km, mb4.1/24, Error ellipse: s-maj=6.4km s-min=3.9km az=75.0*
*MOS **18** 12:19:18.9±0.9, 4156N×14200E, h86km, mb4.2/9, Error ellipse: s-maj=18.1km s-min=9.4km az=79.5*
*JMA **18** 12:19:19.0±0.1, 4159N×14192E, h65km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φ0=180.00000°, δ23.00000°, λ68.00000°. NP2:φ0=24.00000°, δ69.00000°, λ99.00000°. Principal axes: T Plg65.0000°, Azm309.0000°; N Plg8.0000°, Azm201.0000°; P Plg23.0000°, Azm107.0000°;*
JMA Felt I J1.
*IDC **18** 12:19:19.9±1.7, 4158N×14198E, h74km±14km, mb3.5/11, mb1 3.7/14, mb1mx3.6/24, mbtmp3.8/14, MS3.2/2, Ms1 3.2/2, ms1mx2.7/21 Error ellipse: s-maj=20.9km s-min=11.7km az=110.0*
*NEIC **18** 12:19:22.3±0.4, 4149N×14187E, h100km, mb4.2/8, Error ellipse: s-maj=12.0km s-min=6.4km az=114.0*
NEIC Recorded [1 JMA] in southwestern Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.
ISC 18 12:19:19.3±0.3, 4158N±003×14193E±004, h66km±3km, n60, σ0°86/76, mb4.1/24, 1C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.69**	**253**	⇓P	**Pn**	**12 19 33.5**	**-0.3**
JOT				*e*S	**Sn**	**12 19 44.0**	**-0.4**
JKB	**Kayabe**	**0.74**	**295**	⇓P	**Pn**	**12 19 33.7**	**-0.6**
JKB				*e*S	**Sn**	**12 19 44.8**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.93**	**41**	P	**Pn**	**12 19 36.0**	**-0.6**
JEM	**Erimo**	**1.01**	**64**	P	**Pn**	**12 19 37.5**	**-0.2**
JEM				*e*S	**Sn**	**12 19 51.5**	**+0.1**
JTM	**Tenmabayashi**	**1.03**	**220**	⇓P	**Pn**	**12 19 37.9**	**0.0**
JTM				*e*S	**Sn**	**12 19 51.3**	**-0.4**
JNB	**Noboribetsu**	**1.11**	**323**	⇓P	**Pn**	**12 19 38.3**	**-0.6**
JNB				*e*S	**Sn**	**12 19 52.7**	**-0.8**
JSR	**Shiriuchi**	**1.14**	**268**	⇓P	**Pn**	**12 19 39.1**	**-0.2**
JSR				*e*S	**Sn**	**12 19 54.1**	**-0.1**
JBT2	**Biratori 2**	**1.24**	**15**	P	**Pn**	**12 19 41.0**	**+0.4**
JBT2				*e*S	**Sn**	**12 19 57.4**	**+0.9**
JANG	**Nango**	**1.25**	**195**	⇑P	**Pn**	**12 19 40.2**	**-0.6**
JANG				*e*S	**Sn**	**12 19 55.6**	**-1.2**
JYM2	**Yakumo 2**	**1.28**	**295**	⇓P	**Pn**	**12 19 41.5**	**+0.3**
JEW	**Eniwo**	**1.30**	**344**	⇓P	**Pn**	**12 19 41.7**	**+0.2**
JEW				*e*S	**Sn**	**12 19 58.2**	**+0.1**
JCH	**Churui**	**1.48**	**46**	⇓P	**Pn**	**12 19 44.5**	**+0.7**
JCH				*e*S	**Sn**	**12 20 03.3**	**+1.0**
JFR	**Furan**	**1.65**	**17**	P	**Pn**	**12 19 46.3**	**+0.2**
JFR				*e*S	**Sn**	**12 20 06.5**	**+0.1**
JOSM	**Okushiri--Mats**	**1.90**	**286**	⇓P	**Pn**	**12 19 49.1**	**-0.4**
ASAJ	**Asahikawa**	**2.58**	**11**	P	**Pn**	**12 19 59.6**	**+1.0**
	6.2nm,0.3s,baz=224,slow=10,SNR=57						
ASAJ				S	**Sn**	**12 20 29.8**	**+0.9**
	6.2nm,0.3s,baz=106,slow=27,SNR=8.1						
ASAJ	**Asahikawa**	**2.58**	**11**	P	**Pn**	**12 19 59.7**	**+1.1**
ASAJ				S	**Sn**	**12 20 29.8**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,6.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.79**	**48**	⇓*i*P	**Pn**	**12 20 15.3**	**+0.1**
YUK				*i* S	**Sn**	**12 20 56.1**	**-2.4**
YUK				pmax	pmax		
	comp=Z,250nm,0.4s						
YUK				smax			
	comp=N,420nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
YUK				smax			
	comp=E,2μm,0.6s						
MAJO	**Matsushiro**	**5.81**	**211**	*e*P	**Pn**	**12 20 43.0**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**5.81**	**211**	*e*Pn	**Pn**	**12 20 43.0**	**+0.2**
	comp=Z,5.2nm,0.5s						
MAT	**Matsushiro**	**5.81**	**211**	P	**Pn**	**12 20 44.9**	**+2.1**
MAT				*e*S	**Sn**	**12 21 53.7**	**+5.7**
MAT	**Matsushiro**	**5.81**	**211**	*e*P	**Pn**	**12 20 45.0**	**+2.2**
MAT				S	**Sn**	**12 21 54.0**	**+6.0**
MAT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAT	**Matsushiro**	**5.81**	**211**	*e*P	**Pn**	**12 20 45.0**	**+2.2**
	comp=Z,4.7nm,0.6s						
MAT				S	**Sn**	**12 21 54.0**	**+6.0**
MJAR	**Matsushiro Arr**	**5.81**	**211**	P	**Pn**	**12 20 45.2**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=22,slow=15,SNR=10.0						
JNU	**Nakatsue**	**12.18**	**230**	P	**Pn**	**12 22 11.0**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=225,slow=1.0,SNR=3.0						
JOW	**Kunigami**	**18.51**	**222**	LR	LR	12 30 41.8	
	comp=Z,149nm,19.7s,baz=39,slow=37						
SONM	**Songino Array**	**25.85**	**296**	P	**P**	**12 24 45.6**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.3,baz=93,slow=9.0,SNR=7.5						
SONM				LR	LR	12 35 46.2	
	comp=Z,25nm,19.0s,baz=294,slow=38						
ZAL	**Zalesovo**	**39.29**	**308**	P	**P**	**12 26 41.7**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.0,baz=37,slow=11,SNR=5.6						
ZAL	**Zalesovo**	**39.29**	**308**	P	**P**	**12 26 41.7**	**+0.1**
MKAR	**Makanchi Array**	**42.19**	**298**	P	**P**	**12 27 05.2**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.7,baz=94,slow=11,SNR=10						
KURK	**Kurchatov**	**43.56**	**304**	*e*P	**P**	**12 27 15.8**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
KURK	**Kurchatov**	**43.56**	**304**	*e*P	**P**	**12 27 15.8**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.0						
COLA	**College**	**45.06**	**35**	P	**P**	**12 27 22.8**	**-5.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
COLA	**College**	**45.06**	**35**	P	**P**	**12 27 22.8**	**-5.7**
	comp=Z,3.8nm,0.9s,mb4.1						
ILAR	**Eielson Array**	**45.48**	**35**	P	**P**	**12 27 32.2**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.7,baz=261,slow=5.1,SNR=11						
JIRN	**Jiri**	**47.16**	**271**	*e*P	**P**	**12 27 46.7**	**+1.7**
	comp=Z,5.2nm,0.3s,mb4.8						
GUN	**Gumba**	**47.26**	**272**	*e*P	**P**	**12 27 46.7**	**+0.9**
	comp=Z,20nm,0.4s,mb5.2						
KKN	**Kakani**	**47.77**	**272**	*e*P	**P**	**12 27 50.9**	**+1.1**
	comp=Z,13nm,0.7s,mb4.9						
BRVK	**Borovoye**	**47.95**	**310**	P	**P**	**12 27 50.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
BRVK	**Borovoye**	**47.95**	**310**	P	**P**	**12 27 50.0**	**-1.2**
	comp=Z,1.5nm,0.8s,mb3.9						
DMN	**Daman**	**48.00**	**272**	*e*P	**P**	**12 27 53.1**	**+1.6**
	comp=Z,2.9nm,0.3s,mb4.5						
GKN	**Gorkha**	**48.14**	**273**	*e*P	**P**	**12 27 53.6**	**+1.0**
	comp=Z,4.9nm,0.4s,mb4.7						
ZRNK	**Zerenda**	**48.72**	**310**	*e*P	**P**	**12 27 56.7**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**48.72**	**310**	*e*P	**P**	**12 27 56.7**	**-0.4**
	comp=Z,4.8nm,1.1s,mb4.3						
KOLN	**Koldanda**	**49.05**	**273**	*e*P	**P**	**12 27 59.3**	**-0.3**
	comp=Z,8.5nm,0.8s,mb4.7						
INK	**Inuvik**	**50.19**	**29**	*e*P	**P**	**12 28 08.4**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**50.19**	**29**	*e*P	**P**	**12 28 08.4**	**+0.1**
	comp=Z,1.7nm,0.5s,mb4.2						
RES	**Resolute Bay**	**58.11**	**15**	*e*P	**P**	**12 29 04.6**	**-1.2**
RES				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
RES	**Resolute Bay**	**58.11**	**15**	*e*P	**P**	**12 29 04.6**	**-1.2**
	comp=Z,3.3nm,0.7s,mb4.5						
YKA	**Yellowknife Ar**	**59.70**	**32**	P	**P**	**12 29 17.0**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.6,baz=299,slow=6.0,SNR=5.2						
WRA	**Warramunga Arr**	**61.62**	**188**	P	**P**	**12 29 28.7**	**-1.2**
	comp=Z,0.6nm,0.8s,mb3.7,baz=6.8,slow=6.9,SNR=3.4						
JOF	**Joensuu**	**62.16**	**331**	*e*p	**P**	**12 29 32.6**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**65.00**	**332**	P	**P**	**12 29 51.5**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.1,baz=44,slow=8.6,SNR=17						
FINES	**FINESS Array B**	**65.00**	**332**	P	**P**	**12 29 51.5**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**65.34**	**188**	P	**P**	**12 29 54.0**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.1,baz=8.0,slow=7.1,SNR=5.1						
HFS	**Hagfors**	**70.12**	**335**	P	**P**	**12 30 23.4**	**-1.1**
	comp=Z,0.9nm,0.3s,mb4.0,baz=40,slow=5.8,SNR=9.1						
HFS	**Hagfors**	**70.12**	**335**	P	**P**	**12 30 23.4**	**-1.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**70.16**	**337**	P	**P**	**12 30 23.8**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.5,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**70.16**	**337**	P	**P**	**12 30 23.8**	**-1.0**
	comp=Z,1.1nm,0.8s,mb3.8,baz=39,slow=5.8,SNR=3.8						
NOA	**NORSAR Array B**	**70.16**	**337**	P	**P**	**12 30 23.8**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**74.22**	**47**	P	**P**	**12

LTB *e*S **Sn** **13 14 00.0 -4.4**
LTB AML AML 13 14 53.7
comp=Z,95nm,0.6s
LTB Lobatse 7.79 241 Pn **Pn** **13 12 35.1 -1.3**
comp=Z,2.0nm,0.3s,baz=68,slow=12,SNR=42
LTB Sn **Sn** **13 14 02.1 -2.3**
comp=Z,2.7nm,0.3s,baz=18,slow=16,SNR=2.3
LTB Lg 13 14 39.6
comp=Z,4.0nm,0.3s,baz=134,slow=21,SNR=4.6
LTB Lobatse 7.79 241 *e*Pn **Pn** **13 12 36.5 +0.1**
comp=Z,0.9nm,0.8s
LTB *e*Sn **Sn** **13 14 02.8 -1.6**
LTB *e*Sg Sn 13 14 42.4 +38
BOSA Boshof 10.13 223 *e*P **Pn** **13 13 07.3 -1.1**
BOSA *e*S **Sn** **13 14 58.7 -3.1**
BOSA AML AML 13 16 31.7
comp=Z,40nm,0.7s
BOSA Boshof 10.13 223 Pn **Pn** **13 13 07.5 -0.9**
comp=Z,1.6nm,0.3s,baz=53,slow=13,SNR=28
BOSA Sn **Sn** **13 14 58.9 -2.9**
comp=Z,2.0nm,0.3s,baz=316,slow=18,SNR=3.5
BOSA Lg 13 15 58.1
comp=Z,2.5nm,0.3s,baz=314,slow=19,SNR=4.0
BOSA LR LR 13 17 19.5
comp=Z,1μm,18.7s,baz=54,slow=40
BOSA Boshof 10.13 223 *e*Pn **Pn** **13 13 07.7 -0.7**
comp=Z,104nm,1.2s
BOSA *e*Sn **Sn** **13 14 57.7 -4.0**
BOSA *e*Sg Sn 13 15 51.7 +50
OPO Ambohidratompo 13.54 81 Pn **Pn** **13 13 52.9 -2.2**
comp=Z,1.1nm,0.3s,baz=256,slow=12,SNR=9.1
OPO Sn **Sn** **13 16 15.5 -10**
comp=Z,1.5nm,0.3s,baz=158,slow=19,SNR=4.1
TSUM Tsumeb 14.70 276 Pn **Pn** **13 14 10.5 -0.4**
comp=Z,0.7nm,0.3s,baz=105,slow=13,SNR=12
TSUM Sn **Sn** **13 16 49.0 -4.7**
comp=Z,0.8nm,0.3s,baz=166,slow=22,SNR=3.4
TSUM Lg 13 18 23.6
comp=Z,1.9nm,0.3s,baz=173,slow=13,SNR=4.2
TSUM LR LR 13 19 53.7
comp=Z,912nm,18.5s,baz=147,slow=38
TSUM Tsumeb 14.70 276 *e*Pn **Pn** **13 14 09.7 -1.2**
comp=Z,13nm,0.8s
SUR Sutherland 15.49 222 *e*P **Pn** **13 14 22.2 +0.8**
SUR *e*S **Sn** **13 17 08.3 -4.6**
SUR Sutherland 15.49 222 Pn **Pn** **13 14 21.4 0.0**
comp=Z,2.0nm,0.3s,baz=60,slow=14,SNR=20
SUR Sn **Sn** **13 17 06.5 -6.4**
comp=Z,0.6nm,0.3s,baz=108,slow=16,SNR=4.4
SUR Lg 13 18 44.4
comp=Z,1.0nm,0.3s,baz=146,slow=21,SNR=2.8
SUR LR LR 13 20 26.0
comp=Z,1μm,18.8s,baz=31,slow=38
SUR Sutherland 15.49 222 *e*Pn **Pn** **13 14 22.6 +1.2**
comp=Z,37nm,1.0s
SUR *e*Sn **Sn** **13 17 07.0 -5.9**
CVNA Calvinia 15.61 227 *e*P **Pn** **13 14 23.3 +0.4**
CVNA *e*S **Sn** **13 17 07.4 -8.4**
CVNA AML AML 13 18 48.4
comp=Z,17nm,0.6s
KMBO Kilima Mbogo 20.51 12 P **P** **13 15 22.0 +0.9**
comp=Z,1.5nm,0.6s,baz=193,slow=13,SNR=4.7
KMBO Lg 13 21 17.0
comp=Z,21nm,1.2s,baz=274,slow=22,SNR=6.2
KMBO LR LR 13 22 44.3
comp=Z,112nm,19.8s,MS3.2,baz=89,slow=35
KMBO Kilima Mbogo 20.51 12 *e*P **P** **13 15 22.5 +1.4**
comp=Z,22nm,1.7s
TORD Torodi Ar. Bea 46.11 315 P **P** **13 19 07.2 +0.1**
comp=Z,2.5nm,0.9s,mb4.1,baz=128,slow=5.5,SNR=8.8
DBIC Dimbokro 46.49 303 LR LR 13 37 14.9
comp=Z,152nm,21.1s,MS3.9,baz=104,slow=34
DBIC Dimbokro 46.49 303 P **P** **13 19 11.6 +1.5**
comp=Z,4.6nm,1.0s,mb4.4
SNAA Sanae 54.39 193 P **P** **13 20 11.9 +2.0**
comp=Z,6.8nm,1.2s,mb4.5
PSI Prapat 68.68 78 LR LR 13 46 43.5
comp=Z,240nm,20.0s,MS4.4,baz=200,slow=32
NWAO Narrogin (SRO) 73.99 119 LR LR 13 47 46.0
comp=Z,77nm,18.3s,MS4.0,baz=316,slow=30
AKTO Aktyubinsk 74.80 16 LR LR 13 57 16.6
comp=Z,48nm,21.4s,MS3.8,baz=0.0,slow=37
BDFB Brasilia 76.35 258 LR LR 13 52 23.0
comp=Z,268nm,19.6s,MS4.6,baz=118,slow=33
VNDA Vanda 76.92 170 LR LR 13 54 06.3
comp=Z,106nm,18.6s,MS4.2,baz=52,slow=34
MKAR Makanchi Array 81.06 32 P **P** **13 22 56.5 -1.5**
comp=Z,0.6nm,0.9s,mb3.5,baz=177,slow=2.9,SNR=4.1
MKAR LR LR 13 58 58.9
comp=Z,29nm,20.3s,MS3.6,baz=270,slow=36
CPUP Villa Florida 81.16 245 LR LR 13 53 42.1
comp=Z,102nm,21.6s,MS4.1,baz=99,slow=32
ZAL Zalesovo 87.16 28 LR LR 14 02 56.0
comp=Z,51nm,20.8s,MS3.9,baz=281,slow=36
ASAR Alice Springs 90.91 116 P **P** **13 23 47.3 +0.6**
comp=Z,1.3nm,1.1s,mb4.2,baz=240,slow=3.9,SNR=6.1
LPAZ La Paz 94.20 251 P **P** **13 24 02.0 +0.1**
comp=Z,0.4nm,0.4s,mb4.2,baz=202,slow=5.4,SNR=2.2
LPAZ LR LR 14 02 07.1
comp=Z,93nm,20.0s,MS4.2,baz=323,slow=33
SONM Songino Array 95.00 40 LR LR 14 06 41.2
comp=Z,58nm,18.2s,MS4.1,baz=61,slow=35
BORG Borgarnes 95.41 339 LR LR 14 08 10.1
comp=Z,32nm,19.6s,MS3.8,baz=349,slow=36
YKA Yellowknife Ar 133.35 340 PKP PKPdf 13 29 58.9 -0.1
comp=Z,0.1nm,0.5s,baz=39,slow=2.0,SNR=4.2
YKA Yellowknife Ar 133.35 340 PKP PKPdf 13 29 58.9 -0.1
PDAR Pinedale Array 142.24 313 PKP PKPdf 13 30 15.9 +0.5
comp=Z,0.4nm,0.9s,baz=126,slow=4.6,SNR=2.7
MSU Marysvale 145.64 308 *e*PKPdf PKPdf 13 30 23.7 +2.4
MVU Marysvale 145.66 308 *e*PKPdf PKPdf 13 30 31.1 +10
BMO Blue Mountains 146.20 321 *e*PKPdf PKPdf 13 30 24.2 +2.0
NVAR Mina Array Bea 150.09 311 PKPbc PKPbc 13 30 35.4 +1.8
comp=Z,1.3nm,0.8s,baz=65,slow=3.9,SNR=5.8
NVAR Mina Array Bea 150.09 311 PKPbc PKPbc 13 30 35.4 +1.8

*ISCJB **18** 13:19:20.9±0.6, 2928N±006×5126E±004, h10km, Error ellipse: s-maj=8.2km s-min=4.8km az=24.5*
*THR **18** 13:19:21.7±0.3, 2933N×5118E, h15km, ML3.1*
*CSEM **18** 13:19:22.5±0.1, 2934N×5121E, h18km, ML3.1, Error ellipse: s-maj=2.4km s-min=1.8km az=176.0*
*KISR **18** 13:19:22.5±1.3, 2934N×5105E, h18km, ML3.3*
ISC 18 13:19:22.0±3.0, 2927N±009×512E±01, h3km±32km, n16, σ0§47/23, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.84**	**122**	*e*PG	**Pg**	**13 19 56.4**	**-0.9**
GHIR				*e*SG	**Sg**	**13 20 21.5**	**+0.4**
GHIR				AML	AML	13 20 31.9	
	comp=N,126nm,0.5s						
GHIR				AML	AML	13 20 37.0	
	comp=E,126nm,0.5s						
GHIR	**Ghir-Karzin**	**1.84**	**122**	*e*Pg	**Pg**	**13 19 56.4**	**-0.9**
	SNR=90						
GHIR				*e*Sg	**Sg**	**13 20 21.5**	**+0.4**
	SNR=90						
QRN	**Al-Qurain**	**2.93**	**261**	*e*P	**Pn**	**13 20 09.4**	**0.0**
QRN				AML	AML	13 20 48.0	
	comp=Z,82nm,0.4s						
UMR	**Umm Al-Rimmam**	**3.06**	**276**	*e*P	**Pn**	**13 20 11.5**	**+0.3**
UMR				AML	AML	13 20 51.8	
	comp=Z,80nm,0.3s						
KBD	**Kabd**	**3.07**	**269**	*e*P	**Pn**	**13 20 11.7**	**+0.3**
KBD				*e*S	**Sn**	**13 20 49.0**	**+0.4**
KBD				AML	AML	13 20 50.9	
	comp=Z,203nm,0.4s						
KBD	**Kabd**	**3.07**	**269**	*e*P	**Pn**	**13 20 11.7**	**+0.3**
KBD				*e*S	**Sn**	**13 20 49.0**	**+0.3**
RDF	**Al-Radifah**	**3.22**	**265**	*e*P	**Pn**	**13 20 13.5**	**+0.1**
RDF				AML	AML	13 20 57.2	
	comp=Z,50nm,0.3s						
MIB	**Mutribah**	**3.42**	**280**	*e*P	**Pn**	**13 20 17.0**	**+0.9**
MIB				*e*S	**Sn**	**13 20 55.9**	**-1.2**
MIB				AML	AML	13 21 07.8	
	comp=Z,137nm,0.5s						
MIB	**Mutribah**	**3.42**	**280**	*e*P	**Pn**	**13 20 17.0**	**+0.9**
MIB				*e*S	**Sn**	**13 20 55.9**	**-1.2**
NAY	**Al-Naaiem**	**3.47**	**271**	*e*P	**Pn**	**13 20 16.7**	**-0.1**
NAY				*e*S	**Sn**	**13 20 58.2**	**-0.1**
NASN	**Na'in**	**3.78**	**21**	*e*PN	**Pn**	**13 20 21.2**	**+0.1**
NASN				AML	AML	13 21 09.6	
	comp=N,36nm,0.5s						
NASN				AML	AML	13 21 16.9	
	comp=E,33nm,0.6s						
NASN	**Na'in**	**3.78**	**21**	*e*Pn	**Pn**	**13 20 21.2**	**+0.1**
	SNR=52						
ASAO	**Ashtian**	**5.36**	**349**	*e*PN	**Pn**	**13 20 42.8**	**-0.1**
DAMV	**Damavand**	**6.38**	**6**	*e*PN	**Pn**	**13 20 56.8**	**0.0**
CHTH	**Charan**	**6.62**	**359**	*e*PN	**Pn**	**13 21 00.3**	**+0.1**
SNGE	**Sanandaj**	**6.67**	**332**	*e*PN	**Pn**	**13 21 00.7**	**-0.1**

IDC 18 13:40:59.3±1.6, 619N×12607E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=179.1km s-min=20.6km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.21**	**163**	P	P	13 46 45.2	+0.5
	0.9nm,0.4s,baz=340,slow=10,SNR=21						
ASAR	**Alice Springs**	**30.64**	**166**	P	P	13 47 16.4	+1.3
	0.5nm,0.4s,baz=345,slow=7.2,SNR=26						
STKA	**Stephens Creek**	**40.65**	**160**	P	P	13 48 40.0	-1.0
	1.7nm,0.4s,baz=342,slow=7.7,SNR=6.6						
MKAR	**Makanchi Array**	**55.18**	**325**	P	P	13 50 34.3	+0.6
	0.1nm,0.5s,baz=122,slow=8.0,SNR=5.2						
MKAR				PcP	PcP	13 51 34.7	-0.1
	0.4nm,0.9s,baz=134,slow=4.2,SNR=4.2						
FINES	**FINESS Array B**	**89.37**	**332**	P	P	13 53 56.9	-0.8
	1.0nm,0.8s,baz=74,slow=5.9,SNR=3.9						

*ISK **18** 13:45:15.7, 3698N×2799E, h26km, MD2.6*
*CSEM **18** 13:45:16.9±0.1, 3700N×2798E, h12km, MD2.6, Error ellipse: s-maj=3.0km s-min=2.8km az=138.0*
*NEIC **18** 13:45:16.5, 3700N×2807E, h31km, MD3.0(ATH), After ATH.*
*ISCJB **18** 13:45:17.6±0.5, 3698N±003×2796E±004, h10km±6km, Error ellipse: s-maj=5.6km s-min=4.4km az=79.1*
*ATH **18** 13:45:17.8, 3697N×2797E, h35km±3km, MD3.0/4*
ISC 18 13:45:17.6±0.5, 3699N±004×2798E±004, h16km±7km, n13, σ0§85/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.29**	**58**	*i* PG	**Pg**	**13 45 22.9**	**-0.8**
YER				*i* SG	**Sg**	**13 45 28.6**	**+0.8**
MLSB	**Milas**	**0.35**	**333**	PG	**Pg**	**13 45 24.2**	**-0.6**
MLSB				SG	**Sg**	**13 45 29.8**	**+0.1**
DAT	**Datca**	**0.41**	**232**	PG	**Pg**	**13 45 25.1**	**-0.8**
DAT				SG	**Sg**	**13 45 31.9**	**+0.4**
BODT	**Bodrum**	**0.54**	**278**	PG	**Pg**	**13 45 27.8**	**-0.5**
BODT				SG	**Sg**	**13 45 36.6**	**+1.1**
AYDN	**Tasoluk**	**0.68**	**353**	*i* P	**Pg**	**13 45 30.2**	**-0.7**
AYDN				*i* S	**Sg**	**13 45 41.0**	**+1.1**
ARG	**Arkhangelos**	**0.78**	**171**	*e*PN	**Pb**	**13 45 33.0**	**+0.3**
ARG				*e*SN	**Sb**	**13 45 44.5**	**+1.5**
ARG	**Arkhangelos**	**0.78**	**171**	*e*Pb	**Pb**	**13 45 31.5**	**-1.2**
ARG				*e*Sn	**Sb**	**13 45 44.5**	**+1.5**
NISR	**Nisiros**	**0.78**	**242**	*e*PN	**Pb**	**13 45 33.0**	**+0.3**
SMG	**Samos**	**1.16**	**309**	*e*PN	**Pn**	**13 45 39.5**	**+0.3**
GOLH	**Golhisar**	**1.29**	**78**	*i* P	**Pg**	**13 45 43.0**	**+0.6**
GOLH				*i* S	**Sg**	**13 46 04.1**	**+4.9**
MANT	**Manisa**	**1.57**	**17**	*i* P	**Pg**	**13 45 46.9**	**-0.9**
MANT				*i* S	**Sg**	**13 46 12.8**	**+4.6**
KARP	**Karpathos**	**1.58**	**205**	*e*PB	**Pb**	**13 45 45.0**	**-1.4**
KARP	**Karpathos**	**1.58**	**205**	*e*Pb	**Pb**	**13 45 44.5**	**-1.9**

*ISCJB **18** 14:13:36.4±0.3, 5586S±005×2764W±0.10, h91km, mb5.0/35, Error ellipse: s-maj=8.7km s-min=5.9km az=100.4*
*NEIC **18** 14:13:37.7±0.2, 5590S×2763W, mb5.1/27, Error ellipse: s-maj=7.8km s-min=5.4km az=50.0*
*MOS **18** 14:13:37.1±1.1, 5587S×2761W, h98km, mb5.2/11, Error ellipse: s-maj=25.0km s-min=12.2km az=102.4*
*HRVD **18** 14:13:37.7±0.2, 5600S×2728W, h100km±3km, MW5.2/84, Centroid moment Tensor Solution. LP body waves: s55,c72;Mantle waves: s84,c127; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.63±.25; $M_{\theta\theta}$2.82±.32; $M_{\phi\phi}$-1.19±.27; $M_{r\theta}$-5.64±.15; $M_{\theta\phi}$1.58±.29; $M_{\phi r}$1.69±.14; Best double couple: $M_0$6.56800×10^{16} NP1:ϕs214.00000°, δ22.00000°, λ-159.00000°. NP2: ϕs105.00000°, δ82.00000°, λ-69.00000°. Principal axes: T 6.6750, Plg34.0000°, Azm177.0000°; N -0.2140, Plg21.0000°, Azm281.0000°; P -6.4610, Plg49.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **18** 14:13:37.6, 5590S×2760W, h92km, mB5.4*
*IDC **18** 14:13:38.2±0.6, 5592S×2775W, h97km±4km, mb4.7/18, mb1 4.8/19, mb1mx4.7/21, mbtmp5.0/19, MS3.8/15, Ms1 3.8/15, ms1mx3.8/22, Error ellipse: s-maj=14.8km s-min=9.9km az=43.0*
ISC 18 14:13:37.9±0.3, 5595S±005×2767W±009, h93km, h93km±3.7km: pP-P, n139, σ0§79/75, mb5.0/35, 4C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.33**	**285**	Pn	**Pn**	**14 14 55.2**	**+0.2**
	1μm,0.4s						
HOPE	**Hope Point**	**5.33**	**285**	*e*Pn	**Pn**	**14 14 55.4**	**+0.4**
	1μm,0.6s						
VNA1	**Neumayer--Stat**	**16.99**	**158**	↑*i*Pn	**Pn**	**14 17 32.8**	**+3.2**
VNA1				*e*		14 17 33.9	
VNA1				*e*		14 17 37.4	
VNA1				*e*		14 17 40.0	
VNA1				*e*		14 25 34.4	
VNA1				*e*		14 25 43.3	
VNA3	**Neumayer Olymp**	**17.18**	**160**	↑*i*Pn	**Pn**	**14 17 32.5**	**+0.6**
VNA3				*e*		14 17 33.8	
VNA3				*e*		14 17 37.3	
VNA3				*e*		14 17 40.2	
VNA3				*e*		14 17 43.5	
VNA3				*e*		14 17 46.9	
VNA3				*e*		14 17 51.3	
VNA3				*e*		14 21 00.5	
VNA3				*e*		14 22 10.8	
VNA3				*e*		14 25 34.2	
VNA3				*e*		14 25 43.7	
VNA2	**Neumayer--Watz**	**17.39**	**158**	↑*i*Pn	**Pn**	**14 17 34.3**	**-0.2**
	baz=316,slow=14						
VNA2				*e*		14 17 35.8	
VNA2				*e*		14 17 38.6	
VNA2				*e*		14 17 40.9	
VNA2				*e*		14 17 46.1	
VNA2				*e*		14 18 35.6	
VNA2				*e*		14 18 48.9	
VNA2				*e*		14 19 01.9	
VNA2				*e*		14 21 01.2	
VNA2				*e*		14 22 12.6	
VNA2				*e*		14 25 34.8	
VNA2				*e*		14 25 44.8	
EFI	**East Falkland**	**18.36**	**271**	*e*P	**Pn**	**14 17 46.2**	**-0.1**
EFI				pmax	pmax		
	comp=Z,36nm,0.7s						
EFI	**East Falkland**	**18.36**	**271**	*e*P	**Pn**	**14 17 46.2**	**-0.1**
	comp=Z,36nm,0.7s						
SNAA	**Sanae**	**18.94**	**156**	P	**Pn**	**14 17 52.2**	**-1.0**
	comp=Z,18nm,0.3s,baz=307,slow=10,SNR=563						
SNAA				PcP	PcP	14 22 13.5	-0.1
	comp=Z,0.3nm,0.3s,baz=234,slow=2.6,SNR=4.0						
SNAA				LR	LR	14 24 08.0	
	comp=Z,127nm,18.7s,baz=354,slow=33						
SNAA				ScP	ScP	14 25 37.4	-3.4
	comp=Z,0.3nm,0.3s,baz=358,slow=2.9,SNR=17						
SNAA	**Sanae**	**18.94**	**156**	↑*i*Pn	**Pn**	**14 17 52.1**	**-1.1**
SNAA				*e*		14 17 53.2	
SNAA				*e*		14 17 58.2	
SNAA				*e*		14 18 02.2	
SNAA				*e*		14 25 37.8	
SNAA				*e*		14 25 48.8	
SNAA	**Sanae**	**18.94**	**156**	*e*P	**Pn**	**14 17 52.1**	**-1.1**
SNAA				pmax	pmax		
	comp=Z,247nm,0.6s						
SNAA	**Sanae**	**18.94**	**156**	*e*P	**Pn**	**14 17 52.1**	**-1.1**
	comp=Z,247nm,0.6s						
SNAA				*e*		14 17 53.2	
SNAA				*e*		14 17 58.2	
SNAA				*e*		14 18 02.2	
SNAA				*e*		14 25 37.8	
SNAA				*e*		14 25 48.8	
PMSA	**Palmer Station**	**19.76**	**229**	*e*P	**Pn**	**14 18 02.9**	**+0.1**
	comp=Z,135nm,0.8s						
TRIS	**Tristan da Cun**	**21.55**	**35**	P	**P**	**14 18 20.3**	**+0.7**
	comp=Z,63nm,0.8s,mb5.0						
MAIT	**Maitri**	**22.47**	**147**	*i* P	**P**	**14 18 29.2**	**-0.1**
NVL	**N'lazarevskaya**	**22.50**	**147**	‖*i*P	**P**	**14 18 30.2**	**+0.6**
NVL				pmax	pmax		
	comp=Z,36nm,1.0s,mb4.7						
NVL				MLR	MLR		
	comp=Z,493nm,18.4s						
USHA	**Ushuaia**	**22.95**	**256**	P	**P**	**14 18 34.0**	**-0.2**
	comp=Z,29nm,0.7s,mb4.8,baz=77,slow=9.1,SNR=26						
USHA				LR	LR	14 24 46.0	
	comp=Z,245nm,19.8s,baz=356,slow=29						
USHA				ScP	ScP	14 25 47.0	-3.5
	comp=Z,10nm,0.7s,baz=135,slow=2.9,SNR=8.8						
TRQA	**Tornquist**	**29.04**	**294**	*e*P	**P**	**14 19 28.9**	**-0.1**
	comp=Z,9.7nm,0.8s,mb4.5						
PLCA	**Paso Flores**	**31.72**	**280**	P	**P**	**14 19 52.0**	**-0.7**
	comp=Z,3.6nm,0.7s,mb4.2,baz=137,slow=8.2,SNR=9.3						
PLCA				PcP	PcP	14 22 42.3	+0.1
	comp=Z,2.0nm,0.7s,baz=162,slow=3.2,SNR=3.1						
PLCA				ScP	ScP	14 26 13.4	-3.7
	comp=Z,4.6nm,0.8s,baz=130,slow=4.4,SNR=12						
PLCA				LR	LR	14 32 07.0	
	comp=Z,187nm,21.4s,baz=126,slow=35						
PLCA	**Paso Flores**	**31.72**	**280**	*e*P	**P**	**14 19 51.7**	**-1.0**
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PLCA	**Paso Flores**	**31.72**	**280**	*e*P	**P**	**14 19 51.7**	**-1.0**
	comp=Z,4.5nm,0.8s,mb4.2						
SYO	**Syowa Base**	**31.83**	**141**	‖*e*P	**P**	**14 19 53.6**	**-0.1**
SYO	**Syowa Base**	**31.83**	**141**	‖*e*pP	pP	14 20 10.5	-4.4
SYO	**Syowa Base**	**31.83**	**141**	‖*e*P	pP	14 20 18.1	+3.2
QSPA	**South Pole Qui**	**34.30**	**180**	*e*P	**P**	**14 20 16.3**	**+1.1**
	comp=Z,117nm,0.5s,mb6.0						
QSPA				*e*PcP	PcP	14 22 48.0	-1.4
QSPA				*e*ScP	ScP	14 26 21.5	-4.5
CPUP	**Villa Florida**	**36.54**	**312**	P	**P**	**14 20 34.4**	**-0.1**
	comp=Z,14nm,0.8s,mb5.0,baz=131,slow=7.6,SNR=28						
CPUP				pP	pP	14 20 54.7	-1.2
	comp=Z,2.9nm,0.6s,baz=138,slow=5.9,SNR=2.6						
CPUP				PcP	PcP	14 22 56.2	+0.1
	comp=Z,1.6nm,0.6s,baz=132,slow=4.6,SNR=3.3						
CPUP				ScP	ScP	14 26 30.8	-3.4
	comp=Z,3.4nm,0.6s,baz=158,slow=1.7,SNR=3.6						
CPUP				LR	LR	14 34 03.3	
	comp=Z,123nm,21.1s,baz=137,slow=34						
CPUP	**Villa Florida**	**36.54**	**312**	*e*P	**P**	**14 20 34.3**	**-0.1**
CPUP				*e*		14 22 55.4	
CPUP				pmax	pmax		
	comp=Z,59nm,0.8s						
CPUP	**Villa Florida**	**36.54**	**312**	*e*P	**P**	**14 20 34.3**	**-0.2**
	comp=Z,59nm,0.8s,mb5.6						
CPUP				*e*PcP	PcP	14 22 55.4	-0.7
CFAA	**Coronel Fontan**	**37.27**	**294**	P	**P**	**14 20 39.2**	**-1.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=143,slow=8.8,SNR=22						
CFAA				pP	pP	14 21 01.2	-0.9
	comp=Z,1.2nm,0.7s,baz=143,slow=6.1,SNR=3.7						
CFAA				ScP	ScP	14 26 32.9	-4.0
	comp=Z,0.7nm,0.7s,baz=262,slow=3.0,SNR=7.1						
CFAA				LR	LR	14 34 50.2	
	comp=Z,18nm,18.1s,baz=137,slow=34						
CFAA	**Coronel Fontan**	**37.27**	**294**	P	**P**	**14 20 39.2**	**-1.4**
CFAA				pP	pP	14 21 01.2	-0.9
CFAA				ScP	ScP	14 26 32.9	-4.0
CFAA				LR	LR	14 34 50.2	
MAW	**Mawson**	**40.39**	**144**	*e*P	**P**	**14 21 07.1**	**+0.4**
	comp=Z,20nm,0.5s,mb5.2						
MAW	**Mawson**	**40.39**	**144**	P	**P**	**14 21 07.1**	**+0.5**
	comp=Z,33nm,0.8s,mb5.2,baz=247,slow=10,SNR=21						
MAW				PcP	PcP	14 23 08.1	0.0
	comp=Z,11nm,0.9s,baz=195,slow=3.6,SNR=2.8						
MAW				ScP	ScP	14 26 46.1	-2.8
	comp=Z,18nm,0.7s,baz=268,slow=3.7,SNR=10.0						
MAW				LR	LR	14 35 46.6	
	comp=Z,165nm,18.1s,baz=246,slow=33						
MAW	**Mawson**	**40.39**	**144**	*e*P	**P**	**14 21 07.1**	**+0.4**
MAW				pmax	pmax		
	comp=Z,20nm,0.5s						
SUR	**Sutherland**	**40.88**	**75**	LR	LR	14 33 29.8	
	comp=Z,245nm,21.5s,baz=211,slow=29						
BDFB	**Brasilia**	**43.14**	**331**	P	**P**	**14 21 30.2**	**+1.2**
	comp=Z,15nm,0.7s,mb4.9,baz=165,slow=6.9,SNR=16						
BDFB				LR	LR	14 36 43.4	
	comp=Z,160nm,18.4s,baz=151,slow=32						
SBA	**Scott Base**	**46.16**	**184**	*e*P	**P**	**14 21 54.5**	**+1.4**
SBA				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.2						
SBA	**Scott Base**	**46.16**	**184**	*e*P	**P**	**14 21 54.5**	**+1.5**
	comp=Z,40nm,0.8s,mb5.2						
BOSA	**Boshof**	**46.21**	**76**	P	**P**	**14 21 53.5**	**+0.1**
	comp=Z,9.0nm,0.7s,mb4.6,baz=222,slow=7.0,SNR=22						
BOSA				LR	LR	14 37 53.5	
	comp=Z,163nm,19.4s,baz=54,slow=32						
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**14 21 58.0**	**+1.0**
	comp=Z,56nm,0.6s,mb5.4,baz=190,slow=6.1,SNR=215						
VNDA				ScP	ScP	14 27 13.2	-1.1
	comp=Z,2.0nm,0.7s,baz=244,slow=3.6,SNR=4.9						
VNDA				LR	LR	14 39 56.3	
	comp=Z,128nm,18.4s,baz=183,slow=34						
VNDA	**Vanda**	**46.66**	**183**	*e*P	**P**	**14 21 57.8**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,47nm,0.6s						
VNDA	**Vanda**	**46.66**	**183**	*e*P	**P**	**14 21 57.8**	**+0.8**
	comp=Z,47nm,0.6s,mb5.4						
SIV	**San Ignacio**	**47.31**	**314**	P	**P**	**14 22 01.7**	**-0.3**
	comp=Z,5.5nm,0.7s,mb4.4,baz=152,slow=7.3,SNR=31						
SIV				ScP	ScP	14 27 14.4	-2.7
	comp=Z,7.6nm,0.8s,baz=141,slow=5.1,SNR=21						
LBTB	**Lobatse**	**49.24**	**74**	LR	LR	14 37 55.5	
	comp=Z,91nm,21.3s,baz=234,slow=30						
LBTB	**Lobatse**	**49.24**	**74**	*e*P	**P**	**14 22 16.9**	**0.0**
LBTB				*e**PP	pP	14 22 39.2	-0.1
LBTB				*e**SP	sP	14 22 48.7	-1.1
LBTB				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
LBTB	**Lobatse**	**49.24**	**74**	*e*P	**P**	**14 22 16.9**	**0.0**
	comp=Z,15nm,0.8s,mb5.0						
LBTB				*e*pP	pP	14 22 39.2	-0.1
LBTB				*e*sP	sP	14 22 48.7	-1.1
TSUM	**Tsumeb**	**49.87**	**61**	LR	LR	14 37 53.5	
	comp=Z,155nm,21.3s,baz=152,slow=29						
TSUM	**Tsumeb**	**49.87**	**61**	*e*P	**P**	**14 22 22.1**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9						
LPAZ	**La Paz**	**50.10**	**306**	P	**P**	**14 22 24.9**	**+1.5**
	comp=Z,18nm,0.5s,mb5.2,baz=160,slow=6.6,SNR=85						
LPAZ				ScP	ScP	14 27 26.4	-2.5
	comp=Z,1.8nm,0.7s,baz=115,slow=3.6,SNR=4.4						
LPAZ				LR	LR	14 41 26.4	
	comp=Z,82nm,21.9s,baz=277,slow=33						
LPAZ	**La Paz**	**50.10**	**306**	*e*P	**P**	**14 22 24.9**	**+1.5**
LPAZ				*e**SP	sP	14 22 58.6	+2.3
LPAZ				pmax	pmax		
	comp=Z,26nm,0.8s						

TORD	Torodi Ar. Bea	73.10	30	P	P	14 24 58.2	+0.2
	comp=Z,36nm,0.4s,mb5.5,baz=201,slow=6.4,SNR=401						
SDV	Santo Domingo	73.75	315	P	P	14 25 01.9	+0.1
	comp=Z,12nm,0.8s,mb4.7,baz=197,slow=4.8,SNR=19						
SDV	Santo Domingo	73.75	315	eP	P	14 25 01.6	-0.2
	comp=Z,12nm,0.8s,mb4.7						
SDV				esP	sP	14 25 36.2	+0.3
KMBO	Kilima Mbogo	75.25	69	LR	LR	14 57 57.6	
	comp=Z,90nm,18.3s,baz=77,slow=35						
RKT	Rikitea	80.28	243	eLR	LR	14 51 08.2	
	comp=Z,171nm,31.0s						
TAU	Tasmania Unive	81.42	176	P	P	14 25 44.3	-0.2
	comp=Z,442nm,0.7s,mb6.4,SNR=20						
TAU	Tasmania Unive	81.42	176	eP	P	14 25 44.0	-0.5
TAU				e*PP	pP	14 26 10.2	+1.3
TAU				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.4						
TAU	Tasmania Unive	81.42	176	eP	P	14 25 44.0	-0.5
	comp=Z,54nm,0.8s,mb5.4						
TAU				epP	pP	14 26 10.2	+1.4
NWAO	Narrogin (SRO)	86.55	151	P	P	14 26 09.9	-0.6
	comp=Z,7.6nm,0.8s,mb4.7,baz=206,slow=5.6,SNR=6.4						
NWAO	Narrogin (SRO)	86.55	151	eP	P	14 26 09.8	-0.7
TOO	Toolangi	86.66	175	eP	P	14 26 10.8	-0.3
	comp=Z,7.8nm,0.8s,mb4.7						
TOO	Toolangi	86.66	175	eP	P	14 26 10.8	-0.3
TOO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TBI	Tubuai	86.94	231	eLR	LR	14 54 14.1	
	comp=Z,308nm,32.8s						
MUN	Mundaring	87.16	150	eP	P	14 26 12.8	-0.7
KLBR	Kellerberrin	87.95	151	eP	P	14 26 16.9	-0.4
	comp=Z,8.7nm,0.7s,mb4.9						
CNB	Canberra Magne	89.06	178	eP	P	14 26 22.6	+0.1
	comp=Z,7.8nm,0.8s,mb4.8						
FORT	Forrest	91.17	159	eP	P	14 26 32.6	+0.2
	comp=Z,18nm,0.5s,mb5.5						
PPT	Papeete	92.04	234	eS		14 38 00.5	
	comp=Z,202nm,24.8s						
PPT				eLR	LR	14 56 39.3	
	comp=Z,423nm,33.8s						
STKA	Stephens Creek	92.05	171	eP	P	14 26 34.1	-2.3
	comp=Z,5.4nm,0.6s,mb5.0						
STKA				e		14 29 58.3	
STKA	Stephens Creek	92.05	171	P	P	14 26 34.5	-2.0
	comp=Z,7.0nm,0.7s,mb5.0,baz=165,slow=4.5,SNR=23						
STKA				PP	PP	14 30 14.9	-2.3
	comp=Z,4.1nm,0.8s,baz=185,slow=5.4,SNR=6.2						
ARMA	Armidale	93.98	179	eP	P	14 26 45.0	-0.3
ESDC	Sonseca Array	97.37	18	P	P	14 26 58.9	-1.8
	comp=Z,1.2nm,0.7s,mb4.4,baz=189,slow=4.0,SNR=6.4						
ASPA	Alice Springs	99.17	163	eP	P	14 27 08.3	-0.5
ASAR	Alice Springs	99.17	163	P	P	14 27 08.4	-0.4
	comp=Z,9.4nm,0.7s,mb5.5,baz=184,slow=3.6,SNR=102						
ASAR				PP	PP	14 31 08.6	-3.8
	comp=Z,3.6nm,0.7s,baz=193,slow=6.0,SNR=12						
AS31	Alice Springs	99.17	163	eP	P	14 27 08.3	-0.5
WRA	Warramunga Arr	102.89	163	P	Pdif	14 27 24.9	-0.4
	comp=Z,1.6nm,0.6s,baz=196,slow=4.5,SNR=16						
WRA				PP	PP	14 31 38.7	-1.7
	comp=Z,2.7nm,0.8s,baz=192,slow=6.1,SNR=6.3						
WRA				PKKPbc	PKKPbc	14 43 21.6	-0.9
	comp=Z,1.0nm,0.9s,baz=358,slow=2.8,SNR=22						
WRA	Warramunga Arr	102.89	163	P	Pdif	14 27 24.9	-0.4
WRA						14 31 38.7	
WB2	Warramunga Arr	102.89	163	eP	Pdif	14 27 25.0	-0.4
GERES	GERESS Array B	109.99	28	PP	PP	14 32 31.3	-1.2
	comp=Z,0.7nm,0.7s,baz=216,slow=8.3,SNR=5.1						
CLL	Collm	112.08	26	ePS	PS	14 42 17.0	-4.7
LVV	L'vov	113.83	34	ePKIKP	PKiKP	14 31 59.4	-6.3
DUG	Dugway	119.67	299	ePKIKP	PKPdf	14 32 16.2	-0.7
ULM	Lac du Bonnet	119.99	317	PKP	PKPdf	14 32 15.0	-2.5
	comp=Z,1.2nm,0.6s,baz=356,slow=2.9,SNR=3.5						
ULM				SKP		14 35 40.4	
	comp=Z,1.4nm,0.7s,baz=120,slow=1.5,SNR=4.0						
PDAR	Pinedale Array	120.06	303	PKP	PKPdf	14 32 15.7	-2.0
	comp=Z,0.5nm,0.5s,baz=118,slow=4.6,SNR=7.4						
PDAR				SKP		14 35 41.5	
	comp=Z,0.6nm,0.6s,baz=114,slow=3.6,SNR=4.6						
PDAR				PKKPbc	PKKPbc	14 42 27.4	+1.5
	comp=Z,0.5nm,0.8s,baz=219,slow=0.9,SNR=4.6						
NOA	NORSAR Array B	120.61	21	PKP	PKPdf	14 32 15.6	-3.1
	comp=Z,0.7nm,0.7s,baz=204,slow=1.9,SNR=3.6						
NOA				PKKPbc	PKKPbc	14 42 23.9	0.0
	comp=Z,0.8nm,0.8s,baz=25,slow=4.0,SNR=3.4						
NOA	NORSAR Array B	120.61	21	PKP	PKPdf	14 32 15.6	-3.1
NOA				PKKPbc	PKKPbc	14 42 23.9	0.0
NVAR	Mina Array Bea	121.11	293	PKP	PKPdf	14 32 17.9	-1.7
	comp=Z,0.5nm,0.6s,baz=200,slow=4.8,SNR=3.2						
NVAR				SKP		14 35 44.2	
	comp=Z,1.1nm,0.8s,baz=141,slow=2.6,SNR=3.8						
KOLN	Koldanda	124.33	90	eP	PKPdf	14 32 25.3	-0.6
	comp=Z,8.9nm,0.6s						
FINES	FINESS Array B	124.42	28	PKP	PKPdf	14 32 23.8	-2.3
	comp=Z,2.2nm,0.7s,baz=203,slow=0.6,SNR=13						
FINES				pPKP	pPKPdf	14 32 49.4	-2.4
	comp=Z,2.9nm,0.7s,baz=119,slow=2.4,SNR=5.0						
FINES				PKKPbc	PKKPbc	14 42 07.5	-1.7
	comp=Z,1.8nm,0.9s,baz=146,slow=1.4,SNR=3.5						
FINES	FINESS Array B	124.42	28	PKIKP	PKPdf	14 32 23.8	-2.2
FINES						14 32 49.4	
FINES	FINESS Array B	124.42	28	PKP	PKPdf	14 32 23.8	-2.3
FINES				pPKP	pPKPdf	14 32 49.4	-2.4
FINES				PKKPbc	PKKPbc	14 42 07.5	-1.7
KAF	Kangasniemi	125.04	28	ep	PKPdf	14 32 23.9	-3.3
	comp=Z,2.9nm,0.6s						
DMN	Daman	125.06	92	eP	PKPdf	14 32 27.4	+0.2
	comp=Z,6.2nm,0.6s						
GKN	Gorkha	125.10	91	eP	PKPdf	14 32 28.1	+0.8
	comp=Z,6.7nm,0.3s						
PKI	Pulchoki	125.20	92	eP	PKPdf	14 32 27.6	+0.1
	comp=Z,6.3nm,0.5s						
KKN	Kakani	125.29	92	eP	PKPdf	14 32 27.8	+0.1
	comp=Z,6.2nm,0.5s						
JIRN	Jiri	125.70	93	eP	PKPdf	14 32 28.6	+0.1
	comp=Z,12nm,0.5s						
GUN	Gumba	125.72	92	eP	PKPdf	14 32 30.0	+1.5
	comp=Z,7.7nm,0.5s						
ARCES	ARCESS Array B	130.95	22	PKP	PKPdf	14 32 36.5	-2.0
	comp=Z,3.1nm,0.6s,baz=232,slow=1.4,SNR=10						
ARCES	ARCESS Array B	130.95	22	PKP	PKPdf	14 32 36.5	-2.0
APA	Apatity	131.23	27	↓ePKIKP	PKPdf	14 32 35.0	-4.0
APA				pmax	pmax		
	comp=Z,130nm,1.6s						
KMI	Kunming	132.82	110	PKP	PKPdf	14 32 42.4	+0.4
KMI				SKKS	SKKSac	14 41 55.8	+0.8
KMI				SS	SS	14 52 43.3	+1.5
KMI				LR	LR		
	comp=Z,98nm,23.0s						
YKA	Yellowknife Ar	135.91	318	PKhKP		14 32 33.2	
	comp=Z,0.3nm,0.6s,baz=122,slow=3.9,SNR=7.6						
YKA				PKP	PKPdf	14 32 46.0	-1.8
	comp=Z,3.5nm,0.8s,baz=124,slow=2.2,SNR=8.6						
YKA				PP	PP	14 35 24.4	-3.1
	comp=Z,0.6nm,0.7s,baz=117,slow=6.5,SNR=5.0						
YKA				SKPbc	SKPbc	14 36 06.5	-4.5
	comp=Z,1.9nm,0.7s,baz=132,slow=4.1,SNR=14						
YKA	Yellowknife Ar	135.91	318	PKHKP		14 32 33.2	
YKA						14 32 46.0	
YKA						14 35 24.4	
YKA	Yellowknife Ar	135.91	318	PKP		14 32 33.2	
YKA				PKP	PKPdf	14 32 46.0	-1.8
YKA				PP	PP	14 35 24.4	-3.1
YKA				SKPbc	SKPbc	14 36 06.5	-4.5
MKAR	Makanchi Array	137.11	72	PKPdf		14 32 38.4	
	comp=Z,0.3nm,0.6s,baz=234,slow=4.1,SNR=3.8						
MKAR				PKP	PKPdf	14 32 49.0	-1.0
	comp=Z,0.5nm,0.6s,baz=228,slow=2.9,SNR=7.0						
MKAR				pPKP	pPKPdf	14 33 14.0	-1.8
	comp=Z,0.8nm,0.7s,baz=222,slow=1.6,SNR=3.2						
MKAR				SKPbc	SKPbc	14 36 10.9	-3.8
	comp=Z,1.4nm,0.7s,baz=227,slow=3.8,SNR=7.9						
MKAR	Makanchi Array	137.11	72	PKHKP		14 32 38.4	
MKAR						14 32 49.1	
MKAR						14 33 14.0	
CD2	Chengdu	137.95	106	ePKP	PKPdf	14 32 50.1	-1.5
CD2				XPKP		14 33 27.5	
CD2				PP	PP	14 35 43.6	+3.4
CD2				PKS		14 36 24.8	
CD2				SKS	SKSdf	14 39 49.0	-4.8
CD2				SKKS	SKKSac	14 42 22.6	-3.2
CD2				SS	SS	14 53 43.6	+0.4
CD2				PP	PP		
	comp=Z,40nm,7.3s						
CD2				LR	LR		
	comp=N,80nm,10.8s						
CD2				LR	LR		
	comp=Z,60nm,15.6s						
WMQ	Urumqi	138.15	79	ePKP	PKPdf	14 32 52.6	+0.7
WMQ				LR	LR		
	comp=N,677nm,28.0s						
WMQ				LR	LR		
	comp=Z,553nm,26.0s						
LZH	Lanzhou	141.89	101	ePKP	PKPdf	14 33 00.3	+1.6
LZH				XPKP		14 33 38.0	
LZH				PP	PP	14 36 10.0	+5.6
LZH				eSKS	SKSdf	14 39 58.0	-2.2
LZH				SKKS	SKKSac	14 42 50.0	+1.1
LZH				SS	SS	14 54 29.0	-0.4
LZH				PP	PP		
	comp=Z,70nm,7.6s						
LZH				LR	LR		
	comp=E,297nm,18.2s						
LZH				LR	LR		
	comp=Z,549nm,20.3s						
NVS	Novosibirsk	142.24	62	ePKIKP	PKPdf	14 32 54.6	-4.7
NVS				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.6s						
ZAL	Zalesovo	142.55	64	PKhKP		14 32 55.0	
	comp=E,1.1nm,0.4s,baz=226,slow=7.8,SNR=5.9						
ZAL				PKP	PKPdf	14 32 59.6	-0.3
	comp=E,3.7nm,0.6s,baz=203,slow=3.8,SNR=19						
INK	Inuvik	145.55	321	ePKP2	PKPab	14 33 03.3	-2.5
INK				e		14 36 31.5	
DAWY	Dawson	146.52	312	ePKPdf	PKPdf	14 33 06.0	-0.8
DAWY				eSKP		14 36 32.4	
NJ2	Nanjing	146.62	122	ePKP	PKPdf	14 33 07.3	+0.4
NJ2				PKP2	PKPab	14 33 12.6	+2.7
NJ2				APKP		14 33 33.8	
NJ2				XPKP		14 33 44.6	
NJ2				PP	PP	14 36 36.0	+3.4
NJ2				SKS	SKSdf	14 40 04.0	-3.3
NJ2				SKKS	SKKSac	14 43 16.0	+0.1
NJ2				PP	PP		
	comp=Z,190nm,5.9s						
NJ2				LR	LR		
	comp=N,560nm,26.3s						
NJ2				LR	LR		
	comp=E,500nm,23.0s						
NJ2				LR	LR		
	comp=Z,310nm,20.8s						
SSE	Sheshan	146.92	126	ePKP	PKPdf	14 33 08.1	+0.7
SSE				PP	PP		
	comp=Z,67nm,3.5s						
DIV	Divide	148.37	305	ePKPbc	PKPbc	14 33 12.2	-1.3
HHC	Hu-ho-hao-te	149.53	102	ePKP	PKPdf	14 33 12.8	+1.1
HHC				PKP2	PKPab	14 33 25.4	+3.8
HHC				APKP		14 33 39.8	
HHC				XPKP		14 33 50.1	
HHC				PKS		14 36 45.8	
HHC				SKS	SKSdf	14 40 08.8	-2.5
HHC				SKKS	SKKSac	14 43 33.4	+1.3
HHC				SS	SS	14 55 59.5	+3.3
HHC				PP	PP		
	comp=Z,84nm,3.9s						
HHC				LR	LR		
	comp=N,140nm,6.3s						
HHC				LR	LR		
	comp=E,135nm,5.9s						
HHC				LR	LR		
	comp=Z,119nm,4.9s						
ILAR	Eielson Array	149.85	312	PKP	PKPdf	14 33 08.0	-4.3
	comp=Z,1.3nm,0.9s,baz=223,slow=1.2,SNR=8.9						
ILAR				PKPbc	PKPbc	14 33 15.4	-1.7
	comp=Z,24nm,0.7s,baz=131,slow=1.7,SNR=160						
ILAR				pPKPbc	pPKPbc	14 33 40.5	-2.2
	comp=Z,5.9nm,0.8s,baz=138,slow=2.5,SNR=2.3						
PMR	Palmer	150.06	305	ePKIKP	PKPdf	14 33 16.2	+3.7
SLKM	Skilak Lake	150.25	303	ePKIKP	PKPdf	14 33 17.0	+4.1
COLA	College	150.27	312	ePKIKP	PKPdf	14 33 16.1	+3.2
MCK	McKinley	150.50	309	ePKIKP	PKPdf	14 33 17.5	+4.3
ZAK	Zakamensk	150.59	80	ePKIKP	PKPdf	14 33 17.5	+4.1
ZAK				e		14 33 42.8	
ZAK				pmax	pmax		
	comp=Z,12nm,1.7s						
ZAK				pmax	pmax		
	comp=Z,13nm,1.7s						
SONM	Songino Array	150.99	87	PKP	PKPdf	14 33 13.1	-0.9
	comp=Z,0.4nm,0.7s,baz=203,slow=0.3,SNR=3.2						
SONM				PKPbc	PKPbc	14 33 18.7	-1.2
	comp=Z,12nm,0.7s,baz=229,slow=2.9,SNR=80						
SONM				pPKPbc	pPKPbc	14 33 44.3	-1.2
	comp=Z,4.6nm,0.7s,baz=239,slow=2.9,SNR=3.0						
ULN	Ulaanbaatar	151.38	87	ePKIKP	PKPdf	14 33 19.8	+5.2
ULN				e		14 33 44.5	
BJI	Beijing	151.46	109	PKP	PKPdf	14 33 08.9	-5.8
BJI				LR	LR		
	comp=Z,83nm,25.3s						
MJAR	Matsushiro Arr	158.35	148	PKPab	PKPab	14 33 58.4	-0.5
	comp=Z,1.6nm,0.6s,baz=182,slow=5.2,SNR=9.7						
CN2	Changchun	158.99	114	ePKP	PKPdf	14 33 25.1	+0.2
MDJ	Mudanjiang	161.66	119	PKP	PKPdf	14 33 26.4	-1.4
MDJ				APKP		14 33 54.5	
MDJ				XPKP		14 34 05.8	
MDJ				PKS		14 37 02.3	
MDJ				PP	PP	14 38 00.3	+3.2
MDJ				SKS	SKSdf	14 40 22.9	-1.4
MDJ				SS	SS	14 58 11.1	+4.0
MDJ				PP	PP		
	comp=Z,149nm,4.1s						
MDJ				LR	LR		
	comp=N,84nm,25.9s						
MDJ				LR	LR		
	comp=E,142nm,27.0s						
MDJ				LR	LR		
	comp=Z,177nm,24.8s						

IDC 18 14:34:39.8±2.4, 1653S×17459W, h0km, mb3.9/6, mb1 4.2/7, mb1mx4.0/15, mbtmp4.0/7, ML2.6/1, MS4.1/13, Ms1 4.1/13, ms1mx3.9/29, Error ellipse: s-maj=138.1km s-min=20.2km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.76	47	Pn	Pn	14 35 37.0	-2.1
	26nm,0.3s,baz=236,slow=5.6,SNR=48						
AFI				Sn	Sn	14 36 21.1	-3.0
	19nm,0.3s,baz=69,slow=23,SNR=5.8						
AFI				LR	LR	14 36 54.7	
	comp=Z,3μm,21.2s,baz=314,slow=36						
PPT	Papeete	23.94	96	eLQ		14 44 40.5	
	1μm,25.8s						
PPT				eLR	LR	14 45 44.3	
	415nm,25.5s						
PPT	Papeete	23.94	96	LR	LR	14 46 46.0	
	comp=Z,278nm,20.9s,baz=269,slow=30						
TBI	Tubuai	24.56	110	eLQ		14 45 02.9	
	1μm,27.2s						
HNR	Honiara	25.77	283	LR	LR	14 48 21.9	
	comp=Z,421nm,19.2s,baz=175,slow=32						
TAOE	Nuku Hiva Isla	34.42	81	eLR	LR	14 50 36.1	
	2μm,26.8s						
RKT	Rikitea	37.76	107	eLR	LR	14 52 32.8	
	173nm,27.0s						
PMG	Port Moresby	37.89	276	LR	LR	14 54 56.3	
	comp=Z,208nm,19.2s,baz=95,slow=32						
STKA	Stephens Creek	42.48	241	P	P	14 42 36.4	-0.3
	3.2nm,0.9s,baz=66,slow=8.7,SNR=5.8						
WRA	Warramunga Arr	48.48	258	P	P	14 43 24.7	+0.6
	1.3nm,0.8s,baz=90,slow=6.2,SNR=9.1						
ASAR	Alice Springs	48.68	253	P	P	14 43 25.9	+0.3
	5.0nm,0.8s,baz=86,slow=8.1,SNR=31						
CBIJ	Chichi jima	60.33	315	LR	LR	15 06 23.6	
	comp=Z,184nm,19.1s,baz=111,slow=32						
VNDA	Vanda	62.15	186	LR	LR	15 04 31.0	
	comp=Z,131nm,20.5s,baz=16,slow=29						
MJAR	Matsushiro Arr	69.07	321	LR	LR	15 09 42.2	
	comp=Z,146nm,19.9s,baz=125,slow=30						
ASAJ	Asahikawa	71.90	329	LR	LR	15 11 55.5	
	comp=Z,100nm,21.2s,baz=295,slow=28						
NVAR	Mina Array Bea	75.93	42	LR	LR	15 10 44.1	
	comp=Z,100nm,21.2s,baz=295,slow=28						
ILAR	Eielson Array	83.77	12	P	P	14 47 10.6	-0.3
	0.7nm,0.9s,baz=193,slow=7.4,SNR=5.4						
PDAR	Pinedale Array	83.87	42	P	P	14 47 12.4	+1.2
	1.0nm,0.9s,baz=188,slow=2.2,SNR=7.7						
PDAR				LR	LR	15 18 30.6	
	comp=Z,77nm,18.5s,baz=327,slow=31						
MAW	Mawson	86.36	199	LR	LR	15 24 36.1	
	comp=Z,166nm,19.9s,baz=248,slow=35						
PLCA	Paso Flores	89.60	133	LR	LR	15 18 30.8	
	comp=Z,93nm,18.5s,baz=89,slow=29						
YKA	Yellowknife Ar	91.58	24	P	P	14 47 48.6	+0.1
	0.4nm,0.9s,baz=254,slow=5.8,SNR=4.9						
SONM	Songino Array	94.92	318	LR	LR	15 25 18.5	
	comp=Z,60nm,21.5s,baz=264,slow=32						
BRTR	Keskin Array B	146.28	319	PKPbc	PKPbc	14 54 21.8	-0.5
	1.2nm,0.8s,baz=106,slow=2.7,SNR=6.8						

MAN 18 14:45:54.4, 794N×12527E, h5km, mb2.6, ML4.1, MS3.2, Mindanao

GUC 18 14:54:06.7±0.7, 2419S×6742W, h190km, MD3.9, ML4.0, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	Los Morros	2.67	287	↓iP	Pn	14 54 54.3	+2.4
CEN1				i S	Sn	14 55 30.1	+2.9
CEN1				AMP		14 55 31.4	
	comp=E,193nm,0.5s						
CPN1	Cerro Paranal	2.76	260	eP	Pn	14 54 55.1	+2.2
CPN1				i S	Sn	14 55 32.3	+3.4
ANCH	Antofagasta	2.78	280	eP	Pn	14 54 51.5	-1.7
ANCH				i S	Sn	14 55 28.0	-1.5
CRCH	Chaqaral	3.61	233	i S	Sn	14 55 49.8	+2.4
CRCH				AMP		14 55 51.6	
	comp=E,189nm,0.1s						
CDCH	Caldera	4.21	226	i S	Sn	14 56 03.1	+2.0

*NEIC **18** 15:11:38.9±1.2, 2063S×17841W, h555km±10km, mb4.0/5, Error ellipse: s-maj=36.5km s-min=9.3km az=151.0*
*ISCJB **18** 15:11:40.1±1.3, 202S±02×178.7W±0.1, h560km±17km, mb3.7/12, Error ellipse: s-maj=30.6km s-min=12.4km az=122.7*
*IDC **18** 15:11:43.2±2.8, 2067S×17850W, h601km±32km, mb3.0/7, mb1 3.3/7, mb1mx3.3/13, mbtmp4.0/7, Error ellipse: s-maj=46.5km s-min=12.5km az=154.0*

ISC 18 15:11:40.8±1.2, 202S±02×1787W±01, h555km±15km, n23, σ0 97/17, mb3.7/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.06	48	P	P	15 13 48.8	-0.5
	2.1nm,0.3s,baz=119,slow=22,SNR=3.7						
DZM	Mont Dzumac	14.01	260	P	P	15 14 39.9	-0.1
	0.7nm,0.3s,baz=70,slow=17,SNR=9.3						
PMG	Port Moresby	34.65	283	eP	P	15 17 45.4	+1.2
	28nm,1.5s,mb4.6						
STKA	Stephens Creek	37.37	244	P	P	15 18 04.5	-2.2
	0.5nm,0.3s,mb3.5,baz=331,slow=13,SNR=2.9						
ASAR	Alice Springs	43.98	256	P	P	15 18 59.6	+0.4
	1.3nm,0.5s,mb3.8,baz=95,slow=7.5,SNR=32						
ASAR				PcP	PcP	15 20 32.0	-0.6
	0.5nm,0.5s,baz=103,slow=3.4,SNR=5.4						
ASAR				S	S	15 24 50.6	-0.4
	0.4nm,0.6s,baz=88,slow=15,SNR=4.4						
WRAB	Tennant Creek	44.01	262	eP	P	15 18 59.8	+0.3
WRA	Warramunga Arr	44.02	262	P	P	15 18 59.8	+0.3
	0.7nm,0.3s,mb3.6,baz=97,slow=7.5,SNR=51						
WRA				S	S	15 24 50.2	-1.3
	1.1nm,1.1s,baz=96,slow=14,SNR=3.0						
MBWA	Marble Bar	57.31	257	eP	P	15 20 35.7	-0.3
	2.2nm,0.7s,mb3.5						
VNDA	Vanda	58.19	185	P	P	15 20 43.2	+1.1
	3.1nm,0.8s,mb3.6						
MJAR	Matsushiro Arr	69.56	324	P	P	15 21 56.2	+1.8
	1.0nm,0.5s,mb3.6,baz=154,slow=5.8,SNR=7.6						
NVAR	Mina Array Bea	81.22	44	P	P	15 22 59.7	+0.7
	0.4nm,0.4s,mb3.2,baz=240,slow=7.2,SNR=3.1						
COLA	College	88.01	13	eP	P	15 23 30.8	-1.4
	2.9nm,0.8s,mb4.1						
ILAR	Eielson Array	88.12	13	P	P	15 23 31.7	-1.0
	0.5nm,0.4s,mb3.6,baz=218,slow=5.2,SNR=16						
BILL	Bilibino	88.63	354	P	P	15 23 35.5	+0.4
	3.6nm,1.2s,mb4.1						
PDAR	Pinedale Array	89.15	43	P	P	15 23 37.5	-0.1
	0.5nm,0.7s,mb3.5,baz=243,slow=3.7,SNR=4.3						
MKAR	Makanchi Array	110.50	314	PKiKP	PKiKP	15 29 08.7	-1.7
	0.2nm,0.4s,baz=129,slow=1.5,SNR=5.9						
ARCES	ARCESS Array B	128.47	349	PKP	PKPdf	15 29 42.2	-2.6
	3.5nm,0.9s,baz=35,slow=4.4,SNR=5.6						
FINES	FINESS Array B	135.27	343	PKP	PKPdf	15 29 56.9	-0.7
	0.5nm,0.6s,baz=31,slow=3.2,SNR=4.6						
AKASG	Malin Array Be	142.41	331	PKP	PKPdf	15 30 06.6	-4.0
	3.7nm,0.4s,baz=44,slow=4.3,SNR=29						
AKASG	Malin Array Be	142.41	331	PKP	PKPdf	15 30 06.6	-4.0
BRTR	Keskin Array B	146.14	312	PKPbc	PKPbc	15 30 18.2	-0.9
	1.2nm,0.7s,baz=84,slow=2.9,SNR=5.8						
KHC	Kasperske Hory	149.47	344	eP	PKPbc	15 30 26.5	-1.1
GERES	GERESS Array B	149.70	344	PKPbc	PKPbc	15 30 27.2	-1.0
	0.8nm,0.6s,baz=29,slow=3.0,SNR=8.2						
GERES				PKPab	PKPab	15 30 35.9	0.0
	0.2nm,0.5s,baz=147,slow=37,SNR=2.6						

*ISCJB **18** 15:16:29.5±0.5, 35.10S±003×7236W±006, h39km, Error ellipse: s-maj=7.0km s-min=3.5km az=29.4*
*NEIC **18** 15:16:29.7, 35.13S×7227W, h39km, MD4.2(GUC), After GUC.*
NEIC Felt [III] at Constitucion, Curico and Talca; [II] at Linares.
*GUC **18** 15:16:29.7±0.8, 35.13S×7227W, h39km±2km, MD4.2, ML4.2*

ISC 18 15:16:30.3±0.5, 3512S±003×7233W±006, h39km, n33, σ0 59/47, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	Chanco	0.63	195	eP	Pn	15 16 42.6	-0.2
CNCO				i S	Sn	15 16 51.9	+0.2
CNCO				AMP		15 16 53.1	
	comp=E,15μm,0.3s						
CNCO	Chanco	0.63

CLCH *i* S **Sn** **15 17 32.8 +0.6**
CLCH AMP 15 17 52.9
comp=E,3μm,0.7s
PEL Peldehue 2.40 35 *e*P **Pn** **15 17 07.1 0.0**
PEL AMP 15 17 58.9
comp=N,2μm,0.8s
FCH Farellones 2.46 44 *e*P **Pn** **15 17 08.2 +0.2**
FCH *i* S **Sn** **15 17 37.7 +0.9**
FCH AMP 15 17 53.8
comp=N,1μm,0.2s
JACH Jahuel 2.83 31 *e*P **Pn** **15 17 12.9 -0.1**
CHNG Los Chungos 3.31 12 *i* P **Pn** **15 17 18.9 -0.6**
CMCH Combarbala 4.09 16 *e*P **Pn** **15 17 29.9 -0.5**
PLCA Paso Flores 5.77 166 *e*Pn **Pn** **15 17 54.0 +0.6**
comp=N,8.9nm,0.6s
TRQA Tornquist 8.82 112 *e*Pn **Pn** **15 18 39.7 +4.4**
LPAZ La Paz 19.13 12 Pn **Pn** **15 20 50.9 -0.3**

IDC 18 15:17:45.1±2.3, 1881S×6706W, h240km±14km, mb3.3/4, mb1 3.4/7, mb1mx3.3/18, mbtmp3.8/7, Error ellipse: s-maj=48.1km s-min=18.5km az=36.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.71**	**338**	P	Pn	15 18 34.8	+1.0
	12nm,0.3s,baz=159,slow=6.5,SNR=150						
LPAZ				S	S	15 19 13.7	+1.5
	baz=13,slow=17,SNR=2.2						
SIV	**San Ignacio**	**6.37**	**65**	P	Pn	15 19 18.5	+0.9
	0.5nm,0.3s,baz=257,slow=13,SNR=18						
CPUP	**Villa Florida**	**11.69**	**132**	P	Pn	15 20 24.6	-0.4
	0.3nm,0.3s,baz=281,slow=16,SNR=3.5						
PDAR	**Pinedale Array**	**72.69**	**329**	P	P	15 28 47.3	+0.5
	0.1nm,0.5s,baz=133,slow=6.3,SNR=2.2						
ULM	**Lac du Bonnet**	**73.32**	**341**	P	P	15 28 49.5	-1.0
	1.1nm,0.3s,baz=145,slow=6.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**74.82**	**70**	P	P	15 28 59.2	0.0
	0.6nm,0.7s,baz=256,slow=5.8,SNR=4.5						
YKA	**Yellowknife Ar**	**89.25**	**340**	P	P	15 30 13.7	-0.2
	0.6nm,0.6s,baz=128,slow=4.4,SNR=15						
WRA	**Warramunga Arr**	**136.14**	**210**	PKP	PKPdf	15 36 38.1	+0.4
	0.5nm,0.9s,baz=158,slow=1.8,SNR=5.1						
SONM	**Songino Array**	**150.56**	**9**	PKPbc	PKPbc	15 37 09.1	+0.7
	0.8nm,0.6s,baz=315,slow=1.7,SNR=7.4						

MEX 18 15:18:45.5±0.3, 1598N×9888W, h16km±17km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.83**	**60**	*i* P	Pb	15 18 58.8	-2.8
PNIG				*i* S	Sb	15 19 09.2	-3.4
ACX	**Acapulco**	**1.33**	**312**	*e*P	Pn	15 19 06.0	-3.5
MEIG	**Mezcala**	**2.06**	**340**	*e*P	Pn	15 19 16.1	-3.5
MEIG				*i* S	Sn	15 19 40.3	-4.7
PLIG	**Platanillo**	**2.48**	**346**	*i* P	Pn	15 19 22.3	-2.9
PLIG				*i* S	Sn	15 19 51.6	-3.5
PPM	**Popocatepetl**	**3.08**	**4**	*i* P	Pn	15 19 32.1	-1.4
PPM				*i* S	Sn	15 20 09.9	-0.2

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*ISCJB **18** 15:49:30.7±0.4, 5866S±006×253W±0.1, h10km, mb4.5/25, MS3.7/8, Error ellipse: s-maj=11.6km s-min=6.9km az=110.6*
*IDC **18** 15:49:30.6±0.4, 5875S×2545W, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.4/20, mbtmp4.4/16, ML4.5/1, MS3.7/9, Ms1 3.7/9, ms1mx3.6/20, Error ellipse: s-maj=17.9km s-min=14.4km az=20.0*
*NEIC **18** 15:49:36.3±1.2, 5878S×2539W, h41km±11km, mb4.6/20, Error ellipse: s-maj=12.8km s-min=6.9km az=212.0*
*BJI **18** 15:49:38.2, 5880S×2540W, h41km, mB5.3, Ms5.0, Msz4.5*
*MOS **18** 15:49:42.4±1.6, 5865S×2557W, h99km, mb4.6/9, Error ellipse: s-maj=28.1km s-min=16.2km az=98.8*
ISC 18 15:49:33.3±5.0, 5871S±008×254W±01, h17km±32km, n106, σ1°01/60, mb4.5/25, MS3.7/8, 10C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.58**	**301**	*e*Pn	**Pn**	**15 51 30.8**	**+7.8**
	220nm,0.9s						
VNA1	**Neumayer--Stat**	**13.96**	**156**	⇑*i*P	**Pn**	**15 52 50.6**	**+0.3**
VNA1				*e*		15 52 51.4	
VNA1				*e*		15 52 53.0	
VNA1				*e*		15 52 54.3	
VNA1				*e*		15 52 57.2	
VNA1	**Neumayer--Stat**	**13.96**	**156**	⇑*i*P	**Pn**	**15 52 50.6**	**+0.3**
VNA1				*e*		15 52 51.4	
VNA1				*e*		15 52 53.0	
VNA1				*e*		15 52 54.3	
VNA1				*e*		15 52 57.2	
VNA1				*e*		16 07 11.6	
VNA3	**Neumayer Olymp**	**14.15**	**159**	⇑*i*P	**Pn**	**15 52 52.3**	**-0.6**
VNA3				*e*		15 52 53.1	
VNA3				*e*		15 52 54.7	
VNA3				*e*		15 52 55.7	
VNA3				*e*		15 52 58.7	
VNA3				*e*		15 53 07.0	
VNA3				*e*		15 55 15.7	
VNA3				*e*		15 55 21.9	
VNA3	**Neumayer Olymp**	**14.15**	**159**	⇑*i*P	**Pn**	**15 52 52.3**	**-0.6**
VNA3				*e*		15 52 53.1	
VNA3				*e*		15 52 54.7	
VNA3				*e*		15 52 55.7	
VNA3				*e*		15 52 58.7	
VNA3				*e*		15 53 07.0	
VNA3				*e*		15 55 15.7	
VNA3				*e*		15 55 21.9	
VNA3				*e*		16 07 05.8	
VNA3				*e*		16 07 16.8	
VNA3				*e*		16 07 31.1	
VNA2	**Neumayer--Watz**	**14.35**	**156**	⇑*i*P	**Pn**	**15 52 55.1**	**-0.6**
	baz=317,slow=15						
VNA2				*e*		15 52 55.7	
VNA2				*e*		15 52 57.6	
VNA2				*e*		15 52 58.6	
VNA2				*e*		15 53 01.6	
VNA2				*e*		15 53 09.6	
VNA2				*e*		15 54 45.9	
VNA2				*e*		15 55 24.4	
VNA2				*e*		15 55 30.3	
VNA2	**Neumayer--Watz**	**14.35**	**156**	⇑*i*P	**Pn**	**15 52 55.1**	**-0.6**
VNA2				*e*		15 52 55.7	
VNA2				*e*		15 52 57.6	
VNA2				*e*		15 52 58.6	
VNA2				*e*		15 53 01.6	
VNA2				*e*		15 53 09.6	
VNA2				*e*		15 54 45.9	
VNA2				*e*		15 55 24.4	
VNA2				*e*		15 55 30.3	
VNA2				*e*		16 07 14.7	
VNA2				*e*		16 07 25.4	
VNA2				*e*		16 07 39.3	
SNAA	**Sanae**	**15.91**	**154**	Pn	**Pn**	**15 53 15.7**	**-0.7**
	1.8nm,0.3s,baz=328,slow=14,SNR=133						
SNAA				LR	LR	15 57 59.8	
	comp=Z,112nm,19.0s,baz=196,slow=32						
SNAA	**Sanae**	**15.91**	**154**	⇑*i*P	**Pn**	**15 53 16.2**	**-0.2**
SNAA				*e*		15 53 16.9	
SNAA				*e*		15 53 18.9	
SNAA				*e*		15 53 22.7	
SNAA				*e*		15 53 29.4	
SNAA				*e*		15 53 40.4	
SNAA	**Sanae**	**15.91**	**154**	⇑*i*P	**Pn**	**15 53 16.2**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**15.91**	**154**	⇑*i*P	**Pn**	**15 53 16.2**	**-0.2**
	comp=Z,1.4nm,0.6s						
SNAA				*e*		15 53 16.9	
SNAA				*e*		15 53 18.9	
SNAA				*e*		15 53 22.7	
SNAA				*e*		15 53 29.4	
SNAA				*e*		15 53 40.4	
SNAA				*e*Sn	**Sn**	**15 55 58.8**	**-14**
EFI	**East Falkland**	**19.79**	**277**	*e*P	**Pn**	**15 54 05.2**	**+0.9**
EFI				pmax	pmax		
	comp=Z,48nm,0.9s						
EFI	**East Falkland**	**19.79**	**277**	*e*Pn	**Pn**	**15 54 05.2**	**+0.9**
	comp=Z,48nm,0.9s						
USHA	**Ushuaia**	**23.60**	**261**	P	**P**	**15 54 42.2**	**-1.3**
	comp=Z,13nm,0.9s,mb4.4,baz=113,slow=9.8,SNR=9.3						
USHA				LR	LR	16 01 10.0	
	comp=Z,224nm,19.3s,MS3.6,baz=64,slow=30						
SYO	**Syowa Base**	**28.92**	**138**	‖*e*P	**P**	**15 55 27.7**	**-3.8**
SYO	**Syowa Base**	**28.92**	**138**	‖*e*pP	pP	15 55 46.9	+10
TRQA	**Tornquist**	**31.31**	**295**	P	**P**	**15 55 55.0**	**+2.3**
	comp=Z,8.0nm,1.0s,mb4.5						
QSPA	**South Pole Qui**	**31.53**	**180**	⇑*i*P	**P**	**15 55 55.9**	**+1.3**
	comp=Z,23nm,0.6s,mb5.2						
QSPA				*e*PcP	PcP	15 58 46.6	-0.5
PLCA	**Paso Flores**	**33.48**	**282**	P	**P**	**15 56 12.2**	**+0.5**
	comp=Z,3.7nm,0.6s,mb4.5,baz=138,slow=7.7,SNR=10						
PLCA				LR	LR	16 09 02.5	
	comp=Z,122nm,19.2s,MS3.6,baz=291,slow=35						
PLCA	**Paso Flores**	**33.48**	**282**	*e*P	**P**	**15 56 11.9**	**+0.2**
PLCA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PLCA	**Paso Flores**	**33.48**	**282**	*e*P	**P**	**15 56 11.9**	**+0.2**
	comp=Z,10nm,1.0s,mb4.7						
MAW	**Mawson**	**37.44**	**141**	P	**P**	**15 56 45.3**	**-0.4**
	comp=Z,6.7nm,0.8s,mb4.5,baz=209,slow=10,SNR=3.9						
MAW				LR	LR	16 09 11.1	
	comp=Z,117nm,20.1s,MS3.7,baz=73,slow=32						
MAW	**Mawson**	**37.44**	**141**	*e*P	**P**	**15 56 45.3**	**-0.4**
MAW				pmax	pmax		
	comp=Z,31nm,1.1s						
MAW	**Mawson**	**37.44**	**141**	*e*P	**P**	**15 56 45.2**	**-0.4**
	comp=Z,31nm,1.1s,mb5.0						
CPUP	**Villa Florida**	**39.31**	**311**	P	**P**	**15 57 00.4**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=140,slow=7.5,SNR=3.5						
CPUP				LR	LR	16 11 08.7	
	comp=Z,77nm,20.6s,MS3.5,baz=143,slow=33						
CPUP	**Villa Florida**	**39.31**	**311**	*e*P	**P**	**15 57 00.1**	**-1.3**
CPUP				pmax	pmax		
	comp=Z,12nm,0.8s						
CPUP	**Villa Florida**	**39.31**	**311**	*e*P	**P**	**15 57 00.1**	**-1.4**
	comp=Z,12nm,0.8s,mb4.7						
CFAA	**Coronel Fontan**	**39.53**	**294**	P	**P**	**15 57 02.3**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.6,baz=150,slow=6.5,SNR=9.1						
SBA	**Scott Base**	**43.48**	**184**	P	**P**	**15 57 37.3**	**+1.6**
SBA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
SBA	**Scott Base**	**43.48**	**184**	P	**P**	**15 57 37.3**	**+1.6**
	comp=Z,9.9nm,0.8s,mb4.6						
VNDA	**Vanda**	**43.95**	**182**	P	**P**	**15 57 40.9**	**+1.5**
	comp=Z,12nm,0.7s,mb4.8,baz=188,slow=6.8,SNR=40						
VNDA				LR	LR	16 15 30.0	
	comp=Z,110nm,19.6s,MS3.8,baz=206,slow=36						
VNDA	**Vanda**	**43.95**	**182**	*e*P	**P**	**15 57 40.5**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VNDA	**Vanda**	**43.95**	**182**	*e*P	**P**	**15 57 40.5**	**+1.0**
	comp=Z,10nm,0.8s,mb4.6						
BOSA	**Boshof**	**45.78**	**72**	P	**P**	**15 57 54.0**	**-0.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=220,slow=8.3,SNR=4.5						
BOSA				LR	LR	16 14 50.0	
	comp=Z,79nm,18.1s,MS3.7,baz=51,slow=33						
BOSA	**Boshof**	**45.78**	**72**	*e*P	**P**	**15 57 54.0**	**0.0**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BOSA	**Boshof**	**45.78**	**72**	*e*P	**P**	**15 57 54.0**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.4						
BDFB	**Brasilia**	**46.16**	**329**	P	**P**	**15 57 57.6**	**+0.5**
	comp=Z,3.4nm,0.7s,mb4.4,baz=158,slow=8.6,SNR=5.2						
BDFB				LR	LR	16 14 36.6	
	comp=Z,93nm,18.1s,MS3.8,baz=110,slow=33						
LBTB	**Lobatse**	**48.94**	**69**	P	**P**	**15 58 23.3**	**+4.7**
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LBTB	**Lobatse**	**48.94**	**69**	P	**P**	**15 58 23.3**	**+4.7**
	comp=Z,3.8nm,0.8s,mb4.5						
TSUM	**Tsumeb**	**50.22**	**57**	P	**P**	**15 58 29.3**	**+0.9**
	comp=Z,2.8nm,0.7s,mb4.4,baz=174,slow=7.3,SNR=8.3						
TSUM	**Tsumeb**	**50.22**	**57**	*e*P	**P**	**15 58 29.7**	**+1.3**
	comp=Z,4.8nm,0.8s,mb4.6						
LPAZ	**La Paz**	**52.71**	**305**	P	**P**	**15 58 47.2**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=165,slow=7.6,SNR=8.5						
LPAZ	**La Paz**	**52.71**	**305**	*e*P	**P**	**15 58 47.0**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LPAZ	**La Paz**	**52.71**	**305**	*e*P	**P**	**15 58 47.0**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.3						
RCBR	**Riachuelo**	**53.38**	**347**	P	**P**	**15 58 52.6**	**+0.6**
	comp=Z,11nm,0.9s,mb4.8						
SAML	**Samuel**	**57.37**	**314**	*e*P	**P**	**15 59 19.3**	**-1.4**
	comp=Z,3.2nm,0.7s,mb4.5						
LSZ	**Lusaka**	**58.50**	**66**	P	**P**	**15 59 28.3**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.3						
LSZ	**Lusaka**	**58.50**	**66**	P	**P**	**15 59 28.3**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSZ	**Lusaka**	**58.50**	**66**	P	**P**	**15 59 28.3**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.2						
DBIC	**Dimbokro**	**67.23**	**22**	P	**P**	**16 00 27.6**	**+0.9**
	comp=Z,4.4nm,0.5s,mb4.7,baz=154,slow=5.1,SNR=12						
DBIC	**Dimbokro**	**67.23**	**22**	*e*P	**P**	**16 00 26.8**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DBIC	**Dimbokro**	**67.23**	**22**	*e*P	**P**	**16 00 26.8**	**0.0**
	comp=Z,5.8nm,0.7s,mb4.7						
OTAV	**Otavalo**	**71.94**	**303**	P	**P**	**16 00 56.0**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.0						
TORD	**Torodi Ar. Bea**	**74.94**	**27**	P	**P**	**16 01 14.1**	**+0.6**
	comp=Z,6.7nm,0.6s,mb4.8,baz=199,slow=5.8,SNR=44						
KMBO	**Kilima Mbogo**	**75.14**	**67**	LR	LR	16 31 07.5	
	comp=Z,112nm,18.4s,MS4.2,baz=86,slow=33						
SDV	**Santo Domingo**	**76.58**	**314**	P	**P**	**16 01 21.0**	**-1.8**
	comp=Z,3.8nm,0.9s,mb4.3						
RPZ	**Rata Peaks**	**77.03**	**192**	P	**P**	**16 01 26.1**	**+0.7**
	comp=Z,12nm,0.9s,mb4.8,baz=139,slow=7.6,SNR=3.5						
RKT	**Rikitea**	**80.10**	**242**	*e*LR	LR	16 27 09.8	
	comp=Z,131nm,26.5s						
TBI	**Tubuai**	**86.14**	**230**	*e*LR	LR	16 29 56.7	
	comp=Z,61nm,25.8s						
FORT	**Forrest**	**88.13**	**157**	*e*P	**P**	**16 02 23.1**	**-0.1**
	comp=Z,11nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**89.10**	**169**	*e*P	**P**	**16 02 25.6**	**-2.2**
	comp=Z,3.8nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**89.10**	**169**	P	**P**	**16 02 25.9**	**-1.8**
	comp=Z,4.1nm,0.7s,mb4.9,baz=177,slow=6.2,SNR=11						
PPT	**Papeete**	**91.37**	**232**	*e*LR	LR	16 32 22.4	
	comp=Z,64nm,22.2s						
ASAR	**Alice Springs**	**96.15**	**161**	P	**P**	**16 02 59.8**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.7,baz=183,slow=4.1,SNR=36						
ASAR				PKKPbc	PKKPbc	16 19 46.1	-0.7
	comp=Z,0.2nm,0.3s,baz=20,slow=2.7,SNR=6.1						
WRA	**Warramunga Arr**	**99.86**	**161**	PKKPbc	PKKPbc	16 19 35.5	-1.1
	comp=Z,0.2nm,0.3s,baz=359,slow=2.7,SNR=7.4						
AKASG	**Malin Array Be**	**117.78**	**36**	PKP	PKPdf	16 08 15.6	-3.2
	comp=Z,0.5nm,0.4s,baz=230,slow=1.8,SNR=5.0						
SCHQ	**Schefferville**	**118.00**	**334**	PKP	PKPdf	16 08 16.7	-2.5
	comp=Z,1.5nm,0.5s,baz=262,slow=2.7,SNR=5.7						
SCHQ	**Schefferville**	**118.00**	**334**	PKP	PKPdf	16 08 16.7	-2.5
MSU	**Marysvale**	**120.40**	**295**	*e*PKIKP	PKPdf	16 08 23.7	-0.1
HFS	**Hagfors**	**122.39**	**22**	PKP	PKPdf	16 08 24.6	-3.0
	comp=Z,1.4nm,0.7s,baz=119,slow=1.9,SNR=5.5						
PDAR	**Pinedale Array**	**122.56**	**300**	PKP	PKPdf	16 08 26.4	-1.5
	comp=Z,1.1nm,0.5s,baz=121,slow=5.7,SNR=7.2						
NOA	**NORSAR Array B**	**122.77**	**20**	PKP	PKPdf	16 08 26.3	-2.0
	comp=Z,1.2nm,0.8s,baz=200,slow=1.7,SNR=3.2						
ULM	**Lac du Bonnet**	**122.83**	**314**	PKP	PKPdf	16 08 26.6	-1.8
	comp=Z,2.7nm,0.5s,baz=288,slow=1.2,SNR=7.3						
KOLN	**Koldanda**	**123.08**	**90**	*e*P	PKPdf	16 08 27.5	-1.4
	comp=Z,11nm,1.0s						
NVAR	**Mina Array Bea**	**123.29**	**290**	PKP	PKPdf	16 08 30.0	+0.7
	comp=Z,1.9nm,0.7s,baz=151,slow=2.9,SNR=8.8						
NVAR	**Mina Array Bea**	**123.29**	**290**	PKP	PKPdf	16 08 30.0	+0.7
DMN	**Daman**	**123.73**	**92**	*e*P	PKPdf	16 08 29.5	-0.7
GKN	**Gorkha**	**123.80**	**91**	*e*P	PKPdf	16 08 28.9	-1.4
	comp=Z,3.0nm,0.5s						
PKI	**Pulchoki**	**123.86**	**92**	*e*P	PKPdf	16 08 29.4	-1.0
KKN	**Kakani**	**123.97**	**92**	*e*P	PKPdf	16 08 29.6	-1.0
JIRN	**Jiri**	**124.34**	**93**	*e*P	PKPdf	16 08 30.6	-0.8
	comp=Z,9.1nm,0.5s						
GUN	**Gumba**	**124.38**	**92**	*e*P	PKPdf	16 08 30.5	-0.9
	comp=Z,8.4nm,0.7s						
FINES	**FINESS Array B**	**126.28**	**28**	PKP	PKPdf	16 08 33.1	-2.0
	comp=Z,2.1nm,0.5s,baz=143,slow=2.8,SNR=35						
KAF	**Kangasniemi**	**126.92**	**27**	*e*p	PKPdf	16 08 32.8	-3.5
	comp=Z,2.3nm,0.7s						
JOF	**Joensuu**	**128.85**	**29**	*e*p	PKPdf	16 08 35.5	-4.5
	comp=Z,5.6nm,0.8s						
EDM	**Edmonton**	**132.10**	**306**	*e*PKIKP	PKPdf	16 08 44.6	-1.5
ARCES	**ARCESS Array B**	**133.06**	**22**	PKP	PKPdf	16 08 46.0	-2.0
	comp=Z,3.4nm,0.7s,baz=228,slow=1.6,SNR=26						
ARCES	**ARCESS Array B**	**133.06**	**22**	PKP	PKPdf	16 08 46.0	-2.0
BVAR	**Borovoye Array**	**135.35**	**59**	PKP	PKPdf	16 08 51.0	-1.2
	comp=Z,1.3nm,0.4s,baz=183,slow=2.7,SNR=16						
MKAR	**Makanchi Array**	**136.77**	**73**	PKP	PKPdf	16 08 53.6	-1.3
	comp=Z,0.4nm,0.5s,baz=234,slow=2.8,SNR=5.6						
YKA	**Yellowknife Ar**	**138.78**	**315**	PKhKP		16 08 47.5	
	comp=Z,0.3nm,0.4s,baz=122,slow=3.3,SNR=5.6						
YKA				PKP	PKPdf	16 08 57.1	-1.5
	comp=Z,6.4nm,0.6s,baz=125,slow=2.3,SNR=83						
YKA	**Yellowknife Ar**	**138.78**	**315**	PKIKP	PKPdf	16 08 57.1	-1.5
YKW3	**Yellowknife Ar**	**138.83**	**315**	*e*PKPdf	PKPdf	16 08 56.6	-2.1
NJ2	**Nanjing**	**144.10**	**122**	*e*PKP	PKPdf	16 09 04.3	-3.8
HHC	**Hu-ho-hao-te**	**147.68**	**104**	*e*PKP	PKPdf	16 09 13.3	-0.9
HHC				PP	PP		
	comp=Z,88nm,4.4s						
INK	**Inuvik**	**148.46**	**318**	PKPbc	PKPbc	16 09 17.2	-1.8
	comp=Z,26nm,0.7s,baz=94,slow=2.8,SNR=157						
INK	**Inuvik**	**148.46**	**318**	*e*PKPbc	PKPbc	16 09 17.0	-2.0
DAWY	**Dawson**	**149.26**	**308**	*e*PKPbc	PKPbc	16 09 19.0	-2.1
ZAK	**Zakamensk**	**149.77**	**83**	*e*PKP2	PKPab	16 09 20.2	-7.5
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.6s						
SONM	**Songino Array**	**149.84**	**90**	PKPbc	PKPbc	16 09 21.4	-1.1
	comp=Z,4.5nm,0.7s,baz=225,slow=3.2,SNR=36						
ULN	**Ulaanbaatar**	**150.20**	**90**	*e*PKIKP	PKPdf	16 09 20.7	+2.4
ILAR	**Eielson Array**	**152.57**	**308**	PKPbc	PKPbc	16 09 27.2	-1.6
	comp=Z,12nm,0.7s,baz=150,slow=2.7,SNR=183						
ILAR				PKPab	PKPab	16 09 36.6	-2.7
	comp=Z,4.9nm,0.9s,baz=176,slow=2.6,SNR=14						
KDAK	**Kodiak Island**	**152.79**	**291**	PKPbc	PKPbc	16 09 28.1	-1.2
	comp=Z,7.7nm,0.7s,baz=164,slow=1.1,SNR=8.7						
COLA	**College**	**153.00**	**308**	*e*PKPbc	PKPbc	16 09 27.7	-2.1
MCK	**McKinley**	**153.16**	**305**	*e*PKPbc	PKPbc	16 09 28.7	-1.5
MJAR	**Matsushiro Arr**	**155.35**	**147**	PKPab	PKPab	16 09 50.1	-1.0
	comp=Z,1.9nm,0.7s,baz=175,slow=5.2,SNR=5.8						

IDC 18 15:57:52.0±3.1, 1620S×17463W, h283km±17km, mb3.4/3, mb1 3.7/4, mb1mx3.3/15, mbtmp4.0/4, Error ellipse: s-maj=178.1km s-min=20.0km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.57**	**51**	P	Pn	15 58 53.5	+1.0
	4.6nm,0.3s,baz=73,slow=11,SNR=9.9						
AFI				S	S	15 59 41.2	+0.4
WRA	**Warramunga Arr**	**48.51**	**258**	P	P	16 06 06.6	-0.1
	0.7nm,0.5s,baz=94,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**48.74**	**253**	P	P	16 06 09.1	+0.6
	2.3nm,0.4s,baz=89,slow=7.8,SNR=56						
PDAR	**Pinedale Array**	**83.65**	**42**	P	P	16 09 48.9	0.0
	0.6nm,0.5s,baz=202,slow=4.1,SNR=3.6						
BRTR	**Keskin Array B**	**146.00**	**319**	PKPbc	PKPbc	16 16 58.5	0.0
	1.0nm,0.7s,baz=72,slow=2.5,SNR=7.0						
GERES	**GERESS Array B**	**146.73**	**350**	PKPbc	PKPbc	16 17 00.1	-0.5
	0.5nm,0.6s,baz=33,slow=2.3,SNR=6.5						

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*SFS **18** 16:25:59.0, 3634N×609W, h40km, ML2.5*
*CSEM **18** 16:25:59.1±0.2, 3641N×606W, h30km, ML2.5, Error ellipse: s-maj=5.8km s-min=4.7km az=58.0*
*ISCJB **18** 16:26:00.9±0.6, 3640N±004×604W±005, h29km±4km, Error ellipse: s-maj=7.3km s-min=6.3km az=6.1*
*MDD **18** 16:26:00.3±0.5, 3639N×6.11W, h31km±1km, mbLg1.8/7, Error ellipse: s-maj=5.3km s-min=3.8km az=35.0, PRXIMO*
ISC 18 16:26:00.3±0.9, 3635N±006×607W±006, h30km±4km, n24, σ1°05/37, 4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNIL	**Conil**	**0.02**	**23**	‖P	**Pb**	**16 26 04.6**	**-0.7**
CNIL				S	**Sb**	**16 26 09.8**	**+1.0**
CNIL	**Conil**	**0.02**	**23**	*i* P	**Pb**	**16 26 04.6**	**-0.7**
CNIL				*e*S	**Sb**	**16 26 09.8**	**+1.0**
SFS	**San Fernando**	**0.16**	**316**	P	**Pb**	**16 26 06.2**	**+0.1**
SFS				S	**Sb**	**16 26 12.1**	**+2.0**
SFS	**San Fernando**	**0.16**	**316**	*e*P	**Pb**	**16 26 06.2**	**+0.1**
SFS				*e*S	**Sb**	**16 26 12.1**	**+2.0**
MOMI	**Momias**	**0.28**	**94**	‖P	**Pb**	**16 26 07.1**	**-0.4**
MOMI				S	**Sb**	**16 26 12.9**	**+0.5**
MOMI	**Momias**	**0.28**	**94**	*i* P	**Pb**	**16 26 07.1**	**-0.4**
MOMI				*e*S	**Sb**	**16 26 12.9**	**+0.5**
SCRT	**Cerro San Cris**	**0.30**	**343**	‖P	**Pb**	**16 26 06.7**	**-1.0**
SCRT				S	**Sb**	**16 26 12.8**	**0.0**
SCRT	**Cerro San Cris**	**0.30**	**343**	*i* P	**Pb**	**16 26 06.7**	**-1.0**
SCRT				*e*S	**Sb**	**16 26 12.8**	**0.0**
GIBL	**Gibalbin**	**0.49**	**9**	P	**Pb**	**16 26 07.9**	**-2.6**
GIBL				S	**Sb**	**16 26 17.3**	**-0.2**
**GIB

221nm,0.3s,baz=174,slow=5.4,SNR=20
TGY S **Sn** **16 27 14.7 +6.4**
367nm,0.3s,baz=76,slow=9.9,SNR=3.8
TGY Tagaytay City 2.36 151⇓*e*P **Pn** **16 26 43.0 +2.5**
TGY *e*S **Sn** **16 27 15.9 +7.5**
POLP Polilio Island 2.54 124 *e*P **Pn** **16 26 44.6 +1.4**
PALP Palanan 2.69 71 *e*P **Pn** **16 26 46.3 +1.1**
PGP Puerto Galera 2.90 157 *e*P **Pn** **16 26 48.8 +0.8**
SGCP Mt. Cagua 2.99 46 *e*P **Pn** **16 26 49.9 +0.7**
BOAC Boac 3.37 143 *e*P **Pn** **16 26 55.3 +0.8**
BUSP Coron 4.18 174 *e*P **Pn** **16 27 05.3 -0.2**
PVCP Virac 4.96 121 *e*P **Pn** **16 27 17.0 +0.8**
ENPP El Nido 4.96 184 *e*P **Pn** **16 27 15.6 -0.6**
CD2 Chengdu 20.71 318⇑*i*P **P** **16 30 42.1 +2.7**
CD2 AMB AMB
comp=Z,10.0nm,0.8s
SONM Songino Array 33.43 344 P **P** **16 32 37.8 +0.6**
comp=Z,1.2nm,0.7s,mb3.9,baz=165,slow=9.8,SNR=13
SONM LR LR 16 46 15.2
comp=Z,20nm,20.2s,baz=180,slow=36
WRA Warramunga Arr 38.65 158 P **P** **16 33 19.1 -2.7**
comp=Z,0.8nm,0.5s,mb3.7,baz=328,slow=11,SNR=29
WRA PcP PcP 16 35 32.3 -0.5
comp=Z,0.3nm,0.6s,baz=347,slow=3.9,SNR=5.4
ASAR Alice Springs 41.95 160 P **P** **16 33 46.9 -2.1**
comp=Z,0.4nm,0.4s,mb3.4,baz=341,slow=6.9,SNR=15
MKAR Makanchi Array 43.52 323 P **P** **16 34 02.5 +0.8**
comp=Z,0.5nm,0.6s,mb3.4,baz=128,slow=9.3,SNR=8.8
KURK Kurchatov 47.64 326 *e*P **P** **16 34 34.4 +0.1**
KURK *e* 16 34 39.9
KURK *e* pP 16 34 52.3 +2.3
STKA Stephens Creek 52.17 156 P **P** **16 35 04.3 -4.3**
comp=Z,1.0nm,0.4s,mb4.1,baz=333,slow=8.0,SNR=4.5
STKA Stephens Creek 52.17 156 P **P** **16 35 03.9 -4.7**
BVAR Borovoye Array 53.23 325 P **P** **16 35 15.9 -0.6**
comp=Z,0.4nm,0.5s,mb3.6,baz=119,slow=8.6,SNR=5.5
BRVK Borovoye 53.30 325 P **P** **16 35 16.9 -0.1**
comp=Z,1.7nm,0.9s,mb4.0
ZRNK Zerenda 53.97 325 *e*P **P** **16 35 22.0 +0.2**
comp=Z,1.6nm,0.7s,mb4.1
ZRNK *e* 16 35 27.2
ARCES ARCESS Array B 76.46 339 P **P** **16 37 47.2 -0.2**
comp=Z,3.2nm,0.9s,mb4.2,baz=57,slow=8.9,SNR=3.6
ARCES ARCESS Array B 76.46 339 P **P** **16 37 47.2 -0.3**
FINES FINESS Array B 77.69 331 P **P** **16 37 54.1 -0.3**
comp=Z,2.1nm,0.8s,mb4.1,baz=57,slow=7.0,SNR=8.6
NOA NORSAR Array B 84.66 332 P **P** **16 38 30.2 -1.1**
comp=Z,0.6nm,0.6s,mb3.9,baz=64,slow=4.9,SNR=2.8
NOA LR LR 17 19 03.7
comp=Z,11nm,21.8s,baz=185,slow=37

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*ISCJB **18** 16:34:32.0±0.4, 565S±004×14197E±006, h33km, mb4.5/17, MS3.7/1, Error ellipse: s-maj=8.0km s-min=6.3km az=151.2*
*NEIC **18** 16:34:33.8±0.5, 564S×14197E, h35km, mb4.5/7, Error ellipse: s-maj=14.4km s-min=9.0km az=99.0*
*IDC **18** 16:34:39.6±3.5, 565S×14223E, h93km±36km, mb3.6/7, mb1 3.8/9, mb1mx3.7/13, mbtmp4.0/9, MS3.7/1, Ms1 3.7/1, ms1mx2.7/14, Error ellipse: s-maj=28.8km s-min=13.5km az=101.0*

ISC 18 16:34:34.5±0.4, 562S±005×14198E±006, h35km, n32, σ1$24/36, mb4.5/17, MS3.7/1, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.37**	**127**	P	**Pn**	**16 36 06.0**	**+0.2**
	3.6nm,0.3s,baz=309,slow=14,SNR=22						
PMG				S	**Sn**	**16 37 17.7**	**+0.4**
	5.8nm,0.3s,baz=156,slow=17,SNR=7.2						
PMG	**Port Moresby**	**6.37**	**127**	*e*Pn	**Pn**	**16 36 05.2**	**-0.6**
	14nm,0.6s						
KAKA	**Kakadu**	**11.76**	**233**	*e*P	**Pn**	**16 37 19.4**	**-0.3**
	21nm,0.6s						
WRAB	**Tennant Creek**	**16.05**	**207**	*e*Pn	**Pn**	**16 38 15.0**	**-2.4**
	44nm,1.0s						
WRAB				*e*Sn	**Sn**	**16 41 07.7**	**-6.6**
WB2	**Warramunga Arr**	**16.06**	**207**	*e*P	**Pn**	**16 38 16.1**	**-1.5**
WB2				*e*S	**S**	**16 41 10.0**	**-17**
WRA	**Warramunga Arr**	**16.06**	**207**	P	**Pn**	**16 38 15.8**	**-1.9**
	0.7nm,0.3s,baz=26,slow=13,SNR=52						
WRA				S	**S**	**16 41 12.5**	**-15**
	0.5nm,0.3s,baz=36,slow=21,SNR=5.6						
AS31	**Alice Springs**	**19.56**	**203**	*e*P	**Pn**	**16 39 02.5**	**+1.8**
ASAR	**Alice Springs**	**19.56**	**203**	P	**Pn**	**16 39 02.3**	**+1.6**
	0.7nm,0.3s,baz=30,slow=10,SNR=50						
ASAR				S	**S**	**16 42 36.9**	**-1.3**
	0.2nm,0.3s,baz=15,slow=29,SNR=4.3						
ASPA	**Alice Springs**	**19.56**	**203**	*e*P	**Pn**	**16 39 02.5**	**+1.8**
FITZ	**Fitzroy Crossi**	**20.21**	**231**	*e*P	**P**	**16 39 06.7**	**+0.4**
	21nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.21**	**231**	P	**P**	**16 39 08.3**	**+2.0**
	5.6nm,0.9s,baz=61,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**26.13**	**181**	P	**P**	**16 40 06.7**	**+1.5**
	1.4nm,0.6s,mb3.7,baz=0.0,slow=13,SNR=3.4						
STKA	**Stephens Creek**	**26.13**	**181**	P	**P**	**16 40 05.6**	**+0.4**
CBIJ	**Chichi jima**	**32.52**	**0**	LR	LR	16 52 20.5	
	comp=Z,143nm,20.3s,MS3.7,baz=107,slow=33						
ULN	**Ulaanbaatar**	**61.47**	**334**	*e*P	**P**	**16 44 46.7**	**-0.9**
	2.5nm,0.8s,mb4.4						
SONM	**Songino Array**	**61.74**	**334**	P	**P**	**16 44 49.5**	**+0.1**
	0.7nm,0.9s,mb3.8,baz=134,slow=6.2,SNR=5.2						
JIRN	**Jiri**	**63.16**	**305**	*e*P	**P**	**16 45 00.5**	**+1.6**
	9.4nm,1.0s,mb4.9						
GUN	**Gumba**	**63.51**	**305**	*e*P	**P**	**16 45 03.5**	**+2.3**
	21nm,1.0s,mb5.1						
PKI	**Pulchoki**	**63.77**	**304**	*e*P	**P**	**16 45 02.4**	**-0.5**
KKN	**Kakani**	**63.96**	**304**	*e*P	**P**	**16 45 03.9**	**-0.2**
	12nm,0.9s,mb4.9						
DMN	**Daman**	**64.03**	**304**	*e*P	**P**	**16 45 04.9**	**+0.3**
	17nm,0.9s,mb5.1						
GKN	**Gorkha**	**64.56**	**304**	*e*P	**P**	**16 45 09.3**	**+1.2**
	20nm,1.2s,mb5.0						
KOLN	**Koldanda**	**65.33**	**304**	*e*P	**P**	**16 45 13.5**	**+0.4**
	16nm,1.1s,mb5.0						
YAK	**Yakutsk**	**68.11**	**354**	P	**P**	**16 45 29.0**	**-1.8**
MKAR	**Makanchi Array**	**74.07**	**322**	P	**P**	**16 46 06.4**	**-0.5**
	0.8nm,0.8s,mb3.7,baz=127,slow=7.7,SNR=8.8						
ZAL	**Zalesovo**	**76.08**	**329**	P	**P**	**16 46 18.3**	**-0.1**
	0.5nm,0.3s,mb4.0,baz=2.3,slow=4.1,SNR=2.5						
KURK	**Kurchatov**	**77.95**	**324**	P	**P**	**16 46 29.4**	**+0.4**
	4.0nm,1.1s,mb4.3						
BVAR	**Borovoye Array**	**83.55**	**325**	P	**P**	**16 46 58.0**	**-0.9**
	0.7nm,0.6s,mb4.0,baz=119,slow=5.2,SNR=5.6						
ZRNK	**Zerenda**	**84.32**	**324**	P	**P**	**16 47 02.4**	**-0.5**
	3.6nm,1.1s,mb4.4						
QSPA	**South Pole Qui**	**84.35**	**180**	*e*P	**P**	**16 47 03.9**	**+0.9**
	3.8nm,0.8s,mb4.6						
COLA	**College**	**86.78**	**24**	P	**P**	**16 47 09.3**	**-5.8**
	9.3nm,1.2s,mb4.9						
ILAR	**Eielson Array**	**87.13**	**24**	P	**P**	**16 47 14.0**	**-2.8**
	0.7nm,0.8s,mb4.0,baz=260,slow=4.1,SNR=8.4						

IDC 18 16:34:47.2±4.7, 1590S×17314W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.8/16, mbtmp3.8/3, MS3.8/12, Ms1 3.8/12, ms1mx3.7/20, Error ellipse: s-maj=284.4km s-min=35.1km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.38**	**34**	Pn	Pn	16 35 20.3	-7.1
	19nm,0.3s,baz=197,slow=11,SNR=42						
AFI				Sn	Sn	16 35 44.5	-13
	95nm,0.3s,baz=5.5,slow=23,SNR=12						
RAR	**Rarotonga**	**13.73**	**115**	LR	LR	16 41 47.8	
	comp=Z,236nm,19.9s,baz=290,slow=31						
DZM	**Mont Dzumac**	**20.25**	**249**	LR	LR	16 44 45.3	
	comp=Z,45nm,20.8s,baz=358,slow=30						
PPT	**Papeete**	**22.63**	**98**	*e*LQ		16 44 30.0	
	774nm,27.8s						
PPT				*e*LR	LR	16 45 26.2	
	229nm,26.2s						
TBI	**Tubuai**	**23.48**	**112**	*e*LQ		16 44 48.2	
	425nm,26.0s						
TBI				*e*LR	LR	16 45 48.6	
	384nm,28.0s						
HNR	**Honiara**	**27.01**	**281**	LR	LR	16 47 53.7	
	comp=Z,89nm,21.4s,baz=360,slow=29						
RKT	**Rikitea**	**36.61**	**107**	*e*LR	LR	16 51 44.9	
	147nm,30.2s						
PMG	**Port Moresby**	**39.22**	**275**	LR	LR	16 54 08.0	
	comp=Z,58nm,21.6s,baz=309,slow=30						
STKA	**Stephens Creek**	**44.01**	**240**	LR	LR	16 58 09.9	
	comp=Z,102nm,18.7s,baz=26,slow=32						

ASAR	**Alice Springs**	**50.20**	**252**	P	P	16 43 44.9	+0.2
	3.2nm,0.6s,baz=85,slow=8.3,SNR=7.9						
VNDA	**Vanda**	**62.91**	**186**	LR	LR	17 06 03.1	
	comp=Z,111nm,20.5s,baz=121,slow=30						
MJAR	**Matsushiro Arr**	**69.48**	**320**	LR	LR	17 09 40.9	
	comp=Z,130nm,21.6s,baz=155,slow=30						
PDAR	**Pinedale Array**	**82.47**	**42**	P	P	16 47 12.3	+0.8
	0.4nm,0.9s,baz=228,slow=3.8,SNR=3.5						
PDAR				LR	LR	17 17 22.9	
	comp=Z,65nm,18.5s,baz=139,slow=31						
PLCA	**Paso Flores**	**88.99**	**132**	LR	LR	17 18 06.2	
	comp=Z,107nm,20.1s,baz=3.9,slow=29						
YKA	**Yellowknife Ar**	**90.45**	**23**	P	P	16 47 49.6	-1.1
	0.1nm,0.5s,baz=241,slow=3.6,SNR=3.1						
YKA				LR	LR	17 24 36.3	
	comp=Z,34nm,18.0s,baz=270,slow=33						
ULM	**Lac du Bonnet**	**94.16**	**39**	LR	LR	17 24 13.0	
	comp=Z,75nm,18.5s,baz=359,slow=32						
SONM	**Songino Array**	**95.38**	**318**	LR	LR	17 24 13.1	
	comp=Z,68nm,20.2s,baz=157,slow=31						
GERES	**GERESS Array B**	**146.67**	**352**	PKPbc	PKPbc	16 54 30.4	-0.5
	0.1nm,0.5s,baz=17,slow=2.6,SNR=4.2						
BRTR	**Keskin Array B**	**146.70**	**321**	PKPbc	PKPbc	16 54 31.6	+0.6
	0.8nm,0.7s,baz=78,slow=2.4,SNR=5.1						

JMA 18 16:57:18.6±0.4, 4402N×14807E, h0km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.81**	**250**	P	Pn	16 57 51.3	+0.3
NEM2				*e*S	Sn	16 58 15.4	+0.7
JRA	**Rausu**	**2.13**	**269**	P	Pn	16 57 56.1	+0.7
JNK	**Nakash**	**2.46**	**261**	P	Pn	16 58 00.8	+0.8
JNK				*e*S	Sn	16 58 31.3	+0.5
JAK	**Akkeshi**	**2.66**	**249**	P	Pn	16 58 05.5	+0.8
JAK				*e*S	Sn	16 58 36.2	+0.6
JTKR	**Abashiri--Toko**	**3.00**	**270**	P	Pn	16 58 09.7	+2.3
JAR	**Ashorobuto**	**3.20**	**258**	P	Pn	16 58 12.0	+1.8
JAR				*e*S	Sn	16 58 51.8	+2.7
JCH	**Churui**	**3.71**	**249**	P	Pn	16 58 18.2	+1.0
JCH				*e*S	Sn	16 59 02.5	+0.9
JNBK	**Urakawa-nobuka**	**4.26**	**248**	P	Pn	16 58 26.5	+1.8
JKB	**Kayabe**	**5.59**	**250**	P	Pn	16 58 44.3	+1.4
JKB				*e*S	Sn	16 59 48.2	+0.4
JOT	**Ohata**	**5.81**	**245**	P	Pn	16 58 47.3	+1.3
JOT				*e*S	Sn	16 59 53.5	+0.3
JANG	**Nango**	**6.08**	**235**	*e*S	Sn	16 59 58.7	-1.3

CASC 18 17:05:15.7±4.4, 1307N×9107W, h20km±23km, MD3.9, ML3.4, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**1.24**	**28**⇑	*e*P	Pn	17 05 37.4	-0.5
IXG				*e*S	Sb	17 05 55.9	+1.8
FUG	**Fuego 3**	**1.38**	**9**⇓	*e*P	Pn	17 05 40.6	+0.8
FUG				*e*S	Sn	17 05 58.2	+0.7
SBLS	**San Blas**	**1.60**	**61**	*e*P	Pn	17 05 54.0	+11
SBLS				*e*S	Sn	17 06 14.0	+11
TP2	**Tecpan 2**	**1.70**	**1**⇓	*e*P	Pn	17 05 45.1	+0.9
TP2				*e*S	Sn	17 06 07.0	+1.7
TP2				AML	AML	17 06 13.1	
	comp=E,459nm,0.5s						
LFRS	**El Faro**	**2.02**	**74**	*e*P	Pn	17 06 00.3	+12
LFRS				*e*S	Sn	17 06 30.0	+17
LCBS	**La Ceiba**	**2.11**	**74**	*e*P	Pn	17 06 02.0	+12
LCBS				*e*S	Sn	17 06 29.9	+14
MRL	**Marmol**	**2.39**	**34**	*e*P	Pn	17 05 55.4	+1.7

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*ATH **18** 17:25:15.6, 3960N×2060E, h25km±1km, MD3.2/6*
*ISCJB **18** 17:25:16.0±0.5, 3962N±004×2065E±003, h15km, Error ellipse: s-maj=5.1km s-min=3.6km az=4.2*
*NEIC **18** 17:25:16.5, 3962N×2067E, h0km, MD3.2(ATH), After THE.*
*CSEM **18** 17:25:16.3±0.1, 3961N×2062E, h15km, MD3.2, Error ellipse: s-maj=2.2km s-min=1.8km az=6.0*
*SKO **18** 17:25:16.6, 3956N×2064E, h11km*
*THE **18** 17:25:16.5, 3962N×2067E, h10km, ML3.0*

ISC 18 17:25:16.4±0.5, 3959N±004×2065E±004, h14km±4km, n24, σ0$99/31, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.17**	**67**	*e*PB	**Pg**	**17 25 20.8**	**+0.4**
JAN				*e*SB	**Sg**	**17 25 25.2**	**+2.0**
IGT	**Igoumenitsa**	**0.25**	**257**	*e*Pg	**Pg**	**17 25 21.2**	**-0.6**
IGT				*e*Sg	**Sg**	**17 25 26.2**	**+0.7**
SRN	**Sarande**	**0.58**	**300**	*i* Pg	**Pg**	**17 25 27.1**	**-0.7**
SRN				*i* Sg	**Sg**	**17 25 36.3**	**+0.9**
KEK	**Kerkira**	**0.67**	**281**	*e*PN	**Pn**	**17 25 28.3**	**-3.2**
TPE	**Tepelena**	**0.86**	**325**	*i* Pg	**Pg**	**17 25 32.7**	**-0.3**
TPE				*i* Sg	**Sg**	**17 25 44.9**	**+0.6**
KZN	**Kozani**	**1.12**	**50**	*e*PN	**Pn**	**17 25 37.4**	**-0.3**
EVR	**Evrytania**	**1.12**	**126**	*e*PN	**Pn**	**17 25 38.0**	**+0.2**
FNA	**Florina**	**1.31**	**25**	*e*Pg	**Pg**	**17 25 40.5**	**-1.2**
VLS	**Valsamata**	**1.41**	**182**	*e*PN	**Pn**	**17 25 42.0**	**+0.2**
AGG	**Agios Georgios**	**1.42**	**113**	*e*Pg	**Pg**	**17 25 42.7**	**-1.1**
LIT	**Litokhoron**	**1.51**	**70**	*e*Pg	**Pg**	**17 25 44.0**	**-1.4**
LIT				*e*Sg	**Sg**	**17 26 05.1**	**+0.1**
BIA	**Bitola**	**1.52**	**20**	*i* Pg	**Pg**	**17 25 43.9**	**-1.7**
BIA	**Bitola**	**1.52**	**20**	*i* Pg	**Pg**	**17 25 43.8**	**-1.8**
OHR	**Ohrid**	**1.52**	**4**	*i* Pg	**Pg**	**17 25 45.0**	**-0.8**
OHR				*i* Sg	**Sg**	**17 26 06.0**	**+0.5**
OHR	**Ohrid**	**1.52**	**4**	*i* Pg	**Pg**	**17 25 44.9**	**-0.8**
OHR				*i* Sg	**Sg**	**17 26 06.0**	**+0.5**
GRG	**Griva**	**1.91**	**44**	*e*Pb	**Pb**	**17 25 49.4**	**-1.8**
VAY	**Valandovo**	**2.27**	**40**	*i* Pn	**Pn**	**17 25 54.2**	**+0.7**
VAY	**Valandovo**	**2.27**	**40**	*i* Pn	**Pn**	**17 25 54.1**	**+0.6**
PLG	**Polygyros**	**2.29**	**69**	*e*PN	**Pn**	**17 25 54.5**	**+0.7**
KNT	**Kendrikon**	**2.33**	**47**	*e*Pn	**Pn**	**17 25 54.9**	**+0.5**
PAIG	**Paliouri**	**2.36**	**81**	*e*Pn	**Pn**	**17 25 55.6**	**+0.8**
STIP	**Stip**	**2.40**	**29**	*e*Pn	**Pn**	**17 25 57.0**	**+1.6**
OUR	**Ouranopolis**	**2.67**	**73**	*e*Pn	**Pn**	**17 25 59.4**	**+0.4**
SRS	**Serrai**	**2.72**	**55**	*e*Pn	**Pn**	**17 26 00.3**	**+0.6**

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*CSEM **18** 17:41:33.9±0.6, 3905N×29.13W, h10km, ML2.2, Error ellipse: s-maj=7.2km s-min=4.6km az=75.0, After PDA*
*PDA **18** 17:41:33.9±0.6, 3905N×2913W, h10km, MD3.2, ML2.2, Error ellipse: s-maj=7.2km s-min=4.6km az=75.0*

SVSA 18 17:41:33.9±0.6, 3905N×2913W, h10km, MD3.2, ML2.2, Error ellipse: s-maj=7.2km s-min=4.6km az=75.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.54**	**141**	*e*S	Sg	17 41 49.4	-2.1
PCED							
	25nm,0.2s						
CALA	**Caldeira**	**0.58**	**144**	*e*P	Pg	17 41 43.4	-1.7
CALA				*e*S	Sg	17 41 50.9	-1.8
ROSA	**Rosais**	**0.77**	**115**	*e*P	Pg	17 41 46.0	-2.8
ROSA				*e*S	Sg	17 41 55.1	-3.7
PICO	**Pico**	**0.78**	**135**	*e*P	Pg	17 41 46.5	-2.5
PICO				*e*S	Sg	17 41 55.9	-3.2

CASC 18 17:45:36.2±3.9, 1310N×9113W, h17km±20km, MD3.9, ML3.3, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**1.25**	**31**⇑	*e*P	Pn	17 45 57.9	-1.0
FUG	**Fuego 3**	**1.37**	**12**	*e*P	Pn	17 46 01.0	+0.5
FUG				*e*S	Sn	17 46 19.0	+0.8
SBLS	**San Blas**	**1.64**	**63**	*e*P	Pn	17 46 14.6	+10
SBLS				*e*S	Sn	17 46 38.5	+14
RTR	**El Retiro**	**1.65**	**61**	*e*P	Pn	17 46 15.2	+11
RTR				*e*S	Sn	17 46 37.3	+12
SNJE	**San Jose**	**1.67**	**63**	*e*P	Pn	17 46 15.1	+11
SNJE				*e*S	Sn	17 46 40.1	+15
TP2	**Tecpan 2**	**1.68**	**4**⇓	*e*P	Pn	17 46 05.4	+0.6
TP2				*e*S	Sn	17 46 27.5	+1.7
TP2				AML	AML	17 46 30.4	
	comp=E,362nm,0.3s						
LFRS	**El Faro**	**2.08**	**75**	*e*P	Pn	17 46 20.9	+11
LFRS				*e*S	Sn	17 46 47.9	+12

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*ISCJB **18** 17:56:16.9±0.9, 3902S±003×17879E±009, h33km, mb3.9/3, Error ellipse: s-maj=10.2km s-min=3.8km az=15.8*
*IDC **18** 17:56:16.3±1.4, 3889S×17846E, h0km, mb4.1/3, mb1 4.2/5, mb1mx4.0/13, mbtmp4.0/5, ML3.6/2, Error ellipse: s-maj=36.4km s-min=25.9km az=21.0*
*NEIC **18** 17:56:21.9, 3884S×17836E, h47km, ML4.4(WEL), After WEL.*
*WEL **18** 17:56:21.8±0.4, 3884S×17840E, h31km±1km, ML4.3/29, Error ellipse: s-maj=3.1km s-min=1.7km az=90.0*
WEL Felt in the Gisborne region, maximum reported intensity MM 4.

ISC 18 17:56:19.5±0.9, 3897S±003×17863E±010, h35km, n96, σ1$08/97, mb3.9/3, 4C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNZ	**Kokohu**	**0.75**	**265**	⇑PN	**Pn**	**17 56 33.4**	**-0.1**
KNZ				SN	**Sn**	**17 56 42.9**	**-0.8**
KNZ	**Kokohu**	**0.75**	**265**	P	**Pn**	**17 56 33.5**	**-0.1**
PUZ	**Puketiti**	**0.94**	**342**	⇑PN	**Pn**	**17 56 36.0**	**-0.2**
PUZ				Sn	**Sn**	**17 56 46.9**	**-1.5**
PUZ	**Puketiti**	**0.94**	**342**	P	**Pn**	**17 56 36.0**	**-0.1**
PUZ				S	**Sn**	**17 56 47.0**	**-1.3**
MWZ	**Matawai**	**1.07**	**306**	⇑PN	**Pn**	**17 56 36.9**	**-1.1**
MWZ				SN	**Sn**	**17 56 47.7**	**-3.9**
MWZ	**Matawai**	**1.07**	**306**	P	**Pn**	**17 56 36.9**	**-1.1**
URZ	**Urewera**	**1.39**	**300**	Pn	**Pn**	**17 56 41.4**	**-0.9**
	baz=120,slow=11						
URZ				Sn	**Sn**	**17 56 57.4**	**-2.0**
	234nm,0.3s,baz=300,slow=22,SNR=15						
URZ	**Urewera**	**1.39**	**300**	PN	**Pn**	**17 56 41.3**	**-1.0**
URZ	**Urewera**	**1.39**	**300**	*e*P	**Pn**	**17 56 41.3**	**-1.0**
MXZ	**Matakaoa Point**	**1.42**	**349**	⇑PN	**Pn**	**17 56 43.6**	**+0.8**
MXZ	**Matakaoa Point**	**1.42**	**349**	P	**Pn**	**17 56 43.7**	**+0.9**
BKZ	**Black Stump Fm**	**1.68**	**262**	PN	**Pn**	**17 56 46.6**	**+0.2**
BKZ	**Black Stump Fm**	**1.68**	**262**	*e*P	**Pn**	**17 56 46.6**	**+0.3**
PXZ	**Pawanui**	**1.74**	**232**	PN	**Pn**	**17 56 48.1**	**+1.0**
MKRZ	**Makatiti**	**1.89**	**295**	PN	**Pn**	**17 56 49.4**	**+0.2**
MKRZ	**Makatiti**	**1.89**	**295**	P	**Pn**	**17 56 50.0**	**+0.8**
RATZ	**Rangitukua**	**2.23**	**272**	*e*PN	**Pn**	**17 56 54.5**	**+0.5**
RATZ	**Rangitukua**	**2.23**	**272**	P	**Pn**	**17 56 56.7**	**+2.7**
MOVZ	**Moawhango**	**2.28**	**258**	*e*PN	**Pn**	**17 56 55.7**	**+1.1**
MOVZ	**Moawhango**	**2.28**	**258**	P	**Pn**	**17 56 55.9**	**+1.3**
OTVZ	**Oturere**	**2.32**	**264**	*e*PN	**Pn**	**17 56 55.9**	**+0.7**
TUVZ	**Tukino**	**2.34**	**262**	*e*PN	**Pn**	**17 56 56.5**	**+1.1**
TUVZ	**Tukino**	**2.34**	**262**	P	**Pn**	**17 56 56.6**	**+1.2**
TSZ	**Takapari Road**	**2.34**	**241**	PN	**Pn**	**17 56 55.8**	**+0.4**
TSZ	**Takapari Road**	**2.34**	**241**	P	**Pn**	**17 56 55.9**	**+0.5**
NGZ	**Ngauruhoe**	**2.37**	**264**	*e*PN	**Pn**	**17 56 56.5**	**+0.7**
NGZ	**Ngauruhoe**	**2.37**	**264**	P	**Pn**	**17 56 56.9**	**+1.1**
WTVZ	**West Tongariro**	**2.38**	**265**	*e*PN	**Pn**	**17 56 56.7**	**+0.8**
WTVZ	**West Tongariro**	**2.38**	**265**	P	**Pn**	**17 56 57.0**	**+1.1**
WNVZ	**Wahianoa**	**2.39**	**260**	*e*PN	**Pn**	**17 56 56.9**	**+0.8**
WNVZ	**Wahianoa**	**2.39**	**260**	P	**Pn**	**17 56 57.2**	**+1.1**
FWVZ	**Far West T-bar**	**2.42**	**262**	*e*PN	**Pn**	**17 56 57.1**	**+0.7**
FWVZ	**Far West T-bar**	**2.42**	**262**	P	**Pn**	**17 56 57.6**	**+1.1**
TRVZ	**Turoa**	**2.42**	**261**	*e*PN	**Pn**	**17 56 57.6**	**+1.0**
BFZ	**Birch Farm**	**2.51**	**226**	SN	**Sn**	**17 57 26.4**	**-0.8**
BFZ	**Birch Farm**	**2.51**	**226**	P	**Pn**	**17 56 58.8**	**+1.0**
PKVZ	**Pokaka**	**2.58**	**262**	PN	**Pn**	**17 56 59.8**	**+1.1**
MRZ	**Mangatainoka R**	**2.90**	**233**	*e*PN	**Pn**	**17 57 03.5**	**+0.4**
MRZ	**Mangatainoka R**	**2.90**	**233**	*e*P	**Pn**	**17 57 03.6**	**+0.5**
WAZ	**Wanganui**	**2.94**	**253**	*e*PN	**Pn**	**17 57 04.8**	**+1.1**
WAZ	**Wanganui**	**2.94**	**253**	P	**Pn**	**17 57 05.7**	**+2.1**
HIZ	**Hauiti**	**2.99**	**277**	PN	**Pn**	**17 57 03.9**	**-0.4**
HIZ	**Hauiti**	**2.99**	**277**	*e*P	**Pn**	**17 57 05.2**	**+0.9**
VRZ	**Vera Road**	**3.02**	**266**	*e*PN	**Pn**	**17 57 05.4**	**+0.6**
VRZ	**Vera Road**	**3.02**	**266**	*e*P	**Pn**	**17 57 05.7**	**+0.9**
KUZ	**Kuaotunu**	**3.20**	**313**	PN	**Pn**	**17 57 05.5**	**-1.7**
KUZ	**Kuaotunu**	**3.20**	**313**	*e*P	**Pn**	**17 57 05.7**	**-1.5**
MTW	**Mount Morrison**	**3.25**	**227**	P	**Pn**	**17 57 08.0**	**0.0**
RAEZ	**Rainy Point**	**3.31**	**263**	*e*PN	**Pn**	**17 57 10.4**	**+1.6**
RAEZ	**Rainy Point**	**3.31**	**263**	P	**Pn**	**17 57 10.6**	**+1.8**
TRWZ	**Traveller**	**3.32**	**222**	*e*PN	**Pn**	**17 57 08.5**	**-0.3**
KIW	**Kapiti Island**	**3.43**	**235**	*e*PN	**Pn**	**17 57 10.4**	**-0.1**
KIW	**Kapiti Island**	**3.43**	**235**	P	**Pn**	**17 57 10.7**	**+0.2**
PAWZ	**Paruwai Farm**	**3.44**	**224**	PN	**Pn**	**17 57 10.2**	**-0.4**
PAWZ				SN	**Sn**	**17 57 49.0**	**-1.2**
PAWZ	**Paruwai Farm**	**3.44**	**224**	P	**Pn**	**17 57 09.4**	**-1.2**
CAW	**Cannon Point**	**3.48**	**231**

s-maj=492.9km s-min=122.4km az=148.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.71**	**175**	*eP*	P	18 28 05.1	+0.3
	3.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**23.71**	**175**	P	P	18 28 05.9	+1.1
	2.0nm,0.3s,baz=11,slow=9.9,SNR=9.9						
WRA	**Warramunga Arr**	**27.54**	**158**	P	P	18 28 39.6	+0.1
	1.9nm,0.3s,baz=334,slow=11,SNR=69						
WB2	**Warramunga Arr**	**27.54**	**158**	*eP*	P	18 28 39.4	-0.1
ASAR	**Alice Springs**	**30.83**	**162**	P	P	18 29 09.0	+0.3
	0.3nm,0.3s,baz=341,slow=6.9,SNR=17						
STKA	**Stephens Creek**	**41.07**	**157**	P	P	18 30 36.0	-0.4
	0.6nm,0.3s,baz=346,slow=9.5,SNR=4.9						

IDC ***18*** *18:58:21.6±2.1, 43.37N×105.22W, h0km, mb4.0/1, mb1 3.9/4, mb1mx3.5/24, mbtmp3.7/4, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/40, Error ellipse: s-maj=47.6km s-min=8.7km az=154.0*

ISCJB ***18*** *18:58:23.4±0.6, 43.77N±004×105.39W±006, h0km, mb4.1/1, Error ellipse: s-maj=6.4km s-min=5.9km az=57.2*

NEIC ***18*** *18:58:24.4±0.5, 43.73N×105.22W, h0km, ML3.1, Error ellipse: s-maj=6.2km s-min=4.8km az=123.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 18 18:58:24.4±0.5, 4374N±003×10530W±005, h0km, n29, σ1°34/43, mb4.1/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**67**	*eP*	**Pg**	**18 58 43.1**	**-0.2**
LAO	**LASA Array**	**3.02**	**348**	*e*Pg	**Pg**	**18 59 21.4**	**-0.9**
BW06	**Boulder Array**	**3.26**	**254**	*e*Pn	**Pn**	**18 59 17.0**	**+0.2**
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**18 59 17.1**	**+0.3**
	3.8nm,0.3s,baz=70,slow=14,SNR=65						
PDAR				Lg		19 00 02.5	
	11nm,0.3s,baz=79,slow=34,SNR=13						
GCMT	**Greycliff**	**3.73**	**305**	*e*Pn	**Pn**	**18 59 24.2**	**+1.0**
LKWY	**Lake**	**3.77**	**284**	Pn	**Pn**	**18 59 26.4**	**+2.7**
LOHW	**Long Hollow**	**3.85**	**270**	*e*Pn	**Pn**	**18 59 26.8**	**+1.9**
FLWY	**Flagg Ranch**	**3.92**	**277**	*e*Pn	**Pn**	**18 59 26.9**	**+1.1**
FLWY				*e*Pg	**Pg**	**18 59 37.6**	**-1.9**
FLWY				*e*Sg	**Sg**	**19 00 30.4**	**0.0**
ISCO	**Idaho Springs**	**3.94**	**184**	*e*Pn	**Pn**	**18 59 26.2**	**+0.1**
REDW	**Red Top Meadow**	**4.06**	**267**	*e*Pn	**Pn**	**18 59 28.6**	**+0.9**
YMR	**Madison River**	**4.18**	**285**	*e*Pn	**Pn**	**18 59 31.4**	**+2.0**
AHID	**Auburn Hatcher**	**4.35**	**259**	Pn	**Pn**	**18 59 32.4**	**+0.6**
AHID				*e*Pg	**Pg**	**18 59 45.2**	**-2.6**
AHID				*e*Sg	**Sg**	**19 00 42.0**	**-2.1**
QLMT	**Earthquake Lak**	**4.54**	**286**	*e*Pn	**Pn**	**18 59 35.3**	**+1.0**
QLMT				*e*Pg	**Pg**	**18 59 47.3**	**-4.1**
QLMT				*e*Sg	**Sg**	**19 00 47.4**	**-2.8**
SMCO	**Snowmass**	**4.73**	**196**	*e*Pb	**Pb**	**18 59 49.3**	**+1.2**
SMCO				*e*Pg	**Pg**	**18 59 54.2**	**-0.8**
SMCO				*e*Sb	**Sb**	**19 00 47.5**	**+1.8**
SMCO				*e*Sg	**Sg**	**19 00 54.1**	**-2.2**
HWUT	**Hardware Ranch**	**5.09**	**247**	*e*Pn	**Pn**	**18 59 42.0**	**+0.1**
HWUT				*e*Sg	**Sg**	**19 01 01.1**	**-6.8**
TCUT	**Toone Canyon**	**5.23**	**242**	*e*Pn	**Pn**	**18 59 44.2**	**+0.5**
EGMT	**Eagleton**	**5.29**	**326**	*e*Pn	**Pn**	**18 59 46.2**	**+1.4**
EGMT				*e*Pg	**Pg**	**19 00 04.8**	**-1.0**
DLMT	**Dillon**	**5.46**	**290**	*e*Pn	**Pn**	**18 59 47.0**	**-0.1**
	4.3nm,0.8s						
DLMT				*e*Pg	**Pg**	**19 00 05.0**	**-4.1**
HRY	**Holter Researc**	**5.49**	**305**	*e*Pn	**Pn**	**18 59 47.5**	**+0.1**
DAU	**Daniels Canyon**	**5.54**	**235**	*e*Pn	**Pn**	**18 59 49.2**	**+1.1**
HVU	**Hansel Valley**	**5.84**	**253**	*e*Pn	**Pn**	**18 59 52.8**	**+0.6**
HVU				*e*Sg	**Sg**	**19 01 26.0**	**-6.1**
MPU	**Maple Canyon**	**6.02**	**234**	Pn	**Pn**	**18 59 54.8**	**+0.1**
SRU	**San Rafael**	**6.07**	**222**	*e*Pn	**Pn**	**18 59 54.9**	**-0.4**
SRU				*e*Sg	**Sg**	**19 01 30.8**	**-8.5**
TMUT	**Trail Mountain**	**6.28**	**227**	*e*Pn	**Pn**	**18 59 58.8**	**+0.6**
TMUT				*e*Pg	**Pg**	**19 00 20.9**	**-3.7**
CBKS	**Cedar Bluff**	**6.46**	**138**	*e*Pg	**Pg**	**19 00 25.2**	**-3.0**
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**19 00 36.2**	**-1.5**
	2.1nm,0.3s,baz=233,slow=14,SNR=17						
ULM				Pg	Pn	19 01 12.8	+35
	0.7nm,0.3s,baz=234,slow=16,SNR=4.6						
ULM				Lg		19 03 10.1	
	0.3nm,0.3s,baz=131,slow=20,SNR=2.6						
BBB	**Bella Bella**	**17.40**	**307**	LR	LR	19 09 37.5	
	comp=Z,41nm,20.9s,baz=352,slow=38						
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**Pn**	**19 02 55.4**	**+0.5**
	baz=155,slow=9.2,SNR=4.7						
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**19 08 40.2**	**-2.2**
	1.4nm,0.8s,mb4.1,baz=334,slow=10.0,SNR=3.6						

PRE 18 19:13:35.4±1.4, 2175S×3357E, h5km, ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.26**	**230**	*eP*	Pn	19 15 10.0	+1.6
SLR				*e*S	Sn	19 16 24.8	+4.5
SLR				AML	AML	19 17 09.5	
	comp=Z,55nm,0.5s						
LBTB	**Lobatse**	**8.01**	**245**	*eP*	Pn	19 15 34.3	+1.9
LBTB				*e*S	Sn	19 16 59.4	-3.9
LBTB				AML	AML	19 18 04.3	
	comp=Z,27nm,0.6s						
BOSA	**Boshof**	**10.16**	**226**	*eP*	Pn	19 16 03.0	+1.1
BOSA				*e*S	Sn	19 17 51.9	-4.3
BOSA				AML	AML	19 19 20.0	
	comp=Z,14nm,0.7s						
PKA	**Prieska**	**12.53**	**229**	*eP*	Pn	19 16 36.2	+1.9
SUR	**Sutherland**	**15.51**	**224**	*eP*	Pn	19 17 17.1	+2.3
CVNA	**Calvinia**	**15.68**	**229**	*eP*	Pn	19 17 19.1	+2.1
CVNA				*e*S	Sn	19 19 56.0	-15

NIED ***18*** *19:19:00, 25.00N×123.10E, h140km, Mw4.6 Best double couple: M0=1.05000×10^16 NP1:φ=82.00000°, δ=77.00000°, λ=98.00000°. NP2:φ=231.00000°, δ=15.00000°, λ=59.00000°.*

SZGRF ***18*** *19:19:37.7, 24.60N×119.62E, h33km, mb4.8, Taiwan region*

ISCJB ***18*** *19:19:40.9±0.2, 24.95N±003×123.13E±002, h155km, mb4.4/65, Error ellipse: s-maj=3.9km s-min=2.7km az=43.9*

NEIC ***18*** *19:19:42.5±0.2, 24.99N×123.08E, mb4.4/25, Error ellipse: s-maj=7.1km s-min=5.5km az=84.0*

NEIC Recorded [1 JMA] on Iriomote-jima.

IDC ***18*** *19:19:42.4±0.7, 25.05N×123.19E, h154km±5km, mb4.0/20, mb1 4.2/22, mb1mx4.1/28, mbtmp4.4/22, MS3.0/3, Ms1 3.0/3, ms1mx2.7/30, Error ellipse: s-maj=11.9km s-min=9.6km az=67.0*

BJI ***18*** *19:19:42.6, 24.95N×123.16E, h168km, mB4.8, mb4.6*

JMA ***18*** *19:19:43.1±0.2, 24.97N×123.09E, h133km±2km, M4.5*

JMA Felt I J1.

MOS ***18*** *19:19:44.7±0.9, 25.69N×122.92E, h155km, mb4.7/21, Error ellipse: s-maj=15.7km s-min=6.6km az=121.3*

ISC 18 19:19:42.3±0.2, 2495N±003×12318E±002, h157km, h157km±1.7km; pP-P, n181, σ1°21/209, mb4.4/65, 16C-4D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.51**	**198**	P	**Pn**	**19 20 02.6**	**-1.9**
YOJ				S	**Sn**	**19 20 17.9**	**-3.4**
IRIF	**Iriomote-Funau**	**0.79**	**141**	P	**Pn**	**19 20 04.9**	**-1.2**
IRIF				*e*S	**Sn**	**19 20 22.1**	**-2.2**
JKRS	**Kuro-shima**	**1.03**	**133**	P	**Pn**	**19 20 07.7**	**-0.3**
JKRS				S	**Sn**	**19 20 25.9**	**-1.7**
JIJ	**Ishigaki jima**	**1.05**	**123**	P	**Pn**	**19 20 07.4**	**-0.7**
JIJ				S	**Sn**	**19 20 25.6**	**-2.2**
HATJ	**Hateruma jima**	**1.05**	**147**	P	**Pn**	**19 20 07.6**	**-0.6**
HATJ				*e*S	**Sn**	**19 20 26.2**	**-1.7**
JTJ	**Tarama**	**1.41**	**102**	P	**Pn**	**19 20 11.7**	**+0.2**
JTJ				S	**Sn**	**19 20 33.3**	**-0.6**
TATO	**Taipei**	**1.54**	**271**	*e*Pn	**Pn**	**19 20 10.5**	**-2.3**
TATO				*e*Sn	**Sn**	**19 20 26.9**	**-9.2**
NACB	**Ninganchiao**	**1.64**	**242**	*e*Pn	**Pn**	**19 20 10.5**	**-3.3**
NACB				*e*Sn	**Sn**	**19 20 26.6**	**-11**
YHNB	**Yeheng**	**1.67**	**261**	*e*Pn	**Pn**	**19 20 11.9**	**-2.2**
YHNB				*e*Sn	**Sn**	**19 20 32.8**	**-5.7**
JMJ	**Miyako jima 2**	**1.92**	**94**	P	**Pn**	**19 20 17.9**	**+1.0**
JMJ				S	**Sn**	**19 20 43.6**	**+0.1**
JOGS	**Gusukube**	**2.03**	**95**	P	**Pn**	**19 20 19.4**	**+1.2**
JOGS				*e*S	**Sn**	**19 20 46.1**	**+0.4**
JKE	**Kume jima 2**	**3.53**	**66**	P	**Pn**	**19 20 37.2**	**+0.6**
JKE				*e*S	**Sn**	**19 21 20.4**	**+1.6**
JAGN	**Aguni-jima**	**4.01**	**65**	P	**Pn**	**19 20 43.4**	**+0.6**
JAGN				*e*S	**Sn**	**19 21 30.9**	**+1.0**
QZH	**Quanzhou**	**4.17**	**271**	P	**Pn**	**19 20 42.8**	**-2.1**
QZH				S	**Sn**	**19 21 25.8**	**-7.8**
QZH				Smax			
	comp=N,560nm,0.8s						
QZH				Smax			
	comp=E,630nm,1.2s						
NAH1	**Naha**	**4.26**	**72**	P	**Pn**	**19 20 46.8**	**+0.7**
JJT2	**Tamagusuku 2**	**4.29**	**73**	P	**Pn**	**19 20 46.7**	**+0.2**
JIH	**Iheya**	**4.78**	**63**	P	**Pn**	**19 20 52.7**	**-0.2**
JOW	**Kunigami**	**4.95**	**67**	P	**Pn**	**19 20 54.6**	**-0.6**
	comp=E,20nm,0.3s,baz=246,slow=13,SNR=29						
JOW				S	**Sn**	**19 21 48.7**	**-3.4**
	comp=E,18nm,0.3s,baz=117,slow=25,SNR=6.7						
JOW	**Kunigami**	**4.95**	**67**	P	**Pn**	**19 20 54.9**	**-0.3**
JOW				*e*S	**Sn**	**19 21 49.6**	**-2.5**
JTK	**Tokunoshima**	**5.89**	**60**	P	**Pn**	**19 21 06.9**	**-0.7**
JTK				*e*S	**Sn**	**19 22 12.4**	**-2.0**
SSE	**Sheshan**	**6.37**	**344**	*eP*	**Pn**	**19 21 12.8**	**-1.2**
SSE				S	**Sn**	**19 22 23.3**	**-2.6**
SSE				AMB	AMB		
	comp=Z,173nm,1.0s						
SSE				AMB	AMB		
	comp=Z,30nm,3.5s						
SSE				LR	LR		
	comp=N,97nm,31.3s						
SSE				LR	LR		
	comp=E,36nm,31.3s						
SSE				LR	LR		
	comp=Z,355nm,11.7s						
JAM	**Amami Oshima**	**6.70**	**58**	P	**Pn**	**19 21 16.8**	**-1.5**
JAM				*e*S	**Sn**	**19 22 30.0**	**-3.7**
JMZ	**Minamidaito 2**	**7.32**	**81**	P	**Pn**	**19 21 24.9**	**-1.7**
JMZ				*e*S	**Sn**	**19 22 41.4**	**-7.2**
NJ2	**Nanjing**	**8.04**	**333**	*eP*	**Pn**	**19 21 36.4**	**+0.3**
NJ2				S	**Sn**	**19 23 07.0**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,40nm,3.5s						
NJ2				Smax			
	comp=N,210nm,1.2s						
NJ2				Smax			
	comp=E,140nm,1.0s						
NJ2				LR	LR		
	comp=N,260nm,10.2s						
NJ2				LR	LR		
	comp=E,660nm,14.3s						
NJ2				LR	LR		
	comp=Z,190nm,14.7s						
WHN	**Wuhan**	**9.61**	**307**	*eP*	**Pn**	**19 21 56.3**	**-0.6**
KS15	**Wonju Array Si**	**13.09**	**17**	*e*Pn	**Pn**	**19 22 44.7**	**+2.4**
QIZ	**Qiongzhong**	**13.70**	**247**	P	**Pn**	**19 22 50.8**	**+0.7**
QIZ				XP		19 23 30.6	
QIZ				S	**Sn**	**19 25 13.1**	**-8.8**
QIZ				AMB	AMB		
	comp=Z,55nm,7.6s						
DL2	**Dalian**	**13.98**	**355**	*eP*	**Pn**	**19 22 58.1**	**+4.5**
DL2				*e*S	**Sn**	**19 25 31.8**	**+3.2**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s						
DL2				AMB	AMB		
	comp=Z,110nm,3.7s						
GYA	**Guiyang**	**14.97**	**279**	P	**Pn**	**19 23 08.3**	**+2.3**
GYA				XP	sP	19 23 51.0	-3.0
GYA				S	**Sn**	**19 25 50.1**	**-2.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				LR	LR		
	comp=N,430nm,13.8s						
GYA				LR	LR		
	comp=E,480nm,14.2s						
GYA				LR	LR		
	comp=Z,510nm,15.0s						
XAN	**Xi'an**	**15.36**	**309**	P	**Pn**	**19 23 12.8**	**+2.0**
XAN				AMB	AMB		
	comp=Z,28nm,1.4s						
BJI	**Beijing**	**16.16**	**340**	P	**Pn**	**19 23 21.6**	**+1.0**
BJI				AMB	AMB		
	comp=Z,32nm,1.1s						
BJI				AMB	AMB		
	comp=Z,342nm,6.1s						
SNY	**Shenyang**	**16.84**	**1**	⇑P	**Pn**	**19 23 30.3**	**+1.5**
SNY				AMB	AMB		
	comp=Z,11nm,0.8s						
SNY				LR	LR		
	comp=E,405nm,4.5s						
SNY				LR	LR		
	comp=Z,117nm,11.4s						
MJAR	**Matsushiro Arr**	**17.30**	**45**	P	**Pn**	**19 23 34.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=233,slow=11,SNR=7.6						
CD2	**Chengdu**	**18.16**	**293**	P	**P**	**19 23 43.3**	**+0.6**
CD2				XP	sP	19 24 29.9	+0.5
CD2				S	**S**	**19 26 55.8**	**-6.6**
CD2				PCP	PcP	19 28 10.5	+1.7
CD2				SCP	ScP	19 31 31.8	+2.4
CD2				PCS	PcS	19 31 45.5	0.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CD2				AMB	AMB		
	comp=Z,100nm,4.9s						
CD2				LR	LR		
	comp=N,120nm,4.2s						
CD2				LR	LR		
	comp=Z,100nm,5.1s						
KMI	**Kunming**	**18.53**	**275**	P	**P**	**19 23 46.6**	**-0.2**
KMI				PP		19 24 07.9	
KMI				S	**S**	**19 26 59.8**	**-10**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.5s						
KMI				AMB	AMB		
	comp=Z,78nm,4.1s						
KMI				LR	LR		
	comp=N,151nm,8.3s						
KMI				LR	LR		
	comp=E,139nm,7.0s						
HHC	**Hu-ho-hao-te**	**18.59**	**331**	*eP*	**P**	**19 23 48.8**	**+1.4**
HHC				S	**S**	**19 27 05.6**	**-5.5**
HHC				PCP	PcP	19 28 12.9	+3.3
HHC				SCP	ScP	19 31 32.6	+2.2
HHC				PCS	PcS	19 31 49.0	+2.6
HHC				AMB	AMB		
	comp=Z,26nm,0.5s						
HHC				AMB	AMB		
	comp=Z,167nm,2.3s						
HHC				LR	LR		
	comp=N,134nm,4.7s						
HHC				LR	LR		
	comp=E,175nm,4.8s						
HHC				LR	LR		
	comp=Z,114nm,5.3s						
CN2	**Changchun**	**18.90**	**5**	*eP*	**P**	**19 23 52.3**	**+1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
BTO	**Baotou**	**19.10**	**328**	*eP*	**P**	**19 23 53.9**	**+0.9**
KKM	**Kota Kinabalu**	**19.95**	**201**	*eP*	**P**	**19 24 03.4**	**+1.2**
KKM				*e*		19 24 08.0	
LZH	**Lanzhou**	**19.98**	**308**	⇑P	**P**	**19 24 03.1**	**+0.6**
LZH				AP		19 24 28.6	
LZH				*e*S	**S**	**19 27 34.0**	**-4.6**
LZH				XS	sS	19 28 15.1	-9.2
LZH				AMB	AMB		
	comp=Z,53nm,1.0s						
LZH				AMB	AMB		
	comp=Z,230nm,4.0s						
MDJ	**Mudanjiang**	**20.30**	**13**	P	**P**	**19 24 07.8**	**+1.9**
MDJ				AP		19 24 34.5	
MDJ				S	**S**	**19 27 48.5**	**+3.6**
MDJ				SCP	ScP	19 31 35.5	+1.2
MDJ				PCS	PcS	19 31 53.3	+3.0
MDJ				AMB	AMB		
	comp=Z,17nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,243nm,4.9s						
MDJ				LR	LR		
	comp=N,8.0nm,20.7s						
MDJ				LR	LR		
	comp=E,10.0nm,33.5s						
MDJ				LR	LR		
	comp=Z,13nm,21.7s						
GUMO	**Guam**	**23.34**	**115**	LR	LR	19 31 49.3	
	comp=Z,31nm,21.8s,baz=27,slow=31						
GTA	**Gaotai**	**24.38**	**312**	*eP*	**P**	**19 24 45.4**	**-0.6**
GTA				AP		19 25 17.8	
GTA				PP		19 25 29.8	
GTA				XP	sP	19 25 37.3	+0.8
GTA				S	**S**	**19 28 52.1**	**-1.9**
GTA				XS	sS	19 29 48.8	-2.3
GTA				SS		19 30 03.5	
GTA				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.4						
GTA				AMB	AMB		
	comp=Z,85nm,4.9s						
GTA				LR	LR		
	comp=N,74nm,13.3s						
GTA				LR	LR		
	comp=E,108nm,14.5s						
GTA				LR	LR		
	comp=Z,91nm,12.9s						
KLR	**Kul'dur**	**25.15**	**13**	*eP*	**P**	**19 24 50.2**	**-2.7**
KLR				*e*	pP	19 25 23.4	-1.9
ULN	**Ulaanbaatar**	**26.19**	**335**	*i P*	**P**	**19 25 01.5**	**-0.8**
ULN	**Ulaanbaatar**	**26.19**	**335**	*eP*	**P**	**19 25 01.6**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.2						
ULN				*e*		19 25 06.5	
ULN				*e*pP	pP	19 25 33.7	-1.1
SONM	**Songino Array**	**26.43**	**334**	P	**P**	**19 25 04.2**	**-0.2**
	comp=Z,6.1nm,0.9s,mb4.2,baz=150,slow=8.8,SNR=42						
SONM				pP	pP	19 25 35.7	-1.2
	comp=Z,5.9nm,0.9s,baz=141,slow=9.7,SNR=7.6						
SONM				ScP	ScP	19 31 51.7	+1.0
	comp=Z,0.6nm,1.0s,baz=116,slow=3.4,SNR=4.1						
SONM				LR	LR	19 35 43.1	
	comp=Z,25nm,19.5s,baz=4.5,slow=36						
KSM	**Kuching**	**26.44**	**210**	*eP*	**P**	**19 25 04.2**	**-0.3**
KSM				*e*pP	pP	19 25 37.7	+0.6
ZAK	**Zakamensk**	**29.69**	**334**	*eP*	**P**	**19 25 29.1**	**-4.3**
ZAK				*e*		19 26 27.8	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.1						
MOY	**Mondy**	**31.61**	**333**	*eP*	**P**	**19 25 50.1**	**-0.1**
PSI	**Prapat**	**32.11**	**231**	P	**P**	**19 25 56.8**	**+2.1**
	comp=Z,2.8nm,0.7s,mb4.1,baz=5.8,slow=4.0,SNR=5.0						
WMQ	**Urumqi**	**34.47**	**312**	P	**P**	**19 26 15.4**	**+0.3**
WMQ				AP	pP	19 26 49.8	+1.3
WMQ				XP	sP	19 27 08.3	+1.9
WMQ				PP	PP	19 27 36.0	-0.4
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,76nm,4.2s						
WMQ				LR	LR		
	comp=N,444nm,22.0s						
WMQ				LR	LR		
	comp=Z,369nm,24.0s						
YAK	**Yakutsk**	**37.33**	**5**	⇓*i P*	**P**	**19 26 37.8**	**-1.6**
YAK				*i* *PP	pP	19 27 11.4	-1.8
YAK				*i*		19 28 06.3	
YAK				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.8						
YAK	**Yakutsk**	**37.33**	**5**	*eP*	**P**	**19 26 37.8**	**-1.6**
	comp=Z,20nm,1.0s,mb4.7						
YAK				*e*pP	pP	19 27 10.9	-2.2
KRAR	**Krasnoyarsk**	**38.08**	**333**	*i P*	**P**	**19 26 42.3**	**-3.4**
KRAR				pmax	pmax		
	comp=Z,12nm,0.4s,mb4.9						
KAKA	**Kakadu**	**38.50**	**165**	*eP*	**P**	**19 26 49.8**	**+0.5**
	comp=Z,14nm,0.9s,mb4.6						
MK31	**Makanchi Array**	**39.08**	**314**	*i P*	**P**	**19 26 53.3**	**-0.8**
MK31				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**39.08**	**314**	P	**P**	**19 26 53.3**	**-0.7**
	comp=Z,10nm,0.6s,mb4.7,baz=108,slow=9.6,SNR=150						
MKAR				pP	pP	19 27 27.9	-0.1
	comp=Z,3.6nm,0.9s,baz=116,slow=11,SNR=2.9						
MKAR				PcP	PcP	19 29 01.4	+0.8
	comp=Z,2.3nm,0.9s,baz=94,slow=3.6,SNR=4.6						
MKAR	**Makanchi Array**	**39.08**	**314**	P	**P**	**19 26 53.3**	**-0.7**
MKAR				pP	pP	19 27 27.9	-0.1
MKAR				PcP	PcP	19 29 01.4	+0.8
ZAL	**Zalesovo**	**40.62**	**326**	P	**P**	**19 27 05.5**	**-1.3**
	comp=Z,5.4nm,0.6s,mb4.4,baz=353,slow=8.0,SNR=25						
NVS	**Novosibirsk**	**41.87**	**326**	*eP*	**P**	**19 27 14.5**	**-2.4**
NVS				*e*	pP	19 27 45.6	-5.7
NVS				*e*		19 28 58.3	
NVS				pmax	pmax		
	comp=N,12nm,1.8s						
NVS				pmax	pmax		
	comp=E,17nm,1.8s						
NVS				pmax	pmax		
	comp=Z,19nm,1.8s,mb4.4						
KSH	**Kashi**	**42.03**	**302**	P	**P**	**19 27 15.0**	**-3.2**
KSH				PCP	PcP	19 29 12.3	+2.0
KSH				SCP	ScP	19 32 47.1	+1.2
KSH				PCS	PcS	19 33 02.6	+0.4
KSH				S	**S**	**19 33 17.5**	**-7.9**
KSH				SCS	ScS	19 37 01.5	-2.3
KSH				AMB	AMB		
	comp=Z,9.0nm,0.3s,mb4.9						
KSH				AMB	AMB		
	comp=Z,163nm,4.6s						
KSH				LR	LR		
	comp=N,193nm,5.7s						
KSH				LR	LR		
	comp=E,215nm,5.3s						
KSH				LR	LR		
	comp=Z,185nm,5.0s						
SEY	**Seymchan**	**42.65**	**19**	⇑*eP*	**P**	**19 27 23.0**	**-0.3**
KURK	**Kurchatov**	**42.70**	**319**	⇑*i P*	**P**	**19 27 21.7**	**-1.9**
KURK				*i* *PP	pP	19 27 56.0	-2.1
KURK	**Kurchatov**	**42.70**	**319**	*eP*	**P**	**19 27 22.4**	**-1.2**
	comp=Z,36nm,1.0s,mb5.0						
KURK				*e*pP	pP	19 27 55.1	-3.1
TKM2	**Tokmak 2**	**42.75**	**307**	P	**P**	**19 27 24.8**	**+0.7**
	SNR=23						
FITZ	**Fitzroy Crossi**	**42.85**	**177**	P	**P**	**19 27 26.2**	**+1.3**
	comp=Z,3.1nm,0.8s,mb4.0,baz=5.1,slow=12,SNR=4.1						
KZA	**Kyzart**	**42.88**	**306**	P	**P**	**19 27 27.0**	**+1.9**
	SNR=6.7						
KBK	**Karagaybulak**	**43.18**	**306**	P	**P**	**19 27 28.7**	**+1.2**
	SNR=12						
CHMS	**Chumysh**	**43.37**	**307**	P	**P**	**19 27 29.3**	**+0.2**
	SNR=12						
UCH	**Uchtor**	**43.44**	**306**	P	**P**	**19 27 31.1**	**+1.5**
	SNR=29						
AAK	**Ala-Archa**	**43.51**	**306**	P	**P**	**19 27 31.1**	**+1.0**
	SNR=6.7						
AML	**Almayashu**	**44.03**	**306**	P	**P**	**19 27 35.6**	**+1.2**
	SNR=8.5						
EKS2	**Erkin-Say**	**44.03**	**306**	P	**P**	**19 27 34.9**	**+0.6**
	SNR=7.4						
WRAB	**Tennant Creek**	**45.91**	**165**	*eP*	**P**	**19 27 50.5**	**+1.3**
	comp=Z,42nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**45.92**	**165**	P	**P**	**19 27 50.7**	**+1.5**
	comp=Z,21nm,1.0s,mb4.7,baz=347,slow=8.7,SNR=48						
WB2	**Warramunga Arr**	**45.92**	**165**	*eP*	**P**	**19 27 50.6**	**+1.3**
MBWA	**Marble Bar**	**45.95**	**184**	*eP*	**P**	**19 27 49.7**	**+0.2**
	comp=Z,8.5nm,0.9s,mb4.4						

ZRNK *e*PcP PcP 19 29 34.7 0.0
AS31 Alice Springs 49.43 167 *e*P **P** **19 28 18.2 +1.9**
ASAR Alice Springs 49.43 167 P **P** **19 28 18.2 +1.9**
comp=Z,6.6nm,0.9s,mb4.2,baz=350,slow=6.8,SNR=67
ASAR pP pP 19 28 50.6 -1.0
comp=Z,3.5nm,1.0s,baz=348,slow=6.4,SNR=3.7
ASPA Alice Springs 49.43 167 *e*P **P** **19 28 18.2 +1.9**
BILL Bilibino 50.35 19 *e*P **P** **19 28 23.3 +0.1**
BILL pmax pmax
comp=Z,10.0nm,2.2s,mb4.1
BILL Bilibino 50.35 19 *e*P **P** **19 28 21.4 -1.8**
comp=Z,2.0nm,0.7s,mb3.9
AB31 Akbulak array 54.22 314 *i*P **P** **19 28 51.3 -0.4**
AB31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.2
ARU Arti 55.60 323⇑ *i*P **P** **19 29 00.4 -1.3**
ARU *e* pP 19 29 34.7 -3.1
ARU *e* 19 29 57.3
ARU *e* 19 31 01.2
ARU *e*PPP 19 32 20.5
ARU *e*S **S** **19 36 34.5 -0.7**
ARU *e*SS SS 19 40 20.3 -2.2
ARU pmax pmax
comp=Z,15nm,0.8s,mb4.9
STKA Stephens Creek 59.18 162 *e*P **P** **19 29 25.6 -1.1**
comp=Z,2.7nm,0.9s,mb4.1
STKA Stephens Creek 59.18 162 P **P** **19 29 26.4 -0.4**
comp=Z,3.1nm,0.7s,mb4.3,baz=354,slow=6.7,SNR=8.3
STKA pP pP 19 30 00.1 -3.2
comp=Z,2.2nm,0.6s,baz=325,slow=6.1,SNR=3.6
KLMR Klimovskoe 65.49 328 *e*P **P** **19 30 05.8 -2.9**
KLMR pmax pmax
comp=Z,30nm,1.5s,mb4.9
GNI Garni 65.87 305⇑ *e*P **P** **19 30 12.7 +1.6**
GNI pmax pmax
comp=Z,14nm,1.7s
GOF Gofitskoye 66.05 310 *e*P **P** **19 30 11.0 -1.2**
MIB Mutribah 66.40 293 *e*P **P** **19 30 14.3 -0.1**
MIB AMb AMB 19 30 15.4
comp=Z,15nm,0.8s,mb4.9
RDF Al-Radifah 66.47 292 *e*P **P** **19 30 14.9 0.0**
RDF AMb AMB 19 30 15.9
comp=Z,22nm,0.8s,mb5.1
KIV Kislovodsk 66.52 309*c* *i*P **P** **19 30 15.5 +0.3**
KIV pmax pmax
comp=Z,24nm,1.3s,mb4.9
KIV Kislovodsk 66.52 309 *e*P **P** **19 30 15.7 +0.4**
comp=Z,5.9nm,0.8s,mb4.5
NAY Al-Naaiem 66.63 293 *e*P **P** **19 30 15.7 -0.3**
NAY AMb AMB 19 30 16.8
comp=Z,8.8nm,0.8s,mb4.7
ILAR Eielson Array 67.70 28 P **P** **19 30 22.6 0.0**
comp=Z,0.2nm,0.5s,baz=262,slow=4.8,SNR=6.2
OBN Obninsk 68.03 322⇓ *e*P **P** **19 30 24.1 -0.6**
OBN *e* 19 30 50.3
OBN *e* 19 32 52.6
OBN pmax pmax
comp=Z,22nm,1.5s,mb4.7
SOC Sochi 68.70 309 *e*P **P** **19 30 27.3 -1.6**
SOC *e**PP pP 19 31 05.5 -1.0
SOC *e*S S 19 39 18.4 -0.9
SOC *e**SS sS 19 40 11.8 -13
SOC pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
JOF Joensuu 68.94 331 *e*p **P** **19 30 30.1 -0.2**
comp=Z,3.3nm,0.6s,mb4.2
ARCES ARCESS Array B 69.51 338 P **P** **19 30 32.8 -1.1**
comp=Z,2.3nm,0.8s,mb4.0,baz=58,slow=5.9,SNR=5.2
ANN Anapa 69.97 311 *e*P **P** **19 30 36.7 0.0**
ANN *e**PP pP 19 31 14.5 0.0
ANN pmax pmax
comp=Z,17nm,1.3s,mb4.6
MALT Malatya 71.08 304⇑P **P** **19 30 45.5 +2.1**
MALT Malatya 71.08 304 *e*P **P** **19 30 44.4 +1.0**
comp=Z,4.0nm,0.8s,mb4.2
MALT *e*pP pP 19 31 23.1 +1.8
FINES FINESS Array B 71.71 330 P **P** **19 30 46.6 -0.5**
comp=Z,2.9nm,0.8s,mb4.1,baz=66,slow=4.7,SNR=20
FINES LR LR 20 05 35.7
comp=Z,19nm,19.4s,baz=21,slow=38
FINES FINESS Array B 71.71 330 *i*P **P** **19 30 46.7 -0.5**
FINES pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 71.83 22 P **P** **19 30 47.8 -0.1**
comp=Z,3.6nm,0.9s,mb4.1,baz=287,slow=6.0,SNR=13
INK Inuvik 71.83 22 *e*P **P** **19 30 47.5 -0.4**
comp=Z,4.3nm,0.9s,mb4.2
AKASG Malin Array Be 73.51 319 P **P** **19 30 57.0 -0.8**
comp=Z,2.6nm,0.6s,mb4.1,baz=59,slow=5.8,SNR=12
AKASG Malin Array Be 73.51 319 *i*P **P** **19 30 57.0 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 73.51 319 P **P** **19 30 57.0 -0.8**
BR131 Keskin Array S 74.18 307 *e*P **P** **19 31 02.2 +0.5**
comp=Z,1.1nm,0.5s,mb3.8
BRTR Keskin Array B 74.18 307 P **P** **19 31 02.1 +0.4**
comp=Z,2.9nm,0.8s,mb4.0,baz=97,slow=5.2,SNR=18
BRTR pP pP 19 31 40.7 +0.8
comp=Z,1.4nm,0.9s,baz=99,slow=7.6,SNR=3.2
BRTR Keskin Array B 74.18 307 *i*P **P** **19 31 02.0 +0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
SUW Suwalki 75.79 323 *e*P **P** **19 31 10.2 -0.7**
CFR Carcaliu 76.11 313⇑P **P** **19 31 13.2 +0.4**
TIRR Tirgusor 76.19 313⇓P **P** **19 31 13.4 +0.2**
HARR Harsova 76.43 313⇑P **P** **19 31 15.3 +0.8**
EIL Elat 76.65 297 P **P** **19 31 15.7 0.0**
comp=Z,132nm,1.0s
VRI Vrincioaia 76.78 315⇑P **P** **19 31 17.5 +1.0**
BURAR Bucovina Array 77.07 317⇑P **P** **19 31 19.0 +0.8**
MLR Muntele Rosu 77.43 314 P **P** **19 31 19.4 -0.7**
comp=Z,5.2nm,0.5s,mb4.4,baz=170,slow=11,SNR=6.9
MLR Muntele Rosu 77.43 314⇓P **P** **19 31 20.6 +0.5**
RES Resolute Bay 77.61 10 *e*P **P** **19 31 20.4 -0.7**
comp=Z,4.1nm,1.0s,mb4.0
KWP Kalwaria 77.80 319 *e*P **P** **19 31 23.0 +0.8**
NB2 NORSAR Subarra 78.40 333 P **P** **19 31 24.4 -1.1**
comp=Z,2.9nm,0.8s,mb4.0,baz=62,slow=5.6
NOA NORSAR Array B 78.40 333 P **P** **19 31 24.9 -0.6**
comp=Z,2.0nm,0.7s,mb3.9,baz=57,slow=5.5,SNR=7.9
STHS Stebnicka Huta 78.76 319 *e*P **P** **19 31 28.3 +0.9**
OJC Ojcow 79.25 320 *e*P **P** **19 31 30.7 +0.5**
KECS Kecovo 79.61 319 *e* **P** **19 31 38.8 +6.7**
PSZ Piszkesteto 80.21 318 P **P** **19 31 33.4 -1.9**
OKC Ostrava-Krasne 80.38 321 *e*P **P** **19 31 36.5 +0.3**
VTS Vitosha 80.40 312⇑P **P** **19 31 37.8 +1.5**
VYHS Vyhne 80.59 319 *e*P **P** **19 31 38.0 +0.7**
MORC Moravsky Berou 80.75 321 *e*P **P** **19 31 38.4 +0.2**
comp=Z,3.7nm,1.0s,mb4.0
KSP Ksiaz 80.96 322 *e*P **P** **19 31 39.9 +0.6**
KSP Ksiaz 80.96 322 *e*P **P** **19 31 39.2 -0.1**
DPC Dobruska-Polom 81.18 322 *e*P **P** **19 31 40.0 -0.4**
YKW3 Yellowknife Ar 81.51 23 *e*P **P** **19 31 42.4 +0.2**
VRAC Vranov 81.52 321⇑P **P** **19 31 43.4 +1.2**
YKA Yellowknife Ar 81.56 23 P **P** **19 31 42.3 -0.1**
comp=Z,1.4nm,0.7s,mb3.7,baz=310,slow=5.1,SNR=32
YKA pP pP 19 32 22.1 +0.9
comp=Z,1.0nm,0.7s,baz=311,slow=5.1,SNR=4.7
PKSM Moragy 81.75 317⇑P **P** **19 31 44.1 +0.7**
TREC Trest 82.16 321 *e*P **P** **19 31 45.5 -0.1**
BRG Berggiesshubel 82.24 323 *e*P **P** **19 31 46.1 +0.1**
comp=Z,4.0nm,0.9s,mb4.0
PRU Pruhonice 82.35 322 *e*P **P** **19 31 45.6 -1.0**
CLL Collm 82.53 324 *e*P **P** **19 31 47.4 -0.1**
comp=Z,11nm,1.2s,mb4.5
CLL Collm 82.53 324 *i*P **P** **19 31 47.0 -0.5**
CLL Collm 82.53 324 *i*P **P** **19 31 44.6 -2.9**
CLL pmax pmax
comp=Z,53nm,2.3s,mb4.9
CLL Collm 82.53 324 *i*P **P** **19 31 44.6 -2.9**
comp=Z,53nm,2.3s,mb4.9
BSEG Bad Segeberg 82.55 327 *e*P **P** **19 31 48.4 +0.8**
comp=Z,8.0nm,1.2s,mb4.3
BSEG Bad Segeberg 82.55 327 *e*P **P** **19 31 48.4 +0.8**
BSEG pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
KHC Kasperske Hory 83.33 321 *e*P **P** **19 31 51.4 -0.2**
GEC2 GERESS Array S 83.40 321 *e*P **P** **19 31 51.5 -0.5**
comp=Z,7.0nm,1.0s,mb4.3
GEC2 GERESS Array S 83.40 321 *e*P **P** **19 31 51.5 -0.5**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
GERES GERESS Array B 83.40 321 P **P** **19 31 52.3 +0.3**
comp=Z,3.1nm,0.8s,mb4.1,baz=64,slow=4.6,SNR=25
CLZ Clausthal 83.65 325 *e*P **P** **19 31 53.9 +0.6**
comp=Z,16nm,1.5s,mb4.5
CLZ Clausthal 83.65 325 *e*P **P** **19 31 53.9 +0.6**
CLZ pmax pmax
comp=Z,16nm,1.5s,mb4.5
MANZ Manzenberg 83.70 323 *e*P **P** **19 31 53.7 +0.2**
comp=Z,4.0nm,1.1s,mb4.1
ROTZ Rotzenmuhle 83.77 322 *e*P **P** **19 31 53.9 0.0**
comp=Z,5.0nm,1.0s,mb4.2
GRA1 Grafenberg Arr 84.35 323 *e*P **P** **19 31 57.0 +0.2**
comp=Z,10.0nm,1.1s,mb4.5
GRF Grafenberg Arr 84.35 323 *e*P **P** **19 31 57.0 +0.2**
comp=Z,10.0nm,1.1s,mb4.5
GRF Grafenberg Arr 84.35 323 *e*P **P** **19 31 57.0 +0.2**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
BFO Black Forest 86.69 323 *e*P **P** **19 32 07.2 -1.2**
comp=Z,35nm,2.2s,mb4.8
BFO Black Forest 86.69 323 *e*P **P** **19 32 07.2 -1.2**
BFO pmax pmax
comp=Z,35nm,2.2s,mb4.8
KMBO Kilima Mbogo 86.78 267 P **P** **19 32 10.8 +2.0**
comp=Z,2.4nm,1.1s,mb3.9
WLF Walferdange 87.09 325 *e*P **P** **19 32 11.5 +1.2**
comp=Z,11nm,1.0s,mb4.6
EDM Edmonton 88.04 30 *e*P **P** **19 32 16.8 +2.0**
YBH Yreka Blue Hor 89.96 43 P **P** **19 32 25.6 +1.7**
comp=Z,3.1nm,0.9s,mb4.2,baz=198,slow=4.0,SNR=3.8
FFC Flin Flon 91.70 24 *e*P **P** **19 32 32.9 +1.0**
comp=Z,4.8nm,0.9s,mb4.5
NVAR Mina Array Bea 94.63 44 P **P** **19 32 47.5 +2.1**
comp=Z,1.9nm,0.8s,mb4.4,baz=284,slow=3.3,SNR=5.4
SDV Santo Domingo 143.78 24 PKP PKPdf 19 38 58.7 0.0
comp=Z,3.9nm,0.6s,baz=357,slow=3.4,SNR=8.9
SDV Santo Domingo 143.78 24 *e*PKPdf PKPdf 19 38 58.0 -0.7
ROSC El Rosal 145.83 32 PKPbc PKPbc 19 39 05.4 +2.3
comp=Z,3.6nm,0.3s,baz=88,slow=22,SNR=4.5
OTAV Otavalo 147.36 43 *e*PKPbc PKPbc 19 39 09.7 +2.2

IDC 18 19:20:41.1±2.9, 683S×12869E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=309.9km s-min=31.8km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.14**	**158**	Pn	Pn	19 24 02.8	+0.1
	0.1nm,0.3s,baz=335,slow=13,SNR=6.8						
WRA				Sn	Sn	19 26 26.9	-13
	0.2nm,0.3s,baz=337,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**17.48**	**164**	P	Pn	19 24 46.5	+0.4
	0.1nm,0.3s,baz=348,slow=10.0,SNR=6.7						
MKAR	**Makanchi Array**	**67.38**	**327**	P	P	19 31 38.3	+0.2
	0.2nm,0.4s,baz=120,slow=8.3,SNR=6.2						

IDC 18 19:26:52.8±1.2, 1689S×6545W, h22km±5km, mb3.6/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, ML3.3/2, MS3.1/2, Ms1 3.0/2, ms1mx2.7/26, Error ellipse: s-maj=46.7km s-min=23.4km az=6.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.64**	**283**	Pn	Pn	19 27 35.6	+1.6
	23nm,0.3s,baz=109,slow=14,SNR=207						
LPAZ				Sn	Sn	19 28 08.4	+3.1
	58nm,0.3s,baz=27,slow=24,SNR=23						
SIV	**San Ignacio**	**4.29**	**79**	Pn	Pn	19 28 02.7	+6.0
	5.2nm,0.3s,baz=261,slow=11,SNR=118						
SIV				Lg		19 29 12.9	
	8.5nm,0.3s,baz=178,slow=22,SNR=4.5						
CFAA	**Coronel Fontan**	**14.87**	**189**	Pn	Pn	19 30 21.9	+0.3
	0.0nm,0.3s,baz=5.5,slow=8.1,SNR=6.7						
BDFB	**Brasilia**	**16.79**	**88**	LR	LR	19 37 26.9	
	comp=Z,51nm,21.6s,baz=105,slow=38						
SJG	**San Juan**	**34.78**	**359**	LR	LR	19 49 25.7	
	comp=Z,38nm,18.3s,baz=258,slow=39						
TORD	**Torodi Ar. Bea**	**72.72**	**70**	P	P	19 38 20.3	+1.2
	0.3nm,0.6s,baz=253,slow=4.9,SNR=8.9						
TORD				pP	pP	19 38 27.3	+1.1
	1.7nm,0.8s,baz=255,slow=5.5,SNR=8.4						
YKA	**Yellowknife Ar**	**87.99**	**339**	P	P	19 39 40.3	-0.8
	0.1nm,0.3s,baz=129,slow=4.4,SNR=3.8						
YKA				pP	pP	19 39 47.1	-1.2
	0.2nm,0.4s,baz=127,slow=4.6,SNR=3.6						
SONM	**Songino Array**	**148.42**	**11**	PKPbc	PKPbc	19 46 36.2	-1.3
	0.2nm,0.6s,baz=73,slow=5.0,SNR=2.4						
SONM				pPKPbc	pPKPbc	19 46 44.6	-0.3
	0.5nm,0.8s,baz=339,slow=0.8,SNR=4.5						

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*CSEM **18** 19:38:09.7±0.1, 3812N×2670E, h8km, MD3.4, Error ellipse: s-maj=2.7km s-min=1.7km az=71.0*
*NEIC **18** 19:38:09.4, 3822N×2699E, h27km, MD3.3(ISK), MD3.4(ATH), After ATH.*
*ATH **18** 19:38:09.4, 3822N×2700E, h27km±2km, MD3.4/6*
*ISK **18** 19:38:09.5, 38.11N×2667E, h5km, MD3.4*
*ISCJB **18** 19:38:10.0±0.4, 38.14N±002×2668E±004, h5km, Error ellipse: s-maj=4.2km s-min=3.4km az=143.1*

ISC 18 19:38:10.8±0.6, 3816N±002×2668E±004, h5km±4km, n37, σ1§18/50, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.21**	**341**	*i*P	**Pg**	**19 38 14.8**	**-0.1**
URLA				*i*S	**Sg**	**19 38 17.8**	**+0.2**
SMG	**Samos**	**0.47**	**165**	*e*PN	**Pg**	**19 38 20.5**	**+0.6**
SMG				*e*SN	**Sg**	**19 38 28.0**	**+2.0**
KDAG	**Bornova**	**0.52**	**62**	*i*P	**Pg**	**19 38 20.3**	**-0.4**
KDAG				*i*S	**Sg**	**19 38 27.1**	**-0.3**
AYDN	**Tasoluk**	**1.07**	**118**	*i*P	**Pg**	**19 38 31.0**	**-0.3**
AYDN				*i*S	**Sg**	**19 38 45.3**	**+0.1**
PRK	**Paraskevi**	**1.13**	**344**	*e*PN	**Pn**	**19 38 31.7**	**-1.5**
PRK				*e*SN	**Sn**	**19 38 47.9**	**-1.2**
AKS	**Akhisar**	**1.14**	**51**	PN	**Pn**	**19 38 31.0**	**-2.4**
AYVA	**Ayvalik**	**1.14**	**0**	*i*P	**Pg**	**19 38 32.1**	**-0.6**
AYVA				*i*S	**Sg**	**19 38 45.9**	**-1.7**
BODT	**Bodrum**	**1.21**	**155**	PN	**Pn**	**19 38 32.5**	**-1.8**
MLSB	**Milas**	**1.23**	**135**	*e*PN	**Pn**	**19 38 33.0**	**-1.6**
APE	**Apeiranthos**	**1.43**	**220**	PN	**Pn**	**19 38 35.8**	**-1.5**
APE				SN	**Sn**	**19 38 55.5**	**-0.9**
APE	**Apeiranthos**	**1.43**	**220**	*e*PN	**Pn**	**19 38 38.5**	**+1.2**
MANT	**Manisa**	**1.51**	**77**	*i*P	**Pn**	**19 38 38.6**	**+0.2**
MANT				*i*S	**Sn**	**19 38 57.3**	**-1.2**
DAT	**Datca**	**1.60**	**153**	PN	**Pn**	**19 38 38.2**	**-1.5**
YER	**Yerkesik**	**1.63**	**129**	*e*PN	**Pn**	**19 38 39.2**	**-1.0**
EZN	**Ezine**	**1.68**	**351**	*e*PN	**Pn**	**19 38 40.6**	**-0.2**
BALB	**Balikesir**	**1.74**	**32**	PN	**Pn**	**19 38 41.3**	**-0.4**
DENT	**Denizli**	**1.90**	**102**	PN	**Pn**	**19 38 43.1**	**-0.8**
BTOK	**Tokmak**	**1.91**	**33**	*i*P	**Pn**	**19 38 45.0**	**+1.0**
BTOK				*i*S	**Sn**	**19 38 10.9**	**+2.6**
BTOK	**Tokmak**	**1.91**	**33**	*i*P	**Pn**	**19 38 45.0**	**+1.0**
BTOK				*i*S	**Sn**	**19 38 10.9**	**+2.5**
LIA	**Limnos Island**	**2.09**	**326**	*e*PN	**Pn**	**19 38 45.6**	**-0.8**
DST	**Dursunbey**	**2.09**	**46**	PN	**Pn**	**19 38 46.8**	**+0.3**
KHL	**Karahalli**	**2.24**	**85**	*e*PN	**Pn**	**19 38 48.9**	**+0.4**
MPAR	**Parnis Oros**	**2.32**	**271**	*e*PN	**Pn**	**19 38 52.0**	**+2.3**
EDC	**Edincik**	**2.36**	**22**	PN	**Pn**	**19 38 51.2**	**+1.0**
BNT	**Bandirma**	**2.39**	**23**	PN	**Pn**	**19 38 51.0**	**+0.4**
KCT	**Karacabey**	**2.47**	**31**	*e*PN	**Pn**	**19 38 53.1**	**+1.4**
MRMT	**Marmara Adasi**	**2.54**	**16**	*e*PN	**Pn**	**19 38 52.9**	**+0.3**
ORLT	**Orhaneli**	**2.55**	**42**	*e*PN	**Pn**	**19 38 53.9**	**+1.1**
SART	**Tekirdag**	**2.55**	**9**	*i*P	**Pn**	**19 38 51.9**	**-0.9**
SART				*i*S	**Sn**	**19 39 31.6**	**+7.4**
NAIG	**Nisos Aigina**	**2.56**	**262**	*e*PN	**Pn**	**19 38 55.0**	**+2.1**
MFT	**Murefte**	**2.66**	**10**	*e*PN	**Pn**	**19 38 55.5**	**+1.2**
ULDT	**Uludag**	**2.75**	**43**	*i*P	**Pn**	**19 39 00.4**	**+5.0**
ULDT				*i*S	**Sn**	**19 39 35.0**	**+6.0**
ALT	**Altintas**	**2.83**	**71**	PN	**Pn**	**19 38 57.5**	**+0.9**
TKTP	**Tekketepe**	**2.87**	**91**	*i*P	**Pn**	**19 38 59.7**	**+2.5**
TKTP				*i*S	**Sn**	**19 39 48.3**	**+16**
RDO	**Rodhopi**	**3.11**	**344**	*e*PN	**Pn**	**19 38 59.6**	**-0.8**
YLV	**Yalova**	**3.18**	**40**	*e*PN	**Pn**	**19 39 01.7**	**+0.3**
EDRB	**Edirne**	**3.68**	**1**	PN	**Pn**	**19 39 09.6**	**+1.3**

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*ISCJB **18** 19:44:28.6±0.6, 1701S±008×6573W±006, h10km, mb3.8/6, MS3.3/1, Error ellipse: s-maj=11.8km s-min=7.6km az=44.2*
*IDC **18** 19:44:31.3±0.8, 1695S×6553W, h20km±4km, mb3.8/4, mb1 3.9/7, mb1mx3.8/19, mbtmp3.9/7, ML3.9/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/31, Error ellipse: s-maj=26.1km s-min=21.1km az=28.0*
*NEIC **18** 19:44:35.0±0.8, 1704S×6567W, h53km±10km, mb3.8/2, Error ellipse: s-maj=12.1km s-min=9.4km az=73.0*

ISC 18 19:44:30.4±0.7, 1707S±009×6577W±005, h10km, n17, σ1§57/18, mb3.8/6, MS3.3/1, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.39**	**289**	Pn	**Pn**	**19 45 13.9**	**+4.3**
	53nm,0.3s,baz=109,slow=13,SNR=530						
LPAZ				Sn	**Sg**	**19 45 46.0**	**-1.2**
	208nm,0.3s,baz=249,slow=20,SNR=25						
LPAZ	**La Paz**	**2.39**	**289**	*e*Pn	**Pn**	**19 45 12.6**	**+3.0**
LPAZ				*e*Sn	**Sn**	**19 45 40.8**	**+1.9**
LPAZ				*e*Sg	**Sg**	**19 45 46.0**	**-1.2**
SIV	**San Ignacio**	**4.63**	**77**	Pn	**Pn**	**19 45 41.6**	**+1.2**
	16nm,0.3s,baz=264,slow=10,SNR=153						
SIV				Lg		19 46 54.1	
	16nm,0.3s,baz=170,slow=22,SNR=3.0						
SAML	**Samuel**	**8.45**	**18**	*e*Pn	**Pn**	**19 46 34.0**	**+1.2**
	0.7nm,0.7s						
CPUP	**Villa Florida**	**12.10**	**141**	Pn	**Pn**	**19 47 23.2**	**+0.4**
	0.4nm,0.3s,baz=295,slow=13,SNR=4.0						
CPUP				LR	LR	19 53 12.3	
	comp=Z,86nm,19.8s,baz=63,slow=43						
CPUP	**Villa Florida**	**12.10**	**141**	Pn	**Pn**	**19 47 23.2**	**+0.4**
CPUP				LR	LR	19 53 12.3	
CFAA	**Coronel Fontan**	**14.65**	**188**	Pn	**Pn**	**19 48 01.2**	**+3.6**
	0.1nm,0.3s,baz=7.1,slow=10.0,SNR=15						
OTAV	**Otavalo**	**21.25**	**323**	*e*P	**P**	**19 49 19.4**	**+2.8**
	2.0nm,0.8s,mb3.5						
PLCA	**Paso Flores**	**23.94**	**189**	P	**P**	**19 49 44.3**	**-0.4**
	1.1nm,0.7s,mb3.4,baz=18,slow=13,SNR=3.3						
PLCA				LR	LR	20 00 04.0	
	comp=Z,88nm,18.0s,MS3.3,baz=5.9,slow=39						
WMOK	**Wichita Mounta**	**60.32**	**329**	P	**P**	**19 54 37.8**	**-1.6**
	1.3nm,0.7s,mb4.1						
SCHQ	**Schefferville**	**71.61**	**359**	P	**P**	**19 55 50.5**	**-1.5**
	2.2nm,0.7s,mb4.2,baz=180,slow=5.1,SNR=4.4						
SCHQ	**Schefferville**	**71.61**	**359**	P	**P**	**19 55 50.5**	**-1.5**
TORD	**Torodi Ar. Bea**	**73.07**	**70**	P	**P**	**19 55 59.4**	**-1.2**
	0.5nm,0.5s,mb3.7,baz=258,slow=5.9,SNR=15						
TORD				pP	pP	19 56 06.0	+2.0
	5.9nm,0.9s,baz=255,slow=6.1,SNR=26						
YKA	**Yellowknife Ar**	**88.05**	**340**	P	**P**	**19 57 18.9**	**-2.0**
	0.9nm,0.6s,mb4.2,baz=124,slow=4.5,SNR=15						
YKA				pP	pP	19 57 25.6	+1.4
	0.7nm,0.6s,baz=126,slow=4.8,SNR=7.5						
YKA	**Yellowknife Ar**	**88.05**	**340**	P	**P**	**19 57 18.9**	**-2.0**
YKA				pP	pP	19 57 25.6	+1.4
WRA	**Warramunga Arr**	**138.26**	**209**	PKP	PKPdf	20 03 55.0	-0.8
	0.6nm,0.9s,baz=157,slow=1.8,SNR=5.0						
SONM	**Songino Array**	**148.65**	**10**	PKPbc	PKPbc	20 04 16.4	-1.3
	0.5nm,0.7s,baz=320,slow=2.3,SNR=6.4						
SONM				pPKPbc	pPKPbc	20 04 23.3	+2.2
	1.2nm,0.8s,baz=320,slow=1.4,SNR=7.8						

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*JMA **18** 19:53:04.1±0.1, 2479N×12244E, h19km±2km, M3.2*
*IDC **18** 19:53:05.1±2.4, 2480N×12293E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/20, Error ellipse: s-maj=338.7km s-min=26.1km az=70.0*
*ISCJB **18** 19:53:07.7±1.0, 247N±0.1×12255E±0.10, h33km, mb3.4/3, MS3.6/1, Error ellipse: s-maj=22.2km s-min=9.2km az=51.1*

ISC 18 19:53:09.8±1.1, 247N±01×1227E±01, h35km, n11, σ1§39/12, mb3.4/3, MS3.6/1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.38**	**127**	P	**Pn**	**19 53 15.8**	**-2.9**
YOJ				*e*S	**Sn**	**19 53 24.0**	**-0.8**
IRIF	**Iriomote-Funau**	**1.02**	**110**	P	**Pn**	**19 53 26.4**	**-1.2**
IRIF				*e*S	**Sn**	**19 53 43.4**	**+2.7**
HATJ	**Hateruma jima**	**1.21**	**121**	P	**Pn**	**19 53 29.5**	**-0.6**
HATJ				*e*S	**Sn**	**19 53 48.2**	**+3.0**
JKRS	**Kuro-shima**	**1.29**	**110**	P	**Pn**	**19 53 30.8**	**-0.5**
JIJ	**Ishigaki jima**	**1.37**	**103**	P	**Pn**	**19 53 31.7**	**-0.7**
JTJ	**Tarama**	**1.84**	**91**	P	**Pn**	**19 53 39.2**	**+0.4**
JOW	**Kunigami**	**5.48**	**66**	LR	LR	19 56 54.2	
	comp=Z,66nm,18.6s,baz=303,slow=44						
SONM	**Songino Array**	**26.46**	**335**	P	**P**	**19 58 43.8**	**+0.4**
	0.6nm,0.9s,mb3.1,baz=140,slow=5.4,SNR=2.9						
FITZ	**Fitzroy Crossi**	**42.63**	**176**	LR	LR	20 23 17.6	
	comp=Z,66nm,18.2s,MS3.6,baz=111,slow=42						
WRA	**Warramunga Arr**	**45.79**	**165**	P	**P**	**20 01 27.8**	**-0.2**
	0.3nm,0.5s,mb3.5,baz=347,slow=8.8,SNR=6.8						
ASAR	**Alice Springs**	**49.29**	**166**	P	**P**	**20 01 57.5**	**+2.4**
	0.4nm,0.8s,mb3.5,baz=345,slow=7.5,SNR=5.3						

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*CSEM **18** 20:21:28.7±0.2, 3817N×2656E, h5km, MD2.8, Error ellipse: s-maj=5.6km s-min=4.5km az=92.0*
*ATH **18** 20:21:28.4, 3830N×2722E, h39km±8km, MD3.1/3*
*ISCJB **18** 20:21:29.4±1.0, 3817N±003×2654E±005, h6km±5km, Error ellipse: s-maj=7.3km s-min=4.9km az=148.9*
*ISK **18** 20:21:29.5, 3820N×2659E, h15km, MD2.8*

ISC 18 20:21:30.3±0.8, 3819N±003×2656E±005, h9km±4km, n17, σ1§00/28, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**10**	*i*P	**Pg**	**20 21 34.0**	**+0.1**
URLA				*i*S	**Sg**	**20 21 36.5**	**0.0**
SMG	**Samos**	**0.53**	**155**	*e*PN	**Pg**	**20 21 41.7**	**+1.2**
SMG				*e*SN	**Sg**	**20 21 52.3**	**+4.8**
IZM	**Izmir**	**0.59**	**69**	PG	**Pg**	**20 21 41.6**	**-0.1**
IZM				SG	**Sg**	**20 21 49.4**	**-0.1**
KDAG	**Bornova**	**0.60**	**69**	*i*P	**Pg**	**20 21 41.7**	**-0.1**
KDAG				*i*S	**Sg**	**20 21 48.8**	**-0.8**
PRK	**Paraskevi**	**1.08**	**348**	*e*PN	**Pn**	**20 21 50.5**	**-1.0**
PRK				*e*SN	**Sn**	**20 22 06.0**	**-0.6**
AYVA	**Ayvalik**	**1.12**	**5**	*i*P	**Pb**	**20 21 53.2**	**+1.4**
AYVA				*i*S	**Sg**	**20 22 06.1**	**-0.2**
AYDN	**Tasoluk**	**1.17**	**116**	*i*P	**Pb**	**20 21 53.6**	**+1.0**
AYDN				*i*S	**Sb**	**20 22 07.2**	**-0.7**
AYDN	**Tasoluk**	**1.17**	**116**	*i*P	**Pb**	**20 21 53.6**	**+0.9**
AYDN				*i*S	**Sb**	**20 22 07.2**	**-0.7**
AKS	**Akhisar**	**1.20**	**55**	*e*PN	**Pn**	**20 21 51.8**	**-1.4**
AKS				*e*SN	**Sn**	**20 22 08.8**	**-0.8**
BODT	**Bodrum**	**1.27**	**152**	*e*PN	**Pn**	**20 21 53.2**	**-1.0**
MLSB	**Milas**	**1.32**

*IDC **18** 21:46:19.8±6.2, 1980S×17701W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/14, mbtmp3.9/2, Error ellipse: s-maj=312.4km s-min=58.8km az=149.0*

NEIC 18 21:46:17.6±2.9, 2285S×17533W, h35km, mb4.4/2, Error ellipse: s-maj=206.0km s-min=28.0km az=159.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**35.79**	**267**	*e*P	P	21 53 14.5	+1.2
	2.0nm,0.4s						
AS31	**Alice Springs**	**46.44**	**259**	*e*P	P	21 54 41.9	+1.0
ASAR	**Alice Springs**	**46.44**	**259**	P	P	21 54 41.0	+0.2
	1.6nm,0.8s,baz=99,slow=6.8,SNR=24						
ASPA	**Alice Springs**	**46.44**	**259**	*e*P	P	21 54 41.9	+1.0
WB2	**Warramunga Arr**	**46.76**	**264**	*e*P	P	21 54 44.0	+0.6
WRAB	**Tennant Creek**	**46.76**	**264**	*e*P	P	21 54 43.6	+0.1
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**46.77**	**264**	P	P	21 54 43.1	-0.4
	0.6nm,0.3s,baz=95,slow=8.1,SNR=34						
AKASG	**Malin Array Be**	**146.26**	**332**	PKP	PKPdf	22 05 53.9	+0.7
	0.5nm,0.5s,baz=37,slow=3.9,SNR=6.1						
BRTR	**Keskin Array B**	**150.25**	**311**	PKPbc	PKPbc	22 06 04.5	-0.4
	0.4nm,0.7s,baz=64,slow=5.6,SNR=4.5						

*ISCJB **18** 21:48:28.2±1.0, 3651N±006×687E±0.1, h100km, Error ellipse: s-maj=14.0km s-min=6.6km az=127.7*
*NNC **18** 21:48:32.7±2.6, 37.18N×6862E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=21.7km s-min=18.6km az=131.0*

ISC 18 21:48:29.0±1.0, 3646N±006×687E±01, h100km, n9, σ1°13/13, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.78**	**11**	Pn	**Pn**	**21 50 06.8**	**+0.9**
	0.4nm,0.2s,baz=202,slow=15,SNR=30						
KK31				⇑Sn	**Sn**	**21 51 20.6**	**-0.9**
	1.5nm,0.3s,baz=196,slow=25,SNR=4.2						
KK31				⇓Lg		21 51 44.8	
	6.8nm,0.6s,baz=211,slow=28,SNR=8.4						
TKM2	**Tokmak 2**	**8.37**	**37**	⇓Pn	**Pn**	**21 50 28.0**	**+0.6**
	2.2nm,0.6s						
TKM2				⇑Sn	**Sn**	**21 52 00.5**	**+0.3**
	3.5nm,0.8s						
AB31	**Akbulak array**	**14.28**	**336**	Pn	**Pn**	**21 51 45.7**	**-0.8**
	1.2nm,0.5s,baz=155,slow=12,SNR=38						
AB31				⇓Sn	**Sn**	**21 54 21.5**	**-2.4**
	0.8nm,0.5s,baz=157,slow=22,SNR=6.1						
KOLN	**Koldanda**	**15.32**	**120**	*e*P	**Pn**	**21 51 58.0**	**-1.7**
GKN	**Gorkha**	**15.91**	**117**	*e*P	**Pn**	**21 52 07.6**	**+0.5**
	6.4nm,0.5s						
AKTO	**Aktyubinsk**	**15.94**	**334**	⇑Pn	**Pn**	**21 52 10.1**	**+2.6**
	0.1nm,0.6s						
AKTO				⇓Sn	**Sn**	**21 55 04.9**	**+1.1**
	0.6nm,1.4s						
KKN	**Kakani**	**16.49**	**117**	*e*P	**Pn**	**21 52 14.4**	**+0.1**
	4.9nm,0.5s						
GUN	**Gumba**	**16.86**	**116**	*e*P	**Pn**	**21 52 19.3**	**+0.5**
JIRN	**Jiri**	**17.23**	**116**	*e*P	**Pn**	**21 52 22.8**	**-0.5**
	7.0nm,0.5s						

IDC 18 21:55:50.1±2.1, 279S×12869E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=144.7km s-min=25.8km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.92**	**162**	P	Pn	21 59 59.4	-1.2
	0.1nm,0.3s,baz=341,slow=12,SNR=9.2						
ASPA	**Alice Springs**	**21.36**	**167**	*e*P	P	22 00 39.2	+0.3
ASAR	**Alice Springs**	**21.36**	**167**	P	P	22 00 39.2	+0.4
	4.8nm,0.7s,baz=343,slow=11,SNR=68						
MKAR	**Makanchi Array**	**64.02**	**326**	P	P	22 06 25.9	+0.5
	0.2nm,0.8s,baz=139,slow=6.8,SNR=2.4						

*NEIC **18** 22:11:37.8, 2272S×6836W, h130km, mb3.8/5, After GUC.*
*GUC **18** 22:11:37.8±0.8, 2272S×6836W, h130km, ML5.0*
*ISCJB **18** 22:11:39.7±0.4, 2273S±005×6842W±006, h108km, mb4.1/9, Error ellipse: s-maj=8.5km s-min=5.2km az=70.0*
*IDC **18** 22:11:41.5±0.8, 2264S×6845W, h107km±6km, mb3.9/8, mb1 3.9/12, mb1mx3.8/19, mbtmp4.1/12, MS3.1/3, Ms1 3.1/3, ms1mx2.8/20, Error ellipse: s-maj=20.9km s-min=15.7km az=70.0*

ISC 18 22:11:41.5±0.4, 2275S±005×6847W±006, h110km, h110km±1.2km: pP-P, n35, σ1°23/39, mb4.1/9, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.72**	**248**	⇑*i*P	**Pn**	**22 12 12.8**	**+1.9**
CEN1				*i* S	**Sn**	**22 12 39.1**	**+5.7**
CEN1				AMP		22 12 41.8	
	comp=N,7μm,0.7s						
ANCH	**Antofagasta**	**2.02**	**242**	*e*P	**Pn**	**22 12 11.4**	**-3.3**
ANCH				*i* S	**Sn**	**22 12 39.2**	**-0.8**
ANCH				AMP		22 12 42.3	
	comp=N,8μm,0.1s						
ANCH	**Antofagasta**	**2.02**	**242**	*e*P	**Pn**	**22 12 11.4**	**-3.3**
ANCH				*i* S	**Sn**	**22 12 39.2**	**-0.8**
CPN1	**Cerro Paranal**	**2.58**	**223**	*e*P	**Pn**	**22 12 22.2**	**+0.3**
CPN1				*i* S	**Sn**	**22 12 55.3**	**+2.2**
CPN1				AMP		22 13 04.9	
	comp=N,7μm,0.4s						
CRCH	**Chaqaral**	**4.09**	**208**	*e*P	**Pn**	**22 12 41.4**	**-0.5**
CRCH				*i* S	**Sn**	**22 13 28.0**	**-0.9**
CDCH	**Caldera**	**4.81**	**206**	⇓*i*P	**Pn**	**22 12 49.7**	**-2.1**
CDCH				*i* S	**Sn**	**22 13 41.8**	**-4.7**
LPAZ	**La Paz**	**6.43**	**3**	P	**Pn**	**22 13 12.5**	**-1.2**
	comp=N,4.9nm,0.3s,baz=185,slow=6.2,SNR=67						
LPAZ				LR	LR	22 16 01.2	
	comp=N,57nm,18.9s,baz=101,slow=41						
ARE	**Arequipa**	**6.87**	**335**	*e*P	**Pn**	**22 13 23.0**	**+3.4**
ARE				*e*S	**Sn**	**22 14 28.0**	**-8.2**
CFAA	**Coronel Fontan**	**8.83**	**179**	P	**Pn**	**22 13 46.0**	**-0.2**
	comp=N,0.2nm,0.3s,baz=355,slow=13,SNR=18						
CFAA				S	**Sn**	**22 15 22.4**	**-1.5**
	comp=N,0.3nm,0.3s,baz=49,slow=19,SNR=3.0						
CFAA	**Coronel Fontan**	**8.83**	**179**	P	**Pn**	**22 13 46.0**	**-0.2**
CFAA				S	**Sn**	**22 15 22.4**	**-1.5**
SIV	**San Ignacio**	**9.69**	**47**	P	**Pn**	**22 13 53.6**	**-4.3**
	comp=N,8.3nm,0.3s,baz=234,slow=12,SNR=118						
SIV				S	**Sn**	**22 15 37.3**	**-7.3**
	comp=N,2.3nm,0.3s,baz=322,slow=22,SNR=6.0						
CPUP	**Villa Florida**	**10.75**	**112**	P	**Pn**	**22 14 11.9**	**-0.3**
	comp=N,0.4nm,0.3s,baz=274,slow=11,SNR=5.0						
SAML	**Samuel**	**14.62**	**21**	*e*Pn	**Pn**	**22 14 57.4**	**-5.5**
	comp=N,3.9nm,0.7s						
TRQA	**Tornquist**	**16.25**	**161**	*e*Pn	**Pn**	**22 15 25.0**	**+1.7**
	comp=N,4.1nm,0.6s						
PLCA	**Paso Flores**	**18.02**	**185**	P	**P**	**22 15 44.0**	**+0.2**
	comp=N,0.2nm,0.3s,baz=294,slow=3.1,SNR=5.8						
PLCA	**Paso Flores**	**18.02**	**185**	*e*P	**P**	**22 15 46.9**	**+3.1**
	comp=N,3.3nm,0.7s						
BDFB	**Brasília**	**20.55**	**74**	P	**P**	**22 16 10.6**	**-0.7**
	comp=N,8.6nm,0.6s,baz=246,slow=13,SNR=11						
BDFB				LR	LR	22 25 14.6	
	comp=N,39nm,19.7s,baz=338,slow=40						
OTAV	**Otavalo**	**24.82**	**336**	*e*P	**P**	**22 16 54.4**	**+1.0**
	comp=N,2.2nm,0.7s,mb3.7						
RCBR	**Riachuelo**	**35.63**	**67**	*e*P	**P**	**22 18 29.0**	**+0.3**
	comp=N,8.6nm,0.7s,mb4.8						
SNAA	**Sanae**	**60.98**	**161**	P	**P**	**22 21 44.5**	**+1.4**
	comp=N,0.7nm,0.8s,mb3.8,baz=315,slow=13,SNR=3.0						
QSPA	**South Pole Qui**	**67.45**	**180**	*e*P	pP	22 22 52.6	-0.1
DBIC	**Dimbokro**	**68.70**	**73**	P	**P**	**22 22 34.0**	**+0.8**
	comp=N,7.5nm,0.7s,mb4.6,baz=211,slow=6.5,SNR=17						
DBIC				LR	LR	22 50 18.2	
	comp=N,52nm,18.0s,baz=10,slow=34						
PDAR	**Pinedale Array**	**75.39**	**330**	P	**P**	**22 23 12.6**	**-0.5**
	comp=N,0.2nm,0.6s,mb3.0,baz=145,slow=11,SNR=2.8						
PDAR				pP	pP	22 23 40.5	-0.4
	comp=N,0.4nm,0.6s,baz=129,slow=5.4,SNR=3.6						
PDAR	**Pinedale Array**	**75.39**	**330**	P	**P**	**22 23 12.6**	**-0.5**
PDAR				pP	pP	22 23 40.5	-0.4
SCHQ	**Schefferville**	**77.27**	**1**	P	**P**	**22 23 22.8**	**-1.0**
	comp=N,2.6nm,0.8s,mb4.0,baz=192,slow=2.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**77.39**	**70**	P	**P**	**22 23 24.6**	**+0.2**
	comp=N,3.3nm,0.4s,mb4.4,baz=258,slow=5.6,SNR=130						
TORD				pP	pP	22 23 52.7	+0.4
	comp=N,4.2nm,0.8s,baz=253,slow=5.3,SNR=5.6						
BOSA	**Boshof**	**82.50**	**118**	P	**P**	**22 23 52.9**	**+1.0**
	comp=N,4.0nm,0.8s,mb4.3,baz=286,slow=5.3,SNR=6.1						
BOSA	**Boshof**	**82.50**	**118**	P	**P**	**22 23 52.9**	**+1.0**
YKA	**Yellowknife Ar**	**92.49**	**340**	P	**P**	**22 24 39.2**	**-1.0**
	comp=N,0.9nm,0.7s,mb4.1,baz=133,slow=4.5,SNR=24						
YKA				pP	pP	22 25 07.3	-1.5
	comp=N,0.3nm,0.7s,baz=132,slow=4.5,SNR=2.9						
YKA	**Yellowknife Ar**	**92.49**	**340**	P	**P**	**22 24 39.2**	**-1.0**
YKA				pP	pP	22 25 07.3	-1.5
ASAR	**Alice Springs**	**129.00**	**207**	PKP	PKPdf	22 30 37.2	+0.9
	comp=N,0.4nm,0.8s,baz=149,slow=1.4,SNR=4.1						
WRA	**Warramunga Arr**	**132.09**	**209**	PKP	PKPdf	22 30 43.8	+1.6
	comp=N,0.3nm,0.5s,baz=149,slow=1.5,SNR=6.7						
MKAR	**Makanchi Array**	**146.38**	**37**	PKPbc	PKPbc	22 31 09.3	-0.3
	comp=N,5.7nm,0.8s,baz=309,slow=4.0,SNR=44						
MKAR				pPKPbc	pPKPbc	22 31 38.0	-1.1
	comp=N,0.9nm,0.7s,baz=306,slow=4.3,SNR=2.7						
MKAR	**Makanchi Array**	**146.38**	**37**	PKPbc	PKPbc	22 31 09.3	-0.3
MKAR				pPKPbc	pPKPbc	22 31 38.0	-1.1
SONM	**Songino Array**	**154.63**	**8**	PKPbc	PKPbc	22 31 29.9	+0.4
	comp=N,0.5nm,0.6s,baz=287,slow=1.0,SNR=6.2						
SONM				PKPab	PKPab	22 31 44.7	+0.1
	comp=N,0.5nm,0.7s,baz=340,slow=4.0,SNR=4.9						

*IDC **18** 22:20:40.7±4.8, 6521S×17939W, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.8/11, mbtmp3.8/3, ML3.8/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/18, Error ellipse: s-maj=146.1km s-min=42.0km az=74.0*

NEIC 18 22:20:43.5±1.9, 6526S×17992E, h10km, mb4.4/1, Error ellipse: s-maj=58.8km s-min=13.4km az=79.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.26**	**192**	*e*Pn	Pn	22 23 51.7	-0.1
VNDA	**Vanda**	**13.48**	**197**	Pn	Pn	22 23 54.1	-0.8
	0.5nm,0.3s,baz=43,slow=17,SNR=28						
VNDA				LR	LR	22 27 47.9	
	comp=Z,253nm,19.7s,baz=9.2,slow=31						
RPZ	**Rata Peaks**	**22.15**	**343**	LR	LR	22 32 17.2	
	comp=Z,110nm,18.3s,baz=354,slow=31						
QSPA	**South Pole Qui**	**24.83**	**180**	*e*P	P	22 26 06.2	+0.3
	9.2nm,1.1s						
URZ	**Urewera**	**27.09**	**355**	LR	LR	22 34 41.3	
	comp=Z,131nm,18.8s,baz=166,slow=31						
MAW	**Mawson**	**40.13**	**212**	LR	LR	22 44 01.9	
	comp=Z,127nm,19.2s,baz=66,slow=35						
TBI	**Tubuai**	**46.34**	**40**	*e*T		23 18 18.0	
	30nm,0.3s						
NWAO	**Narrogin (SRO)**	**49.22**	**279**	LR	LR	22 45 21.0	
	comp=Z,108nm,20.9s,baz=179,slow=30						
CTA	**Charters Tower**	**50.28**	**317**	LR	LR	22 48 09.1	
	comp=Z,77nm,18.9s,baz=50,slow=33						
ASAR	**Alice Springs**	**50.94**	**302**	P	P	22 29 45.5	+0.4
	0.7nm,0.7s,baz=157,slow=8.0,SNR=12						
RKT	**Rikitea**	**51.12**	**57**	*e*T		23 24 12.3	
	5.1nm,0.2s						
TVO	**Taravao**	**51.70**	**38**	*e*T		23 24 53.8	
	21nm,0.3s						
PAE	**Paea**	**51.73**	**38**	*e*T		23 25 01.9	
	14nm,0.3s						
PPT	**Papeete**	**51.83**	**38**	*e*LR	LR	22 44 25.8	
	78nm,24.5s						
PPT	**Papeete**	**51.83**	**38**	LR	LR	22 47 09.3	
	comp=Z,164nm,21.3s,baz=268,slow=31						
WRA	**Warramunga Arr**	**54.22**	**304**	P	P	22 30 09.0	-0.4
	0.6nm,0.8s,baz=157,slow=6.4,SNR=5.8						
VAH	**Vaihoa**	**54.57**	**39**	*e*T		23 28 34.7	
	37nm,0.3s						
PMOR	**Pomariorio Ree**	**54.72**	**39**	*e*T		23 28 41.4	
	3.6nm,0.3s						
BRTR	**Keskin Array B**	**147.93**	**234**	PKPbc	PKPbc	22 40 27.4	-1.6
	0.5nm,0.8s,baz=149,slow=4.2,SNR=3.7						

IDC 18 22:31:23.2±1.3, 3933N×14104E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=43.4km s-min=30.3km az=99.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.69**	**300**	P	P	22 39 21.2	-0.4
	0.3nm,0.5s,baz=81,slow=9.2,SNR=6.1						
ILAR	**Eielson Array**	**47.73**	**33**	P	P	22 40 01.2	-0.4
	0.5nm,0.6s,baz=254,slow=6.7,SNR=7.3						
WRA	**Warramunga Arr**	**59.30**	**187**	P	P	22 41 26.8	+0.1
	0.2nm,0.3s,baz=6.7,slow=7.7,SNR=14						

JMA 18 22:37:37.6±0.3, 2625N×12466E, h155km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.54**	**158**	P	Pn	22 38 08.3	+0.4
JMJ				*e*S	Sn	22 38 31.3	+0.1
JTJ	**Tarama**	**1.60**	**179**	P	Pn	22 38 09.1	+0.5
JTJ				S	Sn	22 38 32.2	-0.2
JOGS	**Gusukube**	**1.63**	**155**	P	Pn	22 38 09.3	+0.4
JOGS				S	Sn	22 38 32.9	0.0
JKE	**Kume jima 2**	**1.91**	**87**	P	Pn	22 38 11.6	-0.4
JIJ	**Ishigaki jima**	**1.94**	**194**	P	Pn	22 38 12.0	-0.3
JIJ				S	Sn	22 38 37.3	-1.6
IRIF	**Iriomote-Funau**	**2.08**	**204**	P	Pn	22 38 13.9	-0.1
IRIF				S	Sn	22 38 42.0	0.0
JKRS	**Kuro-shima**	**2.09**	**197**	P	Pn	22 38 13.9	-0.1
JKRS				*e*S	Sn	22 38 41.2	-0.9
HATJ	**Hateruma jima**	**2.32**	**200**	P	Pn	22 38 16.4	-0.3
HATJ				*e*S	Sn	22 38 46.2	-0.7
YOJ	**Yonaguni jima**	**2.32**	**220**	P	Pn	22 38 17.8	+1.0

*IDC **18** 22:43:07.2±2.2, 273N×9545E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=69.0km s-min=23.1km az=55.0*
*ISCJB **18** 22:43:10.2±1.3, 28N±02×955E±02, h33km, mb3.6/5, Error ellipse: s-maj=29.3km s-min=16.6km az=110.2*
*NEIC **18** 22:43:10.8±0.9, 276N×9547E, mb3.9/1, Error ellipse: s-maj=22.0km s-min=12.3km az=55.0*

ISC 18 22:43:12.9±1.3, 28N±02×955E±02, h35km, n9, σ0°30/9, mb3.6/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.41**	**90**	Pn	**Pn**	**22 44 03.7**	**+0.2**
	3.9nm,0.3s,baz=301,slow=5.5,SNR=21						
KKM	**Kota Kinabalu**	**20.89**	**80**	*e*P	**P**	**22 47 52.0**	**0.0**
MBWA	**Marble Bar**	**33.61**	**136**	*e*P	**P**	**22 49 49.9**	**+0.1**
WRA	**Warramunga Arr**	**44.31**	**122**	P	**P**	**22 51 19.1**	**-0.2**
	0.5nm,0.5s,mb3.5,baz=300,slow=9.2,SNR=11						
WRAB	**Tennant Creek**	**44.31**	**122**	*e*P	**P**	**22 51 19.3**	**0.0**
	0.8nm,0.4s,mb3.8						
WB2	**Warramunga Arr**	**44.32**	**122**	*e*P	**P**	**22 51 19.3**	**-0.1**
MKAR	**Makanchi Array**	**45.30**	**347**	P	**P**	**22 51 27.8**	**+0.6**
	0.5nm,0.5s,mb3.6,baz=156,slow=9.2,SNR=12						
MKAR				pP	pP	22 51 34.3	-3.2
	0.7nm,0.4s,baz=167,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**45.70**	**127**	P	**P**	**22 51 30.4**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=300,slow=8.1,SNR=7.9						
SONM	**Songino Array**	**45.83**	**10**	P	**P**	**22 51 30.8**	**-0.6**
	0.4nm,0.8s,mb3.4,baz=189,slow=8.3,SNR=3.6						
SONM				pP	pP	22 51 38.4	-3.4
	0.5nm,0.6s,baz=194,slow=9.0,SNR=5.1						

*ISCJB **18** 22:49:31.9±0.2, 4620N±001×746E±002, h6km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=0.9*
*GEN **18** 22:49:32.8, 4620N×757E, h0km, ML2.0*
*ZUR **18** 22:49:32.8, 4621N×751E, h3km±1km, ML2.6/25*
*ROM **18** 22:49:32.8±0.2, 46.18N×748E, h10km±1km, Md2.6/8, Ml2.6/2, Error ellipse: s-maj=3.3km s-min=1.4km az=31.0*
*CSEM **18** 22:49:32.2±0.0, 46.16N×757E, h5km, ML3.0/25, Error ellipse: s-maj=0.9km s-min=0.7km az=92.0*
*NEIC **18** 22:49:32.8, 4621N×750E, h3km, ML2.6(ZUR), ML2.9(STR), ML3.0(LDG), ML3.0(SZGRF), After ZUR.*
*MOS **18** 22:49:32.7±0.7, 46.19N×748E, h13km, mb4.0/1, Error ellipse: s-maj=7.3km s-min=4.5km az=81.1*
*LDG **18** 22:49:33.3±0.1, 4620N×752E, h3km, Md2.9/3, Ml3.0/30, Error ellipse: s-maj=1.6km s-min=1.1km az=108.0*
*STR **18** 22:49:33.9±0.1, 46.18N×747E, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 22:49:32.7±0.2, 46201N±0010×747E±002, h7km±2km, n189, σ1°07/320, 34C-15D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.13**	**199**	*i* Sg	**Sg**	**22 49 36.9**	**-0.4**
	4μm,0.2s						
DIX	**Grande Dixence**	**0.13**	**199**	⇑*i*Pg	**Pg**	**22 49 38.3**	**+2.9**
	4μm,0.2s						
DIX	**Grande Dixence**	**0.13**	**199**	Pg	**Pg**	**22 49 36.1**	**+0.7**
DIX				Sg	**Sg**	**22 49 38.2**	**+0.9**
DIX	**Grande Dixence**	**0.13**	**199**	⇑*i*P	**Pg**	**22 49 36.1**	**+0.7**
SENIN	**Lac Senin**	**0.20**	**324**	⇑*i*Pg	**Pg**	**22 49 36.9**	**+0.2**
	2μm,0.6s						
SENIN				*e*Sg	**Sg**	**22 49 39.8**	**+0.3**
	2μm,0.6s						
LKBD	**Leukerbad**	**0.21**	**30**	*e*Sg	**Pg**	**22 49 36.9**	**-0.1**
	584nm,0.4s						
LKBD	**Leukerbad**	**0.21**	**30**	⇑*i*Pg	**Pg**	**22 49 39.9**	**+2.9**
	584nm,0.4s						
LKBD	**Leukerbad**	**0.21**	**30**	⇑*i*P	**Pg**	**22 49 36.9**	**-0.1**
LKBD	**Leukerbad**	**0.21**	**30**	⇑*i*Pg	**Pg**	**22 49 39.9**	**+2.9**
	584nm,0.4s						
LKBD	**Leukerbad**	**0.21**	**30**	⇑*i*P	**Pg**	**22 49 36.9**	**-0.1**
GRYON	**Gryon**	**0.26**	**281**	⇓*i*Pg	**Pg**	**22 49 38.3**	**+0.6**
	228nm,0.3s						
GRYON				*i* Sg	**Sg**	**22 49 42.3**	**+1.2**
	228nm,0.3s						
SALAN	**Lac Salanfe**	**0.35**	**261**	⇑*i*Pg	**Pg**	**22 49 40.3**	**+0.8**
	112nm,0.4s						
SALAN				*e*Sg	**Sg**	**22 49 45.4**	**+1.2**
	112nm,0.4s						
MMK	**Mattmark**	**0.37**	**113**	⇑*i*P	**Pg**	**22 49 39.8**	**-0.2**
	932nm,0.2s						
MMK	**Mattmark**	**0.37**	**113**	Pg	**Pg**	**22 49 40.0**	**0.0**
AIGLE	**Aigle**	**0.39**	**292**	*e*Pg	**Pg**	**22 49 40.8**	**+0.6**
	620nm,0.5s						
EMV	**Vieux Emosson**	**0.42**	**251**	⇑*i*Pg	**Pg**	**22 49 41.5**	**+0.7**
	419nm,0.5s						
EMV				Sg	**Sg**	**22 49 47.5**	**+1.1**
WIMIS	**Wimmis**	**0.48**	**13**	⇑*i*Pg	**Pg**	**22 49 41.7**	**-0.2**
	611nm,0.7s						
WIMIS	**Wimmis**	**0.48**	**13**	⇑*e*P	**Pg**	**22 49 41.7**	**-0.2**
MRGE	**Morge**	**0.52**	**214**	Pg	**Pg**	**22 49 43.1**	**+0.4**
MRGE				Sg	**Sg**	**22 49 50.8**	**+1.4**
	379nm,0.6s						
OG01	**Vacheresse**	**0.56**	**284**	Pg	**Pg**	**22 49 44.8**	**+1.3**
OG01				Sg	**Sg**	**22 49 52.6**	**+1.7**
ORX	**Oropa**	**0.67**	**148**	P	**Pg**	**22 49 45.4**	**-0.2**
ORX				S	**Sg**	**22 49 53.7**	**-0.6**
TORNY	**Torny**	**0.67**	**328**	*e*P	**Pg**	**22 49 46.3**	**+0.7**
ORO	**Oropa**	**0.68**	**148**	Pg	**Pg**	**22 49 45.5**	**-0.2**
ORO				Sg	**Sg**	**22 49 54.8**	**+0.3**
	294nm,0.2s						
TRAV		**0.71**	**164**	P	**Pg**	**22 49 46.2**	**-0.2**
TRAV				S	**Sg**	**22 49 55.4**	**-0.3**
HASLI	**Hasliberg**	**0.73**	**40**	⇑*i*Pg	**Pg**	**22 49 46.3**	**-0.4**
	317nm,0.4s						
RSL	**Roselend**	**0.78**	**229**	Pg	**Pg**	**22 49 48.0**	**+0.3**
LPL	**La Plagne**	**0.86**	**217**	*e*Pn	**Pn**	**22 49 51.0**	**-0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 50 01.3**	**+1.0**
	57nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.86**	**217**	*e*Pn	**Pn**	**22 49 51.0**	**-0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 50 01.3**	**+1.0**
	28nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.86**	**217**	*e*Pg	**Pg**	**22 49 49.3**	**+0.1**
LPL				*e*Pn	**Pn**	**22 49 51.0**	**-0.1**
LPL				*e*Sg	**Sg**	**22 50 01.3**	**+1.0**
FUSIO	**Fusio**	**0.86**	**72**	⇑*i*Pg	**Pg**	**22 49 48.7**	**-0.6**
	152nm,0.2s						
FUSIO	**Fusio**	**0.86**	**72**	⇑*e*P	**Pg**	**22 49 48.7**	**-0.6**
LPG	**La Plagne**	**0.86**	**216**	*e*Pn	**Pn**	**22 49 51.1**	**-0.1**
LPG				*e*Sg	**Sg**	**22 50 01.3**	**+0.8**
	68nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**0.86**	**216**	*e*Pn	**Pn**	**22 49 51.1**	**-0.1**
LPG				*e*Sg	**Sg**	**22 50 01.3**	**+0.8**
	34nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**0.86**	**216**	*e*Pg	**Pg**	**22 49 49.4**	**+0.1**
LPG				*e*Pn	**Pn**	**22 49 51.1**	**-0.1**
LPG				*e*Sg	**Sg**	**22 50 01.3**	**+0.8**
GIMEL	**Gimel**	**0.90**	**292**	*e*Pg	**Pg**	**22 49 50.3**	**+0.4**
	192nm,0.5s						
GIMEL	**Gimel**	**0.90**	**292**	*e*P	**Pg**	**22 49 51.4**	**+1.5**
GIMEL	**Gimel**	**0.90**	**292**	*e*P	**Pg**	**22 49 51.4**	**+1.5**
BNALP	**Bannalp**	**0.94**	**44**	⇑*i*Pg	**Pg**	**22 49 51.3**	**+0.6**
	290nm,0.3s						
BNALP	**Bannalp**	**0.94**	**44**	⇑*i*P	**Pg**	**22 49 50.3**	**-0.4**
BNALP	**Bannalp**	**0.94**	**44**	⇑*i*Pg	**Pg**	**22 49 51.3**	**+0.6**
	290nm,0.3s						
BRANT	**Les Verrieres**	**1.01**	**317**	*e*Pn	**Pn**	**22 49 52.9**	**-0.3**
	1μm,0.6s						
CABF	**La Chapelle**	**1.04**	**294**	*e*Pg	**Pg**

HINF				*e*Sg	**Sg**	**22 50 26.1**	**-0.3**
	28nm,0.3s						
HINF	**Hinteralfeld**	**1.67**	**346**	*e*Pn	**Pn**	**22 50 01.9**	**-0.4**
HINF				*e*Pg	**Pg**	**22 50 04.5**	**-0.2**
HINF				*e*Sn	**Sn**	**22 50 22.5**	**-1.5**
HINF				*e*Sg	**Sg**	**22 50 26.1**	**-0.3**
ORIF	**Oris-en-Rattie**	**1.70**	**222**	*e*Pg	**Pg**	**22 50 05.5**	**+0.2**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 50 27.8**	**+0.4**
	44nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.70**	**222**	*e*Pg	**Pg**	**22 50 05.5**	**+0.2**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 50 27.8**	**+0.4**
	22nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.70**	**222**	*e*P	**Pn**	**22 50 04.8**	**+2.1**
ORIF				*e*Pg	**Pg**	**22 50 05.5**	**+0.2**
ORIF				*e*Sg	**Sg**	**22 50 27.8**	**+0.4**
SLE	**Schleitheim**	**1.71**	**24**	⇑*i*Pn	**Pn**	**22 50 01.7**	**-1.2**
	366nm,0.4s						
SLE	**Schleitheim**	**1.71**	**24**	*i*P	**Pn**	**22 50 02.8**	**-0.1**
SLE	**Schleitheim**	**1.71**	**24**	⇑*i*P	**Pn**	**22 50 02.8**	**-0.1**
PZZ	**Prazzo**	**1.72**	**189**	P	**Pn**	**22 50 02.8**	**-0.1**
PZZ				S	**Sn**	**22 50 23.3**	**-1.8**
DAVOX	**Davos**	**1.76**	**70**	*e*Pn	**Pn**	**22 50 02.8**	**-0.7**
	177nm,0.5s						
DAVOX	**Davos**	**1.76**	**70**	*e*P	**Pn**	**22 50 05.4**	**+1.9**
DAVOX	**Davos**	**1.76**	**70**	*e*P	**Pn**	**22 50 05.4**	**+1.9**
LIENZ	**Alp Oberkamor**	**1.77**	**51**	*e*Pn	**Pn**	**22 50 05.3**	**+1.6**
	107nm,0.6s						
LIENZ	**Alp Oberkamor**	**1.77**	**51**	⇓*i*P	**Pn**	**22 50 05.3**	**+1.6**
PCP	**Pian Castagno**	**1.82**	**155**	P	**Pn**	**22 50 03.9**	**-0.5**
ROB	**Roburent**	**1.93**	**171**	P	**Pn**	**22 50 05.4**	**-0.4**
STV2	**Anna di Valdie**	**1.96**	**183**	P	**Pn**	**22 50 05.8**	**-0.4**
STV2				S	**Sn**	**22 50 28.6**	**-2.4**
STV	**Sta Anna Valdi**	**1.96**	**183**	P	**Pn**	**22 50 06.0**	**-0.3**
HAU	**Haudompre**	**1.96**	**337**	*e*Pg	**Pg**	**22 50 09.8**	**-0.5**
HAU				*e*Sn	**Sn**	**22 50 29.3**	**-1.8**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**22 50 35.2**	**-0.5**
	29nm,0.2s						
HAU	**Haudompre**	**1.96**	**337**	*e*P	**Pg**	**22 50 09.8**	**-0.5**
HAU				*e*		22 50 29.3	
HAU	**Haudompre**	**1.96**	**337**	*e*Pg	**Pg**	**22 50 09.8**	**-0.5**
HAU				*e*Sn	**Sn**	**22 50 29.3**	**-1.8**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**22 50 35.2**	**-0.5**
	14nm,0.2s						
ENR	**Entracque**	**1.98**	**181**	P	**Pn**	**22 50 06.2**	**-0.3**
ENR				S	**Sn**	**22 50 29.0**	**-2.5**
FUORN	**Ofenpass**	**1.98**	**77**	*i*P	**Pn**	**22 50 10.0**	**+3.5**
DAVA	**Damuels**	**1.98**	**56**	⇓*i*Sn	**Sn**	**22 50 34.0**	**+2.4**
DAVA	**Damuels**	**1.98**	**56**	⇑*i*Pn	**Pn**	**22 50 08.4**	**+1.9**
DAVA				⇓*i*Sn	**Sn**	**22 50 34.0**	**+2.4**
DAVA	**Damuels**	**1.98**	**56**	⇑*i*Pn	**Pn**	**22 50 08.4**	**+1.9**
DAVA				*i*Sn	**Sn**	**22 50 34.0**	**+2.4**
ECH	**Echery**	**2.03**	**354**	Pn	**Pn**	**22 50 07.3**	**+0.1**
FIN	**Finale Ligure**	**2.06**	**165**	P	**Pn**	**22 50 06.8**	**-0.8**
MONE	**Monesi**	**2.13**	**174**	P	**Pn**	**22 50 08.2**	**-0.4**
RORO		**2.13**	**168**	P	**Pn**	**22 50 07.4**	**-1.2**
BFO	**Black Forest**	**2.21**	**15**	*e*P	**Pn**	**22 50 09.0**	**-0.7**
BFO				*e*S	**Sn**	**22 50 34.0**	**-3.2**
WLS	**Welschbruch**	**2.21**	**358**	Pn	**Pn**	**22 50 09.9**	**+0.1**
CDF	**Champ du Feu**	**2.22**	**357**	*e*Pg	**Pg**	**22 50 14.6**	**-0.6**
CDF				*e*Sg	**Sg**	**22 50 42.6**	**-1.3**
	18nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**2.22**	**357**	*e*Pg	**Pg**	**22 50 14.6**	**-0.6**
CDF				*e*Sg	**Sg**	**22 50 42.6**	**-1.3**
	9.1nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**2.22**	**357**	*e*Pn	**Pn**	**22 50 09.3**	**-0.5**
CDF				*e*Pg	**Pg**	**22 50 14.6**	**-0.6**
CDF				*e*Sg	**Sg**	**22 50 42.6**	**-1.3**
THEF	**They Montfort**	**2.27**	**334**	Pn	**Pn**	**22 50 10.8**	**+0.3**
IMI	**Imperia**	**2.31**	**172**	Pg	**Pg**	**22 50 12.0**	**-4.9**
	23nm,0.5s						
IMI	**Imperia**	**2.31**	**172**	P	**Pn**	**22 50 10.1**	**-1.0**
IMI				S	**Sn**	**22 50 35.6**	**-4.1**
SBF	**Sospel**	**2.34**	**181**	*e*P	**Pn**	**22 50 13.6**	**+2.1**
SBF	**Sospel**	**2.34**	**181**	*e*Pg	**Pg**	**22 50 16.7**	**-0.8**
SBF				*e*Sg	**Sg**	**22 50 46.1**	**-1.7**
	44nm,0.4s,SNR=1.0						
SBF	**Sospel**	**2.34**	**181**	*e*P	**Pn**	**22 50 13.6**	**+2.1**
SBF	**Sospel**	**2.34**	**181**	*e*Pg	**Pg**	**22 50 16.7**	**-0.8**
SBF				*e*Sg	**Sg**	**22 50 46.1**	**-1.7**
	22nm,0.4s,SNR=1.0						
SBF	**Sospel**	**2.34**	**181**	*e*Pn	**Pn**	**22 50 11.8**	**+0.3**
SBF				*e*Pg	**Pg**	**22 50 16.7**	**-0.8**
SBF				*e*Sg	**Sg**	**22 50 46.1**	**-1.7**
NEGI	**Negi**	**2.36**	**176**	P	**Pn**	**22 50 10.7**	**-1.1**
VIVF	**Saint-Julien-I**	**2.38**	**237**	*e*Pg	**Pg**	**22 50 18.1**	**-0.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**22 50 40.6**	**-0.9**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**22 50 48.4**	**-0.8**
	26nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-I**	**2.38**	**237**	*e*P	**Pn**	**22 50 12.6**	**+0.5**
VIVF				*e*		22 50 40.6	
VIVF	**Saint-Julien-I**	**2.38**	**237**	*e*Pg	**Pg**	**22 50 18.1**	**-0.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**22 50 40.6**	**-0.9**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**22 50 48.4**	**-0.8**
	13nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-I**	**2.38**	**237**	*e*Pn	**Pn**	**22 50 12.6**	**+0.5**
VIVF				*e*Pg	**Pg**	**22 50 18.1**	**-0.2**
VIVF				*e*Sn	**Sn**	**22 50 40.6**	**-0.9**
VIVF				*e*Sg	**Sg**	**22 50 48.4**	**-0.8**
SMF	**Signal de Mont**	**2.55**	**281**	*e*Pg	**Pg**	**22 50 21.1**	**-0.4**
SMF				*e*Sg	**Sg**	**22 50 54.7**	**+0.1**
	16nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.55**	**281**	*e*Pg	**Pg**	**22 50 21.1**	**-0.4**
SMF				*e*Sg	**Sg**	**22 50 54.7**	**+0.1**
	8.2nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.55**	**281**	*e*Pn	**Pn**	**22 50 15.1**	**+0.7**
SMF				*e*Pg	**Pg**	**22 50 21.1**	**-0.4**
SMF				*e*Sg	**Sg**	**22 50 54.7**	**+0.1**
SMRF	**Simiane la Rot**	**2.60**	**212**	*e*Pg	**Pg**	**22 50 21.8**	**-0.7**
SMRF				*e*Sg	**Sg**	**22 50 55.8**	**-0.4**
	13nm,0.6s						
SMRF	**Simiane la Rot**	**2.60**	**212**	*e*Pg	**Pg**	**22 50 21.8**	**-0.7**
SMRF				*e*Sg	**Sg**	**22 50 55.8**	**-0.4**
	6.3nm,0.6s						
SFTF	**Sexfontaines**	**2.60**	**321**	*e*Pn	**Pn**	**22 50 16.1**	**+1.0**
	baz=129						
SFTF	**Sexfontaines**	**2.60**	**321**	*e*Pg	**Pg**	**22 50 21.5**	**-1.0**
	baz=140						
SFTF				*e*Sg	**Sg**	**22 50 54.9**	**-1.4**
	29nm,0.4s,baz=137						
SFTF	**Sexfontaines**	**2.60**	**321**	*e*Pg	**Pg**	**22 50 21.5**	**-1.0**
SFTF				*e*Sg	**Sg**	**22 50 54.9**	**-1.4**
	14nm,0.4s						
SFTF	**Sexfontaines**	**2.60**	**321**	*e*Pn	**Pn**	**22 50 16.1**	**+1.0**
SFTF				*e*Pg	**Pg**	**22 50 21.5**	**-1.0**
SFTF				*e*Sg	**Sg**	**22 50 54.9**	**-1.4**
FRF	**La Foret Royal**	**2.70**	**193**	*e*Pg	**Pg**	**22 50 23.9**	**-0.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**22 50 58.6**	**-0.9**
	23nm,0.5s						
FRF	**La Foret Royal**	**2.70**	**193**	*e*Pg	**Pg**	**22 50 23.9**	**-0.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**22 50 58.6**	**-0.9**
	11nm,0.5s						
FRF	**La Foret Royal**	**2.70**	**193**	*e*P	**Pn**	**22 50 18.8**	**+2.3**
FRF				*e*Pg	**Pg**	**22 50 23.9**	**-0.6**
FRF				*e*Sg	**Sg**	**22 50 58.6**	**-0.9**
LOR	**Lormes**	**2.70**	**295**	*e*Pn	**Pn**	**22 50 17.4**	**+0.9**
	baz=113,SNR=1.0						
LOR	**Lormes**	**2.70**	**295**	*e*Pg	**Pg**	**22 50 24.1**	**-0.4**
	baz=115,SNR=1.0						
LOR				*e*Sg	**Sg**	**22 50 58.2**	**-1.3**
	12nm,0.2s,baz=124,SNR=1.0						
LOR	**Lormes**	**2.70**	**295**	*e*Pg	**Pg**	**22 50 24.1**	**-0.4**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**22 50 58.2**	**-1.3**
	5.9nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.70**	**295**	*e*Pn	**Pn**	**22 50 17.4**	**+0.9**
LOR				*e*Pg	**Pg**	**22 50 24.1**	**-0.4**
LOR				*e*Sg	**Sg**	**22 50 58.2**	**-1.3**
MOTA	**Moosalm**	**2.75**	**64**	⇑*i*Sn	**Sn**	**22 50 52.3**	**+1.8**
MOTA	**Moosalm**	**2.75**	**64**	⇓*i*Pn	**Pn**	**22 50 19.4**	**+2.3**
MOTA				⇑*i*Sn	**Sn**	**22 50 52.3**	**+1.8**
MOTA	**Moosalm**	**2.75**	**64**	⇓*i*Pn	**Pn**	**22 50 19.4**	**+2.3**
MOTA				*i*Sn	**Sn**	**22 50 52.3**	**+1.8**
SQTA	**Sankt Quirin**	**2.77**	**67**	⇓*i*Sn	**Sn**	**22 50 52.9**	**+1.9**
SQTA	**Sankt Quirin**	**2.77**	**67**	⇑*i*Pn	**Pn**	**22 50 19.0**	**+1.6**
SQTA				⇓*i*Sn	**Sn**	**22 50 52.9**	**+1.9**
SQTA	**Sankt Quirin**	**2.77**	**67**	⇑*i*Pn	**Pn**	**22 50 19.0**	**+1.6**
SQTA				*i*Sn	**Sn**	**22 50 52.9**	**+1.9**
RFYF	**Reffroy**	**2.78**	**332**	*e*Sg	**Sg**	**22 51 00.9**	**-1.2**
	20nm,0.2s						
RFYF	**Reffroy**	**2.78**	**332**	*e*Sg	**Sg**	**22 51 00.9**	**-1.2**
	10nm,0.2s						
MEZF	**Maizieres J'vi**	**2.83**	**325**	*e*P	**Pn**	**22 50 20.4**	**+2.2**
	baz=141						
MEZF	**Maizieres J'vi**	**2.83**	**325**	*e*Pg	**Pg**	**22 50 26.3**	**-0.6**
	baz=140,SNR=1.0						
MEZF				*e*Sn	**Sn**	**22 50 50.4**	**-2.1**
	19nm,0.4s,SNR=1.0						
MEZF				*e*Sg	**Sg**	**22 51 02.7**	**-0.9**
	24nm,0.5s,baz=148						
MEZF	**Maizieres J'vi**	**2.83**	**325**	*e*Pg	**Pg**	**22 50 26.3**	**-0.6**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**22 50 50.4**	**-2.1**
	9.6nm,0.4s,SNR=1.0						
MEZF				*e*Sg	**Sg**	**22 51 02.7**	**-0.9**
	12nm,0.5s						
MEZF	**Maizieres J'vi**	**2.83**	**325**	*e*P	**Pn**	**22 50 20.4**	**+2.2**
MEZF				*e*Pg	**Pg**	**22 50 26.3**	**-0.6**
MEZF				*e*Sn	**Sn**	**22 50 50.4**	**-2.1**
MEZF				*e*Sg	**Sg**	**22 51 02.7**	**-0.9**
SSF	**Saint Saulge**	**2.87**	**289**	*e*P	**Pn**	**22 50 21.5**	**+2.8**
SSF	**Saint Saulge**	**2.87**	**289**	*e*Pg	**Pg**	**22 50 27.3**	**-0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 50 51.8**	**-1.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 51 04.0**	**-0.7**
	7.0nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.87**	**289**	*e*P	**Pn**	**22 50 21.5**	**+2.8**
SSF	**Saint Saulge**	**2.87**	**289**	*e*Pg	**Pg**	**22 50 27.3**	**-0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 50 51.8**	**-1.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 51 04.0**	**-0.7**
	3.5nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.87**	**289**	*e*Pn	**Pn**	**22 50 19.6**	**+0.9**
SSF				*e*Pg	**Pg**	**22 50 27.3**	**-0.3**
AVF	**Avril sur Loir**	**2.91**	**283**	*e*Pg	**Pg**	**22 50 27.5**	**-0.9**
AVF				*e*Sg	**Sg**	**22 51 05.0**	**-1.0**
	6.1nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.91**	**283**	*e*Pg	**Pg**	**22 50 27.5**	**-0.9**
AVF				*e*Sg	**Sg**	**22 51 05.0**	**-1.0**
	3.0nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.91**	**283**	*e*Pn	**Pn**	**22 50 20.3**	**+1.0**
AVF				*e*Pg	**Pg**	**22 50 27.5**	**-0.9**
AVF				*e*Sg	**Sg**	**22 51 05.0**	**-1.0**
LMR	**La Mourre**	**2.95**	**194**	*e*Pg	**Pg**	**22 50 28.0**	**-1.2**
LMR				*e*Sg	**Sg**	**22 51 06.6**	**-0.8**
	10nm,0.3s						
LMR	**La Mourre**	**2.95**	**194**	*e*Pg	**Pg**	**22 50 28.0**	**-1.2**
LMR				*e*Sg	**Sg**	**22 51 06.6**	**-0.8**
	5.1nm,0.3s						
BGF	**Bois d'Agland**	**3.22**	**278**	*e*Pn	**Pn**	**22 50 24.8**	**+1.2**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 51 15.3**	**-0.8**
	20nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.22**	**278**	*e*Pn	**Pn**	**22 50 24.8**	**+1.2**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 51 15.3**	**-0.8**
	9.9nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.33**	**232**	*e*Pg	**Pg**	**22 50 35.5**	**-0.9**
LASF				*e*Sg	**Sg**	**22 51 18.8**	**-0.7**
	8.6nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.33**	**232**	*e*Pg	**Pg**	**22 50 35.5**	**-0.9**
LASF				*e*Sg	**Sg**	**22 51 18.8**	**-0.7**
	4.3nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.33**	**232**	*e*P	**Pn**	**22 50 26.8**	**+1.8**
LASF				*e*Pg	**Pg**	**22 50 35.5**	**-0.9**
LASF				*e*Sg	**Sg**	**22 51 18.8**	**-0.7**
HYF	**Humbligny**	**3.49**	**290**	*e*P	**Pn**	**22 50 29.3**	**+2.0**
HYF				*e*Sg	**Sg**	**22 51 24.1**	**-0.7**
TCF	**Toulx Ste Croi**	**3.65**	**273**	*e*Pn	**Pn**	**22 50 30.2**	**+0.7**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**22 51 13.8**	**+1.0**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**22 51 28.8**	**-1.2**
	5.3nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.65**	**273**	*e*P	**Pn**	**22 50 30.2**	**+0.7**
TCF				*e*		22 51 13.8	
TCF	**Toulx Ste Croi**	**3.65**	**273**	*e*Pn	**Pn**	**22 50 30.2**	**+0.7**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**22 51 13.8**	**+1.0**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**22 51 28.8**	**-1.2**
	2.7nm,0.5s,SNR=1.0						
CAF	**Calviac**	**4.01**	**253**	*e*Pn	**Pn**	**22 50 35.6**	**+1.2**
CAF				*e*Sg	**Sg**	**22 51 40.2**	**-1.1**
	4.2nm,0.3s						
CAF	**Calviac**	**4.01**	**253**	*e*Pn	**Pn**	**22 50 35.6**	**+1.2**
CAF				*e*Sg	**Sg**	**22 51 40.2**	**-1.1**
	2.1nm,0.3s						
RJF	**Les Rejaudoux**	**4.26**	**260**	*e*Sg	**Sg**	**22 51 48.1**	**-1.5**
	3.4nm,0.3s						
RJF	**Les Rejaudoux**	**4.26**	**260**	*e*Sg	**Sg**	**22 51 48.1**	**-1.5**
	1.7nm,0.3s						
GIVF	**Givet**	**4.29**	**337**	*e*Pg	**Pg**	**22 50 52.4**	**-2.4**
DOU	**Dourbes**	**4.35**	**335**	⇑P	**Pn**	**22 50 40.9**	**+1.8**
DOU				AP		22 50 41.5	
BAIF	**Baives**	**4.44**	**332**	*e*Pn	**Pn**	**22 50 40.6**	**+0.3**
	SNR=1.0						
MEM	**Membach**	**4.52**	**348**	P	**Pn**	**22 50 42.7**	**+1.2**
MEM				AP		22 50 43.4	
MEM				XP		22 50 44.0	
MEM				E		22 50 48.5	
WET	**Wettzell**	**4.69**	**49**	*e*P	**Pn**	**22 50 44.1**	**+0.3**
WET				*e*S	**Sn**	**22 51 37.0**	**-1.5**
MOA	**Molln**	**4.93**	**68**	⇓*i*Sn	**Sn**	**22 51 44.2**	**-0.1**
MOA	**Molln**	**4.93**	**68**	⇓*i*Pn	**Pn**	**22 50 48.5**	**+1.4**
MOA				⇓*i*Sn	**Sn**	**22 51 44.2**	**-0.1**
MOA	**Molln**	**4.93**	**68**	⇓*i*Pn	**Pn**	**22 50 48.5**	**+1.4**
MOA	**Molln**	**4.93**	**68**	⇓*i*Pn	**Pn**	**22 50 48.5**	**+1.4**
MOA				*i*Sn	**Sn**	**22 51 44.2**	**-0.1**
GEC2	**GERESS Array S**	**4.98**	**56**	*e*P	**Pn**	**22 50 48.4**	**+0.6**
GEC2				*e*S	**Sn**	**22 51 42.7**	**-2.9**
KHC	**Kasperske Hory**	**5.06**	**52**	*e*PN	**Pn**	**22 50 49.5**	**+0.6**
KHC				*e*x	x	22 50 52.4	
KHC				*e*PG	**Pg**	**22 51 05.3**	**-4.3**
KHC				*e*SN	**Sn**	**22 51 45.2**	**-2.4**
KHC				*e*SG	**Sg**	**22 52 11.2**	**-4.0**
KHC	**Kasperske Hory**	**5.06**	**52**	*e*P	**Pn**	**22 50 52.4**	**+3.5**
KHC				*e*		22 51 45.2	
KHC	**Kasperske Hory**	**5.06**	**52**	*e*Pg	**Pg**	**22 51 05.3**	**-4.3**
KHC				*e*Sn	**Sn**	**22 51 45.2**	**-2.4**
KHC				*e*Sg	**Sg**	**22 52 11.2**	**-4.0**
KHC	**Kasperske Hory**	**5.06**	**52**	*e*Pn	**Pn**	**22 50 52.4**	**+3.5**
KHC				*e*Pg	**Pg**	**22 51 05.3**	**-4.3**
KHC				*e*Sn	**Sn**	**22 51 45.2**	**-2.4**
KHC				*e*Sg	**Sg**	**22 52 11.2**	**-4.0**
MFF	**Saint Martin d**	**5.29**	**277**	*e*Pn	**Pn**	**22 50 53.3**	**+1.3**

IDC 18 22:58:45.7±5.5, 1384S×7296W, h105km±56km, mb3.4/3, mb1 3.5/5, mb1mx3.3/19, mbtmp3.7/5, Error ellipse: s-maj=191.2km s-min=43.8km az=30.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.26**	**118**	P	Pn	23 00 03.4	+1.4
	1.5nm,0.3s,baz=283,slow=11,SNR=26						
SIV	**San Ignacio**	**11.69**	**102**	P	Pn	23 01 27.9	-1.1
	0.4nm,0.3s,baz=272,slow=15,SNR=6.9						
ULM	**Lac du Bonnet**	**66.91**	**344**	P	P	23 09 26.9	+0.2
	0.7nm,0.4s,baz=153,slow=13,SNR=2.5						
TORD	**Torodi Ar. Bea**	**78.66**	**73**	P	P	23 10 37.1	+1.0
	0.6nm,0.9s,baz=234,slow=7.3,SNR=3.6						
YKA	**Yellowknife Ar**	**82.73**	**342**	P	P	23 10 56.9	-0.9
	0.4nm,0.7s,baz=131,slow=5.1,SNR=5.8						

*CSEM **18** 23:11:53.8, 5634S×2684W, h33km, mb5.6*
*MOS **18** 23:11:59.6±0.8, 5640S×2669W, h80km, mb5.4/9, Error ellipse: s-maj=23.3km s-min=10.6km az=102.5*
*ISCJB **18** 23:11:59.4±1.2, 5638S±005×2679W±010, h80km±11km, mb5.0/35, Error ellipse: s-maj=11.2km s-min=5.6km az=91.6*
*HRVD **18** 23:12:00.9±0.2, 5648S×2652W, h82km±1km, MW5.3/73, Centroid moment Tensor Solution. LP body waves: s73,c117;Mantle waves: s56,c90; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76±.03; $M_{\theta\theta}$0.15±.04; $M_{\phi\phi}$-0.90±.03; $M_{r\theta}$-0.47±.02; $M_{\theta\phi}$0.45±.03; $M_{r\phi}$0.31±.03; Best double couple: $M_0$1.09800×10^{17} NP1:$\phi_0$185.00000°, δ38.00000°, λ131.00000°. NP2:$\phi_0$318.00000°, δ63.00000°, λ63.00000°. Principal axes: T 1.0160, Plg62.0000°, Azm184.0000°; N 0.1630, Plg24.0000°, Azm331.0000°; P -1.1800, Plg14.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 23:12:00.9±0.2, 5640S×2675W, mb5.3/20 Error ellipse: s-maj=7.6km s-min=5.0km az=51.0*
*BJI **18** 23:12:00.8, 5640S×2670W, h82km, mB5.3, Ms5.5, Msz5.1*
*IDC **18** 23:12:01.8±0.6, 5646S×2685W, h91km±4km, mb4.6/23, mb1 4.7/24, mb1mx4.7/25, mbtmp4.9/24, MS4.2/18, Ms1 4.2/18, ms1mx4.2/18, Error ellipse: s-maj=12.8km s-min=8.8km az=27.0*

ISC 18 23:12:01.5±1.1, 5646S±005×2682W±010, h87km±10km, h88km±3.2km: pP-P, n224, σ0s87/104, mb5.0/35, 11C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.93**	**288**	Pn	**Pn**	**23 13 27.2**	**+0.5**
	991nm,0.5s,SNR=47						
HOPE	**Hope Point**	**5.93**	**288**	*e*Pn	**Pn**	**23 13 27.4**	**+0.7**
	206nm,0.7s						
HOPE				*e*Sn	**Sn**	**23 14 32.4**	**-0.8**
VNA1	**Neumayer--Stat**	**16.34**	**158**	⇑*i*Pn	**Pn**	**23 15 47.6**	**+2.0**
VNA1				*e*		23 15 49.9	
VNA1				*e*		23 15 53.4	
VNA3	**Neumayer Olymp**	**16.54**	**160**	⇑*i*Pn	**Pn**	**23 15 48.9**	**+0.9**
VNA3				*e*		23 15 50.6	
VNA3				*e*		23 18 39.6	
VNA3				*e*		23 23 59.5	
VNA3				*e*		23 24 08.3	
VNA2	**Neumayer--Watz**	**16.74**	**158**	⇑*i*Pn	**Pn**	**23 15 51.2**	**+0.7**
	baz=320,slow=9.2						
VNA2				*e*		23 15 53.1	
VNA2				*e*		23 15 57.4	
VNA2				*e*		23 16 03.4	
VNA2				*e*		23 16 07.2	
VNA2				*e*		23 18 46.8	
VNA2				*e*		23 19 31.8	
VNA2				*e*		23 20 33.6	
VNA2				*e*		23 24 00.2	
VNA2				*e*		23 24 08.8	
SNAA	**Sanae**	**18.29**	**156**	P	**Pn**	**23 16 08.0**	**-1.3**
	2.0nm,0.3s,baz=308,slow=9.5,SNR=93						
SNAA				S	**S**	**23 19 21.5**	**-11**
	0.2nm,0.3s,baz=285,slow=16,SNR=2.3						
SNAA				PcP	PcP	23 20 36.6	-0.2
	0.9nm,0.3s,baz=205,slow=2.3,SNR=7.6						
SNAA	**Sanae**	**18.29**	**156**	⇑*i*Pn	**Pn**	**23 16 08.0**	**-1.3**
SNAA				*e*		23 16 10.0	
SNAA				*e*		23 16 13.5	
SNAA				*e*		23 16 19.6	
SNAA				*e*		23 16 23.4	
SNAA				*e*		23 19 25.5	
SNAA	**Sanae**	**18.29**	**156**	⇑*i*Pn	**Pn**	**23 16 08.0**	**-1.3**
SNAA				*e*		23 19 25.5	
EFI	**East Falkland**	**18.85**	**271**	Pn	**Pn**	**23 16 15.8**	**-0.2**
	546nm,1.2s,SNR=9.1						
EFI	**East Falkland**	**18.85**	**271**	*e*P	**Pn**	**23 16 16.0**	**0.0**
EFI				pmax	pmax		
	comp=Z,66nm,0.8s						
EFI	**East Falkland**	**18.85**	**271**	*e*P	**Pn**	**23 16 16.0**	**-0.1**
	comp=Z,66nm,0.8s						
PMSA	**Palmer Station**	**19.79**	**230**	*e*P	**Pn**	**23 16 22.6**	**-4.5**
	comp=Z,160nm,0.9s						
MAIT	**Maitri**	**21.78**	**146**	*e*P	**P**	**23 16 45.2**	**-1.0**
NVL	**N'lazarevskaya**	**21.81**	**146**	*d*iP	**P**	**23 16 46.4**	**-0.1**
NVL				*e*PP		23 17 13.5	
NVL				*e*SP	sP	23 17 27.4	+13
NVL				*i*S	**S**	**23 20 37.0**	**-5.6**
NVL				pmax	pmax		
	comp=Z,101nm,1.5s,mb4.9						
NVL				MLR	MLR		
	comp=Z,1μm,24.9s						
USHA	**Ushuaia**	**23.29**	**256**	P	**P**	**23 17 01.5**	**0.0**
	comp=

comp=Z,58nm,1.1s,mb5.2
SIV San Ignacio 48.01 313 P **P 23 20 31.1 -0.6**
comp=Z,13nm,0.7s,mb4.8,baz=178,slow=11
SIV PcP PcP 23 21 58.0 -0.5
comp=Z,5.0nm,0.5s,baz=211,slow=8.9,SNR=5.2
SIV ScP ScP 23 25 42.7 -2.4
comp=Z,9.7nm,1.0s,baz=171,slow=3.9,SNR=11
LBTB Lobatse 48.93 72 P **P 23 20 38.1 -0.7**
comp=Z,8.0nm,0.6s,mb4.8,baz=240,slow=8.9,SNR=25
LBTB Lobatse 48.93 72 P **P 23 20 38.6 -0.2**
LBTB pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LBTB Lobatse 48.93 72 P **P 23 20 38.6 -0.2**
comp=Z,7.2nm,0.6s,mb4.8
TSUM Tsumeb 49.70 60 P **P 23 20 43.5 -1.2**
comp=Z,5.6nm,0.6s,mb4.7,baz=182,slow=5.9,SNR=16
TSUM pP pP 23 21 06.6 +0.7
comp=Z,7.1nm,0.8s,baz=186,slow=13,SNR=4.0
TSUM Tsumeb 49.70 60 P **P 23 20 44.8 +0.1**
LPAZ La Paz 50.78 305 P **P 23 20 54.2 +1.4**
comp=Z,42nm,0.7s,mb5.6,baz=136,slow=6.0,SNR=133
LPAZ ScP ScP 23 25 55.8 -1.1
comp=Z,2.3nm,0.6s,baz=99,slow=6.5,SNR=6.0
LPAZ S **S 23 28 02.4 +0.5**
comp=Z,4.4nm,1.1s,baz=40,slow=24,SNR=12
LPAZ LR LR 23 42 47.2
comp=Z,79nm,19.0s,baz=2.0,slow=36
LPAZ La Paz 50.78 305 P **P 23 20 54.0 +1.2**
LPAZ pmax pmax
comp=Z,80nm,1.0s
LPAZ La Paz 50.78 305 P **P 23 20 54.0 +1.2**
comp=Z,80nm,1.0s,mb5.7
LPAZ ScP ScP 23 25 55.9 -0.9
RCBR Riachuelo 51.00 348 *e*P **P 23 20 54.5 0.0**
ARE Arequipa 52.19 301 *e*P **P 23 21 04.0 +0.7**
SAML Samuel 55.23 315 P **P 23 21 25.2 -0.3**
SAML ScP ScP 23 26 14.8 -1.4
LSZ Lusaka 58.33 68 P **P 23 21 47.4 0.0**
LSZ pmax pmax
comp=Z,15nm,0.9s,mb5.0
LSZ Lusaka 58.33 68 P **P 23 21 47.4 -0.1**
comp=Z,15nm,0.9s,mb5.0
NNA Nana 58.62 299 *e*P **P 23 21 49.8 +0.3**
comp=Z,10.0nm,0.4s,mb5.2
DBIC Dimbokro 65.45 24 P **P 23 22 35.0 -0.2**
comp=Z,6.8nm,0.4s,mb4.8,baz=169,slow=7.9,SNR=34
DBIC pP pP 23 22 58.0 +0.7
comp=Z,6.7nm,0.6s,baz=131,slow=6.7,SNR=3.7
DBIC LR LR 23 45 26.0
comp=Z,379nm,18.7s,baz=178,slow=31
DBIC Dimbokro 65.45 24 P **P 23 22 35.1 -0.1**
DBIC *PP pP 23 22 57.6 +0.3
DBIC pmax pmax
comp=Z,10.0nm,0.7s
DBIC Dimbokro 65.45 24 P **P 23 22 35.1 -0.1**
comp=Z,10.0nm,0.7s,mb4.8
DBIC pP pP 23 22 57.6 +0.3
OTAV Otavalo 70.05 303 P **P 23 23 05.3 +1.3**
ROSC El Rosal 72.32 310 P **P 23 23 18.5 +0.8**
comp=Z,11nm,0.5s,mb5.0,baz=35,slow=2.8,SNR=19
ROSC LR LR 23 54 55.1
comp=Z,76nm,18.3s,baz=196,slow=36
TORD Torodi Ar. Bea 73.31 29 P **P 23 23 23.6 +0.1**
comp=Z,13nm,0.4s,mb5.2,baz=199,slow=6.2,SNR=378
TORD pP pP 23 23 46.9 +0.7
comp=Z,25nm,0.6s,baz=199,slow=6.4,SNR=8.2
SDV Santo Domingo 74.44 315 P **P 23 23 30.6 +0.4**
comp=Z,23nm,0.5s,mb5.2,baz=175,slow=6.3,SNR=37
SDV Santo Domingo 74.44 315 P **P 23 23 30.6 +0.4**
comp=Z,60nm,1.0s,mb5.3
KMBO Kilima Mbogo 74.99 69 P **P 23 23 34.7 +1.3**
comp=Z,4.3nm,1.0s,mb4.1,baz=209,slow=4.0,SNR=9.5
KMBO LR LR 23 56 34.7
comp=Z,303nm,18.0s,baz=100,slow=36
KMBO Kilima Mbogo 74.99 69 P **P 23 23 37.7 +4.3**
KMBO pmax pmax
comp=Z,9.0nm,1.3s
KMBO Kilima Mbogo 74.99 69 P **P 23 23 37.7 +4.3**
comp=Z,9.3nm,1.3s,mb4.3
BBL Barber's Block 77.35 326 *e*P **P 23 23 47.6 +0.9**
TBG Guadaloupe-3 77.71 326 *e*P **P 23 23 47.9 -0.8**
SCG Saint Claude 77.89 326 *e*P **P 23 23 50.8 +1.1**
DEG La Desirade 77.97 326 *e*P **P 23 23 50.2 0.0**
LZG Guadaloupe-1 78.02 326 *e*P **P 23 23 51.1 +0.6**
SEG Port Louis 78.19 326 *e*P **P 23 23 50.9 -0.5**
RPZ Rata Peaks 79.07 193 LR LR 23 55 36.2
comp=Z,157nm,20.1s,baz=183,slow=33
RKT Rikitea 80.47 243 *e*S S 23 34 12.9 +10
comp=Z,137nm,27.8s
RKT *e*LR LR 23 49 24.4
comp=Z,415nm,35.2s
TAU Tasmania Unive 80.88 176 P **P 23 24 05.8 -0.2**
comp=Z,470nm,0.7s,mb6.4,SNR=13
TAU Tasmania Unive 80.88 176 P **P 23 24 05.7 -0.3**
MTP Monte Pirata 81.08 323 P **P 23 24 06.5 -0.5**
CPD Cerro la Pandu 81.14 323 P **P 23 24 07.6 +0.2**
HUMP Col San Antoni 81.22 323 P **P 23 24 06.9 -0.8**
SJG San Juan 81.29 322 P **P 23 24 07.1 -1.1**
SJG pmax pmax
comp=Z,46nm,1.2s
SJG San Juan 81.29 322 P **P 23 24 07.1 -1.1**
comp=Z,46nm,1.2s,mb5.2
CBYP Canovanas 81.34 323 P **P 23 24 07.8 -0.6**
CBYP pP pP 23 24 28.1 -3.3
JTS JuntasAbangare 81.90 302 P **P 23 24 12.1 +0.7**
comp=Z,52nm,0.9s,mb5.3,baz=264,slow=0.8,SNR=20
JTS JuntasAbangare 81.90 302 P **P 23 24 12.1 +0.7**
URZ Urewera 83.49 199 LR LR 23 55 57.4
comp=Z,203nm,21.0s,baz=241,slow=32
NWAO Narrogin (SRO) 85.87 150 P **P 23 24 30.8 -0.8**
comp=Z,7.8nm,0.6s,mb4.8,baz=195,slow=7.2,SNR=9.3
TOO Toolangi 86.11 174 *e*P **P 23 24 32.5 -0.3**
comp=Z,10nm,0.7s,mb4.9
TOO Toolangi 86.11 174 *e*P **P 23 24 32.5 -0.3**
TOO pmax pmax
comp=Z,11nm,0.7s,mb4.9
MUN Mundaring 86.48 149 *e*P **P 23 24 33.9 -0.7**
TBI Tubuai 86.99 231 *e*SKSac SKSac 23 35 05.1 +8.8
comp=Z,189nm,29.5s
TBI *e*LQ 23 48 32.2
comp=Z,648nm,38.0s
TBI *e*LR LR 23 52 27.7
comp=Z,871nm,29.8s
LMGC Las Mercedes 87.11 314 *e*P **P 23 24 40.2 +2.6**
KLBR Kellerberrin 87.28 150 *e*P **P 23 24 37.7 -0.8**
comp=Z,48nm,1.1s,mb5.3
HLGC Holguin 87.47 315 *e*P **P 23 24 41.1 +1.7**
CCCC Cccc 88.43 314 *e*P **P 23 24 43.9 -0.1**
CNB Canberra Magne 88.53 177 *e*P **P 23 24 45.0 +0.6**
comp=Z,91nm,1.6s,mb5.6
RIV Riverview 90.05 178 *e*P **P 23 24 51.9 +0.4**
FORT Forrest 90.52 159 *e*P **P 23 24 53.8 +0.1**
comp=Z,22nm,1.2s,mb5.2
STKA Stephens Creek 91.47 170 *e*P **P 23 24 55.9 -2.2**
comp=Z,7.4nm,0.6s,mb5.0
STKA *e* 23 28 32.6
STKA Stephens Creek 91.47 170 P **P 23 24 56.4 -1.7**
comp=Z,8.2nm,0.6s,mb5.1,baz=173,slow=4.2,SNR=14
STKA PP PP 23 28 31.9 -5.0
comp=Z,3.7nm,0.7s,baz=171,slow=5.2,SNR=7.0
STKA LR LR 00 06 40.7
comp=Z,183nm,19.6s,baz=203,slow=36
STKA Stephens Creek 91.47 170 *e*P **P 23 24 55.9 -2.2**
STKA *e*PP PP 23 28 31.9 -5.0
TEIG Tepich 92.11 304 P **P 23 25 01.4 +0.3**
comp=Z,12nm,0.6s,mb5.3
TEIG pP pP 23 25 24.9 +0.5
PPT Papeete 92.12 233 *e*LR LR 23 54 49.8
comp=Z,1μm,29.8s
PPT Papeete 92.12 233 LR LR 23 55 33.5
comp=Z,369nm,21.9s,baz=168,slow=28
RAR Rarotonga 93.08 223 LR LR 23 56 33.1
comp=Z,24nm,22.0s,baz=123,slow=29
ARMA Armidale 93.46 179 *e*P **P 23 25 07.4 +0.1**
TAOE Nuku Hiva Isla 95.17 246 *e*LR LR 23 56 17.1
comp=Z,743nm,31.5s
ESDC Sonseca Array 97.70 18 P **P 23 25 27.4 +0.8**
comp=Z,1.3nm,0.8s,mb4.5,baz=204,slow=4.2,SNR=7.3
ASAR Alice Springs 98.54 162 P **P 23 25 28.9 -1.4**
comp=Z,5.8nm,1.0s,mb5.1,baz=184,slow=3.9,SNR=26
ASAR PP PP 23 29 28.2 -3.6
comp=Z,1.5nm,0.7s,baz=185,slow=7.0,SNR=8.0
ASAR S S 23 35 58.9
comp=Z,0.5nm,0.8s,baz=180,slow=8.4,SNR=4.4
ASAR PKKPbc PKKPbc 23 41 58.3 -1.0
comp=Z,1.0nm,0.6s,baz=28,slow=2.1,SNR=13

ASAR Alice Springs 98.54 162 P **P 23 25 29.0 -1.4**
ASAR 23 29 28.2
ASAR S 23 35 58.9
VAE Valguarnera 99.89 32 LR LR 00 05 49.5
comp=Z,200nm,19.5s,baz=298,slow=32
WRA Warramunga Arr 102.26 162 P Pdif 23 25 46.2 -0.7
comp=Z,1.6nm,0.8s,baz=194,slow=4.3,SNR=14
WRA PP PP 23 29 57.9 -2.0
comp=Z,2.4nm,1.4s,baz=188,slow=6.2,SNR=8.3
WRA PKKPbc PKKPbc 23 41 48.0 -0.8
comp=Z,1.7nm,0.5s,baz=354,slow=2.8,SNR=31
WRA Warramunga Arr 102.26 162 P Pdif 23 25 46.2 -0.7
WRA 23 29 57.9
WRAB Tennant Creek 102.27 162 *e*P Pdif 23 25 47.1 +0.1
GERES GERESS Array B 110.22 27 PKiKP PKiKP 23 30 20.8 -2.4
comp=Z,0.4nm,0.5s,baz=253,slow=1.4,SNR=5.1
CLL Collm 112.32 26 *e*PS PS 23 40 45.0 -3.2
CLL *e*(sSSS) 23 51 30.0
SCHQ Schefferville 115.62 336 PKP PKPdf 23 30 31.2 -2.3
comp=Z,2.7nm,0.5s,baz=258,slow=18,SNR=16
KIV Kislovodsk 115.78 49 ⇑*i*PKIKP PKPdf 23 30 32.6 -1.2
AKASG Malin Array Be 116.41 36 PKP PKPdf 23 30 32.7 -2.3
comp=Z,0.4nm,0.4s,baz=232,slow=1.5,SNR=8.2
MSU Marysvale 118.72 297 *e*PKIKP PKPdf 23 30 39.3 -0.2
MSU *e* 23 31 02.6
MSU *e* 23 31 12.0
MSU *e* 23 31 58.5
DAU Daniels Canyon 119.73 299 *e*PKIKP PKPdf 23 30 41.0 -0.4
DAU 23 32 05.1
DUG Dugway 120.33 298 *e*PKIKP PKPdf 23 30 42.0 -0.6
TCUT Toone Canyon 120.35 299 *e*PKPdf PKPdf 23 30 42.3 -0.4
HFS Hagfors 120.59 22 PKP PKPdf 23 30 40.0 -3.0
comp=Z,1.5nm,0.4s,baz=260,slow=2.5,SNR=18
ULM Lac du Bonnet 120.68 316 PKP PKPdf 23 30 40.7 -2.5
comp=Z,4.9nm,0.5s,baz=137,slow=1.7,SNR=19
ULM Lac du Bonnet 120.68 316 PKP PKPdf 23 30 40.7 -2.5
PDAR Pinedale Array 120.73 302 PKP PKPdf 23 30 41.8 -1.6
comp=Z,1.7nm,0.4s,baz=131,slow=5.7,SNR=20
PDAR PKKPbc PKKPbc 23 40 47.0 -0.8
comp=Z,0.4nm,0.5s,baz=151,slow=1.3,SNR=4.8
HWUT Hardware Ranch 120.80 300 *e*PKPdf PKPdf 23 30 42.2 -1.3
HWUT *e*PP PP 23 32 13.1 +0.3
NB2 NORSAR Subarra120.92 20 PKPd PKPdf 23 30 41.1 -2.6
comp=Z,10nm,1.4s,baz=202,slow=1.9
NB2 NORSAR Subarra120.92 20 PKPd PKPdf 23 30 41.1 -2.6
baz=202,slow=1.9
NOA NORSAR Array B 120.92 20 PKP PKPdf 23 30 41.2 -2.5
comp=Z,2.6nm,0.9s,baz=206,slow=1.9,SNR=6.5
NOA PKKPbc PKKPbc 23 40 46.2 -1.0
comp=Z,1.1nm,0.6s,baz=22,slow=3.3,SNR=6.1
NOA NORSAR Array B 120.92 20 PKP PKPdf 23 30 41.2 -2.5
NOA PKKPbc PKKPbc 23 40 46.2 -1.0
NVAR Mina Array Bea 121.74 293 PKP PKPdf 23 30 45.1 -0.1
comp=Z,0.9nm,0.5s,baz=144,slow=2.8,SNR=6.9
LOHW Long Hollow 121.87 302 *e*PKPdf PKPdf 23 30 44.6 -1.0
LOHW PP PP 23 32 20.7 +0.7
LOHW *e*SKPdf SKPdf 23 34 12.1 -1.0
FLWY Flagg Ranch 122.27 302 *e*PKPdf PKPdf 23 30 45.9 -0.4
FLWY pPKPdf pPKPdf 23 31 10.2 -0.3
FLWY *e*PP PP 23 32 24.1 +1.3
OBN Obninsk 122.54 38 *i* PKIKP PKPdf 23 30 44.5 -2.3
OBN *e**PP 23 31 05.5
OBN pmax pmax
comp=Z,9.0nm,0.8s
YMR Madison River 122.84 302 *e*PKPdf PKPdf 23 30 46.9 -0.5
KOLN Koldanda 123.86 90 *e*P PKPdf 23 30 48.2 -1.1
comp=Z,42nm,1.2s
BOZ Bozeman (W) 123.89 303 *e*PKIKP PKPdf 23 30 48.4 -1.0
SFJD Kangerlussuaq 124.42 349 PKP PKPdf 23 30 48.2 -2.2
comp=Z,10nm,0.7s,baz=126,slow=3.5,SNR=4.8
DMN Daman 124.57 91 *e*P PKPdf 23 30 50.0 -0.7
comp=Z,27nm,1.1s
GKN Gorkha 124.61 91 *e*P PKPdf 23 30 49.5 -1.3
comp=Z,46nm,1.2s
FINES FINESS Array B 124.65 28 PKP PKPdf 23 30 48.7 -2.2
comp=Z,6.8nm,0.5s,baz=141,slow=2.1,SNR=140
FINES PKKPbc 23 40 29.8
comp=Z,0.3nm,0.5s,baz=79,slow=4.1,SNR=5.3
FINES FINESS Array B 124.65 28 PKP PKPdf 23 30 48.7 -2.2
FINES PKKPbc 23 40 29.8
PKI Pulchoki 124.71 92 *e*P PKPdf 23 30 49.0 -2.0
HRY Holter Researc 124.77 303 *e*PKPdf PKPdf 23 30 50.2 -0.9
KKN Kakani 124.81 91 *e*P PKPdf 23 30 50.2 -1.0
JIRN Jiri 125.21 92 *e*P PKPdf 23 30 51.4 -0.5
comp=Z,17nm,0.5s
GUN Gumba 125.23 92 *e*P PKPdf 23 30 51.4 -0.6
comp=Z,44nm,1.3s
KAF Kangasniemi 125.27 27 *e*p PKPdf 23 30 46.5 -5.6
comp=Z,6.4nm,0.5s
CHMT Chamberlain Mo 125.58 303 pPKPdf pPKPdf 23 31 16.4 -0.5
CHMT *es*PKPdf 23 31 24.3
MSO Missoula 125.84 302 *e*PKPdf PKPdf 23 30 52.1 -1.0
MSO *e*PP PP 23 32 46.6 -0.1
MSO *e*SKPdf SKPdf 23 34 20.6 -0.1
BMO Blue Mountains 126.01 298 *e*PKIKP PKPdf 23 30 52.4 -1.1
YBH Yreka Blue Hor 126.46 292 PKP PKPdf 23 30 52.9 -1.4
comp=Z,4.6nm,1.1s,baz=124,slow=2.3,SNR=3.8
JOF Joensuu 127.25 29 *e*p PKPdf 23 30 52.4 -3.4
comp=Z,4.8nm,0.5s
AKTK Aktyubinsk 127.41 53 PKP PKPdf 23 30 54.5 -1.6
AKTO Aktyubinsk 127.41 53 PKP PKPdf 23 30 54.5 -1.6
comp=Z,10nm,1.0s,baz=197,slow=2.8,SNR=20
AB31 Akbulak array 127.43 55 PKIKP PKPdf 23 30 48.5 -7.7
AB31 pmax pmax
comp=Z,25nm,1.3s
KLMR Klimovskoe 128.04 35 *i* PKIKP PKPdf 23 30 54.0 -3.3
KLMR pmax pmax
comp=Z,40nm,1.3s
KKAR Karatay Array 128.19 68 *i* PKIKP PKPdf 23 30 50.6 -7.0
KKAR pmax pmax
comp=Z,17nm,1.1s
NEW Newport 128.37 302 PKP PKPdf 23 30 55.8 -2.2
comp=Z,1.8nm,0.7s,baz=231,slow=6.3,SNR=3.4
SUMG Summit 129.00 356 *e*PKPdf PKPdf 23 30 58.1 -1.0
AML Almayashu 129.14 71 P PKPdf 23 30 59.1 -0.3
SNR=9.6
LSA Lhasa 129.53 95 PKP PKPdf 23 31 01.4 +1.2
EKS2 Erkin-Say 129.56 70 P PKPdf 23 30 59.4 -0.9
SNR=15
AAK Ala-Archa 129.92 71 P PKPdf 23 31 00.3 -0.7
SNR=8.4
KZA Kyzart 129.92 72 P PKPdf 23 31 01.8 +0.9
SNR=5.0
EDM Edmonton 130.12 308 PKIKP PKPdf 23 30 59.2 -2.1
FRU Bishkek 130.12 71 *e*PKIKP PKPdf 23 30 00.5 -0.8
FRU pmax pmax
comp=Z,63nm,2.0s
KBK Karagaybulak 130.17 71 P PKPdf 23 31 01.8 +0.4
SNR=6.7
TKM2 Tokmak 2 130.70 71 PKIKP PKPdf 23 31 00.4 -2.0
TKM2 pmax pmax
comp=Z,25nm,1.6s
ARCES ARCESS Array B 131.25 22 PKP PKPdf 23 31 01.2 -2.3
comp=Z,4.0nm,0.5s,baz=341,slow=2.6,SNR=5.5
ARCES ARCESS Array B 131.25 22 PKP PKPdf 23 31 01.2 -2.3
ARE0 ARCESS Array S 131.25 22 *e*PKPdf PKPdf 23 31 01.1 -2.3
ARU Arti 131.82 48 *i* PKIKP PKPdf 23 31 02.6 -1.9
ARU *e* 23 33 22.1
ARU *e*SS SS 23 50 56.5 +2.0
KMI Kunming 132.20 109 PKP PKPdf 23 31 05.4 +0.2
KMI PP PP 23 33 34.1 +5.9
KMI SS SS 23 51 04.6 +5.5
KMI PP PP
comp=Z,50nm,4.9s
KMI LR LR
comp=Z,153nm,30.5s
ZRNK Zerenda 134.13 57 PKIKP PKPdf 23 31 07.1 -1.8
ZRNK pmax pmax
comp=Z,11nm,1.3s
ZRNK Zerenda 134.13 57 *e*PKPdf PKPdf 23 31 05.9 -3.0
BRVK Borovoye 134.80 58 *e*PKIKP PKPdf 23 31 05.1 -5.0
BVA0 Borovoye Array 134.82 58 *i* PKIKP PKPdf 23 31 09.0 -1.2
BVA0 pmax pmax
comp=Z,3.0nm,1.3s
BVAR Borovoye Array 134.82 58 PKhKP 23 30 54.6
comp=Z,0.2nm,0.4s,baz=193,slow=4.4,SNR=3.7
BVAR PKP PKPdf 23 31 08.6 -1.6
comp=Z,13nm,1.0s,baz=226,slow=2.3,SNR=26
BVAR SKPbc SKPbc 23 34 30.6 -2.1
comp=Z,4.9nm,1.1s,baz=232,slow=3.6,SNR=10
BVAR Borovoye Array 134.82 58 PKHKP 23 30 54.6
BVAR 23 31 08.6
VOSK Vostochnaya 134.91 58 PKIKP PKPdf 23 31 08.5 -1.8
VOSK pmax pmax
comp=Z,11nm,1.3s

GYA Guiyang 135.32 112 PKP PKPdf 23 31 09.8 -1.3
GYA XPKP 23 31 47.1
GYA PP PP 23 33 51.4 +3.3
GYA PKS 23 34 44.6
GYA SKKS SKKSac 23 40 32.3 -2.9
GYA SS SS 23 51 38.8 +2.0
GYA PP PP
comp=Z,140nm,8.4s
GYA LR LR
comp=N,870nm,20.8s
GYA LR LR
comp=E,1μm,21.4s
GYA LR LR
comp=Z,1μm,21.0s
YKA Yellowknife Ar 136.61 318 PKhKP 23 30 57.8
comp=Z,0.6nm,0.5s,baz=127,slow=3.3,SNR=16
YKA PKP PKPdf 23 31 11.2 -2.2
comp=Z,6.6nm,0.5s,baz=127,slow=2.4,SNR=51
YKA SKPbc SKPbc 23 34 33.9 -4.3
comp=Z,5.6nm,1.0s,baz=115,slow=1.9,SNR=21
YKA Yellowknife Ar 136.61 318 PKHKP 23 30 57.9
YKA 23 31 11.2
YKA Yellowknife Ar 136.61 318 PKP 23 30 57.9
YKA PKP PKPdf 23 31 11.2 -2.3
YKA SKPbc SKPbc 23 34 33.9 -4.3
YKW3 Yellowknife Ar 136.65 318 *e*PKPdf PKPdf 23 31 11.6 -2.0
YKW3 SKPdf SKPdf 23 34 39.2 -1.5
MKAR Makanchi Array 136.82 72 PKhKP 23 30 59.0
comp=Z,0.2nm,0.4s,baz=242,slow=3.1,SNR=7.5
MKAR PKP PKPdf 23 31 11.2 -2.7
comp=Z,1.3nm,0.8s,baz=210,slow=6.3,SNR=12
MKAR SKPbc SKPbc 23 34 35.7 -3.1
comp=Z,2.4nm,1.1s,baz=250,slow=3.6,SNR=7.2
MKAR Makanchi Array 136.82 72 *e*PKHKP 23 30 59.4
MKAR pmax pmax
comp=Z,6.0nm,1.2s
MKAR Makanchi Array 136.82 72 PKP 23 30 59.0
MKAR PKP PKPdf 23 31 11.2 -2.7
MKAR SKPbc SKPbc 23 34 35.7 -3.1
CD2 Chengdu 137.35 106 *e*PKP PKPdf 23 31 12.6 -2.3
CD2 XPKP 23 31 50.0
CD2 PP PP 23 34 03.0 +2.2
CD2 PKS 23 34 47.4
CD2 SKS SKSdf 23 38 11.6 -6.2
CD2 SKKS SKKSac 23 40 42.6 -4.7
CD2 SS SS 23 52 00.0 -1.0
CD2 PP PP
comp=Z,50nm,7.2s
CD2 LR LR
comp=N,50nm,14.4s
CD2 LR LR
comp=Z,80nm,10.8s
KURK Kurchatov 137.39 65 ⇑*i*PKIKP PKPdf 23 31 11.1 -3.8
KURK Kurchatov 137.39 65 *e*PKPdf PKPdf 23 31 10.7 -4.3
WMQ Urumqi 137.78 79 *e*PKP PKPdf 23 31 14.1 -1.6
WMQ LR LR
comp=N,777nm,24.0s
WMQ LR LR
comp=Z,653nm,22.0s
LZH Lanzhou 141.33 100 *e*PKP PKPdf 23 31 16.0 -6.1
LZH PP PP 23 34 23.5 -1.8
LZH PP PP
comp=Z,90nm,5.9s
LZH LR LR
comp=E,179nm,17.8s
LZH LR LR
comp=Z,373nm,20.5s
GTA Gaotai 141.50 93 *e*PKP PKPdf 23 31 16.3 -6.1
GTA PP PP
comp=Z,76nm,5.7s
GTA LR LR
comp=N,98nm,20.5s
GTA LR LR
comp=E,109nm,20.1s
GTA LR LR
comp=Z,151nm,24.0s
NVS Novosibirsk 142.06 62 *i* PKHKP 23 31 16.8
NVS pmax pmax
comp=Z,23nm,1.6s
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.5s
ZAL Zalesovo 142.35 64 PKhKP 23 31 17.3
comp=E,2.3nm,0.5s,baz=196,slow=2.5,SNR=7.3
ZAL SKPbc SKPbc 23 34 51.8 -2.1
comp=E,1.5nm,0.9s,baz=233,slow=5.7,SNR=5.6
XAN Xi'an 142.52 108 PKP PKPdf 23 31 19.5 -4.7
NJ2 Nanjing 145.95 121 *e*PKP PKPdf 23 31 30.8 +0.6
NJ2 PKP2 PKPab 23 31 34.6 +2.9
NJ2 APKP 23 31 57.3
NJ2 PP PP 23 34 52.0 -1.0
NJ2 PKS 23 35 05.0
NJ2 SKS SKSdf 23 38 28.0 -3.4
NJ2 SKKS SKKSac 23 41 36.0 -1.1
NJ2 PP PP
comp=Z,230nm,6.8s
NJ2 LR LR
comp=N,300nm,11.9s
NJ2 LR LR
comp=E,580nm,33.7s
NJ2 LR LR
comp=Z,220nm,26.7s
SSE Sheshan 146.24 125 *e*PKP PKPdf 23 31 29.3 -1.4
SSE PP PP 23 34 56.8 +2.1
SSE SS SS 23 53 41.8 -2.3
SSE PP PP
comp=Z,111nm,5.3s
SSE LR LR
comp=N,55nm,31.3s
SSE LR LR
comp=E,68nm,31.3s
SSE LR LR
comp=Z,105nm,31.8s
INK Inuvik 146.25 320 PKIKP PKPdf 23 31 28.6 -2.1
INK *e* 23 31 30.3
INK Inuvik 146.25 320 PKPdf PKPdf 23 31 28.6 -2.1
INK *e*PKPbc PKPbc 23 31 30.2 -1.7
INK *e*PKPab PKPab 23 31 31.4 -1.4
KRAR Krasnoyarsk 147.42 65 ⇓*i*PKIKP PKPdf 23 31 30.4 -2.3
BTO Baotou 147.95 101 *e*PKP PKPdf 23 31 36.1 +2.6
HHC Hu-ho-hao-te 148.96 102 *e*PKP PKPdf 23 31 33.3 -1.9
HHC PKP2 PKPab 23 31 43.8 +0.2
HHC APKP 23 31 59.9
HHC XPKP 23 32 10.8
HHC PKS 23 35 06.5
HHC PP PP 23 35 12.0 +1.4
HHC SKS SKSdf 23 38 30.1 -5.5
HHC SKKS SKKSac 23 41 51.0 -2.9
HHC SS SS 23 54 14.6 -0.1
HHC LR LR
comp=N,125nm,4.5s
HHC LR LR
comp=E,97nm,4.0s
HHC LR LR
comp=Z,115nm,4.5s
DIV Divide 149.05 304 *e*PKPbc PKPbc 23 31 38.5 -1.1
DIV *e*PKPab PKPab 23 31 43.1 -0.9
MOY Mondy 149.62 77 *e*PKIKP PKPdf 23 31 30.6 -5.7
MOY pmax pmax
comp=Z,80nm,1.8s
ZAK Zakamensk 150.21 80 *e*PKIKP PKPdf 23 31 35.0 -2.2
ZAK pmax pmax
comp=Z,17nm,1.7s
ZAK pmax pmax
comp=Z,78nm,1.5s
SML Sawmill 150.43 305 PKPdf PKPdf 23 31 33.6 -3.9
SML *e*PKPbc PKPbc 23 31 41.6 -1.3
SML *e*PKPab PKPab 23 31 48.9 -0.8
SML PP PP 23 35 20.3 +1.2
ILAR Eielson Array 150.54 311 PKP PKPdf 23 31 32.9 -4.8
comp=Z,3.6nm,1.0s,baz=321,slow=2.1,SNR=16
ILAR PKPbc PKPbc 23 31 41.1 -2.0
comp=Z,66nm,1.0s,baz=359,slow=0.2,SNR=345
SONM Songino Array 150.54 87 PKP PKPdf 23 31 34.9 -2.8
comp=Z,2.6nm,1.2s,baz=198,slow=1.2,SNR=12
SONM PKPbc PKPbc 23 31 41.6 -1.6
comp=Z,26nm,0.7s,baz=196,slow=1.8,SNR=32
SONM pPKPbc pPKPbc 23 32 06.4 -0.9
comp=Z,8.0nm,0.6s,baz=230,slow=3.1,SNR=2.9
PMR Palmer 150.74 304 *e*PKIKP PKPdf 23 31 42.0 +4.0
BJI Beijing 150.85 108 PKP PKPdf 23 31 42.8 +4.6
BJI LR LR
comp=Z,72nm,28.6s

ULN	**Ulaanbaatar**	**150.93**	**87**	PKPdf	PKPdf	23 31 37.2	-1.1
ULN				*e*PKPbc	PKPbc	23 31 42.6	-1.4
ULN				*e*PKPab	PKPab	23 31 50.3	-1.4
COLA	**College**	**150.96**	**311**	*e*PKIKP	PKPdf	23 31 42.1	+3.7
COLA				*e*		23 31 50.6	
MCK	**McKinley**	**151.19**	**309**	*e*PKIKP	PKPdf	23 31 43.0	+4.3
IRK	**Irkutsk**	**151.68**	**78**	*e*PKIKP	PKPdf	23 31 38.0	-1.4
IRK				*e*		23 32 01.7	
IRK				pmax	pmax		
	comp=Z,53nm,2.9s						
MJAR	**Matsushiro Arr**	**157.67**	**147**	PKPab	PKPab	23 32 19.0	-1.4
	comp=Z,6.2nm,1.0s,baz=202,slow=5.6,SNR=7.9						
CN2	**Changchun**	**158.35**	**114**	*e*PKP	PKPdf	23 31 47.4	-1.1
BOD	**Bodaibo**	**158.90**	**70**	*e*PKIKP	PKPdf	23 31 45.3	-3.9
BOD				*e*		23 32 23.8	
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BOD				pmax	pmax		
	comp=Z,16nm,0.9s						
MDJ	**Mudanjiang**	**161.00**	**119**	PKP	PKPdf	23 31 49.3	-2.3
MDJ				APKP		23 32 13.4	
MDJ				XPKP		23 32 22.3	
MDJ				PKS		23 35 24.8	
MDJ				PP	PP	23 36 19.8	+1.9
MDJ				SKS	SKSdf	23 38 44.8	-4.0
MDJ				SS	SS	23 56 27.8	+2.7
MDJ				PP	PP		
	comp=Z,242nm,4.5s						
MDJ				LR	LR		
	comp=Z,67nm,27.6s						
TIXI	**Tiksi**	**161.65**	**24**	*e*PKP2	PKPab	23 32 34.3	-3.4
TIXI				pmax	pmax		
	comp=Z,13nm,1.2s						
MA2	**Magadan**	**176.62**	**21**	*e*PKIKP	PKPdf	23 32 00.4	-1.1
MA2				*e*		23 37 40.3	

ISCJB ***18*** *23:42:32.8±0.3, 5501N±003×16545E±003, h31km, mb3.9/15, MS3.9/1, Error ellipse: s-maj=4.2km s-min=2.7km az=163.2*
MOS ***18*** *23:42:33.6±0.9, 5514N×16546E, h33km, mb4.1/4, Error ellipse: s-maj=13.0km s-min=11.2km az=135.2*
KRSC ***18*** *23:42:33.2±1.2, 5508N×16547E, h31km±4km, ML4.3*
IDC ***18*** *23:42:36.9±0.8, 5537N×16548E, h36km±6km, mb3.7/12, mb1 4.0/13, mb1mx3.8/23, mbtmp3.9/13, ML3.4/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/20, Error ellipse: s-maj=20.0km s-min=10.5km az=21.0*
NEIC ***18*** *23:42:36.8±0.6, 5535N×16548E, mb4.0/4, Error ellipse: s-maj=18.3km s-min=7.7km az=171.0*

ISC 18 23:42:34.7±0.3, 5506N±003×16544E±004, h31km, (h37km±6km; pP-P), n64, σ1§17/103, mb3.9/15, MS3.9/1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.34**	**64**	*i* P	**Pb**	**23 42 39.9**	**-2.8**
BKI				*e*S	**Sb**	**23 42 44.7**	**-3.5**
BKI				Smax			
	18μm,0.4s						
KBTR	**Krutoberegovo**	**1.88**	**309**	P	**Pn**	**23 43 02.0**	**-2.7**
KBTR				S	**Sn**	**23 43 22.7**	**-4.7**
KBTR	**Krutoberegovo**	**1.88**	**309**	*i* P	**Pn**	**23 43 02.0**	**-2.7**
KBTR				*e*S	**Sn**	**23 43 25.1**	**-2.2**
MKZ	**Mys Kozlova**	**2.21**	**258**	P	**Pn**	**23 43 08.4**	**-0.7**
MKZ				S	**Sn**	**23 43 34.7**	**-0.6**
MKZ	**Mys Kozlova**	**2.21**	**258**	*e*P	**Pn**	**23 43 08.3**	**-0.8**
MKZ				*e*S	**Sn**	**23 43 34.6**	**-0.7**
SMKR	**Semkarok**	**2.71**	**306**	*e*P	**Pn**	**23 43 15.4**	**-0.7**
SMKR				*e*S	**Sn**	**23 43 47.3**	**-0.6**
ZLN	**Zelenaya**	**2.81**	**292**	*e*P	**Pn**	**23 43 18.0**	**+0.6**
ZLN				*e*S	**Sn**	**23 43 51.4**	**+1.3**
BDR	**Baidarnaya**	**2.83**	**304**	*e*P	**Pn**	**23 43 17.2**	**-0.5**
BDR				*e*S	**Sn**	**23 43 50.7**	**0.0**
CIRR	**Tsirk**	**2.87**	**294**	*e*P	**Pn**	**23 43 19.0**	**+0.8**
CIRR				*e*S	**Sn**	**23 43 52.0**	**+0.3**
LGNR	**Loginova**	**2.89**	**293**	*e*P	**Pn**	**23 43 19.7**	**+1.2**
LGNR				*e*S	**Sn**	**23 43 52.9**	**+0.8**
SRKR	**Sorokina**	**2.89**	**305**	*e*P	**Pn**	**23 43 18.0**	**-0.6**
SRKR				*e*S	**Sn**	**23 43 51.5**	**-0.8**
KLY	**Klyuchi**	**2.99**	**297**	P	**Pn**	**23 43 18.8**	**-1.1**
KLY				S	**Sn**	**23 43 52.3**	**-2.4**
KLY	**Klyuchi**	**2.99**	**297**	*e*P	**Pn**	**23 43 18.8**	**-1.1**
KLY				*e*S	**Sn**	**23 43 51.4**	**-3.3**
KRSR	**Krestovskiy**	**3.00**	**295**	*e*P	**Pn**	**23 43 20.7**	**+0.7**
KRSR				*e*S	**Sn**	**23 43 55.7**	**+0.8**
TUMR	**Tumrok**	**3.04**	**276**	*e*P	**Pn**	**23 43 21.8**	**+1.1**
TUMR				*e*S	**Sn**	**23 43 57.9**	**+1.9**
KPT	**Kopyto**	**3.10**	**289**	*e*P	**Pn**	**23 43 22.2**	**+0.7**
KPT				*e*S	**Sn**	**23 43 57.7**	**+0.2**
KOZR	**Kozyr**	**3.31**	**290**	PN	**Pn**	**23 43 26.0**	**+1.7**
KOZR				S	**Sn**	**23 44 05.5**	**+3.0**
KOZ	**Kozyrevsk**	**3.32**	**290**	P	**Pn**	**23 43 26.0**	**+1.6**
KOZ				S	**Sn**	**23 44 05.5**	**+2.7**
KOZ	**Kozyrevsk**	**3.32**	**290**	*e*P	**Pn**	**23 43 26.3**	**+1.9**
KOZ				*e*S	**Sn**	**23 44 03.8**	**+1.0**
SRDR	**Sredinnyy**	**3.48**	**294**	*e*P	**Pn**	**23 43 27.8**	**+1.2**
SRDR				*e*S	**Sn**	**23 44 07.0**	**+0.3**
KII	**Karymskiy**	**3.64**	**256**	P	**Pn**	**23 43 30.3**	**+1.5**
KII	**Karymskiy**	**3.64**	**256**	*e*P	**Pn**	**23 43 30.2**	**+1.4**
SPN	**Mys Shipunski**	**3.75**	**241**	P	**Pn**	**23 43 29.6**	**-0.7**
SPN				S	**Sn**	**23 44 10.7**	**-2.6**
SPN	**Mys Shipunski**	**3.75**	**241**	*e*P	**Pn**	**23 43 29.6**	**-0.7**
SPN				*e*S	**Sn**	**23 44 11.0**	**-2.3**
ESO	**Esso**	**3.93**	**286**	*e*P	**Pn**	**23 43 33.2**	**+0.3**
ESO				*e*S	**Sn**	**23 44 16.6**	**-1.3**
NLC	**Nalytchevo**	**4.05**	**245**	P	**Pn**	**23 43 34.6**	**+0.1**
NLC				S	**Sn**	**23 44 19.0**	**-1.9**
NLC	**Nalytchevo**	**4.05**	**245**	*e*P	**Pn**	**23 43 34.7**	**+0.2**
NLC				*e*S	**Sn**	**23 44 18.9**	**-2.0**
SMAR	**Somma**	**4.30**	**248**	*e*P	**Pn**	**23 43 38.5**	**+0.6**
SMAR				*e*S	**Sn**	**23 44 25.8**	**-1.1**
UGLR	**Uglovaya**	**4.31**	**247**	*e*P	**Pn**	**23 43 39.2**	**+1.2**
UGLR				*e*S	**Sn**	**23 44 26.9**	**-0.3**
AVH	**Avacha**	**4.33**	**248**	*e*P	**Pn**	**23 43 39.0**	**+0.7**
AVH				*e*S	**Sn**	**23 44 27.1**	**-0.6**
KOK	**Koryaka**	**4.37**	**249**	*e*P	**Pn**	**23 43 39.8**	**+0.9**
KOK				*e*S	**Sn**	**23 44 27.6**	**-1.1**
PET	**Petropavlovsk**	**4.49**	**246**	P	**Pn**	**23 43 40.4**	**-0.1**
PET				S	**Sn**	**23 44 30.1**	**-1.5**
PET	**Petropavlovsk**	**4.49**	**246**	*e*P	**Pn**	**23 43 40.2**	**-0.3**
PET				*e*S	**Sn**	**23 44 29.8**	**-1.8**
GNL	**Ganaly**	**4.59**	**256**	*i* P	**Pn**	**23 43 43.4**	**+1.5**
GNL				*e*S	**Sn**	**23 44 32.6**	**-1.6**
KRMR	**Karymshinskiy**	**4.86**	**246**	*e*P	**Pn**	**23 43 46.4**	**+0.8**
KRMR				*e*S	**Sn**	**23 44 38.9**	**-1.9**
RUS	**Russkaya**	**4.88**	**240**	P	**Pn**	**23 43 46.0**	**+0.1**
RUS				S	**Sn**	**23 44 38.5**	**-2.8**
RUS	**Russkaya**	**4.88**	**240**	*e*P	**Pn**	**23 43 45.8**	**-0.1**
RUS				*e*S	**Sn**	**23 44 38.5**	**-2.8**
GRL	**Gorelyy**	**5.04**	**243**	*e*P	**Pn**	**23 43 49.3**	**+1.3**
GRL				*e*S	**Sn**	**23 44 45.5**	**+0.4**
FX1	**Attu Island--F**	**5.05**	**112**	Pn	**Pn**	**23 43 49.2**	**+0.9**
	5.0nm,0.3s,baz=124,slow=18,SNR=12						
FX1				Sn	**Sn**	**23 44 46.2**	**+0.6**
	2.7nm,0.3s,baz=165,slow=20,SNR=2.2						
APC	**Apacha**	**5.33**	**250**	*e*P	**Pn**	**23 43 53.5**	**+1.4**
APC				*e*S	**Sn**	**23 44 52.0**	**-0.4**
APC				Smax			
	60nm,0.9s						
MIPR	**Malaya Ipel'ka**	**5.86**	**245**	*e*P	**Pn**	**23 44 01.3**	**+1.9**
KAMR	**Kamenskoye**	**7.43**	**3**	*e*P	**Pn**	**23 44 21.3**	**+0.3**
KAMR				*e*S	**Sn**	**23 45 41.8**	**-2.4**
ILAR	**Eielson Array**	**25.18**	**48**	P	**P**	**23 47 56.4**	**-0.8**
	2.5nm,0.9s,mb3.8,baz=258,slow=8.6,SNR=23						
MJAR	**Matsushiro Arr**	**26.25**	**236**	P	**P**	**23 48 10.2**	**+3.2**
	0.5nm,0.3s,mb3.5,baz=345,slow=4.4,SNR=4.0						
INK	**Inuvik**	**30.36**	**40**	P	**P**	**23 48 43.7**	**+0.1**
	1.3nm,0.5s,mb3.9,baz=264,slow=5.4						
SONM	**Songino Array**	**36.51**	**284**	P	**P**	**23 49 38.7**	**+1.6**
	0.6nm,0.7s,mb3.5,baz=54,slow=8.5,SNR=6.9						
SONM				pP	pP	23 49 49.2	+3.0
	0.8nm,0.7s,baz=53,slow=9.5,SNR=6.6						
YKA	**Yellowknife Ar**	**39.56**	**46**	P	**P**	**23 50 02.5**	**-0.3**
	1.3nm,0.6s,mb3.8,baz=299,slow=8.0,SNR=16						
EDM	**Edmonton**	**45.06**	**57**	*e*P	**P**	**23 50 47.7**	**+0.1**
NEW	**Newport**	**46.20**	**65**	P	**P**	**23 50 56.3**	**-0.4**
	1.3nm,0.6s,mb4.0,baz=270,slow=6.1,SNR=4.1						
KURK	**Kurchatov**	**49.34**	**303**	*e*P	**P**	**23 51 20.7**	**-0.2**
KURK				*e**PP	pP	23 51 30.9	+0.6
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KURK	**Kurchatov**	**49.34**	**303**	*e*P	**P**	**23 51 20.7**	**-0.2**
	comp=Z,0.6nm,0.3s,mb4.1						
KURK				*e*pP	pP	23 51 30.9	+0.7
MKAR	**Makanchi Array**	**50.10**	**297**	P	**P**	**23 51 26.6**	**-0.2**
	comp=Z,0.2nm,0.8s,mb3.2,baz=54,slow=3.3,SNR=3.7						
MKAR				pP	pP	23 51 37.8	+1.7
	comp=Z,0.5nm,0.7s,baz=60,slow=7.2,SNR=5.6						
BRVK	**Borovoye**	**51.62**	**310**	*e*P	**P**	**23 51 38.1**	**-0.1**
BRVK				*e**PP	pP	23 51 48.8	+1.2
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**51.62**	**310**	*e*P	**P**	**23 51 38.1**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.9						
BRVK				*e*pP	pP	23 51 48.8	+1.3
NVAR	**Mina Array Bea**	**52.15**	**75**	P	**P**	**23 51 42.0**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=303,slow=5.9,SNR=4.0						
ZRNK	**Zerenda**	**52.26**	**311**	*e*P	**P**	**23 51 42.9**	**0.0**
ZRNK				*e**PP	pP	23 51 53.4	+1.1
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**52.26**	**311**	*e*P	**P**	**23 51 42.9**	**-0.1**
	comp=Z,0.7nm,0.4s,mb3.9						
ZRNK				*e*pP	pP	23 51 53.4	+1.1
PDAR	**Pinedale Array**	**53.83**	**65**	P	**P**	**23 51 54.5**	**0.0**
	comp=Z,2.1nm,0.9s,mb4.0,baz=354,slow=4.5,SNR=4.0						
ULM	**Lac du Bonnet**	**55.16**	**51**	P	**P**	**23 52 04.0**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.4,baz=341,slow=10.0,SNR=5.2						
FINES	**FINESS Array B**	**59.50**	**339**	P	**P**	**23 52 33.6**	**-1.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=32,slow=8.7,SNR=4.0						
FINES				pP	pP	23 52 44.1	-0.2
	comp=Z,1.0nm,0.7s,baz=5.7,slow=5.7,SNR=2.1						
FINES				LR	LR	00 23 56.8	
	comp=Z,88nm,19.3s,MS3.9,baz=9.2,slow=42						
FINES	**FINESS Array B**	**59.50**	**339**	P	**P**	**23 52 33.6**	**-1.2**
FINES				*PP	pP	23 52 44.1	-0.3
NB2	**NORSAR Subarra**	**62.46**	**346**	P	**P**	**23 52 53.7**	**-1.2**
	comp=Z,0.6nm,0.6s,mb3.9,baz=18,slow=6.9						
NB2	**NORSAR Subarra**	**62.46**	**346**	P	**P**	**23 52 53.7**	**-1.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
NOA	**NORSAR Array B**	**62.46**	**346**	P	**P**	**23 52 52.8**	**-2.1**
	comp=Z,0.6nm,0.6s,mb3.9,baz=18,slow=6.7,SNR=3.6						
NOA				pP	pP	23 53 04.0	-0.5
	comp=Z,2.0nm,0.9s,baz=18,slow=6.8,SNR=3.2						

IDC ***18*** *23:43:28.0±1.2, 3527S×17932W, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.2/13, mbtmp4.3/5, ML3.8/1, Error ellipse: s-maj=36.6km s-min=28.9km az=168.0*
NEIC ***18*** *23:43:33.0±0.8, 3530S×17929W, h35km, mb4.4/2, Error ellipse: s-maj=16.4km s-min=10.5km az=115.0*
ISCJB ***18*** *23:43:34.9±2.0, 3559S±009×179.4W±02, h73km±14km, mb4.2/5, Error ellipse: s-maj=29.8km s-min=14.1km az=20.3*

ISC 18 23:43:30.8±1.8, 3539S±010×1789W±02, h41km±15km, n40, σ0§98/42, mb4.2/5, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.10**	**225**	PN	**Pn**	**23 44 17.4**	**+0.2**
MXZ				SN	**Sn**	**23 44 54.5**	**+1.5**
MXZ	**Matakaoa Point**	**3.10**	**225**	P	**Pn**	**23 44 18.1**	**+0.9**
MXZ				S	**Sn**	**23 44 54.5**	**+1.4**
PUZ	**Puketiti**	**3.50**	**219**	PN	**Pn**	**23 44 23.7**	**+1.1**
PUZ				SN	**Sn**	**23 45 03.9**	**+1.1**
PUZ	**Puketiti**	**3.50**	**219**	P	**Pn**	**23 44 23.8**	**+1.1**
PUZ				S	**Sn**	**23 45 03.9**	**+1.1**
MWZ	**Matawai**	**4.08**	**223**	PN	**Pn**	**23 44 31.3**	**+0.7**
MWZ				SN	**Sn**	**23 45 17.9**	**+0.7**
MWZ	**Matawai**	**4.08**	**223**	P	**Pn**	**23 44 31.5**	**+0.8**
MWZ				S	**Sn**	**23 45 17.9**	**+0.7**
URZ	**Urewera**	**4.27**	**227**	Pn	**Pn**	**23 44 33.3**	**0.0**
	5.6nm,0.3s,baz=39,slow=5.3,SNR=4.2						
URZ				Sn	**Sn**	**23 45 20.8**	**-1.1**
	20nm,0.3s,baz=136,slow=20,SNR=9.7						
URZ	**Urewera**	**4.27**	**227**	PN	**Pn**	**23 44 33.4**	**+0.1**
URZ				SN	**Sn**	**23 45 20.6**	**-1.3**
URZ	**Urewera**	**4.27**	**227**	*e*P	**Pn**	**23 44 33.7**	**+0.4**
KNZ	**Kokohu**	**4.52**	**216**	PN	**Pn**	**23 44 37.1**	**+0.4**
KNZ	**Kokohu**	**4.52**	**216**	*e*P	**Pn**	**23 44 37.2**	**+0.5**
BKZ	**Black Stump Fm**	**5.24**	**223**	PN	**Pn**	**23 44 46.6**	**0.0**
BKZ	**Black Stump Fm**	**5.24**	**223**	*e*P	**Pn**	**23 44 46.7**	**+0.1**
WCZ	**Waipu Caves**	**5.50**	**262**	PN	**Pn**	**23 44 49.8**	**-0.3**
WCZ	**Waipu Caves**	**5.50**	**262**	*e*P	**Pn**	**23 44 49.7**	**-0.4**
PXZ	**Pawanui**	**5.71**	**214**	*e*PN	**Pn**	**23 44 51.8**	**-1.2**
PXZ				SN	**Sn**	**23 45 54.9**	**-2.3**
OUZ	**Omahuta**	**6.11**	**269**	PN	**Pn**	**23 44 57.9**	**-0.6**
OUZ	**Omahuta**	**6.11**	**269**	*e*P	**Pn**	**23 44 57.8**	**-0.7**
MRZ	**Mangatainoka R**	**6.81**	**218**	*e*PN	**Pn**	**23 45 06.1**	**-2.1**
MRZ				SN	**Sn**	**23 46 19.6**	**-4.9**
MRZ	**Mangatainoka R**	**6.81**	**218**	*e*P	**Pn**	**23 45 06.8**	**-1.4**
TCW	**Tory Channel**	**7.89**	**221**	SN	**Sn**	**23 46 44.7**	**-6.2**
NNZ	**Nelson**	**8.38**	**224**	SN	**Sn**	**23 46 56.6**	**-6.5**
QRZ	**Quartz Range**	**8.64**	**229**	SN	**Sn**	**23 47 02.0**	**-7.3**
LTZ	**Lake Taylor**	**10.05**	**220**	*e*PN	**Pn**	**23 45 53.1**	**+0.5**
MQZ	**McQueen's Vall**	**10.54**	**215**	SN	**Sn**	**23 47 45.0**	**-11**
STKA	**Stephens Creek**	**32.90**	**265**	P	**P**	**23 50 00.3**	**-0.6**
	2.1nm,1.0s,mb4.0,baz=118,slow=15,SNR=3.0						
STKA	**Stephens Creek**	**32.90**	**265**	P	**P**	**23 50 00.7**	**-0.2**
STKA				*e*PP	PP	23 51 14.4	-1.4
STKA				PcP	PcP	23 52 46.3	+1.6
CTA	**Charters Tower**	**34.17**	**287**	P	**P**	**23 50 13.7**	**+1.7**
	3.0nm,0.5s,mb4.5,baz=106,slow=11,SNR=5.1						
CTAO	**Charters Tower**	**34.17**	**287**	P	**P**	**23 50 11.1**	**-0.9**
	1.6nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**42.31**	**273**	P	**P**	**23 51 20.9**	**+0.5**
	3.1nm,0.6s,mb4.1,baz=117,slow=7.6,SNR=40						
WRAB	**Tennant Creek**	**43.74**	**278**	*e*P	**P**	**23 51 32.3**	**+0.3**
	5.4nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**43.75**	**278**	P	**P**	**23 51 31.8**	**-0.3**
	2.3nm,0.5s,mb4.1,baz=119,slow=7.7,SNR=9.4						
ARCES	**ARCESS Array B**	**143.26**	**346**	PKP	PKPdf	00 03 00.0	-0.4
	5.1nm,0.9s,baz=29,slow=5.8,SNR=5.6						
JOF	**Joensuu**	**146.69**	**335**	*e*pkp	PKPdf	00 03 10.8	+4.4
KAF	**Kangasniemi**	**148.91**	**337**	*e*pkp	PKPdf	00 03 15.7	+5.7
	baz=45,slow=2.6						
FINES	**FINESS Array B**	**149.48**	**336**	PKPbc	PKPbc	00 03 17.5	+2.0
	3.2nm,0.7s,baz=40,slow=4.9,SNR=34						
DBIC	**Dimbokro**	**150.90**	**168**	PKPbc	PKPbc	00 03 23.6	+4.7
	1.6nm,0.7s,baz=185,slow=11,SNR=3.8						
BRTR	**Keskin Array B**	**153.90**	**289**	PKPbc	PKPbc	00 03 28.3	+2.7
	0.7nm,0.7s,baz=74,slow=4.8,SNR=6.4						
AKASG	**Malin Array Be**	**154.56**	**318**	PKPbc	PKPbc	00 03 28.7	+1.7
	0.5nm,0.4s,baz=48,slow=2.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**157.84**	**182**	PKPab	PKPab	00 04 00.4	+4.7
	0.5nm,0.6s,baz=186,slow=2.9,SNR=3.8						

MEX 18 23:45:34.4±0.6, 1719N×10125W, h16km±9km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.46**	**333**	*i* P	Pg	23 45 42.4	-1.3
ZIIG				*i* S	Sg	23 45 47.8	-2.1
CAIG	**El Cayaco**	**0.95**	**99**	*i* P	Pb	23 45 49.0	-3.4
CAIG				*i* S	Sb	23 46 00.1	-4.6
ACX	**Acapulco**	**1.31**	**104**	*e*P	Pn	23 45 57.0	-1.0
MEIG	**Mezcala**	**1.71**	**65**	*e*P	Pn	23 46 00.6	-3.0
MEIG				*i* S	Sn	23 46 20.4	-4.7
PLIG	**Platanillo**	**2.05**	**54**	*e*P	Pn	23 46 04.8	-3.3
PLIG				*i* S	Sn	23 46 29.3	-4.0
MOIG	**Morelia**	**2.47**	**1**	*e*P	Pn	23 46 11.0	-3.0
MOIG				*i* S	Sn	23 46 39.2	-4.7
PPM	**Popocatepetl**	**3.11**	**53**	*e*P	Pn	23 46 19.8	-2.9
PPM				*i* S	Sn	23 46 56.6	-3.0

ISCJB ***18*** *23:56:43.7±2.7, 406N±02×729E±01, h10km, Error ellipse: s-maj=31.7km s-min=14.7km az=168.4*
NNC ***18*** *23:56:49.2±11.0, 4101N×7280E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=111.4km s-min=38.0km az=0.0*

ISC 18 23:56:44.0±2.7, 406N±02×729E±01, h10km, n13, σ0§75/16, 2C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.69**	**22**	P	**Pn**	**23 57 11.0**	**-2.5**
	SNR=68						
UCH	**Uchtor**	**2.08**	**36**	P	**Pn**	**23 57 17.9**	**-0.9**
	SNR=90						
EKS2	**Erkin-Say**	**2.21**	**18**	P	**Pn**	**23 57 20.5**	**-0.2**
	SNR=90						
KZA	**Kyzart**	**2.35**	**49**	P	**Pn**	**23 57 23.1**	**+0.4**
	SNR=43						
AAK	**Ala-Archa**	**2.41**	**30**	P	**Pn**	**23 57 23.6**	**+0.3**
	SNR=95						
KBK	**Karagaybulak**	**2.61**	**36**	P	**Pn**	**23 57 26.9**	**+0.6**
	SNR=45						
CHMS	**Chumysh**	**2.82**	**30**	P	**Pn**	**23 57 29.3**	**+0.2**
	SNR=11						
USP	**Ospenovka**	**2.97**	**24**	P	**Pn**	**23 57 30.9**	**-0.2**
	SNR=16						
ULHL	**Ulahol**	**3.05**	**56**	P	**Pn**	**23 57 32.3**	**+0.1**
	SNR=11						
KK31	**Karatay Array**	**3.08**	**326**	Pn	**Pn**	**23 57 33.4**	**+0.7**
	3.4nm,0.2s,baz=128,slow=13,SNR=178						
KK31				⇓Sn	**Sn**	**23 58 16.0**	**+6.4**
	34nm,0.6s,baz=133,slow=24,SNR=5.0						
TKM2	**Tokmak 2**	**3.12**	**40**	P	**Pn**	**23 57 33.6**	**+0.4**
	SNR=8.9						
TKM2	**Tokmak 2**	**3.12**	**40**	⇑Pn	**Pn**	**23 57 33.2**	**0.0**
	9.3nm,0.4s						
TKM2				⇑Sn	**Sn**	**23 58 11.1**	**+0.5**
	38nm,0.5s						
KNDC	**Almaty**	**4.06**	**48**	⇓Pn	**Pn**	**23 57 51.9**	**+5.9**
	164nm,0.5s						
KNDC				⇓Sn	**Sn**	**23 58 40.1**	**+6.5**
	526nm,0.7s						

ISCJB ***19*** *00:22:23.8±0.6, 6780N±003×203E±0.1, h0km, Error ellipse: s-maj=5.7km s-min=5.0km az=166.0*
CSEM ***19*** *00:22:23.3±0.2, 6783N×2017E, h2km, ML2.5, Error ellipse: s-maj=6.4km s-min=5.3km az=1.0, Mining explosion.*
UPP ***19*** *00:22:24.3, 6783N×2020E, h0km, ML2.5, Mining explosion.*
HEL ***19*** *00:22:25.1±0.1, 6783N×2019E, h0km, ML1.6, ML2.5(UPP), Explosion*

ISC 19 00:22:24.4±0.6, 6780N±003×2029E±009, h0km, n18, σ1§02/29, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.48**	**278**	*i* P	**Pg**	**00 22 32.8**	**-0.9**
LANU	**Lannavaara**	**0.69**	**68**	*i* P	**Pg**	**00 22 37.7**	**0.0**
DUNU	**Dundret**	**0.69**	**171**	*i* P	**Pg**	**00 22 37.8**	**+0.1**
SALU	**Saltoluokta**	**0.80**	**239**	*i* P	**Pg**	**00 22 39.1**	**-0.7**
KIF	**Kilpisjarvi**	**1.22**	**9**	*e*P	**Pg**	**00 22 48.0**	**+0.2**
KIF				*e*S	**Sg**	**00 23 04.0**	**+0.3**
PAJU	**Pajala**	**1.34**	**124**	*e*P	**Pg**	**00 22 49.6**	**-0.5**
ERTU	**Ertsjaerv**	**1.46**	**149**	*e*P	**Pn**	**00 22 51.9**	**-0.1**
SJUU	**Sjulsmark**	**2.36**	**167**	*e*P	**Pn**	**00 23 06.9**	**+2.4**
SGF	**Sodankyl**	**2.42**	**96**	*e*PB	**Pb**	**00 23 07.2**	**-1.5**
SGF				*e*S	**Sn**	**00 23 36.8**	**+1.4**
SGF	**Sodankyl**	**2.42**	**96**	S	**Sn**	**00 23 36.8**	**+1.4**
KEV	**Kevo**	**3.13**	**48**	*e*P	**Pn**	**00 23 15.2**	**+0.2**
KEV				*e*S	**Sn**	**00 23 52.4**	**-0.7**
KEV				MSG		00 24 01.3	
	comp=Z,2.1nm,0.3s						
KEV	**Kevo**	**3.13**	**48**	P	**Pn**	**00 23 15.2**	**+0.2**
KEV				S	**Sn**	**00 23 52.4**	**-0.7**
	comp=Z,2.1nm,0.3s						
BURU	**Burvik**	**3.26**	**172**	*e*P	**Pn**	**00 23 18.9**	**+2.1**
OUL	**Oulu**	**3.54**	**138**	*e*PG	**Pg**	**00 23 29.5**	**-2.7**
OUL				*e*SG	**Sg**	**00 24 17.5**	**-0.6**
OUL				MSG		00 24 19.5	
	comp=Z,0.6nm,0.3s						
OUL	**Oulu**	**3.54**	**138**	Pg	**Pg**	**00 23 29.5**	**-2.7**
OUL				Sg	**Sg**	**00 24 17.4**	**-0.7**
	comp=Z,0.6nm,0.3s						
KU4	**Liikasenvaara**	**3.91**	**107**	*e*P	**Pn**	**00 23 26.7**	**+1.0**
KU4				*e*S	**Sn**	**00 24 13.2**	**+0.9**
KU4				*e*SG	**Sg**	**00 24 29.2**	**-0.8**
KU4	**Liikasenvaara**	**3.91**	**107**	P	**Pn**	**00 23 26.6**	**+0.9**
KU4				S	**Sn**	**00 24 13.1**	**+0.8**
KU4				Sg	**Sg**	**00 24 29.2**

TOS	**Tosya**	**4.57**	**216**	*e*P	**Pn**	**00 53 32.5**	**+0.8**
GUMT	**Gumushane**	**4.58**	**161**	*e*P	**Pn**	**00 53 31.1**	**-0.7**
SVSK	**Karacayir**	**4.91**	**185**	*e*P	**Pn**	**00 53 35.4**	**-0.9**
SAFT	**Safranbolu**	**5.04**	**227**	*e*P	**Pn**	**00 53 38.5**	**+0.4**
ZEI	**Tsey**	**5.04**	**112**	*i* P	**Pn**	**00 53 40.7**	**+2.6**
ZEI				*i* S	**Sn**	**00 54 34.0**	**-1.0**
CORM	**Corum**	**5.10**	**206**	*e*P	**Pn**	**00 53 39.4**	**+0.4**
ELDT	**Eldivan**	**5.28**	**216**	*i* P	**Pn**	**00 53 41.8**	**+0.4**
EZM	**Erzurum**	**5.66**	**149**	*e*P	**Pn**	**00 53 47.3**	**+0.6**
BR131	**Keskin Array S**	**5.85**	**211**	⇓*i*Pn	**Pn**	**00 53 49.1**	**-0.1**
	comp=E,2.9nm,0.3s						
BR131	**Keskin Array S**	**5.85**	**211**	⇓*i*Pn	**Pn**	**00 53 49.1**	**-0.2**
	comp=E,2.9nm,0.3s						
BR131				*e*Sn	**Sn**	**00 54 47.1**	**-7.8**
BRTR	**Keskin Array B**	**5.85**	**211**	Pn	**Pn**	**00 53 49.0**	**-0.2**
	comp=E,1.1nm,0.3s,baz=94,slow=12,SNR=59						
BRTR				Sn	**Sn**	**00 54 53.2**	**-1.8**
	comp=E,0.4nm,0.3s,baz=47,slow=24,SNR=7.2						
BRTR	**Keskin Array B**	**5.85**	**211**	Pn	**Pn**	**00 53 49.0**	**-0.2**
BRTR				Sn	**Sn**	**00 54 53.2**	**-1.7**
TIRR	**Tirgusor**	**6.52**	**270**	⇓P	**Pn**	**00 53 57.6**	**-0.8**
MALT	**Malatya**	**6.53**	**174**	*e*P	**Pn**	**00 53 58.1**	**-0.5**
CFR	**Carcaliu**	**6.68**	**276**	⇓P	**Pn**	**00 54 01.8**	**+1.2**
HARR	**Harsova**	**6.84**	**272**	⇑P	**Pn**	**00 54 04.6**	**+1.7**
AKASG	**Malin Array Be**	**8.13**	**319**	Pn	**Pn**	**00 54 19.3**	**-1.2**
	comp=E,1.3nm,0.3s,baz=135,slow=14,SNR=5.5						
AKASG				Sn	**Sn**	**00 55 44.5**	**-6.5**
	comp=E,3.7nm,0.3s,baz=98,slow=28,SNR=11						
AKASG	**Malin Array Be**	**8.13**	**319**	Pn	**Pn**	**00 54 19.3**	**-1.2**
AKASG				Sn	**Sn**	**00 55 44.5**	**-6.5**
MLR	**Muntele Rosu**	**8.22**	**279**	Pn	**Pn**	**00 54 22.2**	**+0.4**
	comp=E,0.2nm,0.3s,baz=250,slow=11,SNR=6.7						
MLR				Sn	**Sn**	**00 55 51.9**	**-1.4**
	comp=E,0.8nm,0.3s,baz=158,slow=23,SNR=7.9						
MLR	**Muntele Rosu**	**8.22**	**279**	P	**Pn**	**00 54 22.2**	**+0.4**
MLR				S	**Sn**	**00 55 51.9**	**-1.4**
MLR				smax			
	comp=N,1.0nm,0.3s						
MLR	**Muntele Rosu**	**8.22**	**279**	⇑P	**Pn**	**00 54 22.5**	**+0.7**
MLR	**Muntele Rosu**	**8.22**	**279**	⇑P	**Pn**	**00 54 22.5**	**+0.7**
BURAR	**Bucovina Array**	**8.99**	**293**	⇓P	**Pn**	**00 54 31.2**	**-1.1**
BURAR	**Bucovina Array**	**8.99**	**293**	⇓P	**Pn**	**00 54 31.2**	**-1.2**
AKTK	**Aktyubinsk**	**14.89**	**61**	Pn	**Pn**	**00 55 49.7**	**-3.0**
AKTK				Sn	**Sn**	**00 58 22.2**	**-14**
AKTO	**Aktyubinsk**	**14.89**	**61**	Pn	**Pn**	**00 55 49.7**	**-3.0**
	comp=N,0.4nm,0.3s,baz=259,slow=10.0,SNR=8.8						
AKTO				Sn	**Sn**	**00 58 22.2**	**-14**
	comp=N,0.3nm,0.3s,baz=141,slow=23,SNR=7.7						
AKTO	**Aktyubinsk**	**14.89**	**61**	Pn	**Pn**	**00 55 49.9**	**-2.8**
	comp=N,2.1nm,2.4s						
AB31	**Akbulak array**	**15.89**	**66**	⇑Pn	**Pn**	**00 56 03.9**	**-1.7**
	comp=N,0.5nm,0.4s,baz=262,slow=11,SNR=18						
AB31				⇑Sn	**Sn**	**00 58 48.3**	**-12**
	comp=N,0.4nm,0.4s,baz=272,slow=23,SNR=3.8						
FINES	**FINESS Array B**	**17.98**	**342**	P	**Pn**	**00 56 28.4**	**-3.2**
	comp=N,0.1nm,0.3s,baz=154,slow=13,SNR=9.0						
FINES				S	**S**	**00 59 35.4**	**-20**
	comp=N,0.2nm,0.3s,baz=156,slow=22,SNR=6.5						
FINES	**FINESS Array B**	**17.98**	**342**	*i* P	**Pn**	**00 56 30.7**	**-0.9**
JOF	**Joensuu**	**18.49**	**351**	*e*p	**Pn**	**00 56 38.1**	**+0.2**
	comp=N,0.8nm,0.4s						
KAF	**Kangasniemi**	**18.53**	**343**	*e*p	**Pn**	**00 56 39.3**	**+1.0**
	comp=N,0.4nm,0.4s						
ZRNK	**Zerenda**	**22.09**	**57**	⇑P	**P**	**00 57 16.5**	**+0.1**
	comp=N,2.8nm,1.1s,mb3.6						
NOA	**NORSAR Array B**	**22.47**	**326**	P	**P**	**00 57 20.3**	**-0.1**
	comp=N,0.8nm,0.9s,mb3.1,baz=128,slow=10,SNR=2.9						
BVA0	**Borovoye Array**	**22.93**	**57**	⇑P	**P**	**00 57 29.9**	**+4.6**
	comp=N,0.6nm,1.0s,mb3.0,baz=271,slow=8.5,SNR=10.0						
BVAR	**Borovoye Array**	**22.93**	**57**	P	**P**	**00 57 26.9**	**+1.6**
	comp=N,2.0nm,0.7s,mb3.7,baz=268,slow=8.9,SNR=12						
VOSK	**Vostochnaya**	**23.25**	**58**	⇑P	**P**	**00 57 28.1**	**-0.5**
	comp=N,14nm,3.5s						
KK31	**Karatay Array**	**23.71**	**82**	⇑P	**P**	**00 57 32.0**	**-0.9**
	comp=N,0.6nm,0.5s,mb3.3						
ARCES	**ARCESS Array B**	**25.53**	**350**	P	**P**	**00 57 49.8**	**+0.3**
	comp=N,1.6nm,0.5s,mb3.8,baz=164,slow=9.9,SNR=13						
MKAR	**Makanchi Array**	**30.95**	**70**	P	**P**	**00 58 37.9**	**+0.1**
	comp=N,0.2nm,0.6s,mb3.1,baz=283,slow=7.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**43.88**	**235**	P	**P**	**01 00 27.4**	**+0.3**
	comp=N,0.2nm,0.5s,mb3.1,baz=34,slow=8.7,SNR=4.9						
YKA	**Yellowknife Ar**	**70.74**	**347**	P	**P**	**01 03 36.9**	**+0.4**
	comp=N,0.3nm,0.6s,mb3.4,baz=15,slow=6.9,SNR=6.1						

MAN 19 00:54:57.6, 903N×12252E, h15km, mb3.1, ML4.5, MS2.5, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.93**	**119**	⇑*i*P	Pb	00 55 14.9	-0.6
DCPH				*i* S	Sb	00 55 28.9	+1.2
IPIL	**Ipil**	**1.24**	**178**	*e*P	Pn	00 55 18.9	-1.5
IPIL				*e*S	Sb	00 55 33.1	-3.4
PAGZ	**Pagadian**	**1.45**	**144**	*e*P	Pn	00 55 23.6	+0.2
PAGZ				*e*S	Sn	00 55 42.6	+0.5
TBP	**Tagbilaran**	**1.47**	**64**	*e*P	Pn	00 55 23.4	-0.2
GUIM	**Jordan**	**1.58**	**2**	*e*P	Pn	00 55 24.8	-0.4
GUIM				*e*S	Sn	00 55 45.4	0.0
LLP	**Lapu-Lapu**	**1.91**	**48**	*e*P	Pn	00 55 30.1	+0.4
LLP				*e*S	Sn	00 55 48.8	-4.6

*ISCJB **19** 01:44:44.7±1.1, 1294N±008×884W±0.1, h87km±10km, mb4.0/9, Error ellipse: s-maj=20.4km s-min=7.4km az=102.3*
*CASC **19** 01:44:45.2±2.7, 1296N×8843W, h59km±38km, MD4.1, ML3.9*
*IDC **19** 01:44:46.1±4.0, 1307N×8826W, h79km±38km, mb3.6/6, mb1 3.8/8, mb1mx3.5/22, mbtmp3.9/8, MS3.2/4, Ms1 3.3/4, ms1mx3.0/27, Error ellipse: s-maj=57.3km s-min=19.7km az=56.0*
*NEIC **19** 01:44:46.7±2.1, 1283N×8854W, h94km±18km, mb4.2/4, Error ellipse: s-maj=35.9km s-min=10.6km az=58.0*
ISC 19 01:44:46.0±1.0, 1298N±008×884W±01, h79km±10km, n51, σ1§08/51, mb4.0/9, 1C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.48**	**16**	⇓*i*P	Px	01 45 13.4	
BLLM				*e*S	Sx	01 45 23.9	
CNCH	**Conchagua**	**0.60**	**61**	*e*P	Px	01 45 15.5	
CNCH				*e*S	Sx	01 45 26.3	
SNVI	**San Vicente**	**0.77**	**324**	⇓*e*P	Px	01 45 14.4	
SNVI				*e*S	Sx	01 45 26.2	
LCBS	**La Ceiba**	**0.89**	**319**	⇓*i*P	Px	01 45 15.2	
LCBS				*e*S	Sx	01 45 27.8	
LFRS	**El Faro**	**0.92**	**314**	⇓*i*P	Px	01 45 15.1	
LFRS				*e*S	Sx	01 45 29.1	
LBRS	**Las Brisas**	**0.99**	**319**	⇓*i*P	Px	01 45 16.9	
LBRS				*e*S	Sx	01 45 30.9	
LFU	**La Fuente**	**1.05**	**317**	*e*P	Px	01 45 17.1	
LFU				*e*S	Sx	01 45 30.4	
PICS	**Picacho**	**1.14**	**311**	*e*P	Px	01 45 15.2	
PICS				*e*S	Sx	01 45 29.5	
BOQS	**Boqueron**	**1.16**	**311**	*e*P	Px	01 45 18.2	
BOQS				*e*S	Sx	01 45 33.6	
CRIN	**San Cristobal**	**1.32**	**102**	⇓*e*P	**Pn**	**01 45 08.8**	**-0.1**
CRIN				*e*S	**Sn**	**01 45 27.9**	**+1.7**
SBLS	**San Blas**	**1.48**	**305**	*e*P	Px	01 45 22.2	
SBLS				*e*S	Sx	01 45 41.6	
SNJE	**San Jose**	**1.49**	**307**	*e*P	Px	01 45 22.3	
SNJE				*e*S	Sx	01 45 40.4	
RTR	**El Retiro**	**1.53**	**307**	*e*P	Px	01 45 23.2	
RTR				*e*S	Sx	01 45 41.6	
TEL3	**Telica 3**	**1.55**	**105**	*e*P	**Pn**	**01 45 11.2**	**-0.6**
TEL3				*e*S	**Sn**	**01 45 32.4**	**+1.1**
LEON	**Leon**	**1.55**	**111**	*e*P	**Pn**	**01 45 10.3**	**-1.6**
LEON				*e*S	**Sn**	**01 45 31.0**	**-0.5**
TELN	**Telica**	**1.55**	**104**	*e*P	**Pn**	**01 45 10.9**	**-1.0**
TELN				*e*S	**Sn**	**01 45 31.6**	**+0.1**
RBDL	**Robledal**	**1.70**	**312**	⇓*e*P	Px	01 45 25.7	
RBDL				*e*S	Sx	01 45 45.5	
MTO2	**Montecristo 2**	**1.70**	**326**	⇓*e*P	Px	01 45 27.2	
MTO2				*e*S	Sx	01 45 50.1	
CNGN	**Cerro Negro**	**1.71**	**106**	*e*P	**Pn**	**01 45 13.7**	**-0.2**
CNGN				*e*S	**Sn**	**01 45 36.2**	**+1.1**
MIRN	**Miramar**	**1.71**	**108**	*e*P	**Pn**	**01 45 13.1**	**-0.8**
MIRN				*e*S	**Sn**	**01 45 34.7**	**-0.5**
MOMJ	**Momotombo**	**1.88**	**107**	*e*P	**Pn**	**01 45 15.3**	**-0.8**
MOMJ				*e*S	**Sn**	**01 45 38.9**	**-0.3**
COPN	**Copaltepe**	**1.92**	**114**	*e*P	**Pn**	**01 45 15.1**	**-1.6**
COPN				*e*S	**Sn**	**01 45 39.6**	**-0.4**
APYN	**Apoyeque**	**2.11**	**110**	*e*P	**Pn**	**01 45 18.6**	**-0.7**
APYN				*e*S	**Sn**	**01 45 45.0**	**+0.3**
XAVN	**Gruta Xavier**	**2.17**	**112**	*e*P	**Pn**	**01 45 19.8**	**-0.2**
XAVN				*e*S	**Sn**	**01 45 45.5**	**-0.5**
MGAN	**Managua**	**2.24**	**112**	*e*P	**Pn**	**01 45 19.8**	**-1.2**
MGAN				*e*S	**Sn**	**01 45 47.1**	**-0.6**
	comp=N,941nm,0.4s						
WILN	**Americas 2**	**2.29**	**111**	*e*S	**Sn**	**01 45 48.5**	**-0.5**
TICN	**Ticuantepe**	**2.30**	**114**	*e*P	**Pn**	**01 45 22.1**	**+0.4**
TICN				*e*S	**Sn**	**01 45 49.6**	**+0.5**
APON	**Apoyo**	**2.49**	**115**	*e*P	**Pn**	**01 45 23.5**	**-0.9**
JTS	**JuntasAbangare**	**4.29**	**128**	P	**Pn**	**01 45 50.1**	**+1.4**
	comp=N,1.9nm,0.3s,baz=306,slow=23,SNR=11						
JTS				S	**Sn**	**01 46 36.7**	**-0.9**
	comp=N,3.0nm,0.3s,baz=327,slow=20,SNR=3.2						
JTS	**JuntasAbangare**	**4.29**	**128**	*e*Pn	**Pn**	**01 45 50.4**	**+1.6**
PRS1	**Puriscal**	**4.97**	**126**	*e*P	**Pn**	**01 45 59.9**	**+1.8**
LAJ	**Bijagual**	**5.20**	**126**	*e*P	**Pn**	**01 45 59.0**	**-2.2**
LCR2	**La Lucha 2**	**5.36**	**126**	⇑*e*P	**Pn**	**01 46 06.2**	**+2.8**
LCR2				*e*S	**Sn**	**01 47 04.7**	**+0.9**
URSC	**Urasca**	**5.49**	**124**	*e*P	**Pn**	**01 46 08.1**	**+3.0**
URSC				*e*S	**Sn**	**01 47 10.9**	**+4.1**
BUS	**Buena Vista**	**5.67**	**126**	⇓*e*P	**Pn**	**01 46 09.6**	**+2.1**
BUS				*e*S	**Sn**	**01 47 11.6**	**+0.4**
TEIG	**Tepich**	**7.20**	**1**	*e*Pn	**Pn**	**01 46 30.8**	**+2.3**
	comp=N,1.5nm,0.4s						
SDV	**Santo Domingo**	**17.89**	**101**	P	**Pn**	**01 48 50.4**	**+0.9**
	comp=N,0.2nm,0.3s,baz=278,slow=6.9,SNR=6.6						
SDV				LR	LR	01 55 57.2	
	comp=N,41nm,20.3s,baz=206,slow=38						
SDV	**Santo Domingo**	**17.89**	**101**	*e*P	**Pn**	**01 48 50.5**	**+1.1**
	comp=N,8.3nm,1.1s						
JSC	**Jenkinsville**	**22.17**	**16**	*e*P	**P**	**01 49 39.6**	**+4.2**
SAML	**Samuel**	**33.18**	**130**	*e*P	**P**	**01 51 14.1**	**-0.9**
	comp=N,2.4nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**34.88**	**332**	P	**P**	**01 51 30.4**	**+0.7**
	comp=N,0.7nm,0.7s,mb3.6,baz=130,slow=10,SNR=11						
PDAR				PcP	PcP	01 54 01.1	+0.2
	comp=N,0.3nm,0.6s,baz=141,slow=6.2,SNR=3.9						
LPAZ	**La Paz**	**35.30**	**145**	LR	LR	02 04 58.6	
	comp=N,43nm,18.5s,baz=251,slow=34						
REDW	**Red Top Meadow**	**35.94**	**332**	*e*P	**P**	**01 51 39.7**	**+0.9**
	comp=N,3.3nm,0.5s,mb4.5						
REDW				*e*	pP	01 51 53.5	-3.8
ULM	**Lac du Bonnet**	**37.67**	**352**	P	**P**	**01 51 52.2**	**-1.2**
	comp=N,2.0nm,0.5s,mb4.2,baz=153,slow=8.6,SNR=5.5						
ULM				LR	LR	02 09 49.1	
	comp=N,56nm,18.7s,baz=266,slow=40						
EGMT	**Eagleton**	**39.22**	**337**	*e*P	**P**	**01 52 07.0**	**+0.6**
	comp=N,3.8nm,0.5s,mb4.5						
SIV	**San Ignacio**	**39.47**	**136**	P	**P**	**01 52 09.1**	**+0.6**
	comp=N,1.3nm,0.8s,mb3.8,baz=326,slow=10,SNR=6.9						
SCHQ	**Schefferville**	**45.04**	**17**	P	**P**	**01 52 52.9**	**-0.9**
	comp=N,1.2nm,0.6s,mb3.8,baz=238,slow=9.5,SNR=4.6						
SCHQ	**Schefferville**	**45.04**	**17**	P	**P**	**01 52 52.9**	**-0.9**
SCHQ				LR	LR		
	comp=Z,576nm,21.0s						
YKA	**Yellowknife Ar**	**52.87**	**345**	P	**P**	**01 53 53.1**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.3,baz=136,slow=8.2,SNR=50						
ILAR	**Eielson Array**	**65.17**	**336**	P	**P**	**01 55 17.6**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.6,baz=168,slow=4.8,SNR=15						
NOA	**NORSAR Array B**	**83.34**	**29**	LR	LR	02 34 51.2	
	comp=Z,16nm,19.3s,baz=25,slow=36						

WEL 19 01:55:58.3±0.3, 3790S×17970W, h33km, ML3.5/16, Error ellipse: s-maj=3.1km s-min=2.4km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.62**	**281**	PN	Pn	01 56 23.9	-0.6
MXZ				SN	Sn	01 56 42.9	-1.3
PUZ	**Puketiti**	**1.63**	**263**	PN	Pn	01 56 24.0	-0.6
PUZ				SN	Sn	01 56 43.4	-1.0
MWZ	**Matawai**	**2.23**	**258**	PN	Pn	01 56 32.4	-0.5
MWZ				SN	Sn	01 56 57.9	-1.4
KNZ	**Kokohu**	**2.35**	**241**	PN	Pn	01 56 33.8	-0.8
URZ	**Urewera**	**2.55**	**261**	PN	Pn	01 56 37.1	-0.1
URZ				SN	Sn	01 57 06.0	-1.1
BKZ	**Black Stump Fm**	**3.25**	**246**	PN	Pn	01 56 46.5	-0.3
PXZ	**Pawanui**	**3.43**	**230**	PN	Pn	01 56 47.8	-1.5
KUZ	**Kuaotunu**	**3.83**	**286**	PN	Pn	01 56 53.8	-1.1
MOVZ	**Moawhango**	**3.87**	**246**	PN	Pn	01 56 56.2	+0.8
BFZ	**Birch Farm**	**4.20**	**227**	PN	Pn	01 56 57.5	-2.5
MRZ	**Mangatainoka R**	**4.59**	**232**	PN	Pn	01 57 03.1	-2.3

*CSEM **19** 02:00:22.8, 4450N×3750E, h15km, mb3.7, After OBN*
MOS 19 02:00:22.8±1.8, 4450N×3750E, h15km, mb3.7/1, 1D, Error ellipse: s-maj=25.8km s-min=21.2km az=134.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.30**	**351**	*d*iP	Pg	02 00 29.7	+0.5
ANN				*i*		02 00 37.4	
ANN				pmax	pmax		
	comp=Z,136nm,0.2s						
ANN	**Anapa**	**0.30**	**351**	*i* P	Pg	02 00 29.7	+0.5
	comp=Z,136nm,0.2s						
ANN				*i* S	Sg	02 00 37.4	+3.9
SOC	**Sochi**	**1.84**	**119**	*e*P	Pn	02 00 55.3	+1.4
SOC				*e*		02 01 16.2	
SOC				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SOC				smax			
	comp=E,14nm,0.6s						
SOC	**Sochi**	**1.84**	**119**	*e*P	Pn	02 00 55.3	+1.4
	comp=E,3.0nm,0.3s						
SOC				*e*S	Sn	02 01 16.2	-0.7
SIM	**Simferopol'**	**2.45**	**282**	P	Pn	02 01 02.7	+0.4
SIM				*e*S	Sn	02 01 30.1	-1.9
SIM				pmax	pmax		
	comp=Z,19nm,0.3s						
SIM	**Simferopol'**	**2.45**	**282**	P	Pn	02 01 02.7	+0.4
	comp=Z,19nm,0.3s						
SIM				*e*S	Sn	02 01 30.1	-1.9
KIV	**Kislovodsk**	**3.77**	**97**	*e*P	Pn	02 01 22.3	+2.0
KIV				*i* S	Sn	02 02 06.8	+2.4
KIV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KIV				smax			
	comp=Z,14nm,0.4s						
KIV	**Kislovodsk**	**3.77**	**97**	*e*P	Pn	02 01 22.3	+2.0
	comp=Z,3.0nm,0.5s						
KIV				*i* S	Sn	02 02 06.8	+2.4
	comp=Z,14nm,0.4s						
GOF	**Gofitskoye**	**3.98**	**80**	*e*P	Pn	02 01 21.7	-1.6
GOF				*i* S	Sn	02 02 07.9	-1.7
GOF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GOF				smax			
	comp=N,70nm,1.0s						
GOF				smax			
	comp=E,20nm,1.0s						
GOF	**Gofitskoye**	**3.98**	**80**	*e*P	Pn	02 01 21.7	-1.6
	comp=E,10.0nm,1.0s						
GOF				*i* S	Sn	02 02 07.9	-1.7
BRTR	**Keskin Array B**	**5.57**	**212**	*i* P	Pn	02 01 47.5	+2.4

NNC 19 02:25:16.9±4.9, 3689N×7026E, h138km±56km, mb3.0, mpv3.7, 4C-2D, Error ellipse: s-maj=46.4km s-min=28.4km az=17.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.21**	**2**	⇓P	Pn	02 26 47.0	+0.8
	1.5nm,0.3s,baz=179,slow=12						
KK31				⇑S	Sn	02 27 56.8	+0.7
	1.3nm,0.3s,baz=189,slow=27						
TKM2	**Tokmak 2**	**7.29**	**33**	⇓P	Pn	02 27 00.4	-0.3
	3.3nm,0.5s						
TKM2				⇑S	Sn	02 28 22.0	0.0
	2.4nm,0.7s						
MK31	**Makanchi Array**	**13.34**	**38**	⇑P	Pn	02 28 21.0	+0.3
	0.9nm,0.9s,baz=211,slow=7.3,SNR=5.5						
AB31	**Akbulak array**	**14.46**	**332**	⇑P	Pn	02 28 34.1	-0.8
	0.4nm,0.3s						

*ISCJB **19** 02:48:53.1±0.2, 3463N±003×7322E±004, h10km, mb4.5/41, MS4.7/5, Error ellipse: s-maj=5.4km s-min=3.7km az=107.1*
*IDC **19** 02:48:53.4±0.7, 3467N×7313E, h0km, mb4.2/12, mb1 4.3/15, mb1mx4.2/23, mbtmp4.2/15, ML4.3/3, Error ellipse: s-maj=20.2km s-min=18.3km az=64.0*
*NEIC **19** 02:48:54.8±0.2, 3458N×7321E, h10km, mb4.4/30, Error ellipse: s-maj=7.6km s-min=4.5km az=222.0*
*MOS **19** 02:48:56.0±1.1, 3485N×7378E, h10km, mb5.1/50, Error ellipse: s-maj=8.5km s-min=3.9km az=126.8*
ISC 19 02:48:55.0±0.2, 3466N±003×7318E±004, h10km, n135, σ1§13/150, mb4.5/41, MS4.7/5, 10C-6D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.00**	**176**	⇓P	**Pg**	**02 49 14.8**	**+0.5**
NIL	**Nilore**	**1.01**	**177**	Pn	**Pg**	**02 49 15.2**	**+0.8**
52μm,0.7s							
CEP	**Cherat**	**1.35**	**232**	P	**Pn**	**02 49 20.9**	**+1.1**
LGTI	**Lohaghat**	**7.93**	**129**	*e*P	**Pn**	**02 50 52.0**	**+1.7**
LGTI				*e*x	x	02 51 21.3	
DANN	**Dangsing**	**11.00**	**122**	*e*Pn	**Pn**	**02 51 32.7**	**+0.3**
DANN				*e*Sn	**Sn**	**02 53 29.9**	**-5.6**
KOLN	**Koldanda**	**11.25**	**125**	*e*Pn	**Pn**	**02 51 36.1**	**+0.3**
KOLN				*e*Sn	**Sn**	**02 53 36.9**	**-4.7**
459nm,0.8s							
BHJ	**Bhuj**	**11.78**	**196**	⇓*e*x	**Sn**	**02 53 44.3**	**-10**
BHJ				*e*x	x	02 55 05.6	
GKN	**Gorkha**	**11.83**	**121**	*e*Pn	**Pn**	**02 51 43.5**	**-0.2**
GKN				*e*Sn	**Sn**	**02 53 48.7**	**-7.0**
852nm,0.7s							
DMN	**Daman**	**12.39**	**121**	*e*Pn	**Pn**	**02 51 51.6**	**+0.2**
DMN				*e*Sn	**Sn**	**02 54 03.1**	**-6.5**
1μm,1.1s							
KKN	**Kakani**	**12.41**	**120**	*e*Pn	**Pn**	**02 51 51.3**	**-0.3**
KKN				*e*Sn	**Sn**	**02 54 02.7**	**-7.2**
474nm,0.8s							
PKI	**Pulchoki**	**12.63**	**121**	*e*Pn	**Pn**	**02 51 54.9**	**+0.2**
PKI				*e*Sn	**Sn**	**02 54 09.3**	**-6.1**
611nm,0.8s							
GUN	**Gumba**	**12.77**	**118**	*e*Pn	**Pn**	**02 51 55.0**	**-1.6**
GUN				*e*Sn	**Sn**	**02 54 12.1**	**-6.7**
446nm,0.7s							
BHV	**Bhavnagar**	**12.90**	**184**	*e*x	x	02 53 36.0	
JBP	**Jabalpur**	**12.90**	**151**	⇑*e*P	**Pn**	**02 51 60.0**	**+1.6**
JBP				*e*S	**Sn**	**02 54 16.3**	**-5.8**
JIRN	**Jiri**	**13.14**	**119**	*e*Pn	**Pn**	**02 52 01.1**	**-0.5**
JIRN				*e*Sn	**Sn**	**02 54 19.0**	**-8.8**
604nm,0.7s							
MK31	**Makanchi Array**	**13.93**	**27**	Pn	**Pn**	**02 52 13.2**	**+0.7**
6.8nm,0.6s,baz=195,slow=11,SNR=113							
MK31	**Makanchi Array**	**13.93**	**27**	*i* P	**Pn**	**02 52 13.2**	**+0.7**
MK31				pmax	pmax		
comp=Z,11nm,0.5s							
MKAR	**Makanchi Array**	**13.93**	**27**	Pn	**Pn**	**02 52 13.4**	**+1.0**
comp=Z,0.3nm,0.3s,baz=203,slow=13,SNR=23							
WMQ	**Urumqi**	**14.48**	**47**	P	**Pn**	**02 52 21.8**	**+1.9**
WMQ				PP		02 52 33.3	
WMQ				S	**Sn**	**02 55 02.3**	**+1.9**
WMQ				AMB	AMB		
comp=Z,33nm,0.8s							
WMQ				AMB	AMB		
comp=Z,241nm,3.6s							
WMQ				LR	LR		
comp=N,1μm,12.0s							
WMQ				LR	LR		
comp=E,962nm,9.0s							
WMQ				LR	LR		
comp=Z,866nm,9.0s							
BLSP	**Bilaspur**	**14.75**	**145**	*e*x	**Sn**	**02 55 10.0**	**+2.9**
BLSP				*e*x	x	02 57 40.0	
BOK	**Bokaro**	**15.48**	**131**	⇑*i*P	**Pn**	**02 52 33.8**	**+0.5**
BOK				*e*P		02 52 34.8	
BOK				AMb	AMB	02 52 36.7	
comp=Z,24nm,0.5s							
BOK				*i* x	x	02 55 06.8	
BOK				*e*x	x	02 55 15.5	
BOM	**Bombay**	**15.71**	**181**	*e*x	**Pn**	**02 52 35.1**	**-1.2**
BOM				*e*x	x	02 52 40.3	
comp=Z,160nm,1.3s							
BOM				*e*x	x	02 55 16.2	
AB31	**Akbulak array**	**17.55**	**330**	⇓P	**Pn**	**02 52 58.1**	**-1.6**
comp=Z,19nm,0.6s,baz=137,slow=11,SNR=514							
AB31				⇑S	**Sn**	**02 56 08.0**	**-7.2**
comp=Z,10nm,0.6s,baz=153,slow=23,SNR=4.2							
AB31	**Akbulak array**	**17.55**	**330**	P	**Pn**	**02 52 58.0**	**-1.7**
AB31				pmax	pmax		
comp=Z,10.0nm,0.5s							
AB31	**Akbulak array**	**17.55**	**330**	P	**Pn**	**02 52 58.0**	**-1.7**
AB31				pmax	pmax		
comp=Z,10.0nm,0.5s							

HHC	**Hu-ho-hao-te**	30.79	67	*eP*		**P**	02 55 10.8	+0.1
HHC				S		**S**	03 00 11.4	-2.6
HHC				AMB		AMB		
	comp=Z,16nm,0.4s,mb5.2							
HHC				AMB		AMB		
	comp=Z,104nm,4.5s							
HHC				LR		LR		
	comp=N,417nm,10.6s,MS4.5							
HHC				LR		LR		
	comp=E,394nm,10.6s,MS4.5							
HHC				LR		LR		
	comp=Z,559nm,15.3s,MS4.3							
BR131	**Keskin Array S**	31.72	291	*eP*		**P**	02 55 20.2	+1.3
	comp=Z,0.3nm,0.6s							
OBN	**Obninsk**	32.48	320	*eP*		**P**	02 55 23.9	-1.7
	comp=Z,2.5nm,0.5s,mb4.3							
EIL	**Elat**	32.61	272	P		**P**	02 55 26.1	-0.6
	comp=Z,17nm,0.4s,mb5.3							
BOD	**Bodaibo**	35.70	37	*eP*		**P**	02 55 53.8	+0.3
BOD				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
BOD	**Bodaibo**	35.70	37	*eP*		**P**	02 55 53.8	+0.3
BOD				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
MLR	**Muntele Rosu**	37.24	301	⇓P		**P**	02 56 09.1	+2.4
MLR	**Muntele Rosu**	37.24	301	⇓P		**P**	02 56 09.1	+2.4
RZN	**Rozhen**	38.33	295	*eP*		**P**	02 56 20.0	+4.2
JOF	**Joensuu**	38.34	330	*ep*		**P**	02 56 17.6	+1.6
	comp=Z,1.8nm,0.3s,mb4.3							
KULM	**Kulim**	38.73	133	P		**P**	02 56 14.6	-4.6
FINES	**FINESS Array B**	39.99	327	P		**P**	02 56 29.0	-0.8
	comp=Z,1.8nm,0.5s,mb4.0,baz=117,slow=10,SNR=11							
FINES	**FINESS Array B**	39.99	327	*i* P		**P**	02 56 30.8	+1.0
FINES				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KAF	**Kangasniemi**	40.13	328	*ep*		**P**	02 56 31.1	+0.2
	baz=118,slow=7.5							
KEV	**Kevo**	43.16	338	*ep*		**P**	02 56 56.5	+0.7
ARCES	**ARCESS Array B**	43.52	338	P		**P**	02 56 57.5	-1.1
	comp=Z,5.0nm,0.8s,mb4.3,baz=117,slow=8.3,SNR=24							
ARE0	**ARCESS Array S**	43.52	338	P		**P**	02 56 56.9	-1.7
YAK	**Yakutsk**	44.46	34*c*	*i* P		**P**	02 57 06.0	-0.2
YAK				pmax		pmax		
	comp=Z,9.0nm,0.5s,mb4.8							
YAK				MLR		MLR		
	comp=Z,200nm,15.0s,MS4.2							
YAK	**Yakutsk**	44.46	34	*eP*		**P**	02 57 05.7	-0.5
	comp=Z,16nm,0.6s,mb4.9							
KLR	**Kul'dur**	44.82	53	*eP*		**P**	02 57 12.0	+2.9
KLR				MLR		MLR		
	comp=N,500nm,12.0s,MS5.1							
KLR				MLR		MLR		
	comp=E,1μm,12.0s,MS5.1							
KLR				MLR		MLR		
	comp=Z,4μm,12.0s,MS5.5							
TIXI	**Tiksi**	46.83	21	*eP*		**P**	02 57 23.1	-1.8
TIXI				*e*			02 59 13.7	
TIXI				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.7							
TIXI				MLR		MLR		
	comp=Z,642nm,15.0s,MS4.7							
NB2	**NORSAR Subarra**	46.91	324	P		**P**	02 57 25.1	-0.5
	comp=Z,6.0nm,0.6s,mb4.7,baz=96,slow=7.9							
NB2	**NORSAR Subarra**	46.91	324	P		**P**	02 57 25.1	-0.5
NB2				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
NB2	**NORSAR Subarra**	46.91	324	P		**P**	02 57 25.1	-0.5
NB2				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
NOA	**NORSAR Array B**	46.91	324	P		**P**	02 57 24.9	-0.7
	comp=Z,1.5nm,0.5s,mb4.1,baz=184,slow=16,SNR=6.9							
HABR	**Khabarovsk**	47.06	53	*eP*		**P**	02 57 21.4	-5.4
HABR				*eS*		**S**	03 04 09.4	-9.2
HABR				pmax		pmax		
	comp=Z,145nm,2.5s,mb5.5							
HABR				MLR		MLR		
	comp=Z,596nm,12.4s,MS4.8							
HABR	**Khabarovsk**	47.06	53	*eP*		**P**	02 57 21.4	-5.4
HABR				pmax		pmax		
	comp=Z,145nm,2.5s,mb5.5							
HABR				MLR		MLR		
	comp=Z,596nm,12.4s,MS4.8							
KSM	**Kuching**	47.82	125	P		**P**	02 57 31.0	-1.7
STU	**Stuttgart**	48.42	307	P		**P**	02 57 37.3	0.0
STU				pmax		pmax		
	comp=Z,2.0nm,0.3s,mb4.6							
STU	**Stuttgart**	48.42	307	P		**P**	02 57 37.3	0.0
STU				pmax		pmax		
	comp=Z,2.0nm,0.3s,mb4.6							
STU	**Stuttgart**	48.42	307	P		**P**	02 57 37.3	+0.1
	comp=Z,1.2nm,0.3s,mb4.7							
KKM	**Kota Kinabalu**	48.82	116	P		**P**	02 57 38.6	-1.8
KMBO	**Kilima Mbogo**	48.98	231	P		**P**	02 57 42.2	+0.6
	comp=Z,0.3nm,0.4s,mb3.7							
KBS	**Kingsbay**	50.79	347⇑	*eP*		**P**	02 57 54.9	-0.5
KBS	**Kingsbay**	50.79	347⇑	*eP*		**P**	02 57 54.9	-0.5
MAJO	**Matsushiro**	51.98	68	P		**P**	02 58 03.0	-1.3
MAJO				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
MAJO	**Matsushiro**	51.98	68	P		**P**	02 58 03.0	-1.3
	comp=Z,5.0nm,0.7s,mb4.5							
YSS	**Yuzh-Sakhalins**	52.45	54	*eP*		**P**	02 58 10.0	+2.3
YSS				pmax		pmax		
	comp=Z,50nm,1.2s,mb5.3							
YSS	**Yuzh-Sakhalins**	52.45	54	*eP*		**P**	02 58 10.0	+2.3
YSS				pmax		pmax		
	comp=Z,50nm,1.2s,mb5.3							
MA2	**Magadan**	54.72	38	P		**P**	02 58 23.3	-1.2
MA2				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.2							
MA2	**Magadan**	54.72	38	P		**P**	02 58 23.3	-1.1
	comp=Z,1.2nm,0.4s,mb4.3							
BILL	**Bilibino**	59.48	26	P		**P**	02 58 58.9	+0.8
BILL				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.5							
BILL	**Bilibino**	59.48	26	P		**P**	02 58 58.9	+0.8
	comp=Z,2.2nm,0.4s,mb4.5							
ESDC	**Sonseca Array**	59.90	300	P		**P**	02 59 00.6	-0.4
	comp=Z,2.3nm,0.6s,mb4.4,baz=67,slow=6.4,SNR=4.3							
SUMG	**Summit**	63.37	342	P		**P**	02 59 24.4	0.0
	comp=Z,3.3nm,0.7s,mb4.6							
LSZ	**Lusaka**	65.52	229	*eP*		**P**	02 59 37.5	-1.0
LSZ				pmax		pmax		
	comp=Z,8.0nm,1.5s,mb4.5							
LSZ	**Lusaka**	65.52	229	*eP*		**P**	02 59 37.5	-1.0
	comp=Z,7.9nm,1.5s,mb4.5							
TORD	**Torodi Ar. Bea**	67.49	271	P		**P**	02 59 51.1	0.0
	comp=Z,24nm,1.3s,mb5.1,baz=47,slow=5.9,SNR=94							
FX1	**Attu Island--F**	68.67	40	P		**P**	02 59 58.1	-0.4
MBWA	**Marble Bar**	70.97	134	*eP*		**P**	03 00 08.5	-4.2
	comp=Z,14nm,1.3s,mb4.7							
LBTB	**Lobatse**	74.55	224	*eP*		**P**	03 00 35.0	+1.0
LBTB				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
LBTB	**Lobatse**	74.55	224	*eP*		**P**	03 00 35.0	+1.0
	comp=Z,1.5nm,0.5s,mb4.2							
INK	**Inuvik**	75.42	10	*eP*		**P**	03 00 39.0	+0.1
INK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	75.42	10	*eP*		**P**	03 00 39.0	0.0
	comp=Z,1.1nm,0.6s,mb4.0							
COLA	**College**	75.73	17	*eP*		**P**	03 00 41.5	+0.8
COLA				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
COLA	**College**	75.73	17	*eP*		**P**	03 00 41.5	+0.7
	comp=Z,1.9nm,0.7s,mb4.1							
ILAR	**Eielson Array**	76.05	17	P		**P**	03 00 42.2	-0.3
	comp=Z,0.7nm,0.5s,mb3.9,baz=286,slow=4.8,SNR=7.1							
DBIC	**Dimbokro**	76.41	269	P		**P**	03 00 45.3	+0.7
	comp=Z,10nm,0.5s,mb5.0,baz=9.2,slow=8.1,SNR=4.9							
DBIC	**Dimbokro**	76.41	269	*eP*		**P**	03 00 45.4	+0.8
	comp=Z,1.3nm,0.6s,mb4.0							
MCK	**McKinley**	76.41	18	P		**P**	03 00 43.8	-0.8
MCK				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
MCK	**McKinley**	76.41	18	P		**P**	03 00 43.8	-0.8
	comp=Z,0.6nm,0.5s,mb3.8							
BOSA	**Boshof**	77.53	222	P		**P**	03 00 51.6	+0.6
	comp=Z,5.7nm,0.5s,mb4.7,baz=48,slow=4.2,SNR=9.3							
BOSA	**Boshof**	77.53	222	*eP*		**P**	03 00 50.8	-0.1
	comp=Z,2.1nm,0.6s,mb4.2							
DAWY	**Dawson**	78.29	14	*eP*		**P**	03 00 55.3	+0.2
WRA	**Warramunga Arr**	79.51	123	P		**P**	03 01 02.3	+0.5
	comp=Z,16nm,1.0s,mb4.9,baz=325,slow=5.4,SNR=9.9							
WRAB	**Tennant Creek**	79.51	123	*eP*		**P**	03 01 01.6	-0.2
WRAB	**Tennant Creek**	79.51	123	*eP*		**P**	03 00 60.0	-1.9
	comp=Z,8.2nm,0.9s,mb4.7							
ASAR	**Alice Springs**	81.74	126	P		**P**	03 01 14.2	+0.4
	comp=Z,1.0nm,0.7s,mb3.8,baz=313,slow=5.2,SNR=6.9							
PMG	**Port Moresby**	82.38	107	*eP*		**P**	03 01 13.1	-4.0
	comp=Z,2.2nm,0.3s,mb4.6							
SUR	**Sutherland**	82.87	222	*eP*		**P**	03 01 17.3	-2.4
	comp=Z,13nm,1.1s,mb4.9							
YKW3	**Yellowknife Ar**	82.91	4	*eP*		**P**	03 01 19.7	-0.2
YKA	**Yellowknife Ar**	82.98	4	P		**P**	03 01 19.9	-0.4
	comp=Z,0.7nm,0.5s,mb3.9,baz=349,slow=5.3,SNR=23							
FCC	**Fort Churchill**	86.32	353	P		**P**	03 01 36.3	-0.9
	comp=Z,0.3nm,0.3s,mb4.0							
CTAO	**Charters Tower**	88.15	116	P		**P**	03 01 44.4	-1.6
CTAO				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.9							
CTAO	**Charters Tower**	88.15	116	P		**P**	03 01 44.4	-1.6
	comp=Z,8.3nm,1.0s,mb4.9							
FFC	**Flin Flon**	90.88	357	P		**P**	03 01 56.7	-2.1
FFC				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.4							
FFC	**Flin Flon**	90.88	357	P		**P**	03 01 56.7	-2.1
	comp=Z,1.8nm,1.0s,mb4.4							
EDM	**Edmonton**	92.30	4	P		**P**	03 02 05.0	-0.4
SAML	**Samuel**	132.60	292	*e*PKPdf		PKPdf	03 08 10.5	+0.6
TRQA	**Tornquist**	143.99	251	*e*PKPdf		PKPdf	03 08 30.4	-0.3
NNA	**Nana**	144.64	302	PKPpre		PKPdf	03 08 29.8	-2.1

BJI ***19*** *02:48:57.0, 3460N×7320E, h10km, mB5.2, mb4.9, ML5.5, Ms4.7, Msz4.3*

IDC ***19*** *02:48:58.7±0.4, 3464N×7326E, h0km, mb4.7/24, mb1 4.8/27, mb1mx4.8/27, mbtmp4.7/27, ML5.0/3, MS4.2/1, Ms1 4.2/1, ms1mx3.2/10, Error ellipse: s-maj=12.4km s-min=9.5km az=73.0*

NNC ***19*** *02:48:58.6±3.8, 3468N×7250E, h22km±24km, mb4.8, mpv5.3, Error ellipse: s-maj=37.7km s-min=22.9km az=121.0*

MOS ***19*** *02:48:58.2±0.9, 3456N×7318E, h10km, mb5.1/65, Error ellipse: s-maj=7.6km s-min=4.0km az=125.3*

ISCJB ***19*** *02:48:59.2±0.1, 3460N±002×73.19E±003, h15km, mb4.8/108, MS4.3/17, Error ellipse: s-maj=3.5km s-min=2.5km az=91.0*

NEIC ***19*** *02:49:00.7±0.2, 3462N×7320E, mb5.0/70, Error ellipse: s-maj=4.9km s-min=3.4km az=211.0*

NEIC Felt at Balakot, Islamabad, Mansehra and Rawalpindi. Also felt at Muzaffarabad, Kashmir.

HRVD ***19*** *02:49:00.7±0.4, 3469N×7303E, h23km±1km, MW4.9/57, Centroid moment Tensor Solution. LP body waves: s29,c31;Mantle waves: s57,c89; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr2.91±.20; Mθθ-1.29±.14; Mφφ-1.62±.14; Mrθ0.76±.21; Mθφ1.41±.08; Mφr-0.79±.20; Best double couple: M03.09400×1016 NP1:φs138.00000°, δ35.00000°, λ91.00000°. NP2: φs138.00000°, δ55.00000°, λ89.00000°. Principal axes: T 3.1120, Plg80.0000°, Azm44.0000°; N -0.0360, Plg1.0000°, Azm138.0000°; P -3.0760, Plg10.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***19*** *02:49:09.4, 3555N×7269E, h16km, mb4.8, Pakistan*

ISC 19 02:49:01.1±0.1, 3464N±002×7320E±003, h15km, h15km±.7km:pP-P, n441, σ1§09/463, mb4.8/108, MS4.3/17, 28C-16D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	1.47	111	*eP*	**Pn**	02 49 26.0	-0.9
SRNI				*eS*	**Sn**	02 49 47.5	+1.7
THW	**Thamme Wali**	2.20	214	⇑P	**Pn**	02 49 35.0	-2.1
JMU	**Jammu**	2.38	143	*ex*	**Pn**	02 49 47.0	+7.5
SARP	**Sargodha**	2.74	189	P	**Pn**	02 49 42.1	-2.4
SARP				S	**Sn**	02 50 26.0	+8.6
SBDP	**Sheikh Budin**	3.07	221	⇑P	**Pn**	02 49 46.3	-2.7
DLH	**Dalhousie**	3.11	131	*eP*	**Pn**	02 49 47.0	-2.6
DLH				*ex*	x	02 49 56.0	
PONG	**Pong**	3.53	139	*eP*	**Pn**	02 49 54.0	-1.3
PONG				*eS*	**Sn**	02 50 41.0	+4.2
DRP	**Derazinda**	3.83	222	⇑P	**Pn**	02 49 57.5	-1.9
BHK	**Bhakra**	4.20	139	*ex*	**Pn**	02 50 12.6	+8.1
BHK				*eS*	**Sn**	02 51 00.6	+7.4
SDNR	**Sundarnagar**	4.45	134	*eP*	**Pn**	02 50 05.4	-2.5
SDNR				*eS*	**Sn**	02 51 01.3	+1.9
SMLA	**Simla**	4.83	135	*eP*	**Pn**	02 50 10.6	-2.6
SMLA				*eP*		02 50 10.9	
SMLA				*eS*	**Sn**	02 51 10.8	+1.9
SMLA				*ex*	x	02 51 12.6	
SMLA				AML	AML	02 51 42.6	
	comp=E,9μm,0.4s						
SMLA				AML	AML	02 51 43.4	
	comp=N,6μm,0.7s						
KSH	**Kashi**	5.35	24	P	**Pn**	02 50 21.9	+1.6
KSH				S	**Sn**	02 51 26.3	+4.7
KSH				AMB	AMB		
	comp=Z,196nm,0.7s						
DDI	**Dehra Dun**	5.94	135	*ex*	**Pg**	02 50 52.0	-2.9
DDI				*ex*	**Sn**	02 51 42.0	+5.7
NDI	**New Delhi**	6.85	149	*eP*	**Pn**	02 50 40.1	-0.8
NDI				*eP*		02 50 41.0	
NDI				*eS*	**Sn**	02 51 56.4	-2.2
NDI				*ex*	x	02 52 02.0	
NDI				AML	AML	02 52 52.9	
	comp=E,579nm,0.4s						
NDI				AML	AML	02 52 53.0	
	comp=N,563nm,0.5s						
AML	**Almayashu**	7.49	3	P	**Pn**	02 50 48.3	-1.4
	SNR=26						
KZA	**Kyzart**	7.60	12	P	**Pn**	02 50 49.7	-1.5
	SNR=19						
UCH	**Uchtor**	7.65	7	P	**Pn**	02 50 50.2	-1.7
	SNR=43						
PTH	**Pithoragarh**	7.82	129	*ex*	**Pn**	02 50 55.2	+1.0
PTH				*eS*	**Sn**	02 52 16.8	-5.6
ULHL	**Ulahol**	7.96	17	P	**Pn**	02 50 55.1	-1.1
	SNR=7.5						
EKS2	**Erkin-Say**	8.03	3	P	**Pn**	02 50 55.5	-1.6
	SNR=9.1						
AAK	**Ala-Archa**	8.05	7	P	**Pn**	02 50 55.9	-1.5
	SNR=9.3						
KBK	**Karagaybulak**	8.12	9	P	**Pn**	02 51 02.2	+3.8
	SNR=13						
AJM	**Ajmer**	8.23	171	*i* P	**Pn**	02 51 00.0	+0.2
AJM				*eS*	**Sn**	02 52 29.1	-3.4
AJM				*i* S	**Sn**	02 52 30.0	-2.4
FRU	**Bishkek**	8.26	7	*eP*	**Pn**	02 51 05.0	+4.8
FRU				pmax	pmax		
	comp=Z,120nm,2.0s						
CHMS	**Chumysh**	8.44	8	P	**Pn**	02 51 06.0	+3.3
	SNR=12						
TKM2	**Tokmak 2**	8.48	12	P	**Pn**	02 51 01.8	-1.5
	SNR=9.4						
TKM2	**Tokmak 2**	8.48	12	⇓Pn	**Pn**	02 51 01.7	-1.6
	comp=Z,93nm,1.3s						
TKM2				⇑Sn	**Sn**	02 52 38.4	-0.3
	comp=Z,158nm,0.6s						
TKM2				⇑Lg		02 53 29.2	
USP	**Ospenovka**	8.68	6	P	**Pn**	02 51 09.3	+3.3
	SNR=14						
KK31	**Karatay Array**	8.71	347	⇓Pn	**Pn**	02 51 03.5	-2.9
	comp=Z,124nm,0.4s,baz=161,slow=12						
KK31				⇓Sn	**Sn**	02 52 41.4	-2.9
	comp=Z,103nm,0.6s,baz=175,slow=24,SNR=5.5						
KK31	**Karatay Array**	8.71	347	*i* P	**Pn**	02 51 03.5	-2.9
KK31				pmax	pmax		
	comp=Z,208nm,0.3s						
KKAR	**Karatay Array**	8.71	347	P	**Pn**	02 51 03.5	-2.9
KKAR				S	**Sn**	02 52 41.4	-2.9
KKAR				pmax	pmax		
	comp=Z,73nm,0.4s						
BHJ				*eS*	**Sn**	02 53 48.6	-11
BHJ	**Bhuj**	11.76	196	*ex*	**Pn**	02 51 51.1	+2.9
BHPL	**Bhopal**	11.94	161	*eP*	**Pn**	02 51 49.9	-0.7
BHPL				*eS*	**Sn**	02 53 58.3	-5.3
ABKT	**Ailbek**	12.61	289	Pn	**Pn**	02 51 59.5	-0.3
	comp=Z,284nm,0.9s,SNR=8.8						
MKAR	**Makanchi Array**	13.95	27	Pn	**Pn**	02 52 18.4	+0.3
	comp=Z,1.6nm,0.3s,baz=204,slow=12,SNR=55						
MKAR				Sn	**Sn**	02 54 56.9	+4.3
	comp=Z,0.2nm,0.3s,baz=222,slow=16,SNR=2.5						
MKAR				Lg		02 56 23.8	
	comp=Z,0.3nm,0.3s,baz=180,slow=11,SNR=1.9						
MKAR	**Makanchi Array**	13.95	27	P	**Pn**	02 52 18.5	+0.4
MKAR						02 54 56.9	
MKAR	**Makanchi Array**	13.95	27	Pn	**Pn**	02 52 18.4	+0.3
MKAR				Sn	**Sn**	02 54 56.9	+4.2
MKAR				Lg		02 56 23.8	
NGP	**Nagpur**	14.39	157⇑	*eP*	**Pn**	02 52 22.6	-1.6
NGP				*ex*	x	02 52 41.1	
	comp=Z,118nm,1.6s						
NGP				*ex*	x	02 54 54.5	
LSA	**Lhasa**	15.97	103	P	**Pn**	02 52 44.5	-0.6
LSA				LR	LR		
	comp=N,730nm,10.3s						
LSA				LR	LR		
	comp=E,530nm,10.1s						
LSA				LR	LR		
	comp=Z,860nm,9.9s						
POO	**Poona**	16.05	178⇓	*i* P	**Pn**	02 52 47.0	+0.8
	comp=Z,70nm,1.0s						
POO				*ex*	x	02 52 59.0	
POO				*ex*	x	02 53 06.5	
POO				*i* x	x	02 55 31.2	
POO				*i* x	x	02 55 36.0	
POO				*i* x	x	02 55 53.2	
KURK	**Kurchatov**	16.55	12	⇑P	**Pn**	02 52 49.2	-3.3
	comp=Z,27nm,1.1s						
KURK				⇑S	**Sn**	02 55 59.2	+3.4
	comp=Z,29nm,2.1s						
KURK				⇓Lg		02 57 56.2	
	comp=Z,80nm,2.0s						
KURK	**Kurchatov**	16.55	12	P	**Pn**	02 52 50.1	-2.4
	comp=Z,159nm,0.5s,SNR=5.3						
KURK	**Kurchatov**	16.55	12⇑	*i* P	**Pn**	02 52 49.4	-3.1
KURK	**Kurchatov**	16.55	12	*eP*	**Pn**	02 52 54.8	+2.3
KURK				pmax	pmax		
	comp=Z,42nm,0.9s						
KURK	**Kurchatov**	16.55	12	*eP*	**Pn**	02 52 48.7	-3.8
	comp=Z,8.7nm,0.8s						
KURK	**Kurchatov**	16.55	12	*eP*	**Pn**	02 52 54.8	+2.3
	comp=Z,42nm,0.9s						
KURK				*ep*P	pP	02 52 59.9	+0.5
KAD	**Karad**	17.28	177	*eP*	**Pn**	02 53 02.5	+0.8
KAD				AMb	AMB	02 53 06.5	
	comp=Z,81nm,1.4s						
KAD				*ex*	x	02 56 04.8	
SMDO	**Samad**	17.56	233	P	**Pn**	02 53 13.6	+8.4
	SNR=15						
CAL	**Calcutta**	17.91	128	*eP*	**Pn**	02 53 07.3	-2.2
CAL				*ex*	x	02 56 12.8	
JMDO	**Jabal Madar**	18.01	231	P	**Pn**	02 53 15.9	+5.2
	SNR=18						
JMDO				P		02 53 17.7	
	SNR=17						
BSY	**Bisya**	18.34	234	P	**Pn**	02 53 17.8	+3.0
	SNR=7.4						
BSY				P		02 53 20.0	
	SNR=14						
ARQ	**Araqi**	18.40	237	P	**Pn**	02 53 21.1	+5.5
	SNR=13						
ARQ				P		02 53 22.8	
	SNR=8.5						
BVAR	**Borovoye Array**	18.49	355	P	**Pn**	02 53 16.8	+0.2
	comp=Z,10nm,0.3s,baz=154,slow=9.4,SNR=89						
BVAR				S	**Sn**	02 56 44.6	+1.7
	comp=Z,0.3nm,0.3s,baz=168,slow=15,SNR=2.9						
BVAR				Lg		02 58 48.9	
	baz=254,slow=9.6,SNR=1.9						
BVAR	**Borovoye Array**	18.49	355	P	**Pn**	02 53 16.8	+0.2
BVAR				S	**Sn**	02 56 44.6	+1.6
BVAR	**Borovoye Array**	18.49	355	P	**Pn**	02 53 16.8	+0.2
BVAR				S	**Sn**	02 56 44.6	+1.7
BVAR				Lg		02 58 48.9	
BRVK	**Borovoye**	18.53	354	*eP*	**Pn**	02 53 17.8	+0.7
BRVK				pmax	pmax		
	comp=Z,29nm,0.7s						
BRVK	**Borovoye**	18.53	354	*eP*	**Pn**	02 53 17.8	+0.6
	comp=Z,29nm,0.7s						
BRVK				*ep*P	pP	02 53 21.6	+0.3
ZRNK	**Zerenda**	18.55	352	*eP*	**Pn**	02 53 17.6	+0.2
ZRNK	**Zerenda**	18.55	352	*eP*	**Pn**	02 53 17.6	+0.3
VIS	**Vishakhapatnam**	19.12	149	*eP*	**Pn**	02 53 23.4	-0.9
VIS				AMb	AMB	02 53 27.8	
	comp=Z,42nm,1.6s						
VIS				*ex*	x	02 56 43.5	
AKTK	**Aktyubinsk**	19.29	330	P	**Pn**	02 53 26.3	0.0
AKTO	**Aktyubinsk**	19.29	330	P	**Pn**	02 53 26.3	0.0
	comp=Z,13nm,0.3s,baz=131,slow=12,SNR=123						
AKTO	**Aktyubinsk**	19.29	330	P	**Pn**	02 53 26.3	0.0
AKTO				pmax	pmax		
	comp=Z,13nm,0.3s						
NVS	**Novosibirsk**	21.38	16	*i* P	**P**	02 53 47.2	-0.7
NVS				*e*		02 54 04.3	
NVS				*i* S	**S**	02 57 38.5	-6.2
NVS				pmax	pmax		
	comp=N,180nm,1.6s						
NVS				pmax	pmax		
	comp=Z,126nm,1.6s,mb5.0						
NVS				smax			
	comp=N,137nm,1.7s						
NVS				smax			
	comp=E,57nm,1.6s						
NVS	**Novosibirsk**	21.38	16	*i* P	**P**	02 53 47.2	-0.7
NVS				*i* S	**S**	02 57 38.5	-6.2
NVS				pmax	pmax		
	comp=N,180nm,1.6s						
NVS				pmax	pmax		
	comp=Z,126nm,1.6s,mb5.0						
NVS				smax			
	comp=N,137nm,1.7s						
NVS				smax			
	comp=E,57nm

LZH AP 02 54 29.6
LZH XP sP 02 54 32.9 +2.3
LZH AMB AMB
comp=Z,104nm,1.7s,mb5.1
LZH AMB AMB
comp=Z,400nm,4.7s
LZH LR LR
comp=N,2µm,12.6s
LZH LR LR
comp=Z,3µm,14.1s,MS4.9
GOF Gofitskoye 25.26 303 *e*P **P 02 54 27.7 +1.2**
GOF pmax pmax
comp=Z,70nm,1.2s,mb5.1
GOF Gofitskoye 25.26 303 *e*P **P 02 54 27.7 +1.2**
GOF pmax pmax
comp=Z,70nm,1.2s,mb5.1
KIV Kislovodsk 25.26 301 *e*P **P 02 54 27.0 +0.4**
KIV *e* 02 55 03.3
KIV *e*S **S 02 58 53.3 +1.6**
KIV pmax pmax
comp=Z,17nm,1.0s,mb4.5
KIV MLR MLR
comp=Z,312nm,13.0s,MS4.0
KIV Kislovodsk 25.26 301 *e*P **P 02 54 27.0 +0.4**
KIV *e* 02 55 03.3
KIV *e*S **S 02 58 53.3 +1.6**
KIV pmax pmax
comp=Z,17nm,1.0s,mb4.5
KIV MLR MLR
comp=Z,312nm,13.0s,MS4.0
KIV Kislovodsk 25.26 301 *e*P **P 02 54 26.2 -0.4**
comp=Z,23nm,0.8s,mb4.8
CD2 Chengdu 25.91 90 *e*P **P 02 54 30.3 -2.1**
CD2 AP pP 02 54 35.9 -1.2
CD2 PP 02 55 10.0
CD2 S **S 02 58 54.9 -7.0**
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb4.7
CD2 LR LR
comp=N,620nm,18.6s
CD2 LR LR
comp=Z,330nm,12.0s
MOY Mondy 26.24 41 *e*P **P 02 54 40.7 +5.3**
MOY Mondy 26.24 41 *e*P **P 02 54 40.7 +5.3**
ZAK Zakamensk 26.95 45 *e*P **P 02 54 41.4 -0.4**
ZAK pmax pmax
comp=Z,23nm,1.6s,mb4.5
ZAK pmax pmax
comp=Z,19nm,1.8s,mb4.3
ZAK pmax pmax
comp=Z,17nm,1.9s,mb4.2
ZAK Zakamensk 26.95 45 *e*P **P 02 54 41.4 -0.4**
ZAK pmax pmax
comp=Z,23nm,1.6s,mb4.5
ZAK pmax pmax
comp=Z,19nm,1.8s,mb4.3
ZAK pmax pmax
comp=Z,17nm,1.9s,mb4.2
SOKR Solikamsk 27.17 342 *e*P **P 02 54 44.0 +0.2**
SOKR pmax pmax
comp=Z,60nm,2.0s,mb4.8
SOKR Solikamsk 27.17 342 *e*P **P 02 54 44.0 +0.2**
SOKR pmax pmax
comp=Z,60nm,2.0s,mb4.8
SOC Sochi 27.32 299 *e*P **P 02 54 51.6 +6.4**
SOC pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
SOC MLR MLR
comp=Z,233nm,10.0s,MS4.0
SOC Sochi 27.32 299 *e*P **P 02 54 51.6 +6.4**
SOC pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
SOC MLR MLR
comp=Z,233nm,10.0s,MS4.0
CHRT Chiangrai 27.73 115 ⇓P **P 02 54 48.5 -0.3**
comp=Z,224nm,0.7s
SONM Songino Array 28.00 52 P **P 02 54 51.2 0.0**
comp=Z,1.5nm,0.6s,mb3.8,baz=255,slow=8.0,SNR=20
SONM Songino Array 28.00 52 P **P 02 54 51.2 0.0**
SONM Songino Array 28.00 52 P **P 02 54 51.2 0.0**
MALT Malatya 28.10 288 *e*P **P 02 54 57.8 +5.7**
MALT pmax pmax
comp=Z,71nm,2.3s,mb4.9
MALT Malatya 28.10 288 *e*P **P 02 54 57.8 +5.6**
comp=Z,71nm,2.3s,mb4.9
IRK Irkutsk 28.30 42 *e*P **P 02 54 55.8 +1.9**
IRK pmax pmax
comp=Z,30nm,3.4s
IRK Irkutsk 28.30 42 *e*P **P 02 54 55.8 +1.9**
IRK *e* 02 56 04.7
IRK pmax pmax
comp=Z,30nm,3.4s
ULN Ulaanbaatar 28.43 52 *e*P **P 02 54 56.2 +1.1**
ULN Ulaanbaatar 28.43 52 *e*P **P 02 54 56.2 +1.2**
BDT Bhumibol Dam 28.83 120 P **P 02 54 58.0 -0.6**
ANN Anapa 29.12 301 *e*P **P 02 55 02.5 +1.3**
ANN *i* 02 55 58.0
ANN *e*S **S 03 00 00.1 +7.6**
ANN pmax pmax
comp=Z,11nm,0.7s,mb4.7
ANN MLR MLR
comp=Z,685nm,16.0s,MS4.4
ANN Anapa 29.12 301 *e*P **P 02 55 02.5 +1.3**
ANN *i* 02 55 58.0
ANN *e*S **S 03 00 00.1 +7.6**
ANN *e*SS SS 03 01 37.1 -19
ANN pmax pmax
comp=Z,11nm,0.7s,mb4.7
ANN MLR MLR
comp=Z,685nm,16.0s,MS4.4
XAN Xi'an 29.41 81 P **P 02 55 03.3 -0.5**
XAN AP pP 02 55 09.4 +0.9
XAN AMB AMB
comp=Z,14nm,1.0s,mb4.7
BTO Baotou 29.61 67 *e*P **P 02 55 07.3 +1.7**
BTO LR LR
comp=N,289nm,4.4s
BTO LR LR
comp=E,621nm,10.6s
GYA Guiyang 29.85 97⇑ *i*P **P 02 55 07.5 -0.1**
GYA AP pP 02 55 13.4 +1.1
GYA XP sP 02 55 16.3 +2.0
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,6.3s
GYA LR LR
comp=N,500nm,10.8s,MS4.5
GYA LR LR
comp=E,370nm,10.8s,MS4.5
GYA LR LR
comp=Z,550nm,10.8s,MS4.5
NST Nakhon Sawan 30.68 121 P **P 02 55 16.5 +1.5**
BR131 Keskin Array S 31.74 291 *e*P **P 02 55 25.6 +1.2**
comp=Z,2.5nm,0.6s,mb4.2
BRTR Keskin Array B 31.74 291 P **P 02 55 25.6 +1.2**
comp=Z,1.4nm,0.7s,mb3.9,baz=95,slow=8.4,SNR=12
BRTR PcP PcP 02 58 17.5 +1.9
comp=Z,1.7nm,0.9s,baz=141,slow=4.1,SNR=4.8
BRTR Keskin Array B 31.74 291 *i* P **P 02 55 25.5 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 31.74 291 P **P 02 55 25.6 +1.2**
BRTR 02 58 17.5
MOS Moscow 32.23 322 *e*P **P 02 55 30.8 +2.1**
MOS *e* 02 56 34.9
MOS *e* 03 00 41.3
MOS Moscow 32.23 322 *e*P **P 02 55 30.8 +2.1**
MOS *e* 02 56 34.9
MOS *e* 03 00 41.3
OBN Obninsk 32.52 320 *e*P **P 02 55 31.2 0.0**
OBN *e* 02 56 42.5
OBN *e* 02 58 15.9
OBN pmax pmax
comp=Z,30nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.1
OBN Obninsk 32.52 320 *e*P **P 02 55 31.2 0.0**
OBN *e* 02 56 42.5
OBN *e* 02 58 15.9
OBN pmax pmax
comp=Z,30nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.1
OBN Obninsk 32.52 320 P **P 02 55 29.0 -2.2**
comp=Z,17nm,0.7s,mb5.1
EIL Elat 32.63 272 *e*P **P 02 55 32.6 +0.4**
comp=Z,258nm,1.4s,mb6.0
KLMR Klimovskoe 33.98 331 *e*P **P 02 55 42.9 -1.0**
KLMR pmax pmax
comp=Z,80nm,1.4s,mb5.5
KLMR Klimovskoe 33.98 331 *e*P **P 02 55 42.9 -1.0**
KLMR pmax pmax
comp=Z,80nm,1.4s,mb5.5
BJI Beijing 34.34 68 P **P 02 55 48.8 +1.7**
BJI AP pP 02 55 54.4 +2.6
BJI S **S 03 01 17.4 +3.4**
BJI AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
BJI AMB AMB
comp=Z,145nm,3.5s
BJI LR LR
comp=N,641nm,11.2s,MS4.7
BJI LR LR
comp=E,345nm,11.2s,MS4.7
BJI LR LR
comp=Z,248nm,18.7s
WHN Wuhan 34.74 85⇑P **P 02 55 51.5 +1.0**
AKASG Malin Array Be 35.51 311 P **P 02 55 56.4 -0.8**
comp=Z,1.9nm,0.4s,mb4.4,baz=84,slow=7.7,SNR=14
AKASG PP PP 02 57 16.4 -1.4
comp=Z,2.8nm,0.7s,baz=89,slow=11,SNR=4.8
AKASG Malin Array Be 35.51 311 *i* P **P 02 55 56.2 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 35.51 311 P **P 02 55 56.4 -0.8**
AKASG 02 57 16.4
TIRR Tirgusor 35.51 300 ⇓P **P 02 56 01.4 +4.2**
TIRR Tirgusor 35.51 300 *e*P **P 02 55 56.9 -0.3**
TIRR ⇓P pP 02 56 01.4 -0.5
TIRR *e*pP pP 02 56 01.7 -0.2
CFR Carcaliu 35.72 301⇑P **P 02 55 59.3 +0.3**
CFR Carcaliu 35.72 301⇑P **P 02 55 59.3 +0.4**
HARR Harsova 35.86 300⇑P **P 02 56 00.4 +0.2**
HARR Harsova 35.86 300⇑P **P 02 56 00.4 +0.2**
ATD Arta Tunnel 35.93 238 P **P 02 56 02.8 +2.0**
comp=Z,7.9nm,0.8s,mb4.7,baz=128,slow=21,SNR=4.3
VRI Vrincioaia 36.72 302⇑P **P 02 56 08.9 +1.4**
VRI Vrincioaia 36.72 302⇑P **P 02 56 08.9 +1.4**
JMB Yambol 36.90 296 *e*P **P 02 56 10.0 +0.9**
BURAR Bucovina Array 37.81 305⇓P **P 02 56 17.5 +0.7**
BURAR Bucovina Array 37.81 305⇓P **P 02 56 17.5 +0.7**
VOIR 37.90 301⇑P **P 02 56 18.7 +1.2**
VOIR 37.90 301⇑P **P 02 56 18.7 +1.2**
JOF Joensuu 38.37 331 *e*p **P 02 56 22.6 +1.1**
JOF Joensuu 38.37 331 *e*P **P 02 56 22.6 +1.1**
JOF Joensuu 38.37 331 *e*P **P 02 56 22.6 +1.1**
DL2 Dalian 38.67 69 *e*P **P 02 56 27.4 +3.4**
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
DL2 LR LR
comp=N,210nm,12.5s,MS4.4
DL2 LR LR
comp=E,290nm,11.4s,MS4.4
DL2 LR LR
comp=Z,210nm,11.0s,MS4.2
KULM Kulim 38.70 133 *e*P **P 02 56 24.2 -0.1**
LVV L'vov 38.72 308 *i* P **P 02 56 23.6 -0.8**
LVV *e* 02 57 56.8
LVV *e*PPP 02 58 16.6
LVV *e*S **S 03 02 12.1 -8.7**
MMB Musomiste 39.10 295 *e*P **P 02 56 28.0 +0.4**
VTS Vitosha 39.38 297 *e*P **P 02 56 30.0 +0.1**
VTS Vitosha 39.38 297⇓P **P 02 56 31.2 +1.3**
DRGR 39.51 304⇓P **P 02 56 31.8 +0.8**
DRGR 39.51 304⇓P **P 02 56 31.8 +0.8**
KWP Kalwaria 39.56 308 *e*P **P 02 56 31.9 +0.4**
KWP *e*pP pP 02 56 34.6 -1.6
PSI Prapat 39.70 137 P **P 02 56 32.0 -0.6**
comp=Z,17nm,0.7s,mb4.9,baz=326,slow=10.0,SNR=15
SUW Suwalki 39.70 315 *e*P **P 02 56 32.4 -0.2**
SUW *e*pP pP 02 56 36.9 -0.5
SUW *e*PP PP 02 58 07.1 +3.3
FINES FINESS Array B 40.02 327 P **P 02 56 34.7 -0.6**
comp=Z,1.5nm,0.4s,mb4.1,baz=118,slow=9.4,SNR=21
FINES FINESS Array B 40.02 327 P **P 02 56 34.7 -0.6**
FINES FINESS Array B 40.02 327 P **P 02 56 34.7 -0.6**
KAF Kangasniemi 40.16 328 *e*p **P 02 56 36.0 -0.4**
baz=111,slow=8.4
KAF Kangasniemi 40.16 328 *e*P **P 02 56 36.0 -0.4**
KAF Kangasniemi 40.16 328 *e*P **P 02 56 36.0 -0.4**
BZS Buzias 40.30 302⇑P **P 02 56 38.8 +1.2**
BZS Buzias 40.30 302⇑P **P 02 56 38.8 +1.2**
STHS Stebnicka Huta 40.51 308 *e*P **P 02 56 39.2 -0.1**
STHS *e*PCP PcP 02 58 42.4 +0.7
CN2 Changchun 40.91 61 *e*P **P 02 56 42.0 -0.6**
CN2 *e*AP pP 02 56 47.9 +0.5
CN2 *e*S **S 03 02 50.4 -3.2**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,13.0s,MS4.8
CN2 LR LR
comp=E,700nm,13.0s,MS4.8
CN2 LR LR
comp=Z,900nm,14.0s,MS4.8
KECS Kecovo 41.00 306 *e*P **P 02 56 43.4 0.0**
KECS *e* 02 56 52.6
KECS *e*PP PP 02 58 25.7 +7.7
GRUS Gruza 41.07 299 *i* P **P 02 56 44.7 +0.7**
NIE Niedzica 41.12 308 *e*P **P 02 56 45.2 +0.9**
PSZ Piszkesteto 41.40 305 P **P 02 56 47.3 +0.6**
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
PSZ Piszkesteto 41.40 305 P **P 02 56 47.3 +0.6**
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
PSZ Piszkesteto 41.40 305 P **P 02 56 47.3 +0.6**
comp=Z,5.5nm,0.9s,mb4.2
DIVS Divcibare 41.57 300 *i* P **P 02 56 48.9 +0.9**
VYHS Vyhne 42.10 306 *e*P **P 02 56 50.9 -1.5**
PKSM Moragy 42.34 303⇓P **P 02 56 54.2 -0.2**
SRO Srobarova 42.47 305 *e*P **P 02 56 55.8 +0.4**
SRO *e*pP pP 02 56 59.8 -0.4
OKC Ostrava-Krasne 42.52 308 *e*P **P 02 56 55.7 -0.2**
OKC *e*x x 02 57 00.4
MORC Moravsky Berou 42.92 308 *e*P **P 02 56 58.3 -0.7**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
MORC Moravsky Berou 42.92 308 *e*P **P 02 56 58.3 -0.7**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
MORC Moravsky Berou 42.92 308 *e*P **P 02 56 58.3 -0.8**
comp=Z,3.7nm,0.8s,mb4.2
SMOL Smolenice 43.03 306 *e*PCP PcP 02 58 51.5 +1.5
GKP Gorka Klasztor 43.15 313 *e*P **P 02 56 58.1 -2.8**
GKP *e*pP pP 02 57 01.1 -4.6
KEV Kevo 43.19 338 *e*p **P 02 57 01.4 +0.1**
KEV Kevo 43.19 338 *e*P **P 02 57 01.4 +0.1**
KEV Kevo 43.19 338 *e*P **P 02 57 01.4 +0.1**
ARCES ARCESS Array B 43.55 338 P **P 02 57 03.7 -0.5**
comp=Z,30nm,0.8s,mb5.1,baz=114,slow=8.0,SNR=50
ARCES ARCESS Array B 43.55 338 P **P 02 57 03.7 -0.4**
ARCES ARCESS Array B 43.55 338 P **P 02 57 03.6 -0.5**
ARE0 ARCESS Array S 43.55 338 *e*P **P 02 57 04.0 -0.1**
ARE0 *e*pP pP 02 57 08.1 -0.9
VRAC Vranov 43.55 308 P **P 02 57 04.5 +0.4**
comp=Z,3.2nm,0.4s,mb4.4,baz=110,slow=7.9,SNR=6.9
DPC Dobruska-Polom 43.69 309 *e*P **P 02 57 04.3 -1.0**
DPC *e*x x 02 57 09.7
DPC *e*PP PP 02 58 54.9 +7.9
KSP Ksiaz 43.70 310 *e*P **P 02 57 05.2 -0.2**
KSP *e*pP pP 02 57 09.1 -1.1
UPC Upice 43.89 309 *e*P **P 02 57 06.6 -0.3**
UPC *e*x x 02 57 11.5
TREC Trest 44.27 308 *e*P **P 02 57 10.3 +0.3**
TREC *e*x x 02 57 14.1
YAK Yakutsk 44.47 34 *e*P **P 02 57 11.2 -0.3**
YAK pmax pmax
comp=Z,30nm,0.6s,mb5.2
YAK Yakutsk 44.47 34 *e*P **P 02 57 11.2 -0.4**
comp=Z,30nm,0.6s,mb5.2
GROS Grobnik 44.49 304 *e*P **P 02 57 11.5 -0.2**
GROS *e*pP pP 02 57 15.8 -0.7
PERS Pernice 44.73 304 *e*P **P 02 57 13.7 +0.1**
PERS *e*pP pP 02 57 18.1 -0.4
TIP Timpagrande 44.74 293 *e*P **P 02 57 14.0 +0.3**
PRU Pruhonice 44.85 309 *e*P **P 02 57 12.9 -1.7**
PRU *e*x x 02 57 18.5
BRG Berggiesshubel 45.19 310 *e*P **P 02 57 17.3 0.0**
comp=Z,8.0nm,1.1s,mb4.5
BRG Berggiesshubel 45.19 310 *e*P **P 02 57 16.5 -0.8**
BRG *e* pP 02 57 21.2 -0.9
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
BRG Berggiesshubel 45.19 310 *e*P **P 02 57 16.5 -0.8**
BRG *e* pP 02 57 21.2 -0.9
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
BRG Berggiesshubel 45.19 310 *e*P **P 02 57 16.5 -0.8**
comp=Z,4.8nm,1.1s,mb4.2
BRG *e* pP 02 57 21.2 -0.9
comp=Z,8.3nm,1.2s
LJU Ljubljana 45.20 303 *e*P **P 02 57 17.8 +0.4**
RUE Ruedersdorf 45.24 312 *e*P **P 02 57 17.8 +0.2**
comp=Z,9.0nm,1.2s,mb4.5
ABRA Dolores 45.45 99 *e*P **P 02 57 20.8 +1.5**
GERES GERESS Array B 45.48 307 P **P 02 57 18.0 -1.6**
comp=Z,0.6nm,0.5s,baz=79,slow=6.9,SNR=7.9
KHC Kasperske Hory 45.53 307 *e*P **P 02 57 19.8 -0.2**
KHC *e*x x 02 57 26.1
KHC *e*PP PP 02 59 12.2 +5.6
CLL Collm 45.76 311 *e*P **P 02 57 20.9 -0.9**
comp=Z,4.0nm,0.9s,mb4.3
CLL *e*pP pP 02 57 25.3 -1.3
CLL *e*PcP PcP 02 58 59.4 +0.1
CLL *e*PP PP 02 59 08.4 -0.6
CLL *e*SS SS 03 07 44.9 +16
CLL *e*L 03 20 26.9
comp=Z,177nm,18.0s
CLL Collm 45.76 311 *i* P **P 02 57 20.8 -1.0**
comp=Z,4.0nm,0.9s,mb4.3
CLL *i* pP pP 02 57 25.2 -1.4
CLL *e*PP PP 02 59 09.0 0.0
CLL *e*x x 02 59 30.0
CLL Collm 45.76 311 *i* P **P 02 57 20.8 -1.0**
CLL *i* pP 02 57 25.2 -1.4
CLL *i* 02 58 54.1
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CLL Collm 45.76 311 *i* P **P 02 57 20.8 -1.0**
CLL *i* pP 02 57 25.2 -1.4
CLL *i* 02 58 54.1
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CLL Collm 45.76 311 *i* P **P 02 57 20.8 -1.0**
comp=Z,4.0nm,0.9s,mb4.3
CLL *i* pP 02 57 25.2 -1.4
CLL *i* PcP PcP 02 58 54.1 -5.2
APYP Conner 45.77 99 *e*P **P 02 57 23.1 +1.2**
NKC Novy Kostel 46.18 309 *e*P **P 02 57 25.5 +0.4**
ROTZ Rotzenmuhle 46.37 308 *e*P **P 02 57 27.6 +1.0**
comp=Z,10.0nm,1.1s,mb4.7
ROTZ *e*pP pP 02 57 31.3 -0.2
MANZ Manzenberg 46.42 309 *e*P **P 02 57 27.4 +0.4**
comp=Z,9.0nm,1.3s,mb4.5
MANZ *e*pP pP 02 57 31.5 -0.3
MOX Moxa 46.68 310 *e*P **P 02 57 29.7 +0.7**
comp=Z,8.0nm,1.3s,mb4.5
MOX Moxa 46.68 310 *e*P **P 02 57 28.8 -0.2**
comp=Z,9.0nm,1.3s,mb4.5
MOX
comp=Z,200nm,17.0s
MOX Moxa 46.68 310 *e*P **P 02 57 28.8 -0.2**
MOX pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MOX MLR MLR
comp=Z,200nm,17.0s,MS4.1
MOX Moxa 46.68 310 *e*P **P 02 57 28.8 -0.2**
MOX pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MOX MLR MLR
comp=Z,200nm,17.0s,MS4.1
TIXI Tiksi 46.85 21⇓ *i*P **P 02 57 27.1 -3.2**
TIXI pmax pmax
comp=Z,22nm,1.7s,mb4.8
TIXI MLR MLR
comp=Z,600nm,16.0s,MS4.7
NOA NORSAR Array B 46.94 324 P **P 02 57 29.9 -1.2**
comp=Z,5.4nm,0.6s,mb4.7,baz=96,slow=7.7,SNR=23
NOA NORSAR Array B 46.94 324 P **P 02 57 29.9 -1.2**
GRA1 Grafenberg Arr 47.02 308 *e*P **P 02 57 32.0 +0.3**
comp=Z,10.0nm,0.9s,mb4.8
GRA1 *e*pP pP 02 57 36.4 -0.1
GRF Grafenberg Arr 47.02 308 *e*P **P 02 57 32.0 +0.3**
comp=Z,10.0nm,0.9s,mb4.8
GRF *e*pP pP 02 57 36.4 -0.1
GRF Grafenberg Arr 47.02 308 *e*P **P 02 57 32.0 +0.3**
GRF *e**PP pP 02 57 36.4 -0.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 47.02 308 *e*P **P 02 57 32.0 +0.3**
GRF *e**PP pP 02 57 36.4 -0.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 47.02 308 *e*P **P 02 57 32.0 +0.3**
GRF *e**PP pP 02 57 36.4 -0.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 47.02 308 *e*P **P 02 57 32.0 +0.3**
GRF *e**PP pP 02 57 36.4 -0.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NAO01 NORSAR Array S 47.09 324 *e*P **P 02 57 31.5 -0.7**
comp=Z,5.8nm,0.8s,mb4.6
FUR Furstenfeldbru 47.15 306 *e*P **P 02 57 32.7 0.0**
comp=Z,46nm,1.5s,mb5.2
FUR Furstenfeldbru 47.15 306 *e*P **P 02 57 32.7 0.0**
FUR pmax pmax
comp=Z,46nm,1.5s,mb5.2
FUR Furstenfeldbru 47.15 306 *e*P **P 02 57 32.7 0.0**
FUR pmax pmax
comp=Z,46nm,1.5s,mb5.2
BALP Baler 47.16 101 *e*P **P 02 57 34.0 +1.2**
BSEG Bad Segeberg 47.27 314 *e*P **P 02 57 31.7 -2.0**
comp=Z,7.0nm,0.9s,mb4.6
CLZ Clausthal 47.36 311 *e*P **P 02 57 34.1 -0.3**
comp=Z,12nm,1.0s,mb4.8
CLZ Clausthal 47.36 311 *e*P **P 02 57 34.1 -0.3**
CLZ pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLZ Clausthal 47.36 311 *e*P **P 02 57 34.1 -0.3**
CLZ pmax pmax
comp=Z,12nm,1.0s,mb4.8
KSM Kuching 47.79 125 *e*P **P 02 57 38.3 +0.6**
DAVA Damuels 48.20 305⇓ *i*P **P 02 57 40.8 -0.1**
comp=Z,19nm,0.8s,mb5.2
STU Stuttgart 48.44 307 *e*P **P 02 57 44.0 +1.3**
STU Stuttgart 48.44 307 *e*P **P 02 57 43.2 +0.5**
STU pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
STU Stuttgart 48.44 307 *e*P **P 02 57 43.2 +0.5**
comp=Z,5.1nm,0.6s,mb4.7
KKM Kota Kinabalu 48.79 116 *e*P **P 02 57 47.0 +1.5**
IBBN Ibbenburen 48.93 312 *e*P **P 02 57 45.8 -0.7**
comp=Z,12nm,1.0s,mb4.9
KMBO Kilima Mbogo 48.98 231 P **P 02 57 48.5 +1.6**
comp=Z,5.1nm,0.8s,mb4.6,baz=31,slow=11,SNR=13
KMBO Kilima Mbogo 48.98 231 *i* P **P 02 57 50.4 +3.5**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 48.98 231 *e*P **P 02 57 49.5 +2.6**
comp=Z,14nm,1.4s,mb4.8
BFO Black Forest 49.08 307 *e*pP pP 02 57 52.1 -0.4
BUG Bochum--Univer 49.33 311 *e*P **P 02 57 49.3 -0.2**
PGF Pioggiola 49.73 299 *e*P **P 02 57 52.6 0.0**
CDF Champ du Feu 49.76 307 *e*P **P 02 57 52.1 -0.7**
HINF Hinteralfeld 50.14 306 *e*P **P 02 57 55.1 -0.6**
comp=Z,23nm,1.1s,mb4.8
HINF Hinteralfeld 50.14 306 *e*P **P 02 57 55.1 -0.6**
HINF pmax pmax
comp=Z,12nm,1.1s,mb4.8
HINF Hinteralfeld 50.14 306 *e*P **P 02 57 55.1 -0.6**
HINF pmax pmax
comp=Z,12nm,1.1s,mb4.8
HINF Hinteralfeld 50.14 306 *e*P **P 02 57 55.1 -0.6**
comp=Z,12nm,1.1s,mb4.8
WLF Walferdange 50.28 309 *e*P **P 02 57 57.7 +0.9**
comp=Z,64nm,2.1s,mb5.3
WLF Walferdange 50.28 309 P **P 02 57 57.2 +0.4**
HAU Haudompre 50.44 307 *e*P **P 02 57 57.9 -0.1**

HAU *e*R
comp=Z,108nm,18.0s
HAU Haudompre 50.44 307 *e*P **P 02 57 57.9 -0.1**
HAU LR LR
comp=Z,110nm,18.0s,MS3.9
SBF Sospel 50.54 301 *e*P **P 02 57 58.4 -0.4**
comp=Z,49nm,0.9s,mb5.1
SBF Sospel 50.54 301 *e*P **P 02 57 58.4 -0.4**
SBF pmax pmax
comp=Z,25nm,0.9s,mb5.1
SBF Sospel 50.54 301 *e*P **P 02 57 58.4 -0.4**
SBF pmax pmax
comp=Z,25nm,0.9s,mb5.1
SBF Sospel 50.54 301 *e*P **P 02 57 58.4 -0.4**
comp=Z,25nm,0.9s,mb5.1
LPG La Plagne 50.66 304 *e*P **P 02 57 59.9 +0.3**
comp=Z,61nm,1.3s,mb5.1
LPG La Plagne 50.66 304 *e*P **P 02 57 59.9 +0.3**
LPG pmax pmax
comp=Z,31nm,1.3s,mb5.1
LPG La Plagne 50.66 304 *e*P **P 02 57 59.9 +0.3**
LPG pmax pmax
comp=Z,31nm,1.3s,mb5.1
LPG La Plagne 50.66 304 *e*P **P 02 57 59.9 +0.3**
comp=Z,30nm,1.3s,mb5.1
LPL La Plagne 50.67 304 *e*P **P 02 58 00.0 +0.3**
comp=Z,53nm,1.2s,mb5.0
LPL La Plagne 50.67 304 *e*P **P 02 58 00.0 +0.3**
LPL pmax pmax
comp=Z,26nm,1.3s,mb5.0
LPL La Plagne 50.67 304 *e*P **P 02 58 00.0 +0.3**
LPL pmax pmax
comp=Z,26nm,1.3s,mb5.0
LPL La Plagne 50.67 304 *e*P **P 02 58 00.0 +0.3**
comp=Z,26nm,1.3s,mb5.0
MBDF Montbardon 50.81 303 *e*P **P 02 58 00.2 -0.6**
comp=Z,39nm,1.1s,mb5.0
MBDF Montbardon 50.81 303 *e*P **P 02 58 00.2 -0.6**
MBDF pmax pmax
comp=Z,20nm,1.1s,mb5.0
MBDF Montbardon 50.81 303 *e*P **P 02 58 00.2 -0.6**
MBDF pmax pmax
comp=Z,20nm,1.1s,mb5.0
MBDF Montbardon 50.81 303 *e*P **P 02 58 00.2 -0.6**
comp=Z,20nm,1.1s,mb5.0
CABF La Chapelle 50.88 305 *e*P **P 02 58 01.4 +0.1**
comp=Z,87nm,1.6s,mb5.1
CABF La Chapelle 50.88 305 *e*P **P 02 58 01.4 +0.1**
CABF pmax pmax
comp=Z,43nm,1.6s,mb5.1
CABF La Chapelle 50.88 305 *e*P **P 02 58 01.4 +0.1**
CABF pmax pmax
comp=Z,43nm,1.6s,mb5.1
CABF La Chapelle 50.88 305 *e*P **P 02 58 01.4 +0.1**
comp=Z,43nm,1.6s,mb5.1
FRF La Foret Royal 51.17 301 *e*P **P 02 58 02.8 -0.7**
comp=Z,66nm,1.2s,mb5.1
FRF La Foret Royal 51.17 301 *e*P **P 02 58 02.8 -0.7**
FRF pmax pmax
comp=Z,33nm,1.2s,mb5.1
FRF La Foret Royal 51.17 301 *e*P **P 02 58 02.8 -0.7**
FRF pmax pmax
comp=Z,33nm,1.2s,mb5.1
FRF La Foret Royal 51.17 301 *e*P **P 02 58 02.8 -0.7**
comp=Z,33nm,1.2s,mb5.1
MEZF Maizieres J'vi 51.20 308 *e*P **P 02 58 03.6 -0.1**
DOU Dourbes 51.20 310 P **P 02 58 09.3 +5.5**
ORIF Oris-en-Rattie 51.39 303 *e*P **P 02 58 05.4 +0.3**
comp=Z,75nm,1.5s,mb5.1
ORIF *e*R
comp=Z,104nm,19.5s
ORIF Oris-en-Rattie 51.39 303 *e*P **P 02 58 05.4 +0.3**
ORIF pmax pmax
comp=Z,37nm,1.5s,mb5.1
ORIF Oris-en-Rattie 51.39 303 *e*P **P 02 58 05.4 +0.3**
ORIF pmax pmax
comp=Z,37nm,1.5s,mb5.1
ORIF Oris-en-Rattie 51.39 303 *e*P **P 02 58 05.4 +0.3**
comp=Z,37nm,1.5s,mb5.1
BAIF Baives 51.46 310 *e*P **P 02 58 04.5 -1.1**
comp=Z,30nm,1.3s,mb4.8
BAIF Baives 51.46 310 *e*P **P 02 58 04.5 -1.1**
BAIF pmax pmax
comp=Z,15nm,1.3s,mb4.8
BAIF Baives 51.46 310 *e*P **P 02 58 04.5 -1.1**
BAIF pmax pmax
comp=Z,15nm,1.3s,mb4.8
BAIF Baives 51.46 310 *e*P **P 02 58 04.5 -1.1**
comp=Z,15nm,1.3s,mb4.8
MAJO Matsushiro 51.98 68 *e*P **P 02 58 09.7 +0.2**
MAJO pmax pmax
comp=Z,25nm,0.9s,mb5.1
MAJO Matsushiro 51.98 68 *e*P **P 02 58 09.7 +0.1**
comp=Z,25nm,0.9s,mb5.1
MAT Matsushiro 51.98 68 P **P 02 58 08.1 -1.4**
MAT Matsushiro 51.98 68 *e*P **P 02 58 08.0 -1.5**
MAT pmax pmax
comp=Z,24nm,0.9s,mb5.1
MAT Matsushiro 51.98 68 *e*P **P 02 58 08.0 -1.5**
MAT pmax pmax
comp=Z,24nm,0.9s,mb5.1
MAT Matsushiro 51.98 68 *e*P **P 02 58 08.0 -1.5**
comp=Z,24nm,0.9s,mb5.1
MJAR Matsushiro Arr 51.98 68 P **P 02 58 10.7 +1.2**
comp=Z,13nm,0.8s,mb4.9,baz=292,slow=10,SNR=20
LOR Lormes 52.24 306 *e*P **P 02 58 10.8 -0.6**
comp=Z,44nm,1.5s,mb4.9
LOR *e*R
comp=Z,99nm,19.2s
LOR Lormes 52.24 306 *e*P **P 02 58 10.8 -0.6**
LOR pmax pmax
comp=Z,22nm,1.5s,mb4.9
LOR Lormes 52.24 306 *e*P **P 02 58 10.8 -0.6**
LOR pmax pmax
comp=Z,22nm,1.5s,mb4.9
LOR Lormes 52.24 306 *e*P **P 02 58 10.8 -0.6**
comp=Z,22nm,1.5s,mb4.9
VIVF Saint-Julien-l 52.24 303 *e*P **P 02 58 11.2 -0.3**
SMF Signal de Mont 52.39 306 *e*P **P 02 58 11.9 -0.7**
comp=Z,31nm,1.1s,mb4.9
SMF Signal de Mont 52.39 306 *e*P **P 02 58 11.9 -0.7**
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SMF Signal de Mont 52.39 306 *e*P **P 02 58 11.9 -0.7**
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SMF Signal de Mont 52.39 306 *e*P **P 02 58 11.9 -0.7**
comp=Z,15nm,1.1s,mb4.8
AVF Avril sur Loir 52.68 306 *e*P **P 02 58 14.1 -0.6**
comp=Z,42nm,1.2s,mb4.9
AVF Avril sur Loir 52.68 306 *e*P **P 02 58 14.1 -0.6**
AVF pmax pmax
comp=Z,21nm,1.2s,mb4.9
AVF Avril sur Loir 52.68 306 *e*P **P 02 58 14.1 -0.6**
AVF pmax pmax
comp=Z,21nm,1.2s,mb4.9
AVF Avril sur Loir 52.68 306 *e*P **P 02 58 14.1 -0.6**
comp=Z,21nm,1.2s,mb4.9
LASF Ste Croix 53.00 302 *e*P **P 02 58 17.1 0.0**
comp=Z,133nm,1.6s,mb5.3
BGF Bois d'Agland 53.07 306 *e*P **P 02 58 17.2 -0.4**
comp=Z,38nm,1.2s,mb4.9
BGF Bois d'Agland 53.07 306 *e*P **P 02 58 17.2 -0.4**
BGF pmax pmax
comp=Z,19nm,1.2s,mb4.9
BGF Bois d'Agland 53.07 306 *e*P **P 02 58 17.2 -0.4**
BGF pmax pmax
comp=Z,19nm,1.2s,mb4.9
BGF Bois d'Agland 53.07 306 *e*P **P 02 58 17.2 -0.4**
comp=Z,19nm,1.2s,mb4.9
TCF Toulx Ste Croi 53.57 305 *e*P **P 02 58 21.2 -0.1**
comp=Z,35nm,1.1s,mb4.9
TCF Toulx Ste Croi 53.57 305 *e*P **P 02 58 21.2 -0.1**
TCF pmax pmax
comp=Z,18nm,1.1s,mb4.9
TCF Toulx Ste Croi 53.57 305 *e*P **P 02 58 21.2 -0.1**
TCF pmax pmax
comp=Z,18nm,1.1s,mb4.9
TCF Toulx Ste Croi 53.57 305 *e*P **P 02 58 21.2 -0.1**
comp=Z,18nm,1.1s,mb4.9
CAF Calviac 54.01 304 *e*P **P 02 58 24.6 +0.1**
SET Setif 54.22 293 P **P 02 58 27.0 +1.0**
RJF Les Rejaudoux 54.29 304 *e*P **P 02 58 26.7 +0.2**
comp=Z,152nm,1.9s,mb5.3
RJF *e*R
comp=Z,103nm,22.8s
RJF Les Rejaudoux 54.29 304 *e*P **P 02 58 26.7 +0.2**
RJF pmax pmax
comp=Z,76nm,1.9s,mb5.3
RJF MLR MLR
comp=Z,100nm,22.8s,MS3.8
RJF Les Rejaudoux 54.29 304 *e*P **P 02 58 26.7 +0.2**
RJF pmax pmax
comp=Z,76nm,1.9s,mb5.3
RJF MLR MLR
comp=Z,100nm,22.8s,MS3.8
RJF Les Rejaudoux 54.29 304 *e*P **P 02 58 26.7 +0.2**
comp=Z,76nm,1.9s,mb5.3
RJF LR LR
comp=Z,100nm,22.8s,MS3.8
MTLF Montolieu 54.34 302 *e*P **P 02 58 26.7 -0.2**
comp=Z,43nm,1.3s,mb4.9
MTLF Montolieu 54.34 302 *e*P **P 02 58 26.7 -0.2**
MTLF pmax pmax
comp=Z,21nm,1.3s,mb4.9
MTLF Montolieu 54.34 302 *e*P **P 02 58 26.7 -0.2**
MTLF pmax pmax
comp=Z,21nm,1.3s,mb4.9
MTLF Montolieu 54.34 302 *e*P **P 02 58 26.7 -0.2**
comp=Z,22nm,1.3s,mb4.9
FLN La Foliniere 54.73 309 *e*P **P 02 58 29.0 -0.7**
comp=Z,50nm,1.1s,mb5.2
FLN *e*R
comp=Z,126nm,20.0s
FLN La Foliniere 54.73 309 *e*P **P 02 58 29.0 -0.7**
FLN pmax pmax
comp=Z,25nm,1.1s,mb5.2
FLN La Foliniere 54.73 309 *e*P **P 02 58 29.0 -0.7**
FLN pmax pmax
comp=Z,25nm,1.1s,mb5.2
FLN La Foliniere 54.73 309 *e*P **P 02 58 29.0 -0.7**
comp=Z,25nm,1.1s,mb5.2
MA2 Magadan 54.73 37 *e*P **P 02 58 30.4 +0.6**
MA2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
MA2 Magadan 54.73 37 *e*P **P 02 58 30.4 +0.6**
comp=Z,8.7nm,0.7s,mb4.9
SEY Seymchan 54.98 33 *e*P **P 02 58 32.1 +0.6**
SEY *e* 03 00 29.3
SEY *e*PPP 03 01 40.1
SEY *e*S **S 03 06 15.1 +2.2**
SEY pmax pmax
comp=E,9.0nm,0.9s
SEY pmax pmax
comp=Z,16nm,0.9s,mb5.0
SEY Seymchan 54.98 33 *e*P **P 02 58 32.1 +0.6**
SEY *e*S **S 03 06 15.1 +2.2**
SEY *e* 03 08 22.6
SEY *e*SS SS 03 10 01.8 +5.3
SEY *e*SSS 03 12 03.7
SEY pmax pmax
comp=E,9.0nm,0.9s
SEY pmax pmax
comp=Z,16nm,0.9s,mb5.0
SEY smax
comp=N,60nm,5.2s
SEY smax
comp=E,42nm,5.2s
EPF Esparros 55.74 302 *e*P **P 02 58 36.4 -0.7**
comp=E,76nm,1.5s,mb5.2
EPF Esparros 55.74 302 *e*P **P 02 58 36.4 -0.7**
EPF pmax pmax
comp=Z,38nm,1.5s,mb5.2
EPF Esparros 55.74 302 *e*P **P 02 58 36.4 -0.7**
EPF pmax pmax
comp=Z,38nm,1.5s,mb5.2
EPF Esparros 55.74 302 *e*P **P 02 58 36.4 -0.7**
comp=Z,38nm,1.5s,mb5.2
ETSF Etsaut 56.41 302 *e*P **P 02 58 41.9 0.0**
comp=Z,14nm,0.6s,mb4.9
ETSF Etsaut 56.41 302 *e*P **P 02 58 41.9 0.0**
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
ETSF Etsaut 56.41 302 *e*P **P 02 58 41.9 0.0**
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
ETSF Etsaut 56.41 302 *e*P **P 02 58 41.9 0.0**
comp=Z,7.3nm,0.6s,mb4.9
DAG Danmarks Havn 57.02 344⇑ *i*P **P 02 58 46.1 0.0**
comp=Z,13nm,0.8s,mb5.0
DAG Danmarks Havn 57.02 344⇑ *i*P **P 02 58 46.1 0.0**
DAG pmax pmax
comp=Z,13nm,0.8s,mb5.0
DAG Danmarks Havn 57.02 344⇑ *i*P **P 02 58 46.1 0.0**
DAG pmax pmax
comp=Z,13nm,0.8s,mb5.0
BILL Bilibino 59.49 26 *e*P **P 02 59 04.2 +0.7**
BILL pmax pmax
comp=Z,28nm,1.3s,mb5.1
BILL Bilibino 59.49 26 *e*P **P 02 59 04.2 +0.7**
comp=Z,28nm,1.3s,mb5.1
ESDC Sonseca Array 59.92 300 P **P 02 59 06.3 -0.1**
comp=Z,2.5nm,0.6s,mb4.4,baz=58,slow=7.4,SNR=17
ESDC Sonseca Array 59.92 300 P **P 02 59 06.3 -0.1**
SUMG Summit 63.40 342 *e*P **P 02 59 30.1 +0.3**
comp=Z,34nm,0.9s,mb5.5
LSZ Lusaka 65.52 229 *e*P **P 02 59 44.8 +1.1**
LSZ pmax pmax
comp=Z,23nm,1.4s,mb5.0
LSZ Lusaka 65.52 229 *e*P **P 02 59 44.8 +1.1**
comp=Z,23nm,1.4s,mb5.0
TORD Torodi Ar. Bea 67.50 271 P **P 02 59 56.5 +0.1**
comp=Z,20nm,0.5s,mb5.4,baz=43,slow=5.7,SNR=174
MBWA Marble Bar 70.95 134 *e*P **P 03 00 17.6 -0.2**
comp=Z,23nm,1.0s,mb5.1
FITZ Fitzroy Crossi 72.34 128 *e*P **P 03 00 26.8 +0.7**
comp=Z,22nm,1.1s,mb5.0
FITZ Fitzroy Crossi 72.34 128 P **P 03 00 26.7 +0.5**
comp=Z,18nm,1.1s,mb4.9,baz=349,slow=7.3,SNR=9.5
KAKA Kakadu 73.27 119 *e*P **P 03 00 31.7 0.0**
comp=Z,36nm,1.0s,mb5.3
LBTB Lobatse 74.54 224 *e*P **P 03 00 40.1 +1.0**
LBTB *e*PP pP 03 00 44.3 +0.1
LBTB pmax pmax
comp=Z,16nm,0.5s,mb5.2
LBTB Lobatse 74.54 224 *e*P **P 03 00 40.1 +1.0**
comp=Z,16nm,0.5s,mb5.2
LBTB *e*pP pP 03 00 44.3 +0.1
TSUM Tsumeb 75.22 234 *e*P **P 03 00 44.3 +1.2**
comp=Z,10nm,0.9s,mb4.8
INK Inuvik 75.44 10 *e*P **P 03 00 44.6 +0.3**
INK *e*PP pP 03 00 48.0 -1.4
INK pmax pmax
comp=Z,12nm,0.6s
INK Inuvik 75.44 10 *e*P **P 03 00 44.6 +0.3**
comp=Z,12nm,0.6s,mb5.0
INK *e*pP pP 03 00 48.0 -1.4
COLA College 75.75 17 *e*P **P 03 00 46.4 +0.3**
COLA pmax pmax
comp=Z,18nm,1.1s,mb4.9
COLA College 75.75 17 *e*P **P 03 00 46.4 +0.3**
comp=Z,18nm,1.1s,mb4.9
ILAR Eielson Array 76.06 17 P **P 03 00 47.3 -0.6**
comp=Z,1.5nm,0.4s,mb4.2,baz=293,slow=4.7,SNR=35
ILAR Eielson Array 76.06 17 P **P 03 00 47.3 -0.6**
ILAR Eielson Array 76.06 17 P **P 03 00 47.3 -0.6**
DBIC Dimbokro 76.42 269 P **P 03 00 50.3 +0.4**
comp=Z,11nm,0.5s,mb5.0,baz=25,slow=6.8,SNR=45
DBIC Dimbokro 76.42 269 *e*P **P 03 00 50.3 +0.4**
DBIC *e*PP pP 03 00 54.6 -0.4
DBIC pmax pmax
comp=Z,12nm,0.5s
DBIC Dimbokro 76.42 269 *e*P **P 03 00 50.3 +0.4**
DBIC *e*PP pP 03 00 54.6 -0.4
DBIC pmax pmax
comp=Z,12nm,0.5s
DBIC Dimbokro 76.42 269 *e*P **P 03 00 50.3 +0.4**
comp=Z,12nm,0.5s,mb5.1
DBIC *e*pP pP 03 00 54.6 -0.4
MCK McKinley 76.43 18 *e*P **P 03 00 49.9 -0.1**
MCK pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
MCK McKinley 76.43 18 *e*P **P 03 00 49.9 -0.1**
comp=Z,1.9nm,0.4s,mb4.4
LIC Lamto 76.81 268⇑ *i*P **P 03 00 52.5 +0.4**
comp=Z,28nm,0.7s,mb5.0
LIC *e*R
comp=Z,198nm,19.8s
LIC Lamto 76.81 268⇑ *i*P **P 03 00 52.5 +0.4**
comp=Z,14nm,0.7s,mb5.0
LIC LR LR
comp=Z,100nm,19.8s,MS4.1
BOSA Boshof 77.52 222 P **P 03 00 56.8 +0.7**
comp=Z,23nm,0.5s,mb5.3,baz=32,slow=4.4,SNR=80
BOSA Boshof 77.52 222 P **P 03 00 56.8 +0.7**
BOSA pmax pmax
comp=Z,23nm,0.5s,mb5.4
BOSA Boshof 77.52 222 P **P 03 00 56.8 +0.7**
BOSA pmax pmax
comp=Z,23nm,0.5s,mb5.4
BOSA Boshof 77.52 222 *e*P **P 03 00 56.5 +0.4**
comp=Z,26nm,0.7s,mb5.3
MUN Mundaring 77.63 144 *e*P **P 03 00 55.5 -1.2**
KLBR Kellerberrin 78.08 142 *e*P **P 03 00 57.7 -1.5**
comp=Z,16nm,0.9s,mb5.0
DAWY Dawson 78.31 14 *e*P **P 03 01 00.5 +0.1**
WRA Warramunga Arr 79.48 123 P **P 03 01 07.3 +0.4**
comp=Z,13nm,0.8s,mb4.9,baz=324,slow=5.2,SNR=54
WRA Warramunga Arr 79.48 123 P **P 03 01 07.3 +0.4**
WRA Warramunga Arr 79.48 123 P **P 03 01 07.3 +0.4**
WRAB Tennant Creek 79.48 123 P **P 03 01 07.0 +0.1**
comp=Z,123nm,1.0s,mb5.8,SNR=8.2
WRAB Tennant Creek 79.48 123 *e*P **P 03 01 07.3 +0.4**
WRAB pmax pmax
comp=Z,22nm,0.8s,mb5.1
WRAB Tennant Creek 79.48 123 *e*P **P 03 01 07.3 +0.4**
comp=Z,22nm,0.8s,mb5.1
KDAK Kodiak Island 80.23 23 LR LR 03 39 00.6
comp=Z,127nm,18.0s,MS4.3,baz=98,slow=37
ASAR Alice Springs 81.71 126 P **P 03 01 19.0 +0.1**
comp=Z,10nm,0.8s,mb4.8,baz=320,slow=5.5,SNR=54
ASAR Alice Springs 81.71 126 P **P 03 01 19.0 +0.1**
PMG Port Moresby 82.36 107 *e*P **P 03 01 22.8 +0.5**
PMG pmax pmax
comp=Z,4.0nm,0.8s
PMG Port Moresby 82.36 107 *e*P **P 03 01 22.8 +0.5**
PMG pmax pmax
comp=Z,4.0nm,0.8s
PMG Port Moresby 82.36 107 *e*P **P 03 01 22.8 +0.5**
comp=Z,3.7nm,0.8s,mb4.4
SUR Sutherland 82.86 222 *e*P **P 03 01 26.4 +1.5**
comp=Z,13nm,0.7s,mb5.1
YKW3 Yellowknife Ar 82.94 4 *e*P **P 03 01 24.7 -0.6**
YKW3 *e*pP pP 03 01 29.1 -1.2
YKA Yellowknife Ar 83.00 4 P **P 03 01 25.1 -0.5**
comp=Z,3.4nm,0.4s,mb4.7,baz=349,slow=5.4,SNR=56
YKA PKKPbc PKKPbc 03 19 48.6 +1.1
comp=Z,0.4nm,0.9s,baz=167,slow=2.7,SNR=4.9
YKA Yellowknife Ar 83.00 4 P **P 03 01 25.2 -0.4**
YKA Yellowknife Ar 83.00 4 P **P 03 01 25.1 -0.5**
YKA PKKPbc PKKPbc 03 19 48.6 +1.1
FORT Forrest 83.08 135 *e*P **P 03 01 26.8 +0.8**
comp=Z,26nm,0.7s,mb5.4
SCHQ Schefferville 84.50 338 P **P 03 01 32.7 -0.6**
comp=Z,3.0nm,0.6s,mb4.6,baz=25,slow=3.2,SNR=6.7
SCHQ Schefferville 84.50 338 P **P 03 01 32.7 -0.6**
FCC Fort Churchill 86.35 353 *e*P **P 03 01 42.2 -0.3**
FCC pmax pmax
comp=Z,12nm,1.4s,mb4.9
FCC Fort Churchill 86.35 353 *e*P **P 03 01 42.2 -0.3**
comp=Z,12nm,1.4s,mb4.9
CTA Charters Tower 88.12 116 *e*P **P 03 01 51.4 +0.3**
comp=Z,7.8nm,1.2s,mb4.8
CTA Charters Tower 88.12 116 *e*P **P 03 01 51.4 +0.3**
CTA pmax pmax
comp=Z,8.0nm,1.2s
CTA Charters Tower 88.12 116 *e*P **P 03 01 51.4 +0.3**
CTA pmax pmax
comp=Z,8.0nm,1.2s
CTAO Charters Tower 88.12 116 *e*P **P 03 01 51.2 +0.1**
CTAO pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
CTAO Charters Tower 88.12 116 *e*P **P 03 01 51.2 +0.1**
comp=Z,5.5nm,0.5s,mb5.0
FFC Flin Flon 90.90 357 *e*P **P 03 02 03.8 -0.3**
FFC *e*PP pP 03 02 08.0 -1.3
FFC pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
FFC Flin Flon 90.90 357 *e*P **P 03 02 03.8 -0.3**
comp=Z,8.8nm,1.1s,mb5.0
FFC *e*pP pP 03 02 08.0 -1.3
STKA Stephens Creek 92.24 128 *e*P **P 03 02 08.8 -1.5**
comp=Z,1.7nm,0.9s,mb4.4
STKA Stephens Creek 92.24 128 P **P 03 02 09.2 -1.1**
comp=Z,1.3nm,0.7s,mb4.4,baz=289,slow=9.5,SNR=5.2
EDM Edmonton 92.32 4 *e*P **P 03 02 11.0 +0.3**
EDM *e*PP pP 03 02 15.2 -0.6
EDM Edmonton 92.32 4 *e*P **P 03 02 11.0 +0.3**
EDM *e*pP pP 03 02 15.2 -0.7
ULM Lac du Bonnet 94.93 353 P **P 03 02 23.4 +0.8**
comp=Z,1.0nm,0.5s,mb4.5,baz=348,slow=6.7,SNR=3.9
VNDA Vanda 123.23 165 PKP PKPdf 03 07 55.6 -1.6
comp=Z,2.4nm,0.9s,baz=292,slow=4.1,SNR=6.1
VNDA Vanda 123.23 165 PKIKP PKPdf 03 07 55.6 -1.6
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA Vanda 123.23 165 *e*PKPdf PKPdf 03 07 55.0 -2.1
QSPA South Pole Qui 124.43 180 *e*P PKPdf 03 07 58.1 -1.4
SAML Samuel 132.63 292 *e*PKPdf PKPdf 03 08 15.9 +0.8
CPUP Villa Florida 136.93 267 PKP PKPdf 03 08 21.6 -1.6
comp=Z,0.7nm,0.5s,baz=20,slow=6.7,SNR=3.3
TRQA Tornquist 144.00 251 *e*PKPdf PKPdf 03 08 34.0 -1.9
NNA Nana 144.66 302 *e*PKPdf PKPdf 03 08 36.1 -0.9
USHA Ushuaia 146.67 221 PKPbc PKPbc 03 08 42.1 0.0
comp=Z,3.5nm,0.5s,baz=129,slow=1.5,SNR=11
CFAA Coronel Fontan 147.69 264 PKPbc PKPbc 03 08 45.6 +0.7
comp=Z,1.8nm,0.5s,baz=91,slow=4.1,SNR=22
PLCA Paso Flores 150.82 247 PKPbc PKPbc 03 08 52.6 -0.2
comp=Z,5.7nm,1.1s,baz=82,slow=3.6,SNR=5.4
PLCA Paso Flores 150.82 247 *e*PKPbc PKPbc 03 08 52.7 -0.1

IDC 19 03:05:35.6±4.8, 1961S×6898W, h122km±32km, mb3.7/3, mb1 3.7/6, mb1mx3.4/19, mbtmp4.0/6, MS3.7/2, Ms1 3.7/2, ms1mx2.8/23, Error ellipse: s-maj=50.8km s-min=22.2km az=53.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.40**	**14**	P	Pn	03 06 29.5	+2.3
	1.2nm,0.3s,baz=193,slow=9.8,SNR=16						
LPAZ				S	Sn	03 07 08.1	+1.0
	1.0nm,0.3s,baz=39,slow=24,SNR=5.1						
SIV	**San Ignacio**	**8.35**	**66**	P	Pn	03 07 33.1	-0.7
	1.6nm,0.3s,baz=262,slow=10,SNR=53						
CPUP	**Villa Florida**	**12.64**	**124**	P	Pn	03 08 29.6	-1.4
	0.4nm,0.3s,baz=309,slow=13,SNR=4.1						
BDFB	**Brasilia**	**20.37**	**82**	P	P	03 10 04.5	+2.0
	4.6nm,0.6s,baz=268,slow=9.7,SNR=10						
JTS	**JuntasAbangare**	**33.62**	**331**	LR	LR	03 23 59.0	
	comp=Z,78nm,21.9s,baz=142,slow=33						
PDAR	**Pinedale Array**	**72.45**	**330**	LR	LR	03 51 44.2	
	comp=Z,75nm,18.8s,baz=104,slow=38						
TORD	**Torodi Ar. Bea**	**76.79**	**71**	P	P	03 17 14.2	+0.4
	1.1nm,0.4s,baz=252,slow=5.4,SNR=62						
YKA	**Yellowknife Ar**	**89.39**	**341**	P	P	03 18 18.0	-0.5
	0.4nm,0.6s,baz=132,slow=4.6,SNR=13						
YKA				pP	pP	03 18 45.2	-4.6
	0.3nm,0.6s,baz=133,slow=4.8,SNR=7.4						

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*IDC **19** 03:17:38.6±0.8, 3457N×7322E, h0km, mb4.0/11, mb1 4.1/14, mb1mx3.9/24, mbtmp4.0/14, ML4.0/3, Error ellipse: s-maj=22.9km s-min=18.9km az=66.0*
*MOS **19** 03:17:39.1±0.9, 3462N×7302E, h10km, mb4.4/3, Error ellipse: s-maj=30.0km s-min=9.7km az=97.0*
*NDI **19** 03:17:39.9±5.5, 3489N×7305E, h10km, MD3.9, ML4.0*
*NEIC **19** 03:17:40.4±0.6, 3460N×7324E, h10km, mb3.9/5, Error ellipse: s-maj=13.6km s-min=10.8km az=91.0*
*ISCJB **19** 03:17:40.1±0.3, 3473N±003×7325E±005, h10km, mb4.0/13, Error ellipse: s-maj=5.8km s-min=3.9km az=165.8*
*NNC **19** 03:17:50.0±3.8, 3520N×7267E, h24km±49km, mb3.8, mpv4.2, Error ellipse: s-maj=32.1km s-min=23.4km az=164.0*

ISC 19 03:17:41.6±0.3, 3475N±003×7315E±005, h10km, n53, σ1§30/62, mb4.0/13, 11C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.09**	**175**	P	**Pb**	**03 18 00.2**	**-2.4**
CEP	**Cherat**	**1.38**	**228**	P	**Pn**	**03 18 06.9**	**0.0**
CEP				S	**Sb**	**03 18 26.0**	**+0.8**
THW	**Thamme Wali**	**2.28**	**211**	P	**Pn**	**03 18 20.4**	**+1.2**
SBDP	**Sheikh Budin**	**3.13**	**219**	P	**Pn**	**03 18 31.1**	**+0.1**
DLH	**Dalhousie**	**3.22**	**132**	*e*P	**Pn**	**03 18 33.0**	**+0.8**

DLH ex **Sn** **03 19 18.0 +7.4**
PONG Pong 3.64 139 *e*P **Pn** **03 18 35.0 -3.0**
PONG ex x 03 19 40.0
DRP Derazinda 3.89 220 P **Pn** **03 18 42.2 +0.9**
SDNR Sundarnagar 4.56 134 *e*P **Pn** **03 18 50.5 -0.1**
SDNR *e*S **Sn** **03 19 41.9 -1.7**
SMLA Simla 4.94 136 *e*P **Pn** **03 18 59.9 +4.0**
SMLA *e*S **Sn** **03 19 52.6 -0.5**
288nm,0.3s
DDI Dehra Dun 6.05 135 *ex* **Pn** **03 19 22.5 +11**
DDI *ex* **Sn** **03 20 25.0 +4.6**
NDI New Delhi 6.97 149 *e*S **Sn** **03 20 40.0 -3.0**
AML Almayashu 7.38 3 P **Pn** **03 19 33.6 +4.3**
SNR=9.3
KZA Kyzart 7.50 12 P **Pn** **03 19 34.9 +4.0**
SNR=7.7
UCH Uchtor 7.54 8 P **Pn** **03 19 35.3 +3.8**
SNR=20
EKS2 Erkin-Say 7.91 3 P **Pn** **03 19 40.6 +4.0**
SNR=6.0
TKM2 Tokmak 2 8.38 12 P **Pn** **03 19 47.3 +4.3**
SNR=5.3
TKM2 Tokmak 2 8.38 12 ⇑Pn **Pn** **03 19 47.0 +4.0**
3.9nm,0.7s
TKM2 ⇑Sn **Sn** **03 21 17.2 -0.4**
8.6nm,0.5s
KK31 Karatay Array 8.59 347 ⇑Pn **Pn** **03 19 48.4 +2.5**
9.0nm,0.3s,baz=156,slow=11,SNR=277
KK31 ⇑Sn **Sn** **03 21 21.7 -1.1**
8.1nm,0.6s,baz=173,slow=23,SNR=8.6
MK31 Makanchi Array 13.87 27 ⇑P **Pn** **03 20 58.9 +0.8**
0.8nm,0.6s,baz=193,slow=12,SNR=9.4
MKAR Makanchi Array 13.87 27 Pn **Pn** **03 20 59.3 +1.2**
0.1nm,0.3s,baz=206,slow=13,SNR=12
KURK Kurchatov 16.45 12 ⇓P **Pn** **03 21 34.1 +1.8**
3.9nm,1.7s
KURK Kurchatov 16.45 12 *e*P **Pn** **03 21 34.2 +1.8**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 16.45 12 *e*Pn **Pn** **03 21 34.2 +1.8**
comp=Z,4.0nm,0.9s
AB31 Akbulak array 17.46 330 ⇑Pn **Pn** **03 21 43.3 -1.9**
comp=Z,1.1nm,0.4s,baz=141,slow=12,SNR=43
AB31 ⇑Sn **Sn** **03 24 48.7 -11**
comp=Z,0.5nm,0.5s,baz=156,slow=21,SNR=3.9
VOSK Vostochnaya 18.03 356 ⇑P **Pn** **03 21 52.2 0.0**
comp=Z,3.0nm,1.4s
BVA0 Borovoye Array 18.37 355 ⇑P **Pn** **03 21 57.2 +0.8**
comp=Z,0.3nm,0.4s,baz=155,slow=8.9,SNR=25
BVAR Borovoye Array 18.37 355 P **Pn** **03 21 57.4 +1.0**
comp=Z,1.2nm,0.3s,baz=154,slow=9.0,SNR=19
BRVK Borovoye 18.41 355 *e*P **Pn** **03 21 55.7 -1.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 18.41 355 *e*P **Pn** **03 21 55.7 -1.2**
comp=Z,2.4nm,0.6s
ZRNK Zerenda 18.43 352 ⇓P **Pn** **03 21 57.6 +0.5**
comp=Z,3.0nm,0.5s
ZRNK Zerenda 18.43 352 *e*P **Pn** **03 21 57.4 +0.3**
ZRNK pmax pmax
comp=Z,7.0nm,0.6s
ZRNK Zerenda 18.43 352 *e*P **Pn** **03 21 57.4 +0.3**
comp=Z,6.6nm,0.6s
AKTK Aktyubinsk 19.17 329 P **Pn** **03 22 06.0 0.0**
AKTO Aktyubinsk 19.17 329 ⇑Pn **Pn** **03 22 05.8 -0.2**
comp=Z,1.2nm,0.7s
AKTO ⇑Sn **Sn** **03 25 40.4 -0.4**
comp=Z,0.6nm,0.6s
AKTO Aktyubinsk 19.17 329 P **Pn** **03 22 06.0 0.0**
comp=Z,0.9nm,0.3s,baz=135,slow=11,SNR=48
AKTO Aktyubinsk 19.17 329 P **Pn** **03 22 06.1 0.0**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 23.14 292 *e*P **P** **03 22 49.6 +1.7**
comp=Z,3.4nm,0.3s,mb4.2,baz=192,slow=8.5,SNR=3.7
GNI Garni 23.14 292 *e*P **P** **03 22 50.4 +2.5**
GNI pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 23.14 292 *e*P **P** **03 22 50.4 +2.5**
comp=Z,4.1nm,0.9s,mb3.9
ARU Arti 23.86 340 *e*P **P** **03 22 54.5 -0.6**
ARU pmax pmax
comp=Z,19nm,0.6s,mb4.7
ARU Arti 23.86 340 *e*P **P** **03 22 54.5 -0.6**
comp=Z,19nm,0.6s,mb4.7
JOF Joensuu 38.25 330 *e*p **P** **03 25 02.5 +0.7**
comp=Z,0.9nm,0.4s,mb3.9
FINES FINESS Array B 39.91 327 P **P** **03 25 15.1 -0.6**
comp=Z,0.3nm,0.3s,mb3.5,baz=123,slow=8.0,SNR=6.4
ARCES ARCESS Array B 43.42 338 P **P** **03 25 44.8 +0.3**
comp=Z,5.5nm,0.9s,mb4.3,baz=116,slow=7.2,SNR=13
NB2 NORSAR Subarra 46.83 324 P **P** **03 26 10.7 -0.8**
comp=Z,0.4nm,0.5s,mb3.6,baz=93,slow=7.9
NOA NORSAR Array B 46.83 324 P **P** **03 26 10.9 -0.6**
comp=Z,0.7nm,0.6s,mb3.7,baz=94,slow=7.6,SNR=3.5
TORD Torodi Ar. Bea 67.46 271 P **P** **03 28 36.4 -1.1**
comp=Z,1.8nm,0.4s,mb4.4,baz=47,slow=5.9,SNR=96
ILAR Eielson Array 75.97 17 P **P** **03 29 27.4 -1.3**
comp=Z,0.1nm,0.4s,mb3.1,baz=301,slow=4.5,SNR=5.3
DBIC Dimbokro 76.38 269 P **P** **03 29 30.5 -0.6**
comp=Z,3.1nm,1.0s,mb4.2,baz=214,slow=11,SNR=3.8
BOSA Boshof 77.58 222 P **P** **03 29 36.3 -1.5**
comp=Z,3.4nm,0.8s,mb4.3,baz=75,slow=6.5,SNR=7.9
WRA Warramunga Arr 79.58 123 P **P** **03 29 47.3 -1.4**
comp=Z,0.9nm,0.7s,mb3.8,baz=332,slow=6.2,SNR=5.2
ASAR Alice Springs 81.81 126 P **P** **03 29 59.5 -1.3**
comp=Z,0.8nm,0.8s,mb3.7,baz=312,slow=5.3,SNR=8.6
YKA Yellowknife Ar 82.89 4 P **P** **03 30 05.3 -1.1**
comp=Z,0.5nm,0.5s,mb3.8,baz=349,slow=5.1,SNR=14

*MOS **19** 03:21:13.9±1.1, 3463N×7333E, h10km, mb4.3/1, Error ellipse: s-maj=22.0km s-min=9.9km az=102.7*
*IDC **19** 03:21:13.8±1.0, 3453N×7322E, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.7/23, mbtmp3.9/9, ML4.0/3, Error ellipse: s-maj=30.3km s-min=22.1km az=83.0*
*ISCJB **19** 03:21:14.3±0.3, 3470N±003×7343E±005, h10km, mb3.8/7, Error ellipse: s-maj=5.4km s-min=4.1km az=170.0*
*NEIC **19** 03:21:15.8±0.4, 3460N×7326E, h10km, mb3.5/3, Error ellipse: s-maj=12.4km s-min=4.3km az=50.0*
*NDI **19** 03:21:16.5±4.1, 3357N×7183E, h38km±999km, MD3.8, ML4.5*
*NNC **19** 03:21:25.6±3.6, 3505N×7290E, h62km±25km, mb3.6, mpv4.3, Error ellipse: s-maj=33.8km s-min=27.4km az=19.0*

ISC 19 03:21:16.1±0.3, 3470N±003×7330E±005, h10km, n52, σ1§16/66, mb3.8/7, 6C-7D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.03**	**182**	⇓P	**Pg**	**03 21 35.2**	**-0.8**
CEP	**Cherat**	**1.44**	**233**	P	**Pn**	**03 21 41.4**	**-0.8**
CEP				S	**Sn**	**03 22 01.0**	**-0.2**
THW	**Thamme Wali**	**2.30**	**215**	⇑P	**Pn**	**03 21 55.4**	**+1.4**
SARP	**Sargodha**	**2.82**	**191**	P	**Pn**	**03 22 02.1**	**+1.0**
DLH	**Dalhousie**	**3.09**	**133**	*e*P	**Pn**	**03 22 09.0**	**+4.1**
DLH				*e*S	**Sn**	**03 22 48.0**	**+6.1**
SBDP	**Sheikh Budin**	**3.17**	**222**	P	**Pn**	**03 22 06.5**	**+0.5**
PONG	**Pong**	**3.52**	**140**	*ex*	**Pn**	**03 22 05.0**	**-5.8**
PONG				*ex*	x	03 23 10.0	
DRP	**Derazinda**	**3.92**	**222**	P	**Pn**	**03 22 17.5**	**+1.1**
BHK	**Bhakra**	**4.19**	**140**	*ex*	**Sn**	**03 23 16.0**	**+7.0**
SDNR	**Sundarnagar**	**4.43**	**135**	*e*P	**Pn**	**03 22 25.5**	**+2.2**
SDNR				*e*S	**Sn**	**03 23 18.9**	**+3.9**
SMLA	**Simla**	**4.82**	**136**	*e*P	**Pn**	**03 22 31.4**	**+2.8**
SMLA				*e*S	**Sn**	**03 23 22.3**	**-2.2**
1μm,0.4s							
AML	**Almayashu**	**7.43**	**2**	P	**Pn**	**03 23 08.6**	**+4.0**
SNR=16							
KZA	**Kyzart**	**7.53**	**11**	P	**Pn**	**03 23 10.2**	**+4.3**
SNR=18							
UCH	**Uchtor**	**7.58**	**7**	P	**Pn**	**03 23 11.5**	**+4.9**
SNR=16							
EKS2	**Erkin-Say**	**7.96**	**3**	P	**Pn**	**03 23 16.5**	**+4.7**
SNR=6.4							
AAK	**Ala-Archa**	**7.98**	**6**	P	**Pn**	**03 23 17.9**	**+5.8**
SNR=6.6							
TKM2	**Tokmak 2**	**8.41**	**12**	P	**Pn**	**03 23 22.1**	**+4.2**
SNR=5.3							
TKM2	**Tokmak 2**	**8.41**	**12**	⇓Pn	**Pn**	**03 23 22.0**	**+4.1**
3.8nm,0.5s							
TKM2				⇓Sn	**Sn**	**03 24 53.3**	**+0.5**
2.9nm,0.5s							
KK31	**Karatay Array**	**8.67**	**346**	⇓Pn	**Pn**	**03 23 23.9**	**+2.4**
7.6nm,0.3s,baz=155,slow=11,SNR=123							
KK31				⇑Sn	**Sn**	**03 24 57.7**	**-1.6**
2.5nm,0.4s,baz=168,slow=23,SNR=6.1							
KOLN	**Koldanda**	**11.19**	**125**	*e*Pn	**Pn**	**03 23 56.4**	**+0.3**
KOLN				*e*Sn	**Sn**	**03 25 55.0**	**-6.2**
16nm,0.4s							
GKN	**Gorkha**	**11.76**	**121**	*e*Pn	**Pn**	**03 24 03.2**	**-0.6**
GKN				*e*Sn	**Sn**	**03 26 07.0**	**-8.1**
35nm,0.5s							
DMN	**Daman**	**12.33**	**122**	*e*Pn	**Pn**	**03 24 11.4**	**-0.2**
DMN				*e*Sn	**Sn**	**03 26 21.8**	**-7.3**
25nm,0.5s							
KKN	**Kakani**	**12.34**	**121**	*e*Pn	**Pn**	**03 24 11.3**	**-0.5**
KKN				*e*Sn	**Sn**	**03 26 21.4**	**-8.0**
26nm,0.7s							
PKI	**Pulchoki**	**12.56**	**121**	*e*Pn	**Pn**	**03 24 15.3**	**+0.5**
PKI				*e*Sn	**Sn**	**03 26 27.2**	**-7.6**
20nm,0.4s							
GUN	**Gumba**	**12.70**	**119**	*e*Pn	**Pn**	**03 24 16.5**	**-0.2**
GUN				*e*Sn	**Sn**	**03 26 30.9**	**-7.2**
16nm,0.4s							
JIRN	**Jiri**	**13.07**	**119**	*e*Pn	**Pn**	**03 24 21.0**	**-0.7**
JIRN				*e*Sn	**Sn**	**03 26 38.7**	**-8.5**
34nm,0.5s							
MK31	**Makanchi Array**	**13.86**	**27**	⇓P	**Pn**	**03 24 33.8**	**+1.3**
0.7nm,0.5s,baz=197,slow=14,SNR=6.5							
MKAR	**Makanchi Array**	**13.86**	**27**	Pn	**Pn**	**03 24 34.2**	**+1.7**
0.2nm,0.3s,baz=211,slow=14,SNR=7.5							
KURK	**Kurchatov**	**16.47**	**12**	⇑P	**Pn**	**03 25 05.0**	**-2.2**
7.1nm,2.3s							
KURK	**Kurchatov**	**16.47**	**12**	*e*P	**Pn**	**03 25 04.9**	**-2.3**
KURK				pmax	pmax		
comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**16.47**	**12**	*e*P	**Pn**	**03 25 04.9**	**-2.4**
comp=Z,2.3nm,0.8s							
AB31	**Akbulak array**	**17.57**	**330**	⇓Pn	**Pn**	**03 25 19.9**	**-1.2**
comp=Z,1.0nm,0.5s,baz=141,slow=12,SNR=7.4							
AB31				⇑Sn	**Sn**	**03 28 27.4**	**-9.4**
comp=Z,1.0nm,0.6s,baz=148,slow=23,SNR=3.6							
VOSK	**Vostochnaya**	**18.10**	**355**	⇑P	**Pn**	**03 25 25.3**	**-2.2**
comp=Z,7.0nm,2.0s							
BVA0	**Borovoye Array**	**18.44**	**354**	⇓P	**Pn**	**03 25 32.5**	**+0.8**
comp=Z,0.6nm,0.9s,baz=158,slow=9.6,SNR=14							
BVAR	**Borovoye Array**	**18.44**	**354**	P	**Pn**	**03 25 32.1**	**+0.4**
comp=Z,0.9nm,0.3s,baz=158,slow=9.4,SNR=15							
BRVK	**Borovoye**	**18.48**	**354**	*e*P	**Pn**	**03 25 32.3**	**+0.1**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s							
BRVK	**Borovoye**	**18.48**	**354**	*e*P	**Pn**	**03 25 32.3**	**0.0**
comp=Z,2.0nm,0.6s							
ZRNK	**Zerenda**	**18.50**	**352**	⇑P	**Pn**	**03 25 31.5**	**-1.0**
comp=Z,2.4nm,0.5s							
ZRNK	**Zerenda**	**18.50**	**352**	*e*P	**Pn**	**03 25 32.7**	**+0.2**
ZRNK				pmax	pmax		
comp=Z,3.0nm,0.6s							
ZRNK	**Zerenda**	**18.50**	**352**	*e*P	**Pn**	**03 25 32.7**	**+0.2**
comp=Z,2.5nm,0.6s							
AKTK	**Aktyubinsk**	**19.28**	**329**	P	**Pn**	**03 25 41.3**	**-0.6**
AKTO	**Aktyubinsk**	**19.28**	**329**	P	**Pn**	**03 25 41.3**	**-0.6**
comp=Z,0.6nm,0.3s,baz=127,slow=9.1,SNR=9.6							
AKTO	**Aktyubinsk**	**19.28**	**329**	P	**Pn**	**03 25 41.3**	**-0.6**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
JOF	**Joensuu**	**38.36**	**330**	*e*p	**P**	**03 28 38.1**	**+0.9**
comp=Z,0.9nm,0.4s,mb3.9							
FINES	**FINESS Array B**	**40.02**	**327**	P	**P**	**03 28 50.8**	**-0.3**
comp=Z,1.0nm,0.8s,mb3.6,baz=119,slow=11,SNR=6.9							
ARCES	**ARCESS Array B**	**43.52**	**338**	P	**P**	**03 29 20.4**	**+0.7**
comp=Z,1.8nm,0.7s,mb3.9,baz=118,slow=7.6,SNR=12							
ARCES	**ARCESS Array B**	**43.52**	**338**	P	**P**	**03 29 20.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**67.58**	**271**	P	**P**	**03 32 11.3**	**-1.4**
comp=Z,0.5nm,0.5s,mb3.8,baz=54,slow=5.2,SNR=16							
BOSA	**Boshof**	**77.62**	**222**	P	**P**	**03 33 12.1**	**-0.5**
comp=Z,1.8nm,0.6s,mb4.2,baz=68,slow=5.2,SNR=6.3							
WRA	**Warramunga Arr**	**79.44**	**123**	P	**P**	**03 33 21.9**	**-0.7**
comp=Z,0.4nm,0.3s,mb3.9,baz=321,slow=4.5,SNR=7.3							
YKA	**Yellowknife Ar**	**82.94**	**4**	P	**P**	**03 33 41.0**	**-0.1**
comp=Z,0.1nm,0.4s,mb3.2,baz=347,slow=5.4,SNR=4.8							
YKA	**Yellowknife Ar**	**82.94**	**4**	P	**P**	**03 33 41.0**	**-0.1**

IDC 19 03:31:14.0±4.3, 1888N×14490E, h168km±43km, mb3.6/4, mb1 3.7/5, mb1mx3.3/20, mbtmp4.1/5, Error ellipse: s-maj=147.2km s-min=32.2km az=95.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.26**	**180**	P	Pn	03 32 33.0	+1.8
8.9nm,0.3s,baz=22,slow=17,SNR=3.9							
GUMO				S	Sn	03 33 30.9	-0.7
9.4nm,0.3s,baz=22,slow=21,SNR=2.8							
WRA	**Warramunga Arr**	**39.95**	**196**	P	P	03 38 31.5	-0.4
1.4nm,0.3s,baz=13,slow=8.4,SNR=6.9							
FITZ	**Fitzroy Crossi**	**41.34**	**208**	P	P	03 38 44.4	+1.2
0.8nm,0.3s,baz=42,slow=10.0,SNR=8.9							
ASAR	**Alice Springs**	**43.63**	**195**	P	P	03 39 01.7	-0.1
0.3nm,0.3s,baz=14,slow=6.3,SNR=4.4							
FINES	**FINESS Array B**	**86.40**	**335**	P	P	03 43 36.6	-0.8
1.5nm,0.9s,baz=52,slow=3.4,SNR=3.8							

*NEIC **19** 03:33:59.4, 3194S×6982W, h124km, MD3.6(GUC), After GUC.*

GUC 19 03:33:59.4±0.7, 3194S×6982W, h124km±7km, MD3.6, ML3.3, 9C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.99**	**221**	⇓*i*P	Pn	03 34 22.2	+0.5
JACH				*i* S	Sn	03 34 39.4	+0.9
MDZ	**Mendoza**	**1.25**	**139**	⇓*i*P	Pn	03 34 22.9	-1.4
MDZ				*i* S	Sn	03 34 41.7	-1.5
CMCH	**Combarbala**	**1.27**	**307**	⇓*i*P	Pn	03 34 24.9	+0.4
CMCH				*i* S	Sn	03 34 44.7	+1.1
CMCH				AMP		03 34 45.6	
comp=N,527nm,0.5s							
CMCH	**Combarbala**	**1.27**	**307**	⇓*i*P	Pn	03 34 24.9	+0.4
CMCH				*i* S	Sn	03 34 44.7	+1.1
PEL	**Peldehue**	**1.41**	**211**	⇑*i*P	Pn	03 34 26.3	+0.3
PEL				*i* S	Sn	03 34 46.6	+0.4
PEL				AMP		03 34 47.7	
comp=E,907nm,0.4s							
PEL	**Peldehue**	**1.41**	**211**	⇑*i*P	Pn	03 34 26.3	+0.3
PEL				*i* S	Sn	03 34 46.6	+0.4
CHNG	**Los Chungos**	**1.43**	**272**	⇑*i*P	Pn	03 34 26.7	+0.4
CHNG				*i* S	Sn	03 34 47.0	+0.2
CHNG				AMP		03 34 52.9	
comp=E,164nm,0.4s							
FCH	**Farellones**	**1.44**	**196**	⇑*i*P	Pn	03 34 27.1	+0.7
FCH				*i* S	Sn	03 34 48.6	+1.6
FCH				AMP		03 34 51.2	
comp=N,300nm,0.2s							
ROCH	**El Roble**	**1.44**	**224**	⇑*i*P	Pn	03 34 26.9	+0.5
ROCH				*i* S	Sn	03 34 48.3	+1.3
CLCH	**Cerro Calan**	**1.57**	**202**	⇑*i*P	Pn	03 34 28.7	+0.7
CLCH				*i* S	Sn	03 34 50.9	+1.2
CLCH				AMP		03 34 52.1	
comp=E,564nm,0.4s							
CLCH				AMP		03 34 52.7	
comp=E,681nm,0.4s							
SAN	**Santiago**	**1.67**	**205**	*i* S	Sn	03 34 52.2	+0.6
SAN				AMP		03 34 55.8	
comp=E,177nm,0.3s							
RCDM	**Rinconada Maip**	**1.75**	**208**	⇑*i*P	Pn	03 34 30.7	+0.7
RCDM				*i* S	Sn	03 34 54.1	+0.6
RCDM				AMP		03 34 57.5	
comp=E,511nm,0.1s							
RCDM	**Rinconada Maip**	**1.75**	**208**	⇑*i*P	Pn	03 34 30.7	+0.7
RCDM				*i* S	Sn	03 34 54.1	+0.6
ANTU	**Antumapu**	**1.76**	**203**	*i* S	Sn	03 34 54.2	+0.6
ANTU				AMP		03 34 55.5	
comp=E,286nm,0.5s							
PCH	**Pirque**	**1.77**	**199**	⇓*i*P	Pn	03 34 31.3	+1.0
LMEL	**Las Melosas**	**1.93**	**190**	AMP		03 35 06.2	
comp=N,246nm,0.2s							
TACH	**Talagante**	**1.95**	**209**	⇑*i*P	Pn	03 34 32.7	+0.3
TACH				*i* S	Sn	03 34 58.4	+0.7
CHCH	**Chadas Angostu**	**2.11**	**199**	*e*P	Pn	03 34 35.1	+0.7
CHCH				*i* S	Sn	03 35 02.1	+1.0
LCCH	**Las Cruces**	**2.13**	**223**	*e*P	Pn	03 34 35.3	+0.7
LCCH				*i* S	Sn	03 35 02.1	+0.5
CACH	**El Canelo**	**2.27**	**197**	*e*P	Pn	03 34 37.7	+1.3
CACH				*i* S	Sn	03 35 06.9	+2.2
LNV	**Longovilo**	**2.42**	**213**	*e*P	Pn	03 34 38.0	-0.3

*IDC **19** 03:37:26.5±1.2, 082N×12554E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, MS4.5/1, Ms1 4.5/1, ms1mx2.7/23, Error ellipse: s-maj=182.6km s-min=18.8km az=66.0*

NEIC 19 03:37:31.6±0.9, 091N×12584E, h35km, mb4.3/3, Error ellipse: s-maj=164.0km s-min=12.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.33**	**159**	*e*P	P	03 42 28.2	+2.0
4.3nm,0.4s							
WRA	**Warramunga Arr**	**22.34**	**159**	P	P	03 42 24.9	-1.4
2.1nm,0.5s,baz=335,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**25.66**	**163**	P	P	03 42 58.6	+0.6
1.7nm,0.5s,baz=348,slow=11,SNR=18							
ASAR				PcP	PcP	03 46 30.1	+2.2
0.7nm,0.6s,baz=350,slow=2.1,SNR=8.2							
JHJ	**Hachijo jima 2**	**34.61**	**21**	LR	LR	03 57 14.6	
comp=Z,733nm,19.0s,baz=82,slow=34							
STKA	**Stephens Creek**	**35.87**	**157**	P	P	03 44 28.3	+0.3
1.5nm,0.3s,baz=333,slow=4.5,SNR=6.5							
STKA	**Stephens Creek**	**35.87**	**157**	*e*P	P	03 44 27.8	-0.2
SONM	**Songino Array**	**49.69**	**343**	P	P	03 46 20.2	+0.3
0.4nm,0.6s,baz=151,slow=6.8,SNR=3.7							
MKAR	**Makanchi Array**	**59.38**	**327**	P	P	03 47 29.4	-0.9
0.5nm,0.3s,baz=126,slow=8.0,SNR=14							
KURK	**Kurchatov**	**63.65**	**329**	*e*P	P	03 47 59.9	+0.8
6.3nm,0.9s							
ZRNK	**Zerenda**	**69.91**	**327**	*e*P	P	03 48 39.5	+0.5
2.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**122.90**	**286**	PKP	PKPdf	03 56 25.6	+1.7
0.7nm,0.8s,baz=86,slow=0.8,SNR=5.2							

*ISCJB **19** 04:08:51.0±0.6, 5871N±006×155.1W±0.1, h143km±7km, mb4.0/4, Error ellipse: s-maj=9.7km s-min=9.0km az=68.0*
*IDC **19** 04:08:51.1±1.4, 5890N×155.09W, h117km±20km, mb3.8/4, mb1 4.0/8, mb1mx3.6/22, mbtmp4.4/8, Error ellipse: s-maj=20.9km s-min=16.5km az=120.0*
*NEIC **19** 04:08:54.3, 5875N×155.13W, h131km, mb4.2/1, After AEIC.*

ISC 19 04:08:52.2±0.6, 5872N±006×1550W±01, h139km±7km, n33, σ0§87/39, mb4.0/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.60**	**125**	P	**Pn**	**04 09 21.9**	**0.0**
116nm,0.3s,baz=336,slow=3.5,SNR=1839							
KDAK				S	**Sn**	**04 09 43.6**	**-1.0**
231nm,0.3s,baz=38,slow=23,SNR=46							
SVW2	**Sparrevohn**	**2.40**	**353**	P	**Pn**	**04 09 32.2**	**+0.7**
SLKM	**Skilak Lake**	**3.02**	**52**	P	**Pn**	**04 09 40.1**	**+0.8**
FIB	**Fire Island**	**3.46**	**43**	P	**Pn**	**04 09 46.4**	**+1.4**
RC01	**Rabbit Creek A**	**3.56**	**46**	P	**Pn**	**04 09 46.7**	**+0.3**
PMR	**Palmer**	**4.12**	**43**	*e*P	**Pn**	**04 09 53.2**	**-0.4**
PMR				*e*Sn	**Sn**	**04 10 32.0**	**-9.3**
TT01	**Tatalina**	**4.23**	**354**	P	**Pn**	**04 09 55.9**	**+0.8**
SDPT	**Sand Point**	**4.51**	**224**	*e*P	**Pn**	**04 09 58.4**	**-0.4**
KTH	**Kantishna Hill**	**5.24**	**21**	P	**Pn**	**04 10 08.4**	**-0.1**
DIV	**Divide**	**5.24**	**59**	*e*Pn	**Pn**	**04 10 08.7**	**+0.2**
DIV				*e*Sn	**Sn**	**04 11 05.0**	**-3.1**
TRF	**Thorofare Moun**	**5.27**	**24**	P	**Pn**	**04 10 08.5**	**-0.4**
BMRM	**Bremner River**	**5.71**	**62**	P	**Pn**	**04 10 15.0**	**+0.2**
MCK	**McKinley**	**5.82**	**28**	P	**Pn**	**04 10 15.8**	**-0.5**
GCSA	**Galena City Sc**	**6.11**	**352**	P	**Pn**	**04 10 20.7**	**+0.5**
PAX	**Paxson**	**6.32**	**44**	P	**Pn**	**04 10 22.7**	**-0.2**
MENT	**Mentasta**	**6.95**	**48**	*e*P	**Pn**	**04 10 31.7**	**+0.2**
COLA	**College**	**7.04**	**26**	*e*Pn	**Pn**	**04 10 31.1**	**-1.6**
COLA				*e*Sn	**Sn**	**04 11 46.5**	**-4.8**
ILAR	**Eielson Array**	**7.19**	**29**	P	**Pn**	**04 10 33.1**	**-1.5**
15nm,0.3s,baz=216,slow=14,SNR=1468							
ILAR				S	**Sn**	**04 11 48.5**	**-6.4**
4.8nm,0.3s,baz=216,slow=28,SNR=11							
IM3	**Indian Mountai**	**7.31**	**4**	P	**Pn**	**04 10 36.4**	**+0.1**
PCA	**Pinnacle**	**7.66**	**73**	P	**Pn**	**04 10 42.2**	**+1.2**
PNL	**Peninsula**	**8.08**	**77**	P	**Pn**	**04 10 47.7**	**+1.1**
DAWY	**Dawson**	**9.20**	**48**	P	**Pn**	**04 11 02.5**	**+0.9**
SIT	**Sitka**	**10.61**	**91**	P	**Pn**	**04 11 20.5**	**+0.1**
INK	**Inuvik**	**13.48**	**36**	P	**Pn**	**04 11 56.6**	**-1.3**
1.7nm,0.3s,baz=222,slow=13,SNR=104							
INK				S	**Sn**	**04 14 35.3**	**+8.5**
0.1nm,0.3s,baz=31,slow=30,SNR=11							
INK	**Inuvik**	**13.48**	**36**	*e*Pn	**Pn**	**04 11 56.6**	**-1.3**
7.7nm,0.6s							
FX1	**Attu Island--F**	**18.69**	**266**	P	**P**	**04 12 59.7**	**+0.1**
3.1nm,0.3s,baz=99,slow=19,SNR=9.5							
YKA	**Yellowknife Ar**	**19.95**	**62**	P	**P**	**04 13 14.1**	**+0.9**
baz=278,slow=9.8,SNR=62							
SCHQ	**Schefferville**	**45.14**	**55**	P	**P**	**04 16 54.9**	**+0.2**
0.9nm,0.5s,mb3.7,baz=20,slow=17,SNR=6.9							
SCHQ	**Schefferville**	**45.14**	**55**	P	**P**	**04 16 54.9**	**+0.2**
SONM	**Songino Array**	**54.70**	**305**	P	**P**	**04 18 07.8**	**+0.9**
8.7nm,0.5s,mb4.8,baz=43,slow=5.7,SNR=135							
BVAR	**Borovoye Array**	**62.70**	**331**	P	**P**	**04 19 01.0**	**-1.1**
0.9nm,0.6s,mb3.8,baz=11,slow=5.5,SNR=7.8							
MKAR	**Makanchi Array**	**64.77**	**320**	P	**P**	**04 19 14.8**	**-1.0**
0.5nm,0.4s,mb3.7,baz=28,slow=4.9,SNR=16							
MKAR	**Makanchi Array**	**64.77**	**320**	P	**P**	**04 19 14.8**	**-1.0**

*CRAAG **19** 04:24:29.2, 421N×96.17E, Mb5.4*
*BJI **19** 04:24:29.2, 389N×95.74E, h48km, mB5.2, mb5.4, Ms4.7, Msz4.4*
*MOS **19** 04:24:29.0±0.8, 423N×96

CHRT	**Chiangrai**	**16.07**	**13**	⇑P	**Pn**	**04 28 18.5**	**+3.1**
	comp=E,395nm,0.8s						
VIS	**Vishakhapatnam**	**18.38**	**318**	*e*P	**Pn**	**04 28 43.8**	**-0.3**
VIS				AMb	AMB	04 28 49.6	
	comp=Z,53nm,0.6s						
VIS				*i* x	x	04 31 54.0	
VIS				*e*S	**S**	**04 31 59.3**	**-12**
TRD	**Trivandrum**	**19.47**	**284**	*ex*	**Pn**	**04 28 50.4**	**-6.7**
TRD				*ex*	x	04 33 42.4	
QIZ	**Qiongzhong**	**20.02**	**41**	P	**P**	**04 29 03.9**	**+2.3**
QIZ				AP		04 29 15.6	
QIZ				PP		04 29 26.3	
QIZ				S	**S**	**04 32 44.9**	**+1.0**
QIZ				SS		04 33 14.1	
QIZ				AMB	AMB		
	comp=Z,38nm,1.2s						
QIZ				LR	LR		
	comp=N,807nm,22.8s						
QIZ				LR	LR		
	comp=Z,1μm,29.6s						
KKM	**Kota Kinabalu**	**20.17**	**84**	*e*P	**P**	**04 29 04.3**	**+1.2**
HYB	**Hyderabad**	**21.65**	**309**	⇓*i*P	**P**	**04 29 20.5**	**+1.4**
	comp=Z,110nm,1.0s,mb5.2						
HYB				*e*		04 29 31.0	
HYB				*e*S	**S**	**04 33 16.0**	**+0.1**
HYB				*e*		04 33 20.0	
HYB	**Hyderabad**	**21.65**	**309**	⇓*e*P	**P**	**04 29 20.5**	**+1.4**
HYB				*e*S	**S**	**04 33 20.0**	**+4.1**
HYB				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.2						
HYB	**Hyderabad**	**21.65**	**309**	⇓*e*P	**P**	**04 29 20.5**	**+1.4**
	comp=Z,110nm,1.0s,mb5.2						
HYB				*e*S	**S**	**04 33 20.0**	**+4.1**
SHL	**Shillong**	**21.70**	**350**	*e*P	**P**	**04 29 17.0**	**-2.6**
SHL				*e*P		04 29 17.0	
SHL				*e*S	**S**	**04 33 11.5**	**-5.3**
SHL				*e*S	**S**	**04 33 12.0**	**-4.8**
SHL				*ex*	x	04 36 53.0	
KMI	**Kunming**	**21.85**	**16**	P	**P**	**04 29 23.4**	**+2.2**
KMI				AP		04 29 35.8	
KMI				XP	sP	04 29 41.9	+2.9
KMI				PP		04 29 51.8	
KMI				PPP		04 30 01.8	
KMI				S	**S**	**04 33 19.6**	**-0.2**
KMI				XS	sS	04 33 40.6	+2.0
KMI				SS		04 34 01.3	
KMI				SSS		04 34 16.6	
KMI				SCP	ScP	04 36 51.8	-0.6
KMI				PCS	PcS	04 36 57.3	-0.5
KMI				AMB	AMB		
	comp=Z,91nm,0.9s,mb5.2						
KMI				LR	LR		
	comp=N,962nm,17.2s						
KMI				LR	LR		
	comp=E,449nm,10.9s						
KMI				LR	LR		
	comp=Z,1μm,18.4s,MS4.3						
BOK	**Bokaro**	**21.88**	**334**	*e*P	**P**	**04 29 20.5**	**-1.0**
BOK				AMb	AMB	04 29 25.7	
	comp=Z,90nm,0.9s,mb5.2						
BOK				*i* S	**S**	**04 33 14.1**	**-6.4**
BOK				*ex*	x	04 33 18.7	
BATP	**Bataraza**	**22.10**	**77**	*e*P	**P**	**04 29 23.9**	**0.0**
NGP	**Nagpur**	**23.65**	**317**	⇑*e*P	**P**	**04 29 43.2**	**+3.4**
NGP				*ex*	x	04 29 46.4	
	comp=Z,65nm,0.7s						
NGP				*ex*	x	04 33 53.1	
LATR	**Latur**	**23.77**	**308**	*e*P	**P**	**04 29 42.2**	**+1.4**
ENPP	**El Nido**	**24.20**	**72**	*e*P	**P**	**04 29 45.2**	**+0.5**
GYA	**Guiyang**	**24.42**	**24**	⇓*i*P	**P**	**04 29 47.6**	**+0.8**
GYA				AP		04 29 59.3	
GYA				XP	sP	04 30 04.8	-0.5
GYA				PP		04 30 29.8	
GYA				S	**S**	**04 34 12.1**	**+8.9**
GYA				SCP	ScP	04 36 59.3	+0.1
GYA				SCS	ScS	04 40 47.0	+0.2
GYA				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.2						
GYA				AMB	AMB		
	comp=Z,250nm,8.1s						
GYA				LR	LR		
	comp=N,2μm,16.8s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,15.9s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,15.8s,MS4.7						
KAD	**Karad**	**25.12**	**303**	*e*P	**P**	**04 29 55.0**	**+1.9**
KAD				AMb	AMB	04 29 57.8	
	comp=Z,112nm,1.2s,mb5.3						
GZH	**Guangzhou**	**25.20**	**40**	P	**P**	**04 30 00.5**	**+6.7**
GZH				AMB	AMB		
	comp=Z,174nm,0.7s,mb5.7						
GZH				LR	LR		
	comp=N,590nm,17.4s,MS4.3						
GZH				LR	LR		
	comp=E,550nm,14.9s,MS4.3						
GZH				LR	LR		
	comp=Z,1μm,24.6s						
JIRN	**Jiri**	**25.23**	**339**	*e*P	**P**	**04 29 54.3**	**+0.2**
	comp=Z,134nm,0.7s,mb5.6						
PKI	**Pulchoki**	**25.43**	**338**	*e*P	**P**	**04 29 55.6**	**-0.3**
	comp=Z,54nm,0.5s,mb5.3						
GUN	**Gumba**	**25.57**	**339**	*e*P	**P**	**04 29 57.3**	**+0.2**
	comp=Z,168nm,0.6s,mb5.7						
DMN	**Daman**	**25.58**	**337**	*e*P	**P**	**04 29 57.1**	**-0.2**
	comp=Z,61nm,0.6s,mb5.3						
KKN	**Kakani**	**25.68**	**338**	*e*P	**P**	**04 29 57.9**	**-0.3**
	comp=Z,118nm,0.8s,mb5.5						
LUBP	**Lubang**	**25.71**	**67**	*e*P	**P**	**04 29 57.9**	**-0.5**
LSA	**Lhasa**	**25.86**	**350**	P	**P**	**04 30 00.4**	**+0.6**
POO	**Poona**	**26.00**	**305**	⇑*i*P	**P**	**04 30 02.5**	**+1.4**
	comp=Z,222nm,2.0s,mb5.3						
POO				*ex*	x	04 30 58.5	
GKN	**Gorkha**	**26.12**	**337**	*e*P	**P**	**04 30 01.9**	**-0.2**
	comp=Z,52nm,0.3s,mb5.5						
BHPL	**Bhopal**	**26.18**	**318**	*e*P	**P**	**04 30 04.0**	**+1.4**
BHPL				AMb	AMB	04 30 09.2	
	comp=Z,22nm,0.9s,mb4.7						
KOLN	**Koldanda**	**26.34**	**334**	*e*P	**P**	**04 30 04.3**	**+0.1**
	comp=Z,223nm,0.7s,mb5.8						
TGY	**Tagaytay City**	**26.46**	**66**	P	**P**	**04 30 05.1**	**-0.1**
	comp=Z,86nm,0.2s,baz=187,slow=17,SNR=4.3						
DANN	**Dangsing**	**26.78**	**335**	*e*P	**P**	**04 30 08.1**	**0.0**
POLP	**Polillo Island**	**27.59**	**66**	*e*P	**P**	**04 30 15.2**	**-0.2**
CD2	**Chengdu**	**27.62**	**14**	⇑*i*P	**P**	**04 30 15.3**	**-0.3**
CD2				AP	pP	04 30 27.0	-1.4
CD2				XP	sP	04 30 32.5	-1.8
CD2				PP		04 31 03.8	
CD2				S	**S**	**04 34 50.6**	**-3.2**
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
CD2				AMB	AMB		
	comp=Z,90nm,5.3s						
CD2				LR	LR		
	comp=E,520nm,12.0s						
CD2				LR	LR		
	comp=Z,370nm,16.2s,MS4.0						
ABRA	**Dolores**	**27.64**	**59**	*e*P	**P**	**04 30 17.2**	**+1.4**
APYP	**Conner**	**28.19**	**59**	*e*P	**P**	**04 30 21.5**	**+0.8**
BUKP	**Musuan**	**29.09**	**81**	*e*P	**P**	**04 30 29.6**	**+0.9**
OCLP	**Ormoc**	**29.11**	**75**	*e*P	**P**	**04 30 27.3**	**-1.6**
QZH	**Quanzhou**	**29.97**	**44**	⇓*i*P	**P**	**04 30 38.4**	**+1.9**
QZH				*e*S	**S**	**04 35 34.0**	**+3.2**
QZH				AMB	AMB		
	comp=Z,140nm,0.7s,mb5.8						
QZH				LR	LR		
	comp=Z,2μm,21.5s,MS4.8						
NDI	**New Delhi**	**30.28**	**326**	*e*P	**P**	**04 30 38.5**	**-0.8**
NDI				*e*S	**S**	**04 35 30.0**	**-5.7**
DDI	**Dehra Dun**	**31.11**	**329**	*e*P	**P**	**04 30 48.5**	**+1.9**
DDI				*e*S	**S**	**04 35 45.5**	**-3.2**
WHN	**Wuhan**	**31.45**	**31**	⇑P	**P**	**04 30 50.3**	**+0.8**
YHNB	**Yeheng**	**31.80**	**48**	*e*P	**P**	**04 30 53.9**	**+1.3**
XAN	**Xi'an**	**32.09**	**20**	P	**P**	**04 30 54.6**	**-0.5**
XAN				AMB	AMB		
	comp=Z,45nm,1.9s,mb5.0						
XAN				LR	LR		
	comp=N,495nm,21.0s,MS4.3						
XAN				LR	LR		
	comp=E,454nm,16.5s,MS4.3						
XAN				LR	LR		
	comp=Z,533nm,23.1s						
LZH	**Lanzhou**	**32.61**	**12**	⇑P	**P**	**04 30 59.0**	**-0.7**
LZH				AP	pP	04 31 10.9	-1.7
LZH				XP	sP	04 31 16.3	-2.2
LZH				PP	PP	04 32 09.6	-4.5
LZH				*e*S	**S**	**04 36 11.8**	**-0.2**
LZH				XS	sS	04 36 32.1	-1.6
LZH				*e*SS	SS	04 38 12.3	-21
LZH				AMB	AMB		
	comp=Z,64nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,330nm,5.5s						
LZH				LR	LR		
	comp=E,2μm,14.7s						
LZH				LR	LR		
	comp=Z,2μm,15.2s,MS4.9						
DLH	**Dalhousie**	**33.96**	**329**	*e*P	**P**	**04 31 11.0**	**-0.5**
NJ2	**Nanjing**	**35.06**	**35**	*e*P	**P**	**04 31 20.1**	**-0.9**
NJ2				PP	PP	04 32 38.8	-2.4
NJ2				S	**S**	**04 36 48.0**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,70nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,23.4s						
NJ2				LR	LR		
	comp=E,1μm,18.1s						
NJ2				LR	LR		
	comp=Z,410nm,25.8s,MS4.1						
GTA	**Gaotai**	**35.29**	**5**	⇑P	**P**	**04 31 22.8**	**-0.2**
GTA				AP	pP	04 31 34.8	-1.1
GTA				XP	sP	04 31 40.4	-1.4
GTA				PP	PP	04 32 42.8	-0.9
GTA				PCP	PcP	04 33 53.5	+0.9
GTA				S	**S**	**04 36 52.3**	**-1.2**
GTA				SCP	ScP	04 37 34.4	+0.2
GTA				SCS	ScS	04 41 36.0	-2.5
GTA				AMB	AMB		
	comp=Z,64nm,0.9s,mb5.5						
GTA				AMB	AMB		
	comp=Z,178nm,4.9s						
GTA				LR	LR		
	comp=N,228nm,17.9s,MS4.0						
GTA				LR	LR		
	comp=E,170nm,19.4s,MS4.0						
GTA				LR	LR		
	comp=Z,299nm,17.1s,MS4.1						
SWI	**Sorong**	**35.53**	**97**	P	**P**	**04 31 24.0**	**-1.0**
	comp=Z,268nm,0.9s,mb6.2						
SSE	**Sheshan**	**35.77**	**39**	*e*P	**P**	**04 31 28.3**	**+1.2**
SSE				AP	pP	04 31 41.6	+1.5
SSE				XP	sP	04 31 47.4	+1.5
SSE				PP	PP	04 32 51.5	+2.4
SSE				S	**S**	**04 37 03.3**	**+2.4**
SSE				XS	sS	04 37 25.4	+2.7
SSE				SCS	ScS	04 41 40.8	-0.3
SSE				AMB	AMB		
	comp=Z,55nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,62nm,3.5s						
SSE				LR	LR		
	comp=N,431nm,22.3s,MS4.3						
SSE				LR	LR		
	comp=E,360nm,22.3s,MS4.3						
SSE				LR	LR		
	comp=Z,569nm,26.9s,MS4.2						
NIL	**Nilore**	**36.26**	**327**	P	**P**	**04 31 31.9**	**+0.6**
	comp=Z,221nm,0.6s,mb6.3,SNR=13						
FITZ	**Fitzroy Crossi**	**36.59**	**128**	⇑*i*P	**P**	**04 31 32.7**	**-1.4**
	comp=Z,61nm,0.8s,mb5.5						
FITZ	**Fitzroy Crossi**	**36.59**	**128**	P	**P**	**04 31 32.8**	**-1.3**
	comp=Z,34nm,0.8s,mb5.2,baz=312,slow=5.4,SNR=58						
TIA	**Tai'an**	**37.37**	**29**	⇑P	**P**	**04 31 41.0**	**+0.3**
TIA				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.3						
JOW	**Kunigami**	**38.18**	**50**	P	**P**	**04 31 48.1**	**+0.5**
	comp=Z,40nm,0.6s,mb5.3,baz=271,slow=7.1,SNR=8.4						
BTO	**Baotou**	**38.44**	**17**	*e*P	**P**	**04 31 49.9**	**+0.1**
BTO				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.8						
HHC	**Hu-ho-hao-te**	**39.14**	**19**	*e*P	**P**	**04 31 56.9**	**+1.3**
HHC				AP	pP	04 32 09.5	+0.8
HHC				XP	sP	04 32 14.5	0.0
HHC				PP	PP	04 33 32.1	+6.1
HHC				PCP	PcP	04 34 04.1	-0.3
HHC				S	**S**	**04 37 54.3**	**+2.4**
HHC				XS	sS	04 38 13.3	-0.6
HHC				SCS	ScS	04 41 59.9	-0.3
HHC				AMB	AMB		
	comp=Z,63nm,1.0s,mb5.3						
HHC				LR	LR		
	comp=N,636nm,18.1s,MS4.6						
HHC				LR	LR		
	comp=E,632nm,18.1s,MS4.6						
HHC				LR	LR		
	comp=Z,855nm,11.2s						
KSH	**Kashi**	**39.65**	**335**	*e*P	**P**	**04 32 00.4**	**+0.5**
KSH				AP	pP	04 32 12.3	-0.7
KSH				XP	sP	04 32 17.8	-1.0
KSH				PP	PP	04 33 35.9	+4.3
KSH				PPP		04 34 01.1	
KSH				PCP	PcP	04 34 05.5	-0.5
KSH				SCP	ScP	04 37 50.8	+0.2
KSH				PCS	PcS	04 37 55.1	-1.0
KSH				S	**S**	**04 38 00.4**	**+0.8**
KSH				XS	sS	04 38 21.3	-0.3
KSH				SS	SS	04 40 51.1	-5.2
KSH				SCS	ScS	04 42 01.1	-2.1
KSH				AMB	AMB		
	comp=Z,41nm,0.8s,mb5.2						
KSH				AMB	AMB		
	comp=Z,179nm,4.2s						
KSH				LR	LR		
	comp=N,543nm,4.3s						
KSH				LR	LR		
	comp=E,510nm,7.4s						
KSH				LR	LR		
	comp=Z,373nm,13.3s,MS4.4						
BJI	**Beijing**	**40.11**	**24**	P	**P**	**04 32 05.0**	**+1.3**
BJI				PP	PP	04 33 40.4	+3.8
BJI				S	**S**	**04 38 05.3**	**-1.2**
BJI				AMB	AMB		
	comp=Z,227nm,0.7s,mb6.0						
BJI				LR	LR		
	comp=N,288nm,17.3s,MS4.4						
BJI				LR	LR		
	comp=E,336nm,18.0s,MS4.4						
BJI				LR	LR		
	comp=Z,447nm,26.3s						
WMQ	**Urumqi**	**40.22**	**351**	P	**P**	**04 32 04.5**	**-0.1**
WMQ				AP	pP	04 32 16.8	-0.9
WMQ				XP	sP	04 32 22.3	-1.2
WMQ				PP	PP	04 33 41.8	+4.0
WMQ				PPP		04 34 08.1	
WMQ				*e*S	**S**	**04 38 08.1**	**0.0**
WMQ				SS	SS	04 41 01.6	-6.0
WMQ				AMB	AMB		
	comp=Z,48nm,0.8s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,378nm,4.2s						
WMQ				LR	LR		
	comp=N,1μm,24.0s,MS4.8						
WMQ				LR	LR		
	comp=E,1μm,24.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,1μm,24.0s,MS4.7						
WBK	**Wadi Bani Khal**	**40.31**	**301**	⇑P	**P**	**04 32 06.9**	**+1.6**
MUN	**Mundaring**	**40.70**	**153**	*e*P	**P**	**04 32 09.0**	**+0.4**
JMDO	**Jabal Madar**	**40.97**	**300**	⇑P	**P**	**04 32 12.3**	**+1.6**
KLBR	**Kellerberrin**	**41.09**	**151**	⇑*i*P	**P**	**04 32 11.8**	**0.0**
	comp=Z,54nm,0.9s,mb5.2						
SMDO	**Samad**	**41.26**	**301**	P	**P**	**04 32 15.5**	**+2.4**
	SNR=7.7						
BIDO	**Bidbid**	**41.36**	**301**	⇓P	**P**	**04 32 15.6**	**+1.6**
DL2	**Dalian**	**41.70**	**30**	⇑*i*P	**P**	**04 32 18.0**	**+1.2**
DL2				AP	pP	04 32 33.1	+3.2
DL2				*e*S	**S**	**04 38 32.3**	**+2.2**
DL2				AMB	AMB		
	comp=Z,110nm,0.6s,mb5.7						
DL2				AMB	AMB		
	comp=Z,210nm,4.7s						
DL2				LR	LR		
	comp=N,230nm,17.0s,MS4.3						
DL2				LR	LR		
	comp=E,290nm,15.3s,MS4.3						
DL2				LR	LR		
	comp=Z,390nm,16.0s,MS4.4						
ULHL	**Ulahol**	**41.87**	**338**	P	**P**	**04 32 18.5**	**+0.3**
	SNR=8.5						
BSY	**Bisya**	**41.88**	**300**	P	**P**	**04 32 20.9**	**+2.6**
	SNR=8.5						
NWAO	**Narrogin (SRO)**	**41.96**	**153**	P	**P**	**04 32 18.2**	**-0.7**
	comp=Z,61nm,0.9s,mb5.2,baz=322,slow=7.8,SNR=27						
NWAO	**Narrogin (SRO)**	**41.96**	**153**	*e*P	**P**	**04 32 18.5**	**-0.4**
NWAO				*e*	pP	04 32 34.8	+2.7
NWAO				pmax	pmax		
	comp=Z,61nm,0.9s						
NWAO	**Narrogin (SRO)**	**41.96**	**153**	*e*P	**P**	**04 32 18.5**	**-0.4**
	comp=Z,61nm,0.9s,mb5.2						
NWAO				*e*	pP	04 32 34.8	+2.7
HOQ	**Hoqain**	**42.08**	**301**	⇓P	**P**	**04 32 22.3**	**+2.4**
KZA	**Kyzart**	**42.11**	**337**	P	**P**	**04 32 20.4**	**+0.3**
	SNR=11						
UCH	**Uchtor**	**42.53**	**336**	P	**P**	**04 32 24.1**	**+0.6**
	SNR=34						
ARQ	**Araqi**	**42.67**	**300**	⇓P	**P**	**04 32 26.8**	**+2.1**
TKM2	**Tokmak 2**	**42.70**	**338**	P	**P**	**04 32 25.1**	**+0.2**
	SNR=20						
KBK	**Karagaybulak**	**42.72**	**337**	P	**P**	**04 32 25.9**	**+0.8**
	SNR=20						
AML	**Almayashu**	**42.78**	**335**	P	**P**	**04 32 26.4**	**+0.8**
	SNR=37						
AAK	**Ala-Archa**	**42.88**	**337**	P	**P**	**04 32 28.1**	**+1.7**
	SNR=21						
FRU	**Bishkek**	**43.00**	**337**	*e*P	**P**	**04 32 27.0**	**-0.3**
FRU				*e*		04 32 45.0	
RBK	**Rabkut**	**43.08**	**291**	P	**P**	**04 32 30.2**	**+2.2**
	SNR=5.3						
CHMS	**Chumysh**	**43.09**	**337**	P	**P**	**04 32 27.4**	**-0.6**
	SNR=9.4						
EKS2	**Erkin-Say**	**43.19**	**336**	P	**P**	**04 32 29.4**	**+0.5**
	SNR=24						
USP	**Ospenovka**	**43.41**	**337**	P	**P**	**04 32 30.6**	**0.0**
	SNR=60						
JNU	**Nakatsue**	**43.45**	**44**	P	**P**	**04 32 31.7**	**+0.7**
	comp=Z,25nm,0.7s,mb5.1,baz=211,slow=4.5,SNR=6.0						
ABTO	**Aybut**	**43.89**	**291**	P	**P**	**04 32 36.6**	**+2.1**
	SNR=8.0						
KS15	**Wonju Array Si**	**44.13**	**37**	*e*P	**P**	**04 32 36.8**	**+0.3**
KS15				*e*		04 34 20.7	
MK31	**Makanchi Array**	**44.15**	**346**	*i* P	**P**	**04 32 35.6**	**-1.0**
MKAR	**Makanchi Array**	**44.15**	**346**	P	**P**	**04 32 35.7**	**-0.9**
	comp=Z,36nm,0.6s,mb5.2,baz=163,slow=8.9,SNR=358						
MKAR				pP	pP	04 32 48.4	-1.4
	comp=Z,13nm,0.7s,baz=161,slow=8.7,SNR=4.7						
MKAR				PcP	PcP	04 34 19.6	-1.3
	comp=Z,12nm,0.8s,baz=151,slow=2.8,SNR=3.6						
MKAR				ScP	ScP	04 38 09.0	+0.5
	comp=Z,1.0nm,0.6s,baz=157,slow=7.8,SNR=3.0						
MKAR	**Makanchi Array**	**44.15**	**346**	P	**P**	**04 32 35.7**	**-0.9**
MKAR				*PP	pP	04 32 48.4	-1.4
MKAR						04 34 19.6	
MKAR	**Makanchi Array**	**44.15**	**346**	P	**P**	**04 32 35.7**	**-0.9**
MKAR				pP	pP	04 32 48.4	-1.4
MKAR				PcP	PcP	04 34 19.6	-1.3
MKAR				ScP	ScP	04 38 09.0	+0.5
SONM	**Songino Array**	**44.45**	**10**	P	**P**	**04 32 38.9**	**-0.1**
	comp=Z,97nm,0.7s,mb5.6,baz=189,slow=8.6,SNR=769						
SONM				pP	pP	04 32 51.1	-1.2
	comp=Z,23nm,0.8s,baz=193,slow=8.5,SNR=5.0						
SONM				PcP	PcP	04 34 22.0	+0.1
	comp=Z,16nm,0.6s,baz=190,slow=3.4,SNR=14						
SONM				ScP	ScP	04 38 09.0	-0.7
	comp=Z,3.8nm,1.1s,baz=240,slow=3.8,SNR=6.4						
SONM	**Songino Array**	**44.45**	**10**	P	**P**	**04 32 38.9**	**-0.1**
SONM				*PP	pP	04 32 51.1	-1.1
SONM						04 34 22.0	
WRA	**Warramunga Arr**	**44.58**	**124**	P	**P**	**04 32 39.8**	**-0.2**
	comp=Z,155nm,0.8s,mb5.9,baz=303,slow=9.1,SNR=302						
WRA				pP	pP	04 32 52.3	-0.9
	comp=Z,64nm,0.7s,baz=302,slow=9.2,SNR=7.6						
WRA				ScP	ScP	04 38 09.3	-1.0
	comp=Z,2.5nm,0.7s,baz=324,slow=2.9,SNR=5.7						
WRA	**Warramunga Arr**	**44.58**	**124**	P	**P**	**04 32 39.8**	**-0.2**
WRA				*PP	pP	04 32 52.3	-0.9
WRAB	**Tennant Creek**	**44.58**	**124**	P	**P**	**04 32 40.0**	**0.0**
	comp=Z,1μm,0.8s,SNR=38						
WRAB	**Tennant Creek**	**44.58**	**124**	*c i* P	**P**	**04 32 39.9**	**-0.1**
WRAB	**Tennant Creek**	**44.58**	**124**	⇑*i*P	**P**	**04 32 39.4**	**-0.6**
	comp=Z,264nm,0.8s,mb6.1						
WB2	**Warramunga Arr**	**44.59**	**124**	⇑*i*P	**P**	**04 32 39.9**	**-0.2**
ULN	**Ulaanbaatar**	**44.59**	**11**	⇑*i*P	**P**	**04 32 39.9**	**-0.2**
ULN				*e*		04 34 22.1	
ULN				pmax	pmax		
	comp=Z,45nm,0.7s,mb5.4						
ULN	**Ulaanbaatar**	**44.59**	**11**	⇑*i*P	**P**	**04 32 39.9**	**-0.2**
	comp=Z,45nm,0.7s,mb5.4						
ULN				*e*PcP	PcP	04 34 22.1	-0.3
ULN				*e*ScP	ScP	04 38 07.4	-3.0
KK31	**Karatay Array**	**44.95**	**333**	*i* P	**P**	**04 32 41.9**	**-1.0**
KKAR	**Karatay Array**	**44.95**	**333**	*i* P	**P**	**04 32 41.9**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
ASPA	**Alice Springs**	**46.08**	**129**	*e*P	**P**	**04 32 51.5**	**-0.4**
AS31	**Alice Springs**	**46.08**	**129**	*e*P	**P**	**04 32 51.5**	**-0.4**
ASAR	**Alice Springs**	**46.08**	**129**	P	**P**	**04 32 51.7**	**-0.2**
	comp=Z,32nm,0.8s,mb5.3,baz=305,slow=7.6,SNR=185						
ASAR				PcP	PcP	04 34 27.6	+0.1
	comp=Z,7.5nm,0.7s,baz=313,slow=3.6,SNR=5.3						
ASAR				ScP	ScP	04 38 15.1	-1.5
	comp=Z,1.0nm,0.9s,baz=300,slow=4.1,SNR=4.1						
ASAR				S	**S**	**04 39 31.8**	**-2.1**
	comp=Z,0.8nm,0.9s,baz=60,slow=34,SNR=3.3						
ASAR	**Alice Springs**	**46.08**	**129**	P	**P**	**04 32 51.7**	**-0.2**
ASAR						04 34 27.6	
ASAR				S	**S**	**04 39 31.8**	**-2.2**
FORT	**Forrest**	**46.24**	**141**	*e*P	**P**	**04 32 53.3**	**+0.1**
	comp=Z,121nm,0.7s,mb5.9						
ZAK	**Zakamensk**	**46.50**	**6**	*e*P	**P**	**04 32 54.0**	**-1.2**
ZAK				*e*		04 34 29.0	
ZAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
ZAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
ZAK				pmax	pmax		
	comp=Z,13nm,1.8s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.4						
CN2	**Changchun**	**47.27**	**29**	*e*P	**P**	**04 33 01.3**	**+0.1**
CN2				*e*AP	pP	04 33 13.6	-1.0
CN2				*e*XP	sP	04 33 18.9	-1.4
CN2				*e*S	**S**	**04 39 51.1**	**+0.1**
CN2				AMB	AMB		
	comp=Z,90nm,0.7s,mb5.8						
CN2				LR	LR		
	comp=N,800nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,400nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,900nm,13.0s,MS4.9						
MOY	**Mondy**	**47.56**	**4**	*e*P	**P**	**04 33 03.2**	**-0.3**
MOY				*e*		04 34 32.6	
ABKT	**Ailbek**	**48.26**	**319**	P	**P**	**04 33 10.6**	**+1.8**
	comp=Z,236nm,0.6s,mb6.4,SNR=10.0						
IRK	**Irkutsk**	**48.45**	**7**	*e*P	**P**	**04 33 09.3**	**-1.0**
IRK				*e*		04 34 29.6	
IRK				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.5						
KURK	**Kurchatov**	**48.69**	**345**	P	**P**	**04 33 11.3**	**-0.9**
	comp=Z,258nm,0.6s,mb

comp=Z,236nm,27.3s,MS4.1
VLA Vladivostok 50.16 34 *e*P **P 04 33 20.3 -3.1**
VLA pmax pmax
comp=Z,90nm,1.2s,mb5.7
VLA MLR MLR
comp=Z,600nm,11.8s,MS4.8
VLA MLR MLR
comp=Z,400nm,14.8s
MAJO Matsushiro 50.37 45 *e*P **P 04 33 25.2 +0.2**
MAJO pmax pmax
comp=Z,11nm,0.6s,mb5.1
MAJO Matsushiro 50.37 45 *e*P **P 04 33 25.2 +0.3**
comp=Z,10nm,0.6s,mb5.0
MAT Matsushiro 50.37 45 P **P 04 33 24.3 -0.7**
MAT Matsushiro 50.37 45 *e*P **P 04 33 24.0 -1.0**
MAT pmax pmax
comp=Z,13nm,0.8s,mb5.0
MAT Matsushiro 50.37 45 *e*P **P 04 33 24.0 -1.0**
comp=Z,13nm,0.8s,mb5.0
MJAR Matsushiro Arr 50.37 45 P **P 04 33 25.8 +0.8**
comp=Z,9.2nm,0.7s,mb4.9,baz=241,slow=8.1,SNR=26
MJAR PcP PcP 04 34 42.5 -0.4
comp=Z,5.5nm,0.8s,baz=254,slow=2.9,SNR=5.1
MJAR ScP ScP 04 38 33.7 -1.0
comp=Z,4.7nm,0.7s,baz=239,slow=5.5,SNR=7.8
MJAR Matsushiro Arr 50.37 45 P **P 04 33 25.8 +0.8**
MJAR 04 34 42.5
MJAR Matsushiro Arr 50.37 45 P **P 04 33 25.8 +0.8**
MJAR PcP PcP 04 34 42.5 -0.4
MJAR ScP ScP 04 38 33.7 -1.0
NVS Novosibirsk 51.62 351⇑ *i*P **P 04 33 32.2 -2.2**
NVS *i* *PP pP 04 33 41.9 -6.0
NVS *i* S **S 04 40 47.2 -4.6**
NVS pmax pmax
comp=N,46nm,0.9s
NVS pmax pmax
comp=E,34nm,0.9s
NVS pmax pmax
comp=Z,69nm,0.9s,mb5.6
NVS smax
comp=N,23nm,1.5s
NVS smax
comp=E,29nm,1.7s
QRN Al-Qurain 51.78 304 *e*P **P 04 33 36.1 +0.6**
QRN AMb AMB 04 33 39.3
comp=Z,104nm,0.8s,mb5.8
QRN Al-Qurain 51.78 304 *e*P **P 04 33 36.2 +0.6**
QRN AMb AMB 04 33 39.3
comp=Z,106nm,0.7s,mb5.9
KRAR Krasnoyarsk 51.80 358 *e*P **P 04 33 34.2 -1.5**
KRAR pmax pmax
comp=Z,122nm,1.2s,mb5.7
KBD Kabd 52.10 304 *e*P **P 04 33 38.8 +0.8**
KBD AMb AMB 04 33 41.8
comp=Z,251nm,0.7s,mb6.2
KBD Kabd 52.10 304 *e*P **P 04 33 38.8 +0.9**
KBD AMb AMB 04 33 41.8
comp=Z,256nm,0.8s,mb6.2
RDF Al-Radifah 52.14 304 *e*P **P 04 33 38.9 +0.7**
RDF AMb AMB 04 33 40.8
comp=Z,96nm,0.6s,mb5.9
RDF Al-Radifah 52.14 304 *e*P **P 04 33 38.9 +0.7**
RDF AMb AMB 04 33 40.9
comp=Z,95nm,0.6s,mb5.9
UMR Umm Al-Rimmam 52.21 305 *e*P **P 04 33 39.0 +0.3**
UMR AMb AMB 04 33 42.1
comp=Z,47nm,0.4s,mb5.8
NAY Al-Naaiem 52.50 304 *e*P **P 04 33 41.3 +0.4**
NAY AMb AMB 04 33 43.3
comp=Z,74nm,0.6s,mb5.8
NAY Al-Naaiem 52.50 304 *e*P **P 04 33 41.3 +0.4**
NAY AMb AMB 04 33 43.3
comp=Z,75nm,0.6s,mb5.8
MIB Mutribah 52.60 305 *e*P **P 04 33 42.3 +0.7**
MIB AMb AMB 04 33 45.4
comp=Z,142nm,0.8s,mb5.9
MIB Mutribah 52.60 305 *e*P **P 04 33 42.2 +0.6**
MIB AMb AMB 04 33 45.4
comp=Z,142nm,1.0s,mb5.8
PMG Port Moresby 52.67 105 P **P 04 33 42.3 +0.1**
comp=Z,163nm,0.8s,mb6.0,baz=308,slow=4.3,SNR=111
PMG Port Moresby 52.67 105*c* *i*P **P 04 33 42.2 0.0**
PMG Port Moresby 52.67 105⇑ *i*P **P 04 33 41.7 -0.5**
comp=Z,172nm,0.8s,mb6.0
BVA0 Borovoye Array 53.13 341 *i*P **P 04 33 44.0 -1.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BRVK Borovoye 53.19 341 P **P 04 33 45.5 -0.5**
comp=Z,268nm,0.7s,SNR=27
BRVK Borovoye 53.19 341⇑ *i*P **P 04 33 44.7 -1.3**
BRVK *e* 04 34 52.8
BRVK pmax pmax
comp=Z,19nm,0.8s,mb5.1
BRVK Borovoye 53.19 341⇑ *i*P **P 04 33 44.7 -1.3**
comp=Z,19nm,0.8s,mb5.1
BRVK *e*PcP PcP 04 34 52.8 -0.7
ZRNK Zerenda 53.53 340⇑ *i*P **P 04 33 47.2 -1.3**
ZRNK *e* 04 34 52.8
ZRNK pmax pmax
comp=Z,34nm,0.8s,mb5.3
ZRNK Zerenda 53.53 340⇑ *i*P **P 04 33 47.2 -1.3**
comp=Z,34nm,0.8s,mb5.3
ZRNK *e*PcP PcP 04 34 52.8 -1.9
KLR Kul'dur 54.20 28 *e*P **P 04 33 51.3 -2.1**
KLR pmax pmax
comp=E,36nm,1.0s
KLR pmax pmax
comp=Z,84nm,1.0s,mb5.6
AB31 Akbulak array 54.41 332 *i*P **P 04 33 54.5 -0.4**
CTA Charters Tower 54.85 118⇑ *i*P **P 04 33 58.2 +0.1**
comp=Z,69nm,0.9s,mb5.7
CTA Charters Tower 54.85 118 P **P 04 33 58.2 +0.2**
comp=Z,87nm,0.9s,mb5.8,baz=291,slow=8.8,SNR=43
CTA Charters Tower 54.85 118⇑ *i*P **P 04 33 58.2 +0.1**
CTA pmax pmax
comp=Z,69nm,0.9s
CTAO Charters Tower 54.85 118⇑ *i*P **P 04 33 58.2 +0.1**
CTAO pmax pmax
comp=Z,106nm,0.9s,mb5.9
CTAO Charters Tower 54.85 118⇑ *i*P **P 04 33 58.2 +0.1**
comp=Z,106nm,0.9s,mb5.9
HABR Khabarovsk 55.31 31 *e*P **P 04 34 01.6 +0.2**
HABR *e*S **S 04 41 44.5 +2.7**
HABR pmax pmax
comp=Z,55nm,0.8s,mb5.6
BOD Bodaibo 55.38 12⇓ *i*P **P 04 34 00.9 -1.0**
BOD pmax pmax
comp=Z,29nm,0.7s,mb5.4
AKTK Aktyubinsk 56.13 332 *i*P **P 04 34 06.4 -0.9**
AKTO Aktyubinsk 56.13 332 *i*P **P 04 34 06.3 -1.0**
AKTO pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
STKA Stephens Creek 56.16 133⇑ *i*P **P 04 34 05.4 -2.1**
comp=Z,55nm,0.8s,mb5.6
STKA Stephens Creek 56.16 133 P **P 04 34 05.4 -2.1**
comp=Z,66nm,0.8s,mb5.7,baz=309,slow=7.3,SNR=151
CLNS Chul'man 57.33 18 *e*P **P 04 34 14.6 -1.2**
CLNS pmax pmax
comp=Z,29nm,0.5s,mb5.6
CLNS pmax pmax
comp=N,22nm,1.0s
CLNS pmax pmax
comp=E,25nm,0.7s
GNI Garni 58.41 315 *e*P **P 04 34 24.9 +1.5**
GNI *e* *PP pP 04 34 38.0 +0.9
GNI pmax pmax
comp=Z,30nm,0.9s
GNI Garni 58.41 315 *e*P **P 04 34 24.9 +1.5**
comp=Z,30nm,0.9s,mb5.3
GNI *e*pP pP 04 34 38.0 +0.9
YSS Yuzh-Sakhalins 58.63 36⇑ *i*P **P 04 34 26.0 +1.1**
YSS *e* 04 35 11.0
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.5
YSS Yuzh-Sakhalins 58.63 36 *e*P **P 04 34 24.6 -0.2**
comp=Z,44nm,0.8s,mb5.5
KMBO Kilima Mbogo 58.99 266 P **P 04 34 27.9 +0.5**
comp=Z,11nm,0.9s,mb4.9,baz=60,slow=9.6,SNR=33
KMBO Kilima Mbogo 58.99 266⇓ *i*P **P 04 34 28.9 +1.5**
KMBO *e* *PP pP 04 34 42.5 +1.4
KMBO pmax pmax
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 58.99 266⇓ *i*P **P 04 34 28.9 +1.5**
comp=Z,13nm,1.0s,mb4.9
KMBO *e*pP pP 04 34 42.5 +1.4
ARU Arti 60.06 337 P **P 04 34 33.8 -1.0**
comp=Z,324nm,0.8s,SNR=14
ARU Arti 60.06 337*c* *i*P **P 04 34 33.6 -1.2**
ARU pmax pmax
comp=Z,41nm,0.7s,mb5.6
ARU Arti 60.06 337⇑ *i*P **P 04 34 33.4 -1.4**
comp=Z,43nm,0.9s,mb5.5
ARU *e*PcP PcP 04 35 20.3 0.0
ZEI Tsey 60.07 318 *i*P **P 04 34 32.0 -2.8**
ZEI *i* *PP pP 04 34 42.5 -6.1
ZEI *i* 04 35 18.6
ZEI pmax pmax
comp=Z,23nm,0.8s,mb5.3
ERZM Erzurum 60.72 314 *i*P **P 04 34 38.9 -0.4**
KIV Kislovodsk 61.37 319 *e*P **P 04 34 43.7 +0.1**
KIV pmax pmax
comp=Z,37nm,0.9s,mb5.5
KIV Kislovodsk 61.37 319 *e*P **P 04 34 43.3 -0.4**
comp=Z,32nm,0.8s,mb5.5
KIV *e*pP pP 04 34 57.6 +0.2
TOO Toolangi 61.84 137 *e*P **P 04 34 48.0 +1.2**
comp=Z,33nm,0.9s,mb5.5
TOO Toolangi 61.84 137 *e*P **P 04 34 48.0 +1.2**
TOO pmax pmax
comp=Z,33nm,0.9s,mb5.5
MALT Malatya 62.34 311 *e*P **P 04 34 50.7 +0.5**
MALT *e* *PP pP 04 35 04.5 +0.5
MALT pmax pmax
comp=Z,17nm,1.0s,mb5.1
MALT Malatya 62.34 311 *e*P **P 04 34 50.6 +0.5**
comp=Z,17nm,1.0s,mb5.1
MALT *e*pP pP 04 35 04.5 +0.5
GZT Gaziantep 62.70 310 *i*P **P 04 34 54.0 +1.4**
EIL Elat 62.95 301 *e*P **P 04 34 55.1 +0.8**
comp=Z,505nm,0.9s
EIL *e*pP pP 04 35 09.2 +1.0
SOKR Solikamsk 62.96 339*c* *i*P **P 04 34 53.4 -0.9**
SOKR pmax pmax
comp=Z,80nm,0.6s,mb6.0
SOKR MLR MLR
comp=Z,340nm,16.0s,MS4.6
YAK Yakutsk 62.97 17 *e*P **P 04 34 53.5 -0.9**
YAK *e* *PP pP 04 34 58.5 -10
YAK *e* 04 43 17.1
YAK pmax pmax
comp=Z,191nm,1.0s,mb6.2
YAK pmax pmax
comp=N,48nm,1.1s
YAK pmax pmax
comp=E,49nm,1.5s
YAK smax
comp=N,247nm,12.4s
YAK smax
comp=E,266nm,11.2s
YAK Yakutsk 62.97 17 *e*P **P 04 34 53.0 -1.3**
comp=E,399nm,0.9s
ARMA Armidale 63.19 127⇑ *i*P **P 04 34 57.3 +1.5**
SOC Sochi 63.20 317*c* *i*P **P 04 34 54.0 -1.9**
SOC *e* 04 35 32.3
SOC *e* 04 37 19.0
SOC *i* S **S 04 43 23.6 -0.2**
SOC *e* 04 44 47.9
SOC pmax pmax
comp=Z,62nm,1.0s,mb5.7
SOC MLR MLR
comp=Z,168nm,11.0s,MS4.5
GRSN GIRESUNGRSN 63.29 314 *i*P **P 04 34 56.1 -0.4**
CNB Canberra Magne 63.49 133 *e*P **P 04 34 58.3 +0.4**
comp=Z,58nm,1.0s,mb5.7
RIV Riverview 64.19 131 *e*P **P 04 35 02.9 +0.5**
HNR Honiara 65.08 102 *e*P **P 04 35 07.1 -1.1**
HNR pmax pmax
comp=Z,126nm,0.8s,mb6.0
HNR Honiara 65.08 102 *e*P **P 04 35 07.1 -1.1**
comp=Z,126nm,0.8s,mb6.0
VRHR Novokhopersk 65.08 326 *e*P **P 04 35 06.9 -1.4**
VRHR pmax pmax
comp=Z,80nm,0.8s,mb5.8
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.7s
ANN Anapa 65.17 318 *e*P **P 04 35 16.4 +7.6**
ANN *i* 04 35 44.3
ANN *i* 04 37 28.0
ANN *e*S S 04 44 07.0 +19
ANN pmax pmax
comp=Z,16nm,0.8s,mb5.1
CSS Prodhromos 65.41 307 *e*P **P 04 35 11.3 +0.9**
comp=Z,84nm,1.3s,mb5.6
CSS *e*pP pP 04 35 24.8 +0.5
CDAG Cicekdag 65.74 312 *i*P **P 04 35 13.5 +1.0**
BOYT Boyabat 65.86 314 *i*P **P 04 35 13.5 +0.3**
BR131 Keskin Array S 66.32 312 *e*P **P 04 35 15.3 -0.9**
comp=Z,12nm,0.6s,mb5.1
BRTR Keskin Array B 66.32 312 P **P 04 35 15.8 -0.4**
comp=Z,6.2nm,0.6s,mb4.8,baz=129,slow=7.3,SNR=60
BRTR pP pP 04 35 29.4 -0.8
comp=Z,20nm,0.8s,baz=126,slow=7.0,SNR=19
ELDT Eldivan 66.67 312 *i*P **P 04 35 19.2 +0.7**
ANTO Ankara 66.98 312 *e*P **P 04 35 20.0 -0.4**
ANTO *e* *PP pP 04 35 34.4 0.0
ANTO pmax pmax
comp=Z,32nm,0.8s,mb5.4
ANTO Ankara 66.98 312 *e*P **P 04 35 20.0 -0.4**
comp=Z,32nm,0.8s,mb5.4
ANTO *e*pP pP 04 35 34.4 0.0
SIM Simferopol' 67.45 317⇑ *e*P **P 04 35 23.3 -0.1**
SIM *e*S S 04 44 15.0 -0.8
SIM pmax pmax
comp=Z,22nm,0.9s,mb5.2
ISP Isparta 68.25 309 *e*P **P 04 35 29.1 +0.7**
GOLH Golhisar 68.86 308 *i*P **P 04 35 32.0 -0.3**
MA2 Magadan 69.22 26*c* *i*P **P 04 35 34.3 -0.2**
MA2 pmax pmax
comp=N,10.0nm,0.8s
MA2 pmax pmax
comp=Z,50nm,0.8s,mb5.5
MA2 pmax pmax
comp=E,20nm,1.0s
MA2 Magadan 69.22 26⇑ *i*P **P 04 35 33.8 -0.7**
comp=E,81nm,0.8s,mb5.7
MOS Moscow 69.25 329 *e*P **P 04 35 31.6 -3.1**
MOS *i* pP 04 35 43.4 -5.3
MOS *e* 04 38 05.6
MOS pmax pmax
comp=Z,100nm,0.6s,mb5.9
MOS pmax pmax
comp=Z,105nm,0.6s,mb5.9
OBN Obninsk 69.55 328⇑ *i*P **P 04 35 35.2 -1.3**
OBN *i* pP 04 35 50.0 -0.5
OBN *i* 04 38 09.8
OBN *i* S S 04 44 35.6 -5.1
OBN pmax pmax
comp=Z,47nm,0.9s,mb5.4
OBN Obninsk 69.55 328 *e*P **P 04 35 35.2 -1.3**
comp=Z,34nm,0.6s,mb5.5
LSZ Lusaka 69.88 252 P **P 04 35 38.8 +0.3**
comp=Z,3.6nm,0.6s,mb4.5,baz=101,slow=5.3,SNR=9.5
LSZ Lusaka 69.88 252 *e*P **P 04 35 39.6 +1.1**
LSZ pmax pmax
comp=Z,12nm,1.1s,mb4.7
LSZ Lusaka 69.88 252 *e*P **P 04 35 39.6 +1.0**
comp=Z,12nm,1.1s,mb4.7
MANT Manisa 69.89 309 *i*P **P 04 35 39.1 +0.5**
TIXI Tiksi 70.53 10⇑ *i*P **P 04 35 40.7 -1.8**
BTOK Tokmak 70.53 311 *i*P **P 04 35 42.1 -0.4**
KLMR Klimovskoe 70.64 334*c* *i*P **P 04 35 41.8 -1.4**
KLMR pmax pmax
comp=Z,50nm,1.5s,mb5.2
KDAG Bornova 70.87 309 *i*P **P 04 35 44.5 -0.1**
TIRR Tirgusor 71.24 316 ⇓P **P 04 35 46.3 -0.5**
TIRR Tirgusor 71.24 316 P **P 04 35 47.1 +0.3**
TIRR Tirgusor 71.24 316 *e*P **P 04 35 46.1 -0.7**
TIRR *e*pP pP 04 35 59.7 -1.2
SEY Seymchan 71.55 24 *e*P **P 04 35 48.0 -0.7**
SEY *e* 04 38 30.5
SEY *e*PPP 04 40 12.5
SEY *e*S S 04 45 07.3 +3.3
SEY *e* 04 45 44.2
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY pmax pmax
comp=Z,22nm,0.7s,mb5.2
SEY pmax pmax
comp=E,20nm,0.9s
SEY smax
comp=N,60nm,5.7s
SEY smax
comp=E,24nm,5.5s
SEY MLR MLR
comp=Z,954nm,21.0s,MS5.0
SEY MLR MLR
comp=N,1μm,25.0s,MS5.1
SEY MLR MLR
comp=E,533nm,22.0s,MS5.1
SEY Seymchan 71.55 24⇑ *i*P **P 04 35 48.2 -0.5**
KIS Kishinev 71.56 318 *e*P **P 04 35 37.0 -12**
KIS *e* 04 36 10.0
KIS MLR MLR
comp=Z,300nm,17.0s,MS4.6
KIS MLR MLR
comp=Z,300nm,16.0s
CFR Carcaliu 71.60 316 ⇓P **P 04 35 49.0 0.0**
CFR Carcaliu 71.60 316 ⇓P **P 04 35 49.0 0.0**
HARR Harsova 71.63 316 ⇑P **P 04 35 49.7 +0.5**
PRD Provadia 71.69 314 *i*P **P 04 35 50.0 +0.5**
ALN Alexandroupoli 72.24 312 *e*P **P 04 35 53.3 +0.5**
AKASG Malin Array Be 72.26 322 P **P 04 35 51.5 -1.4**
comp=Z,6.4nm,0.4s,mb4.9,baz=92,slow=5.2,SNR=50
SIVA Sivas 72.30 305 *e*P **P 04 35 53.9 +0.7**
VRI Vrincioaia 72.71 317 ⇑P **P 04 35 56.2 +0.6**
VRI Vrincioaia 72.71 317 ⇑P **P 04 35 56.2 +0.5**
PLOR Plostina 72.76 317 ⇓P **P 04 35 56.7 +0.8**
DIM Dimitrovgrad 72.82 313 *i*P **P 04 35 56.0 -0.3**
MLR Muntele Rosu 73.17 316 ⇑P **P 04 35 59.5 +1.1**
RZN Rozhen 73.36 312 *i*P **P 04 35 59.5 0.0**
DZM Mont Dzumac 73.51 114 P **P 04 36 00.3 -0.1**
comp=Z,13nm,0.8s,mb4.9,baz=302,slow=2.4,SNR=7.4
OUR Ouranopolis 73.69 311 *e*P **P 04 36 01.4 0.0**
VOIR 73.78 316 ⇑P **P 04 35 58.2 -3.7**
VOIR 73.78 316 ⇑P **P 04 35 58.2 -3.8**
PAIG Paliouri 73.86 310 *e*P **P 04 36 02.0 -0.4**
PGB Panagyurishte 73.90 313 *i*P **P 04 36 02.0 -0.7**
MMB Musomiste 74.07 312 *i*P **P 04 36 03.0 -0.7**
BURAR Bucovina Array 74.09 318 ⇓P **P 04 36 04.0 +0.2**
BURAR Bucovina Array 74.09 318 ⇓P **P 04 36 04.0 +0.3**
MNK Minsk 74.10 326 *e*P **P 04 36 01.0 -2.8**
SRS Serrai 74.10 311 *e*P **P 04 36 02.7 -1.1**
LBTB Lobatse 74.17 243 P **P 04 36 04.8 +0.5**
comp=Z,18nm,1.0s,mb5.0,baz=112,slow=6.3,SNR=18
LBTB Lobatse 74.17 243 *e*P **P 04 36 05.2 +1.0**
LBTB pmax pmax
comp=Z,25nm,1.0s,mb5.1
LBTB Lobatse 74.17 243 *e*P **P 04 36 05.2 +1.0**
comp=Z,25nm,1.0s,mb5.1
SOH Sokhos 74.24 311 *e*P **P 04 36 04.6 0.0**
PUL Pulkovo 74.39 331 *e*P **P 04 36 05.2 -0.3**
KKB Krupnik 74.59 312 *i*P **P 04 36 06.0 -0.7**
VTS Vitosha 74.61 313 *i*P **P 04 36 06.5 -0.3**
VTS Vitosha 74.61 313 *e*P **P 04 36 06.3 -0.4**
VTS Vitosha 74.61 313 P **P 04 36 06.6 -0.2**
LIT Litokhoron 74.79 310 *e*P **P 04 36 06.9 -0.9**
VAY Valandovo 74.90 312 *i*P **P 04 36 07.3 -1.2**
GRG Griva 74.97 311 *e*P **P 04 36 08.0 -0.9**
JOF Joensuu 75.03 335 *e*p **P 04 36 09.4 +0.2**
comp=Z,14nm,0.7s,mb5.0
BOSA Boshof 75.26 239 P **P 04 36 10.9 +0.4**
comp=Z,9.9nm,1.0s,mb4.7,baz=94,slow=8.1,SNR=4.2
MAW Mawson 75.29 193 P **P 04 36 11.0 +0.4**
comp=Z,6.8nm,0.8s,mb4.7,baz=14,slow=8.8,SNR=4.3
LVV L'vov 75.30 320*d* *i*P **P 04 36 10.8 +0.1**
LVV *i* pP 04 36 24.8 -0.1
LVV *e*S S 04 45 40.4 -6.0
LVV *e*PS 04 46 09.2
DRGR 75.62 317 ⇑P **P 04 36 12.8 +0.2**
DRGR 75.62 317 P **P 04 36 13.0 +0.4**
DRGR 75.62 317 ⇑P **P 04 36 12.8 +0.2**
BOLS Boljevac 75.69 314⇓ *i*P **P 04 36 11.7 -1.3**
LVZ Lovozero 75.71 340 P **P 04 36 12.7 -0.4**
comp=Z,442nm,0.6s,SNR=18
LVZ Lovozero 75.71 340 *e*P **P 04 36 12.3 -0.8**
VSU Vasula 75.76 330 *e*P **P 04 36 12.4 -1.0**
APA Apatity 76.01 339⇑ *i*P **P 04 36 14.0 -0.8**
APA pmax pmax
comp=Z,30nm,0.8s,mb5.3
KWP Kalwaria 76.11 320 *e*P **P 04 36 15.7 +0.3**
BZS Buzias 76.19 316 ⇑P **P 04 36 15.9 +0.1**
BZS Buzias 76.19 316 ⇑P **P 04 36 15.9 0.0**
OHR Ohrid 76.19 311 *i*P **P 04 36 13.8 -2.1**
SUW Suwalki 76.64 325 *e*P **P 04 36 17.4 -1.0**
CRVS Cervenica-Dubn 76.79 319 *e*P **P 04 36 19.7 +0.5**
CRVS *e*sP sP 04 36 38.5 -0.5
CRVS Cervenica-Dubn 76.79 319 *e*P **P 04 36 19.7 +0.5**
CRVS *e* 04 36 38.5
FINES FINESS Array B 76.89 332 P **P 04 36 18.9 -0.9**
comp=Z,17nm,0.7s,mb5.1,baz=104,slow=8.0,SNR=76
KAF Kangasniemi 76.97 333 *e*p **P 04 36 19.4 -0.9**
comp=Z,16nm,0.7s,mb5.1,baz=103,slow=5.3
KAF Kangasniemi 76.97 333 *e*P **P 04 36 19.4 -0.9**
KAF pmax pmax
comp=Z,16nm,0.7s,mb5.1
STHS Stebnicka Huta 77.01 320 *i*P **P 04 36 21.8 +1.3**
STHS *e*pP pP 04 36 35.9 +1.2
DIVS Divcibare 77.14 314⇓ *i*P **P 04 36 20.8 -0.4**
KECS Kecovo 77.37 319 *i*P **P 04 36 22.4 -0.1**
KECS *e*pP pP 04 36 36.2 -0.5
NIE Niedzica 77.61 320 *e*P **P 04 36 24.5 +0.7**
PSZ Piszkesteto 77.68 318⇑ *e*P **P 04 36 24.1 -0.1**
PSZ Piszkesteto 77.68 318 P **P 04 36 24.4 +0.2**
OJC Ojcow 78.06 320 *e*P **P 04 36 26.3 0.0**
PKSM Moragy 78.33 316 P **P 04 36 27.7 -0.1**
PKSM Moragy 78.33 316⇑ *e*P **P 04 36 27.6 -0.2**
PKSM *e*S pP 04 36 42.0 -0.1
VYHS Vyhne 78.45 319 *e*P **P 04 36 28.6 +0.1**
VYHS *e*pP pP 04 36 43.3 +0.5
STON Ston 78.67 313 *i*P **P 04 36 28.3 -1.4**
SRO Srobarova 78.72 318 *e*P **P 04 36 30.5 +0.5**
SRO *e*pP pP 04 36 45.4 +1.1
BILL Bilibino 78.86 21*c* *i*P **P 04 36 29.5 -1.3**
BILL pmax pmax
comp=Z,61nm,1.5s,mb5.3
BILL Bilibino 78.86 21 *e*P **P 04 36 29.2 -1.6**
comp=Z,24nm,0.8s,mb5.2
KEV Kevo 78.98 341 *e*p **P 04 36 30.4 -1.0**
comp=Z,19nm,0.7s,mb5.1
KEV Kevo 78.98 341 *e*P **P 04 36 30.4 -1.0**
KEV pmax pmax
comp=Z,19nm,0.7s,mb5.1
OKC Ostrava-Krasne 79.06 320 *e*P **P 04 36 31.5 -0.3**
OKC *e*pP pP 04 36 42.6 -3.5
TIP Timpagrande 79.11 309 *e*P **P 04 36 31.9 -0.2**
TIP *e*pP pP 04 36 47.5 +1.1
SMOL Smolenice 79.39 318 *e*P **P 04 36 33.4 -0.2**
ARCES ARCESS Array B 79.42 340 P **P 04 36 33.3 -0.5**
comp=Z,19nm,0.5s,mb5.3,baz=93,slow=5.4,SNR=145
ARE0 ARCESS Array S 79.42 340 *e*P **P 04 36 33.2 -0.6**
MORC Moravsky Berou 79.44 320 *e*P **P 04 36 34.2 +0.3**
MORC pmax pmax
comp=Z,18nm,1.0s,mb5.0
MORC Moravsky Berou 79.44 320 *e*P **P 04 36 34.2 +0.3**
comp=Z,18nm,1.0s,mb5.0
SMY Shemya 79.50 37 *e*P **P 04 36 32.5 -1.7**
SMY pmax pmax
comp=Z,596nm,1.7s,mb6.2
SMY MLR MLR
comp=Z,3μm,23.0s,MS5.6
SMY Shemya 79.50 37 *e*P **P 04 36 32.5 -1.7**
comp=Z,596nm,1.7s,mb6.2
SMY LR LR
comp=Z,3μm,23.0s,MS5.6
ZST Bratislava 79.57 318 *i*P **P 04 36 34.6 0.0**
ZST *e*pP pP 04 36 49.5 +0.6
SISC Sisak 79.84 315 *i*P **P 04 36 37.9 +1.8**
KOGS Kog 80.00 316 *e*P **P 04 36 37.1 +0.1**
KOGS *e*pP pP 04 36 51.8 +0.6
KOGS *e* 04 37 07.6
VRAC Vranov 80.01 319 ⇓P **P 04 36 37.0 0.0**
VRAC Vranov 80.01 319 P **P 04 36 36.7 -0.3**
GKP Gorka Klasztor 80.02 323 *e*P **P 04 36 36.7 -0.3**
DPC Dobruska-Polom 80.28 320 *e*P **P 04 36 39.0 +0.5**
DPC *e*pP pP 04 36 53.3 +0.5
KSP Ksiaz 80.35 321 *e*P **P 04 36 39.2 +0.4**
KSP Ksiaz 80.35 321 *e*P **P 04 36 38.6 -0.2**
KSP *e*pP pP 04 36 53.6 +0.5
GCIS Gornji Cirnik 80.39 316 *e*P **P 04 36 39.0 0.0**
UPC Upice 80.50 320 *e*P **P 04 36 39.3 -0.3**
UPC *e*pP pP 04 36 53.2 -0.7
TSUM Tsumeb 80.50 250 P **P 04 36 40.5 +0.8**

comp=Z,4.7nm,0.8s,mb4.4,baz=151,slow=6.5,SNR=4.3
GROS Grobnik 80.51 316 *eP* **P 04 36 39.9 +0.2**
GROS *ep*P pP 04 36 54.7 +0.7
GROS *e* 04 37 09.9
ARSA Arzberg 80.56 317⇓*iP* **P 04 36 40.1 +0.1**
comp=Z,16nm,1.1s,mb4.9
BOJS Bojanci 80.62 315 *eP* **P 04 36 40.5 +0.2**
TREC Trest 80.73 319 *eP* **P 04 36 41.0 +0.1**
TREC *ep*P pP 04 36 54.4 -0.8
LJU Ljubljana 81.16 316 *eP* **P 04 36 43.4 +0.3**
LJU *ep*P pP 04 36 58.2 +0.7
OBKA Obir 81.17 316⇑*iP* **P 04 36 43.6 +0.4**
comp=Z,13nm,1.0s,mb4.8
OBKA Obir 81.17 316⇑*iP* **P 04 36 43.6 +0.4**
PRU Pruhonice 81.40 320 *eP* **P 04 36 44.1 -0.3**
PRU *ep*P pP 04 36 56.0 -2.7
PVCC Panska Ves 81.42 320 *eP* **P 04 36 42.2 -2.3**
MOA Molln 81.44 318⇑*iP* **P 04 36 44.5 -0.2**
comp=Z,10nm,1.3s,mb4.6,SNR=8.0
MOA Molln 81.44 318⇑*iP* **P 04 36 44.5 -0.2**
VOJS Vojsko 81.61 316 *eP* **P 04 36 45.2 -0.3**
TRO Tromso 81.68 340 *eP* **P 04 36 45.0 -0.9**
AQU L'Aquila 81.81 312 *eP* **P 04 36 46.8 +0.2**
AQU pmax pmax
comp=Z,40nm,0.8s,mb5.4
AQU L'Aquila 81.81 312 *eP* **P 04 36 46.8 +0.2**
comp=Z,40nm,0.8s,mb5.4
BRG Berggiesshubel 81.84 321 *eP* **P 04 36 46.6 -0.1**
BRG *e* pP 04 37 01.1 0.0
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRG Berggiesshubel 81.84 321 *eP* **P 04 36 46.6 -0.1**
comp=Z,6.8nm,0.9s,mb4.6
BRG *e* pP 04 37 01.1 +0.1
comp=Z,5.8nm,0.9s
GEC2 GERESS Array S 81.88 319 *eP* **P 04 36 47.1 +0.2**
comp=Z,21nm,1.1s,mb5.0
GEC2 GERESS Array S 81.88 319 *eP* **P 04 36 47.1 +0.2**
GEC2 pmax pmax
comp=Z,21nm,1.1s,mb5.0
GERES GERESS Array B 81.88 319 P **P 04 36 47.3 +0.4**
comp=Z,10nm,0.8s,mb4.8,baz=97,slow=5.4,SNR=72
GERES pP pP 04 36 59.8 -1.4
comp=Z,15nm,0.9s,baz=101,slow=5.1,SNR=12
KHC Kasperske Hory 81.97 319 *eP* **P 04 36 47.3 -0.1**
KHC *ep*P pP 04 37 01.3 -0.5
KBA Koelnbreinsper 82.03 317 *iP* **P 04 36 47.3 -0.5**
comp=Z,11nm,1.2s,mb4.7,SNR=8.2
RUE Ruedersdorf 82.04 322 *eP* **P 04 36 47.5 -0.3**
comp=Z,53nm,0.8s,mb5.5
RUE Ruedersdorf 82.04 322 *eP* **P 04 36 47.6 -0.2**
comp=Z,47nm,0.8s,mb5.5
SYO Syowa Base 82.42 198⇓*eP* **P 04 36 48.6 -1.2**
WET Wettzell 82.43 319 *eP* **P 04 36 49.8 0.0**
comp=Z,12nm,1.0s,mb4.8
WET Wettzell 82.43 319 *eP* **P 04 36 49.8 0.0**
WET pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLL Collm 82.45 321 *eP* **P 04 36 49.4 -0.6**
comp=Z,10.0nm,1.0s,mb4.7
CLL Collm 82.45 321⇑*iP* **P 04 36 49.5 -0.5**
comp=Z,10.0nm,1.0s,mb4.7
CLL *i* pP pP 04 37 04.1 -0.2
CLL *ex* x 04 37 12.0
CLL Collm 82.45 321⇑*iP* **P 04 36 49.5 -0.5**
CLL *i* *PP pP 04 37 04.1 -0.2
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLL Collm 82.45 321⇑*iP* **P 04 36 49.5 -0.5**
comp=Z,10.0nm,1.0s,mb4.7
CLL *i* pP pP 04 37 04.1 -0.2
NKC Novy Kostel 82.76 320 *eP* **P 04 36 51.5 0.0**
WERD Werda 82.86 320 *eP* **P 04 36 51.8 -0.2**
comp=Z,7.0nm,1.0s,mb4.7
MOR8 Moi Rana 82.86 336 *eP* **P 04 36 50.7 -1.3**
ROTZ Rotzenmuhle 82.89 319 *eP* **P 04 36 52.6 +0.4**
comp=Z,11nm,1.0s,mb4.8
MANZ Manzenberg 82.97 320 *eP* **P 04 36 53.1 +0.5**
comp=Z,16nm,1.0s,mb5.0
WATA Walderalm 83.24 317⇑*iP* **P 04 36 53.1 -1.0**
comp=Z,5.0nm,0.9s,mb4.5
MOX Moxa 83.30 320 *eP* **P 04 36 54.1 -0.3**
comp=Z,13nm,1.2s,mb4.8
MOX Moxa 83.30 320 *eP* **P 04 36 54.1 -0.3**
MOX pmax pmax
comp=Z,45nm,1.9s,mb5.2
LOF Lofoten 83.40 338 *eP* **P 04 36 56.1 +1.3**
FUR Furstenfeldbru 83.46 318 *eP* **P 04 36 55.4 +0.2**
comp=Z,13nm,1.0s,mb4.9
FUR Furstenfeldbru 83.46 318 *eP* **P 04 36 55.4 +0.2**
FUR pmax pmax
comp=Z,13nm,1.0s,mb4.9
SQTA Sankt Quirin 83.49 317⇑*iP* **P 04 36 54.7 -0.6**
comp=Z,6.2nm,0.8s,mb4.7,SNR=19
SQTA Sankt Quirin 83.49 317⇑*iP* **P 04 36 54.7 -0.6**
GRA1 Grafenberg Arr 83.53 319 *eP* **P 04 36 55.8 +0.3**
comp=Z,25nm,1.0s,mb5.3
GRA1 *ep*P pP 04 37 10.4 +0.5
GRF Grafenberg Arr 83.53 319 *eP* **P 04 36 55.8 +0.3**
comp=Z,25nm,1.0s,mb5.3
GRF *ep*P pP 04 37 10.4 +0.5
GRF Grafenberg Arr 83.53 319 *eP* **P 04 36 55.8 +0.3**
GRF *e**PP pP 04 37 10.4 +0.5
GRF pmax pmax
comp=Z,25nm,1.0s,mb5.3
GRF Grafenberg Arr 83.53 319 *eP* **P 04 36 55.8 +0.3**
GRF *e**PP pP 04 37 10.4 +0.5
GRF pmax pmax
comp=Z,25nm,1.0s,mb5.3
MOTA Moosalm 83.56 317⇓*iP* **P 04 36 54.9 -0.8**
comp=Z,11nm,1.0s,mb5.0,SNR=21
MOTA Moosalm 83.56 317⇓*iP* **P 04 36 54.9 -0.8**
NSS Namsos 83.75 334 *eP* **P 04 36 54.9 -1.8**
NB2 NORSAR Subarra 83.91 331 P **P 04 36 56.0 -1.5**
comp=Z,13nm,0.8s,mb5.1,baz=95,slow=5.1
NB2 NORSAR Subarra 83.91 331 P **P 04 36 56.0 -1.5**
NB2 pmax pmax
comp=Z,13nm,0.8s,mb5.1
NOA NORSAR Array B 83.91 331 P **P 04 36 56.5 -1.0**
comp=Z,12nm,0.8s,mb5.0,baz=96,slow=5.2,SNR=28
NOA pP pP 04 37 10.4 -1.5
comp=Z,6.6nm,0.9s,baz=91,slow=5.6,SNR=4.7
NOA PP PP 04 40 06.1 -5.3
comp=Z,2.1nm,0.8s,baz=94,slow=8.9,SNR=3.7
CLZ Clausthal 84.11 322 *eP* **P 04 36 58.4 -0.1**
comp=Z,17nm,0.9s,mb5.2
CLZ Clausthal 84.11 322 *eP* **P 04 36 58.4 -0.1**
CLZ pmax pmax
comp=Z,17nm,0.9s,mb5.2
BSEG Bad Segeberg 84.18 324 *eP* **P 04 36 58.8 0.0**
comp=Z,34nm,0.9s,mb5.5
DAVA Damuels 84.40 317 *iP* **P 04 36 60.0 0.0**
comp=Z,22nm,1.0s,mb5.2,SNR=16
DAVA Damuels 84.40 317 *iP* **P 04 36 60.0 0.0**
KONO Kongsberg 84.67 329⇑*eP* **P 04 37 01.5 +0.2**
KONO Kongsberg 84.67 329 *eP* **P 04 37 00.6 -0.7**
comp=Z,14nm,0.9s,mb5.1
STU Stuttgart 84.85 318 *eP* **P 04 37 02.4 +0.2**
STU Stuttgart 84.85 318 *eP* **P 04 37 02.0 -0.2**
STU pmax pmax
comp=Z,18nm,0.8s,mb5.2
STU Stuttgart 84.85 318 *eP* **P 04 37 02.0 -0.2**
comp=Z,18nm,0.8s,mb5.3
MUD Monsted U'grnd 84.86 326 *iP* **P 04 37 02.6 +0.3**
comp=Z,28nm,1.0s,mb5.3
MUD *i* 04 59 48.6
MUD
comp=Z,920nm,24.0s
MUD
comp=Z,910nm,20.0s
MUD Monsted U'grnd 84.86 326 *iP* **P 04 37 02.6 +0.3**
comp=Z,28nm,1.0s,mb5.3
MUD *i* 04 59 48.6
TNS Taunus Mts 85.33 320 *eP* **P 04 37 04.2 -0.4**
comp=Z,14nm,1.0s,mb5.0
TNS Taunus Mts 85.33 320 *eP* **P 04 37 04.2 -0.4**
TNS pmax pmax
comp=Z,14nm,1.0s,mb5.0
BFO Black Forest 85.43 318 *eP* **P 04 37 04.5 -0.6**
comp=Z,12nm,1.1s,mb4.9
BFO Black Forest 85.43 318 *eP* **P 04 37 04.5 -0.6**
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.9
URZ Urewera 85.53 129 P **P 04 37 04.2 -1.4**
comp=Z,29nm,0.8s,mb5.6,baz=6.2,slow=3.2,SNR=7.3
MOL Molde 85.68 332 *eP* **P 04 37 06.7 +0.3**
MOL AMb AMB 04 37 22.9
comp=Z,77nm,1.9s,mb5.6
MOL Molde 85.68 332 *eP* **P 04 37 06.7 +0.3**
comp=Z,77nm,1.9s,mb5.6
IBBN Ibbenburen 85.72 322 *eP* **P 04 37 06.5 -0.1**
comp=Z,27nm,0.8s,mb5.5
LANF Langenberg 85.77 319 *eP* **P 04 37 06.9 +0.1**
BUG Bochum-Univer 86.05 321 *eP* **P 04 37 08.1 -0.1**
comp=Z,21nm,0.8s,mb5.4
CDF Champ du Feu 86.13 318 *eP* **P 04 37 08.0 -0.6**
comp=Z,25nm,1.1s,mb5.1
CDF Champ du Feu 86.13 318 *eP* **P 04 37 08.0 -0.6**
CDF pmax pmax
comp=Z,13nm,1.0s,mb5.1
CDF Champ du Feu 86.13 318 *eP* **P 04 37 08.0 -0.6**
comp=Z,12nm,1.0s,mb5.1
ODD1 Odda 86.17 330 *eP* **P 04 37 08.7 -0.1**
SBF Sospel 86.17 314 *eP* **P 04 37 08.8 0.0**
comp=Z,80nm,0.8s,mb5.7
SBF Sospel 86.17 314 *eP* **P 04 37 08.8 0.0**
SBF pmax pmax
comp=Z,40nm,0.8s,mb5.7
SBF Sospel 86.17 314 *eP* **P 04 37 08.8 0.0**
comp=Z,40nm,0.8s,mb5.7
ECH Echery 86.22 318 *eP* **P 04 37 09.5 +0.5**
BLS5 Blasjo 86.28 329 *eP* **P 04 37 10.5 +1.2**
BLS5 AMb AMB 04 37 11.9
comp=Z,26nm,0.9s,mb5.5
BLS5 Blasjo 86.28 329 *eP* **P 04 37 10.5 +1.2**
comp=Z,26nm,0.9s,mb5.5
WTSB Winterswijk 86.32 322 *eP* **P 04 37 09.7 +0.2**
comp=Z,26nm,1.1s,mb5.4
WTSB *ex* x 04 37 25.0
HINF Hinteralfeld 86.44 318 *eP* **P 04 37 10.0 -0.1**
LPG La Plagne 86.60 315 *eP* **P 04 37 11.3 +0.4**
comp=Z,55nm,0.8s,mb5.6
LPG La Plagne 86.60 315 *eP* **P 04 37 11.3 +0.4**
LPG pmax pmax
comp=Z,28nm,0.8s,mb5.5
LPG La Plagne 86.60 315 *eP* **P 04 37 11.3 +0.4**
comp=Z,28nm,0.8s,mb5.5
LPL La Plagne 86.61 315 *eP* **P 04 37 11.3 +0.3**
comp=Z,53nm,0.8s,mb5.5
LPL La Plagne 86.61 315 *eP* **P 04 37 11.3 +0.3**
LPL pmax pmax
comp=Z,27nm,0.8s,mb5.5
LPL La Plagne 86.61 315 *eP* **P 04 37 11.3 +0.3**
comp=Z,27nm,0.8s,mb5.5
MBDF Montbardon 86.62 314 *eP* **P 04 37 10.4 -0.6**
comp=Z,28nm,0.8s,mb5.2
MBDF Montbardon 86.62 314 *eP* **P 04 37 10.4 -0.6**
MBDF pmax pmax
comp=Z,14nm,0.8s,mb5.2
MBDF Montbardon 86.62 314 *eP* **P 04 37 10.4 -0.6**
comp=Z,14nm,0.8s,mb5.2
BNI Bardonecchia 86.67 315 *eP* **P 04 37 10.5 -0.7**
BNI pmax pmax
comp=Z,13nm,0.8s,mb5.2
BNI Bardonecchia 86.67 315 *eP* **P 04 37 10.5 -0.8**
comp=Z,13nm,0.8s,mb5.2
FRF La Foret Royal 86.76 313 *eP* **P 04 37 11.9 +0.2**
comp=Z,58nm,1.0s,mb5.5
FRF La Foret Royal 86.76 313 *eP* **P 04 37 11.9 +0.2**
FRF pmax pmax
comp=Z,29nm,1.0s,mb5.5
FRF La Foret Royal 86.76 313 *eP* **P 04 37 11.9 +0.2**
comp=Z,29nm,1.0s,mb5.5
HAU Haudompre 86.77 318 *eP* **P 04 37 11.2 -0.5**
comp=Z,34nm,0.7s,mb5.4
HAU Haudompre 86.77 318 *eP* **P 04 37 11.2 -0.5**
HAU pmax pmax
comp=Z,17nm,0.7s,mb5.4
HAU Haudompre 86.77 318 *eP* **P 04 37 11.2 -0.5**
comp=Z,17nm,0.7s,mb5.4
WLF Walferdange 86.82 319 *eP* **P 04 37 12.3 +0.3**
comp=Z,11nm,1.0s,mb5.0
WLF Walferdange 86.82 319⇑P **P 04 37 07.6 -4.4**
WLF Walferdange 86.82 319 P **P 04 37 12.5 +0.5**
comp=Z,5.1nm,1.1s,mb4.7
WLF AP pP 04 37 24.8 -1.6
EGD Espegrend 86.86 330 *eP* **P 04 37 12.6 +0.4**
ASK Askoy 86.87 330 *eP* **P 04 37 12.9 +0.7**
LMR La Mourre 86.87 313 *eP* **P 04 37 12.2 0.0**
MEM Membach 86.87 320 P **P 04 37 12.1 -0.1**
comp=Z,6.7nm,0.9s,mb4.9
MEM PCP PcP 04 37 20.2 +5.7
MEM AP pP 04 37 25.7 -1.0
MEM XP sP 04 37 31.6 -0.6
THEF They Montfort 87.00 318 *eP* **P 04 37 12.3 -0.6**
CABF La Chapelle 87.01 316 *eP* **P 04 37 13.1 +0.2**
comp=Z,58nm,1.1s,mb5.4
CABF La Chapelle 87.01 316 *eP* **P 04 37 13.1 +0.2**
CABF pmax pmax
comp=Z,29nm,1.1s,mb5.4
CABF La Chapelle 87.01 316 *eP* **P 04 37 13.1 +0.2**
comp=Z,29nm,1.1s,mb5.4
ORIF Oris-en-Rattie 87.24 315 *eP* **P 04 37 14.3 +0.3**
comp=Z,36nm,0.8s,mb5.3
ORIF Oris-en-Rattie 87.24 315 *eP* **P 04 37 14.3 +0.3**
ORIF pmax pmax
comp=Z,18nm,0.8s,mb5.3
ORIF Oris-en-Rattie 87.24 315 *eP* **P 04 37 14.3 +0.3**
comp=Z,18nm,0.8s,mb5.4
SMRF Simiane la Rot 87.51 314 *eP* **P 04 37 15.3 0.0**
MEZF Maizieres J'vi 87.61 318 *eP* **P 04 37 15.8 0.0**
GIVF Givet 87.66 320 *eP* **P 04 37 15.8 -0.2**
DOU Dourbes 87.81 320 P **P 04 37 16.9 +0.1**
comp=Z,3.4nm,0.8s,mb4.6
DOU AP pP 04 37 31.9 +0.7
SNF Seneffe 87.98 320⇑P **P 04 37 13.0 -4.6**
comp=Z,4.4nm,1.2s,mb4.6
SNF XP sP 04 37 25.2 -12
SNF Seneffe 87.98 320 P **P 04 37 16.7 -0.8**
SNF AP pP 04 37 30.1 -2.0
SNF XP sP 04 37 35.5 -2.0
BAIF Baives 88.06 320 *eP* **P 04 37 18.1 +0.2**
comp=Z,19nm,0.7s,mb5.1
BAIF Baives 88.06 320 *eP* **P 04 37 18.1 +0.2**
BAIF pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
BAIF Baives 88.06 320 *eP* **P 04 37 18.1 +0.2**
comp=Z,9.4nm,0.7s,mb5.1
VIVF Saint-Julien-I 88.10 315 *eP* **P 04 37 18.2 +0.1**
comp=Z,43nm,1.1s,mb5.3
VIVF Saint-Julien-I 88.10 315 *eP* **P 04 37 18.2 +0.1**
VIVF pmax pmax
comp=Z,22nm,1.1s,mb5.3
VIVF Saint-Julien-I 88.10 315 *eP* **P 04 37 18.2 +0.1**
comp=Z,22nm,1.1s,mb5.3
LOR Lormes 88.49 317 *eP* **P 04 37 19.8 -0.2**
comp=Z,23nm,0.7s,mb5.2
LOR Lormes 88.49 317 *eP* **P 04 37 19.8 -0.2**
LOR pmax pmax
comp=Z,12nm,0.7s,mb5.2
LOR Lormes 88.49 317 *eP* **P 04 37 19.8 -0.2**
comp=Z,12nm,0.7s,mb5.2
SMF Signal de Mont 88.55 316 *eP* **P 04 37 20.1 -0.2**
comp=Z,37nm,0.8s,mb5.5
SMF Signal de Mont 88.55 316 *eP* **P 04 37 20.1 -0.2**
comp=Z,18nm,0.8s,mb5.5
SSF Saint Saulge 88.75 317 *eP* **P 04 37 21.2 0.0**
comp=Z,14nm,0.7s,mb5.1
SSF Saint Saulge 88.75 317 *eP* **P 04 37 21.2 0.0**
comp=Z,7.2nm,0.7s,mb5.1
TNA Tin City 88.78 24 *eP* **P 04 37 20.1 -1.2**
comp=Z,2.9nm,0.7s,mb4.7
AVF Avril sur Loir 88.88 317 *eP* **P 04 37 21.6 -0.2**
VNDA Vanda 88.90 169 P **P 04 37 21.1 -0.8**
comp=Z,3.4nm,0.8s,mb4.7,baz=284,slow=6.4,SNR=14
PYM Petit Puy Mans 89.20 316 *eP* **P 04 37 23.6 +0.3**
BGF Bois d'Agland 89.24 316 *eP* **P 04 37 23.9 +0.4**
HYF Humbligny 89.32 317 *eP* **P 04 37 23.8 -0.1**
MENF Mencas 89.33 320 *eP* **P 04 37 26.5 +2.6**
TCF Toulx Ste Croi 89.71 316 *eP* **P 04 37 25.4 -0.3**
CAF Calviac 89.94 315 *eP* **P 04 37 27.3 +0.5**
MTLF Montolieu 89.99 313 *eP* **P 04 37 26.9 -0.1**
RJF Les Rejaudoux 90.29 315 *eP* **P 04 37 29.1 +0.7**
comp=Z,23nm,0.8s,mb5.2
RJF Les Rejaudoux 90.29 315 *eP* **P 04 37 29.1 +0.7**
comp=Z,12nm,0.8s,mb5.3
LFF La Frestale 90.88 315 *eP* **P 04 37 32.0 +0.9**
LDF La Druitiere 91.02 319 *eP* **P 04 37 32.0 +0.2**
comp=Z,55nm,1.0s,mb5.5
LDF La Druitiere 91.02 319 *eP* **P 04 37 32.0 +0.2**
comp=Z,28nm,1.0s,mb5.5
FLN La Foliniere 91.24 319 *eP* **P 04 37 32.9 +0.1**
comp=Z,138nm,1.3s,mb5.8
FLN La Foliniere 91.24 319 *eP* **P 04 37 32.9 +0.1**
comp=Z,69nm,1.3s,mb5.8
MFF Saint Martin d 91.29 317 *eP* **P 04 37 33.3 +0.2**
comp=Z,35nm,0.9s,mb5.4
MFF Saint Martin d 91.29 317 *eP* **P 04 37 33.3 +0.2**
comp=Z,17nm,0.9s,mb5.4
DAG Danmarks Havn 91.52 348⇓*iP* **P 04 37 32.3 -1.8**
comp=Z,11nm,0.6s,mb5.4
DAG Danmarks Havn 91.52 348⇓*eP* **P 04 37 32.3 -1.8**
comp=Z,11nm,0.6s,mb5.4
ETSF Etsaut 92.06 313 *eP* **P 04 37 36.9 +0.3**
comp=Z,21nm,0.7s,mb5.3
ETSF Etsaut 92.06 313 *eP* **P 04 37 36.9 +0.3**
comp=Z,10nm,0.7s,mb5.3
SJPF Ste Jean 92.52 313 *eP* **P 04 37 39.8 +1.1**
comp=Z,34nm,0.9s,mb5.5
SJPF Ste Jean 92.52 313 *eP* **P 04 37 39.8 +1.1**
comp=Z,17nm,0.9s,mb5.5
ALE Alert 92.92 357 P **P 04 37 39.2 -1.4**
comp=Z,227nm,0.6s,SNR=12
ROSF Rostrenen 93.13 319 *eP* **P 04 37 40.5 -1.1**
TORD Torodi Ar. Bea 93.31 283 P **P 04 37 43.2 +0.9**
comp=Z,2.3nm,0.6s,mb4.8,baz=92,slow=5.4,SNR=31
TORD pP pP 04 37 56.8 -0.1
comp=Z,12nm,1.1s,baz=97,slow=4.4,SNR=16
TORD PKKPbc PKKPbc 04 54 49.9 +0.5
comp=Z,1.1nm,0.8s,baz=283,slow=2.2,SNR=6.6
ESDC Sonseca Array 95.08 310 P **P 04 37 50.9 +0.5**
comp=Z,5.1nm,0.8s,mb5.0,baz=59,slow=4.3,SNR=24
ILAR Eielson Array 97.47 23 P **P 04 37 59.5 -1.9**
comp=Z,1.7nm,0.6s,mb4.6,baz=303,slow=4.5,SNR=13
KDAK Kodiak Island 97.72 30 P **P 04 38 01.2 -1.3**
comp=Z,16nm,1.0s,mb5.5,baz=135,slow=21,SNR=2.9
SUMG Summit 98.20 347 *eP* **P 04 38 04.3 -0.3**
comp=Z,19nm,0.9s,mb5.6
INK Inuvik 100.03 17 *e*Pdif Pdif 04 38 11.9 -0.9
comp=Z,3.4nm,0.6s
RES Resolute Bay 101.04 3 *e*Pdif Pdif 04 38 17.1 -0.2
comp=Z,8.7nm,0.8s
YKA Yellowknife Ar 109.58 15 Pdiff Pdif 04 38 55.2 0.0
comp=Z,0.6nm,0.6s,baz=328,slow=4.4,SNR=16
YKA PKiKP PKiKP 04 42 56.0 -2.0
comp=Z,0.7nm,0.8s,baz=309,slow=2.5,SNR=7.8
YKA PP PP 04 43 21.5 -7.7
comp=Z,2.6nm,0.9s,baz=322,slow=6.8,SNR=4.7
YKA Yellowknife Ar 109.58 15 Pdif Pdif 04 38 55.2 0.0
YKA PKPdf PKiKP 04 42 56.0 -2.0
YKA PP PP 04 43 21.6 -7.7
FCC Fort Churchill 116.79 6 *e*PKPdf PKPdf 04 43 10.2 -1.6
EDM Edmonton 117.74 19 *e*PKPdf PKPdf 04 43 12.6 -1.0
HDW Hoodsport 118.08 29 P PKPdf 04 43 15.0 +0.8
JCW Jim Creek 118.23 28 P PKPdf 04 43 14.8 +0.3
FFC Flin Flon 119.47 12 *e*PKPdf PKPdf 04 43 15.3 -1.7
LVP Lakeview Peak 119.51 30 P PKPdf 04 43 17.9 +0.9
SCHQ Schefferville 119.56 349 PKP PKPdf 04 43 16.0 -1.1
comp=Z,4.8nm,0.9s,baz=21,slow=4.0,SNR=6.9
HAWA Hanford 120.66 28 *e*PKPdf PKPdf 04 43 18.9 -0.3
HAWA *ep*PKPdf pPKPdf 04 43 35.2 +1.0
H2OWA Water 120.71 28 P PKPdf 04 43 19.9 +0.6
PRW Prosser 120.72 28 P PKPdf 04 43 20.2 +0.9
REDWA Red Mountain 120.77 28 P PKPdf 04 43 20.0 +0.6
HUMO Hull Mountain 121.61 33 *e*PKPdf PKPdf 04 43 21.6 +0.5
HUMO *ep*PKPdf pPKPdf 04 43 37.7 +1.7
LNOR Lincton Mounta 121.63 28 P PKPdf 04 43 21.3 +0.2
KHMM Horse Mountain 122.33 35 *e*PKPdf PKPdf 04 43 22.1 -0.2
LHEM Herd Peak 122.67 33 P PKPdf 04 43 23.7 +0.6
MSO Missoula 122.77 24 *e*PKPdf PKPdf 04 43 22.6 -0.7
CHMT Chamberlain Mo 122.98 24 *e*PKPdf PKPdf 04 43 22.9 -0.7
CHMT *e*PP PP 04 45 00.1 -2.9
EGMT Eagleton 123.36 20 *e*PKPdf PKPdf 04 43 24.1 -0.2
EGMT *ep*PKPdf pPKPdf 04 43 40.4 +1.0
MOD Modoc 123.52 32 *e*PKPdf PKPdf 04 43 25.4 +0.7
DLMT Dillon 124.51 24 *e*PKPdf PKPdf 04 43 26.4 -0.1
DLMT *ep*PKPdf pPKPdf 04 43 42.0 +0.4
DLMT *e*PP PP 04 45 13.1 -0.1
BOZ Bozeman (W) 124.66 23 *e*PKPdf PKPdf 04 43 26.7 -0.2
BOZ *ep*PKPdf pPKPdf 04 43 43.6 +1.7
MCMT McKenzie Canyo 124.83 25 *e*PKPdf PKPdf 04 43 27.3 +0.1
ULM Lac du Bonnet 124.88 9 PKP PKPdf 04 43 26.7 -0.6
comp=Z,18nm,0.8s,baz=350,slow=2.2,SNR=46
HLID Hailey 125.17 27 *e*PKPdf PKPdf 04 43 28.2 +0.4
GCMT Greycliff 125.29 22 *e*PKPdf PKPdf 04 43 28.3 +0.3
QLMT Earthquake Lak 125.42 24 *e*PKPdf PKPdf 04 43 28.9 +0.6
YMR Madison River 125.73 24 *e*PKPdf PKPdf 04 43 29.8 +0.9
YFT Old Faithful 125.97 24 *e*PKPdf PKPdf 04 43 31.3 +1.9
LKWY Lake 126.04 23 *e*PKPdf PKPdf 04 43 31.5 +2.0
LOHW Long Hollow 126.76 24 *e*PKPdf PKPdf 04 43 30.8 -0.1
SNOW Snow King Moun 126.82 24 *e*PKPdf PKPdf 04 43 31.3 +0.3
REDW Red Top Meadow 126.86 24 *e*PKPdf PKPdf 04 43 31.4 +0.3
REDW *ep*PKPdf pPKPdf 04 43 48.0 +2.0
ELK Elko 126.96 30 *e*PKPdf PKPdf 04 43 31.9 +0.7
NVAR Mina Array Bea 127.05 34 PKP PKPdf 04 43 33.0 +1.6
comp=Z,13nm,0.8s,baz=279,slow=1.3,SNR=55
MNV Mina 127.13 34 *e*PKPdf PKPdf 04 43 32.7 +1.1
MTUM Tungsten Hills 127.66 35 *e*PKPdf PKPdf 04 43 34.0 +1.4
EYMN Ely 127.73 6 *e*PKPdf PKPdf 04 43 31.8 -1.0
EYMN *ep*PKPdf pPKPdf 04 43 49.0 +1.2
PTRM Twissleman Ran 127.85 38 *e*PKPdf PKPdf 04 43 34.8 +1.9
PDAR Pinedale Array 127.88 24 PKP PKPdf 04 43 32.5 -0.5
comp=Z,2.8nm,0.6s,baz=105,slow=3.1,SNR=23
TPH Tonopah 127.90 33 *e*PKPdf PKPdf 04 43 34.4 +1.3
HWUT Hardware Ranch 127.99 26 *e*PKPdf PKPdf 04 43 32.6 -0.7
DUG Dugway 128.55 28 *e*PKPdf PKPdf 04 43 35.4 +1.1
RSSD Black Hills 128.69 18 *e*PKPdf PKPdf 04 43 33.3 -1.3
DAC Darwin (Calif) 128.97 35 *e*PKPdf PKPdf 04 43 35.2 +0.1
NLU North Lily Min 129.09 28 *e*PKPdf PKPdf 04 43 33.1 -2.3
NLU *ep*PKPdf pPKPdf 04 43 48.4 -2.0
DAU Daniels Canyon 129.10 27 *e*PKPdf PKPdf 04 43 35.9 +0.6
RWWY Rawlins 129.72 23 *e*PKPdf PKPdf 04 43 36.0 -0.5
TMUT Trail Mountain 130.01 28 *e*PKPdf PKPdf 04 43 38.1 +1.0
ARUT Antelope Range 130.11 31 *e*PKPdf PKPdf 04 43 38.8 +1.6
MSU Marysvale 130.18 29 *e*PKPdf PKPdf 04 43 38.5 +1.1
CCUT Cedar City 130.33 31 *e*PKPdf PKPdf 04 43 39.4 +1.7
CCUT *e*SKP 04 46 56.8
SRU San Rafael 130.48 27 *e*PKPdf PKPdf 04 43 39.0 +1.0
SRU *e*PP PP 04 45 52.7 +0.1
SRU *e*SKP 04 46 56.5
NEN Nelson 130.97 34 *e*PKPdf PKPdf 04 43 39.8 +0.9
NEN *e*SKP 04 46 58.1
WUAZ Wupatki 132.92 31 *e*PKPdf PKPdf 04 43 43.3 +0.7
BINY Binghamton 133.33 352 *e*PKPdf PKPdf 04 43 43.6 +0.2
BINY *e*SKP 04 47 07.3
KSU1 Kansas State U 135.43 14 *e*PKPdf PKPdf 04 43 47.6 +0.3
TUC Tucson 135.70 33 *e*PKPpre 04 43 46.9
TUC *e*PKPdf PKPdf 04 43 49.0 +1.2
TUC *e*SKP 04 47 15.5
ANMO Albuquerque 135.74 27 SKPbc SKPbc 04 47 15.2 0.0
comp=Z,7.8nm,0.8s,baz=282,slow=2.0,SNR=13
ANMO Albuquerque 135.74 27 *e*PKPdf PKPdf 04 43 47.9 0.0
ANMO *e*SKP 04 47 15.4
LPM Los Pinos Moun 136.19 27 *e*PKPpre 04 43 45.5
LPM *e*PKPdf PKPdf 04 43 49.6 +0.9
LPM *e*SKP 04 47 16.7
FVM French Village 137.68 8 *e*PKPdf PKPdf 04 43 50.8 -0.6
FVM *e*SKP 04 47 20.0
WCI Wyandotte Cave 137.81 3 *e*PKPdf PKPdf 04 43 51.4 -0.3
WCI *e*SKP 04 47 21.2
FWV Forest Hill 138.41 356 *e*PKPdf PKPdf 04 43 52.8 0.0
CPRX Cap Rock 138.51 26 *e*PKPdf PKPdf 04 43 54.2 +1.2
MNTX Cornudas Mount 138.95 28 *e*PKPpre 04 43 46.9
MNTX *e*PKPdf PKPdf 04 43 54.8 +1.0
MNTX *e*PP PP 04 46 46.1 -0.1
MNTX *e*SKP 04 47 24.2
GDL2 Guadalupe Moun 139.00 27 *e*PKPpre 04 43 48.6
GDL2 *e*PKPdf PKPdf 04 43 54.7 +0.9
GDL2 *e*SKP 04 47 24.2
TZTN Tazewell 139.54 360 *e*PKPdf PKPdf 04 43 55.6 +0.8
TZTN *e*SKP 04 47 25.7
WVT Waverly 139.79 5 *e*PKPpre 04 43 47.0
WVT *e*PKPdf PKPdf 04 43 55.5 +0.2
WVT *e*SKP 04 47 26.5
MIAR Mount Ida 140.49 13 *e*PKPpre 04 43 49.1
MIAR *e*PKPdf PKPdf 04 43 57.1 +0.5
UALR University of 140.51 11 *e*PKPpre 04 43 50.6
UALR *e*PKPdf PKPdf 04 43 57.2 +0.6
UALR *e*SKP 04 47 28.2
CPCT Cooper Cave 140.63 1 *e*PKPpre 04 43 50.4
CPCT *e*PKPdf PKPdf 04 43 57.6 +0.7
CPCT *e*SKP 04 47 27.9
PLAL Pickwick Lake 140.91 5 *e*PKPpre 04 43 49.4

PLAL				*e*PKPdf	PKPdf	04 43 56.9	-0.4
PLAL				*e*PP	PP	04 46 55.2	-3.1
PLAL				*e*SKP		04 47 28.8	
PLCA	**Paso Flores**	**141.61**	**196**	PKhKP		04 43 52.8	
	comp=Z,1.2nm,0.8s,baz=196,slow=3.3,SNR=3.3						
PLCA				SKPbc	SKPbc	04 47 32.0	+0.3
	comp=Z,0.8nm,0.5s,baz=223,slow=3.6,SNR=2.9						
JSC	**Jenkinsville**	**141.72**	**356**	*e*PKPdf	PKPdf	04 43 58.8	0.0
JSC				*e*SKP		04 47 32.0	
LTX	**Lajitas**	**141.73**	**28**	*e*PKPdf	PKPdf	04 43 59.8	+1.0
LTX				*e*SKP		04 47 30.8	
JCT	**Junction City**	**142.40**	**23**	*e*PKPpre		04 43 54.9	
JCT				*e*SKP		04 47 33.5	
BDFB	**Brasilia**	**142.87**	**249**	PKP	PKPdf	04 44 02.5	+1.7
	comp=Z,11nm,0.8s,baz=194,slow=4.2,SNR=3.2						
LRAL	**Lakeview Retre**	**142.93**	**4**	*e*PKPpre		04 43 55.9	
LRAL				*e*PKPdf	PKPdf	04 44 02.9	+1.9
CPUP	**Villa Florida**	**146.28**	**226**	PKPbc	PKPbc	04 44 07.7	-0.2
	comp=Z,17nm,0.7s,baz=107,slow=2.2,SNR=18						
CPUP	**Villa Florida**	**146.28**	**226**	*e*PKPbc	PKPbc	04 44 08.1	+0.2
DWPF	**Disney**	**147.86**	**356**	*e*PKPbc	PKPbc	04 44 12.5	+0.1
CFAA	**Coronel Fontan**	**148.93**	**207**	PKPbc	PKPbc	04 44 15.2	0.0
	comp=Z,2.6nm,0.7s,baz=129,slow=1.3,SNR=18						
MTP	**Monte Pirata**	**151.43**	**321**	*e*PKPpre		04 44 12.2	
CPD	**Cerro la Pandu**	**151.69**	**322**	*e*PKIKP	PKPdf	04 44 12.3	-3.2
CPD				*e*		04 44 19.7	
SJG	**San Juan**	**151.78**	**322**	*e*PKPpre		04 44 12.2	
SIV	**San Ignacio**	**154.61**	**241**	PKP	PKPdf	04 44 20.7	+1.0
	comp=Z,2.3nm,0.8s,baz=128,slow=12,SNR=2.5						
SIV				PKPbc	PKPbc	04 44 28.3	+0.1
	comp=Z,3.5nm,0.8s,baz=120,slow=8.7,SNR=4.5						
SIV				PKPab	PKPab	04 44 42.7	-0.3
	comp=Z,7.7nm,0.8s,baz=187,slow=3.9,SNR=3.9						
LPAZ	**La Paz**	**160.31**	**231**	PKP	PKPdf	04 44 28.7	+1.9
	comp=Z,8.0nm,0.8s,baz=165,slow=1.9,SNR=5.2						
LPAZ				PKPab	PKPab	04 45 09.6	+2.0
	comp=Z,4.5nm,0.7s,baz=167,slow=1.3,SNR=5.3						

SKHL 19 04:27:32.2±0.1, 5409N×12680E, h6km±1km, mb3.9/6, 2C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KROS	**Kirovskiy**	**0.36**	**16⇓**	*i*Pg	Pg	04 27 38.8	-0.3
KROS				AMB	AMB	04 27 39.1	
	162nm,0.3s						
KROS				*i* Sg	Sg	04 27 43.4	-0.4
KROS				A		04 27 43.7	
	920nm,0.2s						
ZEA	**Zeya**	**0.44**	**143⇑**	*i*Pg	Pg	04 27 40.5	-0.2
ZEA				AMB	AMB	04 27 40.8	
	530nm,0.2s						
ZEA				pPg		04 27 42.3	
ZEA				*e*Sg	Sg	04 27 46.7	+0.2
ZEA				A		04 27 47.1	
	520nm,0.2s						
YASR	**Yasnyy**	**1.06**	**138⇑**	*i*Pg	Pg	04 27 51.3	-1.3
YASR				AMB	AMB	04 27 51.8	
	13nm,0.5s						
YASR				pPg		04 27 52.8	
YASR				*e*Sg	Sg	04 28 05.4	-1.1
YASR				A		04 28 08.8	
	90nm,0.5s						
BMKR	**Bomnak**	**1.35**	**62⇓**	*i*Pg	Pg	04 27 56.7	-1.3
BMKR				AMB	AMB	04 27 57.5	
	15nm,0.5s						
BMKR				AMB	AMB	04 27 57.5	
	40nm,0.5s						
BMKR				AMB	AMB	04 27 57.5	
	44nm,0.5s						
BMKR				sPg		04 27 59.5	
BMKR				*e*Sg	Sg	04 28 14.5	-1.0
BMKR				A		04 28 17.7	
	86nm,0.4s						
BMKR				A		04 28 17.7	
	106nm,0.4s						
BMKR				A		04 28 17.7	
	56nm,0.4s						
EKMR	**Ekimchan**	**3.81**	**103**	*e*Pn	Pn	04 28 30.2	-1.1
EKMR				*e*Pg	Pg	04 28 40.7	-4.4
EKMR				AMB	AMB	04 28 43.7	
	4.0nm,0.4s						
EKMR				*e*Sg	Sg	04 29 30.5	-3.9
EKMR				A		04 29 36.9	
	9.0nm,0.4s						
EKMR				A		04 29 36.9	
	11nm,0.4s						
EKMR				A		04 29 36.9	
	15nm,0.4s						
TUP	**Tupik**	**4.03**	**278**	*e*Pn	Pn	04 28 35.7	+1.3
TUP				*e*Pg	Pg	04 28 46.1	-3.3
TUP				AMB	AMB	04 28 55.5	
	4.0nm,0.3s						
TUP				*e*Sg	Sg	04 29 38.5	-3.1
TUP				A		04 29 42.6	
	32nm,0.7s						
CRS	**Chara**	**5.61**	**304**	*e*Pn	Pn	04 28 58.2	+2.1
CRS				*e*Sg	Sg	04 30 28.7	-3.5

ISCJB ***19*** *04:31:51.2±0.3, 5798S×005×252W±0.1, h37km, mb5.3/32, MS5.0/14, Error ellipse: s-maj=9.4km s-min=5.7km az=107.5*

IDC ***19*** *04:31:52.5±2.6, 5795S×2538W, h33km±19km, mb4.9/25, mb1 5.0/26, mb1mx4.9/28, mbtmp5.1/26, ML5.2/1, MS4.9/13, Ms1 4.9/13, ms1mx4.8/19, Error ellipse: s-maj=13.5km s-min=10.2km az=20.0*

NEIC ***19*** *04:31:55.2±1.0, 5805S×2526W, h58km±8km, mb5.4/18, Error ellipse: s-maj=8.2km s-min=5.5km az=224.0*

HRVD ***19*** *04:31:55.2±0.2, 5815S×2477W, h38km, MW5.5/75, Centroid moment Tensor Solution. LP body waves: s65,c116; Mantle waves: s75,c128; Half duration: 1s4 Moment tensor: Scale 10^17 Nm; M_{rr}1.98±.07; $M_{\theta\theta}$0.06±.05; $M_{\phi\phi}$-2.04±.05; $M_{r\theta}$-0.12±.05; $M_{\theta\phi}$0.36±.03; $M_{\phi r}$0.79±.05; Best double couple: $M_0$2.19000×10^17 NP1:ϕ_s170.00000°, δ34.00000°, λ89.00000°. NP2:ϕ_s351.00000°, δ56.00000°, λ90.00000°. Principal axes: T 2.1310, Plg79.0000°, Azm263.0000°; N 0.1220, Plg0.0000°, Azm171.0000°; P -2.2490, Plg11.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***19*** *04:31:56.2, 5810S×2530W, h58km, mB5.7, Ms6.0, Msz5.6*

ISC 19 04:31:53.0±0.3, 5804S×005×253W±01, h39km, h39km±4.3km: pP-P, n124, σ0.93/74, mb5.3/32, MS5.0/14, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.28**	**296**	Pn	**Pn**	**04 33 41.2**	**+4.4**
	3μm,1.5s,SNR=19						
HOPE	**Hope Point**	**7.28**	**296**	*e*Pn	**Pn**	**04 33 41.1**	**+4.3**
	984nm,1.2s						
VNA1	**Neumayer--Stat**	**14.56**	**157**	*e*P	**Pn**	**04 35 15.7**	**-0.6**
VNA1				*e*		04 35 19.1	
VNA1				*e*		04 35 20.7	
VNA1				*e*		04 35 26.3	
VNA1				*e*		04 35 34.3	
VNA1				*e*		04 35 45.8	
VNA3	**Neumayer Olymp**	**14.77**	**160**	*e*P	**Pn**	**04 35 18.6**	**-0.5**
VNA3				*e*		04 35 21.5	
VNA3				*e*		04 35 23.0	
VNA3				*e*		04 35 29.2	
VNA3				*e*		04 35 36.3	
VNA3				*e*		04 35 48.3	
VNA3				*e*		04 37 54.2	
VNA2	**Neumayer--Watz**	**14.95**	**157**	*e*P	**Pn**	**04 35 20.8**	**-0.8**
	baz=327,slow=15						
VNA2				*e*		04 35 24.1	
VNA2				*e*		04 35 25.2	
VNA2				*e*		04 35 31.6	
VNA2				*e*		04 35 39.2	
VNA2				*e*		04 35 49.7	
VNA2				*e*		04 38 00.3	
SNAA	**Sanae**	**16.50**	**155**	Pn	**Pn**	**04 35 41.5**	**0.0**
	9.1nm,0.3s,baz=330,slow=14,SNR=201						
SNAA				Sn	**Sn**	**04 38 30.4**	**-13**
	0.4nm,0.3s,baz=9.3,slow=22,SNR=2.8						
SNAA				LR	LR	04 40 33.5	
	comp=Z,2μm,21.8s,baz=320,slow=31						
SNAA	**Sanae**	**16.50**	**155**	*e*P	**Pn**	**04 35 42.4**	**+0.9**
SNAA				*e*		04 35 45.9	
SNAA				*e*		04 35 48.1	
SNAA				*e*		04 35 53.0	
SNAA				*e*		04 36 00.4	
EFI	**East Falkland**	**19.75**	**275**	Pn	**Pn**	**04 36 22.6**	**+1.4**
	854nm,1.5s,SNR=14						
EFI	**East Falkland**	**19.75**	**275**	*e*P	**Pn**	**04 36 21.8**	**+0.6**
	319nm,1.4s						
MAIT	**Maitri**	**20.01**	**144**	*e*P	**P**	**04 36 21.1**	**-1.2**
TRIS	**Tristan da Cun**	**22.67**	**28**	*e*P	**P**	**04 36 52.8**	**+2.0**
	169nm,1.2s,mb5.3						
USHA	**Ushuaia**	**23.75**	**259**	P	**P**	**04 37 02.7**	**+1.1**
	17nm,0.5s,mb4.7,baz=99,slow=12,SNR=35						
USHA				PcP	PcP	04 40 44.0	-0.6
	8.7nm,0.5s,baz=92,slow=4.7,SNR=9.7						
SYO	**Syowa Base**	**29.40**	**138⇑**	*e*P	**P**	**04 37 50.9**	**-1.6**
QSPA	**South Pole Qui**	**32.20**	**180⇑**	*i*P	**P**	**04 38 18.7**	**+1.5**
	77nm,0.7s,mb5.6						
PLCA	**Paso Flores**	**33.38**	**281**	P	**P**	**04 38 27.1**	**-0.4**
	22nm,0.9s,mb5.1,baz=139,slow=9.1,SNR=48						
PLCA				LR	LR	04 52 12.4	
	comp=Z,2μm,19.1s,MS4.9,baz=129,slow=37						
PLCA	**Paso Flores**	**33.38**	**281**	*e*P	**P**	**04 38 27.0**	**-0.5**
	39nm,1.1s,mb5.2						
CAM4	**Nova Friburgo**	**37.77**	**333**	*e*P	**P**	**04 39 03.0**	**-2.2**
CAM4				*i*		04 39 06.3	
CAM4				*i*		04 39 09.9	
CAM4				*i*		04 39 17.2	
CAM4				*i*		04 39 22.9	
CAM4				*i*		04 39 26.9	
MAW	**Mawson**	**37.94**	**141**	*e*P	**P**	**04 39 06.7**	**0.0**
	28nm,0.9s,mb5.0						
MAW	**Mawson**	**37.94**	**141**	P	**P**	**04 39 06.8**	**+0.1**
	13nm,0.4s,mb5.0,baz=230,slow=7.6,SNR=27						
MAW				LR	LR	04 52 47.2	
	comp=Z,2μm,18.9s,MS4.8,baz=234,slow=33						
CAM3	**Guarapari**	**38.89**	**337⇑**	*e*P	**P**	**04 39 14.7**	**+0.1**
CAM3				*i*		04 39 15.7	
CAM3				*i*		04 39 21.0	
CAM3				*i*		04 39 28.6	
CPUP	**Villa Florida**	**38.89**	**311**	P	**P**	**04 39 13.0**	**-1.7**
	7.8nm,0.3s,mb4.9,baz=139,slow=6.3,SNR=74						
CPUP				PcP	PcP	04 41 24.6	-0.3
	3.8nm,0.4s,baz=130,slow=3.6,SNR=4.3						
CPUP				LR	LR	04 54 15.7	
	comp=Z,980nm,20.0s,MS4.6,baz=142,slow=35						
CPUP	**Villa Florida**	**38.89**	**311**	*e*P	**P**	**04 39 13.3**	**-1.3**
	80nm,0.4s,mb5.8						
CPUP				*e*PcP	PcP	04 41 24.9	0.0
CFAA	**Coronel Fontan**	**39.29**	**293**	P	**P**	**04 39 16.9**	**-1.1**
	0.8nm,0.3s,baz=299,slow=13,SNR=5.3						
CFAA				PcP	PcP	04 41 26.1	0.0
	1.8nm,0.5s,baz=161,slow=4.7,SNR=4.3						
CFAA				LR	LR	04 55 00.1	
	comp=Z,324nm,20.8s,MS4.1,baz=145,slow=35						
CFAA	**Coronel Fontan**	**39.29**	**293**	P	**P**	**04 39 16.9**	**-1.1**
CFAA				PcP	PcP	04 41 26.1	0.0
CFAA				LR	LR	04 55 00.1	
SUR	**Sutherland**	**40.25**	**71**	P	**P**	**04 39 26.6**	**+0.7**
	13nm,0.9s,mb4.7,baz=241,slow=7.1,SNR=4.3						
SUR				PcP	PcP	04 41 30.9	+1.7
	4.2nm,0.7s,baz=107,slow=11,SNR=3.4						
SUR				LR	LR	04 51 53.6	
	comp=Z,4μm,21.5s,MS5.2,baz=216,slow=30						
SUR	**Sutherland**	**40.25**	**71**	P	**P**	**04 39 26.6**	**+0.7**
SUR				PcP	PcP	04 41 30.9	+1.7
SUR				LR	LR	04 51 53.6	
SBA	**Scott Base**	**44.16**	**184**	*e*P	**P**	**04 39 59.4**	**+1.6**
	120nm,1.2s,mb5.5						
SBA				*e*pP	pP	04 40 12.6	+3.7
VNDA	**Vanda**	**44.62**	**182**	P	**P**	**04 40 03.0**	**+1.5**
	52nm,0.7s,mb5.5,baz=185,slow=7.3,SNR=81						
VNDA	**Vanda**	**44.62**	**182**	*e*P	**P**	**04 40 02.7**	**+1.2**
	36nm,0.6s,mb5.4						
VNDA				*e*pP	pP	04 40 16.0	+3.4
BOSA	**Boshof**	**45.54**	**72**	P	**P**	**04 40 08.8**	**0.0**
	22nm,0.9s,mb5.1,baz=215,slow=8.6,SNR=15						
BOSA				LR	LR	04 55 06.7	
	comp=Z,3μm,21.8s,MS5.2,baz=189,slow=31						
BOSA	**Boshof**	**45.54**	**72**	*e*P	**P**	**04 40 08.4**	**-0.4**
	94nm,1.2s,mb5.6						
BAO	**Brasilia Array**	**45.60**	**329**	P	**P**	**04 40 11.0**	**+1.7**
BDFB	**Brasilia**	**45.60**	**329**	P	**P**	**04 40 10.3**	**+1.0**
	56nm,1.0s,mb5.5,baz=156,slow=5.6,SNR=70						
BDFB				LR	LR	04 57 39.6	
	comp=Z,1μm,20.4s,MS4.9,baz=157,slow=34						
LBTB	**Lobatse**	**48.67**	**70**	P	**P**	**04 40 32.6**	**-0.6**
	21nm,0.9s,mb5.2,baz=229,slow=9.1,SNR=18						
LBTB	**Lobatse**	**48.67**	**70**	*e*P	**P**	**04 40 33.3**	**0.0**
SIV	**San Ignacio**	**49.69**	**313**	P	**P**	**04 40 39.8**	**-1.2**
	10nm,0.5s,mb5.2,baz=164,slow=8.3,SNR=94						
TSUM	**Tsumeb**	**49.83**	**57**	P	**P**	**04 40 40.5**	**-1.6**
	9.7nm,1.0s,mb4.8,baz=215,slow=6.6,SNR=6.1						
TSUM	**Tsumeb**	**49.83**	**57**	*e*P	**P**	**04 40 42.4**	**+0.4**
	12nm,1.2s,mb4.8						
LPAZ	**La Paz**	**52.36**	**304**	P	**P**	**04 41 00.8**	**-0.2**
	15nm,0.3s,mb5.4,baz=140,slow=5.7,SNR=138						
LPAZ				LR	LR	05 02 20.9	
	comp=Z,542nm,19.5s,MS4.6,baz=29,slow=35						
LPAZ	**La Paz**	**52.36**	**304**	*e*P	**P**	**04 41 00.8**	**-0.3**
	14nm,0.3s,mb5.4						
LPAZ				*e*PcP	PcP	04 42 13.2	+1.5
ARE	**Arequipa**	**53.71**	**301**	*e*P	**P**	**04 41 12.0**	**+1.0**
SAML	**Samuel**	**56.93**	**314**	*e*P	**P**	**04 41 33.1**	**-1.0**
	61nm,0.9s,mb5.6						
SAML				*e*pP	pP	04 41 44.7	-0.9
LSZ	**Lusaka**	**58.20**	**66**	P	**P**	**04 41 43.4**	**+0.3**
	9.0nm,0.8s,mb4.8,baz=208,slow=9.7,SNR=11						
LSZ	**Lusaka**	**58.20**	**66**	*e*P	**P**	**04 41 42.7**	**-0.4**
	80nm,1.0s,mb5.7						
LSZ				*e*pP	pP	04 41 49.7	-4.9
RPN	**Rapa Nui**	**64.31**	**260**	LR	LR	05 03 06.5	
	comp=Z,854nm,21.5s,MS4.9,baz=242,slow=29						
OPO	**Ambohidratompo**	**65.18**	**85**	P	**P**	**04 42 30.8**	**+0.6**
	1.8nm,0.7s,mb4.2,baz=191,slow=6.9,SNR=4.1						
DBIC	**Dimbokro**	**66.59**	**22**	P	**P**	**04 42 39.0**	**-0.2**
	44nm,0.8s,mb5.5,baz=170,slow=6.5,SNR=81						
DBIC				LR	LR	05 04 24.9	
	comp=Z,897nm,21.9s,MS4.9,baz=327,slow=29						
DBIC	**Dimbokro**	**66.59**	**22**	*e*P	**P**	**04 42 39.0**	**-0.2**
	53nm,0.9s,mb5.6						
OTAV	**Otavalo**	**71.60**	**303**	*e*P	**P**	**04 43 10.5**	**+0.2**
	61nm,1.3s,mb5.4						
OTAV				*e*pP	pP	04 43 23.6	+1.6
ROSC	**El Rosal**	**73.95**	**308**	P	**P**	**04 43 24.2**	**0.0**
	9.8nm,0.9s,mb4.8,baz=124,slow=4.0,SNR=13						
TORD	**Torodi Ar. Bea**	**74.33**	**27**	P	**P**	**04 43 26.5**	**+0.1**
	56nm,0.9s,mb5.5,baz=198,slow=6.1,SNR=244						
KMBO	**Kilima Mbogo**	**74.84**	**67**	P	**P**	**04 43 31.3**	**+1.9**
	0.5nm,0.7s,baz=173,slow=8.1,SNR=3.0						
KMBO				LR	LR	05 14 07.8	
	comp=Z,2μm,18.5s,MS5.5,baz=201,slow=34						
KMBO	**Kilima Mbogo**	**74.84**	**67**	P	**P**	**04 43 31.3**	**+1.9**
KMBO				LR	LR	05 14 07.8	
SDV	**Santo Domingo**	**76.14**	**314**	P	**P**	**04 43 36.4**	**-0.4**
	8.5nm,0.3s,mb5.1,baz=190,slow=3.3,SNR=71						
SDV	**Santo Domingo**	**76.14**	**314**	*e*P	**P**	**04 43 36.0**	**-0.8**
	33nm,1.0s,mb5.2						
RPZ	**Rata Peaks**	**77.69**	**192**	P	**P**	**04 43 46.1**	**+0.6**
	48nm,0.8s,mb5.5,baz=162,slow=1.3,SNR=9.0						
BBL	**Barber's Block**	**79.12**	**325**	*e*P	**P**	**04 43 53.3**	**-0.2**
TAU	**Tasmania Unive**	**79.22**	**175**	P	**P**	**04 43 54.9**	**+0.9**
	420nm,1.9s,mb6.0,SNR=5.6						
TAU	**Tasmania Unive**	**79.22**	**175**	P	**P**	**04 43 54.6**	**+0.6**
	420nm,1.9s,mb6.0,SNR=5.6						
MGG	**Marie-Galante**	**79.44**	**325**	*e*P	**P**	**04 43 55.8**	**+0.6**
TBG	**Guadaloupe-3**	**79.48**	**325**	*e*P	**P**	**04 43 55.5**	**0.0**
LZG	**Guadaloupe-1**	**79.80**	**325**	*e*P	**P**	**04 43 56.7**	**-0.4**
SEG	**Port Louis**	**79.96**	**325**	*e*P	**P**	**04 43 58.0**	**0.0**
URZ	**Urewera**	**82.23**	**198**	P	**P**	**04 44 10.1**	**0.0**
	20nm,0.8s,mb5.1,baz=173,slow=4.2,SNR=3.9						
SJG	**San Juan**	**83.05**	**321**	P	**P**	**04 44 13.3**	**-1.0**
	21nm,0.6s,mb5.3,baz=77,slow=1.4,SNR=9.2						
JTS	**JuntasAbangare**	**83.44**	**301**	P	**P**	**04 44 15.7**	**-0.6**
	182nm,1.1s,mb6.0,SNR=5.1						
JTS	**JuntasAbangare**	**83.44**	**301**	P	**P**	**04 44 16.2**	**-0.2**
	6.2nm,0.4s,mb5.0,baz=290,slow=3.5,SNR=10						
NWAO	**Narrogin (SRO)**	**84.09**	**149**	P	**P**	**04 44 19.5**	**-0.1**
	5.8nm,0.8s,mb4.8,baz=205,slow=2.2,SNR=5.8						
NWAO	**Narrogin (SRO)**	**84.09**	**149**	*e*P	**P**	**04 44 18.9**	**-0.8**
	28nm,0.9s,mb5.4						
MUN	**Mundaring**	**84.70**	**148**	*e*P	**P**	**04 44 22.7**	**0.0**
MUN				*e*pP	pP	04 44 30.8	-3.9
MUN				*e*sP	sP	04 44 34.6	-4.5
FORT	**Forrest**	**88.74**	**157**	*e*P	**P**	**04 44 42.6**	**+0.1**
	50nm,0.8s,mb5.9						
FORT				*e*pP	pP	04 44 51.1	-3.4
FORT				*e*sP	sP	04 44 55.1	-3.8
STKA	**Stephens Creek**	**89.75**	**169**	P	**P**	**04 44 45.7**	**-1.5**
	18nm,0.8s,mb5.4,baz=158,slow=6.4,SNR=4.3						
STKA	**Stephens Creek**	**89.75**	**169**	*e*P	**P**	**04 44 45.6**	**-1.6**
STKA				*e*pP	pP	04 44 58.3	-1.0
PPT	**Papeete**	**91.81**	**232**	LR	LR	05 17 18.4	
	comp=Z,1μm,19.0s,MS5.4,baz=335,slow=30						
ASAR	**Alice Springs**	**96.77**	**161**	P	**P**	**04 45 19.3**	**-0.2**
	9.7nm,0.8s,mb5.3,baz=180,slow=4.0,SNR=6.0						
BRTR	**Keskin Array B**	**109.12**	**44**	PKKPbc	PKKPbc	05 01 23.4	-1.6
	1.2nm,0.7s,baz=86,slow=3.4,SNR=7.1						
CLL	**Collm**	**113.41**	**25**	*e*PS	PS	05 01 01.0	+7.0
CLL				*e*SS	SS	05 07 12.0	+11
CLL				*e*SSS		05 11 24.0	
EKA	**Eskdalemuir Ar**	**114.43**	**14**	PKKPbc	PKKPbc	05 01 05.7	-1.9
	0.9nm,0.6s,baz=355,slow=3.1,SNR=7.3						
AKASG	**Malin Array Be**	**117.22**	**36**	PKP	PKPdf	04 50 30.8	-3.1
	2.1nm,0.8s,baz=232,slow=1.8,SNR=6.2						
SCHQ	**Schefferville**	**117.41**	**334**	PKP	PKPdf	04 50 32.4	-1.9
	1.1nm,0.3s,baz=246,slow=5.7,SNR=14						
SCHQ	**Schefferville**	**117.41**	**334**	PKP	PKPdf	04 50 32.4	-1.9
HFS	**Hagfors**	**121.76**	**22**	PKKPbc	PKKPbc	05 00 38.4	-2.7
	1.2nm,0.5s,baz=71,slow=6.4,SNR=8.5						
NB2	**NORSAR Subarra**	**122.13**	**20**	PKP	PKPdf	04 50 41.2	-2.2
	comp=Z,0.9nm,0.7s,baz=196,slow=1.8						
NOA	**NORSAR Array B**	**122.13**	**20**	PKP	PKPdf	04 50 40.8	-2.6
	comp=Z,3.2nm,1.0s,baz=201,slow=1.8,SNR=4.4						
NOA				PKKPbc	PKKPbc	05 00 38.2	-1.5
	comp=Z,1.7nm,0.8s,baz=20,slow=4.2,SNR=6.4						
NOA	**NORSAR Array B**	**122.13**	**20**	PKP	PKPdf	04 50 40.8	-2.6
NOA				PKKPbc	PKKPbc	05 00 38.2	-1.5
PDAR	**Pinedale Array**	**122.25**	**300**	PKP	PKPdf	04 50 42.0	-1.6
	comp=Z,2.1nm,0.4s,baz=125,slow=5.0,SNR=30						
PDAR				PKKPbc	PKKPbc	05 00 38.8	-0.5
	comp=Z,0.5nm,0.6s,baz=359,slow=0.8,SNR=4.4						
HWUT	**Hardware Ranch**	**122.28**	**298**	*e*PKPdf	PKPdf	04 50 43.0	-0.7
ULM	**Lac du Bonnet**	**122.39**	**314**	PKP	PKPdf	04 50 41.3	-2.6
	comp=Z,2.1nm,0.3s,baz=143,slow=3.4,SNR=12						
ULM				PKKPbc	PKKPbc	05 00 37.9	-0.9
	comp=Z,1.6nm,0.8s,baz=344,slow=6.6,SNR=4.8						
OHCM	**Honcut**	**125.37**	**289**	*e*PKPdf	PKPdf	04 50 49.9	+0.3
FINES	**FINESS Array B**	**125.68**	**28**	PKP	PKPdf	04 50 47.8	-2.4
	comp=Z,4.5nm,0.5s,baz=137,slow=2.5,SNR=67						
KAF	**Kangasniemi**	**126.31**	**27**	*e*pkp	PKPdf	04 50 49.6	-1.8
HRY	**Holter Researc**	**126.31**	**302**	*e*PKPdf	PKPdf	04 50 51.1	-0.3
MSO	**Missoula**	**127.36**	**300**	*e*PKPdf	PKPdf	04 50 52.8	-0.6
BMO	**Blue Mountains**	**127.47**	**296**	*e*PKPdf	PKPdf	04 50 52.6	-1.0
JOF	**Joensuu**	**128.25**	**29**	*e*pkp	PKPdf	04 50 54.0	-1.1
HUMO	**Hull Mountain**	**128.56**	**291**	*e*PKPdf	PKPdf	04 50 55.6	-0.1
AML	**Almayashu**	**128.90**	**71**	P	PKPdf	04 50 56.2	-0.2
	SNR=12						
EKS2	**Erkin-Say**	**129.33**	**70**	P	PKPdf	04 50 56.3	-0.9
	SNR=9.8						
SUMG	**Summit**	**130.65**	**355**	*e*PKPdf	PKPdf	04 50 58.8	-0.9
ARCES	**ARCESS Array B**	**132.42**	**22**	PKP	PKPdf	04 51 00.3	-2.7
	comp=Z,2.5nm,0.5s,baz=209,slow=3.4,SNR=25						
MKAR	**Makanchi Array**	**136.54**	**72**	PKP	PKPdf	04 51 10.3	-0.4
	comp=Z,4.0nm,0.8s,baz=224,slow=3.3,SNR=7.0						
MKAR				PKKP		05 00 47.0	
	comp=Z,0.4nm,0.6s,baz=236,slow=0.4,SNR=4.9						
KURK	**Kurchatov**	**137.32**	**66**	*e*PKPdf	PKPdf	04 51 10.6	-1.6
YKA	**Yellowknife Ar**	**138.33**	**316**	PKP	PKPdf	04 51 12.0	-2.0
	comp=Z,12nm,0.8s,baz=131,slow=2.0,SNR=34						
YKA				SKPbc	SKPbc	04 54 43.3	-2.0
	comp=Z,1.4nm,0.6s,baz=131,slow=3.4,SNR=7.9						
YKA	**Yellowknife Ar**	**138.33**	**316**	PKP	PKPdf	04 51 12.0	-2.0
YKA				SKPbc	SKPbc	04 54 43.3	-2.0
YKW3	**Yellowknife Ar**	**138.37**	**316**	*e*PKPdf	PKPdf	04 51 11.9	-2.2
RES	**Resolute Bay**	**140.09**	**337**	*e*PKPdf	PKPdf	04 51 15.6	-1.7
TIA	**Tai'an**	**147.04**	**115**	*e*PKP	PKPdf	04 51 30.8	+1.4
INK	**Inuvik**	**147.98**	**318**	PKPbc	PKPbc	04 51 32.0	-2.0
	comp=Z,30nm,0.5s,baz=103,slow=4.1,SNR=111						
INK	**Inuvik**	**147.98**	**318**	*e*PKPbc	PKPbc	04 51 31.8	-2.3
DAWY	**Dawson**	**148.87**	**309**	*e*PKPbc	PKPbc	04 51 34.4	-2.0
DAWY				*e*pPKPdf

KULM	Kulim	6.99	71	⇓iP		Pn	04 38 08.1 +0.1
SNG	Songkhla	7.76	57	P		Pn	04 38 19.0 +0.4
	776nm,1.0s						
NST	Nakhon Sawan	13.96	25	P		Pn	04 39 51.1 +7.7
BDT	Bhumibol Dam	14.98	19	P		Pn	04 39 55.0 -2.3
KKTK	Khon Kaen	15.83	33	P		Pn	04 40 12.0 +3.7
KSM	Kuching	16.34	95	ePn		Pn	04 40 16.4 +1.5
VIS	Vishakhapatnam	18.01	325	iP		Pn	04 40 33.1 -2.6
VIS				eP			04 40 33.7
VIS				AMb		AMB	04 40 40.9
	comp=Z,104nm,1.7s						
VIS				iS		Sn	04 43 52.0 -3.7
HYB	Hyderabad	20.89	314	iP		P	04 41 08.0 +0.6
	comp=Z,125nm,1.4s						
HYB	Hyderabad	20.89	314	eP		P	04 41 08.0 +0.6
HYB				pmax		pmax	
	comp=Z,125nm,1.4s						
HYB	Hyderabad	20.89	314	eP		P	04 41 08.0 +0.6
	comp=Z,125nm,1.4s						
BOK	Bokaro	22.13	340	eP		P	04 41 20.4 -0.4
BOK				AMb		AMB	04 41 23.8
	comp=Z,240nm,1.4s,mb5.4						
BOK				eS		S	04 45 18.9 -4.2
QIZ	Qiongzhong	22.21	43	P		P	04 41 22.4 +0.8
QIZ				S		S	04 45 22.3 -2.3
QIZ				AMB		AMB	
	comp=Z,34nm,1.8s,mb4.5						
QIZ				AMB		AMB	
	comp=Z,289nm,8.5s						
QIZ				LR		LR	
	comp=N,1μm,13.7s						
QIZ				LR		LR	
	comp=Z,757nm,17.8s,MS4.2						
KKM	Kota Kinabalu	22.32	81	eP		P	04 41 26.1 +3.3
KKM				epP			04 41 33.8
SHL	Shillong	22.54	355	eP		P	04 41 23.0 -2.1
SHL				eP			04 41 23.0
SHL				eS		S	04 45 25.0 -6.0
NGP	Nagpur	23.20	322	eP		P	04 41 32.4 +0.3
NGP				AMb		AMB	04 41 37.5
	comp=Z,92nm,1.1s,mb5.1						
KMI	Kunming	23.55	20	P		P	04 41 36.3 +0.7
KMI				AP			04 41 46.0
KMI				XP		sP	04 41 50.1 +2.6
KMI				PP			04 42 10.0
KMI				PPP			04 42 20.5
KMI				PCP		PcP	04 45 20.8 +0.6
KMI				S		S	04 45 46.6 -0.8
KMI				AMB		AMB	
	comp=Z,55nm,1.4s,mb4.8						
KMI				AMB		AMB	
	comp=Z,457nm,6.7s						
KMI				LR		LR	
	comp=N,2μm,11.1s,MS4.7						
KMI				LR		LR	
	comp=E,583nm,12.8s,MS4.7						
KMI				LR		LR	
	comp=Z,1μm,11.7s,MS4.7						
KAD	Karad	24.12	307	eP		P	04 41 40.6 -0.3
KAD				AMb		AMB	04 41 46.1
	comp=Z,93nm,1.9s,mb4.9						
JIRN	Jiri	25.65	344	eP		P	04 41 55.1 +0.4
	comp=Z,113nm,1.2s,mb5.3						
BHPL	Bhopal	25.76	323	eP		P	04 41 56.5 +0.7
BHPL				AMb		AMB	04 42 01.2
	comp=Z,66nm,1.6s,mb4.9						
PKI	Pulchoki	25.79	342	eP		P	04 41 56.2 +0.2
	comp=Z,47nm,0.9s,mb5.0						
DMN	Daman	25.92	342	eP		P	04 41 57.3 +0.1
	comp=Z,65nm,1.1s,mb5.1						
GUN	Gumba	25.97	343	eP		P	04 41 58.3 +0.7
	comp=Z,139nm,1.2s,mb5.4						
KKN	Kakani	26.04	342	eP		P	04 41 58.4 +0.2
	comp=Z,135nm,1.4s,mb5.3						
GYA	Guiyang	26.29	26	⇓iP		P	04 42 01.3 +0.8
GYA				AP		pP	04 42 08.9 -0.2
GYA				XP		sP	04 42 11.8 -0.9
GYA				PP			04 42 43.5
GYA				S		S	04 46 29.6 -1.7
GYA				XS		sS	04 46 39.9 -5.6
GYA				SS			04 47 34.9
GYA				AMB		AMB	
	comp=Z,20nm,1.2s,mb4.5						
GYA				AMB		AMB	
	comp=Z,140nm,3.8s						
GYA				LR		LR	
	comp=N,870nm,16.7s,MS4.5						
GYA				LR		LR	
	comp=E,970nm,16.5s,MS4.5						
GYA				LR		LR	
	comp=Z,760nm,15.8s,MS4.3						
GKN	Gorkha	26.44	341	eP		P	04 42 02.1 +0.3
	comp=Z,112nm,1.2s,mb5.3						
KOLN	Koldanda	26.57	339	eP		P	04 42 03.8 +0.7
	comp=Z,206nm,1.5s,mb5.4						
DANN	Dangsing	27.05	340	eP		P	04 42 07.4 0.0
CD2	Chengdu	29.25	17	eP		P	04 42 26.6 -0.4
CD2				AP		pP	04 42 33.8 -1.8
CD2				XP		sP	04 42 37.3 -1.9
CD2				PP		PP	04 43 18.3 -15
CD2				S		S	04 47 16.9 -1.0
CD2				XS		sS	04 47 27.9 -4.2
CD2				AMB		AMB	
	comp=Z,20nm,0.6s,mb5.0						
CD2				AMB		AMB	
	comp=Z,150nm,5.9s						
CD2				LR		LR	
	comp=E,690nm,14.4s						
CD2				LR		LR	
	comp=Z,580nm,10.2s,MS4.5						
NDI	New Delhi	30.15	330	eP		P	04 42 34.0 -1.0
XAN	Xi'an	33.87	23	P		P	04 43 06.4 -1.2
XAN				AP		pP	04 43 15.8 -0.4
XAN				AMB		AMB	
	comp=Z,39nm,1.0s,mb5.3						
LZH	Lanzhou	34.16	14	eP		P	04 43 09.0 -1.1
LZH				AP		pP	04 43 16.3 -2.5
LZH				XP		sP	04 43 19.9 -2.4
LZH				PP		PP	04 44 25.1 -2.6
LZH				eS		S	04 48 34.5 0.0
LZH				XS		sS	04 48 47.0 -1.8
LZH				AMB		AMB	
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB		AMB	
	comp=Z,109nm,4.3s						
LZH				LR		LR	
	comp=N,796nm,14.5s						
LZH				LR		LR	
	comp=Z,996nm,15.2s,MS4.7						
MBWA	Marble Bar	34.78	135	eP		P	04 43 15.9 +0.3
	comp=Z,14nm,1.0s,mb4.8						
MBWA				epP		pP	04 43 24.1 -0.1
GTA	Gaotai	36.63	8	⇑P		P	04 43 31.5 +0.2
GTA				AP		pP	04 43 39.9 -0.1
GTA				XP		sP	04 43 44.3 +0.7
GTA				PP		PP	04 44 55.0 0.0
GTA				PCP		PcP	04 45 55.0 +1.0
GTA				S		S	04 49 11.3 -1.1
GTA				AMB		AMB	
	comp=Z,25nm,1.3s,mb4.9						
GTA				AMB		AMB	
	comp=Z,152nm,4.2s						
GTA				LR		LR	
	comp=N,514nm,12.9s,MS4.8						
GTA				LR		LR	
	comp=E,985nm,12.9s,MS4.8						
GTA				LR		LR	
	comp=Z,578nm,14.8s,MS4.5						
NJ2	Nanjing	37.15	36	eP		P	04 43 35.3 -0.5
NJ2				AP		pP	04 43 44.9 +0.4
NJ2				XP		sP	04 43 48.9 +0.9
NJ2				PP		PP	04 45 02.4 +1.7
NJ2				AMB		AMB	
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB		AMB	
	comp=Z,150nm,3.8s						
NJ2				LR		LR	
	comp=N,3μm,19.4s,MS5.5						
NJ2				LR		LR	
	comp=E,7μm,18.7s,MS5.5						
NJ2				LR		LR	
	comp=Z,890nm,16.7s,MS4.6						
FITZ	Fitzroy Crossi	37.54	125	P		P	04 43 37.8 -1.3
	comp=Z,6.5nm,0.8s,mb4.4,baz=289,slow=3.2,SNR=8.9						
SSE	Sheshan	37.92	40	eP		P	04 43 44.3 +2.0
SSE				AP		pP	04 43 53.6 +2.6
SSE				XP		sP	04 43 57.1 +2.5
SSE				PP		PP	04 45 11.1 +2.0
SSE				PCP		PcP	04 45 59.1 +1.2
SSE				AMB		AMB	
	comp=Z,54nm,0.7s,mb5.4						
SSE				AMB		AMB	
	comp=Z,313nm,9.5s						
SSE				LR		LR	
	comp=N,574nm,17.4s,MS4.9						
SSE				LR		LR	
	comp=E,1μm,17.4s,MS4.9						
SSE				LR		LR	
	comp=Z,1μm,20.2s,MS4.7						
MUN	Mundaring	40.66	151	eP		P	04 44 02.7 -2.5
HHC	Hu-ho-hao-te	40.87	20	eP		P	04 44 07.9 +1.0
HHC				AP		pP	04 44 16.3 +0.6
HHC				XP		sP	04 44 19.8 +0.6
HHC				PP		PP	04 45 46.3 +4.9
HHC				PCP		PcP	04 46 08.3 +1.0
HHC				AMB		AMB	
	comp=Z,30nm,1.3s,mb4.8						
HHC				AMB		AMB	
	comp=Z,194nm,4.6s						
HHC				LR		LR	
	comp=N,757nm,7.8s						
HHC				LR		LR	
	comp=E,1μm,16.1s						
HHC				LR		LR	
	comp=Z,649nm,11.8s,MS4.7						
WMQ	Urumqi	41.04	353	P		P	04 44 09.0 +0.7
WMQ				AP		pP	04 44 17.5 +0.4
WMQ				XP		sP	04 44 21.3 +0.7
WMQ				PP		PP	04 45 47.0 +3.8
WMQ				PPP			04 46 15.8
WMQ				AMB		AMB	
	comp=Z,29nm,1.2s,mb4.8						
WMQ				AMB		AMB	
	comp=Z,215nm,4.1s						
WMQ				LR		LR	
	comp=N,1μm,20.0s,MS5.0						
WMQ				LR		LR	
	comp=E,1μm,20.0s,MS5.0						
WMQ				LR		LR	
	comp=Z,2μm,22.0s,MS4.8						
KLBR	Kellerberrin	41.13	149	eP		P	04 44 08.7 -0.4
	comp=Z,17nm,1.0s,mb4.6						
KLBR				epP		pP	04 44 17.3 -0.6
KAKA	Kakadu	41.21	113	⇓iP		P	04 44 08.8 -0.9
	comp=Z,24nm,0.9s,mb4.8						
KAKA				epP		pP	04 44 19.0 +0.5
NWAO	Narrogin (SRO)	41.94	150	P		P	04 44 15.4 -0.3
	comp=Z,9.1nm,0.9s,mb4.4,baz=320,slow=8.8,SNR=4.3						
BJI	Beijing	41.98	26	P		P	04 44 17.4 +1.4
BJI				AMB		AMB	
	comp=Z,29nm,1.2s,mb4.8						
BJI				LR		LR	
	comp=Z,995nm,28.5s,MS4.5						
ULHL	Ulahol	42.20	340	P		P	04 44 18.9 +1.1
	SNR=5.1						
KZA	Kyzart	42.39	339	P		P	04 44 20.3 +0.9
	SNR=8.6						
UCH	Uchtor	42.79	339	P		P	04 44 23.7 +1.1
	SNR=19						
KBK	Karagaybulak	43.01	339	P		P	04 44 25.7 +1.3
	SNR=27						
AML	Almayashu	43.01	338	P		P	04 44 25.6 +1.2
	SNR=22						
TKM2	Tokmak 2	43.02	340	P		P	04 44 25.2 +0.7
	SNR=17						
AAK	Ala-Archa	43.15	339	P		P	04 44 26.8 +1.3
	SNR=12						
FRU	Bishkek	43.28	339	eP		P	04 44 28.0 +1.4
FRU				e			04 46 04.0
FRU				pmax		pmax	
	comp=Z,80nm,1.8s,mb5.2						
CHMS	Chumysh	43.38	339	P		P	04 44 28.1 +0.8
	SNR=5.2						
EKS2	Erkin-Say	43.44	338	P		P	04 44 28.9 +1.1
	SNR=8.7						
DL2	Dalian	43.70	32	eP		P	04 44 31.3 +1.4
DL2				AMB		AMB	
	comp=Z,10.0nm,0.6s,mb4.7						
DL2				AMB		AMB	
	comp=Z,140nm,3.6s						
DL2				LR		LR	
	comp=N,270nm,14.5s,MS4.4						
DL2				LR		LR	
	comp=E,240nm,14.7s,MS4.4						
DL2				LR		LR	
	comp=Z,400nm,14.3s,MS4.5						
USP	Ospenovka	43.70	339	P		P	04 44 30.4 +0.5
	SNR=23						
MK31	Makanchi Array	44.81	349	iP		P	04 44 38.8 0.0
MKAR	Makanchi Array	44.81	349	P		P	04 44 39.1 +0.3
	comp=Z,20nm,0.8s,mb5.0,baz=169,slow=9.0,SNR=79						
KK31	Karatay Array	45.09	336	iP		P	04 44 40.2 -0.9
KKAR	Karatay Array	45.09	336	iP		P	04 44 40.1 -1.0
KKAR				pmax		pmax	
	comp=Z,41nm,1.2s,mb5.1						
WRA	Warramunga Arr	45.67	122	P		P	04 44 46.2 +0.6
	comp=Z,40nm,0.9s,mb5.3,baz=301,slow=8.9,SNR=19						
WRAB	Tennant Creek	45.67	122	eP		P	04 44 46.0 +0.3
WRAB				pmax		pmax	
	comp=Z,91nm,1.0s,mb5.7						
WRAB	Tennant Creek	45.67	122	eP		P	04 44 46.0 +0.3
	comp=Z,91nm,1.0s,mb5.7						
SONM	Songino Array	45.93	12	P		P	04 44 48.0 +0.3
	comp=Z,20nm,1.0s,mb5.0,baz=196,slow=7.1,SNR=76						
ULN	Ulaanbaatar	46.09	12	eP		P	04 44 48.9 -0.1
ULN	Ulaanbaatar	46.09	12	eP		P	04 44 48.8 -0.1
	comp=Z,37nm,1.4s,mb5.1						
ULN				epP		pP	04 44 57.5 -0.4
ASAR	Alice Springs	47.00	127	P		P	04 44 56.1 +0.1
	comp=Z,20nm,0.8s,mb5.1,baz=294,slow=7.7,SNR=13						
ZAK	Zakamensk	47.86	8	⇑iP		P	04 45 03.2 +0.4
ZAK				pmax		pmax	
	comp=Z,35nm,1.8s,mb5.1						
MOY	Mondy	48.85	6	eP		P	04 45 11.3 +0.8
CN2	Changchun	49.24	30	eP		P	04 45 11.4 -2.0
CN2				eAP		pP	04 45 18.9 -3.5
CN2				AMB		AMB	
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				LR		LR	
	comp=N,1μm,19.0s,MS5.1						
CN2				LR		LR	
	comp=E,1μm,19.0s,MS5.1						
CN2				LR		LR	
	comp=Z,900nm,17.0s,MS4.8						
KURK	Kurchatov	49.30	347	P		P	04 45 14.5 +0.6
	comp=Z,169nm,1.3s,mb5.9,SNR=19						
KURK	Kurchatov	49.30	347	eP		P	04 45 14.2 +0.3
KURK				e*PP		pP	04 45 22.9 +0.1
KURK				*SP		sP	04 45 25.9 -0.4
KURK				pmax		pmax	
	comp=Z,62nm,1.4s,mb5.5						
KURK	Kurchatov	49.30	347	eP		P	04 45 14.2 +0.4
	comp=Z,62nm,1.4s,mb5.5						
KURK				epP		pP	04 45 22.9 +0.1
KURK				sP		sP	04 45 25.9 -0.4
IRK	Irkutsk	49.82	8	eP		P	04 45 18.0 +0.2
IRK				pmax		pmax	
	comp=Z,49nm,4.1s						
KBD	Kabd	51.09	306	eP		P	04 45 28.4 +1.0
KBD				AMb		AMB	04 45 29.9
	comp=Z,259nm,1.1s,mb6.1						
RDF	Al-Radifah	51.11	305	eP		P	04 45 28.4 +0.8
RDF				AMb		AMB	04 45 30.0
	comp=Z,119nm,1.1s,mb5.8						
NAY	Al-Naaiem	51.48	306	eP		P	04 45 31.1 +0.8
NAY				AMb		AMB	04 45 32.6
	comp=Z,46nm,1.1s,mb5.3						
MIB	Mutribah	51.61	306	eP		P	04 45 32.3 +1.0
MIB				AMb		AMB	04 45 35.0
	comp=Z,181nm,1.2s,mb5.9						
MDJ	Mudanjiang	51.94	32	P		P	04 45 35.4 +1.6
MDJ				AP		pP	04 45 41.6 -1.1
MDJ				XP		sP	04 45 44.8 -1.5
MDJ				PCP		PcP	04 46 47.0 +0.9
MDJ				PP		PP	04 47 35.6 +3.8
MDJ				AMB		AMB	
	comp=Z,19nm,2.0s,mb4.7						
MDJ				AMB		AMB	
	comp=Z,181nm,4.4s						
MDJ				LR		LR	
	comp=N,1μm,22.8s,MS5.0						
MDJ				LR		LR	
	comp=E,1μm,23.7s,MS5.0						
MDJ				LR		LR	
	comp=Z,1μm,27.3s,MS4.8						
NVS	Novosibirsk	52.43	352	iP		P	04 45 36.3 -1.1
NVS				i		pP	04 45 44.9 -1.5
NVS				e			04 46 46.8
NVS				pmax		pmax	
	comp=Z,58nm,1.4s,mb5.3						
NVS				pmax		pmax	
	comp=N,54nm,1.6s						
NVS				pmax		pmax	
	comp=E,29nm,1.4s						
MJAR	Matsushiro Arr	52.59	45	P		P	04 45 39.4 +0.8
	comp=E,1.1nm,0.7s,mb3.9,baz=242,slow=8.1,SNR=4.6						
KRAR	Krasnoyarsk	52.87	359	eP		P	04 45 40.7 +0.1
KRAR				pmax		pmax	
	comp=Z,38nm,1.1s,mb5.2						
VOSK	Vostochnaya	53.12	343	P		P	04 45 41.6 -0.9
VOSK				pmax		pmax	
	comp=Z,54nm,1.4s,mb5.3						
BVA0	Borovoye Array	53.56	342	iP		P	04 45 44.6 -1.2
BVA0				pmax		pmax	
	comp=Z,8.0nm,1.2s,mb4.5						
BRVK	Borovoye	53.62	342	P		P	04 45 45.0 -1.2
	comp=Z,120nm,1.0s,mb5.8,SNR=9.1						
BRVK	Borovoye	53.62	342	eP		P	04 45 45.6 -0.6
BRVK				e*PP		pP	04 45 54.3 -0.9
BRVK				pmax		pmax	
	comp=Z,20nm,1.2s,mb4.9						
BRVK	Borovoye	53.62	342	eP		P	04 45 45.6 -0.6
	comp=Z,20nm,1.2s,mb4.9						
BRVK				epP		pP	04 45 54.3 -0.9
ZRNK	Zerenda	53.92	342	eP		P	04 45 47.8 -0.6
ZRNK				e*PP		pP	04 45 56.2 -1.2
ZRNK				e*SP		sP	04 45 59.7 -1.2
ZRNK				pmax		pmax	
	comp=Z,22nm,1.2s,mb5.0						
ZRNK	Zerenda	53.92	342	eP		P	04 45 47.8 -0.6
	comp=Z,22nm,1.2s,mb5.0						
ZRNK				epP		pP	04 45 56.2 -1.3
ZRNK				esP		sP	04 45 59.7 -1.2
PMG	Port Moresby	54.35	104	P		P	04 45 51.6 +0.1
	comp=Z,11nm,1.0s,mb4.7,baz=2.6,slow=6.3,SNR=3.7						
PMG	Port Moresby	54.35	104	eP		P	04 45 52.4 +0.9
PMG				e*PP		pP	04 46 02.3 +1.8
PMG				pmax		pmax	
	comp=Z,19nm,1.2s						
PMG	Port Moresby	54.35	104	eP		P	04 45 52.4 +0.8
	comp=Z,19nm,1.2s,mb4.9						
PMG				epP		pP	04 46 02.3 +1.8
AB31	Akbulak array	54.47	333	iP		P	04 45 51.2 -1.2
BHD	Baghdad	55.25	309	ex		x	04 45 54.0
CTA	Charters Tower	56.13	117	P		P	04 46 05.2 +0.9
	comp=Z,12nm,1.0s,mb4.9,baz=246,slow=10.0,SNR=3.4						
CTAO	Charters Tower	56.13	117	eP		P	04 46 05.1 +0.7
	comp=Z,16nm,0.9s,mb5.0						
KMBO	Kilima Mbogo	56.91	267	P		P	04 46 10.7 +0.8
	comp=Z,8.8nm,1.0s,mb4.7,baz=60,slow=8.2,SNR=12						
KMBO	Kilima Mbogo	56.91	267	eP		P	04 46 11.4 +1.6
	comp=Z,8.8nm,1.1s,mb4.7						
STKA	Stephens Creek	56.91	131	P		P	04 46 08.5 -1.4
	comp=Z,14nm,0.8s,mb5.0,baz=305,slow=5.6,SNR=3.7						
STKA	Stephens Creek	56.91	131	eP		P	04 46 08.1 -1.8
GNI	Garni	57.82	317	eP		P	04 46 16.4 +0.1
	comp=Z,25nm,1.1s,mb5.2						
ARU	Arti	60.33	338	P		P	04 46 33.0 -0.7
	comp=Z,137nm,1.1s,mb5.9,SNR=5.8						
ARU	Arti	60.33	338	eP		P	04 46 32.4 -1.3
ARU	Arti	60.33	338	eP		P	04 46 32.4 -1.3
	comp=Z,64nm,1.4s,mb5.5						
YSS	Yuzh-Sakhalins	60.72	36	eP		P	04 46 36.6 +0.3
	comp=Z,32nm,1.0s,mb5.4						
KIV	Kislovodsk	60.90	320	eP		P	04 46 37.3 -0.3
KIV				ePP		pP	04 46 46.0 -0.7
KIV	Kislovodsk	60.90	320	eP		P	04 46 37.3 -0.3
	comp=Z,43nm,1.4s,mb5.4						
KIV				epP		pP	04 46 46.0 -0.7
MALT	Malatya	61.59	312	eP		P	04 46 43.4 +1.1
MALT				ePP		pP	04 46 52.0 +0.6
MALT	Malatya	61.59	312	eP		P	04 46 43.4 +1.1
	comp=Z,39nm,1.3s,mb5.4						
MALT				epP		pP	04 46 52.0 +0.6
MALT				esP		sP	04 46 56.2 +1.4
YAK	Yakutsk	64.64	18	eP		P	04 47 02.4 -0.1
	comp=Z,60nm,1.0s,mb5.6						
YAK				epP		pP	04 47 10.7 -0.9
BR131	Keskin Array S	65.57	313	eP		P	04 47 08.2 -0.4
	comp=Z,3.2nm,0.8s,mb4.4						
BR131				epP		pP	04 47 16.8 -0.9
BRTR	Keskin Array B	65.57	313	P		P	04 47 08.2 -0.4
	comp=Z,5.5nm,1.0s,mb4.6,baz=126,slow=6.3,SNR=23						
LSZ	Lusaka	67.61	252	eP		P	04 47 22.1 +0.5
	comp=Z,18nm,1.4s,mb4.9						
OBN	Obninsk	69.45	329	eP		P	04 47 32.1 -0.9
TIRR	Tirgusor	70.64	316	⇓P		P	04 47 40.5 +0.1
TIRR	Tirgusor	70.64	316	eP		P	04 47 39.5 -0.9
TIRR				epP		pP	04 47 48.5 -1.2
CFR	Carcaliu	71.02	317	⇓P		P	04 47 42.5 -0.2
CFR	Carcaliu	71.02	317	⇓P		P	04 47 42.5 -0.2
MA2	Magadan	71.13	27	eP		P	04 47 43.2 -0.2
	comp=Z,35nm,1.4s,mb5.1						
MA2				epP		pP	04 47 52.2 -0.4
GVD	Gavdhos	71.87	306	eP		P	04 47 48.3 +0.5
	comp=Z,20nm,0.8s,mb5.1						
LBTB	Lobatse	71.87	243	P		P	04 47 48.3 +0.5
	comp=Z,17nm,1.1s,mb4.9,baz=107,slow=7.9,SNR=9.6						
LBTB	Lobatse	71.87	243	eP		P	04 47 48.3 +0.5
LBTB				pP		pP	04 47 57.7 +0.6
AKASG	Malin Array Be	71.92	323	P		P	04 47 46.4 -1.7
	comp=Z,2.8nm,0.7s,mb4.3,baz=90,slow=4.9,SNR=23						
AKASG	Malin Array Be	71.92	323	P		P	04 47 46.4 -1.7
TIXI	Tiksi	72.01	11	⇑iP		P	04 47 47.5 -1.1
DIM	Dimitrovgrad	72.11	313	eP		P	04 47 50.0 +0.8
VRI	Vrincioaia	72.16	317	⇑P		P	04 47 50.5 +1.0
VRI	Vrincioaia	72.16	317	⇑P		P	04 47 50.5 +1.0
MLR	Muntele Rosu	72.60	317	P		P	04 47 52.5 +0.3
	comp=Z,30nm,1.1s,mb5.1,baz=74,slow=2.2,SNR=22						
MLR	Muntele Rosu	72.60	317	⇑P		P	04 47 52.6 +0.4
MLR	Muntele Rosu	72.60	317	⇑P		P	04 47 52.6 +0.5
RZN	Rozhen	72.63	313	eP		P	04 47 52.0 -0.3
BOSA	Boshof	72.95	239	P		P	04 47 53.7 -0.5
	comp=Z,14nm,1.1s,mb4.8,baz=84,slow=6.2,SNR=8.2						
BOSA	Boshof	72.95	239	eP		P	04 47 54.5 +0.2
	comp=Z,53nm,1.5s,mb5.2						
MMB	Musomiste	73.33	313	eP		P	04 47 56.0 -0.5
SEY	Seymchan	73.39	24	⇓iP		P	04 47 56.9 +0.1
BURAR	Bucovina Array	73.60	319	⇓P		P	04 47 58.7 +0.6
BURAR	Bucovina Array	73.60	319	⇓P		P	04 47 58.7 +0.7
KKB	Krupnik	73.86	313	eP		P	04 47 59.0 -0.6
VTS	Vitosha	73.90	313	eP		P	04 47 59.0 -0.9
VAY	Valandovo	74.14	312	eP		P	04 47 59.8 -1.5
BIA	Bitola	75.02	312	eP		P	04 48 05.8 -0.5
DRGR		75.08	318	⇑P		P	04 48 06.6 -0.1
DRGR		75.08	318	⇓P		P	04 48 06.6 -0.1
DRGR		75.08	318	⇑P		P	04 48 06.6 -0.1
SKO	Skopje	75.08	313	eP		P	04 48 06.4 -0.3
JOF	Joensuu	75.19	335	ep		P	04 48 07.5 +0.2
	comp=Z,16nm,1.0s,mb4.9						
OHR	Ohrid	75.42	312	eP		P	04 48 06.4 -2.2
BZS	Buzias	75.60	316	⇑P		P	04 48 09.8 +0.1
KWP	Kalwaria	75.68	321	eP		P	04 48 10.3 +0.2
CRVS	Cervenica-Dubn	76.33	320	eP		P	04 48 17.7 +3.9
CRVS	Cervenica-Dubn	76.33	320	e		P	04 48 17.7 +3.9
SUW	Suwalki	76.39	325	eP		P	04 48 13.2 -1.0
DIVS	Divcibare	76.48	315	⇓iP		P	04 48 14.5 -0.1
STHS	Stebnicka Huta	76.57	320	eP		P	04 48 15.6 +0.4
STHS				epP		pP	04 48 24.5 0.0
KECS	Kecovo	76.88	319	iP		P	04 48 16.8 -0.

OKC	**Ostrava-Krasne**	**78.62**	**320**	*e*P	**P**	**04 48 27.0**	**+0.3**
OKC				*e*pP	pP	04 48 35.4	-0.6
SMOL	**Smolenice**	**78.89**	**319**	*e*P	**P**	**04 48 28.8**	**+0.7**
MORC	**Moravsky Berou**	**79.00**	**320**	*e*P	**P**	**04 48 28.8**	**+0.1**
	comp=Z,54nm,1.8s,mb5.2						
MORC				*e*pP	pP	04 48 37.6	-0.5
ZST	**Bratislava**	**79.06**	**318**	*e*P	**P**	**04 48 29.4**	**+0.3**
ZST				*e*pP	pP	04 48 38.0	-0.5
ZST				*e*PP	PP	04 51 03.4	-25
KOGS	**Kog**	**79.42**	**317**	*e*P	**P**	**04 48 30.9**	**-0.1**
KOGS				*e*pP	pP	04 48 39.8	-0.6
GCIS	**Gornji Cirnik**	**79.78**	**316**	*e*P	**P**	**04 48 33.1**	**+0.2**
ARCES	**ARCESS Array B**	**79.80**	**341**	P	**P**	**04 48 32.2**	**-0.8**
	comp=Z,7.6nm,0.9s,mb4.6,baz=121,slow=8.7,SNR=8.8						
DPC	**Dobruska-Polom**	**79.86**	**321**	*e*P	**P**	**04 48 33.8**	**+0.4**
DPC				*e*pP	pP	04 48 42.5	-0.3
KSP	**Ksiaz**	**79.94**	**321**	*e*P	**P**	**04 48 34.4**	**+0.5**
KSP	**Ksiaz**	**79.94**	**321⇑**	*e*P	**P**	**04 48 34.1**	**+0.2**
KSP				*e*pP	pP	04 48 42.0	-1.2
BOJS	**Bojanci**	**80.00**	**316**	*e*P	**P**	**04 48 34.2**	**0.0**
BOJS				*e*pP	pP	04 48 42.9	-0.7
ARSA	**Arzberg**	**80.01**	**317⇑**	*i*P	**P**	**04 48 34.3**	**+0.1**
	comp=Z,38nm,1.4s,mb5.2						
ARSA	**Arzberg**	**80.01**	**317⇑**	*i*P	**P**	**04 48 34.3**	**+0.1**
UPC	**Upice**	**80.08**	**321**	*e*P	**P**	**04 48 34.2**	**-0.4**
UPC				*e*pP	pP	04 48 44.1	+0.1
TREC	**Trest**	**80.27**	**319**	*e*P	**P**	**04 48 35.9**	**+0.3**
LJU	**Ljubljana**	**80.56**	**316**	*e*P	**P**	**04 48 37.4**	**+0.2**
LJU				*e*	pP	04 48 46.3	-0.3
OBKA	**Obir**	**80.59**	**317⇑**	*i*P	**P**	**04 48 37.6**	**+0.2**
	comp=Z,29nm,1.4s,mb5.0						
OBKA	**Obir**	**80.59**	**317⇑**	*i*P	**P**	**04 48 37.6**	**+0.2**
CEY	**Cerknica**	**80.61**	**316**	*e*P	**P**	**04 48 37.0**	**-0.4**
BILL	**Bilibino**	**80.64**	**21**	*e*P	**P**	**04 48 37.5**	**-0.1**
BILL				*e*PP	pP	04 48 46.7	-0.3
BILL	**Bilibino**	**80.64**	**21**	*e*P	**P**	**04 48 37.5**	**-0.1**
	comp=Z,19nm,1.4s,mb4.8						
BILL				*e*pP	pP	04 48 46.7	-0.3
PRU	**Pruhonice**	**80.95**	**320**	*e*P	**P**	**04 48 39.2**	**-0.1**
PRU				*e*pP	pP	04 48 47.9	-0.8
PVCC	**Panska Ves**	**81.00**	**321**	*e*P	**P**	**04 48 39.6**	**+0.1**
VOY	**Vojsko**	**81.00**	**316**	*e*P	**P**	**04 48 39.2**	**-0.3**
AQU	**L'Aquila**	**81.06**	**312**	*e*P	**P**	**04 48 40.0**	**+0.1**
	comp=Z,16nm,0.9s,mb5.0						
AQU				*e*pP	pP	04 48 49.0	-0.2
FX1	**Attu Island--F**	**81.06**	**37**	*e*P	**P**	**04 48 41.9**	**+2.1**
GEC2	**GERESS Array S**	**81.39**	**319**	*e*P	**P**	**04 48 42.0**	**+0.4**
	comp=Z,50nm,1.3s,mb5.3						
GERES	**GERESS Array B**	**81.39**	**319**	P	**P**	**04 48 41.8**	**+0.2**
	comp=Z,16nm,1.1s,mb4.9,baz=100,slow=5.5,SNR=56						
BRG	**Berggiesshubel**	**81.43**	**321**	*e*P	**P**	**04 48 41.8**	**0.0**
	comp=Z,31nm,1.5s,mb5.0						
BRG	**Berggiesshubel**	**81.43**	**321**	*e*P	**P**	**04 48 41.9**	**0.0**
	comp=Z,19nm,1.5s,mb4.8						
BRG				*e*	pP	04 48 50.5	-0.7
BRG				LR	LR		
	comp=Z,590nm,22.5s,MS4.9						
BRG	**Berggiesshubel**	**81.43**	**321**	*e*P	**P**	**04 48 41.9**	**0.0**
	comp=Z,19nm,1.5s,mb4.8						
BRG				*e*	pP	04 48 50.5	-0.7
	comp=Z,12nm,1.5s						
BRG							
	comp=N,1μm,44.5s						
BRG							
	comp=E,1μm,39.6s						
BRG							
	comp=Z,592nm,22.5s						
KBA	**Koelnbreinsper**	**81.47**	**317⇑**	*i*P	**P**	**04 48 41.4**	**-0.6**
	comp=Z,8.9nm,1.1s,mb4.6						
KBA	**Koelnbreinsper**	**81.47**	**317⇑**	*i*P	**P**	**04 48 41.4**	**-0.6**
KHC	**Kasperske Hory**	**81.49**	**319**	*e*P	**P**	**04 48 41.4**	**-0.8**
KHC				*e*pP	pP	04 48 49.9	-1.7
RUE	**Ruedersdorf**	**81.69**	**322**	*e*P	**P**	**04 48 43.4**	**+0.2**
	comp=Z,48nm,1.3s,mb5.3						
WET	**Wettzell**	**81.95**	**319**	*e*P	**P**	**04 48 44.6**	**0.0**
	comp=Z,26nm,1.4s,mb5.0						
CLL	**Collm**	**82.06**	**321**	*e*P	**P**	**04 48 44.7**	**-0.4**
	comp=Z,19nm,1.4s,mb4.8						
CLL	**Collm**	**82.06**	**321⇑**	*i*P	**P**	**04 48 44.6**	**-0.5**
	comp=Z,19nm,1.4s,mb4.8						
CLL	**Collm**	**82.06**	**321⇑**	*i*P	**P**	**04 48 44.6**	**-0.5**
	comp=Z,19nm,1.4s,mb4.8						
NKC	**Novy Kostel**	**82.32**	**320**	*e*P	**P**	**04 48 45.7**	**-0.8**
NKC				*e*pP	pP	04 48 53.8	-2.1
WERD	**Werda**	**82.43**	**320**	*e*P	**P**	**04 48 47.0**	**-0.1**
	comp=Z,22nm,1.5s,mb4.9						
ROTZ	**Rotzenmuhle**	**82.44**	**320**	*e*P	**P**	**04 48 47.5**	**+0.4**
	comp=Z,21nm,1.4s,mb4.9						
MANZ	**Manzenberg**	**82.52**	**320**	*e*P	**P**	**04 48 48.2**	**+0.7**
	comp=Z,34nm,1.3s,mb5.2						
RPZ	**Rata Peaks**	**82.71**	**135**	P	**P**	**04 48 48.6**	**0.0**
	comp=Z,24nm,0.9s,mb5.2,baz=3.8,slow=0.5,SNR=7.8						
MOX	**Moxa**	**82.88**	**321**	*e*P	**P**	**04 48 49.2**	**-0.2**
	comp=Z,21nm,1.6s,mb4.9						
MOX	**Moxa**	**82.88**	**321**	*e*P	**P**	**04 48 49.7**	**+0.3**
	comp=Z,26nm,1.8s,mb5.0						
SQTA	**Sankt Quirin**	**82.93**	**317⇑**	*i*P	**P**	**04 48 49.2**	**-0.4**
	comp=Z,12nm,1.1s,mb4.8						
FUR	**Furstenfeldbru**	**82.94**	**318**	*e*P	**P**	**04 48 49.7**	**0.0**
	comp=Z,12nm,0.8s,mb5.0						
MOTA	**Moosalm**	**83.01**	**317⇑**	*i*P	**P**	**04 48 49.4**	**-0.7**
	comp=Z,15nm,1.1s,mb4.9						
MOTA	**Moosalm**	**83.01**	**317⇑**	*i*P	**P**	**04 48 49.4**	**-0.7**
GRA1	**Grafenberg Arr**	**83.07**	**320**	*e*P	**P**	**04 48 50.7**	**+0.3**
	comp=Z,45nm,1.4s,mb5.3						
GRA1				*e*pP	pP	04 48 59.5	-0.3
GRF	**Grafenberg Arr**	**83.07**	**320**	*e*P	**P**	**04 48 50.7**	**+0.3**
	comp=Z,45nm,1.4s,mb5.3						
GRF				*e*pP	pP	04 48 59.5	-0.3
CLZ	**Clausthal**	**83.73**	**322**	*e*P	**P**	**04 48 53.9**	**+0.1**
	comp=Z,31nm,1.4s,mb5.2						
DAVA	**Damuels**	**83.84**	**317⇑**	*i*P	**P**	**04 48 54.5**	**+0.1**
	comp=Z,26nm,1.1s,mb5.3						
DAVA	**Damuels**	**83.84**	**317⇑**	*i*P	**P**	**04 48 54.5**	**+0.1**
BSEG	**Bad Segeberg**	**83.89**	**324**	*e*P	**P**	**04 48 54.2**	**-0.4**
	comp=Z,27nm,1.5s,mb5.2						
NB2	**NORSAR Subarra**	**83.91**	**331**	P	**P**	**04 48 53.2**	**-1.5**
	comp=Z,16nm,1.2s,mb5.0,baz=95,slow=5.6						
NOA	**NORSAR Array B**	**83.91**	**331**	P	**P**	**04 48 54.0**	**-0.7**
	comp=Z,4.6nm,0.9s,mb4.6,baz=94,slow=5.6,SNR=5.7						
NAO01	**NORSAR Array S**	**84.05**	**331**	*e*P	**P**	**04 48 54.9**	**-0.5**
	comp=Z,11nm,1.0s,mb4.9						
KONO	**Kongsberg**	**84.61**	**329**	*e*P	**P**	**04 48 57.0**	**-1.2**
	comp=Z,60nm,1.5s,mb5.5						
TNS	**Taunus Mts**	**84.88**	**320**	*e*P	**P**	**04 48 59.8**	**+0.1**
	comp=Z,21nm,1.3s,mb5.1						
BFO	**Black Forest**	**84.92**	**318**	*e*P	**P**	**04 48 59.2**	**-0.6**
	comp=Z,9.0nm,1.4s,mb4.7						
IBBN	**Ibbenburen**	**85.36**	**322**	*e*P	**P**	**04 49 02.2**	**+0.1**
	comp=Z,25nm,1.4s,mb5.2						
LPG	**La Plagne**	**85.97**	**315**	*e*P	**P**	**04 49 05.4**	**+0.3**
	comp=Z,37nm,1.2s,mb5.2						
LPG	**La Plagne**	**85.97**	**315**	*e*P	**P**	**04 49 05.4**	**+0.3**
	comp=Z,18nm,1.2s,mb5.2						
WLF	**Walferdange**	**86.36**	**319**	*e*P	**P**	**04 49 07.3**	**+0.3**
	comp=Z,50nm,1.8s,mb5.4						
URZ	**Urewera**	**86.40**	**128**	P	**P**	**04 49 06.5**	**-0.7**
	comp=Z,23nm,1.0s,mb5.4,baz=338,slow=0.9,SNR=7.7						
VNDA	**Vanda**	**86.20**	**168**	*e*P	**P**	**04 49 15.0**	**-0.8**
	comp=Z,11nm,1.2s,mb5.0						
TORD	**Torodi Ar. Bea**	**91.60**	**283**	P	**P**	**04 49 32.8**	**+1.0**
	comp=Z,3.4nm,1.1s,mb4.6,baz=94,slow=4.0,SNR=8.1						
BOZ	**Bozeman (W)**	**126.47**	**22**	PKPdf	PKPdf	04 55 28.5	+0.8
HLID	**Hailey**	**127.06**	**26**	*e*PKPdf	PKPdf	04 55 30.0	+1.1
ELK	**Elko**	**128.91**	**29**	*e*PKIKP	PKPdf	04 55 33.8	+1.4
NVAR	**Mina Array Bea**	**129.09**	**33**	PKP	PKPdf	04 55 35.2	+2.5
	comp=Z,0.7nm,0.9s,baz=205,slow=1.6,SNR=3.9						
BW06	**Boulder Array**	**129.71**	**23**	*e*PKPdf	PKPdf	04 55 34.5	+0.6
PDAR	**Pinedale Array**	**129.71**	**23**	PKP	PKPdf	04 55 34.4	+0.5
	comp=Z,2.0nm,1.1s,baz=252,slow=0.9,SNR=5.6						
ANMO	**Albuquerque**	**137.63**	**25**	PKP	PKPdf	04 55 50.8	+2.0
	comp=Z,2.2nm,0.8s,baz=1.3,slow=0.2,SNR=6.2						
ANMO	**Albuquerque**	**137.63**	**25**	*e*PKPdf	PKPdf	04 55 50.4	+1.7
MNTX	**Cornudas Mount**	**140.87**	**27**	*e*PKPdf	PKPdf	04 55 55.4	+0.7
WVT	**Waverly**	**141.04**	**2**	*e*PKIKP	PKPdf	04 55 55.7	+0.7
CPUP	**Villa Florida**	**144.04**	**227**	PKP	PKPdf	04 55 58.4	-1.9
	comp=Z,6.8nm,0.8s,baz=91,slow=2.4,SNR=9.0						
CPUP	**Villa Florida**	**144.04**	**227**	*e*PKPdf	PKPdf	04 55 59.5	-0.8
CPUP				*e*pPKPdf	pPKPdf	04 56 07.5	-2.6
JCT	**Junction City**	**144.19**	**21**	*e*PKPdf	PKPdf	04 55 59.0	-1.6
CFAA	**Coronel Fontan**	**147.00**	**208**	PKPbc	PKPbc	04 56 07.6	+0.2
	comp=Z,1.6nm,0.9s,baz=209,slow=0.8,SNR=13						
SIV	**San Ignacio**	**152.31**	**241**	PKPbc	PKPbc	04 56 20.8	+0.2
	comp=Z,4.2nm,1.0s,baz=154,slow=3.9,SNR=3.8						
SAML	**Samuel**	**156.59**	**254**	*e*PKPab	PKPab	04 56 49.7	+0.9
LPAZ	**La Paz**	**158.04**	**232**	*e*PKPdf	PKPdf	04 56 23.0	+1.4
LPAZ				*e*PKPab	PKPab	04 56 56.2	+1.2
SDV	**Santo Domingo**	**160.69**	**308**	*e*PKPdf	PKPdf	04 56 25.1	+0.4
SDV	**Santo Domingo**	**160.69**	**308**	*e*PKPab	PKPab	04 57 06.4	-0.1
OTAV	**Otavalo**	**171.83**	**293**	*e*PKPdf	PKPdf	04 56 35.4	+2.0
OTAV				*e*PKPab	PKPab	04 57 57.6	+2.0

HRVD ***19*** *04:36:52.9±0.1, 1345S×17248E, h12km, MW5.9/103, Centroid moment Tensor Solution. LP body waves: s93,c205;Mantle waves: s103,c356; Half duration: 2s1 Moment tensor: Scale 1018Nm; Mrr~0.77±.01; Mθθ0.78±.01; Mφφ~0.01±.01; Mrθ0.08±.02; Mrφ0.14±.01; Mθr~0.03±.02; Best double couple: M=0.79100×1018 NP1:φs77.00000°, δ43.00000°, λ-95.00000°. NP2: φs264.00000°, δ48.00000°, λ-85.00000°. Principal axes: T 0.8090, Plg3.0000°, Azm350.0000°; N -0.0360, Plg4.0000°, Azm80.0000°; P -0.7730, Plg86.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***19*** *04:36:52.9±0.1, 1343S×17239E, h10km, mb5.7/73, MS5.6/12, MW5.8 Error ellipse: s-maj=6.7km s-min=4.1km az=139.0, Moment Tensor Solution. s23 Moment tensor: Scale 1017Nm; Mrr-5.45; Mθθ4.60; Mφφ0.86; Mrθ3.22; Mθφ-2.10; Mθr0.49; Best double couple: M=6.40000×1017 NP1:φs279.00000°, δ60.00000°, λ-106.00000°. NP2: φs128.00000°, δ33.00000°, λ-65.00000°. Principal axes: T 6.2100, Plg14.0000°, Azm20.0000°; N 0.3400, Plg14.0000°, Azm287.0000°; P -6.5500, Plg70.0000°, Azm154.0000°;*

ISCJB ***19*** *04:36:54.4±1.7, 1351S±004×17240E±003, h28km±11km, mb5.5/110, MS5.4/61 Error ellipse: s-maj=6.4km s-min=4.8km az=161.6*

MOS ***19*** *04:36:55.3±1.2, 1347S×17241E, h33km, mb5.6/9, MS5.2/4, Error ellipse: s-maj=8.9km s-min=8.0km az=138.3*

IDC ***19*** *04:36:57.4±3.4, 1344S×17236E, h41km±29km, mb4.9/21, mb1 5.1/23, mb1mx5.0/24, mbtmp5.2/23, ML3.8/1, MS5.3/28, Ms1 5.3/28, ms1mx5.3/28, Error ellipse: s-maj=16.3km s-min=13.6km az=150.0*

BJI ***19*** *04:37:00.6, 1321S×17230E, h66km, mB5.9, mb5.2, Ms5.7, Msz5.4*

ISC 19 04:36:58.4±1.1, 1353S±004×17246E±003, h45km±9km, h62km±.9km:pP-P, n473, σ0=91/240, mb5.6/109, MS5.4/61, 13C-67D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**5.79**	**224**	⇑*i*P		**Pn**		**04 38 07.9**	**-14**
FUNA	**Funafuti**	**8.27**	**54**	*e*Pn		**Pn**		**04 38 47.9**	**-7.9**
DZM	**Mont Dzumac**	**10.25**	**213**	P		**Pn**		**04 39 22.4**	**-0.4**
	0.8nm,0.3s,baz=59,slow=17,SNR=21								
DZM				LR		LR		04 42 42.4	
	comp=Z,36μm,21.1s,baz=46,slow=34								
HNR	**Honiara**	**12.92**	**287**	*e*P		**Pn**		**04 40 01.3**	**+1.9**
HNR				pmax		pmax			
	comp=Z,724nm,1.3s								
HNR	**Honiara**	**12.92**	**287**	*e*Pn		**Pn**		**04 40 01.3**	**+2.0**
	comp=Z,724nm,1.3s								
AFI	**Afiamalu**	**15.32**	**93**	P		**Pn**		**04 40 31.2**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=297,slow=21,SNR=3.0								
AFI				LR		LR		04 44 10.6	
	comp=Z,2μm,20.9s,baz=265,slow=28								
AFI	**Afiamalu**	**15.32**	**93**	*e*P		**Pn**		**04 40 31.7**	**+0.2**
AFI				pmax		pmax			
	comp=Z,303nm,1.6s								
AFI	**Afiamalu**	**15.32**	**93**	*e*P		**Pn**		**04 40 31.7**	**+0.2**
	comp=Z,303nm,1.6s								
RAO	**Raoul Island**	**18.02**	**152**	P		**Pn**		**04 41 07.4**	**+2.1**
	comp=Z,67nm,0.3s,baz=250,slow=20,SNR=6.4								
RAO				LR		LR		04 46 26.2	
	comp=Z,18μm,19.8s,baz=324,slow=31								
RAO	**Raoul Island**	**18.02**	**152**	*e*P		**Pn**		**04 41 05.8**	**+0.4**
RAO				pmax		pmax			
	comp=Z,1μm,1.2s								
RAO	**Raoul Island**	**18.02**	**152**	*e*P		**Pn**		**04 41 05.8**	**+0.4**
	comp=Z,1μm,1.2s								
URZ	**Urewera**	**24.98**	**171**	P		**P**		**04 42 17.5**	**-0.3**
	comp=Z,45nm,1.0s,mb4.9,baz=23,slow=6.6,SNR=16								
URZ				LR		LR		04 49 58.1	
	comp=Z,21μm,18.1s,MS5.7,baz=321,slow=31								
PMG	**Port Moresby**	**25.13**	**277**	P		**P**		**04 42 17.4**	**-1.6**
	comp=Z,22nm,0.8s,mb4.7,baz=95,slow=5.6,SNR=3.4								
PMG				LR		LR		04 50 28.6	
	comp=Z,5μm,19.8s,MS5.0,baz=275,slow=32								
PMG	**Port Moresby**	**25.13**	**277**	*e*P		**P**		**04 42 18.4**	**-0.7**
PMG				pmax		pmax			
	comp=Z,92nm,1.4s								
PMG	**Port Moresby**	**25.13**	**277**	*e*P		**P**		**04 42 18.4**	**-0.6**
	comp=Z,92nm,1.4s,mb5.1								
ARMA	**Armidale**	**25.54**	**225**	⇓*i*P		**P**		**04 42 23.6**	**+0.8**
CTA	**Charters Tower**	**25.90**	**252**	⇓*i*P		**P**		**04 42 25.8**	**-0.3**
	comp=Z,55nm,1.0s,mb5.0								
CTA				*e*S		**S**		**04 47 01.5**	**+8.5**
CTA	**Charters Tower**	**25.90**	**252**	P		**P**		**04 42 25.6**	**-0.6**
	comp=Z,168nm,1.3s,mb5.4,baz=75,slow=12,SNR=18								
CTA				LR		LR		04 50 16.4	
	comp=Z,5μm,21.8s,MS5.0,baz=336,slow=31								
CTA	**Charters Tower**	**25.90**	**252**	⇓*i*P		**P**		**04 42 25.8**	**-0.3**
CTA				pmax		pmax			
	comp=Z,55nm,1.0s								
CTAO	**Charters Tower**	**25.90**	**252**	*e*P		**P**		**04 42 25.5**	**-0.6**
CTAO				pmax		pmax			
	comp=Z,157nm,1.3s,mb5.4								
CTAO				MLR		MLR			
	comp=Z,5μm,22.0s,MS5.0								
CTAO	**Charters Tower**	**25.90**	**252**	*e*P		**P**		**04 42 25.5**	**-0.6**
	comp=Z,157nm,1.3s,mb5.4								
CTAO				LR		LR			
	comp=Z,5μm,22.0s,MS5.0								
RAR	**Rarotonga**	**27.55**	**110**	LR		LR		04 51 33.5	
	comp=Z,1μm,19.3s,MS4.5,baz=278,slow=32								
SNZO	**South Karori**	**27.75**	**176**	P		**P**		**04 42 42.7**	**0.0**
RIV	**Riverview**	**27.98**	**220**	*e*P		**P**		**04 42 45.4**	**+0.6**
CNB	**Canberra Magne**	**30.07**	**220**	⇓*i*P		**P**		**04 43 04.2**	**+0.9**
	comp=Z,305nm,1.4s,mb5.8								
CNB				*i*	pP	pP		04 43 11.6	-3.8
RPZ	**Rata Peaks**	**30.11**	**182**	P		**P**		**04 43 05.1**	**+1.4**
	comp=Z,20nm,0.8s,mb4.9,baz=14,slow=1.4,SNR=8.2								
RPZ				LR		LR		04 53 43.0	
	comp=Z,12μm,19.8s,MS5.5,baz=277,slow=33								
STKA	**Stephens Creek**	**33.65**	**232**	⇓*i*P		**P**		**04 43 33.3**	**-1.5**
	comp=Z,121nm,1.4s,mb5.6								
STKA				*e*S		**S**		**04 49 00.7**	**+6.2**
STKA	**Stephens Creek**	**33.65**	**232**	P		**P**		**04 43 33.3**	**-1.5**
	comp=Z,209nm,1.3s,mb5.9,baz=55,slow=7.5,SNR=102								
STKA				LR		LR		04 55 18.7	
	comp=Z,5μm,19.5s,MS5.2,baz=60,slow=33								
TOO	**Toolangi**	**33.92**	**220**	⇓*i*P		**P**		**04 43 37.9**	**+0.8**
	comp=Z,101nm,1.7s,mb5.5								
TOO				*i*	pP	pP		04 43 45.3	-3.8
TOO				*e*	PCS	**S**		**04 48 57.9**	**-0.6**
TOO				*e*S	SS	SS		04 51 25.2	-1.2
TAU	**Tasmania Unive**	**36.44**	**212**	P		**P**		**04 43 54.4**	**-4.3**
TAU				pmax		pmax			
	comp=Z,380nm,1.5s,mb6.1								
PAE	**Paea**	**36.75**	**101**	*e*P		**P**		**04 44 01.5**	**+0.1**
	comp=Z,199nm,1.2s,mb5.8								
PPT	**Papeete**	**36.75**	**101**	*e*P		**P**		**04 44 01.8**	**+0.4**
	comp=Z,75nm,1.5s,mb5.3								
PPT	**Papeete**	**36.75**	**101**	*e*S		**S**		**04 49 43.5**	**+1.4**
	comp=Z,2μm,27.5s								
PPT				*e*LQ				04 52 23.6	
	comp=Z,9μm,27.8s								
PPT				*e*LR		LR		04 54 00.3	
	comp=Z,7μm,29.0s,baz=269								
PPT	**Papeete**	**36.75**	**101**	LR		LR		04 56 14.6	
	comp=Z,1μm,19.8s,MS4.7,baz=273,slow=31								
WB2	**Warramunga Arr**	**36.99**	**255**	*e*P		**P**		**04 44 01.8**	**-1.7**
WRAB	**Tennant Creek**	**36.99**	**255**	*d*i P		**P**		**04 44 01.8**	**-1.7**
WRAB	**Tennant Creek**	**36.99**	**255**	⇓*i*P		**P**		**04 44 01.7**	**-1.7**
	comp=Z,548nm,1.5s,mb6.2								
WRAB				LR		LR			
	comp=Z,3μm,21.0s,MS5.0								
WRA	**Warramunga Arr**	**37.00**	**255**	P		**P**		**04 44 02.0**	**-1.5**
	comp=Z,31nm,0.6s,mb5.3,baz=86,slow=8.7,SNR=67								
WRA				PcP		PcP		04 46 24.4	+0.6
	comp=Z,16nm,1.2s,baz=69,slow=3.0,SNR=4.9								
TVO	**Taravao**	**37.06**	**102**	*e*P		**P**		**04 44 04.5**	**+0.4**
	comp=Z,123nm,1.1s,mb5.7								
ADE	**Adelaide**	**37.18**	**229**	⇓*i*P		**P**		**04 44 05.8**	**+0.7**
TBI	**Tubuai**	**37.32**	**111**	*e*S		**S**		**04 49 52.9**	**+2.2**
	comp=Z,3μm,27.8s								
TBI				*e*LQ				04 52 43.0	
	comp=Z,20μm,30.2s								
TBI				*e*LR		LR		04 54 18.4	
	comp=Z,10μm,32.5s,baz=282								
AS31	**Alice Springs**	**37.80**	**249**	⇓*i*P		**P**		**04 44 09.5**	**-0.8**
ASAR	**Alice Springs**	**37.80**	**249**	P		**P**		**04 44 09.5**	**-0.8**
	comp=Z,151nm,0.7s,mb5.8,baz=73,slow=9.7,SNR=607								
ASPA	**Alice Springs**	**37.81**	**249**	⇓*i*P		**P**		**04 44 09.5**	**-0.9**
MEH	**Mehetia**	**38.20**	**102**	*e*P		**P**		**04 44 14.1**	**+0.5**
	comp=Z,120nm,1.2s,mb5.5								
GUMO	**Guam**	**38.38**	**313**	LR		LR		04 58 53.5	
	comp=Z,3μm,19.1s,MS5.2,baz=134,slow=34								
VAH	**Vaihoa**	**38.66**	**98**	*e*P		**P**		**04 44 17.9**	**+0.3**
	comp=Z,173nm,1.2s,mb5.7								
FITZ	**Fitzroy Crossi**	**45.19**	**258**	*e*P		**P**		**04 45 10.6**	**-0.2**
	comp=Z,104nm,1.4s,mb5.5								
FITZ	**Fitzroy Crossi**	**45.19**	**258**	P		**P**		**04 45 09.9**	**-0.9**
	comp=Z,56nm,1.1s,mb5.3,baz=84,slow=10,SNR=20								
FITZ				LR		LR		05 02 59.5	
	comp=Z,2μm,18.9s,MS5.2,baz=83,slow=35								
CBIJ	**Chichi jima**	**49.95**	**324**	LR		LR		05 05 38.5	
	comp=Z,2μm,18.3s,MS5.2,baz=144,slow=34								
RKT	**Rikitea**	**50.58**	**109**	*e*S		**S**		**04 53 04.5**	**+0.8**
	comp=Z,2μm,27.5s								
RKT				*e*LQ				04 57 55.5	
	comp=Z,4μm,31.0s								
RKT				*e*LR		LR		05 00 28.2	
	comp=Z,8μm,30.2s,baz=276								
MBWA	**Marble Bar**	**50.72**	**254**	⇓*i*P		**P**		**04 45 53.3**	**-0.2**
	comp=Z,332nm,1.4s,mb6.1								
BUTP	**Butuan**	**51.59**	**293**	*e*P		**P**		**04 46 00.7**	**+0.6**
BUKP	**Musuan**	**51.64**	**292**	*e*P		**P**		**04 46 01.0**	**+0.5**
CGP	**Cagayan de Oro**	**52.21**	**292**	⇓*i*P		**P**		**04 46 06.0**	**+1.3**
MSLP	**Maasin**	**52.77**	**294**	*e*P		**P**		**04 46 09.7**	**+0.8**
KLBR	**Kellerberrin**	**53.08**	**241**	*e*P		**P**		**04 46 09.8**	**-1.4**
	comp=Z,258nm,1.4s,mb6.0								
PAGZ	**Pagadian**	**53.16**	**291**	*e*P		**P**		**04 46 12.5**	**+0.8**
OCLP	**Ormoc**	**53.38**	**295**	*e*P		**P**		**04 46 13.9**	**+0.5**
NWAO	**Narrogin (SRO)**	**53.69**	**239**	P		**P**		**04 46 14.8**	**-0.8**
	comp=Z,40nm,0.8s,mb5.4,baz=76,slow=6.9,SNR=16								
NWAO	**Narrogin (SRO)**	**53.69**	**239**	⇓*i*P		**P**		**04 46 14.5**	**-1.1**
NWAO				pmax		pmax			
	comp=Z,218nm,1.4s								
NWAO	**Narrogin (SRO)**	**53.69**	**239**	⇓*i*P		**P**		**04 46 14.5**	**-1.1**
	comp=Z,218nm,1.4s,mb5.9								
IPIL	**Ipil**	**53.87**	**290**	*e*P		**P**		**04 46 17.3**	**+0.3**
MUN	**Mundaring**	**54.43**	**240**	*e*P		**P**		**04 46 19.9**	**-1.1**
GUIM	**Jordan**	**54.99**	**293**	*e*P		**P**		**04 46 24.8**	**-0.3**
OTRP	**Odiongan**	**56.23**	**295**	*e*P		**P**		**04 46 34.3**	**+0.3**
CUYO	**Cuyo Island**	**56.49**	**293**	*e*P		**P**		**04 46 35.0**	**-0.8**
SJMP	**San Jose**	**57.07**	**295**	*e*P		**P**		**04 46 40.8**	**+0

comp=Z,1μm,13.1s,MS5.3
NJ2 Nanjing 68.45 313 *e*P **P** **04 47 58.3 +2.6**
NJ2 AP pP 04 48 14.8 +6.0
NJ2 XP sP 04 48 21.8 +7.9
NJ2 PP PP 04 50 32.0 +4.9
NJ2 S S 04 56 53.0 -1.1
NJ2 XS sS 04 57 21.0 +5.1
NJ2 AMB AMB
comp=Z,80nm,0.8s,mb5.8
NJ2 AMB AMB
comp=Z,820nm,8.3s
NJ2 LR LR
comp=N,2μm,20.8s
NJ2 LR LR
comp=E,1μm,14.8s
NJ2 LR LR
comp=Z,510nm,19.6s,MS4.8
QIZ Qiongzhong 69.64 296 P **P** **04 48 04.3 +1.2**
QIZ S S 04 57 11.8 +3.6
QIZ AMB AMB
comp=Z,40nm,1.6s,mb5.1
QIZ AMB AMB
comp=Z,544nm,6.3s
QIZ LR LR
comp=E,1μm,18.8s
QIZ LR LR
comp=Z,2μm,20.5s,MS5.4
MDJ Mudanjiang 69.73 329 P **P** **04 48 04.4 +0.8**
MDJ AP pP 04 48 20.6 +3.9
MDJ XP sP 04 48 27.6 +5.7
MDJ PP PP 04 50 42.3 +4.1
MDJ S S 04 57 12.3 +3.1
MDJ SCS ScS 04 57 59.8 -1.9
MDJ SS SS 05 01 38.3 +0.2
MDJ AMB AMB
comp=Z,16nm,1.9s,mb4.6
MDJ AMB AMB
comp=Z,660nm,7.8s
MDJ LR LR
comp=N,2μm,33.1s,MS5.2
MDJ LR LR
comp=E,2μm,35.0s,MS5.2
MDJ LR LR
comp=Z,3μm,30.1s,MS5.4
HABR Khabarovsk 70.08 335 *e*P **P** **04 48 07.6 +1.8**
HABR *e*S S 04 57 16.2 +2.9
HABR pmax pmax
comp=Z,106nm,1.6s,mb5.5
HABR MLR MLR
comp=Z,2μm,18.5s,MS5.3
DL2 Dalian 70.49 320 P **P** **04 48 08.3 0.0**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
DL2 AMB AMB
comp=Z,630nm,7.3s
DL2 LR LR
comp=N,300nm,15.9s,MS4.9
DL2 LR LR
comp=E,370nm,14.4s,MS4.9
DL2 LR LR
comp=Z,640nm,15.6s,MS5.0
WHN Wuhan 70.99 309 ⇓P **P** **04 48 11.5 +0.2**
WHN S S 04 57 21.3 -2.6
WHN LR LR
comp=Z,6μm,24.6s,MS5.8
SNY Shenyang 71.12 323 ⇓P **P** **04 48 13.1 +1.0**
SNY XS sS 04 57 49.0 +1.7
SNY SS SS 05 01 59.8 +0.4
SNY AMB AMB
comp=Z,33nm,1.9s,mb4.9
SNY AMB AMB
comp=Z,140nm,4.6s
SNY LR LR
comp=N,1μm,21.4s,MS5.3
SNY LR LR
comp=E,2μm,21.2s,MS5.3
SNY LR LR
comp=Z,2μm,21.1s,MS5.4
CN2 Changchun 71.34 326 *e*P **P** **04 48 14.0 +0.5**
CN2 *e*AP pP 04 48 30.5 +3.9
CN2 *e*XP sP 04 48 37.5 +5.8
CN2 *e*S S 04 57 26.3 -1.7
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,23.0s,MS5.5
CN2 LR LR
comp=E,2μm,23.0s,MS5.5
CN2 LR LR
comp=Z,2μm,21.0s,MS5.4
TIA Tai'an 71.90 316 *e*P **P** **04 48 16.4 -0.4**
KLR Kul'dur 72.07 333 *e*P **P** **04 48 15.5 -2.3**
KLR *e*S S 04 57 31.5 -4.9
KLR *e*SS SS 05 02 18.0 +4.0
MIR Mirnyy 73.49 204 ⇓*i*P **P** **04 48 28.0 +1.8**
MIR pmax pmax
comp=Z,70nm,2.0s,mb5.2
KULM Kulim 73.68 280 *e*P **P** **04 48 27.3 0.0**
BJI Beijing 74.60 319 P **P** **04 48 33.4 +0.7**
BJI AMB AMB
comp=Z,32nm,2.0s,mb4.9
BJI AMB AMB
comp=Z,786nm,3.6s
BJI LR LR
comp=N,288nm,17.2s,MS4.8
BJI LR LR
comp=E,336nm,18.0s,MS4.8
BJI LR LR
comp=Z,1μm,21.6s,MS5.1
KKTK Khon Kaen 74.93 291 P **P** **04 48 35.0 +0.4**
MA2 Magadan 74.94 349 *e*P **P** **04 48 33.7 -1.0**
MA2 pmax pmax
comp=Z,16nm,1.0s,mb4.9
MA2 Magadan 74.94 349 *e*P **P** **04 48 33.7 -1.0**
comp=Z,16nm,1.0s,mb4.9
GYA Guiyang 75.26 302 ⇓*i*P **P** **04 48 37.1 +0.6**
GYA AP pP 04 48 53.8 +4.0
GYA XP sP 04 49 01.3 +6.4
GYA PP PP 04 51 29.3 +3.9
GYA S S 04 58 09.9 -2.4
GYA SS SS 05 03 01.5 -1.1
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,2μm,4.8s
GYA LR LR
comp=N,2μm,18.7s,MS5.6
GYA LR LR
comp=E,2μm,18.5s,MS5.6
GYA LR LR
comp=Z,2μm,17.9s,MS5.5
QSPA South Pole Qui 76.50 180 P **P** **04 48 42.9 -0.7**
QSPA South Pole Qui 76.50 180 *e*P **P** **04 48 42.8 -0.8**
comp=Z,414nm,2.2s,mb6.0
KDAK Kodiak Island 76.65 18 P **P** **04 48 44.5 0.0**
comp=Z,33nm,0.9s,mb5.3,baz=295,slow=3.3,SNR=6.9
KDAK LR LR 05 16 13.5
comp=Z,4μm,21.1s,MS5.7,baz=123,slow=31
NST Nakhon Sawan 77.17 290 P **P** **04 48 48.0 +0.6**
SEY Seymchan 77.80 351 *e*P **P** **04 48 49.6 -1.3**
HHC Hu-ho-hao-te 78.03 317 *e*P **P** **04 48 52.8 +0.7**
HHC PCP PcP 04 49 02.6 +0.9
HHC AP pP 04 49 09.3 +3.9
HHC XP sP 04 49 16.1 +5.6
HHC PP PP 04 51 51.5 +2.8
HHC S S 04 58 41.3 -1.3
HHC SKS 04 58 56.3
HHC SCS ScS 04 59 04.1 -4.0
HHC XS sS 04 59 10.3 +5.5
HHC SS SS 05 03 45.3 +0.9
HHC AMB AMB
comp=Z,21nm,0.7s,mb5.2
HHC AMB AMB
comp=Z,849nm,5.1s
HHC LR LR
comp=N,857nm,19.6s,MS5.3
HHC LR LR
comp=E,1μm,22.5s,MS5.3
HHC LR LR
comp=Z,2μm,20.6s,MS5.4
KMI Kunming 78.03 300 P **P** **04 48 53.8 +1.6**
KMI AP pP 04 49 11.6 +6.2
KMI XP sP 04 49 18.6 +8.1
KMI PP PP 04 51 52.4 +3.7
KMI PPP 04 53 41.8
KMI S S 04 58 41.1 -1.5
KMI SKS 04 58 57.1
KMI SCS ScS 04 59 04.8 -3.3
KMI XS sS 04 59 11.8 +7.0
KMI PS 04 59 31.8
KMI SS SS 05 03 46.8 +2.4
KMI SSS 05 07 05.3
KMI AMB AMB
comp=Z,77nm,1.6s,mb5.4
KMI AMB AMB
comp=Z,884nm,4.7s
KMI LR LR
comp=N,519nm,20.1s,MS5.0
KMI LR LR
comp=E,613nm,21.7s,MS5.0
KMI LR LR
comp=Z,1μm,20.1s,MS5.2
CHRT Chiangrai 78.81 294 ⇓P **P** **04 48 58.0 +1.5**
comp=Z,263nm,1.3s,mb6.0
SLKM Skilak Lake 79.58 18 *e*P **P** **04 48 59.8 -0.9**
TNA Tin City 80.22 8 *e*P **P** **04 49 03.4 -0.7**
comp=Z,97nm,1.4s,mb5.5
WDC Whiskeytown Da 80.64 44 *e*P **P** **04 49 06.0 -0.4**
comp=Z,403nm,2.8s,mb5.9
PMR Palmer 80.77 18 *e*P **P** **04 49 06.6 -0.5**
comp=Z,39nm,0.9s,mb5.3
PMR LR LR
comp=Z,3μm,23.0s,MS5.6
OHCM Honcut 80.83 46 *e*P **P** **04 49 06.0 -1.4**
CMB Columbia Colle 81.05 47 *e*P **P** **04 49 08.7 +0.1**
comp=Z,33nm,1.4s,mb5.1
YBH Yreka Blue Hor 81.05 43 LR LR 05 16 59.9
comp=Z,3μm,21.6s,MS5.6,baz=241,slow=30
SML Sawmill 81.17 18 *e*P **P** **04 49 08.6 -0.6**
HUMO Hull Mountain 81.29 42 *e*P **P** **04 49 09.9 0.0**
comp=Z,200nm,2.4s,mb5.6
LZH Lanzhou 81.32 310 ⇓P **P** **04 49 11.0 +1.0**
LZH AP pP 04 49 27.8 +4.4
LZH XP sP 04 49 34.6 +6.2
LZH PP PP 04 52 23.1 +7.1
LZH XS sS 04 59 50.8 +11
LZH AMB AMB
comp=Z,134nm,1.7s,mb5.6
LZH AMB AMB
comp=Z,520nm,5.6s
LZH LR LR
comp=N,2μm,17.8s
LZH LR LR
comp=Z,3μm,18.2s,MS5.7
DIV Divide 81.44 19 *e*P **P** **04 49 09.9 -0.7**
comp=Z,241nm,1.0s,mb6.1
DIV LR LR
comp=Z,6μm,20.0s,MS6.0
BILL Bilibino 81.47 358 *e*P **P** **04 49 09.4 -1.4**
BILL Bilibino 81.47 358 *e*P **P** **04 49 09.3 -1.4**
comp=Z,66nm,1.3s,mb5.4
ISA Isabella 81.48 50 *e*P **P** **04 49 10.5 -0.4**
comp=Z,16nm,1.1s,mb4.9
MTUM Tungsten Hills 82.08 49 *e*P **P** **04 49 14.6 +0.6**
DAC Darwin (Calif) 82.38 50 *e*P **P** **04 49 15.9 +0.3**
comp=Z,286nm,2.5s,mb5.8
YAK Yakutsk 82.44 341 *e*P **P** **04 49 15.8 -0.1**
comp=Z,102nm,1.2s,mb5.6
PAHR Pah Rah Range 82.45 46 *e*P **P** **04 49 15.9 -0.1**
comp=Z,375nm,2.4s,mb5.9
MCK McKinley 82.52 16 *e*P **P** **04 49 15.0 -1.4**
comp=Z,95nm,1.7s,mb5.5
MCK LR LR
comp=Z,2μm,20.0s,MS5.4
NVAR Mina Array Bea 82.70 48 P **P** **04 49 17.2 0.0**
comp=Z,5.8nm,0.9s,mb4.6,baz=237,slow=12,SNR=22
NVAR LR LR 05 19 42.4
comp=Z,967nm,18.1s,MS5.2,baz=165,slow=31
MOD Modoc 82.74 44 *e*P **P** **04 49 17.5 +0.1**
comp=Z,255nm,2.4s,mb5.8
MOD *e* 04 50 52.2
MOD *e* 04 51 05.1
MNV Mina 82.81 48 *e*P **P** **04 49 18.2 +0.4**
comp=Z,160nm,2.0s,mb5.7
BBB Bella Bella 83.02 32 LR LR 05 19 15.8
comp=Z,2μm,20.2s,MS5.5,baz=245,slow=31
TPH Tonopah 83.35 48 *e*P **P** **04 49 20.6 0.0**
comp=Z,210nm,2.2s,mb5.8
COLA College 83.72 16 *e*P **P** **04 49 20.5 -2.0**
comp=Z,497nm,1.9s,mb6.3
COLA LR LR
comp=Z,2μm,20.0s,MS5.5
LDFC Landfair 83.81 52 *e*P **P** **04 49 23.4 +0.5**
ILAR Eielson Array 83.90 16 P **P** **04 49 21.6 -1.8**
comp=Z,28nm,0.8s,mb5.4,baz=236,slow=5.5,SNR=93
ILAR LR LR 05 21 45.2
comp=Z,3μm,19.8s,MS5.6,baz=245,slow=32
WVOR Wild Horse Val 84.09 44 *e*P **P** **04 49 24.6 +0.3**
comp=Z,74nm,1.4s,mb5.6
NEN Nelson 84.21 51 *e*P **P** **04 49 24.8 -0.2**
ULN Ulaanbaatar 84.22 322 *e*P **P** **04 49 24.5 -0.5**
comp=Z,78nm,1.4s,mb5.7
RMW Rattlesnake Mo 84.23 38 P **P** **04 49 25.3 +0.2**
BMN Battle Mountai 84.26 46 *e*P **P** **04 49 25.0 -0.3**
comp=Z,78nm,1.7s,mb5.6
JCW Jim Creek 84.49 38 P **P** **04 49 26.6 +0.2**
SONM Songino Array 84.60 322 P **P** **04 49 26.8 -0.2**
comp=Z,13nm,1.1s,mb4.9,baz=102,slow=1.3,SNR=14
SONM LR LR 05 27 54.5
comp=Z,2μm,19.6s,MS5.4,baz=130,slow=36
EBG Ellensburg 84.74 39 P **P** **04 49 27.9 +0.2**
MAW Mawson 84.86 201 *e*P **P** **04 49 27.8 -0.5**
comp=Z,20nm,1.1s,mb5.2
MAW Mawson 84.86 201 P **P** **04 49 28.3 0.0**
comp=Z,19nm,1.0s,mb5.2,baz=98,slow=9.9,SNR=4.8
MAW LR LR 05 22 33.6
comp=Z,3μm,20.4s,MS5.6,baz=98,slow=32
HAWA Hanford 85.16 40 *e*P **P** **04 49 29.2 -0.6**
comp=Z,9.5nm,1.9s,mb4.6
WTV Waterville 85.46 39 P **P** **04 49 31.0 -0.3**
EPH Ephrata 85.53 39 P **P** **04 49 31.5 -0.1**
GTA Gaotai 85.54 312 ⇓P **P** **04 49 32.3 +0.6**
GTA AP pP 04 49 49.9 +4.8
GTA XP sP 04 49 55.9 +5.7
GTA PP PP 04 52 54.0 +3.4
GTA SKS 04 59 49.6
GTA S 04 59 58.8
GTA XS sS 05 00 28.0 +5.5
GTA AMB AMB
comp=Z,45nm,1.5s,mb5.5
GTA AMB AMB
comp=Z,1μm,5.3s
GTA LR LR
comp=N,1μm,22.0s,MS5.5
GTA LR LR
comp=E,2μm,22.1s,MS5.5
GTA LR LR
comp=Z,2μm,21.3s,MS5.6
DAWY Dawson 85.60 19 *e*P **P** **04 49 31.9 -0.1**
ELK Elko 85.78 47 *e*P **P** **04 49 32.6 -0.3**
comp=Z,145nm,2.1s,mb5.8
ELK LR LR
comp=Z,2μm,22.0s,MS5.5
BMO Blue Mountains 85.95 42 *e*P **P** **04 49 32.9 -0.8**
comp=Z,107nm,2.2s,mb5.7
CCUT Cedar City 86.00 50 *e*P **P** **04 49 34.6 +0.6**
ARUT Antelope Range 86.02 50 *e*P **P** **04 49 34.6 +0.5**
OD2 Odessa Site #2 86.09 39 P **P** **04 49 34.4 0.0**
TUC Tucson 86.27 56 *e*P **P** **04 49 35.7 +0.5**
comp=Z,135nm,2.1s,mb5.8
TUC LR LR
comp=Z,1μm,22.0s,MS5.2
WUAZ Wupatki 86.83 52 *e*P **P** **04 49 38.5 +0.5**
comp=Z,278nm,2.1s,mb6.1
MSU Marysvale 87.21 49 *e*P **P** **04 49 40.8 +0.9**
DUG Dugway 87.31 48 *e*P **P** **04 49 40.3 -0.1**
comp=Z,63nm,1.7s,mb5.6
HLID Hailey 87.38 44 *e*P **P** **04 49 40.8 +0.1**
comp=Z,245nm,2.5s,mb6.0
NEW Newport 87.42 39 LR LR 05 26 29.9
comp=Z,1μm,18.9s,MS5.3,baz=243,slow=34
NEW Newport 87.42 39 *e*P **P** **04 49 40.2 -0.8**
comp=Z,21nm,1.3s,mb5.2
NLU North Lily Min 87.76 48 *e*P **P** **04 49 39.8 -2.7**
HVU Hansel Valley 87.88 46 *e*P **P** **04 49 43.4 +0.3**
comp=Z,444nm,2.5s,mb6.2
MPU Maple Canyon 88.10 48 *e*P **P** **04 49 44.2 0.0**
comp=Z,247nm,2.1s,mb6.1
TMUT Trail Mountain 88.18 49 *e*P **P** **04 49 45.4 +0.8**
DAU Daniels Canyon 88.51 48 *e*P **P** **04 49 46.8 +0.7**
SRU San Rafael 88.62 49 *e*P **P** **04 49 46.7 +0.1**
comp=Z,181nm,2.1s,mb6.0
TCUT Toone Canyon 88.63 47 *e*P **P** **04 49 47.0 +0.4**
HWUT Hardware Ranch 88.68 47 *e*P **P** **04 49 46.8 0.0**
comp=Z,214nm,2.2s,mb6.1
MSO Missoula 88.87 41 *e*P **P** **04 49 46.3 -1.5**
comp=Z,82nm,2.2s,mb5.7
MCMT McKenzie Canyo 88.88 43 *e*P **P** **04 49 47.9 +0.1**
DLMT Dillon 89.23 43 *e*P **P** **04 49 48.8 -0.7**
comp=Z,55nm,1.4s,mb5.7
CHMT Chamberlain Mo 89.35 41 *e*P **P** **04 49 49.4 -0.6**
AHID Auburn Hatcher 89.38 46 *e*P **P** **04 49 49.7 -0.5**
REDW Red Top Meadow 89.75 45 *e*P **P** **04 49 52.1 +0.3**
comp=Z,116nm,1.5s,mb6.0
QLMT Earthquake Lak 89.83 44 *e*P **P** **04 49 52.9 +0.6**
TIXI Tiksi 89.84 347 *i*P **P** **04 49 51.2 -1.1**
SNOW Snow King Moun 89.85 45 *e*P **P** **04 49 52.9 +0.5**
comp=Z,411nm,2.3s,mb6.3
LENM Lemitar 89.87 55 *e*P **P** **04 49 53.4 +1.0**
BOZ Bozeman (W) 89.97 43 *e*P **P** **04 49 52.4 -0.5**
comp=Z,187nm,2.2s,mb6.0
LOHW Long Hollow 90.00 45 *e*P **P** **04 49 53.1 0.0**
comp=Z,80nm,1.6s,mb5.8
FLWY Flagg Ranch 90.09 45 *e*P **P** **04 49 53.9 +0.4**
comp=Z,78nm,1.6s,mb5.8
YMR Madison River 90.09 44 *e*P **P** **04 49 54.4 +0.9**
comp=Z,45nm,1.3s,mb5.6
YFT Old Faithful 90.11 44 *e*P **P** **04 49 54.6 +1.0**
BNM Barren Site 90.14 55 *e*P **P** **04 49 54.3 +0.6**
LPM Los Pinos Moun 90.18 55 *e*P **P** **04 49 54.4 +0.5**
INK Inuvik 90.19 18 P **P** **04 49 53.0 -0.9**
comp=Z,1.9nm,0.9s,mb4.4,baz=151,slow=9.9,SNR=4.1
INK LR LR 05 24 22.7
comp=Z,3μm,21.6s,MS5.7,baz=245,slow=32
INK Inuvik 90.19 18 *e*P **P** **04 49 50.7 -3.2**
comp=Z,24nm,2.1s,mb5.2
HRY Holter Researc 90.19 42 *e*P **P** **04 49 53.9 -0.1**
LKWY Lake 90.44 44 *e*P **P** **04 49 56.6 +1.4**
comp=Z,61nm,1.7s,mb5.7
BW06 Boulder Array 90.46 46 *e*P **P** **04 49 54.9 -0.3**
comp=Z,27nm,1.5s,mb5.4
PDAR Pinedale Array 90.46 46 P **P** **04 49 55.0 -0.3**
comp=Z,4.0nm,0.9s,mb4.8,baz=238,slow=2.8,SNR=23
PDAR LR LR 05 29 31.2
comp=Z,855nm,18.5s,MS5.2,baz=246,slow=35
MNTX Cornudas Mount 90.48 58 *e*P **P** **04 49 55.3 0.0**
comp=Z,36nm,1.4s,mb5.5
ANMO Albuquerque 90.49 54 P **P** **04 49 56.1 +0.8**
comp=Z,22nm,0.9s,mb5.5,baz=232,slow=5.2,SNR=37
ANMO LR LR 05 21 44.2
comp=Z,953nm,21.9s,MS5.2,baz=265,slow=30
ANMO Albuquerque 90.49 54 *e*P **P** **04 49 55.6 +0.2**
comp=Z,31nm,1.0s,mb5.6
SYO Syowa Base 91.24 195 ⇓*i*P **P** **04 49 58.1 -0.7**
SMCO Snowmass 91.28 50 *e*P **P** **04 49 59.4 +0.4**
comp=Z,22nm,1.3s,mb5.3
LTX Lajitas 91.29 60 *e*P **P** **04 49 59.5 +0.4**
comp=Z,160nm,2.0s,mb6.0
GCMT Greycliff 91.32 43 *e*P **P** **04 49 59.6 +0.4**
GDL2 Guadalupe Moun 91.44 57 *e*P **P** **04 50 00.5 +0.7**
EDM Edmonton 91.51 35 *e*P **P** **04 49 59.2 -0.9**
RWWY Rawlins 91.81 48 *e*P **P** **04 50 01.1 -0.3**
comp=Z,24nm,1.1s,mb5.4
EGMT Eagleton 91.95 41 *e*P **P** **04 50 01.8 -0.4**
comp=Z,255nm,2.4s,mb6.1
ISCO Idaho Springs 92.46 50 *e*P **P** **04 50 05.0 +0.5**
comp=Z,15nm,1.5s,mb5.1
JIRN Jiri 92.94 298 *e*P **P** **04 50 07.9 +1.2**
PHWY Pilot Hill 92.97 48 *e*P **P** **04 50 06.3 -0.5**
GUN Gumba 93.26 298 *e*P **P** **04 50 08.4 +0.2**
PKI Pulchoki 93.59 297 *e*P **P** **04 50 09.8 +0.1**
comp=Z,83nm,1.3s,mb6.0
KKN Kakani 93.75 298 *e*P **P** **04 50 10.5 +0.1**
comp=Z,101nm,1.3s,mb6.1
DMN Daman 93.86 297 *e*P **P** **04 50 11.1 +0.2**
comp=Z,521nm,1.9s,mb6.6
YKA Yellowknife Ar 94.20 26 P **P** **04 50 11.1 -1.4**
comp=Z,8.4nm,0.8s,mb5.2,baz=254,slow=4.5,SNR=87
YKA PP PP 04 53 56.7 -2.8
comp=Z,2.0nm,1.0s,baz=119,slow=5.7,SNR=4.2
YKA Yellowknife Ar 94.20 26 P **P** **04 50 11.1 -1.4**
YKA PP PP 04 53 56.7 -2.8
YKW3 Yellowknife Ar 94.22 26 *e*P **P** **04 50 09.9 -2.7**
GKN Gorkha 94.35 298 *e*P **P** **04 50 12.5 -0.7**
RSSD Black Hills 94.70 46 *e*P **P** **04 50 14.5 -0.3**
comp=Z,11nm,0.9s,mb5.3
JCT Junction City 94.82 60 *e*P **P** **04 50 14.8 -0.6**
SNAA Sanae 94.95 181 *e*P **P** **04 50 14.3 -1.6**
comp=Z,52nm,1.6s,mb5.7
KOLN Koldanda 95.20 297 *e*P **P** **04 50 16.3 -0.8**
comp=Z,127nm,1.9s,mb6.0
VNA3 Neumayer Olymp 95.42 179 *e*P **P** **04 50 17.3 -0.8**
WMQ Urumqi 95.52 314 P **P** **04 50 19.0 +0.5**
WMQ AP pP 04 50 36.3 +4.2
WMQ XP sP 04 50 42.9 +5.8
WMQ PP PP 04 54 12.6 +2.9
WMQ PPP 04 56 18.0
WMQ *e*SKS 05 00 48.3
WMQ *e*S 05 01 27.3
WMQ SS SS 05 08 00.0 -0.3
WMQ AMB AMB
comp=Z,33nm,1.2s,mb5.6
WMQ AMB AMB
comp=Z,235nm,4.0s
WMQ LR LR
comp=N,895nm,20.0s,MS5.5
WMQ LR LR
comp=E,1μm,22.0s,MS5.5
WMQ LR LR
comp=Z,1μm,23.6s,MS5.4
VNA2 Neumayer--Watz 95.76 180 *e*P **P** **04 50 18.2 -1.4**
WMOK Wichita Mounta 96.57 56 *e*P **P** **04 50 23.2 -0.1**
comp=Z,3.3nm,0.9s,mb4.8
FFC Flin Flon 98.37 36 *e*P **P** **04 50 30.0 -1.4**
comp=Z,9.7nm,1.2s,mb5.2
MKAR Makanchi Array 99.84 316 P Pdif 04 50 37.4 -0.6
comp=Z,2.4nm,0.8s,baz=102,slow=5.1,SNR=12
MKAR LR LR 05 36 50.7
comp=Z,1μm,21.2s,MS5.3,baz=88,slow=36
PLCA Paso Flores 100.62 136 *e*P Pdif 04 50 41.3 -0.2
FCC Fort Churchill 103.23 32 *e*Pdif Pdif 04 50 52.6 -0.4
comp=Z,78nm,1.9s
KZA Kyzart 104.25 310 P Pdif 04 50 58.3 +0.7
SNR=5.9
KBK Karagaybulak 104.52 311 P Pdif 04 50 58.9 +0.1
SNR=6.6
UCH Uchtor 104.80 310 P Pdif 04 50 57.3 -2.7
SNR=9.2
AAK Ala-Archa 104.85 311 P Pdif 04 50 55.9 -4.3
SNR=10
USP Ospenovka 104.90 312 P Pdif 04 50 58.8 -1.7
SNR=7.3
KBS Kingsbay 113.91 356 *e*PP PP 04 56 26.5 +0.3
KBS *e* 05 06 10.3
KBS *e*SS SS 05 12 11.4 -0.7
KBS AMS AMS 05 35 50.0
comp=Z,667nm,24.5s,MS5.2
ARU Arti 114.34 326 *e*PKIKP PKiKP 04 55 32.1 -1.0
ARU Arti 114.34 326 *e*PKP PKiKP 04 55 32.1 -1.0
BJO Bjornoya 117.22 352 AMS AMS 05 40 49.8
comp=Z,1μm,22.5s,MS5.5
SDV Santo Domingo 118.07 87 PKP PKPdf 04 55 40.4 +0.2
comp=Z,6.8nm,0.8s,baz=298,slow=2.0,SNR=9.4
SDV Santo Domingo 118.07 87 *e*PKPdf PKPdf 04 55 40.7 +0.4
SUMG Summit 118.23 10 *e*PKPdf PKPdf 04 55 39.8 -0.8
SCHQ Schefferville 118.48 34 PKP PKPdf 04 55 40.1 -1.0
comp=Z,2.4nm,0.8s,baz=193,slow=6.2,SNR=3.6
SIV San Ignacio 119.50 117 PKP PKPdf 04 55 42.5 -0.5
comp=Z,1.4nm,0.8s,baz=197,slow=17,SNR=3.7
ARCES ARCESS Array B 120.28 347 PKP PKPdf 04 55 42.5 -2.0
comp=Z,6.0nm,0.7s,baz=40,slow=2.1,SNR=9.0
ARCES ARCESS Array B 120.28 347 PKP PKPdf 04 55 42.5 -2.1
SAML Samuel 120.42 109 *e*PKPdf PKPdf 04 55 45.0 +0.2
JOF Joensuu 123.59 340 *e*pkp PKPdf 04 55 50.7 -0.2
SJG San Juan 123.61 77 PKP PKPdf 04 55 50.8 -0.1
comp=Z,24nm,0.7s,baz=338,slow=3.7,SNR=13
SJG San Juan 123.61 77 *e*PKPdf PKPdf 04 55 50.5 -0.4
CPD Cerro la Pandu 123.83 77 *e*PKPdf PKPdf 04 55 51.0 -0.3
KAF Kangasniemi 125.80 341 *e*pkp PKPdf 04 55 53.8 -1.3
OBN Obninsk 126.26 330 *e*PKIKP PKPdf 04 55 54.2 -1.8
FINES FINESS Array B 126.37 341 PKP PKPdf 04 55 54.9 -1.3
comp=Z,2.3nm,0.8s,baz=67,slow=6.4,SNR=6.3
QRN Al-Qurain 126.55 296 *e*P PKPdf 04 55 57.4 +0.8
QRN AMb AMB 04 56 00.9
comp=Z,117nm,1.1s

KBD	Kabd	126.71 296	eP	PKPdf	04 55 57.2	+0.4
RDF	Al-Radifah	126.86 296	eP	PKPdf	04 55 57.4	+0.2
RDF			AMb	AMB	04 56 01.5	
	comp=Z,78nm,1.1s					
SUR	Sutherland	126.90 210	PKP	PKPdf	04 55 58.0	+0.8
	comp=Z,11nm,1.0s,baz=167,slow=6.5,SNR=4.0					
SUR	Sutherland	126.90 210	ePKPdf	PKPdf	04 55 58.2	+1.0
MIB	Mutribah	126.96 297	eP	PKPdf	04 55 57.1	-0.2
MIB			AMb	AMB	04 55 59.6	
	comp=Z,50nm,1.1s					
NAY	Al-Naaiem	127.10 296	eP	PKPdf	04 55 57.5	-0.1
NAY			AMb	AMB	04 55 59.8	
	comp=Z,22nm,1.1s					
GNI	Garni	127.25 310	ePKIKP	PKPdf	04 55 58.3	+0.4
NSS	Namsos	127.30 350	AMS	AMS	05 45 07.6	
	comp=Z,1μm,23.8s,MS5.4					
BOSA	Boshof	127.46 217	PKP	PKPdf	04 55 58.0	-0.3
	comp=Z,12nm,1.2s,baz=150,slow=7.2,SNR=4.3					
BOSA	Boshof	127.46 217	PKP	PKPdf	04 55 58.0	-0.3
KIV	Kislovodsk	127.60 316	ePKIKP	PKPdf	04 55 57.8	-0.7
KIV	Kislovodsk	127.60 316	ePKPdf	PKPdf	04 55 57.8	-0.7
BHD	Baghdad	129.01 302	i x	x	04 55 56.5	
BHD			ex	x	04 59 18.0	
MSL	Mosul	129.45 306	ex	x	04 56 03.5	
LBTB	Lobatse	129.88 220	ePKIKP	PKPdf	04 56 03.5	+0.6
NB2	NORSAR Subarra	130.64 348	PKPd	PKPdf	04 56 03.8	-0.5
	comp=Z,176nm,2.5s,baz=31,slow=1.9					
NB2	NORSAR Subarra	130.64 348	PKPd	PKPdf	04 56 03.8	-0.5
	baz=31,slow=1.9					
NOA	NORSAR Array B	130.64 348	PKP	PKPdf	04 56 03.0	-1.3
	comp=Z,1.8nm,0.7s,baz=30,slow=2.0,SNR=7.0					
NAO01	NORSAR Array S	130.88 348	ePKPdf	PKPdf	04 56 03.1	-1.7
HFS	Hagfors	130.91 346	PKP	PKPdf	04 56 03.4	-1.5
	comp=Z,4.3nm,0.7s,baz=160,slow=4.6,SNR=4.2					
KONO	Kongsberg	132.24 348	ePP	PP	04 58 27.0	-2.9
KONO			eSS	SS	05 16 19.0	+15
BER	Bergen	132.27 351	e	SKPdf	04 59 38.8	-0.1
BER			eSS	SS	05 16 18.5	+14
BER			AMS	AMS	05 46 00.1	
	comp=Z,844nm,21.4s,MS5.4					
AKASG	Malin Array Be	132.44 329	PKP	PKPdf	04 56 06.6	-1.1
	comp=Z,3.9nm,0.8s,baz=51,slow=2.1,SNR=15					
MALT	Malatya	132.48 310	ePKPdf	PKPdf	04 56 08.2	+0.5
MALT			ePP	PP	04 58 31.9	+0.4
KMBO	Kilima Mbogo	133.28 255	PKP	PKPdf	04 56 10.6	+1.2
	comp=Z,2.5nm,1.0s,baz=77,slow=5.6,SNR=10.0					
KMBO	Kilima Mbogo	133.28 255	ePKPdf	PKPdf	04 56 09.8	+0.4
KMBO			ePP	PP	04 58 35.0	-1.6
LSZ	Lusaka	134.52 232	ePKPdf	PKPdf	04 56 12.3	+0.6
LSZ			ePP	PP	04 58 43.5	-1.0
WAR	Warsaw	135.12 335	ePKP	PKPdf	04 56 16.9	+4.1
BR131	Keskin Array S	135.44 314	ePKPdf	PKPdf	04 56 12.4	-1.0
BRTR	Keskin Array B	135.44 314	PKP	PKPdf	04 56 12.6	-0.8
	comp=Z,2.3nm,0.9s,baz=40,slow=2.1,SNR=7.7					
GKP	Gorka Klasztor	135.74 339	ePKP	PKPdf	04 56 23.3	+9.4
ANTO	Ankara	135.97 314	ePKIKP	PKPdf	04 56 14.2	-0.1
CFR	Carcaliu	136.31 323	⇑P	PKPdf	04 56 15.8	+0.8
CFR	Carcaliu	136.31 323	⇑P	PKPdf	04 56 15.8	+0.8
BURAR	Bucovina Array	136.43 328	⇑P	PKPdf	04 56 16.4	+1.2
BURAR	Bucovina Array	136.43 328	⇑P	PKPdf	04 56 16.4	+1.2
TIRR	Tirgusor	136.56 322	⇑P	PKPdf	04 56 15.3	-0.1
TIRR	Tirgusor	136.56 322	ePKPdf	PKPdf	04 56 14.7	-0.7
HARR	Harsova	136.71 323	⇑P	PKPdf	04 56 16.9	+1.2
HARR	Harsova	136.71 323	⇑P	PKPdf	04 56 16.9	+1.2
STHS	Stebnicka Huta	137.11 332	ePKP	PKPdf	04 56 16.2	-0.3
STHS			e		04 59 07.3	
OJC	Ojcow	137.15 334	ePKiKP	PKiKP	04 56 16.5	-1.9
MLR	Muntele Rosu	137.38 325	PKP	PKPdf	04 56 16.1	-0.9
	comp=Z,1.9nm,0.6s,baz=137,slow=6.6,SNR=5.4					
MLR	Muntele Rosu	137.38 325	⇑P	PKPdf	04 56 16.6	-0.3
MLR	Muntele Rosu	137.38 325	⇑P	PKPdf	04 56 16.6	-0.3
NIE	Niedzica	137.53 333	ePKiKP	PKiKP	04 56 14.5	-4.6
EIL	Elat	137.62 299	ePKPdf	PKPdf	04 56 18.1	+0.8
EIL			epPKPdf	pPKPdf	04 56 26.5	-4.9
KSP	Ksiaz	138.06 337	ePKP	PKPdf	04 56 19.4	+1.2
KSP	Ksiaz	138.06 337	ePKP	PKPdf	04 56 18.8	+0.6
KSP			ePKPdf	PKPdf	04 56 21.5	+3.3
KSP			ePP	PP	04 59 09.0	+2.3
KSP			ePKS		04 59 55.0	
KSP			eSSS		05 22 23.0	
KSP			LR	LR		
	comp=Z,6μm,32.1s,MS6.1					
OKC	Ostrava-Krasne	138.13 335	ePKPdf	PKPdf	04 56 18.6	+0.3
DRGR		138.26 329	⇑P	PKPdf	04 56 11.1	-7.5
DRGR		138.26 329	⇑P	PKPdf	04 56 11.1	-7.5
MORC	Moravsky Berou	138.42 336	ePKPdf	PKPdf	04 56 18.8	-0.1
UPC	Upice	138.43 337	ePKPpre		04 56 12.7	
UPC			ePKPdf	PKPdf	04 56 19.0	+0.1
DPC	Dobruska-Polom	138.44 337	ePKPpre		04 56 11.4	
DPC			AMS	AMS	05 59 20.0	
	comp=Z,2μm,19.1s					
CLL	Collm	138.82 340	ePKPdf	PKPdf	04 56 19.9	+0.3
	comp=Z,128nm,2.3s					
CLL			ePP	PP	04 59 11.6	+0.2
CLL			eSKPdf	SKPdf	04 59 50.8	+0.1
CLL			ePKSdf		05 00 00.5	
CLL			eSKKSac	SKKSac	05 06 05.6	+3.7
CLL			eSdiff	Sdif	05 07 37.5	+3.9
CLL			eSS	SS	05 17 31.2	+7.9
CLL			eSSS		05 22 37.9	
CLL			eLR	LR	05 41 55.7	
CLL			eL		05 53 50.5	
	comp=Z,3μm,22.0s					
CLL	Collm	138.82 340	ePKPdf	PKPdf	04 56 20.0	+0.4
	comp=Z,126nm,2.3s					
CLL			ePSPS		04 18 17.0	
CLL			eSSS		04 22 48.0	
CLL			i x	x	04 56 27.4	
CLL			ePP	PP	04 59 16.0	+4.6
CLL			i SKPbc	SKPbc	04 59 50.8	+0.1
CLL			ePKSbc		04 59 59.0	
CLL	Collm	138.82 340	ePKP	PKPdf	04 56 20.0	+0.4
CLL			i pPKP	pPKPdf	04 56 27.4	-6.2
CLL			i SKP		04 59 50.8	
CLL			LR	LR		
	comp=Z,3μm,23.2s,MS5.9					
PSZ	Piszkesteto	138.82 332	ePKPdf	PKPdf	04 56 19.0	-0.6
VYHS	Vyhne	138.87 333	ePKP	PKPdf	04 56 19.8	+0.1
BRG	Berggiesshubel	138.87 339	ePKP	PKPdf	04 56 12.2	-7.5
BRG			e		04 56 20.0	
BRG			i		04 59 51.0	
BRG			i		05 07 43.0	
BRG			SS	SS	05 18 13.0	+49
BRG			LR	LR		
	comp=Z,2μm,30.0s,MS5.6					
BRG	Berggiesshubel	138.87 339	ePKP	PKPdf	04 56 12.2	-7.5
	comp=Z,7.1nm,1.9s					
BRG			e		04 56 20.0	
	comp=Z,28nm,1.7s					
BRG			i		04 59 51.0	
BRG			i		05 07 43.0	
BRG			SS	SS	05 18 13.0	+49
BRG						
	comp=N,2μm,25.6s					
BRG						
	comp=E,458nm,26.9s					
BRG						
	comp=Z,2μm,30.0s					
PVCC	Panska Ves	138.94 339	ePKPdf	PKPdf	04 56 19.4	-0.4
TSUM	Tsumeb	139.14 218	ePKPdf	PKPdf	04 56 21.0	+0.8
PRU	Pruhonice	139.40 338	ePKPpre		04 56 15.3	
PRU			ePKPdf	PKPdf	04 56 20.3	-0.4
PRU			ex	x	05 17 42.2	
PRU			AMS	AMS	05 51 10.0	
	comp=Z,4μm,27.1s					
SMOL	Smolenice	139.45 334	ePKP	PKPdf	04 56 22.1	+1.3
SRO	Srobarova	139.61 333	ePKP	PKPdf	04 56 18.9	-2.1
BZS	Buzias	139.61 328	⇓P	PKPdf	04 56 23.6	+2.5
BZS	Buzias	139.61 328	⇓P	PKPdf	04 56 23.6	+2.6
TREC	Trest	139.61 337	ePKPdf	PKPdf	04 56 21.5	+0.4
DIM	Dimitrovgrad	139.65 321	eP	PKPdf	04 56 20.0	-1.1
MOX	Moxa	139.83 341	ePKP	PKPdf	04 56 18.9	-2.5
	comp=Z,70nm,2.0s					
MOX						
	comp=Z,1μm,22.0s					
ZST	Bratislava	139.84 334	ePKP	PKPdf	04 56 21.1	-0.4
NKC	Novy Kostel	139.92 340	ePKPpre		04 56 17.2	
NKC			AMS	AMS	05 54 00.0	
	comp=Z,2μm,22.6s					
WTSB	Winterswijk	139.96 346	ePKP	PKPdf	04 56 22.4	+0.7
	comp=Z,51nm,1.7s					
RZN	Rozhen	140.36 321	eP	PKPdf	04 56 23.0	+0.6
KHC	Kasperske Hory	140.46 338	ePKPpre		04 56 17.0	
KHC			ex	x	04 56 21.8	
KHC			AMS	AMS	05 56 20.0	
	comp=Z,4μm,22.4s					
BOLS	Boljevac	140.63 326	⇓iPKP	PKPdf	04 56 23.1	+0.2
GERES	GERESS Array B	140.66 338	PKhKP		04 56 15.4	
	comp=Z,1.3nm,0.8s,baz=29,slow=3.0,SNR=7.3					
GERES			PKP	PKPdf	04 56 24.3	+1.4
	comp=Z,2.5nm,0.8s,baz=48,slow=2.0,SNR=12					
PKSM	Moragy	140.66 331	⇑P	PKPdf	04 56 21.9	-1.0
VTS	Vitosha	140.71 323	eP	PKPdf	04 56 18.0	-5.0
GRA1	Grafenberg Arr	140.79 341	ePKP	PKPdf	04 56 19.0	-4.2
GRF	Grafenberg Arr	140.79 341	ePKPdf	PKPdf	04 56 19.0	-4.2
KKB	Krupnik	141.23 323	eP	PKPdf	04 56 18.0	-6.0
HGN	Heimansgroeve	141.28 346	ePKP	PKPdf	04 56 23.2	-0.8
MEM	Membach	141.41 346	PKP	PKPdf	04 56 24.4	+0.1
MEM			APKP		04 56 26.0	
MEM			XPKP		04 56 29.5	
MEM			XPKiKP		04 56 36.3	
DIVS	Divcibare	141.50 328	⇓iPKP	PKPdf	04 56 20.1	-4.4
UCC	Uccle	141.59 348	PKP	PKPdf	04 56 24.7	+0.1
UCC			APKP		04 56 27.3	
TOD	Tromm	141.60 343	PKP	PKPdf	04 56 21.7	-2.9
ABH	Alteburg	141.69 344	PKP	PKPdf	04 56 23.3	-1.5
VAY	Valandovo	141.87 322	ePKP	PKPdf	04 56 23.1	-2.0
SNF	Seneffe	141.88 348	APKP		04 56 26.1	
RUP	Ruppelstein	141.99 345	PKiKP	PKPdf	04 56 21.4	-3.9
SKO	Skopje	142.12 324	ePKP	PKPdf	04 56 23.6	-2.0
DOU	Dourbes	142.20 347	PKP	PKPdf	04 56 24.0	-1.7
STU	Stuttgart	142.23 342	ePKIKP	PKPdf	04 56 23.4	-2.4
WLF	Walferdange	142.25 345	PKP	PKPdf	04 56 22.2	-3.6
WLF			APKP		04 56 28.0	
WLF	Walferdange	142.25 345	ePKPdf	PKPdf	04 56 22.6	-3.2
BAIF	Baives	142.32 348	⇓iPKP1	PKPdf	04 56 25.8	-0.1
	comp=Z,94nm,1.5s					
BIA	Bitola	142.79 323	ePKP	PKPdf	04 56 25.3	-1.5
BFO	Black Forest	142.88 342	ePKIKP	PKPdf	04 56 22.3	-4.6
VOY	Vojsko	142.89 335	ePKPdf	PKPdf	04 56 23.3	-3.6
VOY			e		04 56 31.6	
OHR	Ohrid	143.04 323	ePKP	PKPdf	04 56 24.1	-3.1
WLS	Welschbruch	143.09 343	PKP	PKPdf	04 56 23.8	-3.5
CDF	Champ du Feu	143.11 344	⇓iPKP1	PKPdf	04 56 23.2	-4.1
	comp=Z,24nm,1.0s					
DAVA	Damuels	143.32 340	⇓iPKPdf	PKPdf	04 56 25.4	-2.3
	comp=Z,31nm,1.2s					
DAVA	Damuels	143.32 340	⇓iP	PKPdf	04 56 25.4	-2.3
MEZF	Maizieres J'vi	143.60 346	⇓iPKP1	PKPdf	04 56 28.1	-0.1
THEF	They Montfort	143.62 345	PKP	PKPdf	04 56 25.5	-2.7
NVLJ	Novalja	143.64 333	PKP	PKPdf	04 56 27.6	-0.7
MOF	Molkenrain	143.66 343	PKP	PKPdf	04 56 25.7	-2.6
HAU	Haudompre	143.73 344	⇓iPKP1	PKPdf	04 56 25.3	-3.1
	comp=Z,87nm,1.2s					
HAU			eR			
	comp=Z,2μm,22.0s					
HAU	Haudompre	143.73 344	⇓iPKP	PKPdf	04 56 25.3	-3.1
HAU			LR	LR		
	comp=Z,2μm,22.0s,MS5.8					
HINF	Hinteralfeld	143.77 344	⇓iPKP1	PKPdf	04 56 25.2	-3.3
	comp=Z,270nm,1.9s					
LOMF	Lomont	144.20 343	PKP	PKPdf	04 56 27.6	-1.6
GVD	Gavdhos	144.43 312	ePKPdf	PKPdf	04 56 28.9	-0.7
GRR	Gorron	144.80 352	⇓iPKP1	PKPdf	04 56 28.8	-1.5
	comp=Z,168nm,1.0s					
LOR	Lormes	145.03 346	⇓iPKP1	PKPbc	04 56 29.9	-0.2
	comp=Z,723nm,1.7s					
LOR			eR			
	comp=Z,2μm,22.0s					
LOR	Lormes	145.03 346	⇓iPKP	PKPdf	04 56 29.9	-0.8
LOR			LR	LR		
	comp=Z,2μm,22.0s,MS5.8					
CABF	La Chapelle	145.08 344	⇓iPKP1	PKPbc	04 56 30.5	+0.2
	comp=Z,582nm,1.3s					
ROSF	Rostrenen	145.11 355	⇓iPKP1	PKPbc	04 56 29.8	-0.6
	comp=Z,897nm,1.7s					
HYF	Humbligny	145.30 348	⇓iPKP1	PKPbc	04 56 31.2	+0.2
SSF	Saint Saulge	145.31 347	⇓iPKP1	PKPbc	04 56 31.0	0.0
	comp=Z,417nm,1.1s					
QUIF	Quistinic	145.52 355	⇓iPKP1	PKPbc	04 56 30.9	-0.8
	comp=Z,620nm,1.7s					
AVF	Avril sur Loir	145.60 347	⇓iPKP1	PKPbc	04 56 31.6	-0.3
	comp=Z,711nm,1.6s					
SMF	Signal de Mont	145.62 346	⇓iPKP1	PKPbc	04 56 31.7	-0.3
	comp=Z,360nm,1.2s					
VLC	Villacollemand	145.83 337	ePKPbc	PKPbc	04 56 31.4	-1.3
LPL	La Plagne	145.89 342	⇓iPKP1	PKPbc	04 56 33.4	+0.6
	comp=Z,758nm,1.6s					
RCBR	Riachuelo	145.90 123	ePKPbc	PKPbc	04 56 33.0	+0.1
LPG	La Plagne	145.91 342	⇓iPKP1	PKPbc	04 56 33.7	+0.8
	comp=Z,611nm,1.4s					
BGF	Bois d'Agland	145.93 347	⇓iPKP1	PKPbc	04 56 32.9	-0.1
	comp=Z,228nm,1.0s					
AQU	L'Aquila	146.03 332	ePKPbc	PKPbc	04 56 32.4	-0.8
TCF	Toulx Ste Croi	146.32 348	⇓iPKP1	PKPbc	04 56 34.1	0.0
	comp=Z,1μm,1.9s					
BNI	Bardonecchia	146.33 342	ePKP2	PKPab	04 56 34.3	-0.7
GDM	Grand'Maison	146.36 342	PKP	PKPdf	04 56 34.5	+1.6
GRN	Grenoble	146.43 343	PKP	PKPdf	04 56 34.1	+1.0
MFF	Saint Martin d	146.45 351	⇓iPKP1	PKPbc	04 56 34.3	-0.2
	comp=Z,208nm,1.1s					
MBDF	Montbardon	146.59 341	⇓iPKP1	PKPbc	04 56 34.8	-0.1
	comp=Z,256nm,1.2s					
TIP	Timpagrande	146.64 324	ePKPbc	PKPbc	04 56 33.8	-1.2
PYM	Petit Puy Mans	146.66 347	PKP	PKPdf	04 56 34.9	+1.4
ORIF	Oris-en-Rattie	146.69 343	⇓iPKP1	PKPbc	04 56 35.4	+0.2
	comp=Z,153nm,0.9s					
ORIF			eR			
	comp=Z,3μm,22.0s					
SURF	Saint Ours	146.80 341	PKP	PKPdf	04 56 35.2	+1.5
SAOF	Saorge	147.00 340	PKP	PKPdf	04 56 35.6	+1.6
AUTN	L'Aution	147.04 340	PKP	PKPdf	04 56 35.7	+1.6
VIVF	Saint-Julien-l	147.09 344	⇓iPKP1	PKPbc	04 56 36.5	+0.2
	comp=Z,422nm,1.4s					
LBL	Lubilhac	147.09 346	PKP	PKPdf	04 56 36.3	+2.1
SBF	Sospel	147.15 340	⇓iPKP1	PKPbc	04 56 35.9	-0.6
	comp=Z,485nm,1.3s					
MVIF	Mont Vial	147.22 340	PKP	PKPdf	04 56 35.7	+1.3
RJF	Les Rejaudoux	147.41 348	⇓iPKP1	PKPbc	04 56 37.1	-0.1
	comp=Z,1μm,1.9s					
RJF			eR			
	comp=Z,2μm,21.8s					
RJF	Les Rejaudoux	147.41 348	⇓iPKP	PKPdf	04 56 37.1	+2.4
RJF			LR	LR		
	comp=Z,2μm,21.8s,MS5.9					
STOF	St-Etienne Org	147.52 342	PKP	PKPdf	04 56 37.7	+2.8
SMRF	Simiane la Rot	147.64 342	⇓iPKP1	PKPbc	04 56 38.1	+0.3
	comp=Z,551nm,1.6s					
CAF	Calviac	147.65 347	⇓iPKP1	PKPbc	04 56 38.1	+0.2
	comp=Z,148nm,1.3s					
FRF	La Foret Royal	147.68 341	⇓iPKP1	PKPbc	04 56 37.6	-0.4
	comp=Z,173nm,1.1s					
VILF	Villemus	147.71 342	PKP	PKPdf	04 56 34.2	-1.0
TAVF	Tavernes	147.82 341	PKP	PKPdf	04 56 28.3	-7.1
CORF	Corte	147.89 336	PKP	PKPdf	04 56 38.4	+2.9
LFF	La Frestale	147.91 349	⇓iPKP1	PKPbc	04 56 38.5	-0.1
	comp=Z,272nm,1.3s					
PRAF	Pradon	147.91 343	PKP	PKPdf	04 56 35.9	+0.4
LMR	La Mourre	147.93 341	⇓iPKP1	PKPbc	04 56 38.2	-0.4
	comp=Z,548nm,1.6s					
PUYF	Puyloubier	148.00 342	PKP	PKPdf	04 56 37.3	+1.6
TREF	Trevaresse	148.02 342	PKP	PKPdf	04 56 37.7	+2.0
LASF	Ste Croix	148.03 344	⇓iPKP1	PKPbc	04 56 39.0	+0.1
	comp=Z,687nm,1.8s					
GELF	Grande-Etoile	148.22 342	PKP	PKPdf	04 56 38.9	+2.9
MTLF	Montolieu	149.12 346	⇓iPKP1	PKPbc	04 56 41.9	+0.2
	comp=Z,575nm,1.9s					
MLS	Moulis	149.74 347	PKP	PKPbc	04 56 42.6	-0.6
EJON	La Jonquera	149.80 345	PKP	PKPbc	04 56 43.5	+0.1
EPF	Esparros	149.82 348	⇓iPKP1	PKPbc	04 56 43.5	+0.1
	comp=Z,248nm,1.5s					
OSSF	Osses	149.88 351	PKP	PKPbc	04 56 43.3	-0.3
EALK	Alkurruntz	149.96 351	PKP	PKPbc	04 56 44.2	+0.4
ELIZ	Elizondo	150.01 351	PKP	PKPbc	04 56 44.1	+0.2
SJPF	Ste Jean	150.02 351	⇓iPKP1	PKPbc	04 56 44.3	+0.4
VIEF	Viey	150.03 349	PKP	PKPbc	04 56 44.6	+0.7
LARF	Larrau	150.05 350	PKP	PKPbc	04 56 43.8	-0.2
VALF	Valcebollere	150.06 346	PKP	PKPbc	04 56 44.3	+0.3
ETSF	Etsaut	150.12 350	⇓iPKP1	PKPbc	04 56 44.8	+0.7
	comp=Z,357nm,1.5s					
EBIE	Bielsa	150.19 349	PKP	PKPbc	04 56 45.8	+1.5
EARI	Arriondas	150.26 357	PKP	PKPbc	04 56 44.3	-0.2
EPON	Pontenova	150.30 359	PKP	PKPbc	04 56 45.1	+0.5
EGRA	Graus	150.63 348	PKP	PKPbc	04 56 46.3	+0.9
EMAZ	Mazaricos	150.66 2	PKP	PKPbc	04 56 45.8	+0.4
ECRI	Cripan	150.70 352	PKP	PKPbc	04 56 46.5	+0.9
STS	Santiago	150.73 2	PKP	PKPbc	04 56 44.8	-0.9
ERUA	La Rua	151.24 359	PKP	PKPbc	04 56 47.3	+0.5
ESAC	San Caprasio	151.24 349	PKP	PKPbc	04 56 47.1	+0.3
EZAM	Zamans	151.46 2	PKP	PKPbc	04 56 46.9	-0.4
ECAL	Calabor	151.68 359	PKP	PKPbc	04 56 47.0	-0.8
GUD	Guadarrama	152.82 354	PKP	PKPbc	04 56 50.7	+0.3
ESDC	Sonseca Array	153.76 354	PKP	PKPdf	04 56 44.2	-0.4
	comp=Z,1.1nm,0.9s,baz=354,slow=5.4,SNR=5.5					
ESDC			PKPbc	PKPbc	04 56 52.0	-0.5
	comp=Z,1.8nm,0.8s,baz=351,slow=1.9,SNR=9.0					
ESDC	Sonseca Array	153.76 354	PKP	PKPdf	04 56 44.2	-0.4
ESDC			PKP	PKPdf	04 56 49.6	+5.0
ESDC			PKPbc	PKPbc	04 56 52.0	-0.5
ESLA	Sonseca Array	153.76 354	ePKPdf	PKPdf	04 56 44.4	-0.2
CASM	Ain Smara	154.09 333	P	PKPbc	04 56 54.0	+0.8
DFRA	Djebel Bou Aff	154.11 335	P	PKPdf	04 56 49.0	+4.0
SET	Setif	154.61 335	P	PKPdf	04 56 45.0	-0.7
EMHD	Djebel Mahouad	155.53 339	P	PKPdf	04 56 45.0	-2.0
EBNR	Beni Rached	155.91 342	P	PKPdf	04 56 54.0	+6.5
ECHA	Ech Chlef	156.09 342	P	PKPdf	04 56 55.0	+7.3
EANR	'Ain N'Sour	156.36 342	P	PKPdf	04 56 52.0	+3.9
ETRT	Tiaret	156.82 341	P	PKPdf	04 56 50.0	+1.3
TORD	Torodi Ar. Bea	171.01 269	PKP	PKPdf	04 57 00.9	-0.6
	comp=Z,7.1nm,1.1s,baz=334,slow=0.6,SNR=24					
TORD			PKPab	PKPab	04 58 21.2	+0.4
	comp=Z,4.1nm,0.8s,baz=94,slow=4.0,SNR=13					
LIC	Lamto	172.34 199	ePKIKP	PKPdf	04 57 01.5	-0.7
	comp=Z,202nm,1.6s					
LIC			eR			
	comp=Z,2μm,21.8s					
LIC	Lamto	172.34 199	ePKPdf	PKPdf	04 57 01.5	-0.7
LIC			LR	LR		
	comp=Z,1μm,21.8s					
DBIC	Dimbokro	172.69 201	PKP	PKPdf	04 57 02.2	-0.1
	comp=Z,20nm,1.2s,baz=112,slow=1.4,SNR=11					
DBIC			PKPab	PKPab	04 58 28.9	+0.6
	comp=Z,6.3nm,1.0s,baz=134,slow=6.7,SNR=5.0					
DBIC	Dimbokro	172.69 201	ePKPdf	PKPdf	04 57 02.1	-0.3
DBIC			ePKPab	PKPab	04 58 28.3	0.0

*ISCJB **19** 04:44:28.6±0.3, 3319N±002×3553E±003, h13km±2km, Error ellipse: s-maj=4.9km s-min=2.4km az=60.0*
*CSEM **19** 04:44:28.5±0.1, 3317N×3558E, h10km, Mw3.2, Error ellipse: s-maj=2.1km s-min=1.3km az=110.0*
*GRAL **19** 04:44:28.3±0.5, 3310N×3550E, h16km±10km, MD3.4*
*HLW **19** 04:44:30.7, 3338N×3525E, h33km, Mb3.9*
*GII **19** 04:44:36.3±0.3, 3313N×3556E, h3km±1km, ML3.3/4, Mw3.2/4*

ISC 19 04:44:29.2±0.3, 3319N±002×3557E±003, h11km±2km, n46, σ0:89/65, 10C-6D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDI	Kefar Szold	0.08	87	Pg	Pg	04 44 32.1	+0.5
KSDI				Sg	Sg	04 44 33.9	+0.6
MMA0B	Mount Meron ar	0.22	219	Pg	Pg	04 44 33.7	-0.1
MMA0B				Sg	Sg	04 44 37.1	+0.1
HNTI	Hanita	0.35	253	Pg	Pg	04 44 35.8	-0.3
HNTI				Sg	Sg	04 44 40.7	0.0
MATL	Matirih	0.36	327	i Pg	Pg	04 44 36.1	-0.2
BRBR	Barbar	0.39	55	⇑iP	Pg	04 44 36.9	0.0
TCHB	Talchebab	0.62	147	⇓iP	Pg	04 44 41.2	0.0
QASN	Qassioun	0.69	60	⇑iP	Pg	04 44 42.7	+0.2
QASN				⇑iS	Sg	04 44 52.1	+0.6
BHL	Bhannes	0.72	6	i Pg	Pg	04 44 42.3	-0.7
BHL				i Sg	Sg	04 44 53.2	+0.7
MMLI	Mount Malkishu	0.76	189	Pg	Pg	04 44 42.9	-0.9
SLTI	Sal'it	1.04	205	Pg	Pg	04 44 48.0	-1.3
SLTI				Sg	Sg	04 45 02.6	-0.2
SALA	Sala	1.09	116	⇑iP	Pb	04 44 49.4	-0.7
SALA				⇑iS	Sb	04 45 02.5	-1.8
HWQ	Hawqa	1.13	16	ePg	Pg	04 44 49.7	-1.3
HWQ				i Sg	Sg	04 45 05.3	-0.4
MARH	Ras Al Marh	1.13	42	⇑iP	Pb	04 44 50.7	-0.1
MARH				⇑iS	Sb	04 45 05.2	-0.3
HAWK	Haweek	1.50	27	⇑iP	Pn	04 44 55.9	-0.2
HAWK				⇑iS	Sn	04 45 15.4	-0.2
ZALF	Zalf	1.51	100	⇑iP	Pn	04 44 56.5	+0.4
ZALF				⇑iS	Sn	04 45 14.6	-1.2
MKRJ	Makawir	1.63	178	Pn	Pn	04 44 57.6	-0.2
ROOS	tl_alroos	1.74	55	⇓iP	Pn	04 44 58.6	-0.7
ROOS				⇓iS	Sn	04 45 20.

0.6nm,0.3s,baz=338,slow=12,SNR=6.3
WB2 Warramunga Arr 18.86 159 *e*P Pn 05 16 43.1 -0.3
ASPA Alice Springs 22.22 164 *e*P P 05 17 18.9 -0.4
ASAR Alice Springs 22.22 164 P P 05 17 19.4 +0.1
2.2nm,0.6s,baz=342,slow=12,SNR=41
MKAR Makanchi Array 62.85 327 P P 05 22 49.2 +0.2
0.8nm,1.0s,baz=138,slow=5.7,SNR=4.9

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*IDC **19** 06:28:24.0±1.0, 1336S×17244E, h0km, mb4.4/10, mb1 4.6/11, mb1mx4.6/14, mbtmp4.4/11, ML3.1/1, MS3.8/8, Ms1 3.8/8, ms1mx3.7/23, Error ellipse: s-maj=44.4km s-min=18.4km az=137.0*
*ISCJB **19** 06:28:27.6±5.5, 135S±02×1725E±02, h33km±52km, mb4.4/15, MS4.1/6, Error ellipse: s-maj=45.3km s-min=21.3km az=124.7*
*NEIC **19** 06:28:30.6±2.7, 1345S×17242E, h46km±27km, mb4.5/2, Error ellipse: s-maj=29.9km s-min=13.6km az=150.0*
*BJI **19** 06:28:30.6, 1340S×17240E, h46km, mB5.0, mb4.7, Ms5.0, Msz4.3*
ISC 19 06:28:31.1±3.5, 136S±02×1725E±02, h50km±36km, n56, σ0°99/19, mb4.5/14, MS4.1/6, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.26**	**214**	Pn	**Pn**	**06 30 55.9**	**+0.3**
	0.1nm,0.3s,baz=58,slow=16,SNR=6.9						
AFI	**Afiamalu**	**15.25**	**93**	LR	LR	06 36 13.9	
	comp=Z,216nm,20.4s,baz=50,slow=31						
RAO	**Raoul Island**	**17.96**	**152**	LR	LR	06 37 59.6	
	comp=Z,348nm,20.1s,baz=184,slow=32						
URZ	**Urewera**	**24.94**	**171**	LR	LR	06 41 22.6	
	comp=Z,739nm,20.9s,MS4.2,baz=355,slow=31						
CTA	**Charters Tower**	**25.95**	**252**	LR	LR	06 42 39.3	
	comp=Z,168nm,18.4s,MS3.6,baz=59,slow=33						
RAR	**Rarotonga**	**27.48**	**110**	LR	LR	06 43 33.1	
	comp=Z,24nm,18.0s,baz=104,slow=33						
STKA	**Stephens Creek**	**33.69**	**232**	P	**P**	**06 35 06.3**	**-0.9**
	2.2nm,0.4s,mb4.5,baz=57,slow=8.9,SNR=7.5						
STKA				LR	LR	06 47 39.6	
	comp=Z,158nm,19.1s,MS3.8,baz=22,slow=34						
STKA	**Stephens Creek**	**33.69**	**232**	*e*P	**P**	**06 35 06.9**	**-0.4**
WRA	**Warramunga Arr**	**37.06**	**255**	P	**P**	**06 35 35.7**	**-0.6**
	2.7nm,0.8s,mb4.1,baz=85,slow=9.2,SNR=9.1						
AS31	**Alice Springs**	**37.85**	**249**	*e*P	**P**	**06 35 42.8**	**-0.1**
ASAR	**Alice Springs**	**37.85**	**249**	P	**P**	**06 35 43.0**	**+0.1**
	12nm,0.7s,mb4.8,baz=74,slow=9.1,SNR=95						
ASAR				PcP	PcP	06 37 59.1	+0.6
	1.1nm,0.9s,baz=96,slow=3.2,SNR=4.2						
ASPA	**Alice Springs**	**37.86**	**249**	*e*P	**P**	**06 35 42.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**45.25**	**258**	LR	LR	06 54 46.9	
	comp=Z,128nm,18.6s,MS3.9,baz=95,slow=35						
MJAR	**Matsushiro Arr**	**59.42**	**328**	P	**P**	**06 38 27.1**	**-1.3**
	2.2nm,0.8s,mb4.2,baz=147,slow=7.9,SNR=5.0						
CN2	**Changchun**	**71.41**	**326**	*e*P	**P**	**06 39 47.0**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
LZH	**Lanzhou**	**81.39**	**310**	*e*P	**P**	**06 40 45.1**	**+2.6**
LZH				AP	pP	06 40 53.1	-3.8
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.0						
BILL	**Bilibino**	**81.50**	**358**	*e*P	**P**	**06 40 42.3**	**-0.8**
	comp=Z,8.4nm,1.3s,mb4.5						
NVAR	**Mina Array Bea**	**82.68**	**48**	P	**P**	**06 40 50.1**	**+0.8**
	comp=Z,0.9nm,0.9s,mb3.8,baz=213,slow=8.5,SNR=5.1						
ILAR	**Eielson Array**	**83.91**	**16**	P	**P**	**06 40 54.4**	**-1.2**
	comp=Z,7.8nm,0.8s,mb4.9,baz=239,slow=5.1,SNR=56						
ULN	**Ulaanbaatar**	**84.28**	**322**	*e*P	**P**	**06 40 58.1**	**+0.6**
	comp=Z,5.2nm,1.2s,mb4.5						
SONM	**Songino Array**	**84.66**	**322**	P	**P**	**06 40 58.6**	**-0.8**
	comp=Z,1.3nm,0.9s,mb4.0,baz=116,slow=4.7,SNR=8.2						
GTA	**Gaotai**	**85.61**	**312**	*e*P	**P**	**06 41 05.8**	**+1.7**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,83nm,4.9s						
GTA				LR	LR		
	comp=N,149nm,12.9s,MS4.8						
GTA				LR	LR		
	comp=E,192nm,15.2s,MS4.8						
GTA				LR	LR		
	comp=Z,114nm,16.4s,MS4.3						
PDAR	**Pinedale Array**	**90.44**	**46**	P	**P**	**06 41 27.9**	**+0.7**
	comp=Z,0.9nm,1.1s,mb4.0,baz=225,slow=4.0,SNR=4.4						
YKA	**Yellowknife Ar**	**94.20**	**26**	P	**P**	**06 41 43.4**	**-1.2**
	comp=Z,2.2nm,0.8s,mb4.6,baz=255,slow=4.6,SNR=34						
YKA				LR	LR	07 16 31.0	
	comp=Z,128nm,19.6s,MS4.4,baz=180,slow=31						
YKA	**Yellowknife Ar**	**94.20**	**26**	P	**P**	**06 41 43.4**	**-1.2**
YKA				LR	LR	07 16 31.0	
MKAR	**Makanchi Array**	**99.90**	**316**	P	Pdif	06 42 10.1	-0.3
	comp=Z,0.5nm,0.8s,baz=116,slow=5.6,SNR=4.5						
BRTR	**Keskin Array B**	**135.51**	**314**	PKP	PKPdf	06 47 45.5	-0.1
	comp=Z,0.7nm,1.0s,baz=156,slow=6.4,SNR=4.4						
GRR	**Gorron**	**144.84**	**352**	*e*PKP1	PKPdf	06 48 01.9	-0.5
	comp=Z,133nm,1.6s						
LOR	**Lormes**	**145.08**	**346**	*e*PKP1	PKPbc	06 48 03.2	+0.8
	comp=Z,53nm,1.2s						
CABF	**La Chapelle**	**145.13**	**344**	*e*PKP1	PKPbc	06 48 03.8	+1.3
	comp=Z,42nm,1.0s						
HYF	**Humbligny**	**145.34**	**348**	*e*PKP1	PKPbc	06 48 04.2	+1.0
SSF	**Saint Saulge**	**145.35**	**347**	*e*PKP1	PKPbc	06 48 04.2	+0.9
	comp=Z,76nm,1.1s						
QUIF	**Quistinic**	**145.56**	**355**	*e*PKP1	PKPbc	06 48 04.2	+0.3
AVF	**Avril sur Loir**	**145.64**	**347**	*e*PKP1	PKPbc	06 48 04.8	+0.6
	comp=Z,32nm,1.0s						
SMF	**Signal de Mont**	**145.67**	**346**	*e*PKP1	PKPbc	06 48 04.9	+0.7
	comp=Z,126nm,1.4s						
LPL	**La Plagne**	**145.94**	**342**	*e*PKP1	PKPbc	06 48 06.7	+1.6
	comp=Z,49nm,1.1s						
LPG	**La Plagne**	**145.95**	**342**	*e*PKP1	PKPbc	06 48 06.8	+1.7
	comp=Z,61nm,1.2s						
BGF	**Bois d'Agland**	**145.97**	**347**	*e*PKP1	PKPbc	06 48 06.0	+0.8
	comp=Z,63nm,1.1s						
TCF	**Toulx Ste Croi**	**146.37**	**348**	*e*PKP1	PKPbc	06 48 07.2	+0.8
	comp=Z,37nm,1.2s						
MFF	**Saint Martin d**	**146.49**	**351**	*e*PKP1	PKPbc	06 48 07.3	+0.6
MBDF	**Montbardon**	**146.64**	**341**	*e*PKP1	PKPbc	06 48 08.2	+1.0
	comp=Z,14nm,1.0s						
ORIF	**Oris-en-Rattie**	**146.74**	**343**	*e*PKP1	PKPbc	06 48 08.7	+1.3
	comp=Z,35nm,1.2s						
VIVF	**Saint-Julien-l**	**147.13**	**344**	*e*PKP1	PKPbc	06 48 09.7	+1.2
	comp=Z,17nm,1.0s						
SBF	**Sospel**	**147.20**	**340**	*e*PKP1	PKPbc	06 48 09.3	+0.6
	comp=Z,51nm,0.9s						
RJF	**Les Rejaudoux**	**147.45**	**348**	*e*PKP1	PKPbc	06 48 10.3	+0.9
	comp=Z,46nm,1.3s						
SMRF	**Simiane la Rot**	**147.69**	**342**	*e*PKP1	PKPbc	06 48 11.4	+1.3
	comp=Z,45nm,1.3s						
CAF	**Calviac**	**147.70**	**347**	*e*PKP1	PKPbc	06 48 11.3	+1.2
FRF	**La Foret Royal**	**147.73**	**341**	*e*PKP1	PKPbc	06 48 10.6	+0.4
	comp=Z,106nm,1.3s						
LFF	**La Frestale**	**147.95**	**349**	*e*PKP1	PKPbc	06 48 11.5	+0.7
	comp=Z,29nm,1.0s						
LMR	**La Mourre**	**147.98**	**341**	*e*PKP1	PKPbc	06 48 11.4	+0.5
LASF	**Ste Croix**	**148.07**	**344**	*e*PKP1	PKPbc	06 48 12.3	+1.2
	comp=Z,135nm,1.6s						
MTLF	**Montolieu**	**149.17**	**346**	*e*PKP1	PKPbc	06 48 14.9	+1.0
EPF	**Esparros**	**149.87**	**349**	*e*PKP1	PKPbc	06 48 17.1	+1.5
SJPF	**Ste Jean**	**150.06**	**351**	*e*PKP1	PKPbc	06 48 17.4	+1.3
ETSF	**Etsaut**	**150.16**	**350**	*e*PKP1	PKPbc	06 48 17.9	+1.6
	comp=Z,31nm,1.1s						
TORD	**Torodi Ar. Bea**	**171.07**	**268**	PKP	PKPdf	06 48 33.9	+0.2
	comp=Z,1.0nm,0.9s,baz=68,slow=0.2,SNR=4.8						
TORD				PKPab	PKPab	06 49 54.2	+1.1
	comp=Z,1.0nm,1.0s,baz=75,slow=4.0,SNR=3.5						

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*IDC **19** 06:29:22.3±1.2, 3897N×2098E, h0km, mb3.6/2, mb1 3.4/6, mb1mx3.3/24, mbtmp3.3/6, ML3.4/4, MS3.8/2, Ms1 3.8/2, ms1mx3.1/35, Error ellipse: s-maj=22.9km s-min=14.9km az=64.0*
*ISCJB **19** 06:29:23.8±0.5, 3887N±002×21.11E±003, h0km±4km, mb3.7/2, MS4.3/1, Error ellipse: s-maj=3.9km s-min=2.8km az=110.3*
*NEIC **19** 06:29:24.5, 3889N×2117E, h12km, ML3.2(CSEM), ML3.7(ATH), After ATH.*
*ATH **19** 06:29:24.5, 3889N×2117E, h12km±1km, MD3.7/16, ML3.7*
*MOS **19** 06:29:24.6±0.6, 3889N×2114E, h10km, mb4.0/1, Error ellipse: s-maj=9.3km s-min=5.2km az=72.3*
*THE **19** 06:29:24.3, 3878N×2114E, h1km, ML3.6*
*CSEM **19** 06:29:26.6±0.1, 3891N×2109E, h20km, ML3.7, Error ellipse: s-maj=2.0km s-min=1.6km az=43.0*

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*SOF **19** 06:29:40.6, 3993N×2208E, h2km, MD3.2*
ISC 19 06:29:24.5±0.5, 3887N±002×2111E±003, h0km±3km, n73, σ1°22/92, mb3.7/2, MS4.3/1, 6D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.55**	**85**	*e*PB	**Pg**	**06 29 34.9**	**-0.1**
VLS	**Valsamata**	**0.81**	**211**	*e*PG	**Pg**	**06 29 40.3**	**+0.3**
VLS				*e*SB	**Sb**	**06 29 53.0**	**+0.2**
JAN	**Janina**	**0.81**	**346**	*e*PB	**Pg**	**06 29 39.2**	**-0.9**
JAN				*e*SB	**Sg**	**06 29 51.3**	**+0.7**
RLS	**Riolos of Patr**	**0.86**	**161**	*e*PB	**Pg**	**06 29 41.3**	**+0.3**
RLS				*e*SB	**Sg**	**06 29 53.3**	**+1.2**
IGT	**Igoumenitsa**	**0.90**	**318**	*e*Pg	**Pg**	**06 29 41.6**	**-0.1**
IGT				*e*Sg	**Sg**	**06 29 57.0**	**+3.7**
AGG	**Agios Georgios**	**0.96**	**81**	*e*Pg	**Pg**	**06 29 42.8**	**-0.2**
AGG				*e*Sg	**Sg**	**06 29 56.4**	**+0.9**
AGG	**Agios Georgios**	**0.96**	**81**	*e*Pg	**Pg**	**06 29 42.8**	**-0.2**
AGG				*e*Sg	**Sg**	**06 29 56.3**	**+0.9**
KEK	**Kerkira**	**1.32**	**310**	*e*PB	**Pb**	**06 29 49.8**	**-0.4**
KEK				*e*SB	**Sb**	**06 30 08.7**	**+1.0**
SRN	**Sarande**	**1.32**	**320**	*i* Pg	**Pg**	**06 29 50.6**	**+0.7**
SRN				*i* Sg	**Sg**	**06 30 08.6**	**+1.5**
LSK	**Leskovik**	**1.34**	**343**	*i* Pg	**Pg**	**06 29 51.5**	**+1.3**
LSK				*i* Sg	**Sg**	**06 30 10.1**	**+2.6**
LKR	**Lokris**	**1.49**	**98**	*e*PB	**Pb**	**06 29 52.1**	**-1.0**
LKR				*e*SB	**Sb**	**06 30 12.3**	**-0.3**
KZN	**Kozani**	**1.52**	**19**	*e*PG	**Pg**	**06 29 51.8**	**-1.9**
LIT	**Litokhoron**	**1.63**	**41**	*e*Pb	**Pb**	**06 29 53.6**	**-1.7**
LIT				*e*Sb	**Sb**	**06 30 16.9**	**+0.4**
XOR	**Xorichti**	**1.69**	**72**	*e*Pb	**Pb**	**06 29 54.8**	**-1.7**
NEO	**Neokhori**	**1.70**	**75**	*e*PG	**Pg**	**06 29 55.0**	**-2.1**
NEO				*e*SB	**Sb**	**06 30 18.2**	**-0.4**
ITM	**Ithomi**	**1.81**	**159**	*e*PG	**Pg**	**06 29 58.1**	**-1.1**
ITM				*e*SN	**Sn**	**06 30 22.4**	**+1.9**
MGER	**Gerania Oros**	**1.91**	**117**	*e*PG	**Pg**	**06 29 59.0**	**-2.0**
FNA	**Florina**	**1.92**	**6**	*e*Pn	**Pn**	**06 29 59.3**	**+0.8**
BIA	**Bitola**	**2.15**	**4**	*e*Pn	**Pn**	**06 30 02.8**	**+1.2**
NAIG	**Nisos Aigina**	**2.17**	**120**	*e*PN	**Pn**	**06 30 03.0**	**+1.0**
MPAR	**Parnis Oros**	**2.18**	**108**	*e*PN	**Pn**	**06 30 02.9**	**+0.9**
ATH	**Athens Observa**	**2.23**	**113**	*e*PN	**Pn**	**06 30 03.3**	**+0.5**
ATH				*e*SN	**Sn**	**06 30 31.9**	**+0.8**
OHR	**Ohrid**	**2.25**	**354**	*e*Pn	**Pn**	**06 30 03.9**	**+0.9**
PAIG	**Paliouri**	**2.25**	**61**	*e*Pn	**Pn**	**06 30 01.8**	**-1.2**
GRG	**Griva**	**2.31**	**25**	*e*Pn	**Pn**	**06 30 03.8**	**0.0**
PTL	**Penteli**	**2.31**	**110**	*e*PN	**Pn**	**06 30 04.0**	**+0.2**
PLG	**Polygyros**	**2.34**	**49**	*e*PB	**Pn**	**06 30 03.3**	**-1.0**
PLG				*e*SN	**Sn**	**06 30 32.9**	**-0.9**
PLG	**Polygyros**	**2.34**	**49**	*e*Sn	**Sn**	**06 30 32.9**	**-0.9**
VLI	**Velíai**	**2.59**	**146**	*e*PN	**Pn**	**06 30 08.8**	**+1.1**
SOH	**Sokhos**	**2.60**	**41**	*e*Pn	**Pn**	**06 30 08.2**	**+0.3**
TIR	**Tirane**	**2.65**	**339**	*e*Pn	**Pn**	**06 30 09.1**	**+0.5**
OUR	**Ouranopolis**	**2.66**	**56**	*e*Pn	**Pn**	**06 30 08.0**	**-0.6**
KNT	**Kendrikon**	**2.67**	**30**	*e*Pn	**Pn**	**06 30 08.5**	**-0.2**
VAY	**Valandovo**	**2.69**	**24**	*e*Pn	**Pn**	**06 30 09.9**	**+0.8**
SRS	**Serrai**	**2.94**	**40**	*e*Pn	**Pn**	**06 30 12.0**	**-0.5**
NVR	**Nevrokopi**	**3.25**	**40**	*e*PN	**Pn**	**06 30 17.5**	**+0.7**
PUK	**Puka**	**3.30**	**344**	*i* Pn	**Pn**	**06 30 20.0**	**+2.5**
PUK	**Puka**	**3.30**	**344**	*e*Pn	**Pn**	**06 30 20.0**	**+2.5**
LIA	**Limnos Island**	**3.32**	**71**	*e*PN	**Pn**	**06 30 17.4**	**-0.3**
KKB	**Krupnik**	**3.35**	**26**	*i* P	**Pn**	**06 30 18.0**	**-0.1**
MMB	**Musomiste**	**3.37**	**36**	*i* P	**Pn**	**06 30 18.0**	**-0.4**
TIP	**Timpagrande**	**3.41**	**277**	*e*Pn	**Pn**	**06 30 18.0**	**-0.9**
TIP	**Timpagrande**	**3.41**	**277**	*e*Pn	**Pn**	**06 30 18.0**	**-0.8**
PE1	**Pezze di Greco**	**3.43**	**305**	*e*Pn	**Pn**	**06 30 18.6**	**-0.7**
RZN	**Rozhen**	**3.94**	**43**	*i* P	**Pn**	**06 30 26.5**	**+0.3**
SG1	**Sgolgore (BA)**	**3.94**	**301**	*e*Pn	**Pn**	**06 30 24.8**	**-1.4**
BAI	**Bari**	**3.94**	**306**	*e*Pn	**Pn**	**06 30 24.4**	**-1.9**
VTS	**Vitosha**	**4.04**	**23**	*i* P	**Pn**	**06 30 28.5**	**+0.9**
VTS	**Vitosha**	**4.04**	**23**	P	**Pn**	**06 30 28.7**	**+1.1**
VTS	**Vitosha**	**4.04**	**23**	||P	**Pn**	**06 30 28.7**	**+1.1**
VAM	**Vamos**	**4.25**	**144**	*e*PN	**Pn**	**06 30 31.2**	**+0.7**
ALN	**Alexandroupoli**	**4.30**	**60**	*e*Pn	**Pn**	**06 30 30.3**	**-0.9**
CDT	**Castel del Mon**	**4.32**	**302**	*e*Pn	**Pn**	**06 30 30.5**	**-1.0**
IDI	**Anoyia**	**4.68**	**139**	Pn	**Pn**	**06 30 36.4**	**0.0**
	1.6nm,0.3s,baz=330,slow=14,SNR=11						
IDI				Sn	**Sn**	**06 31 32.6**	**+1.2**
	2.1nm,0.3s,baz=258,slow=23,SNR=3.9						
STON	**Ston**	**4.76**	**328**	*i* Pn	**Pn**	**06 30 35.2**	**-2.3**
STON				*i* Sn	**Sn**	**06 31 27.9**	**-5.5**
GRUS	**Gruza**	**5.02**	**357**	*i* Pn	**Pn**	**06 30 44.0**	**+2.9**
GRUS				Sn	**Sn**	**06 31 40.8**	**+1.0**
NPS	**Neapolis**	**5.09**	**134**	*e*PN	**Pn**	**06 30 43.4**	**+1.3**
DIVS	**Divcibare**	**5.29**	**351**	*i* Pn	**Pn**	**06 30 43.8**	**-1.0**
DIVS				Sn	**Sn**	**06 31 41.9**	**-4.5**
VAE	**Valguarnera**	**5.46**	**257**	Sn	**Sn**	**06 31 47.7**	**-2.9**
	1.1nm,0.3s,baz=353,slow=3.2,SNR=2.9						
MLR	**Muntele Rosu**	**7.52**	**27**	Pn	**Pn**	**06 31 18.2**	**+2.7**
	0.5nm,0.3s,baz=225,slow=8.6,SNR=2.0						
MLR	**Muntele Rosu**	**7.52**	**27**	||P	**Pn**	**06 31 20.3**	**+4.8**
MLR	**Muntele Rosu**	**7.52**	**27**	P	**Pn**	**06 31 18.2**	**+2.7**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	**Muntele Rosu**	**7.52**	**27**	||P	**Pn**	**06 31 20.3**	**+4.8**
PLOR	**Plostina**	**8.09**	**29**	||P	**Pn**	**06 31 28.2**	**+5.0**
VRI	**Vrincioaia**	**8.13**	**29**	||P	**Pn**	**06 31 26.0**	**+2.2**
VRI	**Vrincioaia**	**8.13**	**29**	||P	**Pn**	**06 31 26.0**	**+2.2**
BRTR	**Keskin Array B**	**9.75**	**81**	Pn	**Pn**	**06 31 47.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=261,slow=11,SNR=8.6						
GERES	**GERESS Array B**	**11.31**	**334**	Pn	**Pn**	**06 32 04.4**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=283,slow=24,SNR=3.8						
GERES				Sn	**Sn**	**06 34 07.2**	**-7.2**
	comp=Z,0.1nm,0.3s,baz=158,slow=22,SNR=4.6						
GERES				LR	LR	06 36 28.2	
	comp=Z,236nm,19.4s,baz=225,slow=38						
AKASG	**Malin Array Be**	**13.14**	**23**	Pn	**Pn**	**06 32 29.4**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=208,slow=14,SNR=5.8						
AKASG	**Malin Array Be**	**13.14**	**23**	P	**Pn**	**06 32 29.4**	**-3.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**30.86**	**219**	P	**P**	**06 35 40.7**	**-1.7**
	comp=Z,0.6nm,0.4s,mb3.8,baz=32,slow=9.1,SNR=9.2						
MKAR	**Makanchi Array**	**44.55**	**59**	P	**P**	**06 37 34.9**	**-3.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=287,slow=7.4,SNR=9.0						
MJAR	**Matsushiro Arr**	**85.17**	**46**	LR	LR	07 23 39.1	
	comp=Z,114nm,19.8s,MS4.3,baz=335,slow=38						

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*IDC **19** 06:42:20.1±0.6, 5114N×17905E, h0km, mb4.4/23, mb1 4.6/24, mb1mx4.5/31, mbtmp4.5/24, ML4.8/1, Error ellipse: s-maj=19.3km s-min=11.1km az=152.0*
*ISCJB **19** 06:42:25.7±0.3, 5116N±006×17895E±004, h46km, mb4.6/67, MS4.3/4, Error ellipse: s-maj=8.8km s-min=3.6km az=167.0*
*MOS **19** 06:42:25.4±0.9, 5115N×17896E, h43km, mb4.7/26, Error ellipse: s-maj=10.6km s-min=7.5km az=98.4*
*NEIC **19** 06:42:27.6±0.4, 5114N×17899E, mb4.3/27, ML4.4(AEIC), Error ellipse: s-maj=10.5km s-min=4.5km az=184.0*
*BJI **19** 06:42:29.4, 5171N×17819E, h47km, mB5.1, mb4.8, Ms4.5, Msz4.2*
ISC 19 06:42:27.4±0.3, 5116N±006×17894E±004, h48km, h48km±1.2km: pP-P, n148, σ0°99/150, mb4.6/67, MS4.3/4, 4C-3D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**2.83**	**73**	P	**Pn**	**06 43 10.2**	**+0.1**
ADK				S	**Sn**	**06 43 44.8**	**+1.9**
SMY	**Shemya**	**3.38**	**300**	P	**Pn**	**06 43 18.5**	**+0.9**
FX1	**Attu Island--F**	**3.96**	**298**	Pn	**Pn**	**06 43 25.6**	**0.0**
	112nm,0.3s,baz=181,slow=6.0,SNR=83						
FX1				Sn	**Sn**	**06 44 18.0**	**+7.3**
	87nm,0.3s,baz=282,slow=23,SNR=9.7						
FX1	**Attu Island--F**	**3.96**	**298**	P	**Pn**	**06 43 25.6**	**0.0**
FX1				S	**Sn**	**06 44 18.0**	**+7.2**
FX1				pmax	pmax		
	comp=Z,112nm,0.3s						
FX1				smax			
	comp=N,87nm,0.3s						
FX1	**Attu Island--F**	**3.96**	**298**	P	**Pn**	**06 43 26.3**	**+0.7**
ATKA	**Atka Island**	**4.40**	**74**	P	**Pn**	**06 43 31.9**	**+0.3**
UNV	**Unalaska Valle**	**9.28**	**67**	*e*Pn	**Pn**	**06 44 39.5**	**+0.9**
TNA	**Tin City**	**15.95**	**20**	*e*P	**Pn**	**06 46 12.9**	**+4.5**
	comp=N,16nm,1.2s						
KDAK	**Kodiak Island**	**17.74**	**57**	P	**Pn**	**06 46 28.1**	**-2.6**
	comp=N,3.4nm,0.3s,baz=158,slow=21,SNR=47						
KDAK				S	**S**	**06 49 43.0**	**-10**
	comp=N,0.3nm,0.3s,baz=126,slow=9.5,SNR=3.9						
KDAK	**Kodiak Island**	**17.74**	**57**	P	**Pn**	**06 46 28.1**	**-2.6**
KDAK				S	**S**	**06 49 43.0**	**-10**
MA2	**Magadan**	**17.97**	**309**	*e*P	**Pn**	**06 46 35.0**	**+1.4**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MA2	**Magadan**	**17.97**	**309**	*e*P	**Pn**	**06 46 35.0**	**+1.3**
	comp=Z,7.6nm,0.8s						
BILL	**Bilibino**	**18.04**	**345**	*e*P	**Pn**	**06 46 35.0**	**+0.6**
BILL				pmax	pmax		
	comp=Z,13nm,0.7s						
BILL	**Bilibino**	**18.04**	**345**	*e*P	**Pn**	**06 46 35.0**	**+0.6**
	comp=Z,14nm,0.7s						
SEY	**Seymchan**	**18.48**	**320⇑**	*e*P	**Pn**	**06 46 39.1**	**-0.7**
SLKM	**Skilak Lake**	**19.51**	**49**	*e*P	**Pn**	**06 46 50.4**	**-1.8**
MCK	**McKinley**	**21.10**	**41**	*e*P	**P**	**06 47 08.6**	**+0.8**
MCK				*e**PP		06 47 19.7	
MCK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb3.9						
MCK	**McKinley**	**21.10**	**41**	*e*P	**P**	**06 47 08.6**	**+0.8**
	comp=Z,6.4nm,1.0s,mb3.9						
MCK				*e*pP		06 47 19.7	
COLA	**College**	**21.97**	**39**	*e*P	**P**	**06 47 17.4**	**+0.3**
COLA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.4						
COLA	**College**	**21.97**	**39**	*e*P	**P**	**06 47 17.4**	**+0.3**
	comp=Z,14nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**22.31**	**39**	P	**P**	**06 47 18.3**	**-2.5**
	comp=Z,2.4nm,0.5s,mb3.9,baz=232,slow=7.9,SNR=50						
ILAR				PcP	PcP	06 51 14.4	-0.5
	comp=Z,0.5nm,0.7s,baz=276,slow=3.0,SNR=4.2						
ILAR				ScP	ScP	06 54 51.3	+2.9
	comp=Z,0.4nm,0.8s,baz=287,slow=3.2,SNR=5.4						
ILAR	**Eielson Array**	**22.31**	**39**	P	**P**	**06 47 18.3**	**-2.5**
ILAR						06 51 14.5	
YSS	**Yuzh-Sakhalins**	**23.92**	**274⇑**	*e*P	**P**	**06 47 36.8**	**0.0**
YSS				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.5						
DAWY	**Dawson**	**25.24**	**43**	*e*P	**P**	**06 47 48.3**	**-0.5**
ASAJ	**Asahikawa**	**25.28**	**268**	P	**P**	**06 47 48.1**	**-1.1**
	comp=Z,35nm,0.8s,mb5.0,baz=10,slow=2.4,SNR=12						
ASAJ	**Asahikawa**	**25.28**	**268**	P	**P**	**06 47 48.1**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,35nm,0.8s						
INK	**Inuvik**	**28.46**	**35**	*e*P	**P**	**06 48 16.9**	**-0.9**
	comp=Z,1.1nm,0.3s,mb3.9,baz=358,slow=22,SNR=23						
INK	**Inuvik**	**28.46**	**35**	*e*P	**P**	**06 48 17.6**	**-0.2**
INK				pmax	pmax		
	comp=Z,11nm,1.0s						
INK	**Inuvik**	**28.46**	**35**	*e*P	**P**	**06 48 17.6**	**-0.2**
	comp=Z,11nm,1.0s,mb4.5						
KLR	**Kul'dur**	**29.87**	**285**	*e*P	**P**	**06 48 27.2**	**-3.1**
TIXI	**Tiksi**	**30.14**	**331⇑**	*e*P	**P**	**06 48 32.5**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
MDJ	**Mudanjiang**	**33.20**	**278**	P	**P**	**06 48 58.9**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,85nm,5.3s						
CN2	**Changchun**	**36.19**	**280**	*e*P	**P**	**06 49 25.6**	**+0.3**
CN2				*e*AP	pP	06 49 37.8	-0.2
CN2				*e*S	**S**	**06 55 00.5**	**-1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
YKW3	**Yellowknife Ar**	**36.39**	**46**	*e*P	**P**	**06

TMUT	**Trail Mountain**	**48.83**	**75**	*e*P	**P**	**06 51 10.1**	**+2.2**
SRU	**San Rafael**	**49.36**	**75**	*e*P	**P**	**06 51 13.0**	**+1.0**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
SRU	**San Rafael**	**49.36**	**75**	*e*P	**P**	**06 51 12.9**	**+0.9**
	comp=Z,5.3nm,0.6s,mb4.8						
SMCO	**Snowmass**	**51.47**	**73**	*e*P	**P**	**06 51 27.8**	**-0.1**
	comp=Z,2.5nm,0.6s,mb4.3						
NVS	**Novosibirsk**	**53.31**	**314**	*i* P	**P**	**06 51 40.1**	**-1.5**
NVS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.4s						
LZH	**Lanzhou**	**54.07**	**285**	*e*P	**P**	**06 51 48.0**	**+0.9**
LZH				AP	pP	06 51 59.5	-0.9
LZH				XP	sP	06 52 06.0	+0.1
LZH				PP	PP	06 53 51.1	+2.2
LZH				*e*S	**S**	**06 59 18.6**	**-1.4**
LZH				XS	sS	06 59 39.8	-2.3
LZH				*e*SS	SS	07 02 59.1	-2.8
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,108nm,4.2s						
LZH				LR	LR		
	comp=N,356nm,14.6s						
LZH				LR	LR		
	comp=Z,542nm,15.3s,MS4.7						
GTA	**Gaotai**	**54.32**	**291**		**P**	**06 51 49.8**	**+0.9**
GTA				AP	pP	06 52 01.3	-0.9
GTA				XP	sP	06 52 06.0	-1.7
GTA				PP	PP	06 53 52.3	+1.2
GTA				S	**S**	**06 59 23.4**	**+0.1**
GTA				XS	sS	06 59 44.8	-0.7
GTA				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
GTA				AMB	AMB		
	comp=Z,122nm,4.6s						
GTA				LR	LR		
	comp=N,125nm,17.1s,MS4.3						
GTA				LR	LR		
	comp=E,169nm,17.1s,MS4.3						
GTA				LR	LR		
	comp=Z,164nm,19.8s,MS4.1						
MNTX	**Cornudas Mount**	**57.39**	**79**	*e*P	**P**	**06 52 10.6**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.3						
CD2	**Chengdu**	**57.62**	**280**	*e*P	**P**	**06 52 12.0**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
ARCES	**ARCESS Array B**	**58.06**	**349**	P	**P**	**06 52 14.3**	**-1.2**
	comp=Z,3.3nm,0.8s,mb4.4,baz=24,slow=8.5,SNR=8.1						
KURK	**Kurchatov**	**58.13**	**313**	*e*P	**P**	**06 52 15.8**	**-0.3**
WMQ	**Urumqi**	**58.26**	**302**	*e*P	**P**	**06 52 19.6**	**+2.6**
WMQ				AP	pP	06 52 32.3	+2.0
WMQ				XP	sP	06 52 38.4	+2.6
WMQ				PCP	PcP	06 53 10.1	+2.3
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,28nm,4.6s						
WMQ				LR	LR		
	comp=N,159nm,18.0s						
WMQ				LR	LR		
	comp=Z,175nm,19.2s,MS4.2						
BVAR	**Borovoye Array**	**60.13**	**319**	P	**P**	**06 52 30.2**	**+0.3**
	comp=Z,5.9nm,0.4s,mb4.9,baz=53,slow=6.7,SNR=55						
BRVK	**Borovoye**	**60.15**	**319**	*e*P	**P**	**06 52 30.4**	**+0.4**
BRVK				*e**PP	pP	06 52 44.3	+0.8
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**60.15**	**319**	*e*P	**P**	**06 52 30.4**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.6						
BRVK				*e*pP	pP	06 52 44.3	+0.8
ZRNK	**Zerenda**	**60.75**	**319**	*e*P	**P**	**06 52 34.4**	**+0.2**
ZRNK				*e**PP	pP	06 52 48.5	+0.9
ZRNK				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**60.75**	**319**	*e*P	**P**	**06 52 34.4**	**+0.2**
	comp=Z,11nm,0.8s,mb5.0						
ZRNK				*e*pP	pP	06 52 48.5	+0.9
SCHQ	**Schefferville**	**61.05**	**37**	P	**P**	**06 52 34.9**	**-1.3**
	comp=Z,0.7nm,0.5s,mb4.1,baz=264,slow=13,SNR=6.3						
SCHQ	**Schefferville**	**61.05**	**37**	P	**P**	**06 52 34.9**	**-1.3**
ARU	**Arti**	**62.03**	**327**	⇑*i*P	**P**	**06 52 43.2**	**+0.4**
ARU				*e*		06 54 58.6	
ARU				*e*PPP		06 56 26.1	
ARU				*e*S	**S**	**07 01 06.8**	**+2.9**
ARU				*e*SS	SS	07 05 04.4	-2.6
ARU				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.2						
ARU	**Arti**	**62.03**	**327**	*e*P	**P**	**06 52 43.0**	**+0.2**
	comp=Z,26nm,1.2s,mb5.2						
JOF	**Joensuu**	**63.43**	**344**	*e*p	**P**	**06 52 51.9**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.3						
OXF	**Oxford**	**64.97**	**66**	*e*P	**P**	**06 53 01.6**	**-0.6**
OXF				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
OXF	**Oxford**	**64.97**	**66**	*e*P	**P**	**06 53 01.6**	**-0.6**
	comp=Z,13nm,0.6s,mb5.2						
KAF	**Kangasniemi**	**65.00**	**346**	*e*p	**P**	**06 53 01.0**	**-1.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=17,slow=5.7						
PLAL	**Pickwick Lake**	**65.39**	**64**	*e*P	**P**	**06 53 04.5**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**65.67**	**346**	P	**P**	**06 53 05.4**	**-1.3**
	comp=Z,1.3nm,0.6s,mb4.1,baz=23,slow=8.5,SNR=6.3						
FINES	**FINESS Array B**	**65.67**	**346**	*i* P	**P**	**06 53 06.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**67.03**	**323**	P	**P**	**06 53 15.2**	**-0.2**
	comp=Z,17nm,0.8s,mb5.1,baz=52,slow=6.9,SNR=58						
AKTO	**Aktyubinsk**	**67.03**	**323**	P	**P**	**06 53 15.2**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
NB2	**NORSAR Subarra**	**67.72**	**354**	P	**P**	**06 53 19.0**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=11,slow=6.9						
NOA	**NORSAR Array B**	**67.72**	**354**	P	**P**	**06 53 17.8**	**-2.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=9.1,slow=6.4,SNR=5.3						
NOA	**NORSAR Array B**	**67.72**	**354**	P	**P**	**06 53 17.8**	**-2.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**68.42**	**352**	P	**P**	**06 53 21.9**	**-2.3**
	comp=Z,1.4nm,0.5s,mb4.3,baz=64,slow=5.1,SNR=12						
HFS	**Hagfors**	**68.42**	**352**	P	**P**	**06 53 21.9**	**-2.3**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GUN	**Gumba**	**70.61**	**290**	*e*P	**P**	**06 53 39.1**	**+1.4**
	comp=Z,70nm,0.8s,mb5.6						
JIRN	**Jiri**	**70.61**	**290**	*e*P	**P**	**06 53 39.1**	**+1.4**
KKN	**Kakani**	**71.05**	**291**	*e*P	**P**	**06 53 41.5**	**+1.1**
	comp=Z,36nm,0.6s,mb5.5						
PKI	**Pulchoki**	**71.14**	**291**	*e*P	**P**	**06 53 41.7**	**+0.8**
	comp=Z,22nm,0.6s,mb5.3						
GKN	**Gorkha**	**71.27**	**291**	*e*P	**P**	**06 53 42.6**	**+0.9**
	comp=Z,37nm,0.6s,mb5.5						
DMN	**Daman**	**71.29**	**291**	*e*P	**P**	**06 53 43.0**	**+1.2**
	comp=Z,31nm,0.9s,mb5.3						
KOLN	**Koldanda**	**72.05**	**292**	*e*P	**P**	**06 53 47.2**	**+0.8**
	comp=Z,20nm,0.8s,mb5.1						
EKA	**Eskdalemuir Ar**	**73.86**	**1**	P	**P**	**06 53 56.6**	**-0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=352,slow=5.3,SNR=4.6						
EKA	**Eskdalemuir Ar**	**73.86**	**1**	P	**P**	**06 53 56.6**	**-0.5**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**75.30**	**341**	P	**P**	**06 54 04.1**	**-1.3**
	comp=Z,1.9nm,0.4s,mb4.3,baz=20,slow=6.4,SNR=9.8						
AKASG	**Malin Array Be**	**75.30**	**341**	*i* P	**P**	**06 54 04.8**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAKA	**Kakadu**	**75.33**	**227**	*e*P	**P**	**06 54 04.6**	**-1.0**
	comp=Z,8.6nm,0.6s,mb4.9						
GOF	**Gofitskoye**	**76.85**	**330**	*e*P	**P**	**06 54 15.1**	**+0.8**
ZEI	**Tsey**	**78.61**	**328**	*e*P	**P**	**06 54 24.2**	**+0.1**
BURAR	**Bucovina Array**	**79.05**	**342**	⇓P	**P**	**06 54 26.8**	**+0.3**
GERES	**GERESS Array B**	**79.58**	**350**	P	**P**	**06 54 29.8**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=25,slow=4.4,SNR=5.2						
GERES	**GERESS Array B**	**79.58**	**350**	P	**P**	**06 54 29.8**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DRGR		**80.30**	**344**	⇓P	**P**	**06 54 33.9**	**+0.6**
WRAB	**Tennant Creek**	**80.87**	**222**	*e*P	**P**	**06 54 35.4**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
WRAB	**Tennant Creek**	**80.87**	**222**	*e*P	**P**	**06 54 35.4**	**-0.9**
	comp=Z,4.4nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**80.88**	**222**	*e*P	**P**	**06 54 35.2**	**-1.1**
WRA	**Warramunga Arr**	**80.88**	**222**	P	**P**	**06 54 35.0**	**-1.3**
	comp=Z,5.3nm,0.6s,mb4.7,baz=32,slow=6.0,SNR=27						
WRA	**Warramunga Arr**	**80.88**	**222**	*i* P	**P**	**06 54 35.5**	**-0.9**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIRR	**Tirgusor**	**81.40**	**339**	⇓P	**P**	**06 54 33.0**	**-6.1**
HYB	**Hyderabad**	**82.95**	**289**	*i* P	**P**	**06 54 47.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**83.22**	**230**	P	**P**	**06 54 48.2**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.5,baz=43,slow=3.4,SNR=5.0						
ASAR	**Alice Springs**	**84.38**	**221**	P	**P**	**06 54 54.1**	**-0.4**
	comp=Z,3.4nm,0.7s,mb4.6,baz=24,slow=5.7,SNR=43						
ASAR	**Alice Springs**	**84.38**	**221**	P	**P**	**06 54 54.2**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BR131	**Keskin Array S**	**84.54**	**334**	*e*P	**P**	**06 54 55.7**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**84.54**	**334**	P	**P**	**06 54 55.9**	**+0.6**
	comp=Z,2.6nm,0.7s,mb4.5,baz=52,slow=2.7,SNR=17						
BRTR	**Keskin Array B**	**84.54**	**334**	*i* P	**P**	**06 54 56.4**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
POO	**Poona**	**84.84**	**293**	*e*x	x	06 54 52.0	
STKA	**Stephens Creek**	**88.98**	**211**	P	**P**	**06 55 15.2**	**-1.8**
	comp=Z,1.5nm,0.7s,mb4.4,baz=357,slow=8.3,SNR=4.4						
STKA	**Stephens Creek**	**88.98**	**211**	*e*P	**P**	**06 55 15.4**	**-1.6**
SJG	**San Juan**	**90.70**	**60**	P	**P**	**06 55 25.6**	**+0.6**
	comp=Z,3.3nm,0.3s,mb5.1,baz=19,slow=7.5,SNR=3.5						
SJG	**San Juan**	**90.70**	**60**	P	**P**	**06 55 25.6**	**+0.6**
SJG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CPD	**Cerro la Pandu**	**90.89**	**59**	*e*P	**P**	**06 55 26.8**	**+0.9**
MTP	**Monte Pirata**	**91.04**	**59**	*e*P	**P**	**06 55 27.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**115.92**	**357**	PKP	PKPdf	07 01 04.0	-0.8
	comp=Z,0.3nm,0.4s,baz=336,slow=2.2,SNR=6.7						
PLCA	**Paso Flores**	**132.27**	**106**	PKP	PKPdf	07 01 36.0	0.0
	comp=Z,0.6nm,0.5s,baz=182,slow=14,SNR=5.3						
PLCA	**Paso Flores**	**132.27**	**106**	PKIKP	PKPdf	07 01 36.0	-0.1
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOSA	**Boshof**	**150.04**	**309**	PKPbc	PKPbc	07 02 12.2	-0.4
	comp=Z,2.3nm,0.5s,baz=39,slow=5.1,SNR=12						
BOSA	**Boshof**	**150.04**	**309**	PKIKP	PKPbc	07 02 12.2	-0.4
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VNA3	**Neumayer Olymp**	**159.47**	**172**	*e*PKPdf	PKPdf	07 02 21.4	+0.8
VNA3				*e*		07 02 29.9	
VNA2	**Neumayer--Watz**	**159.95**	**174**	*e*PKPdf	PKPdf	07 02 17.6	-3.5
VNA2				*e*		07 02 25.7	

IDC ***19*** *07:01:17.4±1.2, 3458N×7322E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/23, mbtmp3.8/8, ML4.0/3, Error ellipse: s-maj=33.3km s-min=26.1km az=68.0*
BJI ***19*** *07:01:18.8, 3470N×7330E, h10km, ML3.9*
ISCJB ***19*** *07:01:19.9±0.3, 3481N±003×7306E±006, h10km, mb3.6/5, Error ellipse: s-maj=7.0km s-min=3.6km az=162.7*
NEIC ***19*** *07:01:19.4±1.1, 3466N×7328E, h10km, mb3.6/3, Error ellipse: s-maj=22.6km s-min=17.4km az=74.0*
NNC ***19*** *07:01:32.0±3.4, 3513N×7297E, h77km±24km, mb3.4, mpv4.2, Error ellipse: s-maj=38.3km s-min=32.8km az=63.0*

ISC 19 07:01:21.0±0.3, 3477N±003×7308E±006, h10km, n38, σ1$40/47, mb3.6/5, 11C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.12**	**172**	⇓P	**Pb**	**07 01 39.5**	**-2.9**
CEP	**Cherat**	**1.35**	**226**	P	**Pn**	**07 01 44.8**	**-1.1**
THW	**Thamme Wali**	**2.26**	**210**	⇓P	**Pn**	**07 01 59.1**	**+0.7**
SARP	**Sargodha**	**2.86**	**187**	P	**Pn**	**07 02 06.3**	**-0.4**
SARP				S	**Sn**	**07 02 44.0**	**+2.9**
SBDP	**Sheikh Budin**	**3.11**	**218**	⇓P	**Pn**	**07 02 11.0**	**+0.9**
DLH	**Dalhousie**	**3.28**	**132**	*e*P	**Pn**	**07 02 16.0**	**+3.6**
DLH				*e*S	**Sn**	**07 02 53.0**	**+1.6**
PONG	**Pong**	**3.70**	**139**	*e*P	**Pn**	**07 02 20.0**	**+1.8**
PONG				*e*S	**Sn**	**07 03 05.0**	**+3.2**
DRP	**Derazinda**	**3.86**	**219**	P	**Pn**	**07 02 21.4**	**+1.0**
SDNR	**Sundarnagar**	**4.61**	**134**	*e*P	**Pn**	**07 02 30.5**	**-0.3**
SDNR				*e*S	**Sn**	**07 03 21.9**	**-2.5**
SMLA	**Simla**	**5.00**	**135**	*e*P	**Pn**	**07 02 35.6**	**-0.5**
SMLA				*e*S	**Sn**	**07 03 32.3**	**-1.6**
	855nm,0.2s						
KSH	**Kashi**	**5.27**	**25**	*e*PG	**Pn**	**07 02 46.4**	**+6.6**
KSH				S	**Sn**	**07 03 45.1**	**+4.4**
KSH				Smax			
	comp=N,45nm,0.4s						
KSH				Smax			
	comp=E,60nm,0.3s						
AML	**Almayashu**	**7.37**	**4**	P	**Pn**	**07 03 12.7**	**+4.1**
	SNR=18						
KZA	**Kyzart**	**7.49**	**12**	P	**Pn**	**07 03 14.7**	**+4.3**
	SNR=11						
UCH	**Uchtor**	**7.53**	**8**	P	**Pn**	**07 03 14.9**	**+4.0**
	SNR=21						
EKS2	**Erkin-Say**	**7.90**	**4**	P	**Pn**	**07 03 20.1**	**+4.2**
	SNR=9.0						
TKM2	**Tokmak 2**	**8.37**	**13**	P	**Pn**	**07 03 26.7**	**+4.3**
	SNR=7.3						
TKM2	**Tokmak 2**	**8.37**	**13**	⇑P	**Pn**	**07 03 25.5**	**+3.1**
	comp=E,2.7nm,0.4s						
TKM2				⇑S	**Sn**	**07 04 56.9**	**-0.1**
	comp=E,5.0nm,0.6s						
KK31	**Karatay Array**	**8.56**	**347**	⇑P	**Pn**	**07 03 28.1**	**+3.1**
	comp=E,5.8nm,0.2s,baz=154,slow=11,SNR=478						
KK31				⇑S	**Sn**	**07 05 01.7**	**+0.1**
	comp=E,2.9nm,0.5s,baz=169,slow=23,SNR=6.7						
MK31	**Makanchi Array**	**13.88**	**27**	⇑P	**Pn**	**07 04 38.4**	**+0.6**
	comp=E,0.7nm,0.6s,baz=198,slow=12,SNR=11						
MKAR	**Makanchi Array**	**13.88**	**27**	Pn	**Pn**	**07 04 37.7**	**0.0**
	comp=E,0.1nm,0.3s,baz=208,slow=13,SNR=10						
MKAR	**Makanchi Array**	**13.88**	**27**	Pn	**Pn**	**07 04 37.7**	**0.0**
KURK	**Kurchatov**	**16.44**	**13**	*e*P	**Pn**	**07 05 09.6**	**-2.2**
	comp=E,1.4nm,0.6s						
AB31	**Akbulak array**	**17.42**	**330**	⇑P	**Pn**	**07 05 24.0**	**-0.1**
	comp=E,0.8nm,0.4s,baz=142,slow=12,SNR=42						
AB31				⇑S	**Sn**	**07 08 29.1**	**-8.9**
	comp=E,0.7nm,0.6s,baz=147,slow=22,SNR=3.4						
VOSK	**Vostochnaya**	**18.01**	**356**	⇑P	**Pn**	**07 05 31.1**	**-0.3**
	comp=E,1.7nm,0.8s						
BVA0	**Borovoye Array**	**18.35**	**355**	⇑P	**Pn**	**07 05 36.8**	**+1.3**
	comp=E,0.5nm,0.7s,baz=248,slow=39,SNR=15						
BVAR	**Borovoye Array**	**18.35**	**355**	P	**Pn**	**07 05 34.6**	**-1.0**
	comp=E,0.9nm,0.3s,baz=162,slow=9.7,SNR=24						
BRVK	**Borovoye**	**18.39**	**355**	*e*P	**Pn**	**07 05 36.4**	**+0.3**
	comp=E,2.2nm,0.5s						
ZRNK	**Zerenda**	**18.41**	**352**	⇑P	**Pn**	**07 05 35.8**	**-0.5**
	comp=E,2.2nm,0.5s						
ZRNK	**Zerenda**	**18.41**	**352**	*e*P	**Pn**	**07 05 35.9**	**-0.3**
	comp=E,4.8nm,0.6s						
AKTK	**Aktyubinsk**	**19.12**	**330**	P	**Pn**	**07 05 44.6**	**-0.3**
AKTO	**Aktyubinsk**	**19.12**	**330**	⇑P	**Pn**	**07 05 45.4**	**+0.4**
	comp=E,1.5nm,0.8s						
AKTO	**Aktyubinsk**	**19.12**	**330**	P	**Pn**	**07 05 44.6**	**-0.3**
	comp=E,1.2nm,0.3s,baz=134,slow=11,SNR=18						
FINES	**FINESS Array B**	**39.86**	**327**	P	**P**	**07 08 54.4**	**-0.3**
	comp=E,0.3nm,0.4s,mb3.4,baz=117,slow=12,SNR=3.9						
ARCES	**ARCESS Array B**	**43.39**	**338**	P	**P**	**07 09 23.9**	**+0.3**
	comp=E,3.2nm,0.9s,mb4.0,baz=117,slow=8.1,SNR=7.9						
TORD	**Torodi Ar. Bea**	**67.40**	**271**	P	**P**	**07 12 15.4**	**-1.2**
	comp=E,0.7nm,0.5s,mb4.0,baz=48,slow=6.0,SNR=12						
ASAR	**Alice Springs**	**81.87**	**126**	P	**P**	**07 13 38.1**	**-2.4**
	comp=E,0.3nm,0.8s,mb3.3,baz=310,slow=5.9,SNR=3.6						
YKA	**Yellowknife Ar**	**82.88**	**4**	P	**P**	**07 13 43.7**	**-2.1**
	comp=E,0.2nm,0.5s,mb3.4,baz=348,slow=5.4,SNR=9.6						
YKA	**Yellowknife Ar**	**82.88**	**4**	P	**P**	**07 13 43.7**	**-2.1**

IDC ***19*** *07:09:27.8±1.1, 535N×9424E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.9/22, mbtmp3.9/11, ML3.9/1, Error ellipse: s-maj=51.5km s-min=17.5km az=47.0*
MOS ***19*** *07:09:31.1±1.2, 543N×9435E, h33km, mb4.5/3, Error ellipse: s-maj=28.7km s-min=12.1km az=124.6*
NEIC ***19*** *07:09:32.4±0.6, 533N×9421E, h30km, mb4.7/2, Error ellipse: s-maj=22.7km s-min=7.3km az=219.0*
ISCJB ***19*** *07:09:35.7±2.8, 54N±02×945E±02, h74km±24km, mb4.0/17, Error ellipse: s-maj=40.9km s-min=11.4km az=103.2*

ISC 19 07:09:36.9±2.6, 55N±02×945E±02, h66km±22km, n24, σ0$93/27, mb4.0/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.16**	**121**	Pn	**Pn**	**07 10 51.2**	**-0.4**
	4.0nm,0.3s,baz=327,slow=14,SNR=17						
PSI				Sn	**Sn**	**07 11 49.1**	**-0.6**
	2.1nm,0.3s,baz=342,slow=16,SNR=2.0						
PSI	**Prapat**	**5.16**	**121**	Pn	**Pn**	**07 10 51.2**	**-0.4**
PSI				Sn	**Sn**	**07 11 49.1**	**-0.6**
KULM	**Kulim**	**6.14**	**91**	Pn	**Pn**	**07 11 04.6**	**-0.4**
KULM				*e*Sn	**Sn**	**07 12 00.6**	**-13**
KSM	**Kuching**	**16.28**	**104**	Pn	**Pn**	**07 13 22.9**	**+1.6**
JIRN	**Jiri**	**23.44**	**341**	*e*P	**P**	**07 14 41.5**	**+1.3**
	5.8nm,0.2s,mb4.5						
GUN	**Gumba**	**23.77**	**341**	*e*P	**P**	**07 14 42.9**	**-0.4**
	10nm,0.4s,mb4.5						
KKN	**Kakani**	**23.86**	**339**	*e*P	**P**	**07 14 44.6**	**+0.5**
GKN	**Gorkha**	**24.29**	**338**	*e*P	**P**	**07 14 48.4**	**+0.4**
	7.3nm,0.3s,mb4.5						
KOLN	**Koldanda**	**24.47**	**336**	*e*P	**P**	**07 14 50.9**	**+1.2**
	4.0nm,0.3s,mb4.2						
MKAR	**Makanchi Array**	**42.49**	**348**	P	**P**	**07 17 26.6**	**+1.0**
	4.6nm,0.6s,mb4.4,baz=168,slow=8.3,SNR=79						
SONM	**Songino Array**	**43.43**	**12**	P	**P**	**07 17 32.6**	**-0.6**
	0.5nm,0.3s,mb3.7,baz=194,slow=8.4,SNR=6.5						
WRA	**Warramunga Arr**	**46.62**	**124**	P	**P**	**07 17 58.7**	**+0.2**
	0.8nm,0.3s,mb3.9,baz=304,slow=9.3,SNR=5.4						
WRAB	**Tennant Creek**	**46.62**	**124**	*e*P	**P**	**07 17 59.3**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
WRAB	**Tennant Creek**	**46.62**	**124**	*e*P	**P**	**07 17 59.3**	**+0.8**
	comp=Z,14nm,1.3s,mb4.5						
KURK	**Kurchatov**	**47.01**	**346**	*e*P	**P**	**07 18 01.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
KURK	**Kurchatov**	**47.01**	**346**	*e*P	**P**	**07 18 01.4**	**-0.2**
	comp=Z,2.3nm,0.3s,mb4.4						
ASAR	**Alice Springs**	**48.14**	**129**	P	**P**	**07 18 10.7**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.6,baz=308,slow=8.1,SNR=9.3						
BVAR	**Borovoye Array**	**51.36**	**342**	P	**P**	**07 18 34.2**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.1,baz=144,slow=10,SNR=6.8						
BRTR	**Keskin Array B**	**64.26**	**312**	P	**P**	**07 20 04.6**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.5,baz=129,slow=7.9,SNR=3.9						
TIXI	**Tiksi**	**69.51**	**11**	*e*P	**P**	**07 20 36.0**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
AKASG	**Malin Array Be**	**70.24**	**322**	P	**P**	**07 20 41.3**	**-1.7**
	comp=Z,0.3nm,0.4s,mb3.5,baz=92,slow=5.6,SNR=5.9						
FINES	**FINESS Array B**	**74.98**	**332**	P	**P**	**07 21 09.8**	**-1.3**
	comp=Z,0.3nm,0.5s,mb3.3,baz=72,slow=6.2,SNR=4.1						
ARCES	**ARCESS Array B**	**77.63**	**340**	P	**P**	**07 21 26.3**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.0,baz=86,slow=5.8,SNR=6.1						
GERES	**GERESS Array B**	**79.84**	**319**	P	**P**	**07 21 39.0**	**+0.8**
	comp=Z,1.0nm,0.7s,mb3.8,baz=93,slow=5.3,SNR=11						

ISCJB ***19*** *07:15:28.9±0.6, 559S±007×360E±0.1, h10km, mb3.9/9, Error ellipse: s-maj=17.7km s-min=9.3km az=34.2*
IDC ***19*** *07:15:29.7±0.9, 562S×3592E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/24, mbtmp3.9/11, ML4.4/2, Error ellipse: s-maj=29.8km s-min=3.6km az=113.0*
NEIC ***19*** *07:15:30.9±0.5, 561S×3596E, h10km, mb4.2/1, Error ellipse: s-maj=16.9km s-min=8.1km az=109.0*

ISC 19 07:15:31.1±0.6, 560S±007×360E±01, h10km, n19, σ0$81/23, mb3.9/9, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**4.62**	**16**	Pn	**Pn**	**07 16 38.8**	**-2.3**
	7.2nm,0.3s,baz=195,slow=15,SNR=122						
KMBO				Pg	**Pg**	**07 16 52.8**	**-6.9**
	7.6nm,0.3s,baz=194,slow=19,SNR=13						
KMBO				Sn	**Sn**	**07 17 29.9**	**-4.9**
	19nm,0.3s,baz=68,slow=24,SNR=6.4						
KMBO				Lg		07 17 47.3	
	26nm,0.3s,baz=262,slow=23,SNR=3.1						
KMBO	**Kilima Mbogo**	**4.62**	**16**	*e*Pn	**Pn**	**07 16 40.0**	**-1.1**
KMBO				*e*Sn	**Sn**	**07 17 29.2**	**-5.6**
LSZ	**Lusaka**	**12.28**	**218**	Pn	**Pn

SDV	**Santo Domingo**	**76.07**	**314**	*e*P	**P**	**07 28 16.8**	**-0.3**
	2.5nm,0.7s,mb4.2						
MTP	**Monte Pirata**	**82.75**	**322**	*e*P	**P**	**07 28 53.2**	**-0.3**
ASAR	**Alice Springs**	**96.90**	**161**	P	**P**	**07 30 02.5**	**+1.5**
	0.2nm,0.7s,mb3.6,baz=191,slow=4.3,SNR=2.6						
PDAR	**Pinedale Array**	**122.23**	**300**	PKP	PKPdf	07 35 21.6	-2.9
	0.2nm,0.4s,baz=121,slow=5.1,SNR=4.0						
FINES	**FINESS Array B**	**125.51**	**27**	PKP	PKPdf	07 35 29.7	-1.1
	0.7nm,0.5s,baz=128,slow=3.1,SNR=6.5						
BRVK	**Borovoye**	**134.81**	**58**	*e*PKPdf	PKPdf	07 35 47.3	-1.1
YKA	**Yellowknife Ar**	**138.26**	**316**	PKP	PKPdf	07 35 52.8	-2.0
	1.0nm,0.6s,baz=129,slow=2.1,SNR=18						
YKA				SKPbc	SKPbc	07 39 22.5	-6.6
	0.7nm,0.6s,baz=133,slow=3.7,SNR=16						
INK	**Inuvik**	**147.91**	**318**	*e*PKPbc	PKPbc	07 36 12.9	-1.9
DAWY	**Dawson**	**148.82**	**309**	*e*PKPbc	PKPbc	07 36 15.1	-2.1
DAWY				*e*PKPab	PKPab	07 36 19.0	-2.0
SONM	**Songino Array**	**149.72**	**88**	PKPbc	PKPbc	07 36 16.9	-2.5
	0.7nm,0.5s,baz=216,slow=3.2,SNR=6.3						
ILAR	**Eielson Array**	**152.13**	**309**	PKPbc	PKPbc	07 36 23.1	-2.1
	2.7nm,0.7s,baz=144,slow=2.1,SNR=38						
ILAR				PKPab	PKPab	07 36 34.6	-0.1
	3.2nm,0.9s,baz=143,slow=1.9,SNR=9.3						
MCK	**McKinley**	**152.76**	**306**	*e*PKPbc	PKPbc	07 36 25.4	-1.1
MCK				*e*PKPab	PKPab	07 36 35.4	-1.9

NIED ***19*** *07:27:00,3870N×14170E,h119km,Mw4.3 Best double couple: M₀3.63000×10¹⁵ NP1:φs63.00000°,δ85.00000°, λ56.00000°. NP2:φs325.00000°,δ34.00000°,λ171.00000°.*
ISCJB ***19*** *07:27:43.2±0.5,3874N±004×14173E±008,h71km±3km, mb3.9/13,Error ellipse: s-maj=10.9km s-min=5.7km az=45.3*
MOS ***19*** *07:27:43.9±0.9,3872N×14170E,h82km,mb4.1/8,Error ellipse: s-maj=19.3km s-min=10.0km az=71.8*
BJI ***19*** *07:27:44.5,3870N×14170E,h89km,mB5.1,mb4.4,Ms4.1, Msz4.0*
IDC ***19*** *07:27:44.5±2.8,3869N×14163E,h67km±26km,mb3.6/9, mb1 3.8/11,mb1mx3.6/21,mbtmp3.9/11,Error ellipse: s-maj=23.1km s-min=15.1km az=113.0*
JMA ***19*** *07:27:44.6,3875N×14165E,h65km±1km,M4.1 Broadband fault plane solution: P waves. NP1: φs353.00000°,δ24.00000°,λ74.00000°. NP2: φs190.00000°,δ67.00000°,λ97.00000°. Principal axes: T Plg67.0000°, Azm113.0000°; N Plg6.0000°, Azm8.0000°; P Plg22.0000°, Azm275.0000°;*
JMA Felt III J1.
NEIC ***19*** *07:27:46.6±1.4,3867N×14169E,h89km±14km,mb4.1/4 Error ellipse: s-maj=17.1km s-min=14.2km az=121.0*
NEIC Recorded [3 JMA] in Iwate, [2 JMA] in Miyagi and [1 JMA] in Yamagata Prefectures.

ISC 19 07:27:44.3±0.5,3874N±004×14170E±008,h66km±4km, n44,σ0°68/51,mb3.9/13,7C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.34**	**356**	⇑P	**Pn**	**07 27 55.5**	**+0.2**
OFUJ				S	**Sn**	**07 28 03.5**	**+0.2**
JIO	**Ouri**	**0.40**	**224**	⇑P	**Pn**	**07 27 55.9**	**+0.1**
JIO				S	**Sn**	**07 28 03.8**	**-0.4**
JMK	**Ichinoseki**	**0.43**	**299**	⇑P	**Pn**	**07 27 56.0**	**-0.1**
JMK				S	**Sn**	**07 28 04.2**	**-0.5**
JOM	**Ohasama**	**0.80**	**337**	⇑P	**Pn**	**07 28 00.1**	**0.0**
JOM				S	**Sn**	**07 28 11.5**	**-0.1**
JOU	**Okura**	**0.90**	**245**	⇑P	**Pn**	**07 28 01.3**	**0.0**
JOU				S	**Sn**	**07 28 13.6**	**-0.2**
JYK	**Kaneyama**	**1.06**	**280**	⇓P	**Pn**	**07 28 03.3**	**-0.1**
JYK				S	**Sn**	**07 28 17.2**	**-0.4**
JMM	**Marumori**	**1.13**	**219**	⇑P	**Pn**	**07 28 03.9**	**-0.4**
JMM				S	**Sn**	**07 28 18.3**	**-0.8**
JYS	**Shiratake**	**1.39**	**248**	⇓P	**Pn**	**07 28 07.8**	**+0.2**
JFK	**Kawauchi**	**1.52**	**206**	⇑P	**Pn**	**07 28 09.6**	**+0.2**
JFK				S	**Sn**	**07 28 28.0**	**-0.3**
JYA	**Atsumi**	**1.56**	**265**	⇓P	**Pn**	**07 28 10.0**	**0.0**
MJAR	**Matsushiro Arr**	**3.54**	**233**	P	**Pn**	**07 28 37.3**	**+0.5**
	6.9nm,0.3s,baz=40,slow=11,SNR=86						
MAJO	**Matsushiro**	**3.54**	**233**	*e*P	**Pn**	**07 28 38.7**	**+1.9**
MAT	**Matsushiro**	**3.54**	**233**	P	**Pn**	**07 28 38.7**	**+1.9**
MAT	**Matsushiro**	**3.54**	**233**	*e*P	**Pn**	**07 28 39.0**	**+2.2**
MAT				*e*S	**Sn**	**07 29 28.0**	**+11**
ASAJ	**Asahikawa**	**5.41**	**7**	P	**Pn**	**07 29 01.9**	**-0.5**
	2.1nm,0.3s,baz=126,slow=23,SNR=9.3						
ASAJ	**Asahikawa**	**5.41**	**7**	P	**Pn**	**07 29 01.9**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KS15	**Wonju Array Si**	**10.97**	**267**	Pn	**Pn**	**07 30 21.6**	**+3.3**
NJ2	**Nanjing**	**19.76**	**257**	*e*P	**Pn**	**07 32 11.1**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s						
MA2	**Magadan**	**21.64**	**13**	*e*P	**P**	**07 32 29.5**	**+0.4**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
MA2	**Magadan**	**21.64**	**13**	*e*P	**P**	**07 32 29.5**	**+0.4**
	comp=Z,3.6nm,0.6s,mb3.9						
SONM	**Songino Array**	**27.06**	**301**	P	**P**	**07 33 20.4**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.3,baz=107,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**43.42**	**301**	P	**P**	**07 35 40.1**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.7,baz=96,slow=8.4,SNR=24						
KURK	**Kurchatov**	**45.08**	**307**	*e*P	**P**	**07 35 53.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**45.08**	**307**	*e*P	**P**	**07 35 53.2**	**-0.6**
	comp=Z,3.6nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**47.94**	**33**	P	**P**	**07 36 16.6**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=266,slow=6.1,SNR=20						
ILAR	**Eielson Array**	**47.94**	**33**	P	**P**	**07 36 16.6**	**+0.4**
ZRNK	**Zerenda**	**50.44**	**311**	P	**P**	**07 36 35.5**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZRNK	**Zerenda**	**50.44**	**311**	P	**P**	**07 36 35.5**	**+0.3**
	comp=Z,1.4nm,0.9s,mb3.9						
WRAB	**Tennant Creek**	**58.77**	**188**	*e*P	**P**	**07 37 35.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**58.77**	**188**	*e*P	**P**	**07 37 35.1**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**58.78**	**188**	P	**P**	**07 37 34.1**	**-1.5**
	comp=Z,2.1nm,0.5s,mb4.5,baz=6.6,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**58.78**	**188**	P	**P**	**07 37 34.1**	**-1.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RES	**Resolute Bay**	**60.89**	**15**	*e*P	**P**	**07 37 49.7**	**-0.4**
YKA	**Yellowknife Ar**	**62.22**	**31**	P	**P**	**07 37 59.2**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=305,slow=6.7,SNR=11						
YKA	**Yellowknife Ar**	**62.22**	**31**	P	**P**	**07 37 59.2**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**62.51**	**188**	P	**P**	**07 38 00.8**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=1.6,slow=4.8,SNR=18						
ASAR	**Alice Springs**	**62.51**	**188**	P	**P**	**07 38 00.8**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**67.41**	**332**	P	**P**	**07 38 32.0**	**-0.8**
	comp=Z,1.0nm,0.7s,mb3.7,baz=23,slow=10,SNR=3.4						
FINES	**FINESS Array B**	**67.41**	**332**	P	**P**	**07 38 32.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FCC	**Fort Churchill**	**72.38**	**27**	*e*P	**P**	**07 39 03.3**	**0.0**
NVAR	**Mina Array Bea**	**73.79**	**54**	P	**P**	**07 39 11.5**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.4,baz=290,slow=3.4,SNR=4.7						
PDAR	**Pinedale Array**	**76.31**	**46**	P	**P**	**07 39 27.4**	**+1.2**
	comp=Z,1.2nm,0.6s,mb3.8,baz=266,slow=2.4,SNR=14						
LPAZ	**La Paz**	**145.61**	**58**	PKPbc	PKPbc	07 47 17.0	+1.6
	comp=Z,1.9nm,0.7s,baz=0.9,slow=1.6,SNR=8.4						
LPAZ	**La Paz**	**145.61**	**58**	PKP2	PKPab	07 47 17.0	+1.2
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						

IDC 19 07:46:00.9±5.0,2160S×12572W,h0km,mb4.1/5, mb1 4.3/5,mb1mx4.0/18,mbtmp4.1/5,Error ellipse: s-maj=242.8km s-min=71.8km az=126.0,South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**8.69**	**258**	*e*Pn	Pn	07 48 00.9	-7.0
	7.4nm,0.1s						
RKT				*e*Sn	Sn	07 49 24.9	-22
	3.4nm,0.1s						
RKT				*e*T		07 56 00.4	
	6.8nm,0.4s						
PPT	**Papeete**	**22.82**	**276**	*e*P	P	07 51 07.4	+2.1
NVAR	**Mina Array Bea**	**60.11**	**7**	P	P	07 56 10.4	+0.4
	3.6nm,0.7s,baz=190,slow=9.9,SNR=28						
PDAR	**Pinedale Array**	**65.75**	**13**	P	P	07 56 48.1	+0.6
	0.3nm,0.5s,baz=192,slow=8.5,SNR=5.1						
ULM	**Lac du Bonnet**	**76.25**	**19**	P	P	07 57 51.9	+0.6
	0.8nm,0.3s,baz=237,slow=2.7,SNR=3.2						
YKA	**Yellowknife Ar**	**84.27**	**5**	P	P	07 58 33.3	-1.1
	0.7nm,0.8s,baz=174,slow=5.3,SNR=15						
INK	**Inuvik**	**89.82**	**357**	P	P	07 58 59.5	-2.0
	2.0nm,1.1s,baz=160,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**146.14**	**325**	PKPbc	PKPbc	08 05 41.9	-1.1
	0.3nm,0.6s,baz=70,slow=4.2,SNR=4.0						
BVAR	**Borovoye Array**	**146.27**	**342**	PKPbc	PKPbc	08 05 43.4	0.0
	0.9nm,0.6s,baz=48,slow=2.2,SNR=5.3						

IDC ***19*** *08:08:09.1±0.5,2389N×14287E,h0km,mb4.2/17, mb1 4.3/18,mb1mx4.3/22,mbtmp4.2/18,ML4.0/1,MS3.7/2, Ms1 3.7/2,ms1mx3.0/22,Error ellipse: s-maj=22.2km s-min=14.7km az=87.0*
NEIC ***19*** *08:08:11.6±0.3,2393N×14282E,h15km,mb4.6/6,Error ellipse: s-maj=11.9km s-min=6.2km az=80.0*
ISCJB ***19*** *08:08:12.8±0.5,2397N±006×1428E±01,h33km,mb4.5/36, Error ellipse: s-maj=13.7km s-min=9.2km az=165.5*
MOS ***19*** *08:08:12.7±1.2,2399N×14273E,h33km,mb4.8/9,Error ellipse: s-maj=23.5km s-min=8.2km az=106.1*
BJI ***19*** *08:08:17.1,2455N×14223E,h15km,mB5.1,mb4.7,Ms4.1, Msz3.9*

ISC 19 08:08:14.8±0.5,2398N±006×1428E±01,h35km,n58, σ0°94/53,mb4.5/36,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**13.15**	**343**	Pn	**Pn**	**08 11 18.9**	**+0.1**
	0.8nm,0.3s,baz=158,slow=11,SNR=9.7						
MAJO	**Matsushiro**	**13.15**	**343**	*e*P	**Pn**	**08 11 17.2**	**-1.7**
MAT	**Matsushiro**	**13.15**	**343**	P	**Pn**	**08 11 17.7**	**-1.2**
MAT	**Matsushiro**	**13.15**	**343**	*e*P	**Pn**	**08 11 18.0**	**-0.9**
JOW	**Kunigami**	**13.47**	**285**	LR	LR	08 16 14.8	
	comp=Z,352nm,20.6s,baz=79,slow=36						
SSE	**Sheshan**	**20.45**	**295**	*e*P	**P**	**08 12 48.8**	**-0.3**
SSE				AMB	AMB		
	comp=Z,53nm,0.7s						
SSE				AMB	AMB		
	comp=Z,107nm,4.5s						
SSE				LR	LR		
	comp=N,36nm,17.6s						
SSE				LR	LR		
	comp=E,78nm,17.6s						
SSE				LR	LR		
	comp=Z,112nm,18.9s						
NJ2	**Nanjing**	**22.62**	**296**	*e*P	**P**	**08 13 11.8**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
HABR	**Khabarovsk**	**25.22**	**348**	*e*P	**P**	**08 13 40.5**	**+3.3**
HABR				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.1						
KLR	**Kul'dur**	**26.67**	**344**	*e*P	**P**	**08 13 48.1**	**-2.2**
GYA	**Guiyang**	**32.76**	**282**	P	**P**	**08 14 46.3**	**+2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
MA2	**Magadan**	**36.01**	**7**	*e*P	pP	08 15 19.9	-2.7
MA2				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**37.41**	**319**	P	**P**	**08 15 23.4**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.8,baz=124,slow=7.5,SNR=6.5						
SONM				LR	LR	08 31 36.3	
	comp=Z,101nm,20.6s,baz=243,slow=38						
YAK	**Yakutsk**	**39.08**	**350**	*e*P	**P**	**08 15 39.5**	**+1.1**
YAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
ZAK	**Zakamensk**	**40.37**	**321**	*e*P	**P**	**08 15 49.3**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.2						
CTAO	**Charters Tower**	**43.92**	**175**	*e*P	**P**	**08 16 14.2**	**-3.9**
CTAO				pmax	pmax		
	comp=Z,31nm,1.3s,mb4.9						
CTAO	**Charters Tower**	**43.92**	**175**	*e*P	**P**	**08 16 14.2**	**-3.8**
	comp=Z,31nm,1.3s,mb4.9						
WRAB	**Tennant Creek**	**44.42**	**191**	*e*P	**P**	**08 16 21.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.0						
WRAB	**Tennant Creek**	**44.42**	**191**	*e*P	**P**	**08 16 21.3**	**-0.7**
	comp=Z,42nm,1.4s,mb5.0						
WB2	**Warramunga Arr**	**44.43**	**191**	*e*P	**P**	**08 16 21.5**	**-0.6**
WRA	**Warramunga Arr**	**44.43**	**191**	P	**P**	**08 16 21.6**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.2,baz=11,slow=8.1,SNR=13						
WRA				PcP	PcP	08 18 05.6	+0.2
	comp=Z,0.8nm,0.6s,baz=4.3,slow=3.4,SNR=5.0						
BILL	**Bilibino**	**46.36**	**12**	*e*P	pP	08 16 44.9	-2.9
BILL				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
ASAR	**Alice Springs**	**48.15**	**191**	P	**P**	**08 16 50.9**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=11,slow=7.6,SNR=20						
TIXI	**Tiksi**	**48.36**	**354**	*e*P	**P**	**08 16 53.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
MKAR	**Makanchi Array**	**52.95**	**311**	P	**P**	**08 17 27.6**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=97,slow=8.1,SNR=22						
STKA	**Stephens Creek**	**55.55**	**181**	*e*P	**P**	**08 17 41.9**	**-4.6**
	comp=Z,2.6nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**55.55**	**181**	P	**P**	**08 17 43.8**	**-2.7**
	comp=Z,1.6nm,0.5s,mb4.3,baz=26,slow=5.9,SNR=10						
STKA	**Stephens Creek**	**55.55**	**181**	*e*P	**P**	**08 17 41.9**	**-4.6**
STKA				*e*P		08 17 42.0	
KURK	**Kurchatov**	**55.61**	**316**	*e*P	**P**	**08 17 46.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**55.61**	**316**	*e*P	**P**	**08 17 46.4**	**-0.6**
	comp=Z,4.0nm,0.6s,mb4.6						
ILAR	**Eielson Array**	**60.17**	**28**	P	**P**	**08 18 17.9**	**-1.0**
	comp=Z,2.7nm,0.8s,mb4.3,baz=260,slow=5.7,SNR=25						
BVAR	**Borovoye Array**	**60.75**	**319**	P	**P**	**08 18 23.1**	**+0.2**
	comp=Z,6.2nm,0.6s,mb4.9,baz=91,slow=8.2,SNR=30						
BRVK	**Borovoye**	**60.81**	**319**	P	**P**	**08 18 22.5**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**60.81**	**319**	P	**P**	**08 18 22.5**	**-0.8**
	comp=Z,3.8nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**61.59**	**319**	*e*P	**P**	**08 18 27.8**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**61.59**	**319**	*e*P	**P**	**08 18 27.8**	**-0.8**
	comp=Z,3.2nm,0.8s,mb4.5						
INK	**Inuvik**	**65.62**	**24**	P	**P**	**08 18 55.0**	**-0.1**
	comp=Z,2.0nm,0.9s,mb4.2,baz=239,slow=6.5,SNR=9.6						
ARU	**Arti**	**67.25**	**323**	*e*P	**P**	**08 19 04.9**	**-0.7**
YKA	**Yellowknife Ar**	**74.60**	**28**	P	**P**	**08 19 49.9**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=294,slow=5.7,SNR=17						
YKA	**Yellowknife Ar**	**74.60**	**28**	P	**P**	**08 19 49.9**	**-0.3**
ARCES	**ARCESS Array B**	**76.67**	**341**	P	**P**	**08 20 03.0**	**+0.9**
	comp=Z,3.8nm,0.8s,mb4.4,baz=69,slow=7.2,SNR=9.3						
ARCES	**ARCESS Array B**	**76.67**	**341**	P	**P**	**08 20 03.0**	**+0.9**
JOF	**Jorsud**	**78.14**	**334**	*ep*	**P**	**08 20 11.7**	**+1.5**
	comp=Z,6.5nm,0.5s,mb4.8						
KAF	**Kangasniemi**	**80.53**	**335**	*ep*	**P**	**08 20 23.6**	**+0.3**
	comp=Z,3.1nm,0.6s,mb4.4,baz=52,slow=5.0						
KAF	**Kangasniemi**	**80.53**	**335**	*e*P	**P**	**08 20 23.6**	**+0.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**81.00**	**334**	P	**P**	**08 20 26.3**	**+0.5**
	comp=Z,1.4nm,0.5s,mb4.1,baz=72,slow=5.5,SNR=21						
NVAR	**Mina Array Bea**	**81.98**	**52**	P	**P**	**08 20 31.8**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=259,slow=10,SNR=7.5						
QRN	**Al-Qurain**	**82.86**	**298**	*e*P	**P**	**08 20 36.6**	**+1.1**
QRN				AMb	AMB	08 20 37.5	
	comp=Z,18nm,0.7s,mb5.2						
MIB	**Mutribah**	**82.90**	**299**	*e*P	**P**	**08 20 37.0**	**+1.1**
MIB				AMb	AMB	08 20 38.7	
	comp=Z,32nm,0.7s,mb5.5						
RDF	**Al-Radifah**	**83.08**	**298**	*e*P	**P**	**08 20 37.3**	**+0.6**
RDF				AMb	AMB	08 20 40.5	
	comp=Z,14nm,0.7s,mb5.1						
NAY	**Al-Naaiem**	**83.20**	**299**	*e*P	**P**	**08 20 38.4**	**+1.1**
NAY				AMb	AMB	08 20 39.8	
	comp=Z,11nm,0.6s,mb5.0						
AKASG	**Malin Array Be**	**85.48**	**324**	P	**P**	**08 20 49.5**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.3,baz=50,slow=4.7,SNR=9.0						
PDAR	**Pinedale Array**	**86.00**	**45**	P	**P**	**08 20 51.9**	**+0.4**
	comp=Z,0.5nm,0.8s,mb3.8,baz=297,slow=6.5,SNR=3.8						
BRTR	**Keskin Array B**	**88.56**	**313**	P	**P**	**08 21 04.5**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.5,baz=68,slow=3.6,SNR=12						
ANMO	**Albuquerque**	**92.02**	**50**	P	**P**	**08 21 20.5**	**+0.6**
	comp=Z,0.4nm,0.3s,mb4.2,baz=286,slow=4.2,SNR=5.2						
ANMO	**Albuquerque**	**92.02**	**50**	P	**P**	**08 21 20.5**	**+0.6**
GERES	**GERESS Array B**	**94.48**	**329**	P	**P**	**08 21 31.0**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.9,baz=46,slow=5.6,SNR=3.4						
PLCA	**Paso Flores**	**147.46**	**129**	PKPbc	PKPbc	08 27 55.0	0.0
	comp=Z,2.1nm,1.1s,baz=55,slow=3.5,SNR=4.6						
LPAZ	**La Paz**	**149.98**	**81**	PKPbc	PKPbc	08 28 03.5	+2.1
	comp=Z,2.0nm,0.4s,baz=9.3,slow=2.0,SNR=28						

ISCJB ***19*** *08:34:12.4±1.0,445N±01×1473E±02,h153km±12km, mb3.3/6,Error ellipse: s-maj=21.7km s-min=17.0km az=96.4*
IDC ***19*** *08:34:14.3±3.0,4479N×147.13E,h150km±30km,mb3.2/6, mb1 3.5/7,mb1mx3.2/20,mbtmp3.6/7,Error ellipse: s-maj=32.8km s-min=20.0km az=139.0*
JMA ***19*** *08:34:14.4±0.5,4446N×147.34E,h125km,M3.4*

ISC 19 08:34:13.4±1.0,445N±01×1473E±02,h146km±12km,n19, σ1°01/23,mb3.3/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.60**	**226**	P	**Pn**	**08 34 43.3**	**-0.3**
NEM2				*e*S	**Sn**	**08 35 05.8**	**-1.0**
JRA	**Rausu**	**1.67**	**251**	P	**Pn**	**08 34 44.4**	**0.0**
JNK	**Nakash**	**2.08**	**245**	P	**Pn**	**08 34 49.5**	**+0.4**
JAK	**Akkeshi**	**2.41**	**233**	P	**Pn**	**08 34 53.2**	**0.0**
JAK				*e*S	**Sn**	**08 35 23.0**	**-0.8**
JTKR	**Abashiri--Toko**	**2.50**	**259**	P	**Pn**	**08 34 54.4**	**+0.2**
JAR	**Ashorobuto**	**2.82**	**246**	P	**Pn**	**08 34 59.6**	**+1.3**
JOB	**Onbets**	**2.98**	**239**	P	**Pn**	**08 35 01.0**	**+0.8**
JOB				*e*S	**Sn**	**08 35 36.4**	**-0.1**
JKK2	**Kamakawa 2**	**3.34**	**261**	P	**Pn**	**08 35 05.5**	**+0.6**
ASAJ	**Asahikawa**	**3.40**	**265**	P	**Pn**	**08 35 05.8**	**+0.1**
	0.9nm,0.3s,baz=216,slow=6.4,SNR=7.5						
JCH	**Churui**	**3.43**	**238**	P	**Pn**	**08 35 06.1**	**+0.1**
JCH				*e*S	**Sn**	**08 35 45.0**	**-1.8**
JFR	**Furan**	**3.66**	**250**	P	**Pn**	**08 35 11.2**	**+2.2**
JWK2	**Keihoku**	**3.93**	**284**	P	**Pn**	**08 35 13.3**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.99**	**238**	P	**Pn**	**08 35 12.9**	**-0.4**
ILAR	**Eielson Array**	**40.82**	**37**	P	**P**	**08 41 38.8**	**-1.7**
	1.0nm,0.8s,mb3.5,baz=276,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**44.34**	**297**	P	**P**	**08 42 07.2**	**-1.7**
	0.2nm,0.3s,mb3.3,baz=90,slow=6.8,SNR=10						
YKA	**Yellowknife Ar**	**55.12**	**34**	P	**P**	**08 43 29.2**	**-1.2**
	0.3nm,0.4s,mb3.3,baz=299,slow=6.9,SNR=7.3						
NVAR	**Mina Array Bea**	**67.09**	**58**	P	**P**	**08 44 51.9**	**+0.9**
	0.3nm,0.6s,mb3.3,baz=298,slow=5.1,SNR=4.5						
ASAR	**Alice Springs**	**68.93**	**193**	P	**P**	**08 45 04.3**	**+1.9**
	0.2nm,0.6s,mb3.0,baz=17,slow=6.8,SNR=5.7						
PDAR	**Pinedale Array**	**69.34**	**50**	P	**P**	**08 45 05.1**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=316,slow=2.9,SNR=4.9						

ISCJB ***19*** *08:43:10.9±0.6,4338N±005×14373E±006,h154km±4km, mb3.0/3,Error ellipse: s-maj=8.4km s-min=6.9km az=37.8*
JMA ***19*** *08:43:11.6±0.1,4338N×14367E,h153km±1km,M3.2*
IDC ***19*** *08:43:14.2±3.9,4383N×14363E,h153km±8km,mb2.9/3, mb1 3.1/3,mb1mx2.8/19,mbtmp3.3/3,Error ellipse: s-maj=109.2km s-min=28.1km az=169.0*

ISC 19 08:43:11.7±0.6,4338N±005×14373E±006,h152km±4km, n20,σ0°52/33,mb3.0/3,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.09**	**160**	P	**Pn**	**08 43 32.5**	**+0.5**
JAR				*e*S	**Sn**	**08 43 47.9**	**+0.4**
JOB	**Onbets**	**0.48**	**171**	P	**Pn**	**08 43 33.8**	**+0.7**
JOB				*e*S	**Sn**	**08 43 50.1**	**+0.6**
JTKR	**Abashiri--Toko**	**0.61**	**12**	P	**Pn**	**08 43 34.0**	**+0.2**
JTKR				*e*S	**Sn**	**08 43 50.7**	**0.0**
JMP	**Maruseppu**	**0.68**	**337**	P	**Pn**	**08 43 34.4**	**+0.1**
JMP				*e*S	**Sn**	**08 43 51.1**	**-0.4**
JNK	**Nakash**	**0.75**	**74**	P	**Pn**	**08 43 35.2**	**+0.5**
JAK	**Akkeshi**	**0.80**	**118**	P	**Pn**	**08 43 35.4**	**+0.3**
JAK				*e*S	**Sn**	**08 43 53.1**	**+0.1**
JCH	**Churui**	**0.81**	**200**	P	**Pn**	**08 43 35.0**	**-0.1**
JCH				*e*S	**Sn**	**08 43 52.1**	**-0.9**
JFR	**Furan**	**0.86**	**256**	P	**Pn**	**08 43 35.6**	**+0.1**
JKK2	**Kamakawa 2**	**0.87**	**305**	P	**Pn**	**08 43 35.6**	**0.0**
JKK2				*e*S	**Sn**	**08 43 53.7**	**-0.1**

comp=E,814nm,0.2s
CICH Cipreses 0.40 223⇑iP Pg 09 14 49.1 +0.6
CICH iS Sg 09 14 55.1 +1.3
CACH El Canelo 0.43 258⇓iP Pg 09 14 49.7 +0.6
CACH iS Sg 09 14 56.2 +1.5
CHCH Chadas Angostu 0.47 281⇑iP Pg 09 14 50.8 +0.8
CHCH iS Sg 09 14 58.2 +2.1
PCH Pirque 0.54 319⇓iP Pg 09 14 51.9 +0.8
PCH iS Sg 09 14 59.8 +1.6
FCH Farellones 0.72 347 eP Pg 09 14 55.0 +0.4
FCH iS Sg 09 15 05.0 +1.0
FCH AMP 09 15 06.5
comp=N,39nm,0.3s
TACH Talagante 0.80 298⇑iP Pg 09 14 56.4 +0.3
TACH iS Sg 09 15 07.6 +1.2
RCDM Rinconada Maip 0.80 312⇑iP Pg 09 14 56.5 +0.4
RCDM iS Sg 09 15 08.0 +1.4
RCDM AMP 09 15 08.6
comp=E,79nm,0.1s
RCDM Rinconada Maip 0.80 312⇑iP Pg 09 14 56.5 +0.4
RCDM iS Sg 09 15 08.0 +1.4
SFDO San Fernando 0.96 232 eP Pg 09 14 59.1 -0.1
SFDO iS Sg 09 15 12.5 +0.8
LNV Longovilo 1.10 273 eP Pg 09 15 01.1 -0.7
LNV iS Sg 09 15 16.6 +0.6
LCCH Las Cruces 1.35 294 eP Pn 09 15 05.7 -0.3
LCCH iS Sb 09 15 24.0 +0.2

*ISCJB **19** 09:17:29.1±0.4, 3080N±002×35.16E±005, h0km, Error ellipse: s-maj=5.8km s-min=3.1km az=33.8*
*CSEM **19** 09:17:29.1±0.1, 3080N×35.16E, h2km, ML2.4, Error ellipse: s-maj=2.5km s-min=1.6km az=95.0, Mining explosion.*
*GII **19** 09:17:29.0±1.1, 3083N×35.13E, h0km±5km, ML2.4/3*
*HLW **19** 09:17:29.4, 3090N×3538E, h20km, Mb3.1*
ISC 19 09:17:29.6±0.4, 3080N±002×3517E±005, h0km, n32, σ0°54/39, 13C-3D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.24**	**179**	Pg	**Pg**	**09 17 35.8**	**+1.5**
SVTA	**Shivta**	**0.49**	**286**	Pg	**Pg**	**09 17 39.0**	**0.0**
MZDA	**Masada**	**0.54**	**18**	Pg	**Pg**	**09 17 39.8**	**-0.1**
MZDA				Sg	**Sg**	**09 17 47.8**	**+1.0**
KZIT	**Kziot**	**0.68**	**279**	Pg	**Pg**	**09 17 42.4**	**-0.2**
KZIT				Sg	**Sg**	**09 17 52.1**	**+0.8**
KZIT	**Kziot**	**0.68**	**279**	Pg	**Pg**	**09 17 42.4**	**-0.2**
KZIT				Sg	**Sg**	**09 17 52.1**	**+0.8**
AMAZ	**Amatzia**	**0.76**	**343**	Pg	**Pg**	**09 17 43.9**	**-0.3**
HRFI	**Mount Harif**	**0.77**	**189**	Pg	**Pg**	**09 17 45.0**	**+0.6**
KMTI	**Karmit**	**0.79**	**209**	Pg	**Pg**	**09 17 45.4**	**+0.6**
MKRJ	**Makawir**	**0.85**	**28**	Pg	**Pg**	**09 17 46.3**	**+0.3**
EIL	**Elat**	**1.14**	**190**	Pg	**Pg**	**09 17 51.7**	**+0.2**
HNKL	**Nakhl**	**1.35**	**230**	⇓P	**Pg**	**09 17 55.3**	**-0.1**
SLTI	**Sal'it**	**1.44**	**356**	Pn	**Pn**	**09 17 55.8**	**-1.2**
SLTI				Sn	**Sn**	**09 18 15.9**	**-0.7**
HBST	**Basata**	**1.62**	**194**	⇑P	**Pn**	**09 17 59.3**	**-0.1**
HBST				S	**Sn**	**09 18 20.9**	**-0.2**
MMLI	**Mount Malkishu**	**1.65**	**7**	Pn	**Pn**	**09 17 59.2**	**-0.6**
MMLI				Sn	**Sn**	**09 18 22.6**	**+0.9**
AMAG	**Maghara**	**1.70**	**265**	⇑P	**Pn**	**09 18 00.7**	**+0.2**
HDHB	**Dhahab**	**2.12**	**193**	⇑P	**Pn**	**09 18 05.9**	**-0.4**
MMA0	**Mount Meron ar**	**2.22**	**5**	Pn	**Pn**	**09 18 07.7**	**+0.1**
SUZ		**2.24**	**245**	⇑P	**Pn**	**09 18 08.1**	**+0.2**
ZNM		**2.44**	**235**	⇓P	**Pn**	**09 18 10.6**	**-0.2**
HRDS	**Abu Rudays**	**2.64**	**219**	⇑P	**Pn**	**09 18 13.4**	**0.0**
HRDS	**Abu Rudays**	**2.64**	**219**	P	**Pn**	**09 18 13.4**	**-0.1**
TR2		**2.72**	**208**	⇓P	**Pn**	**09 18 14.2**	**-0.3**
ZAF		**2.73**	**237**	⇑P	**Pn**	**09 18 14.1**	**-0.6**
HHAG	**Hagoal**	**2.79**	**253**	⇑P	**Pn**	**09 18 15.8**	**+0.3**
TR1		**2.98**	**201**	⇑P	**Pn**	**09 18 17.9**	**-0.2**
KOT	**Kottamia**	**3.02**	**254**	⇑P	**Pn**	**09 18 18.7**	**0.0**
KOT				S	**Sn**	**09 18 55.5**	**0.0**
SHRM		**3.04**	**198**	⇑P	**Pn**	**09 18 18.5**	**-0.4**
GLL	**Jalalah**	**3.24**	**249**	⇑P	**Pn**	**09 18 22.1**	**+0.4**
GLL	**Jalalah**	**3.24**	**249**	P	**Pn**	**09 18 22.1**	**+0.4**
	1μm,0.2s						
GRB	**Gharib**	**3.27**	**220**	⇑P	**Pn**	**09 18 21.5**	**-0.6**
HSAF	**As Saff**	**3.34**	**250**	P	**Pn**	**09 18 23.2**	**0.0**
HHRG	**Al Ghardaqah**	**3.83**	**202**	⇑P	**Pn**	**09 18 29.0**	**-0.8**

IDC 19 09:41:05.9±6.8, 1491S×7575W, h65km±57km, mb3.6/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.7/4, ML3.5/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/17, Error ellipse: s-maj=62.3km s-min=44.8km az=68.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.47**	**102**	P	Pn	09 42 53.1	+0.9
	0.8nm,0.3s,baz=282,slow=7.9,SNR=18						
LPAZ				LR	LR	09 46 14.7	
	comp=Z,142nm,21.7s,baz=278,slow=41						
SIV	**San Ignacio**	**14.20**	**96**	P	Pn	09 44 17.8	-5.9
	0.1nm,0.3s,baz=278,slow=16,SNR=5.9						
CFAA	**Coronel Fontan**	**17.98**	**159**	P	Pn	09 45 11.1	-0.3
	0.1nm,0.3s,baz=339,slow=12,SNR=12						
CPUP	**Villa Florida**	**20.62**	**126**	LR	LR	09 53 18.9	
	comp=Z,57nm,20.1s,baz=82,slow=36						
BDFB	**Brasilia**	**26.76**	**95**	LR	LR	09 58 49.6	
	comp=Z,89nm,18.1s,baz=285,slow=40						
DBIC	**Dimbokro**	**73.45**	**78**	LR	LR	10 22 41.3	
	comp=Z,53nm,18.8s,baz=2.1,slow=34						
TORD	**Torodi Ar. Bea**	**81.55**	**74**	P	P	09 53 17.0	+0.5
	2.0nm,0.8s,baz=253,slow=4.7,SNR=10						
YKA	**Yellowknife Ar**	**82.93**	**343**	P	P	09 53 22.9	-0.8
	0.4nm,0.9s,baz=135,slow=5.3,SNR=7.6						
SONM	**Songino Array**	**147.12**	**357**	PKPbc	PKPbc	10 00 42.2	+0.7
	0.5nm,0.6s,baz=31,slow=0.4,SNR=3.8						

IDC 19 09:43:30.4±5.1, 1603S×17594W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.0/14, mbtmp3.9/4, MS3.5/6, Ms1 3.5/6, ms1mx3.2/25, Error ellipse: s-maj=214.9km s-min=66.1km az=164.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.28**	**188**	LR	LR	09 50 05.4	
	comp=Z,91nm,20.5s,baz=44,slow=30						
DZM	**Mont Dzumac**	**17.70**	**247**	LR	LR	09 53 10.4	
	comp=Z,69nm,18.7s,baz=305,slow=33						
HNR	**Honiara**	**24.40**	**283**	LR	LR	09 56 20.8	
	comp=Z,57nm,18.3s,baz=4.4,slow=32						
PPT	**Papeete**	**25.28**	**97**	eLR	LR	09 55 14.6	
	58nm,25.5s						
TBI	**Tubuai**	**25.95**	**110**	eLR	LR	09 55 32.8	
	112nm,36.8s						
YBH	**Yreka Blue Hor**	**75.59**	**38**	LR	LR	10 20 29.2	
	comp=Z,36nm,20.8s,baz=90,slow=29						
NVAR	**Mina Array Bea**	**76.44**	**43**	P	P	09 55 21.7	-0.2
	1.3nm,0.9s,baz=238,slow=9.4,SNR=3.3						
ILAR	**Eielson Array**	**83.55**	**12**	P	P	09 55 59.5	-0.7
	1.0nm,1.0s,baz=213,slow=5.2,SNR=6.9						
ILAR				LR	LR	10 31 45.2	
	comp=Z,43nm,18.1s,baz=360,slow=35						
PDAR	**Pinedale Array**	**84.38**	**43**	P	P	09 56 05.0	+0.5
	0.7nm,0.9s,baz=222,slow=2.0,SNR=5.2						
MAW	**Mawson**	**86.41**	**199**	LR	LR	10 33 46.8	
	comp=Z,67nm,19.2s,baz=243,slow=35						
YKA	**Yellowknife Ar**	**91.66**	**24**	P	P	09 56 40.0	+0.5
	0.5nm,0.9s,baz=246,slow=4.9,SNR=7.1						
BRTR	**Keskin Array B**	**145.05**	**318**	PKPbc	PKPbc	10 03 07.7	-1.3
	2.1nm,1.0s,baz=90,slow=1.2,SNR=8.1						
GERES	**GERESS Array B**	**146.34**	**348**	PKPbc	PKPbc	10 03 13.8	+0.7
	1.2nm,0.8s,baz=343,slow=2.8,SNR=6.1						

*ISCJB **19** 09:43:59.5±0.2, 4406N±001×693E±002, h12km±2km, Error ellipse: s-maj=2.5km s-min=2.0km az=38.0*
*CSEM **19** 09:44:00.4±0.1, 4405N×706E, h12km, ML2.5/16, Error ellipse: s-maj=2.4km s-min=2.0km az=15.0*
*NEIC **19** 09:44:00.4, 4408N×702E, h5km, ML2.5(LDG), ML2.6(STR), After STR.*
*GEN **19** 09:44:00.3, 4402N×697E, h5km, ML2.0*
*STR **19** 09:44:00.4±0.2, 4408N×702E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **19** 09:44:00.7±0.0, 4404N×699E, h2km, Md2.7/3, Ml2.5/14, Error ellipse: s-maj=0.8km s-min=0.6km az=36.0*
ISC 19 09:44:00.1±0.2, 4405N±002×697E±002, h15km±2km, n70, σ0°62/147, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVIF	**Mont Vial**	**0.20**	**139**	Pg	**Pg**	**09 44 04.3**	**-0.4**
MVIF				Sg	**Sg**	**09 44 07.5**	**-0.4**
STV	**Sta Anna Valdi**	**0.32**	**52**	P	**Pg**	**09 44 07.0**	**+0.2**
STV2	**Anna di Valdie**	**0.32**	**52**	P	**Pg**	**09 44 07.0**	**+0.2**
AUTN	**L'Aution**	**0.33**	**99**	Pg	**Pg**	**09 44 07.0**	**0.0**
AUTN				Sg	**Sg**	**09 44 11.6**	**0.0**
ENR	**Entracque**	**0.37**	**61**	P	**Pg**	**09 44 07.9**	**+0.3**
SBF	**Sospel**	**0.38**	**119**	ePg	**Pg**	**09 44 07.8**	**-0.1**
	SNR=1.0						
SBF				eSg	**Sg**	**09 44 12.8**	**-0.3**
	297nm,0.2s						
SBF	**Sospel**	**0.38**	**119**	ePg	**Pg**	**09 44 07.8**	**-0.1**
	SNR=1.0						
SBF				eSg	**Sg**	**09 44 12.8**	**-0.3**
	148nm,0.2s						
REVF	**Revere**	**0.42**	**137**	Pg	**Pg**	**09 44 08.7**	**+0.1**
REVF				Sg	**Sg**	**09 44 14.6**	**+0.3**
SAOF	**Saorge**	**0.43**	**98**	Pg	**Pg**	**09 44 08.6**	**-0.1**
SAOF				Sg	**Sg**	**09 44 14.4**	**0.0**
SURF	**Saint Ours**	**0.45**	**345**	Pg	**Pg**	**09 44 09.7**	**+0.7**
SURF				Sg	**Sg**	**09 44 12.8**	**-2.2**
PZZ	**Prazzo**	**0.47**	**12**	P	**Pg**	**09 44 09.9**	**+0.5**
FRF	**La Foret Royal**	**0.54**	**206**	ePg	**Pg**	**09 44 10.3**	**-0.5**
	SNR=1.0						
FRF				eSg	**Sg**	**09 44 17.1**	**-0.9**
	149nm,0.3s,SNR=1.0						
FRF				eSn	**Sg**	**09 44 22.8**	**+4.8**
FRF	**La Foret Royal**	**0.54**	**206**	ePg	**Pg**	**09 44 10.3**	**-0.5**
	SNR=1.0						
FRF				eSg	**Sg**	**09 44 17.1**	**-0.9**
	74nm,0.3s,SNR=1.0						
FRF				eSn	**Sg**	**09 44 22.8**	**+4.8**
MONE	**Monesi**	**0.57**	**87**	P	**Pg**	**09 44 11.2**	**-0.1**
MONE				S	**Sg**	**09 44 18.7**	**-0.1**
NEGI	**Negi**	**0.57**	**111**	P	**Pg**	**09 44 11.1**	**-0.2**
NEGI				S	**Sg**	**09 44 18.5**	**-0.3**
IMI	**Imperia**	**0.68**	**102**	P	**Pg**	**09 44 13.3**	**0.0**
IMI				S	**Sg**	**09 44 22.2**	**-0.1**
MBDF	**Montbardon**	**0.69**	**348**	ePg	**Pg**	**09 44 14.0**	**+0.4**
	SNR=1.0						
MBDF				eSg	**Sg**	**09 44 23.5**	**+0.7**
	8.3nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**0.69**	**348**	ePg	**Pg**	**09 44 14.0**	**+0.4**
	SNR=1.0						
MBDF				eSg	**Sg**	**09 44 23.5**	**+0.7**
	4.2nm,0.2s,SNR=1.0						
ROB	**Roburent**	**0.69**	**69**	P	**Pg**	**09 44 13.8**	**+0.2**
ROB				S	**Sg**	**09 44 22.8**	**0.0**
STOF	**St-Etienne Org**	**0.77**	**267**	Pg	**Pg**	**09 44 18.7**	**+3.7**
TAVF	**Tavernes**	**0.79**	**237**	Pg	**Pg**	**09 44 15.3**	**-0.2**
LMR	**La Mourre**	**0.79**	**205**	ePg	**Pg**	**09 44 14.7**	**-0.8**
	SNR=1.0						
LMR				eSg	**Sg**	**09 44 24.9**	**-0.9**
	59nm,0.2s,SNR=1.0						
LMR				eSn	**Sn**	**09 44 28.3**	**0.0**
LMR	**La Mourre**	**0.79**	**205**	ePg	**Pg**	**09 44 14.7**	**-0.8**
	SNR=1.0						
LMR				eSg	**Sg**	**09 44 24.9**	**-0.9**
	30nm,0.2s,SNR=1.0						
LMR				eSn	**Sn**	**09 44 28.3**	**0.0**
RORO		**0.79**	**85**	P	**Pg**	**09 44 15.5**	**0.0**
RORO				S	**Sg**	**09 44 25.7**	**-0.2**
RRL	**Cesana Torines**	**0.88**	**351**	P	**Pb**	**09 44 17.5**	**+0.4**
RRL				S	**Sb**	**09 44 29.4**	**+0.7**
FIN	**Finale Ligure**	**0.91**	**79**	P	**Pb**	**09 44 17.5**	**-0.1**
FIN				S	**Sb**	**09 44 29.2**	**-0.2**
VILF	**Villemus**	**0.93**	**258**	Pg	**Pg**	**09 44 19.0**	**+0.9**
FENE	**Fenestrelle**	**0.98**	**4**	P	**Pb**	**09 44 19.1**	**+0.2**
FENE				S	**Sb**	**09 44 31.8**	**+0.1**
SMRF	**Simiane la Rot**	**1.01**	**266**	ePn	**Pn**	**09 44 20.7**	**+0.9**
	SNR=1.0						
SMRF				eSg	**Sg**	**09 44 33.1**	**+0.3**
	SNR=1.0						
SMRF				eSn	**Sn**	**09 44 34.4**	**+0.7**
	65nm,0.3s						
SMRF	**Simiane la Rot**	**1.01**	**266**	ePn	**Pn**	**09 44 20.7**	**+0.9**
	SNR=1.0						
SMRF				eSg	**Sg**	**09 44 33.1**	**+0.3**
	SNR=1.0						
SMRF				eSn	**Sn**	**09 44 34.4**	**+0.7**
	33nm,0.3s						
SMRF	**Simiane la Rot**	**1.01**	**266**	ePg	**Pg**	**09 44 20.0**	**+0.4**
SMRF				ePn	**Pn**	**09 44 20.7**	**+0.9**
SMRF				eSg	**Sg**	**09 44 33.1**	**+0.3**
SMRF				eSn	**Sn**	**09 44 34.4**	**+0.7**
PUYF	**Puyloubier**	**1.05**	**241**	Pg	**Pg**	**09 44 20.6**	**+0.1**
RSP	**Reno Superiore**	**1.12**	**10**	P	**Pb**	**09 44 21.4**	**+0.2**
RSP				S	**Sb**	**09 44 35.7**	**+0.1**
ORIF	**Oris-en-Rattie**	**1.17**	**318**	ePg	**Pg**	**09 44 23.0**	**+0.4**
ORIF				eSg	**Sg**	**09 44 38.2**	**+0.3**
	20nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.17**	**318**	ePg	**Pg**	**09 44 23.0**	**+0.4**
ORIF				eSg	**Sg**	**09 44 38.2**	**+0.3**
	9.8nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.17**	**318**	ePn	**Pn**	**09 44 22.5**	**+0.5**
ORIF				ePg	**Pg**	**09 44 23.0**	**+0.4**
ORIF				eSg	**Sg**	**09 44 38.2**	**+0.3**
TREF	**Trevaresse**	**1.22**	**250**	Pn	**Pn**	**09 44 23.6**	**+0.9**
PCP	**Pian Castagno**	**1.23**	**66**	P	**Pn**	**09 44 23.0**	**+0.1**
PCP				S	**Sb**	**09 44 38.6**	**-0.3**
GELF	**Grande-Etoile**	**1.30**	**240**	Pn	**Pn**	**09 44 24.5**	**+0.7**
PRAF	**Pradon**	**1.32**	**260**	Pn	**Pn**	**09 44 26.0**	**+1.9**
LPG	**La Plagne**	**1.46**	**354**	ePg	**Pg**	**09 44 27.8**	**-0.3**
	SNR=1.0						
LPG				eSg	**Sg**	**09 44 47.4**	**+0.3**
	4.9nm,0.2s						
LPG	**La Plagne**	**1.46**	**354**	ePg	**Pg**	**09 44 27.8**	**-0.3**
	SNR=1.0						
LPG				eSg	**Sg**	**09 44 47.4**	**+0.3**
	2.5nm,0.2s						
LPL	**La Plagne**	**1.48**	**353**	ePg	**Pg**	**09 44 28.4**	**-0.1**
	SNR=1.0						
LPL				eSg	**Sg**	**09 44 47.6**	**-0.1**
	4.3nm,0.2s						
LPL	**La Plagne**	**1.48**	**353**	ePg	**Pg**	**09 44 28.4**	**-0.1**
	SNR=1.0						
LPL				eSg	**Sg**	**09 44 47.6**	**-0.1**
	2.2nm,0.2s						
TRAV		**1.56**	**20**	P	**Pn**	**09 44 27.6**	**+0.2**
VIVF	**Saint-Julien-l**	**1.83**	**297**	ePg	**Pg**	**09 44 35.1**	**-0.2**
VIVF				eSn	**Sn**	**09 44 54.3**	**+0.2**
	14nm,0.2s,SNR=1.0						
VIVF				eSg	**Sg**	**09 44 59.3**	**+0.2**
VIVF	**Saint-Julien-l**	**1.83**	**297**	ePg	**Pg**	**09 44 35.1**	**-0.2**
VIVF				eSn	**Sn**	**09 44 54.3**	**+0.2**
	7.2nm,0.2s,SNR=1.0						
VIVF				eSg	**Sg**	**09 44 59.3**	**+0.2**
VIVF	**Saint-Julien-l**	**1.83**	**297**	ePn	**Pn**	**09 44 31.8**	**+0.7**
VIVF				ePg	**Pg**	**09 44 35.1**	**-0.2**
VIVF				eSn	**Sn**	**09 44 54.3**	**+0.2**
VIVF				eSg	**Sg**	**09 44 59.3**	**+0.2**
LASF	**Ste Croix**	**2.25**	**272**	ePg	**Pg**	**09 44 42.6**	**-0.6**
LASF				eSn	**Sn**	**09 45 03.9**	**-0.3**
	3.3nm,0.2s,SNR=1.0						
LASF				eSg	**Sg**	**09 45 12.1**	**-0.2**
LASF	**Ste Croix**	**2.25**	**272**	ePg	**Pg**	**09 44 42.6**	**-0.6**
LASF				eSn	**Sn**	**09 45 03.9**	**-0.3**
	1.6nm,0.2s,SNR=1.0						
LASF				eSg	**Sg**	**09 45 12.1**	**-0.2**
LASF	**Ste Croix**	**2.25**	**272**	ePn	**Pn**	**09 44 37.0**	**+0.2**
LASF				ePg	**Pg**	**09 44 42.6**	**-0.6**
LASF				eSn	**Sn**	**09 45 03.9**	**-0.3**
LASF				eSg	**Sg**	**09 45 12.1**	**-0.2**
CABF	**La Chapelle**	**2.64**	**347**	ePg	**Pg**	**09 44 49.8**	**-0.9**
CABF				eSn	**Sn**	**09 45 13.5**	**-0.4**
CABF				eSg	**Sg**	**09 45 24.1**	**-0.7**
	0.9nm,0.3s						
CABF	**La Chapelle**	**2.64**	**347**	ePg	**Pg**	**09 44 49.8**	**-0.9**
CABF				eSn	**Sn**	**09 45 13.5**	**-0.4**
CABF				eSg	**Sg**	**09 45 24.1**	**-0.7**
	0.4nm,0.3s						
CABF	**La Chapelle**	**2.64**	**347**	ePn	**Pn**	**09 44 42.8**	**+0.6**
CABF				ePg	**Pg**	**09 44 49.8**	**-0.9**
CABF				eSn	**Sn**	**09 45 13.5**	**-0.4**
CABF				eSg	**Sg**	**09 45 24.1**	**-0.7**
SMF	**Signal de Mont**	**3.41**	**321**	ePn	**Pn**	**09 44 53.3**	**+0.6**
SMF				eSn	**Sn**	**09 45 32.1**	**-0.8**
	2.5nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**3.41**	**321**	ePn	**Pn**	**09 44 53.3**	**+0.6**
SMF				eSn	**Sn**	**09 45 32.1**	**-0.8**
	1.2nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.52**	**260**	ePn	**Pn**	**09 44 54.9**	**+0.6**
	SNR=1.0						
MTLF				eSn	**Sn**	**09 45 34.3**	**-1.4**
	2.4nm,0.2s						
MTLF	**Montolieu**	**3.52**	**260**	ePn	**Pn**	**09 44 54.9**	**+0.6**
	SNR=1.0						
MTLF				eSn	**Sn**	**09 45 34.3**	**-1.4**
	1.2nm,0.2s						
CAF	**Calviac**	**3.62**	**286**	ePn	**Pn**	**09 44 56.2**	**+0.5**
CAF				eSn	**Sn**	**09 45 37.2**	**-0.9**
	1.6nm,0.2s						
CAF	**Calviac**	**3.62**	**286**	ePn	**Pn**	**09 44 56.2**	**+0.5**
CAF				eSn	**Sn**	**09 45 37.2**	**-0.9**
	0.8nm,0.2s						
AVF	**Avril sur Loir**	**3.74**	**318**	ePn	**Pn**	**09 44 57.3**	**-0.1**
AVF				eSn	**Sn**	**09 45 40.0**	**-1.2**
	0.8nm,0.2s						
AVF	**Avril sur Loir**	**3.74**	**318**	ePn	**Pn**	**09 44 57.3**	**-0.1**
AVF				eSn	**Sn**	**09 45 40.0**	**-1.2**
	0.4nm,0.2s						
BGF	**Bois d'Agland**	**3.84**	**312**	ePn	**Pn**	**09 44 58.7**	**0.0**
SSF	**Saint Saulge**	**3.87**	**322**	ePn	**Pn**	**09 44 59.6**	**+0.5**
	SNR=1.0						
SSF				eSn	**Sn**	**09 45 43.2**	**-1.2**
	2.5nm,0.4s						
SSF	**Saint Saulge**	**3.87**	**322**	ePn	**Pn**	**09 44 59.6**	**+0.5**
	SNR=1.0						
SSF				eSn	**Sn**	**09 45 43.2**	**-1.2**
	1.2nm,0.4s						
LOR	**Lormes**	**3.89**	**327**	ePn	**Pn**	**09 44 59.9**	**+0.5**
LOR				eSn	**Sn**	**09 45 43.2**	**-1.6**
	2.8nm,0.2s						
LOR	**Lormes**	**3.89**	**327**	ePn	**Pn**	**09 44 59.9**	**+0.5**
LOR				eSn	**Sn**	**09 45 43.2**	**-1.6**
	1.4nm,0.2s						
TCF	**Toulx Ste Croi**	**4.04**	**305**	ePn	**Pn**	**09 45 01.8**	**+0.3**
TCF				eSn	**Sn**	**09 45 47.2**	**-1.4**
	0.8nm,0.2s						
TCF	**Toulx Ste Croi**	**4.04**	**305**	ePn	**Pn**	**09 45 01.8**	**+0.3**
TCF				eSn	**Sn**	**09 45 47.2**	**-1.4**
	0.4nm,0.2s						
CDF	**Champ du Feu**	**4.37**	**3**	ePn	**Pn**	**09 45 06.5**	**+0.5**
	SNR=1.0						

IDC 19 10:03:36.8±9.4, 017S×9802E, h48km±71km, mb3.8/5, mb1 4.0/6, mb1mx3.6/19, mbtmp4.0/6, ML3.0/1, Error ellipse: s-maj=131.3km s-min=19.6km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.09**	**17**	P	Pn	10 04 21.7	-1.4
	2.1nm,0.3s,baz=275,slow=8.0,SNR=7.6						
WRA	**Warramunga Arr**	**40.63**	**121**	P	P	10 11 11.6	-0.4
	1.1nm,0.5s,baz=303,slow=9.0,SNR=3.3						
ASAR	**Alice Springs**	**41.93**	**126**	P	P	10 11 23.6	+0.9
	1.4nm,0.6s,baz=302,slow=7.7,SNR=30						
SONM	**Songino Array**	**48.37**	**8**	P	P	10 12 14.8	+1.1
	0.5nm,0.4s,baz=196,slow=9.5,SNR=5.8						
MKAR	**Makanchi Array**	**48.76**	**346**	P	P	10 12 16.6	-0.2
	2.0nm,0.5s,baz=158,slow=9.4,SNR=53						
ARCES	**ARCESS Array B**	**84.09**	**340**	P	P	10 16 01.7	-0.8
	5.5nm,1.0s,baz=116,slow=5.3,SNR=6.2						

*MOS **19** 10:23:53.2±0.8, 5511N×16167E, h60km, mb4.3/1, Error ellipse: s-maj=36.3km s-min=13.2km az=78.0*
KRSC 19 10:23:52.8±1.2, 5508N×16179E, h59km±6km, ML4.4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.53**	**184**	iP	Pn	10 24 05.7	+0.7
MKZ				eS	Sn	10 24 14.9	+1.1
TUMR	**Tumrok**	**0.96**	**283**	eP	Pn	10 24 11.3	+1.0
TUMR				eS	Sn	10 24 24.7	+1.4
ZLN	**Zelenaya**	**1.09**	**330**	eP	Pn	10 24 13.0	+1.0
ZLN				eS	Sn	10 24 27.1	+0.8
KMNR	**Kamenistaya**	**1.11**	**308**	eP	Pn	10 24 12.7	+0.4
KMNR				eS	Sn	10 24 27.9	+1.1
LGNR	**Loginova**	**1.18**	**329**	iP	Pn	10 24 14.5	+1.3
LGNR				eS	Sn	10 24 31.0	+2.6
CIRR	**Tsirk**	**1.19**	**331**	iP	Pn	10 24 14.3	+1.0
CIRR				eS	Sn	10 24 29.8	+1.1
KPT	**Kopyto**	**1.26**	**316**	eP	Pn	10 24 15.1	+0.9
KPT				eS	Sn	10 24 31.3	+1.1
KBTR	**Krutoberegovo**	**1.27**	**27**	P	Pn	10 24 14.9	+0.5
KBTR				S	Sn	10 24 30.7	+0.2
KBTR	**Krutoberegovo**	**1.27**	**27**	iP	Pn	10 24 14.9	+0.5
KBTR				eS	Sn	10 24 30.6	+0.1
KRSR	**Krestovskiy**	**1.33**	**329**	eP	Pn	10 24 15.7	+0.5
KRSR				eS	Sn	10 24 31.6	-0.4
KLY	**Klyuchi**	**1.39**	**333**	P	Pn	10 24 15.9	-0.1
KLY				S	Sn	10 24 32.3	-1.1
KLY	**Klyuchi**	**1.39**	**333**	iP	Pn	10 24 15.9	-0.1
KLY				eS	Sn	10 24 32.5	-0.9
KOZR	**Kozyr**	**1.46**	**313**	PN	Pn	10 24 18.0	+1.1
KOZR				S	Sn	10 24 36.1	+1.1
KOZ	**Kozyrevsk**	**1.47**	**313**	iP	Pn	10 24 18.0	+1.0
KOZ				eS	Sn	10 24 36.1	+1.0
SMKR	**Semkarok**	**1.52**	**353**	iP	Pn	10 24 18.8	+1.1
SMKR				eS	Sn	10 24 37.0	+0.6
BDR	**

BJI ***19*** *10:33:04.8, 790S×117.10E, h276km, mB4.9, mb4.2*
IDC ***19*** *10:33:07.2±7.6, 779S×117.43E, h296km±77km, mb3.3/4, mb1 3.4/5, mb1mx3.2/17, mbtmp4.0/5, Error ellipse: s-maj=84.5km s-min=17.7km az=66.0*
ISCJB ***19*** *10:33:09.5±1.7, 79S±02×1175E±02, h337km±24km, mb3.8/5, Error ellipse: s-maj=36.5km s-min=10.2km az=88.3*

ISC 19 10:33:10.1±1.6, 82S±02×1171E±02, h336km±22km, n15, σ1§06/13, mb3.8/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSM	**Kuching**	**11.75**	**324**	*e*Pn		**Pn**		**10 35 49.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**12.88**	**141**	P		**Pn**		**10 36 02.5**	**0.0**
	0.5nm,0.3s,baz=327,slow=13,SNR=7.1								
MBWA	**Marble Bar**	**13.16**	**169**	*e*P		**Pn**		**10 36 03.9**	**-1.9**
	6.6nm,0.6s								
KAKA	**Kakadu**	**15.71**	**108**	*e*P		**P**		**10 36 31.9**	**-1.1**
	16nm,1.1s								
KAKA				*e*S		**S**		**10 39 15.3**	**-6.0**
WRA	**Warramunga Arr**	**20.36**	**127**	P		**P**		**10 37 21.5**	**-0.7**
	0.5nm,0.3s,baz=300,slow=12,SNR=4.7								
ASPA	**Alice Springs**	**22.26**	**136**	*e*P		**P**		**10 37 40.6**	**+1.0**
AS31	**Alice Springs**	**22.27**	**136**	*e*P		**P**		**10 37 40.6**	**+0.9**
ASAR	**Alice Springs**	**22.27**	**136**	P		**P**		**10 37 40.9**	**+1.2**
	0.7nm,0.3s,mb3.3,baz=312,slow=9.3,SNR=19								
HHC	**Hu-ho-hao-te**	**49.03**	**354**	*e*P		**P**		**10 41 25.4**	**+1.5**
HHC					AMB	AMB			
	comp=Z,7.0nm,0.3s,mb4.4								
HHC					AMB	AMB			
	comp=Z,141nm,5.5s								
SONM	**Songino Array**	**56.55**	**351**	P		**P**		**10 42 17.6**	**-0.8**
	comp=Z,4.7nm,0.6s,mb4.0,baz=169,slow=8.4,SNR=38								
MKAR	**Makanchi Array**	**62.88**	**334**	P		**P**		**10 43 00.8**	**-0.5**
	comp=Z,1.6nm,0.8s,mb3.6,baz=148,slow=9.3,SNR=17								
ZRNK	**Zerenda**	**73.29**	**332**	*e*P		**P**		**10 44 04.3**	**-1.1**
	comp=Z,1.5nm,0.6s,mb3.9								
TORD	**Torodi Ar. Bea**	**116.50**	**281**	PKP		PKPdf		10 51 16.2	+2.0
	comp=Z,1.0nm,0.7s,baz=68,slow=2.0,SNR=7.5								
CPUP	**Villa Florida**	**145.30**	**189**	PKPbc		PKPbc		10 52 12.5	+3.9
	comp=Z,1.0nm,0.7s,baz=160,slow=6.9,SNR=3.1								
CPUP	**Villa Florida**	**145.30**	**189**	PKPbc		PKPbc		10 52 12.5	+3.9

MEX 19 10:56:32.8±0.5, 1710N×10026W, h35km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.06**	**185**	*i*P			Pb	10 56 37.3	-1.3
CAIG				*i*S			Sb	10 56 40.7	-1.8
ACX	**Acapulco**	**0.41**	**125**	*i*P			Pb	10 56 40.5	-1.6
ACX				*i*S			Sb	10 56 46.5	-2.0
MEIG	**Mezcala**	**1.02**	**37**	*i*P			Pn	10 56 48.8	-1.8
MEIG				*i*S			Sn	10 57 01.3	-2.5
PLIG	**Platanillo**	**1.47**	**29**	*e*P			Pn	10 56 56.3	-0.5
PLIG				*i*S			Sn	10 57 14.4	-0.5

IDC ***19*** *10:56:36.5±0.6, 2249S×17048E, h0km, mb4.5/11, mb1 4.7/15, mb1mx4.6/19, mbtmp4.6/15, ML4.3/3, MS4.8/18, Ms1 4.8/18, ms1mx4.8/21, Error ellipse: s-maj=18.3km s-min=16.2km az=169.0*
NEIC ***19*** *10:56:37.7±3.4, 2230S×17053E, h9km±20km, mb5.2/24, Error ellipse: s-maj=8.5km s-min=7.4km az=213.0*
HRVD ***19*** *10:56:37.7±0.1, 2252S×17039E, h13km, MW5.5/93, Centroid moment Tensor Solution. LP body waves: s91,c178; Mantle waves: s93,c181; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.60±.02; $M_{\theta\theta}$-1.43±.02; $M_{\phi\phi}$-0.17±.03; $M_{r\theta}$0.73±.05; $M_{\theta\phi}$0.80±.02; $M_{\phi r}$-0.09±.06; Best double couple: $M_0$1.86400×10^{17} NP1:ϕ_s305.00000°, δ34.00000°, λ104.00000°. NP2: ϕ_s108.00000°, δ57.00000°, λ80.00000°. Principal axes: T 1.7730, Plg76.0000°, Azm348.0000°; N 0.1760, Plg8.0000°, Azm113.0000°; P -1.9560, Plg11.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***19*** *10:56:38.1, 2173S×17058E, h5km, mB5.7, mb5.0, Ms5.3, Msz4.8*
ISCJB ***19*** *10:56:39.0±0.3, 2239S±005×17056E±005, h29km, mb5.0/50, MS4.8/36, Error ellipse: s-maj=6.9km s-min=5.8km az=128.4*
SZGRF ***19*** *10:56:39.9, 2305S×17085E, h33km, Southeast of Loyalty Islands*
LDG ***19*** *10:56:40.1±0.3, 2145S×17035E, h10km, Mb5.0/2, Ms4.9/8, Error ellipse: s-maj=26.6km s-min=7.2km az=159.0*
MOS ***19*** *10:56:43.1±2.6, 2215S×170.17E, h33km, mb5.4/16, MS4.9/8, Error ellipse: s-maj=11.0km s-min=10.3km az=36.2*

ISC 19 10:56:41.1±0.3, 2242S±005×17056E±004, h30km, h30km±1.2km: pP-P, n266, σ1§27/115, mb5.0/50, MS4.8/36, 11C-14D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.83**	**274**	Pn			**Pn**	**10 57 36.4**	**-1.6**
	43nm,0.3s,baz=113,slow=13,SNR=270								
DZM				Sn			**Sn**	**10 58 22.1**	**+0.1**
	54nm,0.3s,baz=344,slow=22,SNR=8.4								
BKM	**Butte a Klehm**	**5.21**	**335**	⇑*i*P			**Pn**	**10 57 45.9**	**-11**
HNR	**Honiara**	**16.45**	**320**	Pn			**Pn**	**11 00 30.3**	**+0.7**
	2.7nm,0.3s,baz=242,slow=2.2,SNR=20								
HNR	**Honiara**	**16.45**	**320**	P			**Pn**	**11 00 27.5**	**-2.2**
HNR				pmax			pmax		
	comp=Z,529nm,1.2s								
HNR	**Honiara**	**16.45**	**320**	Pn			**Pn**	**11 00 27.5**	**-2.1**
	comp=Z,530nm,1.2s								
URZ	**Urewera**	**16.76**	**162**	Pn			**Pn**	**11 00 33.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=9.3,slow=6.4,SNR=12								
URZ				LR			LR	11 05 54.0	
	comp=Z,7μm,18.0s,baz=156,slow=33								
URZ	**Urewera**	**16.76**	**162**	Pn			**Pn**	**11 00 33.0**	**-0.5**
URZ				LR			LR	11 05 54.0	
ARMA	**Armidale**	**18.72**	**241**	*e*P			**Pn**	**11 00 58.5**	**+0.8**
ARMA				*e*S			**Sn**	**11 04 25.5**	**-0.7**
AFI	**Afiamalu**	**18.78**	**66**	P			**Pn**	**11 00 58.9**	**+0.4**
	comp=Z,2.3nm,0.3s,baz=340,slow=12,SNR=5.1								
AFI				LR			LR	11 05 38.3	
	comp=Z,802nm,19.1s,baz=243,slow=29								
AFI	**Afiamalu**	**18.78**	**66**	*e*P			**Pn**	**11 00 57.8**	**-0.7**
AFI				pmax			pmax		
	comp=Z,106nm,1.2s								
AFI	**Afiamalu**	**18.78**	**66**	*e*P			**Pn**	**11 00 57.8**	**-0.8**
	comp=Z,106nm,1.2s								
SNZO	**South Karori**	**19.15**	**170**	*e*P			**Pn**	**11 01 03.4**	**+0.4**
	comp=Z,487nm,1.6s								
RIV	**Riverview**	**20.50**	**232**	*e*P			**P**	**11 01 19.0**	**+2.3**
RPZ	**Rata Peaks**	**21.24**	**179**	P			**P**	**11 01 24.0**	**-0.6**
	comp=Z,41nm,0.9s,mb4.8,baz=24,slow=5.1,SNR=13								
RPZ				LR			LR	11 08 19.9	
	comp=Z,4μm,21.0s,MS4.8,baz=356,slow=33								
CNB	**Canberra Magne**	**22.52**	**231**	*e*P			**P**	**11 01 40.3**	**+2.0**
	comp=Z,187nm,1.4s,mb5.3								
CTA	**Charters Tower**	**22.77**	**271**	*e*P			**P**	**11 01 41.1**	**+0.2**
	comp=Z,15nm,0.8s,mb4.5								
CTA				*i*S			**S**	**11 05 51.6**	**+3.5**
CTA	**Charters Tower**	**22.77**	**271**	P			**P**	**11 01 40.7**	**-0.2**
	comp=Z,8.3nm,0.7s,mb4.3,baz=106,slow=10,SNR=7.6								
CTA				LR			LR	11 09 15.9	
	comp=Z,1μm,21.5s,MS4.3,baz=96,slow=34								
CTA	**Charters Tower**	**22.77**	**271**	*e*P			**P**	**11 01 41.1**	**+0.2**
CTA				pmax			pmax		
	comp=Z,15nm,0.8s								
CTAO	**Charters Tower**	**22.77**	**271**	*e*P			**P**	**11 01 40.8**	**-0.1**
PMG	**Port Moresby**	**25.91**	**296**	P			**P**	**11 02 10.8**	**+0.3**
	comp=Z,16nm,1.0s,mb4.5,baz=104,slow=6.0,SNR=11								
PMG				LR			LR	11 10 52.6	
	comp=Z,2μm,18.5s,MS4.8,baz=105,slow=33								
PMG	**Port Moresby**	**25.91**	**296**	*e*P			**P**	**11 02 10.2**	**-0.3**
PMG				pmax			pmax		
	comp=Z,27nm,0.9s								
PMG	**Port Moresby**	**25.91**	**296**	*e*P			**P**	**11 02 10.2**	**-0.2**
	comp=Z,27nm,0.9s,mb4.8								
TOO	**Toolangi**	**26.33**	**229**	*e*P			**P**	**11 02 17.5**	**+3.2**
	comp=Z,29nm,1.7s,mb4.5								
TOO				*e*S			**S**	**11 06 45.0**	**-0.3**
TOO	**Toolangi**	**26.33**	**229**	*e*P			**P**	**11 02 17.5**	**+3.2**
TOO				*e*S			**S**	**11 06 45.0**	**-0.3**
TOO				pmax			pmax		
	comp=Z,29nm,1.7s,mb4.5								
STKA	**Stephens Creek**	**27.37**	**244**	*e*P			**P**	**11 02 21.3**	**-2.3**
	comp=Z,19nm,1.0s,mb4.6								
STKA				*e*S			**S**	**11 07 01.7**	**0.0**
STKA	**Stephens Creek**	**27.37**	**244**	P			**P**	**11 02 21.5**	**-2.2**
	comp=Z,21nm,1.1s,mb4.6,baz=77,slow=9.0,SNR=21								
STKA				LR			LR	11 12 32.5	
	comp=Z,3μm,18.7s,MS4.9,baz=190,slow=35								
RAR	**Rarotonga**	**27.55**	**93**	LR			LR	11 10 38.2	
	comp=Z,1μm,18.4s,MS4.4,baz=163,slow=30								
AS31	**Alice Springs**	**33.70**	**261**	*e*P			**P**	**11 03 18.2**	**-1.3**
ASAR	**Alice Springs**	**33.70**	**261**	P			**P**	**11 03 18.4**	**-1.1**
	comp=Z,12nm,1.0s,mb4.8,baz=81,slow=9.6,SNR=46								
ASAR				PcP			PcP	11 06 00.1	+1.3
	comp=Z,3.2nm,1.0s,baz=108,slow=2.8,SNR=4.2								
ASPA	**Alice Springs**	**33.70**	**261**	*e*P			**P**	**11 03 18.2**	**-1.3**
WB2	**Warramunga Arr**	**33.80**	**267**	*e*P			**P**	**11 03 19.1**	**-1.3**
WRAB	**Tennant Creek**	**33.81**	**267**	*e*P			**P**	**11 03 18.9**	**-1.5**
WRAB				pmax			pmax		
	comp=Z,167nm,1.9s,mb5.6								
WRAB	**Tennant Creek**	**33.81**	**267**	*e*P			**P**	**11 03 18.9**	**-1.5**
	comp=Z,167nm,1.9s,mb5.6								
WRA	**Warramunga Arr**	**33.81**	**267**	P			**P**	**11 03 18.6**	**-1.9**
	comp=Z,2.6nm,0.8s,mb4.2,baz=97,slow=8.5,SNR=18								
TBI	**Tubuai**	**36.76**	**99**	*e*S			**S**	**11 09 21.7**	**-6.1**
	comp=Z,471nm,27.0s								
TBI				*e*LQ				11 11 53.1	
	comp=Z,1μm,28.2s								
TBI				*e*LR			LR	11 13 19.9	
	comp=Z,1μm,27.2s,baz=289								
KAKA	**Kakadu**	**37.51**	**278**	*e*P			**P**	**11 03 51.5**	**-0.7**
	comp=Z,64nm,1.6s,mb5.1								
PPT	**Papeete**	**37.69**	**90**	*e*S			**S**	**11 09 35.7**	**-6.3**
	comp=Z,435nm,26.2s								
PPT				*e*LQ				11 12 20.9	
	comp=Z,2μm,34.2s								
PPT				*e*LR			LR	11 13 52.4	
	comp=Z,668nm,23.0s,baz=277								
PPT	**Papeete**	**37.69**	**90**	LR			LR	11 17 59.0	
	comp=Z,712nm,18.2s,MS4.5,baz=54,slow=34								
FORT	**Forrest**	**38.72**	**248**	*e*P			**P**	**11 04 02.6**	**+0.2**
	comp=Z,34nm,0.9s,mb5.1								
FITZ	**Fitzroy Crossi**	**42.25**	**267**	*e*P			**P**	**11 04 31.2**	**-0.4**
	comp=Z,36nm,1.8s,mb4.7								
FITZ				*e*S			**S**	**11 10 50.4**	**+0.3**
GUMO	**Guam**	**43.76**	**322**	LR			LR	11 22 14.1	
	comp=Z,701nm,19.0s,MS4.6,baz=282,slow=35								
MBWA	**Marble Bar**	**47.03**	**261**	*e*P			**P**	**11 05 08.8**	**-0.9**
	comp=Z,33nm,1.0s,mb5.2								
NWAO	**Narrogin (SRO)**	**47.94**	**245**	LR			LR	11 23 47.4	
	comp=Z,4μm,21.4s,MS5.3,baz=90,slow=34								
NWAO	**Narrogin (SRO)**	**47.94**	**245**	*e*P			**P**	**11 05 16.1**	**-0.7**
NWAO				pmax			pmax		
	comp=Z,32nm,1.1s								
NWAO	**Narrogin (SRO)**	**47.94**	**245**	*e*P			**P**	**11 05 16.1**	**-0.7**
	comp=Z,32nm,1.1s,mb5.3								
DRV	**Dumont d'Urvil**	**48.30**	**196**	S			**S**	**11 12 24.0**	**+6.5**
DRV				R				11 19 00.0	
MUN	**Mundaring**	**48.84**	**247**	*e*P			**P**	**11 05 23.9**	**+0.2**
RKT	**Rikitea**	**49.97**	**102**	*e*S			**S**	**11 12 33.9**	**-7.1**
	comp=Z,277nm,28.8s								
RKT				*e*LQ				11 17 13.1	
	comp=Z,877nm,31.2s								
RKT				*e*LR			LR	11 19 35.3	
	comp=Z,690nm,26.2s,baz=263								
VNDA	**Vanda**	**55.31**	**182**	P			**P**	**11 06 12.0**	**+0.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=358,slow=7.8,SNR=3.3								
VNDA				LR			LR	11 27 35.8	
	comp=Z,1μm,18.1s,MS5.1,baz=14,slow=34								
VNDA	**Vanda**	**55.31**	**182**	*e*P			**P**	**11 06 14.3**	**+2.5**
VNDA				pmax			pmax		
	comp=Z,77nm,2.3s								
VNDA	**Vanda**	**55.31**	**182**	*e*P			**P**	**11 06 14.3**	**+2.4**
	comp=Z,76nm,2.3s,mb5.3								
SBA	**Scott Base**	**55.51**	**181**	*e*P			**P**	**11 06 15.8**	**+2.5**
SBA				pmax			pmax		
	comp=Z,202nm,2.1s,mb5.8								
SBA	**Scott Base**	**55.51**	**181**	*e*P			**P**	**11 06 15.8**	**+2.5**
	comp=Z,202nm,2.1s,mb5.8								
KKM	**Kota Kinabalu**	**60.22**	**291**	*e*P			**P**	**11 06 45.8**	**-0.5**
KSM	**Kuching**	**63.30**	**284**	*e*P			**P**	**11 07 07.5**	**+0.4**
MJAR	**Matsushiro Arr**	**66.13**	**332**	P			**P**	**11 07 27.5**	**+1.9**
	comp=Z,2.6nm,0.8s,mb4.3,baz=116,slow=2.8,SNR=5.3								
MAJO	**Matsushiro**	**66.13**	**332**	*e*P			**P**	**11 07 24.1**	**-1.4**
MAJO				pmax			pmax		
	comp=Z,41nm,1.3s,mb5.3								
MAJO	**Matsushiro**	**66.13**	**332**	*e*P			**P**	**11 07 24.1**	**-1.4**
	comp=Z,41nm,1.3s,mb5.3								
MAT	**Matsushiro**	**66.13**	**332**	P			**P**	**11 07 25.0**	**-0.5**
MAT	**Matsushiro**	**66.13**	**332**	P			**P**	**11 07 21.0**	**-4.5**
YHNB	**Yeheng**	**66.87**	**312**	*e*P			**P**	**11 07 29.2**	**-1.1**
QSPA	**South Pole Qui**	**67.65**	**180**	*e*P			**P**	**11 07 33.8**	**-1.4**
	comp=Z,24nm,1.0s,mb5.2								
QZH	**Quanzhou**	**69.00**	**310**	P			**P**	**11 07 45.3**	**+1.7**
QZH				AMB			AMB		
	comp=Z,2μm,3.6s								
SSE	**Sheshan**	**71.22**	**317**	*e*P			**P**	**11 07 58.0**	**+0.7**
SSE				AP			pP	11 08 08.1	+1.5
SSE				XP			sP	11 08 10.3	+0.2
SSE				PCP			PcP	11 08 19.4	+2.3
SSE				PP			PP	11 10 36.0	+0.7
SSE				S			S	11 17 11.8	-0.7
SSE				SCS			ScS	11 17 58.8	-0.8
SSE				AMB			AMB		
	comp=Z,27nm,0.8s,mb5.2								
SSE				AMB			AMB		
	comp=Z,336nm,7.7s								
SSE				LR			LR		
	comp=N,65nm,23.9s,MS4.3								
SSE				LR			LR		
	comp=E,211nm,23.9s,MS4.3								
SSE				LR			LR		
	comp=Z,215nm,31.0s								
QIZ	**Qiongzhong**	**72.23**	**300**	P			**P**	**11 08 05.3**	**+2.0**
QIZ				S			S	11 17 29.9	+5.8
QIZ				AMB			AMB		
	comp=Z,20nm,1.7s,mb4.8								
QIZ				AMB			AMB		
	comp=Z,367nm,7.4s								
QIZ				LR			LR		
	comp=N,230nm,14.3s								
QIZ				LR			LR		
	comp=Z,254nm,15.9s,MS4.6								
NJ2	**Nanjing**	**73.34**	**316**	*e*P			**P**	**11 08 11.1**	**+1.2**
NJ2				AP			pP	11 08 21.4	+2.1
NJ2				PP			PP	11 10 56.3	+2.8
NJ2				S			S	11 17 34.0	-2.8
NJ2				XS			sS	11 17 51.0	-1.3
NJ2				AMB			AMB		
	comp=Z,20nm,0.8s,mb5.1								
NJ2				AMB			AMB		
	comp=Z,230nm,7.3s								
NJ2				LR			LR		
	comp=N,5μm,29.6s								
NJ2				LR			LR		
	comp=E,4μm,21.2s								
NJ2				LR			LR		
	comp=Z,2μm,20.0s								
KULM	**Kulim**	**73.64**	**283**	*e*P			**P**	**11 08 11.9**	**+0.2**
WHN	**Wuhan**	**75.39**	**312**	*e*P			**P**	**11 08 22.5**	**+0.6**
MAW	**Mawson**	**75.96**	**202**	LR			LR	11 39 43.7	
	comp=Z,489nm,18.8s,MS4.8,baz=81,slow=34								
DL2	**Dalian**	**76.29**	**323**	⇑P			**P**	**11 08 27.3**	**+0.3**
DL2				AP			pP	11 08 35.0	-1.4
DL2				XP			sP	11 08 37.8	-2.1
DL2				S			S	11 18 10.1	+0.5
DL2				XS			sS	11 18 20.5	-4.7
DL2				AMB			AMB		
	comp=Z,20nm,1.3s,mb4.9								
DL2				AMB			AMB		
	comp=Z,190nm,5.8s								
DL2				LR			LR		
	comp=N,140nm,12.6s,MS4.6								
DL2				LR			LR		
	comp=E,150nm,14.5s,MS4.6								
DL2				LR			LR		
	comp=Z,310nm,16.1s,MS4.7								
MDJ	**Mudanjiang**	**76.50**	**331**	P			**P**	**11 08 27.9**	**-0.2**
MDJ				AP			pP	11 08 37.8	+0.2
MDJ				S			S	11 18 12.4	+0.5
MDJ				SCS			ScS	11 18 43.9	+2.1
MDJ				AMB			AMB		
	comp=Z,12nm,1.5s,mb4.6								
MDJ				AMB			AMB		
	comp=Z,324nm,7.3s								
MDJ				LR			LR		
	comp=N,199nm,34.7s,MS4.4								
MDJ				LR			LR		
	comp=E,243nm,34.7s,MS4.4								
MDJ				LR			LR		
	comp=Z,301nm,23.6s								
KKTK	**Khon Kaen**	**76.67**	**294**	P			**P**	**11 08 31.0**	**+1.9**
TIA	**Tai'an**	**77.13**	**318**	*e*P			**P**	**11 08 31.9**	**+0.2**
CN2	**Changchun**	**77.81**	**328**	*e*P			**P**	**11 08 35.3**	**-0.2**
CN2				*e*AP			pP	11 08 43.3	-1.7
CN2				*e*S			S	11 18 25.1	-1.0
CN2				AMB			AMB		
	comp=Z,20nm,1.3s,mb4.9								
CN2				AMB			AMB		
	comp=Z,200nm,5.0s								
CN2				LR			LR		
	comp=N,500nm,14.0s,MS5.1								
CN2				LR			LR		
	comp=E,300nm,14.0s,MS5.1								
CN2				LR			LR		
	comp=Z,400nm,17.0s,MS4.8								
GYA	**Guiyang**	**78.64**	**305**	⇑*i*P			**P**	**11 08 41.3**	**+1.2**
GYA				AP			pP	11 08 49.3	-0.3
GYA				XP			sP	11 08 52.4	-0.7
GYA				PP			PP	11 11 39.8	+1.6
GYA				S			S	11 18 35.3	+0.1
GYA				SKS				11 18 49.9	
GYA				PS				11 19 22.3	
GYA				SS			SS	11 23 43.8	+4.5
GYA				AMB			AMB		
	comp=Z,20nm,1.5s,mb4.8								
GYA				AMB			AMB		
	comp=Z,480nm,6.2s								
GYA				LR			LR		
	comp=N,870nm,18.9s,MS5.3								
GYA				LR			LR		
	comp=E,840nm,18.6s,MS5.3								
GYA				LR			LR		
	comp=Z,930nm,18.0s,MS5.2								
NST	**Nakhon Sawan**	**78.65**	**292**	P			**P**	**11 08 42.0**	**+1.8**
KLR	**Kul'dur**	**79.27**	**335**	*e*P			**P**	**11 08 40.6**	**-2.9**
KLR				pmax			pmax		
	comp=Z,90nm,2.0s,mb5.3								
KLR				pmax			pmax		
	comp=Z,1μm,6.0s								
BJI	**Beijing**	**80.17**	**321**	P			**P**	**11 08 48.3**	**-0.2**
BJI				S			S	11 18 56.0	+4.6
BJI				AMB			AMB		
	comp=Z,16nm,2.0s,mb4.6								
BJI				AMB			AMB		
	comp=Z,556nm,6.4s								
BJI				LR			LR		
	comp=N,341nm,19.0s,MS4.9								
BJI				LR			LR		
	comp=E,389nm,20.2s,MS4.9								
BJI				LR			LR		
	comp=Z,417nm,23.2s,MS4.7								
BDT	**Bhumibol Dam**	**80.33**	**293**	P			**P**	**11 08 50.5**	**+1.2**
CHRT	**Chiangrai**	**80.88**	**296**	⇑P			**P**	**11 08 55.0**	**+2.8**
	comp=Z,105nm,1.0s,mb5.7								
KMI	**Kunming**	**81.00**	**302**	P			**P**	**11 08 54.8**	**+1.9**
KMI				AP			pP	11 09 03.0	+0.6
KMI				XP			sP	11 09 05.8	0.0
KMI				PP			PP	11 12 01.3	+3.5
KMI				PPP				11 13 53.0	
KMI				S			S	11 19 00.4	+0.4
KMI				SKS				11 19 07.1	
KMI				XS			sS	11 19 13.5	-2.2
KMI				PS				11 19 51.0	
KMI				SS			SS	11 24 17.6	+3.1
KMI				SSS				11 27 39.9	
KMI				AMB			AMB		
	comp=Z,43nm,1.8s,mb5.1								
KMI				AMB			AMB		
	comp=Z,561nm,6.5s								
KMI				LR			LR		
	comp=N,182nm,14.5s,MS4.7								
KMI				LR			LR		
	comp=E,203nm,17.6s,MS4.7								
KMI				LR			LR		
	comp=Z,229nm,16.1s,MS4.6								
XAN	**Xi'an**	**81.16**	**312**	P			**P**	**11 08 54.4**	**+0.6**
XAN				AP			pP	11 09 00.9	-2.4
XAN				AMB			AMB		
	comp=Z,17nm,1.9s,mb4.7								
SYO	**Syowa Base**	**82.23**	**196**	⇑*e*P			**P**	**11 08 58.2**	**-1.2**
SYO	**Syowa Base**	**82.23**	**196**	⇓*e*PcP			PcP	11 09 04.6	-0.1
CD2	**Chengdu**	**83.14**	**307**	*e*P			**P**	**11 09 04.5**	**+0.4**
CD2				AP			pP	11 09 14.9	+1.2
CD2				PP			PP	11 12 17.9	+2.5
CD2				S			S	11 19 20.9	-1.1
CD2				SS			SS	11 24 49.1	+2.6
CD2				AMB			AMB		
	comp=Z,10.0nm,0.5s,mb5.1								
CD2				AMB			AMB		
	comp=Z,240nm,6.7s								
CD2				LR			LR		
	comp=E,140nm,12.0s								
CD2				LR			LR		
	comp=Z,160nm,16.2s,MS4.5								
MA2	**Magadan**	**83.30**	**350**	P			**P**	**11 09 02.0**	**-3.0**
MA2				*e*				11 12 18.4	
MA2				*e*				11 20 13.8	
MA2	**Magadan**	**83.30**	**350**	*e*P			**P**	**11 09 04.1**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.4								
HHC	**Hu-ho-hao-te**	**83.43**	**319**	*e*P			**P**	**11 09 06.6**	**+1.0**
HHC				AP			pP	11 09 15.9	+0.8
HHC				XP			sP	11 09 19.0	+0.4
HHC				SKS				11 19 22.9	
HHC				S			S	11 19 25.4	+0.5
HHC				XS			sS	11 19 38.1	-2.6
HHC				SS			SS	11 24 53.8	+3.1
HHC				AMB			AMB		
	comp=Z,24nm,0.8s,mb5.3								
HHC				AMB			AMB		
	comp=Z,356nm,4.9s								
HHC				LR			LR		
	comp=N,181nm,4

CLNS pmax pmax
comp=N,10.0nm,1.3s
CLNS pmax pmax
comp=E,4.0nm,1.3s
CLNS pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
CLNS pmax pmax
comp=N,3.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,1.0s
CLNS smax
comp=E,109nm,12.1s
CLNS smax
comp=Z,58nm,14.3s
CLNS smax
comp=N,64nm,11.2s
CLNS MLR MLR
comp=Z,200nm,13.0s,MS4.7
CLNS MLR MLR
comp=N,100nm,12.0s,MS4.6
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.6
CMB Columbia Colle 88.37 48 *e*P **P 11 09 29.2 -0.8**
ISA Isabella 88.53 50 *e*P **P 11 09 29.9 -0.9**
ISA pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
ISA Isabella 88.53 50 *e*P **P 11 09 29.9 -0.9**
comp=Z,6.1nm,1.1s,mb4.8
YBH Yreka Blue Hor 88.73 43 LR LR 11 42 19.0
comp=Z,356nm,19.7s,MS4.8,baz=242,slow=31
NVAR Mina Array Bea 89.99 48 P **P 11 09 39.1 +1.5**
comp=Z,1.4nm,0.7s,mb4.4,baz=241,slow=8.5,SNR=9.3
NVAR LR LR 11 46 45.5
comp=Z,776nm,18.1s,MS5.2,baz=215,slow=33
GTA Gaotai 90.20 313 *e*P **P 11 09 39.8 +1.2**
GTA AP pP 11 09 47.8 -0.4
GTA XP sP 11 09 51.4 -0.2
GTA PP PP 11 13 18.1 +5.7
GTA SKS 11 20 08.0
GTA S 11 20 31.9
GTA XS sS 11 20 45.6 -0.7
GTA AMB AMB
comp=Z,7.0nm,1.6s,mb4.7
GTA AMB AMB
comp=Z,286nm,6.8s
GTA LR LR
comp=N,247nm,19.0s,MS4.8
GTA LR LR
comp=E,251nm,19.4s,MS4.8
GTA LR LR
comp=Z,357nm,20.1s,MS4.8
BILL Bilibino 90.25 358 *d i*P **P 11 09 37.8 -1.0**
BILL pmax pmax
comp=Z,32nm,1.7s,mb5.4
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.6
BILL Bilibino 90.25 358 *e*P **P 11 09 35.3 -3.5**
comp=Z,40nm,1.4s,mb5.5
BILL *ep*P pP 11 09 46.2 -2.2
YAK Yakutsk 90.27 342 *e*P **P 11 09 37.3 -1.6**
YAK *e* pP 11 09 45.6 -2.9
YAK pmax pmax
comp=Z,14nm,0.9s,mb5.3
YAK Yakutsk 90.27 342 *e*P **P 11 09 37.3 -1.7**
comp=Z,14nm,0.9s,mb5.3
YAK *e* pP 11 09 45.5 -3.0
SONM Songino Array 90.49 323 P **P 11 09 40.2 +0.2**
comp=Z,7.2nm,1.1s,mb4.9,baz=140,slow=3.7,SNR=34
SONM LR LR 11 52 28.6
comp=Z,368nm,18.0s,MS4.9,baz=305,slow=37
TPH Tonopah 90.57 49 P **P 11 09 39.8 -0.5**
TPH *e* 11 09 50.9
WVOR Wild Horse Val 91.70 44 *e*P **P 11 09 44.9 -0.7**
WVOR *e* 11 09 56.2
WVOR pmax pmax
comp=Z,10.0nm,1.5s,mb4.9
WVOR Wild Horse Val 91.70 44 *e*P **P 11 09 44.9 -0.7**
comp=Z,10nm,1.5s,mb4.9
WVOR *e* 11 09 56.2
LSA Lhasa 92.24 301 P **P 11 09 49.3 +1.2**
BOD Bodaibo 92.72 333 *e*P **P 11 09 40.0 -10**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.8
COLA College 92.72 16 *e*P **P 11 09 46.2 -4.1**
ILAR Eielson Array 92.90 17 P **P 11 09 49.9 -1.3**
comp=Z,0.8nm,0.7s,mb4.2,baz=226,slow=4.4,SNR=13
ILAR LR LR 11 48 16.9
comp=Z,456nm,18.2s,MS5.0,baz=73,slow=33
ZAK Zakamensk 93.59 324 *e*P **P 11 09 54.0 -0.3**
ZAK *e* 11 13 40.8
ZAK pmax pmax
comp=Z,31nm,1.7s,mb5.5
ZAK pmax pmax
comp=Z,12nm,2.0s,mb5.0
PLCA Paso Flores 95.35 138 LR LR 11 42 40.3
comp=Z,271nm,20.3s,MS4.7,baz=213,slow=29
PDAR Pinedale Array 97.87 47 LR LR 11 52 40.3
comp=Z,417nm,18.1s,MS5.0,baz=257,slow=34
TIXI Tiksi 98.10 348 *e*P **P 11 10 07.4 -7.4**
TIXI *e*SS SS 11 28 17.5 -5.0
TIXI *e*SSS 11 32 07.9
TIXI pmax pmax
comp=Z,2.0nm,1.2s,mb4.5
TIXI MLR MLR
comp=Z,250nm,16.0s,MS4.8
WMQ Urumqi 100.28 313 *e*P Pdif 11 10 24.9 +0.3
WMQ AP 11 10 34.3
WMQ PP PP 11 14 33.0 +2.3
WMQ AMB AMB
comp=Z,282nm,4.8s
WMQ LR LR
comp=N,1μm,24.0s
WMQ LR LR
comp=Z,1μm,22.0s,MS5.4
YKA Yellowknife Ar 102.92 27 PKiKP PKiKP 11 14 55.5 -0.9
comp=Z,0.3nm,0.7s,baz=251,slow=1.4,SNR=5.3
MKAR Makanchi Array 104.86 315 Pdiff Pdif 11 10 46.0 +1.1
comp=Z,0.3nm,0.7s,baz=106,slow=4.4,SNR=3.9
MKAR PP PP 11 15 07.2 +2.1
comp=Z,0.6nm,0.9s,baz=169,slow=2.9,SNR=4.5
FCC Fort Churchill 111.63 34 *e*PKIKP PKiKP 11 15 10.2 -2.4
SDV Santo Domingo 119.92 93 *e*PKPdf PKPdf 11 15 26.0 -2.6
DAG Danmarks Havn 125.41 3 ⇓*i*P PKPdf 11 15 36.3 -2.8
comp=Z,2.1nm,0.5s
DAG Danmarks Havn 125.41 3⇓*e*P PKPdf 11 15 36.3 -2.8
BDFB Brasilia 126.53 132 PKP PKPdf 11 15 41.1 -0.1
comp=Z,2.3nm,0.6s,baz=244,slow=1.4,SNR=4.5
SJG San Juan 126.88 84 *e*PKIKP PKPdf 11 15 41.5 -0.4
SUMG Summit 127.26 11 *e*PKPdf PKPdf 11 15 42.0 -0.6
LSZ Lusaka 127.44 228 *e*PKIKP PKPdf 11 15 43.2 +0.2
ARCES ARCESS Array B 128.45 345 PKP PKPdf 11 15 43.7 -1.2
comp=Z,1.9nm,0.7s,baz=90,slow=3.6,SNR=6.2
ARCES ARCESS Array B 128.45 345 PKP PKPdf 11 15 43.7 -1.2
KMBO Kilima Mbogo 128.84 249 *e*PKIKP PKPdf 11 15 47.1 +1.5
BHD Baghdad 131.66 295 *ex* x 11 15 47.0
BHD *ex* x 11 19 15.0
KIV Kislovodsk 132.27 310 *i*PKIKP PKPdf 11 15 54.4 +2.3
KIV pmax pmax
comp=Z,7.0nm,0.9s
MSL Mosul 132.71 299 *ex* x 11 15 54.0
AKASG Malin Array Be 138.78 323 PKP PKPdf 11 16 05.2 +1.0
comp=Z,0.3nm,0.5s,baz=96,slow=0.8,SNR=6.1
EIL Elat 139.66 290 *e*PKPdf PKPdf 11 16 04.8 -1.1
BR131 Keskin Array S 139.70 305 *e*PKPdf PKPdf 11 16 03.1 -2.8
BRTR Keskin Array B 139.70 305 PKP PKPdf 11 16 06.8 +0.9
comp=Z,1.0nm,0.9s,baz=116,slow=2.9,SNR=4.7
CRA Chernovtsy 141.83 321 PKIKP PKPdf 11 16 16.5 +6.7
STHS Stebnicka Huta 143.79 326 *e*PKP PKPdf 11 16 10.3 -2.9
STHS *e* 11 16 39.2
OJC Ojcow 144.03 328 *e*PKP PKPdf 11 16 17.2 +3.5
DRGR 144.47 321 PKIKP PKPdf 11 16 14.0 -0.4
KECS Kecovo 144.75 325 *e*PKP PKPdf 11 16 14.9 0.0
KECS *e* 11 16 22.0
KECS *e* 11 16 41.9
DIM Dimitrovgrad 144.86 312 *e*P PKPdf 11 16 17.0 +1.9
CRAR CRAIOVA 145.04 317 PKIKP PKPdf 11 16 16.5 +1.1
OKC Ostrava-Krasne 145.09 328 *e*PKP PKPdf 11 16 15.2 -0.3
OKC *ex* x 11 16 22.3
RUE Ruedersdorf 145.10 335 *e*PKPbc PKPbc 11 16 14.9 -0.1
RUE Ruedersdorf 145.10 335 *e*PKPdf PKPdf 11 16 14.8 -0.7
BSEG Bad Segeberg 145.16 340 *e*PKPbc PKPbc 11 16 15.0 -0.2
KSP Ksiaz 145.26 331 *e*PKP PKPdf 11 16 15.9 +0.1
KSP Ksiaz 145.26 331 *e*PKP PKPdf 11 16 15.8 0.0
KSP *ep*PKP pPKPdf 11 16 22.6 -3.1
KSP *e* 11 16 30.7
KSP LR LR
comp=Z,1μm,19.2s,MS5.7
PSZ Piszkesteto 145.41 325⇓*i*P PKPbc 11 16 16.7 +0.7
PSZ Piszkesteto 145.41 325 PKIKP PKPdf 11 16 16.9 +0.9
MORC Moravsky Berou 145.42 329 *e*PKIKP PKPdf 11 16 16.4 +0.3
RZN Rozhen 145.57 312 *e*P PKPdf 11 16 17.0 +0.7
PGB Panagyurishte 145.59 314 *e*P PKPdf 11 16 18.0 +1.6
DPC Dobruska-Polom 145.60 330 *e*PKP PKPdf 11 16 16.8 +0.4
DPC *ep*PKP pPKPdf 11 16 24.1 -2.1
VYHS Vyhne 145.61 326 *e*PKP PKPdf 11 16 16.0 -0.4
VYHS *e* 11 16 25.0
VYHS *e* 11 16 32.9
UPC Upice 145.63 331 *e*PKP PKPdf 11 16 17.1 +0.7
UPC *ep*PKP pPKPdf 11 16 24.3 -2.0
BZS Buzias 145.74 320 PKIKP PKPdf 11 16 17.7 +1.1
VRAC Vranov 146.19 329 PKP2 PKPab 11 16 18.7 -0.4
VTS Vitosha 146.21 314 *e*P PKPdf 11 16 17.0 -0.4
VTS Vitosha 146.21 314 P PKPdf 11 16 18.0 +0.6
PVCC Panska Ves 146.25 332 *e*PKP PKPdf 11 16 19.0 +1.5
PVCC *ep*PKP pPKPdf 11 16 26.7 -0.6
BRG Berggiesshubel 146.26 333 *e*PKPbc PKPbc 11 16 18.2 -0.4
BRG Berggiesshubel 146.26 333⇓*i*PKP PKPbc 11 16 19.4 +0.8
comp=Z,118nm,1.8s
MMB Musomiste 146.29 312 *e*P PKPdf 11 16 18.0 +0.5
CLL Collm 146.31 334 *e*PKPbc PKPbc 11 16 18.7 -0.1
CLL Collm 146.31 334⇓*i*PKPbc PKPbc 11 16 18.9 +0.1
comp=Z,185nm,1.8s
CLL ⇓*i*pPKPbc pPKPbc 11 16 25.9 -2.7
comp=Z,158nm,1.8s
CLL *i* x x 11 16 33.0
CLL *e*PP PP 11 19 40.0 -1.3
CLL Collm 146.31 334⇓*i*PKP PKPdf 11 16 18.9 +1.3
CLL *i* pPKP pPKPdf 11 16 25.9 -1.6
BOLS Boljevac 146.44 317⇑*i*PKP PKPdf 11 16 18.2 +0.4
KKB Krupnik 146.61 313 *e*P PKPbc 11 16 20.0 +0.3
PRU Pruhonice 146.66 331 *e*PKP PKPdf 11 16 19.6 +1.4
PRU *ep*PKP pPKPdf 11 16 27.4 -0.6
PRU AMS AMS 12 18 10.0
comp=Z,400nm,22.2s
ZST Bratislava 146.69 327 *e*PKP PKPdf 11 16 18.3 +0.1
EKA Eskdalemuir Ar 146.80 353 PKPbc PKPbc 11 16 18.8 -1.5
comp=Z,11nm,0.7s,baz=353,slow=2.4,SNR=46
ESK Eskdalemuir 146.82 353 *e*PKIKP PKPdf 11 16 17.9 -0.5
CLZ Clausthal 146.88 337 *e*PKPbc PKPbc 11 16 20.5 +0.1
PKSM Moragy 147.12 323 PKIKP PKPdf 11 16 19.4 +0.5
PKSM Moragy 147.12 323⇓*e*P PKPdf 11 16 18.6 -0.3
VAY Valandovo 147.19 313 *i*PKP PKPdf 11 16 19.3 +0.3
WERD Werda 147.26 334 *e*PKPbc PKPbc 11 16 21.3 -0.2
IBBN Ibbenburen 147.36 340 *e*PKPbc PKPbc 11 16 21.5 -0.3
NKC Novy Kostel 147.36 334 *e*PKP PKPbc 11 16 22.2 +0.4
MOX Moxa 147.38 335 *e*PKPbc PKPbc 11 16 21.3 -0.5
MOX Moxa 147.38 335 *e*PKP PKPbc 11 16 21.9 +0.1
comp=Z,75nm,1.9s
IDI Anoyia 147.48 301 PKPbc PKPbc 11 16 22.5 +0.4
comp=Z,19nm,1.0s,baz=152,slow=8.7,SNR=6.4
DIVS Divcibare 147.53 319⇑*i*PKP PKPdf 11 16 18.8 -0.8
SKO Skopje 147.66 314 *i*PKP PKPbc 11 16 22.9 +0.3
MANZ Manzenberg 147.69 334 *e*PKPbc PKPbc 11 16 23.0 +0.3
KHC Kasperske Hory 147.71 331 *e*PKP PKPdf 11 16 19.1 -0.8
KHC *ep*PKP pPKPdf 11 16 23.2 -6.6
ROTZ Rotzenmuhle 147.82 333 *e*PKPbc PKPbc 11 16 22.9 -0.1
UBBA Unterbreizbach 147.85 337 *e*PKPbc PKPbc 11 16 22.8 -0.3
GEC2 GERESS Array S 147.87 331 *e*PKPbc PKPbc 11 16 23.1 -0.1
GERES GERESS Array B 147.87 331 PKPbc PKPbc 11 16 23.5 +0.4
comp=Z,5.0nm,0.8s,baz=37,slow=3.6,SNR=24
WTSB Winterswijk 147.95 341 *e*PKP PKPbc 11 16 23.5 +0.1
comp=Z,56nm,2.2s
WET Wettzell 148.01 332 *e*PKPbc PKPbc 11 16 23.0 -0.5
BUG Bochum--Univer 148.26 340 *e*PKPbc PKPbc 11 16 24.2 0.0
GRA1 Grafenberg Arr 148.28 334 *e*PKPbc PKPbc 11 16 24.4 +0.1
GRA1 *e*PKPab PKPab 11 16 28.4 +1.0
GRF Grafenberg Arr 148.28 334 *e*PKPbc PKPbc 11 16 24.4 +0.1
GRF *e*PKPab PKPab 11 16 28.4 +1.0
MOA Molln 148.32 329⇑*i*P PKPdf 11 16 20.7 -0.3
comp=Z,20nm,1.5s
OHR Ohrid 148.48 313 *i*PKP PKPdf 11 16 23.9 +2.7
SISC Sisak 148.83 324 *i*PKP PKPbc 11 16 25.3 -0.4
TNS Taunus Mts 148.90 338 *e*PKPbc PKPbc 11 16 25.4 -0.5
DCN Croghan 149.09 357 *e*P PKPdf 11 16 24.0 +1.8
CRES Cresnjev 149.09 325 *e*PKPdf PKPdf 11 16 22.2 0.0
CRES *e*PKPbc PKPbc 11 16 26.8 +0.5
DLF Lyons Farm 149.10 357 *e*P PKPdf 11 16 22.0 -0.2
HGN Heimansgroeve 149.27 341 *e*PKP PKPdf 11 16 25.4 +3.0
comp=Z,54nm,2.6s
TOD Tromm 149.29 336 PKIKP PKPbc 11 16 26.5 -0.3
KBA Koelnbreinsper 149.31 329⇑*i*P PKPdf 11 16 22.3 -0.2
comp=Z,28nm,1.3s,SNR=8.9
KBA Koelnbreinsper 149.31 329⇑*i*P PKPdf 11 16 22.3 -0.2
MEM Membach 149.38 341 PKPbc PKPbc 11 16 26.8 -0.2
MEM PKPab PKPab 11 16 31.6 -0.2
MEM XPKiKP 11 16 34.5
BOJS Bojanci 149.41 325 *e*PKPdf PKPdf 11 16 22.8 +0.1
BOJS *e*PKPbc PKPbc 11 16 28.0 +0.9
BOJS *e* 11 16 34.6
BOJS *e* 11 16 44.3
LJU Ljubljana 149.44 326 *e*PKPdf PKPdf 11 16 22.9 +0.2
LJU *e*PKPbc PKPbc 11 16 27.7 +0.5
FUR Furstenfeldbru 149.44 332 *e*PKPbc PKPbc 11 16 27.4 +0.2
FUR *e*PKPab PKPab 11 16 33.1 +1.0
FUR Furstenfeldbru 149.44 332 *e*PKP2 PKPab 11 16 33.1 +1.0
ABH Alteburg 149.50 338 PKP PKPbc 11 16 27.1 -0.3
STON Ston 149.59 319 *i*P PKPdf 11 16 22.1 -0.8
UCC Uccle 149.70 343 PKPbc PKPbc 11 16 27.8 0.0
UCC XPKiKP 11 16 35.1
VOY Vojsko 149.77 327 *e*PKPbc PKPbc 11 16 27.6 -0.4
VOY *e* 11 16 32.4
VOJS Vojsko 149.77 327 *e*PKPdf PKPdf 11 16 23.0 -0.2
VOJS *e*PKPbc PKPbc 11 16 28.1 +0.1
STU Stuttgart 149.82 335 *e*PKPbc PKPbc 11 16 28.3 +0.2
STU *e*PKPab PKPab 11 16 34.7 +1.1
STU Stuttgart 149.82 335 *e*PKPbc PKPbc 11 16 28.5 +0.3
RUP Ruppelstein 149.82 338 PKHKP 11 16 27.1
WATA Walderalm 149.94 331⇑*i*P PKPbc 11 16 28.3 -0.2
comp=Z,50nm,1.7s
SNF Seneffe 149.98 342 PKPbc PKPbc 11 16 28.1 -0.4
MOTA Moosalm 150.15 331⇓*i*P PKPbc 11 16 28.1 -0.8
comp=Z,43nm,1.5s,SNR=6.6
WLF Walferdange 150.16 339 *e*PKPbc PKPbc 11 16 29.1 +0.1
WLF *e*PKPab PKPab 11 16 36.2 +1.2
WLF Walferdange 150.16 339 PKPbc PKPbc 11 16 29.3 +0.3
WLF APKPbc 11 16 33.2
WLF Walferdange 150.16 339 *e*PKPbc PKPbc 11 16 29.4 +0.5
LANF Langenberg 150.17 337 PKP PKPbc 11 16 28.9 -0.1
GIVF Givet 150.19 341 *e*PKP1 PKPbc 11 16 29.1 +0.1
SQTA Sankt Quirin 150.19 331⇑*i*P PKPbc 11 16 28.6 -0.4
comp=Z,55nm,1.6s,SNR=8.3
DOU Dourbes 150.26 342 PKPbc PKPbc 11 16 29.2 0.0
DOU APKPbc 11 16 33.4
DOU XPKiKP 11 16 36.9
DOU XPKPab 11 16 44.8
BAIF Baives 150.40 342 *e*PKP1 PKPbc 11 16 29.8 +0.3
comp=Z,118nm,1.5s
BFO Black Forest 150.51 336 *e*PKPbc PKPbc 11 16 29.2 -0.6
BFO *e*PKPab PKPab 11 16 36.8 +0.3
DAVA Damuels 150.72 333⇓*i*P PKPbc 11 16 30.9 +0.6
comp=Z,38nm,1.4s
DAVA Damuels 150.72 333⇓*i*P PKPbc 11 16 30.9 +0.6
WLS Welschbruch 150.81 337 PKP PKPbc 11 16 29.7 -0.8
CDF Champ du Feu 150.84 337 *e*PKP1 PKPbc 11 16 30.6 0.0
comp=Z,119nm,1.4s
LIBD Limburg 150.94 336 PKIKP PKPdf 11 16 28.4 +3.3
ECH Echery 151.05 337 PKP PKPbc 11 16 30.1 -1.0
DAVOS Davos 151.12 332 PKPbc PKPbc 11 16 31.4 +0.1
comp=Z,10.0nm,0.6s,baz=259,slow=2.5,SNR=18
MOF Molkenrain 151.36 336 PKP PKPbc 11 16 31.0 -0.8
THEF They Montfort 151.45 338 PKP PKPbc 11 16 31.7 -0.3
HINF Hinteralfeld 151.49 337 *e*PKP1 PKPbc 11 16 32.0 -0.1
HAU Haudompre 151.52 337 *e*PKP1 PKPbc 11 16 33.1 +1.0
comp=Z,68nm,1.2s
HAU *e*R
comp=Z,322nm,20.0s
HAU Haudompre 151.52 337 *e*PKP PKPbc 11 16 33.1 +1.0
HAU LR LR
comp=Z,320nm,20.0s,MS5.1
MEZF Maizieres J'vi 151.53 340 *e*PKP1 PKPbc 11 16 32.6 +0.4
comp=Z,324nm,1.7s
LOMF Lomont 151.89 336 PKP PKPbc 11 16 32.7 -0.3
FLN La Foliniere 152.77 347 *e*PKP1 PKPbc 11 16 34.5 -0.5
comp=Z,99nm,1.3s
FLN *e*R
comp=Z,345nm,21.2s
FLN La Foliniere 152.77 347 *e*PKP PKPbc 11 16 34.5 -0.5
FLN LR LR
comp=Z,350nm,21.3s,MS5.1
CABF La Chapelle 152.79 336 *e*PKP1 PKPbc 11 16 35.6 +0.6
comp=Z,50nm,1.3s
LDF La Druitiere 152.85 346 *e*PKP1 PKPbc 11 16 34.8 -0.4
comp=Z,138nm,1.6s
LOR Lormes 153.00 340 *e*PKP1 PKPbc 11 16 35.5 0.0
LOR *e*R
comp=Z,373nm,21.5s
LOR Lormes 153.00 340 *e*PKP PKPbc 11 16 35.5 0.0
LOR LR LR
comp=Z,370nm,21.5s,MS5.2
GRR Gorron 153.20 347 *e*PKP1 PKPbc 11 16 35.7 -0.2
AVF Avril sur Loir 153.58 340 *e*PKP1 PKPbc 11 16 36.4 -0.4
comp=Z,93nm,1.9s
BGF Bois d'Agland 153.95 340 *e*PKP1 PKPbc 11 16 37.8 +0.3
comp=Z,85nm,1.4s
TCF Toulx Ste Croi 154.38 341 *e*PKP1 PKPbc 11 16 38.5 0.0
comp=Z,116nm,1.7s
MFF Saint Martin d 154.73 345 *e*PKP1 PKPbc 11 16 39.6 +0.4
LASF Ste Croix 155.77 336 *e*PKP1 PKPdf 11 16 42.3 +10
comp=Z,108nm,1.5s
ESDC Sonseca Array 162.18 346 PKPab PKPab 11 17 26.1 -0.3
comp=Z,0.1nm,0.3s,baz=328,slow=4.6,SNR=4.1
LIC Lamto 163.34 195 *e*PKIKP PKPdf 11 16 43.3 +2.6
comp=Z,37nm,1.3s
LIC *e*R
comp=Z,690nm,22.2s
LIC Lamto 163.34 195 *e*PKPdf PKPdf 11 16 43.3 +2.6
LIC LR LR
comp=Z,350nm,22.3s
DBIC Dimbokro 163.73 196 PKPab PKPab 11 17 33.1 -0.1
comp=Z,14nm,1.0s,baz=155,slow=4.4,SNR=6.4
TORD Torodi Ar. Bea 165.95 231 PKP PKPdf 11 16 44.1 +1.1
comp=Z,3.9nm,1.0s,baz=106,slow=0.7,SNR=12
TORD PKPab PKPab 11 17 44.6 +1.6
comp=Z,10nm,1.1s,baz=128,slow=2.7,SNR=11

ISCJB ***19*** *11:05:53.6±0.2, 4566N±002×2650E±002, h152km±1km, mb4.0/17, Error ellipse: s-maj=3.0km s-min=2.7km az=157.2*
CSEM ***19*** *11:05:53.5±0.0, 4565N×2651E, h150km, MD4.7/6, Error ellipse: s-maj=1.4km s-min=1.3km az=21.0*
MOS ***19*** *11:05:53.4±0.8, 4570N×2649E, h153km, mb4.3/2, Error ellipse: s-maj=6.8km s-min=4.4km az=105.5*
BUC ***19*** *11:05:53.8±0.6, 4566N×2648E, h158km±5km, MD4.8/6, Error ellipse: s-maj=3.8km s-min=3.5km az=130.0*
SOF ***19*** *11:05:53.0, 4535N×2662E, h0km, MD3.5*
NEIC ***19*** *11:05:54.8, 4561N×2645E, h147km, mb4.5/5, MD4.9(BUC), After BUC.*
IDC ***19*** *11:05:54.7±0.4, 4565N×2632E, h148km±2km, mb3.5/12, mb1 3.5/18, mb1mx3.5/26, mbtmp3.9/18, Error ellipse: s-maj=13.5km s-min=10.0km az=149.0*
PRU ***19*** *11:05:59.8, 4563N×2530E, h0km, M4.5*
ISC 19 11:05:54.5±0.2, 4566N±002×2649E±002, h150km±1km, h152km±1.8km:pP-P, n175, σ0:97/236, mb4.0/17, 31C-29D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.22**	**311**	⇑*i*P	**Pn**	**11 06 15.0**	**+0.2**
PLOR				*i* S	**Sn**	**11 06 30.5**	**+0.3**
VRI	**Vrincioaia**	**0.26**	**39**	⇑*i*P	**Pn**	**11 06 15.2**	**+0.3**
VRI				*i* S	**Sn**	**11 06 30.5**	**+0.1**
VRI	**Vrincioaia**	**0.26**	**39**	⇑*i*P	**Pn**	**11 06 15.3**	**+0.4**
VRI				*i* S	**Sn**	**11 06 30.8**	**+0.4**
VRI	**Vrincioaia**	**0.26**	**39**	P	**Pn**	**11 06 14.8**	**-0.1**
BRD	**Bordesti**	**0.39**	**106**	⇑*i*P	**Pn**	**11 06 15.5**	**+0.2**
BRD	**Bordesti**	**0.39**	**106**	P	**Pn**	**11 06 15.6**	**+0.3**
BRD	**Bordesti**	**0.39**	**106**	P	**Pn**	**11 06 15.6**	**+0.2**
MLR	**Muntele Rosu**	**0.42**	**246**	P	**Pn**	**11 06 15.8**	**+0.3**
	1μm,0.3s,baz=33,slow=1.9,SNR=7164						
MLR				S	**Sn**	**11 06 32.1**	**+0.8**
	2μm,0.3s,baz=81,slow=17,SNR=40						
MLR	**Muntele Rosu**	**0.42**	**246**	⇑*i*P	**Pn**	**11 06 16.0**	**+0.6**
MLR				*i* S	**Sn**	**11 06 32.0**	**+0.7**
MLR	**Muntele Rosu**	**0.42**	**246**	⇑*i*P	**Pn**	**11 06 16.0**	**+0.6**
MLR				S	**Sn**	**11 06 32.1**	**+0.8**
MLR	**Muntele Rosu**	**0.42**	**246**	P	**Pn**	**11 06 15.9**	**+0.4**
PETR		**0.52**	**83**	⇑*i*P	**Pn**	**11 06 16.7**	**+0.8**
PETR				*i* S	**Sn**	**11 06 33.0**	**+0.8**
ISR	**Istrita**	**0.55**	**176**	⇓*i*P	**Pn**	**11 06 17.0**	**+1.0**
ISR				*i* S	**Sn**	**11 06 32.1**	**-0.3**
ISR	**Istrita**	**0.55**	**176**	P	**Pn**	**11 06 16.7**	**+0.7**
ISR				S	**Sn**	**11 06 32.1**	**-0.3**
ISR	**Istrita**	**0.55**	**176**	⇑P	**Pn**	**11 06 16.7**	**+0.6**
SECR		**0.69**	**206**	⇑*i*P	**Pn**	**11 06 17.8**	**+0.9**
SECR				*i* S	**Sn**	**11 06 35.2**	**+1.2**
SNX	**Sinaia**	**0.75**	**246**	⇓*i*P	**Pn**	**11 06 18.4**	**+1.1**
SNX				*i* S	**Sn**	**11 06 35.2**	**+0.5**
GHRR		**0.75**	**58**	⇑*i*P	**Pn**	**11 06 17.9**	**+0.6**
GHRR				*i* S	**Sn**	**11 06 35.2**	**+0.5**
FULR		**0.78**	**183**	⇑*i*P	**Pn**	**11 06 18.3**	**+0.8**
FULR				*i* S	**Sn**	**11 06 36.2**	**+1.2**
DOPR	**Dopca**	**0.83**	**292**	⇑*i*P	**Pn**	**11 06 18.0**	**+0.1**
DOPR				*i* S	**Sn**	**11 06 35.5**	**-0.1**
TUDR		**0.83**	**94**	⇑*i*P	**Pn**	**11 06 18.0**	**+0.1**
TUDR				*i* S	**Sn**	**11 06 35.5**	**-0.2**
PGOR	**Pogoanele**	**0.83**	**155**	⇑*i*P	**Pn**	**11 06 18.8**	**+0.9**
PGOR				*i* S	**Sn**	**11 06 35.8**	**+0.1**
TESR		**0.85**	**7**	⇑*i*P	**Pn**	**11 06 18.0**	**-0.1**
TESR				*i* S	**Sn**	**11 06 34.9**	**-1.1**
VARR		**0.98**	**77**	*i* S	**Sn**	**11 06 37.5**	**-0.3**
VOIR		**1.04**	**258**	⇑*i*P	**Pn**	**11 06 19.6**	**0.0**
VOIR				*i* S	**Sn**	**11 06 37.8**	**-0.9**
VOIR		**1.04**	**258**	P	**Pn**	**11 06 19.5**	**-0.1**
VOIR				*i* S	**Sn**	**11 06 37.8**	**-0.9**
VOIR		**1.04**	**258**	⇑P	**Pn**	**11 06 19.5**	**0.0**
VOIR				S	**Sn**	**11 06 37.8**	**-0.8**
MTUR	**Matau**	**1.10**	**247**	⇑*i*P	**Pn**	**11 06 20.6**	**+0.5**
MTUR				*i* S	**Sn**	**11 06 41.2**	**+1.6**
MTUR	**Matau**	**1.10**	**247**	P	**Pn**	**11 06 20.6**	**+0.5**
AMRR		**1.21**	**150**	⇑*i*P	**Pn**	**11 06 21.8**	**+0.7**
AMRR				*i* S	**Sn**	**11 06 41.6**	**+0.1**
KGL	**Cahul**	**1.22**	**78**	⇓*i*P	**Pn**	**11 06 23.6**	**+2.4**
	2μm,0.8s						
KGL				*i* S	**Sn**	**11 06 43.0**	**+1.4**
	20μm,2.4s						
CNCR	**Cernica**	**1.23**	**188**	⇑*i*P	**Pn**	**11 06 21.7**	**+0.4**
CNCR				*i* S	**Sn**	**11 06 41.7**	**-0.1**
CFR	**Carcaliu**	**1.26**	**112**	⇑*i*P	**Pn**	**11 06 21.6**	**0.0**
CFR				*i* S	**Sn**	**11 06 41.5**	**-0.7**
CFR	**Carcaliu**	**1.26**	**112**	⇑*i*P	**Pn**	**11 06 21.6**	**0.0**
CFR				*i* S	**Sn**	**11 06 42.2**	**0.0**
CFR	**Carcaliu**	**1.26**	**112**	⇑P	**Pn**	**11 06 21.6**	**+0.1**
BAPR	**Bucharest-Chil**	**1.28**	**192**	⇑*i*P	**Pn**	**11 06 22.3**	**+0.5**
BAPR				*i* S	**Sn**	**11 06 42.6**	**-0.1**
CIOR	**Ciorogarla**	**1.29**	**200**	⇓*i*P	**Pn**	**11 06 22.2**	**+0.3**
CIOR				*i* S	**Sn**	**11 06 42.8**	**0.0**
BERR	**Berezeni**	**1.35**	**58**	⇑*i*P	**Pn**	**11 06 23.0**	**+0.5**
BERR				*i* S	**Sn**	**11 06 43.7**	**-0.2**
BUC1	**Bucharest**	**1.36**	**194**	⇑*i*P	**Pn**	**11 06 23.0**	**+0.4**
BUC1				*i* S	**Sn**	**11 06 44.0**	**0.0**
BUC1	**Bucharest**	**1.36**	**194**	P	**Pn**	**11 06 23.1**	**+0.5**
BUC1				S	**Sn**	**11 06 43.0**	**-1.0**
GOLR		**1.36**	**233**	⇑*i*P	**Pn**	**11 06 23.1**	**+0.5**
GOLR				*i* S	**Sn**	**11 06 44.1**	**+0.1**
HARR	**Harsova**	**1.41**	**133**	⇓*i*P	**Pn**	**11 06 23.4**	**+0.3**
HARR				*i* S	**Sn**	**11 06 44.0**	**-0.9**
HARR	**Harsova**	**1.41**	**133**	⇓P	**Pn**	**11 06 23.4**	**+0.3**
LEOM	**Leova**	**1.47**	**56**	⇓*i*P	**Pn**	**11 06 23.3**	**-0.4**
	1μm,0.8s						
LEOM				*i* S	**Sn**	**11 06 44.8**	**-1.2**
	31μm,0.8s						
IAS	**Iasi**	**1.70**	**25**	⇑*i*P	**Pn**	**11 06 26.3**	**+0.1**
IAS				*i* S	**Sn**	**11 06 49.2**	**-1.3**
IAS	**Iasi**	**1.70**	**25**	P	**Pn**	**11 06 26.4**	**+0.2**
TLCR		**1.71**	**105**	⇓*i*P	**Pn**	**11 06 25.2**	**-1.1**
TLCR				*i* S	**Sn**	**11 06 48.8**	**-1.8**
TIRR	**Tirgusor**	**1.82**	**131**	⇓*i*P	**Pn**	**11 06 27.7**	**+0.2**
TIRR				*i* S	**Sn**	**11 06 51.5**	**-1.3**
TIRR	**Tirgusor**	**1.82**	**131**	P	**Pn**	**11 06 27.8**	**+0.2**
KIS	**Kishinev**	**2.09**	**50**	K*i*P	**Pn**	**11 06 30.0**	**-0.7**
KIS				*i* S	**Sn**	**11 06 56.5**	**-2.0**
KIS				pmax	pmax		
	comp=Z,1μm,0.5s						
KIS				pmax	pmax		
	comp

KIS smax
comp=E,12μm,0.5s
KIS smax
comp=N,14μm,0.5s
KIS smax
comp=E,14μm,0.5s
KIS Kishinev 2.09 50⇓ *iP* **Pn 11 06 30.0 -0.7**
comp=E,1μm,0.5s
KIS *i* S **Sn 11 06 56.5 -2.0**
comp=E,14μm,0.5s
BURAR Bucovina Array 2.14 336⇓ *iP* **Pn 11 06 32.7 +1.5**
BURAR *i* S **Sn 11 07 01.9 +2.4**
BURAR Bucovina Array 2.14 336⇓ *iP* **Pn 11 06 32.7 +1.5**
BURAR S **Sn 11 07 01.7 +2.2**
BURAR Bucovina Array 2.14 336 ⇓ P **Pn 11 06 32.7 +1.4**
BURAR S **Sn 11 07 01.7 +2.3**
ZIMR 2.16 202⇓ *iP* **Pn 11 06 31.5 0.0**
ZIMR *i* S **Sn 11 06 58.5 -1.4**
ZIMR 2.16 202 ⇑ P **Pn 11 06 31.5 0.0**
ZIMR S **Sn 11 06 58.5 -1.4**
PSN Preselentsi 2.32 148 *i* Pg **Pn 11 06 33.7 +0.3**
CRAR CRAIOVA 2.33 236⇓ *iP* **Pn 11 06 33.1 -0.4**
CRAR *i* S **Sn 11 07 01.4 -2.2**
SZH Strazhica 2.43 190 *i* Pg **Pn 11 06 34.6 -0.1**
PRD Provadia 2.55 165 *i* Pg **Pn 11 06 37.2 +1.0**
PVL Pavlikeni 2.58 199 *i* P **Pn 11 06 37.9 +1.3**
CRA Chernovtsy 2.65 352 ⇓ P **Pn 11 06 33.1 -4.3**
CRA S **Sn 11 07 01.7 -8.8**
DRGR 2.85 295⇓ *iP* **Pn 11 06 39.5 -0.5**
DRGR *i* S **Sn 11 07 13.7 -1.5**
DRGR 2.85 295 P **Pn 11 06 39.7 -0.3**
DRGR *i* S **Sn 11 07 13.7 -1.5**
DRGR 2.85 295 P **Pn 11 06 39.5 -0.5**
JMB Yambol 3.20 179 *i* P **Pn 11 06 44.0 -0.3**
JMB Yambol 3.20 179 *eP* **Pn 11 06 44.0 -0.3**
BZS Buzias 3.42 271⇓ *iP* **Pn 11 06 46.7 -0.5**
BZS *i* S **Sn 11 07 25.2 -2.8**
BZS Buzias 3.42 271 P **Pn 11 06 46.9 -0.3**
BZS S **Sn 11 07 25.2 -2.8**
BZS Buzias 3.42 271 P **Pn 11 06 46.9 -0.3**
PGB Panagyurishte 3.53 209 *i* P **Pn 11 06 48.7 0.0**
VTS Vitosha 3.88 219 *i* P **Pn 11 06 52.5 -0.6**
VTS Vitosha 3.88 219 *eP* **Pn 11 06 52.7 -0.4**
VTS Vitosha 3.88 219⇓ *iP* **Pn 11 06 52.7 -0.4**
VTS *i* S **Sn 11 07 37.5 -1.1**
VTS Vitosha 3.88 219 P **Pn 11 06 53.1 0.0**
VTS *i* S **Sn 11 07 37.5 -1.1**
SVIS Svilajnac 3.98 252 ⇑ *iPn* **Pn 11 06 53.7 -0.8**
UZH Uzhgorod 4.12 318 *eP* **Pn 11 06 57.0 +0.6**
RZN Rozhen 4.18 199 *i* P **Pn 11 06 54.2 -2.9**
LVV L'vov 4.48 339 *diP* **Pn 11 07 01.0 0.0**
LVV *i* S **Sn 11 07 53.6 +0.9**
LVV L'vov 4.48 339 *i* P **Pn 11 07 01.0 0.0**
LVV *i* S **Sn 11 07 53.6 +0.9**
GRUS Gruza 4.48 249 *i* Pn **Pn 11 07 00.3 -0.7**
GRUS Sn **Sn 11 07 44.6 -8.2**
KKB Krupnik 4.53 214 *i* P **Pn 11 07 02.0 +0.4**
MMB Musomiste 4.54 207 *i* P **Pn 11 07 02.0 +0.2**
CRVS Cervenica-Dubn 4.71 315 *i* PN **Pn 11 07 04.1 0.0**
KWP Kalwaria 4.72 329 *ePn* **Pn 11 07 04.9 +0.7**
ALN Alexandroupoli 4.78 184 *eP* **Pn 11 07 04.7 -0.2**
DIVS Divcibare 4.88 254 *i* Pn **Pn 11 07 06.0 -0.3**
DIVS Sn **Sn 11 07 50.2 -12**
DIVS Divcibare 4.88 254 *eP* **Pn 11 07 05.7 -0.6**
DIVS Divcibare 4.88 254 Pn **Pn 11 07 05.9 -0.4**
KECS Kecovo 4.98 307 *i* Pn **Pn 11 07 07.5 -0.1**
SRS Serrai 5.01 206 *eP* **Pn 11 07 07.9 -0.1**
PSZ Piszkesteto 5.06 299 *ePn* **Pn 11 07 07.7 -1.0**
PSZ Piszkesteto 5.06 299⇓ *iP* **Pn 11 07 08.1 -0.6**
PSZ Piszkesteto 5.06 299 P **Pn 11 07 08.5 -0.2**
STHS Stebnicka Huta 5.17 318 *i* Pn **Pn 11 07 10.3 +0.2**
VAY Valandovo 5.19 215⇓ *iPn* **Pn 11 07 09.8 -0.7**
VAY *i* Sn **Sn 11 08 01.4 -8.3**
VAY Valandovo 5.19 215⇓ *iPn* **Pn 11 07 09.7 -0.8**
SEV Sevastopol' 5.20 100 *i* P **Pn 11 07 10.8 +0.2**
SEV *i* S **Sn 11 08 08.4 -1.5**
SOH Sokhos 5.35 206 *eP* **Pn 11 07 12.6 0.0**
AKASG Malin Array Be 5.36 19 P **Pn 11 07 12.0 -0.7**
comp=E,60nm,0.3s,baz=206,slow=13,SNR=187
SIM Simferopol' 5.43 95 P **Pn 11 07 13.5 -0.1**
SIM *e*S **Sn 11 08 13.9 -1.4**
SIM pmax pmax
comp=Z,99μm,0.5s
SIM Simferopol' 5.43 95 P **Pn 11 07 13.5 -0.1**
comp=Z,99μm,0.5s
SIM *e*S **Sn 11 08 13.9 -1.4**
PKSM Moragy 5.50 279⇓ *iP* **Pn 11 07 14.8 +0.2**
PKSM *i* S **Sn 11 08 21.0 +3.9**
PKSM Moragy 5.50 279 *i* P **Pn 11 07 14.7 +0.1**
YAL Yalta 5.55 99 *eP* **Pn 11 07 15.0 -0.3**
YAL *e*S **Sn 11 08 15.0 -3.3**
NIE Niedzica 5.62 314 *eP* **Pn 11 07 16.9 +0.8**
OUR Ouranopolis 5.63 200 *eP* **Pn 11 07 15.3 -1.1**
ALU Alushta 5.68 97 *eP* **Pn 11 07 16.2 -0.7**
VYHS Vyhne 5.94 301 *ePn* **Pn 11 07 19.9 -0.5**
PAIG Paliouri 6.09 201 *eP* **Pn 11 07 21.4 -1.0**
OJC Ojcow 6.40 318 *eP* **Pn 11 07 25.5 -1.0**
OKC Ostrava-Krasne 7.00 310 *ePN* **Pn 11 07 33.6 -1.0**
GCIS Gornji Cirnik 7.60 275 *ePn* **Pn 11 07 43.4 +0.8**
VRAC Vranov 7.63 302 P **Pn 11 07 43.0 0.0**
comp=Z,0.5nm,0.3s,baz=111,slow=13,SNR=12
VRAC Vranov 7.63 302 ⇑ *iP* **Pn 11 07 43.1 +0.2**
VRAC Vranov 7.63 302 *ePn* **Pn 11 07 42.8 -0.1**
VRAC Vranov 7.63 302 P **Pn 11 07 43.2 +0.3**
VRAC Vranov 7.63 302 P **Pn 11 07 43.2 +0.2**
ARSA Arzberg 7.74 286⇓ *iP* **Pn 11 07 45.0 +0.7**
comp=Z,4.7nm,0.9s
ARSA Arzberg 7.74 286⇓ *iP* **Pn 11 07 45.0 +0.6**
ARSA Arzberg 7.74 286⇓ *iP* **Pn 11 07 45.0 +0.6**
LEGS Legarje 7.81 276 *ePn* **Pn 11 07 46.1 +0.7**
BOJS Bojanci 7.89 273 *ePn* **Pn 11 07 47.0 +0.6**
BR131 Keskin Array S 7.93 136 *ePn* **Pn 11 07 47.0 0.0**
comp=Z,1.7nm,0.4s
BRTR Keskin Array B 7.93 136 P **Pn 11 07 47.0 0.0**
comp=Z,0.4nm,0.3s,baz=324,slow=11,SNR=20
PERS Pernice 7.96 281 *eP* **Pn 11 07 47.9 +0.6**
VISS Visnje 8.15 275 *i* Pn **Pn 11 07 51.0 +1.1**
DPC Dobruska-Polom 8.27 308 *ePN* **Pn 11 07 58.7 +7.2**
KSP Ksiaz 8.55 311 *eP* **Pn 11 07 54.6 -0.6**
SUW Suwalki 8.63 347 *eP* **Pn 11 07 54.3 -1.9**
MNK Minsk 8.89 5 *eP* **Pn 11 08 02.0 +2.3**
PRU Pruhonice 9.13 303 *ePN* **Pn 11 08 02.2 -0.7**
GERES GERESS Array B 9.26 295 P **Pn 11 08 05.4 +0.7**
comp=Z,0.2nm,0.3s,baz=107,slow=14,SNR=28
KHC Kasperske Hory 9.42 296 *ePN* **Pn 11 08 07.3 +0.5**
TIP Timpagrande 9.68 231 *ePn* **Pn 11 08 09.6 -0.6**
TIP Timpagrande 9.68 231 *ePn* **Pn 11 08 09.6 -0.6**
VORD Divnogorie 10.04 54 *eP* **Pn 11 08 13.8 -1.2**
VORD pmax pmax
comp=E,40nm,1.3s
VORD pmax pmax
comp=Z,10.0nm,1.3s
NKC Novy Kostel 10.47 301 *ePN* **Pn 11 08 21.2 +0.5**
OBN Obninsk 11.43 30 *eP* **Pn 11 08 29.2 -4.1**
OBN pmax pmax
comp=Z,11nm,0.6s
KIV Kislovodsk 11.63 93 *eP* **Pn 11 08 44.9 +8.9**
KIV pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 15.81 359 P **Pn 11 09 24.6 -4.3**
comp=Z,0.3nm,0.3s,baz=173,slow=12,SNR=10
HFS Hagfors 16.37 337 P **Pn 11 09 33.9 -1.8**
comp=Z,0.3nm,0.3s,baz=160,slow=14,SNR=6.7
KAF Kangasniemi 16.48 360 *ep* **Pn 11 09 33.6 -3.5**
comp=Z,0.6nm,0.4s,baz=174,slow=12
KAF Kangasniemi 16.48 360 *eP* **Pn 11 09 33.6 -3.5**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KLMR Klimovskoe 17.04 22 *eP* **Pn 11 09 40.9 -2.9**
KLMR pmax pmax
comp=Z,30nm,1.9s
JOF Joensuu 17.51 7 *ep* **Pn 11 09 46.8 -2.6**
comp=Z,2.3nm,0.5s
NB2 NORSAR Subarra 17.82 335 P **Pn 11 09 50.7 -2.4**
comp=Z,0.5nm,0.4s,baz=142,slow=12
NB2 NORSAR Subarra 17.82 335 P **Pn 11 09 50.7 -2.4**
NB2 pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 17.82 335 P **Pn 11 09 51.0 -2.1**
comp=Z,0.3nm,0.3s,baz=146,slow=11,SNR=2.9
EKA Eskdalemuir Ar 21.05 308 P **P 11 10 26.6 +0.1**
comp=Z,0.9nm,0.6s,mb3.3,baz=108,slow=9.4,SNR=5.3

AKTK Aktyubinsk 21.51 66 P **P 11 10 33.0 +1.5**
AKTK Aktyubinsk 21.51 66 P **P 11 10 33.0 +1.5**
AKTO Aktyubinsk 21.51 66 P **P 11 10 33.0 +1.5**
comp=Z,1.3nm,0.4s,mb3.7,baz=285,slow=7.3,SNR=10.0
AKTO Aktyubinsk 21.51 66 P **P 11 10 33.0 +1.5**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
ESDC Sonseca Array 23.09 266 P **P 11 10 45.4 -1.6**
comp=Z,0.2nm,0.3s,mb3.0,baz=56,slow=9.2,SNR=4.9
ARCES ARCESS Array B 23.94 359 P **P 11 10 54.4 -0.4**
comp=Z,1.9nm,0.8s,mb3.7,baz=180,slow=9.7,SNR=10
BVAR Borovoye Array 29.15 59 P **P 11 11 42.6 +1.2**
comp=Z,0.8nm,0.6s,mb3.6,baz=284,slow=5.8,SNR=4.6
NVS Novosibirsk 36.49 54 *eP* **P 11 12 45.4 +0.2**
MKAR Makanchi Array 37.93 68 P **P 11 12 58.5 +1.2**
comp=Z,1.4nm,0.4s,mb3.9,baz=274,slow=8.2,SNR=42
MKAR pP pP 11 13 31.1 +1.3
comp=Z,0.3nm,0.6s,baz=276,slow=9.7,SNR=2.5
TORD Torodi Ar. Bea 38.62 221 P **P 11 13 03.6 +0.5**
comp=Z,2.6nm,0.5s,mb4.1,baz=28,slow=8.7,SNR=51
TORD PcP PcP 11 15 11.8 -0.5
comp=Z,0.5nm,0.7s,baz=11,slow=1.5,SNR=3.8
PBIS Biscoitos 39.76 280 *eS* **S 11 18 55.7 -10**
PBIS
comp=Z,14nm,0.1s
DBIC Dimbokro 47.38 225 P **P 11 14 12.9 -0.6**
comp=Z,5.9nm,0.4s,mb4.6,baz=12,slow=8.9,SNR=39
KOLN Koldanda 48.10 91 *eP* **P 11 14 20.6 +1.6**
GKN Gorkha 48.68 90 *eP* **P 11 14 24.8 +1.3**
comp=Z,8.9nm,0.3s,mb4.8
DMN Daman 49.25 90 *eP* **P 11 14 29.2 +1.4**
comp=Z,9.5nm,0.5s,mb4.7
KKN Kakani 49.27 90 *eP* **P 11 14 28.8 +0.9**
comp=Z,18nm,0.6s,mb4.9
KKN Kakani 49.27 90 *eP* **P 11 14 28.8 +0.9**
KKN pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
GUN Gumba 49.61 90 *eP* **P 11 14 31.0 +0.4**
comp=Z,6.9nm,0.3s,mb4.7
JIRN Jiri 49.98 90 *eP* **P 11 14 35.3 +1.9**
comp=Z,14nm,0.7s,mb4.7
SONM Songino Array 52.44 57 P **P 11 14 53.3 +1.6**
comp=Z,1.9nm,0.4s,mb4.0,baz=297,slow=8.1,SNR=17
SONM pP pP 11 15 27.4 +1.4
comp=Z,0.5nm,0.6s,baz=286,slow=8.4,SNR=3.4
YKA Yellowknife Ar 67.79 342 P **P 11 16 35.2 -0.9**
comp=Z,0.7nm,0.5s,mb3.6,baz=32,slow=5.8,SNR=15
YKA pP pP 11 17 12.0 -0.1
comp=Z,0.4nm,0.7s,baz=23,slow=6.1,SNR=4.5
YKA Yellowknife Ar 67.79 342 P **P 11 16 35.2 -0.9**
YKA pP pP 11 17 12.1 -0.1
ILAR Eielson Array 69.78 357 P **P 11 16 48.5 -0.1**
comp=Z,0.3nm,0.6s,mb3.2,baz=356,slow=6.7,SNR=4.3
PDAR Pinedale Array 83.66 329 P **P 11 18 05.8 -0.5**
comp=Z,0.5nm,0.7s,mb3.4,baz=54,slow=6.8,SNR=4.4
ASAR Alice Springs 118.49 96 PKP PKPdf 11 24 23.9 -0.5
comp=Z,0.2nm,0.4s,baz=307,slow=1.5,SNR=4.2

*NEIC **19** 11:06:22.8, 3809S×17600E, h152km, MG3.8(WEL), After WEL.*
WEL 19 11:06:23.2±0.3, 3820S×17623E, h162km±3km, ML3.4/8, Error ellipse: s-maj=3.4km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.70**	**95**	PN	Pn	11 06 47.3	+0.3
URZ				SN	Sn	11 07 05.3	+0.1
URZ	**Urewera**	**0.70**	**95**	*eP*	Pn	11 06 45.6	-1.3
BKZ	**Black Stump Fm**	**0.98**	**168**	PN	Pn	11 06 49.4	+0.5
BKZ				SN	Sn	11 07 08.8	0.0
BKZ	**Black Stump Fm**	**0.98**	**168**	P	Pn	11 06 49.4	+0.4
BKZ				S	Sn	11 07 08.8	+0.1
KRVZ	**Karewarewa**	**1.00**	**207**	PN	Pn	11 06 49.2	+0.1
MWZ	**Matawai**	**1.03**	**98**	PN	Pn	11 06 49.3	0.0
MWZ				SN	Sn	11 07 09.3	-0.1
MWZ	**Matawai**	**1.03**	**98**	*eP*	Pn	11 06 49.3	0.0
WTVZ	**West Tongariro**	**1.04**	**208**	PN	Pn	11 06 49.5	+0.1
WTVZ	**West Tongariro**	**1.04**	**208**	P	Pn	11 06 48.5	-0.9
TWVZ	**Taurewa**	**1.06**	**215**	PN	Pn	11 06 49.7	+0.1
TWVZ	**Taurewa**	**1.06**	**215**	P	Pn	11 06 48.7	-0.9
NGZ	**Ngauruhoe**	**1.09**	**207**	PN	Pn	11 06 50.2	+0.4
NGZ	**Ngauruhoe**	**1.09**	**207**	P	Pn	11 06 49.0	-0.8
WPVZ	**Whakapapa**	**1.13**	**208**	PN	Pn	11 06 50.4	+0.2
WPVZ	**Whakapapa**	**1.13**	**208**	*eP*	Pn	11 06 49.4	-0.8
TUVZ	**Tukino**	**1.16**	**203**	PN	Pn	11 06 50.7	+0.3
TUVZ	**Tukino**	**1.16**	**203**	P	Pn	11 06 49.7	-0.7
FWVZ	**Far West T-bar**	**1.18**	**206**	PN	Pn	11 06 51.0	+0.4
FWVZ	**Far West T-bar**	**1.18**	**206**	*eP*	Pn	11 06 50.0	-0.6
TRVZ	**Turoa**	**1.22**	**206**	PN	Pn	11 06 51.4	+0.4
WNVZ	**Wahianoa**	**1.23**	**203**	PN	Pn	11 06 51.2	+0.1
WNVZ	**Wahianoa**	**1.23**	**203**	P	Pn	11 06 50.2	-0.8
MOVZ	**Moawhango**	**1.26**	**197**	PN	Pn	11 06 51.0	-0.3
MOVZ	**Moawhango**	**1.26**	**197**	P	Pn	11 06 50.0	-1.3
PKVZ	**Pokaka**	**1.29**	**212**	PN	Pn	11 06 51.5	-0.1
MTVZ	**Mangateitei**	**1.32**	**206**	PN	Pn	11 06 51.7	-0.2
MXZ	**Matakaoa Point**	**1.77**	**69**	PN	Pn	11 06 56.2	-0.2
WAZ	**Wanganui**	**1.83**	**212**	PN	Pn	11 06 56.5	-0.6
WAZ	**Wanganui**	**1.83**	**212**	*eP*	Pn	11 06 56.5	-0.6
PXZ	**Pawanui**	**1.89**	**165**	PN	Pn	11 06 58.0	+0.2
KIW	**Kapiti Island**	**2.84**	**201**	PN	Pn	11 07 06.6	-2.5
MTW	**Mount Morrison**	**3.00**	**191**	PN	Pn	11 07 08.5	-2.5
MTW	**Mount Morrison**	**3.00**	**191**	P	Pn	11 07 07.6	-3.4
CAW	**Cannon Point**	**3.04**	**197**	P	Pn	11 07 08.0	-3.4
PAWZ	**Paruwai Farm**	**3.23**	**191**	P	Pn	11 07 10.3	-3.6
WEL	**Wellington**	**3.28**	**200**	P	Pn	11 07 10.6	-3.9
MSWZ	**Moikau Station**	**3.29**	**193**	P	Pn	11 07 10.9	-3.8
SNZO	**South Karori**	**3.32**	**200**	P	Pn	11 07 11.9	-3.1
TCW	**Tory Channel**	**3.36**	**206**	P	Pn	11 07 12.6	-2.9
QRZ	**Quartz Range**	**3.88**	**226**	*eP*	Pn	11 07 17.8	-4.3
LTZ	**Lake Taylor**	**5.48**	**212**	*eP*	Pn	11 07 38.3	-4.7

*IDC **19** 11:13:48.0±0.8, 2235S×17056E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, ML4.2/1, MS4.1/3, Ms1 4.1/3, ms1mx3.7/22, Error ellipse: s-maj=26.6km s-min=20.1km az=159.0*
*ISCJB **19** 11:13:49.9±3.6, 2240S±009×17047E±006, h22km±26km, mb4.3/16, MS4.0/3, Error ellipse: s-maj=14.8km s-min=9.4km az=15.4*
*NEIC **19** 11:13:52.1±2.6, 2238S×17049E, h26km±18km, mb4.7/6, Error ellipse: s-maj=9.9km s-min=7.6km az=197.0*
*SZGRF **19** 11:13:53.5, 22.11S×171.00E, h33km, Southeast of Loyalty Islands*
*MOS **19** 11:13:53.3±1.9, 2237S×17045E, h33km, mb4.7/4, Error ellipse: s-maj=18.1km s-min=13.4km az=16.9*
ISC 19 11:13:53.1±3.7, 2238S±009×17050E±006, h34km±27km, h31km±5.6km; pP-P, n79, σ0.95/34, mb4.3/16, MS4.0/3, 1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.77**	**274**	Pn	**Pn**	**11 14 48.5**	**-0.4**
19nm,0.3s,baz=100,slow=17,SNR=267							
DZM				Sn	**Sn**	**11 15 31.3**	**-0.8**
43nm,0.3s,baz=354,slow=23,SNR=11							
BKM	**Butte a Klehm**	**5.14**	**335**	*i* P	**Pn**	**11 14 57.5**	**-10**
HNR	**Honiara**	**16.38**	**320**	Pn	**Pn**	**11 17 44.4**	**+4.0**
2.9nm,0.3s,baz=56,slow=0.5,SNR=4.7							
URZ	**Urewera**	**16.82**	**162**	Pn	**Pn**	**11 17 45.5**	**-0.4**
0.1nm,0.3s,baz=334,slow=4.8,SNR=2.8							
AFI	**Afiamalu**	**18.81**	**66**	*eP*	**Pn**	**11 18 10.5**	**+0.1**
AFI				pmax	pmax		
comp=Z,50nm,1.0s							
AFI	**Afiamalu**	**18.81**	**66**	*eP*	**Pn**	**11 18 10.5**	**+0.1**
comp=Z,50nm,1.0s							
RPZ	**Rata Peaks**	**21.29**	**179**	P	**P**	**11 18 36.1**	**-0.5**
comp=Z,6.7nm,0.8s,mb4.0,baz=67,slow=23,SNR=2.7							
RPZ				LR	LR	11 26 04.5	
comp=Z,656nm,18.9s,MS4.0,baz=199,slow=35							
CTA	**Charters Tower**	**22.71**	**271**	P	**P**	**11 18 53.0**	**+1.2**
comp=Z,6.4nm,0.8s,mb4.1,baz=116,slow=13,SNR=5.2							
PMG	**Port Moresby**	**25.84**	**296**	P	**P**	**11 19 22.8**	**+1.5**
comp=Z,5.6nm,0.8s,mb4.2,baz=112,slow=16,SNR=5.0							
PMG	**Port Moresby**	**25.84**	**296**	P	**P**	**11 19 22.4**	**+1.1**
PMG				pmax	pmax		
comp=Z,5.0nm,0.8s							
PMG	**Port Moresby**	**25.84**	**296**	P	**P**	**11 19 22.4**	**+1.0**
comp=Z,5.3nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**27.34**	**244**	P	**P**	**11 19 35.1**	**+0.3**
comp=Z,1.5nm,0.8s,mb3.5,baz=98,slow=15,SNR=2.9							

STKA LR LR 11 30 03.0
comp=Z,311nm,20.3s,MS3.9,baz=191,slow=36
AS31 Alice Springs 33.65 261 *eP* **P 11 20 30.3 -0.3**
ASAR Alice Springs 33.65 261 P **P 11 20 30.6 0.0**
comp=Z,1.7nm,0.9s,mb4.0,baz=70,slow=8.6,SNR=21
ASPA Alice Springs 33.66 261 *eP* **P 11 20 30.3 -0.3**
WRA Warramunga Arr 33.77 267 P **P 11 20 31.0 -0.6**
comp=Z,0.7nm,0.7s,mb3.7,baz=95,slow=8.5,SNR=12
FITZ Fitzroy Crossi 42.20 267 *eP* **P 11 21 43.3 +0.7**
comp=Z,15nm,1.5s,mb4.4
MBWA Marble Bar 46.98 261 *eP* **P 11 22 20.7 -0.1**
comp=Z,9.3nm,0.8s,mb4.8
NWAO Narrogin (SRO) 47.91 245 P **P 11 22 28.2 +0.2**
comp=Z,8.4nm,1.0s,mb4.7,baz=108,slow=4.3,SNR=4.1
VNDA Vanda 55.35 182 LR LR 11 42 56.6
comp=Z,191nm,18.5s,MS4.2,baz=327,slow=32
QSPA South Pole Qui 67.69 180 *eP* **P 11 24 48.9 +1.9**
comp=Z,9.4nm,1.1s,mb4.7
SEY Seymchan 86.22 352 *eP* **P 11 26 29.9 -1.2**
VNA3 Neumayer Olymp 86.63 180 *e*PKPdf **P 11 26 33.5 +0.4**
VNA3 *e* 11 26 37.6
VNA3 *e* pP 11 26 41.8 -2.1
VNA3 *e* pP 11 26 45.2 +1.3
VNA3 Neumayer Olymp 86.63 180 *e*PKPdf **P 11 26 33.5 +0.4**
VNA3 *e* 11 26 37.6
VNA3 *e* pP 11 26 41.8 -2.1
VNA3 *e* pP 11 26 45.2 +1.3
VNA3 *e* 11 50 34.6
VNA2 Neumayer--Watz 86.94 181 *e*PKPdf **P 11 26 33.4 -1.2**
baz=174,slow=4.8
VNA2 *e* 11 26 37.5
VNA2 *e* pP 11 26 41.4 -4.0
VNA2 *e* pP 11 26 44.3 -1.1
VNA2 Neumayer--Watz 86.94 181 *e*PKPdf **P 11 26 33.4 -1.2**
VNA2 *e* 11 26 37.5
VNA2 *e* pP 11 26 41.4 -4.0
VNA2 *e* pP 11 26 44.3 -1.1
VNA2 *e* 11 50 32.6
NVAR Mina Array Bea 90.00 48 P **P 11 26 50.0 +0.9**
comp=Z,1.0nm,0.7s,mb4.2,baz=232,slow=11,SNR=6.6
ULN Ulaanbaatar 90.07 323 *eP* **P 11 26 49.6 +0.2**
ULN *e**PP pP 11 26 58.0 -2.2
ULN pmax pmax
comp=Z,6.0nm,1.3s,mb4.8
ULN Ulaanbaatar 90.07 323 *eP* **P 11 26 49.6 +0.1**
comp=Z,6.3nm,1.3s,mb4.8
ULN *e*pP pP 11 26 58.0 -2.3
BILL Bilibino 90.20 358 *eP* **P 11 26 48.4 -1.6**
BILL pmax pmax
comp=Z,3.0nm,1.3s,mb4.5
YAK Yakutsk 90.20 342 *eP* **P 11 26 51.7 +1.6**
SONM Songino Array 90.42 323 P **P 11 26 51.7 +0.6**
comp=Z,1.7nm,0.9s,mb4.3,baz=149,slow=4.3,SNR=11
ILAR Eielson Array 92.87 17 P **P 11 27 00.2 -2.1**
comp=Z,0.3nm,0.8s,mb3.8,baz=238,slow=5.4,SNR=6.6
ZAK Zakamensk 93.52 324 *eP* **P 11 26 59.4 -6.0**
ZAK pmax pmax
comp=Z,4.0nm,1.8s,mb4.5
ARCES ARCESS Array B 128.39 345 PKP PKPdf 11 32 55.3 -0.9
comp=Z,4.4nm,1.1s,baz=57,slow=4.5,SNR=6.1
KECS Kecovo 144.69 325 *e*PKP PKPdf 11 33 25.6 -0.6
OKC Ostrava-Krasne 145.02 328 *e*PKP PKPdf 11 33 26.2 -0.6
BSEG Bad Segeberg 145.10 339 *e*PKPbc PKPbc 11 33 25.9 -0.5
KSP Ksiaz 145.19 331 *e*PX 11 33 27.2
KSP Ksiaz 145.19 331 *e*PKP PKPdf 11 33 26.9 -0.2
KSP *ep*PKP pPKPdf 11 33 34.0 -4.2
PSZ Piszkesteto 145.34 325 *e*PKIKP PKPdf 11 33 28.2 +0.9
MORC Moravsky Berou 145.35 329 *e*PKP2 PKPab 11 33 26.9 -0.5
DPC Dobruska-Polom 145.53 330 *e*PKP PKPdf 11 33 28.6 +1.0
VYHS Vyhne 145.54 326 *e*PKP PKPdf 11 33 28.5 +0.8
VYHS *e* 11 33 35.5
UPC Upice 145.56 331 *eP* PKPdf 11 33 28.6 +0.9
PVCC Panska Ves 146.18 332 *e*PKP PKPdf 11 33 28.2 -0.6
BRG Berggiesshubel 146.19 333 *eP* PKPdf 11 33 29.8 +1.0
comp=Z,7.8nm,0.8s
CLL Collm 146.25 334 *e*PKPbc PKPbc 11 33 29.9 -0.1
CLL Collm 146.25 334⇓ *i*PKPbc PKPbc 11 33 30.4 +0.4
comp=Z,16nm,0.7s
CLL *i* pPKPbc pPKPbc 11 33 35.0 -6.0
CLL *es*PKPbc 11 33 38.0
PRU Pruhonice 146.59 331 *e*PKP PKPdf 11 33 31.2 +1.8
EKA Eskdalemuir Ar 146.75 353 PKPbc PKPbc 11 33 30.4 -1.0
comp=Z,4.5nm,0.6s,baz=353,slow=2.3,SNR=31
CLZ Clausthal 146.82 337 *e*PKPbc PKPbc 11 33 30.8 -0.9
WERD Werda 147.19 334 *e*PKPbc PKPbc 11 33 32.4 -0.3
NKC Novy Kostel 147.30 334 *e*PKP PKPdf 11 33 35.3 +4.7
IBBN Ibbenburen 147.30 340 *e*PKPbc PKPbc 11 33 32.9 -0.1
MOX Moxa 147.31 335 *e*PKPbc PKPbc 11 33 32.8 -0.3
MOX Moxa 147.31 335 *eP* PKPdf 11 33 33.1 +2.4
comp=Z,14nm,1.6s
MANZ Manzenberg 147.63 334 *e*PKPbc PKPbc 11 33 34.4 +0.5
KHC Kasperske Hory 147.64 331 *e*PKP PKPdf 11 33 33.5 +2.3
KHC pPKP pPKPdf 11 33 43.5 +1.2
KHC Kasperske Hory 147.64 331 *e*PKIKP PKPdf 11 33 33.5 +2.3
KHC *e* 11 33 43.5
KHC Kasperske Hory 147.64 331 *eP* PKPdf 11 33 33.5 +2.3
KHC *e* 11 33 43.5
ROTZ Rotzenmuhle 147.76 333 *e*PKPbc PKPbc 11 33 34.8 +0.5
GEC2 GERESS Array S 147.80 331 *e*PKPbc PKPbc 11 33 34.4 0.0
GERES GERESS Array B 147.80 331 PKPbc PKPbc 11 33 34.9 +0.5
comp=Z,1.9nm,0.6s,baz=28,slow=3.2,SNR=18
GRF Grafenberg Arr 148.22 334 *e*PKPbc PKPbc 11 33 35.7 +0.2
BOJS Bojanci 149.34 325 *e*PKPbc PKPbc 11 33 39.1 +0.7
LJU Ljubljana 149.37 326 *e*PKPbc PKPbc 11 33 39.1 +0.6
CEY Cerknica 149.62 326 *e*PKPbc PKPbc 11 33 39.6 +0.5
VOJS Vojsko 149.71 327 *e*PKPbc PKPbc 11 33 39.3 +0.1
WLF Walferdange 150.10 339 *e*PKPbc PKPbc 11 33 41.1 +0.9
GIVF Givet 150.12 341 *e*PKP1 PKPbc 11 33 40.3 0.0
comp=Z,11nm,0.7s
BAIF Baives 150.34 342 *e*PKP1 PKPbc 11 33 41.7 +0.9
CDF Champ du Feu 150.78 337 *e*PKP1 PKPbc 11 33 41.9 +0.1
comp=Z,8.4nm,0.8s
HINF Hinterlefeld 151.43 337 *e*PKP1 PKPbc 11 33 42.9 -0.4
comp=Z,6.6nm,0.8s
HAU Haudompre 151.45 337 *e*PKP1 PKPbc 11 33 45.5 +2.1
MEZF Maizieres J'vi 151.47 340 *e*PKP1 PKPbc 11 33 42.9 -0.5
CABF La Chapelle 152.73 336 *e*PKP1 PKPbc 11 33 46.8 +0.5
comp=Z,20nm,1.2s
LOR Lormes 152.93 340 *e*PKP1 PKPbc 11 33 47.7 +1.0
TORD Torodi Ar. Bea 165.94 231 PKP PKPdf 11 33 56.3 +1.9
comp=Z,0.5nm,0.7s,baz=132,slow=2.2,SNR=3.8
TORD PKPab PKPab 11 34 56.4 +2.0
comp=Z,2.2nm,1.1s,baz=117,slow=3.0,SNR=6.3

PRE 19 11:23:04.7±1.1, 2695S×2670E, h2km, ML4.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**1.60**	**149**	*eP*	Pn	11 23 34.9	+1.0
SEK				*eS*	Sn	11 23 56.5	+1.4
SLR	**Silverton**	**1.86**	**50**	*eP*	Pn	11 23 38.7	+1.1
SLR				*eS*	Sn	11 24 02.1	+0.3
SLR				AML	AML	11 24 04.4	
comp=Z,961nm,0.3s							
PKA	**Prie

3.7nm,0.4s,mb4.4,baz=105,slow=10,SNR=6.8
CTAO Charters Tower 34.28 263 *eP* **P 11 36 50.9 -0.4**
4.1nm,0.5s,mb4.3
PMG Port Moresby 35.85 281 P **P 11 37 04.4 +0.1**
4.7nm,0.8s,mb4.1,baz=127,slow=10,SNR=4.3
PMG Port Moresby 35.85 281 *eP* **P 11 37 04.4 +0.1**
5.0nm,0.9s,mb4.0
STKA Stephens Creek 38.78 243 P **P 11 37 27.2 -0.9**
1.5nm,0.9s,mb3.5,baz=78,slow=9.3,SNR=3.9
STKA Stephens Creek 38.78 243 *eP* **P 11 37 26.6 -1.5**
AS31 Alice Springs 45.39 256 *eP* **P 11 38 20.1 +0.3**
ASAR Alice Springs 45.39 256 P **P 11 38 20.2 +0.4**
3.4nm,0.4s,mb4.2,baz=86,slow=8.3,SNR=155
ASPA Alice Springs 45.40 256 *eP* **P 11 38 20.1 +0.3**
WB2 Warramunga Arr 45.40 261 *eP* **P 11 38 19.7 -0.2**
WRAB Tennant Creek 45.40 261 *eP* **P 11 38 19.2 -0.7**
2.4nm,0.4s,mb4.1
WRA Warramunga Arr 45.41 261 P **P 11 38 19.9 -0.1**
2.2nm,0.3s,mb4.1,baz=97,slow=7.6,SNR=116
FITZ Fitzroy Crossi 53.84 262 *eP* **P 11 39 21.5 0.0**
7.2nm,0.6s,mb4.2
MBWA Marble Bar 58.72 257 *eP* **P 11 39 55.2 +0.3**
2.4nm,0.6s,mb3.5
BRTR Keskin Array B 146.79 314 PKPbc PKPbc 11 49 30.4 +1.1
0.8nm,0.7s,baz=113,slow=4.3,SNR=4.2
PSZ Piszkesteto 148.58 338 *e*PKPdf PKPdf 11 49 29.4 +0.1
PSZ *e*PKPbc PKPbc 11 49 34.9 +1.0

IDC 19 11:54:02.5±5.1, 242S×15049E, h206km±49km, mb3.1/4, mb1 3.3/5, mb1mx3.2/14, mbtmp3.6/5, Error ellipse: s-maj=69.1km s-min=30.7km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.69**	**205**	P	Pn	11 55 52.0	+0.3
0.5nm,0.3s,baz=356,slow=13,SNR=6.0							
WRA	**Warramunga Arr**	**23.50**	**221**	P	P	11 58 53.5	-0.2
0.4nm,0.3s,baz=45,slow=9.5,SNR=16							
ASAR	**Alice Springs**	**26.53**	**216**	P	P	11 59 22.0	+1.0
0.4nm,0.5s,baz=47,slow=7.9,SNR=5.2							
MKAR	**Makanchi Array**	**77.02**	**319**	P	P	12 05 32.9	+0.3
0.7nm,0.9s,baz=102,slow=5.3,SNR=5.0							
YKA	**Yellowknife Ar**	**94.41**	**28**	P	P	12 06 58.4	-0.4
0.3nm,0.7s,baz=275,slow=4.3,SNR=5.3							

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*ISCJB **19** 12:01:17.3±0.9, 2546S±006×17959E±009, h509km±10km, mb4.2/17, Error ellipse: s-maj=12.4km s-min=9.3km az=141.2*
*NEIC **19** 12:01:17.6±0.8, 2541S×17970E, h510km±9km, mb4.4/11, Error ellipse: s-maj=11.9km s-min=10.5km az=216.0*
*IDC **19** 12:01:19.0±1.4, 2547S×17955E, h516km±12km, mb3.5/11, mb1 3.8/14, mb1mx3.6/19, mbtmp4.5/14, Error ellipse: s-maj=16.7km s-min=11.5km az=18.0*

ISC 19 12:01:18.4±0.9, 2559S±007×17963E±009, h508km±10km, n57, σ0°96/52, mb4.1/17, 3C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.25**	**150**	P	P	12 02 40.4	+1.1
92nm,0.3s,baz=40,slow=20,SNR=3.6							
WCZ	**Waipu Caves**	**11.27**	**202**	PN	P	12 03 53.2	+4.1
NOU	**Noumea**	**12.48**	**282**	*eP*	P	12 04 06.1	+4.1
DZM	**Mont Dzumac**	**12.56**	**283**	P	P	12 04 04.3	+1.5
0.3nm,0.3s,baz=96,slow=16,SNR=6.3							
URZ	**Urewera**	**12.81**	**189**	P	P	12 04 04.5	-0.9
3.0nm,0.3s,baz=28,slow=3.1,SNR=33							
URZ				S	S	12 06 23.4	+0.4
2.6nm,0.3s,baz=188,slow=18,SNR=9.4							
URZ	**Urewera**	**12.81**	**189**	PN	P	12 04 05.0	-0.4
URZ				SN	S	12 06 22.3	-0.7
URZ				SN	S	12 06 23.0	-0.1
MWZ	**Matawai**	**12.83**	**187**	PN	P	12 04 05.4	-0.2
MWZ				SN	S	12 06 22.3	-1.1
MWZ				SN	S	12 06 22.6	-0.8
AFI	**Afiamalu**	**14.15**	**36**	P	P	12 04 16.6	-2.9
2.0nm,0.3s,baz=46,slow=3.1,SNR=4.4							
AFI				S	S	12 06 37.0	-12
0.9nm,0.3s,baz=214,slow=23,SNR=3.3							
AFI	**Afiamalu**	**14.15**	**36**	*eP*	P	12 04 16.6	-2.9
SNZO	**South Karori**	**16.20**	**193**	*eP*	P	12 04 39.7	-1.1
57nm,0.6s							
QRZ	**Quartz Range**	**16.30**	**200**	PN	P	12 04 42.2	+0.3
DSZ	**Denniston Nort**	**17.36**	**200**	PN	P	12 04 52.2	-0.3
LTZ	**Lake Taylor**	**18.18**	**198**	PN	P	12 04 59.1	-0.8
RPZ	**Rata Peaks**	**19.39**	**199**	P	P	12 05 10.9	-0.1
2.9nm,0.3s,baz=11,slow=1.8,SNR=20							
RPZ	**Rata Peaks**	**19.39**	**199**	P	P	12 05 10.9	-0.1
CTA	**Charters Tower**	**31.19**	**273**	*eP*	P	12 06 56.7	+1.3
19nm,1.7s,mb4.2							
CTA	**Charters Tower**	**31.19**	**273**	P	P	12 06 55.1	-0.3
8.1nm,0.7s,mb4.3,baz=112,slow=13,SNR=9.3							
CTAO	**Charters Tower**	**31.19**	**273**	*eP*	P	12 06 56.5	+1.1
STKA	**Stephens Creek**	**33.81**	**250**	P	P	12 07 16.3	-1.4
2.5nm,0.5s,mb3.9,baz=94,slow=11,SNR=7.3							
STKA				PcP	PcP	12 09 40.5	-1.7
2.7nm,0.8s,baz=49,slow=4.3,SNR=4.9							
STKA	**Stephens Creek**	**33.81**	**250**	*eP*	P	12 07 16.7	-1.0
PMG	**Port Moresby**	**34.76**	**292**	P	P	12 07 25.6	-0.1
5.7nm,0.8s,mb4.1,baz=66,slow=6.8,SNR=6.4							
PMG	**Port Moresby**	**34.76**	**292**	*eP*	P	12 07 24.0	-1.7
4.3nm,0.8s,mb3.9							
AS31	**Alice Springs**	**41.45**	**263**	*eP*	P	12 08 20.7	+0.5
ASAR	**Alice Springs**	**41.45**	**263**	P	P	12 08 20.8	+0.5
8.5nm,0.9s,mb4.2,baz=89,slow=6.9,SNR=66							
ASAR				PcP	PcP	12 10 06.3	+0.2
1.2nm,0.7s,baz=103,slow=3.9,SNR=5.6							
ASAR				S	S	12 13 57.8	-0.5
0.9nm,0.8s,baz=95,slow=18,SNR=6.7							
ASPA	**Alice Springs**	**41.45**	**263**	*eP*	P	12 08 20.7	+0.4
WB2	**Warramunga Arr**	**41.97**	**268**	*eP*	P	12 08 24.5	+0.2
WRAB	**Tennant Creek**	**41.98**	**268**	*eP*	P	12 08 24.2	-0.1
9.9nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**41.98**	**268**	P	P	12 08 24.1	-0.3
5.0nm,0.7s,mb4.0,baz=100,slow=7.0,SNR=41							
WRA				S	S	12 14 03.2	-2.8
1.3nm,1.1s,baz=105,slow=16,SNR=3.4							
FORT	**Forrest**	**45.42**	**251**	*eP*	P	12 08 51.0	-0.2
16nm,0.6s,mb4.6							
KAKA	**Kakadu**	**46.15**	**277**	*eP*	P	12 08 56.5	-0.2
7.1nm,0.9s,mb4.1							
FITZ	**Fitzroy Crossi**	**50.38**	**267**	*eP*	P	12 09 29.0	+0.7
9.1nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**50.38**	**267**	P	P	12 09 29.4	+1.0
5.6nm,0.6s,mb4.1,baz=144,slow=9.6,SNR=15							
VNDA	**Vanda**	**52.67**	**185**	P	P	12 09 46.6	+1.7
2.9nm,0.6s,mb3.8,baz=1.9,slow=6.6,SNR=9.3							
VNDA	**Vanda**	**52.67**	**185**	*eP*	P	12 09 46.1	+1.2
3.7nm,0.8s,mb3.8							
SBA	**Scott Base**	**52.67**	**183**	*eP*	P	12 09 47.1	+2.1
15nm,0.9s,mb4.3							
KLBR	**Kellerberrin**	**54.04**	**248**	*eP*	P	12 09 54.3	-0.3
13nm,0.7s,mb4.4							
QSPA	**South Pole Qui**	**64.50**	**180**	*iP*	P	12 11 06.1	+1.4
19nm,0.8s,mb4.7							
MAW	**Mawson**	**76.05**	**201**	P	P	12 12 13.6	+0.3
8.9nm,0.6s,mb4.5,baz=120,slow=9.8,SNR=11							
SYO	**Syowa Base**	**81.30**	**194**	*eP*	P	12 12 41.0	-0.3
SYO	**Syowa Base**	**81.30**	**194**	*ePcP*	PcP	12 12 44.8	-1.0
SNAA	**Sanae**	**82.99**	**179**	P	P	12 12 48.5	-1.4
0.7nm,0.6s,mb3.4,baz=214,slow=13,SNR=12							
VNA3	**Neumayer Olymp**	**83.21**	**177**	*i*	P	12 12 51.0	0.0
VNA2	**Neumayer--Watz**	**83.62**	**178**	*i*	P	12 12 53.1	0.0
baz=203,slow=4.1							
NVAR	**Mina Array Bea**	**86.20**	**44**	P	P	12 13 05.3	-0.3
0.8nm,0.8s,mb3.4,baz=210,slow=6.0,SNR=5.6							
PLCA	**Paso Flores**	**87.33**	**134**	P	P	12 13 12.1	+1.2
2.5nm,1.0s,mb3.9,baz=248,slow=20,SNR=3.1							
MKAR	**Makanchi Array**	**113.04**	**312**	PKiKP	PKiKP	12 18 55.2	-2.3
0.3nm,0.7s,baz=48,slow=1.8,SNR=3.9							
MKAR	**Makanchi Array**	**113.04**	**312**	PKPdf	PKiKP	12 18 55.2	-2.3
BVAR	**Borovoye Array**	**121.47**	**318**	PKP	PKPdf	12 19 12.3	-1.4
1.1nm,0.5s,baz=157,slow=2.6,SNR=8.8							
ARCES	**ARCESS Array B**	**133.47**	**348**	PKP	PKPdf	12 19 33.9	-2.7
3.3nm,0.9s,baz=25,slow=1.8,SNR=6.0							
ARCES				SKPbc	SKPbc	12 22 16.0	-1.3
2.8nm,0.8s,baz=35,slow=4.4,SNR=6.3							
FINES	**FINESS Array B**	**139.93**	**341**	PKhKP		12 19 40.4	
2.8nm,1.0s,baz=75,slow=1.6,SNR=4.3							
FINES				PKP	PKPdf	12 19 47.8	-0.8
1.1nm,0.8s,baz=92,slow=5.7,SNR=3.4							
FINES				SKPbc	SKPbc	12 22 34.2	-2.1
3.4nm,0.8s,baz=25,slow=2.9,SNR=8.7							

NB2 NORSAR Subarra 143.69 350 PKPa 12 19 52.0
comp=Z,1.1nm,0.5s,baz=15,slow=3.2
NOA NORSAR Array B 143.69 350 PKP PKPdf 12 19 51.6 -3.6
comp=Z,2.0nm,0.8s,baz=22,slow=3.9,SNR=6.3
HFS Hagfors 144.13 348 PKP PKPdf 12 19 53.4 -2.6
comp=Z,4.0nm,0.6s,baz=48,slow=2.1,SNR=15
AKASG Malin Array Be 146.19 326 PKPbc PKPbc 12 19 59.2 -2.4
comp=Z,0.7nm,0.4s,baz=46,slow=4.4,SNR=5.1
AKASG Malin Array Be 146.19 326 PKPbc PKPbc 12 19 59.2 -2.4
BRTR Keskin Array B 148.29 305 PKPbc PKPbc 12 20 06.3 -0.7
comp=Z,0.7nm,0.5s,baz=134,slow=3.3,SNR=4.9
TORD Torodi Ar. Bea 167.47 189 PKPab PKPab 12 21 35.5 +0.5
comp=Z,2.8nm,0.8s,baz=172,slow=3.9,SNR=11

CASC 19 12:11:30.2±2.6, 1089N×8691W, h0km±11km, MD3.9, 4C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.11**	**69**	*eP*	Pg	12 11 51.8	+0.3
APON	**Apoyo**	**1.31**	**39**	*eP*	Pg	12 11 55.5	+0.1
TICN	**Ticuantepe**	**1.32**	**30**	*eP*	Pg	12 11 55.6	+0.1
COPN	**Copaltepe**	**1.32**	**13**	*eP*	Pg	12 11 55.3	-0.3
COPN				*e*S	Sg	12 12 16.0	+3.3
XAVN	**Gruta Xavier**	**1.38**	**24**	*eP*	Pg	12 11 56.2	-0.4
MGAN	**Managua**	**1.41**	**27**	*eP*	Pn	12 11 56.5	-0.5
MGAN				*e*S	Sg	12 12 15.0	-0.5
CONN	**Concepcion**	**1.43**	**62**	*eP*	Pn	12 11 55.9	-1.4
MADN	**Viila Maderas**	**1.44**	**69**	*eP*	Pn	12 11 56.5	-1.0
APYN	**Apoyeque**	**1.45**	**22**	*eP*	Pn	12 11 57.0	-0.6
WILN	**Americas 2**	**1.45**	**29**	*eP*	Pn	12 11 56.5	-1.2
WILN				*e*S	Sg	12 12 17.5	+0.7
VCR	**Vista de Mar**	**1.46**	**121**	*eP*	Pn	12 11 59.2	+1.4
LEON	**Leon**	**1.52**	**0**	*eP*	Pn	12 11 58.4	-0.2
MOMJ	**Momotombo**	**1.56**	**13**	*eP*	Pn	12 11 58.4	-0.7
MIRN	**Miramar**	**1.56**	**7**	*eP*	Pn	12 11 58.8	-0.3
CNGN	**Cerro Negro**	**1.62**	**7**	*eP*	Pn	12 11 59.6	-0.3
TEL3	**Telica 3**	**1.68**	**2**	*eP*	Pn	12 12 00.6	-0.2
CRIN	**San Cristobal**	**1.81**	**356**	*eP*	Pn	12 12 02.4	-0.2
CGA2	**Cerro Gallo 2**	**2.55**	**110**	*eP*	Pn	12 12 13.9	+1.1
PRS1	**Puriscal**	**2.71**	**109**	*eP*	Pn	12 12 14.3	-0.6
LAJ	**Bijagual**	**2.92**	**110**	*eP*	Pn	12 12 14.0	-3.9
LCR2	**La Lucha 2**	**3.07**	**111**	*eP*	Pn	12 12 20.6	+0.6
URSC	**Urasca**	**3.25**	**108**	*eP*	Pn	12 12 24.2	+1.8
BUS	**Buena Vista**	**3.37**	**113**	*eP*	Pn	12 12 23.8	-0.2

KRSC 19 12:13:58.1±1.4, 5098N×15798E, h40km±30km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.88**	**304**	*eP*	Pn	12 14 14.5	+0.5
PAU				*i* S	Sn	12 14 25.5	-0.1
RUS	**Russkaya**	**1.49**	**13**	*eP*	Pn	12 14 22.0	-0.4
RUS				*e*S	Sn	12 14 40.4	-0.2
MIPR	**Malaya Ipel'ka**	**1.50**	**330**	*eP*	Pn	12 14 23.5	+0.9
MIPR				*e*S	Sn	12 14 42.1	+1.1
ALID	**Alaid**	**1.54**	**267**	*i* P	Pn	12 14 23.7	+0.6
ALID				*e*S	Sn	12 14 41.8	-0.1
GRL	**Gorelyy**	**1.57**	**2**	*i* P	Pn	12 14 24.2	+0.7
GRL				*e*S	Sn	12 14 43.5	+0.8
KRMR	**Karymshinskiy**	**1.85**	**3**	*eP*	Pn	12 14 28.2	+0.8
KRMR				*e*S	Sn	12 14 52.4	+2.8
APC	**Apacha**	**2.01**	**346**	*i* P	Pn	12 14 30.6	+1.1
APC				*e*S	Sn	12 14 55.7	+2.2
APC				Smax			
40nm,0.9s							
PET	**Petropavlovsk**	**2.09**	**11**	*eP*	Pn	12 14 31.0	+0.4
PET				*e*S	Sn	12 14 55.6	+0.3
UGLR	**Uglovaya**	**2.29**	**13**	*eP*	Pn	12 14 34.7	+1.3
UGLR				*e*S	Sn	12 15 01.2	+0.8
AVH	**Avacha**	**2.34**	**11**	*eP*	Pn	12 14 35.4	+1.4
AVH				*e*S	Sn	12 15 01.8	+0.4
SMAR	**Somma**	**2.34**	**12**	*eP*	Pn	12 14 36.8	+2.7
SMAR				*e*S	Sn	12 15 04.7	+3.1
KOK	**Koryaka**	**2.35**	**10**	*eP*	Pn	12 14 35.7	+1.5
KOK				*e*S	Sn	12 15 02.1	+0.3
NLC	**Nalytchevo**	**2.35**	**20**	*eP*	Pn	12 14 34.2	0.0
NLC				*e*S	Sn	12 15 01.8	0.0
GNL	**Ganaly**	**2.72**	**360**	*eP*	Pn	12 14 40.6	+1.3
GNL				*e*S	Sn	12 15 11.7	+0.8
MKZ	**Mys Kozlova**	**4.24**	**31**	*eP*	Pn	12 15 02.3	+2.1
MKZ				*e*S	Sn	12 15 48.1	-0.4
ZLN	**Zelenaya**	**5.32**	**17**	*eP*	Pn	12 15 18.0	+3.0
KBTR	**Krutoberegovo**	**5.98**	**27**	*eP*	Pn	12 15 25.3	+1.3

IDC 19 12:24:11.8±3.3, 1022S×11695E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/14, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=173.3km s-min=24.5km az=51.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.50**	**134**	Pn	Pn	12 26 53.9	-3.3
0.2nm,0.3s,baz=18,slow=7.8,SNR=5.2							
FITZ				Sn	Sn	12 28 51.8	-14
0.1nm,0.3s,baz=190,slow=21,SNR=4.0							
WRA	**Warramunga Arr**	**19.35**	**122**	P	Pn	12 28 38.4	-1.4
0.1nm,0.3s,baz=295,slow=12,SNR=5.9							
WB2	**Warramunga Arr**	**19.36**	**122**	*eP*	Pn	12 28 39.2	-0.7
ASPA	**Alice Springs**	**20.98**	**132**	*eP*	P	12 28 57.5	+1.0
ASAR	**Alice Springs**	**20.98**	**132**	P	P	12 28 57.5	+0.9
1.5nm,0.6s,baz=304,slow=10.0,SNR=33							
SONM	**Songino Array**	**58.55**	**352**	P	P	12 34 09.9	-0.2
0.4nm,0.5s,baz=171,slow=7.7,SNR=4.9							
MKAR	**Makanchi Array**	**64.65**	**334**	P	P	12 34 51.5	+0.3
0.2nm,0.5s,baz=156,slow=7.7,SNR=5.4							

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*LDG **19** 12:31:50.0±0.7, 1448S×16742E, h10km, Mb4.3/1, Error ellipse: s-maj=101.9km s-min=14.6km az=90.0*
*ISCJB **19** 12:32:04.1±1.7, 1550S±009×1674E±0.1, h151km±14km, mb3.9/9, Error ellipse: s-maj=24.2km s-min=9.8km az=121.1*
*IDC **19** 12:32:04.8±2.8, 1538S×16744E, h150km±23km, mb3.8/7, mb1 3.9/9, mb1mx3.8/16, mbtmp4.3/9, Error ellipse: s-maj=26.6km s-min=15.3km az=64.0*
*NEIC **19** 12:32:04.0±1.4, 1544S×16748E, h141km±12km, mb4.4/1, Error ellipse: s-maj=18.2km s-min=10.8km az=63.0*

ISC 19 12:32:04.0±1.6, 1538S±008×1675E±01, h142km±12km, n40, σ0°75/26, mb3.9/9, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.39**	**163**	*i* P	**Pn**	**12 32 32.2**	**-11**
BKM				S	**Sn**	**12 33 04.0**	**-9.5**
DZM	**Mont Dzumac**	**6.74**	**188**	P	**Pn**	**12 33 41.2**	**+0.7**
9.3nm,0.3s,baz=32,slow=15,SNR=32							
DZM				S	**Sn**	**12 34 57.3**	**+1.4**
7.3nm,0.3s,baz=322,slow=21,SNR=13							
DZM	**Mont Dzumac**	**6.74**	**188**	*eP*	**Pn**	**12 33 38.6**	**-1.8**
DZM				*e*S	**Sn**	**12 34 50.0**	**-6.0**
NOU	**Noumea**	**6.97**	**188**	*eP*	**Pn**	**12 33 42.8**	**-0.8**
HNR	**Honiara**	**9.46**	**308**	P	**Pn**	**12 34 16.7**	**-0.2**
4.7nm,0.3s,baz=93,slow=4.6,SNR=4.1							
HNR				S	**Sn**	**12 36 01.7**	**+0.2**
4.7nm,0.3s,baz=262,slow=6.4,SNR=3.6							
HNR	**Honiara**	**9.46**	**308**	*eP*	**Pn**	**12 34 18.2**	**+1.3**
HNR				S	**Sn**	**12 36 01.7**	**+0.2**
URZ	**Urewera**	**24.32**	**161**	P	**P**	**12 37 09.2**	**+0.7**
3.6nm,0.3s,mb4.3,baz=284,slow=3.3,SNR=12							
STKA	**Stephens Creek**	**28.76**	**231**	P	**P**	**12 37 47.9**	**-0.3**
1.9nm,0.4s,mb4.2,baz=11,slow=8.9,SNR=12							
STKA	**Stephens Creek**	**28.76**	**231**	*eP*	**P**	**12 37 48.1**	**-0.2**
WB2	**Warramunga Arr**	**31.89**	**257**	*eP*	**P**	**12 38 14.8**	**-1.0**
WRA	**Warramunga Arr**	**31.90**	**257**	P	**P**	**12 38 10.4**	**-5.5**
0.6nm,0.9s,mb3.3,baz=90,slow=11,SNR=5.2							
AS31	**Alice Springs**	**32.67**	**250**	*eP*	**P**	**12 38 22.5**	**-0.1**
ASAR	**Alice Springs**	**32.67**	**250**	P	**P**	**12 38 22.6**	**0.0**
2.2nm,0.5s,mb4.1,baz=78,slow=8.8,SNR=58							
ASAR				PcP	PcP	12 41 03.0	-2.2
0.2nm,0.5s,baz=88,slow=2.7,SNR=4.2							
ASPA	**Alice Springs**	**32.67**	**250**	*eP*	**P**	**12 38 22.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.13**	**260**	P	**P**	**12 39 25.9**	**0.0**
1.5nm,0.6s,mb3.8,baz=119,slow=13,SNR=5.1							
QSPA	**South Pole Qui**	**74.66**	**180**	*eP*	**P**	**12 43 28.7**	**+0.9**
4.9nm,0.7s,mb4.2							
SONM	**Songino Array**	**83.15**	**324**	P	**P**	**12 44 14.8**	**+0.7**
0.3nm,0.5s,mb3.3,baz=146,slow=7.2,SNR=5.8							
MKAR	**Makanchi Array**	**97.83**	**316**	P	**P**	**12 45 23.7**	**+0.4**
0.2nm,0.5s,mb3.8,baz=85,slow=5.1,SNR=4.5							
MKAR	**Makanchi Array**	**97.83**	**316**	P	**P**	**12 45 23.7**	**+0.4**
YKA	**Yellowknife Ar**	**98.01**	**27**	P	**P**	**12 45 22.8**	**-1.3**
0.2nm,0.6s,mb3.7,baz=252,slow=4.5,SNR=5.4							
YKA	**Yellowknife Ar**	**98.01**	**27**	P	**P**	**12 45 22.8**	**-1.3**
ARCES	**ARCESS Array B**	**120.93**	**345**	PKP	PKPdf	12 50 38.7	-0.8
2.8nm,1.0s,baz=68,slow=2.0,SNR=21							
ARCES	**ARCESS Array B**	**120.93**	**345**	PKP	PKPdf	12 50 38.7	-0.8
CDF	**Champ du Feu**	**143.26**	**338**	*e*PKP1	PKPdf	12 51 18.7	-2.6
HINF	**Hinteralfeld**	**143.91**	**338**	*e*PKP1	PKPdf	12 51 20.5	-2.0
HAU	**Haudompre**	**143.94**	**338**	*e*PKP1	PKPdf	12 51 21.8	-0.7
CABF	**La Chapelle**	**145.21**	**337**	*e*PKP1	PKPbc	12 51 25.8	+1.1
14nm,0.7s							
FLN	**La Foliniere**	**145.28**	**346**	*e*PKP1	PKPbc	12 51 25.1	+0.2
25nm,0.5s							
LDF	**La Druitiere**	**145.35**	**346**	*e*PKP1	PKPbc	12 51 25.3	+0.2
12nm,0.5s							
LOR	**Lormes**	**145.42**	**340**	*e*PKP1	PKPbc	12 51 26.0	+0.7
10nm,0.7s							
GRR	**Gorron**	**145.71**	**346**	*e*PKP1	PKPbc	12 51 26.7	+0.5
22nm,0.6s							
SSF	**Saint Saulge**	**145.72**	**340**	*e*PKP1	PKPbc	12 51 27.1	+0.8
LPL	**La Plagne**	**145.88**	**336**	*e*PKP1	PKPbc	12 51 28.5	+1.8
LPG	**La Plagne**	**145.88**	**336**	*e*PKP1	PKPbc	12 51 28.0	+1.2
SMF	**Signal de Mont**	**145.97**	**340**	*e*PKP1	PKPbc	12 51 28.3	+1.3
5.6nm,0.6s							
AVF	**Avril sur Loir**	**146.01**	**340**	*e*PKP1	PKPbc	12 51 28.4	+1.3
6.6nm,0.6s							
BGF	**Bois d'Agland**	**146.37**	**341**	*e*PKP1	PKPbc	12 51 28.3	+0.1
8.1nm,0.6s							
ORIF	**Oris-en-Rattie**	**146.71**	**336**	*e*PKP1	PKPbc	12 51 30.3	+1.1
4.8nm,0.6s							
TCF	**Toulx Ste Croi**	**146.81**	**341**	*e*PKP1	PKPbc	12 51 30.0	+0.5
20nm,1.0s							
MFF	**Saint Martin d**	**147.20**	**344**	*e*PKP1	PKPbc	12 51 31.1	+0.6
25nm,0.9s							

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*IDC **19** 12:52:55.1±4.2, 1969S×17797W, h540km±49km, mb3.2/8, mb1 3.5/10, mb1mx3.4/17, mbtmp4.2/10, Error ellipse: s-maj=27.1km s-min=23.8km az=160.0*
*NEIC **19** 12:52:55.6±2.4, 1967S×17798W, h543km±28km, mb4.1/6, Error ellipse: s-maj=16.9km s-min=15.6km az=83.0*
*ISCJB **19** 12:52:56.1±3.4, 197S±01×178.1W±02, h560km±43km, mb3.8/13, Error ellipse: s-maj=22.7km s-min=20.5km az=108.4*

ISC 19 12:52:54.8±3.3, 197S±01×1779W±02, h532km±39km, n28, σ0°83/23, mb3.8/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.81**	**258**	P	**P**	**12 56 02.1**	**-0.2**
2.2nm,0.3s,baz=83,slow=19,SNR=80							
DZM	**Mont Dzumac**	**14.81**	**258**	*eP*	**P**	**12 56 02.4**	**0.0**
URZ	**Urewera**	**19.02**	**192**	P	**P**	**12 56 42.1**	**-0.7**
2.2nm,0.3s,baz=305,slow=3.3,SNR=20							
CTAO	**Charters Tower**	**33.65**	**263**	*eP*	**P**	**12 58 52.3**	**+1.1**
5.6nm,0.4s,mb4.5							
PMG	**Port Moresby**	**35.24**	**282**	P	**P**	**12 59 04.0**	**-0.5**
5.1nm,0.8s,mb4.1,baz=116,slow=8.5,SNR=5.6							
PMG	**Port Moresby**	**35.24**	**282**	*eP*	**P**	**12 59 06.2**	**+1.7**
5.4nm,0.9s,mb4.1							
STKA	**Stephens Creek**	**38.22**	**243**	P	**P**	**12 59 27.6**	**-1.4**
0.9nm,0.6s,mb3.5,baz=77,slow=14,SNR=2.0							
STKA	**Stephens Creek**	**38.22**	**243**	P	**P**	**12 59 27.8**	**-1.3**
WB2	**Warramunga Arr**	**44.78**	**261**	*eP*	**P**	**13 00 20.9**	**0.0**
AS31	**Alice Springs**	**44.79**	**256**	*eP*	**P**	**13 00 21.2**	**+0.3**
WRAB	**Tennant Creek**	**44.79**	**261**	*eP*	**P**	**13 00 20.8**	**-0.2**
2.6nm,0.4s,mb4.1							
ASAR	**Alice Springs**	**44.79**	**256**	P	**P**	**13 00 21.2**	**+0.3**
4.1nm,0.7s,mb4.1,baz=86,slow=8.2,SNR=118							
ASAR				PcP	PcP	13 01 51.0	-0.6
0.9nm,0.8s,baz=108,slow=4.2,SNR=5.0							
ASPA	**Alice Springs**	**44.79**	**256**	*eP*	**P**	**13 00 21.2**	**+0.2**
WRA	**Warramunga Arr**	**44.80**	**261

KAAZ **Kauri Point** 22.50 205 PN P 12 59 55.0 +1.2
KAAZ **Kauri Point** 22.50 205 P P 12 59 54.4 +0.6
OTAZ **Otara** 22.52 205 PN P 12 59 55.4 +1.5
OTAZ **Otara** 22.52 205 P P 12 59 55.2 +1.2
MKAZ **Moumakai** 22.56 204 PN P 12 59 55.6 +1.1
MKAZ **Moumakai** 22.56 204 P P 12 59 56.1 +1.7
WTAZ **Waiatarua** 22.65 205 PN P 12 59 56.2 +0.9
WTAZ **Waiatarua** 22.65 205 P P 12 59 55.8 +0.5
URZ **Urewera** 22.91 199 P P 12 59 57.2 -0.9
111nm,0.5s,mb5.6,baz=22,slow=2.1,SNR=169
URZ S S 13 03 58.9 -6.4
4.5nm,0.7s,baz=226,slow=23,SNR=9.2
URZ **Urewera** 22.91 199 PN P 12 59 57.3 -0.8
URZ **Urewera** 22.91 199 P P 12 59 57.3 -0.8
PPT **Papeete** 22.98 96 eLR LR 13 04 49.4
849nm,29.0s
PPT **Papeete** 22.98 96 LR LR 13 05 38.5
comp=Z,330nm,21.1s,MS3.8,baz=254,slow=28
TVO **Taravao** 23.29 96 eP P 13 00 00.7 -1.4
89nm,0.9s,mb5.2
PATZ **Paeroa** 23.30 200 PN P 13 00 02.5 +0.3
TBI **Tubuai** 23.60 110 eLR LR 13 05 16.3
722nm,31.2s
BKZ **Black Stump Fm** 23.94 199 PN P 13 00 07.7 -0.4
BKZ **Black Stump Fm** 23.94 199 eP P 13 00 07.6 -0.5
PXZ **Pawanui** 24.62 198 PN P 13 00 14.1 -0.2
PMOR **Pomariorio Ree** 24.80 90 eP P 13 00 15.2 -0.8
199nm,1.4s,mb5.5
SNZO **South Karori** 26.45 200 eP P 13 00 30.2 -0.7
34nm,0.6s,mb5.0
HNR **Honiara** 26.73 282 LR LR 13 09 54.1
comp=Z,388nm,20.1s,MS4.0,baz=179,slow=33
QRZ **Quartz Range** 26.80 204 PN P 13 00 33.6 -0.5
QRZ **Quartz Range** 26.80 204 eP P 13 00 34.4 +0.3
DSZ **Denniston Nort** 27.88 204 PN P 13 00 43.0 -0.7
DSZ **Denniston Nort** 27.88 204 eP P 13 00 45.2 +1.5
LTZ **Lake Taylor** 28.60 202 PN P 13 00 47.4 -2.7
LTZ **Lake Taylor** 28.60 202 eP P 13 00 48.2 -1.9
RPZ **Rata Peaks** 29.85 203 P P 13 01 02.1 +0.9
22nm,0.6s,mb5.0,baz=85,slow=4.9,SNR=10
RPZ **Rata Peaks** 29.85 203 ePN P 13 01 00.5 -0.8
FOZ **Fox Glacier** 30.24 204 ePN P 13 01 04.1 -0.6
FOZ **Fox Glacier** 30.24 204 eP P 13 01 03.7 -1.0
TAOE **Nuku Hiva Isla** 33.53 81 eLR LR 13 09 56.3
999nm,29.3s
RKT **Rikitea** 36.80 106 eLR LR 13 11 18.1
409nm,30.2s
CNB **Canberra Magne** 37.76 234 eP P 13 02 09.7 -0.2
24nm,0.7s,mb5.0
CTA **Charters Tower** 38.15 259 LR LR 13 15 11.3
comp=Z,299nm,21.4s,MS4.1,baz=51,slow=32
CTAO **Charters Tower** 38.15 259 eP P 13 02 13.0 -0.2
PMG **Port Moresby** 38.84 276 P P 13 02 20.4 +1.4
4.5nm,0.6s,mb4.4,baz=49,slow=7.8,SNR=4.4
TOO **Toolangi** 41.45 232 eP P 13 02 39.9 -0.7
7.9nm,0.5s,mb4.6
TOO **Toolangi** 41.45 232 eP P 13 02 39.9 -0.7
TOO pmax pmax
comp=Z,8.0nm,0.5s,mb4.6
STKA **Stephens Creek** 43.19 241 eP P 13 02 52.6 -2.1
comp=Z,34nm,1.1s,mb5.0
STKA **Stephens Creek** 43.19 241 P P 13 02 53.1 -1.6
comp=Z,24nm,0.7s,mb5.0,baz=83,slow=8.3,SNR=54
STKA LR LR 13 19 50.9
comp=Z,128nm,20.1s,MS3.8,baz=26,slow=34
WB2 **Warramunga Arr** 49.33 258 eP P 13 03 42.3 -0.7
WB2 e 13 04 02.9
WRAB **Tennant Creek** 49.33 258 P P 13 03 42.0 -1.0
comp=Z,104nm,0.5s,SNR=18
WRAB **Tennant Creek** 49.33 258 eP P 13 03 41.9 -1.1
WRAB pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
WRAB **Tennant Creek** 49.33 258 eP P 13 03 41.9 -1.0
comp=Z,9.6nm,0.4s,mb5.2
WRA **Warramunga Arr** 49.34 258 P P 13 03 42.6 -0.4
comp=Z,7.4nm,0.5s,mb5.0,baz=96,slow=7.1,SNR=129
AS31 **Alice Springs** 49.50 253 ⇑iP P 13 03 44.2 -0.1
AS31 e 13 04 04.4
ASAR **Alice Springs** 49.50 253 P P 13 03 44.2 0.0
comp=Z,79nm,0.6s,mb5.9,baz=87,slow=8.8,SNR=897
ASAR S S 13 10 44.0 -5.0
comp=Z,1.1nm,1.0s,baz=88,slow=16,SNR=4.5
ASPA **Alice Springs** 49.50 253 ⇑iP P 13 03 44.2 -0.1
ASPA e 13 04 04.4
GUMO **Guam** 50.90 304 LR LR 13 22 34.2
comp=Z,53nm,20.0s,MS3.6,baz=238,slow=32
KAKA **Kakadu** 52.20 267 eP P 13 04 04.9 +0.4
comp=Z,7.3nm,0.4s,mb5.0
FORT **Forrest** 54.62 244 eP P 13 04 22.0 -0.3
comp=Z,14nm,0.6s,mb5.2
FITZ **Fitzroy Crossi** 57.73 259 eP P 13 04 44.9 +0.4
SBA **Scott Base** 61.88 185 eP P 13 05 14.0 +0.9
SBA pmax pmax
comp=Z,15nm,0.8s,mb5.2
SBA **Scott Base** 61.88 185 eP P 13 05 14.0 +1.0
comp=Z,15nm,0.8s,mb5.2
VNDA **Vanda** 62.01 186 P P 13 05 13.3 -0.5
comp=Z,2.0nm,0.9s,mb4.2,baz=49,slow=7.1,SNR=4.1
VNDA **Vanda** 62.01 186 P P 13 05 13.5 -0.4
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA **Vanda** 62.01 186 P P 13 05 13.5 -0.4
comp=Z,8.7nm,0.9s,mb4.9
MBWA **Marble Bar** 62.79 254 eP P 13 05 19.1 -0.1
comp=Z,4.4nm,0.5s,mb4.8
KLBR **Kellerberrin** 63.42 243 eP P 13 05 23.1 -0.2
comp=Z,10nm,0.7s,mb5.1
MUN **Mundaring** 64.71 242 eP P 13 05 32.1 +0.3
MJAR **Matsushiro Arr** 69.84 320 LR LR 13 36 40.3
comp=Z,41nm,18.1s,MS3.7,baz=50,slow=36
JOW **Kunigami** 71.12 307 LR LR 13 30 58.7
comp=Z,333nm,21.3s,MS4.6,baz=357,slow=30
QSPA **South Pole Qui** 73.29 180 eP P 13 06 24.7 -0.3
comp=Z,23nm,1.4s,mb4.9
CMB **Columbia Colle** 73.92 41 eP P 13 06 28.6 -0.1
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CMB **Columbia Colle** 73.92 41 eP P 13 06 28.6 -0.2
comp=Z,5.9nm,1.0s,mb4.5
MTUM **Tungsten Hills** 74.69 43 eP P 13 06 33.4 +0.2
YBH **Yreka Blue Hor** 74.81 37 P P 13 06 34.7 +0.8
comp=Z,7.9nm,1.0s,mb4.6,baz=242,slow=3.4,SNR=9.5
YBH **Yreka Blue Hor** 74.81 37 eP P 13 06 34.7 +0.8
YBH pmax pmax
comp=Z,17nm,1.3s
YBH **Yreka Blue Hor** 74.81 37 eP P 13 06 34.7 +0.9
comp=Z,17nm,1.3s,mb4.8
YBH e 13 06 58.5
NVAR **Mina Array Bea** 75.48 42 P P 13 06 38.5 +0.7
comp=Z,6.8nm,1.0s,mb4.5,baz=218,slow=7.2,SNR=28
NVAR LR LR 13 31 25.3
comp=Z,145nm,21.5s,MS4.2,baz=175,slow=29
MNV **Mina** 75.57 42 eP P 13 06 38.8 +0.5
MNV pmax pmax
comp=Z,23nm,1.3s,mb5.0
MNV **Mina** 75.57 42 eP P 13 06 38.8 +0.5
comp=Z,23nm,1.3s,mb4.9
TPH **Tonopah** 75.97 43 eP P 13 06 40.8 +0.2
TPH pmax pmax
comp=Z,38nm,1.7s,mb5.0
TPH **Tonopah** 75.97 43 eP P 13 06 40.8 +0.3
comp=Z,38nm,1.7s,mb5.0
NEN **Nelson** 76.22 46 eP P 13 06 42.0 0.0
WVOR **Wild Horse Val** 77.62 38 eP P 13 06 49.8 -0.1
WVOR pmax pmax
comp=Z,12nm,1.1s,mb4.7
WVOR **Wild Horse Val** 77.62 38 eP P 13 06 49.8 -0.1
comp=Z,12nm,1.1s,mb4.7
ARUT **Antelope Range** 78.31 45 eP P 13 06 54.3 +0.6
SSE **Sheshan** 78.61 307 eP P 13 06 55.5 +0.2
SSE AMB AMB
comp=Z,26nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,107nm,4.9s
ELK **Elko** 78.74 41 eP P 13 06 56.3 +0.2
ELK pmax pmax
comp=Z,11nm,1.1s
ELK **Elko** 78.74 41 eP P 13 06 56.2 +0.2
comp=Z,11nm,1.1s,mb4.7
RMW **Rattlesnake Mo** 78.97 33 P P 13 06 57.8 +0.5
MSU **Marysvale** 79.54 44 eP P 13 07 01.5 +1.1
GBL **Gable Mountain** 79.67 35 P P 13 07 01.7 +0.5
ETW **Entiat** 79.83 33 P P 13 07 02.4 +0.4
BMO **Blue Mountains** 79.83 37 eP P 13 07 01.7 -0.3
BMO pmax pmax
comp=Z,11nm,1.4s,mb4.6
BMO **Blue Mountains** 79.83 37 eP P 13 07 01.6 -0.4
comp=Z,11nm,1.4s,mb4.6
MDJ **Mudanjiang** 79.97 323 P P 13 07 03.6 +0.8
MDJ PP PP 13 10 04.3 -0.5
MDJ SS SS 13 22 06.1 -7.8
MDJ AMB AMB
comp=Z,7.0nm,1.8s,mb4.3
MDJ AMB AMB
comp=Z,108nm,4.2s
MDJ LR LR
comp=Z,72nm,27.9s,MS3.9
WTV **Waterville** 80.09 34 P P 13 07 03.5 +0.1
OD2 **Odessa Site #2** 80.56 34 P P 13 07 06.2 +0.2
TMUT **Trail Mountain** 80.59 44 eP P 13 07 06.8 +0.7
HLID **Hailey** 80.81 39 eP P 13 07 07.6 +0.3
comp=Z,12nm,1.0s,mb4.8
NJ2 **Nanjing** 80.82 307 eP P 13 07 06.6 -0.7
NJ2 AP pP 13 07 31.9 +13
NJ2 XP sP 13 07 42.6 +19
NJ2 PP PP 13 10 14.0 +2.2
NJ2 S S 13 17 03.0 -10
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,260nm,8.2s
NJ2 LR LR
comp=N,720nm,24.8s,MS5.3
NJ2 LR LR
comp=E,2μm,26.7s,MS5.3
NJ2 LR LR
comp=Z,230nm,11.9s
SRU **San Rafael** 80.95 45 eP P 13 07 08.2 +0.1
SRU pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SRU **San Rafael** 80.95 45 eP P 13 07 08.2 +0.2
comp=Z,4.3nm,0.8s,mb4.4
TCUT **Toone Canyon** 81.39 43 eP P 13 07 10.6 +0.2
MA2 **Magadan** 81.39 343 P P 13 07 11.0 +0.6
MA2 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
LPM **Los Pinos Moun** 81.42 50 eP P 13 07 11.0 +0.5
ANMO **Albuquerque** 81.83 50⇑eP P 13 07 12.1 -0.6
NEW **Newport** 81.95 34 P P 13 07 12.4 -0.9
comp=Z,3.0nm,0.9s,mb4.2,baz=243,slow=2.3,SNR=4.7
CN2 **Changchun** 81.99 320 eP P 13 07 14.8 +1.3
CN2 eAP pP 13 07 40.1 +14
CN2 eS S 13 17 20.3 -4.5
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
TNA **Tin City** 82.19 2 eP P 13 07 14.6 0.0
comp=Z,5.1nm,0.8s,mb4.5
TNA e 13 07 37.6
GDL2 **Guadalupe Moun** 82.20 53 eP P 13 07 15.4 +0.8
MCMT **McKenzie Canyo** 82.44 39 eP P 13 07 16.2 +0.3
REDW **Red Top Meadow** 82.90 41 eP P 13 07 18.1 -0.1
comp=Z,25nm,1.4s,mb5.0
REDW e 13 07 43.4
BSMT **Bassoo Peak** 82.99 35 P P 13 07 18.4 -0.4
SNOW **Snow King Moun** 83.01 41 eP P 13 07 19.3 +0.4
comp=Z,20nm,1.1s,mb5.1
LOHW **Long Hollow** 83.18 41 eP P 13 07 19.6 -0.2
comp=Z,16nm,1.5s,mb4.8
QLMT **Earthquake Lak** 83.30 39 eP P 13 07 21.1 +0.8
CHMT **Chamberlain Mo** 83.33 37 eP P 13 07 20.0 -0.5
FLWY **Flagg Ranch** 83.36 40 eP P 13 07 21.1 +0.4
comp=Z,20nm,1.0s,mb5.1
SMCO **Snowmass** 83.40 46 eP P 13 07 21.3 +0.4
comp=Z,18nm,1.3s,mb4.9
PDAR **Pinedale Array** 83.42 42 P P 13 07 20.5 -0.4
comp=Z,7.4nm,0.8s,mb4.7,baz=212,slow=3.2,SNR=61
PDAR LR LR 13 38 45.6
comp=Z,67nm,20.2s,MS4.0,baz=245,slow=31
BOZ **Bozeman (W)** 83.61 39 eP P 13 07 21.8 -0.1
BOZ pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
BOZ **Bozeman (W)** 83.61 39 eP P 13 07 21.8 -0.1
comp=Z,8.8nm,0.8s,mb4.9
COLA **College** 83.73 11 eP P 13 07 21.6 -1.0
COLA pmax pmax
comp=Z,14nm,0.9s,mb5.1
COLA **College** 83.73 11 eP P 13 07 21.6 -1.0
comp=Z,14nm,0.9s,mb5.1
SEY **Seymchan** 83.77 345⇑eP P 13 07 22.3 -0.5
LKWY **Lake** 83.79 40 eP P 13 07 24.7 +1.8
LKWY pmax pmax
comp=Z,16nm,1.0s,mb5.1
LKWY **Lake** 83.79 40 eP P 13 07 24.7 +1.8
comp=Z,16nm,1.0s,mb5.1
ILAR **Eielson Array** 83.81 11 P P 13 07 22.2 -0.8
comp=Z,2.2nm,0.6s,mb4.4,baz=232,slow=6.4,SNR=54
HRY **Holter Researc** 84.05 38 eP P 13 07 24.0 -0.2
DAWY **Dawson** 84.78 14 eP P 13 07 28.1 +0.2
GCMT **Greycliff** 84.86 39 eP P 13 07 28.1 -0.2
BILL **Bilibino** 85.82 353 eP P 13 07 31.3 -1.8
BILL pmax pmax
comp=Z,14nm,1.7s,mb4.9
BILL **Bilibino** 85.82 353 P P 13 07 30.7 -2.4
comp=Z,12nm,1.1s,mb5.0
EGMT **Eagleton** 85.94 37 eP P 13 07 33.2 -0.5
comp=Z,16nm,1.6s,mb5.0
MAW **Mawson** 86.44 199 P P 13 07 35.4 -0.7
comp=Z,6.6nm,1.0s,mb4.8,baz=255,slow=12,SNR=2.6
MAW LR LR 13 44 11.2
comp=Z,268nm,18.6s,MS4.7,baz=247,slow=34
EDM **Edmonton** 86.75 32 eP P 13 07 36.2 -1.4
GYA **Guiyang** 88.49 298 P P 13 07 48.3 +2.3
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,90nm,4.2s
GYA LR LR
comp=N,470nm,18.4s,MS5.0
GYA LR LR
comp=E,370nm,18.0s,MS5.0
GYA LR LR
comp=Z,410nm,19.0s,MS4.9
PLCA **Paso Flores** 88.76 132 P P 13 07 47.0 -0.2
comp=Z,1.5nm,0.8s,mb4.4,baz=198,slow=3.6,SNR=5.4
HHC **Hu-ho-hao-te** 89.79 313 eP P 13 07 52.3 +0.2
HHC AP pP 13 08 15.6 +11
HHC XP sP 13 08 25.5 +17
HHC PP PP 13 11 27.5 +2.8
HHC SKS 13 18 12.5
HHC S 13 18 34.6
HHC AMB AMB
comp=Z,9.0nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,109nm,5.7s
HHC LR LR
comp=N,88nm,3.9s
HHC LR LR
comp=E,147nm,5.3s
HHC LR LR
comp=Z,127nm,5.9s
KMI **Kunming** 91.42 296 P P 13 08 01.8 +2.1
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
KMI LR LR
comp=Z,68nm,33.2s,MS3.9
YKA **Yellowknife Ar** 91.42 23 P P 13 07 58.7 -0.9
comp=Z,0.5nm,0.7s,mb3.9,baz=232,slow=4.6,SNR=12
YKA PP PP 13 11 34.4 -3.2
comp=Z,0.3nm,0.9s,baz=234,slow=8.2,SNR=4.8
YKA LR LR 13 46 28.5
comp=Z,53nm,19.2s,MS4.0,baz=245,slow=34
YKA **Yellowknife Ar** 91.42 23 P P 13 07 58.7 -1.0
YKA 13 11 34.4
YKA **Yellowknife Ar** 91.42 23 P P 13 07 58.7 -0.9
YKA PP PP 13 11 34.4 -3.2
YKA LR LR 13 46 28.5
CD2 **Chengdu** 92.34 301 eP P 13 08 00.9 -3.0
CD2 AP pP 13 08 26.8 +11
CD2 XP sP 13 08 37.3 +17
CD2 PP PP 13 11 45.3 +0.5
CD2 SKS 13 18 23.6
CD2 S 13 18 52.5
CD2 XS sS 13 19 38.4 +14
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,60nm,7.9s
CD2 LR LR
comp=N,150nm,12.0s
CD2 LR LR
comp=Z,50nm,10.8s,MS4.2
LZH **Lanzhou** 93.86 306 eP P 13 08 09.8 -1.1
LZH AP pP 13 08 35.8 +13
LZH XP sP 13 08 46.3 +19
LZH PP PP 13 11 59.3 +2.6
LZH SKS 13 18 34.1
LZH eS 13 19 08.3
LZH XS sS 13 19 53.6 +15
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,86nm,4.3s
LZH LR LR
comp=N,356nm,13.5s
LZH LR LR
comp=Z,452nm,14.8s,MS5.1
ULM **Lac du Bonnet** 95.12 39 LR LR 13 43 19.3
comp=Z,104nm,19.8s,MS4.3,baz=276,slow=30
SONM **Songino Array** 95.71 318 LR LR 13 50 49.1
comp=Z,61nm,18.3s,MS4.1,baz=169,slow=35
TIXI **Tiksi** 96.25 344⇑eP P 13 08 20.2 -1.6
TIXI pmax pmax
comp=Z,3.0nm,1.4s,mb4.5
LPAZ **La Paz** 99.54 110 LR LR 13 42 17.6
comp=Z,76nm,21.6s,MS4.2,baz=267,slow=28
MKAR **Makanchi Array** 111.62 314 PKiKP PKiKP 13 13 27.5 -0.4
comp=Z,0.5nm,0.5s,baz=157,slow=1.2,SNR=16
MKAR **Makanchi Array** 111.62 314 PKPdf PKiKP 13 13 27.5 -0.4
KURK **Kurchatov** 114.02 318 ePKiKP PKiKP 13 13 32.0 -0.5
BRVK **Borovoye** 118.88 322 ePKiKP PKPdf 13 13 41.3 -0.5
ARU **Arti** 124.38 328 i PKiKP PKPdf 13 13 50.6 -1.8
ARU e 13 15 35.5
ARU e 13 20 44.0
ARCES **ARCESS Array B** 125.92 352 PKP PKPdf 13 13 54.2 -1.2
comp=Z,2.9nm,0.7s,baz=319,slow=6.6,SNR=5.9
FINES **FINESS Array B** 133.22 347 PKP PKPdf 13 14 05.4 -3.8
comp=Z,2.0nm,0.8s,baz=54,slow=3.3,SNR=5.9
AKASG **Malin Array Be** 141.50 337 PKP PKPdf 13 14 23.4 -1.1
comp=Z,0.5nm,0.3s,baz=40,slow=1.9,SNR=7.9
IBBN **Ibbenburen** 144.52 359 ePKPbc PKPdf 13 14 29.6 -0.2
KWP **Kalwaria** 144.65 342 ePKP PKPdf 13 14 29.9 -0.1
MALT **Malatya** 144.66 314 ePKPdf PKPdf 13 14 28.6 -1.4
MALT e 13 14 52.7
KMBO **Kilima Mbogo** 144.74 243 PKP PKPdf 13 14 29.9 -0.3
comp=Z,4.5nm,0.9s,baz=64,slow=5.3,SNR=11
KMBO **Kilima Mbogo** 144.74 243 ePKPdf PKPdf 13 14 31.1 +0.9
CLZ **Clausthal** 144.86 356 ePKPbc PKPdf 13 14 30.1 -0.3
OJC **Ojcow** 144.92 345 ePKPdf PKPdf 13 14 30.5 0.0
OJC e 13 14 52.4
OJC **Ojcow** 144.92 345 ePKPdf PKPdf 13 14 30.5 0.0
OJC e 13 14 52.4
KSP **Ksiaz** 145.09 349 ePKP PKPdf 13 14 31.5 +0.7
KSP **Ksiaz** 145.09 349 ePKP PKPdf 13 14 31.2 +0.4
KSP epPKP pPKPdf 13 14 52.7 +9.3
CLL **Collm** 145.13 353 ePKPbc PKPbc 13 14 30.3 -0.2
CLL **Collm** 145.13 353 ⇑iPKPdf PKPdf 13 14 30.7 -0.2
comp=Z,18nm,1.2s
CLL **Collm** 145.13 353 ⇑iPKP PKPdf 13 14 30.7 -0.2
CLL i pPKP pPKPdf 13 14 53.4 +10
STHS **Stebnicka Huta** 145.27 343 ePKP PKPdf 13 14 31.7 +0.6
STHS e 13 14 54.5
BUG **Bochum--Univer** 145.40 359 ePKPbc PKPbc 13 14 31.6 +0.3
BRG **Berggiesshubel** 145.44 352 ePKPbc PKPbc 13 14 31.6 +0.2
BRG **Berggiesshubel** 145.44 352 ePKP PKPdf 13 14 31.8 +0.4
comp=Z,9.1nm,1.3s
BRG i 13 14 53.2
comp=Z,13nm,1.3s
UPC **Upice** 145.46 349 ePKP PKPdf 13 14 32.3 +0.9
UPC ex x 13 14 54.5
NIE **Niedzica** 145.52 344 ePKP PKPdf 13 14 33.0 +1.5
BURAR **Bucovina Array** 145.54 337 ⇓P PKPdf 13 14 33.4 +1.8
DPC **Dobruska-Polom** 145.55 349 ePKP PKPdf 13 14 32.7 +1.1
DPC ex x 13 14 52.9
OKC **Ostrava-Krasne** 145.66 346 ePKP PKPdf 13 14 33.0 +1.2
OKC ex x 13 14 54.3
CRVS **Cervenica-Dubn** 145.67 342 ePKP PKPdf 13 14 36.3 +4.5
CRVS e 13 14 55.4
PVCC **Panska Ves** 145.68 351 ePKP PKPdf 13 14 32.8 +1.0
PVCC ex x 13 14 55.1
MORC **Moravsky Berou** 145.85 347 ePKP2 PKPab 13 14 33.0 -0.2
UBBA **Unterbreizbach** 145.90 356 ePKPbc PKPbc 13 14 33.3 +0.4
MOX **Moxa** 145.94 354 ePKPbc PKPbc 13 14 33.4 +0.4
MOX **Moxa** 145.94 354 ePKP PKPdf 13 14 33.3 +1.0
comp=Z,39nm,1.6s
UCC **Uccle** 146.01 2 ⇑PKP PKPdf 13 14 33.8 +1.4
BEBN **Eben Emael** 146.04 1 E 13 14 56.3
WERD **Werda** 146.06 353 ePKPbc PKPbc 13 14 33.8 +0.4
PRU **Pruhonice** 146.21 351 ePKP PKPdf 13 14 33.6 +0.9
PRU ex x 13 14 53.8
MEM **Membach** 146.24 0 PKP PKPdf 13 14 30.9 -1.9
MEM PKiKP PKiKP 13 14 37.5 +0.5
MEM XPKiKP 13 14 53.2
NKC **Novy Kostel** 146.26 353 ePKP PKPdf 13 14 33.9 +1.1
NKC ex x 13 14 56.6
SNF **Seneffe** 146.29 2 PKP PKPdf 13 14 32.1 -0.7
SNF APKP 13 14 42.8
SNF XPKiKP 13 14 55.6
KECS **Kecovo** 146.32 343 ePKP PKPdf 13 14 35.4 +2.5
KECS e 13 14 55.4
MANZ **Manzenberg** 146.54 353 ePKPbc PKPbc 13 14 35.7 +0.9
TNS **Taunus Mts** 146.58 358 ePKPbc PKPbc 13 14 35.4 +0.5
DOU **Dourbes** 146.72 2 PKP PKPdf 13 14 35.6 +2.0
DOU PKiKP PKiKP 13 14 41.6 +3.6
DOU XPKiKP 13 14 59.8
GIVF **Givet** 146.72 2 ePKP1 PKPbc 13 14 35.2 -0.1
comp=Z,38nm,1.0s
BAIF **Baives** 146.74 3 ePKP1 PKPbc 13 14 35.4 0.0
comp=Z,19nm,0.9s
ROTZ **Rotzenmuhle** 146.74 353 ePKPbc PKPbc 13 14 35.7 +0.3
VYHS **Vyhne** 146.75 345 ePKP PKPdf 13 14 36.2 +2.6
VYHS e 13 14 58.6
GRA1 **Grafenberg Arr** 146.92 354 ePKPbc PKPbc 13 14 36.2 +0.3
GRA1 epPKPbc pPKPbc 13 15 00.1 +12
GRF **Grafenberg Arr** 146.92 354 ePKPbc PKPbc 13 14 36.2 +0.3
GRF epPKPbc pPKPbc 13 15 00.1 +12
BR131 **Keskin Array S** 147.06 319 ePKPbc PKPbc 13 14 36.6 +0.3
BRTR **Keskin Array B** 147.06 319 PKPbc PKPbc 13 14 37.2 +0.9
comp=Z,4.1nm,0.9s,baz=115,slow=2.1,SNR=13
DRGR 147.14 339 ⇑P PKPdf 13 14 37.3 +3.0
WLF **Walferdange** 147.18 0 ePKPbc PKPbc 13 14 37.3 +0.7
WLF **Walferdange** 147.18 0 ⇓PKP PKPdf 13 14 37.7 +3.4
WLF APKP 13 14 46.0
WLF XPKiKP 13 14 57.8
KHC **Kasperske Hory** 147.19 351 ePKP PKPdf 13 14 37.0 +2.6
KHC ex x 13 14 57.2
WET **Wettzell** 147.27 352 ePKPbc PKPbc 13 14 37.1 +0.2
ZST **Bratislava** 147.44 347 ePKP PKPdf 13 14 36.7 +1.9
ZST e 13 14 59.9
GEC2 **GERESS Array S** 147.45 351 ePKPbc PKPbc 13 14 38.1 +0.7
GERES **GERESS Array B** 147.45 351 PKPbc PKPbc 13 14 37.8 +0.4
comp=Z,2.7nm,0.9s,baz=25,slow=3.5,SNR=16
FLN **La Foliniere** 147.60 8 ePKP1 PKPbc 13 14 37.2 -0.6
LDF **La Drutiere** 147.81 8 ePKP1 PKPbc 13 14 37.9 -0.4
comp=Z,48nm,1.2s
GRR **Gorron** 147.91 9 ePKP1 PKPbc 13 14 38.2 -0.4
comp=Z,34nm,0.9s
STU **Stuttgart** 147.99 356 ePKPbc PKPbc 13 14 39.8 +1.0
MOA **Molln** 148.33 350 ⇑iP PKPbc 13 14 40.7 +1.0
MEZF **Maizieres J'vi** 148.33 2 ePKP1 PKPbc 13 14 39.9 +0.2
FUR **Furstenfeldbru** 148.43 354 ePKPbc PKPbc 13 14 40.7 +0.7
CDF **Champ du Feu** 148.43 359 ePKP1 PKPbc 13 14 40.2 +0.2
comp=Z,20nm,0.9s
BFO **Black Forest** 148.48 358 ePKPbc PKPbc 13 14 40.4 +0.3
BZS **Buzias** 148.53 339 ⇓P PKPbc 13 14 40.9 +0.7
ARSA **Arzberg** 148.67 348 ⇑iP PKPbc 13 14 41.3 +0.7
comp=Z,5.6nm,1.3s
ARSA **Arzberg** 148.67 348 ⇑iP PKPbc 13 14 41.3 +0.7
HAU **Haudompre** 148.84 0 ePKP1 PKPbc 13 14 42.1 +1.1
comp=Z,49nm,1.2s
HINF **Hinteralfeld** 149.03 359 ePKP1 PKPbc 13 14 41.3 -0.2
comp=Z,16nm,1.0s
KBA **Koelnbreinsper** 149.22 351 ⇑iP PKPbc 13 14 42.2 +0.2
comp=Z,7.4nm,0.7s
PERS **Pernice** 149.34 348 ePKPbc PKPbc 13 14 42.6 +0.3
DAVA **Damuels** 149.43 355 ⇑iP PKPbc 13 14 43.5 +1.0
comp=Z,13nm,1.1s
LOR **Lormes** 149.51 3 ePKP1 PKPbc 13 14 42.8 +0.1
comp=Z,36nm,1.3s
SSF **Saint Saulge** 149.69 4 ePKP1 PKPbc 13 14 43.4 +0.3
comp=Z,17nm,0.8s
MFF **Saint Martin d** 149.76 9 ePKP1 PKPbc 13 14 43.0 -0.3
comp=Z,8.5nm,0.7s
AVF **Avril sur Loir** 149.95 4 ePKP1 PKPbc 13 14 43.6 -0.2

comp=Z,26nm,1.1s
LJU Ljubljana 150.02 349 *e*PKPbc PKPbc 13 14 44.3 +0.4
LJU *e* 13 15 07.0
SMF Signal de Mont 150.13 4 *e*PKP1 PKPbc 13 14 44.1 -0.1
comp=Z,18nm,1.0s
BGF Bois d'Agland 150.15 5 *e*PKP1 PKPbc 13 14 44.3 +0.1
comp=Z,26nm,0.9s
VOJS Vojsko 150.15 349 *e*PKPbc PKPbc 13 14 44.1 -0.1
CABF La Chapelle 150.24 0 *e*PKP1 PKPbc 13 14 45.2 +0.7
comp=Z,35nm,0.9s
TCF Toulx Ste Croi 150.36 6 *e*PKP1 PKPbc 13 14 44.5 -0.2
comp=Z,26nm,1.1s
BOJS Bojanci 150.40 347 *e*PKPbc PKPbc 13 14 45.6 +0.8
RJF Les Rejaudoux 151.25 7 *e*PKP1 PKPbc 13 14 46.7 -0.2
LPL La Plagne 151.33 359 *e*PKP1 PKPbc 13 14 48.1 +1.1
comp=Z,13nm,0.9s
LPG La Plagne 151.35 359 *e*PKP1 PKPbc 13 14 48.3 +1.2
comp=Z,13nm,0.9s
LFF La Frestale 151.51 8 *e*PKP1 PKPbc 13 14 47.2 -0.3
CAF Calviac 151.69 6 *e*PKP1 PKPbc 13 14 47.9 0.0
ORIF Oris-en-Rattie 151.93 1 *e*PKP1 PKPbc 13 14 48.8 +0.4
comp=Z,11nm,1.0s
VIVF Saint-Julien-l 151.96 3 *e*PKP1 PKPbc 13 14 48.9 +0.4
MBDF Montbardon 152.12 359 *e*PKP1 PKPbc 13 14 50.0 +1.2
comp=Z,13nm,0.8s
TORD Torodi Ar. Bea 174.22 128 PKP PKPdf 13 15 02.3 -0.7
comp=Z,1.4nm,0.8s,baz=343,slow=1.7,SNR=9.3
TORD PKPab PKPab 13 16 34.3 -0.7
comp=Z,5.9nm,0.8s,baz=255,slow=4.5,SNR=25

IDC 19 13:07:20.8±2.3, 662S×12959E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, ML3.9/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/22, Error ellipse: s-maj=154.2km s-min=31.5km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.02**	**161**	Pn	Pn	13 10 40.5	-0.1
	0.6nm,0.3s,baz=344,slow=14,SNR=6.1						
WRA				Sn	Sn	13 13 02.8	-14
	1.1nm,0.3s,baz=329,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.45**	**167**	P	Pn	13 11 26.1	+0.5
	0.3nm,0.3s,baz=342,slow=9.4,SNR=18						
ASAR				S	Sn	13 14 28.5	-12
	0.2nm,0.3s,baz=350,slow=27,SNR=5.0						
AFI	**Afiamalu**	**58.03**	**102**	LR	LR	13 41 04.6	
	comp=Z,113nm,18.6s,baz=84,slow=35						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	13 18 19.9	+0.2
	0.3nm,0.4s,baz=128,slow=8.2,SNR=6.7						

*ISCJB **19** 13:22:48.3±1.9, 427N×02×789E±02, h10km, Error ellipse: s-maj=32.9km s-min=11.0km az=133.5*
*NNC **19** 13:22:50.4±1.7, 43.16N×7854E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=21.5km s-min=7.4km az=151.0*
ISC 19 13:22:49.3±1.9, 427N±02×789E±02, h10km, n13, σ1°20/14, 7C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**1.51**	**293**	⇑P	Pn	13 23 11.9	-4.4
	183nm,0.3s						
KNDC				⇑S	Sn	13 23 27.4	-8.7
	661nm,0.2s						
ULHL	**Ulahol**	**1.99**	**259**	P	Pn	13 23 21.2	-1.7
	SNR=88						
TKM2	**Tokmak 2**	**2.42**	**278**	P	Pn	13 23 28.2	-0.7
	SNR=58						
TKM2	**Tokmak 2**	**2.42**	**278**	⇑P	Pn	13 23 28.1	-0.8
TKM2	40nm,0.6s						
				⇓S	Sn	13 23 57.7	-0.9
	85nm,0.5s						
KZA	**Kyzart**	**2.74**	**259**	P	Pn	13 23 33.3	0.0
	SNR=15						
KBK	**Karagaybulak**	**2.89**	**271**	P	Pn	13 23 35.0	-0.4
	SNR=20						
CHMS	**Chumysh**	**3.05**	**278**	P	Pn	13 23 38.3	+0.8
	SNR=8.4						
AAK	**Ala-Archa**	**3.23**	**271**	P	Pn	13 23 42.3	+2.3
	SNR=8.3						
USP	**Ospenovka**	**3.27**	**282**	P	Pn	13 23 42.6	+2.1
	SNR=6.7						
EKS2	**Erkin-Say**	**3.76**	**272**	P	Pn	13 23 51.5	+4.3
	SNR=6.8						
MK31	**Makanchi Array**	**4.81**	**29**	⇑Pn	Pn	13 24 01.2	-0.5
	0.3nm,0.3s,baz=224,slow=16,SNR=4.1						
MK31				⇑Lg		13 25 12.5	
	2.3nm,0.5s,baz=218,slow=23,SNR=5.3						
KK31	**Karatay Array**	**6.16**	**277**	⇑Pg	Pb	13 24 36.4	-0.1
	0.5nm,0.4s,baz=89,slow=16,SNR=16						
KK31				⇑Lg		13 25 50.8	
	2.8nm,0.5s,baz=95,slow=30,SNR=12						
KURK	**Kurchatov**	**8.07**	**359**	⇓Lg		13 26 52.7	
	2.7nm,1.2s						

*IDC **19** 13:29:49.2±1.3, 397N×9573E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/19, mbtmp4.0/7, Error ellipse: s-maj=59.4km s-min=20.7km az=52.0*
*ISCJB **19** 13:29:52.5±0.8, 39N±01×957E±01, h33km, mb4.1/13, Error ellipse: s-maj=23.4km s-min=7.7km az=70.4*
*NEIC **19** 13:29:53.8±0.6, 395N×9571E, h30km, mb4.2/6, Error ellipse: s-maj=17.2km s-min=7.5km az=223.0*
ISC 19 13:29:54.9±0.8, 40N±01×957E±01, h35km, n18, σ0°70/19, mb4.1/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.45**	**110**	Pn	Pn	13 30 50.6	+4.5
	1.6nm,0.3s,baz=310,slow=17,SNR=8.4						
PSI				Sn	Sn	13 31 26.8	+1.1
	3.7nm,0.3s,baz=130,slow=18,SNR=6.2						
KULM	**Kulim**	**5.13**	**75**	*e*P	Pn	13 31 08.8	-0.5
JIRN	**Jiri**	**25.23**	**340**	*e*P	P	13 35 18.0	+0.5
	12nm,0.7s,mb4.5						
GUN	**Gumba**	**25.57**	**340**	*e*P	P	13 35 21.5	+0.9
	18nm,0.6s,mb4.8						
KKN	**Kakani**	**25.68**	**338**	*e*P	P	13 35 22.1	+0.6
GKN	**Gorkha**	**26.11**	**337**	*e*P	P	13 35 26.2	+0.8
	9.9nm,0.4s,mb4.7						
KOLN	**Koldanda**	**26.32**	**335**	*e*P	P	13 35 28.5	+1.2
MKAR	**Makanchi Array**	**44.21**	**347**	P	P	13 37 59.9	-0.7
	1.2nm,0.3s,mb4.0,baz=166,slow=9.1,SNR=42						
SONM	**Songino Array**	**44.66**	**10**	P	P	13 38 03.5	-0.7
	2.9nm,0.7s,mb4.2,baz=190,slow=8.6,SNR=32						
SONM				PcP	PcP	13 39 46.1	-0.3
	0.4nm,0.5s,baz=200,slow=3.3,SNR=4.4						
WRA	**Warramunga Arr**	**44.81**	**123**	P	P	13 38 04.6	-0.7
	0.7nm,0.4s,mb3.9,baz=301,slow=9.3,SNR=3.5						
WRAB	**Tennant Creek**	**44.81**	**123**	P	P	13 38 05.3	0.0
ULN	**Ulaanbaatar**	**44.81**	**11**	*e*P	P	13 38 04.2	-1.1
	1.5nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**46.28**	**128**	P	P	13 38 16.7	-0.3
	0.2nm,0.5s,mb3.3,baz=307,slow=7.6,SNR=5.5						
KURK	**Kurchatov**	**48.74**	**346**	*e*P	P	13 38 35.7	-0.4
	1.3nm,0.6s,mb4.1						
BRVK	**Borovoye**	**53.21**	**341**	*e*P	P	13 39 09.1	-0.6
	1.1nm,0.9s,mb3.8						
BRTR	**Keskin Array B**	**66.13**	**312**	P	P	13 40 38.7	0.0
	0.7nm,0.7s,mb3.8,baz=114,slow=7.5,SNR=4.9						
FINES	**FINESS Array B**	**76.85**	**332**	P	P	13 41 42.8	-0.4
	2.2nm,0.9s,mb4.1,baz=117,slow=4.0,SNR=5.2						
ARCES	**ARCESS Array B**	**79.43**	**340**	P	P	13 41 58.0	+0.5
	3.4nm,0.9s,mb4.3,baz=100,slow=7.1,SNR=10						

*SZGRF **19** 13:32:39.0, 2170S×17643W, h33km, Fiji Islands region*
*BJI **19** 13:32:43.4, 2145S×17570W, h126km, mB5.1, mb5.0*
*ISCJB **19** 13:32:46.9±1.2, 2127S±004×17660W±004, h124km±11km, mb5.0/83, Error ellipse: s-maj=7.8km s-min=5.3km az=105.6*
*ORF **19** 13:32:49.1, 1716S×17649W, h30km, mb6.0*
*MOS **19** 13:32:50.0±3.1, 2108S×17657W, h130km, mb4.9/24, Error ellipse: s-maj=9.3km s-min=7.2km az=61.1*
*NEIC **19** 13:32:52.4±1.1, 2137S×17656W, h166km±10km, mb4.8/54, Error ellipse: s-maj=7.1km s-min=4.3km az=141.0*
*BGS **19** 13:32:53.0±8.2, 2135S×17656W, h160km, mb4.8(NEIC)*
*IDC **19** 13:33:00.2±2.0, 2133S×17660W, h232km±17km, mb4.6/26, mb1 4.6/26, mb1mx4.6/27, mbtmp5.1/26, Error ellipse: s-maj=11.4km s-min=8.1km az=150.0*
ISC 19 13:32:47.0±1.1, 2128S±004×17655W±004, h111km±10km, h137km±3.2km: pP-P, n517, σ0°93/222, mb5.0/83, 28C-18D,

Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.03**	**189**	P	Pn	13 34 45.3	+4.5
	78nm,0.3s,baz=73,slow=20,SNR=4.6						
RAO				S	Sn	13 36 14.7	+4.9
	330nm,0.3s,baz=41,slow=22,SNR=11						
AFI	**Afiamalu**	**8.63**	**33**	P	Pn	13 34 49.1	+0.2
	18nm,0.3s,baz=322,slow=3.9,SNR=22						
AFI				S	Sn	13 36 15.5	-8.9
	14nm,0.3s,baz=41,slow=23,SNR=3.7						
AFI	**Afiamalu**	**8.63**	**33**	*e*P	Pn	13 34 48.8	-0.1
AFI				pmax	pmax		
	comp=Z,135nm,0.8s						
AFI	**Afiamalu**	**8.63**	**33**	*e*Pn	Pn	13 34 48.8	-0.2
	comp=Z,135nm,0.8s						
AFI				*e*Sn	Sn	13 36 09.1	-15
BKM	**Butte a Klehm**	**14.79**	**281**	*i*P	Pn	13 36 09.6	-0.8
RAR	**Rarotonga**	**15.64**	**93**	P	Pn	13 36 21.6	+0.6
	comp=Z,3.5nm,0.3s,baz=254,slow=7.6,SNR=32						
RAR				S	Sn	13 39 09.5	-12
	comp=Z,7.3nm,0.3s,baz=94,slow=22,SNR=6.6						
DZM	**Mont Dzumac**	**15.83**	**264**	P	Pn	13 36 32.5	+9.1
	comp=Z,4.4nm,0.3s,baz=81,slow=17,SNR=49						
MXZ	**Matakaoa Point**	**16.82**	**194**	PN	Pn	13 36 36.9	+1.2
MXZ				SN	Sn	13 39 26.6	-16
MXZ	**Matakaoa Point**	**16.82**	**194**	*e*P	Pn	13 36 36.9	+1.2
MWZ	**Matawai**	**17.75**	**195**	PN	Pn	13 36 46.9	0.0
MWZ	**Matawai**	**17.75**	**195**	*e*P	Pn	13 36 46.2	-0.6
URZ	**Urewera**	**17.78**	**197**	P	Pn	13 36 46.2	-1.1
	comp=Z,19nm,0.3s,baz=25,slow=3.1,SNR=106						
URZ				S	S	13 39 51.3	-14
	comp=Z,3.6nm,0.3s,baz=241,slow=20,SNR=8.3						
URZ	**Urewera**	**17.78**	**197**	PN	Pn	13 36 47.2	-0.1
URZ	**Urewera**	**17.78**	**197**	*e*P	Pn	13 36 46.2	-1.1
BKZ	**Black Stump Fm**	**18.80**	**197**	PN	Pn	13 36 57.4	-2.0
BKZ	**Black Stump Fm**	**18.80**	**197**	*e*P	P	13 36 56.9	-0.7
PXZ	**Pawanui**	**19.52**	**195**	PN	Pn	13 37 05.1	-2.7
PXZ				SN	Sn	13 40 23.1	-24
CAW	**Cannon Point**	**21.00**	**198**	PN	P	13 37 20.6	-0.8
CAW	**Cannon Point**	**21.00**	**198**	P	P	13 37 20.1	-1.3
SNZO	**South Karori**	**21.29**	**198**	*e*P	P	13 37 23.1	-1.4
QRZ	**Quartz Range**	**21.58**	**203**	PN	P	13 37 26.9	-0.6
QRZ	**Quartz Range**	**21.58**	**203**	*e*P	P	13 37 26.9	-0.7
TUWZ	**Tuamarina**	**21.64**	**200**	PN	P	13 37 26.5	-1.7
DSZ	**Denniston Nort**	**22.65**	**203**	*e*P	P	13 37 39.5	+0.7
LTZ	**Lake Taylor**	**23.40**	**201**	*e*P	P	13 37 45.8	+0.1
RPZ	**Rata Peaks**	**24.64**	**202**	P	P	13 37 58.9	+1.9
	comp=Z,23nm,0.4s,mb4.9,baz=17,slow=1.4,SNR=35						
FOZ	**Fox Glacier**	**25.00**	**204**	*e*P	P	13 37 59.3	-1.0
HNR	**Honiara**	**25.50**	**294**	P	P	13 38 08.7	+3.9
	comp=Z,142nm,0.5s,mb5.6,baz=154,slow=0.4,SNR=27						
HNR	**Honiara**	**25.50**	**294**	*e*P	P	13 38 09.4	+4.6
HNR				pmax	pmax		
	comp=Z,129nm,0.8s,mb5.4						
HNR	**Honiara**	**25.50**	**294**	*e*P	P	13 38 09.4	+4.6
	comp=Z,129nm,0.8s,mb5.4						
PPT	**Papeete**	**25.69**	**86**	*e*P	P	13 38 07.5	+1.0
	comp=Z,52nm,1.2s,mb4.8						
JCZ	**Jackson Bay**	**25.79**	**205**	*e*P	P	13 38 07.4	-0.1
TVO	**Taravao**	**25.95**	**87**	*e*P	P	13 38 11.1	+2.3
	comp=Z,111nm,1.2s,mb5.2						
WKZ	**Wanaka**	**26.33**	**204**	*e*P	P	13 38 11.8	-0.5
EAZ	**Earnscleugh**	**26.57**	**203**	*e*P	P	13 38 15.0	+0.5
ARMA	**Armidale**	**29.97**	**246**	*e*P	P	13 38 48.1	+3.4
CNB	**Canberra Magne**	**32.93**	**237**	*e*P	P	13 39 12.7	+2.0
	comp=Z,28nm,1.0s,mb5.0						
CTA	**Charters Tower**	**34.77**	**265**	*e*P	P	13 39 29.2	+2.6
	comp=Z,30nm,0.6s,mb5.3						
CTA	**Charters Tower**	**34.77**	**265**	P	P	13 39 29.2	+2.7
	comp=Z,38nm,0.6s,mb5.4,baz=99,slow=10,SNR=57						
CTA	**Charters Tower**	**34.77**	**265**	*e*P	P	13 39 29.2	+2.6
CTA				pmax	pmax		
	comp=Z,30nm,0.6s						
CTAO	**Charters Tower**	**34.77**	**265**	*e*P	P	13 39 29.3	+2.7
CTAO				pmax	pmax		
	comp=Z,21nm,0.6s,mb5.1						
CTAO	**Charters Tower**	**34.77**	**265**	*e*P	P	13 39 29.2	+2.7
	comp=Z,21nm,0.6s,mb5.1						
TOO	**Toolangi**	**36.55**	**235**	*e*P	P	13 39 43.0	+1.2
	comp=Z,9.7nm,0.7s,mb4.8						
TOO	**Toolangi**	**36.55**	**235**	*e*P	P	13 39 43.0	+1.2
TOO				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
PMG	**Port Moresby**	**36.84**	**283**	P	P	13 39 46.9	+2.6
	comp=Z,173nm,0.8s,mb6.0,baz=91,slow=5.5,SNR=132						
PMG	**Port Moresby**	**36.84**	**283**	*e*P	P	13 39 46.6	+2.3
PMG				pmax	pmax		
	comp=Z,205nm,0.9s						
PMG	**Port Moresby**	**36.84**	**283**	*e*P	P	13 39 46.6	+2.4
	comp=Z,205nm,0.9s,mb6.1						
TAU	**Tasmania Unive**	**37.04**	**226**	*e*P	P	13 39 46.7	+0.8
STKA	**Stephens Creek**	**38.68**	**245**	⇓*i*P	P	13 39 58.9	-0.9
	comp=Z,11nm,0.4s,mb5.0						
STKA				*e*PCP	PcP	13 42 07.7	-1.8
STKA	**Stephens Creek**	**38.68**	**245**	P	P	13 39 59.8	0.0
	comp=Z,13nm,0.4s,mb5.1,baz=91,slow=9.8,SNR=84						
STKA				PcP	PcP	13 42 07.8	-1.7
	comp=Z,9.6nm,0.5s,baz=93,slow=4.8,SNR=8.8						
AS31	**Alice Springs**	**45.67**	**257**	⇓*i*P	P	13 40 57.2	+0.8
AS31				*e*PcP	PcP	13 42 32.4	-0.3
ASAR	**Alice Springs**	**45.67**	**257**	P	P	13 40 57.2	+0.8
	comp=Z,42nm,0.7s,mb5.3,baz=90,slow=8.2,SNR=355						
ASAR				PcP	PcP	13 42 32.2	-0.4
	comp=Z,11nm,0.6s,baz=106,slow=3.9,SNR=13						
ASAR				ScP	ScP	13 46 09.9	-5.4
	comp=Z,1.0nm,0.6s,baz=98,slow=4.6,SNR=4.5						
ASAR				S	S	13 47 23.1	-7.7
	comp=Z,1.9nm,0.9s,baz=98,slow=15,SNR=7.6						
ASAR	**Alice Springs**	**45.67**	**257**	P	P	13 40 57.3	+0.9
ASAR						13 42 32.3	
ASAR				S	S	13 47 23.2	-7.7
ASPA	**Alice Springs**	**45.67**	**257**	⇓*i*P	P	13 40 57.2	+0.8
ASPA				*e*PCP	PcP	13 42 32.4	-0.3
WB2	**Warramunga Arr**	**45.83**	**262**	⇓*i*P	P	13 40 58.1	+0.4
WRAB	**Tennant Creek**	**45.83**	**262**	*e*P	P	13 40 58.1	+0.4
WRAB				pmax	pmax		
	comp=Z,21nm,0.3s,mb5.3						
WRAB	**Tennant Creek**	**45.83**	**262**	*e*P	P	13 40 58.1	+0.3
	comp=Z,21nm,0.3s,mb5.3						
WRA	**Warramunga Arr**	**45.84**	**262**	P	P	13 40 58.2	+0.4
	comp=Z,24nm,0.6s,mb5.1,baz=97,slow=8.1,SNR=83						
WRA				PcP	PcP	13 42 33.0	-0.3
	comp=Z,8.8nm,0.8s,baz=93,slow=3.7,SNR=7.5						
WRA				S	S	13 47 25.8	-7.6
	comp=Z,0.4nm,0.4s,baz=95,slow=14,SNR=2.4						
KAKA	**Kakadu**	**49.35**	**271**	*e*P	P	13 41 25.6	+0.7
	comp=Z,25nm,0.4s,mb5.5						
FORT	**Forrest**	**50.24**	**247**	⇑*i*P	P	13 41 31.5	-0.1
	comp=Z,77nm,0.7s,mb5.7						
GUMO	**Guam**	**51.35**	**309**	P	P	13 41 41.1	+1.1
	comp=Z,232nm,0.9s,baz=153,slow=8.0,SNR=12						
GUMO	**Guam**	**51.35**	**309**	*e*P	P	13 41 41.9	+2.0
GUMO				pmax	pmax		
	comp=Z,150nm,0.7s,mb6.1						
GUMO	**Guam**	**51.35**	**309**	*e*P	P	13 41 41.9	+1.9
	comp=Z,150nm,0.7s,mb6.1						
FITZ	**Fitzroy Crossi**	**54.27**	**263**	*e*P	P	13 42 02.4	+1.0
	comp=Z,10nm,0.4s,mb5.2						
FITZ	**Fitzroy Crossi**	**54.27**	**263**	P	P	13 42 02.0	+0.6
	comp=Z,6.5nm,0.5s,mb5.0,baz=74,slow=9.9,SNR=29						
SBA	**Scott Base**	**57.19**	**184**	*e*P	P	13 42 24.4	+2.2
SBA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SBA	**Scott Base**	**57.19**	**184**	*e*P	P	13 42 24.4	+2.1
	comp=Z,9.4nm,0.8s,mb4.9						
VNDA	**Vanda**	**57.26**	**185**	P	P	13 42 24.0	+1.3
	comp=Z,1.5nm,0.4s,mb4.3,baz=2.5,slow=6.7,SNR=7.3						
VNDA	**Vanda**	**57.26**	**185**	*e*P	P	13 42 23.8	+1.1
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VNDA	**Vanda**	**57.26**	**185**	*e*P	P	13 42 23.8	+1.1
	comp=Z,2.6nm,0.6s,mb4.4						
KLBR	**Kellerberrin**	**58.96**	**245**	*e*P	P	13 42 34.1	-0.5
	comp=Z,28nm,0.9s,mb5.3						
MBWA	**Marble Bar**	**59.01**	**258**	*e*P	P	13 42 34.7	-0.3
	comp=Z,32nm,0.6s,mb5.5						
MBWA				*e*		13 43 21.8	
NWAO	**Narrogin (SRO)**	**59.24**	**244**	P	P	13 42 36.6	+0.2
	comp=Z,5.8nm,0.6s,mb4.8,baz=145,slow=6.1,SNR=10.0						
NWAO	**Narrogin (SRO)**	**59.24**	**244**	*e*P	P	13 42 36.7	+0.2
MUN	**Mundaring**	**60.22**	**245**	*e*P	P	13 42 43.2	0.0
QSPA	**South Pole Qui**	**68.79**	**180**	*e*P	P	13 43 39.4	+0.4
	comp=Z,10nm,0.5s,mb4.9						
MJAR	**Matsushiro Arr**	**71.65**	**323**	P	P	13 43 55.9	-0.5
	comp=Z,9.8nm,0.5s,mb4.9,baz=156,slow=6.0,SNR=29						
MAJO	**Matsushiro**	**71.65**	**323**	*e*P	P	13 43 56.1	-0.3
MAJO				pmax	pmax		
	comp=Z,14nm,0.4s,mb5.1						
MAJO	**Matsushiro**	**71.65**	**323**	*e*P	P	13 43 56.1	-0.3
	comp=Z,14nm,0.4s,mb5.2						
MAT	**Matsushiro**	**71.65**	**323**	P	P	13 43 56.1	-0.3
MAT	**Matsushiro**	**71.65**	**323**	*e*P	P	13 43 56.0	-0.4
MAT				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
MAT	**Matsushiro**	**71.65**	**323**	*e*P	P	13 43 56.0	-0.4
	comp=Z,15nm,0.8s,mb4.9						
ADK	**Adak**	**72.85**	**360**	*e*P	P	13 44 02.6	-1.0
ADK				pmax	pmax		
	comp=Z,331nm,1.4s,mb6.0						
ADK	**Adak**	**72.85**	**360**	*e*P	P	13 44 02.6	-1.0
	comp=Z,331nm,1.4s,mb6.0						
SMY	**Shemya**	**74.15**	**354**	*e*P	P	13 44 10.1	-1.1
SMY				pmax	pmax		
	comp=Z,248nm,1.0s,mb5.9						
SMY	**Shemya**	**74.15**	**354**	*e*P	P	13 44 10.1	-1.1
	comp=Z,248nm,1.0s,mb5.9						
FX1	**Attu Island--F**	**74.39**	**354**	*e*P	P	13 44 11.8	-0.7
KSM	**Kuching**	**74.86**	**278**	*e*P	P	13 44 15.6	+0.3
ASAJ	**Asahikawa**	**75.06**	**331**	P	P	13 44 17.2	+0.8
	comp=Z,45nm,0.8s,mb5.2,baz=216,slow=7.9,SNR=16						
YSS	**Yuzh-Sakhalins**	**77.20**	**333**	⇑*i*P	P	13 44 29.8	+1.2
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**77.20**	**333**	*e*P	P	13 44 27.5	-1.1
CMB	**Columbia Colle**	**79.12**	**42**	*e*P	P	13 44 39.5	+0.3
CMB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
CMB	**Columbia Colle**	**79.12**	**42**	*e*P	P	13 44 39.5	+0.3
	comp=Z,11nm,0.8s,mb4.7						
SSE	**Sheshan**	**79.23**	**309**	*e*P	P	13 44 39.6	-0.2
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,76nm,3.7s						
MTUM	**Tungsten Hills**	**79.86**	**43**	*e*P	P	13 44 44.2	+1.0
YBH	**Yreka Blue Hor**	**80.06**	**38**	P	P	13 44 45.1	+0.9
	comp=Z,21nm,0.7s,mb5.1,baz=190,slow=1.8,SNR=81						
YBH	**Yreka Blue Hor**	**80.06**	**38**	*e*P	P	13 44 45.2	+1.0
YBH				pmax	pmax		
	comp=Z,15nm,0.7s						
YBH	**Yreka Blue Hor**	**80.06**	**38**	*e*P	P	13 44 45.1	+0.9
	comp=Z,14nm,0.7s,mb4.9						
HUMO	**Hull Mountain**	**80.49**	**37**	*e*P	P	13 44 47.5	+1.0
	comp=Z,4.8nm,0.6s,mb4.5						
NVAR	**Mina Array Bea**	**80.67**	**43**	P	P	13 44 48.1	+0.7
	comp=Z,6.1nm,0.7s,mb4.6,baz=227,slow=10.0,SNR=49						
PAHR	**Pah Rah Range**	**80.76**	**41**	*e*P	P	13 44 48.5	+0.6
	comp=Z,8.5nm,0.9s,mb4.6						
MNV	**Mina**	**80.77**	**43**	*e*P	P	13 44 48.3	+0.3
MNV				pmax	pmax		
	comp=Z,38nm,1.8s,mb4.9						
MNV	**Mina**	**80.77**	**43**	*e*P	P	13 44 48.3	+0.3
	comp=Z,38nm,1.8s,mb4.9						
LDFC	**Landfair**	**80.83**	**47**	*e*P	P	13 44 49.6	+1.2
HOG	**Hogback Mounta**	**80.96**	**38**	P	P	13 44 50.1	+1.0
TPH	**Tonopah**	**81.15**	**43**	*e*P	P	13 44 50.3	+0.3
TPH				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
TPH	**Tonopah**	**81.15**	**43**	*e*P	P	13 44 50.2	+0.2
	comp=Z,11nm,1.1s,mb4.6						
KDAK	**Kodiak Island**	**81.27**	**13**	P	P	13 44 50.0	-0.7
	comp=Z,15nm,0.7s,mb5.0,baz=203,slow=5.6,SNR=7.6						
KDAK	**Kodiak Island**	**81.27**	**13**	P	P	13 44 50.0	-0.7
MAW	**Mawson**	**81.29**	**199**	*e*P	P	13 44 50.5	-0.3
	comp=Z,10nm,0.6s,mb4.8						
MAW	**Mawson**	**81.29**	**199**	P	P	13 44 50.6	-0.2
	comp=Z,12nm,0.5s,mb5.0,baz=46,slow=23,SNR=21						
MAW	**Mawson**	**81.29**	**199**	*e*P	P	13 44 50.5	-0.3
MAW				pmax	pmax		
	comp=Z,11nm,0.6s						
NEN	**Nelson**	**81.33**	**47**	*e*P	P	13 44 51.3	+0.3
NJ2	**Nanjing**	**81.42**	**309**	*e*P	P	13 44 52.5	+1.0
NJ2				AP	pP	13 45 27.8	+7.8
NJ2				XP	sP	13 45 42.9	+11
NJ2				PP	PP	13 48 01.8	+2.9
NJ2				S	S	13 54 47.0	-6.6
NJ2				XS	sS	13 55 48.0	+5.3
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,210nm,8.7s						
NJ2				LR	LR		
	comp=N,490nm,15.2s						
NJ2				LR	LR		
	comp=E,290nm,17.4s						
NJ2				LR	LR		
	comp=Z,220nm,14.0s						
MOD	**Modo

comp=Z,12nm,0.7s,mb4.9
MNTX Cornudas Mount 86.10 54 *e*P **P 13 45 15.7 +0.4**
comp=Z,16nm,0.9s,mb5.0
SYO Syowa Base 86.26 192⇓*i*P **P 13 45 15.5 -0.6**
BNM Barren Site 86.33 51 *e*P **P 13 45 16.9 +0.4**
LTX Lajitas 86.34 57 *e*P **P 13 45 16.8 +0.3**
LTX pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LTX Lajitas 86.34 57 *e*P **P 13 45 16.8 +0.3**
comp=Z,9.7nm,1.0s,mb4.7
LPM Los Pinos Moun 86.41 51 *e*P **P 13 45 16.8 0.0**
TCUT Toone Canyon 86.57 43 *e*P **P 13 45 17.7 +0.1**
TNA Tin City 86.82 4 *e*P **P 13 45 17.9 -0.9**
comp=Z,14μm,1.2s
ANMO Albuquerque 86.84 51 P **P 13 45 19.1 +0.2**
comp=Z,3.6nm,0.7s,mb4.4,baz=238,slow=6.2,SNR=19
ANMO Albuquerque 86.84 51 *e*P **P 13 45 19.1 +0.2**
ANMO pmax pmax
comp=Z,3.0nm,0.7s
ANMO Albuquerque 86.84 51 *e*P **P 13 45 19.1 +0.2**
comp=Z,2.7nm,0.7s,mb4.3
GDL2 Guadalupe Moun 87.10 54 *e*P **P 13 45 19.9 -0.3**
SNAA Sanae 87.19 178 *e*P **P 13 45 20.9 +0.3**
SNAA *e* 13 46 06.3
NEW Newport 87.22 35 *e*P **P 13 45 19.6 -1.2**
NEW pmax pmax
comp=Z,4.0nm,0.6s
NEW Newport 87.22 35 *e*P **P 13 45 19.6 -1.1**
comp=Z,4.1nm,0.6s,mb4.5
VNA3 Neumayer Olymp 87.27 176 *e*P **P 13 45 19.0 -2.0**
VNA3 *e* 13 46 07.7
BJI Beijing 87.40 315 P **P 13 45 21.8 +0.2**
BJI AMb AMb
comp=Z,15nm,2.3s,mb4.5
MCK McKinley 87.45 12 *e*P **P 13 45 20.1 -1.8**
MCK pmax pmax
comp=Z,19nm,0.9s,mb5.0
MCK McKinley 87.45 12 *e*P **P 13 45 20.1 -1.8**
comp=Z,18nm,0.9s,mb5.0
SEY Seymchan 87.45 346 *e*P **P 13 45 20.7 -1.2**
SEY *e* 13 48 46.9
SEY *e* 13 50 42.3
SEY pmax pmax
comp=N,9.0nm,0.9s
SEY pmax pmax
comp=E,100nm,0.9s
SEY Seymchan 87.45 346 *e*P **P 13 45 18.5 -3.4**
MCMT McKenzie Canyo 87.68 40 *e*P **P 13 45 23.3 +0.4**
VNA2 Neumayer--Watz 87.73 176 *e*P **P 13 45 22.3 -0.9**
VNA2 *e* 13 46 10.2
PLCA Paso Flores 87.75 133 P **P 13 45 23.5 +0.2**
comp=E,1.2nm,0.5s,mb4.2,baz=291,slow=16,SNR=5.3
PLCA Paso Flores 87.75 133 *e*P **P 13 45 23.1 -0.2**
PLCA pmax pmax
comp=Z,1.0nm,0.5s
PLCA Paso Flores 87.75 133 *e*P **P 13 45 23.1 -0.2**
comp=Z,1.3nm,0.5s,mb4.2
MENT Mentasta 87.85 14 *e*P **P 13 45 23.3 -0.5**
QLMT Earthquake Lak 88.53 40 *e*P **P 13 45 27.7 +0.8**
FLWY Flagg Ranch 88.58 41 *e*P **P 13 45 26.8 -0.4**
comp=Z,6.5nm,0.8s,mb4.7
CHMT Chamberlain Mo 88.59 38 *e*P **P 13 45 26.7 -0.5**
PDAR Pinedale Array 88.61 43 P **P 13 45 26.6 -0.7**
comp=Z,3.3nm,0.7s,mb4.5,baz=207,slow=3.4,SNR=29
COLA College 88.68 12 *e*P **P 13 45 26.1 -1.6**
COLA pmax pmax
comp=Z,30nm,0.7s,mb5.4
COLA College 88.68 12 *e*P **P 13 45 26.1 -1.6**
comp=Z,30nm,0.7s,mb5.4
YMR Madison River 88.72 41 *e*P **P 13 45 28.4 +0.5**
comp=Z,4.2nm,0.6s,mb4.7
ILAR Eielson Array 88.78 12 P **P 13 45 26.6 -1.6**
comp=Z,9.4nm,0.6s,mb5.0,baz=222,slow=5.6,SNR=243
ILAR PP PP 13 48 57.4 -1.1
comp=Z,1.6nm,0.9s,baz=225,slow=8.1,SNR=5.2
ILAR PKKPbc PKKPbc 14 03 05.3 -1.9
comp=Z,0.2nm,0.6s,baz=337,slow=1.9,SNR=5.1
ILAR Eielson Array 88.78 12 P **P 13 45 26.6 -1.6**
ILAR 13 48 57.4
BOZ Bozeman (W) 88.84 39 *e*P **P 13 45 28.2 -0.3**
BOZ pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
BOZ Bozeman (W) 88.84 39 *e*P **P 13 45 28.2 -0.2**
comp=Z,9.2nm,0.7s,mb4.9
LKWY Lake 89.01 41 P **P 13 45 28.9 -0.3**
LKWY pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LKWY Lake 89.01 41 P **P 13 45 28.9 -0.4**
comp=Z,5.2nm,0.8s,mb4.6
HRY Holter Researc 89.30 38 *e*P **P 13 45 30.5 -0.1**
XAN Xi'an 89.69 307 P **P 13 45 32.8 +0.4**
XAN AMb AMb
comp=Z,16nm,1.2s,mb5.0
DAWY Dawson 89.84 15 *e*P **P 13 45 32.7 -0.5**
BILL Bilibino 89.95 354 *e*P **P 13 45 32.4 -1.2**
BILL pmax pmax
comp=Z,47nm,1.0s,mb5.6
BILL Bilibino 89.95 354 *e*P **P 13 45 32.4 -1.3**
comp=Z,47nm,1.0s,mb5.6
GCMT Greycliff 90.09 40 *e*P **P 13 45 34.3 0.0**
HHC Hu-ho-hao-te 90.87 314 *e*P **P 13 45 37.3 -0.6**
HHC AP pP 13 46 13.4 +6.5
HHC XP sP 13 46 28.1 +9.4
HHC PP PP 13 49 17.1 +1.9
HHC SKS 13 55 53.8
HHC S 13 56 19.0
HHC XS sS 13 57 21.8 +6.3
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,131nm,4.5s
HHC LR LR
comp=N,117nm,5.5s
HHC LR LR
comp=E,123nm,6.5s
HHC LR LR
comp=Z,107nm,5.1s
KMI Kunming 90.91 297 P **P 13 45 39.8 +1.7**
KMI AP pP 13 46 12.9 +5.8
KMI XP sP 13 46 25.6 +6.7
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
EGMT Eagleton 91.19 38 P **P 13 45 38.9 -0.5**
comp=Z,3.6nm,0.8s,mb4.5
EDM Edmonton 92.03 32 *e*P **P 13 45 42.5 -0.8**
CD2 Chengdu 92.35 302 *e*P **P 13 45 42.4 -2.4**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,60nm,7.3s
RSSD Black Hills 92.78 43 *e*P **P 13 45 46.2 -0.5**
RSSD pmax pmax
comp=Z,11nm,0.8s,mb5.2
RSSD Black Hills 92.78 43 *e*P **P 13 45 46.2 -0.5**
comp=Z,11nm,0.8s,mb5.2
YAK Yakutsk 93.35 338 *e*P **P 13 45 47.5 -1.8**
YAK pmax pmax
comp=Z,13nm,0.7s,mb5.4
YAK Yakutsk 93.35 338 *e*P **P 13 45 47.5 -1.9**
comp=Z,13nm,0.7s,mb5.4
LZH Lanzhou 94.32 307 *e*P **P 13 45 53.5 -0.3**
LZH AP pP 13 46 29.5 +6.6
LZH XP sP 13 46 44.5 +10
LZH PP PP 13 49 45.1 +2.9
LZH SKS 13 56 13.8
LZH *e*S 13 56 49.8
LZH XS sS 13 57 53.1 +6.7
LZH AMB AMB
comp=Z,22nm,1.6s,mb5.2
LZH AMB AMB
comp=Z,123nm,6.5s
INK Inuvik 94.68 15 P **P 13 45 53.9 -1.6**
comp=Z,8.9nm,1.0s,mb5.2,baz=205,slow=4.5,SNR=30
INK Inuvik 94.68 15 *e*P **P 13 45 53.8 -1.6**
INK pmax pmax
comp=Z,13nm,1.0s
INK Inuvik 94.68 15 *e*P **P 13 45 53.8 -1.7**
comp=Z,13nm,1.0s,mb5.3
YKA Yellowknife Ar 96.66 24 P **P 13 46 03.1 -1.4**
comp=Z,3.0nm,0.8s,mb4.8,baz=240,slow=4.4,SNR=61
YKA PKiKP PKiKP 13 50 38.7 -2.2
comp=Z,0.2nm,0.5s,baz=260,slow=1.0,SNR=4.7
YKA PKKPbc PKKPbc 14 02 44.5 -2.5
comp=Z,0.2nm,0.5s,baz=34,slow=2.5,SNR=5.4
SONM Songino Array 97.23 319 P **P 13 46 06.4 -0.7**
comp=Z,0.5nm,0.6s,mb4.2,baz=105,slow=3.9,SNR=3.1
GTA Gaotai 98.52 309 *e*P **P 13 46 12.0 -0.8**
GTA AP pP 13 46 43.9 +1.9
GTA XP sP 13 46 57.3 +3.6
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.7
TIXI Tiksi 99.85 345 *e*P Pdif 13 46 15.9 -2.9
TIXI Tiksi 99.85 345 *e*P Pdif 13 46 15.0 -3.8
JIRN Jiri 105.74 294 *e*P PKiKP 13 50 56.5 -0.8
comp=Z,4.9nm,0.4s
GUN Gumba 106.07 294 *e*P PKiKP 13 50 56.9 -1.0
comp=Z,4.3nm,0.4s
PKI Pulchoki 106.38 294 *e*P PKiKP 13 50 57.4 -1.0
KKN Kakani 106.55 294 *e*P PKiKP 13 50 57.2 -1.6
comp=Z,7.5nm,0.6s
DMN Daman 106.65 294 *e*P PKiKP 13 50 57.5 -1.4
GKN Gorkha 107.15 294 *e*P PKiKP 13 50 58.3 -1.6
comp=Z,3.9nm,0.3s
KOLN Koldanda 107.98 293 *e*P PKiKP 13 50 59.9 -1.5
RES Resolute Bay 108.17 16 *e*PKiKP PKiKP 13 50 58.1 -3.6
MKAR Makanchi Array 112.72 313 PKiKP PKiKP 13 51 09.6 -0.8
comp=Z,5.3nm,0.5s,baz=161,slow=1.1,SNR=128
MKAR PKKPbc PKKPbc 14 01 57.8 -0.7
comp=Z,0.4nm,0.4s,baz=258,slow=3.9,SNR=7.7
MKAR Makanchi Array 112.72 313 PKPdf PKiKP 13 51 09.6 -0.8
MKAR PKKPbc PKKPbc 14 01 57.8 -0.7
NVS Novosibirsk 112.96 322 *e*PKIKP PKiKP 13 51 07.6 -3.2
NVS pmax pmax
comp=Z,9.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.5s
KURK Kurchatov 115.49 317 *e*PKIKP PKPdf 13 51 12.8 -2.9
TKM2 Tokmak 2 117.06 308 P PKPdf 13 51 17.6 -1.1
SNR=5.2
KBK Karagaybulak 117.52 308 P PKPdf 13 51 18.8 -0.8
SNR=5.2
UCH Uchtor 117.81 307 P PKPdf 13 51 19.8 -0.4
SNR=9.2
USP Ospenovka 117.89 309 P PKPdf 13 51 18.8 -1.5
SNR=6.7
AML Almayashu 118.41 307 P PKPdf 13 51 20.7 -0.6
SNR=9.4
BVA0 Borovoye Array 120.55 320 *i* PKIKP PKPdf 13 51 23.6 -1.8
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 120.55 320 PKP PKPdf 13 51 23.5 -1.9
comp=Z,19nm,0.4s,baz=127,slow=1.7,SNR=186
BVAR pPKP pPKPdf 13 52 14.8 +19
comp=Z,2.6nm,0.7s,baz=95,slow=3.3,SNR=2.3
BRVK Borovoye 120.61 320 *e*PKIKP PKPdf 13 51 23.5 -2.0
KKAR Karatay Array 120.79 308 *i* PKIKP PKPdf 13 51 24.4 -1.5
KKAR pmax pmax
comp=Z,6.0nm,0.7s
ZRNK Zerenda 121.39 320 *e*PKIKP PKPdf 13 51 24.9 -2.1
ZRNK *e* 13 52 16.9
SFJD Kangerlussuaq 123.15 22 PKP PKPdf 13 51 27.1 -3.3
comp=Z,3.0nm,0.4s,baz=326,slow=3.6,SNR=6.1
SFJD Kangerlussuaq 123.15 22 PKP PKPdf 13 51 27.1 -3.3
SUMG Summit 123.59 14 *e*PKPdf PKPdf 13 51 29.9 -1.4
SUR Sutherland 124.11 198 PKP PKPdf 13 51 31.8 -0.5
comp=Z,5.7nm,0.7s,baz=34,slow=20,SNR=6.6
SUR Sutherland 124.11 198 PKP PKPdf 13 51 31.8 -0.5
BOSA Boshof 126.11 204 PKP PKPdf 13 51 35.3 -0.8
comp=Z,1.2nm,0.5s,baz=270,slow=7.7,SNR=4.5
SOKR Solikamsk 126.45 329⇑*i*PKIKP PKPdf 13 51 35.0 -1.7
SOKR pmax pmax
comp=Z,50nm,1.4s
ARU Arti 126.61 325 *i* PKIKP PKPdf 13 51 33.8 -3.2
ARU *e* 13 58 27.0
ARU *e*SS SS 14 10 22.4 -8.7
ARU Arti 126.61 325 *e*PKPdf PKPdf 13 51 35.5 -1.5
AB31 Akbulak array 127.59 316 *i* PKIKP PKPdf 13 51 37.3 -1.6
AB31 pmax pmax
comp=Z,1.0nm,0.4s
AKTK Aktyubinsk 128.55 318 PKP PKPdf 13 51 40.3 -0.5
AKTO Aktyubinsk 128.55 318 PKP PKPdf 13 51 40.3 -0.5
comp=Z,13nm,0.8s,baz=85,slow=3.9,SNR=56
AKTO Aktyubinsk 128.55 318 PKIKP PKPdf 13 51 39.6 -1.1
AKTO pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 129.93 350 PKP PKPdf 13 51 41.1 -2.2
comp=Z,4.8nm,0.4s,baz=20,slow=0.9,SNR=6.3
ARE0 ARCESS Array S 129.93 350 *e*PKPdf PKPdf 13 51 41.4 -1.9
MATP Matopo 131.85 212 PKP PKPdf 13 51 46.7 -0.3
comp=Z,2.5nm,0.7s,baz=79,slow=0.5,SNR=4.2
MATP Matopo 131.85 212 PKP PKPdf 13 51 46.7 -0.3
KLMR Klimovskoe 133.14 337 *i* PKIKP PKPdf 13 51 45.4 -4.0
KLMR pmax pmax
comp=Z,10.0nm,1.4s
LSZ Lusaka 136.30 216 PKP PKPdf 13 51 54.7 -0.6
comp=Z,2.2nm,0.5s,baz=102,slow=0.7,SNR=5.6
FINES FINESS Array B 136.90 344 PKP PKPdf 13 51 53.2 -3.3
comp=Z,3.3nm,0.5s,baz=82,slow=2.9,SNR=14
MOS Moscow 137.22 332 *e*PKIKP PKPdf 13 51 56.6 -0.4
MOS pmax pmax
comp=Z,58nm,0.8s
OBN Obninsk 138.09 332⇓*i*PKIKP PKPdf 13 51 57.6 -1.0
OBN pmax pmax
comp=Z,21nm,1.2s
OBN Obninsk 138.09 332 *e*PKP PKPdf 13 51 57.6 -1.0
VOR Voronezh 138.88 326 PKIKP PKPdf 13 51 57.0 -3.1
VOR pmax pmax
comp=Z,70nm,2.0s
NB2 NORSAR Subarra139.91 354 PKPa 13 51 51.5
comp=Z,4.9nm,0.5s,baz=18,slow=2.8
NOA NORSAR Array B 139.91 354 PKhKP 13 51 51.4
comp=Z,1.7nm,0.5s,baz=15,slow=3.7,SNR=19
NOA PKP PKPdf 13 52 01.8 -0.2
comp=Z,2.3nm,0.7s,baz=28,slow=2.0,SNR=5.0
KMBO Kilima Mbogo 140.16 240 PKhKP 13 51 54.3
comp=Z,3.2nm,0.8s,baz=62,slow=5.1,SNR=12
KMBO Kilima Mbogo 140.16 240 *e*PKPpre 13 51 55.5
KIV Kislovodsk 140.47 314 *e*PKIKP PKPdf 13 52 01.3 -1.7
RSC Scourie 142.45 7 *e*P PKPdf 13 52 00.5 -6.1
RSC Scourie 142.45 7 *e*P PKPdf 13 52 00.5 -6.1
RRR Rubha Reidh 142.85 8 *e*P PKPdf 13 52 00.6 -6.7
RRR Rubha Reidh 142.85 8 *e*P PKPdf 13 52 00.6 -6.7
KAC Achnashellach 143.26 8⇑*e*P PKPdf 13 52 03.6 -4.3
KAC Achnashellach 143.26 8⇑*e*P PKPdf 13 52 03.6 -4.3
KPL Plockton 143.37 8 *e*P PKPdf 13 52 03.6 -4.6
KPL Plockton 143.37 8 *e*P PKPdf 13 52 03.6 -4.6
MCD Coleburn Disti 143.41 6 *e*P PKPdf 13 52 03.8 -4.5
MCD Coleburn Disti 143.41 6 *e*P PKPdf 13 52 03.8 -4.5
ANN Anapa 143.51 318 *i* PKHKP 13 51 59.2
ANN *i* 13 52 13.5
ANN *e* 13 58 59.6
ANN pmax pmax
comp=Z,15nm,1.0s
KSB Sheil Bridge 143.53 8 *e*P PKPdf 13 52 04.3 -4.1
KSB Sheil Bridge 143.53 8 *e*P PKPdf 13 52 04.3 -4.1
MME1 Meikle Cairn 143.71 6 *e*P PKPdf 13 52 04.1 -4.6
MME1 Meikle Cairn 143.71 6 *e*P PKPdf 13 52 04.1 -4.6
KAR1 Arisaig 143.76 9 *e*P PKPdf 13 52 04.3 -4.5
KAR1 Arisaig 143.76 9 *e*P PKPdf 13 52 04.3 -4.5
MARD Mardin 144.01 305 *i* P PKPdf 13 52 06.2 -3.0
SUW Suwalki 144.04 340 *e*PKP PKPdf 13 52 06.4 -2.9
AKASG Malin Array Be 144.35 332 PKP PKPdf 13 52 06.6 -3.3
comp=Z,24nm,0.4s,baz=43,slow=4.4,SNR=160
AKASG Malin Array Be 144.35 332 PKP PKPdf 13 52 06.6 -3.3
MUD Monsted U'grnd 144.62 355⇓*i*P PKPdf 13 52 08.2 -2.1
comp=Z,118nm,1.0s
EAB Aberfoyle 144.66 8 *e*P PKPdf 13 52 07.9 -2.5
EAB AMb AMb 13 52 09.2
comp=Z,102nm,1.1s
EAB Aberfoyle 144.66 8 *e*P PKPdf 13 52 07.9 -2.5
EAB AMb AMb 13 52 09.2
comp=Z,102nm,1.1s
COP Copenhagen 145.00 351⇓*i*P PKPdf 13 52 09.2 -1.8
comp=Z,81nm,0.6s
ELZG Elazig 145.01 307 *i* P PKPbc 13 52 11.0 +0.4
EAU Auchinoon 145.10 7⇑*e*P PKPbc 13 52 09.2 -1.7
EAU AMb AMb 13 52 12.4
comp=Z,140nm,1.8s
EAU Auchinoon 145.10 7⇑*e*P PKPbc 13 52 09.2 -1.7
EAU AMb AMb 13 52 12.4
comp=Z,140nm,1.8s
ESY Stoneypath 145.12 6 *e*P PKPbc 13 52 09.3 -1.7
ESY AMb AMb 13 52 11.4
comp=Z,68nm,1.6s
ESY Stoneypath 145.12 6 *e*P PKPbc 13 52 09.3 -1.7
ESY AMb AMb 13 52 11.4
comp=Z,68nm,1.6s
BSD Bornholm Skovb 145.14 348⇓*i*P PKPbc 13 52 09.5 -1.5
comp=Z,199nm,0.5s
EBL Broad Law 145.22 6 *e*P PKPbc 13 52 09.7 -1.5
EBL AMb AMb 13 52 12.8
comp=Z,83nm,1.9s
EBL Broad Law 145.22 6 *e*P PKPbc 13 52 09.7 -1.5
EBL AMb AMb 13 52 12.8
comp=Z,83nm,1.9s
SIM Simferopol' 145.46 320 *c* PKIKP PKPdf 13 52 11.6 -0.2
SIM pmax pmax
comp=Z,74nm,0.9s
MALT Malatya 145.48 307 *e*PKP PKPdf 13 52 11.6 -0.2
MALT *ep*PKPdf pPKPdf 13 53 05.4 +23
ESK Eskdalemuir 145.65 7 *e*P PKPdf 13 52 10.4 -1.7
ESK Eskdalemuir 145.65 7 *e*P PKPdf 13 52 10.4 -1.7
ESK Eskdalemuir 145.65 7 *e*PKPdf PKPdf 13 52 10.6 -1.5
BWH Wardlaw 145.74 7 *e*P PKPdf 13 52 11.2 -1.0
BWH Wardlaw 145.74 7 *e*P PKPdf 13 52 11.2 -1.0
BBH Bruntsheil 145.86 7 *e*P PKPdf 13 52 11.7 -0.8
BBH Bruntsheil 145.86 7 *e*P PKPdf 13 52 11.7 -0.8
BHH Howats Hill 145.87 7 *e*P PKPdf 13 52 11.8 -0.7
BHH Howats Hill 145.87 7 *e*P PKPdf 13 52 11.8 -0.7
BDL Dobcross Hall 146.19 7 *e*P PKPdf 13 52 13.1 +0.1
BDL Dobcross Hall 146.19 7 *e*P PKPdf 13 52 13.1 +0.1
BBO1 Bothel 146.22 7 *e*P PKPdf 13 52 12.8 -0.3
BBO1 AMb AMb 13 52 13.6
comp=Z,16nm,1.0s
BBO1 Bothel 146.22 7 *e*P PKPdf 13 52 12.8 -0.3
BBO1 AMb AMb 13 52 13.6
comp=Z,16nm,1.0s
WAR Warsaw 146.23 340 *e*PKP PKPdf 13 52 14.0 +0.9
GKP Gorka Klasztor 146.36 345 *e*PKP PKPdf 13 52 14.1 +0.8
CKE Keswick 146.38 7 *e*P PKPdf 13 52 12.5 -0.8
CKE Keswick 146.38 7 *e*P PKPdf 13 52 12.5 -0.8
GZT Gaziantep 146.44 306 *i* P PKPdf 13 52 14.9 +1.4
DMUB Kingscourt 146.49 11 *e*P PKPdf 13 52 13.5 0.0
GIM North Isle of 146.50 8 *e*P PKPdf 13 52 13.4 -0.1
GIM North Isle of 146.50 8 *e*P PKPdf 13 52 13.4 -0.1
WIM Isle of Man 146.61 9 *e*P PKPdf 13 52 13.7 0.0
WIM AMb AMb 13 52 14.8
comp=Z,91nm,0.7s
WIM Isle of Man 146.61 9 *e*P PKPdf 13 52 13.7 0.0
WIM AMb AMb 13 52 14.8
comp=Z,91nm,0.7s
BOYT Boyabat 146.74 314 *i* P PKPdf 13 52 15.4 +1.4
DCN Croghan 146.95 12 *e*P PKPdf 13 52 14.8 +0.5
BSEG Bad Segeberg 146.99 353 *e*PKPbc PKPbc 13 52 15.8 -0.7
DLF Lyons Farm 147.14 11 *e*P PKPdf 13 52 15.2 +0.6
LVV L'vov 147.19 335 *d* PKIKP PKPdf 13 52 16.0 +1.3
LVV *e* 13 52 54.2
WCB1 Church Bay 147.38 9 *e*P PKPdf 13 52 15.6 +0.6
WCB1 AMb AMb 13 52 22.5
comp=Z,104nm,2.0s
WCB1 Church Bay 147.38 9 *e*P PKPdf 13 52 15.6 +0.6
WCB1 AMb AMb 13 52 22.5
comp=Z,104nm,2.0s
WLF1 Llynfaes 147.49 9 *e*P PKPdf 13 52 16.1 +0.9
WLF1 AMb AMb 13 52 17.2
comp=Z,81nm,2.0s
WLF1 Llynfaes 147.49 9 *e*P PKPdf 13 52 16.1 +0.9
WLF1 AMb AMb 13 52 17.2
comp=Z,81nm,2.0s
YRC Rhoscolyn 147.50 9 *e*P PKPdf 13 52 15.9 +0.7
YRC AMb AMb 13 52 19.3
comp=Z,46nm,1.0s
YRC Rhoscolyn 147.50 9 *e*P PKPdf 13 52 15.9 +0.7
YRC AMb AMb 13 52 19.3
comp=Z,46nm,1.0s
LHO Holmfirth 147.54 6 *e*P PKPdf 13 52 16.4 +1.1
LHO Holmfirth 147.54 6 *e*P PKPdf 13 52 16.4 +1.1
COBT Iskenderun 147.71 305 *i* P PKPdf 13 52 17.7 +2.1
KWP Kalwaria 147.85 336 *e*PKP PKPdf 13 52 18.3 +2.5
RUE Ruedersdorf 147.85 348 *e*PKPbc PKPbc 13 52 18.2 -0.7
RUE Ruedersdorf 147.85 348 *e*PKPbc PKPbc 13 52 17.2 -1.7
KBI1 Birley Grange 147.86 6 *e*P PKPdf 13 52 17.3 +1.5
KBI1 Birley Grange 147.86 6 *e*P PKPdf 13 52 17.3 +1.5
CDAG Cicekdag 147.91 312 *i* P PKPdf 13 52 17.6 +1.7
AVNT Avonos 147.92 310 *i* P PKPdf 13 52 18.2 +2.3
SBD1 Bryn Du 148.01 8 *e*P PKPdf 13 52 17.6 +1.5
SBD1 Bryn Du 148.01 8 *e*P PKPdf 13 52 17.6 +1.5
KWE Weaver Farm 148.06 6 *e*P PKPdf 13 52 17.9 +1.7
KWE Weaver Farm 148.06 6 *e*P PKPdf 13 52 17.9 +1.7
ELDT Eldivan 148.16 314 *i* P PKPbc 13 52 19.5 -0.2
BR131 Keskin Array S 148.37 312 *e*PKPbc PKPbc 13 52 19.5 -0.7
BRTR Keskin Array B 148.37 312 PKPbc PKPbc 13 52 19.5 -0.7
comp=Z,37nm,0.6s,baz=142,slow=3.9,SNR=165
OJC Ojcow 148.37 340 *e*PKiKP PKiKP 13 52 19.3 -2.5
BURAR Bucovina Array 148.40 331 ⇑P PKPbc 13 52 20.6 +0.3
HLM1 Long Mynd 148.44 7 *e*P PKPdf 13 52 18.8 +2.1
HLM1 AMb AMb 13 52 22.2
comp=Z,47nm,1.8s
HLM1 Long Mynd 148.44 7 *e*P PKPdf 13 52 18.8 +2.1
HLM1 AMb AMb 13 52 22.2
comp=Z,47nm,1.8s
SSP1 Stoney Pound 148.51 8 *e*P PKPdf 13 52 19.1 +2.2
SSP1 AMb AMb 13 52 24.3
comp=Z,60nm,1.1s
SSP1 Stoney Pound 148.51 8 *e*P PKPdf 13 52 19.1 +2.2
SSP1 AMb AMb 13 52 24.3
comp=Z,60nm,1.1s
STHS Stebnicka Huta 148.56 338 *i* PKP PKPbc 13 52 20.8 +0.1
CFR Carcaliu 148.70 325 ⇓PKIKP PKPbc 13 52 20.4 -0.7
KSP Ksiaz 148.82 344 *e*PKP PKPbc 13 52 21.2 -0.2
KSP Ksiaz 148.82 344 *e*PKPdf PKPbc 13 52 20.9 -0.5
KSP *e* 13 52 24.3
UZH Uzhgorod 148.82 336 *e*PKP2 PKPbc 13 52 22.0 +0.6
IBBN Ibbenburen 148.85 355 *e*PKPbc PKPbc 13 52 20.6 -0.9
ANTO Ankara 148.88 313 *e*PKIKP PKPbc 13 52 20.9 -0.6
NIE Niedzica 148.89 338 *i* PKPc PKPbc 13 52 21.8 +0.2
CRVS Cervenica-Dubn 148.91 337 *e*PKP PKPbc 13 52 21.5 -0.1
MCH1 Michaelchurch 148.94 8 *e*P PKPdf 13 52 19.8 +2.3
MCH1 Michaelchurch 148.94 8 *e*P PKPdf 13 52 19.8 +2.3
HAE Alders End 148.95 7 *e*P PKPdf 13 52 20.2 +2.6
HAE AMb AMb 13 52 26.2
comp=Z,74nm,1.4s
HAE Alders End 148.95 7 *e*P PKPdf 13 52 20.2 +2.6
HAE AMb AMb 13 52 26.2
comp=Z,74nm,1.4s
VRI Vrincioaia 148.96 328 ⇑PKIKP PKPbc 13 52 21.1 -0.6
TIRR Tirgusor 149.02 324 *e*PKIKP PKPbc 13 52 20.7 -1.2
CLZ Clausthal 149.03 352 *e*PKPbc PKPbc 13 52 21.2 -0.7
SGKT Sivrigoynuk 149.04 315 *i* P PKPbc 13 52 21.9 -1.0
CLL Collm 149.12 348 *e*PKPbc PKPbc 13 52 21.2 -0.9
CLL Collm 149.12 348⇓*i*PKPbc PKPbc 13 52 21.3 -0.8
comp=Z,100nm,0.7s
CLL *e*PKPab PKPab 13 52 26.0 -0.8
comp=Z,69nm,0.6s
HARR Harsova 149.13 325 ⇑PKIKP PKPbc 13 52 21.6 -0.6
UPC Upice 149.20 344⇑*e*PKPB PKPbc 13 52 21.9 -0.4
UPC *e*PKPAB PKPab 13 52 26.9 -0.2
OKC Ostrava-Krasne 149.22 341⇑*e*PKPB PKPbc 13 52 21.6 -0.8
OKC *e*PKPAB PKPab 13 52 25.8 -1.4
WTSB Winterswijk 149.26 356 *i* PKP PKPbc 13 52 21.5 -1.0
comp=Z,58nm,0.8s
WTSB *e*PKP PKPab 13 52 26.5 -0.9
comp=Z,98nm,0.8s
DPC Dobruska-Polom 149.27 344⇑*e*PKPB PKPbc 13 52 22.3 -0.2
DPC *e*PKPAB PKPab 13 52 27.4 0.0
HGH Gray Hill 149.31 8 *e*P PKPdf 13 52 20.8 +2.7
HGH AMb AMb 13 52 26.5
comp=Z,66nm,1.0s
HGH Gray Hill 149.31 8 *e*P PKPdf 13 52 20.8 +2.7
HGH AMb AMb 13 52 26.5
comp=Z,66nm,1.0s
BRG Berggiesshubel 149.34 347 *e*PKPbc PKPbc 13 52 21.8 -0.9
BRG Berggiesshubel 149.34 347 *e*PKP PKPdf 13 52 17.3 -0.9
comp=Z,4.5nm,1.1s
BRG *i* 13 52 22.1
comp=Z,37nm,0.8s
BRG *i* 13 52 27.1
comp=Z,31nm,0.8s
MORC Moravsky Berou 149.45 342 *e*PKIKP PKPdf 13 52 17.7 -0.7
MORC *e* 13 52 22.4
MORC *e* 13 52 27.9
PVCC Panska Ves 149.53 346⇑*e*PKPB PKPbc 13 52 22.8 -0.3
MLR Muntele Rosu 149.61 328 PKPbc PKPbc 13 52 22.4 -1.0
comp=Z,28nm,0.4s,baz=336,slow=4.7,SNR=57
MLR Muntele Rosu 149.61 328 ⇑P PKPbc 13 52 22.6 -0.8
KECS Kecovo 149.62 337 *i* PKP PKPbc 13 52 23.2 -0.2
HENT Hendek 149.67 316 *i* P PKPbc 13 52 22.1 -1.4
BUG Bochum--Univer 149.75 355 *e*PKPbc PKPbc 13 52 22.4 -1.3
KDHN Kadinhani 149.97 311 *i* P PKPbc 13 52 23.0 -1.2
PRA Prague 149.99 346 ⇑PKPB PKPbc 13 52 24.0 -0.3
MOX Moxa 150.00 350 *e*PKPbc PKPbc 13 52 23.3 -1.0
MOX *e*PKPab PKPab 13 52 29.6 -0.8

MOX	Moxa	150.00	350	ePKP	PKPbc	13 52 23.6	-0.7
	comp=Z,96nm,1.5s						
MOX				e		13 52 29.4	
PRU	Pruhonice	150.04	346	⇑ePKPB	PKPbc	13 52 23.7	-0.7
PRU				ePKPAB	PKPab	13 52 30.2	-0.3
WERD	Werda	150.07	349	ePKPbc	PKPbc	13 52 23.9	-0.6
WERD				ePKPab	PKPab	13 52 30.0	-0.7
UBBA	Unterbreizbach	150.08	352	ePKPbc	PKPbc	13 52 23.6	-0.9
UBBA				ePKPab	PKPab	13 52 29.9	-0.8
VOIR		150.09	329	⇓PKHKP		13 52 23.9	
DRGR		150.13	333	⇑PKHKP		13 52 23.9	
VRAC	Vranov	150.14	343	⇓PKHKP		13 52 24.9	
VYHS	Vyhne	150.18	339	i PKP	PKPbc	13 52 24.3	-0.4
NKC	Novy Kostel	150.25	348	⇑ePKPB	PKPbc	13 52 24.2	-0.7
NKC				ePKPAB	PKPab	13 52 30.7	-0.7
PSZ	Piszkesteto	150.31	337	⇑i PKP/F	PKPbc	13 52 24.6	-0.4
ESKT	Eskisehir	150.37	314	i P	PKPbc	13 52 24.4	-0.8
EIL	Elat	150.44	293	ePKPbc	PKPbc	13 52 24.8	-0.5
BORA	Eskisehir	150.45	315	i P	PKPbc	13 52 24.4	-1.0
TREC	Trest	150.45	344	⇑ePKPB	PKPbc	13 52 24.7	-0.7
TREC				ePKPAB	PKPab	13 52 31.3	-0.9
CSS	Prodhromos	150.46	304	ePKPbc	PKPbc	13 52 24.6	-0.8
HGN	Heimansgroeve	150.51	357	ePKP	PKPbc	13 52 24.6	-0.9
	comp=Z,18nm,0.9s						
HGN				ePKP	PKPab	13 52 31.8	-0.7
	comp=Z,50nm,0.7s						
UCC	Uccle	150.54	359	PKPbc	PKPbc	13 52 24.1	-1.5
UCC				PKPab	PKPab	13 52 31.7	-0.9
MANZ	Manzenberg	150.55	349	ePKPbc	PKPbc	13 52 24.8	-0.8
SMOL	Smolenice	150.61	341	i PKP	PKPbc	13 52 25.7	-0.1
SMOL				e		13 52 32.9	
MEM	Membach	150.66	357	PKPbc	PKPbc	13 52 24.9	-1.0
MEM				PKPab	PKPab	13 52 32.8	-0.3
ROTZ	Rotzenmuhle	150.74	348	ePKPbc	PKPbc	13 52 25.2	-0.9
ROTZ				ePKPab	PKPab	13 52 33.1	-0.3
SNF	Seneffe	150.83	359	PKPbc	PKPbc	13 52 25.5	-0.7
SNF				PKPab	PKPab	13 52 33.2	-0.6
TNS	Taunus Mts	150.85	353	ePKPbc	PKPbc	13 52 25.4	-0.9
TNS				ePKPab	PKPab	13 52 33.4	-0.5
GRA1	Grafenberg Arr	150.99	350	ePKPbc	PKPbc	13 52 26.0	-0.6
GRA1				ePKPab	PKPab	13 52 34.2	-0.3
GRF	Grafenberg Arr	150.99	350	ePKPbc	PKPbc	13 52 26.0	-0.6
GRF				ePKPab	PKPab	13 52 34.2	-0.3
ZST	Bratislava	150.99	341	ePKP	PKPbc	13 52 26.2	-0.4
ZST				e		13 52 35.0	
ELBA	Catalca	151.04	319	i P	PKPbc	13 52 25.9	-0.9
KHC	Kasperske Hory	151.06	346	ePKPDF	PKPdf	13 52 19.0	-1.9
KHC				⇑ePKPB	PKPbc	13 52 26.1	-0.7
KHC				ePKPAB	PKPab	13 52 34.1	-0.7
ULDT	Uludag	151.17	316	i P	PKPbc	13 52 26.6	-0.4
WET	Wettzell	151.20	347	ePKPbc	PKPbc	13 52 26.6	-0.5
WET				ePKPab	PKPab	13 52 35.0	-0.4
GIVF	Givet	151.22	358	ePKP1	PKPbc	13 52 26.0	-1.2
	comp=Z,67nm,0.7s						
DOU	Dourbes	151.23	358	PKPbc	PKPbc	13 52 26.2	-1.0
DOU				PKPab	PKPab	13 52 34.9	-0.6
ABH	Alteburg	151.28	354	PKP	PKPbc	13 52 26.8	-0.5
BAIF	Baives	151.28	359	ePKP1	PKPbc	13 52 26.3	-1.0
	comp=Z,50nm,0.8s						
GEC2	GERESS Array S	151.31	346	ePKPbc	PKPbc	13 52 26.4	-1.0
GEC2				ePKPab	PKPab	13 52 35.3	-0.5
GERES	GERESS Array B	151.31	346	PKP	PKPdf	13 52 19.8	-1.4
	comp=Z,0.7nm,0.7s,baz=318,slow=1.3,SNR=5.8						
GERES				PKPbc	PKPbc	13 52 26.4	-1.0
	comp=Z,8.4nm,0.7s,baz=22,slow=1.3,SNR=60						
GERES				PKPab	PKPab	13 52 35.2	-0.6
	comp=Z,12nm,0.9s,baz=29,slow=5.0,SNR=14						
JMB	Yambol	151.32	323	eP	PKPbc	13 52 27.0	-0.4
ISP	Isparta	151.40	311	ePKIKP	PKPbc	13 52 26.2	-1.4
TOD	Tromm	151.42	353	PKIKP	PKPbc	13 52 26.6	-1.0
TKTP	Tekketepe	151.44	312	i P	PKPdf	13 52 26.4	+4.9
RUP	Ruppelstein	151.50	355	PKIKP	PKPbc	13 52 27.1	-0.7
BZS	Buzias	151.52	333	⇓PKIKP	PKPbc	13 52 27.1	-0.8
WLF	Walferdange	151.60	356	ePKPbc	PKPbc	13 52 27.2	-0.8
WLF				ePKPab	PKPab	13 52 36.8	-0.2
WLF	Walferdange	151.60	356	PKPbc	PKPbc	13 52 27.4	-0.6
WLF				PKPab	PKPab	13 52 36.7	-0.3
WLF	Walferdange	151.60	356	ePKPbc	PKPbc	13 52 27.4	-0.7
WLF				ePKPab	PKPab	13 52 36.6	-0.4
JLP	Les Platons	151.75	8	eP	PKPbc	13 52 26.8	-1.6
JLP	Les Platons	151.75	8	eP	PKPbc	13 52 26.8	-1.6
JVM	Valle D.L. Mar	151.76	8	eP	PKPbc	13 52 27.0	-1.4
JVM	Valle D.L. Mar	151.76	8	eP	PKPbc	13 52 27.0	-1.4
JSA	Saint Aubin	151.80	8	eP	PKPbc	13 52 27.2	-1.3
JSA	Saint Aubin	151.80	8	eP	PKPbc	13 52 27.2	-1.3
SART	Tekirdag	152.08	319	i P	PKPdf	13 52 26.9	+4.5
BTOK	Tokmak	152.09	317	i P	PKPbc	13 52 27.6	-1.5
MOA	Molln	152.10	344	i P	PKPbc	13 52 28.0	-1.2
	comp=Z,12nm,1.0s,SNR=7.5						
LANF	Langenberg	152.15	354	PKP	PKPbc	13 52 28.8	-0.5
STU	Stuttgart	152.19	352	ePKPab	PKPab	13 52 38.8	-0.7
STU	Stuttgart	152.19	352	ePKIKP	PKPbc	13 52 28.8	-0.6
STU				e		13 52 38.8	
PKSM	Moragy	152.21	337	eP	PKPdf	13 52 21.3	-1.3
PKSM				i		13 52 28.2	
PKSM				⇓P		13 52 28.6	
ARSA	Arzberg	152.31	342	⇑i P	PKPbc	13 52 28.8	-0.9
	comp=Z,8.5nm,0.8s						
ARSA	Arzberg	152.31	342	⇑i P	PKPbc	13 52 28.8	-0.9
FLN	La Foliniere	152.40	6	ePKP1	PKPbc	13 52 28.2	-1.7
	comp=Z,35nm,0.7s						
MANT	Manisa	152.43	314	i P	PKPdf	13 52 27.5	+4.5
FUR	Furstenfeldbru	152.45	349	ePKPbc	PKPbc	13 52 29.3	-0.7
FUR				ePKPab	PKPab	13 52 40.3	-0.3
ROSF	Rostrenen	152.47	10	ePKP1	PKPbc	13 52 28.1	-1.9
	comp=Z,28nm,0.7s						
RHK1	Bakonya	152.52	338	i	PKPdf	13 52 19.8	-3.3
LDF	La Druitiere	152.60	5	ePKP1	PKPbc	13 52 28.5	-1.8
	comp=Z,29nm,1.0s						
ALN	Alexandroupoli	152.63	321	eP	PKPbc	13 52 29.1	-1.2
BFO	Black Forest	152.73	353	ePKPbc	PKPbc	13 52 29.4	-1.2
BFO				ePKPab	PKPab	13 52 41.0	-0.8
SVIS	Svilajnac	152.74	331	⇑i PKP	PKPbc	13 52 29.9	-0.7
GRR	Gorron	152.74	6	ePKP1	PKPbc	13 52 29.1	-1.5
	comp=Z,43nm,0.7s						
WLS	Welschbruch	152.75	354	PKP	PKPbc	13 52 30.9	+0.3
CDF	Champ du Feu	152.76	354	ePKP1	PKPbc	13 52 29.4	-1.2
	comp=Z,14nm,0.7s						
MEZF	Maizieres J'vi	152.81	358	ePKP1	PKPbc	13 52 29.7	-1.1
	comp=Z,19nm,0.7s						
ECH	Echery	152.97	355	PKP	PKPbc	13 52 32.4	+1.3
PERS	Pernice	152.99	342	ePKPbc	PKPbc	13 52 29.7	-1.5
PERS				ePKPab	PKPab	13 52 42.4	-0.4
THEF	They Montfort	153.04	356	PKP	PKPbc	13 52 30.9	-0.4
KBA	Koelnbreinsper	153.04	345	⇑i P	PKPbc	13 52 30.2	-1.1
	comp=Z,6.2nm,0.5s,SNR=10						
VTS	Vitosha	153.06	327	eP	PKPbc	13 52 30.8	-0.5
HAU	Haudompre	153.24	356	ePKP1	PKPbc	13 52 31.3	-0.4
	comp=Z,11nm,0.6s						
GRUS	Gruza	153.28	331	ePKP	PKPbc	13 52 31.4	-0.4
AYDN	Tasoluk	153.31	313	i P	PKPbc	13 52 31.2	-0.7
SQTA	Sankt Quirin	153.37	348	⇓P	PKPbc	13 52 30.9	-1.1
	comp=Z,7.9nm,0.9s,SNR=5.9						
HINF	Hinterlafeld	153.39	355	ePKP1	PKPbc	13 52 31.0	-1.0
DIVS	Divcibare	153.43	333	⇓i PKP	PKPdf	13 52 30.1	+5.7
DIVS	Divcibare	153.43	333	eP	PKPbc	13 52 31.7	-0.4
LJU	Ljubljana	153.69	342	ePKPbc	PKPbc	13 52 31.5	-1.1
LJU				ePKPab	PKPab	13 52 44.6	-1.3
VOJS	Vojsko	153.88	343	ePKPbc	PKPbc	13 52 31.7	-1.4
VOJS				ePKPab	PKPab	13 52 44.6	-2.0
SRS	Serrai	153.89	324	eP	PKPbc	13 52 31.4	-1.7
CEY	Cerknica	154.00	342	ePKPbc	PKPbc	13 52 32.3	-1.0
CEY				ePKPab	PKPab	13 52 46.4	-0.8
HYF	Humbligny	154.07	1	ePKP1	PKPbc	13 52 32.6	-0.9
LOR	Lormes	154.08	359	ePKP1	PKPbc	13 52 32.2	-1.3
	comp=Z,11nm,0.6s						
SSF	Saint Saulge	154.28	360	ePKP1	PKPbc	13 52 32.8	-1.2
AVF	Avril sur Loir	154.56	0	ePKP1	PKPbc	13 52 34.3	-0.2
MFF	Saint Martin d	154.57	6	ePKP1	PKPbc	13 52 33.9	-0.7
	comp=Z,11nm,0.7s						
CABF	La Chapelle	154.65	356	ePKP1	PKPbc	13 52 34.7	0.0
GRG	Griva	154.65	325	eP	PKPbc	13 52 33.3	-1.4
BGF	Bois d'Agland	154.78	1	ePKP1	PKPbc	13 52 35.2	+0.2
TCF	Toulx Ste Croi	155.04	2	ePKP1	PKPdf	13 52 35.9	+9.2
	comp=Z,7.4nm,0.7s						
FNA	Florina	155.32	326	eP	PKPdf	13 52 34.9	+7.8
PYM	Petit Puy Mans	155.59	1	PKP2	PKPab	13 52 53.1	-0.9
LPG	La Plagne	155.70	354	ePKP1	PKPdf	13 52 37.9	+10
AGG	Agios Georgios	156.02	322	eP	PKPdf	13 52 36.1	+8.2
LBL	Lubilhac	156.11	0	PKP2	PKPab	13 52 56.1	-0.1
BNI	Bardonecchia	156.15	354	ePKP2	PKPab	13 52 56.4	+0.1
ORIF	Oris-en-Rattie	156.34	356	ePKP1	PKPdf	13 52 37.3	+8.9
OG22	Abries	156.35	354	PKP	PKPab	13 52 57.0	-0.2
CAF	Calviac	156.39	2	ePKP1	PKPdf	13 52 38.1	+10
MBDF	Montbardon	156.46	354	ePKP1	PKPdf	13 52 39.0	+10
	comp=Z,10nm,0.7s						
PBRG	Braganca	157.81	21	ePKPab	PKPab	13 53 04.7	+1.2
PVRL	Vila Real	157.94	23	ePKPab	PKPab	13 53 03.7	-0.4
PVIS	Viseu	158.36	24	ePKPab	PKPab	13 53 05.4	-0.5
MTE	Manteigas	158.77	24	ePKPab	PKPab	13 53 07.2	-0.5
PTOM	Tomar	159.10	26	ePKPab	PKPab	13 53 08.5	-0.6
ESDC	Sonseca Array	160.60	17	PKP	PKPdf	13 52 32.5	-1.0
	comp=Z,0.7nm,0.6s,baz=357,slow=1.6,SNR=6.0						
ESDC				PKPab	PKPab	13 53 15.1	-0.5
	comp=Z,4.2nm,0.7s,baz=332,slow=3.5,SNR=19						
EBAN	Banos Encina	162.05	19	PKP2	PKPab	13 53 22.0	0.0
ELOJ	Sierra Loja	162.87	21	PKP2	PKPab	13 53 26.9	+1.3
LIC	Lamto	162.92	150	ePKIKP	PKPdf	13 52 34.5	-1.4
	comp=Z,32nm,1.1s						
ECOG	Cogollos-Vega	162.94	19	PKP2	PKPab	13 53 25.3	-0.6
ERON	Agron	163.10	20	P	PKPab	13 53 26.7	+0.1
DBIC	Dimbokro	163.40	150	PKP	PKPdf	13 52 34.0	-2.3
	comp=Z,5.8nm,0.9s,baz=151,slow=1.8,SNR=10						
DBIC				PKPab	PKPab	13 53 26.7	-1.2
	comp=Z,3.2nm,0.9s,baz=204,slow=7.2,SNR=3.9						
TORD	Torodi Ar. Bea	171.74	168	PKP	PKPdf	13 52 40.6	-1.6
	comp=Z,2.6nm,0.9s,baz=318,slow=1.1,SNR=14						
TORD				pPKP	pPKPdf	13 53 31.9	+19
	comp=Z,1.6nm,1.0s,baz=272,slow=1.5,SNR=3.5						
TORD				PKPab	PKPab	13 54 04.3	-0.5
	comp=Z,3.6nm,0.8s,baz=185,slow=3.8,SNR=13						
TORD				pPKPab	pPKPab	13 54 52.4	+19
	comp=Z,1.4nm,0.7s,baz=169,slow=4.3,SNR=3.0						

IDC 19 13:43:16.0±19.0, 2734N×14127E, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.7/18, mbtmp4.3/3, Error ellipse: s-maj=594.9km s-min=111.1km az=14.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	33.97	316	P	P	13 50 01.2	+0.1
	0.8nm,0.8s,baz=111,slow=7.7,SNR=5.3						
ARCES	ARCESS Array B	73.04	341	P	P	13 54 47.6	-0.1
	6.0nm,0.8s,baz=46,slow=7.7,SNR=5.7						
KAF	Kangasnieni	76.90	334	epkp	P	13 55 10.1	+0.1
FINES	FINESS Array B	77.37	334	P	P	13 55 12.3	-0.3
	3.8nm,0.8s,baz=64,slow=4.4,SNR=8.5						

NIED ***19*** *13:47:00, 3880N×14160E, h53km, Mw4.1 Best double couple: M0=1.42000×10^15 NP1:φs=131.00000°, δ=89.00000°, λ=-96.00000°. NP2:φs=30.00000°, δ=6.00000°, λ=-11.00000°.*
ISCJB ***19*** *13:47:09.4±0.8, 3884N±005×1417E±0.1, h76km±4km, mb3.9/4, Error ellipse: s-maj=14.0km s-min=6.8km az=45.5*
JMA ***19*** *13:47:10.7, 3882N×14163E, h69km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=348.00000°, δ=28.00000°, λ=49.00000°. NP2: φs=212.00000°, δ=69.00000°, λ=109.00000°. Principal axes: T Plg=61.0000°, Azm=151.0000°; N Plg=18.0000°, Azm=25.0000°; P Plg=22.0000°, Azm=288.0000°;*
JMA Felt II J1.
IDC ***19*** *13:47:15.1±1.6, 3944N×13967E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, ML3.5/1 Error ellipse: s-maj=35.4km s-min=32.1km az=119.0*
NEIC ***19*** *13:47:19.9±0.9, 3937N×13961E, h35km, mb4.5/1, MW4.0(NIED), Error ellipse: s-maj=23.5km s-min=11.0km az=95.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi Prefectures.

ISC 19 13:47:10.4±0.8, 3884N±005×14169E±010, h70km±4km, n22, σ0*74/27, mb3.9/4, 5C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.25	357	⇑P	Pn	13 47 21.6	+0.3
OFUJ				S	Sn	13 47 29.5	+0.3
JMK	Ichinoseki	0.38	288	⇑P	Pn	13 47 22.1	-0.1
JMK				S	Sn	13 47 30.3	-0.6
JIO	Ouri	0.46	215	⇑P	Pn	13 47 22.8	-0.1
JIO				S	Sn	13 47 31.5	-0.6
JOM	Ohasama	0.71	334	⇑P	Pn	13 47 25.7	+0.3
JOM				S	Sn	13 47 36.7	+0.2
JOU	Okura	0.93	240	⇓P	Pn	13 47 27.9	-0.1
JOU				S	Sn	13 47 40.6	-0.5
JYK	Kaneyama	1.04	275	⇓P	Pn	13 47 29.1	-0.3
JYK				eS	Sn	13 47 43.3	-0.2
JMM	Marumori	1.20	216	⇓P	Pn	13 47 30.7	-0.7
JMM				eS	Sn	13 47 45.9	-1.2
JYS	Shirataka	1.41	245	⇓P	Pn	13 47 34.3	+0.1
JYA	Atsumi	1.56	262	⇓P	Pn	13 47 36.1	-0.1
JYA				S	Sn	13 47 55.9	+0.3
JAH	Hinai	1.58	329	⇑P	Pn	13 47 37.3	+0.9
MJAR	Matsushiro Arr	3.58	231	Pn	Pn	13 48 05.2	+1.7
	5.6nm,0.3s,baz=42,slow=12,SNR=85						
MAJO	Matsushiro	3.58	231	ePn	Pn	13 48 05.5	+1.9
MAT	Matsushiro	3.58	231	P	Pn	13 48 05.2	+1.7
MAT	Matsushiro	3.58	231	eP	Pn	13 48 05.0	+1.5
ASAJ	Asahikawa	5.32	7	Pn	Pn	13 48 26.6	-0.7
	0.9nm,0.3s,baz=204,slow=17,SNR=7.6						
SONM	Songino Array	27.00	301	P	P	13 52 45.0	-0.6
	0.3nm,0.5s,mb3.0,baz=98,slow=11,SNR=3.6						
MKAR	Makanchi Array	43.37	301	P	P	13 55 05.7	0.0
	3.8nm,0.7s,mb4.3,baz=94,slow=9.4,SNR=31						
KURK	Kurchatov	45.01	307	eP	P	13 55 18.3	-0.5
	6.9nm,0.8s,mb4.4						
ILAR	Eielson Array	47.87	33	P	pP	13 55 57.0	-1.8
	0.4nm,0.8s,baz=259,slow=6.7,SNR=4.2						
BVAR	Borovoye Array	49.54	311	P	P	13 55 53.1	-0.9
	0.4nm,0.4s,mb3.8,baz=70,slow=7.7,SNR=4.6						
PLCA	Paso Flores	155.22	105	PKP	pPKPdf	14 07 12.3	-3.4
	3.2nm,1.1s,baz=233,slow=5.1,SNR=3.0						
PLCA	Paso Flores	155.22	105	PKP	pPKPdf	14 07 12.3	-3.4

IDC 19 14:08:59.5±6.5, 459N×9536E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=332.0km s-min=26.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	43.54	347	P	P	14 17 04.8	0.0
	0.3nm,0.4s,baz=163,slow=8.4,SNR=9.0						
WRA	Warramunga Arr	45.41	124	P	P	14 17 20.6	+0.8
	0.4nm,0.5s,baz=302,slow=9.2,SNR=7.1						
ASAR	Alice Springs	46.91	129	P	P	14 17 31.8	+0.1
	0.3nm,0.7s,baz=299,slow=7.8,SNR=18						

GUC 19 14:49:04.3±0.7, 2446S×6769W, h205km, ML3.8, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	Cerro Paranal	2.48	266	⇓i P	Pn	14 49 50.3	+2.1
CPN1				i S	Sn	14 50 25.6	+3.0
CPN1				AMP		14 50 30.8	
	comp=E,94nm,0.4s						
CEN1	Los Morros	2.54	294	⇓i P	Pn	14 49 50.8	+2.0
CEN1				i S	Sn	14 50 26.4	+2.7
CEN1				AMP		14 50 27.8	
	comp=N,236nm,0.5s						
ANCH	Antofagasta	2.61	287	⇑i P	Pn	14 49 48.0	-1.7
ANCH				i S	Sn	14 50 23.4	-1.7
ANCH				AMP		14 50 26.6	
	comp=N,413nm,0.1s						
CRCH	Chaqaral	3.25	234	i S	Sn	14 50 41.0	+2.5
CRCH				AMP		14 50 43.0	
	comp=N,84nm,0.4s						
CDCH	Caldera	3.84	227	i S	Sn	14 50 53.4	+1.9

IDC 19 14:49:44.5±9.6, 1883S×17877W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/14, mbtmp3.9/2, Error ellipse: s-maj=307.2km s-min=57.7km az=21.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.13	261	P	P	14 57 54.6	-0.1
	0.5nm,0.3s,baz=97,slow=6.8,SNR=32						
ASAR	Alice Springs	44.22	255	P	P	14 57 56.0	+0.7
	1.7nm,0.6s,baz=91,slow=8.4,SNR=45						
TORD	Torodi Ar. Bea	174.34	185	PKPab	PKPab	15 11 28.8	+0.4
	0.5nm,1.1s,baz=194,slow=3.0,SNR=3.6						

IDC ***19*** *15:04:38.3±0.8, 450N×9499E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/22, mbtmp4.1/12, MS3.1/1, Ms1 3.1/1, ms1mx2.4/24, Error ellipse: s-maj=34.1km s-min=17.6km az=49.0*
NEIC ***19*** *15:04:42.9±0.4, 443N×9492E, h30km, mb4.3/6, Error ellipse: s-maj=14.0km s-min=5.8km az=220.0*
ISCJB ***19*** *15:04:46.2±2.2, 458N±009×952E±0.1, h73km±19km, mb4.1/19, Error ellipse: s-maj=21.0km s-min=9.8km az=96.4*

ISC 19 15:04:47.9±2.1, 460N±010×952E±01, h69km±19km, n30, σ0*67/31, mb4.1/19, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.16	115	Pn	Pn	15 05 48.9	-0.1
	15nm,0.3s,baz=295,slow=9.9,SNR=51						
KULM	Kulim	5.52	83	⇓eP	Pn	15 06 07.2	-0.1
KULM				eS	Sn	15 07 08.6	-0.8
KSM	Kuching	15.45	101	eP	Pn	15 08 25.2	+3.7
KKM	Kota Kinabalu	21.02	85	eP	P	15 09 26.7	+1.0
JIRN	Jiri	24.47	341	eP	P	15 10 01.2	+0.9
	5.7nm,0.3s,mb4.3						
GUN	Gumba	24.81	340	eP	P	15 10 04.8	+1.4
KKN	Kakani	24.91	339	eP	P	15 10 04.0	-0.3
GKN	Gorkha	25.34	338	eP	P	15 10 08.7	+0.5
	7.4nm,0.4s,mb4.5						
KOLN	Koldanda	25.54	336	eP	P	15 10 10.4	+0.4
	5.7nm,0.5s,mb4.3						
MKAR	Makanchi Array	43.48	347	P	P	15 12 44.3	+0.1
	1.7nm,0.3s,mb4.2,baz=167,slow=9.2,SNR=67						
SONM	Songino Array	44.14	11	P	P	15 12 49.4	-0.1
	0.6nm,0.6s,mb3.5,baz=194,slow=8.5,SNR=7.9						
SONM				PcP	PcP	15 14 34.3	+1.0
	0.4nm,0.5s,baz=196,slow=3.8,SNR=5.2						
SONM				LR	LR	15 32 31.1	
	comp=Z,24nm,20.8s,baz=189,slow=38						
WRA	Warramunga Arr	45.58	124	P	P	15 13 01.0	+0.1
	4.0nm,0.5s,mb4.4,baz=301,slow=9.2,SNR=78						
WRAB	Tennant Creek	45.59	124	eP	P	15 13 01.3	+0.4
	7.4nm,0.5s,mb4.7						
WB2	Warramunga Arr	45.59	124	eP	P	15 13 00.9	-0.1
ASPA	Alice Springs	47.08	128	eP	P	15 13 12.7	+0.1
AS31	Alice Springs	47.08	128	eP	P	15 13 12.7	+0.1
ASAR	Alice Springs	47.08	128	P	P	15 13 12.6	0.0
	1.3nm,0.5s,mb3.9,baz=299,slow=7.9,SNR=61						
ZAL	Zalesovo	49.91	352	P	P	15 13 34.1	-0.2
	1.5nm,0.3s,mb4.4,baz=80,slow=1.3,SNR=6.2						
BVAR	Borovoye Array	52.39	341	P	P	15 13 52.9	-0.1
	1.3nm,0.5s,mb4.2,baz=140,slow=9.8,SNR=16						
BRVK	Borovoye	52.45	341	eP	P	15 13 53.4	-0.1
	3.4nm,0.9s,mb4.4						
ZRNK	Zerenda	52.78	340	eP	P	15 13 55.5	-0.4
	3.6nm,0.8s,mb4.5						
KMBO	Kilima Mbogo	58.13	266	P	P	15 14 34.2	0.0
	0.9nm,0.5s,mb4.1,baz=68,slow=16,SNR=4.1						
BRTR	Keskin Array B	65.33	312	P	P	15 15 21.4	-1.2
	1.1nm,0.7s,mb3.8,baz=117,slow=7.0,SNR=7.6						
AKASG	Malin Array Be	71.34	322	P	P	15 15 58.9	-1.3
	0.7nm,0.3s,mb3.9,baz=89,slow=6.4,SNR=7.4						
JOF	Joensuu	74.22	335	ep	P	15 16 17.6	+0.4
	0.7nm,0.4s,mb3.7						
FINES	FINESS Array B	76.06	332	P	P	15 16 26.9	-0.9
	1.4nm,0.7s,mb3.8,baz=106,slow=5.7,SNR=11						
FINES	FINESS Array B	76.06	332	P	P	15 16 26.9	-0.9
KAF	Kangasnieni	76.15	333	ep	P	15 16 27.0	-1.3
ARCES	ARCESS Array B	78.67	340	P	P	15 16 42.8	+0.4
	1.2nm,0.6s,mb3.9,baz=88,slow=6.2,SNR=6.5						
GERES	GERESS Array B	80.93	319	P	P	15 16 55.2	+0.6
	1.4nm,0.9s,mb3.8,baz=101,slow=6.9,SNR=10						

IDC 19 15:11:38.0±1.8, 1683S×17318W, h46km±6km, mb3.5/6, mb1 3.9/6, mb1mx3.7/16, mbtmp3.8/6, Error ellipse: s-maj=114.9km s-min=16.5km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.20	25	P	Pn	15 12 16.3	-9.4
	8.5nm,0.3s,baz=309,slow=1.8,SNR=30

EBAD	**Badajoz**	**6.73**	**77**	Pn	Pn	15 16 06.3	-2.3
	0.8nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	15 17 19.2	-6.7
	0.8nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.73**	**77**	Pn	Pn	15 16 06.3	-2.2
	0.8nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	15 17 19.2	-6.7
	0.8nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.73**	**77**	P	Pn	15 16 06.3	-2.3
EBAD				S	Sn	15 17 19.2	-6.7
EMIN	**Mina Concepcio**	**6.94**	**86**	Pn	Pn	15 16 09.7	-1.8
	2.1nm,0.4s,SNR=7.9						
EMIN				Sn	Sn	15 17 24.5	-6.6
	0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.94**	**86**	Pn	Pn	15 16 09.7	-1.8
	2.1nm,0.4s,SNR=7.9						
EMIN				Sn	Sn	15 17 24.5	-6.6
	0.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**7.11**	**51**	Pn	Pn	15 16 12.4	-1.4
	1.0nm,0.3s,SNR=4.0						
ELOB				Sn	Sn	15 17 27.8	-7.5
	4.6nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**7.11**	**51**	Pn	Pn	15 16 08.3	-5.5
	1.0nm,0.3s,SNR=4.0						
ELOB				Sn	Sn	15 17 24.7	-11
	4.6nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**7.11**	**51**	P	Pn	15 16 08.3	-5.4
ELOB				S	Sn	15 17 24.7	-11
EMAZ	**Mazaricos**	**7.29**	**41**	Pn	Pn	15 16 14.1	-2.1
	1.8nm,0.3s,SNR=4.0						
EMAZ				Sn	Sn	15 17 30.7	-8.9
	3.1nm,0.4s,SNR=7.9						
EMAZ	**Mazaricos**	**7.29**	**41**	Pn	Pn	15 16 11.7	-4.5
	1.8nm,0.3s,SNR=4.0						
EMAZ				Sn	Sn	15 17 28.5	-11
	3.1nm,0.4s,SNR=7.9						
EMAZ	**Mazaricos**	**7.29**	**41**	P	Pn	15 16 10.8	-5.4
EMAZ				S	Sn	15 17 28.5	-11
ECAB	**El Cabril**	**7.93**	**83**	Pn	Pn	15 16 23.8	-1.2
	2.9nm,0.6s,SNR=7.9						
ECAB				Sn	Sn	15 17 46.7	-8.8
	1.1nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**7.93**	**83**	Pn	Pn	15 16 23.8	-1.3
	2.9nm,0.6s,SNR=7.9						
ECAB				Sn	Sn	15 17 46.7	-8.8
	1.1nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**7.93**	**83**	P	Pn	15 16 22.1	-3.0
ECAB				S	Sn	15 17 46.7	-8.8

*MEX **19** 15:47:56.9±0.4, 15.48N×91.30W, h18km, MD4.2*

CASC 19 15:47:57.6±2.9, 16.77N×91.38W, h37km±999km, MD4.1, ML3.8, 1C-1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.87**	**236**	*i P*	Pn	15 48 14.7	+1.3
CCIG				*i S*	Sn	15 48 28.5	+3.6
SCX	**San Cristobal**	**1.20**	**269**	*e P*	Pn	15 48 23.5	+5.6
SCX				*i S*	Sn	15 48 46.0	+13
TP2	**Tecpan 2**	**2.01**	**170⇓**	*e P*	Pn	15 48 27.5	-1.4
TP2				*e S*	Sn	15 48 50.9	-1.9
MRL	**Marmol**	**2.35**	**136**	*e P*	Pn	15 48 34.2	+0.5
MRL				*e S*	Sn	15 49 01.2	-0.1
FUG	**Fuego 3**	**2.37**	**167**	*e P*	Pn	15 48 35.1	+1.2
IXG	**Ixpaco**	**2.73**	**161⇑**	*e P*	Pn	15 48 38.3	-0.6
IXG				*e S*	Sn	15 49 12.5	+1.8
CMIG	**Matias Romero**	**3.37**	**276**	*i P*	Pn	15 48 53.9	+6.2
CMIG				*i S*	Sn	15 49 34.7	+8.3
LFRS	**El Faro**	**3.85**	**144**	*e P*	Pn	15 49 05.9	+12
LFRS				*e S*	Sn	15 49 51.2	+13

*NEIC **19** 15:52:06.1, 34.13S×70.69W, h95km, MD3.5(GUC), After GUC.*

GUC 19 15:52:06.1±0.9, 34.13S×70.69W, h95km±3km, MD3.5, ML3.2, 15C-14D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.08**	**83⇓**	*i P*	Pn	15 52 20.0	+0.6
CACH				*i S*	Sn	15 52 30.3	+1.1
CHCH	**Chadas Angostu**	**0.20**	**10⇓**	*i P*	Pn	15 52 19.9	+0.3
CHCH				*i S*	Sn	15 52 30.2	+0.5
CICH	**Cipreses**	**0.30**	**131⇑**	*i P*	Pn	15 52 20.4	+0.4
CICH				*i S*	Sn	15 52 31.5	+1.0
LMEL	**Las Melosas**	**0.49**	**56⇑**	*i P*	Pn	15 52 21.7	+0.5
LMEL				*i S*	Sn	15 52 33.7	+1.1
LMEL				AMP		15 52 34.3	
	comp=N,2μm,0.3s						
LMEL	**Las Melosas**	**0.49**	**56⇑**	*i P*	Pn	15 52 21.7	+0.5
LMEL				*i S*	Sn	15 52 33.7	+1.1
TACH	**Talagante**	**0.52**	**337⇓**	*i P*	Pn	15 52 21.8	+0.4
TACH				*i S*	Sn	15 52 33.6	+0.7
PCH	**Pirque**	**0.53**	**16⇓**	*i P*	Pn	15 52 22.1	+0.5
PCH				*i S*	Sn	15 52 33.9	+0.8
SFDO	**San Fernando**	**0.55**	**209⇓**	*i P*	Pn	15 52 22.3	+0.5
SFDO				*i S*	Sn	15 52 34.0	+0.6
ANTU	**Antumapu**	**0.56**	**5⇓**	*i P*	Pn	15 52 22.3	+0.5
ANTU				*i S*	Sn	15 52 34.4	+0.9
ANTU				AMP		15 52 35.5	
	comp=N,2μm,0.1s						
ANTU	**Antumapu**	**0.56**	**5⇓**	*i P*	Pn	15 52 22.3	+0.5
ANTU				*i S*	Sn	15 52 34.4	+0.9
SJCH	**San Jose de Ma**	**0.56**	**30⇑**	*i P*	Pn	15 52 21.7	-0.1
SJCH				*i S*	Sn	15 52 34.1	+0.6
SJCH				AMP		15 52 35.7	
	comp=E,847nm,0.2s						
SJCH	**San Jose de Ma**	**0.56**	**30⇑**	*i P*	Pn	15 52 21.7	-0.1
SJCH				*i S*	Sn	15 52 34.1	+0.6
LNV	**Longovilo**	**0.62**	**286⇑**	*i P*	Pn	15 52 22.4	+0.2
RCDM	**Rinconada Maip**	**0.64**	**352**	*e P*	Pn	15 52 22.8	+0.3
RCDM				*i S*	Sn	15 52 35.5	+0.7
RCDM				AMP		15 52 36.3	
	comp=E,2μm,0.1s						
RCDM	**Rinconada Maip**	**0.64**	**352**	*e P*	Pn	15 52 22.8	+0.3
RCDM				*i S*	Sn	15 52 35.5	+0.7
FSR	**Penalolen**	**0.66**	**12⇑**	*i P*	Pn	15 52 23.2	+0.5
FSR				*i S*	Sn	15 52 36.0	+0.9
FSR				AMP		15 52 36.5	
	comp=E,2μm,0.3s						
FSR	**Penalolen**	**0.66**	**12⇑**	*i P*	Pn	15 52 23.2	+0.5
FSR				*i S*	Sn	15 52 36.0	+0.9
SAN	**Santiago**	**0.67**	**2⇑**	*i P*	Pn	15 52 23.3	+0.5
SAN				*i S*	Sn	15 52 35.8	+0.5
SAN				AMP		15 52 36.9	
	comp=E,1μm,0.3s						
SAN	**Santiago**	**0.67**	**2⇑**	*i P*	Pn	15 52 23.3	+0.5
SAN				*i S*	Sn	15 52 35.8	+0.5
STL	**Santa Lucia**	**0.69**	**4⇑**	*i P*	Pn	15 52 22.8	-0.2
STL				*i S*	Sn	15 52 35.7	+0.2
STL				AMP		15 52 36.4	
	comp=E,873nm,0.3s						
DSCH	**Colegio Aleman**	**0.73**	**8⇓**	*i P*	Pn	15 52 23.2	-0.1
DSCH				*i S*	Sn	15 52 36.5	+0.3
DSCH				AMP		15 52 37.8	
	comp=E,93nm,0.2s						
DSCH	**Colegio Aleman**	**0.73**	**8⇓**	*i P*	Pn	15 52 23.2	-0.1
DSCH				*i S*	Sn	15 52 36.5	+0.3
CLCH	**Cerro Calan**	**0.74**	**10⇑**	*i P*	Pn	15 52 24.0	+0.6
CLCH				*i S*	Sn	15 52 37.8	+1.4
CLCH				AMP		15 52 38.8	
	comp=E,954nm,0.3s						
CLCH				AMP		15 52 39.5	
	comp=E,1μm,0.3s						
FCH	**Farellones**	**0.86**	**23⇑**	*i P*	Pn	15 52 25.4	+0.7
FCH				*i S*	Sn	15 52 39.9	+1.4
FCH				AMP		15 52 41.8	
	comp=N,977nm,0.3s						
LCCH	**Las Cruces**	**0.98**	**311⇓**	*i P*	Pn	15 52 26.1	+0.2
LCCH				*i S*	Sn	15 52 41.1	+0.3
NICH	**Los Niches**	**0.98**	**207⇑**	*i P*	Pn	15 52 26.2	+0.3
NICH				*i S*	Sn	15 52 41.4	+0.6
PEL	**Peldehue**	**0.98**	**0⇓**	*i P*	Pn	15 52 26.6	+0.7
PEL				*i S*	Sn	15 52 41.9	+1.2
PEL				AMP		15 52 43.1	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	**0.98**	**0⇓**	*i P*	Pn	15 52 26.6	+0.7
PEL				*i S*	Sn	15 52 41.9	+1.2
ROCH	**El Roble**	**1.18**	**347**	*e P*	Pn	15 52 28.9	+0.7
ROCH				*i S*	Sn	15 52 45.8	+0.9
JACH	**Jahuel**	**1.44**	**3**	*e P*	Pn	15 52 32.1	+0.7
JACH				*i S*	Sn	15 52 51.6	+1.1
TALC	**Talca**	**1.49**	**211⇓**	*i P*	Pn	15 52 32.0	+0.1
TALC				*i S*	Sn	15 52 51.4	-0.1
TALC				AMP		15 52 52.4	
	comp=E,2μm,0.1s						
TALC	**Talca**	**1.49**	**211⇓**	*i P*	Pn	15 52 32.0	+0.1
TALC				*i S*	Sn	15 52 51.4	-0.1
PACH	**Papudo**	**1.70**	**338⇑**	*i P*	Pn	15 52 35.2	+0.6
CHNG	**Los Chungos**	**2.34**	**343**	*i S*	Sn	15 53 10.3	-0.7
CHNG				AMP		15 53 15.7	
	comp=E,132nm,0.4s						

*IDC **19** 16:01:09.6±29.0, 11.67N×123.43E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/18, mbtmp3.9/3, Error ellipse: s-maj=518.7km s-min=262.8km az=151.0*

*ISCJB **19** 16:02:16.2±2.1, 60.N±03×126.4E±02, h141km±48km, mb3.7/3, Error ellipse: s-maj=48.8km s-min=28.7km az=150.4*

*MAN **19** 16:02:16.8, 6.11N×126.19E, h4km, mb3.1, ML4.5, MS5.9*

ISC 19 16:02:17.7±2.1, 61.N±03×126.4E±02, h137km±50km, n11, σ0.56/12, mb3.7/3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**2.12**	**0⇑**	*i P*	**Pn**	**16 02 53.4**	**0.0**
BIPH				*i S*	**Sn**	**16 03 20.5**	**-0.3**
BUKP	**Musuan**	**2.22**	**325**	*e P*	**Pn**	**16 02 54.7**	**-0.1**
BUTP	**Butuan**	**2.99**	**346**	*e P*	**Pn**	**16 03 04.8**	**+0.4**
PAGZ	**Pagadian**	**3.45**	**301**	*e P*	**Pn**	**16 03 10.2**	**-0.2**
SCPH	**Surigao**	**3.80**	**347⇑**	*e P*	**Pn**	**16 03 16.0**	**+1.0**
MSLP	**Maasin**	**4.32**	**340**	*e P*	**Pn**	**16 03 21.1**	**-0.7**
WRA	**Warramunga Arr**	**27.00**	**163**	P	**P**	**16 07 46.7**	**-0.1**
	0.3nm,0.4s,mb3.3,baz=342,slow=8.5,SNR=17						
WB2	**Warramunga Arr**	**27.00**	**163**	*e P*	**P**	**16 07 46.8**	**0.0**
ASAR	**Alice Springs**	**30.44**	**166**	P	**P**	**16 08 17.8**	**+0.5**
	0.8nm,0.4s,mb3.9,baz=342,slow=7.3,SNR=47						
ASPA	**Alice Springs**	**30.44**	**166**	*e P*	**P**	**16 08 17.8**	**+0.5**
STKA	**Stephens Creek**	**40.42**	**160**	P	**P**	**16 09 41.3**	**-1.2**
	2.1nm,0.7s,mb3.9,baz=327,slow=6.0,SNR=4.8						

FUNV 19 16:17:19.7, 1199N×6971W, h19km, MW3.7, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONV	**Montecano**	**0.26**	**263⇑**	*i P*	Pg	16 17 25.2	-0.4
IMOV	**Isla Los Monje**	**1.23**	**288**	*e P*	Pn	16 17 41.7	0.0
JACV	**Jacura**	**1.24**	**136**	*e P*	Pn	16 17 42.0	+0.1
JACV				*e S*	Sb	16 17 58.9	+0.8
SIQV	**Siquisique**	**1.33**	**184**	*e P*	Pn	16 17 42.8	-0.4
SIQV				*i S*	Sn	16 17 59.9	-0.6
DABV	**Dabajuro**	**1.40**	**221**	*e P*	Pn	16 17 43.8	-0.3
DABV				*i S*	Sn	16 18 02.0	0.0
QARV	**Quebrada Arrib**	**1.94**	**204**	*e P*	Pn	16 17 51.6	0.0
QARV				*e S*	Sn	16 18 14.8	-0.7
CURV	**Curarigua**	**1.98**	**187**	*e P*	Pn	16 17 51.6	-0.5
TEPV	**Terepaima**	**2.07**	**166**	*e P*	Pn	16 17 52.9	-0.5
TURV	**Turiamo**	**2.39**	**130**	*e P*	Pn	16 17 56.6	-1.1
SANV	**Sanarito**	**2.48**	**176**	*e P*	Pn	16 17 58.8	-0.2
VIRV	**Villa del Rosa**	**3.03**	**241**	*e P*	Pn	16 18 05.0	-1.6
FUNV	**FUNVISIS**	**3.22**	**118**	*e P*	Pn	16 18 08.8	-0.4
FUNV				*e S*	Sn	16 18 44.0	-2.9
BAUV	**El Baul**	**3.44**	**151**	*e P*	Pn	16 18 11.6	-0.6
VIGV	**El Vigia**	**3.53**	**208**	*e P*	Pn	16 18 13.2	-0.2
VIGV				*e S*	Sn	16 18 51.6	-2.9
BIRV	**Birongo**	**3.69**	**114**	*e P*	Pn	16 18 14.6	-1.1
MERV	**Las Mercedes**	**4.32**	**129**	*e P*	Pn	16 18 23.9	-0.4
CAPV	**Capacho**	**4.83**	**212**	*e P*	Pn	16 18 30.9	-0.5
CAOV	**Caicara del Or**	**5.71**	**144**	*e P*	Pn	16 18 41.3	-2.1
CAOV				*e S*	Sn	16 19 42.0	-6.3
PAYV	**Puerto Ayacuch**	**6.83**	**163**	*e P*	Pn	16 18 57.2	-1.7
PAYV				*e S*	Sn	16 20 08.7	-7.4

*ISCJB **19** 16:19:38.0±0.5, 1943N×006×9591E±005, h10km, mb3.8/10, Error ellipse: s-maj=9.8km s-min=5.3km az=52.5*

*IDC **19** 16:19:38.5±0.8, 1930N×9568E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.9/20, mbtmp3.9/10, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/21, Error ellipse: s-maj=35.7km s-min=16.7km az=61.0*

*BJI **19** 16:19:40.9, 1925N×9566E, h26km, mb4.1*

*NEIC **19** 16:19:41.7±2.8, 1926N×9569E, h21km±21km, mb3.9/1, Error ellipse: s-maj=19.2km s-min=7.2km az=62.0*

ISC 19 16:19:40.3±0.4, 1937N±005×9588E±005, h10km, n24, σ0.99/27, mb3.8/10, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDT	**Bhumibol Dam**	**3.64**	**125**	P	**Pb**	**16 20 46.0**	**+1.3**
	42nm,0.6s						
CHRT	**Chiangrai**	**3.71**	**82**	⇑PN	**Pn**	**16 20 39.0**	**+1.3**
CHRT				PG	**Pg**	**16 20 50.0**	**-1.4**
CHRT				SG	**Sg**	**16 21 39.0**	**-0.5**
NST	**Nakhon Sawan**	**5.47**	**131**	P	**Sg**	**16 22 35.0**	**-1.0**
SHL	**Shillong**	**7.19**	**330**	*e*PN	**Pn**	**16 21 27.0**	**+1.5**
SHL				*e*SN	**Sn**	**16 22 47.0**	**-0.2**
LSA	**Lhasa**	**11.15**	**338**	P	**Pn**	**16 22 22.8**	**+3.1**
JIRN	**Jiri**	**12.12**	**315**	*e P*	**Pn**	**16 22 33.1**	**0.0**
	7.5nm,0.4s						
GUN	**Gumba**	**12.50**	**315**	*e P*	**Pn**	**16 22 38.2**	**+0.1**
PKI	**Pulchoki**	**12.60**	**312**	*e P*	**Pn**	**16 22 39.6**	**0.0**
KKN	**Kakani**	**12.83**	**313**	*e P*	**Pn**	**16 22 42.9**	**+0.2**
GKN	**Gorkha**	**13.41**	**312**	*e P*	**Pn**	**16 22 49.7**	**-0.9**
	14nm,0.4s						
KOLN	**Koldanda**	**14.02**	**309**	*e P*	**Pn**	**16 22 57.3**	**-1.6**
	15nm,0.6s						
PSI	**Prapat**	**16.73**	**169**	Pn	**Pn**	**16 23 34.8**	**+0.1**
	0.2nm,0.3s,baz=63,slow=6.8,SNR=1.9						
PSI				LR	LR	16 30 01.3	
	comp=Z,36nm,19.2s,baz=229,slow=37						
MKAR	**Makanchi Array**	**29.54**	**341**	P	**P**	**16 25 45.0**	**0.0**
	1.4nm,0.6s,mb3.9,baz=150,slow=9.8,SNR=20						
SONM	**Songino Array**	**29.66**	**14**	P	**P**	**16 25 47.5**	**+1.5**
	0.7nm,0.7s,mb3.5,baz=192,slow=10,SNR=7.5						
KURK	**Kurchatov**	**34.15**	**340**	*e P*	**P**	**16 26 24.9**	**-0.5**
	0.8nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**54.29**	**134**	P	**P**	**16 29 07.7**	**+1.1**
	0.6nm,0.7s,mb3.7,baz=326,slow=7.3,SNR=6.4						
ASAR	**Alice Springs**	**56.61**	**137**	P	**P**	**16 29 24.6**	**+1.3**
	0.5nm,0.6s,mb3.7,baz=319,slow=6.9,SNR=13						
AKASG	**Malin Array Be**	**60.51**	**318**	P	**P**	**16 29 49.0**	**-1.5**
	0.2nm,0.3s,mb3.7,baz=84,slow=6.1,SNR=4.5						
AKASG	**Malin Array Be**	**60.51**	**318**	P	**P**	**16 29 49.0**	**-1.5**
STKA	**Stephens Creek**	**67.19**	**139**	P	**P**	**16 30 34.3**	**-0.3**
	1.6nm,0.8s,mb4.1,baz=318,slow=9.1,SNR=3.3						
GERES	**GERESS Array B**	**70.59**	**316**	P	**P**	**16 30 56.0**	**+0.4**
	1.0nm,0.6s,mb4.0,baz=77,slow=6.0,SNR=10						
NOA	**NORSAR Array B**	**70.69**	**329**	P	**P**	**16 30 55.6**	**-0.7**
	1.1nm,0.8s,mb3.9,baz=61,slow=6.6,SNR=3.4						
BOSA	**Boshof**	**83.20**	**237**	P	**P**	**16 32 06.1**	**-0.6**
	216nm,0.9s,baz=133,slow=22,SNR=3.7						
ILAR	**Eielson Array**	**83.53**	**23**	P	**P**	**16 32 07.7**	**-0.7**
	0.4nm,0.8s,mb3.6,baz=299,slow=5.3,SNR=8.0						

*SZGRF **19** 16:23:30.6, 24.23S×32.21E, h14km, mb4.8, Mozambique*

*PRE **19** 16:23:37.9±1.5, 21.38S×33.58E, h5km, ML5.8*

*ISCJB **19** 16:23:41.8±0.3, 2162S±005×3333E±005, h13km, mb4.8/37, MS4.8/5, Error ellipse: s-maj=8.3km s-min=4.0km az=95.6*

*IDC **19** 16:23:41.6±0.8, 2157S×3340E, h0km, mb4.3/14, mb1 4.5/21, mb1mx4.4/30, mbtmp4.5/21, ML4.6/6, Error ellipse: s-maj=22.1km s-min=14.2km az=157.0*

*NEIC **19** 16:23:42.9±0.3, 2172S×3356E, mb4.9/16, Error ellipse: s-maj=11.1km s-min=6.9km az=139.0*

NEIC First of 3 events about 3 minutes apart.

*MOS **19** 16:23:42.2±1.0, 2143S×3334E, h10km, mb5.0/15, Error ellipse: s-maj=15.2km s-min=8.2km az=90.9*

*BJI **19** 16:23:42.8, 2170S×3360E, h12km, mB5.3, mb5.1, Ms5.3, Msz5.0*

*HRVD **19** 16:23:42.9±0.6, 2129S×3337E, h16km±2km, MW4.8/32, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s32,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.89±.23; $M_{\theta\theta}$0.01±.16; $M_{\phi\phi}$0.87±.16; $M_{r\theta}$1.23±.78; $M_{\theta\phi}$-1.06±.11; $M_{r\phi}$0.40±.50; Best double couple: $M_0$1.85900×10^{16} NP1:ϕ_s179.00000°, δ49.00000°, λ-31.00000°. NP2: ϕ_s290.00000°, δ67.00000°, λ-135.00000°. Principal axes: T 1.6560, Plg11.0000°, Azm50.0000°; N 0.4040, Plg41.0000°, Azm311.0000°; P -2.0610, Plg47.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 16:23:43.9±0.3, 2159S±004×3336E±005, h14km, h14km±.9km: pP-P, n114, σ1.908/120, mb4.8/37, MS4.8/5, 8C-7D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.69**	**283**	Pn	**Pn**	**16 24 54.4**	**+0.3**
	15nm,0.3s,baz=108,slow=15,SNR=266						
MATP				Sn	**Sn**	**16 25 46.3**	**-2.0**
	175nm,0.3s,baz=23,slow=23,SNR=12						
MATP				Lg		16 26 09.2	
	266nm,0.3s,baz=0.1,slow=18,SNR=7.6						
SLR	**Silverton**	**6.22**	**227**	*e P*	**Pn**	**16 25 16.4**	**+1.2**
SLR				*e S*	**Sn**	**16 26 26.6**	**+0.6**
SLR				AML	AML	16 27 05.4	
	comp=Z,393nm,0.5s						
LBTB	**Lobatse**	**7.91**	**243**	*e P*	**Pn**	**16 25 38.6**	**+0.2**
LBTB				*e S*	**Sn**	**16 27 06.8**	**-0.8**
LBTB				AML	AML	16 28 54.2	
	comp=Z,346nm,0.6s						
LBTB	**Lobatse**	**7.91**	**243**	Pn	**Pn**	**16 25 39.6**	**+1.3**
	comp=Z,19nm,0.3s,baz=65,slow=13,SNR=148						
LBTB				Sn	**Sn**	**16 27 07.0**	**-0.7**
	comp=Z,63nm,0.3s,baz=331,slow=3.1,SNR=6.3						
LBTB				Lg		16 27 50.2	
	comp=Z,39nm,0.3s,baz=177,slow=21,SNR=7.7						
LBTB	**Lobatse**	**7.91**	**243**	*e P*	**Pn**	**16 25 39.1**	**+0.7**
LBTB				*e*		16 27 06.8	
LBTB				pmax	pmax		
	comp=Z,19nm,0.7s						
LBTB	**Lobatse**	**7.91**	**243**	*e*Pn	**Pn**	**16 25 39.1**	**+0.7**
	comp=Z,19nm,0.7s						
LBTB				*e*Sn	**Sn**	**16 27 06.8**	**-0.8**
LBTB				*e*Lg		16 27 50.8	
LSZ	**Lusaka**	**7.97**	**321**	Pn	**Pn**	**16 25 37.3**	**-1.9**
	comp=Z,2.5nm,0.3s,baz=146,slow=14,SNR=45						
LSZ				Sn	**Sn**	**16 26 59.9**	**-9.2**
	comp=Z,40nm,0.3s,baz=124,slow=10,SNR=13						
LSZ				Lg		16 27 46.6	
	comp=Z,198nm,0.3s,baz=239,slow=20,SNR=20						
LSZ	**Lusaka**	**7.97**	**321**	*e P*	**Pn**	**16 25 36.9**	**-2.3**
LSZ				*e*		16 27 00.4	
LSZ	**Lusaka**	**7.97**	**321**	*e*Pn	**Pn**	**16 25 36.9**	**-2.4**
LSZ				*e*Sn	**Sn**	**16 27 00.4**	**-8.7**
LSZ				*e*Lg		16 27 47.2	
SEK	**Senekal**	**8.48**	**217**	*e S*	**Sn**	**16 27 21.4**	**-0.4**
SEK				AML	AML	16 29 16.8	
	comp=Z,491nm,0.7s						
BOSA	**Boshof**	**10.14**	**225**	*e P*	**Pn**	**16 26 09.5**	**+0.6**
BOSA				*e S*	**Sn**	**16 27 59.7**	**-2.7**
BOSA				AML	AML	16 30 05.0	
	comp=Z,141nm,0.7s						
BOSA	**Boshof**	**10.14**	**225**	Pn	**Pn**	**16 26 09.3**	**+0.3**
	comp=Z,5.5nm,0.3s,baz=51,slow=13,SNR=69						
BOSA				Sn	**Sn**	**16 27 58.9**	**-3.5**
	comp=Z,6.0nm,0.3s,baz=107,slow=19,SNR=3.4						
BOSA				Lg		16 29 02.5	
	comp=Z,14nm,0.3s,baz=142,slow=15,SNR=4.9						
BOSA	**Boshof**	**10.14**	**225**	*e*Pn	**Pn**	**16 26 08.7**	**-0.2**
BOSA				*e*Sn	**Sn**	**16 27 58.7**	**-3.7**
PKA	**Prieska**	**12.49**	**228**	*e P*	**Pn**	**16 26 39.0**	**-2.1**
OPO	**Ambohidratompo**	**13.34**	**79**	Pn	**Pn**	**16 26 50.0**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=257,slow=16,SNR=8.1						
OPO				Sn	**Sn**	**16 29 10.1**	**-11**
	comp=Z,4.5nm,0.3s,baz=344,slow=18,SNR=4.3						
TSUM	**Tsumeb**	**14.98**	**276**	Pn	**Pn**	**16 27 13.8**	**-1.3**
	comp=Z,3.3nm,0.3s,baz=105,slow=15,SNR=30						
TSUM				Sn	**Sn**	**16 29 52.9**	**-7.9**
	comp=Z,2.3nm,0.3s,baz=307,slow=17,SNR=3.4						
TSUM				Lg		16 31 30.4	
	comp=Z,3.7nm,0.3s,baz=31,slow=23,SNR=3.4						
TSUM	**Tsumeb**	**14.98**	**276**	*e*Pn	**Pn**	**16 27 12.6**	**-2.6**
TSUM				*e*Sn	**Sn**	**16 29 52.6**	**-8.2**
SUR	**Sutherland**	**15.50**	**223**	*e P*	**Pn**	**16 27 23.1**	**+1.1**
SUR				*e S*	**Sn**	**16 30 08.7**	**-4.7**
SUR	**Sutherland**	**15.50**	**223**	Pn	**Pn**	**16 27 22.6**	**+0.7**
	comp=Z,4.0nm,0.3s,baz=58,slow=15,SNR=39						
SUR				Sn	**Sn**	**16 30 05.7**	**-7.6**
	comp=Z,2.6nm,0.3s,baz=145,slow=22,SNR=6.7						
SUR				Lg		16 31 46.5	
	comp=Z,4.7nm,0.3s,baz=305,slow=16,SNR=3.6						
SUR	**Sutherland**	**15.50**	**223**	*e*Pn	**Pn**	**16 27 22.6**	**+0.6**
	comp=Z,48nm,0.7s						
SUR				*e*Sn	**Sn**	**16 30 04.0**	**-9.4**
CVNA	**Calvinia**	**15.64**	**228**	*e P*	**Pn**	**16 27 25.2**	**+1.4**
CVNA				*e S*	**Sn**	**16 30 11.4**	**-5.5**
CVNA				AML	AML	16 32 41.8	
	comp=Z,192nm,0.7s						
CER	**Ceres**	**17.10**	**224**	*e P*	**Pn**	**16 27 42.5**	**0.0**
KMBO	**Kilima Mbogo**	**20.69**	**11**	P	**P**	**16 28 22.9**	**-0.5**
	comp=Z,11nm,1.1s,baz=188,slow=13,SNR=13						
KMBO	

FUR Furstenfeldbru 72.20 345 *e*P **P 16 35 08.6 +0.3**
FUR pmax pmax
comp=Z,14nm,0.8s,mb4.9
GEC2 GERESS Array S 72.28 347 *e*P **P 16 35 09.4 +0.6**
comp=Z,10.0nm,1.5s,mb4.5
GEC2 GERESS Array S 72.28 347 *e*P **P 16 35 09.4 +0.6**
GEC2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
GERES GERESS Array B 72.28 347 P **P 16 35 09.0 +0.2**
comp=Z,1.4nm,1.0s,mb3.9,baz=152,slow=6.0,SNR=10.0
KHC Kasperske Hory 72.58 347 *e*P **P 16 35 10.1 -0.5**
KSH Kashi 72.66 33 P **P 16 35 10.6 -0.5**
KSH AP pP 16 35 15.5 -0.2
KSH XP sP 16 35 18.1 +0.7
KSH PCP PcP 16 35 30.8 +2.3
KSH PP PP 16 37 53.3 +0.6
KSH S S 16 44 33.3 -2.5
KSH SKS 16 45 11.3
KSH SCS ScS 16 45 13.4 -4.5
KSH SS SS 16 49 13.6 -1.5
KSH AMB AMB
comp=Z,16nm,1.0s,mb4.9
KSH AMB AMB
comp=Z,166nm,4.6s
KSH LR LR
comp=N,316nm,5.2s
KSH LR LR
comp=E,334nm,5.6s
KSH LR LR
comp=Z,253nm,5.7s
ROTZ Rotzenmuhle 73.48 346 *e*P **P 16 35 16.7 +0.8**
comp=Z,8.0nm,1.1s,mb4.6
GRA1 Grafenberg Arr 73.64 345 *e*P **P 16 35 17.4 +0.6**
comp=Z,13nm,1.2s,mb4.7
GRA1 *e*pP pP 16 35 21.4 -0.1
GRF Grafenberg Arr 73.64 345 *e*P **P 16 35 17.4 +0.6**
comp=Z,13nm,1.2s,mb4.7
GRF *e*pP pP 16 35 21.4 -0.1
GRF Grafenberg Arr 73.64 345 *e*P **P 16 35 17.4 +0.6**
GRF *e**PP pP 16 35 21.4 -0.1
GRF pmax pmax
comp=Z,13nm,1.2s,mb4.7
GRF Grafenberg Arr 73.64 345 *e*P **P 16 35 17.4 +0.6**
GRF *e**PP pP 16 35 21.4 -0.1
GRF pmax pmax
comp=Z,13nm,1.2s,mb4.7
MANZ Manzenberg 73.71 346 *e*P **P 16 35 18.2 +1.0**
comp=Z,8.0nm,1.3s,mb4.5
WERD Werda 74.10 346 *e*P **P 16 35 19.8 +0.3**
comp=Z,10.0nm,1.2s,mb4.6
MOX Moxa 74.44 346 *e*P **P 16 35 21.8 +0.3**
comp=Z,12nm,1.4s,mb4.6
CLL Collm 74.75 347 *e*P **P 16 35 23.0 -0.3**
CLL *e*pP pP 16 35 27.0 -1.0
LSA Lhasa 75.45 50 P **P 16 35 26.8 -0.5**
SUW Suwalki 75.80 354 *e*P **P 16 35 29.6 +0.3**
CLZ Clausthal 75.84 346 *e*P **P 16 35 29.3 -0.3**
BUG Bochum--Univer 76.24 344 *e*P **P 16 35 31.5 -0.4**
comp=Z,6.0nm,0.7s,mb4.6
OBN Obninsk 76.44 2 *e*P **P 16 35 31.8 -1.2**
OBN pmax pmax
comp=Z,26nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.2
BDFB Brasilia 76.56 258 P **P 16 35 36.0 +2.3**
comp=Z,13nm,1.1s,mb4.8,baz=124,slow=5.5,SNR=7.5
ZRNK Zerenda 80.42 21 *e*P **P 16 35 53.9 -1.1**
ZRNK *e**PP pP 16 35 57.5 -2.2
ZRNK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ZRNK Zerenda 80.42 21 *e*P **P 16 35 53.9 -1.1**
comp=Z,3.7nm,1.0s,mb4.3
ZRNK *e*pP pP 16 35 57.5 -2.2
ARU Arti 80.58 14 i/P **P 16 35 55.0 -0.9**
ARU *e* 16 38 57.2
ARU *e*PPP 16 40 46.1
ARU *e*S S 16 45 58.0 -4.4
ARU *e*SS SS 16 51 09.7 -5.1
ARU pmax pmax
comp=Z,11nm,1.1s,mb4.7
ARU Arti 80.58 14 *e*P **P 16 35 55.5 -0.4**
comp=Z,9.3nm,1.0s,mb4.7
ARU *e*pP pP 16 35 58.9 -1.6
MKAR Makanchi Array 81.12 32 P **P 16 35 57.6 -1.1**
comp=Z,1.2nm,0.9s,mb3.8,baz=221,slow=4.8,SNR=11
WMQ Urumqi 81.93 36 *e*P **P 16 36 03.3 +0.3**
WMQ AP pP 16 36 08.1 +0.4
WMQ XP sP 16 36 10.3 +0.9
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,78nm,4.0s
WMQ LR LR
comp=N,256nm,22.0s
WMQ LR LR
comp=Z,252nm,21.2s,MS4.5
KURK Kurchatov 82.29 27 *e*P **P 16 36 04.4 -0.5**
KURK *e**PP pP 16 36 08.3 -1.3
KURK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
KURK Kurchatov 82.29 27 *e*P **P 16 36 04.4 -0.6**
comp=Z,9.4nm,1.1s,mb4.6
KURK *e*pP pP 16 36 08.3 -1.3
FINES FINESS Array B 82.95 356 P **P 16 36 08.0 -0.3**
comp=Z,3.4nm,1.0s,mb4.3,baz=104,slow=8.0,SNR=6.6
FINES FINESS Array B 82.95 356 i/P **P 16 36 09.1 +0.8**
SOKR Solikamsk 83.12 12 i/P **P 16 36 09.7 +0.5**
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.2
NB2 NORSAR Subarra 84.26 349 P **P 16 36 15.1 0.0**
comp=Z,11nm,1.2s,mb4.8,baz=153,slow=4.8
NB2 NORSAR Subarra 84.26 349 P **P 16 36 15.1 0.0**
NB2 pmax pmax
comp=Z,11nm,1.2s,mb4.9
NOA NORSAR Array B 84.26 349 P **P 16 36 15.7 +0.6**
comp=Z,2.8nm,0.9s,mb4.4,baz=152,slow=4.6,SNR=3.5
GYA Guiyang 85.55 59 P **P 16 36 22.0 +0.4**
GYA AP pP 16 36 29.9 +3.6
GYA XP sP 16 36 33.1 +5.1
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb5.2
GYA AMB AMB
comp=Z,70nm,3.8s
GYA LR LR
comp=N,460nm,18.4s,MS5.1
GYA LR LR
comp=E,480nm,18.6s,MS5.1
GYA LR LR
comp=Z,430nm,19.0s,MS4.9
GTA Gaotai 86.75 45 *e*P **P 16 36 28.0 +0.5**
GTA AP pP 16 36 31.4 -0.8
GTA XP sP 16 36 34.8 +0.9
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.8
NVS Novosibirsk 87.22 26 *e*P **P 16 36 27.4 -2.4**
LZH Lanzhou 87.86 50 *e*P **P 16 36 33.1 +0.3**
LZH AP pP 16 36 38.0 +0.4
LZH XP sP 16 36 40.1 +0.8
LZH AMB AMB
comp=Z,29nm,1.6s,mb5.3
LZH AMB AMB
comp=Z,100nm,4.5s
LZH LR LR
comp=N,356nm,17.6s
LZH LR LR
comp=Z,852nm,18.2s,MS5.2
SONM Songino Array 95.01 40 P **P 16 37 04.9 -1.2**
comp=Z,0.2nm,0.7s,baz=277,slow=5.2,SNR=3.6
HHC Hu-ho-hao-te 95.39 48 *e*P **P 16 37 09.3 +1.5**
HHC AP pP 16 37 13.8 +1.2
HHC XP sP 16 37 16.3 +2.0
HHC AMB AMB
comp=Z,14nm,0.3s
HHC AMB AMB
comp=Z,95nm,6.2s
HHC LR LR
comp=N,141nm,4.9s
HHC LR LR
comp=E,96nm,5.7s
HHC LR LR
comp=Z,169nm,5.6s
NJ2 Nanjing 97.53 59 *e*P **P 16 37 19.3 +1.8**
NJ2 AP pP 16 37 24.0 +1.7
NJ2 XP sP 16 37 26.3 +2.3
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.6
NJ2 AMB AMB
comp=Z,220nm,12.0s
NJ2 LR LR
comp=N,1μm,19.9s,MS5.5
NJ2 LR LR
comp=E,970nm,22.3s,MS5.5
NJ2 LR LR
comp=Z,310nm,23.8s,MS4.7
SSE Sheshan 99.08 60 *e*P **P 16 37 24.8 +0.4**
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.8
SSE AMB AMB
comp=Z,104nm,3.7s
SEY Seymchan 122.13 28 i/PKIKP PKPdf 16 42 37.6 -0.5
BILL Bilibino 125.26 20 *i* PKIKP PKPdf 16 42 42.6 -1.5
YKA Yellowknife Ar 133.65 340 PKP PKPdf 16 43 00.2 +0.2
comp=Z,0.8nm,0.7s,baz=39,slow=2.2,SNR=11
PDAR Pinedale Array 142.58 313 PKP PKPdf 16 43 14.7 -1.8
comp=Z,1.0nm,0.9s,baz=73,slow=5.1,SNR=6.4
SRU San Rafael 144.56 308 *e*PKIKP PKPdf 16 43 20.3 +0.4
TMUT Trail Mountain 145.00 308 *e*PKPdf PKPdf 16 43 22.1 +1.4
HLID Hailey 145.44 317 *e*PKPdf PKPdf 16 43 23.8 +2.4
MSU Marysvale 145.98 307 *e*PKP2 PKPab 16 43 25.5 +1.9
TUC Tucson 146.44 296 *e*PKPab PKPab 16 43 27.0 +1.6
BMO Blue Mountains 146.54 321 *e*PKIKP PKPdf 16 43 26.0 +2.7
NVAR Mina Array Bea 150.44 311 PKPbc PKPbc 16 43 33.0 -2.0
comp=Z,3.5nm,1.0s,baz=63,slow=2.1,SNR=13

*ISCJB **19** 16:24:06.7±4.0,2105S±009×3351E±008,h8km±24km, mb4.5/24,MS5.0/2,Error ellipse: s-maj=17.7km s-min=8.7km az=102.6*
*BJI **19** 16:24:06.9,2102S×3378E,h10km,mB5.5,mb5.1,Ms5.3, Msz5.0*
*MOS **19** 16:24:07.3±0.9,2098S×3346E,h10km,mb4.8/6,Error ellipse: s-maj=21.1km s-min=12.7km az=67.3*
*IDC **19** 16:24:07.2±0.7,2102S×3365E,h0km,mb4.3/12, mb1 4.5/15,mb1mx4.4/24,mbtmp4.4/15,ML4.9/3,Error ellipse: s-maj=26.5km s-min=20.1km az=96.0*
*NEIC **19** 16:24:08.9±0.4,2102S×3355E,h10km,mb4.6/5,Error ellipse: s-maj=15.7km s-min=9.1km az=120.0*
ISC 19 16:24:08.2±4.7,2104S±009×3360E±008,h7km±28km, h17km±2.1km:pP-P,n46,σ0§67/40,mb4.5/24,MS5.0/2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**8.37**	**240**	Pn	**Pn**	**16 26 10.4**	**+0.5**
	17nm,0.3s,baz=64,slow=11,SNR=11						
LBTB	**Lobatse**	**8.37**	**240**	*e*P	**Pn**	**16 26 10.0**	**+0.1**
LBTB						16 27 44.5	
LBTB	**Lobatse**	**8.37**	**240**	*e*Pn	**Pn**	**16 26 10.0**	**+0.1**
LBTB				Sn	**Sn**	**16 27 44.5**	**-0.1**
LBTB				Lg		16 28 30.4	
BOSA	**Boshof**	**10.69**	**223**	Pn	**Pn**	**16 26 41.6**	**-0.1**
	5.9nm,0.3s,baz=55,slow=14,SNR=7.9						
TSUM	**Tsumeb**	**15.16**	**274**	Pn	**Pn**	**16 27 49.1**	**+6.4**
SUR	**Sutherland**	**16.05**	**223**	Pn	**Pn**	**16 27 55.3**	**+0.9**
	4.3nm,0.3s,baz=64,slow=13,SNR=8.3						
SUR	**Sutherland**	**16.05**	**223**	Pn	**Pn**	**16 27 53.0**	**-1.4**
TORD	**Torodi Ar. Bea**	**46.23**	**315**	P	**P**	**16 32 32.4**	**-1.5**
	2.6nm,0.8s,mb4.2,baz=125,slow=7.0,SNR=3.6						
DBIC	**Dimbokro**	**46.73**	**302**	P	**P**	**16 32 38.5**	**+0.6**
DBIC				*e*		16 32 45.9	
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DBIC	**Dimbokro**	**46.73**	**302**	P	**P**	**16 32 38.5**	**+0.6**
	comp=Z,7.2nm,0.9s,mb4.6						
DBIC				*e*		16 32 45.9	
BRTR	**Keskin Array B**	**60.45**	**0**	P	**P**	**16 34 19.3**	**+0.8**
	comp=Z,2.8nm,0.9s,mb4.3,baz=176,slow=9.0,SNR=8.1						
PSZ	**Piszkesteto**	**69.73**	**350**	P	**P**	**16 35 19.5**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
PSZ	**Piszkesteto**	**69.73**	**350**	P	**P**	**16 35 19.5**	**+0.7**
	comp=Z,5.8nm,1.1s,mb4.4						
ESDC	**Sonseca Array**	**69.85**	**330**	P	**P**	**16 35 20.2**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=150,slow=5.5,SNR=3.5						
AKASG	**Malin Array Be**	**71.53**	**357**	P	**P**	**16 35 29.4**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.3,baz=177,slow=5.8,SNR=9.3						
GERES	**GERESS Array B**	**71.80**	**346**	P	**P**	**16 35 32.0**	**+0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=165,slow=5.5,SNR=8.1						
CLL	**Collm**	**74.27**	**347**	*e*P	**P**	**16 35 47.0**	**+0.9**
VNDA	**Vanda**	**77.14**	**170**	P	**P**	**16 36 03.0**	**+0.5**
	comp=Z,2.5nm,0.9s,mb4.1,baz=265,slow=6.1,SNR=3.5						
ZRNK	**Zerenda**	**79.83**	**21**	*e*P	**P**	**16 36 16.4**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**79.83**	**21**	*e*P	**P**	**16 36 16.4**	**-0.9**
	comp=Z,2.4nm,0.9s,mb4.1						
ARU	**Arti**	**80.00**	**14**	*e*P	**P**	**16 36 17.5**	**-0.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ARU	**Arti**	**80.00**	**14**	*e*P	**P**	**16 36 17.5**	**-0.8**
	comp=Z,5.4nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**80.54**	**32**	P	**P**	**16 36 20.6**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.1,baz=225,slow=6.7,SNR=11						
WMQ	**Urumqi**	**81.36**	**36**	*e*P	**P**	**16 36 25.8**	**+0.3**
KURK	**Kurchatov**	**81.70**	**27**	*e*P	**P**	**16 36 27.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**81.70**	**27**	*e*P	**P**	**16 36 27.1**	**-0.3**
	comp=Z,7.7nm,1.0s,mb4.6						
FINES	**FINESS Array B**	**82.41**	**356**	P	**P**	**16 36 30.5**	**-0.6**
	comp=Z,3.7nm,1.0s,mb4.3,baz=167,slow=9.6,SNR=5.1						
NOA	**NORSAR Array B**	**83.77**	**349**	P	**P**	**16 36 38.5**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.3,baz=153,slow=4.8,SNR=3.6						
CD2	**Chengdu**	**84.83**	**54**	*e*P	**P**	**16 36 43.3**	**-0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,40nm,7.8s						
GYA	**Guiyang**	**85.08**	**59**	P	**P**	**16 36 44.8**	**+0.1**
GYA				AP	pP	16 36 52.6	+5.5
GYA				XP	sP	16 36 55.8	+7.9
GYA				PP	PP	16 40 01.3	-0.4
GYA				SKS		16 47 07.9	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,70nm,4.2s						
GYA				LR	LR		
	comp=N,340nm,18.6s,MS4.9						
GYA				LR	LR		
	comp=E,380nm,18.8s,MS4.9						
GYA				LR	LR		
	comp=Z,390nm,19.2s,MS4.8						
GTA	**Gaotai**	**86.20**	**45**	*e*P	**P**	**16 36 50.8**	**+0.5**
GTA				AP	pP	16 36 54.5	+1.8
GTA				XP	sP	16 36 56.8	+3.3
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb5.0						
LZH	**Lanzhou**	**87.33**	**50**	*e*P	**P**	**16 36 56.5**	**+0.6**
LZH				AP	pP	16 37 01.5	+3.3
LZH				XP	sP	16 37 03.6	+4.5
LZH				AMB	AMB		
	comp=Z,26nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,109nm,6.2s						
ASAR	**Alice Springs**	**90.61**	**116**	P	**P**	**16 37 12.2**	**+0.9**
	comp=Z,2.5nm,0.8s,mb4.6,baz=243,slow=4.0,SNR=11						
STKA	**Stephens Creek**	**93.32**	**126**	P	**P**	**16 37 23.3**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.6,baz=103,slow=2.2,SNR=4.1						
ZAK	**Zakamensk**	**93.81**	**37**	*e*P	**P**	**16 37 25.3**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.8						
SONM	**Songino Array**	**94.45**	**40**	P	**P**	**16 37 27.9**	**-1.1**
	comp=Z,0.9nm,0.8s,mb4.3,baz=236,slow=6.0,SNR=8.4						
HHC	**Hu-ho-hao-te**	**94.86**	**48**	*e*P	**P**	**16 37 31.8**	**+0.9**
HHC				AP	pP	16 37 36.3	+3.0
HHC				XP	sP	16 37 38.5	+4.4
HHC				AMB	AMB		
	comp=Z,5.0nm,0.2s,mb5.6						
HHC				AMB	AMB		
	comp=Z,148nm,5.2s						
HHC				LR	LR		
	comp=N,115nm,4.1s						
HHC				LR	LR		
	comp=E,43nm,5.3s						
HHC				LR	LR		
	comp=Z,169nm,5.7s						
NJ2	**Nanjing**	**97.05**	**59**	*e*P	**P**	**16 37 40.6**	**-0.3**
NJ2				AP	pP	16 37 45.4	+2.1
NJ2				XP	sP	16 37 47.6	+3.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,220nm,12.0s						
NJ2				LR	LR		
	comp=N,370nm,19.6s,MS5.1						
NJ2				LR	LR		
	comp=E,570nm,22.3s,MS5.1						
NJ2				LR	LR		
	comp=Z,1μm,23.5s,MS5.3						
SSE	**Sheshan**	**98.61**	**60**	*e*P	**P**	**16 37 47.6**	**-0.3**
SSE				AMB	AMB		
	comp=Z,96nm,5.3s						
YKA	**Yellowknife Ar**	**133.22**	**340**	PKP	PKPdf	16 43 23.4	-1.3
	comp=Z,0.2nm,0.6s,baz=36,slow=1.9,SNR=2.9						
SRU	**San Rafael**	**144.40**	**308**	*e*PKIKP	PKPdf	16 43 45.2	0.0
TMUT	**Trail Mountain**	**144.84**	**309**	*e*PKPdf	PKPdf	16 43 46.4	+0.5
HLID	**Hailey**	**145.19**	**318**	*e*PKPdf	PKPdf	16 43 47.5	+1.0
MSU	**Marysvale**	**145.82**	**308**	*e*PKP2	PKPab	16 43 50.6	+2.1
BMO	**Blue Mountains**	**146.25**	**322**	*e*PKIKP	PKPdf	16 43 50.2	+1.8
NVAR	**Mina Array Bea**	**150.25**	**312**	PKPbc	PKPbc	16 44 01.6	+1.5
	comp=Z,2.9nm,0.8s,baz=59,slow=1.9,SNR=4.0						

*IDC **19** 16:24:13.6±0.9,2132S×3368E,h0km,mb4.3/11, mb1 4.3/11,mb1mx4.2/22,mbtmp4.3/11,Error ellipse: s-maj=35.0km s-min=20.6km az=86.0*
*ISCJB **19** 16:24:14.0±0.7,2125S±01×337E±02,h10km,mb4.2/11, Error ellipse: s-maj=30.2km s-min=15.3km az=177.9*
ISC 19 16:24:16.3±0.8,2115S±01×337E±02,h10km,n15,σ1§12/15, mb4.2/11,4D,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**46.33**	**315**	P	**P**	**16 32 41.7**	**-0.6**
	5.8nm,0.7s,mb4.6,baz=128,slow=7.1,SNR=7.4						
DBIC	**Dimbokro**	**46.82**	**302**	P	**P**	**16 32 45.4**	**-0.8**
	4.2nm,0.8s,mb4.4,baz=129,slow=13,SNR=4.4						
MAW	**Mawson**	**49.97**	**166**	P	**P**	**16 33 06.6**	**-3.9**
	2.8nm,0.7s,mb4.4,baz=323,slow=10,SNR=2.8						
SNAA	**Sanae**	**54.74**	**193**	P	**P**	**16 33 43.9**	**-2.0**
	2.0nm,0.9s,mb4.1,baz=72,slow=7.4,SNR=3.6						
VNA2	**Neumayer--Watz**	**55.27**	**195** ‖	*i*P	**P**	**16 33 51.7**	**+2.0**
VNA2	**Neumayer--Watz**	**55.27**	**195** ‖	*i*P	**P**	**16 33 51.7**	**+2.0**
	baz=18,slow=7.2						
VNA3	**Neumayer Olymp**	**56.04**	**196** ‖	*i*P	**P**	**16 33 56.3**	**+1.0**
VNA3	**Neumayer Olymp**	**56.04**	**196** ‖	*i*P	**P**	**16 33 56.3**	**+1.0**
BRTR	**Keskin Array B**	**60.53**	**360**	P	**P**	**16 34 27.8**	**+1.1**
	1.8nm,0.7s,mb4.3,baz=177,slow=11,SNR=5.5						
ESDC	**Sonseca Array**	**69.95**	**330**	P	**P**	**16 35 28.2**	**+0.4**
	1.0nm,0.8s,mb3.8,baz=144,slow=5.5,SNR=4.3						
AKASG	**Malin Array Be**	**71.61**	**357**	P	**P**	**16 35 37.7**	**-0.2**
	1.6nm,0.6s,mb4.1,baz=182,slow=5.9,SNR=6.2						
GERES	**GERESS Array B**	**71.89**	**346**	P	**P**	**16 35 40.4**	**+0.8**
	1.2nm,0.8s,mb3.9,baz=152,slow=6.0,SNR=5.7						
BDFB	**Brasilia**	**76.93**	**258**	P	**P**	**16 36 09.3**	**+0.4**
	6.3nm,0.7s,mb4.6,baz=119,slow=6.7,SNR=6.0						
MKAR	**Makanchi Array**	**80.58**	**32**	P	**P**	**16 36 28.4**	**-0.5**
	0.7nm,0.6s,mb3.8,baz=212,slow=5.2,SNR=4.3						
FINES	**FINESS Array B**	**82.50**	**356**	P	**P**	**16 36 38.4**	**-0.7**
	2.2nm,0.9s,mb4.1,baz=215,slow=6.8,SNR=3.3						

*ISCJB **19** 16:26:43.0±0.8,2115S±02×335E±01,h10km,mb4.2/14, MS4.6/1,Error ellipse: s-maj=25.5km s-min=18.1km az=143.8*
*BJI **19** 16:26:42.5,2110S×3336E,h15km,mB5.2,mb4.7,Ms5.2, Msz5.0*
*IDC **19** 16:26:42.2±1.6,2122S×3362E,h0km,mb4.2/10, mb1 4.3/10,mb1mx4.1/21,mbtmp4.1/10,Error ellipse: s-maj=49.7km s-min=31.0km az=135.0*
*NEIC **19** 16:26:44.4±1.2,2113S×3337E,mb4.2/4,Error ellipse: s-maj=50.2km s-min=29.5km az=127.0*
ISC 19 16:26:44.5±0.8,2125S±02×336E±01,h10km, (h16km±.8km:pP-P),n31,σ1§14/20,mb4.2/14,MS4.6/1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.76**	**318**	*e*Lg		16 30 46.0	
LBTB	**Lobatse**	**8.28**	**241**	*e*Lg		16 30 49.2	
KMBO	**Kilima Mbogo**	**20.23**	**11**	P	**P**	**16 31 21.1**	**+1.5**
	3.6nm,1.2s						
TORD	**Torodi Ar. Bea**	**46.28**	**315**	P	**P**	**16 35 11.1**	**+0.9**
	4.9nm,0.9s,mb4.5,baz=126,slow=7.0,SNR=4.1						
DBIC	**Dimbokro**	**46.76**	**302**	P	**P**	**16 35 12.8**	**-1.1**
	2.3nm,0.5s,mb4.3,baz=119,slow=10,SNR=6.4						
DBIC	**Dimbokro**	**46.76**	**302**	*e*P	**P**	**16 35 11.6**	**-2.3**
	3.0nm,0.6s,mb4.4						
DBIC				*e*pP	pP	16 35 15.9	-1.1
BRTR	**Keskin Array B**	**60.56**	**0**	P	**P**	**16 36 55.5**	**+0.5**
	1.1nm,0.8s,mb4.1,baz=179,slow=8.6,SNR=4.3						
ESDC	**Sonseca Array**	**69.92**	**330**	P	**P**	**16 37 56.3**	**+0.6**
	1.8nm,0.9s,mb4.0,baz=142,slow=7.6,SNR=3.0						
AKASG	**Malin Array Be**	**71.64**	**357**	P	**P**	**16 38 05.1**	**-1.1**
	0.2nm,0.2s,mb3.7,baz=179,slow=5.5,SNR=4.2						
GERES	**GERESS Array B**	**71.90**	**346**	P	**P**	**16 38 08.9**	**+1.1**
	0.1nm,0.8s,mb3.8,baz=163,slow=5.6,SNR=4.5						
BDFB	**Brasilia**	**76.83**	**258**	P	**P**	**16 38 38.1**	**+1.6**
	5.3nm,0.7s,mb4.6,baz=138,slow=5.3,SNR=6.4						
ZRNK	**Zerenda**	**79.95**	**21**	P	**P**	**16 38 52.4**	**-1.4**
	1.4nm,0.8s,mb3.9						
ARU	**Arti**	**80.11**	**14**	*e*P	**P**	**16 38 51.8**	**-2.8**
	4.2nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**80.65**	**32**	P	**P**	**16 38 57.4**	**-0.1**
	0.7nm,0.7s,mb3.7,baz=232,slow=6.0,SNR=3.9						
WMQ	**Urumqi**	**81.47**	**36**	*e*P	**P**	**16 39 02.8**	**+0.9**
WMQ				AP	pP	16 39 07.6	+2.4
WMQ				XP	sP	16 39 09.8	+3.4
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,63nm,4.0s						
WMQ				LR	LR		
	comp=N,266nm,22.2s						
WMQ				LR	LR		
	comp=Z,272nm,21.4s,MS4.6						
KURK	**Kurchatov**	**81.82**	**27**	*e*P	**P**	**16 39 02.9**	**-0.8**
KURK				*e*pP	pP	16 39 06.9	-0.1
FINES	**FINESS Array B**	**82.52**	**356**	P	**P**	**16 39 05.5**	**-1.9**
	comp=Z,1.9nm,0.8s,mb4.2,baz=193,slow=5.7,SNR=4.0						
LZH	**Lanzhou**	**87.44**	**50**	*e*P	**P**	**16 39 31.5**	**-0.6**
LZH				AP	pP	16 39 37.1	+1.7
LZH				XP	sP	16 39 40.1	+3.5
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.3						
LPAZ	**La Paz**	**94.69**	**251**	P	**P**	**16 40 05.3**	**-0.5**
	comp=Z,1.0nm,0.8s,mb4.3,baz=87,slow=5.4,SNR=3.7						
HHC	**Hu-ho-hao-te**	**94.96**	**48**	*e*P	**P**	**16 40 07.8**	**+0.7**
HHC				AP	pP	16 40 12.6	+2.1
HHC				XP	sP	16 40 14.6	+2.9
HHC				PP	PP	16 44 00.3	+4.1
HHC				SKS		16 50 41.6	
HHC				S		16 51 19.8	
HHC				XS	sS	16 51 27.5	+0.4
HHC				SS	SS	16 57 49.8	+3.5
HHC				AMB	AMB		
	comp=Z,58nm,6.1s						
HHC				LR	LR		
	comp=N,77nm,4.9s						
HHC				LR	LR		
	comp=E,117nm,4.9s						
HHC				LR	LR		
	comp=Z,153nm,5.5s						
NJ2	**Nanjing**	**97.14**	**59**	*e*P	**P**	**16 40 17.8**	**+0.8**
SSE	**Sheshan**	**98.69**	**60**	*e*P	**P**	**16 40 24.5**	**+0.5**
SSE				AMB	AMB		
	comp=Z,15nm,3.5s						
YKA	**Yellowknife Ar**	**133.31**	**340**	PKP	PKPdf	16 45 58.8	-1.9
	comp=Z,0.6nm,0.6s,baz=40,slow=2.2,SNR=9.7						
PDAR	**Pinedale Array**	**142.42**	**314**	PKhKP		16 46 12.9	
	comp=Z,0.4nm,0.8s,baz=62,slow=6.2,SNR=2.0						
SRU	**San Rafael**	**144.44**	**308**	*e*PKP	PKPdf	16 46 18.9	-2.1
TMUT	**Trail Mountain**	**144.88**	**309**	*e*PKP	PKPdf	16 46 20.8	-0.9
HLID	**Hailey**	**145.25**	**317**	*e*PKP	PKPdf	16 46 22.4	+0.1
MSU	**Marysvale**	**145.86**	**308**	*e*PKP	PKPdf	16 46 24.5	+1.1
BMO	**Blue Mountains**	**146.32**	**321**	*e*PKP	PKPdf	16 46 24.9	+0.7
TUC	**Tucson**	**146.42**	**297**	PKP	PKPdf	16 46 25.2	+0.8
NVAR	**Mina Array Bea**	**150.29**	**312**	PKPbc	PKPbc	16 46 36.5	+0.6
	comp=Z,1.7nm,0.8s,baz=68,slow=3.1,SNR=4.6						

*ISCJB **19** 17:02:36.3±5.2, 122N±009×1265E±02, h79km±51km, mb4.0/10, Error ellipse: s-maj=28.3km s-min=11.2km az=135.8*
*NEIC **19** 17:02:36.2±2.9, 121N×12658E, h60km±30km, mb4.2/3, Error ellipse: s-maj=16.3km s-min=7.2km az=67.0*
*IDC **19** 17:02:37.2±4.3, 1.15N×12655E, h70km±40km, mb3.7/8, mb1 3.9/9, mb1mx3.7/18, mbtmp4.0/9, ML4.3/1, Error ellipse: s-maj=44.8km s-min=11.2km az=74.0*
ISC 19 17:02:36.2±2.7, 121N±007×1266E±01, h59km±27km, n21, σ0°74/22, mb4.1/10, 3D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	16.25	271	P	Pn	17 06 21.1	+0.5
FITZ	Fitzroy Crossi	19.21	183	⇓iP	Pn	17 06 54.6	-2.1
	3.9nm,0.4s						
FITZ	Fitzroy Crossi	19.21	183	P	Pn	17 06 54.7	-2.0
	0.7nm,0.3s,baz=15,slow=12,SNR=12						
WRAB	Tennant Creek	22.35	160	eP	P	17 07 29.8	+0.6
	18nm,0.8s,mb4.5						
WRA	Warramunga Arr	22.36	160	P	P	17 07 29.4	+0.2
	4.7nm,0.4s,mb4.3,baz=337,slow=11,SNR=107						
WRA				S	S	17 11 31.2	-0.3
	1.6nm,1.1s,baz=336,slow=17,SNR=4.3						
WB2	Warramunga Arr	22.36	160	eP	P	17 07 29.5	+0.3
MBWA	Marble Bar	23.21	196	eP	P	17 07 37.6	-0.5
AS31	Alice Springs	25.73	164	⇓iP	P	17 08 01.9	+0.8
ASPA	Alice Springs	25.73	164	⇓iP	P	17 08 01.9	+0.8
ASAR	Alice Springs	25.73	164	P	P	17 08 01.4	+0.3
	5.8nm,0.8s,mb4.1,baz=349,slow=15,SNR=82						
NWAO	Narrogin (SRO)	35.07	194	P	P	17 09 23.3	-0.2
	1.8nm,0.5s,mb4.3,baz=36,slow=12,SNR=5.7						
NWAO	Narrogin (SRO)	35.07	194	eP	P	17 09 24.2	+0.7
STKA	Stephens Creek	35.85	158	P	P	17 09 29.6	-0.7
	3.6nm,0.6s,mb4.5,baz=335,slow=9.8,SNR=11						
STKA	Stephens Creek	35.85	158	eP	P	17 09 29.5	-0.7
MAT	Matsushiro	36.78	16	P	P	17 09 37.3	-0.8
MAT	Matsushiro	36.78	16	P	P	17 09 37.0	-1.1
MJAR	Matsushiro Arr	36.78	16	P	P	17 09 38.3	+0.2
	0.8nm,0.4s,mb3.9,baz=177,slow=9.1,SNR=4.3						
SONM	Songino Array	49.63	342	P	P	17 11 22.8	+1.1
	0.3nm,0.6s,mb3.5,baz=170,slow=6.7,SNR=2.9						
MKAR	Makanchi Array	59.53	326	P	P	17 12 33.1	-0.3
	0.3nm,0.3s,mb3.8,baz=124,slow=8.1,SNR=14						
KURK	Kurchatov	63.77	328	eP	P	17 13 01.3	-0.7
	1.8nm,0.6s,mb4.3						
BVAR	Borovoye Array	69.34	328	P	P	17 13 37.6	+0.1
	0.3nm,0.6s,mb3.4,baz=132,slow=4.3,SNR=3.7						

*ISCJB **19** 17:13:08.2±2.6, 373N±02×720E±03, h169km±42km, Error ellipse: s-maj=53.8km s-min=8.9km az=108.8*
*NNC **19** 17:13:11.3±6.4, 3781N×7067E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=80.4km s-min=48.9km az=98.0*
ISC 19 17:13:08.1±2.8, 373N±02×720E±03, h150km±40km, n11, σ0°79/13, 6C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.92	350	⇑Pn	Pn	17 14 36.3	+2.6
	0.7nm,0.3s,baz=168,slow=12,SNR=30						
KK31				⇑Sn	Sn	17 15 39.8	-0.9
	3.9nm,0.2s,baz=173,slow=22,SNR=23						
KOLN	Koldanda	13.64	131	eP	Pn	17 16 16.3	+0.9
GKN	Gorkha	14.12	127	eP	Pn	17 16 20.7	-0.8
	10.0nm,0.3s						
KKN	Kakani	14.68	126	eP	Pn	17 16 28.0	-0.4
DMN	Daman	14.69	127	eP	Pn	17 16 27.9	-0.7
AB31	Akbulak array	14.80	328	⇑Pn	Pn	17 16 29.4	-0.6
	0.6nm,0.6s,baz=136,slow=13,SNR=5.7						
AB31				⇑Sn	Sn	17 19 04.1	-10
	0.6nm,0.5s,baz=154,slow=22,SNR=4.9						
GUN	Gumba	14.99	125	eP	Pn	17 16 32.6	+0.3
	7.6nm,0.6s						
JIRN	Jiri	15.36	125	eP	Pn	17 16 37.2	+0.3
	7.9nm,0.4s						
BVA0	Borovoye Array	15.79	357	P	Pn	17 16 42.3	+0.1
	1.8nm,2.1s,baz=164,slow=11,SNR=9.2						
ZRNK	Zerenda	15.81	353	⇑P	Pn	17 16 43.1	+0.7
	1.4nm,0.5s						
AKTO	Aktyubinsk	16.51	327	⇑P	Pn	17 16 50.9	-0.1
	0.9nm,1.0s						

IDC 19 17:30:20.0±1.9, 127N×12539E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=177.4km s-min=24.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.84	158	P	P	17 35 25.2	+0.6
	0.9nm,0.4s,baz=336,slow=11,SNR=43						
WB2	Warramunga Arr	22.84	158	eP	P	17 35 26.1	+1.5
ASAR	Alice Springs	26.13	162	P	P	17 35 55.8	+0.1
	0.6nm,0.5s,baz=353,slow=7.6,SNR=32						
MKAR	Makanchi Array	58.83	327	P	P	17 40 20.4	+0.2
	0.4nm,0.4s,baz=120,slow=8.0,SNR=5.9						

IDC 19 17:34:19.9±2.6, 748S×11862E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.5/16, mbtmp3.4/4, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/19, Error ellipse: s-maj=175.6km s-min=23.2km az=55.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.64	131	P	Pn	17 38 50.7	-0.7
	0.2nm,0.3s,baz=305,slow=12,SNR=11						
WB2	Warramunga Arr	19.65	131	eP	Pn	17 38 50.7	-0.8
ASAR	Alice Springs	21.78	139	P	P	17 39 13.4	+0.2
	0.2nm,0.3s,baz=314,slow=8.7,SNR=13						
PMG	Port Moresby	28.30	96	LR	LR	17 53 36.2	
	comp=Z,83nm,18.9s,baz=14,slow=41						
SONM	Songino Array	56.12	350	P	P	17 44 01.0	-0.1
	0.2nm,0.4s,baz=162,slow=9.2,SNR=5.4						
MKAR	Makanchi Array	62.94	333	P	P	17 44 48.4	+0.3
	0.6nm,0.7s,baz=152,slow=8.1,SNR=5.6						

IGQ 19 17:41:46.3, 421S×8102W, h25km, Mb4.1, Ms3.9, 5C-3D, Error ellipse: s-maj=33.0km s-min=13.1km az=121.9, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	3.60	41	P	Pn	17 42 42.2	+1.7
ARRY	Arrayan	3.71	44	⇑P	Pn	17 42 43.8	+1.8
PATA	Patacocha	3.73	44	⇑P	Pn	17 42 49.5	+7.3
PATA				S	Sn	17 43 22.1	-3.3
JUIV	Juive	3.77	43	⇓P	Pn	17 42 47.4	+4.6
ULBA	Ulba	3.79	44	P	Pn	17 42 45.3	+2.3
QIL1	Quilotoa	3.94	32	P	Pn	17 42 45.9	+0.7
PISA	Pisayambo	4.09	40	P	Pn	17 42 50.8	+3.5
MAG1	Magdalena	4.29	17	P	Pn	17 42 52.3	+2.3
CAMI	Rancho Maria	4.32	36	⇓P	Pn	17 42 53.2	+2.8
TAMB	Tambo	4.38	37	P	Pn	17 42 55.2	+3.9
VC1	Cotopaxi 1	4.40	36	P	Pn	17 42 55.1	+3.5
JUA2	San Juan 2	4.64	31	P	Pn	17 42 58.6	+3.7
TERV	Terraza Guagua	4.68	31	P	Pn	17 42 58.3	+3.0
GGP	Refugio Guagua	4.68	31	P	Pn	17 42 57.6	+2.2
PINO	Pino	4.69	31	⇑P	Pn	17 42 58.7	+3.2
PINO				S	Sn	17 43 51.1	+2.0
ANTI	Antisana	4.70	37	⇑P	Pn	17 42 59.0	+3.3
YANA	Yana	4.74	31	⇑P	Pn	17 42 59.5	+3.2
ANGU	Angureal	5.19	36	⇓P	Pn	17 43 05.5	+3.1

*ISCJB **19** 17:41:49.4±0.6, 224S±0.1×1235W±009, h10km, mb4.0/13, MS3.7/9, Error ellipse: s-maj=17.7km s-min=11.7km az=165.4*
*IDC **19** 17:41:49.7±0.9, 2244S×1233W, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/23, mbtmp4.1/12, MS3.7/9, Ms1 3.7/9, ms1mx3.5/26, Error ellipse: s-maj=26.1km s-min=17.9km az=178.0*
*NEIC **19** 17:41:51.3±0.5, 2246S×1236W, h10km, mb4.5/4, Error ellipse: s-maj=17.5km s-min=10.6km az=175.0*
ISC 19 17:41:51.6±0.6, 224S±01×1236W±009, h10km, n22, σ0°76/18, mb4.0/13, MS3.7/9, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	Tsumeb	28.15	89	P	P	17 47 43.5	-0.4
	3.3nm,0.7s,mb4.1,baz=246,slow=12,SNR=7.7						
TSUM				LR	LR	17 56 38.3	
	comp=Z,95nm,20.4s,MS3.4,baz=238,slow=32						
TSUM	Tsumeb	28.15	89	eP	P	17 47 45.2	+1.4
	2.9nm,0.6s,mb4.1						
TSUM				LR	LR	17 56 38.3	
DBIC	Dimbokro	29.81	15	P	P	17 47 57.9	-0.8
	1.8nm,0.9s,mb3.8,baz=163,slow=11,SNR=2.6						
DBIC				LR	LR	17 57 03.6	
	comp=Z,59nm,19.9s,MS3.2,baz=177,slow=31						
SUR	Sutherland	30.98	116	LR	LR	17 57 33.3	
	comp=Z,124nm,19.6s,MS3.6,baz=172,slow=30						
SUR	Sutherland	30.98	116	eP	P	17 48 09.3	+0.4
BDFB	Brasilia	34.31	275	P	P	17 48 37.5	-0.7
	2.8nm,0.8s,mb4.3,baz=88,slow=9.6,SNR=3.7						
BDFB				LR	LR	17 59 55.0	
	comp=Z,150nm,18.5s,MS3.8,baz=112,slow=32						
BOSA	Boshof	34.41	108	P	P	17 48 38.1	-0.9
	4.6nm,0.8s,mb4.5,baz=279,slow=8.2,SNR=16						
BOSA				LR	LR	17 59 59.4	
	comp=Z,108nm,20.6s,MS3.6,baz=181,slow=32						
BOSA	Boshof	34.41	108	eP	P	17 48 38.4	-0.5
	4.4nm,0.7s,mb4.5						
BOSA				LR	LR	17 59 59.4	
LBTB	Lobatse	34.78	102	P	P	17 48 42.4	+0.2
	4.4nm,0.9s,mb4.4,baz=291,slow=16,SNR=4.5						
LBTB	Lobatse	34.78	102	P	P	17 48 41.0	-1.1
	8.2nm,1.1s,mb4.6						
TORD	Torodi Ar. Bea	37.92	23	P	P	17 49 08.2	-0.8
	4.4nm,0.6s,mb4.4,baz=199,slow=8.9,SNR=28						
LSZ	Lusaka	38.93	87	P	P	17 49 17.2	-0.3
	0.8nm,0.5s,mb3.7,baz=259,slow=10,SNR=2.9						
TRQA	Tornquist	45.10	238	P	P	17 50 07.7	-0.2
	11nm,1.0s,mb4.6						
SIV	San Ignacio	46.29	269	P	P	17 50 17.9	+0.6
	0.7nm,0.6s,mb3.8,baz=127,slow=11,SNR=4.2						
PLCA	Paso Flores	51.91	235	P	P	17 51 00.4	0.0
	1.7nm,0.9s,mb4.0,baz=249,slow=3.5,SNR=3.0						
PLCA				LR	LR	18 09 19.5	
	comp=Z,89nm,19.4s,MS3.8,baz=182,slow=32						
PLCA	Paso Flores	51.91	235	P	P	17 51 00.4	0.0
PLCA				LR	LR	18 09 19.5	
VAE	Valguarnera	64.67	23	LR	LR	18 16 45.3	
	comp=Z,61nm,19.6s,MS3.8,baz=324,slow=32						
GERES	GERESS Array B	74.65	18	P	P	17 53 31.8	+0.7
	0.5nm,0.8s,mb3.5,baz=216,slow=4.1,SNR=5.1						
BRTR	Keskin Array B	75.25	35	P	P	17 53 36.4	+1.8
	0.8nm,0.9s,mb3.6,baz=189,slow=4.9,SNR=3.7						
VNDA	Vanda	80.24	179	LR	LR	18 24 36.0	
	comp=Z,171nm,19.5s,MS4.4,baz=296,slow=32						
AKASG	Malin Array Be	81.50	25	P	P	17 54 09.2	0.0
	0.8nm,0.6s,mb3.8,baz=225,slow=5.4,SNR=5.6						
GNI	Garni	81.84	41	LR	LR	18 27 46.4	
	comp=Z,18nm,21.1s,MS3.4,baz=342,slow=34						

*ISCJB **19** 17:51:19.3±3.5, 85S±02×1183E±02, h122km±35km, mb3.7/4, Error ellipse: s-maj=32.7km s-min=21.6km az=101.6*
*IDC **19** 17:51:20.4±6.7, 863S×118.18E, h115km±61km, mb3.4/4, mb1 3.5/6, mb1mx3.4/17, mbtmp3.7/6, Error ellipse: s-maj=94.1km s-min=24.2km az=61.0*
*NEIC **19** 17:51:20.7±2.4, 859S×11823E, h117km±25km, mb4.1/2, Error ellipse: s-maj=20.7km s-min=13.8km az=46.0*
ISC 19 17:51:20.0±3.3, 85S±02×1182E±02, h107km±34km, n15, σ0°43/14, mb3.7/4, 2D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.92	144	P	Pn	17 54 06.0	-0.4
	0.1nm,0.3s,baz=318,slow=14,SNR=3.6						
FITZ				S	Sn	17 56 09.9	-7.5
	0.8nm,0.3s,baz=177,slow=22,SNR=7.3						
MBWA	Marble Bar	12.63	174	eP	Pn	17 54 15.8	+0.1
KAKA	Kakadu	14.56	108	eP	Pn	17 54 40.7	0.0
	4.8nm,0.3s						
WRA	Warramunga Arr	19.27	128	P	P	17 55 35.8	-0.2
	0.4nm,0.3s,baz=298,slow=12,SNR=34						
WRAB	Tennant Creek	19.27	128	eP	P	17 55 36.0	-0.1
	4.7nm,0.7s						
WB2	Warramunga Arr	19.27	128	eP	P	17 55 36.1	-0.1
ASPA	Alice Springs	21.24	137	⇓iP	P	17 55 57.9	+0.5
AS31	Alice Springs	21.24	137	⇓iP	P	17 55 57.9	+0.5
ASAR	Alice Springs	21.24	137	P	P	17 55 58.0	+0.6
	1.3nm,0.5s,mb3.6,baz=312,slow=9.1,SNR=82						
STKA	Stephens Creek	31.78	140	P	P	17 57 33.2	-0.9
	0.8nm,0.5s,mb3.8,baz=328,slow=16,SNR=3.8						
STKA	Stephens Creek	31.78	140	eP	P	17 57 33.1	-1.0
SONM	Songino Array	57.10	351	P	P	18 00 55.4	+0.3
	0.7nm,0.5s,mb4.0,baz=170,slow=8.5,SNR=9.4						
MKAR	Makanchi Array	63.71	333	P	P	18 01 39.9	-0.2
	0.2nm,0.3s,mb3.4,baz=156,slow=6.4,SNR=4.8						
YKA	Yellowknife Ar	114.08	24	PKP	PKiKP	18 09 45.6	-1.0
	0.1nm,0.3s,baz=302,slow=1.9,SNR=5.2						
TORD	Torodi Ar. Bea	117.64	280	PKP	PKPdf	18 09 53.9	+0.5
	0.4nm,0.4s,baz=68,slow=2.0,SNR=5.2						

*BJI **19** 17:52:46.1, 1036N×14196E, h44km, mB5.4, mb4.4*
*MOS **19** 17:52:52.1±0.8, 1094N×141.11E, h33km, mb4.5/4, Error ellipse: s-maj=19.3km s-min=14.1km az=100.5*
*ISCJB **19** 17:52:53.3±0.5, 1092N±008×141.17E±009, h42km, mb4.3/17, Error ellipse: s-maj=13.2km s-min=12.0km az=146.7*
*IDC **19** 17:52:55.7±0.8, 1097N×141.19E, h47km±7km, mb3.9/10, mb1 4.1/11, mb1mx3.9/20, mbtmp4.1/11, ML3.9/1, Error ellipse: s-maj=25.3km s-min=16.6km az=90.0*
*NEIC **19** 17:52:55.3±0.4, 1095N×14120E, mb4.5/6, Error ellipse: s-maj=10.3km s-min=9.4km az=77.0*
ISC 19 17:52:55.6±0.5, 1097N±008×14125E±009, h44km, h44km±2.5km: pP-P, n29, σ0°86/29, mb4.3/17, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.40	53	P	Pn	17 54 00.4	+0.6
	6.2nm,0.3s,baz=204,slow=19,SNR=5.8						
PMG	Port Moresby	21.07	164	P	P	17 57 36.0	0.0
	11nm,0.8s,mb4.2,baz=350,slow=8.3,SNR=6.1						
PMG	Port Moresby	21.07	164	eP	P	17 57 35.6	-0.4
PMG				pmax	pmax		
	comp=Z,16nm,1.0s						
PMG	Port Moresby	21.07	164	eP	P	17 57 35.6	-0.4
	comp=Z,16nm,1.0s,mb4.3						
WRA	Warramunga Arr	31.46	193	P	P	17 59 12.3	-0.5
	comp=Z,0.5nm,0.6s,mb3.5,baz=16,slow=9.6,SNR=6.8						
ASAR	Alice Springs	35.16	192	P	P	17 59 45.4	+0.3
	comp=Z,0.4nm,0.6s,mb3.5,baz=19,slow=13,SNR=6.9						
GTA	Gaotai	46.38	315	eP	P	18 01 17.8	+0.3
GTA				AP	pP	18 01 26.6	-3.1
GTA				XP	sP	18 01 30.3	-4.6
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
SONM	Songino Array	46.95	328	P	P	18 01 21.9	-0.1
	comp=Z,0.5nm,0.6s,mb3.7,baz=139,slow=6.1,SNR=5.9						
SONM				PcP	PcP	18 02 54.4	+0.5
	comp=Z,0.6nm,0.5s,baz=147,slow=4.4,SNR=5.6						
ZAK	Zakamensk	50.15	329	eP	P	18 01 46.4	-0.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
JIRN	Jiri	54.12	296	eP	P	18 02 16.8	+0.8
	comp=Z,8.7nm,0.8s,mb4.7						
GUN	Gumba	54.42	296	eP	P	18 02 19.4	+1.2
	comp=Z,16nm,0.7s,mb5.0						
PKI	Pulchoki	54.80	296	eP	P	18 02 21.5	+0.6
KKN	Kakani	54.93	296	eP	P	18 02 21.9	0.0
DMN	Daman	55.07	296	eP	P	18 02 23.4	+0.5
GKN	Gorkha	55.52	296	eP	P	18 02 26.3	+0.1
KOLN	Koldanda	56.41	296	eP	P	18 02 32.7	+0.2
	comp=Z,7.5nm,0.8s,mb4.8						
MKAR	Makanchi Array	60.97	318	P	P	18 03 04.3	+0.1
	comp=Z,1.1nm,0.5s,mb4.3,baz=106,slow=8.3,SNR=28						
MKAR				pP	pP	18 03 17.2	+0.4
	comp=Z,0.8nm,0.5s,baz=116,slow=8.4,SNR=6.5						
MKAR	Makanchi Array	60.97	318	P	P	18 03 04.3	+0.1
MKAR				pP	pP	18 03 17.2	+0.4
KURK	Kurchatov	64.35	321	eP	P	18 03 26.1	-0.6
KURK				e*PP	pP	18 03 39.1	-0.3
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	Kurchatov	64.35	321	eP	P	18 03 26.1	-0.6
	comp=Z,3.6nm,0.8s,mb4.5						
KURK				epP	pP	18 03 39.1	-0.4
ZRNK	Zerenda	70.63	322	eP	P	18 04 05.3	-1.1
ZRNK				e*PP	pP	18 04 18.3	-1.0
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	Zerenda	70.63	322	eP	P	18 04 05.3	-1.1
	comp=Z,2.5nm,0.8s,mb4.2						
ZRNK				epP	pP	18 04 18.3	-0.9
ILAR	Eielson Array	72.44	25	P	P	18 04 15.9	-1.3
	comp=Z,1.6nm,0.6s,mb4.2,baz=246,slow=5.9,SNR=36						
YKA	Yellowknife Ar	86.79	27	P	P	18 05 35.7	+0.6
	comp=Z,2.1nm,0.6s,mb4.6,baz=291,slow=5.0,SNR=31						
YKA				pP	pP	18 05 48.3	0.0
	comp=Z,0.7nm,0.5s,baz=292,slow=5.1,SNR=7.5						
YKA	Yellowknife Ar	86.79	27	P	P	18 05 35.7	+0.5
YKA				pP	pP	18 05 48.4	0.0
ARCES	ARCESS Array B	88.46	342	P	P	18 05 41.8	-1.3
	comp=Z,4.8nm,0.9s,mb4.7,baz=64,slow=8.2,SNR=6.4						
NVAR	Mina Array Bea	91.31	51	P	P	18 05 58.6	+2.2
	comp=Z,0.4nm,0.6s,mb4.0,baz=302,slow=2.8,SNR=3.5						
NVAR				pP	pP	18 06 11.8	+2.1
	comp=Z,0.3nm,0.5s,baz=243,slow=13,SNR=2.4						
FINES	FINESS Array B	92.00	334	P	P	18 05 57.7	-2.0
	comp=Z,1.6nm,0.7s,mb4.5,baz=81,slow=6.0,SNR=13						
FINES	FINESS Array B	92.00	334	P	P	18 05 57.7	-2.0

*ISCJB **19** 18:04:03.1±2.4, 551N±02×1602E±02, h177km±25km, mb3.2/6, Error ellipse: s-maj=31.7km s-min=13.6km az=144.2*
*IDC **19** 18:04:03.5±3.1, 5509N×160.16E, h165km±30km, mb3.0/6, mb1 3.4/8, mb1mx3.1/22, mbtmp3.7/8, Error ellipse: s-maj=27.5km s-min=14.9km az=148.0*
ISC 19 18:04:04.0±2.4, 551N±02×1602E±02, h173km±25km, n8, σ0°62/9, mb3.2/6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	7.95	101	P	Pn	18 05 56.9	+0.3
	0.5nm,0.3s,baz=256,slow=4.2,SNR=3.0						
FX1				S	Sn	18 07 25.1	-0.4
	1.2nm,0.3s,baz=283,slow=23,SNR=7.0						
ASAJ	Asahikawa	15.81	233	P	Pn	18 07 37.5	+0.3
	1.1nm,0.3s,baz=36,slow=8.7,SNR=11						
ILAR	Eielson Array	27.37	48	P	P	18 09 32.5	-0.5
	0.5nm,0.6s,mb3.4,baz=251,slow=6.3,SNR=9.8						
SONM	Songino Array	33.56	280	P	P	18 10 27.1	-0.4
	0.3nm,0.8s,mb3.1,baz=96,slow=7.5,SNR=2.9						
YKA	Yellowknife Ar	41.64	44	P	P	18 11 34.9	-0.3
	0.4nm,0.6s,mb3.3,baz=302,slow=8.2,SNR=11						
PDAR	Pinedale Array	56.49	62	P	P	18 13 29.4	+1.5
	0.6nm,0.5s,mb3.7,baz=346,slow=2.9,SNR=8.4						
WRA	Warramunga Arr	77.94	205	P	P	18 15 43.0	+0.2
	0.7nm,1.0s,mb3.2,baz=16,slow=6.3,SNR=5.8						
ASAR	Alice Springs	81.63	204	P	P	18 16 01.9	-0.7
	0.2nm,0.8s,mb2.8,baz=20,slow=4.4,SNR=5.6						

*IDC **19** 18:11:58.9±3.2, 1065N×9408E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/21, mbtmp3.5/5, Error ellipse: s-maj=140.4km s-min=22.3km az=63.0*
*ISCJB **19** 18:12:03.9±1.4, 108N±03×946E±04, h33km, mb3.5/5, Error ellipse: s-maj=65.7km s-min=12.3km az=107.5*
*NEIC **19** 18:12:03.2±1.1, 1084N×9474E, h10km, mb4.4/5, Error ellipse: s-maj=53.5km s-min=10.7km az=53.0*
ISC 19 18:12:06.3±1.4, 108N±03×945E±04, h35km, n13, σ0°82/13, mb3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	18.53	336	eP	Pn	18 16 20.4	+0.3
	60nm,1.2s						
PKI	Pulchoki	18.77	334	eP	Pn	18 16 24.0	+0.9
GUN	Gumba	18.88	336	eP	Pn	18 16 24.4	+0.1
	51nm,1.0s						
DMN	Daman	18.94	333	eP	Pn	18 16 25.5	+0.4
KKN	Kakani	19.02	334	eP	Pn	18 16 26.6	+0.6
	58nm,1.1s						
GKN	Gorkha	19.49	333	eP	Pn	18 16 30.9	-0.7
	59nm,1.1s						
KOLN	Koldanda	19.77	330	eP	Pn	18 16 34.6	-0.5
	44nm,0.9s						
MKAR	Makanchi Array	37.36	346	P	P	18 19 14.0	-1.5
	0.7nm,0.8s,mb3.5,baz=163,slow=8.9,SNR=7.2						
MKAR	Makanchi Array	37.36	346	P	P	18 19 14.0	-1.5
SONM	Songino Array	38.25	13	P	P	18 19 23.5	+0.5
	0.9nm,1.0s,mb3.5,baz=202,slow=7.1,SNR=3.6						
ZAL	Zalesovo	43.73	352	P	P	18 20 04.5	-3.6
	0.6nm,0.6s,mb3.5,baz=138,slow=15,SNR=3.5						
WRA	Warramunga Arr	49.68	128	P	P	18 20 54.0	-0.6
	0.4nm,0.9s,mb3.4,baz=319,slow=11,SNR=2.7						
ASAR	Alice Springs	51.52	132	P	P	18 21 09.4	+0.9
	0.4nm,0.8s,mb3.4,baz=316,slow=6.9,SNR=5.5						

*IDC **19** 18:12:14.6±1.0, 1061N×9430E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, MS3.6/1, Ms1 3.6/1, ms1mx2.8/21, Error ellipse: s-maj=49.0km s-min=16.7km az=56.0*
*NEIC **19** 18:12:16.9±0.7, 1080N×9465E, h10km, mb4.3/2, Error ellipse: s-maj=27.4km s-min=12.4km az=48.0*
*BJI **19** 18:12:17.6, 1107N×9439E, h5km, mB4.7, mb4.5, Ms4.2, Msz4.1*
*ISCJB **19** 18:12:21.1±2.1, 107N±0.1×945E±0.1, h63km±21km, mb4.1/13, Error ellipse: s-maj=25.0km s-min=15.0km az=113.4*
ISC 19 18:12:22.5±2.1, 108N±01×945E±01, h55km±20km, n21, σ0°99/20, mb4.1/13, MS4.1/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.91	298	eP	Pn	18 12 51.7	-0.9
PBA				eS	Sn	18 13 25.1	+10
PBA				ex	x	18 13 35.8	
	comp=E,622nm,0.9s						
PBA				ex	x	18 13 36.6	
	comp=N,1μm,1.0s						
PSI	Prapat

comp=Z,3.0nm,0.9s,mb4.4,baz=334,slow=7.2,SNR=4.0
GERES **GERESS Array B 75.91 318** P **P** 18 24 03.1 -0.2
comp=Z,0.1nm,0.3s,mb3.2,baz=69,slow=5.4,SNR=3.3
PDAR **Pinedale Array 122.39 21** PKP PKPdf 18 31 13.1 +1.6
comp=Z,0.8nm,1.0s,baz=262,slow=5.5,SNR=3.7

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*MOS **19** 18:12:27.7±1.7, 7292N×626E, h10km, mb4.3/4, Error ellipse: s-maj=39.0km s-min=8.0km az=98.2*
*IDC **19** 18:12:27.7±0.8, 7302N×608E, h0km, mb3.6/8, mb1 3.8/13, mb1mx3.6/26, mbtmp3.6/13, ML3.5/5, MS3.3/9, Ms1 3.3/9, ms1mx3.1/25, Error ellipse: s-maj=22.0km s-min=12.6km az=46.0*
*ISCJB **19** 18:12:28.7±0.6, 7294N±004×69E±02, h10km, mb3.7/12, MS3.4/4, Error ellipse: s-maj=6.8km s-min=5.2km az=36.3*
*NEIC **19** 18:12:29.1±0.5, 7301N×614E, h10km, mb4.1/2, Error ellipse: s-maj=9.8km s-min=6.2km az=79.0*
*BER **19** 18:12:31.3±3.9, 7307N×595E, h15km±44km, MD2.6, ML2.7, ML2.7(NAO)*
*HEL **19** 18:12:31.8±0.7, 7313N×671E, h10km, ML3.5, mb4.1(NEIC), ML2.7(BER)*
*CSEM **19** 18:12:32.9±0.2, 7296N×740E, h30km, mb4.1/3, Error ellipse: s-maj=4.6km s-min=2.6km az=100.0*
*NAO **19** 18:12:32.8±14.0, 7319N×676E, h20km±160km, ML2.7*
ISC 19 18:12:30.6±0.6, 7299N±004×68E±02, h10km, n80, σ1°23/98, mb3.7/12, MS3.4/4, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.75**	**60**	*eP*	**Pn**	**18 13 28.7**	**+0.2**
BJO1				*eS*	**Sn**	**18 14 12.9**	**+0.3**
BJO	**Bjornoya**	**3.79**	**61**	*eP*	**Pn**	**18 13 28.7**	**-0.5**
BJO				*eS*	**Sn**	**18 14 12.9**	**-0.9**
LOF	**Lofoten**	**5.38**	**152**	*eP*	**Pn**	**18 13 53.2**	**+2.4**
LOF				*eS*	**Sn**	**18 14 50.1**	**-2.7**
LOF				AML	AML	18 14 50.9	
	comp=Z,14nm,0.5s						
LOF	**Lofoten**	**5.38**	**152**	*eP*	**Pn**	**18 13 53.2**	**+2.3**
	SNR=53						
LOF				*eS*	**Sn**	**18 14 50.1**	**-2.7**
	comp=Z,14nm,0.5s,SNR=53						
SPA0	**Spitsbergen Ar**	**5.72**	**20**	Pn	**Pn**	**18 13 53.6**	**-2.1**
	baz=199,slow=14						
SPA0	**Spitsbergen Ar**	**5.72**	**20**	*eP*	**Pn**	**18 13 53.6**	**-2.1**
KIF	**Kilpisjarvi**	**6.07**	**124**	*eP*	**Pn**	**18 14 02.4**	**+2.0**
KIF				MPN		18 14 02.9	
	comp=Z,15nm,0.3s						
KIF				*eS*	**Sn**	**18 15 08.2**	**-1.6**
KIF	**Kilpisjarvi**	**6.07**	**124**	P	**Pn**	**18 14 02.3**	**+2.0**
	comp=Z,15nm,0.3s						
KIF				S	**Sn**	**18 15 08.1**	**-1.7**
KBS	**Kingsbay**	**6.09**	**9**	*eP*	**Pn**	**18 14 02.0**	**+1.3**
KBS	**Kingsbay**	**6.09**	**9**	*eP*	**Pn**	**18 14 02.0**	**+1.3**
ARA0	**ARCESS Array S**	**6.93**	**111**	Pn	**Pn**	**18 14 12.7**	**+0.5**
	baz=304,slow=11						
ARA0				Sn	**Sn**	**18 15 30.9**	**-0.2**
	baz=314,slow=22						
ARA0	**ARCESS Array S**	**6.93**	**111**	*eP*	**Pn**	**18 14 12.7**	**+0.5**
ARA0				*eS*	**Sn**	**18 15 30.9**	**-0.2**
ARCES	**ARCESS Array B**	**6.93**	**111**	Pn	**Pn**	**18 14 13.0**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=319,slow=11,SNR=55						
ARCES				Sn	**Sn**	**18 15 31.5**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=310,slow=20,SNR=5.7						
ARCES				LR	LR	18 17 57.7	
	comp=Z,91nm,18.1s,baz=208,slow=46						
ARCES	**ARCESS Array B**	**6.93**	**111**	P	**Pn**	**18 14 13.0**	**+0.8**
ARCES				S	**Sn**	**18 15 31.5**	**+0.4**
ARCES	**ARCESS Array B**	**6.93**	**111**	Pn	**Pn**	**18 14 13.0**	**+0.8**
ARCES				Sn	**Sn**	**18 15 31.5**	**+0.4**
ARCES				LR	LR	18 17 57.7	
STOK	**Stokkvaagen**	**7.03**	**159**	*eP*	**Pn**	**18 14 13.0**	**-0.6**
STOK				*eS*	**Sn**	**18 15 26.9**	**-6.7**
STOK				AML	AML	18 15 36.3	
	comp=Z,10nm,0.6s						
STOK	**Stokkvaagen**	**7.03**	**159**	*eP*	**Pn**	**18 14 13.0**	**-0.6**
STOK				*eS*	**Sn**	**18 15 26.9**	**-6.7**
KEV	**Kevo**	**7.21**	**107**	*ep*	**Pn**	**18 14 16.4**	**+0.3**
	comp=Z,2.3nm,0.4s						
KEV	**Kevo**	**7.21**	**107**	*eP*	**Pn**	**18 14 16.4**	**+0.3**
KEV				MPN		18 14 18.1	
	comp=Z,2.2nm,0.3s						
KEV				*eS*	**Sn**	**18 15 34.2**	**-3.9**
KEV	**Kevo**	**7.21**	**107**	*eP*	**Pn**	**18 14 16.5**	**+0.4**
KEV				*eS*	**Sn**	**18 15 36.0**	**-2.1**
KEV	**Kevo**	**7.21**	**107**	*ePn*	**Pn**	**18 14 16.5**	**+0.4**
KEV				*eSn*	**Sn**	**18 15 36.0**	**-2.1**
MOR8	**Moi Rana**	**7.35**	**155**	*eP*	**Pn**	**18 14 17.6**	**-0.4**
MOR8				*eS*	**Sn**	**18 15 34.2**	**-7.2**
MOR8				AML	AML	18 15 40.7	
	comp=Z,15nm,0.2s						
MOR8	**Moi Rana**	**7.35**	**155**	*eP*	**Pn**	**18 14 17.6**	**-0.4**
MOR8				*eS*	**Sn**	**18 15 34.2**	**-7.2**
SGF	**Sodankyl**	**8.66**	**120**	*eP*	**Pn**	**18 14 36.9**	**+0.9**
SGF				*eS*	**Sn**	**18 16 08.9**	**-4.8**
SGF	**Sodankyl**	**8.66**	**120**	P	**Pn**	**18 14 36.8**	**+0.9**
NSS	**Namsos**	**8.70**	**165**	*eP*	**Pn**	**18 14 36.4**	**-0.1**
NSS				*eS*	**Sn**	**18 16 06.0**	**-8.7**
NSS				AML	AML	18 16 12.7	
	comp=Z,7.8nm,0.5s						
NSS	**Namsos**	**8.70**	**165**	*eP*	**Pn**	**18 14 36.4**	**-0.1**
NSS				*eS*	**Sn**	**18 16 06.0**	**-8.7**
KU4	**Liikasenvaara**	**10.27**	**119**	*eP*	**Pn**	**18 14 59.1**	**+1.1**
KU4				*eS*	**Sn**	**18 16 47.4**	**-5.7**
KU4	**Liikasenvaara**	**10.27**	**119**	P	**Pn**	**18 14 59.0**	**+1.0**
APA0	**Apatity Array**	**10.28**	**109**	Pn	**Pn**	**18 14 57.9**	**-0.2**
	baz=326,slow=10						
APA0	**Apatity Array**	**10.28**	**109**	*eP*	**Pn**	**18 14 57.9**	**-0.2**
OUL	**Oulu**	**10.41**	**130**	*eP*	**Pn**	**18 15 02.3**	**+2.3**
OUL				MPN		18 15 07.5	
	comp=Z,1.0nm,0.5s						
OUL	**Oulu**	**10.41**	**130**	P	**Pn**	**18 15 02.2**	**+2.2**
	comp=Z,1.0nm,0.5s						
VAF	**Ylistaro**	**11.56**	**142**	*eP*	**Pn**	**18 15 18.1**	**+2.4**
KJN	**Kajaani**	**11.68**	**129**	*eP*	**Pn**	**18 15 17.1**	**-0.1**
KJN				*eS*	**Sn**	**18 17 22.3**	**-5.4**
NB2	**NORSAR Subarra**	**12.13**	**170**	Pn	**Pn**	**18 15 22.6**	**-0.8**
	baz=342,slow=14						
NB2	**NORSAR Subarra**	**12.13**	**170**	*eP*	**Pn**	**18 15 22.6**	**-0.8**
NOA	**NORSAR Array B**	**12.13**	**170**	Pn	**Pn**	**18 15 22.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=353,slow=12,SNR=3.3						
NOA				LR	LR	18 19 26.1	
	comp=Z,85nm,19.6s,baz=285,slow=34						
NAO01	**NORSAR Array S**	**12.30**	**171**	*ePn*	**Pn**	**18 15 24.4**	**-1.5**
NAO01	**NORSAR Array S**	**12.30**	**171**	*ePn*	**Pn**	**18 15 24.4**	**-1.5**
SUF	**Sumiainen**	**12.54**	**135**	*eP*	**Pn**	**18 15 29.2**	**+0.1**
SUF				MPN		18 15 33.4	
	comp=Z,0.8nm,0.4s						
SUF	**Sumiainen**	**12.54**	**135**	P	**Pn**	**18 15 29.1**	**+0.1**
	comp=Z,0.8nm,0.4s						
KEF	**Keuruu**	**12.78**	**139**	*eP*	**Pn**	**18 15 32.8**	**+0.4**
KAF	**Kangasniemi**	**13.12**	**136**	*ep*	**Pn**	**18 15 37.4**	**+0.5**
	comp=Z,0.7nm,0.5s						
KAF	**Kangasniemi**	**13.12**	**136**	*eP*	**Pn**	**18 15 37.3**	**+0.3**
KAF				MPN		18 15 39.6	
	comp=Z,0.6nm,0.4s						
KAF	**Kangasniemi**	**13.12**	**136**	*eP*	**Pn**	**18 15 37.4**	**+0.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**13.12**	**136**	*eP*	**Pn**	**18 15 37.4**	**+0.5**
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**13.19**	**165**	Pn	**Pn**	**18 15 36.2**	**-1.8**
	baz=356,slow=12						
HFS	**Hagfors**	**13.19**	**165**	*eP*	**Pn**	**18 15 36.2**	**-1.8**
HFS	**Hagfors**	**13.19**	**165**	Pn	**Pn**	**18 15 36.1**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=0.7,slow=12,SNR=13						
HFS				LR	LR	18 20 13.7	
	comp=Z,160nm,18.3s,baz=263,slow=35						
JOF	**Joensuu**	**13.52**	**126**	*ep*	**Pn**	**18 15 42.6**	**+0.2**
	comp=Z,2.5nm,0.6s						
JOF	**Joensuu**	**13.52**	**126**	*eP*	**Pn**	**18 15 42.4**	**-0.1**
JOF				MPN		18 15 43.8	
	comp=Z,2.5nm,0.6s						
JOF				*eS*	**Sn**	**18 18 05.1**	**-7.6**
JOF	**Joensuu**	**13.52**	**126**	*eP*	**Pn**	**18 15 42.6**	**+0.2**
FIA0	**FINESS Array S**	**13.68**	**138**	Pn	**Pn**	**18 15 43.9**	**-0.7**
	baz=343,slow=14						
FIA0	**FINESS Array S**	**13.68**	**138**	*eP*	**Pn**	**18 15 43.9**	**-0.7**
FINES	**FINESS Array B**	**13.68**	**138**	Pn	**Pn**	**18 15 43.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=352,slow=12,SNR=9.4						
FINES				LR	LR	18 20 45.7	
	comp=Z,122nm,18.4s,baz=278,slow=36						
FINES	**FINESS Array B**	**13.68**	**138**	Pn	**Pn**	**18 15 43.9**	**-0.7**
FINES				LR	LR	18 20 45.7	
EKA	**Eskdalemuir Ar**	**18.20**	**198**	P	**Pn**	**18 16 39.1**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=356,slow=9.2,SNR=3.4						
SFJD	**Kangerlussuaq**	**19.77**	**282**	LR	LR	18 24 35.8	
	comp=Z,37nm,19.1s,baz=317,slow=37						
OBN	**Obninsk**	**21.72**	**130**	*eP*	**P**	**18 17 24.8**	**+2.9**
OBN				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.4						
CLL	**Collm**	**21.93**	**170**	*i* (P)	**P**	**18 17 27.4**	**+3.2**
	comp=Z,9.0nm,1.3s,mb4.0						
CLL	**Collm**	**21.93**	**170**	*i* P	**P**	**18 17 27.4**	**+3.2**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.0						
MOX	**Moxa**	**22.53**	**172**	*eP*	**P**	**18 17 33.4**	**+2.8**
	comp=Z,15nm,1.6s,mb4.2						
MOX	**Moxa**	**22.53**	**172**	*eP*	**P**	**18 17 33.4**	**+2.8**
MOX				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.2						
VRAC	**Vranov**	**24.16**	**164**	P	**P**	**18 17 47.5**	**+0.6**
	comp=Z,2.8nm,0.6s,mb3.9,baz=354,slow=8.2,SNR=4.4						
AKASG	**Malin Array Be**	**24.41**	**144**	P	**P**	**18 17 48.8**	**-0.5**
	comp=Z,2.4nm,0.8s,mb3.7,baz=345,slow=9.4,SNR=9.0						
GERES	**GERESS Array B**	**24.43**	**169**	P	**P**	**18 17 48.9**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.1,baz=342,slow=9.3,SNR=4.8						
DAVOX	**Davos**	**26.34**	**175**	LR	LR	18 28 25.8	
	comp=Z,37nm,18.6s,MS3.0,baz=77,slow=36						
MLR	**Muntele Rosu**	**28.97**	**152**	LR	LR	18 30 11.2	
	comp=Z,118nm,18.2s,MS3.5,baz=332,slow=36						
AKTK	**Aktyubinsk**	**31.50**	**107**	P	**P**	**18 18 52.5**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.0						
AKTK	**Aktyubinsk**	**31.50**	**107**	P	**P**	**18 18 52.5**	**-0.2**
AKTO	**Aktyubinsk**	**31.50**	**107**	P	**P**	**18 18 52.5**	**-0.1**
	comp=Z,0.8nm,0.4s,mb3.9,baz=3.5,slow=6.1,SNR=4.6						
AKTO	**Aktyubinsk**	**31.50**	**107**	P	**P**	**18 18 52.5**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
SCHQ	**Schefferville**	**34.16**	**279**	LR	LR	18 31 10.7	
	comp=Z,72nm,18.6s,MS3.4,baz=23,slow=33						
YKA	**Yellowknife Ar**	**39.17**	**321**	P	**P**	**18 19 53.9**	**-4.7**
	comp=Z,0.2nm,0.7s,mb3.0,baz=16,slow=8.4,SNR=4.5						
ILAR	**Eielson Array**	**41.37**	**343**	P	**P**	**18 20 14.4**	**-2.4**
	comp=Z,0.4nm,0.7s,mb3.2,baz=5.0,slow=6.4,SNR=7.0						
ULM	**Lac du Bonnet**	**46.27**	**300**	LR	LR	18 40 00.9	
	comp=Z,66nm,19.8s,MS3.6,baz=335,slow=36						
PDAR	**Pinedale Array**	**56.61**	**308**	P	**P**	**18 22 09.7**	**-4.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=42,slow=6.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**59.90**	**186**	P	**P**	**18 22 36.6**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=11,slow=7.6,SNR=2.4						
ASAR	**Alice Springs**	**122.97**	**61**	PKP	PKPdf	18 31 26.0	-1.2
	comp=Z,0.3nm,0.7s,baz=346,slow=2.1,SNR=6.1						

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*CSEM **19** 18:15:21.6±0.5, 3710N×2452W, h5km, ML2.2, Error ellipse: s-maj=4.4km s-min=2.1km az=95.0, After PDA*
*PDA **19** 18:15:21.6±0.5, 3710N×2452W, h5km, MD2.6, ML2.2, Error ellipse: s-maj=4.4km s-min=2.1km az=95.0*
SVSA 19 18:15:21.6±0.5, 3710N×2452W, h5km, MD2.6, ML2.2, Error ellipse: s-maj=4.4km s-min=2.1km az=95.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.44**	**258**	*eP*	Pg	18 15 29.6	-0.6
PSMN				*eS*	Sg	18 15 35.0	-0.9
MIRA	**Miradouro**	**0.91**	**319**	*eS*	Sg	18 15 47.0	-3.9
PCNG	**Congro**	**0.96**	**314**	*eS*	Sg	18 15 48.5	-4.0
PCNG							
	24nm,0.1s						
VIF	**Vila Franca**	**0.97**	**312**	*eS*	Sg	18 15 48.6	-4.3
VIF							
	49nm,0.2s						
PFAD	**Fenais da Ajud**	**0.97**	**319**	*eP*	Pg	18 15 36.7	-3.6
PFAD				*eS*	Sg	18 15 48.5	-4.4
PRCH	**Ribeira Ch**	**0.99**	**310**	*eP*	Pg	18 15 37.3	-3.2
PRCH				*eS*	Sg	18 15 48.9	-4.4
PRCH							
	78nm,0.3s						
PRCH	**Ribeira Ch**	**0.99**	**310**	*eP*	Pg	18 15 37.3	-3.2
PRCH				*eS*	Sg	18 15 48.9	-4.4
MESC	**Monte Escuro**	**1.01**	**314**	*eS*	Sg	18 15 49.6	-4.4
LFA	**Lagoa do Fogo**	**1.02**	**312**	*eP*	Pg	18 15 37.6	-3.5
PVER	**Pico Vermelho**	**1.05**	**312**	*eS*	Sg	18 15 50.6	-4.8
CML	**Cha da Macela**	**1.05**	**310**	*eP*	Pg	18 15 38.1	-3.7
CML				*eS*	Sg	18 15 50.5	-5.0

IDC 19 18:16:21.9±12.0, 1558S×16491E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=217.0km s-min=34.1km az=50.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.62**	**168**	Pn	Pn	18 18 00.3	-0.1
	2.0nm,0.3s,baz=52,slow=16,SNR=23						
DZM				Sn	Sn	18 19 20.4	+3.8
	baz=13,slow=14,SNR=1.8						
STKA	**Stephens Creek**	**26.72**	**228**	P	P	18 22 02.4	-0.6
	3.0nm,0.5s,baz=57,slow=9.2,SNR=14						
WRA	**Warramunga Arr**	**29.41**	**257**	P	P	18 22 27.6	+0.6
	0.4nm,0.7s,baz=84,slow=7.9,SNR=7.6						
ASAR	**Alice Springs**	**30.24**	**250**	P	P	18 22 35.2	+0.9
	0.9nm,0.4s,baz=79,slow=9.1,SNR=44						

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*ISCJB **19** 18:30:30.7±0.3, 4171N±003×2544E±003, h12km, Error ellipse: s-maj=3.6km s-min=2.7km az=11.3*
*SOF **19** 18:30:30.1, 4167N×2548E, h20km, MD2.8*
*CSEM **19** 18:30:31.5±0.1, 4174N×2549E, h12km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.6km az=3.0*
*ATH **19** 18:30:32.4, 4164N×2547E, h5km, MD3.5/4*
*NEIC **19** 18:30:32.4, 4164N×2547E, h5km, MD3.5(ATH), After ATH.*
*THE **19** 18:30:33.2, 4167N×2561E, h15km, ML3.3*
ISC 19 18:30:31.6±0.4, 4171N±002×2547E±002, h2km±5km, n27, σ0°87/41, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.07**	**212**	*i* Pg	**Pg**	**18 30 34.5**	**+1.5**
DIM	**Dimitrovgrad**	**0.34**	**8**	*i* Pg	**Pg**	**18 30 39.2**	**+1.1**
RZN	**Rozhen**	**0.56**	**268**	*i* Pg	**Pg**	**18 30 42.5**	**+0.2**
RDO	**Rodhopi**	**0.57**	**175**	*i* PB	**Pg**	**18 30 42.4**	**0.0**
RDO				*e*SB	**Sg**	**18 30 49.6**	**-0.2**
PLD	**Plovdiv**	**0.69**	**305**	*i* Pg	**Pg**	**18 30 45.5**	**+0.7**
ALN	**Alexandroupoli**	**0.92**	**152**	*e*Pg	**Pg**	**18 30 49.5**	**+0.3**
ALN				*e*Sg	**Sg**	**18 31 01.6**	**+0.4**
EDRB	**Edirne**	**0.96**	**81**	PG	**Pg**	**18 30 50.1**	**0.0**
EDRB				SG	**Sg**	**18 31 02.5**	**-0.1**
JMB	**Yambol**	**1.12**	**47**	*e*Pg	**Pg**	**18 30 53.1**	**0.0**
JMB				*e*Sg	**Sg**	**18 31 07.9**	**+0.2**
JMB	**Yambol**	**1.12**	**47**	*i* Pg	**Pg**	**18 30 53.0**	**-0.1**
JMB				*e*Sg	**Sg**	**18 31 07.9**	**+0.2**
NVR	**Nevrokopi**	**1.26**	**254**	*e*PN	**Pn**	**18 30 55.2**	**-0.9**
NVR				*e*SB	**Sb**	**18 31 13.5**	**+1.0**
PGB	**Panagyurishte**	**1.28**	**311**	*i* Pg	**Pg**	**18 30 55.5**	**-0.6**
MMB	**Musomiste**	**1.31**	**265**	*i* Pg	**Pg**	**18 30 56.0**	**-0.6**
SRS	**Serrai**	**1.53**	**248**	*e*Pg	**Pg**	**18 31 01.0**	**+0.1**
SRS				*e*Sg	**Sg**	**18 31 21.9**	**+1.2**
SZH	**Strazhica**	**1.59**	**12**	*i* Pg	**Pg**	**18 31 02.5**	**+0.4**
SART	**Tekirdag**	**1.65**	**128**	*i* P	**Pg**	**18 31 02.8**	**-0.3**
SART				*i* S	**Sg**	**18 31 24.3**	**-0.2**
MFT	**Murefte**	**1.65**	**123**	PN	**Pn**	**18 31 01.4**	**-0.1**
MFT				SN	**Sn**	**18 31 22.7**	**-0.5**
OUR	**Ouranopolis**	**1.77**	**220**	*e*Pb	**Pb**	**18 31 02.3**	**-2.5**
KKB	**Krupnik**	**1.79**	**276**	*i* Pg	**Pg**	**18 31 05.0**	**-0.8**
VTS	**Vitosha**	**1.90**	**298**	*e*Pn	**Pn**	**18 31 06.0**	**+1.1**
VTS				*e*Sn	**Sg**	**18 31 31.5**	**-1.0**
VTS	**Vitosha**	**1.90**	**298**	*i* Pg	**Pg**	**18 31 07.6**	**-0.3**
VTS				*e*Sn	**Sg**	**18 31 31.5**	**-1.0**
MRMT	**Marmara Adasi**	**1.95**	**124**	PN	**Pn**	**18 31 05.1**	**-0.5**
PLG	**Polygyros**	**2.03**	**230**	*e*PG	**Pg**	**18 31 09.6**	**-0.9**
PLG				*e*SN	**Sg**	**18 31 36.0**	**-0.8**
VAY	**Valandovo**	**2.21**	**261**	*e*Pn	**Pn**	**18 31 10.0**	**+0.9**
VAY				*e*Sn	**Sg**	**18 31 42.8**	**+0.2**
PAIG	**Paliouri**	**2.24**	**218**	*e*Pn	**Pn**	**18 31 08.8**	**-0.7**
BNT	**Bandirma**	**2.30**	**125**	*e*P	**Pn**	**18 31 09.0**	**-1.4**
ELBA	**Catalca**	**2.30**	**103**	*i* P	**Pn**	**18 31 10.4**	**0.0**
PRK	**Paraskevi**	**2.54**	**166**	*e*PN	**Pn**	**18 31 16.9**	**+3.2**
PRK				*e*SN	**Sn**	**18 31 47.5**	**+2.4**

CASC 19 18:30:34.8±4.5, 1310N×9088W, h4km±44km, MD3.7, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.14**	**21**	*eP*	Pg	18 30 57.0	+0.2
IXG				*eS*	Sg	18 31 12.5	+1.0
SBLS	**San Blas**	**1.43**	**59**	*eP*	Pn	18 31 07.5	+6.0
SBLS				*eS*	Sb	18 31 30.3	+10
SNJE	**San Jose**	**1.45**	**58**	*eP*	Pn	18 31 08.3	+6.4
SNJE				*eS*	Sb	18 31 26.2	+4.9
TP2	**Tecpan 2**	**1.68**	**355**	*eP*	Pn	18 31 04.6	-0.4
TP2				*eS*	Sn	18 31 29.6	+2.6
LFRS	**El Faro**	**1.84**	**73**	*eP*	Pn	18 31 14.5	+7.3
LFRS				*eS*	Sn	18 31 39.7	+8.7

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*ISCJB **19** 19:11:02.0±2.4, 1068N±005×9438E±006, h2km±15km, mb4.4/34, MS4.1/7, Error ellipse: s-maj=10.6km s-min=5.9km az=108.0*
*IDC **19** 19:11:03.2±0.5, 1068N×9427E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.2/27, mbtmp4.2/18, ML3.7/1, MS4.0/2, Ms1 4.0/2, ms1mx3.2/20, Error ellipse: s-maj=25.9km s-min=12.5km az=55.0*
*BJI **19** 19:11:05.5, 1064N×9389E, h20km, mB5.0, mb4.5, Ms4.5, Msz4.2*
*NEIC **19** 19:11:06.4±0.3, 1068N×9434E, mb4.7/15, Error ellipse: s-maj=14.7km s-min=5.3km az=55.0*
*MOS **19** 19:11:06.1±0.8, 1069N×9428E, h33km, mb4.9/10, Error ellipse: s-maj=19.5km s-min=8.0km az=118.3*
ISC 19 19:11:08.1±2.0, 1073N±005×9439E±006, h30km±15km, h23km±2.1km: pP-P, n82, σ0°96/76, mb4.4/34, MS4.1/7, 2C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.86**	**300**	*eP*	Px	19 11 52.9	
PBA				*eS*	Sx	19 12 16.4	
PBA				*ex*	x	19 12 32.1	
	comp=N,2μm,1.0s						
PBA				*ex*	x	19 12 32.3	
	comp=E,3μm,0.8s						
SNG	**Songkhla**	**7.09**	**119**	P	**Pn**	**19 12 49.0**	**-0.9**
	comp=E,506nm,1.0s						
BDT	**Bhumibol Dam**	**7.87**	**34**	P	**Pn**	**19 12 59.5**	**-1.1**
KULM	**Kulim**	**8.23**	**131**	*e*Pn	**Pn**	**19 13 03.4**	**-2.1**
KULM				*e*Sn	**Sn**	**19 14 26.6**	**-11**
PSI	**Prapat**	**9.07**	**150**	Pn	**Pn**	**19 13 19.1**	**+2.0**
	comp=E,0.8nm,0.3s,baz=333,slow=12,SNR=5.2						
KKTK	**Khon Kaen**	**9.91**	**55**	P	**Pn**	**19 13 29.0**	**+0.4**
HYB	**Hyderabad**	**16.73**	**295**	*i* P	**Pn**	**19 14 59.0**	**-1.2**
HYB	**Hyderabad**	**16.73**	**295**	*eP*	**Pn**	**19 14 59.0**	**-1.2**
HYB				*e*		19 16 11.0	
QIZ	**Qiongzhong**	**17.05**	**59**	P	**Pn**	**19 15 12.3**	**+8.0**
QIZ				S	**Sn**	**19 18 28.8**	**+16**
QIZ				LR	LR		
	comp=E,1μm,9.5s						
QIZ				LR	LR		
	comp=Z,1μm,8.5s						
KSM	**Kuching**	**18.29**	**119**	P	**Pn**	**19 15 17.8**	**-1.9**
JIRN	**Jiri**	**18.52**	**337**	*eP*	**Pn**	**19 15 23.1**	**+0.7**
	comp=Z,111nm,1.3s						
PKI	**Pulchoki**	**18.76**	**334**	*eP*	**Pn**	**19 15 26.0**	**+0.7**
	comp=Z,116nm,1.1s						
PKI	**Pulchoki**	**18.76**	**334**	*eP*	**Pn**	**19 15 26.0**	**+0.7**
PKI				pmax	pmax		
	comp=Z,58nm,1.1s						
GUN	**Gumba**	**18.87**	**336**	*eP*	**Pn**	**19 15 27.1**	**+0.5**
	comp=Z,89nm,1.1s						
DMN	**Daman**	**18.92**	**334**	*eP*	**Pn**	**19 15 27.8**	**+0.5**
	comp=Z,61nm,0.9s						
KKN	**Kakani**	**19.01**	**334**	*eP*	**Pn**	**19 15 28.5**	**+0.2**
	comp=Z,78nm,1.1s						
KKN	**Kakani**	**19.01**	**334**	*eP*	**Pn**	**19 15 28.5**	**+0.2**
KKN				pmax	pmax		
	comp=Z,39nm,1.1s						
GKN	**Gorkha**	**19.47**	**333**	*eP*	**Pn**	**19 15 33.0**	**-0.8**
KOLN	**Koldanda**	**19.75**	**331**	*eP*	**Pn**	**19 15 37.0**	**-0.2**
	comp=Z,121nm,1.1s						
POO	**Poona**	**21.32**	**294**	*eP*	**P**	**19 15 54.0**	**+1.5**
CD2	**Chengdu**	**21.88**	**22**	*eP*	**P**	**19 16 00.5**	**+1.9**
CD2				XP	sP	19 16 13.5	+3.1
CD2				PP		19 16 28.3	
CD2				PPP		19 16 37.3	
CD2				S	**S**	**19 19 58.3**	**-0.4**
CD2				XS	sS	19 20 11.8	+0.2
CD2				SS		19 20 38.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				LR	LR		
	comp=

comp=N,1.7nm,0.9s,mb4.0,baz=163,slow=10,SNR=9.2
ZRNK Zerenda 46.80 339 *e*P **P 19 19 34.5 -0.5**
ZRNK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ZRNK Zerenda 46.80 339 *e*P **P 19 19 34.5 -0.5**
comp=Z,2.5nm,0.8s,mb4.2
MUN Mundaring 47.33 155 *e*P **P 19 19 40.1 +1.0**
KLBR Kellerberrin 47.67 153 *e*P **P 19 19 42.2 +0.5**
comp=Z,27nm,1.1s,mb5.2
NWAO Narrogin (SRO) 48.58 154 P **P 19 19 48.9 +0.1**
comp=Z,13nm,0.8s,mb5.0,baz=308,slow=11,SNR=5.4
NWAO Narrogin (SRO) 48.58 154 *e*P **P 19 19 48.6 -0.2**
NWAO *ep*P pP 19 19 55.4 -2.4
BOD Bodaibo 49.33 14 *e*P **P 19 19 48.9 -5.6**
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
AKTK Aktyubinsk 49.59 330 P **P 19 19 56.5 -0.1**
AKTO Aktyubinsk 49.59 330 P **P 19 19 56.5 -0.1**
comp=Z,0.8nm,0.5s,mb4.0,baz=139,slow=3.0,SNR=4.9
WRA Warramunga Arr 49.76 128 P **P 19 19 58.2 +0.4**
comp=Z,7.0nm,0.8s,mb4.8,baz=303,slow=8.8,SNR=37
WRAB Tennant Creek 49.76 128 *e*P **P 19 19 58.4 +0.6**
WRAB *e**PP pP 19 20 04.2 -2.6
WRAB pmax pmax
comp=Z,12nm,0.8s,mb5.0
WRAB Tennant Creek 49.76 128 *e*P **P 19 19 58.4 +0.6**
comp=Z,12nm,0.8s,mb5.0
WRAB *ep*P pP 19 20 04.2 -2.7
WB2 Warramunga Arr 49.77 128 *e*P **P 19 19 58.4 +0.5**
ASPA Alice Springs 51.59 132 *e*P **P 19 20 12.0 +0.4**
AS31 Alice Springs 51.59 132 *e*P **P 19 20 12.0 +0.4**
ASAR Alice Springs 51.59 132 P **P 19 20 12.1 +0.5**
comp=Z,11nm,0.8s,mb4.9,baz=310,slow=6.8,SNR=130
GNI Garni 52.66 313 P **P 19 20 19.3 -0.3**
comp=Z,0.8nm,0.3s,mb4.1,baz=259,slow=16,SNR=2.2
GNI Garni 52.66 313 *e*P **P 19 20 19.9 +0.4**
GNI pmax pmax
comp=Z,30nm,1.3s
GNI Garni 52.66 313 *e*P **P 19 20 19.9 +0.4**
comp=Z,30nm,1.3s,mb5.1
YAK Yakutsk 57.23 19 *e*P **P 19 20 51.7 -0.9**
YAK *e**PP pP 19 20 57.3 -4.4
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
YAK Yakutsk 57.23 19 *e*P **P 19 20 51.7 -0.9**
comp=Z,10.0nm,0.8s,mb4.9
YAK *ep*P pP 19 20 57.3 -4.4
KMBO Kilima Mbogo 58.02 262 P **P 19 20 57.6 -0.5**
comp=Z,0.3nm,0.3s,mb3.7,baz=58,slow=9.5,SNR=3.2
BRTR Keskin Array B 60.78 310 P **P 19 21 15.7 -1.5**
comp=Z,0.8nm,0.8s,mb3.9,baz=69,slow=4.2,SNR=4.4
STKA Stephens Creek 61.92 135 *e*P **P 19 21 23.9 -1.0**
comp=Z,8.8nm,0.9s,mb4.9
STKA Stephens Creek 61.92 135 P **P 19 21 24.0 -0.9**
comp=Z,9.7nm,0.9s,mb5.0,baz=318,slow=6.4,SNR=15
TIXI Tiksi 64.40 11 *e*P **P 19 21 36.3 -5.1**
TIXI *e* pP 19 21 45.4 -5.2
TIXI pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
TIXI MLR MLR
comp=Z,89nm,14.0s,MS4.1
MLR Muntele Rosu 67.33 315 P **P 19 21 59.5 -0.7**
comp=Z,0.3nm,0.4s,mb3.7,baz=202,slow=16,SNR=2.0
FINES FINESS Array B 70.32 332 P **P 19 22 18.6 -0.3**
comp=Z,1.2nm,0.7s,mb3.9,baz=101,slow=7.4,SNR=3.7
ARCES ARCESS Array B 72.68 340 P **P 19 22 33.1 0.0**
comp=Z,4.9nm,1.0s,mb4.4,baz=81,slow=7.5,SNR=5.4
GERES GERESS Array B 75.88 318 LR LR 19 57 37.7
comp=Z,92nm,18.5s,MS4.1,baz=207,slow=37
HFS Hagfors 76.13 329 P **P 19 22 52.6 -0.5**
comp=Z,0.9nm,0.6s,mb3.9,baz=118,slow=8.3,SNR=3.4
HFS Hagfors 76.13 329 P **P 19 22 52.6 -0.5**
BOSA Boshof 77.31 237 LR LR 19 51 29.3
comp=Z,102nm,20.1s,MS4.1,baz=3.5,slow=31
DAG Danmarks Havn 84.75 348 ⇑*i*P **P 19 23 44.2 +4.8**
comp=Z,2.7nm,0.6s,mb4.5
DAG Danmarks Havn 84.75 348 ⇑*i*P **P 19 23 44.2 +4.8**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
SYO Syowa Base 88.19 197 ⇓*e*P **P 19 23 56.2 -0.1**
TORD Torodi Ar. Bea 90.18 283 P **P 19 24 06.5 +1.0**
comp=Z,0.8nm,0.7s,mb4.1,baz=86,slow=4.3,SNR=6.9
TORD PP PP 19 27 40.6 +1.3
comp=Z,0.6nm,0.9s,baz=74,slow=11,SNR=3.8
ILAR Eielson Array 92.02 22 P **P 19 24 13.4 -0.7**
comp=Z,0.7nm,0.8s,mb4.0,baz=293,slow=4.7,SNR=8.3
ULM Lac du Bonnet 118.62 7 PKP PKPdf 19 29 53.2 +0.1
comp=Z,1.1nm,0.6s,baz=53,slow=5.1,SNR=2.4
NVAR Mina Array Bea 122.35 30 PKP PKPdf 19 30 02.1 +1.9
comp=Z,0.9nm,0.6s,baz=340,slow=1.1,SNR=7.2
PDAR Pinedale Array 122.43 21 PKP PKPdf 19 30 01.2 +0.8
comp=Z,1.0nm,0.7s,baz=338,slow=0.5,SNR=9.8
BDFB Brasilia 143.10 258 PKP PKPdf 19 30 41.0 +1.9
comp=Z,1.9nm,0.7s,baz=181,slow=5.0,SNR=3.3
PLCA Paso Flores 147.29 201 PKPbc PKPbc 19 30 50.0 +1.4
comp=Z,3.3nm,0.8s,baz=141,slow=14,SNR=8.4
CPUP Villa Florida 149.12 236 PKPbc PKPbc 19 30 51.8 -1.7
comp=Z,2.8nm,0.8s,baz=56,slow=3.0,SNR=6.4

*IDC **19** 19:12:12.0±0.7, 1067N×9437E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.2/22, mbtmp4.3/9, MS3.9/6, Ms1 3.9/6, ms1mx3.7/20, Error ellipse: s-maj=36.6km s-min=17.1km az=59.0*
*NEIC **19** 19:12:13.6±0.4, 1068N×9430E, h10km, mb4.9/4, Error ellipse: s-maj=23.3km s-min=8.4km az=64.0*
*HRVD **19** 19:12:13.6±0.5, 1078N×9452E, h12km, MW4.9/68, Centroid moment Tensor Solution. LP body waves: s26,c30;Mantle waves: s68,c107; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.21±.10; $M_{\theta\theta}$2.07±.08; $M_{\phi\phi}$0.14±.11; $M_{r\theta}$0.94±.31; $M_{\theta\phi}$0.58±.09; $M_{\phi r}$0.43±.35; Best double couple: $M_0$2.45100×10^16^ NP1:ϕ_s-251.00000°, δ57.00000°, λ-94.00000°. Principal axes: T 2.4570, Plg12.0000°, Azm344.0000°; N -0.0120, Plg3.0000°, Azm253.0000°; P -2.4440, Plg77.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **19** 19:12:15.2±0.6, 1058N×9942E±0.1, h33km, mb4.7/17, MS4.0/8 Error ellipse: s-maj=21.7km s-min=9.8km az=133.0*
*BJI **19** 19:12:15.6, 1070N×9430E, h10km, mB5.3, mb4.6, Ms4.7, Msz4.0*

ISC 19 19:12:17.6±0.6, 1063N±009×942E±01, h35km, n33, σ0993/22, mb4.7/17, MS4.0/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.06**	**149**	LR	LR	19 18 06.7	
	comp=Z,2μm,18.8s,baz=309,slow=39						
NJ2	**Nanjing**	**31.16**	**43**	*e*P	**P**	**19 18 37.5**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,120nm,10.1s						
NJ2				LR	LR		
	comp=N,6μm,17.2s,MS5.3						
NJ2				LR	LR		
	comp=E,1μm,16.8s,MS5.3						
NJ2				LR	LR		
	comp=Z,410nm,18.1s,MS4.1						
SSE	**Sheshan**	**32.23**	**47**	*e*P	**P**	**19 18 44.1**	**+1.6**
SSE				AP	pP	19 18 53.6	+1.0
SSE				XP	sP	19 18 56.3	-0.6
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,201nm,3.9s						
SSE				LR	LR		
	comp=N,117nm,18.7s,MS3.6						
SSE				LR	LR		
	comp=E,44nm,18.7s,MS3.6						
SSE				LR	LR		
	comp=Z,67nm,25.2s						
BJI	**Beijing**	**35.17**	**30**	P	**P**	**19 19 08.4**	**+0.3**
BJI				LR	LR		
	comp=Z,173nm,19.7s,MS3.8						
MKAR	**Makanchi Array**	**37.45**	**346**	P	**P**	**19 19 26.1**	**-1.5**
	comp=Z,4.4nm,1.0s,mb4.3,baz=162,slow=8.4,SNR=4.0						
SONM	**Songino Array**	**38.48**	**13**	P	**P**	**19 19 36.1**	**-0.1**
	comp=Z,6.6nm,1.2s,mb3.9,baz=210,slow=4.8,SNR=2.7						
KURK	**Kurchatov**	**41.99**	**345**	*e*P	**P**	**19 20 04.5**	**-0.8**
	comp=Z,22nm,1.2s,mb4.7						
CN2	**Changchun**	**42.68**	**34**	*e*P	**P**	**19 20 16.3**	**+5.4**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
ZAL	**Zalesovo**	**43.85**	**352**	LR	LR	19 41 23.0	
	comp=Z,158nm,19.8s,MS3.9,baz=298,slow=40						
BVAR	**Borovoye Array**	**46.44**	**340**	P	**P**	**19 20 40.3**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=148,slow=8.5,SNR=2.3						
MUN	**Mundaring**	**47.29**	**154**	*e*P	**P**	**19 20 48.9**	**+1.3**
KLBR	**Kellerberrin**	**47.64**	**153**	*e*P	**P**	**19 20 51.0**	**+0.7**
	comp=Z,33nm,1.0s,mb5.3						
NWAO	**Narrogin (SRO)**	**48.55**	**154**	P	**P**	**19 20 56.9**	**-0.5**
	comp=Z,17nm,1.1s,mb5.0,baz=348,slow=9.3,SNR=3.4						
WRA	**Warramunga Arr**	**49.81**	**128**	P	**P**	**19 21 06.4**	**-0.6**
	comp=Z,5.6nm,1.0s,mb4.5,baz=303,slow=8.3,SNR=5.3						
WRAB	**Tennant Creek**	**49.81**	**127**	*e*P	**P**	**19 21 06.2**	**-0.8**
	comp=Z,30nm,1.3s,mb5.2						
ASPA	**Alice Springs**	**51.63**	**132**	*e*P	**P**	**19 21 20.6**	**0.0**
AS31	**Alice Springs**	**51.63**	**132**	*e*P	**P**	**19 21 20.6**	**-0.1**
ASAR	**Alice Springs**	**51.63**	**132**	P	**P**	**19 21 20.8**	**+0.1**
	comp=Z,6.4nm,0.9s,mb4.6,baz=307,slow=7.1,SNR=6.3						
YAK	**Yakutsk**	**57.37**	**19**	*e*P	**P**	**19 22 06.7**	**+4.3**
	comp=Z,8.8nm,0.8s,mb4.8						
KMBO	**Kilima Mbogo**	**57.86**	**262**	LR	LR	19 42 34.3	
	comp=Z,53nm,20.3s,MS3.6,baz=90,slow=31						
BRTR	**Keskin Array B**	**60.74**	**310**	P	**P**	**19 22 26.2**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.9,baz=118,slow=8.3,SNR=2.0						
STKA	**Stephens Creek**	**61.94**	**135**	*e*P	**P**	**19 22 31.7**	**-2.1**
	comp=Z,8.8nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**61.94**	**135**	P	**P**	**19 22 32.1**	**-1.7**
	comp=Z,6.8nm,0.9s,mb4.8,baz=328,slow=8.3,SNR=4.6						
LSZ	**Lusaka**	**70.30**	**250**	LR	LR	19 52 30.4	
	comp=Z,74nm,18.5s,MS4.0,baz=140,slow=34						
BILL	**Bilibino**	**73.51**	**22**	P	**P**	**19 23 47.2**	**+0.5**
	comp=Z,23nm,1.5s,mb4.9						
GERES	**GERESS Array B**	**75.86**	**318**	LR	LR	20 06 03.8	
	comp=Z,33nm,18.1s,MS3.7,baz=209,slow=43						
TORD	**Torodi Ar. Bea**	**90.06**	**283**	P	**P**	**19 25 15.1**	**+1.3**
	comp=Z,2.2nm,1.0s,mb4.4,baz=78,slow=4.4,SNR=5.4						
ILAR	**Eielson Array**	**92.17**	**22**	LR	LR	20 10 11.2	
	comp=Z,108nm,18.6s,MS4.3,baz=180,slow=38						
NVAR	**Mina Array Bea**	**122.51**	**30**	PKP	PKPdf	19 31 10.2	+1.0
	comp=Z,0.2nm,0.4s,baz=231,slow=8.0,SNR=3.7						
PDAR	**Pinedale Array**	**122.58**	**21**	PKP	PKPdf	19 31 08.7	-0.7
	comp=Z,0.4nm,0.7s,baz=31,slow=1.6,SNR=3.5						
PLCA	**Paso Flores**	**147.14**	**202**	PKPbc	PKPbc	19 31 57.9	+0.9
	comp=Z,6.7nm,1.2s,baz=169,slow=2.3,SNR=2.4						
CPUP	**Villa Florida**	**148.94**	**236**	PKPbc	PKPbc	19 32 02.7	+1.0
	comp=Z,2.7nm,0.8s,baz=153,slow=11,SNR=2.5						
CPUP	**Villa Florida**	**148.94**	**236**	PKPbc	PKPbc	19 32 02.7	+1.0

IDC 19 19:16:44.1±2.7, 3084S×17694W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/13, mbtmp3.7/2, Error ellipse: s-maj=56.3km s-min=33.3km az=88.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.80**	**332**	Pn	Pn	19 17 17.2	+0.8
	119nm,0.3s,baz=268,slow=23,SNR=7.4						
RAO				Sn	Sn	19 17 39.6	-0.3
	260nm,0.3s,baz=196,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**44.00**	**267**	P	P	19 24 53.5	+0.3
	0.5nm,0.6s,baz=108,slow=7.6,SNR=7.0						
WRA	**Warramunga Arr**	**45.03**	**272**	P	P	19 25 01.6	+0.1
	0.7nm,0.4s,baz=111,slow=8.0,SNR=41						
FINES	**FINESS Array B**	**145.87**	**340**	PKPbc	PKPbc	19 36 23.7	-1.7
	0.4nm,0.4s,baz=46,slow=4.0,SNR=9.2						

*ISCJB **19** 19:20:45.9±0.3, 5014N×002×18.34E±002, h0km, Error ellipse: s-maj=3.0km s-min=2.0km az=34.0*
*IDC **19** 19:20:47.2±0.9, 4982N×1868E, h0km, mb1 3.5/7, mb1mx3.3/22, mbtmp3.4/7, ML3.1/5, Error ellipse: s-maj=15.7km s-min=7.1km az=146.0*
*NEIC **19** 19:20:47.4±0.3, 5020N×1846E, h5km, ML3.6(SZGRF), Error ellipse: s-maj=4.6km s-min=3.3km az=194.0*
*IPEC **19** 19:20:48.9±0.1, 5004N×1843E, h0km, ML2.8/4, Error ellipse: s-maj=2.1km s-min=0.7km az=163.0*
*LDG **19** 19:20:48.9±0.3, 4999N×1843E, h1km, Ml3.3/10, Error ellipse: s-maj=7.4km s-min=2.6km az=22.0, Suspected Mining induced.*
*WAR **19** 19:20:49.0, 5003N×1845E, ML3.0, Mining Induced*
*CSEM **19** 19:20:49.0±0.1, 5008N×1839E, h2km, ML3.5/14, Error ellipse: s-maj=2.0km s-min=1.1km az=8.0*
*PRU **19** 19:20:49.8, 5004N×1836E, h0km*
*VIE **19** 19:20:50.3±0.8, 4980N×1845E, h0km, mb2.3/4, ML3.2/4, Error ellipse: s-maj=4.7km s-min=3.5km az=68.0 15 km ESE of Ostrava Suspected Mining induced.*
*BGR **19** 19:20:51.0±0.7, 4994N×1824E, h1km, ML3.6/10, Error ellipse: s-maj=10.0km s-min=5.6km az=13.0*

ISC 19 19:20:47.8±0.3, 5008N±002×1840E±002, h0km, n97, σ1925/155, 8C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.13**	**270**	⇓*i*Pg	**Pg**	**19 20 53.1**	**+2.8**
RAC				*e*Sg	**Sg**	**19 20 56.5**	**+4.5**
OKC	**Ostrava-Krasne**	**0.29**	**213**	*e*PG	**Pg**	**19 20 54.7**	**+1.3**
OKC				*e*SG	**Sg**	**19 20 59.0**	**+1.7**
	1μm,0.6s						
MORC	**Moravsky Berou**	**0.63**	**241**	*e*Pg	**Pg**	**19 21 01.2**	**+1.3**
MORC				*e*Sg	**Sg**	**19 21 09.1**	**+1.0**
	238nm,0.3s						
MORC	**Moravsky Berou**	**0.63**	**241**	⇓P	**Pg**	**19 21 01.1**	**+1.2**
MORC				S	**Sg**	**19 21 10.1**	**+2.0**
OJC	**Ojcow**	**0.91**	**81**	*e*Pg	**Pg**	**19 21 05.5**	**+0.2**
OJC				*e*Sg	**Sg**	**19 21 18.1**	**+1.0**
LIKS	**Likavka**	**1.13**	**156**	*e*PN	**Pn**	**19 21 10.6**	**-0.3**
LIKS				*e*SN	**Sn**	**19 21 25.9**	**-1.3**
JAVC	**Velka Javorina**	**1.31**	**201**	*e*Sg	**Sg**	**19 21 31.5**	**+1.5**
	162nm,0.4s						
DPC	**Dobruska-Polom**	**1.36**	**282**	*e*PG	**Pg**	**19 21 14.6**	**+0.8**
DPC				*e*SG	**Sg**	**19 21 32.9**	**+1.4**
	218nm,0.5s						
DPC	**Dobruska-Polom**	**1.36**	**282**	*e*Pg	**Pg**	**19 21 14.6**	**+0.8**
DPC				*e*Sg	**Sg**	**19 21 32.5**	**+1.0**
VRAC	**Vranov**	**1.40**	**237**	Pg	**Pg**	**19 21 15.3**	**+0.5**
	17nm,0.3s,baz=62,slow=14,SNR=80						
VRAC				Lg		19 21 33.3	
	51nm,0.3s,baz=135,slow=22,SNR=22						
VRAC	**Vranov**	**1.40**	**237**	*e*Pg	**Pg**	**19 21 15.2**	**+0.5**
VRAC				*e*Sg	**Sg**	**19 21 32.4**	**-0.5**
	93nm,0.2s						
VRAC				S	**Sg**	**19 21 33.8**	**+0.9**
VRAC	**Vranov**	**1.40**	**237**	⇑P	**Pn**	**19 21 15.2**	**+0.6**
VRAC				S	**Sg**	**19 21 33.8**	**+0.9**
NIE	**Niedzica**	**1.41**	**117**	*e*Pg	**Pg**	**19 21 14.8**	**0.0**
NIE				*e*Sg	**Sg**	**19 21 34.0**	**+0.9**
KSP	**Ksiaz**	**1.54**	**300**	*e*Pg	**Pg**	**19 21 17.1**	**-0.3**
KSP				*e*Sg	**Sg**	**19 21 39.7**	**+2.3**
KSP	**Ksiaz**	**1.54**	**300**	*e*Pg	**Pg**	**19 21 17.0**	**-0.4**
KSP				*e*Sg	**Sg**	**19 21 39.7**	**+2.3**
UPC	**Upice**	**1.59**	**286**	*e*PG	**Pg**	**19 21 18.4**	**+0.2**
UPC				*e*SG	**Sg**	**19 21 40.5**	**+1.7**
VYHS	**Vyhne**	**1.62**	**170**	*e*PN	**Pn**	**19 21 17.5**	**-0.1**
VYHS				*e*SN	**Sn**	**19 21 39.0**	**-0.1**
KRUC	**Moravsky**	**1.66**	**233**	*e*Pn	**Pn**	**19 21 18.8**	**+0.7**
KRUC				*e*Sg	**Sg**	**19 21 40.4**	**-0.6**
	57nm,0.2s						
SMOL	**Smolenice**	**1.69**	**202**	*e*PN	**Pn**	**19 21 18.6**	**0.0**
SMOL				*e*SN	**Sn**	**19 21 40.4**	**-0.6**
STHS	**Stebnicka Huta**	**1.96**	**109**	*e*PG	**Pg**	**19 21 25.4**	**-0.1**
STHS				*e*SN	**Sn**	**19 21 52.2**	**+4.5**
ZST	**Bratislava**	**2.07**	**205**	*e*PN	**Pn**	**19 21 23.8**	**0.0**
ZST				*e*SN	**Sn**	**19 21 49.4**	**-0.9**
KECS	**Kecovo**	**2.11**	**139**	*i* PN	**Pn**	**19 21 23.7**	**-0.6**
KECS				*e*		19 21 48.8	
CRVS	**Cervenica-Dubn**	**2.32**	**119**	*e*PN	**Pn**	**19 21 30.6**	**+3.3**
CRVS				*e*SN	**Sn**	**19 22 00.7**	**+4.2**
PSZ	**Piszkesteto**	**2.38**	**155**	⇓*e*Pn	**Pn**	**19 21 27.8**	**-0.3**
PSZ				*e*Sn	**Sn**	**19 21 57.0**	**-1.0**
PRU	**Pruhonice**	**2.49**	**269**	*e*PN	**Pn**	**19 21 29.1**	**-0.4**
PRU				*e*PG	**Pg**	**19 21 33.8**	**-1.7**
PRU				*e*SG	**Sg**	**19 22 07.2**	**-0.5**
	97nm,0.9s						
PRU	**Pruhonice**	**2.49**	**269**	*e*Pg	**Pg**	**19 21 33.8**	**-1.7**
PRU				*e*Sg	**Sg**	**19 22 07.2**	**-0.5**
	97nm,0.9s						
PRA	**Prague**	**2.55**	**271**	SG	**Sg**	**19 22 11.0**	**+1.2**
KWP	**Kalwaria**	**2.83**	**98**	*e*Pn	**Pn**	**19 21 42.8**	**+8.6**
KWP				*e*Pg	**Pg**	**19 21 49.0**	**+7.0**
KWP				*e*Sn	**Sn**	**19 22 21.8**	**+13**
KWP				*e*Sg	**Sg**	**19 22 31.3**	**+13**
BRG	**Berggiesshubel**	**2.95**	**287**	*e*Pg	**Pg**	**19 21 43.4**	**-1.0**
BRG				*e*Sg	**Sg**	**19 22 23.6**	**+0.9**
BRG	**Berggiesshubel**	**2.95**	**287**	Pg	**Pg**	**19 21 43.4**	**-1.0**
BRG				Sg	**Sg**	**19 22 22.8**	**+0.1**
BRG	**Berggiesshubel**	**2.95**	**287**	PG	**Pg**	**19 21 42.2**	**-2.1**
BRG				SG	**Sg**	**19 22 22.8**	**+0.1**
	34nm,0.6s						
GKP	**Gorka Klasztor**	**3.27**	**348**	*e*Pn	**Pn**	**19 21 42.1**	**+1.8**
GKP				*e*Pg	**Pg**	**19 21 54.7**	**+4.2**
GKP				*e*Sn	**Sn**	**19 22 17.9**	**-2.0**
GKP				*e*Sg	**Sg**	**19 22 29.2**	**-3.7**
KHC	**Kasperske Hory**	**3.27**	**255**	*e*PN	**Pn**	**19 21 40.5**	**+0.1**
KHC				*e*PG	**Pg**	**19 21 49.2**	**-1.4**
KHC				*e*SN	**Sn**	**19 22 20.5**	**+0.5**
KHC				*e*SG	**Sg**	**19 22 31.9**	**-1.2**
	98nm,0.5s						
KHC	**Kasperske Hory**	**3.27**	**255**	*e*Pg	**Pg**	**19 21 49.2**	**-1.4**
KHC				*e*Sn	**Sn**	**19 22 20.5**	**+0.5**
KHC				*e*Sg	**Sg**	**19 22 31.9**	**-1.2**
	98nm,0.5s						
GEC2	**GERESS Array S**	**3.30**	**250**	*e*Pn	**Pn**	**19 21 42.2**	**+1.4**
GEC2	**GERESS Array S**	**3.30**	**250**	*e*Pn	**Pn**	**19 21 42.2**	**+1.4**
GERES	**GERESS Array B**	**3.30**	**250**	Pn	**Pn**	**19 21 40.1**	**-0.6**
	0.4nm,0.3s,baz=64,slow=14,SNR=13						
GERES				Pg	**Pg**	**19 21 49.7**	**-1.4**
	3.4nm,0.3s,baz=68,slow=17,SNR=56						
GERES				Lg		19 22 32.7	
	6.3nm,0.3s,baz=72,slow=29,SNR=7.1						
GERES	**GERESS Array B**	**3.30**	**250**	Pg	**Pg**	**19 21 49.7**	**-1.4**
FBE	**Freiberg**	**3.33**	**287**	*e*Sg	**Sg**	**19 22 34.3**	**-0.4**
ARSA	**Arzberg**	**3.42**	**215**	⇑*i*Sg	**Sg**	**19 22 36.9**	**-0.6**
	comp=Z,15nm,0.6s						
ARSA	**Arzberg**	**3.42**	**215**	⇑*i*Pn	**Pn**	**19 21 42.4**	**+0.1**
ARSA				⇑*i*Sg	**Sg**	**19 22 36.9**	**-0.6**
	15nm,0.6s						
ARSA	**Arzberg**	**3.42**	**215**	⇑*i*Pn	**Pn**	**19 21 42.4**	**+0.1**
ARSA				*i* Sg	**Sg**	**19 22 36.9**	**-0.6**
MOA	**Molln**	**3.52**	**232**	⇓*i*Sg	**Sg**	**19 22 41.0**	**0.0**
	comp=Z,50nm,0.6s						
MOA	**Molln**	**3.52**	**232**	⇓*i*Pn	**Pn**	**19 21 43.7**	**-0.1**
MOA				⇓*i*Sg	**Sg**	**19 22 41.0**	**0.0**
	50nm,0.6s						
MOA	**Molln**	**3.52**	**232**	⇓*i*Pn	**Pn**	**19 21 43.7**	**-0.1**
MOA				*i* Sg	**Sg**	**19 22 41.0**	**0.0**
CLL	**Collm**	**3.64**	**292**	*e*Pn	**Pn**	**19 21 48.5**	**+3.1**
CLL				*e*Sg	**Sg**	**19 22 45.8**	**+1.0**
CLL	**Collm**	**3.64**	**292**	*i* Pg	**Pg**	**19 21 59.2**	**+1.6**
CLL				*i* x	x	19 22 01.9	
CLL				*e*Sg	**Sg**	**19 22 48.0**	**+3.2**
	comp=Z,78nm,0.9s						
CLL	**Collm**	**3.64**	**292**	*i* Pg	**Pg**	**19 21 59.2**	**+1.6**
CLL				Sg	**Sg**	**19 22 45.8**	**+1.0**
WET	**Wettzell**	**3.71**	**257**	*e*Pn	**Pn**	**19 21 46.4**	**+0.1**
WET				*e*Sg	**Sg**	**19 22 45.8**	**-1.2**
WET	**Wettzell**	**3.71**	**257**	*e*Pn	**Pn**	**19 21 46.4**	**+0.1**
WET				*e*Sg	**Sg**	**19 22 45.8**	**-1.2**
RUE	**Ruedersdorf**	**3.76**	**311**	*e*Pg	**Pg**	**19 22 00.4**	**+0.5**
RUE	**Ruedersdorf**	**3.76**	**311**	*e*Pg	**Pg**	**19 22 00.5**	**+0.5**
TANN	**Tannenbergstha**	**3.82**	**277**	*e*Pn	**Pn**	**19 21 48.8**	**+0.9**
TANN				*e*Sg	**Sg**	**19 22 49.9**	**-0.8**
NKC	**Novy Kostel**	**3.83**	**275**	*e*SG	**Sg**	**19 22 51.8**	**+1.0**
	comp=Z,110nm,1.0s						
WERN	**Wernitzgruen**	**3.87**	**275**	*e*Pn	**Pn**	**19 21 49.5**	**+0.9**
WERN				*e*Sg	**Sg**	**19 22 51.6**	**-0.7**
PKSM	**Moragy**	**3.88**	**177**	⇓*i*P	**Pn**	**19 21 48.2**	**-0.5**
PKSM				*e*S	**Sn**	**19 22 30.1**	**-4.8**
ROTZ	**Rotzenmuhle**	**4.01**	**268**	*e*Pn	**Pn**	**19 21 52.4**	**+1.9**
ROTZ				*e*Sg	**Sg**	**19 22 55.0**	**-1.7**
MANZ	**Manzenberg**	**4.05**	**271**	*e*Pn	**Pn**	**19 21 53.1**	**+2.0**
MANZ				*e*Sg	**Sg**	**19 22 56.0**	**-2.1**
DRGR		**4.37**	**137**	⇓P	**Pn**	**19 21 55.7**	**+0.3**
DRGR		**4.37**	**137**	⇓P	**Pn**	**19 21 55.7**	**+0.3**
MOX	**Moxa**	**4.38**	**280**	*e*PN	**Pn**	**19 21 56.5**	**+1.0**
MOX				*e*SG	**Sg**	**19 23 09.1**	**+0.7**
GRA1	**Grafenberg Arr**	**4.66**	**268**	Sg	**Sg**	**19 23 15.1**	**-2.3**
GRF	**Grafenberg Arr**	**4.66**	**268**	*e*Sg	**Sg**	**19 23 15.1**	**-2.2**
BZS	**Buzias**	**4.97**	**153**	⇑P	**Pn**	**19 22 03.9**	**+0.2**
BURAR	**Bucovina Array**	**5.14**	**116**	⇑P	**Pn**	**19 22 06.8**	**+0.9**
BURAR	**Bucovina Array**	**5.14**	**116**	⇑P	**Pn**	**19 22 06.8**	**+0.8**
DAVOX	**Davos**	**6.56**	**243**	Pn	**Pn**	**19 22 26.9**	**+1.4**
	baz=45,slow=14						
DAVOX				Sn	**Sn**	**19 23 45.9**	**+4.9**
	comp=Z,0.2nm,0.3s,baz=342,slow=20,SNR=2.6						
DAVOX				Lg		19 24 17.9	
	baz=261,slow=19						
AKASG	**Malin Array Be**	**6.95**	**81**	Pn	**Pn**	**19 22 25.5**	**-5.4**
	comp=Z,0.3nm,0.3s,baz=271,slow=11,SNR=2.9						
AKASG				Pg	**Pg**	**19 22 54.1**	**-6.9**
	comp=Z,0.9nm,0.3s,baz=270,slow=15,SNR=7.1						
AKASG				Lg		19 24 22.3	
	comp=Z,1.6nm,0.3s,baz=266,slow=25,SNR=4.1						
CDF	**Champ du

JOM	**Ohasama**	**1.06 312**	⇑P	Pn	19 22 13.5 +0.6
JOM			S	Sn	19 22 27.0 +0.5
JOU	**Okura**	**1.35 253**	P	Pn	19 22 17.3 +0.3
JMM	**Marumori**	**1.50 233**	P	Pn	19 22 18.9 -0.1
JMM			S	Sn	19 22 37.5 +0.2
JYK	**Kaneyama**	**1.53 276**	P	Pn	19 22 20.1 +0.7
MAT	**Matsushiro**	**3.94 237**	P	Pn	19 22 55.7 +3.1

ISK ***19*** *19:42:40.9, 3691N×2769E, h20km, MD3.1*
ISCJB ***19*** *19:42:41.8±0.4, 3691N±002×2767E±003, h10km±3km, Error ellipse: s-maj=4.3km s-min=3.6km az=29.5*
CSEM ***19*** *19:42:41.4±0.1, 3691N×2771E, h10km, MD3.1, Error ellipse: s-maj=2.2km s-min=1.5km az=121.0*
NEIC ***19*** *19:42:41.7, 3693N×2777E, h35km, MD3.4(ATH), After ATH.*
ATH ***19*** *19:42:41.7, 3693N×2777E, h35km±5km, MD3.4/5*
ISC 19 19:42:42.4±0.4,**3691N**±002×**2766E**±003,**h9**km±3km,**n25,** σ1°**19**/40,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.19**	**199**	*i* PG	**Pg**	**19 42 46.1**	**-0.2**
DAT				*i* SG	**Sg**	**19 42 50.5**	**+1.5**
BODT	**Bodrum**	**0.32**	**299**	*i* PG	**Pg**	**19 42 48.8**	**+0.2**
BODT				*i* SG	**Sg**	**19 42 54.6**	**+1.7**
MLSB	**Milas**	**0.40**	**14**	*i* PG	**Pg**	**19 42 49.4**	**-0.8**
MLSB				*i* SG	**Sg**	**19 42 55.7**	**+0.3**
YER	**Yerkesik**	**0.55**	**66**	PG	**Pg**	**19 42 51.8**	**-1.2**
YER				SG	**Sg**	**19 43 00.7**	**+0.5**
AYDN	**Tasoluk**	**0.77**	**13**	*i* P	**Pg**	**19 42 56.4**	**-0.9**
AYDN				*i* S	**Sg**	**19 43 07.2**	**-0.1**
ARG	**Arkhangelos**	**0.79**	**151**	*e*PN	**Pg**	**19 42 56.6**	**-0.9**
ARG				*e*SN	**Sg**	**19 43 08.6**	**+0.8**
SMG	**Samos**	**1.03**	**321**	*e*PB	**Pg**	**19 43 01.3**	**-0.9**
SMG				*e*SN	**Sg**	**19 43 17.5**	**+1.9**
KARP	**Karpathos**	**1.42**	**197**	*e*PN	**Pn**	**19 43 07.4**	**-0.9**
KARP				*e*SN	**Sn**	**19 43 26.5**	**-0.5**
IZM	**Izmir**	**1.52**	**348**	PN	**Pn**	**19 43 08.3**	**-1.4**
KDAG	**Bornova**	**1.52**	**348**	*i* P	**Pn**	**19 43 08.5**	**-1.3**
KDAG				*i* S	**Sn**	**19 43 31.7**	**+2.0**
GOLH	**Golhisar**	**1.56**	**77**	*i* P	**Pn**	**19 43 11.5**	**+1.3**
GOLH				*i* S	**Sn**	**19 43 33.5**	**+3.0**
URLA	**Izmir**	**1.68**	**330**	*i* P	**Pn**	**19 43 11.6**	**-0.3**
URLA				*i* S	**Sn**	**19 43 37.1**	**+3.7**
APE	**Apeiranthos**	**1.71**	**276**	PN	**Pn**	**19 43 10.8**	**-1.5**
APE	**Apeiranthos**	**1.71**	**276**	*e*PN	**Pn**	**19 43 11.7**	**-0.6**
APE				*e*SN	**Sn**	**19 43 34.2**	**-0.1**
MANT	**Manisa**	**1.73**	**24**	*i* P	**Pn**	**19 43 11.8**	**-0.8**
MANT				*i* S	**Sn**	**19 43 34.5**	**-0.4**
AKS	**Akhisar**	**1.97**	**4**	*e*PN	**Pn**	**19 43 13.6**	**-2.3**
NPS	**Neapolis**	**2.33**	**226**	*e*PN	**Pn**	**19 43 20.8**	**-0.1**
TKTP	**Tekketepe**	**2.40**	**61**	*i* P	**Pn**	**19 43 23.1**	**+1.3**
TKTP				*i* S	**Sg**	**19 44 02.1**	**+2.6**
AYVA	**Ayvalik**	**2.51**	**343**	*i* P	**Pg**	**19 43 29.8**	**-0.8**
AYVA				*i* S	**Sn**	**19 43 56.2**	**+2.0**
AYVA	**Ayvalik**	**2.51**	**343**	*i* S	**Sn**	**19 43 56.2**	**+2.1**
PRK	**Paraskevi**	**2.58**	**335**	*e*PN	**Pn**	**19 43 23.7**	**-0.5**
BTOK	**Tokmak**	**2.86**	**6**	*i* P	**Pg**	**19 43 36.5**	**-0.7**
ULDT	**Uludag**	**3.43**	**19**	*e*P	**Pg**	**19 43 46.5**	**-1.6**
LIA	**Limnos Island**	**3.56**	**328**	*e*PN	**Pn**	**19 43 37.6**	**-0.2**
VLI	**Veliai**	**3.79**	**269**	*e*PN	**Pn**	**19 43 42.2**	**+1.3**

LDG ***19*** *20:01:41.5±0.4, 1368S×16738E, h10km, Mb5.2/4, Error ellipse: s-maj=50.0km s-min=22.4km az=92.0*
CSEM ***19*** *20:01:42.6, 1446S×16740E, h33km, mb5.7*
NEIC ***19*** *20:01:59.5±1.4, 1448S×16721E, h159km±12km, mb4.9/25, Error ellipse: s-maj=9.7km s-min=8.4km az=146.0*
CRAAG ***19*** *20:01:59.0, 1451S×167.16E, Mb4.8*
HRVD ***19*** *20:01:59.5±0.4, 1449S×167.12E, h168km±3km, MW5.0/68, Centroid moment Tensor Solution. LP body waves: s23,c27;Mantle waves: s68,c108; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.12±.12; $M_{\theta\theta}$0.24±.14; $M_{\phi\phi}$-3.36±.13; $M_{r\theta}$1.44±.12; $M_{\theta\phi}$0.83±.16; $M_{\phi r}$0.30±.14; Best double couple: $M_0$3.65300×10^{16} NP1:ϕ_s10.00000°, δ49.00000°, λ122.00000°. NP2:ϕ_s146.00000°, δ50.00000°, λ58.00000°. Principal axes: T 3.7650, Plg66.0000°, Azm348.0000°; N -0.2280, Plg24.0000°, Azm168.0000°; P -3.5410, Plg0.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***19*** *20:02:00.4±1.1, 1456S±005×167.16E±005, h185km±10km, mb4.8/56 Error ellipse: s-maj=8.3km s-min=7.2km az=112.2*
IDC ***19*** *20:02:02.8±1.2, 1459S×167.16E, h196km±10km, mb4.5/20, mb1 4.6/22, mb1mx4.6/23, mbtmp5.0/22, MS3.6/3, Ms1 3.6/3, ms1mx3.1/27, Error ellipse: s-maj=10.3km s-min=8.8km az=146.0*
MOS ***19*** *20:02:02.7±1.5, 1438S×16704E, h193km, mb4.9/18, Error ellipse: s-maj=9.8km s-min=8.4km az=133.7*
BJI ***19*** *20:02:04.9, 1384S×16701E, h194km, mB4.9, mb4.8*
ISC 19 20:02:01.8±0.9,**1459S**±004×**16725E**±005,**h185**km±8km, **h188**km±2.3km:**pP-P,n335,** σ0**97**/131,**mb4.8**/56,**66C-11D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.21**	**163**	⇑*i*P	**Pn**	**20 02 38.3**	**-15**
BKM				S	**Sn**	**20 03 18.1**	**-15**
DZM	**Mont Dzumac**	**7.49**	**186**	P	**Pn**	**20 03 47.5**	**-0.7**
	5.1nm,0.3s,baz=42,slow=19,SNR=45						
DZM				S	**Sn**	**20 05 11.8**	**-0.8**
	4.7nm,0.3s,baz=1.1,slow=22,SNR=3.4						
DZM				LR	LR	20 06 30.6	
	comp=Z,434nm,18.6s,baz=186,slow=36						
HNR	**Honiara**	**8.79**	**305**	P	**Pn**	**20 04 04.4**	**-1.0**
	28nm,0.3s,baz=26,slow=0.5,SNR=20						
HNR				S	**Sn**	**20 05 44.1**	**+0.4**
	3.5nm,0.3s,baz=86,slow=22,SNR=3.0						
HNR				LR	LR	20 06 48.6	
	comp=Z,208nm,20.6s,baz=176,slow=33						
HNR	**Honiara**	**8.79**	**305**	‖*e*P	**Pn**	**20 04 03.3**	**-2.1**
PMG	**Port Moresby**	**20.31**	**282**	P	**P**	**20 06 24.2**	**+0.8**
	36nm,0.9s,baz=98,slow=6.2,SNR=14						
PMG	**Port Moresby**	**20.31**	**282**	⇑*i*P	**P**	**20 06 24.0**	**+0.6**
PMG				pmax	pmax		
	comp=Z,38nm,0.9s						
PMG	**Port Moresby**	**20.31**	**282**	⇑*i*P	**P**	**20 06 24.0**	**+0.6**
	comp=Z,38nm,0.9s						
AFI	**Afiamalu**	**20.34**	**91**	P	**P**	**20 06 26.4**	**+2.7**
	comp=Z,134nm,0.9s,baz=132,slow=2.0,SNR=18						
AFI	**Afiamalu**	**20.34**	**91**	*e*P	**P**	**20 06 26.3**	**+2.6**
AFI				pmax	pmax		
	comp=Z,148nm,0.9s						
AFI	**Afiamalu**	**20.34**	**91**	*e*P	**P**	**20 06 26.3**	**+2.7**
	comp=Z,148nm,0.9s						
CTA	**Charters Tower**	**20.77**	**252**	*e*P	**P**	**20 06 29.8**	**+1.5**
	comp=Z,26nm,1.8s						
CTA	**Charters Tower**	**20.77**	**252**	P	**P**	**20 06 29.4**	**+1.2**
	comp=Z,11nm,0.7s,baz=64,slow=9.4,SNR=7.2						
CTA	**Charters Tower**	**20.77**	**252**	*e*P	**P**	**20 06 29.8**	**+1.5**
CTA				pmax	pmax		
	comp=Z,26nm,1.8s						
ARMA	**Armidale**	**21.33**	**220**	*e*P	**P**	**20 06 36.8**	**+2.6**
STKA	**Stephens Creek**	**29.07**	**229**	*e*P	**P**	**20 07 44.2**	**-0.6**
	comp=Z,26nm,0.4s,mb5.3						
STKA	**Stephens Creek**	**29.07**	**229**	P	**P**	**20 07 44.3**	**-0.5**
	comp=Z,32nm,0.5s,mb5.3,baz=47,slow=8.0,SNR=190						
STKA				PcP	PcP	20 10 46.6	-1.4
	comp=Z,17nm,0.8s,baz=24,slow=2.8,SNR=12						
WRAB	**Tennant Creek**	**31.83**	**256**	*e*P	**P**	**20 08 07.4**	**-1.6**
WRA	**Warramunga Arr**	**31.84**	**256**	P	**P**	**20 08 08.6**	**-0.6**
	comp=Z,7.0nm,0.8s,mb4.4,baz=87,slow=9.0,SNR=34						
WRA				PcP	PcP	20 10 55.6	+0.3
	comp=Z,1.9nm,0.7s,baz=93,slow=7.4,SNR=4.7						
WRA				S	**S**	**20 13 03.6**	**-2.1**
	comp=Z,5.0nm,1.0s,baz=82,slow=14,SNR=7.8						
WRA				PKIKP	PKiKP	20 18 23.2	-0.3
	comp=Z,0.5nm,0.7s,baz=2.2,slow=0.1,SNR=7.0						
WRA	**Warramunga Arr**	**31.84**	**256**	P	**P**	**20 08 08.6**	**-0.6**
WRA				PcP	PcP	20 10 55.6	+0.3
WRA				S	**S**	**20 13 03.6**	**-2.1**
AS31	**Alice Springs**	**32.71**	**249**	*e*P	**P**	**20 08 16.3**	**-0.3**
ASAR	**Alice Springs**	**32.71**	**249**	P	**P**	**20 08 16.0**	**-0.6**
	comp=Z,14nm,0.7s,mb4.8,baz=71,slow=9.7,SNR=226						
ASAR				pP	pP	20 08 53.7	-1.4
	comp=Z,4.3nm,0.8s,baz=78,slow=8.7,SNR=2.3						
ASAR				PcP	PcP	20 10 58.1	+0.4
	comp=Z,3.4nm,0.9s,baz=79,slow=3.4,SNR=5.3						
ASAR				S	**S**	**20 13 18.0**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=81,slow=16,SNR=10						
ASAR				ScP	ScP	20 14 28.4	+4.3
	comp=Z,1.3nm,0.8s,baz=82,slow=3.8,SNR=5.2						
ASPA	**Alice Springs**	**32.71**	**249**	*e*P	**P**	**20 08 16.3**	**-0.4**
FORT	**Forrest**	**39.36**	**239**	*e*P	**P**	**20 09 13.4**	**+0.4**
	comp=Z,57nm,0.5s,mb5.5						
FITZ	**Fitzroy Crossi**	**40.03**	**259**	*e*P	**P**	**20 09 17.2**	**-1.4**
	comp=Z,19nm,0.6s,mb4.9						
MBWA	**Marble Bar**	**45.57**	**255**	⇑*i*P	**P**	**20 10 03.6**	**+0.6**
	comp=Z,28nm,0.8s,mb5.0						
MBWA				*e*PcP	PcP	20 11 37.8	-0.6
KLBR	**Kellerberrin**	**48.16**	**241**	*e*P	**P**	**20 10 22.5**	**-0.7**
	comp=Z,16nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**48.81**	**239**	P	**P**	**20 10 28.0**	**-0.1**
	comp=Z,16nm,0.5s,mb4.9,baz=80,slow=8.5						
NWAO	**Narrogin (SRO)**	**48.81**	**239**	P	**P**	**20 10 28.0**	**-0.1**
MUN	**Mundaring**	**49.52**	**240**	*e*P	**P**	**20 10 33.8**	**+0.3**
TGY	**Tagaytay City**	**53.97**	**300**	P	**P**	**20 11 07.3**	**+0.9**
	comp=Z,71nm,0.3s,baz=114,slow=12,SNR=3.4						
KKM	**Kota Kinabalu**	**54.60**	**288**	*e*P	**P**	**20 11 11.3**	**+0.4**
JOW	**Kunigami**	**55.93**	**317**	P	**P**	**20 11 21.4**	**+0.9**
	comp=Z,54nm,0.8s,mb5.5,baz=161,slow=10,SNR=6.5						
MJAR	**Matsushiro Arr**	**57.77**	**332**	P	**P**	**20 11 32.4**	**-1.0**
	comp=Z,9.8nm,0.7s,mb4.8,baz=173,slow=8.3,SNR=29						
MAJO	**Matsushiro**	**57.77**	**332**	*e*P	**P**	**20 11 32.6**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**57.77**	**332**	*e*P	**P**	**20 11 32.6**	**-0.8**
	comp=Z,16nm,0.8s,mb4.9						
MAT	**Matsushiro**	**57.77**	**332**	P	**P**	**20 11 32.2**	**-1.2**
MAT	**Matsushiro**	**57.77**	**332**	*e*P	**P**	**20 11 32.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.9						
MAT	**Matsushiro**	**57.77**	**332**	*e*P	**P**	**20 11 32.0**	**-1.4**
	comp=Z,13nm,0.6s,mb5.0						
KSM	**Kuching**	**58.56**	**281**	*e*P	**P**	**20 11 39.9**	**+1.0**
JNU	**Nakatsue**	**58.79**	**324**	P	**P**	**20 11 40.5**	**0.0**
	comp=Z,33nm,0.9s,mb5.2,baz=93,slow=6.4						
YHNB	**Yeheng**	**59.38**	**311**	*e*P	**P**	**20 11 44.4**	**-0.1**
VNDA	**Vanda**	**63.00**	**181**	P	**P**	**20 12 09.0**	**+0.2**
	comp=Z,7.4nm,0.7s,mb4.6,baz=358,slow=6.7,SNR=25						
SBA	**Scott Base**	**63.28**	**180**	*e*P	**P**	**20 12 11.7**	**+1.0**
SBA				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.0						
SBA	**Scott Base**	**63.28**	**180**	*e*P	**P**	**20 12 11.7**	**+1.1**
	comp=Z,25nm,0.9s,mb5.0						
SSE	**Sheshan**	**63.41**	**316**	*e*P	**P**	**20 12 12.4**	**+0.9**
SSE				PCP	PcP	20 12 49.3	+2.6
SSE				AP	pP	20 12 54.3	-0.3
SSE				XP	sP	20 13 13.0	-1.7
SSE				PP	PP	20 14 32.0	-1.2
SSE				S	**S**	**20 20 27.4**	**-1.8**
SSE				XS	sS	20 21 40.3	-4.0
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,167nm,4.5s						
SSE				LR	LR		
	comp=N,39nm,38.5s						
SSE				LR	LR		
	comp=E,38nm,38.5s						
SSE				LR	LR		
	comp=Z,30nm,18.3s						
YSS	**Yuzh-Sakhalins**	**65.09**	**342**	⇑*i*P	**P**	**20 12 24.0**	**+1.6**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.5						
YSS	**Yuzh-Sakhalins**	**65.09**	**342**	⇑*i*P	**P**	**20 12 23.1**	**+0.7**
NJ2	**Nanjing**	**65.56**	**316**	*e*P	**P**	**20 12 26.4**	**+1.0**
NJ2				AP	pP	20 13 11.1	+2.2
NJ2				XP	sP	20 13 31.6	+2.7
NJ2				PP	PP	20 14 54.9	+2.8
NJ2				S	S	20 20 52.0	-3.6
NJ2				XS	sS	20 22 10.0	-1.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,160nm,6.7s						
NJ2				LR	LR		
	comp=N,470nm,27.7s						
NJ2				LR	LR		
	comp=E,420nm,38.4s						
NJ2				LR	LR		
	comp=Z,1μm,22.9s						
QIZ	**Qiongzhong**	**65.65**	**299**	P	**P**	**20 12 27.3**	**+1.3**
WHN	**Wuhan**	**67.83**	**312**	P	**P**	**20 12 40.0**	**+0.2**
MDJ	**Mudanjiang**	**68.14**	**332**	P	**P**	**20 12 41.9**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,125nm,5.4s						
CN2	**Changchun**	**69.51**	**329**	*e*P	**P**	**20 12 50.3**	**+0.1**
CN2				*e*AP	pP	20 13 35.4	+1.3
CN2				*e*S	S	20 21 40.3	-2.4
CN2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
PSI	**Prapat**	**69.82**	**279**	P	**P**	**20 12 51.0**	**-1.0**
	comp=Z,25nm,0.9s,mb5.0,baz=127,slow=3.8,SNR=22						
KLR	**Kul'dur**	**70.87**	**336**	*e*P	**P**	**20 12 56.0**	**-2.4**
KLR				pmax	pmax		
	comp=E,50nm,1.8s						
KLR				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.2						
GYA	**Guiyang**	**71.62**	**305**	⇑*i*P	**P**	**20 13 03.5**	**+0.6**
GYA				AP	pP	20 13 48.9	+1.8
GYA				XP	sP	20 14 09.4	+2.5
GYA				PP	PP	20 15 46.6	+2.3
GYA				S	S	20 22 04.6	-2.5
GYA				SKS		20 22 43.8	
GYA				XS	sS	20 23 22.5	-1.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,90nm,3.8s						
GYA				LR	LR		
	comp=N,480nm,18.0s						
GYA				LR	LR		
	comp=E,430nm,19.0s						
GYA				LR	LR		
	comp=Z,460nm,19.4s						
BJI	**Beijing**	**72.14**	**321**	P	**P**	**20 13 06.5**	**+0.5**
BJI				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
XAN	**Xi'an**	**73.58**	**313**	P	**P**	**20 13 14.8**	**+0.3**
XAN				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
KMI	**Kunming**	**74.22**	**302**	P	**P**	**20 13 19.4**	**+1.2**
KMI				AP	pP	20 14 01.8	-0.8
KMI				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.0						
MA2	**Magadan**	**75.10**	**351**	⇑*i*P	**P**	**20 13 22.2**	**-1.1**
QSPA	**South Pole Qui**	**75.44**	**180**	*e*P	**P**	**20 13 25.3**	**+0.1**
	comp=Z,33nm,1.2s,mb4.8						
HHC	**Hu-ho-hao-te**	**75.46**	**320**	*e*P	**P**	**20 13 26.1**	**+0.8**
HHC				AP	pP	20 14 11.9	+2.0
HHC				XP	sP	20 14 32.3	+2.6
HHC				PP	PP	20 16 19.6	+2.6
HHC				S	S	20 22 49.3	-0.9
HHC				SKS		20 23 12.3	
HHC				SCS	ScS	20 23 18.4	-2.9
HHC				XS	sS	20 24 09.3	+1.6
HHC				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.7						
HHC				AMB	AMB		
	comp=Z,54nm,5.1s						
HHC				LR	LR		
	comp=N,106nm,5.3s						
HHC				LR	LR		
	comp=E,99nm,5.3s						
HHC				LR	LR		
	comp=Z,115nm,5.5s						
CD2	**Chengdu**	**75.91**	**308**	*e*P	**P**	**20 13 28.5**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,50nm,5.9s						
BTO	**Baotou**	**76.31**	**319**	*e*P	**P**	**20 13 30.6**	**+0.5**
SEY	**Seymchan**	**78.14**	**353**	*e*P	**P**	**20 13 40.0**	**-0.3**
SEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
SEY	**Seymchan**	**78.14**	**353**	⇑*i*P	**P**	**20 13 39.7**	**-0.6**
LZH	**Lanzhou**	**78.21**	**312**	⇑P	**P**	**20 13 42.3**	**+1.6**
LZH				AP	pP	20 14 27.8	+2.2
LZH				XP	sP	20 14 47.5	+2.3
LZH				PP	PP	20 16 43.1	+3.1
LZH				*e*S	S	20 23 17.0	-2.9
LZH				PS		20 24 24.9	
LZH				XS	sS	20 24 36.8	-1.2
LZH				*e*SS	SS	20 28 25.0	-1.0
LZH				AMB	AMB		
	comp=Z,50nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,150nm,4.0s						
YAK	**Yakutsk**	**81.89**	**343**	*c i*P	**P**	**20 14 00.6**	**+0.2**
YAK				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.2						
YAK				pmax	pmax		
	comp=N,20nm,1.2s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
YAK	**Yakutsk**	**81.89**	**343**	⇑*i*P	**P**	**20 13 59.7**	**-0.7**
ULN	**Ulaanbaatar**	**82.01**	**324**	*c i*P	**P**	**20 14 00.9**	**-0.1**
ULN	**Ulaanbaatar**	**82.01**	**324**	⇑*i*P	**P**	**20 14 00.0**	**-1.0**
MAW	**Mawson**	**82.01**	**202**	P	**P**	**20 14 01.1**	**+0.1**
	comp=E,17nm,0.9s,mb4.7,baz=84,slow=4.8,SNR=5.9						
SONM	**Songino Array**	**82.37**	**324**	P	**P**	**20 14 03.1**	**+0.2**
	comp=E,8.0nm,1.0s,mb4.3,baz=140,slow=4.6,SNR=43						
SONM				LR	LR	20 48 11.3	
	comp=E,48nm,18.6s,baz=236,slow=34						
BILL	**Bilibino**	**82.40**	**360**	*e*P	**P**	**20 14 02.1**	**-0.9**
BILL	**Bilibino**	**82.40**	**360**	*e*P	**P**	**20 14 02.1**	**-1.0**
GTA	**Gaotai**	**82.56**	**314**	⇑P	**P**	**20 14 05.1**	**+1.3**
GTA				PP	PP	20 17 18.4	+2.6
GTA				SKS		20 24 04.5	
GTA				S	S	20 24 05.3	+0.2
GTA				XS	sS	20 25 21.8	-2.2
GTA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
GTA				AMB	AMB		
	comp=Z,89nm,5.7s						
GTA				LR	LR		
	comp=N,114nm,12.5s						
GTA				LR	LR		
	comp=E,108nm,12.5s						
GTA				LR	LR		
	comp=Z,74nm,13.3s						
PMR	**Palmer**	**83.37**	**19**	*e*P	**P**	**20 14 06.5**	**-1.5**
BOD	**Bodaibo**	**84.34**	**334**	*e*P	**P**	**20 14 10.8**	**-2.1**
BOD				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.5						
YBH	**Yreka Blue Hor**	**85.33**	**45**	*e*P	**P**	**20 14 18.2**	**+0.3**
YBH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YBH	**Yreka Blue Hor**	**85.33**	**45**	*e*P	**P**	**20 14 18.2**	**+0.3**
	comp=Z,7.6nm,0.9s,mb4.4						
ZAK	**Zakamensk**	**85.42**	**325**	⇑*i*P	**P**	**20 14 18.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.0						
LSA	**Lhasa**	**85.47**	**302**	P	**P**	**20 14 20.1**	**+1.5**
HUMO	**Hull Mountain**	**85.52**	**44**	*e*P	**P**	**20 14 19.1**	**+0.3**
	comp=Z,10.0nm,0.8s,mb4.6						
CMB	**Columbia Colle**	**85.52**	**49**	*e*P	**P**	**20 14 18.9**	**+0.1**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
CMB	**Columbia Colle**	**85.52**	**49**	*e*P	**P**	**20 14 18.9**	**+0.1**
	comp=Z,7.3nm,0.8s,mb4.5						
COLA	**College**	**86.18**	**18**	*e*P	**P**	**20 14 19.2**	**-2.9**
ILAR	**Eielson Array**	**86.39**	**18**	P	**P**	**20 14 20.9**	**-2.2**
	comp=Z,14nm,0.7s,mb4.8,baz=239,slow=5.0,SNR=139						
IRO	**Indian Ridge**	**86.56**	**43**	P	**P**	**20 14 23.9**	**0.0**
OOW	**Octopus West**	**86.89**	**39**	P	**P**	**20 14 26.3**	**+0.8**
NVAR	**Mina Array Bea**	**87.19**	**49**	P	**P**	**20 14 27.1**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.3,baz=221,slow=5.1,SNR=15						
MNV	**Mina**	**87.30**	**49**	*e*P	**P**	**20 14 27.8**	**+0.3**
MNV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
MNV	**Mina**	**87.30**	**49**	*e*P	**P**	**20 14 27.8**	**+0.3**
	comp=Z,4.7nm,0.8s,mb4.4						
WPW	**White Pass**	**88.10**	**41**	P	**P**	**20 14 31.2**	**0.0**
SYO	**Syowa Base**	**88.84**	**197**	⇑*e*P	**P**	**20 14 34.5**	**-0.2**
TBM	**Table Mountain**	**88.88**	**41**	P	**P**	**20 14 35.1**	**+0.2**
JIRN	**Jiri**	**88.98**	**299**	⇑*i*P	**P**	**20 14 36.3**	**+0.9**
	comp=Z,25nm,0.7s,mb5.3						
MDW	**Midway**	**89.20**	**41**	P	**P**	**20 14 36.7**	**+0.3**
HAWA	**Hanford**	**89.26**	**42**	*e*P	**P**	**20 14 37.0**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.6						
GUN	**Gumba**	**89.31**	**299**	⇑*i*P	**P**	**20 14 37.8**	**+0.9**
	comp=Z,33nm,0.8s,mb5.3						
PKI	**Pulchoki**	**89.61**	**299**	⇑*i*P	**P**	**20 14 38.9**	**+0.6**
	comp=Z,41nm,0.8s,mb5.4						
PKI	**Pulchoki**	**89.61**	**299**	⇑*i*P	**P**	**20 14 38.9**	**+0.6**
PKI				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
KKN	**Kakani**	**89.78**	**299**	⇑*i*P	**P**	**20 14 39.6**	**+0.5**
	comp=Z,34nm,0.8s,mb5.3						
KKN	**Kakani**	**89.78**	**299**	⇑*i*P	**P**	**20 14 39.6**	**+0.5**
KKN				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
TIXI	**Tiksi**	**89.83**	**349**	⇑*i*P	**P**	**20 14 37.8**	**-1.5**
DMN	**Daman**	**89.88**	**298**	⇑*i*P	**P**	**20 14 40.3**	**+0.7**
	comp=Z,83nm,1.0s,mb5.6						
OD2	**Odessa Site #2**	**90.15**	**41**	P	**P**	**20 14 40.8**	**-0.1**
BMO	**Blue Mountains**	**90.16**	**44**	*e*P	**P**	**20 14 40.4**	**-0.5**
BMO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						

ARCES PKKPbc PKKPbc 20 30 39.9 +1.2
comp=Z,5.7nm,1.2s,baz=316,slow=5.1,SNR=3.7
ARE0 ARCESS Array S 120.11 345 *e*PKPdf PKPdf 20 20 29.3 -1.1
KLMR Klimovskoe 120.55 333 *i* PKIKP PKPdf 20 20 29.9 -1.3
KLMR pmax pmax
comp=Z,30nm,1.8s
CPUP Villa Florida 120.56 133 PKP PKPdf 20 20 31.1 -0.1
comp=Z,0.5nm,0.3s,baz=351,slow=5.8,SNR=3.1
SCHQ Schefferville 122.19 34 PKP PKPdf 20 20 33.5 -0.8
comp=Z,1.5nm,0.7s,baz=27,slow=2.3,SNR=3.5
SCHQ PKKPbc PKKPbc 20 30 31.9 +0.9
comp=Z,1.1nm,0.5s,baz=153,slow=2.3,SNR=8.4
JOF Joensuu 122.75 338 *e*pkp PKPdf 20 20 35.8 +0.4
SDV Santo Domingo 123.16 89 PKP PKPdf 20 20 36.3 +0.1
comp=Z,1.0nm,0.3s,baz=291,slow=12,SNR=4.9
SDV Santo Domingo 123.16 89 PKP PKPdf 20 20 36.3 +0.1
BOSA Boshof 123.47 220 PKP PKPdf 20 20 37.9 +1.0
comp=Z,6.3nm,0.8s,baz=95,slow=3.7,SNR=12
GNI Garni 124.02 309 PKP PKPdf 20 20 38.5 +0.6
comp=Z,5.8nm,0.8s,baz=47,slow=4.5,SNR=7.6
GOF Gofitskoye 124.22 315 *e*PKIKP PKPdf 20 20 38.4 +0.1
VOR Voronezh 124.55 324 PKIKP PKPdf 20 20 37.0 -1.9
VOR pmax pmax
comp=Z,50nm,1.7s
OBN Obninsk 124.57 328 ⇓*i*PKIKP PKPdf 20 20 38.1 -0.8
OBN pmax pmax
comp=Z,16nm,0.6s
OBN Obninsk 124.57 328 *e*PKP PKPdf 20 20 38.2 -0.7
KIV Kislovodsk 124.74 314⇑*e*PKIKP PKPdf 20 20 40.1 +0.8
PUL Pulkovo 125.01 335⇑*e*PKIKP PKPdf 20 20 39.6 -0.2
KAF Kangasniemi 125.06 339 *e*pkp PKPdf 20 20 39.2 -0.7
FINES FINESS Array B 125.58 338 PKP PKPdf 20 20 40.4 -0.5
comp=Z,9.7nm,0.7s,baz=43,slow=2.5,SNR=58
SOC Sochi 126.91 314 *i* PKIKP PKPdf 20 20 43.8 +0.4
SOC *e* 20 22 44.0
SOC *e*SS SS 20 39 29.0 -6.5
SOC pmax pmax
comp=Z,67nm,1.2s
ANN Anapa 128.11 316 *i* PKIKP PKPdf 20 20 42.7 -3.0
ANN *e* 20 27 35.1
ANN pmax pmax
comp=Z,16nm,1.0s
KMBO Kilima Mbogo 128.12 257 PKP PKPdf 20 20 46.7 +1.0
comp=Z,0.4nm,0.3s,baz=52,slow=23,SNR=4.0
NB2 NORSAR Subarra130.48 345 PKPd PKPdf 20 20 50.0 -0.2
comp=Z,5.2nm,0.8s,baz=31,slow=1.9
NB2 NORSAR Subarra130.48 345 PKPd PKPdf 20 20 50.0 -0.2
baz=31,slow=1.9
NOA NORSAR Array B 130.48 345 PKP PKPdf 20 20 50.4 +0.2
comp=Z,7.2nm,0.7s,baz=34,slow=2.0,SNR=22
NOA SKP 20 24 00.5
comp=Z,15nm,0.8s,baz=32,slow=2.8,SNR=21
AKASG Malin Array Be 130.61 326 PKP PKPdf 20 20 50.0 -0.4
comp=Z,3.0nm,0.6s,baz=60,slow=1.8,SNR=22
AKASG SKP 20 24 00.9
comp=Z,11nm,0.8s,baz=46,slow=4.4,SNR=32
BR131 Keskin Array S 132.40 311 *e*PKPdf PKPdf 20 20 54.0 +0.2
BRTR Keskin Array B 132.40 311 PKP PKPdf 20 20 54.2 +0.4
comp=Z,2.7nm,0.9s,baz=133,slow=3.7,SNR=13
BRTR SKP 20 24 09.9
comp=Z,2.6nm,0.9s,baz=93,slow=5.1,SNR=8.5
ANTO Ankara 132.97 311 *e*PKIKP PKPdf 20 20 56.1 +1.2
CFR Carcaliu 134.00 320 ⇓PKIKP PKPdf 20 20 58.7 +1.9
BURAR Bucovina Array 134.48 324 ⇑P PKPdf 20 20 59.9 +2.2
VRI Vrincioaia 134.52 321 ⇓PKIKP PKPdf 20 20 59.7 +1.9
MLR Muntele Rosu 135.19 321 ⇓PKIKP PKPdf 20 20 59.6 +0.5
STHS Stebnicka Huta 135.54 329 *e*PKP PKPdf 20 21 01.2 +1.5
OJC Ojcow 135.73 330 *e*PKiKP PKiKP 20 21 00.7 -1.0
CRVS Cervenica-Dubn 135.75 328 *e*PKP PKPdf 20 21 03.0 +2.9
DRGR 136.36 325 ⇑PKIKP PKPdf 20 21 01.9 +0.7
KECS Kecovo 136.52 328 *e*PKP PKPdf 20 21 01.4 -0.1
KECS *e* 20 40 12.8
OKC Ostrava-Krasne 136.77 331 *e*PKPdf PKPdf 20 21 02.4 +0.4
KSP Ksiaz 136.90 333 *e*PKP PKPdf 20 21 03.4 +1.1
KSP Ksiaz 136.90 333 *e*PKP PKPdf 20 21 02.7 +0.5
MORC Moravsky Berou 137.10 331 ⇓PKIKP PKPdf 20 21 03.6 +1.0
DPC Dobruska-Polom 137.25 333 *e*PKPdf PKPdf 20 21 05.5 +2.6
UPC Upice 137.27 333 *e*PKPdf PKPdf 20 21 04.1 +1.2
VYHS Vyhne 137.35 329 *e*PKP PKPdf 20 21 02.8 -0.3
BZS Buzias 137.66 324 ⇓PKIKP PKPdf 20 21 04.1 +0.4
BRG Berggiesshubel 137.87 335 *e*PKP PKPdf 20 21 04.9 +0.8
comp=Z,6.7nm,1.2s
BRG *i* 20 21 06.8
comp=Z,6.3nm,0.8s
BRG *e* 20 24 26.5
comp=Z,3.8nm,1.2s
PVCC Panska Ves 137.87 334 *e*PKPdf PKPdf 20 21 04.9 +0.9
PVCC *ex* x 20 21 07.1
CLL Collm 137.92 336 *e*PKPdf PKPdf 20 21 03.9 -0.2
comp=Z,6.0nm,0.8s
CLL *e*PKiKP PKiKP 20 21 06.3 +0.1
CLL *ep*PKPdf pPKPdf 20 21 51.9 -0.5
CLL *e*SKPdf SKPdf 20 24 21.8 +0.4
CLL *e*SKPab 20 24 27.1
CLL Collm 137.92 336 *i* PKPdf PKPdf 20 21 04.6 +0.5
comp=Z,16nm,1.1s
CLL *e*(SKPdf) 20 24 26.0
comp=Z,9.0nm,1.1s
PRU Pruhonice 138.29 334 *e*PKPdf PKPdf 20 21 05.2 +0.4
PRU *ex* x 20 21 07.3
ZST Bratislava 138.40 330 *e*PKP PKPdf 20 21 05.9 +0.9
PKSM Moragy 138.94 327 ⇓PKIKP PKPdf 20 21 06.8 +0.8
NKC Novy Kostel 138.98 335 *e*PKPdf PKPdf 20 21 08.8 +2.7
MOX Moxa 138.98 336 *e*(PKP) 20 21 06.5
GRUS Gruza 139.19 322 *e*PKP PKPdf 20 21 06.7 +0.2
KHC Kasperske Hory 139.35 333 *e*PKPdf PKPdf 20 21 07.6 +0.9
KHC *ex* x 20 21 09.9
KHC *e*SKP 20 24 30.0
KHC Kasperske Hory 139.35 333 *e*PKP PKPdf 20 21 07.6 +0.9
KHC *e* 20 21 09.9
DIVS Divcibare 139.49 323⇑*i*PKP PKPdf 20 20 58.7 -8.3
GERES GERESS Array B 139.51 333 PKHKP 20 21 00.3
comp=Z,1.5nm,0.7s,baz=44,slow=3.2,SNR=16
GERES PKP PKPdf 20 21 08.0 +0.9
comp=Z,5.5nm,0.8s,baz=62,slow=2.2,SNR=23
GERES SKP 20 24 29.6
comp=Z,2.2nm,0.9s,baz=31,slow=3.1,SNR=11
GERES GERESS Array B 139.51 333 PKHKP 20 21 00.3
GERES 20 21 08.0
GRA1 Grafenberg Arr 139.89 336 *e*PKPdf PKPdf 20 21 05.7 -2.0
GRF Grafenberg Arr 139.89 336 *e*PKPdf PKPdf 20 21 05.7 -2.0
GCIS Gornji Cirnik 140.74 328 *e*PKP PKPdf 20 21 03.6 -5.7
GCIS 20 21 12.5
CRES Cresnjev 140.85 328 *e*PKP PKPdf 20 21 04.0 -5.4
KBA Koelnbreinsper 140.98 331⇑*i*P PKPdf 20 21 05.3 -4.4
comp=Z,9.7nm,0.7s
MEM Membach 140.99 341 E 20 21 04.5
MEM PKP PKPdf 20 21 10.0 +0.3
MEM PKhKP 20 21 13.1
BOJS Bojanci 141.18 328 *e*PKP PKPdf 20 21 05.5 -4.6
RUP Ruppelstein 141.42 339 PKHKP 20 21 06.1
WATA Walderalm 141.58 333⇑*i*P PKPdf 20 21 07.5 -3.3
comp=Z,18nm,1.4s
SNF Seneffe 141.60 342 PKP PKPdf 20 21 12.0 +1.2
WLF Walferdange 141.76 340 E 20 21 06.7
WLF PKP PKPdf 20 21 09.6 -1.5
WLF PKiKP PKiKP 20 21 12.0 -2.1
WLF Walferdange 141.76 340 *e*PKPpre 20 21 06.3
MOTA Moosalm 141.78 334⇓*i*P PKPdf 20 21 07.2 -3.9
comp=Z,18nm,1.2s
GIVF Givet 141.80 342 *e*PKP1 PKPdf 20 21 08.4 -2.8
comp=Z,46nm,0.9s
SQTA Sankt Quirin 141.83 333⇓*i*P PKPdf 20 21 07.5 -3.7
comp=Z,12nm,1.3s
SQTA Sankt Quirin 141.83 333⇓*i*P PKPdf 20 21 07.5 -3.7
DOU Dourbes 141.87 342 E 20 21 07.9
DOU PKP PKPdf 20 21 11.7 +0.4
DOU PKhKP 20 21 15.0
BAIF Baives 142.02 342⇑*i*PKP1 PKPdf 20 21 08.1 -3.5
comp=Z,25nm,1.0s
BFO Black Forest 142.11 337 *e*PKHKP 20 21 07.3
CDF Champ du Feu 142.44 338 *e*PKP1 PKPdf 20 21 08.2 -4.1
comp=Z,19nm,0.8s
HINF Hinteralfeld 143.09 338 *e*PKP1 PKPdf 20 21 10.0 -3.5
comp=Z,15nm,0.7s
HAU Haudompre 143.11 339 *e*PKP1 PKPdf 20 21 10.5 -3.0
comp=Z,25nm,0.8s
MEZF Maizieres J'vi 143.13 340 *e*PKP1 PKPdf 20 21 10.9 -2.6
comp=Z,35nm,0.7s
LOMF Lomont 143.49 337 PKP PKPdf 20 21 13.7 -0.5
AQU L'Aquila 144.31 326 *e*PKIKP PKPdf 20 21 14.8 -0.8
TIP Timpagrande 144.33 319 *e*PKPdf PKPdf 20 21 15.6 -0.1
CABF La Chapelle 144.39 338 *e*PKP1 PKPdf 20 21 15.7 0.0
comp=Z,106nm,0.9s
OG01 Vacheresse 144.40 337 PKP PKPdf 20 21 15.9 +0.2
FLN La Foliniere 144.45 346⇑*i*PKP1 PKPdf 20 21 14.7 -1.1
comp=Z,118nm,0.9s
LDF La Druitiere 144.53 346 *e*PKP1 PKPdf 20 21 15.0 -1.0
comp=Z,84nm,0.7s
LOR Lormes 144.60 340 *e*PKP1 PKPdf 20 21 15.9 -0.2
comp=Z,186nm,1.2s
GRR Gorron 144.89 346⇑*i*PKP1 PKPdf 20 21 16.6 0.0
comp=Z,280nm,0.7s
SSF Saint Saulge 144.89 341⇑*i*PKP1 PKPdf 20 21 17.0 +0.4
comp=Z,384nm,0.9s
RSL Roselend 144.96 336 PKP PKPdf 20 21 16.9 +0.2
HYF Humbligny 144.98 342⇑*i*PKP1 PKPdf 20 21 17.6 +0.9
LPL La Plagne 145.06 336⇑*i*PKP1 PKPbc 20 21 18.0 +1.3
comp=Z,88nm,0.7s
LPG La Plagne 145.06 336⇑*i*PKP1 PKPbc 20 21 18.2 +1.5
comp=Z,98nm,0.7s
SMF Signal de Mont 145.15 340⇑*i*PKP1 PKPbc 20 21 17.6 +0.6
comp=Z,333nm,1.0s
AVF Avril sur Loir 145.18 341⇑*i*PKP1 PKPbc 20 21 17.6 +0.5
comp=Z,234nm,1.0s
ROSF Rostrenen 145.45 349⇑*i*PKP1 PKPbc 20 21 18.3 +0.4
comp=Z,272nm,1.0s
BNI Bardonecchia 145.46 335 *e*PKP2 PKPab 20 21 18.8 +0.4
OG22 Abries 145.54 335 PKP PKPdf 20 21 19.0 +1.3
BGF Bois d'Agland 145.55 341⇑*i*PKP1 PKPbc 20 21 19.0 +0.7
comp=Z,224nm,0.9s
GDM Grand'Maison 145.56 336 PKP PKPdf 20 21 19.7 +2.0
GRN Grenoble 145.67 337 PKP PKPdf 20 21 20.2 +2.3
MBDF Montbardon 145.69 335⇑*i*PKP1 PKPbc 20 21 19.4 +0.7
comp=Z,100nm,0.9s
QUIF Quistinic 145.83 348⇑*i*PKP1 PKPbc 20 21 19.2 +0.1
comp=Z,61nm,0.8s
SURF Saint Ours 145.87 335 PKP PKPdf 20 21 20.4 +2.1
ORIF Oris-en-Rattie 145.89 336⇑*i*PKP1 PKPbc 20 21 20.3 +1.0
comp=Z,178nm,0.6s
AGO Saint Agoulin 145.91 340 PKP PKPdf 20 21 20.4 +2.1
SAOF Saorge 145.96 333 PKP PKPdf 20 21 19.7 +1.3
TCF Toulx Ste Croi 145.99 341⇑*i*PKP1 PKPbc 20 21 20.3 +0.7
comp=Z,108nm,0.9s
AUTN L'Aution 146.01 334 PKP PKPdf 20 21 20.5 +2.0
SBF Sospel 146.11 333⇑*i*PKP1 PKPbc 20 21 20.3 +0.4
comp=Z,293nm,0.9s
COLF Collangettes 146.18 339 PKP PKPdf 20 21 21.4 +2.6
MVIF Mont Vial 146.20 334 PKP PKPdf 20 21 20.5 +1.7
PYM Petit Puy Mans 146.21 340 PKP PKPdf 20 21 21.5 +2.6
MFF Saint Martin d 146.38 344⇑*i*PKP1 PKPbc 20 21 21.3 +0.6
comp=Z,225nm,0.8s
VERF Verneugheol 146.38 341 PKP PKPbc 20 21 22.8 +2.1
OCF Saint Nazaire 146.40 336 PKP PKPdf 20 21 22.1 +2.9
OG26 St.-Nazaire-De 146.40 336 PKP PKPdf 20 21 22.1 +2.9
VIVF Saint-Julien-l 146.40 337⇑*i*PKP1 PKPbc 20 21 21.8 +1.0
comp=Z,96nm,0.9s
PGF Pioggiola 146.42 330⇑*i*PKP1 PKPbc 20 21 21.5 +0.7
comp=Z,393nm,1.1s
CORF Corte 146.54 330 PKP PKPdf 20 21 21.7 +2.3
LBL Lubilhac 146.59 339 PKP PKPbc 20 21 23.1 +1.8
STOF St-Etienne Org 146.64 335 PKP PKPbc 20 21 22.7 +1.2
FRNF Fournols 146.68 340 PKP PKPbc 20 21 23.0 +1.4
FRF La Foret Royal 146.69 334⇑*i*PKP1 PKPbc 20 21 22.2 +0.6
comp=Z,304nm,1.0s
SMRF Simiane la Rot 146.79 336⇑*i*PKP1 PKPbc 20 21 23.0 +1.1
comp=Z,162nm,1.0s
VILF Villemus 146.84 335 PKP PKPbc 20 21 23.2 +1.2
TAVF Tavernes 146.89 335 PKP PKPbc 20 21 23.2 +1.0
LMR La Mourre 146.93 334⇑*i*PKP1 PKPbc 20 21 22.9 +0.6
comp=Z,298nm,1.0s
OSPF L'Ospedale 147.00 329 PKP PKPbc 20 21 23.3 +0.8
RJF Les Rejaudoux 147.09 341 *e*PKP1 PKPbc 20 21 23.6 +0.9
comp=Z,136nm,0.9s
PRAF Pradon 147.10 336 PKP PKPbc 20 21 24.1 +1.4
PUYF Puyloubier 147.11 335 PKP PKPbc 20 21 23.4 +0.6
MATF Mathat 147.13 344 PKP PKPbc 20 21 23.9 +1.1
TREF Trevaresse 147.16 335 PKP PKPbc 20 21 23.9 +1.0
CAF Calviac 147.25 340⇑*i*PKP1 PKPbc 20 21 24.3 +1.1
comp=Z,125nm,1.0s
BERF Bertagne 147.29 335 PKP PKPbc 20 21 24.4 +1.1
GELF Grande-Etoile 147.34 335 PKP PKPbc 20 21 24.4 +1.0
LASF Ste Croix 147.37 338⇑*i*PKP1 PKPbc 20 21 24.6 +1.1
comp=Z,205nm,1.0s
LFF La Frestale 147.65 342⇑*i*PKP1 PKPbc 20 21 25.1 +0.8
comp=Z,250nm,0.9s
VSL Villasalto 148.48 326 *e*PKPbc PKPbc 20 21 27.2 +0.8
MTLF Montolieu 148.60 339⇑*i*PKP1 PKPbc 20 21 27.7 +1.0
comp=Z,195nm,0.9s
MLS Moulis 149.32 340 PKP PKPbc 20 21 29.5 +1.0
VALF Valcebollere 149.49 338 PKP PKPbc 20 21 30.2 +1.3
EPF Esparros 149.50 341⇑*i*PKP1 PKPbc 20 21 30.3 +1.3
comp=Z,58nm,0.9s
VIEF Viey 149.73 341 PKP PKPbc 20 21 31.3 +1.8
OSSF Osses 149.77 343 PKP PKPbc 20 21 30.1 +0.5
EBIE Bielsa 149.88 341 PKP PKPbc 20 21 31.7 +1.8
EALK Alkurruntz 149.88 344 PKP PKPbc 20 21 30.8 +0.9
SJPF Ste Jean 149.90 343⇑*i*PKP1 PKPbc 20 21 31.1 +1.2
comp=Z,138nm,1.1s
LARF Larrau 149.90 343 PKP PKPbc 20 21 31.6 +1.7
ETSF Etsaut 149.90 342⇑*i*PKP1 PKPbc 20 21 31.4 +1.5
comp=Z,101nm,0.6s
ELIZ Elizondo 149.93 343 PKP2 PKPbc 20 21 30.9 +0.9
EMIR Miracle 150.10 338 PKP PKPbc 20 21 30.9 +0.5
EGRA Graus 150.26 340 PKP PKPbc 20 21 32.3 +1.5
ELAN Lanestosa 150.35 346 PKP PKPbc 20 21 32.1 +1.1
ECRI Cripan 150.71 344 PKIKP PKPbc 20 21 33.5 +1.6
EPOB Poblet 150.75 338 PKP PKPbc 20 21 32.5 +0.6
ESAC San Caprasio 150.94 341 PKP PKPbc 20 21 33.6 +1.2
EPON Pontenova 150.96 352 PKP PKPbc 20 21 33.1 +0.7
ERTA Horta de San J 151.36 339 PKP PKPbc 20 21 33.9 +0.6
EBR Ebro Roquetas 151.43 339 *e*PKPDF PKPdf 20 21 34.2 +7.0
ETOS Mallorca 151.44 334 PKP PKPbc 20 21 34.8 +1.2
EMAZ Mazaricos 151.55 354 PKP PKPbc 20 21 34.5 +0.7
STS Santiago 151.57 354 PKIKP PKPbc 20 21 34.8 +1.0
CMAH Djebel Manchou 151.61 324 P PKPbc 20 21 34.7 +0.8
CGMA Guelma 151.74 324 P PKPbc 20 21 35.0 +0.8
CAEH 'Ain El Ouahch 151.82 325 P PKPbc 20 21 35.0 +0.6
ERUA La Rua 151.87 351 PKP PKPbc 20 21 35.4 +0.9
EMOS Mosqueruela 152.16 340 PKP PKPbc 20 21 36.9 +1.7
ECAL Calabor 152.25 350 PKP PKPbc 20 21 35.9 +0.6
EZAM Zamans 152.31 354 PKP PKPbc 20 21 36.0 +0.5
PBRG Braganca 152.38 350 *e*PKPdf PKPbc 20 21 36.7 +1.0
PBRG Braganca 152.38 350 *e*PKPab PKPab 20 21 47.4 +0.9
CASM Ain Smara 152.40 325 P PKPbc 20 21 37.0 +1.3
DFRA Djebel Bou Aff 152.52 326 P PKPbc 20 21 36.8 +0.8
CTEI Djebel Teioual 152.59 325 P PKPbc 20 21 37.5 +1.4
EIBI Ibiza 152.67 336 PKP PKPbc 20 21 40.7 +4.4
GUD Guadarrama 152.98 346 PKP PKPbc 20 21 38.5 +1.5
ECHE Chera 153.03 340 PKP PKPbc 20 21 38.3 +1.2
SET Setif 153.04 326 P PKPbc 20 21 40.0 +2.9
PVRL Vila Real 153.05 352 *e*PKPbc PKPbc 20 21 38.1 +1.0
PVRL Vila Real 153.05 352 *e*PKPab PKPab 20 21 50.2 +0.9
CKHR Kef el Ahmar 153.11 326 P PKPbc 20 21 39.0 +1.7
PVIS Viseu 153.62 352 *e*PKPbc PKPbc 20 21 39.6 +1.2
PVIS Viseu 153.62 352 *e*PKPab PKPab 20 21 52.9 +1.2
ESDC Sonseca Array 153.84 344 PKP PKPdf 20 21 30.8 0.0
comp=Z,0.4nm,0.7s,baz=3.5,slow=3.5,SNR=5.4
ESDC PKPbc PKPbc 20 21 39.2 +0.4
comp=Z,5.9nm,0.8s,baz=12,slow=3.1,SNR=25
ESDC PKPab PKPab 20 21 53.1 +0.4
comp=Z,8.2nm,0.9s,baz=16,slow=3.9,SNR=11
ESDC PP PP 20 25 22.4 -5.4
comp=Z,3.3nm,1.1s,baz=14,slow=7.3,SNR=5.1
ESDC Sonseca Array 153.84 344 PKP PKPdf 20 21 30.8 0.0
ESDC PKPbc PKPbc 20 21 39.2 +0.4
ESDC PKP PKPdf 20 21 39.5 +8.7
ESDC PKPab PKPab 20 21 53.1 +0.4
ESDC PP PP 20 25 22.4 -5.4
MTE Manteigas 153.88 351 *e*PKPbc PKPbc 20 21 40.0 +1.1
MTE Manteigas 153.88 351 *e*PKPab PKPab 20 21 53.9 +1.1
ETOB Tobarra 154.07 340 PKP PKPbc 20 21 41.1 +1.7
EVIA Vianos 154.39 341 PKP PKPbc 20 21 41.4 +1.4
PTOM Tomar 154.77 352 *e*PKPbc PKPbc 20 21 41.6 +0.8
PTOM Tomar 154.77 352 *e*PKPab PKPab 20 21 56.7 +0.1
EQES Quesada 155.33 341 PKP PKPdf 20 21 43.2 +10
ELUQ Luque 155.91 343 PKP PKPdf 20 21 44.1 +10
PBEJ Beja 156.25 350 *e*PKPab PKPab 20 22 04.4 +1.4
ERON Agron 156.28 342 PKP PKPdf 20 21 44.5 +10
TORD Torodi Ar. Bea 165.90 266 PKP PKPdf 20 21 44.6 +0.4
comp=Z,1.0nm,0.6s,baz=345,slow=0.8,SNR=24
TORD PKPab PKPab 20 22 46.0 +0.8
comp=Z,7.7nm,0.9s,baz=95,slow=3.9,SNR=25
DBIC Dimbokro 168.96 225 PKP PKPdf 20 21 46.6 +0.1
comp=Z,3.4nm,1.0s,baz=51,slow=2.8,SNR=3.9
DBIC PKPab PKPab 20 23 00.7 +2.1
comp=Z,1.8nm,0.8s,baz=136,slow=7.9,SNR=4.0

IDC 19 20:15:00.2±2.1, 230S×12882E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/15, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=126.7km s-min=27.9km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.34**	**163**	P	Pn	20 19 17.7	+1.7
	0.1nm,0.3s,baz=343,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**21.80**	**167**	P	P	20 19 53.2	-0.6
	0.3nm,0.8s,baz=351,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**63.68**	**326**	P	P	20 25 33.5	+0.2
	0.9nm,1.0s,baz=133,slow=5.1,SNR=4.7						

*IDC **19** 20:21:31.1±4.7, 4185N×10501W, h33km±32km, mb2.7/1, mb1 3.6/3, mb1mx3.1/23, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=58.8km s-min=15.3km az=166.0*
*ISCJB **19** 20:21:44.3±0.6, 4377N±005×10535W±008, h0km, Error ellipse: s-maj=8.3km s-min=7.4km az=177.5*
*NEIC **19** 20:21:45.1±0.6, 4376N×10529W, h0km, ML3.2, Error ellipse: s-maj=8.4km s-min=7.5km az=135.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
ISC 19 20:21:44.9±0.5, 4376N±005×10528W±006, h0km, n24, σ1§33/27, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**68**	*e*P	**Pg**	**20 22 03.8**	**+0.3**
PHWY	**Pilot Hill**	**2.46**	**183**	*e*P	**Pn**	**20 22 26.3**	**0.0**
RWWY	**Rawlins**	**2.51**	**215**	*e*P	**Pn**	**20 22 27.6**	**+0.7**
PDAR	**Pinedale Array**	**3.28**	**254**	Pn	**Pn**	**20 22 26.6**	**-11**
	0.8nm,0.3s,baz=76,slow=18,SNR=23						
PDAR				Pg	**Pg**	**20 22 37.5**	**-10**
	2.9nm,0.3s,baz=84,slow=18,SNR=31						
PDAR				Lg		20 23 20.8	
	7.0nm,0.3s,baz=74,slow=33,SNR=11						
GCMT	**Greycliff**	**3.73**	**305**	*e*P	**Pn**	**20 22 45.9**	**+2.1**
LKWY	**Lake**	**3.77**	**284**	*e*Pn	**Pn**	**20 22 43.8**	**-0.6**
LOHW	**Long Hollow**	**3.87**	**270**	Pn	**Pn**	**20 22 44.6**	**-1.0**
FLWY	**Flagg Ranch**	**3.93**	**277**	*e*Pn	**Pn**	**20 22 47.2**	**+0.7**
ISCO	**Idaho Springs**	**3.96**	**184**	*e*Pn	**Pn**	**20 22 47.2**	**+0.2**
SNOW	**Snow King Moun**	**3.99**	**268**	*e*Pn	**Pn**	**20 22 46.0**	**-1.3**
REDW	**Red Top Meadow**	**4.07**	**266**	*e*Pn	**Pn**	**20 22 49.2**	**+0.8**
YMR	**Madison River**	**4.19**	**285**	*e*Pg	**Pg**	**20 23 02.2**	**-3.0**
AHID	**Auburn Hatcher**	**4.37**	**259**	*e*Pg	**Pg**	**20 23 06.8**	**-1.9**
QLMT	**Earthquake Lak**	**4.54**	**286**	Pn	**Pn**	**20 22 57.2**	**+2.2**
QLMT				*e*S	**Sn**	**20 23 59.3**	**+11**
SMCO	**Snowmass**	**4.75**	**196**	*e*Pn	**Pn**	**20 22 59.6**	**+1.8**
DGMT	**Dagmar**	**4.77**	**9**	*e*Pn	**Pn**	**20 23 00.3**	**+2.2**
BOZ	**Bozeman (W)**	**4.91**	**295**	*e*Pn	**Pn**	**20 22 58.8**	**-1.1**
BOZ				*e*Sn	**Sn**	**20 24 06.2**	**+8.8**
TCUT	**Toone Canyon**	**5.25**	**242**	*e*Pn	**Pn**	**20 23 04.9**	**+0.3**
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**20 23 04.4**	**-0.8**
	5.9nm,0.4s						
CHMT	**Chamberlain Mo**	**6.45**	**302**	*e*Pn	**Pn**	**20 23 21.7**	**+0.6**
KSU1	**Kansas State U**	**8.00**	**123**	Pn	**Pn**	**20 23 39.7**	**-2.7**
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**20 23 56.2**	**-1.7**
	1.7nm,0.3s,baz=235,slow=13,SNR=17						
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**20 23 56.2**	**-1.7**
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**Pn**	**20 26 15.6**	**+0.3**
	0.3nm,0.6s,baz=156,slow=11,SNR=5.2						

*IDC **19** 20:31:01.9±1.9, 1060N×12642E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, MS3.2/2, Ms1 3.2/2, ms1mx2.5/26, Error ellipse: s-maj=187.9km s-min=24.9km az=69.0*
*ISCJB **19** 20:31:09.7±4.2, 103N±02×1260E±06, h72km±35km, mb3.5/4, Error ellipse: s-maj=98.4km s-min=16.4km az=145.1*
ISC 19 20:31:10.5±3.7, 104N±01×1260E±04, h61km±33km, n8, σ0§85/8, mb3.6/4, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.77**	**220**⇑	*e*P	**Pn**	**20 31 25.2**	**-0.4**
SCPH				*e*S	**Sn**	**20 31 36.7**	**0.0**
PLP	**Palo**	**1.27**	**308**⇓	*i*P	**Pn**	**20 31 32.4**	**+0.4**
PLP				*i* S	**Sn**	**20 31 58.2**	**+10**
GUMO	**Guam**	**18.74**	**78**	LR	LR	20 41 21.0	
	comp=Z,29nm,18.1s,baz=340,slow=34						
PSI	**Prapat**	**27.90**	**256**	LR	LR	20 48 02.5	
	comp=Z,83nm,18.3s,baz=154,slow=36						
WRA	**Warramunga Arr**	**31.23**	**165**	P	**P**	**20 37 23.8**	**-0.4**
	0.3nm,0.8s,mb3.2,baz=344,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**34.71**	**167**	P	**P**	**20 37 55.4**	**+0.9**
	0.2nm,0.4s,mb3.4,baz=342,slow=7.9,SNR=4.8						
MKAR	**Makanchi Array**	**51.78**	**323**	P	**P**	**20 40 12.4**	**+0.5**
	0.3nm,0.6s,mb3.4,baz=132,slow=8.1,SNR=4.7						
ARCES	**ARCESS Array B**	**84.00**	**340**	P	**P**	**20 43 33.2**	**-1.0**
	2.4nm,0.8s,mb4.4,baz=59,slow=7.5,SNR=4.7						

*ISCJB **19** 20:39:35.9±0.4, 5028N±003×1863E±003, h0km, Error ellipse: s-maj=3.9km s-min=2.2km az=27.1*
*IPEC **19** 20:39:37.6±0.1, 5018N×1868E, h0km, ML2.5/4, Error ellipse: s-maj=2.3km s-min=0.7km az=166.0*
*MOS **19** 20:39:37.5±2.8, 5030N×1840E, h10km, mb4.0/1, Error ellipse: s-maj=8.8km s-min=6.2km az=101.3*
*WAR **19** 20:39:37.9, 5021N×1873E, ML2.9, Mining Induced*
*CSEM **19** 20:39:37.8±0.2, 5029N×1866E, h1km, ML3.4/6, Error ellipse: s-maj=4.2km s-min=2.2km az=8.0*
*NEIC **19** 20:39:38.0±0.6, 5023N×1864E, h5km, MG2.9(WAR), Error ellipse: s-maj=9.4km s-min=4.7km az=187.0*
*VIE **19** 20:39:42.9±1.4, 4986N×1846E, h0km, mb2.3/4, ML2.6/4, Error ellipse: s-maj=9.1km s-min=7.3km az=13.0 15 km E of Ostrava Suspected Mining induced.*
ISC 19 20:39:37.3±0.3, 5024N±003×1863E±002, h0km, n42, σ1§23/75, 2C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.32**	**241**	*e*Pg	**Pg**	**20 39 45.5**	**+2.0**
RAC				*e*Sg	**Sg**	**20 39 51.1**	**+3.5**
OKC	**Ostrava-Krasne**	**0.51**	**218**	*e*PG	**Pg**	**20 39 48.1**	**+1.0**
OKC				*e*SG	**Sg**	**20 39 55.2**	**+1.5**
	188nm,0.6s						
OJC	**Ojcow**	**0.75**	**91**	*i* Pg	**Pg**	**20 39 51.0**	**-0.7**
OJC				*i* Sg	**Sg**	**20 40 01.0**	**-0.4**
MORC	**Moravsky Berou**	**0.84**	**237**	*e*Pg	**Pg**	**20 39 54.0**	**+0.6**
MORC				*e*Sg	**Sg**	**20 40 04.7**	**+0.3**
	87nm,0.4s						
MORC				S	**Sg**	**20 40 05.8**	**+1.4**
MORC	**Moravsky Berou**	**0.84**	**237**	⇓P	**Pg**	**20 39 54.2**	**+0.8**
MORC				S	**Sg**	**20 40 05.8**	**+1.5**
LIKS	**Likavka**

KECS				*e*SN	**Sn**	**20 40 41.3**	**-0.1**
CRVS	**Cervenica-Dubn**	**2.28**	**125**	*e*PN	**Pn**	**20 40 18.7**	**+2.5**
CRVS				*e*SN	**Sn**	**20 40 47.5**	**+2.6**
SRO	**Srobarova**	**2.44**	**185**	*e*	**Pn**	**20 40 25.5**	**+7.1**
PSZ	**Piszkesteto**	**2.47**	**160**	*e*Pn	**Pn**	**20 40 18.7**	**-0.1**
PSZ				*i* Pg	**Pg**	**20 40 24.4**	**-0.2**
PRU	**Pruhonice**	**2.64**	**266**	*e*PG	**Pg**	**20 40 26.7**	**-1.3**
PRU				*e*SG	**Sg**	**20 41 00.2**	**-2.1**
	22nm,0.5s						
KWP	**Kalwaria**	**2.70**	**101**	*e*P	**Pn**	**20 40 23.7**	**+1.7**
KWP	**Kalwaria**	**2.70**	**101**	*e*P	**Pn**	**20 40 23.7**	**+1.6**
BRG	**Berggiesshubel**	**3.06**	**284**	PG	**Pg**	**20 40 35.2**	**-0.7**
BRG				SG	**Sg**	**20 41 15.8**	**+0.3**
	14nm,0.5s						
KHC	**Kasperske Hory**	**3.46**	**253**	*e*PN	**Pn**	**20 40 32.0**	**-0.5**
KHC				*e*PG	**Pg**	**20 40 41.1**	**-2.6**
KHC				*e*SG	**Sg**	**20 41 27.7**	**-0.9**
	51nm,0.5s						
KHC	**Kasperske Hory**	**3.46**	**253**	*e*Pg	**Pg**	**20 40 41.1**	**-2.6**
KHC				*e*Sg	**Sg**	**20 41 27.7**	**-0.9**
	51nm,0.5s						
LVV	**L'vov**	**3.51**	**95**	*e*P	**Pn**	**20 40 34.6**	**+1.5**
LVV				*i* S	**Sn**	**20 41 15.5**	**+0.2**
CLL	**Collm**	**3.73**	**289**	*i* Pg	**Pg**	**20 40 49.7**	**+0.9**
CLL				*i* Sg	**Sg**	**20 41 40.0**	**+2.9**
	comp=Z,28nm,1.1s						
MOA	**Molln**	**3.74**	**232**	⇓*i*Pn	**Pn**	**20 40 37.1**	**+0.9**
MOA				⇑*i*Sg	**Sg**	**20 41 34.8**	**-2.6**
	comp=Z,18nm,0.6s						
MOA	**Molln**	**3.74**	**232**	⇓*i*Pn	**Pn**	**20 40 37.1**	**+0.9**
MOA				*i* Sg	**Sg**	**20 41 34.8**	**-2.6**
PKSM	**Moragy**	**4.03**	**180**	⇑*i*P	**Pn**	**20 40 39.4**	**-0.9**
PKSM				*e*S	**Sn**	**20 41 23.3**	**-4.9**
DRGR		**4.39**	**140**	P	**Pn**	**20 40 44.4**	**-0.8**
DRGR		**4.39**	**140**	⇓P	**Pn**	**20 40 44.4**	**-0.8**
MOX	**Moxa**	**4.50**	**278**	*e*PN	**Pn**	**20 40 50.7**	**+4.0**
MOX				*e*SG	**Sg**	**20 42 02.4**	**+0.5**
BZS	**Buzias**	**5.04**	**155**	⇓P	**Pn**	**20 40 53.4**	**-0.8**
BUKAR	**Bucovina Array**	**5.07**	**119**	⇓P	**Pn**	**20 40 54.2**	**-0.4**
KAF	**Kangasniemi**	**12.63**	**17**	*e*p	**Pn**	**20 42 36.3**	**-1.9**
JOF	**Joensuu**	**14.46**	**24**	*e*p	**Pn**	**20 43 00.2**	**-3.0**

JMA 19 20:43:45.6±0.1, 2780N×14200E, h40km, M3.9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.72**	**167**	P	Pn	20 43 59.3	0.0
CBIJ				S	Sn	20 44 09.1	-0.1
JHHJ	**Haha-jima-NKT**	**1.18**	**172**	P	Pn	20 44 06.0	+0.4
JHHJ				S	Sn	20 44 20.7	+0.3
JAG	**Ashikaga**	**8.87**	**347**	P	Pn	20 45 49.4	-1.7
JAG				S	Sn	20 47 23.2	-6.5
JHO	**Hitachi**	**8.87**	**353**	P	Pn	20 45 48.8	-2.4
JHO				S	Sn	20 47 21.9	-7.9

*ISCJB **19** 20:45:51.9±0.6, 2409S×004×6688W±006, h186km±8km, mb3.4/6, Error ellipse: s-maj=9.3km s-min=6.8km az=29.6*
*NEIC **19** 20:45:52.8±0.6, 2404S×6691W, h178km±7km, mb3.4/2, Error ellipse: s-maj=8.8km s-min=7.1km az=91.0*
*IDC **19** 20:45:52.1±1.5, 2407S×6688W, h173km±14km, mb3.3/6, mb1 3.4/11, mb1mx3.3/19, mbtmp3.7/11, Error ellipse: s-maj=19.0km s-min=11.5km az=94.0*
*GUC **19** 20:45:55.5±0.7, 2435S×6734W, h215km, ML4.6*

ISC 19 20:45:52.7±0.6, 2406S±004×6689W±006, h176km±7km, n26, σ1§21/31, mb3.4/6, 2C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.11**	**282**	⇓*i*P	**Pn**	**20 46 46.1**	**+3.7**
CEN1				*i* S	**Sn**	**20 47 24.0**	**+2.9**
CEN1				AMP		20 47 26.6	
	comp=N,641nm,0.7s						
ANCH	**Antofagasta**	**3.24**	**276**	⇑*i*P	**Pn**	**20 46 43.1**	**-1.0**
ANCH				*i* S	**Sn**	**20 47 21.4**	**-2.8**
ANCH				AMP		20 47 23.6	
	comp=N,1μm,0.2s						
ANCH	**Antofagasta**	**3.24**	**276**	⇑*i*P	**Pn**	**20 46 43.1**	**-1.0**
ANCH				*i* S	**Sn**	**20 47 21.4**	**-2.8**
CPN1	**Cerro Paranal**	**3.25**	**259**	*e*P	**Pn**	**20 46 46.2**	**+1.9**
CPN1				*i* S	**Sn**	**20 47 24.6**	**+0.2**
CPN1				AMP		20 47 27.5	
	comp=E,691nm,0.2s						
CDCH	**Caldera**	**4.65**	**229**	*e*P	**Pn**	**20 47 01.5**	**-0.5**
CDCH				*i* S	**Sn**	**20 47 53.3**	**-3.0**
CFAA	**Coronel Fontan**	**7.61**	**189**	P	**Pn**	**20 47 41.3**	**+0.5**
	comp=E,0.0nm,0.3s,baz=295,slow=20,SNR=8.6						
CFAA				S	**Sn**	**20 49 02.2**	**-4.0**
	comp=E,0.3nm,0.3s,baz=263,slow=23,SNR=13						
LPAZ	**La Paz**	**7.82**	**351**	P	**Pn**	**20 47 45.5**	**+2.0**
	comp=E,0.6nm,0.3s,baz=156,slow=9.5,SNR=15						
LPAZ				S	**Sn**	**20 49 11.2**	**0.0**
	comp=E,0.1nm,0.3s,baz=153,slow=13,SNR=4.3						
CPUP	**Villa Florida**	**8.95**	**107**	P	**Pn**	**20 47 58.5**	**+0.1**
	comp=E,0.3nm,0.3s,baz=272,slow=10,SNR=3.6						
CPUP	**Villa Florida**	**8.95**	**107**	P	**Pn**	**20 47 58.5**	**+0.1**
SIV	**San Ignacio**	**9.71**	**35**	P	**Pn**	**20 48 08.7**	**+0.3**
	comp=E,0.9nm,0.3s,baz=229,slow=13,SNR=16						
SIV				S	**Sn**	**20 49 54.2**	**-2.3**
	comp=E,1.9nm,0.6s						
TRQA	**Tornquist**	**14.57**	**164**	*e*Pn	**Pn**	**20 49 10.9**	**+0.3**
	comp=E,1.9nm,0.6s						
PLCA	**Paso Flores**	**16.91**	**190**	P	**Pn**	**20 49 39.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=0.6,slow=15,SNR=3.4						
PLCA	**Paso Flores**	**16.91**	**190**	*e*P	**Pn**	**20 49 40.3**	**+1.3**
	comp=E,0.3nm,0.4s						
BDFB	**Brasilia**	**19.61**	**68**	P	**P**	**20 50 08.0**	**+0.5**
	comp=E,0.4nm,0.3s,baz=250,slow=8.6,SNR=5.0						
JTS	**JuntasAbangare**	**38.43**	**331**	*e*P	**P**	**20 52 57.6**	**+0.4**
TEIG	**Tepich**	**48.70**	**333**	P	**P**	**20 54 19.2**	**0.0**
SNAA	**Sanae**	**59.26**	**161**	P	**P**	**20 55 35.1**	**-0.5**
	comp=E,0.6nm,0.8s,mb3.5,baz=306,slow=14,SNR=3.3						
DBIC	**Dimbokro**	**67.72**	**71**	P	**P**	**20 56 31.1**	**+0.1**
	comp=E,0.9nm,0.8s,mb3.6,baz=229,slow=19,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P	**P**	**20 57 23.2**	**+0.1**
	comp=E,0.4nm,0.4s,mb3.4,baz=259,slow=5.8,SNR=11						
PDAR	**Pinedale Array**	**77.25**	**329**	P	**P**	**20 57 27.9**	**+0.5**
	comp=E,0.2nm,0.5s,mb3.0,baz=134,slow=3.9,SNR=2.9						
ULM	**Lac du Bonnet**	**78.31**	**341**	P	**P**	**20 57 32.3**	**-0.9**
	comp=E,0.5nm,0.3s,mb3.6,baz=142,slow=2.6,SNR=3.1						
YKA	**Yellowknife Ar**	**94.21**	**340**	P	**P**	**20 58 50.2**	**-1.4**
	comp=E,0.2nm,0.5s,mb3.5,baz=131,slow=4.3,SNR=7.2						
YKA	**Yellowknife Ar**	**94.21**	**340**	P	**P**	**20 58 50.2**	**-1.4**
WRA	**Warramunga Arr**	**131.62**	**207**	PKP	PKPdf	21 04 45.0	+0.6
	comp=E,0.3nm,0.5s,baz=154,slow=2.0,SNR=12						
MKAR	**Makanchi Array**	**146.51**	**40**	PKPbc	PKPbc	21 05 12.2	-0.9
	comp=E,0.6nm,0.5s,baz=290,slow=4.1,SNR=6.0						
MKAR	**Makanchi Array**	**146.51**	**40**	PKPbc	PKPbc	21 05 12.2	-0.9

*IDC **19** 21:05:06.0±2.1, 598N×12659E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=178.7km s-min=24.6km az=65.0*
*MAN **19** 21:05:17.0, 559N×12574E, h1km, mb3.2, ML4.5, MS6.3*
*ISCJB **19** 21:05:19.3±1.5, 56N±02×1259E±03, h126km±22km, mb3.5/4, Error ellipse: s-maj=49.3km s-min=23.1km az=131.6*

ISC 19 21:05:20.5±1.5, 56N±02×1259E±03, h116km±22km, n7, σ0§43/9, mb3.5/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**2.42**	**341**	*e*P	**Pn**	**21 05 58.5**	**-0.6**
BUKP				*e*S	**Sn**	**21 06 28.7**	**-0.1**
PAGZ	**Pagadian**	**3.35**	**313**	*e*P	**Pn**	**21 06 11.4**	**+0.2**
BUTP	**Butuan**	**3.38**	**356**	*e*P	**Pn**	**21 06 12.2**	**+0.5**
BUTP				*e*S	**Sn**	**21 06 58.4**	**+7.2**
WRA	**Warramunga Arr**	**26.69**	**162**	P	**P**	**21 10 48.9**	**+0.2**
	0.3nm,0.4s,mb3.2,baz=344,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**30.10**	**165**	P	**P**	**21 11 19.5**	**+0.5**
	0.3nm,0.6s,mb3.1,baz=345,slow=7.0,SNR=4.6						
STKA	**Stephens Creek**	**40.15**	**159**	P	**P**	**21 12 44.3**	**-0.7**
	2.3nm,0.8s,mb4.1,baz=340,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**55.56**	**325**	P	**P**	**21 14 43.8**	**0.0**
	0.2nm,0.5s,mb3.4,baz=131,slow=9.8,SNR=2.3						

*NEIC **19** 21:14:58.1±0.7, 2752N×14171E, h10km, mb4.2/4, Error ellipse: s-maj=36.0km s-min=10.2km az=78.0*
NEIC Recorded [1 JMA] on Hachijo-jima.

*MOS **19** 21:14:58.9±1.6, 2752N×14170E, h33km, mb4.3/3, Error ellipse: s-maj=38.3km s-min=12.3km az=102.9*
*ISCJB **19** 21:15:00.4±0.8, 2759N±005×1417E±0.1, h39km±8km, mb4.0/18, Error ellipse: s-maj=23.2km s-min=5.6km az=143.7*
*NIED **19** 21:15:00, 2760N×142.10E, h32km, Mw3.8 Best double couple: M0=4.75000×10^14 NP1:φ=137.00000°, δ79.00000°, λ61.00000°. NP2:φ=28.00000°, δ31.00000°, λ158.00000°.*
*IDC **19** 21:15:01.5±1.8, 2754N×14173E, h35km±16km, mb3.8/13, mb1 4.0/14, mb1mx3.9/19, mbtmp4.0/14, ML4.6/2, Error ellipse: s-maj=27.7km s-min=15.6km az=86.0*
*JMA **19** 21:15:03.5±0.1, 2756N×14209E, h47km±1km, M4.4*
JMA Felt I J1.

ISC 19 21:15:02.3±0.5, 2756N±005×1418E±02, h44km±6km, n39, σ1§03/40, mb4.0/18, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.56**	**144**	Pg	**Pn**	**21 15 14.3**	**+0.4**
	2μm,0.3s,baz=291,slow=21,SNR=337						
CBIJ				Lg		21 15 21.7	
	4μm,0.3s,baz=299,slow=21,SNR=91						
CBIJ	**Chichi jima**	**0.56**	**144**	P	**Pn**	**21 15 14.2**	**+0.2**
CBIJ				S	**Sn**	**21 15 21.8**	**-0.5**
JHHJ	**Haha-jima-NKT**	**0.98**	**161**	P	**Pn**	**21 15 20.4**	**+0.8**
JHHJ				S	**Sn**	**21 15 32.5**	**+0.3**
BSO1	**Boso 1**	**7.11**	**354**	P	**Pn**	**21 16 43.4**	**-0.3**
BSO3	**Boso 3**	**7.31**	**352**	P	**Pn**	**21 16 46.0**	**-0.5**
BSO4	**Boso 4**	**7.52**	**351**	P	**Pn**	**21 16 51.7**	**+2.4**
JOD2	**Odawara 2**	**8.03**	**344**	P	**Pn**	**21 16 57.1**	**+0.8**
JHU	**Hanno**	**8.55**	**346**	P	**Pn**	**21 17 04.0**	**+0.6**
JRY	**Ryogami san**	**8.79**	**344**	P	**Pn**	**21 17 07.6**	**+0.8**
JAG	**Ashikaga**	**9.07**	**348**	P	**Pn**	**21 17 09.3**	**-1.2**
JHO	**Hitachi**	**9.09**	**354**	P	**Pn**	**21 17 09.3**	**-1.6**
MJAR	**Matsushiro Arr**	**9.47**	**342**	Pn	**Pn**	**21 17 16.4**	**+0.4**
	1.2nm,0.3s,baz=157,slow=13,SNR=7.6						
GUMO	**Guam**	**14.19**	**168**	Pn	**Pn**	**21 18 18.6**	**-1.9**
	11nm,0.3s,baz=197,slow=18,SNR=4.0						
BOD	**Bodaibo**	**36.01**	**335**	*e*P	**P**	**21 21 57.5**	**-1.6**
WRAB	**Tennant Creek**	**47.76**	**190**	*e*P	**P**	**21 23 36.4**	**+1.4**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
WRAB	**Tennant Creek**	**47.76**	**190**	*e*P	**P**	**21 23 36.4**	**+1.5**
	comp=Z,2.7nm,0.3s,mb4.8						
WB2	**Warramunga Arr**	**47.77**	**190**	*e*P	**P**	**21 23 36.3**	**+1.2**
WRA	**Warramunga Arr**	**47.77**	**190**	P	**P**	**21 23 35.7**	**+0.6**
	comp=Z,1.6nm,0.4s,mb4.4,baz=12,slow=8.5,SNR=62						
MKAR	**Makanchi Array**	**49.93**	**309**	P	**P**	**21 23 49.9**	**-1.8**
	comp=Z,0.1nm,0.3s,mb3.3,baz=90,slow=5.0,SNR=4.7						
MKAR				PcP	PcP	21 25 11.7	+0.3
	comp=Z,0.8nm,0.8s,baz=112,slow=4.4,SNR=6.3						
ASAR	**Alice Springs**	**51.49**	**189**	P	**P**	**21 24 04.1**	**+0.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=9.2,slow=5.1,SNR=6.4						
KURK	**Kurchatov**	**52.43**	**314**	*e*P	**P**	**21 24 09.6**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.6						
ILAR	**Eielson Array**	**57.47**	**29**	P	**P**	**21 24 46.8**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.8,baz=260,slow=6.1,SNR=8.3						
ZRNK	**Zerenda**	**58.33**	**317**	*e*P	**P**	**21 24 52.3**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.7						
STKA	**Stephens Creek**	**59.10**	**180**	P	**P**	**21 24 56.5**	**-1.6**
	comp=Z,2.5nm,0.8s,mb4.3,baz=285,slow=18,SNR=4.1						
STKA	**Stephens Creek**	**59.10**	**180**	*e*P	**P**	**21 24 56.8**	**-1.4**
TAU	**Tasmania Univ**	**70.30**	**176**	P	**P**	**21 26 08.2**	**-2.9**
YKA	**Yellowknife Ar**	**71.89**	**28**	P	**P**	**21 26 20.4**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=295,slow=5.8,SNR=12						
ARCES	**ARCESS Array B**	**73.00**	**341**	P	**P**	**21 26 28.2**	**+0.8**
	comp=Z,5.2nm,0.9s,mb4.5,baz=60,slow=7.4,SNR=7.8						
JOF	**Joensuu**	**74.53**	**334**	*e*p	**P**	**21 26 37.9**	**+1.6**
	comp=Z,5.5nm,0.5s,mb4.7						
KAF	**Kangasniemi**	**76.92**	**334**	*e*p	**P**	**21 26 50.3**	**+0.3**
	comp=Z,3.9nm,0.5s,mb4.6,baz=53,slow=5.3						
KAF	**Kangasniemi**	**76.92**	**334**	*e*P	**P**	**21 26 50.3**	**+0.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
FINES	**FINESS Array B**	**77.39**	**334**	P	**P**	**21 26 53.2**	**+0.5**
	comp=Z,3.0nm,0.4s,mb4.6,baz=73,slow=5.4,SNR=74						
AKASG	**Malin Array Be**	**82.06**	**324**	P	**P**	**21 27 17.8**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=53,slow=5.1,SNR=8.1						
NB2	**NORSAR Subarra**	**83.06**	**338**	P	**P**	**21 27 23.1**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**83.06**	**338**	P	**P**	**21 27 23.2**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.2,baz=44,slow=4.9,SNR=5.6						
PDAR	**Pinedale Array**	**84.12**	**45**	P	**P**	**21 27 29.2**	**+0.7**
	comp=Z,0.4nm,0.9s,mb3.5,baz=122,slow=1.9,SNR=3.4						
BRTR	**Keskin Array B**	**85.45**	**313**	P	**P**	**21 27 35.8**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.8,baz=32,slow=5.8,SNR=2.8						
GERES	**GERESS Array B**	**90.95**	**329**	P	**P**	**21 28 00.9**	**-0.6**
	comp=Z,0.9nm,0.7s,mb4.2,baz=44,slow=5.9,SNR=11						
LPAZ	**La Paz**	**150.12**	**74**	PKPbc	PKPbc	21 34 51.1	+2.9
	comp=Z,0.4nm,0.5s,baz=7.2,slow=3.6,SNR=4.2						

*ISCJB **19** 21:31:33.7±0.6, 522N±0.1×17783W±008, h119km±8km, mb3.7/8, Error ellipse: s-maj=24.2km s-min=7.8km az=171.7*
*NEIC **19** 21:31:34.6±1.1, 5218N×17790W, h113km±11km, mb3.9/2, Error ellipse: s-maj=22.9km s-min=13.8km az=156.0*
*IDC **19** 21:31:36.8±2.4, 5223N×17795W, h130km±17km, mb3.2/8, mb1 3.4/9, mb1mx3.3/24, mbtmp3.7/9, Error ellipse: s-maj=31.1km s-min=13.7km az=168.0*

ISC 19 21:31:34.6±0.7, 521N±02×17781W±009, h117km±7km, n16, σ0§73/17, mb3.8/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.73**	**107**	P	**Pn**	**21 31 53.9**	**-0.1**
ADK				S	**Sn**	**21 32 07.9**	**-0.6**
ATKA	**Atka Island**	**2.23**	**86**	P	**Pn**	**21 32 12.0**	**+1.2**
FX1	**Attu Island--F**	**5.57**	**282**	P	**Pn**	**21 32 56.3**	**+1.2**
	1.3nm,0.3s,baz=126,slow=22,SNR=8.9						
FX1				S	**Sn**	**21 33 57.4**	**-0.4**
	1.6nm,0.3s,baz=221,slow=19,SNR=3.1						
KDAK	**Kodiak Island**	**15.52**	**59**	P	**Pn**	**21 35 05.4**	**-1.5**
	1.4nm,0.3s,baz=111,slow=13,SNR=24						
KDAK				S	**S**	**21 37 53.3**	**-13**
	0.2nm,0.3s,baz=234,slow=11,SNR=5.9						
ILAR	**Eielson Array**	**20.29**	**39**	P	**P**	**21 36 01.1**	**+0.1**
	0.4nm,0.4s,baz=239,slow=8.6,SNR=15						
ILAR				ScP	ScP	21 43 32.2	-3.0
	0.3nm,0.5s,baz=278,slow=3.8,SNR=6.4						
INK	**Inuvik**	**26.51**	**36**	P	**P**	**21 37 01.1**	**+0.1**
	0.3nm,0.4s,mb3.2,baz=236,slow=5.2,SNR=5.3						
INK	**Inuvik**	**26.51**	**36**	*e*P	**P**	**21 37 01.6**	**+0.6**
	0.4nm,0.4s,mb3.3						
YKA	**Yellowknife Ar**	**34.28**	**47**	P	**P**	**21 38 10.0**	**+0.6**
	0.7nm,0.5s,mb3.8,baz=283,slow=8.1,SNR=14						
YKA				PcP	PcP	21 40 43.0	-0.2
	0.2nm,0.5s,baz=289,slow=3.3,SNR=4.6						
YKA				ScP	ScP	21 44 14.5	-2.8
	0.2nm,0.5s,baz=284,slow=3.1,SNR=5.8						
PDAR	**Pinedale Array**	**45.51**	**74**	P	**P**	**21 39 42.6**	**+0.4**
	0.6nm,0.5s,mb3.5,baz=284,slow=2.9,SNR=5.1						
SONM	**Songino Array**	**46.87**	**296**	P	**P**	**21 39 53.0**	**+0.1**
	0.2nm,0.3s,mb3.3,baz=39,slow=4.8,SNR=4.8						
MKAR	**Makanchi Array**	**60.06**	**309**	P	**P**	**21 41 27.8**	**-1.4**
	0.2nm,0.3s,mb3.6,baz=43,slow=5.7,SNR=5.8						
BVAR	**Borovoye Array**	**60.73**	**320**	P	**P**	**21 41 34.0**	**+0.3**
	1.9nm,0.4s,mb4.5,baz=54,slow=6.4,SNR=33						
ZRNK	**Zerenda**	**61.33**	**321**	*e*P	**P**	**21 41 37.7**	**0.0**
	1.6nm,0.3s,mb4.5						
ASAR	**Alice Springs**	**86.44**	**223**	P	**P**	**21 44 03.8**	**-0.2**
	0.4nm,0.6s,mb3.5,baz=21,slow=3.5,SNR=4.5						
VNDA	**Vanda**	**129.98**	**186**	PKP	PKPdf	21 50 30.9	+0.5
	1.0nm,0.4s,baz=66,slow=5.3,SNR=14						
BOSA	**Boshof**	**150.92**	**315**	PKPbc	PKPbc	21 51 12.2	-1.2
	1.6nm,0.7s,baz=92,slow=4.3,SNR=6.4						

*IDC **19** 21:57:07.2±0.5, 1071N×9426E, h0km, mb4.3/18, mb1 4.4/18, mb1mx4.3/25, mbtmp4.3/18, MS3.9/12, Ms1 4.0/12, ms1mx3.7/23, Error ellipse: s-maj=20.2km s-min=12.6km az=56.0*
*NEIC **19** 21:57:09.1±0.2, 1072N×9435E, h10km, mb4.9/17, Error ellipse: s-maj=9.4km s-min=4.5km az=54.0*
*BJI **19** 21:57:09.5, 1079N×9423E, h24km, mB5.1, mb4.6, Ms4.8, Ms2.4*
*HRVD **19** 21:57:09.1±0.3, 1077N×9446E, h12km, MW5.0/82, Centroid moment Tensor Solution. LP body waves: s44,c58;Mantle waves: s82,c140; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.28±.10; Mθθ3.35±.08; Mφφ-0.06±.11; Mrθ1.25±.27; Mφθ0.61±.08; Mφr0.57±.32; Best double couple: M0=3.63800×10^16 NP1:φ=86.00000°, δ35.00000°, λ-80.00000°. NP2: φ=254.00000°, δ56.00000°, λ-97.00000°. Principal axes: T 3.7090, Plg11.0000°, Azm349.0000°; N -0.1330, Plg6.0000°, Azm258.0000°; P -3.5680, Plg78.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **19** 21:57:10.9±0.2, 1077N±004×9444E±004, h33km, mb4.6/55, MS4.2/21 Error ellipse: s-maj=5.9km s-min=4.2km az=84.0*
*MOS **19** 21:57:11.2±0.8, 1082N×9436E, h33km, mb4.8/17, Error ellipse: s-maj=12.1km s-min=6.8km az=109.8*

ISC 19 21:57:13.3±0.2, 1081N±004×9440E±003, h35km, (h36km±2.3km:pP-P), n155, σ1§21/147, mb4.6/55, MS4.2/21, 13C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.83**	**298**	*e*P	Px	21 57 54.1	
PBA				*ex*	x	21 58 01.5	
PBA				*ex*	x	21 58 37.7	
	comp=N,3μm,1.2s						
PBA				*ex*	x	21 58 41.3	
	comp=E,5μm,0.9s						
PKT	**Phuket**	**4.62**	**126**	P	**Pn**	**21 58 16.0**	**-4.6**
NNT	**Nongplab**	**5.52**	**71**	P	**Pn**	**21 58 30.8**	**-2.1**
SNG	**Songkhla**	**7.12**	**120**	P	**Pn**	**21 59 02.0**	**+7.0**
	comp=E,544nm,1.0s						
NST	**Nakhon Sawan**	**7.38**	**48**	P	**Pn**	**21 58 57.2**	**-1.3**
BDT	**Bhumibol Dam**	**7.80**	**34**	P	**Pn**	**21 59 02.0**	**-2.2**
KULM	**Kulim**	**8.27**	**131**	*e*Pn	**Pn**	**21 59 09.2**	**-1.5**
KULM				*e*Sn	**Sn**	**22 00 37.2**	**-5.6**
PSI	**Prapat**	**9.14**	**150**	Pn	**Pn**	**21 59 26.6**	**+4.0**
	comp=E,0.6nm,0.3s,baz=318,slow=14,SNR=4.7						
PSI				LR	LR	22 02 56.4	
	comp=E,777nm,21.9s,baz=313,slow=38						
BWNR	**Bhubaneshwar**	**12.54**	**320**	*ex*	x	22 01 40.0	
VIS	**Vishakhapatnam**	**12.74**	**304**	*i* P	**Pn**	**22 00 08.4**	**-3.4**
VIS				*ex*	x	22 00 11.3	
VIS				*e*P		22 00 24.4	
VIS				AMb	AMB	22 00 29.7	
	comp=Z,82nm,0.8s						
VIS				AMb	AMB	22 00 36.2	
	comp=Z,76nm,1.3s						
VIS				*i* S	**Sn**	**22 02 19.8**	**-13**
VIS				*ex*	x	22 02 21.6	
SHL	**Shillong**	**14.87**	**351**	*e*P	**Pn**	**22 00 38.0**	**-2.9**
SHL				*ex*	x	22 03 36.0	
BOK	**Bokaro**	**15.25**	**329**	*e*P	**Pn**	**22 00 46.3**	**+0.4**
BOK				*e*P		22 00 49.2	
BOK				AMb	AMB	22 01 10.7	
	comp=Z,62nm,1.1s						
BOK				AMb	AMB	22 01 10.9	
	comp=Z,63nm,1.5s						
BOK				*i* x	x	22 03 23.9	
BOK				*ex*	x	22 03 46.0	
KMI	**Kunming**	**16.29**	**28**	P	**Pn**	**22 01 02.3**	**+3.0**
KMI				AMB	AMB		
	comp=Z,29nm,1.5s						
KMI				LR	LR		
	comp=N,1μm,13.6s						
KMI				LR	LR		
	comp=E,1μm,10.2s						
KMI				LR	LR		
	comp=Z,1μm,10.9s						
HYB	**Hyderabad**	**16.71**	**295**	*i* P	**Pn**	**22 01 08.0**	**+3.4**
HYB				*e*		22 01 24.0	
HYB				*e*S	**S**	**22 04 18.0**	**-1.2**
QIZ	**Qiongzhong**	**17.00**	**59**	P	**Pn**	**22 01 11.3**	**+3.0**
QIZ				S	**S**	**22 04 21.5**	**-3.7**
QIZ				AMB	AMB		
	comp=Z,24nm,1.8s						
QIZ				LR	LR		
	comp=E,2μm,8.3s						
QIZ				LR	LR		
	comp=Z,2μm,8.6s						
TRD	**Trivandrum**	**17.34**	**264**	*ex*	**S**	**22 04 39.4**	**+7.2**
TRD				*ex*	x	22 05 47.4	
NGP	**Nagpur**	**17.97**	**307**	*e*P	**Pn**	**22 01 25.2**	**+5.0**
NGP				⇑*e*P		22 01 25.6	
NGP				*ex*	x	22 01 26.9	
	comp=Z,25nm,1.5s						
NGP				AMb	AMB	22 01 41.3	
	comp=Z,51nm,1.3s						
NGP				*e*S	**S**	**22 04 43.2**	**-1.6**
KSM	**Kuching**	**18.32**	**119**	*e*P	**Pn**	**22 01 23.1**	**-1.4**
JIRN	**Ji

RTK Rohtak 24.73 320 *eP* **P 22 02 31.8 +0.6**
KLP Kalpa 25.47 326 *eP* **P 22 02 38.6 +0.6**
KLP AMb AMB 22 03 05.6
comp=Z,87nm,1.5s,mb5.1
SMLA Simla 25.77 324 *eP* **P 22 02 38.2 -2.5**
SMLA *eP* 22 02 42.4
SMLA AMb AMB 22 03 01.4
comp=Z,77nm,1.8s,mb4.9
SMLA *ex* x 22 03 19.0
LZH Lanzhou 26.58 17 ⇑P **P 22 02 49.8 +1.8**
LZH AP pP 22 02 59.9 +1.9
LZH XP sP 22 03 03.3 +1.0
LZH PP 22 03 34.3
LZH S **S 22 07 21.1 +0.8**
LZH XS sS 22 07 36.4 -0.5
LZH SS 22 08 32.5
LZH AMB AMB
comp=Z,74nm,1.7s,mb4.9
LZH AMB AMB
comp=Z,170nm,4.0s
LZH LR LR
comp=N,735nm,14.3s
LZH LR LR
comp=Z,2μm,15.7s,MS4.7
XAN Xi'an 26.67 28 P **P 22 02 48.5 -0.3**
XAN AP pP 22 02 57.1 -1.7
XAN AMB AMB
comp=Z,9.0nm,1.4s,mb4.1
WHN Wuhan 27.00 40 ⇓P **P 22 02 53.5 +1.7**
GTA Gaotai 28.89 9 *eP* **P 22 03 10.3 +1.6**
GTA AP pP 22 03 21.8 +3.1
GTA XP sP 22 03 26.0 +3.1
GTA AMB AMB
comp=Z,10.0nm,1.9s,mb4.2
GTA AMB AMB
comp=Z,141nm,4.6s
GTA LR LR
comp=N,242nm,13.3s,MS4.2
GTA LR LR
comp=E,335nm,13.7s,MS4.2
GTA LR LR
comp=Z,286nm,19.4s
NJ2 Nanjing 30.92 43 *eP* **P 22 03 28.3 +1.6**
NJ2 PP PP 22 04 31.3 -5.5
NJ2 S **S 22 08 25.0 -3.6**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
NJ2 AMB AMB
comp=Z,120nm,8.0s
NJ2 LR LR
comp=N,1μm,19.8s
NJ2 LR LR
comp=E,710nm,11.7s
NJ2 LR LR
comp=Z,380nm,14.8s,MS4.2
SSE Sheshan 31.99 47 *eP* **P 22 03 35.6 -0.5**
SSE AP pP 22 03 44.8 -1.4
SSE XP sP 22 03 48.8 -1.6
SSE PP PP 22 04 48.0 -0.6
SSE PCP PcP 22 06 26.3 +0.8
SSE S **S 22 08 43.8 -1.5**
SSE XS sS 22 09 00.4 -1.5
SSE SCS ScS 22 14 00.6 -4.2
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,114nm,5.4s
SSE LR LR
comp=N,435nm,11.5s,MS4.4
SSE LR LR
comp=E,129nm,11.5s,MS4.4
SSE LR LR
comp=Z,454nm,9.6s
BTO Baotou 32.73 22 *eP* **P 22 03 44.1 +1.5**
WMQ Urumqi 33.40 351 P **P 22 03 50.6 +2.2**
WMQ PP PP 22 05 04.0 -0.3
WMQ PCP PcP 22 06 31.1 +1.8
WMQ *eS* **S 22 09 06.4 -0.8**
WMQ SS SS 22 11 12.4 -20
WMQ AMB AMB
comp=Z,27nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,192nm,4.8s
WMQ LR LR
comp=N,2μm,24.0s,MS5.0
WMQ LR LR
comp=E,2μm,24.0s,MS5.0
WMQ LR LR
comp=Z,2μm,24.0s,MS4.8
HHC Hu-ho-hao-te 33.54 24 *eP* **P 22 03 51.3 +1.7**
HHC AP pP 22 04 01.1 +1.4
HHC XP sP 22 04 04.6 +0.7
HHC PP PP 22 04 59.8 -6.0
HHC PCP PcP 22 06 34.8 +5.1
HHC S **S 22 09 07.5 -1.8**
HHC AMB AMB
comp=Z,13nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,170nm,5.8s
HHC LR LR
comp=N,440nm,12.0s,MS4.6
HHC LR LR
comp=E,468nm,11.0s,MS4.6
HHC LR LR
comp=Z,337nm,12.7s,MS4.3
JMDO Jabal Madar 36.53 293 ⇓P **P 22 04 13.0 -2.5**
SMDO Samad 36.74 294 ⇓P **P 22 04 17.6 +0.5**
MKAR Makanchi Array 37.31 346 P **P 22 04 22.3 +0.3**
comp=Z,7.5nm,0.8s,mb4.6,baz=165,slow=10.0,SNR=33
BSY Bisya 37.43 293 P **P 22 04 26.3 +3.3**
SNR=18
HOQ Hoqain 37.52 295 ⇑P **P 22 04 21.9 -1.8**
SONM Songino Array 38.26 13 P **P 22 04 30.7 +0.6**
comp=Z,5.3nm,1.0s,mb4.2,baz=189,slow=4.5,SNR=34
SONM PcP PcP 22 06 44.2 +0.5
comp=Z,1.5nm,0.8s,baz=212,slow=2.7,SNR=3.7
SONM LR LR 22 21 37.0
comp=Z,272nm,19.5s,MS4.1,baz=188,slow=38
SONM Songino Array 38.26 13 P **P 22 04 30.7 +0.7**
SONM 22 06 44.2
ULN Ulaanbaatar 38.44 14 *eP* **P 22 04 32.5 +0.9**
WHFO Wadi Hawf 39.92 285 P **P 22 04 46.5 +2.5**
SNR=35
ZAK Zakamensk 40.13 9 *eP* **P 22 04 44.8 -0.8**
ZAK pmax pmax
comp=Z,14nm,1.9s,mb4.4
ABTO Aybut 40.33 284 P **P 22 04 49.8 +2.4**
SNR=6.4
MBWA Marble Bar 40.36 142 *eP* **P 22 04 46.4 -1.2**
KURK Kurchatov 41.85 345*c iP* **P 22 05 00.8 +1.0**
KURK Kurchatov 41.85 345 *eP* **P 22 05 00.1 +0.3**
comp=Z,52nm,1.4s,mb5.0
KURK *e* 22 05 15.8
FITZ Fitzroy Crossi 42.15 133 P **P 22 05 01.8 -0.5**
comp=Z,2.2nm,0.8s,mb3.9,baz=274,slow=14,SNR=2.3
CN2 Changchun 42.44 34 *eP* **P 22 05 05.8 +1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
NVS Novosibirsk 44.80 351 *eP* **P 22 05 22.5 -1.1**
NVS pmax pmax
comp=Z,40nm,1.8s,mb5.0
NVS pmax pmax
comp=N,25nm,1.6s
MDJ Mudanjiang 45.26 35 P **P 22 05 27.0 -0.3**
MDJ PP PP 22 07 12.5 -1.0
MDJ PCS PcS 22 10 56.4 -4.3
MDJ S **S 22 12 10.3 +5.1**
MDJ SCS ScS 22 15 16.3 -5.0
MDJ AMB AMB
comp=Z,6.0nm,1.5s,mb4.2
MDJ AMB AMB
comp=Z,177nm,4.4s
BVAR Borovoye Array 46.32 340 P **P 22 05 35.2 -0.5**
comp=Z,3.3nm,0.8s,mb4.3,baz=139,slow=7.9,SNR=22
BRVK Borovoye 46.38 340 *eP* **P 22 05 36.1 0.0**
BRVK *e* 22 05 50.9
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BRVK Borovoye 46.38 340 *eP* **P 22 05 36.1 0.0**
comp=Z,5.8nm,1.0s,mb4.5
BRVK *e* 22 05 50.9
ZRNK Zerenda 46.73 339 *eP* **P 22 05 37.2 -1.7**
ZRNK *e* 22 05 53.7
ZRNK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZRNK Zerenda 46.73 339 *eP* **P 22 05 37.2 -1.7**
comp=Z,7.4nm,1.0s,mb4.6
ZRNK *e* 22 05 53.7
MJAR Matsushiro Arr 47.04 50 P **P 22 05 43.2 +1.9**
comp=Z,2.3nm,0.6s,mb4.3,baz=348,slow=19,SNR=7.6
MUN Mundaring 47.39 155 *eP* **P 22 05 43.8 -0.2**
NWAO Narrogin (SRO) 48.64 154 P **P 22 05 54.0 +0.3**
comp=Z,9.0nm,0.8s,mb4.9,baz=338,slow=11,SNR=4.2
NWAO LR LR 22 27 42.4
comp=Z,140nm,18.1s,MS4.0,baz=134,slow=38
NWAO Narrogin (SRO) 48.64 154 P **P 22 05 54.6 +0.9**
BOD Bodaibo 49.25 14 *eP* **P 22 05 57.4 -1.0**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
AKTK Aktyubinsk 49.53 330 P **P 22 05 59.8 -0.6**
AKTK LR LR 22 27 36.0
AKTO Aktyubinsk 49.53 330 P **P 22 05 59.8 -0.6**
comp=Z,1.7nm,0.7s,mb4.2,baz=128,slow=7.3,SNR=5.9
AKTO LR LR 22 27 36.0
comp=Z,107nm,21.7s,MS3.8,baz=282,slow=37
WRA Warramunga Arr 49.80 128 P **P 22 06 02.1 -0.4**
comp=Z,5.0nm,0.8s,mb4.6,baz=304,slow=8.7,SNR=27
WRA Warramunga Arr 49.80 128 *i P* **P 22 06 02.7 +0.2**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRAB Tennant Creek 49.80 128 *eP* **P 22 06 02.8 +0.3**
WRAB pmax pmax
comp=Z,90nm,1.6s,mb5.5
WRAB Tennant Creek 49.80 128 *eP* **P 22 06 02.8 +0.3**
comp=Z,90nm,1.6s,mb5.5
WB2 Warramunga Arr 49.81 128 *eP* **P 22 06 02.3 -0.3**
ASPA Alice Springs 51.63 132 *eP* **P 22 06 16.3 0.0**
ASAR Alice Springs 51.63 132 P **P 22 06 16.2 -0.1**
comp=Z,8.3nm,0.8s,mb4.7,baz=311,slow=7.5,SNR=54
AS31 Alice Springs 51.63 132 *eP* **P 22 06 16.3 -0.1**
GNI Garni 52.61 313 *eP* **P 22 06 24.5 +0.9**
GNI pmax pmax
comp=Z,12nm,1.3s
GNI Garni 52.61 313 *eP* **P 22 06 19.9 -3.7**
comp=Z,16nm,1.2s,mb4.8
GNI *e* 22 06 41.1
ASAJ Asahikawa 53.06 42 LR LR 22 32 51.9
comp=Z,81nm,18.2s,MS3.8,baz=147,slow=40
ARU Arti 53.31 336 *eP* **P 22 06 28.9 +0.1**
ARU *e* 22 06 43.5
ARU Arti 53.31 336 *eP* **P 22 06 28.9 +0.1**
ARU *e* 22 06 43.5
YSS Yuzh-Sakhalins 54.34 39 *eP* **P 22 06 38.2 +1.9**
OPO Ambohidratompo 54.96 238 P **P 22 06 39.2 -1.6**
comp=Z,2.5nm,0.9s,mb4.2,baz=297,slow=6.8,SNR=2.2
KIV Kislovodsk 55.35 316⇑ *eP* **P 22 06 44.6 +1.0**
KIV pmax pmax
comp=Z,16nm,1.4s,mb4.9
KIV Kislovodsk 55.35 316 *eP* **P 22 06 43.4 -0.2**
comp=Z,22nm,1.1s,mb5.1
KIV *e* 22 06 58.7
GOF Gofitskoye 55.51 318 *eP* sP 22 07 00.3 +0.8
PMG Port Moresby 56.19 109 *eP* **P 22 06 50.9 +1.3**
PMG *e* 22 07 07.0
MALT Malatya 56.80 309 *eP* **P 22 06 54.1 +0.1**
MALT *e* 22 07 10.8
YAK Yakutsk 57.15 19*c iP* **P 22 06 56.5 +0.1**
YAK pmax pmax
comp=Z,65nm,1.7s,mb5.4
YAK Yakutsk 57.15 19 *eP* **P 22 06 56.0 -0.5**
comp=Z,12nm,0.6s,mb5.1
YAK *e* 22 07 12.9
SOC Sochi 57.27 315*d iP* **P 22 06 54.9 -2.4**
SOC *e* 22 07 52.2
SOC *eS* **S 22 14 49.6 -1.2**
SOC pmax pmax
comp=Z,28nm,0.6s,mb5.5
KMBO Kilima Mbogo 58.05 262 P **P 22 07 02.4 -0.4**
comp=Z,1.0nm,0.8s,mb3.9,baz=53,slow=14,SNR=3.7
KMBO LR LR 22 26 06.2
comp=Z,52nm,21.8s,MS3.6,baz=92,slow=30
KMBO Kilima Mbogo 58.05 262 *eP* **P 22 07 04.3 +1.6**
KMBO *e* 22 07 21.4
KMBO pmax pmax
comp=Z,7.0nm,1.8s
KMBO Kilima Mbogo 58.05 262 *eP* **P 22 07 04.3 +1.5**
comp=Z,7.0nm,1.8s,mb4.4
KMBO *e* 22 07 21.4
CTAO Charters Tower 59.55 121 *eP* **P 22 07 15.3 +2.1**
BRTR Keskin Array B 60.74 310 P **P 22 07 20.0 -1.4**
comp=Z,2.0nm,0.9s,mb4.2,baz=117,slow=8.4,SNR=10
STKA Stephens Creek 61.96 135 *eP* **P 22 07 27.9 -1.7**
comp=Z,8.6nm,1.0s,mb4.8
STKA Stephens Creek 61.96 135 P **P 22 07 28.3 -1.3**
comp=Z,7.0nm,0.8s,mb4.9,baz=319,slow=7.8,SNR=14
STKA LR LR 22 35 46.4
comp=Z,118nm,18.2s,MS4.1,baz=320,slow=37
OBN Obninsk 63.06 327⇓ *eP* sP 22 07 52.5 +0.8
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
MA2 Magadan 64.07 28⇑ *eP* **P 22 07 43.8 +0.2**
MA2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
TIXI Tiksi 64.32 11 *eP* **P 22 07 44.3 -1.0**
TIXI pmax pmax
comp=Z,29nm,1.7s,mb5.0
SEY Seymchan 66.17 25 *eP* **P 22 07 58.1 +0.9**
SEY *e* 22 24 01.8
SEY pmax pmax
comp=Z,18nm,2.0s,mb4.8
SEY Seymchan 66.17 25⇑ *eP* **P 22 07 58.2 +1.0**
HNR Honiara 68.23 105 P **P 22 08 10.5 +0.2**
JOF Joensuu 68.33 334 *ep* **P 22 08 11.4 +0.5**
comp=Z,1.7nm,0.5s,mb4.3
FINES FINESS Array B 70.26 332 P **P 22 08 21.3 -1.5**
comp=Z,1.4nm,0.6s,mb4.0,baz=116,slow=4.4,SNR=6.6
FINES LR LR 22 41 51.8
comp=Z,69nm,19.3s,MS3.9,baz=21,slow=38
FINES FINESS Array B 70.26 332 *i P* **P 22 08 22.7 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.6s
LSZ Lusaka 70.51 250 *eP* **P 22 08 25.4 +1.0**
LSZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
LSZ Lusaka 70.51 250 *eP* **P 22 08 25.4 +1.0**
comp=Z,1.5nm,0.5s,mb4.2
KECS Kecovo 71.32 318 *e* **P 22 08 38.2 +8.9**
ARCES ARCESS Array B 72.61 340 P **P 22 08 36.6 -0.4**
comp=Z,3.9nm,0.8s,mb4.4,baz=64,slow=5.5,SNR=9.7
ARCES LR LR 22 42 47.1
comp=Z,149nm,19.8s,MS4.3,baz=190,slow=38
BILL Bilibino 73.28 22 *eP* **P 22 08 41.2 +0.2**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BILL MLR MLR
comp=Z,100nm,13.0s,MS4.3
GERES GERESS Array B 75.83 318 P **P 22 08 55.2 -0.6**
comp=Z,0.6nm,0.6s,mb3.7,baz=84,slow=7.0,SNR=9.3
LBTB Lobatse 75.88 241 *eP* **P 22 08 56.6 +0.5**
KHC Kasperske Hory 75.91 318 *eP* sP 22 09 14.5 +3.3
NOA NORSAR Array B 77.32 330 LR LR 22 45 35.7
comp=Z,90nm,18.7s,MS4.1,baz=55,slow=38
BOSA Boshof 77.36 237 *eP* **P 22 09 04.6 +0.1**
LPG La Plagne 80.75 315 *eP* **P 22 09 23.1 +0.1**
comp=Z,18nm,0.9s,mb4.7
LPG La Plagne 80.75 315 *eP* **P 22 09 23.1 +0.1**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LPG La Plagne 80.75 315 *eP* **P 22 09 23.1 +0.1**
comp=Z,8.8nm,0.9s,mb4.7
DAG Danmarks Havn 84.68 348⇑ *iP* **P 22 09 43.7 +0.3**
comp=Z,2.1nm,0.7s,mb4.4
DAG Danmarks Havn 84.68 348⇑ *eP* **P 22 09 43.7 +0.3**
DAG pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
DAG Danmarks Havn 84.68 348⇑ *eP* **P 22 09 43.7 +0.3**
comp=Z,2.0nm,0.7s,mb4.4
SYO Syowa Base 88.27 197⇓ *eP* **P 22 10 05.4 +4.4**
SYO Syowa Base 88.27 197⇓ *e*PcP PcP 22 10 07.2 +4.5
TORD Torodi Ar. Bea 90.17 283 P **P 22 10 09.8 -0.1**
comp=Z,1.4nm,0.9s,mb4.3,baz=74,slow=3.9,SNR=9.6
TORD PP PP 22 13 44.4 +0.7
comp=Z,2.2nm,1.1s,baz=42,slow=5.6,SNR=7.4
ILAR Eielson Array 91.95 22 P **P 22 10 17.1 -1.1**
comp=Z,1.1nm,0.8s,mb4.2,baz=289,slow=3.8,SNR=12
ILAR LR LR 22 51 39.0
comp=Z,89nm,20.6s,MS4.2,baz=358,slow=36
DBIC Dimbokro 97.78 278 LR LR 22 50 38.5
comp=Z,55nm,19.9s,MS4.0,baz=73,slow=33
YKA Yellowknife Ar 103.53 13 PP PP 22 15 22.7 -3.9
comp=Z,0.4nm,0.9s,baz=333,slow=7.9,SNR=4.1
NVAR Mina Array Bea 122.28 30 PKP PKPdf 22 16 05.8 +1.3
comp=Z,1.4nm,0.8s,baz=343,slow=2.5,SNR=9.4
PDAR Pinedale Array 122.35 21 PKP PKPdf 22 16 04.2 -0.4
comp=Z,1.3nm,0.7s,baz=38,slow=1.0,SNR=13
MSU Marysvale 125.02 25 *e*PKIKP PKPdf 22 16 09.4 -0.3
TAOE Nuku Hiva Isla 126.28 93 *e*LR LR 22 13 32.0
comp=Z,772nm,30.9s
ANMO Albuquerque 130.38 23⇑ *i*PKIKP PKPdf 22 16 22.7 +2.8
GDL2 Guadalupe Moun 133.62 22 *e*PKPdf PKPdf 22 16 25.4 -0.7
BDFB Brasilia 143.13 258 PKP PKPdf 22 16 45.1 +1.6
comp=Z,1.3nm,0.4s,baz=304,slow=2.1,SNR=3.4
CPD Cerro la Pandu 145.37 326 *e*PKIKP PKPdf 22 16 47.1 -0.3
PLCA Paso Flores 147.37 201 PKPbc PKPbc 22 16 53.0 -0.2
comp=Z,4.0nm,0.9s,baz=219,slow=6.2,SNR=7.0
CPUP Villa Florida 149.18 236 PKPbc PKPbc 22 16 58.7 +0.7
comp=Z,1.0nm,0.5s,baz=134,slow=3.1,SNR=8.1
CPUP Villa Florida 149.18 236 *e*PKPbc PKPbc 22 16 58.7 +0.8

SFS ***19*** *21:58:55.0, 34.96N×3.17W, h0km, ML3.1*
CSEM ***19*** *21:58:56.0±1.1, 35.01N×3.15W, h25km, ML3.1, Error ellipse: s-maj=25.4km s-min=12.1km az=177.0*
MDD 19 21:58:59.8±1.1, 35.33N×3.13W, h0km, mbLg1.6/4, Error ellipse: s-maj=17.4km s-min=4.1km az=29.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.14**	**100**	P	Pg	21 58 57.0	-5.5
21nm,0.1s,SNR=7.9							
EMEL				S	Sg	21 59 01.3	-3.1
11nm,0.0s,SNR=7.9							
EMLI	**Melilla**	**0.15**	**100**	P	Pg	21 58 57.0	-5.6
21nm,0.1s,SNR=7.9							
EMLI				S	Sg	21 59 01.3	-3.2
11nm,0.0s,SNR=7.9							
MELI	**Melilla**	**0.16**	**101**	S	Sg	21 59 03.5	-1.5
MELI				P		21 59 03.9	
MELI	**Melilla**	**0.16**	**101**	*e*S	Sg	21 59 03.5	-1.5
MELI	**Melilla**	**0.16**	**101**	*e*P	Pg	21 59 03.9	+1.0
EBER	**Berja**	**1.58**	**7**	S	Sn	21 59 47.8	-2.4
7.6nm,0.5s,SNR=7.9							
EMIJ	**Mijas**	**1.82**	**313**	P	Pn	21 59 29.3	-3.1
1.1nm,0.3s,SNR=7.9							
EMIJ				S	Sn	21 59 54.0	-2.2
2.0nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**2.41**	**338**	P	Pn	21 59 41.2	+0.7
SNR=4.0							
ELUQ				S	Sn	22 00 16.3	+5.5
0.6nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.47**	**1**	P	Pn	21 59 41.3	0.0
0.9nm,0.3s,SNR=7.9							
EQES				S	Sn	22 00 15.8	+3.6
2.1nm,0.3s,SNR=7.9							
EQES	**Quesada**	**2.47**	**1**	P	Pn	21 59 41.3	-0.1
0.9nm,0.3s,SNR=7.9							
EQES				S	Sn	22 00 15.8	+3.5
2.1nm,0.3s,SNR=7.9							
EMUR	**La Murta**	**2.94**	**31**	P	Pn	21 59 46.1	-1.7
0.3nm,0.2s,SNR=4.0							
EMUR	**La Murta**	**2.94**	**31**	P	Pn	21 59 46.1	-1.6
0.3nm,0.2s,SNR=4.0							
EADA	**Adamuz**	**3.07**	**338**	P	Pn	21 59 48.5	-1.1
0.5nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.07**	**338**	P	Pn	21 59 48.5	-1.0
0.5nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**3.55**	**20**	P	Pn	21 59 55.9	-0.3
SNR=4.0							
ETOB	**Tobarra**	**3.55**	**20**	P	Pn	21 59 55.9	-0.2
SNR=4.0							
ETOB				S	Sn	22 00 38.3	-0.5
0.2nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.75**	**312**	P	Pn	21 59 56.8	-2.2
0.4nm,0.2s,SNR=7.9							
EMIN				S	Sn	22 00 41.4	-2.5
0.2nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.75**	**312**	P	Pn	21 59 56.8	-2.2
0.4nm,0.2s,SNR=7.9							
EMIN				S	Sn	22 00 41.4	-2.5
0.2nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.15**	**303**	P	Pn	22 00 01.6	-2.8
0.2nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**4.62**	**319**	P	Pn	22 00 09.2	-1.7
0.4nm,0.1s,SNR=7.9							
EBAD				S	Sn	22 01 02.0	-3.4
0.4nm,0.2s,SNR=7.9							

IDC ***19*** *22:09:18.9±0.9, 22.71S×17.063E, h0km, mb4.0/7, mb1 4.4/10, mb1mx4.3/17, mbtmp4.3/10, ML4.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/22, Error ellipse: s-maj=33.0km s-min=18.3km az=172.0*
ISCJB ***19*** *22:09:19.7±3.3, 22.8S±0.1×17.060E±0.07, h15km±25km, mb4.2/11, MS3.0/1, Error ellipse: s-maj=17.9km s-min=11.0km az=27.6*
MOS ***19*** *22:09:20.9±2.1, 22.92S×17.055E, h10km, mb4.7/6, Error ellipse: s-maj=17.3km s-min=11.2km az=20.7*
NEIC ***19*** *22:09:21.2±0.4, 22.81S×17.057E, h10km, mb4.5/7, Error ellipse: s-maj=13.6km s-min=8.5km az=190.0*
ISC 19 22:09:24.0±3.4, 22.79S×17.065E±0.07, h35km±26km, n64, σ1§05/30, mb4.2/11, MS3.0/1, 1C-3D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.96**	**280**	Pn	**Pn**	**22 10 20.2**	**-2.0**
19nm,0.3s,baz=141,slow=23,SNR=139							
DZM				Sn	**Sn**	**22 11 03.0**	**-4.3**
22nm,0.3s,baz=88,slow=14,SNR=14							
RAO	**Raoul Island**	**12.12**	**124**	Pn	**Pn**	**22 12 15.3**	**+1.1**
baz=73,slow=19,SNR=2.0							
RAO				Sn	**Sn**	**22 14 26.3**	**-1.7**
75nm,0.3s,baz=246,slow=20,SNR=3.4							
URZ	**Urewera**	**16.38**	**162**	LR	LR	22 18 46.4	
comp=Z,276nm,19.2s,baz=258,slow=34							
HNR	**Honiara**	**16.79**	**321**	Pn	**Pn**	**22 13 15.7**	**-0.6**
24nm,0.3s,baz=251,slow=7.3,SNR=3.0							
HNR	**Honiara**	**16.79**	**321**	*e*P	**Pn**	**22 13 16.5**	**+0.2**
HNR				pmax	pmax		
comp=Z,20nm,0.4s							
HNR	**Honiara**	**16.79**	**321**	*e*Pn	**Pn**	**22 13 16.5**	**+0.2**
comp=Z,20nm,0.4s							
AFI	**Afiamalu**	**18.86**	**65**	P	**Pn**	**22 13 41.7**	**-0.1**
comp=Z,1.8nm,0.3s,baz=60,slow=15,SNR=4.1							
AFI	**Afiamalu**	**18.86**	**65**	*e*P	**Pn**	**22 13 42.1**	**+0.3**
AFI				pmax	pmax		
comp=Z,22nm,0.7s							
AFI	**Afiamalu**	**18.86**	**65**	*e*P	**Pn**	**22 13 42.1**	**+0.3**
comp=Z,22nm,0.7s							
RPZ	**Rata Peaks**	**20.87**	**179**	LR	LR	22 19 27.5	
comp=Z,59nm,20.4s,MS3.0,baz=305,slow=29							
CTA	**Charters Tower**	**22.86**	**272**	P	**P**	**22 14 25.9**	**+1.6**
comp=Z,6.0nm,0.8s,mb4.1,baz=106,slow=14,SNR=5.1							
CTAO	**Charters Tower**	**22.86**	**272**	*e*P	**P**	**22 14 27.6**	**+3.4**
CTAO				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.2							
CTAO	**Charters Tower**	**22.86**	**272**	*e*P	**P**	**22 14 27.6**	**+3.4**
comp=Z,6.3nm,0.6s,mb4.2							
PMG	**Port Moresby**	**26.15**	**297**	*e*P	**P**	**22 14 54.7**	**-0.2**
STKA	**Stephens Creek**	**27.29**	**244**	P	**P**	**22 15 05.3**	**+0.2**
comp=Z,2.0nm,0.7s,mb3.8,baz=99,slow=7.0,SNR=3.7							
ASAR	**Alice Springs**	**33.72**	**261**	P	**P**	**22 16 02.8**	**+0.8**
comp=Z,1.3nm,0.7s,mb4.0,baz=82,slow=9.5,SNR=20							
WRAB	**Tennant Creek**	**33.87**	**268**	*e*P	**P**	**22 16 03.2**	**-0.1**
WRAB				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
WRAB	**Tennant Creek**	**33.87**	**268**	*e*P	**P**	**22 16 03.2**	**-0.1**
comp=Z,2.7nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**33.88**	**268**	P	**P**	**22 16 02.8**	**-0.6**
comp=Z,0.7nm,0.9s,mb3.6,baz=88,slow=5.6,SNR=10							
FITZ	**Fitzroy Crossi**	**42.31**	**268**	P	**P**	**22 17 15.4**	**+1.0**
comp=Z,5.9nm,1.1s,mb4.1,baz=125,slow=11,SNR=4.6							
MBWA	**Marble Bar**	**47.06**	**262**	*e*P	**P**	**22 17 53.4**	**+1.2**
comp=Z,14nm,1.2s,mb4.8							
VNDA	**Vanda**	**54.95**	**182**	*e*P	**P**	**22 18 51.7**	**+0.3**
MAW	**Mawson**	**75.65**	**202**	*e*P	**P**	**22 21 05.7**	**+0.2**
MAW				pmax	pmax		
comp=Z,4.0nm,0.8s							
MAW	**Mawson**	**75.65**	**202**	*e*P	**P**	**22 21 05.7**	**+0.1**
comp=Z,4.1nm,0.8s,mb4.4							
SNAA	**Sanae**	**85.68**	**182**	*e*P	**P**	**22 21 58.3**	**-0.9**
SNAA				pmax	pmax		

comp=Z,4.0nm,0.9s
SNAA Sanae 85.68 182 *e*P **P 22 21 58.2 -0.9**
comp=Z,4.0nm,0.9s,mb4.7
VNA3 Neumayer Olymp 86.22 180 *e* pP 22 22 13.0 +0.1
VNA2 Neumayer--Watz 86.53 181 *e* **P 22 22 09.2 +5.8**
baz=172,slow=3.5
NVAR Mina Array Bea 90.17 48 P **P 22 22 22.2 +1.5**
comp=Z,0.6nm,0.7s,mb4.0,baz=234,slow=7.7,SNR=3.4
ULN Ulaanbaatar 90.48 323 *e*P **P 22 22 21.1 -1.0**
SONM Songino Array 90.83 323 P **P 22 22 22.6 -1.1**
comp=Z,1.8nm,1.1s,mb4.3,baz=157,slow=6.0,SNR=5.6
ARCES ARCESS Array B 128.82 345 PKP PKPdf 22 28 27.3 -0.4
comp=Z,3.0nm,1.0s,baz=348,slow=3.0,SNR=5.6
GNI Garni 131.47 304 *e*PKHKP 22 28 13.2
GNI pmax pmax
comp=Z,6.0nm,1.3s
KIV Kislovodsk 132.56 309 *e*PKHKP 22 28 04.2
KIV pmax pmax
comp=Z,7.0nm,1.3s
DRGR 144.81 321 ⇓PKIKP PKPdf 22 28 56.8 -0.4
OKC Ostrava-Krasne 145.44 328 *e*PKP PKPab 22 29 02.3 +3.8
KSP Ksiaz 145.62 331 *e*PX PKPdf 22 28 59.1 +0.5
KSP Ksiaz 145.62 331⇓*e*P PKPdf 22 28 59.2 +0.6
PSZ Piszkesteto 145.76 324 *e*PKIKP PKPdf 22 28 59.5 +0.7
MORC Moravsky Berou 145.78 329 ⇓PKIKP PKPdf 22 28 59.9 +1.1
DPC Dobruska-Polom 145.96 330 *e*PKP PKPdf 22 29 00.6 +1.5
VYHS Vyhne 145.96 326 *e*PKP PKPdf 22 29 00.6 +1.5
VYHS *e* 22 29 07.3
UPC Upice 145.99 331 *e*PKP PKPdf 22 29 00.5 +1.3
UPC *ep*PKP pPKPdf 22 29 06.8 -3.8
PVCC Panska Ves 146.61 332 *e*PKP PKPdf 22 29 02.3 +2.1
BRG Berggiesshubel 146.62 333 *e*PKIKP PKPdf 22 29 02.2 +1.9
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 146.62 333 *e*PKP2 PKPab 22 29 02.3 -0.7
BRG Berggiesshubel 146.62 333 *e*P PKPdf 22 29 02.2 +2.0
comp=Z,4.4nm,0.9s
PRU Pruhonice 147.02 331 *e*PKP PKPdf 22 29 03.5 +2.6
PKSM Moragy 147.46 323 ⇑PKP2 PKPab 22 29 04.6 -1.7
NKC Novy Kostel 147.73 333 *e*PKP PKPab 22 29 05.2 -2.1
MOX Moxa 147.75 335 *e*(P) PKPab 22 29 07.0 -0.4
KHC Kasperske Hory 148.07 331 *e*PKP PKPab 22 29 06.7 -2.0
KHC *ep*PKP pPKPdf 22 29 13.3 -0.8
KHC Kasperske Hory 148.07 331 *e*PKP2 PKPab 22 29 07.5 -1.2
GERES GERESS Array B 148.22 331 PKPbc PKPbc 22 29 04.6 -1.7
comp=Z,1.1nm,0.6s,baz=48,slow=4.0,SNR=11
BAIF Baives 150.78 342 *e*PKP1 PKPbc 22 29 14.4 +1.8
comp=Z,0.9nm,0.3s
CDF Champ du Feu 151.21 337 *e*PKP1 PKPbc 22 29 13.6 0.0
comp=Z,2.9nm,0.6s
HINF Hinteralfeld 151.86 336 *e*PKP1 PKPbc 22 29 15.5 +0.4
FLN La Foliniere 153.14 347 *e*PKP1 PKPbc 22 29 19.4 +1.5
LDF La Druitiere 153.23 346 *e*PKP1 PKPbc 22 29 19.1 +1.0
LOR Lormes 153.37 340 *e*PKP1 PKPbc 22 29 20.4 +2.0
GRR Gorron 153.58 347 *e*PKP1 PKPbc 22 29 20.0 +1.1
MFF Saint Martin d 155.11 345 *e*PKP1 PKPdf 22 29 22.9 +10
DBIC Dimbokro 163.40 196 PKPab PKPab 22 30 15.5 +1.5
comp=Z,4.0nm,0.9s,baz=30,slow=7.7,SNR=7.4
TORD Torodi Ar. Bea 165.78 229 PKPab PKPab 22 30 23.4 -1.1
comp=Z,0.3nm,1.1s,baz=225,slow=1.8,SNR=2.3

*IDC **19** 22:10:35.2±1.4, 1379N×14657E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, MS3.8/1, Ms1 3.8/1, ms1mx2.2/26, Error ellipse: s-maj=31.6km s-min=23.3km az=136.0*
*ISCJB **19** 22:10:39.4±3.9, 137N±02×1466E±02, h46km±31km, mb3.8/9, MS3.7/1, Error ellipse: s-maj=34.0km s-min=27.4km az=158.6*
*NEIC **19** 22:10:40.5±0.8, 1375N×14654E, h35km, mb3.9/4, Error ellipse: s-maj=18.4km s-min=13.6km az=121.0*
ISC 19 22:10:39.2±7.0, 138N±02×1466E±01, h26km±50km, n13, σ0§39/14, mb3.8/9, MS3.7/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.68**	**265**	Pn	**Pn**	**22 11 06.7**	**-0.2**
	67nm,0.3s,baz=108,slow=6.6,SNR=13						
GUMO				Sn	**Sn**	**22 11 27.6**	**+0.1**
	44nm,0.3s,baz=161,slow=23,SNR=4.1						
GUMO	**Guam**	**1.68**	**265**	Pn	**Pn**	**22 11 06.7**	**-0.2**
GUMO				Sn	**Sn**	**22 11 27.6**	**+0.1**
WRA	**Warramunga Arr**	**35.59**	**200**	P	**P**	**22 17 34.6**	**+0.2**
	0.6nm,0.9s,mb3.5,baz=20,slow=9.2,SNR=2.9						
WRA	**Warramunga Arr**	**35.59**	**200**	P	**P**	**22 17 34.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**37.80**	**214**	LR	LR	22 32 11.1	
	comp=Z,133nm,19.8s,MS3.7,baz=327,slow=34						
ULN	**Ulaanbaatar**	**47.21**	**324**	*e*P	**P**	**22 19 10.6**	**+0.8**
	0.5nm,0.7s,mb3.5						
SONM	**Songino Array**	**47.57**	**324**	P	**P**	**22 19 12.7**	**+0.2**
	1.4nm,1.0s,mb3.9,baz=141,slow=7.1,SNR=6.2						
MKAR	**Makanchi Array**	**62.53**	**316**	P	**P**	**22 21 00.7**	**+0.2**
	0.3nm,0.3s,mb3.9,baz=117,slow=7.0,SNR=9.9						
KURK	**Kurchatov**	**65.54**	**320**	*e*P	**P**	**22 21 19.9**	**-0.5**
	2.3nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**67.70**	**25**	P	**P**	**22 21 34.2**	**+0.1**
	0.4nm,0.9s,mb3.4,baz=241,slow=5.9,SNR=6.5						
BVAR	**Borovoye Array**	**70.83**	**322**	P	**P**	**22 21 52.9**	**-0.7**
	0.8nm,0.5s,mb3.9,baz=103,slow=7.1,SNR=9.8						
BRVK	**Borovoye**	**70.90**	**322**	*e*P	**P**	**22 21 53.6**	**-0.3**
	0.5nm,0.6s,mb3.6						
ZRNK	**Zerenda**	**71.67**	**321**	*e*P	**P**	**22 21 58.7**	**+0.1**
	0.6nm,0.3s,mb4.0						

*CSEM **19** 22:13:22.3±0.5, 3497N×302W, h5km, ML3.2, Error ellipse: s-maj=12.0km s-min=8.0km az=19.0*
*ISCJB **19** 22:13:23.1±0.9, 3501N±005×298W±006, h9km±5km, Error ellipse: s-maj=8.9km s-min=7.5km az=98.2*
*MDD **19** 22:13:24.2±1.0, 3496N×294W, h0km, mbLg1.8/6, Error ellipse: s-maj=9.2km s-min=3.9km az=31.0, PRXIMO*
*SFS **19** 22:13:26.0, 3507N×3.12W, h0km, ML3.2*
ISC 19 22:13:23.6±1.0, 3501N±005×300W±006, h5km±6km, n24, σ1§46/39, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.21**	**100**	P	**Pg**	**22 13 27.0**	**-0.7**
ZAI				S	**Sg**	**22 13 29.0**	**-1.5**
ZAI	**Zaio**	**0.21**	**100**	*i* P	**Pg**	**22 13 27.0**	**-0.7**
MELI	**Melilla**	**0.29**	**11**	P	**Pg**	**22 13 30.4**	**+1.2**
MELI				S	**Sg**	**22 13 34.3**	**+1.2**
MELI	**Melilla**	**0.29**	**11**	*e*P	**Pg**	**22 13 30.4**	**+1.2**
EMEL	**Melilla**	**0.29**	**7**	P	**Pg**	**22 13 26.1**	**-3.2**
	SNR=7.9						
EMEL				S	**Sg**	**22 13 31.3**	**-1.8**
	53nm,0.3s,SNR=7.5						
EBER	**Berja**	**1.89**	**3**	P	**Pn**	**22 13 58.6**	**+2.1**
	SNR=7.9						
EBER				S	**Sn**	**22 14 19.9**	**-0.8**
	4.0nm,0.4s,SNR=5.7						
EBER	**Berja**	**1.89**	**3**	P	**Pn**	**22 13 58.6**	**+2.1**
	SNR=7.9						
EBER				S	**Sn**	**22 14 19.9**	**-0.8**
	4.0nm,0.4s,SNR=5.7						
EMIJ	**Mijas**	**2.12**	**318**	P	**Pn**	**22 13 59.3**	**-0.4**
	0.6nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**22 14 24.8**	**-1.5**
	2.6nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**2.12**	**318**	P	**Pn**	**22 13 59.3**	**-0.4**
	0.6nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**22 14 24.8**	**-1.6**
	2.6nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**2.75**	**338**	P	**Pn**	**22 14 10.0**	**+1.8**
	1.4nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**22 14 42.4**	**+0.6**
	0.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.75**	**338**	P	**Pn**	**22 14 10.0**	**+1.7**
	1.4nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**22 14 42.4**	**+0.6**
	0.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.79**	**359**	P	**Pn**	**22 14 11.3**	**+2.4**
	0.6nm,0.1s,SNR=7.6						
EQES				S	**Sn**	**22 14 45.1**	**+2.2**
	2.2nm,0.3s,SNR=6.4						
EQES	**Quesada**	**2.79**	**359**	P	**Pn**	**22 14 11.3**	**+2.4**
	0.6nm,0.1s,SNR=7.6						
EQES				S	**Sn**	**22 14 45.1**	**+2.2**
	2.2nm,0.3s,SNR=6.4						
EMUR	**La Murta**	**3.17**	**26**	P	**Pn**	**22 14 15.0**	**+1.0**
	1.7nm,0.4s,SNR=4.0						
EMUR				S	**Sn**	**22 14 50.4**	**-1.8**
	1.5nm,0.4s,SNR=4.0						
EMUR	**La Murta**	**3.17**	**26**	P	**Pn**	**22 14 15.0**	**+1.0**
	SNR=4.0						
EADA	**Adamuz**	**3.40**	**339**	P	**Pn**	**22 14 18.4**	**+1.1**
	0.7nm,0.2s,SNR=5.6						
EADA				S	**Sn**	**22 14 56.3**	**-1.6**
	0.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.40**	**339**	P	**Pn**	**22 14 18.4**	**+1.1**
	0.7nm,0.2s,SNR=5.6						
ETOB	**Tobarra**	**3.81**	**17**	S	**Sn**	**22 15 08.4**	**+0.2**
	3.1nm,0.8s,SNR=7.9						
ETOB	**Tobarra**	**3.81**	**17**	S	**Sn**	**22 15 08.4**	**+0.2**
	SNR=7.9						
EMIN	**Mina Concepcio**	**4.04**	**314**	P	**Pn**	**22 14 26.5**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.04**	**314**	P	**Pn**	**22 14 26.5**	**+0.4**
	0.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.41**	**306**	P	**Pn**	**22 14 31.5**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**22 15 20.5**	**-2.5**
	0.5nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**4.41**	**306**	P	**Pn**	**22 14 31.5**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.93**	**320**	P	**Pn**	**22 14 39.2**	**+0.9**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**22 15 33.6**	**-2.3**
	0.9nm,0.2s,SNR=7.9						

*ISCJB **19** 22:31:43.8±1.3, 2056S±009×688W±0.1, h132km±16km, mb3.6/3, Error ellipse: s-maj=21.5km s-min=14.0km az=151.9*
*IDC **19** 22:31:44.4±2.8, 2052S×6880W, h124km±23km, mb3.4/5, mb1 3.4/7, mb1mx3.3/17, mbtmp3.8/7, Error ellipse: s-maj=30.8km s-min=24.2km az=75.0*
*NEIC **19** 22:31:44.7±1.0, 2053S×6878W, h122km±10km, mb3.5/1, Error ellipse: s-maj=15.1km s-min=9.7km az=73.0*
ISC 19 22:31:45.1±1.2, 2053S±009×688W±01, h127km±15km, n14, σ0§83/13, mb3.7/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.27**	**9**	P	**Pn**	**22 32 47.9**	**-0.5**
	1.9nm,0.3s,baz=202,slow=7.1,SNR=41						
ARE	**Arequipa**	**4.79**	**327**	*e*P	**Pn**	**22 32 56.0**	**+0.6**
ARE				*e*S	**Sn**	**22 33 44.0**	**-6.0**
CPUP	**Villa Florida**	**11.99**	**121**	P	**Pn**	**22 34 30.6**	**-1.4**
	0.6nm,0.3s,baz=295,slow=11,SNR=3.2						
SAML	**Samuel**	**12.73**	**26**	*e*Pn	**Pn**	**22 34 41.5**	**0.0**
TRQA	**Tornquist**	**18.43**	**163**	*e*P	**P**	**22 35 51.4**	**+0.7**
	1.7nm,0.7s						
PLCA	**Paso Flores**	**20.19**	**184**	P	**P**	**22 36 09.8**	**0.0**
	2.6nm,0.9s,baz=98,slow=2.3,SNR=4.0						
BDFB	**Brasilia**	**20.33**	**80**	P	**P**	**22 36 12.8**	**+1.6**
	1.0nm,0.4s,baz=232,slow=6.7,SNR=3.5						
DBIC	**Dimbokro**	**68.35**	**74**	P	**P**	**22 42 33.2**	**+0.5**
	1.1nm,0.6s,mb3.9,baz=239,slow=6.5,SNR=3.3						
DBIC	**Dimbokro**	**68.35**	**74**	P	**P**	**22 42 33.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**76.93**	**70**	P	**P**	**22 43 23.0**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=256,slow=5.1,SNR=24						
TORD				pP	pP	22 43 53.4	-1.8
	0.8nm,0.9s,baz=251,slow=5.0,SNR=2.7						
YKA	**Yellowknife Ar**	**90.32**	**341**	P	**P**	**22 44 30.6**	**-1.1**
	0.5nm,0.7s,mb3.8,baz=130,slow=4.5,SNR=12						
YKA				pP	pP	22 44 59.0	-5.3
	0.4nm,0.8s,baz=130,slow=4.5,SNR=4.6						
YKA	**Yellowknife Ar**	**90.32**	**341**	P	**P**	**22 44 30.6**	**-1.1**
YKA				pP	pP	22 44 59.0	-5.3
MKAR	**Makanchi Array**	**144.78**	**35**	PKP	PKPdf	22 51 06.8	-0.1
	0.4nm,0.7s,baz=308,slow=6.0,SNR=4.9						
SONM	**Songino Array**	**152.49**	**7**	PKPbc	PKPbc	22 51 26.5	+0.1
	0.1nm,0.4s,baz=59,slow=0.8,SNR=3.8						

*NNC **19** 23:30:31.3±3.4, 3496N×7339E, h0km, mb3.3, mpv3.4, Error ellipse: s-maj=59.3km s-min=28.9km az=95.0*
ISC 19 23:30:21.1±1.6, 342N±02×738E±03, h10km, n5, σ1§61/8, 3C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.46**	**132**	*e*P	**Pn**	**23 31 06.0**	**+4.7**
DLH				*e*S	**Sg**	**23 31 42.0**	**+1.8**
SDNR	**Sundarnagar**	**3.80**	**135**	*e*P	**Pg**	**23 31 31.9**	**-2.0**
SDNR				*e*S	**Sg**	**23 32 22.5**	**-0.7**
KK31	**Karatay Array**	**9.23**	**345**	⇑Pn	**Pn**	**23 32 37.4**	**+3.2**
	1.2nm,0.6s,baz=162,slow=12,SNR=22						
KK31				⇑Sn	**Sn**	**23 34 17.2**	**-1.0**
	0.7nm,0.5s,baz=169,slow=23,SNR=7.5						
AB31	**Akbulak array**	**18.19**	**330**	⇑P	**Pn**	**23 34 35.4**	**+1.7**
	0.8nm,0.8s,baz=153,slow=12,SNR=5.2						
AKTO	**Aktyubinsk**	**19.90**	**329**	⇓P	**Pn**	**23 34 53.2**	**-1.2**
	1.0nm,2.1s						

PRE 19 23:43:06.6±0.9, 2806S×2684E, h2km, ML4.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**0.74**	**111**	*e*P	Pg	23 43 26.1	+5.3
SLR	**Silverton**	**2.65**	**29**	*e*P	Pn	23 43 51.1	+0.8
PKA	**Prieska**	**3.93**	**245**	*e*P	Pn	23 44 08.0	+0.1
GRM	**Grahamstown**	**5.24**	**183**	*e*P	Pn	23 44 26.8	+0.8
GRM				*e*S	Sn	23 45 25.8	-1.1
GRM				AML	AML	23 46 07.5	
	comp=Z,26nm,0.5s						
CVNA	**Calvinia**	**7.04**	**239**	*e*P	Pn	23 44 51.6	+1.0
CVNA				*e*S	Sn	23 46 08.9	-2.3
CVNA				AML	AML	23 46 48.5	
	comp=Z,45nm,0.5s						
CER	**Ceres**	**8.37**	**229**	*e*P	Pn	23 45 10.0	+1.0
CER				*e*S	Sn	23 46 40.0	-4.1
CER				AML	AML	23 47 28.1	
	comp=Z,15nm,1.0s						

IDC 19 23:46:47.6±68.0, 2133S×17914E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=1210.0km s-min=146.3km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.02**	**245**	P	P	23 53 41.1	-0.7
	0.5nm,0.4s,baz=91,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**41.73**	**258**	P	P	23 54 38.8	+0.6
	1.7nm,0.7s,baz=100,slow=8.0,SNR=21						
WRA	**Warramunga Arr**	**41.84**	**264**	P	P	23 54 40.0	+0.8
	0.6nm,0.4s,baz=96,slow=7.7,SNR=20						

*CSEM **20** 00:03:42.9±0.1, 3958N×2707E, h12km, MD3.4, Error ellipse: s-maj=1.3km s-min=1.1km az=1.0*
*ISCJB **20** 00:03:42.7±0.4, 3958N±002×2704E±002, h9km±3km, Error ellipse: s-maj=3.1km s-min=2.9km az=25.5*
*ATH **20** 00:03:42.2, 3952N×2709E, h29km±1km, MD3.8/7*
*THE **20** 00:03:42.3, 3948N×2709E, h3km, ML3.6*
*NEIC **20** 00:03:43.0, 3959N×2698E, h27km, MD3.8(ATH), ML3.4(ISK), After ISK.*
*ISK **20** 00:03:43.6, 3958N×2699E, h26km, MD3.4*
ISC 20 00:03:43.1±0.4, 3958N±002×2706E±002, h9km±3km, n65, σ0§90/87, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.39**	**227**	*i* P	**Pg**	**00 03 50.9**	**+0.1**
AYVA				*i* S	**Sg**	**00 03 56.9**	**+0.9**
EZN	**Ezine**	**0.62**	**294**	*i* PG	**Pg**	**00 03 55.4**	**+0.3**
EZN				*i* SG	**Sg**	**00 04 04.5**	**+1.3**
PRK	**Paraskevi**	**0.69**	**242**	⇑*i*PN	**Pg**	**00 03 56.0**	**-0.6**
PRK				*e*SN	**Sg**	**00 04 06.4**	**+0.8**
BTOK	**Tokmak**	**0.77**	**76**	*i* P	**Pg**	**00 03 57.9**	**-0.1**
BTOK				*i* S	**Sg**	**00 04 09.2**	**+1.1**
LPK	**Lapseki**	**0.83**	**344**	PG	**Pg**	**00 04 00.0**	**+0.9**
LPK				SG	**Sg**	**00 04 11.1**	**+1.2**
AKS	**Akhisar**	**0.91**	**140**	PG	**Pg**	**00 04 00.6**	**0.0**
EDC	**Edincik**	**0.99**	**38**	PG	**Pg**	**00 04 02.1**	**0.0**
BNT	**Bandirma**	**1.02**	**40**	PG	**Pg**	**00 04 02.3**	**-0.5**
MRMT	**Marmara Adasi**	**1.10**	**22**	PN	**Pg**	**00 04 03.3**	**-1.1**
MRMT				SN	**Sg**	**00 04 18.9**	**+0.2**
SART	**Tekirdag**	**1.11**	**5**	*i* P	**Pg**	**00 04 04.2**	**-0.3**
SART				*i* S	**Sg**	**00 04 19.5**	**+0.5**
KDAG	**Bornova**	**1.18**	**172**	*i* P	**Pb**	**00 04 05.9**	**+0.1**
KDAG				*i* S	**Sb**	**00 04 21.4**	**+0.2**
IZM	**Izmir**	**1.19**	**172**	PN	**Pn**	**00 04 05.5**	**-0.4**
DST	**Dursunbey**	**1.21**	**88**	PN	**Pn**	**00 04 06.0**	**-0.3**
DST				SN	**Sn**	**00 04 22.1**	**-0.7**
KCT	**Karacabey**	**1.21**	**55**	PN	**Pn**	**00 04 05.4**	**-0.9**
MFT	**Murefte**	**1.22**	**8**	PN	**Pn**	**00 04 05.5**	**-0.9**
MFT				SN	**Sn**	**00 04 21.8**	**-1.2**
URLA	**Izmir**	**1.27**	**197**	*i* P	**Pn**	**00 04 06.4**	**-0.7**
URLA				*i* S	**Sb**	**00 04 25.3**	**+1.7**
LIA	**Limnos Island**	**1.48**	**283**	*e*PN	**Pn**	**00 04 09.2**	**-0.8**
LIA				*e*SN	**Sn**	**00 04 29.3**	**-0.2**
ORLT	**Orhaneli**	**1.49**	**71**	PN	**Pn**	**00 04 10.4**	**+0.3**
ALN	**Alexandroupoli**	**1.53**	**330**	*e*Pb	**Pb**	**00 04 10.4**	**-1.3**
ALN				*e*Sb	**Sb**	**00 04 32.4**	**+1.2**
MANT	**Manisa**	**1.59**	**132**	*i* P	**Pn**	**00 04 12.6**	**+1.1**
MANT				*i* S	**Sn**	**00 04 30.7**	**-1.5**
ULDT	**Uludag**	**1.69**	**70**	*i* P	**Pn**	**00 04 14.3**	**+1.4**
ULDT				*i* S	**Sn**	**00 04 36.2**	**+1.5**
ULDT	**Uludag**	**1.69**	**70**	*i* P	**Pn**	**00 04 14.3**	**+1.4**
ULDT				*i* S	**Sn**	**00 04 36.2**	**+1.5**
SMG	**Samos**	**1.87**	**185**	*e*PN	**Pn**	**00 04 14.0**	**-1.4**
CTT	**Catalca**	**1.89**	**33**	PN	**Pn**	**00 04 15.5**	**0.0**
ELBA	**Catalca**	**1.89**	**33**	*i* P	**Pn**	**00 04 17.4**	**+1.8**
ELBA				*i* S	**Sn**	**00 04 43.7**	**+4.2**
RDO	**Rodhopi**	**1.95**	**324**	*e*PB	**Pb**	**00 04 16.6**	**-2.3**
AYDN	**Tasoluk**	**2.02**	**161**	*i* P	**Pn**	**00 04 17.1**	**-0.2**
AYDN				*i* S	**Sn**	**00 04 46.4**	**+3.7**
BADT	**Buyukada**	**2.02**	**50**	PN	**Pn**	**00 04 18.0**	**+0.5**
YLV	**Yalova**	**2.03**	**60**	PN	**Pn**	**00 04 18.2**	**+0.7**
ISK	**Istanbul-Kandi**	**2.13**	**45**	PN	**Pn**	**00 04 19.6**	**+0.7**
EDRB	**Edirne**	**2.28**	**354**	*e*PN	**Pn**	**00 04 21.2**	**+0.2**
KHL	**Karahalli**	**2.29**	**122**	*e*PN	**Pn**	**00 04 21.9**	**+0.8**
MLSB	**Milas**	**2.35**	**166**	*e*PN	**Pn**	**00 04 22.0**	**+0.1**
HRT	**Hereke**	**2.35**	**57**	*e*PN	**Pn**	**00 04 22.8**	**+0.8**
ALT	**Altintas**	**2.42**	**101**	*e*PN	**Pn**	**00 04 23.7**	**+0.8**
OUR	**Ouranopolis**	**2.48**	**289**	*e*Pn	**Pn**	**00 04 23.1**	**-0.7**
BODT	**Bodrum**	**2.52**	**175**	*e*PN	**Pn**	**00 04 23.7**	**-0.5**
GPA	**Golpazari**	**2.60**	**73**	*e*PN	**Pn**	**00 04 26.1**	**+0.8**
PAIG	**Paliouri**	**2.63**	**279**	*e*Pn	**Pn**	**00 04 25.1**	**-0.6**
PAIG	**Paliouri**	**2.63**	**279**	*e*Pn	**Pn**	**00 04 25.1**	**-0.7**
BORA	**Eskisehir**	**2.63**	**82**	*i* P	**Pn**	**00 04 25.9**	**+0.1**
BORA				*i* S	**Sn**	**00 05 06.9**	**+9.0**
DIM	**Dimitrovgrad**	**2.73**	**335**	*i* P	**Pn**	**00 04 32.0**	**+4.9**
RZN	**Rozhen**	**2.76**	**321**	*i* P	**Pn**	**00 04 28.0**	**+0.4**
APE	**Apeiranthos**	**2.78**	**206**	*e*PN	**Pn**	**00 04 27.5**	**-0.3**
APE	**Apeiranthos**	**2.78**	**206**	*e*PN	**Pn**	**00 04 26.0**	**-1.8**
APE	**Apeiranthos**	**2.78**	**206**	*e*Pn	**Pn**	**00 04 25.6**	**-2.3**
DAT	**Datca**	**2.87**	**172**	*e*PN	**Pn**	**00 04 29.4**	**+0.3**
PLG	**Polygyros**	**2.89**	**287**	*e*PN	**Pn**	**00 04 28.7**	**-0.7**
JMB	**Yambol**	**2.91**	**353**	*i* P	**Pn**	**00 04 38.7**	**+9.1**
JMB	**Yambol**	**2.91**	**353**	*e*Pn	**Pn**	**00 04 30.0**	**+0.4**
ESKT	**Eskisehir**	**2.93**	**90**	*i* P	**Pg**	**00 04 37.5**	**-1.7**
ESKT				*i* S	**Sg**	**00 05 15.9**	**-1.4**
NEO	**Neokhori**	**2.98**	**266**	*e*PN	**Pn**	**00 04 30.7**	**+0.1**
NVR	**Nevrokopi**	**3.02**	**307**	*e*PN	**Pn**	**00 04 30.8**	**-0.3**
SRS	**Serrai**	**3.07**	**301**	*e*Pn	**Pn**	**00 04 31.1**	**-0.7**
SOH	**Sokhos**	**3.10**	**295**	*e*Pn	**Pn**	**00 04 32.2**	**0.0**
SOH	**Sokhos**	**3.10**	**295**	*e*Pn	**Pn**	**00 04 32.2**	**0.0**
HENT	**Hendek**	**3.19**	**66**	*i* P	**Pg**	**00 04 40.6**	**-3.7**
HENT				*i* S	**Sg**	**00 05 24.1**	**-1.5**
MMB	**Musomiste**	**3.24**	**309**	*i* P	**Pn**	**00 04 33.5**	**-0.6**
KNT	**Kendrikon**	**3.55**	**298**	*e*Pn	**Pn**	**00 04 38.7**	**+0.2**
KKB	**Krupnik**	**3.79**	**308**	*i* P	**Pn**	**00 04 42.0**	**+0.3**
KIZT	**Kizilcal**	**3.81**	**99**	*e*PN	**Pn**	**00 04 43.5**	**+1.6**
GRG	**Griva**	**3.82**	**293**	*e*Pn	**Pn**	**00 04 42.8**	**+0.6**
VAY	**Valandovo**	**3.84**	**298**	*e*Pn	**Pn**	**00 04 42.1**	**-0.3**
VAY				*e*Sn	**Sg**	**00 05 45.4**	**-1.2**
VAY	**Valandovo**	**3.84**	**298**	*e*Pn	**Pn**	**00 04 42.1**	**-0.4**
VTS	**Vitosha**	**4.19**	**317**	*e*Pn	**Pn**	**00 04 47.8**	**+0.6**

MEX 20 00:10:08.7±0.4, 1753N×9456W, h143km±11km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.54**	**215**	*i* P	Pn	00 10 28.2	-1.2
CMIG				*i* S	Sn	00 10 43.1	-2.0
OXX	**Oaxaca**	**2.12**	**258**	*e*P	Pn	00 10 44.0	-0.7
OXX				*i* S	Sn	00 11 10.0	-2.4
VHO	**Vista Hermosa**	**2.13**	**258**	*i* P	Pn	00 10 43.7	-1.2
VHO				*i* S	Sn	00 11 11.4	-1.3
CCIG	**Comitan**	**2.63**	**118**	*e*P	Pn	00 10 50.5	-0.6
CCIG				*i* S	Sn	00 11 22.1	-1.6

*CSEM **20** 00:15:16.7±0.2, 6777N×1981E, h1km, ML1.6, Error ellipse: s-maj=6.0km s-min=3.3km az=86.0, Mining explosion.*
*UPP **20** 00:15:18.0, 6783N×2020E, h0km, ML2.5, Mining explosion.*
HEL 20 00:15:18.9±0.1, 6781N×2018E, h0km, ML1.5, ML2.5(UPP), Explosion, Sweden

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.86**	**281**	PN	**Pn**	**00 29 00.5**	**-0.8**
YUK				*i* S	**Sn**	**00 29 29.4**	**+5.7**
YUK				smax			
	comp=N,960nm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**1.97**	**260**	P	**Pn**	**00 29 02.1**	**-0.6**
JRA	**Rausu**	**2.38**	**276**	P	**Pn**	**00 29 08.8**	**+0.3**
JAK	**Akkeshi**	**2.80**	**256**	P	**Pn**	**00 29 13.8**	**-0.3**
JTKR	**Abashiri--Toko**	**3.26**	**276**	P	**Pn**	**00 29 21.4**	**+0.9**
JAR	**Ashorobuto**	**3.40**	**264**	P	**Pn**	**00 29 22.8**	**+0.4**
JAR				*eS*	**Sn**	**00 30 02.4**	**+1.0**
JCH	**Churui**	**3.85**	**255**	P	**Pn**	**00 29 29.0**	**+0.4**
JCH				*eS*	**Sn**	**00 30 13.6**	**+1.1**
ASAJ	**Asahikawa**	**4.21**	**277**	P	**Pn**	**00 29 33.5**	**0.0**
	comp=E,1.7nm,0.3s,baz=84,slow=19,SNR=2.5						
ASAJ				S	**Sn**	**00 30 18.3**	**-3.2**
	comp=E,2.6nm,0.3s,baz=118,slow=18,SNR=2.6						
JNBK	**Urakawa-nobuka**	**4.39**	**253**	P	**Pn**	**00 29 36.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**5.13**	**311⇑**	*e*PN	**Pn**	**00 29 54.9**	**+8.8**
JKB	**Kayabe**	**5.72**	**254**	P	**Pn**	**00 29 54.5**	**+0.2**
JKB				*eS*	**Sn**	**00 30 57.7**	**-0.9**
JOT	**Ohata**	**5.91**	**249**	P	**Pn**	**00 29 56.7**	**-0.2**
JOT				*eS*	**Sn**	**00 31 02.0**	**-1.3**
JNU	**Nakatsue**	**17.30**	**238**	P	**Pn**	**00 32 30.1**	**+0.1**
	comp=E,2.0nm,0.3s,baz=93,slow=3.9,SNR=4.9						
ULN	**Ulaanbaatar**	**28.88**	**293**	*e*P	**P**	**00 34 27.2**	**+1.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
ULN	**Ulaanbaatar**	**28.88**	**293**	*e*P	**P**	**00 34 27.2**	**+1.1**
	comp=Z,3.8nm,1.1s,mb4.0						
SONM	**Songino Array**	**29.32**	**293**	P	**P**	**00 34 30.7**	**+0.7**
	comp=Z,1.9nm,0.6s,mb4.0,baz=82,slow=8.5,SNR=20						
NACB	**Ninganchiao**	**29.37**	**237**	P	**P**	**00 34 35.8**	**+5.4**
ILAR	**Eielson Array**	**40.98**	**36**	P	**P**	**00 36 09.7**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.1,baz=267,slow=8.3,SNR=9.4						
MKAR	**Makanchi Array**	**45.40**	**298**	P	**P**	**00 36 46.7**	**+0.9**
	comp=Z,2.0nm,0.6s,mb4.2,baz=91,slow=8.5,SNR=28						
MKAR				PcP	PcP	00 38 25.3	+0.8
	comp=Z,0.4nm,0.6s,baz=54,slow=2.5,SNR=2.3						
INK	**Inuvik**	**45.97**	**30**	P	**P**	**00 36 51.0**	**+0.7**
	comp=Z,0.6nm,0.4s,mb3.9,baz=299,slow=7.0,SNR=4.3						
KURK	**Kurchatov**	**46.30**	**304**	*e*P	**P**	**00 36 53.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
KURK	**Kurchatov**	**46.30**	**304**	*e*P	**P**	**00 36 53.2**	**+0.3**
	comp=Z,2.5nm,0.5s,mb4.4						
BRVK	**Borovoye**	**50.27**	**310**	*e*P	**P**	**00 37 23.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**50.27**	**310**	*e*P	**P**	**00 37 23.7**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**51.02**	**310**	*e*P	**P**	**00 37 29.2**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.02**	**310**	*e*P	**P**	**00 37 29.2**	**+0.1**
	comp=Z,0.7nm,0.4s,mb3.9						
YKA	**Yellowknife Ar**	**55.32**	**34**	P	**P**	**00 38 00.3**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.3,baz=300,slow=6.8,SNR=5.1						
YKA	**Yellowknife Ar**	**55.32**	**34**	P	**P**	**00 38 00.3**	**-0.4**
AKTK	**Aktyubinsk**	**58.24**	**311**	P	**P**	**00 38 21.9**	**+0.5**
AKTO	**Aktyubinsk**	**58.24**	**311**	P	**P**	**00 38 21.9**	**+0.5**
	comp=Z,0.6nm,0.4s,mb4.0,baz=56,slow=7.1,SNR=7.2						
AKTO	**Aktyubinsk**	**58.24**	**311**	P	**P**	**00 38 22.0**	**+0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
CTAO	**Charters Tower**	**63.52**	**182**	*e*P	**P**	**00 39 03.0**	**+5.6**
WRAB	**Tennant Creek**	**64.64**	**195**	*e*P	**P**	**00 39 10.1**	**+5.4**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
WRAB	**Tennant Creek**	**64.64**	**195**	*e*P	**P**	**00 39 10.1**	**+5.4**
	comp=Z,1.0nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**65.31**	**333**	P	**P**	**00 39 08.1**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.4,baz=40,slow=8.6,SNR=23						
NB2	**NORSAR Subarra**	**69.95**	**339**	P	**P**	**00 39 38.0**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=31,slow=6.5						
NB2	**NORSAR Subarra**	**69.95**	**339**	P	**P**	**00 39 38.0**	**-0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
NOA	**NORSAR Array B**	**69.95**	**339**	P	**P**	**00 39 37.9**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.4,baz=31,slow=6.3,SNR=6.0						
HFS	**Hagfors**	**70.07**	**338**	P	**P**	**00 39 38.3**	**-0.7**
	comp=Z,2.1nm,0.5s,mb4.3,baz=46,slow=6.4,SNR=15						
AKASG	**Malin Array Be**	**72.14**	**324**	P	**P**	**00 39 50.9**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.2,baz=38,slow=5.9,SNR=14						
CLL	**Collm**	**77.76**	**333**	*e*P	**P**	**00 40 24.0**	**0.0**
CLL				*es*P	sP	00 40 37.0	-5.7
PRU	**Pruhonice**	**78.36**	**332**	*e*P	**P**	**00 40 28.4**	**+1.1**
KHC	**Kasperske Hory**	**79.42**	**332**	*e*P	**P**	**00 40 31.6**	**-1.5**
GERES	**GERESS Array B**	**79.62**	**331**	P	**P**	**00 40 33.7**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=46,slow=5.8,SNR=4.8						

*ISCJB **20** 00:54:34.8±2.9, 62S±01×1490E±01, h73km±25km, mb3.7/8, Error ellipse: s-maj=24.5km s-min=20.1km az=55.7*
*IDC **20** 00:54:35.2±4.1, 621S×149.12E, h70km±36km, mb3.6/7, mb1 4.0/9, mb1mx3.9/15, mbtmp4.0/9, ML4.1/2, MS3.3/5, Ms1 3.3/5, ms1mx3.2/14, Error ellipse: s-maj=25.4km s-min=24.7km az=36.0*
*NEIC **20** 00:54:36.2±2.2, 622S×149.13E, h77km±19km, mb4.3/2, Error ellipse: s-maj=15.5km s-min=14.6km az=143.0*
ISC 20 00:54:36.4±3.0, 62S±01×1490E±01, h75km±26km, n19, σ0§98/16, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.66**	**210**	P	**Pn**	**00 55 31.1**	**+0.5**
	35nm,0.3s,baz=33,slow=6.6,SNR=59						
PMG				S	**Sn**	**00 56 12.8**	**+0.3**
	46nm,0.3s,baz=85,slow=16,SNR=16						
PMG				LR	LR	00 57 20.0	
	comp=Z,520nm,18.4s,baz=150,slow=44						
HNR	**Honiara**	**11.29**	**107**	LR	LR	01 00 36.4	
	comp=Z,68nm,20.0s,baz=177,slow=32						
WRAB	**Tennant Creek**	**19.71**	**225**	*e*P	**Pn**	**00 59 00.5**	**-1.4**
	24nm,0.8s						
WB2	**Warramunga Arr**	**19.72**	**225**	*e*P	**Pn**	**00 59 00.5**	**-1.5**
WRA	**Warramunga Arr**	**19.73**	**225**	P	**Pn**	**00 59 00.7**	**-1.4**
	1.1nm,0.3s,baz=49,slow=11,SNR=64						
GUMO	**Guam**	**20.11**	**348**	LR	LR	01 04 58.0	
	comp=Z,98nm,19.0s,baz=67,slow=31						
AS31	**Alice Springs**	**22.62**	**218**	*e*P	**P**	**00 59 32.1**	**+1.1**
ASAR	**Alice Springs**	**22.63**	**218**	P	**P**	**00 59 31.4**	**+0.4**
	3.4nm,0.8s,mb3.7,baz=53,slow=9.2,SNR=33						
ASPA	**Alice Springs**	**22.63**	**218**	*e*P	**P**	**00 59 32.1**	**+1.1**
DZM	**Mont Dzumac**	**23.06**	**135**	P	**P**	**00 59 35.4**	**-0.1**
	3.5nm,0.8s,mb3.7,baz=12,slow=16,SNR=2.8						
FITZ	**Fitzroy Crossi**	**25.68**	**241**	P	**P**	**00 59 59.4**	**+0.1**
	8.3nm,1.0s,mb4.1,baz=83,slow=9.4,SNR=8.3						
FITZ				LR	LR	01 10 53.0	
	comp=Z,61nm,21.9s,baz=13,slow=38						
STKA	**Stephens Creek**	**26.45**	**194**	P	**P**	**01 00 06.5**	**+0.3**
	4.0nm,1.0s,mb3.8,baz=9.1,slow=9.2,SNR=4.1						
STKA				LR	LR	01 10 04.7	
	comp=Z,111nm,19.6s,baz=24,slow=35						
SONM	**Songino Array**	**65.59**	**330**	P	**P**	**01 05 13.2**	**+1.0**
	0.3nm,0.6s,mb3.3,baz=145,slow=6.0,SNR=2.8						
MKAR	**Makanchi Array**	**78.95**	**320**	P	**P**	**01 06 31.9**	**0.0**
	0.4nm,0.8s,mb3.3,baz=108,slow=7.7,SNR=4.7						
KURK	**Kurchatov**	**82.59**	**323**	*e*P	**P**	**01 06 52.1**	**+0.8**
	0.8nm,0.4s,mb3.9						
ILAR	**Eielson Array**	**84.91**	**23**	P	**P**	**01 07 00.1**	**-2.9**
	0.6nm,0.6s,mb3.7,baz=243,slow=5.0,SNR=12						
BRVK	**Borovoye**	**88.20**	**324**	*e*P	**P**	**01 07 19.2**	**0.0**
TORD	**Torodi Ar. Bea**	**147.09**	**285**	PKPbc	PKPbc	01 14 10.7	-0.1
	0.3nm,0.4s,baz=75,slow=2.6,SNR=15						
BDFB	**Brasilia**	**152.49**	**142**	PKPbc	PKPbc	01 14 24.2	+0.2
	2.2nm,0.6s,baz=121,slow=8.5,SNR=4.1						

*CSEM **20** 01:34:50.0±1.5, 3876N×2985W, h10km, ML2.3, Error ellipse: s-maj=25.8km s-min=13.6km az=17.0, After PDA*
*PDA **20** 01:34:50.0±1.5, 3876N×2985W, h10km, MD3.3, ML2.3, Error ellipse: s-maj=25.8km s-min=13.6km az=17.0*
SVSA 20 01:34:50.0±1.5, 3876N×2985W, h10km, MD3.3, ML2.3, Error ellipse: s-maj=25.8km s-min=13.6km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.84**	**102**	*e*S	Sg	01 35 13.3	-3.9
PTCA							
	40nm,0.2s						
PCED	**Cedros**	**0.91**	**98**	*e*S	Sg	01 35 14.2	-5.1
PCED							
	90nm,0.2s						
CALA	**Caldeira**	**0.92**	**101**	*e*P	Pg	01 35 04.5	-3.1
CALA				*e*S	Sg	01 35 13.4	-6.1
HOR	**Horta**	**0.98**	**103**	*e*S	Sg	01 35 16.4	-5.3
PCND	**Candelaria**	**1.12**	**104**	*e*S	Sb	01 35 20.2	-6.0
PCND							
	11nm,0.1s						
PICO	**Pico**	**1.14**	**103**	*e*P	Pb	01 35 07.3	-4.5
PICO				*e*S	Sb	01 35 20.2	-6.5
PBOI	**Pico dos Bois**	**1.20**	**105**	*e*S	Sb	01 35 22.2	-6.1
PBOI							
	14nm,0.2s						
ROSA	**Rosais**	**1.26**	**91**	*e*P	Pn	01 35 08.9	-4.7
ROSA				*e*S	Sb	01 35 23.1	-6.9
PAMA	**Santo Amaro**	**1.31**	**93**	*e*S	Sb	01 35 25.1	-6.4
PAMA							
	18nm,0.1s						
PMAN	**Manadas**	**1.38**	**95**	*e*S	Sb	01 35 25.8	-7.8
PMAN							
	25nm,0.2s						

*IDC **20** 01:45:48.4±1.0, 3198N×9494E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/21, mbtmp3.7/9, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/26, Error ellipse: s-maj=33.1km s-min=24.2km az=45.0*
*MOS **20** 01:45:48.8±1.8, 3198N×9500E, h10km, Error ellipse: s-maj=24.3km s-min=12.5km az=93.2*
*ISCJB **20** 01:45:53.5±1.9, 320N±01×950E±01, h48km±18km, mb3.8/10, Error ellipse: s-maj=21.3km s-min=13.7km az=81.9*
*NEIC **20** 01:45:54.8±1.4, 3199N×9494E, h45km±14km, mb3.7/4, Error ellipse: s-maj=13.0km s-min=10.1km az=123.0*
*BJI **20** 01:45:54.8, 3179N×9500E, h35km, mB4.6, mb4.2, ML3.9, Ms3.6, Msz3.7*
ISC 20 01:45:55.3±1.7, 320N±01×950E±01, h48km±17km, n23, σ0§83/23, mb3.8/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.99**	**236**	P	**Pn**	**01 46 53.8**	**-0.1**
LSA				S	**Sn**	**01 47 48.9**	**+9.4**
LSA				LR	LR		
	comp=E,800nm,7.7s						
LSA				LR	LR		
	comp=Z,1μm,8.3s						
LSA	**Lhasa**	**3.99**	**236**	*e*Pn	**Pn**	**01 46 53.5**	**-0.4**
LSA				*e*Sn	**Sn**	**01 47 48.0**	**+8.5**
MKAR	**Makanchi Array**	**17.69**	**330**	P	**Pn**	**01 49 58.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=136,slow=13,SNR=13						
SONM	**Songino Array**	**18.06**	**26**	P	**Pn**	**01 50 02.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=9.1						
ULN	**Ulaanbaatar**	**18.33**	**27**	*e*P	**Pn**	**01 50 05.8**	**-0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULN	**Ulaanbaatar**	**18.33**	**27**	*e*P	**Pn**	**01 50 05.8**	**-0.1**
	comp=Z,1.0nm,0.6s						
ZAK	**Zakamensk**	**19.38**	**16**	*e*P	**Pn**	**01 50 14.6**	**-3.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MOY	**Mondy**	**20.15**	**11**	P	**P**	**01 50 28.1**	**+2.7**
KURK	**Kurchatov**	**22.27**	**332**	*e*P	**P**	**01 50 48.5**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
KURK	**Kurchatov**	**22.27**	**332**	*e*P	**P**	**01 50 48.5**	**+0.3**
	comp=Z,1.5nm,0.6s,mb3.6						
POO	**Poona**	**23.27**	**240**	*ex*	x	01 50 51.5	
HIA	**Hailar**	**25.35**	**40**	*e*P	**P**	**01 51 17.3**	**-0.3**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HIA	**Hailar**	**25.35**	**40**	*e*P	**P**	**01 51 17.3**	**-0.4**
	comp=Z,2.2nm,0.4s,mb4.0						
PSI	**Prapat**	**29.28**	**172**	LR	LR	02 04 45.4	
	comp=Z,45nm,20.1s,baz=52,slow=39						
MALT	**Malatya**	**46.04**	**294**	*e*P	**P**	**01 54 17.9**	**+3.8**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
MALT	**Malatya**	**46.04**	**294**	*e*P	**P**	**01 54 17.9**	**+3.8**
	comp=Z,1.4nm,0.9s,mb3.9						
BRTR	**Keskin Array B**	**49.45**	**297**	P	**P**	**01 54 41.0**	**+0.5**
	comp=Z,0.1nm,0.4s,mb3.2,baz=186,slow=16,SNR=2.4						
FINES	**FINESS Array B**	**52.44**	**326**	P	**P**	**01 55 01.9**	**-1.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=178,slow=23,SNR=3.3						
GERES	**GERESS Array B**	**61.24**	**312**	P	**P**	**01 56 05.2**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.8,baz=64,slow=6.1,SNR=5.6						
ASAR	**Alice Springs**	**66.71**	**141**	P	**P**	**01 56 41.9**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.7,baz=326,slow=6.4,SNR=8.2						
ILAR	**Eielson Array**	**72.27**	**23**	P	**P**	**01 57 15.2**	**-0.4**
	comp=Z,1.1nm,0.9s,mb3.8,baz=296,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**82.89**	**13**	P	**P**	**01 58 14.0**	**-0.7**
	comp=Z,0.5nm,0.9s,mb3.5,baz=342,slow=4.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**85.87**	**283**	P	**P**	**01 58 29.9**	**0.0**
	comp=Z,1.0nm,1.0s,mb4.0,baz=45,slow=5.3,SNR=4.4						

CASC 20 01:46:39.6±2.0, 1368N×9126W, h16km±18km, MD3.8, ML3.4, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.73**	**330⇑**	*e*P	Pg	01 46 54.0	+0.1
IXG	**Ixpaco**	**0.92**	**58**	*e*P	Pb	01 46 56.5	-0.7
TP2	**Tecpan 2**	**1.12**	**12⇓**	*e*P	Pb	01 47 00.1	-0.5
TP2				*e*S	Sb	01 47 16.3	+1.4
TP2				AML	AML	01 47 17.1	
	comp=E,805nm,0.3s						
SBLS	**San Blas**	**1.59**	**84**	*e*P	Pn	01 47 15.0	+7.8
SBLS				*e*S	Sn	01 47 36.2	+8.8
SNJE	**San Jose**	**1.61**	**83**	*e*P	Pn	01 47 15.6	+8.1
SNJE				*e*S	Sn	01 47 37.1	+9.2
LFRS	**El Faro**	**2.13**	**91⇑**	*e*P	Pn	01 47 15.6	+1.0
LCBS	**La Ceiba**	**2.21**	**90**	*e*P	Pn	01 47 15.1	-0.6

*CSEM **20** 01:49:01.1±1.4, 3866N×2976W, h5km, ML3.1, Error ellipse: s-maj=8.9km s-min=5.0km az=156.0, After PDA*
*PDA **20** 01:49:01.1±1.4, 3866N×2976W, h5km, MD3.6, ML3.1, Error ellipse: s-maj=8.9km s-min=5.0km az=156.0*
SVSA 20 01:49:01.1±1.4, 3866N×2976W, h5km, MD3.6, ML3.1, Error ellipse: s-maj=8.9km s-min=5.0km az=156.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**0.71**	**59**	*e*S	Sg	01 49 39.4	+15
PLUZ							
	17nm,0.2s						
PTCA	**Ponta do Capel**	**0.76**	**95**	*e*P	Pg	01 49 13.5	-2.2
PTCA				*i* S	Sg	01 49 22.9	-2.6
PTCA							
	267nm,0.3s						
PTCA	**Ponta do Capel**	**0.76**	**95**	*e*P	Pg	01 49 13.5	-2.2
PTCA				*i* S	Sg	01 49 22.9	-2.6
PCED	**Cedros**	**0.83**	**92**	*e*P	Pg	01 49 13.6	-3.4
PCED				*i* S	Sg	01 49 23.9	-3.9
PCED							
	586nm,0.2s						
PCED	**Cedros**	**0.83**	**92**	*e*P	Pg	01 49 13.6	-3.4
PCED				*i* S	Sg	01 49 23.9	-3.9
CALA	**Caldeira**	**0.83**	**95**	*e*P	Pg	01 49 14.9	-2.2
CALA				*e*S	Sg	01 49 23.8	-4.1
HOR	**Horta**	**0.90**	**98**	*e*P	Pg	01 49 15.1	-3.2
HOR				*e*S	Sg	01 49 25.4	-4.5
PCND	**Candelaria**	**1.04**	**100**	*e*P	Pg	01 49 17.4	-3.6
PCND				*i* S	Sg	01 49 29.6	-4.8
PCND							
	99nm,0.2s						
PICO	**Pico**	**1.06**	**98**	*i* P	Pg	01 49 16.9	-4.5
PICO				*ex*		01 49 17.2	
PICO				*e*S	Sg	01 49 29.9	-5.2
PICO	**Pico**	**1.06**	**98**	*e*S	Sg	01 49 29.9	-5.2
PBOI	**Pico dos Bois**	**1.11**	**101**	*e*P	Pg	01 49 18.9	-3.5
PBOI				*i* S	Sg	01 49 31.5	-5.3
PBOI							
	71nm,0.2s						
ROSA	**Rosais**	**1.19**	**87**	*i* P	Pg	01 49 19.1	-4.9
ROSA				*e*S	Sg	01 49 32.9	-6.5
ROSA	**Rosais**	**1.19**	**87**	*e*S	Sg	01 49 32.9	-6.5
PAMA	**Santo Amaro**	**1.24**	**88**	*e*P	Pg	01 49 20.4	-4.5
PAMA				*e*S	Sg	01 49 34.9	-6.0
PAMA							
	124nm,0.2s						
PID	**Ribeirinha**	**1.31**	**99**	*i* P	Pn	01 49 20.5	-5.5
PID				*e*S	Sg	01 49 35.9	-7.2
PID	**Ribeirinha**	**1.31**	**99**	*e*S	Sg	01 49 35.9	-7.2
PMAN	**Manadas**	**1.31**	**91**	*e*P	Pn	01 49 20.4	-5.6
PMAN				*e*S	Sg	01 49 35.6	-7.6
PMAN							
	263nm,0.3s						
PMAN	**Manadas**	**1.31**	**91**	*e*P	Pn	01 49 20.4	-5.6
PMAN				*e*S	Sg	01 49 35.6	-7.6
PIED	**Piedade**	**1.36**	**100**	*e*S	Sb	01 49 38.0	-6.7
STGR	**Santa Cruz**	**1.44**	**72**	*e*S	Sb	01 49 39.4	-7.5
STGR							
	25nm,0.1s						
ASBA	**Santa Barbara**	**1.91**	**87**	*e*S	Sn	01 49 51.0	-7.7
ASBA							
	35nm,0.2s						
PSBA	**Serra de Santa**	**1.91**	**86**	*e*S	Sn	01 49 50.9	-7.8
PSBA							
	71nm,0.3s						
PPAD	**Pico dos Padre**	**1.94**	**88**	*e*S	Sn	01 49 51.8	-7.6
PPAD							
	28nm,0.2s						
PBIS	**Biscoitos**	**1.97**	**86**	*e*S	Sn	01 49 52.7	-7.4
PBIS							
	18nm,0.2s						
ADH	**Angra Heroismo**	**1.98**	**89**	*e*S	Sn	01 49 52.2	-8.2
RIB2	**Ribeirinha**	**2.03**	**89**	*e*S	Sn	01 49 54.1	-7.5
RIB2							
	47nm,0.2s						
PVNV	**Vila Nova**	**2.04**	**86**	*e*S	Sn	01 49 54.0	-8.0
PVNV							
	14nm,0.2s						
PFAV	**Pico das Favas**	**2.10**	**88**	*e*S	Sn	01 49 55.6	-7.7
PFAV							
	14nm,0.2s						
SET4	**Mosteiros**	**3.22**	**103**	*e*P	Pn	01 49 47.9	-4.3
SET2	**Ginetes**	**3.22**	**103**	*e*P	Pn	01 49 47.8	-4.5
PFET	**Feteiras**	**3.24**	**104**	*e*P	Pn	01 49 47.5	-5.1
PSAN	**Santo Antonio**	**3.28**	**103**	*e*P	Pn	01 49 48.6	-4.5
FAC	**Faja de Cima**	**3.36**	**104**	*e*P	Pn	01 49 50.0	-4.2
FAC				*e*S	Sn	01 50 26.0	-8.4
CML	**Cha da Macela**	**3.44**	**104**	*e*P	Pn	01 49 50.9	-4.4
PVER	**Pico Vermelho**	**3.45**	**103**	*e*P	Pn	01 49 51.3	-4.2
LFA	**Lagoa do Fogo**	**3.48**	**103**	*e*P	Pn	01 49 51.6	-4.3
PRCH	**Ribeira Ch**	**3.50**	**104**	*e*P	Pn	01 49 51.9	-4.2
MESC	**Monte Escuro**	**3.51**	**103**	*e*P	Pn	01 49 51.9	-4.3
MESC				*erx*		01 49 55.0	
VIF	**Vila Franca**	**3.52**	**104**	*e*P	Pn	01 49 52.5	-4.0
PCNG	**Congro**	**3.55**	**103**	*e*P	Pn	01 49 52.7	-4.2
FRA1	**Furnas**	**3.59**	**103**	*e*P	Pn	01 49 52.7	-4.7
PFAD	**Fenais da Ajud**	**3.59**	**102**	*e*P	Pn	01 49 53.2	-4.2
MIRA	**Miradouro**	**3.64**	**102**	*e*P	Pn	01 49 53.7	-4.3

*IDC **20** 01:56:13.7±28.0, 2263S×17356W, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.0/15, mbtmp4.3/4, Error ellipse: s-maj=520.4km s-min=161.0km az=76.0*
NEIC 20 01:56:43.8±1.9, 2527S×17669W, h35km, mb4.8/2, 1C, Error ellipse: s-maj=50.0km s-min=32.4km az=205.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.51**	**271**	P	P	02 03 29.1	+0.6
	4.8nm,0.7s,baz=90,slow=12,SNR=10.0						
CTAO	**Charters Tower**	**34.51**	**271**	*e*P	P	02 03 29.6	+1.1
	13nm,0.8s						
STKA	**Stephens Creek**	**37.05**	**250**	P	P	02 03 55.6	+5.3
	0.5nm,0.3s,baz=100,slow=6.5,SNR=3.4						
ASAR	**Alice Springs**	**44.80**	**261**	P	P	02 04 55.9	+1.8
	1.1nm,0.4s,baz=96,slow=8.0,SNR=18						
WB2	**Warramunga Arr**	**45.32**	**266**	*e*P	P	02 04 57.8	-0.4
WRAB	**Tennant Creek**	**45.32**	**266**	*e*P	P	02 04 57.9	-0.3
	2.8nm,0.3s						
WRA	**Warramunga Arr**	**45.33**	**266**	P	P	02 04 57.8	-0.5
	2.0nm,0.4s,baz=102,slow=8.0,SNR=9.5						
CASY	**Casey**	**60.22**	**206**	*e*P	P	02 06 47.9	-0.3
KAF	**Kangasniemi**	**140.05**	**343**	*ep*	PKPdf	02 15 52.6	-16
	1.4nm,0.4s						
MLR	**Muntele Rosu**	**152.82**	**324**	⇑P	PKPdf	02 16 23.6	-6.2

CASC 20 02:01:46.2±2.6, 832N×8281W, h8km, MD4.1, ML3.4, MW4.1, 2C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.48**	**14⇓**	*i* P	Pg	02 01 55.8	+0.2
BRU2				*e*S	Sg	02 02 05.0	+3.0
CTCR	**Cotoan**	**0.57**	**5⇓**	*i* P	Pg	02 01 57.2	-0.1
CTCR				*e*S	Sg	02 02 06.0	+1.2
BUS	**Buena Vista**	**1.54**	**323**	*e*P	Pn	02 02 12.1	-1.9
BUS				*e*S	Sn	02 02 33.0	-1.3
URSC	**Urasca**	**1.78**	**328⇑**	*e*P	Pn	02 02 16.1	-1.2
URSC				*e*S	Sn	02 02 40.5	+0.4

650nm,0.3s,baz=45,slow=25,SNR=25
MKAR Makanchi Array 2.71 226 PN **Pn 02 09 48.8 +1.6**
MKAR 02 10 22.5
MK06 Makanchi Array 2.71 225 ⇓Pn **Pn 02 09 48.9 +1.6**
633nm,0.7s,baz=50,slow=13
MK06 ⇓Lg 02 10 23.1
2μm,0.6s,baz=48,slow=22
MK09 Makanchi Array 2.73 226 ⇑Pn **Pn 02 09 48.8 +1.3**
374nm,0.6s
MK09 ⇑Lg 02 10 23.8
4μm,1.0s
KURK Kurchatov 4.66 298 ⇑Pn **Pn 02 10 15.2 +1.1**
38nm,0.5s
KURK ⇑Sn **Sn 02 11 10.1 +2.9**
69nm,0.5s
KURK ⇑Lg 02 11 28.4
921nm,0.9s
KURK Kurchatov 4.66 298 *c i* PN **Pn 02 10 15.3 +1.2**
KURK Kurchatov 4.66 298 *e* Pn **Pn 02 10 15.1 +1.1**
KURK *e* Sn **Sn 02 11 09.9 +2.7**
WMQ Urumqi 5.22 159 P **Pn 02 10 22.0 +0.3**
WMQ S **Sn 02 11 21.0 0.0**
WMQ SG Sn 02 11 43.5 +23
WMQ Smax
comp=N,444nm,1.0s
WMQ Smax
comp=E,391nm,0.8s
ZAL Zalesovo 5.23 358 Pn **Pn 02 10 24.7 +2.8**
comp=E,6.7nm,0.3s,baz=295,slow=9.5,SNR=7.0
ZAL Sn **Sn 02 11 23.6 +2.4**
baz=107,slow=18
NVS Novosibirsk 6.24 350 *e* PN **Pn 02 10 38.9 +3.2**
TKM2 Tokmak 2 8.81 232 P **Pn 02 11 11.7 +0.7**
SNR=9.7
TKM2 Tokmak 2 8.81 232 ⇑Pn **Pn 02 11 10.2 -0.8**
comp=E,11nm,0.5s
TKM2 ⇓Lg 02 13 36.4
comp=E,93nm,0.8s
TKM2 Tokmak 2 8.81 232 *i* P **Pn 02 11 10.7 -0.4**
TKM2 pmax pmax
comp=Z,5.0nm,0.4s
ULHL Ulahol 8.98 227 P **Pn 02 11 14.6 +1.2**
SNR=21
USP Ospenovka 9.18 237 P **Pn 02 11 15.5 -0.6**
SNR=6.8
KBK Karagaybulak 9.34 233 P **Pn 02 11 19.5 +1.2**
SNR=15
FRU Bishkek 9.40 235 *e* P **Pn 02 11 24.0 +4.9**
FRU pmax pmax
comp=Z,35nm,1.8s
FRU pmax pmax
comp=N,380nm,2.0s
KZA Kyzart 9.60 230 P **Pn 02 11 24.6 +2.7**
SNR=9.1
VOSK Vostochnaya 9.81 299 ⇑Pn **Pn 02 11 25.0 +0.2**
comp=N,7.4nm,0.5s
VOSK ⇓Sn **Sn 02 13 11.0 -3.0**
comp=N,50nm,0.9s
VOSK ⇓Lg 02 14 14.3
comp=N,179nm,1.1s
VOSK Vostochnaya 9.81 299 P **Pn 02 11 25.5 +0.7**
VOSK 02 13 11.3
VOSK pmax pmax
comp=Z,3.0nm,0.5s
VOSK smax
comp=Z,29nm,0.8s
VOSK pmax pmax
comp=Z,108nm,0.9s
UCH Uchtor 9.87 233 P **Pn 02 11 26.0 +0.5**
SNR=6.7
EKS2 Erkin-Say 9.97 237 P **Pn 02 11 27.9 +0.9**
SNR=8.3
BVA0 Borovoye Array 10.25 300 ⇓Pn **Pn 02 11 31.0 +0.3**
comp=Z,0.7nm,0.3s,baz=111,slow=14,SNR=57
BVA0 ⇑Sn **Sn 02 13 22.0 -2.8**
comp=Z,4.6nm,0.2s,baz=107,slow=23,SNR=15
BVA0 ⇓Lg 02 14 32.9
comp=Z,20nm,0.9s,baz=116,slow=30,SNR=4.8
BVA0 Borovoye Array 10.25 300 P **Pn 02 11 31.0 +0.2**
BVA0 02 13 21.9
BVA0 pmax pmax
comp=Z,1.0nm,0.4s
BVA0 smax
comp=Z,1.0nm,0.3s
BVA0 pmax pmax
comp=Z,40nm,1.2s
BVAR Borovoye Array 10.25 300 Pn **Pn 02 11 31.2 +0.5**
comp=Z,1.1nm,0.3s,baz=96,slow=14,SNR=17
BVAR Sn **Sn 02 13 22.4 -2.4**
comp=Z,16nm,0.3s,baz=97,slow=23,SNR=15
BVAR Lg 02 14 30.5
comp=Z,2.5nm,0.3s,baz=99,slow=26,SNR=2.7
BVAR Borovoye Array 10.25 300 P **Pn 02 11 31.2 +0.4**
BVAR 02 13 22.4
BRVK Borovoye 10.32 300 *e* P **Pn 02 11 32.5 +0.8**
BRVK *e* 02 13 24.1
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 10.32 300 *e* Pn **Pn 02 11 32.5 +0.7**
comp=Z,9.0nm,0.6s
BRVK *e* Sn **Sn 02 13 24.1 -2.4**
ZRNK Zerenda 11.03 299 ⇑Pn **Pn 02 11 41.1 -0.3**
comp=Z,6.0nm,0.5s
ZRNK ⇑Sn **Sn 02 13 39.9 -3.8**
comp=Z,15nm,0.5s
ZRNK ⇑Lg 02 14 52.2
comp=Z,232nm,1.4s
ZRNK Zerenda 11.03 299 *e* P **Pn 02 11 41.8 +0.4**
ZRNK *e* 02 13 38.7
ZRNK pmax pmax
comp=Z,12nm,0.4s
ZRNK Zerenda 11.03 299 *e* Pn **Pn 02 11 41.8 +0.4**
comp=Z,12nm,0.4s
ZRNK *e* Sn **Sn 02 13 38.7 -5.0**
KK31 Karatay Array 11.61 247 ⇓Pn **Pn 02 11 46.8 -2.5**
comp=Z,2.9nm,0.3s,baz=60,slow=12,SNR=225
KK31 ⇓Sn **Sn 02 13 51.1 -7.0**
comp=Z,11nm,0.5s,baz=55,slow=23,SNR=6.4
KK31 ⇑Lg 02 15 10.6
comp=Z,24nm,0.6s,baz=64,slow=32,SNR=3.6
KK31 Karatay Array 11.61 247 *i* P **Pn 02 11 46.8 -2.6**
KK31 pmax pmax
comp=Z,6.0nm,0.2s
KKAR Karatay Array 11.61 247 *e* P **Pn 02 11 46.8 -2.6**
KKAR 02 13 52.4
KKAR pmax pmax
comp=Z,2.0nm,0.3s
KKAR smax
comp=Z,1.0nm,0.3s
KKAR pmax pmax
comp=Z,14nm,0.5s
ZAK Zakamensk 11.92 75 *e* P **Pn 02 11 55.6 +2.0**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZAK pmax pmax
comp=Z,90nm,1.4s
GTA Gaotai 14.06 126 *e* P **Pn 02 12 20.3 -2.6**
GTA AP 02 12 33.5
GTA XP 02 12 39.5
GTA AMB AMB
comp=Z,3.0nm,0.8s
GTA AMB AMB
comp=Z,199nm,5.3s
GTA LR LR
comp=N,219nm,9.5s
GTA LR LR
comp=E,276nm,9.9s
SONM Songino Array 14.20 86 Pn **Pn 02 12 24.1 -0.7**
comp=E,0.1nm,0.3s,baz=280,slow=14,SNR=10
SONM Lg 02 16 30.5
comp=E,0.3nm,0.3s,baz=279,slow=30,SNR=3.9
SONM LR LR 02 18 06.7
comp=E,222nm,19.6s,baz=336,slow=38
ULN Ulaanbaatar 14.63 85 *e* P **Pn 02 12 31.7 +1.1**
ULN pmax pmax
comp=Z,4.0nm,1.2s
ULN Ulaanbaatar 14.63 85 *e* Pn **Pn 02 12 31.7 +1.2**
comp=Z,4.3nm,1.2s
AB31 Akbulak array 16.51 281 ⇑P **Pn 02 12 53.5 -1.7**
comp=Z,12nm,1.0s,baz=86,slow=8.1,SNR=8.7
AB31 Akbulak array 16.51 281 P **Pn 02 12 57.2 +2.1**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
AKTK Aktyubinsk 17.62 286 P **Pn 02 13 10.2 +1.2**
AKTK S **Sn 02 16 22.3 -2.2**
AKTK Lg 02 18 24.4
AKTK LR LR 02 20 22.8
AKTO Aktyubinsk 17.62 286 P **Pn 02 13 10.2 +1.2**
comp=Z,0.3nm,0.3s,baz=98,slow=13,SNR=5.4
AKTO S **Sn 02 16 22.3 -2.2**
comp=Z,0.2nm,0.3s,baz=249,slow=12,SNR=2.9
AKTO Lg 02 18 24.4
comp=Z,0.2nm,0.3s,baz=88,slow=7.5,SNR=5.9
AKTO LR LR 02 20 22.8
comp=Z,113nm,19.2s,baz=0.0,slow=38
AKTO Aktyubinsk 17.62 286 P **Pn 02 13 10.2 +1.2**
AKTO S **Sn 02 16 22.3 -2.2**
AKTO MLR MLR
comp=Z,113nm,19.2s
ARU Arti 17.80 306 *e* P **Pn 02 13 13.6 +2.4**
ARU MLR MLR
comp=Z,100nm,17.0s
ARU MLR MLR
comp=N,20nm,16.0s
ARU MLR MLR
comp=E,100nm,17.0s
BOD Bodaibo 19.39 51 ⇑*i* P **Pn 02 13 29.9 -0.7**
BOD pmax pmax
comp=Z,17nm,0.9s
SOKR Solikamsk 19.66 314 *e* P **Pn 02 13 43.0 +9.3**
SOKR pmax pmax
comp=Z,30nm,1.6s
KLMR Klimovskoe 28.33 313 *e* P **P 02 14 56.3 -0.7**
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.2
GNI Garni 29.77 269 P **P 02 15 10.8 +1.0**
comp=Z,1.4nm,0.5s,mb4.0,baz=14,slow=4.2,SNR=2.7
GNI LR LR 02 28 01.8
comp=Z,20nm,20.3s,MS2.7,baz=339,slow=38
OBN Obninsk 30.10 301 ⇑*e* P **P 02 15 17.9 +5.3**
OBN *e* 02 16 12.9
OBN *e* S **S 02 20 09.5 -0.1**
OBN pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.5
NJ2 Nanjing 30.31 111 *e* P **P 02 15 13.5 -1.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
TIXI Tiksi 30.43 26 *e* P **P 02 15 15.1 -0.5**
TIXI pmax pmax
comp=Z,13nm,2.5s,mb4.2
TIXI MLR MLR
comp=Z,100nm,18.0s,MS3.5
SOC Sochi 31.50 278 *e* P **P 02 15 23.3 -1.7**
SOC *e**PP pP 02 15 32.3 -0.7
SOC *e* 02 16 24.6
SOC *e* S **S 02 20 31.1 -0.4**
SOC *e* SS SS 02 22 13.9 -33
SOC pmax pmax
comp=Z,31nm,0.9s,mb5.1
JOF Joensuu 32.30 316 *ep* **P 02 15 33.4 +1.3**
comp=Z,1.3nm,0.3s,mb4.2
SSE Sheshan 32.41 110 P **P 02 15 31.1 -1.9**
SSE AMB AMB
comp=Z,22nm,0.8s,mb5.0
FINES FINESS Array B 34.83 314 P **P 02 15 53.8 -0.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=90,slow=9.9,SNR=7.6
FINES FINESS Array B 34.83 314 *i* P **P 02 15 54.2 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
MALT Malatya 34.91 270 P **P 02 15 56.9 +2.1**
MALT pmax pmax
comp=Z,11nm,1.2s,mb4.7
MALT Malatya 34.91 270 P **P 02 15 56.9 +2.1**
comp=Z,11nm,1.2s,mb4.7
ARCES ARCESS Array B 34.99 328 P **P 02 15 55.2 -0.2**
comp=Z,1.2nm,0.6s,mb4.0,baz=78,slow=8.4,SNR=5.6
ARCES LR LR 02 33 20.8
comp=Z,31nm,19.3s,MS3.1,baz=358,slow=42
AKASG Malin Array Be 35.47 295 P **P 02 15 59.2 -0.4**
comp=Z,0.3nm,0.3s,mb3.7,baz=63,slow=7.9,SNR=4.0
AKASG Malin Array Be 35.47 295 P **P 02 15 59.2 -0.4**
JNU Nakatsue 37.33 97 P **P 02 16 14.8 -0.7**
comp=Z,5.1nm,0.3s,mb4.8,baz=317,slow=2.3,SNR=3.0
BR131 Keskin Array S 37.33 276 *e* P **P 02 16 16.9 +1.4**
comp=Z,7.4nm,0.6s,mb4.7
BR131 *e* pP pP 02 16 23.8 +0.2
BR131 *e* sP sP 02 16 27.8 +1.0
BRTR Keskin Array B 37.33 276 P **P 02 16 16.7 +1.2**
comp=Z,1.2nm,0.4s,mb4.1,baz=58,slow=5.5,SNR=22
BRTR pP pP 02 16 23.6 0.0
comp=Z,10nm,0.7s,baz=77,slow=7.4,SNR=44
ANTO Ankara 37.82 277 ⇑P **P 02 16 28.0 +8.4**
BURAR Bucovina Array 39.06 292 ⇓P **P 02 16 30.5 +0.5**
ASAJ Asahikawa 39.09 74 LR LR 02 33 45.8
comp=Z,85nm,20.6s,MS3.6,baz=8.8,slow=38
MLR Muntele Rosu 39.52 288 P **P 02 16 34.5 +0.6**
comp=Z,0.9nm,0.4s,mb3.8,baz=34,slow=15,SNR=3.5
HFS Hagfors 41.03 314 P **P 02 16 46.3 -0.1**
comp=Z,2.3nm,0.4s,mb4.1,baz=87,slow=10,SNR=15
HFS pP pP 02 16 53.4 -1.2
comp=Z,3.5nm,0.5s,baz=78,slow=9.2,SNR=4.6
HFS LR LR 02 34 47.0
comp=Z,91nm,18.2s,MS3.7,baz=68,slow=38
HFS Hagfors 41.03 314 P **P 02 16 46.3 -0.1**
HFS *PP pP 02 16 53.4 -1.1
NB2 NORSAR Subarra 41.93 316 P **P 02 16 53.3 -0.5**
comp=Z,3.2nm,0.6s,mb4.1,baz=71,slow=7.9
NB2 NORSAR Subarra 41.93 316 P **P 02 16 53.3 -0.5**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
NOA NORSAR Array B 41.93 316 P **P 02 16 52.4 -1.3**
comp=Z,2.4nm,0.7s,mb4.0,baz=72,slow=8.3,SNR=7.1
NOA pP pP 02 17 00.2 -1.7
comp=Z,2.9nm,0.6s,baz=69,slow=7.7,SNR=6.3
NOA LR LR 02 35 11.3
comp=Z,50nm,18.2s,MS3.4,baz=240,slow=37
NOA NORSAR Array B 41.93 316 P **P 02 16 52.4 -1.4**
NOA *PP pP 02 17 00.2 -1.7
NOA NORSAR Array B 41.93 316 P **P 02 16 52.4 -1.3**
NOA pP pP 02 17 00.2 -1.7
NOA LR LR 02 35 11.3
NAO01 NORSAR Array S 42.14 315 P **P 02 16 54.6 -0.9**
comp=Z,2.2nm,0.6s,mb4.0
NAO01 pP pP 02 17 03.0 -0.6
CDF Champ du Feu 49.33 301 *e* P **P 02 17 49.4 -2.8**
LPG La Plagne 51.20 298 *e* P **P 02 18 05.9 -0.5**
comp=Z,10nm,0.8s,mb4.5
LPG La Plagne 51.20 298 *e* P **P 02 18 05.9 -0.5**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPG La Plagne 51.20 298 *e* P **P 02 18 05.9 -0.5**
comp=Z,5.1nm,0.8s,mb4.5
LPL La Plagne 51.20 298 *e* P **P 02 18 06.4 0.0**
comp=Z,12nm,0.8s,mb4.6
LPL La Plagne 51.20 298 *e* P **P 02 18 06.4 0.0**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LPL La Plagne 51.20 298 *e* P **P 02 18 06.4 0.0**
comp=Z,5.9nm,0.8s,mb4.6
MBDF Montbardon 51.62 297 *e* P **P 02 18 09.4 -0.1**
comp=Z,9.6nm,0.7s,mb4.5
MBDF Montbardon 51.62 297 *e* P **P 02 18 09.4 -0.1**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MBDF Montbardon 51.62 297 *e* P **P 02 18 09.4 -0.1**
comp=Z,4.8nm,0.7s,mb4.5
SUMG Summit 52.83 342 P **P 02 18 16.8 -1.8**
comp=Z,1.7nm,0.5s,mb4.2
LDF La Druitiere 53.35 304 *e* P **P 02 18 22.2 -0.2**
FLN La Foliniere 53.45 305 *e* P **P 02 18 22.6 -0.5**
comp=Z,7.7nm,0.5s,mb4.6
FLN La Foliniere 53.45 305 *e* P **P 02 18 22.6 -0.5**
FLN pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
FLN La Foliniere 53.45 305 *e* P **P 02 18 22.6 -0.5**
comp=Z,3.8nm,0.5s,mb4.6
QUIF Quistinic 55.40 305 *e* P **P 02 18 37.3 0.0**
ILAR Eielson Array 59.85 23 P **P 02 19 08.3 -0.3**
comp=Z,4.4nm,0.6s,mb4.6,baz=322,slow=5.3,SNR=32
ILAR LR LR 02 51 06.7
comp=Z,76nm,18.2s,MS3.9,baz=181,slow=42
ESDC Sonseca Array 61.01 298 P **P 02 19 16.7 +0.2**
comp=Z,1.6nm,0.8s,mb4.2,baz=40,slow=6.9,SNR=9.8
KDAK Kodiak Island 63.70 30 P **P 02 19 34.0 -0.6**
comp=Z,5.0nm,0.4s,mb4.9,baz=331,slow=17,SNR=13
KMBO Kilima Mbogo 64.56 235 *i* P **P 02 19 46.2 +6.1**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 68.03 10 P **P 02 20 01.7 -0.7**
comp=Z,1.2nm,0.7s,mb4.1,baz=341,slow=6.6,SNR=25
TORD Torodi Ar. Bea 75.92 274 P **P 02 20 49.5 -0.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=35,slow=5.5,SNR=22
TORD pP pP 02 20 57.2 -1.1
comp=Z,1.5nm,0.4s,baz=37,slow=5.1,SNR=18
WRA Warramunga Arr 81.21 134 P **P 02 21 17.3 -1.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=339,slow=5.3,SNR=7.2
WB2 Warramunga Arr 81.22 134 *e* P **P 02 21 17.5 -1.4**
ASAR Alice Springs 84.21 136 P **P 02 21 33.0 -1.4**
comp=Z,0.8nm,0.6s,mb4.0,baz=332,slow=5.7,SNR=8.1
DBIC Dimbokro 85.02 274 P **P 02 21 37.9 -0.6**
comp=Z,1.6nm,0.4s,mb4.5,baz=54,slow=3.4,SNR=7.9
DBIC Dimbokro 85.02 274 P **P 02 21 37.9 -0.6**
LKWY Lake 86.11 11 *e* P **P 02 21 45.8 +1.9**
LKWY pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
LKWY Lake 86.11 11 *e* P **P 02 21 45.8 +1.9**
comp=Z,4.2nm,0.6s,mb4.8
YBH Yreka Blue Hor 86.65 20 P **P 02 21 46.8 +0.2**
baz=213,slow=13
PDAR Pinedale Array 87.99 11 P **P 02 21 52.2 -0.8**
comp=Z,0.9nm,0.6s,mb4.2,baz=46,slow=2.9,SNR=10
HWUT Hardware Ranch 88.86 12 *e* P **P 02 21 58.0 +0.9**
comp=Z,5.5nm,0.9s,mb4.9
NVAR Mina Array Bea 90.78 18 P **P 02 22 06.9 +0.8**
comp=Z,1.2nm,0.6s,mb4.4,baz=3.1,slow=3.5,SNR=11

CSEM ***20*** *02:14:21.5±0.5, 3872N×2979W, h5km, ML2.5, Error ellipse: s-maj=11.5km s-min=4.3km az=8.0, After PDA*
PDA ***20*** *02:14:21.5±0.5, 3872N×2979W, h5km, MD3.4, ML2.5, Error ellipse: s-maj=11.5km s-min=4.3km az=8.0*
SVSA 20 02:14:21.5±0.5, 3872N×2979W, h5km, MD3.4, ML2.5, Error ellipse: s-maj=11.5km s-min=4.3km az=8.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.85**	**96**	*e*P	Pg	02 14 35.3	-2.6
PCED				*e*S	Sg	02 14 45.4	-3.6
PCED	100nm,0.3s						
PCED	**Cedros**	**0.85**	**96**	*e*P	Pg	02 14 35.3	-2.6
PCED				*e*S	Sg	02 14 45.4	-3.6
CALA	**Caldeira**	**0.86**	**99**	*e*P	Pg	02 14 35.4	-2.6
CALA				*e*S	Sg	02 14 45.9	-3.3
HOR	**Horta**	**0.93**	**101**	*e*S	Sg	02 14 46.8	-4.5
PICO	**Pico**	**1.09**	**101**	*i* P	Pg	02 14 38.6	-3.8
PICO				*e*S	Sg	02 14 51.6	-4.9
ROSA	**Rosais**	**1.21**	**89**	*e*P	Pg	02 14 40.3	-4.4
ROSA				*e*S	Sg	02 14 54.4	-6.0
PMAN	**Manadas**	**1.33**	**93**	*e*S	Sb	02 14 57.0	-7.3
PMAN	19nm,0.2s						
PID	**Ribeirinha**	**1.34**	**101**	*e*P	Pn	02 14 42.0	-4.8
PID				*e*S	Sb	02 14 57.5	-6.9

ISCJB ***20*** *02:54:57.7±0.6, 3147S±006×1796E±02, h451km±12km, mb4.2/5, Error ellipse: s-maj=28.6km s-min=6.3km az=29.9*
NEIC ***20*** *02:54:58.6±0.6, 3139S×17971E, h458km±8km, mb4.5/3, Error ellipse: s-maj=15.8km s-min=9.5km az=120.0*
IDC ***20*** *02:54:59.4±1.9, 3142S×17961E, h462km±22km, mb3.7/3, mb1 3.8/7, mb1mx3.5/16, mbtmp4.6/7, Error ellipse: s-maj=30.1km s-min=17.3km az=143.0*
ISC 20 02:54:58.7±0.6, 3151S±006×1797E±02, h446km±13km, n32, σ1§22/40, mb4.2/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.08**	**44**	S	**S**	**02 56 58.9**	**-1.8**
	149nm,0.3s,baz=97,slow=20,SNR=3.3						
RAO	**Raoul Island**	**3.08**	**44**	*e*P	**P**	**02 56 05.2**	**-0.9**
RAO				*e*S	**S**	**02 57 00.2**	**-0.6**
MXZ	**Matakaoa Point**	**6.14**	**190**	PN	**P**	**02 56 35.0**	**+0.7**
MXZ				SN	**S**	**02 57 52.0**	**-0.4**
PUZ	**Puketiti**	**6.65**	**190**	PN	**P**	**02 56 41.6**	**+2.0**
PUZ				SN	**S**	**02 57 59.4**	**-2.7**
MWZ	**Matawai**	**7.03**	**194**	PN	**P**	**02 56 44.5**	**+0.9**
MWZ				SN	**S**	**02 58 09.4**	**-0.1**
URZ	**Urewera**	**7.05**	**197**	P	**P**	**02 56 45.8**	**+1.9**
	28nm,0.3s,baz=19,slow=4.7,SNR=130						
URZ				S	**S**	**02 58 09.9**	**0.0**
	28nm,0.3s,baz=168,slow=22,SNR=26						
URZ	**Urewera**	**7.05**	**197**	PN	**P**	**02 56 44.4**	**+0.5**
URZ				SN	**S**	**02 58 09.1**	**-0.8**
KNZ	**Kokohu**	**7.67**	**192**	PN	**P**	**02 56 52.8**	**+2.4**
BKZ	**Black Stump Fm**	**8.06**	**198**	PN	**P**	**02 56 54.7**	**0.0**
WNVZ	**Wahianoa**	**8.47**	**202**	PN	**P**	**02 57 01.0**	**+1.9**
PXZ	**Pawanui**	**8.80**	**194**	PN	**P**	**02 57 02.3**	**-0.4**
PXZ				SN	**S**	**02 58 42.3**	**-2.3**
BFZ	**Birch Farm**	**9.56**	**196**	PN	**P**	**02 57 11.1**	**+0.1**
BFZ				SN	**S**	**02 58 58.8**	**-0.9**
MRZ	**Mangatainoka R**	**9.71**	**199**	PN	**P**	**02 57 11.8**	**-0.8**
KIW	**Kapiti Island**	**10.09**	**201**	PN	**P**	**02 57 16.8**	**0.0**
CAW	**Cannon Point**	**10.27**	**200**	PN	**P**	**02 57 19.8**	**+1.1**
SNZO	**South Karori**	**10.56**	**201**	*e*P	**P**	**02 57 23.0**	**+1.2**
	20nm,0.4s						
SNZO				*e*S	**S**	**02 59 17.4**	**-2.4**
THZ	**Tophouse**	**11.57**	**206**	PN	**P**	**02 57 34.5**	**+1.6**
THZ				SN	**S**	**02 59 37.6**	**-2.5**
KHZ	**Kahutara**	**11.93**	**202**	PN	**P**	**02 57 38.1**	**+1.3**
RPZ	**Rata Peaks**	**13.95**	**207**	P	**P**	**02 58 00.2**	**+1.6**
	0.5nm,0.3s,baz=55,slow=16,SNR=3.4						
RPZ				S	**S**	**03 00 27.6**	**+0.3**
	0.3nm,0.3s,baz=154,slow=20,SNR=3.0						
RPZ	**Rata Peaks**	**13.95**	**207**	P	**P**	**02 58 00.2**	**+1.6**
RPZ				S	**S**	**03 00 27.6**	**+0.3**
DZM	**Mont Dzumac**	**15.07**	**305**	P	**P**	**02 58 11.3**	**+0.6**
	0.4nm,0.3s,baz=125,slow=15,SNR=6.8						
AFI	**Afiamalu**	**19.20**	**26**	P	**P**	**02 58 52.0**	**-0.9**
	3.2nm,0.3s,baz=216,slow=20,SNR=6.3						
STKA	**Stephens Creek**	**32.28**	**259**	P	**P**	**03 00 48.2**	**-0.8**
	3.2nm,0.4s,mb4.2,baz=98,slow=11,SNR=16						
STKA	**Stephens Creek**	**32.28**	**259**	P	**P**	**03 00 48.2**	**-0.8**
ASAR	**Alice Springs**	**41.06**	**269**	P	**P**	**03 02 01.6**	**-0.2**
	3.9nm,0.7s,mb4.0,baz=105,slow=7.4,SNR=44						
WRAB	**Tennant Creek**	**42.15**	**275**	*e*P	**P**	**03 02 09.9**	**-0.5**
	13nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**42.15**	**275**	P	**P**	**03 02 09.3**	**-1.1**
	5.4nm,0.4s,mb4.3,baz=113,slow=7.7,SNR=19						
FORT	**Forrest**	**43.82**	**257**	*e*P	**P**	**03 02 23.2**	**-0.4**
	12nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**145.45**	**338**	PKPbc	PKPbc	03 13 43.6	-2.4
	4.6nm,0.7s,baz=54,slow=4.2,SNR=20						
NOA	**NORSAR Array B**	**149.50**	**349**	PKPbc	PKPbc	03 13 55.1	-1.4
	1.2nm,0.9s,baz=299,slow=12,SNR=2.5						
AKASG	**Malin Array Be**	**150.90**	**320**	PKPbc	PKPbc	03 13 57.8	-2.1
	0.2nm,0.3s,baz=71,slow=2.4,SNR=7.9						
BRTR	**Keskin Array B**	**151.32**	**296**	PKPbc	PKPbc	03 13 59.0	-1.9
	0.6nm,0.5s,baz=142,slow=3.1,SNR=5.7						

CSEM ***20*** *03:11:16.6±1.0, 3872N×2925W, h5km, ML2.3, Error ellipse: s-maj=10.8km s-min=5.6km az=25.0, After PDA*
PDA ***20*** *03:11:16.6±1.0, 3872N×2925W, h5km, MD3.4, ML2.3, Error ellipse: s-maj=10.8km s-min=5.6km az=25.0*
SVSA 20 03:11:16.6±1.0, 3872N×2925W, h5km, MD3.4, ML2.3, Error ellipse: s-maj=10.8km s-min=5.6km az=25.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.38**	**110**	*e*S	Sg	03 11 28.9	+0.1
PTCA	85nm,0.2s						
PCED	**Cedros**	**0.44**	**102**	*e*P	Pg	03 11 24.2	-0.8
PCED				*e*S	Sg	03 11 29.9	-0.8
PCED	285nm,0.1s						
PCED	**Cedros**	**0.44**	**102**	*e*P	Pg	03 11 24.2	-0.8
PCED				*e*S	Sg	03 11 29.9	-0.8
CALA	**Caldeira**	**0.45**	**107**	*e*S	Sg	03 11 30.0	-1.1
HOR	**Horta**	**0.52**	**111**	*i* P	Pg	03 11 25.3	-1.3
HOR				*e*S	Sg	03 11 32.1	-1.2
HOR	**Horta**	**0.52**	**111**	*e*S	Sg	03 11 32.1	-1.2
PCND	**Candelaria**	**0.66**	**112**	*e*P	Pg	03 11 28.6	-0.7
PCND				*e*S	Sg	03 11 37.0	-0.9
PCND	81nm,0.3s						
PICO	**Pico**	**0.68**	**108**	*i* P	Pg	03 11 28.1	-1.5
PICO				*e*S	Sg	03 11 37.0	-1.5

PICO	**Pico**	**0.68**	**108**	*e*S		Sg	03 11 37.0	-1.5
PBOI	**Pico dos Bois**	**0.74**	**112**	*e*P		Pg	03 11 29.6	-1.2
PBOI				*e*S		Sg	03 11 38.9	-1.5
PBOI								
	37nm,0.1s							
ROSA	**Rosais**	**0.79**	**90**	*i* P		Pg	03 11 29.4	-2.3
ROSA				*e*S		Sg	03 11 38.9	-3.0
ROSA	**Rosais**	**0.79**	**90**	*e*S		Sg	03 11 38.9	-3.0
PAMA	**Santo Amaro**	**0.84**	**92**	*e*S		Sg	03 11 40.4	-3.1
PAMA								
	27nm,0.1s							
PMAN	**Manadas**	**0.91**	**95**	*e*S		Sg	03 11 42.1	-3.8
PMAN								
	41nm,0.2s							
PID	**Ribeirinha**	**0.93**	**107**	*e*P		Pg	03 11 31.7	-2.7
PID				*e*S		Sg	03 11 42.8	-3.6

SZGRF ***20*** *03:16:46.1,0.24S×28.18W,h33km,mb4.7,MS4.6,Central Mid-Atlantic Ridge*
MOS ***20*** *03:16:48.5±0.8,108N×28.14W,h10km,mb4.8/9,MS4.5/5, Error ellipse: s-maj=19.1km s-min=9.8km az=49.4*
ISCJB ***20*** *03:16:48.4±0.4,104N±009×28.13W±007,h10km,mb4.4/28, MS4.8/34,Error ellipse: s-maj=14.6km s-min=7.4km az=115.8*
IDC ***20*** *03:16:48.5±0.5,1.14N×28.11W,h0km,mb4.2/21, mb1 4.3/21,mb1mx4.2/27,mbtmp4.2/21,MS4.8/23, Ms1 4.8/23,ms1mx4.8/24,Error ellipse: s-maj=18.2km s-min=11.7km az=155.0*
NEIC ***20*** *03:16:50.1±0.4,103N×28.17W,h10km,mb4.7/12,MS4.5/3, Error ellipse: s-maj=15.3km s-min=7.4km az=145.0*
BJI ***20*** *03:16:50.1,100N×2820W,h10km,mB5.5,Ms5.0,Msz4.7*
ISC 20 03:16:50.7±0.4,106N±009×2817W±007,h10km,n82,
σ1§12/64,mb4.4/28,MS4.8/34,1C,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.32**	**228**	*e*Pn	**Pn**	**03 19 16.9**	**-1.8**
RCBR	56nm,0.7s			*e*SP		03 21 02.8	
DBIC	**Dimbokro**	**23.91**	**76**	P	**P**	**03 22 01.9**	**-2.7**
DBIC	15nm,0.8s,mb4.5,baz=242,slow=11,SNR=15			LR	LR	03 29 56.7	
	comp=Z,5μm,18.1s,MS5.0,baz=241,slow=33						
DBIC	**Dimbokro**	**23.91**	**76**	*e*P	**P**	**03 22 01.8**	**-2.8**
DBIC				pmax	pmax		
	comp=Z,18nm,0.8s						
DBIC	**Dimbokro**	**23.91**	**76**	*e*P	**P**	**03 22 01.8**	**-2.8**
	comp=Z,18nm,0.8s,mb4.5						
BDFB	**Brasilia**	**25.69**	**229**	P	**P**	**03 22 20.1**	**-0.7**
	comp=Z,6.2nm,0.8s,mb4.2,baz=35,slow=6.9,SNR=4.6						
BDFB				LR	LR	03 31 25.3	
	comp=Z,7μm,19.3s,MS5.2,baz=48,slow=34						
TORD	**Torodi Ar. Bea**	**31.92**	**67**	P	**P**	**03 23 13.8**	**-2.5**
	comp=Z,12nm,0.9s,mb4.7,baz=256,slow=9.6,SNR=68						
SAML	**Samuel**	**36.27**	**253**	*e*P	**P**	**03 23 52.3**	**-1.8**
	comp=Z,40nm,1.6s,mb5.1						
SAML				*e*		03 24 00.4	
SIV	**San Ignacio**	**36.65**	**241**	P	**P**	**03 23 57.3**	**0.0**
	comp=Z,5.0nm,1.0s,mb4.3,baz=85,slow=9.0,SNR=16						
MDT	**Midelt**	**38.58**	**33**	P	**P**	**03 24 13.2**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.7,baz=4.9,slow=22,SNR=2.6						
MDT				LR	LR	03 39 38.9	
	comp=Z,957nm,18.3s,MS4.7,baz=236,slow=36						
CPUP	**Villa Florida**	**39.16**	**224**	P	**P**	**03 24 18.9**	**+0.4**
	comp=Z,3.7nm,1.0s,mb4.1,baz=9.8,slow=7.6,SNR=3.8						
CPUP				LR	LR	03 40 02.5	
	comp=Z,5μm,19.2s,MS5.3,baz=37,slow=36						
SJG	**San Juan**	**40.95**	**297**	P	**P**	**03 24 33.2**	**-0.2**
	comp=Z,7.2nm,0.8s,mb4.3,baz=72,slow=4.9,SNR=3.7						
SJG				LR	LR	03 38 38.9	
	comp=Z,1μm,19.3s,MS4.8,baz=121,slow=32						
SDV	**Santo Domingo**	**42.97**	**282**	P	**P**	**03 24 51.0**	**+1.1**
	comp=Z,7.9nm,0.9s,mb4.4,baz=65,slow=6.4,SNR=5.9						
SDV				LR	LR	03 42 40.8	
	comp=Z,873nm,18.6s,MS4.7,baz=311,slow=36						
SDV	**Santo Domingo**	**42.97**	**282**	*e*P	**P**	**03 24 51.3**	**+1.4**
	comp=Z,15nm,1.1s,mb4.7						
SDV				*e*		03 25 00.1	
SDV				*e*		03 25 03.9	
LPAZ	**La Paz**	**43.04**	**245**	P	**P**	**03 24 51.7**	**+1.2**
	comp=Z,6.2nm,1.0s,mb4.3,baz=79,slow=5.2,SNR=18						
LPAZ				LR	LR	03 42 17.4	
	comp=Z,3μm,19.1s,MS5.2,baz=71,slow=36						
LPAZ	**La Paz**	**43.04**	**245**	*e*P	**P**	**03 24 51.9**	**+1.4**
LPAZ				*e*		03 24 58.4	
LPAZ				pmax	pmax		
	comp=Z,12nm,1.2s						
LPAZ	**La Paz**	**43.04**	**245**	*e*P	**P**	**03 24 51.9**	**+1.4**
	comp=Z,12nm,1.2s,mb4.5						
LPAZ				*e*		03 24 58.4	
LPAZ				*e*		03 25 02.4	
ESDC	**Sonseca Array**	**44.31**	**27**	P	**P**	**03 24 59.4**	**-1.4**
	comp=Z,2.1nm,0.9s,mb3.9,baz=220,slow=8.1,SNR=9.5						
ROSC	**El Rosal**	**46.24**	**276**	P	**P**	**03 25 16.8**	**+0.8**
	comp=Z,4.3nm,0.8s,mb4.4,baz=91,slow=16,SNR=11						
ROSC				LR	LR	03 43 57.9	
	comp=Z,3μm,18.5s,MS5.2,baz=118,slow=35						
CFAA	**Coronel Fontan**	**49.96**	**226**	P	pP	03 25 50.4	+2.5
	comp=Z,0.5nm,0.9s,baz=14,slow=12,SNR=3.5						
OTAV	**Otavalo**	**50.28**	**269**	*e*P	**P**	**03 25 48.5**	**+1.3**
	comp=Z,9.8nm,1.3s,mb4.7						
OTAV				*e*		03 25 58.4	
PLCA	**Paso Flores**	**56.68**	**218**	LR	LR	03 50 39.7	
	comp=Z,1μm,19.6s,MS5.0,baz=49,slow=36						
VOY	**Vojsko**	**57.97**	**33**	*e*P	**P**	**03 26 43.8**	**+0.5**
LBTB	**Lobatse**	**58.10**	**120**	P	**P**	**03 26 45.8**	**+1.6**
	comp=Z,2.2nm,0.7s,mb4.3,baz=281,slow=18,SNR=3.2						
GRA1	**Grafenberg Arr**	**58.95**	**29**	*e*P	**P**	**03 26 51.3**	**+1.2**
	comp=Z,12nm,1.5s,mb4.7						
GRA1				*e*S	**S**	**03 35 05.0**	**+8.7**
GRA1				LR	LR		
	comp=Z,400nm,19.9s,MS4.5						
GRF	**Grafenberg Arr**	**58.95**	**29**	*e*P	**P**	**03 26 51.3**	**+1.2**
	comp=Z,12nm,1.5s,mb4.7						
GRF				*e*S	**S**	**03 35 05.0**	**+8.7**
GRF				*e*L		03 49 41.0	
	comp=Z,398nm,19.9s						
GRF	**Grafenberg Arr**	**58.95**	**29**	*e*P	**P**	**03 26 51.3**	**+1.2**
GRF				*e*S	**S**	**03 35 05.0**	**+8.7**
GRF				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.7						
GRF				MLR	MLR		
	comp=Z,400nm,19.9s,MS4.5						
GRF	**Grafenberg Arr**	**58.95**	**29**	*e*P	**P**	**03 26 51.3**	**+1.2**
GRF				*e*S	**S**	**03 35 05.0**	**+8.7**
GRF				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.7						
GRF				MLR	MLR		
	comp=Z,400nm,19.9s,MS4.5						
BOSA	**Boshof**	**59.00**	**125**	P	**P**	**03 26 51.7**	**+1.2**
	comp=Z,4.4nm,0.7s,mb4.6,baz=327,slow=6.5,SNR=8.6						
BOSA				LR	LR	03 47 05.8	
	comp=Z,808nm,21.8s,MS4.8,baz=310,slow=31						
GERES	**GERESS Array B**	**59.62**	**31**	P	**P**	**03 26 54.8**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=235,slow=4.7,SNR=13						
GERES				LR	LR	03 49 40.9	
	comp=Z,424nm,21.6s,MS4.5,baz=238,slow=33						
KHC	**Kasperske Hory**	**59.74**	**30**	*e*P	**P**	**03 26 55.7**	**+0.1**
KHC				*e*x	x	03 27 07.3	
KHC				x	x	03 27 28.5	
KHC	**Kasperske Hory**	**59.74**	**30**	*e*P	**P**	**03 26 55.7**	**+0.1**
KHC				*e*		03 27 07.3	
KHC				*e*		03 27 28.5	
MOX	**Moxa**	**59.78**	**28**	*e*P	**P**	**03 26 56.8**	**+0.9**
	comp=Z,17nm,1.6s,mb4.8						
MOX							
	comp=Z,300nm,20.0s						
MOX	**Moxa**	**59.78**	**28**	*e*P	**P**	**03 26 56.8**	**+0.9**
MOX				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.8						
MOX				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.4						
DIVS	**Divcibare**	**60.44**	**38**	*i* P	**P**	**03 27 01.2**	**+0.8**
PRU	**Pruhonice**	**60.77**	**30**	*e*P	**P**	**03 26 59.6**	**-3.1**
TREC	**Trest**	**60.82**	**31**	*e*P	**P**	**03 27 03.0**	**0.0**
CLL	**Collm**	**60.87**	**28**	*e*x	x	03 27 17.0	
CLL				*e*S	**S**	**03 35 26.0**	**+4.9**
CLL				*e*SSS		03 42 06.0	
CLL	**Collm**	**60.87**	**28**	*e*P	x	03 27 17.0	
CLL				*e*S	**S**	**03 35 26.0**	**+4.9**
CLL				MLR	MLR		
	comp=Z,400nm,18.6s,MS4.6						

ZST	**Bratislava**	**61.02**	**33**	*e*P	**P**	**03 27 04.9**	**+0.5**
BRG	**Berggiesshubel**	**61.04**	**29**	*e*P	**P**	**03 27 05.2**	**+0.7**
	comp=Z,4.6nm,1.5s,mb4.4						
BRG				*e*		03 27 22.8	
BRG				S	**S**	**03 35 32.0**	**+8.8**
BRG				LR	LR		
	comp=Z,250nm,15.3s,MS4.5						
BRG	**Berggiesshubel**	**61.04**	**29**	*e*P	**P**	**03 27 05.2**	**+0.7**
	comp=Z,4.6nm,1.5s,mb4.4						
BRG				*e*		03 27 22.8	
	comp=Z,7.5nm,1.6s						
BRG				S	**S**	**03 35 32.0**	**+8.8**
BRG							
	comp=N,100nm,15.8s						
BRG							
	comp=E,198nm,15.3s						
BRG							
	comp=Z,249nm,15.3s						
DPC	**Dobruska-Polom**	**61.90**	**31**	*e*P	**P**	**03 27 11.4**	**+1.1**
VYHS	**Vyhne**	**62.14**	**33**	*e*P	**P**	**03 27 12.2**	**+0.3**
SCHQ	**Schefferville**	**62.18**	**336**	P	**P**	**03 27 12.7**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.2,baz=207,slow=13,SNR=6.0						
SCHQ				LR	LR	03 51 08.8	
	comp=Z,296nm,19.9s,MS4.5,baz=320,slow=33						
PSZ	**Piszkesteto**	**62.41**	**34**	⇑*i*P	**P**	**03 27 14.9**	**+1.2**
PSZ	**Piszkesteto**	**62.41**	**34**	*e*P	**P**	**03 27 12.7**	**-1.0**
PSZ				pmax	pmax		
	comp=Z,26nm,1.5s,mb5.1						
PSZ	**Piszkesteto**	**62.41**	**34**	*e*P	**P**	**03 27 12.7**	**-1.1**
	comp=Z,26nm,1.5s,mb5.1						
PSZ				*e*		03 27 22.6	
OKC	**Ostrava-Krasne**	**62.54**	**32**	*e*P	**P**	**03 27 14.4**	**-0.2**
KECS	**Kecovo**	**63.05**	**34**	*e*P	**P**	**03 27 19.6**	**+1.6**
USHA	**Ushuaia**	**64.76**	**204**	LR	LR	03 52 43.5	
	comp=Z,584nm,18.7s,MS4.8,baz=31,slow=33						
KMBO	**Kilima Mbogo**	**65.45**	**92**	LR	LR	03 52 50.9	
	comp=Z,822nm,18.4s,MS5.0,baz=269,slow=33						
NOA	**NORSAR Array B**	**66.91**	**20**	LR	LR	03 54 27.4	
	comp=Z,253nm,19.0s,MS4.5,baz=220,slow=34						
BR131	**Keskin Array S**	**67.91**	**47**	*e*P	**P**	**03 27 48.6**	**-0.9**
	comp=Z,0.9nm,0.7s,mb3.9						
BRTR	**Keskin Array B**	**67.91**	**47**	P	**P**	**03 27 48.2**	**-1.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=240,slow=6.6,SNR=14						
AKASG	**Malin Array Be**	**69.09**	**35**	P	**P**	**03 27 55.0**	**-1.8**
	comp=Z,2.9nm,0.6s,mb4.4,baz=242,slow=7.3,SNR=22						
MALT	**Malatya**	**71.11**	**50**	*e*P	**P**	**03 28 09.6**	**+0.4**
MALT				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MALT	**Malatya**	**71.11**	**50**	*e*P	**P**	**03 28 09.6**	**+0.4**
	comp=Z,2.9nm,1.0s,mb4.2						
MALT				*e*		03 28 19.9	
FINES	**FINESS Array B**	**72.73**	**24**	P	**P**	**03 28 18.5**	**-0.4**
	comp=Z,3.0nm,0.9s,mb4.2,baz=180,slow=3.8,SNR=6.5						
FINES				LR	LR	03 57 14.9	
	comp=Z,380nm,19.8s,MS4.7,baz=80,slow=33						
FINES	**FINESS Array B**	**72.73**	**24**	P	**P**	**03 28 18.5**	**-0.4**
FINES				LR	LR	03 57 14.9	
ULM	**Lac du Bonnet**	**75.07**	**322**	P	**P**	**03 28 31.8**	**-0.8**
	comp=Z,0.5nm,0.3s,mb3.9,baz=70,slow=8.8,SNR=3.4						
ULM				LR	LR	03 56 32.7	
	comp=Z,377nm,21.1s,MS4.7,baz=234,slow=32						
ARCES	**ARCESS Array B**	**76.97**	**17**	LR	LR	03 57 58.4	
	comp=Z,301nm,19.4s,MS4.6,baz=200,slow=32						
KLMR	**Klimovskoe**	**78.35**	**28**	*e*P	pP	03 28 57.9	+3.4
KLMR				pmax	pmax		
	comp=Z,30nm,2.0s,mb4.9						
PDAR	**Pinedale Array**	**82.95**	**313**	P	**P**	**03 29 16.6**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.5,baz=97,slow=4.6,SNR=3.1						
PDAR				LR	LR	04 01 53.2	
	comp=Z,543nm,19.6s,MS4.9,baz=107,slow=33						
EDM	**Edmonton**	**86.26**	**323**	*e*P	**P**	**03 29 31.8**	**-0.8**
EDM				*e*		03 29 42.6	
YKA	**Yellowknife Ar**	**87.41**	**332**	P	**P**	**03 29 36.3**	**-1.8**
	comp=Z,0.1nm,0.5s,baz=107,slow=4.7,SNR=3.0						
NVAR	**Mina Array Bea**	**89.45**	**308**	LR	LR	04 08 42.0	
	comp=Z,215nm,18.8s,MS4.6,baz=110,slow=35						
MAW	**Mawson**	**91.37**	**157**	LR	LR	04 02 51.1	
	comp=Z,391nm,19.4s,MS4.9,baz=94,slow=30						
INK	**Inuvik**	**94.66**	**339**	LR	LR	04 08 31.6	
	comp=Z,420nm,20.1s,MS4.9,baz=85,slow=33						
BBB	**Bella Bella**	**95.27**	**322**	LR	LR	04 08 32.8	
	comp=Z,406nm,19.1s,MS4.9,baz=74,slow=33						
RKT	**Rikitea**	**105.86**	**246**	*e*LR	LR	04 05 58.6	
	comp=Z,288nm,22.5s						
WMQ	**Urumqi**	**107.64**	**43**	*e*PDIF	Pdif	03 31 09.9	-0.1
WMQ				PP	PP	03 35 41.3	+3.3
WMQ				PP	PP		
	comp=Z,19nm,7.7s						
WMQ				LR	LR		
	comp=N,122nm,19.0s,MS4.7						
WMQ				LR	LR		
	comp=E,192nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,175nm,19.0s,MS4.6						
TBI	**Tubuai**	**118.98**	**244**	*e*SS	SS	03 53 18.2	-0.5
	comp=Z,75nm,32.8s						
TBI				*e*LR	LR	04 12 09.8	
PPT	**Papeete**	**120.17**	**250**	*e*SS	SS	03 53 37.6	+3.7
	comp=Z,120nm,27.0s						
PPT				*e*LQ		04 07 01.0	
	comp=Z,751nm,34.5s						
PPT				*e*LR	LR	04 12 37.9	
	comp=Z,444nm,23.0s						
LZH	**Lanzhou**	**122.09**	**45**	*e*PKP	PKPdf	03 35 43.5	-2.0
LZH				XPKP		03 35 48.3	
LZH				LR	LR		
	comp=N,217nm,18.5s						
LZH				LR	LR		
	comp=Z,396nm,20.1s,MS5.1						
CD2	**Chengdu**	**124.39**	**51**	*e*PKP	PKPdf	03 35 48.0	-1.9
HHC	**Hu-ho-hao-te**	**124.53**	**37**	*e*PKP	PKPdf	03 35 50.0	-0.2
HHC				PP	PP	03 37 40.6	+4.2
HHC				PKS		03 39 25.1	
HHC				SKS	SKSdf	03 43 00.1	-2.0
HHC				SKKS	SKKSac	03 44 32.8	-2.4
HHC				SS	SS	03 54 30.3	+0.9
HHC				PP	PP		
	comp=Z,125nm,6.4s						
HHC				LR	LR		
	comp=Z,210nm,15.2s,MS4.9						
BJI	**Beijing**	**127.73**	**34**	PKP	PKPdf	03 35 50.9	-5.4
BJI				LR	LR		
	comp=N,234nm,15.2s,MS5.1						
BJI				LR	LR		
	comp=E,195nm,15.3s,MS5.1						
BJI				LR	LR		
	comp=Z,224nm,43.1s						
CN2	**Changchun**	**129.48**	**25**	*e*PKP	PKPdf	03 35 59.9	+0.3
CN2				PP	PP	03 38 12.4	+3.2
CN2				PP	PP		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,500nm,17.0s,MS5.3						
MDJ	**Mudanjiang**	**130.40**	**21**	PKP	PKPdf	03 35 57.4	-4.0
MDJ				PP	PP		
	comp=Z,108nm,4.8s						
NJ2	**Nanjing**	**134.63**	**40**	*e*PKP	PKPdf	03 36 04.5	-4.8
NJ2				XPKP		03 36 18.9	
NJ2				PP	PP	03 38 42.0	-0.3
NJ2				PKS		03 39 39.0	
NJ2				PP	PP		
	comp=Z,60nm,9.6s						
NJ2				LR	LR		
	comp=N,530nm,27.4s						
NJ2				LR	LR		
	comp=E,1μm,22.2s						
NJ2				LR	LR		
	comp=Z,210nm,25.1s,MS4.8						
SSE	**Sheshan**	**136.76**	**40**	PKP	PKPdf	03 36 10.8	-2.5
SSE				PP	PP	03 38 56.8	+1.1
SSE				SS	SS	03 56 58.8	-0.6
SSE				PP	PP		
	comp=Z,91nm,3.7s						
SSE				LR	LR		
	comp=N,69nm,24.7s,MS4.6						
SSE				LR	LR		
	comp=E,117nm,24.7s,MS4.6						
SSE				LR	LR		
	comp=Z,179nm,26.0s,MS4.7						
ASAR	**Alice Springs**	**151.59**	**144**	PKPbc	PKPbc	03 36 45.8	+0.7
	comp=Z,0.7nm,0.7s,baz=225,slow=1.6,SNR=4.3						

GUC ***20*** *03:26:47.4±1.0,2877S×7177W,h12km±9km,ML4.7*
ISCJB ***20*** *03:26:49.4±0.9,2879S±003×718W±0.1,h42km±13km, mb4.3/3,Error ellipse: s-maj=19.9km s-min=4.2km az=14.4.*
NEIC ***20*** *03:26:51.2±0.5,2879S×7157W,h35km,mb4.3/3, ML4.7(GUC),Error ellipse: s-maj=13.2km s-min=3.9km az=98.0*
ISC 20 03:26:47.3±1.8,2876S±003×717W±01,h4km±13km,n28,
σ0§70/40,mb4.3/3,8C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.85**	**41**	⇑*i*P	**Pn**	**03 27 20.5**	**+0.7**
CPCH				*i* S	**Sn**	**03 27 44.7**	**+1.0**
CPCH				AMP		03 27 48.2	
	comp=N,20μm,0.1s						
CPCH	**Copiapo**	**1.85**	**41**	⇑*i*P	**Pn**	**03 27 20.5**	**+0.7**
CPCH				*i* S	**Sn**	**03 27 44.7**	**+1.0**
CDCH	**Caldera**	**1.86**	**26**	⇑*i*P	**Pn**	**03 27 19.6**	**-0.3**
CDCH				*i* S	**Sn**	**03 27 44.0**	**+0.2**
CDCH				AMP		03 27 53.0	
	comp=N,2μm,0.5s						
CDCH	**Caldera**	**1.86**	**26**	⇑*i*P	**Pn**	**03 27 19.6**	**-0.3**
CDCH				*i* S	**Sn**	**03 27 44.0**	**+0.2**
CMCH	**Combarbala**	**2.48**	**165**	⇓*i*P	**Pn**	**03 27 28.0**	**-0.5**
CMCH				*i* S	**Sn**	**03 27 55.4**	**-3.8**
CMCH				AMP		03 28 15.8	
	comp=E,11μm,0.7s						
CMCH	**Combarbala**	**2.48**	**165**	⇓*i*P	**Pn**	**03 27 28.0**	**-0.5**
CMCH				S	**Sn**	**03 27 55.4**	**-3.8**
CRCH	**Chaqaral**	**2.60**	**22**	⇑*i*P	**Pn**	**03 27 30.2**	**+0.1**
CHNG	**Los Chungos**	**3.12**	**176**	⇓*i*P	**Pn**	**03 27 37.0**	**-0.2**
CHNG				*i* S	**Sn**	**03 28 15.0**	**+0.2**
CHNG				AMP		03 28 33.9	
	comp=E,900nm,0.3s						
JACH	**Jahuel**	**4.03**	**166**	*e*P	**Pn**	**03 27 50.3**	**+0.6**
ROCH	**El Roble**	**4.24**	**172**	⇓*i*P	**Pn**	**03 27 52.9**	**+0.2**
CPN1	**Cerro Paranal**	**4.29**	**16**	*i* P	**Pn**	**03 27 52.8**	**-0.4**
PEL	**Peldehue**	**4.46**	**169**	⇓*i*P	**Pn**	**03 27 56.0**	**+0.3**
PEL				*i* S	**Sn**	**03 28 47.6**	**-0.3**
LCCH	**Las Cruces**	**4.70**	**178**	⇓*i*P	**Pn**	**03 27 58.5**	**-0.5**
FCH	**Farellones**	**4.71**	**165**	⇑*i*P	**Pn**	**03 28 00.5**	**+1.4**
FCH				*i* S	**Sn**	**03 28 55.1**	**+0.8**
CLCH	**Cerro Calan**	**4.73**	**168**	⇑*i*P	**Pn**	**03 27 59.9**	**+0.6**
CLCH				*i* S	**Sn**	**03 28 54.0**	**-0.6**
RCDM	**Rinconada Maip**	**4.78**	**171**	*e*P	**Pn**	**03 28 00.3**	**+0.3**
RCDM				*i* S	**Sn**	**03 28 55.9**	**+0.1**
RCDM				AMP		03 29 18.9	
	comp=E,384nm,0.3s						
RCDM	**Rinconada Maip**	**4.78**	**171**	*e*P	**Pn**	**03 28 00.3**	**+0.3**
RCDM				*i* S	**Sn**	**03 28 55.9**	**+0.1**
TACH	**Talagante**	**4.92**	**172**	*e*P	**Pn**	**03 28 01.9**	**-0.1**
LMEL	**Las Melosas**	**5.23**	**166**	*i* P	**Pn**	**03 28 06.6**	**+0.3**
CHCH	**Chadas Angostu**	**5.24**	**170**	⇓*i*P	**Pn**	**03 28 06.3**	**0.0**
CICH	**Cipreses**	**5.65**	**169**	*i* P	**Pn**	**03 28 12.8**	**+0.8**
SFDO	**San Fernando**	**5.87**	**174**	⇑*i*P	**Pn**	**03 28 15.0**	**0.0**
TRQA	**Tornquist**	**12.33**	**141**	*e*Pn	**Pn**	**03 29 42.0**	**-1.6**
	comp=E,9.6nm,0.6s						
LPAZ	**La Paz**	**12.85**	**16**	*e*Pn	**Pn**	**03 29 55.6**	**+5.0**
	comp=E,2.2nm,0.7s						
CPUP	**Villa Florida**	**13.00**	**83**	*e*Pn	**Pn**	**03 29 51.9**	**-0.9**
	comp=E,14nm,0.5s						
SAML	**Samuel**	**21.29**	**24**	*e*P	**P**	**03 31 34.0**	**-0.7**
	comp=E,2.2nm,0.6s,mb3.7						
SNAA	**Sanae**	**56.35**	**159**	*e*P	**P**	**03 36 27.8**	**-1.6**
	comp=E,2.7nm,0.8s,mb4.3						
MIAR	**Mount Ida**	**66.27**	**340**	*e*P	**P**	**03 37 36.8**	**+0.2**
	comp=E,6.6nm,0.5s,mb4.9						

ISCJB ***20*** *03:40:05.3±2.8,375N±02×713E±02,h10km,Error ellipse: s-maj=28.5km s-min=17.8km az=60.8*
NNC ***20*** *03:40:14.3±4.4,3788N×7032E,h0km,mb3.7,mpv3.6, Error ellipse: s-maj=49.7km s-min=31.8km az=118.0*
ISC 20 03:40:06.6±2.9,374N±02×712E±02,h10km,n9,σ0§83/11,
1C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.05**	**21**	P	**Pn**	**03 41 23.0**	**+0.6**
	SNR=80						
UCH	**Uchtor**	**5.40**	**27**	P	**Pn**	**03 41 27.2**	**-0.1**
	SNR=10						
EKS2	**Erkin-Say**	**5.57**	**20**	P	**Pn**	**03 41 30.2**	**+0.7**
	SNR=20						
KZA	**Kyzart**	**5.57**	**32**	P	**Pn**	**03 41 28.7**	**-0.8**
	SNR=8.6						
KK31	**Karatay Array**	**5.69**	**355**	P	**Pn**	**03 41 33.1**	**+2.0**
	3.3nm,0.3s,baz=180,slow=13,SNR=132						
KK31				S	**Sn**	**03 42 36.0**	**-0.4**
	10nm,0.5s,baz=179,slow=23,SNR=15						
AAK	**Ala-Archa**	**5.76**	**25**	P	**Pn**	**03 41 32.3**	**+0.2**
	SNR=12						
ULHL	**Ulahol**	**6.15**	**37**	P	**Pn**	**03 41 36.8**	**-0.7**
	SNR=11						
CHMS	**Chumysh**	**6.17**	**25**	P	**Pn**	**03 41 37.6**	**-0.2**
	SNR=6.5						
AB31	**Akbulak array**	**14.37**	**329**	⇑P	**Pn**	**03 43 29.0**	**-1.0**
	0.2nm,0.3s						
AB31				⇓S	**Sn**	**03 45 59.9**	**-10**
	2.0nm,0.7s						

IDC ***20*** *03:40:42.9±3.0,5062N×17345W,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/22,mbtmp3.6/6,ML3.9/1,Error ellipse: s-maj=70.8km s-min=31.0km az=180.0*
ISCJB ***20*** *03:40:47.5±2.1,508N±01×17325W±009,h42km±17km, mb3.6/5,Error ellipse: s-maj=23.9km s-min=9.3km az=169.0*
NEIC ***20*** *03:40:49.8,5081N×1734W,h27km,ML3.4(AEIC),After AEIC.*
ISC 20 03:40:49.3±1.9,508N±01×17330W±008,h42km±15km,n13,
σ1§01/17,mb3.6/5,Andreanof Islands

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

IRZ2	**Volcan Irazu 2**	**1.50 336**	⇓*e*P	Pn	04 23 28.3	-0.4
IRZ2			*e*S	Sn	04 23 50.7	+2.6
LAJ	**Bijagual**	**1.51 327**	*e*P	Pn	04 23 29.6	+0.7
LAJ			*e*S	Sn	04 23 52.4	+4.0
SJS	**Escuela Geolog**	**1.54 331**	*e*S	Sn	04 23 51.0	+1.8
PRS1	**Puriscal**	**1.71 324**	⇓*e*P	Pn	04 23 30.3	-1.4
PRS1			*e*S	Sn	04 23 52.9	-0.6
CGA2	**Cerro Gallo 2**	**1.83 321**	*e*P	Pn	04 23 32.6	-0.8
CGA2			*e*S	Sn	04 23 56.9	+0.4
EPA	**Esparza**	**1.90 317**	⇓*e*P	Pn	04 23 34.2	0.0
EPA			*e*S	Sn	04 23 59.4	+1.4
CAO	**Cobano**	**2.11 302**	⇓*i*P	Pn	04 23 36.1	-0.9
VACR	**Volcan Arenal**	**2.32 324**	⇓*e*P	Pn	04 23 42.0	+1.9
JTS	**JuntasAbangare**	**2.36 316**	⇓*e*P	Pn	04 23 41.9	+1.4
JTS			*e*S	Sn	04 24 09.5	+0.1
LIM1	**Limonal**	**2.86 317**	*e*P	Pn	04 23 49.0	+1.7
LIM1			*e*S	Sn	04 24 23.1	+1.4

BJI ***20*** *04:32:51.8,3642N×7061E,h50km,mB4.6,mb4.7,ML5.1, Ms4.2,Ms2.4.1*
MOS ***20*** *04:32:58.3±1.2,3642N×7162E,h69km,mb4.7/27,Error ellipse: s-maj=8.8km s-min=4.8km az=112.1*
IDC ***20*** *04:32:58.1±4.5,3624N×7149E,h62km±40km,mb3.8/17, mb1 4.1/21,mb1mx4.1/24,mbtmp4.3/21,ML4.6/2,MS3.7/3, Ms1 3.7/3,ms1mx3.1/25,Error ellipse: s-maj=19.7km s-min=15.9km az=1.0*
NEIC ***20*** *04:33:00.0±0.8,3641N×7166E,h73km±8km,mb4.4/39, Error ellipse: s-maj=7.3km s-min=4.1km az=55.0*
ISCJB ***20*** *04:33:00.8±0.4,3636N±002×7162E±004,h97km±5km, mb4.3/57,Error ellipse: s-maj=4.9km s-min=3.1km az=156.9*
NNC ***20*** *04:33:07.2±6.3,3686N×7091E,h121km±50km,mb4.1, mpv5.2,Error ellipse: s-maj=57.8km s-min=32.1km az=12.0*
ISC 20 04:33:02.5±0.4,3634N±002×7166E±004,h102km±4km, n219,σ1§27/253,mb4.3/57,18C-16D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.52**	**175**	⇓P	**Pn**	**04 33 45.2**	**+3.2**
CHCP	**Chirah Chowk**	**2.99**	**153**	⇓P	**Pn**	**04 33 51.9**	**+3.8**
SRNI	**Srinagar**	**3.44**	**130**	*ex*	**Sn**	**04 34 38.5**	**+4.3**
SRNI				*ex*	x	04 34 43.5	
SRNI				*ex*	x	04 34 43.5	
THW	**Thamme Wali**	**3.54**	**179**	⇑P	**Pn**	**04 33 57.6**	**+2.0**
SARP	**Sargodha**	**4.49**	**169**	P	**Pn**	**04 34 09.9**	**+1.5**
KSH	**Kashi**	**4.66**	**46**	P	**Pn**	**04 34 14.3**	**+3.7**
KSH				S	**Sn**	**04 35 07.0**	**+3.5**
KSH				Smax			
	comp=N,1μm,0.3s						
KSH				Smax			
	comp=E,685nm,0.4s						
DRP	**Derazinda**	**4.74**	**195**	P	**Pn**	**04 34 13.4**	**+1.6**
DLH	**Dalhousie**	**5.20**	**136**	*e*P	**Pn**	**04 34 21.0**	**+3.0**
DLH				*e*S	**Sn**	**04 35 20.0**	**+3.3**
PONG	**Pong**	**5.64**	**140**	*e*P	**Pn**	**04 34 26.5**	**+2.5**
PONG				*e*S	**Sn**	**04 35 29.5**	**+2.1**
AML	**Almayashu**	**5.99**	**15**	P	**Pn**	**04 34 29.0**	**+0.3**
	SNR=504						
UCH	**Uchtor**	**6.28**	**20**	P	**Pn**	**04 34 33.5**	**+0.9**
	SNR=105						
BHK	**Bhakra**	**6.31**	**140**	*e*P	**Pn**	**04 34 41.9**	**+8.9**
BHK				*e*S	**Sn**	**04 35 50.7**	**+7.1**
KZA	**Kyzart**	**6.37**	**25**	P	**Pn**	**04 34 34.6**	**+0.8**
	SNR=55						
EKS2	**Erkin-Say**	**6.52**	**14**	P	**Pn**	**04 34 36.4**	**+0.5**
	SNR=199						
SDNR	**Sundarnagar**	**6.55**	**136**	*e*P	**Pn**	**04 34 37.5**	**+1.3**
SDNR				*e*S	**Sn**	**04 35 49.5**	**+0.1**
KBK	**Karagaybulak**	**6.80**	**21**	P	**Pn**	**04 34 40.6**	**+1.0**
	SNR=29						
KK31	**Karatay Array**	**6.81**	**353**	⇓P	**Pn**	**04 34 37.9**	**-1.9**
	comp=E,106nm,0.4s,baz=178,slow=13,SNR=1707						
KK31				⇑S	**Sn**	**04 35 49.2**	**-6.6**
	comp=E,37nm,0.4s,baz=190,slow=27,SNR=8.4						
KK31	**Karatay Array**	**6.81**	**353**	*i* PN	**Pn**	**04 34 37.8**	**-2.0**
KK31				pmax	pmax		
	comp=Z,106nm,0.4s						
KK31	**Karatay Array**	**6.81**	**353**	*i* Pn	**Pn**	**04 34 37.8**	**-2.0**
	comp=Z,106nm,0.4s						
KKAR	**Karatay Array**	**6.81**	**353**	*e*PN	**Pn**	**04 34 37.8**	**-2.0**
KKAR				pmax	pmax		
	comp=Z,42nm,0.4s						
KKAR	**Karatay Array**	**6.81**	**353**	*e*Pn	**Pn**	**04 34 37.8**	**-2.0**
	comp=Z,42nm,0.4s						
FRU	**Bishkek**	**6.87**	**19**	⇓*i*PN	**Pn**	**04 34 42.0**	**+1.4**
FRU				*e*S	**Sn**	**04 35 57.0**	**-0.3**
FRU				pmax	pmax		
	comp=Z,130nm,2.0s						
FRU				smax			
	comp=N,800nm,1.8s						
FRU	**Bishkek**	**6.87**	**19**	⇓*i*Pn	**Pn**	**04 34 42.0**	**+1.4**
	comp=N,130nm,2.0s						
FRU				*e*S	**Sn**	**04 35 57.0**	**-0.3**
ULHL	**Ulahol**	**6.88**	**30**	P	**Pn**	**04 34 41.8**	**+1.0**
	SNR=15						
CHMS	**Chumysh**	**7.06**	**19**	P	**Pn**	**04 34 43.8**	**+0.6**
	SNR=59						
TKM2	**Tokmak 2**	**7.24**	**24**	P	**Pn**	**04 34 46.7**	**+1.1**
	SNR=94						
TKM2	**Tokmak 2**	**7.24**	**24**	⇓P	**Pn**	**04 34 46.8**	**+1.2**
	comp=N,68nm,0.6s						
TKM2				⇓S	**Sn**	**04 36 06.6**	**+0.4**
	comp=N,86nm,1.0s						
TKM2	**Tokmak 2**	**7.24**	**24**	*i* PN	**Pn**	**04 34 46.7**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,89nm,0.5s						
TKM2	**Tokmak 2**	**7.24**	**24**	*i* Pn	**Pn**	**04 34 46.7**	**+1.1**
	comp=Z,89nm,0.5s						
USP	**Ospenovka**	**7.25**	**17**	P	**Pn**	**04 34 46.5**	**+0.7**
	SNR=17						
KLP	**Kalpa**	**7.28**	**129**	*e*P	**Pn**	**04 34 46.3**	**+0.1**
KLP				*e*P		04 34 48.0	
KLP				*e*S	**Sn**	**04 36 07.0**	**-0.3**
KLP				*e*S	**Sn**	**04 36 08.7**	**+1.4**
KLP				AML	AML	04 36 15.4	
	comp=N,1μm,0.8s						
KLP				AML	AML	04 36 16.2	
	comp=E,1μm,0.7s						
DDI	**Dehra Dun**	**8.04**	**136**	*e*P	**Pn**	**04 34 57.5**	**+0.9**
DDI				*e*S	**Sn**	**04 36 23.5**	**-2.3**
KHET	**Khetri**	**8.96**	**156**	*e*P	**Pn**	**04 35 07.7**	**-1.4**
KHET				*e*P		04 35 08.9	
KHET				*e*S	**Sn**	**04 36 42.8**	**-5.3**
KHET				*e*S	**Sn**	**04 36 43.0**	**-5.1**
KHET				AML	AML	04 36 48.1	
	comp=E,116nm,0.2s						
KHET				AML	AML	04 36 48.4	
	comp=N,77nm,0.3s						
AYAN	**Aya Nagar**	**9.10**	**148**	*e*P	**Pn**	**04 35 08.7**	**-2.3**
AYAN				*e*P		04 35 10.5	
AYAN				*e*S	**Sn**	**04 36 49.4**	**-2.1**
SONA	**Sohna**	**9.28**	**149**	*e*P	**Pn**	**04 35 12.4**	**-1.0**
SONA				*e*S	**Sn**	**04 36 51.6**	**-4.4**
SONA				*e*S	**Sn**	**04 36 52.3**	**-3.7**
SONA				AML	AML	04 36 59.9	
	comp=E,157nm,0.4s						
SONA				AML	AML	04 37 00.3	
	comp=N,71nm,0.2s						
JASL	**Jaisalmer**	**9.41**	**184**	*e*P	**Pn**	**04 35 09.3**	**-5.8**
PTH	**Pithoragarh**	**9.88**	**131**	*e*P	**Pn**	**04 35 23.0**	**+1.5**
PTH				*e*S	**Sn**	**04 37 07.8**	**-2.6**
LGTI	**Lohaghat**	**9.97**	**131**	*e*P	**Pn**	**04 35 21.7**	**-1.0**
LGTI				*e*S	**Sn**	**04 37 08.5**	**-4.1**
AJM	**Ajmer**	**10.16**	**165**	*i* P	**Pn**	**04 35 25.0**	**-0.3**
AJM				*e*P		04 35 25.6	
AJM				*e*S	**Sn**	**04 37 09.0**	**-8.3**
AJM				*i* S	**Sn**	**04 37 12.0**	**-5.3**
DANN	**Dangsing**	**12.96**	**125**	*e*Pn	**Pn**	**04 36 01.6**	**-1.2**
MK02	**Makanchi Array**	**13.11**	**34**	⇑P	**Pn**	**04 36 03.5**	**-1.1**
	comp=N,5.4nm,0.8s,baz=222,slow=13						
MK31	**Makanchi Array**	**13.12**	**34**	P	**Pn**	**04 36 03.5**	**-1.3**
MK31				pmax	pmax		
	comp=Z,14nm,1.1s						
MK31	**Makanchi Array**	**13.12**	**34**	P	**Pn**	**04 36 03.5**	**-1.3**
	comp=Z,14nm,1.1s						
MKAR	**Makanchi Array**	**13.12**	**34**	P	**Pn**	**04 36 03.1**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=222,slow=11,SNR=38						
MKAR	**Makanchi Array**	**13.12**	**34**	P	**Pn**	**04 36 03.2**	**-1.6**
BHJ	**Bhuj**	**13.16**	**188**	*e*P	**Pn**	**04 36 03.8**	**-1.6**
KOLN	**Koldanda**	**13.24**	**127**	*e*Pn	**Pn**	**04 36 05.7**	**-0.8**
KOLN				*e*Sn	**Sn**	**04 38 26.3**	**-5.9**
	comp=Z,158nm,0.6s						
GKN	**Gorkha**	**13.78**	**123**	*e*Pn	**Pn**	**04 36 12.2**	**-1.2**
GKN				*e*Sn	**Sn**	**04 38 38.2**	**-6.8**
	comp=Z,327nm,0.6s						
DMN	**Daman**	**14.35**	**124**	*e*Pn	**Pn**	**04 36 20.1**	**-0.7**
DMN				*e*Sn	**Sn**	**04 38 51.3**	**-7.5**
	comp=Z,510nm,1.2s						
KKN	**Kakani**	**14.35**	**123**	*e*Pn	**Pn**	**04 36 19.8**	**-1.0**
KKN				*e*Sn	**Sn**	**04 38 51.4**	**-7.4**
	comp=Z,162nm,0.7s						
WMQ	**Urumqi**	**14.36**	**54**	P	**Pn**	**04 36 21.3**	**+0.4**
WMQ				PP		04 36 32.8	
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s						
WMQ				LR	LR		
	comp=N,168nm,4.4s						
WMQ				LR	LR		
	comp=E,133nm,6.4s						
WMQ				LR	LR		
	comp=Z,185nm,5.0s						
PKI	**Pulchoki**	**14.57**	**123**	*e*Pn	**Pn**	**04 36 22.8**	**-0.9**
PKI				*e*Sn	**Sn**	**04 38 56.7**	**-7.6**
	comp=Z,89nm,0.5s						
GUN	**Gumba**	**14.68**	**121**	*e*Pn	**Pn**	**04 36 23.9**	**-1.2**
GUN				*e*Sn	**Sn**	**04 38 59.1**	**-7.8**
JIRN	**Jiri**	**15.05**	**121**	*e*Pn	**Pn**	**04 36 28.9**	**-0.9**
JIRN				*e*Sn	**Sn**	**04 39 08.4**	**-7.5**
	comp=Z,137nm,0.5s						
KURK	**Kurchatov**	**15.22**	**17**	⇑P	**Pn**	**04 36 33.9**	**+2.1**
	comp=Z,5.5nm,0.7s						
KURK	**Kurchatov**	**15.22**	**17**	*e*P	**Pn**	**04 36 28.4**	**-3.4**
AB31	**Akbulak array**	**15.48**	**330**	⇑P	**Pn**	**04 36 29.7**	**-5.5**
	comp=Z,13nm,0.3s						
AB31				⇓S	S	04 39 07.8	-27
	comp=Z,5.2nm,0.5s,baz=152,slow=23,SNR=4.7						
AB31	**Akbulak array**	**15.48**	**330**	P	**Pn**	**04 36 30.1**	**-5.0**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AB31	**Akbulak array**	**15.48**	**330**	P	**Pn**	**04 36 30.1**	**-5.0**
	comp=Z,7.0nm,0.3s						
VOSK	**Vostochnaya**	**16.38**	**359**	⇓P	**Pn**	**04 36 42.8**	**-3.5**
	comp=Z,18nm,0.9s						
BVA0	**Borovoye Array**	**16.70**	**357**	P	**Pn**	**04 36 46.9**	**-3.4**
	comp=Z,2.0nm,0.8s,baz=161,slow=12,SNR=102						
BVA0	**Borovoye Array**	**16.70**	**357**	*i* P	**Pn**	**04 36 46.8**	**-3.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVA0	**Borovoye Array**	**16.70**	**357**	*i* P	**Pn**	**04 36 46.8**	**-3.5**
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**16.70**	**357**	P	**Pn**	**04 36 47.1**	**-3.1**
	comp=Z,1.8nm,0.3s,baz=168,slow=13,SNR=32						
BVAR	**Borovoye Array**	**16.70**	**357**	P	**Pn**	**04 36 47.1**	**-3.2**
ZRNK	**Zerenda**	**16.71**	**354**	⇓P	**Pn**	**04 36 46.7**	**-3.7**
	comp=Z,6.9nm,0.5s						
ZRNK	**Zerenda**	**16.71**	**354**	*e*P	**Pn**	**04 36 47.1**	**-3.3**
ZRNK				pmax	pmax		
	comp=Z,12nm,0.6s						
BANOM	**Banah**	**16.73**	**236**	⇑P	**Pn**	**04 36 48.9**	**-1.8**
BRVK	**Borovoye**	**16.74**	**357**	*e*P	**Pn**	**04 36 47.5**	**-3.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BRVK	**Borovoye**	**16.74**	**357**	*e*P	**Pn**	**04 36 47.5**	**-3.2**
	comp=Z,10.0nm,0.6s						
AKTK	**Aktyubinsk**	**17.18**	**329**	P	**Pn**	**04 36 53.2**	**-2.9**
AKTK				LR	LR	04 43 53.8	
AKTO	**Aktyubinsk**	**17.18**	**329**	⇓P	**Pn**	**04 36 52.4**	**-3.7**
	comp=Z,3.7nm,0.6s						
AKTO				⇑S	**S**	**04 39 48.0**	**-20**
	comp=Z,2.3nm,0.8s						
AKTO	**Aktyubinsk**	**17.18**	**329**	P	**Pn**	**04 36 53.2**	**-2.9**
	comp=Z,6.9nm,0.3s,baz=135,slow=13,SNR=92						
AKTO				LR	LR	04 43 53.8	
	comp=Z,65nm,19.9s,baz=0.0,slow=38						
AKTO	**Aktyubinsk**	**17.18**	**329**	P	**Pn**	**04 36 53.2**	**-2.9**
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,65nm,19.9s						
BOK	**Bokaro**	**17.53**	**132**	*e*P	**Pn**	**04 37 02.0**	**+1.7**
WBK	**Wadi Bani Khal**	**17.56**	**222**	⇓P	**Pn**	**04 37 01.9**	**+1.2**
	SNR=6.0						
LSA	**Lhasa**	**17.63**	**106**	*e*P	**Pn**	**04 37 00.2**	**-1.3**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s						
LSA	**Lhasa**	**17.63**	**106**	*e*Pn	**Pn**	**04 37 00.2**	**-1.4**
	comp=Z,19nm,0.8s						
SMDO	**Samad**	**17.72**	**225**	⇓P	**Pn**	**04 37 02.8**	**+0.1**
ASHO	**Ashiyiah**	**17.74**	**233**	⇑P	**Pn**	**04 37 02.7**	**-0.1**
POO	**Poona**	**17.85**	**173**	*e*P	**Pn**	**04 37 06.0**	**+1.7**
POO				*ex*	x	04 37 23.5	
POO				*e*PPP		04 37 32.5	
POO				*i* x	x	04 40 40.0	
POO				*ex*	x	04 40 46.0	
POO				*i* x	x	04 41 07.5	
POO				*i* SSS		04 41 20.3	
POO				*i* PCP	PcP	04 41 26.0	-9.2
POO				*ex*	x	04 41 48.0	
JMDO	**Jabal Madar**	**18.23**	**224**	⇑P	**P**	**04 37 09.0**	**+1.3**
BSY	**Bisya**	**18.46**	**227**	⇑P	**P**	**04 37 10.4**	**+0.2**
	SNR=7.4						
KAD	**Karad**	**19.09**	**173**	*ex*	**P**	**04 37 26.0**	**+8.9**
HYB	**Hyderabad**	**19.82**	**160**	*i* P	**P**	**04 37 27.0**	**+2.0**
HYB				*e*S	**S**	**04 41 01.0**	**-1.6**
HYB	**Hyderabad**	**19.82**	**160**	*e*P	**P**	**04 37 27.0**	**+2.0**
HYB				*e*S	**S**	**04 40 43.0**	**-20**
ZAL	**Zalesovo**	**19.83**	**23**	P	**P**	**04 37 25.1**	**0.0**
	comp=Z,12nm,0.3s,baz=253,slow=5.9,SNR=48						
ZAL	**Zalesovo**	**19.83**	**23**	*i* P	**P**	**04 37 25.5**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,23nm,0.4s						
NVS	**Novosibirsk**	**20.14**	**20**	*e*P	**P**	**04 37 27.8**	**-0.7**
NVS				*e*S	**S**	**04 41 06.2**	**-2.9**
NVS				pmax	pmax		
	comp=Z,23nm,0.9s						
NVS				pmax	pmax		
	comp=N,17nm,0.9s						
NVS				smax			
	comp=N,26nm,1.8s						
NVS	**Novosibirsk**	**20.14**	**20**	*e*P	**P**	**04 37 27.8**	**-0.7**
	comp=N,23nm,0.9s						
NVS				*e*S	**S**	**04 41 06.2**	**-2.9**
SHL	**Shillong**	**20.36**	**116**	*e*P	**P**	**04 37 33.5**	**+2.6**
SHL				*ex*	x	04 41 07.5	
UMR	**Umm Al-Rimmam**	**21.17**	**258**	*e*P	**P**	**04 37 38.3**	**-1.3**
UMR				AMb	AMB	04 37 39.1	
	comp=Z,55nm,0.4s,mb5.2						
VIS	**Vishakhapatnam**	**21.23**	**148**	*e*P	**P**	**04 37 45.0**	**+4.9**
KBD	**Kabd**	**21.35**	**257**	*e*P	**P**	**04 37 40.2**	**-1.2**
KBD				AMb	AMB	04 37 43.6	
	comp=Z,193nm,0.5s						
MIB	**Mutribah**	**21.37**	**259**	*e*P	**P**	**04 37 40.5**	**-1.2**
MIB				AMb	AMB	04 37 41.5	
	comp=Z,104nm,0.7s,mb5.3						
GNI	**Garni**	**21.44**	**288**	P	**P**	**04 37 43.9**	**+1.4**
	comp=Z,22nm,0.7s,mb4.6,baz=45,slow=13,SNR=11						
GNI	**Garni**	**21.44**	**288**	*e*P	**P**	**04 37 44.1**	**+1.7**
GNI				*e*		04 38 14.2	
GNI				pmax	pmax		
	comp=Z,56nm,1.0s						
GNI	**Garni**	**21.44**	**288**	*e*P	**P**	**04 37 44.1**	**+1.7**
	comp=Z,56nm,1.0s,mb4.8						
GNI				*e*		04 38 14.2	
RDF	**Al-Radifah**	**21.57**	**257**	*e*P	**P**	**04 37 42.4**	**-1.4**
RDF				AMb	AMB	04 37 43.5	
	comp=Z,88nm,0.6s,mb5.2						
NAY	**Al-Naaiem**	**21.67**	**258**	*e*P	**P**	**04 37 43.4**	**-1.5**
NAY				AMb	AMB	04 37 44.5	
	comp=Z,37nm,0.7s,mb4.8						
ARU	**Arti**	**21.95**	**340**	⇑*i*P	**P**	**04 37 46.1**	**-1.8**
ARU				*e*		04 38 21.0	
ARU				*e*S	**S**	**04 41 33.7**	**-10**
ARU				*e*SS		04 42 02.8	
ARU				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.5						
ARU	**Arti**	**21.95**	**340**	⇑*i*P	**P**	**04 37 46.1**	**-1.8**
	comp=Z,22nm,0.9s,mb4.5						
ARU				*e*		04 38 21.0	
ARU				*e*S	**S**	**04 41 33.7**	**-10**
ARU				*e*SS		04 42 02.8	
ZEI	**Tsey**	**22.28**	**295**	*i* P	**P**	**04 37 51.0**	**-0.3**
ZEI				*i* *PP		04 38 14.9	
ZEI				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.5						
ZEI	**Tsey**	**22.28**	**295**	*i* P	**P**	**04 37 51.0**	**-0.3**
ZEI				*i* pP		04 38 14.9	
GTA	**Gaotai**	**22.40**	**74**	*e*P	**P**	**04 37 57.6**	**+5.0**
GTA				AP		04 38 02.3	
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.0						
GOF	**Gofitskoye**	**23.28**	**301**	*e*P	**P**	**04 37 59.0**	**-2.1**
GOF				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.3						
GOF	**Gofitskoye**	**23.28**	**301**	*e*P	**P**	**04 37 59.0**	**-2.1**
	comp=Z,20nm,1.3s,mb4.3						
KIV	**Kislovodsk**	**23.33**	**298**	*e*P	**P**	**04 38 01.9**	**+0.4**
KIV				pmax	pmax		
	comp=Z,23nm,0.6s,mb4.7						
KIV	**Kislovodsk**	**23.33**	**298**	*e*P	**P**	**04 38 01.9**	**+0.4**
	comp=Z,23nm,0.6s,mb4.7						
ABTO	**Aybut**	**24.94**	**226**	⇓P	**P**	**04 38 17.0**	**+0.8**
	SNR=8.8						
MOY	**Mondy**	**25.84**	**44**	*e*P	**P**	**04 38 31.9**	**+7.5**
MALT	**Malatya**	**26.42**	**284**	*e*P	**P**	**04 38 30.4**	**+0.8**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
MALT	**Malatya**	**26.42**	**284**	*e*Pn	**P**	**04 38 30.4**	**+0.9**
	comp=Z,1.3nm,0.6s,mb3.5						
ZAK	**Zakamensk**	**26.70**	**48**	*e*P	**P**	**04 38 37.0**	**+4.9**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.0						
ZAK	**Zakamensk**	**26.70**	**48**	*e*P	**P**	**04 38 37.0**	**+4.9**
	comp=Z,8.0nm,1.7s,mb4.0						
SONM	**Songino Array**	**27.99**	**55**	P	**P**	**04 38 44.8**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=252,slow=9.0,SNR=2.6						
BR131	**Keskin Array S**	**29.98**	**288**	*e*P	**P**	**04 39 01.8**	**+0.5**
	comp=Z,1.1nm,0.6s,mb3.7						
BR131				*e*		04 39 17.1	
BRTR	**Keskin Array B**	**29.98**	**288**	P	**P**	**04 39 01.9**	**+0.7**
	comp=Z,1.1nm,0.6s,mb3.7,baz=97,slow=9.7,SNR=9.3						
OBN	**Obninsk**	**30.40**	**319**	⇑*e*P	**P**	**04 39 03.1**	**-1.9**
OBN				*e*		04 40 02.1	
OBN				*e*SS	SS	04 45 39.7	-32
OBN				pmax	pmax		
	comp=Z,53nm,2.5s,mb4.7						
OBN	**Obninsk**	**30.40**	**319**	⇑*e*P	**P**	**04 39 03.1**	**-1.9**
	comp=Z,53nm,2.5s,mb4.7						
OBN				*e*		04 40 02.1	
OBN				*e*SS	SS	04 45 39.7	-32
AKASG	**Malin Array Be**	**33.45**	**309**	P	**P**	**04 39 31.1**	**-0.6**
	comp=Z,4.9nm,0.6s,mb4.5,baz=80,slow=7.7,SNR=24						
JOF	**Joensuu**	**36.27**	**330**	*e*p	**P**	**04 39 56.3**	**+0.4**
	comp=Z,5.5nm,0.4s,mb4.8						
LVV	**L'vov**	**36.68**	**307**	*e*P	**P**	**04 40 00.1**	**+0.7**
KWP	**Kalwaria**	**37.53**	**306**	*e*P	**P**	**04 40 08.4**	**+1.8**
SUW	**Suwalki**	**37.61**	**314**	P	**P**	**04 40 07.0**	**-0.2**
SUW				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.0						
SUW	**Suwalki**	**37.61**	**314**	P	**P**	**04 40 07.0**	**-0.3**
	comp=Z,23nm,1.0s,mb5.0						
FINES	**FINESS Array B**	**37.91**	**326**	P	**P**	**04 40 09.6**	**-0.1**
	comp=Z,3.9nm,0.3s,mb4.7,baz=120,slow=8.9,SNR=70						
KAF	**Kangasniemi**	**38.04**	**327**	*e*p	**P**	**04 40 10.4**	**-0.5**
	comp=Z,0.3nm,0.2s,mb3.8						
STHS	**Stebnicka Huta**	**38.48**	**306**	*e*P	**P**	**04 40 14.4**	**-0.2**
STHS				*e*		04 41 41.9	
NJ2	**Nanjing**	**38.97**	**82**	*e*P	**P**	**04 40 21.4**	**+2.7**
NJ2				AP	pP	04 40 39.8	-2.3
NJ2				PP	PP	04 41 56.5	+6.6
NJ2				S	**S**	**04 46 15.0**	**+5.2**
NJ2				XS	sS	04 46 46.0	-4.2
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,60nm,6.3s						
NJ2				LR	LR		
	comp=N,170nm,18.2s						
NJ2				LR	LR		
	comp=E,200nm,26.0s						
NJ2				LR	LR		
	comp=Z,240nm,14.1s						
OJC	**Ojcow**	**39.42**	**307**	*e*P	**P**	**04 40 23.1**	**+0.7**
VYHS	**Vyhne**	**40.08**	**305**	*e*P	**P**	**04 40 29.6**	**+1.7**
SNY	**Shenyang**	**40.17**	**66**	PR		04 40 28.3	
SNY				AMB	AMB		
	comp=Z,8.0nm,0.3s,mb5.0						
MORC	**Moravsky Berou**	**40.88**	**307**	*e*P	**P**	**04 40 35.7**	**+1.2**
MORC				*e*		04 42 07.6	
MORC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
MORC	**Moravsky Berou**	**40.88**	**307**	*e*P	**P**	**04 40 35.7**	**+1.2**
	comp=Z,4.2nm,1.0s,mb4.2						
MORC				*e*PP	PP	04 42 07.6	-3.0
GKP	**Gorka Klasztor**	**41.07**	**312**	*e*P	**P**	**04 40 37.0**	**+1.0**
KEV	**Kevo**	**41.14**	**338**	*e*p	**P**	**04 40 34.2**	**-2.4**
	comp=Z,0.6nm,0.3s,mb3.9						
ARCES	**ARCESS Array B**	**41.49**	**337**	P	**P**	**04 40 39.7**	**+0.3**
	comp=Z,6.8nm,0.7s,mb4.6,baz=116,slow=9.2,SNR=26						
ARCES				LR	LR	04 59 36.3	
	comp=Z,35nm,18.0s,baz=186,slow=38						
ARCES	**ARCESS Array B**	**41.49**	**337**	P	**P**	**04 40 39.7**	**+0.3**
ARCES				LR	LR	04 59 36.4	
ARE0	**ARCESS Array S**	**41.49**	**337**	*e*P	**P**	**04 40 40.0**	**+0.5**
DPC	**Dobruska-Polom**	**41.65**	**308**	*e*P	**P**	**04 40 41.7**	**+1.0**
DPC				AMS	AMS	04 42 20.0	
UPC	**Upice**	**41.84**	**308

CABF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CABF La Chapelle 48.88 304 *e*P **P 04 41 39.3 +1.4**
comp=Z,2.5nm,0.6s,mb4.3
KMBO Kilima Mbogo 49.12 228 P **P 04 41 39.8 +0.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=177,slow=6.7,SNR=3.4
KMBO Kilima Mbogo 49.12 228 *e*P **P 04 41 41.9 +2.2**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 49.12 228 *e*P **P 04 41 41.9 +2.2**
comp=Z,0.6nm,0.4s,mb3.9
KMBO *e*pP pP 04 41 48.8 -15
ORIF Oris-en-Rattie 49.41 301 *e*P **P 04 41 41.9 0.0**
VIVF Saint-Julien-I 50.26 302 *e*P **P 04 41 47.8 -0.5**
SMF Signal de Mont 50.38 304 *e*P **P 04 41 48.6 -0.6**
comp=Z,7.1nm,0.7s,mb4.4
SMF Signal de Mont 50.38 304 *e*P **P 04 41 48.6 -0.6**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SMF Signal de Mont 50.38 304 *e*P **P 04 41 48.6 -0.6**
comp=Z,3.5nm,0.7s,mb4.4
AVF Avril sur Loir 50.67 304 *e*P **P 04 41 50.6 -0.8**
comp=Z,5.3nm,0.6s,mb4.4
AVF Avril sur Loir 50.67 304 *e*P **P 04 41 50.6 -0.8**
AVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AVF Avril sur Loir 50.67 304 *e*P **P 04 41 50.6 -0.8**
comp=Z,2.7nm,0.6s,mb4.5
LDF La Druitiere 52.49 307 *e*P **P 04 42 04.6 -0.4**
EPF Esparros 53.78 301 *e*P **P 04 42 14.2 -0.3**
ETSF Etsaut 54.45 301 *e*P **P 04 42 19.4 +0.1**
comp=Z,6.0nm,0.6s,mb4.5
ETSF Etsaut 54.45 301 *e*P **P 04 42 19.4 +0.1**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ETSF Etsaut 54.45 301 *e*P **P 04 42 19.4 +0.1**
comp=Z,3.0nm,0.6s,mb4.5
DAG Danmarks Havn 55.03 344⇑ *i*P **P 04 42 24.1 +0.6**
comp=Z,4.0nm,0.6s,mb4.6
DAG Danmarks Havn 55.03 344⇑ *i*P **P 04 42 24.1 +0.6**
DAG pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ESDC Sonseca Array 58.00 298 P **P 04 42 43.6 -0.9**
comp=Z,0.4nm,0.4s,mb3.8,baz=53,slow=7.6,SNR=8.5
SUMG Summit 61.38 341 *e*P **P 04 43 09.5 +1.8**
comp=Z,8.8nm,1.0s,mb4.7
LSZ Lusaka 65.73 227 *e*P **P 04 43 36.7 +0.4**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
LSZ Lusaka 65.73 227 *e*P **P 04 43 36.7 +0.3**
comp=Z,2.3nm,0.6s,mb4.2
TORD Torodi Ar. Bea 66.24 269 P **P 04 43 37.1 -2.5**
comp=Z,2.6nm,0.5s,mb4.3,baz=49,slow=5.7,SNR=73
RES Resolute Bay 68.89 356 *e*P **P 04 43 56.7 +0.4**
RES pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
RES Resolute Bay 68.89 356 *e*P **P 04 43 56.7 +0.4**
comp=Z,70nm,1.1s,mb5.4
INK Inuvik 73.97 9 *e*P **P 04 44 27.3 +0.5**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 73.97 9 *e*P **P 04 44 27.3 +0.5**
comp=Z,52nm,0.5s
ILAR Eielson Array 74.78 16 P **P 04 44 31.4 -0.1**
comp=Z,0.8nm,1.0s,mb3.4,baz=304,slow=5.5,SNR=5.3
LBTB Lobatse 74.92 223 *e*P **P 04 44 33.1 +0.8**
LBTB pmax pmax
comp=Z,11nm,1.1s,mb4.5
LBTB Lobatse 74.92 223 *e*P **P 04 44 33.1 +0.8**
comp=Z,11nm,1.1s,mb4.5
DBIC Dimbokro 75.22 267 P **P 04 44 32.4 -1.6**
comp=Z,1.2nm,0.5s,mb3.9,baz=30,slow=7.8,SNR=4.5
BOSA Boshof 77.97 221 P **P 04 44 49.0 -0.4**
comp=Z,4.5nm,0.7s,mb4.3,baz=52,slow=6.9,SNR=9.1
BOSA Boshof 77.97 221 *e*P **P 04 44 49.7 +0.2**
BOSA pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
BOSA Boshof 77.97 221 *e*P **P 04 44 49.7 +0.2**
comp=Z,7.2nm,0.9s,mb4.4
KDAK Kodiak Island 79.14 22 LR LR 05 22 51.0
comp=Z,330nm,18.4s,baz=14,slow=38
YKA Yellowknife Ar 81.38 3 P **P 04 45 07.8 -0.1**
comp=Z,0.9nm,0.5s,mb3.9,baz=348,slow=5.3,SNR=27
YKA Yellowknife Ar 81.38 3 P **P 04 45 07.8 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 81.46 122 P **P 04 45 10.2 +1.8**
comp=Z,0.6nm,0.6s,mb3.6,baz=326,slow=4.9,SNR=5.6
WRA Warramunga Arr 81.46 122 *i* P **P 04 45 12.8 +4.4**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 81.46 122 *e*P **P 04 45 09.6 +1.2**
WRAB pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
WRAB Tennant Creek 81.46 122 *e*P **P 04 45 09.6 +1.3**
comp=Z,0.9nm,0.4s,mb4.0
SCHQ Schefferville 82.45 337 P **P 04 45 13.6 +0.1**
comp=Z,3.2nm,0.9s,mb4.1,baz=323,slow=5.1,SNR=3.3
SCHQ Schefferville 82.45 337 *e*P **P 04 45 14.0 +0.5**
comp=Z,4.5nm,0.9s,mb4.3
ASAR Alice Springs 83.73 125 P **P 04 45 20.6 +0.4**
comp=Z,0.7nm,0.8s,mb3.6,baz=310,slow=5.1,SNR=9.5
ASAR Alice Springs 83.73 125 P **P 04 45 20.6 +0.5**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
FCC Fort Churchill 84.50 353 *e*P **P 04 45 25.3 +1.2**
FCC pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
FCC Fort Churchill 84.50 353 *e*P **P 04 45 25.3 +1.2**
comp=Z,1.2nm,0.8s,mb3.9

*JMA **20** 05:06:01.2±0.3,2585N×125.14E,h19km±4km,M3.1*
*ISCJB **20** 05:06:03.2±2.3,2577N±0.10×1252E±0.1,h30km±17km, mb3.4/4,Error ellipse: s-maj=22.1km s-min=9.0km az=82.0*
*IDC **20** 05:06:08.1±4.4,2588N×12579E,h44km±44km,mb3.2/4, mb1 3.3/5,mb1mx3.2/21,mbtmp3.5/5,ML2.3/1,Error ellipse: s-maj=44.7km s-min=25.3km az=63.0*
ISC 20 05:06:01.6±2.7,2581N±006×12519E±009,h14km±19km, n13,σ1§04/17,mb3.4/4,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.99**	**174**	P	**Pb**	**05 06 20.2**	**-0.4**
JMJ				S	**Sb**	**05 06 33.8**	**+0.3**
JOGS	**Gusukube**	**1.06**	**169**	P	**Pb**	**05 06 21.4**	**-0.3**
JOGS				S	**Sb**	**05 06 36.0**	**+0.5**
JTJ	**Tarama**	**1.24**	**201**	P	**Pn**	**05 06 23.7**	**-0.8**
JKE	**Kume jima 2**	**1.53**	**70**	P	**Pn**	**05 06 28.3**	**-0.2**
JIJ	**Ishigaki jima**	**1.72**	**214**	P	**Pn**	**05 06 30.8**	**-0.3**
JIJ				*e*S	**Sn**	**05 06 51.0**	**-1.9**
JKRS	**Kuro-shima**	**1.89**	**215**	P	**Pn**	**05 06 34.3**	**+0.8**
JKRS				*e*S	**Sn**	**05 06 56.8**	**-0.3**
IRIF	**Iriomote-Funau**	**1.97**	**222**	P	**Pn**	**05 06 35.0**	**+0.4**
HATJ	**Hateruma jima**	**2.15**	**216**	P	**Pn**	**05 06 38.0**	**+1.0**
JOW	**Kunigami**	**2.95**	**69**	P	**Pn**	**05 06 45.5**	**-2.6**
	1.1nm,0.3s,baz=140,slow=26,SNR=2.9						
SONM	**Songino Array**	**26.50**	**331**	P	**P**	**05 11 43.3**	**+4.7**
	1.2nm,1.0s,mb3.4,baz=145,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**39.80**	**313**	P	**P**	**05 13 39.6**	**+5.5**
	0.3nm,0.6s,mb3.2,baz=92,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**49.90**	**170**	P	**P**	**05 14 57.1**	**+2.5**
	0.3nm,0.5s,mb3.6,baz=352,slow=11,SNR=6.6						
YKA	**Yellowknife Ar**	**80.04**	**24**	P	**P**	**05 18 11.2**	**+0.5**
	0.4nm,0.9s,mb3.3,baz=305,slow=5.6,SNR=6.0						

*BJI **20** 05:11:58.9,5131N×178.19W,h40km,mB4.9,mb4.8,Ms4.4, Msz4.2*
*ISCJB **20** 05:11:59.4±0.3,5141N±007×17861W±004,h30km, mb4.5/50,MS3.9/6,Error ellipse: s-maj=10.7km s-min=3.6km az=173.6*
*NEIC **20** 05:12:01.1±0.4,5141N×17853W,mb4.5/23,ML4.5(AEIC), Error ellipse: s-maj=12.1km s-min=5.1km az=177.0*
*MOS **20** 05:12:03.0±1.0,5154N×17856W,h60km,mb4.7/8,Error ellipse: s-maj=11.4km s-min=9.4km az=77.6*
*IDC **20** 05:12:03.2±2.3,5153N×17858W,h50km±20km,mb3.9/21, mb1 4.1/23,mb1mx4.1/26,mbtmp4.2/23,ML3.8/2,MS3.7/4, Ms1 3.7/4,ms1mx3.2/32,Error ellipse: s-maj=19.3km s-min=11.7km az=162.0*
ISC 20 05:12:01.4±0.3,5146N±007×17859W±004,h32km, h32km±.5km:pP-P,n106,σ1§14/106,mb4.5/50,MS3.9/6,

Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.26**	**69**	P	**Pn**	**05 12 23.3**	**+0.6**
ADK				S	**Sn**	**05 12 39.9**	**+1.3**
ATKA	**Atka Island**	**2.83**	**73**	P	**Pn**	**05 12 44.8**	**+0.6**
ATKA				S	**Sn**	**05 13 19.1**	**+1.9**
SMY	**Shemya**	**4.69**	**289**	*e*Pn	**Pn**	**05 13 13.0**	**+3.2**
SMY				*e*Sn	**Sn**	**05 14 06.7**	**+3.6**
FX1	**Attu Island--F**	**5.27**	**289**	P	**Pn**	**05 13 20.6**	**+2.8**
	4.5nm,0.3s,baz=269,slow=24,SNR=24						
FX1	**Attu Island--F**	**5.27**	**289**	P	**Pn**	**05 13 20.6**	**+2.7**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
FX1	**Attu Island--F**	**5.27**	**289**	*e*Pn	**Pn**	**05 13 21.0**	**+3.1**
FX1				*e*Sn	**Sn**	**05 14 17.2**	**-0.3**
UNV	**Unalaska Valle**	**7.73**	**67**	P	**Pn**	**05 13 55.4**	**+3.7**
KDAK	**Kodiak Island**	**16.27**	**57**	P	**Pn**	**05 15 45.9**	**-1.6**
	comp=Z,2.3nm,0.3s,baz=145,slow=13,SNR=22						
SLKM	**Skilak Lake**	**18.14**	**49**	*e*P	**Pn**	**05 16 11.7**	**+1.0**
SLKM				S	**Sn**	**05 19 33.0**	**+0.8**
BILL	**Bilibino**	**18.20**	**342**	*e*P	**Pn**	**05 16 14.1**	**+2.6**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BILL	**Bilibino**	**18.20**	**342**	*e*P	**Pn**	**05 16 14.1**	**+2.6**
	comp=Z,8.8nm,1.0s						
SEY	**Seymchan**	**19.28**	**318**	*e*P	**Pn**	**05 16 25.6**	**+1.1**
SEY				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SEY				pmax	pmax		
	comp=E,9.0nm,1.0s						
COLA	**College**	**20.77**	**38**	*e*P	**P**	**05 16 40.7**	**+1.1**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
COLA	**College**	**20.77**	**38**	*e*P	**P**	**05 16 40.7**	**+1.1**
	comp=Z,7.2nm,0.8s						
ILAR	**Eielson Array**	**21.10**	**39**	P	**P**	**05 16 42.0**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=241,slow=8.8,SNR=29						
ILAR				PcP	PcP	05 20 46.6	-2.0
	comp=Z,0.8nm,0.6s,baz=286,slow=3.6,SNR=14						
ILAR				ScP	ScP	05 24 21.1	-1.9
	comp=Z,0.3nm,0.6s,baz=273,slow=3.7,SNR=6.0						
ILAR	**Eielson Array**	**21.10**	**39**	P	**P**	**05 16 42.0**	**-1.1**
ILAR						05 20 46.6	
INK	**Inuvik**	**27.32**	**35**	P	**P**	**05 17 41.8**	**-1.4**
	comp=Z,1.1nm,0.4s,mb3.8,baz=249,slow=7.3,SNR=26						
INK				PcP	PcP	05 21 00.8	-1.2
	comp=Z,1.2nm,0.9s,baz=278,slow=1.8,SNR=9.7						
INK				LR	LR	05 29 36.2	
	comp=Z,96nm,18.8s,MS3.4,baz=266,slow=39						
INK	**Inuvik**	**27.32**	**35**	*e*P	**P**	**05 17 42.8**	**-0.4**
INK				*e**SP	sP	05 17 56.2	-0.1
INK						05 21 00.9	
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**27.32**	**35**	*e*P	**P**	**05 17 42.8**	**-0.4**
	comp=Z,1.2nm,0.4s,mb3.8						
INK				*e*pP	pP	05 17 52.5	+0.1
INK				*e*sP	sP	05 17 56.2	-0.2
INK				PcP	PcP	05 21 00.9	-1.2
KLR	**Kul'dur**	**31.29**	**286**	*e*P	**P**	**05 18 15.2**	**-3.1**
MJAR	**Matsushiro Arr**	**33.93**	**261**	P	**P**	**05 18 42.1**	**+0.7**
	comp=Z,3.7nm,0.7s,mb4.4,baz=49,slow=7.3,SNR=7.4						
MDJ	**Mudanjiang**	**34.69**	**279**	P	**P**	**05 18 48.5**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,137nm,5.4s						
YKA	**Yellowknife Ar**	**35.08**	**47**	P	**P**	**05 18 50.2**	**-1.3**
	comp=Z,0.9nm,0.5s,mb3.9,baz=276,slow=9.5,SNR=25						
YKA				PcP	PcP	05 21 22.1	-0.6
	comp=Z,0.8nm,0.6s,baz=292,slow=2.8,SNR=14						
YKA	**Yellowknife Ar**	**35.08**	**47**	P	**P**	**05 18 50.2**	**-1.3**
YKA				PcP	PcP	05 21 22.1	-0.6
CN2	**Changchun**	**37.66**	**281**	*e*P	**P**	**05 19 12.8**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
HAWA	**Hanford**	**38.22**	**74**	*e*P	**P**	**05 19 18.4**	**+0.3**
	comp=Z,0.4nm,0.6s						
HAWA				*e*pP	pP	05 19 27.5	0.0
HAWA				*e*sP	sP	05 19 32.6	+1.2
EDM	**Edmonton**	**38.66**	**61**	*e*P	**P**	**05 19 21.2**	**-0.7**
NEW	**Newport**	**38.73**	**70**	*e*P	**P**	**05 19 22.3**	**-0.2**
NEW				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NEW	**Newport**	**38.73**	**70**	*e*P	**P**	**05 19 22.3**	**-0.2**
	comp=Z,10nm,0.8s,mb4.6						
NEW				*e*pP	pP	05 19 31.4	-0.5
YBH	**Yreka Blue Hor**	**38.74**	**82**	P	**P**	**05 19 23.9**	**+1.3**
	comp=Z,3.0nm,0.8s,mb4.1,baz=328,slow=6.6,SNR=4.8						
JNU	**Nakatsue**	**40.71**	**263**	P	**P**	**05 19 40.1**	**+1.2**
	comp=Z,5.4nm,0.4s,mb4.5,baz=336,slow=12,SNR=4.1						
WVOR	**Wild Horse Val**	**40.86**	**78**	*e*P	**P**	**05 19 40.7**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
WVOR	**Wild Horse Val**	**40.86**	**78**	*e*P	**P**	**05 19 40.7**	**+0.6**
	comp=Z,7.2nm,0.8s,mb4.3						
WVOR				*e*pP	pP	05 19 49.7	0.0
MSO	**Missoula**	**41.32**	**70**	*e*P	**P**	**05 19 43.6**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.0						
MSO				*e*pP	pP	05 19 52.4	-1.0
MSO				*e*sP	sP	05 19 56.6	-0.7
HRY	**Holter Researc**	**42.62**	**69**	*e*P	**P**	**05 19 54.2**	**-0.4**
HRY				pP	pP	05 20 03.5	-0.5
MCMT	**McKenzie Canyo**	**43.03**	**72**	*e*P	**P**	**05 19 57.6**	**-0.3**
MCMT				*e*pP	pP	05 20 08.0	+0.6
EGMT	**Eagleton**	**43.13**	**66**	*e*P	**P**	**05 19 58.1**	**-0.6**
	comp=Z,3.8nm,0.7s,mb4.2						
EGMT				*e*pP	pP	05 20 06.0	-2.3
EGMT				*e*sP	sP	05 20 10.5	-1.6
BOZ	**Bozeman (W)**	**43.30**	**70**	*e*P	**P**	**05 19 59.9**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
BOZ	**Bozeman (W)**	**43.30**	**70**	*e*P	**P**	**05 19 59.9**	**-0.2**
	comp=Z,7.8nm,0.6s,mb4.6						
BOZ				*e*pP	pP	05 20 08.9	-0.8
NVAR	**Mina Array Bea**	**43.41**	**83**	P	**P**	**05 20 01.6**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.5,baz=274,slow=6.6,SNR=6.2						
ELK	**Elko**	**43.91**	**78**	*e*P	**P**	**05 20 05.2**	**+0.2**
ELK				*e**SP	sP	05 20 17.9	-0.5
ELK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ELK	**Elko**	**43.91**	**78**	*e*P	**P**	**05 20 05.2**	**+0.2**
	comp=Z,3.9nm,0.7s,mb4.2						
ELK				*e*pP	pP	05 20 14.3	-0.2
ELK				*e*sP	sP	05 20 17.9	-0.5
GCMT	**Greycliff**	**44.38**	**69**	*e*P	**P**	**05 20 08.8**	**0.0**
GCMT				*e*pP	pP	05 20 17.4	-0.8
LKWY	**Lake**	**44.63**	**71**	*e*P	**P**	**05 20 11.9**	**+1.2**
LKWY				*e**SP	sP	05 20 24.6	+0.5
LKWY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
LKWY	**Lake**	**44.63**	**71**	*e*P	**P**	**05 20 11.9**	**+1.2**
	comp=Z,3.7nm,0.7s,mb4.3						
LKWY				*e*pP	pP	05 20 20.7	+0.4
LKWY				*e*sP	sP	05 20 24.6	+0.5
FLWY	**Flagg Ranch**	**44.72**	**72**	*e*P	**P**	**05 20 12.2**	**+0.7**
	comp=Z,4.8nm,0.8s,mb4.4						
FLWY				*e*pP	pP	05 20 21.2	+0.2
PDAR	**Pinedale Array**	**46.16**	**72**	P	**P**	**05 20 22.7**	**-0.2**
	comp=Z,4.6nm,0.5s,mb4.7,baz=330,slow=3.2,SNR=65						
DAU	**Daniels Canyon**	**46.54**	**76**	*e*P	**P**	**05 20 26.5**	**+0.6**
DAU				*e*pP	pP	05 20 35.4	0.0
DAU				sP	sP	05 20 39.5	+0.2
SONM	**Songino Array**	**46.73**	**297**	P	**P**	**05 20 27.9**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=66,slow=6.3,SNR=7.1						
SONM				PcP	PcP	05 22 00.6	+0.2
	comp=Z,1.3nm,0.5s,baz=90,slow=1.9,SNR=8.2						
SONM				LR	LR	05 41 03.5	
	comp=Z,98nm,19.1s,MS3.8,baz=356,slow=37						
SONM	**Songino Array**	**46.73**	**297**	P	**P**	**05 20 27.9**	**+0.6**
SONM						05 22 00.6	
MSU	**Marysvale**	**47.15**	**79**	*e*P	**P**	**05 20 31.0**	**+0.4**
MSU				*e*pP	pP	05 20 39.8	-0.4
TMUT	**Trail Mountain**	**47.25**	**77**	*e*P	**P**	**05 20 31.8**	**+0.4**
TMUT				*e*pP	pP	05 20 41.0	0.0
SRU	**San Rafael**	**47.78**	**77**	*e*P	**P**	**05 20 35.6**	**+0.1**
SRU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
SRU	**San Rafael**	**47.78**	**77**	*e*P	**P**	**05 20 35.6**	**0.0**
	comp=Z,8.0nm,0.9s,mb4.8						
SRU				*e*pP	pP	05 20 45.7	+0.5
HHC	**Hu-ho-hao-te**	**47.80**	**286**	*e*P	**P**	**05 20 36.8**	**+1.2**
HHC				PCP	PcP	05 22 05.8	+1.6
HHC				PP	PP	05 22 29.0	+1.5
HHC				S	**S**	**05 27 25.3**	**-4.8**
HHC				SCS	ScS	05 30 19.8	-6.8
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,173nm,4.3s						
HHC				LR	LR		
	comp=N,154nm,4.7s						
HHC				LR	LR		
	comp=E,549nm,5.5s						
HHC				LR	LR		
	comp=Z,235nm,4.9s						
SSE	**Sheshan**	**48.13**	**269**	P	**P**	**05 20 39.4**	**+1.2**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,108nm,5.9s						
NJ2	**Nanjing**	**48.94**	**272**	*e*P	**P**	**05 20 48.3**	**+3.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
ULM	**Lac du Bonnet**	**49.53**	**57**	P	**P**	**05 20 47.6**	**-1.4**
	comp=Z,0.7nm,0.3s,mb4.2,baz=234,slow=5.4,SNR=3.4						
SMCO	**Snowmass**	**49.90**	**75**	*e*P	**P**	**05 20 51.6**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.4						
SMCO				*e*		05 21 41.3	
ISCO	**Idaho Springs**	**50.32**	**73**	*e*P	**P**	**05 20 55.4**	**+0.4**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ISCO	**Idaho Springs**	**50.32**	**73**	*e*P	**P**	**05 20 55.4**	**+0.4**
	comp=Z,1.7nm,0.7s,mb4.2						
ISCO				*e*pP	pP	05 21 03.4	-1.2
LZH	**Lanzhou**	**55.49**	**286**	*e*P	**P**	**05 21 33.5**	**+0.4**
LZH				AP	pP	05 21 42.8	-0.1
LZH				XP	sP	05 21 46.5	-0.2
LZH				PP	PP	05 23 39.0	+1.8
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,81nm,4.2s						
LZH				LR	LR		
	comp=N,307nm,15.1s						
LZH				LR	LR		
	comp=Z,365nm,18.3s,MS4.5						
GTA	**Gaotai**	**55.66**	**292**	P	**P**	**05 21 35.0**	**+0.7**
GTA				PP	PP	05 23 41.1	+2.4
GTA				S	**S**	**05 29 13.5**	**-4.8**
GTA				SS	SS	05 32 59.8	-3.9
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,74nm,6.5s						
GTA				LR	LR		
	comp=N,87nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=E,142nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=Z,103nm,19.8s,MS3.9						
ARCES	**ARCESS Array B**	**58.04**	**350**	P	**P**	**05 21 49.9**	**-1.3**
	comp=Z,7.0nm,1.0s,mb4.7,baz=27,slow=8.2,SNR=21						
CD2	**Chengdu**	**59.09**	**282**	*e*P	**P**	**05 21 59.5**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
WMQ	**Urumqi**	**59.41**	**303**	*e*P	**P**	**05 22 04.9**	**+4.2**
WMQ				AP	pP	05 22 15.0	+4.4
WMQ				XP	sP	05 22 18.9	+4.6
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,42nm,4.6s						
MKAR	**Makanchi Array**	**60.09**	**308**	P	**P**	**05 22 03.1**	**-2.3**
	comp=Z,0.4nm,0.5s,mb3.7,baz=46,slow=5.2,SNR=6.8						
MKAR				PcP	PcP	05 22 50.1	-0.9
	comp=Z,0.5nm,0.5s,baz=22,slow=4.5,SNR=4.7						
ZRNK	**Zerenda**	**61.53**	**320**	*e*P	**P**	**05 22 13.4**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
ZRNK	**Zerenda**	**61.53**	**320**	*e*P	**P**	**05 22 13.4**	**-1.7**
	comp=Z,1.6nm,0.4s,mb4.5						
OXF	**Oxford**	**63.43**	**67**	*e*P	**P**	**05 22 26.9**	**-1.0**
OXF				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.5						
OXF	**Oxford**	**63.43**	**67**	*e*P	**P**	**05 22 26.9**	**-0.9**
	comp=Z,34nm,0.9s,mb5.5						
OXF				*e*pP	pP	05 22 36.2	-1.6
JOF	**Joensuu**	**63.56**	**345**	*e*p	**P**	**05 22 27.8**	**-0.9**
	comp=Z,0.6nm,0.4s,mb4.0						
PLAL	**Pickwick Lake**	**63.86**	**66**	*e*P	**P**	**05 22 29.4**	**-1.3**
	comp=Z,14nm,0.8s,mb5.0						
SWET	**Sewanee**	**64.91**	**65**	*e*P	**P**	**05 22 36.4**	**-1.2**
SWET				*e*pP	pP	05 22 45.9	-1.6
KAF	**Kangasniemi**	**65.06**	**347**	*e*p	**P**	**05 22 36.2**	**-2.4**
	comp=Z,0.8nm,0.3s,mb4.2						
KAF	**Kangasniemi**	**65.06**	**347**	*e*P	**P**	**05 22 36.2**	**-2.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
TZTN	**Tazewell**	**65.28**	**62**	*e*P	**P**	**05 22 39.8**	**-0.2**
FINES	**FINESS Array B**	**65.74**	**347**	P	**P**	**05 22 41.3**	**-1.7**
	comp=Z,0.9nm,0.4s,mb4.2,baz=23,slow=8.7,SNR=14						
NOA	**NORSAR Array B**	**67.58**	**355**	P	**P**	**05 22 53.3**	**-1.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=351,slow=5.0,SNR=3.1						
COW	**Cow Castle Cre**	**69.19**	**62**	P	**P**	**05 23 05.0**	**+0.3**
GUN	**Gumba**	**71.95**	**292**	*e*P	**P**	**05 23 23.2**	**+1.6**
	comp=Z,173nm,0.5s						
KKN	**Kakani**	**72.39**	**292**	*e*P	**P**	**05 23 25.5**	**+1.3**
	comp=Z,68nm,0.6s						
KKN	**Kakani**	**72.39**	**292**	*e*P	**P**	**05 23 25.5**	**+1.3**
KKN				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.5						
PKI	**Pulchoki**	**72.48**	**292**	*e*P	**P**	**05 23 25.9**	**+1.1**
	comp=Z,51nm,0.6s,mb5.6						
PKI	**Pulchoki**	**72.48**	**292**	*e*P	**P**	**05 23 25.9**	**+1.1**
PKI				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.3						
GKN	**Gorkha**	**72.60**	**293**	*e*P	**P**	**05 23 26.4**	**+0.9**
	comp=Z,68nm,0.7s						
DMN	**Daman**	**72.62**	**292**	*e*P	**P**	**05 23 27.0**	**+1.4**
	comp=Z,49nm,0.8s,mb5.5						
KOLN	**Koldanda**	**73.37**	**294**	*e*P	**P**	**05 23 30.9**	**+0.9**
	comp=Z,29nm,0.8s,mb5.2						
AKASG	**Malin Array Be**	**75.52**	**342**	P	**P**	**05 23 41.2**	**-1.3**
	comp=Z,1.6nm,0.4s,mb4.3,baz=18,slow=6.1,SNR=8.8						
AKASG	**Malin Array Be**	**75.52**

s-min=14.4km az=136.0
*NEIC **20** 05:49:45.9±0.3, 15.30S×173.43W, h10km, mb4.7/10, Error ellipse: s-maj=15.7km s-min=6.9km az=138.0*
ISC 20 05:49:46.2±0.4, 153S±01×173.4W±01, h10km, n43, σ0.9 77/35, mb4.5/18, MS3.6/5, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.15**	**49**	Pn	**Pn**	**05 50 18.7**	**-3.2**
	533nm,0.3s,baz=121,slow=0.7,SNR=606						
AFI				Sn	**Sn**	**05 50 39.2**	**-9.4**
	802nm,0.3s,baz=55,slow=20,SNR=18						
AFI				LR	LR	05 51 01.6	
	comp=Z,1μm,21.6s,baz=160,slow=37						
AFI	**Afiamalu**	**2.15**	**49**	*e*Pn	**Pn**	**05 50 18.6**	**-3.4**
AFI				Sn	**Sn**	**05 50 39.2**	**-9.4**
DZM	**Mont Dzumac**	**20.18**	**248**	P	**P**	**05 54 22.0**	**+1.2**
	2.6nm,0.8s,baz=16,slow=20,SNR=3.1						
DZM				LR	LR	05 59 03.4	
	comp=Z,70nm,21.4s,MS3.0,baz=206,slow=28						
NOU	**Noumea**	**20.24**	**247**	*e*P	**P**	**05 54 27.7**	**+6.2**
PPT	**Papeete**	**23.00**	**99**	*e*LR	LR	05 59 48.1	
	288nm,28.0s						
PPT	**Papeete**	**23.00**	**99**	LR	LR	06 01 51.5	
	comp=Z,86nm,21.6s,MS3.2,baz=102,slow=32						
TBI	**Tubuai**	**23.97**	**113**	*e*LR	LR	06 00 19.9	
	205nm,29.0s						
URZ	**Urewera**	**24.31**	**198**	P	**P**	**05 55 02.6**	**-1.2**
	8.1nm,0.4s,mb4.5,baz=360,slow=3.5,SNR=17						
RKT	**Rikitea**	**37.06**	**108**	*e*LR	LR	06 06 21.4	
	111nm,27.8s						
STKA	**Stephens Creek**	**44.03**	**240**	*e*P	**P**	**05 57 52.5**	**-1.5**
	4.5nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**44.03**	**240**	P	**P**	**05 57 52.6**	**-1.4**
	5.3nm,0.9s,mb4.3,baz=64,slow=6.6,SNR=11						
STKA	**Stephens Creek**	**44.03**	**240**	*e*P	**P**	**05 57 52.3**	**-1.7**
WB2	**Warramunga Arr**	**49.81**	**257**	*e*P	**P**	**05 58 39.0**	**-0.1**
WRAB	**Tennant Creek**	**49.81**	**257**	*e*P	**P**	**05 58 39.4**	**+0.3**
	4.4nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**49.82**	**257**	P	**P**	**05 58 38.7**	**-0.5**
	3.5nm,0.6s,mb4.5,baz=92,slow=7.4,SNR=21						
ASAR	**Alice Springs**	**50.09**	**252**	P	**P**	**05 58 41.6**	**+0.3**
	14nm,1.0s,mb4.9,baz=90,slow=8.1,SNR=66						
SBA	**Scott Base**	**63.31**	**185**	*e*P	**P**	**06 00 14.5**	**-0.8**
	8.8nm,1.1s,mb4.8						
VNDA	**Vanda**	**63.44**	**186**	P	**P**	**06 00 17.0**	**+1.0**
	2.2nm,0.9s,mb4.3,baz=22,slow=5.9,SNR=4.2						
VNDA	**Vanda**	**63.44**	**186**	*e*P	**P**	**06 00 16.4**	**+0.3**
	1.9nm,0.8s,mb4.3						
YBH	**Yreka Blue Hor**	**73.57**	**37**	P	**P**	**06 01 19.6**	**+0.2**
	4.5nm,0.9s,mb4.4,baz=273,slow=2.5,SNR=10						
NVAR	**Mina Array Bea**	**74.31**	**42**	P	**P**	**06 01 23.8**	**+0.1**
	1.4nm,0.7s,mb4.0,baz=231,slow=12,SNR=9.4						
NVAR				LR	LR	06 26 25.4	
	comp=Z,59nm,19.2s,MS3.9,baz=155,slow=30						
NVAR	**Mina Array Bea**	**74.31**	**42**	P	**P**	**06 01 23.8**	**+0.1**
NVAR				LR	LR	06 26 25.4	
QSPA	**South Pole Qui**	**74.71**	**180**	*e*P	**P**	**06 01 26.8**	**+0.7**
	9.2nm,0.8s,mb4.8						
MOD	**Modoc**	**75.09**	**38**	*e*P	**P**	**06 01 28.3**	**+0.1**
	7.8nm,1.2s,mb4.5						
WVOR	**Wild Horse Val**	**76.41**	**38**	*e*P	**P**	**06 01 35.7**	**-0.1**
	4.4nm,1.0s,mb4.3						
TMUT	**Trail Mountain**	**79.45**	**44**	*e*P	**P**	**06 01 53.8**	**+1.1**
TMUT				*e*PcP	PcP	06 01 59.4	-1.4
HLID	**Hailey**	**79.60**	**39**	*e*P	**P**	**06 01 53.9**	**+0.4**
	6.7nm,1.0s,mb4.5						
TCUT	**Toone Canyon**	**80.23**	**43**	*e*P	**P**	**06 01 57.2**	**+0.3**
GDL2	**Guadalupe Moun**	**81.21**	**53**	*e*P	**P**	**06 02 02.7**	**+0.5**
MCMT	**McKenzie Canyo**	**81.23**	**39**	*e*P	**P**	**06 02 02.5**	**+0.2**
QLMT	**Earthquake Lak**	**82.09**	**39**	*e*P	**P**	**06 02 07.4**	**+0.6**
FLWY	**Flagg Ranch**	**82.17**	**40**	*e*P	**P**	**06 02 07.5**	**+0.3**
	9.8nm,1.1s,mb4.7						
FLWY				*e*PcP	PcP	06 02 13.5	+0.9
PDAR	**Pinedale Array**	**82.24**	**42**	P	**P**	**06 02 06.9**	**-0.7**
	1.9nm,0.9s,mb4.0,baz=233,slow=2.6,SNR=12						
PDAR				LR	LR	06 31 40.2	
	comp=Z,60nm,20.5s,MS3.9,baz=36,slow=31						
SMCO	**Snowmass**	**82.29**	**46**	*e*P	**P**	**06 02 08.3**	**+0.4**
	6.2nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**82.39**	**11**	P	**P**	**06 02 07.1**	**-1.3**
	0.5nm,0.6s,mb3.6,baz=230,slow=6.3,SNR=15						
HRY	**Holter Researc**	**82.82**	**38**	*e*P	**P**	**06 02 10.3**	**-0.3**
PMSA	**Palmer Station**	**84.25**	**156**	*e*P	**P**	**06 02 18.4**	**+0.4**
	18nm,0.8s,mb5.2						
ULM	**Lac du Bonnet**	**93.91**	**39**	LR	LR	06 39 10.1	
	comp=Z,61nm,19.4s,MS4.1,baz=294,slow=32						
KMBO	**Kilima Mbogo**	**145.53**	**244**	PKPbc	PKPbc	06 09 26.0	+1.3
	1.2nm,0.5s,baz=43,slow=5.5,SNR=5.0						
MLR	**Muntele Rosu**	**145.79**	**335**	PKPbc	PKPbc	06 09 26.6	+1.2
	1.9nm,0.6s,baz=172,slow=13,SNR=3.6						
GERES	**GERESS Array B**	**146.07**	**352**	PKPbc	PKPbc	06 09 26.4	+0.1
	0.5nm,0.7s,baz=22,slow=4.6,SNR=4.4						
BR131	**Keskin Array S**	**146.08**	**321**	*e*PKPbc	PKPbc	06 09 27.6	+1.2
BRTR	**Keskin Array B**	**146.08**	**321**	PKPbc	PKPbc	06 09 27.6	+1.3
	3.3nm,0.9s,baz=119,slow=2.9,SNR=15						

*NEIC **20** 06:32:06.6±0.7, 4.40N×94.84E, h30km, mb4.3/7, Error ellipse: s-maj=22.5km s-min=7.3km az=44.0*
*ISCJB **20** 06:32:07.7±0.7, 4.6N±01×95.09E±008, h49km, mb4.2/17, Error ellipse: s-maj=16.7km s-min=7.4km az=65.0*
*IDC **20** 06:32:08.9±1.0, 4.44N×94.83E, h49km±7km, mb3.7/9, mb1 3.9/10, mb1mx3.7/22, mbtmp4.0/10, MS2.8/1, Ms1 2.8/1, ms1mx2.2/15, Error ellipse: s-maj=39.1km s-min=11.3km az=40.0*
ISC 20 06:32:10.0±0.7, 4.6N±01×95.07E±007, h51km, h51km±1.0km: pP-P, n25, σ0.9 85/27, mb4.2/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.23**	**115**	P	**Pn**	**06 33 13.8**	**+1.9**
	2.2nm,0.3s,baz=318,slow=14,SNR=9.0						
PSI				S	**Sn**	**06 34 06.3**	**+6.4**
	2.0nm,0.3s,baz=37,slow=18,SNR=3.5						
PSI				LR	LR	06 35 06.3	
	comp=Z,118nm,20.1s,baz=44,slow=40						
PSI	**Prapat**	**4.23**	**115**	P	**Pn**	**06 33 13.8**	**+1.9**
PSI				S	**Sn**	**06 34 06.3**	**+6.4**
PSI				LR	LR	06 35 06.3	
KULM	**Kulim**	**5.60**	**83**	*e*Pn	**Pn**	**06 33 31.1**	**+0.4**
KULM				*e*Sn	**Sn**	**06 34 33.0**	**-0.7**
JIRN	**Jiri**	**24.46**	**341**	*e*P	**P**	**06 37 24.7**	**+0.7**
	4.8nm,0.3s,mb4.3						
GUN	**Gumba**	**24.80**	**340**	*e*P	**P**	**06 37 28.6**	**+1.5**
KKN	**Kakani**	**24.89**	**339**	*e*P	**P**	**06 37 29.3**	**+1.4**
LSA	**Lhasa**	**25.26**	**352**	*e*P	**P**	**06 37 32.3**	**+1.0**
	7.1nm,0.4s,mb4.5						
GKN	**Gorkha**	**25.32**	**338**	*e*P	**P**	**06 37 32.2**	**+0.4**
	12nm,0.7s,mb4.5						
KOLN	**Koldanda**	**25.52**	**336**	*e*P	**P**	**06 37 33.7**	**+0.1**
	11nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**43.48**	**347**	P	**P**	**06 40 08.1**	**-0.1**
	4.1nm,0.6s,mb4.4,baz=167,slow=8.3,SNR=75						
MKAR				PcP	PcP	06 41 56.0	+0.6
	0.5nm,1.1s,baz=174,slow=5.8,SNR=2.1						
MKAR	**Makanchi Array**	**43.48**	**347**	P	**P**	**06 40 08.1**	**-0.1**
MKAR				PcP	PcP	06 41 56.0	+0.6
SONM	**Songino Array**	**44.18**	**11**	P	**P**	**06 40 12.9**	**-0.8**
	0.5nm,0.6s,mb3.5,baz=193,slow=8.4,SNR=7.2						
SONM				PcP	PcP	06 41 57.7	0.0
	0.4nm,0.5s,baz=192,slow=3.5,SNR=4.4						
WRA	**Warramunga Arr**	**45.64**	**124**	P	**P**	**06 40 25.1**	**-0.2**
	1.0nm,0.6s,mb4.0,baz=302,slow=9.2,SNR=6.0						
WRAB	**Tennant Creek**	**45.65**	**124**	*e*P	**P**	**06 40 25.1**	**-0.2**
	2.8nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**45.65**	**124**	*e*P	**P**	**06 40 25.3**	**-0.1**
ASAR	**Alice Springs**	**47.13**	**128**	P	**P**	**06 40 36.8**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=302,slow=8.1,SNR=11						
ASAR				pP	pP	06 40 50.2	-0.6
	1.1nm,0.6s,baz=300,slow=8.0,SNR=8.1						
KURK	**Kurchatov**	**48.01**	**346**	*e*P	**P**	**06 40 43.7**	**-0.2**
	1.2nm,0.3s,mb4.4						
ZAL	**Zalesovo**	**49.91**	**352**	P	**P**	**06 40 58.5**	**0.0**
	1.7nm,0.5s,mb4.3,baz=315,slow=5.2,SNR=8.2						
BVAR	**Borovoye Array**	**52.38**	**341**	P	**P**	**06 41 16.8**	**-0.2**
	2.5nm,0.7s,mb4.3,baz=144,slow=8.9,SNR=13						
BRVK	**Borovoye**	**52.45**	**341**	*e*P	**P**	**06 41 16.1**	**-1.3**
	1.3nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**52.77**	**340**	*e*P	**P**	**06 41 19.1**	**-0.7**
	1.2nm,0.5s,mb4.1						
BRTR	**Keskin Array B**	**65.28**	**312**	pP	pP	06 43 00.8	0.0
	0.9nm,0.6s,baz=123,slow=6.8,SNR=5.0						
FINES	**FINESS Array B**	**76.04**	**332**	P	**P**	**06 43 50.1**	**-1.8**
	0.4nm,0.4s,mb3.7,baz=101,slow=6.0,SNR=5.7						
FINES				pP	pP	06 44 04.7	-1.8
	0.6nm,0.5s,baz=72,slow=6.2,SNR=2.7						
ARCES	**ARCESS Array B**	**78.66**	**340**	P	**P**	**06 44 05.5**	**-1.0**
	6.3nm,1.1s,mb4.5,baz=97,slow=6.6,SNR=8.9						
GERES	**GERESS Array B**	**80.89**	**319**	P	**P**	**06 44 18.9**	**+0.3**
	0.2nm,0.2s,mb3.6,baz=94,slow=5.4,SNR=2.8						
GERES				pP	pP	06 44 32.7	-0.6
	0.8nm,0.5s,baz=99,slow=8.2,SNR=4.1						

*ATH **20** 06:46:31.5, 37.92N×26.76E, h12km±3km, MD3.5/5*
*NEIC **20** 06:46:31.5, 37.92N×26.76E, h12km, MD3.5(ATH), ML3.2(ISK), After ATH.*
*ISCJB **20** 06:46:32.4±0.4, 37.89N±002×26.81E±004, h24km±5km, Error ellipse: s-maj=5.7km s-min=3.8km az=153.2*
*CSEM **20** 06:46:32.0±0.1, 37.93N×26.84E, h25km, MD3.5, Error ellipse: s-maj=2.7km s-min=2.1km az=83.0*
*ISK **20** 06:46:32.3, 37.93N×26.88E, h29km, MD3.3*
ISC 20 06:46:32.1±0.4, 37.88N±002×26.80E±004, h15km±3km, n34, σ0.9 98/50, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.17**	**171**	*i*PG	**Pg**	**06 46 36.3**	**0.0**
SMG				*e*SG	**Sg**	**06 46 39.2**	**+0.1**
URLA	**Izmir**	**0.51**	**341**	*i* P	**Pg**	**06 46 42.0**	**-0.1**
URLA				*i* S	**Sg**	**06 46 50.0**	**+1.0**
IZM	**Izmir**	**0.63**	**35**	*i* PG	**Pg**	**06 46 44.2**	**-0.3**
IZM				*i* SG	**Sg**	**06 46 52.9**	**0.0**
IZM	**Izmir**	**0.63**	**35**	Pg	**Pg**	**06 46 44.3**	**-0.2**
IZM				Sg	**Sg**	**06 46 52.3**	**-0.6**
KDAG	**Bornova**	**0.64**	**35**	*i* P	**Pg**	**06 46 44.5**	**-0.2**
KDAG				*i* S	**Sg**	**06 46 54.6**	**+1.5**
AYDN	**Tasoluk**	**0.88**	**104**	*i* P	**Pb**	**06 46 48.8**	**-0.2**
AYDN				*i* S	**Sb**	**06 47 01.6**	**+1.0**
BODT	**Bodrum**	**0.91**	**153**	PG	**Pg**	**06 46 49.9**	**+0.2**
BODT				SG	**Sg**	**06 47 02.4**	**+0.8**
BODT	**Bodrum**	**0.91**	**153**	Pg	**Pg**	**06 46 49.1**	**-0.5**
BODT				Sg	**Sg**	**06 47 02.1**	**+0.5**
MLSB	**Milas**	**0.97**	**127**	PG	**Pg**	**06 46 51.1**	**+0.3**
MLSB				SG	**Sg**	**06 47 02.6**	**-0.9**
MLSB	**Milas**	**0.97**	**127**	Pg	**Pg**	**06 46 50.6**	**-0.2**
MLSB				Sg	**Sg**	**06 47 02.6**	**-0.8**
NISR	**Nisiros**	**1.29**	**168**	*e*PB	**Pb**	**06 46 57.0**	**+1.0**
APE	**Apeiranthos**	**1.29**	**232**	*e*PN	**Pn**	**06 46 55.5**	**-0.1**
APE	**Apeiranthos**	**1.29**	**232**	*e*PG	**Pg**	**06 46 55.4**	**-1.6**
APE				*e*SB	**Sb**	**06 47 14.3**	**+1.7**
DAT	**Datca**	**1.30**	**151**	*e*PN	**Pn**	**06 46 54.9**	**-0.8**
YER	**Yerkesik**	**1.39**	**122**	*e*PN	**Pn**	**06 46 56.6**	**-0.3**
YER	**Yerkesik**	**1.39**	**122**	Pn	**Pn**	**06 46 56.7**	**-0.3**
PRK	**Paraskevi**	**1.43**	**343**	*e*PB	**Pb**	**06 46 58.0**	**-0.4**
PRK				*e*SB	**Sb**	**06 47 16.3**	**-0.1**
AYVA	**Ayvalik**	**1.43**	**357**	*i* P	**Pn**	**06 46 58.8**	**+1.3**
AYVA				*i* S	**Sn**	**06 47 20.1**	**+4.1**
MANT	**Manisa**	**1.51**	**66**	*i* P	**Pn**	**06 46 59.8**	**+1.2**
MANT				*i* S	**Sn**	**06 47 21.6**	**+3.5**
MANT	**Manisa**	**1.51**	**66**	*i* P	**Pn**	**06 46 59.8**	**+1.2**
MANT				*i* S	**Sn**	**06 47 21.5**	**+3.4**
DENT	**Denizli**	**1.77**	**93**	*e*PN	**Pn**	**06 47 01.8**	**-0.4**
DENT	**Denizli**	**1.77**	**93**	Pn	**Pn**	**06 47 01.6**	**-0.6**
BALB	**Balikesir**	**1.95**	**25**	*e*PN	**Pn**	**06 47 03.9**	**-0.8**
BALB	**Balikesir**	**1.95**	**25**	Pn	**Pn**	**06 47 03.1**	**-1.6**
EZN	**Ezine**	**1.98**	**349**	*e*PN	**Pn**	**06 47 04.4**	**-0.7**
EZN	**Ezine**	**1.98**	**349**	Pn	**Pn**	**06 47 04.1**	**-1.0**
BTOK	**Tokmak**	**2.11**	**27**	*i* P	**Pn**	**06 47 10.0**	**+3.1**
BTOK				*i* S	**Sn**	**06 47 40.8**	**+7.9**
DST	**Dursunbey**	**2.24**	**39**	*e*PN	**Pn**	**06 47 08.0**	**-0.6**
LIA	**Limnos Island**	**2.38**	**328**	*e*PN	**Pn**	**06 47 11.8**	**+1.2**
LPK	**Lapseki**	**2.49**	**359**	*e*PN	**Pn**	**06 47 11.1**	**-1.0**
EDC	**Edincik**	**2.60**	**18**	Pn	**Pn**	**06 47 12.9**	**-0.6**
BNT	**Bandirma**	**2.62**	**19**	Pn	**Pn**	**06 47 12.8**	**-1.1**
KCT	**Karacabey**	**2.67**	**26**	*e*PN	**Pn**	**06 47 12.6**	**-2.0**
KCT	**Karacabey**	**2.67**	**26**	Pn	**Pn**	**06 47 13.5**	**-1.1**

IDC 20 07:15:10.5±65.0, 17.30S×177.23W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=1211.0km s-min=173.1km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.91**	**241**	P	P	07 22 46.7	+0.5
	1.1nm,0.4s,baz=75,slow=8.3,SNR=3.9						
WRA	**Warramunga Arr**	**45.85**	**259**	P	P	07 23 34.4	0.0
	0.5nm,0.3s,baz=96,slow=7.4,SNR=3.4						
ASAR	**Alice Springs**	**46.04**	**254**	P	P	07 23 36.4	+0.5
	3.3nm,0.5s,baz=89,slow=8.1,SNR=64						

*CSEM **20** 07:24:28.4±0.8, 38.66N×29.66W, h5km, ML2.2, Error ellipse: s-maj=13.8km s-min=6.2km az=14.0, After PDA*
*PDA **20** 07:24:28.4±0.8, 38.66N×29.66W, h5km, MD3.5, ML2.2, Error ellipse: s-maj=13.8km s-min=6.2km az=14.0*
SVSA 20 07:24:28.4±0.8, 38.66N×29.66W, h5km, MD3.5, ML2.2, Error ellipse: s-maj=13.8km s-min=6.2km az=14.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.68**	**96**	*e*P	Pg	07 24 40.9	-0.6
PTCA				*i* S	Sg	07 24 49.0	-1.3
PTCA							
	44nm,0.2s						
PTCA	**Ponta do Capel**	**0.68**	**96**	*e*P	Pg	07 24 40.9	-0.6
PTCA				*i* S	Sg	07 24 49.0	-1.3
PCED	**Cedros**	**0.75**	**92**	*e*P	Pg	07 24 40.7	-2.1
PCED				*e*S	Sg	07 24 49.9	-2.7
PCED							
	101nm,0.2s						
PCED	**Cedros**	**0.75**	**92**	*e*P	Pg	07 24 40.7	-2.1
PCED				*e*S	Sg	07 24 49.9	-2.7
CALA	**Caldeira**	**0.75**	**95**	*e*S	Sg	07 24 50.2	-2.5
HOR	**Horta**	**0.82**	**99**	*e*S	Sg	07 24 51.4	-3.3
PCND	**Candelaria**	**0.96**	**101**	*e*S	Sg	07 24 55.0	-4.2
PCND							
	16nm,0.2s						
PICO	**Pico**	**0.98**	**99**	*e*P	Pg	07 24 43.6	-3.6
PICO				*e*S	Sg	07 24 55.9	-4.0
PBOI	**Pico dos Bois**	**1.03**	**102**	*e*S	Sg	07 24 57.0	-4.5
PBOI							
	17nm,0.1s						
ROSA	**Rosais**	**1.11**	**86**	*e*P	Pg	07 24 45.6	-4.1
ROSA				*e*S	Sg	07 24 58.8	-5.3
PAMA	**Santo Amaro**	**1.16**	**88**	*e*S	Sg	07 25 01.6	-4.1
PAMA							
	23nm,0.2s						
PID	**Ribeirinha**	**1.23**	**100**	*e*S	Sg	07 25 01.5	-6.3
PMAN	**Manadas**	**1.23**	**91**	*e*S	Sg	07 25 01.6	-6.4
PMAN							
	30nm,0.2s						

ISC 20 07:40:15.2±1.5, 36.3N±01×41.86E±007, h10km, n11, σ0.9 94/13, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.99**	**91**	*e*x	x	07 40 38.5	
MSL				*e*x	x	07 40 54.0	
MARD	**Mardin**	**1.32**	**319**	*i* P	**Pn**	**07 40 38.3**	**-1.4**
MARD				*i* S	**Sb**	**07 40 57.8**	**+0.7**
BEST	**Besiri**	**1.65**	**344**	*i* P	**Pn**	**07 40 43.3**	**-0.9**
BEST				*i* S	**Sn**	**07 41 04.8**	**-0.6**
CUKT	**Cukurca**	**1.69**	**56**	PN	**Pn**	**07 40 43.8**	**-0.9**
CUKT				SN	**Sn**	**07 41 07.6**	**+1.2**
BTMT	**Batman**	**1.90**	**351**	PN	**Pn**	**07 40 46.7**	**-1.0**
URFA	**Urfa**	**2.68**	**296**	*e*PN	**Pn**	**07 40 58.3**	**-0.1**
ELZG	**Elazig**	**3.16**	**314**	*i* P	**Pn**	**07 41 12.6**	**+7.5**
MALT	**Malatya**	**3.39**	**307**	*e*PN	**Pn**	**07 41 09.2**	**+1.1**
MYA	**Malataya**	**3.40**	**307**	*e*PN	**Pn**	**07 41 09.3**	**+1.1**
GZT	**Gaziantep**	**3.60**	**288**	*i* P	**Pn**	**07 41 19.6**	**+8.5**
EZM	**Erzurum**	**3.61**	**354**	*e*P	**Pn**	**07 41 12.0**	**+0.8**

*TEH **20** 07:47:20.2, 32.31N×55.84E, h16km, ML4.5*
*IDC **20** 07:47:43.9±1.8, 32.49N×55.66E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, ML3.7/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/22, Error ellipse: s-maj=41.7km s-min=19.4km az=163.0*

*THR **20** 07:47:44.6±0.5, 32.50N×55.99E, h17km±6km, ML4.7*
*MOS **20** 07:47:44.3±1.4, 32.43N×55.70E, h10km, mb4.4/3, Error ellipse: s-maj=15.9km s-min=10.8km az=104.3*
*CSEM **20** 07:47:45.2±0.1, 32.40N×55.84E, h16km, mb4.3/3, Error ellipse: s-maj=3.0km s-min=2.2km az=14.0*
*ISCJB **20** 07:47:46.1±1.5, 32.43N±005×55.85E±006, h24km±13km, mb3.9/13, MS3.4/6, Error ellipse: s-maj=9.2km s-min=7.3km az=93.5*
*NEIC **20** 07:47:46.7, 32.31N×55.84E, h16km, mb4.0/5, ML4.7(THR), MN4.5(TEH), After TEH.*
ISC 20 07:47:45.4±1.6, 32.40N±005×55.89E±005, h8km±12km, n66, σ1.9 21/62, mb3.9/13, MS3.4/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.86**	**199**	*e*Pg	**Pg**	**07 48 00.6**	**-1.3**
IBAF	**Bafgh**	**0.86**	**199**	Pg	**Pg**	**07 48 00.5**	**-1.4**
ICHK	**Chekchek**	**1.27**	**263**	*e*Pn	**Pn**	**07 48 07.6**	**-1.8**
ICHK				*e*Lg		07 48 25.3	
ICHK	**Chekchek**	**1.27**	**263**	Pn	**Pn**	**07 48 07.5**	**-1.9**
ICHK				Lg		07 48 25.3	
IMEH	**Mehriz**	**1.48**	**227**	*e*Pn	**Pn**	**07 48 12.5**	**+0.1**
IMEH	**Mehriz**	**1.48**	**227**	Pn	**Pn**	**07 48 12.4**	**0.0**
ISAD	**Sadrabad**	**1.93**	**256**	*e*Pn	**Pn**	**07 48 18.1**	**-0.4**
KRBR	**Kerman**	**2.53**	**163**	*e*PN	**Pn**	**07 48 28.2**	**+1.5**
KRBR				*e*SG	**Sg**	**07 49 05.9**	**-0.7**
KRBR				AML	AML	07 49 11.8	
	comp=E,3μm,0.8s						
KRBR				AML	AML	07 49 12.4	
	comp=N,4μm,0.7s						
KRBR	**Kerman**	**2.53**	**163**	*e*Pn	**Pn**	**07 48 28.2**	**+1.5**
	SNR=52						
KRBR				*e*Sg	**Sg**	**07 49 05.9**	**-0.7**
	SNR=91						
KRBR	**Kerman**	**2.53**	**163**	Pn	**Pn**	**07 48 28.0**	**+1.3**
KRBR				Sg	**Sg**	**07 49 05.0**	**-1.6**
NASN	**Na'in**	**2.63**	**279**	*e*PN	**Pn**	**07 48 29.9**	**+1.8**
NASN				AML	AML	07 49 10.0	
	comp=N,3μm,0.5s						
NASN	**Na'in**	**2.63**	**279**	Pn	**Pn**	**07 48 29.0**	**+0.8**
IZEF	**Zefreh**	**3.04**	**280**	*e*Pn	**Pn**	**07 48 34.5**	**+0.7**
IGLO	**Galoogah**	**4.37**	**334**	*e*Pn	**Pn**	**07 48 53.5**	**+1.4**
IGLO	**Galoogah**	**4.37**	**334**	Pn	**Pn**	**07 48 53.4**	**+1.3**
DAMV	**Damavand**	**4.58**	**316**	*e*PN	**Pn**	**07 48 55.0**	**+0.1**
DAMV				AML	AML	07 50 32.5	
	comp=E,346nm,0.6s						
DAMV	**Damavand**	**4.58**	**316**	*e*Pn	**Pn**	**07 48 55.0**	**+0.1**
	SNR=52						
GHIR	**Ghir-Karzin**	**4.81**	**212**	*e*PN	**Pn**	**07 49 00.1**	**+2.0**
GHIR	**Ghir-Karzin**	**4.81**	**212**	Pn	**Pn**	**07 49 00.0**	**+1.9**
BNDS	**Bandar-Abbas**	**4.99**	**177**	*e*PN	**Pn**	**07 49 02.5**	**+1.8**
BNDS	**Bandar-Abbas**	**4.99**	**177**	Pn	**Pn**	**07 49 02.0**	**+1.4**
ZHSF	**Zahedan**	**5.03**	**122**	*e*PN	**Pn**	**07 49 01.6**	**+0.5**
CHTH	**Charan**	**5.27**	**313**	*e*PN	**Pn**	**07 49 05.1**	**+0.6**
ASAO	**Ashtian**	**5.35**	**295**	*e*PN	**Pn**	**07 49 06.6**	**+1.1**
ASAO				*e*SG	**Sg**	**07 50 31.5**	**-5.6**
THKV	**Tehran--Karaj**	**5.43**	**312**	*e*PN	**Pn**	**07 49 07.2**	**+0.5**
THKV				AML	AML	07 50 52.7	
	comp=E,308nm,0.6s						
THKV				AML	AML	07 50 53.2	
	comp=N,314nm,0.5s						
THKV	**Tehran--Karaj**	**5.43**	**312**	Pn	**Pn**	**07 49 07.0**	**+0.3**
SNGE	**Sanandaj**	**7.60**	**293**	*e*PN	**Pn**	**07 49 37.8**	**+1.4**
BHD	**Baghdad**	**9.72**	**278**	*ex*	x	07 49 48.0	
MSL	**Mosul**	**11.27**	**294**	*ex*	x	07 50 26.0	
GNI	**Garni**	**11.85**	**314**	LR	LR	07 55 42.7	
	comp=N,281nm,19.5s,baz=350,slow=41						
GNI	**Garni**	**11.85**	**314**	*e*P	**Pn**	**07 50 36.0**	**+1.3**
GNI	**Garni**	**11.85**	**314**	*e*Pn	**Pn**	**07 50 36.0**	**+1.3**
MALT	**Malatya**	**15.41**	**297**	*e*P	**Pn**	**07 51 23.5**	**+0.4**
MALT				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MALT	**Malatya**	**15.41**	**297**	*e*P	**Pn**	**07 51 23.5**	**+0.4**
	comp=Z,4.0nm,1.1s						
MALT	**Malatya**	**15.41**	**297**	*e*P	**Pn**	**07 51 23.5**	**+0.4**
	comp=Z,4.1nm,1.1s					

3.3nm,0.6s
FITZ eS Sn 07 58 01.4 -8.7
FITZ Fitzroy Crossi 11.45 148 P Pn 07 56 04.1 +0.1
0.4nm,0.3s,baz=327,slow=14,SNR=11
FITZ S Sn 07 58 01.1 -9.0
1.2nm,0.3s,baz=338,slow=19,SNR=8.9
WRA Warramunga Arr 18.54 130 P Pn 07 57 34.9 -0.4
0.3nm,0.3s,baz=304,slow=13,SNR=18
WRA S S 08 00 51.7 -10
0.2nm,0.3s,baz=301,slow=22,SNR=5.4
WB2 Warramunga Arr 18.55 130 eP Pn 07 57 35.0 -0.4
ASAR Alice Springs 20.64 139 P P 07 57 57.5 +0.2
1.2nm,0.5s,baz=309,slow=9.6,SNR=15
ASAR S S 08 01 44.4 +0.3
0.8nm,0.6s,baz=318,slow=25,SNR=3.8
SONM Songino Array 57.14 350 P P 08 03 03.9 +1.0
1.1nm,0.5s,mb4.1,baz=167,slow=7.5,SNR=14
MKAR Makanchi Array 64.06 333 P P 08 03 49.0 -0.9
0.8nm,0.5s,mb3.6,baz=145,slow=7.1,SNR=12
TORD Torodi Ar. Bea 118.64 280 PKP PKPdf 08 12 01.2 -2.1
0.2nm,0.5s,baz=90,slow=1.9,SNR=4.1

IDC 20 08:05:51.7±69.0, 1813S×17942W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=1259.0km s-min=154.8km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.69**	**241**	P	P	08 13 08.3	-0.4
0.7nm,0.4s,baz=107,slow=13,SNR=6.8							
WB2	**Warramunga Arr**	**43.64**	**260**	eP	P	08 13 58.2	+0.3
WRA	**Warramunga Arr**	**43.65**	**260**	P	P	08 13 57.9	-0.1
0.3nm,0.3s,baz=94,slow=7.6,SNR=9.4							
ASAR	**Alice Springs**	**43.81**	**254**	P	P	08 14 00.6	+1.2
2.6nm,0.6s,baz=88,slow=8.0,SNR=40							
ASPA	**Alice Springs**	**43.81**	**254**	eP	P	08 14 00.8	+1.5

IDC 20 08:08:09.6±10.0, 2583S×17964W, h482km±58km, mb3.2/3, mb1 3.4/5, mb1mx3.2/14, mbtmp4.2/5, Error ellipse: s-maj=171.1km s-min=40.7km az=69.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.70**	**192**	P	P	08 10 55.6	+0.1
1.3nm,0.3s,baz=96,slow=6.2,SNR=11							
URZ				S	S	08 13 12.4	-0.1
0.7nm,0.3s,baz=94,slow=20,SNR=12							
DZM	**Mont Dzumac**	**13.26**	**283**	P	P	08 11 02.1	+0.5
0.2nm,0.3s,baz=82,slow=15,SNR=5.1							
STKA	**Stephens Creek**	**34.35**	**251**	P	P	08 14 14.2	-0.8
0.8nm,0.3s,baz=87,slow=10,SNR=4.0							
ASAR	**Alice Springs**	**42.08**	**263**	P	P	08 15 18.5	+0.4
2.0nm,0.4s,baz=89,slow=7.5,SNR=40							
ASPA	**Alice Springs**	**42.08**	**263**	eP	P	08 15 18.6	+0.4
WB2	**Warramunga Arr**	**42.62**	**268**	eP	P	08 15 22.3	-0.1
WRA	**Warramunga Arr**	**42.64**	**268**	P	P	08 15 23.0	+0.5
2.2nm,0.5s,baz=103,slow=8.1,SNR=24							

*ISCJB **20** 08:50:34.3±1.0, 35S±01.1×1416E±01.1, h33km, mb3.5/4, MS3.0/1, Error ellipse: s-maj=19.9km s-min=15.5km az=45.8*
*IDC **20** 08:50:40.0±9.6, 357S×14180E, h75km±101km, mb3.2/4, mb1 3.5/6, mb1mx3.3/16, mbtmp3.6/6, ML3.4/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/11, Error ellipse: s-maj=83.7km s-min=28.6km az=139.0*
ISC 20 08:50:36.3±3.1, 34S±02×1416E±01, h36km±31km, n11, σ0°66/10, mb3.5/4, MS3.0/1, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.14**	**138**	P	Pn	08 52 32.3	+0.4
0.4nm,0.3s,baz=295,slow=19,SNR=1.8							
KAKA	**Kakadu**	**12.96**	**224**	eP	Pn	08 53 37.5	-0.4
12nm,0.4s							
CTA	**Charters Tower**	**17.21**	**165**	LR	LR	09 01 12.7	
comp=Z,91nm,20.4s,baz=48,slow=37							
WB2	**Warramunga Arr**	**17.91**	**203**	eP	Pn	08 54 42.8	+0.3
WRA	**Warramunga Arr**	**17.91**	**203**	P	Pn	08 54 41.8	-0.7
0.4nm,0.3s,baz=22,slow=12,SNR=19							
FITZ	**Fitzroy Crossi**	**21.41**	**226**	eP	P	08 55 26.2	+5.2
3.0nm,0.6s,mb3.8							
FITZ	**Fitzroy Crossi**	**21.41**	**226**	P	P	08 55 22.7	+1.7
1.1nm,0.8s,mb3.3,baz=65,slow=17,SNR=3.3							
FITZ				LR	LR	09 04 09.2	
comp=Z,67nm,19.9s,MS3.0,baz=235,slow=38							
ASAR	**Alice Springs**	**21.49**	**200**	P	P	08 55 21.4	-0.4
0.4nm,0.4s,mb3.1,baz=27,slow=11,SNR=9.5							
ASPA	**Alice Springs**	**21.49**	**200**	eP	P	08 55 22.0	+0.2
BVAR	**Borovoye Array**	**81.52**	**325**	P	P	09 02 50.7	+0.7
0.5nm,0.3s,mb3.9,baz=116,slow=6.8,SNR=4.7							
ILAR	**Eielson Array**	**85.26**	**24**	P	P	09 03 08.4	-0.9
0.4nm,0.7s,mb3.7,baz=266,slow=4.5,SNR=6.8							

IDC 20 08:54:34.2±1.5, 3514N×8938E, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.6/23, mbtmp3.5/8, ML3.1/3, Error ellipse: s-maj=57.4km s-min=21.0km az=66.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.81**	**338**	Pn	Pn	08 57 35.6	-1.9
0.1nm,0.3s,baz=163,slow=14,SNR=5.0							
SONM	**Songino Array**	**17.93**	**40**	P	Pn	08 58 45.0	+0.1
0.0nm,0.3s,baz=230,slow=12,SNR=11							
ZAL	**Zalesovo**	**19.07**	**352**	P	Pn	08 58 56.8	-2.0
0.2nm,0.3s,baz=306,slow=14,SNR=5.9							
BVAR	**Borovoye Array**	**22.37**	**329**	P	P	08 59 34.3	+0.5
0.7nm,0.7s,baz=134,slow=13,SNR=4.7							
WRA	**Warramunga Arr**	**69.43**	**135**	P	P	09 05 44.6	+0.5
0.4nm,0.5s,baz=330,slow=6.5,SNR=7.5							
ILAR	**Eielson Array**	**71.18**	**22**	P	P	09 05 55.5	+0.6
0.8nm,0.9s,baz=314,slow=6.1,SNR=7.0							
ASAR	**Alice Springs**	**72.12**	**138**	P	P	09 06 00.3	-0.1
0.5nm,0.9s,baz=321,slow=6.3,SNR=4.1							
YKA	**Yellowknife Ar**	**80.80**	**11**	P	P	09 06 48.3	-1.4
0.4nm,0.7s,baz=332,slow=5.3,SNR=5.3							

*NIED **20** 09:22:00, 3450N×13640E, h360km, Mw4.1 Best double couple: M0:1.82000×10^15 NP1:φs=337.00000°, δ88.00000°, λ-93.00000°. NP2:φs=206.00000°, δ3.00000°, λ-41.00000°.*
*ISCJB **20** 09:22:48.9±0.3, 3437N±005×13643E±005, h366km±2km, mb3.8/27, Error ellipse: s-maj=8.3km s-min=5.8km az=117.1*
*BJI **20** 09:22:48.5, 3456N×13667E, h384km, mB5.2, mb4.5*
*MOS **20** 09:22:48.1±0.6, 3430N×13640E, h362km, mb3.7/9, Error ellipse: s-maj=17.0km s-min=10.3km az=86.3*
*NEIC **20** 09:22:49.6±0.3, 3434N×13644E, h360km±3km, mb4.0/15, Error ellipse: s-maj=6.6km s-min=5.1km az=139.0*
*JMA **20** 09:22:49.8±0.1, 3449N×13640E, h363km±1km, M4.0*
*IDC **20** 09:22:50.1±0.9, 3437N×13647E, h363km±9km, mb3.3/11, mb1 3.5/16, mb1mx3.4/26, mbtmp4.1/16, Error ellipse: s-maj=14.0km s-min=11.1km az=97.0*
ISC 20 09:22:49.9±0.3, 3440N±005×13643E±005, h360km±2km, n72, σ0°64/86, mb3.8/27, 6C-9D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.23**	**91**	⇓P	Pn	09 23 35.5	+0.7
JIE				S	S	09 24 10.6	-0.3
TSUJ	**Tsu 2**	**0.31**	**359**	⇓P	Pn	09 23 35.5	+0.6
TSUJ				S	S	09 24 10.6	-0.4
JAA	**Atsumi**	**0.64**	**68**	P	Pn	09 23 36.2	+0.7
JAA				S	S	09 24 12.4	+0.3
JWY	**Kouya**	**0.71**	**256**	⇑P	Pn	09 23 36.5	+0.8
JWY				eS	S	09 24 12.0	-0.5
JWZ	**Kozaga**	**1.05**	**215**	⇑P	Pn	09 23 37.2	+0.3
JWZ				S	S	09 24 13.8	-0.8
JWT	**Wachi**	**1.22**	**317**	⇑P	Pn	09 23 37.7	+0.1
JWT				S	S	09 24 14.5	-1.4
JGM	**Miyama**	**1.32**	**10**	⇓P	Pn	09 23 38.4	+0.3
JGM				S	S	09 24 16.4	-0.4
JAI	**Aioi**	**1.75**	**250**	⇑P	Pn	09 23 40.8	+0.4
JAI				S	S	09 24 20.6	-0.4
JKG	**Kaga**	**1.88**	**358**	⇓P	Pn	09 23 41.0	-0.3
JKG				S	S	09 24 21.1	-1.4
JYN	**Shimob**	**2.06**	**57**	⇓P	Pn	09 23 42.3	-0.2
JMN	**Monobe**	**2.22**	**253**	⇑P	Pn	09 23 44.3	+0.7
JMN				S	S	09 24 27.8	+1.0
JOD2	**Odawara 2**	**2.35**	**68**	⇓P	Pn	09 23 44.5	-0.1
JIM2	**Oshima 3**	**2.50**	**82**	P	Pn	09 23 45.7	-0.1
MAJO	**Matsushiro**	**2.59**	**34**	⇓eP	Pn	09 23 45.9	-0.6
MAT	**Matsushiro**	**2.59**	**34**	P	Pn	09 23 46.1	-0.4
MAT				S	S	09 24 30.6	-1.4
MAT	**Matsushiro**	**2.59**	**34**	P	Pn	09 23 46.1	-0.4
MAT				eS	S	09 24 31.0	-1.0
MAT	**Matsushiro**	**2.59**	**34**	eP	Pn	09 23 46.0	-0.5
MJAR	**Matsushiro Arr**	**2.59**	**34**	P	Pn	09 23 46.2	-0.2
47nm,0.3s,baz=213,slow=8.6,SNR=449							
JRY	**Ryogami san**	**2.59**	**51**	⇓P	Pn	09 23 46.5	0.0
JRY				S	S	09 24 33.0	+0.9
JHS	**Saijyo**	**2.79**	**283**	⇑P	Pn	09 23 48.6	+0.4
JHS				S	S	09 24 35.6	+0.5
JHJ	**Hachijo jima 2**	**3.07**	**114**	P	Pn	09 23 51.9	+1.2
50nm,0.3s,baz=86,slow=23,SNR=6.8							
JNU	**Nakatsue**	**4.79**	**256**	P	Pn	09 24 08.7	+0.9
11nm,0.3s,baz=66,slow=9.1,SNR=31							
KS15	**Wonju Array Si**	**7.57**	**296**	ePn	Pn	09 24 39.3	+0.3
INCN	**Inchon**	**8.52**	**294**	ePn	Pn	09 24 51.0	+0.8
19nm,0.5s							
JOW	**Kunigami**	**10.30**	**225**	P	Pn	09 25 10.9	-0.5
1.9nm,0.3s,baz=92,slow=12,SNR=5.3							
ASAJ	**Asahikawa**	**10.82**	**24**	P	Pn	09 25 17.8	+0.3
6.4nm,0.3s,baz=238,slow=9.7,SNR=27							
ASAJ	**Asahikawa**	**10.82**	**24**	P	Pn	09 25 17.8	+0.3
ASAJ				pmax	pmax		
comp=Z,6.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**13.42**	**19**	⇓eP	P	09 25 49.2	+2.4
YSS				pmax	pmax		
comp=Z,50nm,0.7s							
YSS	**Yuzh-Sakhalins**	**13.42**	**19**	ePn	Pn	09 25 48.3	+0.2
comp=Z,45nm,0.6s							
XAN	**Xi'an**	**22.73**	**277**	P	P	09 27 21.3	-0.6
XAN				AMB	AMB		
comp=Z,18nm,0.8s,mb4.3							
ENH	**Enshi**	**23.10**	**267**	eP	P	09 27 24.8	-0.6
comp=Z,16nm,0.8s,mb4.3							
ULN	**Ulaanbaatar**	**25.71**	**310**	eP	P	09 27 49.5	+0.8
ULN				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.5							
ULN	**Ulaanbaatar**	**25.71**	**310**	eP	P	09 27 49.5	+0.7
comp=Z,1.6nm,0.6s,mb3.4							
SONM	**Songino Array**	**26.12**	**310**	P	P	09 27 53.3	+0.9
comp=Z,0.7nm,0.6s,mb3.1,baz=124,slow=9.6,SNR=7.4							
BILL	**Bilibino**	**37.74**	**18**	eP	P	09 29 32.7	+0.2
BILL				pmax	pmax		
comp=Z,14nm,0.8s,mb4.2							
BILL	**Bilibino**	**37.74**	**18**	eP	P	09 29 32.7	+0.2
comp=Z,14nm,0.8s,mb4.2							
MKAR	**Makanchi Array**	**42.15**	**304**	P	P	09 30 08.4	+0.1
comp=Z,1.3nm,0.5s,mb3.4,baz=98,slow=9.1,SNR=31							
JIRN	**Jiri**	**43.21**	**275**	eP	P	09 30 17.4	+0.6
comp=Z,22nm,0.4s,mb4.6							
GUN	**Gumba**	**43.38**	**276**	eP	P	09 30 18.5	+0.4
PKI	**Pulchoki**	**43.89**	**276**	eP	P	09 30 22.0	-0.2
KKN	**Kakani**	**43.91**	**276**	eP	P	09 30 22.3	-0.1
DMN	**Daman**	**44.12**	**276**	eP	P	09 30 23.9	-0.1
GKN	**Gorkha**	**44.36**	**276**	eP	P	09 30 25.7	-0.2
comp=Z,13nm,0.6s,mb4.2							
KURK	**Kurchatov**	**44.43**	**310**	eP	P	09 30 25.5	-0.9
KURK				pmax	pmax		
comp=Z,2.0nm,0.4s,mb3.6							
KURK	**Kurchatov**	**44.43**	**310**	eP	P	09 30 25.5	-0.9
comp=Z,2.0nm,0.4s,mb3.6							
KOLN	**Koldanda**	**45.30**	**277**	eP	P	09 30 33.0	-0.2
comp=Z,16nm,0.9s,mb4.2							
BVAR	**Borovoye Array**	**49.38**	**313**	P	P	09 31 04.4	+0.1
comp=Z,1.4nm,0.5s,mb3.5,baz=98,slow=9.2,SNR=9.2							
BVAR				ScP	ScP	09 35 40.1	-0.6
comp=Z,0.7nm,0.6s,baz=84,slow=4.5,SNR=3.7							
ZRNK	**Zerenda**	**50.22**	**313**	eP	P	09 31 09.4	-1.1
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.2							
ZRNK	**Zerenda**	**50.22**	**313**	eP	P	09 31 09.4	-1.2
comp=Z,1.3nm,0.6s,mb3.3							
FITZ	**Fitzroy Crossi**	**53.21**	**193**	eP	P	09 31 32.1	-0.3
comp=Z,7.0nm,0.7s,mb4.1							
COLA	**College**	**53.45**	**31**	eP	P	09 31 34.6	+0.5
COLA				pmax	pmax		
comp=Z,2.0nm,0.4s,mb3.8							
COLA	**College**	**53.45**	**31**	eP	P	09 31 34.6	+0.5
comp=Z,2.2nm,0.4s,mb3.8							
ILAR	**Eielson Array**	**53.87**	**31**	P	P	09 31 36.5	-0.7
comp=Z,2.1nm,0.6s,mb3.7,baz=259,slow=5.7,SNR=46							
WRAB	**Tennant Creek**	**54.06**	**182**	eP	P	09 31 37.8	-0.7
WRAB				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.1							
WRAB	**Tennant Creek**	**54.06**	**182**	eP	P	09 31 37.8	-0.7
comp=Z,7.9nm,0.8s,mb4.1							
WB2	**Warramunga Arr**	**54.07**	**182**	eP	P	09 31 38.1	-0.5
WRA	**Warramunga Arr**	**54.07**	**182**	P	P	09 31 38.2	-0.4
comp=Z,3.9nm,0.5s,mb4.0,baz=360,slow=7.8,SNR=81							
MBWA	**Marble Bar**	**57.49**	**199**	eP	P	09 32 02.0	-0.6
comp=Z,6.3nm,0.6s,mb4.1							
ASAR	**Alice Springs**	**57.79**	**183**	P	P	09 32 04.5	-0.1
comp=Z,1.4nm,0.5s,mb3.6,baz=357,slow=4.8,SNR=39							
ASAR	**Alice Springs**	**57.79**	**183**	P	P	09 32 04.6	-0.1
ASAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ASPA	**Alice Springs**	**57.79**	**183**	eP	P	09 32 04.6	-0.1
INK	**Inuvik**	**58.55**	**26**	eP	P	09 32 09.5	-0.4
INK				pmax	pmax		
comp=Z,2.0nm,0.5s							
INK	**Inuvik**	**58.55**	**26**	eP	P	09 32 09.5	-0.4
comp=Z,2.2nm,0.5s,mb3.8							
ARCES	**ARCESS Array B**	**65.00**	**339**	P	P	09 32 52.1	-0.4
comp=Z,0.8nm,0.5s,mb3.6,baz=67,slow=9.3,SNR=9.2							
ARCES	**ARCESS Array B**	**65.00**	**339**	P	P	09 32 52.1	-0.4
ARCES				pmax	pmax		
comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**68.08**	**28**	P	P	09 33 11.2	-0.5
comp=Z,0.5nm,0.5s,mb3.5,baz=304,slow=6.2,SNR=16							
YKA	**Yellowknife Ar**	**68.08**	**28**	P	P	09 33 11.2	-0.6
YKA				pmax	pmax		
comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**69.21**	**331**	P	P	09 33 17.7	-0.9
comp=Z,0.4nm,0.7s,mb3.3,baz=10,slow=12,SNR=3.8							
HLID	**Hailey**	**79.11**	**44**	eP	P	09 34 15.6	+0.2
comp=Z,0.9nm,0.7s,mb3.6							
NVAR	**Mina Array Bea**	**79.80**	**50**	P	P	09 34 19.5	+0.5
comp=Z,0.4nm,0.6s,mb3.3,baz=264,slow=7.8,SNR=6.1							
HWUT	**Hardware Ranch**	**81.97**	**45**	eP	P	09 34 31.1	+0.7
comp=Z,1.8nm,0.9s,mb3.9							
PDAR	**Pinedale Array**	**82.38**	**43**	P	P	09 34 33.0	+0.5
comp=Z,0.8nm,0.8s,mb3.6,baz=311,slow=3.2,SNR=7.4							

*NEIC **20** 09:36:32.7, 3628S×17870E, h178km, MG4.0(WEL), After WEL.*
WEL 20 09:36:30.7±0.7, 3619S×17841E, h193km±9km, ML3.6/7, Error ellipse: s-maj=16.0km s-min=11.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.37**	**183**	PN	Pn	09 37 02.8	+0.2
MXZ				SN	Sn	09 37 27.5	+0.2
MXZ	**Matakaoa Point**	**1.37**	**183**	P	Pn	09 37 02.8	+0.2
PUZ	**Puketiti**	**1.88**	**184**	ePN	Pn	09 37 07.9	+0.5
PUZ				SN	Sn	09 37 33.9	-2.0
PUZ	**Puketiti**	**1.88**	**184**	eP	Pn	09 37 07.9	+0.5
PUZ				S	Sn	09 37 33.9	-2.0
MWZ	**Matawai**	**2.25**	**198**	ePN	Pn	09 37 11.5	+0.1
MWZ				SN	Sn	09 37 43.7	+0.7
MWZ	**Matawai**	**2.25**	**198**	eP	Pn	09 37 13.2	+1.9
URZ	**Urewera**	**2.31**	**206**	PN	Pn	09 37 11.9	-0.1
URZ				SN	Sn	09 37 44.2	+0.1
URZ	**Urewera**	**2.31**	**206**	eP	Pn	09 37 13.5	+1.5
BKZ	**Black Stump Fm**	**3.34**	**207**	ePN	Pn	09 37 24.0	0.0
BKZ	**Black Stump Fm**	**3.34**	**207**	eP	Pn	09 37 25.7	+1.7
PXZ	**Pawanui**	**4.02**	**197**	PN	Pn	09 37 32.8	+0.3
TSZ	**Takapari Road**	**4.32**	**206**	PN	Pn	09 37 36.0	-0.2

JMA 20 09:47:10.4±0.5, 4374N×14805E, h0km, M3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.72**	**258**	P	Pn	09 47 41.8	+0.2
JAK	**Akkeshi**	**2.56**	**254**	P	Pn	09 47 53.8	+0.7
JAK				eS	Sn	09 48 26.1	+1.2
JTKR	**Abashiri--Toko**	**3.00**	**276**	P	Pn	09 48 00.5	+1.3
JAR	**Ashorobuto**	**3.15**	**263**	P	Pn	09 48 03.0	+1.8
JCH	**Churui**	**3.61**	**253**	P	Pn	09 48 09.0	+1.5
JCH				eS	Sn	09 48 52.4	+1.6

MEX 20 10:10:51.8±0.6, 1698N×10052W, h4km±6km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.25**	**75**	iP	Pg	10 10 56.2	-0.4
CAIG				iS	Sg	10 11 00.1	+0.1
ACX	**Acapulco**	**0.59**	**101**	eP	Pg	10 11 03.0	-0.1
ACX				iS	Sg	10 11 12.0	+1.2
MEIG	**Mezcala**	**1.27**	**42**	eP	Pg	10 11 12.6	-3.6
MEIG				iS	Sg	10 11 28.9	-3.8
PLIG	**Platanillo**	**1.71**	**35**	iP	Pn	10 11 18.3	-4.0
PLIG				iS	Sn	10 11 40.5	-4.1
PNIG	**Pinotepa**	**2.37**	**104**	iP	Pn	10 11 28.6	-2.9
PNIG				iS	Sn	10 11 55.6	-5.4
UNM	**Universidad Na**	**2.66**	**29**	eP	Pn	10 11 31.8	-3.7
UNM				iS	Sn	10 12 03.9	-4.2
PPM	**Popocatepetl**	**2.75**	**41**	eP	Pn	10 11 33.0	-3.7
PPM				eP		10 11 38.0	
PPM				iS	Sn	10 12 07.7	-2.6
MOIG	**Morelia**	**2.75**	**347**	eP	Pn	10 11 34.9	-1.8
MOIG				iS	Sn	10 12 08.2	-2.3
MRX	**Morelia**	**2.78**	**347**	eP	Pn	10 11 36.0	-1.1
VHO	**Vista Hermosa**	**3.63**	**88**	eP	Pn	10 11 46.0	-2.7
VHO				iS	Sn	10 12 28.0	-3.9
OXX	**Oaxaca**	**3.63**	**88**	eP	Pn	10 11 51.0	+2.1
CMIG	**Matias Romero**	**5.39**	**88**	iP	Pn	10 12 11.7	-1.4
CMIG				iS	Sn	10 13 12.4	-3.2

*JMA **20** 10:18:09.3±0.7, 3177N×14172E, h0km, M3.4*
*ISCJB **20** 10:18:11.7±2.2, 319N±02×1424E±06, h48km±18km, mb3.5/3, Error ellipse: s-maj=88.5km s-min=13.3km az=151.6*
*IDC **20** 10:18:17.1±4.2, 3156N×14135E, h42km±38km, mb3.2/3, mb1 3.5/5, mb1mx3.2/20, mbtmp3.5/5, ML3.9/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/8, Error ellipse: s-maj=201.4km s-min=22.6km az=69.0*
ISC 20 10:18:13.5±2.1, 319N±02×1424E±06, h44km±17km, n10, σ0°34/9, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.54**	**299**	LR	LR	10 19 19.4	
comp=Z,2μm,21.3s,baz=93,slow=31							
BSO1	**Boso 1**	**3.00**	**336**	P	Pn	10 18 58.8	+0.3
BSO3	**Boso 3**	**3.31**	**331**	P	Pn	10 19 02.5	-0.2
CBIJ	**Chichi jima**	**4.80**	**183**	P	Pn	10 19 23.1	-0.1
29nm,0.3s,baz=267,slow=21,SNR=4.3							
JHO	**Hitachi**	**4.94**	**342**	P	Pn	10 19 24.9	-0.2
JRY	**Ryogami san**	**5.04**	**325**	P	Pn	10 19 26.6	+0.1
MJAR	**Matsushiro Arr**	**5.80**	**324**	P	Pn	10 19 37.1	+0.2
0.4nm,0.3s,baz=147,slow=11,SNR=5.7							
MKAR	**Makanchi Array**	**47.69**	**306**	P	P	10 26 45.5	-0.2
0.2nm,0.5s,mb3.4,baz=85,slow=9.7,SNR=4.1							
WRA	**Warramunga Arr**	**52.13**	**190**	P	P	10 27 18.9	-0.5
0.6nm,0.7s,mb3.6,baz=5.5,slow=7.6,SNR=8.5							
ASAR	**Alice Springs**	**55.86**	**189**	P	P	10 27 47.2	+0.7
0.3nm,0.6s,mb3.5,baz=17,slow=13,SNR=6.2							

MEX 20 10:27:37.7±1.4, 1690N×10052W, h5km±14km, MD3.9, 2D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**59**	⇓iP	Pg	10 27 42.9	-0.3
CAIG				iS	Sg	10 27 46.6	-0.3
ACX	**Acapulco**	**0.58**	**93**	iP	Pg	10 27 47.5	-1.4
ACX				iS	Sg	10 27 58.0	+1.6
MEIG	**Mezcala**	**1.33**	**40**	⇓iP	Pn	10 27 59.2	-3.8
MEIG				iS	Sb	10 28 15.6	-4.9
PLIG	**Platanillo**	**1.77**	**33**	iP	Pn	10 28 07.1	-1.9
PLIG				iS	Sn	10 28 28.0	-3.9
PPM	**Popocatepetl**	**2.81**	**40**	eP	Pn	10 28 20.0	-3.2
PPM				eP		10 28 20.4	
PPM				iS	Sn	10 28 54.6	-2.9
MOIG	**Morelia**	**2.83**	**347**	eP	Pn	10 28 22.5	-1.0
MOIG				iS	Sn	10 28 53.8	-4.2
VHO	**Vista Hermosa**	**3.63**	**87**	iP	Pn	10 28 36.1	+1.6
VHO				iS	Sn	10 29 13.7	-4.1

WEL 20 10:28:17.4±0.2, 3683S×17784E, h129km±3km, ML3.5/13, Error ellipse: s-maj=3.4km s-min=2.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.82**	**153**	PN	Pn	10 28 38.6	0.0
MXZ				SN	Sn	10 28 54.7	0.0
PUZ	**Puketiti**	**1.28**	**165**	PN	Pn	10 28 43.3	+0.3
PUZ				SN	Sn	10 29 02.0	-0.6
MWZ	**Matawai**	**1.52**	**189**	PN	Pn	10 28 45.7	+0.1
MWZ				SN	Sn	10 29 07.7	+0.5
URZ	**Urewera**	**1.54**	**202**	PN	Pn	10 28 46.0	+0.2
URZ				SN	Sn	10 29 07.9	+0.4
BKZ	**Black Stump Fm**	**2.56**	**204**	PN	Pn	10 28 58.1	-0.2
BKZ				SN	Sn	10 29 30.1	+0.3
MOVZ	**Moawhango**	**3.06**	**212**	PN	Pn	10 29 04.2	-0.4
WNVZ	**Wahianoa**	**3.06**	**215**	PN	Pn	10 29 05.0	+0.3
MTVZ	**Mangateitei**	**3.16**	**216**	PN	Pn	10 29 06.3	+0.3
PXZ	**Pawanui**	**3.29**	**193**	PN	Pn	10 29 05.9	-1.8
PXZ				SN	Sn	10 29 44

*MOS **20** 10:46:26.8±1.1, 205N×96.26E, h33km, mb4.8/8, Error ellipse: s-maj=16.7km s-min=9.7km az=109.1*
*NEIC **20** 10:46:28.5±0.5, 202N×96.37E, mb4.7/11, Error ellipse: s-maj=13.9km s-min=6.3km az=223.0*
*IDC **20** 10:46:28.0±0.9, 202N×96.23E, h28km±5km, mb3.9/13, mb1 4.0/14, mb1mx3.9/23, mbtmp4.0/14, ML4.0/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/36, Error ellipse: s-maj=35.4km s-min=13.0km az=48.0*
*BJI **20** 10:46:30.3, 268N×96.92E, h29km, mB5.0, mb4.7, Ms4.3, Msz4.2*
ISC 20 10:46:29.0±0.5, 207N±008×9636E±007, h32km, h32km±1.7km; pP-P, n69, σ1°23/65, mb4.5/32, MS4.0/11, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.66**	**74**	Pn	**Pn**	**10 47 09.7**	**-0.1**
	23nm,0.3s,baz=273,slow=9.5,SNR=58						
PSI				LR	LR	10 48 13.5	
	comp=Z,808nm,20.8s,baz=337,slow=38						
IPM	**Ipoh**	**5.24**	**63**	P	**Pn**	**10 47 45.3**	**+0.2**
KULM	**Kulim**	**5.34**	**53**	*e*Pn	**Pn**	**10 47 46.1**	**-0.4**
KGM	**Kluang**	**6.96**	**90**	P	**Pn**	**10 48 09.9**	**+1.2**
KKM	**Kota Kinabalu**	**20.19**	**78**	P	**P**	**10 51 02.6**	**+1.6**
KKM	**Kota Kinabalu**	**20.19**	**78**	*e*P	**P**	**10 51 00.8**	**-0.1**
KKM				*e*pP		10 51 08.1	
QIZ	**Qiongzhong**	**21.41**	**37**	P	**P**	**10 51 08.1**	**-6.1**
QIZ				LR	LR		
	comp=N,942nm,13.0s,MS4.5						
QIZ				LR	LR		
	comp=E,935nm,13.3s,MS4.5						
QIZ				LR	LR		
	comp=Z,2μm,13.3s,MS4.6						
HYB	**Hyderabad**	**23.21**	**312**	*e*P	pP	10 51 45.0	+3.1
KMI	**Kunming**	**23.73**	**14**	P	**P**	**10 51 38.3**	**0.0**
KMI				S	**S**	**10 55 36.8**	**-15**
KMI				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=N,438nm,13.6s,MS4.2						
KMI				LR	LR		
	comp=E,267nm,12.2s,MS4.2						
KMI				LR	LR		
	comp=Z,490nm,15.4s,MS4.1						
JIRN	**Jiri**	**27.24**	**340**	*e*P	**P**	**10 52 11.3**	**+1.1**
	comp=Z,25nm,0.7s,mb4.9						
PKI	**Pulchoki**	**27.44**	**339**	*e*P	**P**	**10 52 14.3**	**+2.4**
GUN	**Gumba**	**27.58**	**340**	*e*P	**P**	**10 52 14.9**	**+1.7**
	comp=Z,74nm,1.2s,mb5.2						
DMN	**Daman**	**27.59**	**338**	*e*P	**P**	**10 52 16.1**	**+2.8**
KKN	**Kakani**	**27.68**	**339**	*e*P	**P**	**10 52 15.9**	**+1.8**
LSA	**Lhasa**	**27.92**	**350**	P	**P**	**10 52 17.6**	**+1.4**
LSA	**Lhasa**	**27.92**	**350**	*e*P	**P**	**10 52 17.8**	**+1.6**
LSA				pmax	pmax		
	comp=Z,32nm,1.3s,mb4.8						
LSA	**Lhasa**	**27.92**	**350**	*e*P	**P**	**10 52 17.8**	**+1.5**
	comp=Z,32nm,1.3s,mb4.8						
GKN	**Gorkha**	**28.12**	**338**	*e*P	**P**	**10 52 19.4**	**+1.4**
	comp=Z,19nm,0.7s,mb4.8						
KOLN	**Koldanda**	**28.32**	**336**	*e*P	**P**	**10 52 22.0**	**+2.2**
	comp=Z,14nm,0.8s,mb4.6						
XAN	**Xi'an**	**33.90**	**19**	P	**P**	**10 53 07.3**	**-1.7**
XAN				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
LZH	**Lanzhou**	**34.55**	**11**	*e*P	**P**	**10 53 14.0**	**-0.6**
LZH				AP	pP	10 53 22.6	-1.2
LZH				XP	sP	10 53 27.5	-0.2
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,81nm,4.0s						
LZH				LR	LR		
	comp=N,319nm,13.5s						
LZH				LR	LR		
	comp=Z,491nm,17.2s,MS4.3						
FITZ	**Fitzroy Crossi**	**35.12**	**126**	*e*P	**P**	**10 53 19.7**	**+0.2**
	comp=Z,4.8nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**35.12**	**126**	P	**P**	**10 53 19.4**	**0.0**
	comp=Z,3.0nm,0.6s,mb4.4,baz=283,slow=3.6,SNR=9.1						
NJ2	**Nanjing**	**36.58**	**33**	*e*P	**P**	**10 53 27.1**	**-4.9**
NJ2				AP	pP	10 53 36.8	-4.5
NJ2				XP	sP	10 53 40.8	-4.3
NJ2				PP	PP	10 54 44.5	-11
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,280nm,4.2s						
NJ2				LR	LR		
	comp=N,420nm,10.2s						
NJ2				LR	LR		
	comp=E,380nm,22.0s						
NJ2				LR	LR		
	comp=Z,220nm,20.1s						
SSE	**Sheshan**	**37.20**	**37**	P	**P**	**10 53 33.8**	**-3.5**
SSE				AP	pP	10 53 42.6	-4.0
SSE				XP	sP	10 53 46.1	-4.3
SSE				PP	PP	10 54 53.3	-9.1
SSE				S	**S**	**10 59 06.0**	**-16**
SSE				SS	SS	11 01 40.0	-26
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,64nm,4.5s						
SSE				LR	LR		
	comp=N,103nm,18.9s,MS3.9						
SSE				LR	LR		
	comp=E,154nm,18.9s,MS3.9						
SSE				LR	LR		
	comp=Z,141nm,14.6s,MS3.9						
GTA	**Gaotai**	**37.30**	**4**	P	**P**	**10 53 34.4**	**-3.7**
GTA				AP	pP	10 53 41.8	-5.6
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,109nm,4.6s						
GTA				LR	LR		
	comp=N,253nm,17.9s,MS4.2						
GTA				LR	LR		
	comp=E,197nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=Z,286nm,16.0s,MS4.2						
KAKA	**Kakadu**	**38.71**	**113**	*e*P	**P**	**10 53 49.3**	**-0.7**
	comp=Z,8.4nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**43.20**	**122**	P	**P**	**10 54 27.5**	**+0.5**
	comp=Z,1.7nm,0.4s,mb4.1,baz=301,slow=9.2,SNR=25						
WRAB	**Tennant Creek**	**43.21**	**122**	*e*P	**P**	**10 54 27.9**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**43.21**	**122**	*e*P	**P**	**10 54 27.9**	**+0.8**
	comp=Z,18nm,1.1s,mb4.7						
WB2	**Warramunga Arr**	**43.22**	**122**	*e*P	**P**	**10 54 27.4**	**+0.3**
ASAR	**Alice Springs**	**44.59**	**127**	P	**P**	**10 54 38.9**	**+0.8**
	comp=Z,1.4nm,0.6s,mb4.0,baz=300,slow=8.0,SNR=35						
ASAR				PcP	PcP	10 56 21.9	+1.1
	comp=Z,0.4nm,0.6s,baz=310,slow=4.7,SNR=3.1						
MKAR	**Makanchi Array**	**46.20**	**347**	P	**P**	**10 54 51.0**	**+0.1**
	comp=Z,6.5nm,0.7s,mb4.7,baz=156,slow=8.7,SNR=27						
SONM	**Songino Array**	**46.41**	**9**	P	**P**	**10 54 52.2**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=192,slow=9.4,SNR=9.6						
SONM				PcP	PcP	10 56 28.0	+1.0
	comp=Z,0.4nm,0.5s,baz=190,slow=4.4,SNR=2.8						
ULN	**Ulaanbaatar**	**46.55**	**10**	*i* P	**P**	**10 54 54.3**	**+0.7**
ULN	**Ulaanbaatar**	**46.55**	**10**	*e*P	**P**	**10 55 00.9**	**+7.3**
ZAK	**Zakamensk**	**48.49**	**6**	*e*P	**P**	**10 55 04.8**	**-3.9**
ZAK				*e*		10 55 17.0	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.5						
KURK	**Kurchatov**	**50.74**	**346**	*e*P	**P**	**10 55 25.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
KURK	**Kurchatov**	**50.74**	**346**	*e*P	**P**	**10 55 25.1**	**-0.7**
	comp=Z,17nm,1.3s,mb4.8						
PMG	**Port Moresby**	**51.87**	**104**	↑*e*P	**P**	**10 55 43.1**	**+8.8**
ZAL	**Zalesovo**	**52.57**	**351**	P	**P**	**10 55 39.5**	**0.0**
	comp=Z,6.1nm,0.6s,mb4.7						
NVS	**Novosibirsk**	**53.68**	**351**	*e*P	**P**	**10 55 45.7**	**-2.0**
STKA	**Stephens Creek**	**54.56**	**132**	P	**P**	**10 55 53.4**	**-0.7**
	comp=Z,1.0nm,0.4s,mb4.2,baz=305,slow=7.8,SNR=3.8						
STKA				LR	LR	11 21 35.8	
	comp=Z,201nm,18.3s,MS4.2,baz=292,slow=39						
STKA	**Stephens Creek**	**54.56**	**132**	*e*P	**P**	**10 55 53.5**	**-0.6**
BVAR	**Borovoye Array**	**55.16**	**341**	P	**P**	**10 55 57.9**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=149,slow=9.8,SNR=11						
BVAR				pP	pP	10 56 06.9	-1.2
	comp=Z,2.9nm,0.6s,baz=151,slow=8.4,SNR=12						
BRVK	**Borovoye**	**55.22**	**341**	*e*P	**P**	**10 55 58.1**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**55.22**	**341**	*e*P	**P**	**10 55 58.1**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**55.55**	**340**	*e*P	**P**	**10 56 00.1**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**55.55**	**340**	*e*P	**P**	**10 56 00.1**	**-1.2**
	comp=Z,2.8nm,0.7s,mb4.4						
BOD	**Bodaibo**	**57.32**	**11**	*e*P	**P**	**10 56 12.8**	**-1.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.4						
ARU	**Arti**	**62.06**	**337**	*e*P	**P**	**10 56 44.5**	**-2.0**
YAK	**Yakutsk**	**64.83**	**17**	*i* P	**P**	**10 57 04.5**	**-0.3**
YAK				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.9						
SOC	**Sochi**	**64.92**	**318**	*e*P	**P**	**10 57 09.7**	**+4.3**
SOC				*e**PP	pP	10 57 24.2	+9.0
SOC				*e*S	**S**	**11 05 47.7**	**+3.0**
SOC				*e**SS	sS	11 06 07.7	+6.8
SOC				*e*SS	SS	11 09 55.4	-1.2
SOC				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.5						
BRTR	**Keskin Array B**	**67.91**	**312**	P	**P**	**10 57 24.4**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=104,slow=6.1,SNR=1.8						
MATP	**Matopo**	**70.08**	**248**	pP	pP	10 57 47.4	-0.5
	comp=Z,1.8nm,0.8s,baz=87,slow=7.9,SNR=3.2						
TIXI	**Tiksi**	**72.48**	**10**	*i* P	**P**	**10 57 55.0**	**+2.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
SEY	**Seymchan**	**73.30**	**23**	*i* P	**P**	**10 57 56.7**	**-0.6**
AKASG	**Malin Array Be**	**74.06**	**322**	P	**P**	**10 58 01.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=319,slow=21,SNR=3.9						
BOSA	**Boshof**	**74.49**	**240**	LR	LR	11 27 27.4	
	comp=Z,72nm,19.4s,MS4.0,baz=357,slow=33						
FINES	**FINESS Array B**	**78.84**	**333**	P	**P**	**10 58 27.9**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=134,slow=8.0,SNR=2.6						
FINES				pP	pP	10 58 37.4	-1.6
	comp=Z,1.9nm,0.6s,baz=93,slow=7.6,SNR=6.0						
FINES				LR	LR	11 38 35.3	
	comp=Z,104nm,19.7s,MS4.2,baz=245,slow=40						
FINES	**FINESS Array B**	**78.84**	**333**	P	**P**	**10 58 28.0**	**-0.9**
FINES				*PP	pP	10 58 37.4	-1.5
FX1	**Attu Island--F**	**80.40**	**37**	LR	LR	11 32 46.4	
	comp=Z,5.2nm,21.5s,MS2.9,baz=350,slow=34						
ARCES	**ARCESS Array B**	**81.44**	**340**	P	**P**	**10 58 41.9**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.0,baz=101,slow=8.5,SNR=2.8						
ARCES				pP	pP	10 58 51.2	-1.8
	comp=Z,1.5nm,0.5s,baz=78,slow=5.6,SNR=1.8						
ARCES				LR	LR	11 42 02.3	
	comp=Z,74nm,18.3s,MS4.1,baz=9.6,slow=41						
ARCES	**ARCESS Array B**	**81.44**	**340**	P	**P**	**10 58 41.9**	**-1.0**
ARCES				*PP	pP	10 58 51.2	-1.8
ARCES	**ARCESS Array B**	**81.44**	**340**	P	**P**	**10 58 41.9**	**-1.0**
ARCES				pP	pP	10 58 51.2	-1.8
ARCES				LR	LR	11 42 02.4	
GERES	**GERESS Array B**	**83.61**	**319**	P	**P**	**10 58 52.0**	**-2.2**
	comp=Z,0.2nm,0.2s,mb3.8,baz=40,slow=7.7,SNR=2.8						
GERES				LR	LR	11 42 24.8	
	comp=Z,51nm,18.8s,MS3.9,baz=285,slow=40						
TBI	**Tubuai**	**112.98**	**114**	*e*LR	LR	11 38 56.4	
	comp=Z,71nm,24.2s						
PPT	**Papeete**	**113.55**	**108**	*e*LR	LR	11 39 13.0	
	comp=Z,96nm,32.8s						
RKT	**Rikitea**	**126.08**	**117**	*e*LR	LR	11 45 00.4	
	comp=Z,84nm,37.2s						

*ISCJB **20** 10:47:01.0±0.4, 3378N±006×13734E±006, h355km±3km, mb3.3/15, Error ellipse: s-maj=10.1km s-min=6.8km az=130.9*
*NEIC **20** 10:47:01.9±0.6, 3374N×13732E, h349km±5km, mb3.4/4, Error ellipse: s-maj=11.1km s-min=9.2km az=137.0*
*JMA **20** 10:47:01.1±0.4, 3385N×13729E, h361km±4km, M3.2*
*IDC **20** 10:47:01.7±0.8, 3374N×13730E, h348km±8km, mb3.0/11, mb1 3.3/14, mb1mx3.2/25, mbtmp3.8/14, Error ellipse: s-maj=16.2km s-min=11.5km az=88.0*
ISC 20 10:47:02.0±0.4, 3381N±006×13734E±006, h348km±3km, n43, σ0°93/54, mb3.3/15, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK04	**Tokai 4**	**0.72**	**37**	P	**Pn**	**10 47 47.8**	**+1.2**
JIE	**Ise**	**0.79**	**318**	P	**Pn**	**10 47 47.4**	**+0.6**
JIE				S	**S**	**10 48 22.6**	**-0.1**
JWZ	**Kozaga**	**1.39**	**259**	P	**Pn**	**10 47 49.2**	**-0.1**
JWZ				S	**S**	**10 48 26.3**	**-1.0**
JIM2	**Oshima 3**	**1.95**	**62**	P	**Pn**	**10 47 53.1**	**+0.3**
JGM	**Miyama**	**1.95**	**345**	P	**Pn**	**10 47 53.4**	**+0.6**
JYN	**Shimob**	**1.95**	**30**	P	**Pn**	**10 47 54.1**	**+1.3**
JOD2	**Odawara 2**	**2.04**	**44**	P	**Pn**	**10 47 54.0**	**+0.6**
JOD2				S	**S**	**10 48 36.0**	**+1.3**
JHJ	**Hachijo jima 2**	**2.15**	**108**	P	**Pn**	**10 47 54.3**	**+0.1**
	28nm,0.3s,baz=252,slow=21,SNR=4.3						
JWT	**Wachi**	**2.17**	**313**	P	**Pn**	**10 47 54.7**	**+0.3**
JWT				S	**S**	**10 48 35.0**	**-1.4**
JHJ2	**Mitsune**	**2.18**	**108**	P	**Pn**	**10 47 55.9**	**+1.5**
JAI	**Aioi**	**2.41**	**270**	P	**Pn**	**10 47 56.0**	**-0.1**
JRY	**Ryogami san**	**2.55**	**30**	P	**Pn**	**10 47 57.9**	**+0.6**
JRY				S	**S**	**10 48 41.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.82**	**14**	P	**Pn**	**10 47 59.7**	**+0.1**
	3.2nm,0.3s,baz=183,slow=9.6,SNR=44						
MJAR				S	**S**	**10 48 46.9**	**+1.0**
	0.4nm,0.3s,baz=194,slow=24,SNR=4.5						
MAJO	**Matsushiro**	**2.82**	**14**	*e*Pn	**Pn**	**10 47 59.4**	**-0.2**
MAT	**Matsushiro**	**2.82**	**14**	P	**Pn**	**10 47 59.7**	**+0.1**
MAT				S	**S**	**10 48 45.2**	**-0.7**
MAT	**Matsushiro**	**2.82**	**14**	P	**Pn**	**10 47 59.6**	**0.0**
MAT				S	**S**	**10 48 44.4**	**-1.5**
MAT	**Matsushiro**	**2.82**	**14**	*e*P	**Pn**	**10 48 00.0**	**+0.4**
MAT				*e*S	**S**	**10 48 44.0**	**-1.9**
JMN	**Monobe**	**2.89**	**269**	P	**Pn**	**10 48 00.3**	**+0.1**
BSO1	**Boso 1**	**3.13**	**73**	P	**Pn**	**10 48 00.7**	**-1.6**
BSO1				S	**S**	**10 48 49.0**	**-1.9**
JAG	**Ashikaga**	**3.13**	**33**	P	**Pn**	**10 48 01.4**	**-1.0**
JAG				S	**S**	**10 48 48.2**	**-2.8**
JHS	**Saijyo**	**3.69**	**290**	P	**Pn**	**10 48 07.8**	**+0.1**
JTO	**Tosashimizu**	**3.92**	**257**	P	**Pn**	**10 48 09.7**	**-0.3**
JNA	**Nagahama**	**4.06**	**268**	P	**Pn**	**10 48 11.6**	**+0.1**
JNU	**Nakatsue**	**5.45**	**265**	P	**Pn**	**10 48 27.0**	**+0.6**
	5.0nm,0.3s,baz=69,slow=8.4,SNR=4.0						
KS15	**Wonju Array Si**	**8.51**	**298**	*e*Pn	**Pn**	**10 49 02.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**13.76**	**16**	*e*P	**Pn**	**10 50 04.1**	**-0.3**
ULN	**Ulaanbaatar**	**26.67**	**311**	*e*P	**P**	**10 52 11.6**	**+1.4**
	1.2nm,0.5s,mb3.4						
SONM	**Songino Array**	**27.08**	**310**	P	**P**	**10 52 14.1**	**+0.4**
	2.4nm,0.8s,mb3.5,baz=116,slow=8.4,SNR=13						
BILL	**Bilibino**	**38.07**	**17**	P	**P**	**10 53 48.6**	**+0.4**
	1.9nm,0.4s,mb3.7						
MKAR	**Makanchi Array**	**43.10**	**304**	P	**P**	**10 54 28.8**	**-0.2**
	0.9nm,0.5s,mb3.1,baz=90,slow=9.0,SNR=12						
KURK	**Kurchatov**	**45.38**	**310**	*e*P	**P**	**10 54 46.2**	**-0.7**
	1.5nm,0.7s,mb3.2						
BVAR	**Borovoye Array**	**50.34**	**314**	P	**P**	**10 55 23.2**	**-1.3**
	0.3nm,0.3s,mb3.0,baz=92,slow=9.0,SNR=4.7						
ZRNK	**Zerenda**	**51.18**	**314**	P	**P**	**10 55 29.8**	**-0.9**
	0.7nm,0.4s,mb3.2						
FITZ	**Fitzroy Crossi**	**52.81**	**194**	P	**P**	**10 55 42.6**	**0.0**
	1.1nm,0.6s,mb3.4,baz=60,slow=22,SNR=3.7						
WRA	**Warramunga Arr**	**53.53**	**184**	P	**P**	**10 55 46.0**	**-1.7**
	0.6nm,0.3s,mb3.4,baz=0.3,slow=7.5,SNR=14						
ILAR	**Eielson Array**	**53.98**	**31**	P	**P**	**10 55 51.4**	**+0.4**
	0.2nm,0.5s,mb2.7,baz=254,slow=4.6,SNR=4.1						
ASAR	**Alice Springs**	**57.25**	**184**	P	**P**	**10 56 13.6**	**-0.4**
	0.3nm,0.7s,mb2.8,baz=357,slow=5.7,SNR=4.5						
YKA	**Yellowknife Ar**	**68.24**	**28**	P	**P**	**10 57 24.9**	**-0.9**
	0.3nm,0.6s,mb3.2,baz=302,slow=6.4,SNR=6.8						
YKA	**Yellowknife Ar**	**68.24**	**28**	P	**P**	**10 57 24.9**	**-1.0**
FINES	**FINESS Array B**	**70.09**	**332**	P	**P**	**10 57 36.5**	**-0.7**
	0.9nm,0.4s,mb3.8,baz=63,slow=6.7,SNR=16						
FINES	**FINESS Array B**	**70.09**	**332**	P	**P**	**10 57 36.5**	**-0.7**
NVAR	**Mina Array Bea**	**79.59**	**51**	P	**P**	**10 58 33.2**	**+2.2**
	1.1nm,1.2s,mb3.5,baz=296,slow=3.4,SNR=3.9						
PDAR	**Pinedale Array**	**82.29**	**43**	P	**P**	**10 58 46.3**	**+1.1**
	0.5nm,0.7s,mb3.5,baz=308,slow=5.5,SNR=4.2						

*NEIC **20** 11:02:48.0, 3302S×7026W, h100km, MD3.6(GUC), After GUC.*
GUC 20 11:02:48.0±0.8, 3302S×7026W, h100km±3km, MD3.6, ML3.5, 10C-15D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.31**	**185**	⇓*i* P	Pn	11 03 03.4	+0.7
FCH				*i* S	Sn	11 03 15.0	+1.4
FCH				AMP		11 03 15.8	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**0.38**	**251**	⇓*i* P	Pn	11 03 03.4	+0.4
PEL				*i* S	Sn	11 03 15.0	+0.7
PEL				AMP		11 03 16.2	
	comp=E,5μm,0.8s						
PEL	**Peldehue**	**0.38**	**251**	⇓*i* P	Pn	11 03 03.4	+0.4
PEL				*i* S	Sn	11 03 15.0	+0.7
CLCH	**Cerro Calan**	**0.44**	**212**	⇓*i* P	Pn	11 03 03.9	+0.6
CLCH				*i* S	Sn	11 03 15.7	+0.8
CLCH				AMP		11 03 17.6	
	comp=E,5μm,0.6s						
CLCH				AMP		11 03 18.1	
	comp=E,5μm,0.5s						
JACH	**Jahuel**	**0.44**	**320**	⇓*i* P	Pn	11 03 04.2	+0.8
JACH				*i* S	Sn	11 03 16.3	+1.4
DSCH	**Colegio Aleman**	**0.46**	**215**	⇓*i* P	Pn	11 03 03.3	-0.2
DSCH				*i* S	Sn	11 03 15.6	+0.5
DSCH				AMP		11 03 16.8	
	comp=E,335nm,0.3s						
DSCH	**Colegio Aleman**	**0.46**	**215**	⇓*i* P	Pn	11 03 03.3	-0.2
DSCH				*i* S	Sn	11 03 15.6	+0.5
STL	**Santa Lucia**	**0.52**	**218**	⇓*i* P	Pn	11 03 04.0	+0.1
STL				*i* S	Sn	11 03 16.4	+0.5
STL				AMP		11 03 17.6	
	comp=E,950nm,0.4s						
SAN	**Santiago**	**0.55**	**218**	⇑*i* P	Pn	11 03 04.7	+0.6
SAN				*i* S	Sn	11 03 17.0	+0.7
SAN				AMP		11 03 18.5	
	comp=E,3μm,0.4s						
SAN	**Santiago**	**0.55**	**218**	⇑*i* P	Pn	11 03 04.7	+0.6
SAN				*i* S	Sn	11 03 17.0	+0.7
SJCH	**San Jose de Ma**	**0.62**	**187**	*i* P	Pn	11 03 04.7	0.0
SJCH				*i* S	Sn	11 03 17.9	+0.6
SJCH				AMP		11 03 18.8	
	comp=E,1μm,0.5s						
SJCH	**San Jose de Ma**	**0.62**	**187**	*i* P	Pn	11 03 04.7	0.0
SJCH				*i* S	Sn	11 03 17.9	+0.6
ANTU	**Antumapu**	**0.63**	**210**	⇑*i* P	Pn	11 03 05.2	+0.4
ANTU				*i* S	Sn	11 03 18.3	+0.9
ANTU				AMP		11 03 19.2	
	comp=E,5μm,0.4s						
ANTU	**Antumapu**	**0.63**	**210**	⇑*i* P	Pn	11 03 05.2	+0.4
ANTU				*i* S	Sn	11 03 18.3	+0.9
ROCH	**El Roble**	**0.63**	**274**	⇓*i* P	Pn	11 03 05.6	+0.8
ROCH				*i* S	Sn	11 03 19.0	+1.5
PCH	**Pirque**	**0.63**	**200**	⇑*i* P	Pn	11 03 05.4	+0.5
PCH				*i* S	Sn	11 03 18.4	+1.0
RCDM	**Rinconada Maip**	**0.65**	**224**	⇑*i* P	Pn	11 03 05.2	+0.2
RCDM				*i* S	Sn	11 03 18.8	+1.0
RCDM				AMP		11 03 20.1	
	comp=E,4μm,0.2s						
RCDM	**Rinconada Maip**	**0.65**	**224**	⇑*i* P	Pn	11 03 05.2	+0.2
RCDM				*i* S	Sn	11 03 18.8	+1.0
LMEL	**Las Melosas**	**0.82**	**177**	*i* P	Pn	11 03 07.3	+0.7
LMEL				*i* S	Sn	11 03 22.1	+1.6
LMEL				AMP		11 03 26.4	
	comp=N,890nm,0.4s						
LMEL	**Las Melosas**	**0.82**	**177**	*i* P	Pn	11 03 07.3	+0.7
LMEL				*i* S	Sn	11 03 22.1	+1.6
TACH	**Talagante**	**0.85**	**222**	⇓*i* P	Pn	11 03 07.2	+0.3
TACH				*i* S	Sn	11 03 21.5	+0.5
CHCH	**Chadas Angostu**	**0.97**	**200**	⇓*i* P	Pn	11 03 08.4	+0.4
CHCH				*i* S	Sn	11 03 24.2	+1.0
CACH	**El Canelo**	**1.13**	**194**	⇑*i* P	Pn	11 03 10.8	+0.9
CACH				*i* S	Sn	11 03 28.1	+1.8
IHA	**Instituto Hidr**	**1.16**	**269**	*i* P	Pn	11 03 10.3	+0.1
IHA				*i* S	Sn	11 03 27.5	+0.5
LCCH	**Las Cruces**	**1.19**	**247**	⇓*i* P	Pn	11 03 10.8	+0.3
LCCH				*i* S	Sn	11 03 27.8	+0.3
CICH	**Cipreses**	**1.30**	**186**	⇓*i* P	Pn	11 03 12.7	+0.9
CHNG	**Los Chungos**	**1.55**	**317**	⇓*i* P	Pn	11 03 15.9	+1.1
CHNG				*i* S	Sn	11 03 35.8	+0.7
CHNG				AMP		11 03 38.5	
	comp=N,437nm,0.3s						
SFDO	**San Fernando**	**1.71**	**201**	⇓*i* P	Pn	11 03 16.9	+0.1
SFDO				*i* S	Sn	11 03 39.3	+0.6
CMCH	**Combarbala**	**1.95**	**341**	⇑*i* P	Pn	11 03 20.3	+0.5
CMCH				*i* S	Sn	11 03 45.0	+0.8
CMCH				AMP		11 03 48.6	
	comp=E,2μm,0.7s						
CMCH	**Combarbala**	**1.95**	**341**	⇑*i* P	Pn	11 03 20.3	+0.5
CMCH				*i* S	Sn	11 03 45.0	+0.8

*IDC **20** 11:17:10.2±5.6, 4202N×14699E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=145.4km s-min=25.7km az=172.0*
*

KNZ	Kokohu	1.48	119	PN	Pn	11 28 24.7	+0.5
TSZ	Takapari Road	1.74	181	PN	Pn	11 28 26.4	-0.6
PUZ	Puketiti	1.79	83	PN	Pn	11 28 27.3	-0.3
PUZ				SN	Sn	11 28 51.4	-1.2
PXZ	Pawanui	1.83	159	PN	Pn	11 28 27.8	-0.3
PXZ				SN	Sn	11 28 54.2	+0.7
MXZ	Matakaoa Point	1.97	68	PN	Pn	11 28 29.6	0.0
MRZ	Mangatainoka R	2.36	188	PN	Pn	11 28 32.5	-1.7
BFZ	Birch Farm	2.37	176	ePN	Pn	11 28 32.9	-1.5
KIW	Kapiti Island	2.68	198	PN	Pn	11 28 35.8	-2.4
MTW	Mount Morrison	2.86	188	PN	Pn	11 28 37.9	-2.6
CAW	Cannon Point	2.88	194	PN	Pn	11 28 38.2	-2.5
TRWZ	Traveller	3.08	184	PN	Pn	11 28 40.6	-2.7

IGIL ***20*** *11:32:41.9, 3750N×1360W, h29km, ML2.9*
INMG ***20*** *11:32:43.9±0.8, 3727N×1367W, h10km, ML2.6, Error ellipse: s-maj=8.3km s-min=6.9km az=150.0*
CSEM ***20*** *11:32:45.2±0.9, 3788N×1287W, h10km, ML2.6, Error ellipse: s-maj=15.8km s-min=11.2km az=79.0*

MDD 20 11:32:42.6±2.7, 3754N×1330W, h0km, mb4.4/2, Error ellipse: s-maj=23.5km s-min=17.4km az=100.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	Loures	3.53	66	eSn	Sn	11 34 18.5	-2.6
PLOU	24nm,0.3s						
PLOU	Loures	3.53	66	eS	Sn	11 34 18.5	-2.6
	24nm,0.3s						
PTEO	Sao Teotonio	3.64	89	ePn	Pn	11 33 38.7	-1.4
PTEO				eSn	Sn	11 34 19.5	-4.2
PTEO	11nm,0.2s						
PTEO	Sao Teotonio	3.64	89	eS	Sn	11 34 19.5	-4.2
	11nm,0.2s						
MORF	Marmelete	3.71	92	eP	Pn	11 33 39.2	-1.9
MORF				eS	Sn	11 34 20.9	-4.6
MORF				eS	Sn	11 34 21.0	-4.5
MORF				AML	AML	11 34 25.9	
	comp=N,25nm,0.1s						
MORF	Marmelete	3.71	92	eP	Pn	11 33 39.2	-1.9
MORF				eS	Sn	11 34 20.9	-4.6
MOE	Montemor	4.03	74	ePn	Pn	11 33 44.7	-0.8
MOE				eSn	Sn	11 34 30.0	-3.4
PBEJ	Beja	4.33	82	ePn	Pn	11 33 49.4	-0.3
PBEJ				eSn	Sn	11 34 37.1	-3.8
PBEJ	comp=N,6.2nm,0.1s						
PBEJ	Beja	4.33	82	eP	Pn	11 33 49.4	-0.3
PBEJ				eS	Sn	11 34 37.1	-3.8
	comp=N,6.2nm,0.1s						
PTOM	Tomar	4.36	60	ePn	Pn	11 33 49.5	-0.5
PTOM				eSn	Sn	11 34 39.2	-2.3
PTOM	comp=N,13nm,0.3s						
PCBR	Castelo Branco	5.10	61	eSn	Sn	11 34 56.3	-3.5
PVIS	Viseu	5.26	51	eSn	Sn	11 34 59.6	-4.2
EMIN	Mina Concepcio	5.26	86	P	Pn	11 34 00.2	-2.3
	comp=N,0.9nm,0.1s,SNR=7.9						
EMIN				S	Sn	11 34 58.5	-5.4
	comp=N,2.7nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	5.26	86	P	Pn	11 34 00.2	-2.3
	comp=N,0.9nm,0.1s,SNR=7.9						
EMIN				S	Sn	11 34 58.5	-5.4
	comp=N,2.7nm,0.3s,SNR=7.9						
MTE	Manteigas	5.32	56	eSn	Sn	11 35 00.4	-4.7
MTE	comp=N,4.6nm,0.3s						
MTE	Manteigas	5.32	56	Sn	Sn	11 35 00.4	-4.7
	comp=N,2.3nm,0.3s						
PVRL	Vila Real	5.71	48	eSn	Sn	11 35 09.7	-5.1
PVRL							
	comp=N,5.2nm,0.1s						
PVRL	Vila Real	5.71	48	Sn	Sn	11 35 09.7	-5.1
	comp=N,2.6nm,0.1s						
ELOB	Lobios	5.91	41	S	Sn	11 35 13.3	-6.6
	comp=N,1.8nm,0.2s,SNR=7.9						
ELOB	Lobios	5.91	41	S	Sn	11 35 13.3	-6.6
	comp=N,1.8nm,0.2s,SNR=7.9						
ESPR	Espera	5.98	94	P	Pn	11 34 11.8	-0.5
	comp=N,3.1nm,0.1s,SNR=7.9						
ESPR				S	Sn	11 35 17.0	-4.5
	comp=N,18nm,0.3s,SNR=7.9						
ESPR	Espera	5.98	94	P	Pn	11 34 11.8	-0.5
	comp=N,3.1nm,0.1s,SNR=7.9						
ESPR				S	Sn	11 35 17.0	-4.5
	comp=N,18nm,0.3s,SNR=7.9						
ECAB	El Cabril	6.26	83	P	Pn	11 34 15.5	-0.8
	comp=N,1.0nm,0.1s,SNR=7.9						
ECAB				S	Sn	11 35 22.9	-5.6
	comp=N,3.1nm,0.2s,SNR=7.9						
ECAB	El Cabril	6.26	83	P	Pn	11 34 15.5	-0.7
	comp=N,1.0nm,0.1s,SNR=7.9						
ECAB				S	Sn	11 35 22.9	-5.6
	comp=N,3.1nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.33	30	S	Sn	11 35 22.5	-7.7
	comp=N,6.9nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.33	30	S	Sn	11 35 22.5	-7.7
	comp=N,6.9nm,0.2s,SNR=7.9						
PBRG	Braganca	6.61	48	eSn	Sn	11 35 31.5	-5.6
PBRG	comp=N,2.1nm,0.1s						
PBRG	Braganca	6.61	48	Sn	Sn	11 35 31.5	-5.6
	comp=N,1.1nm,0.1s						
ECAL	Calabor	6.70	47	S	Sn	11 35 33.1	-6.1
	comp=N,2.2nm,0.1s,SNR=7.9						
ECAL	Calabor	6.70	47	S	Sn	11 35 33.1	-6.1
	comp=N,2.2nm,0.1s,SNR=7.9						
EADA	Adamuz	6.93	82	P	Pn	11 34 24.2	-1.2
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	11 35 39.0	-6.0
	comp=N,3.0nm,0.1s,SNR=7.9						
EADA	Adamuz	6.93	82	P	Pn	11 34 24.2	-1.2
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	11 35 39.0	-5.9
	comp=N,3.0nm,0.1s,SNR=7.9						
EPON	Pontenova	7.44	37	S	Sn	11 35 48.2	-9.2
	comp=N,0.6nm,0.1s,SNR=4.0						
EPON	Pontenova	7.44	37	S	Sn	11 35 48.2	-9.3
	comp=N,0.6nm,0.1s,SNR=4.0						
EBAN	Banos Encina	7.55	82	S	Sn	11 35 54.0	-6.2
	comp=N,1.4nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	7.61	71	P	Pn	11 34 33.5	-1.3
	comp=N,1.4nm,0.1s,baz=258,slow=13,SNR=7.9						
ESDC	Sonseca Array	7.61	71	P	Pn	11 34 33.5	-1.3
	comp=N,1.4nm,0.1s,SNR=7.9						

IDC 20 11:33:19.6±1.7, 568S×14677E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.4/15, mbtmp3.3/5, ML2.7/2, Error ellipse: s-maj=48.6km s-min=25.3km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.73	174	Pn	Pn	11 34 18.2	-0.1
	2.0nm,0.3s,baz=355,slow=10.0,SNR=8.5						
PMG				Sn	Sn	11 35 04.8	+1.9
	5.9nm,0.3s,baz=25,slow=11,SNR=5.0						
WRA	Warramunga Arr	18.64	219	P	Pn	11 37 38.6	-0.4
	0.0nm,0.3s,baz=42,slow=11,SNR=3.6						
ASAR	Alice Springs	21.76	213	P	P	11 38 12.5	-0.3
	0.2nm,0.8s,baz=33,slow=10,SNR=3.7						
FITZ	Fitzroy Crossi	24.05	237	P	P	11 38 37.3	+0.9
	0.6nm,0.4s,baz=90,slow=20,SNR=3.5						
ILAR	Eielson Array	85.27	23	P	P	11 45 58.1	-0.2
	0.4nm,0.7s,baz=250,slow=5.3,SNR=6.3						

CASC 20 11:43:00.7±2.8, 1389N×9124W, h69km±103km, MD3.5, ML3.3, 5C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.82	69⇑	eP	Pn	11 43 17.0	+0.1
IXG				eS	Sn	11 43 30.4	+1.5
TP2	Tecpan 2	0.92	13⇑	eP	Pn	11 43 18.8	+0.7
TP2				eS	Sn	11 43 33.0	+2.0
TP2				AML	AML	11 43 35.8	
	comp=N,1μm,0.3s						
SBLS	San Blas	1.57	91⇑	eP	Pn	11 43 41.0	+14
SBLS				eS	Sn	11 44 00.6	+14
SNJE	San Jose	1.59	90⇓	eP	Pn	11 43 41.4	+15
SNJE				eS	Sn	11 44 00.3	+14
LFRS	El Faro	2.13	97⇑	eP	Pn	11 43 48.9	+15
LFRS				eS	Sn	11 44 15.6	+16
LCBS	La Ceiba	2.21	96⇑	eP	Pn	11 43 50.1	+15
LCBS				eS	Sn	11 44 18.8	+17

IDC 20 11:49:52.5±5.4, 1704S×17614W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.6/4, Error ellipse: s-maj=262.7km s-min=30.1km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.93	258	P	P	11 58 24.7	-0.1
	0.2nm,0.3s,baz=96,slow=7.7,SNR=12						
ASAR	Alice Springs	47.12	253	P	P	11 58 27.2	+0.9
	1.2nm,0.4s,baz=89,slow=7.8,SNR=43						
ILAR	Eielson Array	84.58	12	P	P	12 02 26.9	-0.8
	0.3nm,0.7s,baz=226,slow=5.2,SNR=6.9						
YKA	Yellowknife Ar	92.65	24	P	P	12 03 06.3	+0.1
	0.1nm,0.6s,baz=239,slow=4.3,SNR=4.7						

IDC 20 12:01:03.8±2.1, 784S×12737E, h0km, mb3.8/1, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML4.0/2, Error ellipse: s-maj=280.7km s-min=31.3km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.80	151	Pn	Pn	12 04 48.9	-1.7
	1.0nm,0.3s,baz=328,slow=14,SNR=37						
WRA				Sn	Sn	12 07 11.1	-13
	0.8nm,0.3s,baz=338,slow=22,SNR=10						
ASAR	Alice Springs	16.94	159	Pn	Pn	12 05 34.1	+2.0
	0.3nm,0.3s,baz=335,slow=9.0,SNR=16						
ASAR				Sn	Sn	12 08 30.1	-11
	0.1nm,0.3s,baz=345,slow=25,SNR=3.4						
MKAR	Makanchi Array	67.53	328	P	P	12 12 31.9	+0.1
	0.4nm,0.4s,baz=123,slow=5.3,SNR=8.9						

CASC 20 12:35:43.8±2.9, 1272N×8866W, h40km±343km, MD4.0, 6C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.80	28⇑	eP	Pn	12 36 12.8	+14
VSM				eS	Sn	12 36 24.4	+15
BLLM	Bellamira	0.82	29⇑	eP	Pn	12 36 12.8	+14
BLLM				eS	Sn	12 36 24.5	+15
SNVI	San Vicente	0.90	349⇓	eP	Pn	12 36 13.3	+13
SNVI				eS	Sn	12 36 26.2	+14
CNCH	Conchagua	0.97	55⇓	eP	Pn	12 36 14.4	+13
CNCH				eS	Sn	12 36 29.9	+16
LBRS	Las Brisas	1.08	340	⇓ iP	Pn	12 36 16.1	+14
LBRS				eS	Sn	12 36 29.3	+13
LFU	La Fuente	1.11	336⇑	eP	Pn	12 36 16.1	+13
LFU				eS	Sn	12 36 31.4	+14
CAHU	Cacacuatique	1.13	22	eP	Pn	12 36 17.7	+15
CAHU				eS	Sn	12 36 32.5	+15
PICS	Picacho	1.17	330	eP	Pn	12 36 13.2	+10
PICS				eS	Sn	12 36 30.1	+12
BOQS	Boqueron	1.18	329⇑	eP	Pn	12 36 17.3	+14
BOQS				eS	Sn	12 36 32.7	+14
SBLS	San Blas	1.46	320	eP	Pn	12 36 21.2	+14
SBLS				eS	Sn	12 36 39.1	+14
SNJE	San Jose	1.47	321⇓	eP	Pn	12 36 21.4	+14
SNJE				eS	Sn	12 36 39.9	+14
CRIN	San Cristobal	1.57	91	eP	Pn	12 36 10.3	+1.2
CRIN				eS	Sn	12 36 29.5	+1.4
LEON	Leon	1.75	100	eP	Pn	12 36 11.6	0.0
LEON				eS	Sn	12 36 32.1	-0.5
TEL3	Telica 3	1.77	95⇑	eP	Pn	12 36 12.4	+0.5
TELN	Telica	1.78	94⇓	eP	Pn	12 36 12.6	+0.5
TELN				eS	Sn	12 36 34.7	+1.2
MTO2	Montecristo 2	1.81	338	eP	Pn	12 36 26.2	+14
MTO2				eS	Sn	12 36 47.0	+13
MIRN	Miramar	1.92	98	eP	Pn	12 36 14.4	+0.4
CNGN	Cerro Negro	1.92	96⇑	eP	Pn	12 36 14.6	+0.5
CNGN				eS	Sn	12 36 38.3	+1.4
COPN	Copaltepe	2.09	105	eP	Pn	12 36 16.2	-0.1
COPN				eS	Sn	12 36 40.1	-0.9
MOMJ	Momotombo	2.09	98⇓	eP	Pn	12 36 16.9	+0.6
APYN	Apoyeque	2.30	102	eP	Pn	12 36 19.7	+0.5
APYN				eS	Sn	12 36 46.6	+0.3
XAVN	Gruta Xavier	2.34	104	eP	Pn	12 36 20.2	+0.4
XAVN				eS	Sn	12 36 45.8	-1.6
MGAN	Managua	2.42	103	eP	Pn	12 36 19.9	-1.0
MGAN				eS	Sn	12 36 51.6	+2.4
TICN	Ticuantepe	2.46	106	eP	Pn	12 36 22.4	+1.0
TICN				eS	Sn	12 36 50.4	+0.1
APON	Apoyo	2.65	107	eP	Pn	12 36 25.0	+1.0

MAN 20 12:40:58.2, 1772N×12018E, h26km, mb1.8, ML3.6, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.52	98	eP	Pb	12 41 09.0	+0.4
ABRA				eS	Sb	12 41 19.0	+3.3
PIP	Pasuquin	0.73	35	i P	Pb	12 41 12.7	+0.4
PIP				eS	Sb	12 41 23.5	+1.7
APYP	Conner	1.02	82	eP	Pn	12 41 17.3	+0.5
APYP				eS	Sb	12 41 30.7	+0.5

NIED ***20*** *13:06:00, 2270N×12350E, h5km, Mw4.3 Best double couple: M0:3.63000×10^15 NP1:φ=255.00000°, δ=59.00000°, λ=-108.00000°. NP2:φ=108.00000°, δ=35.00000°, λ=-63.00000°.*
ISCJB ***20*** *13:06:26.8±0.3, 2265N±002×12355E±004, h10km, mb4.1/21, MS3.5/8, Error ellipse: s-maj=6.0km s-min=3.1km az=29.0*
IDC ***20*** *13:06:27.3±0.6, 2269N×12365E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/23, mbtmp4.0/16, ML4.1/2, MS3.5/8, Ms1 3.5/8, ms1mx3.2/25, Error ellipse: s-maj=22.7km s-min=13.7km az=70.0*
BJI ***20*** *13:06:28.7, 2234N×12339E, h23km, mB4.5, mb4.2, ML4.0, Ms4.1, Msz3.8*
NEIC ***20*** *13:06:29.1±0.3, 2261N×12339E, h10km, mb4.4/6, Error ellipse: s-maj=9.5km s-min=6.6km az=71.0*
JMA ***20*** *13:06:30.9±0.3, 2274N×12354E, h55km, M4.2*
MAN ***20*** *13:07:15.4, 1928N×12240E, h14km*

ISC 20 13:06:27.7±1.2, 2271N±002×12357E±004, h4km±8km, n60, σ=10/72, mb4.1/21, MS3.5/8, 2C-1D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.36	9	P	Pn	13 06 53.7	+0.3
HATJ				S	Sg	13 07 10.5	-0.9
JKRS	Kuro-shima	1.58	15	P	Pn	13 06 57.1	+0.8
JKRS				S	Sn	13 07 16.4	-0.8
IRIF	Iriomote-Funau	1.63	5	P	Pn	13 06 57.5	+0.5
IRIF				S	Sn	13 07 17.1	-1.3
JIJ	Ishigaki jima	1.73	18	P	Pn	13 06 58.5	0.0
JIJ				S	Sn	13 07 19.4	-1.6
YOJ	Yonaguni jima	1.82	344	P	Pn	13 07 00.0	+0.3
YOJ				S	Sn	13 07 21.9	-1.3
JTJ	Tarama	2.19	28	P	Pn	13 07 05.3	+0.6
JTJ				S	Sn	13 07 31.5	-0.7
NACB	Ninganchiao	2.33	309	⇑ iPn	Pn	13 07 05.0	-1.7
NACB				Sn	Sn	13 07 25.8	-10
JMJ	Miyako jima 2	2.63	37	eS	Sn	13 07 42.0	-1.1
JOGS	Gusukube	2.65	39	P	Pn	13 07 12.8	+1.7
JOGS				eS	Sn	13 07 42.7	-0.9
YHNB	Yeheng	2.80	315	⇑ ePn	Pn	13 07 13.0	-0.3
TATO	Taipei	2.96	320	ePn	Pn	13 07 16.0	+0.7
TATO				eSn	Sn	13 07 50.5	-0.7
JKE	Kume jima 2	4.64	38	P	Pn	13 07 38.8	+0.3
JKE				eS	Sn	13 08 30.5	-2.3
SGCP	Mt. Cagua	4.67	198	eP	Pn	13 07 37.2	-1.6
SGCP				eS	Sn	13 08 27.3	-6.1
QZH	Quanzhou	5.07	297	⇓ iP	Pn	13 07 44.1	-0.3
QZH				S	Sn	13 08 38.3	-5.1
QZH				Smax			
	comp=N,190nm,0.8s						
QZH				Smax			
	comp=E,180nm,1.1s						
CVP	Callao Caves	5.24	199	eP	Pn	13 07 45.0	-1.7
APYP	Conner	5.29	205	eP	Pn	13 07 45.7	-1.7
APYP				eS	Sn	13 08 42.1	-6.8
ABRA	Dolores	5.70	209	eP	Pn	13 07 52.5	-0.6
PALP	Palanan	5.72	191	eP	Pn	13 07 51.9	-1.3
JIH	Iheya	5.87	42	eS	Sn	13 08 57.4	-5.8
JOW	Kunigami	5.93	45	Pn	Pn	13 07 55.2	-0.9
	comp=E,5.3nm,0.3s,baz=179,slow=12,SNR=16						
JOW				Sn	Sn	13 09 00.3	-4.2
	comp=E,3.9nm,0.3s,baz=109,slow=28,SNR=10						
JOW	Kunigami	5.93	45	P	Pn	13 07 56.7	+0.5
JOW				eS	Sn	13 09 00.6	-3.9
CAUP	Cauayan	5.96	196	eP	Pn	13 07 56.9	+0.2
JTK	Tokunoshima	7.02	43	eS	Sn	13 09 23.8	-7.6
BALP	Baler	7.18	196	eP	Pn	13 08 13.1	-0.3
POLP	Polilio Island	8.09	191	eP	Pn	13 08 24.7	-1.1
TGY	Tagaytay City	8.91	197	Pn	Pn	13 08 37.1	-0.1
	comp=E,15nm,0.3s,baz=347,slow=5.7,SNR=3.1						
NJ2	Nanjing	10.21	337	eP	Pn	13 08 59.4	+4.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
MAJO	Matsushiro	18.73	39	eP	Pn	13 10 51.3	+3.7
MAT	Matsushiro	18.73	39	P	Pn	13 10 50.1	+2.5
MAT				eS	Sn	13 14 28.8	+11
MAT	Matsushiro	18.73	39	eP	Pn	13 10 50.0	+2.4
MJAR	Matsushiro Arr	18.73	39	P	Pn	13 10 50.8	+3.2
	comp=Z,0.4nm,0.3s,baz=154,slow=28,SNR=5.2						
CN2	Changchun	21.10	4	eP	P	13 11 14.3	+1.3
GUMO	Guam	22.15	111	LR	LR	13 18 15.0	
	comp=Z,56nm,18.8s,MS3.0,baz=343,slow=32						
ASAJ	Asahikawa	26.49	32	LR	LR	13 21 56.3	
	comp=Z,104nm,21.5s,MS3.4,baz=22,slow=35						
ULN	Ulaanbaatar	28.37	336	eP	P	13 12 23.3	+0.5
	comp=Z,2.7nm,0.5s,mb4.1						
ULN				e		13 12 33.0	
SONM	Songino Array	28.59	335	P	P	13 12 25.9	+1.1
	comp=Z,4.6nm,0.7s,mb4.3,baz=152,slow=8.6,SNR=34						
SONM				LR	LR	13 25 28.7	
	comp=Z,96nm,18.4s,MS3.4,baz=9.0,slow=40						
MKAR	Makanchi Array	40.92	316	P	P	13 14 12.4	+1.4
	comp=Z,1.7nm,0.8s,mb3.7,baz=113,slow=9.3,SNR=13						
ZAL	Zalesovo	42.67	327	P	P	13 14 26.4	+1.0
	comp=Z,1.4nm,0.8s,mb3.7,baz=343,slow=7.9,SNR=8.3						
ZAL				LR	LR	13 33 08.6	
	comp=Z,56nm,21.9s,MS3.4,baz=353,slow=38						
WRAB	Tennant Creek	43.67	165	eP	P	13 14 33.0	-0.5
WRA	Warramunga Arr	43.67	165	P	P	13 14 32.8	-0.6
	comp=Z,0.7nm,0.4s,mb3.8,baz=346,slow=8.8,SNR=17						
WRA				PcP	PcP	13 16 20.9	+0.3
	comp=Z,0.7nm,0.6s,baz=343,slow=3.5,SNR=6.2						
KURK	Kurchatov	44.62	320	eP	P	13 14 41.6	+0.5
	comp=Z,4.8nm,0.8s,mb4.4						
KURK				e		13 14 50.4	
ASAR	Alice Springs	47.18	167	P	P	13 15 01.9	+0.6
	comp=Z,0.5nm,0.4s,mb3.8,baz=351,slow=11,SNR=33						
ASAR				PcP	PcP	13 16 32.9	+0.1
	comp=Z,0.4nm,0.6s,baz=350,slow=3.7,SNR=4.5						
BVAR	Borovoye Array	50.20	321	P	P	13 15 25.2	+0.7
	comp=Z,0.8nm,0.5s,mb4.0,baz=105,slow=8.7,SNR=8.3						
BRVK	Borovoye	50.27	321	eP	P	13 15 26.0	+1.0
	comp=Z,0.8nm,0.5s,mb4.0						
BRVK				e		13 15 34.5	
ZRNK	Zerenda	50.99	321	eP	P	13 15 30.8	+0.3
	comp=Z,5.6nm,0.8s,mb4.5						
ZRNK				e		13 15 39.7	
KLBR	Kellerberrin	54.28	186	eP	P	13 15 54.1	-0.7
	comp=Z,5.7nm,0.5s,mb4.8						
DZM	Mont Dzumac	61.03	134	P	P	13 16 43.3	+0.9
	comp=Z,2.1nm,0.6s,mb4.4,baz=242,slow=15,SNR=4.6						
COLA	College	69.09	27	P	P	13 17 36.7	+1.9
	comp=Z,2.4nm,0.7s,mb4.2						
ILAR	Eielson Array	69.52	27	P	P	13 17 37.2	-0.2
	comp=Z,0.7nm,0.7s,mb3.7,baz=263,slow=4.7,SNR=16						
ARCES	ARCESS Array B	71.72	338	LR	LR	13 52 48.8	
	comp=Z,50nm,19.8s,MS3.8,baz=8.9,slow=39						
INK	Inuvik	73.76	22	P	P	13 18 02.6	-0.3
	comp=Z,2.2nm,0.9s,mb4.1,baz=306,slow=7.1,SNR=10						
FINES	FINESS Array B	73.81	330	P	P	13 18 03.6	+0.3
	comp=Z,1.2nm,0.7s,mb3.9,baz=36,slow=7.1,SNR=4.9						
FINES				LR	LR	13 53 50.9	
	comp=Z,52nm,18.1s,MS3.9,baz=8.2,slow=38						
AKASG	Malin Array Be	75.42	319	P	P	13 18 11.6	-1.0
	comp=Z,0.5nm,0.4s,mb3.8,baz=62,slow=6.4,SNR=4.1						
BRTR	Keskin Array B	75.81	307	P	P	13 18 15.8	+1.0
	comp=Z,0.4nm,0.5s,mb3.6,baz=38,slow=7.3,SNR=3.3						
NOA	NORSAR Array B	80.54	333	LR	LR	13 57 18.6	
	comp=Z,25nm,18.3s,MS3.6,baz=120,slow=38						
YKA	Yellowknife Ar	83.46	23	P	P	13 18 57.2	+0.8
	comp=Z,1.5nm,0.7s,mb4.1,baz=309,slow=4.8,SNR=35						
YKA				LR	LR	13 58 09.7	
	comp=Z,31nm,18.6s,MS3.7,baz=70,slow=37						
YKA	Yellowknife Ar	83.46	23	P	P	13 18 57.2	+0.8
YKA				LR	LR	13 58 09.7	
KMBO	Kilima Mbogo	87.03	268	P	P	13 19 16.8	+2.5
	comp=Z,0.9nm,0.5s,mb4.3,baz=85,slow=11,SNR=3.5						
KMBO	Kilima Mbogo	87.03	268	P	P	13 19 16.8	+2.5
NVAR	Mina Array Bea	95.99	44	P	P	13 19 57.6	+1.6
	comp=Z,0.4nm,0.7s,mb3.9,baz=266,slow=7.4,SNR=3.7						

IDC 20 13:14:51.1±8.7, 3026S×17806W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/12, mbtmp3.2/2, Error ellipse: s-maj=375.2km s-min=57.1km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.07	267	P	P	13 22 53.1	+0.4
	0.2nm,0.7s,baz=99,slow=7.0,SNR=4.8						
WRA	Warramunga Arr	44.04	272	P	P	13 23 00.4	-0.2
	0.4nm,0.6s,baz=112,slow=7.6,SNR=5.1						
FINES	FINESS Array B	145.00	340	PKPbc	PKPbc	13 34 28.4	-1.2
	0.7nm,0.4s,baz=45,slow=4.8,SNR=9.2						

ISCJB ***20*** *13:36:13.7±1.0, 3649N±004×2887E±004, h1km±7km, Error ellipse: s-maj=7.1km s-min=4.5km az=114.7*
CSEM ***20*** *13:36:14.4±0.1, 3651N×2890E, h10km, MD3.1, Error ellipse: s-maj=2.8km s-min=1.8km az=149.0*
NEIC ***20*** *13:36:14.3, 3658N×2882E, h14km, MD3.1(ATH), After ATH.*
ATH ***20*** *13:36:14.3, 3658N×2882E, h14km, MD3.1/3*
ISK ***20*** *13:36:16.1, 3653N×2886E, h39km, MD3.3*

ISC 20 13:36:14.7±0.8, 3647N±004×2887E±004, h10km±6km, n17, σ=8/87/26, Dodecanese Islands

| Code | Station

SIV San Ignacio 5.54 76 P Pn 13 48 16.9 +0.3
0.7nm,0.3s,baz=250,slow=12,SNR=18
TORD Torodi Ar. Bea 74.00 70 P P 13 58 26.9 +0.5
0.3nm,0.9s,baz=242,slow=6.1,SNR=4.4
MKAR Makanchi Array 141.12 34 PKP PKPdf 14 06 21.7 +0.9
0.2nm,0.5s,baz=295,slow=2.7,SNR=4.1

IDC 20 13:54:03.0±63.0,1711S×17744W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/14,mbtmp3.9/3,Error ellipse: s-maj=1174.0km s-min=167.6km az=79.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.83**	**241**	P	P	14 01 38.1	+0.1
	1.5nm,1.0s,baz=79,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**45.69**	**259**	P	P	14 02 25.9	+0.3
	0.3nm,0.4s,baz=94,slow=7.4,SNR=20						
ASAR	**Alice Springs**	**45.90**	**253**	P	P	14 02 27.8	+0.5
	2.0nm,0.4s,baz=88,slow=8.6,SNR=75						

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*IDC **20** 14:00:47.4±1.3, 1641S×17334W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/17, mbtmp3.9/6, Error ellipse: s-maj=53.5km s-min=23.7km az=132.0*
*ISCJB **20** 14:00:48.6±1.1, 162S±02×1732W±03, h33km, mb3.9/6, Error ellipse: s-maj=44.6km s-min=9.0km az=72.8*
*NEIC **20** 14:00:49.7±0.9, 1642S×17339W, h15km, Error ellipse: s-maj=38.0km s-min=18.0km az=127.0*
ISC 20 14:00:50.2±1.2,163S±02×1730W±03,h35km,n13, σ1§26/11,mb3.9/6,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.63**	**27**	Pn	**Pn**	**14 01 30.0**	**-0.1**
	6.7nm,0.3s,baz=329,slow=7.2,SNR=20						
AFI				Sn	**Sn**	**14 01 59.4**	**-1.4**
	43nm,0.3s,baz=231,slow=21,SNR=9.9						
AFI	**Afiamalu**	**2.63**	**27**	*e*Pn	**Pn**	**14 01 29.7**	**-0.4**
AFI				*e*Sn	**Sn**	**14 02 01.2**	**+0.4**
PPT	**Papeete**	**22.43**	**97**	*e*LR	LR	14 11 11.6	
	65nm,24.0s						
TBI	**Tubuai**	**23.20**	**111**	*e*LR	LR	14 11 27.9	
	69nm,28.5s						
URZ	**Urewera**	**23.57**	**200**	P	**P**	**14 05 57.5**	**-0.1**
	2.2nm,0.4s,mb4.0,baz=80,slow=5.9,SNR=7.3						
RKT	**Rikitea**	**36.35**	**107**	*e*LR	LR	14 17 26.3	
	54nm,43.2s						
STKA	**Stephens Creek**	**43.95**	**241**	P	**P**	**14 08 51.4**	**-2.3**
	1.7nm,0.9s,mb3.8,baz=117,slow=9.0,SNR=3.1						
STKA	**Stephens Creek**	**43.95**	**241**	P	**P**	**14 08 51.4**	**-2.3**
WRA	**Warramunga Arr**	**50.04**	**257**	P	**P**	**14 09 41.6**	**+0.3**
	0.6nm,0.5s,mb3.9,baz=94,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**50.22**	**253**	P	**P**	**14 09 43.4**	**+0.7**
	3.0nm,0.6s,mb4.5,baz=90,slow=8.2,SNR=71						
PDAR	**Pinedale Array**	**82.65**	**42**	P	**P**	**14 13 15.0**	**+5.1**
	0.4nm,0.8s,mb3.5,baz=217,slow=0.5,SNR=3.9						
ILAR	**Eielson Array**	**83.23**	**11**	P	**P**	**14 13 15.7**	**+2.8**
	0.5nm,0.7s,mb3.6,baz=228,slow=6.6,SNR=11						
BRTR	**Keskin Array B**	**147.09**	**321**	PKPbc	PKPbc	14 20 32.5	+3.2
	0.7nm,0.7s,baz=112,slow=5.9,SNR=3.7						

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*ISCJB **20** 14:12:23.2±0.4, 5519N±002×16363E±004, h47km±5km, mb3.9/18, Error ellipse: s-maj=4.3km s-min=3.6km az=73.0*
*KRSC **20** 14:12:23.3±1.8, 5523N×16364E, h40km±18km, ML4.4*
*MOS **20** 14:12:23.3±1.3, 5527N×16361E, h46km, mb4.3/5, Error ellipse: s-maj=14.0km s-min=9.9km az=81.3*
*NEIC **20** 14:12:25.3±0.5, 5526N×16354E, mb4.5/5, Error ellipse: s-maj=16.7km s-min=8.2km az=170.0*
*IDC **20** 14:12:25.4±1.5, 5524N×16349E, h45km±7km, mb3.5/12, mb1 3.7/12, mb1mx3.6/23, mbtmp3.7/12, ML3.7/1, Error ellipse: s-maj=41.2km s-min=14.7km az=2.0*
ISC 20 14:12:24.3±0.4,5522N±002×16365E±004,h40km±5km, h49km±.9km:pP-P,n73,σ1§13/111,mb3.9/18,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.10**	**335**	P	**Pn**	**14 12 41.0**	**-2.2**
KBTR				S	**Sn**	**14 12 53.4**	**-3.7**
KBTR	**Krutoberegovo**	**1.10**	**335**	*i* P	**Pn**	**14 12 41.1**	**-2.1**
KBTR				*e*S	**Sn**	**14 12 55.2**	**-1.9**
MKZ	**Mys Kozlova**	**1.29**	**240**	P	**Pn**	**14 12 44.8**	**-1.1**
MKZ				S	**Sn**	**14 12 59.6**	**-2.3**
MKZ	**Mys Kozlova**	**1.29**	**240**	*e*P	**Pn**	**14 12 44.6**	**-1.3**
MKZ				*e*S	**Sn**	**14 13 00.4**	**-1.5**
BKI	**Bering**	**1.33**	**90**	*e*P	**Pn**	**14 12 45.2**	**-1.2**
BKI				*e*S	**Sn**	**14 13 00.9**	**-2.0**
BKI				Smax			
	2μm,0.4s						
ZLN	**Zelenaya**	**1.80**	**298**	*i* P	**Pn**	**14 12 53.1**	**+0.3**
ZLN				*e*S	**Sn**	**14 13 13.3**	**-1.2**
SMKR	**Semkarok**	**1.84**	**319**	*e*P	**Pn**	**14 12 52.5**	**-0.8**
SMKR				*e*S	**Sn**	**14 13 16.8**	**+1.5**
CIRR	**Tsirk**	**1.87**	**300**	*i* P	**Pn**	**14 12 53.7**	**-0.1**
CIRR				*e*S	**Sn**	**14 13 17.2**	**+1.0**
LGNR	**Loginova**	**1.89**	**298**	*e*P	**Pn**	**14 12 54.1**	**+0.1**
LGNR				*e*S	**Sn**	**14 13 16.2**	**-0.4**
BDR	**Baidarnaya**	**1.93**	**316**	*e*P	**Pn**	**14 12 53.6**	**-1.0**
BDR				*e*S	**Sn**	**14 13 16.9**	**-0.7**
SRKR	**Sorokina**	**2.00**	**317**	*e*P	**Pn**	**14 12 55.2**	**-0.4**
SRKR				*e*S	**Sn**	**14 13 19.5**	**0.0**
TUMR	**Tumrok**	**2.01**	**273**	*i* P	**Pn**	**14 12 56.0**	**+0.3**
TUMR				*e*S	**Sn**	**14 13 21.4**	**+1.9**
KRSR	**Krestovskiy**	**2.01**	**301**	*e*P	**Pn**	**14 12 55.0**	**-0.7**
KRSR				*e*S	**Sn**	**14 13 20.0**	**+0.4**
KLY	**Klyuchi**	**2.02**	**304**	P	**Pn**	**14 12 54.0**	**-1.8**
KLY				S	**Sn**	**14 13 15.4**	**-4.4**
KLY	**Klyuchi**	**2.02**	**304**	*e*P	**Pn**	**14 12 54.0**	**-1.8**
KLY				*e*S	**Sn**	**14 13 18.1**	**-1.7**
KPT	**Kopyto**	**2.08**	**292**	*e*P	**Pn**	**14 12 57.4**	**+0.7**
KPT				*e*S	**Sn**	**14 13 20.9**	**-0.5**
KOZR	**Kozyr**	**2.29**	**293**	PN	**Pn**	**14 13 01.0**	**+1.4**
KOZR				S	**Sn**	**14 13 26.6**	**+0.1**
KOZ	**Kozyrevsk**	**2.30**	**293**	P	**Pn**	**14 13 01.0**	**+1.3**
KOZ				S	**Sn**	**14 13 26.6**	**-0.2**
KOZ	**Kozyrevsk**	**2.30**	**293**	*e*P	**Pn**	**14 13 00.7**	**+1.0**
KOZ				*e*S	**Sn**	**14 13 26.5**	**-0.3**
SRDR	**Sredinnyy**	**2.48**	**298**	*e*P	**Pn**	**14 13 02.8**	**+0.6**
SRDR				*e*S	**Sn**	**14 13 31.6**	**+0.4**
KII	**Karymskiy**	**2.71**	**246**	*e*P	**Pn**	**14 13 05.3**	**-0.1**
KII				*e*S	**Sn**	**14 13 36.3**	**-0.7**
ESO	**Esso**	**2.90**	**286**	*e*P	**Pn**	**14 13 08.4**	**+0.5**
ESO				*e*S	**Sn**	**14 13 43.4**	**+1.9**
ESO				Smax			
	250nm,0.6s						
SPN	**Mys Shipunski**	**3.01**	**227**	*e*S	**Sn**	**14 13 42.6**	**-1.7**
NLC	**Nalytchevo**	**3.26**	**233**	P	**Pn**	**14 13 13.9**	**+1.1**
NLC				S	**Sn**	**14 13 48.6**	**-1.8**
NLC	**Nalytchevo**	**3.26**	**233**	*e*P	**Pn**	**14 13 13.8**	**+0.9**
NLC				*e*S	**Sn**	**14 13 48.7**	**-1.7**
SMAR	**Somma**	**3.45**	**237**	*e*P	**Pn**	**14 13 16.1**	**+0.5**
SMAR				*e*S	**Sn**	**14 13 54.4**	**-0.8**
UGLR	**Uglovaya**	**3.48**	**237**	*e*P	**Pn**	**14 13 16.9**	**+1.0**
UGLR				*e*S	**Sn**	**14 13 55.0**	**-0.8**
AVH	**Avacha**	**3.48**	**238**	*e*P	**Pn**	**14 13 17.1**	**+1.1**
AVH				*e*S	**Sn**	**14 13 55.2**	**-0.8**
KOK	**Koryaka**	**3.52**	**239**	*e*P	**Pn**	**14 13 18.3**	**+1.9**
KOK				*e*S	**Sn**	**14 13 56.6**	**-0.2**
GNL	**Ganaly**	**3.66**	**248**	*e*P	**Pn**	**14 13 19.9**	**+1.4**
GNL				*e*S	**Sn**	**14 13 59.8**	**-0.6**
PET	**Petropavlovsk**	**3.67**	**235**	P	**Pn**	**14 13 19.1**	**+0.5**
PET				S	**Sn**	**14 13 58.0**	**-2.6**
PET	**Petropavlovsk**	**3.67**	**235**	*e*P	**Pn**	**14 13 19.1**	**+0.5**
PET				*e*S	**Sn**	**14 13 58.9**	**-1.7**
KRMR	**Karymshinskiy**	**4.04**	**236**	*e*P	**Pn**	**14 13 24.9**	**+1.3**
KRMR				*e*S	**Sn**	**14 14 09.5**	**-0.2**
RUS	**Russkaya**	**4.13**	**230**	P	**Pn**	**14 13 25.2**	**+0.4**
RUS				S	**Sn**	**14 14 09.2**	**-2.7**
RUS	**Russkaya**	**4.13**	**230**	*e*P	**Pn**	**14 13 25.2**	**+0.4**
RUS				*e*S	**Sn**	**14 14 09.9**	**-2.0**
GRL	**Gorelyy**	**4.25**	**233**	*e*P	**Pn**	**14 13 28.5**	**+2.1**
GRL				*e*S	**Sn**	**14 14 16.2**	**+1.5**
APC	**Apacha**	**4.46**	**242**	*e*P	**Pn**	**14 13 31.5**	**+2.1**
APC				*e*S	**Sn**	**14 14 21.6**	**+1.6**
FX1	**Attu Island--F**	**6.07**	**109**	P	**Pn**	**14 13 52.0**	**+0.4**
	6.0nm,0.3s,baz=188,slow=3.9,SNR=35						
FX1				S	**Sn**	**14 14 54.4**	**-5.3**
	9.0nm,0.3s,baz=157,slow=20,SNR=11						
FX1	**Attu Island--F**	**6.07**	**109**	*e*P	**Pn**	**14 13 51.2**	**-0.3**
FX1				*e*S	**Sn**	**14 14 55.8**	**-4.0**
KAMR	**Kamenskoye**	**7.38**	**9**	*e*P	**Pn**	**14 14 10.6**	**+1.1**
TIXI	**Tiksi**	**22.12**	**331**	*e*P	**P**	**14 17 16.4**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
TIXI				MLR	MLR		
	comp=Z,63nm,14.0s						
KDAK	**Kodiak Island**	**23.98**	**66**	P	**P**	**14 17 34.6**	**-0.3**
	comp=Z,14nm,1.2s,mb4.3,baz=331,slow=10,SNR=3.3						
MCK	**McKinley**	**24.98**	**51**	*e*P	**P**	**14 17 44.9**	**+0.8**
MAJO	**Matsushiro**	**25.50**	**233**	P	**P**	**14 17 50.0**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
MAJO	**Matsushiro**	**25.50**	**233**	P	**P**	**14 17 50.0**	**+1.1**
	comp=Z,5.4nm,0.6s,mb4.2						
MJAR	**Matsushiro Arr**	**25.50**	**233**	P	**P**	**14 17 51.2**	**+2.3**
	comp=Z,2.4nm,0.8s,mb3.8,baz=37,slow=7.8,SNR=6.9						
ILAR	**Eielson Array**	**25.83**	**48**	P	**P**	**14 17 51.8**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.5,baz=256,slow=8.4,SNR=13						
ILAR				pP	pP	14 18 04.0	+1.2
	comp=Z,2.3nm,0.8s,baz=267,slow=9.1,SNR=12						
INK	**Inuvik**	**30.90**	**40**	P	**P**	**14 18 37.3**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.7,baz=271,slow=8.5,SNR=6.3						
INK	**Inuvik**	**30.90**	**40**	*e*P	**P**	**14 18 37.3**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**30.90**	**40**	*e*P	**P**	**14 18 37.3**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.8						
SONM	**Songino Array**	**35.47**	**282**	P	**P**	**14 19 17.4**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=52,slow=8.0,SNR=5.0						
YKA	**Yellowknife Ar**	**40.18**	**45**	P	**P**	**14 19 57.1**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.4,baz=297,slow=8.1,SNR=5.9						
YKA				pP	pP	14 20 09.4	+1.6
	comp=Z,0.4nm,0.5s,baz=298,slow=8.1,SNR=6.3						
YKA	**Yellowknife Ar**	**40.18**	**45**	P	**P**	**14 19 57.1**	**+0.5**
YKA				pP	pP	14 20 09.4	+1.6
KURK	**Kurchatov**	**48.38**	**302**	*e*P	**P**	**14 21 00.2**	**-2.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
KURK	**Kurchatov**	**48.38**	**302**	*e*P	**P**	**14 21 00.2**	**-2.0**
	comp=Z,2.4nm,0.5s,mb4.5						
MKAR	**Makanchi Array**	**49.11**	**296**	P	**P**	**14 21 06.2**	**-1.5**
	comp=Z,0.5nm,0.7s,mb3.7,baz=65,slow=6.8,SNR=7.0						
BVAR	**Borovoye Array**	**50.70**	**309**	P	**P**	**14 21 18.3**	**-1.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=55,slow=7.8,SNR=3.6						
BVAR				pP	pP	14 21 31.1	-0.2
	comp=Z,0.7nm,0.6s,baz=53,slow=9.8,SNR=3.5						
NVAR	**Mina Array Bea**	**53.10**	**74**	P	**P**	**14 21 39.4**	**+1.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=302,slow=7.2,SNR=3.1						
NVAR				pP	pP	14 21 52.7	+3.4
	comp=Z,0.4nm,0.5s,baz=308,slow=6.9,SNR=4.3						
NVAR	**Mina Array Bea**	**53.10**	**74**	P	**P**	**14 21 39.4**	**+1.7**
NVAR				pP	pP	14 21 52.7	+3.4
PDAR	**Pinedale Array**	**54.69**	**64**	P	**P**	**14 21 51.4**	**+2.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=356,slow=6.3,SNR=2.9						
FINES	**FINESS Array B**	**58.97**	**338**	P	**P**	**14 22 19.3**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.2,baz=340,slow=10,SNR=6.0						
FINES	**FINESS Array B**	**58.97**	**338**	P	**P**	**14 22 19.3**	**-0.4**
GUN	**Gumba**	**60.72**	**277**	*e*P	**P**	**14 22 31.5**	**-0.2**
JIRN	**Jiri**	**60.74**	**277**	*e*P	**P**	**14 22 31.9**	**+0.1**
KKN	**Kakani**	**61.16**	**278**	*e*P	**P**	**14 22 34.5**	**-0.2**
	comp=Z,6.6nm,0.6s,mb4.9						
KKN	**Kakani**	**61.16**	**278**	*e*P	**P**	**14 22 34.5**	**-0.2**
KKN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
PKI	**Pulchoki**	**61.25**	**278**	*e*P	**P**	**14 22 33.6**	**-1.7**
GKN	**Gorkha**	**61.36**	**278**	*e*P	**P**	**14 22 35.8**	**-0.2**
DMN	**Daman**	**61.39**	**278**	*e*P	**P**	**14 22 35.2**	**-1.1**
NOA	**NORSAR Array B**	**62.05**	**345**	P	**P**	**14 22 41.3**	**+0.6**
	comp=Z,0.6nm,0.5s,mb4.0,baz=19,slow=6.8,SNR=2.6						
KOLN	**Koldanda**	**62.12**	**279**	*e*P	**P**	**14 22 40.8**	**-0.4**
	comp=Z,8.8nm,0.6s,mb5.0						
AKASG	**Malin Array Be**	**67.83**	**331**	P	**P**	**14 23 18.0**	**-0.2**
	comp=Z,0.4nm,0.2s,mb4.0,baz=31,slow=6.4,SNR=4.7						
AKASG	**Malin Array Be**	**67.83**	**331**	P	**P**	**14 23 18.0**	**-0.2**

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*BJI **20** 14:17:51.8, 6115S×15194E, h25km, mB5.4, mb5.5, Ms5.2, Msz5.0*
*ISCJB **20** 14:17:56.7±0.1, 586S±003×15122E±003, h25km, mb5.5/132, MS5.0/65, Error ellipse: s-maj=3.7km s-min=3.6km az=73.1*
*SZGRF **20** 14:17:57.1, 751S×150.16E, h29km, mb5.3, New Britain, Papua New Guinea, region*
*IDC **20** 14:17:57.7±1.8, 5785S×15123E, h22km±10km, mb5.3/24, mb1 5.3/27, mb1mx5.3/28, mbtmp5.4/27, ML4.2/2, MS5.0/26, Ms1 5.0/26, ms1mx4.9/33, Error ellipse: s-maj=14.5km s-min=10.6km az=102.0*
*MOS **20** 14:17:58.5±1.2, 573S×151.14E, h33km, mb5.8/49, MS5.1/18, Error ellipse: s-maj=8.2km s-min=5.4km az=81.6*
*NEIC **20** 14:17:58.3±0.1, 581S×15120E, mb5.6/86, MS5.2/19, MW5.4, Error ellipse: s-maj=4.0km s-min=3.0km az=128.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}1.53; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-1.56; $M_{r\theta}$-0.36; $M_{\theta\phi}$0.18; $M_{\phi r}$-0.22; Best double couple: $M_0$1.60000×10^{17} NP1: ϕ_s187.00000°, δ50.00000°, λ108.00000°. NP2: ϕ_s341.00000°, δ43.00000°, λ70.00000°. Principal axes: T 1.6300, Plg76.0000°, Azm160.0000°; N -0.0400, Plg13.0000°, Azm355.0000°; P -1.5900, Plg3.0000°, Azm265.0000°;*
*HRVD **20** 14:17:58.3±0.1, 597S×15144E, h32km, MW5.5/96, Centroid moment Tensor Solution. LP body waves: s82,c161;Mantle waves: s96,c189; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.87±.03; $M_{\theta\theta}$-0.22±.02; $M_{\phi\phi}$-1.65±.02; $M_{r\theta}$-0.54±.03; $M_{\theta\phi}$0.73±.02; $M_{\phi r}$0.59±.03; Best double couple: $M_0$2.07500×10^{17} NP1:ϕ_s165.00000°, δ35.00000°, λ103.00000°. NP2: ϕ_s330.00000°, δ56.00000°, λ81.00000°. Principal axes: T 2.0500, Plg77.0000°, Azm211.0000°; N 0.0510, Plg7.0000°, Azm334.0000°; P -2.1000, Plg11.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 20 14:17:58.8±0.1,588S±003×15127E±003,h27km, h27km±1.2km:pP-P,n799,σ1§09/355,mb5.5/128,MS5.0/65, 98C-16D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.37**	**229**	Pn	**Pn**	**14 19 16.7**	**-0.4**
	56nm,0.3s,baz=51,slow=6.3,SNR=131						
PMG				Sn	**Sn**	**14 20 18.5**	**+0.4**
	171nm,0.3s,baz=301,slow=22,SNR=11						
PMG				LR	LR	14 20 56.0	
	comp=Z,8μm,20.6s,baz=172,slow=33						
PMG	**Port Moresby**	**5.37**	**229**	*d* P	**Pn**	**14 19 19.7**	**+2.5**
PMG	**Port Moresby**	**5.37**	**229**	‖*e*Pn	**Pn**	**14 19 18.9**	**+1.7**
	2μm,0.8s						
PMG				*e*Sn	**Sn**	**14 20 05.6**	**-13**
HNR	**Honiara**	**9.30**	**113**	Pn	**Pn**	**14 20 11.8**	**+0.8**
	108nm,0.3s,baz=264,slow=2.5,SNR=34						
HNR				LR	LR	14 23 27.8	
	comp=Z,7μm,19.3s,baz=350,slow=35						
HNR	**Honiara**	**9.30**	**113**	‖*e*P	**Pn**	**14 20 11.7**	**+0.7**
HNR				pmax	pmax		
	comp=Z,1μm,0.8s						
HNR	**Honiara**	**9.30**	**113**	‖*e*Pn	**Pn**	**14 20 11.7**	**+0.7**
	comp=Z,1μm,0.8s						
CTA	**Charters Tower**	**14.94**	**199**	*e*P	**Pn**	**14 21 27.8**	**-0.3**
	comp=Z,55nm,0.6s						
CTA				*e*S	**Sn**	**14 24 17.2**	**+4.5**
CTA	**Charters Tower**	**14.94**	**199**	Pn	**Pn**	**14 21 29.9**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=27,slow=14,SNR=7.4						
CTA				LR	LR	14 26 42.7	
	comp=Z,5μm,21.3s,baz=15,slow=35						
CTA	**Charters Tower**	**14.94**	**199**	*e*P	**Pn**	**14 21 27.8**	**-0.3**
CTA				*e*S	**Sn**	**14 24 17.2**	**+4.5**
CTA				pmax	pmax		
	comp=Z,55nm,0.6s						
CTAO	**Charters Tower**	**14.94**	**199**	*e*P	**Pn**	**14 21 28.9**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,120nm,0.9s						
CTAO	**Charters Tower**	**14.94**	**199**	*e*P	**Pn**	**14 21 28.9**	**+0.8**
	comp=Z,120nm,0.9s						
KAKA	**Kakadu**	**19.77**	**249**	⇑*i* P	**Pn**	**14 22 27.4**	**-1.0**
	comp=Z,601nm,1.0s						
BKM	**Butte a Klehm**	**20.31**	**127**	*i* P	**P**	**14 22 2.0**	**-11**
GUMO	**Guam**	**20.36**	**342**	P	**P**	**14 22 34.2**	**+1.1**
	comp=Z,1μm,1.1s,baz=165,slow=5.7,SNR=28						
GUMO				LR	LR	14 28 48.1	
	comp=Z,3μm,21.0s,MS4.7,baz=168,slow=32						
GUMO	**Guam**	**20.36**	**342**	*e*P	**P**	**14 22 35.3**	**+2.2**
GUMO				pmax	pmax		
	comp=Z,2μm,1.3s						
GUMO	**Guam**	**20.36**	**342**	*e*P	**P**	**14 22 35.3**	**+2.1**
	comp=Z,2μm,1.3s						
WRAB	**Tennant Creek**	**21.58**	**228**	P	**P**	**14 22 46.0**	**-0.3**
	comp=Z,2μm,0.9s,mb6.6						
WRAB	**Tennant Creek**	**21.58**	**228**	⇑*e*P	**P**	**14 22 46.7**	**+0.4**
WRAB				*e*S	**S**	**14 26 42.0**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,576nm,0.9s,mb6.0						
WRAB	**Tennant Creek**	**21.58**	**228**	⇑*e*P	**P**	**14 22 46.7**	**+0.4**
	comp=Z,576nm,0.9s,mb6.0						
WRAB				*e*S	**S**	**14 26 42.0**	**-2.0**
WB2	**Warramunga Arr**	**21.58**	**228**	⇑*i* P	**P**	**14 22 46.8**	**+0.5**
WB2				*e*S	**S**	**14 26 39.8**	**-4.2**
WRA	**Warramunga Arr**	**21.59**	**228**	P	**P**	**14 22 46.8**	**+0.4**
	comp=Z,379nm,1.1s,mb5.7,baz=52,slow=10,SNR=143						
WRA				S	**S**	**14 26 42.6**	**-1.6**
	comp=Z,93nm,1.2s,baz=55,slow=19,SNR=16						
WRA				ScP	ScP	14 30 24.4	+1.5
	comp=Z,24nm,1.1s,baz=44,slow=2.4,SNR=9.0						
WRA	**Warramunga Arr**	**21.59**	**228**	P	**P**	**14 22 46.8**	**+0.4**
WRA				S	**S**	**14 26 42.6**	**-1.6**
DZM	**Mont Dzumac**	**21.78**	**139**	P	**P**	**14 22 48.7**	**+0.3**
	comp=Z,73nm,0.7s,mb5.2,baz=348,slow=12,SNR=88						
DZM				LR	LR	14 30 03.9	
	comp=Z,7μm,21.0s,MS5.1,baz=324,slow=33						
DZM	**Mont Dzumac**	**21.78**	**139**	*e*P	**P**	**14 22 48.4**	**-0.1**
NOU	**Noumea**	**21.95**	**140**	⇑*e*P	**P**	**14 22 47.4**	**-2.9**
AS31	**Alice Springs**	**24.33**	**222**	⇑*i* P	**P**	**14 23 14.5**	**+0.3**
ASAR	**Alice Springs**	**24.33**	**222**	P	**P**	**14 23 14.7**	**+0.5**
	comp=Z,194nm,0.9s,mb5.5,baz=58,slow=8.6,SNR=711						
ASAR				PcP	PcP	14 26 54.1	+0.7
	comp=Z,25nm,1.1s,baz=35,slow=4.0,SNR=4.9						
ASAR				S	**S**	**14 27 41.7**	**+10**
	comp=Z,21nm,1.1s,baz=34,slow=22,SNR=5.8						
ASAR				ScP	ScP	14 30 30.1	0.0
	comp=Z,18nm,1.1s,baz=51,slow=2.9,SNR=9.0						
ASAR	**Alice Springs**	**24.33**	**222**	P	**P**	**14 23 14.7**	**+0.5**
ASAR						14 26 54.1	
ASPA	**Alice Springs**	**24.34**	**222**	⇑*i* P	**P**	**14 23 14.5**	**+0.3**
ARMA	**Armidale**	**24.41**	**179**	⇑*i* P	**P**	**14 23 14.9**	**0.0**
ARMA				*e*S	**S**	**14 27 38.9**	**+5.8**
STKA	**Stephens Creek**	**27.40**	**198**	*e*P	**P**	**14 23 39.1**	**-2.9**
	comp=Z,76nm,0.9s,mb5.2						
STKA				*e*S	**S**	**14 28 21.7**	**+1.2**
STKA	**Stephens Creek**	**27.40**	**198**	P	**P**	**14 23 39.4**	**-2.6**
	comp=Z,100nm,1.0s,mb5.3,baz=3.2,slow=8.8,SNR=39						
STKA				ScP	ScP	14 30 38.9	-0.1
	comp=Z,16nm,1.1s,baz=90,slow=7.1,SNR=2.4						
STKA				LR	LR	14 35 11.8	
	comp=Z,3μm,18.4s,MS4.9,baz=12,slow=38						
FITZ	**Fitzroy Crossi**	**27.81**	**242**	*e*P	**P**	**14 23 46.0**	**+0.4**
	comp=Z,555nm,0.9s,mb6.2						
FITZ				*e*S	**S**	**14 28 19.4**	**-7.5**
FITZ	**Fitzroy Crossi**	**27.81**	**242**	P	**P**	**14 23 46.0**	**+0.4**
	comp=Z,260nm,0.8s,mb5.9,baz=77,slow=8.2,SNR=263						
RIV	**Riverview**	**27.81**	**180**	*e*P	**P**	**14 23 45.6**	**0.0**
CNB	**Canberra Magne**	**29.35**	**183**	*e*P	**P**	**14 23 59.7**	**+0.4**
	comp=Z,39nm,1.2s,mb5.0						
BUKP	**Musuan**	**29.50**	**297**	*e*P	**P**	**14 24 01.5**	**+0.8**
BUTP	**Butuan**	**29.52**	**300**	*e*P	**P**	**14 24 02.1**	**+1.3**
SCPH	**Surigao**	**30.03**	**301**	‖*e*P	**P**	**14 24 07.4**	**+2.0**
MSLP	**Maasin**	**30.74**	**301**	*e*P	**P**	**14 24 12.4**	**+0.8**
PAGZ	**Pagadian**	**30.98**	**296**	*e*P	**P**	**14 24 15.5**	**+1.7**
ADE	**Adelaide**	**31.18**	**200**	⇑*i* P	**P**	**14 24 15.4**	**-0.1**
OCLP	**Ormoc**	**31.42**	**302**	*e*P	**P**	**14 24 17.0**	**-0.6**
TOO	**Toolangi**	**31.98**	**189**	*e*P	**P**	**14 24 22.7**	**+0.1**
	comp=Z,36nm,1.1s,mb5.1						
TOO	**Toolangi**	**31.98**	**189**	*e*P	**P**	**14 24 22.7**	**+0.1**
TOO				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.1						
GUIM	**Jordan**	**32.93**	**300**	*e*P	**P**	**14 24 31.9**	**+1.0**
FORT	**Forrest**	**33.00**	**219**	⇑*i* P	**P**	**14 24 31.1**	**-0.4**
	com

MAJO	**Matsushiro**	**43.94 345**	*e*P	**P**	**14 26 01.5**	**-1.8**
MAJO			pmax	pmax		
comp=Z,32nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**43.94 345**	*e*P	**P**	**14 26 01.5**	**-1.8**
comp=Z,32nm,0.8s,mb5.1						
MAT	**Matsushiro**	**43.94 345**	P	**P**	**14 26 00.6**	**-2.7**
MAT			*e*S	**S**	**14 32 17.0**	**-16**
MAT	**Matsushiro**	**43.94 345**	P	**P**	**14 26 02.0**	**-1.3**
MAT			pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.5						
MAT			MLR	MLR		
comp=Z,2μm,19.0s,MS5.0						
MAT	**Matsushiro**	**43.94 345**	P	**P**	**14 26 02.0**	**-1.3**
comp=Z,10nm,0.9s,mb4.5						
MAT			S	**S**	**14 32 17.0**	**-16**
MAT			LR	LR		
comp=Z,2μm,19.0s,MS5.0						
QZH	**Quanzhou**	**44.15 315**⇑	*i*P	**P**	**14 26 06.6**	**+1.6**
QZH			S	**S**	**14 32 38.6**	**+2.2**
QZH			LR	LR		
comp=N,3μm,16.2s,MS5.3						
QZH			LR	LR		
comp=E,2μm,19.3s,MS5.3						
QZH			LR	LR		
comp=Z,3μm,19.2s,MS5.3						
SSE	**Sheshan**	**46.67 324**	P	**P**	**14 26 26.0**	**+1.0**
SSE			XP	sP	14 26 38.8	+2.3
SSE			PP	PP	14 28 14.8	-0.1
SSE			S	**S**	**14 33 13.3**	**+0.5**
SSE			XS	sS	14 33 28.1	+1.9
SSE			SS	SS	14 36 41.1	+2.0
SSE			AMB	AMB		
comp=Z,84nm,0.8s,mb5.7						
SSE			AMB	AMB		
comp=Z,194nm,3.6s						
SSE			LR	LR		
comp=N,831nm,19.4s,MS4.8						
SSE			LR	LR		
comp=E,814nm,19.4s,MS4.8						
SSE			LR	LR		
comp=Z,1μm,20.3s,MS4.9						
QIZ	**Qiongzhong**	**47.73 302**	P	**P**	**14 26 32.9**	**-0.3**
QIZ			AP	pP	14 26 40.3	-1.1
QIZ			S	**S**	**14 33 27.4**	**-0.3**
QIZ			XS	sS	14 33 41.9	+0.6
QIZ			LR	LR		
comp=N,840nm,19.4s,MS5.0						
QIZ			LR	LR		
comp=E,1μm,21.1s,MS5.0						
QIZ			LR	LR		
comp=Z,3μm,20.3s,MS5.2						
QIZ	**Qiongzhong**	**47.73 302**	*e*P	**P**	**14 26 33.5**	**+0.3**
comp=Z,37nm,0.7s,mb5.5						
KS15	**Wonju Array Si**	**48.30 335**	*e*P	**P**	**14 26 37.8**	**+0.1**
KGM	**Kluang**	**48.52 278**	P	**P**	**14 26 40.0**	**+0.6**
NJ2	**Nanjing**	**48.74 323**	*e*P	**P**	**14 26 42.8**	**+1.7**
NJ2			AP	pP	14 26 50.3	+1.0
NJ2			XP	sP	14 26 53.6	+1.0
NJ2			PP	PP	14 28 35.8	+1.5
NJ2			S	**S**	**14 33 42.0**	**-0.2**
NJ2			AMB	AMB		
comp=Z,590nm,1.0s,mb6.6						
NJ2			AMB	AMB		
comp=Z,160nm,3.9s						
NJ2			LR	LR		
comp=N,4μm,18.0s,MS5.6						
NJ2			LR	LR		
comp=E,4μm,22.0s,MS5.6						
NJ2			LR	LR		
comp=Z,1μm,22.0s,MS4.8						
INCN	**Inchon**	**48.88 334**	*e*P	**P**	**14 26 42.7**	**+0.6**
comp=Z,154nm,1.0s,mb6.0						
ASAJ	**Asahikawa**	**50.38 352**	P	**P**	**14 26 52.5**	**-1.0**
comp=Z,25nm,0.7s,mb5.3,baz=245,slow=17,SNR=10						
ASAJ			LR	LR	14 46 53.6	
comp=Z,1μm,20.5s,MS4.9,baz=348,slow=34						
WHN	**Wuhan**	**50.60 318**	P	**P**	**14 26 56.0**	**+0.8**
IPM	**Ipoh**	**51.22 280**	P	**P**	**14 26 59.4**	**-0.5**
KULM	**Kulim**	**51.74 281**	*e*P	**P**	**14 27 03.3**	**-0.4**
KULM			*e*pP	pP	14 27 11.0	-1.0
KULM			*e*PcP	PcP	14 28 17.1	+0.3
VLA	**Vladivostok**	**51.84 342**	*i* P	**P**	**14 27 03.4**	**-1.1**
DL2	**Dalian**	**52.34 331**	P	**P**	**14 27 08.8**	**+0.6**
DL2			AP	pP	14 27 14.6	-1.9
DL2			XP	sP	14 27 17.4	-2.3
DL2			S	**S**	**14 34 35.3**	**+3.2**
DL2			AMB	AMB		
comp=Z,20nm,0.8s,mb5.1						
DL2			AMB	AMB		
comp=Z,110nm,5.6s						
DL2			LR	LR		
comp=N,420nm,18.7s,MS4.6						
DL2			LR	LR		
comp=E,310nm,17.6s,MS4.6						
DL2			LR	LR		
comp=Z,680nm,16.6s,MS4.8						
TIA	**Tai'an**	**52.70 325**	P	**P**	**14 27 11.1**	**+0.2**
TIA			AMB	AMB		
comp=Z,63nm,1.2s,mb5.4						
KKTK	**Khon Kaen**	**52.76 296**	PN	**P**	**14 27 11.9**	**+0.6**
YSS	**Yuzh-Sakhalins**	**53.14 353**⇑	*e*P	**P**	**14 27 13.1**	**-1.0**
YSS			*e*	pP	14 27 22.2	-0.2
YSS			*e*		14 27 27.0	
YSS			pmax	pmax		
comp=Z,50nm,1.2s,mb5.3						
YSS			pmax	pmax		
comp=Z,1μm,17.0s						
YSS	**Yuzh-Sakhalins**	**53.14 353**⇓	*i*P	**P**	**14 27 12.0**	**-2.1**
SNY	**Shenyang**	**53.79 335**	⇑P	**P**	**14 27 18.5**	**-0.4**
SNY			AP	pP	14 27 29.3	+2.1
SNY			S	**S**	**14 34 57.8**	**+6.0**
SNY			AMB	AMB		
comp=Z,15nm,1.2s,mb4.8						
SNY			AMB	AMB		
comp=Z,240nm,5.5s						
SNY			LR	LR		
comp=N,757nm,21.6s,MS5.0						
SNY			LR	LR		
comp=E,936nm,18.0s,MS5.0						
SNY			LR	LR		
comp=Z,1μm,21.0s,MS4.9						
ENH	**Enshi**	**53.79 314**	*e*P	**P**	**14 27 19.0**	**+0.1**
comp=Z,164nm,1.3s,mb5.8						
ENH			LR	LR		
comp=Z,2μm,20.0s,MS5.1						
GYA	**Guiyang**	**53.85 309**⇑	*i*P	**P**	**14 27 21.0**	**+1.6**
GYA			AP	pP	14 27 28.4	+0.7
GYA			XP	sP	14 27 31.8	+0.9
GYA			PCP	PcP	14 28 25.9	+1.1
GYA			PP	PP	14 29 23.8	+3.2
GYA			PPP		14 30 34.6	
GYA			PCS	PcS	14 32 23.8	-0.2
GYA			S	**S**	**14 34 52.9**	**+0.2**
GYA			SCS	ScS	14 37 05.4	-1.5
GYA			SS	SS	14 38 35.8	+2.0
GYA			AMB	AMB		
comp=Z,30nm,0.6s,mb5.4						
GYA			AMB	AMB		
comp=Z,480nm,4.8s						
GYA			LR	LR		
comp=N,1μm,17.2s,MS5.1						
GYA			LR	LR		
comp=E,970nm,17.2s,MS5.1						
GYA			LR	LR		
comp=Z,1μm,19.2s,MS5.0						
MDJ	**Mudanjiang**	**53.91 341**	P	**P**	**14 27 18.5**	**-1.3**
MDJ			AP	pP	14 27 24.8	-3.3
MDJ			XP	sP	14 27 27.8	-3.5
MDJ			PP	PP	14 29 27.1	+6.0
MDJ			SCP	ScP	14 32 19.8	-1.4
MDJ			PCS	PcS	14 32 23.6	-0.7
MDJ			S	**S**	**14 34 58.5**	**+5.0**
MDJ			SCS	ScS	14 37 08.0	+0.7
MDJ			AMB	AMB		
comp=Z,23nm,1.3s,mb5.0						
MDJ			AMB	AMB		
comp=Z,247nm,6.0s						
MDJ			LR	LR		
comp=N,516nm,26.3s,MS4.5						
MDJ			LR	LR		
comp=E,258nm,24.6s,MS4.5						
MDJ			LR	LR		
comp=Z,683nm,22.2s,MS4.7						
MDJ	**Mudanjiang**	**53.91 341**	*e*P	**P**	**14 27 16.8**	**-3.0**
comp=Z,18nm,0.8s,mb5.0						
MDJ			*e*pP	pP	14 27 24.7	-3.4
COCO	**West Island**	**54.05 259**	P	**P**	**14 27 22.8**	**+2.0**
comp=Z,2μm,1.0s,mb6.9,SNR=5.8						
COCO	**West Island**	**54.05 259**	*e*P	**P**	**14 27 18.1**	**-2.8**
comp=Z,448nm,1.2s,mb6.3						
CN2	**Changchun**	**54.67 337**	*e*P	**P**	**14 27 25.0**	**-0.4**
CN2			*e*XP	sP	14 27 36.0	-0.9
CN2			*e*S	**S**	**14 35 02.8**	**-0.9**
CN2			AMB	AMB		
comp=Z,30nm,1.1s,mb5.2						
CN2			AMB	AMB		
comp=Z,400nm,10.0s						
CN2			LR	LR		
comp=N,800nm,22.0s,MS4.8						
CN2			LR	LR		
comp=E,400nm,22.0s,MS4.8						
CN2			LR	LR		
comp=Z,800nm,21.0s,MS4.8						
NST	**Nakhon Sawan**	**54.97 294**	P	**P**	**14 27 28.0**	**+0.5**
BJT	**Baijiatuau**	**55.95 328**	*e*P	**P**	**14 27 34.7**	**+0.1**
BJT			pmax	pmax		
comp=Z,46nm,0.9s						
BJT			MLR	MLR		
comp=Z,1μm,21.0s						
BJT	**Baijiatuau**	**55.95 328**	*e*P	**P**	**14 27 34.7**	**+0.2**
comp=Z,46nm,0.9s,mb5.5						
BJT			LR	LR		
comp=Z,1μm,21.0s,MS5.0						
HABR	**Khabarovsk**	**55.96 347**	*i* P	**P**	**14 27 34.3**	**-0.3**
HABR			*e*S	**S**	**14 35 20.8**	**-0.2**
HABR			pmax	pmax		
comp=Z,158nm,1.8s,mb5.7						
HABR			MLR	MLR		
comp=Z,1μm,17.1s,MS5.0						
BJI	**Beijing**	**55.97 328**	P	**P**	**14 27 34.4**	**-0.3**
BJI			S	**S**	**14 35 23.5**	**+2.5**
BJI			AMB	AMB		
comp=Z,26nm,0.9s,mb5.3						
BJI			LR	LR		
comp=N,605nm,16.3s						
BJI			LR	LR		
comp=E,1μm,21.7s						
BJI			LR	LR		
comp=Z,1μm,23.5s						
KMI	**Kunming**	**56.34 305**	P	**P**	**14 27 38.8**	**+1.5**
KMI			AP	pP	14 27 44.9	-0.8
KMI			XP	sP	14 27 47.3	-1.6
KMI			PCP	PcP	14 28 36.5	+2.1
KMI			PP	PP	14 29 45.8	+2.9
KMI			PPP		14 31 01.9	
KMI			SCP	ScP	14 32 33.1	+1.3
KMI			PCS	PcS	14 32 35.4	+0.4
KMI			S	**S**	**14 35 25.3**	**-0.7**
KMI			SCS	ScS	14 37 23.4	-1.3
KMI			AMB	AMB		
comp=Z,21nm,1.4s,mb5.0						
KMI			AMB	AMB		
comp=Z,283nm,4.6s						
KMI			LR	LR		
comp=N,558nm,19.7s,MS4.9						
KMI			LR	LR		
comp=E,845nm,21.5s,MS4.9						
KMI			LR	LR		
comp=Z,1μm,21.5s,MS5.0						
XAN	**Xi'an**	**56.37 318**	P	**P**	**14 27 37.3**	**-0.2**
XAN			AP	pP	14 27 43.4	-2.5
XAN			S	**S**	**14 35 21.9**	**-4.5**
XAN			AMB	AMB		
comp=Z,60nm,1.3s,mb5.5						
XAN			AMB	AMB		
comp=Z,313nm,10.0s						
XAN			LR	LR		
comp=N,763nm,19.8s,MS4.9						
XAN			LR	LR		
comp=E,642nm,19.2s,MS4.9						
XAN			LR	LR		
comp=Z,1μm,21.2s,MS5.0						
HON	**Honolulu**	**56.61 60**	*e*P	**P**	**14 27 40.7**	**+1.4**
KIP	**Kipapa**	**56.64 60**	*e*P	**P**	**14 27 41.6**	**+2.1**
KIP			pmax	pmax		
comp=Z,350nm,1.1s,mb6.3						
KIP	**Kipapa**	**56.64 60**	*e*P	**P**	**14 27 41.6**	**+2.2**
comp=Z,350nm,1.1s,mb6.3						
CHRT	**Chiangrai**	**56.73 298**	P	**P**	**14 27 41.0**	**+0.9**
CD2	**Chengdu**	**58.30 312**	P	**P**	**14 27 51.3**	**+0.2**
CD2			XP	sP	14 28 02.3	-0.4
CD2			PP	PP	14 30 02.1	+1.8
CD2			S	**S**	**14 35 50.3**	**-1.4**
CD2			AMB	AMB		
comp=Z,60nm,0.7s,mb5.7						
CD2			AMB	AMB		
comp=Z,190nm,5.9s						
CD2			LR	LR		
comp=E,1μm,19.2s						
CD2			LR	LR		
comp=Z,1μm,19.8s,MS5.1						
PPT	**Papeete**	**58.86 107**	*e*S	**S**	**14 35 58.8**	**-0.3**
comp=Z,1μm,24.5s						
PPT			*e*SS	SS	14 39 42.0	-11
comp=Z,376nm,27.5s						
PPT			*e*LR	LR	14 45 03.0	
comp=Z,331nm,24.2s						
HHC	**Hu-ho-hao-te**	**59.05 326**	*e*P	**P**	**14 27 56.8**	**+0.4**
HHC			AP	pP	14 28 09.5	+4.7
HHC			PCP	PcP	14 28 45.1	+0.1
HHC			PP	PP	14 30 09.5	+2.6
HHC			S	**S**	**14 35 59.3**	**-2.2**
HHC			XS	sS	14 36 20.4	+5.1
HHC			SCS	ScS	14 37 39.3	-5.2
HHC			AMB	AMB		
comp=Z,173nm,2.2s,mb5.7						
HHC			LR	LR		
comp=N,1μm,16.2s,MS5.1						
HHC			LR	LR		
comp=E,851nm,19.6s,MS5.1						
HHC			LR	LR		
comp=Z,2μm,18.6s,MS5.2						
TBI	**Tubuai**	**59.52 114**	*e*PP	PP	14 29 54.0	-17
comp=Z,71nm,26.8s						
TBI	**Tubuai**	**59.52 114**	*e*S	**S**	**14 36 07.6**	**+0.1**
comp=Z,884nm,27.0s						
TBI			*e*SS	SS	14 40 12.0	+9.1
comp=Z,388nm,25.2s						
TBI			*e*LR	LR	14 45 43.9	
comp=Z,754nm,22.2s						
BTO	**Baotou**	**59.77 324**	*e*P	**P**	**14 28 01.3**	**0.0**
VAH	**Vaihoa**	**60.62 104**	*e*P	**P**	**14 28 08.9**	**+1.7**
comp=Z,154nm,1.3s,mb6.0						
LZH	**Lanzhou**	**60.95 317**	*e*P	**P**	**14 28 10.5**	**+1.1**
LZH			AP	pP	14 28 18.5	+0.6
LZH			XP	sP	14 28 21.8	+0.7
LZH			PP	PP	14 30 27.3	+3.5
LZH			S	**S**	**14 36 24.3**	**-1.7**
LZH			XS	sS	14 36 41.5	+1.7
LZH			PS		14 36 44.8	
LZH			SCS	ScS	14 37 54.5	-4.2
LZH			AMB	AMB		
comp=Z,75nm,1.0s,mb5.8						
LZH			AMB	AMB		
comp=Z,232nm,7.2s						
LZH			LR	LR		
comp=N,1μm,14.9s						
LZH			LR	LR		
comp=Z,2μm,17.8s,MS5.3						
HIA	**Hailar**	**61.41 337**	*e*P	**P**	**14 28 12.0**	**-0.5**
HIA			pmax	pmax		
comp=Z,71nm,0.8s						
HIA			MLR	MLR		
comp=Z,787nm,20.0s						
HIA	**Hailar**	**61.41 337**	*e*P	**P**	**14 28 12.0**	**-0.6**
comp=Z,71nm,0.8s,mb5.8						
HIA			LR	LR		
comp=Z,787nm,20.0s,MS4.9						
FX1	**Attu Island--F**	**61.41 15**	P	**P**	**14 28 11.1**	**-1.4**
comp=Z,19nm,0.5s,mb5.5,baz=139,slow=9.3,SNR=7.9						
FX1			LR	LR	14 50 31.5	
comp=Z,72nm,19.1s,MS3.8,baz=0.0,slow=32						
FX1	**Attu Island--F**	**61.41 15**	*e*P	**P**	**14 28 11.1**	**-1.5**
ADK	**Adak**	**63.72 22**	*e*P	**P**	**14 28 26.4**	**-1.5**
ADK			pmax	pmax		
comp=Z,19nm,0.5s,mb5.4						
ADK	**Adak**	**63.72 22**	*e*P	**P**	**14 28 26.4**	**-1.5**
comp=Z,19nm,0.5s,mb5.4						
MA2	**Magadan**	**65.25 360**	*e*P	**P**	**14 28 35.7**	**-2.2**
MA2			*e**PP	pP	14 28 42.6	-3.8
MA2			pmax	pmax		
comp=Z,48nm,0.6s,mb5.7						
MA2	**Magadan**	**65.25 360**	*e*P	**P**	**14 28 35.7**	**-2.2**
comp=Z,48nm,0.6s,mb5.7						
MA2			*e*pP	pP	14 28 42.5	-3.9
GTA	**Gaotai**	**65.42 318**	⇑P	**P**	**14 28 39.8**	**+0.7**
GTA			PCP	PcP	14 29 10.9	0.0
GTA			PP	PP	14 31 06.5	+3.4
GTA			S	S	14 37 20.8	-1.0
GTA			XS	sS	14 37 42.3	+6.5
GTA			SS	SS	14 41 37.3	+2.0
GTA			AMB	AMB		
comp=Z,33nm,1.4s,mb5.2						
GTA			AMB	AMB		
comp=Z,266nm,6.1s						
GTA			LR	LR		
comp=N,493nm,19.0s,MS5.0						
GTA			LR	LR		
comp=E,654nm,18.3s,MS5.0						
GTA			LR	LR		
comp=Z,915nm,19.8s,MS5.0						
ULN	**Ulaanbaatar**	**66.12 329**	*c i*P	**P**	**14 28 44.0**	**+0.5**
ULN	**Ulaanbaatar**	**66.12 329**	*e*P	**P**	**14 28 43.8**	**+0.3**
comp=Z,75nm,1.3s,mb5.6						
ULN			LR	LR		
comp=Z,1μm,19.0s,MS5.1						
CLNS	**Chul'man**	**66.12 345**	*e*P	**P**	**14 28 42.6**	**-1.0**
CLNS			*e**PP	pP	14 28 49.3	-2.7
CLNS			*e*		14 29 14.2	
CLNS			*e*S	S	14 37 26.0	-4.3
CLNS			pmax	pmax		
comp=N,24nm,0.9s						
CLNS			pmax	pmax		
comp=E,13nm,0.9s						
CLNS			pmax	pmax		
comp=Z,75nm,0.9s,mb5.7						
CLNS			pmax	pmax		
comp=Z,15nm,1.1s,mb4.9						
CLNS			pmax	pmax		
comp=N,9.0nm,1.2s						
CLNS			pmax	pmax		
comp=E,5.0nm,0.7s						
CLNS			smax			
comp=E,173nm,14.8s						
CLNS			smax			
comp=Z,34nm,13.1s						
CLNS			smax			
comp=N,67nm,15.1s						
CLNS			MLR	MLR		
comp=Z,800nm,18.0s,MS5.0						
CLNS			MLR	MLR		
comp=N,200nm,15.0s,MS5.2						
CLNS			MLR	MLR		
comp=E,1μm,14.0s,MS5.2						
SONM	**Songino Array**	**66.43 329**	P	**P**	**14 28 45.7**	**+0.1**
comp=E,63nm,1.1s,mb5.5,baz=135,slow=5.3,SNR=160						
SONM			PKPPKP		14 57 21.4	
comp=E,4.0nm,0.9s,baz=282,slow=1.4,SNR=12						
SONM			LR	LR	14 57 31.6	
comp=E,2μm,20.7s,MS5.2,baz=126,slow=36						
CASY	**Casey**	**66.55 197**⇑	*i*P	**P**	**14 28 45.6**	**-0.7**
LSA	**Lhasa**	**67.60 305**	P	**P**	**14 28 54.3**	**+1.3**
LSA	**Lhasa**	**67.60 305**	*e*P	**P**	**14 28 54.0**	**+1.0**
LSA			pmax	pmax		
comp=Z,42nm,0.9s,mb5.5						
LSA	**Lhasa**	**67.60 305**	*e*P	**P**	**14 28 54.0**	**+1.0**
comp=Z,42nm,0.9s,mb5.5						
TAOE	**Nuku Hiva Isla**	**68.00 97**	*e*SS	SS	14 42 27.8	+12
comp=Z,2μm,29.9s						
TAOE			*e*LR	LR	14 49 38.7	
comp=Z,7μm,34.6s						
SEY	**Seymchan**	**68.62 1**	*e*P	**P**	**14 28 57.3**	**-2.1**
SEY			*e*		14 29 16.2	
SEY			*e*S	S	14 37 55.6	-4.8
SEY			*e*		14 38 17.1	
SEY			*e*		14 38 54.0	
SEY			*e*SS	SS	14 42 20.9	-4.0
SEY			pmax	pmax		
comp=N,6.0nm,0.6s						
SEY			pmax	pmax		
comp=E,5.0nm,0.6s						
SEY			pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.8						
SEY			smax			
comp=N,117nm,6.7s						
SEY			smax			
comp=E,7.0nm,4.7s						
SEY			MLR	MLR		
comp=Z,934nm,19.0s,MS5.0						
SEY			MLR	MLR		
comp=N,315nm,21.0s,MS4.6						
SEY			MLR	MLR		
comp=E,172nm,18.0s,MS4.6						
SEY	**Seymchan**	**68.62 1**⇓	*i*P	**P**	**14 28 57.1**	**-2.3**
ZAK	**Zakamensk**	**69.63 330**	*e*P	**P**	**14 29 05.3**	**-0.3**
ZAK			pmax	pmax		
comp=Z,145nm,1.3s,mb5.8						
YAK	**Yakutsk**	**69.73 349**	*e*P	**P**	**14 29 04.7**	**-1.6**
YAK			*e**PP	pP	14 29 14.8	0.0
YAK			*e*		14 29 25.1	
YAK			*e*		14 31 40.8	
YAK			*e*PPP		14 33 21.2	
YAK			*e*S	S	14 38 16.1	+2.6
YAK			*e*		14 38 56.1	
YAK			pmax	pmax		
comp=Z,80nm,1.3s,mb5.5						
YAK			pmax	pmax		
comp=N,37nm,1.5s						
YAK			pmax	pmax		
comp=E,16nm,1.7s						
YAK			pmax	pmax		
comp=Z,6.0nm,1.2s,mb4.4						
YAK			smax			
comp=E,7.0nm,1.4s						
YAK			smax			
comp=N,2.0nm,1.1s						
YAK			MLR	MLR		
comp=Z,246nm,19.0s,MS4.5						
YAK			MLR	MLR		
comp=N,216nm,20.0s,MS4.5						
YAK			MLR	MLR		
comp=E,136nm,16.0s,MS4.5						
YAK	**Yakutsk**	**69.73 349**	*e*P	**P**	**14 29 03.7**	**-2.6**
comp=E,85nm,0.8s,mb5.7						
YAK			*e*pP	pP	14 29 11.6	-3.3
BOK	**Bokaro**	**70.20 298**	*e*P	**P**	**14 29 08.7**	**-0.5**
BOK			AMb	AMB	14 29 10.9	
comp=Z,46nm,1.1s,mb5.3						
BOK			AML	AML	14 29 11.4	
comp=Z,45nm,1.1s						
BOD	**Bodaibo**	**70.26 340**⇓	*i*P	**P**	**14 29 07.6**	**-1.9**
BOD			pmax	pmax		
comp=Z,41nm,1.4s,mb5.2						
IRK	**Irkutsk**	**70.31 331**	*e*P	**P**	**14 29 08.5**	**-1.3**
IRK			*e*		14 29 31.7	
IRK			*e*		14 38 51.2	
IRK			pmax	pmax		
comp=Z,75nm,1.3s,mb5.5						
VIS	**Vishakhapatnam**	**71.01 291**	*e*P	**P**	**14 29 14.0**	**-0.1**
VIS			AMb	AMB	14 29 18.8	
comp=Z,66nm,1.1s,mb5.5						
JIRN	**Jiri**	**71.05 302**	*e*P	**P**	**14 29 14.3**	**0.0**
comp=Z,60nm,0.9s,mb5.5						
GUN	**Gumba**	**71.38 302**	*e*P	**P**	**14 29 16.4**	**+0.1**
comp=Z,134nm,0.8s,mb5.9						
MOY	**Mondy**	**71.56 330**	*e*P	**P**	**14 29 17.9**	**+0.5**
MOY			pmax	pmax		
comp=Z,82nm,1.5s,mb5.4						
PKI	**Pulchoki**	**71.68 301**	*e*P	**P**	**14 29 17.9**	**-0.2**
comp=Z,96nm,1.1s,mb5.7						
PKI	**Pulchoki**	**71.68 301**	*e*P	**P**	**14 29 17.9**	**-0.2**
PKI			pmax	pmax		
comp=Z,48nm,1.1s,mb5.3						
VNDA	**Vanda**	**71.82 178**	P	**P**	**14 29 18.7**	**-0.2**
comp=Z,27nm,1.0s,mb5.1,baz=332,slow=6.9,SNR=35						
VNDA			LR	LR	15 00 07.6	
comp=Z,893nm,18.4s,MS5.1,baz=331,slow=35						
VNDA	**Vanda**	**71.82 178**	*e*P	**P**	**14 29 18.3**	**-0.7**
VNDA			pmax	pmax		
comp=Z,59nm,1.3s						
VNDA	**Vanda**	**71.82 178**	*e*P	**P**	**14 29 18.3**	**-0.7**
comp=Z,59nm,1.3s,mb5.3						
KKN	**Kakani**	**71.85 302**	*e*P	**P**	**14 29 18.9**	**-0.3**
comp=Z,93nm,0.9s,mb5.7						
KKN	**Kakani**	**71.85 302**	*e*P	**P**	**14 29 18.9**	**-0.3**
KKN			pmax	pmax		

comp=Z,47nm,0.9s,mb5.4
DMN Daman 71.95 301 *e*P **P 14 29 19.9 +0.1**
comp=Z,188nm,1.0s,mb6.0
GKN Gorkha 72.46 302 *e*P **P 14 29 22.4 -0.4**
comp=Z,157nm,1.0s,mb5.9
RKT Rikitea 72.79 112 *e*PP PP 14 32 00.8 -6.0
comp=Z,69nm,27.2s
RKT Rikitea 72.79 112 *e*S S 14 38 49.2 +0.3
comp=Z,406nm,28.5s
RKT *e*SS SS 14 43 26.1 -2.8
comp=Z,232nm,35.0s
RKT *e*LR LR 14 51 54.3
comp=Z,818nm,26.5s
KOLN Koldanda 73.28 301 *e*P **P 14 29 27.2 -0.4**
comp=Z,120nm,0.8s,mb5.8
BILL Bilibino 74.50 6 *e*P **P 14 29 33.2 -1.6**
BILL pmax pmax
comp=Z,68nm,1.3s,mb5.4
BILL Bilibino 74.50 6 *e*P **P 14 29 33.2 -1.7**
comp=Z,68nm,1.3s,mb5.4
HYB Hyderabad 75.41 290 *i* P **P 14 29 39.5 -0.6**
comp=Z,50nm,1.0s,mb5.4
HYB Hyderabad 75.41 290 *e*P **P 14 29 39.5 -0.6**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.4
HYB Hyderabad 75.41 290 *e*P **P 14 29 39.5 -0.6**
comp=Z,50nm,1.0s,mb5.4
TRD Trivandrum 75.45 280 *ex* x 14 29 45.3
WMQ Urumqi 75.51 318 P **P 14 29 40.8 +0.2**
WMQ AP pP 14 29 48.6 -0.6
WMQ XP sP 14 29 51.9 -0.5
WMQ PCP PcP 14 29 54.3 +0.7
WMQ PP PP 14 32 31.9 +2.0
WMQ S S 14 39 17.9 -1.5
WMQ SCS ScS 14 39 48.9 -3.4
WMQ AMB AMB
comp=Z,47nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,341nm,4.6s
WMQ LR LR
comp=N,465nm,22.0s,MS4.9
WMQ LR LR
comp=E,438nm,20.5s,MS4.9
WMQ LR LR
comp=Z,544nm,21.2s,MS4.8
NGP Nagpur 75.69 293 *e*P **P 14 29 40.4 -1.3**
PTH Pithoragarh 76.61 302 *e*P **P 14 29 47.5 +0.6**
TNA Tin City 77.25 16 *e*P **P 14 29 48.9 -1.6**
comp=Z,4.7nm,0.7s,mb4.5
BHPL Bhopal 77.60 295 *e*P **P 14 29 52.3 -0.2**
BHPL AMb AMB 14 29 53.2
comp=Z,59nm,0.7s,mb5.6
KDAK Kodiak Island 77.82 27 P **P 14 29 52.6 -1.1**
comp=Z,25nm,1.0s,mb5.1,baz=315,slow=5.6,SNR=12
KDAK LR LR 15 00 29.8
comp=Z,754nm,19.0s,MS5.0,baz=232,slow=33
SVW2 Sparrevohn 78.41 23 *e*P **P 14 29 56.7 -0.3**
TIXI Tiksi 78.77 353⇑ *e*P **P 14 29 56.1 -2.8**
NDI New Delhi 78.95 301 *e*P **P 14 29 59.3 -0.6**
KAD Karad 79.50 289 *i* P **P 14 30 02.5 -0.4**
POO Poona 80.01 290 *e*P **P 14 30 05.0 -0.7**
MK31 Makanchi Array 80.14 319 *i* P **P 14 30 05.8 -0.6**
MKAR Makanchi Array 80.14 319 P **P 14 30 05.7 -0.7**
comp=Z,18nm,1.0s,mb5.0,baz=116,slow=5.5,SNR=74
MKAR PP PP 14 33 07.4 -1.3
comp=Z,11nm,1.0s,baz=107,slow=8.2,SNR=5.6
MKAR PKPPKP 14 56 57.1
comp=Z,2.2nm,1.0s,baz=332,slow=1.8,SNR=10
MKAR LR LR 15 09 10.7
comp=Z,598nm,18.5s,MS5.0,baz=102,slow=38
MKAR Makanchi Array 80.14 319 P **P 14 30 05.7 -0.7**
MKAR 14 33 07.4
MKAR Makanchi Array 80.14 319 P **P 14 30 05.7 -0.7**
MKAR PP PP 14 33 07.4 -1.3
MKAR P'P' 14 56 57.1
MKAR LR LR 15 09 10.7
SLKM Skilak Lake 80.29 25 *e*P **P 14 30 05.9 -1.3**
FIB Fire Island 80.64 25 *e*P **P 14 30 08.2 -0.9**
FIB pmax pmax
comp=Z,37nm,0.7s,mb5.4
FIB Fire Island 80.64 25 *e*P **P 14 30 08.2 -0.9**
comp=Z,37nm,0.7s,mb5.4
AJM Ajmer 80.73 298 *e*P **P 14 30 08.1 -1.4**
AJM AMb AMB 14 30 13.3
comp=Z,87nm,1.6s,mb5.4
ZAL Zalesovo 81.21 327 P **P 14 30 10.2 -2.0**
comp=Z,16nm,0.9s,mb4.9,baz=1.1,slow=6.7,SNR=58
ZAL LR LR 15 07 50.9
comp=Z,998nm,20.1s,MS5.2,baz=358,slow=37
PMR Palmer 81.29 25 *e*P **P 14 30 12.7 +0.1**
PMR pmax pmax
comp=Z,38nm,1.0s,mb5.3
PMR Palmer 81.29 25 *e*P **P 14 30 12.7 +0.1**
comp=Z,38nm,1.0s,mb5.3
SML Sawmill 81.73 25 *e*P **P 14 30 13.5 -1.4**
NVS Novosibirsk 82.40 327 *e*P **P 14 30 15.3 -3.1**
NVS *e*S S 14 40 34.4 +1.5
NVS pmax pmax
comp=N,18nm,1.4s
NVS pmax pmax
comp=E,24nm,1.4s
NVS pmax pmax
comp=Z,39nm,1.4s,mb5.1
NVS smax
comp=N,22nm,2.3s
NVS smax
comp=E,27nm,2.3s
MCK McKinley 82.44 23 *e*P **P 14 30 16.6 -2.0**
MCK pmax pmax
comp=Z,46nm,1.0s,mb5.4
MCK McKinley 82.44 23 *e*P **P 14 30 16.6 -2.1**
comp=Z,46nm,1.0s,mb5.4
KSH Kashi 82.48 311 P **P 14 30 20.1 +1.3**
KSH AP pP 14 30 28.9 +1.4
KSH XP sP 14 30 31.8 +1.1
KSH PP PP 14 33 31.6 +3.5
KSH PPP 14 35 24.1
KSH S S 14 40 34.8 +1.1
KSH SKS 14 40 35.4
KSH XS sS 14 40 47.3 -0.7
KSH SS SS 14 45 59.9 +4.9
KSH AMB AMB
comp=Z,93nm,1.0s,mb5.7
KSH LR LR
comp=N,250nm,7.1s
KSH LR LR
comp=E,359nm,6.6s
KSH LR LR
comp=Z,621nm,20.2s,MS5.0
DIV Divide 82.50 26 *e*P **P 14 30 17.8 -1.1**
comp=Z,153nm,1.1s,mb5.8
ULHL Ulahol 82.95 314 P **P 14 30 21.7 +0.4**
SNR=8.8
NIL Nilore 83.33 305 P **P 14 30 23.9 +0.7**
comp=Z,230nm,0.6s,mb6.4,SNR=5.1
COLA College 83.41 22 *e*P **P 14 30 21.1 -2.6**
COLA pmax pmax
comp=Z,46nm,0.8s,mb5.6
COLA MLR MLR
comp=Z,1μm,20.0s,MS5.3
COLA College 83.41 22 *e*P **P 14 30 21.1 -2.5**
comp=Z,46nm,0.8s,mb5.6
COLA LR LR
comp=Z,1μm,20.0s,MS5.3
TKM2 Tokmak 2 83.58 314 P **P 14 30 24.5 0.0**
SNR=23
TKM2 Tokmak 2 83.58 314 *i* P **P 14 30 24.3 -0.2**
TKM2 pmax pmax
comp=Z,45nm,1.4s,mb5.4
TKM2 Tokmak 2 83.58 314 *i* P **P 14 30 24.4 -0.1**
KZA Kyzart 83.63 313 P **P 14 30 25.7 +0.9**
SNR=76
KURK Kurchatov 83.68 322 P **P 14 30 23.5 -1.5**
comp=Z,229nm,1.1s,mb6.2,SNR=23
KURK Kurchatov 83.68 322 *c i*P **P 14 30 23.9 -1.1**
KURK pmax pmax
comp=Z,35nm,1.3s,mb5.3
KURK Kurchatov 83.68 322 *e*P **P 14 30 23.4 -1.6**
comp=Z,58nm,1.1s,mb5.6
ILAR Eielson Array 83.73 22 P **P 14 30 22.8 -2.5**
comp=Z,33nm,0.7s,mb5.6,baz=247,slow=5.3,SNR=194
ILAR PKPPKP 14 56 42.8
comp=Z,1.0nm,1.0s,baz=356,slow=2.5,SNR=4.0
ILAR LR LR 15 06 30.3
comp=Z,868nm,19.1s,MS5.2,baz=90,slow=35
KBK Karagaybulak 83.98 314 P **P 14 30 26.7 +0.1**
SNR=16
MAW Mawson 83.99 203⇑ *i*P **P 14 30 26.2 -0.4**
comp=Z,42nm,1.2s,mb5.5
MAW Mawson 83.99 203 P **P 14 30 26.4 -0.2**
comp=Z,22nm,0.6s,mb5.5,baz=76,slow=6.2,SNR=20
MAW LR LR 15 06 19.3
comp=Z,977nm,18.2s,MS5.2,baz=84,slow=34
MAW Mawson 83.99 203⇑ *i*P **P 14 30 26.2 -0.4**
MAW pmax pmax
comp=Z,42nm,1.2s
QSPA South Pole Qui 84.09 180 P **P 14 30 26.8 -0.3**
QSPA South Pole Qui 84.09 180⇑ *i*P **P 14 30 26.8 -0.3**
comp=Z,160nm,1.1s,mb6.1
MENT Mentasta 84.16 25 *e*P **P 14 30 27.1 -0.4**
UCH Uchtor 84.19 313 P **P 14 30 28.5 +0.9**
SNR=63
CHMS Chumysh 84.20 314 P **P 14 30 27.5 -0.2**
SNR=16
FRU Bishkek 84.26 314 *e*P **P 14 30 27.0 -1.0**
FRU pmax pmax
comp=Z,220nm,2.1s,mb5.9
FRU MLR MLR
comp=Z,600nm,20.0s,MS5.0
USP Ospenovka 84.44 314 P **P 14 30 28.6 -0.3**
SNR=33
BHJ Bhuj 84.64 294 *e*P **P 14 30 29.5 -0.4**
BHJ AML AML 14 30 31.5
comp=Z,47nm,0.9s
AML Almayashu 84.77 313 P **P 14 30 31.4 +0.9**
SNR=93
EKS2 Erkin-Say 84.82 314 P **P 14 30 31.0 +0.2**
SNR=65
KK31 Karatay Array 87.26 314 *i* P **P 14 30 42.2 -0.7**
KKAR Karatay Array 87.26 314 *i* P **P 14 30 42.1 -0.8**
KKAR pmax pmax
comp=Z,255nm,1.7s,mb6.2
VOSK Vostochnaya 88.78 323 P **P 14 30 47.0 -3.1**
VOSK pmax pmax
comp=Z,25nm,1.8s,mb5.2
BBB Bella Bella 88.87 37 P **P 14 30 49.1 -1.4**
comp=Z,32nm,1.1s,mb5.6,baz=233,slow=2.4,SNR=4.9
BVA0 Borovoye Array 89.19 323 *i* P **P 14 30 49.6 -2.4**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
BVAR Borovoye Array 89.19 323 P **P 14 30 49.8 -2.2**
comp=Z,5.4nm,0.6s,mb5.0,baz=106,slow=5.3,SNR=40
BRVK Borovoye 89.26 323 P **P 14 30 50.0 -2.3**
comp=Z,70nm,1.1s,mb5.9,SNR=9.1
BRVK Borovoye 89.26 323 *e*P **P 14 30 49.9 -2.4**
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
BRVK MLR MLR
comp=Z,439nm,20.0s,MS4.9
BRVK Borovoye 89.26 323 *e*P **P 14 30 49.9 -2.4**
comp=Z,6.2nm,0.9s,mb4.9
BRVK LR LR
comp=Z,439nm,20.0s,MS4.9
KBO Bosley Butte 89.85 48 *e*P **P 14 30 56.9 +1.7**
KEBM Edson Butte 89.86 47 *e*P **P 14 30 56.9 +1.8**
KCPM Cahto Peak 89.99 50 *e*P **P 14 30 56.9 +1.2**
ZRNK Zerenda 90.00 323 *e*P **P 14 30 53.1 -2.7**
ZRNK pmax pmax
comp=Z,14nm,1.0s,mb5.2
ZRNK Zerenda 90.00 323 *e*P **P 14 30 53.1 -2.8**
comp=Z,14nm,1.0s,mb5.2
INK Inuvik 90.00 21 P **P 14 30 54.6 -1.2**
comp=Z,20nm,0.9s,mb5.4,baz=253,slow=5.6,SNR=42
INK Inuvik 90.00 21 *e*P **P 14 30 54.2 -1.6**
INK pmax pmax
comp=Z,49nm,1.3s
INK Inuvik 90.00 21 *e*P **P 14 30 54.1 -1.7**
comp=Z,49nm,1.3s,mb5.7
KHMM Horse Mountain 90.03 49 *e*P **P 14 30 58.5 +2.5**
OTR Olympics--Tyee 90.59 42 P **P 14 30 59.8 +1.3**
OOW Octopus West 90.64 42 P **P 14 31 00.3 +1.5**
OCWA Octopus Mounta 90.65 42 *e*P **P 14 30 59.8 +1.0**
comp=Z,52nm,0.9s,mb5.9
COR Corvallis 90.83 45 *e*P **P 14 31 00.0 +0.3**
COR pmax pmax
comp=Z,160nm,1.5s,mb6.1
COR Corvallis 90.83 45 *e*P **P 14 31 00.0 +0.3**
comp=Z,160nm,1.5s,mb6.1
HUMO Hull Mountain 90.83 47 *e*P **P 14 31 00.7 +1.0**
comp=Z,78nm,0.9s,mb6.0
WDC Whiskeytown Da 90.89 49 *e*P **P 14 30 59.4 -0.6**
WDC pmax pmax
comp=Z,82nm,1.5s,mb5.8
WDC Whiskeytown Da 90.89 49 *e*P **P 14 30 59.4 -0.6**
comp=Z,82nm,1.5s,mb5.8
YBH Yreka Blue Hor 90.91 48 P **P 14 31 01.1 +1.1**
comp=Z,51nm,1.1s,mb5.8,baz=197,slow=2.2,SNR=25
YBH Yreka Blue Hor 90.91 48 *e*P **P 14 31 01.1 +1.1**
YBH pmax pmax
comp=Z,67nm,1.2s
YBH Yreka Blue Hor 90.91 48 *e*P **P 14 31 01.1 +1.1**
comp=Z,67nm,1.2s,mb5.8
PGC Sidney 91.25 41 *e*P **P 14 31 02.2 +0.6**
comp=Z,82nm,0.9s,mb6.1
PGC *e*pP pP 14 31 09.3 -1.1
LHEM Herd Peak 91.26 48 P **P 14 31 03.0 +1.3**
HBO Huckleberry Mo 91.44 46 P **P 14 31 03.5 +1.0**
IRO Indian Ridge 91.51 46 P **P 14 31 03.5 +0.7**
CMW Cultus Mountai 92.11 42 P **P 14 31 06.7 +1.1**
SYO Syowa Base 92.15 200‖ *e*P **P 14 31 04.4 -1.4**
SYO Syowa Base 92.15 200‖ *i*/PcP PcP 14 31 05.7 -0.9
SYO Syowa Base 92.15 200‖ *e*pP pP 14 31 11.0 -3.5
JCW Jim Creek 92.20 42 P **P 14 31 06.4 +0.3**
VFP Flag Point 92.21 45 P **P 14 31 07.0 +0.9**
CMB Columbia Colle 92.28 52 *e*P **P 14 31 06.8 +0.4**
CMB pmax pmax
comp=Z,24nm,1.0s,mb5.5
CMB Columbia Colle 92.28 52 *e*P **P 14 31 06.8 +0.4**
comp=Z,24nm,1.0s,mb5.5
MOD Modoc 92.71 48 *e*P **P 14 31 09.2 +0.8**
comp=Z,99nm,1.4s,mb6.0
PAHR Pah Rah Range 93.21 51 *e*P **P 14 31 11.6 +0.9**
comp=Z,40nm,1.0s,mb5.8
ISA Isabella 93.59 55 *e*P **P 14 31 13.0 +0.5**
ISA pmax pmax
comp=Z,24nm,1.6s,mb5.4
ISA Isabella 93.59 55 *e*P **P 14 31 13.0 +0.5**
comp=Z,24nm,1.6s,mb5.4
MTUM Tungsten Hills 93.66 53 *e*P **P 14 31 14.0 +1.3**
HAWA Hanford 93.66 44 *e*P **P 14 31 12.6 -0.2**
comp=Z,5.5nm,1.3s,mb4.8
MWC Mount Wilson 93.82 56 *e*P **P 14 31 14.0 +0.5**
NVAR Mina Array Bea 93.95 52 P **P 14 31 15.4 +1.4**
comp=Z,41nm,0.8s,mb5.9,baz=260,slow=4.5,SNR=102
NVAR LR LR 15 08 40.1
comp=Z,2μm,19.0s,MS5.5,baz=285,slow=32
WVOR Wild Horse Val 93.99 48 *e*P **P 14 31 14.8 +0.5**
WVOR pmax pmax
comp=Z,64nm,1.3s,mb5.9
WVOR Wild Horse Val 93.99 48 *e*P **P 14 31 14.8 +0.5**
comp=Z,64nm,1.3s,mb5.9
MNV Mina 94.06 52 *e*P **P 14 31 14.9 +0.3**
MNV pmax pmax
comp=Z,45nm,0.9s,mb5.9
MNV Mina 94.06 52 *e*P **P 14 31 14.9 +0.3**
comp=Z,45nm,0.9s,mb5.9
OD2 Odessa Site #2 94.30 43 P **P 14 31 16.1 +0.4**
DAC Darwin (Calif) 94.35 54 *e*P **P 14 31 16.9 +1.0**
DAC pmax pmax
comp=Z,41nm,0.9s,mb5.9
DAC Darwin (Calif) 94.35 54 *e*P **P 14 31 16.9 +0.9**
comp=Z,41nm,0.9s,mb5.9
TPH Tonopah 94.77 52 *e*P **P 14 31 17.4 -0.5**
TPH pmax pmax
comp=Z,27nm,0.9s,mb5.7
TPH Tonopah 94.77 52 *e*P **P 14 31 17.4 -0.4**
comp=Z,27nm,0.9s,mb5.7
BMN Battle Mountai 94.92 50 *e*P **P 14 31 19.6 +1.1**
BMN pmax pmax
comp=Z,19nm,1.1s,mb5.4
BMN Battle Mountai 94.92 50 *e*P **P 14 31 19.6 +1.0**
comp=Z,19nm,1.1s,mb5.4
PFO Pinyon Flat Ob 95.11 57 *e*P **P 14 31 18.3 -1.1**
PFO pmax pmax
comp=Z,17nm,0.8s,mb5.5
PFO Pinyon Flat Ob 95.11 57 *e*P **P 14 31 18.3 -1.1**
comp=Z,17nm,0.8s,mb5.5
BMO Blue Mountains 95.11 46 *e*P **P 14 31 19.4 0.0**
BMO pmax pmax
comp=Z,67nm,1.4s,mb5.9
BMO Blue Mountains 95.11 46 *e*P **P 14 31 19.4 0.0**
comp=Z,67nm,1.4s,mb5.9
AB31 Akbulak array 95.28 319 *i* P **P 14 31 17.4 -2.8**
NEW Newport 95.41 42 P **P 14 31 20.9 +0.1**
comp=Z,22nm,1.1s,mb5.5,baz=251,slow=2.9,SNR=20
NEW Newport 95.41 42 *e*P **P 14 31 20.6 -0.2**
NEW *e**PP pP 14 31 29.1 -0.5
NEW pmax pmax
comp=Z,53nm,1.4s
NEW Newport 95.41 42 *e*P **P 14 31 20.6 -0.2**
comp=Z,53nm,1.4s,mb5.8
NEW *e*pP pP 14 31 29.1 -0.5
RPN Rapa Nui 95.66 118 LR LR 15 06 04.0
comp=Z,408nm,19.1s,MS4.9,baz=270,slow=30
LDFC Landfair 96.30 55 *e*P **P 14 31 26.4 +1.5**
ARU Arti 96.36 326⇑ *i*P **P 14 31 21.5 -3.6**
ARU *e* 14 35 15.7
ARU *e*S 14 41 55.3
ARU *e*SP SP 14 44 00.4 -2.5
ARU *e*SS SS 14 49 10.3 -6.0
ARU pmax pmax
comp=Z,12nm,1.2s,mb5.2
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.3
ARU MLR MLR
comp=N,400nm,22.0s,MS5.3
ARU MLR MLR
comp=E,1μm,21.0s,MS5.3
ELK Elko 96.44 50 *e*P **P 14 31 26.1 +0.6**
ELK pmax pmax
comp=Z,30nm,1.3s
ELK Elko 96.44 50 *e*P **P 14 31 26.1 +0.6**
comp=Z,30nm,1.3s,mb5.6
NEN Nelson 96.55 55 *e*P **P 14 31 27.1 +1.2**
AKTO Aktyubinsk 96.56 320 PKKP PKKPbc 14 48 08.6 -1.0
comp=Z,1.6nm,0.8s,baz=225,slow=4.3,SNR=4.1
YKW3 Yellowknife Ar 97.08 28 *e*P **P 14 31 27.4 -0.9**
YKA Yellowknife Ar 97.09 28 P **P 14 31 27.7 -0.7**
comp=Z,7.8nm,0.9s,mb5.1,baz=270,slow=4.5,SNR=72
YKA PKiKP PKiKP 14 36 04.7 +0.6
comp=Z,0.4nm,0.7s,baz=286,slow=2.1,SNR=4.0
YKA PKKPbc PKKPbc 14 48 06.9 -1.3
comp=Z,1.1nm,0.8s,baz=82,slow=2.7,SNR=10
YKA PKPPKP 14 56 20.4
comp=Z,0.5nm,1.0s,baz=92,slow=3.7,SNR=4.6
YKA LR LR 15 13 38.5
comp=Z,732nm,19.5s,MS5.2,baz=260,slow=34
YKA Yellowknife Ar 97.09 28 P **P 14 31 27.7 -0.7**
HLID Hailey 97.14 47 *e*P **P 14 31 29.0 +0.3**
comp=Z,13nm,1.0s,mb5.3
ARUT Antelope Range 97.75 53 *e*P **P 14 31 32.6 +1.2**
CCUT Cedar City 97.80 53 *e*P **P 14 31 32.9 +1.3**
EDM Edmonton 97.90 37 *e*P **P 14 31 30.6 -1.5**
EDM *e**PP pP 14 31 39.9 -0.9
CHMT Chamberlain Mo 98.00 44 *e*P **P 14 31 31.2 -1.3**
BGU Big Grassy Mou 98.12 50 P **P 14 31 32.3 -0.8**
MCMT McKenzie Canyo 98.28 46 *e*P **P 14 31 34.2 +0.4**
HVU Hansel Valley 98.32 49 *e*P **P 14 31 34.2 +0.2**
HVU pmax pmax
comp=Z,32nm,1.0s,mb5.8
HVU Hansel Valley 98.32 49 *e*P **P 14 31 34.2 +0.3**
comp=Z,32nm,1.0s,mb5.8
DLMT Dillon 98.46 45 *e*P **P 14 31 32.4 -2.1**
comp=Z,12nm,1.1s,mb5.3
MSU Marysvale 98.75 52 *e*P **P 14 31 36.9 +1.0**
BOZ Bozeman (W) 99.14 45 *e*P **P 14 31 37.1 -0.5**
BOZ pmax pmax
comp=Z,5.0nm,0.7s,mb5.2
BOZ Bozeman (W) 99.14 45 *e*P **P 14 31 37.1 -0.5**
comp=Z,4.6nm,0.7s,mb5.1
HWUT Hardware Ranch 99.23 49 *e*P **P 14 31 38.2 +0.2**
comp=Z,5.9nm,0.8s,mb5.2
QLMT Earthquake Lak 99.29 46 *e*P **P 14 31 39.5 +1.2**
WUAZ Wupatki 99.37 55 *e*Pdif **P 14 31 40.7 +2.0**
comp=Z,14nm,0.9s,mb5.5
DAU Daniels Canyon 99.47 50 *e*P **P 14 31 39.7 +0.6**
TMUT Trail Mountain 99.51 51 *e*Pdif **P 14 31 40.1 +0.9**
YMR Madison River 99.63 46 *e*Pdif Pdif 14 31 40.5 +0.8
comp=Z,22nm,1.0s
YFT Old Faithful 99.72 46 *e*Pdif Pdif 14 31 42.0 +1.7
REDW Red Top Meadow 99.73 47 *e*Pdif Pdif 14 31 40.5 +0.2
comp=Z,19nm,1.1s
FLWY Flagg Ranch 99.83 46 *e*Pdif Pdif 14 31 41.4 +0.7
comp=Z,11nm,0.8s
LOHW Long Hollow 99.91 47 *e*Pdif Pdif 14 31 40.8 -0.3
comp=Z,8.5nm,1.1s
LKWY Lake 100.03 46 *e*P Pdif 14 31 44.0 +2.4
LKWY pmax pmax
comp=Z,9.0nm,1.0s
LKWY Lake 100.03 46 *e*Pdif Pdif 14 31 44.0 +2.4
comp=Z,8.8nm,1.0s
SRU San Rafael 100.04 51 *e*P Pdif 14 31 42.0 +0.4
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael 100.04 51 *e*Pdif Pdif 14 31 42.0 +0.3
comp=Z,6.6nm,0.8s
EGMT Eagleton 100.35 42 *e*Pdif Pdif 14 31 43.1 +0.1
comp=Z,43nm,1.4s
GCMT Greycliff 100.51 45 *e*Pdif Pdif 14 31 43.5 -0.2
PDAR Pinedale Array 100.70 48 P Pdif 14 31 44.4 -0.2
comp=Z,14nm,1.0s,baz=246,slow=2.4,SNR=40
PDAR PP PP 14 35 50.9 -1.1
comp=Z,1.2nm,1.0s,baz=255,slow=9.3,SNR=3.3
PDAR PKKP PKKPbc 14 48 01.5 +3.4
comp=Z,0.6nm,0.8s,baz=90,slow=2.7,SNR=3.5
RES Resolute Bay 101.82 14 *e*P Pdif 14 31 46.5 -3.1
RES pmax pmax
comp=Z,14nm,1.2s
RES Resolute Bay 101.82 14 *e*Pdif Pdif 14 31 46.5 -3.0
comp=Z,14nm,1.2s
RWWY Rawlins 102.49 49 *e*Pdif Pdif 14 31 52.6 +0.1
comp=Z,21nm,1.2s
SMCO Snowmass 102.80 51 *e*Pdif Pdif 14 31 54.9 +1.0
comp=Z,11nm,0.8s
FFC Flin Flon 104.43 35 *e*P Pdif 14 32 00.7 -0.4
FFC pmax pmax
comp=Z,7.0nm,1.0s
FFC Flin Flon 104.43 35 *e*Pdif Pdif 14 32 00.7 -0.5
comp=Z,6.9nm,1.0s
RSSD Black Hills 104.62 46 *e*P Pdif 14 32 01.2 -0.8
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD Black Hills 104.62 46 *e*Pdif Pdif 14 32 01.2 -0.8
comp=Z,7.8nm,0.7s
KLMR Klimovskoe 105.62 332 *i* P Pdif 14 32 01.8 -4.6
KLMR *e*SS SS 14 51 30.0 +5.0
KLMR pmax pmax
comp=Z,60nm,3.5s
KLMR pmax pmax
comp=Z,30nm,1.3s
KLMR MLR MLR
comp=Z,1μm,20.0s,MS5.4
APA Apatity 105.81 339⇑ *i*P Pdif 14 32 04.5 -2.8
APA pmax pmax
comp=Z,81nm,1.4s
ZEI Tsey 106.71 313 *i* P Pdif 14 32 08.3 -3.0
ZEI *i* 14 36 35.8
BHD Baghdad 107.32 303 *ex* x 14 36 19.0
KIV Kislovodsk 107.42 314 PKiKP PKiKP 14 36 22.4 -0.5
ARCES ARCESS Array B 107.44 343 PKiKP PKiKP 14 36 22.1 -0.8
comp=Z,12nm,1.0s,baz=106,slow=1.3,SNR=39
MSL Mosul 108.10 306 *ex* x 14 36 25.5
JOF Joensuu 108.53 335 *ep* PKiKP 14 36 24.8 -0.1
comp=Z,9.7nm,1.1s
DAG Danmarks Havn 108.94 358⇑ *i*P PKiKP 14 36 24.2 -1.5
comp=Z,6.3nm,1.2s
DAG Danmarks Havn 108.94 358⇑ *e*P PKiKP 14 36 24.2 -1.5
ULM Lac du Bonnet 109.03 39 Pdiff Pdif 14 32 21.5 -0.1
comp=Z,3.3nm,0.9s,baz=268,slow=5.3,SNR=5.2
ULM PKKPbc PKKPbc 14 47 42.7 +10
comp=Z,3.4nm,1.0s,baz=135,slow=4.3,SNR=4.2
ULM Lac du Bonnet 109.03 39 Pdif Pdif 14 32 21.5 -0.1
ULM PKKPbc PKKPbc 14 47 42.7 +10
KAF Kangasniemi 110.97 336 *ep* PKiKP 14 36 27.4 -2.1
comp=Z,8.1nm,0.7s
FINES FINESS Array B 111.39 335 Pdiff Pdif 14 32 25.9 -6.2
comp=Z,4.0nm,0.8s,baz=106,slow=3.0,SNR=23
FINES PKiKP PKiKP 14 36 29.2 -1.1
comp=Z,5.1nm,0.6s,baz=114,slow=2.5,SNR=23
FINES PKKPbc PKKPbc 14 47 34.0 +8.7
comp=Z,1.7nm,0.8s,baz=284,slow=3.1,SNR=4.3
FINES FINESS Array B 111.39 335 P Pdif 14 32 25.9 -6.2
FINES 14 36 29.3
MALT Malatya 111.51 309 *e*PKiKP PKiKP 14 36 30.9 +0.4
GZT Gaziantep 112.34 308 *i* P PKiKP 14 36 32.4 +0.3
SUMG Summit 113.11 3 *e*PKiKP PKiKP 14 36 32.4 -1.2
BOYT Boyabat 113.54 313 *i* P PKiKP 14 36 34.5 +0.1

CDAG **Cicekdag** 114.34 311 *i* P PKiKP 14 36 35.5 -0.4
AKASG **Malin Array Be** 114.47 324 PKP PKiKP 14 36 35.1 -1.1
comp=Z,22nm,0.8s,baz=70,slow=1.9,SNR=44
AKASG PKKPbc PKKPbc 14 47 14.2 -0.7
comp=Z,2.4nm,0.6s,baz=261,slow=4.0,SNR=12
ELDT **Eldivan** 114.84 312 *i* P PKiKP 14 36 36.8 -0.1
BR131 **Keskin Array S** 114.87 311 *e*PKiKP PKiKP 14 36 36.2 -0.8
BRTR **Keskin Array B** 114.87 311 PKP PKiKP 14 36 36.5 -0.4
comp=Z,16nm,0.9s,baz=101,slow=2.5,SNR=44
BRTR PKKPbc PKKPbc 14 47 15.1 +1.6
comp=Z,1.3nm,0.9s,baz=191,slow=3.8,SNR=6.0
ANTO **Ankara** 115.47 311 *e*PKIKP PKIKP 14 36 35.8 -2.3
EIL **Elat** 115.72 300 *e*PKPdf PKPdf 14 36 38.8 +0.2
SGKT **Sivrigoynuk** 115.83 312 *i* P PKPdf 14 36 37.4 -1.5
CSS **Prodhromos** 116.16 306 *e*PKPdf PKPdf 14 36 38.9 -0.6
KDHN **Kadinhani** 116.31 310 *i* P PKPdf 14 36 39.0 -0.8
SUW **Suwalki** 116.38 329 *e*PKP PKPdf 14 36 39.7 -0.2
HENT **Hendek** 116.61 313 *i* P PKPdf 14 36 39.4 -1.0
ESKT **Eskisehir** 117.01 312 *i* P PKPdf 14 36 40.8 -0.3
BORA **Eskisehir** 117.20 312 *i* P PKPdf 14 36 40.9 -0.5
TIRR **Tirgusor** 117.23 317 ⇑P PKPdf 14 36 41.3 -0.2
TIRR **Tirgusor** 117.23 317 *e*PKPdf PKPdf 14 36 40.8 -0.7
NB2 **NORSAR Subarra** 117.39 339 PKPd PKPdf 14 36 40.4 -1.4
comp=Z,23nm,0.9s,baz=45,slow=1.9
NB2 **NORSAR Subarra** 117.39 339 PKPd PKPdf 14 36 40.4 -1.4
baz=45,slow=1.9
NOA **NORSAR Array B** 117.39 339 PKP PKPdf 14 36 40.7 -1.1
comp=Z,13nm,0.8s,baz=48,slow=1.9,SNR=26
NOA **NORSAR Array B** 117.39 339 PKP PKPdf 14 36 40.7 -1.1
HARR **Harsova** 117.47 318 ⇓P PKPdf 14 36 42.1 +0.1
HARR **Harsova** 117.47 318 ⇓P PKPdf 14 36 42.1 +0.1
NAO01 **NORSAR Array S** 117.64 339 *e*PKPdf PKPdf 14 36 41.1 -1.2
PSN **Preselentsi** 117.65 317 *i* P PKPdf 14 36 42.7 +0.4
ISP **Isparta** 117.71 310 PKIKP PKPdf 14 36 41.7 -0.7
BOSA **Boshof** 117.76 233 PKP PKPdf 14 36 43.3 +0.8
comp=Z,8.6nm,0.9s,baz=95,slow=3.5,SNR=6.8
BOSA PKKPab PKKPab 14 47 06.9 +0.1
comp=Z,7.7nm,0.9s,baz=335,slow=12,SNR=4.0
TKTP **Tekketepe** 117.80 310 *i* P PKPdf 14 36 41.5 -1.1
VRI **Vrincioaia** 117.83 319 ⇑P PKPdf 14 36 42.3 -0.4
VRI **Vrincioaia** 117.83 319 P PKPdf 14 36 42.7 +0.1
LVV **L'vov** 117.87 324 *d*PKIKP PKPdf 14 36 42.7 0.0
BURAR **Bucovina Array** 118.10 322 ⇑P PKPdf 14 36 43.3 +0.1
BURAR **Bucovina Array** 118.10 322 ⇑P PKPdf 14 36 43.3 +0.2
PRD **Provadia** 118.35 316 *i* P PKPdf 14 36 44.0 +0.3
MLR **Muntele Rosu** 118.48 319 ⇓P PKPdf 14 36 43.9 0.0
MLR **Muntele Rosu** 118.48 319 P PKPdf 14 36 43.9 0.0
KWP **Kalwaria** 118.72 325 *e*PKP PKPdf 14 36 44.3 -0.1
BTOK **Tokmak** 119.02 312 *i* P PKPdf 14 36 44.0 -0.9
VOIR 119.09 319 ⇑P PKPdf 14 36 44.8 -0.3
VOIR 119.09 319 ⇑P PKPdf 14 36 44.8 -0.3
KOLS **Kolonicke sedl** 119.30 324 *i* PKP PKPdf 14 36 45.8 +0.3
SZH **Strazhica** 119.33 317 *i* P PKPdf 14 36 45.7 +0.2
SUR **Sutherland** 119.47 228 PKP PKPdf 14 36 47.2 +1.4
comp=Z,12nm,1.1s,baz=35,slow=14,SNR=3.2
STHS **Stebnicka Huta** 119.66 325 *i* PKP PKPdf 14 36 46.6 +0.4
PVL **Pavlikeni** 119.75 317 *i* P PKPdf 14 36 47.2 +0.8
GKP **Gorka Klasztor** 119.78 330 *e*PKP PKPdf 14 36 46.9 +0.5
CRVS **Cervenica-Dubn** 119.78 324 *e*PKP PKPdf 14 36 46.3 -0.1
PLCA **Paso Flores** 119.82 144 PKP PKPdf 14 36 46.6 +0.1
comp=Z,4.4nm,0.9s,baz=232,slow=6.5,SNR=5.3
LSZ **Lusaka** 119.83 249 *e*PKIKP PKPdf 14 36 47.4 +0.9
DRGR 120.00 322 PKIKP PKPdf 14 36 46.3 -0.5
DIM **Dimitrovgrad** 120.04 316 *i* P PKPdf 14 36 47.0 +0.1
OJC **Ojcow** 120.08 326 *e*PKPdf PKPdf 14 36 45.6 -1.4
ALN **Alexandroupoli** 120.09 314 *e*P PKPdf 14 36 46.5 -1.4
AYVA **Ayvalik** 120.15 312 *i* P PKPdf 14 36 46.2 -0.9
NIE **Niedzica** 120.19 325 *e*PKP PKPdf 14 36 47.7 +0.5
KDZ **Kurdzhali** 120.27 315 *i* P PKPdf 14 36 47.0 -0.3
URLA **Izmir** 120.52 311 *i* P PKPdf 14 36 46.7 -1.1
KECS **Kecovo** 120.55 324 *i* PKP PKPdf 14 36 47.5 -0.4
KECS *e* 14 36 55.6
ACSO **Alum Creek Sta** 120.69 46 *e*PKPdf PKPdf 14 36 47.9 -0.3
RZN **Rozhen** 120.74 316 *i* P PKPdf 14 36 48.0 -0.3
PGB **Panagyurishte** 120.80 317 *i* P PKPdf 14 36 48.5 +0.1
PSZ **Piszkesteto** 121.17 324 ⇑*e*PKP/D PKPdf 14 36 48.8 -0.3
OKC **Ostrava-Krasne** 121.19 326 *e*PKPdf PKPdf 14 36 48.4 -0.7
BZS **Buzias** 121.20 321 ⇑P PKPdf 14 36 49.0 -0.1
BZS **Buzias** 121.20 321 P PKPdf 14 36 49.0 -0.1
VTS **Vitosha** 121.43 317 *i* P PKPdf 14 36 49.5 -0.1
VTS **Vitosha** 121.43 317 *e*P PKPdf 14 36 50.2 +0.6
MMB **Musomiste** 121.47 316 *i* P PKPdf 14 36 49.5 -0.1
VYHS **Vyhne** 121.50 325 *i* PKP PKPdf 14 36 49.4 -0.3
VYHS *e* 14 48 07.7
MORC **Moravsky Berou** 121.55 327 *e*PKIKP PKPdf 14 36 49.7 -0.1
KSP **Ksiaz** 121.63 328 *e*PKP PKPdf 14 36 49.7 -0.3
KSP **Ksiaz** 121.63 328 *e*PKP PKPdf 14 36 49.6 -0.4
KSP LR LR
comp=Z,1μm,22.9s,MS5.5
APE **Apeiranthos** 121.72 310 ⇑PKIKP PKPdf 14 36 49.6 -0.5
SRS **Serrai** 121.74 315 *e*P PKPdf 14 36 48.7 -1.4
OUR **Ouranopolis** 121.75 314 *e*P PKPdf 14 36 50.4 +0.2
KKB **Krupnik** 121.80 316 *i* P PKPdf 14 36 49.5 -0.8
DPC **Dobruska-Polom** 121.89 328 *e*PKPdf PKPdf 14 36 50.6 +0.1
DPC *ep*PKP pPKPdf 14 36 58.7 -0.8
DPC AMS AMS 15 29 30.0
DPC **Dobruska-Polom** 121.89 328 *e*PKP PKPdf 14 36 50.6 +0.1
DPC *e* 14 36 58.7
RUE **Ruedersdorf** 121.94 331 *e*PKPdf PKPdf 14 36 50.9 +0.3
RUE **Ruedersdorf** 121.94 331 *e*PKPdf PKPdf 14 36 50.9 +0.3
UPC **Upice** 121.97 328 *e*PKPdf PKPdf 14 36 50.5 -0.1
UPC *ep*PKP pPKPdf 14 36 58.4 -1.2
SVIS **Svilajnac** 122.04 320 ⇑*i*PKP PKPdf 14 36 50.4 -0.4
PAIG **Paliouri** 122.12 314 *e*P PKPdf 14 36 49.6 -1.3
SRO **Srobarova** 122.15 324 *e*PKP PKPdf 14 36 49.7 -1.3
KNT **Kendrikon** 122.21 316 *e*P PKPdf 14 36 49.5 -1.6
AOS **Alonnisos** 122.25 313 *e*P PKPdf 14 36 48.5 -2.7
SMOL **Smolenice** 122.29 325 *e*PKP PKPdf 14 36 51.8 +0.6
VRAC **Vranov** 122.33 327 PKIKP PKPdf 14 36 51.4 +0.1
THE **Thessaloniki** 122.36 315 *e*P PKPdf 14 36 49.5 -1.9
VAY **Valandovo** 122.37 316 *e*P PKPdf 14 36 49.5 -1.9
SCHQ **Schefferville** 122.41 25 PKP PKPdf 14 36 52.3 +0.8
comp=Z,9.3nm,0.9s,baz=357,slow=4.9,SNR=7.4
SCHQ PKKPbc PKKPbc 14 46 44.6 -1.5
comp=Z,6.3nm,1.0s,baz=207,slow=6.8,SNR=4.1
GRUS **Gruza** 122.54 319 *e*PKP PKPdf 14 36 51.4 -0.3
BSEG **Bad Segeberg** 122.61 334 *e*PKPdf PKPdf 14 36 52.0 +0.2
BSEG *ep*PKPdf pPKPdf 14 37 00.6 -0.2
GRG **Griva** 122.63 316 *e*P PKPdf 14 36 50.4 -1.5
ZST **Bratislava** 122.64 325 *e*PKP PKPdf 14 36 52.2 +0.3
ZST *e* 14 37 01.1
PTL **Penteli** 122.65 312 *e*Pb PKPdf 14 36 50.0 -1.9
XOR **Xorichti** 122.67 314 *e*P PKPdf 14 36 50.9 -1.0
PVCC **Panska Ves** 122.71 329 *e*PKPdf PKPdf 14 36 52.0 0.0
PKSM **Moragy** 122.76 323 ⇑*i*PKIKP PKPdf 14 36 51.8 -0.3
PKS9 **Tamasi** 122.79 323 ⇑*e*P PKPdf 14 36 52.0 -0.2
BRG **Berggiesshubel** 122.83 329 *e*PKPdf PKPdf 14 36 52.3 0.0
BRG **Berggiesshubel** 122.83 329 ⇑*i*PKP PKPdf 14 36 52.4 +0.1
BRG *i* 14 37 00.6
BRG PP PP 14 38 31.0 +0.4
BRG *e* 14 55 33.0
BRG LR LR
comp=Z,440nm,16.6s,MS5.2
BRG **Berggiesshubel** 122.83 329 ⇑*i*PKP PKPdf 14 36 52.4 +0.1
comp=Z,57nm,1.1s
BRG *i* 14 37 00.6
comp=Z,23nm,1.1s
BRG PP PP 14 38 31.0 +0.4
BRG *e* 14 55 33.0
BRG
comp=N,241nm,20.1s
BRG
comp=E,295nm,15.8s
BRG
comp=Z,440nm,16.6s
LIT **Litokhoron** 122.90 315 *e*P PKPdf 14 36 51.1 -1.3
DIVS **Divcibare** 122.92 320 ⇓*i*PKP PKPdf 14 36 52.2 -0.2
DIVS **Divcibare** 122.92 320 *e*P PKPdf 14 36 52.5 +0.1
TREC **Trest** 122.94 327 *e*PKPdf PKPdf 14 36 52.4 -0.1
TREC *ep*PKP pPKPdf 14 37 01.3 -0.2
CLL **Collm** 123.04 330 ⇑*i*PKPdf PKPdf 14 36 52.4 -0.3
comp=Z,64nm,0.9s
CLL *ep*PKPdf pPKPdf 14 37 00.8 -0.9
CLL *e*PP PP 14 38 36.8 +4.8
CLL *e*PPP 14 41 04.7
CLL *e*PKKP PKKPbc 14 46 44.2 +0.5
CLL *e*PS PS 14 48 24.8 -3.3
CLL *e*SKKPdf 14 50 55.6
CLL *e*L 15 30 21.1
comp=Z,801nm,21.7s
CLL **Collm** 123.04 330 ⇑*i*PKPdf PKPdf 14 36 52.5 -0.2
comp=Z,63nm,0.9s

CLL *ep*PKPdf pPKPdf 14 36 59.0 -2.7
CLL *i* PKKPbc PKKPbc 14 46 43.8 +0.1
comp=Z,13nm,1.3s
CLL **Collm** 123.04 330 ⇑*i*PKIKP PKPdf 14 36 52.5 -0.2
CLL *e* 14 36 59.0
CLL MLR MLR
comp=Z,900nm,18.1s,MS5.5
CLL **Collm** 123.04 330 ⇑*i*PKP PKPdf 14 36 52.5 -0.2
CLL *e* 14 36 59.0
CLL *i* PKKP PKKPbc 14 46 43.8 +0.1
CLL LR LR
comp=Z,900nm,18.1s,MS5.5
PRU **Pruhonice** 123.04 328 *e*PKPdf PKPdf 14 36 52.3 -0.4
PRU *ep*PKP pPKPdf 14 37 00.3 -1.4
PRU AMS AMS 15 30 00.0
comp=Z,800nm,18.0s
FWV **Forest Hill** 123.20 49 *e*PKPdf PKPdf 14 36 52.7 -0.3
BBLS **Bajina Basta -** 123.39 320 *e*PKP PKPdf 14 36 53.0 -0.4
FNA **Florina** 123.41 316 *e*P PKPdf 14 36 52.7 -0.7
AGG **Agios Georgios** 123.42 313 *e*P PKPdf 14 36 52.7 -0.7
IVA **Berane** 123.53 319 ⇑*i*PKP PKPdf 14 36 53.0 -0.6
GVD **Gavdhos** 123.53 308 *e*PKPdf PKPdf 14 36 53.5 -0.1
PVY **Plav** 123.60 318 ⇑*i*PKP PKPdf 14 36 53.1 -0.7
BLA **Blacksburg** 123.62 49 *e*PKIKP PKPdf 14 36 53.6 -0.2
PLE **Pljevlja** 123.65 319 ⇑*i*PKP PKPdf 14 36 54.0 +0.2
OHR **Ohrid** 123.68 316 *e*P PKPdf 14 36 53.0 -0.9
EVR **Evrytania** 123.84 314 *e*Pb PKPdf 14 36 54.2 0.0
WERD **Werda** 123.92 330 *e*PKPdf PKPdf 14 36 54.1 -0.2
WERD *ep*PKPdf pPKPdf 14 37 03.0 -0.3
JSC **Jenkinsville** 123.93 52 *e*PKIKP PKPdf 14 36 54.7 +0.3
CLZ **Clausthal** 123.97 332 *e*PKPdf PKPdf 14 36 54.7 +0.3
NKC **Novy Kostel** 123.98 329 *e*PKPdf PKPdf 14 36 54.4 -0.1
UPM **Unac-Piva** 124.02 319 ⇑*i*PKP PKPdf 14 36 53.7 -0.9
ARSA **Arzberg** 124.05 325 *i* P PKPdf 14 36 54.2 -0.4
comp=Z,30nm,1.1s,SNR=12
ARSA **Arzberg** 124.05 325 *i* P PKPdf 14 36 54.2 -0.4
KHC **Kasperske Hory** 124.05 328 *e*PKPdf PKPdf 14 36 54.5 -0.1
KHC *e*PKKP PKKPbc 14 46 40.0 +0.3
KHC AMS AMS 15 30 30.0
comp=Z,1μm,16.8s
MOX **Moxa** 124.14 330 *e*PKPdf PKPdf 14 36 54.5 -0.3
MOX **Moxa** 124.14 330 *e*PKP PKPdf 14 36 54.4 -0.4
comp=Z,79nm,1.5s
MOX SKP
comp=Z,500nm,22.0s
NKY **Niksic** 124.14 319 ⇑*i*PKP PKPdf 14 36 54.5 -0.3
TTG **Podgorica** 124.15 318 ⇑*i*PKP PKPdf 14 36 54.2 -0.6
GEC2 **GERESS Array S** 124.16 327 *e*PKPdf PKPdf 14 36 54.6 -0.2
GERES **GERESS Array B** 124.16 327 PKP PKPdf 14 36 54.6 -0.2
comp=Z,28nm,0.7s,baz=70,slow=1.6,SNR=195
GERES SKP 14 40 28.6
comp=Z,0.4nm,0.5s,baz=48,slow=2.9,SNR=4.0
GERES PKKPab PKKPab 14 46 39.7 +0.4
comp=Z,1.0nm,0.8s,baz=234,slow=4.1,SNR=5.1
JTS **JuntasAbangare** 124.22 82 *e*PKPdf PKPdf 14 36 55.2 +0.3
MANZ **Manzenberg** 124.30 329 *e*PKPdf PKPdf 14 36 55.3 +0.2
MANZ *ep*PKPdf pPKPdf 14 37 04.2 +0.1
ULC **Ulcinj** 124.36 318 ⇑*i*PKP PKPdf 14 36 54.9 -0.3
ROTZ **Rotzenmuhle** 124.39 329 *e*PKPdf PKPdf 14 36 55.1 -0.1
BRY **Bratogost** 124.40 319 ⇑*i*PKP PKPdf 14 36 54.9 -0.3
WET **Wettzell** 124.42 328 *e*PKPdf PKPdf 14 36 55.4 +0.1
MOA **Molln** 124.42 326 *i* P PKPdf 14 36 54.8 -0.5
comp=Z,25nm,0.9s,SNR=12
MOA **Molln** 124.42 326 *i* P PKPdf 14 36 54.8 -0.5
BUM **Brajici-Budva** 124.44 318 ⇑*i*PKP PKPdf 14 36 54.8 -0.6
LONY **Lake Ozonia** 124.48 38 *e*PKPdf PKPdf 14 36 55.0 -0.4
HCY **Herceg Novi** 124.64 319 ⇑*i*PKP PKPdf 14 36 55.0 -0.7
MVH1 **Achvaich** 124.67 344 *e*P PKPdf 14 36 55.0 -0.8
MVH1 **Achvaich** 124.67 344 *e*P PKPdf 14 36 55.0 -0.8
MCD **Coleburn Disti** 124.71 344 ⇑*e*P PKPdf 14 36 55.0 -0.9
MCD **Coleburn Disti** 124.71 344 ⇑*e*P PKPdf 14 36 55.0 -0.9
GCIS **Gornji Cirnik** 124.73 324 *i* PKPbc PKPdf 14 36 55.8 -0.1
REB **Eisghbrachaidh** 124.79 345 ⇑*e*P PKPdf 14 36 55.2 -0.8
REB **Eisghbrachaidh** 124.79 345 ⇑*e*P PKPdf 14 36 55.2 -0.8
UBBA **Unterbreizbach** 124.81 331 *e*PKPdf PKPdf 14 36 56.0 -0.1
IBBN **Ibbenburen** 124.85 334 *e*PKPdf PKPdf 14 36 56.2 +0.1
MME1 **Meikle Cairn** 124.86 343 *e*P PKPdf 14 36 55.0 -1.2
MME1 **Meikle Cairn** 124.86 343 *e*P PKPdf 14 36 55.0 -1.2
GRA1 **Grafenberg Arr** 124.93 329 *e*PKPdf PKPdf 14 36 56.1 -0.2
GRA1 *e*PP PP 14 38 48.5 +3.8
GRA1 LR LR
comp=Z,700nm,21.8s,MS5.3
GRF **Grafenberg Arr** 124.93 329 *e*PKPdf PKPdf 14 36 56.1 -0.2
GRF *e*PP PP 14 38 48.5 +3.8
GRF *e*L 15 31 28.2
comp=Z,708nm,21.8s
STON **Ston** 124.96 319 *i* P PKPdf 14 36 55.4 -0.9
VLS **Valsamata** 125.01 313 *e*Pb PKPdf 14 36 56.5 +0.1
OBKA **Obir** 125.02 325 ⇑*i*P PKPdf 14 36 55.9 -0.6
comp=Z,41nm,1.3s,SNR=17
OBKA **Obir** 125.02 325 ⇑*i*P PKPdf 14 36 55.9 -0.6
NCB **Newcomb** 125.02 39 *e*PKPdf PKPdf 14 36 56.1 -0.3
RRR **Rubha Reidh** 125.16 345 *e*P PKPdf 14 36 55.9 -0.8
RRR **Rubha Reidh** 125.16 345 *e*P PKPdf 14 36 55.9 -0.8
LJU **Ljubljana** 125.28 324 *e*PKPbc PKPdf 14 36 56.6 -0.4
KAC **Achnashellach** 125.34 345 ⇑*e*P PKPdf 14 36 56.3 -0.8
KAC **Achnashellach** 125.34 345 ⇑*e*P PKPdf 14 36 56.3 -0.8
KBA **Koelnbreinsper** 125.38 326 ⇑*i*P PKPdf 14 36 56.3 -0.9
comp=Z,74nm,1.2s,SNR=13
SDMD **Soldier's Deli** 125.38 45 *e*PKPdf PKPdf 14 36 54.2 -2.9
MVL **Millersville** 125.47 44 PKPdf PKPdf 14 36 57.5 +0.2
WTSB **Winterswijk** 125.51 334 ⇑*i*PKiKP PKiKP 14 36 57.3 -0.5
comp=Z,86nm,1.8s
KPL **Plockton** 125.57 345 *e*P PKPdf 14 36 56.9 -0.6
KPL **Plockton** 125.57 345 *e*P PKPdf 14 36 56.9 -0.6
KSB **Sheil Bridge** 125.63 345 ⇑*e*P PKPdf 14 36 56.9 -0.8
KSB **Sheil Bridge** 125.63 345 ⇑*e*P PKPdf 14 36 56.9 -0.8
BUG **Bochum-Univer** 125.67 333 *e*PKPdf PKPdf 14 36 57.8 +0.1
FUR **Furstenfeldbru** 125.85 328 *e*PKPdf PKPdf 14 36 58.1 0.0
FUR *ep*PKPdf pPKPdf 14 37 07.0 0.0
ESY **Stoneypath** 125.94 342 ⇑*e*P PKPdf 14 36 57.5 -0.7
ESY AMb AMB 14 36 59.6
comp=Z,125nm,1.5s
ESY **Stoneypath** 125.94 342 ⇑*e*P PKPdf 14 36 57.5 -0.7
ESY AMb AMB 14 36 59.6
comp=Z,125nm,1.5s
TNS **Taunus Mts** 125.95 331 *e*PKPdf PKPdf 14 36 58.4 +0.2
KAR1 **Arisaig** 125.99 345 ⇑*e*P PKPdf 14 36 57.6 -0.7
KAR1 **Arisaig** 125.99 345 ⇑*e*P PKPdf 14 36 57.6 -0.7
TOD **Tromm** 126.19 331 PKP PKPdf 14 36 58.1 -0.6
EBL **Broad Law** 126.19 342 *e*P PKPdf 14 36 58.0 -0.7
EBL AMb AMB 14 36 59.6
comp=Z,67nm,1.3s
EBL **Broad Law** 126.19 342 *e*P PKPdf 14 36 58.0 -0.7
EBL AMb AMB 14 36 59.6
comp=Z,67nm,1.3s
WATA **Walderalm** 126.20 327 ⇑*i*P PKPdf 14 36 58.3 -0.4
comp=Z,75nm,1.2s,SNR=11
WATA **Walderalm** 126.20 327 ⇑*i*P PKPdf 14 36 58.3 -0.4
WTTA **Wattenberg** 126.21 327 *i* P PKPdf 14 36 58.6 -0.1
comp=Z,178nm,1.2s,SNR=26
EAB **Aberfoyle** 126.22 343 ⇑*e*P PKPdf 14 36 58.3 -0.4
EAB AMb AMB 14 37 00.3
comp=Z,97nm,1.3s
EAB **Aberfoyle** 126.22 343 ⇑*e*P PKPdf 14 36 58.3 -0.4
EAB AMb AMB 14 37 00.3
comp=Z,97nm,1.3s
EAU **Auchinoon** 126.25 343 *e*P PKPdf 14 36 58.2 -0.6
EAU AMb AMB 14 36 59.3
comp=Z,112nm,1.0s
EAU **Auchinoon** 126.25 343 *e*P PKPdf 14 36 58.2 -0.6
EAU AMb AMB 14 36 59.3
comp=Z,112nm,1.0s
MOTA **Moosalm** 126.45 327 ⇑*i*P PKPdf 14 36 58.9 -0.3
comp=Z,75nm,1.0s,SNR=30
SQTA **Sankt Quirin** 126.47 327 ⇑*i*P PKPdf 14 36 59.2 -0.1
comp=Z,80nm,1.1s,SNR=23
STU **Stuttgart** 126.54 330 *e*PKPdf PKPdf 14 36 59.7 +0.3
STU *ep*PKPdf pPKPdf 14 37 08.4 0.0
STU **Stuttgart** 126.54 330 *e*PKPdf PKPdf 14 36 59.7 +0.3
ABH **Alteburg** 126.61 332 PKP PKPdf 14 36 59.6 +0.1
BBH **Bruntsheil** 126.70 342 ⇑*e*P PKPdf 14 36 59.4 -0.3
BBH **Bruntsheil** 126.70 342 ⇑*e*P PKPdf 14 36 59.4 -0.3
KTD **Kalmit** 126.73 331 PKP PKPdf 14 37 00.0 +0.3
HGN **Heimansgroeve** 126.74 333 ⇑*i*PKiKP PKiKP 14 36 59.7 -0.6
comp=Z,82nm,1.3s
MEM **Membach** 126.82 333 PKP PKPdf 14 37 00.3 +0.4
MEM PKPbc PKPdf 14 37 02.2 +2.3
MEM APKP 14 37 08.6
BHH **Howats Hill** 126.82 342 *e*P PKPdf 14 36 59.4 -0.5
BHH **Howats Hill** 126.82 342 *e*P PKPdf 14 36 59.4 -0.5
BEBN **Eben Emael** 126.83 333 PKP PKPdf 14 37 00.0 +0.1

BWH **Wardlaw** 126.89 342 *e*P PKPdf 14 36 59.5 -0.5
BWH **Wardlaw** 126.89 342 *e*P PKPdf 14 36 59.5 -0.5
RUP **Ruppelstein** 126.97 332 PKP PKPdf 14 37 00.1 -0.1
LANF **Langenberg** 127.10 331 PKP PKPdf 14 37 00.5 +0.1
BBO1 **Bothel** 127.13 342 *e*P PKPdf 14 37 00.3 -0.2
BBO1 **Bothel** 127.13 342 *e*P PKPdf 14 37 00.3 -0.2
DAVA **Damuels** 127.14 328 *i* P PKPdf 14 37 00.5 -0.1
comp=Z,67nm,1.0s,SNR=17
CKE **Keswick** 127.22 342 *e*P PKPdf 14 36 59.7 -0.9
CKE **Keswick** 127.22 342 *e*P PKPdf 14 36 59.7 -0.9
BFO **Black Forest** 127.27 330 *e*PKPdf PKPdf 14 37 00.4 -0.4
TIP **Timpagrande** 127.31 316 *e*PKPdf PKPdf 14 37 01.5 +0.6
XDE **Dent Fell** 127.41 342 *e*P PKPdf 14 37 00.9 -0.1
XDE AMb AMB 14 37 02.7
comp=Z,184nm,1.4s
XDE **Dent Fell** 127.41 342 *e*P PKPdf 14 37 00.9 -0.1
XDE AMb AMB 14 37 02.7
comp=Z,184nm,1.4s
UCC **Uccle** 127.41 334 PKP PKPdf 14 37 00.6 -0.4
UCC APKP 14 37 08.7
WLF **Walferdange** 127.42 332 *e*PKPdf PKPdf 14 37 02.0 +1.0
WLF *ep*PKPdf pPKPdf 14 37 10.6 +0.6
WLF **Walferdange** 127.42 332 PKP PKPdf 14 37 02.1 +1.0
WLF APKP 14 37 10.8
WLF **Walferdange** 127.42 332 *e*PKPdf PKPdf 14 37 01.8 +0.8
CDU1 **Dunnerdale** 127.46 341 *e*P PKPdf 14 37 01.1 0.0
CDU1 **Dunnerdale** 127.46 341 *e*P PKPdf 14 37 01.1 0.0
SNF **Seneffe** 127.66 334 PKP PKPdf 14 37 02.1 +0.6
SNF APKP 14 37 10.6
LHO **Holmfirth** 127.68 340 *e*P PKPdf 14 37 01.1 -0.5
LHO **Holmfirth** 127.68 340 *e*P PKPdf 14 37 01.1 -0.5
WLS **Welschbruch** 127.70 330 PKP PKPdf 14 37 00.7 -0.9
GIVF **Givet** 127.71 333 *e*PKIKP PKPdf 14 37 01.9 +0.3
comp=Z,252nm,1.2s
FELD **Feldberg** 127.73 329 PKP PKPdf 14 37 00.9 -0.7
CDF **Champ du Feu** 127.74 330 *e*PKIKP PKPdf 14 37 01.3 -0.4
comp=Z,140nm,1.4s
DOU **Dourbes** 127.82 333 PKP PKPdf 14 37 02.0 +0.2
DOU APKP 14 37 10.2
GIM **North Isle of** 127.89 342 *e*P PKPdf 14 37 01.6 -0.3
GIM **North Isle of** 127.89 342 *e*P PKPdf 14 37 01.6 -0.3
ECH **Echery** 127.93 330 PKP PKPdf 14 37 00.1 -1.9
BAIF **Baives** 128.02 334 *e*PKIKP PKPdf 14 37 02.4 +0.2
comp=Z,129nm,1.3s
TSUM **Tsumeb** 128.03 240 *e*PKPdf PKPdf 14 37 03.7 +1.5
WIM **Isle of Man** 128.07 342 *e*P PKPdf 14 37 01.9 -0.3
WIM AMb AMB 14 37 04.0
comp=Z,174nm,1.5s
WIM **Isle of Man** 128.07 342 *e*P PKPdf 14 37 01.9 -0.3
WIM AMb AMB 14 37 04.0
comp=Z,174nm,1.5s
KWE **Weaver Farm** 128.11 340 ⇑*e*P PKPdf 14 37 02.0 -0.3
KWE **Weaver Farm** 128.11 340 ⇑*e*P PKPdf 14 37 02.0 -0.3
MOF **Molkenrain** 128.19 330 PKP PKPdf 14 37 01.6 -0.9
BBS **Basel-Blauen** 128.25 329 PKP PKPdf 14 37 01.8 -0.8
HINF **Hinteralfeld** 128.35 330 *e*PKIKP PKPdf 14 37 02.6 -0.2
comp=Z,301nm,1.3s
HAU **Haudompre** 128.47 330 *e*PKIKP PKPdf 14 37 03.0 -0.1
comp=Z,167nm,1.0s
HAU *e*R
comp=Z,558nm,19.8s
HAU **Haudompre** 128.47 330 *e*PKPdf PKPdf 14 37 03.0 -0.1
HAU LR LR
comp=Z,560nm,19.8s,MS5.2
THEF **They Montfort** 128.49 331 PKP PKPdf 14 37 01.8 -1.3
WME **Myndd Eilian** 128.60 342 *e*P PKPdf 14 37 03.0 -0.3
WME AMb AMB 14 37 04.9
comp=Z,41nm,1.7s
WME **Myndd Eilian** 128.60 342 *e*P PKPdf 14 37 03.0 -0.3
WME AMb AMB 14 37 04.9
comp=Z,41nm,1.7s
LOMF **Lomont** 128.68 330 PKP PKPdf 14 37 03.3 -0.1
SBD1 **Bryn Du** 128.68 341 ⇑*e*P PKPdf 14 37 03.3 -0.1
SBD1 **Bryn Du** 128.68 341 ⇑*e*P PKPdf 14 37 03.3 -0.1
WCB1 **Church Bay** 128.69 342 *e*P PKPdf 14 37 03.3 -0.1
WCB1 AMb AMB 14 37 04.5
comp=Z,98nm,1.1s
WCB1 **Church Bay** 128.69 342 *e*P PKPdf 14 37 03.3 -0.1
WCB1 AMb AMB 14 37 04.5
comp=Z,98nm,1.1s
MEZF **Maizieres J'vi** 128.75 332 *e*PKIKP PKPdf 14 37 04.0 +0.4
comp=Z,192nm,1.1s
TSA1 **Sevenoaks** 128.80 337 *e*P PKPdf 14 37 03.2 -0.5
TSA1 **Sevenoaks** 128.80 337 *e*P PKPdf 14 37 03.2 -0.5
YRC **Rhoscolyn** 128.81 342 *e*P PKPdf 14 37 03.6 -0.1
YRC **Rhoscolyn** 128.81 342 *e*P PKPdf 14 37 03.6 -0.1
HLM1 **Long Mynd** 128.88 340 ⇑*e*P PKPdf 14 37 03.5 -0.4
HLM1 AMb AMB 14 37 05.7
comp=Z,158nm,1.5s
HLM1 **Long Mynd** 128.88 340 ⇑*e*P PKPdf 14 37 03.5 -0.4
HLM1 AMb AMB 14 37 05.7
comp=Z,158nm,1.5s
DMUB **Kingscourt** 128.94 344 ⇑*i*P PKPdf 14 37 03.2 -0.8
SSP1 **Stoney Pound** 129.04 340 *e*P PKPdf 14 37 03.3 -0.9
SSP1 **Stoney Pound** 129.04 340 *e*P PKPdf 14 37 03.3 -0.9
HAE **Alders End** 129.16 339 *e*P PKPdf 14 37 03.2 -1.2
HAE **Alders End** 129.16 339 *e*P PKPdf 14 37 03.2 -1.2
MCH1 **Michaelchurch** 129.35 340 ⇑*e*P PKPdf 14 37 04.1 -0.7
MCH1 **Michaelchurch** 129.35 340 ⇑*e*P PKPdf 14 37 04.1 -0.7
DLF **Lyons Farm** 129.37 343 *e*P PKPdf 14 37 04.3 -0.5
DCN **Croghan** 129.54 343 ⇑*i*P PKPdf 14 37 04.5 -0.6
CABF **La Chapelle** 129.55 329 *e*PKIKP PKPdf 14 37 05.8 +0.7
comp=Z,350nm,1.3s
HGH **Gray Hill** 129.58 339 ⇑*e*P PKPdf 14 37 04.2 -0.9
HGH AMb AMB 14 37 07.5
comp=Z,236nm,1.2s
HGH **Gray Hill** 129.58 339 ⇑*e*P PKPdf 14 37 04.2 -0.9
HGH AMb AMB 14 37 07.5
comp=Z,236nm,1.2s
LPL **La Plagne** 129.94 328 *e*PKIKP PKPdf 14 37 06.3 +0.4
comp=Z,86nm,0.9s
LPG **La Plagne** 129.95 328 *e*PKIKP PKPdf 14 37 06.5 +0.6
comp=Z,82nm,0.9s
HSA **Swansea** 129.95 340 *e*P PKPdf 14 37 05.5 -0.4
HSA **Swansea** 129.95 340 *e*P PKPdf 14 37 05.5 -0.4
OTAV **Otavalo** 130.06 95 *e*PKPdf PKPdf 14 37 07.6 +1.5
LOR **Lormes** 130.19 331 *e*PKIKP PKPdf 14 37 06.6 +0.3
comp=Z,142nm,1.2s
LOR *e*R
comp=Z,830nm,20.5s
LOR **Lormes** 130.19 331 *e*PKPdf PKPdf 14 37 06.6 +0.3
LOR LR LR
comp=Z,830nm,20.5s,MS5.4
BNI **Bardonecchia** 130.28 327 *e*PKPdf PKPdf 14 37 06.6 +0.1
MBDF **Montbardon** 130.44 327 *e*PKIKP PKPdf 14 37 07.0 +0.2
comp=Z,118nm,1.4s
GDM **Grand'Maison** 130.48 328 PKP PKPdf 14 37 06.8 -0.1
SAOF **Saorge** 130.49 326 PKP PKPdf 14 37 06.0 -0.9
SSF **Saint Saulge** 130.51 331 *e*PKIKP PKPdf 14 37 07.2 +0.3
comp=Z,140nm,1.2s
PGF **Pioggiola** 130.54 323 *e*PKIKP PKPdf 14 37 07.1 +0.1
comp=Z,358nm,1.3s
AUTN **L'Aution** 130.55 326 PKP PKPdf 14 37 06.6 -0.4
SURF **Saint Ours** 130.58 327 PKP PKPdf 14 37 07.6 +0.5
CORF **Corte** 130.60 323 PKP PKPdf 14 37 07.7 +0.6
SBF **Sospel** 130.63 326 *e*PKIKP PKPdf 14 37 07.0 -0.2
comp=Z,462nm,1.5s
SMF

AGO Saint Agoulin 131.41 331 PKP PKPdf 14 37 10.0 +1.4
GRR Gorron 131.46 335 *e*PKIKP PKPdf 14 37 09.1 +0.4
comp=Z,103nm,0.9s
VIVF Saint-Julien-l 131.47 328 *e*PKIKP PKPdf 14 37 08.9 +0.2
comp=Z,173nm,1.3s
LMR La Mourre 131.49 326 *e*PKIKP PKPdf 14 37 08.8 0.0
comp=Z,289nm,1.3s
COLF Collangettes 131.51 330 PKP PKPdf 14 37 09.0 +0.2
TAVF Tavernes 131.55 326 PKP PKPdf 14 37 08.1 -0.8
SMRF Simiane la Rot 131.58 327 *e*PKIKP PKPdf 14 37 09.6 +0.6
comp=Z,311nm,1.4s
VILF Villemus 131.59 327 PKP PKPdf 14 37 08.9 -0.1
TCF Toulx Ste Croi 131.68 331 *e*PKIKP PKPdf 14 37 09.3 +0.1
comp=Z,74nm,1.0s
PYM Petit Puy Mans 131.69 330 PKP PKPdf 14 37 10.1 +0.9
CGW Gweek 131.71 340 *e*P PKPdf 14 37 08.9 -0.2
CGW Gweek 131.71 340 *e*P PKPdf 14 37 08.9 -0.2
PUYF Puyloubier 131.81 327 PKP PKPdf 14 37 09.4 0.0
PRAF Pradon 131.91 327 PKP PKPdf 14 37 09.2 -0.4
TREF Trevaresse 131.92 327 PKP PKPdf 14 37 10.4 +0.8
LBL Lubilhac 131.94 330 PKP PKPdf 14 37 10.8 +1.2
BERF Bertagne 131.95 326 PKP PKPdf 14 37 09.4 -0.3
GELF Grande-Étoile 132.05 327 PKP PKPdf 14 37 09.8 0.0
VSL Villasalto 132.08 320 *e*PKPdf PKPdf 14 37 09.9 +0.1
LASF Ste Croix 132.43 328 *e*PKIKP PKPdf 14 37 10.9 +0.3
comp=Z,102nm,1.2s
ROSF Rostrenen 132.46 337 *e*PKIKP PKPdf 14 37 10.3 -0.3
comp=Z,31nm,0.8s
MFF Saint Martin d 132.53 333 *e*PKIKP PKPdf 14 37 10.8 0.0
comp=Z,48nm,0.8s
RJF Les Rejaudoux 132.73 331 *e*PKIKP PKPdf 14 37 11.5 +0.4
comp=Z,146nm,1.4s
RJF *e*R
comp=Z,577nm,22.0s
RJF Les Rejaudoux 132.73 331 *e*PKPdf PKPdf 14 37 11.5 +0.4
RJF LR LR
comp=Z,580nm,22.0s,MS5.2
CAF Calviac 132.74 330 *e*PKIKP PKPdf 14 37 12.1 +1.0
comp=Z,118nm,1.4s
LCHF La Chataignera 132.74 334 PKP PKPdf 14 37 11.4 +0.2
QUIF Quistinic 132.76 337 *e*PKIKP PKPdf 14 37 11.4 +0.2
comp=Z,57nm,1.1s
LFF La Frestale 133.37 331 *e*PKIKP PKPdf 14 37 12.8 +0.5
comp=Z,193nm,1.4s
MTLF Montolieu 133.79 329 *e*PKIKP PKPdf 14 37 13.3 +0.2
comp=Z,105nm,1.3s
VALF Valcebollere 134.56 328 PKP PKPdf 14 37 15.2 +0.6
ROSC El Rosal 134.60 89 PKP PKPdf 14 37 16.7 +2.1
comp=Z,27nm,0.9s,baz=91,slow=9.8,SNR=16
SALF Salau 134.74 329 PKP PKPdf 14 37 16.8 +1.9
EPF Esparros 134.97 330 *e*PKIKP PKPdf 14 37 15.7 +0.4
comp=Z,49nm,1.2s
RESF Ens 135.13 330 PKP PKPdf 14 37 16.6 +1.0
EMIR Miracle 135.16 328 PKP PKPdf 14 37 16.6 +1.0
LPAZ La Paz 135.23 120 PKhKP 14 37 05.5
comp=Z,3.7nm,1.0s,baz=71,slow=0.7,SNR=9.8
LPAZ PKP PKPdf 14 37 18.3 +2.5
comp=Z,18nm,0.9s,baz=46,slow=2.2,SNR=20
LPAZ La Paz 135.23 120 *e*PKPpre 14 37 05.3
LPAZ *e*PKPdf PKPdf 14 37 17.8 +2.0
LPAZ PKP PKPdf 14 37 18.3 +2.5
VIEF Viey 135.24 330 PKP PKPdf 14 37 16.4 +0.6
REYF Montagne du Re 135.31 330 PKP PKPdf 14 37 17.0 +1.0
EBIE Bielsa 135.32 330 PKP PKPdf 14 37 15.8 -0.2
ETSF Etsaut 135.51 330 *e*PKIKP PKPdf 14 37 17.1 +0.8
comp=Z,86nm,1.0s
EGRA Graus 135.59 329 PKP PKPdf 14 37 18.1 +1.7
LARF Larrau 135.62 331 PKP PKPdf 14 37 17.5 +1.0
SJPF Ste Jean 135.68 331 *e*PKIKP PKPdf 14 37 17.4 +0.7
comp=Z,48nm,1.1s
EALK Alkurruntz 135.73 331 PKP PKPdf 14 37 16.9 +0.2
EPOB Poblet 135.79 328 PKP PKPdf 14 37 17.2 +0.3
ETOS Mallorca 135.91 325 PKP PKPdf 14 37 18.1 +1.0
ESAC San Caprasio 136.34 329 PKP PKPdf 14 37 19.5 +1.6
ERTA Horta de San J 136.47 328 PKP PKPdf 14 37 18.6 +0.4
ELAN Lanestosa 136.62 333 PKP PKPdf 14 37 18.2 -0.2
ECRI Cripan 136.68 332 PKP PKPdf 14 37 19.2 +0.7
EIBI Ibiza 137.25 325 PKP PKPdf 14 37 19.8 +0.2
EMOS Mosqueruela 137.32 328 PKP PKPdf 14 37 19.7 0.0
EARI Arriondas 137.35 335 PKP PKPdf 14 37 20.5 +0.7
CPUP Villa Florida 137.64 140 PKhKP 14 37 08.3
comp=Z,1.4nm,0.7s,baz=206,slow=8.4,SNR=2.9
CPUP PKP PKPdf 14 37 21.6 +1.4
comp=Z,7.5nm,0.8s,baz=228,slow=3.1,SNR=11
CPUP Villa Florida 137.64 140 PKP 14 37 08.3
CPUP *e*PKPdf PKPdf 14 37 20.8 +0.5
EPON Pontenova 138.13 336 PKP PKPdf 14 37 22.4 +1.2
ECHE Chera 138.14 327 PKP PKPdf 14 37 22.4 +1.2
SDV Santo Domingo 138.35 83 *e*PKPpre 14 37 12.8
SDV *e*PKPdf PKPdf 14 37 22.8 +1.2
EBEN Beniarda 138.36 326 PKP PKPdf 14 37 22.5 +0.9
GUD Guadarrama 138.98 331 PKP PKPdf 14 37 23.8 +1.0
STS Santiago 139.05 337 PKP PKPdf 14 37 23.9 +1.0
ECAL Calabor 139.11 335 PKP PKPdf 14 37 23.0 0.0
ETOB Tobarra 139.13 327 PKP PKPdf 14 37 23.7 +0.7
EMAZ Mazaricos 139.16 338 PKP PKPdf 14 37 23.9 +0.9
PBRG Braganca 139.22 335 *i* - PKPdf 14 37 23.1 -0.1
EMUR La Murta 139.54 326 PKP PKPdf 14 37 24.2 +0.4
ESDC Sonseca Array 139.63 330 PKhKP 14 37 15.9
comp=Z,0.7nm,0.6s,baz=8.3,slow=3.6,SNR=4.4
ESDC PKP PKPdf 14 37 24.3 +0.4
comp=Z,7.7nm,1.0s,baz=28,slow=4.5,SNR=11
ESDC PP PP 14 40 19.1 0.0
comp=Z,7.1nm,1.0s,baz=25,slow=6.9,SNR=11
ESDC SKP 14 40 56.4
comp=Z,3.2nm,0.9s,baz=49,slow=2.0,SNR=5.3
ELOB Lobios 139.72 336 PKP PKPdf 14 37 23.9 -0.1
PVRL Vila Real 140.07 335 *i* - PKPdf 14 37 25.9 +1.2
EQES Quesada 140.57 327 PKP PKPdf 14 37 25.5 -0.1
PVIS Viseu 140.61 335 *e*PKP PKPdf 14 37 21.7 -4.0
PVIS *i* - 14 37 27.0
EBAN Banos Encina 140.68 328 PKP PKPdf 14 37 25.7 -0.2
ENIJ Nijar 140.70 326 PKP PKPdf 14 37 26.3 +0.5
MTE Manteigas 140.72 334 *e*PKP PKPdf 14 37 22.2 -3.7
MTE *i* - 14 37 27.4
MTE Manteigas 140.72 334 *e*LR LR 15 27 20.9
comp=Z,346nm,18.0s
MTE Manteigas 140.72 334 *e*PKPpre 14 37 20.9
EADA Adamuz 141.09 329 PKP PKPdf 14 37 26.8 +0.2
EBER Berja 141.13 326 PKP PKPdf 14 37 26.9 +0.2
PCBR Castelo Branco 141.15 334 *e*PKP PKPdf 14 37 23.2 -3.5
PCBR *i* - 14 37 27.6
ECOG Cogollos-Vega 141.22 327 PKP PKPdf 14 37 27.3 +0.5
ELUQ Luque 141.38 328 PKP PKPdf 14 37 27.5 +0.4
SJG San Juan 141.52 68 PKIKP PKPdf 14 37 28.0 +0.6
ERON Agron 141.54 327 PKP PKPdf 14 37 27.6 +0.2
ECAB El Cabril 141.58 330 PKP PKPdf 14 37 29.8 +2.3
ELOJ Sierra Loja 141.63 328 PKIKP PKPdf 14 37 28.0 +0.4
PTOM Tomar 141.74 334 *e*PKP PKPdf 14 37 24.6 -3.1
PTOM *i* - 14 37 28.8
CPD Cerro la Pandu 141.76 68 PKIKP PKPdf 14 37 29.2 +1.4
EBAD Badajoz 141.82 332 PKP PKPdf 14 37 27.9 0.0
EMIN Mina Concepcio 142.44 331 PKP PKPdf 14 37 28.0 -1.0
SAML Samuel 142.63 113 *e*PKPpre 14 37 25.2
SAML *e*PKPdf PKPdf 14 37 30.2 +0.9
ESPR Espera 142.73 329 PKP PKPdf 14 37 25.9 -3.6
PBEJ Beja 142.80 332 *e*PKP PKPdf 14 37 27.5 -2.1
PBEJ *i* - 14 37 31.0
EJIF Jimena Fronter 142.85 328 PKIKP PKPdf 14 37 31.5 +1.8
EGRO El Granado 143.02 331 PKP PKPdf 14 37 30.1 +0.1
PTEO Sao Teotonio 143.59 333 *e*PKP PKPdf 14 37 30.0 -1.0
LZG Guadaloupe-1 146.05 70 *e*P PKPdf 14 37 36.8 +1.5
PHG Guadaloupe-2 146.21 70 *e*P PKPdf 14 37 35.5 0.0
SEG Port Louis 146.24 69 *e*P PKPdf 14 37 36.5 +0.9
TBG Guadaloupe-3 146.24 70 *e*P PKPdf 14 37 35.9 +0.2
BBL Barber's Block 146.48 71 *e*P PKPdf 14 37 37.6 +1.6
MGG Marie-Galante 146.53 70 *e*P PKPdf 14 37 35.5 -0.5
DEG La Desirade 146.68 69 *e*P PKPdf 14 37 35.9 -0.5
CAM4 Nova Friburgo 148.84 155 ⇑*i*P PKPdf 14 37 45.0 +5.1
CAM4 *i* 14 37 49.3
CAM4 *i* 14 38 00.5
CAM4 *i* 14 38 09.3
CAM4 *i* 14 38 52.6
TORD Torodi Ar. Bea 149.16 286 PKP PKPdf 14 37 40.3 -0.1
comp=Z,74nm,1.2s,baz=42,slow=0.9,SNR=34
TORD PKPbc PKPbc 14 37 45.2 +0.6
comp=Z,231nm,0.9s,baz=47,slow=1.0,SNR=179
PMPS Porto Santo 150.60 338 *i* - PKPdf 14 37 49.2 +6.5
CAM3 Guarapari 151.13 157 ⇑*e*P PKPdf 14 37 43.8 +0.3
CAM3 *i* 14 37 44.8
CAM3 *i* 14 37 50.3
CAM3 *i* 14 37 58.5
CAM3 *i* 14 38 13.6
CAM3 *i* 14 38 36.0
BDFB Brasilia 151.33 138 PKP PKPdf 14 37 44.8 +1.0
comp=Z,81nm,1.0s,baz=270,slow=1.4,SNR=36
BDFB PKPbc PKPbc 14 37 50.8 +1.0
comp=Z,77nm,1.0s,baz=249,slow=1.3,SNR=43
CFTV Fuerteventura 153.63 330 PKP PKPdf 14 37 48.9 +1.6
CCAN Las Canadas 154.98 334 PKP PKPdf 14 37 48.9 -0.2
DBIC Dimbokro 156.26 273 PKP PKPdf 14 37 51.6 +0.8
comp=Z,9.5nm,1.0s,baz=13,slow=1.5,SNR=8.6
DBIC PKPab PKPab 14 38 19.9 +1.1
comp=Z,72nm,1.0s,baz=76,slow=4.8,SNR=20
DBIC PP PP 14 41 59.1 +2.8
comp=Z,9.9nm,1.1s,baz=114,slow=6.5,SNR=4.1
DBIC Dimbokro 156.26 273 *e*PKPdf PKPdf 14 37 50.8 0.0
DBIC *e* 14 38 02.2
DBIC *e*PKPab PKPab 14 38 19.4 +0.5
LIC Lamto 156.43 272 *e*PKIKP PKPdf 14 37 50.9 -0.1
comp=Z,99nm,1.2s
LIC *e*R
comp=Z,857nm,21.0s
LIC Lamto 156.43 272 *e*PKPdf PKPdf 14 37 50.9 -0.1
LIC LR LR
comp=Z,430nm,21.0s,MS5.2

BJI ***20*** *14:29:14.2, 653S×15188E, h25km, mB5.2, mb4.9, Ms4.9, Msz4.6*
NEIC ***20*** *14:29:21.6±0.2, 583S×15131E, h25km, mb4.7/13, Error ellipse: s-maj=6.3km s-min=5.6km az=118.0*
ISCJB ***20*** *14:29:23.8±1.9, 595S±006×15128E±006, h54km±17km, mb4.7/34, MS4.6/4, Error ellipse: s-maj=10.6km s-min=10.0km az=153.0*
MOS ***20*** *14:29:23.2±1.2, 549S×15086E, h33km, mb4.8/1, Error ellipse: s-maj=20.0km s-min=9.9km az=63.0*
IDC ***20*** *14:29:25.8±2.2, 590S×15124E, h57km±19km, mb4.4/15, mb1 4.5/17, mb1mx4.5/19, mbtmp4.7/17, ML4.0/2, Error ellipse: s-maj=14.1km s-min=10.9km az=136.0*
ISC 20 14:29:26.0±1.3, 599S±006×15133E±006, h58km±12km, h24km±5.0km:pP-P, n93, σ1°02/64, mb4.7/34, MS4.6/4, 1C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.35 230**		P	**Pn**	**14 30 44.1**	**+1.0**
	15nm,0.3s,baz=44,slow=6.3,SNR=43						
PMG				S	**Sn**	**14 31 43.5**	**+0.1**
	39nm,0.3s,baz=108,slow=18,SNR=12						
PMG	**Port Moresby**	**5.35 230**		*e*P	**Pn**	**14 30 43.5**	**+0.4**
PMG				*e*S	**Sn**	**14 31 43.1**	**-0.3**
HNR	**Honiara**	**9.20 112**		P	**Pn**	**14 31 38.6**	**+2.7**
	4.9nm,0.3s,baz=265,slow=3.2,SNR=8.0						
HNR	**Honiara**	**9.20 112**		P	**Pn**	**14 31 34.4**	**-1.5**
HNR				pmax	pmax		
	comp=Z,131nm,0.9s						
HNR	**Honiara**	**9.20 112**		P	**Pn**	**14 31 34.4**	**-1.5**
	comp=Z,131nm,0.9s						
CTA	**Charters Tower**	**14.86 199**		*e*P	**Pn**	**14 32 59.0**	**+6.5**
	comp=Z,16nm,0.6s						
CTA	**Charters Tower**	**14.86 199**		P	**Pn**	**14 32 59.0**	**+6.5**
	comp=Z,2.0nm,0.3s,baz=22,slow=11,SNR=24						
CTA	**Charters Tower**	**14.86 199**		*e*P	**Pn**	**14 32 59.0**	**+6.5**
CTA				pmax	pmax		
	comp=Z,16nm,0.6s						
CTAO	**Charters Tower**	**14.86 199**		*e*P	**Pn**	**14 32 58.7**	**+6.2**
CTAO				pmax	pmax		
	comp=Z,22nm,0.8s						
CTAO	**Charters Tower**	**14.86 199**		*e*P	**Pn**	**14 32 58.7**	**+6.2**
	comp=Z,22nm,0.8s						
KAKA	**Kakadu**	**19.79 249**		*e*P	**Pn**	**14 33 50.9**	**-2.5**
	comp=Z,31nm,0.6s						
WRAB	**Tennant Creek**	**21.55 228**		*e*P	**P**	**14 34 10.1**	**-0.3**
WB2	**Warramunga Arr**	**21.55 228**	⇑	*i*P	**P**	**14 34 10.3**	**-0.1**
WRA	**Warramunga Arr**	**21.56 228**		P	**P**	**14 34 10.5**	**0.0**
	comp=Z,22nm,0.7s,mb4.7,baz=54,slow=10,SNR=103						
WRA				S	**S**	**14 38 06.9**	**+0.8**
	comp=Z,7.6nm,1.2s,baz=54,slow=18,SNR=9.6						
WRA				PcP	PcP	14 38 12.4	+1.7
	comp=Z,5.4nm,0.8s,baz=46,slow=2.0,SNR=9.6						
DZM	**Mont Dzumac**	**21.66 139**		P	**P**	**14 34 11.6**	**+0.1**
	comp=Z,17nm,0.6s,mb4.6,baz=10,slow=8.6,SNR=37						
AS31	**Alice Springs**	**24.29 222**		*e*P	**P**	**14 34 38.2**	**+0.4**
ASAR	**Alice Springs**	**24.29 222**		P	**P**	**14 34 38.3**	**+0.5**
	comp=Z,34nm,0.7s,mb4.9,baz=58,slow=9.0,SNR=153						
ASAR				S	**S**	**14 39 02.4**	**+10**
	comp=Z,2.4nm,0.9s,baz=39,slow=22,SNR=7.1						
ASPA	**Alice Springs**	**24.29 222**		*e*P	**P**	**14 34 38.2**	**+0.4**
STKA	**Stephens Creek**	**27.32 198**		*e*P	**P**	**14 35 02.2**	**-3.0**
	comp=Z,14nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**27.32 198**		P	**P**	**14 35 03.3**	**-1.9**
	comp=Z,18nm,0.8s,mb4.6,baz=11,slow=9.4,SNR=16						
FITZ	**Fitzroy Crossi**	**27.81 242**		*e*P	**P**	**14 35 09.5**	**0.0**
	comp=Z,38nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**27.81 242**		P	**P**	**14 35 09.8**	**+0.3**
	comp=Z,21nm,0.7s,mb4.9,baz=85,slow=6.8,SNR=58						
JOW	**Kunigami**	**39.53 327**		P	**P**	**14 36 51.2**	**+0.1**
	comp=Z,12nm,0.6s,mb4.8,baz=144,slow=6.9,SNR=4.6						
URZ	**Urewera**	**39.74 148**		P	**P**	**14 36 52.8**	**0.0**
	comp=Z,2.6nm,0.4s,mb4.3,baz=63,slow=9.0,SNR=6.7						
KLBR	**Kellerberrin**	**40.43 227**		*e*P	**P**	**14 36 57.8**	**-0.7**
	comp=Z,17nm,0.9s,mb4.8						
RPZ	**Rata Peaks**	**41.39 158**		P	**P**	**14 37 07.6**	**+1.2**
	comp=Z,6.6nm,0.5s,mb4.5,baz=10,slow=9.6,SNR=7.3						
MUN	**Mundaring**	**41.75 227**		*e*P	**P**	**14 37 09.6**	**+0.2**
QZH	**Quanzhou**	**44.27 315**	⇓	*i*P	**P**	**14 37 30.5**	**+0.8**
QZH				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.6						
SSE	**Sheshan**	**46.79 324**		P	**P**	**14 37 50.4**	**+0.7**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,237nm,7.0s						
NJ2	**Nanjing**	**48.87 323**		*e*P	**P**	**14 38 06.6**	**+0.9**
NJ2				AP	pP	14 38 13.8	-7.1
NJ2				XP	sP	14 38 17.4	-10
NJ2				PP	PP	14 39 57.6	-1.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,850nm,6.3s						
NJ2				LR	LR		
	comp=N,250nm,17.3s,MS4.5						
NJ2				LR	LR		
	comp=E,330nm,17.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,180nm,23.1s						
GYA	**Guiyang**	**53.97 309**		P	**P**	**14 38 44.4**	**+0.6**
GYA				AP	pP	14 38 52.0	-7.2
GYA				XP	sP	14 38 55.3	-11
GYA				PP	PP	14 40 47.3	+1.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
GYA				LR	LR		
	comp=N,480nm,17.4s,MS4.8						
GYA				LR	LR		
	comp=E,460nm,17.0s,MS4.8						
GYA				LR	LR		
	comp=Z,370nm,17.6s,MS4.5						
MDJ	**Mudanjiang**	**54.03 341**		P	**P**	**14 38 45.3**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,157nm,8.0s						
CN2	**Changchun**	**54.80 337**		*e*P	**P**	**14 38 52.1**	**+2.3**
BJI	**Beijing**	**56.09 328**		P	**P**	**14 39 02.5**	**+3.4**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.7						
KMI	**Kunming**	**56.45 305**		P	**P**	**14 39 02.3**	**+0.6**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.1						
CD2	**Chengdu**	**58.41 312**		*e*P	**P**	**14 39 14.8**	**-0.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.4s						
HHC	**Hu-ho-hao-te**	**59.17 326**		*e*P	**P**	**14 39 22.8**	**+2.0**
HHC				AP	pP	14 39 35.5	-0.9
HHC				PP	PP	14 41 35.8	+3.9
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,175nm,4.9s						
HHC				LR	LR		
	comp=N,292nm,12.5s,MS4.8						
HHC				LR	LR		
	comp=E,381nm,15.1s,MS4.8						
HHC				LR	LR		
	comp=Z,432nm,18.1s,MS4.6						
LZH	**Lanzhou**	**61.07 317**		*e*P	**P**	**14 39 32.5**	**-1.3**
LZH				AP	pP	14 39 40.1	-9.3
LZH				XP	sP	14 39 43.5	-12
LZH				PP	PP	14 41 47.0	-1.7
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,73nm,6.0s						
LZH				LR	LR		
	comp=N,351nm,15.3s						
LZH				LR	LR		
	comp=Z,413nm,17.6s,MS4.6						
HIA	**Hailar**	**61.53 337**		*e*P	**P**	**14 39 35.5**	**-1.4**
HIA				*e*PP	pP	14 39 41.2	-11
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**61.53 337**		*e*P	**P**	**14 39 35.5**	**-1.3**
	comp=Z,4.0nm,0.6s,mb4.7						
HIA				*e*pP	pP	14 39 41.2	-11
SONM	**Songino Array**	**66.56 329**		P	**P**	**14 40 09.7**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.3,baz=147,slow=4.8,SNR=9.3						
SONM				PKPPKP		15 08 45.2	
	comp=Z,0.6nm,0.8s,baz=332,slow=2.0,SNR=5.3						
JIRN	**Jiri**	**71.15 302**		*e*P	**P**	**14 40 38.3**	**-0.1**
	comp=Z,6.3nm,0.8s,mb4.6						
GUN	**Gumba**	**71.49 302**		*e*P	**P**	**14 40 40.4**	**0.0**
	comp=Z,17nm,0.7s,mb5.1						
VNDA	**Vanda**	**71.71 178**		P	**P**	**14 40 42.4**	**+0.7**
	comp=Z,4.5nm,0.8s,mb4.4,baz=328,slow=10,SNR=10.0						
VNDA	**Vanda**	**71.71 178**		*e*P	**P**	**14 40 42.1**	**+0.4**
	comp=Z,5.0nm,0.9s,mb4.4						
KKN	**Kakani**	**71.96 302**		*e*P	**P**	**14 40 42.9**	**-0.3**
	comp=Z,14nm,0.8s,mb4.9						
DMN	**Daman**	**72.05 301**		*e*P	**P**	**14 40 43.8**	**0.0**
GKN	**Gorkha**	**72.56 302**		*e*P	**P**	**14 40 46.4**	**-0.5**
KOLN	**Koldanda**	**73.38 301**		*e*P	**P**	**14 40 51.2**	**-0.5**
	comp=Z,10nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**80.26 319**		P	**P**	**14 41 29.3**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=96,slow=7.4,SNR=8.3						
MKAR	**Makanchi Array**	**80.26 319**		P	**P**	**14 41 29.3**	**-1.1**
ZAL	**Zalesovo**	**81.33 327**		P	**P**	**14 41 34.1**	**-2.1**
	comp=Z,1.7nm,0.3s,mb4.5,baz=73,slow=2.7						
ILAR	**Eielson Array**	**83.81 22**		P	**P**	**14 41 46.6**	**-2.4**
	comp=Z,2.4nm,0.6s,mb4.5,baz=248,slow=5.2,SNR=57						
MAW	**Mawson**	**83.92 203**		P	**P**	**14 41 49.7**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.7,baz=315,slow=1.4,SNR=6.2						
MAW	**Mawson**	**83.92 203**		*e*P	**P**	**14 41 49.8**	**+0.3**
QSPA	**South Pole Qui**	**83.98 180**		*e*P	**P**	**14 41 50.2**	**+0.3**
	comp=Z,25nm,1.0s,mb5.3						
INK	**Inuvik**	**90.08 21**		P	**P**	**14 42 18.2**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.3,baz=271,slow=9.6,SNR=12						
INK	**Inuvik**	**90.08 21**		P	**P**	**14 42 18.2**	**-1.3**
SYO	**Syowa Base**	**92.07 200**	⇓	*e*PcP	PcP	14 42 31.4	+1.9
NVAR	**Mina Array Bea**	**93.97 52**		P	**P**	**14 42 39.1**	**+1.7**
	comp=Z,1.9nm,0.8s,mb4.6,baz=264,slow=4.7,SNR=12						
YKA	**Yellowknife Ar**	**97.16 28**		P	**P**	**14 42 51.6**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.8,baz=268,slow=4.9,SNR=6.7						
YKA				PKKP	PKKPbc	14 59 30.0	-1.1
	comp=Z,0.1nm,0.4s,baz=88,slow=2.3,SNR=3.7						
PDAR	**Pinedale Array**	**100.73 48**		P	Pdif	14 43 08.6	+0.7
	comp=Z,0.9nm,0.8s,baz=236,slow=1.6,SNR=6.4						
ARCES	**ARCESS Array B**	**107.56 343**		PKiKP	PKiKP	14 47 44.7	-1.5
	comp=Z,3.4nm,0.8s,baz=58,slow=2.2,SNR=4.5						
ARCES	**ARCESS Array B**	**107.56 343**		PKPdf	PKiKP	14 47 44.7	-1.5
FINES	**FINESS Array B**	**111.51 335**		PKiKP	PKiKP	14 47 53.1	-0.5
	comp=Z,0.8nm,0.6s,baz=96,slow=5.7,SNR=3.9						
AKASG	**Malin Array Be**	**114.59 324**		PKP	PKiKP	14 47 59.0	-0.5
	comp=Z,1.4nm,0.4s,baz=64,slow=2.1,SNR=8.7						
BRTR	**Keskin Array B**	**114.98 311**		PKP	PKiKP	14 48 00.1	-0.2
	comp=Z,1.1nm,0.8s,baz=150,slow=5.3,SNR=4.3						
NOA	**NORSAR Array B**	**117.51 339**		PKP	PKPdf	14 48 03.5	-1.7
	comp=Z,1.4nm,0.7s,baz=48,slow=1.7,SNR=3.8						
KOLS	**Kolonicke sedl**	**119.42 324**		*e*PKP	PKPdf	14 48 05.5	-3.3
STHS	**Stebnicka Huta**	**119.78 325**		*e*PKP	PKPdf	14 48 10.3	+0.8
BSEG	**Bad Segeberg**	**122.73 334**		*e*PKPdf	PKPdf	14 48 15.3	+0.1
BRG	**Berggiesshubel**	**122.95 329**		*e*PKPdf	PKPdf	14 48 15.7	+0.1
BRG	**Berggiesshubel**	**122.95 329**		PKP	PKPdf	14 48 16.2	+0.7
	comp=Z,3.4nm,0.8s						
CLL	**Collm**	**123.16 330**		*e*PKPdf	PKPdf	14 48 16.1	+0.1
CLL	**Collm**	**123.16 330**	⇓	*i*PKPdf	PKPdf	14 48 16.2	+0.2
	comp=Z,5.0nm,0.8s						
WERD	**Werda**	**124.04 330**		*e*PKPdf	PKPdf	14 48 17.9	+0.2
CLZ	**Clausthal**	**124.09 332**		*e*PKPdf	PKPdf	14 48 18.4	+0.6
KHC	**Kasperske Hory**	**124.17 328**		*e*PKPdf	PKPdf	14 48 18.4	+0.5
MOX	**Moxa**	**124.26 330**		*e*PKPdf	PKPdf	14 48 18.5	+0.4
GEC2	**GERESS Array S**	**124.28 327**		*e*PKPdf	PKPdf	14 48 18.0	-0.1
GERES	**GERESS Array B**	**124.28 327**		PKP	PKPdf	14 48 18.5	+0.3
	comp=Z,4.4nm,0.6s,baz=79,slow=1.7,SNR=24						
MANZ	**Manzenberg**	**124.42 329**		*e*PKPdf	PKPdf	14 48 18.6	+0.2
WET	**Wettzell**	**124.54 328**		*e*PKPdf	PKPdf	14 48 19.2	+0.6
GRA1	**Grafenberg Arr**	**125.06 329**		*e*PKPdf	PKPdf	14 48 19.3	-0.3
GRF	**Grafenberg Arr**	**125.06 329**		*e*PKPdf	PKPdf	14 48 19.3	-0.3
BOJS	**Bojanci**	**125.27 323**		*i* PKP	PKPdf	14 48 20.7	+0.7
EKA	**Eskdalemuir Ar**	**126.72 342**		PKP	PKPdf	14 48 23.4	+0.6
	comp=Z,1.3nm,0.5s,baz=13,slow=2.1,SNR=4.2						
BFO	**Black Forest**	**127.39 330**		*e*PKPdf	PKPdf	14 48 24.2	+0.1
WLF	**Walferdange**	**127.54 332**		*e*PKPdf	PKPdf	14 48 26.3	+1.9
LPAZ	**La Paz**	**135.12 120**		PKP	PKPdf	14 48 41.6	+2.9
	comp=Z,2.0nm,0.8s,baz=125,slow=4.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**149.25 286**		PKPbc	PKPbc	14 49 08.8	+0.8
	comp=Z,14nm,0.8s,baz=66,slow=2.6,SNR=51						
BDFB	**Brasilia**	**151.21 139**		PKPbc	PKPbc	14 49 13.8	+1.1
	comp=Z,16nm,0.8s,baz=256,slow=1.4,SNR=15						
BDFB				PKPab	PKPab	14 49 22.9	+2.2
	comp=Z,9.3nm,0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASPA	**Alice Springs**	**34.57**	**247⇑**	*iP*	**P**	**14 40 08.6**	**-0.2**
ASPA				*e*		14 40 19.1	
FORT	**Forrest**	**41.34**	**238**	*eP*	**P**	**14 41 04.2**	**+0.4**
	72nm,0.6s,mb5.4						
KLBR	**Kellerberrin**	**50.13**	**240**	*eP*	**P**	**14 42 10.1**	**-0.4**
	9.2nm,0.6s,mb4.4						
NWAO	**Narrogin (SRO)**	**50.80**	**238**	P	**P**	**14 42 15.3**	**0.0**
	13nm,0.6s,mb4.4,baz=93,slow=5.6,SNR=16						
NWAO	**Narrogin (SRO)**	**50.80**	**238**	P	**P**	**14 42 15.3**	**0.0**
MJAR	**Matsushiro Arr**	**57.03**	**331**	P	**P**	**14 42 58.8**	**-0.4**
	1.4nm,0.4s,mb3.5,baz=172,slow=7.6,SNR=5.0						
JNU	**Nakatsue**	**58.34**	**323**	P	**P**	**14 43 08.9**	**+0.9**
	64nm,0.7s,mb5.0,baz=96,slow=3.9,SNR=6.6						
ASAJ	**Asahikawa**	**61.60**	**339**	P	**P**	**14 43 30.5**	**+0.9**
	8.4nm,0.6s,mb4.4,baz=143,slow=10,SNR=5.4						
VNDA	**Vanda**	**64.61**	**182**	P	**P**	**14 43 49.8**	**+0.9**
	1.5nm,0.8s,mb3.5,baz=32,slow=3.7,SNR=7.0						
VNDA	**Vanda**	**64.61**	**182**	*eP*	**P**	**14 43 49.1**	**+0.2**
	1.8nm,0.7s,mb3.6						
FX1	**Attu Island--F**	**65.73**	**3**	P	**P**	**14 43 56.0**	**+0.2**
	16nm,0.6s,mb4.7,baz=255,slow=21,SNR=5.4						
QSPA	**South Pole Qui**	**77.02**	**180**	*eP*	**P**	**14 45 02.0**	**+0.3**
	3.7nm,0.8s,mb3.9						
KDAK	**Kodiak Island**	**77.38**	**20**	P	**P**	**14 45 02.7**	**-1.0**
	8.0nm,0.9s,mb4.2,baz=154,slow=7.2,SNR=7.7						
SLKM	**Skilak Lake**	**80.26**	**19**	*eP*	**P**	**14 45 18.5**	**-0.4**
BILL	**Bilibino**	**80.84**	**359**	*eP*	**P**	**14 45 21.0**	**-0.9**
	3.1nm,0.5s,mb4.0						
ULN	**Ulaanbaatar**	**81.56**	**323**	P	**P**	**14 45 26.2**	**+0.6**
SONM	**Songino Array**	**81.92**	**323**	P	**P**	**14 45 27.9**	**+0.4**
	1.0nm,0.5s,mb3.5,baz=138,slow=5.0,SNR=13						
MCK	**McKinley**	**83.10**	**18**	*eP*	**P**	**14 45 32.3**	**-1.1**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
MCK	**McKinley**	**83.10**	**18**	*eP*	**P**	**14 45 32.3**	**-1.1**
	comp=Z,1.3nm,0.4s,mb3.8						
YBH	**Yreka Blue Hor**	**83.25**	**45**	P	**P**	**14 45 35.2**	**+1.1**
	comp=Z,5.0nm,0.6s,mb4.3,baz=208,slow=0.8,SNR=18						
HUMO	**Hull Mountain**	**83.43**	**44**	*eP*	**P**	**14 45 36.1**	**+1.1**
	comp=Z,4.3nm,0.8s,mb4.0						
CMB	**Columbia Colle**	**83.45**	**49**	*eP*	**P**	**14 45 35.7**	**+0.5**
	comp=Z,4.7nm,0.8s,mb4.1						
COLA	**College**	**84.27**	**17**	*eP*	**P**	**14 45 37.2**	**-2.0**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
COLA	**College**	**84.27**	**17**	*eP*	**P**	**14 45 37.2**	**-1.9**
	comp=Z,5.1nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**84.48**	**18**	P	**P**	**14 45 38.2**	**-2.0**
	comp=Z,7.3nm,0.6s,mb4.4,baz=236,slow=5.0,SNR=120						
MTUM	**Tungsten Hills**	**84.55**	**50**	*eP*	**P**	**14 45 41.7**	**+1.2**
NVAR	**Mina Array Bea**	**85.12**	**49**	P	**P**	**14 45 44.2**	**+0.9**
	comp=Z,1.8nm,0.6s,mb3.8,baz=235,slow=8.6,SNR=12						
NVAR	**Mina Array Bea**	**85.12**	**49**	P	**P**	**14 45 44.2**	**+0.9**
LDFC	**Landfair**	**86.42**	**53**	*eP*	**P**	**14 45 50.9**	**+1.4**
NEN	**Nelson**	**86.81**	**52**	*eP*	**P**	**14 45 52.4**	**+1.1**
BMO	**Blue Mountains**	**88.07**	**43**	*eP*	**P**	**14 45 57.5**	**+0.3**
	comp=Z,10nm,1.4s,mb4.4						
NEW	**Newport**	**89.38**	**40**	P	**P**	**14 46 03.3**	**0.0**
	comp=Z,3.6nm,0.7s,mb4.3,baz=256,slow=4.2,SNR=5.1						
SYO	**Syowa Base**	**90.74**	**196‖**	*eP*	**P**	**14 46 08.4**	**-1.2**
SYO	**Syowa Base**	**90.74**	**196‖**	*e*PcP	PcP	14 46 12.8	+2.6
PDAR	**Pinedale Array**	**92.79**	**47**	P	**P**	**14 46 18.8**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=251,slow=3.5,SNR=6.7						
YKA	**Yellowknife Ar**	**95.40**	**27**	P	**P**	**14 46 29.6**	**-1.2**
	comp=Z,2.0nm,0.7s,mb4.4,baz=256,slow=4.6,SNR=29						
MKAR	**Makanchi Array**	**96.89**	**316**	P	**P**	**14 46 37.9**	**+0.3**
	comp=Z,1.0nm,0.7s,mb4.2,baz=90,slow=5.8,SNR=9.6						
LPAZ	**La Paz**	**116.77**	**116**	PKP	PKPdf	14 51 48.9	+1.9
	comp=Z,0.8nm,0.7s,baz=315,slow=4.3,SNR=4.4						
LPAZ	**La Paz**	**116.77**	**116**	PKP	PKPdf	14 51 48.9	+1.9
ARCES	**ARCESS Array B**	**118.92**	**346**	PKP	PKPdf	14 51 50.2	-0.9
	comp=Z,3.1nm,0.7s,baz=71,slow=1.5,SNR=25						
ARCES	**ARCESS Array B**	**118.92**	**346**	PKP	PKPdf	14 51 50.2	-0.9
FINES	**FINESS Array B**	**124.61**	**339**	PKP	PKPdf	14 52 01.8	-0.3
	comp=Z,0.9nm,0.8s,baz=112,slow=3.0,SNR=5.9						
FINES	**FINESS Array B**	**124.61**	**339**	PKP	PKPdf	14 52 01.8	-0.3
NOA	**NORSAR Array B**	**129.30**	**346**	PKP	PKPdf	14 52 11.2	+0.2
	comp=Z,1.5nm,0.8s,baz=32,slow=2.0,SNR=3.5						
EKA	**Eskdalemuir Ar**	**137.28**	**353**	PKP	PKPdf	14 52 27.2	+1.3
	comp=Z,0.5nm,0.5s,baz=2.9,slow=4.3,SNR=3.5						
FLN	**La Foliniere**	**143.22**	**348**	*e*PKP1	PKPdf	14 52 34.1	-2.5
LDF	**La Druitiere**	**143.31**	**348**	*e*PKP1	PKPdf	14 52 34.3	-2.5
CABF	**La Chapelle**	**143.42**	**340**	*e*PKP1	PKPdf	14 52 35.8	-1.2
	comp=Z,19nm,0.9s						
LOR	**Lormes**	**143.54**	**343**	*e*PKP1	PKPdf	14 52 35.8	-1.4
	comp=Z,8.8nm,0.6s						
GRR	**Gorron**	**143.66**	**348**	*e*PKP1	PKPdf	14 52 35.9	-1.5
	comp=Z,29nm,0.6s						
SSF	**Saint Saulge**	**143.83**	**343**	*e*PKP1	PKPdf	14 52 37.0	-0.7
	comp=Z,25nm,0.7s						
SMF	**Signal de Mont**	**144.10**	**342**	*e*PKP1	PKPdf	14 52 37.6	-0.5
	comp=Z,23nm,0.7s						
AVF	**Avril sur Loir**	**144.12**	**343**	*e*PKP1	PKPdf	14 52 37.5	-0.7
	comp=Z,9.7nm,0.6s						
ROSF	**Rostrenen**	**144.14**	**351**	*e*PKP1	PKPdf	14 52 37.5	-0.7
	comp=Z,15nm,0.5s						
LPL	**La Plagne**	**144.14**	**338**	*e*PKP1	PKPdf	14 52 38.4	+0.2
	comp=Z,8.1nm,0.5s						
LPG	**La Plagne**	**144.15**	**338**	*e*PKP1	PKPdf	14 52 38.5	+0.3
	comp=Z,8.0nm,0.6s						
BGF	**Bois d'Agland**	**144.47**	**343**	*e*PKP1	PKPdf	14 52 39.3	+0.5
QUIF	**Quistinic**	**144.53**	**351**	*e*PKP1	PKPdf	14 52 38.7	-0.2
MBDF	**Montbardon**	**144.80**	**337**	*e*PKP1	PKPdf	14 52 38.9	-0.4
	comp=Z,10nm,0.7s						
TCF	**Toulx Ste Croi**	**144.90**	**344**	*e*PKP1	PKPdf	14 52 40.2	+0.7
	comp=Z,6.7nm,0.5s						
MFF	**Saint Martin d**	**145.20**	**346**	*e*PKP1	PKPbc	14 52 40.8	-0.3
	comp=Z,23nm,0.6s						
SBF	**Sospel**	**145.27**	**336**	*e*PKP1	PKPbc	14 52 41.8	+0.5
PGF	**Pioggiola**	**145.69**	**333**	*e*PKP1	PKPbc	14 52 42.2	-0.3
	comp=Z,34nm,1.0s						
FRF	**La Foret Royal**	**145.83**	**336**	*e*PKP1	PKPbc	14 52 42.4	-0.5
	comp=Z,8.8nm,0.5s						
SMRF	**Simiane la Rot**	**145.88**	**338**	*e*PKP1	PKPbc	14 52 42.7	-0.4
RJF	**Les Rejaudoux**	**145.99**	**344**	*e*PKP1	PKPbc	14 52 43.2	-0.2
	comp=Z,10nm,0.6s						
LMR	**La Mourre**	**146.08**	**336**	*e*PKP1	PKPbc	14 52 42.7	-0.9
	comp=Z,8.1nm,0.6s						
CAF	**Calviac**	**146.19**	**343**	*e*PKP1	PKPbc	14 52 44.8	+0.9
LASF	**Ste Croix**	**146.40**	**340**	*e*PKP1	PKPbc	14 52 44.0	-0.5
	comp=Z,5.8nm,0.6s						
LFF	**La Frestale**	**146.54**	**344**	*e*PKP1	PKPbc	14 52 44.8	-0.1
	comp=Z,20nm,0.5s						
MTLF	**Montolieu**	**147.58**	**341**	*e*PKP1	PKPbc	14 52 47.2	-0.4
	comp=Z,14nm,0.8s						
EPF	**Esparros**	**148.42**	**344**	*e*PKP1	PKPbc	14 52 49.5	-0.2
SJPF	**Ste Jean**	**148.75**	**346**	*e*PKP1	PKPbc	14 52 50.5	0.0
	comp=Z,5.6nm,0.5s						
ETSF	**Etsaut**	**148.78**	**345**	*e*PKP1	PKPbc	14 52 51.2	+0.6
	comp=Z,6.2nm,0.5s						

ISCJB ***20*** *14:35:00.1±0.2, 589S±003×15122E±004, h24km, mb5.2/89, MS4.7/26, Error ellipse: s-maj=5.4km s-min=4.8km az=53.7*

IDC ***20*** *14:35:00.6±2.7, 590S×15120E, h18km±16km, mb4.9/26, mb1 5.0/28, mb1mx5.0/29, mbtmp5.1/28, ML5.1/2, MS4.7/15, Ms1 4.6/15, ms1mx4.4/30, Error ellipse: s-maj=12.9km s-min=9.5km az=107.0*

HRVD ***20*** *14:35:01.7±0.2, 593S×15148E, h32km, MW5.2/85, Centroid moment Tensor Solution. LP body waves: s42,c57;Mantle waves: s85,c151; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.80±.04; $M_{\theta\theta}$-0.10±.02; $M_{\phi\phi}$-0.70±.02; $M_{r\theta}$-0.31±.02; $M_{\theta\phi}$0.31±.01; $M_{\phi r}$0.04±.03; Best double couple: $M_0$0.87200×10^{17} NP1:ϕ_s174.00000°, δ42.00000°, λ116.00000°. NP2: ϕ_s320.00000°, δ53.00000°, λ68.00000°. Principal axes: T 0.8970, Plg72.0000°, Azm173.0000°; N -0.0490, Plg17.0000°, Azm334.0000°; P -0.8480, Plg6.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***20*** *14:35:01.9±1.2, 582S×15120E, h33km, mb5.4/5 Error ellipse: s-maj=9.7km s-min=7.4km az=75.5*

NEIC ***20*** *14:35:01.7±0.1, 587S×15124E, mb5.3/51, Error ellipse: s-maj=4.8km s-min=4.2km az=123.0*

BJI ***20*** *14:35:01.6, 590S×15120E, h24km, mB5.3, mb5.2, Ms5.1, Msz4.8*

ORF ***20*** *14:35:04.7, 677S×14920E, h30km, mb5.7*

ISC 20 14:35:02.1±0.2, 589S±003×15127E±004, h25km, h25km±.8km:pP-P,n367,σ1°10/185, mb5.2/89, MS4.7/26, 15C-17D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**229**	Pn	**Pn**	**14 36 22.2**	**+1.7**
	58nm,0.3s,baz=55,slow=5.3,SNR=61						
PMG				Sn	**Sn**	**14 37 23.7**	**+2.2**
	70nm,0.3s,baz=161,slow=20,SNR=8.6						
PMG				LR	LR	14 38 34.7	
	comp=Z,4μm,20.7s,baz=60,slow=40						
PMG	**Port Moresby**	**5.36**	**229⇑**	*e*P	**Pn**	**14 36 23.8**	**+3.3**
PMG	**Port Moresby**	**5.36**	**229**	*e*Pn	**Pn**	**14 36 23.6**	**+3.1**
PMG				*e*Sn	**Sn**	**14 37 20.4**	**-1.1**
HNR	**Honiara**	**9.29**	**113**	Pn	**Pn**	**14 37 16.8**	**+2.4**
	91nm,0.3s,baz=258,slow=2.1,SNR=23						
HNR				LR	LR	14 40 22.5	
	comp=Z,3μm,18.8s,baz=356,slow=34						
HNR	**Honiara**	**9.29**	**113**	*e*P	**Pn**	**14 37 16.3**	**+1.9**
HNR				pmax	pmax		
	comp=Z,488nm,1.0s						
HNR	**Honiara**	**9.29**	**113**	*e*Pn	**Pn**	**14 37 16.3**	**+1.9**
	comp=Z,488nm,1.0s						
CTA	**Charters Tower**	**14.93**	**199**	Pn	**Pn**	**14 38 30.4**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=66,slow=12,SNR=17						
CTA				LR	LR	14 43 12.1	
	comp=Z,2μm,18.6s,baz=9.5,slow=33						
CTA	**Charters Tower**	**14.93**	**199**	Pn	**Pn**	**14 38 30.4**	**-1.1**
CTA				LR	LR	14 43 12.2	
CTAO	**Charters Tower**	**14.93**	**199**	*e*P	**Pn**	**14 38 25.3**	**-6.1**
CTAO				pmax	pmax		
	comp=Z,37nm,0.8s						
CTAO	**Charters Tower**	**14.93**	**199**	*e*P	**Pn**	**14 38 25.3**	**-6.2**
	comp=Z,37nm,0.8s						
KAKA	**Kakadu**	**19.77**	**249**	*e*P	**Pn**	**14 39 31.3**	**-0.6**
	comp=Z,123nm,0.5s						
GUMO	**Guam**	**20.37**	**342**	P	**P**	**14 39 37.1**	**+0.2**
	comp=Z,346nm,1.1s,baz=125,slow=3.8,SNR=8.6						
GUMO				LR	LR	14 45 50.1	
	comp=Z,1μm,21.9s,MS4.2,baz=137,slow=32						
GUMO	**Guam**	**20.37**	**342**	*e*P	**P**	**14 39 38.9**	**+2.1**
GUMO				pmax	pmax		
	comp=Z,562nm,1.3s						
GUMO	**Guam**	**20.37**	**342**	*e*P	**P**	**14 39 38.9**	**+2.1**
	comp=Z,562nm,1.3s						
WRAB	**Tennant Creek**	**21.57**	**228**	P	**P**	**14 39 50.0**	**+0.3**
	comp=Z,866nm,0.8s,mb6.2,SNR=56						
WRAB	**Tennant Creek**	**21.57**	**228**	*e*P	**P**	**14 39 50.0**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,242nm,0.9s,mb5.6						
WRAB	**Tennant Creek**	**21.57**	**228**	*e*P	**P**	**14 39 50.0**	**+0.2**
	comp=Z,242nm,0.9s,mb5.6						
WB2	**Warramunga Arr**	**21.57**	**228**	*e*P	**P**	**14 39 50.4**	**+0.6**
WRA	**Warramunga Arr**	**21.58**	**228**	P	**P**	**14 39 50.5**	**+0.6**
	comp=Z,108nm,0.9s,mb5.3,baz=52,slow=11,SNR=60						
WRA				S	**S**	**14 43 47.2**	**-0.5**
	comp=Z,29nm,1.1s,baz=54,slow=18,SNR=15						
WRA				ScP	ScP	14 47 28.6	+2.0
	comp=Z,12nm,1.1s,baz=40,slow=2.6,SNR=7.5						
WRA	**Warramunga Arr**	**21.58**	**228**	P	**P**	**14 39 50.5**	**+0.6**
WRA				S	**S**	**14 43 47.2**	**-0.5**
DZM	**Mont Dzumac**	**21.77**	**139**	P	**P**	**14 39 51.8**	**0.0**
	comp=Z,28nm,0.6s,mb4.9,baz=345,slow=11,SNR=20						
DZM				LR	LR	14 46 57.8	
	comp=Z,3μm,20.3s,MS4.7,baz=320,slow=33						
DZM	**Mont Dzumac**	**21.77**	**139**	*e*P	**P**	**14 39 51.9**	**0.0**
ASAR	**Alice Springs**	**24.32**	**222**	P	**P**	**14 40 17.6**	**0.0**
	comp=Z,86nm,0.8s,mb5.2,baz=55,slow=9.0,SNR=36						
ASAR				ScP	ScP	14 47 36.9	+3.0
	comp=Z,8.0nm,1.0s,baz=52,slow=3.0,SNR=11						
ASAR	**Alice Springs**	**24.32**	**222**	P	**P**	**14 40 17.6**	**0.0**
ASAR				ScP	ScP	14 47 36.9	+3.0
STKA	**Stephens Creek**	**27.39**	**198**	*e*P	**P**	**14 40 42.2**	**-3.2**
	comp=Z,28nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**27.39**	**198**	P	**P**	**14 40 43.4**	**-2.0**
	comp=Z,21nm,0.8s,mb4.7,baz=13,slow=11,SNR=6.9						
STKA				LR	LR	14 50 51.8	
	comp=Z,1μm,18.2s,MS4.5,baz=18,slow=35						
FITZ	**Fitzroy Crossi**	**27.80**	**242⇑**	*iP*	**P**	**14 40 49.6**	**+0.5**
	comp=Z,168nm,0.9s,mb5.7						
FITZ	**Fitzroy Crossi**	**27.80**	**242**	P	**P**	**14 40 49.6**	**+0.4**
	comp=Z,83nm,0.7s,mb5.5,baz=81,slow=8.6,SNR=92						
SCPH	**Surigao**	**30.04**	**301⇑**	*e*P	**P**	**14 41 12.4**	**+3.4**
TOO	**Toolangi**	**31.97**	**189**	*e*P	**P**	**14 41 26.3**	**+0.3**
	comp=Z,17nm,1.2s,mb4.8						
TOO	**Toolangi**	**31.97**	**189**	*e*P	**P**	**14 41 26.3**	**+0.3**
TOO				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
CBIJ	**Chichi jima**	**33.95**	**345**	LR	LR	14 54 10.2	
	comp=Z,1μm,19.4s,MS4.6,baz=200,slow=34						
MBWA	**Marble Bar**	**34.11**	**241**	*e*P	**P**	**14 41 44.7**	**0.0**
	comp=Z,74nm,1.0s,mb5.6						
TGY	**Tagaytay City**	**36.06**	**304**	P	**P**	**14 42 02.3**	**+0.8**
	comp=Z,250nm,0.5s,baz=110,slow=14,SNR=5.6						
RAO	**Raoul Island**	**37.23**	**132**	LR	LR	14 55 35.8	
	comp=Z,778nm,19.3s,MS4.5,baz=17,slow=33						
JOW	**Kunigami**	**39.42**	**327**	P	**P**	**14 42 31.9**	**+2.0**
	comp=Z,69nm,0.7s,mb5.5,baz=153,slow=9.5,SNR=17						
JOW				LR	LR	14 55 15.5	
	comp=Z,1μm,21.2s,MS4.7,baz=163,slow=31						
URZ	**Urewera**	**39.85**	**148**	P	**P**	**14 42 33.2**	**-0.3**
	comp=Z,5.2nm,0.5s,mb4.5,baz=97,slow=3.9,SNR=11						
URZ				PcP	PcP	14 44 37.5	-1.5
	comp=Z,16nm,0.7s,baz=293,slow=5.8,SNR=7.1						
URZ				LR	LR	14 57 54.2	
	comp=Z,740nm,18.0s,MS4.6,baz=306,slow=34						
KLBR	**Kellerberrin**	**40.45**	**227**	*e*P	**P**	**14 42 37.8**	**-0.7**
	comp=Z,56nm,1.0s,mb5.2						
RPZ	**Rata Peaks**	**41.50**	**158**	P	**P**	**14 42 46.8**	**-0.3**
	comp=Z,26nm,0.8s,mb4.9,baz=46,slow=2.3,SNR=14						
RPZ				LR	LR	14 57 01.6	
	comp=Z,2μm,19.9s,MS4.9,baz=250,slow=32						
NWAO	**Narrogin (SRO)**	**41.54**	**225**	P	**P**	**14 42 47.7**	**+0.2**
	comp=Z,27nm,1.2s,mb4.8,baz=53,slow=9.7,SNR=4.6						
NWAO				LR	LR	15 00 25.8	
	comp=Z,2μm,18.1s,MS4.9,baz=312,slow=37						
NWAO	**Narrogin (SRO)**	**41.54**	**225**	*e*P	**P**	**14 42 47.5**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,33nm,1.4s						
NWAO	**Narrogin (SRO)**	**41.54**	**225**	*e*P	**P**	**14 42 47.5**	**+0.1**
	comp=Z,33nm,1.4s,mb4.8						
KSM	**Kuching**	**41.55**	**279**	*e*P	**P**	**14 42 47.8**	**+0.3**
NACB	**Ningnanchiao**	**41.59**	**317**	*e*P	**P**	**14 42 48.4**	**+0.5**
MUN	**Mundaring**	**41.78**	**227**	*e*P	**P**	**14 42 49.3**	**-0.1**
YHNB	**Yeheng**	**42.07**	**317**	*e*P	**P**	**14 42 53.2**	**+1.4**
TATO	**Taipei**	**42.20**	**318**	*e*P	**P**	**14 42 53.6**	**+0.7**
	comp=Z,183nm,1.3s,mb5.5						
JNU	**Nakatsue**	**43.36**	**335**	P	**P**	**14 43 03.1**	**+0.8**
	comp=Z,20nm,0.7s,mb5.0,baz=120,slow=4.9,SNR=6.6						
JNU	**Nakatsue**	**43.36**	**335**	P	**P**	**14 43 03.1**	**+0.8**
MJAR	**Matsushiro Arr**	**43.95**	**345**	P	**P**	**14 43 08.2**	**+1.2**
	comp=Z,4.9nm,0.8s,mb4.3,baz=165,slow=9.0,SNR=8.9						
MAT	**Matsushiro**	**43.95**	**345**	P	**P**	**14 43 08.8**	**+1.8**
MAT	**Matsushiro**	**43.95**	**345**	P	**P**	**14 43 09.0**	**+2.0**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
MAT	**Matsushiro**	**43.95**	**345**	P	**P**	**14 43 09.0**	**+2.0**
	comp=Z,7.6nm,0.9s,mb4.4						
QZH	**Quanzhou**	**44.16**	**315‖**	*iP*	**P**	**14 43 10.5**	**+1.8**
QZH				*e*S	**S**	**14 49 37.0**	**-3.2**
QZH				AMB	AMB		
	comp=Z,270nm,0.8s,mb6.0						
QZH				LR	LR		
	comp=Z,2μm,15.2s,MS5.0						
SSE	**Sheshan**	**46.69**	**324**	P	**P**	**14 43 29.4**	**+0.7**
SSE				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,951nm,8.2s						
QIZ	**Qiongzhong**	**47.73**	**302**	P	**P**	**14 43 42.8**	**+6.0**
QIZ				S	**S**	**14 50 32.8**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,24nm,0.6s,mb5.4						
QIZ				LR	LR		
	comp=E,583nm,21.8s						
QIZ				LR	LR		
	comp=Z,1μm,19.8s,MS4.8						
KS15	**Wonju Array Si**	**48.32**	**335**	*e*P	**P**	**14 43 41.6**	**+0.2**
NJ2	**Nanjing**	**48.76**	**323**	*e*P	**P**	**14 43 46.9**	**+2.2**
NJ2				AP	pP	14 43 54.4	+1.9
NJ2				XP	sP	14 43 57.8	+2.2
NJ2				PP	PP	14 45 40.1	+2.2
NJ2				S	**S**	**14 50 46.0**	**0.0**
NJ2				XS	sS	14 50 58.0	-0.8
NJ2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,850nm,6.3s						
NJ2				LR	LR		
	comp=N,650nm,17.8s,MS4.8						
NJ2				LR	LR		
	comp=E,630nm,17.8s,MS4.8						
NJ2				LR	LR		
	comp=Z,580nm,23.4s						
INCN	**Inchon**	**48.89**	**334**	*e*P	**P**	**14 43 45.8**	**0.0**
	comp=Z,33nm,0.8s,mb5.4						
RAR	**Rarotonga**	**49.75**	**113**	LR	LR	15 02 30.4	
	comp=Z,268nm,18.6s,MS4.3,baz=314,slow=33						
ASAJ	**Asahikawa**	**50.39**	**352**	P	**P**	**14 43 56.5**	**-0.7**
	comp=Z,21nm,1.0s,mb5.1,baz=248,slow=19,SNR=4.8						
WHN	**Wuhan**	**50.61**	**318**	P	**P**	**14 44 00.0**	**+1.1**
VLA	**Vladivostok**	**51.85**	**342**	*e*P	**P**	**14 44 13.9**	**+5.7**
VLA				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.1						
DL2	**Dalian**	**52.35**	**331**	P	**P**	**14 44 18.3**	**+6.4**
DL2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
DL2				AMB	AMB		
	comp=Z,200nm,5.3s						
DL2				LR	LR		
	comp=N,190nm,15.0s,MS4.4						
DL2				LR	LR		
	comp=E,160nm,14.8s,MS4.4						
DL2				LR	LR		
	comp=Z,470nm,17.3s,MS4.6						
TIA	**Tai'an**	**52.71**	**325**	*e*P	**P**	**14 44 14.8**	**+0.3**
PSI	**Prapat**	**52.98**	**278**	P	**P**	**14 44 14.9**	**-1.6**
	comp=Z,6.0nm,0.7s,mb4.6,baz=207,slow=5.3,SNR=6.0						
PSI				PcP	PcP	14 45 24.4	-0.7
	comp=Z,9.2nm,0.9s,baz=27,slow=2.3,SNR=5.0						
YSS	**Yuzh-Sakhalins**	**53.16**	**353**	*e*P	**P**	**14 44 16.9**	**-0.9**
ENH	**Enshi**	**53.80**	**314**	*e*P	**P**	**14 44 22.5**	**-0.1**
	comp=Z,25nm,0.8s,mb5.2						
GYA	**Guiyang**	**53.86**	**309⇑**	*iP*	**P**	**14 44 24.4**	**+1.4**
GYA				AP	pP	14 44 32.0	+1.1
GYA				XP	sP	14 44 35.3	+1.4
GYA				PCP	PcP	14 45 29.8	+1.4
GYA				PP	PP	14 46 25.6	+1.4
GYA				PCS	PcS	14 49 27.1	-0.6
GYA				XS	sS	14 52 09.9	+0.5
GYA				SS	SS	14 55 38.3	+0.6
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
GYA				AMB	AMB		
	comp=Z,210nm,4.0s						
GYA				LR	LR		
	comp=N,1μm,17.4s,MS5.1						
GYA				LR	LR		
	comp=E,970nm,17.0s,MS5.1						
GYA				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
MDJ	**Mudanjiang**	**53.93**	**341**	P	**P**	**14 44 24.3**	**+0.8**
MDJ				XP	sP	14 44 33.1	-1.3
MDJ				PCP	PcP	14 45 30.0	+1.3
MDJ				PP	PP	14 46 23.4	-1.4
MDJ				SCP	ScP	14 49 25.3	+0.3
MDJ				PCS	PcS	14 49 27.5	-0.4
MDJ				S	**S**	**14 52 03.3**	**+5.9**
MDJ				SCS	ScS	14 54 14.0	+2.8
MDJ				SS	SS	14 55 42.3	+3.6
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,243nm,5.0s						
MDJ				LR	LR		
	comp=N,168nm,33.9s						
MDJ				LR	LR		
	comp=E,168nm,19.4s						
MDJ				LR	LR		
	comp=Z,288nm,33.9s,MS4.1						
CN2	**Changchun**	**54.69**	**337**	*e*P	**P**	**14 44 28.5**	**-0.5**
CN2				*e*XP	sP	14 44 39.0

comp=Z,274nm,6.5s
GTA LR LR
comp=N,253nm,16.7s,MS4.7
GTA LR LR
comp=E,337nm,20.1s,MS4.7
GTA LR LR
comp=Z,490nm,19.8s,MS4.7
ULN Ulaanbaatar 66.13 329 *eP* **P 14 45 47.2 0.0**
comp=Z,19nm,1.1s,mb5.0
SONM Songino Array 66.45 329 P **P 14 45 49.2 0.0**
comp=Z,14nm,0.9s,mb5.0,baz=136,slow=5.2,SNR=44
SONM PKP2bc 15 14 24.6
comp=Z,1.6nm,0.9s,baz=267,slow=2.6,SNR=11
SONM LR LR 15 14 34.0
comp=Z,585nm,19.7s,MS4.8,baz=180,slow=36
SONM Songino Array 66.45 329 P **P 14 45 49.2 0.0**
SONM ⇑*e* 15 14 24.6
SONM LR LR 15 14 34.0
CASY Casey 66.53 197 *eP* **P 14 45 49.2 -0.6**
LSA Lhasa 67.61 305 P **P 14 45 58.0 +1.4**
LSA Lhasa 67.61 305 *eP* **P 14 45 57.8 +1.2**
comp=Z,8.2nm,0.6s,mb4.9
YAK Yakutsk 69.75 349 *eP* **P 14 46 07.2 -2.8**
comp=Z,29nm,0.7s,mb5.3
YAK pP pP 14 46 14.4 -3.6
JIRN Jiri 71.05 302 *eP* **P 14 46 18.0 +0.1**
comp=Z,22nm,0.8s,mb5.1
GUN Gumba 71.39 302 *eP* **P 14 46 20.3 +0.3**
comp=Z,63nm,0.9s,mb5.5
PKI Pulchoki 71.69 301 *eP* **P 14 46 21.8 0.0**
VNDA Vanda 71.80 178 P **P 14 46 22.4 -0.1**
comp=Z,9.4nm,0.9s,mb4.7,baz=331,slow=6.9,SNR=19
KKN Kakani 71.86 302 *eP* **P 14 46 22.7 -0.1**
comp=Z,22nm,0.7s,mb5.2
DMN Daman 71.96 301 *eP* **P 14 46 23.7 +0.3**
comp=Z,75nm,0.9s,mb5.6
GKN Gorkha 72.47 302 *eP* **P 14 46 26.2 -0.2**
comp=Z,52nm,0.9s,mb5.5
KOLN Koldanda 73.28 301 *eP* **P 14 46 30.8 -0.5**
comp=Z,32nm,0.6s,mb5.4
BILL Bilibino 74.52 6 *eP* **P 14 46 36.8 -1.7**
BILL Bilibino 74.52 6 *eP* **P 14 46 36.8 -1.8**
comp=Z,9.8nm,0.7s,mb4.8
HYB Hyderabad 75.42 290 *i* P **P 14 46 43.0 -0.7**
HYB Hyderabad 75.42 290 *eP* **P 14 46 43.0 -0.7**
WMQ Urumqi 75.52 318 P **P 14 46 44.0 -0.3**
WMQ AP pP 14 46 51.8 -0.6
WMQ XP sP 14 46 55.1 -0.3
WMQ PCP PcP 14 46 57.5 +0.3
WMQ AMB AMB
comp=Z,18nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,112nm,4.2s
WMQ LR LR
comp=N,421nm,22.2s,MS4.8
WMQ LR LR
comp=E,405nm,21.2s,MS4.8
WMQ LR LR
comp=Z,426nm,22.0s,MS4.7
TNA Tin City 77.26 16 *eP* **P 14 46 51.0 -3.1**
comp=Z,1.9nm,0.6s,mb4.2
BHPL Bhopal 77.61 295 *eP* **P 14 46 55.6 -0.5**
BHPL AMb AMB 14 46 56.8
comp=Z,18nm,0.8s,mb5.1
KDAK Kodiak Island 77.83 27 P **P 14 46 56.9 -0.5**
comp=Z,7.7nm,0.8s,mb4.7,baz=259,slow=7.7,SNR=4.7
SVW2 Sparrevohn 78.42 23 *eP* **P 14 47 00.9 +0.3**
KLP Kalpa 78.76 304 *eP* **P 14 47 01.8 -0.6**
KLP AMb AMB 14 47 06.4
comp=Z,43nm,1.2s,mb5.2
SONA Sohna 78.98 300 *eP* **P 14 47 02.5 -1.2**
SONA AMb AMB 14 47 06.4
comp=Z,27nm,0.9s,mb5.2
AYAN Aya Nagar 79.00 300 *eP* **P 14 47 02.4 -1.3**
KHET Khetri 80.04 300 *eP* **P 14 47 08.5 -0.9**
KHET AMb AMB 14 47 13.0
comp=Z,22nm,1.3s,mb4.9
MKAR Makanchi Array 80.15 319 P **P 14 47 08.7 -1.4**
comp=Z,4.1nm,0.7s,mb4.5,baz=102,slow=4.8,SNR=17
MKAR PP PP 14 50 10.6 -1.8
comp=Z,4.7nm,1.0s,baz=98,slow=8.9,SNR=4.5
MKAR PKPPKP 15 14 00.3
comp=Z,0.7nm,0.8s,baz=316,slow=4.0,SNR=5.8
MKAR Makanchi Array 80.15 319 P **P 14 47 08.7 -1.4**
MKAR PP PP 14 50 10.6 -1.8
MKAR P'P' 15 14 00.3
SLKM Skilak Lake 80.30 25 *eP* **P 14 47 09.4 -1.5**
SLKM Skilak Lake 80.30 25 *eP* **P 14 47 09.4 -1.4**
PMR Palmer 81.31 25 *eP* **P 14 47 15.0 -1.2**
comp=Z,23nm,1.3s,mb5.0
SML Sawmill 81.74 25 *eP* **P 14 47 17.8 -0.7**
MCK McKinley 82.45 23 *eP* **P 14 47 19.9 -2.3**
comp=Z,13nm,0.8s,mb4.9
KSH Kashi 82.49 311 *eP* **P 14 47 20.8 -1.7**
KSH AP pP 14 47 28.0 -2.7
KSH PP PP 14 50 29.3 -2.4
KSH S S 14 57 31.4 -6.1
KSH SKS 14 57 34.4
KSH AMB AMB
comp=Z,16nm,0.3s,mb5.4
KSH AMB AMB
comp=Z,167nm,4.4s
KSH LR LR
comp=N,1μm,20.6s
KSH LR LR
comp=E,726nm,15.0s
KSH LR LR
comp=Z,714nm,18.8s,MS5.1
DIV Divide 82.51 26 *eP* **P 14 47 21.9 -0.7**
comp=Z,33nm,0.6s,mb5.5
COLA College 83.43 22 *eP* **P 14 47 24.8 -2.5**
comp=Z,19nm,0.7s,mb5.2
TKM2 Tokmak 2 83.59 314 P **P 14 47 27.8 -0.3**
SNR=6.9
KZA Kyzart 83.64 313 P **P 14 47 29.1 +0.7**
SNR=16
KURK Kurchatov 83.69 322 *eP* **P 14 47 26.9 -1.7**
comp=Z,14nm,0.9s,mb5.1
ILAR Eielson Array 83.74 22 P **P 14 47 26.7 -2.2**
comp=Z,18nm,0.7s,mb5.3,baz=248,slow=5.1,SNR=51
ILAR PKKP PKKPbc 15 05 44.0 -1.2
comp=Z,0.4nm,0.7s,baz=324,slow=0.9,SNR=6.8
MAW Mawson 83.98 203 *eP* **P 14 47 29.8 -0.3**
comp=Z,8.8nm,0.6s,mb5.1
MAW Mawson 83.98 203 P **P 14 47 29.7 -0.5**
comp=Z,8.3nm,0.6s,mb5.1,baz=87,slow=3.8,SNR=12
MAW LR LR 15 20 06.0
comp=Z,446nm,18.8s,MS4.9,baz=75,slow=32
KBK Karagaybulak 83.99 314 P **P 14 47 30.6 +0.4**
SNR=6.4
QSPA South Pole Qui 84.07 180 *eP* **P 14 47 30.5 -0.1**
comp=Z,57nm,0.9s,mb5.7
MENT Mentasta 84.17 25 *eP* **P 14 47 30.7 -0.4**
UCH Uchtor 84.20 313 P **P 14 47 32.2 +0.9**
SNR=14
FRU Bishkek 84.27 314 *eP* **P 14 47 31.5 -0.1**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.4
AAK Ala-Archa 84.31 314 P **P 14 47 32.0 +0.1**
SNR=8.6
USP Ospenovka 84.45 314 P **P 14 47 32.3 -0.2**
SNR=16
AML Almayashu 84.78 313 P **P 14 47 35.1 +0.9**
SNR=28
EKS2 Erkin-Say 84.83 314 P **P 14 47 34.9 +0.5**
SNR=19
DAWY Dawson 86.40 24 *eP* **P 14 47 41.9 -0.4**
BVAR Borovoye Array 89.20 323 P **P 14 47 53.3 -2.4**
comp=Z,2.3nm,0.7s,mb4.6,baz=120,slow=6.6,SNR=12
BVAR PP PP 14 51 28.2 +2.0
comp=Z,1.0nm,0.7s,baz=92,slow=7.4,SNR=3.9
BRVK Borovoye 89.27 323 *eP* **P 14 47 53.6 -2.4**
comp=Z,2.6nm,0.8s,mb4.6
ZRNK Zerenda 90.01 323 *eP* **P 14 47 57.5 -2.0**
comp=Z,4.3nm,0.7s,mb4.9
INK Inuvik 90.02 21 P **P 14 47 58.2 -1.2**
comp=Z,6.7nm,0.6s,mb5.1,baz=272,slow=4.5,SNR=23
INK Inuvik 90.02 21 *eP* **P 14 47 58.1 -1.4**
comp=Z,16nm,1.0s,mb5.3
OCWA Octopus Mounta 90.66 42 *eP* **P 14 48 02.9 +0.4**
comp=Z,22nm,0.9s,mb5.5
HUMO Hull Mountain 90.84 47 *eP* **P 14 48 03.7 +0.4**
comp=Z,45nm,1.2s,mb5.7
HUMO *ep*P pP 14 48 11.1 -0.5
YBH Yreka Blue Hor 90.91 48 P **P 14 48 04.7 +1.0**
comp=Z,10nm,0.8s,mb5.2,baz=203,slow=2.6,SNR=13
YBH Yreka Blue Hor 90.91 48 *eP* **P 14 48 04.3 +0.7**
comp=Z,28nm,1.3s,mb5.4
SYO Syowa Base 92.14 200⇓*eP* **P 14 48 08.2 -1.1**
SYO Syowa Base 92.14 200⇓*eP*P PP 14 51 51.4 +2.0
CMB Columbia Colle 92.29 52 *eP* **P 14 48 11.0 +1.0**
comp=Z,10.0nm,1.1s,mb5.1
MOD Modoc 92.72 48 *eP* **P 14 48 11.7 -0.3**
comp=Z,29nm,1.2s,mb5.6
MOD *ep*P pP 14 48 21.2 +0.9
PAHR Pah Rah Range 93.22 51 *eP* **P 14 48 15.5 +1.2**
comp=Z,22nm,1.2s,mb5.5
MTUM Tungsten Hills 93.67 53 *eP* **P 14 48 17.7 +1.4**
MWC Mount Wilson 93.83 56 *eP* **P 14 48 18.4 +1.2**
MWC *ep*P pP 14 48 26.3 +0.9
NVAR Mina Array Bea 93.95 52 P **P 14 48 18.9 +1.2**
comp=Z,12nm,0.8s,mb5.4,baz=254,slow=5.2,SNR=44
NVAR Mina Array Bea 93.95 52 P **P 14 48 18.9 +1.2**
WVOR Wild Horse Val 94.00 48 *eP* **P 14 48 18.2 +0.3**
comp=Z,37nm,1.5s,mb5.6
MNV Mina 94.07 52 *eP* **P 14 48 19.1 +0.8**
comp=Z,30nm,1.2s,mb5.6
DAC Darwin (Calif) 94.36 54 *eP* **P 14 48 20.7 +1.1**
comp=Z,23nm,1.1s,mb5.5
TPH Tonopah 94.78 52 *eP* **P 14 48 22.8 +1.4**
comp=Z,16nm,1.1s,mb5.4
BMO Blue Mountains 95.12 46 *eP* **P 14 48 23.0 0.0**
comp=Z,28nm,1.3s,mb5.5
NEW Newport 95.42 42 P **P 14 48 24.9 +0.4**
comp=Z,3.7nm,0.7s,mb4.9,baz=211,slow=3.7,SNR=6.4
NEW Newport 95.42 42 *eP* **P 14 48 24.1 -0.3**
NEW pmax pmax
comp=Z,4.0nm,0.7s
NEW Newport 95.42 42 *eP* **P 14 48 24.1 -0.3**
comp=Z,4.2nm,0.7s,mb5.0
LDFC Landfair 96.31 55 *eP* **P 14 48 30.1 +1.6**
LDFC *ep*P pP 14 48 37.6 +0.9
ELK Elko 96.45 50 *eP* **P 14 48 29.7 +0.6**
comp=Z,12nm,1.3s,mb5.2
NEN Nelson 96.55 55 *eP* **P 14 48 30.9 +1.3**
YKW3 Yellowknife Ar 97.09 28 *eP* **P 14 48 31.2 -0.8**
YKA Yellowknife Ar 97.10 28 P **P 14 48 31.9 -0.1**
comp=Z,2.1nm,0.5s,mb4.8,baz=273,slow=4.8,SNR=20
YKA PKiKP PKiKP 14 53 05.4 -2.3
comp=Z,0.2nm,0.5s,baz=298,slow=2.1,SNR=3.2
YKA PKKP PKKPbc 15 05 10.4 -1.3
comp=Z,0.7nm,0.9s,baz=90,slow=3.0,SNR=8.3
HLID Hailey 97.15 47 *eP* **P 14 48 33.0 +0.7**
comp=Z,10nm,1.3s,mb5.1
CCUT Cedar City 97.81 53 *eP* **P 14 48 35.9 +0.7**
EDM Edmonton 97.91 37 *eP* **P 14 48 34.0 -1.7**
CHMT Chamberlain Mo 98.01 44 *eP* **P 14 48 34.5 -1.7**
HRY Holter Researc 98.99 44 *ePdif* **P 14 48 40.9 +0.4**
BOZ Bozeman (W) 99.15 45 *eP* **P 14 48 41.8 +0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.9
BOZ Bozeman (W) 99.15 45 *ePdif* **P 14 48 41.8 +0.5**
comp=Z,3.0nm,0.7s,mb4.9
TMUT Trail Mountain 99.52 51 *ePdif* **P 14 48 44.5 +1.6**
PDAR Pinedale Array 100.71 48 P Pdif 14 48 48.5 +0.4
comp=Z,3.5nm,0.6s,baz=252,slow=2.8,SNR=15
SMCO Snowmass 102.81 51 *ePdif* Pdif 14 48 59.2 +1.7
comp=Z,5.2nm,0.8s
RSSD Black Hills 104.63 46 *ePdif* Pdif 14 49 06.2 +0.6
comp=Z,4.4nm,0.6s
ARCES ARCESS Array B 107.46 343 PKiKP PKiKP 14 53 25.4 -1.1
comp=Z,3.8nm,0.7s,baz=89,slow=1.0,SNR=16
FINES FINESS Array B 111.40 335 Pdiff Pdif 14 49 33.9 -1.8
comp=Z,1.2nm,0.7s,baz=60,slow=4.6,SNR=3.9
FINES PKiKP PKiKP 14 53 33.0 -1.0
comp=Z,1.9nm,0.6s,baz=48,slow=2.1,SNR=10
AKASG Malin Array Be 114.48 324 PKP PKiKP 14 53 38.8 -1.0
comp=Z,2.1nm,0.4s,baz=65,slow=2.1,SNR=15
AKASG PKKPbc PKKPbc 15 04 17.8 -0.6
comp=Z,0.8nm,0.5s,baz=263,slow=3.8,SNR=7.4
AKASG Malin Array Be 114.48 324 P Pdif 14 49 47.3 -2.1
BR131 Keskin Array S 114.88 311 *ePKiKP* PKiKP 14 53 40.1 -0.5
BRTR Keskin Array B 114.88 311 PKP PKiKP 14 53 40.4 -0.2
comp=Z,4.7nm,0.9s,baz=127,slow=3.3,SNR=18
ANTO Ankara 115.48 311 *ePKPdf* PKPdf 14 53 42.0 +0.3
EIL Elat 115.73 300 *ePKPdf* PKPdf 14 53 42.1 -0.1
SUW Suwalki 116.39 329 *ePKP* PKPdf 14 53 43.5 0.0
SUW L 15 26 23.8
comp=Z,0.6nm,23.1s
TIRR Tirgusor 117.24 317 ⇓P PKPdf 14 53 44.2 -0.9
TIRR Tirgusor 117.24 317 ⇓P PKPdf 14 53 44.2 -0.9
NB2 NORSAR Subarra117.41 339 PKPd PKPdf 14 53 43.6 -1.8
comp=Z,2.7nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 117.41 339 PKP PKPdf 14 53 44.5 -0.9
comp=Z,3.3nm,0.7s,baz=50,slow=1.8,SNR=12
BOSA Boshof 117.75 233 PKP PKPdf 14 53 47.1 +1.0
comp=Z,3.7nm,0.8s,baz=174,slow=2.8,SNR=5.1
BURAR Bucovina Array 118.11 322 ⇑P PKPdf 14 53 48.3 +1.5
BURAR Bucovina Array 118.11 322 ⇑P PKPdf 14 53 48.3 +1.5
MLR Muntele Rosu 118.50 319 ⇓P PKPdf 14 53 47.1 -0.4
MLR Muntele Rosu 118.50 319 ⇓P PKPdf 14 53 47.1 -0.4
KWP Kalwaria 118.73 325 *ePKP* PKPdf 14 53 47.9 -0.1
KWP L 15 24 43.8
comp=Z,0.6nm,26.1s
VOIR 119.10 319 ⇓P PKPdf 14 53 50.3 +1.6
VOIR 119.10 319 ⇓P PKPdf 14 53 50.3 +1.7
KOLS Kolonicke sedl 119.31 324 *i PKP* PKPdf 14 53 49.7 +0.6
STHS Stebnicka Huta 119.67 325 *i PKP* PKPdf 14 53 49.4 -0.4
CRVS Cervenica-Dubn 119.80 324 *ePKP* PKPdf 14 53 52.3 +2.3
CRVS Cervenica-Dubn 119.80 324 *e* PKPdf 14 53 52.3 +2.3
LSZ Lusaka 119.82 249 *ePKPdf* PKPdf 14 53 51.1 +1.0
OJC Ojcow 120.09 326 *ePKPdf* PKPdf 14 53 50.3 -0.3
NIE Niedzica 120.20 325 *ePKP* PKPdf 14 53 51.6 +0.8
KECS Kecovo 120.56 324 *ePKP* PKPdf 14 53 50.8 -0.7
RZN Rozhen 120.75 316 *i P* PKPdf 14 53 52.0 +0.1
LIKS Likavka 121.07 325 *ePKP* PKPdf 14 53 58.8 +6.3
PSZ Piszkesteto 121.18 324 *ePKPdf* PKPdf 14 53 52.1 -0.6
OKC Ostrava-Krasne 121.20 326 *ePKPdf* PKPdf 14 53 52.4 -0.3
BZS Buzias 121.21 321 ⇓P PKPdf 14 53 52.6 -0.2
BZS Buzias 121.21 321 ⇓P PKPdf 14 53 52.6 -0.1
VTS Vitosha 121.44 317 *i P* PKPdf 14 53 53.5 +0.3
MMB Musomiste 121.48 316 *i P* PKPdf 14 53 52.5 -0.8
VYHS Vyhne 121.51 325 *ePKP* PKPdf 14 53 53.1 -0.2
MORC Moravsky Berou 121.56 327 *ePKIKP* PKPdf 14 53 52.8 -0.6
KSP Ksiaz 121.65 328 *ePKP* PKPdf 14 53 53.7 +0.1
KSP L 15 28 55.0
comp=Z,1.2nm,23.1s
KKB Krupnik 121.81 316 *i P* PKPdf 14 53 53.5 -0.4
DPC Dobruska-Polom 121.91 328 *ePKPdf* PKPdf 14 53 54.4 +0.3
DPC *ep*PKP pPKPdf 14 54 02.8 +0.2
RUE Ruedersdorf 121.95 331 *ePKPdf* PKPdf 14 53 54.3 +0.1
UPC Upice 121.98 328 *ePKPdf* PKPdf 14 53 53.9 -0.3
GRUS Gruza 122.56 319 *ePKP* PKPdf 14 53 55.1 -0.3
BSEG Bad Segeberg 122.62 334 *ePKPdf* PKPdf 14 53 55.6 +0.1
ZST Bratislava 122.65 325 *ePKP* PKPdf 14 53 55.2 -0.3
PVCC Panska Ves 122.72 329 *ePKPdf* PKPdf 14 53 56.2 +0.5
PKSM Moragy 122.77 323 ⇑P PKPdf 14 53 55.3 -0.5
BRG Berggiesshubel 122.84 329 *ePKPdf* PKPdf 14 53 55.8 -0.1
BRG Berggiesshubel 122.84 329 *i PKP* PKPdf 14 53 55.9 0.0
BRG *e* 14 54 04.2
BRG Berggiesshubel 122.84 329 *i PKP* PKPdf 14 53 55.9 0.0
comp=Z,17nm,1.1s
BRG *e* 14 54 04.2
comp=Z,14nm,1.2s
DIVS Divcibare 122.93 320⇑*i PKP* PKPdf 14 53 55.6 -0.4
TREC Trest 122.95 327 *ePKPdf* PKPdf 14 53 56.1 0.0
CLL Collm 123.05 330 *ePKPdf* PKPdf 14 53 56.0 -0.3
CLL Collm 123.05 330⇑*i PKPdf* PKPdf 14 53 55.9 -0.4
comp=Z,21nm,0.8s
PRU Pruhonice 123.06 328 *ePKPdf* PKPdf 14 53 55.7 -0.6
BBLS Bajina Basta - 123.41 320 *ePKP* PKPdf 14 53 57.5 +0.5
WERD Werda 123.93 330 *ePKPdf* PKPdf 14 53 57.9 -0.1
CLZ Clausthal 123.98 332 *ePKPdf* PKPdf 14 53 58.3 +0.2
NKC Novy Kostel 123.99 329 *ePKPdf* PKPdf 14 53 58.0 -0.1
NKC *ep*PKP pPKPdf 14 54 05.5 -1.1
ARSA Arzberg 124.06 325⇑*i P* PKPdf 14 53 57.6 -0.6
comp=Z,11nm,1.1s
KHC Kasperske Hory 124.07 328 *ePKPdf* PKPdf 14 53 58.1 -0.1
KHC *ex* x 14 54 07.5
MOX Moxa 124.15 330 *ePKPdf* PKPdf 14 53 58.2 -0.2
MOX Moxa 124.15 330 *ePKP* PKPdf 14 53 58.4 0.0
comp=Z,26nm,1.5s
GEC2 GERESS Array S 124.17 327 *ePKPdf* PKPdf 14 53 58.4 0.0
GERES GERESS Array B 124.17 327 PKP PKPdf 14 53 58.1 -0.4
comp=Z,11nm,0.7s,baz=74,slow=1.4,SNR=79
GERES PKKPab PKKPab 15 03 42.6 -0.2
comp=Z,0.4nm,0.5s,baz=278,slow=3.8,SNR=4.7
GERES GERESS Array B 124.17 327 P Pdif 14 50 29.7 -2.7
MANZ Manzenberg 124.31 329 *ePKPdf* PKPdf 14 53 59.0 +0.3
ROTZ Rotzenmuhle 124.40 329 *ePKPdf* PKPdf 14 53 58.8 -0.1
WET Wettzell 124.43 328 *ePKPdf* PKPdf 14 53 59.3 +0.4
UBBA Unterbreizbach 124.83 331 *ePKPdf* PKPdf 14 53 59.9 +0.2
IBBN Ibbenburen 124.86 334 *ePKPdf* PKPdf 14 54 00.1 +0.3
LEGS Legarje 124.89 324 *i PKP* PKPdf 14 53 59.5 -0.3
GRA1 Grafenberg Arr 124.95 329 *ePKPdf* PKPdf 14 53 59.7 -0.2
GRA1 *ep*PKPdf pPKPdf 14 54 08.0 -0.4
GRF Grafenberg Arr 124.95 329 *ePKPdf* PKPdf 14 53 59.7 -0.2
GRF *ep*PKPdf pPKPdf 14 54 08.0 -0.4
OBKA Obir 125.03 325⇑*i P* PKPdf 14 53 59.3 -0.7
comp=Z,8.2nm,1.1s
OBKA Obir 125.03 325⇑*i P* PKPdf 14 53 59.3 -0.8
KBA Koelnbreinsper 125.39 326⇓*i P* PKPdf 14 54 00.0 -0.7
comp=Z,21nm,1.1s,SNR=9.6
KBA Koelnbreinsper 125.39 326⇓*i P* PKPdf 14 54 00.0 -0.7
VOY Vojsko 125.67 324 *ePKP* PKPdf 14 54 01.3 0.0
BUG Bochum--Univer 125.68 333 *ePKPdf* PKPdf 14 54 01.3 0.0
MDZ Mendoza 125.80 138 *eP* PKPdf 14 54 05.9 +4.3
MDZ *e* 14 54 11.9
FUR Furstenfeldbru 125.87 328 *ePKPdf* PKPdf 14 54 01.6 -0.1
FUR *ep*PKPdf pPKPdf 14 54 09.9 -0.3
TNS Taunus Mts 125.97 331 *ePKPdf* PKPdf 14 54 01.6 -0.3
WATA Walderalm 126.21 327⇓*i P* PKPdf 14 54 02.3 -0.1
comp=Z,30nm,1.3s
WTTA Wattenberg 126.22 327⇓*i P* PKPdf 14 54 02.1 -0.2
comp=Z,51nm,1.1s,SNR=16
WTTA Wattenberg 126.22 327⇓*i P* PKPdf 14 54 02.1 -0.2
MOTA Moosalm 126.46 327 *i P* PKPdf 14 54 02.8 0.0
comp=Z,21nm,1.0s,SNR=10.0
MOTA Moosalm 126.46 327 *i P* PKPdf 14 54 02.8 0.0
SQTA Sankt Quirin 126.48 327⇓*i P* PKPdf 14 54 03.0 +0.1
comp=Z,19nm,1.0s
STU Stuttgart 126.56 330 *ePKPdf* PKPdf 14 54 03.3 +0.3
STU *ep*PKPdf pPKPdf 14 54 11.6 +0.1
STU Stuttgart 126.56 330 *ePKPdf* PKPdf 14 54 03.4 +0.4
EKA Eskdalemuir Ar 126.62 342 PKP PKPdf 14 54 03.0 -0.1
comp=Z,10.0nm,0.9s,baz=8.6,slow=2.6,SNR=13
HGN Heimansgroeve 126.76 333 *eP* PKPdf 14 54 03.2 -0.2
comp=Z,24nm,1.2s
MEM Membach 126.83 333 PKP PKPdf 14 54 03.6 +0.1
DAVA Damuels 127.15 328⇑*i P* PKPdf 14 54 04.3 +0.1
comp=Z,24nm,0.9s
DAVA Damuels 127.15 328⇑*i P* PKPdf 14 54 04.2 +0.1
BFO Black Forest 127.28 330 *ePKPdf* PKPdf 14 54 03.8 -0.6
TIP Timpagrande 127.32 316 *ePKPdf* PKPdf 14 54 05.2 +0.8
WLF Walferdange 127.43 332 *ePKPdf* PKPdf 14 54 05.3 +0.6
WLF *ep*PKPdf pPKPdf 14 54 14.1 +1.0
WLF Walferdange 127.43 332 PKP PKPdf 14 54 05.6 +1.0
WLF APKP 14 54 14.2
SNF Seneffe 127.67 334 PKP PKPdf 14 54 05.5 +0.4
SNF APKP 14 54 14.5
GIVF Givet 127.73 333 *ePKIKP* PKPdf 14 54 05.1 -0.1
comp=Z,52nm,0.9s
CDF Champ du Feu 127.75 330 *ePKIKP* PKPdf 14 54 04.7 -0.6
comp=Z,35nm,1.2s
DOU Dourbes 127.83 333 PKP PKPdf 14 54 05.7 +0.3
DOU APKP 14 54 13.7
TSUM Tsumeb 128.03 240 *ePKPdf* PKPdf 14 54 07.2 +1.4
BAIF Baives 128.03 334 *ePKIKP* PKPdf 14 54 05.7 -0.1
comp=Z,39nm,1.1s
HINF Hinteralfeld 128.36 330 *ePKIKP* PKPdf 14 54 05.9 -0.5
comp=Z,71nm,1.2s
HAU Haudompre 128.48 330 *ePKIKP* PKPdf 14 54 06.3 -0.4
comp=Z,56nm,1.0s
MEZF Maizieres J'vi 128.76 332 *ePKIKP* PKPdf 14 54 07.3 +0.1
CABF La Chapelle 129.56 329 *ePKIKP* PKPdf 14 54 09.1 +0.4
comp=Z,111nm,1.3s
LPL La Plagne 129.96 328 *ePKIKP* PKPdf 14 54 09.7 +0.2
comp=Z,38nm,1.0s
LPG La Plagne 129.96 328 *ePKIKP* PKPdf 14 54 09.8 +0.3
comp=Z,24nm,0.8s
OTAV Otavalo 130.06 95 *ePKPdf* PKPdf 14 54 11.1 +1.5
LOR Lormes 130.20 331 *ePKIKP* PKPdf 14 54 09.8 -0.1
comp=Z,42nm,1.2s
BNI Bardonecchia 130.29 327 *ePKIKP* PKPdf 14 54 10.8 +0.7
MBDF Montbardon 130.45 327 *ePKIKP* PKPdf 14 54 10.3 -0.1
comp=Z,8.7nm,0.7s
SSF Saint Saulge 130.52 331 *ePKIKP* PKPdf 14 54 10.6 +0.1
comp=Z,33nm,1.0s
PGF Pioggiola 130.55 323 *ePKIKP* PKPdf 14 54 10.5 -0.1
comp=Z,142nm,1.3s
SBF Sospel 130.64 326 *ePKIKP* PKPdf 14 54 10.5 -0.3
comp=Z,72nm,1.0s
SMF Signal de Mont 130.66 331 *ePKIKP* PKPdf 14 54 10.5 -0.3
AVF Avril sur Loir 130.79 331 *ePKIKP* PKPdf 14 54 10.8 -0.2
LDF La Druitiere 131.00 335 *ePKIKP* PKPdf 14 54 11.3 -0.2
FLN La Foliniere 131.02 335 *ePKIKP* PKPdf 14 54 11.5 0.0
comp=Z,32nm,0.8s
BGF Bois d'Agland 131.20 331 *ePKIKP* PKPdf 14 54 12.1 +0.3
comp=Z,10nm,0.5s
FRF La Foret Royal 131.28 326 *ePKIKP* PKPdf 14 54 12.1 +0.1
GRR Gorron 131.47 335 *ePKIKP* PKPdf 14 54 12.3 0.0
comp=Z,23nm,0.7s
VIVF Saint-Julien-l 131.48 328 *ePKIKP* PKPdf 14 54 12.6 +0.2
comp=Z,47nm,1.3s
LMR La Mourre 131.50 326 *ePKIKP* PKPdf 14 54 12.3 -0.1
comp=Z,73nm,1.3s
SMRF Simiane la Rot 131.59 327 *ePKIKP* PKPdf 14 54 13.3 +0.7
comp=Z,33nm,0.9s
TCF Toulx Ste Croi 131.70 331 *ePKIKP* PKPdf 14 54 12.6 -0.2
comp=Z,24nm,1.1s
VSL Villasalto 132.09 320 *ePKPdf* PKPdf 14 54 13.5 0.0
LASF Ste Croix 132.44 328 *ePKIKP* PKPdf 14 54 14.7 +0.5
ROSF Rostrenen 132.48 337 *ePKIKP* PKPdf 14 54 13.6 -0.6
MFF Saint Martin d 132.55 333 *ePKIKP* PKPdf 14 54 14.5 +0.1
RJF Les Rejaudoux 132.75 331 *ePKIKP* PKPdf 14 54 15.6 +0.9
CAF Calviac 132.75 330 *ePKIKP* PKPdf 14 54 15.5 +0.7
QUIF Quistinic 132.78 337 *ePKIKP* PKPdf 14 54 14.6 -0.2
LFF La Frestale 133.39 331 *ePKIKP* PKPdf 14 54 16.9 +0.9
comp=Z,37nm,1.0s
MTLF Montolieu 133.81 329 *ePKIKP* PKPdf 14 54 16.6 -0.1
comp=Z,20nm,1.0s
ROSC El Rosal 134.60 89 PKP PKPdf 14 54 20.1 +1.8
comp=Z,6.9nm,0.5s,baz=96,slow=13,SNR=7.5
EMIR Miracle 135.17 328 PKP PKPdf 14 54 20.5 +1.2
LPAZ La Paz 135.22 120 PKP PKPdf 14 54 21.8 +2.4
comp=Z,7.7nm,0.9s,baz=349,slow=2.1,SNR=14
LPAZ La Paz 135.22 120 *ePKPdf* PKPdf 14 54 21.3 +1.9
EBIE Bielsa 135.34 330 PKP PKPdf 14 54 20.8 +1.2
ETSF Etsaut 135.53 330 *ePKIKP* PKPdf 14 54 20.4 +0.4
comp=Z,34nm,1.0s
SJPF Ste Jean 135.69 331 *ePKIKP* PKPdf 14 54 20.6 +0.3
comp=Z,25nm,0.9s
EALK Alkurruntz 135.75 331 PKP PKPdf 14 54 21.3 +0.9
EPOB Poblet 135.81 328 PKP PKPdf 14 54 20.4 0.0
ETOS Mallorca 135.93 325 PKP PKPdf 14 54 21.6 +0.9
ESAC San Caprasio 136.35 329 PKP PKPdf 14 54 22.5 +1.0
ERTA Horta de San J 136.48 328 PKP PKPdf 14 54 22.3 +0.5
ELAN Lanestosa 136.63 333 PKP PKPdf 14 54 21.4 -0.6
EMOS Mosqueruela 137.34 328 PKP PKPdf 14 54 24.4 +1.1
EARI Arriondas 137.36 335 PKP PKPdf 14 54 25.1 +1.8
CPUP Villa Florida 137.63 140 PKP PKPdf 14 54 25.1 +1.2
comp=Z,3.4nm,0.7s,baz=217,slow=3.5,SNR=6.8
CPUP Villa Florida 137.63 140 *ePKPdf* PKPdf 14 54 24.6 +0.8
ECHE Chera 138.16 327 PKP PKPdf 14 54 25.9 +1.1
SDV Santo Domingo 138.35 83 *ePKPdf* PKPdf 14 54 26.1 +0.9
GUD Guadarrama 138.99 331 PKP PKPdf 14 54 27.4 +1.0
ETOB Tobarra 139.15 327 PKP PKPdf 14 54 27.1 +0.4
PBRG Braganca 139.23 335 *ePKP* PKPdf 14 54 29.7 +2.9
EMUR La Murta 139.55 326 PKP PKPdf 14 54 27.8 +0.4
ESDC Sonseca Array 139.64 330 PKhKP 14 54 22.2
comp=Z,0.4nm,0.4s,baz=29,slow=3.5,SNR=2.6
ESDC PKP PKPdf 14 54 27.0 -0.5
comp=Z,0.2nm,0.3s,baz=16,slow=2.9,SNR=7.5
ESDC PP PP 14 57 22.2 -0.6
comp=Z,2.8nm,1.0s,baz=29,slow=7.2,SNR=7.2
ESDC Sonseca Array 139.64 330 PKP PKPdf 14 54 22.2 -5.4
ESDC PKP PKPdf 14 54 27.0 -0.5
ESDC PKP PKPdf 14 54 28.6 +1.0
ESDC PP PP 14 57 22.2 -0.6
EVIA Vianos 139.67 328 PKP PKPdf 14 54 30.6 +3.0
ELOB Lobios 139.73 336 PKP PKPdf 14 54 27.9 +0.2
PVRL Vila Real 140.08 335 *ePKP* PKPdf 14 54 29.3 +0.9
PVIS Viseu 140.62 335 *ePKP* PKPdf 14 54 28.5 -0.8
MTE Manteigas 140.73 334 *ePKP* PKPdf 14 54 30.4 +0.9
MTE Manteigas 140.73 334 *ePKPdf* PKPdf 14 54 30.2 +0.7
EADA Adamuz 141.10 329 PKP PKPdf 14 54 30.3 +0.1
EBER Berja 141.14 326 PKP PKPdf 14 54 30.6 +0.3
ERON Agron 141.56 327 PKP PKPdf 14 54 32.1 +1.1
ECAB El Cabril 141.60 330 PKP PKPdf 14 54 33.4 +2.3
EBAD Badajoz 141.83 332 PKP PKPdf 14 54 31.1 -0.3
EMIN Mina Concepcio 142.45 331 PKP PKPdf 14 54 33.7 +1.1
SAML Samuel 142.62 113 *ePKPpre* 14 54 29.2
ESPR Espera 142.75 329 PKP PKPdf 14 54 31.4 -1.8

PBEJ Beja 142.81 332 *e*PKP PKPdf 14 54 34.1 +0.8
MDT Midelt 145.04 323 PKPbc PKPbc 14 54 37.0 +0.5
comp=Z,8.0nm,0.8s,baz=33,slow=3.0,SNR=6.3
TORD Torodi Ar. Bea 149.17 286 PKP PKPdf 14 54 44.8 +0.7
comp=Z,71nm,0.9s,baz=39,slow=1.5,SNR=25
TORD PKPbc PKPbc 14 54 48.8 +0.5
comp=Z,70nm,0.9s,baz=12,slow=1.5,SNR=123
BDFB Brasilia 151.32 138 PKPbc PKPbc 14 54 54.2 +0.8
comp=Z,29nm,0.7s,baz=218,slow=1.8,SNR=31
DBIC Dimbokro 156.26 273 PKP PKPdf 14 54 55.4 +1.0
comp=Z,4.8nm,1.1s,baz=99,slow=6.2,SNR=2.8
DBIC PKPab PKPab 14 55 22.6 +0.2
comp=Z,15nm,1.0s,baz=52,slow=5.3,SNR=8.3
DBIC Dimbokro 156.26 273 *e*PKIKP PKPdf 14 54 54.5 +0.1
DBIC Dimbokro 156.26 273 PKPdf PKPdf 14 54 54.5 0.0
LIC Lamto 156.43 272 *e*PKIKP PKPdf 14 54 54.5 -0.1
comp=Z,38nm,1.2s

MOS ***20*** *14:38:28.2±1.9, 4581N×15190E, h48km, mb4.6/5, Error ellipse: s-maj=20.1km s-min=14.1km az=48.7*
SKHL ***20*** *14:38:38.3±1.1, 4540N×15090E, h33km, mb5.0/3*
NEIC ***20*** *14:38:42.7±3.3, 4566N×15058E, h135km±27km, mb4.3/1, Error ellipse: s-maj=35.7km s-min=16.6km az=96.0*
JMA ***20*** *14:38:43.5±0.5, 4500N×15061E, h127km, M4.2*
IDC ***20*** *14:38:43.4±4.2, 4583N×15054E, h134km±36km, mb3.5/8, mb1 3.6/9, mb1mx3.4/22, mbtmp3.9/9, Error ellipse: s-maj=32.5km s-min=25.0km az=105.0*
ISCJB ***20*** *14:38:44.7±1.1, 4534N±008×1502E±01, h177km±9km, mb3.6/9, Error ellipse: s-maj=18.8km s-min=8.3km az=69.1*

ISC 20 14:38:45.0±1.2, 4535N±007×1502E±02, h168km±10km, n38, σ1§34/50, mb3.6/9, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.68**	**267**	⇓*iP*	**Pn**	**14 39 12.5**	**-5.3**
KUR				⇓*iP*		14 39 12.5	
KUR				AMB	AMB	14 39 13.2	
	1μm,0.6s						
KUR				AMB	AMB	14 39 13.2	
	400nm,0.6s						
KUR				AMB	AMB	14 39 13.2	
	1μm,0.6s						
KUR				*i* S	**Sn**	**14 39 39.0**	**-4.0**
KUR				A		14 39 39.6	
	2μm,0.6s						
KUR				A		14 39 39.6	
	4μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.39**	**249**	*e*P	**Pn**	**14 39 37.6**	**-0.3**
YUK				AMB	AMB	14 39 37.9	
	530nm,0.4s						
YUK				*e*S	**Sn**	**14 40 21.3**	**+2.2**
YUK				A		14 40 22.8	
	230nm,0.4s						
YUK				A		14 40 22.8	
	440nm,0.4s						
NEM2	**Nemuro 2**	**3.79**	**240**	P	**Pn**	**14 39 41.9**	**-1.1**
NEM2				*e*S	**Sn**	**14 40 27.6**	**-0.6**
JRA	**Rausu**	**3.92**	**251**	P	**Pn**	**14 39 45.4**	**+0.8**
JNK	**Nakash**	**4.33**	**248**	P	**Pn**	**14 39 50.8**	**+0.8**
JAK	**Akkeshi**	**4.63**	**241**	P	**Pn**	**14 39 53.0**	**-0.9**
JAK				*e*S	**Sn**	**14 40 48.1**	**+0.4**
JTKR	**Abashiri--Toko**	**4.73**	**255**	P	**Pn**	**14 39 56.0**	**+0.9**
JAR	**Ashorobuto**	**5.08**	**248**	P	**Pn**	**14 40 00.8**	**+1.1**
JOB	**Onbets**	**5.22**	**244**	P	**Pn**	**14 40 01.8**	**+0.2**
JOB				*e*S	**Sn**	**14 41 02.6**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.44**	**290**	⇓*e*P	**Pn**	**14 40 04.3**	**-0.2**
YSS				AMB	AMB	14 40 05.1	
	20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.44**	**290**	*e*P	**Pn**	**14 40 04.0**	**-0.5**
JKK2	**Kamakawa 2**	**5.55**	**257**	P	**Pn**	**14 40 07.6**	**+1.7**
ASAJ	**Asahikawa**	**5.59**	**260**	P	**Pn**	**14 40 08.2**	**+1.8**
	1.5nm,0.3s,baz=270,slow=28,SNR=10						
ASAJ	**Asahikawa**	**5.59**	**260**	PN	**Pn**	**14 40 08.2**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**5.67**	**244**	P	**Pn**	**14 40 07.7**	**+0.3**
JCH				*e*S	**Sn**	**14 41 12.1**	**0.0**
JNBK	**Urakawa-nobuka**	**6.23**	**243**	P	**Pn**	**14 40 15.0**	**+0.2**
JNBK				*e*S	**Sn**	**14 41 24.6**	**-0.8**
JBT2	**Biratori 2**	**6.23**	**248**	P	**Pn**	**14 40 15.9**	**+1.0**
JNB	**Noboribetsu**	**7.25**	**250**	P	**Pn**	**14 40 29.5**	**+1.2**
JNB				*e*S	**Sn**	**14 41 50.7**	**+1.1**
TYV	**Tymovskoe**	**7.49**	**320**	*e*P	**Pn**	**14 40 28.5**	**-3.1**
JKB	**Kayabe**	**7.53**	**246**	*e*S	**Sn**	**14 41 55.1**	**-1.3**
JTM	**Tenmabayashi**	**8.12**	**239**	P	**Pn**	**14 40 39.8**	**0.0**
JTM				*e*S	**Sn**	**14 42 07.5**	**-3.0**
OFUJ	**Ofunato**	**8.93**	**228**	P	**Pn**	**14 40 49.9**	**-0.6**
OFUJ				*e*S	**Sn**	**14 42 28.5**	**-1.4**
JRG	**Rokugo**	**9.27**	**233**	P	**Pn**	**14 40 55.3**	**+0.3**
JRG				*e*S	**Sn**	**14 42 35.8**	**-2.3**
JIO	**Ouri**	**9.56**	**227**	P	**Pn**	**14 40 58.6**	**-0.2**
JIO				*e*S	**Sn**	**14 42 42.7**	**-2.4**
JFK	**Kawauchi**	**10.63**	**225**	*e*S	**Sn**	**14 43 09.8**	**-1.1**
MAJO	**Matsushiro**	**12.65**	**230**	*e*P	**Pn**	**14 41 41.6**	**+2.6**
MKAR	**Makanchi Array**	**45.81**	**297**	P	**P**	**14 46 52.0**	**+2.0**
	comp=Z,0.4nm,0.7s,mb3.2,baz=76,slow=6.0,SNR=3.4						
MKAR	**Makanchi Array**	**45.81**	**297**	P	**P**	**14 46 52.0**	**+2.0**
YKA	**Yellowknife Ar**	**53.23**	**35**	P	**P**	**14 47 43.9**	**-2.2**
	comp=Z,0.8nm,0.6s,mb3.6,baz=297,slow=6.9,SNR=9.0						
FINES	**FINESS Array B**	**64.43**	**334**	P	**P**	**14 49 01.5**	**-1.8**
	comp=Z,0.7nm,0.7s,mb3.6,baz=27,slow=9.4,SNR=5.0						
WRAB	**Tennant Creek**	**66.56**	**196**	*e*P	**P**	**14 49 19.8**	**+2.8**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**66.56**	**196**	*e*P	**P**	**14 49 19.8**	**+2.8**
	comp=Z,3.5nm,0.8s,mb4.2						
NB2	**NORSAR Subarra**	**68.88**	**340**	P	**P**	**14 49 30.4**	**-1.1**
	comp=Z,1.3nm,0.5s,mb3.9,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.88**	**340**	P	**P**	**14 49 30.9**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.0,baz=28,slow=6.3,SNR=5.3						
ASAR	**Alice Springs**	**70.28**	**196**	P	**P**	**14 49 45.0**	**+5.0**
	comp=Z,0.3nm,0.8s,mb3.1,baz=14,slow=6.5,SNR=5.8						
AKASG	**Malin Array Be**	**71.57**	**325**	P	**P**	**14 49 47.3**	**-0.5**
	comp=Z,0.7nm,0.3s,mb3.8,baz=36,slow=6.0,SNR=5.7						
EKA	**Eskdalemuir Ar**	**77.19**	**345**	P	**P**	**14 50 20.1**	**-0.2**
	comp=Z,0.5nm,0.3s,mb3.6,baz=8.9,slow=5.0,SNR=4.5						
GERES	**GERESS Array B**	**78.80**	**332**	P	**P**	**14 50 29.7**	**+0.6**
	comp=Z,1.2nm,0.7s,mb3.6,baz=42,slow=4.2,SNR=4.5						

ISCJB ***20*** *14:45:19.4±1.2, 1950N±004×7783W±008, h52km±36km, Error ellipse: s-maj=12.7km s-min=6.6km az=0.3*
JSN ***20*** *14:45:19.5±0.7, 1948N×7779W, h8km±12km, MD3.3*
SSNC ***20*** *14:45:19.9, 1946N×7791W, h49km, MD3.0, ML2.4*

ISC 20 14:45:19.5±3.0, 1950N±004×7783W±009, h29km±30km, n8, σ0§49/14, 3C-3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.96**	**54**	⇑*iP*	**Pn**	**14 45 37.4**	**+0.4**
LMGC				*i* S	**Sn**	**14 45 49.8**	**+0.2**
	comp=N,502nm,0.1s						
LMGC				*i*			
	comp=E,512nm,0.1s						
MBJ	**Montego Bay**	**1.09**	**181**	⇓*iP*	**Pn**	**14 45 37.7**	**-1.2**
BBJ	**Bamboo Saint A**	**1.24**	**154**	⇓*e*P	**Pn**	**14 45 40.7**	**-0.1**
CCCC	**Cccc**	**1.69**	**2**	*e*P	**Pn**	**14 45 46.9**	**-0.1**
CCCC				*e*S	**Sn**	**14 46 07.8**	**+0.1**
	comp=N,1.5nm,0.2s						
CCCC				*e*			
	comp=E,1.7nm,0.2s						
STH	**Stony Hill**	**1.72**	**145**	⇑*iP*	**Pn**	**14 45 47.2**	**-0.2**
STH				*i* S	**Sn**	**14 46 08.1**	**-0.3**
PCJ	**Portland Cotta**	**1.87**	**160**	⇑*iP*	**Pn**	**14 45 50.0**	**+0.5**
PCJ				*e*S	**Sn**	**14 46 12.6**	**+0.6**
CMJ	**Castle Mountai**	**1.94**	**134**	⇓*e*P	**Pn**	**14 45 50.8**	**+0.3**
CMJ				*e*S	**Sn**	**14 46 14.1**	**+0.2**
RCC	**Rio Carpintero**	**2.07**	**76**	*e*P	**Pn**	**14 45 52.5**	**+0.2**
RCC				*e*S	**Sn**	**14 46 16.2**	**-0.9**
	comp=N,82nm,0.1s						
RCC				*e*			
	comp=E,86nm,0.1s						

IDC 20 14:49:17.0±65.0, 2017S×17873W, h662km±378km, mb3.1/5, mb1 3.3/6, mb1mx3.1/16, mbtmp4.3/6, Error ellipse: s-maj=767.3km s-min=88.6km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.96**	**260**	P	P	14 52 14.9	+1.6
	1.0nm,0.3s,baz=88,slow=21,SNR=24						
CTA	**Charters Tower**	**32.84**	**264**	*e*P	P	14 54 59.8	+0.4
	7.6nm,1.4s						
CTA	**Charters Tower**	**32.84**	**264**	P	P	14 54 60.0	+0.5
	2.6nm,0.4s,baz=88,slow=13,SNR=8.3						
STKA	**Stephens Creek**	**37.32**	**244**	*e*P	P	14 55 35.8	-0.4
	1.0nm,0.3s						
STKA	**Stephens Creek**	**37.32**	**244**	P	P	14 55 36.2	0.0
	1.2nm,0.3s,baz=111,slow=8.6,SNR=9.5						
ASAR	**Alice Springs**	**43.92**	**256**	P	P	14 56 28.9	+0.8
	2.1nm,0.4s,baz=85,slow=8.1,SNR=85						
ASPA	**Alice Springs**	**43.93**	**256**	*e*P	P	14 56 28.9	+0.7
WB2	**Warramunga Arr**	**43.95**	**262**	*e*P	P	14 56 28.4	0.0
WRA	**Warramunga Arr**	**43.97**	**262**	P	P	14 56 28.5	+0.1
	2.6nm,0.4s,baz=98,slow=8.0,SNR=42						
FITZ	**Fitzroy Crossi**	**52.39**	**262**	*e*P	P	14 57 31.0	+0.6
	3.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.39**	**262**	P	P	14 57 31.1	+0.7
	1.0nm,0.4s,baz=112,slow=5.5,SNR=11						

IDC 20 14:58:21.0±5.4, 558S×15112E, h47km±48km, mb3.5/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.7/5, ML2.8/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/16, Error ellipse: s-maj=105.4km s-min=33.3km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.46**	**226**	P	Pn	14 59 40.8	+0.9
	2.0nm,0.3s,baz=43,slow=9.5,SNR=13						
PMG				S	Sn	15 00 38.5	-2.9
	4.1nm,0.3s,baz=115,slow=19,SNR=8.3						
WB2	**Warramunga Arr**	**21.67**	**227**	*e*P	P	15 03 07.1	-0.5
WRA	**Warramunga Arr**	**21.68**	**227**	P	P	15 03 07.3	-0.4
	1.2nm,0.4s,baz=52,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.46**	**221**	P	P	15 03 35.3	-0.1
	1.6nm,0.7s,baz=56,slow=9.1,SNR=24						
ASPA	**Alice Springs**	**24.46**	**221**	*e*P	P	15 03 35.7	+0.3
FITZ	**Fitzroy Crossi**	**27.82**	**241**	*e*P	P	15 04 06.2	+0.5
	3.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.82**	**241**	P	P	15 04 06.3	+0.6
	1.7nm,0.7s,baz=76,slow=7.2,SNR=5.7						
RPZ	**Rata Peaks**	**41.84**	**158**	LR	LR	15 19 59.0	
	comp=Z,138nm,18.8s,baz=197,slow=31						
ILAR	**Eielson Array**	**83.51**	**22**	P	P	15 10 43.2	-0.6
	0.2nm,0.6s,baz=246,slow=5.6,SNR=7.4						
TORD	**Torodi Ar. Bea**	**148.94**	**286**	PKPbc	PKPbc	15 18 05.2	+1.6
	0.4nm,0.5s,baz=59,slow=2.7,SNR=4.8						

IDC 20 15:03:41.2±9.0, 543S×15076E, h60km±65km, mb3.0/2, mb1 3.4/3, mb1mx3.2/14, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=124.0km s-min=55.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**222**	P	Pn	15 04 59.0	+0.9
	2.0nm,0.3s,baz=32,slow=9.7,SNR=8.8						
PMG				S	Sn	15 05 58.7	+0.6
	5.4nm,0.3s,baz=350,slow=22,SNR=7.7						
WRA	**Warramunga Arr**	**21.52**	**226**	P	P	15 08 25.8	+0.6
	0.7nm,0.6s,baz=53,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**24.34**	**220**	P	P	15 08 53.4	+0.1
	0.6nm,0.6s,baz=57,slow=9.0,SNR=13						
TORD	**Torodi Ar. Bea**	**148.55**	**286**	PKPbc	PKPbc	15 23 21.8	+0.5
	0.6nm,0.8s,baz=99,slow=1.9,SNR=4.6						

IDC 20 15:06:46.2±18.0, 4619N×15178E, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.6/22, mbtmp4.0/5, Error ellipse: s-maj=428.1km s-min=197.5km az=162.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**64.15**	**334**	P	P	15 17 22.2	-0.3
	1.4nm,0.9s,baz=19,slow=8.8,SNR=7.7						
NOA	**NORSAR Array B**	**68.45**	**341**	P	P	15 17 49.6	-0.4
	0.4nm,0.4s,baz=28,slow=6.4,SNR=2.5						
HFS	**Hagfors**	**68.65**	**339**	P	P	15 17 50.5	-0.8
	1.5nm,0.6s,baz=47,slow=6.9,SNR=7.8						
AKASG	**Malin Array Be**	**71.49**	**326**	P	P	15 18 08.3	-0.4
	1.2nm,0.4s,baz=33,slow=6.4,SNR=6.8						
EKA	**Eskdalemuir Ar**	**76.66**	**346**	P	P	15 18 38.8	-0.1
	0.8nm,0.5s,baz=11,slow=5.1,SNR=3.8						

ISCJB ***20*** *15:26:03.6±3.9, 57S±01×15122E±009, h23km±28km, mb4.2/15, MS3.4/2, Error ellipse: s-maj=20.8km s-min=9.8km az=97.1*
NEIC ***20*** *15:26:06.3±0.5, 530S×15087E, h25km, mb4.5/4, Error ellipse: s-maj=16.3km s-min=9.5km az=129.0*
MOS ***20*** *15:26:06.2±1.3, 537S×15089E, h33km, mb4.6/2, Error ellipse: s-maj=18.5km s-min=11.1km az=59.9*
BJI ***20*** *15:26:06.3, 530S×15090E, h25km, mB5.2, mb4.8, Ms4.4, Msz4.0*
IDC ***20*** *15:26:08.8±2.5, 585S×15122E, h53km±22km, mb3.9/12, mb1 4.2/14, mb1mx4.2/18, mbtmp4.3/14, ML4.4/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/30, Error ellipse: s-maj=20.3km s-min=11.6km az=140.0*

ISC 20 15:26:08.1±1.8, 57S±01×15122E±009, h48km±17km, n42, σ1§09/36, mb4.2/15, MS3.4/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.43**	**228**	P	**Pn**	**15 27 27.1**	**+0.6**
	44nm,0.3s,baz=52,slow=6.9,SNR=120						
PMG				S	**Sn**	**15 28 27.4**	**-0.3**
	31nm,0.3s,baz=91,slow=12,SNR=11						
PMG	**Port Moresby**	**5.43**	**228**	*e*P	**Pn**	**15 27 27.0**	**+0.5**
PMG				*e*		15 28 27.0	
PMG				pmax	pmax		
	comp=Z,86nm,0.3s						
PMG	**Port Moresby**	**5.43**	**228**	*e*Pn	**Pn**	**15 27 27.0**	**+0.5**
	comp=Z,86nm,0.3s						
PMG				*e*Sn	**Sn**	**15 28 27.0**	**-0.7**
HNR	**Honiara**	**9.40**	**114**	P	**Pn**	**15 28 22.0**	**+1.2**
	comp=Z,7.3nm,0.3s,baz=264,slow=3.3,SNR=4.9						
HNR	**Honiara**	**9.40**	**114**	*e*P	**Pn**	**15 28 28.4**	**+7.6**
HNR				pmax	pmax		
	comp=Z,32nm,0.6s						
HNR	**Honiara**	**9.40**	**114**	*e*Pn	**Pn**	**15 28 28.4**	**+7.6**
	comp=Z,32nm,0.6s						
CTA	**Charters Tower**	**15.06**	**198**	P	**Pn**	**15 29 43.2**	**+5.5**
	comp=Z,0.3nm,0.3s,baz=21,slow=15,SNR=4.0						
CTA				LR	LR	15 34 46.6	
	comp=Z,177nm,20.7s,baz=135,slow=35						
CTAO	**Charters Tower**	**15.06**	**198**	*e*P	**Pn**	**15 29 43.0**	**+5.3**
KAKA	**Kakadu**	**19.78**	**248**	*e*P	**Pn**	**15 30 35.1**	**-1.0**
	comp=Z,14nm,0.6s						
GUMO	**Guam**	**20.21**	**342**	LR	LR	15 38 12.4	
	comp=Z,72nm,19.0s,MS3.0,baz=98,slow=36						
WRAB	**Tennant Creek**	**21.64**	**228**	*e*P	**P**	**15 30 54.4**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**21.64**	**228**	*e*P	**P**	**15 30 54.4**	**+0.1**
	comp=Z,14nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**21.64**	**228**	*e*P	**P**	**15 30 54.6**	**+0.2**
WRA	**Warramunga Arr**	**21.65**	**228**	P	**P**	**15 30 54.5**	**+0.1**
	comp=Z,5.3nm,0.6s,mb4.2,baz=52,slow=11,SNR=64						
WRA				S	**S**	**15 34 51.0**	**-0.5**
	comp=Z,2.9nm,1.1s,baz=54,slow=20,SNR=6.3						
WRA				PcP	PcP	15 34 55.4	+1.0
	comp=Z,2.5nm,0.8s,baz=45,slow=1.8,SNR=11						
DZM	**Mont Dzumac**	**21.92**	**139**	P	**P**	**15 30 56.0**	**-1.3**
	comp=Z,4.4nm,0.6s,mb4.0,baz=15,slow=12,SNR=12						
DZM				LR	LR	15 38 23.4	
	comp=Z,302nm,18.4s,MS3.7,baz=25,slow=34						
AS31	**Alice Springs**	**24.41**	**221**	*e*P	**P**	**15 31 23.2**	**+1.2**
ASAR	**Alice Springs**	**24.41**	**221**	P	**P**	**15 31 22.4**	**+0.5**
	comp=Z,4.5nm,0.6s,mb4.1,baz=57,slow=8.8,SNR=61						
ASPA	**Alice Springs**	**24.41**	**221**	*e*P	**P**	**15 31 23.2**	**+1.2**
STKA	**Stephens Creek**	**27.52**	**198**	P	**P**	**15 31 47.8**	**-2.3**
	comp=Z,4.8nm,1.0s,mb4.1,baz=13,slow=11,SNR=4.9						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	*e*P	**P**	**15 31 53.5**	**+0.6**
	comp=Z,6.7nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P	**P**	**15 31 53.5**	**+0.6**
	comp=Z,5.7nm,0.6s,mb4.4,baz=86,slow=6.0,SNR=17						
NJ2	**Nanjing**	**48.60**	**323**	*e*P	**P**	**15 34 44.1**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
SONM	**Songino Array**	**66.29**	**329**	P	**P**	**15 36 52.7**	**+1.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=140,slow=5.6,SNR=8.0						
MKAR	**Makanchi Array**	**80.00**	**319**	P	**P**	**15 38 13.2**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.4,baz=91,slow=6.8,SNR=3.5						
ZAL	**Zalesovo**	**81.07**	**327**	P	**P**	**15 38 17.4**	**-0.7**
	comp=Z,0.9nm,0.3s,mb4.1,baz=314,slow=3.5,SNR=3.7						
MCK	**McKinley**	**82.33**	**23**	*e*P	**P**	**15 38 24.2**	**-0.5**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
MCK	**McKinley**	**82.33**	**23**	*e*P	**P**	**15 38 24.2**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**83.61**	**22**	P	**P**	**15 38 30.0**	**-1.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=247,slow=5.3,SNR=37						
INK	**Inuvik**	**89.89**	**21**	P	**P**	**15 39 01.9**	**0.0**
	comp=Z,1.3nm,0.9s,mb4.3,baz=228,slow=1.2,SNR=4.6						
INK	**Inuvik**	**89.89**	**21**	P	**P**	**15 39 01.9**	**0.0**
NVAR	**Mina Array Bea**	**93.89**	**52**	P	**P**	**15 39 22.8**	**+2.3**
	comp=Z,1.6nm,0.7s,mb4.6,baz=259,slow=3.9,SNR=9.8						
NVAR	**Mina Array Bea**	**93.89**	**52**	P	**P**	**15 39 22.8**	**+2.3**
YKA	**Yellowknife Ar**	**96.98**	**28**	P	**P**	**15 39 34.5**	**0.0**
	comp=Z,0.1nm,0.5s,mb3.5,baz=279,slow=4.8,SNR=4.7						
YKA	**Yellowknife Ar**	**96.98**	**28**	P	**P**	**15 39 34.5**	**0.0**
PDAR	**Pinedale Array**	**100.64**	**48**	P	Pdif	15 39 52.1	+1.2
	comp=Z,0.5nm,0.9s,baz=249,slow=2.4,SNR=5.3						
ARCES	**ARCESS Array B**	**107.29**	**343**	PKiKP	PKiKP	15 44 29.0	-0.2
	comp=Z,5.0nm,1.0s,baz=71,slow=2.4,SNR=7.9						
KHC	**Kasperske Hory**	**123.91**	**328**	*e*PKPdf	PKPdf	15 44 58.0	-2.8
GERES	**GERESS Array B**	**124.01**	**327**	PKP	PKPdf	15 45 01.8	+0.8
	comp=Z,1.7nm,0.6s,baz=70,slow=1.8,SNR=12						
LPAZ	**La Paz**	**135.34**	**120**	PKP	PKPdf	15 45 25.2	+2.6
	comp=Z,1.2nm,0.7s,baz=180,slow=5.1,SNR=5.2						
LPAZ	**La Paz**	**135.34**	**120**	PKP	PKPdf	15 45 25.2	+2.6
TORD	**Torodi Ar. Bea**	**149.08**	**286**	PKPbc	PKPbc	15 45 52.3	+1.3
	comp=Z,8.9nm,0.7s,baz=68,slow=2.8,SNR=63						
BDFB	**Brasilia**	**151.47**	**138**	PKPbc	PKPbc	15 45 58.1	+1.4
	comp=Z,3.5nm,0.5s,baz=301,slow=5.4,SNR=3.1						
BDFB				PKPab	PKPab	15 46 06.4	+1.2
	comp=Z,5.2nm,0.9s,baz=191,slow=10,SNR=3.1						

IDC 20 15:33:36.8±7.2, 1793S×17541W, h43km±46km, mb3.4/3, mb1 3.7/4, mb1mx3.5/15, mbtmp3.7/4, ML1.4/1, Error ellipse: s-maj=272.8km s-min=26.0km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.31**	**42**	P	Pn	15 34 55.5	+2.0
	0.8nm,0.3s,baz=119,slow=19,SNR=4.1						
AFI				S	Sn	15 35 53.2	-0.2
	1.7nm,0.3s,baz=38,slow=19,SNR=3.6						
DZM	**Mont Dzumac**	**17.54**	**253**	P	Pn	15 37 45.1	+7.0
	0.2nm,0.3s,baz=78,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**47.44**	**259**	P	P	15 42 07.4	+0.3
	0.6nm,0.5s,baz=97,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**47.53**	**254**	P	P	15 42 08.0	+0.1
	0.9nm,0.7s,baz=92,slow=8.1,SNR=13						
ILAR	**Eielson Array**	**85.29**	**12**	P	P	15 46 08.9	-0.2
	0.4nm,0.9s,baz=215,slow=7.7,SNR=5.3						

WEL 20 15:43:11.5±0.3, 3856S×17580E, h150km±2km, ML3.5/14, 5C, Error ellipse: s-maj=2.5km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.58**	**209**	PN	Pn	15 43 33.3	+0.1
WPVZ	**Whakapapa**	**0.67**	**197**	⇑PN	Pn	15 43 34.1	+0.3
TUVZ	**Tukino**	**0.72**	**189**	PN	Pn	15 43 34.5	+0.4
TUVZ				SN	Sn	15 43 51.9	+0.7
FWVZ	**Far West T-bar**	**0.72**	**195**	PN	Pn	15 43 33.8	-0.3
WNVZ	**Wahianoa**	**0.78**	**192**	PN	Pn	15 43 34.8	+0.3
PKVZ	**Pokaka**	**0.81**	**206**	PN	Pn	15 43 34.6	-0.1
BKZ	**Black Stump Fm**	**0.81**	**138**	⇑PN	Pn	15 43 35.1	+0.4
BKZ				SN	Sn	15 43 52.1	-0.3
MOVZ	**Moawhango**	**0.85**	**182**	⇑PN	Pn	15 43 34.9	0.0
MTVZ	**Mangateitei**	**0.86**	**197**	PN	Pn	15 43 34.1	-1.0
URZ	**Urewera**	**1.07**	**74**	PN	Pn	15 43 36.8	0.0
URZ				SN	Sn	15 43 55.6	-0.6
WAZ	**Wanganui**	**1.35**	**208**	PN	Pn	15 43 39.1	-0.4
WAZ				SN	Sn	15 44 00.6	-0.2
MWZ	**Matawai**	**1.38**	**81**	PN	Pn	15 43 40.1	+0.4
MWZ				SN	Sn	15 44 01.2	-0.1
TSZ	**Takapari Road**	**1.50**	**175**	⇑PN	Pn	15 43 40.7	-0.3
TSZ				SN	Sn	15 44 03.8	+0.1
KNZ	**Kokohu**	**1.54**	**108**	PN	Pn	15 43 42.1	+0.7
PXZ	**Pawanui**	**1.69**	**151**	⇑PN	Pn	15 43 43.0	0.0
PUZ	**Puketiti**	**1.99**	**77**	PN	P

3.3nm,0.5s,mb4.2
FITZ Fitzroy Crossi 27.89 241 P **P 16 05 09.9 +0.1**
1.8nm,0.5s,mb4.0,baz=84,slow=6.8,SNR=8.1
ILAR Eielson Array 83.52 22 P **P 16 11 46.8 -0.3**
0.3nm,0.5s,mb3.6,baz=246,slow=5.3,SNR=9.3
QSPA South Pole Qui 84.33 180 *e*P **P 16 11 50.4 -0.8**
GERES GERESS Array B 123.93 327 PKP PKPdf 16 18 17.4 +0.4
0.3nm,0.5s,baz=48,slow=2.0,SNR=3.8
TORD Torodi Ar. Bea 149.05 286 PKPbc PKPbc 16 19 09.1 +2.0
1.0nm,0.6s,baz=63,slow=3.0,SNR=7.5

WEL 20 16:07:51.7±0.3,3850S×17601E,h150km±2km,ML3.5/15, 3C-1D,Error ellipse: s-maj=2.1km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.70**	**207**	PN	Pn	16 08 14.6	+0.3
WTVZ				SN	Sn	16 08 31.7	+0.3
TWVZ	**Taurewa**	**0.73**	**217**	PN	Pn	16 08 14.6	+0.2
BKZ	**Black Stump Fm**	**0.77**	**151**	⇑PN	Pn	16 08 15.2	+0.4
BKZ				SN	Sn	16 08 32.5	+0.2
WPVZ	**Whakapapa**	**0.80**	**207**	PN	Pn	16 08 15.2	+0.3
TUVZ	**Tukino**	**0.82**	**199**	PN	Pn	16 08 15.5	+0.4
TUVZ				SN	Sn	16 08 33.8	+0.9
FWVZ	**Far West T-bar**	**0.84**	**205**	PN	Pn	16 08 15.6	+0.4
WNVZ	**Wahianoa**	**0.89**	**201**	⇑PN	Pn	16 08 15.9	+0.3
URZ	**Urewera**	**0.90**	**75**	⇓PN	Pn	16 08 15.5	-0.2
URZ				SN	Sn	16 08 33.4	-0.5
HIZ	**Hauiti**	**0.90**	**268**	PN	Pn	16 08 15.6	-0.1
MOVZ	**Moawhango**	**0.93**	**192**	PN	Pn	16 08 15.8	-0.1
MOVZ				SN	Sn	16 08 33.5	-1.0
PKVZ	**Pokaka**	**0.95**	**213**	PN	Pn	16 08 16.1	0.0
MTVZ	**Mangateitei**	**0.98**	**205**	PN	Pn	16 08 16.4	0.0
VRZ	**Vera Road**	**1.16**	**237**	PN	Pn	16 08 17.8	-0.2
MWZ	**Matawai**	**1.21**	**83**	PN	Pn	16 08 18.5	+0.1
MWZ				SN	Sn	16 08 38.6	-0.1
KNZ	**Kokohu**	**1.41**	**112**	PN	Pn	16 08 20.8	+0.5
WAZ	**Wanganui**	**1.49**	**212**	PN	Pn	16 08 20.6	-0.6
TSZ	**Takapari Road**	**1.56**	**181**	⇑PN	Pn	16 08 21.6	-0.3
TSZ				SN	Sn	16 08 43.7	-1.4
PXZ	**Pawanui**	**1.67**	**157**	PN	Pn	16 08 23.2	0.0
PUZ	**Puketiti**	**1.82**	**77**	PN	Pn	16 08 24.3	-0.5
MXZ	**Matakaoa Point**	**2.04**	**64**	PN	Pn	16 08 26.8	-0.5
MRZ	**Mangatainoka R**	**2.19**	**189**	PN	Pn	16 08 27.5	-1.5
KIW	**Kapiti Island**	**2.51**	**199**	PN	Pn	16 08 30.8	-2.2
MTW	**Mount Morrison**	**2.69**	**188**	PN	Pn	16 08 32.7	-2.4
CAW	**Cannon Point**	**2.71**	**195**	PN	Pn	16 08 33.1	-2.3

IDC 20 16:10:29.9±2.0,531S×15094E,h0km,mb3.4/3,mb1 3.8/4, mb1mx3.5/13,mbtmp3.6/4,ML2.9/1,Error ellipse: s-maj=127.3km s-min=26.8km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**222**	Pn	Pn	16 11 55.9	+2.3
	2.6nm,0.3s,baz=56,slow=6.8,SNR=15						
PMG				Sn	Sn	16 12 55.5	-2.4
	2.2nm,0.3s,baz=59,slow=22,SNR=5.8						
WB2	**Warramunga Arr**	**21.73**	**227**	*e*P	P	16 15 22.3	-0.4
WRA	**Warramunga Arr**	**21.74**	**227**	P	P	16 15 22.4	-0.5
	0.6nm,0.5s,baz=52,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.55**	**220**	P	P	16 15 51.2	0.0
	0.4nm,0.4s,baz=56,slow=9.1,SNR=8.6						
ILAR	**Eielson Array**	**83.33**	**22**	P	P	16 22 58.6	-0.1
	0.4nm,0.7s,baz=249,slow=5.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.69**	**287**	PKPbc	PKPbc	16 30 19.8	+0.7
	0.7nm,0.9s,baz=65,slow=3.1,SNR=3.6						

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*IPEC **20** 16:46:06.1±0.1,5025N×1890E,h3km±1km,ML2.3/3,Error ellipse: s-maj=2.3km s-min=0.8km az=167.0*
*NEIC **20** 16:46:06.8±0.8,5024N×1883E,h5km,ML2.7(CLL), ML2.7(BRG),Error ellipse: s-maj=12.6km s-min=5.7km az=192.0*
*CSEM **20** 16:46:07.5±0.1,5020N×1884E,h2km,ML3.2/5,Error ellipse: s-maj=3.5km s-min=1.6km az=3.0*
*VIE **20** 16:46:10.9±0.7,4987N×1874E,h0km,mb2.2/3,ML2.6/3, Error ellipse: s-maj=4.4km s-min=3.9km az=10.0 35 km E of Ostrava Suspected Mining induced.*

WAR 20 16:46:06.5,5024N×1893E,ML2.7,1C-1D,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.50**	**252**	*e*Pg	Pg	16 46 16.7	+0.6
RAC				*e*Sg	Sg	16 46 24.3	+1.8
OJC	**Ojcow**	**0.56**	**92**	*e*Pgd	Pg	16 46 17.3	+0.1
OJC				*e*Sg	Sg	16 46 25.1	+0.7
OJC	**Ojcow**	**0.56**	**92**	*e*Pg	Pg	16 46 17.1	-0.1
OJC				*e*Sg	Sg	16 46 25.1	+0.7
OJC	**Ojcow**	**0.56**	**92**	*e*Pg	Pg	16 46 17.3	+0.1
OJC				*e*Sg	Sg	16 46 25.1	+0.7
OKC	**Ostrava-Krasne**	**0.65**	**232**	*e*PG	Pg	16 46 18.6	-0.3
OKC				*e*SG	Sg	16 46 27.9	+0.6
	40nm,0.5s						
OKC	**Ostrava-Krasne**	**0.65**	**232**	*e*Pg	Pg	16 46 18.7	-0.2
OKC				*e*Sg	Sg	16 46 26.3	-1.0
MORC	**Moravsky Berou**	**1.01**	**243**	*e*Pg	Pg	16 46 24.8	-1.0
MORC				*e*Sg	Sg	16 46 37.4	-1.5
	50nm,0.3s						
MORC	**Moravsky Berou**	**1.01**	**243**	*e*P	Pg	16 46 24.6	-1.2
MORC				*e*S	Sg	16 46 38.2	-0.7
NIE	**Niedzica**	**1.22**	**132**	*e*Pg	Pg	16 46 29.5	-0.3
NIE				*e*Sg	Sg	16 46 46.7	+1.2
DPC	**Dobruska-Polom**	**1.68**	**275**	*e*PG	Pn	16 46 35.8	-1.3
DPC				*e*SG	Sg	16 46 58.2	-2.2
	37nm,0.4s						
DPC	**Dobruska-Polom**	**1.68**	**275**	*e*Pn	Pn	16 46 35.7	-1.4
DPC	**Dobruska-Polom**	**1.68**	**275**	*e*Pg	Pg	16 46 35.8	-2.8
DPC				*e*Sg	Sg	16 46 58.1	-2.3
STHS	**Stebnicka Huta**	**1.71**	**118**	*e*PN	Pg	16 46 38.8	-0.5
STHS				*e*SN	Sg	16 47 04.4	+3.0
VYHS	**Vyhne**	**1.75**	**182**	*e*PN	Pn	16 46 36.8	-1.3
VYHS				*e*SN	Sn	16 47 00.3	-0.7
VRAC	**Vranov**	**1.78**	**239**	*e*Pn	Pn	16 46 37.8	-0.7
VRAC				*e*Sg	Sg	16 47 01.2	-2.5
	29nm,0.3s						
KSP	**Ksiaz**	**1.79**	**291**	*e*Pg	Pg	16 46 39.6	-1.2
KSP				*e*Sg	Sg	16 47 02.7	-1.3
UPC	**Upice**	**1.89**	**279**	*e*PG	Pg	16 46 40.0	-2.7
UPC				*e*SG	Sg	16 47 05.6	-1.6
SMOL	**Smolenice**	**1.99**	**210**	*e*PN	Pn	16 46 41.7	+0.4
KRUC	**Moravsky**	**2.03**	**235**	*e*Pn	Pn	16 46 40.8	-1.1
KECS	**Kecovo**	**2.03**	**149**	*e*SN	Sn	16 47 10.8	+2.8
KECS	**Kecovo**	**2.03**	**149**	*e*P	Pn	16 46 40.7	-1.2
KECS				*e*Sn	Sn	16 47 10.8	+2.8
CRVS	**Cervenica-Dubn**	**2.12**	**128**	*e*PG	Pg	16 46 45.8	-1.4
CRVS				*e*SN	Sg	16 47 15.5	+0.8
PSZ	**Piszkesteto**	**2.41**	**164**	*e*Pg	Pg	16 46 52.4	-0.3
KWP	**Kalwaria**	**2.52**	**103**	*e*Pn	Pn	16 46 50.6	+2.0
KWP				*e*Pg	Pg	16 46 55.8	+1.1
KWP				*e*Sn	Sg	16 47 28.5	+1.2
KWP	**Kalwaria**	**2.52**	**103**	*e*Pg	Pg	16 46 55.8	+1.1
KOLS	**Kolonicke sedl**	**2.54**	**120**	*e*PN	Pg	16 46 53.5	-1.6
KOLS				*e*		16 47 19.8	
PRU	**Pruhonice**	**2.84**	**267**	*e*SG	Sg	16 47 34.6	-3.1
	14nm,0.8s						
BRG	**Berggiesshubel**	**3.24**	**283**	*i* Pg	Pg	16 47 07.3	-1.4
BRG				Sg	Sg	16 47 48.8	-1.9
KHC	**Kasperske Hory**	**3.65**	**254**	*e*PN	Pn	16 47 02.5	-1.7
KHC				*e*PG	Pb	16 47 12.5	+0.7
KHC				*e*SG	Sg	16 47 59.8	-3.9
	16nm,0.4s						
KHC	**Kasperske Hory**	**3.65**	**254**	*e*Pg	Pb	16 47 12.5	+0.7
KHC				*e*Sg	Sg	16 47 59.8	-3.9
	16nm,0.4s						
MOA	**Molln**	**3.89**	**234**	⇓*i*Pn	Pn	16 47 07.6	+0.1
MOA				⇑*i*Sg	Sg	16 48 09.3	-2.2
	comp=Z,5.0nm,0.5s						
CLL	**Collm**	**3.91**	**288**	*i* Pg	Pb	16 47 17.4	+1.1
CLL				*e*Sg	Sg	16 48 11.0	-1.2
	comp=Z,9.0nm,0.7s						

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*ISCJB **20** 16:46:58.1±0.5,3999N×003×2263E×005,h10km±10km, Error ellipse: s-maj=6.4km s-min=4.6km az=165.3*
*CSEM **20** 16:46:58.9±0.2,3998N×2260E,h2km,ML2.6,Error ellipse: s-maj=5.5km s-min=3.7km az=80.0*
*THE **20** 16:46:58.7,3998N×2261E,h10km,ML2.6*
*ATH **20** 16:47:02.4,3972N×2268E,h10km,MD3.0/3*

ISC 20 16:46:58.7±0.6,3998N±003×2261E±005,h12km±9km,n12, σ1°08/18,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.16**	**324**	*e*Pg	**Pg**	**16 47 01.5**	**-0.8**
LIT				*e*Sg	**Sg**	**16 47 04.2**	**-0.7**
PLG	**Polygyros**	**0.75**	**58**	*e*PB	**Pb**	**16 47 18.7**	**+4.9**
XOR	**Xorichti**	**0.76**	**143**	*e*Pg	**Pg**	**16 47 12.4**	**-1.0**
XOR				*e*Sg	**Sg**	**16 47 24.5**	**+1.2**
NEO	**Neokhori**	**0.82**	**144**	*e*PB	**Pb**	**16 47 13.7**	**-1.2**
PAIG	**Paliouri**	**0.82**	**93**	*e*Pg	**Pg**	**16 47 14.9**	**+0.2**
AGG	**Agios Georgios**	**0.98**	**193**	*e*Pg	**Pg**	**16 47 16.9**	**-0.6**
AGG				*e*Sg	**Sg**	**16 47 31.9**	**+1.6**
GRG	**Griva**	**0.99**	**351**	*e*Pg	**Pg**	**16 47 17.5**	**-0.4**
OUR	**Ouranopolis**	**1.11**	**71**	*e*Pg	**Pg**	**16 47 20.0**	**-0.1**
KNT	**Kendrikon**	**1.21**	**10**	*e*Pg	**Pg**	**16 47 20.8**	**-1.1**
KNT				*e*Sg	**Sg**	**16 47 38.9**	**+1.3**
EVR	**Evrytania**	**1.23**	**211**	*e*PB	**Pb**	**16 47 22.1**	**+0.2**
FNA	**Florina**	**1.24**	**311**	*e*Pg	**Pg**	**16 47 21.9**	**-0.7**
FNA				*e*Sg	**Sg**	**16 47 40.9**	**+2.1**
SRS	**Serrai**	**1.36**	**33**	*e*Pg	**Pg**	**16 47 23.7**	**-1.2**
SRS				*e*Sg	**Sg**	**16 47 44.5**	**+1.8**

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*IDC **20** 16:58:42.6±1.7,1225N×8823W,h0km,mb4.0/5,mb1 4.1/6, mb1mx3.8/21,mbtmp4.0/6,ML3.4/1,MS3.0/1,Ms1 3.0/1, ms1mx2.6/31,Error ellipse: s-maj=72.1km s-min=21.0km az=56.0*
*ISCJB **20** 16:58:44.0±1.8,1201N±007×8848W±004,h25km±15km, mb4.1/9,Error ellipse: s-maj=11.8km s-min=5.9km az=5.1*
*CASC **20** 16:58:45.0±2.8,1211N×8835W,h8km±11km,MD4.4, mb4.1(NEIC)*
*NEIC **20** 16:58:49.2±2.4,1215N×8816W,h50km±21km,mb4.1/4, Error ellipse: s-maj=37.6km s-min=10.6km az=58.0*

ISC 20 16:58:43.6±1.8,1210N±007×8841W±004,h6km±14km,n40, σ1°02/44,mb4.1/9,5C-6D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.29**	**26**	*e*P	Px	16 59 24.4	
CNCH				*e*S	Sx	16 59 42.3	
VSM	**San Miguel**	**1.32**	**6**	⇑*e*P	Px	16 59 25.8	
VSM				*e*S	Sx	16 59 45.7	
CRIN	**San Cristobal**	**1.45**	**66**	⇓*e*P	**Pn**	**16 59 11.1**	**+0.7**
LEON	**Leon**	**1.51**	**78**	*e*P	**Pn**	**16 59 10.7**	**-0.5**
LEON				*e*S	**Sn**	**16 59 29.5**	**-1.7**
SNVI	**San Vicente**	**1.56**	**344**	*e*P	Px	16 59 30.6	
SNVI				*e*S	Sx	16 59 52.2	
TEL3	**Telica 3**	**1.60**	**73**	*e*P	**Pn**	**16 59 11.9**	**-0.5**
TEL3				*e*S	**Sn**	**16 59 33.1**	**-0.1**
TELN	**Telica**	**1.62**	**72**	*e*P	**Pn**	**16 59 12.5**	**-0.2**
TELN				*e*S	**Sn**	**16 59 34.8**	**+1.0**
LCBS	**La Ceiba**	**1.64**	**340**	⇑*e*P	Px	16 59 30.3	
LCBS				*e*S	Sx	16 59 54.1	
LFRS	**El Faro**	**1.64**	**337**	⇓*e*P	Px	16 59 30.3	
LFRS				*e*S	Sx	16 59 52.3	
MIRN	**Miramar**	**1.69**	**78**	*e*P	**Pn**	**16 59 12.8**	**-0.9**
MIRN				*e*S	**Sn**	**16 59 35.8**	**+0.2**
CNGN	**Cerro Negro**	**1.72**	**76**	*e*P	**Pn**	**16 59 14.1**	**+0.1**
CNGN				*e*S	**Sn**	**16 59 36.7**	**+0.5**
COPN	**Copaltepe**	**1.78**	**87**	⇓*e*P	**Pn**	**16 59 14.2**	**-0.6**
COPN				*e*S	**Sn**	**16 59 38.0**	**+0.3**
MOMJ	**Momotombo**	**1.85**	**80**	*e*P	**Pn**	**16 59 15.3**	**-0.5**
MOMJ				*e*S	**Sn**	**16 59 40.6**	**+1.1**
APYN	**Apoyeque**	**2.02**	**86**	⇑*e*P	**Pn**	**16 59 18.4**	**+0.3**
APYN				*e*S	**Sn**	**16 59 43.6**	**0.0**
XAVN	**Gruta Xavier**	**2.04**	**88**	*e*P	**Pn**	**16 59 18.4**	**0.0**
XAVN				*e*S	**Sn**	**16 59 43.4**	**-0.7**
SBLS	**San Blas**	**2.10**	**326**	*e*P	Px	16 59 37.6	
SBLS				*e*S	Sx	17 00 08.1	
SNJE	**San Jose**	**2.11**	**326**	⇑*e*P	Px	16 59 37.3	
SNJE				*e*S	Sx	17 00 03.5	
MGAN	**Managua**	**2.11**	**89**	*e*P	**Pn**	**16 59 19.1**	**-0.3**
MGAN				*e*S	**Sn**	**16 59 46.6**	**+0.6**
TICN	**Ticuantepe**	**2.13**	**92**	*e*P	**Pn**	**16 59 19.1**	**-0.5**
RTR	**El Retiro**	**2.15**	**326**	⇓*e*P	Px	16 59 37.8	
RTR				*e*S	Sx	17 00 03.8	
WILN	**Americas 2**	**2.17**	**88**	*e*P	**Pn**	**16 59 19.5**	**-0.7**
JTS	**JuntasAbangare**	**3.84**	**118**	Pn	**Pn**	**16 59 42.8**	**-0.4**
	2.8nm,0.3s,baz=311,slow=16,SNR=6.3						
JTS				Sn	**Sn**	**17 00 23.6**	**-5.0**
	2.5nm,0.3s,baz=163,slow=18,SNR=4.4						
JTS				LR	LR	17 01 17.4	
	comp=Z,200nm,21.5s,baz=324,slow=41						
JTS	**JuntasAbangare**	**3.84**	**118**	*e*P	**Pn**	**16 59 42.5**	**-0.6**
JTS				Sn	**Sn**	**17 00 23.6**	**-5.0**
JTS				LR	LR	17 01 17.4	
PRS1	**Puriscal**	**4.54**	**117**	⇓*e*P	**Pn**	**16 59 55.7**	**+2.9**
LAJ	**Bijagual**	**4.76**	**117**	*e*P	**Pn**	**16 59 53.1**	**-2.7**
LCR2	**La Lucha 2**	**4.92**	**118**	*e*P	**Pn**	**16 59 59.9**	**+1.9**
URSC	**Urasca**	**5.07**	**116**	⇓*e*P	**Pn**	**17 00 01.9**	**+1.7**
BUS	**Buena Vista**	**5.22**	**119**	⇑*e*P	**Pn**	**17 00 03.0**	**+0.8**
JCT	**Junction City**	**21.12**	**332**	*e*P	**P**	**17 03 31.1**	**+2.2**
	8.0nm,0.8s,mb4.1						
MIAR	**Mount Ida**	**22.83**	**349**	*e*P	**P**	**17 03 49.0**	**+1.8**
	15nm,0.8s,mb4.5						
JSC	**Jenkinsville**	**23.02**	**15**	*e*P	**P**	**17 03 49.5**	**+0.3**
WMOK	**Wichita Mounta**	**24.43**	**339**	*e*P	**P**	**17 04 04.0**	**+1.1**
	6.7nm,1.1s,mb4.0						
SAML	**Samuel**	**32.65**	**129**	*e*P	**P**	**17 05 16.0**	**-0.3**
	2.1nm,0.8s,mb4.1						
ULM	**Lac du Bonnet**	**38.53**	**352**	P	**P**	**17 06 05.6**	**-1.2**
	5.4nm,0.7s,mb4.4,baz=168,slow=9.7,SNR=14						
ULM	**Lac du Bonnet**	**38.53**	**352**	P	**P**	**17 06 05.6**	**-1.2**
SIV	**San Ignacio**	**38.87**	**135**	P	**P**	**17 06 09.2**	**-0.4**
	2.1nm,0.8s,mb3.9,baz=300,slow=10,SNR=7.8						
SCHQ	**Schefferville**	**45.88**	**17**	P	**P**	**17 07 05.0**	**-1.7**
	3.9nm,0.8s,mb4.4,baz=235,slow=7.4,SNR=5.8						
YKA	**Yellowknife Ar**	**53.70**	**345**	P	**P**	**17 08 05.3**	**-1.0**
	1.2nm,0.8s,mb3.9,baz=140,slow=7.5,SNR=22						
YKA				PcP	PcP	17 09 12.7	+0.3
	0.5nm,0.6s,baz=141,slow=3.9,SNR=9.4						
YKA	**Yellowknife Ar**	**53.70**	**345**	P	**P**	**17 08 05.3**	**-1.0**
YKA				PcP	PcP	17 09 12.7	+0.3
ILAR	**Eielson Array**	**65.96**	**336**	P	**P**	**17 09 29.5**	**-1.1**
	1.0nm,1.1s,mb3.8,baz=148,slow=5.3,SNR=3.9						

IDC 20 16:59:00.8±9.9,2132N×14394E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/20,mbtmp3.3/3,Error ellipse: s-maj=371.0km s-min=30.9km az=75.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.07**	**194**	P	P	17 06 53.9	-0.3
	0.6nm,0.7s,baz=15,slow=8.8,SNR=5.4						
ASAR	**Alice Springs**	**45.77**	**193**	P	P	17 07 24.6	+0.6
	0.4nm,0.9s,baz=17,slow=8.5,SNR=5.3						
MKAR	**Makanchi Array**	**55.47**	**313**	P	P	17 08 37.3	+0.1
	0.2nm,0.5s,baz=101,slow=7.5,SNR=3.0						

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*IDC **20** 17:09:02.5±1.6,332S×13581E,h0km,mb3.7/3,mb1 4.0/4, mb1mx3.8/12,mbtmp3.8/4,ML3.8/1,Error ellipse: s-maj=69.4km s-min=28.7km az=97.0*
*ISCJB **20** 17:09:05.6±1.1,35S±01×1358E±03,h33km,mb3.6/2, Error ellipse: s-maj=42.1km s-min=14.4km az=6.9*
*NEIC **20** 17:09:08.1±1.1,334S×13558E,h35km,mb3.7/2,Error ellipse: s-maj=46.9km s-min=17.4km az=97.0*

ISC 20 17:09:06.6±1.2,36S±01×1360E±03,h35km,n11,σ0°96/13, mb3.6/2,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**16.33**	**186**	*e*P	**Pn**	**17 12 55.0**	**+1.9**
	5.1nm,0.6s						
WB2	**Warramunga Arr**	**16.34**	**186**	*e*P	**Pn**	**17 12 52.3**	**-0.9**
WRA	**Warramunga Arr**	**16.34**	**186**	Pn	**Pn**	**17 12 52.3**	**-1.0**
	0.2nm,0.3s,baz=6.9,slow=13,SNR=13						
WRA				Sn	**Sn**	**17 15 46.7**	**-6.6**
	0.2nm,0.3s,baz=1.5,slow=24,SNR=4.7						
FITZ	**Fitzroy Crossi**	**17.65**	**214**	*e*P	**Pn**	**17 13 09.8**	**+0.2**
	2.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.65**	**214**	P	**Pn**	**17 13 09.6**	**0.0**
	0.3nm,0.3s,baz=31,slow=12,SNR=7.3						
FITZ				S	**S**	**17 16 09.7**	**-22**
	0.3nm,0.3s,baz=195,slow=18,SNR=6.1						
AS31	**Alice Springs**	**20.06**	**186**	*e*P	**P**	**17 13 41.6**	**+4.8**
ASAR	**Alice Springs**	**20.07**	**186**	P	**P**	**17 13 41.1**	**+4.3**
	3.2nm,0.5s,baz=6.7,slow=11,SNR=70						
ASPA	**Alice Springs**	**20.07**	**186**	*e*P	**P**	**17 13 41.6**	**+4.8**
MKAR	**Makanchi Array**	**68.87**	**324**	P	**P**	**17 20 07.5**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=104,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**68.87**	**324**	P	**P**	**17 20 07.5**	**-0.1**
ILAR	**Eielson Array**	**87.74**	**25**	P	**P**	**17 21 51.9**	**+0.1**
	0.2nm,0.4s,mb3.7,baz=264,slow=4.2,SNR=6.0						

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*NEIC **20** 17:16:19.7,3287N×11622W,h12km,MD3.6(PAS), ML3.7(ECX),After PAS.*

ECX 20 17:16:20.1±0.5,3288N×11622W,h9km,MD3.6,ML3.7, 6C-7D,Fault plane solution: NP1:φ0255.00000°, δ75.00000°,λ-90.00000°.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKC	**Canebrake**	**0.03**	**305**	⇓*e*P	Pg	17 16 21.9	+0.1
CRR	**Carrizo Plain**	**0.21**	**89**	⇑*e*P	Pg	17 16 24.0	-0.5
YAQ	**Yaqui Meadows**	**0.31**	**339**	⇓*e*P	Pg	17 16 25.7	-0.4
YUH	**Yuha Desert**	**0.34**	**133**	⇓*e*P	Pg	17 16 26.1	-0.7
COK	**Cook Ranch**	**0.42**	**94**	⇑*e*P	Pg	17 16 28.0	-0.2
BAR	**Barrett**	**0.43**	**242**	⇓*e*P	Pg	17 16 27.9	-0.6
BAR	**Barrett**	**0.43**	**242**	*e*Pg	Pg	17 16 27.1	-1.3
BAR				*e*Sg	Sg	17 16 33.6	-0.6
SGL	**Mount Signal**	**0.48**	**119**	⇑*e*P	Pg	17 16 28.8	-0.6
PFO	**Pinyon Flat Ob**	**0.75**	**345**	*e*Pg	Pg	17 16 33.2	-1.4
PFO				*e*Sg	Sg	17 16 43.4	-1.0
RDX	**Rancho Dowling**	**0.97**	**166**	⇓*e*P	Pg	17 16 37.2	-1.7
RDX				*e*S	Sg	17 16 49.9	-1.6
RDX				⇑*e*		17 16 52.7	
	comp=N,1μm,0.4s						
ENX	**Ensenada**	**1.06**	**201**	⇓*e*P	Pg	17 16 38.6	-1.9
ENX				*e*S	Sg	17 16 52.9	-1.5
ENX				⇑*e*		17 16 57.6	
	comp=E,2μm,0.6s						
ENX				⇑*e*		17 16 57.9	
	comp=N,2μm,0.6s						
PBX	**Punta Banda**	**1.21**	**201**	*e*P	Pb	17 16 41.4	-1.8
PBX				*e*S	Sb	17 16 57.8	-1.2
PBX				*e*		17 17 01.3	
	comp=N,2μm,0.3s						
ECNX	**Esteban Cantu**	**1.26**	**195**	⇓*e*P	Pn	17 16 42.2	-1.7
ECNX				*e*P		17 16 38.9	
ECNX				*e*S	Sb	17 16 53.4	-7.0
ECNX				*e*S	Sb	17 16 58.9	-1.5
MWC	**Mount Wilson**	**2.04**	**312**	*e*Pn	Pn	17 16 54.5	0.0
MWC				*e*Sg	Sg	17 17 22.3	-3.2
NEN	**Nelson**	**2.99**	**22**	*e*Pn	Pn	17 17 06.0	-1.6
NEN				*e*Pg	Pg	17 17 16.4	-0.9
NEN				*e*Sg	Sg	17 17 52.1	-4.0
DAC	**Darwin (Calif)**	**3.57**	**342**	*e*Pn	Pn	17 17 14.6	-1.0
DAC				*e*Pg	Pg	17 17 24.9	-3.7
DAC				*e*Sg	Sg	17 18 13.3	-1.6
TUC	**Tucson**	**4.62**	**96**	*e*Pn	Pn	17 17 28.1	-2.1
TUC				*e*Pg	Pg	17 17 48.5	-0.2
MTUM	**Tungsten Hills**	**4.86**	**337**	*e*Pg	Pg	17 17 48.4	-4.7
TPH	**Tonopah**	**5.25**	**351**	*e*Pg	Pg	17 17 56.3	-4.3
	comp=N,11nm,0.7s						
MNV	**Mina**	**5.76**	**345**	*e*Pg	Pg	17 18 06.2	-4.2
	comp=N,5.2nm,0.8s						

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*IDC **20** 17:19:30.5±0.7,575S×15139E,h0km,mb4.0/8,mb1 4.3/9, mb1mx4.2/15,mbtmp4.1/9,ML3.5/1,MS4.0/2,Ms1 4.0/2, ms1mx3.0/33,Error ellipse: s-maj=25.7km s-min=17.8km az=131.0*
*ISCJB **20** 17:19:35.0±3.6,58S±01×1513E±01,h40km±31km, mb4.0/9,MS4.9/1,Error ellipse: s-maj=25.0km s-min=19.1km az=121.9*
*NEIC **20** 17:19:34.5±0.5,579S×15136E,h25km,mb4.4/3,Error ellipse: s-maj=15.9km s-min=9.6km az=138.0*

ISC 20 17:19:33.5±5.6,58S±01×1513E±01,h16km±36km,n22, σ0°97/18,mb4.0/9,MS4.9/1,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**229**	Pn	**Pn**	**17 20 56.5**	**+1.9**
	9.7nm,0.3s,baz=64,slow=7.1,SNR=45						
PMG				Sn	**Sn**	**17 21 57.4**	**+0.1**
	6.5nm,0.3s,baz=113,slow=21,SNR=14						
PMG				LR	LR	17 23 14.2	
	comp=Z,218nm,20.5s,baz=11,slow=40						
PMG	**Port Moresby**	**5.49**	**229**	*e*Pn	**Pn**	**17 20 56.5**	**+1.9**
	50nm,0.6s						
PMG				*e*Sn	**Sn**	**17 21 57.1**	**-0.2**
KAKA	**Kakadu**	**19.87**	**248**	*e*P	**Pn**	**17

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.66**	**309**	*i* P	Pg	17 32 59.1	-1.4
PNIG				*i* S	Sg	17 33 10.0	+1.1
VHO	**Vista Hermosa**	**1.37**	**37**	*i* P	Pn	17 33 11.1	-2.7
VHO				*i* S	Sg	17 33 26.8	-5.1
OXX	**Oaxaca**	**1.38**	**37**	*i* P	Pn	17 33 11.0	-2.9
OXX				*i* S	Sb	17 33 26.0	-6.2
HUIG	**Huatulco**	**1.45**	**98**	*i* P	Pn	17 33 10.9	-3.9
HUIG				*i* S	Sb	17 33 30.0	-4.2
MEIG	**Mezcala**	**2.74**	**315**	*eP*	Pn	17 33 32.6	0.0
MEIG				*i* S	Sn	17 34 02.1	-4.0
CMIG	**Matias Romero**	**2.83**	**67**	*eP*	Pn	17 33 31.3	-2.6
CMIG				*i* S	Sn	17 34 04.8	-3.5

ORF ***20*** *17:37:24.4,2102S×17534E,h30km,mb6.2*
MOS ***20*** *17:38:05.3±0.8,2356S×17988E,h504km,mb5.5/6,Error ellipse: s-maj=10.7km s-min=8.8km az=145.5*
CRAAG ***20*** *17:38:05.0,2361S×17974E,Mb5.2*
HRVD ***20*** *17:38:06.9±0.2,2385S×17997E,h551km±1km,MW5.8/85, Centroid moment Tensor Solution. LP body waves: s85,c170; Half duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}1.95±.07; $M_{\theta\theta}$-1.99±.11; $M_{\phi\phi}$0.04±.12; $M_{r\theta}$-1.38±.12; $M_{\theta\phi}$-2.58±.10; $M_{\phi r}$-4.13±.11; Best double couple: $M_0$5.42500×10^{17} NP1:ϕ_s91.00000°,δ30.00000°, λ155.00000° NP2:ϕ_s203.00000°,δ78.00000°,λ62.00000°. Principal axes: T 5.2800, Plg50.0000°, Azm83.0000°; N 0.2960, Plg27.0000°, Azm210.0000°; P -5.5710, Plg27.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s.*
ISCJB ***20*** *17:38:06.6±0.5,2376S±003×17981E±003,h523km±6km, mb5.2/111 Error ellipse: s-maj=4.8km s-min=3.7km az=89.9*
NEIC ***20*** *17:38:06.9±0.1,2380S×17989E,mb5.3/72,Error ellipse: s-maj=5.2km s-min=3.3km az=121.0*
BJI ***20*** *17:38:06.2,2401S×17999E,h531km,mB5.2,mb5.2*
IDC ***20*** *17:38:07.4±0.4,2368S×17985E,h520km±3km,mb4.8/32, mb1 4.8/36,mb1mx4.8/36,mbtmp5.7/36,Error ellipse: s-maj=7.7km s-min=6.3km az=10.0*
SZGRF ***20*** *17:38:11.4,2377S×17977E,h560km,South of Fiji Islands*
ISC 20 17:38:08.0±0.5,2388S±003×17990E±003,h530km±6km, h523km±2.6km:pP-P,n475,σ1^{s}04/324,mb5.2/109,26C-32D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.70**	**160**	P	**P**	**17 39 44.2**	**+1.4**
	821nm,0.3s,baz=90,slow=23,SNR=31						
RAO				S	**S**	**17 41 02.1**	**+1.7**
	365nm,0.3s,baz=81,slow=19,SNR=3.1						
RAO	**Raoul Island**	**5.70**	**160**	⇓*eP*	**P**	**17 39 43.9**	**+1.1**
RAO				*eS*	**S**	**17 41 00.7**	**+0.3**
RAO				pmax	pmax		
	comp=Z,2μm,0.5s						
RAO	**Raoul Island**	**5.70**	**160**	⇓*eP*	**P**	**17 39 43.9**	**+1.1**
	comp=Z,2μm,0.5s						
RAO				*eS*	**S**	**17 41 00.7**	**+0.4**
DZM	**Mont Dzumac**	**12.52**	**276**	P	**P**	**17 40 52.8**	**+0.9**
	comp=Z,4.1nm,0.3s,baz=85,slow=14,SNR=47						
DZM				S	**S**	**17 43 10.0**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=12,slow=20,SNR=2.0						
DZM				ScP	ScP	17 48 31.5	+4.2
	comp=Z,5.6nm,0.3s,baz=203,slow=4.4,SNR=44						
DZM	**Mont Dzumac**	**12.52**	**276**	*eP*	**P**	**17 40 52.3**	**+0.5**
DZM				*eS*	**S**	**17 43 08.7**	**+1.8**
BKM	**Butte a Klehm**	**12.52**	**297**	⇑*iP*	**P**	**17 40 40.9**	**-11**
BKM				S	**S**	**17 42 56.1**	**-11**
AFI	**Afiamalu**	**12.66**	**40**	P	**P**	**17 40 47.5**	**-5.8**
	comp=Z,10nm,0.3s,baz=17,slow=1.2,SNR=16						
AFI				S	**S**	**17 42 57.3**	**-12**
	comp=Z,5.2nm,0.3s,baz=31,slow=22,SNR=6.8						
AFI				ScP	ScP	17 48 29.3	+1.8
	comp=Z,3.6nm,0.3s,baz=235,slow=8.0,SNR=5.0						
AFI	**Afiamalu**	**12.66**	**40**	*eP*	**P**	**17 40 47.4**	**-5.9**
AFI				*eS*	**S**	**17 42 57.1**	**-12**
AFI				pmax	pmax		
	comp=Z,257nm,0.8s						
AFI	**Afiamalu**	**12.66**	**40**	*eP*	**P**	**17 40 47.4**	**-5.9**
	comp=Z,257nm,0.8s						
AFI				*e*		17 40 56.3	
AFI				*eS*	**S**	**17 42 57.1**	**-12**
WCZ	**Waipu Caves**	**12.95**	**201**	PN	**P**	**17 40 59.5**	**+3.2**
WCZ				SN	**S**	**17 43 24.5**	**+10**
KUZ	**Kuaotunu**	**13.32**	**195**	PN	**P**	**17 41 01.4**	**+1.2**
KUZ				SN	**S**	**17 43 28.0**	**+5.9**
MXZ	**Matakaoa Point**	**13.71**	**185**	PN	**P**	**17 41 03.5**	**-0.7**
MXZ	**Matakaoa Point**	**13.71**	**185**	P	**P**	**17 41 03.5**	**-0.8**
PUZ	**Puketiti**	**14.22**	**185**	*e*PN	**P**	**17 41 09.8**	**+0.3**
PUZ				SN	**S**	**17 43 36.1**	**-3.0**
PUZ	**Puketiti**	**14.22**	**185**	*eP*	**P**	**17 41 09.8**	**+0.3**
URZ	**Urewera**	**14.54**	**189**	P	**P**	**17 41 13.7**	**+0.9**
	comp=Z,44nm,0.3s,baz=356,slow=2.2,SNR=83						
URZ				S	**S**	**17 43 42.9**	**-2.2**
	comp=Z,10.0nm,0.3s,baz=185,slow=19,SNR=21						
URZ	**Urewera**	**14.54**	**189**	*e*PN	**P**	**17 41 11.2**	**-1.6**
URZ				SN	**S**	**17 43 43.6**	**-1.5**
URZ	**Urewera**	**14.54**	**189**	*eP*	**P**	**17 41 11.2**	**-1.6**
MWZ	**Matawai**	**14.55**	**187**	*e*PN	**P**	**17 41 11.3**	**-1.7**
MWZ				SN	**S**	**17 43 44.7**	**-0.8**
MWZ	**Matawai**	**14.55**	**187**	*eP*	**P**	**17 41 11.3**	**-1.7**
KNZ	**Kokohu**	**15.22**	**187**	*e*PN	**P**	**17 41 19.3**	**-0.6**
KNZ				SN	**S**	**17 43 55.5**	**-2.4**
FUNA	**Funafuti**	**15.28**	**357**	*eP*	**P**	**17 41 16.9**	**-3.6**
BKZ	**Black Stump Fm**	**15.52**	**190**	*e*PN	**P**	**17 41 21.0**	**-1.9**
BKZ				*e*SN	**S**	**17 43 59.1**	**-4.4**
BKZ				*e*SN	**S**	**17 43 59.3**	**-4.2**
BKZ	**Black Stump Fm**	**15.52**	**190**	*eP*	**P**	**17 41 21.0**	**-1.9**
BKZ				*eS*	**S**	**17 43 59.1**	**-4.5**
FWVZ	**Far West T-bar**	**15.77**	**192**	*e*PN	**P**	**17 41 24.0**	**-1.6**
FWVZ	**Far West T-bar**	**15.77**	**192**	*eP*	**P**	**17 41 23.0**	**-2.6**
VRZ	**Vera Road**	**15.82**	**195**	PN	**P**	**17 41 27.2**	**+1.1**
WNVZ	**Wahianoa**	**15.83**	**192**	*e*PN	**P**	**17 41 24.9**	**-1.3**
WNVZ	**Wahianoa**	**15.83**	**192**	*eP*	**P**	**17 41 23.9**	**-2.3**
PXZ	**Pawanui**	**16.31**	**188**	*e*PN	**P**	**17 41 28.8**	**-2.3**
PXZ				SN	**S**	**17 44 12.3**	**-5.0**
TSZ	**Takapari Road**	**16.48**	**191**	*e*PN	**P**	**17 41 31.3**	**-1.4**
TSZ				SN	**S**	**17 44 16.4**	**-3.6**
TSZ	**Takapari Road**	**16.48**	**191**	*eP*	**P**	**17 41 31.3**	**-1.4**
TSZ				S	**S**	**17 44 16.4**	**-3.6**
BFZ	**Birch Farm**	**17.04**	**190**	PN	**P**	**17 41 36.6**	**-1.2**
BFZ				SN	**S**	**17 44 29.6**	**+0.4**
BFZ	**Birch Farm**	**17.04**	**190**	P	**P**	**17 41 36.6**	**-1.3**
MRZ	**Mangatainoka R**	**17.13**	**191**	*e*PN	**P**	**17 41 36.5**	**-2.2**
MRZ				SN	**S**	**17 44 28.8**	**-1.9**
KIW	**Kapiti Island**	**17.45**	**193**	PN	**P**	**17 41 40.4**	**-1.2**
KIW	**Kapiti Island**	**17.45**	**193**	P	**P**	**17 41 40.4**	**-1.2**
MTW	**Mount Morrison**	**17.62**	**191**	PN	**P**	**17 41 42.2**	**-1.0**
MTW	**Mount Morrison**	**17.62**	**191**	P	**P**	**17 41 41.2**	**-2.1**
CAW	**Cannon Point**	**17.65**	**192**	PN	**P**	**17 41 42.8**	**-0.8**
CAW	**Cannon Point**	**17.65**	**192**	P	**P**	**17 41 41.8**	**-1.7**
TCW	**Tory Channel**	**17.92**	**194**	PN	**P**	**17 41 45.6**	**-0.3**
TCW	**Tory Channel**	**17.92**	**194**	P	**P**	**17 41 45.6**	**-0.4**
SNZO	**South Karori**	**17.92**	**193**	*eP*	**P**	**17 41 46.4**	**+0.4**
	comp=Z,57nm,0.7s						
QRZ	**Quartz Range**	**18.00**	**198**	*e*PN	**P**	**17 41 48.5**	**+1.8**
QRZ				SN	**S**	**17 44 47.2**	**+2.3**
QRZ	**Quartz Range**	**18.00**	**198**	*eP*	**P**	**17 41 48.5**	**+1.8**
NNZ	**Nelson**	**18.13**	**196**	*e*PN	**P**	**17 41 48.8**	**+0.9**
THZ	**Tophouse**	**18.77**	**196**	*e*PN	**P**	**17 41 54.1**	**+0.4**
RAR	**Rarotonga**	**18.96**	**86**	P	**P**	**17 41 54.6**	**-0.9**
	comp=Z,3.0nm,0.3s,baz=238,slow=7.0,SNR=21						
DSZ	**Denniston Nort**	**19.06**	**199**	*e*PN	**P**	**17 41 57.9**	**+1.6**
DSZ	**Denniston Nort**	**19.06**	**199**	*eP*	**P**	**17 41 57.9**	**+1.5**
KHZ	**Kahutara**	**19.23**	**194**	*e*PN	**P**	**17 41 58.2**	**+0.3**
KHZ	**Kahutara**	**19.23**	**194**	*eP*	**P**	**17 41 58.2**	**+0.3**
LTZ	**Lake Taylor**	**19.89**	**197**	*e*PN	**P**	**17 42 03.2**	**-0.7**
LTZ	**Lake Taylor**	**19.89**	**197**	*eP*	**P**	**17 42 03.9**	**0.0**
WVZ	**Waitaha Valley**	**20.59**	**199**	*e*PN	**P**	**17 42 10.7**	**+0.4**
WVZ	**Waitaha Valley**	**20.59**	**199**	*eP*	**P**	**17 42 11.2**	**+0.9**
RPZ	**Rata Peaks**	**21.08**	**198**	P	**P**	**17 42 15.4**	**+0.6**
	comp=Z,24nm,0.6s,mb5.0,baz=44,slow=2.7,SNR=27						
RPZ				S	**S**	**17 45 34.1**	**-0.3**
	comp=Z,42nm,1.0s,baz=358,slow=17,SNR=3.7						
RPZ				ScP	ScP	17 48 45.4	+0.5
	comp=Z,13nm,0.5s,baz=7.5,slow=4.3,SNR=6.9						
RPZ	**Rata Peaks**	**21.08**	**198**	*e*PN	**P**	**17 42 15.9**	**+1.1**
RPZ	**Rata Peaks**	**21.08**	**198**	*eP*	**P**	**17 42 15.9**	**+1.2**
FOZ	**Fox Glacier**	**21.36**	**201**	*e*PN	**P**	**17 42 17.2**	**0.0**
FOZ	**Fox Glacier**	**21.36**	**201**	*eP*	**P**	**17 42 16.2**	**-1.0**
JCZ	**Jackson Bay**	**22.12**	**202**	*e*PN	**P**	**17 42 25.4**	**+1.3**
JCZ	**Jackson Bay**	**22.12**	**202**	*eP*	**P**	**17 42 25.4**	**+1.3**
HNR	**Honiara**	**23.86**	**304**	P	**P**	**17 42 38.1**	**-1.5**
	comp=Z,602nm,0.8s,mb6.3,baz=188,slow=0.6,SNR=61						
HNR	**Honiara**	**23.86**	**304**	⇓*eP*	**P**	**17 42 37.5**	**-2.1**
HNR				pmax	pmax		
	comp=Z,483nm,0.8s,mb6.2						
HNR	**Honiara**	**23.86**	**304**	⇓*eP*	**P**	**17 42 37.5**	**-2.1**
	comp=Z,483nm,0.8s,mb6.2						
ARMA	**Armidale**	**25.94**	**249**	⇓*iP*	**P**	**17 43 00.3**	**+2.3**
ARMA				*eS*	**S**	**17 46 53.7**	**+2.8**
ARMA				*e*		17 49 02.5	
ARMA				*e*SCS	ScS	17 52 55.2	+6.5
TBI	**Tubuai**	**28.06**	**95**	*eP*	**P**	**17 43 17.8**	**+1.2**
	comp=Z,266nm,0.9s,mb5.9						
CNB	**Canberra Magne**	**28.78**	**240**	⇓*iP*	**P**	**17 43 24.9**	**+2.0**
	comp=Z,98nm,1.0s,mb5.4						
CNB				*e*pP		17 44 54.5	
CNB				*eS*	**S**	**17 47 38.4**	**+3.2**
CNB				*e*SCP	ScP	17 49 10.3	+3.4
CNB				*e*SCS	ScS	17 53 06.7	+5.0
PAE	**Paea**	**29.16**	**84**	*eP*	**P**	**17 43 26.6**	**+0.4**
	comp=Z,333nm,0.9s,mb6.0						
PAE				*e*pP		17 44 50.7	
	comp=Z,114nm,1.1s						
PPT	**Papeete**	**29.20**	**83**	*eP*	**P**	**17 43 27.2**	**+0.7**
	comp=Z,248nm,1.0s,mb5.8						
PPT	**Papeete**	**29.20**	**83**	P	**P**	**17 43 26.4**	**-0.1**
	comp=Z,275nm,0.9s,mb5.9,baz=196,slow=2.8,SNR=14						
TVO	**Taravao**	**29.43**	**84**	*eP*	**P**	**17 43 29.1**	**+0.6**
	comp=Z,550nm,0.8s,mb6.2						
CTA	**Charters Tower**	**31.38**	**270**	⇓*iP*	**P**	**17 43 46.4**	**+1.1**
	comp=Z,656nm,0.4s						
CTA				*e*		17 44 58.6	
CTA				*eS*	**S**	**17 48 15.8**	**+0.6**
CTA				*e*SCP	ScP	17 49 19.0	+3.5
CTA	**Charters Tower**	**31.38**	**270**	P	**P**	**17 43 46.4**	**+1.1**
	comp=Z,612nm,0.4s,baz=94,slow=11,SNR=1251						
CTA				S	**S**	**17 48 15.1**	**-0.1**
	comp=Z,19nm,1.1s,baz=203,slow=21,SNR=10						
CTA				ScP	ScP	17 49 18.3	+2.8
	comp=Z,26nm,0.6s,baz=105,slow=1.0,SNR=7.4						
CTA	**Charters Tower**	**31.38**	**270**	⇓*iP*	**P**	**17 43 46.4**	**+1.1**
CTA				*eS*	**S**	**17 48 15.8**	**+0.6**
CTA				pmax	pmax		
	comp=Z,656nm,0.4s						
CTAO	**Charters Tower**	**31.38**	**270**	*eP*	**P**	**17 43 46.4**	**+1.1**
CTAO				*PP		17 45 12.7	
CTAO				pmax	pmax		
	comp=Z,615nm,0.4s						
CTAO	**Charters Tower**	**31.38**	**270**	*eP*	**P**	**17 43 46.4**	**+1.1**
	comp=Z,615nm,0.4s						
CTAO				*e*		17 44 58.3	
CTAO				pP		17 45 12.7	
VAH	**Vaihoa**	**31.73**	**80**	*eP*	**P**	**17 43 48.5**	**+0.3**
	comp=Z,248nm,0.9s,mb5.7						
TOO	**Toolangi**	**32.38**	**237**	*eP*	**P**	**17 43 55.5**	**+1.7**
	comp=Z,30nm,0.5s,mb5.1						
TOO				*eS*	**S**	**17 48 32.1**	**+1.6**
TOO				*e*SCS	ScS	17 53 21.5	+1.8
TOO	**Toolangi**	**32.38**	**237**	*eP*	**P**	**17 43 55.5**	**+1.7**
TOO				*eS*	**S**	**17 48 32.1**	**+1.6**
TOO				*e*		17 53 21.5	
TOO				pmax	pmax		
	comp=Z,31nm,0.5s,mb5.1						
TAU	**Tasmania Unive**	**32.88**	**227**	P	**P**	**17 43 59.3**	**+1.2**
	comp=Z,319nm,0.5s,mb6.1,SNR=14						
TAU	**Tasmania Unive**	**32.88**	**227**	*eP*	**P**	**17 43 59.9**	**+1.8**
TAU				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.8						
TAU	**Tasmania Unive**	**32.88**	**227**	*eP*	**P**	**17 43 59.9**	**+1.8**
	comp=Z,21nm,0.6s,mb4.8						
PMG	**Port Moresby**	**34.40**	**289**	P	**P**	**17 44 10.8**	**0.0**
	comp=Z,638nm,0.8s,mb6.2,baz=101,slow=4.9,SNR=214						
PMG				S	**S**	**17 48 59.2**	**-1.9**
	comp=Z,12nm,1.0s,baz=244,slow=22,SNR=5.6						
PMG				ScP	ScP	17 49 29.0	+3.0
	comp=Z,52nm,1.1s,baz=78,slow=5.1,SNR=8.1						
PMG	**Port Moresby**	**34.40**	**289**	*d iP*	**P**	**17 44 10.7**	**-0.1**
PMG	**Port Moresby**	**34.40**	**289**	⇓*iP*	**P**	**17 44 10.8**	**-0.1**
	comp=Z,836nm,0.9s,mb6.3						
PMG				*e*ScP	ScP	17 49 29.3	+3.2
STKA	**Stephens Creek**	**34.64**	**248**	*eP*	**P**	**17 44 12.1**	**-0.8**
	comp=Z,26nm,0.4s,mb5.1						
STKA				*eS*	**S**	**17 49 01.2**	**-3.5**
STKA				*e*SCP	ScP	17 49 28.3	+1.4
STKA				*e*SCS	ScS	17 53 31.1	-0.7
STKA	**Stephens Creek**	**34.64**	**248**	P	**P**	**17 44 12.2**	**-0.7**
	comp=Z,36nm,0.5s,mb5.2,baz=91,slow=7.8,SNR=94						
STKA				S	**S**	**17 48 59.4**	**-5.3**
	comp=Z,8.4nm,1.0s,baz=98,slow=19,SNR=2.1						
STKA				ScP	ScP	17 49 28.5	+1.6
	comp=Z,25nm,0.9s,baz=3.7,slow=3.2,SNR=6.0						
ADE	**Adelaide**	**37.30**	**243**	P	**P**	**17 44 36.5**	**+1.6**
TAOE	**Nuku Hiva Isla**	**40.97**	**75**	*eP*	**P**	**17 45 04.8**	**+0.3**
	comp=Z,3μm,0.9s						
RKT	**Rikitea**	**41.26**	**98**	*eP*	**P**	**17 45 07.5**	**+0.7**
AS31	**Alice Springs**	**41.94**	**261**	*eP*	**P**	**17 45 12.7**	**+0.5**
AS31				*e*ScP	ScP	17 49 58.6	+3.6
AS31				*eS*	**S**	**17 50 52.0**	**-0.2**
AS31				*e*ScS	ScS	17 54 16.3	+1.6
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**17 45 12.8**	**+0.6**
	comp=Z,173nm,0.7s,mb5.7,baz=98,slow=7.3,SNR=2276						
ASAR				pP	pP	17 46 47.0	-0.3
	comp=Z,34nm,1.1s,baz=91,slow=8.4,SNR=2.5						
ASAR				ScP	ScP	17 49 58.5	+3.4
	comp=Z,58nm,0.8s,baz=108,slow=4.0,SNR=29						
ASAR				S	**S**	**17 50 50.6**	**-1.6**
	comp=Z,24nm,0.9s,baz=98,slow=14,SNR=15						
ASAR				P3KPbc		18 14 25.7	
	comp=Z,1.0nm,0.8s,baz=284,slow=3.8,SNR=13						
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**17 45 12.8**	**+0.6**
ASAR				*PP	pP	17 46 47.0	-0.3
ASAR				S	**S**	**17 50 50.6**	**-1.6**
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**17 45 12.8**	**+0.6**
ASAR				pP	pP	17 46 47.0	-0.3
ASAR				ScP	ScP	17 49 58.5	+3.4
ASAR				S	**S**	**17 50 50.6**	**-1.6**
ASAR				*e*		18 14 25.7	
ASPA	**Alice Springs**	**41.95**	**261**	*eP*	**P**	**17 45 12.7**	**+0.5**
ASPA				*e*SCP	ScP	17 49 58.6	+3.6
ASPA				*eS*	**S**	**17 50 52.0**	**-0.3**
ASPA				*e*SCS	ScS	17 54 16.3	+1.6
WB2	**Warramunga Arr**	**42.30**	**266**	⇓*iP*	**P**	**17 45 14.8**	**-0.2**
WB2				*e*SCP	ScP	17 49 58.9	+2.4
WB2				*eS*	**S**	**17 50 54.4**	**-3.0**
WB2				*e*SCS	ScS	17 54 19.6	+2.7
WRAB	**Tennant Creek**	**42.31**	**266**	P	**P**	**17 45 14.0**	**-1.0**
	comp=Z,3μm,0.5s						
WRAB	**Tennant Creek**	**42.31**	**266**	⇓*iP*	**P**	**17 45 14.8**	**-0.2**
WRAB				*eS*	**S**	**17 50 54.0**	**-3.4**
WRAB				pmax	pmax		
	comp=Z,448nm,0.7s,mb6.1						
WRAB	**Tennant Creek**	**42.31**	**266**	⇓*iP*	**P**	**17 45 14.8**	**-0.2**
	comp=Z,448nm,0.7s,mb6.1						
WRAB				*e*ScP	ScP	17 49 59.8	+3.3
WRAB				*eS*	**S**	**17 50 54.0**	**-3.4**
WRA	**Warramunga Arr**	**42.31**	**266**	P	**P**	**17 45 15.1**	**0.0**
	comp=Z,200nm,0.4s,mb6.0,baz=95,slow=8.4,SNR=1413						
WRA				pP	pP	17 46 49.8	-0.6
	comp=Z,12nm,0.5s,baz=100,slow=8.0,SNR=1.6						
WRA				ScP	ScP	17 50 00.2	+3.7
	comp=Z,65nm,1.0s,baz=102,slow=4.1,SNR=25						
WRA				S	**S**	**17 50 55.0**	**-2.5**
	comp=Z,26nm,0.8s,baz=103,slow=14,SNR=20						
WRA				P3KPbc		18 14 25.6	
	comp=Z,1.2nm,0.7s,baz=290,slow=3.7,SNR=11						
WRA	**Warramunga Arr**	**42.31**	**266**	P	**P**	**17 45 15.1**	**0.0**
WRA				*PP	pP	17 46 49.8	-0.6
WRA				S	**S**	**17 50 55.0**	**-2.5**
WRA	**Warramunga Arr**	**42.31**	**266**	P	**P**	**17 45 15.1**	**0.0**
WRA				pP	pP	17 46 49.8	-0.6
WRA				ScP	ScP	17 50 00.2	+3.7
WRA				S	**S**	**17 50 55.0**	**-2.5**
WRA				*e*		18 14 25.6	
WAKE	**Wake Island**	**44.80**	**342**	*eP*	**P**	**17 45 33.5**	**-0.9**
	comp=Z,470nm,1.1s,mb5.9						
KAKA	**Kakadu**	**46.21**	**275**	*eP*	**P**	**17 45 44.7**	**-0.5**
	comp=Z,214nm,0.5s,mb5.9						
FORT	**Forrest**	**46.23**	**250**	⇓*iP*	**P**	**17 45 45.4**	**+0.1**
	comp=Z,573nm,0.6s,mb6.3						
FORT				*e*SCP	ScP	17 50 15.4	+2.7
FORT				*e*S	**S**	**17 51 50.1**	**-2.8**
GUMO	**Guam**	**50.58**	**314**	P	**P**	**17 46 17.1**	**-0.6**
	comp=Z,455nm,0.7s,mb6.0,baz=176,slow=9.4,SNR=29						
GUMO	**Guam**	**50.58**	**314**	P	**P**	**17 46 19.3**	**+1.6**
FITZ	**Fitzroy Crossi**	**50.74**	**266**	⇓*iP*	**P**	**17 46 19.3**	**+0.5**
	comp=Z,327nm,0.8s,mb5.7						
FITZ				*e*pP	pP	17 48 00.6	+1.4
FITZ				*e*SCP	ScP	17 50 36.1	+4.2
FITZ				*e*S	**S**	**17 52 54.9**	**+0.2**
FITZ				*e*SCS	ScS	17 55 15.4	+2.5
FITZ	**Fitzroy Crossi**	**50.74**	**266**	P	**P**	**17 46 18.7**	**-0.1**
	comp=Z,121nm,0.6s,mb5.4,baz=118,slow=9.6,SNR=258						
FITZ				pP	pP	17 47 58.5	-0.7
	comp=Z,27nm,1.1s,baz=97,slow=9.4,SNR=2.7						
FITZ				S	**S**	**17 52 54.9**	**+0.2**
	comp=Z,7.3nm,0.8s,baz=236,slow=18,SNR=15						
VNDA	**Vanda**	**54.40**	**185**	P	**P**	**17 46 47.5**	**+2.5**
	comp=Z,3.0nm,0.6s,baz=9.1,slow=9.1,SNR=18						
KLBR	**Kellerberrin**	**54.91**	**247**	⇓*iP*	**P**	**17 46 48.7**	**+0.1**
	comp=Z,100nm,0.7s,mb5.2						
KLBR				*e*pP	pP	17 48 31.0	-0.3
KLBR				*eS*	**S**	**17 53 48.6**	**-1.4**
NWAO	**Narrogin (SRO)**	**55.16**	**246**	P	**P**	**17 46 50.8**	**+0.4**
	comp=Z,18nm,0.5s,mb4.6,baz=110,slow=7.1,SNR=60						
NWAO				pP	pP	17 48 33.3	+0.1
	comp=Z,42nm,1.1s,baz=103,slow=8.7,SNR=5.2						
NWAO	**Narrogin (SRO)**	**55.16**	**246**	*eP*	**P**	**17 46 50.6**	**+0.3**
	comp=Z,68nm,1.2s,mb4.8						
NWAO				*e*pP	pP	17 48 33.5	+0.3
MBWA	**Marble Bar**	**55.28**	**260**	*eP*	**P**	**17 46 51.0**	**-0.2**
	comp=Z,132nm,0.7s,mb5.3						
MBWA				*e*pP	pP	17 48 32.2	-1.8
MUN	**Mundaring**	**56.15**	**247**	⇓*iP*	**P**	**17 46 57.5**	**+0.3**
MUN				*e*pP	pP	17 48 41.7	+1.1
CASY	**Casey**	**60.09**	**206**	⇑*iP*	**P**	**17 47 24.0**	**+0.1**
BUKP	**Musuan**	**62.13**	**294**	*eP*	**P**	**17 47 37.7**	**+0.5**
BUTP	**Butuan**	**62.24**	**295**	*eP*	**P**	**17 47 38.8**	**+0.8**
CBIJ	**Chichi jima**	**62.40**	**322**	P	**P**	**17 47 39.0**	**-0.1**
	comp=Z,209nm,0.6s,mb5.8,baz=296,slow=18,SNR=5.9						
CTBH	**Cotabato--PC H**	**62.47**	**293**	⇑*iP*	**P**	**17 47 40.0**	**+0.6**
CGP	**Cagayan de Oro**	**62.74**	**294**	⇓*iP*	**P**	**17 47 41.5**	**+0.3**
SCPH	**Surigao**	**62.79**	**296**	⇑*eP*	**P**	**17 47 40.8**	**-0.7**
RPN	**Rapa Nui**	**63.18**	**109**	P	**P**	**17 47 47.0**	**+3.0**
	comp=Z,155nm,0.6s,mb5.6,baz=266,slow=2.3,SNR=11						
MSLP	**Maasin**	**63.50**	**296**	*eP*	**P**	**17 47 45.5**	**-0.6**
PAGZ	**Pagadian**	**63.52**	**293**	*eP*	**P**	**17 47 46.2**	**0.0**
BESP	**Borongan**	**63.83**	**297**	*eP*	**P**	**17 47 48.2**	**0.0**
TBP	**Tagbilaran**	**64.09**	**295**	*eP*	**P**	**17 47 49.1**	**-0.8**
IPIL	**Ipil**	**64.18**	**292**	*eP*	**P**	**17 47 51.0**	**+0.6**
OCLP	**Ormoc**	**64.21**	**296**	*eP*	**P**	**17 47 49.8**	**-0.8**
GUIM	**Jordan**	**65.65**	**295**	*eP*	**P**	**17 47 57.6**	**-2.1**
QSPA	**South Pole Qui**	**66.21**	**180**	⇑*iP*	**P**	**17 48 05.0**	**+1.8**
	comp=Z,108nm,0.8s,mb5.4						
JHJ	**Hachijo jima 2**	**68.37**	**324**	P	**P**	**17 48 15.7**	**-0.8**
	comp=Z,275nm,0.6s,mb6.0,baz=179,slow=9.5,SNR=6.0						
KKM	**Kota Kinabalu**	**68.81**	**287**	⇓*iP*	**P**	**17 48 19.1**	**+0.1**
TGY	**Tagaytay City**	**68.87**	**297**	P	**P**	**17 48 20.3**	**+0.9**
	comp=Z,140nm,0.4s,baz=358,slow=4.2,SNR=7.7						
BALP	**Baler**	**69.24**	**299**	*eP*	**P**	**17 48 21.7**	**+0.1**
PALP	**Palanan**	**69.30**	**300**	*eP*	**P**	**17 48 22.4**	**+0.4**
CAUP	**Cauayan**	**69.71**	**300**	*eP*	**P**	**17 48 25.1**

CMB Columbia Colle 83.25 43 *eP* **P 17 49 38.3 -0.4**
comp=Z,64nm,0.8s,mb5.2
PFO Pinyon Flat Ob 83.26 49 *eP* **P 17 49 38.6 -0.1**
comp=Z,76nm,1.4s,mb5.0
OHCM Honcut 83.36 42 *eP* **P 17 49 39.0 -0.3**
WDC Whiskeytown Da 83.50 40 *eP* **P 17 49 40.0 0.0**
comp=Z,83nm,1.2s,mb5.1
CN2 Changchun 83.81 324 *eP* **P 17 49 41.8 +0.3**
CN2 *eAP* pP 17 51 36.0 -0.5
CN2 *eS* S 17 59 22.3 +1.6
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.6
CN2 AMB AMB
comp=Z,200nm,4.0s
KTRM Thompson Ridge 83.86 39 P **P 17 49 43.3 +1.5**
MTUM Tungsten Hills 84.00 45 *eP* **P 17 49 43.2 +0.7**
DAC Darwin (Calif) 84.01 46 *eP* **P 17 49 42.4 -0.1**
comp=Z,34nm,0.9s,mb4.9
YBH Yreka Blue Hor 84.13 39 P **P 17 49 43.6 +0.6**
comp=Z,35nm,0.8s,mb4.9,baz=86,slow=0.2,SNR=45
YBH Yreka Blue Hor 84.13 39 *eP* **P 17 49 43.4 +0.4**
comp=Z,43nm,0.9s,mb5.0
HUMO Hull Mountain 84.54 39 *eP* **P 17 49 45.6 +0.5**
comp=Z,92nm,1.2s,mb5.2
KDAK Kodiak Island 84.55 14 P **P 17 49 44.5 -0.6**
comp=Z,12nm,0.8s,mb4.5,baz=228,slow=3.1,SNR=7.3
SNAA Sanae 84.69 179 P **P 17 49 45.5 -0.4**
comp=Z,5.4nm,0.5s,mb4.4,baz=203,slow=8.9,SNR=14
SNAA Sanae 84.69 179 *eP* **P 17 49 46.2 +0.3**
SNAA *e* 17 49 48.4
SNAA *e* pP 17 51 42.6 +1.4
SNAA *e* 17 51 50.8
SNAA *e* 17 52 21.1
NVAR Mina Array Bea 84.80 44 P **P 17 49 46.5 +0.1**
comp=Z,19nm,0.7s,mb4.7,baz=233,slow=9.6,SNR=71
PAHR Pah Rah Range 84.88 42 *eP* **P 17 49 46.7 0.0**
comp=Z,39nm,0.9s,mb4.9
MNV Mina 84.90 44 *eP* **P 17 49 46.8 -0.1**
comp=Z,36nm,1.0s,mb4.9
VNA3 Neumayer Olymp 84.91 177 *eP* **P 17 49 47.2 +0.3**
VNA3 *e* 17 49 49.3
VNA3 *e* 17 50 09.0
VNA3 *e* pP 17 51 43.2 +0.9
VNA3 *e* 17 51 51.1
VNA3 *e* 17 52 07.0
VNA3 *e* 17 52 18.6
VNA3 *e* 17 59 33.6
VNA3 *e* 17 59 37.6
VNA3 *e* 17 59 38.9
LDFC Landfair 85.00 48 *eP* **P 17 49 48.2 +0.8**
TPH Tonopah 85.29 45 *eP* **P 17 49 48.6 -0.1**
comp=Z,50nm,0.8s,mb5.1
VNA2 Neumayer--Watz 85.32 178 *eP* **P 17 49 49.3 +0.4**
VNA2 *e* 17 49 51.5
VNA2 *e* 17 50 11.0
VNA2 *e* pP 17 51 46.1 +1.7
VNA2 *e* 17 51 53.4
VNA2 *e* 17 52 10.2
VNA2 *e* 17 52 26.1
VNA2 *e* 17 52 33.9
VNA2 *e* 17 59 34.0
VNA2 *e* 17 59 37.4
VNA2 *e* 17 59 38.8
NEN Nelson 85.50 48 *eP* **P 17 49 49.8 0.0**
MOD Modoc 85.64 40 *eP* **P 17 49 50.3 -0.2**
comp=Z,58nm,0.9s,mb5.2
ENH Enshi 86.35 305 *eP* **P 17 49 54.4 +0.6**
ENH *ep*P pP 17 51 48.6 -1.1
MA2 Magadan 86.53 346 *eP* **P 17 49 53.5 -1.1**
comp=Z,38nm,0.8s,mb5.1
TUC Tucson 86.58 53 *eP* **P 17 49 55.9 +1.0**
comp=Z,85nm,0.9s,mb5.4
BMN Battle Mountai 86.64 43 *eP* **P 17 49 54.7 -0.5**
comp=Z,42nm,0.8s,mb5.1
GYA Guiyang 86.65 301 ⇑*i*P **P 17 49 54.8 -0.5**
GYA AP pP 17 51 47.6 -3.7
GYA PP PP 17 53 26.1 -0.9
GYA SKS 17 59 25.4
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,180nm,4.2s
BJT Baijiatuau 86.94 316 *eP* **P 17 49 57.1 +0.5**
comp=Z,31nm,0.8s,mb5.0
BJI Beijing 86.95 316 P **P 17 49 57.4 +0.8**
BJI AP pP 17 51 55.6 +2.8
BJI S 17 59 57.6
BJI AMB AMB
comp=Z,49nm,0.8s,mb5.2
BJI AMB AMB
comp=Z,558nm,3.9s
WVOR Wild Horse Val 86.95 41 *eP* **P 17 49 56.4 -0.2**
comp=Z,121nm,1.4s,mb5.3
SVW2 Sparrevohn 86.97 12 *eP* **P 17 49 54.4 -2.4**
VFP Flag Point 87.08 37 P **P 17 49 57.2 0.0**
OCWA Octopus Mounta 87.19 34 *eP* **P 17 49 58.4 +0.7**
comp=Z,70nm,1.1s,mb5.2
CCUT Cedar City 87.53 47 *eP* **P 17 49 59.8 +0.4**
SLKM Skilak Lake 87.54 14 *eP* **P 17 49 57.8 -1.6**
ARUT Antelope Range 87.61 47 *eP* **P 17 50 00.1 +0.4**
HDW Hoodsport 87.70 35 P **P 17 50 00.5 +0.3**
WUAZ Wupatki 87.81 50 *eP* **P 17 50 01.1 +0.4**
comp=Z,59nm,1.3s,mb5.2
ELK Elko 88.06 43 *eP* **P 17 50 01.7 -0.1**
comp=Z,16nm,0.6s,mb4.9
PGC Sidney 88.14 34 *eP* **P 17 50 01.9 -0.3**
comp=Z,90nm,0.8s,mb5.5
RMW Rattlesnake Mo 88.23 35 P **P 17 50 02.7 0.0**
PLCA Paso Flores 88.35 134 P **P 17 50 05.0 +1.8**
comp=Z,7.2nm,0.7s,mb4.5,baz=263,slow=4.9,SNR=20
PLCA Paso Flores 88.35 134 *eP* **P 17 50 05.4 +2.2**
comp=Z,90nm,1.6s,mb5.2
PLCA *ep*P pP 17 52 01.7 +2.0
PMR Palmer 88.75 14 *eP* **P 17 50 03.3 -1.7**
comp=Z,24nm,0.8s,mb5.1
HAWA Hanford 88.81 37 *eP* **P 17 50 05.1 -0.2**
comp=Z,3.5nm,0.8s
MSU Marysvale 88.84 47 *eP* **P 17 50 06.2 +0.7**
RPW Rockport 89.01 35 P **P 17 50 05.7 -0.5**
BMO Blue Mountains 89.15 39 *eP* **P 17 50 06.4 -0.5**
comp=Z,57nm,1.5s,mb5.2
KMI Kunming 89.17 298 P **P 17 50 09.5 +2.5**
KMI AP pP 17 52 01.6 -2.2
KMI AMB AMB
comp=Z,43nm,1.5s,mb5.1
TNA Tin City 89.64 5 *eP* **P 17 50 07.8 -1.3**
comp=Z,16nm,1.2s,mb4.7
NLU North Lily Min 89.67 45 *eP* **P 17 50 06.6 -2.7**
TMUT Trail Mountain 89.89 46 *eP* **P 17 50 11.3 +0.9**
MPU Maple Canyon 89.99 46 *eP* **P 17 50 11.2 +0.4**
comp=Z,70nm,0.9s,mb5.5
NOQ North Oquirrh 90.00 45 *eP* **P 17 50 11.2 +0.4**
comp=Z,92nm,1.0s,mb5.6
HLID Hailey 90.14 41 *eP* **P 17 50 11.3 -0.2**
comp=Z,27nm,0.9s,mb5.1
SPUT South Promonto 90.14 44 *eP* **P 17 50 10.9 -0.6**
HVU Hansel Valley 90.19 44 *eP* **P 17 50 11.7 0.0**
comp=Z,51nm,0.7s,mb5.5
SRU San Rafael 90.25 47 P **P 17 50 11.9 -0.1**
comp=Z,95nm,0.8s,mb5.7
LAZ Ladron 90.26 52 *eP* **P 17 50 12.7 +0.6**
MNTX Cornudas Mount 90.28 55 *eP* **P 17 50 12.5 +0.4**
comp=Z,40nm,0.8s,mb5.3
HHC Hu-ho-hao-te 90.33 315 *eP* **P 17 50 13.6 +1.2**
HHC AP pP 17 52 07.4 -2.0
HHC XP sP 17 52 57.8 -5.0
HHC PP PP 17 53 59.3 +3.4
HHC SKS 17 59 55.9
HHC S 18 00 22.8
HHC XS sS 18 03 45.3 -5.4
HHC SS SS 18 06 42.8 +5.3
HHC AMB AMB
comp=Z,42nm,0.6s,mb5.5
HHC AMB AMB
comp=Z,261nm,4.4s
DAU Daniels Canyon 90.44 45 *eP* **P 17 50 12.9 0.0**
LTX Lajitas 90.50 58 *eP* **P 17 50 13.7 +0.5**
comp=Z,50nm,0.8s,mb5.4
LPM Los Pinos Moun 90.59 53 *eP* **P 17 50 13.8 +0.3**
MCK McKinley 90.68 13 P **P 17 50 11.6 -2.4**
comp=Z,6.9nm,1.0s,mb4.5
TCUT Toone Canyon 90.71 45 *eP* **P 17 50 14.3 +0.2**
HWUT Hardware Ranch 90.86 44 *eP* **P 17 50 14.4 -0.4**
comp=Z,36nm,0.7s,mb5.4

CD2 Chengdu 90.99 303 *eP* **P 17 50 14.3 -1.1**
CD2 PP PP 17 54 01.9 +0.9
CD2 SKS 17 59 57.0
CD2 S 18 00 26.3
CD2 SS SS 18 06 48.9 +2.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.3s
ANMO Albuquerque 91.02 52 P **P 17 50 15.8 +0.3**
comp=Z,20nm,0.8s,mb5.1,baz=210,slow=5.4,SNR=26
ANMO Albuquerque 91.02 52 *eP* **P 17 50 15.6 0.0**
comp=Z,20nm,0.8s,mb5.1
MENT Mentasta 91.19 16 *eP* **P 17 50 15.6 -0.8**
AHID Auburn Hatcher 91.76 43 *eP* **P 17 50 19.4 +0.4**
comp=Z,43nm,0.9s,mb5.5
MCMT McKenzie Canyo 91.77 41 *eP* **P 17 50 18.9 -0.2**
COLA College 91.91 13 *eP* **P 17 50 17.5 -2.2**
comp=Z,34nm,1.4s,mb5.2
ILAR Eielson Array 92.03 14 P **P 17 50 17.6 -2.6**
comp=Z,2.5nm,0.6s,mb4.5,baz=215,slow=5.2,SNR=44
ILAR pP pP 17 52 15.8 -1.6
comp=Z,4.7nm,0.9s,baz=237,slow=5.5,SNR=5.7
ILAR PKKP PKKPbc 18 07 32.7 -0.8
comp=Z,0.3nm,0.5s,baz=354,slow=2.8,SNR=7.2
BILL Bilibino 92.19 355 *i* P **P 17 50 19.8 -1.2**
DLMT Dillon 92.21 41 *eP* **P 17 50 21.1 +0.1**
comp=Z,24nm,1.1s,mb5.1
REDW Red Top Meadow 92.23 43 *eP* **P 17 50 21.1 -0.1**
comp=Z,46nm,1.3s,mb5.3
SNOW Snow King Moun 92.34 43 *eP* **P 17 50 22.1 +0.4**
comp=Z,36nm,1.0s,mb5.3
LOHW Long Hollow 92.51 43 *eP* **P 17 50 22.0 -0.4**
comp=Z,14nm,0.8s,mb5.1
QLMT Earthquake Lak 92.63 42 *eP* **P 17 50 23.4 +0.4**
CHMT Chamberlain Mo 92.66 39 *eP* **P 17 50 21.9 -1.2**
SMCO Snowmass 92.68 48 *eP* **P 17 50 23.3 +0.1**
comp=Z,26nm,0.8s,mb5.3
FLWY Flagg Ranch 92.69 42 *eP* **P 17 50 23.5 +0.2**
comp=Z,18nm,0.8s,mb5.2
PDAR Pinedale Array 92.74 44 P **P 17 50 23.1 -0.3**
comp=Z,17nm,0.7s,mb5.2,baz=194,slow=3.1,SNR=92
PDAR PP PP 17 54 12.6 -2.0
comp=Z,3.9nm,1.0s,baz=237,slow=6.7,SNR=7.0
YMR Madison River 92.83 42 *eP* **P 17 50 24.9 +1.0**
comp=Z,16nm,0.8s,mb5.1
LKWY Lake 93.12 42 *eP* **P 17 50 26.7 +1.5**
comp=Z,15nm,0.8s,mb5.1
DAWY Dawson 93.23 17 *eP* **P 17 50 24.0 -1.7**
LZH Lanzhou 93.28 308 ⇓*i*P **P 17 50 27.5 +1.5**
LZH AP pP 17 52 27.5 +4.3
LZH PP PP 17 54 23.5 +4.7
LZH SKS 18 00 08.5
LZH S 18 00 46.8
LZH XS sS 18 04 19.5 +1.3
LZH PS SS 18 07 18.8 -0.5
LZH SS SS 18 07 22.5 +3.2
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,236nm,8.0s
HRY Holter Researc 93.37 40 *eP* **P 17 50 25.4 -0.9**
RWWY Rawlins 93.73 46 *eP* **P 17 50 27.8 -0.2**
comp=Z,12nm,0.6s,mb5.2
ISCO Idaho Springs 93.90 48 *eP* **P 17 50 28.7 -0.1**
comp=Z,8.9nm,0.8s,mb5.0
JCT Junction City 94.01 59 *eP* **P 17 50 28.8 -0.5**
comp=Z,17nm,0.8s,mb5.2
GCMT Greycliff 94.19 41 *eP* **P 17 50 29.1 -1.0**
CFAA Coronel Fontan 94.65 127 P **P 17 50 32.8 +0.6**
comp=Z,1.3nm,0.6s,baz=230,slow=5.0,SNR=19
PHWY Pilot Hill 94.70 47 *eP* **P 17 50 32.4 -0.1**
RSSD Black Hills 96.92 45 *eP* **P 17 50 41.8 -0.7**
comp=Z,11nm,0.9s,mb5.1
SONM Songino Array 97.02 319 P **P 17 50 43.5 +0.7**
comp=Z,3.9nm,0.8s,mb4.7,baz=132,slow=3.4,SNR=4.1
SONM PP PP 17 54 44.0 -3.3
comp=Z,5.1nm,0.8s,baz=126,slow=6.9,SNR=8.1
SONM PKKPbc PKKPbc 18 07 21.7 +1.2
comp=Z,2.7nm,0.6s,baz=283,slow=2.8,SNR=26
INK Inuvik 98.03 16 P Pdif 17 50 45.7 -1.6
comp=Z,2.1nm,0.5s,baz=228,slow=4.9,SNR=13
INK Inuvik 98.03 16 *i* P Pdif 17 50 45.7 -1.7
INK Inuvik 98.03 16 P Pdif 17 50 45.7 -1.6
JTS JuntasAbangare 98.76 83 *e*Pdif Pdif 17 50 50.6 0.0
comp=Z,10.0nm,0.9s
YKA Yellowknife Ar 100.38 25 P Pdif 17 50 56.2 -1.6
comp=Z,0.8nm,0.6s,baz=237,slow=4.5,SNR=12
YKA PKKPbc PKKPbc 18 07 10.6 -0.6
comp=Z,0.4nm,0.5s,baz=41,slow=2.4,SNR=7.0
YKA Yellowknife Ar 100.38 25 P Pdif 17 50 56.2 -1.6
YKA PKKPbc PKKPbc 18 07 10.6 -0.6
SIV San Ignacio 108.49 118 PKKPbc PKKPbc 18 06 47.5 +0.3
comp=Z,1.2nm,0.6s,baz=75,slow=3.3,SNR=7.6
SIV PKKPab PKKPab 18 07 03.7 +1.2
comp=Z,1.6nm,0.7s,baz=83,slow=5.9,SNR=6.0
SDV Santo Domingo 111.30 90 *e*PKiKP PKiKP 17 55 41.2 -0.3
ZAL Zalesovo 111.88 321 PKKPbc PKKPbc 18 06 37.0 +0.5
baz=326,slow=18
MKAR Makanchi Array 112.07 313 PKiKP PKiKP 17 55 42.0 -1.0
comp=Z,1.8nm,0.4s,baz=198,slow=1.6,SNR=16
MKAR PP PP 17 56 34.8 -2.3
comp=Z,1.7nm,0.7s,baz=88,slow=7.6,SNR=3.8
MKAR SKP 17 58 28.6
comp=Z,2.5nm,0.6s,baz=123,slow=1.5,SNR=6.1
MKAR PKKPbc PKKPbc 18 06 36.7 +0.9
comp=Z,2.5nm,0.7s,baz=289,slow=4.3,SNR=17
MKAR PKKPab PKKPab 18 06 47.2 +0.6
comp=Z,0.8nm,0.6s,baz=268,slow=7.3,SNR=5.2
MKAR Makanchi Array 112.07 313 PKPdf PKiKP 17 55 42.0 -1.0
MKAR PP PP 17 56 34.8 -2.3
MKAR SKP 17 58 28.6
MKAR PKKPbc PKKPbc 18 06 36.7 +0.9
MKAR PKKPab PKKPab 18 06 47.2 +0.6
OPO Ambohidratompo 117.49 232 PKP PKPdf 17 55 54.8 +1.3
comp=Z,2.2nm,0.6s,baz=57,slow=14,SNR=5.4
SJG San Juan 118.54 82 PKP PKPdf 17 55 54.9 -0.6
comp=Z,13nm,0.3s,baz=309,slow=18
BDFB Brasilia 118.90 125 PKP PKPdf 17 55 56.7 +0.6
comp=Z,12nm,0.6s,baz=275,slow=3.1,SNR=14
BDFB PKKPbc PKKPbc 18 06 13.8 +1.2
comp=Z,4.3nm,0.8s,baz=69,slow=2.2,SNR=4.7
MTP Monte Pirata 119.08 82 *e*PKPdf PKPdf 17 55 55.5 -0.9
BVAR Borovoye Array 120.36 319 PKP PKPdf 17 55 57.3 -1.7
comp=Z,5.8nm,0.3s,baz=126,slow=2.1,SNR=61
BVAR PP PP 17 57 33.9 -0.3
comp=Z,5.8nm,0.9s,baz=90,slow=5.9,SNR=4.3
BVAR SKP 17 58 44.7
comp=Z,4.9nm,0.6s,baz=165,slow=1.4,SNR=5.3
ZRNK Zerenda 121.20 319 *e*PKiKP PKPdf 17 55 58.9 -1.6
BOSA Boshof 122.38 206 PKP PKPdf 17 56 04.0 +1.1
comp=Z,3.2nm,0.4s,baz=132,slow=1.9,SNR=15
BOSA PKKPbc PKKPbc 18 05 58.9 -0.9
comp=Z,3.3nm,0.7s,baz=348,slow=4.1,SNR=8.2
BOSA Boshof 122.38 206 PKP PKPdf 17 56 04.0 +1.1
BOSA PKKPbc PKKPbc 18 05 58.9 -0.9
SCHQ Schefferville 122.52 39 PKP PKPdf 17 56 01.3 -1.8
comp=Z,4.2nm,0.6s,baz=315,slow=3.6,SNR=7.4
SUMG Summit 126.88 14 *e*PKPdf PKPdf 17 56 09.8 -1.6
AKTK Aktyubinsk 128.21 316 PKP PKPdf 17 56 13.1 -0.9
AKTO Aktyubinsk 128.21 316 PKP PKPdf 17 56 13.1 -0.9
comp=Z,3.8nm,0.5s,baz=64,slow=3.4,SNR=8.2
KEV Kevo 131.37 348 *ep* PKPdf 17 56 15.9 -4.1
ARCES ARCESS Array B 131.84 348 PKhKP 17 56 10.0
comp=Z,1.4nm,0.5s,baz=85,slow=1.5,SNR=16
ARCES PKP PKPdf 17 56 19.1 -1.7
comp=Z,9.2nm,0.5s,baz=48,slow=1.1,SNR=31
ARCES SKPbc SKPbc 17 58 56.8 -0.4
comp=Z,16nm,0.6s,baz=32,slow=3.6,SNR=22
ARCES ARCESS Array B 131.84 348 PKP 17 56 10.0
ARCES PKP PKPdf 17 56 19.1 -1.7
ARCES SKPbc SKPbc 17 58 56.8 -0.4
LSZ Lusaka 132.27 218 *e*PKPdf PKPdf 17 56 24.1 +2.5
LSZ *e*SKPbc SKPbc 17 59 00.9 +2.2
TSUM Tsumeb 133.84 203 SKPbc SKPbc 17 59 06.3 +2.4
comp=Z,11nm,1.0s,baz=160,slow=6.2,SNR=5.9
JOF Joensuu 135.68 340 *ep* 17 56 17.4
KMBO Kilima Mbogo 136.03 241 PKP PKPdf 17 56 29.9 +1.2
comp=Z,5.4nm,1.1s,baz=47,slow=2.9,SNR=6.8
KMBO SKPbc SKPbc 17 59 13.4 +2.7
comp=Z,15nm,1.0s,baz=52,slow=1.6,SNR=20
KMBO Kilima Mbogo 136.03 241 *e*PKPdf PKPdf 17 56 29.9 +1.3
ATD Arta Tunnel 137.44 261 SKP 17 59 20.2
comp=Z,34nm,1.2s,baz=197,slow=0.6,SNR=12
KAF Kangasniemi 137.79 342 *ep* 17 56 21.2
FINES FINESS Array B 138.39 341 PKhKP 17 56 21.6
comp=Z,1.5nm,0.4s,baz=41,slow=3.8,SNR=12
FINES PKP PKPdf 17 56 32.5 -0.6
comp=Z,7.7nm,0.7s,baz=15,slow=2.7,SNR=16
FINES SKPbc SKPbc 17 59 17.2 -0.3
comp=Z,19nm,0.5s,baz=51,slow=4.2,SNR=25
FINES SKKPbc 18 08 01.0
comp=Z,0.7nm,0.6s,baz=270,slow=1.9,SNR=6.0
GNI Garni 139.11 304 SKPbc SKPbc 17 59 21.8 +2.2
comp=Z,14nm,0.9s,baz=71,slow=3.1,SNR=7.9
NB2 NORSAR Subarra 142.04 351 PKPa PKPdf 17 56 33.7 -5.9
comp=Z,3.4nm,0.6s,baz=16,slow=3.2
NB2 NORSAR Subarra 142.04 351 PKPab PKPdf 17 56 33.7 -5.9
NOA NORSAR Array B 142.04 351 PKhKP 17 56 34.2
comp=Z,9.0nm,0.8s,baz=16,slow=4.6,SNR=19
NOA SKPbc SKPbc 17 59 27.1 0.0
comp=Z,9.5nm,0.6s,baz=14,slow=4.1,SNR=16
NOA NORSAR Array B 142.04 351 PKP 17 56 34.2
NOA SKPbc SKPbc 17 59 27.1 0.0
NAO01 NORSAR Array S 142.28 351 *e*PKPpre 17 56 34.8
HFS Hagfors 142.50 349 PKhKP 17 56 35.4
comp=Z,36nm,0.3s,baz=62,slow=2.7,SNR=300
HFS SKPbc SKPbc 17 59 28.0 -0.3
comp=Z,17nm,0.8s,baz=127,slow=0.7,SNR=10.0
HFS SKKPbc 18 07 45.5
comp=Z,2.2nm,0.7s,baz=197,slow=3.1,SNR=5.5
KONO Kongsberg 143.61 352 *e*PKiKP PKPdf 17 56 39.7 -2.6
MALT Malatya 144.27 303 *e*PKP PKPdf 17 56 44.3 +0.8
MALT *e*SKPbc SKPbc 17 59 34.7 +2.2
AKASG Malin Array Be 144.90 327 PKP PKPdf 17 56 43.6 -1.0
comp=Z,23nm,0.4s,baz=45,slow=4.3,SNR=170
AKASG SKPbc SKPbc 17 59 33.3 -0.6
comp=Z,26nm,0.7s,baz=45,slow=2.2,SNR=30
AKASG SKKPbc 18 07 34.1
comp=Z,0.2nm,0.3s,baz=239,slow=6.6,SNR=5.7
SUW Suwalki 145.20 336 *e*PKP PKPdf 17 56 44.9 -0.2
SUW *e* 17 56 46.6
SUW Suwalki 145.20 336 *e*PKP PKPdf 17 56 44.9 -0.2
SUW *e* 17 56 46.6
SUW *e*SKPbc SKPbc 17 59 35.2 +0.6
FKH Fakeheh 146.62 296 *eP* PKPdf 17 56 51.0 +3.6
BHL Bhannes 147.28 296 *eP* PKPdf 17 56 52.4 +3.8
BR131 Keskin Array S 147.49 307 *e*PKPdf PKPdf 17 56 48.6 -0.3
BR131 *e*PKPbc PKPbc 17 56 52.2 -0.1
BR131 *e*PKPab PKPab 17 56 56.3 0.0
BRTR Keskin Array B 147.49 307 PKPbc PKPbc 17 56 52.0 -0.4
comp=Z,11nm,0.8s,baz=144,slow=3.5,SNR=44
BRTR pPKPbc pPKPbc 17 58 53.5 -1.8
comp=Z,3.0nm,0.8s,baz=122,slow=4.0,SNR=3.4
BRTR SKPbc SKPbc 17 59 41.5 +1.9
comp=Z,4.6nm,0.9s,baz=87,slow=2.6,SNR=3.7
SAFT Safranbolu 147.64 310 *eP* PKPdf 17 56 53.8 +4.6
GKP Gorka Klasztor 147.85 340 *e*PKP PKPdf 17 56 53.0 +3.5
GKP *e* 17 56 53.4
ANTO Ankara 148.05 308 *eP* PKPbc 17 56 54.9 +1.0
ANTO Ankara 148.05 308 *e*PKPdf PKPdf 17 56 49.7 -0.2
ANTO *e*PKPbc PKPbc 17 56 54.2 +0.4
ANTO *e*PKPab PKPab 17 56 59.3 +0.8
EIL Elat 148.26 288 *e*PKPdf PKPdf 17 56 50.4 +0.2
EIL *e*PKPbc PKPbc 17 56 55.6 +1.3
EIL *e*PKPab PKPab 17 57 01.2 +1.9
PHNC Paralimni 148.41 298 P PKPbc 17 56 54.8 +0.1
comp=Z,1.6nm,1.1s
IKL Isikli 148.43 301 *eP* PKPdf 17 56 54.4 +3.9
EKA Eskdalemuir Ar 148.50 3 PKPbc PKPbc 17 56 53.6 -1.3
comp=Z,9.2nm,0.4s,baz=329,slow=2.2,SNR=60
EKA pPKPbc pPKPbc 17 58 53.3 -4.9
comp=Z,2.4nm,0.9s,baz=204,slow=20,SNR=2.9
KWP Kalwaria 148.70 331 *e*PKP PKPbc 17 56 55.2 -0.2
KWP *e* 17 56 55.7
CFR Carcaliu 148.75 320 ⇑P PKPbc 17 56 54.8 -0.7
CFR Carcaliu 148.75 320 ⇑P PKPbc 17 56 54.8 -0.7
BURAR Bucovina Array 148.90 326 ⇓P PKPbc 17 56 55.7 -0.2
BSEG Bad Segeberg 148.97 348 *e*PKPdf PKPdf 17 56 51.2 -0.1
BSEG *e*PKPbc PKPbc 17 56 55.3 -0.8
BSEG *e*PKPab PKPab 17 57 02.0 -0.3
TIRR Tirgusor 148.97 318 ⇓P PKPdf 17 56 54.3 +3.0
TIRR Tirgusor 148.97 318 *e*PKPbc PKPbc 17 56 55.4 -0.7
TIRR *e*PKPab PKPab 17 57 02.8 +0.5
CSS Prodhromos 148.99 299 P PKPbc 17 56 56.3 +0.2
CSS Prodhromos 148.99 299 *eP* PKPbc 17 56 56.6 +0.5
MAMC Mammari 149.03 299 ⇓P PKPdf 17 56 56.7 +5.3
KIZT Kizilcal 149.05 306 *eP* PKPdf 17 56 55.5 +4.1
HARR Harsova 149.14 319 ⇓P PKPbc 17 56 56.8 +0.3
VRI Vrincioaia 149.17 322 ⇓P PKPbc 17 56 55.5 -1.1
VRI Vrincioaia 149.17 322 ⇓P PKPbc 17 56 55.5 -1.0
SZAC Souni-Zanaja 149.39 298 P PKPbc 17 56 56.9 -0.2
KOLS Kolonicke sedl 149.41 330 *e*PKP PKPdf 17 56 53.7 +1.7
KOLS *e* 17 56 57.2
KOLS *e* 17 59 02.8
OJC Ojcow 149.47 334 *e*PKPdf PKPbc 17 56 56.7 -0.6
STHS Stebnicka Huta 149.50 332 *i* PKP PKPbc 17 56 57.4 +0.1
STHS *e* 17 59 04.1
RUE Ruedersdorf 149.54 343 *e*PKPbc PKPbc 17 56 56.9 -0.5
RUE *e*PKPab PKPab 17 57 04.2 -0.5
DMUB Kingscourt 149.58 8 *eP* PKPdf 17 56 55.3 +3.0
AKMC Akamas 149.78 299 P PKPbc 17 56 57.4 -0.6
CRVS Cervenica-Dubn 149.79 331 *e*PKP PKPbc 17 56 58.8 +0.8
CRVS *e* 17 59 03.8
PPCY Paphos 149.79 299 P PKPbc 17 56 57.7 -0.3
MLR Muntele Rosu 149.84 322 PKP PKPdf 17 56 51.8 -0.9
comp=Z,1.3nm,0.4s,baz=268,slow=5.5,SNR=5.2
MLR PKPbc PKPbc 17 56 57.4 -0.8
comp=Z,5.4nm,0.4s,baz=314,slow=3.6,SNR=16
MLR pPKPbc pPKPbc 17 58 58.6 -3.2
comp=Z,3.6nm,0.7s,baz=294,slow=20,SNR=1.4
MLR Muntele Rosu 149.84 322 ⇓P PKPbc 17 56 57.9 -0.2
MLR Muntele Rosu 149.84 322 PKP PKPdf 17 56 51.8 -0.9
MLR PKPbc PKPbc 17 56 57.4 -0.8
MLR ⇓P 17 56 57.9
MLR pPKPbc pPKPbc 17 58 58.6 -3.2
NIE Niedzica 149.89 333 *e*PKP PKPbc 17 56 58.3 0.0
DCN Croghan 150.08 9 *eP* PKPdf 17 56 56.4 +3.3
DLF Lyons Farm 150.22 8 *eP* PKPdf 17 56 56.6 +3.3
KSP Ksiaz 150.23 339 *e*PKP PKPbc 17 56 58.9 -0.2
KSP *e* 17 59 59.6
KSP Ksiaz 150.23 339 ⇑*i*PKPdf PKPbc 17 56 58.9 -0.2
KSP *e* 17 57 07.8
KSP *ep*PKP pPKPdf 17 59 01.8 +3.5
VOIR 150.37 323 ⇓P PKPbc 17 56 59.3 -0.1
VOIR 150.37 323 ⇓P PKPbc 17 56 59.3 -0.1
ISP Isparta 150.41 305 *e*PKPbc PKPbc 17 56 58.8 -0.7
OKC Ostrava-Krasne 150.42 336 ⇑*e*PKPB PKPbc 17 56 58.2 -1.3
OKC *ep*PKP pPKPdf 17 59 06.7 +8.1
KECS Kecovo 150.53 332 *e*PKP PKPbc 17 56 59.3 -0.5
KECS *e* 17 57 08.9
KECS *e* 17 59 07.6
UPC Upice 150.61 339 ⇑*e*PKPB PKPbc 17 56 59.4 -0.5
UPC *e*PKPAB PKPab 17 57 09.8 +0.6
UPC *ep*PKP pPKPdf 17 59 05.8 +6.9
DPC Dobruska-Polom 150.64 338 *e*PKPDF PKPdf 17 56 53.2 -0.7
DPC ⇑*e*PKPB PKPbc 17 56 59.9 -0.1
DPC *e*PKPAB PKPab 17 57 09.4 +0.1
DPC *ep*PKP pPKPdf 17 59 04.2 +5.2
MORC Moravsky Berou 150.69 336 *e*PKPdf PKPdf 17 56 53.3 -0.7
MORC *e*PKPbc PKPbc 17 56 59.3 -0.8
MORC ⇑P 17 56 60.0
MORC *e*PKPab PKPab 17 57 09.1 -0.4
CLL Collm 150.81 343 *e*PKPdf PKPdf 17 56 53.4 -0.8
CLL *e*PKPbc PKPbc 17 56 59.7 -0.7
CLL *e*PKPab PKPab 17 57 09.6 -0.4
CLL *ep*PKPab pPKPab 17 59 13.9 +5.0
CLL Collm 150.81 343 *i* PKPdf PKPdf 17 56 52.9 -1.3
comp=Z,64nm,2.3s
CLL ⇑*i*PKPbc PKPbc 17 56 59.7 -0.7
comp=Z,52nm,0.8s
CLL *i* PKPbc(2) 17 57 01.3
comp=Z,53nm,0.8s
CLL *i* PKPab PKPab 17 57 09.4 -0.6
comp=Z,32nm,0.8s
CLL *i* PKPab(2) 17 57 10.8
comp=Z,20nm,0.8s
CLL *ep*PKPdf pPKPdf 17 59 03.0 +3.8
CLL *i* pPKPbc pPKPbc 17 59 08.5 +4.4
comp=Z,49nm,1.1s
CLL *i* pPKPbc2 17 59 13.6
CLL *ep*PKPab2 17 59 18.0
CLL *e*SKKSac SKKSac 18 06 40.0 -0.4
CLL Collm 150.81 343 *i* PKP PKPdf 17 56 52.9 -1.3
CLL *i* PKP PKPbc 17 56 59.7 -0.7
CLL *i* PKP PKPab 17 57 09.4 -0.6
CLL *i* pPKP pPKPdf 17 59 08.5 +9.3
CLL *e*SKKS SKKSac 18 06 40.0 -0.4

BRG	**Berggiesshubel**	**150.93 342**	*e*PKPdf	PKPdf	17 56 53.8	-0.6
BRG			*e*PKPbc	PKPbc	17 57 00.2	-0.5
BRG			*e*PKPab	PKPab	17 57 10.2	-0.3
BRG			*ep*PKPdf	pPKPdf	17 59 04.7	+5.3
BRG			*ep*PKPbc	pPKPbc	17 59 08.2	+3.7
BRG			*ep*PKPab	pPKPab	17 59 18.4	+9.0
BRG	**Berggiesshubel**	**150.93 342**	*e*PKP	PKPdf	17 56 53.1	-1.3
	comp=Z,6.8nm,1.3s					
BRG			*i*		17 57 00.0	
	comp=Z,27nm,0.5s					
BRG			*i*		17 57 10.3	
	comp=Z,18nm,0.9s					
BRG			*i*		17 58 57.0	
BRG			*i* pPKP	pPKPdf	17 59 07.9	+8.5
	comp=Z,19nm,1.0s					
BRG			*i*		17 59 18.6	
	comp=Z,20nm,1.2s					
CLZ	**Clausthal**	**150.94 347**	*e*PKPbc	PKPbc	17 57 00.2	-0.5
CLZ			*e*PKPab	PKPab	17 57 10.3	-0.3
CLZ	**Clausthal**	**150.94 347**	*e*PKPab	PKPab	17 57 10.3	-0.3
IBBN	**Ibbenburen**	**150.98 350**	*e*PKPdf	PKPdf	17 56 55.3	+0.8
IBBN			*e*PKPbc	PKPbc	17 57 00.6	-0.2
IBBN			*e*PKPab	PKPab	17 57 10.1	-0.6
PVCC	**Panska Ves**	**151.05 340**⇑	*e*PKPB	PKPbc	17 57 00.7	-0.2
ELL	**Elmali**	**151.22 303**	*e*P	PKPdf	17 57 00.2	+5.4
PSZ	**Piszkesteto**	**151.22 331**	*e*PKIKP	PKPbc	17 57 00.6	-0.7
VYHS	**Vyhne**	**151.22 333**	*e*PKP	PKPbc	17 57 00.7	-0.6
VYHS			*e*		17 57 12.2	
VYHS			*e*		17 59 06.1	
VRAC	**Vranov**	**151.43 337**	PKPbc	PKPbc	17 57 01.7	-0.1
	comp=Z,2.9nm,0.4s,baz=134,slow=3.8,SNR=8.0					
VRAC			PKPab	PKPab	17 57 12.8	+0.2
	comp=Z,32nm,0.8s,baz=37,slow=3.6,SNR=30					
VRAC			pPKPbc	pPKPbc	17 59 03.9	-1.7
	comp=Z,3.4nm,0.7s,baz=146,slow=9.9,SNR=1.6					
VRAC	**Vranov**	**151.43 337** ⇑	P	PKPbc	17 57 02.1	+0.3
WTSB	**Winterswijk**	**151.46 351**⇑	*i*P	PKPdf	17 57 01.0	+5.8
	comp=Z,77nm,1.3s					
PRU	**Pruhonice**	**151.53 340**	*e*PKPDF	PKPdf	17 56 55.6	+0.3
PRU		⇑	*e*PKPB	PKPbc	17 57 01.3	-0.7
PRU			*e*PKPAB	PKPab	17 57 13.1	0.0
PRU			*ep*PKP	pPKPdf	17 59 06.4	+6.0
SMOL	**Smolenice**	**151.77 335**	*e*PKP	PKPbc	17 57 03.1	+0.5
SMOL			*e*		17 57 14.9	
SMOL			*e*		17 59 12.6	
MOX	**Moxa**	**151.77 344**	*e*PKPbc	PKPbc	17 57 01.5	-1.1
MOX			*e*PKPab	PKPab	17 57 13.7	-0.4
MOX	**Moxa**	**151.77 344**	*e*PKP	PKPdf	17 56 52.8	-2.8
MOX			*e*		17 57 01.6	
	comp=Z,48nm,1.5s					
MOX			*e*		17 57 13.4	
MOX			*e*		17 59 07.1	
WERD	**Werda**	**151.77 343**	*e*PKPdf	PKPdf	17 56 56.0	+0.4
WERD			*e*PKPbc	PKPbc	17 57 01.9	-0.7
WERD			*e*PKPab	PKPab	17 57 13.7	-0.4
BUG	**Bochum--Univer**	**151.90 350**	*e*PKPbc	PKPbc	17 57 02.5	-0.3
BUG			*e*PKPab	PKPab	17 57 13.9	-0.7
BUG			*ep*PKPab	pPKPab	17 59 18.3	+4.9
NKC	**Novy Kostel**	**151.93 343**	*e*PKPDF	PKPdf	17 56 55.2	-0.7
NKC		⇑	*e*PKPB	PKPbc	17 57 02.2	-0.7
NKC			*e*PKPAB	PKPab	17 57 14.6	-0.1
NKC			*ep*PKP	pPKPdf	17 59 08.5	+7.5
UBBA	**Unterbreizbach**	**151.99 346**	*e*PKPdf	PKPdf	17 56 56.4	+0.5
UBBA			*e*PKPbc	PKPbc	17 57 02.8	-0.2
UBBA			*e*PKPab	PKPab	17 57 14.5	-0.5
BZS	**Buzias**	**152.08 326**	PKIKP	PKPdf	17 56 55.4	-0.7
ZST	**Bratislava**	**152.15 335**	*e*PKP	PKPbc	17 57 03.5	+0.1
ZST			*e*		17 57 15.8	
MANZ	**Manzenberg**	**152.25 343**	*e*PKPdf	PKPdf	17 56 55.9	-0.4
MANZ			*e*PKPbc	PKPbc	17 57 03.6	0.0
ROTZ	**Rotzenmuhle**	**152.42 343**	*e*PKPbc	PKPbc	17 57 04.0	0.0
ROTZ			*e*PKPab	PKPab	17 57 17.0	+0.2
KHC	**Kasperske Hory**	**152.59 340**	*e*PKPDF	PKPdf	17 56 56.4	-0.4
KHC		⇑	*e*PKPB	PKPbc	17 57 03.8	-0.6
KHC			*e*PKPAB	PKPab	17 57 17.4	-0.1
KHC			*ep*PKP	pPKPdf	17 59 09.1	+7.1
GRA1	**Grafenberg Arr**	**152.75 344**	*e*PKPdf	PKPdf	17 56 56.3	-0.8
GRA1			*e*PKPab	PKPab	17 57 18.2	0.0
GRA1			*ep*PKPab	pPKPab	17 59 22.7	+5.8
GRF	**Grafenberg Arr**	**152.75 344**	*e*PKPdf	PKPdf	17 56 56.3	-0.8
GRF			*e*PKPab	PKPab	17 57 18.2	0.0
GRF			*ep*PKPab	pPKPab	17 59 22.7	+5.8
HGN	**Heimansgroeve**	**152.75 352**	*e*P	PKPab	17 57 16.4	-1.9
	comp=Z,36nm,1.2s					
BEBN	**Eben Emael**	**152.75 352**	PKPab	PKPab	17 57 17.7	-0.6
WET	**Wettzell**	**152.79 341**	*e*PKPdf	PKPdf	17 56 56.7	-0.4
WET			*e*PKPbc	PKPbc	17 57 04.0	-0.8
WET			*e*PKPab	PKPab	17 57 18.4	0.0
GEC2	**GERESS Array S**	**152.80 340**	*e*PKPdf	PKPdf	17 56 56.3	-0.8
GEC2			*e*PKPbc	PKPbc	17 57 04.5	-0.3
GEC2			*e*PKPab	PKPab	17 57 18.6	+0.2
GEC2			*ep*PKPab	pPKPab	17 59 22.4	+5.3
GERES	**GERESS Array B**	**152.80 340**	PKP	PKPdf	17 56 55.6	-1.5
	comp=Z,1.1nm,1.0s,baz=29,slow=3.0,SNR=5.7					
GERES			PKPbc	PKPbc	17 57 03.9	-0.9
	comp=Z,2.3nm,0.5s,baz=16,slow=1.8,SNR=26					
GERES			PKPab	PKPab	17 57 18.5	+0.1
	comp=Z,4.7nm,0.7s,baz=28,slow=6.0,SNR=12					
GERES			pPKPbc	pPKPbc	17 59 06.1	-2.7
	comp=Z,1.0nm,0.8s,baz=46,slow=5.8,SNR=1.6					
TNS	**Taunus Mts**	**152.87 348**	*e*PKPdf	PKPdf	17 56 56.9	-0.3
TNS			*e*PKPbc	PKPbc	17 57 04.1	-0.9
TNS			*e*PKPab	PKPab	17 57 17.9	-0.8
MEM	**Membach**	**152.89 351**	PKP	PKPdf	17 56 58.2	+0.9
MEM			PKPbc	PKPbc	17 57 04.4	-0.7
MEM			PKPab	PKPab	17 57 17.7	-1.1
MEM			APKPbc		17 59 07.5	
MEM			APKPab		17 59 13.9	
PKSM	**Moragy**	**153.07 330**	PKIKP	PKPdf	17 56 57.0	-0.5
VTS	**Vitosha**	**153.15 320**	PKIKP	PKPbc	17 57 06.1	+0.5
SNF			PKPbc	PKPbc	17 57 05.2	-0.5
SNF			PKPab	PKPab	17 57 19.3	-0.8
SNF			APKPbc		17 59 08.0	
SNF			APKPab		17 59 13.9	
SNF	**Seneffe**	**153.20 354**	PKP	PKPdf	17 56 57.3	-0.4
MOA	**Molln**	**153.48 338**⇑	*i*P	PKPdf	17 56 58.0	-0.1
	comp=Z,12nm,1.5s					
MOA	**Molln**	**153.48 338**⇑	*i*P	PKPdf	17 56 58.0	-0.1
DOU	**Dourbes**	**153.57 353**	PKP	PKPdf	17 57 05.6	+7.4
DOU			PKPbc	PKPbc	17 57 12.3	+5.9
DOU			PKPab	PKPab	17 57 20.9	-0.9
DOU			APKPbc		17 59 08.3	
DOU			APKPab		17 59 16.7	
GRUS	**Gruza**	**153.73 325**	*e*PKP	PKPdf	17 57 06.0	+7.5
WLF	**Walferdange**	**153.80 351**	*e*PKPdf	PKPdf	17 56 58.8	+0.2
WLF			*e*PKPbc	PKPbc	17 57 07.1	+0.1
WLF			*e*PKPab	PKPab	17 57 22.2	-0.5
WLF			*ep*PKPab	pPKPab	17 59 26.7	+5.4
WLF	**Walferdange**	**153.80 351**	PKP	PKPdf	17 56 58.8	+0.2
WLF			PKPbc	PKPbc	17 57 07.4	+0.5
WLF			PKPab	PKPab	17 57 22.5	-0.2
WLF			APKPab		17 59 12.3	
WLF			E		17 59 16.5	
WLF			E		17 59 26.4	
DIVS	**Divcibare**	**153.96 326**⇑	*i*PKP	PKPdf	17 56 57.3	-1.5
STU	**Stuttgart**	**154.09 346**	*e*PKPdf	PKPdf	17 56 58.1	-0.9
STU			*e*PKPbc	PKPbc	17 57 07.5	-0.1
STU			*e*PKPab	PKPab	17 57 23.2	-0.7
FUR	**Furstenfeldbru**	**154.13 342**	*e*PKPdf	PKPdf	17 56 59.5	+0.5
FUR			*e*PKPbc	PKPbc	17 57 08.3	+0.6
FUR			*e*PKPab	PKPab	17 57 24.0	-0.1
FUR			*ep*PKPab	pPKPab	17 59 28.9	+6.2
PERS	**Pernice**	**154.20 335**	*e*PKPbc	PKPab	17 57 24.6	+0.2
DOBS	**Dobrina**	**154.47 334**	*e*PKPab	PKPab	17 57 25.1	-0.4
BFO	**Black Forest**	**154.69 347**	*e*PKPab	PKPab	17 57 25.9	-0.6
BFO	**Black Forest**	**154.69 347**	*e*PKPbc	PKPdf	17 57 08.2	+8.4
BFO			*e*PKPab	PKPab	17 57 25.8	-0.7
BFO	**Black Forest**	**154.69 347**	*e*PKPab	PKPab	17 57 25.9	-0.6
CDF	**Champ du Feu**	**154.82 348**	*e*PKIKP	PKPdf	17 56 58.6	-1.4
LJU	**Ljubljana**	**154.92 335**	*e*PKPdf	PKPdf	17 57 00.5	+0.4
LJU			*e*PKPbc	PKPdf	17 57 08.2	+8.1
LJU			*e*PKPab	PKPab	17 57 27.0	-0.5
LJU			*ep*PKPbc	pPKPbc	17 59 11.0	-2.5
LJU			*ep*PKPab	pPKPab	17 59 19.5	-6.5
MOTA	**Moosalm**	**154.93 342**⇑	*i*P	PKPdf	17 56 58.7	-1.4
	comp=Z,15nm,1.4s					
MOTA	**Moosalm**	**154.93 342**⇑	*i*P	PKPdf	17 56 58.7	-1.4
BOJS	**Bojanci**	**155.09 334**	*e*PKPab	PKPab	17 57 28.1	-0.2
BOJS			*ep*PKPbc	pPKPbc	17 59 20.1	+6.2
FLN	**La Foliniere**	**155.16 1**	*e*PKIKP	PKPdf	17 56 59.2	-1.2
LDF	**La Druitiere**	**155.33 0**	*e*PKIKP	PKPdf	17 56 59.2	-1.4
HAU	**Haudompre**	**155.38 350**	*e*PKIKP	PKPdf	17 56 59.8	-0.9
ROSF	**Rostrenen**	**155.46 5**	*e*PKIKP	PKPdf	17 56 59.7	-1.1
HINF	**Hinteralfeld**	**155.47 349**	*e*PKIKP	PKPdf	17 56 59.8	-1.0
GRR	**Gorron**	**155.53 1**	*e*PKIKP	PKPdf	17 57 00.3	-0.6
IDI	**Anoyia**	**155.54 303**	PKPbc	PKPdf	17 57 10.0	+9.1
	comp=Z,2.5nm,0.3s,baz=307,slow=5.1,SNR=5.4					
IDI			PKPab	PKPab	17 57 30.2	0.0
	comp=Z,5.3nm,0.4s,baz=148,slow=19,SNR=5.1					
DAVOX	**Davos**	**155.78 343**	PKPbc	PKPdf	17 57 13.3	+12
	comp=Z,4.2nm,0.4s,baz=232,slow=4.8,SNR=7.0					
DAVOX			PKPab	PKPab	17 57 31.5	+0.3
	comp=Z,27nm,0.7s,baz=18,slow=2.8,SNR=18					
QUIF	**Quistinic**	**155.88 5**	*e*PKIKP	PKPdf	17 57 00.0	-1.4
LOR	**Lormes**	**156.44 353**	*e*PKIKP	PKPdf	17 57 01.0	-1.1
	comp=Z,13nm,0.9s					
SSF	**Saint Saulge**	**156.68 354**	*e*PKIKP	PKPdf	17 57 01.3	-1.1
	comp=Z,18nm,1.0s					
CABF	**La Chapelle**	**156.77 349**	*e*PKIKP	PKPdf	17 57 01.7	-0.8
	comp=Z,25nm,1.1s					
AVF	**Avril sur Loir**	**156.97 354**	*e*PKIKP	PKPdf	17 57 01.7	-1.1
BGF	**Bois d'Agland**	**157.24 355**	*e*PKIKP	PKPdf	17 57 02.2	-0.9
MFF	**Saint Martin d**	**157.32 0**	*e*PKIKP	PKPdf	17 57 02.1	-1.1
	comp=Z,138nm,1.7s					
TCF	**Toulx Ste Croi**	**157.56 356**	*e*PKIKP	PKPdf	17 57 02.2	-1.3
LPL	**La Plagne**	**157.71 347**	*e*PKIKP	PKPdf	17 57 02.5	-1.2
LPG	**La Plagne**	**157.72 347**	*e*PKIKP	PKPdf	17 57 03.1	-0.6
VIVF	**Saint-Julien-l**	**158.71 351**	*e*PKIKP	PKPdf	17 57 04.1	-0.8
CAF	**Calviac**	**158.93 356**	*e*PKIKP	PKPdf	17 57 04.4	-0.7
LFF	**La Frestale**	**158.98 358**	*e*PKIKP	PKPdf	17 57 04.1	-1.1
SMRF	**Simiane la Rot**	**159.41 348**	*e*PKIKP	PKPdf	17 57 03.7	-2.0
	comp=Z,81nm,1.7s					
LASF	**Ste Croix**	**159.59 352**	*e*PKIKP	PKPdf	17 57 03.9	-2.0
	comp=Z,27nm,1.1s					
FRF	**La Foret Royal**	**159.59 346**	*e*PKIKP	PKPdf	17 57 03.7	-2.2
LMR	**La Mourre**	**159.84 346**	*e*PKIKP	PKPdf	17 57 03.8	-2.4
MTLF	**Montolieu**	**160.49 355**	*e*PKIKP	PKPdf	17 57 06.2	-0.7
SJPF	**Ste Jean**	**160.79 2**	*e*PKIKP	PKPdf	17 57 06.2	-1.0
	comp=Z,26nm,1.3s					
EPF	**Esparros**	**160.89 359**	*e*PKIKP	PKPdf	17 57 06.7	-0.6
	comp=Z,27nm,1.2s					
ETSF	**Etsaut**	**161.02 1**	*e*PKIKP	PKPdf	17 57 06.1	-1.3
	comp=Z,11nm,0.9s					
PBRG	**Braganca**	**161.28 16**	*e*PKPab	PKPab	17 57 54.7	-0.5
PVRL	**Vila Real**	**161.52 18**	*e*PKPdf	PKPdf	17 57 08.6	+0.7
PVRL	**Vila Real**	**161.52 18**	*e*PKPab	PKPab	17 57 55.9	-0.3
LIC	**Lamto**	**161.82 164**	*e*PKIKP	PKPdf	17 57 05.2	-3.1
	comp=Z,34nm,1.1s					
PVIS	**Viseu**	**161.98 19**	*e*PKPab	PKPab	17 57 58.1	-0.2
DBIC	**Dimbokro**	**162.29 164**	PKP	PKPdf	17 57 08.7	-0.1
	comp=Z,9.3nm,0.6s,baz=223,slow=2.5,SNR=12					
DBIC			PKPab	PKPab	17 58 01.2	+1.6
	comp=Z,8.2nm,0.7s,baz=192,slow=4.7,SNR=7.0					
MTE	**Manteigas**	**162.37 19**	*e*PKPdf	PKPdf	17 57 09.5	+0.7
PTOM	**Tomar**	**162.80 22**	*e*PKPdf	PKPdf	17 57 10.1	+0.9
PTOM	**Tomar**	**162.80 22**	*e*PKPab	PKPab	17 58 01.4	-0.5
PCBR	**Castelo Branco**	**162.91 20**	*e*PKPdf	PKPdf	17 57 10.0	+0.7
PCBR	**Castelo Branco**	**162.91 20**	*e*PKPab	PKPab	17 58 00.7	-1.6
ESDC	**Sonseca Array**	**163.91 11**	PKPab	PKPab	17 58 05.7	-1.1
	comp=Z,4.7nm,0.9s,baz=349,slow=4.3,SNR=13					
PTEO	**Sao Teotonio**	**164.50 26**	*e*PKPdf	PKPdf	17 57 11.9	+1.1
TORD	**Torodi Ar. Bea**	**169.19 189**	PKP	PKPdf	17 57 13.8	-0.4
	comp=Z,4.1nm,0.8s,baz=347,slow=0.8,SNR=14					
TORD			PKPab	PKPab	17 58 31.2	+1.1
	comp=Z,8.4nm,0.7s,baz=159,slow=4.9,SNR=16					
TORD			PP	PP	18 02 21.1	+0.4
	comp=Z,5.0nm,1.2s,baz=188,slow=3.7,SNR=5.9					
MDT	**Midelt**	**170.25 23**	PKP	PKPdf	17 57 15.9	+1.0
	comp=Z,7.6nm,0.9s,baz=117,slow=2.7,SNR=11					
MDT			PKPab	PKPab	17 58 34.0	-0.9
	comp=Z,2.4nm,0.7s,baz=317,slow=4.4,SNR=6.6					
KBK	**Karagaybulak**	**6.88 26**	P	**Pn**	**17 41 05.8**	**+0.2**
	SNR=6.0					
SDNR	**Sundarnagar**	**7.09 133**	*e*P	**Pn**	**17 41 07.5**	**-0.8**
SDNR			*e*S	Px	17 41 53.1	
SDNR	**Sundarnagar**	**7.09 133**	*e*P	**Pn**	**17 41 07.5**	**-0.8**
SDNR			*e*S	Px	17 41 53.1	
CHMS	**Chumysh**	**7.12 23**	P	**Pn**	**17 41 08.5**	**-0.1**
	SNR=5.3					
USP	**Ospenovka**	**7.28 21**	P	**Pn**	**17 41 09.8**	**-1.0**
	SNR=6.4					
TKM2	**Tokmak 2**	**7.34 28**	P	**Pn**	**17 41 11.6**	**0.0**
	SNR=6.6					
TKM2	**Tokmak 2**	**7.34 28** ⇓	P	**Pn**	**17 41 11.5**	**-0.1**
	3.5nm,0.6s					
MK31	**Makanchi Array**	**13.32 36** ⇑	P	**Pn**	**17 42 28.9**	**+0.1**
	0.5nm,0.3s,baz=212,slow=10,SNR=9.8					
MKAR	**Makanchi Array**	**13.32 36**	P	**Pn**	**17 42 29.1**	**+0.4**
	0.1nm,0.3s,baz=220,slow=12,SNR=8.2					
MKAR	**Makanchi Array**	**13.32 36**	P	**Pn**	**17 42 29.2**	**+0.4**
KOLN	**Koldanda**	**13.83 126**	*e*P	**Pn**	**17 42 33.3**	**-1.8**
	7.5nm,0.3s					
GKN	**Gorkha**	**14.37 122**	*e*P	**Pn**	**17 42 40.7**	**-1.1**
	13nm,0.2s					
DMN	**Daman**	**14.94 122**	*e*P	**Pn**	**17 42 48.9**	**+0.1**
	12nm,0.4s					
KKN	**Kakani**	**14.94 122**	*e*P	**Pn**	**17 42 48.4**	**-0.5**
	15nm,0.5s					
KKN	**Kakani**	**14.94 122**	*e*P	**Pn**	**17 42 48.4**	**-0.5**
KKN			pmax	pmax		
	comp=Z,8.0nm,0.5s					
AB31	**Akbulak array**	**15.04 331**	P	**Pn**	**17 42 49.0**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=146,slow=12,SNR=50					
PKI	**Pulchoki**	**15.17 122**	*e*P	**Pn**	**17 42 52.5**	**+0.8**
	comp=Z,12nm,0.4s					
PKI	**Pulchoki**	**15.17 122**	*e*P	**Pn**	**17 42 52.5**	**+0.8**
PKI			pmax	pmax		
	comp=Z,6.0nm,0.4s					
GUN	**Gumba**	**15.28 120**	*e*P	**Pn**	**17 42 53.9**	**+0.8**
	comp=Z,7.0nm,0.3s					
JIRN	**Jiri**	**15.65 120**	*e*P	**Pn**	**17 42 58.1**	**+0.5**
	comp=Z,31nm,0.4s					
VOSK	**Vostochnaya**	**16.21 0**	P	**Pn**	**17 43 02.6**	**-1.6**
ZRNK	**Zerenda**	**16.49 356**	P	**Pn**	**17 43 06.8**	**-0.8**
ZRNK	**Zerenda**	**16.49 356**	*e*P	**Pn**	**17 43 06.6**	**-1.0**
ZRNK			pmax	pmax		
	comp=Z,5.0nm,0.5s					
BVA0	**Borovoye Array**	**16.51 359**	P	**Pn**	**17 43 07.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=162,slow=12,SNR=15					
BVAR	**Borovoye Array**	**16.51 359**	P	**Pn**	**17 43 07.8**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=164,slow=12,SNR=18					
BVAR	**Borovoye Array**	**16.51 359**	P	**Pn**	**17 43 07.8**	**-0.1**
AKTK	**Aktyubinsk**	**16.73 330**	P	**Pn**	**17 43 11.0**	**+0.4**
AKTO	**Aktyubinsk**	**16.73 330** ⇑	P	**Pn**	**17 43 10.9**	**+0.4**
	comp=Z,1.8nm,0.7s					
AKTO	**Aktyubinsk**	**16.73 330**	P	**Pn**	**17 43 11.0**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=138,slow=11,SNR=47					
AKTO	**Aktyubinsk**	**16.73 330**	P	**Pn**	**17 43 11.0**	**+0.4**
AKTO			pmax	pmax		
	comp=Z,2.0nm,0.3s					
MLR	**Muntele Rosu**	**34.72 299**	P	**P**	**17 45 58.9**	**+0.1**
	comp=Z,1.5nm,0.5s,mb3.9,baz=165,slow=14,SNR=3.1					
FINES	**FINESS Array B**	**37.43 326**	P	**P**	**17 46 23.0**	**+1.1**
	comp=Z,2.1nm,1.1s,mb3.7,baz=113,slow=11,SNR=3.1					
ARCES	**ARCESS Array B**	**41.10 338**	P	**P**	**17 46 53.8**	**+1.6**
	comp=Z,2.4nm,0.8s,mb3.9,baz=114,slow=8.2,SNR=9.2					
HFS	**Hagfors**	**43.01 322**	P	**P**	**17 47 08.8**	**+1.2**
	comp=Z,0.3nm,0.3s,mb3.4,baz=96,slow=15,SNR=4.5					
TORD	**Torodi Ar. Bea**	**65.65 269**	P	**P**	**17 49 49.6**	**-1.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=51,slow=5.9,SNR=4.1					

*UPP **20** 17:38:43.6, 5758N×1043E, h0km, ML2.5, Suspected Mining explosion.*
*ISCJB **20** 17:38:44.6±0.9, 5774N±009×1069E±009, h0km, Error ellipse: s-maj=13.9km s-min=4.6km az=42.5*
*CSEM **20** 17:38:45.7±0.2, 5782N×1075E, h1km, ML1.7, Error ellipse: s-maj=7.8km s-min=2.2km az=8.0, Suspected Mining explosion.*
*BER **20** 17:38:47.4±2.2, 5745N×1037E, h0km±194km, MD2.2, ML1.7*

ISC 20 17:38:45.3±0.9, **5768N**±009×**1067E**±009, **h0**km, **n22**, σ**0**:**67**/**27**, **Denmark**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONO	**Kongsberg**	**2.05**	**345**	*e*S	**Sn**	**17 39 51.3**	**+4.0**
VXJU	**Vaexsjoe**	**2.44**	**106**	P	**Pn**	**17 39 25.9**	**-0.5**
ASKU	**Askersund**	**2.51**	**59**	P	**Pn**	**17 39 27.6**	**+0.2**
LNKU	**Linkoeping**	**2.63**	**76**	P	**Pn**	**17 39 29.2**	**+0.1**
BLS5	**Blasjo**	**2.81**	**310**	*e*P	**Pn**	**17 39 32.4**	**+0.8**
BLS5				*e*S	**Sn**	**17 40 06.7**	**+0.5**
BLS5				AML	AML	17 40 19.4	
	comp=Z,6.7nm,0.5s						
BLS5	**Blasjo**	**2.81**	**310**	*e*P	**Pn**	**17 39 32.4**	**+0.8**
	SNR=50						
BLS5				*e*S	**Sn**	**17 40 06.7**	**+0.5**
	comp=Z,6.7nm,0.5s,SNR=50						
NRAU	**Nora**	**2.97**	**49**	P	**Pn**	**17 39 34.0**	**+0.3**
OSKU	**Oskarshamn**	**2.98**	**97**	P	**Pn**	**17 39 33.7**	**-0.1**
ODD1	**Odda**	**3.07**	**318**	*e*P	**Pn**	**17 39 35.5**	**+0.4**
ODD1				*e*S	**Sn**	**17 40 11.4**	**-1.1**
ODD1				AML	AML	17 40 13.4	
	comp=Z,4.7nm,0.7s						
ODD1	**Odda**	**3.07**	**318**	*e*P	**Pn**	**17 39 35.5**	**+0.4**
	SNR=50						
ODD1				*e*S	**Sn**	**17 40 11.4**	**-1.1**
	comp=Z,4.7nm,0.7s,SNR=50						
BLEU	**Blekinge**	**3.13**	**114**	P	**Pn**	**17 39 34.8**	**-1.2**
VSTU	**Vaestervik**	**3.15**	**88**	P	**Pn**	**17 39 36.9**	**+0.7**
KMY	**Karmoy**	**3.24**	**301**	*e*P	**Pn**	**17 39 37.9**	**+0.6**
ESKU	**Eskilstuna**	**3.38**	**60**	P	**Pn**	**17 39 39.7**	**+0.3**
FALU	**Falun**	**3.88**	**41**	P	**Pn**	**17 39 46.2**	**0.0**
ASK	**Askoy**	**3.98**	**317**	*e*P	**Pn**	**17 39 48.3**	**+0.7**
ASK				*e*S	**Sn**	**17 40 33.2**	**-1.8**
BACU	**Backbrunna**	**4.00**	**54**	P	**Pn**	**17 39 47.8**	**0.0**
NYNU	**Nynaeshamn**	**4.09**	**68**	P	**Pn**	**17 39 49.0**	**0.0**
OSTU	**Oestervaala**	**4.21**	**50**	P	**Pn**	**17 39 50.7**	**0.0**
FLYU	**Flymyra**	**4.47**	**54**	P	**Pn**	**17 39 54.0**	**-0.4**
ROTU	**Roteberg**	**4.57**	**33**	P	**Pn**	**17 39 55.7**	**0.0**
IGGU	**Iggoen**	**4.67**	**44**	P	**Pn**	**17 39 56.9**	**-0.2**

*IDC **20** 17:39:19.1±9.8, 3598N×7094E, h130km±100km, mb3.4/5, mb1 3.6/8, mb1mx3.2/25, mbtmp3.9/8, ML4.0/3, Error ellipse: s-maj=69.2km s-min=47.7km az=106.0*
*MOS **20** 17:39:22.9±1.0, 3638N×7065E, h149km, mb4.3/1, Error ellipse: s-maj=27.4km s-min=13.9km az=108.8*
*NEIC **20** 17:39:25.8±1.9, 3647N×7090E, h169km±21km, mb4.3/7, Error ellipse: s-maj=23.7km s-min=6.0km az=58.0*
*ISCJB **20** 17:39:26.1±0.6, 3651N±004×7091E±009, h196km±9km, mb3.5/5, Error ellipse: s-maj=11.8km s-min=5.6km az=148.4*
*NNC **20** 17:39:32.4±5.7, 3702N×7085E, h188km±51km, mb2.9, mpv4.0, Error ellipse: s-maj=57.9km s-min=31.5km az=34.0*

ISC 20 17:39:27.0±0.6, **3652N**±004×**7092E**±009, **h190**km±8km, **n47**, σ**0**:**86**/**49**, **mb3.6**/**5**, **4C-4D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.81**	**163**	⇓P	**Pn**	**17 40 14.6**	**+0.8**
CHCP	**Chirah Chowk**	**3.44**	**145**	⇓P	**Pn**	**17 40 22.6**	**+1.2**
THW	**Thamme Wali**	**3.77**	**169**	⇑P	**Pn**	**17 40 26.1**	**+0.5**
DRP	**Derazinda**	**4.80**	**187**	⇑P	**Pn**	**17 40 35.0**	**-3.5**
SARP	**Sargodha**	**4.81**	**162**	P	**Pn**	**17 40 38.3**	**-0.4**
AML	**Almayashu**	**6.01**	**20**	P	**Pn**	**17 40 54.1**	**-0.1**
	SNR=89						
UCH	**Uchtor**	**6.35**	**25**	P	**Pn**	**17 40 59.0**	**+0.4**
	SNR=12						
KZA	**Kyzart**	**6.49**	**30**	P	**Pn**	**17 41 01.8**	**+1.3**
	SNR=7.4						
EKS2	**Erkin-Say**	**6.52**	**19**	P	**Pn**	**17 41 00.9**	**0.0**
	SNR=37						
KK31	**Karatay Array**	**6.59**

DDI	**Dehra Dun**	**5.78**	**140**	*e*P	**Pn**	**17 42 12.7**	**+1.8**
DDI	**Dehra Dun**	**5.78**	**140**	*e*P	**Pn**	**17 42 12.7**	**+1.8**
RTK	**Rohtak**	**6.21**	**158**	*e*x	x	17 43 55.8	
RTK				AML	AML	17 44 13.3	
	comp=Z,12μm,1.0s						
RTK	**Rohtak**	**6.21**	**158**	*e*x	x	17 43 55.8	
NDI	**New Delhi**	**6.80**	**153**	*e*P	**Pn**	**17 42 25.0**	**+0.1**
NDI				*e*x	x	17 43 26.0	
NDI	**New Delhi**	**6.80**	**153**	*e*P	**Pn**	**17 42 25.0**	**+0.1**
NDI				*e*x	x	17 43 26.0	
AYAN	**Aya Nagar**	**6.95**	**155**	*e*P	**Pn**	**17 42 28.1**	**+1.1**
AYAN				AML	AML	17 43 48.7	
	comp=Z,1μm,0.6s						
AYAN	**Aya Nagar**	**6.95**	**155**	*e*P	**Pn**	**17 42 28.1**	**+1.1**
KHET	**Khetri**	**6.96**	**165**	*e*P	**Pn**	**17 42 27.0**	**-0.1**
KHET				*e*x	x	17 43 46.2	
KHET				AML	AML	17 44 36.9	
	comp=E,2μm,0.5s						
KHET				AML	AML	17 44 38.0	
	comp=N,1μm,0.6s						
KHET	**Khetri**	**6.96**	**165**	*e*P	**Pn**	**17 42 27.0**	**-0.1**
KHET				*e*x	x	17 43 46.2	
BISR	**Bishrakh**	**6.98**	**152**	*e*x	x	17 43 46.7	
BISR				AML	AML	17 43 49.9	
	comp=Z,416nm,0.7s						
BISR	**Bishrakh**	**6.98**	**152**	*e*x	x	17 43 46.7	
SONA	**Sohna**	**7.15**	**156**	*e*P	**Pn**	**17 42 29.7**	**0.0**
SONA				*e*x	x	17 43 49.5	
SONA				AML	AML	17 44 38.5	
	comp=N,876nm,0.6s						
SONA				AML	AML	17 44 39.4	
	comp=E,2μm,0.6s						
SONA	**Sohna**	**7.15**	**156**	*e*P	**Pn**	**17 42 29.7**	**0.0**
SONA				*e*x	x	17 43 49.5	
PTH	**Pithoragarh**	**7.59**	**132**	*e*x	x	17 42 35.5	
PTH	**Pithoragarh**	**7.59**	**132**	*e*x	x	17 42 35.5	
ULHL	**Ulahol**	**7.66**	**14**	P	**Pn**	**17 42 41.0**	**+4.3**
SNR=6.8							
LGTI	**Lohaghat**	**7.68**	**132**	*e*P	**Pn**	**17 42 36.0**	**-1.1**
LGTI				*e*S	**Sn**	**17 43 56.5**	**-7.2**
LGTI	**Lohaghat**	**7.68**	**132**	*e*P	**Pn**	**17 42 36.0**	**-1.1**
LGTI				*e*S	**Sn**	**17 43 56.5**	**-7.2**
TKM2	**Tokmak 2**	**8.21**	**10**	⇑Pn	**Pn**	**17 42 47.7**	**+3.5**
	comp=E,85nm,0.5s						
TKM2				⇓Sn	**Sn**	**17 44 16.6**	**+0.1**
	comp=E,388nm,0.8s						
TKM2				⇓Rg		17 45 10.6	
	comp=E,11μm,11.7s						
TKM2	**Tokmak 2**	**8.21**	**10**	Pn	**Pn**	**17 42 47.7**	**+3.5**
TKM2				Sn	**Sn**	**17 44 16.6**	**+0.1**
JASL	**Jaisalmer**	**8.25**	**198**	*e*P	**Pn**	**17 42 43.4**	**-1.4**
JASL				*e*S	**Sn**	**17 44 11.7**	**-5.9**
JASL				AML	AML	17 44 18.3	
	comp=Z,962nm,0.3s						
JASL	**Jaisalmer**	**8.25**	**198**	*e*P	**Pn**	**17 42 43.4**	**-1.4**
JASL				*e*S	**Sn**	**17 44 11.7**	**-5.9**
AJM	**Ajmer**	**8.36**	**175**	*e*P	**Pn**	**17 42 46.5**	**+0.2**
AJM				*e*S	**Sn**	**17 44 12.2**	**-8.1**
AJM	**Ajmer**	**8.36**	**175**	*e*P	**Pn**	**17 42 46.5**	**+0.2**
AJM				*e*S	**Sn**	**17 44 12.2**	**-8.1**
AGRA	**Agra**	**8.38**	**154**	*e*P	**Pn**	**17 42 47.0**	**+0.4**
AGRA	**Agra**	**8.38**	**154**	*e*P	**Pn**	**17 42 47.0**	**+0.4**
KK31	**Karatay Array**	**8.64**	**344**	⇓Pn	**Pn**	**17 42 52.8**	**+2.7**
	comp=Z,218nm,0.6s,baz=159,slow=11,SNR=145						
KK31				⇑Sn	**Sn**	**17 44 26.4**	**-0.8**
	comp=Z,238nm,0.5s,baz=171,slow=22,SNR=11						
KK31				⇑Rg		17 46 07.5	
	comp=Z,7μm,7.5s,baz=147,slow=9.1,SNR=8.4						
KK31	**Karatay Array**	**8.64**	**344**	Pn	**Pn**	**17 42 52.8**	**+2.7**
KK31				Sn	**Sn**	**17 44 26.4**	**-0.8**
KNDC	**Almaty**	**8.74**	**16**	⇑Pn	**Pn**	**17 42 55.4**	**+3.8**
	comp=Z,2μm,1.1s						
KNDC				⇑Lg		17 45 20.8	
	comp=Z,6μm,1.9s						
KNDC				⇓Rg		17 46 09.6	
	comp=Z,4μm,11.8s						
DANN	**Dangsing**	**10.70**	**124**	*e*Pn	**Pn**	**17 43 17.9**	**-0.5**
DANN				*e*Sn	**Sn**	**17 45 11.9**	**-5.8**
KOLN	**Koldanda**	**10.97**	**127**	*e*Pn	**Pn**	**17 43 21.0**	**-1.1**
KOLN				*e*Sn	**Sn**	**17 45 19.1**	**-5.3**
	comp=Z,2μm,0.7s						
VLK	**Valmikinagar**	**11.45**	**128**	*e*x	x	17 43 38.0	
VLK				*e*x	x	17 43 40.0	
VLK	**Valmikinagar**	**11.45**	**128**	*e*x	x	17 43 38.0	
VLK				*e*x	x	17 43 40.0	
GKN	**Gorkha**	**11.51**	**123**	*e*Pn	**Pn**	**17 43 28.4**	**-1.2**
GKN				*e*Sn	**Sn**	**17 45 30.7**	**-7.0**
BHPL	**Bhopal**	**11.98**	**164**	*e*P	**Pn**	**17 43 34.6**	**-1.4**
BHPL				AMb	AMB	17 43 39.6	
	comp=Z,82nm,0.7s						
BHPL				*e*S	**Sn**	**17 45 33.1**	**-16**
BHPL	**Bhopal**	**11.98**	**164**	*e*P	**Pn**	**17 43 34.6**	**-1.4**
BHPL				AMb	AMB	17 43 39.6	
	comp=Z,82nm,0.7s						
BHPL				*e*S	**Sn**	**17 45 33.1**	**-16**
BHJ	**Bhuj**	**12.08**	**198**	*e*P	**Pn**	**17 43 36.7**	**-0.5**
BHJ				*e*x	x	17 43 46.8	
BHJ				*e*x	x	17 45 17.7	
BHJ				*e*S	**Sn**	**17 45 42.7**	**-8.8**
BHJ	**Bhuj**	**12.08**	**198**	*e*P	**Pn**	**17 43 36.7**	**-0.5**
BHJ				*e*x	x	17 43 46.8	
BHJ				*e*x	x	17 45 17.7	
BHJ				*e*S	**Sn**	**17 45 42.7**	**-8.8**
DMN	**Daman**	**12.08**	**123**	*e*Pn	**Pn**	**17 43 36.0**	**-1.3**
DMN				*e*Sn	**Sn**	**17 45 45.7**	**-6.0**
KKN	**Kakani**	**12.09**	**122**	*e*Pn	**Pn**	**17 43 35.7**	**-1.7**
KKN				*e*Sn	**Sn**	**17 45 45.6**	**-6.3**
	comp=Z,3μm,1.1s						
PKI	**Pulchoki**	**12.32**	**123**	*e*Pn	**Pn**	**17 43 38.8**	**-1.7**
PKI				*e*Sn	**Sn**	**17 45 50.5**	**-6.9**
	comp=Z,2μm,0.8s						
GUN	**Gumba**	**12.44**	**120**	*e*Pn	**Pn**	**17 43 40.7**	**-1.5**
GUN				*e*Sn	**Sn**	**17 45 54.1**	**-6.3**
	comp=Z,3μm,1.1s						
JIRN	**Jiri**	**12.81**	**121**	*e*Pn	**Pn**	**17 43 45.8**	**-1.5**
JIRN				*e*Sn	**Sn**	**17 46 03.0**	**-6.4**
	comp=Z,2μm,0.8s						
JBP	**Jabalpur**	**12.83**	**153**	*i* P	**Pn**	**17 43 45.6**	**-1.9**
JBP				*e*x	x	17 44 08.6	
JBP				*e*x	x	17 46 02.5	
JBP	**Jabalpur**	**12.83**	**153**	*i* P	**Pn**	**17 43 45.6**	**-1.9**
JBP				*e*x	x	17 44 08.6	
JBP				*e*x	x	17 46 02.5	
ABKT	**Ailbek**	**12.97**	**288**	Pn	**Pn**	**17 43 48.4**	**-1.1**
	comp=Z,396nm,0.6s,SNR=12						
ABKT	**Ailbek**	**12.97**	**288**	Pn	**Pn**	**17 43 48.8**	**-0.8**
VAN	**Vannovskaya**	**12.99**	**288**	*e*P	**Pn**	**17 43 48.1**	**-1.6**
VAN				*e*S	**Sn**	**17 46 11.4**	**-2.4**
BHV	**Bhavnagar**	**13.11**	**187**	*e*P	**Pn**	**17 43 51.0**	**-0.3**
BHV	**Bhavnagar**	**13.11**	**187**	*e*P	**Pn**	**17 43 51.0**	**-0.3**
MK31	**Makanchi Array**	**13.57**	**26**	⇑P	**Pn**	**17 43 58.0**	**+0.3**
	comp=Z,42nm,0.6s,baz=210,slow=13,SNR=243						
MK31				⇓Rg		17 49 32.8	
	comp=Z,4μm,10.2s						
MK31	**Makanchi Array**	**13.57**	**26**	*i* P	**Pn**	**17 43 57.9**	**+0.2**
MK31				pmax	pmax		
	comp=Z,42nm,0.6s						
MK31	**Makanchi Array**	**13.57**	**26**	*i* P	**Pn**	**17 43 57.9**	**+0.2**
	comp=Z,42nm,0.6s						
MKAR	**Makanchi Array**	**13.57**	**26**	Pn	**Pn**	**17 43 57.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=212,slow=8.3,SNR=69						
MKAR				Lg		17 47 60.0	
	baz=186,slow=27,SNR=2.2						
MKAR	**Makanchi Array**	**13.57**	**26**	*i* P	**Pn**	**17 43 57.9**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,25nm,0.6s						
WMQ	**Urumqi**	**14.02**	**46**	P	**Pn**	**17 44 02.8**	**-1.0**
WMQ				AP		17 44 06.1	
WMQ				XP		17 44 09.5	
WMQ				PP		17 44 14.0	
WMQ				PPP		17 44 21.0	
WMQ				S	**Sn**	**17 46 39.0**	**0.0**
WMQ				SS		17 46 55.1	
WMQ				PCP	PcP	17 49 23.6	-0.5
WMQ				AMB	AMB		
	comp=Z,171nm,1.0s						
WMQ				LR	LR		
	comp=N,4μm,10.0s						
WMQ				LR	LR		
	comp=E,4μm,12.0s						
WMQ				LR	LR		
	comp=Z,5μm,12.0s						
AKL	**Akola**	**14.36**	**168**	*i* x	x	17 43 31.6	

AKL				*i* x	x	17 46 00.2	
AKL	**Akola**	**14.36**	**168**	*i* x	x	17 43 31.6	
AKL				*i* x	x	17 46 00.2	
BLSP	**Bilaspur**	**14.63**	**148**	*e*x	x	17 46 40.0	
BLSP				*e*x	x	17 49 11.0	
BLSP	**Bilaspur**	**14.63**	**148**	*e*x	x	17 46 40.0	
BLSP				*e*x	x	17 49 11.0	
BOK	**Bokaro**	**15.24**	**133**	*e*P	**Pn**	**17 44 19.7**	**-0.6**
BOK				AMb	AMB	17 44 28.6	
	comp=Z,118nm,0.9s						
BOK				*e*x	x	17 46 54.8	
BOK	**Bokaro**	**15.24**	**133**	*e*P	**Pn**	**17 44 19.7**	**-0.6**
BOK				AMb	AMB	17 44 28.6	
	comp=Z,118nm,0.9s						
BOK				*e*x	x	17 46 54.8	
LSA	**Lhasa**	**15.57**	**104**	P	**Pn**	**17 44 21.9**	**-2.8**
LSA				LR	LR		
	comp=N,3μm,14.3s						
LSA				LR	LR		
	comp=E,3μm,14.1s						
LSA				LR	LR		
	comp=Z,2μm,13.8s						
LSA	**Lhasa**	**15.57**	**104**	⇓*e*P	**Pn**	**17 44 22.2**	**-2.5**
LSA				*e*S	**Sn**	**17 47 07.6**	**-9.2**
LSA				pmax	pmax		
	comp=Z,165nm,0.8s						
LSA	**Lhasa**	**15.57**	**104**	⇓*e*Pn	**Pn**	**17 44 22.2**	**-2.4**
	comp=Z,165nm,0.8s						
LSA				*e*P		17 44 29.6	
LSA				*e*S	**Sn**	**17 47 07.6**	**-9.2**
BOM	**Bombay**	**15.89**	**183**	*e*P	**Pn**	**17 44 30.2**	**+1.4**
BOM				*e*x	x	17 44 36.1	
	comp=Z,498nm,1.8s						
BOM				*e*S	**Sn**	**17 47 22.6**	**-2.0**
BOM	**Bombay**	**15.89**	**183**	*e*P	**Pn**	**17 44 30.2**	**+1.4**
BOM				*e*x	x	17 44 36.1	
	comp=Z,498nm,1.8s						
BOM				*e*S	**Sn**	**17 47 22.6**	**-2.0**
POO	**Poona**	**16.24**	**180**	⇓*i* P	**Pn**	**17 44 32.0**	**-1.2**
	comp=Z,210nm,1.0s						
POO				*e*x	x	17 44 41.8	
POO				*i* PP		17 44 44.5	
POO				AMb	AMB	17 44 50.9	
	comp=Z,201nm,1.1s						
POO				*i* PPP		17 44 52.0	
POO				*i* x	x	17 47 21.0	
POO				*i* x	x	17 47 25.0	
POO				*i* SS		17 47 47.0	
POO				*i* SSS		17 47 56.0	
POO				*i* x	x	17 48 04.7	
POO				*i* x	x	17 48 04.7	
POO				*i* PCP	PcP	17 49 35.7	+8.5
POO				*i* PCS	PcS	17 53 10.5	+7.6
POO	**Poona**	**16.24**	**180**	⇓*i* P	**Pn**	**17 44 32.0**	**-1.2**
	comp=Z,210nm,1.0s						
POO				*e*x	x	17 44 41.8	
POO				*i* PP		17 44 44.5	
POO				AMb	AMB	17 44 50.9	
	comp=Z,201nm,1.1s						
POO				*i* PPP		17 44 52.0	
POO				*i* x	x	17 47 21.0	
POO				*i* x	x	17 47 25.0	
POO				*i* SS		17 47 47.0	
POO				*i* SSS		17 47 56.0	
POO				*i* x	x	17 48 04.7	
POO				*i* x	x	17 48 04.7	
POO				*i* PCP	PcP	17 49 35.7	+8.5
POO				*i* PCS	PcS	17 53 10.5	+7.6
KURK	**Kurchatov**	**16.27**	**11**	⇑P	**Pn**	**17 44 30.8**	**-2.8**
	comp=Z,206nm,1.3s						
KURK				⇓S	**Sn**	**17 47 38.6**	**+4.9**
	comp=Z,48nm,1.1s						
KURK				⇓Lg		17 49 25.8	
	comp=Z,338nm,2.4s						
KURK	**Kurchatov**	**16.27**	**11**	Pn	**Pn**	**17 44 31.4**	**-2.2**
	comp=Z,2μm,1.1s,SNR=34						
KURK	**Kurchatov**	**16.27**	**11**	*e*P	**Pn**	**17 44 30.9**	**-2.7**
KURK				*e*S	**Sn**	**17 47 28.7**	**-4.9**
KURK				pmax	pmax		
	comp=Z,231nm,0.9s						
KURK	**Kurchatov**	**16.27**	**11**	*e*P	**Pn**	**17 44 30.9**	**-2.7**
KURK				*e*S	**Sn**	**17 47 28.7**	**-4.9**
LATR	**Latur**	**16.54**	**171**	*e*P	**Pn**	**17 44 36.3**	**-0.8**
LATR				*e*x	x	17 47 24.0	
LATR	**Latur**	**16.54**	**171**	*e*P	**Pn**	**17 44 36.3**	**-0.8**
LATR				*e*x	x	17 47 24.0	
KAD	**Karad**	**17.45**	**179**	⇓*i* P	**Pn**	**17 44 49.0**	**+0.4**
KAD				*i* x	x	17 47 50.0	
KAD	**Karad**	**17.45**	**179**	⇓*i* P	**Pn**	**17 44 49.0**	**+0.4**
KAD				*i* x	x	17 47 50.0	
BANOM	**Banah**	**17.46**	**244**	⇓P	**Pn**	**17 44 50.0**	**+1.3**
SNR=11							
AB31	**Akbulak array**	**17.65**	**329**	⇓P	**Pn**	**17 44 49.1**	**-1.9**
	comp=Z,112nm,1.0s,baz=140,slow=12,SNR=152						
AB31				⇑S	**Sn**	**17 47 57.4**	**-10**
	comp=Z,49nm,0.7s,baz=138,slow=21,SNR=7.5						
AB31	**Akbulak array**	**17.65**	**329**	*i* P	**Pn**	**17 44 49.1**	**-1.9**
CAL	**Calcutta**	**17.68**	**130**	*e*P	**Pn**	**17 44 50.1**	**-1.2**
CAL				*e*x	x	17 47 56.2	
CAL				AMP		17 52 56.1	
	comp=Z,2μm,14.0s						
CAL	**Calcutta**	**17.68**	**130**	*e*P	**Pn**	**17 44 50.1**	**-1.2**
CAL				*e*x	x	17 47 56.2	
CAL				AMP		17 52 56.1	
	comp=Z,2μm,14.0s						
WBK	**Wadi Bani Khal**	**17.76**	**231**	P	**Pn**	**17 44 53.2**	**+0.8**
SNR=21							
HYB	**Hyderabad**	**17.86**	**165**	*i* P	**Pn**	**17 44 49.0**	**-4.6**
	comp=Z,108nm,0.8s						
HYB				*e*		17 44 53.0	
HYB				*e*S	**Sn**	**17 48 22.0**	**+10**
HYB				LR	LR	17 51 44.0	
	comp=Z,14nm,12.0s						
HYB	**Hyderabad**	**17.86**	**165**	*e*P	**Pn**	**17 44 49.0**	**-4.6**
HYB				pmax	pmax		
	comp=Z,108nm,0.8s						
HYB	**Hyderabad**	**17.86**	**165**	*e*P	**Pn**	**17 44 49.0**	**-4.6**
	comp=Z,108nm,0.8s						
HYB				*e*S	**Sn**	**17 47 57.0**	**-15**
VOSK	**Vostochnaya**	**18.00**	**355**	⇑P	**Pn**	**17 44 53.4**	**-1.8**
	comp=Z,172nm,1.2s						
VOSK				⇑S	**Sn**	**17 48 19.2**	**+3.6**
	comp=Z,94nm,2.2s						
VOSK	**Vostochnaya**	**18.00**	**355**	P	**Pn**	**17 44 53.4**	**-1.9**
VOSK						17 48 19.1	
VOSK				pmax	pmax		
	comp=Z,206nm,1.2s						
VOSK				smax			
	comp=Z,212nm,2.3s						
VOSK	**Vostochnaya**	**18.00**	**355**	P	**Pn**	**17 44 53.4**	**-1.9**
	comp=Z,206nm,1.2s						
VOSK				*e*		17 48 19.1	
SMDO	**Samad**	**18.04**	**234**	P	**Pn**	**17 44 57.5**	**+1.7**
SNR=18							
SHL	**Shillong**	**18.16**	**116**	*i* P	**Pn**	**17 44 57.2**	**-0.1**
SHL				*e*x	x	17 48 01.2	
SHL	**Shillong**	**18.16**	**116**	*i* P	**Pn**	**17 44 57.2**	**-0.1**
SHL				*e*x	x	17 48 01.2	
BVA0	**Borovoye Array**	**18.35**	**354**	⇑P	**Pn**	**17 44 58.2**	**-1.4**
	comp=Z,35nm,1.1s,baz=160,slow=13,SNR=317						
BVA0				⇓S	**Sn**	**17 48 23.9**	**-0.2**
	comp=Z,18nm,2.1s,baz=180,slow=23,SNR=3.5						
BVAR	**Borovoye Array**	**18.35**	**354**	P	**Pn**	**17 44 59.1**	**-0.4**
	comp=Z,24nm,0.3s,baz=156,slow=10,SNR=172						
BVAR				S	**Sn**	**17 48 25.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=153,slow=19,SNR=2.2						
BVAR				Lg		17 50 29.3	
	baz=180,slow=26,SNR=2.7						
BVAR	**Borovoye Array**	**18.35**	**354**	P	**Pn**	**17 44 59.1**	**-0.5**
BVAR				S	**Sn**	**17 48 25.3**	**+1.2**
ASHO	**Ashiyiah**	**18.37**	**241**	⇓P	**Pn**	**17 45 01.8**	**+2.0**
SNR=8.9							
BRVK	**Borovoye**	**18.39**	**353**	P	**Pn**	**17 44 59.0**	**-1.1**
	comp=Z,1μm,1.2s,SNR=74						
BRVK	**Borovoye**	**18.39**	**353**	⇑*e*P	**Pn**	**17 44 58.6**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,127nm,0.9s						
BRVK	**Borovoye**	**18.39**	**353**	⇑*e*P	**Pn**	**17 44 58.6**	**-1.5**
	comp=Z,127nm,0.9s						
ZRNK	**Zerenda**	**18.43**	**351**	⇑P	**Pn**	**17 44 59.1**	**-1.5**
	comp=Z,140nm,1.4s						
ZRNK				⇑S	**Sn**	**17 48 28.4**	**+2.4**
	comp=Z,186nm,2.4s						
ZRNK	**Zerenda**	**18.43**	**351**	*i* P	**Pn**	**17 44 59.0**	**-1.5**

ZRNK				pmax	pmax		
	comp=Z,140nm,1.3s						
JMDO	**Jabal Madar**	**18.49**	**232**	⇑P	**Pn**	**17 45 02.4**	**+1.1**
AGT	**Agartala**	**18.72**	**121**	*i* P	**Pn**	**17 45 03.0**	**-1.1**
AGT				*i* x	x	17 45 29.0	
AGT	**Agartala**	**18.72**	**121**	*i* P	**Pn**	**17 45 03.0**	**-1.1**
AGT				*i* x	x	17 45 29.0	
BSY	**Bisya**	**18.82**	**235**	P	**Pn**	**17 45 07.9**	**+2.6**
SNR=30							
ARQ	**Araqi**	**18.89**	**237**	⇑P	**Pn**	**17 45 08.9**	**+2.8**
SNR=10.0							
VIS	**Vishakhapatnam**	**19.06**	**151**	*e*P	**Pn**	**17 45 07.2**	**-1.0**
VIS				AMb	AMB	17 45 14.2	
	comp=Z,96nm,0.9s						
VIS				*i* x	x	17 48 24.3	
VIS				*e*x	x	17 48 26.8	
VIS	**Vishakhapatnam**	**19.06**	**151**	*e*P	**Pn**	**17 45 07.2**	**-1.0**
VIS				AMb	AMB	17 45 14.2	
	comp=Z,96nm,0.9s						
VIS				*i* x	x	17 48 24.3	
VIS				*e*x	x	17 48 26.8	
AKTK	**Aktyubinsk**	**19.36**	**328**	P	**Pn**	**17 45 11.3**	**-0.5**
AKTK				S	**Sn**	**17 48 42.3**	**-6.2**
AKTO	**Aktyubinsk**	**19.36**	**328**	⇑P	**Pn**	**17 45 11.2**	**-0.6**
	comp=Z,36nm,0.8s						
AKTO				⇑S	**Sn**	**17 48 39.9**	**-8.7**
	comp=Z,25nm,1.3s						
AKTO	**Aktyubinsk**	**19.36**	**328**	P	**Pn**	**17 45 11.3**	**-0.5**
	comp=Z,13nm,0.3s,baz=134,slow=11,SNR=150						
AKTO				S	**Sn**	**17 48 42.3**	**-6.2**
	comp=Z,3.6nm,0.3s,baz=144,slow=22,SNR=5.7						
AKTO	**Aktyubinsk**	**19.36**	**328**	P	**Pn**	**17 45 11.3**	**-0.5**
AKTO				S	**Sn**	**17 48 42.3**	**-6.2**
AKTO				pmax	pmax		
	comp=Z,13nm,0.3s						
AKTO				smax			
	comp=N,4.0nm,0.3s						
IMP	**Imphal**	**20.14**	**114**	*e*P	**P**	**17 45 19.0**	**-0.1**
IMP				*e*S	**S**	**17 49 03.0**	**-1.6**
IMP	**Imphal**	**20.14**	**114**	*e*P	**P**	**17 45 19.0**	**-0.1**
IMP				*e*S	**S**	**17 49 03.0**	**-1.6**
ZAL	**Zalesovo**	**20.62**	**19**	S	**S**	**17 49 11.1**	**-3.2**
	comp=N,6.0nm,0.9s,baz=3.2,slow=18,SNR=5.0						
NVS	**Novosibirsk**	**21.07**	**15**	⇑*i* P	**P**	**17 45 27.3**	**-2.0**
NVS				*e*S	**S**	**17 49 16.9**	**-6.2**
NVS				pmax	pmax		
	comp=N,486nm,1.6s						
NVS				pmax	pmax		
	comp=E,101nm,1.6s						
NVS				pmax	pmax		
	comp=Z,364nm,1.6s,mb5.5						
NVS				smax			
	comp=N,326nm,2.0s						
NVS				smax			
	comp=E,185nm,2.0s						
NVS	**Novosibirsk**	**21.07**	**15**	⇑*i* P	**P**	**17 45 27.3**	**-2.0**
	comp=E,364nm,1.6s,mb5.5						
NVS				*e*S	**S**	**17 49 16.9**	**-6.2**
GTA	**Gaotai**	**21.25**	**70**	⇑*i* P	**P**	**17 45 32.4**	**+1.2**
GTA				AP		17 45 37.8	
GTA				XP	sP	17 45 40.6	+2.4
GTA				PP		17 45 58.0	
GTA				S	**S**	**17 49 28.3**	**+1.7**
GTA				XS	sS	17 49 32.8	-1.6
GTA				PCP	PcP	17 49 34.1	-1.7
GTA				AMB	AMB		
	comp=Z,131nm,1.1s,mb5.2						
GTA				AMB	AMB		
	comp=Z,1μm,6.1s						
GTA				LR	LR		
	comp=N,3μm,16.7s,MS4.8						
GTA				LR	LR		
	comp=E,1μm,14.8s,MS4.8						
GTA				LR	LR		
	comp=Z,2μm,14.4s,MS4.7						
MAK	**Makhachkala**	**21.92**	**300**	*d i* P	**P**	**17 45 35.4**	**-3.0**
MAK				*e*		17 46 00.0	
MAK				*e*PPP		17 46 14.2	
MAK				*i* S	**S**	**17 49 38.9**	**-0.9**
MAK				*e*SSS		17 50 19.3	
MAK				pmax	pmax		
	comp=Z,260nm,1.6s,mb5.4						
MAK				MLR	MLR		
	comp=Z,3μm,11.0s,MS5.0						
MAK	**Makhachkala**	**21.92**	**300**	*i* Pr	**P**	**17 45 35.4**	**-3.0**
	comp=Z,260nm,1.6s,mb5.4						
MAK				*e*		17 46 00.0	
MAK				*e*PPP		17 46 14.2	
MAK				*i* S	**S**	**17 49 38.9**	**-0.9**
MAK				*e*SSS		17 50 19.3	
MAK				LR	LR		
	comp=Z,3μm,11.0s,MS5.0						
UMR	**Umm Al-Rimmam**	**22.63**	**264**	*e*P	**P**	**17 45 45.7**	**-0.2**
UMR				AMb	AMB	17 45 52.3	
	comp=Z,367nm,0.7s,mb6.0						
QRN	**Al-Qurain**	**22.75**	**262**	*e*P	**P**	**17 45 46.6**	**-0.6**
QRN				AMb	AMB	17 45 50.0	
	comp=Z,412nm,1.1s,mb5.8						
KBD	**Kabd**	**22.78**	**263**	*e*P	**P**	**17 45 47.5**	**-0.1**
KBD				AMb	AMB	17 45 53.8	
	comp=Z,2μm,1.2s,mb6.3						
RDF	**Al-Radifah**	**22.99**	**262**	*e*P	**P**	**17 45 49.6**	**-0.1**
RDF				AMb	AMB	17 45 52.2	
	comp=Z,518nm,1.2s,mb5.8						
NAY	**Al-Naaiem**	**23.12**	**263**	*e*P	**P**	**17 45 50.9**	**-0.2**
NAY				AMb	AMB	17 45 53.8	
	comp=Z,285nm,1.2s,mb5.6						
DGRG	**David-gareji**	**23.22**	**295**	P	**P**	**17 45 52.2**	**+0.1**
GNI	**Garni**	**23.57**	**292**	P	**P**	**17 45 55.8**	**+0.1**
	comp=Z,61nm,1.0s,mb5.0,baz=40,slow=8.4,SNR=12						
GNI				S	**S**	**17 50 21.6**	**+13**
	comp=Z,1.8nm,0.4s,baz=342,slow=19,SNR=1.5						
GNI	**Garni**	**23.57**	**292**	P	**P**	**17 45 55.8**	**0.0**
	comp=Z,61nm,1.0s,mb5.0						
MTA	**Mtatsminda**	**23.68**	**295**	P	**P**	**17 45 57.2**	**+0.5**
TBLG	**Delisi**	**23.73**	**296**	P	**P**	**17 45 58.1**	**+0.9**
TBLG	**Delisi**	**23.73**	**296**	*e*P	**P**	**17 45 58.3**	**+1.1**
ARU	**Arti**	**23.97**	**339**	P	**P

comp=Z,4μm,13.2s,MS5.0
WHFO Wadi Hawf 24.50 232 ⇓P **P 17 46 05.3 +1.0**
SNR=16
AKH Akhalkalaki 24.62 294 P **P 17 46 07.4 +2.0**
MSL Mosul 24.94 282 *ex* x 17 46 08.0
MSL *ex* x 17 50 34.0
MSL *ex* x 17 51 34.0
ABTO Aybut 25.22 232 ⇓P **P 17 46 11.9 +1.1**
SNR=14
CD2 Chengdu 25.45 90⇑*i*P **P 17 46 13.6 +0.7**
CD2 AP pP 17 46 17.8 -0.3
CD2 XP sP 17 46 20.3 +0.1
CD2 PP 17 46 53.4
CD2 PPP 17 47 02.5
CD2 AMB AMB
comp=Z,40nm,1.0s,mb4.9
CD2 AMB AMB
comp=Z,140nm,5.1s
CD2 LR LR
comp=N,2μm,17.4s
CD2 LR LR
comp=Z,1μm,11.8s
GOF Gofitskoye 25.54 303⇓*i*P **P 17 46 13.5 -0.2**
GOF pmax pmax
comp=Z,100nm,1.7s,mb5.1
GOF Gofitskoye 25.54 303⇓*i*P **P 17 46 13.5 -0.2**
comp=Z,100nm,1.7s,mb5.1
KIV Kislovodsk 25.56 300 P **P 17 46 14.6 +0.7**
comp=Z,148nm,1.2s,mb5.4,SNR=5.1
KIV Kislovodsk 25.56 300⇓*i*P **P 17 46 13.9 0.0**
KIV pmax pmax
comp=Z,33nm,1.2s,mb4.7
KIV MLR MLR
comp=Z,2μm,18.0s,MS4.6
KIV Kislovodsk 25.56 300⇓*i*P **P 17 46 13.9 0.0**
comp=Z,33nm,1.2s,mb4.7
KIV LR LR
comp=Z,2μm,18.0s,MS4.6
ARTV Artvin 25.77 294 *i* P **P 17 46 17.8 +1.9**
MOY Mondy 25.80 41 *e*P **P 17 46 20.3 +4.3**
MOY pmax pmax
comp=Z,28nm,1.8s,mb4.5
MOY Mondy 25.80 41 *e*P **P 17 46 20.3 +4.3**
comp=Z,28nm,1.8s,mb4.5
TRD Trivandrum 26.36 173 *ex* x 17 51 25.3
TRD *ex* x 17 53 28.3
TRD Trivandrum 26.36 173 *ex* x 17 51 25.3
TRD *ex* x 17 53 28.3
ZAK Zakamensk 26.49 45⇑*i*P **P 17 46 23.5 +1.2**
ZAK pmax pmax
comp=Z,174nm,1.8s,mb5.3
ZAK Zakamensk 26.49 45⇑*i*P **P 17 46 23.5 +1.2**
comp=Z,174nm,1.8s,mb5.3
MARD Mardin 26.70 285 *i* P **P 17 46 24.9 +0.7**
KMI Kunming 26.83 103 P **P 17 46 25.6 +0.2**
KMI AP pP 17 46 27.9 -2.6
KMI PP 17 47 11.8
KMI PCP PcP 17 49 46.6 -1.2
KMI AMB AMB
comp=Z,92nm,1.1s,mb5.2
KMI LR LR
comp=N,1μm,10.1s,MS4.9
KMI LR LR
comp=E,832nm,10.9s,MS4.9
KMI LR LR
comp=Z,2μm,9.4s
SOKR Solikamsk 27.14 341⇓*i*P **P 17 46 29.1 +0.9**
SOKR *i* S **S 17 51 05.6 -0.2**
SOKR pmax pmax
comp=Z,70nm,1.1s,mb5.1
SOKR MLR MLR
comp=Z,2μm,12.0s,MS4.9
SOKR Solikamsk 27.14 341⇓*i*P **P 17 46 29.1 +0.9**
comp=Z,70nm,1.1s,mb5.1
SOKR *i* S **S 17 51 05.6 -0.2**
SOKR LR LR
comp=Z,2μm,12.0s,MS4.9
TLY Talaya 27.25 43 P **P 17 46 31.1 +1.9**
comp=Z,194nm,1.3s,mb5.5,SNR=15
CHRT Chiangrai 27.40 116 P **P 17 46 31.0 +0.5**
SONM Songino Array 27.52 52 P **P 17 46 33.0 +1.4**
comp=Z,13nm,0.3s,mb5.0,baz=251,slow=8.9,SNR=209
SOC Sochi 27.63 299*d i*P **P 17 46 31.1 -1.5**
SOC *i* S **S 17 51 09.1 -4.5**
SOC Sochi 27.63 299 *i* Pr **P 17 46 31.1 -1.5**
SOC *i* S **S 17 51 09.1 -4.5**
KELT Kelkit 27.77 291 *i* P **P 17 46 35.1 +1.3**
IRK Irkutsk 27.85 42⇑*i*P **P 17 46 35.7 +1.1**
IRK *e* 17 47 21.9
IRK *e* 17 49 48.0
IRK pmax pmax
comp=Z,125nm,1.7s,mb5.3
IRK Irkutsk 27.85 42⇑*i*P **P 17 46 35.7 +1.1**
comp=Z,125nm,1.7s,mb5.3
IRK *e* 17 47 21.9
IRK *e* 17 49 48.0
ULN Ulaanbaatar 27.95 52*c i*P **P 17 46 36.6 +1.1**
ULN Ulaanbaatar 27.95 52⇑*e*P **P 17 46 36.0 +0.5**
comp=Z,27nm,0.9s,mb4.9
VRHR Novokhopersk 28.29 315 *e*P **P 17 46 37.8 -0.7**
VRHR pmax pmax
comp=Z,40nm,1.3s,mb4.9
VRHR pmax pmax
comp=N,70nm,1.8s
VRHR pmax pmax
comp=E,40nm,0.9s
MALT Malatya 28.48 287 *e*P **P 17 46 39.7 -0.5**
MALT pmax pmax
comp=Z,26nm,1.3s,mb4.7
MALT Malatya 28.48 287 *e*P **P 17 46 39.7 -0.5**
comp=Z,26nm,1.3s,mb4.7
BDT Bhumibol Dam 28.53 121 P **P 17 46 40.0 -0.6**
comp=Z,1.1nm,0.8s
XAN Xi'an 28.93 81 P **P 17 46 44.3 +0.2**
XAN S **S 17 51 29.9 -4.1**
XAN AMB AMB
comp=Z,98nm,1.3s,mb5.4
XAN AMB AMB
comp=Z,239nm,9.1s
XAN LR LR
comp=N,2μm,20.9s,MS4.8
XAN LR LR
comp=E,765nm,19.4s,MS4.8
XAN LR LR
comp=Z,912nm,15.1s,MS4.5
BTO Baotou 29.12 68 *e*P **P 17 46 47.1 +1.3**
BTO S **S 17 51 43.8 +6.8**
BTO LR LR
comp=N,1μm,4.3s
BTO LR LR
comp=E,2μm,7.9s
GYA Guiyang 29.42 97⇑*i*P **P 17 46 47.8 -0.7**
GYA AP pP 17 46 52.1 -1.6
GYA XP sP 17 46 54.8 -1.0
GYA PP PP 17 47 42.3 -13
GYA PPP 17 47 55.6
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,210nm,4.3s
GYA LR LR
comp=N,1μm,13.7s,MS4.8
GYA LR LR
comp=E,740nm,13.8s,MS4.8
GYA LR LR
comp=Z,690nm,12.8s,MS4.5
PECR Pechory 29.50 326 *i* P **P 17 46 49.6 +0.4**
PECR *e* 17 53 27.4
PECR pmax pmax
comp=Z,210nm,1.5s,mb5.7
PECR Pechory 29.50 326 *i* P **P 17 46 49.6 +0.4**
PECR *e* 17 53 27.4
VOR Voronezh 29.94 315 *e*P **P 17 46 52.5 -0.6**
VOR *e*S **S 17 51 45.0 -4.8**
VOR pmax pmax
comp=E,110nm,1.6s
VOR pmax pmax
comp=Z,110nm,1.6s,mb5.3
VOR smax
comp=N,140nm,1.7s
VOR smax
comp=E,50nm,1.7s
VOR Voronezh 29.94 315 *e*P **P 17 46 52.5 -0.6**
VOR *e*S **S 17 51 45.0 -4.8**
HHC Hu-ho-hao-te 30.29 67 *e*P **P 17 46 57.3 +1.1**

HHC AP pP 17 47 01.8 +0.4
HHC XP sP 17 47 04.3 +0.8
HHC PP PP 17 47 56.0 -8.6
HHC PCP PcP 17 49 57.9 +1.5
HHC AMB AMB
comp=Z,15nm,0.3s,mb5.2
HHC AMB AMB
comp=Z,259nm,6.3s
HHC LR LR
comp=N,2μm,5.9s
HHC LR LR
comp=E,2μm,7.7s
HHC LR LR
comp=Z,2μm,11.8s,MS4.9
ENH Enshi 30.36 88 *e*P **P 17 46 57.4 +0.6**
comp=Z,86nm,1.0s,mb5.4
ENH LR LR
comp=Z,823nm,19.0s,MS4.4
NST Nakhon Sawan 30.39 122 P **P 17 46 58.0 +0.9**
BOYT Boyabat 31.07 294 *i* P **P 17 47 04.4 +1.3**
KKTK Khon Kaen 31.86 118 P **P 17 47 10.5 +0.4**
BR131 Keskin Array S 32.10 291 *e*P **P 17 47 12.5 +0.3**
comp=Z,9.8nm,0.6s,mb4.8
BRTR Keskin Array B 32.10 291 P **P 17 47 12.9 +0.8**
comp=Z,7.0nm,0.6s,mb4.7,baz=101,slow=8.5,SNR=40
BRTR PcP PcP 17 50 00.8 -0.5
comp=Z,1.5nm,0.5s,baz=122,slow=3.7,SNR=7.4
NNT Nongplab 32.32 127 P **P 17 47 15.5 +1.4**
MOS Moscow 32.36 321 *i* P **P 17 47 15.0 +0.5**
MOS *e* 17 48 19.4
MOS pmax pmax
comp=Z,250nm,1.3s,mb5.9
MOS Moscow 32.36 321 *i* P **P 17 47 15.0 +0.5**
comp=Z,250nm,1.3s,mb5.9
MOS *e* 17 48 19.4
OBN Obninsk 32.66 320 P **P 17 47 17.9 +0.8**
comp=Z,700nm,1.1s,mb6.5,SNR=8.3
OBN Obninsk 32.66 320*c i*P **P 17 47 17.4 +0.3**
OBN *e* 17 48 24.3
OBN *i* S **S 17 52 27.5 -4.9**
OBN pmax pmax
comp=Z,269nm,1.6s,mb5.9
OBN MLR MLR
comp=Z,800nm,18.0s,MS4.5
OBN Obninsk 32.66 320⇑*i*P **P 17 47 17.4 +0.3**
comp=Z,269nm,1.6s,mb5.9
OBN *e* 17 48 24.3
OBN *i* S **S 17 52 27.5 -4.9**
OBN LR LR
comp=Z,800nm,18.0s,MS4.5
ANTO Ankara 32.74 291 *e*P **P 17 47 18.4 +0.6**
ANTO pmax pmax
comp=Z,72nm,1.5s,mb5.4
ANTO Ankara 32.74 291 *e*P **P 17 47 18.4 +0.7**
comp=Z,72nm,1.5s,mb5.4
EIL Elat 33.08 272 *e*P **P 17 47 21.6 +0.9**
comp=Z,1μm,1.4s
BJT Baijiatuau 33.84 68 *e*P **P 17 47 26.5 -0.9**
BJT pmax pmax
comp=Z,20nm,0.5s
BJT MLR MLR
comp=Z,956nm,21.0s
BJT Baijiatuau 33.84 68 *e*P **P 17 47 26.5 -0.9**
comp=Z,20nm,0.5s,mb5.3
BJT LR LR
comp=Z,956nm,21.0s,MS4.5
BJI Beijing 33.84 68 P **P 17 47 28.5 +1.1**
BJI AMB AMB
comp=Z,36nm,0.9s,mb5.3
BJI AMB AMB
comp=Z,398nm,5.7s
BJI LR LR
comp=N,2μm,16.3s,MS5.0
BJI LR LR
comp=E,1μm,12.9s,MS5.0
BJI LR LR
comp=Z,2μm,16.3s,MS4.9
KLMR Klimovskoe 34.03 331*c i*P **P 17 47 28.9 -0.2**
KLMR pmax pmax
comp=Z,230nm,1.6s,mb5.9
KLMR MLR MLR
comp=Z,1μm,18.0s,MS4.6
WHN Wuhan 34.27 86⇑P **P 17 47 32.0 +0.9**
WHN S **S 17 52 58.0 +0.7**
WHN AMB AMB
comp=Z,95nm,1.0s,mb5.7
BORA Eskisehir 34.53 291 *i* P **P 17 47 30.5 -2.9**
TIA Tai'an 35.11 75⇑P **P 17 47 39.5 +1.1**
TIA AMB AMB
comp=Z,121nm,1.5s,mb5.6
BOD Bodaibo 35.28 37⇑*i*P **P 17 47 39.6 -0.3**
BOD pmax pmax
comp=Z,31nm,1.0s,mb5.2
BOD Bodaibo 35.28 37⇑*i*P **P 17 47 39.6 -0.3**
comp=Z,31nm,1.0s,mb5.2
QIZ Qiongzhong 35.59 107 P **P 17 47 42.0 -0.5**
QIZ AMB AMB
comp=Z,150nm,6.2s
QIZ LR LR
comp=N,663nm,11.5s,MS4.8
QIZ LR LR
comp=E,748nm,11.2s,MS4.8
QIZ LR LR
comp=Z,887nm,13.3s,MS4.7
AKASG Malin Array Be 35.74 310 P **P 17 47 43.2 -0.6**
comp=Z,8.5nm,0.4s,mb5.0,baz=84,slow=7.7,SNR=80
AKASG PP PP 17 49 04.3 -0.7
comp=Z,5.0nm,0.7s,baz=84,slow=10,SNR=7.3
AKASG Malin Array Be 35.74 310 P **P 17 47 43.2 -0.6**
AKASG *e* 17 49 04.3
TIRR Tirgusor 35.82 299⇓P **P 17 47 45.0 +0.6**
TIRR Tirgusor 35.82 299 *e*P **P 17 47 42.8 -1.7**
comp=Z,5.8nm,0.8s,mb4.6
CFR Carcaliu 36.01 301⇑P **P 17 47 46.9 +0.8**
CFR Carcaliu 36.01 301⇑P **P 17 47 46.9 +0.7**
ATD Arta Tunnel 36.42 238 LR LR 18 03 54.6
comp=Z,532nm,20.1s,MS4.3,baz=233,slow=38
HIA Hailar 36.48 52 *e*P **P 17 47 51.1 +0.9**
HIA pmax pmax
comp=Z,22nm,0.8s
HIA MLR MLR
comp=Z,3μm,19.0s
HIA Hailar 36.48 52 *e*P **P 17 47 51.0 +0.9**
comp=Z,22nm,0.8s,mb5.1
HIA LR LR
comp=Z,3μm,19.0s,MS5.1
SNG Songkhla 36.99 132 P **P 17 47 55.0 +0.6**
VRI Vrincioaia 37.01 302⇑P **P 17 47 55.9 +1.3**
VRI Vrincioaia 37.01 302 P **P 17 47 55.6 +1.0**
PLOR Plostina 37.06 302⇑P **P 17 47 56.5 +1.4**
JMB Yambol 37.23 296 *i* P **P 17 47 58.0 +1.5**
JMB Yambol 37.23 296 *e*P **P 17 47 57.5 +1.1**
MNK Minsk 37.29 316 *e*P **P 17 47 55.0 -2.0**
MNK pmax pmax
comp=Z,470nm,1.5s,mb6.1
MNK Minsk 37.29 316 *e*P **P 17 47 55.0 -2.0**
comp=Z,470nm,1.5s,mb6.1
NJ2 Nanjing 37.50 81 *e*P **P 17 47 59.8 +1.0**
NJ2 AP pP 17 48 04.3 +0.3
NJ2 XP sP 17 48 06.8 +0.7
NJ2 AMB AMB
comp=Z,100nm,1.4s,mb5.5
NJ2 AMB AMB
comp=Z,280nm,7.5s
NJ2 LR LR
comp=Z,600nm,19.3s,MS4.4
MLR Muntele Rosu 37.56 301 P **P 17 48 00.7 +1.4**
comp=Z,70nm,1.0s,mb5.3,baz=122,slow=1.8,SNR=50
MLR LR LR 18 07 56.0
comp=Z,738nm,19.3s,MS4.5,baz=319,slow=43
MLR Muntele Rosu 37.56 301 P **P 17 48 00.7 +1.4**
MLR pmax pmax
comp=Z,70nm,1.0s
MLR MLR MLR
comp=Z,739nm,19.3s
MLR Muntele Rosu 37.56 301 P **P 17 48 01.1 +1.8**
PUL Pulkovo 37.56 325 *e*P **P 17 47 59.7 +0.4**
PUL *e*S **S 17 53 40.3 -7.6**
PUL pmax pmax
comp=Z,285nm,1.1s,mb5.9
PUL pmax pmax
comp=N,117nm,1.0s
PUL pmax pmax
comp=E,312nm,1.0s
PUL MLR MLR
comp=N,258nm,11.0s,MS4.9

PUL MLR MLR
comp=E,1μm,13.0s,MS4.9
PUL Pulkovo 37.56 325 *e*P **P 17 47 59.7 +0.4**
comp=E,285nm,1.1s,mb5.9
PUL *e*S **S 17 53 40.3 -7.6**
SMG Samos 37.63 288 *e*P **P 17 48 01.5 +1.6**
ALN Alexandroupoli 37.77 294 *e*P **P 17 48 01.7 +0.6**
PRK Paraskevi 37.82 291 *e*P **P 17 48 02.2 +0.7**
BURAR Bucovina Array 38.08 305⇑P **P 17 48 04.1 +0.4**
BURAR Bucovina Array 38.08 305⇑P **P 17 48 04.1 +0.4**
RDO Rodhopi 38.13 294 *e*P **P 17 48 04.9 +0.8**
DL2 Dalian 38.17 69⇑P **P 17 48 06.1 +1.6**
DL2 AMB AMB
comp=Z,70nm,1.2s,mb5.3
DL2 AMB AMB
comp=Z,240nm,8.1s
DL2 LR LR
comp=N,480nm,13.1s,MS4.6
DL2 LR LR
comp=E,440nm,12.9s,MS4.6
DL2 LR LR
comp=Z,580nm,13.8s,MS4.5
MTUR Matau 38.19 301 P **P 17 48 05.9 +1.3**
VOIR 38.19 301⇑P **P 17 48 05.2 +0.6**
VOIR 38.19 301⇑P **P 17 48 05.2 +0.6**
JOF Joensuu 38.43 330 *e*p **P 17 48 07.1 +0.5**
comp=Z,13nm,0.4s,mb5.0
KULM Kulim 38.49 134 *e*P **P 17 48 07.0 -0.1**
RZN Rozhen 38.68 295 *i* P **P 17 48 10.0 +1.2**
APE Apeiranthos 38.78 288⇑P **P 17 48 08.9 -0.6**
VSU Vasula 38.88 322⇑*i*P **P 17 48 10.2 -0.2**
LVV L'vov 38.96 308*c i*P **P 17 48 11.1 +0.1**
LVV *i* 17 49 41.3
LVV *e*PPP 17 50 13.1
LVV *e*S **S 17 54 09.9 +1.0**
LVV *e*SS SS 17 56 58.1 -2.7
PGB Panagyurishte 39.00 297 *i* P **P 17 48 12.5 +1.1**
SNY Shenyang 39.25 64⇑P **P 17 48 14.0 +0.5**
SNY S **S 17 54 08.3 -5.0**
SNY XS sS 17 54 20.6 -1.4
SNY AMB AMB
comp=Z,32nm,1.3s,mb4.9
SNY AMB AMB
comp=Z,283nm,5.8s
SNY LR LR
comp=N,1μm,10.2s,MS5.2
SNY LR LR
comp=E,2μm,13.8s,MS5.2
SNY LR LR
comp=Z,2μm,14.4s,MS5.0
OUR Ouranopolis 39.41 293 *e*P **P 17 48 14.8 -0.1**
MMB Musomiste 39.43 295 *i* P **P 17 48 16.0 +1.0**
PSI Prapat 39.53 138 P **P 17 48 15.4 -0.4**
comp=Z,51nm,0.9s,mb5.3,baz=317,slow=8.0,SNR=24
PSI LR LR 18 07 17.8
comp=Z,601nm,18.1s,MS4.5,baz=304,slow=40
SRS Serrai 39.59 294 *e*P **P 17 48 18.5 +2.2**
IDI Anoyia 39.67 285 P **P 17 48 15.7 -1.3**
comp=Z,14nm,0.7s,mb4.8,baz=72,slow=9.3,SNR=13
SSE Sheshan 39.68 82 P **P 17 48 18.8 +1.7**
SSE AP pP 17 48 24.8 +2.4
SSE XP sP 17 48 27.5 +3.0
SSE AMB AMB
comp=Z,106nm,0.9s,mb5.6
SSE AMB AMB
comp=Z,249nm,5.1s
SSE LR LR
comp=N,778nm,25.5s,MS4.5
SSE LR LR
comp=E,509nm,25.5s,MS4.5
SSE LR LR
comp=Z,405nm,17.5s
PAIG Paliouri 39.70 293 *e*P **P 17 48 17.8 +0.6**
VTS Vitosha 39.70 297 *i* P **P 17 48 18.2 +0.9**
VTS Vitosha 39.70 297 *e*P **P 17 48 16.9 -0.3**
DRGR 39.78 303 P **P 17 48 18.9 +0.9**
KWP Kalwaria 39.80 308 *e*P **P 17 48 18.9 +0.8**
KWP *e*pP pP 17 48 23.1 -0.3
PLG Polygyros 39.80 293 *e*P **P 17 48 18.7 +0.6**
LVZ Lovozero 39.84 338⇓*i*P **P 17 48 18.2 -0.2**
LVZ pmax pmax
comp=Z,182nm,1.4s,mb5.6
LVZ MLR MLR
comp=Z,2μm,16.0s,MS5.1
KKB Krupnik 39.88 296 *i* P **P 17 48 19.2 +0.5**
PTL Penteli 39.88 290 *e*P **P 17 48 18.0 -0.8**
SUW Suwalki 39.89 315 *e*P **P 17 48 18.7 -0.1**
MPAR Parnis Oros 39.96 290 *e*P **P 17 48 20.0 +0.6**
KVR Kavouri 40.00 289 *e*P **P 17 48 19.5 -0.2**
APA Apatity 40.04 337⇑*i*P **P 17 48 21.0 +0.9**
APA *i* 17 48 30.5
APA pmax pmax
comp=Z,50nm,1.2s,mb5.1
APA Apatity 40.04 337⇑*i*P **P 17 48 21.0 +0.9**
comp=Z,50nm,1.2s,mb5.1
APA *i* 17 48 30.5
UZH Uzhgorod 40.05 306 *e*P **P 17 48 21.0 +0.8**
UZH *e* 17 49 58.0
KOLS Kolonicke sedl 40.07 307 *i* P **P 17 48 21.2 +0.9**
KOLS *e*PP PP 17 49 58.6 +6.1
KNT Kendrikon 40.10 295 *e*P **P 17 48 20.9 +0.2**
FINES FINESS Array B 40.12 327 P **P 17 48 20.5 -0.2**
comp=Z,11nm,0.5s,mb4.9,baz=118,slow=10.0,SNR=88
FINES PP PP 17 49 54.2 +1.2
comp=Z,16nm,0.9s,baz=103,slow=14,SNR=5.6
FINES LR LR 18 06 08.3
comp=Z,461nm,21.4s,MS4.3,baz=2.8,slow=38
FINES FINESS Array B 40.12 327 P **P 17 48 20.5 -0.2**
FINES 17 49 54.3
THE Thessaloniki 40.13 294 *e*P **P 17 48 18.9 -2.0**
NEO Neokhori 40.15 292 *e*P **P 17 48 21.3 +0.3**
XOR Xorichti 40.16 292 *e*P **P 17 48 21.1 0.0**
KAF Kangasniemi 40.24 328 *e*p **P 17 48 21.6 -0.1**
comp=Z,3.1nm,0.4s,mb4.4
KAF Kangasniemi 40.24 328 *e*P **P 17 48 21.6 -0.1**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
CN2 Changchun 40.41 61⇑P **P 17 48 23.9 +0.7**
CN2 *e*XP sP 17 48 30.9 +0.3
CN2 AMB AMB
comp=Z,30nm,1.3s,mb4.9
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.1
CN2 LR LR
comp=E,1μm,15.0s,MS5.1
CN2 LR LR
comp=Z,2μm,16.0s,MS5.0
GRG Griva 40.51 294 *e*P **P 17 48 23.9 0.0**
LIT Litokhoron 40.57 293 *e*P **P 17 48 24.1 -0.3**
BZS Buzias 40.59 302⇓P **P 17 48 24.9 +0.2**
BZS Buzias 40.59 302 P **P 17 48 25.7 +1.0**
CRVS Cervenica-Dubn 40.61 307 *e*P **P 17 48 25.9 +1.1**
CRVS *e*PP PP 17 50 02.9 +4.5
CRVS *e* 17 50 17.6
CRVS Cervenica-Dubn 40.61 307 *e*P **P 17 48 25.9 +1.1**
CRVS *e* 17 50 02.9
CLNS Chul'man 40.65 41 *e*P **P 17 48 24.1 -1.1**
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=Z,27nm,0.9s,mb4.9
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS MLR MLR
comp=E,1μm,13.0s,MS4.9
CLNS MLR MLR
comp=Z,1μm,13.0s,MS4.9
CLNS MLR MLR
comp=N,200nm,12.0s,MS4.9
STHS Stebnicka Huta 40.75 307 *i* P **P 17 48 25.8 -0.2**
STHS *e*PP PP 17 49 59.8 -0.2
AGG Agios Georgios 40.88 291 *e*P **P 17 48 26.7 -0.4**
VLI Veliai 40.88 288 *e*P **P 17 48 26.0 -1.0**
SKO Skopje 41.08 296 *e*P **P 17 48 28.9 +0.3**
KECS Kecovo 41.26 306 *e*P **P 17 48 30.0 -0.1**
KECS *e*PP PP 17 50 09.0 +3.6
EVR Evrytania 41.30 291 *e*P **P 17 48 30.0 -0.5**
FNA Florina 41.30 294 *e*P **P 17 48 30.7 +0.2**
NIE Niedzica 41.36 307 *e*P **P 17 48 32.4 +1.4**
NIE *e*PP PP 17 50 15.0 +8.5
GRUS Gruza 41.38 299 *i* P **P 17 48 31.1 0.0**
PSZ Piszkesteto 41.66 305⇑*e*P **P 17 48 32.3 -1.2**

PSZ *e*PP PP 17 50 17.0 +7.2
OJC Ojcow 41.70 309 *e*P **P** **17 48 33.5 -0.3**
OJC *e*PP PP 17 50 17.5 +7.3
OJC *e*S **S** **17 54 53.5 +3.7**
OJC L 18 08 51.1
comp=N,4.3nm,17.9s
DIVS Divcibare 41.87 299 ⇓*i*P **P** **17 48 35.1 -0.1**
DIVS Divcibare 41.87 299 *e*P **P** **17 48 35.4 +0.2**
JAN Janina 41.89 293 *e*P **P** **17 48 35.3 0.0**
PKS7 Kunszentmiklos 42.20 304⇑*e*P **P** **17 48 38.5 +0.6**
YHNB Yeheng 42.23 91 *e*P **P** **17 48 38.8 +0.7**
comp=N,243nm,1.1s,mb5.7
YHNB *e* 17 48 52.6
IGT Igoumenitsa 42.31 293 *e*P **P** **17 48 37.6 -1.1**
INCN Inchon 42.31 70 *e*P **P** **17 48 39.7 +0.9**
comp=N,75nm,1.2s,mb5.2
VYHS Vyhne 42.35 306 *e*P **P** **17 48 39.2 +0.1**
VYHS *e*PP PP 17 50 24.6 +7.3
VLS Valsamata 42.38 291 *e*P **P** **17 48 38.5 -0.9**
PKS8 Sarbogard 42.55 304 *e*P **P** **17 48 42.1 +1.4**
NACB Ninganchiao 42.62 91 *e*P **P** **17 48 42.6 +1.3**
comp=N,343nm,1.0s,mb6.0
NACB *e* pP 17 48 49.1 +2.5
PKSM Moragy 42.62 303⇑*i*P **P** **17 48 41.4 +0.1**
PKSM *i* 17 56 56.1
PKSG 42.71 304 *e*P **P** **17 48 42.3 +0.3**
SRO Srobarova 42.73 305 *e*P **P** **17 48 43.4 +1.2**
OKC Ostrava-Krasne 42.77 308 *e*P **P** **17 48 42.9 +0.4**
SRO1 Iza 42.79 305 *e*P **P** **17 48 42.7 0.0**
PKS9 Tamasi 42.84 303⇑*e*P **P** **17 48 43.5 +0.4**
RHK1 Bakonya 43.03 303⇓*e*P **P** **17 48 34.8 -10**
MORC Moravsky Berou 43.16 308 *e*P **P** **17 48 45.5 -0.1**
MORC pmax pmax
comp=Z,22nm,1.0s,mb4.8
MORC Moravsky Berou 43.16 308 *e*P **P** **17 48 45.5 -0.1**
comp=Z,22nm,1.0s,mb4.8
KEV Kevo 43.18 338 *e*p **P** **17 48 45.3 -0.5**
comp=Z,2.6nm,0.4s
KEV Kevo 43.18 338 *e*P **P** **17 48 45.3 -0.5**
KEV pmax pmax
comp=Z,30nm,0.4s,mb5.4
SMOL Smolenice 43.29 306 *e*P **P** **17 48 47.2 +0.5**
MDJ Mudanjiang 43.29 60 P **P** **17 48 46.6 -0.1**
MDJ AP pP 17 48 49.5 -2.5
MDJ AMB AMB
comp=Z,66nm,1.6s,mb5.1
MDJ AMB AMB
comp=Z,288nm,4.6s
MDJ LR LR
comp=N,725nm,12.4s,MS5.2
MDJ LR LR
comp=E,2µm,13.2s,MS5.2
MDJ LR LR
comp=Z,3µm,14.0s,MS5.3
MDJ Mudanjiang 43.29 60 P **P** **17 48 47.6 +0.9**
MDJ Mudanjiang 43.29 60 *e*P **P** **17 48 46.0 -0.7**
comp=Z,144nm,1.4s,mb5.5
KS15 Wonju Array Si 43.29 70 P **P** **17 48 46.1 -0.6**
GKP Gorka Klasztor 43.35 313 *e*P **P** **17 48 47.5 +0.3**
GKP *e*pP pP 17 48 52.6 +0.1
ZST Bratislava 43.52 306 *e*P **P** **17 48 47.9 -0.7**
ZST *e*PP PP 17 50 35.3 +5.5
ARCES ARCESS Array B 43.54 338 P **P** **17 48 49.2 +0.5**
comp=Z,22nm,0.5s,mb5.2,baz=113,slow=7.5,SNR=204
ARCES LR LR 18 08 14.6
comp=Z,2µm,19.1s,MS5.1,baz=28,slow=38
ARCES ARCESS Array B 43.54 338 P **P** **17 48 49.2 +0.4**
ARCES LR LR 18 08 14.6
ARE0 ARCESS Array S 43.54 338 *e*P **P** **17 48 49.1 +0.4**
STON Ston 43.69 298 *i*P **P** **17 48 49.0 -0.9**
VRAC Vranov 43.80 307 P **P** **17 48 51.4 +0.6**
comp=Z,12nm,0.9s,mb4.6,baz=92,slow=8.5,SNR=17
VRAC LR LR 18 10 03.4
comp=Z,477nm,19.9s,MS4.4,baz=89,slow=40
VRAC Vranov 43.80 307 P **P** **17 48 51.4 +0.6**
VRAC pmax pmax
comp=Z,12nm,0.9s
VRAC MLR MLR
comp=Z,477nm,19.9s
VRAC Vranov 43.80 307 P **P** **17 48 51.8 +1.0**
DPC Dobruska-Polom 43.93 309 *e*P **P** **17 48 52.4 +0.6**
DPC *e*PP PP 17 50 40.1 +5.9
DPC AMS AMS 18 10 10.0
comp=Z,900nm,15.7s
KSP Ksiaz 43.93 310 *e*P **P** **17 48 52.5 +0.7**
KSP Ksiaz 43.93 310 *e*P **P** **17 48 51.4 -0.5**
KSP *e*pP pP 17 48 55.5 -1.7
KSP *e*PP PP 17 50 36.0 +1.8
KSP *e*S **S** **17 55 16.0 -6.6**
KSP *e*SS SS 17 58 29.0 -10
KTK1 Kautokeino 44.04 336 *e*P **P** **17 48 52.9 +0.1**
KTK1 AMb AMB 17 48 54.8
comp=Z,78nm,1.3s,mb5.3
KTK1 Kautokeino 44.04 336 *e*P **P** **17 48 52.9 +0.1**
comp=Z,78nm,1.3s,mb5.3
YAK Yakutsk 44.05 34 *e*P **P** **17 48 52.6 -0.2**
YAK *e**PP pP 17 49 02.2 +4.0
YAK *e* 17 50 34.3
YAK *e* 17 50 38.6
YAK *e*PPP 17 51 14.6
YAK *e*S **S** **17 55 22.4 -2.0**
YAK *e*SS SS 17 58 31.0 -11
YAK *e* 17 58 49.4
YAK pmax pmax
comp=Z,36nm,1.2s,mb5.0
YAK pmax pmax
comp=N,5.0nm,1.6s
YAK pmax pmax
comp=E,17nm,1.5s
YAK pmax pmax
comp=Z,12nm,1.2s,mb4.5
YAK pmax pmax
comp=N,8.0nm,1.6s
YAK pmax pmax
comp=E,12nm,1.5s
YAK smax
comp=N,11nm,1.0s
YAK smax
comp=E,18nm,1.2s
YAK MLR MLR
comp=Z,511nm,13.0s,MS4.6
YAK MLR MLR
comp=N,450nm,22.0s
YAK MLR MLR
comp=E,402nm,11.0s
YAK Yakutsk 44.05 34 *e*P **P** **17 48 52.6 -0.2**
comp=E,36nm,1.2s,mb5.0
YAK *e*pP pP 17 49 02.2 +4.0
YAK *e* 17 50 34.3
YAK *e* 17 50 38.6
YAK *e*PPP 17 51 14.6
YAK *e*S **S** **17 55 22.4 -2.0**
YAK *e*SS SS 17 58 31.0 -11
YAK *e* 17 58 49.4
YAK LR LR
comp=Z,510nm,13.0s,MS4.6
UPC Upice 44.12 309 *e*P **P** **17 48 54.0 +0.6**
KLR Kul'dur 44.34 53⇓*i*P **P** **17 48 53.7 -1.5**
KLR pmax pmax
comp=E,68nm,1.6s
KLR pmax pmax
comp=Z,110nm,1.6s,mb5.3
KLR MLR MLR
comp=Z,810nm,13.0s,MS4.8
BRT Bari-Castellan 44.40 295 PKP **P** **17 48 55.1 -0.5**
TREC Trest 44.52 307 *e*P **P** **17 48 56.8 +0.2**
TREC *e*x x 17 49 19.1
ARSA Arzberg 44.66 305⇑*i*P **P** **17 48 57.9 +0.2**
comp=Z,27nm,1.8s,mb4.8,SNR=9.1
PERS Pernice 45.01 304 *e*P **P** **17 49 00.8 +0.4**
PERS *e*pP pP 17 49 05.9 +0.1
PERS *i* 17 49 12.8
PVCC Panska Ves 45.04 309 *e*P **P** **17 49 01.1 +0.4**
BOJS Bojanci 45.05 302 *e*P **P** **17 49 01.1 +0.3**
BOJS *e*pP pP 17 49 06.3 +0.2
BOJS *i* 17 49 13.5
BOJS *e*PP PP 17 50 41.9 -4.3
PRU Pruhonice 45.09 308 *e*P **P** **17 49 01.5 +0.4**
PRU *e*PP PP 17 51 02.8 +16
PRU AMS AMS 18 10 40.0
comp=Z,700nm,12.5s
TIP Timpagrande 45.09 293 *e*P **P** **17 49 00.7 -0.4**
comp=Z,93nm,1.2s,mb5.5
VLA Vladivostok 45.16 61 *e*P **P** **17 48 59.5 -2.1**
VLA *e* 17 49 14.7
VLA pmax pmax
comp=Z,276nm,1.7s,mb5.8
VLA Vladivostok 45.16 61 *e*P **P** **17 48 59.5 -2.1**
comp=Z,276nm,1.7s,mb5.8
VLA *i* Pr pP 17 49 02.6 -4.4
VLA *e* 17 49 14.7
PDKS Podkum 45.16 303⇑*i*P **P** **17 49 02.1 +0.4**
FGMS Monte Sant'Ang 45.16 297 PKP **P** **17 49 01.7 0.0**
OBKA Obir 45.41 304 *i*P **P** **17 49 04.4 +0.7**
comp=Z,70nm,1.7s,mb5.2,SNR=19
BRG Berggiesshubel 45.42 310 *e*P **P** **17 49 03.6 -0.1**
comp=Z,41nm,1.1s,mb5.2
BRG Berggiesshubel 45.42 310 *i*P **P** **17 49 04.1 +0.4**
comp=Z,24nm,1.1s,mb4.9
BRG PP PP 17 51 02.0 +12
BRG S S 17 56 20.0 +36
BRG
comp=N,267nm,13.4s
BRG
comp=E,489nm,11.9s
BRG
comp=Z,793nm,15.1s
RUE Ruedersdorf 45.45 312 *e*P **P** **17 49 03.3 -0.7**
comp=Z,59nm,1.2s,mb5.3
MOA Molln 45.45 305 *i*P **P** **17 49 04.0 0.0**
comp=Z,48nm,1.4s,mb5.1,SNR=17
MOA Molln 45.45 305 *i*P **P** **17 49 04.0 0.0**
NVLJ Novalja 45.45 301 P **P** **17 49 03.0 -1.1**
LJU Ljubljana 45.48 303 *e*P **P** **17 49 04.8 +0.5**
CUC Castrocucco 45.62 294 PKP **P** **17 49 07.0 +1.7**
TRO Tromso 45.70 336 *e*P **P** **17 49 06.0 +0.1**
GEC2 GERESS Array S 45.73 307 *e*P **P** **17 49 06.3 +0.1**
comp=Z,37nm,1.7s,mb5.0
GEC2 GERESS Array S 45.73 307 *e*P **P** **17 49 06.3 +0.1**
GEC2 pmax pmax
comp=Z,37nm,1.7s,mb5.0
GERES GERESS Array B 45.73 307 P **P** **17 49 05.8 -0.3**
comp=Z,1.4nm,0.4s,baz=67,slow=7.3,SNR=25
GERES LR LR 18 11 12.1
comp=Z,450nm,18.4s,MS4.5,baz=75,slow=40
HFS Hagfors 45.76 323 P **P** **17 49 06.2 -0.3**
comp=Z,28nm,0.5s,mb5.5,baz=99,slow=9.6,SNR=173
HFS LR LR 18 07 59.5
comp=Z,584nm,19.6s,MS4.5,baz=97,slow=36
KHC Kasperske Hory 45.78 307 *e*P **P** **17 49 06.9 +0.3**
KHC AMS AMS 18 11 40.0
comp=Z,1µm,16.6s
GORS Gorjuse 45.81 303 *i*P **P** **17 49 07.0 +0.1**
GORS *i* pP pP 17 49 12.2 0.0
VOY Vojsko 45.92 303 *e*P **P** **17 49 07.9 +0.2**
VOY *e* 17 49 20.4
VOY *e* 17 49 35.0
CLL Collm 45.98 310⇑*i*P **P** **17 49 07.8 -0.4**
comp=Z,29nm,1.2s,mb5.1
CLL *e*PcP PcP 17 50 44.8 +0.1
CLL *e*S **S** **17 55 56.2 +3.8**
CLL *e*SS SS 17 59 28.7 +11
CLL *e*LR LR 18 03 09.5
CLL *e*L 18 10 49.0
comp=Z,864nm,20.0s
CLL Collm 45.98 310⇑*i*P **P** **17 49 07.9 -0.3**
comp=Z,29nm,1.2s,mb5.1
CLL *e*PP PP 17 51 02.0 +6.0
CLL *e*x x 17 51 11.0
CLL *e*PPP 17 51 41.0
CLL *e*S **S** **17 55 52.0 -0.4**
CLL *e*SS SS 17 59 30.0 +13
CLL Collm 45.98 310⇑*i*P **P** **17 49 07.9 -0.3**
CLL *e*S **S** **17 55 52.0 -0.4**
CLL pmax pmax
comp=Z,29nm,1.2s,mb5.1
CLL MLR MLR
comp=Z,1µm,15.6s,MS4.9
CLL Collm 45.98 310⇑*i*P **P** **17 49 07.9 -0.3**
comp=Z,29nm,1.2s,mb5.1
CLL *e*S **S** **17 55 52.0 -0.4**
CLL LR LR
comp=Z,1µm,15.6s,MS4.9
TRI Trieste 46.06 303 PKP **P** **17 49 08.6 -0.2**
SCLL Scilla 46.10 292 PKP **P** **17 49 10.2 +1.1**
KBA Koelnbreinsper 46.16 305 *i*P **P** **17 49 09.9 +0.3**
comp=Z,28nm,1.5s,mb5.0,SNR=8.8
KBA Koelnbreinsper 46.16 305 *i*P **P** **17 49 09.9 +0.3**
WET Wettzell 46.24 307 *e*P **P** **17 49 10.1 -0.1**
comp=Z,49nm,2.0s,mb5.1
WET Wettzell 46.24 307 *e*P **P** **17 49 10.1 -0.1**
WET pmax pmax
comp=Z,49nm,2.0s,mb5.1
GMNA Gemona 46.34 303 PKP **P** **17 49 11.7 +0.7**
MOR8 Moi Rana 46.36 331 *e*P **P** **17 49 10.5 -0.7**
MOR8 AMb AMB 17 49 12.6
comp=Z,159nm,1.1s,mb5.9
MOR8 Moi Rana 46.36 331 *e*P **P** **17 49 10.5 -0.7**
comp=Z,159nm,1.1s,mb5.9
CII Carovilli 46.37 297 PKP **P** **17 49 12.6 +1.3**
NKC Novy Kostel 46.41 309 *e*P **P** **17 49 11.9 +0.3**
WERD Werda 46.48 309 *e*P **P** **17 49 12.0 -0.1**
comp=Z,24nm,1.2s,mb5.0
TIXI Tiksi 46.50 21 *e*P **P** **17 49 10.3 -2.0**
TIXI *e* 17 50 41.2
TIXI *e* 17 51 00.4
TIXI *e*PPP 17 51 39.5
TIXI *e*S **S** **17 55 54.5 -5.3**
TIXI *e*SSS 18 00 20.8
TIXI pmax pmax
comp=Z,100nm,1.0s,mb5.7
TIXI MLR MLR
comp=Z,3µm,15.0s,MS5.4
TIXI Tiksi 46.50 21 *e*P **P** **17 49 10.3 -2.0**
comp=Z,100nm,1.0s,mb5.7
TIXI *e* 17 50 41.2
TIXI *e* 17 51 00.4
TIXI *e*PPP 17 51 39.5
TIXI *e*S **S** **17 55 54.5 -5.3**
TIXI *e*SSS 18 00 20.8
TIXI LR LR
comp=Z,3µm,15.0s,MS5.4
ROTZ Rotzenmuhle 46.61 308 *e*P **P** **17 49 13.8 +0.7**
comp=Z,48nm,1.4s,mb5.2
MANZ Manzenberg 46.65 309 *e*P **P** **17 49 14.0 +0.5**
comp=Z,35nm,1.3s,mb5.1
JNU Nakatsue 46.85 75 P **P** **17 49 15.9 +1.0**
comp=Z,72nm,1.0s,mb5.5,baz=254,slow=8.1,SNR=5.3
CING Cingoli 46.85 299 PKP **P** **17 49 15.4 +0.4**
AQU L'Aquila 46.90 298 *e*P **P** **17 49 16.1 +0.7**
AQU pmax pmax
comp=Z,70nm,1.1s,mb5.5
AQU L'Aquila 46.90 298 *e*P **P** **17 49 16.1 +0.7**
comp=Z,70nm,1.1s,mb5.5
MOX Moxa 46.91 310 *e*P **P** **17 49 15.3 -0.1**
comp=Z,32nm,1.2s,mb5.1
MOX Moxa 46.91 310 *e*P **P** **17 49 15.6 +0.2**
comp=Z,41nm,1.5s,mb5.1
MOX
comp=Z,1µm,16.0s
MOX Moxa 46.91 310 *e*P **P** **17 49 15.6 +0.2**
MOX pmax pmax
comp=Z,41nm,1.5s,mb5.1
MOX MLR MLR
comp=Z,1µm,16.0s,MS4.9
JOW Kunigami 47.01 84 P **P** **17 49 17.1 +0.8**
comp=Z,11nm,0.3s,mb5.2,baz=126,slow=30,SNR=5.9
JOW LR LR 18 10 33.6
comp=Z,746nm,21.2s,MS4.6,baz=4.9,slow=38
NB2 NORSAR Subarra 47.05 324 P **P** **17 49 16.0 -0.6**
comp=Z,142nm,1.2s,mb5.8,baz=93,slow=7.9
NB2 NORSAR Subarra 47.05 324 P **P** **17 49 16.0 -0.6**
NB2 pmax pmax
comp=Z,142nm,1.2s,mb5.8
NB2 NORSAR Subarra 47.05 324 P **P** **17 49 16.0 -0.6**
comp=Z,142nm,1.2s,mb5.8
NOA NORSAR Array B 47.05 324 P **P** **17 49 15.9 -0.7**
comp=Z,57nm,1.0s,mb5.4,baz=96,slow=7.7,SNR=53
NOA LR LR 18 10 26.5
comp=Z,379nm,19.3s,MS4.4,baz=70,slow=38
NSS Namsos 47.09 329 *e*P **P** **17 49 16.1 -0.8**
LOF Lofoten 47.14 334 *e*P **P** **17 49 20.1 +2.8**
LOF AMb AMB 17 49 24.2
comp=Z,234nm,1.7s,mb5.8
LOF Lofoten 47.14 334 *e*P **P** **17 49 20.1 +2.8**
comp=Z,234nm,1.7s,mb5.8
NAO01 NORSAR Array S 47.20 324 *e*P **P** **17 49 16.4 -1.3**
comp=Z,136nm,1.3s,mb5.7
GRA1 Grafenberg Arr 47.25 308 *e*P **P** **17 49 18.9 +0.7**
comp=Z,80nm,1.4s,mb5.5
GRA1 LR LR
comp=Z,400nm,19.9s,MS4.4
GRF Grafenberg Arr 47.25 308 *e*P **P** **17 49 18.9 +0.7**
comp=Z,80nm,1.4s,mb5.5
GRF *e*L 18 13 24.2
comp=Z,379nm,19.9s
GRF Grafenberg Arr 47.25 308 *e*P **P** **17 49 18.9 +0.7**
GRF pmax pmax
comp=Z,80nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,400nm,19.9s,MS4.4
GRF Grafenberg Arr 47.25 308 *e*P **P** **17 49 18.9 +0.7**
GRF pmax pmax
comp=Z,80nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,400nm,19.9s,MS4.4
WTTA Wattenberg 47.29 305⇑*i*P **P** **17 49 17.9 -0.5**
comp=Z,48nm,1.4s,mb5.2,SNR=11
WTTA Wattenberg 47.29 305⇓*i*P **P** **17 49 17.9 -0.5**
CERT Cerreto 47.29 298 PKP **P** **17 49 18.3 -0.1**
MURB Monte Urbino 47.35 299 PKP **P** **17 49 20.1 +1.2**
MURB P 17 57 42.2
FUR Furstenfeldbru 47.40 306 *e*P **P** **17 49 19.5 +0.2**
comp=Z,126nm,1.5s,mb5.6
FUR Furstenfeldbru 47.40 306 *e*P **P** **17 49 19.5 +0.2**
FUR pmax pmax
comp=Z,126nm,1.5s,mb5.6
CSLB Castelbuono 47.45 292 PKP **P** **17 49 19.5 -0.2**
CTI Castel Tesino 47.47 303 PKP **P** **17 49 19.7 -0.1**
BSEG Bad Segeberg 47.47 314 *e*P **P** **17 49 19.8 0.0**
comp=Z,60nm,1.2s,mb5.4
BJO Bjornoya 47.48 343 *e*P **P** **17 49 21.0 +1.1**
BJO AMS AMS 18 12 09.5
comp=Z,966nm,17.1s,MS4.8
BADI Badiali 47.50 300 PKP **P** **17 49 21.4 +1.3**
BJO1 Bjornoya 47.53 343 *e*P **P** **17 49 21.0 +0.8**
BJO1 LR LR
comp=Z,966µm,17.1s
CLZ Clausthal 47.58 311 *e*P **P** **17 49 20.5 -0.2**
comp=Z,62nm,1.2s,mb5.5
SQTA Sankt Quirin 47.58 305⇑*i*P **P** **17 49 19.8 -0.9**
comp=Z,63nm,1.6s,mb5.4,SNR=7.8
MOTA Moosalm 47.64 305⇑*i*P **P** **17 49 20.1 -1.0**
comp=Z,21nm,1.3s,mb5.0,SNR=8.2
KONO Kongsberg 47.79 322 *e*P **P** **17 49 21.9 -0.4**
KONO *e*SS SS 17 59 58.0 +11
KONO Kongsberg 47.79 322 *i*P **P** **17 49 21.4 -0.9**
KONO Kongsberg 47.79 322 *e*P **P** **17 49 21.9 -0.4**
KONO *e* 18 00 09.7
UBBA Unterbreizbach 47.91 310 *e*P **P** **17 49 23.1 -0.2**
comp=Z,30nm,1.5s,mb5.1
TOLF Tolfa 47.98 298 PKP **P** **17 49 23.4 -0.4**
DOMB Dombas 48.15 325 *e*P **P** **17 49 25.3 +0.2**
DOMB AMb AMB 17 49 27.1
comp=Z,129nm,1.5s,mb5.7
DOMB Dombas 48.15 325 *e*P **P** **17 49 25.3 +0.2**
comp=Z,129nm,1.5s,mb5.7
FNVD Fontana Vidola 48.17 301 PKP **P** **17 49 26.5 +1.2**
CLTB Caltabellotta 48.19 292 PKP **P** **17 49 25.1 -0.3**
CSNT Castellina Chi 48.19 300 PKP **P** **17 49 25.1 -0.3**
BRMO Bormio 48.27 304 PKP **P** **17 49 25.6 -0.4**
KKM Kota Kinabalu 48.47 116 *e*P **P** **17 49 28.9 +1.3**
DAVA Damuels 48.47 305 *i*P **P** **17 49 27.2 -0.4**
comp=Z,62nm,1.1s,mb5.6,SNR=20
DAVOX Davos 48.55 305 P **P** **17 49 27.8 -0.4**
comp=Z,11nm,0.5s,mb5.1,baz=94,slow=3.8,SNR=25
DAVOX LR LR 18 13 47.9
comp=Z,484nm,18.6s,MS4.5,baz=187,slow=41
DAVOX Davos 48.55 305 P **P** **17 49 27.8 -0.4**
DAVOX LR LR 18 13 47.9
BDI Bagni Di Lucca 48.56 301 PKP **P** **17 49 28.0 -0.3**
PII Pisa 48.68 300 PKP **P** **17 49 28.5 -0.7**
STU Stuttgart 48.69 307 *e*P **P** **17 49 28.4 -0.9**
VLC Villacollemand 48.69 301 *e*P **P** **17 49 28.4 -0.9**
comp=Z,98nm,1.2s,mb5.7
TNS Taunus Mts 48.97 309 *e*P **P** **17 49 31.2 -0.2**
comp=Z,22nm,1.1s,mb5.1
TNS Taunus Mts 48.97 309 *e*P **P** **17 49 31.2 -0.2**
TNS pmax pmax
comp=Z,22nm,1.1s,mb5.1
IBBN Ibbenburen 49.14 312 *e*P **P** **17 49 32.4 -0.3**
comp=Z,83nm,1.1s,mb5.7
HSP Hornsund 49.32 345 *e*P **P** **17 49 35.3 +1.2**
HSP Hornsund 49.32 345 P **P** **17 49 35.3 +1.2**
BFO Black Forest 49.33 307 *e*P **P** **17 49 33.3 -0.9**
comp=Z,27nm,1.5s,mb5.1
BLS5 Blasjo 49.39 322 *e*P **P** **17 49 35.4 +0.8**
BLS5 AMb AMB 17 49 37.8
comp=Z,52nm,1.5s,mb5.3
BLS5 Blasjo 49.39 322 *e*P **P** **17 49 35.4 +0.8**
comp=Z,52nm,1.5s,mb5.3
KMBO Kilima Mbogo 49.46 232 P **P** **17 49 37.5 +2.3**
KMBO Kilima Mbogo 49.46 232 P **P** **17 49 36.4 +1.2**
comp=Z,34nm,1.1s,mb5.3,baz=32,slow=9.9,SNR=57
KMBO LR LR 18 13 03.6
comp=Z,526nm,18.3s,MS4.6,baz=90,slow=39
KMBO Kilima Mbogo 49.46 232 P **P** **17 49 36.4 +1.3**
KMBO pmax pmax
comp=Z,34nm,1.1s
KMBO MLR MLR
comp=Z,526nm,18.3s
KMBO Kilima Mbogo 49.46 232 *e*P **P** **17 49 37.2 +2.0**
comp=Z,30nm,1.0s,mb5.3
KMBO LR LR
comp=Z,389nm,19.0s,MS4.4
BUG Bochum--Univer 49.55 311 *e*P **P** **17 49 35.5 -0.3**
comp=Z,41nm,0.4s,mb5.8
LANF Langenberg 49.56 308 *e*P **P** **17 49 36.2 +0.2**
ABH Alteburg 49.59 309 *e*P **P** **17 49 36.4 +0.2**
LIBD Limburg 49.84 307 *e*P **P** **17 49 39.2 +1.2**
RUND Rundenannen 49.91 323 *e*P **P** **17 49 38.9 +0.3**
RUND AMb AMB 17 49 40.7
comp=Z,173nm,1.4s,mb5.9
BER Bergen 49.93 323 *e*S **S** **17 56 50.7 +2.4**
BER *e*SS SS 18 00 21.9 +0.8
BER AMS AMS 18 12 03.2
comp=Z,672nm,16.1s,MS4.7
RUP Ruppelstein 49.93 309 *e*P **P** **17 49 39.0 +0.2**
WLS Welschbruch 49.95 307 *e*P **P** **17 49 40.1 +1.2**
CDF Champ du Feu 50.01 307⇑*i*P **P** **17 49 39.2 -0.1**
BBS Basel-Blauen 50.02 306 *e*P **P** **17 49 38.1 -1.4**
PGF Pioggiola 50.04 299⇑*i*P **P** **17 49 38.9 -0.7**
comp=Z,146nm,1.2s,mb5.6
PGF Pioggiola 50.04 299⇑*i*P **P** **17 49 38.9 -0.7**
comp=Z,73nm,1.2s,mb5.6
ECH Echery 50.12 307 *e*P **P** **17 49 41.4 +1.2**
MOF Molkenrain 50.20 306 *e*P **P** **17 49 40.3 -0.5**
FIN Finale Ligure 50.21 302 PKP **P** **17 49 40.1 -0.8**
HINF Hinteralfeld 50.39 306⇑*i*P **P** **17 49 41.7 -0.6**
comp=Z,99nm,1.4s,mb5.4
HINF Hinteralfeld 50.39 306⇑*i*P **P** **17 49 41.7 -0.6**
HINF pmax pmax
comp=Z,50nm,1.4s,mb5.3
HINF Hinteralfeld 50.39 306⇑*i*P **P** **17 49 41.7 -0.6**
comp=Z,50nm,1.4s,mb5.3
MEM Membach 50.45 310⇑P **P** **17 49 43.1 +0.4**
comp=Z,11nm,0.9s,mb4.9
MEM AP pP 17 49 48.1 0.0
MEM XP sP 17 49 52.8 +2.7
LOMF Lomont 50.50 306 *e*P **P** **17 49 42.5 -0.6**
IMI Imperia 50.50 301 PKP **P** **17 49 42.9 -0.2**
WLF Walferdange 50.52 309 *e*P **P** **17 49 43.3 +0.1**
comp=Z,63nm,1.1s,mb5.5
WLF Walferdange 50.52 309⇑P **P** **17 49 43.5 +0.3**
comp=Z,17nm,1.2s,mb4.8
WLF AP pP 17 49 51.9 +3.3
WLF XP sP 17 49 56.2 +5.6
WLF E 17 50 00.7
WLF Walferdange 50.52 309 *e*P **P** **17 49 43.5 +0.3**
comp=Z,98nm,1.4s,mb5.5
VSL Villasalto 50.55 295 *e*P **P** **17 49 42.7 -0.7**
comp=Z,99nm,1.5s,mb5.5
HAU Haudompre 50.69 307⇑*i*P **P** **17 49 44.2 -0.3**
HAU *e*R
comp=Z,413nm,18.8s
HAU Haudompre 50.69 307⇑*i*P **P** **17 49 44.2 -0.3**
HAU LR LR
comp=Z,410nm,18.8s,MS4.5
SAOF Saorge 50.72 301 *e*P **P** **17 49 44.9 +0.2**
KBS Kingsbay 50.73 347 *e*P **P** **17 49 49.8 +5.0**
KBS *e* 18 01 00.6
KBS AMS AMS 18 14 47.7
comp=Z,377nm,15.0s,MS4.5
OG01 Vacheresse 50.80 305 *e*P **P** **17 49 45.1 -0.3**

AUTN **L'Aution** 50.81 301 *e*P P 17 49 46.8 +1.4
SBF **Sospel** 50.83 301⇑*i*P P 17 49 45.3 -0.3
comp=Z,414nm,1.3s,mb5.9
SBF **Sospel** 50.83 301⇑*i*P P 17 49 45.3 -0.3
comp=Z,207nm,1.3s,mb5.9
THEF **They Montfort** 50.89 307 *e*P P 17 49 45.3 -0.7
REVF **Revere** 50.91 301 *e*P P 17 49 46.2 0.0
LPG **La Plagne** 50.94 304⇑*i*P P 17 49 46.5 +0.1
comp=Z,189nm,1.2s,mb5.6
LPG **La Plagne** 50.94 304⇑*i*P P 17 49 46.5 +0.1
LPG pmax pmax
comp=Z,95nm,1.2s,mb5.6
LPG **La Plagne** 50.94 304⇑*i*P P 17 49 46.5 +0.1
comp=Z,95nm,1.2s,mb5.6
LPL **La Plagne** 50.95 304⇑*i*P P 17 49 46.7 +0.3
comp=Z,308nm,1.3s,mb5.8
LPL **La Plagne** 50.95 304⇑*i*P P 17 49 46.7 +0.3
LPL pmax pmax
comp=Z,154nm,1.3s,mb5.8
LPL **La Plagne** 50.95 304⇑*i*P P 17 49 46.7 +0.3
comp=Z,154nm,1.3s,mb5.8
OG22 **Abries** 50.95 303 *e*P P 17 49 46.2 -0.3
RSL **Roselend** 50.98 304 *e*P P 17 49 46.7 0.0
MVIF **Mont Vial** 51.02 301 *e*P P 17 49 47.2 +0.2
BNI **Bardonecchia** 51.09 303 *e*P P 17 49 46.9 -0.6
comp=Z,127nm,1.3s,mb5.7
MBDF **Montbardon** 51.10 303⇑*i*P P 17 49 47.2 -0.4
comp=Z,67nm,0.7s,mb5.4
MBDF **Montbardon** 51.10 303⇑*i*P P 17 49 47.2 -0.4
comp=Z,34nm,0.7s,mb5.4
SURF **Saint Ours** 51.12 302 *e*P P 17 49 48.1 +0.3
CABF **La Chapelle** 51.15 305⇑*i*P P 17 49 48.0 +0.1
comp=Z,288nm,1.5s,mb5.7
CABF **La Chapelle** 51.15 305⇑*i*P P 17 49 48.0 +0.1
comp=Z,144nm,1.5s,mb5.7
GIVF **Givet** 51.29 310⇑*i*P P 17 49 49.3 +0.3
comp=Z,176nm,1.4s,mb5.5
GIVF **Givet** 51.29 310⇑*i*P P 17 49 49.3 +0.3
comp=Z,88nm,1.4s,mb5.5
DOU **Dourbes** 51.43 310 ⇑P P 17 49 50.3 +0.2
comp=Z,11nm,1.2s,mb4.7
DOU AP pP 17 49 53.9 -1.6
DOU XP sP 17 50 02.6 +5.0
DOU E 17 50 07.3
GDM **Grand'Maison** 51.44 303 *e*P P 17 49 49.8 -0.3
MEZF **Maizieres J'vi** 51.44 308⇑*i*P P 17 49 50.3 +0.1
comp=Z,190nm,1.4s,mb5.5
MEZF **Maizieres J'vi** 51.44 308⇑*i*P P 17 49 50.3 +0.1
comp=Z,190nm,1.4s,mb5.8
FRF **La Foret Royal** 51.46 301⇑*i*P P 17 49 49.8 -0.5
comp=Z,196nm,1.4s,mb5.6
FRF **La Foret Royal** 51.46 301⇑*i*P P 17 49 49.8 -0.5
comp=Z,98nm,1.4s,mb5.5
MAT **Matsushiro** 51.48 68 P P 17 49 49.2 -1.2
MAT S S 17 57 03.6 -6.2
MAT **Matsushiro** 51.48 68 *e*P P 17 49 49.0 -1.4
MAT *e*S S 17 57 04.0 -5.8
MAT pmax pmax
comp=Z,63nm,1.2s,mb5.4
MAT **Matsushiro** 51.48 68 *e*P P 17 49 49.0 -1.4
comp=Z,62nm,1.2s,mb5.4
MAT *e*S S 17 57 04.0 -5.8
MJAR **Matsushiro Arr** 51.48 68 P P 17 49 50.5 +0.1
comp=Z,33nm,1.0s,mb5.2,baz=291,slow=9.1,SNR=20
MJAR LR LR 18 15 03.4
comp=Z,360nm,21.6s,MS4.4,baz=215,slow=40
SNF **Seneffe** 51.56 310 ⇑P P 17 49 51.5 +0.4
comp=Z,13nm,1.1s,mb4.8
SNF AP pP 17 49 54.9 -1.5
SNF XP sP 17 49 59.3 +0.8
SNF E 17 50 03.7
LMR **La Mourre** 51.62 301⇑*i*P P 17 49 50.7 -0.8
comp=Z,114nm,1.6s,mb5.2
LMR **La Mourre** 51.62 301⇑*i*P P 17 49 50.7 -0.8
comp=Z,57nm,1.6s,mb5.2
GRN **Grenoble** 51.68 303 *e*P P 17 49 51.8 -0.2
BAIF **Baives** 51.69 310⇑*i*P P 17 49 52.3 +0.3
comp=Z,146nm,1.3s,mb5.4
BAIF **Baives** 51.69 310⇑*i*P P 17 49 52.3 +0.3
comp=Z,73nm,1.3s,mb5.5
TAVF **Tavernes** 51.86 301 *e*P P 17 49 53.1 -0.2
STOF **St-Etienne Org** 51.87 302 *e*P P 17 49 54.0 +0.6
YSS **Yuzh-Sakhalins** 51.96 54 *i*P P 17 49 53.7 -0.4
YSS pmax pmax
comp=Z,128nm,1.7s,mb5.6
YSS MLR MLR
comp=Z,1μm,15.0s,MS0.5
YSS **Yuzh-Sakhalins** 51.96 54 *i*P P 17 49 53.7 -0.4
comp=Z,128nm,1.7s,mb5.6
YSS LR LR
comp=Z,1μm,15.0s,MS5.0
VILF **Villemus** 52.04 302 *e*P P 17 49 54.5 -0.1
SMRF **Simiane la Rot** 52.11 302⇑*i*P P 17 49 54.9 -0.2
comp=Z,121nm,1.4s,mb5.3
SMRF **Simiane la Rot** 52.11 302⇑*i*P P 17 49 54.9 -0.2
comp=Z,121nm,1.4s,mb5.6
PUYF **Puyloubier** 52.13 301 *e*P P 17 49 55.5 +0.2
BERF **Bertagne** 52.20 301 *e*P P 17 49 56.8 +1.0
TREF **Trevaresse** 52.33 301 *e*P P 17 49 57.3 +0.5
GELF **Grande-Etoile** 52.37 301 *e*P P 17 49 57.0 0.0
PRAF **Pradon** 52.44 302 *e*P P 17 49 57.9 +0.3
LOR **Lormes** 52.49 306⇑*i*P P 17 49 57.1 -0.9
comp=Z,53nm,1.2s,mb5.0
LOR *e*R
comp=Z,423nm,17.2s
LOR **Lormes** 52.49 306⇑*i*P P 17 49 57.1 -0.9
LOR pmax pmax
comp=Z,27nm,1.2s,mb5.0
LOR MLR MLR
comp=Z,420nm,17.3s,MS4.5
LOR **Lormes** 52.49 306⇑*i*P P 17 49 57.1 -0.9
comp=Z,27nm,1.2s,mb5.0
LOR LR LR
comp=Z,420nm,17.3s,MS4.5
VIVF **Saint-Julien-l** 52.52 303⇑*i*P P 17 49 58.0 -0.2
comp=Z,273nm,1.4s,mb5.7
VIVF **Saint-Julien-l** 52.52 303⇑*i*P P 17 49 58.0 -0.2
comp=Z,136nm,1.4s,mb5.7
SMF **Signal de Mont** 52.65 306⇑*i*P P 17 49 58.7 -0.4
comp=Z,168nm,1.1s,mb5.6
SMF **Signal de Mont** 52.65 306⇑*i*P P 17 49 58.7 -0.4
SMF pmax pmax
comp=Z,84nm,1.1s,mb5.6
SMF **Signal de Mont** 52.65 306⇑*i*P P 17 49 58.7 -0.4
comp=Z,84nm,1.1s,mb5.6
SSF **Saint Saulge** 52.77 306⇑*i*P P 17 49 59.3 -0.8
comp=Z,145nm,1.4s,mb5.4
SSF **Saint Saulge** 52.77 306⇑*i*P P 17 49 59.3 -0.8
SSF pmax pmax
comp=Z,73nm,1.4s,mb5.4
SSF **Saint Saulge** 52.77 306⇑*i*P P 17 49 59.3 -0.8
comp=Z,73nm,1.4s,mb5.4
AVF **Avril sur Loir** 52.94 306⇑*i*P P 17 50 00.8 -0.5
comp=Z,112nm,1.1s,mb5.4
AVF **Avril sur Loir** 52.94 306⇑*i*P P 17 50 00.8 -0.5
comp=Z,56nm,1.1s,mb5.4
PLDF **La Plantade** 52.96 305 *e*P P 17 50 01.1 -0.3
COLF **Collangettes** 53.02 304 *e*P P 17 50 01.9 0.0
AGO **Saint Agoulin** 53.27 305 *e*P P 17 50 02.9 -0.8
LASF **Ste Croix** 53.28 302⇑*i*P P 17 50 03.8 0.0
comp=Z,252nm,1.2s,mb5.7
HYF **Humbligny** 53.30 307⇑*i*P P 17 50 03.6 -0.3
BGF **Bois d'Agland** 53.33 306⇑*i*P P 17 50 03.5 -0.7
LBL **Lubilhac** 53.40 304 *e*P P 17 50 04.6 -0.1
PYM **Petit Puy Mans** 53.43 305 *e*P P 17 50 04.6 -0.3
VERF **Verneugheol** 53.78 305 *e*P P 17 50 07.6 +0.1
TCF **Toulx Ste Croi** 53.83 305⇑*i*P P 17 50 07.7 -0.1
comp=Z,248nm,1.4s,mb5.7
TCF **Toulx Ste Croi** 53.83 305⇑*i*P P 17 50 07.7 -0.1
comp=Z,124nm,1.4s,mb5.7
CAF **Calviac** 54.29 304⇑*i*P P 17 50 11.3 +0.1
comp=Z,146nm,1.3s,mb5.5
CAF **Calviac** 54.29 304⇑*i*P P 17 50 11.3 +0.1
comp=Z,73nm,1.3s,mb5.5
MA2 **Magadan** 54.30 38 *i*P P 17 50 12.6 +1.3
EJON **La Jonquera** 54.42 301 P P 17 50 11.4 -0.7
comp=Z,63nm,1.0s,mb5.5
RJF **Les Rejaudoux** 54.56 304⇑*i*P P 17 50 13.4 +0.3
comp=Z,325nm,1.8s,mb5.8
RJF *e*R
comp=Z,354nm,22.2s
RJF **Les Rejaudoux** 54.56 304⇑*i*P P 17 50 13.4 +0.3
comp=Z,163nm,1.8s,mb5.8
RJF LR LR
comp=Z,350nm,22.3s,MS4.4
SEY **Seymchan** 54.56 33⇓*e*P P 17 50 13.1 -0.1

FILF **Fillols** 54.62 301 *e*P P 17 50 13.9 +0.3
MTLF **Montolieu** 54.63 302⇑*i*P P 17 50 13.4 -0.2
comp=Z,118nm,1.2s,mb5.5
MTLF **Montolieu** 54.63 302⇑*i*P P 17 50 13.4 -0.2
comp=Z,59nm,1.2s,mb5.5
LDF **La Druitiere** 54.77 309⇑*i*P P 17 50 14.2 -0.5
FLN **La Foliniere** 54.96 309⇑*i*P P 17 50 15.1 -1.0
comp=Z,98nm,1.1s,mb5.5
FLN *e*R
comp=Z,438nm,21.2s
FLN **La Foliniere** 54.96 309⇑*i*P P 17 50 15.1 -1.0
comp=Z,49nm,1.1s,mb5.5
FLN LR LR
comp=Z,440nm,21.3s,MS4.5
JMIC **Jan Mayen** 55.01 337 LR LR 18 14 16.9
comp=Z,471nm,19.7s,MS4.6,baz=79,slow=36
EKA **Eskdalemuir Ar** 55.04 317 P P 17 50 16.0 -0.6
comp=Z,8.8nm,0.6s,mb5.0,baz=96,slow=7.2,SNR=37
VALF **Valcebollere** 55.05 301 *e*P P 17 50 16.0 -0.7
ESK **Eskdalemuir** 55.07 317 P P 17 50 16.1 -0.7
comp=Z,234nm,1.2s,mb6.1,SNR=5.4
ESK **Eskdalemuir** 55.07 317 *e*P P 17 50 16.0 -0.9
comp=Z,71nm,1.4s,mb5.5
LFF **La Frestale** 55.19 304⇑*i*P P 17 50 17.6 -0.1
comp=Z,262nm,1.4s,mb5.8
LFF **La Frestale** 55.19 304⇑*i*P P 17 50 17.6 -0.1
comp=Z,131nm,1.4s,mb5.8
GRR **Gorron** 55.30 309⇑*i*P P 17 50 17.6 -0.9
comp=Z,206nm,1.3s,mb5.7
GRR **Gorron** 55.30 309⇑*i*P P 17 50 17.6 -0.9
comp=Z,103nm,1.3s,mb5.7
ETOS **Mallorca** 55.30 298 P P 17 50 17.9 -0.6
comp=Z,194nm,1.3s,mb6.0
MFF **Saint Martin d** 55.31 306⇑*i*P P 17 50 17.9 -0.7
SALF **Salau** 55.52 302 *e*P P 17 50 19.0 -1.1
MLS **Moulis** 55.53 302 *e*P P 17 50 19.5 -0.6
EMIR **Miracle** 55.54 300 P P 17 50 20.2 -0.1
comp=Z,273nm,1.6s,mb6.0
LCHF **La Chataignera** 55.69 307 *e*P P 17 50 21.4 +0.1
EPF **Esparros** 56.03 302⇑*i*P P 17 50 22.7 -1.1
comp=Z,59nm,1.2s,mb5.2
EPF **Esparros** 56.03 302⇑*i*P P 17 50 22.7 -1.1
comp=Z,29nm,1.2s,mb5.2
EPOB **Poblet** 56.04 300 P P 17 50 22.9 -1.0
comp=Z,125nm,1.3s,mb5.8
RESF **Ens** 56.10 302 *e*P P 17 50 24.2 -0.1
EBIE **Bielsa** 56.28 302 P P 17 50 25.1 -0.4
comp=Z,80nm,1.3s,mb5.6
VIEF **Viey** 56.30 302 *e*P P 17 50 25.8 +0.1
EGRA **Graus** 56.31 301 P P 17 50 24.6 -1.1
comp=Z,33nm,0.8s,mb5.4
REYF **Montagne du Re** 56.53 302 *e*P P 17 50 27.6 +0.3
EIBI **Ibiza** 56.62 297 P P 17 50 27.7 -0.2
comp=Z,166nm,1.6s,mb5.8
EBR **Ebro Roquetas** 56.63 300 *e*P P 17 50 28.5 +0.5
ETSF **Etsaut** 56.70 302⇑*i*P P 17 50 28.6 +0.1
comp=Z,65nm,0.6s,mb5.6
ETSF **Etsaut** 56.70 302⇑*i*P P 17 50 28.6 +0.1
comp=Z,32nm,0.6s,mb5.5
ERTA **Horta de San J** 56.70 300 P P 17 50 27.5 -1.0
comp=Z,168nm,1.4s,mb5.9
ROSF **Rostrenen** 56.86 309⇑*i*P P 17 50 28.9 -0.8
comp=Z,179nm,1.2s,mb5.7
ROSF **Rostrenen** 56.86 309⇑*i*P P 17 50 28.9 -0.8
comp=Z,90nm,1.2s,mb5.7
QUIF **Quistinic** 56.91 309⇑*i*P P 17 50 29.1 -0.9
comp=Z,114nm,1.2s,mb5.5
QUIF **Quistinic** 56.91 309⇑*i*P P 17 50 29.1 -0.9
comp=Z,57nm,1.2s,mb5.5
LARF **Larau** 56.95 302 *e*P P 17 50 30.5 +0.2
DAG **Danmarks Havn** 56.95 344⇓*i*P P 17 50 30.3 0.0
comp=Z,69nm,0.9s,mb5.7
DAG *i*pP pP 17 50 35.6 -0.2
ESAC **San Caprasio** 57.02 301 P P 17 50 29.9 -0.9
comp=Z,302nm,1.3s,mb6.2
SJPF **Ste Jean** 57.09 303⇑*i*P P 17 50 30.6 -0.7
comp=Z,43nm,1.1s,mb5.1
SJPF **Ste Jean** 57.09 303⇑*i*P P 17 50 30.6 -0.7
comp=Z,21nm,1.1s,mb5.1
EALK **Alkurruntz** 57.25 303 P P 17 50 31.3 -1.1
comp=Z,88nm,1.1s,mb5.7
ELIZ **Elizondo** 57.29 303 P P 17 50 32.2 -0.4
comp=Z,46nm,1.2s,mb5.4
EMOS **Mosqueruela** 57.48 299 P P 17 50 33.7 -0.3
comp=Z,82nm,1.1s,mb5.7
DMUB **Kingscourt** 57.50 316 *e*P P 17 50 33.0 -1.2
DCN **Croghan** 57.87 316 *e*P P 17 50 36.0 -0.8
EBEN **Beniarda** 57.88 297 P P 17 50 35.0 -1.9
comp=Z,89nm,1.1s,mb5.7
ECHE **Chera** 58.10 299 P P 17 50 38.4 -0.1
comp=Z,28nm,1.1s,mb5.2
ECRI **Cripan** 58.15 302 P P 17 50 38.7 0.0
comp=Z,9.7nm,0.4s,mb5.2
ELAN **Lanestosa** 58.58 303 P P 17 50 41.1 -0.6
comp=Z,210nm,1.4s,mb6.0
OPO **Ambohidratompo** 58.80 210 P P 17 50 43.9 +0.6
comp=Z,20nm,0.9s,mb5.1,baz=36,slow=6.4,SNR=14
ETOB **Tobarra** 58.87 298 P P 17 50 43.7 0.0
comp=Z,123nm,1.4s,mb5.7
EMUR **La Murta** 58.94 297 P P 17 50 43.6 -0.6
comp=Z,126nm,1.5s,mb5.7
BILL **Bilibino** 59.12 26*c*i P P 17 50 46.5 +1.0
BILL pmax pmax
comp=Z,78nm,1.1s,mb5.7
BILL **Bilibino** 59.12 26⇑*i*P P 17 50 46.5 +1.0
comp=Z,78nm,1.1s,mb5.7
SCO **Scoresbysund** 59.47 337 *i*P P 17 50 48.9 +1.0
comp=Z,4.1nm,0.7s,mb4.6
EVIA **Vianos** 59.56 298 P P 17 50 48.2 -0.4
EVIA pmax pmax
comp=Z,49nm,1.0s,mb5.5
EVIA **Vianos** 59.56 298 P P 17 50 48.2 -0.3
comp=Z,48nm,1.0s,mb5.5
EARI **Arriondas** 59.77 304 P P 17 50 49.5 -0.4
comp=Z,215nm,2.0s,mb5.8
ENIJ **Nijar** 59.98 296 P P 17 50 51.7 +0.2
comp=Z,155nm,1.2s,mb5.9
GUD **Guadarrama** 60.00 301 P P 17 50 51.2 -0.3
comp=Z,16nm,0.5s,mb5.3
ESDC **Sonseca Array** 60.23 300 P P 17 50 52.8 -0.3
comp=Z,13nm,0.7s,mb5.1,baz=60,slow=7.2,SNR=69
ESDC **Sonseca Array** 60.23 300 P P 17 50 52.4 -0.7
comp=Z,26nm,0.9s,mb5.3
ESLA **Sonseca Array** 60.23 300 *e*P P 17 50 52.7 -0.4
comp=Z,27nm,1.4s,mb5.1
ESLA LR LR
comp=Z,2μm,20.0s,MS5.2
EQES **Quesada** 60.30 297 P P 17 50 53.0 -0.6
comp=Z,141nm,1.3s,mb5.8
EBER **Berja** 60.52 296 P P 17 50 55.1 0.0
comp=Z,42nm,0.8s,mb5.6
EBAN **Banos Encina** 60.68 298 P P 17 50 55.6 -0.6
EBAN pmax pmax
comp=Z,18nm,0.6s,mb5.4
EBAN **Banos Encina** 60.68 298 P P 17 50 55.6 -0.6
comp=Z,18nm,0.6s,mb5.4
ECOG **Cogollos-Vega** 60.86 297 P P 17 50 56.4 -1.1
ECOG pmax pmax
comp=Z,17nm,0.8s,mb5.2
ECOG **Cogollos-Vega** 60.86 297 P P 17 50 56.4 -1.0
comp=Z,17nm,0.8s,mb5.2
ALE **Alert** 60.94 354 P P 17 50 58.0 0.0
comp=Z,166nm,1.3s,mb6.0,SNR=7.2
EPON **Pontenova** 61.08 305 P P 17 50 58.0 -0.9
comp=Z,210nm,1.3s,mb6.1
ERON **Agron** 61.14 297 P P 17 50 57.9 -1.5
comp=Z,8.9nm,0.8s,mb5.0
BORG **Borgarnes** 61.16 331 LR LR 18 18 09.0
comp=Z,365nm,20.1s,MS4.5,baz=51,slow=37
EADA **Adamuz** 61.25 298 P P 17 50 59.2 -0.9
comp=Z,48nm,1.1s,mb5.5
ELUQ **Luque** 61.26 298 P P 17 50 59.6 -0.6
ELUQ pmax pmax
comp=Z,21nm,0.7s,mb5.4
ELUQ **Luque** 61.26 298 P P 17 50 59.6 -0.6
comp=Z,21nm,0.7s,mb5.4
ECAL **Calabor** 61.32 303 P P 17 50 59.6 -0.9
comp=Z,170nm,1.2s,mb6.0
ELOJ **Sierra Loja** 61.34 297 P P 17 50 59.7 -1.0
ELOJ pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
ELOJ **Sierra Loja** 61.34 297 P P 17 50 59.7 -1.0
comp=Z,8.0nm,0.8s,mb4.9
ERUA **La Rua** 61.42 304 P P 17 51 01.2 -0.1
comp=Z,19nm,0.7s,mb5.3
ECAB **El Cabril** 61.89 299 P P 17 51 03.2 -1.2
comp=Z,79nm,1.2s,mb5.7

EMIJ **Mijas** 62.03 297 P P 17 51 04.5 -0.9
comp=Z,30nm,1.0s,mb5.4
STS **Santiago** 62.20 305 P P 17 51 04.9 -1.6
STS pmax pmax
comp=Z,68nm,1.2s,mb5.7
STS **Santiago** 62.20 305 P P 17 51 04.9 -1.5
comp=Z,68nm,1.2s,mb5.7
PVRL **Vila Real** 62.25 303 *e*P P 17 51 07.2 +0.3
comp=Z,42nm,1.3s,mb5.4
ELOB **Lobios** 62.26 303 P P 17 51 06.6 -0.3
comp=Z,74nm,1.0s,mb5.8
EMAZ **Mazaricos** 62.46 305 P P 17 51 07.6 -0.7
comp=Z,212nm,1.5s,mb6.0
MTE **Manteigas** 62.48 302 *e*P P 17 51 08.7 +0.3
comp=Z,119nm,1.5s,mb5.8
MTE **Manteigas** 62.48 302 *e*P P 17 51 08.6 +0.2
comp=Z,133nm,1.3s,mb5.9
EZAM **Zamans** 62.58 304 P P 17 51 08.6 -0.5
comp=Z,25nm,0.8s,mb5.4
EJIF **Jimena Fronter** 62.59 297 P P 17 51 07.4 -1.7
EJIF pmax pmax
comp=Z,30nm,1.2s,mb5.3
EJIF **Jimena Fronter** 62.59 297 P P 17 51 07.4 -1.7
comp=Z,30nm,1.2s,mb5.3
PVIS **Viseu** 62.60 302 *e*P P 17 51 09.6 +0.4
comp=Z,79nm,1.4s,mb5.7
PCBR **Castelo Branco** 62.66 301 *e*P P 17 51 10.0 +0.4
comp=Z,58nm,1.7s,mb5.4
ESPR **Espera** 62.70 297 P P 17 51 08.2 -1.6
comp=Z,104nm,1.4s,mb5.8
EBAD **Badajoz** 62.77 300 P P 17 51 09.3 -0.9
comp=Z,76nm,0.8s,mb5.9
EMIN **Mina Concepcio** 62.92 299 P P 17 51 10.1 -1.2
comp=Z,87nm,1.3s,mb5.7
SUMG **Summit** 63.36 342 *e*P P 17 51 14.9 +0.7
comp=Z,67nm,1.0s,mb5.7
PTOM **Tomar** 63.40 301 *e*P P 17 51 14.8 +0.3
comp=Z,105nm,1.4s,mb5.8
EGRO **El Granado** 63.61 299 P P 17 51 14.6 -1.3
comp=Z,75nm,1.2s,mb5.6
PBEJ **Beja** 63.68 299 *e*P P 17 51 16.4 +0.1
comp=Z,65nm,1.4s,mb5.5
MOE **Montemor** 63.81 300 *e*P P 17 51 18.0 +0.8
LSZ **Lusaka** 65.99 229 *e*P P 17 51 32.0 +0.6
LSZ pmax pmax
comp=Z,101nm,1.3s,mb5.7
LSZ **Lusaka** 65.99 229 *e*P P 17 51 32.0 +0.6
comp=Z,101nm,1.3s,mb5.7
TORD **Torodi Ar. Bea** 67.96 271 P P 17 51 43.6 -0.3
comp=Z,99nm,1.0s,mb5.8,baz=49,slow=6.2,SNR=284
FX1 **Attu Island--F** 68.24 40 P P 17 51 46.4 +0.7
comp=Z,20nm,0.3s,mb5.6,baz=76,slow=19,SNR=17
TNA **Tin City** 69.23 23 *e*P P 17 51 52.6 +0.7
comp=Z,84nm,1.5s,mb5.5
SFJD **Kangerlussuaq** 70.11 340 LR LR 18 22 29.6
comp=Z,394nm,19.4s,MS4.7,baz=199,slow=36
SFJD **Kangerlussuaq** 70.11 340 *i*P P 17 51 56.8 -0.5
comp=Z,19nm,0.9s,mb5.0
SFJD *i* pP 17 52 03.5 +0.7
SFJD
comp=Z,330nm,22.0s
SFJD **Kangerlussuaq** 70.11 340 *i*P P 17 51 56.8 -0.5
SFJD *i* pP 17 52 03.5 +0.7
SFJD pmax pmax
comp=Z,19nm,0.9s,mb5.0
SFJD MLR MLR
comp=Z,330nm,22.0s,MS4.5
RES **Resolute Bay** 70.50 357 *e*P P 17 51 59.7 0.0
RES pmax pmax
comp=Z,16nm,1.0s,mb4.9
RES **Resolute Bay** 70.50 357 *e*P P 17 51 59.7 0.0
comp=Z,498nm,1.0s,mb6.4
MBWA **Marble Bar** 70.75 135 *e*P P 17 52 00.5 -0.7
comp=Z,37nm,1.0s,mb5.3
FITZ **Fitzroy Crossi** 72.10 128 P P 17 52 09.9 +0.5
comp=Z,33nm,1.2s,mb5.1,baz=343,slow=7.7,SNR=4.7
FITZ LR LR 18 23 30.4
comp=Z,179nm,21.7s,MS4.3,baz=136,slow=36
LBTB **Lobatse** 75.00 224 *e*P P 17 52 27.1 +0.7
LBTB pmax pmax
comp=Z,97nm,1.1s,mb5.7
LBTB MLR MLR
comp=Z,409nm,21.0s,MS4.7
LBTB **Lobatse** 75.00 224 *e*P P 17 52 27.1 +0.7
comp=Z,97nm,1.1s,mb5.7
LBTB LR LR
comp=Z,409nm,21.0s,MS4.7
INK **Inuvik** 75.17 10 P P 17 52 27.7 +0.3
comp=Z,25nm,0.5s,mb5.4,baz=348,slow=4.6,SNR=80
COLA **College** 75.43 17 *e*P P 17 52 28.9 0.0
COLA pmax pmax
comp=Z,92nm,1.0s,mb5.7
COLA **College** 75.43 17 *e*P P 17 52 28.9 0.0
comp=Z,92nm,1.0s,mb5.7
TSUM **Tsumeb** 75.70 234 *e*P P 17 52 30.9 +0.4
comp=Z,45nm,1.2s,mb5.3
ILAR **Eielson Array** 75.75 17 P P 17 52 29.8 -0.9
comp=Z,27nm,1.0s,mb5.1,baz=320,slow=4.9,SNR=69
ILAR PP PP 17 55 21.4 +0.8
comp=Z,13nm,1.1s,baz=323,slow=7.3,SNR=6.9
ILAR LR LR 18 28 21.4
comp=Z,391nm,21.5s,MS4.7,baz=343,slow=38
ILAR **Eielson Array** 75.75 17 P P 17 52 29.8 -0.9
ILAR 17 55 21.4
MCK **McKinley** 76.11 18 *e*P P 17 52 32.7 0.0
comp=Z,62nm,1.1s,mb5.5
SVW2 **Sparrevohn** 76.32 22 *e*P P 17 52 33.1 -0.8
DBIC **Dimbokro** 76.88 269 P P 17 52 37.3 +0.2
comp=Z,60nm,1.0s,mb5.5,baz=33,slow=6.7,SNR=37
DBIC LR LR 18 29 55.1
comp=Z,650nm,18.2s,MS5.0,baz=37,slow=38
DBIC **Dimbokro** 76.88 269 P P 17 52 37.3 +0.2
DBIC pmax pmax
comp=Z,60nm,1.0s
DBIC MLR MLR
comp=Z,650nm,18.2s
DBIC **Dimbokro** 76.88 269 *e*P P 17 52 37.0 -0.2
comp=Z,130nm,1.2s,mb5.7
DBIC LR LR
comp=Z,683nm,21.0s,MS4.9
LIC **Lamto** 77.27 269⇑*i*P P 17 52 39.4 +0.1
comp=Z,206nm,1.1s,mb5.7
LIC *e*R
comp=Z,681nm,21.2s
LIC **Lamto** 77.27 269⇑*i*P P 17 52 39.4 +0.1
comp=Z,103nm,1.1s,mb5.7
LIC LR LR
comp=Z,340nm,21.3s,MS4.6
MUN **Mundaring** 77.51 144 *e*P P 17 52 40.0 -0.7
PMR **Palmer** 77.81 19 *e*P P 17 52 41.8 -0.6
PMR pmax pmax
comp=Z,103nm,1.3s,mb5.6
PMR **Palmer** 77.81 19 *e*P P 17 52 41.8 -0.6
comp=Z,103nm,1.3s,mb5.6
SML **Sawmill** 77.85 19 *e*P P 17 52 42.6 0.0
KLBR **Kellerberrin** 77.96 143 *e*P P 17 52 41.9 -1.3
comp=Z,96nm,1.1s,mb5.6
BOSA **Boshof** 77.97 222 P P 17 52 43.2 0.0
comp=Z,45nm,0.8s,mb5.5,baz=40,slow=6.0,SNR=52
BOSA LR LR 18 29 02.9
comp=Z,196nm,18.6s,MS4.5,baz=359,slow=37
BOSA **Boshof** 77.97 222 P P 17 52 43.3 +0.1
BOSA pmax pmax
comp=Z,45nm,0.8s,mb5.5
BOSA MLR MLR
comp=Z,196nm,18.6s,MS4.5
BOSA **Boshof** 77.97 222 *e*P P 17 52 43.0 -0.2
comp=Z,171nm,1.3s,mb5.8
DAWY **Dawson** 78.01 14 *e*P P 17 52 43.5 +0.1
DAWY *e* pP 17 52 48.6 -0.4
SLKM **Skilak Lake** 78.40 21 *e*P P 17 52 45.0 -0.6
NWAO **Narrogin (SRO)** 78.79 144 P P 17 52 46.7 -1.0
comp=Z,73nm,1.1s,mb5.5,baz=335,slow=7.0,SNR=14
NWAO **Narrogin (SRO)** 78.79 144 P P 17 52 46.7 -1.0
NWAO pmax pmax
comp=Z,73nm,1.1s
NWAO **Narrogin (SRO)** 78.79 144 *e*P P 17 52 46.6 -1.1
comp=Z,109nm,1.2s,mb5.7
DIV **Divide** 79.10 18 *e*P P 17 52 49.6 +0.2
comp=Z,47nm,1.1s,mb5.3
WRA **Warramunga Arr** 79.20 123 P P 17 52 50.4 +0.4
comp=Z,40nm,0.9s,mb5.3,baz=322,slow=4.9,SNR=45
WRA S S 18 02 49.8 +0.6
comp=Z,3.6nm,1.1s,baz=301,slow=14,SNR=11
WRA PKKPbc PKKPbc 18 11 41.7 +1.0
comp=Z,0.7nm,0.4s,baz=127,slow=2.2,SNR=28
WRA **Warramunga Arr** 79.20 123 P P 17 52 50.4 +0.4

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WRA                                    S     S     18 02 49.8 +0.6
WRAB Tennant Creek      79.20 123      P     P     17 52 50.3 +0.3
     comp=Z,460nm,0.5s,SNR=13
WRAB Tennant Creek      79.20 123  i P           P 17 52 50.8 +0.8
WB2  Warramunga Arr     79.21 123  eP          P 17 52 50.7 +0.6
KDAK Kodiak Island      79.87  23      P         P 17 52 54.0 +0.3
     comp=Z,662nm,1.2s,mb6.4,SNR=6.7
KDAK Kodiak Island      79.87  23      P         P 17 52 54.5 +0.8
     comp=Z,100nm,1.1s,mb5.7,baz=4.3,slow=3.2,SNR=18
KDAK Kodiak Island      79.87  23      P         P 17 52 54.5 +0.8
ASPA Alice Springs      81.46 126  eP          P 17 53 02.6 +0.5
AS31 Alice Springs      81.46 126  eP          P 17 53 02.6 +0.4
ASAR Alice Springs      81.46 126      P         P 17 53 02.5 +0.3
     comp=Z,45nm,1.0s,mb5.4,baz=308,slow=5.3,SNR=35
ASAR                                   S     S     18 03 13.7 +0.8
     comp=Z,7.7nm,1.1s,baz=310,slow=9.9,SNR=26
ASAR                                   PKKPbc PKKPbc 18 11 36.6 +0.9
     comp=Z,0.3nm,0.4s,baz=128,slow=2.7,SNR=8.6
ASAR Alice Springs      81.46 126      P         P 17 53 02.5 +0.3
ASAR                                   S     S     18 03 13.7 +0.8
PMG  Port Moresby       81.98 107      P         P 17 53 05.7 +0.8
     comp=Z,38nm,1.0s,mb5.3,baz=360,slow=5.0,SNR=13
PMG  Port Moresby       81.98 107      P         P 17 53 05.7 +0.8
PMG                                    pmax  pmax
     comp=Z,38nm,1.0s
PMG  Port Moresby       81.98 107  eP          P 17 53 05.3 +0.4
     comp=Z,53nm,1.1s,mb5.4
YKW3 Yellowknife Ar     82.71   4  eP          P 17 53 08.6 -0.1
     comp=Z,2.5nm,1.4s
YKA  Yellowknife Ar     82.78   4      P         P 17 53 08.9 -0.1
     comp=Z,9.2nm,0.4s,mb5.1,baz=346,slow=5.2,SNR=126
YKA                                    PKKPbc PKKPbc 18 11 29.8 -2.8
     comp=Z,1.0nm,0.9s,baz=160,slow=2.3,SNR=7.5
YKA                                    PKPPKP        18 19 34.0
     comp=Z,0.4nm,0.8s,baz=153,slow=2.9,SNR=5.1
YKA                                    LR    LR    18 33 52.1
     comp=Z,521nm,18.3s,MS4.9,baz=350,slow=38
YKA  Yellowknife Ar     82.78   4      P         P 17 53 08.9 -0.1
YKA                                    PKKPbc PKKPbc 18 11 29.8 -2.8
YKA                                    P'P'          18 19 34.0
YKA                                    LR    LR    18 33 52.1
FORT Forrest            82.90 135  eP          P 17 53 10.3 +0.6
     comp=Z,60nm,0.7s,mb5.7
SUR  Sutherland         83.31 223      P         P 17 53 13.8 +2.0
     comp=Z,318nm,0.8s,mb6.4,SNR=10.0
SUR  Sutherland         83.31 223  eP          P 17 53 12.3 +0.4
     comp=Z,97nm,0.9s,mb5.8
SCHQ Schefferville      84.49 338      P         P 17 53 17.6 -0.3
     comp=Z,9.8nm,0.9s,mb4.9,baz=39,slow=4.2,SNR=13
SCHQ                                   LR    LR    18 33 15.5
     comp=Z,197nm,19.3s,MS4.5,baz=60,slow=37
FCC  Fort Churchill     86.21 354  eP          P 17 53 26.6 +0.2
FCC                                    pmax  pmax
     comp=Z,134nm,1.5s,mb6.0
FCC  Fort Churchill     86.21 354  eP          P 17 53 26.6 +0.1
     comp=Z,134nm,1.5s,mb6.0
CTA  Charters Tower     87.80 116  eP          P 17 53 34.7 +0.5
     comp=Z,26nm,1.2s,mb5.3
CTA  Charters Tower     87.80 116      P         P 17 53 34.4 +0.2
     comp=Z,27nm,0.9s,mb5.5,baz=290,slow=6.9,SNR=8.7
CTA  Charters Tower     87.80 116      P         P 17 53 34.4 +0.2
CTA                                    pmax  pmax
     comp=Z,27nm,0.9s
FFC  Flin Flon          90.73 358      P         P 17 53 48.1 +0.2
     comp=Z,320nm,1.2s,mb6.5,SNR=31
FFC  Flin Flon          90.73 358  eP          P 17 53 48.1 +0.2
FFC                                    pmax  pmax
     comp=Z,109nm,1.3s,mb6.0
FFC  Flin Flon          90.73 358  eP          P 17 53 48.1 +0.2
     comp=Z,109nm,1.3s,mb6.0
STKA Stephens Creek     91.99 128  eP          P 17 53 52.4 -1.4
     comp=Z,9.1nm,1.4s,mb4.9
STKA Stephens Creek     91.99 128      P         P 17 53 52.5 -1.3
     comp=Z,4.0nm,0.7s,mb4.9,baz=355,slow=6.2,SNR=3.9
STKA                                   LR    LR    18 35 53.8
     comp=Z,251nm,20.6s,MS4.7,baz=20,slow=36
EDM  Edmonton           92.10   4  eP          P 17 53 53.8 -0.5
ULM  Lac du Bonnet      94.80 353      P         P 17 54 06.2 -0.5
     comp=Z,17nm,1.0s,mb5.4,baz=356,slow=5.8,SNR=17
ULM                                    LR    LR    18 39 42.3
     comp=Z,218nm,20.2s,MS4.6,baz=20,slow=37
ULM  Lac du Bonnet      94.80 353      P         P 17 54 06.2 -0.5
ULM                                    LR    LR    18 39 42.3
DGMT Dagmar             97.05 359  eP          P 17 54 18.4 +1.4
     comp=Z,27nm,1.1s,mb5.6
CHMT Chamberlain Mo     98.39   5  eP          P 17 54 23.3 +0.4
LAO  LASA Array         98.86 360      P         P 17 54 26.3 +1.2
RSSD Black Hills        101.40 358 eP          Pdif 17 54 35.7 -0.7
RSSD                                   pmax  pmax
     comp=Z,8.0nm,1.2s
RSSD Black Hills        101.40 358 ePdif      Pdif  17 54 35.7 -0.7
     comp=Z,7.0nm,1.2s
PDAR Pinedale Array     102.72   3 PKiKP   PKiKP 17 59 02.5 -0.5
     comp=Z,0.6nm,0.6s,baz=97,slow=2.1,SNR=5.2
SYO  Syowa Base         106.56 192⇓ ePDiff        17 55 04.4
SYO  Syowa Base         106.56 192⇓ ePP       PP  17 59 23.3 -1.1
SYO  Syowa Base         106.56 192⇓ /PKPdf    PKiKP 17 59 10.7 +0.7
SYO                                ⇓ ePP       PP  17 59 23.3 -1.1
RPZ  Rata Peaks         117.86 126     PKP   PKPdf 17 59 30.5 -0.9
     comp=Z,111nm,0.9s,baz=304,slow=3.6,SNR=4.2
URZ  Urewera            120.01 118     PKP   PKPdf 17 59 33.3 -2.3
     comp=Z,9.5nm,0.8s,baz=226,slow=2.4,SNR=8.2
VNDA Vanda              123.30 165     PKP   PKPdf 17 59 40.2 -1.7
     comp=Z,1.3nm,0.5s,baz=348,slow=5.0,SNR=11
QSPA South Pole Qui     124.63 180 eP          PKPdf 17 59 42.7 -1.8
SDV  Santo Domingo      125.00 315     PKP   PKPdf 17 59 46.0 +0.8
     comp=Z,13nm,0.8s,baz=11,slow=2.1,SNR=10
SDV  Santo Domingo      125.00 315 ePKPdf     PKPdf 17 59 45.7 +0.5
ROSC El Rosal           130.39 316     PKP   PKPdf 17 59 56.5 +1.0
     comp=Z,33nm,1.1s,baz=126,slow=5.3,SNR=18
SAML Samuel             132.98 293 ePKPdf     PKPdf 18 00 00.9 +0.6
SIV  San Ignacio        135.52 283     PKP   PKPdf 18 00 05.9 +0.8
     comp=Z,2.5nm,0.9s,baz=116,slow=3.8,SNR=5.9
OTAV Otavalo            136.50 317 ePKPdf     PKPdf 18 00 09.1 +2.2
CPUP Villa Florida      137.39 268     PKP   PKPdf 18 00 07.7 -0.9
     comp=Z,6.8nm,1.0s,baz=47,slow=1.6,SNR=5.6
CPUP Villa Florida      137.39 268     PKIKP PKPdf 18 00 07.7 -0.9
CPUP                                   pmax  pmax
     comp=Z,70nm,1.0s
CPUP Villa Florida      137.39 268 ePKPdf     PKPdf 18 00 07.5 -1.1
LPAZ La Paz             141.27 289     PKP   PKPdf 18 00 16.9 +1.2
     comp=Z,2.3nm,0.8s,baz=77,slow=3.5,SNR=6.5
ARE  Arequipa           143.97 292 ePKIKP     PKPdf 18 00 20.0 -0.4
MDZ  Mendoza            149.00 263 ePKP2      PKPab 18 00 35.1 -2.0
PLCA Paso Flores        151.32 247     PKP   PKPdf 18 00 32.2 -0.4
     comp=Z,5.9nm,1.0s,baz=338,slow=3.5,SNR=6.2
PLCA                                   PKPbc PKPbc 18 00 38.1 -0.5
     comp=Z,32nm,1.2s,baz=105,slow=4.0,SNR=14
PLCA                                   PKPab PKPab 18 00 46.1 -0.5
     comp=Z,28nm,1.2s,baz=134,slow=0.4,SNR=9.3
PLCA Paso Flores        151.32 247 ePKPdf     PKPdf 18 00 32.0 -0.6
PLCA                               ePKPbc     PKPbc 18 00 38.5 -0.1
```

IDC 20 18:02:41.9±3.6, 529S×15095E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=140.2km s-min=44.8km az=118.0, New Britain region

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Code Station Name       Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC       h m s    ISC
PMG  Port Moresby       5.56 222  Pn            18 04 08.1 +2.2
     2.3nm,0.3s,baz=43,slow=6.3,SNR=19
PMG                                Sn    Sn        18 05 07.9 -2.6
     2.2nm,0.3s,baz=186,slow=18,SNR=8.3
WB2  Warramunga Arr     21.75 226  eP    P         18 07 34.4 -0.6
WRA  Warramunga Arr     21.76 227  P     P         18 07 35.0 -0.1
     0.9nm,0.5s,baz=52,slow=11,SNR=16
ASAR Alice Springs      24.57 220  P     P         18 08 03.2 -0.3
     1.3nm,0.7s,baz=57,slow=9.0,SNR=25
ASPA Alice Springs      24.57 220  eP    P         18 08 03.1 -0.4
TORD Torodi Ar. Bea     148.70 287 PKPbc PKPbc     18 22 32.1 +1.0
     0.4nm,0.5s,baz=85,slow=2.4,SNR=4.6
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*BJI **20** 18:40:52.7, 6550N×14220W, h10km, mB4.8, mb4.6, Ms4.5, Msz4.3*
*ISCJB **20** 18:40:54.9±0.3, 6550N±003×14190W±006, h10km, mb4.3/11, MS4.6/1, Error ellipse: s-maj=4.0km s-min=3.6km az=128.9*
*NEIC **20** 18:40:56.7, 6545N×142.17W, h10km, ML4.0(AEIC), ML4.4(PGC), ML4.5(PMR), After AEIC.*
*PGC **20** 18:40:57.6, 6543N×14199W, h1km, ML4.4/3, 195km northwest of Dawson, Yt Eastern Alaska.*

*IDC **20** 18:40:58.0±0.7, 6549N×14190W, h0km, mb3.9/5, mb1 4.3/9, mb1mx3.9/23, mbtmp4.0/9, ML4.0/4, Error ellipse: s-maj=18.7km s-min=8.8km az=161.0*

ISC 20 18:40:56.0±1.0, 6548N±003×14198W±007, h3km±7km, h14km±1.3km; pP-P, n52, σ1°25/75, mb4.3/11, MS4.6/1, Northern Alaska

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Code Station Name       Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC       h m s    ISC
DAWY Dawson             1.80 141  Pn    Pn        18 41 28.3 +0.4
DAWY                               Pg    Pg        18 41 29.9 -0.6
DAWY                               Sg    Sg        18 41 52.8 -1.1
DAWY                               Trac          18 41 54.3
     comp=Z,1μm,0.3s
DAWY Dawson             1.80 141  P     Pn        18 41 28.2 +0.2
DAWY                               S     Sn        18 41 51.5 +0.2
DOT  Dot Lake           2.05 207  P     Pn        18 41 30.5 -0.8
DOT                                S     Sn        18 41 55.4 -2.0
ILAR Eielson Array      2.19 253  Pn    Pn        18 41 35.0 +1.6
     23nm,0.3s,baz=70,slow=14,SNR=127
ILAR                               Sn    Sn        18 42 01.5 +0.5
     253nm,0.3s,baz=54,slow=29,SNR=27
ILAR                               Lg            18 42 04.0
     288nm,0.3s,baz=68,slow=30,SNR=26
BM3  Burnt Mountain     2.21 333  P     Pn        18 41 34.4 +0.8
COLA College            2.55 259  P     Pn        18 41 36.8 -1.5
PAX  Paxson             2.94 213  P     Pn        18 41 44.1 +0.5
MCK  McKinley           3.47 243  P     Pn        18 41 49.9 -1.0
COLD Coldfoot           3.75 302  P     Pn        18 41 55.1 +0.4
TRF  Thorofare Moun     4.13 244  P     Pn        18 41 59.1 -1.0
KTH  Kantishna Hill     4.32 248  P     Pn        18 42 02.0 -0.6
INK  Inuvik             4.38  46  Pn    Pn        18 42 05.5 +2.1
     8.7nm,0.3s,baz=236,slow=20,SNR=85
INK                               Sn    Sn        18 42 55.1 +0.2
     18nm,0.3s,baz=137,slow=30,SNR=8.3
INK                               Lg            18 43 17.2
     20nm,0.3s,baz=143,slow=18,SNR=8.7
INK  Inuvik             4.38  46  Pn    Pn        18 42 04.5 +1.1
INK                               Sn    Sn        18 42 54.9  0.0
INK                               Sg    Sg        18 43 17.1 +0.5
INK                               Trac          18 43 24.0
     comp=Z,139nm,0.5s
INK  Inuvik             4.38  46  Pn    Pn        18 42 04.5 +1.1
INK                               Sn    Sn        18 42 54.9  0.0
SML  Sawmill            4.65 220  P     Pn        18 42 08.2 +1.1
BMRM Bremner River      4.68 196  P     Pn        18 42 08.2 +0.7
DIV  Divide             4.69 203  eP    Pn        18 42 09.3 +1.6
DIV                               eSg   Sg        18 43 17.0 -10
GHO  Glory Hole Cre     4.84 223  P     Pn        18 42 10.8 +1.0
IM3  Indian Mountai     4.88 281  P     Pn        18 42 09.5 -0.8
PMR  Palmer             5.04 223  eP    Pn        18 42 13.4 +0.9
HYT  Haines Junctio     5.09 154  Pn    Pn        18 42 13.9 +0.7
HYT                               Pg    Pg        18 42 29.8 -3.7
HYT                               Sn    Sn        18 43 11.4 -1.1
HYT                               Sg    Sg        18 43 34.3 -5.2
HYT                               Trac          18 43 36.8
     comp=Z,352nm,0.7s
HYT  Haines Junctio     5.09 154  Pn    Pn        18 42 13.9 +0.7
HYT                               Pg    Pg        18 42 29.8 -3.7
HYT                               Sn    Sn        18 43 11.4 -1.1
HYT                               Sg    Sg        18 43 34.3 -5.2
RC01 Rabbit Creek A     5.62 222  P     Pn        18 42 21.6 +1.0
FIB  Fire Island        5.69 224  ePn   Pn        18 42 24.2 +2.9
     133nm,0.6s
WHY  Whitehorse         5.81 143  Pn    Pn        18 42 23.6 +0.5
WHY                               Sg    Sg        18 43 57.7 -5.0
WHY                               Trac          18 43 59.1
     comp=Z,60nm,0.5s
WHY  Whitehorse         5.81 143  P     Pn        18 42 23.6 +0.6
SLKM Skilak Lake        6.24 221  ePn   Pn        18 42 30.1 +1.1
TT01 Tatalina           6.65 254  P     Pn        18 42 33.6 -1.0
SVW2 Sparrevohn         7.54 241  P     Pn        18 42 47.0 +0.3
KDAK Kodiak Island      9.21 218  Pn    Pn        18 43 10.2 +0.5
     0.3nm,0.3s,baz=6.5,slow=12,SNR=3.8
FNBB Fort Nelson        11.02 118 Pn    Pn        18 43 36.1 +1.6
FNBB                               Sg    Sn        18 46 39.5 +61
FNBB                               Trac          18 47 02.0
     comp=Z,12nm,0.8s
FNBB Fort Nelson        11.02 118 Pn    Pn        18 43 36.1 +1.6
FNBB                               Sg    Sn        18 46 39.5 +61
YKW3 Yellowknife Ar     12.30  91 Pn    Pn        18 43 50.1 -1.9
YKW3                               Pn    Pn        18 43 50.1 -1.9
YKW3                               Sn    Sn        18 45 59.2 -10
YKW3                               Trac          18 46 18.6
     comp=Z,4.0nm,0.4s
YKW3                               Trac          18 46 43.7
     comp=Z,5.0nm,0.4s
YKW3 Yellowknife Ar     12.30  91 Pn    Pn        18 43 50.1 -1.9
YKW3                               Sn    Sn        18 45 59.2 -10
YKA  Yellowknife Ar     12.33  91 Pn    Pn        18 43 50.6 -1.8
     baz=290,slow=13,SNR=55
YKA                               Sn    Sn        18 45 59.4 -11
     baz=32,slow=12,SNR=4.0
BMBC Bull Mountain      13.48 125 Trac          18 48 12.3
     comp=Z,5.0nm,0.6s
RES  Resolute Bay       17.90  39 Pn    Pn        18 45 04.6 -1.3
RES                               Sn    Sn        18 48 11.9 -14
RES                               Trac          18 48 19.1
     comp=Z,2.0nm,0.5s
RES  Resolute Bay       17.90  39 Pn    Pn        18 45 04.6 -1.3
RES                               Sn    Sn        18 48 11.9 -14
PDAR Pinedale Array     29.05 126 P     P         18 46 58.9 +1.5
     1.3nm,0.8s,mb3.7,baz=348,slow=6.5,SNR=6.9
NVAR Mina Array Bea     30.38 141 P     P         18 47 11.1 +1.9
     0.9nm,0.7s,mb3.6,baz=312,slow=7.8,SNR=5.4
MDJ  Mudanjiang         49.89 291 P     P         18 49 47.3 -3.4
MDJ                               AMB   AMB
     comp=Z,9.0nm,1.8s,mb4.5
MDJ                               AMB   AMB
     comp=Z,262nm,5.0s
CN2  Changchun          52.18 294 eP    P         18 50 06.0 -1.9
FINES FINESS Array B    53.08   7 P     P         18 50 14.9 +0.3
     comp=Z,2.6nm,1.0s,mb4.1,baz=342,slow=8.7,SNR=3.4
BJI  Beijing            58.90 299 P     P         18 50 54.8 -1.5
HHC  Hu-ho-hao-te       59.84 303 eP    P         18 51 02.0 -0.8
HHC                               AP    pP        18 51 06.6 +3.0
HHC                               XP    sP        18 51 09.1 +5.2
HHC                               PCP   PcP       18 51 48.8 -0.6
HHC                               PP    PP        18 53 15.4 +0.7
HHC                               S     S         18 59 10.4 -4.7
HHC                               SCS   ScS       19 00 48.3 -5.9
HHC                               SS    SS        19 03 07.3 -3.8
HHC                               AMB   AMB
     comp=Z,8.0nm,0.5s,mb5.0
HHC                               AMB   AMB
     comp=Z,96nm,4.4s
HHC                               LR    LR
     comp=N,95nm,4.2s
HHC                               LR    LR
     comp=E,127nm,5.2s
HHC                               LR    LR
     comp=Z,125nm,5.3s
AKASG Malin Array Be    63.96   6 P     P         18 51 33.5 +3.0
     comp=Z,0.2nm,0.3s,mb3.6,baz=358,slow=6.9,SNR=4.7
AKASG Malin Array Be    63.96   6 P     P         18 51 33.5 +3.0
WMQ  Urumqi             64.44 322 eP    P         18 51 33.8 +0.2
WMQ                               AP    pP        18 51 38.4 +3.9
WMQ                               XP    sP        18 51 40.8 +6.0
WMQ                               AMB   AMB
     comp=Z,3.0nm,1.0s,mb4.3
NJ2  Nanjing            64.95 292 eP    P         18 51 31.8 -5.2
NJ2                               AMB   AMB
     comp=Z,10.0nm,0.5s,mb5.1
LZH  Lanzhou            66.77 306 eP    P         18 51 47.5 -1.2
LZH                               AP    pP        18 51 50.8 +1.3
LZH                               XP    sP        18 51 52.1 +2.2
LZH                               PP    PP        18 54 15.6  0.0
LZH                               AMB   AMB
     comp=Z,19nm,1.3s,mb5.0
LZH                               AMB   AMB
     comp=Z,53nm,6.0s
LZH                               LR    LR
     comp=E,263nm,15.2s
LZH                               LR    LR
     comp=Z,319nm,18.3s,MS4.6
ESDC Sonseca Array      70.22  33 P     P         18 52 11.9 +1.6
     comp=Z,0.5nm,0.6s,mb3.6,baz=340,slow=6.9,SNR=5.1
CD2  Chengdu            71.51 304 eP    P         18 52 15.5 -2.7
CD2                               AMB   AMB
     comp=Z,10.0nm,0.8s,mb4.8
CD2                               AMB   AMB
     comp=Z,50nm,6.3s
```

*BJI **20** 19:03:43.8, 5195N×17550W, h33km, mB5.0, mb4.9, Ms4.7, Msz4.3*
*NEIC **20** 19:03:47.0, 5132N×17607W, h26km, mb4.6/8, ML4.2(PMR), ML4.4(AEIC), After AEIC.*
NEIC Felt on Adak.
*MOS **20** 19:03:47.7±1.0, 5161N×176.15W, h47km, mb4.8/5, Error ellipse: s-maj=16.5km s-min=10.1km az=82.0*
*ISCJB **20** 19:03:48.7±0.8, 5161N±009×176.11W±005, h55km±5km, mb4.5/36, MS3.6/3, Error ellipse: s-maj=14.4km s-min=5.1km az=164.1*
*IDC **20** 19:03:48.9±2.2, 5162N×17622W, h41km±18km, mb3.9/21, mb1 4.1/23, mb1mx4.1/29, mbtmp4.2/23, ML4.0/2, MS3.6/2, Ms1 3.6/2, ms1mx2.8/40, Error ellipse: s-maj=16.5km s-min=9.4km az=156.0*

ISC 20 19:03:49.4±0.8, 5159N±008×17610W±005, h48km±6km, n84, σ1°07/86, mb4.5/36, MS3.6/3, Andreanof Islands

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Code Station Name       Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC       h m s    ISC
ADK  Adak               0.47 310  P     Pn        19 03 59.6 -0.6
ADK                               S     Sn        19 04 08.4 +0.5
ATKA Atka Island        1.33  62  P     Pn        19 04 10.5 -1.1
ATKA                              S     Sn        19 04 27.5 -0.7
NIKO Nikolski           4.66  70  P     Pn        19 05 00.4 +3.1
UNV  Unalaska Valle     6.26  65  P     Pn        19 05 22.1 +2.9
UNV                               eP            19 05 22.3
FX1  Attu Island--F     6.72 285  P     Pn        19 05 24.0 -1.5
     4.0nm,0.3s,baz=148,slow=4.2,SNR=20
FX1                               S     Sn        19 06 40.2 -0.5
     3.6nm,0.3s,baz=47,slow=17,SNR=1.9
FX1  Attu Island--F     6.72 285  eP    Pn        19 05 24.9 -0.6
FX1                               eS    Sn        19 06 44.6 +3.9
TNA  Tin City           14.63  14 eP    Pn        19 07 16.1 +2.7
SVW2 Sparrevohn         14.77  42 eP    Pn        19 07 20.6 +5.3
KDAK Kodiak Island      14.90  56 P     Pn        19 07 15.2 -1.8
     6.3nm,0.3s,baz=277,slow=5.4,SNR=16
KDAK                              S     Sn        19 10 00.1 -0.7
     0.3nm,0.3s,baz=320,slow=22,SNR=2.2
SLKM Skilak Lake        16.89  48 eP    Pn        19 07 42.9 +0.6
BILL Bilibino           18.60 339 eP    Pn        19 08 04.6 +1.3
BILL                              pmax  pmax
     comp=Z,23nm,1.0s
BILL Bilibino           18.60 339 eP    Pn        19 08 04.6 +1.3
     comp=Z,23nm,1.0s
MCK  McKinley           18.76  39 eP    Pn        19 08 05.2 -0.1
MCK                               pmax  pmax
     comp=Z,6.0nm,0.5s
MCK  McKinley           18.76  39 eP    Pn        19 08 05.2 -0.1
     comp=Z,6.0nm,0.5s
ILAR Eielson Array      20.04  38 P     P         19 08 16.9 -1.4
     comp=Z,3.3nm,0.4s,baz=240,slow=8.7,SNR=49
ILAR                              S     S         19 12 00.8 -0.1
     comp=Z,0.3nm,0.9s,baz=186,slow=23,SNR=2.9
ILAR                              PcP   PcP       19 12 31.9 -0.8
     comp=Z,1.0nm,0.6s,baz=278,slow=3.5,SNR=7.7
DAWY Dawson             22.81  43 eP    P         19 08 48.7 +0.6
INK  Inuvik             26.33  35 P     P         19 09 20.2 -0.5
     comp=Z,1.4nm,0.4s,mb3.9,baz=223,slow=6.3,SNR=17
INK                               PcP   PcP       19 12 45.2 -0.5
     comp=Z,2.8nm,0.6s,baz=302,slow=3.2,SNR=12
INK  Inuvik             26.33  35 P     P         19 09 20.2 -0.5
INK                               PcP   PcP       19 12 45.2 -0.5
YKA  Yellowknife Ar     33.86  47 P     P         19 10 27.2 -0.1
     comp=Z,0.5nm,0.4s,mb3.8,baz=282,slow=7.9,SNR=11
YKA                               PcP   PcP       19 13 05.6 +0.4
     comp=Z,0.9nm,0.4s,baz=287,slow=3.2,SNR=20
YKA                               ScP   ScP       19 16 46.8 +0.8
     comp=Z,0.4nm,0.7s,baz=296,slow=3.1,SNR=7.1
YKA  Yellowknife Ar     33.86  47 P     P         19 10 27.2 -0.1
YKA                               PcP   PcP       19 13 05.6 +0.4
YKA  Yellowknife Ar     33.86  47 P     P         19 10 27.2 -0.1
YKA                               PcP   PcP       19 13 05.6 +0.4
YKA                               ScP   ScP       19 16 46.8 +0.8
MJAR Matsushiro Arr     35.48 263 P     P         19 10 41.4 +0.1
     comp=Z,2.3nm,0.6s,mb4.3,baz=46,slow=6.9,SNR=9.7
MDJ  Mudanjiang         36.20 281 P     P         19 10 47.3 -0.1
MDJ                               AMB   AMB
     comp=Z,8.0nm,2.4s,mb4.2
MDJ                               AMB   AMB
     comp=Z,81nm,5.2s
HAWA Hanford            36.68  75 eP    P         19 10 52.2 +0.6
     comp=Z,0.6nm,0.8s,mb3.5
YBH  Yreka Blue Hor     37.18  84 P     P         19 10 57.3 +1.5
     comp=Z,0.5nm,0.3s,mb3.8,baz=343,slow=8.5,SNR=2.0
NEW  Newport            37.23  71 P     P         19 10 56.7 +0.5
     comp=Z,2.2nm,0.4s,mb4.3,baz=293,slow=7.7,SNR=4.2
NEW  Newport            37.23  71 P     P         19 10 56.7 +0.5
NEW                               pmax  pmax
     comp=Z,2.0nm,0.4s
NEW  Newport            37.23  71 P     P         19 10 56.4 +0.2
EDM  Edmonton           37.23  62 P     P         19 10 56.6 +0.3
CN2  Changchun          39.16 282 eP    P         19 11 15.0 +2.5
MSO  Missoula           39.81  72 eP    P         19 11 11.3 -6.5
     comp=Z,3.8nm,0.9s,mb4.1
NVAR Mina Array Bea     41.85  85 P     P         19 11 36.2 +1.5
     comp=Z,1.1nm,0.8s,mb3.5,baz=289,slow=9.5,SNR=4.4
NVAR                              PcP   PcP       19 13 30.6 +0.7
     comp=Z,1.1nm,0.7s,baz=318,slow=0.9,SNR=6.0
NVAR Mina Array Bea     41.85  85 P     P         19 11 36.2 +1.5
NVAR                              PcP   PcP       19 13 30.6 +0.7
PDAR Pinedale Array     44.64  74 P     P         19 11 58.1 +0.9
     comp=Z,5.8nm,0.6s,mb4.6,baz=303,slow=4.2,SNR=57
BJI  Beijing            46.97 284 P     P         19 12 13.9 -1.7
BJI                               S     S         19 19 02.9 -0.6
BJI                               AMB   AMB
     comp=Z,19nm,0.7s,mb5.1
BJI                               AMB   AMB
     comp=Z,274nm,3.9s
BJI                               LR    LR
     comp=N,47nm,27.3s,MS3.5
BJI                               LR    LR
     comp=E,56nm,22.6s,MS3.5
BJI                               LR    LR
     comp=Z,68nm,25.2s,MS3.5
SONM Songino Array      48.05 298 P     P         19 12 23.5 -0.4
     comp=Z,0.7nm,0.7s,mb3.8,baz=49,slow=8.5,SNR=6.6
SONM                              PcP   PcP       19 13 49.7 -1.5
     comp=Z,0.9nm,0.5s,baz=53,slow=2.5,SNR=7.6
SONM                              LR    LR        19 31 07.0
     comp=Z,52nm,19.6s,MS3.5,baz=200,slow=34
SONM Songino Array      48.05 298 P     P         19 12 23.5 -0.5
SONM                                              19 13 49.7
ZAK  Zakamensk          48.28 302 eP    P         19 12 19.3 -6.4
ZAK                               pmax  pmax
     comp=Z,6.0nm,2.0s,mb4.3
HHC  Hu-ho-hao-te       49.24 287 eP    P         19 12 34.8 +1.7
HHC                               AP    pP        19 12 41.4 -4.9
HHC                               XP    sP        19 12 44.3 -7.5
HHC                               PCP   PcP       19 13 58.4 +2.9
HHC                               PP    PP        19 14 28.9 +1.7
HHC                               S     S         19 19 37.3 +1.7
HHC                               XS    sS        19 19 50.1 -7.5
HHC                               SCS   ScS       19 22 22.3 +1.4
HHC                               SS    SS        19 23 04.0 -3.4
HHC                               AMB   AMB
     comp=Z,15nm,0.5s,mb5.3
HHC                               AMB   AMB
     comp=Z,107nm,4.7s
HHC                               LR    LR
     comp=N,106nm,4.8s
HHC                               LR    LR
     comp=E,71nm,5.0s
HHC                               LR    LR
     comp=Z,104nm,5.3s
NJ2  Nanjing            50.49 274 eP    P         19 12 46.3 +3.8
NJ2                               AMB   AMB
     comp=Z,10.0nm,0.5s,mb5.1
FRB  Frobisher Bay      51.96  33 P     P         19 12 52.8 -0.7
     comp=Z,5.9nm,0.5s,mb4.8,baz=312,slow=9.0,SNR=7.7
SFJD Kangerlussuaq      54.81  23 P     P         19 13 13.7 -0.8
     comp=Z,5.2nm,0.7s,mb4.7,baz=288,slow=6.4,SNR=3.0
ZAL  Zalesovo           55.12 315 PcP   PcP       19 14 17.6  0.0
     comp=Z,2.8nm,0.7s,baz=83,slow=5.7,SNR=15
XAN  Xi'an              55.27 283 P     P         19 13 17.4 -0.4
XAN                               AMB   AMB
     comp=Z,18nm,1.1s,mb5.0
ARCES ARCESS Array B    58.16 351 P     P         19 13 38.2 -0.1
     comp=Z,2.4nm,0.8s,mb4.2,baz=18,slow=8.2,SNR=7.5
ARCES                             PcP   PcP       19 14 28.5 -0.9
     comp=Z,2.3nm,0.8s,baz=38,slow=4.9,SNR=5.0
ARCES ARCESS Array B    58.16 351 P     P         19 13 38.2 -0.1
ARCES                             PcP   PcP       19 14 28.5 -0.9
SCHQ Schefferville      58.78  40 LR    LR        19 43 10.5
     comp=Z,69nm,18.5s,MS3.8,baz=59,slow=40
```

KURK Kurchatov 60.08 315 *eP* **P 19 13 50.4 -1.2**
KURK *e* 19 14 36.4
KURK pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
KURK Kurchatov 60.08 315 *eP* **P 19 13 50.4 -1.2**
comp=Z,9.2nm,0.5s,mb5.1
KURK *e*PcP PcP 19 14 36.4 -0.7
CD2 Chengdu 60.57 284 *eP* **P 19 13 56.3 +1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,60nm,5.9s
MKAR Makanchi Array 61.21 310 P **P 19 13 57.9 -1.4**
comp=Z,2.3nm,0.4s,mb4.7,baz=45,slow=5.9,SNR=62
MKAR PcP PcP 19 14 41.4 -0.2
comp=Z,0.9nm,0.5s,baz=50,slow=4.4,SNR=5.3
OXF Oxford 61.94 69 *eP* **P 19 14 04.3 +0.1**
ZRNK Zerenda 62.40 322 *eP* **P 19 14 06.4 -0.9**
ZRNK pmax pmax
comp=Z,4.0nm,0.3s,mb5.0
ZRNK Zerenda 62.40 322 *eP* **P 19 14 06.3 -1.0**
comp=Z,3.9nm,0.3s,mb5.0
FINES FINESS Array B 65.94 349 P **P 19 14 29.7 -0.7**
comp=Z,0.4nm,0.3s,mb3.9,baz=2.6,slow=6.1,SNR=4.8
USP Ospenovka 67.52 312 P **P 19 14 40.8 +0.3**
SNR=7.6
NOA NORSAR Array B 67.58 356 P **P 19 14 41.0 +0.1**
comp=Z,0.4nm,0.5s,mb3.7,baz=336,slow=3.4,SNR=2.6
KBK Karagaybulak 67.78 311 P **P 19 14 42.6 +0.4**
SNR=8.9
AAK Ala-Archa 68.01 311 P **P 19 14 44.0 +0.4**
SNR=9.8
KZA Kyzart 68.08 311 P **P 19 14 44.8 +0.7**
SNR=11
EKS2 Erkin-Say 68.33 312 P **P 19 14 46.0 +0.4**
SNR=7.3
AML Almayashu 68.78 312 P **P 19 14 49.2 +0.8**
SNR=11
LSA Lhasa 68.95 291 *eP* **P 19 14 51.3 +1.8**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSA Lhasa 68.95 291 *eP* **P 19 14 51.3 +1.8**
comp=Z,3.5nm,0.6s,mb4.5
GUN Gumba 73.33 294 *eP* **P 19 15 16.7 +0.7**
comp=Z,24nm,0.4s,mb5.5
JIRN Jiri 73.34 293 *eP* **P 19 15 16.8 +0.7**
comp=Z,10.0nm,0.4s,mb5.1
KKN Kakani 73.76 294 *eP* **P 19 15 18.8 +0.3**
PKI Pulchoki 73.86 294 *eP* **P 19 15 19.4 +0.3**
GKN Gorkha 73.97 295 *eP* **P 19 15 19.5 -0.2**
comp=Z,15nm,0.7s,mb5.0
DMN Daman 74.00 294 *eP* **P 19 15 20.6 +0.7**
comp=Z,12nm,0.6s,mb5.0
KOLN Koldanda 74.73 295 *eP* **P 19 15 21.2 -3.0**
AKASG Malin Array Be 75.85 344 P **P 19 15 28.9 -1.7**
comp=Z,0.9nm,0.4s,mb4.0,baz=18,slow=6.0,SNR=5.8
WRA Warramunga Arr 83.35 226 P **P 19 16 10.0 -1.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=31,slow=5.6,SNR=13
BRTR Keskin Array B 85.43 337 P **P 19 16 21.4 -0.5**
comp=Z,0.6nm,0.6s,mb3.9,baz=52,slow=2.5,SNR=4.4
HYB Hyderabad 85.71 293 *i* P **P 19 16 22.5 -0.7**
HYB Hyderabad 85.71 293 *eP* **P 19 16 22.5 -0.7**
FITZ Fitzroy Crossi 85.94 234 P **P 19 16 24.5 +0.1**
comp=Z,4.0nm,0.8s,mb4.7,baz=48,slow=3.6,SNR=9.5
ASAR Alice Springs 86.80 225 P **P 19 16 28.1 -0.5**
comp=Z,1.9nm,0.8s,mb4.4,baz=27,slow=4.3,SNR=18
POO Poona 87.48 297 *eP* **P 19 16 31.0 -0.9**
STKA Stephens Creek 91.04 215 P **P 19 16 46.6 -1.9**
comp=Z,2.3nm,0.7s,mb4.6,baz=353,slow=4.3,SNR=5.3
TORD Torodi Ar. Bea 115.51 2 PKP PKPdf 19 22 25.9 -0.1
comp=Z,1.0nm,0.5s,baz=350,slow=2.4,SNR=17
DBIC Dimbokro 121.49 10 PKP PKPdf 19 22 37.4 -0.2
comp=Z,0.7nm,0.3s,baz=215,slow=1.3,SNR=4.7
BOSA Boshof 152.03 317 PKPbc PKPbc 19 23 39.3 0.0
comp=Z,4.6nm,0.5s,baz=34,slow=2.2,SNR=25
BOSA Boshof 152.03 317 *e*PKPbc PKPbc 19 23 39.1 -0.2

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*MOS **20** 19:05:06.2±2.0,5621N×16270E,h8km,mb4.1/1,Error ellipse: s-maj=20.9km s-min=12.0km az=68.2*
KRSC 20 19:05:05.8±1.3,5622N×16282E,h16km±1km,ML4.1,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.01**	**183**	*i* P	Pg	19 05 09.0	+0.4
KBTR				*i* S	Sg	19 05 11.7	+1.3
SMKR	**Semkarok**	**0.83**	**296**	*eP*	Pb	19 05 22.0	+0.1
SMKR				*eS*	Sb	19 05 34.9	+2.0
BDR	**Baidarnaya**	**0.96**	**292**	*eP*	Pb	19 05 24.2	+0.1
BDR				*eS*	Sb	19 05 36.7	+0.1
SRKR	**Sorokina**	**1.02**	**296**	*i* P	Pb	19 05 25.2	+0.2
SRKR				*i* S	Sb	19 05 39.6	+1.5
ZLN	**Zelenaya**	**1.15**	**261**	*i* P	Pn	19 05 27.5	+0.3
ZLN				*eS*	Sb	19 05 42.7	+0.8
CIRR	**Tsirk**	**1.16**	**266**	*i* P	Pn	19 05 27.7	+0.3
CIRR				*eS*	Sb	19 05 42.8	+0.4
LGNR	**Loginova**	**1.20**	**264**	*eP*	Pn	19 05 28.5	+0.6
LGNR				*eS*	Sb	19 05 44.6	+1.2
KLY	**Klyuchi**	**1.21**	**275**	P	Pn	19 05 26.3	-1.8
KLY				S	Sb	19 05 40.7	-3.1
KLY	**Klyuchi**	**1.21**	**275**	*i* P	Pn	19 05 26.4	-1.7
KLY				*eS*	Sb	19 05 40.7	-3.1
KRSR	**Krestovskiy**	**1.26**	**271**	*i* P	Pn	19 05 28.6	-0.1
KRSR				*i* S	Sb	19 05 44.5	-0.6
KPT	**Kopyto**	**1.48**	**261**	*eP*	Pn	19 05 32.6	+0.9
KPT				*eS*	Sn	19 05 51.5	+0.8
KOZR	**Kozyr**	**1.64**	**266**	PN	Pn	19 05 35.8	+1.8
KOZR				S	Sn	19 05 57.7	+2.9
KOZ	**Kozyrevsk**	**1.66**	**266**	P	Pn	19 05 35.8	+1.6
KOZ				S	Sn	19 05 57.7	+2.6
KOZ	**Kozyrevsk**	**1.66**	**266**	*eP*	Pn	19 05 35.9	+1.7
KOZ				*eS*	Sn	19 05 57.9	+2.8
SRDR	**Sredinnyy**	**1.73**	**275**	*i* P	Pn	19 05 36.7	+1.5
SRDR				*eS*	Sn	19 05 59.8	+2.8
TUMR	**Tumrok**	**1.78**	**239**	*eP*	Pn	19 05 37.0	+1.1
TUMR				*eS*	Sn	19 05 59.6	+1.4
BKI	**Bering**	**2.05**	**118**	*eP*	Pn	19 05 38.8	-0.8
BKI				*eS*	Sn	19 06 02.8	-2.1
ESO	**Esso**	**2.33**	**264**	*eP*	Pn	19 05 45.5	+2.1
ESO				*eS*	Sn	19 06 12.7	+1.0
SPN	**Mys Shipunski**	**3.52**	**209**	P	Pn	19 06 00.0	+0.1
SPN				S	Sn	19 06 40.3	-0.9
SPN	**Mys Shipunski**	**3.52**	**209**	*eP*	Pn	19 05 59.7	-0.2
SPN				*eS*	Sn	19 06 40.6	-0.6
SPN	**Mys Shipunski**	**3.52**	**209**	PN	Pn	19 05 56.0	-3.9
NLC	**Nalytchevo**	**3.66**	**215**	P	Pn	19 06 02.9	+1.2
NLC				S	Sn	19 06 44.2	-0.4
NLC	**Nalytchevo**	**3.66**	**215**	*eP*	Pn	19 06 02.8	+1.1
NLC				*eS*	Sn	19 06 44.2	-0.4
SMAR	**Somma**	**3.77**	**220**	*eP*	Pn	19 06 04.8	+1.6
SMAR				*eS*	Sn	19 06 49.9	+2.7
GNL	**Ganaly**	**3.78**	**230**	*eP*	Pn	19 06 05.6	+2.2
AVH	**Avacha**	**3.79**	**220**	*eP*	Pn	19 06 06.2	+2.7
AVH				*eS*	Sn	19 06 49.4	+1.6
UGLR	**Uglovaya**	**3.80**	**219**	*eP*	Pn	19 06 04.8	+1.1
UGLR				*eS*	Sn	19 06 50.8	+2.7
KOK	**Koryaka**	**3.81**	**221**	*eP*	Pn	19 06 06.0	+2.3
PET	**Petropavlovsk**	**4.01**	**219**	P	Pn	19 06 09.1	+2.5
PET				S	Sn	19 06 54.5	+1.2
PET	**Petropavlovsk**	**4.01**	**219**	*eP*	Pn	19 06 08.8	+2.2
PET				*eS*	Sn	19 06 54.5	+1.2
KRMR	**Karymshinskiy**	**4.36**	**221**	*eP*	Pn	19 06 13.4	+2.1
KRMR				*eS*	Sn	19 07 02.2	+0.4
RUS	**Russkaya**	**4.55**	**215**	P	Pn	19 06 16.3	+2.3
RUS	**Russkaya**	**4.55**	**215**	*eP*	Pn	19 06 16.2	+2.2
GRL	**Gorelyy**	**4.60**	**219**	*eP*	Pn	19 06 16.2	+1.5
KAMR	**Kamenskoye**	**6.49**	**14**	*eP*	Pn	19 06 43.6	+3.0
ILAR	**Eielson Array**	**25.53**	**50**	P	P	19 10 36.9	+3.3
INK	**Inuvik**	**30.44**	**41**	P	P	19 11 20.3	+2.8
YKA	**Yellowknife Ar**	**39.81**	**46**	P	P	19 12 37.2	-1.0

IDC 20 19:14:54.2±1.6,2391S×6688W,h191km±27km,mb3.3/1,
mb1 3.4/4,mb1mx3.2/16,mbtmp3.9/4,Error ellipse:
s-maj=42.7km s-min=14.9km az=95.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.67**	**351**	P	Pn	19 16 44.7	+1.6
	0.6nm,0.3s,baz=179,slow=6.4,SNR=8.5						
LPAZ				S	Sn	19 18 10.7	+1.1
	0.1nm,0.3s,baz=232,slow=19,SNR=2.9						
CFAA	**Coronel Fontan**	**7.76**	**189**	P	Pn	19 16 46.1	+1.8
	0.1nm,0.3s,baz=11,slow=8.1,SNR=4.1						
CFAA				S	Sn	19 18 10.0	-1.6
	0.1nm,0.3s,baz=268,slow=23,SNR=5.3						
SIV	**San Ignacio**	**9.58**	**36**	P	Pn	19 17 07.0	-1.1
	0.4nm,0.3s,baz=210,slow=14,SNR=7.1						
BDFB	**Brasilia**	**19.55**	**69**	P	P	19 19 08.5	+1.1
	1.1nm,0.3s,baz=250,slow=11,SNR=9.4						
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P	P	19 26 23.0	+0.3
	0.4nm,0.5s,baz=249,slow=5.6,SNR=7.4						

IDC 20 19:18:44.7±5.5,1936S×17701W,h0km,mb3.3/2,
mb1 3.6/2,mb1mx3.5/14,mbtmp3.3/2,Error ellipse:
s-maj=312.9km s-min=76.6km az=155.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.69**	**261**	P	P	19 27 08.1	+0.8
	0.1nm,0.3s,baz=97,slow=7.3,SNR=17						
ASAR	**Alice Springs**	**45.70**	**256**	P	P	19 27 07.0	-0.3
	0.3nm,0.5s,baz=89,slow=8.9,SNR=4.6						
HFS	**Hagfors**	**138.55**	**352**	PKP	PKPdf	19 38 10.6	-1.8
	3.7nm,0.9s,baz=9.5,slow=4.4,SNR=4.2						
AKASG	**Malin Array Be**	**142.45**	**333**	PKP	PKPdf	19 38 20.2	+0.8
	0.7nm,0.4s,baz=42,slow=3.8,SNR=6.1						

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*CSEM **20** 19:19:24.9±0.0,3635N×2787E,h82km,mb4.0/6,Mw3.5,*
Error ellipse: s-maj=2.0km s-min=0.9km az=57.0
*ISCJB **20** 19:19:25.8±0.2,3632N±002×2786E±003,h91km±3km,*
mb3.7/12,Error ellipse: s-maj=3.7km s-min=2.6km
az=111.3
*NEIC **20** 19:19:26.6,3645N×2786E,h83km,mb3.8/15,MD3.5(ISK),*
After ATH.
*ATH **20** 19:19:26.6,3645N×2786E,h83km±1km*
*IDC **20** 19:19:27.0±1.5,3646N×2776E,h71km±18km,mb3.3/6,*
mb1 3.4/8,mb1mx3.3/22,mbtmp3.6/8,Error ellipse:
s-maj=34.9km s-min=10.1km az=148.0
*ISK **20** 19:19:27.5,3651N×2781E,h82km,MD3.5*
*NIC **20** 19:19:33.5±0.2,3658N×2850E,h25km,mb4.2,ML3.7,*
MW3.5
*HLW **20** 19:19:33.7,3573N×2803E,h48km,Mb4.1*
ISC 20 19:19:27.0±0.2,3635N±002×2783E±003,h84km±3km,
n128,σ0§89/146,mb3.6/10,22C-9D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.27**	**119**	⇑*iP*	**Pn**	**19 19 40.4**	**+0.8**
ARG				*eS*	**Sn**	**19 19 49.5**	**+0.5**
DAT	**Datca**	**0.43**	**332**	*i* PG	**Pn**	**19 19 40.6**	**0.0**
DAT				*i* SG	**Sn**	**19 19 49.6**	**-1.1**
NISR	**Nisiros**	**0.62**	**295**	*eP*	**Pn**	**19 19 42.4**	**+0.1**
BODT	**Bodrum**	**0.82**	**330**	*i* PG	**Pn**	**19 19 44.4**	**+0.1**
BODT				*i* SG	**Sn**	**19 19 56.2**	**-1.0**
YER	**Yerkesik**	**0.86**	**25**	*i* PG	**Pn**	**19 19 45.0**	**+0.2**
MLSB	**Milas**	**0.95**	**357**	*i* PG	**Pn**	**19 19 45.7**	**0.0**
MLSB				*i* SG	**Sn**	**19 19 57.2**	**-2.4**
KARP	**Karpathos**	**0.97**	**214**	*eP*	**Pn**	**19 19 47.4**	**+1.5**
AYDN	**Tasoluk**	**1.31**	**2**	*i* P	**Pn**	**19 19 50.2**	**+0.2**
AYDN				*i* S	**Sn**	**19 20 06.2**	**-1.3**
KSL	**Kastellorizon**	**1.43**	**97**	*eP*	**Pn**	**19 19 52.0**	**+0.4**
SMG	**Samos**	**1.57**	**330**	*eP*	**Pn**	**19 19 53.3**	**-0.1**
SMG				*eS*	**Sn**	**19 20 12.3**	**-1.1**
GOLH	**Golhisar**	**1.65**	**57**	*i* P	**Pn**	**19 19 55.7**	**+1.3**
GOLH				*i* S	**Sn**	**19 20 16.3**	**+1.1**
DENT	**Denizli**	**1.70**	**34**	*i* PN	**Pn**	**19 19 55.1**	**0.0**
ELL	**Elmali**	**1.72**	**76**	*i* PN	**Pn**	**19 19 56.9**	**+1.6**
SANT	**Santorini**	**1.91**	**271**	*eP*	**Pn**	**19 19 58.9**	**+1.1**
APE	**Apeiranthos**	**1.98**	**292**	PN	**Pn**	**19 19 59.3**	**+0.5**
APE				SN	**Sn**	**19 20 22.4**	**-0.6**
APE	**Apeiranthos**	**1.98**	**292**	*eP*	**Pn**	**19 19 59.8**	**+1.0**
APE				*e*Sn	**Sn**	**19 20 22.4**	**-0.6**
IZM	**Izmir**	**2.10**	**348**	PN	**Pn**	**19 20 00.1**	**-0.1**
KDAG	**Bornova**	**2.10**	**348**	*i* P	**Pn**	**19 19 59.6**	**-0.7**
KDAG				*i* S	**Sn**	**19 20 25.2**	**-0.6**
NPS	**Neapolis**	**2.10**	**240**	*eP*	**Pn**	**19 20 01.7**	**+1.3**
MANT	**Manisa**	**2.21**	**15**	*i* P	**Pn**	**19 20 01.7**	**-0.1**
MANT				*i* S	**Sn**	**19 20 27.5**	**-1.0**
URLA	**Izmir**	**2.24**	**334**	*i* P	**Pn**	**19 20 02.1**	**-0.1**
URLA				*i* S	**Sn**	**19 20 29.7**	**+0.7**
XRY	**Khrisi**	**2.28**	**230**	*eP*	**Pn**	**19 20 05.0**	**+2.3**
BCK	**Bucak**	**2.47**	**63**	*i* PN	**Pn**	**19 20 06.5**	**+1.2**
AKS	**Akhisar**	**2.53**	**360**	PN	**Pn**	**19 20 05.8**	**-0.2**
ISP	**Isparta**	**2.61**	**54**	*i* PN	**Pn**	**19 20 07.5**	**+0.4**
ISP	**Isparta**	**2.61**	**54**	*eP*	**Pn**	**19 20 07.4**	**+0.3**
IDI	**Anoyia**	**2.61**	**247**	P	**Pn**	**19 20 08.3**	**+1.1**
	33nm,0.3s,baz=54,slow=9.1,SNR=245						
IDI				S	**Sn**	**19 20 37.8**	**-0.2**
	31nm,0.3s,baz=116,slow=23,SNR=11						
VAM	**Vamos**	**3.09**	**253**	*eP*	**Pn**	**19 20 15.6**	**+1.9**
GVD	**Gavdhos**	**3.40**	**245**	*eP*	**Pn**	**19 20 20.2**	**+2.4**
AKMC	**Akamas**	**3.89**	**108**	P	**Pn**	**19 20 24.6**	**+0.1**
PPCY	**Paphos**	**3.96**	**110**	P	**Pn**	**19 20 26.2**	**+0.8**
VLI	**Veliai**	**3.96**	**277**	*eP*	**Pn**	**19 20 27.5**	**+2.1**
BNT	**Bandirma**	**4.00**	**1**	PN	**Pn**	**19 20 25.7**	**-0.3**
SZAC	**Souni-Zanaja**	**4.42**	**110**	P	**Pn**	**19 20 32.4**	**+0.8**
	15nm,0.2s						
SZAC				S	**Sn**	**19 21 18.3**	**-3.5**
MAMC	**Mammari**	**4.54**	**103**	P	**Pn**	**19 20 33.3**	**+0.1**
CSS	**Prodhromos**	**4.69**	**106**	P	**Pn**	**19 20 35.5**	**+0.2**
CSS				S	**Sn**	**19 21 24.6**	**-3.8**
IKL	**Isikli**	**4.73**	**90**	PN	**Pn**	**19 20 36.5**	**+0.6**
ANTO	**Ankara**	**5.26**	**47**	PN	**Pn**	**19 20 43.9**	**+0.8**
ANTO	**Ankara**	**5.26**	**47**	*eP*	**Pn**	**19 20 44.3**	**+1.2**
	31nm,0.8s						
HMAT	**Matruh**	**5.28**	**187**	P	**Pn**	**19 20 42.7**	**-0.6**
SLUM		**5.31**	**205**	⇓*eP*	**Pn**	**19 20 44.3**	**+0.5**
DABA	**Dabaa**	**5.34**	**176**	⇑*iP*	**Pn**	**19 20 43.0**	**-1.2**
MERS	**Mersin**	**5.41**	**83**	PN	**Pn**	**19 20 46.6**	**+1.5**
BR131	**Keskin Array S**	**5.69**	**52**	*eP*	**Pn**	**19 20 49.9**	**+0.9**
	6.4nm,0.4s						
BR131				*eS*	**Sn**	**19 21 52.6**	**-0.3**
BRTR	**Keskin Array B**	**5.69**	**52**	P	**Pn**	**19 20 49.9**	**+1.0**
	2.2nm,0.3s,baz=221,slow=13,SNR=61						
BRTR				S	**Sn**	**19 21 52.4**	**-0.5**
	0.5nm,0.3s,baz=227,slow=25,SNR=4.3						
KARA	**Karaisali**	**5.87**	**79**	*e*PN	**Pn**	**19 20 53.2**	**+1.8**
HBRG	**Burj al 'Arab**	**6.00**	**163**	⇑P	**Pn**	**19 20 51.5**	**-1.6**
KOZT	**Kozan**	**6.51**	**78**	*e*PN	**Pn**	**19 21 01.4**	**+1.3**
HMYD	**Mayadein**	**6.99**	**158**	⇑P	**Pn**	**19 21 05.7**	**-1.1**
SQR		**7.04**	**158**	⇑P	**Pn**	**19 21 06.4**	**-1.0**
HNAT	**Natroun**	**7.09**	**160**	P	**Pn**	**19 21 07.1**	**-1.0**
FYM	**Al Fayyum**	**7.17**	**157**	P	**Pn**	**19 21 08.0**	**-1.1**
FYM	**Al Fayyum**	**7.17**	**157**	P	**Pn**	**19 21 07.9**	**-1.1**
AYT	**Al 'Ayyat**	**7.19**	**156**	⇑P	**Pn**	**19 21 08.3**	**-1.1**
KOT	**Kottamia**	**7.23**	**151**	⇑P	**Pn**	**19 21 09.1**	**-0.8**
AMAG	**Maghara**	**7.25**	**140**	⇑P	**Pn**	**19 21 09.8**	**-0.4**
SWA1		**7.29**	**195**	⇑P	**Pn**	**19 21 11.1**	**+0.4**
HHAG	**Hagoal**	**7.31**	**149**	⇑P	**Pn**	**19 21 10.1**	**-1.0**
SWA2		**7.36**	**196**	⇓P	**Pn**	**19 21 11.9**	**+0.2**
HSAF	**As Saff**	**7.40**	**154**	⇑P	**Pn**	**19 21 11.4**	**-0.9**
GLL	**Jalalah**	**7.50**	**153**	⇑P	**Pn**	**19 21 13.2**	**-0.4**
SUZ		**7.73**	**146**	P	**Pn**	**19 21 16.2**	**-0.6**
HBNS	**Bani Suwayf**	**7.91**	**158**	⇑P	**Pn**	**19 21 18.5**	**-0.7**
AWBH		**8.06**	**173**	⇓P	**Pn**	**19 21 20.4**	**-0.8**
ZAF		**8.09**	**149**	⇓P	**Pn**	**19 21 21.3**	**-0.3**
ZNM		**8.14**	**147**	⇑P	**Pn**	**19 21 22.4**	**0.0**
HNKL	**Nakhl**	**8.22**	**139**	⇑*eP*	**Pn**	**19 21 23.4**	**0.0**
HRDS	**Abu Rudays**	**8.90**	**147**	⇑P	**Pn**	**19 21 32.7**	**-0.1**
EIL	**Elat**	**8.95**	**136**	*eP*	**Pn**	**19 21 30.9**	**-2.5**
	60nm,0.4s						
EIL				*eS*	**Sn**	**19 22 59.9**	**-13**
GRB	**Gharib**	**9.08**	**151**	⇓P	**Pn**	**19 21 34.8**	**-0.3**
HBST	**Basata**	**9.18**	**139**	⇓P	**Pn**	**19 21 36.4**	**-0.2**
HFRF	**Wahat Farafira**	**9.18**	**177**	⇑P	**Pn**	**19 21 36.4**	**-0.1**
TIP	**Timpagrande**	**9.21**	**291**	*eP*	**Pn**	**19 21 35.9**	**-1.1**
TR2		**9.37**	**146**	⇓P	**Pn**	**19 21 39.0**	**-0.1**
HKAT	**Jabal Katrina**	**9.38**	**145**	⇑P	**Pn**	**19 21 39.6**	**+0.4**
ASUT		**9.47**	**159**	⇑P	**Pn**	**19 21 40.2**	**-0.3**
HDHB	**Dhahab**	**9.52**	**141**	⇓P	**Pn**	**19 21 41.4**	**+0.2**
TR1		**9.80**	**146**	⇓P	**Pn**	**19 21 44.6**	**-0.3**
SHRM		**9.98**	**146**	P	**Pn**	**19 21 47.2**	**-0.2**
HHRG	**Al Ghardaqah**	**10.33**	**150**	⇑P	**Pn**	**19 21 52.0**	**-0.2**
HDK1	**Dakhla**	**10.86**	**172**	⇑P	**Pn**	**19 21 59.5**	**+0.2**
GTR	**Jabal at Tayr**	**11.05**	**167**	⇑P	**Pn**	**19 22 02.0**	**-0.1**
GERES	**GERESS Array B**	**16.22**	**325**	P	**Pn**	**19 23 14.5**	**+4.8**
	0.1nm,0.3s,baz=139,slow=12,SNR=12						
SBF	**Sospel**	**17.29**	**302**	*eP*	**Pn**	**19 23 22.0**	**-0.9**
	11nm,0.6s						
SBF	**Sospel**	**17.29**	**302**	*eP*	**Pn**	**19 23 22.0**	**-0.9**
	5.6nm,0.6s						
LMR	**La Mourre**	**17.77**	**300**	*eP*	**Pn**	**19 23 28.2**	**-0.6**
MBDF	**Montbardon**	**18.03**	**304**	*eP*	**Pn**	**19 23 31.5**	**-0.3**
	7.9nm,0.7s						
MBDF	**Montbardon**	**18.03**	**304**	*eP*	**Pn**	**19 23 31.5**	**-0.3**
	4.0nm,0.7s						
LPG	**La Plagne**	**18.32**	**306**	*eP*	**Pn**	**19 23 35.0**	**-0.4**
	6.8nm,0.6s						
LPG	**La Plagne**	**18.32**	**306**	*eP*	**Pn**	**19 23 35.0**	**-0.4**
	3.4nm,0.6s						
LPL	**La Plagne**	**18.34**	**306**	*eP*	**Pn**	**19 23 35.3**	**-0.3**
	4.9nm,0.5s						
LPL	**La Plagne**	**18.34**	**306**	*eP*	**Pn**	**19 23 35.3**	**-0.3**
	2.5nm,0.5s						
CABF	**La Chapelle**	**19.19**	**309**	*eP*	**Pn**	**19 23 44.5**	**-1.2**
CDF	**Champ du Feu**	**19.32**	**315**	*eP*	**Pn**	**19 23 46.4**	**-0.8**
	9.1nm,0.6s						
CDF	**Champ du Feu**	**19.32**	**315**	*eP*	**Pn**	**19 23 46.4**	**-0.8**
	4.6nm,0.6s						
VIVF	**Saint-Julien-l**	**19.48**	**303**	*eP*	**Pn**	**19 23 47.9**	**-1.2**
	6.4nm,0.6s						
VIVF	**Saint-Julien-l**	**19.48**	**303**	*eP*	**Pn**	**19 23 47.9**	**-1.2**
	3.2nm,0.6s						
SMF	**Signal de Mont**	**20.63**	**307**	*eP*	**P**	**19 24 00.0**	**+0.5**
	4.5nm,0.5s						
SMF	**Signal de Mont**	**20.63**	**307**	*eP*	**P**	**19 24 00.0**	**+0.5**
	2.2nm,0.5s						
MTLF	**Montolieu**	**20.82**	**297**	*eP*	**P**	**19 24 01.9**	**+0.3**
	4.9nm,0.6s						
MTLF	**Montolieu**	**20.82**	**297**	*eP*	**P**	**19 24 01.9**	**+0.3**
	2.5nm,0.6s						
LOR	**Lormes**	**20.85**	**309**	*eP*	**P**	**19 24 02.4**	**+0.5**
	6.4nm,0.7s						
LOR	**Lormes**	**20.85**	**309**	*eP*	**P**	**19 24 02.4**	**+0.5**
	3.2nm,0.7s						
AVF	**Avril sur Loir**	**21.00**	**307**	*eP*	**P**	**19 24 03.5**	**0.0**
	3.6nm,0.5s						
AVF	**Avril sur Loir**	**21.00**	**307**	*eP*	**P**	**19 24 03.5**	**0.0**
	1.8nm,0.5s						
SSF	**Saint Saulge**	**21.00**	**308**	*eP*	**P**	**19 24 04.0**	**+0.5**
	6.5nm,0.5s						
SSF	**Saint Saulge**	**21.00**	**308**	*eP*	**P**	**19 24 04.0**	**+0.5**
	3.2nm,0.5s						
BGF	**Bois d'Agland**	**21.24**	**306**	*eP*	**P**	**19 24 06.5**	**+0.4**
CAF	**Calviac**	**21.28**	**302**	*eP*	**P**	**19 24 06.7**	**+0.2**
RJF	**Les Rejaudoux**	**21.75**	**302**	*eP*	**P**	**19 24 12.1**	**+0.6**
ETSF	**Etsaut**	**22.76**	**295**	*eP*	**P**	**19 24 23.8**	**+1.6**
MFF	**Saint Martin d**	**23.22**	**305**	*eP*	**P**	**19 24 25.9**	**-0.7**
	4.5nm,0.4s,mb3.8						
MFF	**Saint Martin d**	**23.22**	**305**	*eP*	**P**	**19 24 25.9**	**-0.7**
	2.2nm,0.4s,mb3.8						
SJPF	**Ste Jean**	**23.27**	**296**	*eP*	**P**	**19 24 27.7**	**+0.6**
	4.2nm,0.7s,mb3.6						
SJPF	**Ste Jean**	**23.27**	**296**	*eP*	**P**	**19 24 27.7**	**+0.6**
	2.1nm,0.7s,mb3.6						
LDF	**La Druitiere**	**23.83**	**310**	*eP*	**P**	**19 24 32.0**	**-0.2**
	14nm,0.6s,mb4.2						
LDF	**La Druitiere**	**23.83**	**310**	*eP*	**P**	**19 24 32.0**	**-0.2**
	6.8nm,0.6s,mb4.2						
FLN	**La Foliniere**	**24.11**	**310**	*eP*	**P**	**19 24 34.4**	**-0.4**
GRR	**Gorron**	**24.22**	**309**	*eP*	**P**	**19 24 35.4**	**-0.4**
	22nm,0.5s,mb4.4						
GRR	**Gorron**	**24.22**	**309**	*eP*	**P**	**19 24 35.4**	**-0.4**
	11nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**25.14**	**358**	P	**P**	**19 24 43.6**	**-0.6**
	2.1nm,1.0s,mb3.5,baz=170,slow=11,SNR=3.7						
ESDC	**Sonseca Array**	**25.20**	**287**	P	**P**	**19 24 46.2**	**+1.5**
	0.3nm,0.5s,mb3.0,baz=78,slow=8.4,SNR=5.0						
HFS	**Hagfors**	**25.48**	**343**	P	**P**	**19 24 47.2**	**0.0**
	0.7nm,0.4s,mb3.5,baz=146,slow=11,SNR=5.5						
QUIF	**Quistinic**	**25.55**	**307**	*eP*	**P**	**19 24 47.3**	**-0.6**
ROSF	**Rostrenen**	**25.74**	**307**	*eP*	**P**	**19 24 48.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**32.92**	**232**	P	**P**	**19 25 54.4**	**+1.1**
	0.2nm,0.4s,mb3.3,baz=27,slow=8.4,SNR=5.1						
**

XAN	**Xi'an**	**32.89**	**332**	P	**P**	**19 35 05.8 -1.4**
XAN				AMB	AMB	
comp=Z,9.0nm,0.7s,mb4.7						
CD2	**Chengdu**	**33.26**	**322**	*e*P	**P**	**19 35 11.4 +1.0**
CD2				AP	pP	19 35 29.3 -1.5
CD2				XP	sP	19 35 38.4 -2.6
CD2				PP	PP	19 36 25.4 -1.8
CD2				SS	SS	19 42 33.3 -18
CD2				AMB	AMB	
comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB	
comp=Z,60nm,5.9s						
CD2				LR	LR	
comp=E,70nm,12.0s						
CD2				LR	LR	
comp=Z,90nm,14.4s						
BJT	**Baijiatuau**	**35.71**	**346**	*e*P	**P**	**19 35 31.8 +0.2**
BJT				pmax	pmax	
comp=Z,11nm,0.6s						
BJT	**Baijiatuau**	**35.71**	**346**	*e*P	**P**	**19 35 31.8 +0.2**
comp=Z,11nm,0.6s,mb5.0						
LZH	**Lanzhou**	**37.02**	**329**	*e*P	**P**	**19 35 43.5 +0.7**
LZH				AMB	AMB	
comp=Z,22nm,1.5s,mb4.9						
HHC	**Hu-ho-hao-te**	**37.77**	**341**	*e*P	**P**	**19 35 51.3 +2.2**
HHC				AP	pP	19 36 09.5 -0.2
HHC				XP	sP	19 36 18.5 -1.4
HHC				PP	PP	19 37 22.9 +6.0
HHC				PCP	PcP	19 38 06.4 +2.2
HHC				S	**S**	**19 41 36.5 +3.2**
HHC				XS	sS	19 42 07.9 -0.9
HHC				SS	SS	19 44 15.8 -6.6
HHC				SCS	ScS	19 45 53.5 +0.9
HHC				AMB	AMB	
comp=Z,14nm,0.4s,mb5.1						
HHC				AMB	AMB	
comp=Z,111nm,5.8s						
HHC				LR	LR	
comp=N,86nm,5.5s						
HHC				LR	LR	
comp=E,155nm,4.7s						
HHC				LR	LR	
comp=Z,114nm,5.3s						
MDJ	**Mudanjiang**	**39.10**	**3**	*e*P	**P**	**19 36 00.7 +0.4**
STKA	**Stephens Creek**	**39.73**	**160**	*e*P	**P**	**19 36 04.7 -0.8**
comp=Z,6.8nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**39.73**	**160**	P	**P**	**19 36 04.8 -0.7**
comp=Z,6.0nm,0.7s,mb4.5,baz=346,slow=9.1,SNR=9.8						
LSA	**Lhasa**	**41.30**	**310**	*e*P	**P**	**19 36 19.6 +1.3**
GTA	**Gaotai**	**41.62**	**328**	*e*P	**P**	**19 36 23.6 +2.6**
GTA				AMB	AMB	
comp=Z,5.0nm,0.8s,mb4.3						
JIRN	**Jiri**	**44.35**	**305**	*e*P	**P**	**19 36 43.3 +0.2**
comp=Z,37nm,1.0s,mb5.1						
GUN	**Gumba**	**44.70**	**305**	*e*P	**P**	**19 36 46.1 +0.3**
comp=Z,38nm,0.8s,mb5.2						
PKI	**Pulchoki**	**44.97**	**304**	*e*P	**P**	**19 36 47.8 -0.1**
KKN	**Kakani**	**45.15**	**304**	*e*P	**P**	**19 36 49.4 0.0**
comp=Z,23nm,1.0s,mb4.9						
KKN	**Kakani**	**45.15**	**304**	*e*P	**P**	**19 36 49.4 0.0**
KKN				pmax	pmax	
comp=Z,11nm,1.0s,mb4.5						
DMN	**Daman**	**45.23**	**304**	*e*P	**P**	**19 36 50.2 +0.2**
ULN	**Ulaanbaatar**	**45.49**	**342**⇑	*e*P	**P**	**19 36 53.1 +1.0**
ULN	**Ulaanbaatar**	**45.49**	**342**	*e*P	**P**	**19 36 52.7 +0.6**
comp=Z,8.4nm,0.9s,mb4.5						
SONM	**Songino Array**	**45.68**	**341**	P	**P**	**19 36 54.1 +0.6**
comp=Z,2.4nm,0.6s,mb4.1,baz=155,slow=8.4,SNR=20						
SONM				PcP	PcP	19 38 30.8 +0.6
comp=Z,0.5nm,0.6s,baz=155,slow=3.4,SNR=3.8						
GKN	**Gorkha**	**45.76**	**304**	*e*P	**P**	**19 36 54.0 -0.2**
comp=Z,24nm,1.1s,mb4.8						
KOLN	**Koldanda**	**46.53**	**303**	*e*P	**P**	**19 37 00.7 +0.5**
comp=Z,44nm,0.7s,mb5.3						
BOD	**Bodaibo**	**53.18**	**352**	*e*P	**P**	**19 37 49.3 -1.3**
BOD				pmax	pmax	
comp=Z,4.0nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**56.14**	**325**	P	**P**	**19 38 11.9 -0.1**
comp=Z,2.7nm,0.6s,mb4.5,baz=125,slow=8.5,SNR=44						
MKAR				PcP	PcP	19 39 09.9 +1.0
comp=Z,6.1nm,0.7s,baz=108,slow=4.0,SNR=18						
YAK	**Yakutsk**	**56.51**	**2**⇑	*e*P	**P**	**19 38 14.7 +0.1**
YAK				pmax	pmax	
comp=Z,23nm,0.8s,mb5.3						
KURK	**Kurchatov**	**60.29**	**327**⇑	*e*P	**P**	**19 38 40.7 -0.2**
KURK	**Kurchatov**	**60.29**	**327**	*e*P	**P**	**19 38 40.5 -0.4**
comp=Z,5.2nm,0.6s,mb4.7						
NVS	**Novosibirsk**	**60.34**	**333**	*e*P	**P**	**19 38 39.3 -1.9**
NVS				pmax	pmax	
comp=Z,6.0nm,0.9s,mb4.6						
NVS				pmax	pmax	
comp=N,2.0nm,0.7s						
NVS				pmax	pmax	
comp=E,2.0nm,0.7s						
KKAR	**Karatay Array**	**61.97**	**316**	P	**P**	**19 38 51.9 -0.3**
KKAR				pmax	pmax	
comp=Z,1.0nm,0.7s,mb4.0						
VOSK	**Vostochnaya**	**65.42**	**326**	P	**P**	**19 39 14.3 -0.6**
VOSK				pmax	pmax	
comp=Z,1.0nm,0.5s,mb3.9						
BVA0	**Borovoye Array**	**65.88**	**327**	*i* P	**P**	**19 39 17.7 -0.2**
BVA0				pmax	pmax	
comp=Z,1.0nm,0.9s,mb3.6						
BRVK	**Borovoye**	**65.95**	**327**	*e*P	**P**	**19 39 17.0 -1.3**
BRVK				pmax	pmax	
comp=Z,6.0nm,0.9s,mb4.4						
BRVK	**Borovoye**	**65.95**	**327**	*e*P	**P**	**19 39 17.0 -1.3**
comp=Z,6.1nm,0.9s,mb4.4						
TIXI	**Tiksi**	**66.15**	**1**⇑	*e*P	**P**	**19 39 19.6 0.0**
TIXI				pmax	pmax	
comp=Z,5.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**66.61**	**326**	P	**P**	**19 39 22.1 -0.4**
ZRNK				pmax	pmax	
comp=Z,20nm,1.6s,mb4.7						
ZRNK	**Zerenda**	**66.61**	**326**	*e*P	**P**	**19 39 22.0 -0.5**
comp=Z,17nm,1.0s,mb4.8						
AB31	**Akbulak array**	**70.81**	**320**	*i* P	**P**	**19 39 48.2 -0.4**
AB31				pmax	pmax	
comp=Z,1.0nm,0.6s,mb3.8						
AKTK	**Aktyubinsk**	**72.30**	**321**	P	**P**	**19 39 57.5 -0.1**
AKTO	**Aktyubinsk**	**72.30**	**321**	P	**P**	**19 39 57.5 -0.1**
comp=Z,3.4nm,0.6s,mb4.3,baz=100,slow=7.9,SNR=15						
ARU	**Arti**	**73.48**	**327**⇓	*i* P	**P**	**19 40 04.1 -0.5**
ARU				*e*		19 42 45.1
ARU				*e*PPP		19 44 28.8
ARU				*e*S	S	19 49 22.6 -4.5
ARU				*e*SS	SS	19 54 10.2 -1.0
ARU				pmax	pmax	
comp=Z,8.0nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**83.59**	**25**	P	**P**	**19 41 01.3 +1.2**
comp=Z,0.9nm,0.9s,mb3.6,baz=240,slow=7.5,SNR=4.5						
KLMR	**Klimovskoe**	**83.90**	**331**	*e*P	**P**	**19 41 01.5 -0.2**
KLMR				pmax	pmax	
comp=Z,40nm,1.7s,mb5.0						
JOF	**Joensuu**	**87.65**	**333**	*e*p	**P**	**19 41 20.0 -0.2**
comp=Z,0.6nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**88.84**	**340**	P	**P**	**19 41 25.3 -0.5**
comp=Z,2.7nm,0.7s,mb4.4,baz=81,slow=5.9,SNR=12						
BR131	**Keskin Array B**	**88.90**	**310**	*e*P	**P**	**19 41 25.7 -0.5**
comp=Z,1.0nm,0.7s,mb4.0						
BRTR	**Keskin Array B**	**88.90**	**310**	P	**P**	**19 41 25.1 -1.0**
comp=Z,1.5nm,0.8s,mb4.1,baz=104,slow=5.2,SNR=9.5						
KAF	**Kangasniemi**	**90.07**	**332**	*e*p	**P**	**19 41 30.3 -1.3**
comp=Z,0.6nm,0.4s,mb4.1						
KAF	**Kangasniemi**	**90.07**	**332**	*e*P	**P**	**19 41 30.3 -1.3**
KAF				pmax	pmax	
comp=Z,1.0nm,0.4s,mb4.3						
FINES	**FINESS Array B**	**90.31**	**332**	P	**P**	**19 41 32.7 0.0**
comp=Z,2.2nm,0.5s,mb4.5,baz=66,slow=5.1,SNR=29						
FINES	**FINESS Array B**	**90.31**	**332**	P	**P**	**19 41 32.7 0.0**
AKASG	**Malin Array Be**	**90.55**	**321**	P	**P**	**19 41 31.6 -2.2**
comp=Z,0.3nm,0.4s,mb3.8,baz=69,slow=4.9,SNR=2.9						
MLR	**Muntele Rosu**	**93.64**	**316**	P	**P**	**19 41 47.5 -0.6**
comp=Z,2.1nm,0.6s,mb4.6,baz=216,slow=2.4,SNR=7.2						
SYO	**Syowa Base**	**93.99**	**201**⇑	*e*pP	pP	19 42 09.9 -3.5
SYO	**Syowa Base**	**93.99**	**201**⇑	*e*PP	PP	19 45 37.9 +1.2
HFS	**Hagfors**	**96.50**	**332**	P	**P**	**19 42 00.7 -0.5**
comp=Z,2.9nm,0.8s,mb4.8,baz=102,slow=6.2,SNR=6.7						
NB2	**NORSAR Subarra**	**97.25**	**334**	P	**P**	**19 42 04.0 -0.5**
comp=Z,1.8nm,0.8s,mb4.5,baz=65,slow=4.6						
NB2	**NORSAR Subarra**	**97.25**	**334**	P	**P**	**19 42 04.0 -0.5**
NB2				pmax	pmax	
comp=Z,2.0nm,0.8s,mb4.6						
NOA	**NORSAR Array B**	**97.25**	**334**	P	**P**	**19 42 04.0 -0.6**
comp=Z,1.8nm,0.7s,mb4.6,baz=66,slow=4.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**122.33**	**289**	PKP	PKPdf	19 47 28.2 +1.8
comp=Z,1.5nm,0.7s,baz=48,slow=2.2,SNR=11						

ISCJB ***20*** *19:29:18.1±0.4,3873N∧003×2353E∧005,h2km, Error ellipse: s-maj=5.5km s-min=3.4km az=128.2*
ATH ***20*** *19:29:19.7,3877N×2346E,h22km±2km,MD3.1/9,ML3.1*
NEIC ***20*** *19:29:19.7,3877N×2347E,h22km,ML3.1(ATH),After ATH.*
CSEM ***20*** *19:29:20.3±0.1,3877N×2348E,h2km,ML3.1, Error ellipse: s-maj=2.7km s-min=1.6km az=78.0*
THE ***20*** *19:29:20.3,3876N×2353E,h1km,ML2.8*
ISC 20 19:29:19.7±0.6,3875N∧003×2353E∧005,h8km±6km,n22,σ1§10/29,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.42**	**256**	*e*PB	**Pg**	**19 29 27.6**	**-0.3**
LKR				*e*SB	**Sg**	**19 29 33.5**	**0.0**
NEO	**Neokhori**	**0.60**	**337**	*e*PN	**Pg**	**19 29 31.8**	**+0.5**
NEO				*e*SN	**Sg**	**19 29 39.1**	**-0.1**
MPAR	**Parnis Oros**	**0.62**	**165**	*e*PN	**Pg**	**19 29 32.8**	**+1.1**
XOR	**Xorichti**	**0.67**	**337**	*e*Pg	**Pg**	**19 29 33.0**	**+0.4**
XOR				*e*Sg	**Sg**	**19 29 41.5**	**+0.3**
PTL	**Penteli**	**0.75**	**159**	*e*PN	**Pn**	**19 29 35.0**	**-1.5**
ATH	**Athens Observa**	**0.79**	**169**	*e*PN	**Pn**	**19 29 35.5**	**-1.6**
ATH				*e*SN	**Sg**	**19 29 46.7**	**+1.5**
MGER	**Gerania Oros**	**0.79**	**195**	*e*PN	**Pn**	**19 29 35.0**	**-2.1**
KVR	**Kavouri**	**0.94**	**168**	*e*PN	**Pn**	**19 29 38.0**	**-1.1**
AGG	**Agios Georgios**	**0.97**	**287**	*e*Pg	**Pg**	**19 29 37.6**	**-0.7**
AGG				*e*Sg	**Sg**	**19 29 52.0**	**+1.0**
NAIG	**Nisos Aigina**	**0.99**	**182**	*e*PN	**Pn**	**19 29 38.8**	**-1.0**
PAIG	**Paliouri**	**1.18**	**6**	*e*Pg	**Pg**	**19 29 41.5**	**-0.8**
PAIG	**Paliouri**	**1.18**	**6**	*e*Pg	**Pg**	**19 29 41.5**	**-0.8**
EVR	**Evrytania**	**1.35**	**278**	*e*PN	**Pn**	**19 29 45.1**	**+0.3**
LIT	**Litokhoron**	**1.57**	**330**	*e*Pg	**Pg**	**19 29 48.2**	**-1.5**
LIT				*e*Sg	**Sg**	**19 30 10.6**	**+0.5**
OUR	**Ouranopolis**	**1.62**	**12**	*e*Pg	**Pg**	**19 29 48.6**	**-2.1**
PLG	**Polygyros**	**1.62**	**358**	*e*PN	**Pn**	**19 29 48.3**	**-0.2**
APE	**Apeiranthos**	**2.31**	**136**	*e*Pn	**Pn**	**19 29 59.0**	**+1.0**
APE				*e*Sn	**Sn**	**19 30 27.9**	**+1.4**
SRS	**Serrai**	**2.36**	**1**	*e*Pn	**Pn**	**19 29 58.9**	**+0.2**
GRG	**Griva**	**2.37**	**339**	*e*Pn	**Pn**	**19 29 59.0**	**+0.2**
KNT	**Kendrikon**	**2.46**	**349**	*e*Pn	**Pn**	**19 30 00.9**	**+0.9**
IGT	**Igoumenitsa**	**2.60**	**288**	*e*Pn	**Pn**	**19 30 04.8**	**+2.8**
ALN	**Alexandroupoli**	**2.89**	**41**	*e*Pn	**Pn**	**19 30 07.3**	**+1.3**

IDC ***20*** *19:30:24.0±2.5,3440N×7391E,h0km,mb3.6/2,mb1 3.4/4, mb1mx3.2/22,mbtmp3.4/4,ML2.8/1, Error ellipse: s-maj=63.8km s-min=32.3km az=154.0*
ISCJB ***20*** *19:30:28.9±0.7,3499N∧007×740E∧0.1,h33km,mb3.3/2, Error ellipse: s-maj=19.0km s-min=5.2km az=124.4*
NNC ***20*** *19:30:33.0±11.0,3513N×7307E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=148.0km s-min=80.2km az=22.0*
ISC 20 19:30:31.8±0.7,3499N∧007×740E∧01,h35km,n11,σ1§55/17,mb3.3/2,3C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.95**	**145**	*e*P	**Pn**	**19 31 18.0**	**+1.8**
DLH				*e*S	**Sn**	**19 31 53.0**	**+2.6**
SDNR	**Sundarnagar**	**4.29**	**143**	*e*P	**Pn**	**19 31 33.5**	**-1.1**
SDNR				*e*S	**Sn**	**19 32 22.5**	**-0.9**
SMLA	**Simla**	**4.69**	**144**	*e*P	**Pn**	**19 31 37.9**	**-2.2**
SMLA				*e*S	**Sn**	**19 32 30.6**	**-2.7**
294nm,0.2s							
KLP	**Kalpa**	**4.97**	**133**	*e*P	**Pn**	**19 31 42.4**	**-1.5**
KLP				*e*S	**Sn**	**19 32 40.4**	**+0.3**
KHET	**Khetri**	**7.07**	**167**	*e*P	**Pn**	**19 32 18.5**	**+5.7**
KHET				*e*S	**Sn**	**19 33 34.1**	**+2.3**
KK31	**Karatay Array**	**8.54**	**343**	⇑P	**Pn**	**19 32 33.2**	**+0.4**
0.5nm,0.3s,baz=154,slow=11							
KK31				⇑S	**Sn**	**19 34 08.0**	**+0.1**
1.6nm,0.3s,baz=167,slow=23							
MK31	**Makanchi Array**	**13.35**	**25**	⇑P	**Pn**	**19 33 46.6**	**+7.9**
0.8nm,0.8s,baz=0.0,slow=0.1,SNR=8.3							
MKAR	**Makanchi Array**	**13.35**	**25**	Pn	**Pn**	**19 33 43.3**	**+4.6**
0.1nm,0.3s,baz=197,slow=11,SNR=2.1							
AKTO	**Aktyubinsk**	**19.32**	**328**	P	**Pn**	**19 34 55.8**	**+0.7**
0.2nm,0.3s,baz=124,slow=12,SNR=4.3							
SONM	**Songino Array**	**27.27**	**52**	P	**P**	**19 36 13.8**	**+1.1**
0.2nm,0.4s,mb3.0,baz=250,slow=9.2,SNR=4.5							
TORD	**Torodi Ar. Bea**	**68.14**	**271**	P	**P**	**19 41 25.9**	**-2.3**
0.5nm,0.8s,mb3.6,baz=66,slow=5.3,SNR=3.7							

MAN 20 19:41:40.6,1350N×12125E,h26km,mb1.7,ML3.5,MS3.4,1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.29**	**270**⇓	*e*P	Pb	19 41 47.2	-0.3
BOAC	**Boac**	**0.58**	**94**	*e*P	Pb	19 41 53.0	+0.8
BOAC				*e*S	Sb	19 42 02.9	+2.9
LUBP	**Lubang**	**1.00**	**283**	*e*P	Pn	19 41 59.1	+0.1
LUBP				*e*S	Sb	19 42 12.5	+0.5
SJMP	**San Jose**	**1.04**	**187**	*e*P	Pn	19 41 59.2	-0.3

NEIC ***20*** *19:43:30.7,5004N×13022W,h10km,MW3.5(PGC),After PGC.*
PGC 20 19:43:30.7,5004N×13022W,h10km,MLSn2.9/1,Mw3.5,1C-1D,212km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.47**	**65**	Pn	Pn	19 43 55.1	-2.1
HOLB				Trac		19 44 13.3	
comp=Z,16nm,0.2s							
BPBC	**Brooks Peninsu**	**1.58**	**85**	Pn	Pn	19 43 56.2	-2.6
BPBC				Pg	Pg	19 43 59.0	-2.1
BPBC				Sg	Sg	19 44 19.1	-2.5
BPBC				Trac		19 44 19.9	
comp=Z,10.0nm,0.1s							
BPBC	**Brooks Peninsu**	**1.58**	**85**	Pn	Pn	19 43 56.2	-2.6
BPBC				Pg	Pg	19 43 59.0	-2.1
BPBC				Sg	Sg	19 44 19.1	-2.5
PHC	**Port Hardy**	**1.91**	**69**	Pn	Pn	19 44 01.1	-2.1
PHC				Sn	Sn	19 44 23.1	-4.2
PHC				Trac		19 44 26.9	
comp=Z,26nm,0.3s							
PHC	**Port Hardy**	**1.91**	**69**	Pn	Pn	19 44 01.1	-2.1
PHC				Sn	Sn	19 44 23.1	-4.2
MAYB	**Maynard**	**1.99**	**78**	Pn	Pn	19 44 02.6	-1.8
MAYB				Trac		19 44 34.3	
comp=Z,21nm,0.4s							
WOSB	**Woss**	**2.35**	**86**	Pn	Pn	19 44 08.0	-1.5
BBB	**Bella Bella**	**2.52**	**31**	⇓Pn	Pn	19 44 10.8	-0.9
BBB				Sn	Sn	19 44 38.6	-3.9
BBB				Trac		19 44 41.0	
comp=Z,31nm,0.3s							
BBB	**Bella Bella**	**2.52**	**31**	Pn	Pn	19 44 10.8	-0.9
BBB				Sn	Sn	19 44 38.6	-3.9
NCRB	**Newcastle Ridg**	**2.70**	**81**	⇑Pn	Pn	19 44 13.3	-0.9
BTB	**Buttle Lake**	**3.10**	**99**	Pn	Pn	19 44 21.1	+1.4

BJI ***20*** *19:44:22.1,3660N×530E,h10km,mB5.1,mb5.0,Ms5.3, Msz5.0*
MDD ***20*** *19:44:23.6±1.3,3667N×556E,h0km,mb5.1/29,Error ellipse: s-maj=13.2km s-min=7.1km az=139.0,PRXIMO*
ISCJB ***20*** *19:44:23.4±0.1,3677N∧001×532E∧001,h10km,mb4.8/90, MS4.8/51,Error ellipse: s-maj=2.1km s-min=1.3km az=28.1*
MOS ***20*** *19:44:23.1±1.2,3673N×526E,h10km,mb5.2/35, MS4.7/16,Error ellipse: s-maj=4.0km s-min=2.1km az=75.4*
CSEM ***20*** *19:44:23.1±0.1,3675N×537E,h10km,mb5.0/43,ML4.8/5, Ms4.7,Error ellipse: s-maj=1.6km s-min=0.9km az=11.0*
IDC ***20*** *19:44:25.6±2.1,3667N×533E,h18km±12km,mb4.3/28, mb1 4.4/35,mb1mx4.4/39,mbtmp4.4/35,ML4.2/8,MS4.8/27, Ms1 4.8/27,ms1mx4.7/37,Error ellipse: s-maj=10.3km s-min=6.9km az=117.0*
HRVD ***20*** *19:44:25.2±0.2,3662N×532E,h12km,MW5.2/88, Centroid moment Tensor Solution. LP body waves: s60,c98;Mantle waves: s88,c164; Half duration: 0*
Moment tensor: Scale 10^{16}Nm; M_{rr}0.07±.13; $M_{\theta\theta}$-0.12±.14; $M_{\phi\phi}$0.05±.14; $M_{r\theta}$-1.22±.34; $M_{\theta\phi}$-6.41±.10; $M_{\phi r}$-3.19±.33; Best double couple: $M_0$7.21200×10^{16} NP1:ϕ_s92.00000°,δ64.00000°,λ-174.00000°; NP2: ϕ_s360.00000°,δ84.00000°,λ-26.00000°. Principal axes: T 6.7140, Plg13.0000°, Azm49.0000°; N 0.9970, Plg64.0000°, Azm168.0000°; P -7.7110, Plg22.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
SFS ***20*** *19:44:25.0,3670N×540E,h0km,ML5.0*
NEIC ***20*** *19:44:25.2±0.2,3662N×533E,h10km,mb5.0/40,MS4.9/7, Error ellipse: s-maj=2.8km s-min=1.9km az=0.0*
NEIC Four people killed and nine injured; 30 houses destroyed and 32 damaged; roads damaged, power outages occurred and water lines broken in the Kherrata area. Felt strongly in eastern Bejaia.
LDG ***20*** *19:44:27.4±0.1,3663N×559E,h30km,Ml4.7/31,ms4.5/8, Error ellipse: s-maj=3.6km s-min=3.0km az=157.0*
SZGRF ***20*** *19:44:45.3,3786N×536E,h33km,mb4.5,MS3.6,Western Mediterranean Sea*
ISC 20 19:44:25.2±0.1,3671N∧001×532E∧001,h10km,(h15km±1.4km:pP-P),n786,σ1§28/953,mb4.8/90,MS4.8/51,41C-24D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.47**	**110**	P	**Pg**	**19 44 31.5**	**-3.0**
SET	**Setif**	**0.51**	**173**	P	**Pg**	**19 44 32.0**	**-3.2**
AKF	**Akfadou**	**0.61**	**263**	P	**Pg**	**19 44 37.4**	**+0.3**
CKHR	**Kef el Ahmar**	**0.71**	**167**	P	**Pg**	**19 44 35.6**	**-3.3**
CASM	**Ain Smara**	**1.04**	**115**	P	**Pg**	**19 44 41.0**	**-4.3**
CTEI	**Djebel Teioual**	**1.09**	**126**	P	**Pb**	**19 44 42.0**	**-4.1**
CKFL	**Kef-Lekhel**	**1.17**	**105**	P	**Pb**	**19 44 46.0**	**-1.5**
CMER	**Merouana**	**1.18**	**157**	*e*P	**Pb**	**19 44 45.0**	**-2.7**
CAEH	**'Ain El Ouahch**	**1.23**	**86**	P	**Pn**	**19 44 44.0**	**-4.4**
CMAH	**Djebel Manchou**	**1.69**	**92**	P	**Pn**	**19 44 51.8**	**-3.0**
ABA	**Alger-Bouzarea**	**1.84**	**274**	P	**Pn**	**19 44 56.0**	**-0.8**
EMHD	**Djebel Mahouad**	**1.98**	**256**	P	**Pn**	**19 44 57.7**	**-1.0**
EBNR	**Beni Rached**	**3.08**	**263**	P	**Pn**	**19 45 16.0**	**+2.0**
ECHF	**Ech Chlef**	**3.26**	**261**	P	**Pn**	**19 45 18.0**	**+1.6**
MAHO	**Mahon**	**3.29**	**346**	P	**Pn**	**19 45 15.6**	**-1.2**
MAHO				S	**Sn**	**19 45 51.7**	**-4.2**
MAHO	**Mahon**	**3.29**	**346**	*i* P	**Pn**	**19 45 15.6**	**-1.2**
MAHO				*e*S	**Sn**	**19 45 51.7**	**-4.2**
ETRT	**Tiaret**	**3.52**	**249**	P	**Pn**	**19 45 19.9**	**0.0**
ETOS	**Mallorca**	**3.64**	**328**	⇓P	**Pn**	**19 45 22.0**	**+0.5**
572nm,0.4s,SNR=18							
ETOS				S	**Sn**	**19 46 03.8**	**-0.7**
231nm,0.2s,SNR=4.7							
ETOS	**Mallorca**	**3.64**	**328**	P	**Pn**	**19 45 22.0**	**+0.5**
572nm,0.4s,SNR=18							
ETOS				S	**Sn**	**19 46 03.8**	**-0.7**
231nm,0.2s,SNR=4.7							
EIBI	**Ibiza**	**3.91**	**308**	⇓P	**Pn**	**19 45 25.8**	**+0.5**
98nm,0.2s,SNR=18							
EIBI				S	**Sn**	**19 46 10.9**	**-0.3**
117nm,0.3s							
EIBI	**Ibiza**	**3.91**	**308**	P	**Pn**	**19 45 25.8**	**+0.5**
98nm,0.2s,SNR=18							
EIBI				S	**Sn**	**19 46 10.9**	**-0.3**
117nm,0.3s							
VSL	**Villasalto**	**4.24**	**48**	*e*P	**Pn**	**19 45 27.2**	**-2.7**
VSL				*e*S	**Sn**	**19 46 14.8**	**-4.5**
EBEN	**Beniarda**	**4.83**	**296**	P	**Pn**	**19 45 38.6**	**+0.7**
18nm,0.3s,SNR=54							
EBEN				S	**Sn**	**19 46 33.7**	**-0.2**
17nm,0.3s							
EBEN	**Beniarda**	**4.83**	**296**	P	**Pn**	**19 45 38.6**	**+0.7**
18nm,0.3s,SNR=54							
EBEN				S	**Sn**	**19 46 33.7**	**-0.2**
17nm,0.3s							
CART	**Cartagena**	**5.13**	**282**	P	**Pn**	**19 45 41.1**	**-0.9**
CART				S	**Sn**	**19 46 39.6**	**-1.7**
CART	**Cartagena**	**5.13**	**282**	*i* P	**Pn**	**19 45 41.1**	**-0.9**
CART				*e*S	**Sn**	**19 46 39.6**	**-1.7**
CART	**Cartagena**	**5.13**	**282**	*e*P	**Pn**	**19 45 41.5**	**-0.6**
407nm,0.8s							
EMUR	**La Murta**	**5.36**	**284**	P	**Pn**	**19 45 45.1**	**0.0**
33nm,0.3s,SNR=39							
EMUR				S	**Sn**	**19 46 48.1**	**+1.2**
27nm,0.5s,SNR=7.9							
EMUR	**La Murta**	**5.36**	**284**	P	**Pn**	**19 45 45.1**	**-0.1**
33nm,0.3s,SNR=39							
EMUR				S	**Sn**	**19 46 48.1**	**+1.2**
27nm,0.5s,SNR=7.9							
EBR	**Ebro Roquetas**	**5.58**	**319**	*e*PN	**Pn**	**19 45 47.8**	**-0.4**
EBR				*e*SN	**Sn**	**19 46 57.2**	**+4.9**
EPOB	**Poblet**	**5.69**	**326**	⇓P	**Pn**	**19 45 49.6**	**-0.2**
10nm,0.2s,SNR=18							
EPOB				S	**Sn**	**19 46 51.4**	**-3.8**
60nm,0.3s,SNR=5.6							
EPOB	**Poblet**	**5.69**	**326**	P	**Pn**	**19 45 49.6**	**-0.2**
10nm,0.2s,SNR=18							
EPOB				S	**Sn**	**19 46 51.4**	**-3.8**
60nm,0.3s,SNR=5.6							
ECHE	**Chera**	**5.73**	**302**	⇑P	**Pn**	**19 45 51.6**	**+1.2**
71nm,0.4s,SNR=18							
ERTA	**Horta de San J**	**5.76**	**319**	P	**Pn**	**19 45 51.2**	**+0.5**
4.3nm,0.2s,SNR=32							
ERTA				S	**Sn**	**19 46 55.3**	**-1.5**
21nm,0.4s,SNR=7.9							
ERTA	**Horta de San J**	**5.76**	**319**	P	**Pn**	**19 45 51.2**	**+0.5**
4.3nm,0.2s,SNR=32							
ERTA				S	**Sn**	**19

4.8nm,0.2s,SNR=25
EBER S Sn 19 47 15.8 -1.5
19nm,0.3s,SNR=5.5
EBER Berja 6.59 274 P Pn 19 46 01.4 -0.8
4.8nm,0.2s,SNR=25
EBER S Sn 19 47 15.8 -1.6
19nm,0.3s,SNR=5.5
EBER Berja 6.59 274 P Pn 19 46 01.4 -0.7
EBER S Sn 19 47 15.8 -1.5
BERF Bertagne 6.60 2 P Pn 19 46 01.8 -0.5
GELF Grande-Etoile 6.67 1 P Pn 19 46 02.9 -0.3
GELF S Sn 19 47 14.9 -4.3
LMR La Mourre 6.68 7 *e*Pn **Pn 19 46 01.3 -2.1**
SNR=1.0
LMR *e*Sn Sn 19 47 13.7 -5.8
544nm,0.9s
LMR La Mourre 6.68 7 *e*Pn **Pn 19 46 01.3 -2.1**
SNR=1.0
LMR *e*Sn Sn 19 47 13.7 -5.8
272nm,0.9s
EGRA Graus 6.71 326 P Pn 19 46 04.8 +1.0
25nm,0.5s,SNR=97
EGRA S Sn 19 47 18.4 -1.9
19nm,0.3s
ESAC San Caprasio 6.73 320 ⇓P **Pn 19 46 05.1 +1.1**
164nm,0.4s,SNR=18
ESAC S Sn 19 47 20.2 -0.5
108nm,0.3s,SNR=5.0
ESAC San Caprasio 6.73 320 P Pn 19 46 05.1 +1.1
164nm,0.4s,SNR=18
ESAC S Sn 19 47 20.2 -0.5
108nm,0.3s,SNR=5.0
ZAI Zaio 6.78 258 *e*P **Pn 19 46 11.0 +6.3**
EQES Quesada 6.78 282 P Pn 19 46 06.3 +1.5
237nm,0.7s,SNR=99
EQES S Sn 19 47 21.5 -0.5
29nm,0.3s,SNR=4.0
EQES Quesada 6.78 282 P Pn 19 46 06.3 +1.5
237nm,0.7s,SNR=99
EQES S Sn 19 47 21.5 -0.6
29nm,0.3s,SNR=4.0
PUYF Puyloubier 6.82 2 P Pn 19 46 04.4 -0.9
PUYF S Sn 19 47 18.2 -4.8
SALF Salau 6.83 333 P Pn 19 46 07.0 +1.6
MELI Melilla 6.84 261 *e*P **Pn 19 46 19.8 +14**
MELI *e*S Sn 19 47 34.3 +11
TREF Trevaresse 6.91 0 P Pn 19 46 07.6 +1.1
FRF La Foret Royal 6.92 8 *e*Pn **Pn 19 46 05.6 -1.0**
SNR=1.0
FRF *e*Sn Sn 19 47 18.9 -6.5
89nm,0.3s
FRF La Foret Royal 6.92 8 *e*Pn **Pn 19 46 05.6 -1.0**
SNR=1.0
FRF *e*Sn Sn 19 47 18.9 -6.5
44nm,0.3s
TAVF Tavernes 6.92 4 P Pn 19 46 05.9 -0.8
TAVF S Sn 19 47 21.3 -4.2
EQUE Quentar 7.03 277 P Pn 19 46 08.8 +0.6
21nm,0.7s,SNR=20
EQUE S Sn 19 47 26.7 -1.5
12nm,0.3s,SNR=5.4
MLS Moulis 7.04 334 P Pn 19 46 10.1 +1.8
MLS S Sn 19 47 28.5 +0.2
MTLF Montolieu 7.04 341 *e*Pn **Pn 19 46 06.9 -1.4**
SNR=1.0
MTLF *e*Sn Sn 19 47 22.9 -5.5
125nm,0.4s,SNR=1.0
MTLF Montolieu 7.04 341 *e*Pn **Pn 19 46 06.9 -1.4**
SNR=1.0
MTLF *e*Sn Sn 19 47 22.9 -5.5
62nm,0.4s,SNR=1.0
PRAF Pradon 7.09 359 P Pn 19 46 09.0 0.0
PRAF S Sn 19 47 26.2 -3.4
ECOG Cogollos-Vega 7.14 277 P Pn 19 46 12.0 +2.4
41nm,0.5s,SNR=34
ECOG S Sn 19 47 30.3 -0.5
11nm,0.3s,SNR=5.1
VILF Villemus 7.14 2 P Pn 19 46 08.9 -0.8
EBIE Bielsa 7.18 328 P Pn 19 46 11.6 +1.4
15nm,0.5s,SNR=50
EBIE S Sn 19 47 30.0 -1.9
12nm,0.3s,SNR=4.6
EBIE Bielsa 7.18 328 P Pn 19 46 11.6 +1.4
15nm,0.5s,SNR=50
EBIE S Sn 19 47 30.0 -1.8
12nm,0.3s,SNR=4.6
RESF Ens 7.20 329 P Pn 19 46 11.8 +1.3
SMRF Simiane la Rot 7.26 1 *e*Pn **Pn 19 46 10.8 -0.5**
SNR=1.0
SMRF *e*Sn Sn 19 47 28.2 -5.6
563nm,1.4s
SMRF Simiane la Rot 7.26 1 *e*Pn **Pn 19 46 10.8 -0.5**
SNR=1.0
SMRF *e*Sn Sn 19 47 28.2 -5.6
282nm,1.4s
STOF St-Etienne Org 7.29 3 P Pn 19 46 11.8 0.0
VAE Valguarnera 7.30 81 Pn **Pn 19 46 09.2 -2.8**
9.8nm,0.3s,baz=83,slow=14,SNR=10.0
MVIF Mont Vial 7.31 10 P Pn 19 46 11.9 -0.2
ERON Agron 7.33 275 P Pn 19 46 14.3 +2.0
6.1nm,0.4s,SNR=28
SBF Sospel 7.33 12 *e*Pn **Pn 19 46 11.1 -1.1**
SNR=1.0
SBF *e*Sn Sn 19 47 28.7 -6.7
190nm,0.4s
SBF Sospel 7.33 12 *e*Pn **Pn 19 46 11.1 -1.1**
SNR=1.0
SBF *e*Sn Sn 19 47 28.7 -6.7
95nm,0.4s
NEGI Negi 7.36 14 P Pn 19 46 10.0 -2.7
EPF Esparros 7.38 330 *e*Pn **Pn 19 46 14.6 +1.6**
SNR=1.0
EPF *e*Sn Sn 19 47 32.2 -4.6
241nm,0.5s
EPF Esparros 7.38 330 *e*Pn **Pn 19 46 14.6 +1.6**
SNR=1.0
EPF *e*Sn Sn 19 47 32.2 -4.6
120nm,0.5s
EBAN Banos Encina 7.39 284 P Pn 19 46 13.6 +0.5
9.6nm,0.4s,SNR=9.2
EBAN S Sn 19 47 34.6 -2.5
5.9nm,0.5s,SNR=7.9
VIEF Viey 7.39 328 P Pn 19 46 14.5 +1.4
LASF Ste Croix 7.44 352 *e*Pn **Pn 19 46 12.4 -1.4**
SNR=1.0
LASF *e*Sn Sn 19 47 32.6 -5.7
181nm,0.6s
LASF Ste Croix 7.44 352 *e*Pn **Pn 19 46 12.4 -1.4**
SNR=1.0
LASF *e*Sn Sn 19 47 32.6 -5.7
91nm,0.6s
IMI Imperia 7.45 14 P Pn 19 46 12.3 -1.7
SAOF Saorge 7.46 12 P Pn 19 46 12.7 -1.5
TOU Touzarine 7.58 259 *e*P **Pn 19 46 13.0 -2.7**
MONE Monesi 7.59 13 P Pn 19 46 13.7 -2.2
ELOJ Sierra Loja 7.60 276 P Pn 19 46 18.5 +2.4
7.6nm,0.4s,SNR=18
MPAL Palemas 7.66 262 *e*P **Pn 19 46 15.0 -1.8**
ETSF Etsaut 7.66 326 *e*Pn **Pn 19 46 17.9 +1.1**
SNR=1.0
ETSF *e*Sn Sn 19 47 40.0 -3.6
96nm,0.5s
ETSF Etsaut 7.66 326 *e*Pn **Pn 19 46 17.9 +1.1**
SNR=1.0
ETSF *e*Sn Sn 19 47 40.0 -3.6
48nm,0.5s
ENR Entracque 7.68 11 P Pn 19 46 15.6 -1.5
STV Sta Anna Valdi 7.68 11 P Pn 19 46 15.6 -1.5
STV2 Anna di Valdie 7.68 11 P Pn 19 46 15.4 -1.7
RORO 7.68 15 P Pn 19 46 16.5 -0.7
ELUQ Luque 7.71 279 P Pn 19 46 18.5 +1.1
13nm,0.5s,SNR=11
ELUQ S Sn 19 47 43.7 -1.1
2.7nm,0.2s,SNR=7.9
ELUQ Luque 7.71 279 P Pn 19 46 18.5 +1.0
13nm,0.5s,SNR=11
ELUQ S Sn 19 47 43.7 -1.1
2.7nm,0.2s,SNR=7.9
REYF Montagne du Re 7.72 327 P Pn 19 46 18.8 +1.1
FIN Finale Ligure 7.81 15 P Pn 19 46 17.4 -1.4
MAL Malaga 7.82 273 *e*P **Pn 19 46 24.6 +5.6**
MAL *e*S Sn 19 47 54.2 +6.7
ROB Roburent 7.82 14 P Pn 19 46 17.2 -1.8
SURF Saint Ours 7.84 8 P Pn 19 46 19.4 0.0
OCF Saint Nazaire 7.86 360 P Pn 19 46 19.7 +0.1
OG26 St.-Nazaire-De 7.86 360 P Pn 19 46 19.7 +0.1

ESDC Sonseca Array 7.89 295 Pn **Pn 19 46 20.2 +0.2**
4.5nm,0.3s,baz=106,slow=13,SNR=39
ESDC Sn Sn 19 47 50.3 +1.0
baz=110,slow=25,SNR=2.3
ESDC Sonseca Array 7.89 295 P Pn 19 46 20.5 +0.6
5.1nm,0.2s,baz=106,slow=14,SNR=36
ESDC S Sn 19 47 47.8 -1.5
4.9nm,0.3s,baz=114,slow=15,SNR=4.5
ESDC Sonseca Array 7.89 295 P Pn 19 46 20.5 +0.5
5.1nm,0.2s,SNR=36
ESDC S Sn 19 47 47.8 -1.5
4.9nm,0.3s,SNR=4.5
ESLA Sonseca Array 7.89 295 *e*P **Pn 19 46 20.4 +0.4**
10nm,0.9s
PZZ Prazzo 7.90 9 P Pn 19 46 19.0 -1.2
LARF Larrau 7.97 324 P Pn 19 46 21.7 +0.7
IUNC Unciti 8.00 321 P Pn 19 46 23.6 +2.1
16nm,0.2s,SNR=7.9
IUNC S Sn 19 47 48.5 -3.6
20nm,0.6s,SNR=7.9
IUNC Unciti 8.00 321 P Pn 19 46 23.6 +2.1
16nm,0.2s,SNR=7.9
IUNC S Sn 19 47 48.5 -3.6
20nm,0.6s,SNR=7.9
EADA Adamuz 8.01 283 P Pn 19 46 22.0 +0.4
1.4nm,0.2s,SNR=12
EADA S Sn 19 47 50.9 -1.3
3.7nm,0.4s,SNR=7.9
EADA Adamuz 8.01 283 P Pn 19 46 22.0 +0.4
1.4nm,0.2s,SNR=12
EADA S Sn 19 47 50.9 -1.3
3.7nm,0.4s,SNR=7.9
EARA Aranguren 8.06 321 P Pn 19 46 24.4 +2.1
50nm,0.4s,SNR=11
MBDF Montbardon 8.08 7 *e*Pn **Pn 19 46 22.3 -0.3**
SNR=1.0
MBDF *e*Sn Sn 19 47 44.4 -10
125nm,0.6s,SNR=1.0
MBDF Montbardon 8.08 7 *e*Pn **Pn 19 46 22.3 -0.3**
SNR=1.0
MBDF *e*Sn Sn 19 47 44.4 -10
62nm,0.6s,SNR=1.0
EMIJ Mijas 8.12 272 P Pn 19 46 23.2 +0.1
3.3nm,0.2s,SNR=16
EMIJ S Sn 19 47 53.0 -1.9
6.2nm,0.3s,SNR=7.9
SJPF Ste Jean 8.13 324 *e*Pn **Pn 19 46 23.7 +0.4**
SNR=1.0
SJPF *e*Sn Sn 19 47 50.5 -4.8
76nm,0.6s
SJPF Ste Jean 8.13 324 *e*Pn **Pn 19 46 23.7 +0.4**
SNR=1.0
SJPF *e*Sn Sn 19 47 50.5 -4.8
38nm,0.6s
VIVF Saint-Julien-l 8.15 357 *e*Pn **Pn 19 46 21.7 -1.9**
SNR=1.0
VIVF *e*Sn Sn 19 47 48.0 -7.8
62nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 8.15 357 *e*Pn **Pn 19 46 21.7 -1.9**
SNR=1.0
VIVF *e*Sn Sn 19 47 48.0 -7.8
31nm,0.4s,SNR=1.0
IUSE Utxeti 8.17 322 P Pn 19 46 26.3 +2.5
3.9nm,0.2s,SNR=7.9
IUSE S Sn 19 47 53.9 -2.2
4.2nm,0.2s,SNR=7.9
IUSE Utxeti 8.17 322 P Pn 19 46 26.3 +2.5
3.9nm,0.2s,SNR=7.9
IUSE S Sn 19 47 53.9 -2.2
4.2nm,0.2s,SNR=7.9
OG22 Abries 8.20 8 P Pn 19 46 25.2 +1.0
PCP Pian Castagno 8.20 16 P Pn 19 46 21.5 -2.7
MAIM 8.21 27 P Pn 19 46 22.5 -1.8
OSSF Osses 8.26 324 P Pn 19 46 26.4 +1.3
RRL Cesana Torines 8.28 7 P Pn 19 46 24.8 -0.5
VINC Vinca 8.29 25 P Pn 19 46 23.0 -2.4
ELIZ Elizondo 8.32 323 P Pn 19 46 27.3 +1.4
12nm,0.2s,SNR=7.9
ELIZ S Sn 19 47 55.8 -4.0
4.4nm,0.2s,SNR=7.9
EALK Alkurruntz 8.35 323 ⇓P **Pn 19 46 27.8 +1.5**
28nm,0.2s,SNR=18
EALK S Sn 19 47 57.8 -2.9
84nm,0.3s,SNR=7.9
VLC Villacollemand 8.38 26 *e*P **Pn 19 46 27.0 +0.3**
64nm,0.8s
GUD Guadarrama 8.39 301 P Pn 19 46 28.3 +1.5
4.4nm,0.3s,SNR=19
BNI Bardonecchia 8.40 7 *e*P **Pn 19 46 27.5 +0.6**
BNI pmax pmax
comp=Z,190nm,1.1s
BNI Bardonecchia 8.40 7 *e*P **Pn 19 46 27.5 +0.6**
comp=Z,190nm,1.1s
AQU L'Aquila 8.41 45 *e*P **Pn 19 46 29.5 +2.4**
AQU pmax pmax
comp=Z,126nm,1.3s
AQU L'Aquila 8.41 45 *e*P **Pn 19 46 29.5 +2.4**
comp=Z,126nm,1.3s
AQU L'Aquila 8.41 45 *e*P **Pn 19 46 29.5 +2.4**
comp=Z,126nm,1.3s
CODM 8.41 23 P Pn 19 46 25.9 -1.2
SARO Sassorosso 8.41 26 P Pn 19 46 25.5 -1.6
FENE Fenestrelle 8.42 8 P Pn 19 46 27.7 +0.5
ECRI Cripan 8.44 317 P Pn 19 46 28.8 +1.4
comp=Z,19nm,0.2s,SNR=7.9
ECRI S Sn 19 47 60.0 -2.7
comp=Z,7.8nm,0.4s,SNR=7.9
VALM 8.50 25 P Pn 19 46 26.6 -1.7
GDM Grand'Maison 8.51 4 P Pn 19 46 29.1 +0.7
GRN Grenoble 8.53 2 P Pn 19 46 28.5 -0.3
RSP Reno Superiore 8.56 9 P Pn 19 46 29.3 +0.1
GRAM 8.57 23 P Pn 19 46 27.6 -1.7
CAF Calviac 8.57 344 *e*Pn **Pn 19 46 29.2 -0.1**
SNR=1.0
CAF *e*Sn Sn 19 47 58.0 -8.0
comp=Z,37nm,0.6s,SNR=1.0
CAF Calviac 8.57 344 *e*Pn **Pn 19 46 29.2 -0.1**
SNR=1.0
CAF *e*Sn Sn 19 47 58.0 -8.0
comp=Z,18nm,0.6s,SNR=1.0
LBL Lubilhac 8.66 350 P Pn 19 46 29.9 -0.6
EJIF Jimena Fronter 8.69 272 P Pn 19 46 33.7 +2.8
comp=Z,1.1nm,0.3s,SNR=6.9
LPG La Plagne 8.85 7 *e*Pn **Pn 19 46 33.3 +0.2**
SNR=1.0
LPG *e*Sn Sn 19 48 04.5 -8.3
comp=Z,85nm,0.6s,SNR=1.0
LPG La Plagne 8.85 7 *e*Pn **Pn 19 46 33.3 +0.2**
SNR=1.0
LPG *e*Sn Sn 19 48 04.5 -8.3
comp=Z,43nm,0.6s,SNR=1.0
LPL La Plagne 8.86 6 *e*Pn **Pn 19 46 33.5 +0.2**
SNR=1.0
LPL *e*Sn Sn 19 48 03.0 -10
comp=Z,137nm,0.7s,SNR=1.0
LPL La Plagne 8.86 6 *e*Pn **Pn 19 46 33.5 +0.2**
SNR=1.0
LPL *e*Sn Sn 19 48 03.0 -10
comp=Z,69nm,0.7s,SNR=1.0
COLF Collangettes 8.88 353 P Pn 19 46 32.4 -1.2
LFF La Frestale 8.92 339 *e*Pn **Pn 19 46 34.7 +0.6**
SNR=1.0
LFF *e*Sn Sn 19 48 09.0 -5.7
comp=Z,40nm,0.5s,SNR=1.0
LFF La Frestale 8.92 339 *e*Pn **Pn 19 46 34.7 +0.6**
SNR=1.0
LFF *e*Sn Sn 19 48 09.0 -5.7
comp=Z,20nm,0.5s,SNR=1.0
ESPR Espera 8.97 274 P Pn 19 46 37.8 +3.0
comp=Z,0.9nm,0.2s,SNR=4.0
ESPR Espera 8.97 274 P Pn 19 46 37.8 +3.0
comp=Z,0.9nm,0.2s,SNR=4.0
ESPR Espera 8.97 274 P Pn 19 46 37.8 +3.0
TRAV 8.98 11 P Pn 19 46 30.7 -4.3
RSL Roselend 9.02 6 P Pn 19 46 36.3 +0.8
MDT Midelt 9.05 247 Pn **Pn 19 46 34.7 -1.1**
comp=Z,0.8nm,0.3s,baz=72,slow=17,SNR=31
MDT Sn Sn 19 48 16.2 -1.6
baz=108,slow=19,SNR=1.6
MDT Midelt 9.05 247 *e*Pn **Pn 19 46 35.3 -0.6**
RJF Les Rejaudoux 9.05 343 *e*Pn **Pn 19 46 35.7 -0.2**
SNR=1.0
RJF *e*Sn Sn 19 48 13.0 -4.9
comp=Z,24nm,0.4s,SNR=1.0
RJF *e*R
comp=Z,6μm,16.2s
RJF Les Rejaudoux 9.05 343 *e*Pn **Pn 19 46 35.7 -0.2**
SNR=1.0
RJF *e*Sn Sn 19 48 13.0 -4.9
comp=Z,12nm,0.4s,SNR=1.0
ORX Oropa 9.14 12 P Pn 19 46 32.9 -4.2
PYM Petit Puy Mans 9.20 350 P Pn 19 46 37.2 -0.7
MIF Mishlifen 9.26 252 *e*P **Pn 19 46 47.0 +8.3**
CZD Col de Zad 9.27 250 *e*P **Pn 19 46 50.0 +11**
SFS San Fernando 9.28 272 *e*P **Pn 19 46 31.0 -8.0**
SFS *e*S Sn 19 48 10.7 -13
PLDF La Plantade 9.34 353 P Pn 19 46 38.5 -1.4
ELAN Lanestosa 9.36 317 P Pn 19 46 41.3 +1.2
comp=Z,19nm,0.3s,SNR=36
ELAN S Sn 19 48 21.4 -3.9
comp=Z,9.1nm,0.4s,SNR=7.9
ELAN Lanestosa 9.36 317 P Pn 19 46 41.3 +1.2
comp=Z,19nm,0.3s,SNR=36
ELAN S Sn 19 48 21.4 -3.9
comp=Z,9.1nm,0.4s,SNR=7.9
TIP Timpagrande 9.36 71 *e*P **Pn 19 46 38.7 -1.5**
AGO Saint Agoulin 9.48 351 P Pn 19 46 41.0 -0.8
EMIN Mina Concepcio 9.62 280 P Pn 19 46 43.8 0.0
comp=Z,0.6nm,0.2s,SNR=11
EMIN S Sn 19 48 29.6 -2.4
comp=Z,2.4nm,0.5s,SNR=7.9
EMIN Mina Concepcio 9.62 280 P Pn 19 46 43.8 0.0
comp=Z,0.6nm,0.2s,SNR=11
EMIN S Sn 19 48 29.6 -2.3
comp=Z,2.4nm,0.5s,SNR=7.9
TCF Toulx Ste Croi 9.85 347 *e*Pn **Pn 19 46 46.9 0.0**
SNR=1.0
TCF *e*Sn Sn 19 48 31.2 -6.3
comp=Z,105nm,1.1s
TCF Toulx Ste Croi 9.85 347 *e*Pn **Pn 19 46 46.9 0.0**
SNR=1.0
TCF *e*Sn Sn 19 48 31.2 -6.3
comp=Z,53nm,1.1s
CABF La Chapelle 9.91 3 *e*Pn **Pn 19 46 46.8 -0.9**
SNR=1.0
CABF *e*Sn Sn 19 48 31.3 -7.6
comp=Z,123nm,1.1s
CABF La Chapelle 9.91 3 *e*Pn **Pn 19 46 46.8 -0.9**
SNR=1.0
CABF *e*Sn Sn 19 48 31.3 -7.6
comp=Z,62nm,1.1s
EBAD Badajoz 9.98 286 P Pn 19 46 49.4 +0.7
comp=Z,1.4nm,0.3s,SNR=8.8
EBAD S Sn 19 48 37.1 -3.7
comp=Z,2.7nm,0.4s,SNR=7.9
EBAD Badajoz 9.98 286 P Pn 19 46 49.4 +0.7
comp=Z,1.4nm,0.3s,SNR=8.8
EBAD S Sn 19 48 37.1 -3.7
comp=Z,2.7nm,0.4s,SNR=7.9
SMF Signal de Mont 9.99 354 *e*Pn **Pn 19 46 47.9 -0.9**
SNR=1.0
SMF *e*Sn Sn 19 48 33.1 -7.8
comp=Z,100nm,1.1s
SMF Signal de Mont 9.99 354 *e*Pn **Pn 19 46 47.9 -0.9**
SNR=1.0
SMF *e*Sn Sn 19 48 33.1 -7.8
comp=Z,50nm,1.1s
BGF Bois d'Agland 10.01 350 *e*Pn **Pn 19 46 48.3 -0.8**
SNR=1.0
BGF *e*Sn Sn 19 48 33.1 -8.4
comp=Z,24nm,0.4s,SNR=1.0
BGF Bois d'Agland 10.01 350 *e*Pn **Pn 19 46 48.3 -0.8**
SNR=1.0
BGF *e*Sn Sn 19 48 33.1 -8.4
comp=Z,12nm,0.4s,SNR=1.0
AVF Avril sur Loir 10.18 352 *e*Pn **Pn 19 46 50.4 -1.0**
SNR=1.0
AVF *e*Sn Sn 19 48 38.1 -7.5
comp=Z,28nm,0.9s,SNR=1.0
AVF Avril sur Loir 10.18 352 *e*Pn **Pn 19 46 50.4 -1.0**
SNR=1.0
AVF *e*Sn Sn 19 48 38.1 -7.5
comp=Z,14nm,0.9s,SNR=1.0
TUE Stuetta 10.21 16 P Pn 19 46 54.4 +2.7
EGRO El Granado 10.26 278 P Pn 19 46 52.7 +0.2
comp=Z,3.2nm,0.5s,SNR=11
EGRO S Sn 19 48 43.7 -3.9
comp=Z,1.6nm,0.3s,SNR=7.9
EGRO El Granado 10.26 278 P Pn 19 46 52.7 +0.2
comp=Z,3.2nm,0.5s,SNR=11
EGRO S Sn 19 48 43.7 -3.9
comp=Z,1.6nm,0.3s,SNR=7.9
EARI Arriondas 10.42 312 P Pn 19 46 56.1 +1.5
comp=Z,38nm,0.5s,SNR=47
EARI S Sn 19 48 45.9 -5.4
comp=Z,2.1nm,0.5s,SNR=7.9
EARI Arriondas 10.42 312 P Pn 19 46 56.1 +1.5
comp=Z,38nm,0.5s,SNR=47
EARI S Sn 19 48 45.9 -5.5
comp=Z,2.1nm,0.5s,SNR=7.9
SSF Saint Saulge 10.43 353 *e*Pn **Pn 19 46 54.4 -0.4**
SNR=1.0
SSF *e*Sn Sn 19 48 43.9 -7.9
comp=Z,52nm,1.1s
SSF Saint Saulge 10.43 353 *e*Pn **Pn 19 46 54.4 -0.4**
SNR=1.0
SSF *e*Sn Sn 19 48 43.9 -7.9
comp=Z,26nm,1.1s
PCBR Castelo Branco 10.54 291 *e*P **Pn 19 46 57.7 +1.4**
comp=Z,66nm,1.7s
PCBR Castelo Branco 10.54 291 *e*P **Pn 19 46 57.6 +1.3**
PBEJ Beja 10.58 281 *e*P **Pn 19 46 56.7 -0.2**
comp=Z,40nm,1.9s
PBEJ Beja 10.58 281 *e*P **Pn 19 46 57.7 +0.8**
LOR Lormes 10.61 355 *e*Pn **Pn 19 46 56.8 -0.4**
baz=183,SNR=1.0
LOR *e*Sn Sn 19 48 48.0 -8.0
comp=Z,78nm,1.0s
LOR *e*R
comp=Z,2μm,17.2s
LOR Lormes 10.61 355 *e*Pn **Pn 19 46 56.8 -0.4**
SNR=1.0
LOR *e*Sn Sn 19 48 48.0 -8.0
comp=Z,39nm,1.0s
DAVOX Davos 10.62 17 Pn **Pn 19 47 00.8 +3.4**
comp=Z,1.7nm,0.3s,baz=211,slow=8.8,SNR=12
DAVOX Sn Sn 19 48 56.2 -0.2
comp=Z,0.4nm,0.3s,baz=176,slow=19,SNR=2.2
DAVOX LR LR 19 50 55.8
comp=Z,3μm,19.2s,baz=207,slow=37
PBRG Braganca 10.64 302 *e*P **Pn 19 46 59.3 +1.6**
PBRG Braganca 10.64 302 *e*P **Pn 19 46 59.2 +1.5**
NVLJ Novalja 10.68 40 P Pn 19 46 59.4 +1.2
LOMF Lomont 10.69 6 P Pn 19 46 58.2 -0.2
MFF Saint Martin d 10.69 339 *e*Pn **Pn 19 46 58.7 +0.3**
SNR=1.0
MFF *e*Sn Sn 19 48 52.0 -6.2
comp=Z,31nm,0.6s
MFF Saint Martin d 10.69 339 *e*Pn **Pn 19 46 58.7 +0.3**
SNR=1.0
MFF *e*Sn Sn 19 48 52.0 -6.2
comp=Z,16nm,0.6s
ECAL Calabor 10.70 303 P Pn 19 46 59.9 +1.4
comp=Z,26nm,0.4s,SNR=45
ECAL Calabor 10.70 303 P Pn 19 46 59.9 +1.4
comp=Z,26nm,0.4s
MTE Manteigas 10.73 294 *e*P **Pn 19 47 00.1 +1.2**
MTE *e*LR LR 19 49 29.8
comp=Z,9μm,16.5s
MTE Manteigas 10.73 294 *e*P **Pn 19 46 59.7 +0.9**
comp=Z,65nm,1.3s
PVIS Viseu 11.07 295 *e*P **Pn 19 47 05.5 +1.9**
PVIS Viseu 11.07 295 *e*P **Pn 19 47 05.4 +1.8**
DAVA Damuels 11.10 16 ⇑*i*P **Pn 19 47 07.1 +3.2**
comp=Z,59nm,1.3s
DAVA Damuels 11.10 16 ⇓*i*P **Pn 19 47 07.1 +3.1**
PVRL Vila Real 11.12 298 *e*P **Pn 19 47 05.4 +1.1**
comp=Z,44nm,1.0s
HINF Hinteralfeld 11.16 5 *e*Pn **Pn 19 47 03.3 -1.5**
SNR=1.0
HINF *e*Sn Sn 19 49 00.5 -9.0
comp=Z,72nm,1.2s
HINF Hinteralfeld 11.16 5 *e*Pn **Pn 19 47 03.3 -1.5**
SNR=1.0
HINF *e*Sn Sn 19 49 00.5 -9.0
comp=Z,36nm,1.2s
ERUA La Rua 11.17 304 P Pn 19 47 06.7 +1.8
comp=Z,16nm,0.4s,SNR=14
ERUA La Rua 11.17 304 P Pn 19 47 06.7 +1.8
ERUA pmax pmax
comp=Z,16nm,0.4s
MOF Molkenrain 11.21 6 P Pn 19 47 04.8 -0.7
HAU Haudompre 11.31 4 *e*Pn **Pn 19 47 05.8 -1.1**
SNR=1.0

HAU *e*Sn **Sn** **19 49 04.7 -8.7**
comp=Z,18nm,0.5s,SNR=1.0
HAU *e*R
comp=Z,5μm,15.5s
HAU Haudompre 11.31 4 *e*Pn **Pn** **19 47 05.8 -1.1**
SNR=1.0
HAU *e*Sn **Sn** **19 49 04.7 -8.7**
comp=Z,8.9nm,0.5s,SNR=1.0
VOY Vojsko 11.31 32 *e*P **Pn** **19 47 06.8 -0.1**
VOY *e* 19 47 09.2
VOY *e* 19 47 20.3
VOY *e* 19 47 40.8
STON Ston 11.33 53 *i* P **Pn** **19 47 06.3 -0.8**
SQTA Sankt Quirin 11.38 21⇓*i*P **Pn** **19 47 12.4 +4.7**
comp=Z,88nm,1.5s,SNR=14
SQTA Sankt Quirin 11.38 21⇑*i*P **Pn** **19 47 12.4 +4.7**
MOTA Moosalm 11.46 20⇑*i*P **Pn** **19 47 12.9 +4.0**
comp=Z,84nm,1.6s,SNR=6.3
SFTF Sexfontaines 11.49 359 *e*Pn **Pn** **19 47 08.1 -1.2**
baz=172
SFTF *e*Sn **Sn** **19 49 09.4 -8.3**
comp=Z,62nm,0.9s
SFTF Sexfontaines 11.49 359 *e*Pn **Pn** **19 47 08.1 -1.2**
SFTF *e*Sn **Sn** **19 49 09.4 -8.3**
comp=Z,31nm,0.9s
THEF They Montfort 11.52 2 P **Pn** **19 47 08.8 -0.9**
BOJS Bojanci 11.54 37 *e*P **Pn** **19 47 10.8 +0.8**
BOJS *e* 19 47 24.3
WTTA Wattenberg 11.54 22⇑*i*P **Pn** **19 47 14.3 +4.4**
comp=Z,50nm,1.2s,SNR=8.2
WTTA Wattenberg 11.54 22⇑*i*P **Pn** **19 47 14.3 +4.3**
VISS Visnje 11.56 35 *e*P **Pn** **19 47 11.4 +1.1**
VISS *e* 19 47 14.4
VISS *i* 19 47 26.9
ELOB Lobios 11.58 301 P **Pn** **19 47 11.7 +1.2**
comp=Z,2.7nm,0.3s,SNR=8.7
ELOB Lobios 11.58 301 P **Pn** **19 47 11.7 +1.2**
comp=Z,2.7nm,0.3s
ECH Echery 11.58 6 P **Pn** **19 47 10.3 -0.2**
GORS Gorjuse 11.58 31 *e*P **Pn** **19 47 12.4 +1.8**
WATA Walderalm 11.59 22⇑*i*P **Pn** **19 47 14.0 +3.3**
comp=Z,69nm,1.5s,SNR=7.9
LJU Ljubljana 11.60 34 *e*P **Pn** **19 47 13.0 +2.2**
LJU *e* 19 47 17.2
EPON Pontenova 11.62 308 P **Pn** **19 47 13.1 +2.0**
comp=Z,2.3nm,0.3s,SNR=9.9
HCY Herceg Novi 11.66 57 *e*P **Pn** **19 47 12.0 +0.3**
TREB Trebinje 11.68 55 P **Pn** **19 47 12.0 0.0**
KEK Kerkira 11.78 71 P **Pn** **19 47 15.3 +2.1**
CDF Champ du Feu 11.78 6 *e*Pn **Pn** **19 47 11.8 -1.5**
SNR=1.0
CDF *e*Sn **Sn** **19 49 16.8 -8.1**
comp=Z,23nm,0.8s,SNR=1.0
CDF Champ du Feu 11.78 6 *e*Pn **Pn** **19 47 11.8 -1.5**
SNR=1.0
CDF *e*Sn **Sn** **19 49 16.8 -8.1**
comp=Z,11nm,0.8s,SNR=1.0
MEZF Maizieres J'vi 11.79 359 *e*Pn **Pn** **19 47 12.0 -1.4**
baz=172
WLS Welschbruch 11.79 7 P **Pn** **19 47 13.5 +0.1**
BFO Black Forest 11.82 10 Pn **Pn** **19 47 13.3 -0.5**
comp=Z,93nm,0.4s,SNR=8.9
BFO Black Forest 11.82 10 *e*P **Pn** **19 47 14.3 +0.5**
CRES Cresnjev 11.87 37 P **Pn** **19 47 16.0 +1.5**
BUM Brajici-Budva 11.88 58⇑*i*P **Pn** **19 47 15.3 +0.7**
BRY Bratogost 11.89 55⇑*i*P **Pn** **19 47 15.1 +0.2**
RFYF Reffroy 11.91 0 *e*Pn **Pn** **19 47 13.1 -2.0**
KBA Koelnbreinsper 11.95 27⇑*i*P **Pn** **19 47 18.0 +2.4**
comp=Z,79nm,1.2s,SNR=23
OBKA Obir 11.97 32⇑*i*P **Pn** **19 47 20.1 +4.2**
comp=Z,58nm,1.3s
OBKA Obir 11.97 32⇑*i*P **Pn** **19 47 20.1 +4.2**
ULC Ulcinj 11.99 60⇑*i*P **Pn** **19 47 16.1 0.0**
SISC Sisak 12.08 40 *i* (P) **Pn** **19 47 10.2 -7.2**
EZAM Zamans 12.12 301 P **Pn** **19 47 17.3 -0.7**
comp=Z,2.4nm,0.3s,SNR=4.0
EZAM Zamans 12.12 301 P **Pn** **19 47 17.3 -0.6**
EZAM pmax pmax
comp=Z,2.0nm,0.3s
EZAM Zamans 12.12 301 P **Pn** **19 47 17.2 -0.7**
comp=Z,2.4nm,0.3s
IGT Igoumenitsa 12.15 72 *e*P **Pn** **19 47 17.2 -1.2**
NKY Niksic 12.15 56⇑*i*P **Pn** **19 47 18.8 +0.3**
TTG Podgorica 12.17 58⇑*i*P **Pn** **19 47 18.7 +0.1**
TIR Tirane 12.22 63 *e*P **Pn** **19 47 18.3 -1.0**
TIR Tirane 12.22 63 P **Pn** **19 47 21.5 +2.2**
VLS Valsamata 12.22 79 *e*P **Pn** **19 47 19.0 -0.4**
FUR Furstenfeldbru 12.26 19 *e*P **Pn** **19 47 22.9 +3.1**
UPM Unac-Piva 12.27 54⇑*i*P **Pn** **19 47 20.4 +0.4**
STU Stuttgart 12.38 12 *e*P **Pn** **19 47 24.1 +2.6**
STU pmax pmax
comp=Z,56nm,1.2s
STU Stuttgart 12.38 12 *e*P **Pn** **19 47 24.1 +2.6**
comp=Z,56nm,1.2s
STU Stuttgart 12.38 12 *e*P **Pn** **19 47 24.1 +2.6**
comp=Z,56nm,1.2s
GRR Gorron 12.52 341 *e*Pn **Pn** **19 47 23.2 -0.2**
LDF La Druitiere 12.53 343 *e*Pn **Pn** **19 47 23.9 +0.4**
SNR=1.0
JAN Janina 12.57 72 *e*P **Pn** **19 47 25.0 +1.0**
EMAZ Mazaricos 12.63 304 P **Pn** **19 47 26.2 +1.3**
comp=Z,3.0nm,0.4s,SNR=5.0
PLE Pljevlja 12.64 54⇑*i*P **Pn** **19 47 26.2 +1.2**
KOGS Kog 12.70 37 P **Pn** **19 47 25.9 +0.1**
PVY Plav 12.72 58⇑*i*P **Pn** **19 47 26.6 +0.4**
FLN La Foliniere 12.77 342 *e*Pn **Pn** **19 47 26.7 -0.2**
baz=158
FLN *e*Sn **Sn** **19 49 42.0 -7.1**
comp=Z,53nm,1.0s
FLN *e*R
comp=Z,3μm,15.8s
FLN La Foliniere 12.77 342 *e*Pn **Pn** **19 47 26.7 -0.2**
FLN *e*Sn **Sn** **19 49 42.0 -7.1**
comp=Z,26nm,1.0s
IVA Berane 12.78 57⇑*i*P **Pn** **19 47 27.5 +0.6**
OHR Ohrid 12.83 65 *e*P **Pn** **19 47 27.1 -0.5**
QUIF Quistinic 12.83 333 *e*Pn **Pn** **19 47 27.4 -0.2**
SNR=1.0
SGMF Saint Gilles 12.91 336 *e*Pn **Pn** **19 47 28.9 +0.2**
SNR=1.0
MOA Molln 12.94 28⇓*i*P **Pn** **19 47 29.6 +0.5**
comp=Z,105nm,1.7s,SNR=9.4
WLF Walferdange 12.96 2 *e*P **Pn** **19 47 29.7 +0.3**
WLF Walferdange 12.96 2 PN **Pn** **19 47 29.8 +0.3**
comp=Z,7.7nm,1.0s
WLF PNPN 19 47 39.4
WLF AP 19 47 44.6
WLF XP 19 47 48.9
WLF PBPB 19 48 07.1
WLF PGPG 19 48 31.4
WLF SN **Sn** **19 49 48.9 -4.8**
WLF Walferdange 12.96 2 *e*P **Pn** **19 47 27.9 -1.5**
WLF pmax pmax
comp=Z,48nm,0.8s
WLF Walferdange 12.96 2 *e*P **Pn** **19 47 27.9 -1.5**
comp=Z,48nm,0.8s
WLF Walferdange 12.96 2 *e*P **Pn** **19 47 27.9 -1.5**
comp=Z,48nm,0.8s
ARSA Arzberg 12.97 33⇑*i*P **Pn** **19 47 31.2 +1.7**
comp=Z,59nm,1.3s,SNR=6.4
ARSA Arzberg 12.97 33⇑*i*P **Pn** **19 47 31.2 +1.7**
FNA Florina 13.17 67 *e*P **Pn** **19 47 32.9 +0.6**
BIA Bitola 13.19 66 *e*P **Pn** **19 47 31.9 -0.6**
EVR Evrytania 13.22 75 *e*P **Pn** **19 47 33.7 +0.7**
ROSF Rostrenen 13.22 334 *e*Pn **Pn** **19 47 32.9 -0.1**
SNR=1.0
ROSF *e*Sn **Sn** **19 49 53.1 -7.0**
comp=Z,10nm,0.6s,SNR=1.0
ROSF Rostrenen 13.22 334 *e*Pn **Pn** **19 47 32.9 -0.1**
SNR=1.0
ROSF *e*Sn **Sn** **19 49 53.1 -7.0**
comp=Z,5.2nm,0.6s,SNR=1.0
ITM Ithomi 13.29 83 *e*P **Pn** **19 47 33.0 -1.0**
BAIF Baives 13.37 357 *e*Pn **Pn** **19 47 34.9 -0.1**
SNR=1.0
RHK1 Bakonya 13.38 42 *e*P **Pn** **19 47 28.6 -6.6**
DIVS Divcibare 13.38 52⇓*i*P **Pn** **19 47 33.7 -1.5**
DIVS Divcibare 13.38 52 *e*P **Pn** **19 47 35.9 +0.7**
DOU Dourbes 13.39 358 P **Pn** **19 47 34.6 -0.7**
comp=Z,21nm,0.5s
DOU PN **Pn** **19 47 36.8 +1.5**
DOU APN 19 47 38.9
DOU XPN 19 47 40.6
DOU PBPB 19 48 23.2
DOU PGPG 19 48 41.9
GIVF Givet 13.39 359 *e*Pn **Pn** **19 47 34.8 -0.5**
SNR=1.0
SKO Skopje 13.53 62 *e*P **Pn** **19 47 37.3 +0.1**
GEC2 GERESS Array S 13.59 24 *e*P **Pn** **19 47 38.4 +0.4**
GERES GERESS Array B 13.59 24 Pn **Pn** **19 47 37.9 -0.1**
comp=Z,0.4nm,0.3s,baz=198,slow=12,SNR=22
GERES Sn **Sn** **19 50 05.6 -3.4**
comp=Z,0.1nm,0.3s,baz=199,slow=20,SNR=2.2
GERES LR LR 19 52 54.6
comp=Z,3μm,19.0s,baz=217,slow=37
GERES GERESS Array B 13.59 24 P **Pn** **19 47 37.9 -0.1**
GERES S **Sn** **19 50 05.6 -3.4**
WET Wettzell 13.59 22 *e*P **Pn** **19 47 39.3 +1.2**
AGG Agios Georgios 13.64 75 *e*P **Pn** **19 47 38.8 +0.2**
GRA1 Grafenberg Arr 13.66 16 *e*P **Pn** **19 47 41.1 +2.1**
GRF Grafenberg Arr 13.66 16 *e*P **Pn** **19 47 41.1 +2.1**
GRF *e*L 19 52 00.5
comp=Z,549nm,18.9s
TNS Taunus Mts 13.70 9 *e*P **Pn** **19 47 40.4 +1.0**
PKSM Moragy 13.76 42 *e*P **Pn** **19 47 42.1 +1.8**
KHC Kasperske Hory 13.80 23 *e*P **Pn** **19 47 41.3 +0.5**
KHC x x 19 47 48.5
KHC AMS AMS 19 53 40.0
comp=Z,5μm,14.2s
KHC Kasperske Hory 13.80 23 *e*P **Pn** **19 47 41.3 +0.5**
KHC *e* 19 47 48.5
SNF Seneffe 13.81 357 PN **Pn** **19 47 41.7 +0.6**
comp=Z,19nm,0.5s
SNF PNPN 19 47 49.8
SNF E 19 48 05.3
SNF PBPB 19 48 18.4
SNF PGPG 19 48 32.6
LIT Litokhoron 13.88 71 *e*P **Pn** **19 47 40.7 -1.3**
MEM Membach 13.90 2 PN **Pn** **19 47 42.5 +0.2**
comp=Z,11nm,0.6s
MEM PNPN 19 47 51.1
MEM E 19 47 57.5
MEM E 19 48 05.9
MEM E 19 48 16.1
MEM PBPB 19 48 30.6
MEM PGPG 19 48 39.0
MEM SN **Sn** **19 50 12.5 -4.2**
MEM XSN 19 50 16.3
MEM SNSN 19 50 27.6
MEM E 19 51 06.1
GRG Griva 13.97 67 *e*P **Pn** **19 47 42.4 -0.8**
ROTZ Rotzenmuhle 13.97 19 *e*P **Pn** **19 47 45.8 +2.6**
HGN Heimansgroeve 14.06 2 *e*P **Pn** **19 47 45.2 +0.9**
comp=Z,16nm,0.7s
HGN *e*x x 19 48 31.0
HGN *e*S **Sn** **19 50 31.1 +11**
VLI Veliai 14.13 85 *e*P **Pn** **19 47 48.0 +2.6**
MANZ Manzenberg 14.15 18 *e*P **Pn** **19 47 47.4 +1.8**
VAY Valandovo 14.17 66 *e*P **Pn** **19 47 43.8 -2.2**
KYTH Kithira 14.26 86 *e*P **Pn** **19 47 57.5 +10**
THE Thessaloniki 14.33 69 *e*P **Pn** **19 47 46.9 -1.2**
MGER Gerania Oros 14.33 80 *e*P **Pn** **19 47 50.0 +1.9**
XOR Xorichti 14.33 74 *e*P **Pn** **19 47 47.3 -0.9**
NEO Neokhori 14.35 74 *e*P **Pn** **19 47 48.7 +0.3**
ZST Bratislava 14.38 33 *e*PN **Pn** **19 47 52.9 +4.1**
ZST *e* 19 47 57.9
KNT Kendrikon 14.38 67 *e*P **Pn** **19 47 47.8 -0.9**
NKC Novy Kostel 14.46 19 *e*P **Pn** **19 47 50.8 +0.9**
NKC *e*pP pP 19 47 58.6 -1.0
NKC AMS AMS 19 54 10.0
comp=Z,3μm,13.8s
NKC Novy Kostel 14.46 19 *e*P **Pn** **19 47 50.8 +0.9**
NKC *e* 19 47 58.6
UBBA Unterbreizbach 14.50 12 *e*P **Pn** **19 47 53.6 +3.2**
BOLS Boljevac 14.54 56⇓*i*P **Pn** **19 47 50.8 -0.2**
PKS7 Kunszentmiklos 14.57 41 *e*P **Pn** **19 48 02.2 +11**
WERD Werda 14.62 18 *e*P **Pn** **19 47 55.0 +2.9**
MOX Moxa 14.65 16 *e*P **Pn** **19 47 54.8 +2.4**
MOX Moxa 14.65 16 *e*P **Pn** **19 47 54.9 +2.5**
comp=Z,54nm,1.4s
MOX
comp=Z,3μm,18.0s
PLG Polygyros 14.65 70 *e*P **Pn** **19 47 52.0 -0.4**
SOH Sokhos 14.65 68 *e*P **Pn** **19 47 52.2 -0.2**
SOH Sokhos 14.65 68 *e*P **Pn** **19 47 52.2 -0.3**
KKB Krupnik 14.68 64 *i* P **Pn** **19 47 53.0 +0.1**
MPAR Parnis Oros 14.70 79 *e*P **Pn** **19 47 52.0 -1.2**
KVR Kavouri 14.73 80 *e*P **Pn** **19 47 57.0 +3.4**
KRUC Moravsky 14.75 30 P **Pn** **19 47 53.7 -0.2**
SMOL Smolenice 14.76 33 *e*P **Pn** **19 47 58.8 +4.8**
SMOL *e* 19 48 03.8
PAIG Paliouri 14.76 72 *e*P **Pn** **19 47 52.6 -1.4**
BUG Bochum--Univer 14.79 5 *e*P **Pn** **19 47 53.9 -0.5**
PTL Penteli 14.81 79 *e*P **Pn** **19 47 52.2 -2.4**
AOS Alonnisos 14.85 75 *e*P **Pn** **19 48 06.2 +11**
PRU Pruhonice 14.85 24 *e*P **Pn** **19 47 55.0 -0.2**
PRU AMS AMS 19 53 00.0
comp=Z,2μm,19.0s
SRS Serrai 14.88 67 *e*P **Pn** **19 47 55.0 -0.7**
VTS Vitosha 14.97 61 P **Pn** **19 47 58.0 +1.2**
VTS Vitosha 14.97 61 *e*P **Pn** **19 47 56.1 -0.7**
VRAC Vranov 15.03 30 Pn **Pn** **19 47 57.9 +0.3**
comp=Z,0.3nm,0.3s,baz=227,slow=13,SNR=7.5
VRAC Sn **Sn** **19 50 46.1 +2.0**
comp=Z,0.1nm,0.3s,baz=153,slow=3.2,SNR=2.0
VRAC LR LR 19 53 49.7
comp=Z,3μm,20.8s,baz=211,slow=38
VRAC Vranov 15.03 30 *e*P **Pn** **19 47 58.3 +0.7**
VRAC S **Sn** **19 50 46.1 +2.0**
VRAC Vranov 15.03 30⇑P **Pn** **19 47 58.5 +0.9**
OUR Ouranopolis 15.05 70 *e*P **Pn** **19 47 56.3 -1.5**
MMB Musomiste 15.08 66 P **Pn** **19 47 59.3 +1.0**
BZS Buzias 15.14 49⇑P **Pn** **19 47 59.5 +0.5**
BZS Buzias 15.14 49 P **Pn** **19 48 01.3 +2.3**
BZS Buzias 15.14 49 P **Pn** **19 48 01.3 +2.2**
WTSB Winterswijk 15.29 3 *e*P **Pn** **19 48 02.2 +1.2**
VAM Vamos 15.33 89 *e*P **Pn** **19 48 06.5 +5.0**
PVCC Panska Ves 15.33 23 *e*P **Pn** **19 48 03.4 +1.8**
PVCC AMS AMS 19 54 00.0
comp=Z,1μm,15.9s
GVD Gavdhos 15.35 91 *e*P **Pn** **19 48 05.5 +3.7**
comp=Z,117nm,1.0s
VYHS Vyhne 15.39 36 *e*PN **Pn** **19 48 04.0 +1.6**
BRG Berggiesshubel 15.45 21 *e*P **Pn** **19 48 04.1 +0.9**
BRG Berggiesshubel 15.45 21 *e*P **Pn** **19 48 04.7 +1.6**
comp=Z,23nm,1.5s
BRG
comp=N,2μm,11.6s
BRG
comp=E,2μm,10.3s
BRG
comp=Z,1μm,10.7s
PSZ Piszkesteto 15.51 39⇓*e*P **Pn** **19 48 07.4 +3.4**
CLZ Clausthal 15.55 12 *e*P **Pn** **19 48 06.5 +2.0**
CLL Collm 15.59 18 *e*P **Pn** **19 48 06.3 +1.3**
comp=Z,54nm,1.2s
CLL Collm 15.59 18 *i* P **Pn** **19 48 05.9 +0.9**
comp=Z,32nm,1.4s
CLL *i* (sP) sP 19 48 11.3 -2.1
CLL *i* PP 19 48 21.7
comp=Z,54nm,1.2s
CLL *e*S **Sn** **19 50 59.0 +1.2**
CLL *e*SS 19 51 21.0
CLL Collm 15.59 18 *i* P **Pn** **19 48 05.9 +0.9**
CLL S **Sn** **19 50 59.0 +1.2**
CLL pmax pmax
comp=Z,32nm,1.4s
CLL Collm 15.59 18 *i* P **Pn** **19 48 05.9 +0.9**
comp=Z,32nm,1.4s
CLL *i* 19 48 11.3
CLL *i* 19 48 21.7
CLL S **Sn** **19 50 59.0 +1.2**
PGB Panagyurishte 15.64 62 P **Pn** **19 48 06.0 +0.4**
DPC Dobruska-Polom 15.77 27 *e*P **Pn** **19 48 06.0 -1.3**
DPC AMS AMS 19 55 40.0
comp=Z,3μm,14.4s
MORC Moravsky Berou 15.78 30 *e*P **Pn** **19 48 08.9 +1.5**
MORC pmax pmax
comp=Z,170nm,1.6s
MORC Moravsky Berou 15.78 30 *e*P **Pn** **19 48 08.9 +1.5**
comp=Z,170nm,1.6s
MORC Moravsky Berou 15.78 30 *e*P **Pn** **19 48 08.9 +1.4**
comp=Z,170nm,1.6s
UPC Upice 15.79 26 *e*P **Pn** **19 48 08.2 +0.6**
UPC *e*pP pP 19 48 15.3 +1.0
RZN Rozhen 15.83 66 *i* P **Pn** **19 48 08.7 +0.6**
IDI Anoyia 15.90 89 Pn **Pn** **19 48 08.9 -0.2**
comp=Z,0.3nm,0.3s,baz=290,slow=10,SNR=8.1
IDI Sn **Sn** **19 51 07.0 +1.6**
comp=Z,0.1nm,0.3s,baz=317,slow=19,SNR=2.0
HGH Gray Hill 16.01 341 *e*P **Pn** **19 48 13.3 +2.9**
HGH AMb AMB 19 48 23.8
comp=Z,90nm,1.5s
HGH Gray Hill 16.01 341 *e*P **Pn** **19 48 13.3 +2.9**
HGH AMb AMB 19 48 23.8
comp=Z,90nm,1.5s
OKC Ostrava-Krasne 16.07 31 *e*P **Pn** **19 48 12.6 +1.3**
KSP Ksiaz 16.17 26 *e*P **Pn** **19 48 13.9 +1.4**
KSP *e*pP pP 19 48 18.8 +0.3
KSP *e*sP sP 19 48 26.2 +6.4
KSP Ksiaz 16.17 26 *e*P **Pn** **19 48 13.4 +0.9**
KSP *e*pP pP 19 48 17.9 -0.6
KSP *e*S **Sn** **19 51 15.0 +3.1**
APE Apeiranthos 16.18 83 *e*P **Pn** **19 48 11.5 -1.1**
APE Apeiranthos 16.18 83 *e*P **Pn** **19 48 12.6 0.0**
APE Apeiranthos 16.18 83⇑P **Pn** **19 48 11.1 -1.5**
KECS Kecovo 16.18 39 *e*PN **Pn** **19 48 14.1 +1.4**
SANT Santorini 16.19 85 *e*P **Pn** **19 48 12.1 -0.6**
comp=Z,948nm,1.3s
RAC Raciborz 16.28 31 *e*P **Pn** **19 48 15.3 +1.4**
RAC *e*S **Sn** **19 51 24.2 +10**
RDO Rodhopi 16.34 68 *e*P **Pn** **19 48 14.5 -0.1**
MCH1 Michaelchurch 16.38 342 *e*P **Pn** **19 48 17.6 +2.3**
MCH1 AMb AMB 19 48 22.7
comp=Z,44nm,2.4s
MCH1 Michaelchurch 16.38 342 *e*P **Pn** **19 48 17.6 +2.3**
MCH1 AMb AMB 19 48 22.7
comp=Z,44nm,2.4s
DRGR 16.39 47 P **Pn** **19 48 17.0 +1.6**
DRGR 16.39 47 P **Pn** **19 48 17.0 +1.6**
NPS Neapolis 16.49 89 *e*P **Pn** **19 48 20.1 +3.5**
HTR Trewern Hill 16.53 341 *e*P **Pn** **19 48 19.0 +2.0**
HTR AMb AMB 19 48 22.5
comp=Z,4.4nm,1.4s
HTR Trewern Hill 16.53 341 *e*P **Pn** **19 48 19.0 +2.0**
HTR AMb AMB 19 48 22.5
comp=Z,4.4nm,1.4s
NIE Niedzica 16.73 36 *e*P **Pn** **19 48 25.8 +6.1**
EZN Ezine 16.78 73 *e*P **Pn** **19 48 15.0 -5.3**
CRVS Cervenica-Dubn 16.95 39 *e* **Pn** **19 48 27.8 +5.4**
KWE Weaver Farm 17.06 345 *e*P **Pn** **19 48 25.3 +1.4**
KWE Weaver Farm 17.06 345 *e*P **Pn** **19 48 25.3 +1.4**
OJC Ojcow 17.07 33 *e*P **Pn** **19 48 25.1 +1.2**
OJC *e*S **Sn** **19 51 48.5 +15**
OJC L 19 55 06.9
comp=Z,13nm,19.2s
OJC Ojcow 17.07 33 *e*P **Pn** **19 48 25.1 +1.2**
OJC *e*S **Sn** **19 51 48.5 +15**
SMG Samos 17.17 80 *e*P **Pn** **19 48 26.1 +0.9**
STHS Stebnicka Huta 17.18 37 *e*P **Pn** **19 48 28.5 +3.2**
UZH Uzhgorod 17.21 41 *i* P **Pn** **19 48 28.0 +2.4**
VOIR 17.21 53 P **Pn** **19 48 27.1 +1.5**
VOIR 17.21 53⇓P **Pn** **19 48 27.1 +1.4**
KBI1 Birley Grange 17.22 346 *e*P **Pn** **19 48 27.1 +1.3**
KBI1 Birley Grange 17.22 346 *e*P **Pn** **19 48 27.1 +1.3**
SBD1 Bryn Du 17.28 342 *e*P **Pn** **19 48 29.1 +2.6**
SBD1 AMb AMB 19 48 31.4
comp=Z,88nm,1.9s
SBD1 Bryn Du 17.28 342 *e*P **Pn** **19 48 29.1 +2.6**
SBD1 AMb AMB 19 48 31.4
comp=Z,88nm,1.9s
EDRB Edirne 17.35 66 *e*P **Pn** **19 48 25.1 -2.3**
JMB Yambol 17.35 64 P **Pn** **19 48 27.7 +0.3**
KOLS Kolonicke sedl 17.38 40 *i* P **Pn** **19 48 30.8 +3.0**
BUC1 Bucharest 17.46 58 P **Pn** **19 48 29.2 +0.4**
BUC1 Bucharest 17.46 58 P **Pn** **19 48 29.1 +0.3**
IZM Izmir 17.48 78 *e*P **Pn** **19 48 31.0 +2.0**
LHO Holmfirth 17.56 346 *e*P **Pn** **19 48 32.7 +2.6**
LHO Holmfirth 17.56 346 *e*P **Pn** **19 48 32.7 +2.6**
BSEG Bad Segeberg 17.57 10 *e*P **Pn** **19 48 33.2 +3.0**
comp=Z,40nm,1.1s
BODT Bodrum 17.59 82 *e*P **Pn** **19 48 28.8 -1.7**
MFT Murefte 17.60 70 *e*P **Pn** **19 48 31.2 +0.8**
MFT Murefte 17.60 70 P **Pn** **19 48 31.2 +0.7**
KARP Karpathos 17.68 87 *e*P **Pn** **19 48 32.0 +0.5**
MLR Muntele Rosu 17.81 54 P **Pn** **19 48 33.4 +0.2**
comp=Z,0.4nm,0.3s,baz=264,slow=8.7,SNR=32
MLR S **Sn** **19 51 52.8 +1.2**
comp=Z,0.1nm,0.3s,baz=279,slow=15,SNR=1.7
MLR LR LR 19 56 07.4
comp=Z,4μm,18.1s,baz=238,slow=39
MLR Muntele Rosu 17.81 54⇓P **Pn** **19 48 34.3 +1.2**
MLR Muntele Rosu 17.81 54 P **Pn** **19 48 33.4 +0.3**
comp=Z,4μm,18.2s
MLR S **Sn** **19 51 52.8 +1.2**
MLR Muntele Rosu 17.81 54 P **Pn** **19 48 34.1 +1.0**
AKS Akhisar 17.90 76 *e*P **Pn** **19 48 35.0 +0.7**
AKS Akhisar 17.90 76 P **Pn** **19 48 34.5 +0.2**
MLSB Milas 17.94 81 *e*P **Pn** **19 48 32.5 -2.3**
BALB Balikesir 17.97 74 *e*P **Pn** **19 48 34.4 -0.7**
BALB Balikesir 17.97 74 P **Pn** **19 48 34.3 -0.8**
BNT Bandirma 18.04 71 *e*P **Pn** **19 48 35.2 -0.7**
BNT Bandirma 18.04 71 P **Pn** **19 48 35.2 -0.8**
KWP Kalwaria 18.04 39 *e*P **Pn** **19 48 39.5 +3.5**
KWP *e*pP pP 19 48 42.8 +3.6
KWP L 19 56 53.4
comp=Z,4.8nm,15.3s
KWP Kalwaria 18.04 39 *e*P **Pn** **19 48 39.5 +3.5**
KWP *e*pP pP 19 48 42.8 +3.6
BURAR Bucovina Array 18.28 47⇓P **Pn** **19 48 40.1 +1.1**
VRI Vrincioaia 18.46 54⇑P **Pn** **19 48 43.3 +2.2**
VRI Vrincioaia 18.46 54 P **Pn** **19 48 41.1 0.0**
VRI Vrincioaia 18.46 54 P **Pn** **19 48 41.1 0.0**
ELBA Catalca 18.50 69 *i* P **Pn** **19 48 40.5 -1.1**
GKP Gorka Klasztor 18.54 23 *e*P **Pn** **19 48 45.6 +3.6**
GKP *e*pP pP 19 48 49.3 +4.6
GKP *e*sP sP 19 48 54.2 +8.2
GKP *e*S **Sn** **19 52 10.7 +1.5**
DST Dursunbey 18.55 74 *e*P **Pn** **19 48 42.8 +0.7**
LVV L'vov 18.83 40*c* *i*P **Pn** **19 48 45.1 -0.6**
LVV *e*S **Sn** **19 52 17.9 +1.5**
LVV MLR MLR
comp=E,1μm,13.0s
LVV MLR MLR
comp=N,3μm,15.0s
LVV MLR MLR
comp=Z,2μm,14.0s
LVV L'vov 18.83 40 *i* P **Pn** **19 48 45.1 -0.6**
LVV *e*S **Sn** **19 52 17.9 +1.5**
comp=Z,2μm,14.0s
LVV L'vov 18.83 40 *i* P **Pn** **19 48 45.0 -0.7**
ISK Istanbul-Kandi 18.96 69 *e*P **Pn** **19 48 46.6 -0.6**
ISK Istanbul-Kandi 18.96 69 P **Pn** **19 48 48.1 +0.9**
WAR Warsaw 19.08 31 *e*P **Pn** **19 48 51.3 +2.7**
WAR *e*S **Sn** **19 52 29.8 +7.4**
WAR L 19 57 37.7
comp=Z,2.8nm,15.4s
WAR Warsaw 19.08 31 *e*P **Pn** **19 48 51.3 +2.7**
WAR *e*S **Sn** **19 52 29.8 +7.4**
TIRR Tirgusor 19.13 59 *e*P **Pn** **19 48 47.5 -1.7**
TIRR Tirgusor 19.13 59 *e*P **Pn** **19 48 47.5 -1.7**
YLV Yalova 19.16 71 *e*P **Pn** **19 48 48.5 -1.1**
YLV Yalova 19.16 71 P **Pn** **19 48 48.4 -1.2**
GOLH Golhisar 19.37 81 *i* P **Pn** **19 48 52.3 +0.2**
HRT Hereke 19.40 70 *e*P **Pn** **19 48 52.8 +0.3**
EKA Eskdalemuir Ar 19.51 345 P **Pn** **19 48 51.7 -2.1**
comp=Z,0.1nm,0.3s,baz=163,slow=13,SNR=4.1
IAS Iasi 19.51 51 P **Pn** **19 48 55.2 +1.4**
IAS Iasi 19.51 51 P **Pn** **19 48 55.2 +1.4**
ALT Altintas 19.69 76 *e*P **Pn** **19 48 56.5 +0.5**
ELL Elmali 19.70 82 *e*P **Pn** **19 48 53.5 -2.5**
EBL Broad Law 19.90 346 *e*P **Pn** **19 48 59.5 +1.1**
EBL AMb AMB 19 49 04.6
comp=Z,64nm,1.7s
EBL Broad Law 19.90 346 *e*P **Pn** **19 48 59.5 +1.1**
EBL AMb AMB 19 49 04.6
comp=Z,64nm,1.7s
MUD Monsted U'grnd 19.92 6 P **Pn** **19 48 59.1 +0.4**
BORA Eskisehir 19.96 73 *i* P **Pn** **19 48 57.7 -1.4**
EAU Auchinoon 20.05 345 *e*P **P** **19 49 01.2 +2.8**
EAU AMb AMB 19 49 13.5
comp=Z,118nm,1.6s
EAU Auchinoon 20.05 345 *e*P **P** **19 49 01.2 +2.8**
EAU AMb AMB 19 49 13.5
comp=Z,118nm,1.6s
ISP Isparta 20.06 79 *e*P **P** **19 48 58.9 +0.4**
ISP Isparta 20.06 79 *e*P **P** **19 48 59.3 +0.7**
ISP pmax pmax
comp=Z,393nm,1.7s

ISP	**Isparta**	**20.06**	**79**	*e*P	**P**	**19 48 59.3**	**+0.7**
	comp=Z,393nm,1.7s						
EDI	**Edinburgh**	**20.07**	**346**	*e*P	**P**	**19 49 01.1**	**+2.5**
EDI				AMb	AMB	19 49 07.7	
	comp=Z,154nm,1.6s						
EDI	**Edinburgh**	**20.07**	**346**	*e*P	**P**	**19 49 01.1**	**+2.5**
EDI				AMb	AMB	19 49 07.7	
	comp=Z,154nm,1.6s						
BCK	**Bucak**	**20.16**	**80**	*e*P	**P**	**19 49 01.6**	**+2.0**
BCK	**Bucak**	**20.16**	**80**	P	**P**	**19 49 00.9**	**+1.3**
MDU	**Mudurnu**	**20.56**	**72**	*e*P	**P**	**19 49 04.9**	**+0.9**
KIZT	**Kizilcal**	**21.08**	**76**	*e*P	**P**	**19 49 10.6**	**+1.1**
SUW	**Suwalki**	**21.27**	**30**	*e*P	**P**	**19 49 11.9**	**+0.3**
SUW				*e*pP		19 49 17.7	
SUW				*e*sP	sP	19 49 21.6	+5.8
SUW				*e*S	**S**	**19 53 07.2**	**-0.7**
SUW				L		19 58 46.6	
	comp=Z,2.0nm,16.3s						
SUW	**Suwalki**	**21.27**	**30**	*e*P	**P**	**19 49 11.9**	**+0.3**
SUW				*e**PP		19 49 17.7	
SUW				*e*S	**S**	**19 53 07.2**	**-0.7**
SUW	**Suwalki**	**21.27**	**30**	*e*P	**P**	**19 49 11.9**	**+0.3**
SUW				*e*pP		19 49 17.7	
SUW				*e*sP	sP	19 49 21.6	+5.8
SUW				*e*S	**S**	**19 53 07.2**	**-0.7**
KDHN	**Kadinhani**	**21.28**	**77**	*i* P	**P**	**19 49 10.4**	**-1.4**
KONT	**Konya--Tatoy**	**21.51**	**79**	*e*P	**P**	**19 49 16.9**	**+2.6**
SAFT	**Safranbolu**	**21.71**	**70**	*e*P	**P**	**19 49 16.9**	**+0.5**
SAFT	**Safranbolu**	**21.71**	**70**	P	**P**	**19 49 16.8**	**+0.4**
LOD	**Lodumlu**	**21.74**	**73**	*e*P	**P**	**19 49 18.6**	**+1.9**
ANTO	**Ankara**	**21.76**	**73**	*e*P	**P**	**19 49 18.1**	**+1.2**
ANTO	**Ankara**	**21.76**	**73**	*e*P	**P**	**19 49 17.6**	**+0.7**
ANTO				pmax	pmax		
	comp=Z,234nm,1.4s,mb5.4						
ANTO	**Ankara**	**21.76**	**73**	*e*P	**P**	**19 49 17.6**	**+0.7**
	comp=Z,234nm,1.4s,mb5.4						
AKMC	**Akamas**	**21.93**	**86**	P	**P**	**19 49 18.2**	**-0.5**
KAC	**Achnashellach**	**21.97**	**345**	*e*P	**P**	**19 49 23.2**	**+4.0**
KAC	**Achnashellach**	**21.97**	**345**	*e*P	**P**	**19 49 23.2**	**+4.0**
PPCY	**Paphos**	**21.97**	**87**	P	**P**	**19 49 20.5**	**+1.3**
AKASG	**Malin Array Be**	**22.10**	**43**	P	**P**	**19 49 18.2**	**-2.4**
	comp=Z,26nm,0.9s,mb4.7,baz=240,slow=11,SNR=99						
AKASG				PcP	PcP	19 53 18.0	+0.1
	comp=Z,0.7nm,0.5s,baz=265,slow=2.5,SNR=5.7						
AKASG				S	**S**	**19 53 22.9**	**-1.3**
	comp=Z,2.2nm,1.0s,baz=235,slow=20,SNR=5.8						
AKASG	**Malin Array Be**	**22.10**	**43**	PcP	PcP	19 53 18.0	+0.1
AKASG				S	**S**	**19 53 22.9**	**-1.3**
BR131	**Keskin Array S**	**22.41**	**74**	*e*P	**P**	**19 49 24.4**	**+0.5**
	comp=Z,16nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**22.41**	**74**	P	**P**	**19 49 23.1**	**-0.7**
	comp=Z,14nm,0.8s,mb4.5,baz=267,slow=9.1,SNR=44						
BRTR				S	**S**	**19 53 29.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=254,slow=16,SNR=2.6						
SZAC	**Souni-Zanaja**	**22.43**	**87**	P	**P**	**19 49 26.0**	**+1.9**
KAMT	**Kaman**	**22.48**	**75**	*e*P	**P**	**19 49 24.2**	**-0.4**
MAMC	**Mammari**	**22.61**	**86**	P	**P**	**19 49 26.1**	**+0.1**
CSS	**Prodhromos**	**22.74**	**86**	P	**P**	**19 49 27.5**	**+0.1**
	comp=Z,2.2nm,1.1s						
IKL	**Isikli**	**22.78**	**83**	*e*P	**P**	**19 49 28.2**	**+0.4**
IKL	**Isikli**	**22.78**	**83**	P	**P**	**19 49 29.9**	**+2.1**
CDAG	**Cicekdag**	**22.98**	**74**	*i* P	**P**	**19 49 27.1**	**-2.8**
KONO	**Kongsberg**	**23.12**	**6**	*e*S	**S**	**19 53 44.6**	**+2.0**
KONO				*e*ScP	ScP	19 56 57.6	-0.3
KONO	**Kongsberg**	**23.12**	**6**	*e*P	**P**	**19 49 31.3**	**-0.1**
KONO				*e*S	**S**	**19 53 44.6**	**+2.0**
	SNR=30						
KONO				*e*ScP	ScP	19 56 57.6	-0.4
	SNR=5.0						
KONO	**Kongsberg**	**23.12**	**6**	*e*P	**P**	**19 49 30.1**	**-1.3**
	comp=Z,59nm,1.4s,mb4.8						
CORM	**Corum**	**23.17**	**72**	*e*P	**P**	**19 49 29.0**	**-2.9**
SIM	**Simferopol'**	**23.20**	**60***c*	*i*P	**P**	**19 49 32.8**	**+0.6**
SIM				*i* S	**S**	**19 53 48.5**	**+4.7**
SIM				pmax	pmax		
	comp=Z,155μm,2.7s						
SIM				MLR	MLR		
	comp=Z,700nm,13.0s,MS4.3						
SIM	**Simferopol'**	**23.20**	**60**	*i* P	**P**	**19 49 32.8**	**+0.6**
	comp=Z,55μm,2.7s						
SIM				*i* S	**S**	**19 53 48.5**	**+4.7**
	comp=Z,700nm,13.0s						
MERS	**Mersin**	**23.35**	**81**	*e*P	**P**	**19 49 34.1**	**+0.3**
MNK	**Minsk**	**23.59**	**34**	*e*P	**P**	**19 49 32.0**	**-4.2**
TORD	**Torodi Ar. Bea**	**23.69**	**189**	P	**P**	**19 49 34.5**	**-2.7**
	comp=Z,26nm,0.8s,mb4.7,baz=4.4,slow=11,SNR=57						
TORD				S	**S**	**19 53 50.9**	**-0.9**
	comp=Z,7.2nm,1.2s,baz=23,slow=10,SNR=6.3						
BER	**Bergen**	**23.69**	**0**	*e*S	**S**	**19 53 53.0**	**+1.1**
BER				*e*ScP	ScP	19 56 58.6	-0.9
BER				AMS	AMS	20 00 00.9	
	comp=Z,977nm,18.0s,MS4.3						
BER	**Bergen**	**23.69**	**0**	*e*S	**S**	**19 53 53.0**	**+1.1**
	SNR=29						
BER				*e*ScP	ScP	19 56 58.6	-0.9
	SNR=5.0						
KARA	**Karaisali**	**23.72**	**80**	*e*P	**P**	**19 49 38.3**	**+0.8**
HFS	**Hagfors**	**24.05**	**10**	P	**P**	**19 49 39.8**	**-0.7**
	comp=Z,2.4nm,0.5s,mb3.9,baz=187,slow=10,SNR=11						
HFS				S	**S**	**19 53 58.9**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=165,slow=38,SNR=2.0						
HFS				LR	LR	19 59 19.3	
	comp=Z,1μm,18.4s,MS4.4,baz=202,slow=37						
HFS	**Hagfors**	**24.05**	**10**	P	**P**	**19 49 39.8**	**-0.7**
HFS				S	**S**	**19 53 58.9**	**+1.2**
HFA0	**Hagfors New Ar**	**24.06**	**10**	P	**P**	**19 49 39.8**	**-0.7**
KRTS	**Karatas**	**24.07**	**81**	*e*P	**P**	**19 49 40.3**	**-0.4**
KOZT	**Kozan**	**24.30**	**79**	*e*P	**P**	**19 49 42.8**	**0.0**
CEYT	**Ceyhan**	**24.30**	**80**	*e*P	**P**	**19 49 41.5**	**-1.2**
NAO01	**NORSAR Array S**	**24.41**	**7**	*e*P	**P**	**19 49 44.8**	**+1.0**
	comp=Z,36nm,1.1s,mb4.7						
NB2	**NORSAR Subarra**	**24.64**	**7**	P	**P**	**19 49 46.0**	**+0.2**
	comp=Z,48nm,1.2s,mb4.9,baz=191,slow=9.3						
NB2	**NORSAR Subarra**	**24.64**	**7**	P	**P**	**19 49 46.0**	**+0.2**
NB2				pmax	pmax		
	comp=Z,48nm,1.2s,mb4.9						
NOA	**NORSAR Array B**	**24.64**	**7**	P	**P**	**19 49 46.0**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.0,baz=188,slow=12,SNR=10.0						
NOA				LR	LR	19 59 32.1	
	comp=Z,683nm,18.6s,MS4.2,baz=190,slow=37						
HTY	**Hatay**	**24.76**	**82**	*e*P	**P**	**19 49 48.4**	**+1.5**
BHL	**Bhannes**	**24.86**	**87**	*e*P	**P**	**19 49 47.2**	**-0.7**
SVSK	**Karacayir**	**24.99**	**73**	*e*P	**P**	**19 49 48.9**	**-0.1**
HWQ	**Hawqa**	**25.00**	**86**	*e*P	**P**	**19 49 50.7**	**+1.6**
KSDI	**Kefar Szold**	**25.06**	**89**	P	**P**	**19 49 50.3**	**+0.6**
ANN	**Anapa**	**25.50**	**62**	*e*P	**P**	**19 49 53.8**	**+0.1**
ANN				*e*S	**S**	**19 54 20.2**	**-0.8**
ANN				*e*SS		19 55 17.5	
ANN				pmax	pmax		
	comp=Z,500nm,1.7s,mb5.8						
ANN				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.5						
ANN	**Anapa**	**25.50**	**62**	*e*P	**P**	**19 49 53.8**	**+0.1**
	comp=Z,500nm,1.7s,mb5.8						
ANN				*e*S	**S**	**19 54 20.2**	**-0.8**
EIL	**Elat**	**25.70**	**97**	*e*P	**P**	**19 49 55.3**	**-0.2**
	comp=Z,937nm,0.9s						
VSU	**Vasula**	**25.90**	**26**	*e*P	**P**	**19 49 58.4**	**+1.1**
VSU	**Vasula**	**25.90**	**26**	P	**P**	**19 49 57.1**	**-0.2**
MYA	**Malataya**	**26.23**	**76**	*e*P	**P**	**19 50 01.5**	**+1.2**
MALT	**Malatya**	**26.23**	**76**	*e*P	**P**	**19 50 00.1**	**-0.2**
MALT				pmax	pmax		
	comp=Z,114nm,1.1s,mb5.3						
MALT	**Malatya**	**26.23**	**76**	*e*P	**P**	**19 50 00.1**	**-0.2**
	comp=Z,114nm,1.1s,mb5.3						
MALT	**Malatya**	**26.23**	**76**	*e*P	**P**	**19 50 01.6**	**+1.3**
URFA	**Urfa**	**26.66**	**78**	*e*P	**P**	**19 49 59.6**	**-4.6**
SOC	**Sochi**	**27.03**	**65***c*	*i*P	**P**	**19 50 07.9**	**+0.4**
SOC				*e*		19 50 49.0	
SOC				*e*S	**S**	**19 54 41.7**	**-3.5**
SOC				pmax	pmax		
	comp=Z,160nm,1.3s,mb5.4						
SOC				MLR	MLR		
	comp=Z,368nm,17.0s,MS4.0						
SOC	**Sochi**	**27.03**	**65**	*e*P	**P**	**19 50 09.4**	**+1.9**
SOC	**Sochi**	**27.03**	**65**	*i* P	**P**	**19 50 07.9**	**+0.4**
	comp=Z,160nm,1.3s,mb5.4						
SOC				*e*S	**S**	**19 54 41.7**	**-3.5**
	comp=Z,368nm,17.0s						
SOC	**Sochi**	**27.03**	**65**	*e*P	**P**	**19 50 09.4**	**+1.9**
FINES	**FINESS Array B**	**27.99**	**21**	P	**P**	**19 50 16.1**	**0.0**
	comp=Z,2.4nm,0.7s,mb3.9,baz=212,slow=3.9,SNR=9.9						
FINES				LR	LR	20 02 07.3	
	comp=Z,740nm,18.1s,MS4.3,baz=219,slow=38						
VORD	**Divnogorie**	**28.05**	**49**	*e*P	**P**	**19 50 16.2**	**-0.5**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
VORD				pmax	pmax		
	comp=E,30nm,0.9s						
VORD	**Divnogorie**	**28.05**	**49**	*e*P	**P**	**19 50 16.2**	**-0.5**
	comp=E,10.0nm,0.8s,mb4.5						
OBN	**Obninsk**	**28.13**	**39**⇓	*e*P	**P**	**19 50 16.6**	**-0.8**
OBN				*e*		19 51 15.8	
OBN				*i* S	**S**	**19 55 09.4**	**+6.9**
OBN				pmax	pmax		
	comp=Z,120nm,1.8s,mb5.2						
OBN				MLR	MLR		
	comp=Z,2μm,16.0s,MS4.7						
OBN	**Obninsk**	**28.13**	**39**	*e*P	**P**	**19 50 16.6**	**-0.8**
	comp=Z,120nm,1.8s,mb5.2						
OBN				*i* S	**S**	**19 55 09.4**	**+6.9**
OBN	**Obninsk**	**28.13**	**39**	*e*P	**P**	**19 50 16.3**	**-1.1**
	comp=Z,153nm,1.6s,mb5.4						
OBN				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
NSS	**Namsos**	**28.14**	**6**	AMS	AMS	20 02 15.9	
	comp=Z,1μm,17.8s,MS4.5						
VOR	**Voronezh**	**28.24**	**47**	P	**P**	**19 50 17.0**	**-1.3**
VOR				pmax	pmax		
	comp=Z,110nm,1.7s,mb5.2						
VOR				pmax	pmax		
	comp=E,150nm,1.6s						
VOR	**Voronezh**	**28.24**	**47**	P	**P**	**19 50 17.0**	**-1.3**
	comp=E,110nm,1.7s,mb5.2						
KAF	**Kangasniemi**	**28.59**	**21**	*e*p	**P**	**19 50 23.3**	**+1.8**
	comp=E,2.5nm,0.7s,mb4.0						
KAF	**Kangasniemi**	**28.59**	**21**	*e*P	**P**	**19 50 23.3**	**+1.8**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
MOS	**Moscow**	**28.96**	**39**	*e*P	**P**	**19 50 25.0**	**+0.3**
MOS				*e*		19 51 15.5	
MOS				pmax	pmax		
	comp=Z,170nm,1.7s,mb5.5						
MOS				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.0						
MOS	**Moscow**	**28.96**	**39**	*e*P	**P**	**19 50 25.0**	**+0.3**
	comp=Z,170nm,1.7s,mb5.5						
KIV	**Kislovodsk**	**29.20**	**64***c*	*i*P	**P**	**19 50 26.6**	**-0.3**
KIV				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.9						
KIV	**Kislovodsk**	**29.20**	**64**	*i* P	**P**	**19 50 26.6**	**-0.3**
	comp=Z,32nm,1.4s,mb4.9						
KIV	**Kislovodsk**	**29.20**	**64**	P	**P**	**19 50 25.6**	**-1.3**
	comp=Z,22nm,1.1s,mb4.8						
GOF	**Gofitskoye**	**29.49**	**62**⇓	*i*P	**P**	**19 50 28.5**	**-0.9**
GOF				pmax	pmax		
	comp=Z,120nm,1.7s,mb5.3						
GOF	**Gofitskoye**	**29.49**	**62**	*i* P	**P**	**19 50 28.5**	**-0.9**
	comp=Z,120nm,1.7s,mb5.3						
VRHR	**Novokhopersk**	**29.50**	**49**	*e*P	**P**	**19 50 28.1**	**-1.5**
VRHR				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.0						
VRHR				pmax	pmax		
	comp=N,30nm,2.6s						
VRHR				pmax	pmax		
	comp=E,90nm,2.3s						
VRHR	**Novokhopersk**	**29.50**	**49**	*e*P	**P**	**19 50 28.1**	**-1.5**
	comp=E,30nm,2.6s,mb4.6						
ZEI	**Tsey**	**30.08**	**66**	*e*P	**P**	**19 50 35.8**	**+1.1**
ZEI				*i* *PP	pP	19 50 42.3	+4.5
ZEI				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
ZEI	**Tsey**	**30.08**	**66**	*e*P	**P**	**19 50 35.8**	**+1.1**
	comp=Z,11nm,1.3s,mb4.4						
MSL	**Mosul**	**30.24**	**79**	*ex*	x	19 50 38.5	
MSL				*ex*	x	19 55 17.5	
MSL				*ex*	x	19 56 18.0	
CUKT	**Cukurca**	**30.45**	**77**	*e*P	**P**	**19 50 39.4**	**+1.5**
JOF	**Joensuu**	**30.71**	**23**	*e*p	**P**	**19 50 45.2**	**+5.0**
GNI	**Garni**	**30.90**	**71**⇑	*e*P	**P**	**19 50 42.6**	**+0.7**
GNI				pmax	pmax		
	comp=Z,60nm,1.9s						
GNI	**Garni**	**30.90**	**71**	*e*P	**P**	**19 50 42.6**	**+0.7**
	comp=Z,60nm,1.9s,mb5.1						
GNI	**Garni**	**30.90**	**71**	*e*P	**P**	**19 50 44.6**	**+2.7**
	comp=Z,76nm,1.5s,mb5.3						
DBIC	**Dimbokro**	**31.31**	**200**	P	**P**	**19 50 44.0**	**-1.6**
	comp=Z,9.8nm,1.0s,mb4.6,baz=358,slow=8.8,SNR=5.7						
DBIC				S	**S**	**19 55 50.2**	**-2.2**
	comp=Z,3.4nm,0.9s,baz=120,slow=15,SNR=1.9						
DBIC				LR	LR	20 04 22.6	
	comp=Z,2μm,18.3s,MS4.9,baz=1.3,slow=38						
DBIC	**Dimbokro**	**31.31**	**200**	P	**P**	**19 50 44.0**	**-1.6**
DBIC				S	**S**	**19 55 50.2**	**-2.2**
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
DBIC				smax			
	comp=N,3.0nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,2μm,18.3s						
DBIC	**Dimbokro**	**31.31**	**200**	P	**P**	**19 50 44.0**	**-1.6**
	comp=Z,10.0nm,1.0s,mb4.6						
DBIC				S	**S**	**19 55 50.2**	**-2.2**
	comp=Z,2μm,18.3s						
DBIC	**Dimbokro**	**31.31**	**200**	P	**P**	**19 50 43.5**	**-2.1**
	comp=Z,38nm,1.4s,mb5.0						
LIC	**Lamto**	**31.79**	**200**⇑	*e*P	**P**	**19 50 49.8**	**+0.1**
	comp=Z,31nm,0.8s,mb4.9						
LIC				*e*R			
	comp=Z,3μm,16.2s						
LIC	**Lamto**	**31.79**	**200**⇑	*e*P	**P**	**19 50 49.8**	**+0.1**
	comp=Z,16nm,0.8s,mb4.9						
LIC				LR	LR		
	comp=Z,2μm,16.3s,MS4.8						
BHD	**Baghdad**	**32.03**	**84**	*ex*	x	19 50 49.0	
BHD				*ex*	x	19 55 27.0	
KLMR	**Klimovskoe**	**32.40**	**31**	*e*P	**P**	**19 50 53.3**	**-1.8**
KLMR				*e*		19 52 02.4	
KLMR				*e*S	**S**	**19 56 08.2**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,90nm,1.8s,mb5.3						
KLMR				pmax	pmax		
	comp=Z,130nm,5.3s						
KLMR				smax			
	comp=E,590nm,3.5s						
KLMR				MLR	MLR		
	comp=Z,870nm,17.0s,MS4.5						
KLMR	**Klimovskoe**	**32.40**	**31**	*e*P	**P**	**19 50 53.3**	**-1.8**
	comp=Z,130nm,5.3s						
KLMR				*e*S	**S**	**19 56 08.2**	**-1.1**
	comp=Z,870nm,17.0s						
PECR	**Pechory**	**32.50**	**40**	*e*P	**P**	**19 50 56.0**	**0.0**
PECR				pmax	pmax		
	comp=Z,600nm,1.6s						
PECR	**Pechory**	**32.50**	**40**	*e*P	**P**	**19 50 56.0**	**0.0**
	comp=Z,600nm,1.6s						
ARCES	**ARCESS Array B**	**34.67**	**12**	P	**P**	**19 51 14.5**	**-0.4**
	comp=Z,3.6nm,0.6s,mb4.5,baz=200,slow=9.7,SNR=16						
ARCES				PcP	PcP	19 53 49.2	+0.3
	comp=Z,3.6nm,0.9s,baz=197,slow=1.9,SNR=5.9						
ARCES				LR	LR	20 05 16.7	
	comp=Z,810nm,18.4s,MS4.5,baz=28,slow=36						
ARCES	**ARCESS Array B**	**34.67**	**12**	P	**P**	**19 51 14.5**	**-0.4**
ARCES						19 53 49.2	
ARCES	**ARCESS Array B**	**34.67**	**12**	PcP	PcP	19 53 49.2	+0.3
APA	**Apatity**	**34.75**	**18**⇑	*e*P	**P**	**19 51 22.4**	**+6.9**
APA				*i*		19 52 47.8	
APA				*e*S	**S**	**19 56 54.0**	**+8.3**
APA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
APA				MLR	MLR		
	comp=Z,2μm,12.0s,MS5.2						
APA	**Apatity**	**34.75**	**18**	*e*P	**P**	**19 51 22.4**	**+6.9**
	comp=Z,13nm,1.0s,mb4.8						
APA				*e*S	**S**	**19 56 54.0**	**+8.3**
JMIC	**Jan Mayen**	**35.11**	**352**	AMS	AMS	20 05 51.4	
	comp=Z,853nm,20.2s,MS4.5						
MIB	**Mutribah**	**35.59**	**89**	*e*P	**P**	**19 51 22.1**	**-0.7**
MIB				AMb	AMB	19 51 26.9	
	comp=Z,105nm,1.4s,mb5.6						
NAY	**Al-Naaiem**	**35.72**	**90**	*e*P	**P**	**19 51 23.2**	**-0.7**
NAY				AMb	AMB	19 51 28.8	
	comp=Z,26nm,0.8s,mb5.2						
UMR	**Umm Al-Rimmam**	**35.98**	**89**	*e*P	**P**	**19 51 25.5**	**-0.7**
UMR	**Umm Al-Rimmam**	**35.98**	**89**	*e*P	**P**	**19 51 27.8**	**+1.6**
KBD	**Kabd**	**36.11**	**89**	*e*P	**P**	**19 51 27.1**	**-0.2**
KBD				AMb	AMB	19 51 31.6	
	comp=Z,367nm,1.2s						
AKTK	**Aktyubinsk**	**39.73**	**53**	P	**P**	**19 51 55.8**	**-2.1**
	comp=Z,566nm,20.7s						
AKTK	**Aktyubinsk**	**39.73**	**53**	P	**P**	**19 51 55.8**	**-2.1**
AKTK				LR	LR	20 09 54.7	
AKTO	**Aktyubinsk**	**39.73**	**53**	P	**P**	**19 51 55.8**	**-2.1**
	comp=Z,3.3nm,0.7s,mb4.2,baz=272,slow=10,SNR=16						
AKTO				LR	LR	20 09 54.7	
	comp=Z,566nm,20.7s,MS4.4,baz=0.0,slow=38						
AKTO	**Aktyubinsk**	**39.73**	**53**	P	**P**	**19 51 55.8**	**-2.1**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
AKTO				MLR	MLR		
	comp=Z,566nm,20.7s,MS4.4						
SOKR	**Solikamsk**	**39.91**	**38**⇑	*i*P	**P**	**19 51 58.7**	**-0.6**
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
SOKR				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
SOKR	**Solikamsk**	**39.91**	**38**	*i* P	**P**	**19 51 58.7**	**-0.6**
	comp=Z,2μm,19.0s						
ARU	**Arti**	**40.35**	**43**	P	**P**	**19 52 01.0**	**-2.0**
	comp=Z,200nm,1.7s,mb5.6,SNR=6.1						
ARU	**Arti**	**40.35**	**43**⇓	*i*P	**P**	**19 52 01.7**	**-1.3**
ARU				*e*		19 53 34.3	
ARU				*e*S	**S**	**19 58 07.4**	**-3.5**
ARU				*e*SS	SS	20 01 09.9	+0.3
ARU				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.1						
ARU				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,300nm,16.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,1μm,19.0s,MS4.9						
ARU	**Arti**	**40.35**	**43**	*i* P	**P**	**19 52 01.7**	**-1.3**
	comp=E,38nm,1.0s,mb5.1						
ARU				*e*S	**S**	**19 58 07.4**	**-3.5**
	comp=E,2μm,18.0s						
AB31	**Akbulak array**	**41.02**	**54**	*i* P	**P**	**19 52 06.3**	**-2.2**
AB31				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
AB31	**Akbulak array**	**41.02**	**54**	*i* P	**P**	**19 52 06.3**	**-2.2**
	comp=Z,10.0nm,1.0s,mb4.4						
ABKT	**Ailbek**	**41.53**	**72**	P	**P**	**19 52 13.4**	**+0.6**
	comp=Z,133nm,1.0s,mb5.5,SNR=10						
ATD	**Arta Tunnel**	**42.03**	**117**	LR	LR	20 12 10.5	
	comp=Z,2μm,18.1s,MS5.1,baz=141,slow=40						
SUMG	**Summit**	**42.07**	**342**	*e*P	**P**	**19 52 17.4**	**+0.3**
	comp=Z,20nm,0.8s,mb4.8						
KBS	**Kingsbay**	**42.42**	**2**	*e*SS	SS	20 01 53.1	+2.7
KBS				AMS	AMS	20 10 39.0	
	comp=Z,483nm,17.3s,MS4.5						
KBS	**Kingsbay**	**42.42**	**2**	*e*SS	SS	20 01 53.1	+2.6
	SNR=37						
SFJD	**Kangerlussuaq**	**43.60**	**332**	P	**P**	**19 52 28.4**	**-1.2**
	comp=Z,13nm,0.7s,mb4.7,baz=75,slow=7.9,SNR=7.2						
SFJD	**Kangerlussuaq**	**43.60**	**332**	*i* P	**P**	**19 52 30.9**	**+1.3**
	comp=Z,21nm,0.9s,mb4.9						
SFJD				*e*S	SS	20 02 20.2	+6.4
SFJD							
	comp=Z,1μm,20.0s						
SFJD	**Kangerlussuaq**	**43.60**	**332**	*i* P	**P**	**19 52 30.9**	**+1.3**
SFJD				*e*S	SS	20 02 20.2	+6.4
SFJD				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.9						
SFJD				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
BANOM	**Banah**	**44.40**	**89**	⇑P	**P**	**19 52 34.7**	**-1.3**
	SNR=9.6						
ASHO	**Ashiyiah**	**44.78**	**91**	⇓P	**P**	**19 52 37.3**	**-1.7**
	SNR=55						
ARQ	**Araqi**	**45.79**	**92**	⇓P	**P**	**19 52 46.3**	**-0.7**
	SNR=10						
ABTO	**Aybut**	**46.35**	**101**	⇓P	**P**	**19 52 50.6**	**-0.8**
	SNR=16						
WHFO	**Wadi Hawf**	**46.41**	**100**	⇑P	**P**	**19 52 50.5**	**-1.4**
	SNR=16						
WHFO	**Wadi Hawf**	**46.41**	**100**	P	**P**	**19 52 50.5**	**-1.4**
	SNR=16						
ZRNK	**Zerenda**	**46.41**	**48**	*e*P	**P**	**19 52 50.6**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,51nm,1.3s,mb5.3						
ZRNK	**Zerenda**	**46.41**	**48**	*e*P	**P**	**19 52 50.6**	**-1.3**
	comp=Z,51nm,1.3s,mb5.3						
BSY	**Bisya**	**46.62**	**92**	P	**P**	**19 52 52.4**	**-1.2**
	SNR=71						
BSYO	**Bisya**	**46.66**	**92**	P	**P**	**19 52 52.4**	**-1.5**
	SNR=71						
RBK	**Rabkut**	**46.98**	**101**	⇑P	**P**	**19 52 55.3**	**-1.1**
	SNR=15						
BIDO	**Bidbid**	**46.99**	**91**	⇑P	**P**	**19 52 55.7**	**-0.8**
	SNR=11						
SMDO	**Samad**	**47.15**	**91**	P	**P**	**19 52 56.6**	**-1.1**
	SNR=12						
BRVK	**Borovoye**	**47.17**	**48**	P	**P**	**19 52 56.0**	**-1.9**
	comp=Z,172nm,1.3s,mb5.8,SNR=8.0						
BRVK	**Borovoye**	**47.17**	**48**	*e*P	**P**	**19 52 56.7**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,57nm,1.5s,mb5.3						
BRVK	**

comp=E,2μm,18.7s,MS5.2,baz=178,slow=39
ZAL Zalesovo 55.47 45 P P 19 53 57.8 -2.3
ZAL LR LR 20 20 18.8
LSZ Lusaka 56.03 153 *e*P **P 19 54 04.2 +0.1**
LSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
LSZ Lusaka 56.03 153 *e*P **P 19 54 04.2 +0.1**
comp=Z,7.0nm,1.0s,mb4.7
LSZ Lusaka 56.03 153 *e*P **P 19 54 04.2 0.0**
comp=Z,6.8nm,1.0s,mb4.6
MKAR Makanchi Array 56.16 54 P **P 19 54 03.6 -1.4**
comp=Z,10.0nm,0.6s,mb5.0,baz=288,slow=6.4,SNR=38
MKAR PcP PcP 19 55 04.8 +2.0
comp=Z,2.8nm,0.9s,baz=308,slow=4.7,SNR=3.4
MKAR LR LR 20 21 03.1
comp=Z,536nm,18.1s,MS4.7,baz=277,slow=39
MKAR Makanchi Array 56.16 54 P **P 19 54 03.6 -1.4**
MKAR 19 55 04.8
TSUM Tsumeb 56.80 166 P **P 19 54 10.3 +0.7**
comp=Z,4.6nm,0.7s,mb4.6,baz=352,slow=9.4,SNR=6.9
WMQ Urumqi 60.80 55 P **P 19 54 38.0 +0.6**
WMQ AP pP 19 54 42.6 +2.0
WMQ XP sP 19 54 45.0 +3.1
WMQ PCP PcP 19 55 21.5 +0.3
WMQ PP PP 19 56 54.1 +2.8
WMQ PPP 19 58 22.1
WMQ *e*S **S 20 02 53.3 -1.4**
WMQ SCS ScS 20 04 24.8 -3.7
WMQ SS SS 20 06 53.3 -0.2
WMQ AMB AMB
comp=Z,13nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,92nm,4.2s
WMQ LR LR
comp=N,747nm,18.0s,MS5.0
WMQ LR LR
comp=E,554nm,20.0s,MS5.0
WMQ LR LR
comp=Z,511nm,20.0s,MS4.7
MATP Matopo 60.90 155 P **P 19 54 36.6 -1.5**
comp=Z,4.1nm,0.8s,mb4.6,baz=4.4,slow=5.2,SNR=7.9
POO Poona 62.15 87 *e*P **P 19 54 47.0 +0.4**
FCC Fort Churchill 63.93 325 *e*P **P 19 54 58.1 -0.3**
FCC pmax pmax
comp=Z,13nm,0.9s,mb5.0
FCC Fort Churchill 63.93 325 *e*P **P 19 54 58.1 -0.3**
comp=Z,13nm,0.9s,mb5.0
FCC Fort Churchill 63.93 325 *e*P **P 19 54 58.1 -0.3**
comp=Z,13nm,0.9s,mb5.0
LBTB Lobatse 64.30 160 P **P 19 55 00.1 -0.7**
comp=Z,7.4nm,0.8s,mb4.8,baz=344,slow=6.1,SNR=14
LBTB Lobatse 64.30 160 *e*P **P 19 55 01.6 +0.8**
LBTB pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
LBTB Lobatse 64.30 160 *e*P **P 19 55 01.6 +0.8**
comp=Z,7.0nm,0.8s,mb4.7
LBTB Lobatse 64.30 160 *e*P **P 19 55 01.6 +0.8**
comp=Z,6.7nm,0.8s,mb4.7
TIXI Tiksi 64.92 17⇑*i*P **P 19 55 02.4 -2.5**
TIXI *e*S **S 20 03 42.9 -3.5**
TIXI *e* 20 04 50.9
TIXI *e*SS SS 20 07 55.9 -2.0
TIXI pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
TIXI MLR MLR
comp=Z,412nm,17.0s,MS4.7
TIXI Tiksi 64.92 17 *i*P **P 19 55 02.4 -2.5**
comp=Z,9.0nm,1.4s,mb4.6
TIXI Tiksi 64.92 17⇑*e*P **P 19 55 05.1 +0.2**
ACSO Alum Creek Sta 66.35 303 *e*P **P 19 55 14.0 -0.1**
comp=Z,11nm,0.6s,mb5.1
ACSO LR LR
comp=Z,1μm,21.0s,MS5.0
HYB Hyderabad 66.52 85 *i*P **P 19 55 15.5 +0.3**
HYB Hyderabad 66.52 85 *e*P **P 19 55 15.5 +0.3**
IRK Irkutsk 66.89 41 *e*P **P 19 55 16.8 -0.7**
IRK *e*S S 20 04 13.3 +2.9
IRK pmax pmax
comp=Z,31nm,2.1s,mb5.0
IRK Irkutsk 66.89 41 *e*P **P 19 55 16.8 -0.7**
comp=Z,31nm,2.1s,mb5.0
ZAK Zakamensk 67.30 43 *e*P **P 19 55 20.7 +0.6**
ZAK pmax pmax
comp=Z,26nm,1.8s,mb5.0
ZAK Zakamensk 67.30 43 *e*P **P 19 55 20.7 +0.6**
comp=Z,26nm,1.8s,mb5.0
BOSA Boshof 67.62 161 P **P 19 55 22.4 +0.2**
comp=Z,9.3nm,1.1s,mb4.8,baz=331,slow=14,SNR=11
BOSA LR LR 20 24 41.1
comp=Z,2μm,18.0s,MS5.3,baz=340,slow=36
OPO Ambohidratompo 67.71 137 P **P 19 55 23.4 +0.7**
comp=Z,5.7nm,1.0s,mb4.6,baz=261,slow=7.8,SNR=4.5
BOD Bodaibo 68.59 33 *e*P **P 19 55 24.4 -3.9**
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
BOD Bodaibo 68.59 33 *e*P **P 19 55 24.4 -3.9**
comp=Z,8.0nm,1.4s,mb4.5
ULM Lac du Bonnet 69.14 318 P **P 19 55 30.8 -0.9**
comp=Z,7.1nm,0.9s,mb4.6,baz=85,slow=6.0,SNR=8.7
ULM LR LR 20 23 20.8
comp=Z,494nm,18.6s,MS4.8,baz=90,slow=34
FFC Flin Flon 69.75 324 P **P 19 55 37.7 +2.3**
LSA Lhasa 69.86 68 *e*P **P 19 55 34.0 -2.2**
LSA pmax pmax
comp=Z,19nm,1.0s,mb5.0
LSA Lhasa 69.86 68 *e*P **P 19 55 34.0 -2.2**
LSA pmax pmax
comp=Z,19nm,1.0s,mb5.0
LSA Lhasa 69.86 68 *e*P **P 19 55 34.0 -2.2**
comp=Z,19nm,1.0s,mb5.0
LSA Lhasa 69.86 68 *e*P **P 19 55 34.0 -2.1**
comp=Z,19nm,1.0s,mb5.0
YKW3 Yellowknife Ar 70.02 335 *e*P **P 19 55 36.5 -0.6**
YKA Yellowknife Ar 70.06 335 P **P 19 55 36.3 -1.0**
comp=Z,2.1nm,0.6s,mb4.3,baz=50,slow=6.0,SNR=29
SONM Songino Array 70.38 45 P **P 19 55 38.1 -1.2**
comp=Z,3.4nm,0.9s,mb4.2,baz=313,slow=4.4,SNR=12
SONM LR LR 20 28 41.6
comp=Z,1μm,19.1s,MS5.1,baz=305,slow=38
ULN Ulaanbaatar 70.73 44 *e*P **P 19 55 42.6 +1.1**
ULN Ulaanbaatar 70.73 44 *e*P **P 19 55 42.3 +0.8**
comp=Z,12nm,1.4s,mb4.6
ULN LR LR
comp=Z,1μm,19.0s,MS5.2
GTA Gaotai 70.88 55 *e*P **P 19 55 41.8 -0.6**
GTA AP pP 19 55 45.3 -0.3
GTA XP sP 19 55 48.3 +1.5
GTA PP PP 19 58 19.4 0.0
GTA S S 20 04 54.4 -3.3
GTA SS SS 20 09 25.5 -4.6
GTA AMB AMB
comp=Z,5.0nm,1.6s,mb4.2
GTA AMB AMB
comp=Z,182nm,6.5s
GTA LR LR
comp=N,343nm,25.5s,MS4.7
GTA LR LR
comp=E,445nm,25.5s,MS4.7
GTA LR LR
comp=Z,551nm,28.5s,MS4.7
YAK Yakutsk 71.88 24 *e*P **P 19 55 47.9 -0.5**
BDFB Brasilia 72.37 234 P **P 19 55 51.3 -0.1**
comp=Z,3.6nm,0.9s,mb4.3,baz=107,slow=13,SNR=2.5
BDFB LR LR 20 26 12.3
comp=Z,833nm,19.4s,MS5.0,baz=43,slow=35
SDV Santo Domingo 73.50 269 *e*P **P 19 55 59.1 +1.0**
comp=Z,17nm,1.3s,mb4.8
BILL Bilibino 74.59 7 P **P 19 56 05.4 +1.0**
LZH Lanzhou 75.37 56 *e*P **P 19 56 09.5 +0.6**
LZH AP pP 19 56 12.8 +0.6
LZH XP sP 19 56 14.3 +0.9
LZH PP PP 19 58 59.8 +2.1
LZH *e*S S 20 05 47.3 -1.4
LZH SKS 20 06 13.8
LZH SS SS 20 10 37.6 -1.1
LZH AMB AMB
comp=Z,33nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,165nm,7.5s
LZH LR LR
comp=E,87nm,15.3s
LZH LR LR
comp=Z,1μm,18.1s,MS5.3
KSU1 Kansas State U 75.84 308 *e*P **P 19 56 12.2 +0.6**
ILAR Eielson Array 76.52 348 P **P 19 56 14.2 -1.3**
comp=Z,1.2nm,0.9s,baz=4.3,slow=6.8,SNR=7.8
ILAR LR LR 20 32 37.9
comp=Z,158nm,18.9s,MS4.3,baz=187,slow=38
HIA Hailar 76.58 38 P **P 19 56 15.4 -0.4**
HIA pmax pmax
comp=Z,6.0nm,0.9s
HIA Hailar 76.58 38 P **P 19 56 15.4 -0.4**
comp=Z,6.0nm,0.9s,mb4.5
HIA Hailar 76.58 38 P **P 19 56 15.4 -0.4**
comp=Z,5.8nm,0.9s,mb4.5
RSSD Black Hills 77.23 316 *e*P **P 19 56 20.0 +0.5**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
RSSD Black Hills 77.23 316 *e*P **P 19 56 20.0 +0.5**
comp=Z,5.0nm,0.8s,mb4.5
RSSD Black Hills 77.23 316 *e*P **P 19 56 19.9 +0.5**
comp=Z,5.4nm,0.8s,mb4.5
HHC Hu-ho-hao-te 77.45 48 *e*P **P 19 56 21.3 +0.6**
HHC AP pP 19 56 25.3 +1.3
HHC XP sP 19 56 28.3 +3.1
HHC PCP PcP 19 56 32.6 +1.5
HHC PP PP 19 59 17.8 +2.6
HHC S S 20 06 10.8 -0.7
HHC SKS 20 06 30.3
HHC SCS ScS 20 06 36.4 -2.5
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.4
HHC LR LR
comp=N,368nm,14.2s
HHC LR LR
comp=E,471nm,25.0s
HHC LR LR
comp=Z,268nm,27.0s
CD2 Chengdu 78.29 60 *e*P **P 19 56 27.0 +1.6**
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
PHWY Pilot Hill 79.83 314 *e*P **P 19 56 34.9 +1.0**
CHMT Chamberlain Mo 80.22 322 P **P 19 56 36.2 +0.2**
BOZ Bozeman (W) 80.29 321 *e*P **P 19 56 36.8 +0.5**
BOZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BOZ Bozeman (W) 80.29 321 *e*P **P 19 56 36.8 +0.5**
comp=Z,7.0nm,1.0s,mb4.5
BOZ Bozeman (W) 80.29 321 *e*P **P 19 56 36.8 +0.5**
comp=Z,6.9nm,1.0s,mb4.5
RWWY Rawlins 80.58 315 *e*P **P 19 56 38.6 +0.7**
comp=Z,22nm,1.3s,mb4.9
BJI Beijing 80.69 47 P **P 19 56 38.5 0.0**
BJI S S 20 06 48.9 +2.9
BJI SS SS 20 12 05.8 +7.0
BJI AMB AMB
comp=Z,4.0nm,0.7s,mb4.5
BJI AMB AMB
comp=Z,274nm,3.9s
BJI LR LR
comp=N,639nm,19.6s,MS5.3
BJI LR LR
comp=E,888nm,15.9s,MS5.3
BJI LR LR
comp=Z,763nm,21.5s
KMI Kunming 80.95 66 P **P 19 56 40.1 +0.2**
KMI AMB AMB
comp=Z,5.0nm,1.5s,mb4.2
KMI LR LR
comp=N,232nm,14.8s,MS4.8
KMI LR LR
comp=E,246nm,18.9s,MS4.8
KMI LR LR
comp=Z,228nm,29.5s
PDAR Pinedale Array 81.16 317 P **P 19 56 40.2 -0.7**
comp=Z,1.8nm,0.8s,mb4.0,baz=53,slow=6.1,SNR=10.0
PDAR LR LR 20 30 54.6
comp=Z,585nm,18.8s,MS5.0,baz=54,slow=34
MCMT McKenzie Canyo 81.48 321 *e*P **P 19 56 42.3 -0.4**
ENH Enshi 82.62 58 *e*P **P 19 56 48.0 -0.7**
comp=Z,15nm,1.1s,mb4.9
GYA Guiyang 82.99 62⇑*i*P **P 19 56 51.3 +0.7**
GYA AP pP 19 56 56.4 +2.5
GYA XP sP 19 56 58.3 +3.2
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,130nm,4.0s
GYA LR LR
comp=N,790nm,18.2s,MS5.2
GYA LR LR
comp=E,640nm,18.0s,MS5.2
GYA LR LR
comp=Z,870nm,18.7s,MS5.2
HWUT Hardware Ranch 83.04 318 *e*P **P 19 56 51.3 +0.5**
comp=Z,7.2nm,1.1s,mb4.6
HWUT LR LR
comp=Z,701nm,19.0s,MS5.0
BMO Blue Mountains 83.68 323 *e*P **P 19 56 53.2 -0.9**
comp=Z,17nm,1.1s,mb5.1
KDAK Kodiak Island 84.05 348 LR LR 20 36 24.2
comp=Z,285nm,18.4s,MS4.7,baz=260,slow=37
SRU San Rafael 84.18 315 *e*P **P 19 56 57.1 +0.4**
SRU pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
SRU San Rafael 84.18 315 *e*P **P 19 56 57.1 +0.4**
comp=Z,10.0nm,1.0s,mb4.9
SRU San Rafael 84.18 315 *e*P **P 19 56 57.1 +0.4**
comp=Z,10.0nm,1.0s,mb4.9
BGU Big Grassy Mou 84.31 318 P **P 19 56 56.6 -0.8**
NLU North Lily Min 84.47 317 P **P 19 56 57.6 -0.5**
MDJ Mudanjiang 84.64 36 P **P 19 56 56.9 -2.1**
MDJ PP PP 20 00 10.8 -3.9
MDJ S 20 07 23.8
MDJ SS SS 20 12 55.1 -2.4
MDJ AMB AMB
comp=Z,4.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,74nm,4.6s
MDJ LR LR
comp=N,411nm,16.2s,MS5.1
MDJ LR LR
comp=E,474nm,17.0s,MS5.1
MDJ LR LR
comp=Z,808nm,18.7s,MS5.1
OTAV Otavalo 84.86 266 *e*P **P 19 57 02.0 +1.9**
comp=Z,101nm,1.3s,mb5.8
MSU Marysvale 85.53 316 *e*P **P 19 57 04.2 +0.7**
MSU Marysvale 85.53 316 *e*P **P 19 57 04.2 +0.7**
CPUP Villa Florida 86.06 233 P **P 19 57 06.0 -0.1**
comp=Z,2.4nm,0.8s,mb4.5,baz=11,slow=13,SNR=3.0
CPUP LR LR 20 36 47.3
comp=Z,681nm,18.1s,MS5.1,baz=31,slow=36
CPUP Villa Florida 86.06 233 P **P 19 57 06.0 -0.1**
CPUP pmax pmax
comp=Z,27nm,0.9s
CPUP MLR MLR
comp=Z,213nm,20.0s
LPAZ La Paz 86.91 247 LR LR 20 32 50.2
comp=Z,290nm,21.6s,MS4.7,baz=52,slow=33
NJ2 Nanjing 87.60 51 *e*P **P 19 57 13.3 -0.3**
NJ2 AP pP 19 57 18.1 +1.1
NJ2 XP sP 19 57 20.3 +2.1
NJ2 PP PP 20 00 42.0 +3.3
NJ2 S 20 07 53.0
NJ2 XS sS 20 08 01.0 +0.2
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb6.0
NJ2 AMB AMB
comp=Z,80nm,10.8s
NJ2 LR LR
comp=N,580nm,18.1s
NJ2 LR LR
comp=E,900nm,24.5s
NJ2 LR LR
comp=Z,380nm,18.7s,MS4.8
SSE Sheshan 89.70 51 P **P 19 57 22.9 -0.7**
SSE AP pP 19 57 26.3 -0.6
SSE PP PP 20 00 52.5 -3.0
SSE S 20 08 11.8
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.8
SSE AMB AMB
comp=Z,65nm,5.2s
SSE LR LR
comp=N,135nm,25.3s,MS4.6
SSE LR LR
comp=E,229nm,25.3s,MS4.6
SSE LR LR
comp=Z,204nm,18.6s
ASAJ Asahikawa 90.71 29 LR LR 20 43 04.1
comp=Z,676nm,18.1s,MS5.1,baz=357,slow=39
KULM Kulim 91.13 83 *e*P **P 19 57 31.4 +1.2**
PSI Prapat 91.23 86 P **P 19 57 32.1 +1.4**
comp=Z,17nm,1.1s,mb5.3,baz=260,slow=8.9,SNR=7.7
MJAR Matsushiro Arr 95.03 36 LR LR 20 44 48.7
comp=Z,685nm,18.3s,MS5.2,baz=325,slow=38
JOW Kunigami 97.09 49 LR LR 20 45 20.9
comp=Z,413nm,20.0s,MS4.9,baz=256,slow=38
SYO Syowa Base 108.42 168‖*e*Pdiff Pdif 19 58 46.0 -2.0
SYO Syowa Base 108.42 168‖*e*PP PP 20 03 20.5 +2.2
WRA Warramunga Arr 132.67 84 PKP PKPdf 20 03 38.6 -1.6
comp=Z,1.8nm,0.9s,baz=315,slow=1.4,SNR=4.3
WRA PP PP 20 05 57.4 -6.9
comp=Z,1.7nm,1.0s,baz=314,slow=5.5,SNR=5.1
WB2 Warramunga Arr 132.68 84 *e*PKP PKPdf 20 03 42.3 +2.1
ASAR Alice Springs 134.19 88 PKP PKPdf 20 03 40.2 -2.9
comp=Z,0.9nm,1.0s,baz=277,slow=3.2,SNR=3.8
ASAR PP PP 20 06 06.3 -7.8
comp=Z,1.2nm,1.0s,baz=298,slow=5.0,SNR=4.5
TAOE Nuku Hiva Isla 138.18 303 *e*LR LR 20 48 27.5
comp=Z,958nm,24.1s
RKT Rikitea 143.28 280 *e*LR LR 20 50 47.8
comp=Z,207nm,27.2s
STKA Stephens Creek 143.79 95 *e*PKP PKPdf 20 03 56.8 -3.8
comp=Z,7.1nm,1.0s
STKA Stephens Creek 143.79 95 PKhKP 20 03 56.2
comp=Z,12nm,1.1s,baz=327,slow=5.5,SNR=7.3
STKA PKP PKPdf 20 03 58.9 -1.6
comp=Z,8.7nm,1.0s,baz=318,slow=6.9,SNR=7.5
STKA Stephens Creek 143.79 95 *e*PKP PKPdf 20 03 56.8 -3.8
STKA PKP PKPdf 20 03 58.9 -1.6
TOO Toolangi 148.40 104 *e*PKP PKPbc 20 04 14.2 +2.3
comp=Z,9.5nm,1.0s
PPT Papeete 150.78 304 *e*SS SS 20 27 10.9 -4.4
comp=Z,568nm,33.5s
PPT *e*LR LR 20 54 17.6
comp=Z,264nm,25.0s
ARMA Armidale 151.33 87 *e*PKP PKPbc 20 04 22.5 +3.4
TBI Tubuai 154.52 294 *e*LR LR 20 56 01.1
comp=Z,280nm,23.8s

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*NEIC **20** 19:51:10.1, 19.11N×6493W, h7km, MD3.5(RSPR), After RSPR.*
RSPR 20 19:51:10.1, 1911N×6493W, h7km±31km, MD3.5/9, MD3.5/9, 7C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.76**	**157**	*e*S	Sg	19 51 34.7	+0.2
TBVI	**Tortola**	**0.76**	**157**‖	*e*P	Pg	19 51 23.6	-1.1
TBVI				*e*S	Sg	19 51 34.7	+0.2
MTP	**Monte Pirata**	**1.18**	**211**	*e*S	Sg	19 51 44.2	-3.6
MTP	**Monte Pirata**	**1.18**	**211**⇑	*e*P	Pg	19 51 29.5	-3.2
MTP				*e*S	Sg	19 51 44.2	-3.6
CBYP	**Canovanas**	**1.22**	**227**	*e*S	Sg	19 51 45.9	-3.2
CBYP	**Canovanas**	**1.22**	**227**⇑	*e*P	Pb	19 51 29.7	-3.7
CBYP				*e*S	Sg	19 51 45.9	-3.2
HUMP	**Col San Antoni**	**1.30**	**222**	*e*S	Sb	19 51 48.5	-3.3
HUMP	**Col San Antoni**	**1.30**	**222**⇑	*e*P	Pn	19 51 31.0	-3.7
HUMP				*e*S	Sb	19 51 48.5	-3.3
CPD	**Cerro la Pandu**	**1.42**	**222**	*e*P	Pn	19 51 31.7	-4.6
CELP	**Cerrillos**	**1.88**	**237**⇑	*e*P	Pn	19 51 39.6	-3.0
CELP				*e*S	Sn	19 52 02.0	-4.5
AOPR	**Arecibo Observ**	**1.89**	**247**	*e*S	Sn	19 52 03.6	-3.1
AOPR	**Arecibo Observ**	**1.89**	**247**⇑	*e*P	Pn	19 51 39.2	-3.5
AOPR				*e*S	Sn	19 52 03.6	-3.1
ICM	**Isla Caja Muer**	**1.94**	**232**	*e*S	Sn	19 52 05.0	-3.0
ICM	**Isla Caja Muer**	**1.94**	**232**⇑	*e*P	Pn	19 51 40.3	-3.1
ICM				*e*S	Sn	19 52 05.0	-3.0
CRPR	**Cabo Rojo, PR**	**2.34**	**242**	*e*S	Sn	19 52 15.3	-2.7
CRPR	**Cabo Rojo, PR**	**2.34**	**242**⇑	*e*P	Pn	19 51 46.4	-2.6
CRPR				*e*S	Sn	19 52 15.3	-2.7

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*ISCJB **20** 19:51:46.0±0.6, 3470N±008×738E±0.1, h10km, mb3.7/9, Error ellipse: s-maj=17.6km s-min=5.5km az=101.0*
*MOS **20** 19:51:46.0±0.8, 3469N×7379E, h10km, mb4.0/1, Error ellipse: s-maj=21.5km s-min=10.5km az=106.0*
*IDC **20** 19:51:46.2±0.9, 3465N×7373E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.8/24, mbtmp3.9/12, ML4.2/2, Error ellipse: s-maj=27.6km s-min=19.0km az=47.0*
*NEIC **20** 19:51:48.1±0.6, 3471N×7376E, h10km, mb4.3/1, Error ellipse: s-maj=18.2km s-min=5.0km az=51.0*
*BJI **20** 19:51:49.9, 3470N×7380E, h10km, ML3.6*
*NNC **20** 19:51:57.2±4.7, 35.12N×7238E, h0km, mb4.0, mpv4.1, Error ellipse: s-maj=117.1km s-min=34.1km az=88.0*
ISC 20 19:51:48.0±0.6, 3475N±007×737E±01, h10km, n41, σ1§09/52, mb3.7/9, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.89**	**139**	*e*P	**Pb**	**19 52 39.0**	**-0.6**
DLH				*e*S	**Sb**	**19 53 16.0**	**+1.0**
KSH	**Kashi**	**5.09**	**20**	*e*P	**Pn**	**19 53 10.3**	**+6.0**
KSH				Smax			
	comp=N,76nm,1.0s						
KSH				Smax			
	comp=E,53nm,0.9s						
KK31	**Karatay Array**	**8.71**	**344**	P	**Pn**	**19 53 56.1**	**+2.1**
	comp=E,3.8nm,0.4s,baz=159,slow=11,SNR=92						
KK31				⇑S	**Sn**	**19 55 29.6**	**-2.6**
	comp=E,3.6nm,0.3s,baz=171,slow=23						
KOLN	**Koldanda**	**10.94**	**127**	*e*Pn	**Pn**	**19 54 25.8**	**+1.2**
KOLN				*e*Sn	**Sn**	**19 56 23.3**	**-3.7**
	comp=E,21nm,0.4s						
KOLN	**Koldanda**	**10.94**	**127**	*e*P	**Pn**	**19 54 25.2**	**+0.6**
	comp=E,12nm,0.3s						
KOLN	**Koldanda**	**10.94**	**127**	*e*Pn	**Pn**	**19 54 25.8**	**+1.2**
	comp=E,4.8nm,0.7s						
KOLN				*e*Sn	**Sn**	**19 56 23.3**	**-3.7**
GKN	**Gorkha**	**11.49**	**123**	*e*Pn	**Pn**	**19 54 32.0**	**-0.1**
GKN				*e*Sn	**Sn**	**19 56 35.9**	**-4.6**
	comp=E,27nm,0.3s						
GKN	**Gorkha**	**11.49**	**123**	*e*P	**Pn**	**19 54 32.0**	**-0.1**
	comp=E,6.9nm,0.7s						
GKN				*e*Sn	**Sn**	**19 56 35.9**	**-4.6**
DMN	**Daman**	**12.06**	**123**	*e*Pn	**Pn**	**19 54 40.1**	**+0.2**
DMN				*e*Sn	**Sn**	**19 56 49.5**	**-5.0**
	comp=E,23nm,0.6s						
DMN	**Daman**	**12.06**	**123**	*e*P	**Pn**	**19 54 40.0**	**+0.1**
DMN	**Daman**	**12.06**	**123**	*e*P	**Pn**	**19 54 40.0**	**+0.1**
	comp=E,17nm,0.7s						
DMN				*e*Sn	**Sn**	**19 56 49.5**	**-5.0**
KKN	**Kakani**	**12.07**	**122**	*e*Pn	**Pn**	**19 54 40.2**	**+0.2**
KKN				*e*Sn	**Sn**	**19 56 48.6**	**-6.1**
	comp=E,16nm,0.4s						
KKN	**Kakani**	**12.07**	**122**	*e*P	**Pn**	**19 54 40.2**	**+0.2**
KKN				*e*		19 56 48.6	
KKN				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KKN	**Kakani**	**12.07**	**122**	*e*P	**Pn**	**19 54 40.2**	**+0.2**
	comp=Z,8.6nm,0.4s						
KKN				*e*Sn	**Sn**	**19 56 48.6**	**-6.1**
PKI	**Pulchoki**	**12.30**	**122**	*e*Pn	**Pn**	**19 54 42.5**	**-0.6**
PKI	**Pulchoki**	**12.30**	**122**	*e*P	**Pn**	**19 54 43.4**	**+0.3**
GUN	**Gumba**	**12.42**	**120**	*e*Pn	**Pn**	**19 54 44.3**	**-0.5**
GUN	**Gumba**	**12.42**	**120**	*e*P	**Pn**	**19 54 44.1**	**-0.7**
JIRN	**Jiri**	**12.79**	**120**	*e*Pn	**Pn**	**19 54 49.4**	**-0.5**
JIRN				*e*Sn	**Sn**	**19 57 06.4**	**-5.9**
	comp=Z,23nm,0.4s						
JIRN	**Jiri**	**12.79**	**120**	*e*P	**Pn**	**19 54 49.5**	**-0.4**
	comp=Z,52nm,0.3s						
LSA	**Lhasa**	**15.58**	**104**	P	**Pn**	**19 55 30.1**	**+2.5**
KURK	**Kurchatov**	**16.35**	**11**	*e*P	**Pn**	**19 55 38.0**	**+0.4**
AB31	**Akbulak array**	**17.70**	**329**	P	**Pn**	**19 55 53.5**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=37,slow=25,SNR=23						
BVAR	**Borovoye Array**	**18.42**	**354**	P	**Pn**	**19 56 03.7**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=154,slow=8.8,SNR=24						
ZRNK	**Zerenda**	**18.50**	**351**	*e*P	**Pn**	**19 56 04.9**	**+0.5**
AKTK	**Aktyubinsk**	**19.41**	**329**	P	**Pn**	**19 56 15.3**	**-0.1**
AKTO	**Aktyubinsk**	**19.41**	**329**	P	**Pn**	**19 56 15.2**	**-0.2**
AKTO	**Aktyubinsk**	**19.41**	**329**	P	**Pn**	**19 56 15.3**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=133,slow=7.7,SNR=8.4						
AKTO	**Aktyubinsk**	**19.41**	**329**	P	**Pn**	**19 56 15.3**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**20.71**	**19**	P	**P**	**19 56 28.2**	**-0.1**
	comp=Z,7.5nm,0.3s						
ZAK	**Zakamensk**	**26.56**	**45**	*e*P	**P**	**19 57 22.1**	**-4.0**
SONM	**Songino Array**	**27.59**	**52**	P	**P**	**19 57 36.4**	**+1.1**
	comp=Z,1.0nm,0.5s,mb3.7,baz=252,slow=9.1,SNR=10						
FINES	**FINESS Array B**	**40.17**	**327**	P	**P**	**19 59 24.8**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.4,baz=129,slow=11,SNR=3.3						

ARCES ARCESS Array B 43.60 338 P **P** **19 59 52.8 +0.5**
comp=Z,1.9nm,0.8s,mb3.9,baz=60,slow=25,SNR=6.6
HFS Hagfors 45.80 323 P **P** **20 00 10.1 +0.2**
comp=Z,2.7nm,0.9s,mb4.2,baz=71,slow=9.3,SNR=2.7
TORD Torodi Ar. Bea 67.93 271 P **P** **20 02 47.0 +0.1**
comp=Z,1.5nm,0.8s,mb4.1,baz=48,slow=6.0,SNR=6.4
ILAR Eielson Array 75.84 17 P **P** **20 03 33.2 -1.2**
comp=Z,0.4nm,0.8s,mb3.4,baz=308,slow=6.0,SNR=6.0
WRA Warramunga Arr 79.18 123 P **P** **20 03 54.1 +1.1**
comp=Z,0.8nm,0.8s,mb3.7,baz=322,slow=5.0,SNR=15
ASAR Alice Springs 81.43 126 P **P** **20 04 03.4 -1.8**
comp=Z,0.8nm,0.8s,mb3.7,baz=213,slow=40,SNR=6.5
YKA Yellowknife Ar 82.86 4 P **P** **20 04 12.5 -0.2**
comp=Z,0.2nm,0.3s,mb3.6,baz=346,slow=4.9,SNR=6.3
YKA Yellowknife Ar 82.86 4 P **P** **20 04 12.5 -0.2**

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*ISCJB **20** 19:54:18.2±0.5,3705N±003×539E±003,h10km,mb3.8/7, Error ellipse: s-maj=4.4km s-min=3.6km az=165.7*
*NEIC **20** 19:54:18.1±0.6,3675N×551E,h10km,mb4.6/2,Error ellipse: s-maj=7.9km s-min=4.5km az=170.0*
*MDD **20** 19:54:18.7±1.6,3678N×545E,h0km,mb4.4/20,Error ellipse: s-maj=15.7km s-min=9.2km az=140.0,PRXIMO*
*SFS **20** 19:54:19.0,3793N×535E,h0km,ML4.4*
*IDC **20** 19:54:20.6±3.7,3662N×540E,h43km±42km,mb3.3/5, mb1 3.4/6,mb1mx3.3/24,mbtmp3.5/6,ML3.8/1,Error ellipse: s-maj=26.3km s-min=22.8km az=171.0*
*LDG **20** 19:54:21.0±0.3,3668N×557E,h25km,Ml3.8/12,Error ellipse: s-maj=5.9km s-min=3.5km az=139.0*
*CSEM **20** 19:54:24.6±0.3,3699N×492E,h30km,mb4.5/19,Error ellipse: s-maj=5.4km s-min=3.1km az=131.0*

ISC 20 19:54:20.1±0.5,3701N±003×542E±003,h10km,n86, σ1§38/140,mb3.8/7,1D,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHO	**Mahon**	**3.02**	**343**	*e*S	**Sn**	**19 55 42.3**	**-1.9**
MAHO	**Mahon**	**3.02**	**343**	*e*P	**Sn**	**19 55 46.5**	**+2.3**
ETOS	**Mallorca**	**3.43**	**324**	⇓P	**Pn**	**19 55 14.8**	**+1.2**
	14nm,0.3s,SNR=18						
ETOS				S	**Sn**	**19 55 52.8**	**-1.5**
	75nm,0.5s						
ETOS	**Mallorca**	**3.43**	**324**	P	**Pn**	**19 55 14.8**	**+1.2**
	14nm,0.3s,SNR=18						
ETOS				S	**Sn**	**19 55 52.8**	**-1.5**
	75nm,0.5s						
EIBI	**Ibiza**	**3.80**	**303**	P	**Pn**	**19 55 19.0**	**+0.4**
	14nm,0.2s,SNR=18						
EIBI				S	**Sn**	**19 56 02.8**	**-0.5**
	22nm,0.3s						
EIBI	**Ibiza**	**3.80**	**303**	P	**Pn**	**19 55 19.0**	**+0.4**
	14nm,0.2s,SNR=18						
VSL	**Villasalto**	**3.98**	**50**	*e*P	**Pn**	**19 55 20.7**	**-0.5**
VSL				*e*S	**Sn**	**19 56 06.8**	**-1.2**
EBEN	**Beniarda**	**4.78**	**292**	P	**Pn**	**19 55 32.7**	**+0.6**
	8.8nm,0.5s,SNR=8.7						
EBEN				S	**Sn**	**19 56 26.1**	**-1.4**
	10nm,0.5s						
EBEN	**Beniarda**	**4.78**	**292**	P	**Pn**	**19 55 32.7**	**+0.6**
	8.8nm,0.5s,SNR=8.7						
CART	**Cartagena**	**5.15**	**278**	*e*P	**Pn**	**19 55 34.8**	**-2.4**
EMUR	**La Murta**	**5.37**	**281**	P	**Pn**	**19 55 39.7**	**-0.4**
	11nm,0.5s,SNR=7.9						
EMUR				S	**Sn**	**19 56 37.5**	**-4.5**
	16nm,0.8s,SNR=7.9						
EMUR	**La Murta**	**5.37**	**281**	P	**Pn**	**19 55 39.7**	**-0.5**
	11nm,0.5s,SNR=7.9						
EMUR				S	**Sn**	**19 56 37.5**	**-4.5**
	16nm,0.8s,SNR=7.9						
EPOB	**Poblet**	**5.49**	**323**	P	**Pn**	**19 55 42.9**	**+1.0**
	2.8nm,0.1s,SNR=11						
EPOB				S	**Sn**	**19 56 44.1**	**-1.0**
	10nm,0.3s						
EPOB	**Poblet**	**5.49**	**323**	P	**Pn**	**19 55 42.9**	**+1.0**
	2.8nm,0.1s,SNR=11						
EPOB				S	**Sn**	**19 56 44.1**	**-1.0**
	10nm,0.3s						
ERTA	**Horta de San J**	**5.59**	**316**	P	**Pn**	**19 55 45.4**	**+2.2**
	11nm,0.7s,SNR=7.9						
ERTA				S	**Sn**	**19 56 46.9**	**-0.6**
	6.2nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**5.59**	**316**	P	**Pn**	**19 55 45.4**	**+2.2**
	11nm,0.7s,SNR=7.9						
ERTA				S	**Sn**	**19 56 46.9**	**-0.6**
	6.2nm,0.5s,SNR=7.9						
ECHE	**Chera**	**5.64**	**299**	P	**Pn**	**19 55 44.8**	**+0.8**
	9.9nm,0.5s,SNR=7.9						
ECHE				S	**Sn**	**19 56 45.5**	**-3.4**
	3.0nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**5.70**	**308**	P	**Pn**	**19 55 45.6**	**+0.9**
	12nm,0.7s,SNR=8.6						
EMOS				S	**Sn**	**19 56 49.6**	**-0.6**
	8.3nm,0.5s						
EMOS	**Mosqueruela**	**5.70**	**308**	P	**Pn**	**19 55 45.6**	**+0.9**
	12nm,0.7s,SNR=8.6						
EMOS				S	**Sn**	**19 56 49.6**	**-0.6**
	8.3nm,0.5s						
EMIR	**Miracle**	**5.75**	**330**	P	**Pn**	**19 55 48.0**	**+2.5**
	14nm,0.2s,SNR=31						
EMIR				S	**Sn**	**19 56 52.2**	**+0.7**
	37nm,0.3s						
EMIR	**Miracle**	**5.75**	**330**	P	**Pn**	**19 55 48.0**	**+2.6**
	14nm,0.2s,SNR=31						
EMIR				S	**Sn**	**19 56 52.2**	**+0.7**
	37nm,0.3s						
ETOB	**Tobarra**	**5.75**	**289**	P	**Pn**	**19 55 46.0**	**+0.5**
	3.2nm,0.3s,SNR=10						
ETOB				S	**Sn**	**19 56 50.1**	**-1.4**
	16nm,0.7s						
ETOB	**Tobarra**	**5.75**	**289**	P	**Pn**	**19 55 46.0**	**+0.5**
	3.2nm,0.3s,SNR=10						
EJON	**La Jonquera**	**5.77**	**341**	P	**Pn**	**19 55 47.1**	**+1.4**
	2.9nm,0.3s,SNR=7.9						
EJON				S	**Sn**	**19 56 53.6**	**+1.6**
	21nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**5.77**	**341**	P	**Pn**	**19 55 47.1**	**+1.4**
	2.9nm,0.3s,SNR=7.9						
EJON				S	**Sn**	**19 56 53.6**	**+1.6**
	21nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**6.10**	**272**	P	**Pn**	**19 55 49.1**	**-1.3**
	2.5nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**19 56 55.3**	**-5.0**
	2.2nm,0.3s,SNR=4.0						
PGF	**Pioggiola**	**6.18**	**25**	*e*Pn	**Pn**	**19 55 51.5**	**+0.1**
PGF				*e*Sn	**Sn**	**19 57 00.3**	**-1.8**
	26nm,0.5s						
PGF	**Pioggiola**	**6.18**	**25**	Pn	**Pn**	**19 55 51.5**	**+0.1**
PGF				Sn	**Sn**	**19 57 00.3**	**-1.8**
	13nm,0.5s						
LMR	**La Mourre**	**6.37**	**7**	*e*Pn	**Pn**	**19 55 54.5**	**+0.5**
LMR				*e*Sn	**Sn**	**19 57 07.3**	**+0.5**
	12nm,0.4s						
LMR	**La Mourre**	**6.37**	**7**	Pn	**Pn**	**19 55 54.5**	**+0.5**
LMR				Sn	**Sn**	**19 57 07.3**	**+0.5**
	6.2nm,0.4s						
LMR	**La Mourre**	**6.37**	**7**	*e*Sn	**Sn**	**19 57 07.3**	**+0.5**
EGRA	**Graus**	**6.51**	**324**	P	**Pn**	**19 55 58.5**	**+2.7**
	9.1nm,0.6s,SNR=7.9						
EGRA				S	**Sn**	**19 57 09.2**	**-0.9**
	17nm,0.9s,SNR=7.9						
ESAC	**San Caprasio**	**6.55**	**318**	P	**Pn**	**19 55 57.6**	**+1.1**
	14nm,0.2s,SNR=7.9						
ESAC				S	**Sn**	**19 57 10.9**	**-0.3**
	19nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**6.55**	**318**	P	**Pn**	**19 55 57.6**	**+1.1**
	14nm,0.2s,SNR=7.9						
ESAC				S	**Sn**	**19 57 10.9**	**-0.4**
	19nm,0.4s,SNR=7.9						
FRF	**La Foret Royal**	**6.61**	**8**	*e*Pn	**Pn**	**19 55 58.8**	**+1.5**
FRF				*e*Sn	**Sn**	**19 57 12.1**	**-0.6**
	10.0nm,0.3s						
FRF	**La Foret Royal**	**6.61**	**8**	Pn	**Pn**	**19 55 58.8**	**+1.5**
FRF				Sn	**Sn**	**19 57 12.1**	**-0.6**
	5.0nm,0.3s						
FRF	**La Foret Royal**	**6.61**	**8**	*e*Sn	**Sn**	**19 57 12.1**	**-0.6**
EBER	**Berja**	**6.66**	**272**	P	**Pn**	**19 55 55.8**	**-2.1**
	3.9nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**19 57 08.3**	**-5.4**
	7.2nm,0.6s,SNR=7.9						
EBER	**Berja**	**6.66**	**272**	P	**Pn**	**19 55 55.8**	**-2.1**
	3.9nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**19 57 08.3**	**-5.5**
	7.2nm,0.6s,SNR=7.9						
MTLF	**Montolieu**	**6.78**	**340**	*e*Pn	**Pn**	**19 56 00.7**	**+1.1**
MTLF				*e*Sn	**Sn**	**19 57 16.2**	**-0.7**
	23nm,0.5s						
MTLF	**Montolieu**	**6.78**	**340**	Pn	**Pn**	**19 56 00.7**	**+1.1**
MTLF				Sn	**Sn**	**19 57 16.2**	**-0.7**
	11nm,0.5s						
EQES	**Quesada**	**6.80**	**279**	P	**Pn**	**19 55 59.8**	**-0.1**
	31nm,0.7s,SNR=17						
EQES				S	**Sn**	**19 57 14.0**	**-3.5**
	15nm,0.5s						
EQES	**Quesada**	**6.80**	**279**	P	**Pn**	**19 55 59.8**	**-0.1**
	31nm,0.7s,SNR=17						
EQES				S	**Sn**	**19 57 14.0**	**-3.5**
	15nm,0.5s						
EBIE	**Bielsa**	**6.97**	**326**	P	**Pn**	**19 56 04.7**	**+2.5**
	4.8nm,0.7s,SNR=7.9						
EBIE				S	**Sn**	**19 57 20.9**	**-0.6**
	2.9nm,0.5s,SNR=7.9						
EBIE	**Bielsa**	**6.97**	**326**	P	**Pn**	**19 56 04.7**	**+2.5**
	4.8nm,0.7s,SNR=7.9						
EBIE				S	**Sn**	**19 57 20.9**	**-0.7**
	2.9nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**7.08**	**274**	P	**Pn**	**19 56 02.7**	**-1.0**
	0.1nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**19 57 18.7**	**-5.6**
	0.4nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**7.16**	**351**	*e*Pn	**Pn**	**19 56 05.5**	**+0.7**
LASF				*e*Sn	**Sn**	**19 57 25.8**	**-0.4**
	11nm,0.5s						
LASF	**Ste Croix**	**7.16**	**351**	Pn	**Pn**	**19 56 05.5**	**+0.7**
LASF				Sn	**Sn**	**19 57 25.8**	**-0.4**
	5.3nm,0.5s						
EPF	**Esparros**	**7.17**	**329**	*e*Pn	**Pn**	**19 56 07.6**	**+2.7**
EPF				*e*Sn	**Sn**	**19 57 25.6**	**-0.7**
	26nm,0.6s						
EPF	**Esparros**	**7.17**	**329**	Pn	**Pn**	**19 56 07.6**	**+2.7**
EPF				Sn	**Sn**	**19 57 25.6**	**-0.7**
	13nm,0.6s						
ECOG	**Cogollos-Vega**	**7.18**	**275**	P	**Pn**	**19 56 05.3**	**+0.1**
	6.7nm,0.5s,SNR=6.7						
ECOG	**Cogollos-Vega**	**7.18**	**275**	P	**Pn**	**19 56 07.1**	**+2.0**
	6.7nm,0.5s,SNR=6.7						
ECOG	**Cogollos-Vega**	**7.18**	**275**	P	**Pn**	**19 56 07.1**	**+2.0**
EBAN	**Banos Encina**	**7.40**	**282**	P	**Pn**	**19 56 07.3**	**-0.8**
	2.3nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**7.46**	**324**	*e*Pn	**Pn**	**19 56 11.7**	**+2.8**
ETSF				*e*Sn	**Sn**	**19 57 33.8**	**+0.2**
	9.8nm,0.5s						
ETSF	**Etsaut**	**7.46**	**324**	Pn	**Pn**	**19 56 11.7**	**+2.8**
ETSF				Sn	**Sn**	**19 57 33.8**	**+0.2**
	4.9nm,0.5s						
ESDC	**Sonseca Array**	**7.84**	**293**	P	**Pn**	**19 56 14.5**	**+0.4**
	0.5nm,0.3s,baz=118,slow=14,SNR=4.2						
ESDC				S	**Sn**	**19 57 43.7**	**+0.8**
	0.5nm,0.3s,baz=110,slow=24,SNR=3.0						
ESDC	**Sonseca Array**	**7.84**	**293**	P	**Pn**	**19 56 14.4**	**+0.3**
	0.4nm,0.3s,baz=107,slow=14,SNR=5.6						
ESDC	**Sonseca Array**	**7.84**	**293**	P	**Pn**	**19 56 14.4**	**+0.3**
	0.4nm,0.3s,SNR=5.6						
ESLA	**Sonseca Array**	**7.84**	**293**	P	**Pn**	**19 56 14.5**	**+0.4**
VIVF	**Saint-Julien-l**	**7.86**	**356**	*e*Pn	**Pn**	**19 56 14.7**	**+0.3**
VIVF				*e*Sn	**Sn**	**19 57 41.5**	**-1.9**
	4.8nm,0.2s						
VIVF	**Saint-Julien-l**	**7.86**	**356**	*e*Pn	**Pn**	**19 56 14.7**	**+0.3**
VIVF				*e*Sn	**Sn**	**19 57 41.5**	**-1.9**
	2.4nm,0.2s						
SJPF	**Ste Jean**	**7.94**	**322**	*e*Pn	**Pn**	**19 56 17.4**	**+1.8**
SJPF				*e*Sn	**Sn**	**19 57 43.9**	**-1.6**
	5.8nm,0.5s						
EADA	**Adamuz**	**8.02**	**281**	S	**Sn**	**19 57 42.4**	**-5.0**
	2.6nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**8.02**	**281**	P	**Pn**	**19 56 15.5**	**-1.1**
EADA				S	**Sn**	**19 57 53.1**	**+5.8**
ELIZ	**Elizondo**	**8.13**	**321**	P	**Pn**	**19 56 20.3**	**+2.2**
	1.7nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**8.16**	**322**	P	**Pn**	**19 56 20.2**	**+1.6**
	3.8nm,0.2s,SNR=7.9						
EALK				S	**Sn**	**19 57 49.6**	**-1.2**
	10nm,0.5s,SNR=7.9						
EALK	**Alkurruntz**	**8.16**	**322**	P	**Pn**	**19 56 20.2**	**+1.7**
	3.8nm,0.2s,SNR=7.9						
EALK				S	**Sn**	**19 57 49.6**	**-1.2**
	10nm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**8.19**	**270**	P	**Pn**	**19 56 18.8**	**-0.2**
	1.5nm,0.4s,SNR=7.9						
CAF	**Calviac**	**8.30**	**343**	*e*Pn	**Pn**	**19 56 22.4**	**+1.9**
CAF				*e*Sn	**Sn**	**19 57 52.1**	**-2.3**
	9.4nm,0.6s						
LPL	**La Plagne**	**8.56**	**6**	*e*Pn	**Pn**	**19 56 27.0**	**+3.0**
LPL				*e*Sn	**Sn**	**19 57 56.7**	**-3.8**
	11nm,0.6s						
RJF	**Les Rejaudoux**	**8.79**	**342**	*e*Sn	**Sn**	**19 58 06.1**	**-0.3**
	3.4nm,0.3s						
ELAN	**Lanestosa**	**9.19**	**315**	P	**Pn**	**19 56 34.4**	**+1.7**
	3.0nm,0.4s,SNR=7.9						
ELAN				S	**Sn**	**19 58 11.7**	**-4.5**
	3.6nm,0.6s,SNR=7.9						
ELAN	**Lanestosa**	**9.19**	**315**	P	**Pn**	**19 56 34.4**	**+1.7**
	3.0nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**10.27**	**311**	P	**Pn**	**19 56 49.4**	**+1.9**
	5.1nm,0.7s,SNR=7.9						
ECAL	**Calabor**	**10.61**	**301**	P	**Pn**	**19 56 52.8**	**+0.8**
	3.4nm,0.4s,SNR=7.9						
IDI	**Anoyia**	**15.82**	**90**	P	**Pn**	**19 58 06.7**	**+3.8**
	0.2nm,0.3s,baz=284,slow=11,SNR=6.3						
AKASG	**Malin Array Be**	**21.83**	**44**	P	**P**	**19 59 10.8**	**-1.8**
	0.6nm,0.5s,mb3.3,baz=242,slow=11,SNR=5.8						
AKASG	**Malin Array Be**	**21.83**	**44**	P	**P**	**19 59 10.8**	**-1.8**
BRTR	**Keskin Array B**	**22.26**	**74**	P	**P**	**19 59 16.1**	**-1.0**
	0.9nm,0.8s,mb3.3,baz=285,slow=9.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**24.00**	**189**	P	**P**	**19 59 27.3**	**-7.6**
	4.4nm,1.0s,mb3.8,baz=1.4,slow=8.2,SNR=8.9						
EIL	**Elat**	**25.67**	**98**	*e*P	**P**	**19 59 48.8**	**-1.2**
	92nm,0.9s,mb5.3						
MALT	**Malatya**	**26.09**	**77**	*e*P	**P**	**19 59 52.2**	**-1.7**
	1.3nm,0.6s,mb3.6						
MKAR	**Makanchi Array**	**55.92**	**54**	P	**P**	**20 03 56.3**	**-1.9**
	0.5nm,0.7s,mb3.6,baz=293,slow=6.2,SNR=4.4						
YKA	**Yellowknife Ar**	**69.83**	**335**	P	**P**	**20 05 28.3**	**-2.4**
	0.3nm,0.7s,mb3.3,baz=47,slow=6.4,SNR=4.7						
YKA	**Yellowknife Ar**	**69.83**	**335**	P	**P**	**20 05 28.3**	**-2.4**

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*CSEM **20** 20:02:35.3±0.3,3462N×2436E,h0km±3km, MD3.5, Error ellipse: s-maj=7.1km s-min=2.2km az=58.0*
*HLW **20** 20:02:35.9,3500N×2392E,h61km,Mb3.0*
*ISCJB **20** 20:02:36.7±0.6,3473N±004×24.19E±009,h43km±7km, mb3.6/6,Error ellipse: s-maj=13.2km s-min=6.0km az=145.7*
*ATH **20** 20:02:38.8,3482N×24.10E,h19km±2km,MD3.5/6*
*NEIC **20** 20:02:38.8,3482N×24.10E,h19km,MD3.5(ATH),After ATH.*
*IDC **20** 20:02:38.4±2.4,3492N×2406E,h35km±18km,mb3.6/6, mb1 3.7/6,mb1mx3.4/22,mbtmp3.8/6,Error ellipse: s-maj=35.2km s-min=21.4km az=142.0*

ISC 20 20:02:37.9±0.6,3480N±004×2420E±008,h30km±6km,n25, σ0§88/27,mb3.6/6,4C,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.10**	**294**	*e*PB	**Pb**	**20 02 42.0**	**-1.1**
VAM	**Vamos**	**0.61**	**0**	*e*PN	**Pb**	**20 02 50.0**	**0.0**
VAM				*e*SN	**Sb**	**20 02 59.3**	**+1.1**
IDI	**Anoyia**	**0.75**	**49**	Pg	**Pn**	**20 02 53.0**	**+0.6**
	34nm,0.3s,baz=243,slow=16,SNR=189						
IDI				Lg		20 03 05.7	
	83nm,0.3s,baz=323,slow=18,SNR=30						
NPS	**Neapolis**	**1.25**	**68**	*e*PN	**Pn**	**20 03 03.7**	**+4.4**
KYTH	**Kithira**	**1.75**	**328**	*e*PN	**Pb**	**20 03 10.0**	**+0.6**
VLI	**Veliai**	**2.17**	**332**	*e*PN	**Pb**	**20 03 15.6**	**-0.8**
KARP	**Karpathos**	**2.54**	**72**	*e*PN	**Pb**	**20 03 22.0**	**-0.8**
DABA	**Dabaa**	**5.11**	**137**	⇑P	**Pn**	**20 03 52.8**	**+0.5**
SWA2		**5.64**	**169**	⇑P	**Pn**	**20 03 59.7**	**+0.1**
SWA1		**5.67**	**166**	P	**Pn**	**20 04 00.2**	**+0.2**
SWA1				S	**Sn**	**20 05 03.0**	**-1.0**
HBRG	**Burj al 'Arab**	**6.35**	**130**	⇑P	**Pn**	**20 04 10.3**	**+0.8**
HNAT	**Natroun**	**7.49**	**132**	P	**Pn**	**20 04 25.4**	**+0.3**
AWBH		**7.61**	**147**	P	**Pn**	**20 04 26.8**	**+0.2**
AYT	**Al 'Ayyat**	**7.78**	**129**	P	**Pn**	**20 04 29.5**	**+0.5**
GLL	**Jalalah**	**8.22**	**127**	⇑P	**Pn**	**20 04 36.0**	**+0.9**
HFRF	**Wahat Farafira**	**8.40**	**154**	P	**Pn**	**20 04 37.7**	**+0.2**
HDK1	**Dakhla**	**10.26**	**153**	P	**Pn**	**20 05 02.3**	**-0.7**
VSL	**Villasalto**	**12.71**	**296**	P	**Pn**	**20 05 38.6**	**+2.0**
HFS	**Hagfors**	**26.26**	**348**	P	**P**	**20 08 09.5**	**-0.9**
	1.4nm,0.6s,mb3.6,baz=158,slow=9.3,SNR=4.9						
NOA	**NORSAR Array B**	**27.55**	**346**	P	**P**	**20 08 20.4**	**-1.6**
	0.4nm,0.6s,mb3.2,baz=152,slow=8.5,SNR=3.0						
NOA	**NORSAR Array B**	**27.55**	**346**	P	**P**	**20 08 20.4**	**-1.6**
TORD	**Torodi Ar. Bea**	**29.65**	**229**	P	**P**	**20 08 41.3**	**+0.6**
	0.3nm,0.4s,mb3.4,baz=39,slow=8.4,SNR=10						
MKAR	**Makanchi Array**	**44.63**	**56**	P	**P**	**20 10 48.4**	**+0.8**
	0.7nm,0.4s,mb3.9,baz=270,slow=7.3,SNR=18						
ZAL	**Zalesovo**	**45.81**	**46**	P	**P**	**20 10 55.6**	**-1.3**
	1.5nm,0.4s,mb4.2,baz=175,slow=5.1,SNR=6.4						
SONM	**Songino Array**	**60.33**	**50**	P	**P**	**20 12 42.6**	**-1.2**
	0.1nm,0.4s,mb3.2,baz=290,slow=6.0,SNR=4.1						

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*NEIC **20** 20:08:52.2,1906N×6485W,h82km,MD3.5(RSPR),After RSPR.*

RSPR 20 20:08:52.2,1906N×6485W,h82km±2km,MD3.5/11, MD3.5/11,13C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.68**	**160**	*e*S	Sn	20 09 19.0	-0.3
TBVI	**Tortola**	**0.68**	**160**	⇑*e*P	Pn	20 09 07.6	-0.2
TBVI				*e*S	Sn	20 09 19.0	-0.3
MTP	**Monte Pirata**	**1.17**	**215**	*e*S	Sn	20 09 28.4	-0.8
MTP	**Monte Pirata**	**1.17**	**215**	⇑*e*P	Pn	20 09 13.1	-0.3
MTP				*e*S	Sn	20 09 28.4	-0.8
CBYP	**Canovanas**	**1.23**	**231**	*e*S	Sn	20 09 30.5	-0.1
CBYP	**Canovanas**	**1.23**	**231**	⇑*e*P	Pn	20 09 13.2	-0.9
CBYP				*e*S	Sn	20 09 30.5	-0.1
HUMP	**Col San Antoni**	**1.31**	**226**	*e*S	Sn	20 09 32.0	-0.3
HUMP	**Col San Antoni**	**1.31**	**226**	⇑*e*P	Pn	20 09 14.5	-0.6
HUMP				*e*S	Sn	20 09 32.0	-0.3
CPD	**Cerro la Pandu**	**1.43**	**225**	*e*S	Sn	20 09 34.9	-0.2
CPD	**Cerro la Pandu**	**1.43**	**225**	⇑*e*P	Pn	20 09 16.3	-0.3
CPD				*e*S	Sn	20 09 34.9	-0.2
SJG	**San Juan**	**1.55**	**233**	⇑*e*P	Pn	20 09 17.3	-0.9
SJG				*e*S	Sn	20 09 37.3	-0.5
SJG	**San Juan**	**1.55**	**233**	⇑*e*P	Pn	20 09 17.3	-0.8
SJG				*e*S	Sn	20 09 37.3	-0.5
CELP	**Cerrillos**	**1.91**	**240**	⇑*e*P	Pn	20 09 22.2	-0.7
CELP				*e*S	Sn	20 09 45.9	-0.2
AOPR	**Arecibo Observ**	**1.93**	**249**	*e*S	Sn	20 09 46.8	+0.1
AOPR	**Arecibo Observ**	**1.93**	**249**	⇑*e*P	Pn	20 09 22.7	-0.5
AOPR				*e*S	Sn	20 09 46.8	+0.1
OBIP	**Obispado Ponce**	**1.94**	**239**	*e*S	Sn	20 09 46.9	-0.2
OBIP	**Obispado Ponce**	**1.94**	**239**	⇑*e*P	Pn	20 09 23.2	-0.1
OBIP				*e*S	Sn	20 09 46.9	-0.2
ICM	**Isla Caja Muer**	**1.96**	**234**	*e*S	Sn	20 09 47.2	-0.2
ICM	**Isla Caja Muer**	**1.96**	**234**	⇑*e*P	Pn	20 09 23.3	-0.3
ICM				*e*S	Sn	20 09 47.2	-0.2
LSP	**Las Mesas**	**2.29**	**248**	*e*S	Sn	20 09 55.1	-0.3
LSP	**Las Mesas**	**2.29**	**248**	⇑*e*P	Pn	20 09 27.7	-0.2
LSP				*e*S	Sn	20 09 55.1	-0.3
CRPR	**Cabo Rojo, PR**	**2.38**	**244**	*e*S	Sn	20 09 57.5	0.0
CRPR	**Cabo Rojo, PR**	**2.38**	**244**	⇑*e*P	Pn	20 09 29.0	-0.1
CRPR				*e*S	Sn	20 09 57.5	0.0

IDC 20 20:18:40.5±7.3,591S×14745E,h115km±70km,mb3.3/2, mb1 3.5/4,mb1mx3.2/15,mbtmp3.7/4,1D,Error ellipse: s-maj=90.0km s-min=53.5km az=125.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.49**	**185**	P	Pn	20 19 34.2	+1.1
	7.7nm,0.3s,baz=19,slow=5.7,SNR=40						
PMG				S	Sn	20 20 13.7	-0.1
	5.4nm,0.3s,baz=250,slow=4.7,SNR=3.6						
WRA	**Warramunga Arr**	**18.90**	**221**	P	P	20 22 50.8	-1.1
	0.4nm,0.3s,baz=43,slow=12,SNR=24						
ASAR	**Alice Springs**	**21.95**	**215**	P	P	20 23 26.1	+1.3
	0.8nm,0.4s,baz=49,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**24.50**	**238**	P	P	20 23 49.9	+0.9
	1.5nm,0.5s,baz=66,slow=12,SNR=6.6						
SYO	**Syowa Base**	**90.83**	**200**	⇓*e*P	P	20 31 23.3	-7.6
TORD	**Torodi Ar. Bea**	**145.50**	**285**	PKPbc	PKPbc	20 38 04.8	-0.4
	0.2nm,0.5s,baz=68,slow=4.2,SNR=4.8						

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*ISCJB **20** 20:24:46.0±0.7,3468N±007×737E±0.1,h10km,mb3.7/5, Error ellipse: s-maj=16.7km s-min=5.8km az=113.6*
*IDC **20** 20:24:46.9±1.1,3472N×7368E,h0km,mb3.8/6,mb1 4.0/8, mb1mx3.7/23,mbtmp3.8/8,ML3.5/3,Error ellipse: s-maj=26.7km s-min=25.2km az=63.0*
*NEIC **20** 20:24:48.6±0.8,3471N×7376E,h10km,Error ellipse: s-maj=18.5km s-min=5.4km az=55.0*
*NNC **20** 20:24

ISCJB ***20*** *20:35:44.2±0.2,5152N±001×1608E±002,h0km,mb3.8/9, MS4.0/1,Error ellipse: s-maj=1.7km s-min=1.5km az=39.6*
MOS ***20*** *20:35:44.6±0.8,5166N×1607E,h10km,mb4.3/2,Error ellipse: s-maj=6.0km s-min=3.5km az=79.3*
CSEM ***20*** *20:35:44.6±0.1,5162N×1599E,h1km,ML4.2/14,Ms4.0, Error ellipse: s-maj=1.7km s-min=1.2km az=86.0*
LDG ***20*** *20:35:44.6±0.2,5158N×1604E,h1km,Ml4.3/16,Error ellipse: s-maj=4.6km s-min=2.4km az=178.0,Suspected Mining induced.*
IPEC ***20*** *20:35:45.6±0.6,5160N×16.17E,h2km±2km,ML3.5/4,Error ellipse: s-maj=3.2km s-min=1.6km az=21.0*
BGR ***20*** *20:35:45.8±0.6,5155N×16.17E,h1km,ML4.0/11,Error ellipse: s-maj=5.6km s-min=5.6km az=48.0*
IDC ***20*** *20:35:47.0±0.5,5152N×1596E,h0km,mb3.9/8, mb1 3.9/17,mb1mx3.8/28,mbtmp3.8/17,ML3.9/7,MS3.5/2, Ms1 3.6/2,ms1mx2.8/33,Error ellipse: s-maj=8.7km s-min=5.0km az=100.0*
NEIC ***20*** *20:35:46.0±0.2,5162N×16.11E,h5km,mb4.0/1, ML4.0(SZGRF),ML4.2(STR),Error ellipse: s-maj=3.0km s-min=2.7km az=191.0*
WAR ***20*** *20:35:47.9,5151N×1606E,ML3.3,Mining Induced*
PRU ***20*** *20:35:47.3,5151N×1603E,h0km,Felt In Harrachov*
VIE ***20*** *20:35:48.8±0.6,5135N×1596E,h0km,mb3.4/8,ML3.5/10, Ms4.0/1,Error ellipse: s-maj=3.4km s-min=2.5km az=1.0 78 km WNW of Breslau Suspected Mining induced.*
STR ***20*** *20:35:52.5±0.7,5138N×1541E,h2km±1km,Ml4.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
UPP ***20*** *20:36:13.0,5347N×1549E,h0km,ML2.8,Suspected Mining explosion.*

ISC 20 20:35:46.0±0.2,5155N±001×1607E±002,h0km,n218, σ1§10/357,mb3.8/9,MS4.0/1,22C-23D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**169**	*i* Pgd	**Pg**	**20 36 00.4**	**+0.5**
KSP				*e*		20 36 03.0	
KSP				*e*Sg	**Sg**	**20 36 09.5**	**+0.3**
KSP				*e*L		20 36 14.0	
KSP	**Ksiaz**	**0.72**	**169**	⇓*i*Pg	**Pg**	**20 36 00.4**	**+0.5**
KSP				*e*		20 36 03.0	
KSP				*e*Sg	**Sg**	**20 36 09.5**	**+0.3**
KSP				*e*		20 36 14.0	
UPC	**Upice**	**1.04**	**182**	*e*PG	**Pg**	**20 36 06.3**	**+0.2**
DPC	**Dobruska-Polom**	**1.21**	**172**	*e*PG	**Pg**	**20 36 09.1**	**-0.2**
DPC				*e*SG	**Sg**	**20 36 24.1**	**-0.9**
	744nm,0.7s						
PVCC	**Panska Ves**	**1.39**	**223**	*e*PG	**Pg**	**20 36 12.6**	**-0.1**
PVCC				*e*SG	**Sg**	**20 36 31.3**	**+0.5**
	715nm,0.5s						
BRG	**Berggiesshubel**	**1.50**	**244**	*e*Pn	**Pn**	**20 36 13.7**	**-0.4**
BRG				*e*Sg	**Sg**	**20 36 34.7**	**+0.5**
BRG	**Berggiesshubel**	**1.50**	**244**	Pn	**Pn**	**20 36 13.7**	**-0.5**
BRG				Pg	**Pg**	**20 36 15.4**	**+0.7**
BRG				Sg	**Sg**	**20 36 34.8**	**+0.6**
BRG	**Berggiesshubel**	**1.50**	**244**	PN	**Pn**	**20 36 13.7**	**-0.5**
BRG				PG	**Pg**	**20 36 15.4**	**+0.7**
BRG				SG	**Sg**	**20 36 34.8**	**+0.6**
	324nm,0.5s						
RUE	**Ruedersdorf**	**1.69**	**304**	*e*Pg	**Pg**	**20 36 16.8**	**-1.7**
RUE				*e*Sg	**Sg**	**20 36 42.1**	**+1.7**
RUE	**Ruedersdorf**	**1.69**	**304**	*e*P	**Pn**	**20 36 16.6**	**-0.3**
RUE				*e*Pg	**Pg**	**20 36 16.8**	**-1.7**
RUE				*e*Sg	**Sg**	**20 36 42.1**	**+1.7**
RUE				*e*S	**Sn**	**20 36 42.7**	**+3.5**
PRA	**Prague**	**1.81**	**216**	⇓PN	**Pn**	**20 36 18.0**	**-0.4**
PRA				PG	**Pg**	**20 36 22.0**	**+1.3**
PRA				SG	**Sg**	**20 36 44.0**	**-0.1**
PRU	**Pruhonice**	**1.84**	**212**	*e*PN	**Pn**	**20 36 18.5**	**-0.3**
PRU				*e*PG	**Pg**	**20 36 20.1**	**-1.2**
PRU				*e*SG	**Sg**	**20 36 42.9**	**-2.2**
	200nm,0.4s						
PRU	**Pruhonice**	**1.84**	**212**	*e*Pg	**Pg**	**20 36 20.1**	**-1.2**
PRU				*e*Sg	**Sg**	**20 36 42.9**	**-2.2**
	200nm,0.4s						
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*Pn	**Pn**	**20 36 20.9**	**+1.7**
GKP				*e*Pg	**Pg**	**20 36 29.1**	**+7.3**
GKP				*e*Sn	**Sn**	**20 36 52.9**	**+9.4**
GKP				*e*Sg	**Sg**	**20 37 01.4**	**+15**
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*P	**Pn**	**20 36 20.9**	**+1.7**
GKP				*e*		20 36 29.1	
CLL	**Collm**	**1.93**	**264**	*e*Pn	**Pn**	**20 36 19.8**	**-0.4**
CLL				*e*Sg	**Sg**	**20 36 49.0**	**+0.9**
CLL	**Collm**	**1.93**	**264**	*i* Pn	**Pn**	**20 36 19.7**	**-0.4**
	comp=Z,89nm,0.5s						
CLL				*e*Pg	**Pg**	**20 36 23.0**	**-0.1**
CLL				*i* x	x	20 36 27.0	
CLL				*e*Sg	**Sg**	**20 36 49.0**	**+0.8**
	comp=Z,312nm,0.6s						
CLL	**Collm**	**1.93**	**264**	Pn	**Pn**	**20 36 19.8**	**-0.3**
CLL				Sg	**Sg**	**20 36 49.0**	**+0.8**
RAC	**Raciborz**	**1.99**	**137**	*e*Pg	**Pg**	**20 36 23.6**	**-0.7**
RAC				*e*Sg	**Sg**	**20 36 50.8**	**+0.7**
RAC	**Raciborz**	**1.99**	**137**	*e*Pn	**Pn**	**20 36 19.9**	**-1.1**
RAC				*e*Pg	**Pg**	**20 36 23.6**	**-0.7**
RAC				*e*Sg	**Sg**	**20 36 50.8**	**+0.7**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**20 36 20.8**	**-0.4**
MORC				*e*Sg	**Sg**	**20 36 48.7**	**-1.9**
MORC	**Moravsky Berou**	**2.01**	**152**	⇓P	**Pn**	**20 36 20.9**	**-0.3**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*Pg	**Pg**	**20 36 26.2**	**-1.3**
VRAC	**Vranov**	**2.27**	**171**	Pn	**Pn**	**20 36 24.8**	**0.0**
	comp=Z,15nm,0.3s,baz=344,slow=15,SNR=67						
VRAC				Pg	**Pg**	**20 36 29.8**	**+0.2**
	comp=Z,31nm,0.3s,baz=358,slow=16,SNR=32						
VRAC				Lg		20 36 56.9	
	comp=Z,30nm,0.3s,baz=71,slow=23,SNR=16						
VRAC	**Vranov**	**2.27**	**171**	⇓*i*Pn	**Pn**	**20 36 24.6**	**-0.2**
VRAC				*e*Sg	**Sg**	**20 36 58.5**	**-0.4**
VRAC	**Vranov**	**2.27**	**171**	⇓P	**Pn**	**20 36 24.8**	**+0.1**
KRUC	**Moravsky**	**2.50**	**175**	⇓*i*Pn	**Pn**	**20 36 28.0**	**+0.1**
KRUC				*e*Sg	**Sg**	**20 37 05.4**	**-0.9**
	comp=Z,191nm,0.6s						
WERD	**Werda**	**2.62**	**247**	*e*Pn	**Pn**	**20 36 29.8**	**+0.2**
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN	**Pn**	**20 36 30.3**	**+0.4**
NKC				*e*PG	**Pg**	**20 36 36.9**	**+0.2**
NKC				*e*SG	**Sg**	**20 37 11.1**	**+0.1**
	comp=Z,375nm,0.5s						
NKC	**Novy Kostel**	**2.64**	**242**	*e*Pg	**Pg**	**20 36 36.9**	**+0.2**
NKC				*e*Sg	**Sg**	**20 37 11.1**	**+0.1**
	comp=Z,375nm,0.5s						
NKC	**Novy Kostel**	**2.64**	**242**	*e*Pn	**Pn**	**20 36 30.3**	**+0.4**
NKC				*e*Pg	**Pg**	**20 36 36.9**	**+0.2**
NKC				*e*Sg	**Sg**	**20 37 11.1**	**+0.1**
OJC	**Ojcow**	**2.71**	**118**	*e*Pn	**Pn**	**20 36 29.3**	**-1.6**
OJC				*e*Pg	**Pg**	**20 36 37.9**	**-0.1**
OJC				*e*Sn	**Sn**	**20 37 02.2**	**-2.2**
OJC				*e*Sg	**Sg**	**20 37 13.7**	**+0.5**
OJC	**Ojcow**	**2.71**	**118**	*e*P	**Pn**	**20 36 29.3**	**-1.6**
OJC				*e*		20 37 02.2	
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**20 36 37.9**	**-0.1**
OJC				*e*Sn	**Sn**	**20 37 02.2**	**-2.2**
OJC				*e*Sg	**Sg**	**20 37 13.7**	**+0.5**
JAVC	**Velka Javorina**	**2.88**	**158**	⇓*i*Pn	**Pn**	**20 36 33.9**	**+0.7**
JAVC				*e*Sg	**Sg**	**20 37 19.8**	**+1.1**
	comp=Z,228nm,1.1s						
KHC	**Kasperske Hory**	**2.90**	**214**	*e*PN	**Pn**	**20 36 33.5**	**+0.1**
KHC				*e*PG	**Pg**	**20 36 39.8**	**-1.8**
KHC				*e*SN	**Sn**	**20 37 08.4**	**-0.6**
KHC				*e*SG	**Sg**	**20 37 17.3**	**-1.9**
	comp=Z,220nm,0.6s						
KHC	**Kasperske Hory**	**2.90**	**214**	*e*P	**Pn**	**20 36 33.5**	**+0.1**
KHC				*e*		20 37 08.4	
KHC	**Kasperske Hory**	**2.90**	**214**	*e*Pg	**Pg**	**20 36 39.8**	**-1.8**
KHC				*e*Sn	**Sn**	**20 37 08.4**	**-0.6**
KHC				*e*Sg	**Sg**	**20 37 17.3**	**-1.9**
	comp=Z,220nm,0.6s						
KHC	**Kasperske Hory**	**2.90**	**214**	*e*Pn	**Pn**	**20 36 33.5**	**+0.1**
KHC				*e*Pg	**Pg**	**20 36 39.8**	**-1.8**
KHC				*e*Sn	**Sn**	**20 37 08.4**	**-0.6**
KHC				*e*Sg	**Sg**	**20 37 17.3**	**-1.9**
MOX	**Moxa**	**2.95**	**254**	*e*Pn	**Pn**	**20 36 34.2**	**+0.1**
MOX				*e*Sg	**Sg**	**20 37 21.6**	**+0.8**
MOX	**Moxa**	**2.95**	**254**	*e*PN	**Pn**	**20 36 34.2**	**+0.1**
MOX				*e*PG	**Pg**	**20 36 42.8**	**+0.2**
MOX				*e*SG	**Sg**	**20 37 21.7**	**+0.9**
MOX	**Moxa**	**2.95**	**254**	Sg	**Sg**	**20 37 21.6**	**+0.8**
MOX	**Moxa**	**2.95**	**254**	*e*Pn	**Pn**	**20 36 34.2**	**+0.1**
MOX				*e*Pg	**Pg**	**20 36 42.8**	**+0.2**
MOX				*e*Sg	**Sg**	**20 37 21.7**	**+0.9**
MANZ	**Manzenberg**	**2.96**	**240**	*e*Pn	**Pn**	**20 36 35.0**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.04**	**236**	*e*Pn	**Pn**	**20 36 35.7**	**+0.4**
GEC2	**GERESS Array S**	**3.10**	**210**	*e*Pn	**Pn**	**20 36 36.4**	**+0.2**
GEC2	**GERESS Array S**	**3.10**	**210**	*e*Pn	**Pn**	**20 36 36.4**	**+0.1**
GERES	**GERESS Array B**	**3.10**	**210**	Pn	**Pn**	**20 36 36.4**	**+0.2**
	comp=Z,15nm,0.3s,baz=31,slow=12,SNR=311						
GERES				Pg	**Pg**	**20 36 43.1**	**-2.5**
	comp=Z,32nm,0.3s,baz=30,slow=19,SNR=56						
GERES				Sn	**Sn**	**20 37 13.4**	**-0.6**
	comp=Z,15nm,0.3s,baz=43,slow=26,SNR=7.2						
GERES				Lg		20 37 22.7	
	comp=Z,20nm,0.3s,baz=43,slow=26,SNR=5.0						
GERES	**GERESS Array B**	**3.10**	**210**	P	**Pn**	**20 36 36.4**	**+0.1**
GERES				S	**Sn**	**20 37 13.4**	**-0.6**
WET	**Wettzell**	**3.16**	**222**	*e*Pn	**Pn**	**20 36 37.0**	**0.0**
WET	**Wettzell**	**3.16**	**222**	*e*Pn	**Pn**	**20 36 37.0**	**0.0**
SMOL	**Smolenice**	**3.16**	**163**	*e*PG	**Pg**	**20 36 46.1**	**-0.6**
SMOL				*e*SG	**Sg**	**20 37 26.8**	**-0.9**
LIKS	**Likavka**	**3.17**	**141**	*e*PG	**Pg**	**20 36 48.5**	**+1.7**
LIKS				*e*SG	**Sg**	**20 37 30.7**	**+2.8**
VKA	**Vienna**	**3.29**	**177**	*i* Pn	**Pn**	**20 36 40.9**	**+2.1**
VKA				*i* Pg	**Pg**	**20 36 49.1**	**0.0**
VKA				*i* Sg	**Sg**	**20 37 32.0**	**+0.2**
VKA	**Vienna**	**3.29**	**177**	Pg	**Pg**	**20 36 49.1**	**0.0**
VKA				Sg	**Sg**	**20 37 32.0**	**+0.2**
ZST	**Bratislava**	**3.42**	**168**	*e*PN	**Pn**	**20 36 41.1**	**+0.5**
ZST				*e*PG	**Pg**	**20 36 50.0**	**-1.7**
ZST				*e*SG	**Sg**	**20 37 34.4**	**-1.6**
ZST	**Bratislava**	**3.42**	**168**	*e*Pg	**Pg**	**20 36 50.0**	**-1.7**
ZST				*e*Sg	**Sg**	**20 37 34.4**	**-1.6**
NIE	**Niedzica**	**3.45**	**127**	Pn	**Pn**	**20 36 40.3**	**-0.7**
NIE				*i* Pg	**Pg**	**20 36 51.7**	**-0.5**
NIE				Sn	**Sn**	**20 37 18.4**	**-4.2**
NIE				*e*Sg	**Sg**	**20 37 37.7**	**+0.8**
NIE	**Niedzica**	**3.45**	**127**	*e*P	**Pn**	**20 36 40.3**	**-0.7**
NIE				*e*		20 37 18.4	
NIE	**Niedzica**	**3.45**	**127**	*i* Pg	**Pg**	**20 36 51.7**	**-0.5**
NIE				*e*Sn	**Sn**	**20 37 18.4**	**-4.2**
NIE				*e*Sg	**Sg**	**20 37 37.7**	**+0.8**
NIE	**Niedzica**	**3.45**	**127**	*e*Pn	**Pn**	**20 36 40.3**	**-0.7**
NIE				*i* Pg	**Pg**	**20 36 51.7**	**-0.5**
NIE				*e*Sn	**Sn**	**20 37 18.4**	**-4.2**
NIE				*e*Sg	**Sg**	**20 37 37.7**	**+0.8**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**20 36 41.9**	**-0.4**
VYHS				*e*PG	**Pg**	**20 36 51.9**	**-2.0**
VYHS				*e*SG	**Sg**	**20 37 41.6**	**+1.8**
VYHS	**Vyhne**	**3.54**	**149**	*e*Pg	**Pg**	**20 36 51.9**	**-2.0**
VYHS				*e*Sg	**Sg**	**20 37 41.6**	**+1.8**
CLZ	**Clausthal**	**3.56**	**277**	*e*Pn	**Pn**	**20 36 43.6**	**+1.2**
CLZ	**Clausthal**	**3.56**	**277**	*e*Pn	**Pn**	**20 36 43.6**	**+1.1**
GRA1	**Grafenberg Arr**	**3.60**	**241**	*e*Pn	**Pn**	**20 36 43.9**	**+0.8**
GRF	**Grafenberg Arr**	**3.60**	**241**	*e*Pn	**Pn**	**20 36 43.9**	**+0.8**
HROE	**Hohe Rhon--Fla**	**3.86**	**257**	⇓*i*Pn	**Pn**	**20 36 47.5**	**+0.8**
MOA	**Molln**	**3.88**	**198**	⇓*i*Sg	**Sg**	**20 37 50.6**	**-0.2**
	comp=Z,143nm,0.8s						
MOA	**Molln**	**3.88**	**198**	*i* Pn	**Pn**	**20 36 47.3**	**+0.3**
	SNR=96						
MOA				⇓*i*Sg	**Sg**	**20 37 50.6**	**-0.2**
	comp=Z,143nm,0.8s						
SOP	**Sopron**	**3.88**	**175**	⇓*e*Sn	**Pn**	**20 36 47.9**	**+0.9**
SOP				*e*	**Sg**	**20 37 49.3**	**-1.5**
UBBA	**Unterbreizbach**	**3.89**	**262**	*e*Pn	**Pn**	**20 36 47.3**	**+0.3**
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*PN	**Pn**	**20 36 48.4**	**+0.7**
STHS				*e*PG	**Pg**	**20 37 01.5**	**0.0**
STHS				*e*SG	**Sg**	**20 37 55.5**	**+3.0**
KECS	**Kecovo**	**4.19**	**135**	*e*PN	**Pn**	**20 36 50.7**	**-0.4**
KECS				*e*		20 37 07.5	
KECS	**Kecovo**	**4.19**	**135**	*e*SG	**Sg**	**20 38 02.9**	**+2.3**
KECS	**Kecovo**	**4.19**	**135**	*e*Pn	**Pn**	**20 36 50.7**	**-0.4**
KECS				*e*		20 37 07.5	
KECS				*e*Sg	**Sg**	**20 38 02.9**	**+2.3**
BSEG	**Bad Segeberg**	**4.23**	**307**	*e*Pn	**Pn**	**20 36 50.8**	**-1.0**
BSEG	**Bad Segeberg**	**4.23**	**307**	*e*Pn	**Pn**	**20 36 50.8**	**-1.0**
ARSA	**Arzberg**	**4.32**	**185**	⇑*i*Sg	**Sg**	**20 38 04.6**	**-0.2**
	comp=Z,140nm,0.8s						
ARSA	**Arzberg**	**4.32**	**185**	⇑*i*Pn	**Pn**	**20 36 53.3**	**+0.3**
	SNR=11						
ARSA				⇑*i*Sg	**Sg**	**20 38 04.6**	**-0.2**
	comp=Z,140nm,0.8s						
ARSA	**Arzberg**	**4.32**	**185**	⇑*i*Pn	**Pn**	**20 36 53.2**	**+0.3**
ARSA				*i* Sg	**Sg**	**20 38 04.6**	**-0.2**
CRVS	**Cervenica-Dubn**	**4.36**	**125**	*e*PN	**Pn**	**20 36 54.4**	**+0.9**
CRVS				*e*PG	**Pg**	**20 37 08.8**	**-0.8**
CRVS				*e*SG	**Sg**	**20 38 05.9**	**-0.2**
PSZ	**Piszkesteto**	**4.40**	**144**	⇑*i*Sn	**Pn**	**20 36 54.7**	**+0.6**
PSZ				*e*	**Sg**	**20 38 03.6**	**-3.8**
FUR	**Furstenfeldbru**	**4.59**	**224**	*e*Pn	**Pn**	**20 36 57.2**	**+0.6**
FUR	**Furstenfeldbru**	**4.59**	**224**	*e*Pn	**Pn**	**20 36 57.2**	**+0.5**
KWP	**Kalwaria**	**4.65**	**112**	*e*Pn	**Pn**	**20 36 57.4**	**0.0**
KWP				*e*Pg	**Pg**	**20 37 17.4**	**+2.3**
KWP				*e*Sn	**Sg**	**20 38 17.5**	**+2.2**
KWP				*e*Sg	**Sg**	**20 38 26.3**	**+11**
KWP	**Kalwaria**	**4.65**	**112**	*e*P	**Pn**	**20 36 56.6**	**-0.8**
KWP	**Kalwaria**	**4.65**	**112**	*e*Pn	**Pn**	**20 36 57.4**	**0.0**
KWP	**Kalwaria**	**4.65**	**112**	*e*Pn	**Pn**	**20 36 56.5**	**-0.9**
KWP				*e*Pn	**Pn**	**20 36 57.4**	**0.0**
KWP				*e*Pg	**Pg**	**20 37 12.2**	**-2.9**
KWP				*e*Pg	**Pg**	**20 37 17.4**	**+2.3**
KWP				*e*S	**Sg**	**20 38 15.9**	**+0.6**
KWP				*e*Sn	**Sg**	**20 38 17.5**	**+2.2**
KWP				*e*Sg	**Sg**	**20 38 26.3**	**+11**
KOLS	**Kolonicke sedl**	**4.77**	**121**	*e*PN	**Pn**	**20 36 59.0**	**-0.1**
KOLS				*e*PG	**Pg**	**20 37 16.7**	**-0.7**
KOLS				*e*SG	**Sg**	**20 38 21.0**	**+1.8**
KOLS	**Kolonicke sedl**	**4.77**	**121**	*e*Pg	**Pg**	**20 37 16.7**	**-0.7**
KOLS				*e*Sg	**Sg**	**20 38 21.0**	**+1.8**
BLEU	**Blekinge**	**4.77**	**358**	P	**Pn**	**20 36 59.2**	**+0.1**
KBA	**Koelnbreinsper**	**4.82**	**203**	⇑*i*Sg	**Sg**	**20 38 22.3**	**+1.6**
	comp=Z,71nm,0.6s						
KBA	**Koelnbreinsper**	**4.82**	**203**	⇑*i*Pn	**Pn**	**20 37 00.7**	**+0.9**
	SNR=27						
KBA				⇑*i*Sg	**Sg**	**20 38 22.3**	**+1.6**
	comp=Z,71nm,0.6s						
KBA	**Koelnbreinsper**	**4.82**	**203**	⇑*i*Pn	**Pn**	**20 37 00.7**	**+0.9**
KBA				*i* Sg	**Sg**	**20 38 22.3**	**+1.6**
PERS	**Pernice**	**4.96**	**188**	*e*Pn	**Pn**	**20 37 03.5**	**+1.8**
UZH	**Uzhgorod**	**4.96**	**124**	*e*P	**Pg**	**20 37 20.0**	**-1.1**
TNS	**Taunus Mts**	**5.00**	**258**	*e*Pn	**Pn**	**20 37 02.5**	**+0.2**
TNS	**Taunus Mts**	**5.00**	**258**	*e*Pn	**Pn**	**20 37 02.5**	**+0.1**
TOD	**Tromm**	**5.02**	**250**	P	**Pn**	**20 37 02.0**	**-0.6**
TOD				S	**Sn**	**20 38 00.1**	**-1.2**
GROS	**Grobnik**	**5.11**	**184**	*e*Pn	**Pn**	**20 37 04.7**	**+1.0**
GROS				*i* Sn	**Sg**	**20 38 27.8**	**-2.3**
WATA	**Walderalm**	**5.13**	**217**	⇓*i*Sg	**Sg**	**20 38 31.3**	**+0.4**
	comp=Z,40nm,0.6s						
WATA	**Walderalm**	**5.13**	**217**	⇓*i*Pn	**Pn**	**20 37 03.3**	**-0.9**
	SNR=12						
WATA				⇓*i*Sg	**Sg**	**20 38 31.3**	**+0.4**
	comp=Z,40nm,0.6s						
WTTA	**Wattenberg**	**5.17**	**216**	⇓*i*Sg	**Sg**	**20 38 33.3**	**+1.1**
	comp=Z,43nm,0.7s						
WTTA	**Wattenberg**	**5.17**	**216**	⇓*i*Pn	**Pn**	**20 37 05.6**	**+0.9**
	SNR=17						
WTTA				⇓*i*Sg	**Sg**	**20 38 33.3**	**+1.1**
	comp=Z,43nm,0.7s						
WTTA	**Wattenberg**	**5.17**	**216**	⇓*i*Pn	**Pn**	**20 37 05.6**	**+0.9**
WTTA				*i* Sg	**Sg**	**20 38 33.3**	**+1.1**
MOTA	**Moosalm**	**5.31**	**219**	⇑*i*Sg	**Sg**	**20 38 37.9**	**+1.4**
	comp=Z,55nm,0.6s						
MOTA	**Moosalm**	**5.31**	**219**	⇑*i*Pn	**Pn**	**20 37 06.4**	**-0.2**
	SNR=32						
MOTA				⇑*i*Sg	**Sg**	**20 38 37.9**	**+1.4**
	comp=Z,55nm,0.6s						
MOTA	**Moosalm**	**5.31**	**219**	⇑*i*Pn	**Pn**	**20 37 06.3**	**-0.2**
MOTA				*i* Sg	**Sg**	**20 38 37.9**	**+1.3**
LVV	**L'vov**	**5.35**	**106**	*e*P	**Pn**	**20 37 07.1**	**0.0**
LVV				*e*S	**Sn**	**20 38 08.7**	**-0.8**
SQTA	**Sankt Quirin**	**5.37**	**218**	⇓*i*Sg	**Sg**	**20 38 39.6**	**+1.1**
	comp=Z,51nm,0.7s						
SQTA	**Sankt Quirin**	**5.37**	**218**	⇑*i*Pn	**Pn**	**20 37 08.2**	**+0.8**
	SNR=12						
SQTA				⇓*i*Sg	**Sg**	**20 38 39.6**	**+1.1**
	comp=Z,51nm,0.7s						
SQTA	**Sankt Quirin**	**5.37**	**218**	⇑*i*Pn	**Pn**	**20 37 08.2**	**+0.8**
SQTA				*i* Sg	**Sg**	**20 38 39.6**	**+1.1**
GORS	**Gorjuse**	**5.41**	**195**	*e*Pn	**Pn**	**20 37 08.5**	**+0.5**
GORS				*i* Sn	**Sg**	**20 38 38.1**	**-1.7**
DOBS	**Dobrina**	**5.42**	**184**	*i* Pn	**Pn**	**20 37 09.2**	**+1.1**
VXJU	**Vaexsjoe**	**5.42**	**353**	P	**Pn**	**20 37 08.4**	**+0.3**
GOLS	**Golise**	**5.55**	**183**	*i* Pn	**Pn**	**20 37 10.9**	**+1.0**
ROBS	**Robic**	**5.57**	**199**	*e*Pn	**Pn**	**20 37 11.8**	**+1.6**
PKSM	**Moragy**	**5.61**	**161**	⇑*e*P	**Pn**	**20 37 10.8**	**+0.2**
PKSM				*e*S	**Sn**	**20 38 25.8**	**+10**
OSKU	**Oskarshamn**	**5.66**	**0**	P	**Pn**	**20 37 11.3**	**-0.1**
ABH	**Alteburg**	**5.66**	**256**	P	**Pn**	**20 37 11.8**	**+0.4**
GCIS	**Gornji Cirnik**	**5.69**	**183**	*i* Pn	**Pn**	**20 37 12.7**	**+0.8**
VOY	**Vojsko**	**5.71**	**195**	*e*Pn	**Pn**	**20 37 12.2**	**+0.2**
VOY				*e*		20 37 34.5	
VOY				*e*		20 38 48.7	
VOY				*e*		20 38 55.2	
DAVA	**Damuels**	**5.87**	**226**	⇑*i*Sg	**Sg**	**20 38 55.6**	**+0.9**
	comp=Z,54nm,0.6s						
DAVA	**Damuels**	**5.87**	**226**	⇑*i*Pn	**Pn**	**20 37 14.2**	**0.0**
DAVA				⇑*i*Sg	**Sg**	**20 38 55.6**	**+0.9**
	comp=Z,54nm,0.6s						
DAVA	**Damuels**	**5.87**	**226**	⇑*i*Pn	**Pn**	**20 37 14.2**	**-0.1**
DAVA				*i* Sg	**Sg**	**20 38 55.5**	**+0.9**
LANF	**Langenberg**	**5.89**	**247**	P	**Pn**	**20 37 13.7**	**-0.8**
ASPU	**Aespoe**	**5.89**	**3**	P	**Pn**	**20 37 14.9**	**+0.4**
BFO	**Black Forest**	**5.94**	**240**	*e*P	**Pn**	**20 37 13.7**	**-1.6**
BFO	**Black Forest**	**5.94**	**240**	*e*P	**Pn**	**20 37 13.7**	**-1.6**
BFO				*e*S	**Sg**	**20 38 54.0**	**-3.0**
RUP	**Ruppelstein**	**6.02**	**256**	P	**Pn**	**20 37 16.1**	**-0.3**
EKSU	**Eksjoe**	**6.05**	**356**	P	**Pn**	**20 37 16.9**	**+0.1**
BOJS	**Bojanci**	**6.07**	**185**	*i* Pn	**Pn**	**20 37 18.0**	**+1.0**
VSTU	**Vaestervik**	**6.13**	**2**	P	**Pn**	**20 37 18.0**	**+0.2**
DAVOX	**Davos**	**6.26**	**223**	Pn	**Pn**	**20 37 20.3**	**+0.6**
DAVOX				Sn	**Sn**	**20 38 30.6**	**-1.3**
DAVOX				Lg		20 38 54.7	
	comp=Z,0.7nm,0.3s,baz=194,slow=23,SNR=4.6						
MEM	**Membach**	**6.41**	**265**	⇓P	**Pn**	**20 37 22.0**	**+0.3**
MEM				XP		20 37 24.8	
MEM				S	**Sn**	**20 38 32.1**	**-3.5**
CDF	**Champ du Feu**	**6.48**	**244**	*e*Pn	**Pn**	**20 37 19.5**	**-3.1**
CDF	**Champ du Feu**	**6.48**	**244**	*e*P	**Pn**	**20 37 23.1**	**+0.5**
CDF				*e*Sg	**Sg**	**20 39 07.3**	**-6.9**
	comp=Z,141nm,0.9s						
CDF	**Champ du Feu**	**6.48**	**244**	*e*P	**Pn**	**20 37 23.1**	**+0.5**
CDF				*e*Sg	**Sg**	**20 39 07.3**	**-6.9**
WLF	**Walferdange**	**6.59**	**257**	⇓P	**Pn**	**20 37 26.0**	**+1.9**
WLF				PNPN		20 37 31.9	
WLF				PB	**Pb**	**20 37 38.0**	**-3.4**
WLF				E		20 39 22.1	
ECH	**Echery**	**6.65**	**243**	P	**Pn**	**20 37 25.5**	**+0.5**
LNKU	**Linkoeping**	**6.70**	**357**	P	**Pn**	**20 37 25.3**	**-0.3**
MOF	**Molkenrain**	**6.87**	**241**	P	**Pn**	**20 37 27.9**	**-0.2**
HINF	**Hinteralfeld**	**7.05**	**242**	*e*Pn	**Pn**	**20 37 26.4**	**-4.0**
HINF				*e*Sg	**Sg**	**20 39 24.6**	**-7.8**
	comp=Z,63nm,0.8s						
BURAR	**Bucovina Array**	**7.13**	**120**	⇓P	**Pn**	**20 37 31.8**	**+0.2**
HAU	**Haudompre**	**7.22**	**244**	*e*Pn	**Pn**	**20 37 27.9**	**-4.9**
**HA

KAF	**Kangasniemi**	11.96	24	*ep*		**Pn**	20 38 35.1	-2.7
	comp=Z,1.4nm,0.4s							
KAF	**Kangasniemi**	11.96	24	*eP*		**Pn**	20 38 35.1	-2.7
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
EKA	**Eskdalemuir Ar**	12.06	296	Pn		**Pn**	20 38 35.3	-3.9
	comp=Z,0.5nm,0.3s,baz=101,slow=14,SNR=12							
OBN	**Obninsk**	12.75	66⇑	*eP*		**Pn**	20 38 45.0	-3.6
OBN				*eS*		**Sn**	20 41 00.8	-10
OBN				pmax	pmax			
	comp=Z,17nm,1.1s							
OBN				MLR	MLR			
	comp=Z,100nm,14.0s							
OBN	**Obninsk**	12.75	66	*eP*		**Pn**	20 38 45.0	-3.6
	comp=Z,17nm,1.1s							
JOF	**Joensuu**	14.02	30	*ep*		**Pn**	20 39 03.2	-2.7
	comp=Z,0.8nm,0.3s							
ANN	**Anapa**	15.74	107	*eP*		**Pn**	20 39 25.4	-3.6
ANN				pmax	pmax			
	comp=Z,97nm,6.2s							
BRTR	**Keskin Array B**	17.00	127	P		**Pn**	20 39 46.3	+1.1
	baz=304,slow=15,SNR=2.4							
BRTR				PcP		PcP	20 44 31.6	+0.3
	comp=Z,0.1nm,0.3s,baz=256,slow=1.8,SNR=3.4							
SOC	**Sochi**	17.78	107	*eP*		**Pn**	20 39 50.4	-4.5
SOC				*e*			20 43 11.7	
SOC				pmax	pmax			
	comp=Z,13nm,0.9s							
SOC	**Sochi**	17.78	107	*eS*		**Sn**	20 43 11.7	-2.0
ARCES	**ARCESS Array B**	18.59	10	Pn		**Pn**	20 40 00.7	-4.2
	comp=Z,0.7nm,0.3s,baz=195,slow=13,SNR=23							
ARCES				Sn		**Sn**	20 43 24.1	-9.1
	comp=Z,0.2nm,0.3s,baz=188,slow=20,SNR=4.1							
KEV	**Kevo**	18.98	12	*ep*		**Pn**	20 40 07.6	-2.0
	comp=Z,4.8nm,0.5s							
KEV	**Kevo**	18.98	12	*eP*		**Pn**	20 40 07.6	-2.0
KEV				pmax	pmax			
	comp=Z,5.0nm,0.5s							
GOF	**Gofitskoye**	19.01	99	*eP*		**Pn**	20 40 11.0	+1.0
KIV	**Kislovodsk**	19.37	103	*i P*		**Pn**	20 40 13.6	-0.6
ARU	**Arti**	25.14	62⇑	*i P*		**P**	20 41 12.5	-0.3
ARU				*e*			20 41 47.2	
ARU				*eS*		**S**	20 45 39.7	+1.1
ARU				*eSS*			20 46 33.1	
ARU				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.3							
AKTK	**Aktyubinsk**	26.17	76	P		**P**	20 41 22.4	+0.3
AKTO	**Aktyubinsk**	26.17	76	P		**P**	20 41 22.4	+0.3
	comp=Z,2.2nm,0.6s,mb3.9,baz=281,slow=10.0,SNR=7.8							
AKTO	**Aktyubinsk**	26.17	76	P		**P**	20 41 22.4	+0.3
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.9							
BVAR	**Borovoye Array**	32.60	66	P		**P**	20 42 20.3	+1.1
	comp=Z,1.1nm,0.6s,mb4.0,baz=297,slow=7.9,SNR=11							
TORD	**Torodi Ar. Bea**	40.02	202	P		**P**	20 43 23.0	+0.3
	comp=Z,1.8nm,0.8s,mb3.8,baz=8.9,slow=7.6,SNR=15							
ZAL	**Zalesovo**	40.20	59	P		**P**	20 43 25.4	+1.3
	comp=Z,0.5nm,0.5s,mb3.5,baz=176,slow=11,SNR=5.0							
ZAL				LR	LR		20 59 57.9	
	comp=Z,197nm,18.9s,MS4.0,baz=253,slow=36							
MKAR	**Makanchi Array**	42.23	69	P		**P**	20 43 41.5	+0.8
	comp=Z,0.7nm,0.7s,mb3.5,baz=298,slow=9.1,SNR=8.1							
SONM	**Songino Array**	54.92	55	P		**P**	20 45 19.9	+1.4
	comp=Z,0.6nm,0.7s,mb3.7,baz=306,slow=8.6,SNR=5.5							
YKA	**Yellowknife Ar**	59.81	336	P		**P**	20 45 53.7	+0.6
	comp=Z,1.2nm,0.7s,mb4.0,baz=30,slow=6.6,SNR=24							
PDAR	**Pinedale Array**	74.89	322	P		**P**	20 47 29.8	+1.1
	comp=Z,0.6nm,0.7s,mb3.7,baz=62,slow=4.5,SNR=5.6							

*IDC **20** 20:39:52.4±2.1, 681S×12965E, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=86.6km s-min=27.4km az=77.0*
*ISCJB **20** 20:40:08.4±4.6, 76S±03×1295E±02, h175km±54km, mb3.4/1, Error ellipse: s-maj=50.3km s-min=34.5km az=33.1*

ISC 20 20:40:07.9±4.6, 75S±03×1294E±02, h146km±53km, n7, σ1§49/8, mb3.4/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	5.94	150	*eP*		**Pn**	20 41 34.7	+1.0
	5.7nm,0.1s							
KAKA				*eS*		**Sn**	20 42 39.7	-1.1
FITZ	**Fitzroy Crossi**	11.14	199	*eP*		**Pn**	20 42 42.4	-0.6
	2.9nm,0.2s							
FITZ				*eS*		Sx	20 44 38.7	
FITZ	**Fitzroy Crossi**	11.14	199	Pn		**Pn**	20 42 42.9	-0.1
	0.8nm,0.3s,baz=27,slow=13,SNR=34							
FITZ				Sn		Sx	20 44 41.6	
	1.0nm,0.3s,baz=134,slow=23,SNR=9.3							
WRA	**Warramunga Arr**	13.23	159	Pn		**Pn**	20 43 09.6	-0.5
	0.4nm,0.3s,baz=344,slow=13,SNR=27							
WRA				Sn		Sx	20 45 28.9	
	1.1nm,0.3s,baz=332,slow=22,SNR=13							
WB2	**Warramunga Arr**	13.23	159	*eP*		**Pn**	20 43 10.6	+0.5
WB2				*eS*		Sx	20 45 28.8	
ASAR	**Alice Springs**	16.61	166	Pn		**Pn**	20 43 55.6	+3.5
	0.1nm,0.3s,baz=340,slow=11,SNR=11							
ASAR				Sn		Sx	20 46 52.8	
	0.4nm,0.3s,baz=343,slow=26,SNR=7.6							
MKAR	**Makanchi Array**	68.36	327	P		**P**	20 50 52.8	-0.6
	0.3nm,0.4s,mb3.4,baz=124,slow=6.3,SNR=11							

*ISCJB **20** 21:06:55.0±2.0, 2378S±008×1796W±02, h497km±35km, mb4.2/10, Error ellipse: s-maj=22.9km s-min=12.1km az=19.7*
*NEIC **20** 21:06:55.5±1.0, 2391S×17955W, h493km±13km, mb4.5/4, Error ellipse: s-maj=15.8km s-min=10.0km az=142.0*
*IDC **20** 21:06:55.8±2.6, 2387S×17957W, h490km±27km, mb3.7/7, mb1 3.8/9, mb1mx3.6/17, mbtmp4.7/9, Error ellipse: s-maj=20.5km s-min=18.8km az=86.0*

ISC 20 21:06:56.2±1.6, 2390S±008×1795W±02, h506km±29km, n37, σ0§78/23, mb4.2/10, 5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	12.32	38	P		**P**	21 09 38.5	+0.5
	10nm,0.3s,baz=21,slow=5.5,SNR=6.1							
URZ	**Urewera**	14.61	191	P		**P**	21 10 00.2	-1.9
	1.9nm,0.3s,baz=303,slow=4.1,SNR=15							
URZ				S		**S**	21 12 35.6	+0.2
	1.7nm,0.3s,baz=66,slow=22,SNR=17							
THZ	**Tophouse**	18.91	198	PN		**P**	21 10 44.6	+0.1
LTZ	**Lake Taylor**	20.03	198	PN		**P**	21 10 54.5	-0.2
WVZ	**Waitaha Valley**	20.77	201	PN		**P**	21 11 02.4	+1.0
RPZ	**Rata Peaks**	21.24	199	P		**P**	21 11 07.1	+1.4
	18nm,0.6s,mb4.8,baz=91,slow=4.5,SNR=14							
CTA	**Charters Tower**	31.96	270	*eP*		**P**	21 12 40.7	+0.8
	11nm,0.4s,mb4.7							
CTA	**Charters Tower**	31.96	270	P		**P**	21 12 40.5	+0.6
	15nm,0.4s,mb4.8,baz=96,slow=10,SNR=28							
CTAO	**Charters Tower**	31.96	270	*eP*		**P**	21 12 40.2	+0.3
PMG	**Port Moresby**	34.95	289	P		**P**	21 13 05.7	+0.5
	5.9nm,0.5s,mb4.3,baz=104,slow=2.7,SNR=9.1							
STKA	**Stephens Creek**	35.17	248	P		**P**	21 13 05.5	-1.6
	0.9nm,0.5s,mb3.5,baz=6.6,slow=12,SNR=4.9							
STKA				PcP		PcP	21 15 25.2	+1.0
	0.4nm,0.3s,baz=189,slow=17,SNR=3.0							
STKA	**Stephens Creek**	35.17	248	P		**P**	21 13 05.5	-1.6
STKA				PcP		PcP	21 15 25.2	+0.9
AS31	**Alice Springs**	42.51	260	‖ *iP*		**P**	21 14 06.8	+0.3
ASAR	**Alice Springs**	42.51	260	P		**P**	21 14 06.8	+0.3
	4.9nm,0.7s,mb4.0,baz=98,slow=7.0,SNR=45							
ASPA	**Alice Springs**	42.51	260	‖ *iP*		**P**	21 14 06.8	+0.2
WB2	**Warramunga Arr**	42.88	266	‖ *iP*		**P**	21 14 09.1	-0.3
WRAB	**Tennant Creek**	42.88	266	*eP*		**P**	21 14 08.9	-0.6
	12nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	42.89	266	P		**P**	21 14 09.2	-0.3
	6.6nm,0.3s,mb4.5,baz=96,slow=8.4,SNR=492							
WRA				PcP		PcP	21 15 50.6	+1.6
	1.0nm,0.7s,baz=97,slow=3.5,SNR=4.7							
KAKA	**Kakadu**	46.79	275	*eP*		**P**	21 14 39.1	-0.4
	5.0nm,0.3s,mb4.4							
FITZ	**Fitzroy Crossi**	51.31	265	*eP*		**P**	21 15 14.1	+1.1
	8.7nm,0.8s,mb4.1							
MBWA	**Marble Bar**	55.85	260	*eP*		**P**	21 15 45.0	-0.2
ILAR	**Eielson Array**	91.92	13	P		**P**	21 19 09.3	-0.9
	0.5nm,0.8s,mb3.5,baz=226,slow=6.0,SNR=5.0							
MKAR	**Makanchi Array**	112.51	313	PKiKP		PKiKP	21 24 35.2	+0.7
	0.5nm,0.6s,baz=182,slow=1.6,SNR=8.4							
ZRNK	**Zerenda**	121.60	319	*e*PKPdf		PKPdf	21 24 52.9	+0.8
ARCES	**ARCESS Array B**	131.99	348	PKP		PKPdf	21 25 11.9	+0.1
	1.8nm,0.7s,baz=0.0,slow=1.2,SNR=10							
FINES	**FINESS Array B**	138.60	342	PKhKP			21 25 16.1	
	0.5nm,0.5s,baz=57,slow=3.8,SNR=6.7							
FINES				PKP		PKPdf	21 25 24.6	+0.5
	2.2nm,0.9s,baz=309,slow=0.9,SNR=7.3							
NOA	**NORSAR Array B**	142.16	352	PKhKP			21 25 23.9	
	1.0nm,0.8s,baz=61,slow=1.9,SNR=3.3							
AKASG	**Malin Array Be**	145.23	328	PKPbc		PKPbc	21 25 37.0	+0.2
	2.2nm,0.3s,baz=44,slow=4.3,SNR=18							
BRTR	**Keskin Array B**	147.96	307	PKPbc		PKPbc	21 25 45.1	+0.9
	1.4nm,0.7s,baz=139,slow=5.4,SNR=8.6							
KSP	**Ksiaz**	150.46	340	*eP*		PKPbc	21 25 52.5	+2.2
CLL	**Collm**	151.00	344	‖ *iP*		PKPbc	21 25 53.4	+1.9
	comp=Z,10.0nm,0.9s							
CLL	**Collm**	151.00	344	‖ *iP*		PKPbc	21 25 53.4	+1.9
CLL				*i*			21 25 56.7	
BRG	**Berggiesshubel**	151.14	342	*i P*		PKPbc	21 25 53.6	+1.8
BRG	**Berggiesshubel**	151.14	342	*i P*		PKPbc	21 25 53.6	+1.8
	comp=Z,3.6nm,0.5s							
GERES	**GERESS Array B**	153.02	341	PKPbc		PKPbc	21 25 56.2	+0.2
	comp=Z,0.4nm,0.6s,baz=33,slow=3.2,SNR=4.9							
GERES				PKPab		PKPab	21 26 11.5	+1.6
	comp=Z,0.3nm,0.5s,baz=20,slow=3.2,SNR=3.2							
MESC	**Monte Escuro**	153.86	52	*eS*			21 26 11.8	
TORD	**Torodi Ar. Bea**	169.25	186	PKPab		PKPab	21 27 21.9	+1.0
	comp=Z,0.6nm,0.8s,baz=156,slow=5.2,SNR=6.3							

*MDD **20** 21:10:12.5±3.0, 3685N×544E, h0km, mb3.7/4, Error ellipse: s-maj=28.4km s-min=17.1km az=167.0, PRXIMO*
*CSEM **20** 21:10:14.2±0.4, 3675N×542E, h35km, ML2.6/9, Error ellipse: s-maj=7.2km s-min=3.9km az=161.0*
*LDG **20** 21:10:14.3±0.5, 3669N×551E, h25km, Ml2.6/6, Error ellipse: s-maj=10.6km s-min=6.5km az=166.0*
*ISCJB **20** 21:10:15.5±1.3, 3727N±007×543E±007, h10km, Error ellipse: s-maj=10.6km s-min=7.1km az=133.1*
*NEIC **20** 21:10:17.5±3.0, 3726N×544E, h10km, MG3.7(MDD), Error ellipse: s-maj=36.4km s-min=11.2km az=155.0*

ISC 20 21:10:16.9±1.3, 3720N±007×542E±007, h10km, n24, σ1§03/44, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	3.28	322	Pn		**Pn**	21 11 08.1	-0.2
	1.1nm,0.1s,SNR=11							
ETOS				Sn		**Sn**	21 11 48.0	+0.7
	1.8nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	3.28	322	Pn		**Pn**	21 11 08.1	-0.2
	1.1nm,0.1s,SNR=11							
ETOS				Sn		**Sn**	21 11 48.0	+0.6
	1.8nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	3.70	301	Pn		**Pn**	21 11 12.4	-1.6
	0.6nm,0.1s,SNR=7.9							
EIBI				Sn		**Sn**	21 11 55.1	-2.6
	0.7nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	3.70	301	Pn		**Pn**	21 11 12.4	-1.6
	0.6nm,0.1s,SNR=7.9							
EIBI				Sn		**Sn**	21 11 55.1	-2.5
	0.7nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	3.70	301	Pn		**Pn**	21 11 12.4	-1.6
EIBI				Sn		**Sn**	21 11 55.1	-2.6
EMUR	**La Murta**	5.33	279	Pn		**Pn**	21 11 38.5	+2.0
EPOB	**Poblet**	5.34	322	Pn		**Pn**	21 11 36.4	-0.3
	0.8nm,0.2s,SNR=7.9							
EPOB				Sn		**Sn**	21 12 36.8	-1.5
	0.4nm,0.1s,SNR=7.9							
EPOB	**Poblet**	5.34	322	Pn		**Pn**	21 11 36.4	-0.3
	0.8nm,0.2s,SNR=7.9							
EPOB				Sn		**Sn**	21 12 36.8	-1.4
	0.4nm,0.1s,SNR=7.9							
EMIR	**Miracle**	5.59	329	Pn		**Pn**	21 11 40.7	+0.7
	0.7nm,0.1s,SNR=7.9							
EMIR				Sn		**Sn**	21 12 47.2	+2.9
	SNR=7.9							
EMIR	**Miracle**	5.59	329	Pn		**Pn**	21 11 40.7	+0.7
	0.7nm,0.1s,SNR=7.9							
PGF	**Pioggiola**	6.01	26	*e*Pn		**Pn**	21 11 44.9	-0.9
PGF				*e*Sn		**Sn**	21 12 53.5	-1.2
	0.3nm,0.2s							
PGF	**Pioggiola**	6.01	26	*e*Pn		**Pn**	21 11 44.9	-0.9
PGF				*e*Sn		**Sn**	21 12 53.5	-1.2
	0.2nm,0.2s							
LMR	**La Mourre**	6.18	7	*e*Pn		**Pn**	21 11 47.8	-0.4
LMR				*e*Sn		**Sn**	21 12 59.7	+0.7
	0.9nm,0.3s							
LMR	**La Mourre**	6.18	7	*e*Pn		**Pn**	21 11 47.8	-0.4
LMR				*e*Sn		**Sn**	21 12 59.7	+0.7
	0.4nm,0.3s							
FRF	**La Foret Royal**	6.42	8	*e*Pn		**Pn**	21 11 51.9	+0.4
FRF				*e*Sn		**Sn**	21 13 05.6	+0.7
	1.3nm,0.4s							
FRF	**La Foret Royal**	6.42	8	*e*Pn		**Pn**	21 11 51.9	+0.4
FRF				*e*Sn		**Sn**	21 13 05.6	+0.7
	0.6nm,0.4s							
MTLF	**Montolieu**	6.61	339	*e*Pn		**Pn**	21 11 53.5	-0.5
MTLF				*e*Sn		**Sn**	21 13 09.3	-0.1
	0.8nm,0.3s							
MTLF	**Montolieu**	6.61	339	*e*Pn		**Pn**	21 11 53.5	-0.5
MTLF				*e*Sn		**Sn**	21 13 09.3	-0.1
	0.4nm,0.3s							
SMRF	**Simiane la Rot**	6.77	1	*e*Pn		**Pn**	21 11 57.1	+0.8
LASF	**Ste Croix**	6.97	351	*e*Pn		**Pn**	21 11 58.7	-0.3
LASF				*e*Sn		**Sn**	21 13 18.3	-0.1
	0.3nm,0.3s							
LASF	**Ste Croix**	6.97	351	*e*Pn		**Pn**	21 11 58.7	-0.3
LASF				*e*Sn		**Sn**	21 13 18.3	-0.1
	0.2nm,0.3s							
EPF	**Esparros**	7.00	328	*e*Pn		**Pn**	21 12 00.5	+1.0
EPF				*e*Sn		**Sn**	21 13 19.2	0.0
	0.5nm,0.3s							
EPF	**Esparros**	7.00	328	*e*Pn		**Pn**	21 12 00.5	+1.0
EPF				*e*Sn		**Sn**	21 13 19.2	0.0
	0.2nm,0.3s							
ETSF	**Etsaut**	7.31	323	*e*Pn		**Pn**	21 12 04.2	+0.5

MAN 20 21:45:29.9, 1356N×12027E, h32km, mb1.9, ML3.6, MS2.0, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	0.17	352	*eP*	Pb	21 45 37.5	+1.3
LUBP				*eS*	Sb	21 45 42.8	+2.5
PGP	**Puerto Galera**	0.67	95‖	*eP*	Pn	21 45 43.3	+0.1
SJMP	**San Jose**	1.37	143	*eP*	Pn	21 45 53.2	+0.4
BUSP	**Coron**	1.55	183	*eP*	Pn	21 45 55.4	+0.1
BUSP				*eS*	Sn	21 46 12.2	-2.1

*BJI **20** 21:52:48.4, 5480N×159.10W, h4km, mB4.9, mb4.7, Ms4.6, Msz4.2*
*IDC **20** 21:52:49.5±1.1, 5494N×15937W, h0km, mb4.4/15, mb1 4.5/18, mb1mx4.4/24, mbtmp4.4/18, ML4.3/3, MS3.9/9, Ms1 3.9/9, ms1mx3.5/35, Error ellipse: s-maj=31.0km s-min=13.6km az=159.0*
*ISCJB **20** 21:52:52.8±1.6, 5507N±009×15938W±009, h25km±9km, mb4.5/54, MS4.0/11, Error ellipse: s-maj=16.5km s-min=5.9km az=128.1*
*NEIC **20** 21:52:53.5, 5484N×159.13W, h4km, mb4.7/24, MS4.0/3, ML4.1(AEIC), After AEIC.*
*MOS **20** 21:52:53.1±0.6, 5554N×159.77W, h10km, mb4.9/23, Error ellipse: s-maj=17.0km s-min=5.8km az=83.9*

ISC 20 21:52:55.9±0.9, 5500N±009×15932W±009, h43km±5km, h29km±6.5km: pP-P, n155, σ0§87/157, mb4.5/54, MS4.0/11, 2C-3D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	0.75	298	*eP*		**Pn**	21 53 10.0	-0.1
AKUT	**Akutan**	3.85	260	*eP*		**Pn**	21 53 52.9	+0.2
UNV	**Unalaska Valle**	4.35	257	P		**Pn**	21 53 59.1	-0.4
KDAK	**Kodiak Island**	4.67	51	Pn		**Pn**	21 54 01.6	-2.2
	8.4nm,0.3s,baz=237,slow=7.1,SNR=76							
KDAK				Pg		**Pn**	21 54 12.5	+8.7
	10.0nm,0.3s,baz=261,slow=7.1,SNR=14							
KDAK				Sn		**Sn**	21 54 59.6	+3.0
	8.4nm,0.3s,baz=331,slow=23,SNR=2.9							
KDAK				Lg			21 55 20.4	
	8.5nm,0.3s,baz=98,slow=22,SNR=4.6							
KDAK				LR		LR	21 56 13.2	
	comp=Z,2μm,18.5s,baz=210,slow=43							
KDAK	**Kodiak Island**	4.67	51	P		**Pn**	21 54 01.4	-2.4
SVW2	**Sparrevohn**	6.42	16	P		**Pn**	21 54 30.0	+2.0
SLKM	**Skilak Lake**	7.35	38	*eP*		**Pn**	21 54 40.3	-0.4
FIB	**Fire Island**	7.85	34	*eP*		**Pn**	21 54 47.4	-0.1
FIB				pmax	pmax			
	comp=Z,34nm,0.7s							
FIB	**Fire Island**	7.85	34	*eP*		**Pn**	21 54 47.4	-0.1
	comp=Z,34nm,0.7s							
TT01	**Tatalina**	8.11	11	P		**Pn**	21 54 51.9	+0.8
TTA	**Tatalina**	8.13	11	*eP*		**Pn**	21 54 51.4	0.0
PMR	**Palmer**	8.50	35	*eP*		**Pn**	21 54 56.3	-0.2
GHO	**Glory Hole Cre**	8.70	35	P		**Pn**	21 54 58.5	-0.7
SML	**Sawmill**	8.92	36	*eP*		**Pn**	21 55 00.9	-1.3
ADK	**Adak**	10.81	260	*eP*		**Pn**	21 55 29.5	+1.4
ADK				pmax	pmax			
	comp=Z,33nm,0.8s							
ADK	**Adak**	10.81	260	*eP*		**Pn**	21 55 29.5	+1.4
	comp=Z,33nm,0.8s							
MENT	**Mentasta**	11.29	39	*eP*		**Pn**	21 55 36.3	+1.7
TNA	**Tin City**	11.40	342	*eP*		**Pn**	21 55 37.5	+1.3
	comp=Z,5.5nm,0.6s							
ILAR	**Eielson Array**	11.59	27	Pn		**Pn**	21 55 35.0	-3.8
	comp=Z,0.8nm,0.3s,baz=217,slow=13,SNR=124							
ILAR				Sn		**Sn**	21 57 42.5	-4.2
	comp=Z,0.2nm,0.3s,baz=216,slow=21,SNR=3.4							
ILAR				LR		LR	22 00 20.3	
	comp=Z,291nm,19.1s,baz=207,slow=39							
ILAR	**Eielson Array**	11.59	27	P		**Pn**	21 55 35.0	-3.7
ILAR							21 57 42.5	
DAWY	**Dawson**	13.53	40	*eP*		**Pn**	21 56 04.1	-1.0
FX1	**Attu Island--F**	16.30	274	Pn		**Pn**	21 56 40.5	-1.2
	comp=Z,3.0nm,0.3s,baz=301,slow=11,SNR=6.3							
FX1	**Attu Island--F**	16.30	274	*eP*		**Pn**	21 56 41.4	-0.3
INK	**Inuvik**	17.90	32	P		**Pn**	21 56 59.6	-2.0
	comp=Z,1.2nm,0.3s,baz=239,slow=12,SNR=27							
INK				LR		LR	22 04 24.7	
	comp=Z,290nm,19.4s,baz=91,slow=39							
INK	**Inuvik**	17.90	32	*eP*		**Pn**	21 56 59.1	-2.5
INK				pmax	pmax			
	comp=Z,7.0nm,0.6s							
INK	**Inuvik**	17.90	32	*eP*		**Pn**	21 56 59.1	-2.5
	comp=Z,7.0nm,0.6s							
BBB	**Bella Bella**	18.66	86	LR		LR	22 02 57.6	
	comp=Z,265nm,20.5s,baz=136,slow=32							
BILL	**Bilibino**	20.59	323	*eP*		**P**	21 57 31.7	+0.5
BILL				pmax	pmax			
	comp=Z,4.0nm,0.5s							
BILL	**Bilibino**	20.59	323	*eP*		**P**	21 57 31.7	+0.5
	comp=Z,4.4nm,0.5s							
YKA	**Yellowknife Ar**	23.94	54	P		**P**	21 58 04.8	-1.2
	comp=Z,1.4nm,0.6s,mb3.6,baz=273,slow=9.5,SNR=28							
NEW	**Newport**	26.71	87	LR		LR	22 07 28.9	
	comp=Z,135nm,18.1s,MS3.5,baz=118,slow=33							
YBH	**Yreka Blue Hor**	27.36	104	LR		LR	22 07 08.3	
	comp=Z,306nm,18.9s,MS3.9,baz=300,slow=31							
TIXI	**Tiksi**	33.67	327	*eP*		**P**	21 59 30.4	-2.3
TIXI				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
TIXI				MLR	MLR			
	comp=Z,245nm,14.0s,MS4.1							
PDAR	**Pinedale Array**	34.20	90	P		**P**	21 59 37.2	-0.1
	comp=Z,0.3nm,0.6s,mb3.4,baz=290,slow=4.4,SNR=3.5							
BOD	**Bodaibo**	44.90	311	*eP*		**P**	22 01 04.1	-2.2
BOD				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.4							
MDJ	**Mudanjiang**	45.13	288	P		**P**	22 01 09.9	+1.8
MDJ				AP	pP		22 01 13.5	-6.5
MDJ				XP	sP		22 01 15.1	-10
MDJ				PP	PP		22 02 54.6	+0.5
MDJ				S	**S**		**22 07 51.3**	**+6.8**
MDJ				SS	SS		22 11 08.3	+0.4
MDJ				AMB	AMB			
	comp=Z,7.0nm,1.5s,mb4.3							
MDJ				AMB	AMB			
	comp=Z,121nm,5.1s							
MDJ				LR	LR			
	comp=N,50nm,23.9s							
MDJ				LR	LR			
	comp=E,40nm,29.9s							
MDJ				LR	LR			
	comp=Z,77nm,19.9s,MS3.6							
MJAR	**Matsushiro Arr**	45.65	273	P		**P**	22 01 12.1	-0.2
	comp=Z,2.8nm,0.6s,mb4.3,baz=32,slow=6.4,SNR=12							
DAG	**Danmarks Havn**	46.15	12⇑	*i P*		**P**	22 01 15.8	-0.4
	comp=Z,12nm,0.5s,mb5.1							
DAG	**Danmarks Havn**	46.15	12⇑	*i P*		**P**	22 01 15.8	-0.4
DAG				pmax	pmax			
	comp=Z,12nm,0.5s,mb5.1							
SUMG	**Summit**	46.34	21	*eP*		**P**	22 01 17.5	-0.2
	comp=Z,4.2nm,0.6s,mb4.5							

comp=Z,2.2nm,0.7s,mb4.3,baz=353,slow=6.6,SNR=9.7
NOA NORSAR Array B 64.06 5 P **P 22 03 25.2 -0.2**
KURK Kurchatov 64.12 323 *e*P **P 22 03 26.0 +0.3**
KURK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KURK Kurchatov 64.12 323 *e*P **P 22 03 26.0 +0.3**
comp=Z,4.4nm,0.8s,mb4.5
GTA Gaotai 64.36 302 *e*P **P 22 03 27.1 -0.2**
GTA AP pP 22 03 34.6 -5.1
GTA XP sP 22 03 37.6 -7.0
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.6
BVA0 Borovoye Array 64.76 329 *i* P **P 22 03 30.1 +0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BVAR Borovoye Array 64.76 329 P **P 22 03 29.6 -0.4**
comp=Z,4.7nm,0.6s,mb4.7,baz=37,slow=7.4,SNR=30
BVAR PcP PcP 22 04 03.2 -0.1
comp=Z,3.0nm,0.6s,baz=50,slow=2.8,SNR=8.0
VOSK Vostochnaya 64.85 329 P **P 22 03 30.1 -0.4**
VOSK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
ZRNK Zerenda 65.23 330 *e*P **P 22 03 32.8 -0.2**
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ZRNK Zerenda 65.23 330 *e*P **P 22 03 32.8 -0.2**
comp=Z,5.6nm,0.7s,mb4.7
MKAR Makanchi Array 66.07 319 P **P 22 03 37.7 -0.7**
comp=Z,2.5nm,0.7s,mb4.4,baz=44,slow=6.1,SNR=31
WMQ Urumqi 66.35 313 *e*P **P 22 03 42.4 +2.2**
WMQ AP pP 22 03 52.8 +0.1
WMQ AMB AMB
comp=Z,3.0nm,1.0s,mb4.3
WMQ AMB AMB
comp=Z,22nm,4.6s
WMQ LR LR
comp=N,251nm,21.0s
WMQ LR LR
comp=Z,221nm,22.0s,MS4.3
CD2 Chengdu 69.02 294 *e*P **P 22 03 55.5 -1.5**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.9s
AKTK Aktyubinsk 70.40 336 P **P 22 04 05.4 -0.1**
AKTO Aktyubinsk 70.40 336 P **P 22 04 05.4 -0.1**
comp=Z,4.1nm,0.6s,mb4.5,baz=31,slow=5.6,SNR=22
AB31 Akbulak array 71.02 334 *i* P **P 22 04 09.3 0.0**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KKAR Karatay Array 73.48 324 *i* P **P 22 04 23.8 -0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BAIF Baives 74.41 11 *e*P **P 22 04 29.7 +0.3**
AKASG Malin Array Be 74.42 354 P **P 22 04 28.8 -0.8**
comp=Z,7.5nm,0.6s,mb4.8,baz=7.1,slow=6.0,SNR=21
DPC Dobruska-Polom 74.95 3 *e*P **P 22 04 33.1 +0.5**
FLN La Foliniere 75.09 14 *e*P **P 22 04 33.8 +0.5**
comp=Z,30nm,1.1s,mb4.8
FLN *e*R
comp=Z,55nm,18.8s
FLN La Foliniere 75.09 14 *e*P **P 22 04 33.8 +0.5**
FLN pmax pmax
comp=Z,15nm,1.1s,mb4.8
FLN MLR MLR
comp=Z,50nm,18.8s,MS3.8
FLN La Foliniere 75.09 14 *e*P **P 22 04 33.8 +0.5**
comp=Z,15nm,1.1s,mb4.8
FLN LR LR
comp=Z,50nm,18.8s,MS3.8
PRU Pruhonice 75.25 4 *e*P **P 22 04 34.2 -0.1**
GRR Gorron 75.40 15 *e*P **P 22 04 35.4 +0.3**
STHS Stebnicka Huta 75.95 360 *i* P **P 22 04 39.2 +0.9**
KHC Kasperske Hory 76.07 5 *e*P **P 22 04 39.7 +0.8**
GERES GERESS Array B 76.36 5 P **P 22 04 40.7 +0.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=354,slow=4.0,SNR=14
LSA Lhasa 76.39 302 *e*P **P 22 04 42.1 +1.3**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LSA Lhasa 76.39 302 *e*P **P 22 04 42.1 +1.4**
comp=Z,2.9nm,0.6s,mb4.4
KOLS Kolonicke sedl 76.43 359 *e*P **P 22 04 45.6 +4.6**
SMOL Smolenice 76.82 2 *e* **P 22 04 44.1 +0.9**
KECS Kecovo 76.89 0 *e*P **P 22 04 43.5 -0.1**
KECS Kecovo 76.89 0 *e* **P 22 04 43.5 -0.1**
HINF Hinteralfeld 76.89 10 *e*P **P 22 04 44.3 +0.7**
LOR Lormes 77.12 12 *e*P **P 22 04 45.2 +0.3**
comp=Z,8.7nm,0.9s,mb4.4
LOR *e*R
comp=Z,76nm,18.0s
LOR Lormes 77.12 12 *e*P **P 22 04 45.2 +0.3**
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LOR MLR MLR
comp=Z,80nm,18.0s,MS4.1
LOR Lormes 77.12 12 *e*P **P 22 04 45.2 +0.3**
comp=Z,4.3nm,0.9s,mb4.4
LOR LR LR
comp=Z,80nm,18.0s,MS4.1
MFF Saint Martin d 77.25 15 *e*P **P 22 04 45.7 +0.1**
comp=Z,13nm,0.6s,mb4.7
MFF Saint Martin d 77.25 15 *e*P **P 22 04 45.7 +0.1**
MFF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
MFF Saint Martin d 77.25 15 *e*P **P 22 04 45.7 +0.1**
comp=Z,6.7nm,0.6s,mb4.8
SSF Saint Saulge 77.28 12 *e*P **P 22 04 46.2 +0.4**
comp=Z,21nm,1.2s,mb4.6
SSF Saint Saulge 77.28 12 *e*P **P 22 04 46.2 +0.4**
SSF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
SSF Saint Saulge 77.28 12 *e*P **P 22 04 46.2 +0.4**
comp=Z,10nm,1.2s,mb4.6
AVF Avril sur Loir 77.53 12 *e*P **P 22 04 47.2 0.0**
comp=Z,6.0nm,0.7s,mb4.3
AVF Avril sur Loir 77.53 12 *e*P **P 22 04 47.2 0.0**
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AVF Avril sur Loir 77.53 12 *e*P **P 22 04 47.2 0.0**
comp=Z,3.0nm,0.7s,mb4.3
BURAR Bucovina Array 77.69 357 ⇓P **P 22 04 48.0 -0.1**
BGF Bois d'Agland 77.70 12 *e*P **P 22 04 47.7 -0.4**
comp=Z,26nm,1.1s,mb4.8
BGF Bois d'Agland 77.70 12 *e*P **P 22 04 47.7 -0.4**
BGF pmax pmax
comp=Z,13nm,1.0s,mb4.8
BGF Bois d'Agland 77.70 12 *e*P **P 22 04 47.7 -0.4**
comp=Z,13nm,1.0s,mb4.8
SMF Signal de Mont 77.73 12 *e*P **P 22 04 48.4 +0.1**
TCF Toulx Ste Croi 77.88 13 *e*P **P 22 04 49.6 +0.5**
RJF Les Rejaudoux 78.75 14 *e*P **P 22 04 54.3 +0.3**
comp=Z,16nm,1.1s,mb4.6
RJF *e*R
comp=Z,59nm,18.0s
RJF Les Rejaudoux 78.75 14 *e*P **P 22 04 54.3 +0.3**
RJF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
RJF MLR MLR
comp=Z,60nm,18.0s,MS4.0
RJF Les Rejaudoux 78.75 14 *e*P **P 22 04 54.3 +0.3**
comp=Z,8.1nm,1.1s,mb4.6
RJF LR LR
comp=Z,60nm,18.0s,MS4.0
LFF La Frestale 79.00 14 *e*P **P 22 04 55.7 +0.4**
comp=Z,19nm,0.8s,mb4.7
LFF La Frestale 79.00 14 *e*P **P 22 04 55.7 +0.4**
LFF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LFF La Frestale 79.00 14 *e*P **P 22 04 55.7 +0.4**
comp=Z,9.4nm,0.8s,mb4.8
LPL La Plagne 79.16 10 *e*P **P 22 04 56.8 +0.6**
LPG La Plagne 79.18 10 *e*P **P 22 04 57.2 +0.9**
CAF Calviac 79.20 13 *e*P **P 22 04 56.8 +0.4**
KIV Kislovodsk 79.66 344 *e*P **P 22 04 59.3 +0.4**
KIV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KIV Kislovodsk 79.66 344 *e*P **P 22 04 59.3 +0.4**
comp=Z,7.0nm,0.6s,mb4.8
MLR Muntele Rosu 79.78 356 ⇓P **P 22 04 59.7 +0.1**
MBDF Montbardon 79.94 10 *e*P **P 22 05 01.4 +0.9**
comp=Z,6.3nm,0.7s,mb4.3
MBDF Montbardon 79.94 10 *e*P **P 22 05 01.4 +0.9**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MBDF Montbardon 79.94 10 *e*P **P 22 05 01.4 +0.9**
comp=Z,3.2nm,0.7s,mb4.4
LASF Ste Croix 80.26 12 *e*P **P 22 05 02.3 +0.1**
GUN Gumba 80.40 305 *e*P **P 22 05 03.7 +0.8**
comp=Z,10nm,0.6s,mb4.9
JIRN Jiri 80.47 305 *e*P **P 22 05 03.9 +0.6**
comp=Z,18nm,0.5s,mb5.2
SJPF Ste Jean 80.49 16 *e*P **P 22 05 03.6 +0.2**
SMRF Simiane la Rot 80.56 11 *e*P **P 22 05 04.3 +0.5**
TIRR Tirgusor 80.70 354 ⇓P **P 22 05 04.7 +0.2**
TIRR Tirgusor 80.70 354 *e*P **P 22 05 04.2 -0.3**
KKN Kakani 80.78 306 *e*P **P 22 05 05.1 +0.1**
comp=Z,6.4nm,0.6s,mb4.7
ETSF Etsaut 80.81 16 *e*P **P 22 05 05.5 +0.4**
comp=Z,13nm,0.6s,mb4.7
ETSF Etsaut 80.81 16 *e*P **P 22 05 05.5 +0.4**
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ETSF Etsaut 80.81 16 *e*P **P 22 05 05.5 +0.4**
comp=Z,6.6nm,0.6s,mb4.7
SBF Sospel 80.87 10 *e*P **P 22 05 05.8 +0.4**
GKN Gorkha 80.90 306 *e*P **P 22 05 04.6 -1.0**
comp=Z,10nm,0.8s,mb4.8
FRF La Foret Royal 81.09 10 *e*P **P 22 05 06.3 -0.3**
LMR La Mourre 81.30 10 *e*P **P 22 05 08.5 +0.8**
KOLN Koldanda 81.58 307 *e*P **P 22 05 05.5 -3.7**
PGF Pioggiola 82.31 9 *e*P **P 22 05 13.4 +0.4**
comp=Z,9.7nm,0.8s,mb4.5
PGF Pioggiola 82.31 9 *e*P **P 22 05 13.4 +0.4**
PGF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PGF Pioggiola 82.31 9 *e*P **P 22 05 13.4 +0.4**
comp=Z,4.8nm,0.8s,mb4.5
ESDC Sonseca Array 83.36 19 P **P 22 05 19.0 +0.5**
comp=Z,2.8nm,0.6s,mb4.5,baz=340,slow=4.7,SNR=31
BR131 Keskin Array S 84.99 350 *e*P **P 22 05 27.2 +0.4**
comp=Z,1.1nm,0.7s,mb4.1
BRTR Keskin Array B 84.99 350 P **P 22 05 27.1 +0.3**
comp=Z,1.0nm,0.6s,mb4.1,baz=16,slow=2.5,SNR=8.3
WRA Warramunga Arr 93.42 240 P **P 22 06 05.2 -1.5**
comp=Z,0.6nm,0.6s,mb4.2,baz=34,slow=5.6,SNR=10

IDC ***20*** *22:07:40.1±1.3, 2192S×17045E, h0km, mb4.0/5, mb1 4.1/6, mb1mx4.0/13, mbtmp4.0/6, ML4.0/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/30, Error ellipse: s-maj=52.0km s-min=25.9km az=170.0*
ISCJB ***20*** *22:07:44.9±3.9, 220S±02×1704E±02, h45km±30km, mb4.1/8, MS3.8/5, Error ellipse: s-maj=29.4km s-min=25.7km az=96.8*
NEIC ***20*** *22:07:45.1±0.7, 2198S×17044E, h35km, mb4.0/2, Error ellipse: s-maj=18.7km s-min=14.2km az=170.0*
ISC 20 22:07:46.0±4.0, 220S±02×1704E±02, h39km±31km, n24, σ0§83/14, mb4.1/8, MS3.8/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.71**	**268**	Pn	**Pn**	**22 08 40.3**	**-0.4**
	11nm,0.3s,baz=117,slow=22,SNR=466						
DZM				Sn	**Sn**	**22 09 24.6**	**+1.5**
	18nm,0.3s,baz=258,slow=21,SNR=14						
DZM	**Mont Dzumac**	**3.71**	**268**	*e*P	**Pn**	**22 08 40.0**	**-0.7**
DZM				*e*S	**Sn**	**22 09 23.0**	**-0.1**
URZ	**Urewera**	**17.19**	**162**	LR	LR	22 16 57.3	
	comp=Z,304nm,18.0s,baz=222,slow=32						
RPZ	**Rata Peaks**	**21.66**	**179**	LR	LR	22 18 04.0	
	comp=Z,77nm,21.0s,MS3.1,baz=164,slow=29						
CTAO	**Charters Tower**	**22.65**	**270**	*e*P	**P**	**22 12 45.0**	**+1.5**
	8.1nm,1.0s,mb4.1						
PMG	**Port Moresby**	**25.62**	**296**	*e*P	**P**	**22 13 10.8**	**-0.9**
	1.4nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**27.46**	**243**	P	**P**	**22 13 28.4**	**+0.2**
	2.6nm,1.0s,mb3.7,baz=58,slow=13,SNR=2.3						
STKA				LR	LR	22 23 30.2	
	comp=Z,131nm,18.5s,MS3.5,baz=213,slow=35						
STKA	**Stephens Creek**	**27.46**	**243**	P	**P**	**22 13 28.4**	**+0.2**
STKA				LR	LR	22 23 30.2	
TAU	**Tasmania Unive**	**28.38**	**217**	*e*P	**P**	**22 13 35.4**	**-1.1**
ASAR	**Alice Springs**	**33.66**	**260**	P	**P**	**22 14 22.3**	**-0.6**
	1.4nm,1.0s,mb3.8,baz=88,slow=8.6,SNR=6.5						
WRA	**Warramunga Arr**	**33.72**	**267**	P	**P**	**22 14 23.2**	**-0.4**
	0.4nm,0.9s,mb3.4,baz=97,slow=8.3,SNR=5.9						
FITZ	**Fitzroy Crossi**	**42.15**	**267**	LR	LR	22 33 43.9	
	comp=Z,86nm,18.4s,MS3.7,baz=275,slow=37						
GUMO	**Guam**	**43.36**	**322**	*e*P	**P**	**22 15 44.1**	**-0.3**
	60nm,0.9s,mb5.3						
VNDA	**Vanda**	**55.72**	**182**	LR	LR	22 38 50.2	
	comp=Z,262nm,18.1s,MS4.4,baz=332,slow=34						
NVAR	**Mina Array Bea**	**89.79**	**48**	LR	LR	22 49 28.2	
	comp=Z,85nm,21.5s,MS4.1,baz=180,slow=28						
SONM	**Songino Array**	**90.09**	**323**	P	**P**	**22 20 42.2**	**+0.4**
	1.2nm,1.0s,mb4.2,baz=131,slow=4.1,SNR=4.6						
PLCA	**Paso Flores**	**95.73**	**138**	P	**P**	**22 21 08.9**	**+1.1**
	0.6nm,0.3s,mb4.5,baz=165,slow=15,SNR=5.0						
ARCES	**ARCESS Array B**	**128.01**	**345**	PKP	PKPdf	22 26 45.9	-1.7
	2.0nm,0.8s,baz=90,slow=2.4,SNR=4.7						
ARCES	**ARCESS Array B**	**128.01**	**345**	PKP	PKPdf	22 26 45.9	-1.7
KSP	**Ksiaz**	**144.84**	**331**	*e*P	PKPdf	22 27 17.4	-1.3
BRG	**Berggiesshubel**	**145.83**	**333**	*e*(P)		22 27 40.0	
	3.3nm,1.0s						
CLL	**Collm**	**145.88**	**335**	*i* P	PKPdf	22 27 20.1	-0.4
	comp=Z,6.0nm,1.1s						
KHC	**Kasperske Hory**	**147.29**	**331**	*e*PKP	PKPdf	22 27 24.0	+1.2
GERES	**GERESS Array B**	**147.44**	**331**	PKPbc	PKPbc	22 27 25.4	-0.2
	comp=Z,0.7nm,0.6s,baz=30,slow=5.6,SNR=7.6						

PRE 20 22:32:11.3±2.3, 2201S×3372E, h5km, ML4.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.21**	**232**	*e*P	Pn	22 33 45.8	+2.2
SLR				*e*S	Sn	22 34 52.0	-2.9
SLR				AML	AML	22 35 44.4	
	comp=Z,101nm,0.4s						
LBTB	**Lobatse**	**8.04**	**247**	*e*P	Pn	22 34 09.6	+0.9
LBTB				*e*S	Sn	22 35 36.5	-3.4
LBTB				AML	AML	22 36 25.5	
	comp=Z,84nm,0.6s						
BOSA	**Boshof**	**10.09**	**228**	*e*P	Pn	22 34 39.2	+2.3
BOSA				*e*S	Sn	22 36 26.2	-4.2
BOSA				AML	AML	22 37 47.9	
	comp=Z,24nm,0.6s						
PKA	**Prieska**	**12.47**	**230**	*e*P	Pn	22 35 11.9	+2.4
SUR	**Sutherland**	**15.44**	**225**	*e*P	Pn	22 35 51.2	+1.5
SUR				*e*S	Sn	22 38 33.7	-7.3
CVNA	**Calvinia**	**15.62**	**230**	*e*P	Pn	22 35 53.5	+1.3

LDG ***20*** *22:41:36.6±1.9, 3465N×7370E, h10km, Mb4.8/27, Ms4.0/2, Error ellipse: s-maj=91.8km s-min=7.3km az=160.0*
ISCJB ***20*** *22:41:37.7±0.2, 3469N±002×7370E±003, h10km, mb4.6/73, MS3.6/17, Error ellipse: s-maj=4.3km s-min=2.7km az=100.3*
BJI ***20*** *22:41:38.8, 3487N×7378E, h10km, mB4.8, mb4.7, ML4.5, Ms4.4, Msz4.1*
IDC ***20*** *22:41:38.5±0.6, 3480N×7380E, h0km, mb4.5/19, mb1 4.6/22, mb1mx4.6/26, mbtmp4.5/22, ML4.2/3, MS3.3/13, Ms1 3.4/13, ms1mx3.2/36, Error ellipse: s-maj=15.5km s-min=10.8km az=60.0*
NEIC ***20*** *22:41:39.7±0.2, 3479N×7380E, h10km, mb4.8/39, Error ellipse: s-maj=7.6km s-min=3.7km az=211.0*
MOS ***20*** *22:41:41.4±1.2, 3480N×7372E, h33km, mb4.9/36, Error ellipse: s-maj=8.3km s-min=5.1km az=115.3*
NNC ***20*** *22:41:44.7±5.7, 3521N×7291E, h0km, mb4.6, mpv4.6, Error ellipse: s-maj=54.0km s-min=42.0km az=39.0*
ISC 20 22:41:40.0±0.2, 3482N±002×7378E±003, h10km, (h18km±6.0km:pP-P), n236, σ1§18/264, mb4.6/73, MS3.6/17, 20C-8D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.24**	**200**	P	**Pn**	**22 42 02.7**	**-0.6**
CEP	**Cherat**	**1.84**	**238**	P	**Pn**	**22 42 14.0**	**+2.4**
CEP				S	**Sn**	**22 42 40.0**	**+5.1**
JMU	**Jammu**	**2.30**	**156**	*e*P	**Pn**	**22 42 23.0**	**+5.1**
THW	**Thamme Wali**	**2.64**	**220**	P	**Pn**	**22 42 25.0**	**+2.4**
DLH	**Dalhousie**	**2.92**	**141**	*e*P	**Pn**	**22 42 29.0**	**+2.6**
DLH				*e*S	**Sn**	**22 43 07.0**	**+5.5**
SARP	**Sargodha**	**3.04**	**198**	P	**Pn**	**22 42 31.0**	**+2.9**
SBDP	**Sheikh Budin**	**3.53**	**225**	P	**Pn**	**22 42 37.0**	**+2.1**
SDNR	**Sundarnagar**	**4.26**	**140**	*e*P	**Pn**	**22 42 47.0**	**+2.1**
SDNR				*e*x	x	22 43 31.5	
DRP	**Derazinda**	**4.29**	**225**	P	**Pn**	**22 42 48.4**	**+3.1**
SMLA	**Simla**	**4.66**	**141**	*e*P	**Pn**	**22 42 53.0**	**+2.7**
SMLA				*e*S	**Sn**	**22 43 44.9**	**+0.4**
	3μm,0.4s						
KSH	**Kashi**	**5.00**	**20**	PG	**Pn**	**22 43 01.5**	**+6.4**
KSH				S	**Sn**	**22 44 01.6**	**+8.6**
KSH				Smax			
	comp=N,627nm,1.2s						
KSH				Smax			
	comp=E,654nm,1.0s						
DDI	**Dehra Dun**	**5.76**	**140**	*e*P	**Pn**	**22 43 07.6**	**+2.1**
DDI				*e*S	**Sn**	**22 44 10.1**	**-1.5**
NDI	**New Delhi**	**6.79**	**153**	*e*P	**Pn**	**22 43 19.5**	**-0.1**
NDI				*e*S	**Sn**	**22 44 35.0**	**-1.9**
KHET	**Khetri**	**6.95**	**165**	AML	AML	22 45 33.2	
	comp=E,118nm,0.6s						
KHET				AML	AML	22 45 34.8	
	comp=N,66nm,0.4s						
SONA	**Sohna**	**7.13**	**156**	AML	AML	22 45 35.0	
	comp=E,587nm,0.4s						
SONA				AML	AML	22 45 35.1	
	comp=N,186nm,0.2s						
AML	**Almayashu**	**7.30**	**360**	P	**Pn**	**22 43 31.0**	**+4.4**
	SNR=41						
KZA	**Kyzart**	**7.34**	**9**	P	**Pn**	**22 43 31.1**	**+3.9**
	SNR=18						
UCH	**Uchtor**	**7.42**	**4**	P	**Pn**	**22 43 32.5**	**+4.2**
	SNR=55						
PTH	**Pithoragarh**	**7.58**	**132**	*e*P	**Pn**	**22 43 30.3**	**-0.2**
PTH				*e*x	x	22 45 00.8	
ULHL	**Ulahol**	**7.66**	**14**	P	**Pn**	**22 43 36.0**	**+4.4**
	SNR=19						
LGTI	**Lohaghat**	**7.67**	**133**	*e*P	**Pn**	**22 43 31.5**	**-0.2**
LGTI				*e*S	**Sn**	**22 44 55.5**	**-3.1**
AAK	**Ala-Archa**	**7.82**	**4**	P	**Pn**	**22 43 37.6**	**+3.8**
	SNR=15						
EKS2	**Erkin-Say**	**7.83**	**0**	P	**Pn**	**22 43 37.9**	**+4.0**
	SNR=84						
KBK	**Karagaybulak**	**7.88**	**6**	P	**Pn**	**22 43 38.8**	**+4.2**
	SNR=14						
FRU	**Bishkek**	**8.03**	**4**	*e*P	**Pn**	**22 43 41.5**	**+4.9**
FRU				pmax	pmax		
	comp=Z,100nm,1.7s						
FRU				pmax	pmax		
	comp=E,590nm,2.3s						
CHMS	**Chumysh**	**8.20**	**5**	P	**Pn**	**22 43 43.1**	**+4.1**
	SNR=9.6						
TKM2	**Tokmak 2**	**8.21**	**9**	P	**Pn**	**22 43 43.3**	**+4.1**
	SNR=16						
TKM2	**Tokmak 2**	**8.21**	**9**	⇑Pn	**Pn**	**22 43 42.7**	**+3.5**
	comp=E,20nm,0.9s						
TKM2				⇑Sn	**Sn**	**22 45 12.2**	**+0.2**
	comp=E,52nm,0.7s						
AJM	**Ajmer**	**8.35**	**175**	*i* x	x	22 43 41.0	
AJM				*i* x	x	22 45 15.0	
USP	**Ospenovka**	**8.45**	**4**	P	**Pn**	**22 43 46.7**	**+4.3**
	SNR=9.5						
KK31	**Karatay Array**	**8.65**	**344**	⇓Pn	**Pn**	**22 43 47.3**	**+2.1**
	comp=E,18nm,0.3s,baz=153,slow=11,SNR=799						
KK31				⇑Sn	**Sn**	**22 45 22.8**	**0.0**
	comp=E,55nm,0.6s,baz=173,slow=23,SNR=12						
KK31				⇑Rg		22 47 01.5	
	comp=E,523nm,8.3s						
KOLN	**Koldanda**	**10.95**	**127**	*e*Pn	**Pn**	**22 44 15.9**	**-0.8**
KOLN				*e*Sn	**Sn**	**22 46 11.7**	**-7.6**
	comp=E,126nm,0.6s						
GKN	**Gorkha**	**11.50**	**123**	*e*Pn	**Pn**	**22 44 23.3**	**-0.9**
GKN				*e*Sn	**Sn**	**22 46 24.9**	**-7.7**
	comp=E,168nm,0.4s						
DMN	**Daman**	**12.07**	**123**	*e*Pn	**Pn**	**22 44 30.8**	**-1.2**
DMN				*e*Sn	**Sn**	**22 46 38.1**	**-8.5**
	comp=E,463nm,1.1s						
KKN	**Kakani**	**12.07**	**122**	*e*Pn	**Pn**	**22 44 30.5**	**-1.6**
KKN				*e*Sn	**Sn**	**22 46 37.8**	**-9.0**
	comp=E,211nm,0.9s						
PKI	**Pulchoki**	**12.30**	**123**	*e*Pn	**Pn**	**22 44 33.9**	**-1.3**
PKI				*e*Sn	**Sn**	**22 46 44.4**	**-7.9**
	comp=E,110nm,0.5s						
GUN	**Gumba**	**12.42**	**120**	*e*Pn	**Pn**	**22 44 35.4**	**-1.4**
GUN				*e*Sn	**Sn**	**22 46 45.5**	**-10**
JIRN	**Jiri**	**12.79**	**121**	*e*Pn	**Pn**	**22 44 40.4**	**-1.5**
JIRN				*e*Sn	**Sn**	**22 46 55.4**	**-8.9**
	comp=E,156nm,0.6s						
MK31	**Makanchi Array**	**13.57**	**26**	⇑P	**Pn**	**22 44 53.4**	**+0.8**
	comp=E,12nm,0.8s,baz=204,slow=13,SNR=59						
MKAR	**Makanchi Array**	**13.57**	**26**	Pn	**Pn**	**22 44 52.2**	**-0.4**
	comp=E,0.2nm,0.3s,baz=217,slow=7.6,SNR=24						
MKAR				LR	LR	22 49 33.1	
	comp=E,25nm,18.7s,baz=110,slow=35						
MKAR	**Makanchi Array**	**13.57**	**26**	*i* P	**Pn**	**22 44 53.5**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**13.57**	**26**	Pn	**Pn**	**22 44 52.2**	**-0.4**
MKAR				LR	LR	22 49 33.1	
WMQ	**Urumqi**	**14.01**	**46**	P	**Pn**	**22 44 57.8**	**-0.8**
WMQ				AP		22 45 02.3	
WMQ				XP		22 45 06.1	
WMQ				PP		22 45 08.8	
WMQ				PPP		22 45 15.8	
WMQ				*e*S	**Sn**	**22 47 39.0**	**+4.8**
WMQ				*e*SS		22 47 55.9	
WMQ				AMB	AMB		
	comp=Z,33nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,222nm,3.8s						
WMQ				LR	LR		
	comp=N,379nm,8.0s						
WMQ				LR	LR		
	comp=E,674nm,8.2s						
WMQ				LR	LR		
	comp=Z,546nm,8.0s						
AKL	**Akola**	**14.35**	**168**	*i* x	x	22 44 24.8	
AKL				*i* x	x	22 46 54.5	
BLSP	**Bilaspur**	**14.62**	**148**	*e*x	x	22 50 10.0	
LSA	**Lhasa**	**15.56**	**104**	P	**Pn**	**22 45 21.3**	**+2.0**
LSA	**Lhasa**	**15.56**	**104**	*e*P	**Pn**	**22 45 18.4**	**-0.9**
LSA				pmax	pmax		
	comp=Z,43nm,0.8s						
POO	**Poona**	**16.23**	**180**	*e*x	x	22 45 29.5	
POO				*e*PPP		22 45 51.5	
POO				*i* x	x	22 48 39.0	
POO				*i* SS		22 48 59.0	
POO				*i* SSS		22 49 12.0	
POO				*i* x	x	22 49 25.0	
POO				*i* PCP	PcP	22 50 16.0	-6.4
KURK	**Kurchatov**	**16.27**	**11**	⇑P	**Pn**	**22 45 26.7**	**-1.9**
	comp=Z,28nm,1.0s						
KURK				⇑S	**Sn**	**22 48 38.0**	**+8.9**
	comp=Z,7.0nm,1.3s						
KURK	**Kurchatov**	**16.27**	**11**	*d i*P	**Pn**	**22 45 27.9**	**-0.7**
KURK	**Kurchatov**	**16.27**	**11**	*e*Pn	**Pn**	**22 45 27.0**	**-1.6**
	comp=Z,54nm,1.0s						
KURK				*e*Sn	**Sn**	**22 48 24.2**	**-4.9**
KURK				*e*PcP	PcP	22 50 21.3	-1.2
AB31	**Akbulak array**	**17.66**	**329**	P	**Pn**	**22 45 44.0**	**-2.1**
	comp=Z,6.8nm,0.6s,baz=138,slow=13,SNR=107						
AB31				⇓S	**Sn**	**22 48 51.7**	**-11**
	comp=Z,8.0nm,0.6s,baz=140,slow=23,SNR=6.3						
HYB	**Hyderabad**	**17.85**	**165**	*i* P	**Pn**	**22 45 50.0**	**+1.6**
HYB	**Hyderabad**	**17.85**	**165**	*e*P	**Pn**	**22 45 53.0**	**+4.6**
HYB				*e*S	**Sn**	**22 48 59.0**	**-8.4**
VOSK	**Vostochnaya**	**18.01**	**354**	⇑P	**Pn**	**22 45 48.7**	**-1.7**
	comp=Z,19nm,1.1s						
SHL	**Shillong**	**18.15**	**116**	*e*x	x	22 45 47.0	
SHL				*e*S	**Sn**	**22 49 06.0**	**-8.6**
BVA0	**Borovoye Array**	**18.36**	**353**	P	**Pn**	**22 45 53.9**	**-0.7**
	comp=Z,4.1nm,1.1s,baz=161,slow=12,SNR=99						
BVA0				⇑S	**Sn**	**22 49 20.0**	**+0.4**
	comp=Z,2.8nm,1.1s						
BVAR	**Borovoye Array**	**18.36**	**353**	P	**Pn**	**22 45 53.9**	**-0.8**
	comp=Z,2.7nm,0.3s,baz=164,slow=12,SNR=42						
BVAR				S	**Sn**	**22 49 20.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=158,slow=25,SNR=3.4						
BRVK	**Borovoye**	**18.40**	**353**	*e*P	**Pn**	**22 45 55.0**	**-0.2**
BRVK				*e*S	**Sn**	**22 49 17.7**	**-3.0**
BRVK				pmax	pmax		
	comp=Z,28nm,1.0s

comp=Z,129nm,0.2s
ZRNK Zerenda 18.44 351 *e*P **Pn 22 45 54.1 -1.6**
comp=Z,129nm,0.2s
ZRNK *e*S **Sn 22 49 23.6 +2.0**
AKTK Aktyubinsk 19.38 328 P **Pn 22 46 06.9 0.0**
AKTK S **Sn 22 49 36.5 -7.8**
AKTK LR LR 22 54 26.8
AKTO Aktyubinsk 19.38 328 ⇑P **Pn 22 46 06.4 -0.5**
comp=Z,5.7nm,0.7s
AKTO ⇓S **Sn 22 49 33.5 -11**
comp=Z,3.6nm,1.0s
AKTO Aktyubinsk 19.38 328 P **Pn 22 46 06.9 0.0**
comp=Z,1.9nm,0.3s,baz=131,slow=9.9,SNR=67
AKTO S **Sn 22 49 36.5 -7.8**
comp=Z,0.4nm,0.3s,baz=326,slow=18,SNR=5.3
AKTO LR LR 22 54 26.8
comp=Z,56nm,18.8s,baz=0.0,slow=40
AKTO Aktyubinsk 19.38 328 P **Pn 22 46 06.9 -0.1**
AKTO S **Sn 22 49 36.5 -7.8**
AKTO pmax pmax
comp=Z,2.0nm,0.3s
AKTO MLR MLR
comp=Z,56nm,18.8s
NVS Novosibirsk 21.07 15 *e*P **P 22 46 22.5 -1.8**
NVS *e*S **S 22 50 16.9 -1.9**
NVS pmax pmax
comp=N,50nm,1.5s
NVS pmax pmax
comp=Z,47nm,1.5s,mb4.6
NVS pmax pmax
comp=E,7.0nm,0.6s
NVS smax
comp=N,24nm,2.0s
NVS smax
comp=E,5.0nm,0.8s
GTA Gaotai 21.23 70 P **P 22 46 27.4 +1.3**
GTA S **S 22 50 26.3 +4.3**
GTA AMB AMB
comp=Z,27nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,228nm,5.3s
GTA LR LR
comp=N,174nm,14.1s,MS3.7
GTA LR LR
comp=E,131nm,12.9s,MS3.7
GTA LR LR
comp=Z,210nm,14.8s,MS3.6
GNI Garni 23.59 292 P **P 22 46 56.5 +5.5**
comp=Z,17nm,0.7s,mb4.6,baz=98,slow=3.3,SNR=13
GNI Garni 23.59 292 *e*P **P 22 46 56.8 +5.8**
GNI pmax pmax
comp=Z,78nm,1.3s
GNI Garni 23.59 292 *e*P **P 22 46 56.5 +5.5**
comp=Z,53nm,1.0s,mb4.9
ARU Arti 23.98 339⇑*i*P **P 22 46 54.9 +0.3**
ARU *e* 22 47 25.4
ARU *e*S **S 22 51 11.8 +0.5**
ARU *e*SS 22 51 56.8
ARU pmax pmax
comp=Z,25nm,0.9s,mb4.6
LZH Lanzhou 24.48 78 *e*P **P 22 47 00.0 +0.8**
LZH AP 22 47 09.3
LZH PP 22 47 34.6
LZH *e*S **S 22 51 12.5 -7.0**
LZH AMB AMB
comp=Z,39nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,83nm,4.8s
LZH LR LR
comp=N,607nm,11.3s
LZH LR LR
comp=Z,933nm,13.7s,MS4.4
ZEI Tsey 24.51 298 *i*P **P 22 46 58.2 -1.2**
ZEI *i* *PP 22 47 07.0
ZEI *i* 22 47 28.8
CD2 Chengdu 25.44 90 *e*P **P 22 47 08.8 +0.9**
CD2 XP sP 22 47 22.3 +10
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
CD2 LR LR
comp=N,160nm,7.2s
CD2 LR LR
comp=Z,140nm,12.6s,MS3.7
KIV Kislovodsk 25.58 300⇓*i*P **P 22 47 12.6 +3.4**
KIV pmax pmax
comp=Z,10.0nm,1.5s,mb4.1
MOY Mondy 25.79 41 *e*P **P 22 47 13.2 +2.1**
MOY pmax pmax
comp=Z,29nm,1.8s,mb4.5
ZAK Zakamensk 26.48 45⇑*i*P **P 22 47 18.7 +1.4**
ZAK pmax pmax
comp=Z,24nm,1.6s,mb4.5
KMI Kunming 26.81 103 P **P 22 47 22.5 +2.2**
KMI AMB AMB
comp=Z,23nm,0.9s,mb4.7
SONM Songino Array 27.51 52 P **P 22 47 28.2 +1.6**
comp=Z,10nm,1.1s,mb4.4,baz=254,slow=8.9,SNR=44
SONM PP 22 48 13.6
comp=Z,3.5nm,0.9s,baz=248,slow=11,SNR=3.9
SONM LR LR 23 00 53.9
comp=Z,9.5nm,21.1s,MS2.3,baz=67,slow=42
SONM Songino Array 27.51 52 P **P 22 47 28.2 +1.6**
SONM 22 48 13.6
ULN Ulaanbaatar 27.94 52 *e*P **P 22 47 31.5 +1.0**
ULN *e* 22 50 42.3
ULN pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ULN Ulaanbaatar 27.94 52 *e*P **P 22 47 31.5 +1.1**
comp=Z,7.0nm,1.0s,mb4.2
ULN *e*PcP PcP 22 50 42.3 -3.4
MALT Malatya 28.50 287 *e*P **P 22 47 37.7 +2.3**
MALT pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
MALT Malatya 28.50 287 *e*P **P 22 47 37.7 +2.3**
comp=Z,0.8nm,0.6s,mb3.5
XAN Xi'an 28.91 81 P **P 22 47 39.3 +0.2**
XAN AMB AMB
comp=Z,14nm,1.1s,mb4.6
ANN Anapa 29.43 301 *e*P **P 22 47 53.4 +10**
ANN pmax pmax
comp=Z,144nm,8.5s
HHC Hu-ho-hao-te 30.28 67 *e*P **P 22 47 52.0 +0.8**
HHC AP pP 22 47 56.4 +2.1
HHC XP sP 22 47 59.3 +3.8
HHC PP PP 22 48 50.0 -9.5
HHC PCP PcP 22 50 53.1 +1.5
HHC S **S 22 52 49.3 -1.7**
HHC XS sS 22 52 55.9 -0.1
HHC SS SS 22 54 26.0 -34
HHC SCS ScS 22 58 28.3 -1.5
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,103nm,6.4s
HHC LR LR
comp=N,173nm,4.7s
HHC LR LR
comp=E,193nm,5.3s
ENH Enshi 30.34 88 *e*P **P 22 47 52.6 +0.9**
comp=E,9.7nm,0.8s,mb4.6
BR131 Keskin Array S 32.12 291 *e*P **P 22 48 09.3 +1.9**
comp=E,1.6nm,0.6s,mb4.0
BRTR Keskin Array B 32.12 291 P **P 22 48 09.8 +2.4**
comp=E,1.7nm,0.6s,mb4.0,baz=97,slow=9.6,SNR=8.2
MOS Moscow 32.38 321 *e*P **P 22 48 10.2 +0.5**
MOS pmax pmax
comp=Z,40nm,1.3s,mb5.1
OBN Obninsk 32.68 320⇓*e*P **P 22 48 12.8 +0.5**
OBN *e* 22 49 28.8
OBN *i* S **S 22 53 34.3 +5.8**
OBN pmax pmax
comp=Z,33nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.6
OBN Obninsk 32.68 320 *e*P **P 22 48 12.9 +0.6**
comp=Z,43nm,1.1s,mb5.3
KLMR Klimovskoe 34.05 331 *e*P **P 22 48 22.0 -2.3**
KLMR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
WHN Wuhan 34.25 86 P **P 22 48 27.0 +0.9**
BOD Bodaibo 35.28 37 *e*P **P 22 48 34.6 -0.3**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
AKASG Malin Array Be 35.76 310 P **P 22 48 38.8 -0.3**
comp=Z,2.1nm,0.5s,mb4.3,baz=84,slow=7.6,SNR=12
AKASG PP PP 22 50 03.5 +3.4
comp=Z,0.6nm,0.5s,baz=86,slow=9.4,SNR=4.2
AKASG Malin Array Be 35.76 310 *i*P **P 22 48 42.2 +3.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
TIRR Tirgusor 35.83 299 *e*P **P 22 48 40.5 +0.8**
HIA Hailar 36.48 52 *e*P **P 22 48 45.4 +0.2**
NJ2 Nanjing 37.48 81 *e*P **P 22 48 54.9 +1.1**
NJ2 AP pP 22 49 04.6 +7.8
NJ2 XP sP 22 49 08.6 +11
NJ2 PP PP 22 50 23.5 +4.3
NJ2 S **S 22 54 39.0 -3.4**
NJ2 XS sS 22 54 55.0 +7.5
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,110nm,4.1s
NJ2 LR LR
comp=N,280nm,13.9s,MS4.6
NJ2 LR LR
comp=E,680nm,18.5s,MS4.6
NJ2 LR LR
comp=Z,150nm,16.2s,MS3.9
JOF Joensuu 38.45 330 *e*p **P 22 49 03.3 +1.4**
comp=Z,7.4nm,0.6s,mb4.6
PSI Prapat 39.52 138 P **P 22 49 10.3 -0.5**
comp=Z,6.2nm,0.7s,mb4.5,baz=313,slow=8.3,SNR=3.6
PSI LR LR 23 08 34.5
comp=Z,68nm,18.5s,MS3.5,baz=126,slow=41
SSE Sheshan 39.67 82 P **P 22 49 09.0 -3.1**
SSE AMB AMB
comp=Z,31nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,57nm,4.9s
KWP Kalwaria 39.82 308 P **P 22 49 14.8 +1.4**
FINES FINESS Array B 40.13 327 P **P 22 49 16.1 +0.1**
comp=Z,2.9nm,0.5s,mb4.2,baz=113,slow=9.5,SNR=18
FINES LR LR 23 07 00.1
comp=Z,51nm,18.9s,MS3.4,baz=58,slow=38
FINES FINESS Array B 40.13 327 *i*P **P 22 49 19.7 +3.7**
FINES pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 40.26 328 *e*p **P 22 49 16.8 -0.2**
comp=Z,1.4nm,0.6s,mb3.9
KAF Kangasniemi 40.26 328 *e*P **P 22 49 16.8 -0.2**
KAF pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
YHNB Yeheng 42.21 91 *e*P **P 22 49 34.1 +1.0**
NACB Ninganchiao 42.60 91 *e*P **P 22 49 36.8 +0.5**
KEV Kevo 43.19 338 *e*p **P 22 49 37.8 -3.3**
ARCES ARCESS Array B 43.55 338 P **P 22 49 44.6 +0.6**
comp=Z,9.3nm,0.8s,mb4.6,baz=114,slow=8.1,SNR=21
ARCES LR LR 23 09 25.9
comp=Z,122nm,19.4s,MS3.8,baz=175,slow=38
VRAC Vranov 43.81 307 LR LR 23 12 41.3
comp=Z,34nm,20.9s,MS3.2,baz=290,slow=42
YAK Yakutsk 44.05 34⇑*e*P **P 22 49 48.1 +0.1**
YAK pmax pmax
comp=Z,11nm,0.6s,mb4.8
KLR Kul'dur 44.34 53 *e*P **P 22 49 47.8 -2.4**
TIP Timpagrande 45.11 293 *e*P **P 22 49 56.3 -0.1**
BRG Berggiesshubel 45.43 310 *e*P **P 22 50 00.0 +1.0**
BRG *e* 22 50 12.1
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
BRG Berggiesshubel 45.43 310 *e*P **P 22 49 60.0 +1.0**
comp=Z,3.5nm,1.1s,mb4.1
BRG *e* 22 50 12.1
comp=Z,5.2nm,1.4s
GERES GERESS Array B 45.74 307 P **P 22 50 03.5 +2.1**
comp=Z,0.4nm,0.5s,mb3.6,baz=85,slow=5.9,SNR=5.9
TIXI Tiksi 46.50 21*c i*P **P 22 50 07.4 0.0**
TIXI pmax pmax
comp=Z,21nm,0.9s,mb5.1
NB2 NORSAR Subarra 47.07 324 P **P 22 50 11.0 -0.9**
comp=Z,1.7nm,0.5s,mb4.2,baz=97,slow=7.9
NB2 NORSAR Subarra 47.07 324 P **P 22 50 11.0 -0.9**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
NOA NORSAR Array B 47.07 324 P **P 22 50 11.3 -0.5**
comp=Z,4.8nm,0.9s,mb4.4,baz=96,slow=7.7,SNR=8.4
NOA LR LR 23 11 44.4
comp=Z,29nm,18.3s,MS3.3,baz=10.0,slow=38
NOA NORSAR Array B 47.07 324 P **P 22 50 11.3 -0.6**
NOA LR LR 23 11 44.4
DAVOX Davos 48.57 305 LR LR 23 13 59.6
comp=Z,61nm,18.6s,MS3.6,baz=274,slow=40
KMBO Kilima Mbogo 49.46 232 *e*P **P 22 50 33.4 +3.1**
KMBO pmax pmax
comp=Z,6.0nm,1.3s
KMBO Kilima Mbogo 49.46 232 *e*P **P 22 50 33.4 +3.0**
comp=Z,5.8nm,1.3s,mb4.5
CDF Champ du Feu 50.02 307 *e*P **P 22 50 34.2 -0.4**
PGF Pioggiola 50.05 299 *e*P **P 22 50 33.9 -0.9**
comp=Z,18nm,1.1s,mb4.7
PGF Pioggiola 50.05 299 *e*P **P 22 50 33.9 -0.9**
PGF pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
PGF Pioggiola 50.05 299 *e*P **P 22 50 33.9 -0.9**
comp=Z,8.9nm,1.1s,mb4.7
HINF Hinteralfeld 50.41 306 *e*P **P 22 50 36.7 -0.8**
WLF Walferdange 50.54 309 ⇑P **P 22 50 39.5 +1.0**
WLF AP pP 22 50 42.6 +0.9
WLF XP sP 22 50 44.1 +1.3
HAU Haudompre 50.71 307 *e*P **P 22 50 39.1 -0.7**
comp=Z,12nm,1.0s,mb4.5
HAU Haudompre 50.71 307 *e*P **P 22 50 39.1 -0.7**
HAU pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
HAU Haudompre 50.71 307 *e*P **P 22 50 39.1 -0.7**
comp=Z,6.2nm,1.0s,mb4.5
SBF Sospel 50.85 301 *e*P **P 22 50 39.6 -1.3**
comp=Z,32nm,1.0s,mb4.9
SBF Sospel 50.85 301 *e*P **P 22 50 39.6 -1.3**
SBF pmax pmax
comp=Z,16nm,1.0s,mb4.9
SBF Sospel 50.85 301 *e*P **P 22 50 39.6 -1.3**
comp=Z,16nm,1.0s,mb4.9
LPG La Plagne 50.95 304 *e*P **P 22 50 41.1 -0.5**
comp=Z,14nm,0.9s,mb4.6
LPG La Plagne 50.95 304 *e*P **P 22 50 41.1 -0.5**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LPG La Plagne 50.95 304 *e*P **P 22 50 41.1 -0.5**
comp=Z,7.0nm,0.9s,mb4.6
LPL La Plagne 50.96 304 *e*P **P 22 50 41.3 -0.4**
comp=Z,36nm,1.2s,mb4.9
LPL La Plagne 50.96 304 *e*P **P 22 50 41.3 -0.4**
LPL pmax pmax
comp=Z,18nm,1.2s,mb4.9
LPL La Plagne 50.96 304 *e*P **P 22 50 41.3 -0.4**
comp=Z,18nm,1.2s,mb4.9
MBDF Montbardon 51.11 303 *e*P **P 22 50 42.1 -0.7**
comp=Z,25nm,1.1s,mb4.7
MBDF Montbardon 51.11 303 *e*P **P 22 50 42.1 -0.7**
MBDF pmax pmax
comp=Z,12nm,1.1s,mb4.7
MBDF Montbardon 51.11 303 *e*P **P 22 50 42.1 -0.7**
comp=Z,12nm,1.1s,mb4.8
CABF La Chapelle 51.16 305 *e*P **P 22 50 43.0 -0.2**
comp=Z,65nm,1.6s,mb5.0
CABF La Chapelle 51.16 305 *e*P **P 22 50 43.0 -0.2**
CABF pmax pmax
comp=Z,33nm,1.6s,mb5.0
CABF La Chapelle 51.16 305 *e*P **P 22 50 43.0 -0.2**
comp=Z,33nm,1.6s,mb5.0
MEZF Maizieres J'vi 51.46 308 *e*P **P 22 50 45.2 -0.2**
MJAR Matsushiro Arr 51.47 68 P **P 22 50 46.0 +0.5**
comp=Z,3.8nm,0.9s,mb4.3,baz=284,slow=9.0,SNR=8.6
MJAR LR LR 23 16 44.5
comp=Z,52nm,19.8s,MS3.6,baz=0.0,slow=41
MJAR Matsushiro Arr 51.47 68 P **P 22 50 46.0 +0.5**
MJAR LR LR 23 16 44.5
FRF La Foret Royal 51.48 301 *e*P **P 22 50 44.8 -0.8**
LMR La Mourre 51.63 301 *e*P **P 22 50 45.7 -1.0**
comp=Z,20nm,1.1s,mb4.7
LMR La Mourre 51.63 301 *e*P **P 22 50 45.7 -1.0**
LMR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LMR La Mourre 51.63 301 *e*P **P 22 50 45.7 -1.0**
comp=Z,9.8nm,1.0s,mb4.7
SMRF Simiane la Rot 52.13 302 *e*P **P 22 50 49.6 -0.8**
LOR Lormes 52.51 306 *e*P **P 22 50 52.6 -0.7**
VIVF Saint-Julien-l 52.53 303 *e*P **P 22 50 52.9 -0.5**
comp=Z,55nm,1.4s,mb5.0
VIVF Saint-Julien-l 52.53 303 *e*P **P 22 50 52.9 -0.5**
VIVF pmax pmax
comp=Z,27nm,1.4s,mb5.0
VIVF Saint-Julien-l 52.53 303 *e*P **P 22 50 52.9 -0.5**
comp=Z,28nm,1.4s,mb5.0
SMF Signal de Mont 52.66 306 *e*P **P 22 50 53.5 -0.9**
comp=Z,27nm,1.1s,mb4.8
SMF Signal de Mont 52.66 306 *e*P **P 22 50 53.5 -0.9**
SMF pmax pmax
comp=Z,13nm,1.1s,mb4.8
SMF Signal de Mont 52.66 306 *e*P **P 22 50 53.5 -0.9**
comp=Z,13nm,1.1s,mb4.8
SSF Saint Saulge 52.79 306 *e*P **P 22 50 54.4 -0.9**
comp=Z,16nm,1.0s,mb4.6
SSF Saint Saulge 52.79 306 *e*P **P 22 50 54.4 -0.9**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SSF Saint Saulge 52.79 306 *e*P **P 22 50 54.4 -0.9**
comp=Z,7.8nm,1.0s,mb4.6
AVF Avril sur Loir 52.96 306 *e*P **P 22 50 55.8 -0.8**
comp=Z,64nm,1.6s,mb5.0
AVF Avril sur Loir 52.96 306 *e*P **P 22 50 55.8 -0.8**
AVF pmax pmax
comp=Z,32nm,1.6s,mb5.0
AVF Avril sur Loir 52.96 306 *e*P **P 22 50 55.8 -0.8**
comp=Z,32nm,1.6s,mb5.0
LASF Ste Croix 53.30 302 *e*P **P 22 50 59.0 -0.1**
comp=Z,36nm,1.2s,mb4.9
HYF Humbligny 53.32 307 *e*P **P 22 50 58.9 -0.3**
BGF Bois d'Ágland 53.35 306 *e*P **P 22 50 58.5 -1.0**
TCF Toulx Ste Croi 53.85 305 *e*P **P 22 51 02.8 -0.3**
JHJ Hachijo jima 2 53.85 72 LR LR 23 18 07.5
comp=Z,194nm,18.1s,MS4.2,baz=101,slow=41
CAF Calviac 54.30 304 *e*P **P 22 51 06.4 -0.1**
comp=Z,9.4nm,1.0s,mb4.4
CAF Calviac 54.30 304 *e*P **P 22 51 06.4 -0.1**
CAF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CAF Calviac 54.30 304 *e*P **P 22 51 06.4 -0.1**
comp=Z,4.7nm,1.0s,mb4.4
SEY Seymchan 54.56 33⇓*i*P **P 22 51 09.4 +1.1**
MTLF Montolieu 54.65 302 *e*P **P 22 51 08.5 -0.4**
comp=Z,28nm,1.3s,mb4.8
MTLF Montolieu 54.65 302 *e*P **P 22 51 08.5 -0.4**
MTLF pmax pmax
comp=Z,14nm,1.3s,mb4.8
MTLF Montolieu 54.65 302 *e*P **P 22 51 08.5 -0.4**
comp=Z,14nm,1.3s,mb4.8
LDF La Druitiere 54.79 309 *e*P **P 22 51 09.0 -1.0**
FLN La Foliniere 54.98 309 *e*P **P 22 51 10.3 -1.0**
comp=Z,42nm,1.2s,mb5.0
FLN La Foliniere 54.98 309 *e*P **P 22 51 10.3 -1.0**
FLN pmax pmax
comp=Z,21nm,1.2s,mb5.0
FLN La Foliniere 54.98 309 *e*P **P 22 51 10.3 -1.0**
comp=Z,21nm,1.2s,mb5.0
LFF La Frestale 55.20 304 *e*P **P 22 51 12.7 -0.3**
comp=Z,25nm,1.1s,mb4.9
LFF La Frestale 55.20 304 *e*P **P 22 51 12.7 -0.3**
LFF pmax pmax
comp=Z,12nm,1.1s,mb4.8
LFF La Frestale 55.20 304 *e*P **P 22 51 12.7 -0.3**
comp=Z,12nm,1.1s,mb4.8
GRR Gorron 55.32 309 *e*P **P 22 51 13.0 -0.8**
MFF Saint Martin d 55.33 306 *e*P **P 22 51 13.2 -0.7**
comp=Z,48nm,1.3s,mb5.1
MFF Saint Martin d 55.33 306 *e*P **P 22 51 13.2 -0.7**
MFF pmax pmax
comp=Z,24nm,1.3s,mb5.1
MFF Saint Martin d 55.33 306 *e*P **P 22 51 13.2 -0.7**
comp=Z,24nm,1.3s,mb5.1
EPF Esparros 56.05 302 *e*P **P 22 51 17.7 -1.3**
comp=Z,13nm,1.0s,mb4.6
EPF Esparros 56.05 302 *e*P **P 22 51 17.7 -1.3**
EPF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
EPF Esparros 56.05 302 *e*P **P 22 51 17.7 -1.3**
comp=Z,6.3nm,1.0s,mb4.6
ETSF Etsaut 56.72 302 *e*P **P 22 51 23.6 -0.2**
comp=Z,21nm,0.9s,mb4.9
ETSF Etsaut 56.72 302 *e*P **P 22 51 23.6 -0.2**
ETSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ETSF Etsaut 56.72 302 *e*P **P 22 51 23.6 -0.2**
comp=Z,10nm,0.9s,mb4.9
ROSF Rostrenen 56.88 309 *e*P **P 22 51 24.0 -0.9**
comp=Z,133nm,1.5s,mb5.5
ROSF Rostrenen 56.88 309 *e*P **P 22 51 24.0 -0.9**
ROSF pmax pmax
comp=Z,66nm,1.5s,mb5.4
ROSF Rostrenen 56.88 309 *e*P **P 22 51 24.0 -0.9**
comp=Z,66nm,1.5s,mb5.5
QUIF Quistinic 56.93 309 *e*P **P 22 51 24.2 -1.1**
comp=Z,98nm,1.4s,mb5.3
QUIF Quistinic 56.93 309 *e*P **P 22 51 24.2 -1.1**
QUIF pmax pmax
comp=Z,49nm,1.4s,mb5.3
QUIF Quistinic 56.93 309 *e*P **P 22 51 24.2 -1.1**
comp=Z,49nm,1.4s,mb5.3
DAG Danmarks Havn 56.97 344⇑*i*P **P 22 51 25.8 +0.2**
comp=Z,6.7nm,0.8s,mb4.7
DAG Danmarks Havn 56.97 344⇑*i*P **P 22 51 25.8 +0.2**
DAG pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BILL Bilibino 59.12 26⇓*i*P **P 22 51 41.8 +1.1**
BILL pmax pmax
comp=Z,14nm,1.2s,mb4.9
BILL Bilibino 59.12 26 *e*P **P 22 51 41.6 +0.9**
comp=Z,12nm,1.0s,mb4.9
ESDC Sonseca Array 60.24 300 P **P 22 51 48.4 0.0**
comp=Z,3.3nm,0.7s,mb4.5,baz=60,slow=7.2,SNR=20
SUMG Summit 63.37 342 *e*P **P 22 52 10.9 +1.4**
comp=Z,4.6nm,0.8s,mb4.7
TORD Torodi Ar. Bea 67.97 271 P **P 22 52 38.6 -0.6**
comp=Z,14nm,0.8s,mb5.0,baz=44,slow=5.9,SNR=48
FX1 Attu Island--F 68.23 40 LR LR 23 27 12.8
comp=Z,4.3nm,19.1s,MS2.7,baz=152,slow=40
INK Inuvik 75.17 10 P **P 22 53 22.8 +0.2**
comp=Z,4.0nm,0.5s,mb4.6,baz=16,slow=6.0,SNR=21
COLA College 75.44 17⇑*e*P **P 22 53 23.9 -0.2**
ILAR Eielson Array 75.75 17 P **P 22 53 25.2 -0.7**
comp=Z,5.4nm,1.0s,mb4.5,baz=312,slow=5.2,SNR=43
ILAR PP PP 22 56 14.9 -0.8
comp=Z,1.8nm,1.1s,baz=321,slow=9.1,SNR=7.2
DBIC Dimbokro 76.90 269 P **P 22 53 33.0 +0.6**
comp=Z,7.1nm,0.9s,mb4.6,baz=36,slow=5.1,SNR=5.4
DBIC LR LR 23 31 15.5
comp=Z,79nm,18.4s,MS4.1,baz=41,slow=39
LIC Lamto 77.29 269 *e*P **P 22 53 34.5 -0.1**
comp=Z,22nm,0.9s,mb4.8
LIC *e*R
comp=Z,155nm,22.5s
LIC Lamto 77.29 269 *e*P **P 22 53 34.5 -0.1**
comp=Z,11nm,0.9s,mb4.8
LIC LR LR
comp=Z,80nm,22.5s,MS4.0
NWAO Narrogin (SRO) 78.77 144 *e*P **P 22 53 42.1 -0.7**
WRA Warramunga Arr 79.18 123 P **P 22 53 45.5 +0.4**
comp=Z,6.7nm,0.9s,mb4.6,baz=321,slow=4.9,SNR=69
WRAB Tennant Creek 79.19 123 *e*P **P 22 53 45.4 +0.3**
WRAB pmax pmax
comp=Z,11nm,0.8s,mb4.8
WRAB Tennant Creek 79.19 123 *e*P **P 22 53 45.4 +0.3**
comp=Z,11nm,0.8s,mb4.8
WB2 Warramunga Arr 79.19 123⇑*i*P **P 22 53 45.2 +0.1**
ASAR Alice Springs 81.44 126 P **P 22 53 57.5 +0.3**
comp=Z,6.0nm,0.8s,mb4.5,baz=322,slow=5.6,SNR=36
PMG Port Moresby 81.96 107 P **P 22 54 01.0 +1.0**
comp=Z,4.3nm,0.6s,mb4.5,baz=252,slow=3.2,SNR=2.9
PMG Port Moresby 81.96 107 *e*P **P 22 54 01.4 +1.4**
YKW3 Yellowknife Ar 82.72 4 *e*P **P 22 54 03.7 -0.3**
YKA Yellowknife Ar 82.79 4 P **P 22 54 04.2 -0.1**
comp=Z,1.4nm,0.4s,mb4.3,baz=346,slow=5.2,SNR=59
YKA Yellowknife Ar 82.79 4 P **P 22 54 04.2 -0.1**
ULM Lac du Bonnet 94.81 353 P **P 22 55 01.7 -0.2**
comp=Z,2.2nm,0.8s,mb4.7,baz=5.4,slow=6.7,SNR=5.3

MAN 20 22:48:49.5, 1353N×12023E, h33km, mb1.6, ML3.5, MS2.4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**5**	*e*P	Pb	22 48 57.5	+1.4
LUBP				*e*S	Sb	22 49 02.9	+2.3
PGP	**Puerto Galera**	**0.71**	**92**⇓	*e*P	Pn	22 49 03.3	+0.2
SJMP	**San Jose**	**1.37**	**141**	*e*P	Pn	22 49 13.1	+0.7
SJMP				*e*S	Sn	22 49 29.8	+0.4

BUSP	**Coron**	**1.52 181**	*e*P	Pn	22 49 15.1	+0.8
BUSP			*e*S	Sn	22 49 32.2	-0.7

*ISCJB **20** 23:03:10.0±0.7,5150N±004×1608E±003,h0km, Error ellipse: s-maj=5.5km s-min=2.8km az=22.0*
*CSEM **20** 23:03:13.4±0.2,5149N×1609E,h0km,ML3.0/6,Error ellipse: s-maj=3.5km s-min=2.2km az=9.0,Suspected Mining induced.*
*PRU **20** 23:03:13.1,5149N×1604E,h0km*
*VIE **20** 23:03:13.5±0.6,5138N×1602E,h0km,mb1.8/1,ML2.5/3, Error ellipse: s-maj=3.6km s-min=3.0km az=9.0, Suspected Mining induced.*

ISC 20 23:03:11.3±0.7,5154N±004×1605E±003,h0km,n21, σ0§81/47,2C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**167**	*e*Pg	**Pg**	**23 03 25.5**	**+0.4**
KSP				*e*Sg	**Sg**	**23 03 35.4**	**+1.0**
KSP	**Ksiaz**	**0.72**	**167**	*e*Pg	**Pg**	**23 03 25.5**	**+0.4**
KSP				*e*Sg	**Sg**	**23 03 35.0**	**+0.6**
UPC	**Upice**	**1.04**	**181**	*e*PG	**Pg**	**23 03 31.6**	**+0.4**
DPC	**Dobruska-Polom**	**1.21**	**172**	*e*PG	**Pg**	**23 03 34.4**	**-0.1**
DPC				*e*SG	**Sg**	**23 03 50.4**	**+0.3**
	257nm,2.9s						
BRG	**Berggiesshubel**	**1.48**	**244**	PG	**Pg**	**23 03 39.9**	**+0.1**
BRG				SG	**Sg**	**23 04 00.1**	**+1.1**
	22nm,0.4s						
PRU	**Pruhonice**	**1.83**	**212**	*e*PN	**Pn**	**23 03 43.7**	**-0.3**
PRU				*e*PG	**Pg**	**23 03 45.5**	**-0.8**
PRU				*e*SG	**Sg**	**23 04 09.8**	**-0.2**
	14nm,0.3s						
PRU	**Pruhonice**	**1.83**	**212**	*e*Pg	**Pg**	**23 03 45.5**	**-0.8**
PRU				*e*Sg	**Sg**	**23 04 09.8**	**-0.2**
	14nm,0.3s						
CLL	**Collm**	**1.92**	**264**	*e*(Pn)	**Pn**	**23 03 45.0**	**-0.3**
CLL				*e*Pg	**Pg**	**23 03 47.0**	**-1.2**
CLL				*i* Sg	**Sg**	**23 04 13.2**	**+0.1**
	comp=Z,12nm,0.4s						
MORC	**Moravsky Berou**	**2.01**	**151**	*e*Pn	**Pn**	**23 03 46.0**	**-0.5**
MORC				*e*Sg	**Sg**	**23 04 14.8**	**-1.0**
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*PN	**Pn**	**23 03 51.2**	**+2.5**
OKC				*e*PG	**Pg**	**23 03 53.2**	**+0.3**
OKC				*e*SG	**Sg**	**23 04 19.7**	**-1.3**
	comp=Z,20nm,0.6s						
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*Pg	**Pg**	**23 03 53.2**	**+0.3**
OKC				*e*Sg	**Sg**	**23 04 19.7**	**-1.3**
	comp=Z,20nm,0.6s						
VRAC	**Vranov**	**2.26**	**171**	*e*Pn	**Pn**	**23 03 50.0**	**0.0**
VRAC				*e*Sg	**Sg**	**23 04 23.6**	**-0.5**
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	**Pn**	**23 03 55.7**	**+0.7**
NKC				*e*PG	**Pg**	**23 04 01.3**	**-0.4**
NKC				*e*SG	**Sg**	**23 04 37.0**	**+1.2**
	comp=Z,26nm,0.7s						
NKC	**Novy Kostel**	**2.63**	**242**	*e*Pg	**Pg**	**23 04 01.3**	**-0.4**
NKC				*e*Sg	**Sg**	**23 04 37.0**	**+1.2**
	comp=Z,26nm,0.7s						
OJC	**Ojcow**	**2.72**	**118**	*e*Pg	**Pg**	**23 04 03.7**	**+0.2**
OJC				*e*Sg	**Sg**	**23 04 39.0**	**+0.3**
KHC	**Kasperske Hory**	**2.89**	**214**	*e*PN	**Pn**	**23 03 58.5**	**-0.1**
KHC				*e*PG	**Pg**	**23 04 04.4**	**-2.3**
KHC				*e*SN	**Sn**	**23 04 33.0**	**-1.0**
KHC				*e*SG	**Sg**	**23 04 43.8**	**-0.3**
	comp=Z,11nm,0.6s						
KHC	**Kasperske Hory**	**2.89**	**214**	*e*Pg	**Pg**	**23 04 04.4**	**-2.3**
KHC				*e*Sn	**Sn**	**23 04 33.0**	**-1.0**
KHC				*e*Sg	**Sg**	**23 04 43.8**	**-0.3**
	comp=Z,11nm,0.6s						
SMOL	**Smolenice**	**3.16**	**163**	*e*SG	**Sg**	**23 04 53.2**	**+0.3**
NIE	**Niedzica**	**3.46**	**126**	*e*Pg	**Pg**	**23 04 16.9**	**-0.7**
NIE				*e*Sg	**Sg**	**23 05 01.7**	**-0.7**
MOA	**Molln**	**3.87**	**198**	⇑*i*Pn	**Pn**	**23 04 12.9**	**+0.8**
MOA				⇑*i*Sg	**Sg**	**23 05 16.6**	**+0.9**
	comp=Z,3.3nm,0.4s						
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*PG	**Pg**	**23 04 26.9**	**0.0**
STHS				*e*SG	**Sg**	**23 05 19.4**	**+1.4**

*ISCJB **20** 23:12:04.0±0.3,4586N±002×15.17E±002,h5km±2km, Error ellipse: s-maj=2.8km s-min=1.9km az=172.2*
*CSEM **20** 23:12:03.9±0.1,4583N×1517E,h12km,ML3.5/8,Error ellipse: s-maj=1.5km s-min=1.0km az=172.0*
*LJU **20** 23:12:03.9,4584N×1518E,h12km,ML2.5*
*ROM **20** 23:12:03.8±0.8,4578N×1530E,h10km,Md2.8/1,Ml2.9/5, Error ellipse: s-maj=12.4km s-min=9.3km az=3.0*
*VIE **20** 23:12:04.0±0.3,4585N×1515E,h10km,mb2.5/3,ML2.8/3, Error ellipse: s-maj=1.7km s-min=1.3km az=168.0 29 km WSW of Krsko*
*NEIC **20** 23:12:05.1±0.7,4587N×1521E,h10km,ML2.5(LJU), ML2.9(ROM),Error ellipse: s-maj=9.2km s-min=4.7km az=166.0*
NEIC Felt [IV] at Novo Mesto.
*PRU **20** 23:12:05.2,4588N×1506E,h0km*

ISC 20 23:12:04.7±0.3,4586N±002×1518E±002,h3km±2km,n95, σ1§15/165,37C-20D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEGS	**Legarje**	**0.13**	**46**	⇑*i*Pg	**Pg**	**23 12 07.1**	**-0.1**
CRES	**Cresnjev**	**0.19**	**99**	⇑*i*Pg	**Pg**	**23 12 08.1**	**-0.4**
CRES				*i* Sg	**Sg**	**23 12 12.1**	**+1.1**
CRES							
	comp=Z,699nm,0.2s						
CRES	**Cresnjev**	**0.19**	**99**	⇑*i*Pg	**Pg**	**23 12 08.1**	**-0.4**
CRES				*i* Sg	**Sg**	**23 12 12.1**	**+1.1**
	comp=Z,699nm,0.2s						
CRES	**Cresnjev**	**0.19**	**99**	⇑*i*Pg	**Pg**	**23 12 08.1**	**-0.4**
CRES				*i* Sg	**Sg**	**23 12 12.1**	**+1.1**
CESS	**Cesta pri Krsk**	**0.23**	**59**	⇑*i*Pg	**Pg**	**23 12 09.0**	**-0.1**
CESS							
	comp=Z,1μm,0.2s						
CESS	**Cesta pri Krsk**	**0.23**	**59**	⇑*i*Pg	**Pg**	**23 12 09.0**	**-0.1**
	comp=Z,1μm,0.2s						
PDKS	**Podkum**	**0.24**	**328**	⇑*i*Pg	**Pg**	**23 12 09.5**	**+0.2**
PDKS				*i* Sg	**Sg**	**23 12 13.4**	**+0.9**
PDKS							
	comp=Z,789nm,0.2s						
PDKS	**Podkum**	**0.24**	**328**	⇑*i*Pg	**Pg**	**23 12 09.5**	**+0.2**
PDKS				*i* Sg	**Sg**	**23 12 13.4**	**+0.9**
VISS	**Visnje**	**0.25**	**257**	⇑*i*Pg	**Pg**	**23 12 08.9**	**-0.6**
VISS				*i* Sg	**Sg**	**23 12 12.9**	**+0.2**
VISS							
	comp=Z,600nm,0.2s						
VISS	**Visnje**	**0.25**	**257**	⇑*i*Pg	**Pg**	**23 12 08.9**	**-0.6**
VISS				*i* Sg	**Sg**	**23 12 12.9**	**+0.2**
	comp=Z,600nm,0.2s						
GCIS	**Gornji Cirnik**	**0.31**	**88**	*i* Pg	**Pg**	**23 12 10.2**	**-0.5**
GCIS				*i* Sg	**Sg**	**23 12 16.0**	**+1.2**
GCIS							
	comp=Z,118nm,0.1s						
GCIS	**Gornji Cirnik**	**0.31**	**88**	*i* Pg	**Pg**	**23 12 10.2**	**-0.5**
GCIS				*i* Sg	**Sg**	**23 12 16.0**	**+1.2**
	comp=Z,118nm,0.1s						
GOLS	**Golise**	**0.34**	**64**	*i* Pg	**Pg**	**23 12 11.2**	**-0.1**
GOLS				*i* Sg	**Sg**	**23 12 17.0**	**+1.2**
DOBS	**Dobrina**	**0.35**	**34**	⇓*i*Pg	**Pg**	**23 12 11.5**	**0.0**
BOJS	**Bojanci**	**0.36**	**172**	⇓*i*Pg	**Pg**	**23 12 10.6**	**-1.0**
BOJS				*e*Sg	**Sg**	**23 12 16.0**	**-0.2**
BOJS							
	comp=Z,1μm,0.6s						
BOJS	**Bojanci**	**0.36**	**172**	⇓*i*Pg	**Pg**	**23 12 10.6**	**-1.0**
BOJS				*e*Sg	**Sg**	**23 12 16.0**	**-0.2**
	comp=Z,1μm,0.6s						
LJU	**Ljubljana**	**0.49**	**292**	*i* Pg	**Pg**	**23 12 14.2**	**0.0**
LJU				*i* Sg	**Sg**	**23 12 21.4**	**+0.8**
CEY	**Cerknica**	**0.54**	**258**	⇑*i*Pg	**Pg**	**23 12 14.8**	**-0.4**
CEY				*i* Sg	**Sg**	**23 12 21.9**	**-0.2**
CEY							
	comp=Z,162nm,0.4s						
CEY	**Cerknica**	**0.54**	**258**	⇑*i*Pg	**Pg**	**23 12 14.8**	**-0.3**
CEY				*i* Sg	**Sg**	**23 12 22.0**	**-0.2**
	comp=Z,162nm,0.4s						
CEY	**Cerknica**	**0.54**	**258**	⇑*i*Pg	**Pg**	**23 12 14.8**	**-0.4**
CEY				*i* Sg	**Sg**	**23 12 21.9**	**-0.2**
GROS	**Grobnik**	**0.64**	**20**	⇓*i*Pg	**Pg**	**23 12 17.1**	**0.0**
GROS				*i* Sg	**Sg**	**23 12 26.0**	**+0.6**
KNDS	**Knezji Dol**	**0.65**	**240**	*i* Pg	**Pg**	**23 12 16.6**	**-0.6**
KNDS				*i* Sg	**Sg**	**23 12 24.7**	**-1.0**
KNDS	**Knezji Dol**	**0.65**	**240**	*i* Pg	**Pg**	**23 12 16.6**	**-0.6**
KNDS				*i* Sg	**Sg**	**23 12 24.7**	**-1.0**
PERS	**Pernice**	**0.78**	**357**	*e*Pg	**Pg**	**23 12 19.5**	**-0.2**
JAVS	**Javornik**	**0.78**	**273**	⇑*i*Pg	**Pg**	**23 12 18.9**	**-0.8**
JAVS				*i* Sg	**Sg**	**23 12 31.0**	**+1.2**
JAVS							
	comp=Z,38nm,0.1s						
JAVS	**Javornik**	**0.78**	**273**	⇑*i*Pg	**Pg**	**23 12 18.9**	**-0.8**
JAVS				*i* Sg	**Sg**	**23 12 31.0**	**+1.1**
	comp=Z,38nm,0.1s						
OBKA	**Obir**	**0.79**	**326**	*e*Pg	**Pg**	**23 12 19.8**	**0.0**
OBKA	SNR=130						
				⇑*i*Sg	**Sg**	**23 12 30.5**	**+0.5**
	comp=Z,180nm,0.4s						
BISS	**Bistriski jare**	**0.79**	**357**	*i* Pg	**Pg**	**23 12 19.8**	**0.0**
SISC	**Sisak**	**0.92**	**114**	*i* Pg	**Pg**	**23 12 21.9**	**-0.5**
SISC				*i* Sg	**Sg**	**23 12 34.4**	**+0.1**
SISC	**Sisak**	**0.92**	**114**	*i* Pg	**Pg**	**23 12 21.8**	**-0.6**
SISC				*i* Sg	**Sg**	**23 12 34.3**	**0.0**
VOJS	**Vojsko**	**0.92**	**281**	*i* Pg	**Pg**	**23 12 21.5**	**-0.9**
VOJS				*e*Sg	**Sg**	**23 12 35.1**	**+0.7**
GORS	**Gorjuse**	**0.94**	**299**	⇑*i*Pg	**Pg**	**23 12 22.3**	**-0.6**
GORS				*i* Sg	**Sg**	**23 12 36.0**	**+0.9**
GORS							
	comp=Z,241nm,0.4s						
GORS	**Gorjuse**	**0.94**	**299**	⇑*i*Pg	**Pg**	**23 12 22.3**	**-0.5**
GORS				*i* Sg	**Sg**	**23 12 36.0**	**+0.9**
	comp=Z,241nm,0.4s						
KOGS	**Kog**	**0.95**	**51**	*i* Pg	**Pg**	**23 12 22.8**	**-0.1**
KOGS				*i* Sg	**Sg**	**23 12 35.8**	**+0.6**
TRI	**Trieste**	**1.00**	**262**	Pn	**Pn**	**23 12 23.5**	**-2.2**
TRI				Sn	**Sn**	**23 12 39.1**	**-1.2**
	comp=Z,224nm,0.9s						
CADS	**Cadrg**	**1.07**	**291**	*i* Pg	**Pg**	**23 12 24.1**	**-1.2**
CADS				*i* Sg	**Sg**	**23 12 41.0**	**+1.8**
CADS							
	comp=Z,176nm,0.2s						
CADS	**Cadrg**	**1.07**	**291**	*i* Pg	**Pg**	**23 12 24.1**	**-1.2**
CADS				*i* Sg	**Sg**	**23 12 41.0**	**+1.8**
	comp=Z,176nm,0.2s						
DRE	**Drenchia**	**1.12**	**287**	⇑*e*Pg	**Pg**	**23 12 24.8**	**-1.3**
DRE				*e*Sg	**Sg**	**23 12 42.2**	**+1.5**
ROBS	**Robic**	**1.23**	**289**	*e*Pg	**Pg**	**23 12 27.1**	**-1.1**
ROBS				*i* Sg	**Sg**	**23 12 45.5**	**+1.3**
ROBS	**Robic**	**1.23**	**289**	*e*Pg	**Pg**	**23 12 27.1**	**-1.2**
ROBS				*i* Sg	**Sg**	**23 12 45.5**	**+1.3**
COLI	**Coloredo**	**1.29**	**283**	⇑*i*Pg	**Pg**	**23 12 28.9**	**-0.4**
COLI				*i* Sg	**Sg**	**23 12 48.1**	**+2.0**
LSR	**Lussari**	**1.30**	**299**	⇓*i*Pg	**Pg**	**23 12 29.0**	**-0.7**
LSR				*i* Sg	**Sg**	**23 12 48.4**	**+1.8**
NVLJ	**Novalja**	**1.31**	**190**	*e*Pg	**Pg**	**23 12 30.5**	**+0.6**
NVLJ				*i* Sg	**Sg**	**23 12 48.6**	**+1.6**
NVLJ	**Novalja**	**1.31**	**190**	*e*Pg	**Pg**	**23 12 30.5**	**+0.6**
NVLJ				*i* Sg	**Sg**	**23 12 48.5**	**+1.6**
PTCC	**Patocco-Chiusa**	**1.39**	**294**	Pn	**Pn**	**23 12 30.3**	**-0.6**
PTCC				Sn	**Sn**	**23 12 51.3**	**+1.6**
	comp=Z,86nm,0.4s						
BAD	**Bernadia**	**1.40**	**286**	*e*Pg	**Pg**	**23 12 30.0**	**-1.6**
ARSA	**Arzberg**	**1.41**	**9**	⇓*i*Sg	**Sg**	**23 12 51.9**	**+1.8**
	comp=Z,29nm,0.4s						
ARSA	**Arzberg**	**1.41**	**9**	⇓*e*Pg	**Pg**	**23 12 30.6**	**-1.1**
	SNR=15						
ARSA				⇓*i*Sg	**Sg**	**23 12 51.9**	**+1.8**
	comp=Z,29nm,0.4s						
ARSA	**Arzberg**	**1.41**	**9**	Pg	**Pg**	**23 12 30.6**	**-1.2**
	SNR=15						
ARSA				Sg	**Sg**	**23 12 51.9**	**+1.8**
	comp=Z,29nm,0.4s						
ARSA	**Arzberg**	**1.41**	**9**	⇓*e*Pg	**Pg**	**23 12 30.6**	**-1.2**
ARSA				*i* Sg	**Sg**	**23 12 51.9**	**+1.8**
GMNA	**Gemona**	**1.42**	**288**	Pn	**Pn**	**23 12 31.9**	**+0.5**
GMNA				Sn	**Sn**	**23 12 53.2**	**+2.7**
	comp=Z,489nm,0.8s						
TLI	**Talmassons**	**1.46**	**273**	⇓*i*Pg	**Pg**	**23 12 32.7**	**+0.1**
TLI				*i* Sg	**Sg**	**23 12 52.9**	**+1.4**
TLI	**Talmassons**	**1.46**	**273**	*i* Pg	**Pg**	**23 12 32.7**	**+0.1**
TLI				*i* Sg	**Sg**	**23 12 52.8**	**+1.3**
BUA	**Buia**	**1.48**	**285**	⇓*i*Pg	**Pg**	**23 12 32.7**	**-0.4**
BUA				*i* Sg	**Sg**	**23 12 54.3**	**+2.1**
BOO	**Bordano**	**1.52**	**288**	⇑*e*Pg	**Pg**	**23 12 32.9**	**-1.0**
PLRO	**Paularo**	**1.57**	**297**	⇓*e*Pg	**Pg**	**23 12 33.6**	**-1.3**
PLRO				*e*Sg	**Sg**	**23 12 57.2**	**+1.9**
MPRI	**Monte Prat**	**1.58**	**285**	*e*Pg	**Pg**	**23 12 33.9**	**-1.0**
MPRI				*e*Sg	**Sg**	**23 12 56.9**	**+1.5**
ZOU	**Zoufplan**	**1.69**	**295**	⇑*i*Pg	**Pg**	**23 12 35.7**	**-1.4**
ZOU				*i* Sg	**Sg**	**23 12 59.6**	**+0.8**
KBA	**Koelnbreinsper**	**1.76**	**315**	⇑*i*Sg	**Sg**	**23 13 01.8**	**+0.5**
	comp=Z,28nm,0.4s						
KBA	**Koelnbreinsper**	**1.76**	**315**	⇑*e*Pg	**Pg**	**23 12 36.5**	**-2.0**
	SNR=67						
KBA				⇑*i*Sg	**Sg**	**23 13 01.8**	**+0.5**
	comp=Z,28nm,0.4s						
KBA	**Koelnbreinsper**	**1.76**	**315**	⇑*e*Pg	**Pg**	**23 12 36.5**	**-2.0**
KBA				*i* Sg	**Sg**	**23 13 01.8**	**+0.5**
MLNI	**Malnisio**	**1.82**	**280**	⇑*e*Pg	**Pg**	**23 12 38.0**	**-1.6**
MLNI				*e*Sg	**Sg**	**23 13 02.9**	**-0.2**
FVI	**Forni Avoltri**	**1.82**	**295**	Pn	**Pn**	**23 12 37.9**	**+1.0**
	comp=Z,64nm,0.6s						
CSMI	**Casera Mimoias**	**1.88**	**291**	*i* Pg	**Pg**	**23 12 38.5**	**-2.2**
CSMI				*i* Sg	**Sg**	**23 13 04.1**	**-0.9**
CAE	**Caneva**	**1.92**	**275**	*e*Pg	**Pg**	**23 12 38.6**	**-3.0**
CAE				*e*Sg	**Sg**	**23 13 04.5**	**-2.0**
MOA	**Molln**	**2.09**	**343**	⇓*i*Sn	**Sn**	**23 13 05.7**	**-1.4**
MOA	**Molln**	**2.09**	**343**	⇑*e*Pn	**Pn**	**23 12 41.7**	**+1.1**
	SNR=8.7						
MOA				⇓*i*Sn	**Sn**	**23 13 05.7**	**-1.4**
MOA	**Molln**	**2.09**	**343**	⇑*e*Pn	**Pn**	**23 12 41.7**	**+1.1**
MOA				*i* Sn	**Sn**	**23 13 05.7**	**-1.4**
SEST	**Monte Rota**	**2.24**	**294**	Pn	**Pn**	**23 12 43.9**	**+1.2**
	comp=Z,62nm,0.8s						
CTI	**Castel Tesino**	**2.47**	**276**	Pn	**Pn**	**23 12 46.3**	**+0.4**
	comp=Z,109nm,0.5s						
ZST	**Bratislava**	**2.68**	**29**	*e*SG	**Sg**	**23 13 32.1**	**+1.2**
APPI	**Appiano**	**2.82**	**284**	Pn	**Pn**	**23 12 51.4**	**+0.8**
	comp=Z,35nm,0.4s						
WTTA	**Wattenberg**	**2.82**	**301**	⇑*i*Sn	**Sn**	**23 13 24.5**	**-0.7**
WTTA	**Wattenberg**	**2.82**	**301**	*e*Pn	**Pn**	**23 12 52.1**	**+1.4**
	SNR=13						
WTTA				⇑*i*Sn	**Sn**	**23 13 24.5**	**-0.7**
WTTA	**Wattenberg**	**2.82**	**301**	*e*Pn	**Pn**	**23 12 52.0**	**+1.4**
WTTA				*i* Sn	**Sn**	**23 13 24.5**	**-0.7**
WATA	**Walderalm**	**2.89**	**302**	⇑*i*Sn	**Sn**	**23 13 26.4**	**-0.5**
WATA	**Walderalm**	**2.89**	**302**	⇑*e*Pn	**Pn**	**23 12 53.1**	**+1.5**
	SNR=7.8						
WATA				⇑*i*Sn	**Sn**	**23 13 26.4**	**-0.5**
WATA	**Walderalm**	**2.89**	**302**	⇑*e*Pn	**Pn**	**23 12 53.1**	**+1.5**
WATA				*i* Sn	**Sn**	**23 13 26.4**	**-0.5**
SQTA	**Sankt Quirin**	**3.06**	**298**	⇓*i*Sn	**Sn**	**23 13 30.5**	**-0.6**
SQTA	**Sankt Quirin**	**3.06**	**298**	⇓*i*Pn	**Pn**	**23 12 55.9**	**+1.9**
	SNR=7.8						
SQTA				⇓*i*Sn	**Sn**	**23 13 30.5**	**-0.6**
SQTA	**Sankt Quirin**	**3.06**	**298**	⇓*i*Pn	**Pn**	**23 12 55.9**	**+1.9**
SQTA				*i* Sn	**Sn**	**23 13 30.5**	**-0.6**
SMOL	**Smolenice**	**3.07**	**29**	*e*SG	**Sg**	**23 13 44.1**	**+0.9**
SMOL	**Smolenice**	**3.07**	**29**	*e*Pn	**Pn**	**23 12 56.2**	**+2.2**
SMOL				*e*Sg	**Sg**	**23 13 44.1**	**+0.9**
SMOL	**Smolenice**	**3.07**	**29**	*e*	**Pn**	**23 12 56.2**	**+2.2**
MOTA	**Moosalm**	**3.18**	**299**	⇓*i*Sn	**Sn**	**23 13 32.7**	**-1.3**
MOTA	**Moosalm**	**3.18**	**299**	⇑*i*Pn	**Pn**	**23 12 57.0**	**+1.4**
	SNR=7.8						
MOTA				⇓*i*Sn	**Sn**	**23 13 32.7**	**-1.3**
MOTA	**Moosalm**	**3.18**	**299**	⇑*i*Pn	**Pn**	**23 12 57.0**	**+1.4**
MOTA				*i* Sn	**Sn**	**23 13 32.7**	**-1.3**
KHC	**Kasperske Hory**	**3.45**	**342**	*e*PN	**Pn**	**23 12 59.1**	**-0.2**
KHC				*e*PG	**Pg**	**23 13 12.0**	**+1.2**
KHC				*e*SN	**Sn**	**23 13 39.9**	**-0.8**
KHC				*e*SG	**Sg**	**23 13 53.8**	**-1.8**
KHC	**Kasperske Hory**	**3.45**	**342**	*e*Sg	**Sg**	**23 13 53.8**	**-1.8**
VYHS	**Vyhne**	**3.63**	**42**	*e*Pn	**Pn**	**23 13 01.0**	**-0.8**
VYHS				*e*		23 13 40.7	
PRU	**Pruhonice**	**4.16**	**354**	*e*PN	**Pn**	**23 13 09.1**	**+0.1**
PRU				*e*SN	**Sn**	**23 13 56.4**	**-1.7**
PRU				*e*SG	**Sg**	**23 14 17.4**	**-0.8**
	comp=Z,12nm,1.0s						
PRU	**Pruhonice**	**4.16**	**354**	*e*Sg	**Sg**	**23 14 17.4**	**-0.8**
	comp=Z,12nm,1.0s						
DPC	**Dobruska-Polom**	**4.56**	**9**	*e*SG	**Sg**	**23 14 29.6**	**-1.6**
BRG	**Berggiesshubel**	**5.09**	**351**	SG	**Sg**	**23 14 45.9**	**-2.2**
	comp=Z,2.5nm,0.9s						
CLL	**Collm**	**5.64**	**346**	*e*Sg	**Sg**	**23 15 03.0**	**-2.9**
	comp=Z,13nm,1.3s						

*BNS **20** 23:17:40.2±1.1,5168N×702E,h1km,ML1.7*
*BUG **20** 23:17:40.0,5161N×697E,h1km,ML1.1*
*LDG **20** 23:17:40.6±0.2,5165N×697E,h1km,Ml2.5/6,Error ellipse: s-maj=3.3km s-min=2.0km az=32.0,Suspected Mining induced.*
*NEIC **20** 23:17:41.9±5.4,5146N×680E,h5km,ML2.5(LDG),Error ellipse: s-maj=62.1km s-min=11.6km az=212.0*
*CSEM **20** 23:17:41.2±0.2,5161N×695E,h1km,ML2.5/5,Error ellipse: s-maj=3.5km s-min=2.5km az=45.0*

BGR 20 23:17:41.6±0.7,5160N×708E,h1km,ML1.9/1,1D,Error ellipse: s-maj=10.0km s-min=5.6km az=118.0,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hinxe**	**0.13**	**279**	Pg	Pg	23 17 42.4	-1.7
BZER				Sg	Sg	23 17 44.6	-1.2
BUG	**Bochum--Univer**	**0.20**	**143**	⇓*i*Pg	Pg	23 17 45.9	+0.5
BUG				Sg	Sg	23 17 50.2	+2.2
LAUG	**Laupendahl**	**0.26**	**198**	*e*Pg	Pg	23 17 46.3	-0.3
HOBG	**Hohbusch**	**0.64**	**165**	*e*Pg	Pg	23 17 53.9	+0.1
HOBG				*e*Sg	Sg	23 18 04.7	+2.6
BNS	**Bensberg**	**0.64**	**174**	*e*Pg	Pg	23 17 53.8	0.0
BNS				*e*Sg	Sg	23 18 03.2	+1.0
RODG	**Roetgen-Dahlhe**	**0.72**	**231**	*e*Pg	Pg	23 17 54.1	-1.3
RODG				*e*Sg	Sg	23 18 05.2	+0.4
IBBN	**Ibbenburen**	**0.82**	**30**	*e*Pg	Pg	23 17 57.7	+0.4
	SNR=3.3						
STB	**Steinbach**	**1.02**	**189**	*e*Pg	Pg	23 18 00.8	-0.3
STB				*e*Sg	Sg	23 18 16.3	+2.0
	19nm,0.2s						
KLL	**Kalltalsperre**	**1.07**	**207**	*e*Pg	Pg	23 18 01.0	-1.1
KLL				*e*Sg	Sg	23 18 15.9	0.0
	15nm,0.6s						
HGN	**Heimansgroeve**	**1.11**	**221**	*e*Pn	Pn	23 18 01.2	-3.0
	5.1nm,0.2s						
HGN	**Heimansgroeve**	**1.11**	**221**	*e*Pg	Pg	23 18 01.8	-1.0
	14nm,0.2s						
HGN				*e*Sg	Sg	23 18 16.4	-0.7
BGG	**Burgeitz**	**1.41**	**173**	*e*Pg	Pg	23 18 06.9	-1.6
BGG				*e*Sg	Sg	23 18 25.6	-1.2
TNS	**Taunus Mts**	**1.63**	**147**	*e*Pn	Pn	23 18 10.4	-1.0
	SNR=4.6						
TNS				*e*Sg	Sg	23 18 33.8	-0.1
WLF	**Walferdange**	**2.03**	**197**	*e*Sg	Sg	23 18 45.4	-1.3
CLZ	**Clausthal**	**2.06**	**82**	*e*Pg	Pg	23 18 19.6	-1.5
	SNR=3.8						
CLZ				*e*Sg	Sg	23 18 46.8	-1.1
GIVF	**Givet**	**2.07**	**224**	*e*Pg	Pg	23 18 18.6	-2.7
GIVF				*e*Sn	Sn	23 18 39.4	-4.5
GIVF				*e*Sg	Sg	23 18 45.0	-3.1
	12nm,0.3s						
GIVF	**Givet**	**2.07**	**224**	*e*Pg	Pg	23 18 18.6	-2.7
GIVF				*e*Sn	Sn	23 18 39.4	-4.5
GIVF				*e*Sg	Sg	23 18 45.0	-3.1
	5.8nm,0.3s						
GIVF	**Givet**	**2.07**	**224**	*e*Pn	Pn	23 18 14.5	-3.0
GIVF				*e*Pg	Pg	23 18 18.6	-2.7
GIVF				*e*Sn	Sn	23 18 39.4	-4.5
GIVF				*e*Sg	Sg	23 18 45.0	-3.1
BAIF	**Baives**	**2.39**	**231**	*e*Pg	Pg	23 18 24.3	-3.0
BAIF				*e*Sg	Sg	23 18 54.5	-3.7
	2.8nm,0.2s						
BAIF	**Baives**	**2.39**	**231**	*e*Pg	Pg	23 18 24.3	-3.0
BAIF				*e*Sg	Sg	23 18 54.5	-3.7
	1.4nm,0.2s						
BAIF	**Baives**	**2.39**	**231**	*e*Pn	Pn	23 18 19.0	-2.8
BAIF				*e*Pg	Pg	23 18 24.3	-3.0
BAIF				*e*Sg	Sg	23 18 54.5	-3.7
CDF	**Champ du Feu**	**3.19**	**178**	*e*Pg	Pg	23 18 40.9	-1.9
CDF				*e*Sg	Sg	23 19 21.7	-2.5
	1.6nm,0.3s						
CDF	**Champ du Feu**	**3.19**	**178**	*e*Pg	Pg	23 18 40.9	-1.9
CDF				*e*Sg	Sg	23 19 21.7	-2.5
	0.8nm,0.3s						
CDF	**Champ du Feu**	**3.19**	**178**

EIBI	**Ibiza**	**3.63**	**302**	P	**Pn**	**23 23 26.1**	**-1.6**
	2.0nm,0.1s,SNR=11						
EIBI	**Ibiza**	**3.63**	**302**	P	**Pn**	**23 23 26.1**	**-1.7**
EIBI				S	**Sn**	**23 24 09.1**	**-1.5**
EMUR	**La Murta**	**5.25**	**279**	P	**Pn**	**23 23 50.4**	**+0.4**
	2.8nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**5.25**	**279**	P	**Pn**	**23 23 50.4**	**+0.4**
EPOB	**Poblet**	**5.30**	**323**	P	**Pn**	**23 23 50.2**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**23 24 50.7**	**-1.1**
	1.8nm,0.5s,SNR=7.9						
EPOB	**Poblet**	**5.30**	**323**	P	**Pn**	**23 23 50.2**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**5.40**	**316**	P	**Pn**	**23 23 51.7**	**-0.4**
	0.4nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**23 24 54.1**	**-0.2**
	4.5nm,0.9s,SNR=7.9						
ERTA	**Horta de San J**	**5.40**	**316**	P	**Pn**	**23 23 51.7**	**-0.4**
	0.4nm,0.2s,SNR=7.9						
ECHE	**Chera**	**5.49**	**298**	P	**Pn**	**23 23 54.9**	**+1.6**
	1.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.52**	**307**	P	**Pn**	**23 23 52.8**	**-0.9**
	0.3nm,0.2s,SNR=5.6						
EMOS	**Mosqueruela**	**5.52**	**307**	P	**Pn**	**23 23 52.8**	**-0.9**
	0.3nm,0.2s,SNR=5.6						
EMIR	**Miracle**	**5.55**	**329**	P	**Pn**	**23 23 55.3**	**+1.2**
	2.6nm,0.1s,SNR=18						
EMIR				S	**Sn**	**23 24 58.4**	**+0.3**
	2.6nm,0.3s						
EMIR	**Miracle**	**5.55**	**329**	P	**Pn**	**23 23 55.3**	**+1.1**
	2.6nm,0.1s,SNR=18						
EMIR	**Miracle**	**5.55**	**329**	P	**Pn**	**23 23 55.4**	**+1.2**
EMIR				S	**Sn**	**23 24 58.4**	**+0.3**
ETOB	**Tobarra**	**5.62**	**287**	P	**Pn**	**23 23 55.8**	**+0.8**
	0.5nm,0.2s,SNR=8.9						
ETOB				S	**Sn**	**23 24 57.9**	**-1.8**
	4.1nm,0.8s						
ETOB	**Tobarra**	**5.62**	**287**	P	**Pn**	**23 23 55.8**	**+0.8**
ETOB				S	**Sn**	**23 24 54.2**	**-5.4**
PGF	**Pioggiola**	**6.06**	**27**	*e*Pn	**Pn**	**23 23 58.9**	**-2.2**
PGF				*e*Sn	**Sn**	**23 25 08.5**	**-2.0**
	2.2nm,0.3s						
PGF	**Pioggiola**	**6.06**	**27**	*e*Pn	**Pn**	**23 23 58.9**	**-2.2**
PGF				*e*Sn	**Sn**	**23 25 08.5**	**-2.0**
	1.1nm,0.3s						
LMR	**La Mourre**	**6.21**	**8**	*e*Pn	**Pn**	**23 24 02.7**	**-0.5**
LMR				*e*Sn	**Sn**	**23 25 13.9**	**-0.2**
	2.1nm,0.2s						
LMR	**La Mourre**	**6.21**	**8**	Pn	**Pn**	**23 24 02.7**	**-0.5**
LMR				Sn	**Sn**	**23 25 13.9**	**-0.2**
	1.1nm,0.2s						
ESAC	**San Caprasio**	**6.36**	**317**	P	**Pn**	**23 24 04.8**	**-0.5**
	1.6nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**6.36**	**317**	P	**Pn**	**23 24 04.8**	**-0.5**
	1.6nm,0.2s,SNR=7.9						
FRF	**La Foret Royal**	**6.45**	**9**	*e*Pn	**Pn**	**23 24 06.3**	**-0.1**
FRF				*e*Sn	**Sn**	**23 25 19.9**	**-0.2**
	2.5nm,0.2s						
FRF	**La Foret Royal**	**6.45**	**9**	*e*Pn	**Pn**	**23 24 06.3**	**-0.1**
FRF				*e*Sn	**Sn**	**23 25 19.9**	**-0.2**
	1.2nm,0.2s						
MTLF	**Montolieu**	**6.58**	**340**	*e*Pn	**Pn**	**23 24 08.7**	**+0.3**
MTLF				*e*Sn	**Sn**	**23 25 24.0**	**+0.5**
	0.9nm,0.3s						
MTLF	**Montolieu**	**6.58**	**340**	*e*Pn	**Pn**	**23 24 08.7**	**+0.3**
MTLF				*e*Sn	**Sn**	**23 25 24.0**	**+0.5**
	0.4nm,0.3s						
EQES	**Quesada**	**6.69**	**278**	P	**Pn**	**23 24 08.1**	**-1.8**
	2.2nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**23 25 22.3**	**-3.8**
	2.1nm,0.5s,SNR=6.8						
EQES	**Quesada**	**6.69**	**278**	P	**Pn**	**23 24 10.1**	**+0.3**
EQES				S	**Sn**	**23 25 25.2**	**-1.0**
EBIE	**Bielsa**	**6.78**	**326**	P	**Pn**	**23 24 13.8**	**+2.8**
	0.1nm,0.2s,SNR=4.0						
SMRF	**Simiane la Rot**	**6.78**	**2**	*e*Pn	**Pn**	**23 24 11.5**	**+0.4**
SMRF				*e*Sn	**Sn**	**23 25 29.4**	**+1.0**
	0.6nm,0.3s						
SMRF	**Simiane la Rot**	**6.78**	**2**	*e*Pn	**Pn**	**23 24 11.5**	**+0.4**
SMRF				*e*Sn	**Sn**	**23 25 29.4**	**+1.0**
	0.3nm,0.3s						
SBF	**Sospel**	**6.86**	**13**	*e*Pn	**Pn**	**23 24 12.3**	**+0.2**
SBF				*e*Sn	**Sn**	**23 25 29.7**	**-0.6**
	2.8nm,0.3s						
SBF	**Sospel**	**6.86**	**13**	*e*Pn	**Pn**	**23 24 12.3**	**+0.2**
SBF				*e*Sn	**Sn**	**23 25 29.7**	**-0.6**
	1.4nm,0.3s						
EPF	**Esparros**	**6.97**	**328**	*e*Pn	**Pn**	**23 24 14.5**	**+0.9**
EPF				*e*Sn	**Sn**	**23 25 33.5**	**+0.6**
	2.6nm,0.3s						
EPF	**Esparros**	**6.97**	**328**	*e*Pn	**Pn**	**23 24 14.5**	**+0.9**
EPF				*e*Sn	**Sn**	**23 25 33.5**	**+0.6**
	1.3nm,0.3s						
LASF	**Ste Croix**	**6.97**	**351**	*e*Pn	**Pn**	**23 24 13.4**	**-0.2**
LASF				*e*Sn	**Sn**	**23 25 34.2**	**+1.3**
	0.7nm,0.2s						
LASF	**Ste Croix**	**6.97**	**351**	*e*Pn	**Pn**	**23 24 13.4**	**-0.2**
LASF				*e*Sn	**Sn**	**23 25 34.2**	**+1.3**
	0.3nm,0.2s						
ETSF	**Etsaut**	**7.27**	**324**	*e*Pn	**Pn**	**23 24 18.6**	**+0.9**
ETSF				*e*Sn	**Sn**	**23 25 41.3**	**+1.1**
	1.4nm,0.4s						
ETSF	**Etsaut**	**7.27**	**324**	*e*Pn	**Pn**	**23 24 18.6**	**+0.9**
ETSF				*e*Sn	**Sn**	**23 25 41.3**	**+1.1**
	0.7nm,0.4s						
MBDF	**Montbardon**	**7.61**	**8**	*e*Pn	**Pn**	**23 24 23.3**	**+0.9**
VIVF	**Saint-Julien-l**	**7.67**	**357**	*e*Pn	**Pn**	**23 24 22.6**	**-0.7**
VIVF				*e*Sn	**Sn**	**23 25 49.2**	**-1.1**
	1.2nm,0.2s						
VIVF	**Saint-Julien-l**	**7.67**	**357**	*e*Pn	**Pn**	**23 24 22.6**	**-0.7**
VIVF				*e*Sn	**Sn**	**23 25 49.2**	**-1.1**
	0.6nm,0.2s						
SJPF	**Ste Jean**	**7.75**	**322**	*e*Pn	**Pn**	**23 24 25.0**	**+0.7**
SJPF				*e*Sn	**Sn**	**23 25 51.3**	**-0.8**
	0.8nm,0.3s						
SJPF	**Ste Jean**	**7.75**	**322**	Pn	**Pn**	**23 24 25.0**	**+0.7**
SJPF				Sn	**Sn**	**23 25 51.3**	**-0.8**
	0.4nm,0.3s						
LPG	**La Plagne**	**8.37**	**7**	*e*Pn	**Pn**	**23 24 34.6**	**+1.7**
BGF	**Bois d'Agland**	**9.54**	**350**	*e*Pn	**Pn**	**23 24 49.1**	**+0.2**

IDC 20 23:22:52.1±2.9, 2849N×14201E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=129.0km s-min=26.3km az=76.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.71**	**190**	P	P	23 31 38.6	+0.4
	0.8nm,0.3s,baz=5.9,slow=7.7,SNR=21						
MKAR	**Makanchi Array**	**49.48**	**309**	P	P	23 31 44.6	+0.5
	0.1nm,0.4s,baz=74,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**52.43**	**189**	P	P	23 32 06.0	-0.4
	0.2nm,0.3s,baz=357,slow=5.1,SNR=4.8						
FINES	**FINESS Array B**	**76.64**	**334**	P	P	23 34 44.0	-0.6
	1.8nm,1.0s,baz=46,slow=5.5,SNR=3.8						

SKHL 20 23:29:33.2±1.8, 5420N×14250E, h10km, mb4.3/2, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.70**	**158**	*e*Pg	Pg	23 29 46.9	+0.2
OKH				AMB	AMB	23 29 47.1	
	1μm,0.2s						
OKH				*e*Sg	Sg	23 29 56.6	+0.7
OKH				A		23 30 03.2	
	1μm,0.5s						
OKH				A		23 30 03.2	
	1μm,0.5s						
NKL	**Nikolayevsk**	**1.51**	**227**	*i* Pg	Pg	23 30 03.0	+0.8
NKL				AMB	AMB	23 30 03.4	
	20nm,0.9s						
NKL				AMB	AMB	23 30 03.4	
	30nm,0.9s						
NKL				*e*Sg	Sg	23 30 24.1	+2.3
NKL				A		23 30 28.0	
	40nm,0.3s						
NKL				A		23 30 28.0	
	70nm,0.3s						
EKMR	**Ekimchan**	**5.79**	**263**	*e*rx	rx	23 32 32.5	
EKMR				*e*Sg	Sg	23 32 47.0	+7.8
EKMR				A		23 32 53.0	
	10.0nm,0.5s						

ISCJB ***20*** *23:37:02.4±0.2, 1861N×003×10193W×002, h67km, mb4.8/144, Error ellipse: s-maj=4.6km s-min=2.2km az=69.6*

MOS ***20*** *23:37:03.3±1.0, 1871N×10170W, h69km, mb5.2/60, Error ellipse: s-maj=7.8km s-min=4.4km az=86.0*

IDC ***20*** *23:37:03.9±0.5, 1877N×10181W, h63km±3km, mb4.4/23, mb1 4.5/25, mb1mx4.5/27, mbtmp4.6/25, MS3.9/20, Ms1 3.9/20, ms1mx3.9/21, Error ellipse: s-maj=17.4km s-min=8.4km az=61.0*

BJI ***20*** *23:37:04.3, 1870N×10170W, h67km, mB5.5, mb5.2, Ms4.9, Msz4.5*

HRVD ***20*** *23:37:04.3±0.6, 1876N×10172W, h64km±2km, MW5.0/28, Centroid moment Tensor Solution. LP body waves: s25,c29;Mantle waves: s28,c44; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.68±.20; Mθθ2.81±.17; Mφφ-0.12±.23; Mrθ1.49±.12; Mφθ-0.76±.20; Mφr-0.30±.12; Best double couple: M0:3.21800×10¹⁶ NP1:ϕs282.00000°, δ59.00000°, λ-91.00000°. NP2: ϕs282.00000°, δ59.00000°, λ-91.00000°. Principal axes: T 3.3740, Plg14.0000°, Azm13.0000°; N -0.3110, Plg1.0000°, Azm283.0000°; P -3.0620, Plg76.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***20*** *23:37:04.3±0.3, 1865N×10173W, mb4.9/131 Error ellipse: s-maj=6.6km s-min=3.8km az=48.0*

MEX ***20*** *23:37:04.6±0.4, 1856N×10202W, h62km±9km, MD4.7*

ISC 20 23:37:04.3±0.2, 1862N±003×10189W±002, h69km, h69km±1.4km:pP-P, n396, σ1§17/391, mb4.8/144, 7C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.09**	**158**	*i* P	**Pn**	**23 37 22.2**	**-1.6**
ZIIG				*i* S	**Sn**	**23 37 36.2**	**-2.1**
MOIG	**Morelia**	**1.25**	**32**	*i* P	**Pn**	**23 37 26.1**	**+0.3**
MOIG				*i* S	**Sn**	**23 37 43.1**	**+1.2**
MRX	**Morelia**	**1.27**	**32**	*i* P	**Pn**	**23 37 26.5**	**+0.4**
SFJM	**Santa Fe**	**2.15**	**330**	*i* P	**Pn**	**23 37 39.5**	**+1.6**
CAIG	**El Cayaco**	**2.20**	**135**	*i* P	**Pn**	**23 37 38.0**	**-0.6**
CAIG				*i* S	**Sn**	**23 38 05.8**	**+1.1**
MEIG	**Mezcala**	**2.27**	**107**	*e*P	**Pn**	**23 37 40.1**	**+0.7**
MEIG				*i* S	**Sn**	**23 38 06.7**	**+0.2**
PLIG	**Platanillo**	**2.28**	**95**	*i* P	**Pn**	**23 37 40.7**	**+1.1**
PLIG				*i* S	**Sn**	**23 38 08.2**	**+1.5**
SZVM	**Salazar**	**2.48**	**73**	*e*P	**Pn**	**23 37 42.9**	**+0.5**
ACX	**Acapulco**	**2.57**	**132**	*e*P	**Pn**	**23 37 42.8**	**-0.7**
ACX				*i* P		23 37 43.5	
IIZ	**Mezontepec**	**2.57**	**77**	*e*P	**Pn**	**23 37 42.9**	**-0.8**
CHVM	**Chichinautzin**	**2.64**	**79**	*e*P	**Pn**	**23 37 42.9**	**-1.7**
MDVM	**Presa Madin**	**2.66**	**70**	*i* P	**Pn**	**23 37 43.2**	**-1.6**
MDVM				*i* S	**Sn**	**23 38 21.0**	**+5.0**
UNM	**Universidad Na**	**2.67**	**74**	*i* P	**Pn**	**23 37 46.4**	**+1.5**
UNM				*i* P		23 37 46.4	
UNM				*i* P		23 37 47.0	
UNM				*i* S	**Sn**	**23 38 19.0**	**+2.9**
UNM				*i* S	**Sn**	**23 38 19.0**	**+3.0**
UNM				*i* S	**Sn**	**23 38 20.4**	**+4.3**
YAIG	**Yautepec**	**2.69**	**84**	*e*P	**Pn**	**23 37 46.2**	**+1.0**
YAIG				*i* S	**Sn**	**23 38 17.9**	**+1.2**
CIVM	**Cilcuayo**	**2.80**	**80**	*e*P	**Pn**	**23 37 48.8**	**+2.2**
PTVM	**Pico Tres Padr**	**2.80**	**69**	*e*P	**Pn**	**23 37 42.9**	**-3.8**
RFVM	**Rio Frio**	**3.05**	**76**	*e*P	**Pn**	**23 37 48.0**	**-2.1**
CJM	**Chamela**	**3.10**	**287**	*i* P	**Pn**	**23 37 49.0**	**-1.8**
CJM				*i* S	**Sn**	**23 38 24.1**	**-2.7**
PPM	**Popocatepetl**	**3.13**	**81**	*e*P	**Pn**	**23 37 51.8**	**+0.6**
PPM				*e*P		23 37 53.0	
PPM				*e*P		23 37 53.1	
UTMO	**Huajuapan**	**3.97**	**101**	*i* P	**Pn**	**23 38 04.3**	**+1.7**
UTMO				*i* S	**Sn**	**23 38 49.0**	**+1.1**
PNIG	**Pinotepa**	**4.22**	**121**	*i* P	**Pn**	**23 38 04.4**	**-1.7**
PNIG				*i* S	**Sn**	**23 38 54.2**	**+0.1**
VHO	**Vista Hermosa**	**5.15**	**107**	*e*P	**Pn**	**23 38 20.5**	**+1.7**
VHO				*i* S	**Sn**	**23 39 17.1**	**+0.3**
OXX	**Oaxaca**	**5.16**	**106**	*i* P	**Pn**	**23 38 20.0**	**+1.1**
LVIG	**Laguna Verde**	**5.29**	**77**	*i* P	**Pn**	**23 38 21.6**	**+0.8**
EVV	**El Vigia**	**6.21**	**90**	*e*P	**Pn**	**23 38 40.0**	**+6.7**
MAIG	**Mazatlaan**	**6.21**	**318**	*e*P	**Pn**	**23 38 31.5**	**-1.8**
HUIG	**Huatulco**	**6.21**	**116**	*e*P	**Pn**	**23 38 33.5**	**+0.2**
LNIG	**Linares**	**6.64**	**19**	*i* P	**Pn**	**23 38 40.0**	**+0.8**
CMIG	**Matias Romero**	**6.85**	**102**	*e*P	**Pn**	**23 38 43.6**	**+1.6**
CMIG				*i* S	**Sn**	**23 40 03.2**	**+4.8**
TUIG	**Tuzandepetl**	**7.12**	**94**	*e*P	**Pn**	**23 38 45.7**	**0.0**
TUIG				*i* S	**Sn**	**23 40 04.6**	**-0.5**
CCIG	**Comitan**	**9.60**	**103**	*e*P	**Pn**	**23 39 23.4**	**+3.8**
CCIG				*i* S	**Sn**	**23 41 09.1**	**+3.3**
LTX	**Lajitas**	**10.79**	**352**	*e*P	**Pn**	**23 39 38.9**	**+3.1**
LTX				pmax	pmax		
	comp=Z,49nm,1.1s						
LTX	**Lajitas**	**10.79**	**352**	*e*P	**Pn**	**23 39 38.9**	**+3.1**
	comp=Z,49nm,1.1s						
JCT	**Junction City**	**11.96**	**9**	*e*P	**Pn**	**23 39 53.6**	**+1.8**
HKT	**Hockley**	**12.56**	**25**	*e*P	**Pn**	**23 40 00.4**	**+0.5**
HKT				pmax	pmax		
	comp=Z,67nm,1.4s						
HKT	**Hockley**	**12.56**	**25**	*e*P	**Pn**	**23 40 00.4**	**+0.5**
	comp=Z,67nm,1.4s						
MNTX	**Cornudas Mount**	**13.40**	**347**	*e*P	**Pn**	**23 40 12.9**	**+1.6**
	comp=Z,77nm,1.2s						
GDL2	**Guadalupe Moun**	**13.71**	**351**	*e*P	**Pn**	**23 40 17.8**	**+2.4**
NATX	**Nacogdoches**	**14.62**	**25**	*e*P	**Pn**	**23 40 26.5**	**-0.8**
	comp=Z,264nm,0.9s						
TUC	**Tucson**	**15.81**	**331**	*e*P	**Pn**	**23 40 44.4**	**+1.8**
TUC				pmax	pmax		
	comp=Z,14nm,1.0s						
TUC	**Tucson**	**15.81**	**331**	*e*P	**Pn**	**23 40 44.4**	**+1.9**
	comp=Z,14nm,1.0s						
LENM	**Lemitar**	**16.13**	**345**	*e*P	**Pn**	**23 40 49.2**	**+2.5**
LENM				*e*		23 41 05.5	
LPM	**Los Pinos Moun**	**16.19**	**346**	*e*Pn	**Pn**	**23 40 49.7**	**+2.4**
LPM				*e*		23 41 07.5	
WMOK	**Wichita Mounta**	**16.29**	**9**	*e*P	**Pn**	**23 40 47.0**	**-1.6**
WMOK				pmax	pmax		
	comp=Z,82nm,0.9s						
WMOK	**Wichita Mounta**	**16.29**	**9**	*e*P	**Pn**	**23 40 47.0**	**-1.6**
	comp=Z,82nm,0.9s						
LAZ	**Ladron**	**16.40**	**344**	*e*P	**Pn**	**23 40 52.3**	**+2.3**
ANMO	**Albuquerque**	**16.76**	**347**	P	**Pn**	**23 40 54.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=152,slow=14,SNR=15						
ANMO				LR	LR	23 48 02.1	
	comp=Z,1μm,18.9s,baz=58,slow=40						
ANMO	**Albuquerque**	**16.76**	**347**	*e*P	**Pn**	**23 40 56.3**	**+1.8**
ANMO				pmax	pmax		
	comp=Z,23nm,1.0s						
ANMO	**Albuquerque**	**16.76**	**347**	*e*P	**Pn**	**23 40 56.3**	**+1.8**
	comp=Z,23nm,1.0s						
MIAR	**Mount Ida**	**17.51**	**23**	*e*P	**Pn**	**23 41 01.2**	**-2.5**
MIAR				pmax	pmax		
	comp=Z,64nm,0.9s						
MIAR	**Mount Ida**	**17.51**	**23**	*e*P	**Pn**	**23 41 01.2**	**-2.5**
	comp=Z,64nm,0.9s						
UALR	**University of**	**18.20**	**26**	*e*P	**Pn**	**23 41 11.2**	**-0.8**
	comp=Z,40nm,0.8s						
UALR				*e*		23 41 19.5	
JTS	**JuntasAbangare**	**18.36**	**114**	P	**Pn**	**23 41 15.1**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=299,slow=12,SNR=11						
JTS				LR	LR	23 48 05.9	
	comp=Z,173nm,21.6s,baz=170,slow=36						
JTS	**JuntasAbangare**	**18.36**	**114**	*e*P	**Pn**	**23 41 15.5**	**+1.4**
JTS				pmax	pmax		
	comp=Z,41nm,0.8s						
JTS	**JuntasAbangare**	**18.36**	**114**	*e*P	**Pn**	**23 41 15.5**	**+1.4**
	comp=Z,41nm,0.8s						
WUAZ	**Wupatki**	**18.81**	**335**	*e*P	**Pn**	**23 41 21.0**	**+1.6**
	comp=Z,76nm,1.1s						
BAR	**Barrett**	**19.29**	**319**	*e*P	**Pn**	**23 41 26.0**	**+0.8**
OXF	**Oxford**	**19.34**	**33**	*e*P	**Pn**	**23 41 22.9**	**-2.8**
OXF				pmax	pmax		
	comp=Z,265nm,1.1s						
OXF	**Oxford**	**19.34**	**33**	*e*P	**Pn**	**23 41 22.9**	**-2.8**
	comp=Z,265nm,1.1s						
MET	**Memphis--Engin**	**19.57**	**30**	*e*P	**Pn**	**23 41 26.1**	**-2.3**
LRAL	**Lakeview Retre**	**19.61**	**40**	*e*P	**Pn**	**23 41 26.0**	**-2.9**
	comp=Z,38nm,0.6s						
PFO	**Pinyon Flat Ob**	**19.81**	**322**	*e*P	**Pn**	**23 41 31.7**	**+0.5**
PFO				pmax	pmax		
	comp=Z,19nm,1.0s						
PFO	**Pinyon Flat Ob**	**19.81**	**322**	*e*P	**Pn**	**23 41 31.7**	**+0.4**
	comp=Z,19nm,1.0s						
PFO				*e*		23 41 47.9	

LDFC	**Landfair**	**20.16**	**327**	*e*P	**P**	**23 41 35.7**	**+2.8**
LDFC				*e*		23 41 54.5	
CBKS	**Cedar Bluff**	**20.21**	**5**	*e*P	**P**	**23 41 33.3**	**-0.2**
CBKS				*e*		23 41 49.6	
CBKS				pmax	pmax		
	comp=Z,265nm,1.0s						
CBKS	**Cedar Bluff**	**20.21**	**5**	*e*P	**P**	**23 41 33.3**	**-0.1**
	comp=Z,265nm,1.0s						
CBKS				*e*		23 41 49.6	
GNAR	**Gosnell**	**20.21**	**29**	*e*P	**P**	**23 41 32.6**	**-0.9**
	comp=Z,235nm,1.0s						
GNAR				*e*		23 41 46.7	
PLAL	**Pickwick Lake**	**20.40**	**34**	*e*P	**P**	**23 41 33.6**	**-1.9**
	comp=Z,136nm,0.9s						
NEN	**Nelson**	**20.47**	**329**	*e*P	**P**	**23 41 37.9**	**+1.7**
NEN				*e*		23 41 57.3	
KSU1	**Kansas State U**	**20.92**	**12**	*e*P	**P**	**23 41 39.5**	**-1.6**
SMCO	**Snowmass**	**20.95**	**349**	*e*P	**P**	**23 41 43.0**	**+1.5**
	comp=Z,90nm,1.3s						
SMCO				*e*		23 41 59.5	
UTMT	**University of**	**21.06**	**30**	*e*P	**P**	**23 41 41.3**	**-1.4**
	comp=Z,109nm,1.1s,mb5.1						
UTMT				*e*		23 41 57.4	
ISCO	**Idaho Springs**	**21.35**	**352**	*e*P	**P**	**23 41 47.0**	**+1.3**
ISCO				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.0						
ISCO	**Idaho Springs**	**21.35**	**352**	*e*P	**P**	**23 41 47.0**	**+1.2**
	comp=Z,56nm,0.8s,mb5.0						
ISCO				*e*		23 42 03.0	
CCUT	**Cedar City**	**21.37**	**334**	*e*P	**P**	**23 41 47.7**	**+1.7**
CCUT				*e*		23 42 00.7	
WVT	**Waverly**	**21.41**	**33**	*e*P	**P**	**23 41 44.2**	**-2.2**
WVT				pmax	pmax		
	comp=Z,111nm,1.1s,mb5.1						
WVT	**Waverly**	**21.41**	**33**	*e*P	**P**	**23 41 44.2**	**-2.1**
	comp=Z,111nm,1.1s,mb5.1						
WVT				*e*		23 41 59.8	
ARUT	**Antelope Range**	**21.60**	**334**	*e*P	**P**	**23 41 49.6**	**+1.2**
ARUT				*e*		23 42 07.4	
FVM	**French Village**	**21.74**	**25**	*e*P	**P**	**23 41 48.0**	**-1.9**
FVM				pmax	pmax		
	comp=Z,26nm,0.7s,mb4.7						
FVM	**French Village**	**21.74**	**25**	*e*P	**P**	**23 41 48.0**	**-1.9**
	comp=Z,26nm,0.7s,mb4.7						
FVM				*e*		23 42 06.6	
SRU	**San Rafael**	**21.75**	**342**	*e*P	**P**	**23 41 51.0**	**+1.0**
SRU				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.6						
SRU	**San Rafael**	**21.75**	**342**	*e*P	**P**	**23 41 51.0**	**+1.0**
	comp=Z,31nm,1.0s,mb4.6						
SRU				*e*		23 42 07.7	
MSU	**Marysvale**	**21.75**	**338**	*e*P	**P**	**23 41 51.0**	**+1.0**
MSU				*e*		23 42 08.8	
SWET	**Sewanee**	**21.76**	**37**	*e*P	**P**	**23 41 48.2**	**-2.0**
SWET				*e*		23 42 05.3	
TMUT	**Trail Mountain**	**22.13**	**341**	*e*P	**P**	**23 41 54.4**	**+0.4**
TMUT				*e*		23 42 12.3	
SLM	**Saint Louis**	**22.38**	**25**	*e*P	**P**	**23 41 54.8**	**-1.9**
SLM				pmax	pmax		
	comp=Z,19nm,0.5s,mb4.7						
SLM	**Saint Louis**	**22.38**	**25**	*e*P	**P**	**23 41 54.8**	**-1.9**
	comp=Z,20nm,0.5s,mb4.7						
DAC	**Darwin (Calif)**	**22.38**	**325**	*e*P	**P**	**23 41 57.5**	**+0.8**
DAC				*e*		23 42 14.9	
DAC				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.3						
DAC	**Darwin (Calif)**	**22.38**	**325**	*e*P	**P**	**23 41 57.5**	**+0.7**
	comp=Z,17nm,1.1s,mb4.3						
DAC				*e*		23 42 14.9	
CPCT	**Cooper Cave**	**22.75**	**39**	*e*P	**P**	**23 41 58.3**	**-2.3**
CPCT				*e*		23 42 15.6	
PHWY	**Pilot Hill**	**22.81**	**353**	*e*P	**P**	**23 42 01.1**	**-0.2**
PHWY				*e*		23 42 19.1	
MPU	**Maple Canyon**	**22.92**	**341**	*e*P	**P**	**23 42 03.0**	**+0.6**
	comp=Z,4.4nm,0.4s,mb4.1						
MPU				*e*		23 42 21.8	
DAU	**Daniels Canyon**	**23.17**	**342**	*e*P	**P**	**23 42 05.9**	**+1.1**
RWWY	**Rawlins**	**23.44**	**350**	*e*P	**P**	**23 42 08.2**	**+0.9**
	comp=Z,55nm,1.2s,mb4.8						
RWWY				*e*		23 42 24.2	
TPH	**Tonopah**	**23.55**	**329**	*e*P	**P**	**23 42 09.8**	**+1.4**
TPH				*e*		23 42 24.3	
TPH				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
TPH	**Tonopah**	**23.55**	**329**	*e*P	**P**	**23 42 09.8**	**+1.4**
	comp=Z,9.8nm,0.9s,mb4.1						
TPH				*e*		23 42 24.3	
WCI	**Wyandotte Cave**	**23.81**	**32**	*e*P	**P**	**23 42 08.5**	**-2.2**
WCI				*e*		23 42 26.0	
WCI				pmax	pmax		
	comp=Z,91nm,0.8s,mb5.2						
WCI	**Wyandotte Cave**	**23.81**	**32**	*e*P	**P**	**23 42 08.5**	**-2.2**
	comp=Z,91nm,0.8s,mb5.2						
WCI				*e*		23 42 26.0	
TCUT	**Toone Canyon**	**23.86**	**342**	*e*P	**P**	**23 42 11.9**	**+0.7**
TCUT				*e*		23 42 26.7	
COW	**Cow Castle Cre**	**23.99**	**48**	*e*P	**P**	**23 42 13.9**	**+1.5**

SNOW Snow King Moun 25.87 345 *eP* **P 23 42 30.4 +0.9**
comp=Z,35nm,0.8s,mb4.8
LOHW Long Hollow 25.98 345 *eP* **P 23 42 30.3 -0.1**
comp=Z,22nm,0.7s,mb4.7
LOHW *e* pP 23 42 47.4 +0.7
ELN Prospectdale 26.21 41 *eP* **P 23 42 33.4 +0.8**
ELN *e* pP 23 42 51.5 +2.7
FWV Forest Hill 26.40 40 *eP* **P 23 42 34.5 +0.3**
FWV *e* pP 23 42 51.0 +0.4
BLA Blacksburg 26.41 41 *eP* **P 23 42 32.6 -1.7**
BLA pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
BLA Blacksburg 26.41 41 *eP* **P 23 42 32.5 -1.8**
comp=Z,3.4nm,0.8s,mb3.8
FLWY Flagg Ranch 26.44 346 *eP* **P 23 42 35.0 +0.4**
comp=Z,15nm,0.8s,mb4.5
FLWY *e* pP 23 42 50.6 -0.4
YFT Old Faithful 26.82 346 *eP* **P 23 42 39.6 +1.6**
LKWY Lake 26.83 346 *eP* **P 23 42 40.2 +2.1**
LKWY pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
LKWY Lake 26.83 346 *eP* **P 23 42 40.2 +2.0**
comp=Z,7.2nm,0.9s,mb4.2
ACSO Alum Creek Sta 27.00 33 *eP* **P 23 42 40.1 +0.4**
comp=Z,36nm,0.8s,mb5.0
HLID Hailey 27.01 340 *eP* **P 23 42 39.8 0.0**
comp=Z,4.6nm,0.8s,mb4.1
YMR Madison River 27.06 346 *eP* **P 23 42 41.4 +1.3**
comp=Z,22nm,1.2s,mb4.6
QLMT Earthquake Lak 27.32 345 *eP* **P 23 42 43.8 +1.3**
WVOR Wild Horse Val 27.67 333 *eP* **P 23 42 46.2 +0.6**
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
WVOR Wild Horse Val 27.67 333 *eP* **P 23 42 46.2 +0.6**
comp=Z,4.9nm,0.8s,mb4.1
MCMT McKenzie Canyo 27.69 343 *eP* **P 23 42 47.1 +1.4**
GCMT Greycliff 27.85 348 *eP* **P 23 42 46.8 -0.5**
MOD Modoc 28.01 330 *eP* **P 23 42 49.9 +1.2**
comp=Z,34nm,1.2s,mb4.8
DLMT Dillon 28.11 344 *eP* **P 23 42 50.0 +0.4**
comp=Z,38nm,0.9s,mb4.9
DLMT *ep*P pP 23 43 07.9 +1.9
BOZ Bozeman (W) 28.14 345 *eP* **P 23 42 50.0 +0.2**
BOZ *e* pP 23 43 05.7 -0.5
BOZ pmax pmax
comp=Z,23nm,1.1s,mb4.6
BOZ Bozeman (W) 28.14 345 *eP* **P 23 42 50.0 +0.2**
comp=Z,23nm,1.1s,mb4.6
BOZ *e* pP 23 43 05.7 -0.5
MCWV Mont Chateau 28.33 38 *eP* **P 23 42 50.3 -1.2**
comp=Z,18nm,1.0s,mb4.6
YBH Yreka Blue Hor 29.08 327 P **P 23 42 57.0 -1.2**
comp=Z,2.7nm,0.8s,mb3.9,baz=99,slow=1.0,SNR=5.6
YBH LR LR 23 56 05.7
comp=Z,71nm,19.7s,baz=130,slow=39
BMO Blue Mountains 29.15 337 *eP* **P 23 42 58.2 -0.6**
comp=Z,3.6nm,0.8s,mb4.0
HRY Holter Researc 29.19 346 *eP* **P 23 42 58.9 -0.2**
HRY *ep*P pP 23 43 15.6 +0.1
OTAV Otavalo 29.39 126 *eP* **P 23 43 03.6 +2.7**
comp=Z,30nm,1.4s,mb4.7
CHMT Chamberlain Mo 29.72 344 *eP* **P 23 43 03.1 -0.8**
CHMT *ep*P pP 23 43 20.8 +0.4
MSO Missoula 29.83 343 *e*PcP PcP 23 46 06.6 0.0
comp=Z,20nm,1.5s
DGMT Dagmar 29.83 357 *eP* **P 23 43 04.5 -0.4**
comp=Z,28nm,0.8s,mb5.0
DGMT *ep*P pP 23 43 26.1 +4.8
ROSC El Rosal 30.19 114 P **P 23 43 10.9 +3.0**
comp=Z,3.0nm,0.4s,mb4.3,baz=90,slow=22,SNR=5.5
ROSC sP sP 23 43 31.8 -0.7
comp=Z,3.1nm,0.4s,baz=110,slow=21,SNR=1.5
ROSC LR LR 23 55 08.3
comp=Z,66nm,21.5s,baz=93,slow=36
EYMN Ely 30.46 14 *eP* **P 23 43 08.0 -2.3**
comp=Z,15nm,0.8s,mb4.7
SDV Santo Domingo 31.82 103 *eP* **P 23 43 23.9 +1.6**
comp=Z,13nm,0.8s,mb4.7
ULM Lac du Bonnet 31.92 7 P **P 23 43 20.9 -2.3**
comp=Z,29nm,0.9s,mb5.0,baz=191,slow=9.9,SNR=50
ULM pP pP 23 43 37.5 -2.3
comp=Z,13nm,0.8s,baz=184,slow=9.6,SNR=3.9
ULM LR LR 23 57 06.6
comp=Z,370nm,19.4s,baz=317,slow=38
ULM Lac du Bonnet 31.92 7 P **P 23 43 20.9 -2.3**
ULM pP pP 23 43 37.5 -2.3
ULM LR LR 23 57 06.6
BINY Binghamton 32.20 38 *eP* **P 23 43 25.1 -0.6**
comp=Z,29nm,1.0s,mb5.0
SADO Sadowa 32.26 31 P **P 23 43 24.8 -1.4**
comp=Z,8.3nm,0.7s,mb4.6,baz=228,slow=8.2,SNR=8.4
SADO pP pP 23 43 40.6 -2.0
comp=Z,5.9nm,0.7s,baz=227,slow=7.4,SNR=2.7
SJG San Juan 33.89 85 P **P 23 43 40.0 -0.4**
comp=Z,19nm,0.3s,mb5.3,baz=328,slow=16,SNR=17
SJG pP pP 23 43 55.5 -1.5
comp=Z,18nm,0.6s,baz=298,slow=8.6,SNR=2.7
SJG San Juan 33.89 85 *eP* **P 23 43 39.5 -0.9**
SJG pmax pmax
comp=Z,34nm,0.7s
SJG San Juan 33.89 85 *eP* **P 23 43 39.5 -0.9**
comp=Z,34nm,0.7s,mb5.3
MTP Monte Pirata 34.46 85 *eP* **P 23 43 44.1 -1.2**
FFC Flin Flon 36.04 360 *eP* **P 23 43 57.3 -1.6**
FFC *e**PP pP 23 44 13.6 -2.0
FFC pmax pmax
comp=Z,24nm,1.0s,mb5.1
FFC Flin Flon 36.04 360 *eP* **P 23 43 57.3 -1.6**
comp=Z,24nm,1.0s,mb5.1
FFC *ep*P pP 23 44 13.6 -2.1
FCC Fort Churchill 40.49 6 *eP* **P 23 44 33.9 -2.4**
FCC pmax pmax
comp=Z,12nm,1.1s,mb4.6
FCC Fort Churchill 40.49 6 *eP* **P 23 44 33.9 -2.4**
comp=Z,12nm,1.1s,mb4.6
YKA Yellowknife Ar 44.72 352 P **P 23 45 08.8 -1.7**
comp=Z,12nm,0.9s,mb4.6,baz=162,slow=7.6,SNR=81
YKA pP pP 23 45 26.5 -1.2
comp=Z,4.5nm,0.8s,baz=162,slow=7.4,SNR=5.5
YKA PcP PcP 23 46 52.1 +0.3
comp=Z,0.7nm,0.7s,baz=153,slow=4.5,SNR=6.4
YKA LR LR 00 05 26.6
comp=Z,165nm,18.1s,baz=180,slow=38
YKA Yellowknife Ar 44.72 352 P **P 23 45 08.8 -1.7**
YKA *PP pP 23 45 26.6 -1.1
YKA 23 46 52.2
YKW3 Yellowknife Ar 44.78 352 *eP* **P 23 45 09.1 -2.0**
YKW3 *ep*P pP 23 45 26.3 -1.9
SCHQ Schefferville 44.93 28 P **P 23 45 12.2 0.0**
comp=Z,6.6nm,0.7s,mb4.5,baz=236,slow=6.8,SNR=9.0
SCHQ PcP PcP 23 46 52.2 -0.3
comp=Z,8.4nm,0.8s,baz=248,slow=5.4,SNR=4.2
SCHQ LR LR 00 04 49.3
comp=Z,118nm,19.7s,baz=246,slow=37
SIT Sitka 45.72 335 *eP* **P 23 45 17.5 -0.9**
SIT pmax pmax
comp=Z,166nm,1.7s,mb5.5
SIT Sitka 45.72 335 *eP* **P 23 45 17.5 -0.9**
comp=Z,166nm,1.7s,mb5.5
RPN Rapa Nui 46.04 189 LR LR 00 00 18.5
comp=Z,256nm,20.6s,baz=109,slow=30
SAML Samuel 47.00 122 *eP* **P 23 45 27.4 -1.0**
comp=Z,26nm,0.9s,mb5.0
SAML *ep*P pP 23 45 44.8 -1.0
SAML *es*P sP 23 45 51.8 -1.9
SAML *i* PcP PcP 23 47 00.7 +0.9
LPAZ La Paz 48.04 134 P **P 23 45 38.2 +1.7**
comp=Z,7.2nm,0.9s,mb4.5,baz=333,slow=7.1,SNR=29
LPAZ pP pP 23 45 54.2 +0.4
comp=Z,3.5nm,0.7s,baz=232,slow=3.6,SNR=4.8
LPAZ LR LR 00 05 20.8
comp=Z,85nm,19.8s,baz=116,slow=35
LPAZ La Paz 48.04 134 *eP* **P 23 45 37.1 +0.6**
LPAZ *e**PP pP 23 45 54.5 +0.6
LPAZ pmax pmax
comp=Z,9.0nm,0.9s
LPAZ La Paz 48.04 134 *eP* **P 23 45 37.1 +0.6**
comp=Z,9.2nm,0.9s,mb4.6
LPAZ *ep*P pP 23 45 54.5 +0.6
RKT Rikitea 52.58 219 *e*LR LR 00 01 19.9
comp=Z,344nm,29.8s
INK Inuvik 53.50 346⇑ *eP* **P 23 46 16.3 -1.3**
INK *e**PP pP 23 46 34.3 -0.9
INK pmax pmax
comp=Z,21nm,0.8s
INK Inuvik 53.50 346⇑ *eP* **P 23 46 16.3 -1.3**
comp=Z,21nm,0.8s,mb5.2
INK *ep*P pP 23 46 34.3 -1.0
KDAK Kodiak Island 53.86 329 P **P 23 46 20.6 +0.4**
comp=Z,10.0nm,1.0s,mb4.8,baz=126,slow=13,SNR=9.2
PMR Palmer 54.08 334 *eP* **P 23 46 21.3 -0.5**
PMR pmax pmax
comp=Z,18nm,0.7s,mb5.2
PMR Palmer 54.08 334 *eP* **P 23 46 21.3 -0.5**
comp=Z,18nm,0.7s,mb5.2
ILAR Eielson Array 54.96 338 P **P 23 46 28.1 -0.1**
comp=Z,14nm,0.9s,mb5.0,baz=146,slow=5.9,SNR=97
ILAR pP pP 23 46 44.1 -1.8
comp=Z,6.6nm,0.9s,baz=149,slow=6.3,SNR=7.8
ILAR PcP PcP 23 47 28.2 -1.0
comp=Z,3.3nm,0.7s,baz=158,slow=2.8,SNR=8.8
ILAR LR LR 00 12 07.0
comp=Z,198nm,18.0s,baz=169,slow=38
ILAR Eielson Array 54.96 338 P **P 23 46 28.1 -0.1**
ILAR *PP pP 23 46 44.1 -1.8
ILAR 23 47 28.3
ILAR Eielson Array 54.96 338 P **P 23 46 28.1 -0.1**
ILAR pP pP 23 46 44.1 -1.8
ILAR PcP PcP 23 47 28.2 -1.0
ILAR LR LR 00 12 07.0
RES Resolute Bay 56.21 2 *eP* **P 23 46 34.4 -2.8**
RES pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
RES Resolute Bay 56.21 2 *eP* **P 23 46 34.4 -2.8**
comp=Z,3.8nm,0.7s,mb4.5
SVW2 Sparrevohn 56.62 332 *eP* **P 23 46 39.2 -0.9**
TTA Tatalina 57.55 334 *eP* **P 23 46 45.9 -0.8**
PPT Papeete 59.08 235 *e*S **S 23 55 02.3 +3.2**
comp=Z,899nm,33.0s
PPT *e*LR LR 00 04 14.1
comp=Z,355nm,26.8s
CFAA Coronel Fontan 59.47 147 P **P 23 47 01.4 +1.5**
comp=Z,3.1nm,0.9s,mb4.3,baz=268,slow=22,SNR=8.2
CFAA pP pP 23 47 18.4 +0.5
comp=Z,1.7nm,1.0s,baz=300,slow=7.4,SNR=3.6
CPUP Villa Florida 62.20 135 P **P 23 47 18.8 +0.2**
comp=Z,15nm,0.7s,mb5.1,baz=305,slow=7.5,SNR=40
CPUP pP pP 23 47 36.2 -0.3
comp=Z,6.5nm,0.7s,baz=302,slow=7.5,SNR=4.8
CPUP LR LR 00 13 42.4
comp=Z,62nm,21.0s,baz=207,slow=35
CPUP Villa Florida 62.20 135 *eP* **P 23 47 18.4 -0.1**
CPUP *e**PP pP 23 47 36.0 -0.6
CPUP *e**SP sP 23 47 43.8 -0.5
CPUP pmax pmax
comp=Z,79nm,0.8s
CPUP Villa Florida 62.20 135 *eP* **P 23 47 18.4 -0.1**
comp=Z,79nm,0.8s,mb5.8
CPUP *ep*P pP 23 47 36.0 -0.6
CPUP *es*P sP 23 47 43.8 -0.5
TBI Tubuai 62.42 230 *e*LR LR 00 05 45.3
comp=Z,319nm,29.2s
BDFB Brasilia 63.03 119 P **P 23 47 25.6 +1.6**
comp=Z,15nm,0.7s,mb5.0,baz=297,slow=7.8,SNR=15
BDFB LR LR 00 13 15.5
comp=Z,72nm,21.1s,baz=101,slow=34
SUMG Summit 64.51 17 *eP* **P 23 47 32.3 -1.5**
comp=Z,8.9nm,0.9s,mb4.6
SUMG *ep*P pP 23 47 49.0 -2.9
PLCA Paso Flores 65.85 154 P **P 23 47 43.6 +1.2**
comp=Z,12nm,1.1s,mb4.6,baz=334,slow=7.7,SNR=12
PLCA pP pP 23 48 00.7 +0.1
comp=Z,8.6nm,0.9s,baz=316,slow=7.6,SNR=7.5
PLCA LR LR 00 10 34.1
comp=Z,67nm,18.5s,baz=10,slow=30
PLCA Paso Flores 65.85 154 *eP* **P 23 47 43.0 +0.6**
PLCA *e**PP pP 23 48 00.3 -0.3
PLCA pmax pmax
comp=Z,36nm,1.5s
PLCA Paso Flores 65.85 154 *eP* **P 23 47 43.0 +0.6**
comp=Z,36nm,1.5s,mb5.0
PLCA *ep*P pP 23 48 00.3 -0.3
DAG Danmarks Havn 70.46 14⇑ P **P 23 48 08.9 -2.4**
comp=Z,7.8nm,1.2s,mb4.4
DAG Danmarks Havn 70.46 14⇑ *eP* **P 23 48 08.9 -2.4**
DAG pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
DAG Danmarks Havn 70.46 14⇑ *eP* **P 23 48 08.9 -2.4**
comp=Z,7.8nm,1.2s,mb4.4
STS Santiago 79.95 48 P **P 23 49 05.5 -0.3**
STS pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
STS Santiago 79.95 48 P **P 23 49 05.5 -0.4**
comp=Z,9.2nm,0.6s,mb4.8
ELOB Lobios 80.58 49 P **P 23 49 08.1 -1.1**
comp=Z,1.6nm,0.6s,mb4.0
EPON Pontenova 80.81 47 P **P 23 49 09.2 -1.2**
comp=Z,3.2nm,0.7s,mb4.3
PTOM Tomar 80.96 51 *eP* **P 23 49 11.4 +0.1**
comp=Z,24nm,1.8s,mb4.7
PVRL Vila Real 81.00 50 *eP* **P 23 49 11.1 -0.3**
comp=Z,24nm,1.6s,mb4.8
ERUA La Rua 81.08 48 P **P 23 49 12.1 +0.2**
ERUA pmax pmax
comp=Z,17nm,0.7s,mb5.0
ERUA La Rua 81.08 48 P **P 23 49 12.1 +0.2**
comp=Z,17nm,0.7s,mb5.0
PTEO Sao Teotonio 81.32 53 *eP* **P 23 49 14.0 +0.8**
comp=Z,87nm,1.2s,mb5.5
MTE Manteigas 81.38 50 *eP* **P 23 49 13.3 -0.1**
comp=Z,27nm,1.1s,mb5.0
ECAL Calabor 81.50 49 P **P 23 49 13.4 -0.7**
comp=Z,28nm,1.1s,mb5.0
PBRG Braganca 81.54 49 *eP* **P 23 49 14.5 +0.2**
comp=Z,35nm,2.0s,mb4.8
PCBR Castelo Branco 81.59 51 *eP* **P 23 49 14.4 -0.2**
comp=Z,23nm,2.2s,mb4.6
PBEJ Beja 81.83 53 *eP* **P 23 49 16.3 +0.5**
comp=Z,17nm,1.5s,mb4.7
ROSF Rostrenen 81.86 42 *eP* **P 23 49 15.6 -0.4**
comp=Z,90nm,1.2s,mb5.2
ROSF Rostrenen 81.86 42 *eP* **P 23 49 15.6 -0.4**
ROSF pmax pmax
comp=Z,45nm,1.2s,mb5.2
ROSF Rostrenen 81.86 42 *eP* **P 23 49 15.6 -0.4**
comp=Z,45nm,1.2s,mb5.2
QUIF Quistinic 82.07 42 *eP* **P 23 49 16.7 -0.4**
EBAD Badajoz 82.25 52 P **P 23 49 17.9 -0.2**
comp=Z,33nm,1.8s,mb4.9
EMIN Mina Concepcio 82.81 53 P **P 23 49 20.2 -0.7**
comp=Z,4.2nm,0.8s,mb4.3
GRR Gorron 83.36 41 *eP* **P 23 49 23.7 -0.1**
comp=Z,24nm,0.9s,mb4.8
GRR Gorron 83.36 41 *eP* **P 23 49 23.7 -0.1**
GRR pmax pmax
comp=Z,12nm,0.9s,mb4.7
GRR Gorron 83.36 41 *eP* **P 23 49 23.7 -0.1**
comp=Z,12nm,0.9s,mb4.7
ELAN Lanestosa 83.42 47 P **P 23 49 23.9 -0.2**
comp=Z,32nm,1.1s,mb5.1
FLN La Foliniere 83.47 41 *eP* **P 23 49 24.5 +0.2**
comp=Z,62nm,1.0s,mb5.1
FLN *e*R
comp=Z,97nm,22.0s
FLN La Foliniere 83.47 41 *eP* **P 23 49 24.5 +0.2**
FLN pmax pmax
comp=Z,31nm,1.0s,mb5.1
FLN MLR MLR
comp=Z,100nm,22.0s
FLN La Foliniere 83.47 41 *eP* **P 23 49 24.5 +0.2**
comp=Z,31nm,1.0s,mb5.1
FLN LR LR
comp=Z,100nm,22.0s
TIXI Tiksi 83.63 346 *eP* **P 23 49 21.3 -3.9**
TIXI *e* 23 49 50.2
TIXI pmax pmax
comp=Z,16nm,1.0s,mb4.8
ESPR Espera 83.71 53 P **P 23 49 25.8 +0.2**
comp=Z,26nm,1.6s,mb4.8
LDF La Druitiere 83.75 41 *eP* **P 23 49 25.3 -0.5**
comp=Z,47nm,1.1s,mb4.9
LDF La Druitiere 83.75 41 *eP* **P 23 49 25.3 -0.5**
LDF pmax pmax
comp=Z,24nm,1.1s,mb4.9
LDF La Druitiere 83.75 41 *eP* **P 23 49 25.3 -0.5**
comp=Z,24nm,1.1s,mb4.9
GUD Guadarrama 83.76 49 P **P 23 49 26.3 +0.5**
GUD pmax pmax
comp=Z,13nm,0.8s,mb4.8
GUD Guadarrama 83.76 49 P **P 23 49 26.3 +0.5**
comp=Z,13nm,0.8s,mb4.8
EJIF Jimena Fronter 84.14 54 P **P 23 49 28.6 +0.9**
EJIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
EJIF Jimena Fronter 84.14 54 P **P 23 49 28.6 +0.9**
comp=Z,4.8nm,0.8s,mb4.4
ESDC Sonseca Array 84.21 50 P **P 23 49 27.5 -0.6**
comp=Z,4.9nm,0.8s,mb4.4,baz=301,slow=5.1,SNR=28
ESDC Sonseca Array 84.21 50 P **P 23 49 28.1 -0.1**
comp=Z,4.1nm,0.9s,mb4.3
EADA Adamuz 84.25 52 P **P 23 49 28.5 +0.1**
comp=Z,5.7nm,0.6s,mb4.6
ECRI Cripan 84.27 47 P **P 23 49 28.3 -0.1**
ECRI pmax pmax
comp=Z,14nm,0.6s,mb5.0
ECRI Cripan 84.27 47 P **P 23 49 28.3 -0.1**
comp=Z,14nm,0.6s,mb5.0
MFF Saint Martin d 84.45 43 *eP* **P 23 49 28.8 -0.5**
comp=Z,47nm,1.1s,mb4.9
MFF Saint Martin d 84.45 43 *eP* **P 23 49 28.8 -0.5**
MFF pmax pmax
comp=Z,23nm,1.1s,mb4.9
MFF Saint Martin d 84.45 43 *eP* **P 23 49 28.8 -0.5**
comp=Z,23nm,1.1s,mb4.9
NB2 NORSAR Subarra 84.49 27 P **P 23 49 27.0 -2.5**
comp=Z,3.2nm,1.0s,mb4.1,baz=299,slow=5.3
NB2 NORSAR Subarra 84.49 27 P **P 23 49 27.0 -2.5**
NB2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
NOA NORSAR Array B 84.49 27 P **P 23 49 28.6 -0.9**
comp=Z,1.4nm,0.7s,mb3.9,baz=297,slow=4.6,SNR=4.2
NOA sP sP 23 49 53.5 -2.3
comp=Z,2.3nm,0.9s,baz=301,slow=5.0,SNR=3.5
NOA LR LR 00 24 54.2
comp=Z,49nm,21.1s,baz=295,slow=34
NOA NORSAR Array B 84.49 27 P **P 23 49 28.6 -0.9**
NOA *SP sP 23 49 53.5 -2.4
ARCES ARCESS Array B 84.58 16 P **P 23 49 29.3 -0.7**
comp=Z,2.6nm,0.6s,mb4.4,baz=304,slow=5.0,SNR=32
ARCES LR LR 00 27 13.9
comp=Z,134nm,20.5s,baz=11,slow=36
EBAN Banos Encina 84.84 52 P **P 23 49 31.3 0.0**
EBAN pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
EBAN Banos Encina 84.84 52 P **P 23 49 31.3 0.0**
comp=Z,7.5nm,0.8s,mb4.7
ELOJ Sierra Loja 84.91 53 P **P 23 49 33.1 +1.5**
ELOJ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ELOJ Sierra Loja 84.91 53 P **P 23 49 33.1 +1.4**
comp=Z,7.6nm,0.8s,mb4.7
SJPF Ste Jean 84.98 46 *eP* **P 23 49 31.9 -0.1**
comp=Z,32nm,1.3s,mb4.8
SJPF Ste Jean 84.98 46 *eP* **P 23 49 31.9 -0.1**
SJPF pmax pmax
comp=Z,16nm,1.3s,mb4.8
SJPF Ste Jean 84.98 46 *eP* **P 23 49 31.9 -0.1**
comp=Z,16nm,1.3s,mb4.8
ERON Agron 85.21 53 P **P 23 49 34.1 +0.9**
comp=Z,23nm,1.0s,mb5.0
ECOG Cogollos-Vega 85.31 52 P **P 23 49 34.9 +1.3**
ECOG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ECOG Cogollos-Vega 85.31 52 P **P 23 49 34.9 +1.2**
comp=Z,8.7nm,0.8s,mb4.7
EQES Quesada 85.50 52 P **P 23 49 34.9 +0.3**
comp=Z,6.6nm,0.5s,mb4.8
ETSF Etsaut 85.51 46 *eP* **P 23 49 34.6 0.0**
comp=Z,33nm,0.9s,mb5.0
ETSF Etsaut 85.51 46 *eP* **P 23 49 34.6 0.0**
ETSF pmax pmax
comp=Z,17nm,0.9s,mb5.0
ETSF Etsaut 85.51 46 *eP* **P 23 49 34.6 0.0**
comp=Z,16nm,0.9s,mb5.0
EVIA Vianos 85.63 51 P **P 23 49 36.3 +1.0**
EVIA pmax pmax
comp=Z,27nm,0.7s,mb5.3
EVIA Vianos 85.63 51 P **P 23 49 36.3 +1.0**
comp=Z,27nm,0.7s,mb5.3
LFF La Frestale 85.64 44 *eP* **P 23 49 34.8 -0.5**
comp=Z,57nm,0.9s,mb5.2
LFF La Frestale 85.64 44 *eP* **P 23 49 34.8 -0.5**
LFF pmax pmax
comp=Z,29nm,0.9s,mb5.2
LFF La Frestale 85.64 44 *eP* **P 23 49 34.8 -0.5**
comp=Z,29nm,0.9s,mb5.2
BAIF Baives 85.81 38 *eP* **P 23 49 35.9 -0.2**
comp=Z,16nm,0.9s,mb4.7
BAIF Baives 85.81 38 *eP* **P 23 49 35.9 -0.2**
BAIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BAIF Baives 85.81 38 *eP* **P 23 49 35.9 -0.2**
comp=Z,7.8nm,0.9s,mb4.6
VIEF Viey 85.92 46 *eP* **P 23 49 36.9 +0.2**
EBER Berja 85.94 53 P **P 23 49 38.5 +1.7**
comp=Z,38nm,0.9s,mb5.3
HYF Humbligny 85.97 41 *eP* **P 23 49 36.5 -0.4**
comp=Z,67nm,0.8s,mb5.3
HYF Humbligny 85.97 41 *eP* **P 23 49 36.5 -0.4**
comp=Z,33nm,0.8s,mb5.3
ESAC San Caprasio 86.00 47 P **P 23 49 37.9 +0.8**
comp=Z,50nm,1.0s,mb5.4
RJF Les Rejaudoux 86.01 43 *eP* **P 23 49 36.6 -0.5**
comp=Z,24nm,0.7s,mb4.9
RJF *e*R
comp=Z,85nm,21.0s
RJF Les Rejaudoux 86.01 43 *eP* **P 23 49 36.6 -0.5**
RJF pmax pmax
comp=Z,12nm,0.7s,mb4.9
RJF MLR MLR
comp=Z,80nm,21.0s
RJF Les Rejaudoux 86.01 43 *eP* **P 23 49 36.6 -0.5**
comp=Z,12nm,0.7s,mb4.9
RJF LR LR
comp=Z,80nm,21.0s
DOU Dourbes 86.02 38 P **P 23 49 37.2 0.0**
DOU PCP PcP 23 49 43.5 +3.7
EBIE Bielsa 86.07 46 P **P 23 49 37.5 0.0**
comp=Z,14nm,0.6s,mb5.1
EPF Esparros 86.08 46 *eP* **P 23 49 37.0 -0.4**
comp=Z,44nm,1.0s,mb5.0
EPF Esparros 86.08 46 *eP* **P 23 49 37.0 -0.4**
EPF pmax pmax
comp=Z,22nm,1.0s,mb5.0
EPF Esparros 86.08 46 *eP* **P 23 49 37.0 -0.4**
comp=Z,22nm,1.0s,mb5.0
TCF Toulx Ste Croi 86.08 42 *eP* **P 23 49 36.9 -0.6**
comp=Z,45nm,0.8s,mb5.2
TCF Toulx Ste Croi 86.08 42 *eP* **P 23 49 36.9 -0.6**
TCF pmax pmax
comp=Z,22nm,0.8s,mb5.1
TCF Toulx Ste Croi 86.08 42 *eP* **P 23 49 36.9 -0.6**
comp=Z,22nm,0.8s,mb5.2
GIVF Givet 86.15 38 *eP* **P 23 49 37.6 -0.2**
RESF Ens 86.16 46 *eP* **P 23 49 38.5 +0.6**
ETOB Tobarra 86.33 51 P **P 23 49 39.3 +0.6**
comp=Z,15nm,0.7s,mb5.0
EGRA Graus 86.37 47 P **P 23 49 39.6 +0.7**
comp=Z,20nm,1.0s,mb5.0
BGF Bois d'Agland 86.38 42 *eP* **P 23 49 38.3 -0.6**
comp=Z,29nm,0.9s,mb4.9
BGF Bois d'Agland 86.38 42 *eP* **P 23 49 38.3 -0.6**
BGF pmax pmax
comp=Z,15nm,0.9s,mb4.9
BGF Bois d'Agland 86.38 42 *eP* **P 23 49 38.3 -0.6**
comp=Z,14nm,0.9s,mb4.9
ECHE Chera 86.41 49 P **P 23 49 39.7 +0.6**
ECHE pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ECHE Chera 86.41 49 P **P 23 49 39.7 +0.6**
comp=Z,9.4nm,0.6s,mb4.9
ENIJ Nijar 86.43 52 P **P 23 49 39.3 +0.1**
ENIJ pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ENIJ Nijar 86.43 52 P **P 23 49 39.3 +0.1**
comp=Z,3.1nm,0.5s,mb4.5
EMOS Mosqueruela 86.49 49 P **P 23 49 40.2 +0.8**
comp=Z,45nm,0.9s,mb5.4
CAF Calviac 86.51 44 *eP* **P 23 49 39.0 -0.6**
comp=Z,18nm,0.8s,mb4.7
CAF Calviac 86.51 44 *eP* **P 23 49 39.0 -0.6**
CAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CAF Calviac 86.51 44 *eP* **P 23 49 39.0 -0.6**
comp=Z,8.8nm,0.8s,mb4.7
SSF Saint Saulge 86.59 41 *eP* **P 23 49 39.2 -0.8**
comp=Z,31nm,0.8s,mb5.0
SSF Saint Saulge 86.59 41 *eP* **P 23 49 39.2 -0.8**
SSF pmax pmax
comp=Z,15nm,0.8s,mb5.0

SSF	Saint Saulge	86.59	41	*eP*	P	23 49 39.2	-0.8
	comp=Z,15nm,0.8s,mb5.0						
AVF	Avril sur Loir	86.61	42	*eP*	P	23 49 38.9	-1.1
	comp=Z,17nm,0.8s,mb4.7						
AVF	Avril sur Loir	86.61	42	*eP*	P	23 49 38.9	-1.1
AVF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
AVF	Avril sur Loir	86.61	42	*eP*	P	23 49 38.9	-1.1
	comp=Z,8.3nm,0.8s,mb4.7						
MEM	Membach	86.62	37	P	P	23 49 40.1	0.0
LOR	Lormes	86.73	41	*eP*	P	23 49 40.1	-0.6
	comp=Z,60nm,0.9s,mb5.2						
LOR				*eR*			
	comp=Z,60nm,19.0s						
LOR	Lormes	86.73	41	*eP*	P	23 49 40.1	-0.6
LOR				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
LOR				MLR	MLR		
	comp=Z,60nm,19.0s						
LOR	Lormes	86.73	41	*eP*	P	23 49 40.1	-0.6
	comp=Z,30nm,0.9s,mb5.2						
LOR				LR	LR		
	comp=Z,60nm,19.0s						
PYM	Petit Puy Mans	86.80	43	*eP*	P	23 49 40.6	-0.4
MEZF	Maizieres J'vi	86.95	40	*eP*	P	23 49 40.5	-1.2
	comp=Z,16nm,0.8s,mb4.7						
MEZF	Maizieres J'vi	86.95	40	*eP*	P	23 49 40.5	-1.2
	comp=Z,16nm,0.8s,mb5.0						
SMF	Signal de Mont	86.97	42	*eP*	P	23 49 40.9	-0.9
	comp=Z,20nm,0.8s,mb4.8						
SMF	Signal de Mont	86.97	42	*eP*	P	23 49 40.9	-0.9
SMF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SMF	Signal de Mont	86.97	42	*eP*	P	23 49 40.9	-0.9
	comp=Z,9.8nm,0.8s,mb4.8						
WLF	Walferdange	87.11	38	⇑P	P	23 49 42.5	0.0
	comp=Z,7.2nm,1.0s,mb4.6						
WLF				AP	pP	23 49 50.9	-11
LBL	Lubilhac	87.16	43	*eP*	P	23 49 42.8	+0.1
MTLF	Montolieu	87.23	45	*eP*	P	23 49 42.7	-0.4
	comp=Z,33nm,0.9s,mb5.0						
MTLF	Montolieu	87.23	45	*eP*	P	23 49 42.7	-0.4
MTLF				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
MTLF	Montolieu	87.23	45	*eP*	P	23 49 42.7	-0.4
	comp=Z,17nm,0.9s,mb5.0						
EMIR	Miracle	87.31	47	P	P	23 49 44.2	+0.7
	comp=Z,32nm,0.8s,mb5.3						
HAU	Haudompre	87.95	40	*eP*	P	23 49 46.1	-0.4
	comp=Z,12nm,0.7s,mb4.7						
HAU				*eR*			
	comp=Z,64nm,17.5s						
HAU	Haudompre	87.95	40	*eP*	P	23 49 46.1	-0.4
HAU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
HAU				MLR	MLR		
	comp=Z,60nm,17.5s						
HAU	Haudompre	87.95	40	*eP*	P	23 49 46.1	-0.4
	comp=Z,5.8nm,0.7s,mb4.7						
HAU				LR	LR		
	comp=Z,60nm,17.5s						
LASF	Ste Croix	88.03	44	*eP*	P	23 49 47.1	+0.2
	comp=Z,47nm,1.3s,mb5.1						
VIVF	Saint-Julien-l	88.24	43	*eP*	P	23 49 48.1	+0.2
CDF	Champ du Feu	88.33	39	*eP*	P	23 49 46.8	-1.5
	comp=Z,4.8nm,0.6s,mb4.4						
CDF	Champ du Feu	88.33	39	*eP*	P	23 49 46.8	-1.5
CDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CDF	Champ du Feu	88.33	39	*eP*	P	23 49 46.8	-1.5
	comp=Z,2.4nm,0.6s,mb4.4						
HINF	Hinteralfeld	88.34	40	*eP*	P	23 49 46.7	-1.7
	comp=Z,10nm,0.8s,mb4.6						
HINF	Hinteralfeld	88.34	40	*eP*	P	23 49 46.7	-1.7
HINF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
HINF	Hinteralfeld	88.34	40	*eP*	P	23 49 46.7	-1.7
	comp=Z,5.2nm,0.8s,mb4.6						
CABF	La Chapelle	88.39	41	*eP*	P	23 49 47.3	-1.3
	comp=Z,13nm,0.9s,mb4.6						
CABF	La Chapelle	88.39	41	*eP*	P	23 49 47.3	-1.3
CABF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CABF	La Chapelle	88.39	41	*eP*	P	23 49 47.3	-1.3
	comp=Z,6.4nm,0.9s,mb4.7						
LPL	La Plagne	89.27	42	*eP*	P	23 49 52.2	-0.5
	comp=Z,11nm,0.8s,mb4.6						
LPL	La Plagne	89.27	42	*eP*	P	23 49 52.2	-0.5
LPL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LPL	La Plagne	89.27	42	*eP*	P	23 49 52.2	-0.5
	comp=Z,5.6nm,0.8s,mb4.7						
LPG	La Plagne	89.29	42	*eP*	P	23 49 52.4	-0.4
	comp=Z,10nm,0.9s,mb4.5						
LPG	La Plagne	89.29	42	*eP*	P	23 49 52.4	-0.4
LPG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
LPG	La Plagne	89.29	42	*eP*	P	23 49 52.4	-0.4
	comp=Z,5.1nm,0.9s,mb4.5						
MBDF	Montbardon	89.64	42	*eP*	P	23 49 53.6	-0.9
	comp=Z,9.8nm,0.8s,mb4.7						
MBDF	Montbardon	89.64	42	*eP*	P	23 49 53.6	-0.9
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
MBDF	Montbardon	89.64	42	*eP*	P	23 49 53.6	-0.9
	comp=Z,4.9nm,0.8s,mb4.7						
YAK	Yakutsk	89.89	338	*eP*	P	23 49 56.5	+0.9
YAK				*e*		23 50 27.2	
YAK				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.5						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1						
YAK	Yakutsk	89.89	338	*eP*	P	23 49 56.3	+0.6
	comp=Z,61nm,0.8s,mb5.8						
YAK				*ep*P	pP	23 50 14.4	-0.3
LMR	La Mourre	90.08	44	*eP*	P	23 49 55.2	-1.3
	comp=Z,48nm,1.1s,mb5.2						
LMR	La Mourre	90.08	44	*eP*	P	23 49 55.2	-1.3
LMR				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.2						
LMR	La Mourre	90.08	44	*eP*	P	23 49 55.2	-1.3
	comp=Z,24nm,1.1s,mb5.2						
FINES	FINESS Array B	90.12	22	P	P	23 49 54.9	-1.8
	comp=Z,0.6nm,0.6s,mb3.9,baz=332,slow=5.2,SNR=6.0						
FINES				LR	LR	00 28 54.2	
	comp=Z,157nm,18.7s,baz=209,slow=35						
CLL	Collm	90.20	35	*eP*	P	23 49 57.0	-0.1
	comp=Z,6.0nm,1.0s,mb4.7						
CLL	Collm	90.20	35	*eP*	P	23 49 57.0	-0.1
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
SBF	Sospel	90.45	43	*eP*	P	23 49 56.8	-1.5
	comp=Z,31nm,1.0s,mb5.1						
SBF	Sospel	90.45	43	*eP*	P	23 49 56.8	-1.5
SBF				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
SBF	Sospel	90.45	43	*eP*	P	23 49 56.8	-1.5
	comp=Z,16nm,1.0s,mb5.1						
BRG	Berggiesshubel	90.94	35	*i* P	P	23 50 00.3	-0.2
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
BRG	Berggiesshubel	90.94	35	*i* P	P	23 50 00.3	-0.2
	comp=Z,3.2nm,0.9s,mb4.5						
GERES	GERESS Array B	91.86	37	P	P	23 50 04.4	-0.3
	comp=Z,2.4nm,0.7s,mb4.5,baz=332,slow=4.5,SNR=25						
GERES				LR	LR	00 30 41.5	
	comp=Z,62nm,19.0s,baz=288,slow=35						
PGF	Pioggiola	92.07	44	*eP*	P	23 50 04.3	-1.5
	comp=Z,16nm,0.8s,mb5.0						
PGF	Pioggiola	92.07	44	*eP*	P	23 50 04.3	-1.5
PGF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
PGF	Pioggiola	92.07	44	*eP*	P	23 50 04.3	-1.5
	comp=Z,7.9nm,0.8s,mb5.0						
SMOL	Smolenice	94.12	36	*eP*	P	23 50 15.6	+0.4
LIC	Lamto	94.50	82	*eP*	P	23 50 16.7	-0.3
	comp=Z,22nm,1.1s,mb5.2						
LIC	Lamto	94.50	82	*eP*	P	23 50 16.7	-0.3
	comp=Z,11nm,1.1s,mb5.2						
DBIC	Dimbokro	94.52	81	LR	LR	00 26 07.3	
	comp=Z,45nm,20.5s,baz=280,slow=31						
LIKS	Likavka	94.72	34	*eP*	P	23 50 20.4	+2.4
VYHS	Vyhne	94.90	35	*eP*	P	23 50 18.8	0.0
STHS	Stebnicka Huta	95.64	33	*eP*	P	23 50 22.5	+0.4
KECS	Kecovo	95.80	34	*eP*	P	23 50 22.8	-0.1
KOLS	Kolonicke sedl	96.47	33	*eP*	P	23 50 26.1	+0.2
TORD	Torodi Ar. Bea	98.36	73	P	P	23 50 33.8	-0.6
	comp=Z,0.5nm,0.9s,mb4.0,baz=288,slow=5.6,SNR=3.8						
TORD				pP	pP	23 50 51.1	-2.4
	comp=Z,1.1nm,0.9s,baz=282,slow=4.7,SNR=4.2						
AKASG	Malin Array Be	98.72	29	P	P	23 50 34.2	-1.9
	comp=Z,0.2nm,0.2s,mb4.2,baz=283,slow=3.7,SNR=8.0						
AKASG	Malin Array Be	98.72	29	P	P	23 50 34.2	-1.9
HHC	Hu-ho-hao-te	113.17	333	*e*PKP	PKiKP	23 55 29.4	-4.4
HHC				PP	PP	23 56 24.8	+0.5
HHC				PKS		23 59 04.5	
HHC				PP	PP		
	comp=Z,61nm,4.4s						
HHC				LR	LR		
	comp=N,118nm,4.7s						
HHC				LR	LR		
	comp=E,60nm,3.9s						
HHC				LR	LR		
	comp=Z,91nm,5.1s						
MKAR	Makanchi Array	114.79	357	PKP	PKiKP	23 55 36.4	-0.5
	comp=Z,0.5nm,0.8s,baz=277,slow=1.0,SNR=3.7						
NJ2	Nanjing	116.26	322	*e*PKP	PKPdf	23 55 37.3	-2.4
WMQ	Urumqi	117.25	352	*e*PKP	PKPdf	23 55 41.5	-0.1
WMQ				LR	LR		
	comp=N,156nm,24.0s						
WMQ				LR	LR		
	comp=E,126nm,20.0s						
WMQ				LR	LR		
	comp=Z,143nm,24.0s						
STKA	Stephens Creek	121.80	244	PKP	PKPdf	23 55 49.8	-0.6
	comp=Z,5.5nm,0.8s,baz=36,slow=2.4,SNR=9.9						
STKA				pPKP	pPKPdf	23 56 08.3	-1.9
	comp=Z,3.7nm,0.8s,baz=14,slow=2.5,SNR=5.2						
STKA				sPKP		23 56 17.5	
	comp=Z,1.4nm,0.6s,baz=159,slow=0.6,SNR=3.1						
STKA	Stephens Creek	121.80	244	PKP	PKPdf	23 55 49.8	-0.6
STKA				pPKP	pPKPdf	23 56 08.3	-1.9
STKA				sPKP		23 56 17.5	
ENH	Enshi	122.77	328	*e*PKPdf	PKPdf	23 55 52.8	+0.6
ENH				epPKPdf	pPKPdf	23 56 11.6	-0.4
CD2	Chengdu	124.93	333	*e*PKP	PKPdf	23 56 02.4	+6.0
WRA	Warramunga Arr	127.12	259	PKP	PKPdf	23 56 01.9	+1.4
	comp=Z,5.5nm,0.8s,baz=79,slow=1.9,SNR=30						
WRA				pPKP	pPKPdf	23 56 20.4	+0.1
	comp=Z,4.8nm,0.8s,baz=80,slow=1.9,SNR=8.3						
CASY	Casey	127.88	196	*e*PKPdf	PKPdf	23 56 02.2	+0.2
ASAR	Alice Springs	127.98	254	PKP	PKPdf	23 56 03.3	+1.1
	comp=Z,4.0nm,0.8s,baz=94,slow=1.7,SNR=34						
ASAR				pPKP	pPKPdf	23 56 21.9	-0.1
	comp=Z,3.3nm,0.8s,baz=91,slow=2.0,SNR=9.2						
BOSA	Boshof	130.90	112	PKP	PKPdf	23 56 09.3	+1.6
	comp=Z,4.5nm,0.8s,baz=185,slow=2.3,SNR=8.0						
BOSA				pPKP	pPKPdf	23 56 26.4	-1.2
	comp=Z,4.5nm,0.9s,baz=310,slow=6.0,SNR=2.9						
BOSA	Boshof	130.90	112	PKP	PKPdf	23 56 09.3	+1.6
BOSA				pPKP	pPKPdf	23 56 26.4	-1.2
MIR	Mirnyy	131.11	188	*e*P	Pdif	23 53 05.0	+4.9
MIR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
HYB	Hyderabad	144.19	359	*i* PKP	PKPdf	23 56 30.5	-1.6
HYB	Hyderabad	144.19	359	*eP*	PKPdf	23 56 30.5	-1.6
TRD	Trivandrum	153.02	3	*eP*	PKPbc	23 56 52.3	-1.5

*NEIC **20** 23:45:02.2, 1931N×6488W, h46km, MD3.6(RSPR), After RSPR.*

RSPR 20 23:45:02.2, 1931N×6488W, h46km±10km, MD3.6/15, MD3.6/15, 12C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.93	164	*e*S	Sn	23 45 30.3	-0.8
TBVI	Tortola	0.93	164	⇑*e*P	Pn	23 45 17.8	-1.1
TBVI				*e*S	Sn	23 45 30.3	-0.8
STVI	Saint Thomas	0.95	184	*e*S	Sn	23 45 30.2	-1.4
STVI	Saint Thomas	0.95	184	⇓*i*P	Pn	23 45 18.0	-1.2
STVI				*e*S	Sn	23 45 30.2	-1.4
MTP	Monte Pirata	1.36	208	*e*S	Sn	23 45 40.1	-1.6
MTP	Monte Pirata	1.36	208	⇑*e*P	Pn	23 45 23.9	-0.9
MTP				*e*S	Sn	23 45 40.1	-1.6
CBYP	Canovanas	1.38	222	*e*S	Sn	23 45 41.0	-1.1
CBYP	Canovanas	1.38	222	⇓*e*P	Pn	23 45 23.6	-1.4
CBYP				*e*S	Sn	23 45 41.0	-1.1
HUMP	Col San Antoni	1.48	219	*e*S	Sn	23 45 43.6	-0.8
HUMP	Col San Antoni	1.48	219	⇑*e*P	Pn	23 45 24.9	-1.4
HUMP				*e*S	Sn	23 45 43.6	-0.8
CDVI	St. Croix	1.55	176	*e*S	Sn	23 45 45.8	-0.4
CDVI	St. Croix	1.55	176	⇓*e*P	Pn	23 45 28.2	+0.8
CDVI				*e*S	Sn	23 45 45.8	-0.4
CPD	Cerro la Pandu	1.59	218	*e*S	Sn	23 45 47.0	-0.3
CPD	Cerro la Pandu	1.59	218	⇑*e*P	Pn	23 45 26.9	-1.1
CPD				*e*S	Sn	23 45 47.0	-0.3
SJG	San Juan	1.69	226	*e*S	Sn	23 45 49.0	-0.7
SJG	San Juan	1.69	226	⇑*e*P	Pn	23 45 28.0	-1.2
SJG				*e*S	Sn	23 45 48.1	-1.5
SJG	San Juan	1.69	226	⇑*e*P	Pn	23 45 27.8	-1.5
SJG				*e*S	Sn	23 45 49.0	-0.7
AOPR	Arecibo Observ	2.01	242	*e*S	Sn	23 45 56.9	-0.6
AOPR	Arecibo Observ	2.01	242	⇑*e*P	Pn	23 45 33.1	-0.5
AOPR				*e*S	Sn	23 45 56.9	-0.6
CELP	Cerrillos	2.02	233	⇑*e*P	Pn	23 45 33.0	-0.8
CELP				*e*S	Sn	23 45 57.1	-0.7
OBIP	Obispado Ponce	2.06	233	*e*S	Sn	23 45 57.7	-1.1
OBIP	Obispado Ponce	2.06	233	⇑*e*P	Pn	23 45 33.5	-0.9
OBIP				*e*S	Sn	23 45 57.7	-1.1
ICM	Isla Caja Muer	2.09	228	*e*S	Sn	23 45 59.3	-0.4
ICM	Isla Caja Muer	2.09	228	⇑*e*P	Pn	23 45 34.2	-0.6
ICM				*e*S	Sn	23 45 59.3	-0.4
LSP	Las Mesas	2.37	242	*e*S	Sn	23 46 06.0	-0.4
LSP	Las Mesas	2.37	242	⇑*e*P	Pn	23 45 38.2	-0.3
LSP				*e*S	Sn	23 46 06.0	-0.4
CRPR	Cabo Rojo, PR	2.47	239	*e*S	Sn	23 46 08.7	-0.3
CRPR	Cabo Rojo, PR	2.47	239	⇑*e*P	Pn	23 45 39.6	-0.4
CRPR				*e*S	Sn	23 46 08.7	-0.3

*NNC **20** 23:48:07.6±0.5, 4326N×7665E, h6km±6km, mb3.6, mpv3.7, Error ellipse: s-maj=9.9km s-min=2.2km az=161.0*
*ISCJB **20** 23:48:09.0±0.6, 4314N±007×7673E±005, h10km, Error ellipse: s-maj=11.4km s-min=4.0km az=136.9*
*KNET **20** 23:48:09.1±0.9, 4309N×7660E, h11km±3km, ml3.0, Error ellipse: s-maj=5.5km s-min=4.1km az=45.0*

ISC 20 23:48:09.4±0.6, 4311N±007×7672E±006, h10km, n16, σ1§00/25, 18C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	Almaty	0.21	58	⇓P	Pg	23 48 13.1	-0.8
	7μm,0.2s						
KNDC				⇓S	Sg	23 48 17.0	+0.2
	22μm,0.3s						
TKM2	Tokmak 2	0.85	258	⇑P	Pg	23 48 24.2	-1.5
	39nm,0.1s,SNR=296						
TKM2				⇑S	Sg	23 48 36.1	-0.7
	406nm,0.1s						
TKM2	Tokmak 2	0.85	258	⇑P	Pg	23 48 24.2	-1.5
	11nm,0.4s						
TKM2				⇑S	Sg	23 48 35.9	-0.8
	141nm,0.3s						
ULHL	Ulahol	0.93	203	⇑P	Pg	23 48 25.3	-2.0
	30nm,0.2s,SNR=195						
KBK	Karagaybulak	1.38	252	P	Pn	23 48 33.9	-0.8
	92nm,0.2s,SNR=245						
KBK				⇓S	Sb	23 48 52.6	-0.4
	210nm,0.2s						
CHMS	Chumysh	1.45	266	⇑P	Pn	23 48 34.6	-1.0
	32nm,0.1s,SNR=47						
CHMS				⇑S	Sn	23 48 54.0	-0.7
	279nm,0.1s						
KZA	Kyzart	1.50	227	⇑P	Pn	23 48 36.0	-0.4
	28nm,0.2s,SNR=63						
KZA				⇑S	Sn	23 48 56.9	+1.0
	33nm,0.1s						
USP	Ospenovka	1.63	276	⇓P	Pn	23 48 37.7	-0.5
	47nm,0.1s,SNR=122						
USP				⇑S	Sn	23 48 59.4	+0.2
	172nm,0.1s						
AAK	Ala-Archa	1.70	255	⇑P	Pn	23 48 39.3	+0.1
	56nm,0.3s,SNR=64						
AAK				⇓S	Sn	23 49 02.0	+1.0
	96nm,0.3s						
UCH	Uchtor	1.85	242	⇑P	Pn	23 48 42.0	+0.8
	18nm,0.2s,SNR=40						
UCH				⇑S	Sn	23 49 06.6	+2.0
	23nm,0.2s						
EKS2	Erkin-Say	2.21	259	P	Pn	23 48 47.8	+1.7
	19nm,0.2s,SNR=58						
EKS2				⇑S	Sn	23 49 18.2	+4.7
	48nm,0.1s						
AML	Almayashu	2.44	247	⇓P	Pn	23 48 50.2	+0.9
	56nm,0.3s,SNR=79						
KK31	Karatay Array	4.55	272	⇑Pg	Pg	23 49 31.0	-5.5
	1.2nm,0.3s,baz=88,slow=16,SNR=13						
KK31				⇓Lg		23 50 29.2	
	15nm,0.5s,baz=83,slow=29,SNR=37						
MK31	Makanchi Array	5.40	45	⇓Pn	Pn	23 49 30.9	+0.9
	2.2nm,0.5s,baz=220,slow=15,SNR=37						
MK31				⇑Lg		23 50 54.2	
	1.2nm,0.4s,baz=230,slow=28,SNR=5.2						
KURK	Kurchatov	7.72	9	⇑Lg		23 52 09.9	
	4.4nm,0.6s						
ZRNK	Zerenda	11.12	335	⇓Sn	Sn	23 52 45.5	-7.2
	0.5nm,0.4s						
ZRNK				⇑Lg		23 53 55.1	
	3.4nm,0.8s						

*NEIC **21** 00:40:17.4±3.3, 534S×15062E, h93km±27km, mb3.5/1, Error ellipse: s-maj=246.5km s-min=25.2km az=128.0*

IDC 21 00:40:13.0±7.2, 598S×15158E, h62km±55km, mb3.3/3, mb1 3.6/4, mb1mx3.3/14, mbtmp3.6/4, ML2.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/12, Error ellipse: s-maj=163.3km s-min=36.1km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.54	232	P	Pn	00 41 34.1	+1.2
	0.9nm,0.3s,baz=63,slow=14,SNR=2.8						
PMG				S	Sn	00 42 31.3	-3.9
	5.9nm,0.3s,baz=120,slow=16,SNR=11						
WRAB	Tennant Creek	21.74	229	*e*P	P	00 44 58.8	-0.4
	1.1nm,0.5s						
WRA	Warramunga Arr	21.75	229	P	P	00 44 58.3	-1.0
	0.8nm,0.5s,baz=53,slow=10,SNR=4.5						
WRA	Warramunga Arr	21.75	229	P	P	00 44 58.3	-1.0
ASAR	Alice Springs	24.46	222	P	P	00 45 26.5	+0.4
	1.2nm,0.7s,baz=58,slow=8.9,SNR=15						
STKA	Stephens Creek	27.40	199	LR	LR	00 57 30.1	
	comp=Z,66nm,18.1s,baz=33,slow=38						
FITZ	Fitzroy Crossi	28.03	242	LR	LR	00 58 06.3	
	comp=Z,58nm,19.2s,baz=46,slow=38						
ILAR	Eielson Array	83.70	22	P	P	00 52 34.5	-0.6
	0.3nm,0.6s,baz=242,slow=4.6,SNR=6.1						
TORD	Torodi Ar. Bea	149.48	286	PKPbc	PKPbc	00 59 56.5	+1.4
	1.0nm,0.7s,baz=74,slow=2.3,SNR=9.7						

*BJI **21** 01:14:54.8, 3488N×7293E, h10km, mB4.7, mb4.6, ML4.7, Ms4.3, Msz4.1*
*LDG **21** 01:14:59.3±0.1, 3460N×7365E, h10km, Mb4.4/13, Ms3.7/1, Error ellipse: s-maj=8.0km s-min=3.9km az=23.0*
*ISCJB **21** 01:15:00.1±0.2, 3470N±002×7371E±004, h10km, mb4.4/51, MS3.4/13, Error ellipse: s-maj=4.8km s-min=2.5km az=109.5*
*MOS **21** 01:15:00.0±0.9, 3474N×7373E, h10km, mb4.7/20, Error ellipse: s-maj=10.0km s-min=5.3km az=114.5*
*IDC **21** 01:15:00.3±0.6, 3474N×7373E, h0km, mb4.2/20, mb1 4.4/22, mb1mx4.3/27, mbtmp4.3/22, ML4.2/3, MS3.2/7, Ms1 3.2/7, ms1mx3.1/18, Error ellipse: s-maj=16.3km s-min=14.9km az=176.0*
*NEIC **21** 01:15:01.7±0.2, 3473N×7376E, h10km, mb4.5/21, Error ellipse: s-maj=6.0km s-min=3.0km az=216.0*
*NNC **21** 01:15:15.8±7.9, 3534N±7332E, h82km±78km, mb3.9, mpv4.4, Error ellipse: s-maj=61.1km s-min=45.7km az=29.0*

ISC 21 01:15:02.3±0.2, 3482N±002×7381E±003, h10km, (h13km±2.1km:pP-P), n173, σ1§15/195, mb4.4/51, MS3.4/13, 8C-7D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	1.25	201	P	Pn	01 15 24.9	-0.8
CEP	Cherat	1.86	238	P	Pn	01 15 35.8	+1.6
JMU	Jammu	2.29	156	*e*P	Sg	01 16 14.5	-1.3
THW	Thamme Wali	2.66	221	⇑P	Pn	01 15 47.0	+1.9
DLH	Dalhousie	2.90	141	*e*P	Pn	01 15 52.0	+3.5
DLH				*e*S	Sn	01 16 29.0	+5.6
SARP	Sargodha	3.05	199	P	Pn	01 15 52.4	+1.9
PONG	Pong	3.38	147	*e*P	Pn	01 15 59.0	+4.0
PONG				*e*S	Sn	01 16 41.0	+5.9
SBDP	Sheikh Budin	3.55	226	⇑P	Pn	01 15 59.4	+2.0
SDNR	Sundarnagar	4.24	140	*ex*	x	01 16 19.0	
SDNR				*e*S	Sn	01 16 57.5	+1.0
DRP	Derazinda	4.31	226	⇑P	Pn	01 16 10.4	+2.6
SMLA	Simla	4.64	142	*e*P	Pn	01 16 14.3	+1.9
SMLA				*e*S	Sn	01 17 05.8	-0.5
SMLA				AML	AML	01 17 30.4	
	comp=N,789nm,0.3s						
SMLA				AML	AML	01 17 31.2	
	comp=E,832nm,0.5s						
KLP	Kalpa	4.96	130	*e*P	Pn	01 16 19.7	+2.9
KLP				*ex*	x	01 17 34.9	
KSH	Kashi	4.99	20	PG	Pn	01 16 23.3	+6.0
KSH				LR	LR		
	comp=N,2μm,4.1s						
KSH				LR	LR		
	comp=E,2μm,4.2s						
KKR	Kurukshetra	5.47	151	*ex*	x	01 15 44.1	
RTK	Rohtak	6.18	158	*ex*	x	01 16 28.4	
KALG	Kalgarh	6.76	140	*ex*	x	01 16 37.6	
NDI	New Delhi	6.77	154	*e*P	Pn	01 16 43.1	+1.4
NDI				*e*P		01 16 44.0	
NDI				*ex*	x	01 17 53.4	
NDI				*e*S	Sn	01 17 58.0	-0.9
NDI				AML	AML	01 17 59.6	
	comp=N,89nm,0.3s						
NDI				AML	AML	01 18 01.1	
	comp=E,85nm,0.2s						
AYAN

comp=E,16nm,0.5s,baz=158,slow=11,SNR=315
KK31 ⇑S **Sn** **01 18 44.2 -1.0**
comp=E,5.5nm,0.3s,baz=169,slow=22,SNR=9.8
KK31 Karatay Array 8.66 344 *i* P **Pn** **01 17 09.9 +2.3**
KK31 pmax pmax
comp=Z,13nm,0.2s
KKAR Karatay Array 8.66 344 P **Pn** **01 17 09.9 +2.3**
KKAR S **Sn** **01 18 44.1 -1.1**
KKAR pmax pmax
comp=Z,3.0nm,0.2s
KKAR smax
comp=Z,3.0nm,0.3s
DANN Dangsing 10.66 125 *e*Pn **Pn** **01 17 34.6 -0.3**
KOLN Koldanda 10.93 127 *e*Pn **Pn** **01 17 38.6 -0.1**
KOLN *e*Sn **Sn** **01 19 38.2 -2.8**
comp=Z,62nm,0.5s
GKN Gorkha 11.47 123 *e*Pn **Pn** **01 17 45.6 -0.5**
GKN *e*Sn **Sn** **01 19 49.3 -5.0**
comp=Z,76nm,0.3s
BHPL Bhopal 11.96 164 *ex* x 01 17 19.6
BHPL AMb AMB 01 17 21.6
comp=Z,4.6nm,0.2s
BHPL *e*S **Sn** **01 19 59.0 -7.4**
DMN Daman 12.04 124 *e*Pn **Pn** **01 17 52.8 -1.1**
DMN *e*Sn **Sn** **01 20 02.5 -5.8**
comp=Z,108nm,0.8s
KKN Kakani 12.05 122 *e*Pn **Pn** **01 17 52.9 -1.1**
KKN *e*Sn **Sn** **01 20 02.4 -6.1**
comp=Z,40nm,0.4s
BHJ Bhuj 12.08 199 *e*P **Pn** **01 17 50.2 -4.3**
PKI Pulchoki 12.28 123 *e*Pn **Pn** **01 17 55.0 -2.1**
PKI *e*Sn **Sn** **01 20 07.3 -6.7**
comp=Z,44nm,0.4s
GUN Gumba 12.40 120 *e*Pn **Pn** **01 17 57.6 -1.2**
GUN *e*Sn **Sn** **01 20 09.9 -7.1**
comp=Z,24nm,0.3s
JIRN Jiri 12.77 121 *e*Pn **Pn** **01 18 02.8 -1.0**
JIRN *e*Sn **Sn** **01 20 19.4 -6.6**
comp=Z,51nm,0.4s
MK31 Makanchi Array 13.56 26 ⇑P **Pn** **01 18 21.8 +7.2**
comp=Z,3.7nm,0.7s,baz=204,slow=12,SNR=33
MKAR Makanchi Array 13.56 26 Pn **Pn** **01 18 16.8 +2.1**
comp=Z,0.2nm,0.3s,baz=210,slow=15,SNR=8.9
MKAR Makanchi Array 13.56 26 P **Pn** **01 18 24.0 +9.3**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
WMQ Urumqi 13.99 46 *e*P **Pn** **01 18 24.0 +3.4**
WMQ AP 01 18 27.4
WMQ XP 01 18 30.8
WMQ PP 01 18 35.3
WMQ PPP 01 18 42.3
WMQ *e*SS 01 21 16.4
WMQ AMB AMB
comp=Z,11nm,0.8s
WMQ AMB AMB
comp=Z,78nm,3.2s
WMQ LR LR
comp=N,209nm,5.8s
WMQ LR LR
comp=E,225nm,4.2s
WMQ LR LR
comp=Z,318nm,5.8s
NGP Nagpur 14.38 160 *ex* x 01 18 18.8
NGP *ex* x 01 20 55.2
BOK Bokaro 15.21 133 *e*P **Pn** **01 18 37.0 -0.1**
BOK AMb AMB 01 18 40.1
comp=Z,9.9nm,0.8s
LSA Lhasa 15.53 104 *e*Pn **Pn** **01 18 43.1 +1.8**
comp=Z,15nm,0.6s
LSA Lhasa 15.53 104 *e*P **Pn** **01 18 43.1 +1.8**
LSA pmax pmax
comp=Z,15nm,0.6s
POO Poona 16.23 180 *e*P **Pn** **01 18 48.0 -2.3**
KURK Kurchatov 16.27 11 *e*P **Pn** **01 18 49.3 -1.5**
comp=Z,18nm,1.0s
KURK Kurchatov 16.27 11 ⇓*i*P **Pn** **01 18 50.7 -0.1**
AB31 Akbulak array 17.68 329 ⇑P **Pn** **01 19 06.8 -1.8**
comp=Z,3.3nm,0.5s
AB31 ⇓S **Sn** **01 22 14.0 -12**
comp=Z,5.3nm,0.7s
AB31 Akbulak array 17.68 329 P **Pn** **01 19 06.7 -1.8**
AB31 S **Sn** **01 22 13.9 -12**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
AB31 smax
comp=Z,3.0nm,0.7s
HYB Hyderabad 17.84 165 *i* P **Pn** **01 19 13.0 +2.4**
HYB Hyderabad 17.84 165 *e*P **Pn** **01 19 13.0 +2.4**
VOSK Vostochnaya 18.01 354 ⇓P **Pn** **01 19 14.2 +1.6**
comp=Z,8.4nm,1.2s
BVA0 Borovoye Array 18.36 353 ⇓P **Pn** **01 19 18.8 +1.8**
comp=Z,1.1nm,0.7s,baz=168,slow=8.2,SNR=29
BVA0 Borovoye Array 18.36 353 *i* P **Pn** **01 19 18.7 +1.8**
BVA0 pmax pmax
comp=Z,7.0nm,1.9s
BVAR Borovoye Array 18.36 353 P **Pn** **01 19 17.8 +0.9**
comp=Z,1.8nm,0.3s,baz=155,slow=8.7,SNR=22
BRVK Borovoye 18.40 353 *e*P **Pn** **01 19 18.3 +0.9**
comp=Z,5.2nm,0.6s
BRVK Borovoye 18.40 353 *e*P **Pn** **01 19 18.3 +0.8**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
ZRNK Zerenda 18.44 351 ⇑P **Pn** **01 19 18.3 +0.4**
comp=Z,7.7nm,0.7s
ZRNK Zerenda 18.44 351 *e*P **Pn** **01 19 17.3 -0.7**
comp=Z,10nm,0.6s
ZRNK Zerenda 18.44 351 *e*P **Pn** **01 19 17.3 -0.6**
ZRNK pmax pmax
comp=Z,10.0nm,0.6s
VIS Vishakhapatnam 19.03 151 *e*P **Pn** **01 19 23.2 -1.9**
VIS AMb AMB 01 19 37.5
comp=Z,17nm,0.9s
AKTK Aktyubinsk 19.39 328 P **Pn** **01 19 28.7 -0.7**
AKTO Aktyubinsk 19.39 328 P **Pn** **01 19 28.7 -0.7**
comp=Z,1.4nm,0.3s,baz=131,slow=11,SNR=28
AKTO Aktyubinsk 19.39 328 P **Pn** **01 19 28.7 -0.7**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
ZAL Zalesovo 20.61 19 P **P** **01 19 42.0 +0.3**
comp=Z,16nm,0.3s,baz=257,slow=6.8,SNR=28
NVS Novosibirsk 21.07 15 *e*P **P** **01 19 45.5 -1.0**
NVS *e*S **S** **01 23 34.2 -6.8**
NVS pmax pmax
comp=N,23nm,1.8s
NVS pmax pmax
comp=E,11nm,1.8s
NVS pmax pmax
comp=Z,21nm,1.8s,mb4.2
NVS smax
comp=N,11nm,1.7s
NVS smax
comp=E,9.0nm,2.0s
GTA Gaotai 21.21 70 *e*P **P** **01 19 49.8 +1.8**
GTA AP 01 19 54.0
GTA XP sP 01 19 57.0 +4.8
GTA PP 01 20 09.4
GTA S **S** **01 23 43.0 -0.8**
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb3.9
GTA AMB AMB
comp=Z,102nm,5.4s
GTA LR LR
comp=N,98nm,13.4s,MS3.5
GTA LR LR
comp=E,83nm,13.0s,MS3.5
GTA LR LR
comp=Z,90nm,11.5s,MS3.4
GNI Garni 23.61 292 P **P** **01 20 12.7 -0.8**
comp=Z,7.1nm,0.7s,mb4.2,baz=289,slow=16,SNR=3.0
GNI Garni 23.61 292 *e*P **P** **01 20 16.9 +3.4**
comp=Z,16nm,0.8s,mb4.5
GNI Garni 23.61 292 P **P** **01 20 12.7 -0.8**
GNI pmax pmax
comp=Z,7.0nm,0.7s
SVE Sverdlovsk 23.76 342 *e*P **P** **01 20 20.2 +5.3**
SVE *e* 01 20 41.0
SVE pmax pmax
comp=Z,56nm,2.1s,mb4.6
SVE MLR MLR
comp=N,200nm,9.0s
SVE MLR MLR
comp=E,100nm,9.0s
SVE MLR MLR
comp=Z,300nm,9.0s
ARU Arti 23.99 339 ⇓*i*P **P** **01 20 17.4 +0.4**
ARU *e* 01 20 49.2
ARU *e*S **S** **01 24 34.8 +1.1**
ARU *e*SS 01 25 17.9
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
LZH Lanzhou 24.46 78 *e*P **P** **01 20 23.5 +2.3**
LZH AP 01 20 27.1
LZH XP sP 01 20 29.3 +3.8
LZH PP 01 20 59.6
LZH *e*S **S** **01 24 40.5 -0.8**
LZH AMB AMB
comp=Z,21nm,1.3s,mb4.4
LZH AMB AMB
comp=Z,74nm,4.7s
LZH LR LR
comp=N,476nm,11.5s
LZH LR LR
comp=Z,747nm,13.2s,MS4.4
ZEI Tsey 24.53 298 *i* P **P** **01 20 29.2 +7.3**
CD2 Chengdu 25.41 90 *e*P **P** **01 20 29.5 -0.4**
CD2 AP pP 01 20 33.8 +0.9
CD2 XP sP 01 20 36.5 +2.3
CD2 PP 01 21 08.4
CD2 S **S** **01 24 53.1 -3.5**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
CD2 AMB AMB
comp=Z,50nm,5.9s
CD2 LR LR
comp=N,90nm,10.8s
CD2 LR LR
comp=Z,90nm,12.0s,MS3.5
KIV Kislovodsk 25.60 300 *e*P **P** **01 20 34.2 +2.6**
KIV *e* 01 24 04.3
KIV *e*S **S** **01 24 59.8 +0.2**
KIV pmax pmax
comp=Z,5.0nm,1.1s,mb4.0
KIV MLR MLR
comp=Z,79nm,12.0s,MS3.5
ZAK Zakamensk 26.46 45 *e*P **P** **01 20 39.5 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.1
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb3.9
KMI Kunming 26.78 103 P **P** **01 20 45.3 +3.0**
KMI AP pP 01 20 47.0 +1.6
KMI AMB AMB
comp=Z,9.0nm,0.6s,mb4.5
SONM Songino Array 27.49 52 P **P** **01 20 49.2 +0.5**
comp=Z,0.8nm,0.3s,mb3.7,baz=260,slow=8.4,SNR=14
SONM LR LR 01 32 17.4
comp=Z,48nm,19.0s,MS3.1,baz=32,slow=38
SONM Songino Array 27.49 52 P **P** **01 20 49.2 +0.5**
SONM LR LR 01 32 17.4
SOC Sochi 27.67 299 *e*P **P** **01 20 51.0 +0.7**
SOC *e* 01 21 34.2
SOC *e*S **S** **01 25 29.4 -2.9**
SOC *e*SS 01 26 44.9
SOC pmax pmax
comp=Z,34nm,0.9s,mb5.0
ULN Ulaanbaatar 27.92 52 P **P** **01 20 52.9 +0.3**
comp=Z,2.0nm,1.0s,mb3.7
ULN Ulaanbaatar 27.92 52 P **P** **01 20 52.9 +0.3**
ULN pmax pmax
comp=Z,2.0nm,1.0s,mb3.7
HHC Hu-ho-hao-te 30.25 67 *e*P **P** **01 21 13.8 +0.6**
HHC AP pP 01 21 18.0 +1.7
HHC XP sP 01 21 20.6 +3.0
HHC PP PP 01 22 12.4 -9.1
HHC PCP PcP 01 24 13.9 +0.1
HHC S **S** **01 26 11.4 -1.4**
HHC SCS ScS 01 31 50.3 -1.6
HHC AMB AMB
comp=Z,14nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,116nm,5.6s
HHC LR LR
comp=N,112nm,5.2s
HHC LR LR
comp=E,174nm,4.6s
HHC LR LR
comp=Z,144nm,6.7s
BRTR Keskin Array B 32.15 291 P **P** **01 21 29.4 -0.5**
comp=Z,0.7nm,0.8s,mb3.5,baz=105,slow=10.0,SNR=5.1
MOS Moscow 32.40 321 *e*P **P** **01 21 33.4 +1.3**
MOS *e* 01 22 41.6
MOS *e*PPP 01 22 53.6
MOS *e*S **S** **01 26 49.8 +3.4**
MOS pmax pmax
comp=Z,41nm,1.6s,mb5.0
OBN Obninsk 32.69 320 *e*P **P** **01 21 33.9 -0.8**
comp=Z,16nm,1.0s,mb4.9
OBN Obninsk 32.69 320 *e*P **P** **01 21 34.9 +0.2**
OBN *e* 01 22 50.1
OBN pmax pmax
comp=Z,26nm,1.4s,mb5.0
AKASG Malin Array Be 35.77 310 P **P** **01 22 00.7 -0.8**
comp=Z,0.3nm,0.3s,mb3.8,baz=92,slow=8.4,SNR=3.3
NJ2 Nanjing 37.46 81 *e*P **P** **01 22 17.1 +1.3**
NJ2 AP pP 01 22 21.6 +2.7
NJ2 XP sP 01 22 24.1 +4.0
NJ2 PP PP 01 23 43.6 +2.4
NJ2 S **S** **01 28 05.0 +0.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,80nm,6.2s
NJ2 LR LR
comp=N,280nm,19.2s
NJ2 LR LR
comp=E,160nm,12.8s
NJ2 LR LR
comp=Z,230nm,22.6s,MS3.9
MLR Muntele Rosu 37.60 301 P **P** **01 22 16.6 -0.4**
comp=Z,4.7nm,0.8s,mb4.2,baz=117,slow=9.0
JOF Joensuu 38.46 330 *ep* **P** **01 22 25.3 +1.0**
comp=Z,2.7nm,0.3s,mb4.5
SNY Shenyang 39.21 64 *e*P **P** **01 22 30.1 -0.5**
SNY AMB AMB
comp=Z,6.0nm,0.3s,mb4.8
PSI Prapat 39.50 138 LR LR 01 38 44.5
comp=Z,52nm,21.5s,MS3.3,baz=42,slow=36
SSE Sheshan 39.64 82 P **P** **01 22 34.8 +0.6**
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,43nm,3.7s
IDI Anoyia 39.72 285 P **P** **01 22 34.7 -0.1**
comp=Z,3.1nm,0.7s,mb4.2,baz=274,slow=15,SNR=2.7
FINES FINESS Array B 40.15 327 P **P** **01 22 38.2 -0.1**
comp=Z,1.2nm,0.5s,mb3.9,baz=120,slow=10,SNR=8.0
FINES LR LR 01 40 33.8
comp=Z,17nm,18.6s,MS2.9,baz=48,slow=38
KAF Kangasniemi 40.27 328 *ep* **P** **01 22 33.4 -6.0**
CN2 Changchun 40.38 61 *e*P **P** **01 22 40.3 0.0**
KEV Kevo 43.20 338 *ep* **P** **01 23 08.0 +4.6**
comp=Z,13nm,0.8s,mb4.7
KEV Kevo 43.20 338 *e*P **P** **01 23 08.0 +4.6**
KEV pmax pmax
comp=Z,13nm,0.8s,mb4.7
MDJ Mudanjiang 43.26 60 P **P** **01 23 02.3 -1.5**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
MDJ AMB AMB
comp=Z,71nm,3.8s
MDJ LR LR
comp=E,38nm,17.8s
MDJ LR LR
comp=Z,44nm,17.8s,MS3.4
ARCES ARCESS Array B 43.56 338 P **P** **01 23 06.7 +0.3**
comp=Z,3.3nm,0.6s,mb4.3,baz=113,slow=8.3,SNR=25
ARCES LR LR 01 42 46.9
comp=Z,48nm,20.6s,MS3.4,baz=329,slow=38
GERES GERESS Array B 45.76 307 LR LR 01 44 15.8
comp=Z,32nm,19.4s,MS3.3,baz=87,slow=38
TIXI Tiksi 46.49 21 *i* P **P** **01 23 30.2 +0.6**
TIXI pmax pmax
comp=Z,14nm,1.6s,mb4.6
NB2 NORSAR Subarra 47.09 324 P **P** **01 23 33.4 -0.9**
comp=Z,5.5nm,0.9s,mb4.5,baz=94,slow=7.9
NB2 NORSAR Subarra 47.09 324 P **P** **01 23 33.4 -0.9**
NB2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
NOA NORSAR Array B 47.09 324 P **P** **01 23 33.6 -0.7**
comp=Z,1.5nm,0.6s,mb4.1,baz=96,slow=7.6,SNR=4.9
NOA LR LR 01 46 41.5
comp=Z,16nm,20.2s,MS3.0,baz=260,slow=40
KMBO Kilima Mbogo 49.48 232 P **P** **01 23 52.0 -0.7**
comp=Z,1.6nm,0.9s,mb4.0,baz=44,slow=13,SNR=6.1
KMBO LR LR 01 45 26.0
comp=Z,32nm,20.0s,MS3.3,baz=95,slow=37
KMBO Kilima Mbogo 49.48 232 *e*P **P** **01 23 52.8 0.0**
comp=Z,2.2nm,1.1s,mb4.1
KMBO Kilima Mbogo 49.48 232 P **P** **01 23 52.1 -0.7**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO MLR MLR
comp=Z,32nm,20.0s
PGF Pioggiola 50.08 299 *e*P **P** **01 23 56.5 -0.8**
comp=Z,24nm,1.2s,mb4.8
PGF Pioggiola 50.08 299 *e*P **P** **01 23 56.5 -0.8**
comp=Z,12nm,1.2s,mb4.8
PGF Pioggiola 50.08 299 *e*P **P** **01 23 56.5 -0.8**
PGF pmax pmax
comp=Z,12nm,1.2s,mb4.8
HINF Hinteralfeld 50.43 306 *e*P **P** **01 23 59.1 -0.9**
comp=Z,3.7nm,0.6s,mb4.3
HINF Hinteralfeld 50.43 306 *e*P **P** **01 23 59.1 -0.9**
comp=Z,1.9nm,0.6s,mb4.3
HINF Hinteralfeld 50.43 306 *e*P **P** **01 23 59.1 -0.9**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
SBF Sospel 50.88 301 *e*P **P** **01 24 02.8 -0.5**
comp=Z,34nm,1.0s,mb4.9
SBF Sospel 50.88 301 *e*P **P** **01 24 02.8 -0.5**
comp=Z,17nm,1.0s,mb4.9
SBF Sospel 50.88 301 *e*P **P** **01 24 02.8 -0.5**
SBF pmax pmax
comp=Z,17nm,1.0s,mb4.9
LPG La Plagne 50.98 304 *e*P **P** **01 24 04.5 +0.4**
comp=Z,11nm,1.0s,mb4.4
LPG La Plagne 50.98 304 *e*P **P** **01 24 04.5 +0.4**
comp=Z,5.4nm,1.0s,mb4.4
LPG La Plagne 50.98 304 *e*P **P** **01 24 04.5 +0.4**
LPG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LPL La Plagne 50.98 304 *e*P **P** **01 24 04.2 +0.1**
comp=Z,15nm,1.1s,mb4.6
LPL La Plagne 50.98 304 *e*P **P** **01 24 04.2 +0.1**
comp=Z,7.7nm,1.1s,mb4.5
LPL La Plagne 50.98 304 *e*P **P** **01 24 04.2 +0.1**
LPL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MBDF Montbardon 51.14 303 *e*P **P** **01 24 04.5 -0.8**
comp=Z,6.2nm,0.9s,mb4.2
MBDF Montbardon 51.14 303 *e*P **P** **01 24 04.5 -0.8**
comp=Z,3.1nm,0.9s,mb4.2
MBDF Montbardon 51.14 303 *e*P **P** **01 24 04.5 -0.8**
MBDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CABF La Chapelle 51.19 305 *e*P **P** **01 24 05.3 -0.3**
FRF La Foret Royal 51.50 301 *e*P **P** **01 24 07.2 -0.8**
BAIF Baives 51.72 310 *e*P **P** **01 24 09.8 +0.1**
LOR Lormes 52.53 306 *e*P **P** **01 24 14.7 -1.0**
comp=Z,8.0nm,0.9s,mb4.4
LOR Lormes 52.53 306 *e*P **P** **01 24 14.7 -1.0**
comp=Z,4.0nm,0.9s,mb4.3
LOR Lormes 52.53 306 *e*P **P** **01 24 14.7 -1.0**
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VIVF Saint-Julien-l 52.56 303 *e*P **P** **01 24 15.5 -0.4**
SMF Signal de Mont 52.69 306 *e*P **P** **01 24 16.1 -0.7**
SSF Saint Saulge 52.81 306 *e*P **P** **01 24 16.9 -0.9**
comp=Z,7.6nm,0.9s,mb4.3
SSF Saint Saulge 52.81 306 *e*P **P** **01 24 16.9 -0.9**
comp=Z,3.8nm,0.9s,mb4.3
SSF Saint Saulge 52.81 306 *e*P **P** **01 24 16.9 -0.9**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AVF Avril sur Loir 52.98 306 *e*P **P** **01 24 18.1 -0.9**
LASF Ste Croix 53.32 302 *e*P **P** **01 24 21.4 -0.1**
BGF Bois d'Agland 53.37 306 *e*P **P** **01 24 21.0 -0.9**
TCF Toulx Ste Croi 53.87 305 *e*P **P** **01 24 25.2 -0.3**
EPF Esparros 56.07 302 *e*P **P** **01 24 40.1 -1.4**
ETSF Etsaut 56.74 302 *e*P **P** **01 24 46.0 -0.2**
comp=Z,6.4nm,0.7s,mb4.5
ETSF Etsaut 56.74 302 *e*P **P** **01 24 46.0 -0.2**
comp=Z,3.2nm,0.7s,mb4.5
ETSF Etsaut 56.74 302 *e*P **P** **01 24 46.0 -0.2**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BILL Bilibino 59.11 26 *e*P **P** **01 25 03.7 +0.8**
BILL pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
ESDC Sonseca Array 60.27 300 P **P** **01 25 09.8 -1.0**
comp=Z,1.1nm,0.7s,mb4.0,baz=58,slow=6.8,SNR=11
TORD Torodi Ar. Bea 68.00 271 P **P** **01 26 01.0 -0.6**
comp=Z,4.3nm,0.7s,mb4.6,baz=47,slow=6.2,SNR=51
INK Inuvik 75.17 10 P **P** **01 26 44.6 -0.2**
comp=Z,1.3nm,0.3s,mb4.3,baz=344,slow=7.2,SNR=26
INK Inuvik 75.17 10 *e*P **P** **01 26 44.4 -0.4**
comp=Z,12nm,1.4s,mb4.6
INK Inuvik 75.17 10 P **P** **01 26 44.7 -0.1**
INK pmax pmax
comp=Z,1.0nm,0.3s
ILAR Eielson Array 75.75 17 P **P** **01 26 47.6 -0.5**
comp=Z,1.4nm,0.8s,mb3.9,baz=292,slow=5.2,SNR=21
DBIC Dimbokro 76.93 269 P **P** **01 26 54.8 0.0**
comp=Z,7.0nm,0.9s,mb4.6,baz=20,slow=13,SNR=4.2
BOSA Boshof 78.00 222 P **P** **01 27 00.8 0.0**
comp=Z,6.4nm,1.1s,mb4.5,baz=359,slow=7.2,SNR=4.0
WRA Warramunga Arr 79.16 123 P **P** **01 27 07.4 +0.2**
comp=Z,3.3nm,0.7s,mb4.4,baz=322,slow=5.3,SNR=14
WRAB Tennant Creek 79.16 123 *e*P **P** **01 27 07.3 +0.1**
comp=Z,5.8nm,0.7s,mb4.6
WRAB Tennant Creek 79.16 123 *e*P **P** **01 27 07.3 +0.1**
WRAB pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
WB2 Warramunga Arr 79.17 123 *e*P **P** **01 27 07.6 +0.3**
ASAR Alice Springs 81.42 127 P **P** **01 27 19.5 +0.1**
comp=Z,3.2nm,0.8s,mb4.3,baz=310,slow=5.2,SNR=22
YKA Yellowknife Ar 82.79 4 P **P** **01 27 26.0 -0.6**
comp=Z,0.5nm,0.3s,mb4.0,baz=346,slow=5.4,SNR=24

MAN 21 01:26:09.9, 1870N×12107E, h6km, mb3.0, ML4.4, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.85**	**168**	*e*P	Pg	01 26 26.3	+0.2
APYP				*e*S	Sg	01 26 45.5	+8.4
ABRA	**Dolores**	**1.09**	**198**	*e*P	Pg	01 26 30.7	-0.2
CAUP	**Cauayan**	**1.89**	**157**	*e*P	Pn	01 26 43.3	+0.7
PALP	**Palanan**	**2.08**	**141**	*e*P	Sg	01 27 16.2	-0.4
BOLP	**Bolinao**	**2.55**	**206**	*e*P	Pn	01 26 51.9	+0.2
BALP	**Baler**	**2.98**	**170**	*e*P	Pn	01 26 58.5	+0.8
SCZP	**Santa Cruz**	**3.10**	**201**	*e*P	Sn	01 27 37.1	+0.3

*IDC **21** 01:49:35.7±1.9, 3257N×4945E, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.7/23, mbtmp3.7/13, ML3.1/2, MS3.3/3, Ms1 3.4/3, ms1mx2.6/23, Error ellipse: s-maj=39.9km s-min=20.8km az=161.0*
*ISCJB **21** 01:49:37.6±0.2, 3267N±002×4934E±003, h10km, mb4.0/23, MS3.2/3, Error ellipse: s-maj=3.8km s-min=3.2km az=81.8*
*THR **21** 01:49:39.8±0.6, 3259N×4958E, h14km±5km, ML3.9*
*NEIC **21** 01:49:39.3, 3234N×4948E, h6km, mb4.3/7, MN3.8(TEH), After TEH.*
*CSEM **21** 01:49:40.0±0.1, 3268N×4941E, h30km, mb4.4/9, Error ellipse: s-maj=1.9km s-min=1.6km az=135.0*
*TEH **21** 01:49:41.5, 3249N×4944E, h18km, Mn3.8*
*MOS **21** 01:49:41.0±1.1, 3281N×4942E, h32km, mb4.6/5, Error ellipse: s-maj=12.7km s-min=5.8km az=126.6*
ISC 21 01:49:39.3±0.2, 3265N±002×4937E±003, h10km, n115, σ1§16/115, mb4.0/23, MS3.2/3, 3C-5D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.73**	**222**	*e*PG	**Pg**	**01 49 55.2**	**+1.8**
SHGR				AML	AML	01 50 10.6	
	comp=N,9μm,0.4s						
SHGR				AML	AML	01 50 13.2	
	comp=E,9μm,0.7s						
IPIR	**Pirpir**	**1.28**	**88**	Pg	Px	01 50 28.0	
ASAO	**Ashtian**	**1.97**	**16**	*e*PG	**Pg**	**01 50 16.5**	**-0.5**
ASAO				*e*SG	**Sg**	**01 50 42.8**	**+0.2**
ASAO				AML	AML	01 50 53.1	
	comp=E,363nm,0.6s						

ASAO Ashtian 1.97 16 *e*Pg **Pg 01 50 16.5 -0.5**
SNR=90
ASAO *e*Sg **Sg 01 50 42.8 +0.3**
SNR=90
IKLH Kalahroud 1.97 70 *e*Pn **Pn 01 50 13.4 +0.7**
IKLH *e*Sn **Sn 01 50 39.1 +1.7**
IKLH Kalahroud 1.97 70 Pn **Pn 01 50 13.7 +1.0**
IGAR Garneh 2.42 99 *e*Pn **Pn 01 50 16.7 -2.2**
IZEF Zefreh 2.50 84 *e*Pn **Pn 01 50 20.3 +0.3**
IRAZ Razeghan 2.78 9 Pn Px 01 50 44.2
IGHG Ghaleghazi 2.88 306 *e*Pn **Pn 01 50 28.4 +3.2**
NASN Na'in 2.90 86 *e*PN **Pn 01 50 25.7 +0.3**
NASN *e*SG **Sg 01 51 05.3 -7.1**
SNGE Sanandaj 2.96 326 *e*PN **Pn 01 50 30.5 +4.2**
SNGE AML AML 01 51 26.5
comp=E,222nm,0.5s
SNGE AML AML 01 51 30.9
comp=N,185nm,0.8s
IVRN Varamin 3.05 39 *e*Pn **Pn 01 50 29.8 +2.2**
IVRN Varamin 3.05 39 Pn **Pn 01 50 28.0 +0.4**
IDHR Dehrash 3.22 310 *e*Pn **Pn 01 50 33.0 +3.1**
IDHR Dehrash 3.22 310 Pn **Pn 01 50 28.0 -1.9**
MIB Mutribah 3.33 212 *e*P **Pn 01 50 32.4 +0.9**
UMR Umm Al-Rimmam 3.40 205 *e*P **Pn 01 50 32.8 +0.3**
UMR AML AML 01 51 13.6
comp=Z,142nm,0.3s
DAMV Damavand 3.67 35 *e*PN **Pn 01 50 38.0 +2.0**
ISAD Sadrabad 3.73 100 *e*Pn **Pn 01 50 37.2 +0.3**
IAFJ Afjeh 3.74 31 Pn **Pn 01 50 40.0 +3.0**
KBD Kabd 3.75 203 *e*P **Pn 01 50 37.9 +0.6**
KBD *e*S **Sn 01 51 21.7 +0.2**
KBD AML AML 01 51 23.6
comp=Z,315nm,0.4s
KBD Kabd 3.75 203 *e*P **Pn 01 50 37.8 +0.5**
KBD *e*S **Sn 01 51 21.7 +0.2**
NAY Al-Naaiem 3.86 209 *e*P **Pn 01 50 39.4 +0.7**
NAY *e*S **Sn 01 51 24.1 +0.1**
NAY AML AML 01 51 24.8
comp=Z,49nm,0.4s
RDF Al-Radifah 4.03 203 *e*P **Pn 01 50 42.1 +1.0**
RDF AML AML 01 51 29.6
comp=Z,100nm,0.3s
ILAS Lasjerd 4.03 47 *e*Pn **Pn 01 50 43.0 +1.9**
IFIR Firoozkooh 4.09 42 *e*Pn **Pn 01 50 44.4 +2.5**
IFIR Firoozkooh 4.09 42 Pn **Pn 01 50 33.6 -8.3**
QRN Al-Qurain 4.09 198 *e*P **Pn 01 50 42.0 +0.1**
QRN *e*S **Sn 01 51 28.8 -1.0**
QRN AML AML 01 51 31.4
comp=Z,119nm,0.3s
IPAR Pars 4.21 131 *e*Pn **Pn 01 50 42.5 -1.1**
BHD Baghdad 4.24 280 *e*x x 01 50 30.0
BHD *e*x x 01 51 32.0
BHD *e*x x 01 52 03.0
BHD Baghdad 4.24 280 *e*Sn **Sn 01 51 32.0 -1.6**
ICHK Chekchek 4.27 94 *e*Pn **Pn 01 50 44.8 +0.4**
ISHM Shahmirzad 4.52 45 *e*Pn **Pn 01 50 49.2 +1.4**
IMOK Mook 4.60 141 *e*Pn **Pn 01 50 47.8 -1.1**
IMEH Mehriz 4.62 104 *e*Pn **Pn 01 50 47.8 -1.4**
IANJ Anjiloo 4.70 52 *e*Pn **Pn 01 50 50.7 +0.5**
IBAF Bafgh 5.36 100 *e*Pn **Pn 01 50 58.9 -0.4**
MSL Mosul 6.33 307 *e*x x 01 51 41.5
GNI Garni 8.36 335 *e*P **Pn 01 51 39.1 -1.4**
MALT Malatya 10.56 305 *e*Pn **Pn 01 52 10.3 -0.4**
MALT *e*Sn **Sn 01 54 04.5 -4.5**
KIV Kislovodsk 12.44 337 *e*P **Pn 01 52 44.4 +8.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,125nm,11.0s
BRTR Keskin Array B 14.52 303 Pn **Pn 01 53 04.3 -0.5**
comp=Z,0.0nm,0.3s,baz=128,slow=14,SNR=5.1
BR131 Keskin Array S 14.53 303 *e*Pn **Pn 01 53 03.0 -1.8**
ISP Isparta 16.25 294 *e*P **Pn 01 53 28.7 +1.1**
AKTK Aktyubinsk 18.88 17 P **Pn 01 53 59.5 -0.8**
AKTK Aktyubinsk 18.88 17 P **Pn 01 53 59.5 -0.8**
AKTO Aktyubinsk 18.88 17 P **Pn 01 53 59.5 -0.8**
comp=Z,0.2nm,0.3s,baz=221,slow=13,SNR=6.0
TIRR Tirgusor 20.13 312 *e*P **P 01 54 14.0 +0.6**
IDI Anoyia 20.46 284 P **P 01 54 17.5 +0.4**
comp=Z,29nm,0.8s,baz=90,slow=10,SNR=25
ATD Arta Tunnel 21.86 197 LR LR 02 03 37.1
comp=Z,104nm,18.7s,MS3.3,baz=8.7,slow=39
MLR Muntele Rosu 22.16 312 P **P 01 54 36.9 +1.7**
comp=Z,11nm,0.8s,mb4.3,baz=264,slow=0.8,SNR=31
VOIR 22.70 311 ⇓P **P 01 54 43.6 +2.6**
AKASG Malin Array Be 23.36 326 P **P 01 54 46.0 -2.0**
comp=Z,0.5nm,0.3s,mb3.4,baz=137,slow=9.4,SNR=13
BURAR Bucovina Array 23.62 316 ⇓P **P 01 54 51.7 +1.0**
ZRNK Zerenda 24.73 29 *e*P **P 01 55 00.8 +0.1**
comp=Z,7.0nm,1.3s,mb4.0
ZRNK Zerenda 24.73 29 *e*P **P 01 55 00.8 +0.1**
comp=Z,7.1nm,1.3s,mb4.0
ZRNK *e* 01 55 08.8
ZRNK Zerenda 24.73 29 *e*P **P 01 55 00.8 +0.1**
ZRNK *e* 01 55 08.8
ZRNK pmax pmax
comp=Z,7.0nm,1.3s,mb4.0
DRGR 24.75 313 P **P 01 55 01.8 +0.9**
BZS Buzias 24.98 309 P **P 01 55 03.9 +0.9**
BRVK Borovoye 25.34 30 *e*P **P 01 55 05.2 -1.1**
comp=Z,2.3nm,1.2s,mb3.6
BRVK *e* 01 55 17.2
BRVK Borovoye 25.34 30 *e*P **P 01 55 05.2 -1.1**
BRVK *e* 01 55 17.2
BRVK pmax pmax
comp=Z,2.0nm,1.2s,mb3.5
BVAR Borovoye Array 25.36 30 P **P 01 55 05.4 -1.1**
comp=Z,1.5nm,0.8s,mb3.6,baz=216,slow=9.2,SNR=9.6
KOLS Kolonicke sedl 25.99 317 *e*P pP 01 55 23.2 +8.0
KOLS Kolonicke sedl 25.99 317 *e*P **P 01 55 14.2 +2.0**
KOLS *e* 01 55 23.1
KWP Kalwaria 26.09 318 *e*P **P 01 55 13.9 +0.8**
KWP Kalwaria 26.09 318 *e*P **P 01 55 13.7 +0.6**
KWP *e* 01 55 22.5
CRVS Cervenica-Dubn 26.44 316 *e*P pP 01 55 25.0 +5.7
STHS Stebnicka Huta 26.81 317 *e*P **P 01 55 20.9 +1.3**
STHS *e* 01 55 38.0
STHS Stebnicka Huta 26.81 317 *e*P **P 01 55 12.7 -6.9**
STHS *e* 01 55 20.9
STHS *e* 01 55 38.0
STHS Stebnicka Huta 26.81 317 *e*P **P 01 55 12.7 -6.9**
STHS *e* 01 55 20.9
KECS Kecovo 26.84 315 *e*P **P 01 55 18.3 -1.5**
KECS *e* 01 55 28.9
PSZ Piszkesteto 26.96 313 P **P 01 55 25.5 +4.5**
TIP Timpagrande 27.11 293 *e*P **P 01 55 23.0 +0.7**
PKSM Moragy 27.14 309 P **P 01 55 22.6 +0.1**
OJC Ojcow 28.01 318 *e*P **P 01 55 30.7 +0.3**
KURK Kurchatov 28.06 41 P **P 01 55 28.8 -2.0**
SMOL Smolenice 28.71 313 *e* **P 01 55 32.1 -4.5**
MKAR Makanchi Array 28.75 51 P **P 01 55 35.3 -1.7**
comp=Z,0.5nm,0.7s,mb3.4,baz=242,slow=7.8,SNR=6.5
OKC Ostrava-Krasne 28.80 316 *e*P pP 01 55 46.4 +5.9
DPC Dobruska-Polom 30.08 316 *e*P **P 01 55 48.9 +0.1**
UPC Upice 30.33 316 *e*P **P 01 55 51.5 +0.5**
MOA Molln 30.49 310⇑*i*P **P 01 55 53.1 +0.8**
comp=Z,2.4nm,0.7s,mb4.0
KBA Koelnbreinsper 30.88 308⇑*i*P **P 01 55 57.0 +1.2**
comp=Z,3.0nm,0.6s,mb4.3
GERES GERESS Array B 31.15 312 P **P 01 55 56.4 -1.8**
comp=Z,0.2nm,0.3s,mb3.4,baz=112,slow=5.9,SNR=4.7
KHC Kasperske Hory 31.31 312 *e*P **P 01 55 59.2 -0.5**
WTTA Wattenberg 32.05 308⇓*i*P **P 01 56 06.4 +0.3**
comp=Z,2.5nm,0.6s,mb4.2
WTTA Wattenberg 32.05 308 *i*P **P 01 56 06.4 +0.2**
WATA Walderalm 32.11 308⇓*i*P **P 01 56 06.8 +0.2**
comp=Z,1.9nm,0.4s,mb4.3
SQTA Sankt Quirin 32.33 308⇓*i*P **P 01 56 08.1 -0.5**
comp=Z,6.8nm,0.7s,mb4.6
FINES FINESS Array B 32.52 339 P **P 01 56 09.2 -1.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=132,slow=8.0,SNR=4.8
DAVA Damuels 33.23 308⇑*i*P **P 01 56 15.7 -0.7**
comp=Z,6.1nm,0.7s,mb4.6
STU Stuttgart 34.00 310 *e*P **P 01 56 22.1 -1.0**
MBDF Montbardon 34.99 303 *e*P **P 01 56 31.1 -0.7**
comp=Z,13nm,1.0s,mb4.5
MBDF Montbardon 34.99 303 *e*P **P 01 56 31.1 -0.7**
comp=Z,13nm,1.0s,mb4.8
MBDF Montbardon 34.99 303 *e*P **P 01 56 31.1 -0.7**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LPG La Plagne 35.09 304 *e*P **P 01 56 32.9 +0.3**
comp=Z,8.3nm,0.9s,mb4.4
LPG La Plagne 35.09 304 *e*P **P 01 56 32.9 +0.3**
comp=Z,8.0nm,0.9s,mb4.7
LPG La Plagne 35.09 304 *e*P **P 01 56 32.9 +0.3**
LPG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LPL La Plagne 35.10 304 *e*P **P 01 56 32.2 -0.5**
HINF Hinteralfeld 35.34 308 *e*P **P 01 56 35.0 +0.2**
KMBO Kilima Mbogo 35.50 201 LR LR 02 11 29.1
comp=Z,48nm,19.5s,MS3.3,baz=86,slow=37
CABF La Chapelle 35.68 306 *e*P **P 01 56 37.9 +0.2**
comp=Z,26nm,1.1s,mb4.8
CABF La Chapelle 35.68 306 *e*P **P 01 56 37.9 +0.2**
comp=Z,25nm,1.1s,mb5.0
CABF La Chapelle 35.68 306 *e*P **P 01 56 37.9 +0.2**
CABF pmax pmax
comp=Z,13nm,1.1s,mb4.8
SSF Saint Saulge 37.49 306 *e*P **P 01 56 52.7 -0.4**
NB2 NORSAR Subarra 37.63 330 P **P 01 56 53.0 -1.3**
comp=Z,0.4nm,0.4s,mb3.5,baz=116,slow=9.3
NOA NORSAR Array B 37.63 330 P **P 01 56 52.6 -1.7**
comp=Z,0.3nm,0.3s,mb3.5,baz=109,slow=9.4,SNR=3.3
NOA LR LR 02 13 54.3
comp=Z,37nm,18.2s,MS3.2,baz=335,slow=39
MTLF Montolieu 38.21 300 *e*P **P 01 56 59.5 +0.3**
comp=Z,33nm,1.4s,mb4.6
MTLF Montolieu 38.21 300 *e*P **P 01 56 59.5 +0.3**
comp=Z,33nm,1.4s,mb4.9
MTLF Montolieu 38.21 300 *e*P **P 01 56 59.5 +0.3**
MTLF pmax pmax
comp=Z,17nm,1.4s,mb4.6
ARCES ARCESS Array B 39.29 347 P **P 01 57 06.8 -1.4**
comp=Z,3.8nm,1.1s,mb4.0,baz=136,slow=9.3,SNR=7.0
TORD Torodi Ar. Bea 47.57 257 P **P 01 58 14.1 -1.0**
comp=Z,1.3nm,0.9s,mb4.0,baz=61,slow=7.7,SNR=7.5
ILAR Eielson Array 82.06 7 P **P 02 01 56.5 -3.3**
comp=Z,0.5nm,0.9s,mb3.4,baz=342,slow=3.2,SNR=5.2
YKA Yellowknife Ar 84.31 353 P **P 02 02 08.7 -2.8**
comp=Z,0.4nm,0.8s,mb3.6,baz=8.6,slow=5.2,SNR=6.8

*LDG **21** 02:26:45.4±0.3, 3663N×554E, h25km, Ml2.9/7, Error ellipse: s-maj=6.9km s-min=5.8km az=36.0*
*CSEM **21** 02:26:45.5±1.2, 3671N×528E, h25km, ML2.8/6, Error ellipse: s-maj=26.6km s-min=12.9km az=144.0*
MDD 21 02:26:44.8±2.7, 3685N×548E, h0km, mb4.1/4, Error ellipse: s-maj=25.7km s-min=15.9km az=157.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**3.59**	**325**	P	Pn	02 27 40.7	-0.9
	3.9nm,0.1s,SNR=22						
ETOS				S	Sn	02 28 21.0	-3.7
	2.3nm,0.2s						
ETOS	**Mallorca**	**3.59**	**325**	P	Pn	02 27 40.7	-0.9
	3.9nm,0.1s,SNR=22						
ETOS				S	Sn	02 28 19.8	-4.9
	2.3nm,0.2s						
EIBI	**Ibiza**	**3.92**	**305**	P	Pn	02 27 44.0	-2.3
	2.0nm,0.1s,SNR=6.8						
EIBI				S	Sn	02 28 28.1	-4.9
	4.5nm,0.5s,SNR=5.0						
EIBI	**Ibiza**	**3.92**	**305**	P	Pn	02 27 44.0	-2.2
	2.0nm,0.1s,SNR=6.8						
EIBI				S	Sn	02 28 26.3	-6.7
	4.5nm,0.5s,SNR=5.0						
EPOB	**Poblet**	**5.65**	**324**	S	Sn	02 29 09.0	-6.5
	1.6nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.65**	**324**	S	Sn	02 29 09.0	-6.5
	1.6nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**5.85**	**290**	P	Pn	02 28 12.5	-0.2
	3.1nm,0.7s,SNR=7.9						
ETOB	**Tobarra**	**5.85**	**290**	P	Pn	02 28 12.5	-0.2
	3.1nm,0.7s,SNR=7.9						
EMIR	**Miracle**	**5.91**	**330**	P	Pn	02 28 13.7	+0.2
	5.2nm,0.2s,SNR=22						
EMIR				S	Sn	02 29 12.8	-9.1
	1.0nm,0.2s						
EMIR	**Miracle**	**5.91**	**330**	P	Pn	02 28 13.7	+0.2
	5.2nm,0.2s,SNR=22						
EMIR				S	Sn	02 29 12.8	-9.1
	1.0nm,0.2s						
PGF	**Pioggiola**	**6.30**	**24**	*e*Pn	Pn	02 28 17.0	-1.9
PGF				*e*Sn	Sn	02 29 25.7	-5.9
	1.2nm,0.2s						
PGF	**Pioggiola**	**6.30**	**24**	*e*Pn	Pn	02 28 17.0	-1.9
PGF				*e*Sn	Sn	02 29 25.7	-5.9
	0.6nm,0.2s						
LMR	**La Mourre**	**6.52**	**7**	*e*Pn	Pn	02 28 20.1	-1.9
LMR				*e*Sn	Sn	02 29 32.2	-4.8
	1.6nm,0.2s						
LMR	**La Mourre**	**6.52**	**7**	*e*Pn	Pn	02 28 20.1	-1.9
LMR				*e*Sn	Sn	02 29 32.2	-4.8
	0.8nm,0.2s						
FRF	**La Foret Royal**	**6.76**	**7**	*e*Pn	Pn	02 28 23.6	-1.6
FRF				*e*Sn	Sn	02 29 37.5	-5.4
	0.6nm,0.2s						
FRF	**La Foret Royal**	**6.76**	**7**	*e*Pn	Pn	02 28 23.6	-1.6
FRF				*e*Sn	Sn	02 29 37.5	-5.4
	0.3nm,0.2s						
MTLF	**Montolieu**	**6.95**	**340**	*e*Pn	Pn	02 28 26.3	-1.5
MTLF				*e*Sn	Sn	02 29 41.6	-5.9
	1.3nm,0.3s						
MTLF	**Montolieu**	**6.95**	**340**	*e*Pn	Pn	02 28 26.3	-1.5
MTLF				*e*Sn	Sn	02 29 41.6	-5.9
	0.6nm,0.3s						
SMRF	**Simiane la Rot**	**7.12**	**1**	*e*Pn	Pn	02 28 29.1	-1.0
SMRF				*e*Sn	Sn	02 29 45.9	-5.8
	0.6nm,0.3s						
SMRF	**Simiane la Rot**	**7.12**	**1**	*e*Pn	Pn	02 28 29.1	-1.0
SMRF				*e*Sn	Sn	02 29 45.9	-5.8
	0.3nm,0.3s						
LASF	**Ste Croix**	**7.32**	**351**	*e*Pn	Pn	02 28 30.7	-2.2
LASF				*e*Sn	Sn	02 29 50.7	-6.0
	0.5nm,0.2s						
LASF	**Ste Croix**	**7.32**	**351**	*e*Pn	Pn	02 28 30.7	-2.2
LASF				*e*Sn	Sn	02 29 50.7	-6.0
	0.2nm,0.2s						
EPF	**Esparros**	**7.32**	**329**	*e*Pn	Pn	02 28 33.2	+0.2
EPF				*e*Sn	Sn	02 29 51.0	-5.8
	1.0nm,0.2s						
EPF	**Esparros**	**7.32**	**329**	*e*Pn	Pn	02 28 33.2	+0.2
EPF				*e*Sn	Sn	02 29 51.0	-5.8
	0.5nm,0.2s						

*ISCJB **21** 02:44:24.9±1.8, 1560N±009×1460E±02, h112km±15km, mb4.2/16, Error ellipse: s-maj=29.4km s-min=14.2km az=178.3*
*IDC **21** 02:44:24.5±2.5, 1560N×14608E, h94km±22km, mb3.9/11, mb1 4.0/12, mb1mx3.9/22, mbtmp4.2/12, Error ellipse: s-maj=29.6km s-min=15.9km az=88.0*
*NEIC **21** 02:44:25.2±0.5, 1560N×14607E, h100km, mb4.5/6, Error ellipse: s-maj=20.6km s-min=8.3km az=97.0*
ISC 21 02:44:25.8±1.8, 1560N±009×1460E±02, h104km±16km, n22, σ0°87/24, mb4.2/16, 2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.29**	**209**	P	Pn	02 45 02.8	+0.6
	138nm,0.3s,baz=11,slow=5.2,SNR=23						
GUMO				S	Sn	02 45 29.2	-1.0
	340nm,0.3s,baz=4.8,slow=23,SNR=34						
GUMO	**Guam**	**2.29**	**209**	*e*Pn	Pn	02 45 02.5	+0.3
GUMO				*e*Sn	Sn	02 45 29.7	-0.4
PMG	**Port Moresby**	**24.87**	**177**	P	P	02 49 39.3	+0.7
	8.5nm,0.4s,mb4.5,baz=2.6,slow=3.7,SNR=6.3						
PMG	**Port Moresby**	**24.87**	**177**	*e*P	P	02 49 38.8	+0.2
	8.1nm,0.4s,mb4.5						
WRAB	**Tennant Creek**	**37.13**	**198**	*e*P	P	02 51 26.4	+0.1
	9.1nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**37.14**	**198**	*e*P	P	02 51 26.4	+0.1
WRA	**Warramunga Arr**	**37.14**	**198**	P	P	02 51 26.4	+0.1
	3.5nm,0.7s,mb4.4,baz=21,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**40.78**	**197**	P	P	02 51 57.0	+0.3
	0.8nm,0.5s,mb3.8,baz=19,slow=11,SNR=15						
SONM	**Songino Array**	**45.77**	**323**	P	P	02 52 38.6	+1.9
	1.0nm,0.6s,mb3.8,baz=144,slow=7.2,SNR=6.4						
BILL	**Bilibino**	**54.01**	**9**	*e*P	P	02 53 38.9	-0.2
	2.6nm,0.4s,mb4.6						
ZAL	**Zalesovo**	**60.67**	**324**	P	P	02 54 25.6	-0.3
	1.8nm,0.4s,mb4.4,baz=354,slow=5.5,SNR=4.9						
MKAR	**Makanchi Array**	**60.84**	**315**	P	P	02 54 28.1	+1.1
	1.7nm,0.4s,mb4.4,baz=94,slow=8.8,SNR=34						
SLKM	**Skilak Lake**	**63.70**	**30**	*e*P	P	02 54 47.4	+1.3
KURK	**Kurchatov**	**63.78**	**319**⇓*e*P		P	02 54 47.2	+0.5
	11nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**66.28**	**26**	P	P	02 55 01.6	-1.2
	1.0nm,0.5s,mb3.9,baz=250,slow=5.9,SNR=27						
BRVK	**Borovoye**	**69.12**	**321**	*e*P	P	02 55 21.1	+0.4
	2.8nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**69.89**	**321**⇓*e*P		P	02 55 25.4	0.0
	2.7nm,0.6s,mb4.2						
AKTK	**Aktyubinsk**	**76.88**	**319**	P	P	02 56 05.7	-0.8
AKTO	**Aktyubinsk**	**76.88**	**319**	P	P	02 56 05.7	-0.8
	0.5nm,0.6s,mb3.4,baz=97,slow=5.3,SNR=4.4						
YKA	**Yellowknife Ar**	**80.57**	**28**	P	P	02 56 26.9	+0.3
	0.8nm,0.4s,mb3.9,baz=286,slow=5.1,SNR=26						
ARCES	**ARCESS Array B**	**85.52**	**342**	P	P	02 56 50.8	-1.3
	2.4nm,0.8s,mb4.2,baz=90,slow=9.0,SNR=5.4						
FINES	**FINESS Array B**	**89.81**	**335**	P	P	02 57 10.6	-2.1
	1.0nm,0.7s,mb4.0,baz=56,slow=4.8,SNR=5.7						

*NEIC **21** 03:16:42.4, 19.10N×6498W, h6km, MD3.4(RSPR), After RSPR.*
RSPR 21 03:16:42.4, 1910N×6498W, h6km±2km, MD3.4/11, MD3.4/11, 17C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.74**	**179**	*e*S	Sg	03 17 07.0	+0.6
STVI	**Saint Thomas**	**0.74**	**179**⇑*e*P		Pg	03 16 56.2	-0.5
STVI				*e*S	Sg	03 17 07.0	+0.6
TBVI	**Tortola**	**0.77**	**153**	*e*S	Sg	03 17 07.2	-0.1
TBVI	**Tortola**	**0.77**	**153**⇓*e*P		Pg	03 16 56.1	-1.1
TBVI	**Tortola**	**0.77**	**153**	*e*S	Sg	03 17 08.2	+0.9
TBVI	**Tortola**	**0.77**	**153**⇓*e*P		Pg	03 16 56.2	-1.1
TBVI				*e*S	Sg	03 17 07.2	-0.1
MTP	**Monte Pirata**	**1.14**	**209**	*e*S	Sg	03 17 17.0	-2.1
MTP	**Monte Pirata**	**1.14**	**209**	*e*S	Sg	03 17 17.3	-1.7
MTP	**Monte Pirata**	**1.14**	**209**⇑*e*P		Pg	03 17 02.1	-2.2
MTP				*e*S	Sg	03 17 17.0	-2.1
CBYP	**Canovanas**	**1.17**	**225**	*e*S	Sg	03 17 17.5	-2.5
CBYP	**Canovanas**	**1.17**	**225**⇓*e*P		Pg	03 17 01.9	-3.0
CBYP	**Canovanas**	**1.17**	**225**	*e*S	Sg	03 17 18.1	-1.9
CBYP	**Canovanas**	**1.17**	**225**⇓*e*P		Pg	03 17 01.9	-3.0
CBYP				*e*S	Sg	03 17 17.5	-2.5
HUMP	**Col San Antoni**	**1.26**	**221**	*e*S	Sg	03 17 19.2	-3.6
HUMP	**Col San Antoni**	**1.26**	**221**	*e*S	Sg	03 17 21.0	-1.9
HUMP	**Col San Antoni**	**1.26**	**221**⇑*e*P		Pg	03 17 03.2	-3.4
HUMP	**Col San Antoni**	**1.26**	**221**⇑*e*P		Pg	03 17 03.1	-3.4
HUMP				*e*S	Sg	03 17 19.2	-3.6
CDVI	**St. Croix**	**1.36**	**171**	*e*S	Sb	03 17 22.5	-3.4
CDVI	**St. Croix**	**1.36**	**171**	*e*S	Sb	03 17 24.1	-1.8
CDVI	**St. Croix**	**1.36**	**171**⇑*e*P		Pn	03 17 06.4	-1.5
CDVI	**St. Croix**	**1.36**	**171**⇑*e*P		Pn	03 17 06.3	-1.6
CDVI				*e*S	Sb	03 17 22.5	-3.4
CPD	**Cerro la Pandu**	**1.38**	**220**	*e*S	Sb	03 17 22.6	-3.8
CPD	**Cerro la Pandu**	**1.38**	**220**	*e*S	Sb	03 17 24.0	-2.5
CPD	**Cerro la Pandu**	**1.38**	**220**⇑*e*P		Pn	03 17 05.3	-2.9
CPD	**Cerro la Pandu**	**1.38**	**220**⇑*e*P		Pn	03 17 05.5	-2.8
CPD				*e*S	Sb	03 17 22.6	-3.8
SJG	**San Juan**	**1.48**	**229**⇑*e*P		Pn	03 17 05.8	-3.9
SJG	**San Juan**	**1.48**	**229**⇓*e*P		Pn	03 17 07.3	-2.3
SJG	**San Juan**	**1.48**	**229**⇑*e*P		Pn	03 17 05.7	-3.9
SJG	**San Juan**	**1.48**	**229**⇑*e*P		Pn	03 17 07.3	-2.4
SJG				*e*S	Sn	03 17 25.7	-3.7
SJG	**San Juan**	**1.48**	**229**⇑*e*P		Pn	03 17 05.8	-3.9
CELP	**Cerrillos**	**1.83**	**236**⇑*e*P		Pn	03 17 11.8	-2.6
CELP				*e*S	Sn	03 17 34.4	-3.5
CELP	**Cerrillos**	**1.83**	**236**⇑*e*P		Pn	03 17 12.2	-2.2
CELP				*e*S	Sn	03 17 34.4	-3.5
AOPR	**Arecibo Observ**	**1.84**	**246**	*e*S	Sn	03 17 34.8	-3.3
AOPR	**Arecibo Observ**	**1.84**	**246**	*e*S	Sn	03 17 35.1	-3.0
AOPR	**Arecibo Observ**	**1.84**	**246**⇑*e*P		Pn	03 17 11.9	-2.6
AOPR				*e*S	Sn	03 17 34.8	-3.3
ICM	**Isla Caja Muer**	**1.89**	**231**	*e*S	Sn	03 17 36.2	-3.2
LSP	**Las Mesas**	**2.20**	**246**	*e*S	Sn	03 17 42.9	-4.0
CRPR	**Cabo Rojo, PR**	**2.29**	**242**	*e*S	Sn	03 17 45.1	-4.3
CRPR	**Cabo Rojo, PR**	**2.29**	**242**⇑*e*P		Pn	03 17 17.8	-3.0
CRPR	**Cabo Rojo, PR**	**2.29**	**242**	*e*S	Sn	03 17 45.6	-3.7
CRPR	**Cabo Rojo, PR**	**2.29**	**242**⇑*e*P		Pn	03 17 17.9	-2.9
CRPR				*e*S	Sn	03 17 45.1	-4.3

*JMA **21** 03:17:04.6±0.5, 3428N×13754E, h332km±5km, M2.9*
*ISCJB **21** 03:17:05.1±0.5, 3433N±008×1376E±01, h329km±6km, mb3.0/5, Error ellipse: s-maj=16.6km s-min=11.4km az=113.5*
*IDC **21** 03:17:06.3±0.8, 3440N×13764E, h324km±24km, mb3.1/5, mb1 3.2/7, mb1mx3.0/23, mbtmp3.7/7, Error ellipse: s-maj=74.6km s-min=11.3km az=67.0*
ISC 21 03:17:06.1±0.5, 3436N±008×1376E±01, h324km±6km, n19, σ1°00/26, mb3.0/5, 2C, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHMK	**Hamakita**	**0.46**	**13**	P	Pn	03 17 46.9	-0.4
HMMJ	**Hamamatsu 2**	**0.50**	**8**	⇑P	Pn	03 17 47.2	-0.2
JIE	**Ise**	**0.77**	**272**	P	Pn	03 17 47.4	-0.7
JOD2	**Odawara 2**	**1.50**	**53**	P	Pn	03 17 52.6	+1.0
JOD2				S	S	03 18 29.4	+1.5
JGM	**Miyama**	**1.53**	**331**	⇑P	Pn	03 17 51.6	-0.2
JRY	**Ryogami san**	**1.95**	**32**	P	Pn	03 17 55.7	+1.1
JRY				S	S	03 18 34.6	+1.2
JWT	**Wachi**	**2.05**	**297**	P	Pn	03 17 54.3	-1.1
JHJ	**Hachijo jima 2**	**2.18**	**124**	P	Pn	03 17 56.5	+0.1
	6.6nm,0.3s,baz=72,slow=20,SNR=3.2						
JHJ				S	S	03 18 38.6	+2.1
	6.5nm,0.3s,baz=59,slow=19,SNR=3.1						
MAT	**Matsushiro**	**2.22**	**12**	P	Pn	03 17 56.8	+0.1
MAT	**Matsushiro**	**2.22**	**12**	P	Pn	03 17 57.0	+0.3
MAT				*e*S	S	03 18 38.2	+1.0
MJAR	**Matsushiro Arr**	**2.22**	**12**	P	Pn	03 17 56.8	0.0
	4.2nm,0.3s,baz=190,slow=9.3,SNR=49						
MJAR				S	S	03 18 35.5	-1.7
	baz=217,slow=14,SNR=3.5						
JAG	**Ashikaga**	**2.54**	**35**	P	Pn	03 17 59.1	-0.2
JAG				S	S	03 18 39.4	-2.5
BSO1	**Boso 1**	**2.78**	**83**	P	Pn	03 18 00.4	-1.0
BSO1				S	S	03 18 44.3	-1.5
SONM	**Songino Array**	**26.91**	**309**	P	P	03 22 19.1	+0.7
	0.4nm,0.5s,mb2.9,baz=97,slow=8.8,SNR=2.9					

	303nm,0.2s							
ROSA	**Rosais**	**0.22**	**59**	*i* P		Pg	03 44 25.3	-0.3
ROSA				*e*S		Sg	03 44 28.4	-0.2
ROSA	**Rosais**	**0.22**	**59**	*e*S		Sg	03 44 28.4	-0.2
PTCA	**Ponta do Capel**	**0.24**	**265**	*i* P		Pg	03 44 25.9	0.0
PTCA				*e*S		Sg	03 44 29.3	+0.1
PTCA								
	250nm,0.1s							
PTCA	**Ponta do Capel**	**0.24**	**265**	*e*S		Sg	03 44 29.3	+0.1
PAMA	**Santo Amaro**	**0.25**	**73**	*e*P		Pg	03 44 25.9	-0.2
PAMA				*e*S		Sg	03 44 29.6	+0.1
PAMA								
	332nm,0.2s							
PMAN	**Manadas**	**0.31**	**85**	*e*P		Pg	03 44 26.7	-0.5
PMAN				*e*S		Sg	03 44 30.7	-0.7
PMAN								
	206nm,0.1s							
PMAN	**Manadas**	**0.31**	**85**	*e*P		Pg	03 44 26.7	-0.5
PMAN				*e*S		Sg	03 44 30.7	-0.7
PID	**Ribeirinha**	**0.33**	**119**	*e*P		Pg	03 44 26.5	-1.1
PIED	**Piedade**	**0.39**	**119**	*e*P		Pg	03 44 27.8	-0.8
PLUZ	**Luz**	**0.56**	**317**	*e*rx			03 44 41.2	
PVIA	**Vitoria**	**0.57**	**36**	*e*rx			03 44 44.5	
STGR	**Santa Cruz**	**0.61**	**38**	*e*rx			03 44 42.6	
ASBA	**Santa Barbara**	**0.92**	**82**	*e*P		Pg	03 44 35.7	-3.0
ASBA				*e*S		Sg	03 44 46.3	-4.3
ASBA								
	70nm,0.2s							
ASBA	**Santa Barbara**	**0.92**	**82**	*e*P		Pg	03 44 35.7	-3.0
ASBA				*e*S		Sg	03 44 46.3	-4.3
PSBA	**Serra de Santa**	**0.93**	**80**	*e*S		Sg	03 44 46.2	-4.7
PSBA								
	42nm,0.1s							
PPAD	**Pico dos Padre**	**0.94**	**84**	*e*P		Pg	03 44 36.0	-3.2
PPAD				*e*S		Sg	03 44 47.7	-3.8
PPAD								
	37nm,0.1s							
PPAD	**Pico dos Padre**	**0.94**	**84**	*e*P		Pg	03 44 36.0	-3.2
PPAD				*e*S		Sg	03 44 47.7	-3.8
PBIS	**Biscoitos**	**0.98**	**81**	*e*S		Sg	03 44 48.3	-4.3
PBIS								
	15nm,0.1s							
ADH	**Angra Heroismo**	**0.98**	**87**	*e*S		Sg	03 44 47.8	-4.9
RIB2	**Ribeirinha**	**1.03**	**86**	*e*P		Pg	03 44 37.3	-3.6
RIB2				*e*S		Sg	03 44 49.2	-5.1
RIB2								
	34nm,0.2s							
RIB2	**Ribeirinha**	**1.03**	**86**	*e*P		Pg	03 44 37.3	-3.6
RIB2				*e*S		Sg	03 44 49.2	-5.1
PVNV	**Vila Nova**	**1.05**	**81**	*e*S		Sg	03 44 50.2	-4.8
PVNV								
	12nm,0.1s							
PFAV	**Pico das Favas**	**1.10**	**84**	*e*P		Pg	03 44 38.3	-4.0
PFAV				*e*S		Sg	03 44 51.0	-5.6
PFAV								
	20nm,0.2s							

*ISCJB **21** 03:52:04.9±2.1, 123N±0.1×1442E±02, h47km±19km, mb4.1/12, MS3.3/1, Error ellipse: s-maj=33.3km s-min=16.9km az=21.9*
*NEIC **21** 03:52:05.1±0.6, 1228N×144.30E, h35km, mb4.4/1, Error ellipse: s-maj=23.4km s-min=12.5km az=106.0*
*IDC **21** 03:52:07.3±2.1, 1229N×144.35E, h55km±19km, mb3.8/11, mb1 4.0/11, mb1mx3.8/22, mbtmp4.0/11, MS3.5/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=30.9km s-min=14.8km az=101.0*

ISC 21 03:52:07.1±1.9, 123N±01×1443E±02, h52km±18km, n18, σ0§89/17, mb4.1/12, MS3.3/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.38**	**22**	P	**Pn**	**03 52 29.0**	**-0.9**
	55nm,0.3s,baz=181,slow=10,SNR=13						
GUMO				S	**Sn**	**03 52 47.8**	**+0.7**
	96nm,0.3s,baz=39,slow=23,SNR=23						
MJAR	**Matsushiro Arr**	**24.75**	**348**	LR	LR	04 06 28.4	
	comp=Z,94nm,18.7s,MS3.3,baz=175,slow=35						
WRA	**Warramunga Arr**	**33.52**	**197**	P	**P**	**03 58 41.3**	**-0.2**
	1.8nm,0.7s,mb4.1,baz=20,slow=9.8,SNR=7.4						
ASAR	**Alice Springs**	**37.17**	**196**	P	**P**	**03 59 13.5**	**+0.5**
	1.7nm,0.6s,mb4.0,baz=19,slow=10,SNR=33						
SONM	**Songino Array**	**47.48**	**326**	P	**P**	**04 00 37.3**	**+0.6**
	0.8nm,0.6s,mb3.8,baz=146,slow=8.3,SNR=7.9						
MKAR	**Makanchi Array**	**62.05**	**317**	P	**P**	**04 02 23.1**	**+1.0**
	0.9nm,0.6s,mb4.1,baz=87,slow=8.8,SNR=16						
ILAR	**Eielson Array**	**69.95**	**25**	P	**P**	**04 03 11.3**	**-1.5**
	0.5nm,0.7s,mb3.5,baz=253,slow=5.2,SNR=5.5						
BVAR	**Borovoye Array**	**70.61**	**322**	P	**P**	**04 03 17.3**	**+0.4**
	1.7nm,0.5s,mb4.3,baz=102,slow=8.5,SNR=12						
ZRNK	**Zerenda**	**71.44**	**322**	*e*P	**P**	**04 03 22.1**	**+0.3**
	4.4nm,1.1s,mb4.3						
AKTK	**Aktyubinsk**	**78.29**	**319**	P	**P**	**04 04 01.2**	**-0.3**
AKTO	**Aktyubinsk**	**78.29**	**319**	P	**P**	**04 04 01.2**	**-0.3**
	1.0nm,0.5s,mb4.0,baz=84,slow=7.3,SNR=4.9						
YKA	**Yellowknife Ar**	**84.23**	**27**	P	**P**	**04 04 33.0**	**+0.1**
	0.2nm,0.4s,mb3.6,baz=286,slow=5.1,SNR=5.3						
YKA	**Yellowknife Ar**	**84.23**	**27**	P	**P**	**04 04 33.0**	**+0.1**
NVAR	**Mina Array Bea**	**88.13**	**51**	P	**P**	**04 04 54.4**	**+2.2**
	0.9nm,0.7s,mb4.1,baz=255,slow=4.5,SNR=5.6						
ARCES	**ARCESS Array B**	**88.14**	**342**	P	**P**	**04 04 51.4**	**-0.8**
	3.9nm,1.0s,mb4.6,baz=52,slow=7.9,SNR=4.9						
FINES	**FINESS Array B**	**92.10**	**335**	P	**P**	**04 05 09.3**	**-1.4**
	1.1nm,0.5s,mb4.4,baz=72,slow=5.3,SNR=15						
FINES	**FINESS Array B**	**92.10**	**335**	P	**P**	**04 05 09.3**	**-1.4**
DBIC	**Dimbokro**	**144.03**	**300**	PKP	PKPdf	04 11 36.5	-0.2
	3.5nm,0.8s,baz=13,slow=5.6,SNR=14						

IDC 21 04:17:17.2±9.9, 2088N×14566E, h138km±64km, mb3.5/6, mb1 3.6/8, mb1mx3.4/23, mbtmp4.0/8, Error ellipse: s-maj=85.8km s-min=43.7km az=3.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.96**	**334**	P	Pn	04 18 56.8	+0.2
	12nm,0.3s,baz=270,slow=20,SNR=3.6						
CBIJ				S	Sn	04 20 14.7	+0.3
	5.2nm,0.3s,baz=301,slow=19,SNR=3.2						
MJAR	**Matsushiro Arr**	**16.91**	**339**	P	Pn	04 21 05.7	+0.2
	0.7nm,0.3s,baz=159,slow=10,SNR=4.5						
SONM	**Songino Array**	**41.44**	**320**	P	P	04 24 50.5	+0.3
	0.4nm,0.5s,baz=135,slow=8.3,SNR=5.1						
MKAR	**Makanchi Array**	**56.95**	**313**	P	P	04 26 47.9	0.0
	0.3nm,0.4s,baz=85,slow=10,SNR=3.6						
BVAR	**Borovoye Array**	**64.79**	**320**	P	P	04 27 41.0	0.0
	2.2nm,0.5s,baz=91,slow=7.2,SNR=12						
YKA	**Yellowknife Ar**	**76.09**	**28**	P	P	04 28 49.3	-0.2
	0.4nm,0.8s,baz=291,slow=5.5,SNR=4.8						
ARCES	**ARCESS Array B**	**80.42**	**342**	P	P	04 29 13.8	+0.5
	4.5nm,0.9s,baz=61,slow=8.5,SNR=3.7						
FINES	**FINESS Array B**	**84.90**	**335**	P	P	04 29 35.5	-1.0
	0.9nm,0.6s,baz=69,slow=6.5,SNR=6.5						

*ISCJB **21** 04:26:28.4±0.7, 2944S×004×6916W±006, h33km, Error ellipse: s-maj=8.2km s-min=6.3km az=20.7*
*NEIC **21** 04:26:30.4±0.6, 2943S×6923W, h35km, Error ellipse: s-maj=10.1km s-min=8.9km az=85.0*
*GUC **21** 04:26:30.5±1.0, 2941S×6967W, h132km±31km, ML3.9*

ISC 21 04:26:30.6±0.7, 2944S±004×6925W±007, h35km, n11, σ0§74/19, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.80**	**254**	⇑*i*P	**Pn**	**04 26 58.4**	**-0.7**
LSCH				*i* S	**Sn**	**04 27 20.1**	**-0.6**
LSCH				AMP		04 27 21.3	
	comp=E,378nm,0.3s						
LSCH	**La Serena**	**1.80**	**254**	⇑*i*P	**Pn**	**04 26 58.4**	**-0.7**
LSCH				*i* S	**Sn**	**04 27 20.1**	**-0.6**
CPCH	**Copiapo**	**2.29**	**335**	*i* P	**Pn**	**04 27 06.4**	**+0.6**
CPCH				*i* S	**Sn**	**04 27 34.2**	**+1.4**
CPCH				AMP		04 27 35.1	
	comp=N,3μm,0.2s						
CPCH	**Copiapo**	**2.29**	**335**	*i* P	**Pn**	**04 27 06.4**	**+0.6**
CPCH				*i* S	**Sn**	**04 27 34.2**	**+1.4**
CMCH	**Combarbala**	**2.30**	**221**	⇓*i*P	**Pn**	**04 27 06.4**	**+0.4**
CMCH				*i* S	**Sn**	**04 27 33.6**	**+0.6**
CMCH				AMP		04 27 34.8	
	comp=N,2μm,0.5s						
CMCH	**Combarbala**	**2.30**	**221**	⇓*i*P	**Pn**	**04 27 06.4**	**+0.4**
CMCH				*i* S	**Sn**	**04 27 33.6**	**+0.6**
CDCH	**Caldera**	**2.73**	**329**	⇓*i*P	**Pn**	**04 27 12.2**	**+0.3**
CDCH				*i* S	**Sn**	**04 27 42.4**	**-1.3**
CDCH				AMP		04 27 46.7	
	comp=E,212nm,0.6s						
CDCH	**Caldera**	**2.73**	**329**	⇓*i*P	**Pn**	**04 27 12.2**	**+0.3**
CDCH				*i* S	**Sn**	**04 27 42.4**	**-1.3**
TRQA	**Tornquist**	**10.51**	**147**	*e*P	**Pn**	**04 28 59.0**	**+0.2**
	comp=E,1.0nm,0.4s						
CPUP	**Villa Florida**	**10.99**	**77**	*e*Pn	**Pn**	**04 29 04.6**	**-0.7**
	comp=E,3.8nm,0.3s						
LPAZ	**La paz**	**13.13**	**5**	*e*Pn	**Pn**	**04 29 34.4**	**-0.1**
	comp=E,0.9nm,0.6s						

*ISCJB **21** 06:07:50.9±2.8, 394N±02×739E±0.1, h10km, Error ellipse: s-maj=25.0km s-min=14.8km az=1.5*
*NNC **21** 06:07:52.2±4.5, 3951N×7363E, h8km±12km, mb3.3, mpv2.8, Error ellipse: s-maj=36.0km s-min=20.2km az=2.0*

ISC 21 06:07:50.0±2.6, 392N±02×739E±0.1, h10km, n9, σ0§91/11, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.91**	**358**	P	**Pn**	**06 08 36.3**	**-0.1**
	SNR=7.1						
KZA	**Kyzart**	**3.05**	**20**	P	**Pn**	**06 08 39.3**	**+1.1**
	SNR=18						
UCH	**Uchtor**	**3.05**	**9**	P	**Pn**	**06 08 38.1**	**-0.2**
	SNR=16						
EKS2	**Erkin-Say**	**3.44**	**359**	P	**Pn**	**06 08 44.8**	**+1.1**
	SNR=8.3						
AAK	**Ala-Archa**	**3.45**	**8**	P	**Pn**	**06 08 43.8**	**0.0**
	SNR=5.6						
TKM2	**Tokmak 2**	**3.92**	**19**	⇓Pn	**Pn**	**06 08 49.5**	**-0.8**
	1.6nm,0.5s						
TKM2				⇑Sn	**Sn**	**06 09 35.8**	**-0.6**
	12nm,1.0s						
USP	**Ospenovka**	**4.08**	**7**	P	**Pn**	**06 08 58.6**	**+6.3**
	SNR=7.0						
KK31	**Karatay Array**	**4.63**	**328**	⇑Pn	**Pn**	**06 09 00.8**	**+0.7**
	0.7nm,0.4s,baz=145,slow=16,SNR=3.7						
KK31				⇓Sn	**Sn**	**06 09 54.2**	**+0.4**
	2.0nm,0.5s,baz=125,slow=24,SNR=4.4						
KK31				⇑Lg		06 10 07.8	
	2.2nm,0.4s,baz=131,slow=29,SNR=3.1						
AB31	**Akbulak array**	**14.13**	**320**	⇑P	**Pn**	**06 11 07.8**	**-2.4**
	0.8nm,0.8s,baz=139,slow=9.2,SNR=5.7						

*IDC **21** 06:09:60.0±0.9, 801N×9195E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/23, mbtmp3.9/12, ML4.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=32.0km s-min=18.8km az=50.0*
*ISCJB **21** 06:10:02.6±0.6, 785N±009×9186E±008, h33km, mb4.0/15, Error ellipse: s-maj=15.0km s-min=7.2km az=77.5*
*NEIC **21** 06:10:05.0±0.8, 787N×9192E, h35km±9km, mb4.3/7, Error ellipse: s-maj=10.8km s-min=6.3km az=223.0*

ISC 21 06:10:05.3±0.6, 788N±009×9190E±009, h35km, n28, σ0§95/29, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.84**	**12**	*e*P	Px	06 11 39.0	
PBA				*e*S	Sx	06 11 56.2	
PBA				*e*x	x	06 12 05.7	
	comp=N,244nm,0.4s						
PBA				*e*x	x	06 12 06.4	
	comp=E,244nm,0.5s						
PSI	**Prapat**	**8.63**	**125**	Pn	**Pn**	**06 12 08.0**	**+0.3**
	comp=E,2.9nm,0.3s,baz=340,slow=11,SNR=8.4						
PSI				LR	LR	06 15 57.7	
	comp=E,63nm,19.0s,baz=309,slow=41						
KULM	**Kulim**	**9.07**	**106**	*e*Pn	**Pn**	**06 12 13.0**	**-0.7**
PALK	**Pallekele**	**11.11**	**268**	*e*Pn	**Pn**	**06 12 41.0**	**-0.6**
PALK				*e*Sn	**Sn**	**06 14 35.5**	**-9.1**
VIS	**Vishakhapatnam**	**12.85**	**320**	*i* P	**Pn**	**06 13 02.5**	**-3.0**
VIS				*i* S	**Sn**	**06 15 10.1**	**-17**
HYB	**Hyderabad**	**16.09**	**307**	*e*P	**Pn**	**06 13 57.0**	**+8.2**
HYB				*e*S	**S**	**06 16 44.0**	**-15**
JIRN	**Jiri**	**20.40**	**345**	*e*P	**P**	**06 14 40.3**	**+1.2**
	comp=E,26nm,1.0s						
PKI	**Pulchoki**	**20.52**	**343**	*e*P	**P**	**06 14 41.3**	**+0.9**
DMN	**Daman**	**20.64**	**343**	*e*P	**P**	**06 14 42.8**	**+1.0**
GUN	**Gumba**	**20.72**	**345**	*e*P	**P**	**06 14 43.5**	**+1.0**
	comp=E,34nm,0.6s						
KKN	**Kakani**	**20.77**	**343**	*e*P	**P**	**06 14 43.9**	**+0.8**
	comp=E,11nm,0.5s						
GKN	**Gorkha**	**21.16**	**342**	*e*P	**P**	**06 14 47.8**	**+0.5**
	comp=E,25nm,0.6s,mb4.7						
KOLN	**Koldanda**	**21.28**	**339**	*e*P	**P**	**06 14 49.1**	**+0.5**
	comp=E,28nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**39.63**	**350**	P	**P**	**06 17 32.1**	**-1.4**
	comp=E,1.0nm,0.5s,mb3.8,baz=167,slow=9.0,SNR=12						
SONM	**Songino Array**	**41.68**	**15**	P	**P**	**06 17 49.9**	**-0.5**
	comp=E,2.6nm,0.7s,mb4.0,baz=197,slow=8.4,SNR=15						
KURK	**Kurchatov**	**44.10**	**348**	*e*P	**P**	**06 18 10.1**	**0.0**
	comp=E,2.3nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**46.28**	**354**	P	**P**	**06 18 26.6**	**-0.7**
	comp=E,1.1nm,0.3s,mb4.2,baz=308,slow=6.3,SNR=4.5						
BVAR	**Borovoye Array**	**48.29**	**343**	P	**P**	**06 18 42.4**	**-0.6**
	comp=E,0.9nm,0.5s,mb4.1,baz=155,slow=4.9,SNR=6.6						
ZRNK	**Zerenda**	**48.65**	**342**	*e*P	**P**	**06 18 45.5**	**-0.2**
	comp=E,1.8nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**50.09**	**124**	P	**P**	**06 18 57.6**	**+0.8**
	comp=E,0.4nm,0.4s,mb3.8,baz=301,slow=9.0,SNR=3.5						
ASAR	**Alice Springs**	**51.64**	**129**	P	**P**	**06 19 08.6**	**+0.2**
	comp=E,0.4nm,0.8s,mb3.4,baz=327,slow=10.0,SNR=4.0						
KMBO	**Kilima Mbogo**	**55.22**	**263**	P	**P**	**06 19 36.9**	**+2.3**
	comp=E,0.4nm,0.3s,mb3.9,baz=76,slow=17,SNR=3.5						
KMBO	**Kilima Mbogo**	**55.22**	**263**	P	**P**	**06 19 36.9**	**+2.3**
BRTR	**Keskin Array B**	**60.74**	**311**	P	**P**	**06 20 13.3**	**0.0**
	comp=E,1.3nm,0.7s,mb4.2,baz=118,slow=8.0,SNR=8.1						
FINES	**FINESS Array B**	**71.67**	**332**	P	**P**	**06 21 22.4**	**-1.1**
	comp=E,2.0nm,0.9s,mb4.0,baz=79,slow=9.9,SNR=4.0						
GERES	**GERESS Array B**	**76.34**	**318**	P	**P**	**06 21 50.5**	**-0.2**
	comp=E,1.1nm,0.6s,mb4.0,baz=90,slow=6.7,SNR=10						
ILAR	**Eielson Array**	**95.56**	**22**	P	**P**	**06 23 25.6**	**-1.2**
	comp=E,0.3nm,0.7s,mb3.8,baz=292,slow=4.3,SNR=4.2						
BNM	**Barren Site**	**134.66**	**22**	*e*Pdif	Pdif	06 26 19.0	-1.8

*ISCJB **21** 06:28:49.2±0.6, 6518N±004×1402W±01, h10km, Error ellipse: s-maj=8.4km s-min=5.2km az=157.4*
*PGC **21** 06:28:51.4, 6518N×14024W, h1km, ML3.0/4, 130km northwest of Dawson, Yt Near Dawson, Yukon Territory*
*NEIC **21** 06:28:52.4, 6512N×14040W, h25km, ML2.7(AEIC), ML3.0(PGC), After AEIC.*

ISC 21 06:28:50.5±0.6, 6514N±004×1402W±01, h10km, n14, σ1§27/27, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**1.13**	**162**	P	**Pb**	**06 29 12.2**	**0.0**
DAWY				S	**Sb**	**06 29 27.4**	**+0.4**
DAWY				Trac		06 29 31.4	
	comp=Z,95nm,0.1s						
DAWY	**Dawson**	**1.13**	**162**	P	**Pb**	**06 29 12.1**	**-0.1**
DAWY				S	**Sb**	**06 29 27.3**	**+0.3**
MENT	**Mentasta**	**2.70**	**217**	P	**Pn**	**06 29 33.6**	**-0.4**
IL1	**Eielson Array**	**2.88**	**266**	P	**Pn**	**06 29 34.5**	**-1.9**
BM3	**Burnt Mountain**	**2.90**	**324**	P	**Pn**	**06 29 36.9**	**+0.1**
INK	**Inuvik**	**4.13**	**37**	Pn	**Pn**	**06 29 54.2**	**+0.5**
INK				Sn	**Sn**	**06 30 41.7**	**-0.4**
INK				Trac		06 31 05.8	
	comp=Z,6.0nm,0.3s						
INK	**Inuvik**	**4.13**	**37**	*e*Pn	**Pn**	**06 29 54.6**	**+1.0**
HYT	**Haines Junctio**	**4.50**	**163**	Pn	**Pn**	**06 30 00.9**	**+2.2**
HYT				Sn	**Sn**	**06 30 52.5**	**+1.4**
HYT				Sg	**Sg**	**06 31 11.7**	**-3.4**
HYT				Trac		06 31 20.8	
	comp=Z,26nm,0.7s						
HYT	**Haines Junctio**	**4.50**	**163**	Pn	**Pn**	**06 30 00.9**	**+2.2**
HYT				Sn	**Sn**	**06 30 52.5**	**+1.4**
HYT				Sg	**Sg**	**06 31 11.7**	**-3.4**
COLD	**Coldfoot**	**4.57**	**302**	P	**Pn**	**06 30 00.0**	**+0.4**
WHY	**Whitehorse**	**5.11**	**149**	Pn	**Pn**	**06 30 08.9**	**+1.8**
WHY				Sn	**Sn**	**06 31 06.4**	**+0.3**
WHY				Sg	**Sg**	**06 31 32.4**	**-2.2**
WHY				Trac		06 31 41.0	
	comp=Z,7.0nm,0.5s						
WHY	**Whitehorse**	**5.11**	**149**	Pn	**Pn**	**06 30 08.9**	**+1.8**
WHY				Sn	**Sn**	**06 31 06.4**	**+0.3**
WHY				Sg	**Sg**	**06 31 32.4**	**-2.2**
YKW3	**Yellowknife Ar**	**11.54**	**91**	Pn	**Pn**	**06 31 33.9**	**-1.4**
YKW3				Sn	**Sn**	**06 33 38.0**	**-6.1**
YKW3				Trac		06 34 12.4	
YKW3	**Yellowknife Ar**	**11.54**	**91**	Pn	**Pn**	**06 31 33.9**	**-1.4**
YKW3				Sn	**Sn**	**06 33 38.0**	**-6.1**

*NEIC **21** 06:39:18.3, 3691N×2782E, h20km, MD2.9(ATH), MD3.0(ISK), After ISK.*
*ISK **21** 06:39:18.1, 3691N×2781E, h22km, MD2.9*
*ISCJB **21** 06:39:19.0±0.6, 3689N±003×2781E±004, h13km±4km, Error ellipse: s-maj=6.0km s-min=4.6km az=56.1*
*CSEM **21** 06:39:19.1±0.2, 3696N×2781E, h10km, MD2.9, Error ellipse: s-maj=5.6km s-min=4.0km az=114.0*
*ATH **21** 06:39:20.0, 3689N×2777E, h34km±12km, MD2.9/4*

ISC 21 06:39:19.4±0.6, 3690N±003×2783E±004, h15km±4km, n14, σ0§94/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.27**	**230**	*i* PG	**Pg**	**06 39 24.6**	**-0.5**
DAT				*i* SG	**Sg**	**06 39 29.4**	**+0.4**
MLSB	**Milas**	**0.40**	**353**	PG	**Pg**	**06 39 26.7**	**-0.7**
MLSB				SG	**Sg**	**06 39 33.0**	**+0.2**
MLSB	**Milas**	**0.40**	**353**	Pg	**Pg**	**06 39 26.8**	**-0.7**
MLSB				Sg	**Sg**	**06 39 32.8**	**-0.1**
YER	**Yerkesik**	**0.43**	**57**	PG	**Pg**	**06 39 28.0**	**0.0**
YER				SG	**Sg**	**06 39 34.6**	**+0.8**
YER	**Yerkesik**	**0.43**	**57**	Pg	**Pg**	**06 39 28.0**	**0.0**
YER				Sg	**Sg**	**06 39 34.0**	**+0.2**
BODT	**Bodrum**	**0.45**	**291**	PG	**Pg**	**06 39 27.6**	**-0.8**
BODT	**Bodrum**	**0.45**	**291**	Pg	**Pg**	**06 39 27.7**	**-0.7**
BODT				Sg	**Sg**	**06 39 34.7**	**+0.2**
NISR	**Nisiros**	**0.64**	**243**	*e*PN	**Pn**	**06 39 31.8**	**-2.0**
NISR				*e*SN	**Sg**	**06 39 41.5**	**+1.3**
ARG	**Arkhangelos**	**0.72**	**161**	*e*PN	**Pn**	**06 39 34.0**	**-1.0**
ARG				*e*SN		06 39 46.5	
AYDN	**Tasoluk**	**0.76**	**3**	*i* P	**Pg**	**06 39 33.6**	**-0.6**
AYDN				*i* S	**Sg**	**06 39 44.8**	**+0.6**
SMG	**Samos**	**1.13**	**316**	*e*PB	**Pb**	**06 39 40.0**	**-0.6**
SMG				*e*SN	**Sn**	**06 39 57.0**	**+1.1**
KARP	**Karpathos**	**1.46**	**202**	*e*PN	**Pn**	**06 39 45.5**	**+0.4**
MANT	**Manisa**	**1.69**	**20**	*i* P	**Pn**	**06 39 50.6**	**+2.3**
MANT				*i* S	**Sn**	**06 40 15.8**	**+6.2**
AKS	**Akhisar**	**1.98**	**360**	*e*PN	**Pn**	**06 39 51.0**	**-1.2**

*ISCJB **21** 06:52:02.0±0.1, 2936N±002×6834E±002, h10km, mb4.9/157, MS4.6/121, Error ellipse: s-maj=3.3km s-min=2.2km az=7.9*
*BJI **21** 06:52:02.9, 2965N×6819E, h10km, mB5.2, mb5.0, Ms5.0, Msz4.7*
*IDC **21** 06:52:02.3±0.5, 2939N×6829E, h0km, mb4.7/26, mb1 4.8/26, mb1mx4.7/29, mbtmp4.7/26, MS4.4/19, Ms1 4.4/19, ms1mx4.1/32, Error ellipse: s-maj=14.4km s-min=12.7km az=6.0*
*HRVD **21** 06:52:03.5±0.3, 2928N×6827E, h12km, MW5.1/87, Centroid moment Tensor Solution. LP body waves: s46,c62;Mantle waves: s87,c147; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.69±.10; $M_{\theta\theta}$-3.06±.10; $M_{\phi\phi}$-0.63±.12; $M_{r\theta}$3.29±.30; $M_{\theta\phi}$1.57±.08; $M_{r\phi}$0.54±.36; Best double couple: $M_0$5.01200×10^{16} NP1:ϕ_s314.00000°, δ30.00000°, λ125.00000°. NP2: ϕ_s95.00000°, δ66.00000°, λ72.00000°. Principal axes: T 5.2360, Plg64.0000°, Azm334.0000°; N -0.4530, Plg17.0000°, Azm102.0000°; P -4.7870, Plg19.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 06:52:03.5±0.2, 2935N×6843E, h10km, mb5.0/95, MS4.6/81 Error ellipse: s-maj=7.6km s-min=3.5km az=16.0*
NEIC Felt at Harna, Kohlu, Lehri and Sibi.
*MOS **21** 06:52:04.5±1.0, 2947N×6831E, h21km, mb5.1/66, MS4.3/22, Error ellipse: s-maj=6.9km s-min=3.7km az=124.2*
*SZGRF **21** 06:52:04.2, 28.19N×6884E, h33km, mb5.0, Pakistan*

ISC 21 06:52:04.1±0.1, 2938N±002×6833E±002, h10km, (h16km±1.4km: pP-P), n490, σ1§10/444, mb4.9/157, MS4.6/121, 78C-22D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**2.85**	**34**	P	**Pn**	**06 52 53.3**	**+3.6**
JASL	**Jaisalmer**	**3.34**	**137**	*e*P	**Pn**	**06 52 55.8**	**-0.6**
JASL				*e*S	**Sn**	**06 53 36.4**	**+0.3**
JASL				AML	AML	06 53 39.0	
	comp=Z,9μm,0.4s						
SBDP	**Sheikh Budin**	**3.60**	**36**	P	**Pn**	**06 53 02.2**	**+2.2**
THW	**Thamme Wali**	**4.49**	**40**	P	**Pn**	**06 53 13.6**	**+1.5**
SARP	**Sargodha**	**4.52**	**55**	P	**Pn**	**06 53 13.1**	**+0.6**
CEP	**Cherat**	**5.38**	**34**	P	**Pn**	**06 53 26.4**	**+2.0**
CHCP	**Chirah Chowk**	**5.99**	**43**	P	**Pn**	**06 53 34.1**	**+1.3**
CHCP				S	Sn	06 54 07.0	-34
BHJ	**Bhuj**	**6.22**	**169**	*e*P	**Pn**	**06 53 32.3**	**-3.6**
BHJ				*e*P		06 53 35.3	
BHJ				AMb	AMB	06 53 47.1	
	comp=Z,163nm,0.7s						
BHJ				*e*x	x	06 54 02.8	
	comp=Z,7.8nm,2.0s						
BHJ				*e*S	**Sn**	**06 54 43.2**	**-3.9**
AJM	**Ajmer**	**6.

BOM	**Bombay**	**11.21**	**158**	*ex*	x	06 56 52.3	
	comp=Z,104nm,1.2s						
BOM				*i* x	x	06 57 02.0	
BOM				*ex*	x	06 58 19.6	
HOQ	**Hoqain**	**11.43**	**242**	⇑P	**Pn**	**06 54 45.7**	**-1.7**
	SNR=6.0						
JMDO	**Jabal Madar**	**11.55**	**235**	⇑P	**Pn**	**06 54 48.5**	**-0.6**
	SNR=29						
ASHO	**Ashiyiah**	**11.89**	**250**	⇑P	**Pn**	**06 54 53.1**	**-0.7**
	SNR=34						
KSH	**Kashi**	**11.91**	**30**	P	**Pn**	**06 54 55.6**	**+1.7**
KSH				AP		06 54 58.6	
KSH				XP		06 55 01.9	
KSH				PP		06 55 05.3	
KSH				PPP		06 55 12.5	
KSH				S	**Sn**	**06 57 08.4**	**+1.6**
KSH				XS		06 57 13.0	
KSH				AMB	AMB		
	comp=Z,153nm,0.7s						
KSH				LR	LR		
	comp=N,7μm,7.1s						
KSH				LR	LR		
	comp=E,7μm,5.8s						
POO	**Poona**	**11.92**	**154**	*i* P	**Pn**	**06 54 54.0**	**-0.1**
	comp=E,50nm,1.0s						
POO				*e*P		06 54 55.9	
POO				*e*PP		06 55 04.0	
POO				AMb	AMB	06 55 06.7	
	comp=Z,38nm,1.0s						
POO				*ex*	x	06 57 05.5	
POO				*i* x	x	06 57 15.0	
POO				*i* x	x	06 57 28.5	
POO				*e*SSS		06 57 40.5	
POO				*e*PCP	PcP	07 00 34.0	-6.9
BSY	**Bisya**	**11.99**	**239**	⇓P	**Pn**	**06 54 55.3**	**+0.3**
	SNR=26						
JBP	**Jabalpur**	**12.15**	**118**	⇓*i*P	**Pn**	**06 54 55.6**	**-1.6**
JBP				*ex*	x	06 55 00.9	
	comp=Z,128nm,1.9s						
JBP				*e*S	**Sn**	**06 57 03.6**	**-9.1**
ARQ	**Araqi**	**12.18**	**243**	⇑P	**Pn**	**06 54 59.0**	**+1.5**
	SNR=14						
KAD	**Karad**	**13.16**	**155**	*e*P	**Pn**	**06 55 09.7**	**-1.4**
KAD				AMb	AMB	06 55 29.2	
	comp=Z,34nm,0.8s						
LATR	**Latur**	**13.25**	**144**	*e*P	**Pn**	**06 55 11.5**	**-0.8**
AML	**Almayashu**	**13.44**	**17**	P	**Pn**	**06 55 14.3**	**-0.5**
	SNR=17						
KOLN	**Koldanda**	**13.52**	**93**	*e*P	**Pn**	**06 55 14.1**	**-1.8**
	comp=Z,102nm,0.7s						
DANN	**Dangsing**	**13.56**	**91**	*e*P	**Pn**	**06 55 15.1**	**-1.5**
UCH	**Uchtor**	**13.76**	**20**	P	**Pn**	**06 55 17.6**	**-1.6**
	SNR=122						
KZA	**Kyzart**	**13.85**	**22**	P	**Pn**	**06 55 18.3**	**-2.1**
	SNR=22						
EKS2	**Erkin-Say**	**13.96**	**17**	P	**Pn**	**06 55 20.7**	**-1.3**
	SNR=33						
AAK	**Ala-Archa**	**14.12**	**19**	P	**Pn**	**06 55 23.4**	**-0.8**
	SNR=31						
KBK	**Karagaybulak**	**14.28**	**20**	P	**Pn**	**06 55 25.7**	**-0.6**
	SNR=8.6						
ULHL	**Ulahol**	**14.34**	**24**	P	**Pn**	**06 55 25.0**	**-2.1**
	SNR=12						
FRU	**Bishkek**	**14.34**	**19**	*e*P	**Pn**	**06 55 25.5**	**-1.7**
FRU				*e*S	**Sn**	**06 58 06.0**	**-0.3**
FRU				pmax	pmax		
	comp=Z,72nm,1.5s						
BLSP	**Bilaspur**	**14.38**	**117**	*ex*	x	06 57 55.0	
BLSP				*ex*	x	07 00 27.0	
GKN	**Gorkha**	**14.38**	**92**	*e*P	**Pn**	**06 55 24.4**	**-3.3**
	comp=Z,203nm,0.9s						
CHMS	**Chumysh**	**14.53**	**19**	P	**Pn**	**06 55 27.9**	**-1.9**
	SNR=23						
USP	**Ospenovka**	**14.71**	**18**	P	**Pn**	**06 55 30.3**	**-1.9**
	SNR=15						
TKM2	**Tokmak 2**	**14.72**	**21**	P	**Pn**	**06 55 30.1**	**-2.2**
	SNR=30						
DMN	**Daman**	**14.86**	**93**	*e*P	**Pn**	**06 55 30.8**	**-3.4**
	comp=Z,225nm,0.7s						
KKN	**Kakani**	**14.98**	**92**	*e*P	**Pn**	**06 55 32.2**	**-3.6**
	comp=Z,185nm,0.7s						
KKN	**Kakani**	**14.98**	**92**	*e*P	**Pn**	**06 55 32.2**	**-3.6**
KKN				pmax	pmax		
	comp=Z,93nm,0.7s						
PKI	**Pulchoki**	**15.13**	**93**	*e*P	**Pn**	**06 55 34.2**	**-3.7**
	comp=Z,169nm,0.8s						
PKI	**Pulchoki**	**15.13**	**93**	*e*P	**Pn**	**06 55 34.2**	**-3.7**
PKI				pmax	pmax		
	comp=Z,84nm,0.8s						
HYB	**Hyderabad**	**15.15**	**140**	*i* P	**Pn**	**06 55 36.0**	**-2.2**
	comp=Z,60nm,1.0s						
HYB				*e*S	**Sn**	**06 58 20.0**	**-6.0**
HYB				LR	LR	07 02 00.0	
	comp=Z,4.5nm,10.0s						
HYB	**Hyderabad**	**15.15**	**140**	*e*P	**Pn**	**06 55 36.0**	**-2.2**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s						
GUN	**Gumba**	**15.48**	**91**	*e*P	**Pn**	**06 55 39.3**	**-3.2**
	comp=Z,1μm,0.8s						
AAA	**Alma-Ata**	**15.49**	**24**	*i* P	**Pn**	**06 55 40.8**	**-1.8**
AAA				*i* S	**Sn**	**06 58 27.9**	**-6.3**
AAA				pmax	pmax		
	comp=Z,500nm,1.2s						
AAA				smax			
	comp=N,300nm,2.0s						
AAA				MLR	MLR		
	comp=Z,5μm,7.5s						
JIRN	**Jiri**	**15.80**	**92**	*e*P	**Pn**	**06 55 42.5**	**-4.1**
	comp=Z,563nm,0.9s						
BOK	**Bokaro**	**16.66**	**105**	*ex*	x	06 55 53.0	
BOK				⇑*i*x	x	06 55 53.3	
BOK				AMb	AMB	06 56 01.9	
	comp=Z,91nm,0.9s						
BOK				*i* x	x	06 58 38.3	
WHFO	**Wadi Hawf**	**17.53**	**233**	⇓P	**Pn**	**06 56 07.6**	**-1.0**
	SNR=7.3						
GTK	**Gangtok**	**17.97**	**92**	*e*P	**Pn**	**06 56 15.0**	**+0.9**
VIS	**Vishakhapatnam**	**17.97**	**127**	*i* x	x	06 56 09.1	
VIS				*e*P		06 56 15.1	
VIS				AMb	AMB	06 56 20.5	
	comp=Z,58nm,1.2s						
VIS				*i* x	x	06 59 20.9	
CAL	**Calcutta**	**19.22**	**106**	⇓*ex*	x	06 56 26.1	
CAL				*e*P		06 56 27.7	
CAL				*e*S	**Sn**	**07 00 11.4**	**+6.8**
LSA	**Lhasa**	**19.86**	**83**	P	**Pn**	**06 56 38.6**	**+1.8**
LSA				XP	sP	06 56 50.8	+11
LSA				AMB	AMB		
	comp=Z,50nm,1.5s						
LSA				AMB	AMB		
	comp=Z,380nm,5.4s						
LSA				LR	LR		
	comp=N,1μm,12.0s						
LSA				LR	LR		
	comp=E,2μm,10.1s						
LSA				LR	LR		
	comp=Z,2μm,9.5s						
MK31	**Makanchi Array**	**20.51**	**28**	*i* P	**P**	**06 56 41.6**	**-0.7**
MK31				pmax	pmax		
	comp=Z,26nm,0.7s						
MKAR	**Makanchi Array**	**20.51**	**28**	P	**P**	**06 56 42.0**	**-0.3**
	comp=Z,24nm,1.0s,baz=210,slow=9.9,SNR=114						
MKAR				LR	LR	07 06 16.2	
	comp=Z,2μm,18.7s,MS4.5,baz=86,slow=42						
MKAR	**Makanchi Array**	**20.51**	**28**	*e*P	**P**	**06 56 41.6**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,19nm,0.8s						
BHD	**Baghdad**	**20.81**	**287**	*ex*	x	06 56 41.0	
BHD				*ex*	x	06 57 47.0	
BHD				*ex*	x	07 00 30.0	
AB31	**Akbulak array**	**20.85**	**344**	*i* P	**P**	**06 56 46.2**	**+0.1**
AB31				pmax	pmax		
	comp=Z,46nm,1.1s						
WMQ	**Urumqi**	**21.12**	**42**	*e*P	**P**	**06 56 45.5**	**-3.5**
WMQ				PP		06 57 08.5	
WMQ				PPP		06 57 17.8	
WMQ				S	**S**	**07 00 35.1**	**-8.9**
WMQ				PCP	PcP	07 00 51.5	-3.4
WMQ				SS		07 01 08.0	
WMQ				AMB	AMB		
	comp=Z,149nm,0.8s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,932nm,3.6s						
WMQ				LR	LR		
	comp=N,2μm,10.4s,MS5.0						
WMQ				LR	LR		
	comp=E,3μm,10.4s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,9.4s						
AGT	**Agartala**	**21.20**	**100**	*i* P	**P**	**06 56 54.0**	**+4.2**
AGT				*i* x	x	06 57 48.0	
SHL	**Shillong**	**21.23**	**95**	*i* x	x	06 56 51.0	
SHL				*ex*	x	07 00 35.0	
MAK	**Makhachkala**	**21.52**	**315**	*d*P	**P**	**06 56 51.5**	**-1.7**
MAK				*e*S	**S**	**07 00 53.2**	**+1.5**
MAK				pmax	pmax		
	comp=Z,259nm,1.7s,mb5.4						
GNI	**Garni**	**22.09**	**305**	P	**P**	**06 57 01.4**	**+2.0**
	comp=Z,4.6nm,0.5s,mb4.2,baz=357,slow=16,SNR=4.3						
GNI	**Garni**	**22.09**	**305**	*e*P	**P**	**06 57 01.6**	**+2.3**
	comp=Z,57nm,1.1s,mb4.9						
GNI				LR	LR		
	comp=Z,360nm,20.0s,MS3.8						
GNI	**Garni**	**22.09**	**305**	⇑*i*P	**P**	**06 57 01.3**	**+2.0**
GNI				pmax	pmax		
	comp=Z,23nm,1.0s						
GNI				MLR	MLR		
	comp=Z,600nm,15.0s						
MSL	**Mosul**	**22.26**	**295**	*ex*	x	06 57 01.5	
MSL				*ex*	x	06 58 18.0	
MSL				*ex*	x	07 01 28.5	
AKTK	**Aktyubinsk**	**22.42**	**343**	P	**P**	**06 57 02.0**	**-0.8**
AKTK				LR	LR	07 06 19.9	
AKTO	**Aktyubinsk**	**22.42**	**343**	P	**P**	**06 57 02.0**	**-0.8**
	comp=Z,40nm,0.9s,mb4.8,baz=153,slow=12,SNR=26						
AKTO				LR	LR	07 06 19.9	
	comp=Z,537nm,21.7s,MS3.9,baz=0.0,slow=38						
KURK	**Kurchatov**	**22.67**	**17**	P	**P**	**06 57 04.9**	**-0.7**
	comp=Z,187nm,0.9s,mb5.5,SNR=13						
KURK	**Kurchatov**	**22.67**	**17**	*e*P	**P**	**06 57 04.4**	**-1.2**
	comp=Z,36nm,1.0s,mb4.8						
KURK				LR	LR		
	comp=Z,2μm,21.0s,MS4.6						
KURK	**Kurchatov**	**22.67**	**17**	P	**P**	**06 57 03.8**	**-1.8**
KURK				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.6						
VOSK	**Vostochnaya**	**23.40**	**4**	P	**P**	**06 57 11.7**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,50nm,1.1s,mb4.9						
ZRNK	**Zerenda**	**23.55**	**1**	*e*P	**P**	**06 57 13.9**	**-0.9**
	comp=Z,51nm,1.0s,mb4.9						
ZRNK	**Zerenda**	**23.55**	**1**	*e*P	**P**	**06 57 13.9**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,51nm,1.0s,mb4.9						
BVA0	**Borovoye Array**	**23.67**	**3**	*i* P	**P**	**06 57 14.9**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
BVAR	**Borovoye Array**	**23.67**	**3**	P	**P**	**06 57 15.2**	**-0.6**
	comp=Z,51nm,1.0s,mb4.9,baz=165,slow=6.2,SNR=116						
BRVK	**Borovoye**	**23.70**	**3**	P	**P**	**06 57 15.6**	**-0.5**
	comp=Z,356nm,1.0s,mb5.8,SNR=44						
BRVK	**Borovoye**	**23.70**	**3**	*e*P	**P**	**06 57 15.5**	**-0.6**
	comp=Z,47nm,1.1s,mb4.8						
BRVK				LR	LR		
	comp=Z,527nm,19.0s,MS4.0						
BRVK	**Borovoye**	**23.70**	**3**	*e*P	**P**	**06 57 15.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,47nm,1.1s,mb4.8						
BRVK				MLR	MLR		
	comp=Z,527nm,19.0s,MS4.0						
ZEI	**Tsey**	**23.74**	**311**	*i* P	**P**	**06 57 15.6**	**-0.9**
ZEI				*i* *PP		06 57 18.8	
PALK	**Pallekele**	**24.89**	**150**	PFAKE		06 57 40.0	+13
PALK				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
KIV	**Kislovodsk**	**25.06**	**312**	P	**P**	**06 57 30.0**	**+1.4**
	comp=Z,338nm,1.0s,mb5.8,SNR=5.5						
KIV	**Kislovodsk**	**25.06**	**312**	*e*P	**P**	**06 57 30.4**	**+1.8**
	comp=Z,46nm,0.8s,mb5.1						
KIV				LR	LR		
	comp=Z,249nm,22.0s,MS3.7						
KIV	**Kislovodsk**	**25.06**	**312**	*e*P	**P**	**06 57 29.0**	**+0.4**
KIV				*e*		07 01 03.7	
KIV				*e*S	**S**	**07 01 53.2**	**+0.4**
KIV				pmax	pmax		
	comp=Z,63nm,1.1s,mb5.1						
GOF	**Gofitskoye**	**25.36**	**315**	*e*P	**P**	**06 57 30.2**	**-1.1**
GOF				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.0						
MALT	**Malatya**	**26.29**	**298**	*e*P	**P**	**06 57 40.4**	**+0.7**
	comp=Z,4.7nm,0.9s,mb4.0						
MALT	**Malatya**	**26.29**	**298**	*e*P	**P**	**06 57 40.4**	**+0.7**
MALT				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
SOC	**Sochi**	**26.86**	**310**	*c*P	**P**	**06 57 44.5**	**-0.4**
SOC				*e*		06 58 26.0	
SOC				*e*S	**S**	**07 02 21.5**	**+0.2**
SOC				*e*SS		07 03 33.3	
SOC				*e*SSS		07 03 40.9	
SOC				pmax	pmax		
	comp=Z,52nm,1.6s,mb4.8						
SOC				MLR	MLR		
	comp=Z,478nm,14.0s,MS4.2						
NVS	**Novosibirsk**	**27.62**	**19**	*e*P	**P**	**06 57 49.7**	**-2.0**
NVS				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.6						
NVS				pmax	pmax		
	comp=N,24nm,1.7s						
GTA	**Gaotai**	**27.72**	**60**	P	**P**	**06 57 54.9**	**+2.3**
GTA				AP	pP	06 57 59.3	+3.7
GTA				XP	sP	06 58 02.0	+5.1
GTA				SCP	ScP	07 04 48.1	-1.9
GTA				SCS	ScS	07 08 39.8	-2.2
GTA				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.4						
GTA				AMB	AMB		
	comp=Z,250nm,5.7s						
GTA				LR	LR		
	comp=N,2μm,21.0s						
GTA				LR	LR		
	comp=E,1μm,13.8s						
GTA				LR	LR		
	comp=Z,1μm,13.8s						
ARU	**Arti**	**27.91**	**348**	⇓*i*P	**P**	**06 57 50.3**	**-4.0**
ARU				*e*PPP		06 58 45.4	
ARU				*e*		07 01 08.5	
ARU				*e*S	**S**	**07 02 33.3**	**-4.5**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
ARU				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,200nm,14.0s						
ARU				MLR	MLR		
	comp=E,400nm,20.0s						
ANN	**Anapa**	**28.84**	**311**	*e*P	**P**	**06 58 13.4**	**+11**
ANN				*e*PP	pP	06 58 19.3	+14
ANN				pmax	pmax		
	comp=Z,156nm,1.7s,mb5.5						
ATD	**Arta Tunnel**	**29.64**	**238**	P	**P**	**06 58 11.0**	**+1.3**
	comp=Z,2.9nm,0.3s,mb4.4,baz=295,slow=23,SNR=3.9						
ATD				LR	LR	07 11 54.9	
	comp=Z,394nm,21.2s,MS4.0,baz=37,slow=40						
BRTR	**Keskin Array B**	**30.21**	**299**	P	**P**	**06 58 13.8**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=109,slow=6.7,SNR=8.5						
BRTR	**Keskin Array B**	**30.21**	**299**	⇑*e*P	**P**	**06 58 14.6**	**-0.1**
LZH	**Lanzhou**	**30.49**	**68**	⇑P	**P**	**06 58 19.1**	**+1.9**
LZH				AP	pP	06 58 22.5	+2.2
LZH				XP	sP	06 58 24.3	+2.8
LZH				PP	PP	06 59 18.5	-7.5
LZH				PCP	PcP	07 01 18.8	+2.5
LZH				*e*S	**S**	**07 03 18.3**	**-0.2**
LZH				XS	sS	07 03 25.4	+1.9
LZH				SS	SS	07 04 57.6	-31
LZH				SCP	ScP	07 04 59.6	+0.8
LZH				PCS	PcS	07 05 01.8	+1.8
LZH				SCS	ScS	07 08 54.3	-0.6
LZH				AMB	AMB		
	comp=Z,41nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,153nm,5.4s						
LZH				LR	LR		
	comp=N,957nm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,17.4s,MS4.8						
CD2	**Chengdu**	**30.60**	**78**	*e*P	**P**	**06 58 19.6**	**+1.4**
CD2				XP	sP	06 58 28.9	+6.4
CD2				PP	PP	06 59 19.8	-7.4
CD2				PPP		06 59 34.8	
CD2				S	**S**	**07 03 20.5**	**+0.4**
CD2				XS	sS	07 03 27.5	+2.3
CD2				SS	SS	07 05 01.5	-29
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				LR	LR		
	comp=N,1μm,16.2s						
CD2				LR	LR		
	comp=Z,700nm,11.4s,MS4.5						
KMI	**Kunming**	**30.82**	**90**	P	**P**	**06 58 22.1**	**+2.0**
KMI				AP	pP	06 58 29.8	+6.7
KMI				XP	sP	06 58 34.0	+10
KMI				S	**S**	**07 03 23.4**	**-0.1**
KMI				XS	sS	07 03 36.3	+7.7
KMI				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,129nm,3.1s						
KMI				LR	LR		
	comp=N,793nm,19.3s,MS4.5						
KMI				LR	LR		
	comp=E,411nm,18.1s,MS4.5						
KMI				LR	LR		
	comp=Z,466nm,13.3s,MS4.3						
ANTO	**Ankara**	**30.88**	**299**	PFAKE		06 58 30.0	+9.4
ANTO				LR	LR		
	comp=Z,291nm,20.0s,MS3.9						
SIM	**Simferopol'**	**31.11**	**309**	*e*P	**P**	**06 58 24.0**	**+1.4**
SIM				S	**S**	**07 03 31.0**	**+2.9**
SIM				pmax	pmax		
	comp=Z,44μm,0.9s						
MOY	**Mondy**	**32.91**	**38**	*e*P	**P**	**06 58 39.8**	**+1.3**
ZAK	**Zakamensk**	**33.59**	**42**	⇑*i*P	**P**	**06 58 45.8**	**+1.3**
ZAK				*e*		06 59 52.0	
ZAK				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.0						
ZAK				pmax	pmax		
	comp=Z,42nm,1.8s,mb5.1						
GYA	**Guiyang**	**33.90**	**86**	⇑*i*P	**P**	**06 58 48.1**	**+1.0**
GYA				AP	pP	06 58 52.8	+2.6
GYA				XP	sP	06 58 55.9	+4.5
GYA				PP	PP	07 00 04.6	+0.8
GYA				PCP	PcP	07 01 22.8	-2.8
GYA				S	**S**	**07 04 15.4**	**+3.8**
GYA				SCP	ScP	07 05 06.3	-4.1
GYA				SCS	ScS	07 09 08.4	-3.7
GYA				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.4						
GYA				AMB	AMB		
	comp=Z,290nm,4.2s						
GYA				LR	LR		
	comp=N,1μm,15.8s,MS4.7						
GYA				LR	LR		
	comp=E,490nm,15.0s,MS4.7						
GYA				LR	LR		
	comp=Z,690nm,14.5s,MS4.5						
MOS	**Moscow**	**34.21**	**329**	*e*P	**P**	**06 58 49.5**	**-0.3**
MOS				*e*		07 00 16.2	
MOS				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.5						
OBN	**Obninsk**	**34.32**	**328**	*e*P	**P**	**06 58 49.8**	**-0.9**
	comp=Z,52nm,1.1s,mb5.4						
OBN				LR	LR		
	comp=Z,202nm,19.0s,MS3.9						
OBN	**Obninsk**	**34.32**	**328**	*c*P	**P**	**06 58 50.7**	**-0.1**
OBN				*i*		06 58 59.8	
OBN				*e*		07 01 25.6	
OBN				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.4						
OBN				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.3						
SONM	**Songino Array**	**34.55**	**47**	P	**P**	**06 58 54.2**	**+1.5**
	comp=Z,11nm,0.9s,mb4.8,baz=252,slow=8.9,SNR=54						
SONM				LR	LR	07 14 04.8	
	comp=Z,493nm,20.4s,MS4.2,baz=55,slow=38						
SONM	**Songino Array**	**34.55**	**47**	P	**P**	**06 58 54.2**	**+1.5**
SONM				LR	LR	07 14 04.8	
XAN	**Xi'an**	**34.68**	**72**	P	**P**	**06 58 54.8**	**+0.9**
XAN				S	**S**	**07 04 29.9**	**+6.2**
XAN				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.1						
XAN				AMB	AMB		
	comp=Z,84nm,5.4s						
XAN				LR	LR		
	comp=N,2μm,22.9s,MS4.7						
XAN				LR	LR		
	comp=E,386nm,21.1s,MS4.7						
XAN				LR	LR		
	comp=Z,867nm,22.9s,MS4.4						
TIRR	**Tirgusor**	**34.91**	**307**	⇑P	**P**	**06 58 56.0**	**+0.2**
TIRR	**Tirgusor**	**34.91**	**307**	*e*P	**P**	**06 58 55.8**	**0.0**
IRK	**Irkutsk**	**34.97**	**39**	*e*P	**P**	**06 58 49.9**	**-6.5**
IRK				*e*		07 00 16.5	
IRK				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
ULN	**Ulaanbaatar**	**34.98**	**47**	PFAKE		06 59 10.0	+14
ULN				LR	LR		
	comp=Z,462nm,21.0s,MS4.2						
ULN	**Ulaanbaatar**	**34.98**	**47**	*c*P	**P**	**06 58 58.1**	**+1.7**
KIS	**Kishinev**	**35.24**	**311**	*e*P	**P**	**06 58 58.0**	**-0.7**
KIS				*e*		06 59 11.0	
CFR	**Carcaliu**	**35.25**	**308**	⇓P	**P**	**06 58 59.4**	**+0.6**
ENH	**Enshi**	**35.58**	**78**	PFAKE		06 59 10.0	+8.4
ENH				LR	LR		
	comp=Z,620nm,19.0s,MS4.4						
BTO	**Baotou**	**35.64**	**60**	*e*P	**P**	**06 59 04.6**	**+2.4**
AKASG	**Malin Array Be**	**36.16**	**317**	P	**P**	**06 59 05.5**	**-1.1**
	comp=Z,15nm,0.9s,mb4.9,baz=102,slow=7.0,SNR=43						
VRI	**Vrincioaia**	**36.37**	**309**	⇓P	**P**	**06 59 10.1**	**+1.7**
VRI	**Vrincioaia**	**36.37**	**309**	P	**P**	**06 59 10.2**	**+1.8**
APE	**Apeiranthos**	**36.37**	**294**	⇑*e*P	**P**	**06 59 07.4**	**-1.0**
PLOR	**Plostina**	**36.42**	**308**	⇓P	**P**	**06 59 10.6**	**+1.8**
SANT	**Santorini**	**36.44**	**292**	*e*P	**P**	**06 59 07.9**	**-1.1**
	comp=Z,30nm,1.1s,mb5.1						
DGAR	**Diego Garcia**	**36.80**	**173**	PFAKE		06 59 20.0	+8.0
DGAR				LR	LR		
	comp=Z,821nm,20.0s,MS4.5						
MLR	**Muntele Rosu**	**36.83**	**308**	⇑P	**P**	**06 59 14.6**	**+2.3**
MLR	**Muntele Rosu**	**36.83**	**308**	P	**P**	**06 59 14.3**	**+2.0**
HHC	**Hu-ho-hao-te**	**36.83**	**60**	*e*P	**P**	**06 59 13.3**	**+1.0**
HHC				AP	pP	06 59 17.6	+2.2
HHC				XP	sP	06 59 20.3	+3.6
HHC				PP	PP	07 00 37.8	+1.6
HHC				PCP	PcP	07 01 36.3	+2.1
HHC				S	**S**	**07 04 56.8**	**+0.2**
HHC				SS	SS	07 07 21.3	-16
HHC				SCS	ScS	07 09 26.3	-1.7
HHC				AMB	AMB		
	comp=Z,7.0nm,0.3s,mb5.0						
HHC				LR	LR		
	comp=N,620nm,16.2s,MS4.7						
HHC				LR	LR		
	comp=E,635nm,13.7s,MS4.7						
HHC				LR	LR		
	comp=Z,690nm,16.7s,MS4.5						
KLMR	**Klimovskoe**	**36.87**	**337**	*e*P	**P**	**06 59 11.7**	**-0.9**
KLMR				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.9						
KLMR				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.6						
MTUR	**Matau**	**37.39**	**307**	⇓P	**P**	**06 59 18.1**	**+1.0**
MTUR	**Matau**	**37.39**	**307**	P	**P**	**06 59 18.9**	**+1.8**
VOIR		**37.44**	**307**	⇓P	**P**	**06 59 18.5**	**+1.0**
BURAR	**Bucovina Array**	**37.77**	**311**	⇑P	**P**	**06 59 21.0**	**+0.7**
BURAR	**Bucovina Array**	**37.77**	**311**	⇑P	**P**	**06 59 21.0**	**+0.7**
KULM	**Kulim**	**38.82**	**122**	*e*P	**P**	**06 59 29.8**	**+0.7**
LVV	**L'vov**	**39.06**	**314**	*e*P	**P**	**06 59 27.5**	**-3.6**
LVV				*e*S	**S**	**07 05 24.3**	**-6.0**
LVV				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.4						
QIZ	**Qiongzhong**	**39.06**	**96**	P	**P**	**06 59 32.0**	**+0.8**
QIZ				S	**S**	**07 05 32.0**	**+1.6**
QIZ				LR	LR		
	comp=N,380nm,13.7s						
QIZ				LR	LR		
	comp=Z,327nm,12.9s,MS4.3						
**QI

comp=Z,1μm,11.4s,MS5.0
PUL Pulkovo 39.73 331 *e*P **P 06 59 36.1 -0.7**
PUL MLR MLR
comp=N,649nm,12.0s,MS4.9
PUL MLR MLR
comp=E,746nm,12.0s,MS4.9
PUL MLR MLR
comp=Z,937nm,12.0s,MS4.8
KWP Kalwaria 39.85 314 *e*P **P 06 59 38.5 +0.8**
BZS Buzias 39.85 307 ⇓P **P 06 59 39.1 +1.4**
BZS Buzias 39.85 307 P **P 06 59 39.0 +1.3**
KOLS Kolonicke sedl 39.97 312 *e*P **P 06 59 39.9 +1.2**
KOLS *e* 06 59 53.2
CIT Chita 40.21 43 *e*P **P 06 59 42.2 +1.5**
CIT *e* 07 09 40.2
CIT pmax pmax
comp=Z,107nm,2.1s,mb5.2
GRUS Gruza 40.30 304 *i* P **P 06 59 42.1 +0.6**
BJT Baijiatuau 40.31 62 PFAKE 06 59 50.0 +8.4
BJT LR LR
comp=Z,555nm,21.0s,MS4.4
BJI Beijing 40.32 62 P **P 06 59 41.6 0.0**
BJI AMB AMB
comp=Z,14nm,1.1s,mb4.6
BJI AMB AMB
comp=Z,143nm,4.1s
BJI LR LR
comp=N,1μm,20.6s
BJI LR LR
comp=E,447nm,14.2s
BJI LR LR
comp=Z,375nm,27.6s
CRVS Cervenica-Dubn 40.49 312 *e*P **P 06 59 45.3 +2.3**
VSU Vasula 40.68 328*c i*P **P 06 59 43.9 -0.7**
STHS Stebnicka Huta 40.73 313 *e*P **P 06 59 45.9 +0.9**
STHS *e* 06 59 57.8
DIVS Divcibare 40.84 305 *i* P **P 06 59 46.5 +0.5**
KECS Kecovo 41.05 311 *e*P **P 06 59 47.7 0.0**
JOF Joensuu 41.15 335 *e*p **P 06 59 47.6 -0.9**
comp=Z,16nm,0.8s,mb4.7
TIA Tai'an 41.23 67 ⇑P **P 06 59 51.1 +2.0**
BBLS Bajina Basta - 41.24 304 *i* P **P 06 59 50.6 +1.3**
NIE Niedzica 41.33 313 *e*P **P 06 59 51.2 +1.2**
PSZ Piszkesteto 41.35 310⇓*e*P **P 06 59 51.2 +1.1**
PKSM Moragy 41.98 308⇓*e*P **P 06 59 56.4 +1.1**
VYHS Vyhne 42.13 311 *e*P **P 06 59 56.9 +0.3**
BOD Bodaibo 42.38 35 *e*P **P 06 59 58.1 -0.4**
BOD pmax pmax
comp=Z,8.0nm,2.0s,mb4.0
FINES FINESS Array B 42.39 331 P **P 06 59 58.2 -0.5**
comp=Z,9.8nm,0.8s,mb4.5,baz=101,slow=9.9,SNR=29
FINES LR LR 07 20 45.9
comp=Z,734nm,18.4s,MS4.6,baz=121,slow=41
FINES FINESS Array B 42.39 331 P **P 06 59 58.2 -0.5**
FINES LR LR 07 20 45.9
KMBO Kilima Mbogo 42.45 230 P **P 07 00 00.1 +1.0**
comp=Z,3.3nm,0.9s,mb4.0,baz=33,slow=12,SNR=9.0
KMBO LR LR 07 16 52.8
comp=Z,231nm,20.1s,MS4.1,baz=275,slow=35
KMBO Kilima Mbogo 42.45 230 *e*P **P 07 00 01.2 +2.0**
comp=Z,4.1nm,1.1s,mb4.0
KMBO LR LR
comp=Z,180nm,21.0s,MS3.9
KMBO Kilima Mbogo 42.45 230 *e*P **P 07 00 01.2 +2.0**
KMBO pmax pmax
comp=Z,4.0nm,1.1s
KMBO MLR MLR
comp=Z,180nm,21.0s
KAF Kangasniemi 42.63 332 *e*p **P 06 59 58.6 -2.0**
comp=Z,16nm,0.8s,mb4.8
KAF Kangasniemi 42.63 332 *e*P **P 06 59 58.6 -2.0**
KAF pmax pmax
comp=Z,16nm,0.8s,mb4.8
OKC Ostrava-Krasne 42.79 313 *e*P **P 07 00 02.6 +0.7**
MORC Moravsky Berou 43.16 313 *e*P **P 07 00 05.2 +0.3**
comp=Z,7.6nm,0.9s,mb4.4
MORC Moravsky Berou 43.16 313 *e*P **P 07 00 05.2 +0.3**
MORC pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
NJ2 Nanjing 43.20 73 *e*P **P 07 00 06.6 +1.4**
NJ2 AP pP 07 00 11.1 +2.8
NJ2 XP sP 07 00 13.6 +4.0
NJ2 PP PP 07 01 49.4 +3.9
NJ2 S **S 07 06 33.0 +1.1**
NJ2 XS sS 07 06 40.0 +2.9
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,180nm,3.8s
NJ2 LR LR
comp=N,3μm,15.6s
NJ2 LR LR
comp=E,4μm,24.7s
NJ2 LR LR
comp=Z,3μm,20.5s,MS5.2
TIP Timpagrande 43.22 297 *e*P **P 07 00 04.6 -0.7**
ZST Bratislava 43.24 310 *e*P **P 07 00 06.6 +1.1**
HIA Hailar 43.50 48 *e*P **P 07 00 09.1 +1.4**
comp=Z,21nm,1.0s,mb4.8
HIA LR LR
comp=Z,449nm,19.0s,MS4.4
HIA Hailar 43.50 48 *i* P **P 07 00 09.2 +1.6**
APA Apatity 43.50 341⇑*i*P **P 07 00 07.6 0.0**
APA pmax pmax
comp=Z,18nm,1.0s,mb4.8
APA MLR MLR
comp=Z,1μm,11.0s,MS5.0
KOGS Kog 43.65 308⇑*e*P **P 07 00 09.5 +0.6**
comp=Z,115nm,1.0s,mb5.6
DPC Dobruska-Polom 44.03 313 *e*P **P 07 00 12.7 +0.8**
GCIS Gornji Cirnik 44.05 307⇑*e*P **P 07 00 12.4 +0.4**
KSP Ksiaz 44.12 314 *e*P **P 07 00 13.1 +0.5**
ARSA Arzberg 44.21 309⇓*i*P **P 07 00 14.1 +0.8**
comp=Z,28nm,1.2s,mb4.8,SNR=11
UPC Upice 44.25 314 *e*P **P 07 00 14.5 +0.9**
UPC *e*x x 07 00 25.4
BOJS Bojanci 44.29 306⇑*e*P **P 07 00 14.6 +0.6**
QZH Quanzhou 44.67 83 *e*P **P 07 00 20.8 +3.8**
QZH S **S 07 06 59.8 +6.5**
QZH LR LR
comp=N,2μm,21.4s
QZH LR LR
comp=E,630nm,10.6s
QZH LR LR
comp=Z,730nm,17.3s,MS4.7
LJU Ljubljana 44.82 307⇑*e*P **P 07 00 19.0 +0.8**
MOA Molln 45.10 310⇑*i*P **P 07 00 20.7 +0.2**
comp=Z,12nm,0.9s,mb4.7
PRU Pruhonice 45.12 313 *e*P **P 07 00 21.9 +1.3**
PRU AMS AMS 07 24 40.0
comp=Z,300nm,10.3s
VOJS Vojsko 45.27 307⇑*e*P **P 07 00 22.0 +0.2**
SSE Sheshan 45.34 74 P **P 07 00 21.5 -0.8**
SSE PP PP 07 02 06.6 -1.8
SSE S **S 07 07 00.4 -2.6**
SSE SCS ScS 07 10 18.6 -0.6
SSE AMB AMB
comp=Z,22nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,57nm,4.1s
SSE LR LR
comp=N,315nm,22.6s,MS4.3
SSE LR LR
comp=E,238nm,22.6s,MS4.3
SSE LR LR
comp=Z,232nm,18.9s,MS4.1
GEC2 GERESS Array S 45.55 311 *e*P **P 07 00 24.4 +0.3**
comp=Z,14nm,1.1s,mb4.8
GEC2 GERESS Array S 45.55 311 *e*P **P 07 00 24.4 +0.3**
GEC2 pmax pmax
comp=Z,14nm,1.1s,mb4.8
GERES GERESS Array B 45.55 311 P **P 07 00 24.0 -0.1**
comp=Z,4.7nm,0.9s,mb4.4,baz=99,slow=6.9,SNR=27
BRG Berggiesshubel 45.60 314 *e*P **P 07 00 25.0 +0.6**
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 45.60 314 *e*P **P 07 00 25.1 +0.7**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRG Berggiesshubel 45.60 314 *e*P **P 07 00 25.1 +0.7**
comp=Z,4.4nm,0.9s,mb4.4
KHC Kasperske Hory 45.66 311 *e*P **P 07 00 25.1 +0.2**
KHC *e*x x 07 00 41.6
KHC AMS AMS 07 24 40.0
comp=Z,500nm,14.3s
KBA Koelnbreinsper 45.68 309⇑*i*P **P 07 00 25.7 +0.6**
comp=Z,37nm,1.2s,mb5.2,SNR=14
SNY Shenyang 45.88 59 ⇓P **P 07 00 27.5 +0.9**
SNY AP pP 07 00 31.8 +2.0
SNY XP sP 07 00 34.5 +3.5
SNY S **S 07 07 16.4 +5.5**
SNY XS sS 07 07 23.9 +7.9
SNY AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
SNY AMB AMB
comp=Z,207nm,5.4s
SNY LR LR
comp=N,901nm,13.1s
SNY LR LR
comp=Z,671nm,15.1s,MS4.7
CLL Collm 46.24 314 *e*P **P 07 00 29.0 -0.4**
comp=Z,9.0nm,1.1s,mb4.6
CLL *i* pP pP 07 00 32.8 +0.2
CLL *i* PP PP 07 02 20.9 +3.0
comp=Z,13nm,1.4s
CLL Collm 46.24 314 *e*P **P 07 00 29.0 -0.4**
comp=Z,9.0nm,1.1s,mb4.6
CLL *i* pP pP 07 00 32.8 +0.2
NKC Novy Kostel 46.48 313 *e*P **P 07 00 32.5 +1.1**
WERD Werda 46.59 313 *e*P **P 07 00 32.9 +0.7**
comp=Z,14nm,1.3s,mb4.7
ROTZ Rotzenmuhle 46.60 312 *e*P **P 07 00 32.6 +0.3**
comp=Z,569nm,6.5s
MANZ Manzenberg 46.68 312 *e*P **P 07 00 33.6 +0.7**
comp=Z,6.0nm,0.9s,mb4.5
KEV Kevo 46.70 342 *e*p **P 07 00 29.1 -4.0**
comp=Z,7.2nm,0.7s,mb4.7
KEV Kevo 46.70 342 *e*P **P 07 00 29.1 -4.0**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ARCES ARCESS Array B 46.99 341 P **P 07 00 35.2 -0.2**
comp=Z,15nm,0.9s,mb4.9,baz=132,slow=7.3,SNR=15
ARCES LR LR 07 20 08.0
comp=Z,357nm,20.0s,MS4.3,baz=36,slow=36
MOX Moxa 47.05 313 *e*P **P 07 00 36.2 +0.4**
comp=Z,14nm,1.1s,mb4.8
MOX Moxa 47.05 313 *e*P **P 07 00 36.3 +0.5**
comp=Z,18nm,1.3s,mb4.8
MOX
comp=Z,200nm,21.0s
MOX Moxa 47.05 313 *e*P **P 07 00 36.3 +0.5**
MOX pmax pmax
comp=Z,18nm,1.3s,mb4.8
MOX MLR MLR
comp=Z,200nm,21.0s,MS4.1
TATO Taipei 47.16 82 PFAKE 07 00 50.0 +13
TATO LR LR
comp=Z,406nm,21.0s,MS4.4
CN2 Changchun 47.17 56 *e*P **P 07 00 37.8 +1.0**
CN2 *e*AP pP 07 00 42.3 +2.4
CN2 *e*XP sP 07 00 44.8 +3.6
CN2 *e*S **S 07 07 28.0 -1.4**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,800nm,14.0s,MS4.9
CN2 LR LR
comp=E,500nm,14.0s,MS4.9
CN2 LR LR
comp=Z,600nm,15.0s,MS4.7
GRA1 Grafenberg Arr 47.23 312 *e*P **P 07 00 38.2 +1.0**
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 47.23 312 *e*P **P 07 00 38.2 +1.0**
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 47.23 312 *e*P **P 07 00 38.2 +1.0**
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 47.23 312 *e*P **P 07 00 38.2 +1.0**
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
VLC Villacollemand 47.76 305 *e*P **P 07 00 40.2 -1.1**
comp=Z,57nm,1.1s,mb5.5
CLZ Clausthal 47.92 315 *e*P **P 07 00 42.2 -0.4**
comp=Z,15nm,1.1s,mb4.9
CLZ Clausthal 47.92 315 *e*P **P 07 00 42.2 -0.4**
CLZ pmax pmax
comp=Z,15nm,1.1s,mb4.9
DAVA Damuels 48.05 309⇑*i*P **P 07 00 44.6 +1.0**
comp=Z,15nm,1.0s,mb5.0
DAVA Damuels 48.05 309⇑*i*P **P 07 00 44.6 +1.0**
BSEG Bad Segeberg 48.16 318 *e*P **P 07 00 44.9 +0.5**
comp=Z,16nm,1.1s,mb5.0
INCN Inchon 48.66 64 *e*P **P 07 00 49.8 +1.5**
PGF Pioggiola 48.86 302 *e*P **P 07 00 46.6 -3.2**
comp=Z,40nm,1.2s,mb5.0
PGF Pioggiola 48.86 302 *e*P **P 07 00 46.6 -3.2**
comp=Z,20nm,1.2s,mb5.0
PGF Pioggiola 48.86 302 *e*P **P 07 00 46.6 -3.2**
PGF pmax pmax
comp=Z,20nm,1.2s,mb5.0
VSL Villasalto 48.89 298 *e*P **P 07 00 50.6 +0.5**
comp=Z,38nm,1.1s,mb5.3
NB2 NORSAR Subarra 48.92 327 P **P 07 00 48.9 -1.4**
comp=Z,12nm,0.9s,mb4.9,baz=106,slow=7.9
NB2 NORSAR Subarra 48.92 327 P **P 07 00 48.9 -1.4**
NB2 pmax pmax
comp=Z,12nm,0.9s,mb4.9
NOA NORSAR Array B 48.92 327 P **P 07 00 48.9 -1.4**
comp=Z,11nm,1.0s,mb4.8,baz=107,slow=7.6,SNR=15
NOA LR LR 07 24 41.5
comp=Z,582nm,18.5s,MS4.6,baz=100,slow=40
BFO Black Forest 49.10 310 *e*P **P 07 00 50.9 -0.8**
comp=Z,6.0nm,1.2s,mb4.5
BFO Black Forest 49.10 310 *e*P **P 07 00 50.9 -0.8**
BFO pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
KS15 Wonju Array Si 49.65 64 *e*P **P 07 00 56.6 +0.8**
COCO West Island 49.65 142 PFAKE 07 01 10.0 +14
COCO LR LR
comp=Z,668nm,20.0s,MS4.6
CDF Champ du Feu 49.80 310 *e*P **P 07 00 56.3 -0.7**
BUG Bochum--Univer 49.83 314 *e*P **P 07 00 58.3 +1.0**
comp=Z,21nm,1.1s,mb5.1
SBF Sospel 49.90 304⇑*i*P **P 07 00 57.6 -0.2**
comp=Z,115nm,0.9s,mb5.6
SBF Sospel 49.90 304⇑*i*P **P 07 00 57.6 -0.2**
comp=Z,57nm,0.9s,mb5.6
SBF Sospel 49.90 304⇑*i*P **P 07 00 57.6 -0.2**
SBF pmax pmax
comp=Z,57nm,0.9s,mb5.6
HINF Hinteralfeld 50.09 309 *e*P **P 07 00 58.5 -0.8**
comp=Z,9.2nm,0.8s,mb4.5
HINF Hinteralfeld 50.09 309 *e*P **P 07 00 58.5 -0.8**
comp=Z,4.6nm,0.8s,mb4.6
HINF Hinteralfeld 50.09 309 *e*P **P 07 00 58.5 -0.8**
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MDJ Mudanjiang 50.11 55 P **P 07 00 59.1 -0.2**
MDJ AP pP 07 01 02.4 -0.1
MDJ PP PP 07 02 52.5 -1.9
MDJ S **S 07 08 08.8 -1.9**
MDJ AMB AMB
comp=Z,12nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,60nm,3.2s
MDJ LR LR
comp=N,345nm,20.3s
MDJ LR LR
comp=Z,238nm,13.6s
MDJ Mudanjiang 50.11 55 PFAKE 07 01 10.0 +11
MDJ LR LR
comp=Z,365nm,19.0s,MS4.4
LPG La Plagne 50.27 306⇑*i*P **P 07 01 00.6 0.0**
comp=Z,47nm,1.3s,mb5.1
LPG La Plagne 50.27 306⇑*i*P **P 07 01 00.6 0.0**
comp=Z,24nm,1.3s,mb5.1
LPG La Plagne 50.27 306⇑*i*P **P 07 01 00.6 0.0**
LPG pmax pmax
comp=Z,23nm,1.3s,mb5.0
LPL La Plagne 50.28 306 *e*P **P 07 01 00.6 -0.1**
comp=Z,38nm,1.1s,mb5.0
LPL La Plagne 50.28 306 *e*P **P 07 01 00.6 -0.1**
comp=Z,19nm,1.1s,mb5.0
LPL La Plagne 50.28 306 *e*P **P 07 01 00.6 -0.1**
LPL pmax pmax
comp=Z,19nm,1.1s,mb5.0
MBDF Montbardon 50.31 305⇑*i*P **P 07 01 00.3 -0.6**
comp=Z,51nm,1.2s,mb5.1
MBDF Montbardon 50.31 305⇑*i*P **P 07 01 00.3 -0.6**
comp=Z,26nm,1.2s,mb5.1
MBDF Montbardon 50.31 305⇑*i*P **P 07 01 00.3 -0.6**
MBDF pmax pmax
comp=Z,26nm,1.2s,mb5.1
BNI Bardonecchia 50.35 306 *e*P **P 07 01 00.6 -0.6**
comp=Z,20nm,1.2s,mb5.0
BNI Bardonecchia 50.35 306 *e*P **P 07 01 00.6 -0.6**
BNI pmax pmax
comp=Z,20nm,1.2s,mb5.0
HAU Haudompre 50.43 310 *e*P **P 07 01 02.4 +0.6**
HAU *e*R
comp=Z,160nm,21.0s
HAU Haudompre 50.43 310 *e*P **P 07 01 02.4 +0.6**
HAU MLR MLR
comp=Z,160nm,21.0s,MS4.0
FRF La Foret Royal 50.49 304 *e*P **P 07 01 01.6 -0.7**
comp=Z,58nm,1.2s,mb5.2
FRF La Foret Royal 50.49 304 *e*P **P 07 01 01.6 -0.7**
comp=Z,29nm,1.2s,mb5.2
FRF La Foret Royal 50.49 304 *e*P **P 07 01 01.6 -0.7**
FRF pmax pmax
comp=Z,29nm,1.2s,mb5.2
LMR La Mourre 50.61 304 *e*P **P 07 01 02.3 -0.9**
comp=Z,83nm,1.4s,mb5.2
LMR La Mourre 50.61 304 *e*P **P 07 01 02.3 -0.9**
comp=Z,42nm,1.4s,mb5.2
LMR La Mourre 50.61 304 *e*P **P 07 01 02.3 -0.9**
LMR pmax pmax
comp=Z,42nm,1.4s,mb5.2
CABF La Chapelle 50.67 308⇑*i*P **P 07 01 03.9 +0.3**
comp=Z,68nm,1.4s,mb5.1
CABF La Chapelle 50.67 308⇑*i*P **P 07 01 03.9 +0.3**
comp=Z,34nm,1.4s,mb5.1
CABF La Chapelle 50.67 308⇑*i*P **P 07 01 03.9 +0.3**
CABF pmax pmax
comp=Z,34nm,1.4s,mb5.1
YAK Yakutsk 51.12 32 PFAKE 07 01 20.0 +13
YAK LR LR
comp=Z,621nm,20.0s,MS4.6
YAK Yakutsk 51.12 32⇑*i*P **P 07 01 06.3 -0.7**
YAK pmax pmax
comp=Z,13nm,0.6s,mb5.0
YAK MLR MLR
comp=Z,500nm,17.0s,MS4.6
KLR Kul'dur 51.35 49 *e*P **P 07 01 05.7 -3.0**
KLR pmax pmax
comp=E,80nm,2.0s
KLR pmax pmax
comp=Z,80nm,2.0s,mb5.3
KLR MLR MLR
comp=E,900nm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.3
GIVF Givet 51.38 312 *e*P **P 07 01 09.5 +0.6**
DOU Dourbes 51.52 312 ⇑P **P 07 01 10.7 +0.6**
DOU AP pP 07 01 13.1 -0.1
DOU XP sP 07 01 14.6 +0.2
BAIF Baives 51.77 312 *e*P **P 07 01 12.3 +0.4**
comp=Z,55nm,1.5s,mb5.0
BAIF Baives 51.77 312 *e*P **P 07 01 12.3 +0.4**
comp=Z,27nm,1.5s,mb5.0
BAIF Baives 51.77 312 *e*P **P 07 01 12.3 +0.4**
BAIF pmax pmax
comp=Z,27nm,1.5s,mb5.0
VIVF Saint-Julien-l 51.79 306⇑*i*P **P 07 01 11.7 -0.3**
comp=Z,71nm,1.1s,mb5.2
VIVF Saint-Julien-l 51.79 306⇑*i*P **P 07 01 11.7 -0.3**
comp=Z,36nm,1.1s,mb5.2
VIVF Saint-Julien-l 51.79 306⇑*i*P **P 07 01 11.7 -0.3**
VIVF pmax pmax
comp=Z,36nm,1.1s,mb5.2
LOR Lormes 52.15 309 *e*P **P 07 01 14.0 -0.7**
LOR *e*R
comp=Z,197nm,19.2s
LOR Lormes 52.15 309 *e*P **P 07 01 14.0 -0.7**
LOR MLR MLR
comp=Z,200nm,19.3s,MS4.2
SMF Signal de Mont 52.21 308⇑*i*P **P 07 01 14.9 -0.2**
comp=Z,58nm,1.2s,mb5.1
SMF Signal de Mont 52.21 308⇑*i*P **P 07 01 14.9 -0.2**
comp=Z,29nm,1.2s,mb5.1
SMF Signal de Mont 52.21 308⇑*i*P **P 07 01 14.9 -0.2**
SMF pmax pmax
comp=Z,29nm,1.2s,mb5.1
SSF Saint Saulge 52.40 309⇑*i*P **P 07 01 16.3 -0.3**
comp=Z,14nm,0.9s,mb4.6
SSF Saint Saulge 52.40 309⇑*i*P **P 07 01 16.3 -0.3**
comp=Z,7.0nm,0.9s,mb4.6
SSF Saint Saulge 52.40 309⇑*i*P **P 07 01 16.3 -0.3**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
JOW Kunigami 52.43 77 P **P 07 01 16.1 -0.7**
comp=Z,14nm,0.9s,mb4.9,baz=117,slow=22,SNR=2.7
LASF Ste Croix 52.45 305 *e*P **P 07 01 16.8 -0.1**
comp=Z,89nm,1.2s,mb5.3
AVF Avril sur Loir 52.53 308⇑*i*P **P 07 01 17.2 -0.3**
comp=Z,72nm,1.6s,mb5.0
AVF Avril sur Loir 52.53 308⇑*i*P **P 07 01 17.2 -0.3**
comp=Z,36nm,1.6s,mb5.0
AVF Avril sur Loir 52.53 308⇑*i*P **P 07 01 17.2 -0.3**
AVF pmax pmax
comp=Z,36nm,1.6s,mb5.0
JNU Nakatsue 52.91 69 P **P 07 01 21.7 +1.4**
comp=Z,9.2nm,0.8s,mb4.8,baz=52,slow=0.9,SNR=2.1
TIXI Tiksi 53.20 20 PFAKE 07 01 30.0 +7.5
TIXI LR LR
comp=Z,684nm,20.0s,MS4.7
TIXI Tiksi 53.20 20 *e*P **P 07 01 19.6 -2.9**
TIXI *e*S **S 07 08 50.8 -2.6**
TIXI pmax pmax
comp=Z,12nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,603nm,18.0s,MS4.7
TCF Toulx Ste Croi 53.36 308 *e*P **P 07 01 23.7 0.0**
HABR Khabarovsk 53.57 49 *e*P **P 07 01 27.4 +2.2**
HABR *e*S **S 07 09 01.4 +3.1**
CAF Calviac 53.62 306⇑*i*P **P 07 01 25.7 +0.1**
comp=Z,43nm,1.0s,mb5.0
CAF Calviac 53.62 306⇑*i*P **P 07 01 25.7 +0.1**
comp=Z,21nm,1.0s,mb5.0
CAF Calviac 53.62 306⇑*i*P **P 07 01 25.7 +0.1**
CAF pmax pmax
comp=Z,21nm,1.0s,mb5.0
MTLF Montolieu 53.72 304⇑*i*P **P 07 01 26.1 -0.2**
comp=Z,42nm,1.2s,mb5.0
MTLF Montolieu 53.72 304⇑*i*P **P 07 01 26.1 -0.2**
comp=Z,21nm,1.2s,mb5.0
MTLF Montolieu 53.72 304⇑*i*P **P 07 01 26.1 -0.2**
MTLF pmax pmax
comp=Z,21nm,1.2s,mb4.9
ETOS Mallorca 53.86 300 P **P 07 01 26.7 -0.6**
comp=Z,44nm,1.4s,mb5.2
RJF Les Rejaudoux 53.96 307 *e*P **P 07 01 28.2 +0.2**
comp=Z,23nm,1.1s,mb4.7
RJF *e*R
comp=Z,153nm,23.0s
RJF Les Rejaudoux 53.96 307 *e*P **P 07 01 28.2 +0.2**
comp=Z,12nm,1.1s,mb4.7
RJF LR LR
comp=Z,150nm,23.0s,MS4.0
RJF Les Rejaudoux 53.96 307 *e*P **P 07 01 28.2 +0.2**
RJF pmax pmax
comp=Z,12nm,1.1s,mb4.7
RJF MLR MLR
comp=Z,150nm,23.0s,MS4.0
EMIR Miracle 54.45 303 P **P 07 01 31.1 -0.4**
comp=Z,16nm,0.9s,mb5.0
LFF La Frestale 54.55 306⇑*i*P **P 07 01 32.4 0.0**
comp=Z,64nm,1.1s,mb5.2
LFF La Frestale 54.55 306⇑*i*P **P 07 01 32.4 0.0**
comp=Z,32nm,1.1s,mb5.3
LFF La Frestale 54.55 306⇑*i*P **P 07 01 32.4 0.0**
LFF pmax pmax
comp=Z,32nm,1.1s,mb5.3
LDF La Druitiere 54.70 311 *e*P **P 07 01 32.8 -0.6**
comp=Z,30nm,1.1s,mb5.0
LDF La Druitiere 54.70 311 *e*P **P 07 01 32.8 -0.6**
comp=Z,15nm,1.0s,mb5.0
LDF La Druitiere 54.70 311 *e*P **P 07 01 32.8 -0.6**
LDF pmax pmax
comp=Z,15nm,1.0s,mb5.0
EPOB Poblet 54.87 302 P **P 07 01 34.1 -0.6**
comp=Z,37nm,1.4s,mb5.2
FLN La Foliniere 54.92 311 *e*P **P 07 01 35.5 +0.5**
FLN *e*R
comp=Z,267nm,19.8s
FLN La Foliniere 54.92 311 *e*P **P 07 01 35.5 +0.5**

FLN MLR MLR
comp=Z,270nm,19.8s,MS4.3
EPF Esparros 55.13 304 *e*P **P 07 01 35.1 -1.4**
EGRA Graus 55.29 303 P **P 07 01 37.7 0.0**
comp=Z,13nm,0.8s,mb5.0
EBIE Bielsa 55.33 304 P **P 07 01 37.3 -0.7**
comp=Z,14nm,1.2s,mb4.8
ERTA Horta de San J 55.50 302 P **P 07 01 40.5 +1.3**
comp=Z,62nm,2.2s,mb5.2
ETSF Etsaut 55.80 304⇑*i*P **P 07 01 41.4 0.0**
comp=Z,58nm,1.2s,mb5.2
ETSF Etsaut 55.80 304⇑*i*P **P 07 01 41.4 0.0**
comp=Z,29nm,1.2s,mb5.2
ETSF Etsaut 55.80 304⇑*i*P **P 07 01 41.4 0.0**
ETSF pmax pmax
comp=Z,29nm,1.2s,mb5.2
ESK Eskdalemuir 56.04 319 PFAKE 07 02 00.0 +17
ESK LR LR
comp=Z,495nm,19.0s,MS4.6
EMOS Mosqueruela 56.22 301 P **P 07 01 43.6 -0.8**
comp=Z,27nm,1.0s,mb5.2
SJPF Ste Jean 56.24 304⇑*i*P **P 07 01 44.5 0.0**
comp=Z,33nm,1.2s,mb4.9
SJPF Ste Jean 56.24 304⇑*i*P **P 07 01 44.5 0.0**
comp=Z,16nm,1.2s,mb4.9
SJPF Ste Jean 56.24 304⇑*i*P **P 07 01 44.5 0.0**
SJPF pmax pmax
comp=Z,16nm,1.2s,mb4.9
SGMF Saint Gilles 56.35 311 *e*P **P 07 01 45.2 -0.1**
EBEN Beniarda 56.38 299 P **P 07 01 44.6 -1.0**
comp=Z,64nm,1.7s,mb5.4
EALK Alkurruntz 56.43 305 P **P 07 01 45.2 -0.7**
comp=Z,12nm,0.9s,mb4.9
ECHE Chera 56.75 300 P **P 07 01 48.8 +0.6**
comp=Z,13nm,1.0s,mb4.9
ECHE Chera 56.75 300 P **P 07 01 48.8 +0.6**
ECHE pmax pmax
comp=Z,13nm,1.0s,mb4.9
ROSF Rostrenen 56.81 311 *e*P **P 07 01 48.1 -0.5**
comp=Z,69nm,1.1s,mb5.3
ROSF Rostrenen 56.81 311 *e*P **P 07 01 48.1 -0.5**
comp=Z,35nm,1.1s,mb5.3
ROSF Rostrenen 56.81 311 *e*P **P 07 01 48.1 -0.5**
ROSF pmax pmax
comp=Z,35nm,1.1s,mb5.3
ECRI Cripan 57.27 304 P **P 07 01 52.1 +0.3**
comp=Z,14nm,1.1s,mb4.9
ECRI Cripan 57.27 304 P **P 07 01 52.1 +0.3**
ECRI pmax pmax
comp=Z,14nm,1.1s,mb4.9
ETOB Tobarra 57.40 299 P **P 07 01 52.5 -0.3**
comp=Z,30nm,1.8s,mb5.0
ELAN Lanestosa 57.81 305 P **P 07 01 54.9 -0.7**
comp=Z,21nm,1.0s,mb5.1
MJAR Matsushiro Arr 57.92 63 P **P 07 01 56.6 +0.2**
comp=Z,3.9nm,0.9s,mb4.5,baz=292,slow=11,SNR=6.5
MJAR LR LR 07 28 48.9
comp=Z,157nm,20.5s,MS4.1,baz=5.0,slow=38
DAV Davao City (W) 58.11 101 PFAKE 07 02 10.0 +12
DAV LR LR
comp=Z,196nm,19.0s,MS4.2
EQES Quesada 58.77 299 P **P 07 02 02.2 -0.2**
comp=Z,21nm,1.1s,mb5.1
EBER Berja 58.86 298 P **P 07 02 02.9 -0.1**
comp=Z,36nm,1.3s,mb5.2
GUD Guadarrama 58.90 302 P **P 07 02 03.1 -0.1**
comp=Z,8.2nm,0.8s,mb4.8
GUD Guadarrama 58.90 302 P **P 07 02 03.1 -0.1**
GUD pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
YSS Yuzh-Sakhalins 58.93 50⇑*e*P **P 07 02 03.4 0.0**
YSS pmax pmax
comp=Z,50nm,1.7s,mb5.3
YSS MLR MLR
comp=Z,300nm,14.0s,MS4.6
LSZ Lusaka 58.93 227 PFAKE 07 02 20.0 +17
LSZ LR LR
comp=Z,420nm,21.0s,MS4.5
ESDC Sonseca Array 58.98 301 P **P 07 02 03.4 -0.4**
comp=Z,8.0nm,0.9s,mb4.7,baz=64,slow=7.1,SNR=16
ESDC Sonseca Array 58.98 301 P **P 07 02 03.2 -0.6**
comp=Z,9.4nm,0.9s,mb4.8
ESLA Sonseca Array 58.98 301 *e*P **P 07 02 03.2 -0.6**
comp=Z,1.8nm,1.0s,mb4.1
ESLA LR LR
comp=Z,751nm,20.0s,MS4.8
EARI Arriondas 59.06 305 P **P 07 02 03.2 -1.2**
comp=Z,12nm,1.0s,mb4.9
ASAJ Asahikawa 59.40 54 LR LR 07 29 44.2
comp=Z,332nm,18.1s,MS4.5,baz=13,slow=38
EADA Adamuz 59.83 299 P **P 07 02 08.5 -1.1**
comp=Z,26nm,1.6s,mb5.0
EPON Pontenova 60.43 306 P **P 07 02 12.8 -1.0**
comp=Z,81nm,1.7s,mb5.5
ECAL Calabor 60.47 304 P **P 07 02 14.0 -0.1**
comp=Z,39nm,2.3s,mb5.0
PBRG Braganca 60.51 304 *e*P **P 07 02 14.6 +0.3**
comp=Z,21nm,1.5s,mb5.0
DAG Danmarks Havn 60.95 345⇓*i*P **P 07 02 17.2 -0.1**
comp=Z,16nm,0.9s,mb5.2
DAG Danmarks Havn 60.95 345⇓*i*P **P 07 02 17.2 -0.1**
DAG pmax pmax
comp=Z,16nm,0.9s,mb5.2
ESPR Espera 61.16 298 P **P 07 02 14.4 -4.4**
comp=Z,19nm,1.2s,mb5.1
PVRL Vila Real 61.35 304 *e*P **P 07 02 20.6 +0.5**
comp=Z,26nm,1.3s,mb5.2
MA2 Magadan 61.40 35 PFAKE 07 02 30.0 +10
MA2 LR LR
comp=Z,433nm,22.0s,MS4.6
ELOB Lobios 61.45 304 P **P 07 02 19.2 -1.5**
comp=Z,61nm,1.8s,mb5.4
MTE Manteigas 61.46 303 *e*P **P 07 02 21.3 +0.5**
comp=Z,35nm,1.3s,mb5.3
MTE Manteigas 61.46 303 *e*P **P 07 02 21.0 +0.2**
comp=Z,20nm,1.1s,mb5.2
EBAD Badajoz 61.51 301 P **P 07 02 19.9 -1.3**
comp=Z,7.5nm,0.9s,mb4.8
EMIN Mina Concepcio 61.53 299 P **P 07 02 20.3 -1.0**
comp=Z,18nm,2.3s,mb4.8
STS Santiago 61.54 305 P **P 07 02 21.2 -0.1**
comp=Z,21nm,1.2s,mb5.1
STS Santiago 61.54 305 P **P 07 02 21.2 -0.1**
STS pmax pmax
comp=Z,21nm,1.2s,mb5.1
PCBR Castelo Branco 61.56 302 *e*P **P 07 02 21.8 +0.3**
comp=Z,34nm,1.1s,mb5.4
SEY Seymchan 61.61 31⇓*i*P **P 07 02 22.6 +0.8**
PVIS Viseu 61.63 303 *e*P **P 07 02 22.5 +0.6**
comp=Z,38nm,1.6s,mb5.3
EMAZ Mazaricos 61.82 306 P **P 07 02 21.2 -2.0**
comp=Z,82nm,1.4s,mb5.7
EGRO El Granado 62.21 299 P **P 07 02 24.1 -1.8**
comp=Z,40nm,2.0s,mb5.2
PTOM Tomar 62.31 302 *e*P **P 07 02 26.9 +0.4**
comp=Z,42nm,1.2s,mb5.4
PBEJ Beja 62.36 300 *e*P **P 07 02 26.7 -0.1**
comp=Z,12nm,1.2s,mb4.9
TORD Torodi Ar. Bea 63.42 271 P **P 07 02 33.6 -0.3**
comp=Z,20nm,0.9s,mb5.2,baz=58,slow=5.7,SNR=98
BILL Bilibino 65.99 24 *e*P **P 07 02 50.8 +0.1**
comp=Z,12nm,1.1s,mb4.8
BILL LR LR
comp=Z,533nm,19.0s,MS4.8
BILL Bilibino 65.99 24 *e*P **P 07 02 50.8 +0.1**
BILL pmax pmax
comp=Z,12nm,1.1s,mb4.8
BILL MLR MLR
comp=Z,533nm,19.0s,MS4.8
SUMG Summit 67.07 342 *e*P **P 07 02 58.0 +0.4**
comp=Z,23nm,0.9s,mb5.2
LBTB Lobatse 67.89 222 PFAKE 07 03 10.0 +7.2
LBTB LR LR
comp=Z,202nm,21.0s,MS4.3
TSUM Tsumeb 68.76 232 *e*P **P 07 03 10.3 +2.1**
comp=Z,6.9nm,0.9s,mb4.6
TSUM LR LR
comp=Z,415nm,19.0s,MS4.7
MBWA Marble Bar 70.55 129 PFAKE 07 03 30.0 +11
MBWA LR LR
comp=Z,360nm,20.0s,MS4.6
BOSA Boshof 70.85 219 P **P 07 03 21.2 +0.1**
comp=Z,7.1nm,0.9s,mb4.6,baz=40,slow=13,SNR=7.7
BOSA LR LR 07 32 10.5
comp=Z,255nm,20.2s,MS4.5,baz=4.8,slow=34
BOSA Boshof 70.85 219 P **P 07 03 21.2 +0.1**
BOSA LR LR 07 32 10.5

DBIC Dimbokro 72.11 268 P **P 07 03 28.9 +0.2**
comp=Z,16nm,0.9s,mb4.9,baz=41,slow=5.9,SNR=12
DBIC LR LR 07 37 51.2
comp=Z,276nm,18.9s,MS4.5,baz=41,slow=38
DBIC Dimbokro 72.11 268 *e*P **P 07 03 28.8 +0.1**
comp=Z,18nm,1.0s,mb5.0
DBIC LR LR
comp=Z,294nm,20.0s,MS4.5
DBIC Dimbokro 72.11 268 *e*P **P 07 03 28.8 +0.1**
DBIC pmax pmax
comp=Z,18nm,1.0s
DBIC MLR MLR
comp=Z,294nm,20.0s
LIC Lamto 72.48 267⇑*i*P **P 07 03 30.4 -0.5**
comp=Z,41nm,0.9s,mb5.0
LIC *e*R
comp=Z,282nm,17.2s
LIC Lamto 72.48 267⇑*i*P **P 07 03 30.4 -0.5**
comp=Z,21nm,0.9s,mb5.1
LIC LR LR
comp=Z,140nm,17.3s,MS4.3
SFJD Kangerlussuaq 73.57 339 LR LR 07 37 14.2
comp=Z,254nm,18.5s,MS4.5,baz=102,slow=37
SFJD Kangerlussuaq 73.57 339 *e*P **P 07 03 34.7 -2.6**
FX1 Attu Island--F 75.35 37 LR LR 07 39 42.0
comp=Z,14nm,18.6s,baz=270,slow=38
RES Resolute Bay 75.61 355 *e*P **P 07 03 47.9 -1.3**
comp=Z,4.4nm,1.0s,mb4.3
RES Resolute Bay 75.61 355 *e*P **P 07 03 47.9 -1.3**
RES pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
TNA Tin City 75.98 21 *e*P **P 07 03 51.5 +0.2**
comp=Z,6.4nm,1.1s,mb4.5
TNA LR LR
comp=Z,188nm,20.0s,MS4.4
NWAO Narrogin (SRO) 77.39 139 PFAKE 07 04 10.0 +11
NWAO LR LR
comp=Z,178nm,19.0s,MS4.4
WRA Warramunga Arr 80.31 119 P **P 07 04 15.7 +0.3**
comp=Z,10nm,0.9s,mb4.7,baz=318,slow=5.1,SNR=47
WRA Warramunga Arr 80.31 119⇑*e*P **P 07 04 15.8 +0.5**
WRAB Tennant Creek 80.31 119 P **P 07 04 15.9 +0.6**
comp=Z,97nm,0.9s,mb5.7,SNR=10
WRAB Tennant Creek 80.31 119 *e*P **P 07 04 15.7 +0.4**
comp=Z,24nm,0.9s,mb5.1
WRAB Tennant Creek 80.31 119 *i*P **P 07 04 16.1 +0.8**
WB2 Warramunga Arr 80.32 119 *e*P **P 07 04 15.5 +0.1**
INK Inuvik 81.26 8 *e*P **P 07 04 21.1 +0.8**
comp=Z,18nm,1.1s,mb4.9
INK Inuvik 81.26 8 *e*P **P 07 04 21.2 +0.8**
INK pmax pmax
comp=Z,18nm,1.1s
COLA College 81.92 15 *e*P **P 07 04 23.6 -0.3**
comp=Z,11nm,1.0s,mb4.8
COLA LR LR
comp=Z,242nm,20.0s,MS4.6
COLA College 81.92 15 *e*P **P 07 04 23.6 -0.3**
COLA pmax pmax
comp=Z,11nm,1.0s,mb4.7
COLA MLR MLR
comp=Z,242nm,20.0s,MS4.6
ASAR Alice Springs 82.18 123 P **P 07 04 25.5 +0.2**
comp=Z,8.5nm,0.8s,mb4.7,baz=310,slow=5.4,SNR=97
ILAR Eielson Array 82.22 14 P **P 07 04 24.8 -0.7**
comp=Z,4.9nm,1.0s,mb4.4,baz=319,slow=3.6,SNR=29
ILAR PP PP 07 07 33.7 -0.1
comp=Z,3.3nm,1.1s,baz=321,slow=7.8,SNR=7.2
ILAR LR LR 07 42 50.6
comp=Z,197nm,18.7s,MS4.5,baz=356,slow=37
ILAR Eielson Array 82.22 14 P **P 07 04 24.8 -0.6**
ILAR 07 07 33.7
MCK McKinley 82.64 16 PFAKE 07 04 40.0 +12
MCK LR LR
comp=Z,214nm,20.0s,MS4.5
DAWY Dawson 84.34 12 *e*P **P 07 04 36.2 -0.2**
FIB Fire Island 84.50 18 PFAKE 07 04 50.0 +13
FIB LR LR
comp=Z,2μm,21.0s,MS5.5
PMG Port Moresby 84.98 104 P **P 07 04 40.7 +1.1**
comp=Z,9.0nm,0.8s,mb5.0,baz=340,slow=5.1,SNR=5.1
PMG Port Moresby 84.98 104 *e*P **P 07 04 41.0 +1.3**
comp=Z,9.8nm,0.8s,mb5.0
PMG LR LR
comp=Z,152nm,20.0s,MS4.4
PMG Port Moresby 84.98 104 *e*P **P 07 04 41.0 +1.4**
PMG pmax pmax
comp=Z,10.0nm,0.8s
PMG MLR MLR
comp=Z,152nm,20.0s
SCHQ Schefferville 87.70 336 LR LR 07 44 51.5
comp=Z,136nm,18.1s,MS4.4,baz=117,slow=36
YKW3 Yellowknife Ar 88.35 1 *e*P **P 07 04 55.6 -0.5**
YKA Yellowknife Ar 88.42 1 P **P 07 04 56.3 -0.1**
comp=Z,5.5nm,0.9s,mb4.8,baz=350,slow=5.1,SNR=78
YKA LR LR 07 47 15.9
comp=Z,186nm,21.4s,MS4.5,baz=310,slow=38
YKA Yellowknife Ar 88.42 1⇑*e*P **P 07 04 56.2 -0.2**
FCC Fort Churchill 90.97 351 *e*P **P 07 05 08.8 +0.4**
comp=Z,7.1nm,1.1s,mb4.9
FCC Fort Churchill 90.97 351 *e*P **P 07 05 08.8 +0.4**
FCC pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
STKA Stephens Creek 92.45 125 P **P 07 05 13.6 -1.6**
comp=Z,3.0nm,0.8s,mb4.7,baz=253,slow=4.2,SNR=6.5
STKA LR LR 07 52 10.3
comp=Z,289nm,18.1s,MS4.8,baz=336,slow=39
STKA Stephens Creek 92.45 125 *e*P **P 07 05 13.3 -1.9**
FFC Flin Flon 95.82 354 PFAKE 07 05 40.0 +9.3
FFC LR LR
comp=Z,267nm,22.0s,MS4.7
HNR Honiara 95.96 97 PFAKE 07 05 40.0 +8.7
HNR LR LR
comp=Z,436nm,20.0s,MS4.9
ULM Lac du Bonnet 99.49 350 P **P 07 05 46.3 -0.9**
comp=Z,1.5nm,0.8s,mb4.5,baz=98,slow=2.7,SNR=3.3
ULM LR LR 07 55 40.7
comp=Z,131nm,18.3s,MS4.5,baz=359,slow=38
WES Weston 99.49 331 PFAKE 07 06 00.0 +13
WES LR LR
comp=Z,531nm,20.0s,MS5.0
EYMN Ely 100.92 346 PFAKE 07 06 00.0 +6.4
EYMN LR LR
comp=Z,325nm,22.0s,MS4.8
BINY Binghamton 101.54 334 PFAKE 07 06 10.0 +14
BINY LR LR
comp=Z,386nm,20.0s,MS4.9
EGMT Eagleton 102.93 359 PFAKE 07 06 10.0 +7.5
EGMT LR LR
comp=Z,269nm,21.0s,MS4.8
MSO Missoula 104.12 2 PFAKE 07 06 20.0 +12
MSO LR LR
comp=Z,168nm,20.0s,MS4.6
BOZ Bozeman (W) 105.33 360 PFAKE 07 10 40.0 +13
BOZ LR LR
comp=Z,251nm,19.0s,MS4.8
CBN Corbin 105.51 333 PFAKE 07 10 40.0 +13
CBN LR LR
comp=Z,246nm,20.0s,MS4.8
BMO Blue Mountains 105.94 4 PFAKE 07 10 40.0 +12
BMO LR LR
comp=Z,211nm,19.0s,MS4.7
YMR Madison River 106.30 359 PFAKE 07 10 40.0 +11
YMR LR LR
comp=Z,1μm,21.0s,MS5.4
LKWY Lake 106.40 359 PFAKE 07 10 40.0 +11
LKWY LR LR
comp=Z,447nm,22.0s,MS5.0
HLID Hailey 107.37 2 PFAKE 07 10 40.0 +9.1
HLID LR LR
comp=Z,133nm,19.0s,MS4.5
BW06 Boulder Array 108.18 358 PFAKE 07 10 40.0 +7.6
BW06 LR LR
comp=Z,279nm,19.0s,MS4.8
AHID Auburn Hatcher 108.21 360 PFAKE 07 10 40.0 +7.6
AHID LR LR
comp=Z,204nm,21.0s,MS4.7
HWUT Hardware Ranch 109.37 360 PFAKE 07 10 50.0 +15
HWUT LR LR
comp=Z,256nm,20.0s,MS4.8
BMN Battle Mountai 110.35 5 PFAKE 07 10 50.0 +14
BMN LR LR
comp=Z,308nm,22.0s,MS4.8
ISCO Idaho Springs 110.94 355 PFAKE 07 10 50.0 +12
ISCO LR LR
comp=Z,374nm,22.0s,MS4.9
MPU Maple Canyon 110.96 360 PFAKE 07 10 50.0 +12

MPU LR LR
comp=Z,903nm,22.0s,MS5.3
CBKS Cedar Bluff 111.25 350 PFAKE 07 10 50.0 +12
CBKS LR LR
comp=Z,228nm,19.0s,MS4.8
PLAL Pickwick Lake 112.22 339 PFAKE 07 10 50.0 +10
PLAL LR LR
comp=Z,241nm,19.0s,MS4.8
NVAR Mina Array Bea 112.25 6 PKiKP PKiKP 07 10 41.3 +1.3
comp=Z,0.8nm,0.9s,baz=272,slow=4.5,SNR=4.3
CMB Columbia Colle 112.44 7 PFAKE 07 10 50.0 +10
CMB LR LR
comp=Z,170nm,19.0s,MS4.7
MVU Marysvale 112.46 0 PFAKE 07 10 50.0 +10
MVU LR LR
comp=Z,346nm,20.0s,MS4.9
SDCO Great Sand Dun 112.97 355 PFAKE 07 10 50.0 +8.6
SDCO LR LR
comp=Z,575nm,19.0s,MS5.2
OXF Oxford 113.06 340 PFAKE 07 10 50.0 +8.4
OXF LR LR
comp=Z,182nm,20.0s,MS4.7
LRAL Lakeview Retre 113.66 337 PFAKE 07 10 50.0 +7.2
LRAL LR LR
comp=Z,289nm,20.0s,MS4.9
TPNV Topopah Spring 113.88 4 PFAKE 07 10 50.0 +6.8
TPNV LR LR
comp=Z,298nm,20.0s,MS4.9
MIAR Mount Ida 114.16 344 PFAKE 07 11 00.0 +16
MIAR LR LR
comp=Z,340nm,21.0s,MS4.9
DAC Darwin (Calif) 114.45 5 PFAKE 07 11 00.0 +16
DAC LR LR
comp=Z,333nm,19.0s,MS5.0
WUAZ Wupatki 115.45 360 PFAKE 07 11 00.0 +14
WUAZ LR LR
comp=Z,152nm,21.0s,MS4.6
ANMO Albuquerque 115.82 355 PFAKE 07 11 00.0 +13
ANMO LR LR
comp=Z,278nm,19.0s,MS4.9
ANMO Albuquerque 115.82 355⇓*i*PKIKP PKPdf 07 10 46.0 -0.9
NATX Nacogdoches 117.08 344 PFAKE 07 11 00.0 +11
NATX LR LR
comp=Z,370nm,21.0s,MS5.0
TUC Tucson 118.64 359 *e*PKPdf PKPdf 07 10 53.3 +1.0
TUC LR LR
comp=Z,159nm,20.0s,MS4.6
HKT Hockley 119.09 344 PFAKE 07 11 00.0 +6.8
HKT LR LR
comp=Z,250nm,19.0s,MS4.9
VNDA Vanda 119.22 166 PFAKE 07 11 00.0 +6.6
VNDA LR LR
comp=Z,1μm,19.0s,MS5.5
JCT Junction City 119.41 348 PFAKE 07 11 10.0 +16
JCT LR LR
comp=Z,202nm,20.0s,MS4.8
LTX Lajitas 121.11 352 PFAKE 07 11 10.0 +13
LTX LR LR
comp=Z,278nm,22.0s,MS4.9
AFI Afiamalu 122.61 88 PFAKE 07 11 10.0 +10
AFI LR LR
comp=Z,2μm,19.0s
SDV Santo Domingo 125.14 307 PFAKE 07 11 20.0 +15
SDV LR LR
comp=Z,98nm,19.0s,MS4.5
TEIG Tepich 125.76 333 PFAKE 07 11 20.0 +14
TEIG LR LR
comp=Z,42nm,21.0s,MS4.1
OTAV Otavalo 136.73 307 PFAKE 07 11 40.0 +13
OTAV LR LR
comp=Z,65nm,22.0s,MS4.3
LPAZ La Paz 138.04 278 PFAKE 07 11 40.0 +11
LPAZ LR LR
comp=Z,275nm,19.0s,MS5.0
TRQA Tornquist 138.19 245 PFAKE 07 11 40.0 +11
TRQA LR LR
comp=Z,1μm,20.0s,MS5.6
PLCA Paso Flores 144.78 240 PKP PKPdf 07 11 40.3 -0.9
comp=Z,2.6nm,0.8s,baz=93,slow=1.8,SNR=6.2
PLCA Paso Flores 144.78 240 *e*PKPdf PKPdf 07 11 41.1 -0.1

IDC ***21*** *07:03:55.5±0.9, 24.10N×126.78E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/21, mbtmp3.8/9, ML3.9/2, Error ellipse: s-maj=33.3km s-min=17.7km az=82.0*
ISCJB ***21*** *07:03:57.2±1.6, 24.07N±004×126.79E±003, h29km±13km, mb3.8/8, Error ellipse: s-maj=7.1km s-min=4.0km az=120.0*
JMA ***21*** *07:03:58.7±0.2, 24.18N×126.70E, h103km, M3.2*
ISC 21 07:03:58.0±1.7, 24.11N±004×126.76E±003, h21km±13km, n28, σ0=96/45, mb3.8/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
JOGS	**Gusukube**	**1.39**	**298**	P	**Pn**	**07 04 23.1**	**+0.9**	
JOGS				S	**Sn**	**07 04 40.9**	**+0.9**	
JMJ	**Miyako jima 2**	**1.51**	**298**	P	**Pn**	**07 04 24.4**	**+0.6**	
JMJ				S	**Sn**	**07 04 43.9**	**+1.1**	
JTJ	**Tarama**	**1.95**	**286**	P	**Pn**	**07 04 29.9**	**0.0**	
JTJ				S	**Sn**	**07 04 53.9**	**+0.2**	
JKE	**Kume jima 2**	**2.21**	**1**	P	**Pn**	**07 04 33.7**	**+0.3**	
JKE				S	**Sn**	**07 04 59.8**	**-0.3**	
JJT2	**Tamagusuku 2**	**2.21**	**24**	P	**Pn**	**07 04 33.6**	**+0.1**	
JJT2				S	**Sn**	**07 05 00.4**	**+0.2**	
NAH1	**Naha**	**2.25**	**22**	P	**Pn**	**07 04 34.4**	**+0.4**	
NAH1				S	**Sn**	**07 05 01.8**	**+0.7**	
JIJ	**Ishigaki jima**	**2.40**	**277**	P	**Pn**	**07 04 36.0**	**-0.1**	
JIJ				S	**Sn**	**07 05 03.1**	**-1.8**	
JAGN	**Aguni-jima**	**2.51**	**10**	P	**Pn**	**07 04 38.0**	**+0.5**	
JAGN				S	**Sn**	**07 05 07.9**	**+0.4**	
JKRS	**Kuro-shima**	**2.51**	**273**	P	**Pn**	**07 04 38.1**	**+0.5**	
JKRS				S	**Sn**	**07 05 06.7**	**-1.0**	
HATJ	**Hateruma jima**	**2.70**	**269**	P	**Pn**	**07 04 40.0**	**-0.2**	
HATJ				S	**Sn**	**07 05 10.1**	**-2.1**	
IRIF	**Iriomote-Funau**	**2.77**	**275**	P	**Pn**	**07 04 41.2**	**0.0**	
IRIF				S	**Sn**	**07 05 13.4**	**-0.7**	
JOW	**Kunigami**	**3.04**	**26**	Pn	**Pn**	**07 04 43.8**	**-1.1**	
	12nm,0.3s,baz=170,slow=14,SNR=42							
JOW				Sn	**Sn**	**07 05 17.6**	**-3.0**	
	14nm,0.3s,baz=123,slow=25,SNR=8.0							
JOW	**Kunigami**	**3.04**	**26**	P	**Pn**	**07 04 44.8**	**0.0**	
JOW				S	**Sn**	**07 05 20.2**	**-0.4**	
JIH	**Iheya**	**3.11**	**20**	P	**Pn**	**07 04 46.4**	**+0.6**	
JIH				S	**Sn**	**07 05 21.2**	**-1.2**	
YOJ	**Yonaguni jima**	**3.44**	**277**	P	**Pn**	**07 04 50.2**	**-0.1**	
JTK	**Tokunoshima**	**4.16**	**28**	P	**Pn**	**07 05 00.3**	**0.0**	
JTK				*e*S	**Sn**	**07 05 48.1**	**-0.1**	
JMZ	**Minamidaito 2**	**4.39**	**66**	P	**Pn**	**07 05 01.0**	**-2.5**	
JMZ				S	**Sn**	**07 05 48.7**	**-5.3**	
JAM	**Amami Oshima**	**4.99**	**30**	P	**Pn**	**07 05 11.4**	**-0.3**	
JAM				*e*S	**Sn**	**07 06 05.6**	**-3.1**	
JNU	**Nakatsue**	**9.68**	**21**	Pn	**Pn**	**07 06 15.5**	**-0.5**	
	1.7nm,0.3s,baz=173,slow=8.1,SNR=3.7							
SONM	**Songino Array**	**28.68**	**331**	P	**P**	**07 09 55.3**	**+1.9**	
	0.5nm,0.5s,mb3.5,baz=147,slow=11,SNR=4.4							
MKAR	**Makanchi Array**	**42.00**	**314**	P	**P**	**07 11 48.2**	**+0.6**	
	0.5nm,0.4s,mb3.5,baz=97,slow=9.9,SNR=11							
WRA	**Warramunga Arr**	**44.40**	**170**	P	**P**	**07 12 07.5**	**+0.4**	
	5.2nm,0.7s,mb4.3,baz=351,slow=8.6,SNR=17							
WB2	**Warramunga Arr**	**44.41**	**170**	*e*P	**P**	**07 12 07.8**	**+0.7**	
ASAR	**Alice Springs**	**47.99**	**171**	P	**P**	**07 12 36.4**	**+1.0**	
	1.1nm,0.4s,mb4.2,baz=356,slow=14,SNR=21							
BVAR	**Borovoye Array**	**50.99**	**320**	P	**P**	**07 12 58.4**	**+0.1**	
	0.5nm,0.3s,mb3.9,baz=107,slow=7.9,SNR=5.0							
STKA	**Stephens Creek**	**57.45**	**165**	P	**P**	**07 13 43.1**	**-2.2**	
	1.8nm,0.7s,mb4.2,baz=351,slow=9.5,SNR=4.7							
ILAR	**Eielson Array**	**66.93**	**28**	P	**P**	**07 14 49.5**	**+0.7**	
	1.1nm,1.2s,mb3.8,baz=218,slow=5.7,SNR=2.9							
YKA	**Yellowknife Ar**	**81.00**	**24**	P	**P**	**07 16 12.6**	**+1.4**	
	0.1nm,0.5s,mb3.0,baz=304,slow=5.3,SNR=7.7							

ISCJB ***21*** *07:08:12.3±0.2, 29.34N±003×68.36E±002, h10km, mb4.8/111, MS4.5/73, Error ellipse: s-maj=4.0km s-min=2.5km az=177.4*
IDC ***21*** *07:08:12.4±0.6, 29.36N×68.27E, h0km, mb4.5/24, mb1 4.7/24, mb1mx4.6/27, mbtmp4.5/24, MS3.8/6, Ms1 3.8/6, ms1mx3.4/33, Error ellipse: s-maj=15.2km s-min=14.5km az=176.0*
HRVD ***21*** *07:08:13.5±0.7, 29.28N×67.94E, h19km±3km, MW4.8/48, Centroid moment Tensor Solution. LP body waves: s7,c7;Mantle waves: s48,c55; Half duration: 0 Moment*

tensor: Scale 10^{16}Nm; M_{rr}1.23±.20; $M_{\theta\theta}$-1.10±.16; $M_{\phi\phi}$-0.12±.12; $M_{r\theta}$1.06±.31; $M_{\theta\phi}$0.25±.09; $M_{\phi r}$-1.53±.46; Best double couple: $M_0$2.18200×10^{16} NP1:ϕ_s271.00000°, δ21.00000°, λ46.00000°. NP2:ϕ_s136.00000°, δ75.00000°, λ105.00000°. Principal axes: T 2.3950, Plg58.0000°, Azm66.0000°; N -0.4270, Plg14.0000°, Azm312.0000°; P -1.9680, Plg29.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **21** 07:08:13.5±0.3, 2929N×6846E, h10km, mb4.9/55, MS4.7/58 Error ellipse: s-maj=9.0km s-min=4.1km az=14.0*

NEIC Felt at Harna, Kohlu, Lehri and Sibi.

*MOS **21** 07:08:14.6±1.1, 2950N×6835E, h20km, mb5.1/52, Error ellipse: s-maj=6.8km s-min=3.9km az=116.3*

*BJI **21** 07:08:14.3, 2954N×6818E, h21km, mB5.3, mb4.8, Ms4.7, Msz4.3*

*SZGRF **21** 07:08:30.8, 30.16N×6786E, h33km, mb4.8, Pakistan*

ISC 21 07:08:13.0±1.0, 2938N±003×6835E±002, h2km±6km, n364, σ1§19/322, mb4.8/111, MS4.5/73, 60C-18D, Pakistan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DRP	**Derazinda**	**2.85**	**34**	⇓P	**Pn**	**07 09 02.1**	**+2.6**
JASL	**Jaisalmer**	**3.32**	**137**	*e*P	**Pn**	**07 09 05.9**	**-0.2**
JASL				AML	AML	07 09 50.1	
	comp=Z,298nm,0.6s						
JASL				AML	AML	07 09 50.1	
	comp=Z,312nm,0.7s						
SBDP	**Sheikh Budin**	**3.60**	**35**	P	**Pn**	**07 09 12.9**	**+3.1**
THW	**Thamme Wali**	**4.48**	**40**	⇓P	**Pn**	**07 09 23.7**	**+1.8**
CEP	**Cherat**	**5.37**	**33**	P	**Pn**	**07 09 36.6**	**+2.4**
CHCP	**Chirah Chowk**	**5.98**	**43**	P	**Pn**	**07 09 44.0**	**+1.4**
BHJ	**Bhuj**	**6.21**	**169**	*ex*	x	07 09 46.5	
BHJ				*ex*	x	07 10 57.0	
BHJ				AML	AML	07 12 31.9	
BHJ				AML	AML	07 12 31.9	
AJM	**Ajmer**	**6.27**	**116**	*ex*	x	07 09 39.3	
AJM				*i* x	x	07 09 45.0	
AJM				*e*S	**Sn**	**07 10 56.2**	**-2.6**
AJM				AML	AML	07 11 13.0	
	comp=E,203nm,0.4s						
AJM				AML	AML	07 11 13.1	
	comp=N,128nm,0.4s						
KHET	**Khetri**	**6.67**	**99**	*e*P	**Pn**	**07 09 52.3**	**+0.2**
KHET				*e*S	**Sn**	**07 11 08.2**	**-0.5**
KHET				AML	AML	07 11 10.3	
	comp=E,58nm,0.4s						
KHET				AML	AML	07 11 10.5	
	comp=N,52nm,0.4s						
PONG	**Pong**	**7.03**	**67**	*e*P	**Pn**	**07 09 59.0**	**+2.0**
PONG				*e*S	**Sn**	**07 11 19.0**	**+1.5**
BHK	**Bhakra**	**7.26**	**72**	*ex*	x	07 11 16.3	
BHK				*ex*	x	07 12 29.9	
DLH	**Dalhousie**	**7.26**	**62**	*e*P	**Pn**	**07 10 02.0**	**+1.9**
DLH				*e*S	**Sn**	**07 11 21.0**	**-2.2**
AYAN	**Aya Nagar**	**7.74**	**94**	*e*P	**Pn**	**07 10 07.6**	**+0.8**
AYAN				AML	AML	07 12 59.6	
	comp=Z,24nm,0.9s						
SONA	**Sohna**	**7.74**	**96**	*e*P	**Pn**	**07 10 08.0**	**+1.2**
SONA				*e*S	**Sn**	**07 11 31.9**	**-3.1**
SONA				AML	AML	07 11 36.8	
	comp=N,47nm,0.7s						
SONA				AML	AML	07 11 38.9	
	comp=E,90nm,0.9s						
AGRA	**Agra**	**8.72**	**102**	*e*P	**Pn**	**07 10 17.7**	**-2.5**
KLP	**Kalpa**	**8.81**	**73**	*e*P	**Pn**	**07 10 23.8**	**+2.4**
BHPL	**Bhopal**	**10.18**	**125**	*e*P	**Pn**	**07 10 40.2**	**+0.1**
BHPL				AMb	AMB	07 10 47.1	
	comp=Z,16nm,1.3s						
BHPL				*e*S	**Sn**	**07 12 26.2**	**-8.6**
LGTI	**Lohaghat**	**10.37**	**87**	*e*P	**Pn**	**07 10 41.3**	**-1.5**
LGTI				*e*S	**Sn**	**07 12 36.0**	**-3.7**
WBK	**Wadi Bani Khal**	**10.79**	**234**	⇑P	**Pn**	**07 10 46.9**	**-1.7**
	SNR=14						
BIDO	**Bidbid**	**10.86**	**240**	⇑P	**Pn**	**07 10 48.1**	**-1.4**
	SNR=11						
BANOM	**Banah**	**11.22**	**255**	⇓P	**Pn**	**07 10 54.0**	**-0.5**
HOQ	**Hoqain**	**11.45**	**242**	⇑P	**Pn**	**07 10 55.6**	**-1.9**
	SNR=8.6						
JMDO	**Jabal Madar**	**11.56**	**235**	P	**Pn**	**07 10 58.4**	**-0.8**
	SNR=38						
KSH	**Kashi**	**11.90**	**30**	P	**Pn**	**07 11 06.3**	**+2.5**
KSH				AP		07 11 09.5	
KSH				XP		07 11 12.4	
KSH				PP		07 11 15.6	
KSH				PPP		07 11 22.8	
KSH				S	**Sn**	**07 13 18.8**	**+1.6**
KSH				LR	LR		
	comp=N,2μm,8.2s						
KSH				LR	LR		
	comp=E,2μm,5.9s						
ASHO	**Ashiyiah**	**11.91**	**250**	P	**Pn**	**07 11 03.2**	**-0.7**
	SNR=14						
BSY	**Bisya**	**12.00**	**239**	⇑P	**Pn**	**07 11 05.1**	**0.0**
	SNR=36						
JBP	**Jabalpur**	**12.13**	**118**	*i* x	x	07 13 14.7	
ARQ	**Araqi**	**12.19**	**243**	P	**Pn**	**07 11 09.3**	**+1.6**
	SNR=13						
AML	**Almayashu**	**13.44**	**17**	P	**Pn**	**07 11 23.6**	**-1.2**
	SNR=128						
KOLN	**Koldanda**	**13.50**	**93**	*e*P	**Pn**	**07 11 23.8**	**-1.8**
	comp=E,98nm,1.2s						
UCH	**Uchtor**	**13.76**	**20**	P	**Pn**	**07 11 27.9**	**-1.2**
	SNR=140						
KK31	**Karatay Array**	**13.81**	**7**	*i* P	**Pn**	**07 11 27.5**	**-2.3**
KKAR	**Karatay Array**	**13.81**	**7**	*i* P	**Pn**	**07 11 27.5**	**-2.3**
KZA	**Kyzart**	**13.85**	**22**	P	**Pn**	**07 11 29.0**	**-1.3**
	SNR=28						
EKS2	**Erkin-Say**	**13.96**	**17**	P	**Pn**	**07 11 30.9**	**-0.9**
	SNR=35						
AAK	**Ala-Archa**	**14.12**	**19**	P	**Pn**	**07 11 33.6**	**-0.5**
	SNR=35						
KBK	**Karagaybulak**	**14.28**	**20**	P	**Pn**	**07 11 35.3**	**-0.9**
	SNR=15						
ULHL	**Ulahol**	**14.34**	**24**	P	**Pn**	**07 11 35.7**	**-1.4**
	SNR=15						
FRU	**Bishkek**	**14.34**	**19**	⇓*i*P	**Pn**	**07 11 36.5**	**-0.6**
FRU				pmax	pmax		
	comp=Z,111nm,1.4s						
BLSP	**Bilaspur**	**14.35**	**117**	*ex*	x	07 16 38.0	
GKN	**Gorkha**	**14.36**	**92**	*e*P	**Pn**	**07 11 34.5**	**-2.9**
	comp=Z,28nm,0.4s						
CHMS	**Chumysh**	**14.54**	**19**	P	**Pn**	**07 11 38.1**	**-1.6**
	SNR=36						
USP	**Ospenovka**	**14.71**	**18**	P	**Pn**	**07 11 40.5**	**-1.6**
	SNR=18						
TKM2	**Tokmak 2**	**14.72**	**21**	P	**Pn**	**07 11 40.5**	**-1.7**
	SNR=41						
TKM2	**Tokmak 2**	**14.72**	**21**	*i* P	**Pn**	**07 11 40.5**	**-1.7**
TKM2				pmax	pmax		
	comp=Z,38nm,0.8s						
DMN	**Daman**	**14.84**	**93**	*e*P	**Pn**	**07 11 40.2**	**-3.7**
	comp=Z,90nm,0.9s						
KKN	**Kakani**	**14.96**	**92**	*e*P	**Pn**	**07 11 42.1**	**-3.4**
	comp=Z,61nm,0.7s						
KKN	**Kakani**	**14.96**	**92**	*e*P	**Pn**	**07 11 42.1**	**-3.4**
KKN				pmax	pmax		
	comp=Z,31nm,0.7s						
PKI	**Pulchoki**	**15.11**	**93**	*e*P	**Pn**	**07 11 44.1**	**-3.5**
	comp=Z,52nm,0.7s						
PKI	**Pulchoki**	**15.11**	**93**	*e*P	**Pn**	**07 11 44.1**	**-3.5**
PKI				pmax	pmax		
	comp=Z,26nm,0.7s						
HYB	**Hyderabad**	**15.13**	**140**	*i* P	**Pn**	**07 11 48.5**	**+0.6**
HYB				*e*		07 11 54.0	
GUN	**Gumba**	**15.46**	**91**	*e*P	**Pn**	**07 11 49.2**	**-3.0**
	comp=Z,572nm,1.0s						
JIRN	**Jiri**	**15.78**	**92**	*e*P	**Pn**	**07 11 53.1**	**-3.2**
	comp=Z,249nm,1.0s						
BOK	**Bokaro**	**16.64**	**105**	*ex*	x	07 12 01.8	
BOK				AMb	AMB	07 12 15.2	
	comp=Z,44nm,1.5s						
BOK				*ex*	x	07 15 02.4	
WHFO	**Wadi Hawf**	**17.54**	**233**	⇓P	**Pn**	**07 12 18.8**	**+0.1**
	SNR=12						
LSA	**Lhasa**	**19.84**	**83**	P	**Pn**	**07 12 49.4**	**+2.8**
MK31	**Makanchi Array**	**20.50**	**28**	*i* P	**P**	**07 12 52.2**	**-0.2**
MK31				pmax	pmax		
	comp=Z,20nm,0.7s						
MKAR	**Makanchi Array**	**20.50**	**28**	P	**P**	**07 12 52.5**	**+0.1**
	comp=Z,12nm,0.6s,baz=210,slow=9.0,SNR=90						
MKAR				LR	LR	07 22 26.5	
	comp=Z,323nm,19.9s,MS3.7,baz=276,slow=42						
MKAR	**Makanchi Array**	**20.50**	**28**	*i* P	**P**	**07 12 52.2**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,14nm,0.7s						
BHD	**Baghdad**	**20.83**	**287**	*ex*	x	07 12 52.0	
BHD				*ex*	x	07 16 35.0	
AB31	**Akbulak array**	**20.86**	**344**	*i* P	**P**	**07 12 56.5**	**+0.2**
AB31				pmax	pmax		
	comp=Z,41nm,1.0s						
WMQ	**Urumqi**	**21.12**	**42**	P	**P**	**07 13 01.3**	**+2.3**
WMQ				AP		07 13 05.3	
WMQ				XP	sP	07 13 08.3	+8.6
WMQ				PP		07 13 24.0	
WMQ				PPP		07 13 33.0	
WMQ				*e*S	**S**	**07 16 50.0**	**-4.6**
WMQ				PCP	PcP	07 17 08.3	+3.1
WMQ				*e*SS		07 17 22.1	
WMQ				AMB	AMB		
	comp=Z,97nm,0.6s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,711nm,3.2s						
WMQ				LR	LR		
	comp=N,606nm,12.0s,MS4.4						
WMQ				LR	LR		
	comp=E,719nm,10.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,459nm,10.6s,MS4.1						
SHL	**Shillong**	**21.21**	**95**	*e*P	**P**	**07 13 02.0**	**+2.0**
MAK	**Makhachkala**	**21.54**	**315**	*e*P	**P**	**07 13 03.2**	**-0.3**
MAK				*e*S	**S**	**07 17 00.9**	**-1.9**
MAK				pmax	pmax		
	comp=Z,29nm,0.3s,mb5.2						
GNI	**Garni**	**22.11**	**305**	P	**P**	**07 13 12.8**	**+3.2**
	comp=Z,5.3nm,0.4s,mb4.3,baz=111,slow=17,SNR=3.1						
GNI	**Garni**	**22.11**	**305**	P	**P**	**07 13 12.8**	**+3.2**
GNI				LR	LR		
	comp=Z,167nm,20.0s,MS3.5						
GNI	**Garni**	**22.11**	**305**	*e*P	**P**	**07 13 10.4**	**+0.7**
GNI				pmax	pmax		
	comp=Z,22nm,1.2s						
GNI				MLR	MLR		
	comp=Z,200nm,17.0s						
MSL	**Mosul**	**22.28**	**295**	*ex*	x	07 13 12.0	
MSL				*ex*	x	07 17 43.0	
AKTK	**Aktyubinsk**	**22.43**	**343**	P	**P**	**07 13 12.9**	**-0.2**
AKTK				LR	LR	07 22 40.6	
AKTO	**Aktyubinsk**	**22.43**	**343**	P	**P**	**07 13 12.9**	**-0.3**
	comp=Z,22nm,0.9s,mb4.6,baz=135,slow=11,SNR=24						
AKTO				LR	LR	07 22 40.6	
	comp=Z,188nm,19.4s,MS3.5,baz=0.0,slow=39						
KURK	**Kurchatov**	**22.67**	**17**	*e*P	**P**	**07 13 14.7**	**-0.9**
KURK				LR	LR		
	comp=Z,478nm,19.0s,MS4.0						
KURK	**Kurchatov**	**22.67**	**17**	P	**P**	**07 13 14.4**	**-1.3**
KURK				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.6						
VOSK	**Vostochnaya**	**23.41**	**4**	P	**P**	**07 13 22.1**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,69nm,1.3s,mb4.9						
ZRNK	**Zerenda**	**23.56**	**1**	*e*P	**P**	**07 13 24.4**	**-0.6**
	comp=Z,76nm,1.3s,mb5.0						
ZRNK	**Zerenda**	**23.56**	**1**	*e*P	**P**	**07 13 24.4**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,77nm,1.3s,mb5.0						
BVA0	**Borovoye Array**	**23.68**	**3**	*i* P	**P**	**07 13 25.6**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.3						
BVAR	**Borovoye Array**	**23.68**	**3**	P	**P**	**07 13 25.9**	**-0.2**
	comp=Z,49nm,1.0s,mb4.9,baz=178,slow=7.4,SNR=93						
BRVK	**Borovoye**	**23.70**	**3**	*e*P	**P**	**07 13 25.9**	**-0.5**
	comp=Z,66nm,1.2s,mb4.9						
BRVK				LR	LR		
	comp=Z,309nm,19.0s,MS3.8						
BRVK	**Borovoye**	**23.70**	**3**	*e*P	**P**	**07 13 25.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,66nm,1.2s,mb4.9						
BRVK				MLR	MLR		
	comp=Z,309nm,19.0s,MS3.8						
ZEI	**Tsey**	**23.76**	**311**	*i* P	**P**	**07 13 27.0**	**+0.1**
ZEI				*i* *PP		07 13 30.2	
ZEI				*i*		07 17 09.6	
PALK	**Pallekele**	**24.88**	**150**	PFAKE		07 13 50.0	+13
PALK				LR	LR		
	comp=Z,337nm,19.0s,MS3.9						
KIV	**Kislovodsk**	**25.08**	**312**	*e*P	**P**	**07 13 40.4**	**+1.4**
	comp=Z,33nm,0.8s,mb4.9						
KIV				LR	LR		
	comp=Z,100nm,19.0s						
KIV	**Kislovodsk**	**25.08**	**312**	*e*P	**P**	**07 13 40.4**	**+1.5**
KIV				pmax	pmax		
	comp=Z,33nm,0.8s,mb4.9						
KIV				MLR	MLR		
	comp=Z,100nm,19.0s						
SOC	**Sochi**	**26.88**	**310**	*e*P	**P**	**07 13 59.0**	**+3.8**
SOC				*e*PPP		07 14 47.7	
SOC				*e*S	**S**	**07 18 37.9**	**+5.3**
SOC				pmax	pmax		
	comp=Z,32nm,1.1s,mb4.8						
ZAL	**Zalesovo**	**27.31**	**21**	P	**P**	**07 13 58.5**	**-0.6**
	comp=Z,3.5nm,0.7s,mb4.0,baz=234,slow=9.6,SNR=5.2						
NVS	**Novosibirsk**	**27.62**	**19**	*e*P	**P**	**07 14 00.4**	**-1.5**
NVS				*e*S	**S**	**07 18 48.4**	**+4.1**
NVS				pmax	pmax		
	comp=N,14nm,1.1s						
NVS				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.5						
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
NVS				smax			
	comp=N,20nm,2.0s						
NVS				smax			
	comp=E,11nm,1.7s						
GTA	**Gaotai**	**27.70**	**60**	*e*P	**P**	**07 14 04.9**	**+2.3**
GTA				AP		07 14 09.5	
GTA				XP	sP	07 14 12.3	+9.0
GTA				PP		07 14 56.8	
GTA				PPP		07 15 07.8	
GTA				PCP	PcP	07 17 19.0	-0.6
GTA				S	**S**	**07 18 49.3**	**+3.7**
GTA				XS	sS	07 18 55.3	+8.9
GTA				SCP	ScP	07 20 58.8	-2.5
GTA				PCS	PcS	07 21 00.8	-0.6
GTA				SCS	ScS	07 24 49.8	-3.4
GTA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.2						
GTA				AMB	AMB		
	comp=Z,629nm,11.1s						
GTA				LR	LR		
	comp=N,367nm,19.9s,MS4.2						
GTA				LR	LR		
	comp=E,431nm,16.0s,MS4.2						
GTA				LR	LR		
	comp=Z,271nm,13.8s,MS4.0						
ARU	**Arti**	**27.92**	**348**	*e*P	**P**	**07 14 02.3**	**-2.2**
ARU				*e*		07 14 53.2	
ARU				*e*		07 17 15.2	
ARU				*e*S	**S**	**07 18 46.0**	**-3.0**
ARU				*e*SS		07 19 59.1	
ARU				*e*		07 24 50.8	
ATD	**Arta Tunnel**	**29.66**	**239**	LR	LR	07 27 54.3	
	comp=Z,68nm,19.6s,baz=13,slow=40						
BRTR	**Keskin Array B**	**30.23**	**299**	P	**P**	**07 14 24.9**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=159,slow=12,SNR=5.2						
LZH	**Lanzhou**	**30.48**	**68**	*e*P	**P**	**07 14 29.8**	**+2.5**
LZH				AP		07 14 33.1	
LZH				PP	PP	07 15 28.8	-7.1
LZH				*e*S	**S**	**07 19 29.5**	**+0.2**
LZH				*e*SS	SS	07 21 08.9	-30
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,76nm,5.3s						
LZH				LR	LR		
	comp=N,638nm,13.5s						
LZH				LR	LR		
	comp=Z,768nm,17.2s,MS4.4						
CD2	**Chengdu**	**30.58**	**78**	*e*P	**P**	**07 14 29.6**	**+1.4**
CD2				AP		07 14 34.0	
CD2				XP	sP	07 14 36.6	+7.7
CD2				PP	PP	07 15 30.0	-7.1
CD2				S	**S**	**07 19 30.0**	**-0.9**
CD2				SS	SS	07 21 11.0	-30
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
CD2				LR	LR		
	comp=N,330nm,16.8s						
CD2				LR	LR		
	comp=Z,220nm,10.8s						
KMI	**Kunming**	**30.80**	**90**	P	**P**	**07 14 31.5**	**+1.4**
KMI				AP		07 14 35.8	
KMI				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.5						
ANTO	**Ankara**	**30.90**	**299**	PFAKE		07 14 40.0	+9.0
ANTO				LR	LR		
	comp=Z,197nm,21.0s,MS3.8						
SIM	**Simferopol'**	**31.13**	**309**	*e*P	**P**	**07 14 34.0**	**+1.0**
SIM				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
MOY	**Mondy**	**32.91**	**38**	*e*P	**P**	**07 14 50.9**	**+2.3**
ZAK	**Zakamensk**	**33.59**	**42**	⇑*i*P	**P**	**07 14 55.7**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
ZAK				pmax	pmax		
	comp=Z,15nm,1.9s,mb4.6						
GYA	**Guiyang**	**33.88**	**86**	⇑*i*P	**P**	**07 14 58.4**	**+1.3**
GYA				AP		07 15 02.8	
GYA				XP	sP	07 15 05.8	+8.0
GYA				PP	PP	07 16 12.3	-1.4
GYA				PCP	PcP	07 17 36.4	+0.5
GYA				S	**S**	**07 20 22.1**	**-0.2**
GYA				SCP	ScP	07 21 19.6	-2.0
GYA				SS	SS	07 22 29.5	-19
GYA				SCS	ScS	07 25 20.0	-3.3
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,210nm,4.0s						
GYA				LR	LR		
	comp=N,1μm,15.2s,MS4.7						
GYA				LR	LR		
	comp=E,420nm,15.4s,MS4.7						
GYA				LR	LR		
	comp=Z,640nm,14.5s,MS4.5						
MOS	**Moscow**	**34.23**	**329**	*e*P	**P**	**07 15 00.3**	**+0.2**
MOS				pmax	pmax		
	comp=Z,71nm,1.3s,mb5.4						
OBN	**Obninsk**	**34.34**	**328**	*e*P	**P**	**07 15 01.0**	**-0.1**
OBN				*e*		07 17 36.5	
OBN				pmax	pmax		
	comp=Z,67nm,1.4s,mb5.4						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.7						
SONM	**Songino Array**	**34.54**	**47**	P	**P**	**07 15 04.9**	**+2.1**
	comp=Z,6.0nm,0.7s,mb4.6,baz=252,slow=8.9,SNR=38						
SONM				PP	PP	07 16 12.3	-8.7
	comp=Z,3.2nm,0.9s,baz=252,slow=10,SNR=4.1						
SONM				LR	LR	07 30 30.0	
	comp=Z,220nm,20.3s,MS3.9,baz=24,slow=39						
SONM	**Songino Array**	**34.54**	**47**	P	**P**	**07 15 04.9**	**+2.1**
SONM						07 16 12.3	
XAN	**Xi'an**	**34.67**	**72**	P	**P**	**07 15 05.1**	**+1.2**
XAN				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.8						
TIRR	**Tirgusor**	**34.93**	**307**	⇑P	**P**	**07 15 07.4**	**+1.2**
TIRR	**Tirgusor**	**34.93**	**307**	*e*P	**P**	**07 15 06.3**	**+0.1**
IRK	**Irkutsk**	**34.96**	**39**	*e*P	**P**	**07 15 04.7**	**-1.8**
IRK				*e*		07 20 39.9	
IRK				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.3						
ULN	**Ulaanbaatar**	**34.97**	**47**	*e*P	**P**	**07 15 08.0**	**+1.5**
	comp=Z,18nm,1.4s,mb4.8						
ULN				LR	LR		
	comp=Z,205nm,19.0s,MS3.9						
ULN	**Ulaanbaatar**	**34.97**	**47**	*c i*P	**P**	**07 15 08.1**	**+1.6**
KIS	**Kishinev**	**35.26**	**311**	*e*P	**P**	**07 15 09.0**	**-0.1**
CFR	**Carcaliu**	**35.27**	**308**	⇓P	**P**	**07 15 09.2**	**0.0**
ENH	**Enshi**	**35.56**	**78**	PFAKE		07 15 20.0	+8.3
ENH				LR	LR		
	comp=Z,220nm,21.0s,MS3.9						
BTO	**Baotou**	**35.63**	**60**	*e*P	**P**	**07 15 14.8**	**+2.6**
AKASG	**Malin Array Be**	**36.17**	**317**	P	**P**	**07 15 16.6**	**-0.3**
	comp=Z,9.3nm,0.8s,mb4.8,baz=101,slow=7.1,SNR=37						
VRI	**Vrincioaia**	**36.39**	**309**	⇑P	**P**	**07 15 19.9**	**+1.2**
PLOR	**Plostina**	**36.44**	**308**	⇓P	**P**	**07 15 21.0**	**+1.8**
HHC	**Hu-ho-hao-te**	**36.82**	**60**	*e*P	**P**	**07 15 23.9**	**+1.5**
HHC				AP		07 15 28.3	
HHC				XP	sP	07 15 31.0	+7.9
HHC				PP	PP	07 16 49.3	+3.2
HHC				PCP	PcP	07 17 46.3	+1.8
HHC				S	**S**	**07 21 07.1**	**-0.3**
HHC				SS	SS	07 23 34.8	-13
HHC				SCS	ScS	07 25 37.1	-2.1
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,319nm,5.3s						
HHC				LR	LR		
	comp=N,182nm,8.2s						
HHC				LR	LR		
	comp=E,292nm,8.0s						
HHC				LR	LR		
	comp=Z,276nm,16.2s,MS4.1						
MLR	**Muntele Rosu**	**36.85**	**308**	⇓P	**P**	**07 15 25.0**	**+2.3**
MLR	**Muntele Rosu**	**36.85**	**308**	⇓P	**P**	**07 15 25.1**	**+2.4**
KLMR	**Klimovskoe**	**36.88**	**337**	*e*P	**P**	**07 15 21.0**	**-2.0**
KLMR				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.0						
VOIR		**37.46**	**307**	⇓P	**P**	**07 15 28.6**	**+0.7**
VOIR		**37.46**	**307**	⇓P	**P**	**07 15 28.7**	**+0.8**
BURAR	**Bucovina Array**	**37.78**	**311**	⇑P	**P**	**07 15 31.6**	**+1.0**
BURAR	**Bucovina Array**	**37.78**	**311**	⇑P	**P**	**07 15 31.6**	**+1.0**
DRGR		**39.30**	**309**	⇑P	**P**	**07 15 45.2**	**+1.9**
WHN	**Wuhan**	**39.66**	**77**	*e*P	**P**	**07 15 48.5**	**+2.2**
KWP	**Kalwaria**	**39.87**	**314**	*e*P	**P**	**07 15 48.7**	**+0.6**
BZS	**Buzias**	**39.87**	**307**	⇓P	**P**	**07 15 49.4**	**+1.3**
KOLS	**Kolonicke sedl**	**39.99**	**312**	*e*P	**P**	**07 15 49.9**	**+0.8**
CIT	**Chita**	**40.20**	**43**	*e*P	**P**	**07 15 52.4**	**+1.5**
CIT				pmax	pmax		
	comp=Z,47nm,1.5s,mb5.0						
BJT	**Baijiatuau**	**40.30**	**62**	PFAKE		07 16 00.0	+8.3
BJT				LR	LR		
	comp=Z,205nm,20.0s,MS4.0						
BJI	**Beijing**	**40.30**	**62**	P	**P**	**07 15 48.5**	**-3.2**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.5						
GRUS	**Gruza**	**40.33**	**304**	*i* P	**P**	**07 15 52.4**	**+0.5**
CRVS	**Cervenica-Dubn**	**40.51**	**312**	*e*P	**P**	**07 15 54.8**	**+1.4**
VSU	**Vasula**	**40.70**	**328**	*c i*P	**P**	**07 15 54.3**	**-0.7**
STHS	**Stebnicka Huta**	**40.75**	**313**	*e*P	**P**	**07 15 52.8**	**-2.6**
DIVS	**Divcibare**	**40.86**	**305**	*i* P	**P**	**07 15 57.0**	**+0.7**
JOF	**Joensuu**	**41.17**	**335**	*e*p	**P**	**07 15 59.0**	**+0.2**
	comp=Z,1.1nm,0.6s,mb4.7						
BBLS	**Bajina Basta -**	**41.27**	**304**	*i* P	**P**	**07 16 01.2**	**+1.5**
NIE	**Niedzica**	**41.35**	**313**	*e*P	**P**	**07 16 01.8**	**+1.5**
PSZ	**Piszkesteto**	**41.37**	**310**	*e*P	**P**	**07 16 01.9**	**+1.4**
	comp=Z,28nm,1.1s,mb4.8						
PSZ	**Piszkesteto**	**41.37**	**310**	*e*P	**P**	**07 16 01.9**	**+1.4**
PSZ				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.8		

NJ2 AP 07 16 19.9
NJ2 PP PP 07 17 58.3 +2.9
NJ2 S **S** **07 22 40.0 -2.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
NJ2 AMB AMB
comp=Z,400nm,7.5s
NJ2 LR LR
comp=N,510nm,21.3s,MS4.8
NJ2 LR LR
comp=E,1µm,19.9s,MS4.8
NJ2 LR LR
comp=Z,140nm,21.5s,MS3.8
MORC Moravsky Berou 43.19 313 *e*P **P** **07 16 15.5 +0.2**
comp=Z,3.1nm,0.7s,mb4.2
MORC Moravsky Berou 43.19 313 *e*P **P** **07 16 15.5 +0.2**
MORC pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
TIP Timpagrande 43.24 297 *e*P **P** **07 16 15.4 -0.3**
HIA Hailar 43.49 48*c* *i*P **P** **07 16 19.1 +1.4**
APA Apatity 43.51 341⇓*i*P **P** **07 16 17.8 -0.1**
APA pmax pmax
comp=Z,29nm,1.0s,mb5.0
KOGS Kog 43.67 308 *e*P **P** **07 16 19.8 +0.5**
DPC Dobruska-Polom 44.05 313 *e*P **P** **07 16 22.9 +0.6**
GCIS Gornji Cirnik 44.07 307 *e*P **P** **07 16 22.8 +0.3**
KSP Ksiaz 44.14 314 *e*P **P** **07 16 23.6 +0.6**
CRES Cresnjev 44.19 307 *e*P **P** **07 16 24.0 +0.6**
ARSA Arzberg 44.23 309⇑*i*P **P** **07 16 24.4 +0.7**
comp=Z,20nm,1.4s,mb4.7,SNR=6.6
ARSA Arzberg 44.23 309⇑*i*P **P** **07 16 24.4 +0.7**
UPC Upice 44.27 314 *e*P **P** **07 16 25.0 +1.0**
BOJS Bojanci 44.31 306 *e*P **P** **07 16 24.8 +0.4**
DL2 Dalian 44.56 63 *e*P **P** **07 16 22.8 -3.6**
DL2 *e*S **S** **07 22 53.5 -9.4**
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
DL2 AMB AMB
comp=Z,160nm,5.0s
DL2 LR LR
comp=N,200nm,14.4s,MS4.2
DL2 LR LR
comp=E,100nm,13.5s,MS4.2
DL2 LR LR
comp=Z,170nm,13.6s,MS4.1
LJU Ljubljana 44.84 307 *e*P **P** **07 16 29.8 +1.2**
MOA Molln 45.12 310⇑*i*P **P** **07 16 31.0 +0.1**
comp=Z,8.4nm,0.7s,mb4.7
VOJS Vojsko 45.29 307 *e*P **P** **07 16 32.0 -0.2**
SSE Sheshan 45.32 74 P **P** **07 16 31.8 -0.6**
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,44nm,3.5s
GEC2 GERESS Array S 45.57 311 *e*P **P** **07 16 34.5 +0.1**
comp=Z,9.0nm,1.3s,mb4.5
GEC2 GERESS Array S 45.57 311 *e*P **P** **07 16 34.5 +0.1**
GEC2 pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
GERES GERESS Array B 45.57 311 P **P** **07 16 33.4 -1.1**
comp=Z,1.9nm,0.7s,mb4.1,baz=94,slow=7.2,SNR=16
BRG Berggiesshubel 45.62 314 *e*P **P** **07 16 35.6 +0.8**
comp=Z,20nm,1.5s,mb4.8
BRG Berggiesshubel 45.62 314 *e*P **P** **07 16 35.6 +0.8**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
KHC Kasperske Hory 45.68 311 *e*P **P** **07 16 35.1 -0.2**
KBA Koelnbreinsper 45.70 309⇓P **P** **07 16 36.0 +0.6**
comp=Z,22nm,1.2s,mb5.0,SNR=6.0
CLL Collm 46.26 314 *e*P **P** **07 16 41.0 +1.2**
WERD Werda 46.61 313 *e*P **P** **07 16 43.0 +0.4**
comp=Z,6.0nm,1.1s,mb4.4
ROTZ Rotzenmuhle 46.62 312 *e*pP pP 07 17 05.7 +23
MANZ Manzenberg 46.70 312 *e*P **P** **07 16 44.7 +1.4**
comp=Z,9.0nm,1.1s,mb4.6
MANZ *e*pP 07 17 06.1
KEV Kevo 46.72 342 *e*p **P** **07 16 42.7 -0.7**
comp=Z,27nm,1.0s,mb5.1
KEV Kevo 46.72 342 *e*P **P** **07 16 42.7 -0.7**
KEV pmax pmax
comp=Z,27nm,1.0s,mb5.1
ARCES ARCESS Array B 47.01 341 P **P** **07 16 44.3 -1.4**
comp=Z,5.9nm,0.5s,mb4.7,baz=130,slow=8.4,SNR=37
ARE0 ARCESS Array S 47.01 341 *e*P **P** **07 16 45.4 -0.3**
MOX Moxa 47.07 313 *e*P **P** **07 16 46.6 +0.4**
comp=Z,10.0nm,1.1s,mb4.7
MOX Moxa 47.07 313 *e*P **P** **07 16 46.6 +0.4**
MOX pmax pmax
comp=Z,21nm,1.4s,mb4.9
CN2 Changchun 47.16 56 *e*P **P** **07 16 46.6 -0.3**
CN2 *e*S **S** **07 23 36.9 -3.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
GRA1 Grafenberg Arr 47.25 312 *e*P **P** **07 16 48.5 +0.9**
comp=Z,9.0nm,0.6s,mb4.9
GRF Grafenberg Arr 47.25 312 *e*P **P** **07 16 48.5 +0.9**
comp=Z,9.0nm,0.6s,mb4.9
GRF Grafenberg Arr 47.25 312 *e*P **P** **07 16 48.5 +0.9**
GRF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
GRF Grafenberg Arr 47.25 312 *e*P **P** **07 16 48.5 +0.9**
GRF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CLZ Clausthal 47.94 315 *e*P **P** **07 16 53.7 +0.7**
comp=Z,8.0nm,1.1s,mb4.7
CLZ Clausthal 47.94 315 *e*P **P** **07 16 53.7 +0.7**
CLZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BSEG Bad Segeberg 48.18 318 *e*P **P** **07 16 55.0 +0.2**
comp=Z,24nm,1.2s,mb5.1
BSEG *e*pP 07 17 19.0
PGF Pioggiola 48.88 302 *e*P **P** **07 16 57.4 -2.8**
VSL Villasalto 48.91 298 P **P** **07 16 58.4 -2.0**
comp=Z,24nm,1.0s,mb5.2
NB2 NORSAR Subarra 48.94 327 P **P** **07 16 59.1 -1.6**
comp=Z,25nm,1.4s,mb5.0,baz=106,slow=7.9
NB2 NORSAR Subarra 48.94 327 P **P** **07 16 59.1 -1.6**
NB2 pmax pmax
comp=Z,25nm,1.4s,mb5.0
NOA NORSAR Array B 48.94 327 P **P** **07 16 59.1 -1.5**
comp=Z,9.3nm,1.0s,mb4.8,baz=107,slow=7.6,SNR=10
TNS Taunus Mts 49.07 313 *e*P **P** **07 17 02.2 +0.6**
comp=Z,43nm,1.9s,mb5.2
TNS *e*pP 07 17 24.5
TNS Taunus Mts 49.07 313 *e*P **P** **07 17 02.2 +0.6**
TNS pmax pmax
comp=Z,43nm,1.9s,mb5.2
IBBN Ibbenburen 49.58 315 *e*pP pP 07 17 27.1 +21
KS15 Wonju Array Si 49.63 64 *e*P **P** **07 17 07.2 +1.2**
CDF Champ du Feu 49.82 310 *e*P **P** **07 17 06.3 -1.1**
SBF Sospel 49.92 304 *e*P **P** **07 17 07.7 -0.4**
comp=Z,116nm,1.1s,mb5.5
SBF Sospel 49.92 304 *e*P **P** **07 17 07.7 -0.4**
comp=Z,58nm,1.1s,mb5.5
SBF Sospel 49.92 304 *e*P **P** **07 17 07.7 -0.4**
SBF pmax pmax
comp=Z,58nm,1.1s,mb5.5
MDJ Mudanjiang 50.09 55 P **P** **07 17 10.9 +1.4**
MDJ AMB AMB
comp=Z,8.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,129nm,3.4s
HINF Hinteralfeld 50.12 309 *e*P **P** **07 17 08.7 -0.9**
LPG La Plagne 50.29 306⇑*i*P **P** **07 17 10.7 -0.3**
comp=Z,22nm,1.0s,mb4.8
LPG La Plagne 50.29 306⇑*i*P **P** **07 17 10.7 -0.3**
comp=Z,11nm,1.0s,mb4.8
LPL La Plagne 50.30 306⇑*i*P **P** **07 17 10.8 -0.3**
comp=Z,41nm,1.2s,mb5.0
LPL La Plagne 50.30 306⇑*i*P **P** **07 17 10.8 -0.3**
comp=Z,20nm,1.2s,mb5.0
LPL La Plagne 50.30 306⇑*i*P **P** **07 17 10.8 -0.3**
LPL pmax pmax
comp=Z,20nm,1.2s,mb5.0
MBDF Montbardon 50.33 305⇑*i*P **P** **07 17 10.5 -0.8**
comp=Z,16nm,0.7s,mb4.9
MBDF Montbardon 50.33 305⇑*i*P **P** **07 17 10.5 -0.8**
comp=Z,7.9nm,0.7s,mb4.8
MBDF Montbardon 50.33 305⇑*i*P **P** **07 17 10.5 -0.8**
MBDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
HAU Haudompre 50.45 310 *e*P **P** **07 17 12.5 +0.3**
FRF La Foret Royal 50.51 304 *e*P **P** **07 17 11.8 -0.9**
LMR La Mourre 50.63 304 *e*P **P** **07 17 12.6 -1.0**

CABF La Chapelle 50.69 308⇑*i*P **P** **07 17 14.1 +0.1**
comp=Z,86nm,1.5s,mb5.2
CABF La Chapelle 50.69 308⇑*i*P **P** **07 17 14.1 +0.1**
comp=Z,43nm,1.5s,mb5.2
CABF La Chapelle 50.69 308⇑*i*P **P** **07 17 14.1 +0.1**
CABF pmax pmax
comp=Z,43nm,1.5s,mb5.2
YAK Yakutsk 51.11 32 *e*P **P** **07 17 16.3 -0.9**
YAK pmax pmax
comp=Z,40nm,1.2s,mb5.2
YAK MLR MLR
comp=Z,200nm,19.0s,MS4.2
KLR Kul'dur 51.34 49 *e*P **P** **07 17 15.7 -3.1**
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,43nm,1.4s,mb5.2
VIVF Saint-Julien-I 51.81 306⇑*i*P **P** **07 17 21.9 -0.5**
comp=Z,48nm,1.1s,mb5.0
VIVF Saint-Julien-I 51.81 306⇑*i*P **P** **07 17 21.9 -0.5**
comp=Z,24nm,1.1s,mb5.0
VIVF Saint-Julien-I 51.81 306⇑*i*P **P** **07 17 21.9 -0.5**
VIVF pmax pmax
comp=Z,24nm,1.1s,mb5.0
LOR Lormes 52.17 309⇑*i*P **P** **07 17 24.2 -0.9**
comp=Z,20nm,1.1s,mb4.7
LOR Lormes 52.17 309⇑*i*P **P** **07 17 24.2 -0.9**
comp=Z,10nm,1.1s,mb4.7
LOR Lormes 52.17 309⇑*i*P **P** **07 17 24.2 -0.9**
LOR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SMF Signal de Mont 52.23 308⇑*i*P **P** **07 17 25.1 -0.4**
comp=Z,33nm,1.1s,mb4.9
SMF Signal de Mont 52.23 308⇑*i*P **P** **07 17 25.1 -0.4**
comp=Z,17nm,1.1s,mb4.9
SMF Signal de Mont 52.23 308⇑*i*P **P** **07 17 25.1 -0.4**
SMF pmax pmax
comp=Z,17nm,1.1s,mb4.9
SSF Saint Saulge 52.42 309⇑*i*P **P** **07 17 26.5 -0.5**
comp=Z,10nm,0.7s,mb4.6
SSF Saint Saulge 52.42 309⇑*i*P **P** **07 17 26.5 -0.5**
comp=Z,5.3nm,0.7s,mb4.6
SSF Saint Saulge 52.42 309⇑*i*P **P** **07 17 26.5 -0.5**
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LASF Ste Croix 52.47 305⇑*i*P **P** **07 17 27.1 -0.2**
comp=Z,83nm,1.4s,mb5.2
AVF Avril sur Loir 52.55 308⇑*i*P **P** **07 17 27.2 -0.7**
comp=Z,44nm,1.4s,mb4.9
AVF Avril sur Loir 52.55 308⇑*i*P **P** **07 17 27.2 -0.7**
comp=Z,22nm,1.4s,mb4.9
AVF Avril sur Loir 52.55 308⇑*i*P **P** **07 17 27.2 -0.7**
AVF pmax pmax
comp=Z,22nm,1.4s,mb4.9
TIXI Tiksi 53.20 20 PFAKE 07 17 40.0 +7.3
TIXI LR LR
comp=Z,240nm,22.0s,MS4.2
TIXI Tiksi 53.20 20*c* *i*P **P** **07 17 32.0 -0.7**
TIXI pmax pmax
comp=Z,14nm,1.2s,mb4.8
TIXI MLR MLR
comp=Z,200nm,17.0s,MS4.2
EJON La Jonquera 53.38 303 P **P** **07 17 33.6 -0.5**
comp=Z,76nm,1.5s,mb5.4
TCF Toulx Ste Croi 53.38 308 *e*P **P** **07 17 33.8 -0.3**
comp=Z,20nm,1.1s,mb4.7
TCF Toulx Ste Croi 53.38 308 *e*P **P** **07 17 33.8 -0.3**
comp=Z,9.9nm,1.1s,mb4.7
TCF Toulx Ste Croi 53.38 308 *e*P **P** **07 17 33.8 -0.3**
TCF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CAF Calviac 53.64 306⇑*i*P **P** **07 17 35.9 0.0**
comp=Z,48nm,1.2s,mb5.0
CAF Calviac 53.64 306⇑*i*P **P** **07 17 35.9 0.0**
comp=Z,24nm,1.2s,mb5.0
CAF Calviac 53.64 306⇑*i*P **P** **07 17 35.9 0.0**
CAF pmax pmax
comp=Z,24nm,1.2s,mb5.0
MTLF Montolieu 53.74 304⇑*i*P **P** **07 17 36.3 -0.4**
comp=Z,15nm,0.9s,mb4.6
MTLF Montolieu 53.74 304⇑*i*P **P** **07 17 36.3 -0.4**
comp=Z,7.7nm,0.9s,mb4.6
MTLF Montolieu 53.74 304⇑*i*P **P** **07 17 36.3 -0.4**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
RJF Les Rejaudoux 53.98 307 *e*P **P** **07 17 38.4 0.0**
LFF La Frestale 54.57 306 *e*P **P** **07 17 42.6 -0.1**
LDF La Druitiere 54.72 311 *e*P **P** **07 17 42.7 -1.1**
FLN La Foliniere 54.94 311 *e*P **P** **07 17 45.4 0.0**
EPF Esparros 55.15 304 *e*P **P** **07 17 45.3 -1.6**
EGRA Graus 55.31 303 P **P** **07 17 48.3 +0.3**
comp=Z,29nm,1.2s,mb5.2
EBIE Bielsa 55.35 304 P **P** **07 17 47.6 -0.7**
comp=Z,3.9nm,0.6s,mb4.6
ETSF Etsaut 55.82 304⇑*i*P **P** **07 17 51.6 -0.2**
comp=Z,14nm,0.8s,mb4.8
ETSF Etsaut 55.82 304⇑*i*P **P** **07 17 51.6 -0.2**
comp=Z,7.2nm,0.8s,mb4.8
ETSF Etsaut 55.82 304⇑*i*P **P** **07 17 51.6 -0.2**
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SJPF Ste Jean 56.26 304⇑*i*P **P** **07 17 54.8 -0.1**
comp=Z,14nm,1.1s,mb4.6
SJPF Ste Jean 56.26 304⇑*i*P **P** **07 17 54.8 -0.1**
comp=Z,7.2nm,1.1s,mb4.6
SJPF Ste Jean 56.26 304⇑*i*P **P** **07 17 54.8 -0.1**
SJPF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ELAN Lanestosa 57.83 305 P **P** **07 18 06.1 +0.1**
comp=Z,8.9nm,0.8s,mb4.8
MJAR Matsushiro Arr 57.90 63 P **P** **07 18 07.4 +0.9**
comp=Z,0.6nm,0.3s,mb4.1,baz=287,slow=8.5,SNR=5.9
DAV Davao City (W) 58.09 101 PFAKE 07 18 20.0 +12
DAV LR LR
comp=Z,335nm,22.0s,MS4.4
EQES Quesada 58.79 299 P **P** **07 18 12.7 -0.1**
comp=Z,6.9nm,1.0s,mb4.6
GUD Guadarrama 58.91 302 P **P** **07 18 13.7 +0.1**
comp=Z,7.7nm,0.9s,mb4.7
GUD Guadarrama 58.91 302 P **P** **07 18 13.7 +0.1**
GUD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LSZ Lusaka 58.94 227 PFAKE 07 18 30.0 +16
LSZ LR LR
comp=Z,135nm,20.0s,MS4.1
ESDC Sonseca Array 59.00 301 P **P** **07 18 13.7 -0.5**
comp=Z,1.3nm,0.5s,mb4.3,baz=66,slow=7.7,SNR=12
ESDC Sonseca Array 59.00 301 P **P** **07 18 15.0 +0.8**
comp=Z,1.6nm,0.6s,mb4.2
ESLA Sonseca Array 59.00 301 *e*P **P** **07 18 13.1 -1.1**
ESLA LR LR
comp=Z,581nm,20.0s,MS4.7
EARI Arriondas 59.08 305 P **P** **07 18 14.8 0.0**
comp=Z,4.5nm,0.9s,mb4.5
ERM Erimo 60.27 56 PFAKE 07 18 30.0 +7.0
ERM LR LR
comp=Z,4.0nm,20.0s
DAG Danmarks Havn 60.96 345⇓*i*P **P** **07 18 27.6 -0.1**
comp=Z,17nm,1.0s,mb5.1
DAG Danmarks Havn 60.96 345⇓*i*P **P** **07 18 27.6 -0.1**
DAG pmax pmax
comp=Z,17nm,1.0s,mb5.1
MTE Manteigas 61.48 303 *e*P **P** **07 18 30.3 -0.9**
comp=Z,25nm,1.1s,mb5.3
MTE Manteigas 61.48 303 *e*P **P** **07 18 30.0 -1.1**
comp=Z,12nm,0.9s,mb5.0
PCBR Castelo Branco 61.58 302 *e*P **P** **07 18 31.8 -0.1**
comp=Z,15nm,1.6s,mb4.9
SEY Seymchan 61.61 31⇓*i*P **P** **07 18 32.6 +0.6**
PVIS Viseu 61.65 303 *e*P **P** **07 18 31.7 -0.6**
comp=Z,11nm,1.1s,mb4.9
PTOM Tomar 62.33 302 *e*P **P** **07 18 37.2 +0.3**
comp=Z,28nm,1.0s,mb5.3
TORD Torodi Ar. Bea 63.44 271 P **P** **07 18 43.8 -0.5**
comp=Z,7.5nm,0.6s,mb5.0,baz=62,slow=6.0,SNR=52
BILL Bilibino 65.99 24 *e*P **P** **07 19 01.3 +0.4**
comp=Z,7.1nm,1.0s,mb4.7
BILL LR LR
comp=Z,182nm,19.0s,MS4.3
BILL Bilibino 65.99 24 *e*P **P** **07 19 01.4 +0.5**
BILL *e* 07 19 09.8
BILL pmax pmax
comp=Z,16nm,1.6s,mb4.8
SUMG Summit 67.09 342 *e*P **P** **07 19 08.6 +0.7**
comp=Z,8.0nm,0.6s,mb4.9
LBTB Lobatse 67.90 222 PFAKE 07 19 20.0 +6.9
LBTB LR LR

comp=Z,253nm,21.0s,MS4.4
TSUM Tsumeb 68.77 232 PFAKE 07 19 30.0 +11
TSUM LR LR
comp=Z,184nm,19.0s,MS4.3
MBWA Marble Bar 70.53 129 PFAKE 07 19 40.0 +11
MBWA LR LR
comp=Z,360nm,20.0s,MS4.6
BOSA Boshof 70.86 219 P **P** **07 19 31.6 +0.2**
comp=Z,2.9nm,0.8s,mb4.3,baz=63,slow=4.4,SNR=4.4
BOSA LR LR 07 46 53.2
comp=Z,119nm,21.6s,MS4.1,baz=356,slow=33
DBIC Dimbokro 72.13 268 P **P** **07 19 39.1 0.0**
comp=Z,6.7nm,0.7s,mb4.7,baz=19,slow=9.7,SNR=8.9
DBIC Dimbokro 72.13 268 *e*P **P** **07 19 38.5 -0.6**
comp=Z,18nm,1.2s,mb4.9
DBIC LR LR
comp=Z,376nm,19.0s,MS4.7
DBIC Dimbokro 72.13 268 *e*P **P** **07 19 38.5 -0.6**
DBIC pmax pmax
comp=Z,18nm,1.2s
DBIC MLR MLR
comp=Z,376nm,19.0s
LIC Lamto 72.50 267 *e*P **P** **07 19 41.1 -0.2**
comp=Z,17nm,0.7s,mb4.8
LIC Lamto 72.50 267 *e*P **P** **07 19 41.1 -0.2**
comp=Z,8.6nm,0.7s,mb4.8
RES Resolute Bay 75.62 355 *e*P **P** **07 19 58.9 -0.6**
comp=Z,1.5nm,0.8s,mb4.0
RES Resolute Bay 75.62 355 *e*P **P** **07 19 58.9 -0.6**
RES pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
TNA Tin City 75.98 21 *e*P **P** **07 20 02.0 +0.4**
comp=Z,4.4nm,1.2s,mb4.3
TNA LR LR
comp=Z,188nm,20.0s,MS4.4
WRA Warramunga Arr 80.29 119 P **P** **07 20 25.6 +0.1**
comp=Z,10nm,1.0s,mb4.7,baz=318,slow=5.0,SNR=26
WRA Warramunga Arr 80.29 119⇑*e*P **P** **07 20 26.2 +0.7**
WRAB Tennant Creek 80.29 119 *e*P **P** **07 20 25.9 +0.4**
comp=Z,27nm,1.4s,mb5.0
WRAB Tennant Creek 80.29 119 *e*P **P** **07 20 25.9 +0.4**
WRAB pmax pmax
comp=Z,27nm,1.4s,mb5.0
WB2 Warramunga Arr 80.30 119 *e*P **P** **07 20 26.1 +0.5**
INK Inuvik 81.26 8 P **P** **07 20 30.2 -0.5**
comp=Z,6.7nm,0.8s,mb4.7,baz=4.7,slow=6.5,SNR=64
INK Inuvik 81.26 8 *e*P **P** **07 20 31.0 +0.3**
comp=Z,27nm,1.4s,mb5.0
INK Inuvik 81.26 8 *e*P **P** **07 20 31.0 +0.3**
INK pmax pmax
comp=Z,27nm,1.4s
COLA College 81.92 15 *e*P **P** **07 20 34.1 -0.1**
comp=Z,30nm,1.9s,mb4.9
COLA College 81.92 15*c* *i*P **P** **07 20 32.7 -1.5**
ASPA Alice Springs 82.16 123 *e*P **P** **07 20 35.7 +0.3**
AS31 Alice Springs 82.16 123 *e*P **P** **07 20 35.7 +0.3**
ASAR Alice Springs 82.16 123 P **P** **07 20 35.6 +0.2**
comp=Z,6.7nm,0.7s,mb4.7,baz=308,slow=5.4,SNR=108
ILAR Eielson Array 82.22 14 P **P** **07 20 34.9 -0.8**
comp=Z,3.0nm,1.0s,mb4.2,baz=329,slow=3.9,SNR=19
ILAR PP PP 07 23 44.9 +0.9
comp=Z,2.7nm,1.2s,baz=325,slow=8.1,SNR=7.3
MCK McKinley 82.64 16 PFAKE 07 20 50.0 +12
MCK LR LR
comp=Z,167nm,20.0s,MS4.4
FIB Fire Island 84.50 18 PFAKE 07 21 00.0 +12
FIB LR LR
comp=Z,2µm,21.0s,MS5.5
PMG Port Moresby 84.95 104 PFAKE 07 21 00.0 +10
PMG LR LR
comp=Z,152nm,20.0s,MS4.4
KDAK Kodiak Island 86.62 21 P **P** **07 20 58.5 +0.4**
comp=Z,6.9nm,0.8s,mb4.9,baz=180,slow=6.2,SNR=4.3
YKW3 Yellowknife Ar 88.36 1 *e*P **P** **07 21 06.0 -0.4**
YKA Yellowknife Ar 88.42 1 P **P** **07 21 06.4 -0.3**
comp=Z,2.9nm,0.8s,mb4.6,baz=350,slow=5.0,SNR=85
YKA PP PP 07 24 32.3 -2.1
comp=Z,0.9nm,1.1s,baz=0.0,slow=7.6,SNR=3.6
STKA Stephens Creek 92.43 125 P **P** **07 21 23.6 -1.9**
comp=Z,1.2nm,0.7s,mb4.3,baz=333,slow=9.0,SNR=3.5
HNR Honiara 95.94 97 PFAKE 07 21 50.0 +8.5
HNR LR LR
comp=Z,436nm,20.0s,MS4.9
WES Weston 99.51 331 PFAKE 07 22 10.0 +12
WES LR LR
comp=Z,531nm,20.0s,MS5.0
EYMN Ely 100.93 346 PFAKE 07 22 10.0 +6.1
EYMN LR LR
comp=Z,325nm,22.0s,MS4.8
BINY Binghamton 101.56 334 PFAKE 07 22 20.0 +13
BINY LR LR
comp=Z,386nm,20.0s,MS4.9
EGMT Eagleton 102.94 359 PFAKE 07 22 20.0 +7.1
EGMT LR LR
comp=Z,269nm,21.0s,MS4.8
MSO Missoula 104.12 2 PFAKE 07 22 30.0 +12
MSO LR LR
comp=Z,168nm,20.0s,MS4.6
BOZ Bozeman (W) 105.33 360 PFAKE 07 26 50.0 +13
BOZ LR LR
comp=Z,311nm,20.0s,MS4.8
BMO Blue Mountains 105.95 4 PFAKE 07 26 50.0 +11
BMO LR LR
comp=Z,164nm,20.0s,MS4.6
YMR Madison River 106.31 359 PFAKE 07 26 50.0 +11
YMR LR LR
comp=Z,639nm,21.0s,MS5.2
LKWY Lake 106.41 359 PFAKE 07 26 50.0 +11
LKWY LR LR
comp=Z,289nm,20.0s,MS4.8
BW06 Boulder Array 108.19 358 PFAKE 07 26 50.0 +7.3
BW06 LR LR
comp=Z,279nm,19.0s,MS4.8
AHID Auburn Hatcher 108.21 360 PFAKE 07 26 50.0 +7.2
AHID LR LR
comp=Z,204nm,21.0s,MS4.7
HWUT Hardware Ranch 109.37 360 PFAKE 07 27 00.0 +15
HWUT LR LR
comp=Z,259nm,21.0s,MS4.8
BMN Battle Mountai 110.36 5 PFAKE 07 27 00.0 +13
BMN LR LR
comp=Z,224nm,20.0s,MS4.7
ISCO Idaho Springs 110.95 355 PFAKE 07 27 00.0 +12
ISCO LR LR
comp=Z,374nm,22.0s,MS4.9
MPU Maple Canyon 110.96 360 PFAKE 07 27 00.0 +12
MPU LR LR
comp=Z,1µm,21.0s,MS5.5
CBKS Cedar Bluff 111.26 350 PFAKE 07 27 00.0 +11
CBKS LR LR
comp=Z,228nm,19.0s,MS4.8
PLAL Pickwick Lake 112.23 339 PFAKE 07 27 00.0 +10
PLAL LR LR
comp=Z,219nm,20.0s,MS4.7
MVU Marysvale 112.47 0 PFAKE 07 27 00.0 +9.2
MVU LR LR
comp=Z,346nm,20.0s,MS4.9
SDCO Great Sand Dun 112.98 355 PFAKE 07 27 00.0 +8.2
SDCO LR LR
comp=Z,575nm,19.0s,MS5.2
OXF Oxford 113.07 340 PFAKE 07 27 00.0 +8.0
OXF LR LR
comp=Z,182nm,20.0s,MS4.7
LRAL Lakeview Retre 113.68 338 PFAKE 07 27 00.0 +6.9
LRAL LR LR
comp=Z,289nm,20.0s,MS4.9
TPNV Topopah Spring 113.88 4 PFAKE 07 27 00.0 +6.5
TPNV LR LR
comp=Z,173nm,20.0s,MS4.7
MIAR Mount Ida 114.17 344 PFAKE 07 27 10.0 +16
MIAR LR LR
comp=Z,340nm,21.0s,MS4.9
DAC Darwin (Calif) 114.46 5 PFAKE 07 27 10.0 +15
DAC LR LR
comp=Z,333nm,19.0s,MS5.0
WUAZ Wupatki 115.45 360 PFAKE 07 27 10.0 +13
WUAZ LR LR
comp=Z,152nm,21.0s,MS4.6
ANMO Albuquerque 115.83 355 PFAKE 07 27 10.0 +13
ANMO LR LR
comp=Z,278nm,19.0s,MS4.9
NATX Nacogdoches 117.09 344 PFAKE 07 27 10.0 +10
NATX LR LR
comp=Z,498nm,20.0s,MS5.1
TUC Tucson 118.65 359 PFAKE 07 27 10.0 +7.3
TUC LR LR

comp=Z,159nm,20.0s,MS4.6
HKT Hockley 119.11 344 PFAKE 07 27 10.0 +6.4
HKT LR LR
comp=Z,250nm,19.0s,MS4.9
JCT Junction City 119.42 348 PFAKE 07 27 20.0 +16
JCT LR LR
comp=Z,202nm,20.0s,MS4.8
LTX Lajitas 121.12 352 PFAKE 07 27 20.0 +13
LTX LR LR
comp=Z,278nm,22.0s,MS4.9
AFI Afiamalu 122.59 88 PFAKE 07 27 20.0 +10
AFI LR LR
comp=Z,749nm,22.0s,MS5.3
SDV Santo Domingo 125.16 308 PFAKE 07 27 30.0 +15
SDV LR LR
comp=Z,124nm,22.0s,MS4.5
TEIG Tepich 125.78 333 PFAKE 07 27 30.0 +14
TEIG LR LR
comp=Z,42nm,21.0s,MS4.1
OTAV Otavalo 136.75 307 PFAKE 07 27 50.0 +13
OTAV LR LR
comp=Z,65nm,22.0s,MS4.3
LPAZ La Paz 138.06 278 PFAKE 07 27 50.0 +10
LPAZ LR LR
comp=Z,280nm,20.0s,MS5.0
PLCA Paso Flores 144.79 240 *e*PKPdf PKPdf 07 27 49.4 -2.2

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*BJI **21** 07:29:32.9, 2470N×9394E, h58km, mB4.8, mb4.6, ML4.1*
*NEIC **21** 07:29:35.0±0.6, 2469N×9407E, mb4.4/2, Error ellipse: s-maj=15.3km s-min=8.5km az=207.0*
*IDC **21** 07:29:35.7±1.2, 2477N×9425E, h44km±9km, mb3.5/6, mb1 3.7/6, mb1mx3.4/21, mbtmp3.7/6, Error ellipse: s-maj=38.7km s-min=19.5km az=54.0*
*ISCJB **21** 07:29:38.2±0.7, 2474N±007×9372E±004, h107km±7km, mb3.9/8, Error ellipse: s-maj=11.4km s-min=5.4km az=10.4*
ISC 21 07:29:38.9±0.6, 2466N±006×9376E±004, h93km±7km, n33, σ1§18/41, mb3.9/8, 1C-2D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.20**	**52**	*i* x	**Pn**	**07 29 53.0**	**+0.8**
IMP				*i* x	x	07 30 17.0	
SHL	**Shillong**	**1.93**	**298**	*i* x	**Pn**	**07 30 09.5**	**-0.7**
SHL				*e*PG	**Pn**	**07 30 13.5**	**+3.3**
SHL				*e*x	x	07 30 17.5	
SHL				*e*S	**Sn**	**07 30 37.3**	**+3.3**
SHL				*e*x	x	07 30 44.9	
SHL				*e*x	x		
SHL	**Shillong**	**1.93**	**298**	*e*x	**Sn**	**07 30 41.0**	**+6.9**
AGT	**Agartala**	**2.41**	**252**	⇓*i*x	x	07 30 22.0	
AGT				⇑*i*x	x	07 31 01.0	
LKP	**Lekhapani**	**3.38**	**37**	*e*P	**Pn**	**07 30 31.0**	**+1.4**
LKP				*e*S	**Sn**	**07 31 09.0**	**+0.3**
GTK	**Gangtok**	**5.34**	**301**	*e*P	**Pn**	**07 30 54.0**	**-2.1**
LSA	**Lhasa**	**5.53**	**336**	P	**Pn**	**07 30 56.9**	**-1.9**
LSA				Smax			
comp=N,120nm,1.0s							
LSA				Smax			
comp=E,190nm,0.8s							
LSA	**Lhasa**	**5.53**	**336**	*e*Pn	**Pn**	**07 30 57.0**	**-1.8**
comp=E,53nm,0.7s							
BOK	**Bokaro**	**7.24**	**265**	*e*P	**Pn**	**07 31 23.6**	**+1.7**
BOK				AMb	AMB	07 31 25.5	
comp=Z,36nm,0.5s							
BOK				*e*S	**Sn**	**07 32 40.4**	**-2.1**
BOK				AML	AML	07 32 49.6	
comp=N,61nm,0.3s							
BOK				AML	AML	07 32 50.1	
comp=E,43nm,0.5s							
CHRT	**Chiangrai**	**7.34**	**129**	⇓PN	**Pn**	**07 31 21.0**	**-2.3**
CHRT				PG	Pn	07 31 44.0	+21
JIRN	**Jiri**	**7.43**	**295**	*e*Pn	**Pn**	**07 31 25.1**	**+0.6**
JIRN				*e*Sn	**Sn**	**07 32 47.6**	**+0.4**
comp=E,149nm,0.4s							
GUN	**Gumba**	**7.78**	**296**	*e*Pn	**Pn**	**07 31 29.6**	**+0.3**
GUN				*e*Sn	**Sn**	**07 32 57.1**	**+1.4**
comp=E,334nm,0.5s							
PKI	**Pulchoki**	**8.04**	**293**	*e*Pn	**Pn**	**07 31 33.2**	**+0.3**
PKI				*e*Sn	**Sn**	**07 33 02.9**	**+0.7**
comp=E,80nm,0.6s							
KKN	**Kakani**	**8.23**	**294**	*e*Pn	**Pn**	**07 31 35.3**	**-0.1**
KKN				*e*Sn	**Sn**	**07 33 07.4**	**+0.7**
comp=E,154nm,0.7s							
DMN	**Daman**	**8.31**	**293**	*e*Pn	**Pn**	**07 31 36.6**	**0.0**
DMN				*e*Sn	**Sn**	**07 33 09.1**	**+0.4**
comp=E,76nm,0.4s							
BWNR	**Bhubaneshwar**	**8.54**	**241**	*e*x	x	07 32 35.7	
GKN	**Gorkha**	**8.83**	**294**	*e*Pn	**Pn**	**07 31 43.2**	**-0.5**
GKN				*e*Sn	**Sn**	**07 33 20.7**	**-0.8**
comp=E,148nm,0.5s							
KOLN	**Koldanda**	**9.63**	**291**	*e*Pn	**Pn**	**07 31 53.7**	**-0.9**
KOLN				*e*Sn	**Sn**	**07 33 40.1**	**-0.8**
comp=E,94nm,0.6s							
BHPL	**Bhopal**	**15.00**	**268**	*e*P	**Pn**	**07 33 06.2**	**+0.3**
BHPL				AMb	AMB	07 33 07.1	
comp=Z,16nm,1.0s							
BHPL				AMb	AMB	07 33 15.5	
comp=Z,29nm,0.9s							
BHPL				AMb	AMB	07 33 16.6	
comp=Z,14nm,0.6s							
BHPL				*e*x	x	07 35 45.1	
KLP	**Kalpa**	**15.29**	**300**	*e*x	**Pn**	**07 33 05.2**	**-4.4**
KLP				*e*x	**S**	**07 35 51.6**	**-17**
SONA	**Sohna**	**15.36**	**287**	*e*x	**Pn**	**07 33 07.6**	**-2.8**
SONA				*e*x	x	07 35 45.5	
KHET	**Khetri**	**16.44**	**286**	*e*P	**Pn**	**07 33 25.0**	**+1.0**
comp=Z,18nm,1.1s							
KHET				*e*x	x	07 36 15.9	
MKAR	**Makanchi Array**	**23.92**	**340**	P	**P**	**07 34 45.3**	**+1.1**
comp=Z,3.0nm,0.8s,mb3.7,baz=152,slow=9.9,SNR=22							
SONM	**Songino Array**	**25.21**	**20**	P	**P**	**07 34 54.5**	**-1.4**
comp=Z,0.8nm,0.6s,mb3.3,baz=200,slow=9.3,SNR=5.5							
SONM				pP	pP	07 35 07.9	-8.7
comp=Z,2.6nm,0.7s,baz=198,slow=10.0,SNR=8.1							
SONM				sP	sP	07 35 12.0	-15
comp=Z,2.6nm,0.7s,baz=200,slow=11,SNR=9.3							
ULN	**Ulaanbaatar**	**25.45**	**21**	*e*P	**P**	**07 34 56.1**	**-2.0**
comp=Z,4.6nm,0.9s,mb3.9							
AKTO	**Aktyubinsk**	**37.70**	**322**	pP	pP	07 37 00.3	-6.4
comp=Z,1.0nm,0.4s,baz=120,slow=11,SNR=3.8							
AKASG	**Malin Array Be**	**55.32**	**316**	P	**P**	**07 39 07.1**	**+4.2**
comp=Z,0.5nm,0.5s,mb3.9,baz=80,slow=6.6,SNR=3.3							
AKASG				pP	pP	07 39 18.3	-7.4
comp=Z,1.0nm,0.6s,baz=81,slow=6.7,SNR=2.6							
WRA	**Warramunga Arr**	**59.37**	**135**	P	**P**	**07 39 31.5**	**+0.1**
comp=Z,0.8nm,0.5s,mb4.0,baz=324,slow=7.4,SNR=3.8							
WB2	**Warramunga Arr**	**59.38**	**135**	*e*P	**P**	**07 39 32.1**	**+0.6**
ASAR	**Alice Springs**	**61.83**	**138**	P	**P**	**07 39 49.1**	**+1.0**
comp=Z,0.5nm,0.5s,mb3.8,baz=322,slow=6.7,SNR=13							
GERES	**GERESS Array B**	**65.46**	**314**	P	**P**	**07 40 16.1**	**+4.1**
comp=Z,0.5nm,0.6s,mb3.5,baz=72,slow=4.3,SNR=4.3							
BOSA	**Boshof**	**84.52**	**235**	*e*P	**P**	**07 42 02.5**	**+1.0**
comp=Z,7.1nm,0.9s,mb4.6							
TORD	**Torodi Ar. Bea**	**86.45**	**283**	pP	pP	07 42 31.7	-3.9
comp=Z,1.2nm,0.9s,baz=74,slow=3.6,SNR=6.7							

IDC 21 07:42:27.6±3.6, 2930N×6853E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=100.0km s-min=35.7km az=83.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.50**	**28**	P	P	07 47 06.0	-1.1
0.3nm,0.5s,baz=204,slow=9.5,SNR=6.0							
BVAR	**Borovoye Array**	**23.74**	**3**	P	P	07 47 41.5	0.0
0.3nm,0.3s,baz=168,slow=8.1,SNR=4.0							
SONM	**Songino Array**	**34.47**	**47**	P	P	07 49 17.9	+0.8
0.7nm,0.8s,baz=246,slow=6.1,SNR=4.5							
ASAR	**Alice Springs**	**81.99**	**123**	P	P	07 54 49.7	+0.3
0.3nm,0.6s,baz=304,slow=4.7,SNR=5.9							

IDC 21 07:48:18.1±3.6, 1636S×17484W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/14, mbtmp3.8/5, MS3.9/12, Ms1 3.9/12, ms1mx3.8/23, Error ellipse: s-maj=230.9km s-min=24.1km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.83**	**51**	Pn	Pn	07 49 11.6	-6.8
3.0nm,0.3s,baz=327,slow=23,SNR=5.0							
AFI				Sn	Sn	07 49 52.7	-11
6.3nm,0.3s,baz=356,slow=11,SNR=2.9							
AFI				LR	LR	07 50 26.6	
comp=Z,1μm,21.5s,baz=130,slow=34							
AFI				T		07 52 44.7	
15nm,0.3s,baz=142,slow=17,SNR=4.4							
DZM	**Mont Dzumac**	**18.56**	**249**	P	Pn	07 52 39.7	+3.2
0.1nm,0.3s,baz=80,slow=19,SNR=4.2							
DZM				LR	LR	07 57 02.3	
comp=Z,114nm,19.0s,baz=43,slow=28							
PPT	**Papeete**	**24.19**	**97**	*e*LQ		07 58 31.7	
653nm,26.2s							
PPT				*e*LR	LR	07 59 31.7	
402nm,25.2s							
PPT	**Papeete**	**24.19**	**97**	LR	LR	08 00 28.9	
comp=Z,307nm,19.9s,baz=80,slow=30							
TBI	**Tubuai**	**24.84**	**110**	*e*LQ		07 58 49.6	
672nm,27.8s							
TBI				*e*LR	LR	07 59 52.9	
183nm,30.2s							
HNR	**Honiara**	**25.51**	**283**	LR	LR	08 02 03.5	
comp=Z,333nm,20.5s,baz=3.1,slow=32							
CTA	**Charters Tower**	**37.08**	**258**	LR	LR	08 08 10.6	
comp=Z,112nm,19.0s,baz=52,slow=32							
PMG	**Port Moresby**	**37.64**	**276**	LR	LR	08 07 14.8	
comp=Z,203nm,18.9s,baz=89,slow=30							
STKA	**Stephens Creek**	**42.36**	**240**	LR	LR	08 12 57.9	
comp=Z,138nm,18.6s,baz=207,slow=35							
WRA	**Warramunga Arr**	**48.28**	**258**	P	P	07 57 00.5	-0.4
2.0nm,1.1s,baz=90,slow=7.1,SNR=7.0							
ASAR	**Alice Springs**	**48.50**	**253**	P	P	07 57 03.5	+0.8
2.7nm,0.7s,baz=86,slow=8.1,SNR=40							
VNDA	**Vanda**	**62.28**	**186**	LR	LR	08 19 16.2	
comp=Z,170nm,19.6s,baz=148,slow=30							
MJAR	**Matsushiro Arr**	**68.79**	**321**	LR	LR	08 22 30.9	
comp=Z,106nm,21.1s,baz=165,slow=30							
NVAR	**Mina Array Bea**	**75.97**	**42**	P	P	08 00 07.3	+0.4
0.7nm,1.0s,baz=222,slow=11,SNR=2.3							
ILAR	**Eielson Array**	**83.66**	**12**	LR	LR	08 36 05.2	
comp=Z,54nm,18.7s,baz=358,slow=34							
PDAR	**Pinedale Array**	**83.90**	**42**	P	P	08 00 50.4	+0.5
0.3nm,0.6s,baz=224,slow=7.5,SNR=3.0							
YKA	**Yellowknife Ar**	**91.53**	**24**	P	P	08 01 25.3	-1.4
0.3nm,0.9s,baz=237,slow=3.9,SNR=3.8							
YKA				LR	LR	08 39 04.2	
comp=Z,76nm,18.9s,baz=115,slow=33							
JTS	**JuntasAbangare**	**92.74**	**80**	LR	LR	08 32 39.2	
comp=Z,74nm,21.8s,baz=125,slow=29							
BRTR	**Keskin Array B**	**146.00**	**319**	PKPbc	PKPbc	08 07 59.5	-0.3
0.8nm,0.7s,baz=117,slow=1.6,SNR=5.2							
GERES	**GERESS Array B**	**146.86**	**350**	PKPbc	PKPbc	08 08 03.0	+0.7
0.3nm,0.6s,baz=27,slow=3.3,SNR=2.8							

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*IDC **21** 08:05:29.3±1.5, 1087N×6059W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/24, mbtmp3.7/6, ML3.3/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/36, Error ellipse: s-maj=41.3km s-min=24.8km az=92.0*
*ISCJB **21** 08:05:36.7±0.9, 1093N±006×6070W±009, h76km±4km, mb3.7/5, Error ellipse: s-maj=15.5km s-min=7.5km az=54.5*
*NEIC **21** 08:05:36.3, 1091N×6065W, h63km, MD3.5(TRN), After TRN.*
*TRN **21** 08:05:36.3, 1091N×6065W, h63km, MD3.5*
ISC 21 08:05:37.9±0.8, 1094N±006×6068W±008, h66km±4km, n21, σ1§17/29, mb3.7/5, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.23**	**350**	*e*P	**Pn**	**08 05 46.6**	**-1.7**
BOT				*e*S	**Sn**	**08 05 56.4**	**+0.7**
TPR	**Prospect**	**0.27**	**338**	*e*P	**Pn**	**08 05 47.3**	**-1.1**
TPR				*e*S	**Sn**	**08 05 58.2**	**+2.1**
TBH	**Brigand Hill**	**0.59**	**221**	*e*P	**Pn**	**08 05 51.2**	**-0.1**
TBH				*e*S	**Sn**	**08 06 00.6**	**-0.6**
TRN	**Trinidad (W)**	**0.77**	**248**	*e*P	**Pn**	**08 05 54.0**	**+0.6**
TRN				*e*S	**Sn**	**08 06 04.8**	**0.0**
TPP	**Pointe-a-Pierr**	**0.98**	**231**	*e*P	**Pn**	**08 05 58.2**	**+2.2**
TPP				*e*S	**Sn**	**08 06 09.3**	**-0.1**
GRW	**Mount Saint Ca**	**1.55**	**322**	*e*P	**Pn**	**08 06 04.2**	**+0.8**
GRW				*e*S	**Sn**	**08 06 09.6**	**-13**
GRW	**Mount Saint Ca**	**1.55**	**322**	*e*P	**Pn**	**08 06 03.9**	**+0.4**
GRW				*e*S	**Sn**	**08 06 09.6**	**-13**
GRHS	**Sauteurs**	**1.59**	**324**	*e*P	**Pn**	**08 06 03.8**	**-0.2**
GRHS				*e*S	**Sn**	**08 06 31.9**	**+8.3**
GRIC	**Isle de Caille**	**1.61**	**326**	*e*P	**Pn**	**08 06 03.8**	**-0.4**
GRSS	**Sisters**	**1.64**	**326**	*e*P	**Pn**	**08 06 04.2**	**-0.4**
GRSS				*e*S	**Sn**	**08 06 17.2**	**-7.5**
GRCU	**Cariacou**	**1.71**	**334**	*e*P	**Pn**	**08 06 04.0**	**-1.5**
SJG	**San Juan**	**8.88**	**324**	LR	LR	08 11 04.4	
comp=Z,93nm,21.4s,baz=272,slow=37							
SDV	**Santo Domingo**	**10.02**	**259**	**Pn**	**Pn**	**08 07 57.2**	**-1.9**
0.3nm,0.3s,baz=28,slow=12,SNR=8.4							
SDV				Sn	**Sn**	**08 09 49.2**	**-0.6**
1.6nm,0.3s,baz=279,slow=23,SNR=6.9							
ROSC	**El Rosal**	**14.81**	**247**	Pn	**Pn**	**08 09 05.8**	**+2.2**
0.3nm,0.3s,baz=106,slow=20,SNR=2.0							
SIV	**San Ignacio**	**26.76**	**181**	P	**P**	**08 11 10.0**	**-1.3**
0.7nm,0.6s,mb3.4,baz=6.3,slow=9.2,SNR=4.5							
ULM	**Lac du Bonnet**	**48.72**	**330**	P	**P**	**08 14 15.1**	**-0.6**
2.0nm,0.6s,mb4.2,baz=108,slow=8.6,SNR=4.5							
ULM	**Lac du Bonnet**	**48.72**	**330**	P	**P**	**08 14 15.1**	**-0.6**
PDAR	**Pinedale Array**	**52.91**	**316**	P	**P**	**08 14 48.1**	**+1.0**
0.3nm,0.6s,mb3.5,baz=118,slow=10,SNR=5.3							
YKA	**Yellowknife Ar**	**64.19**	**335**	P	**P**	**08 16 05.7**	**+0.1**
0.9nm,0.4s,mb3.9,baz=108,slow=7.2,SNR=33							
ILAR	**Eielson Array**	**78.57**	**334**	P	**P**	**08 17 34.5**	**+2.2**
0.3nm,0.6s,mb3.3,baz=91,slow=5.0,SNR=7.7							
SNAA	**Sanae**	**90.77**	**164**	LR	LR	08 55 52.9	
comp=Z,115nm,18.3s,baz=24,slow=33							

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*ISCJB **21** 08:24:23.7±1.5, 2073S±008×687W±02, h113km±17km, mb3.4/2, Error ellipse: s-maj=28.1km s-min=12.6km az=18.3*
*IDC **21** 08:24:24.9±2.4, 2077S×6884W, h111km±21km, mb3.3/2, mb1 3.6/5, mb1mx3.4/16, mbtmp3.9/5, Error ellipse: s-maj=42.3km s-min=20.1km az=102.0*
*NEIC **21** 08:24:27.0±1.4, 2065S×6856W, h128km±15km, mb4.0/2, Error ellipse: s-maj=20.7km s-min=12.9km az=94.0*
ISC 21 08:24:25.0±1.4, 2071S±008×687W±02, h109km±16km, n13, σ1§34/16, mb3.4/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.43**	**7**	P	**Pn**	**08 25 31.2**	**+1.2**
2.3nm,0.3s,baz=194,slow=8.5,SNR=43							
LPAZ				S	**Sn**	**08 26 16.0**	**-4.6**
1.2nm,0.3s,baz=201,slow=9.3,SNR=9.0							
LPAZ	**La Paz**	**4.43**	**7**	*e*Pn	**Pn**	**08 25 32.1**	**+2.0**
LPAZ				*e*Sn	**Sn**	**08 26 17.7**	**-2.9**
SIV	**San Ignacio**	**8.64**	**58**	P	**Pn**	**08 26 27.6**	**+0.4**
1.2nm,0.3s,baz=251,slow=12,SNR=32							
CFAA	**Coronel Fontan**	**10.86**	**178**	P	**Pn**	**08 26 55.2**	**-1.9**
0.0nm,0.3s,baz=351,slow=13,SNR=13							
CFAA				S	**Sn**	**08 28 49.5**	**-7.2**
0.1nm,0.3s,baz=207,slow=16,SNR=6.2							
CFAA	**Coronel Fontan**	**10.86**	**178**	P	**Pn**	**08 26 55.2**	**-1.9**
CFAA				S	**Sn**	**08 28 49.5**	**-7.2**
TRQA	**Tornquist**	**18.25**	**163**	*e*P	**P**	**08 28 30.8**	**+1.0**
5.7nm,0.6s							
PLCA	**Paso Flores**	**20.02**	**184**	P	**P**	**08 28 50.0**	**+1.0**
0.1nm,0.3s,baz=10,slow=12,SNR=8.5							
PLCA	**Paso Flores**	**20.02**	**184**	*e*P	**P**	**08 28 50.6**	**+1.5**
6.2nm,0.9s							
BDFB	**Brasilia**	**20.30**	**79**	P	**P**	**08 28 50.8**	**-1.3**
2.2nm,0.8s,baz=135,slow=4.3,SNR=2.4							
TORD	**Torodi Ar. Bea**	**76.92**	**70**	P	**P**	**08 36 06.1**	**+0.8**
0.3nm,0.4s,mb3.4,baz=258,slow=5.4,SNR=10							
YKA	**Yellowknife Ar**	**90.50**	**341**	P	**P**	**08 37 13.3**	**-1.1**
0.2nm,0.6s,mb3.4,baz=133,slow=4.1,SNR=6.1							
YKA				pP	pP	08 37 43.2	+0.3
0.4nm,0.7s,baz=135,slow=4.7,SNR=8.8							
YKA	**Yellowknife Ar**	**90.50**	**341**	P	**P**	**08 37 13.3**	**-1.1**
YKA				pP	pP	08 37 43.2	+0.3
MKAR	**Makanchi Array**	**144.89**	**35**	PKPbc	PKPdf	08 43 48.8	-0.3
0.4nm,0.4s,baz=316,slow=4.0,SNR=9.4							

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*ISCJB **21** 08:33:26.9±1.2, 3724N±007×7221E±0.1, h144km±16km, mb3.3/4, Error ellipse: s-maj=19.8km s-min=5.5km az=113.1*
*NNC **21** 08:33:35.5±11.0, 3802N×7148E, h183km±134km, mb2.9, mpv4.1, Error ellipse: s-maj=110.4km s-min=55.9km az=13.0*
*IDC **21** 08:33:39.3±25.0, 3836N×7182E, h158km±139km, mb3.2/4, mb1 3.3/6, mb1mx3.0/24, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=286.0km s-min=27.3km az=8.0*
ISC 21 08:33:25.5±1.4, 3713N±008×718E±02, h108km±16km, n29, σ0§93/39, mb3.5/4, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.21**	**16**	P	**Pn**	**08 34 41.5**	**+0.5**
SNR=116							
UCH	**Uchtor**	**5.51**	**22**	P	**Pn**	**08 34 45.7**	**+0.6**
SNR=27							
KZA	**Kyzart**	**5.62**	**27**	P	**Pn**	**08 34 46.8**	**+0.2**
SNR=16							
EKS2	**Erkin-Say**	**5.73**	**15**	P	**Pn**	**08 34 48.8**	**+0.6**
SNR=29							
AAK	**Ala-Archa**	**5.88**	**20**	P	**Pn**	**08 34 51.0**	**+0.9**
SNR=8.3							
KBK	**Karagaybulak**	**6.03**	**23**	P	**Pn**	**08 34 50.2**	**-2.0**
SNR=6.6							
KK31	**Karatay Array**	**6.04**	**351**	P	**Pn**	**08 34 52.4**	**0.0**
16nm,0.3s,baz=181,slow=14,SNR=386							
KK31				S	**Sn**	**08 35 52.8**	**-7.4**
12nm,0.3s,baz=176,slow=22,SNR=14							
ULHL	**Ulahol**	**6.16**	**33**	P	**Pn**	**08 34 54.1**	**+0.2**
SNR=14							
CHMS	**Chumysh**	**6.29**	**20**	P	**Pn**	**08 34 56.0**	**+0.3**
SNR=18							
USP	**Ospenovka**	**6.47**	**18**	P	**Pn**	**08 34 58.1**	**0.0**
SNR=14							
TKM2	**Tokmak 2**	**6.48**	**26**	P	**Pn**	**08 34 58.8**	**+0.6**
SNR=12							
TKM2	**Tokmak 2**	**6.48**	**26**	⇓P	**Pn**	**08 34 58.5**	**+0.2**
7.2nm,0.6s							
TKM2				⇓S	**Sn**	**08 36 05.5**	**-5.3**
9.9nm,0.7s							
SDNR	**Sundarnagar**	**7.07**	**141**	*e*P	**Pn**	**08 35 11.1**	**+4.9**
SDNR				*e*S	**Sn**	**08 36 25.5**	**+0.5**
MKAR	**Makanchi Array**	**12.41**	**36**	P	**Pn**	**08 36 17.2**	**-1.1**
0.1nm,0.3s,baz=225,slow=14,SNR=5.7							
KOLN	**Koldanda**	**13.65**	**130**	*e*P	**Pn**	**08 36 34.8**	**+0.3**
23nm,0.5s							
KOLN				*e*S	**Sn**	**08 38 59.9**	**-4.9**
GKN	**Gorkha**	**14.14**	**126**	*e*P	**Pn**	**08 36 40.0**	**-0.8**
32nm,0.4s							
GKN				*e*S	**Sn**	**08 39 09.6**	**-7.1**
KKN	**Kakani**	**14.70**	**125**	*e*P	**Pn**	**08 36 46.8**	**-1.2**
32nm,0.7s							
DMN	**Daman**	**14.71**	**126**	*e*P	**Pn**	**08 36 47.9**	**-0.2**
27nm,0.6s							
DMN				*e*S	**Sn**	**08 39 23.7**	**-6.8**
AB31	**Akbulak array**	**14.86**	**328**	P	**Pn**	**08 36 47.4**	**-2.5**
1.4nm,0.4s,baz=142,slow=13,SNR=30							
AB31				⇑S	**Sn**	**08 39 15.7**	**-18**
5.0nm,0.5s,baz=151,slow=21,SNR=24							
PKI	**Pulchoki**	**14.94**	**126**	*e*P	**Pn**	**08 36 51.8**	**+0.9**
30nm,0.7s							
GUN	**Gumba**	**15.02**	**124**	*e*P	**Pn**	**08 36 51.6**	**-0.4**
43nm,0.8s							
JIRN	**Jiri**	**15.39**	**124**	*e*P	**Pn**	**08 36 56.6**	**0.0**
37nm,0.5s							
JIRN				*e*S	**S**	**08 39 38.9**	**-17**
BVAR	**Borovoye Array**	**15.92**	**357**	S	**S**	**08 39 47.4**	**-19**
baz=168,slow=24,SNR=6.0							
AKTO	**Aktyubinsk**	**16.56**	**328**	⇑P	**Pn**	**08 37 10.5**	**-0.6**
0.4nm,0.7s							
AKTO				⇑S	**S**	**08 39 59.6**	**-20**
0.8nm,0.9s							
AKTO	**Aktyubinsk**	**16.56**	**328**	P	**Pn**	**08 37 10.8**	**-0.4**
0.6nm,0.3s,baz=137,slow=13,SNR=8.8							
AKTO				S	**S**	**08 40 00.9**	**-18**
0.5nm,0.3s,baz=179,slow=14,SNR=5.1							
SONM	**Songino Array**	**27.46**	**56**	P	**P**	**08 39 04.6**	**+3.3**
0.2nm,0.4s,mb3.0,baz=276,slow=13,SNR=2.4							
FINES	**FINESS Array B**	**37.31**	**325**	P	**P**	**08 40 27.6**	**+0.5**
0.7nm,0.6s,mb3.8,baz=122,slow=13,SNR=3.9							
HFS	**Hagfors**	**42.96**	**321**	P	**P**	**08 41 14.3**	**+0.6**
2.0nm,0.6s,mb4.1,baz=102,slow=6.8,SNR=8.3							
YKA	**Yellowknife Ar**	**80.59**	**3**	P	**P**	**08 45 27.1**	**+1.1**
0.1nm,0.4s,mb3.0,baz=351,slow=5.6,SNR=5.5							
YKA				pP	pP	08 46 00.5	+6.9
0.3nm,0.8s,baz=348,slow=4.8,SNR=5.6							

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*ISCJB **21** 08:49:09.4±0.4, 3304S±003×7140W±004, h63km±4km, mb3.9/2, Error ellipse: s-maj=6.4km s-min=3.8km az=138.0*
*IDC **21** 08:49:09.9±4.2, 3306S×7121W, h47km±33km, mb3.9/2, mb1 3.8/5, mb1mx3.6/16, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=77.7km s-min=32.4km az=108.0*
*NEIC **21** 08:49:10.0, 3305S×7135W, h54km±5km, MD4.3(GUC), After GUC.*
NEIC Felt [IV] at La Calera, Limache, Olmue, Quillota, Valparaiso and Vina del Mar; [III] at La Ligua, Los Andes, Papudo, Petorca, San Antonio and Santiago.
*GUC **21** 08:49:10.0±1.0, 3305S×7135W, h54km±5km, MD4.3, ML4.0*
ISC 21 08:49:10.3±0.4, 3304S±003×7140W±004, h55km±5km, n49, σ0§66/76, mb3.9/2, 17C-16D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.21**	**275**	⇓*i*P	**Pn**	**08 49 19.0**	**-0.2**
IHA				*i* S	**Sn**	**08 49 26.0**	**+0.3**
ROCH	**El Roble**	**0.33**	**78**	⇓*i*P	**Pn**	**08 49 20.3**	**+0.1**
LCCH	**Las Cruces**	**0.45**	**199**	⇑*i*P	**Pn**	**08 49 21.1**	**-0.4**
PACH	**Papudo**	**0.51**	**356**	⇓*i*P	**Pn**	**08 49 22.3**	**+0.3**
PEL	**Peldehue**	**0.60**	**100**	⇓*i*P	**Pn**	**08 49 23.2**	**+0.1**
PEL				*i* S	**Sn**	**08 49 32.6**	**+0.2**
PEL				AMP		08 49 33.4	
comp=N,26μm,0.3s							

comp=E,14μm,0.1s
SJCH San Jose de Ma 1.06 125 *e*P **Pn 08 49 28.2 -0.7**
SJCH *i* S **Sn 08 49 42.5 -0.2**
SJCH AMP 08 49 43.5
comp=E,3μm,0.3s
SJCH San Jose de Ma 1.06 125 *e*P **Pn 08 49 28.2 -0.7**
SJCH *i* S **Sn 08 49 42.5 -0.2**
CHCH Chadas Angostu 1.08 145⇓*i*P **Pn 08 49 29.1 -0.1**
CHCH *i* S **Sn 08 49 43.4 0.0**
CHNG Los Chungos 1.16 356⇓*i*P **Pn 08 49 30.8 +0.5**
CHNG *i* S **Sn 08 49 45.6 +0.4**
CHNG AMP 08 49 46.9
comp=N,2μm,0.2s
CACH El Canelo 1.26 148⇑*i*P **Pn 08 49 32.3 +0.6**
LMEL Las Melosas 1.28 129⇑*i*P **Pn 08 49 32.1 +0.1**
LMEL *i* S **Sn 08 49 48.7 +0.7**
LMEL AMP 08 49 49.9
comp=N,9μm,0.3s
LMEL Las Melosas 1.28 129⇑*i*P **Pn 08 49 32.1 +0.1**
LMEL *i* S **Sn 08 49 48.7 +0.7**
CICH Cipreses 1.51 148⇓*i*P **Pn 08 49 35.5 +0.4**
CICH *e*S **Sn 08 49 54.7 +1.1**
SFDO San Fernando 1.60 169⇓*i*P **Pn 08 49 36.0 -0.2**
CMCH Combarbala 1.89 10⇑*i*P **Pn 08 49 40.5 +0.2**
CMCH *e*S **Sn 08 50 03.1 +0.1**
CMCH AMP 08 50 09.2
comp=N,7μm,0.7s
CMCH Combarbala 1.89 10⇑*i*P **Pn 08 49 40.5 +0.2**
CMCH *e*S **Sn 08 50 03.1 +0.1**
NICH Los Niches 1.96 176⇓*i*P **Pn 08 49 41.5 +0.4**
MDZ Mendoza 2.15 86 *e*P **Pn 08 49 46.7 +3.0**
MDZ *e* 08 50 38.8
TALC Talca 2.36 185⇑*i*P **Pn 08 49 48.2 +1.6**
TALC *i* S **Sn 08 50 13.7 -0.6**
LNCH Linares 2.80 183⇑*i*P **Pn 08 49 53.0 +0.4**
LSCH La Serena 3.13 2⇓*i*P **Pn 08 49 57.2 +0.1**
LSCH *i* S **Sn 08 50 32.5 -0.8**
LSCH AMP 08 50 50.0
comp=N,416nm,0.4s
LSCH La Serena 3.13 2⇓*i*P **Pn 08 49 57.2 +0.1**
LSCH S **Sn 08 50 32.5 -0.8**
PLCA Paso Flores 7.70 175 P **Pn 08 50 59.0 -0.9**
comp=N,0.1nm,0.3s,baz=344,slow=18,SNR=3.3
PLCA Paso Flores 7.70 175 *e*Pn **Pn 08 50 58.6 -1.2**
TRQA Tornquist 9.16 126 *e*Pn **Pn 08 51 21.6 +1.9**
CPUP Villa Florida 13.93 65 P **Pn 08 52 23.3 -1.6**
comp=N,0.2nm,0.3s,baz=235,slow=12,SNR=2.7
CPUP Villa Florida 13.93 65 Pn **Pn 08 52 23.1 -1.8**
LPAZ La Paz 16.94 11 P **Pn 08 53 04.0 +0.5**
comp=N,0.1nm,0.3s,baz=169,slow=8.2,SNR=7.2
LPAZ La Paz 16.94 11 *e*P **Pn 08 53 04.1 +0.5**
comp=N,1.5nm,0.6s
BDFB Brasilia 27.36 56 P **P 08 54 49.4 -0.8**
comp=N,1.0nm,0.3s,mb3.8,baz=230,slow=8.2,SNR=3.0
TORD Torodi Ar. Bea 83.38 70 P **P 09 01 31.8 +0.2**
comp=N,1.4nm,0.7s,mb4.1,baz=253,slow=4.5,SNR=9.8
MKAR Makanchi Array 155.73 48 PKPab PKPab 09 09 24.1 -0.4
comp=N,0.6nm,0.6s,baz=310,slow=2.5,SNR=6.8

IDC 21 08:50:10.8±3.7, 1029N×9448E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/21, mbtmp3.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/26, Error ellipse: s-maj=146.9km s-min=28.4km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.19**	**309**	*e*P	Pn	08 50 37.1	-11
PBA				*e*S	Sn	08 51 22.8	+6.6
PBA				*e*x	x	08 51 41.4	
	comp=E,265nm,0.9s						
PBA				*e*x	x	08 51 42.4	
	comp=N,310nm,0.9s						
PSI	**Prapat**	**8.64**	**149**	LR	LR	08 55 00.1	
	comp=N,37nm,21.4s,baz=160,slow=33						
MKAR	**Makanchi Array**	**37.83**	**346**	P	P	08 57 29.1	0.0
	comp=N,0.3nm,0.8s,baz=169,slow=8.5,SNR=3.0						
SONM	**Songino Array**	**38.75**	**13**	P	P	08 57 36.9	+0.1
	comp=N,0.2nm,0.4s,baz=197,slow=4.5,SNR=1.6						
SONM				LR	LR	09 15 42.8	
	comp=N,77nm,18.8s,baz=53,slow=40						
ASAR	**Alice Springs**	**51.23**	**132**	P	P	08 59 16.4	+0.4
	comp=N,1.1nm,0.9s,baz=308,slow=6.6,SNR=12						

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*IDC **21** 09:00:07.9±0.9, 2235S×17050E, h0km, mb4.2/11, mb1 4.3/13, mb1mx4.3/19, mbtmp4.2/13, ML3.8/2, MS3.7/7, Ms1 3.7/7, ms1mx3.3/27, Error ellipse: s-maj=26.4km s-min=20.3km az=159.0*
*ISCJB **21** 09:00:12.6±2.3, 225S±0.1×1704E±0.1, h45km±19km, mb4.2/13, MS3.7/4, Error ellipse: s-maj=21.5km s-min=13.0km az=77.3*
*NEIC **21** 09:00:14.1±1.9, 2243S×17044E, h43km±17km, mb4.5/4, Error ellipse: s-maj=16.9km s-min=11.8km az=53.0*
ISC 21 09:00:13.6±2.2, 224S±01×**1705E**±01, **h39**km±19km, **n28**, σ1§**10**/20, **mb4.2**/13, **MS3.7**/4, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.73**	**274**	Pn	**Pn**	**09 01 07.7**	**-1.0**
	11nm,0.3s,baz=112,slow=17,SNR=158						
DZM				Sn	**Sn**	**09 01 50.6**	**-0.7**
	20nm,0.3s,baz=156,slow=11,SNR=9.3						
HNR	**Honiara**	**16.36**	**320**	Pn	**Pn**	**09 04 05.4**	**+5.0**
	3.3nm,0.3s,baz=266,slow=3.4,SNR=3.5						
HNR				LR	LR	09 08 02.6	
	comp=Z,79nm,19.1s,baz=185,slow=29						
HNR	**Honiara**	**16.36**	**320**	*e*P	**Pn**	**09 04 02.4**	**+2.0**
	115nm,1.2s						
URZ	**Urewera**	**16.81**	**162**	Pn	**Pn**	**09 04 07.0**	**+0.9**
	0.2nm,0.3s,baz=347,slow=7.8,SNR=5.6						
URZ				LR	LR	09 08 59.7	
	comp=Z,251nm,20.9s,baz=188,slow=32						
AFI	**Afiamalu**	**18.86**	**66**	LR	LR	09 09 49.9	
	comp=Z,105nm,19.0s,baz=57,slow=31						
RPZ	**Rata Peaks**	**21.27**	**179**	P	**P**	**09 04 56.4**	**-0.1**
	5.5nm,0.6s,mb4.1,baz=347,slow=14,SNR=4.0						
RPZ				LR	LR	09 10 53.0	
	comp=Z,266nm,21.2s,MS3.6,baz=227,slow=30						
RPZ	**Rata Peaks**	**21.27**	**179**	P	**P**	**09 04 56.4**	**-0.1**
RPZ				LR	LR	09 10 53.0	
CTA	**Charters Tower**	**22.67**	**271**	P	**P**	**09 05 13.1**	**+1.7**
	5.4nm,0.7s,mb4.1,baz=66,slow=19,SNR=3.6						
CTA				LR	LR	09 12 33.6	
	comp=Z,118nm,18.3s,MS3.4,baz=251,slow=33						
PMG	**Port Moresby**	**25.81**	**296**	P	**P**	**09 05 41.7**	**+0.7**
	4.3nm,0.8s,mb4.0,baz=153,slow=14,SNR=1.9						
PMG	**Port Moresby**	**25.81**	**296**	*e*P	**P**	**09 05 42.3**	**+1.2**
	12nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**27.29**	**244**	P	**P**	**09 05 53.1**	**-1.3**
	1.5nm,0.3s,mb3.9,baz=106,slow=12,SNR=8.1						
STKA				LR	LR	09 16 17.2	
	comp=Z,138nm,18.4s,MS3.6,baz=27,slow=35						
ASAR	**Alice Springs**	**33.60**	**261**	P	**P**	**09 06 49.5**	**-0.6**
	8.5nm,1.0s,mb4.6,baz=86,slow=9.2,SNR=30						
WRA	**Warramunga Arr**	**33.72**	**267**	P	**P**	**09 06 52.0**	**+0.9**
	2.3nm,1.0s,mb4.0,baz=96,slow=11,SNR=5.7						
FITZ	**Fitzroy Crossi**	**42.15**	**267**	P	**P**	**09 08 02.1**	**-0.1**
	7.7nm,0.9s,mb4.3,baz=120,slow=7.5,SNR=9.3						
MBWA	**Marble Bar**	**46.94**	**261**	*e*P	**P**	**09 08 39.8**	**-0.6**
	4.1nm,0.7s,mb4.5						
NWAO	**Narrogin (SRO)**	**47.86**	**245**	P	**P**	**09 08 49.1**	**+1.5**
	3.7nm,0.6s,mb4.6,baz=116,slow=4.7,SNR=5.0						
VNDA	**Vanda**	**55.33**	**182**	LR	LR	09 31 58.5	
	comp=Z,298nm,18.4s,MS4.4,baz=129,slow=34						
QSPA	**South Pole Qui**	**67.67**	**180**	*e*P	**P**	**09 11 03.3**	**-3.4**
	4.0nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**90.04**	**48**	P	**P**	**09 13 08.9**	**-0.3**
	0.6nm,0.8s,mb4.0,baz=239,slow=9.2,SNR=4.1						
SONM	**Songino Array**	**90.41**	**323**	P	**P**	**09 13 11.2**	**+0.3**
	1.3nm,0.8s,mb4.3,baz=132,slow=4.4,SNR=6.7						
ILAR	**Eielson Array**	**92.90**	**17**	P	**P**	**09 13 20.6**	**-1.8**
	0.3nm,0.7s,mb3.8,baz=241,slow=2.9,SNR=3.5						
YKA	**Yellowknife Ar**	**102.94**	**27**	PKiKP	PKiKP	09 18 28.0	+0.3
	0.4nm,1.0s,baz=298,slow=2.6,SNR=4.1						
KSP	**Ksiaz**	**145.19**	**331**	*e*P	PKPbc	09 19 47.5	+0.9
VYHS	**Vyhne**	**145.53**	**326**	*e*	PKPdf	09 19 44.4	-3.1
CLL	**Collm**	**146.24**	**334**	*i* P	PKPdf	09 19 51.2	+2.5
	comp=Z,7.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**146.76**	**353**	PKPbc	PKPbc	09 19 50.6	-0.8
	comp=Z,5.3nm,0.9s,baz=345,slow=2.4,SNR=7.9						
GERES	**GERESS Array B**	**147.79**	**331**	PKPbc	PKPbc	09 19 55.6	+1.3
	comp=Z,0.6nm,0.7s,baz=64,slow=2.3,SNR=8.3						
TORD	**Torodi Ar. Bea**	**165.89**	**231**	PKPab	PKPab	09 21 14.3	+0.2
	comp=Z,1.2nm,1.0s,baz=116,slow=3.6,SNR=3.9						

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*IDC **21** 09:15:26.9±1.4, 1075N×9450E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, MS3.5/4, Ms1 3.5/4, ms1mx3.0/30, Error ellipse: s-maj=66.0km s-min=20.6km az=64.0*
*ISCJB **21** 09:15:29.2±1.4, 106N±03×943E±04, h33km, mb3.9/5, MS3.5/3, Error ellipse: s-maj=65.5km s-min=12.2km az=108.4*
*NEIC **21** 09:15:31.3±8.0, 1075N×9450E, h30km±58km, mb4.3/4, Error ellipse: s-maj=34.0km s-min=14.1km az=55.0*
ISC 21 09:15:31.8±4.8, 107N±03×**943E**±05, **h35**km±56km, **n16**, σ0§**72**/11, **mb3.9**/5, **MS3.5**/3, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.82**	**302**	*e*P	Px	09 16 16.8	
PBA				*e*S	Sx	09 16 40.0	
PBA				*e*x	x	09 16 47.6	
	comp=N,832nm,0.8s						
PBA				*e*x	x	09 16 52.0	
	comp=E,1μm,0.9s						
PSI	**Prapat**	**9.08**	**149**	LR	LR	09 21 32.9	
	comp=E,247nm,21.3s,baz=205,slow=40						
JIRN	**Jiri**	**18.53**	**337**	*e*P	**Pn**	**09 19 46.6**	**+1.1**
PKI	**Pulchoki**	**18.77**	**335**	*e*P	**Pn**	**09 19 48.9**	**+0.5**
	comp=E,59nm,1.2s						
DMN	**Daman**	**18.93**	**334**	*e*P	**Pn**	**09 19 51.0**	**+0.7**
	comp=E,27nm,1.0s						
KKN	**Kakani**	**19.01**	**335**	*e*P	**Pn**	**09 19 51.2**	**-0.2**
GKN	**Gorkha**	**19.47**	**334**	*e*P	**Pn**	**09 19 55.0**	**-1.9**
	comp=E,33nm,1.0s						
KOLN	**Koldanda**	**19.75**	**331**	*e*P	**Pn**	**09 19 59.6**	**-0.6**
	comp=E,32nm,0.8s						
MKAR	**Makanchi Array**	**37.40**	**346**	P	**P**	**09 22 41.5**	**+0.3**
	comp=E,1.6nm,0.7s,mb4.0,baz=166,slow=8.7,SNR=19						
MKAR				LR	LR	09 40 33.0	
	comp=E,40nm,19.4s,MS3.2,baz=270,slow=40						
SONM	**Songino Array**	**38.39**	**13**	P	**P**	**09 22 49.3**	**-0.3**
	comp=E,1.2nm,0.9s,mb3.6,baz=207,slow=9.6,SNR=6.3						
SONM				PcP	PcP	09 25 03.0	+0.4
	comp=E,0.5nm,0.7s,baz=209,slow=2.6,SNR=3.9						
SONM				LR	LR	09 39 53.3	
	comp=E,100nm,21.4s,MS3.6,baz=168,slow=38						
BVAR	**Borovoye Array**	**46.40**	**340**	P	**P**	**09 23 54.9**	**+0.2**
	comp=E,0.3nm,0.3s,mb3.7,baz=142,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**49.79**	**128**	P	**P**	**09 24 20.6**	**-0.3**
	comp=E,1.4nm,0.8s,mb4.1,baz=303,slow=8.6,SNR=5.2						
ASAR	**Alice Springs**	**51.62**	**132**	P	**P**	**09 24 35.0**	**+0.3**
	comp=E,1.7nm,0.8s,mb4.0,baz=309,slow=6.9,SNR=19						
GNI	**Garni**	**52.63**	**313**	LR	LR	09 50 42.4	
	comp=E,68nm,21.5s,MS3.7,baz=2.1,slow=40						
PLCA	**Paso Flores**	**147.23**	**202**	PKPbc	PKPbc	09 35 12.6	+1.3
	comp=E,1.7nm,0.9s,baz=180,slow=7.1,SNR=3.5						
PLCA	**Paso Flores**	**147.23**	**202**	PKPbc	PKPbc	09 35 12.6	+1.3

IDC 21 09:29:49.4±3.3, 1965S×16906E, h158km±26km, mb3.8/4, mb1 3.9/6, mb1mx3.7/15, mbtmp4.2/6, 1C, Error ellipse: s-maj=30.1km s-min=24.8km az=44.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.12**	**338**⇑	*i*P	Pn	09 30 11.2	-15
BKM				S	Sn	09 30 38.6	-16
DZM	**Mont Dzumac**	**3.43**	**225**	P	Pn	09 30 42.0	-0.5
	6.7nm,0.3s,baz=51,slow=16,SNR=20						
DZM				S	Sn	09 31 24.3	+0.6
	20nm,0.3s,baz=116,slow=21,SNR=10						
URZ	**Urewera**	**19.82**	**161**	P	P	09 34 08.5	+0.8
	0.7nm,0.3s,baz=320,slow=14,SNR=6.2						
STKA	**Stephens Creek**	**27.49**	**238**	P	P	09 35 20.0	-0.8
	1.8nm,0.5s,baz=61,slow=7.6,SNR=8.9						
WB2	**Warramunga Arr**	**32.63**	**264**	*e*P	P	09 36 04.9	-1.2
WRA	**Warramunga Arr**	**32.64**	**264**	P	P	09 36 05.5	-0.7
	1.1nm,0.4s,baz=87,slow=8.3,SNR=5.9						
ASAR	**Alice Springs**	**32.87**	**257**	P	P	09 36 09.0	+0.8
	6.8nm,0.6s,baz=85,slow=9.0,SNR=130						
ASPA	**Alice Springs**	**32.87**	**257**	*e*P	P	09 36 08.9	+0.7
GUMO	**Guam**	**40.72**	**322**	P	P	09 37 15.3	+0.7
	45nm,0.5s,baz=204,slow=20,SNR=3.3						
FITZ	**Fitzroy Crossi**	**41.04**	**265**	P	P	09 37 18.6	+1.5
	1.7nm,0.6s,baz=146,slow=3.7,SNR=6.2						
ARCES	**ARCESS Array B**	**125.42**	**345**	PKP	PKPdf	09 48 29.8	-1.7
	5.7nm,1.0s,baz=72,slow=4.0,SNR=5.7						
GERES	**GERESS Array B**	**144.78**	**331**	PKP	PKPdf	09 49 06.3	-1.0
	0.7nm,0.6s,baz=44,slow=4.1,SNR=4.6						

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*IDC **21** 09:29:58.9±0.6, 1066N×9456E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, MS4.0/11, Ms1 4.0/11, ms1mx3.7/31, Error ellipse: s-maj=28.1km s-min=13.3km az=54.0*
*ISCJB **21** 09:30:02.8±0.3, 1066N±005×9451E±004, h38km, mb4.5/49, MS4.1/25, Error ellipse: s-maj=6.8km s-min=5.3km az=54.8*
*MOS **21** 09:30:02.4±1.8, 1079N×9470E, h33km, mb4.9/17, Error ellipse: s-maj=12.4km s-min=7.1km az=109.2*
*NEIC **21** 09:30:04.2±0.3, 1070N×9454E, mb4.7/20, Error ellipse: s-maj=12.3km s-min=5.9km az=56.0*
*BJI **21** 09:30:04.0, 1053N×9446E, h54km, mB5.0, mb4.7, Ms4.6, Msz4.2*
ISC 21 09:30:05.3±0.3, 1072N±004×**9453E**±004, **h40**km, **h40**km±1.9km:**pP-P, n127**, σ1§**43**/120, **mb4.5**/49, **MS4.1**/25, **6C-3D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.98**	**298**	*e*P	Px	09 30 49.4	
PBA				*e*x	x	09 30 49.4	
PBA				*e*S	Sx	09 31 12.8	
PBA				*e*x	x	09 31 31.3	
	comp=N,4μm,1.1s						
PBA				*e*x	x	09 31 33.5	
PBA				*e*x	x	09 31 36.2	
	comp=E,5μm,0.8s						
PBA				AML	AML	09 31 39.8	
	comp=E,2μm,0.8s						
PBA				AML	AML	09 31 40.8	
	comp=N,2μm,0.7s						
PKT	**Phuket**	**4.46**	**126**	P	Sx	09 32 17.0	
NNT	**Nongplab**	**5.43**	**69**	P	**Pn**	**09 31 22.5**	**-1.2**
SNG	**Songkhla**	**6.97**	**120**	P	**Pn**	**09 31 52.0**	**+7.1**
NST	**Nakhon Sawan**	**7.35**	**47**	P	**Pn**	**09 31 48.0**	**-2.1**
BDT	**Bhumibol Dam**	**7.80**	**33**	P	**Pn**	**09 31 53.1**	**-3.2**
KULM	**Kulim**	**8.11**	**131**	*e*Pn	**Pn**	**09 31 56.8**	**-3.8**
PSI	**Prapat**	**9.00**	**151**	LR	LR	09 36 37.9	
	comp=N,2μm,18.2s,baz=309,slow=44						
CHTO	**Chiang Mai**	**9.11**	**27**	*e*P	**Pn**	**09 32 13.9**	**-0.3**
VIS	**Vishakhapatnam**	**12.89**	**304**	*i* P	**Pn**	**09 33 07.8**	**+1.9**
VIS				*e*P		09 33 08.9	
VIS				AMb	AMB	09 33 45.8	
	comp=Z,99nm,1.5s						
VIS				*e*x	x	09 35 10.0	
VIS				*i* S	**Sn**	**09 35 15.2**	**-13**
CAL	**Calcutta**	**13.16**	**334**	*e*x	x	09 35 43.8	
CAL				*i* x	x	09 39 44.1	
SHL	**Shillong**	**14.98**	**351**	*e*P	**Pn**	**09 33 31.0**	**-3.2**
BOK	**Bokaro**	**15.39**	**329**	*e*x	x	09 33 45.3	
BOK				AMb	AMB	09 34 04.7	
	comp=Z,32nm,0.9s						
KMI	**Kunming**	**16.31**	**27**	P	**Pn**	**09 33 55.8**	**+4.5**
KMI				AP	pP	09 34 01.6	-2.1
KMI				PP		09 34 07.3	
KMI				S	**S**	**09 36 56.5**	**-6.0**
KMI				XS	sS	09 37 07.1	-11
KMI				SS		09 37 17.3	
KMI				AMB	AMB		
	comp=Z,11nm,0.7s						
KMI				AMB	AMB		
	comp=Z,124nm,4.5s						
KMI				LR	LR		
	comp=N,757nm,13.1s						
KMI				LR	LR		
	comp=E,718nm,9.5s						
KMI				LR	LR		
	comp=Z,571nm,11.1s						
HYB	**Hyderabad**	**16.86**	**295**	*i* P	**Pn**	**09 34 02.0**	**+3.7**
HYB	**Hyderabad**	**16.86**	**295**	*e*P	**Pn**	**09 34 02.0**	**+3.7**
QIZ	**Qiongzhong**	**16.94**	**59**	P	**Pn**	**09 33 57.5**	**-1.8**
QIZ				S	**S**	**09 37 03.4**	**-12**
QIZ				LR	LR		
	comp=E,1μm,8.8s						
QIZ				LR	LR		
	comp=Z,1μm,9.3s						
JIRN	**Jiri**	**18.59**	**336**	*e*P	**Pn**	**09 34 18.6**	**-0.9**
	comp=Z,130nm,1.3s						
PKI	**Pulchoki**	**18.83**	**334**	*e*P	**Pn**	**09 34 20.3**	**-2.2**
	comp=Z,339nm,1.6s						
PKI	**Pulchoki**	**18.83**	**334**	*e*P	**Pn**	**09 34 20.3**	**-2.2**
PKI				pmax	pmax		
	comp=Z,170nm,1.6s						
GUN	**Gumba**	**18.93**	**336**	*e*P	**Pn**	**09 34 22.1**	**-1.6**
	comp=Z,663nm,2.0s						
DMN	**Daman**	**19.00**	**333**	*e*P	**Pn**	**09 34 22.4**	**-2.1**
	comp=Z,84nm,0.9s						
KKN	**Kakani**	**19.08**	**334**	*e*P	**Pn**	**09 34 23.2**	**-2.2**
LSA	**Lhasa**	**19.15**	**351**	*e*P	**Pn**	**09 34 26.5**	**+0.2**
LSA	**Lhasa**	**19.15**	**351**	P	**Pn**	**09 34 26.0**	**-0.3**
	comp=Z,62nm,1.4s						
LSA	**Lhasa**	**19.15**	**351**	P	**Pn**	**09 34 26.0**	**-0.3**
LSA				pmax	pmax		
	comp=Z,62nm,1.4s						
GYA	**Guiyang**	**19.40**	**35**⇓	*i*P	**Pn**	**09 34 35.8**	**+6.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,100nm,3.0s						
GYA				LR	LR		
	comp=N,600nm,12.0s						
GYA				LR	LR		
	comp=E,610nm,10.8s						
GYA				LR	LR		
	comp=Z,620nm,16.1s						
GKN	**Gorkha**	**19.54**	**333**	*e*P	**Pn**	**09 34 28.6**	**-2.4**
	comp=Z,190nm,1.3s						
KOLN	**Koldanda**	**19.83**	**330**	*e*P	**Pn**	**09 34 30.7**	**-3.7**
	comp=Z,124nm,1.1s						
DANN	**Dangsing**	**20.24**	**332**	*e*P	**P**	**09 34 36.3**	**-0.8**
BHPL	**Bhopal**	**20.53**	**310**	*e*P	**P**	**09 34 42.0**	**+1.8**
BHPL				AMb	AMB	09 35 04.8	
	comp=Z,62nm,1.5s						
BHPL				*e*x	x	09 38 14.6	
KAD	**Karad**	**20.79**	**291**	*e*P	**P**	**09 34 43.0**	**+0.1**
KAD				AMb	AMB	09 34 54.5	
	comp=Z,39nm,1.4s						
POO	**Poona**	**21.45**	**294**	*e*P	**P**	**09 34 54.5**	**+4.4**
CD2	**Chengdu**	**21.84**	**22**	*e*P	**P**	**09 34 57.4**	**+3.1**
CD2				AP		09 35 06.8	
CD2				XP	sP	09 35 12.4	+3.0
CD2				PP		09 35 25.8	
CD2				PPP		09 35 34.3	
CD2				S	**S**	**09 38 53.4**	**-0.1**
CD2				XS	sS	09 39 10.1	+0.5
CD2				SS		09 39 32.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2				LR	LR		
	comp=E,460nm,9.6s						
CD2				LR	LR		
	comp=Z,290nm,11.4s,MS3.9						
KKM	**Kota Kinabalu**	**21.95**	**100**	P	**P**	**09 34 55.3**	**-0.1**
ENH	**Enshi**	**23.92**	**33**	*e*P	**P**	**09 35 15.1**	**-0.4**
	comp=Z,20nm,1.1s,mb4.5						
NDI	**New Delhi**	**24.13**	**320**	*e*P	**P**	**09 35 16.5**	**-0.9**
AJM	**Ajmer**	**24.45**	**313**	*e*P	**P**	**09 35 19.0**	**-1.4**
AJM				AML	AML	09 35 40.0	
	comp=Z,30nm,1.1s						
AJM				AMb	AMB	09 35 40.6	
	comp=Z,30nm,0.9s,mb4.7						
DDI	**Dehra Dun**	**24.81**	**324**	*e*P	**P**	**09 35 23.6**	**0.0**
LZH	**Lanzhou**	**26.63**	**17**	*e*P	**P**	**09 35 42.0**	**+1.9**
LZH				AP	pP	09 35 51.9	+0.9
LZH				XP	sP	09 35 55.8	0.0
LZH				PP		09 36 26.8	
LZH				*e*S	**S**	**09 40 14.3**	**+2.0**
LZH				XS	sS	09 40 30.6	+0.1
LZH				*e*SS		09 41 28.3	
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,83nm,5.2s						
LZH				LR	LR		
	comp=N,559nm,12.2s						
LZH				LR	LR		
	comp=Z,985nm,16.3s,MS4.5						
QZH	**Quanzhou**	**26.86**	**55**	*e*P	**P**	**09 35 44.8**	**+2.7**
QZH				S	**S**	**09 40 11.0**	**-4.9**
QZH				LR	LR		
	comp=N,420nm,9.8s						
QZH				LR	LR		
	comp=E,620nm,9.8s						
QZH				LR	LR		
	comp=Z,760nm,9.5s						
GTA	**Gaotai**	**28.96**	**8**	*e*P	**P**	**09 36 02.5**	**+1.6**
GTA				AP	pP	09 36 11.9	+0.1
GTA				PP	PP	09 36 57.1	-10
GTA				PCP	PcP	09 39 10.3	+1.3
GTA				S	**S**	**09 40 52.1**	**+3.1**
GTA				XS	sS	09 41 07.8	+0.6
GTA				SS	SS	09 42 22.8	-30
GTA				SCP	ScP	09 42 48.3	+1.0
GTA				PCS	PcS	09 42 55.3	+3.6
GTA				SCS	ScS	09 46 41.0	-0.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.0						
GTA				AMB	AMB		
	comp=Z,102nm,6.1s						
GTA				LR	LR		
	comp=N,224nm,18.0s						
GTA				LR	LR		
	comp=E,261nm,11.1s						
GTA				LR	LR		
	comp=Z,300nm,16.8s,MS4.0						
NJ2	**Nanjing**	**30.90**	**43**	*e*P	**P**	**09 36 15.4**	**-2.7**
NJ2				PP	PP	09 37 17.8	-10
NJ2				S	**S**	**09 41 13.0**	**-6.5**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,110nm,5.4s						
NJ2				LR	LR		
	comp=N,730nm,17.7s						
NJ2				LR	LR		
	comp=E,910nm,37.2s						
NJ2				LR	LR		
	comp=Z,250nm,17.5s,MS3.9						
SSE	**Sheshan**	**31.96**	**47**	P	**P**	**09 36 28.3**	**+0.9**
SSE				AP	pP	09 36 39.3	+0.9
SSE				XP	sP	09 36 44.3	+1.1
SSE				PP	PP	09 37 40.3	+0.3
SSE				S	**S**	**09 41 35.5**	**-0.5**
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,41nm,3.9s						
SSE				LR	LR		
	comp=N,104nm,14.6s,MS3.7						
SSE				LR	LR		
	comp=E,62nm,14.6s,MS3.7					

comp=Z,11nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,162nm,5.0s
HHC LR LR
comp=N,339nm,12.2s,MS4.4
HHC LR LR
comp=E,388nm,13.2s,MS4.4
HHC LR LR
comp=Z,274nm,11.8s,MS4.2
BJI Beijing 34.95 30 P **P 09 36 56.1 +2.7**
BJI S **S 09 42 26.9 +4.6**
BJI AMB AMB
comp=Z,4.0nm,0.7s,mb4.5
BJI LR LR
comp=N,253nm,11.8s,MS4.3
BJI LR LR
comp=E,214nm,13.8s,MS4.3
BJI LR LR
comp=Z,122nm,46.9s
MKAR Makanchi Array 37.42 346 P **P 09 37 13.2 -1.3**
comp=Z,2.5nm,0.8s,mb4.1,baz=167,slow=7.5,SNR=21
MKAR LR LR 09 56 34.6
comp=Z,93nm,18.1s,MS3.6,baz=90,slow=43
SONM Songino Array 38.32 13 P **P 09 37 22.7 +0.6**
comp=Z,1.8nm,0.9s,mb3.8,baz=202,slow=8.7,SNR=9.9
SONM LR LR 09 54 60.0
comp=Z,342nm,18.6s,MS4.2,baz=61,slow=39
ULN Ulaanbaatar 38.50 14 *e*P **P 09 37 24.7 +1.1**
comp=Z,18nm,1.7s,mb4.5
ULN Ulaanbaatar 38.50 14 *e*P **P 09 37 24.7 +1.1**
ULN pmax pmax
comp=Z,18nm,1.7s,mb4.5
KS15 Wonju Array Si 40.07 43 P **P 09 37 36.8 0.0**
SNY Shenyang 40.10 34 ⇑P **P 09 37 39.3 +2.3**
SNY AP pP 09 37 49.5 +1.3
SNY XP sP 09 37 53.8 +0.9
SNY S **S 09 43 49.8 +9.3**
SNY XS sS 09 44 03.6 +4.5
SNY AMB AMB
comp=Z,7.0nm,0.3s,mb4.9
SNY AMB AMB
comp=Z,135nm,5.1s
SNY LR LR
comp=N,227nm,15.9s,MS4.4
SNY LR LR
comp=E,317nm,11.4s,MS4.4
SNY LR LR
comp=Z,255nm,14.4s,MS4.2
ZAK Zakamensk 40.20 9 *e*P **P 09 37 44.3 +6.5**
ZAK pmax pmax
comp=Z,9.0nm,1.9s,mb4.2
KURK Kurchatov 41.97 345 *e*P **P 09 37 51.5 -0.9**
comp=Z,30nm,1.4s,mb4.7
KURK Kurchatov 41.97 345 *e*P **P 09 37 57.9 +5.5**
CN2 Changchun 42.45 33 *e*P **P 09 37 58.5 +2.3**
CN2 *e*AP pP 09 38 08.4 +0.9
CN2 *e*XP sP 09 38 12.3 +0.1
CN2 *e*S **S 09 44 18.8 +3.5**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,13.0s,MS4.3
CN2 LR LR
comp=E,200nm,13.0s,MS4.3
CN2 LR LR
comp=Z,200nm,13.0s,MS4.2
CIT Chita 43.99 17 *e*P pP 09 38 20.6 +0.6
NVS Novosibirsk 44.91 351 *e*P **P 09 38 16.8 +0.7**
NVS pmax pmax
comp=Z,28nm,2.4s,mb4.7
NVS pmax pmax
comp=N,13nm,2.0s
NVS pmax pmax
comp=E,3.0nm,1.1s
KRAR Krasnoyarsk 45.20 359 ⇓*i*P **P 09 38 20.0 +1.6**
KRAR pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
MDJ Mudanjiang 45.26 35 P **P 09 38 20.4 +1.5**
MDJ AP pP 09 38 28.9 -1.3
MDJ PP PP 09 40 07.3 +2.1
MDJ S **S 09 44 58.1 +1.7**
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.5
MDJ AMB AMB
comp=Z,88nm,3.2s
MDJ LR LR
comp=N,38nm,16.4s,MS3.7
MDJ LR LR
comp=E,69nm,16.4s,MS3.7
MDJ LR LR
comp=Z,101nm,18.8s,MS3.8
BVAR Borovoye Array 46.45 340 P **P 09 38 27.6 -0.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=129,slow=15,SNR=6.9
BRVK Borovoye 46.51 340 *e*P **P 09 38 28.2 -0.5**
comp=Z,2.5nm,0.8s,mb4.2
BRVK Borovoye 46.51 340 *e*P **P 09 38 28.2 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ZRNK Zerenda 46.86 339 *e*P **P 09 38 31.3 -0.2**
comp=Z,5.9nm,1.1s,mb4.4
ZRNK *e*pP pP 09 38 40.8 -2.0
ZRNK Zerenda 46.86 339 *e*P **P 09 38 31.3 -0.1**
ZRNK *e**PP pP 09 38 40.8 -2.0
ZRNK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
JHJ Hachijo jima 2 47.07 54 LR LR 10 00 55.0
comp=Z,71nm,20.2s,MS3.6,baz=256,slow=39
MUN Mundaring 47.26 155 *e*P **P 09 38 36.8 +2.3**
NWAO Narrogin (SRO) 48.51 154 P **P 09 38 42.0 -2.2**
comp=Z,10nm,1.1s,mb4.8,baz=310,slow=16,SNR=2.0
BOD Bodaibo 49.31 14 *e*P **P 09 38 50.1 -0.3**
BOD pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
WRA Warramunga Arr 49.64 128 P **P 09 38 52.1 -0.8**
comp=Z,6.6nm,0.9s,mb4.7,baz=304,slow=8.6,SNR=22
WRAB Tennant Creek 49.65 128 *e*P **P 09 38 50.5 -2.4**
comp=Z,30nm,1.3s,mb5.2
WRAB *e* 09 39 05.5
WRAB Tennant Creek 49.65 128 *e*P **P 09 38 50.6 -2.3**
WRAB *e* 09 39 05.5
WRAB pmax pmax
comp=Z,30nm,1.3s,mb5.2
WB2 Warramunga Arr 49.65 128 *e*P **P 09 38 53.1 +0.1**
WB2 *e* pP 09 39 05.8 +1.4
AKTK Aktyubinsk 49.67 330 P **P 09 38 53.6 +0.5**
AKTO Aktyubinsk 49.67 330 P **P 09 38 53.6 +0.5**
comp=Z,1.1nm,0.6s,mb4.1,baz=88,slow=10,SNR=4.5
ASPA Alice Springs 51.48 132 *e*P **P 09 39 06.6 -0.1**
ASPA *e* pP 09 39 19.5 +1.3
AS31 Alice Springs 51.48 132 *e*P **P 09 39 06.6 -0.2**
AS31 *e* pP 09 39 19.5 +1.2
ASAR Alice Springs 51.48 132 P **P 09 39 06.8 0.0**
comp=Z,8.5nm,0.8s,mb4.7,baz=310,slow=5.8,SNR=36
GNI Garni 52.77 313 P **P 09 39 18.4 +2.1**
comp=Z,1.9nm,0.3s,mb4.5,baz=12,slow=20,SNR=1.9
GNI Garni 52.77 313 *e*P **P 09 39 19.1 +2.8**
comp=Z,13nm,1.1s,mb4.8
GNI *e*pP pP 09 39 28.6 +0.7
GNI *e*sP sP 09 39 32.1 -0.3
GNI Garni 52.77 313 *e*P **P 09 39 19.1 +2.8**
GNI *e**PP pP 09 39 28.6 +0.8
GNI *e**SP sP 09 39 32.1 -0.4
GNI pmax pmax
comp=Z,13nm,1.1s
SVE Sverdlovsk 52.92 337 *e*P **P 09 39 28.0 +11**
ARU Arti 53.45 336 *e*P **P 09 39 18.6 -2.7**
ZEI Tsey 54.26 315 *i*P **P 09 39 27.7 +0.4**
ZEI *i* *PP pP 09 39 41.6 +2.8
ZEI *i* 09 40 37.4
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
YSS Yuzh-Sakhalins 54.33 39⇑*e*P **P 09 39 23.5 -4.3**
YSS pmax pmax
comp=Z,101nm,2.5s,mb5.3
KIV Kislovodsk 55.50 316 ⇓*i*P pP 09 39 47.4 -0.4
KIV pmax pmax
comp=Z,16nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,100nm,19.0s,MS3.9
MALT Malatya 56.95 309 *e*P **P 09 39 46.5 -0.1**
comp=Z,4.8nm,1.1s,mb4.4
MALT *e*pP pP 09 39 58.3 +0.1
MALT Malatya 56.95 309 *e*P **P 09 39 46.5 -0.1**
MALT *e**PP pP 09 39 58.3 +0.1
MALT pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
YAK Yakutsk 57.19 19*c i*P **P 09 39 47.0 -1.3**
KMBO Kilima Mbogo 58.16 262 P **P 09 39 56.0 +1.0**
comp=Z,0.7nm,0.7s,mb3.8,baz=53,slow=20,SNR=2.3
KMBO Kilima Mbogo 58.16 262 *e*P **P 09 39 57.1 +2.0**
comp=Z,2.3nm,1.1s,mb4.1
KMBO Kilima Mbogo 58.16 262 *e*P **P 09 39 57.1 +2.0**
KMBO pmax pmax
comp=Z,2.0nm,1.1s
CTA Charters Tower 59.40 121 P **P 09 40 03.5 -0.2**
comp=Z,17nm,1.1s,mb5.0,baz=332,slow=6.4,SNR=4.3
CTAO Charters Tower 59.40 121 *e*P **P 09 40 05.3 +1.6**
comp=Z,26nm,1.2s,mb5.1
CTAO Charters Tower 59.40 121 *e*P **P 09 40 05.3 +1.6**
CTAO pmax pmax
comp=Z,26nm,1.2s,mb5.1
BRTR Keskin Array B 60.90 310 P **P 09 40 12.9 -1.1**
comp=Z,0.5nm,0.7s,mb3.8,baz=120,slow=5.0,SNR=4.1
STKA Stephens Creek 61.81 135 *e*P **P 09 40 18.6 -1.5**
comp=Z,9.1nm,0.9s,mb4.9
STKA Stephens Creek 61.81 135 P **P 09 40 19.3 -0.8**
comp=Z,7.8nm,0.9s,mb4.8,baz=330,slow=9.3,SNR=11
STKA LR LR 10 07 16.2
comp=Z,141nm,19.4s,MS4.1,baz=113,slow=36
OBN Obninsk 63.20 327 *e*P pP 09 40 39.6 -1.6
OBN *e* 09 41 03.9
OBN pmax pmax
comp=Z,33nm,2.5s,mb5.0
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.0
TIXI Tiksi 64.39 11 *e*P **P 09 40 32.9 -4.3**
TIXI *e*S **S 09 49 15.7 +2.9**
TIXI pmax pmax
comp=Z,12nm,1.0s,mb4.9
TIXI MLR MLR
comp=Z,130nm,18.0s,MS4.2
PET Petropavlovsk 66.03 37 *e*P **P 09 40 44.4 -3.4**
PET pmax pmax
comp=Z,102nm,1.5s,mb5.6
APA Apatity 69.34 339⇑*e*P pP 09 41 21.0 +0.4
APA pmax pmax
comp=Z,18nm,1.0s,mb5.0
APA MLR MLR
comp=Z,1μm,19.0s,MS5.1
FINES FINESS Array B 70.40 332 P **P 09 41 14.7 -0.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=165,slow=5.8,SNR=2.9
FINES LR LR 10 18 11.5
comp=Z,72nm,18.3s,MS4.0,baz=202,slow=41
FINES FINESS Array B 70.40 332 P **P 09 41 14.7 -0.6**
FINES LR LR 10 18 11.5
LSZ Lusaka 70.59 250 *e*P **P 09 41 17.0 +0.6**
comp=Z,3.1nm,0.8s,mb4.3
LSZ *e*pP pP 09 41 28.3 0.0
LSZ Lusaka 70.59 250 *e*P **P 09 41 17.0 +0.6**
LSZ *e**PP pP 09 41 28.3 0.0
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ARCES ARCESS Array B 72.74 340 P **P 09 41 29.3 0.0**
comp=Z,2.5nm,0.8s,mb4.2,baz=97,slow=3.7,SNR=2.8
ARCES LR LR 10 16 52.0
comp=Z,172nm,18.2s,MS4.4,baz=195,slow=39
ARCES ARCESS Array B 72.74 340 P **P 09 41 29.3 -0.1**
ARCES LR LR 10 16 52.0
BILL Bilibino 73.32 22 *e*P **P 09 41 32.9 +0.2**
comp=Z,3.2nm,0.6s,mb4.4
BILL Bilibino 73.32 22 *e*P **P 09 41 32.9 +0.1**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
GERES GERESS Array B 75.98 318 P **P 09 41 48.6 +0.4**
comp=Z,0.3nm,0.5s,mb3.5,baz=69,slow=3.3,SNR=3.1
HFS Hagfors 76.21 329 LR LR 10 22 43.8
comp=Z,90nm,19.0s,MS4.1,baz=73,slow=42
NOA NORSAR Array B 77.46 330 LR LR 10 19 24.4
comp=Z,81nm,18.7s,MS4.1,baz=130,slow=38
TORD Torodi Ar. Bea 90.32 283 P **P 09 43 02.5 +0.4**
comp=Z,1.0nm,0.8s,mb4.2,baz=78,slow=4.2,SNR=5.3
TORD PP PP 09 46 37.6 +1.2
comp=Z,0.6nm,0.9s,baz=66,slow=7.0,SNR=3.1
BORG Borgarnes 90.97 337 LR LR 10 27 53.1
comp=Z,99nm,18.1s,MS4.3,baz=184,slow=38
COLA College 91.57 22⇑*i*P **P 09 43 07.3 -0.6**
ILAR Eielson Array 91.98 22 P **P 09 43 11.0 +1.2**
comp=Z,0.6nm,0.8s,mb4.0,baz=292,slow=4.1,SNR=7.8
ILAR LR LR 10 25 34.9
comp=Z,54nm,18.0s,MS4.0,baz=0.0,slow=36
NVAR Mina Array Bea 122.29 30 PKP PKPdf 09 48 54.4 -1.5
comp=Z,0.1nm,0.3s,baz=127,slow=19,SNR=3.3
PDAR Pinedale Array 122.39 21 PKP PKPdf 09 48 55.1 -1.0
comp=Z,0.6nm,0.7s,baz=26,slow=1.4,SNR=6.2
ANMO Albuquerque 130.42 23⇑*i*PKIKP PKPdf 09 49 13.4 +1.9
JCT Junction City 136.78 18 PKPdf PKPdf 09 49 23.6 +0.1
MTP Monte Pirata 145.27 325 *e*PKPdf PKPdf 09 49 38.3 -0.4
PLCA Paso Flores 147.33 201 PKPbc PKPbc 09 49 44.5 0.0
comp=Z,3.2nm,0.8s,baz=202,slow=1.0,SNR=6.8
PLCA Paso Flores 147.33 201 PKIKP PKPdf 09 49 41.5 -0.7
PLCA *e* 09 49 46.7
CPUP Villa Florida 149.23 236 PKPbc PKPbc 09 49 50.8 +1.3
comp=Z,3.2nm,0.9s,baz=359,slow=1.4,SNR=5.3
CPUP Villa Florida 149.23 236 *e*PKP2 PKPbc 09 49 49.4 -0.2

NIED ***21*** *09:54:00, 28.10N×129.00E, h5km, Mw3.9 Best double couple: M0=8.77000×10^14 NP1:*ϕ_s*=127.00000°,* δ*=65.00000°,* λ*=-69.00000°. NP2:*ϕ_s*=265.00000°,* δ*=32.00000°,* λ*=-127.00000°.*
JMA ***21*** *09:54:34.7±0.1, 2805N×129.02E, h14km±2km, M4.2*
JMA Felt III J1.
ISCJB ***21*** *09:54:35.2±0.5, 2795N±005×129.11E±007, h21km±5km, mb3.7/11, Error ellipse: s-maj=13.3km s-min=3.6km az=82.2*
IDC ***21*** *09:54:39.5±1.1, 2788N×128.96E, h47km±13km, mb3.4/9, mb1 3.7/11, mb1mx3.6/23, mbtmp3.7/11, ML3.9/2, Error ellipse: s-maj=26.3km s-min=9.2km az=113.0*
NEIC ***21*** *09:54:39.5±0.9, 2782N×129.06E, h48km±9km, mb4.0/3, Error ellipse: s-maj=14.7km s-min=8.9km az=128.0*
NEIC Recorded [3 JMA] on Amami-oshima and [1 JMA] on Kikaiga-shima.

ISC 21 09:54:35.4±0.6, 2794N±006×12915E±007, h16km±4km, n30, σ1°02/40, mb3.7/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.23**	**228**	P	**Pg**	**09 54 40.5**	**-0.1**
JTK				S	**Sg**	**09 54 44.3**	**+0.1**
JAM	**Amami Oshima**	**0.62**	**41**	P	**Pg**	**09 54 46.7**	**-0.9**
JAM				S	**Sg**	**09 54 54.7**	**-1.2**
JZK	**Kikaishima**	**0.82**	**63**	P	**Pg**	**09 54 51.4**	**0.0**
JZK				*e*S	**Sg**	**09 55 03.2**	**+1.0**
JOW	**Kunigami**	**1.35**	**215**	P	**Pn**	**09 54 59.2**	**-0.4**
	822nm,0.3s,baz=55,slow=13,SNR=1122						
JOW				S	**Sn**	**09 55 15.1**	**-2.1**
	530nm,0.3s,baz=115,slow=27,SNR=38						
JOW	**Kunigami**	**1.35**	**215**	P	**Pn**	**09 54 59.1**	**-0.5**
JOW				*e*S	**Sn**	**09 55 15.8**	**-1.4**
JIH	**Iheya**	**1.38**	**230**	P	**Pn**	**09 54 59.5**	**-0.6**
JIH				*e*S	**Sn**	**09 55 17.3**	**-0.7**
JNN	**Nakanoshima**	**2.00**	**18**	P	**Pn**	**09 55 07.6**	**-1.0**
JNN				*e*S	**Sn**	**09 55 32.5**	**-0.8**
NAH1	**Naha**	**2.16**	**217**	P	**Pn**	**09 55 11.6**	**+0.8**
JAGN	**Aguni-jima**	**2.16**	**232**	P	**Pn**	**09 55 10.7**	**-0.1**
JAGN				*e*S	**Sn**	**09 55 37.2**	**-0.1**
JKE	**Kume jima 2**	**2.65**	**233**	P	**Pn**	**09 55 17.5**	**0.0**
JKC	**Kuchinoerabu**	**2.68**	**20**	P	**Pn**	**09 55 17.6**	**-0.3**
JKC				S	**Sn**	**09 55 49.0**	**-0.9**
JTN	**Tanegashima 3**	**3.14**	**30**	P	**Pn**	**09 55 25.3**	**+1.0**
JNU	**Nakatsue**	**5.38**	**16**	P	**Pn**	**09 55 58.5**	**+3.5**
	7.4nm,0.3s,baz=332,slow=11,SNR=13						
JNU				S	**Sn**	**09 57 01.4**	**+4.8**
	baz=288,slow=42,SNR=2.1						
YHNB	**Yeheng**	**7.70**	**247**	*e*Pn	**Pn**	**09 56 28.6**	**+1.7**
NACB	**Ninganchiao**	**7.76**	**243**	*e*Pn	**Pn**	**09 56 27.2**	**-0.5**
MJAR	**Matsushiro Arr**	**11.50**	**40**	P	**Pn**	**09 57 23.4**	**+4.4**
	0.2nm,0.3s,baz=256,slow=13,SNR=5.2						
BJT	**Baijiatuau**	**16.13**	**322**	*e*P	**Pn**	**09 58 24.4**	**+2.9**
	10nm,0.7s						
SONM	**Songino Array**	**26.60**	**324**	P	**P**	**10 00 14.6**	**+1.6**
	0.3nm,0.5s,mb3.1,baz=141,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**41.03**	**310**	P	**P**	**10 02 17.7**	**-0.3**
	0.5nm,0.6s,mb3.3,baz=104,slow=9.6,SNR=3.2						
BVAR	**Borovoye Array**	**49.56**	**317**	P	**P**	**10 03 25.1**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=80,slow=11,SNR=3.8						
BVAR	**Borovoye Array**	**49.56**	**317**	P	**P**	**10 03 25.1**	**-0.5**
ZRNK	**Zerenda**	**50.39**	**317**	*e*P	**P**	**10 03 33.4**	**+1.5**
	1.1nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**51.51**	**174**	P	**P**	**10 03 41.0**	**+0.7**
	0.4nm,0.5s,mb3.6,baz=8.9,slow=13,SNR=6.3						
ILAR	**Eielson Array**	**62.55**	**29**	P	**P**	**10 04 59.7**	**+1.2**
	0.6nm,0.8s,mb3.8,baz=286,slow=7.4,SNR=7.9						
FINES	**FINESS Array B**	**71.78**	**330**	P	**P**	**10 05 55.1**	**-2.0**
	0.4nm,0.4s,mb3.8,baz=192,slow=35,SNR=3.3						
RES	**Resolute Bay**	**73.72**	**11**	*e*P	**P**	**10 06 08.0**	**-0.6**
	1.1nm,0.5s,mb4.0						
YKA	**Yellowknife Ar**	**76.64**	**25**	P	**P**	**10 06 24.9**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=302,slow=5.8,SNR=9.9						
YKA	**Yellowknife Ar**	**76.64**	**25**	P	**P**	**10 06 24.9**	**-0.5**
NVAR	**Mina Array Bea**	**88.74**	**47**	P	**P**	**10 07 29.5**	**+1.2**
	0.7nm,0.8s,mb4.0,baz=287,slow=9.3,SNR=3.6						
PDAR	**Pinedale Array**	**91.33**	**39**	P	**P**	**10 07 40.3**	**-0.1**
	0.5nm,0.9s,mb3.9,baz=22,slow=1.6,SNR=4.0						

IDC 21 10:09:44.5±2.0, 6068S×4648W, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.6/15, mbtmp3.7/2, Error ellipse: s-maj=91.8km s-min=42.5km az=32.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**47.00**	**331**	P	P	10 18 17.9	+0.6
	0.8nm,0.7s,baz=174,slow=12,SNR=3.4						
TORD	**Torodi Ar. Bea**	**82.93**	**47**	P	P	10 22 10.8	-0.4
	0.4nm,0.7s,baz=212,slow=5.6,SNR=3.0						
ILAR	**Eielson Array**	**145.54**	**312**	PKPbc	PKPbc	10 29 22.0	-2.7
	1.3nm,0.6s,baz=132,slow=1.9,SNR=32						
BVAR	**Borovoye Array**	**145.90**	**74**	PKPbc	PKPbc	10 29 23.9	-2.0
	1.0nm,0.5s,baz=242,slow=4.6,SNR=5.1						
MKAR	**Makanchi Array**	**147.59**	**92**	PKPbc	PKPbc	10 29 28.9	-1.8
	0.4nm,0.6s,baz=192,slow=1.7,SNR=3.8						

CSEM ***21*** *10:16:42.5±0.1, 3685N×2796E, h20km, MD3.7, Error ellipse: s-maj=2.8km s-min=1.1km az=60.0*
ISCJB ***21*** *10:16:43.9±0.3, 3687N±002×2778E±003, h23km±3km, mb3.9/10, Error ellipse: s-maj=3.6km s-min=3.1km az=150.9*
NEIC ***21*** *10:16:43.8, 3694N×2777E, h16km, mb3.4/1, MD3.9(ATH), ML3.3(NIC), ML3.7(ISK), After ISK.*
ISK ***21*** *10:16:43.9, 3694N×2776E, h16km, MD3.7*
ATH ***21*** *10:16:43.7, 3697N×2781E, h26km±2km, MD3.9/12*
NIC ***21*** *10:16:46.6±0.5, 3619N×2728E, h25km, ML3.3*
IDC ***21*** *10:16:47.5±4.8, 3698N×2770E, h32km±38km, mb3.8/10, mb1 3.9/14, mb1mx3.7/26, mbtmp3.9/14, ML3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/34, Error ellipse: s-maj=23.5km s-min=15.5km az=150.0*
HLW ***21*** *10:16:48.3, 3676N×2809E, h29km, Mb3.8*

ISC 21 10:16:44.5±0.4, 3690N±002×2778E±003, h14km±3km, n105, σ1°17/126, mb3.9/10, 3C-15D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.23**	**224**	*i* PG	**Pg**	**10 16 49.6**	**0.0**
DAT				*i* SG	**Sg**	**10 16 54.2**	**+1.2**
MLSB	**Milas**	**0.40**	**360**	*i* PG	**Pg**	**10 16 51.6**	**-0.9**
MLSB				*i* SG	**Sg**	**10 16 57.6**	**-0.3**
MLSB	**Milas**	**0.40**	**360**	Pg	**Pg**	**10 16 51.7**	**-0.8**
MLSB				Sg	**Sg**	**10 16 57.7**	**-0.2**
BODT	**Bodrum**	**0.41**	**294**	PG	**Pg**	**10 16 52.5**	**-0.2**
BODT				SG	**Sg**	**10 16 57.9**	**-0.3**
BODT	**Bodrum**	**0.41**	**294**	Pg	**Pg**	**10 16 52.5**	**-0.2**
BODT				Sg	**Sg**	**10 16 57.5**	**-0.7**
YER	**Yerkesik**	**0.47**	**60**	PG	**Pg**	**10 16 53.0**	**-0.8**
NISR	**Nisiros**	**0.59**	**242**	*e*PN	**Pg**	**10 16 56.5**	**+0.3**
NISR				*e*SN	**Sg**	**10 17 06.5**	**+2.4**
ARG	**Arkhangelos**	**0.74**	**157**	*e*PB	**Pb**	**10 16 58.8**	**-0.3**
ARG				*e*SN	**Sg**	**10 17 11.3**	**+2.8**
ARG	**Arkhangelos**	**0.74**	**157**	*e*Pb	**Pb**	**10 16 58.3**	**-0.8**
ARG				*e*Sn	**Sg**	**10 17 11.3**	**+2.8**
AYDN	**Tasoluk**	**0.77**	**6**	*i* P	**Pg**	**10 16 58.5**	**-1.0**
AYDN				*i* S	**Sg**	**10 17 09.9**	**+0.4**
SMG	**Samos**	**1.10**	**317**	*e*PN	**Pn**	**10 17 04.7**	**-0.9**
DENT	**Denizli**	**1.32**	**49**	PN	**Pn**	**10 17 08.0**	**-0.5**
DENT	**Denizli**	**1.32**	**49**	Pn	**Pn**	**10 17 07.1**	**-1.4**
KARP	**Karpathos**	**1.44**	**200**	*e*PB	**Pb**	**10 17 10.2**	**-0.9**
GOLH	**Golhisar**	**1.47**	**76**	*i* P	**Pn**	**10 17 12.3**	**+1.7**
GOLH				*i* S	**Sn**	**10 17 34.6**	**+5.0**
KDAG	**Bornova**	**1.56**	**345**	*i* P	**Pn**	**10 17 09.7**	**-2.1**
KDAG				*i* S	**Sn**	**10 17 36.6**	**+4.8**
KSL	**Kastellorizon**	**1.64**	**117**	*e*PN	**Pn**	**10 17 13.0**	**+0.1**
MANT	**Manisa**	**1.71**	**21**	*i* P	**Pn**	**10 17 13.8**	**-0.1**
MANT				*i* S	**Sn**	**10 17 38.9**	**+3.4**
ELL	**Elmali**	**1.72**	**94**	PN	**Pn**	**10 17 14.4**	**+0.4**
ELL	**Elmali**	**1.72**	**94**	Pn	**Pn**	**10 17 14.4**	**+0.4**
URLA	**Izmir**	**1.74**	**328**	*i* P	**Pn**	**10 17 14.5**	**+0.2**
URLA				*i* S	**Sn**	**10 17 41.8**	**+5.5**
APE	**Apeiranthos**	**1.81**	**276**	PN	**Pn**	**10 17 15.2**	**-0.1**
APE	**Apeiranthos**	**1.81**	**276**	*e*PB	**Pb**	**10 17 15.0**	**-2.4**
AKS	**Akhisar**	**1.98**	**1**	PN	**Pn**	**10 17 16.9**	**-0.7**
AKS	**Akhisar**	**1.98**	**1**	Pn	**Pn**	**10 17 16.9**	**-0.7**
KHL	**Karahalli**	**1.99**	**44**	PN	**Pn**	**10 17 17.8**	**+0.1**
KHL	**Karahalli**	**1.99**	**44**	Pn	**Pn**	**10 17 17.9**	**+0.1**
BCK	**Bucak**	**2.31**	**75**	*e*PN	**Pn**	**10 17 23.2**	**+0.9**
BCK	**Bucak**	**2.31**	**75**	Pn	**Pn**	**10 17 23.3**	**+1.0**
TKTP	**Tekketepe**	**2.32**	**60**	*i* P	**Pn**	**10 17 26.4**	**+4.1**
TKTP				*i* S	**Sn**	**10 18 04.0**	**+13**
ISP	**Isparta**	**2.37**	**66**	*e*PN	**Pn**	**10 17 23.2**	**+0.2**
ISP	**Isparta**	**2.37**	**66**	Pn	**Pn**	**10 17 23.3**	**+0.2**
NPS	**Neapolis**	**2.40**	**228**	*e*PN	**Pn**	**10 17 24.5**	**+1.1**
NPS	**Neapolis**	**2.40**	**228**	*e*Pb	**Pb**	**10 17 27.0**	**-0.4**
XRY	**Khrisi**	**2.63**	**221**	*e*PN	**Pn**	**10 17 28.5**	**+1.9**
XRY	**Khrisi**	**2.63**	**221**	*e*Pb	**Pb**	**10 17 30.0**	**-1.5**
BALB	**Balikesir**	**2.74**	**2**	*e*PN	**Pn**	**10 17 27.9**	**-0.2**
BALB	**Balikesir**	**2.74**	**2**	Pn	**Pn**	**10 17 27.9**	**-0.2**
DST	**Dursunbey**	**2.79**	**14**	*e*PN	**Pn**	**10 17 27.8**	**-0.9**
DST	**Dursunbey**	**2.79**	**14**	Pn	**Pn**	**10 17 27.9**	**-0.8**
IDI	**Anoyia**	**2.84**	**236**	Pn	**Pn**	**10 17 30.4**	**+1.0**
	2.8nm,0.3s,baz=38,slow=8.3,SNR=7.0						
IDI				Sn	**Sn**	**10 18 07.8**	**+4.4**
	6.4nm,0.3s,baz=106,slow=20,SNR=6.7						
PTL	**Penteli**	**3.32**	**291**	*e*PN	**Pn**	**10 17 37.0**	**+1.0**
YLV	**Yalova**	**3.87**	**18**	*e*PN	**Pn**	**10 17 44.0**	**+0.4**
VLI	**Veliai**	**3.89**	**269**	*e*PN	**Pn**	**10 17 46.0**	**+2.1**
VLI	**Veliai**	**3.89**	**269**	*e*Pb	**Pb**	**10 17 48.5**	**-4.4**
MFT	**Murefte**	**3.90**	**354**	*e*PN	**Pn**	**10 17 44.0**	**-0.1**
AKMC	**Akamas**	**4.14**	**115**	P	**P**	**10 17 49.1**	**+1.8**
PPCY	**Paphos**	**4.22**	**117**	P	**Pn**	**10 17 50.6**	**+2.2**
RDO	**Rodhopi**	**4.59**	**338**	*e*PN	**Pn**	**10 17 53.5**	**0.0**
SZAC	**Souni-Zanaja**	**4.67**	**116**	P	**Pn**	**10 17 56.4**	**+1.8**
	8.1nm,0.2s						
SZAC				S	**Sn**	**10 18 50.7**	**+2.2**
CSS	**Prodhromos**	**4.90**	**112**	P	**Pn**	**10 17 59.9**	**+2.1**
	2.1nm,0.3s						
CSS				S	**Sn**	**10 18 59.0**	**+4.6**
EDRB	**Edirne**	**5.01**	**351**	*e*PN	**Pn**	**10 18 01.0**	**+1.7**
EVR	**Evrytania**	**5.13**	**295**	*e*PN	**Pn**	**10 18 03.0**	**+2.0**
EVR	**Evrytania**	**5.13**	**295**	*e*Pn	**Pn**	**10 18 01.0**	**0.0**
BRTR	**Keskin Array B**	**5.41**	**57**	Pn	**Pn**	**10 18 06.5**	**+1.7**
	1.6nm,0.3s,baz=240,slow=15,SNR=26						
BRTR				Sn	**Sn**	**10 19 06.3**	**-0.4**
	1.0nm,0.3s,baz=232,slow=27,SNR=5.6						
BRTR	**Keskin Array B**	**5.41**	**57**	Pn	**Pn**	**10 18 06.5**	**+1.7**
BRTR				Sn	**Sn**	**10 19 06.3**	**-0.4**
SLUM		**5.80**	**202**	⇓P	**Pn**	**10 18 11.4**	**+1.3**
SLUM				S	**Sn**	**10 19 11.8**	**-4.5**
HMAT	**Matruh**	**5.82**	**186**	⇓P	**Pn**	**10 18 10.6**	**+0.2**
HMAT				S	**Sn**	**10 19 11.1**	**-5.7**
DABA	**Dabaa**	**5.89**	**176**	⇓P	**Pn**	**10 18 10.8**	**-0.6**
HNAT	**Natroun**	**7.62**	**161**	⇓P	**Pn**	**10 18 34.2**	**-1.0**
FYM	**Al Fayyum**	**7.69**	**158**	⇓P	**Pn**	**10 18 35.1**	**-0.9**
KOT	**Kottamia**	**7.73**	**153**	⇓P	**Pn**	**10 18 35.1**	**-1.5**
KOT				S	**Sn**	**10 19 53.9**	**-10**
HHAG	**Hagoal**	**7.81**	**151**	⇓P	**Pn

HDK1	**Dakhla**	11.40 173	⇓P		Pn	10 19 27.1	+0.1
GERES	**GERESS Array B**	15.75 324	Pn		Pn	10 20 26.5	+0.5
0.1nm,0.3s,baz=108,slow=6.3,SNR=2.7							
KHC	**Kasperske Hory**	16.01 324	*e*P		Pn	10 20 34.0	+4.7
SBF	**Sospel**	16.97 300	*e*P		Pn	10 20 42.6	+1.1
BRG	**Berggiesshubel**	17.12 329	*e*(P)		Pn	10 20 50.8	+7.4
2.6nm,0.8s							
GRA1	**Grafenberg Arr**	17.52 322	*e*P		Pn	10 20 54.9	+6.5
MBDF	**Montbardon**	17.69 303	*e*P		Pn	10 20 51.2	+0.7
14nm,1.1s							
MBDF	**Montbardon**	17.69 303	*e*P		Pn	10 20 51.2	+0.7
14nm,1.1s							
CLL	**Collm**	17.84 328	*es*P		sP	10 20 57.0	-1.7
CLL			*e*PP			10 21 02.0	
LPG	**La Plagne**	17.97 305	*e*P		Pn	10 20 55.4	+1.5
LPL	**La Plagne**	17.99 305	*e*P		Pn	10 20 55.3	+1.2
CABF	**La Chapelle**	18.82 308	*e*P		Pn	10 21 03.8	-0.5
VIVF	**Saint-Julien-l**	19.15 302	*e*P		Pn	10 21 09.2	+0.9
SMF	**Signal de Mont**	20.27 306	*e*P		P	10 21 17.3	-2.3
37nm,1.0s							
LOR	**Lormes**	20.48 308	*e*P		P	10 21 21.1	-0.8
SSF	**Saint Saulge**	20.63 307	*e*P		P	10 21 24.1	+0.6
19nm,0.8s							
SSF	**Saint Saulge**	20.63 307	*e*P		P	10 21 24.1	+0.6
19nm,0.8s							
AVF	**Avril sur Loir**	20.63 306	*e*P		P	10 21 21.2	-2.4
19nm,1.0s							
MFF	**Saint Martin d**	22.87 304	*e*P		P	10 21 44.9	-2.7
LDF	**La Druitiere**	23.45 309	*e*P		P	10 21 50.0	-3.7
GRR	**Gorron**	23.85 308	*e*P		P	10 21 53.9	-3.5
FINES	**FINESS Array B**	24.59 358	P		P	10 22 03.8	-0.4
2.1nm,0.7s,mb3.8,baz=154,slow=11,SNR=7.4							
HFS	**Hagfors**	24.95 343	P		P	10 22 07.1	-0.3
1.4nm,0.7s,mb3.6,baz=167,slow=14,SNR=3.6							
HFS			LR		LR	10 31 35.4	
comp=Z,30nm,18.9s,baz=247,slow=36							
ESDC	**Sonseca Array**	25.00 286	P		P	10 22 08.2	+0.3
1.3nm,0.7s,mb3.6,baz=74,slow=10,SNR=5.0							
NOA	**NORSAR Array B**	26.34 342	P		P	10 22 20.5	+0.4
0.8nm,0.8s,mb3.3,baz=81,slow=8.9,SNR=3.0							
TORD	**Torodi Ar. Bea**	33.23 231	P		P	10 23 21.6	+0.5
0.8nm,0.5s,mb3.9,baz=34,slow=8.8,SNR=12							
BORG	**Borgarnes**	40.08 330	P		P	10 24 18.3	-1.2
18nm,1.1s,mb4.7,baz=27,slow=4.5,SNR=1.9							
MKAR	**Makanchi Array**	41.05 58	P		P	10 24 27.8	+0.2
1.7nm,0.7s,mb3.8,baz=284,slow=6.5,SNR=22							
ZAL	**Zalesovo**	42.26 48	P		P	10 24 37.1	-0.3
0.7nm,0.4s,mb3.6,baz=224,slow=5.0,SNR=3.5							
SONM	**Songino Array**	56.75 52	P		P	10 26 28.7	+0.7
1.0nm,0.5s,mb4.1,baz=284,slow=7.9,SNR=10							
SCHQ	**Schefferville**	63.24 320	P		P	10 27 10.6	-1.9
4.2nm,1.1s,mb4.5,baz=37,slow=5.1,SNR=2.9							

NIED ***21*** *11:06:00,29.10N×13000E,h41km,Mw4.3 Best double couple: M0=3.68000×10^15 NP1:φ=36.00000°,δ=71.00000°, λ=92.00000°. NP2:φ=211.00000°,δ=19.00000°,λ=86.00000°.*
ISCJB ***21*** *11:06:27.8±0.4,29.10N±003×130.13E±006,h55km±4km, mb4.1/22,MS3.6/2,Error ellipse: s-maj=9.5km s-min=3.8km az=54.0*
JMA ***21*** *11:06:27.6±0.1,2915N×12999E,h62km±3km,M3.9*
MOS ***21*** *11:06:27.8±0.8,2921N×13005E,h51km,mb4.7/7,Error ellipse: s-maj=15.1km s-min=11.3km az=99.4*
IDC ***21*** *11:06:28.5±2.4,2921N×13006E,h40km±23km,mb3.7/11, mb1 3.9/15,mb1mx3.8/27,mbtmp4.0/15,ML3.9/4,MS3.4/4, Ms1 3.4/4,ms1mx2.8/34,Error ellipse: s-maj=19.5km s-min=17.5km az=133.0*
BJI ***21*** *11:06:30.0,29.10N×13000E,h59km,mB4.9,mb4.3*
NEIC ***21*** *11:06:30.0±1.0,29.10N×13003E,h59km±9km,mb4.5/9, MW4.3(NIED),Error ellipse: s-maj=13.3km s-min=8.4km az=135.0*

ISC 21 11:06:29.0±0.4,2911N±003×13010E±006,h48km±4km, n55,σ0=92/62,mb4.1/22,MS3.6/2,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	0.75	345	P	Pn	11 06 42.0	-1.3
JNN				*e*S	Sn	11 06 53.3	-0.4
JZK	**Kikaishima**	0.80	188	P	Pn	11 06 43.9	-0.1
JAM	**Amami Oshima**	0.82	212	P	Pn	11 06 43.2	-1.0
JAM				S	Sn	11 06 54.9	-0.5
JKC	**Kuchinoerabu**	1.35	4	P	Pn	11 06 50.5	-0.8
JKC				*e*S	Sn	11 07 08.3	+0.3
JTK	**Tokunoshima**	1.67	218	P	Pn	11 06 55.8	+0.1
JTN	**Tanegashima 3**	1.71	26	P	Pn	11 06 55.8	-0.6
JTN				*e*S	Sn	11 07 18.0	+0.9
JTSR	**Tashiro 2**	2.17	19	P	Pn	11 07 02.0	-0.6
JTSR				S	Sn	11 07 28.2	0.0
JOW	**Kunigami**	2.79	216	Pn	Pn	11 07 10.9	-0.1
6.4nm,0.3s,baz=83,slow=12,SNR=13							
JOW				Sn	Sn	11 07 45.3	+1.9
9.9nm,0.3s,baz=96,slow=25,SNR=6.2							
JOW				LR	LR	11 08 29.9	
comp=Z,219nm,20.6s,baz=341,slow=43							
JIH	**Iheya**	2.80	223	P	Pn	11 07 11.1	-0.1
JAGN	**Aguni-jima**	3.57	226	P	Pn	11 07 22.1	+0.3
JAGN				*e*S	Sn	11 08 02.9	+0.3
JKE	**Kume jima 2**	4.04	227	P	Pn	11 07 28.2	-0.1
JNU	**Nakatsue**	4.05	9	Pn	Pn	11 07 29.4	+0.9
8.1nm,0.3s,baz=140,slow=5.1,SNR=24							
JNU				Sn	Sn	11 08 15.9	+1.4
8.0nm,0.3s,baz=121,slow=14,SNR=6.3							
KS15	**Wonju Array Si**	8.51	348	*e*Pn	Pn	11 08 33.2	+3.7
JHJ	**Hachijo jima 2**	9.21	62	Pn	Pn	11 08 39.0	-0.1
5.9nm,0.3s,baz=68,slow=19,SNR=3.3							
MAJO	**Matsushiro**	10.07	41	*e*Pn	Pn	11 08 52.9	+2.1
MJAR	**Matsushiro Arr**	10.07	41	Pn	Pn	11 08 50.9	0.0
0.4nm,0.3s,baz=232,slow=13,SNR=4.8							
CBIJ	**Chichi jima**	10.86	98	Pn	Pn	11 09 00.1	-1.6
22nm,0.3s,baz=280,slow=20,SNR=6.2							
CN2	**Changchun**	15.12	347	*e*P	Pn	11 10 05.8	+6.4
CN2				AMB	AMB		
comp=Z,30nm,0.7s							
ASAJ	**Asahikawa**	17.99	30	LR	LR	11 17 34.4	
comp=Z,134nm,18.6s,baz=155,slow=37							
ULN	**Ulaanbaatar**	25.83	323	*e*P	P	11 11 55.5	-0.2
comp=Z,2.5nm,0.8s,mb3.8							
ULN	**Ulaanbaatar**	25.83	323	*e*P	P	11 11 55.5	-0.3
ULN				pmax	pmax		
comp=Z,2.0nm,0.8s,mb3.7							
SONM	**Songino Array**	26.17	322	P	P	11 11 58.0	-0.8
comp=Z,1.7nm,0.7s,mb3.7,baz=139,slow=9.6,SNR=11							
SONM				LR	LR	11 23 49.3	
comp=Z,86nm,19.6s,MS3.3,baz=217,slow=40							
GTA	**Gaotai**	26.94	300	*e*P	P	11 12 07.4	+1.6
GTA				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.0							
MA2	**Magadan**	33.56	19	*e*P	P	11 13 05.1	+0.9
comp=Z,6.7nm,0.8s,mb4.6							
MA2	**Magadan**	33.56	19	*e*P	P	11 13 05.1	+0.9
MA2				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.6							
JIRN	**Jiri**	38.49	279	*e*P	P	11 13 48.9	+2.5
GUN	**Gumba**	38.70	279	*e*P	P	11 13 49.3	+1.1
comp=Z,11nm,0.4s,mb5.0							
PKI	**Pulchoki**	39.19	279	*e*P	P	11 13 52.5	+0.3
KKN	**Kakani**	39.25	279	*e*P	P	11 13 53.3	+0.6
comp=Z,12nm,0.6s,mb4.8							
KKN	**Kakani**	39.25	279	*e*P	P	11 13 53.3	+0.6
KKN				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.5							
DMN	**Daman**	39.44	279	*e*P	P	11 13 54.5	+0.2
GKN	**Gorkha**	39.76	280	*e*P	P	11 13 56.2	-0.8
DANN	**Dangsing**	40.44	281	*e*P	P	11 14 00.1	-2.5
MKAR	**Makanchi Array**	40.93	309	P	P	11 14 06.6	-0.1
comp=Z,0.5nm,0.7s,mb3.3,baz=96,slow=12,SNR=5.8							
MKAR				PcP	PcP	11 16 06.0	-0.3
comp=Z,1.0nm,0.7s,baz=71,slow=2.9,SNR=9.9							
ZAL	**Zalesovo**	41.04	320	P	P	11 14 07.3	-0.2
comp=Z,0.8nm,0.4s,mb3.7,baz=143,slow=5.7,SNR=3.8							
KURK	**Kurchatov**	43.94	314	*e*P	P	11 14 30.2	-0.9
comp=Z,1.0nm,0.4s,mb3.9							
KURK	**Kurchatov**	43.94	314	*e*P	P	11 14 30.2	-0.9
KURK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb3.9							
BVAR	**Borovoye Array**	49.28	317	P	P	11 15 12.9	-0.1
comp=Z,4.4nm,0.6s,mb4.7,baz=92,slow=9.3,SNR=24							
BVAR				PcP	PcP	11 16 34.7	-0.5
comp=Z,2.3nm,0.7s,baz=106,slow=4.8,SNR=6.3							
BRVK	**Borovoye**	49.35	317	*e*P	P	11 15 13.3	-0.1
comp=Z,4.3nm,0.5s,mb4.7							
BRVK	**Borovoye**	49.35	317	*e*P	P	11 15 13.4	0.0
BRVK				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.7							
ZRNK	**Zerenda**	50.11	316	*e*P	P	11 15 18.6	-0.6
comp=Z,5.1nm,0.7s,mb4.7							
ZRNK	**Zerenda**	50.11	316	*e*P	P	11 15 18.6	-0.6
ZRNK				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.7							
ASAR	**Alice Springs**	52.60	176	P	P	11 15 39.5	+1.6
comp=Z,0.5nm,0.5s,mb3.7,baz=7.7,slow=14,SNR=13							
AKTK	**Aktyubinsk**	57.02	314	P	P	11 16 09.5	-0.4
AKTK				LR	LR	11 42 26.0	
AKTO	**Aktyubinsk**	57.02	314	P	P	11 16 09.5	-0.4
comp=Z,1.3nm,0.6s,mb4.2,baz=86,slow=13,SNR=6.4							
AKTO				LR	LR	11 42 26.0	
comp=Z,89nm,19.5s,MS3.9,baz=223,slow=38							
ILAR	**Eielson Array**	61.12	29	P	P	11 16 37.8	-0.4
comp=Z,0.5nm,0.7s,mb3.8,baz=278,slow=6.0,SNR=12							
INK	**Inuvik**	65.59	24	*e*P	P	11 17 08.1	+0.3
comp=Z,4.4nm,1.3s,mb4.3							
INK	**Inuvik**	65.59	24	*e*P	P	11 17 08.1	+0.3
INK				pmax	pmax		
comp=Z,4.0nm,1.3s							
FINES	**FINESS Array B**	71.18	330	P	P	11 17 40.6	-2.1
comp=Z,0.7nm,0.5s,mb3.9,baz=67,slow=6.4,SNR=4.2							
RES	**Resolute Bay**	72.41	11	*e*P	P	11 17 48.9	-1.2
comp=Z,4.0nm,0.7s,mb4.5							
RES	**Resolute Bay**	72.41	11	*e*P	P	11 17 48.9	-1.2
RES				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
YKA	**Yellowknife Ar**	75.22	26	P	P	11 18 06.5	0.0
comp=Z,1.0nm,0.7s,mb3.9,baz=302,slow=5.8,SNR=24							
BRTR	**Keskin Array B**	76.57	308	P	P	11 18 14.2	-0.1
comp=Z,1.2nm,0.9s,mb3.8,baz=120,slow=4.7,SNR=3.9							
SUMG	**Summit**	78.28	356	*e*P	P	11 18 23.7	-0.1
comp=Z,2.4nm,0.5s,mb4.4							
PDAR	**Pinedale Array**	89.89	39	P	P	11 19 23.6	+0.8
comp=Z,0.6nm,0.8s,mb4.0,baz=270,slow=4.4,SNR=5.0							

MEX 21 11:14:53.9±1.2,1638N×9891W,h19km±100km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.76	89	*i* P	Pb	11 15 05.6	-2.8
PNIG				*i* S	Sb	11 15 15.8	-2.6
ACX	**Acapulco**	1.08	297	*i* P	Pb	11 15 10.0	-3.9
ACX				*i* S	Sb	11 15 24.0	-3.6
CAIG	**El Cayaco**	1.46	297	*e*P	Pn	11 15 17.3	-1.9
CAIG				*i* S	Sn	11 15 32.0	-5.8
MEIG	**Mezcala**	1.68	336	*e*P	Pn	11 15 19.5	-2.7
MEIG				*i* S	Sn	11 15 39.4	-3.9
UTMO	**Huajuapan**	1.79	36	*i* P	Pn	11 15 20.7	-3.1
UTMO				*i* S	Sn	11 15 42.3	-3.7
PLIG	**Platanillo**	2.08	344	*e*P	Pn	11 15 25.7	-2.1
PLIG				*i* S	Sn	11 15 48.4	-4.8
VHO	**Vista Hermosa**	2.20	71	*i* P	Pn	11 15 27.0	-2.4
VHO				*i* S	Sn	11 15 52.6	-3.5
PPM	**Popocatepetl**	2.69	6	*i* P	Pn	11 15 34.5	-1.6
PPM				*i* S	Sn	11 16 06.9	-1.3
CMIG	**Matias Romero**	3.93	79	*e*P	Pn	11 15 51.2	-1.9
CMIG				*i* S	Sn	11 16 34.1	-4.6

IDC ***21*** *11:29:04.6±2.5,3951N×4170E,h0km,mb3.2/5,mb1 3.5/9, mb1mx3.4/24,mbtmp3.3/9,ML3.6/2,Error ellipse: s-maj=52.0km s-min=14.8km az=9.0*
CSEM ***21*** *11:29:04.5±0.1,3975N×4174E,h5km,MD3.8,Error ellipse: s-maj=2.1km s-min=1.9km az=38.0*
TIF ***21*** *11:29:04.7,3974N×4176E,h15km±3km*
BJI ***21*** *11:29:04.1,4026N×4173E,h7km,mB4.7,mb4.7,Ms4.4, Msz4.3*
MOS ***21*** *11:29:05.6±1.5,3982N×4176E,h10km,mb4.2/2,Error ellipse: s-maj=10.5km s-min=7.8km az=85.8*
NEIC ***21*** *11:29:05.8,3977N×4169E,h16km,mb4.1/2,ML4.0(ISK), After ISK.*
ISK ***21*** *11:29:05.8,3978N×4172E,h16km,MD3.8*
ISCJB ***21*** *11:29:07.0±0.5,3979N±003×4172E±004,h19km±5km, mb4.3/12,MS4.5/1,Error ellipse: s-maj=4.8km s-min=4.0km az=72.4*
SZGRF ***21*** *11:29:12.6,3956N×4135E,h33km,mb4.0,Turkey*

ISC 21 11:29:06.0±0.5,3977N±002×4177E±002,h3km±4km, h17km±.4km:pP-P,n74,σ1=21/95,mb4.3/12,MS4.5/1,1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	0.34	293	*i* P	Pg	11 29 12.6	+0.1
EZM	**Erzurum**	0.34	293	*i* PG	Pg	11 29 12.6	+0.1
EZM	**Erzurum**	0.34	293	Pg	Pg	11 29 12.7	+0.2
BNGL	**BINGOL**	0.95	211	*i* P	Pg	11 29 22.3	-1.9
BNGL				*i* S	Sg	11 29 36.6	+0.1
KARS	**Kars**	1.32	50	*i* Pn	Pn	11 29 29.8	-1.5
KARS				S	Sg	11 29 49.5	+1.2
KARS	**Kars**	1.32	50	Pn	Pn	11 29 29.5	-1.8
KARS				Sg	Sg	11 29 49.5	+1.2
DIGO	**Kars**	1.39	62	*i* P	Pn	11 29 30.7	-1.6
DIGO				*i* S	Sg	11 29 52.4	+1.8
ARTV	**Artvin**	1.42	5	*i* P	Pn	11 29 31.6	-1.0
ARTV				*i* S	Sb	11 29 52.4	+0.9
ARTV	**Artvin**	1.42	5	*i* P	Pn	11 29 31.6	-1.0
ARTV				*i* S	Sb	11 29 52.4	+0.9
BTMT	**Batman**	1.59	188	PN	Pn	11 29 35.3	+0.2
BTMT				SN	Sn	11 29 57.1	+0.9
CLDR	**Caldiran**	1.78	110	PN	Pn	11 29 37.4	-0.2
CLDR				SN	Sn	11 30 01.0	+0.3
CLDR	**Caldiran**	1.78	110	Pn	Pn	11 29 37.5	-0.1
CLDR				Sg	Sg	11 30 01.5	-1.6
TVAN	**Van**	1.78	134	*i* P	Pn	11 29 38.0	+0.4
VANT	**Van**	1.83	136	PN	Pn	11 29 37.9	-0.4
VANT	**Van**	1.83	136	P	Pn	11 29 37.3	-1.0
GUMT	**Gumushane**	1.88	292	PN	Pn	11 29 38.7	-0.4
GUMT	**Gumushane**	1.88	292	Pn	Pn	11 29 37.9	-1.2
BEST	**Besiri**	1.92	192	*i* P	Pn	11 29 40.7	+1.1
KELT	**Kelkit**	1.97	282	*i* P	Pn	11 29 41.1	+0.9
AKH	**Akhalkalaki**	2.10	38	P	Pn	11 29 42.2	+0.2
AKH				S	Sn	11 30 12.9	+4.3
GNI	**Garni**	2.32	80	PN	Pn	11 29 45.2	+0.2
GNI	**Garni**	2.32	80	Pn	Pn	11 29 47.8	+2.8
27nm,0.3s,baz=276,slow=4.3,SNR=73							
ELZG	**Elazig**	2.51	240	*i* P	Pn	11 29 47.9	+0.2
ELZG				*i* S	Sg	11 30 30.3	+3.6
MARD	**Mardin**	2.58	198	*i* P	Pn	11 29 50.1	+1.5
MARD				*i* S	Sn	11 30 26.0	+5.6
HKR	**Hakkari**	2.68	144	*e*PN	Pn	11 29 50.0	0.0
CUKT	**Cukurca**	2.91	150	*e*PN	Pn	11 29 53.2	+0.1
GRSN	**GIRESUNGRSN**	2.91	294	*i* P	Pg	11 30 00.2	-1.6
GRSN				*i* S	Sg	11 30 38.1	-1.5
MALT	**Malatya**	2.98	242	*e*PN	Pn	11 29 52.8	-1.4
MALT	**Malatya**	2.98	242	P	Pn	11 29 53.0	-1.2
MALT	**Malatya**	2.98	242	P	Pn	11 29 53.0	-1.2
TBLG	**Delisi**	2.99	48	P	Pn	11 29 54.3	+0.1
MTA	**Mtatsminda**	2.99	49	P	Pn	11 29 54.7	+0.3
MTA				S	Sg	11 30 43.8	+1.6
MTA	**Mtatsminda**	2.99	49	P	Pg	11 30 02.4	-0.9
MTA				S	Sg	11 30 43.5	+1.3
DGRG	**David-gareji**	3.21	57	P	Pb	11 30 04.8	+1.1
DGRG				S	Sg	11 30 49.6	+0.3
ZEI	**Tsey**	3.40	28	*e*P	Pn	11 30 01.9	+2.0
ZEI				*i* S	Sn	11 30 41.6	+0.9
MSL	**Mosul**	3.63	163	*i* x	x	11 30 52.0	
MSL				*ex*	x	11 16 35.0	
SVSK	**Karacayir**	3.67	274	*e*PN	Pn	11 30 03.6	-0.1
GZT	**Gaziantep**	4.08	235	*i* P	Pn	11 30 15.9	+6.6
GZT				*i* S	Sn	11 31 07.3	+10
SOC	**Sochi**	4.11	339	*e*S	Sn	11 30 53.9	-4.3
184nm,11.0s							
SOC	**Sochi**	4.11	339	*e*P	Pn	11 30 08.3	-1.3
SOC				*e*		11 30 53.9	
SOC				pmax	pmax		
comp=Z,37nm,0.8s							
SOC				smax			
comp=E,45nm,0.7s							
SOC				MLR	MLR		
comp=Z,184nm,11.0s							
KIV	**Kislovodsk**	4.24	9	*e*P	Pn	11 30 08.8	-2.6
MAK	**Makhachkala**	5.36	52	*e*P	Pn	11 30 24.3	-2.6
comp=Z,162nm,9.0s							
MAK	**Makhachkala**	5.36	52	*e*P	Pn	11 30 24.3	-2.6
MAK				*e*S	Sn	11 31 24.5	-4.7
MAK				MLR	MLR		
comp=Z,162nm,9.0s							
CDAG	**Cicekdag**	5.71	271	*i* P	Pb	11 30 47.9	+1.7
CDAG				*i* S	Sg	11 32 11.2	+1.9
ANN	**Anapa**	5.96	329	*e*P	Pn	11 30 37.2	+2.0
comp=Z,90nm,1.3s							
ANN	**Anapa**	5.96	329	*e*P	Pn	11 30 37.2	+2.0
ANN				pmax	pmax		
comp=Z,90nm,1.3s							
BRTR	**Keskin Array B**	6.26	272	Pn	Pn	11 30 37.9	-1.4
baz=96,slow=13,SNR=1.3							
AKASG	**Malin Array Be**	14.03	325	Pn	Pn	11 32 26.2	+0.5
comp=Z,0.6nm,0.3s,baz=137,slow=11,SNR=6.3							
AKASG	**Malin Array Be**	14.03	325	Pn	Pn	11 32 26.2	+0.5
AKTK	**Aktyubinsk**	15.62	42	P	Pn	11 32 46.2	-0.9
AKTK	**Aktyubinsk**	15.62	42	Pn	Pn	11 32 46.2	-0.9
AKTO	**Aktyubinsk**	15.62	42	Pn	Pn	11 32 46.2	-0.9
comp=Z,0.1nm,0.3s,baz=190,slow=6.1,SNR=2.3							
OBN	**Obninsk**	15.74	349	*e*P	Pn	11 32 47.1	-1.5
ARU	**Arti**	20.00	28	*e*S	Sn	11 37 21.4	-5.2
ARU	**Arti**	20.00	28	⇓*i*P	Pn	11 33 31.0	-10
ARU				*e*SS		11 37 21.4	
ARU				pmax	pmax		
comp=Z,7.0nm,0.7s							
GERES	**GERESS Array B**	21.93	304	P	P	11 34 00.5	0.0
comp=Z,0.5nm,0.6s,mb3.1,baz=107,slow=8.5,SNR=4.8							
BVAR	**Borovoye Array**	23.59	46	P	P	11 34 17.1	-1.0
comp=Z,0.2nm,0.4s,baz=263,slow=11,SNR=2.7							
GRA1	**Grafenberg Arr**	23.71	305	*e*P	P	11 34 20.1	+0.9
comp=Z,5.0nm,0.9s,mb3.9							
GRF	**Grafenberg Arr**	23.71	305	*e*P	P	11 34 20.1	+0.9
comp=Z,5.0nm,0.9s,mb3.9							
GRF	**Grafenberg Arr**	23.71	305	*e*P	P	11 34 20.1	+0.9
GRF				pmax	pmax		
comp=Z,5.0nm,0.9s,mb3.9							
GRF	**Grafenberg Arr**	23.71	305	*e*P	P	11 34 20.1	+0.9
GRF				pmax	pmax		
comp=Z,5.0nm,0.9s,mb3.9							
FINES	**FINESS Array B**	23.75	341	P	P	11 34 19.9	+0.4
comp=Z,0.9nm,0.7s,mb3.3,baz=150,slow=11,SNR=3.0							
KURK	**Kurchatov**	27.88	55	*e*P	P	11 34 56.7	-0.3
MKAR	**Makanchi Array**	30.06	63	P	P	11 35 16.2	-0.2
comp=Z,0.3nm,0.6s,mb3.2,baz=260,slow=5.7,SNR=3.6							
MKAR	**Makanchi Array**	30.06	63	*i* P	P	11 35 16.7	+0.4
MKAR	**Makanchi Array**	30.06	63	P	P	11 35 16.2	-0.2
WMQ	**Urumqi**	34.14	68	*e*P	P	11 35 52.0	-0.1
WMQ				AP	pP	11 35 56.4	+3.4
WMQ				XP	sP	11 35 59.0	+5.6
WMQ				AMB	AMB		
comp=Z,5.0nm,1.2s,mb4.3							
WMQ				AMB	AMB		
comp=Z,31nm,4.2s							
LZH	**Lanzhou**	48.24	74	*e*P	P	11 37 49.5	+1.5
LZH				AP	pP	11 37 54.5	+5.5
LZH				XP	sP	11 37 56.3	+7.0
LZH				PP	PP	11 39 41.6	+1.2
LZH				AMB	AMB		
comp=Z,23nm,1.5s,mb5.0							
LZH				AMB	AMB		
comp=Z,57nm,7.3s							
LZH				LR	LR		
comp=E,351nm,15.2s							
LZH				LR	LR		
comp=Z,487nm,18.3s,MS4.5							
CD2	**Chengdu**	50.45	80	*e*P	P	11 38 01.8	-3.1
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
CD2				AMB	AMB		
comp=Z,60nm,7.2s							
HHC	**Hu-ho-hao-te**	51.90	65	*e*P	P	11 38 14.1	-1.7
HHC				AP	pP	11 38 18.8	+2.1
HHC				XP	sP	11 38 21.1	+4.0
HHC				PCP	PcP	11 39 27.4	-1.2
HHC				PP	PP	11 40 12.8	-0.8
HHC				SCP	ScP	11 43 22.8	-3.5
HHC				S	S	11 45 34.3	-4.9
HHC				XS	sS	11 45 42.3	+1.5
HHC				SCS	ScS	11 48 00.8	-6.2
HHC				AMB	AMB		
comp=Z,9.0nm,0.4s,mb5.0							
HHC				AMB	AMB		
comp=Z,113nm,5.0s							
HHC				LR	LR		
comp=N,213nm,6.1s							
HHC				LR	LR		
comp=E,584nm,17.2s							
HHC				LR	LR		
comp=Z,127nm,5.2s							
CN2	**Changchun**	59.94	56	*e*P	P	11 39 13.0	-0.4
CN2				*e*S	S	11 47 22.3	-4.0
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0							
NJ2	**Nanjing**	61.13	71	*e*P	P	11 39 23.6	+2.0
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.2							
MDJ	**Mudanjiang**	62.17	54	P	P	11 39 23.8	-4.8
MDJ				AMB	AMB		
comp=Z,7.0nm,0.6s,mb5.0							
MDJ				AMB

TBI	**Tubuai**	**25.52 112**	*e*LQ			11 42 23.3	
	976nm,27.8s						
TBI			*e*LR	LR		11 43 31.9	
	178nm,27.8s						
STKA	**Stephens Creek**	**42.58 239**	P	P		11 39 53.9	+1.0
	2.3nm,1.0s,baz=125,slow=19,SNR=2.1						
STKA			LR	LR		11 56 41.9	
	comp=Z,182nm,18.2s,baz=31,slow=35						
WRA	**Warramunga Arr**	**48.18 257**	P	P		11 40 36.1	-1.2
	1.7nm,0.8s,baz=91,slow=7.6,SNR=7.9						
ASAR	**Alice Springs**	**48.49 252**	P	P		11 40 40.0	+0.3
	2.7nm,0.6s,baz=86,slow=7.7,SNR=34						
VNDA	**Vanda**	**63.27 185**	LR	LR		12 02 33.9	
	comp=Z,188nm,20.3s,baz=136,slow=29						
MJAR	**Matsushiro Arr**	**67.78 321**	LR	LR		12 06 15.3	
	comp=Z,110nm,21.1s,baz=70,slow=30						
YBH	**Yreka Blue Hor**	**74.60 38**	LR	LR		12 08 07.0	
	comp=Z,103nm,20.5s,baz=231,slow=29						
KDAK	**Kodiak Island**	**75.21 12**	LR	LR		12 13 03.8	
	comp=Z,111nm,19.0s,baz=100,slow=33						
NVAR	**Mina Array Bea**	**75.44 43**	P	P		11 43 42.4	+1.4
	0.9nm,0.8s,baz=222,slow=12,SNR=5.0						
ILAR	**Eielson Array**	**82.72 12**	P	P		11 44 20.3	-0.6
	0.2nm,0.7s,baz=234,slow=4.5,SNR=4.8						
PDAR	**Pinedale Array**	**83.37 42**	P	P		11 44 24.2	0.0
	0.5nm,0.9s,baz=266,slow=4.3,SNR=3.7						
PDAR			LR	LR		12 17 04.5	
	comp=Z,92nm,19.4s,baz=251,slow=32						
YKA	**Yellowknife Ar**	**90.73 24**	P	P		11 44 58.1	-1.9
	0.5nm,0.9s,baz=234,slow=4.5,SNR=6.3						
JTS	**JuntasAbangare**	**92.90 80**	LR	LR		12 17 36.7	
	comp=Z,107nm,18.9s,baz=260,slow=30						
SONM	**Songino Array**	**93.65 319**	LR	LR		12 22 56.4	
	comp=Z,77nm,19.0s,baz=48,slow=33						
BRTR	**Keskin Array B**	**145.00 320**	PKPbc	PKPbc		11 51 35.9	+2.1
	4.0nm,0.9s,baz=87,slow=3.0,SNR=10						
GERES	**GERESS Array B**	**145.79 350**	PKPbc	PKPbc		11 51 35.4	-0.9
	1.0nm,0.9s,baz=313,slow=6.7,SNR=5.5						

IDC 21 11:34:00.2±2.5,1073N×9431E,h0km,mb3.8/4,mb1 3.9/4, mb1mx3.6/21,mbtmp3.8/4,Error ellipse: s-maj=107.5km s-min=25.6km az=62.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.79**	**301**	*e*P	Pn	11 34 53.5	+21
PBA				*e*S	Sn	11 35 17.2	+21
PBA				*e*x	x	11 35 23.3	
	comp=E,685nm,0.7s						
PBA				*e*x	x	11 35 26.9	
	comp=N,492nm,0.6s						
MKAR	**Makanchi Array**	**37.36**	**346**	P	P	11 41 14.7	+0.2
	comp=N,14nm,0.7s,baz=160,slow=8.2,SNR=16						
SONM	**Songino Array**	**38.36**	**13**	P	P	11 41 23.0	+0.1
	comp=N,0.2nm,0.3s,baz=188,slow=7.0,SNR=5.8						
BVAR	**Borovoye Array**	**46.36**	**340**	P	P	11 42 27.7	-0.4
	comp=N,0.7nm,0.7s,baz=134,slow=8.5,SNR=4.7						
ASAR	**Alice Springs**	**51.65**	**132**	P	P	11 43 09.1	+0.4
	comp=N,1.2nm,0.8s,baz=308,slow=6.9,SNR=10						

IDC 21 11:36:26.5±2.1,530S×15083E,h0km,mb3.4/3,mb1 3.7/3, mb1mx3.5/12,mbtmp3.4/3,MS4.1/2,Ms1 4.1/2, ms1mx3.4/10,Error ellipse: s-maj=135.6km s-min=29.7km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**226**	P	P	11 41 18.3	-0.3
	0.6nm,0.3s,baz=52,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**24.48**	**220**	P	P	11 41 47.5	+0.3
	0.9nm,0.6s,baz=57,slow=9.0,SNR=5.2						
RAR	**Rarotonga**	**50.38**	**113**	LR	LR	12 01 18.5	
	comp=Z,277nm,20.3s,baz=335,slow=30						
PPT	**Papeete**	**59.45**	**107**	LR	LR	12 06 25.7	
	comp=Z,114nm,21.6s,baz=262,slow=30						
ILAR	**Eielson Array**	**83.36**	**22**	P	P	11 48 54.6	-0.8
	0.2nm,0.5s,baz=258,slow=4.7,SNR=5.9						
TORD	**Torodi Ar. Bea**	**148.58**	**287**	PKPbc	PKPbc	11 56 17.1	+1.7
	0.8nm,0.6s,baz=89,slow=2.0,SNR=6.1						

MEX 21 11:57:28.0±0.4,1712N×9473W,h118km±5km,MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.15**	**258**	*i* P	Pn	11 57 42.9	-1.3
CMIG				*i* S	Sn	11 57 54.7	-1.8
OXX	**Oaxaca**	**1.91**	**269**	*i* P	Pn	11 57 59.0	-1.2
OXX				*i* S	Sn	11 58 23.0	-1.7
VHO	**Vista Hermosa**	**1.92**	**269**	*i* P	Pn	11 57 59.1	-1.2
VHO				*i* S	Sn	11 58 22.9	-2.1
CCIG	**Comitan**	**2.62**	**108**	*i* P	Pn	11 58 09.3	+0.1
CCIG				*i* S	Sn	11 58 39.2	-1.8

*BJI **21** 12:28:33.1,1167N×14255E,h121km,mB4.8,mb4.5*
*ISCJB **21** 12:28:39.4±1.2,1227N±005×142.11E±009,h125km±13km, mb4.4/33,Error ellipse: s-maj=13.8km s-min=7.4km az=171.2*
*MOS **21** 12:28:39.6±0.7,1230N×14208E,h126km,mb4.2/9,Error ellipse: s-maj=15.0km s-min=10.3km az=96.8*
*IDC **21** 12:28:40.9±1.7,1236N×142.10E,h120km±17km,mb3.9/11, mb1 4.0/13,mb1mx3.9/24,mbtmp4.3/13,Error ellipse: s-maj=16.0km s-min=11.8km az=80.0*
*NEIC **21** 12:28:40.7±1.2,1228N×14206E,h121km±12km,mb4.5/15, Error ellipse: s-maj=11.3km s-min=6.5km az=85.0*

ISC 21 12:28:41.4±1.1,1229N±004×14217E±008,h128km±12km, h113km±.7km:pP-P,n56,σ0°90/58,mb4.2/33,2C,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.93**	**64**	P	**Pn**	**12 29 26.9**	**-0.2**
	91nm,0.3s,baz=245,slow=2.7,SNR=54						
GUMO				S	**Sn**	**12 30 02.4**	**+0.1**
	138nm,0.3s,baz=60,slow=23,SNR=9.0						
GUMO	**Guam**	**2.93**	**64**	*e*P	**Pn**	**12 29 27.1**	**+0.1**
JOW	**Kunigami**	**19.48**	**320**	P	**P**	**12 32 59.2**	**+1.0**
	1.3nm,0.3s,baz=140,slow=18,SNR=3.9						
TGY	**Tagaytay City**	**20.75**	**277**	P	**P**	**12 33 11.7**	**-0.1**
	236nm,0.5s,baz=114,slow=1.6,SNR=8.8						
PMG	**Port Moresby**	**22.12**	**167**	P	**P**	**12 33 26.1**	**-0.3**
	15nm,0.9s,mb4.4,baz=17,slow=6.3,SNR=7.1						
PMG	**Port Moresby**	**22.12**	**167**	*e*P	**P**	**12 33 25.7**	**-0.7**
	20nm,1.0s,mb4.5						
PMG	**Port Moresby**	**22.12**	**167**	*ce*P	**P**	**12 33 26.4**	**0.0**
YHNB	**Yeheng**	**23.20**	**305**	P	**P**	**12 33 36.6**	**-0.2**
NJ2	**Nanjing**	**29.08**	**316**	*e*P	**P**	**12 34 31.4**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CTAO	**Charters Tower**	**32.43**	**173**	*e*P	**P**	**12 35 00.3**	**+1.2**
	comp=Z,42nm,1.4s,mb5.0						
WRAB	**Tennant Creek**	**32.93**	**194**	*e*P	**P**	**12 35 03.1**	**-0.4**
	comp=Z,5.7nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**32.94**	**194**	*e*P	**P**	**12 35 03.7**	**+0.1**
WRA	**Warramunga Arr**	**32.95**	**194**	P	**P**	**12 35 04.1**	**+0.5**
	comp=Z,3.0nm,0.5s,mb4.2,baz=14,slow=9.6,SNR=9.8						
MDJ	**Mudanjiang**	**33.97**	**344**	P	**P**	**12 35 11.0**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,71nm,3.1s						
FITZ	**Fitzroy Crossi**	**34.32**	**209**	*e*P	**P**	**12 35 14.5**	**-1.1**
	comp=Z,13nm,1.1s,mb4.6						
ENH	**Enshi**	**35.13**	**306**	*e*P	**P**	**12 35 21.2**	**-1.3**
	comp=Z,11nm,0.9s,mb4.5						
AS31	**Alice Springs**	**36.64**	**193**	*e*P	**P**	**12 35 35.9**	**+0.6**
ASAR	**Alice Springs**	**36.64**	**193**	P	**P**	**12 35 36.1**	**+0.7**
	comp=Z,1.4nm,0.4s,mb4.0,baz=21,slow=11,SNR=53						
ASPA	**Alice Springs**	**36.64**	**193**	*e*P	**P**	**12 35 35.9**	**+0.5**
HHC	**Hu-ho-hao-te**	**39.10**	**322**	*e*P	**P**	**12 35 56.9**	**+0.9**
HHC				AP	pP	12 36 22.3	-2.2
HHC				XP	sP	12 36 35.3	-3.8
HHC				PP	PP	12 37 33.0	+4.8
HHC				S	**S**	**12 41 48.1**	**+2.1**
HHC				SCS	ScS	12 45 52.3	+0.9
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,78nm,4.2s						
HHC				LR	LR		
	comp=N,85nm,4.4s						
HHC				LR	LR		
	comp=E,152nm,6.0s						
HHC				LR	LR		
	comp=Z,74nm,6.7s						
MBWA	**Marble Bar**	**39.89**	**214**	*e*P	**P**	**12 36 00.6**	**-1.9**
	comp=Z,6.9nm,0.9s,mb4.3						
CD2	**Chengdu**	**39.97**	**304**	*e*P	**P**	**12 36 02.6**	**-0.6**
CD2				AP	pP	12 36 28.0	-3.8
CD2				XP	sP	12 36 41.0	-5.3
CD2				PP	PP	12 37 40.0	+2.4
CD2				S	**S**	**12 41 59.0**	**0.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,5.3s						
CD2				LR	LR		
	comp=E,150nm,9.6s						
CD2				LR	LR		
	comp=Z,100nm,7.2s						
DZM	**Mont Dzumac**	**41.64**	**145**	P	**P**	**12 36 20.0**	**+3.2**
	comp=Z,6.0nm,0.6s,mb4.4,baz=321,slow=6.5,SNR=15						
STKA	**Stephens Creek**	**43.92**	**181**	P	**P**	**12 36 33.5**	**-1.8**
	comp=Z,1.7nm,0.7s,mb3.8,baz=9.6,slow=7.4,SNR=5.8						
STKA	**Stephens Creek**	**43.92**	**181**	P	**P**	**12 36 33.2**	**-2.1**
FORT	**Forrest**	**44.92**	**197**	*e*P	**P**	**12 36 43.8**	**+0.6**
	comp=Z,6.8nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**45.99**	**327**	*e*P	**P**	**12 36 51.8**	**+0.1**
	comp=Z,2.5nm,0.9s,mb3.8						
ULN	**Ulaanbaatar**	**45.99**	**327**	*e*P	**P**	**12 36 51.8**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
GTA	**Gaotai**	**46.10**	**314**	*e*P	**P**	**12 36 53.0**	**+0.4**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**46.32**	**327**	P	**P**	**12 36 55.0**	**+0.7**
	comp=Z,1.2nm,0.5s,mb3.8,baz=137,slow=6.6,SNR=14						
ZAK	**Zakamensk**	**49.49**	**328**	*e*P	**P**	**12 37 18.0**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
MUN	**Mundaring**	**50.55**	**209**	*e*P	**P**	**12 37 27.1**	**+0.4**
NWAO	**Narrogin (SRO)**	**50.88**	**207**	P	**P**	**12 37 29.3**	**+0.2**
	comp=Z,11nm,0.9s,mb4.5						
NWAO	**Narrogin (SRO)**	**50.88**	**207**	P	**P**	**12 37 29.3**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ	**Urumqi**	**56.15**	**315**	*e*P	**P**	**12 38 09.1**	**+1.6**
WMQ				AP	pP	12 38 36.3	-1.5
WMQ				XP	sP	12 38 48.8	-3.1
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,41nm,4.6s						
WMQ				LR	LR		
	comp=N,252nm,22.0s						
WMQ				LR	LR		
	comp=Z,249nm,21.0s						
BILL	**Bilibino**	**57.89**	**10**	*e*P	**P**	**12 38 19.9**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.0						
BILL	**Bilibino**	**57.89**	**10**	*e*P	**P**	**12 38 19.9**	**+0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**60.61**	**317**	P	**P**	**12 38 38.9**	**+0.4**
	comp=Z,2.4nm,0.6s,mb4.2,baz=93,slow=8.4,SNR=27						
KURK	**Kurchatov**	**63.89**	**321**	*e*P	**P**	**12 38 59.7**	**-0.7**
	comp=Z,5.4nm,0.6s,mb4.5						
KURK	**Kurchatov**	**63.89**	**321**	↑*i*P	**P**	**12 39 00.5**	**+0.1**
BVAR	**Borovoye Array**	**69.32**	**322**	P	**P**	**12 39 34.8**	**0.0**
	comp=Z,3.5nm,0.4s,mb4.4,baz=106,slow=7.9,SNR=25						
BRVK	**Borovoye**	**69.38**	**322**	*e*P	**P**	**12 39 35.3**	**0.0**
	comp=Z,2.7nm,0.5s,mb4.2						
BRVK	**Borovoye**	**69.38**	**322**	*e*P	**P**	**12 39 35.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**70.14**	**322**	*e*P	**P**	**12 39 39.2**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**70.14**	**322**	*e*P	**P**	**12 39 39.2**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**70.86**	**25**	P	**P**	**12 39 43.4**	**-0.8**
	comp=Z,1.2nm,0.6s,mb3.8,baz=248,slow=6.1,SNR=26						
INK	**Inuvik**	**76.56**	**22**	*e*P	**P**	**12 40 17.0**	**-0.5**
	comp=Z,3.4nm,1.2s,mb3.9						
INK	**Inuvik**	**76.56**	**22**	*e*P	**P**	**12 40 17.0**	**-0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
AKTK	**Aktyubinsk**	**76.92**	**319**	P	**P**	**12 40 18.9**	**-0.7**
AKTO	**Aktyubinsk**	**76.92**	**319**	P	**P**	**12 40 18.9**	**-0.7**
	comp=Z,1.3nm,0.4s,mb3.9,baz=107,slow=8.1,SNR=7.0						
YKA	**Yellowknife Ar**	**85.21**	**27**	P	**P**	**12 41 03.9**	**+0.5**
	comp=Z,0.2nm,0.4s,mb3.2,baz=290,slow=5.1,SNR=5.9						
YKA	**Yellowknife Ar**	**85.21**	**27**	P	**P**	**12 41 03.9**	**+0.5**
RES	**Resolute Bay**	**86.40**	**13**	*e*P	**P**	**12 41 09.9**	**+0.6**
	comp=Z,1.8nm,0.6s,mb4.0						
RES	**Resolute Bay**	**86.40**	**13**	*e*P	**P**	**12 41 09.9**	**+0.6**
RES				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**91.20**	**334**	P	**P**	**12 41 30.2**	**-1.7**
	comp=Z,2.0nm,0.5s,mb4.4,baz=72,slow=5.5,SNR=12						
LPAZ	**La Paz**	**150.39**	**101**	PKPbc	PKPbc	12 48 21.4	+3.7
	comp=Z,1.8nm,0.7s,baz=244,slow=4.8,SNR=8.8						

*IDC **21** 12:45:04.0±0.8,1081N×9441E,h0km,mb4.2/10, mb1 4.3/11,mb1mx4.2/23,mbtmp4.2/11,ML3.4/1,MS3.7/9, Ms1 3.7/9,ms1mx3.5/27,Error ellipse: s-maj=42.7km s-min=14.6km az=61.0*
*ISCJB **21** 12:45:04.5±0.6,1066N±007×9440E±007,h22km, mb4.5/32,MS3.9/13,Error ellipse: s-maj=11.9km s-min=7.7km az=97.4*
*BJI **21** 12:45:06.7,1055N×9442E,h39km,mB5.0,mb4.5,Ms4.4, Msz4.3*
*MOS **21** 12:45:06.5±0.7,1078N×9445E,h33km,mb4.8/12,Error ellipse: s-maj=17.6km s-min=7.2km az=103.1*
*NEIC **21** 12:45:07.4±0.3,1080N×9447E,mb4.7/17,Error ellipse: s-maj=10.4km s-min=5.6km az=65.0*

ISC 21 12:45:06.6±0.5,1065N±007×9445E±007,h24km, h24km±.9km:pP-P,n82,σ1°02/76,mb4.5/32,MS3.9/13,2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.95**	**301**	*e*P	Px	12 45 53.9	
PBA				*e*S	Sx	12 46 17.9	
PBA				*e*x	x	12 46 29.6	
	comp=E,2μm,0.9s						
PBA				*e*x	x	12 46 31.0	
	comp=N,1μm,0.9s						
KULM	**Kulim**	**8.13**	**130**	*e*Pn	**Pn**	**12 46 56.8**	**-6.3**
KULM				*e*Sn	**Sn**	**12 48 31.2**	**-2.9**
PSI	**Prapat**	**8.98**	**150**	Pn	**Pn**	**12 47 19.5**	**+4.8**
	comp=N,0.4nm,0.3s,baz=319,slow=16,SNR=6.8						
PSI				LR	LR	12 51 10.2	
	comp=N,524nm,21.2s,baz=340,slow=40						
CHTO	**Chiang Mai**	**9.20**	**28**	*e*Pn	**Pn**	**12 47 16.8**	**-0.9**
	comp=N,69nm,0.9s						
CHTO	**Chiang Mai**	**9.20**	**28**	*e*P	**Pn**	**12 47 16.8**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,69nm,0.9s						
SHL	**Shillong**	**15.03**	**351**	*e*P	**Pn**	**12 48 34.0**	**-3.4**
KMI	**Kunming**	**16.40**	**28**	P	**Pn**	**12 48 59.0**	**+3.9**
KMI				AP	pP	12 49 07.9	+3.6
KMI				XP	sP	12 49 11.8	+4.4
KMI				S	**Sn**	**12 52 05.8**	**+9.4**
KMI				AMB	AMB		
	comp=Z,17nm,1.2s						
KMI				AMB	AMB		
	comp=Z,159nm,5.4s						
KMI				LR	LR		
	comp=N,282nm,11.9s						
KMI				LR	LR		
	comp=E,243nm,10.1s						
KMI				LR	LR		
	comp=Z,172nm,16.5s						
HYB	**Hyderabad**	**16.82**	**295**	*i* P	**Pn**	**12 49 05.0**	**+4.6**
HYB	**Hyderabad**	**16.82**	**295**	*e*P	**Pn**	**12 49 05.0**	**+4.6**
JIRN	**Jiri**	**18.62**	**336**	*e*P	**Pn**	**12 49 23.3**	**+0.7**
	comp=Z,122nm,1.2s						
PKI	**Pulchoki**	**18.86**	**334**	*e*P	**Pn**	**12 49 25.0**	**-0.5**
	comp=Z,166nm,1.3s						
PKI	**Pulchoki**	**18.86**	**334**	*e*P	**Pn**	**12 49 25.0**	**-0.5**
PKI				pmax	pmax		
	comp=Z,83nm,1.3s						
GUN	**Gumba**	**18.96**	**336**	*e*P	**Pn**	**12 49 27.0**	**+0.2**
	comp=Z,193nm,1.5s						
DMN	**Daman**	**19.02**	**334**	*e*P	**Pn**	**12 49 27.9**	**+0.4**
	comp=Z,86nm,1.2s						
KKN	**Kakani**	**19.10**	**334**	*e*P	**Pn**	**12 49 28.2**	**-0.3**
	comp=Z,51nm,1.1s						
KKN	**Kakani**	**19.10**	**334**	*e*P	**Pn**	**12 49 28.2**	**-0.3**
KKN				pmax	pmax		
	comp=Z,25nm,1.1s						
LSA	**Lhasa**	**19.20**	**351**	*e*P	**Pn**	**12 49 29.8**	**+0.1**
LSA	**Lhasa**	**19.20**	**351**	*e*Pn	**Pn**	**12 49 29.6**	**-0.1**
	comp=Z,49nm,1.5s						
LSA	**Lhasa**	**19.20**	**351**	*e*P	**Pn**	**12 49 29.6**	**-0.1**
LSA				pmax	pmax		
	comp=Z,49nm,1.5s						
GKN	**Gorkha**	**19.57**	**333**	*e*P	**Pn**	**12 49 33.5**	**-0.6**
	comp=Z,79nm,1.1s						
KOLN	**Koldanda**	**19.85**	**331**	*e*P	**Pn**	**12 49 37.0**	**-0.4**
	comp=Z,102nm,1.0s						
DANN	**Dangsing**	**20.26**	**332**	*e*P	**P**	**12 49 40.9**	**+0.7**
POO	**Poona**	**21.40**	**294**	*ex*	x	12 49 54.0	
CD2	**Chengdu**	**21.93**	**22**	*e*P	**P**	**12 49 58.0**	**-0.2**
CD2				XP	sP	12 50 11.3	+3.4
CD2				S	**S**	**12 54 03.8**	**+4.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
CD2				LR	LR		
	comp=E,150nm,8.3s						
CD2				LR	LR		
	comp=Z,90nm,10.2s,MS3.5						
KKM	**Kota Kinabalu**	**22.01**	**100**	P	**P**	**12 49 56.7**	**-2.4**
ENH	**Enshi**	**24.02**	**33**	*e*P	**P**	**12 50 19.6**	**0.0**
	comp=Z,66nm,1.3s,mb4.9						
ENH				*e*pP		12 50 26.3	
ENH				*es*P	sP	12 50 30.1	+0.6
LZH	**Lanzhou**	**26.71**	**17**	*e*P	**P**	**12 50 44.8**	**+0.8**
LZH				AP	pP	12 50 52.1	+1.0
LZH				PP		12 51 29.8	
LZH				*e*S	**S**	**12 55 17.3**	**-0.8**
LZH				*e*SS		12 56 30.5	
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,79nm,4.7s						
LZH				LR	LR		
	comp=N,516nm,11.8s						
LZH				LR	LR		
	comp=Z,757nm,13.9s,MS4.4						
GTA	**Gaotai**	**29.03**	**9**	*e*P	**P**	**12 51 06.3**	**+1.6**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.0						
GTA				AMB	AMB		
	comp=Z,99nm,5.7s						
GTA				LR	LR		
	comp=N,131nm,14.1s,MS3.9						
GTA				LR	LR		
	comp=E,118nm,11.5s,MS3.9						
GTA				LR	LR		
	comp=Z,167nm,18.0s						
NJ2	**Nanjing**	**31.00**	**43**	*e*P	**P**	**12 51 22.5**	**+0.4**
NJ2				AP	pP	12 51 29.8	+0.5
NJ2				PP	PP	12 52 24.8	-7.5
NJ2				S	**S**	**12 56 24.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,230nm,5.8s						
NJ2				LR	LR		
	comp=Z,130nm,23.0s,MS3.5						
WMQ	**Urumqi**	**33.56**	**351**	P	**P**	**12 51 46.6**	**+2.0**
WMQ				PP	PP	12 52 59.6	-1.0
WMQ				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,102nm,4.2s						
WMQ				LR	LR		
	comp=N,1μm,22.1s,MS4.7						
WMQ				LR	LR		
	comp=E,1μm,24.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
HHC	**Hu-ho-hao-te**	**33.66**	**24**	*e*P	**P**	**12 51 47.3**	**+1.9**
HHC				AP	pP	12 51 53.8	+1.2
HHC				PP	PP	12 53 00.1	-1.6
HHC				PCP	PcP	12 54 26.8	+1.7
HHC				S	**S**	**12 57 08.3**	**+1.4**
HHC				SS	SS	12 59 13.4	-19
HHC				SCS	ScS	13 02 08.5	-1.0
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,68nm,5.0s						
HHC				LR	LR		
	comp=N,115nm,6.1s						
HHC				LR	LR		
	comp=E,566nm,16.7s						
HHC				LR	LR		
	comp=Z,167nm,6.7s						
MKAR	**Makanchi Array**	**37.47**	**346**	P	**P**	**12 52 18.7**	**+0.6**
	comp=Z,3.5nm,0.8s,mb4.3,baz=162,slow=8.3,SNR=32						
MKAR				LR	LR	13 11 44.8	
	comp=Z,111nm,18.3s,MS3.7,baz=90,slow=43						
SONM	**Songino Array**	**38.40**	**13**	P	**P**	**12 52 26.3**	**+0.3**
	comp=Z,5.1nm,1.0s,mb4.2,baz=202,slow=5.6,SNR=26						
SONM				PcP	PcP	12 54 40.6	+1.4
	comp=Z,0.9nm,0.9s,baz=188,slow=3.7,SNR=3.8						
SONM				LR	LR	13 09 50.9	
	comp=Z,185nm,18.6s,MS3.9,baz=200,slow=39						
SONM	**Songino Array**	**38.40**	**13**	P	**P**	**12 52 26.3**	**+0.3**
SONM						12 54 40.6	
ULN	**Ulaanbaatar**	**38.58**	**14**	*e*P	**P**	**12 52 27.5**	**0.0**
	comp=Z,5.4nm,1.2s,mb4.2						
ULN	**Ulaanbaatar**	**38.58**	**14**	*e*P	**P**	**12 52 27.5**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
KURK	**Kurchatov**	**42.01**	**345**	*e*P	**P**	**12 52 55.7**	**-0.3**
	comp=Z,22nm,1.4s,mb4.6						
KURK				*e*pP	pP	12 53 01.9	-1.3
KURK	**Kurchatov**	**42.01**	**345**	*e*P	**P**	**12 52 55.7**	**-0.2**
KURK				*e**PP	pP	12 53 01.9	-1.3
KURK				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.6						
CN2	**Changchun**	**42.54**	**33**	*e*P	**P**	**12 53 01.3**	**+1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**43.85**	**352**	P	**P**	**12 53 09.8**	**-1.1**
	comp=Z,2.8nm,0.8s,mb4.1						
HIA	**Hailar**	**43.87**	**24**	P	**P**	**12 53 11.5**	**+0.5**

WRAB	**Tennant Creek**	**49.67**	**128**	P	**P**	**12 53 56.4**	**0.0**
	comp=Z,32nm,1.4s,mb5.2						
WRAB	**Tennant Creek**	**49.67**	**128**	P	**P**	**12 53 56.4**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.2						
AKTK	**Aktyubinsk**	**49.69**	**330**	P	**P**	**12 53 56.3**	**-0.2**
AKTO	**Aktyubinsk**	**49.69**	**330**	P	**P**	**12 53 56.3**	**-0.2**
	comp=Z,2.1nm,0.8s,mb4.2,baz=106,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**51.49**	**132**	P	**P**	**12 54 12.9**	**+2.8**
	comp=Z,4.8nm,0.9s,mb4.4,baz=307,slow=6.9,SNR=33						
KIV	**Kislovodsk**	**55.50**	**317⇑**	*i*P	**P**	**12 54 39.7**	**+0.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
YAK	**Yakutsk**	**57.28**	**19**	*e*P	**P**	**12 54 51.8**	**-0.4**
	comp=Z,27nm,0.9s,mb5.3						
YAK	**Yakutsk**	**57.28**	**19**	*e*P	**P**	**12 54 51.8**	**-0.4**
YAK				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
CTA	**Charters Tower**	**59.43**	**121**	LR	LR	13 19 37.5	
	comp=Z,60nm,20.5s,MS3.7,baz=229,slow=35						
BRTR	**Keskin Array B**	**60.88**	**310⇑**	*e*P	**P**	**12 55 13.3**	**-3.9**
STKA	**Stephens Creek**	**61.82**	**135**	P	**P**	**12 55 24.7**	**+1.2**
	comp=Z,5.7nm,1.1s,mb4.6,baz=309,slow=4.8,SNR=5.0						
STKA				LR	LR	13 21 33.1	
	comp=Z,143nm,21.3s,MS4.1,baz=206,slow=35						
STKA	**Stephens Creek**	**61.82**	**135**	*e*P	**P**	**12 55 23.9**	**+0.4**
STKA				*e*pP	pP	12 55 30.4	-0.6
STKA				*e*sP	sP	12 55 35.2	+1.3
TIXI	**Tiksi**	**64.46**	**11**	*e*P	**P**	**12 55 37.5**	**-3.6**
TIXI				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
FINES	**FINESS Array B**	**70.42**	**332**	P	**P**	**12 56 18.5**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=114,slow=9.3,SNR=3.2						
FINES				LR	LR	13 28 14.8	
	comp=Z,19nm,21.2s,MS3.3,baz=18,slow=37						
FINES	**FINESS Array B**	**70.42**	**332**	P	**P**	**12 56 18.4**	**-0.3**
FINES				LR	LR	13 28 14.8	
LSZ	**Lusaka**	**70.50**	**250**	*e*pP	pP	12 56 27.7	+0.8
	comp=Z,11nm,1.2s						
LSZ	**Lusaka**	**70.50**	**250**	*e*P	pP	12 56 27.7	+0.8
LSZ				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
ARCES	**ARCESS Array B**	**72.77**	**340**	LR	LR	13 30 38.7	
	comp=Z,80nm,20.2s,MS4.0,baz=196,slow=38						
GERES	**GERESS Array B**	**75.98**	**318**	P	**P**	**12 56 51.6**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=72,slow=4.2,SNR=2.3						
NOA	**NORSAR Array B**	**77.48**	**330**	LR	LR	13 34 19.1	
	comp=Z,45nm,18.3s,MS3.8,baz=250,slow=38						
COLA	**College**	**91.66**	**22**	*e*P	**P**	**12 58 08.2**	**-3.6**
MCK	**McKinley**	**91.80**	**23**	*e*P	**P**	**12 58 12.7**	**+0.3**
	comp=Z,4.4nm,1.1s,mb4.7						
MCK	**McKinley**	**91.80**	**23**	*e*P	**P**	**12 58 12.7**	**+0.3**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
PMR	**Palmer**	**92.74**	**25**	P	**P**	**12 58 15.8**	**-1.0**
NVAR	**Mina Array Bea**	**122.38**	**30**	PKP	PKPdf	13 04 02.8	+3.1
	comp=Z,0.8nm,0.8s,baz=355,slow=1.7,SNR=5.5						
PDAR	**Pinedale Array**	**122.48**	**21**	PKP	PKPdf	13 04 01.1	+1.2
	comp=Z,0.7nm,0.8s,baz=354,slow=1.5,SNR=6.7						
PLCA	**Paso Flores**	**147.24**	**201**	PKPbc	PKPbc	13 04 50.8	+3.0
	comp=Z,3.5nm,1.1s,baz=147,slow=5.0,SNR=4.0						
CPUP	**Villa Florida**	**149.13**	**236**	PKPbc	PKPbc	13 04 54.6	+1.7
	comp=Z,0.8nm,0.5s,baz=185,slow=2.2,SNR=3.7						

*CSEM **21** 13:11:41.4±0.1, 4436N×1071E, h10km, ML2.6/4, Error ellipse: s-maj=1.9km s-min=1.4km az=35.0*
*ISCJB **21** 13:11:42.1±0.4, 4438N±003×1068E±003, h10km, Error ellipse: s-maj=4.1km s-min=3.0km az=31.8*
*GEN **21** 13:11:42.6, 4437N×1072E, h11km, ML2.0*
*LDG **21** 13:11:43.7±0.2, 4432N×1066E, h10km, Ml2.6/4, Error ellipse: s-maj=4.0km s-min=2.5km az=82.0*
*NEIC **21** 13:11:43.0, 4432N×1070E, h5km, ML2.5(ROM), ML2.6(LDG), After ROM.*
*ROM **21** 13:11:43.0±0.2, 4432N×1070E, h5km, Md2.5/10, Ml2.5/6, Error ellipse: s-maj=2.1km s-min=1.6km az=16.0*

ISC 21 13:11:42.7±0.4, 4436N±003×1066E±003, h10km, n33, σ0°96/49, 5C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCL	**Gusciola**	**0.05**	**256⇑**	*i*Pg	**Pg**	**13 11 45.2**	**+0.5**
ERBM	**Eremo**	**0.19**	**288**	Pg	**Pg**	**13 11 47.9**	**+1.2**
ZCCA	**Zocca**	**0.23**	**93⇑**	*i*Pg	**Pg**	**13 11 48.2**	**+0.8**
	66nm,0.4s						
SARO	**Sassorosso**	**0.26**	**226**	P	**Pg**	**13 11 48.5**	**+0.6**
PZZT	**Monte Pizzetto**	**0.27**	**148⇑**	*i*Pg	**Pg**	**13 11 47.9**	**-0.3**
PZZT				Sg	**Sg**	**13 11 52.0**	**+0.1**
	962nm,0.2s						
VLC	**Villacollemand**	**0.28**	**224⇑**	*i*Pg	**Pg**	**13 11 49.1**	**+0.7**
VLC				Sg	**Sg**	**13 11 54.0**	**+1.8**
	262nm,0.5s						
VALM		**0.30**	**267**	P	**Pg**	**13 11 49.4**	**+0.8**
BDI	**Bagni Di Lucca**	**0.30**	**189⇑**	*i*Pg	**Pg**	**13 11 49.0**	**+0.2**
BDI				Sg	**Sg**	**13 11 53.7**	**+0.8**
	1μm,0.3s						
FNVD	**Fontana Vidola**	**0.39**	**120⇓**	*i*Pg	**Pg**	**13 11 50.0**	**-0.3**
FNVD				Sg	**Sg**	**13 11 55.8**	**+0.4**
	658nm,0.2s						
VINC	**Vinca**	**0.43**	**239**	P	**Pg**	**13 11 51.5**	**+0.4**
VINC				S	**Sg**	**13 11 57.8**	**+1.1**
GRAM		**0.45**	**287**	P	**Pg**	**13 11 52.1**	**+0.7**
GRAM				S	**Sg**	**13 11 58.7**	**+1.4**
MAIM		**0.47**	**195**	P	**Pg**	**13 11 51.7**	**-0.1**
CODM		**0.58**	**273**	P	**Pg**	**13 11 54.3**	**+0.3**
SEI	**Scarperia**	**0.59**	**121**	Pg	**Pg**	**13 11 53.9**	**-0.2**
	479nm,0.4s						
PII	**Pisa**	**0.65**	**189**	Pg	**Pg**	**13 11 55.0**	**-0.3**
	236nm,0.2s						
VMG	**Vicchio**	**0.75**	**122**	Pg	**Pg**	**13 11 56.5**	**-0.7**
	153nm,0.7s						
SC2M	**Scurtabr**	**0.81**	**273**	P	**Pg**	**13 11 58.3**	**0.0**
SFI	**Santa Sofia**	**0.97**	**118**	Pg	**Pg**	**13 12 01.8**	**+0.4**
	28nm,0.4s						
CSNT	**Castellina Chi**	**1.00**	**153**	Pg	**Pg**	**13 12 01.8**	**-0.2**
	58nm,0.4s						
GRFL	**Gerfalco**	**1.24**	**169**	Pg	**Pg**	**13 12 06.6**	**+0.1**
	9.0nm,0.3s						
SALO	**Salr**	**1.26**	**356**	Pg	**Pg**	**13 12 08.2**	**+1.3**
	322nm,0.7s						
PGF	**Pioggiola**	**2.18**	**214**	*e*Pn	**Pn**	**13 12 17.9**	**-1.1**
PGF				*e*Sn	**Sn**	**13 12 42.9**	**-3.2**
SBF	**Sospel**	**2.38**	**259**	*e*Pn	**Pn**	**13 12 21.3**	**-0.4**
SBF				*e*Sn	**Sn**	**13 12 48.6**	**-2.3**
	17nm,0.4s						
SBF	**Sospel**	**2.38**	**259**	*e*Pn	**Pn**	**13 12 21.3**	**-0.4**
SBF				*e*Sn	**Sn**	**13 12 48.6**	**-2.3**
	8.4nm,0.4s						
MBDF	**Montbardon**	**2.80**	**279**	*e*Pn	**Pn**	**13 12 27.1**	**-0.5**
MBDF				*e*Sn	**Sn**	**13 12 58.8**	**-2.7**
	1.9nm,0.3s						
MBDF	**Montbardon**	**2.80**	**279**	*e*Pn	**Pn**	**13 12 27.1**	**-0.5**
MBDF				*e*Sn	**Sn**	**13 12 58.8**	**-2.7**
	0.9nm,0.3s						
VOY	**Vojsko**	**2.83**	**53**	*e*Pn	**Pn**	**13 12 27.8**	**-0.1**
VOY				*e*Sn	**Sn**	**13 13 01.7**	**-0.4**
LPG	**La Plagne**	**3.00**	**294**	*e*Pn	**Pn**	**13 12 30.1**	**-0.2**
FRF	**La Foret Royal**	**3.01**	**256**	*e*Pn	**Pn**	**13 12 29.3**	**-1.1**
FRF				*e*Sn	**Sn**	**13 13 03.3**	**-3.2**
	3.1nm,0.2s						
FRF	**La Foret Royal**	**3.01**	**256**	*e*Pn	**Pn**	**13 12 29.3**	**-1.1**
FRF				*e*Sn	**Sn**	**13 13 03.3**	**-3.2**
	1.5nm,0.2s						
LPL	**La Plagne**	**3.02**	**294**	*e*Pn	**Pn**	**13 12 30.2**	**-0.3**
LMR	**La Mourre**	**3.17**	**253**	*e*Pn	**Pn**	**13 12 31.6**	**-1.1**
LMR				*e*Sn	**Sn**	**13 13 06.9**	**-3.7**
	6.2nm,0.4s						
LMR	**La Mourre**	**3.17**	**253**	*e*Pn	**Pn**	**13 12 31.6**	**-1.1**
LMR				*e*Sn	**Sn**	**13 13 06.9**	**-3.7**
	3.1nm,0.4s						

*ATH **21** 13:26:09.9, 3816N×2685E, h57km±11km, MD3.1/3*
*ISCJB **21** 13:26:10.5±0.8, 3822N±003×2655E±005, h5km±5km, Error ellipse: s-maj=7.0km s-min=5.0km az=155.4*
*CSEM **21** 13:26:10.0±0.1, 3819N×2661E, h10km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.4km az=110.0*
*ISK **21** 13:26:10.6, 3825N×2661E, h19km, MD2.8*

ISC 21 13:26:10.8±0.7, 3822N±003×2655E±005, h11km±5km, n13, σ1°14/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.14**	**16**	*i*P	**Pg**	**13 26 14.0**	**-0.2**
URLA				*i*S	**Sg**	**13 26 15.2**	**-1.3**
SMG	**Samos**	**0.56**	**156**	*e*P	**Pg**	**13 26 21.2**	**-0.6**
SMG				*e*S	**Sg**	**13 26 30.5**	**+1.3**
IZM	**Izmir**	**0.59**	**72**	*i*PG	**Pg**	**13 26 21.8**	**-0.5**
IZM				*i*SG	**Sg**	**13 26 30.1**	**0.0**
KDAG	**Bornova**	**0.59**	**72**	*i*P	**Pg**	**13 26 21.9**	**-0.5**
KDAG				*i*S	**Sg**	**13 26 30.7**	**+0.5**
PRK	**Paraskevi**	**1.04**	**348**	*e*P	**Pg**	**13 26 31.5**	**+0.5**
PRK				*e*S	**Sg**	**13 26 46.5**	**+1.9**
AYVA	**Ayvalik**	**1.09**	**6**	*i*P	**Pb**	**13 26 31.5**	**-0.2**
AYVA				*i*S	**Sg**	**13 26 49.9**	**+3.9**
AYVA	**Ayvalik**	**1.09**	**6**	*i*S	**Sg**	**13 26 49.9**	**+3.9**
AKS	**Akhisar**	**1.19**	**56**	PN	**Pn**	**13 26 31.9**	**-1.5**
AKS				SN	**Sn**	**13 26 47.8**	**-1.8**
AYDN	**Tasoluk**	**1.19**	**118**	*i*P	**Pb**	**13 26 32.8**	**-0.7**
AYDN				*i*S	**Sb**	**13 26 49.8**	**+0.8**
BODT	**Bodrum**	**1.31**	**152**	PN	**Pn**	**13 26 34.7**	**-0.3**
APE	**Apeiranthos**	**1.41**	**215**	*e*P	**Pn**	**13 26 36.0**	**-0.4**
MANT	**Manisa**	**1.60**	**80**	*i*P	**Pn**	**13 26 40.9**	**+1.8**
MANT				*i*S	**Sn**	**13 27 03.0**	**+3.1**
YER	**Yerkesik**	**1.75**	**128**	PN	**Pn**	**13 26 40.3**	**-0.9**

*IDC **21** 13:26:16.8±1.9, 1764S×17703W, h330km±20km, mb3.6/7, mb1 3.8/8, mb1mx3.6/16, mbtmp4.3/8, Error ellipse: s-maj=63.6km s-min=12.9km az=148.0*
*ISCJB **21** 13:26:17.4±1.1, 1725S±02×1773W±01, h340km±15km, mb3.9/14, Error ellipse: s-maj=34.6km s-min=12.3km az=116.6*
*NEIC **21** 13:26:17.8±1.1, 1716S×17735W, h330km±12km, mb4.2/8, Error ellipse: s-maj=23.7km s-min=8.7km az=146.0*

ISC 21 13:26:18.7±1.1, 1725S±02×1772W±01, h343km±14km, n26, σ0°99/27, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.16**	**58**	P	**Pn**	**13 27 51.2**	**+0.2**
	1.4nm,0.3s,baz=228,slow=12,SNR=6.1						
AFI				S	**S**	**13 29 05.5**	**-0.4**
	0.9nm,0.3s,baz=40,slow=22,SNR=3.1						
DZM	**Mont Dzumac**	**16.16**	**250**	P	**P**	**13 29 49.3**	**+3.1**
	0.3nm,0.3s,baz=79,slow=19,SNR=5.0						
CTAO	**Charters Tower**	**34.73**	**259**	P	**P**	**13 32 36.9**	**-0.5**
PMG	**Port Moresby**	**35.53**	**278**	P	**P**	**13 32 46.5**	**+2.4**
	7.7nm,0.8s,mb4.0,baz=113,slow=13,SNR=3.8						
PMG	**Port Moresby**	**35.53**	**278**	*e*P	**P**	**13 32 46.4**	**+2.2**
	8.6nm,0.8s,mb4.0						
TOO	**Toolangi**	**38.51**	**231**	*e*P	**P**	**13 33 10.1**	**+1.1**
	15nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**39.99**	**241**	*e*P	**P**	**13 33 19.8**	**-1.3**
	1.2nm,0.3s,mb3.6						
STKA	**Stephens Creek**	**39.99**	**241**	P	**P**	**13 33 19.6**	**-1.6**
	1.3nm,0.3s,mb3.7,baz=108,slow=8.5,SNR=16						
STKA	**Stephens Creek**	**39.99**	**241**	*e*P	**P**	**13 33 19.5**	**-1.6**
WB2	**Warramunga Arr**	**45.91**	**259**	*e*P	**P**	**13 34 06.9**	**-1.2**
WRAB	**Tennant Creek**	**45.91**	**259**	*e*P	**P**	**13 34 07.3**	**-0.8**
	3.7nm,0.7s,mb3.6						
WRA	**Warramunga Arr**	**45.92**	**259**	P	**P**	**13 34 07.0**	**-1.2**
	1.0nm,0.3s,mb3.4,baz=93,slow=8.1,SNR=10						
AS31	**Alice Springs**	**46.11**	**254**	*e*P	**P**	**13 34 09.6**	**-0.1**
ASAR	**Alice Springs**	**46.11**	**254**	P	**P**	**13 34 09.7**	**0.0**
	15nm,0.7s,mb4.2,baz=91,slow=7.9,SNR=220						
ASAR				S	**S**	**13 40 23.2**	**-5.6**
	0.5nm,0.9s,baz=84,slow=15,SNR=4.3						
ASPA	**Alice Springs**	**46.11**	**254**	*e*P	**P**	**13 34 09.6**	**-0.1**
KAKA	**Kakadu**	**48.78**	**268**	*e*P	**P**	**13 34 30.5**	**+0.4**
	5.8nm,0.6s,mb4.0						
FORT	**Forrest**	**51.36**	**244**	*e*P	**P**	**13 34 49.0**	**-0.2**
	24nm,0.7s,mb4.5						
KLBR	**Kellerberrin**	**60.18**	**243**	*e*P	**P**	**13 35 51.6**	**+0.3**
	13nm,0.7s,mb4.5						
QSPA	**South Pole Qui**	**72.81**	**180**	P	**P**	**13 37 10.8**	**+0.2**
	2.2nm,0.7s,mb4.0						
NVAR	**Mina Array Bea**	**78.13**	**43**	P	**P**	**13 37 42.5**	**+2.0**
	1.0nm,0.7s,mb3.7,baz=227,slow=9.3,SNR=8.6						
MCK	**McKinley**	**83.64**	**12**	P	**P**	**13 38 09.1**	**-0.2**
	1.3nm,0.9s,mb3.8						
PMSA	**Palmer Station**	**83.95**	**157**	P	**P**	**13 38 05.8**	**-5.2**
	66nm,0.7s						
ILAR	**Eielson Array**	**84.98**	**13**	P	**P**	**13 38 15.6**	**-0.5**
	1.1nm,0.5s,mb3.9,baz=225,slow=5.1,SNR=52						
YKA	**Yellowknife Ar**	**93.24**	**24**	P	**P**	**13 38 54.5**	**-0.3**
	0.4nm,0.7s,mb3.5,baz=253,slow=4.2,SNR=8.0						
YKA	**Yellowknife Ar**	**93.24**	**24**	P	**P**	**13 38 54.5**	**-0.3**
BRTR	**Keskin Array B**	**145.14**	**316**	PKPbc	PKPbc	13 45 16.5	+0.5
	0.9nm,0.8s,baz=72,slow=4.0,SNR=4.7						

IDC 21 13:45:58.3±2.5, 1066N×9417E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, MS3.5/2, Ms1 3.5/2, ms1mx3.2/24, Error ellipse: s-maj=114.8km s-min=20.6km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.71**	**306**	*e*P	Pn	13 46 57.8	+28
PBA				*e*S	Sn	13 47 12.8	+21
PBA				*e*x	x	13 47 24.8	
	comp=E,578nm,0.5s						
PBA				*e*x	x	13 47 25.4	
	comp=N,488nm,0.7s						
MKAR	**Makanchi Array**	**37.40**	**347**	P	P	13 53 13.2	+0.3
	comp=N,1.7nm,0.8s,baz=165,slow=9.6,SNR=11						
SONM	**Songino Array**	**38.46**	**13**	P	P	13 53 21.8	-0.1
	comp=N,0.3nm,0.7s,baz=190,slow=7.2,SNR=5.7						
SONM				LR	LR	14 10 38.5	
	comp=N,54nm,18.7s,baz=41,slow=38						
ZAL	**Zalesovo**	**43.81**	**352**	P	P	13 54 05.8	-0.2
	comp=N,1.2nm,0.7s						
MJAR	**Matsushiro Arr**	**47.32**	**50**	LR	LR	14 18 03.0	
	comp=N,70nm,18.1s,baz=30,slow=41						
WRA	**Warramunga Arr**	**49.89**	**127**	P	P	13 54 54.4	+1.0
	comp=N,1.0nm,0.8s,baz=305,slow=8.6,SNR=4.1						
ASAR	**Alice Springs**	**51.70**	**132**	P	P	13 55 07.2	0.0
	comp=N,1.4nm,0.8s,baz=308,slow=7.2,SNR=15						
PDAR	**Pinedale Array**	**122.58**	**21**	PKP	PKPdf	14 04 56.0	+0.2
	comp=N,0.6nm,1.0s,baz=72,slow=0.3,SNR=3.5						

*NEIC **21** 13:53:20.0, 1960N×6614W, h25km, MD3.7(RSPR), After RSPR.*

RSPR 21 13:53:20.0, 1960N×6614W, h25km±31km, MD3.7/16, MD3.7/16, 14C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.35**	**169**	*e*S	Sn	13 53 57.1	-3.3
CBYP	**Canovanas**	**1.35**	**169⇑**	*e*P	Pn	13 53 40.6	-2.7
CBYP				*e*S	Sn	13 53 57.1	-3.3
AOPR	**Arecibo Observ**	**1.38**	**205**	*e*S	Sn	13 53 58.2	-2.9
AOPR	**Arecibo Observ**	**1.38**	**205⇑**	*e*P	Pn	13 53 41.0	-2.7
AOPR				*e*S	Sn	13 53 58.2	-2.9
LRS	**Lares**	**1.47**	**207⇑**	*e*P	Pn	13 53 42.7	-2.2
LRS				*e*S	Sn	13 54 01.2	-2.1
HUMP	**Col San Antoni**	**1.48**	**169**	*e*S	Sn	13 54 00.4	-3.2
HUMP	**Col San Antoni**	**1.48**	**169⇑**	*e*P	Pn	13 53 42.5	-2.6
HUMP				*e*S	Sn	13 54 00.4	-3.2
SJG	**San Juan**	**1.48**	**180**	*e*S	Sn	13 54 00.8	-2.9
SJG	**San Juan**	**1.48**	**180⇑**	*e*P	Pn	13 53 42.7	-2.4
SJG				*e*S	Sn	13 54 01.0	-2.7
SJG	**San Juan**	**1.48**	**180⇓**	*e*P	Pn	13 53 42.6	-2.5
SJG				*e*S	Sn	13 54 00.8	-2.9
CPD	**Cerro la Pandu**	**1.57**	**172**	*e*S	Sn	13 54 03.4	-2.5
CPD	**Cerro la Pandu**	**1.57**	**172⇑**	*e*P	Pn	13 53 44.1	-2.2
CPD				*e*S	Sn	13 54 03.4	-2.5
CELP	**Cerrillos**	**1.58**	**195⇑**	*e*P	Pn	13 53 44.3	-2.1
CELP				*e*S	Sn	13 54 02.9	-3.1
MTP	**Monte Pirata**	**1.60**	**160**	*e*S	Sn	13 54 03.9	-2.7
MTP	**Monte Pirata**	**1.60**	**160⇑**	*e*P	Pn	13 53 44.1	-2.6
MTP				*e*S	Sn	13 54 03.9	-2.7
OBIP	**Obispado Ponce**	**1.61**	**196**	*e*S	Sn	13 54 03.9	-3.0
OBIP	**Obispado Ponce**	**1.61**	**196⇑**	*e*P	Pn	13 53 45.0	-2.0
OBIP				*e*S	Sn	13 54 03.9	-3.0
STVI	**Saint Thomas**	**1.67**	**138**	*e*S	Sn	13 54 06.2	-2.1
STVI	**Saint Thomas**	**1.67**	**138⇑**	*e*P	Pn	13 53 46.0	-1.7
STVI				*e*S	Sn	13 54 06.2	-2.1
LSP	**Las Mesas**	**1.68**	**212**	*e*S	Sn	13 54 05.8	-2.7
LSP	**Las Mesas**	**1.68**	**212⇑**	*e*P	Pn	13 53 45.7	-2.1
LSP				*e*S	Sn	13 54 05.8	-2.7
ICM	**Isla Caja Muer**	**1.74**	**192**	*e*S	Sn	13 54 07.7	-2.3
ICM	**Isla Caja Muer**	**1.74**	**192⇑**	*e*P	Pn	13 53 46.9	-1.7
ICM				*e*S	Sn	13 54 07.7	-2.3
MGP	**Maguayo**	**1.82**	**210⇓**	*e*P	Pn	13 53 48.2	-1.6
MGP				*e*S	Sn	13 54 10.2	-2.0
CRPR	**Cabo Rojo, PR**	**1.84**	**210**	*e*S	Sn	13 54 10.0	-2.4
CRPR	**Cabo Rojo, PR**	**1.84**	**210⇑**	*e*P	Pn	13 53 47.9	-2.1
CRPR				*e*S	Sn	13 54 10.0	-2.4
TBVI	**Tortola**	**1.87**	**129**	*e*S	Sn	13 54 11.4	-1.9
TBVI	**Tortola**	**1.87**	**129⇑**	*e*P	Pn	13 53 48.2	-2.2
TBVI				*e*S	Sn	13 54 11.4	-1.9
CDVI	**St. Croix**	**2.26**	**145**	*e*S	Sn	13 54 19.9	-2.9
CDVI	**St. Croix**	**2.26**	**145⇓**	*e*P	Pn	13 53 54.8	-0.9
CDVI				*e*S	Sn	13 54 19.9	-2.9

*IDC **21** 13:53:44.4±1.0, 4185S×8420W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.2/15, mbtmp4.2/5, MS3.9/9, Ms1 3.9/9, ms1mx3.7/20, Error ellipse: s-maj=42.0km s-min=35.0km az=27.0*
*ISCJB **21** 13:53:45.8±0.9, 4175S±02×8440W±04, h10km, mb4.3/6, MS3.9/7, Error ellipse: s-maj=38.5km s-min=22.2km az=1.6*
*NEIC **21** 13:53:46.2±0.7, 4170S×8432W, h10km, mb4.7/1, Error ellipse: s-maj=38.6km s-min=23.6km az=92.0*

ISC 21 13:53:47.0±0.9, 4175S±02×8418W±04, h10km, n19, σ0°89/8, mb4.3/6, MS3.9/7, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**10.26**	**89**	LR	LR	13 59 23.3	
	comp=Z,1μm,19.8s,baz=220,slow=33						
CFAA	**Coronel Fontan**	**16.23**	**57**	LR	LR	14 02 38.8	
	comp=Z,61nm,21.8s,baz=196,slow=33						
RPN	**Rapa Nui**	**25.28**	**297**	LR	LR	14 06 21.4	
	comp=Z,285nm,18.7s,MS3.8,baz=148,slow=30						
CPUP	**Villa Florida**	**26.84**	**64**	LR	LR	14 10 54.8	
	comp=Z,179nm,20.0s,MS3.6,baz=201,slow=38						
LPAZ	**La Paz**	**28.84**	**33**	P	**P**	**13 59 46.5**	**+1.0**
	1.1nm,0.8s,mb3.7,baz=187,slow=8.1,SNR=3.1						
LPAZ				LR	LR	14 08 42.0	
	comp=Z,150nm,21.6s,MS3.6,baz=354,slow=31						
LPAZ	**La Paz**	**28.84**	**33**	P	**P**	**13 59 46.5**	**+1.0**
LPAZ				LR	LR	14 08 42.0	
QSPA	**South Pole Qui**	**48.51**	**180**	*e*P	**P**	**14 02 30.5**	**+0.5**
	6.7nm,1.0s,mb4.6						
VNDA	**Vanda**	**54.49**	**194**	LR	LR	14 22 33.0	
	comp=Z,129nm,19.4s,MS4.0,baz=186,slow=32						
BOSA	**Boshof**	**84.39**	**124**	P	**P**	**14 06 19.7**	**+0.2**
	5.4nm,0.8s,mb4.7,baz=211,slow=6.9,SNR=7.2						
BOSA				LR	LR	14 38 53.5	
	comp=Z,135nm,18.2s,MS4.4,baz=186,slow=32						
NVAR	**Mina Array Bea**	**85.65**	**334**	P	**P**	**14 06 26.5**	**+0.7**
	1.0nm,0.7s,mb4.1,baz=159,slow=6.6,SNR=7.5						
NVAR				LR	LR	14 36 38.6	
	comp=Z,71nm,19.4s,MS4.1,baz=80,slow=30						
NVAR	**Mina Array Bea**	**85.65**	**334**	P	**P**	**14 06 26.5**	**+0.7**
NVAR				LR	LR	14 36 38.6	
DBIC	**Dimbokro**	**86.43**	**78**	LR	LR	14 41 57.4	
	comp=Z,78nm,18.1s,MS4.2,baz=180,slow=33						
PDAR	**Pinedale Array**	**87.18**	**342**	P	**P**	**14 06 32.3**	**-1.1**
	1.3nm,1.0s,mb4.1,baz=134,slow=4.3,SNR=6.6						
TORD	**Torodi Ar. Bea**	**95.53**	**77**	P	**P**	**14 07 10.9**	**-1.4**
	1.5nm,0.9s,mb4.4,baz=227,slow=5.2,SNR=5.7						
ILAR	**Eielson Array**	**116.89**	**335**	PKP	PKPdf	14 12 27.9	-3.9
	0.6nm,0.8s,baz=164,slow=1.9,SNR=6.7						
BRTR	**Keskin Array B**	**133.70**	**71**	PKP	PKPdf	14 13 03.0	-0.9
	1.0nm,0.8s,baz=242,slow=0.5,SNR=3.8						
MJAR	**Matsushiro Arr**	**147.02**	**275**	PKPbc	PKPbc	14 13 27.6	-2.3
	3.2nm,0.9s,baz=159,slow=3.5,SNR=6.1						
MKAR	**Makanchi Array**	**169.01**	**58**	PKP	PKPdf	14 13 52.4	-1.9
	0.2nm,0.4s,baz=336,slow=3.2,SNR=3.6						
MKAR				PKPab	PKPab	14 15 04.6	-1.0
	0.2nm,0.5s,baz=316,slow=4.0,SNR=3.1						
SONM	**Songino Array**	**170.36**	**313**	PKPab	PKPab	14 15 10.3	-1.3
	0.3nm,0.7s,baz=54,slow=2.6,SNR=3.8						

**IDC 21 13:54:37

FITZ Fitzroy Crossi 12.10 190 *e*P **P 14 15 17.3 +0.4**
2.6nm,0.8s
FITZ Fitzroy Crossi 12.10 190 P **P 14 15 17.1 +0.2**
0.2nm,0.3s,baz=27,slow=14,SNR=5.5
WRAB Tennant Creek 15.17 156 *e*P **P 14 15 49.8 -0.4**
1.3nm,0.4s
WRA Warramunga Arr 15.17 156 P **P 14 15 50.1 -0.2**
0.5nm,0.3s,baz=334,slow=11,SNR=8.7
WRA S **S 14 18 31.2 +0.8**
0.1nm,0.3s,baz=329,slow=18,SNR=3.2
WB2 Warramunga Arr 15.17 156 *e*P **P 14 15 50.2 -0.1**
WB2 *e*S **S 14 18 38.5 +7.9**
MBWA Marble Bar 16.86 207 *e*P **P 14 16 08.4 0.0**
AS31 Alice Springs 18.43 162 *e*P **P 14 16 24.7 -0.2**
ASAR Alice Springs 18.43 162 P **P 14 16 24.8 -0.1**
0.5nm,0.3s,baz=343,slow=12,SNR=56
ASAR S **S 14 19 32.8 -0.2**
0.1nm,0.3s,baz=351,slow=22,SNR=5.2
ASPA Alice Springs 18.43 162 *e*P **P 14 16 24.7 -0.2**
SONM Songino Array 56.91 343 P **P 14 21 41.2 +1.0**
0.3nm,0.5s,mb2.9,baz=165,slow=4.8,SNR=4.1
MKAR Makanchi Array 66.27 328 P **P 14 22 42.0 0.0**
0.5nm,0.4s,mb3.5,baz=125,slow=7.9,SNR=9.1
KURK Kurchatov 70.61 329 *e*P **P 14 23 07.7 -0.7**
0.5nm,0.5s,mb3.3

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*ISCJB **21** 14:26:19.3±0.9,67N±02×729W±02,h180km±10km, mb3.4/3,Error ellipse: s-maj=46.9km s-min=11.0km az=85.9*
*IDC **21** 14:26:19.7±0.7,662N×7288W,h167km±7km,mb3.2/3, mb1 3.3/5,mb1mx3.1/22,mbtmp3.7/5,Error ellipse: s-maj=32.0km s-min=7.6km az=132.0*
*NEIC **21** 14:26:20.5±0.9,665N×7287W,h172km±11km,Error ellipse: s-maj=52.2km s-min=14.0km az=129.0*
ISC 21 14:26:20.5±0.8,67N±02×729W±02,h170km±10km,n10, σ0§57/13,mb3.4/3,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.30**	**218**	P		**Pn**	**14 27 01.1 +0.8**
	24nm,0.3s,baz=306,slow=16,SNR=50						
ROSC				S		**Sn**	**14 27 30.2 -0.9**
	44nm,0.3s,baz=72,slow=20,SNR=13						
ROSC	**El Rosal**	**2.30**	**218**	*e*Pn		**Pn**	**14 27 00.9 +0.6**
ROSC				*e*Sn		**Sn**	**14 27 26.7 -4.4**
SDV	**Santo Domingo**	**3.14**	**46**	P		**Pn**	**14 27 10.8 +0.4**
	8.3nm,0.3s,baz=254,slow=7.2,SNR=35						
SDV				S		**Sn**	**14 27 49.3 0.0**
	12nm,0.3s,baz=299,slow=19,SNR=19						
SDV	**Santo Domingo**	**3.14**	**46**	*e*Pn		**Pn**	**14 27 10.6 +0.2**
SDV				*e*S		**Sn**	**14 27 48.3 -0.9**
SDV				S		**Sn**	**14 27 49.3 0.0**
SCHQ	**Schefferville**	**48.25**	**5**	P		**P**	**14 34 44.4 +0.3**
	1.3nm,0.5s,mb3.8,baz=189,slow=13,SNR=4.5						
SCHQ	**Schefferville**	**48.25**	**5**	*e*P		**P**	**14 34 44.7 +0.7**
YKA	**Yellowknife Ar**	**63.45**	**340**	P		**P**	**14 36 31.5 -0.5**
	0.3nm,0.5s,mb3.3,baz=134,slow=6.8,SNR=11						
TORD	**Torodi Ar. Bea**	**73.57**	**78**	P		**P**	**14 37 34.7 -0.2**
	0.2nm,0.5s,mb3.1,baz=284,slow=6.4,SNR=3.9						
MKAR	**Makanchi Array**	**122.37**	**20**	PKP		PKPdf	14 44 55.4 +0.1
	0.2nm,0.4s,baz=289,slow=4.3,SNR=4.6						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc		PKPbc	14 45 52.6 +0.9
	0.7nm,0.3s,baz=109,slow=2.5,SNR=3.1						

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*ISCJB **21** 14:37:32.3±0.5,532N±006×12703E±009,h33km, mb4.3/19,Error ellipse: s-maj=14.9km s-min=4.9km az=111.9*
*NEIC **21** 14:37:34.5±1.3,537N×12679E,h38km±12km,mb4.6/7, Error ellipse: s-maj=18.3km s-min=6.5km az=73.0*
*IDC **21** 14:37:34.0±3.7,536N×12683E,h33km±26km,mb4.1/11, mb1 4.2/11,mb1mx4.0/18,mbtmp4.3/11,ML6.0/1,MS3.4/1, Ms1 3.4/1,ms1mx2.5/23,Error ellipse: s-maj=36.4km s-min=13.5km az=70.0*
*MAN **21** 14:37:37.6,528N×12637E,h7km,mb3.9,ML4.9,MS7.2*
ISC 21 14:37:34.3±0.5,535N±006×12705E±009,h35km,n41, σ1§28/42,mb4.3/19,3C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.25**	**320**	*e*Pn		**Pn**	**14 38 05.5 -3.4**
KCP	**Kidapawan**	**2.55**	**310**	⇓*e*P		**Pn**	**14 38 13.6 +0.5**
KCP				*i* S		**Sn**	**14 38 42.5 -0.4**
BUKP	**Musuan**	**3.19**	**322**	*e*P		**Pn**	**14 38 24.2 +2.2**
BUKP				*e*S		**Sn**	**14 39 00.8 +2.0**
CTBH	**Cotabato--PC H**	**3.35**	**304**	⇑*i*P		**Pn**	**14 38 24.2 +0.2**
CTBH				*i* S		**Sn**	**14 39 01.2 -1.4**
BUTP	**Butuan**	**3.86**	**339**	*e*P		**Pn**	**14 38 37.1 +5.9**
CGP	**Cagayan de Oro**	**3.87**	**323**	⇑*i*P		**Pn**	**14 38 33.7 +2.5**
CGP				*i* S		**Sn**	**14 39 21.3 +5.8**
PAGZ	**Pagadian**	**4.41**	**304**	*e*P		**Pn**	**14 38 40.0 +1.4**
SCPH	**Surigao**	**4.67**	**341**	⇑*e*P		**Pn**	**14 38 51.9 +10**
IPIL	**Ipil**	**5.07**	**299**	*e*P		**Pn**	**14 38 48.8 +1.1**
MSLP	**Maasin**	**5.22**	**336**	*e*P		**Pn**	**14 38 55.6 +5.7**
GUIM	**Jordan**	**6.85**	**320**	*e*P		**Pn**	**14 39 15.1 +2.9**
TGY	**Tagaytay City**	**10.58**	**326**	Pn		**Pn**	**14 40 02.8 -0.5**
	110nm,0.3s,baz=168,slow=9.2,SNR=4.8						
FITZ	**Fitzroy Crossi**	**23.34**	**183**	*e*P		**P**	**14 42 39.7 +0.2**
	20nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.34**	**183**	P		**P**	**14 42 39.9 +0.4**
	8.6nm,0.8s,mb4.2,baz=8.3,slow=8.5,SNR=21						
FITZ				LR		LR	14 52 46.2
	comp=Z,89nm,18.8s,baz=25,slow=39						
WRAB	**Tennant Creek**	**26.13**	**164**	*e*P		**P**	**14 43 07.1 +2.2**
	8.4nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**26.14**	**164**	P		**P**	**14 43 06.8 +1.8**
	3.2nm,0.6s,mb4.0,baz=342,slow=10,SNR=13						
WB2	**Warramunga Arr**	**26.14**	**164**	*e*P		**P**	**14 43 07.1 +2.1**
KULM	**Kulim**	**26.29**	**271**	*e*P		**P**	**14 43 04.6 -1.7**
MBWA	**Marble Bar**	**27.30**	**195**	*e*P		**P**	**14 43 15.0 -0.6**
	6.8nm,1.0s,mb4.1						
PSI	**Prapat**	**28.17**	**266**	P		**P**	**14 43 21.8 -1.4**
	5.9nm,0.7s,mb4.4,baz=133,slow=4.3,SNR=6.4						
ASAR	**Alice Springs**	**29.61**	**167**	P		**P**	**14 43 36.5 +0.5**
	0.5nm,0.5s,mb3.5,baz=354,slow=7.4,SNR=26						
ASAR				PcP		PcP	14 46 41.2 +1.1
	1.0nm,0.5s,baz=354,slow=2.2,SNR=15						
ASAR				ScP		ScP	14 50 20.0 +0.7
	0.6nm,0.7s,baz=332,slow=2.4,SNR=6.6						
KLBR	**Kellerberrin**	**37.79**	**193**	*e*P		**P**	**14 44 46.8 -0.2**
	45nm,1.6s,mb5.0						
MUN	**Mundaring**	**38.53**	**195**	*e*P		**P**	**14 44 53.2 -0.1**
STKA	**Stephens Creek**	**39.53**	**160**	P		**P**	**14 45 01.4 -0.2**
	1.7nm,0.4s,mb4.2,baz=341,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**39.53**	**160**	*e*P		**P**	**14 45 00.9 -0.8**
SONM	**Songino Array**	**45.88**	**341**	P		**P**	**14 45 52.8 -0.3**
	0.3nm,0.4s,mb3.6,baz=162,slow=9.4,SNR=4.4						
SONM				PcP		PcP	14 47 30.8 +1.0
	0.4nm,0.6s,baz=172,slow=3.3,SNR=4.5						
MKAR	**Makanchi Array**	**56.42**	**325**	P		**P**	**14 47 11.3 -0.9**
	1.0nm,0.4s,mb4.2,baz=118,slow=7.0,SNR=15						
MKAR				PcP		PcP	14 48 09.0 0.0
	2.9nm,0.7s,baz=116,slow=2.8,SNR=12						
KURK	**Kurchatov**	**60.56**	**327**	*e*P		**P**	**14 47 40.2 -0.9**
	2.8nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**66.88**	**326**	*e*P		**P**	**14 48 21.7 -1.1**
	2.7nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**83.51**	**25**	P		**P**	**14 49 58.1 -0.4**
	0.3nm,0.6s,mb3.6,baz=257,slow=5.3,SNR=4.5						
JOF	**Joensuu**	**87.89**	**333**	*e*p		**P**	**14 50 20.4 +0.2**
	1.2nm,0.3s,mb4.6						
ARCES	**ARCESS Array B**	**89.05**	**340**	P		**P**	**14 50 25.2 -0.4**
	8.8nm,0.9s,mb5.1,baz=81,slow=6.7,SNR=15						
BRTR	**Keskin Array B**	**89.24**	**310**	P		**P**	**14 50 24.9 -1.6**
	0.5nm,0.6s,mb4.0,baz=119,slow=5.2,SNR=3.8						
KAF	**Kangasniemi**	**90.32**	**332**	*e*p		**P**	**14 50 30.5 -1.1**
	2.0nm,0.4s,mb4.8						
FINES	**FINESS Array B**	**90.56**	**332**	P		**P**	**14 50 31.6 -1.2**
	2.0nm,0.5s,mb4.7,baz=70,slow=4.6,SNR=25						
NB2	**NORSAR Subarra**	**97.48**	**334**	P		**P**	**14 51 03.1 -1.4**
	comp=Z,1.4nm,0.7s,mb4.5,baz=68,slow=4.6						
NOA	**NORSAR Array B**	**97.48**	**334**	P		**P**	**14 51 02.2 -2.2**
	comp=Z,1.7nm,0.9s,mb4.5,baz=67,slow=4.5,SNR=4.0						
NOA	**NORSAR Array B**	**97.48**	**334**	P		**P**	**14 51 02.2 -2.2**
SCHQ	**Schefferville**	**118.93**	**9**	PKP		PKPdf	14 56 20.3 +1.3
	comp=Z,2.1nm,0.8s,baz=250,slow=12,SNR=3.4						
SCHQ	**Schefferville**	**118.93**	**9**	PKP		PKPdf	14 56 20.3 +1.3
TORD	**Torodi Ar. Bea**	**122.70**	**289**	PKP		PKPdf	14 56 27.1 +0.9
	comp=Z,0.8nm,0.6s,baz=74,slow=1.4,SNR=9.1						

IDC 21 15:41:23.3±8.4,595S×15099E,h77km±60km,mb3.5/4, mb1 3.7/5,mb1mx3.4/15,mbtmp3.8/5,ML2.6/1,MS3.8/1, Ms1 3.8/1,ms1mx2.7/22,Error ellipse: s-maj=62.4km s-min=52.9km az=101.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.12**	**228**	P		Pn	15 42 37.7 +0.3
	1.6nm,0.3s,baz=60,slow=10,SNR=8.2						
PMG				S		Sn	15 43 36.1 +0.8
	2.0nm,0.3s,baz=142,slow=19,SNR=8.9						
WB2	**Warramunga Arr**	**21.33**	**228**	*e*P		P	15 46 04.6 +0.6
WRA	**Warramunga Arr**	**21.34**	**228**	P		P	15 46 04.7 +0.6
	1.0nm,0.5s,baz=53,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.10**	**221**	P		P	15 46 32.5 +0.9
	1.3nm,0.6s,baz=56,slow=8.7,SNR=33						
ASPA	**Alice Springs**	**24.10**	**221**	*e*P		P	15 46 33.2 +1.5
STKA	**Stephens Creek**	**27.25**	**198**	P		P	15 46 59.7 -0.5
	2.5nm,0.9s,baz=17,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**27.53**	**242**	P		P	15 47 02.7 0.0
	1.4nm,0.7s,baz=90,slow=14,SNR=5.5						
URZ	**Urewera**	**39.95**	**147**	LR		LR	16 03 00.4
	comp=Z,140nm,20.3s,baz=199,slow=32						
TORD	**Torodi Ar. Bea**	**148.91**	**286**	PKPbc		PKPbc	16 01 02.9 +0.7
	1.0nm,0.8s,baz=94,slow=1.9,SNR=6.5						

IDC 21 15:44:50.8±10.0,2442S×17987E,h553km±105km, mb3.3/5,mb1 3.4/6,mb1mx3.2/15,mbtmp4.3/6,Error ellipse: s-maj=169.7km s-min=60.0km az=69.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.00**	**189**	P		P	15 47 49.8 0.0
	1.7nm,0.3s,baz=299,slow=6.1,SNR=11						
URZ				S		S	15 50 18.3 +1.0
	0.5nm,0.3s,baz=186,slow=21,SNR=11						
CTA	**Charters Tower**	**31.36**	**271**	*e*P		P	15 50 27.1 +0.5
	8.1nm,1.2s						
CTA	**Charters Tower**	**31.36**	**271**	P		P	15 50 27.3 +0.6
	6.7nm,0.5s,baz=87,slow=13,SNR=13						
STKA	**Stephens Creek**	**34.42**	**249**	P		P	15 50 51.8 -0.7
	0.4nm,0.3s,baz=113,slow=7.7,SNR=3.0						
ASAR	**Alice Springs**	**41.83**	**261**	P		P	15 51 53.0 +0.4
	1.1nm,0.5s,baz=98,slow=7.2,SNR=50						
ASPA	**Alice Springs**	**41.84**	**261**	*e*P		P	15 51 52.8 +0.1
WB2	**Warramunga Arr**	**42.24**	**267**	*e*P		P	15 51 55.4 -0.5
WRA	**Warramunga Arr**	**42.25**	**267**	P		P	15 51 55.6 -0.4
	3.7nm,0.6s,baz=103,slow=8.2,SNR=17						
FITZ	**Fitzroy Crossi**	**50.67**	**266**	P		P	15 53 00.3 +0.8
	2.8nm,0.8s,baz=119,slow=10,SNR=4.4						

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*VIE **21** 16:26:01.8±0.4,4973N×1624E,h7km,mb1.5/2,ML2.8/3, Error ellipse: s-maj=3.6km s-min=1.9km az=156.0 64 km NNW of Brno*
*ISCJB **21** 16:26:02.4±0.3,4971N±002×1623E±003,h5km,Error ellipse: s-maj=2.9km s-min=2.6km az=115.4*
*NEIC **21** 16:26:02.8±0.6,4964N×1634E,h5km,MG3.0(WAR), Error ellipse: s-maj=8.0km s-min=5.7km az=178.0*
*CSEM **21** 16:26:03.4±0.2,4970N×1629E,h0km,ML3.4/6,Error ellipse: s-maj=1.5km s-min=1.4km az=85.0*
*IPEC **21** 16:26:03.9±0.2,4969N×1631E,h19km,ML2.1/3,Error ellipse: s-maj=1.8km s-min=0.8km az=34.0*
ISC 21 16:26:03.1±0.4,4971N±002×1628E±003,h1km±5km,n27, σ1§06/50,2C-1D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRAC	**Vranov**	**0.45**	**152**	Pg		**Pg**	**16 26 12.2 +0.5**
VRAC				Sg		**Sg**	**16 26 17.9 +0.4**
	60nm,0.1s						
DPC	**Dobruska-Polom**	**0.65**	**3**	*e*PG		**Pg**	**16 26 16.6 +1.1**
DPC				*e*SG		**Sg**	**16 26 25.1 +1.2**
	32nm,0.3s						
DPC	**Dobruska-Polom**	**0.65**	**3**	Pg		**Pg**	**16 26 16.3 +0.8**
DPC				*e*Sg		**Sg**	**16 26 25.1 +1.2**
	32nm,0.3s						
KRUC	**Moravsky**	**0.65**	**173**	Pg		**Pg**	**16 26 15.6 +0.1**
KRUC				Sg		**Sg**	**16 26 24.0 0.0**
	45nm,0.1s						
TREC	**Trest**	**0.66**	**232**	*e*PG		**Pg**	**16 26 16.8 +1.1**
TREC				*e*SG		**Sg**	**16 26 25.4 +1.1**
TREC	**Trest**	**0.66**	**232**	Pg		**Pg**	**16 26 16.1 +0.4**
TREC				Sg		**Sg**	**16 26 25.1 +0.8**
UPC	**Upice**	**0.82**	**348**	*e*PG		**Pg**	**16 26 19.8 +0.9**
UPC				*e*SG		**Sg**	**16 26 30.6 +1.1**
UPC	**Upice**	**0.82**	**348**	Pg		**Pg**	**16 26 19.3 +0.4**
UPC				Sg		**Sg**	**16 26 29.9 +0.4**
MORC	**Moravsky Berou**	**0.82**	**84**	⇑Pg		**Pg**	**16 26 18.6 -0.3**
MORC				Sg		**Sg**	**16 26 29.3 -0.3**
	94nm,0.2s						
MORC	**Moravsky Berou**	**0.82**	**84**	*e*Pg		**Pg**	**16 26 18.3 -0.6**
MORC				*e*Sg		**Sg**	**16 26 29.6 0.0**
KSP	**Ksiaz**	**1.14**	**1**	*e*Pn		**Pn**	**16 26 25.1 -1.1**
KSP				*e*Pg		**Pg**	**16 26 25.4 +0.4**
KSP				Sn		**Sn**	**16 26 39.2 -3.3**
KSP				*e*Sg		**Sg**	**16 26 40.3 +0.6**
KSP	**Ksiaz**	**1.14**	**1**	Pg		**Pg**	**16 26 24.9 -0.1**
KSP				Sg		**Sg**	**16 26 39.1 -0.6**
PRU	**Pruhonice**	**1.16**	**285**	*e*PG		**Pg**	**16 26 25.6 +0.3**
PRU				*e*SG		**Sg**	**16 26 40.8 +0.4**
	19nm,0.2s						
PRU	**Pruhonice**	**1.16**	**285**	Pg		**Pg**	**16 26 24.9 -0.4**
PRU				*e*Sg		**Sg**	**16 26 40.8 +0.4**
	19nm,0.2s						
OKC	**Ostrava-Krasne**	**1.22**	**83**	*e*PG		**Pg**	**16 26 25.3 -1.2**
OKC				*e*SG		**Sg**	**16 26 41.1 -1.2**
	43nm,0.2s						
SMOL	**Smolenice**	**1.41**	**147**	*e*SN		**Sn**	**16 26 48.0 -1.2**
KHC	**Kasperske Hory**	**1.85**	**253**	*e*PN		**Pn**	**16 26 36.3 +0.2**
KHC				*e*SG		**Sg**	**16 27 01.1 -1.6**
	31nm,0.3s						
BRG	**Berggiesshubel**	**1.90**	**309**	Pg		**Pg**	**16 26 40.8 +1.3**
BRG				Sg		**Sg**	**16 27 03.2 -0.9**
BRG				SG		**Sg**	**16 27 03.2 -0.9**
	4.4nm,0.3s						
BRG	**Berggiesshubel**	**1.90**	**309**	PG		**Pg**	**16 26 40.8 +1.3**
VYHS	**Vyhne**	**2.07**	**125**	*e*SN		**Sn**	**16 27 07.1 +1.6**
MOA	**Molln**	**2.28**	**216**	⇓*i*Pn		**Pn**	**16 26 40.5 -1.5**
MOA				⇑*i*Sg		**Sg**	**16 27 17.3 +0.7**
	comp=N,4.9nm,0.1s						
MOA	**Molln**	**2.28**	**216**	Sg		**Sg**	**16 27 17.3 +0.8**
	4.9nm,0.1s						
OJC	**Ojcow**	**2.33**	**76**	*e*P		**Pn**	**16 26 44.6 +2.0**
OJC				*e*S		**Sn**	**16 27 13.6 +1.7**
NKC	**Novy Kostel**	**2.53**	**284**	*e*SG		**Sg**	**16 27 23.3 -1.1**
	14nm,0.2s						
CLL	**Collm**	**2.63**	**309**	*e*Sg		**Sg**	**16 27 27.0 -0.8**
NIE	**Niedzica**	**2.64**	**95**	*e*P		**Pn**	**16 26 51.4 +4.5**
NIE				*e*S		**Sn**	**16 27 27.3 +7.7**
STHS	**Stebnicka Huta**	**3.25**	**93**	*e*SG		**Sg**	**16 27 45.6 -1.8**

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*MOS **21** 16:30:19.3±3.0,5368N×10993E,h22km,mb4.1/1,Error ellipse: s-maj=13.7km s-min=10.7km az=76.7*
BYKL 21 16:30:19.8±0.2,5370N×10992E,h21km±3km,1C-7D, FELT I=III MSK at Suvo,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SYVR	**Suvo**	**0.06**	**132**	⇓*i*Pg		Pb	16 30 23.8 +0.2
SYVR				*i* Sg		Sb	16 30 26.7 +0.5
SYVR	**Suvo**	**0.06**	**132**	*e*PG		Pb	16 30 23.8 +0.2
SYVR				*e*			16 30 26.7
SYVR				pmax	pmax		
	comp=Z,2μm,0.1s						
SYVR				smax			
	comp=N,7μm,0.2s						
MXMB	**Maximikha**	**0.83**	**239**	⇑*i*Pg		Pb	16 30 35.7 +0.2
MXMB				*e*Pb		Pb	16 30 37.5 +2.0
MXMB				*e*Sg		Sb	16 30 47.7 +1.5
MXMB				*e*Sb		Sb	16 30 50.5 +4.3
MXMB				max			
	comp=N,188nm,0.1s						
MXMB				max			
	comp=N,3μm,0.6s						
OGRR	**Ongureny**	**1.38**	**269**	*e*Pg		Pn	16 30 44.9 +1.0
OGRR				*e*Sg		Sn	16 31 03.6 +2.1
OGRR				Pmax			
	comp=N,62nm,0.3s						
OGRR				Smax			
	comp=N,523nm,0.6s						
YLYR	**Ulyunkhan**	**1.39**	**31**	⇓*i*Pg		Pn	16 30 44.6 +0.7
	comp=N,17nm,0.3s						
YLYR				⇓*i*Pg		Pn	16 30 44.6 +0.7
	comp=N,14nm,0.3s						
YLYR				⇓*i*Pg		Pn	16 30 44.6 +0.7
	comp=N,23nm,0.3s						
YLYR				*e*Sg		Sn	16 31 03.7 +2.1
YLYR				Pmax			
	comp=N,36nm,0.3s						
YLYR				Smax			
	comp=N,187nm,0.3s						
KELR	**Kotokel**	**1.45**	**230**	*e*Pn		Pn	16 30 45.9 +1.1
KELR				*e*Pg		Pn	16 30 46.6 +1.8
KELR				*e*Sg		Sn	16 31 06.6 +3.4
TRTB	**Turuntaevo**	**2.02**	**224**	*e*Pn		Pn	16 30 54.0 +1.4
TRTB				*e*Pg		Pn	16 30 55.8 +3.2
TRTB				*e*Sn		Sn	16 31 19.5 +2.2
TRTB				*e*Sg		Sn	16 31 23.4 +6.1
TRTB				Pmax			
	comp=N,37nm,0.2s						
TRTB				Smax			
	comp=N,213nm,0.3s						
ZRHB	**Zarechye**	**2.02**	**237**	*e*Pn		Pn	16 30 53.7 +1.0
ZRHB				*e*Pg		Pn	16 30 56.2 +3.5
ZRHB				*e*Sn		Sn	16 31 20.5 +3.2
ZRHB				*e*Sg		Sn	16 31 24.2 +6.9
ZRHB				Pmax			
	comp=N,41nm,0.6s						
ZRHB				Smax			
	comp=N,759nm,0.7s						
NIZ	**Nizh Angarsk**	**2.09**	**354**	*e*Pn		Pn	16 30 55.5 +1.9
NIZ				*i* Pg		Pn	16 30 57.2 +3.6
NIZ				*e*Sg		Sn	16 31 25.4 +6.4
NIZ				Pmax			
	comp=N,39nm,0.6s						
NIZ				Smax			
	comp=N,399nm,0.3s						
NIZ	**Nizh Angarsk**	**2.09**	**354**	*e*PN		Pn	16 30 54.8 +1.2
NIZ				*e*			16 30 57.3
NIZ				*e*			16 31 25.4
NIZ				pmax	pmax		
	comp=Z,33nm,0.5s						
NIZ				smax			
	comp=N,394nm,0.3s						
KMO	**Kumora**	**2.31**	**18**	*e*Pn		Pn	16 30 57.9 +1.2
KMO				*e*Pg		Pn	16 31 00.8 +4.1
KMO				*e*Sg		Sn	16 31 31.6 +7.1
KMO				Pmax			
	comp=N,75nm,0.4s						
KMO				Smax			
	comp=N,164nm,0.8s						
KMO	**Kumora**	**2.31**	**18**	*e*PN		Pn	16 30 57.8 +1.1
KMO				*e*			16 31 00.7
KMO				*e*			16 31 30.7
KMO				pmax	pmax		
	comp=Z,75nm,0.5s						
KMO				smax			
	comp=N,164nm,0.9s						
TRG	**Tyrgan**	**2.34**	**248**	⇓*i*Pn		Pn	16 30 57.9 +0.8
TRG				*e*Pg		Pn	16 31 01.8 +4.7
TRG				*e*Sn		Sn	16 31 27.4 +2.2
TRG				*e*Sg		Sn	16 31 31.8 +6.6
TRG				Pmax			
	comp=N,19nm,0.2s						
TRG				Smax			
	comp=N,243nm,0.3s						
TRG	**Tyrgan**	**2.34**	**248**	⇓*i*PN		Pn	16 30 57.9 +0.8
TRG				*e*			16 31 01.5
TRG				*e*			16 31 32.8
TRG				pmax	pmax		
	comp=Z,19nm,0.2s						
TRG				smax			
	comp=N,238nm,0.3s						
FFNB	**Fofonovo**	**2.53**	**230**	*e*Pn		Pn	16 31 01.0 +1.4
FFNB				*e*Pg		Pn	16 31 04.9 +5.3
FFNB				*e*Sg		Sn	16 31 38.2 +8.4
FFNB				Pmax			
	comp=N,104nm,0.4s						
FFNB				Smax			
	comp=N,906nm,0.6s						
KAB	**Kabansk**	**2.58**	**231**	*e*Sg		Sn	16 31 41.1 +10
KAB				Smax			
	comp=N,672nm,0.6s						
STDB	**Stepnoy Dvoret**	**2.64**	**236**	*e*Pn		Pn	16 31 03.0 +1.8
STDB				*e*Pg		Pn	16 31 08.5 +7.3
STDB				*e*Sg		Sn	16 31 44.3 +12
STDB				Pmax			
	comp=N,24nm,0.2s						
STDB				Smax			
	comp=N,641nm,0.8s						
YOA	**Uoyan**	**2.65**	**22**	*e*Pn		Pn	16 31 03.9 +2.6
YOA				*e*Pg		Pn	16 31 08.6 +7.3
YOA				*e*			16 31 15.1
YOA				*e*Sg		Sn	16 31 43.4 +11
YOA				max			
	comp=N,62nm,0.4s						
YOA				Smax			
	comp=N,363nm,0.9s						
YOA	**Uoyan**	**2.65**	**22**	*e*PN		Pn	16 31 07.9 +6.6
YOA				*e*			16 31 42.9
YOA				pmax	pmax		
	comp=Z,36nm,0.3s						
YOA				smax			
	comp=E,318nm,0.5s						
HRMR	**Khuramsha**	**2.75**	**222**	*e*Pn		Pn	16 31 03.8 +1.1
HRMR				*e*Pg		Pn	16 31 08.0 +5.3
HRMR				*e*PgPg			16 31 10.4
HRMR				*e*Sg		Sn	16 31 46.1 +11
HRMR				max			
	comp=E,57nm,0.4s						
HRMR				Smax			
	comp=E,796nm,0.4s						
CIT	**Chita**	**2.77**	**126**	*e*Pn		Pn	16 31 03.3 +0.4
CIT				*e*Pg		Pn	16 31 07.2 +4.3
CIT				*e*Sn		Sn	16 31 36.4 +0.7
CIT				*e*Sg		Sn	16 31 44.4 +8.7
CIT				Pmax			
	comp=E,83nm,0.6s						
CIT				Smax			
	comp=E,124nm,0.7s						
CIT	**Chita**	**2.77**	**126**	*e*PN		Pn	16 31 09.1 +6.2
CIT				*e*			16 31 46.1
CIT

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KPC                                  Smax
      comp=N,97nm,0.7s
KPC   Khapcheranga     4.28 158 ePN        Pn      16 31 23.8 +0.1
KPC                              e                 16 31 36.5
KPC                              eS        Sn      16 32 11.1 -2.0
KPC                              e                 16 32 31.3
KPC                                  pmax    pmax
      comp=Z,19nm,0.6s
KPC                                  smax
      comp=E,96nm,1.0s
TLY   Talaya           4.32 245 ePn        Pn      16 31 24.8 +0.6
TLY                              ePg       Pn      16 31 36.9 +13
TLY                              eSn       Sn      16 32 13.8 -0.2
TLY                              eSg       Sn      16 32 31.9 +18
TLY                                  Pmax
      comp=E,4.0nm,0.4s
TLY                                  Smax
      comp=E,32nm,0.3s
BOD   Bodaibo          4.73  28 eSg       Sn      16 32 45.6 +22
BOD                                  Smax
      comp=E,23nm,1.0s
ARS   Arshan           4.88 252 ePn        Pn      16 31 32.6 +0.6
ARS                              ePg       Pn      16 31 47.5 +16
ARS                              eSn       Sn      16 32 27.6 -0.3
ARS                              eSg       Sn      16 32 49.2 +21
ARS                                  Pmax
      comp=E,9.0nm,0.7s
ARS                                  Smax
      comp=E,137nm,0.8s
ARS   Arshan           4.88 252 ePN        Pn      16 31 33.6 +1.6
ARS                              e                 16 31 45.8
ARS                              e                 16 32 48.0
ARS                                  pmax    pmax
      comp=Z,6.0nm,0.3s
ARS                                  smax
      comp=E,132nm,0.5s
ZAK   Zakamensk        5.28 234 ePn        Pn      16 31 38.7 +1.3
ZAK                              ePg       Pn      16 31 54.0 +17
ZAK                              eSn       Sn      16 32 38.8 +1.3
ZAK                              eSg       Sn      16 33 03.8 +26
ZAK                                  Pmax
      comp=E,2.0nm,0.6s
ZAK                                  Smax
      comp=E,21nm,0.7s
CRS   Chara            5.75  53 eSg       Sn      16 33 17.6 +28
CRS                                  Smax
      comp=E,24nm,0.8s
MOY   Mondy            5.80 253 ePn        Pn      16 31 46.5 +1.9
MOY                              ePg       Pn      16 32 02.5 +18
MOY                              eSn       Sn      16 32 50.1 -0.3
MOY                              eSg       Sn      16 33 16.9 +26
MOY                                  Pmax
      comp=E,4.0nm,1.4s
MOY                                  Smax
      comp=E,41nm,1.4s
TUP   Tupik            5.95  79 ePn        Pn      16 31 46.8 +0.1
TUP                              ePg       Pn      16 32 06.0 +19
TUP                              eSg       Sn      16 33 23.0 +29
TUP                                  Pmax
      comp=E,4.0nm,0.6s
TUP                                  Smax
      comp=E,91nm,0.8s
TUP   Tupik            5.95  79 ePN        Pn      16 31 46.9 +0.2
TUP                              e                 16 32 05.1
TUP                              eS        Sn      16 32 53.5 -0.7
TUP                              e                 16 33 21.8
TUP                                  pmax    pmax
      comp=Z,4.0nm,0.5s
TUP                                  smax
      comp=N,91nm,0.4s
ORL   Orlik            6.20 263 ePn        Pn      16 31 51.8 +1.8
ORL                              e                 16 31 57.3
ORL                              eSn       Sn      16 33 01.2 +0.9
ORL                              eSg       Sn      16 33 30.9 +31
ORL                                  max
      comp=N,4.0nm,0.0s
ORL                                  Smax
      comp=N,32nm,0.7s
```

IDC 21 16:34:32.9±2.3, 269S×12892E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/15, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=144.7km s-min=27.8km az=69.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.95	163	P	Pn	16 38 42.5	-1.4
	0.2nm,0.3s,baz=342,slow=12,SNR=5.6						
ASAR	Alice Springs	21.41	167	P	P	16 39 22.6	+0.3
	1.9nm,0.6s,baz=344,slow=11,SNR=37						
MKAR	Makanchi Array	64.06	326	P	P	16 45 09.2	+0.6
	0.2nm,0.5s,baz=122,slow=7.4,SNR=3.7						

*ISCJB **21** 16:38:07.4±2.0, 242S±04×1796W±03, h500km, mb4.2/8, Error ellipse: s-maj=63.9km s-min=15.9km az=111.8*
*NEIC **21** 16:38:07.9±2.0, 242.0S×17967W, h484km±18km, mb4.5/6, Error ellipse: s-maj=47.5km s-min=10.9km az=153.0*
*IDC **21** 16:38:09.2±4.1, 24.45S×17961W, h498km±23km, mb3.6/5, mb1 3.8/5, mb1mx3.4/14, mbtmp4.6/5, Error ellipse: s-maj=95.9km s-min=32.1km az=149.0*

ISC 21 16:38:08.7±2.0, 242S±04×1796W±03, h500km, n21, σ0§47/17, mb4.2/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.62	37	eP	P	16 40 53.7	0.0
CTA	Charters Tower	31.86	271	eP	P	16 43 52.6	+0.7
	8.9nm,0.4s,mb4.5						
CTA	Charters Tower	31.86	271	P	P	16 43 52.8	+0.9
	14nm,0.5s,mb4.6,baz=98,slow=10.0,SNR=22						
CTAO	Charters Tower	31.86	271	eP	P	16 43 52.7	+0.8
	12nm,0.4s,mb4.7						
PMG	Port Moresby	34.96	289	eP	P	16 44 17.9	-0.2
STKA	Stephens Creek	34.97	249	P	P	16 44 17.6	-0.5
	1.9nm,0.7s,mb3.7,baz=89,slow=11,SNR=4.1						
STKA	Stephens Creek	34.97	249	eP	P	16 44 17.6	-0.6
AS31	Alice Springs	42.36	261	eP	P	16 45 18.5	+0.3
ASAR	Alice Springs	42.36	261	P	P	16 45 18.6	+0.4
	4.7nm,0.9s,mb3.9,baz=98,slow=7.1,SNR=38						
ASAR				ScP	ScP	16 50 05.2	+2.2
	1.0nm,0.8s,baz=97,slow=4.4,SNR=6.6						
ASPA	Alice Springs	42.37	261	eP	P	16 45 18.5	+0.2
WB2	Warramunga Arr	42.76	266	eP	P	16 45 21.0	-0.3
WRAB	Tennant Creek	42.76	266	eP	P	16 45 21.0	-0.3
	25nm,1.1s,mb4.6						
WRA	Warramunga Arr	42.77	266	P	P	16 45 21.4	-0.1
	11nm,0.8s,mb4.3,baz=97,slow=8.3,SNR=54						
KAKA	Kakadu	46.72	275	eP	P	16 45 51.0	-0.9
	6.5nm,0.5s,mb4.3						
FITZ	Fitzroy Crossi	51.19	266	eP	P	16 46 25.7	+0.7
	10nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	51.19	266	P	P	16 46 25.9	+0.9
	5.4nm,0.8s,mb3.9,baz=135,slow=10.0,SNR=10						
MBWA	Marble Bar	55.70	260	eP	P	16 46 57.0	-0.1
	8.8nm,1.0s,mb4.0						
MKAR	Makanchi Array	112.64	313	PKiKP	PKiKP	16 55 48.3	+0.4
	0.1nm,0.5s,baz=249,slow=1.3,SNR=3.4						
FINES	FINESS Array B	138.86	342	PKP	PKPdf	16 56 38.8	+1.1
	0.9nm,0.9s,baz=95,slow=7.0,SNR=2.9						
FINES				SKPbc	SKPbc	16 59 24.5	-0.7
	2.4nm,1.0s,baz=54,slow=3.6,SNR=3.8						
AKASG	Malin Array Be	145.44	327	PKPbc	PKPbc	16 56 50.5	+0.1
	1.0nm,0.3s,baz=46,slow=4.2,SNR=12						
AKASG				SKPbc	SKPbc	16 59 41.6	+0.2
	0.8nm,0.6s,baz=45,slow=3.0,SNR=5.2						
BRTR	Keskin Array B	148.07	307	PKPbc	PKPbc	16 56 58.6	+1.1
	0.7nm,0.6s,baz=147,slow=4.5,SNR=4.9						
BRTR				PKPab	PKPab	16 57 03.4	+1.2
	1.6nm,0.7s,baz=87,slow=3.4,SNR=8.4						

*IDC **21** 16:57:15.4±1.3, 776S×12993E, h0km, mb4.0/2, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, ML3.9/4, Error ellipse: s-maj=43.6km s-min=23.1km az=67.0*
*NEIC **21** 16:57:18.2±0.9, 762S×12997E, h20km, mb4.1/1, Error ellipse: s-maj=19.4km s-min=15.6km az=117.0*
*ISCJB **21** 16:57:22.9±1.8, 83S±0.1×1302E±0.1, h33km, mb3.9/3, Error ellipse: s-maj=18.7km s-min=12.5km az=85.6*

ISC 21 16:57:25.4±1.5, 829S±010×13022E±010, h35km, n10, σ0§84/13, mb3.9/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.72	204	Pn	Pn	16 59 56.5	+0.1
	0.7nm,0.3s,baz=23,slow=12,SNR=25						
FITZ				Sn	Sn	17 01 53.8	-1.4
	1.2nm,0.3s,baz=44,slow=23,SNR=5.2						
WRAB	Tennant Creek	12.25	161	eP	Pn	17 00 17.2	0.0
	11nm,0.8s						
WRA	Warramunga Arr	12.25	161	Pn	Pn	17 00 17.3	0.0
	1.1nm,0.3s,baz=339,slow=13,SNR=6.7						
WRA				Sn	Sn	17 02 32.4	-0.2
	2.1nm,0.3s,baz=331,slow=22,SNR=9.9						
ASAR	Alice Springs	15.69	167	Pn	Pn	17 01 03.5	-0.2
	0.8nm,0.3s,baz=340,slow=8.4,SNR=70						
ASAR				Sn	Sn	17 03 57.3	+0.8
	0.4nm,0.3s,baz=339,slow=17,SNR=7.0						
MBWA	Marble Bar	16.32	217	P	Pn	17 01 12.4	+0.6
PMG	Port Moresby	16.77	95	P	Pn	17 01 16.2	-1.3
	0.4nm,0.3s,baz=270,slow=9.1,SNR=3.8						
STKA	Stephens Creek	25.74	157	P	P	17 02 54.2	+1.6
	1.4nm,0.7s,mb3.6,baz=323,slow=10,SNR=4.5						
STKA	Stephens Creek	25.74	157	P	P	17 02 54.2	+1.6
ULN	Ulaanbaatar	59.55	342	P	P	17 07 14.3	-11
	1.2nm,0.7s,mb4.0						
MKAR	Makanchi Array	69.42	327	P	P	17 08 21.6	-8.2
	1.4nm,0.6s,mb4.1,baz=116,slow=6.7,SNR=24						

*ISCJB **21** 17:11:32.6±4.6, 232S±02×1795W±06, h584km±35km, mb4.4/7, Error ellipse: s-maj=85.2km s-min=16.9km az=138.8*
*IDC **21** 17:11:36.6±5.6, 2361S×17993W, h567km±53km, mb3.8/5, mb1 3.8/7, mb1mx3.5/16, mbtmp4.7/7, Error ellipse: s-maj=57.2km s-min=32.5km az=64.0*
*NEIC **21** 17:11:36.0±2.5, 2360S×17986W, h568km±21km, mb4.6/5, Error ellipse: s-maj=38.0km s-min=18.0km az=47.0*

ISC 21 17:11:35.3±4.6, 236S±02×1798W±06, h562km±24km, n19, σ0§54/18, mb4.4/7, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.81	274	P	P	17 14 22.3	+0.2
	0.5nm,0.3s,baz=69,slow=16,SNR=7.9						
URZ	Urewera	14.90	190	P	P	17 14 43.5	0.0
	1.4nm,0.3s,baz=72,slow=0.9,SNR=11						
URZ				S	S	17 17 18.5	+0.1
	0.3nm,0.3s,baz=174,slow=19,SNR=3.5						
CTA	Charters Tower	31.70	270	eP	P	17 17 14.0	+0.5
	13nm,0.4s,mb4.8						
CTA	Charters Tower	31.70	270	P	P	17 17 14.1	+0.6
	17nm,0.4s,mb4.9,baz=94,slow=11,SNR=37						
CTAO	Charters Tower	31.70	270	eP	P	17 17 13.9	+0.5
	18nm,0.5s,mb4.8						
PMG	Port Moresby	34.59	288	P	P	17 17 37.6	-0.2
	12nm,0.8s,mb4.5,baz=90,slow=6.8,SNR=8.3						
PMG	Port Moresby	34.59	288	eP	P	17 17 37.4	-0.4
	12nm,0.8s,mb4.5						
STKA	Stephens Creek	35.05	248	eP	P	17 17 40.7	-1.0
	2.8nm,0.4s,mb4.2						
STKA	Stephens Creek	35.05	248	P	P	17 17 40.5	-1.3
	3.7nm,0.4s,mb4.2,baz=100,slow=11,SNR=14						
STKA	Stephens Creek	35.05	248	eP	P	17 17 40.8	-0.9
AS31	Alice Springs	42.31	260	∥eP	P	17 18 40.5	+0.3
ASAR	Alice Springs	42.31	260	P	P	17 18 40.6	+0.4
	5.7nm,0.6s,mb4.3,baz=94,slow=7.2,SNR=198						
ASPA	Alice Springs	42.31	260	∥eP	P	17 18 40.5	+0.2
WB2	Warramunga Arr	42.64	266	∥eP	P	17 18 42.4	-0.4
WRAB	Tennant Creek	42.64	266	eP	P	17 18 42.2	-0.6
	7.4nm,0.8s,mb4.3						
WRA	Warramunga Arr	42.65	266	P	P	17 18 42.5	-0.4
	8.4nm,0.6s,mb4.5,baz=101,slow=8.2,SNR=38						
FITZ	Fitzroy Crossi	51.07	265	eP	P	17 19 47.4	+1.1
	4.0nm,0.4s,mb4.1						
AKASG	Malin Array Be	144.80	328	PKP	PKPdf	17 30 08.5	0.0
	0.3nm,0.2s,baz=38,slow=3.3,SNR=5.4						
AKASG	Malin Array Be	144.80	328	PKP	PKPdf	17 30 08.5	0.0

IDC 21 17:15:03.1±2.0, 5539S×2904W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/15, mbtmp3.8/2, Error ellipse: s-maj=90.5km s-min=46.9km az=11.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	49.14	307	P	P	17 23 53.0	+0.5
	1.6nm,0.7s,baz=174,slow=3.8,SNR=6.9						
TORD	Torodi Ar. Bea	73.01	31	P	P	17 26 34.6	-0.1
	0.3nm,0.5s,baz=192,slow=5.8,SNR=3.2						
YKA	Yellowknife Ar	134.98	319	PKP	PKPdf	17 34 23.6	-0.5
	0.2nm,0.4s,baz=130,slow=2.1,SNR=4.1						
ILAR	Eielson Array	148.89	313	PKPbc	PKPbc	17 34 50.3	-2.4
	1.7nm,0.7s,baz=124,slow=1.6,SNR=22						
SONM	Songino Array	151.74	87	PKPbc	PKPbc	17 34 58.2	-1.3
	0.3nm,0.6s,baz=218,slow=3.0,SNR=3.4						

*IDC **21** 17:20:17.6±2.2, 045S×98.14E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/26, Error ellipse: s-maj=79.0km s-min=21.4km az=61.0*
*ISCJB **21** 17:20:20.6±1.3, 04S±0.1×982E±02, h33km, mb3.9/6, Error ellipse: s-maj=32.2km s-min=15.0km az=146.3*
*NEIC **21** 17:20:22.8±0.9, 041S×98.19E, h35km, mb4.2/1, Error ellipse: s-maj=23.8km s-min=10.9km az=72.0*

ISC 21 17:20:23.2±1.3, 04S±01×982E±02, h35km, n11, σ0§50/11, mb3.9/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.21	13	Pn	Pn	17 21 10.2	-0.9
	7.5nm,0.3s,baz=351,slow=10,SNR=18						
PSI				LR	LR	17 22 43.0	
	comp=Z,293nm,18.5s,baz=337,slow=45						
KULM	Kulim	6.11	24	eP	Pn	17 21 51.6	+0.6
ENH	Enshi	32.29	18	P	P	17 26 48.6	0.0
WRA	Warramunga Arr	40.38	121	P	P	17 27 57.2	-0.4
	0.6nm,0.6s,mb3.5,baz=299,slow=9.0,SNR=3.7						
ASAR	Alice Springs	41.67	126	P	P	17 28 08.5	+0.2
	0.4nm,0.8s,mb3.1,baz=298,slow=7.8,SNR=6.9						
SONM	Songino Array	48.52	7	P	P	17 29 03.3	+0.7
	1.0nm,0.5s,mb4.1,baz=192,slow=8.8,SNR=8.0						
MKAR	Makanchi Array	48.98	346	P	P	17 29 06.5	+0.3
	2.0nm,0.6s,mb4.3,baz=152,slow=8.5,SNR=32						
MKAR	Makanchi Array	48.98	346	P	P	17 29 06.5	+0.3
KURK	Kurchatov	53.54	345	eP	P	17 29 40.0	-0.4
	2.9nm,1.1s,mb4.1						
ZAL	Zalesovo	55.23	350	P	P	17 29 52.5	-0.2
	1.7nm,0.5s,mb4.3,baz=306,slow=7.2						
ZAL	Zalesovo	55.23	350	P	P	17 29 52.5	-0.2

IDC 21 17:26:52.5±1.2, 775S×13002E, h0km, mb3.8/3, mb1 4.0/7, mb1mx3.9/15, mbtmp3.9/7, ML3.9/4, Error ellipse: s-maj=44.4km s-min=21.2km az=70.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.14	202	Pn	Pn	17 29 34.0	+1.0
	0.8nm,0.3s,baz=32,slow=14,SNR=24						
FITZ				Sn	Sn	17 31 32.9	-5.3
	1.3nm,0.3s,baz=80,slow=21,SNR=7.1						
WRA	Warramunga Arr	12.82	161	Pn	Pn	17 29 54.8	-1.3
	1.3nm,0.3s,baz=346,slow=13,SNR=28						
WRA				Sn	Sn	17 32 09.7	-10
	1.8nm,0.3s,baz=332,slow=22,SNR=11						
ASAR	Alice Springs	16.26	167	Pn	Pn	17 30 40.7	-1.5
	0.6nm,0.3s,baz=343,slow=8.5,SNR=54						
ASAR				Sn	Sn	17 33 35.2	-8.0
	0.4nm,0.3s,baz=347,slow=22,SNR=6.0						
PMG	Port Moresby	17.03	97	P	Pn	17 30 53.7	+1.7
	0.5nm,0.3s,baz=290,slow=12,SNR=4.2						
STKA	Stephens Creek	26.32	157	P	P	17 32 30.6	+0.7
	1.0nm,0.6s,baz=331,slow=13,SNR=2.1						
SONM	Songino Array	59.15	342	P	P	17 36 55.2	+0.2
	0.4nm,0.8s,baz=145,slow=5.3,SNR=3.0						
MKAR	Makanchi Array	66.86	327	P	P	17 37 58.9	0.0
	1.5nm,0.6s,baz=119,slow=7.5,SNR=25						

*ATH **21** 17:40:38.3, 3393N×2532E, h13km±2km, MD3.1/4*
*NEIC **21** 17:40:38.3, 3393N×2532E, h13km, MD3.1(ATH), After ATH.*
*ISCJB **21** 17:40:39.7±0.6, 3397N±004×254E±0.1, h10km, Error ellipse: s-maj=13.5km s-min=5.3km az=167.2*
*CSEM **21** 17:40:41.2±0.1, 3401N×2554E, h25km, ML2.9, Error ellipse: s-maj=10.4km s-min=2.8km az=86.0*
*HLW **21** 17:40:42.2, 34.12N×2545E, h33km, Mb2.9*

ISC 21 17:40:39.8±3.7, 3403N±005×254E±01, h4km±32km, n10, σ1§09/14, 1C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.89	18	ePB	Pb	17 40 57.0	-0.7
XRY				eSB	Sb	17 41 11.0	+1.1
NPS	Neapolis	1.25	9	ePB	Pb	17 41 03.0	-0.9
GVD	Gavdhos	1.33	308	ePB	Pb	17 41 04.0	-1.3
VAM	Vamos	1.68	325	ePN	Pn	17 41 10.5	+0.6
SLUM		2.53	183	P	Pn	17 41 21.9	+0.4
HMAT	Matruh	3.27	153	∥P	Pn	17 41 32.0	+0.4
HMAT				S	Sn	17 42 08.0	-3.0
HMAT	Matruh	3.27	153	P	Pn	17 41 32.0	+0.3
HMAT				S	Sn	17 42 07.9	-3.0
SWA1		4.76	176	∥P	Pn	17 41 53.0	+0.9
SWA2		4.77	179	∥P	Pn	17 41 52.9	+0.6
HFRF	Wahat Farafira	7.31	159	∥P	Pn	17 42 28.0	+0.8
HFRF				S	Sn	17 43 45.3	-5.3

IDC 21 18:01:36.7±1.9, 385N×12513E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=189.3km s-min=25.3km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.31	159	P	P	18 07 04.6	-0.4
	1.0nm,0.5s,baz=338,slow=10,SNR=13						
ASAR	Alice Springs	26.65	163	P	P	18 07 35.2	+0.2
	0.3nm,0.6s,baz=349,slow=7.4,SNR=10						
STKA	Stephens Creek	38.83	157	P	P	18 09 04.6	+1.3
	2.5nm,0.9s,baz=343,slow=11,SNR=2.5						
MKAR	Makanchi Array	56.56	326	P	P	18 11 21.1	+0.1
	0.2nm,0.4s,baz=117,slow=8.4,SNR=5.2						

*MOS **21** 18:10:17.1±2.5, 3971N×4171E, h10km, mb4.2/1, Error ellipse: s-maj=9.5km s-min=8.2km az=76.6*
*CSEM **21** 18:10:17.8±0.1, 3978N×4174E, h5km, MD3.9, Error ellipse: s-maj=2.3km s-min=1.5km az=38.0*
*ISK **21** 18:10:18.6, 3980N×4175E, h11km, MD3.9*
*NEIC **21** 18:10:18.3, 3980N×4174E, h10km, mb4.1/1, MD3.9(ISK), After ISK.*
*ISCJB **21** 18:10:19.2±0.6, 3979N±003×4174E±003, h10km±5km, mb3.5/3, Error ellipse: s-maj=4.4km s-min=3.7km az=126.0*
*IDC **21** 18:10:19.7±4.0, 3911N×4196E, h38km±41km, mb3.1/2, mb1 3.3/5, mb1mx3.1/21, mbtmp3.3/5, ML3.0/2, Error ellipse: s-maj=75.1km s-min=21.0km az=1.0*

ISC 21 18:10:18.9±0.7, 3979N±002×4178E±003, h2km±5km, n65, σ1§25/82, mb3.5/3, 4C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZM	Erzurum	0.34	290	iP	Pg	18 10 25.3	-0.1
ERZM				iS	Sg	18 10 30.6	+0.7
EZM	Erzurum	0.34	290	iPG	Pg	18 10 25.4	-0.1
EZM	Erzurum	0.34	290	Pg	Pg	18 10 25.0	-0.5
EZM				Sg	Sg	18 10 30.0	+0.1
BNGL	BINGOL	0.97	211	iP	Pg	18 10 35.2	-2.2
BNGL				iS	Sg	18 10 49.8	-0.2
BNGL	BINGOL	0.97	211	iP	Pg	18 10 35.2	-2.2
BNGL				iS	Sg	18 10 49.8	-0.2
KARS	Kars	1.30	50	PN	Pn	18 10 42.9	-1.1
DIGO	Kars	1.37	62	iP	Pn	18 10 43.1	-1.9
DIGO				iS	Sg	18 11 05.5	+2.5
ARTV	Artvin	1.40	5	iP	Pn	18 10 44.5	-0.9
ARTV				iS	Sg	18 11 05.8	+2.0
ARTV	Artvin	1.40	5	iP	Pn	18 10 44.5	-0.9
ARTV				iS	Sg	18 11 05.8	+1.9
BTMT	Batman	1.61	188	PN	Pn	18 10 48.6	+0.3
VANB	Van	1.73	133	Pn	Pn	18 10 50.1	+0.2
CLDR	Caldiran	1.77	111	PN	Pn	18 10 50.5	-0.1
CLDR				SN	Sn	18 11 13.7	0.0
CLDR	Caldiran	1.77	111	Pn	Pn	18 10 50.5	0.0
TVAN	Van	1.78	134	iP	Pn	18 10 50.4	-0.3
TVAN				iS	Sn	18 11 14.4	+0.5
VANT	Van	1.83	136	PN	Pn	18 10 50.9	-0.5
VANT	Van	1.83	136	P	Pn	18 10 50.4	-1.0
GUMT	Gumushane	1.89	292	PN	Pn	18 10 51.9	-0.2
GUMT	Gumushane	1.89	292	Pn	Pn	18 10 51.2	-1.0
BEST	Besiri	1.94	192	iP	Pn	18 10 53.4	+0.6
BEST				iS	Sn	18 11 20.4	+2.7
KELT	Kelkit	1.97	281	iP	Pn	18 10 54.0	+0.7
KELT				iS	Sn	18 11 22.2	+3.6
AKH	Akhalkalaki	2.08	38	P	Pn	18 10 55.7	+0.9
GNI	Garni	2.31	80	PN	Pn	18 10 57.9	+0.1
GNI	Garni	2.31	80	Pn	Pn	18 10 58.1	+0.3
	7.2nm,0.3s,baz=273,slow=4.8,SNR=35						
GNI	Garni	2.31	80	ePn	Pn	18 10 58.0	+0.1
GNI	Garni	2.31	80	P	Pn	18 10 58.1	+0.3
GNI				pmax	pmax		
	comp=Z,7.0nm,0.3s						
BKR	Bakuriani	2.34	33	P	Pn	18 11 04.2	+5.8
ELZG	Elazig	2.53	240	iP	Pn	18 10 59.7	-1.3
MARD	Mardin	2.59	198	iP	Pn	18 11 01.1	-0.7
MARD				iS	Sn	18 11 38.4	+4.5
HKR	Hakkari	2.69	145	ePN	Pn	18 11 03.3	+0.2
HKR	Hakkari	2.69	145	Pn	Pn	18 11 03.4	+0.3
CUKT	Cukurca	2.91	150	ePN	Pn	18 11 06.5	+0.3
GRSN	GIRESUNGRSN	2.91	294	iP	Pn	18 11 08.8	+2.5
TBLG	Delisi	2.97	48	P	Pn	18 11 07.8	+0.8
TBLG	Delisi	2.97	48	eP	Pn	18 11 07.8	+0.8
MTA	Mtatsminda	2.98	49	P	Pb	18 11 13.4	+0.8
MALT	Malatya	3.00	242	ePN	Pn	18 11 06.6	-0.8
MALT	Malatya	3.00	242	eP	Pn	18 11 05.2	-2.2
MALT	Malatya	3.00	242	ePn	Pn	18 11 06.6	-0.8
DGRG	David-gareji	3.20	58	P	Pn	18 11 11.4	+1.2
DGRG				S	Sg	18 12 07.8	+6.1
URFA	Urfa	3.30	226	ePN	Pn	18 11 11.6	+0.1
ZEI	Tsey	3.38	27	eP	Pn	18 11 11.5	-1.1
SVSK	Karacayir	3.68	274	ePN	Pn	18 11 16.8	0.0
SVST	Sivas	3.72	271	iP	Pb	18 11 25.6	+0.3
SOC	Sochi	4.09	338	eP	Pn	18 11 22.4	-0.1
	comp=Z,10.0nm,0.5s						
SOC				eS	Sn	18 12 11.9	+1.0
	comp=Z,56nm,1.0s						
SOC	Sochi	4.09	338	eP	Pn	18 11 22.4	-0.1
SOC				e		18 12 11.9	
SOC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SOC				smax			
	comp=N,56nm,1.0s						
GZT	Gaziantep	4.10	235	iP	Pb	18 11 32.5	+0.7
KIV	Kislovodsk	4.22	9	eP	Pn	18 11 22.5	-1.7
	comp=N,5.0nm,0.9s						
KIV				eS	Sn	18 12 12.0	-2.0
KIV	Kislovodsk	4.22	9	ePn	Pn	18 11 25.5	+1.3
KIV				ePg	Pg	18 11 38.2	-1.5
KIV	Kislovodsk	4.22	9	eP	Pn	18 11 22.5	-1.7
KIV				eS	Sn	18 12 12.0	-2.0
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GAZ	Gaziantep	4.44	235	ePN	Pn	18 11 27.8	+0.6
KVT	Kavak	4.56	288	P	Pn	18 11 29.6	+0.7
MAK	Makhachkala	5.35	52	eP	Pn	18 11 37.9	-1.8
BR131	Keskin Array S	6.28	272	Pn	Pn	18 11 53.8	+1.4
	comp=Z,1.6nm,0.5s						
BRTR	Keskin Array B	6.28	272	Pn	Pn	18 11 53.8	+1.4
	comp=Z,0.1nm,0.3s,baz=117,slow=12,SNR=4.3						
ISP	Isparta	9.01	261	∥eP	Pn	18 12 25.5	-4.5
APE	Apeiranthos	13.03	263	∥eP	Pn	18 13 22.1	-2.9
AKASG	Malin Array Be	14.02	325	Pn	Pn	18 13 43.2	+4.7
	comp=Z,0.5nm,0.3s,baz=131,slow=13,SNR=4.4						
OBN	Obninsk	15.73	349	eP	Pn	18 13

*IDC **21** 18:34:21.3±1.0, 1016N×6980W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.6/5, Error ellipse: s-maj=37.2km s-min=13.2km az=121.0*
*ISCJB **21** 18:34:22.9±0.5, 1005N±002×6973W±002, h5km±4km, mb3.6/5, Error ellipse: s-maj=4.0km s-min=3.6km az=135.6*
*NEIC **21** 18:34:23.7, 1006N×6974W, h0km, MD4.1(CAR), After CAR.*
*FUNV **21** 18:34:23.6, 1006N×6974W, h0km, MW4.1, Fault plane solution: NP1:φ=350.59000°, δ86.60000°, λ19.72000°.*

ISC 21 18:34:23.6±0.5, 1006N±002×6974W±002, h6km±4km, n30, σ0.90/42, mb3.6/5, 9C-6D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CURV	Curarigua	0.22	259	⇑eP		Pg	18 34 27.4	-0.6
CURV				eS		Sg	18 34 30.4	-0.6
TEPV	Terepaima	0.55	100	⇓iP		Pg	18 34 33.6	-0.5
SANV	Sanarito	0.59	160	⇓iP		Pg	18 34 34.4	-0.5
SANV				eS		Sg	18 34 43.5	+0.9
SIQV	Siquisique	0.59	353	⇑eP		Pg	18 34 35.0	0.0
SIQV				eS		Sg	18 34 43.8	+1.1
QARV	Quebrada Arrib	0.79	281	⇓iP		Pg	18 34 38.7	0.0
QARV				eS		Sg	18 34 50.8	+1.9
DABV	Dabajuro	1.23	314	⇓eP		Pg	18 34 47.5	+0.2
JACV	Jacura	1.36	41	⇑eP		Pn	18 34 49.2	0.0
JACV				eS		Sb	18 35 08.0	+0.8
SDV	Santo Domingo	1.46	217	Pg		Pg	18 34 49.8	-1.7
SDV	121nm,0.3s,baz=74,slow=12,SNR=369			Lg			18 35 09.1	
SDV	218nm,0.3s,baz=68,slow=23,SNR=12							
SDV	Santo Domingo	1.46	217	⇑iPn		Pn	18 34 49.5	-1.0
SDV				eS		Sn	18 35 09.4	-0.5
MONV	Montecano	1.90	353	⇓eP		Pn	18 34 55.9	-0.7
MONV				eS		Sn	18 35 20.9	0.0
TURV	Turiamo	1.91	78	⇑eP		Pn	18 34 56.0	-0.7
TURV				eS		Sn	18 35 21.9	+0.8
BAUV	El Baul	2.01	123	eP		Pn	18 34 58.4	+0.4
BAUV				eS		Sn	18 35 24.4	+0.9
VIGV	El Vigia	2.01	233	eP		Pn	18 34 59.7	+1.7
VIGV				eS		Sn	18 35 23.9	+0.5
SOCV	Socops	2.08	212	⇑eP		Pn	18 34 59.2	+0.2
SOCV				eS		Sn	18 35 26.2	+1.0
IMOV	Isla Los Monje	2.56	334	eP		Pn	18 35 05.7	0.0
VIRV	Villa del Rosa	2.66	280	⇑eP		Pn	18 35 07.0	-0.1
VIRV				eS		Sn	18 35 38.6	-1.0
FUNV	FUNVISIS	2.91	82	eP		Pn	18 35 10.1	-0.4
CAPV	Capacho	3.35	230	⇑eP		Pn	18 35 16.6	+0.1
BIRV	Birongo	3.44	83	⇓eP		Pn	18 35 17.8	+0.1
MERV	Las Mercedes	3.49	103	eP		Pn	18 35 18.7	+0.3
CUPV	Cepira	3.89	90	eP		Pn	18 35 23.6	-0.4
CAOV	Caicara del Or	4.33	128	⇑eP		Pn	18 35 29.2	-0.8
PCRV	Puerto La Cruz	5.03	88	eP		Pn	18 35 39.4	-0.1
ROSC	El Rosal	6.88	222	Pn		Pn	18 36 07.0	+1.9
ROSC	4.7nm,0.3s,baz=79,slow=17,SNR=14			Sn		Sn	18 37 31.5	+7.8
ROSC	2.1nm,0.3s,baz=100,slow=24,SNR=2.1			Lg			18 38 10.3	
ROSC	3.0nm,0.3s,baz=84,slow=23,SNR=4.1							
LPAZ	La Paz	26.22	177	P		P	18 40 00.8	+1.6
PLCA	0.4nm,0.5s,mb3.2,baz=323,slow=5.1,SNR=2.5 Paso Flores	50.54	181	P		P	18 43 21.4	-1.4
YKA	1.1nm,0.8s,mb3.9,baz=352,slow=8.1,SNR=3.2 Yellowknife Ar	61.46	338	P		P	18 44 38.4	-2.6
TORD	0.2nm,0.4s,mb3.6,baz=126,slow=7.1,SNR=4.9 Torodi Ar. Bea	69.84	80	P		P	18 45 34.1	-1.0
GERES	0.5nm,0.6s,mb3.6,baz=287,slow=6.7,SNR=6.5 GERESS Array B	78.20	42	P		P	18 46 23.8	-0.2
WRA	0.4nm,0.5s,mb3.6,baz=270,slow=2.7,SNR=5.5 Warramunga Arr	154.78	244	PKPbc		PKPbc	18 54 25.0	-0.8
	0.2nm,0.4s,baz=106,slow=2.8,SNR=8.9							

*UPP **21** 18:41:25.9, 6784N×2020E, h0km, ML2.5, Suspected Mining explosion.*
*CSEM **21** 18:41:25.2±0.1, 6779N×2015E, h1km, ML2.5, Error ellipse: s-maj=4.0km s-min=3.6km az=150.0, Mining explosion.*

HEL 21 18:41:26.7±0.1, 6783N×2019E, h0km, ML1.5, ML2.5(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	24	iP		Pg	18 41 28.7	-0.7
NIKU	Nikkaluokta	0.44	276	iP		Pg	18 41 34.5	-0.6
LANU	Lannavaara	0.72	71	iP		Pg	18 41 39.2	-1.2
DUNU	Dundret	0.72	168	iP		Pg	18 41 39.6	-1.0
SALU	Saltoluokta	0.78	236	iP		Pg	18 41 40.9	-0.9
MASU	Masugnsbyn	0.79	117	iP		Pg	18 41 40.8	-1.0
KIF	Kilpisjarvi	1.21	11	eP		Pg	18 41 49.8	0.0
KIF				eS		Sg	18 42 05.6	+0.2
KIF	Kilpisjarvi	1.21	11	P		Pg	18 41 49.7	-0.1
KIF				S		Sg	18 42 05.6	+0.2
PAJU	Pajala	1.39	124	eP		Pn	18 41 51.4	-1.9
ERTU	Ertsjaerv	1.50	148	eP		Pn	18 41 53.5	-1.3
ERTU	Ertsjaerv	1.50	148	P		Pn	18 41 53.5	-1.3
SJUU	Sjulsmark	2.40	166	eP		Pn	18 42 08.6	+1.4
SGF	Sodankyl	2.46	96	eP		Pn	18 42 07.9	-0.1
SGF				eS		Sn	18 42 38.7	0.0
SGF				MSG			18 42 42.9	
SGF	comp=Z,2.2nm,0.2s							
SGF	Sodankyl	2.46	96	P		Pn	18 42 07.8	-0.2
SGF				S		Sn	18 42 38.6	-0.1
KEV	comp=Z,2.2nm,0.2s Kevo	3.15	49	eP		Pn	18 42 17.5	0.0
KEV				eS		Sn	18 42 55.5	-0.2
KEV				MSG			18 43 03.4	
KEV	comp=Z,1.0nm,0.2s Kevo	3.15	49	P		Pn	18 42 17.5	0.0
KEV				S		Sn	18 42 55.5	-0.2
OUL	comp=Z,1.0nm,0.2s Oulu	3.58	138	ePG		Pg	18 42 31.3	-4.1
OUL				eSG		Sg	18 43 16.2	-5.6
OUL				MSG			18 43 24.9	
OUL	comp=Z,0.6nm,0.3s Oulu	3.58	138	Pg		Pg	18 42 31.3	-4.1
OUL				Sg		Sg	18 43 16.1	-5.7
KU4	comp=Z,0.6nm,0.3s Liikasenvaara	3.96	107	ePG		Pg	18 42 37.8	-4.7
KU4				eSG		Sg	18 43 28.7	-5.1
KU4				MSG			18 43 32.3	
KU4	comp=Z,1.2nm,0.3s							

*BJI **21** 18:53:03.5, 2118S×17807W, h559km, mB4.7, mb4.5*
*ISCJB **21** 18:53:04.7±1.2, 209S±0.1×1785W±0.1, h546km±16km, mb4.3/22, Error ellipse: s-maj=20.0km s-min=12.4km az=101.3*
*NEIC **21** 18:53:04.8±1.0, 2108S×17832W, h550km±10km, mb4.3/12, Error ellipse: s-maj=22.5km s-min=9.0km az=148.0*
*IDC **21** 18:53:06.3±2.0, 2085S×17847W, h554km±20km, mb3.4/7, mb1 3.6/9, mb1mx3.4/16, mbtmp4.4/9, Error ellipse: s-maj=24.1km s-min=16.4km az=136.0*

ISC 21 18:53:06.4±1.2, 209S±01×1785W±01, h553km±14km, n40, σ1.92/35, mb4.3/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.42	44	P		P	18 55 18.1	-0.2
AFI	1.9nm,0.3s,baz=39,slow=23,SNR=3.2			S		S	18 57 01.5	-5.2
AFI	1.6nm,0.3s,baz=22,slow=21,SNR=4.7 Afiamalu	9.42	44	ePn		P	18 55 17.4	-0.9
AFI				eSn		S	18 56 58.4	-8.3
DZM	Mont Dzumac	14.10	262	P		P	18 56 07.1	+0.7
CTAO	0.3nm,0.3s,baz=79,slow=19,SNR=4.9 Charters Tower	33.02	265	eP		P	18 58 56.6	+0.3
PMG	5.4nm,0.6s,mb4.2 Port Moresby	35.01	284	P		P	18 59 13.8	+0.9
PMG	18nm,0.8s,mb4.7,baz=65,slow=5.5,SNR=12 Port Moresby	35.01	284	eP		P	18 59 13.6	+0.7
STKA	15nm,0.8s,mb4.6 Stephens Creek	37.23	245	eP		P	18 59 29.9	-1.4
STKA	1.4nm,0.4s,mb3.8 Stephens Creek	37.23	245	P		P	18 59 29.9	-1.4
STKA	2.3nm,0.6s,mb3.9,baz=104,slow=10,SNR=6.0 Stephens Creek	37.23	245	eP		P	18 59 28.8	-2.6
ASAR	Alice Springs	44.01	257	P		P	19 00 25.4	+0.3
ASAR	5.8nm,0.7s,mb4.2,baz=95,slow=7.8,SNR=114			PcP		PcP	19 01 58.5	+0.1
ASAR	1.0nm,0.6s,baz=106,slow=3.8,SNR=6.7			ScP		ScP	19 04 58.1	+0.4
ASAR	0.5nm,0.7s,baz=87,slow=5.2,SNR=4.8			S		S	19 06 14.9	-2.4
WB2	0.8nm,0.8s,baz=90,slow=14,SNR=6.5 Warramunga Arr	44.11	263	eP		P	19 00 25.5	-0.4
WRAB	Tennant Creek	44.11	263	eP		P	19 00 25.2	-0.7
WRA	4.8nm,0.6s,mb4.2 Warramunga Arr	44.12	263	P		P	19 00 25.7	-0.4
WRA	2.1nm,0.3s,mb4.1,baz=97,slow=7.5,SNR=181			S		S	19 06 13.9	-5.0
KAKA	0.7nm,1.0s,baz=96,slow=13,SNR=3.0 Kakadu	47.55	272	eP		P	19 00 51.6	-0.5
MBWA	5.7nm,0.6s,mb4.3 Marble Bar	57.35	258	eP		P	19 02 01.4	-0.7
SBA	11nm,0.7s,mb4.2 Scott Base	57.47	184	P		P	19 02 04.8	+1.9
VNDA	25nm,1.3s,mb4.3 Vanda	57.50	185	P		P	19 02 03.6	+0.5
VNDA	1.5nm,1.0s,mb3.2,baz=11,slow=7.7,SNR=5.2 Vanda	57.50	185	eP		P	19 02 04.1	+1.0
KKM	1.6nm,0.9s,mb3.2 Kota Kinabalu	69.44	285	eP		P	19 03 19.8	+0.5
MJAR	Matsushiro Arr	70.25	324	P		P	19 03 24.2	0.0
MAJO	2.6nm,0.6s,mb4.0,baz=155,slow=5.8,SNR=13 Matsushiro	70.25	324	eP		P	19 03 23.9	-0.3
NJ2	4.3nm,0.6s,mb4.2 Nanjing	79.78	310	eP		P	19 04 17.6	+0.2
NJ2				AMB		AMB		
MDJ	comp=Z,10.0nm,0.5s,mb4.4 Mudanjiang	80.58	325	P		P	19 04 23.3	+1.8
MDJ				AMB		AMB		
MDJ	comp=Z,5.0nm,0.5s,mb4.2			AMB		AMB		
MAW	comp=Z,9.0nm,3.2s Mawson	81.07	200	P		P	19 04 22.3	-1.8
ENH	comp=Z,143nm,1.6s,mb5.2 Enshi	85.89	304	eP		P	19 04 48.9	+0.9
MCK	comp=Z,11nm,1.0s,mb4.5 McKinley	87.43	13	eP		P	19 04 54.2	-1.0
ILAR	comp=Z,3.2nm,1.0s,mb3.9 Eielson Array	88.77	13	P		P	19 05 00.4	-1.1
KMI	comp=Z,0.6nm,0.5s,mb3.7,baz=218,slow=5.0,SNR=16 Kunming	89.13	297	P		P	19 05 05.3	+2.1
KMI				AMB		AMB		
HHC	comp=Z,6.0nm,1.2s,mb4.3 Hu-ho-hao-te	89.30	315	eP		P	19 05 04.0	0.0
HHC				AP		pP	19 07 03.8	-1.0
HHC				XP		sP	19 07 57.1	-3.3
HHC				PP		PP	19 08 47.0	+2.2
HHC				SKS			19 14 42.0	
HHC				S			19 15 07.1	
HHC				SS		SS	19 21 22.0	+3.6
HHC				AMB		AMB		
HHC	comp=Z,4.0nm,0.4s,mb4.6			AMB		AMB		
CHTO	comp=Z,111nm,4.9s Chiang Mai	89.96	290	eP		P	19 05 08.2	+1.2
CD2	comp=Z,18nm,0.6s,mb5.1 Chengdu	90.62	303	eP		P	19 05 09.1	-1.0
CD2				AP		pP	19 07 08.9	-2.3
CD2				PP		PP	19 08 57.0	+1.9
CD2				SKS			19 14 48.8	
CD2				S			19 15 17.9	
CD2				SS		SS	19 21 40.8	+3.6
CD2				AMB		AMB		
CD2	comp=Z,10.0nm,0.8s,mb4.8			AMB		AMB		
ARCES	comp=Z,30nm,9.3s ARCESS Array B	129.21	349	PKP		PKPdf	19 11 09.8	-2.1
FINES	comp=Z,6.0nm,1.0s,baz=57,slow=4.5,SNR=4.1 FINESS Array B	136.01	343	SKPbc		SKPbc	19 14 03.4	-1.5
AKASG	comp=Z,1.4nm,0.8s,baz=57,slow=5.1,SNR=4.5 Malin Array Be	143.13	330	PKP		PKPdf	19 11 34.2	-3.4
AKASG	comp=Z,5.2nm,0.4s,baz=44,slow=4.3,SNR=50 Malin Array Be	143.13	330	PKP		PKPdf	19 11 34.2	-3.4
BR131	Keskin Array S	146.76	312	ePKPdf		PKPdf	19 11 46.2	+2.4
BRTR	Keskin Array B	146.76	312	PKPbc		PKPbc	19 11 46.4	-0.3
CLL	comp=Z,1.2nm,0.5s,baz=138,slow=4.7,SNR=11 Collm	148.32	346	iPKPbc		PKPbc	19 11 50.1	-0.5
CLL	comp=Z,5.0nm,0.9s			iPKPab		PKPab	19 11 55.6	-0.4
KHC	Kasperske Hory	150.21	344	ePKPbc		PKPbc	19 11 54.5	-0.7
KHC				PKPab		PKPab	19 12 03.5	-0.3
GERES	GERESS Array B	150.44	344	PKPbc		PKPbc	19 11 55.4	-0.3
GERES	comp=Z,1.6nm,0.8s,baz=8.5,slow=2.7,SNR=9.9			PKPab		PKPab	19 12 04.5	-0.3
	comp=Z,0.3nm,0.6s,baz=16,slow=5.1,SNR=3.1							

*ISCJB **21** 19:08:16.2±2.2, 122N±0.1×1442E±03, h43km±23km, mb3.9/9, Error ellipse: s-maj=43.3km s-min=15.4km az=21.2*
*NEIC **21** 19:08:17.4±1.8, 1224N×14431E, h38km±19km, mb4.4/1, Error ellipse: s-maj=31.0km s-min=11.4km az=98.0*
*IDC **21** 19:08:18.6±2.2, 1224N×14428E, h48km±24km, mb3.5/8, mb1 3.7/8, mb1mx3.6/20, mbtmp3.7/8, Error ellipse: s-maj=39.5km s-min=14.9km az=100.0*

ISC 21 19:08:18.3±2.1, 122N±01×1443E±03, h45km±22km, n11, σ0.75/11, mb3.9/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.46	22	P		Pn	19 08 41.0	-1.1
GUMO	64nm,0.3s,baz=190,slow=8.4,SNR=22			S		Sn	19 09 00.8	+0.8
WRAB	194nm,0.3s,baz=163,slow=24,SNR=39 Tennant Creek	33.43	197	eP		P	19 14 52.3	-0.4
WRA	4.2nm,0.8s,mb4.4 Warramunga Arr	33.44	197	P		P	19 14 53.1	+0.3
ASAR	1.1nm,0.6s,mb4.0,baz=21,slow=9.8,SNR=20 Alice Springs	37.10	196	P		P	19 15 24.9	+0.7
SONM	1.0nm,0.7s,mb3.8,baz=20,slow=10,SNR=18 Songino Array	47.54	326	P		P	19 16 49.9	+0.8
MKAR	0.4nm,0.6s,mb3.6,baz=149,slow=8.0,SNR=5.0 Makanchi Array	62.10	317	P		P	19 18 34.8	+0.4
DDI	0.3nm,0.5s,mb3.7,baz=89,slow=8.2,SNR=9.6 Dehra Dun	63.51	298	ex		x	19 18 48.3	
ILAR	0.4nm,0.8s,mb3.4,baz=257,slow=4.4,SNR=4.5 Eielson Array	70.02	25	P		P	19 19 24.9	-0.3
BVAR	0.9nm,0.4s,mb4.1,baz=108,slow=8.2,SNR=14 Borovoye Array	70.66	322	P		P	19 19 28.8	-0.4
YKA	0.2nm,0.5s,mb3.5,baz=286,slow=5.1,SNR=4.1 Yellowknife Ar	84.31	27	P		P	19 20 45.9	+0.5
FINES	0.4nm,0.4s,mb4.1,baz=65,slow=2.9,SNR=7.5 FINESS Array B	92.16	335	P		P	19 21 21.4	-1.6

*NEIC **21** 19:15:59.8±1.3, 1900S×17576W, h175km±15km, mb4.6/10, Error ellipse: s-maj=15.5km s-min=10.1km az=124.0*
*ISCJB **21** 19:16:00.3±1.7, 190S±0.1×1757W±0.1, h197km±19km, mb4.2/14, Error ellipse: s-maj=23.7km s-min=15.9km az=80.6*
*IDC **21** 19:16:00.4±2.9, 1899S×17581W, h174km±29km, mb3.9/8, mb1 4.1/9, mb1mx3.8/17, mbtmp4.4/9, Error ellipse: s-maj=24.9km s-min=16.8km az=126.0*

ISC 21 19:16:01.1±1.7, 190S±01×1757W±01, h188km±19km, n25, σ0.79/27, mb4.4/14, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.32	37	P		Pn	19 17 32.2	0.0
AFI	4.5nm,0.3s,baz=218,slow=22,SNR=5.6			S		Sn	19 18 37.6	-6.6
AFI	23nm,0.3s,baz=74,slow=22,SNR=8.8 Afiamalu	6.32	37	ePn		Pn	19 17 31.1	-1.2
AFI				S		Sn	19 18 37.6	-6.6
DZM	Mont Dzumac	17.02	257	P		Pn	19 19 49.9	+1.8
URZ	0.8nm,0.3s,baz=80,slow=18,SNR=8.6 Urewera	20.17	197	P		P	19 20 21.2	+0.2
CTA	3.0nm,0.3s,baz=49,slow=4.5,SNR=6.0 Charters Tower	35.84	262	⇑iP		P	19 22 43.7	+1.0
CTAO	14nm,0.6s,mb4.8 Charters Tower	35.84	262	eP		P	19 22 43.5	+0.9
PMG	25nm,0.8s,mb4.9 Port Moresby	37.20	280	P		P	19 22 54.8	+0.6
PMG	12nm,0.8s,mb4.6,baz=169,slow=0.6,SNR=6.7 Port Moresby	37.20	280	eP		P	19 22 53.6	-0.6
TAU	14nm,0.9s,mb4.6 Tasmania Unive	39.20	224	eP		P	19 23 09.9	-0.9
STKA	26nm,1.3s,mb4.7 Stephens Creek	40.40	243	eP		P	19 23 19.8	-1.0
STKA	2.1nm,0.8s,mb3.8 Stephens Creek	40.40	243	P		P	19 23 19.9	-0.8
STKA	2.6nm,0.7s,mb4.0,baz=96,slow=11,SNR=8.0 Stephens Creek	40.40	243	eP		P	19 23 19.7	-1.0
WB2	Warramunga Arr	46.98	260	eP		P	19 24 12.9	-0.3
WRAB	Tennant Creek	46.98	260	eP		P	19 24 12.3	-0.9
WRA	7.7nm,0.6s,mb4.5 Warramunga Arr	46.99	260	P		P	19 24 12.9	-0.3
ASAR	4.7nm,0.4s,mb4.5,baz=97,slow=5.7,SNR=204 Alice Springs	47.00	255	P		P	19 24 13.6	+0.2
ASAR	17nm,0.8s,mb4.7,baz=90,slow=8.5,SNR=155			S		S	19 30 44.5	-5.9
KAKA	0.4nm,0.7s,baz=86,slow=15,SNR=3.6 Kakadu	50.16	269	eP		P	19 24 37.3	-0.1
FITZ	9.9nm,0.7s,mb4.5 Fitzroy Crossi	55.41	261	eP		P	19 25 16.2	+0.4
VNDA	8.3nm,1.1s,mb4.4 Vanda	59.57	186	P		P	19 25 46.2	+1.3
VNDA	1.6nm,1.1s,mb3.8,baz=11,slow=3.9,SNR=3.8 Vanda	59.57	186	P		P	19 25 44.7	-0.1
MBWA	1.1nm,0.7s,mb3.8 Marble Bar	60.32	256	eP		P	19 25 49.0	-1.0
MJAR	16nm,1.3s,mb4.7 Matsushiro Arr	70.37	322	P		P	19 26 54.7	+0.3
MAJO	4.0nm,0.8s,mb4.2,baz=160,slow=5.6,SNR=12 Matsushiro	70.37	322	eP		P	19 26 54.2	-0.2
NVAR	6.9nm,0.9s,mb4.4 Mina Array Bea	78.46	42	P		P	19 27 42.4	+1.3
BRTR	0.4nm,0.6s,mb3.2,baz=231,slow=11,SNR=4.2 Keskin Array B	147.40	316	PKPbc		PKPbc	19 35 22.6	0.0
	0.6nm,0.5s,baz=146,slow=3.7,SNR=3.7							

*ISCJB **21** 19:17:02.4±1.4, 3606N±007×745E±0.1, h33km±16km, mb3.4/4, MS3.1/1, Error ellipse: s-maj=19.3km s-min=5.3km az=115.1*
*NEIC **21** 19:17:05.6±1.2, 3599N×7441E, h47km±14km, mb3.6/3, Error ellipse: s-maj=20.8km s-min=7.2km az=63.0*
*NNC **21** 19:17:11.2±4.2, 3645N×7398E, h112km±79km, mb3.0, mpv3.6, Error ellipse: s-maj=34.1km s-min=29.7km az=31.0*
*IDC **21** 19:17:12.8±17.0, 3649N×7447E, h84km±107km, mb3.4/4, mb1 3.5/8, mb1mx3.3/24, mbtmp3.7/8, ML3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=165.3km s-min=30.3km az=10.0*

ISC 21 19:17:05.2±1.0, 3605N±006×744E±01, h43km±12km, n28, σ1.08/35, mb3.4/4, MS3.1/1, 5C, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	3.73	159	ex		x	19 18 07.0	
DLH				eS		Sn	19 18 54.0	+11
SMLA	Simla	5.42	154	eP		Pn	19 18 15.4	-8.0
SMLA				eS		Sn	19 19 32.6	+8.1
TKM2	527nm,0.4s Tokmak 2	6.92	7	⇑P		Pn	19 18 45.5	+1.4
TKM2	2.5nm,0.5s			⇑S		Sn	19 20 00.0	-1.5
KK31	6.2nm,0.7s Karatay Array	7.66	338	⇑P		Pn	19 18 53.3	-1.0
KK31	1.5nm,0.5s,baz=151,slow=11,SNR=31			⇑S		Sn	19 20 14.4	-5.3
KOLN	14nm,1.2s,baz=153,slow=23,SNR=4.6 Koldanda	11.35	134	eP		Pn	19 19 47.4	+2.7
KOLN	3.8nm,0.4s			eS		Sn	19 21 53.9	+3.7
GKN	Gorkha	11.80	130	eP		Pn	19 19 50.8	-0.1
GKN	19nm,0.6s			eS		Sn	19 22 01.0	-0.3
MKAR	Makanchi Array	12.24	26	P		Pn	19 19 58.2	+1.3
MKAR	0.1nm,0.3s,baz=208,slow=14,SNR=6.4 Makanchi Array	12.24	26	P		Pn	19 19 58.2	+1.2
KKN	Kakani	12.36	129	eP		Pn	19 19 58.0	-0.5
KKN	9.5nm,0.5s			eS		Sn	19 22 13.1	-1.7
DMN	Daman	12.38	130	eP		Pn	19 19 58.8	+0.1
PKI	12nm,0.5s Pulchoki	12.59	129	eP		Pn	19 20 01.4	-0.3
GUN	9.7nm,0.4s Gumba	12.66	127	eP		Pn	19 20 02.6	0.0
JIRN	22nm,0.7s Jiri	13.03	127	eP		Pn	19 20 07.6	-0.1
KURK	38nm,0.6s Kurchatov	14.97	10	ePn		Pn	19 20 36.3	+2.5
AB31	7.3nm,0.8s Akbulak array	16.92	326	P		Pn	19 20 55.4	-3.3
AB31	0.8nm,0.6s,baz=135,slow=11,SNR=8.6			⇑S		S	19 23 54.6	-20
BVAR	1.7nm,1.1s Borovoye Array	17.21	352	P		Pn	19 21 02.6	+0.2
BRVK	0.3nm,0.3s,baz=163,slow=10,SNR=11 Borovoye	17.25	352	eP		Pn	19 21 03.2	+0.2
ZRNK	1.9nm,0.8s Zerenda	17.32	349	eP		Pn	19 21 03.0	-0.9
AKTK	4.6nm,1.1s Aktyubinsk	18.63	326	P		Pn	19 21 19.9	+0.1
AKTO	Aktyubinsk	18.63	326	P		Pn	19 21 19.9	+0.1
ZAL	0.2nm,0.3s,baz=120,slow=16,SNR=5.1 Zalesovo	19.30	19	P		Pn	19 21 26.5	-1.3
SONM	0.4nm,0.3s,baz=264,slow=10,SNR=11 Songino Array	26.35	54	P		P	19 22 38.4	+1.3
SONM	0.5nm,0.8s,mb3.1,baz=251,slow=10.0,SNR=6.8			LR		LR	19 33 20.2	
FINES	comp=Z,51nm,18.4s,MS3.1,baz=177,slow=37 FINESS Array B	39.41	326	P		P	19 24 31.7	+0.9
YHNB	0.5nm,0.8s,mb3.3,baz=123,slow=14,SNR=3.9 Yeheng	41.72	92	P		P	19 24 49.3	-0.6
ARCES	1.2nm,0.5s,mb3.9,baz=97,slow=10,SNR=6.2 ARCESS Array B	42.63	337	P		P	19 24 56.7	-0.6
ARCES	ARCESS Array B	42.63	337	P		P	19 24 56.7	-0.6
YKA	Yellowknife Ar	81.53	4	P		P	19 29 18.3	+0.2
YKA	0.4nm,0.7s,mb3.4,baz=344,slow=5.1,SNR=6.5 Yellowknife Ar	81.53	4	P		P	19 29 18.3	+0.2

*NEIC **21** 19:41:02.0, 4010N×1995E, h5km, MD3.2(ATH), After ATH.*
*ISCJB **21** 19:41:04.8±0.8, 3994N±004×1995E±006, h10km, Error ellipse: s-maj=7.5km s-min=4.5km az=68.7*
*CSEM **21** 19:41:04.9±0.5, 4000N×1992E, h2km, MD3.2, Error ellipse: s-maj=15.3km s-min=8.2km az=109.0*
*THE **21** 19:41:04.2, 3988N×1983E, h10km*
*ATH **21** 19:41:04.7, 3989N×2006E, h3km, MD3.2/4*

ISC 21 19:41:05.6±0.8, 3993N±004×2000E±006, h10km, n13, σ1.54/20, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.27	216	ePG		Pg	19 41 10.0	-1.0
KEK				eSG		Sg	19 41 14.0	-0.6
KEK	Kerkira	0.27	216	ePb		Pg	19 41 10.0	-1.0
KEK				eSb		Sg	19 41 16.0	+1.4
TPE	Tepelena	0.37	1	iPg		Pg	19 41 10.8	-2.0
IGT	Igoumenitsa	0.47	147	ePg		Pg	19 41 13.1	-1.7
IGT				eSg		Sg	19 41 21.6	+0.6
JAN	Janina	0.71	112	ePG		Pg	19 41 17.0	-2.3
JAN				eSG		Sg	19 41 26.0	-2.6
JAN	Janina	0.71	112	eSb		Sb	19 41 29.5	-0.3
JAN	Janina	0.71	112	ePb		Pg	19 41 17.0	-2.3
JAN				eSb		Sb	19 41 29.5	-0.3
FNA	Florina	1.35	50	ePg		Pg	19 41 30.5	-1.1
FNA				eSg		Sg	19 41 52.7	+3.5

1.3nm,0.3s,baz=1.3,slow=7.9,SNR=8.0
PMG S **Sn** **20 05 40.8 +0.8**
0.1nm,0.3s,baz=291,slow=14,SNR=2.3
PMG Port Moresby 8.04 136 *e*Pn **Pn** **20 04 11.3 +0.9**
15nm,0.7s
KAKA Kakadu 12.78 224 *e*P **Pn** **20 05 14.3 -1.0**
31nm,0.6s
KAKA *e*S **Sn** **20 07 34.2 -2.1**
CTA Charters Tower 17.04 165 LR LR 20 12 50.0
comp=Z,142nm,20.0s,baz=352,slow=37
GUMO Guam 17.38 11 LR LR 20 10 59.3
comp=Z,126nm,21.6s,baz=70,slow=30
WRAB Tennant Creek 17.70 203 *e*Pn **Pn** **20 06 20.3 +0.6**
14nm,0.6s
WB2 Warramunga Arr 17.71 203 *e*P **Pn** **20 06 20.5 +0.7**
WRA Warramunga Arr 17.72 203 P **Pn** **20 06 19.8 0.0**
1.1nm,0.3s,baz=22,slow=12,SNR=40
WRA S **S** **20 09 36.3 -5.9**
0.1nm,0.3s,baz=19,slow=24,SNR=3.4
HNR Honiara 19.18 109 P **Pn** **20 06 35.4 -2.2**
20nm,0.6s
FITZ Fitzroy Crossi 21.23 226 *e*P **P** **20 07 01.0 +2.2**
8.9nm,0.7s,mb4.2
FITZ Fitzroy Crossi 21.23 226 P **P** **20 06 59.6 +0.8**
2.2nm,0.6s,mb3.6,baz=90,slow=14,SNR=4.4
FITZ S **S** **20 10 51.9 -0.7**
5.3nm,0.9s,baz=78,slow=18,SNR=2.6
FITZ LR LR 20 15 46.0
comp=Z,162nm,18.9s,MS3.4,baz=71,slow=38
AS31 Alice Springs 21.29 200 *e*P **P** **20 06 59.3 0.0**
ASAR Alice Springs 21.29 200 P **P** **20 06 59.8 +0.4**
2.1nm,0.5s,mb3.7,baz=28,slow=11,SNR=26
ASAR S **S** **20 10 56.6 +2.9**
0.6nm,0.8s,baz=21,slow=26,SNR=2.6
ASPA Alice Springs 21.29 200 *e*P **P** **20 06 59.3 -0.1**
STKA Stephens Creek 28.15 180 P **P** **20 08 05.4 +0.8**
0.5nm,0.3s,mb3.6,baz=54,slow=15,SNR=2.9
STKA LR LR 20 20 54.0
comp=Z,140nm,18.5s,MS3.6,baz=187,slow=40
DZM Mont Dzumac 30.35 129 P **P** **20 08 22.9 -1.3**
2.8nm,0.7s,mb4.1,baz=323,slow=20,SNR=4.5
ULN Ulaanbaatar 59.47 334 P **P** **20 12 15.3 +0.1**
1.4nm,0.7s,mb4.1
SONM Songino Array 59.74 333 P **P** **20 12 16.9 -0.1**
0.4nm,0.5s,mb3.7,baz=151,slow=7.4,SNR=6.3
JIRN Jiri 61.66 304 *e*P **P** **20 12 30.9 +0.8**
4.0nm,0.5s,mb4.8
GUN Gumba 62.01 304 *e*P **P** **20 12 33.4 +0.9**
KKN Kakani 62.47 304 *e*P **P** **20 12 36.0 +0.5**
8.5nm,0.7s,mb5.0
DMN Daman 62.55 304 *e*P **P** **20 12 37.3 +1.3**
9.7nm,0.6s,mb5.1
GKN Gorkha 63.07 304 *e*P **P** **20 12 39.9 +0.4**
13nm,0.6s,mb5.2
KOLN Koldanda 63.86 303 *e*P **P** **20 12 45.0 +0.3**
5.9nm,0.7s,mb4.7
MKAR Makanchi Array 72.21 322 P **P** **20 13 37.1 -0.1**
1.6nm,0.9s,mb4.0,baz=107,slow=8.1,SNR=12
VNDA Vanda 74.68 176 P **P** **20 13 51.2 -0.5**
1.2nm,0.8s,mb3.9,baz=304,slow=3.6,SNR=3.4
VNDA Vanda 74.68 176 P **P** **20 13 51.2 -0.5**
KURK Kurchatov 76.06 324 *e*P **P** **20 13 58.6 -1.0**
3.7nm,1.0s,mb4.3
MAW Mawson 82.39 202 P **P** **20 14 33.6 -0.6**
67nm,1.2s,mb5.5
ZRNK Zerenda 82.43 324 *e*P **P** **20 14 33.9 -0.4**
12nm,0.3s,mb5.3
ILAR Eielson Array 85.46 24 P **P** **20 14 46.8 -3.0**
1.5nm,0.9s,mb4.1,baz=263,slow=4.5,SNR=12
TORD Torodi Ar. Bea 139.22 286 PKP PKPdf 20 21 40.3 +1.4
0.5nm,0.7s,baz=66,slow=2.3,SNR=7.6
LPAZ La Paz 144.64 125 PKP PKPdf 20 21 48.9 +0.4
1.3nm,0.7s,baz=287,slow=6.1,SNR=7.2
LPAZ La Paz 144.64 125 PKP PKPdf 20 21 48.9 +0.3
DBIC Dimbokro 146.40 277 PKPbc PKPbc 20 21 53.7 +0.8
2.3nm,0.6s,baz=93,slow=7.2,SNR=5.9
DBIC Dimbokro 146.40 277 *e*PKPdf PKPdf 20 21 53.6 +2.0

IDC 21 20:05:23.3±2.4, 1860S×17629W, h247km±27km, mb3.5/5, mb1 3.7/6, mb1mx3.4/16, mbtmp4.1/6, Error ellipse: s-maj=34.8km s-min=16.8km az=123.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.37**	**44**	P	Pn	20 06 56.2	+0.2
	2.4nm,0.3s,baz=304,slow=7.3,SNR=2.9						
AFI				S	S	20 08 08.1	-2.0
	2.9nm,0.3s,baz=117,slow=9.0,SNR=3.1						
URZ	**Urewera**	**20.41**	**195**	P	P	20 09 41.9	+0.1
	4.7nm,0.3s,baz=297,slow=3.5,SNR=7.1						
WRA	**Warramunga Arr**	**46.49**	**260**	P	P	20 13 25.8	-0.1
	0.8nm,0.6s,baz=97,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**46.54**	**255**	P	P	20 13 26.9	+0.6
	5.0nm,0.6s,baz=90,slow=8.6,SNR=32						
ASPA	**Alice Springs**	**46.55**	**255**	*e*P	P	20 13 26.7	+0.4
MJAR	**Matsushiro Arr**	**69.67**	**322**	P	P	20 16 06.3	+0.1
	0.9nm,0.6s,baz=172,slow=7.7,SNR=5.4						
ILAR	**Eielson Array**	**86.12**	**12**	P	P	20 17 35.6	-0.8
	0.2nm,0.4s,baz=235,slow=5.6,SNR=8.3						
MKAR	**Makanchi Array**	**111.06**	**314**	PKiKP	PKiKP	20 23 25.9	-1.3
	0.1nm,0.4s,baz=129,slow=1.9,SNR=6.3						
BRTR	**Keskin Array B**	**146.69**	**316**	PKPbc	PKPbc	20 24 35.8	-0.1
	0.4nm,0.5s,baz=134,slow=3.6,SNR=4.1						
GERES	**GERESS Array B**	**148.77**	**347**	PKPbc	PKPbc	20 24 41.8	+0.4
	0.3nm,0.6s,baz=33,slow=5.8,SNR=4.6						

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*ISCJB **21** 20:34:10.5±1.1, 444N±02×1469E±02, h193km±11km, mb3.2/4, Error ellipse: s-maj=30.1km s-min=18.5km az=115.7*
*IDC **21** 20:34:12.8±5.4, 46.12N×14621E, h113km±111km, mb3.3/4, mb1 3.4/5, mb1mx3.1/21, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=176.3km s-min=35.1km az=167.0*
*JMA **21** 20:34:13.4±0.6, 4450N×14683E, h164km, M3.5*

ISC 21 20:34:11.2±1.1, 445N±02×1469E±02, h189km±11km, n15, σ0§98/20, mb3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**1.35**	**248**	P	**Pn**	**20 34 42.6**	**0.0**
JRA				*e*S	**Sn**	**20 35 05.9**	**-1.0**
NEM2	**Nemuro 2**	**1.36**	**217**	P	**Pn**	**20 34 42.6**	**0.0**
NEM2				*e*S	**Sn**	**20 35 05.4**	**-1.5**
JNK	**Nakash**	**1.77**	**241**	P	**Pn**	**20 34 47.2**	**+0.7**
JAK	**Akkeshi**	**2.14**	**228**	P	**Pn**	**20 34 51.1**	**+0.7**
JAK				*e*S	**Sn**	**20 35 20.2**	**-0.6**
JTKR	**Abashiri--Toko**	**2.18**	**258**	P	**Pn**	**20 34 50.7**	**-0.1**
JAR	**Ashorobuto**	**2.52**	**244**	P	**Pn**	**20 34 56.3**	**+1.7**
JOB	**Onbets**	**2.69**	**236**	P	**Pn**	**20 34 57.8**	**+1.3**
JOB				*e*S	**Sn**	**20 35 31.7**	**-0.2**
JKK2	**Kamakawa 2**	**3.02**	**260**	P	**Pn**	**20 35 01.0**	**+0.6**
ASAJ	**Asahikawa**	**3.08**	**265**	P	**Pn**	**20 35 01.9**	**+0.7**
	5.0nm,0.3s,baz=73,slow=13,SNR=26						
JCH	**Churui**	**3.14**	**235**	P	**Pn**	**20 35 02.9**	**+1.0**
JCH				*e*S	**Sn**	**20 35 40.3**	**-1.2**
JNBK	**Urakawa-nobuka**	**3.70**	**235**	P	**Pn**	**20 35 09.1**	**+0.3**
ILAR	**Eielson Array**	**41.04**	**37**	P	**P**	**20 41 36.2**	**+0.3**
	0.2nm,0.6s,mb2.9,baz=263,slow=5.5,SNR=4.0						
MKAR	**Makanchi Array**	**44.08**	**297**	P	**P**	**20 42 01.0**	**+0.6**
	0.2nm,0.6s,mb3.0,baz=84,slow=9.2,SNR=3.8						
FINES	**FINESS Array B**	**64.15**	**333**	P	**P**	**20 44 23.0**	**-2.4**
	0.9nm,1.0s,mb3.5,baz=35,slow=7.0,SNR=4.2						
HFS	**Hagfors**	**68.96**	**337**	P	**P**	**20 44 54.3**	**-1.5**
	4.2nm,1.1s,mb4.1,baz=16,slow=6.2,SNR=5.8						

GUC 21 20:55:18.6±0.8, 3120S×6859W, h150km, ML3.6, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.06**	**270**	*i* S	Sn	20 56 22.8	+0.8
CMCH				AMP		20 56 23.5	
	comp=N,593nm,0.5s						
FCH	**Farellones**	**2.56**	**214**	*e*P	Pn	20 56 02.0	+1.6
FCH				*i* S	Sn	20 56 34.9	+2.2
FCH				AMP		20 56 38.2	
	comp=E,76nm,0.2s						
PEL	**Peldehue**	**2.63**	**222**	*i* P	Pn	20 56 02.3	+1.1
PEL				*i* S	Sn	20 56 34.7	+0.5
PEL				AMP		20 56 38.1	
	comp=E,157nm,0.3s						
RCDM	**Rinconada Maip**	**2.95**	**219**	*e*P	Pn	20 56 05.8	+0.4
RCDM				*i* S	Sn	20 56 42.1	+0.7
RCDM				AMP		20 56 44.2	
	comp=E,149nm,0.3s						
TACH	**Talagante**	**3.15**	**218**	⇑*i* P	Pn	20 56 08.1	+0.3
TACH				*i* S	Sn	20 56 46.2	+0.4

IDC 21 20:58:34.7±0.8, 681N×7298W, h158km±11km, mb3.0/1, mb1 3.4/3, mb1mx3.1/21, mbtmp3.6/3, Error ellipse: s-maj=52.9km s-min=7.6km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.36**	**215**	P	Pn	20 59 16.5	+2.1
	25nm,0.3s,baz=84,slow=21,SNR=18						
ROSC				S	Sn	20 59 46.1	+1.0
	28nm,0.3s,baz=98,slow=20,SNR=12						
SDV	**Santo Domingo**	**3.11**	**48**	P	Pn	20 59 25.5	+1.8
	9.1nm,0.3s,baz=232,slow=2.7,SNR=50						
SDV				S	Sn	21 00 02.0	+0.3
	18nm,0.3s,baz=241,slow=21,SNR=24						
YKA	**Yellowknife Ar**	**63.32**	**340**	P	P	21 08 46.8	0.0
	0.3nm,0.6s,baz=132,slow=6.8,SNR=7.2						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	PKPbc	21 18 04.6	+0.1
	0.4nm,0.5s,baz=118,slow=3.8,SNR=6.7						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	PKPbc	21 18 08.2	+0.7
	0.5nm,0.4s,baz=109,slow=2.6,SNR=29						

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*ISCJB **21** 21:12:58.1±1.1, 201S±02×1777W±02, h531km±19km, mb3.6/6, Error ellipse: s-maj=32.6km s-min=14.1km az=90.8*
*NEIC **21** 21:12:59.3±1.1, 2021S×17755W, h542km±13km, Error ellipse: s-maj=26.8km s-min=12.4km az=143.0*
*IDC **21** 21:13:00.0±1.8, 2022S×17762W, h544km±23km, mb3.1/6, mb1 3.4/9, mb1mx3.3/16, mbtmp4.1/9, Error ellipse: s-maj=32.8km s-min=14.4km az=143.0*

ISC 21 21:12:59.1±1.1, 201S±02×1776W±02, h536km±16km, n16, σ1§00/15, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.30**	**43**	P	**P**	**21 15 00.1**	**+0.6**
	3.9nm,0.3s,baz=226,slow=23,SNR=6.4						
AFI				S	**S**	**21 16 35.7**	**-2.5**
	4.0nm,0.3s,baz=117,slow=18,SNR=3.4						
DZM	**Mont Dzumac**	**15.05**	**260**	P	**P**	**21 16 10.2**	**+1.0**
	0.3nm,0.3s,baz=112,slow=19,SNR=4.1						
URZ	**Urewera**	**18.64**	**193**	P	**P**	**21 16 43.0**	**-0.5**
	1.8nm,0.3s,baz=337,slow=2.3,SNR=7.7						
STKA	**Stephens Creek**	**38.31**	**244**	P	**P**	**21 19 33.2**	**-0.6**
	2.1nm,0.4s,mb4.0,baz=90,slow=9.5,SNR=9.3						
STKA	**Stephens Creek**	**38.31**	**244**	*e*P	**P**	**21 19 32.8**	**-1.1**
ASAR	**Alice Springs**	**45.00**	**256**	P	**P**	**21 20 27.4**	**+0.7**
	1.1nm,0.6s,mb3.6,baz=99,slow=7.3,SNR=12						
ASAR				S	**S**	**21 26 24.6**	**-1.5**
	0.5nm,0.6s,baz=103,slow=14,SNR=4.7						
WB2	**Warramunga Arr**	**45.04**	**262**	*e*P	**P**	**21 20 27.1**	**+0.1**
WRAB	**Tennant Creek**	**45.05**	**262**	*e*P	**P**	**21 20 26.8**	**-0.2**
WRA	**Warramunga Arr**	**45.06**	**262**	P	**P**	**21 20 27.5**	**+0.4**
	0.7nm,0.3s,mb3.7,baz=98,slow=7.0,SNR=48						
WRA				S	**S**	**21 26 23.7**	**-3.1**
	0.5nm,0.9s,baz=88,slow=14,SNR=3.1						
MJAR	**Matsushiro Arr**	**70.16**	**323**	P	**P**	**21 23 18.2**	**+0.4**
	1.2nm,0.5s,mb3.7,baz=147,slow=5.5,SNR=5.3						
ILAR	**Eielson Array**	**87.87**	**13**	P	**P**	**21 24 51.2**	**-0.4**
	0.4nm,0.6s,mb3.3,baz=222,slow=5.3,SNR=7.4						
PDAR	**Pinedale Array**	**88.42**	**43**	P	**P**	**21 24 55.6**	**+1.5**
	0.4nm,0.7s,mb3.3,baz=202,slow=1.6,SNR=3.6						
AKASG	**Malin Array Be**	**142.89**	**332**	PKP	PKPdf	21 31 28.8	-2.9
	1.0nm,0.3s,baz=44,slow=4.3,SNR=8.3						
AKASG	**Malin Array Be**	**142.89**	**332**	PKP	PKPdf	21 31 28.8	-2.9
BRTR	**Keskin Array B**	**146.89**	**313**	PKPbc	PKPbc	21 31 42.0	+0.7
	0.6nm,0.6s,baz=132,slow=6.2,SNR=4.0						
GERES	**GERESS Array B**	**149.96**	**345**	PKPbc	PKPbc	21 31 49.6	+0.6
	0.7nm,0.7s,baz=25,slow=3.5,SNR=6.2						

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*CSEM **21** 21:28:28.8±0.1, 3692N×2781E, h20km, MD3.3, Error ellipse: s-maj=3.1km s-min=2.0km az=113.0*
*ISCJB **21** 21:28:29.4±0.5, 3687N±002×2781E±004, h11km±4km, Error ellipse: s-maj=4.9km s-min=3.7km az=15.3*
*ISK **21** 21:28:29.3, 3692N×2782E, h12km, MD3.3*
*ATH **21** 21:28:31.0, 3689N×2772E, h31km±3km, MD3.4/7*
*NEIC **21** 21:28:31.1, 3686N×2775E, h29km, MD3.4(ATH), After ATH.*
*HLW **21** 21:28:35.4, 3664N×2809E, h33km, Mb2.9*

ISC 21 21:28:30.2±0.5, 3690N±002×2781E±004, h12km±4km, n35, σ1§10/52, 2C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.26**	**228**	PG	**Pg**	**21 28 35.1**	**-0.5**
DAT				SG	**Sg**	**21 28 39.8**	**+0.7**
MLSB	**Milas**	**0.39**	**356**	PG	**Pg**	**21 28 37.0**	**-1.1**
MLSB				SG	**Sg**	**21 28 43.3**	**0.0**
BODT	**Bodrum**	**0.43**	**292**	PG	**Pg**	**21 28 38.0**	**-0.8**
BODT				SG	**Sg**	**21 28 45.2**	**+0.6**
YER	**Yerkesik**	**0.44**	**58**	PG	**Pg**	**21 28 38.5**	**-0.5**
NISR	**Nisiros**	**0.62**	**242**	*e*PN	**Pg**	**21 28 42.0**	**-0.3**
NISR				*e*SN	**Sg**	**21 28 52.0**	**+1.5**
NISR	**Nisiros**	**0.62**	**242**	*e*Pn	**Pg**	**21 28 42.0**	**-0.3**
NISR				*e*Sn	**Sg**	**21 28 52.5**	**+2.0**
ARG	**Arkhangelos**	**0.73**	**160**	*e*PN	**Pn**	**21 28 45.0**	**-1.4**
ARG				*e*SN	**Sg**	**21 28 58.0**	**+4.1**
ARG	**Arkhangelos**	**0.73**	**160**	*e*Pb	**Pb**	**21 28 44.0**	**-0.9**
ARG				*e*Sn	**Sg**	**21 28 57.0**	**+3.1**
AYDN	**Tasoluk**	**0.76**	**4**	*i* P	**Pg**	**21 28 44.2**	**-0.7**
AYDN				*i* S	**Sg**	**21 28 55.1**	**+0.2**
SMG	**Samos**	**1.12**	**316**	*e*PB	**Pb**	**21 28 50.5**	**-1.0**
SMG				*e*SN	**Sn**	**21 29 07.0**	**-0.1**
SMG	**Samos**	**1.12**	**316**	*e*Pn	**Pn**	**21 28 50.3**	**-1.5**
SMG				*e*Sn	**Sn**	**21 29 09.5**	**+2.4**
DENT	**Denizli**	**1.29**	**48**	PN	**Pn**	**21 28 53.8**	**-0.3**
GOLH	**Golhisar**	**1.44**	**76**	*i* P	**Pn**	**21 28 57.9**	**+1.8**
GOLH				*i* S	**Sn**	**21 29 19.1**	**+4.2**
KARP	**Karpathos**	**1.45**	**201**	*e*PB	**Pb**	**21 28 55.6**	**-1.6**
KARP				*e*SN	**Sn**	**21 29 15.0**	**-0.3**
IZM	**Izmir**	**1.56**	**344**	PN	**Pn**	**21 28 57.2**	**-0.5**
KDAG	**Bornova**	**1.56**	**344**	*i* P	**Pn**	**21 28 56.4**	**-1.4**
KDAG				*i* S	**Sn**	**21 29 21.9**	**+4.0**
KSL	**Kastellorizon**	**1.61**	**117**	*e*PN	**Pn**	**21 29 00.5**	**+2.0**
ELL	**Elmali**	**1.69**	**95**	*e*PN	**Pn**	**21 29 00.0**	**+0.4**
MANT	**Manisa**	**1.69**	**20**	*i* P	**Pn**	**21 28 59.0**	**-0.7**
MANT				*i* S	**Sn**	**21 29 25.4**	**+4.2**
URLA	**Izmir**	**1.75**	**327**	*i* P	**Pn**	**21 29 02.3**	**+2.0**
URLA				*i* S	**Sn**	**21 29 26.6**	**+4.0**
APE	**Apeiranthos**	**1.83**	**276**	*e*PB	**Pn**	**21 29 01.0**	**-0.6**
APE	**Apeiranthos**	**1.83**	**276**	*e*Pn	**Pn**	**21 29 00.5**	**-1.1**
TKTP	**Tekketepe**	**2.29**	**60**	*i* P	**Pg**	**21 29 15.8**	**+1.5**
NPS	**Neapolis**	**2.42**	**228**	*e*PN	**Pn**	**21 29 10.0**	**+0.4**
NPS	**Neapolis**	**2.42**	**228**	*e*Pb	**Pn**	**21 29 10.5**	**+0.9**
ULDT	**Uludag**	**3.40**	**17**	*i* P	**Pb**	**21 29 31.5**	**+1.1**
SLUM		**5.81**	**203**	⇓P	**Pn**	**21 29 57.4**	**+1.2**
SLUM				S	**Sn**	**21 30 57.6**	**-5.2**
HMAT	**Matruh**	**5.82**	**186**	⇑P	**Pn**	**21 29 56.7**	**+0.3**
HMAT				S	**Sn**	**21 30 55.6**	**-7.5**
HMAT	**Matruh**	**5.82**	**186**	P	**Pn**	**21 29 56.7**	**+0.3**
	172nm,0.3s						
AMAG	**Maghara**	**7.69**	**143**	⇓P	**Pn**	**21 30 21.1**	**-1.0**
AMAG	**Maghara**	**7.69**	**143**	P	**Pn**	**21 30 21.0**	**-1.0**
SWA2		**7.89**	**195**	⇓P	**Pn**	**21 30 25.5**	**+0.7**
GLL	**Jalalah**	**8.00**	**155**	⇓P	**Pn**	**21 30 25.6**	**-0.7**
HNKL	**Nakhl**	**8.65**	**142**	P	**Pn**	**21 30 34.5**	**-0.8**
HFRF	**Wahat Farafira**	**9.73**	**177**	⇑P	**Pn**	**21 30 50.2**	**+0.2**

IDC 21 21:30:03.8±31.0, 2037S×17834W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=594.0km s-min=147.9km az=88.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.56**	**244**	P	P	21 37 18.7	-1.0
	0.7nm,0.4s,baz=80,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**44.24**	**257**	P	P	21 38 15.6	+0.8
	1.2nm,0.5s,baz=98,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**44.30**	**262**	P	P	21 38 16.2	+0.9
	0.7nm,0.3s,baz=96,slow=7.6,SNR=39						
FITZ	**Fitzroy Crossi**	**52.73**	**262**	*e*P	P	21 39 20.5	+0.3
	8.8nm,1.5s						
FITZ	**Fitzroy Crossi**	**52.73**	**262**	P	P	21 39 20.3	+0.1
	1.5nm,0.9s,baz=94,slow=17,SNR=4.9						

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*NEIC **21** 21:31:27.9±3.8, 1749S×17840W, h593km±40km, mb4.3/5, Error ellipse: s-maj=52.3km s-min=21.4km az=141.0*
*ISCJB **21** 21:31:29.0±2.5, 176S±04×1784W±03, h624km±32km, mb4.0/11, Error ellipse: s-maj=69.1km s-min=19.1km az=113.8*
*IDC **21** 21:31:28.8±3.0, 1765S×17835W, h605km±36km, mb3.3/6, mb1 3.5/7, mb1mx3.3/16, mbtmp4.3/7, Error ellipse: s-maj=80.5km s-min=16.3km az=149.0*

ISC 21 21:31:28.7±3.1, 175S±04×1784W±03, h603km±41km, n26, σ0§62/18, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.02**	**250**	P	**P**	**21 34 36.2**	**-0.6**
	0.5nm,0.3s,baz=130,slow=16,SNR=5.1						
CNB	**Canberra Magne**	**33.73**	**232**	*e*P	**P**	**21 37 22.2**	**+0.5**
	4.5nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**38.88**	**241**	*e*P	**P**	**21 38 02.5**	**-1.4**
	4.4nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**38.88**	**241**	P	**P**	**21 38 02.7**	**-1.1**
	3.0nm,0.4s,mb4.1,baz=94,slow=8.9,SNR=10.0						
STKA	**Stephens Creek**	**38.88**	**241**	*e*P	**P**	**21 38 02.4**	**-1.5**
WB2	**Warramunga Arr**	**44.75**	**259**	*e*P	**P**	**21 38 50.0**	**+0.2**
WRAB	**Tennant Creek**	**44.75**	**259**	*e*P	**P**	**21 38 49.8**	**0.0**
	3.5nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**44.76**	**259**	P	**P**	**21 38 50.4**	**+0.5**
	1.4nm,0.4s,mb3.8,baz=94,slow=7.5,SNR=33						
AS31	**Alice Springs**	**44.96**	**254**	*e*P	**P**	**21 38 52.1**	**+0.7**
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**21 38 52.0**	**+0.6**
	7.6nm,0.5s,mb4.5,baz=87,slow=8.5,SNR=84						
ASAR				PcP	PcP	21 40 19.7	+0.4
	0.9nm,0.5s,baz=98,slow=4.4,SNR=5.9						
ASAR				S	**S**	**21 44 46.7**	**-0.2**
	0.6nm,0.8s,baz=89,slow=15,SNR=5.1						
ASPA	**Alice Springs**	**44.96**	**254**	*e*P	**P**	**21 38 52.1**	**+0.7**
FORT	**Forrest**	**50.24**	**244**	*e*P	**P**	**21 39 30.2**	**-0.5**
	8.8nm,0.6s,mb4.4						
MBWA	**Marble Bar**	**58.23**	**256**	*e*P	**P**	**21 40 26.5**	**-0.1**
	2.8nm,0.6s,mb3.6						
KLBR	**Kellerberrin**	**59.06**	**243**	*e*P	**P**	**21 40 31.8**	**-0.4**
	38nm,1.5s,mb4.3						
ILAR	**Eielson Array**	**85.46**	**13**	P	**P**	**21 43 03.4**	**-0.4**
	0.6nm,0.4s,mb3.6,baz=218,slow=5.1,SNR=22						
PDAR	**Pinedale Array**	**87.01**	**43**	P	**P**	**21 43 12.0**	**+0.9**
	0.5nm,0.7s,mb3.4,baz=213,slow=3.4,SNR=4.6						
INK	**Inuvik**	**91.46**	**15**	P	**P**	**21 43 30.9**	**-0.8**
	0.4nm,0.4s,mb3.7,baz=189,slow=4.4,SNR=3.5						
MKAR	**Makanchi Array**	**108.87**	**314**	PKiKP	PKiKP	21 48 49.4	-1.1
	0.2nm,0.5s,baz=174,slow=1.3,SNR=5.7						
ARCES	**ARCESS Array B**	**125.91**	**350**	PKP	PKPdf	21 49 22.1	-0.9
	7.0nm,1.0s,baz=56,slow=9.0,SNR=3.6						
BRTR	**Keskin Array B**	**144.52**	**315**	PKP	PKPdf	21 49 58.8	+1.4
	1.1nm,0.5s,baz=129,slow=4.4,SNR=8.2						
CLL	**Collm**	**145.06**	**348**	*e*(P)	PKPdf	21 50 00.0	+1.7
	comp=Z,7.0nm,1.0s						
UPC	**Upice**	**145.09**	**344**	*e*PKP	PKPdf	21 50 00.4	+2.1
DPC	**Dobruska-Polom**	**145.16**	**343**	*e*PKP	PKPdf	21 50 00.8	+2.4
PRU	**Pruhonice**	**145.95**	**345**	*e*PKP	PKPdf	21 50 02.7	+2.9
KHC	**Kasperske Hory**	**146.98**	**346**	*e*PKP	PKPdf	21 50 05.3	+3.8
GERES	**GERESS Array B**	**147.21**	**345**	PKPbc	PKPbc	21 50 05.9	+0.7
	comp=Z,1.4nm,0.5s,baz=22,slow=3.1,SNR=22						

NEIC 21 21:41:42.2, 3781N×12207W, h13km, MW3.7(BRK), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**1.16**	**154**	*e*Pg	Pg	21 42 02.7	-1.8
SAO				*e*Sg	Sg	21 42 18.6	-1.0
CMB	**Columbia Colle**	**1.35**	**80**	*e*Pn	Pn	21 42 05.4	-1.4
CMB				*e*Sn	Sn	21 42 23.1	-1.5
HOPS	**Hopland**	**1.42**	**327**	*e*Pn	Pn	21 42 06.9	-0.8
OHCM	**Honcut**	**1.59**	**17**	*e*Pn	Pn	21 42 07.9	-2.3
KCPM	**Cahto Peak**	**2.21**	**328**	*e*Pn	Pn	21 42 19.9	+1.2
KIPM	**Iron Peak**	**2.28**	**332**	*e*Pn	Pn	21 42 20.8	+1.2
PTRM	**Twissleman Ran**	**2.62**	**145**	Pn	Pn	21 42 22.1	-2.1
WDC	**Whiskeytown Da**	**2.79**	**353**	*e*Pn	Pn	21 42 21.8	-4.8
MTUM	**Tungsten Hills**	**2.82**	**98**	*e*Pn	Pn	21 42 28.0	+0.9
MNV	**Mina**	**3.15**	**77**	*e*Pn	Pn	21 42 31.9	+0.3
DAC	**Darwin (Calif)**	**3.90**	**112**	*e*Pn	Pn	21 42 42.5	+0.7
MOD	**Modoc**	**4.31**	**18**	P	Pn	21 42 48.5	+1.0
TPNV	**Topopah Spring**	**4.72**	**99**	*e*Pn	Pn	21 42 52.4	-0.7
TPNV				*e*Pg	Pg	21 43 01.9	-11
ARUT	**Antelope Range**	**6.84**	**88**	Pn	Pn	21 43 30.2	+8.0
MVU	**Marysvale**	**7.80**	**82**	P	Pn	21 43 45.0	+10
	5.1nm,0.9s						
MSU	**Marysvale**	**7.83**	**82**	*e*Pn	Pn	21 43 38.5	+2.7
HWUT	**Hardware Ranch**	**8.94**	**62**	*e*P	Pn	21 43 54.3	+3.2

**WEL 21 21:44:21.7±0.3, 3814S×17894E, h12km, ML3.5/8, Error ellipse: s-maj=2.9km

IRIF	**Iriomote-Funau**	**0.27**	**136**	P	**Pn**	**22 15 01.5**	**-0.4**
IRIF				S	**Sn**	**22 15 09.2**	**-0.6**
YOJ	**Yonaguni jima**	**0.47**	**262**	P	**Pn**	**22 15 03.6**	**+0.1**
YOJ				S	**Sn**	**22 15 12.3**	**-0.3**
JKRS	**Kuro-shima**	**0.53**	**123**	P	**Pn**	**22 15 04.2**	**+0.1**
JKRS				S	**Sn**	**22 15 13.5**	**0.0**
HATJ	**Hateruma jima**	**0.54**	**152**	P	**Pn**	**22 15 04.1**	**0.0**
HATJ				S	**Sn**	**22 15 13.4**	**-0.2**
JIJ	**Ishigaki jima**	**0.59**	**106**	P	**Pn**	**22 15 04.5**	**-0.2**
JIJ				S	**Sn**	**22 15 13.9**	**-0.7**
JTJ	**Tarama**	**1.08**	**84**	P	**Pn**	**22 15 10.9**	**+0.4**
JTJ				*e*S	**Sn**	**22 15 25.0**	**+0.1**
JMJ	**Miyako jima 2**	**1.63**	**80**	P	**Pn**	**22 15 18.5**	**+0.7**
JMJ				*e*S	**Sn**	**22 15 38.3**	**+0.4**
JOGS	**Gusukube**	**1.73**	**82**	P	**Pn**	**22 15 20.1**	**+1.1**
NACB	**Ninganchiao**	**1.80**	**259**	*e*Pn	**Pn**	**22 15 19.6**	**-0.3**
TATO	**Taipei**	**1.91**	**284**	*e*Pn	**Pn**	**22 15 22.5**	**+1.0**
YHNB	**Yeheng**	**1.96**	**275**	*e*Pn	**Pn**	**22 15 23.2**	**+1.0**
YHNB				*e*Sn	**Sn**	**22 15 50.0**	**+4.1**
JKE	**Kume jima 2**	**3.45**	**58**	P	**Pn**	**22 15 43.0**	**+0.6**
JAGN	**Aguni-jima**	**3.93**	**58**	P	**Pn**	**22 15 49.9**	**+0.9**
JIH	**Iheya**	**4.72**	**57**	P	**Pn**	**22 15 59.8**	**+0.1**
JOW	**Kunigami**	**4.86**	**61**	P	**Pn**	**22 16 01.2**	**-0.4**
	5.8nm,0.3s,baz=165,slow=13,SNR=28						
JOW				S	**Sn**	**22 16 56.0**	**-0.6**
	4.9nm,0.3s,baz=139,slow=20,SNR=2.1						
JOW				LR	LR	22 18 04.7	
	comp=Z,109nm,20.0s,baz=309,slow=40						
JOW	**Kunigami**	**4.86**	**61**	P	**Pn**	**22 16 00.4**	**-1.3**
JOW				*e*S	**Sn**	**22 16 57.1**	**+0.5**
JAM	**Amami Oshima**	**6.68**	**53**	P	**Pn**	**22 16 25.5**	**-1.1**
ULN	**Ulaanbaatar**	**26.70**	**335**	P	**P**	**22 20 22.4**	**-1.5**
SONM	**Songino Array**	**26.94**	**334**	P	**P**	**22 20 27.6**	**+1.6**
	0.3nm,0.6s,mb3.0,baz=155,slow=7.9,SNR=3.6						
SONM				LR	LR	22 33 12.7	
	comp=Z,55nm,18.5s,baz=306,slow=41						
MKAR	**Makanchi Array**	**39.59**	**315**	P	**P**	**22 22 15.6**	**-0.2**
	0.7nm,0.5s,mb3.7,baz=101,slow=10,SNR=16						
MKAR				PcP	PcP	22 24 21.5	-0.3
	0.2nm,0.6s,baz=125,slow=3.6,SNR=2.3						
KURK	**Kurchatov**	**43.22**	**319**	*e*P	**P**	**22 22 44.9**	**-0.6**
	0.6nm,0.5s,mb3.6						
WRAB	**Tennant Creek**	**45.43**	**166**	*e*P	**P**	**22 23 03.7**	**+0.5**
	12nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**45.44**	**166**	P	**P**	**22 23 03.6**	**+0.4**
	7.1nm,0.7s,mb4.5,baz=348,slow=8.6,SNR=25						
WB2	**Warramunga Arr**	**45.44**	**166**	*e*P	**P**	**22 23 03.5**	**+0.3**
MBWA	**Marble Bar**	**45.56**	**185**	*e*P	**P**	**22 23 04.0**	**-0.2**
	1.6nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**48.77**	**320**	P	**P**	**22 23 28.8**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=84,slow=8.0,SNR=3.6						
AS31	**Alice Springs**	**48.95**	**167**	*e*P	**P**	**22 23 31.5**	**+1.0**
ASAR	**Alice Springs**	**48.95**	**167**	P	**P**	**22 23 31.1**	**+0.6**
	2.1nm,0.6s,mb4.3,baz=350,slow=7.0,SNR=22						
ASPA	**Alice Springs**	**48.95**	**167**	*e*P	**P**	**22 23 31.5**	**+1.0**
ZRNK	**Zerenda**	**49.57**	**320**	*e*P	**P**	**22 23 34.6**	**-0.6**
	0.8nm,0.5s,mb3.9						
NWAO	**Narrogin (SRO)**	**57.45**	**186**	*e*P	**P**	**22 24 32.6**	**-0.3**
STKA	**Stephens Creek**	**58.69**	**162**	P	**P**	**22 24 39.9**	**-1.7**
	1.6nm,0.6s,mb4.3,baz=349,slow=4.5,SNR=7.7						
STKA	**Stephens Creek**	**58.69**	**162**	*e*P	**P**	**22 24 39.9**	**-1.7**
TAU	**Tasmania Unive**	**70.60**	**162**	P	**P**	**22 25 57.9**	**-1.2**
YKA	**Yellowknife Ar**	**81.81**	**23**	P	**P**	**22 27 01.9**	**-0.8**
	0.7nm,0.6s,mb3.7,baz=306,slow=5.1,SNR=14						
YKA	**Yellowknife Ar**	**81.81**	**23**	P	**P**	**22 27 01.9**	**-0.8**

*ATH **21** 23:00:11.4,3942N×2423E,h8km±4km,MD3.2/14,ML3.2*
*NEIC **21** 23:00:11.4,3942N×2423E,h14km,ML3.2(ATH),After ATH.*
*THE **21** 23:00:11.4,3942N×2426E,h5km,ML2.4*
*ISCJB **21** 23:00:12.1±0.6,3946N±004×2425E±005,h17km±9km, Error ellipse: s-maj=6.5km s-min=5.7km az=54.5*
*CSEM **21** 23:00:12.6±0.1,3945N×2424E,h20km,ML2.4,Error ellipse: s-maj=2.8km s-min=1.9km az=135.0*
ISC 21 23:00:10.5±0.7,3944N±003×2426E±005,h1km±8km,n27, σ0:99/29,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.66**	**318**	*e*Pg	**Pg**	**23 00 24.6**	**+1.3**
NEO	**Neokhori**	**0.81**	**261**	*e*PB	**Pb**	**23 00 27.4**	**0.0**
NEO				*e*SB	**Sb**	**23 00 38.4**	**-0.5**
XOR	**Xorichti**	**0.83**	**265**	*e*Pg	**Pg**	**23 00 27.7**	**+1.2**
XOR				*e*Sg	**Sg**	**23 00 38.5**	**+1.3**
LIA	**Limnos Island**	**0.85**	**57**	*e*PB	**Pb**	**23 00 28.1**	**+0.1**
OUR	**Ouranopolis**	**0.92**	**347**	*e*Pg	**Pg**	**23 00 28.8**	**+0.6**
PLG	**Polygyros**	**1.13**	**326**	*e*PB	**Pb**	**23 00 32.0**	**-0.7**
LKR	**Lokris**	**1.26**	**232**	*e*PB	**Pb**	**23 00 34.5**	**-0.5**
MPAR	**Parnis Oros**	**1.35**	**198**	*e*PG	**Pg**	**23 00 36.0**	**-0.3**
PTL	**Penteli**	**1.42**	**193**	*e*PB	**Pb**	**23 00 37.0**	**-0.7**
ATH	**Athens Observa**	**1.52**	**196**	*e*PB	**Pb**	**23 00 40.2**	**+0.7**
ATH	**Athens Observa**	**1.52**	**196**	*e*Pb	**Pb**	**23 00 41.2**	**+1.7**
SOH	**Sokhos**	**1.55**	**334**	*e*Pg	**Pg**	**23 00 38.5**	**-1.7**
AGG	**Agios Georgios**	**1.56**	**255**	*e*Pg	**Pg**	**23 00 38.8**	**-1.6**
PRK	**Paraskevi**	**1.57**	**96**	*e*PB	**Pb**	**23 00 41.5**	**+1.2**
MGER	**Gerania Oros**	**1.65**	**209**	*e*PN	**Pn**	**23 00 40.0**	**-0.5**
KVR	**Kavouri**	**1.65**	**194**	*e*PB	**Pb**	**23 00 42.0**	**+0.3**
SRS	**Serrai**	**1.75**	**343**	*e*Pb	**Pb**	**23 00 41.2**	**-2.3**
NAIG	**Nisos Aigina**	**1.78**	**200**	*e*PG	**Pg**	**23 00 43.5**	**-1.2**
RDO	**Rodhopi**	**1.97**	**29**	*e*PG	**Pg**	**23 00 48.5**	**+0.3**
EVR	**Evrytania**	**1.98**	**256**	*e*PN	**Pn**	**23 00 46.0**	**+1.0**
ALN	**Alexandroupoli**	**2.00**	**43**	*e*Pn	**Pn**	**23 00 44.9**	**-0.5**
ALN	**Alexandroupoli**	**2.00**	**43**	*e*Pn	**Pn**	**23 00 44.8**	**-0.5**
KNT	**Kendrikon**	**2.01**	**329**	*e*Pn	**Pn**	**23 00 45.9**	**+0.4**
GRG	**Griva**	**2.08**	**317**	*e*Pn	**Pn**	**23 00 47.3**	**+0.8**
APE	**Apeiranthos**	**2.57**	**157**	*e*PN	**Pn**	**23 00 56.0**	**+2.8**
APE	**Apeiranthos**	**2.57**	**157**	*e*Pn	**Pn**	**23 00 52.7**	**-0.5**
APE	**Apeiranthos**	**2.57**	**157**	*e*Pn	**Pn**	**23 00 53.0**	**-0.2**

*STR **21** 23:02:41.9±0.5,4167N×235E,h5km±1km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 23:02:42.5±0.1,4167N×237E,h8km,Md3.2/1,Ml2.9/18, Error ellipse: s-maj=1.4km s-min=0.9km az=147.0*
*NEIC **21** 23:02:42.7,4164N×239E,h3km,ML2.4(MRB), ML2.6(STR),ML2.9(LDG),MN2.7(MDD),After MDD.*
NEIC Felt [II] at Llinas.
*CSEM **21** 23:02:43.1±0.1,4170N×238E,h10km,ML2.9/20,Error ellipse: s-maj=1.6km s-min=1.0km az=128.0*
MDD 21 23:02:42.7±0.4,4166N×239E,h6km±2km,mbLg2.6/25, 2C-1D,Error ellipse: s-maj=3.8km s-min=2.2km az=131.0,PRXIMO I CARDEDEU,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.11**	**17**	Pg	Pg	23 02 45.2	+0.2
CFON				Lg		23 02 47.1	
	160nm,0.1s						
CFON	**Fontmartina**	**0.11**	**17**	Pg	Pg	23 02 45.2	+0.2
CFON				Sg	Sg	23 02 47.1	+0.6
CBRU	**Bruguera**	**0.65**	**346**	Pg	Pg	23 02 54.5	-0.6
CBRU				Lg		23 03 03.6	
	26nm,0.1s						
CBRU	**Bruguera**	**0.65**	**346**	Pg	Pg	23 02 54.5	-0.6
CBRU				Sg	Sg	23 03 03.7	+0.2
EMIR	**Miracle**	**0.70**	**292**	⇑Pg	Pg	23 02 55.6	-0.6
	37nm,0.1s,SNR=18						
EMIR				Lg		23 03 04.7	
	216nm,0.1s,SNR=5.0						
EMIR	**Miracle**	**0.70**	**292**	Pg	Pg	23 02 55.6	-0.5
	37nm,0.1s,SNR=18						
VALF	**Valcebollere**	**0.79**	**339**	Pg	Pg	23 02 57.1	-0.8
VALF				Sg	Sg	23 03 08.1	-0.1
EJON	**La Jonquera**	**0.87**	**25**	⇓Pg	Pg	23 02 58.9	-0.5
	22nm,0.1s,SNR=18						
EJON				Lg		23 03 10.5	
	195nm,0.2s,SNR=74						
EJON	**La Jonquera**	**0.87**	**25**	Pg	Pg	23 02 58.9	-0.5
	22nm,0.1s,SNR=18						
CLLI	**Llivia**	**0.88**	**339**	Pg	Pg	23 02 58.6	-0.9
CLLI				Lg		23 03 10.3	
	32nm,0.1s						
CLLI	**Llivia**	**0.88**	**339**	Pg	Pg	23 02 58.6	-0.9
CLLI				Sg	Sg	23 03 10.3	-0.6
SJAF	**Saint Jean de**	**0.90**	**24**	Pg	Pg	23 02 59.3	-0.7
SJAF				Sg	Sg	23 03 11.3	-0.4
FILF	**Fillols**	**0.91**	**8**	P	Pg	23 02 59.3	-0.9
FILF				S	Sg	23 03 11.1	-0.9
CORG	**Organya**	**0.98**	**306**	Pg	Pg	23 02 59.6	-2.0
CORG				Lg		23 03 12.8	
	16nm,0.1s						
CORG	**Organya**	**0.98**	**306**	Pg	Pg	23 02 59.7	-1.9
CORG				Sg	Sg	23 03 12.9	-1.5
CGAR	**Garraf**	**1.01**	**249**	Pg	Pg	23 02 52.2	-10
CGAR				Lg		23 02 59.0	
	33nm,0.1s						
CGAR	**Garraf**	**1.01**	**249**	Pg	Pg	23 02 52.3	-10
CGAR				Sg	Sg	23 02 59.0	-16
EPOB	**Poblet**	**1.03**	**253**	⇑Pg	Pg	23 03 01.6	-0.9
	22nm,0.1s,SNR=18						
EPOB				Lg		23 03 14.8	
	84nm,0.1s,SNR=26						
EPOB	**Poblet**	**1.03**	**253**	Pg	Pg	23 03 01.6	-1.0
	22nm,0.1s,SNR=18						
CARF	**Carcanieres**	**1.08**	**349**	P	Pg	23 03 02.6	-0.7
CARF				S	Sg	23 03 16.4	-1.0
CSOR	**Sort**	**1.18**	**308**	Pg	Pg	23 03 04.4	-1.0
CSOR				Lg		23 03 20.2	
	50nm,0.1s						
CSOR	**Sort**	**1.18**	**308**	Pg	Pg	23 03 04.5	-0.9
CSOR				Sg	Sg	23 03 20.2	-0.4
CAVN	**Les Avellanes**	**1.25**	**281**	Pg	Pg	23 03 05.5	-1.2
CAVN				Lg		23 03 21.8	
	72nm,0.1s						
CAVN	**Les Avellanes**	**1.25**	**281**	Pg	Pg	23 03 05.5	-1.1
CAVN				Sg	Sg	23 03 21.9	-1.0
LRDF	**Laroque-de-Fa**	**1.28**	**5**	Pg	Pg	23 03 05.8	-1.5
LRDF				Sg	Sg	23 03 23.8	-0.1
LPEF	**Le Peyrat**	**1.34**	**345**	P	Pn	23 03 07.4	-0.5
LPEF				S	Sb	23 03 25.8	+0.2
SALF	**Salau**	**1.42**	**321**	Pg	Pg	23 03 08.5	-1.4
SALF				Sg	Sg	23 03 27.1	-1.2
MLS	**Moulis**	**1.62**	**324**	Pg	Pg	23 03 12.6	-1.1
MLS				Sg	Sg	23 03 34.0	-0.6
EGRA	**Graus**	**1.64**	**290**	Pn	Pn	23 03 11.4	-0.7
	0.3nm,0.1s,SNR=7.9						
EGRA				Pg	Pg	23 03 12.2	-1.9
	2.5nm,0.1s,SNR=7.9						
EGRA				Sn	Sn	23 03 31.3	-2.2
	3.2nm,0.1s,SNR=7.9						
EGRA				Lg		23 03 34.0	
	19nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.64**	**290**	Pg	Pg	23 03 12.2	-2.0
	2.5nm,0.1s,SNR=7.9						
EGRA				Sn	Sn	23 03 31.3	-2.2
	3.2nm,0.1s,SNR=7.9						
EGRA	**Graus**	**1.64**	**290**	Pn	Pn	23 03 11.4	-0.7
EGRA				Pg	Pg	23 03 12.2	-1.9
EGRA				Sn	Sn	23 03 31.3	-2.2
EGRA				Lg		23 03 34.0	
EBR	**Ebro Roquetas**	**1.66**	**240**	*e*PN	Pn	23 03 13.6	+1.2
EBR				*e*SN	Sn	23 03 35.2	+1.2
MTLF	**Montolieu**	**1.69**	**356**	*e*P	Pn	23 03 12.3	-0.4
	SNR=1.0						
MTLF	**Montolieu**	**1.69**	**356**	*e*Pg	Pg	23 03 13.8	-1.2
MTLF				*e*Sn	Sn	23 03 31.3	-3.3
	SNR=1.0						
MTLF				*e*Sg	Sg	23 03 34.8	-2.1
	19nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**1.69**	**356**	Pn	Pn	23 03 10.4	-2.3
MTLF				*e*Pg	Pg	23 03 13.8	-1.2
MTLF				Sn	Sn	23 03 31.3	-3.3
MTLF				Lg		23 03 34.8	
	9.6nm,0.3s						
MTLF	**Montolieu**	**1.69**	**356**	*e*P	Pn	23 03 12.3	-0.4
	SNR=1.0						
MTLF	**Montolieu**	**1.69**	**356**	*e*Pg	Pg	23 03 13.8	-1.2
MTLF				*e*Sn	Sn	23 03 31.3	-3.3
	SNR=1.0						
MTLF				*e*Sg	Sg	23 03 34.8	-2.1
	9.6nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**1.69**	**356**	*e*Pn	Pn	23 03 10.4	-2.3
MTLF				*e*P		23 03 12.3	
MTLF				*e*Pg	Pg	23 03 13.8	-1.2
MTLF				*e*Sn	Sn	23 03 31.3	-3.3
MTLF				*e*Sg	Sg	23 03 34.8	-2.1
ERTA	**Horta de San J**	**1.70**	**246**	Pn	Pn	23 03 11.5	-1.5
	0.7nm,0.1s,SNR=66						
ERTA				Pg	Pg	23 03 14.0	-1.4
	9.0nm,0.1s,SNR=12						
ERTA				Sn	Sn	23 03 33.4	-1.7
	8.6nm,0.1s,SNR=7.9						
ERTA				Lg		23 03 36.2	
	23nm,0.2s,SNR=5.0						
ERTA	**Horta de San J**	**1.70**	**246**	Pn	Pn	23 03 11.5	-1.5
	0.7nm,0.1s,SNR=66						
ERTA	**Horta de San J**	**1.70**	**246**	Pg	Pg	23 03 14.0	-1.4
	9.0nm,0.1s,SNR=12						
ERTA				Sn	Sn	23 03 33.4	-1.7
	8.6nm,0.1s,SNR=7.9						
MELF	**Melles**	**1.71**	**316**	P	Pn	23 03 13.7	+0.5
MELF				S	Sn	23 03 36.1	+0.8
ETOS	**Mallorca**	**1.92**	**170**	Pn	Pn	23 03 13.7	-2.2
	0.6nm,0.1s,SNR=7.4						
ETOS				Sn	Sn	23 03 34.5	-5.8
	1.3nm,0.1s,SNR=4.0						
ETOS	**Mallorca**	**1.92**	**170**	Pn	Pn	23 03 13.7	-2.2
	0.6nm,0.1s,SNR=7.4						
ETOS	**Mallorca**	**1.92**	**170**	Pn	Pn	23 03 13.7	-2.2
ETOS				Sn	Sn	23 03 34.3	-6.0
EBIE	**Bielsa**	**1.96**	**302**	Pn	Pn	23 03 16.2	-0.3
	0.3nm,0.1s,SNR=22						
EBIE				Pg	Pg	23 03 19.5	-0.8
	1.5nm,0.1s,SNR=12						
EBIE				Lg		23 03 43.4	
	24nm,0.2s,SNR=6.5						
EBIE	**Bielsa**	**1.96**	**302**	Pn	Pn	23 03 16.2	-0.3
	0.3nm,0.1s,SNR=22						
EBIE	**Bielsa**	**1.96**	**302**	Pg	Pg	23 03 19.5	-0.8
	1.5nm,0.1s,SNR=12						
EPF	**Esparros**	**2.05**	**313**	*e*P	Pn	23 03 17.7	0.0
	SNR=1.0						
EPF	**Esparros**	**2.05**	**313**	*e*Pg	Pg	23 03 20.1	-1.9
EPF				*e*Sn	Sn	23 03 39.3	-4.3
EPF				*e*Sg	Sg	23 03 46.0	-2.5
	73nm,0.3s,SNR=1.0						
EPF	**Esparros**	**2.05**	**313**	Pn	Pn	23 03 15.4	-2.3
EPF				Pg	Pg	23 03 20.1	-1.9
EPF				Sn	Sn	23 03 39.3	-4.3
EPF				Lg		23 03 46.0	
	36nm,0.3s						
EPF	**Esparros**	**2.05**	**313**	*e*P	Pn	23 03 17.7	0.0
	SNR=1.0						
EPF	**Esparros**	**2.05**	**313**	*e*Pg	Pg	23 03 20.1	-1.9
EPF				*e*Sn	Sn	23 03 39.3	-4.3
EPF				*e*Sg	Sg	23 03 46.0	-2.5
	36nm,0.3s,SNR=1.0						
EPF	**Esparros**	**2.05**	**313**	*e*Pn	Pn	23 03 15.4	-2.3
EPF				*e*P		23 03 17.7	
EPF				*e*Pg	Pg	23 03 20.1	-1.9
EPF				*e*Sn	Sn	23 03 39.3	-4.3
EPF				*e*Sg	Sg	23 03 46.0	-2.5
VIEF	**Viey**	**2.14**	**306**	Pg	Pg	23 03 21.0	-2.8
ESAC	**San Caprasio**	**2.15**	**273**	Pn	Pn	23 03 18.3	-0.7
	2.6nm,0.1s,SNR=7.9						
ESAC				Pg	Pg	23 03 20.9	-2.9
	26nm,0.1s,SNR=17						
ESAC				Lg		23 03 50.1	
	35nm,0.1s,SNR=8.6						
ESAC	**San Caprasio**	**2.15**	**273**	Pn	Pn	23 03 18.3	-0.7
	2.6nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**2.15**	**273**	Pg	Pg	23 03 20.9	-2.9
	26nm,0.1s,SNR=17						
ETSF	**Etsaut**	**2.52**	**300**	*e*P	Pn	23 03 24.4	+0.3
	SNR=1.0						
ETSF	**Etsaut**	**2.52**	**300**	*e*Pg	Pg	23 03 29.1	-1.9
ETSF				*e*Sn	Sn	23 03 51.9	-3.2
ETSF				*e*Sg	Sg	23 04 00.0	-3.6
	45nm,0.4s,SNR=1.0						
ETSF	**Etsaut**	**2.52**	**300**	Pn	Pn	23 03 21.7	-2.4
ETSF				Pg	Pg	23 03 29.1	-1.9
ETSF				Sn	Sn	23 03 51.9	-3.2
ETSF				Lg		23 04 00.0	
	22nm,0.4s						
ETSF	**Etsaut**	**2.52**	**300**	*e*P	Pn	23 03 24.4	+0.3
	SNR=1.0						
ETSF	**Etsaut**	**2.52**	**300**	*e*Pg	Pg	23 03 29.1	-1.9
ETSF				*e*Sn	Sn	23 03 51.9	-3.2
ETSF				*e*Sg	Sg	23 04 00.0	-3.6
	22nm,0.4s,SNR=1.0						
ETSF	**Etsaut**	**2.52**	**300**	*e*Pn	Pn	23 03 21.7	-2.4
ETSF				*e*P		23 03 24.4	
ETSF				*e*Pg	Pg	23 03 29.1	-1.9
ETSF				*e*Sn	Sn	23 03 51.9	-3.2
ETSF				*e*Sg	Sg	23 04 00.0	-3.6
EMOS	**Mosqueruela**	**2.53**	**240**	Pn	Pn	23 03 23.1	-1.2
	0.3nm,0.2s,SNR=6.6						
EMOS				Pg	Pg	23 03 30.1	-1.0
	1.0nm,0.1s,SNR=14						
EMOS				Sn	Sn	23 03 54.7	-0.7
	0.7nm,0.1s,SNR=4.0						
EMOS				Lg		23 04 02.5	
	4.9nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**2.53**	**240**	Pn	Pn	23 03 23.1	-1.2
	0.3nm,0.2s,SNR=6.6						
EMOS	**Mosqueruela**	**2.53**	**240**	Pg	Pg	23 03 30.1	-1.0
	1.0nm,0.1s,SNR=14						
EMOS				Sn	Sn	23 03 54.7	-0.7
	0.7nm,0.1s,SNR=4.0						
LASF	**Ste Croix**	**2.64**	**24**	*e*Pg	Pg	23 03 31.3	-2.1
LASF				*e*Sn	Sn	23 03 54.2	-4.1
LASF				*e*Sg	Sg	23 04 05.3	-2.3
	7.5nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.64**	**24**	Pn	Pn	23 03 24.2	-1.7
LASF				Pg	Pg	23 03 31.3	-2.1
LASF				Sn	Sn	23 03 54.2	-4.1
LASF				Lg		23 04 05.3	
	3.8nm,0.3s						
LASF	**Ste Croix**	**2.64**	**24**	*e*Pg	Pg	23 03 31.3	-2.1
LASF				*e*Sn	Sn	23 03 54.2	-4.1
LASF				*e*Sg	Sg	23 04 05.3	-2.3
	3.8nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.64**	**24**	*e*Pn	Pn	23 03 24.2	-1.7
LASF				*e*Pg	Pg	23 03 31.3	-2.1
LASF				*e*Sn	Sn	23 03 54.2	-4.1
LASF				*e*Sg	Sg	23 04 05.3	-2.3
EIBI	**Ibiza**	**2.75**	**197**	Pn	Pn	23 03 25.0	-2.3
	0.6nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	23 03 54.9	-6.0
	4.3nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.75**	**197**	Pn	Pn	23 03 25.0	-2.4
	0.6nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.75**	**197**	Pn	Pn	23 03 25.0	-2.3
EIBI				Sn	Sn	23 03 54.9	-6.0
IPRE	**Itoiz**	**3.01**	**294**	Lg		23 04 19.1	
	3.2nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**3.05**	**300**	*e*Pg	Pg	23 03 38.8	-2.3
	SNR=1.0						
SJPF				*e*Sn	Sn	23 04 04.0	-4.3
	SNR=1.0						
SJPF				*e*Sg	Sg	23 04 16.0	-4.7
	26nm,0.4s,SNR=1.0						
SJPF	**Ste Jean**	**3.05**	**300**	Pn	Pn	23 03 28.9	-2.6
SJPF				Pg	Pg	23 03 38.8	-2.3
SJPF				Sn	Sn	23 04 04.0	-4.3
SJPF				Lg		23 04 16.0	
	13nm,0.4s						
SJPF	**Ste Jean**	**3.05**	**300**	*e*Pg	Pg	23 03 38.8	-2.3
	SNR=1.0						
SJPF				*e*Sn	Sn	23 04 04.0	-4.3
	SNR=1.0						
SJPF				*e*Sg	Sg	23 04 16.0	-4.7
	13nm,0.4s,SNR=1.0						
SJPF	**Ste Jean**	**3.05**	**300**	*e*Pn	Pn	23 03 28.9	-2.6
SJPF				*e*Pg	Pg	23 03 38.8	-2.3
SJPF				*e*Sn	Sn	23 04 04.0	-4.3
SJPF				*e*Sg	Sg	23 04 16.0	-4.7
IUNC	**Unciti**	**3.09**	**292**	Pg	Pg	23 03 38.6	-3.3
	1.5nm,0.1s,SNR=7.9						
IUNC				Sn	Sn	23 04 08.6	-0.7
	2.1nm,0.2s,SNR=4.0						
IUNC				Lg		23 04 21.1	
	17nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**3.09**	**292**	Pg	Pg	23 03 38.7	-3.3
	1.5nm,0.1s,SNR=7.9						
IUNC				Sn	Sn	23 04 08.6	-0.7
	2.1nm,0.2s,SNR=4.0						
EARA	**Aranguren**	**3.15**	**292**	Lg		23 04 22.8	
	2.7nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**3.19**	**295**	Lg		23 04 25.2	
	4.9nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**3.27**	**299**	Pn	Pn	23 03 34.4	-0.1
	1.0nm,0.2s,SNR=7.9						
ELIZ				Pg	Pg	23 03 43.7	-1.7
	2.8nm,0.2s,SNR=7.9						
ELIZ				Lg		23 04 25.5	
	3.9nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**3.27**	**299**	Pg	Pg	23 03 43.7	-1.7
	2.8nm,0.2s,SNR=7.9						
CAF	**Calviac**	**3.27**	**356**	*e*Pg	Pg	23 03 42.4	-3.0
	SNR=1.0						
CAF				*e*Sn	Sn	23 04 09.0	-4.8
	SNR=1.0						
CAF				*e*Sg	Sg	23 04 24.5	-3.4
	6.0nm,0.2s,SNR=1.0						
CAF	**Calviac**	**3.27**	**

Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca** 3.6nm,0.1s,SNR=33	**3.58**	**325**	Pn	Pn	23 42 55.2	-1.3
ETOS	3.5nm,0.1s,SNR=5.6			Sn	Sn	23 43 33.7	-5.8
ETOS	**Mallorca** 3.6nm,0.1s,SNR=33	**3.58**	**325**	Pn	Pn	23 42 55.2	-1.3
ETOS	3.5nm,0.1s,SNR=5.6			Sn	Sn	23 43 33.7	-5.8
EIBI	**Ibiza** 1.1nm,0.1s,SNR=9.5	**3.93**	**304**	Pn	Pn	23 42 59.3	-2.0
EIBI	4.7nm,0.2s,SNR=5.0			Sn	Sn	23 43 43.0	-5.1
EIBI	**Ibiza** 1.1nm,0.1s,SNR=9.5	**3.93**	**304**	Pn	Pn	23 42 59.3	-2.0
EIBI	4.7nm,0.2s,SNR=5.0			Sn	Sn	23 43 43.0	-5.1
EBEN	**Beniarda** 3.0nm,0.4s,SNR=7.9	**4.89**	**294**	Pn	Pn	23 43 15.2	+0.6
EBEN	SNR=4.0			Sn	Sn	23 44 07.5	-4.3
EBEN	**Beniarda** 3.0nm,0.4s,SNR=7.9	**4.89**	**294**	Pn	Pn	23 43 15.2	+0.7
EBEN	SNR=4.0			Sn	Sn	23 44 07.5	-4.3
EMUR	**La Murta** 1.3nm,0.2s,SNR=4.0	**5.46**	**282**	Pn	Pn	23 43 21.6	-0.8
EMUR	**La Murta** 1.3nm,0.2s,SNR=4.0	**5.46**	**282**	Pn	Pn	23 43 21.6	-0.7
EPOB	**Poblet** 0.7nm,0.1s,SNR=7.9	**5.64**	**324**	Pn	Pn	23 43 23.1	-1.8
EPOB	3.7nm,0.2s,SNR=7.9			Sn	Sn	23 44 24.1	-6.2
EPOB	**Poblet** 0.7nm,0.1s,SNR=7.9	**5.64**	**324**	Pn	Pn	23 43 23.1	-1.7
EPOB	3.7nm,0.2s,SNR=7.9			Sn	Sn	23 44 24.1	-6.2
ERTA	**Horta de San J** 0.3nm,0.1s,SNR=7.9	**5.73**	**317**	Pn	Pn	23 43 25.7	-0.4
ERTA	0.6nm,0.2s,SNR=7.9			Sn	Sn	23 44 26.1	-6.5
ERTA	**Horta de San J** 0.3nm,0.1s,SNR=7.9	**5.73**	**317**	Pn	Pn	23 43 25.7	-0.4
ERTA	0.6nm,0.2s,SNR=7.9			Sn	Sn	23 44 26.1	-6.5
ECHE	**Chera** 0.8nm,0.2s,SNR=7.9	**5.77**	**300**	Pn	Pn	23 43 25.1	-1.5
EMOS	**Mosqueruela** 0.6nm,0.2s,SNR=5.9	**5.83**	**308**	Pn	Pn	23 43 25.8	-1.6
EMOS	1.4nm,0.3s,SNR=7.9			Sn	Sn	23 44 29.5	-5.6
EMOS	**Mosqueruela** 0.6nm,0.2s,SNR=5.9	**5.83**	**308**	Pn	Pn	23 43 25.8	-1.7
EMOS	1.4nm,0.3s,SNR=7.9			Sn	Sn	23 44 29.5	-5.6
ETOB	**Tobarra** 0.3nm,0.1s,SNR=6.4	**5.86**	**290**	Pn	Pn	23 43 27.6	-0.3
ETOB	0.2nm,0.1s,SNR=5.0			Sn	Sn	23 44 30.4	-5.3
ETOB	**Tobarra** 0.3nm,0.1s,SNR=6.4	**5.86**	**290**	Pn	Pn	23 43 27.6	-0.2
ETOB	0.2nm,0.1s,SNR=5.0			Sn	Sn	23 44 30.4	-5.3
EMIR	**Miracle** 3.9nm,0.2s,SNR=14	**5.90**	**330**	Pn	Pn	23 43 28.2	-0.2
EMIR	16nm,0.3s,SNR=5.0			Sn	Sn	23 44 32.5	-4.2
EMIR	**Miracle** 3.9nm,0.2s,SNR=14	**5.90**	**330**	Pn	Pn	23 43 28.2	-0.2
EMIR	16nm,0.3s,SNR=5.0			Sn	Sn	23 44 32.5	-4.2
EJON	**La Jonquera** 0.6nm,0.1s,SNR=4.0	**5.92**	**341**	Pn	Pn	23 43 28.4	-0.3
EJON	0.6nm,0.1s,SNR=7.9			Sn	Sn	23 44 33.3	-3.9
EJON	**La Jonquera** 0.6nm,0.1s,SNR=4.0	**5.92**	**341**	Pn	Pn	23 43 28.4	-0.3
EJON	0.6nm,0.1s,SNR=7.9			Sn	Sn	23 44 33.3	-3.9
PGF	**Pioggiola** 2.4nm,0.2s	**6.27**	**24**	*e*Pn	Pn	23 43 31.7	-1.8
PGF	1.2nm,0.2s			*e*Sn	Sn	23 44 40.4	-5.5
PGF	**Pioggiola** 2.4nm,0.2s	**6.27**	**24**	*e*Pn	Pn	23 43 31.7	-1.8
PGF	1.2nm,0.2s			*e*Sn	Sn	23 44 40.4	-5.5
LMR	**La Mourre** 2.1nm,0.2s	**6.50**	**6**	*e*Pn	Pn	23 43 34.3	-2.3
LMR	1.1nm,0.2s			*e*Sn	Sn	23 44 46.6	-4.8
LMR	**La Mourre** 2.1nm,0.2s	**6.50**	**6**	Pn	Pn	23 43 34.3	-2.3
LMR	1.1nm,0.2s			Sn	Sn	23 44 46.6	-4.8
LMR	**La Mourre** 1.0nm,0.2s	**6.50**	**6**	*e*Sn	Sn	23 44 46.6	-4.8
EGRA	**Graus** 1.1nm,0.2s,SNR=5.8	**6.66**	**325**	Pn	Pn	23 43 38.3	-0.5
EGRA	0.7nm,0.3s,SNR=5.0			Sn	Sn	23 44 49.6	-5.8
ESAC	**San Caprasio** 1.5nm,0.1s,SNR=4.0	**6.70**	**318**	Pn	Pn	23 43 37.4	-2.0
ESAC	2.8nm,0.2s,SNR=7.9			Sn	Sn	23 44 49.7	-6.6
ESAC	**San Caprasio** 1.5nm,0.1s,SNR=4.0	**6.70**	**318**	Pn	Pn	23 43 37.4	-2.0
ESAC	2.8nm,0.2s,SNR=7.9			Sn	Sn	23 44 49.7	-6.7
FRF	**La Foret Royal** 3.5nm,0.3s	**6.74**	**7**	*e*Pn	Pn	23 43 38.4	-1.5
FRF				*e*Sn	Sn	23 44 51.5	-5.8
FRF	**La Foret Royal** 1.8nm,0.3s	**6.74**	**7**	*e*Pn	Pn	23 43 38.4	-1.5
FRF				*e*Sn	Sn	23 44 51.5	-5.8
EQES	**Quesada** 0.4nm,0.2s,SNR=5.6	**6.89**	**280**	Pn	Pn	23 43 40.3	-1.7
EQES	1.8nm,0.3s,SNR=6.4			Sn	Sn	23 44 54.1	-7.1
EQES	**Quesada** 0.4nm,0.2s,SNR=5.6	**6.89**	**280**	Pn	Pn	23 43 40.3	-1.8
EQES	**Quesada** 0.7nm,0.3s	**6.89**	**280**	Pn	Pn	23 43 40.3	-1.7
EQES				Sn	Sn	23 44 58.2	-3.0
MTLF	**Montolieu** 1.6nm,0.3s	**6.93**	**340**	*e*Pn	Pn	23 43 40.0	-2.6
MTLF				*e*Sn	Sn	23 44 55.9	-6.2
MTLF	**Montolieu** 0.8nm,0.3s	**6.93**	**340**	Pn	Pn	23 43 40.0	-2.6
MTLF				Sn	Sn	23 44 55.9	-6.2
SMRF	**Simiane la Rot** 0.7nm,0.3s	**7.09**	**0**	*e*Pn	Pn	23 43 43.8	-1.0
SMRF				*e*Sn	Sn	23 45 01.1	-5.0
SMRF	**Simiane la Rot** 0.7nm,0.3s	**7.09**	**0**	Pn	Pn	23 43 43.8	-1.0
SMRF				Sn	Sn	23 45 01.1	-5.0
EBIE	**Bielsa** 0.6nm,0.2s,SNR=5.9	**7.12**	**326**	Pn	Pn	23 43 45.3	+0.1
EBIE	0.6nm,0.3s,SNR=4.0			Sn	Sn	23 45 00.1	-6.7
EBIE	**Bielsa** 0.6nm,0.2s,SNR=5.9	**7.12**	**326**	Pn	Pn	23 43 45.3	+0.1
EBIE	**Bielsa** EBIE	**7.12**	**326**	Pn	Pn	23 43 45.3	+0.1
SBF	**Sospel** SBF	**7.13**	**11**	*e*Pn	Pn	23 43 44.3	-1.1
	3.8nm,0.3s			*e*Sn	Sn	23 45 01.2	-5.9
SBF	**Sospel** SBF	**7.13**	**11**	*e*Pn	Pn	23 43 44.3	-1.1
	1.9nm,0.3s			*e*Sn	Sn	23 45 01.2	-5.9
LASF	**Ste Croix** LASF	**7.30**	**351**	*e*Pn	Pn	23 43 45.5	-2.2
	1.5nm,0.3s			*e*Sn	Sn	23 45 05.2	-6.0
LASF	**Ste Croix** LASF	**7.30**	**351**	Pn	Pn	23 43 45.5	-2.2
	0.8nm,0.3s			Sn	Sn	23 45 05.2	-6.0
EPF	**Esparros** EPF	**7.32**	**329**	*e*Pn	Pn	23 43 47.7	-0.1
	4.1nm,0.3s			*e*Sn	Sn	23 45 05.1	-6.5
EPF	**Esparros** EPF	**7.32**	**329**	*e*Pn	Pn	23 43 47.7	-0.1
	2.0nm,0.3s			*e*Sn	Sn	23 45 05.1	-6.5
ETSF	**Etsaut** ETSF	**7.61**	**324**	*e*Pn	Pn	23 43 50.7	-1.2
	2.0nm,0.4s			*e*Sn	Sn	23 45 12.8	-6.0
ETSF	**Etsaut** ETSF	**7.61**	**324**	*e*Pn	Pn	23 43 50.7	-1.2
	1.0nm,0.4s			*e*Sn	Sn	23 45 12.8	-6.0
MBDF	**Montbardon** 1.5nm,0.3s	**7.90**	**7**	*e*Sn	Sn	23 45 17.4	-8.6
MBDF	**Montbardon** 0.8nm,0.3s	**7.90**	**7**	Sn	Sn	23 45 17.4	-8.6
VIVF	**Saint-Julien-l** VIVF	**8.00**	**356**	*e*Pn	Pn	23 43 54.6	-2.6
	3.3nm,0.4s			*e*Sn	Sn	23 45 20.5	-7.9
VIVF	**Saint-Julien-l** VIVF	**8.00**	**356**	*e*Pn	Pn	23 43 54.6	-2.6
	1.6nm,0.4s			*e*Sn	Sn	23 45 20.5	-7.9
SJPF	**Ste Jean** SJPF	**8.09**	**322**	*e*Pn	Pn	23 43 57.3	-1.2
	1.0nm,0.3s			*e*Sn	Sn	23 45 23.4	-7.2
SJPF	**Ste Jean** SJPF	**8.09**	**322**	*e*Pn	Pn	23 43 57.3	-1.2
	0.5nm,0.3s			*e*Sn	Sn	23 45 23.4	-7.2
EALK	**Alkurruntz** 0.7nm,0.2s,SNR=7.7	**8.31**	**322**	Pn	Pn	23 44 01.5	+0.1
EALK	2.4nm,0.3s,SNR=4.0			Sn	Sn	23 45 28.0	-8.0
EALK	**Alkurruntz** EALK	**8.31**	**322**	Pn	Pn	23 44 01.5	+0.1
	0.7nm,0.2s			Sn	Sn	23 45 31.1	-4.9
ECRI	**Cripan** 0.3nm,0.2s	**8.42**	**315**	Pn	Pn	23 44 04.4	+1.5
LFF	**La Frestale** 0.3nm,0.2s	**8.82**	**337**	*e*Sn	Sn	23 45 42.0	-6.7
LFF	**La Frestale** 1.0nm,0.3s	**8.82**	**337**	Sn	Sn	23 45 42.0	-6.7
RJF	**Les Rejaudoux** 0.0nm,0.3s	**8.94**	**342**	*e*Sn	Sn	23 45 45.6	-6.0
RJF	**Les Rejaudoux** MFF	**8.94**	**342**	Sn	Sn	23 45 45.6	-6.0
	Saint Martin d SGMF	**10.59**	**338**	*e*Pn	Pn	23 44 31.4	-1.4
	Saint Gilles	**12.82**	**335**	*e*Pn	Pn	23 45 01.9	-1.3

*ISCJB **22** 00:02:51.4±1.6,3703N±009×716E±02,h97km±22km, mb3.8/3,Error ellipse: s-maj=25.8km s-min=6.7km az=116.0*
*NEIC **22** 00:02:55.8±11.0,37.19N×7165E,h115km±73km,mb3.4/2, Error ellipse: s-maj=100.9km s-min=30.7km az=187.0*
*IDC **22** 00:02:58.2±21.0,37.47N×7157E,h115km±132km,mb3.5/3, mb1 3.5/5,mb1mx3.1/22,mbtmp3.8/5,ML3.1/3,MS2.9/1, Ms1 3.0/1,ms1mx2.6/13,Error ellipse: s-maj=216.0km s-min=65.0km az=5.0*
*NNC **22** 00:03:01.7±3.8,3791N×7024E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=41.6km s-min=25.4km az=113.0*
ISC 22 00:02:52.5±1.5,3703N±009×716E±02,h97km±20km,n21, σ0°99/24,mb3.8/3,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.75**	**140**	*e*P	**Sn**	**00 05 24.0**	**+3.9**
KK31	**Karatay Array** 0.7nm,0.2s,baz=171,slow=11,SNR=64	**6.12**	**353**	⇑P	**Pn**	**00 04 20.6**	**+0.1**
KK31	2.6nm,0.3s,baz=167,slow=20,SNR=10.0			⇑S	**Sn**	**00 05 22.3**	**-6.7**
SDNR	**Sundarnagar**	**7.10**	**139**	*e*P	**Pn**	**00 04 38.1**	**+4.4**
SDNR				*e*S	**Sn**	**00 05 53.1**	**+0.3**
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=229,slow=13,SNR=2.3	**12.60**	**36**	P	**Pn**	**00 05 48.7**	**+0.6**
KOLN	**Koldanda** 7.3nm,0.3s	**13.72**	**129**	*e*P	**Pn**	**00 06 02.8**	**0.0**
GKN	**Gorkha** 13nm,0.3s	**14.22**	**126**	*e*P	**Pn**	**00 06 09.9**	**+0.6**
KURK	**Kurchatov**	**14.59**	**18**	Pn	**Pn**	**00 06 13.8**	**-0.2**
KKN	**Kakani**	**14.78**	**125**	*e*P	**Pn**	**00 06 16.7**	**+0.2**
DMN	**Daman** 6.8nm,0.3s	**14.79**	**126**	*e*P	**Pn**	**00 06 15.3**	**-1.3**
AB31	**Akbulak array** 0.3nm,0.3s,baz=149,slow=11,SNR=25	**14.86**	**329**	P	**Pn**	**00 06 15.4**	**-2.1**
AB31	2.3nm,0.7s,baz=152,slow=24,SNR=8.3			⇓S	**Sn**	**00 08 47.1**	**-14**
GUN	**Gumba** 47nm,1.0s	**15.10**	**123**	*e*P	**Pn**	**00 06 20.3**	**-0.3**
JIRN	**Jiri**	**15.47**	**123**	*e*P	**Pn**	**00 06 24.5**	**-0.8**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=168,slow=10,SNR=2.4	**16.02**	**357**	P	**Pn**	**00 06 30.5**	**-1.6**
ZRNK	**Zerenda** 1.0nm,0.3s	**16.02**	**354**	*e*Pn	**Pn**	**00 06 34.3**	**+2.2**
AKTK	**Aktyubinsk**	**16.56**	**328**	P	**Pn**	**00 06 39.6**	**+0.8**
AKTO	**Aktyubinsk** 0.4nm,0.6s	**16.56**	**328**	⇑P	**Pn**	**00 06 38.0**	**-0.8**
AKTO	**Aktyubinsk** 0.5nm,0.3s,baz=130,slow=12,SNR=13	**16.56**	**328**	P	**Pn**	**00 06 39.6**	**+0.8**
FINES	**FINESS Array B** 1.2nm,1.0s,mb3.8,baz=122,slow=9.3,SNR=3.4	**37.30**	**326**	P	**P**	**00 09 55.3**	**+0.2**
ARCES	**ARCESS Array B** 3.8nm,0.9s,mb4.2,baz=116,slow=9.1,SNR=7.6	**40.84**	**337**	P	**P**	**00 10 25.1**	**+0.5**
NB2	**NORSAR Subarra** comp=Z,0.3nm,0.5s,mb3.3,baz=96,slow=7.9	**44.24**	**323**	P	**P**	**00 10 52.3**	**+0.2**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.4s,mb3.6,baz=96,slow=7.8,SNR=3.5	**44.24**	**323**	P	**P**	**00 10 52.5**	**+0.5**
NOA	comp=Z,14nm,19.4s,baz=130,slow=38			LR	LR	00 30 47.8	

GUC 22 00:04:17.2±0.8,3092S×7169W,h18km±7km,MD3.9, ML3.1,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.64**	**114**	⇑*i*P	Pb	00 04 29.6	-0.2
CMCH				*i* S	Sb	00 04 38.6	+0.1
CMCH	comp=N,5μm,0.2s			AMP		00 04 38.8	
CHNG	**Los Chungos**	**0.98**	**171**	⇑*i*P	Pb	00 04 34.8	-0.8
CHNG				*i* S	Sb	00 04 47.2	-1.0
CHNG	comp=E,420nm,0.7s			AMP		00 04 50.3	
LSCH	**La Serena**	**1.07**	**21**	*e*P	Pb	00 04 36.7	-0.6
LSCH				*e*S	Sb	00 04 49.9	-0.9
LSCH	comp=N,522nm,0.3s			AMP		00 04 53.8	
PEL	**Peldehue**	**2.38**	**159**	*i* S	Sn	00 05 26.6	+2.6
PEL	comp=E,282nm,0.4s			AMP		00 05 38.5	
FCH	**Farellones**	**2.68**	**154**	*e*P	Pn	00 05 00.8	+1.4
FCH				*e*S	Sn	00 05 34.9	+3.5
FCH	comp=E,96nm,0.2s			AMP		00 05 44.6	

IDC 22 00:06:26.9±2.6,569S×15137E,h0km,mb3.4/3,mb1 3.7/3, mb1mx3.4/12,mbtmp3.4/3,Error ellipse: s-maj=190.2km s-min=30.1km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=54,slow=11,SNR=3.2	**21.80**	**228**	P	P	00 11 20.0	-0.5
ASAR	**Alice Springs** 0.6nm,0.5s,baz=58,slow=8.9,SNR=9.5	**24.55**	**221**	P	P	00 11 49.0	+0.7
ILAR	**Eielson Array** 0.3nm,1.0s,baz=245,slow=5.9,SNR=4.4	**83.51**	**22**	P	P	00 18 56.1	-0.5
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=84,slow=1.5,SNR=5.6	**149.21**	**286**	PKPbc	PKPbc	00 26 18.6	+1.2

*ATH **22** 00:17:50.2,38.17N×2729E,h57km±12km,MD3.1/3*
*CSEM **22** 00:17:52.5±0.1,3822N×2663E,h8km,MD3.2,Error ellipse: s-maj=2.7km s-min=1.7km az=60.0*
*ISK **22** 00:17:52.0,3820N×2657E,h9km,MD3.2*
*ISCJB **22** 00:17:53.1±0.7,3822N±003×2659E±005,h9km±4km, Error ellipse: s-maj=6.4km s-min=4.4km az=164.7*
ISC 22 00:17:53.4±0.7,3821N±003×2659E±005,h10km±4km,n20, σ0°75/30,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.15**	**2**	*i* P	**Pg**	**00 17 56.4**	**-0.3**
URLA				*i* S	**Sg**	**00 17 58.8**	**-0.2**
SMG	**Samos**	**0.54**	**159**	*e*P	**Pg**	**00 18 04.0**	**+0.2**
SMG				*e*S	**Sg**	**00 18 13.0**	**+2.1**
SMG	**Samos**	**0.54**	**159**	*e*Pb	**Pg**	**00 18 04.0**	**+0.2**
SMG				*e*Sb	**Sg**	**00 18 11.9**	**+1.0**
IZM	**Izmir**	**0.56**	**70**	*e*PG	**Pg**	**00 18 03.7**	**-0.6**
IZM				*e*SG	**Sg**	**00 18 11.8**	**+0.1**
KDAG	**Bornova**	**0.57**	**70**	*i* P	**Pg**	**00 18 03.8**	**-0.6**
KDAG				*i* S	**Sg**	**00 18 11.9**	**+0.1**
PRK	**Paraskevi**	**1.06**	**347**	*e*P	**Pg**	**00 18 13.4**	**-0.4**
PRK				*e*S	**Sg**	**00 18 31.0**	**+3.4**
PRK	**Paraskevi**	**1.06**	**347**	*e*Pb	**Pg**	**00 18 13.4**	**-0.4**
PRK				*e*Sn	**Sn**	**00 18 29.3**	**+0.1**

CASC 21 23:11:13.1±2.6,1216N×8467W,h22km±23km,MD3.6, 6C-4D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.44**	**233**	⇑*e*P	Pn	23 11 37.2	-0.6
SSNN				*e*S	Sn	23 11 57.0	+0.8
TICN	**Ticuantepe**	**1.53**	**266**	⇓*e*P	Pn	23 11 40.8	+1.7
MGAN	**Managua**	**1.54**	**270**	*e*P	Pn	23 11 41.3	+2.1
LIM1	**Limonal**	**1.56**	**202**	⇑*i*P	Pn	23 11 38.8	-0.6
LIM1				*i* S	Sn	23 11 59.9	+0.9
XAVN	**Gruta Xavier**	**1.62**	**270**	⇑*i*P	Pn	23 11 42.0	+1.7
APYN	**Apoyeque**	**1.64**	**273**	*e*P	Pn	23 11 42.1	+1.4
MOMJ	**Momotombo**	**1.84**	**278**	*e*P	Pn	23 11 43.6	+0.2
MOMJ				*e*S	Sn	23 12 07.2	+1.1
COPN	**Copaltepe**	**1.88**	**271**	⇓*e*P	Pn	23 11 42.2	-1.7
MIRN	**Miramar**	**2.01**	**278**	*e*P	Pn	23 11 45.0	-0.8
MIRN				*e*S	Sn	23 12 10.7	+0.4
CGA2	**Cerro Gallo 2**	**2.14**	**175**	⇓*e*P	Pn	23 11 47.7	+0.3
CGA2				*e*S	Sn	23 12 14.5	+1.2
TEL3	**Telica 3**	**2.16**	**281**	*e*P	Pn	23 11 46.6	-1.2
PRS1	**Puriscal**	**2.19**	**171**	⇑*e*P	Pn	23 11 49.5	+1.4
PRS1				*e*S	Sn	23 12 17.5	+3.0
LAJ	**Bijagual**	**2.34**	**167**	⇑*e*P	Pn	23 11 49.4	-0.8
CRIN	**San Cristobal**	**2.39**	**283**	*e*S	Sn	23 12 18.4	-1.1
URSC	**Urasca**	**2.47**	**159**	*e*P	Pn	23 11 54.6	+2.6
URSC				*e*S	Sn	23 12 23.3	+1.8
LCR2	**La Lucha 2**	**2.49**	**165**	⇓*e*P	Pn	23 11 53.2	+0.9
LCR2				*e*S	Sn	23 12 23.6	+1.6
BUS	**Buena Vista**	**2.74**	**161**	⇑*e*P	Pn	23 11 57.1	+1.4
BUS				*e*S	Sn	23 12 30.9	+2.8

IDC 21 23:30:05.5±2.2,822S×11942E,h0km,mb3.6/3,mb1 3.8/4, mb1mx3.6/16,mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=234.8km s-min=25.1km az=53.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=306,slow=12,SNR=5.2	**18.56**	**130**	P	Pn	23 34 23.9	-0.1
WB2	**Warramunga Arr**	**18.57**	**130**	*e*P	Pn	23 34 24.3	+0.2
ASAR	**Alice Springs** 1.3nm,0.5s,baz=316,slow=8.8,SNR=21	**20.70**	**140**	P	P	23 34 48.2	+0.9
STKA	**Stephens Creek** 0.9nm,0.7s,baz=325,slow=12,SNR=2.8	**31.30**	**142**	P	P	23 36 27.1	-0.2
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=141,slow=7.8,SNR=5.7	**63.95**	**333**	P	P	23 40 40.6	+0.1

*CSEM **21** 23:42:01.7±0.3,3693N×540E,h12km,ML3.2/18,Error ellipse: s-maj=6.5km s-min=4.2km az=155.0*
*NEIC **21** 23:42:01.5,3693N×538E,h0km,MG4.1(MDD),After MDD.*
*LDG **21** 23:42:01.4±0.5,3671N×559E,h25km,Ml3.1/14,Error ellipse: s-maj=8.7km s-min=6.9km az=171.0*
MDD 21 23:41:59.8±1.8,3688N×550E,h0km,mb4.1/7,Error ellipse: s-maj=16.9km s-min=10.3km az=149.0,PRXIMO,

AYDN	**Tasoluk**	**1.16**	**118**	*i* P	**Pb**	**00 18 14.7**	**-0.8**
AYDN				*i* S	**Sb**	**00 18 30.9**	**+0.3**
AKS	**Akhisar**	**1.17**	**55**	*e*PN	**Pn**	**00 18 15.0**	**-0.8**
AKS				*e*SN	**Sn**	**00 18 31.9**	**+0.1**
BODT	**Bodrum**	**1.28**	**153**	*e*PN	**Pn**	**00 18 16.7**	**-0.7**
MLSB	**Milas**	**1.31**	**134**	*e*PN	**Pn**	**00 18 17.8**	**0.0**
APE	**Apeiranthos**	**1.42**	**217**	*e*PN	**Pn**	**00 18 17.9**	**-1.3**
APE	**Apeiranthos**	**1.42**	**217**	*e*P	**Pn**	**00 18 20.0**	**+0.8**
MANT	**Manisa**	**1.57**	**79**	*i* P	**Pn**	**00 18 22.6**	**+1.2**
MANT				*i* S	**Sn**	**00 18 41.8**	**0.0**
DAT	**Datca**	**1.68**	**152**	*e*PN	**Pn**	**00 18 22.3**	**-0.5**
YER	**Yerkesik**	**1.72**	**128**	*e*PN	**Pn**	**00 18 22.8**	**-0.6**
BALB	**Balikesir**	**1.75**	**35**	*e*PN	**Pn**	**00 18 23.8**	**0.0**
BTOK	**Tokmak**	**1.91**	**36**	*i* P	**Pn**	**00 18 27.9**	**+1.9**
DST	**Dursunbey**	**2.12**	**48**	*e*PN	**Pn**	**00 18 28.6**	**-0.2**
BNT	**Bandirma**	**2.38**	**25**	*e*PN	**Pn**	**00 18 32.4**	**0.0**

GUC 22 00:31:03.6±0.6,3439S×7029W,h5km±1km,MD3.6,ML2.3, 5C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.13**	**301**	⇓*i*P	Pg	00 31 06.8	+0.6
CICH				*i* S	Sg	00 31 09.1	+1.1
CACH	**El Canelo**	**0.37**	**316**	⇑*i*P	Pg	00 31 11.0	+0.2
CACH				*i* S	Sg	00 31 16.7	+1.0
LMEL	**Las Melosas**	**0.54**	**7**	⇑*i*P	Pg	00 31 14.9	+0.9
LMEL				*i* S	Sg	00 31 23.4	+2.3
LMEL				AMP		00 31 24.3	
	comp=E,379nm,0.2s						
CHCH	**Chadas Angostu**	**0.54**	**326**	⇓*i*P	Pg	00 31 14.5	+0.5
CHCH				*i* S	Sg	00 31 23.2	+2.0
PCH	**Pirque**	**0.79**	**346**	*e*P	Pg	00 31 19.1	+0.4
PCH				*i* S	Sg	00 31 30.9	+2.0
TACH	**Talagante**	**0.91**	**323**	⇓*i*P	Pg	00 31 20.7	-0.4
TACH				*i* S	Sg	00 31 33.6	+0.7
RCDM	**Rinconada Maip**	**0.99**	**334**	⇑*i*P	Pg	00 31 22.3	-0.4
RCDM				*i* S	Sg	00 31 36.8	+1.2
RCDM				AMP		00 31 37.2	
	comp=E,149nm,0.1s						
FCH	**Farellones**	**1.06**	**360**	⇑*i*P	Pg	00 31 24.2	+0.3
FCH				*i* S	Sg	00 31 39.8	+2.2
FCH				AMP		00 31 40.9	
	comp=N,176nm,0.2s						
PEL	**Peldehue**	**1.28**	**345**	*e*P	Pn	00 31 27.4	-0.8
PEL				*i* S	Sg	00 31 46.0	+1.2
PEL				AMP		00 31 47.1	
	comp=N,151nm,0.4s						
LCCH	**Las Cruces**	**1.40**	**310**	⇑*i*P	Pn	00 31 28.8	-0.9
LCCH				*i* S	Sb	00 31 48.1	-0.2

*ISCJB **22** 00:35:25.6±0.9,38.16N±004×2657E±005,h8km±5km, Error ellipse: s-maj=7.1km s-min=6.0km az=131.6*
*CSEM **22** 00:35:25.6±0.1,3820N×2661E,h10km,MD2.7,Error ellipse: s-maj=3.5km s-min=2.1km az=131.0*
*ISK **22** 00:35:25.5,3820N×2659E,h11km,MD2.7*
*ATH **22** 00:35:26.7,38.16N×2654E,h32km±22km,MD2.9/3*
ISC 22 00:35:26.6±0.7,3821N±003×2658E±005,h12km±4km,n12, σ0§64/20,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.15**	**4**	*i* P	**Pg**	**00 35 29.9**	**-0.2**
URLA				*i* S	**Sg**	**00 35 32.2**	**-0.3**
SMG	**Samos**	**0.54**	**158**	*e*PN	**Pg**	**00 35 37.5**	**+0.3**
SMG				*e*SN	**Sg**	**00 35 45.8**	**+1.5**
IZM	**Izmir**	**0.57**	**71**	PG	**Pg**	**00 35 37.4**	**-0.3**
IZM				SG	**Sg**	**00 35 45.3**	**+0.1**
KDAG	**Bornova**	**0.57**	**70**	*i* P	**Pg**	**00 35 37.3**	**-0.5**
KDAG				*i* S	**Sg**	**00 35 45.3**	**0.0**
PRK	**Paraskevi**	**1.06**	**347**	*e*PN	**Pn**	**00 35 47.8**	**+0.4**
PRK				*e*SN	**Sn**	**00 36 02.5**	**+0.4**
AYDN	**Tasoluk**	**1.16**	**118**	*i* P	**Pb**	**00 35 48.3**	**-0.4**
AYDN				*i* S	**Sb**	**00 36 02.7**	**-1.1**
AKS	**Akhisar**	**1.17**	**55**	PN	**Pn**	**00 35 48.6**	**-0.3**
AKS				SN	**Sn**	**00 36 05.4**	**+0.6**
BODT	**Bodrum**	**1.28**	**153**	*e*PN	**Pn**	**00 35 50.2**	**-0.2**
MLSB	**Milas**	**1.32**	**134**	*e*PN	**Pn**	**00 35 50.2**	**-0.7**
APE	**Apeiranthos**	**1.41**	**217**	*e*PN	**Pn**	**00 35 51.3**	**-0.9**
APE	**Apeiranthos**	**1.41**	**217**	*e*Pn	**Pn**	**00 35 51.4**	**-0.8**
MANT	**Manisa**	**1.58**	**79**	*i* P	**Pn**	**00 35 55.9**	**+1.4**
MANT				*i* S	**Sn**	**00 36 14.9**	**+0.1**

MEX 22 00:37:48.6±0.6,1792N×9954W,h8km±15km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.07**	**278**	*i* P	Pg	00 37 50.0	-0.6
MEIG				*i* S	Sg	00 37 51.2	-0.7
MEIG				*i* S	Sg	00 37 51.4	-0.5
PLIG	**Platanillo**	**0.47**	**5**	*i* P	Pg	00 37 58.4	+0.6
PLIG				*i* S	Sg	00 38 05.5	+1.4
ACX	**Acapulco**	**1.10**	**199**	*i* P	Pg	00 38 07.5	-2.3
ACX				*i* S	Sg	00 38 21.0	-3.1
PPM	**Popocatepetl**	**1.44**	**37**	*i* P	Pn	00 38 11.0	-4.0
PPM				*i* S	Sn	00 38 28.9	-5.2

IDC 22 01:29:12.8±13.0,740S×12960E,h194km±106km, mb1 3.9/3,mb1mx3.2/15,mbtmp4.3/3,Error ellipse: s-maj=112.4km s-min=67.1km az=174.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.32**	**200**	P	Pn	01 31 48.8	-0.3
	0.5nm,0.3s,baz=32,slow=12,SNR=10						
FITZ				S	Sn	01 33 57.6	+2.5
	0.2nm,0.3s,baz=134,slow=18,SNR=3.4						
WRA	**Warramunga Arr**	**13.29**	**160**	P	Pn	01 32 15.1	+1.0
	1.0nm,0.3s,baz=334,slow=13,SNR=12						
WRA				S	Sn	01 34 57.6	+15
	0.2nm,0.3s,baz=335,slow=22,SNR=2.5						
ASAR	**Alice Springs**	**16.70**	**166**	P	Pn	01 32 53.6	-2.1
	1.7nm,0.3s,baz=344,slow=11,SNR=131						
LPAZ	**La Paz**	**150.65**	**143**	PKP	PKPdf	01 48 38.0	+1.8
	0.3nm,0.4s,baz=225,slow=8.6,SNR=2.8						
LPAZ				PKPbc	PKPbc	01 48 43.3	+1.5
	0.7nm,0.4s,baz=203,slow=7.7,SNR=5.2						

*ISK **22** 01:49:36.3,3693N×2781E,h22km,MD3.1*
*ISCJB **22** 01:49:37.7±0.5,3693N±003×2779E±004,h11km±5km, Error ellipse: s-maj=5.7km s-min=4.4km az=24.1*
*CSEM **22** 01:49:37.3±0.2,3696N×2781E,h12km,MD3.1,Error ellipse: s-maj=6.0km s-min=4.7km az=113.0*
*NEIC **22** 01:49:38.5,3688N×2776E,h36km,MD2.9(ATH),After ATH.*
*ATH **22** 01:49:38.5,3688N×2776E,h36km±8km,MD2.9/5*
ISC 22 01:49:38.4±0.5,3694N±003×2776E±004,h2km±6km,n16, σ1§16/26,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.25**	**214**	PG	**Pg**	**01 49 43.3**	**0.0**
DAT				SG	**Sg**	**01 49 47.8**	**+1.2**
MLSB	**Milas**	**0.36**	**3**	PG	**Pg**	**01 49 44.4**	**-0.8**
MLSB				SG	**Sg**	**01 49 50.7**	**+0.9**
BODT	**Bodrum**	**0.38**	**289**	PG	**Pg**	**01 49 45.7**	**+0.1**
YER	**Yerkesik**	**0.46**	**65**	PG	**Pg**	**01 49 46.1**	**-1.2**
YER				SG	**Sg**	**01 49 52.4**	**-0.9**
NISR	**Nisiros**	**0.60**	**237**	*e*PN	**Pg**	**01 49 50.5**	**+0.6**
AYDN	**Tasoluk**	**0.73**	**8**	*i* P	**Pg**	**01 49 52.0**	**-0.4**
AYDN				*i* S	**Sg**	**01 50 01.6**	**-0.2**
AYDN	**Tasoluk**	**0.73**	**8**	*i* P	**Pg**	**01 49 52.0**	**-0.3**
AYDN				*i* S	**Sg**	**01 50 01.5**	**-0.3**
ARG	**Arkhangelos**	**0.78**	**157**	*e*PN	**Pg**	**01 49 52.4**	**-1.0**
ARG				*e*SN	**Sg**	**01 50 04.6**	**+1.1**
SMG	**Samos**	**1.06**	**317**	*e*PB	**Pg**	**01 49 58.6**	**-0.1**
SMG				*e*SN	**Sg**	**01 50 15.4**	**+2.9**
KARP	**Karpathos**	**1.47**	**199**	*e*PN	**Pn**	**01 50 03.6**	**-2.3**
GOLH	**Golhisar**	**1.47**	**78**	*i* P	**Pn**	**01 50 06.4**	**+0.5**
GOLH				*i* S	**Sb**	**01 50 28.2**	**+2.4**
IZM	**Izmir**	**1.51**	**345**	*e*PN	**Pn**	**01 50 03.1**	**-3.4**
KDAG	**Bornova**	**1.51**	**345**	*i* P	**Pn**	**01 50 06.6**	**+0.1**
MANT	**Manisa**	**1.67**	**22**	*i* P	**Pn**	**01 50 07.7**	**-1.1**
MANT				*i* S	**Sn**	**01 50 32.6**	**+1.8**
APE	**Apeiranthos**	**1.79**	**275**	*e*PN	**Pn**	**01 50 09.1**	**-1.2**
TKTP	**Tekketepe**	**2.32**	**61**	*i* P	**Pg**	**01 50 23.2**	**+0.4**
TKTP				*i* S	**Sg**	**01 51 01.2**	**+8.4**

IDC 22 02:18:00.5±2.1,709S×12730E,h0km,mb3.5/1,mb1 4.0/4, mb1mx3.7/15,mbtmp3.8/4,ML3.8/3,Error ellipse: s-maj=110.0km s-min=27.7km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.07**	**188**	Pn	Pn	02 20 40.7	+0.7
	0.2nm,0.3s,baz=343,slow=17,SNR=4.5						
FITZ				Sn	Sn	02 22 31.2	-13
	0.9nm,0.3s,baz=206,slow=20,SNR=9.2						
WRA	**Warramunga Arr**	**14.49**	**153**	Pn	Pn	02 21 26.7	-0.1
	0.5nm,0.3s,baz=327,slow=14,SNR=5.3						
WRA				Sn	Sn	02 23 52.4	-16
	0.6nm,0.3s,baz=332,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**17.67**	**160**	P	Pn	02 22 08.0	+0.1
	1.4nm,0.3s,baz=337,slow=12,SNR=100						
ASAR				S	Sn	02 25 17.5	-7.8
	0.2nm,0.3s,baz=325,slow=22,SNR=5.1						
MKAR	**Makanchi Array**	**66.85**	**328**	P	P	02 28 54.3	+0.2
	0.3nm,0.5s,baz=113,slow=6.1,SNR=5.4						

IDC 22 02:43:03.4±2.1,586S×13025E,h0km,mb3.9/1,mb1 4.2/4, mb1mx3.8/13,mbtmp4.0/4,ML3.9/3,Error ellipse: s-maj=93.9km s-min=27.0km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.97**	**200**	Pn	Pn	02 46 09.3	+0.3
	0.7nm,0.3s,baz=37,slow=14,SNR=19						
FITZ				Sn	Sn	02 48 23.4	-11
	0.3nm,0.3s,baz=180,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**14.55**	**165**	Pn	Pn	02 46 29.2	-1.3
	0.4nm,0.3s,baz=347,slow=13,SNR=3.8						
WRA				Sn	Sn	02 48 57.7	-15
	1.1nm,0.3s,baz=342,slow=22,SNR=8.5						
ASAR	**Alice Springs**	**18.05**	**169**	P	Pn	02 47 16.4	+0.8
	0.6nm,0.3s,baz=349,slow=10,SNR=28						
ASAR				S	Sn	02 50 25.0	-12
	0.3nm,0.3s,baz=360,slow=28,SNR=5.7						
MKAR	**Makanchi Array**	**67.42**	**326**	P	P	02 54 00.9	+0.2
	0.6nm,0.4s,baz=112,slow=7.7,SNR=12						

*CSEM **22** 03:04:15.4±0.9,3957N×2967W,h5km,ML2.9,Error ellipse: s-maj=20.3km s-min=6.4km az=57.0,After PDA*
*PDA **22** 03:04:15.4±0.9,3957N×2967W,h5km,MD3.3,ML2.9, Error ellipse: s-maj=20.3km s-min=6.4km az=57.0*
SVSA 22 03:04:15.4±0.9,3957N×2967W,h5km,MD3.3,ML2.9, Error ellipse: s-maj=20.3km s-min=6.4km az=57.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.21**	**141**	*e*S	Sg	03 04 47.8	-6.4
PCED							
	71nm,0.3s						
CALA	**Caldeira**	**1.24**	**142**	*e*S	Sg	03 04 49.2	-6.1
HOR	**Horta**	**1.32**	**142**	*e*P	Pn	03 04 35.4	-5.1
HOR				*e*S	Sg	03 04 50.9	-6.9
ROSA	**Rosais**	**1.40**	**127**	*e*S	Sb	03 04 52.9	-7.2
PICO	**Pico**	**1.44**	**137**	*e*P	Pn	03 04 37.5	-4.7
PICO				*e*S	Sb	03 04 54.1	-7.3
PCND	**Candelaria**	**1.45**	**139**	*e*P	Pn	03 04 38.6	-3.6
PCND				*e*S	Sb	03 04 55.1	-6.4
PCND							
	96nm,0.3s						
PAMA	**Santo Amaro**	**1.46**	**127**	*e*S	Sn	03 04 55.0	-6.9
PAMA							
	20nm,0.2s						
PTEI	**Pico de Teixo**	**1.48**	**136**	*e*S	Sn	03 04 56.3	-6.2
PBOI	**Pico dos Bois**	**1.52**	**138**	*e*S	Sn	03 04 57.0	-6.3
PBOI							
	101nm,0.3s						
PID	**Ribeirinha**	**1.65**	**133**	*e*P	Pn	03 04 40.4	-4.6
PID				*e*S	Sn	03 04 58.4	-8.2

GUC 22 03:18:37.2±0.9,2678S×7113W,h31km±14km,ML3.5,3D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.40**	**137**	⇓*i*P	Pb	03 18 46.0	-0.1
CDCH				*i* S	Sb	03 18 51.9	-0.2
CDCH				AMP		03 18 52.2	
	comp=E,5μm,0.4s						
CRCH	**Chaqaral**	**0.63**	**47**	⇓*i*P	Pb	03 18 51.7	+1.9
CRCH				*i* S	Sb	03 19 01.1	+2.8
CRCH				AMP		03 19 02.5	
	comp=N,3μm,0.3s						
CPCH	**Copiapo**	**0.90**	**130**	⇓*i*P	Pn	03 18 54.2	+0.5
CPCH				*i* S	Sn	03 19 05.9	+0.2
CPCH				AMP		03 19 06.3	
	comp=E,21μm,0.1s						
CPN1	**Cerro Paranal**	**2.24**	**17**	*e*P	Pn	03 19 14.1	+1.9
CPN1				*i* S	Sn	03 19 40.9	+2.1
CPN1				AMP		03 19 53.8	
	comp=E,174nm,0.4s						
CEN1	**Los Morros**	**3.48**	**14**	*e*P	Pn	03 19 27.7	-1.5

*CSEM **22** 03:24:03.4±0.2,3877N×1590E,h42km±2km,ML3.8/3, Error ellipse: s-maj=2.3km s-min=1.3km az=132.0*
*NEIC **22** 03:24:03.6,3878N×1589E,h53km,MD2.9(ROM),After ROM.*
ROM 22 03:24:03.6±0.1,3878N×1589E,h53km±4km,Md2.9/23, Ml3.0/19,1D,Error ellipse: s-maj=2.5km s-min=2.1km az=48.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRI	**Girifalco**	**0.42**	**84**	Pg	Pn	03 24 14.1	0.0
GRI				Sg	Sn	03 24 22.0	+0.4
	2μm,0.3s						
SCLL	**Scilla**	**0.54**	**195**	Pg	Pn	03 24 15.6	+0.1
SCLL				Sg	Sn	03 24 26.1	+2.1
	171nm,0.2s						
PLAC	**Placanica**	**0.54**	**127**	Pg	Pn	03 24 15.7	+0.2
PLAC				Sg	Sn	03 24 25.3	+1.2
	506nm,0.4s						
MSRU	**Castanea**	**0.59**	**210**	Pg	Pn	03 24 16.2	+0.1
MSRU				Sg	Sn	03 24 25.6	+0.4
	1μm,0.2s						
MSI	**Messina ING**	**0.63**	**205**	Pg	Pn	03 24 16.5	-0.1
	289nm,0.2s						
SERS	**Sersale**	**0.68**	**67**	Pg	Pn	03 24 17.8	+0.7
SERS				Sg	Sn	03 24 28.4	+1.5
	596nm,0.7s						
SOI	**Samo**	**0.72**	**170**	Pg	Pn	03 24 18.0	+0.4
	426nm,0.4s						
TIP	**Timpagrande**	**0.79**	**59**	Pg	Pn	03 24 19.1	+0.5
TIP				Sg	Sn	03 24 31.0	+1.5
	215nm,0.4s						
MTTG	**Motta San Giov**	**0.79**	**191**	Pg	Pn	03 24 18.9	+0.3
	843nm,0.6s						
LLI	**Lipari**	**0.81**	**246**	Pg	Pn	03 24 19.8	+0.9
	4μm,0.4s						
VPL	**Vulcano Piano**	**0.81**	**241**	Pg	Pn	03 24 19.4	+0.5
VPL				Sg	Sn	03 24 31.3	+1.2
	968nm,0.4s						
SLNA	**Salina**	**0.85**	**256**	Pg	Pn	03 24 20.4	+1.0
	345nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.98**	**211**	Pg	Pn	03 24 21.6	+0.5
	285nm,0.3s						
IFIL	**Filicudi I Eol**	**1.06**	**259**	Pg	Pn	03 24 22.7	+0.6
	1μm,0.4s						
CUC	**Castrocucco**	**1.22**	**357**	Pg	Pn	03 24 23.8	-0.5
	262nm,0.3s						
MGR	**Morigerati**	**1.38**	**349**	Pg	Pn	03 24 26.7	+0.2
MGR				Sg	Sn	03 24 44.5	+0.8
	59nm,0.3s						
SCHR	**S. Chirico Rap**	**1.43**	**6**	Pg	Pn	03 24 27.0	-0.1
	73nm,0.5s						
CMPR	**Campora**	**1.60**	**344**	⇓*i*Pg	Pn	03 24 29.7	+0.2
	82nm,0.4s						
CRAC	**Craco**	**1.64**	**15**	Pg	Pn	03 24 32.3	+2.3
	145nm,0.3s						
GIB	**Gibilmanna**	**1.66**	**242**	Pg	Pn	03 24 31.1	+0.8
	140nm,0.7s						
PTRP	**Pietrapertosa**	**1.75**	**4**	Pg	Pn	03 24 34.3	+2.8
	2μm,14.0s						
CDRU	**Civita di Ruta**	**1.77**	**345**	Pg	Pn	03 24 32.1	+0.3
	62nm,0.4s						
MRLC	**Muro Lucano**	**2.00**	**351**	Pg	Pn	03 24 36.6	+1.6
	55nm,0.3s						
MCRV	**Calabrutti - M**	**2.08**	**345**	Pg	Pn	03 24 36.7	+0.7
	46nm,0.3s						
BAI	**Bari**	**2.45**	**18**	*e*Pn	Pn	03 24 40.6	-0.5

IDC 22 03:25:48.9±2.1,524S×15079E,h0km,mb3.4/3,mb1 3.8/3, mb1mx3.6/13,mbtmp3.5/3,MS2.2/1,Ms1 2.2/1, ms1mx2.1/18,Error ellipse: s-maj=128.6km s-min=29.9km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.67**	**226**	P	P	03 30 40.7	-0.3
	0.7nm,0.4s,baz=52,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**24.50**	**220**	P	P	03 31 10.1	+0.4
	0.7nm,0.6s,baz=53,slow=9.1,SNR=8.4						
TGY	**Tagaytay City**	**35.31**	**303**	LR	LR	03 45 02.4	
	comp=Z,3.6nm,18.8s,baz=224,slow=33						
ILAR	**Eielson Array**	**83.33**	**22**	P	P	03 38 16.8	-0.9
	0.2nm,0.5s,baz=241,slow=3.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**148.53**	**287**	PKPbc	PKPbc	03 45 39.1	+1.5
	1.0nm,0.7s,baz=93,slow=2.3,SNR=16						

IDC 22 03:38:18.8±2.1,285S×12881E,h0km,mb3.9/2,mb1 4.1/3, mb1mx3.7/16,mbtmp3.9/3,ML3.9/1,MS3.9/1,Ms1 3.9/1, ms1mx2.7/27,Error ellipse: s-maj=151.8km s-min=26.2km az=68.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.83**	**163**	P	Pn	03 42 26.8	-1.5
	0.4nm,0.3s,baz=342,slow=12,SNR=6.4						
WB2	**Warramunga Arr**	**17.83**	**163**	*e*P	Pn	03 42 28.9	+0.6
ASAR	**Alice Springs**	**21.28**	**167**	P	P	03 43 07.2	+0.4
	13nm,0.9s,baz=343,slow=11,SNR=91						
ASAR				S	S	03 46 60.0	-4.0
	0.3nm,0.3s,baz=340,slow=20,SNR=3.6						
ASPA	**Alice Springs**	**21.28**	**167**	*e*P	P	03 43 06.9	+0.2
CBIJ	**Chichi jima**	**32.44**	**23**	LR	LR	03 54 48.0	
	comp=Z,242nm,21.9s,baz=91,slow=30						
MKAR	**Makanchi Array**	**64.13**	**326**	P	P	03 48 55.4	+0.5
	0.4nm,0.8s,baz=120,slow=8.5,SNR=3.9						

*ISCJB **22** 03:44:42.3±4.0,66S±0.1×1550E±0.2,h99km±32km, mb4.3/9,Error ellipse: s-maj=26.4km s-min=23.6km az=5.1*
*IDC **22** 03:44:43.6±6.0,666S×1550E,h100km±47km,mb4.0/5, mb1 4.2/7,mb1mx3.8/16,mbtmp4.3/7,MS3.2/4,Ms1 3.2/4, ms1mx2.9/22,Error ellipse: s-maj=51.0km s-min=29.0km az=117.0*
*NEIC **22** 03:44:44.4±2.5,651S×1548E,h97km±18km,mb4.4/5, Error ellipse: s-maj=23.0km s-min=14.6km az=92.0*
*BJI **22** 03:44:48.0,683S×1542E,h92km,mB4.6,mb4.6*
ISC 22 03:44:43.0±3.4,66S±01×1551E±0.2,h93km±26km,n23, σ0§82/22,mb4.3/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.58**	**121**	LR	LR	03 48 04.3	
	comp=Z,188nm,20.3s,baz=182,slow=36						
PMG	**Port Moresby**	**8.36**	**250**	P	**Pn**	**03 46 40.7**	**-0.7**
	4.5nm,0.3s,baz=66,slow=6.6,SNR=9.0						
PMG				S	**Sn**	**03 48 15.4**	**+1.3**
	4.6nm,0.3s,baz=44,slow=16,SNR=8.4						
PMG				LR	LR	03 49 38.5	
	comp=Z,135nm,19.7s,baz=92,slow=36						
PMG	**Port Moresby**	**8.36**	**250**	*e*Pn	**Pn**	**03 46 39.8**	**-1.6**
	26nm,0.8s						
PMG				*e*Sn	**Sn**	**03 48 15.1**	**+0.9**
CTA	**Charters Tower**	**15.96**	**212**	P	**Pn**	**03 48 22.1**	**+0.1**
	0.4nm,0.3s,baz=38,slow=13,SNR=6.1						
CTA				LR	LR	03 53 11.1	
	comp=Z,69nm,18.9s,baz=226,slow=32						
CTAO	**Charters Tower**	**15.96**	**212**	*e*P	**Pn**	**03 48 23.3**	**+1.3**
	11nm,0.8s						
KAKA	**Kakadu**	**23.16**	**253**	*e*P	**P**	**03 49 40.4**	**-0.9**
	5.3nm,0.5s,mb4.1						
WRAB	**Tennant Creek**	**24.14**	**235**	*e*P	**P**	**03 49 49.8**	**-0.5**
	16nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**24.15**	**235**	*e*P	**P**	**03 49 50.2**	**-0.1**
WRA	**Warramunga Arr**	**24.16**	**235**	P	**P**	**03 49 50.3**	**-0.1**
	11nm,0.6s,mb4.4,baz=59,slow=9.6,SNR=15						
ASAR	**Alice Springs**	**26.54**	**228**	P	**P**	**03 50 11.0**	**-1.0**
	3.3nm,0.7s,mb4.0,baz=61,slow=8.6,SNR=38						
STKA	**Stephens Creek**	**28.17**	**205**	P	**P**	**03 50 28.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**30.93**	**246**	*e*P	**P**	**03 50 50.5**	**-0.5**
	12nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.93**	**246**	P	**P**	**03 50 50.5**	**-0.5**
	6.0nm,0.7s,mb4.5,baz=76,slow=8.7,SNR=19						
AFI	**Afiamalu**	**33.37**	**105**	LR	LR	04 01 42.4	
	comp=Z,61nm,21.1s,baz=114,slow=30						
MBWA	**Marble Bar**	**37.17**	**243**	*e*P	**P**	**03 51 44.0**	**-0.9**
	6.7nm,0.8s,mb4.6						
KKM	**Kota Kinabalu**	**40.78**	**287**	*e*P	**P**	**03 52 15.8**	**+0.8**
NJ2	**Nanjing**	**51.65**	**320**	*e*P	**P**	**03 53 45.1**	**+4.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
KULM	**Kulim**	**55.62**	**281**	*e*P	**P**	**03 54 09.5**	**+0.4**
MDJ	**Mudanjiang**	**55.88**	**338**	P	**P**	**03 54 18.4**	**+7.4**
SONM	**Songino Array**	**69.03**	**327**	P	**P**	**03 55 38.9**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.5,baz=130,slow=5.0,SNR=5.0						
YKA	**Yellowknife Ar**	**95.90**	**28**	P	**P**	**03 57 59.5**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.9,baz=265,slow=4.5,SNR=7.6						
YKA	**Yellowknife Ar**	**95.90**	**28**	P	**P**	**03 57 59.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**153.01**	**286**	PKPbc	PKPbc	04 04 29.8	+0.3
	comp=Z,0.3nm,0.5s,baz=75,slow=2.1,SNR=8.8						
TORD				PKPab	PKPab	04 04 42.4	+1.2
	comp=Z,0.6nm,0.5s,baz=70,slow=4.1,SNR=6.5						

*TEH **22** 03:47:31.3,40.11N×53.12E,h18km,ML4.1*
*ISCJB **22** 03:47:32.0±0.3,4029N±003×53.11E±005,h10km,mb3.7/9, Error ellipse: s-maj=6.4km s-min=4.1km az=

DAMV eSG Sn 03 49 36.5 -4.0
DAMV AML AML 03 49 40.1
comp=N,156nm,0.3s
DAMV AML AML 03 49 43.1
comp=E,154nm,0.2s
DAMV Damavand 4.74 191 ePn Pn 03 48 45.4 -0.1
SNR=52
DAMV Sg Sn 03 49 36.0 -4.5
DAMV Damavand 4.74 191 Pn Pn 03 48 45.0 -0.5
DAMV Sg Sn 03 49 36.0 -4.5
IHSH Hashtroud 4.94 248 ePn Px 03 48 57.2
IMHD Mahdasht 4.99 203 ePn Pn 03 48 49.0 +0.2
IVRN Varamin 5.40 192 ePn Pn 03 48 54.7 +0.2
IBST Bostanabad 5.49 244 ePn Pn 03 48 56.0 +0.3
IBST Bostanabad 5.49 244 Pn Pn 03 48 55.9 +0.2
IRAZ Razeghan 5.49 208 ePn Px 03 49 03.0
IKRD Kardeh 5.52 128 ePn Px 03 49 05.3
ISFB Sefidab 5.97 187 ePn Pn 03 49 02.4 +0.1
ISFB Sefidab 5.97 187 Pn Pn 03 49 02.3 0.0
IAZR Azarshahr 6.13 247 ePn Pn 03 49 06.0 +1.4
ASAO Ashtian 6.24 204 ePN Pn 03 49 02.9 -3.1
ASAO Ashtian 6.24 204 Pn Pn 03 49 02.0 -4.0
GNI Garni 6.40 271 Pn Pn 03 49 10.0 +1.8
comp=E,0.8nm,0.3s,baz=104,slow=4.2,SNR=2.7
IMOG Moghan 6.45 128 ePn Pn 03 49 10.1 +1.2
IMYA Miamay 6.77 123 ePn Pn 03 49 14.3 +0.9
IKOM Komasi 7.56 218 ePn Pn 03 49 26.1 +2.0
IBAF Bafgh 8.91 166 ePn Pn 03 49 43.0 +0.3
IBAF Bafgh 8.91 166 Pn Pn 03 49 42.9 +0.2
AB31 Akbulak array 10.19 26 ⇑P Pn 03 49 59.8 -0.4
comp=E,1.2nm,0.3s,baz=201,slow=13,SNR=90
AB31 ⇓S Sn 03 51 48.2 -6.4
comp=E,3.9nm,0.5s,baz=207,slow=23,SNR=6.4
AKTK Aktyubinsk 10.71 17 Pn Pn 03 50 06.8 -0.6
AKTK Sn Sn 03 52 00.2 -7.1
AKTK Aktyubinsk 10.71 17 Pn Pn 03 50 06.8 -0.6
AKTK Sn Sn 03 52 00.2 -7.1
AKTO Aktyubinsk 10.71 17 ⇑P Pn 03 50 08.3 +1.0
comp=E,0.6nm,0.5s
AKTO ⇑S Sn 03 52 01.1 -6.3
comp=E,2.2nm,0.9s
AKTO Aktyubinsk 10.71 17 Pn Pn 03 50 06.8 -0.6
comp=E,0.7nm,0.3s,baz=211,slow=13,SNR=11
AKTO Sn Sn 03 52 00.2 -7.1
comp=E,2.0nm,0.3s,baz=55,slow=23,SNR=7.2
AKTO Aktyubinsk 10.71 17 P Pn 03 50 06.8 -0.6
AKTO S Sn 03 52 00.2 -7.1
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO smax
comp=N,2.0nm,0.3s
KK31 Karatay Array 13.31 72 P Pn 03 50 43.2 +0.3
comp=N,0.9nm,0.5s,baz=263,slow=16,SNR=9.6
KK31 ⇓S Sn 03 53 03.1 -7.9
comp=N,9.0nm,0.9s,baz=269,slow=22,SNR=7.9
KK31 Karatay Array 13.31 72 P Pn 03 50 43.2 +0.3
comp=N,0.9nm,0.5s,SNR=9.6
BRTR Keskin Array B 14.93 274 Pn Pn 03 51 11.2 +6.3
comp=N,0.1nm,0.3s,baz=90,slow=12,SNR=2.9
BRTR Keskin Array B 14.93 274 Pn Pn 03 51 11.2 +6.2
ZRNK Zerenda 16.67 35 ⇑P Pn 03 51 26.5 -1.2
comp=N,2.6nm,0.6s
ZRNK Zerenda 16.67 35 eP Pn 03 51 26.3 -1.3
comp=N,4.0nm,0.6s
ZRNK Zerenda 16.67 35 eP Pn 03 51 26.3 -1.3
ZRNK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 17.32 37 eP Pn 03 51 35.3 -0.4
comp=Z,9.9nm,1.0s
BRVK Borovoye 17.32 37 eP Pn 03 51 35.3 -0.4
comp=Z,9.9nm,1.0s
BRVK Borovoye 17.32 37 eP Pn 03 51 35.3 -0.4
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BVA0 Borovoye Array 17.34 37 ⇓P Pn 03 51 36.4 +0.3
comp=Z,1.5nm,0.8s,baz=230,slow=13,SNR=43
BVAR Borovoye Array 17.34 37 P Pn 03 51 35.5 -0.6
comp=Z,1.5nm,0.3s,baz=226,slow=11,SNR=43
BVAR Borovoye Array 17.34 37 P Pn 03 51 36.4 +0.3
comp=Z,1.5nm,0.8s,SNR=43
VOSK Vostochnaya 17.43 39 ⇓P Pn 03 51 38.4 +1.3
comp=Z,3.8nm,0.8s
AKASG Malin Array Be 19.62 310 P Pn 03 52 02.4 -1.5
comp=Z,1.5nm,0.3s,baz=107,slow=9.5,SNR=6.0
MLR Muntele Rosu 20.51 294 P P 03 52 13.4 +1.2
comp=Z,1.8nm,0.6s,baz=160,slow=18,SNR=6.2
KURK Kurchatov 20.60 51 ⇑P P 03 52 14.4 +1.3
comp=Z,4.7nm,1.4s
KURK Kurchatov 20.60 51 eP P 03 52 13.9 +0.8
comp=Z,5.6nm,0.9s
KURK Kurchatov 20.60 51 eP P 03 52 13.9 +0.8
comp=Z,5.6nm,0.9s
KURK Kurchatov 20.60 51 eP P 03 52 14.0 +0.9
KURK pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 22.05 63 P P 03 52 29.2 +0.5
comp=Z,3.2nm,0.8s,mb3.8,baz=248,slow=5.7,SNR=16
MK31 Makanchi Array 22.05 63 P P 03 52 29.2 +0.4
SNR=16
MKAR Makanchi Array 22.05 63 P P 03 52 28.9 +0.2
comp=Z,1.8nm,0.7s,mb3.6,baz=250,slow=11,SNR=16
KLMR Klimovskoe 22.23 342 eP P 03 52 31.0 +0.3
KLMR pmax pmax
comp=Z,40nm,2.9s,mb4.3
IDI Anoyia 22.80 266 P P 03 52 36.9 +0.2
comp=Z,1.3nm,0.6s,mb3.5,baz=79,slow=16,SNR=3.1
ZAL Zalesovo 25.27 47 P P 03 53 00.5 +0.2
comp=Z,1.5nm,0.3s,mb4.0,baz=180,slow=6.1
FINES FINESS Array B 26.83 331 P P 03 53 13.5 -0.9
comp=Z,0.6nm,0.6s,mb3.3,baz=123,slow=9.4,SNR=4.4
HFS Hagfors 31.41 322 P P 03 53 54.3 -0.8
comp=Z,1.3nm,0.8s,mb3.8,baz=103,slow=9.7,SNR=5.1
SONM Songino Array 38.37 60 P P 03 54 55.0 -0.2
comp=Z,0.3nm,0.7s,mb3.1,baz=273,slow=8.9,SNR=3.1
ILAR Eielson Array 74.10 9 P P 03 59 09.5 -0.8
comp=Z,0.4nm,0.8s,mb3.4,baz=336,slow=5.6,SNR=4.7

IDC 22 03:59:05.7±5.6, 2685S×17638W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/12, mbtmp3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/20, Error ellipse: s-maj=272.6km s-min=39.9km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.75**	**209**	LR	LR	04 00 25.6	
comp=Z,437nm,21.5s,baz=125,slow=29							
ASAR	**Alice Springs**	**44.85**	**263**	P	P	04 07 22.1	+0.4
0.4nm,0.5s,baz=92,slow=8.3,SNR=4.1							
WRA	**Warramunga Arr**	**45.52**	**268**	P	P	04 07 27.1	+0.1
1.8nm,0.8s,baz=108,slow=7.6,SNR=8.4							
NOA	**NORSAR Array B**	**145.43**	**353**	PKPbc	PKPbc	04 18 45.1	-0.5
1.1nm,0.8s,baz=3.9,slow=3.6,SNR=3.6							
HFS	**Hagfors**	**146.02**	**351**	PKPbc	PKPbc	04 18 45.9	-1.5
1.1nm,0.8s,baz=41,slow=2.7,SNR=2.9							
AKASG	**Malin Array Be**	**149.21**	**328**	PKPbc	PKPbc	04 18 54.9	-1.3
0.4nm,0.4s,baz=40,slow=2.3,SNR=4.8							

IDC 22 04:09:18.5±5.0, 1170S×16666E, h162km±47km, mb3.5/8, mb1 3.7/9, mb1mx3.6/15, mbtmp3.9/9, Error ellipse: s-maj=27.3km s-min=24.1km az=153.0
NEIC 22 04:09:20.9±2.6, 1173S×16663E, h184km±25km, mb3.9/3, Error ellipse: s-maj=19.7km s-min=16.3km az=140.0
ISCJB 22 04:09:21.6±3.5, 119S±0.1×1666E±02, h204km±33km, mb3.6/10, Error ellipse: s-maj=28.0km s-min=22.3km az=24.9
ISC 22 04:09:20.4±3.8, 118S±02×1667E±02, h181km±37km, n15, σ1§00/13, mb3.7/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.18**	**181**	P	Pn	04 11 44.4	+2.2
0.6nm,0.3s,baz=315,slow=1.4,SNR=8.6							
DZM				S	Sn	04 13 33.9	-1.6
0.3nm,0.3s,baz=142,slow=20,SNR=3.6							
WRA	**Warramunga Arr**	**32.12**	**251**	P	P	04 15 30.5	0.0
0.3nm,0.5s,mb3.3,baz=84,slow=9.3,SNR=3.7							
ASAR	**Alice Springs**	**33.30**	**245**	P	P	04 15 40.2	-0.6
0.4nm,0.5s,mb3.4,baz=66,slow=9.5,SNR=5.8							
VNDA	**Vanda**	**65.73**	**181**	P	P	04 19 46.7	+1.1
1.1nm,0.7s,mb3.8,baz=349,slow=7.6,SNR=7.9							
VNDA	**Vanda**	**65.73**	**181**	P	P	04 19 46.3	+0.7
0.5nm,0.6s,mb3.5							
CASY	**Casey**	**66.00**	**202**	P	P	04 19 47.7	+0.4
1.7nm,0.5s,mb4.1							
ULN	**Ulaanbaatar**	**79.49**	**324**	eP	P	04 21 07.0	+0.2
1.3nm,0.5s,mb3.8							
SONM	**Songino Array**	**79.86**	**324**	P	P	04 21 09.1	+0.4
0.7nm,0.6s,mb3.5,baz=135,slow=4.9,SNR=12							
ILAR	**Eielson Array**	**83.96**	**18**	P	P	04 21 29.1	-1.0
0.5nm,0.6s,mb3.5,baz=241,slow=4.7,SNR=15							
NVAR	**Mina Array Bea**	**85.81**	**50**	P	P	04 21 40.1	+0.8
0.5nm,0.7s,mb3.4,baz=233,slow=10,SNR=4.7							
MKAR	**Makanchi Array**	**94.74**	**317**	P	P	04 22 21.1	0.0
1.7nm,0.5s,mb4.5,baz=86,slow=6.2,SNR=26							
YKA	**Yellowknife Ar**	**95.23**	**27**	P	P	04 22 21.8	-1.6
0.2nm,0.4s,mb3.7,baz=257,slow=4.9,SNR=5.7							
ARCES	**ARCESS Array B**	**117.33**	**346**	PKP	PKPdf	04 27 43.7	-0.5
5.7nm,1.0s,baz=64,slow=2.8,SNR=5.2							
FINES	**FINESS Array B**	**122.85**	**339**	PKP	PKPdf	04 27 54.2	-0.6
0.4nm,0.5s,baz=69,slow=6.3,SNR=4.7							
FINES	**FINESS Array B**	**122.85**	**339**	PKP	PKPdf	04 27 54.2	-0.6

IDC 22 04:20:58.9±1.1, 3475N×7364E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.6/24, mbtmp3.6/9, ML3.4/3, Error ellipse: s-maj=28.0km s-min=24.1km az=73.0
ISCJB 22 04:21:02.8±0.8, 3489N±007×736E±02, h33km, mb3.3/5, Error ellipse: s-maj=19.7km s-min=6.1km az=125.3
ISC 22 04:21:04.9±0.8, 3485N±007×736E±01, h35km, n12, σ1§00/15, mb3.3/5, 1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.06**	**138**	eP	Pn	04 21 51.0	+0.2
DLH				eS	Sn	04 22 28.0	+1.8
SDNR	**Sundarnagar**	**4.41**	**138**	eP	Pn	04 22 09.0	-0.2
SDNR				eS	Sn	04 23 15.0	+16
KK31	**Karatay Array**	**8.57**	**345**	P	Pn	04 23 08.2	+1.8
1.5nm,0.3s,baz=172,slow=14,SNR=48							
KK31				⇓S	Sn	04 24 43.6	+1.8
1.5nm,0.5s,baz=170,slow=23,SNR=9.1							
MKAR	**Makanchi Array**	**13.63**	**26**	Pn	Pn	04 24 15.6	0.0
0.0nm,0.3s,baz=235,slow=5.1,SNR=3.0							
BVAR	**Borovoye Array**	**18.31**	**354**	P	Pn	04 25 14.6	-1.3
0.3nm,0.3s,baz=161,slow=10,SNR=5.2							
AKTO	**Aktyubinsk**	**19.25**	**329**	P	Pn	04 25 26.9	-0.4
0.3nm,0.3s,baz=112,slow=11,SNR=3.7							
ZAL	**Zalesovo**	**20.66**	**19**	P	P	04 25 40.6	-0.8
2.7nm,0.3s,baz=303,slow=8.5,SNR=4.6							
SONM	**Songino Array**	**27.64**	**52**	P	P	04 26 48.7	-0.4
0.1nm,0.4s,mb2.8,baz=254,slow=8.4,SNR=5.2							
TORD	**Torodi Ar. Bea**	**67.78**	**271**	P	P	04 31 59.4	+0.3
0.5nm,0.9s,mb3.5,baz=50,slow=5.6,SNR=6.1							
WRA	**Warramunga Arr**	**79.36**	**123**	P	P	04 33 06.1	-0.9
0.5nm,1.0s,mb3.4,baz=320,slow=4.9,SNR=4.8							
ASAR	**Alice Springs**	**81.61**	**126**	P	P	04 33 18.4	-0.8
0.2nm,0.5s,mb3.3,baz=328,slow=6.8,SNR=4.2							
YKA	**Yellowknife Ar**	**82.77**	**4**	P	P	04 33 24.7	-0.5
0.2nm,0.3s,mb3.6,baz=345,slow=5.5,SNR=4.9							

SZGRF 22 04:36:06.0, 1930S×178.18W, h534km, Fiji Islands region
BJI 22 04:36:09.2, 1931S×177.30W, h622km, mB4.7, mb4.5
IDC 22 04:36:09.2±1.1, 1884S×177.73W, h577km±12km, mb4.0/9, mb1 4.2/12, mb1mx4.0/19, mbtmp5.1/12, Error ellipse: s-maj=16.1km s-min=11.7km az=125.0
ISCJB 22 04:36:09.7±0.6, 1899S±005×177.77W±008, h599km±10km, mb4.7/33, Error ellipse: s-maj=12.2km s-min=7.2km az=44.9
NEIC 22 04:36:10.3±0.7, 1889S×177.76W, h591km±7km, mb4.8/20, Error ellipse: s-maj=11.2km s-min=7.1km az=130.0
MOS 22 04:36:12.3±2.6, 18.10S×178.67W, h549km, mb4.6/4, Error ellipse: s-maj=14.5km s-min=11.6km az=170.3
ISC 22 04:36:10.3±0.6, 1895S±005×177.72W±008, h591km±9km, h603km±2.6km; pP-P, n203, σ0§97/85, mb4.7/33, 15C-16D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.59**	**50**	P	P	04 38 04.6	-0.7
54nm,0.3s,baz=17,slow=0.5,SNR=48							
AFI				S	S	04 39 36.5	-3.2
8.2nm,0.3s,baz=60,slow=23,SNR=6.3							
AFI	**Afiamalu**	**7.59**	**50**	ePn	P	04 38 04.7	-0.7
154nm,0.5s							
AFI				eSn	S	04 39 38.6	-1.0
AFI	**Afiamalu**	**7.59**	**50**	eP	P	04 38 04.7	-0.7
AFI				e		04 39 38.6	
AFI				pmax	pmax		
comp=Z,154nm,0.5s							
FUNA	**Funafuti**	**10.78**	**343**	eP	P	04 38 37.2	+0.5
DZM	**Mont Dzumac**	**15.16**	**255**	P	P	04 39 20.3	+0.1
comp=Z,5.4nm,0.3s,baz=80,slow=14,SNR=31							
NOU	**Noumea**	**15.19**	**255**	eP	P	04 39 20.0	-0.5
MWZ	**Matawai**	**19.76**	**191**	PN	P	04 40 00.9	-1.3
URZ	**Urewera**	**19.76**	**192**	P	P	04 40 00.6	-1.6
comp=Z,17nm,0.3s,baz=22,slow=3.2,SNR=40							
URZ				S	S	04 43 01.8	-8.0
comp=Z,1.9nm,0.3s,baz=178,slow=19,SNR=8.9							
URZ	**Urewera**	**19.76**	**192**	PN	P	04 40 00.2	-2.0
KNZ	**Kokohu**	**20.40**	**190**	PN	P	04 40 09.9	+1.9
QRZ	**Quartz Range**	**23.36**	**199**	PN	P	04 40 35.1	+0.8
THZ	**Tophouse**	**24.11**	**197**	PN	P	04 40 41.4	+0.4
THZ				SN	S	04 44 15.7	-2.5
DSZ	**Denniston Nort**	**24.42**	**199**	PN	P	04 40 43.7	0.0
KHZ	**Kahutara**	**24.55**	**196**	PN	P	04 40 44.0	-0.9
LTZ	**Lake Taylor**	**25.23**	**197**	PN	P	04 40 49.5	-1.3
RPZ	**Rata Peaks**	**26.44**	**198**	P	P	04 41 02.6	+1.2
comp=Z,11nm,0.3s,mb4.9,baz=20,slow=1.0,SNR=4.1							
JCZ	**Jackson Bay**	**27.50**	**201**	PN	P	04 41 10.9	+0.1
ARMA	**Armidale**	**30.01**	**242**	eP	P	04 41 33.8	+1.3
ARMA				e		04 41 35.6	
CNB	**Canberra Magne**	**33.33**	**234**	eP	P	04 42 02.0	+1.3
comp=Z,62nm,1.5s,mb5.0							
CNB				e		04 42 03.8	
CTA	**Charters Tower**	**33.94**	**262**	⇓iP	P	04 42 06.2	+0.5
comp=Z,8.7nm,0.4s,mb4.7							
CTA				e		04 42 07.9	
CTAO	**Charters Tower**	**33.94**	**262**	eP	P	04 42 06.0	+0.2
comp=Z,62nm,0.8s,mb5.3							
CTAO	**Charters Tower**	**33.94**	**262**	eP	P	04 42 06.0	+0.3
CTAO				pmax	pmax		
comp=Z,62nm,0.8s,mb5.3							
PMG	**Port Moresby**	**35.28**	**281**	P	P	04 42 18.1	+1.2
comp=Z,97nm,0.8s,mb5.5,baz=96,slow=6.4,SNR=28							
PMG	**Port Moresby**	**35.28**	**281**	eP	P	04 42 17.8	+0.9
comp=Z,125nm,0.9s,mb5.5							
TOO	**Toolangi**	**37.04**	**232**	eP	P	04 42 32.3	+1.0
comp=Z,14nm,0.7s,mb4.6							
TOO				e		04 42 34.3	
TOO	**Toolangi**	**37.04**	**232**	eP	P	04 42 32.3	+1.0
TOO				pmax	pmax		
comp=Z,14nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**38.72**	**242**	eP	P	04 42 43.9	-1.0
comp=Z,24nm,1.1s,mb4.6							
STKA				e		04 42 45.8	
STKA	**Stephens Creek**	**38.72**	**242**	P	P	04 42 44.0	-0.9
comp=Z,26nm,0.4s,mb5.2,baz=86,slow=9.2,SNR=82							
WB2	**Warramunga Arr**	**45.09**	**260**	⇓iP	P	04 43 34.4	-0.4
WB2				e		04 43 36.6	
WB2				eS	S	04 49 28.9	-2.8
WRAB	**Tennant Creek**	**45.09**	**260**	eP	P	04 43 34.3	-0.5
comp=Z,75nm,0.6s,mb5.4							
WRAB	**Tennant Creek**	**45.09**	**260**	eP	P	04 43 34.3	-0.5
WRAB				pmax	pmax		
comp=Z,75nm,0.6s,mb5.4							
WRA	**Warramunga Arr**	**45.10**	**260**	P	P	04 43 34.5	-0.4
comp=Z,42nm,0.4s,mb5.3,baz=97,slow=7.6,SNR=290							
WRA				S	S	04 49 29.4	-2.5
comp=Z,0.8nm,0.8s,baz=100,slow=12,SNR=3.1							
AS31	**Alice Springs**	**45.15**	**255**	⇓iP	P	04 43 35.5	+0.2
AS31				e		04 43 37.5	
AS31				eS	S	04 49 30.9	-1.7
ASAR	**Alice Springs**	**45.15**	**255**	P	P	04 43 35.5	+0.2
comp=Z,86nm,0.6s,mb5.5,baz=91,slow=7.5,SNR=290							
ASAR				PcP	PcP	04 45 03.2	+0.5
comp=Z,5.8nm,0.6s,baz=116,slow=3.6,SNR=6.5							
ASAR				ScP	ScP	04 48 01.1	+1.6
comp=Z,1.0nm,0.5s,baz=116,slow=3.8,SNR=4.9							
ASAR				S	S	04 49 31.0	-1.6
comp=Z,3.5nm,0.9s,baz=92,slow=16,SNR=11							
ASAR	**Alice Springs**	**45.15**	**255**	P	P	04 43 35.5	+0.2
ASAR						04 45 03.3	
ASAR				S	S	04 49 31.0	-1.6
ASPA	**Alice Springs**	**45.15**	**255**	⇓iP	P	04 43 35.5	+0.2
ASPA				e		04 43 37.5	
ASPA				eS	S	04 49 30.9	-1.7
KAKA	**Kakadu**	**48.23**	**270**	⇓iP	P	04 43 58.0	-0.4
comp=Z,31nm,0.5s,mb5.1							
KAKA				e		04 44 00.0	
FORT	**Forrest**	**50.16**	**245**	eP	P	04 44 12.4	-0.2
comp=Z,22nm,0.5s,mb4.8							
FORT				e		04 44 14.0	
FITZ	**Fitzroy Crossi**	**53.51**	**261**	eP	P	04 44 37.0	+0.4
comp=Z,12nm,0.5s,mb4.5							
FITZ				e		04 44 38.8	
MBWA	**Marble Bar**	**58.46**	**256**	eP	P	04 45 10.3	-0.3
comp=Z,20nm,0.5s,mb4.5							
KLBR	**Kellerberrin**	**58.96**	**244**	eP	P	04 45 13.9	-0.1
comp=Z,17nm,0.7s,mb4.3							
KLBR				e		04 45 15.7	
VNDA	**Vanda**	**59.47**	**185**	P	P	04 45 18.9	+1.5
comp=Z,1.7nm,0.5s,baz=20,slow=7.0,SNR=9.6							
VNDA	**Vanda**	**59.47**	**185**	P	P	04 45 18.5	+1.1
comp=Z,4.4nm,1.0s							
VNDA	**Vanda**	**59.47**	**185**	P	P	04 45 18.5	+1.1
VNDA				pmax	pmax		
comp=Z,4.0nm,1.0s							
MUN	**Mundaring**	**60.24**	**243**	eP	P	04 45 22.9	+0.4
MUN				e		04 45 24.7	
MJAR	**Matsushiro Arr**	**69.13**	**323**	P	P	04 46 17.5	-0.8
comp=Z,4.6nm,0.6s,mb4.1,baz=158,slow=6.0,SNR=12							
MAJO	**Matsushiro**	**69.13**	**323**	P	P	04 46 19.1	+0.8
comp=Z,9.5nm,0.7s,mb4.3							
MAJO	**Matsushiro**	**69.13**	**323**	P	P	04 46 19.1	+0.8
MAJO				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.3							
MAT	**Matsushiro**	**69.13**	**323**	P	P	04 46 17.8	-0.5
MAT	**Matsushiro**	**69.13**	**323**	eP	P	04 46 18.0	-0.3
comp=Z,8.9nm,0.7s,mb4.3							
MAT	**Matsushiro**	**69.13**	**323**	eP	P	04 46 18.0	-0.3
MAT				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.3							
KKM	**Kota Kinabalu**	**69.63**	**284**	eP	P	04 46 21.6	+0.3
QSPA	**South Pole Qui**	**71.11**	**180**	eP	P	04 46 30.9	+0.9
comp=Z,10nm,0.9s,mb4.4							
SSE	**Sheshan**	**76.90**	**310**	P	P	04 47 03.5	+0.8
SSE				AMB	AMB		
comp=Z,21nm,0.8s,mb4.6							
SSE				AMB	AMB		
comp=Z,50nm,4.4s							
NJ2	**Nanjing**	**79.10**	**309**	eP	P	04 47 14.0	-0.4
NJ2				AP	pP	04 49 21.0	+2.8
NJ2				XP	sP	04 50 20.8	+2.5
NJ2				PP	PP	04 50 26.1	+1.4
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.2							
NJ2				AMB	AMB		
comp=Z,120nm,6.9s							
HABR	**Khabarovsk**	**79.23**	**330**	eP	P	04 47 15.4	+0.3
HABR				eS	S	04 56 32.2	+4.6
MDJ	**Mudanjiang**	**79.41**	**325**	P	P	04 47 16.9	+0.9
MDJ				PP	PP	04 50 27.5	+0.3
MDJ				S	S	04 56 28.8	-0.6
MDJ				AMB	AMB		
comp=Z,17nm,2.0s,mb4.0							
MDJ				AMB	AMB		
comp=Z,75nm,4.5s							
MDJ	**Mudanjiang**	**79.41**	**325**	eP	P	04 47 16.4	+0.3
comp=Z,75nm,1.8s,mb4.7							
CN2	**Changchun**	**81.24**	**322**	eP	P	04 47 26.0	+0.5
CN2				eAP	pP	04 49 32.0	+1.8
CN2				eS	S	04 56 48.3	+0.4
CN2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.2							
CN2				AMB	AMB		
comp=Z,200nm,3.0s							
KULM	**Kulim**	**83.82**	**278**	eP	P	04 47 39.6	+1.1
SEY	**Seymchan**	**84.93**	**347**	⇓eP	P	04 47 43.9	0.0
BJI	**Beijing**	**84.98**	**315**	P	P	04 47 45.5	+1.3
BJI				AMB	AMB		
comp=Z,7.0nm,0.7s,mb4.4							
ENH	**Enshi**	**85.39**	**304**	eP	P	04 47 46.7	+0.6
comp=Z,15nm,0.8s,mb4.7							
GYA	**Guiyang**	**86.12**	**300**	P	P	04 47 48.6	-1.0
GYA				AP	pP	04 49 58.1	+1.9
GYA				PP	PP	04 51 22.3	+1.2
GYA				S		04 57 33.0	
GYA				AMB	AMB		
comp=Z,20nm,0.6s,mb4.9							
GYA				AMB	AMB		
comp=Z,90nm,3.4s							
COLA	**College**	**86.64**	**12**	eP	P	04 47 51.8	-0.2
comp=Z,2.9nm,0.6s,mb4.2							
COLA	**College**	**86.64**	**12**	⇓eP	P	04 47 51.9	-0.1
ILAR	**Eielson Array**	**86.75**	**13**	P	P	04 47 51.1	-1.4
comp=Z,0.6nm,0.5s,mb3.6,baz=226,slow=5.0,SNR=18							
HHC	**Hu-ho-hao-te**	**88.46**	**314**	eP	P	04 47 59.9	-0.7
HHC				AP	pP	04 50 10.3	+2.2
HHC				XP	sP	04 51 09.3	+2.1
HHC				PP	PP	04 51 41.8	+2.2
HHC				SKS		04 57 32.1	
HHC				S		04 57 55.1	
HHC				SS	SS	05 04 08.9	+3.2
HHC				AMB	AMB		
comp=Z,9.0nm,0.3s,mb5.0							
HHC				AMB	AMB		
comp=Z,34nm,3.4s							
KMI	**Kunming**	**88.88**	**297**	P	P	04 48 04.3	+1.8
KMI				S		04 58 02.1	
KMI				AMB	AMB		
comp=Z,12nm,1.1s,mb4.6							
CHTO	**Chiang Mai**	**89.97**	**290**	eP	P	04 48 08.3	+0.8
comp=Z,71nm,0.9s,mb5.5							
CHTO	**Chiang Mai**	**89.97**	**290**	eP	P	04 48 08.3	+0.8
CHTO				pmax	pmax		
comp=Z,71nm,0.9s,mb5.5							
CD2	**Chengdu**	**90.18**	**303**	eP	P	04 48 05.1	-3.4
CD2				PP	PP	04 51 53.1	+0.1
CD2				SKS		04 57 39.0	
CD2				S		04 58 07.6	
CD2				AMB	AMB		
comp=Z,20nm,0.9s,mb5.0							
CD2				AMB	AMB		
comp=Z,90nm,9.3s							
ULN	**Ulaanbaatar**	**94.36**	**319**	⇓eP	P	04 48 27.5	-0.2
SONM	**Songino Array**	**94.76**	**319**	P	P	04 48 29.7	+0.2
comp=Z,0.4nm,0.6s,mb3.7,baz=108,slow=2.8,SNR=4.5							
GTA	**Gaotai**	**96.20**	**309**	eP	P	04 48 32.8	-3.1
GTA				SKS		04 58 10.4	
GTA				AMB	AMB		
comp=Z,3.0nm,0.7s,mb4.6							
GTA				AMB	AMB		
comp=Z,95nm,3.8s							
MKAR	**Makanchi Array**	**110.32**	**314**	PKiKP	PKiKP	04 53 34.6	-1.3
comp=Z,1.0nm,0.5s,baz=155,slow=1.4,SNR=20							
KURK	**Kurchatov

comp=N,120nm,2.0s
VOR pmax pmax
comp=E,120nm,2.0s
VOR pmax pmax
comp=Z,110nm,2.0s
NB2 NORSAR Subarra 137.48 354 PKPa 04 54 28.0
comp=Z,0.5nm,0.5s,baz=14,slow=3.8
NOA NORSAR Array B 137.48 354 PKP PKPdf 04 54 28.0 +0.4
comp=Z,0.8nm,0.6s,baz=14,slow=4.0,SNR=4.6
ANN Anapa 141.04 319 *i* PKHKP 04 54 30.5
ANN *e*S SKSac 05 01 00.5 +5.7
ANN pmax pmax
comp=Z,80nm,1.3s
AKASG Malin Array Be 141.78 332 PKhKP 04 54 29.8
comp=Z,2.5nm,0.4s,baz=42,slow=4.2,SNR=23
AKASG Malin Array Be 141.78 332 PKP PKPdf 04 54 29.8 -5.6
MALT Malatya 143.18 309 *e*PKPdf PKPdf 04 54 36.7 -1.2
SVST Sivas 143.67 312 *i* P PKPdf 04 54 38.7 0.0
GZT Gaziantep 144.16 308 *i* P PKPdf 04 54 39.9 +0.3
BOYT Boyabat 144.32 316 *i* P PKPdf 04 54 40.2 +0.4
BSEG Bad Segeberg 144.53 352 *e*PKPbc PKPdf 04 54 41.8 +1.6
LVV L'vov 144.62 336 *e*PKHKP 04 54 35.4
KWP Kalwaria 145.28 337 *e*PKPbc PKPbc 04 54 42.0 -0.7
COBT Iskenderun 145.44 307 *i* P PKPdf 04 54 43.5 +1.7
ELDT Eldivan 145.75 316 *i* P PKPdf 04 54 44.1 +1.8
OJC Ojcow 145.81 340 *e*PKP PKPbc 04 54 45.5 +1.3
BURAR Bucovina Array 145.83 332 ⇓P PKPbc 04 54 45.4 +1.1
BURAR Bucovina Array 145.83 332 ⇓P PKPbc 04 54 45.4 +1.1
BR131 Keskin Array S 145.97 314 *e*PKPbc PKPbc 04 54 44.2 -0.4
BRTR Keskin Array B 145.97 314 PKPbc PKPbc 04 54 43.7 -1.0
comp=Z,6.1nm,0.7s,baz=124,slow=3.5,SNR=32
STHS Stebnicka Huta 146.00 338 *e*PKP PKPbc 04 54 46.1 +1.4
KOLS Kolonicke sedl 146.01 336 *e*PKP PKPbc 04 54 45.7 +0.9
KSP Ksiaz 146.28 344 *e*PKP PKPbc 04 54 47.0 +1.5
CRVS Cervenica-Dubn 146.34 337 *e*PKP PKPbc 04 54 49.7 +4.0
VRI Vrincioaia 146.40 328 ⇑P PKPbc 04 54 47.1 +1.2
PLOR Plostina 146.45 329 ⇑P PKPbc 04 54 46.0 0.0
ANTO Ankara 146.47 315 *e*PKPbc PKPbc 04 54 45.7 -0.3
TIRR Tirgusor 146.49 325 ⇑P PKPdf 04 54 44.7 +1.2
HARR Harsova 146.59 326 ⇑P PKPbc 04 54 46.7 +0.3
SGKT Sivrigoynuk 146.60 317 *i* P PKPbc 04 54 46.5 +0.1
CLL Collm 146.61 348 *e*PKPbc PKPbc 04 54 47.1 +0.7
CLL Collm 146.61 348 *i* PKPbc PKPbc 04 54 45.9 -0.5
comp=Z,5.0nm,0.5s
CLL ⇓*i*PKiKP PKiKP 04 54 47.6 -0.8
comp=Z,15nm,0.6s
OKC Ostrava-Krasne 146.66 341 *e*PKPbc PKPbc 04 54 47.8 +1.2
UPC Upice 146.66 344 *e*PKPbc PKPbc 04 54 47.6 +1.0
DPC Dobruska-Polom 146.73 344 *e*PKPbc PKPbc 04 54 48.4 +1.7
BRG Berggiesshubel 146.82 346 *e*PKPbc PKPbc 04 54 48.4 +1.4
BRG Berggiesshubel 146.82 346 *e*P PKPbc 04 54 46.8 -0.2
comp=Z,1.0nm,0.5s
BRG *i* 04 54 48.4
comp=Z,3.4nm,0.6s
MORC Moravsky Berou 146.90 342 *e*PKPbc PKPbc 04 54 46.7 -0.5
KECS Kecovo 147.05 338 *e*PKP PKPbc 04 54 49.1 +1.5
MLR Muntele Rosu 147.06 329 ⇓P PKPbc 04 54 48.6 +1.0
HENT Hendek 147.22 318 *i* P PKPdf 04 54 47.1 +2.4
MOX Moxa 147.51 349 *e*PKPbc PKPbc 04 54 49.9 +1.1
MOX Moxa 147.51 349 *e*PKP PKPbc 04 54 50.0 +1.2
PRU Pruhonice 147.51 345 *e*PKPbc PKPbc 04 54 48.9 +0.1
VOIR 147.53 329 ⇓P PKPdf 04 54 48.2 +3.0
DRGR 147.56 333 ⇑P PKPbc 04 54 49.0 +0.1
WERD Werda 147.57 348 *e*PKPbc PKPbc 04 54 50.0 +1.1
UBBA Unterbreizbach 147.61 351 *ep*PKPbc pPKPbc 04 56 55.4 -8.5
VYHS Vyhne 147.62 339 *e* PKPdf 04 54 48.0 +2.6
PSZ Piszkesteto 147.74 338 *e*PKPbc PKPbc 04 54 49.7 +0.4
NKC Novy Kostel 147.75 348 *e*PKPbc PKPbc 04 54 50.6 +1.2
TREC Trest 147.91 344 *e*PKPbc PKPbc 04 54 51.1 +1.3
MANZ Manzenberg 148.05 348 *e*PKPbc PKPbc 04 54 51.9 +1.8
CSS Prodhromos 148.22 306 *e*PKPbc PKPbc 04 54 50.1 -0.5
ROTZ Rotzenmuhle 148.24 348 *e*PKPbc PKPbc 04 54 52.2 +1.6
SRO Srobarova 148.38 339 *e* PKPdf 04 54 49.3 +2.7
TNS Taunus Mts 148.41 352 *e*PKPbc PKPbc 04 54 52.4 +1.4
TNS *ep*PKPbc pPKPbc 04 56 55.9 -10
ZST Bratislava 148.44 341 *e*PKP PKPbc 04 54 52.7 +1.6
EIL Elat 148.47 296 *e*PKPbc PKPbc 04 54 51.9 +0.7
GRA1 Grafenberg Arr 148.50 349 *e*PKPbc PKPbc 04 54 53.0 +1.8
GRF Grafenberg Arr 148.50 349 *e*PKPbc PKPbc 04 54 53.0 +1.8
KHC Kasperske Hory 148.54 346 *e*PKPbc PKPbc 04 54 50.9 -0.5
KHC PKPab PKPab 04 58.0 +0.8
KHC Kasperske Hory 148.54 346 *e*PKIKP PKPbc 04 50.9 -0.5
KHC *e* 04 58.0
WET Wettzell 148.69 347 *e*PKPbc PKPbc 04 54 54.0 +2.3
ULDT Uludag 148.71 318 *i* P PKPbc 04 54 51.8 0.0
GEC2 GERESS Array S 148.78 345 *e*PKPbc PKPbc 04 54 53.2 +1.3
GERES GERESS Array B 148.78 345 PKPbc PKPbc 04 54 50.9 -1.0
comp=Z,4.4nm,0.8s,baz=8.2,slow=1.8,SNR=26
GIVF Givet 148.85 357 *e*PKP1 PKPbc 04 54 53.3 +1.2
comp=Z,16nm,0.8s
DOU Dourbes 148.87 357 PKPbc PKPbc 04 54 53.3 +1.1
BAIF Baives 148.92 358 *e*PKP1 PKPbc 04 54 53.7 +1.4
BZS Buzias 148.95 333 ⇓P PKPbc 04 54 51.9 -0.5
TKTP Tekketepe 149.06 314 *i* P PKPdf 04 54 46.1 -1.6
WLF Walferdange 149.20 355 *e*PKPbc PKPbc 04 54 55.2 +2.3
WLF Walferdange 149.20 355 *e*PKPbc PKPbc 04 54.2 +1.2
WLF Walferdange 149.20 355 *e*PKIKP PKPbc 04 54 51.8 -1.1
MOA Molln 149.56 344 ⇑*i*P PKPbc 04 53.4 -0.4
comp=Z,3.5nm,0.6s
MOA Molln 149.56 344 ⇑*i*P PKPbc 04 53.4 -0.5
BTOK Tokmak 149.62 319 *i* P PKPbc 04 54 53.3 -0.6
PKSM Moragy 149.64 337 ⇑P PKPbc 04 54 53.6 -0.4
FUR Furstenfeldbru 149.95 348 *e*PKPbc PKPbc 04 54 55.7 +1.0
FLN La Foliniere 150.17 4 *e*PKP1 PKPbc 04 54 54.9 -0.3
comp=Z,9.7nm,0.5s
BFO Black Forest 150.28 352 *e*PKPbc PKPbc 04 54 56.7 +1.2
CDF Champ du Feu 150.33 353 *e*PKP1 PKPbc 04 54 56.8 +1.2
comp=Z,14nm,0.7s
LDF La Drutiere 150.36 3 *e*PKP1 PKPbc 04 54 55.6 -0.1
comp=Z,14nm,0.7s
MEZF Maizieres J'vi 150.43 356 *e*PKP1 PKPbc 04 54 55.5 -0.3
comp=Z,16nm,0.8s
KBA Koelnbreinsper 150.51 345 ⇑*i*P PKPbc 04 54 55.4 -0.7
comp=Z,9.5nm,0.6s
GRR Gorron 150.52 4 *e*PKP1 PKPbc 04 54 55.7 -0.3
comp=Z,18nm,0.7s
WATA Walderalm 150.68 347 ⇑*i*P PKPbc 04 54 57.7 +1.3
comp=Z,14nm,1.3s
WTTA Wattenberg 150.74 347 ⇓*i*P PKPbc 04 54 56.4 -0.2
comp=Z,16nm,0.5s
MOTA Moosalm 150.77 348 ⇓*i*P PKPbc 04 54 56.5 -0.1
comp=Z,12nm,1.3s
HAU Haudompre 150.83 354 *e*PKP1 PKPbc 04 54 57.2 +0.5
comp=Z,13nm,0.5s
SQTA Sankt Quirin 150.87 347 ⇑*i*P PKPbc 04 54 56.5 -0.3
comp=Z,3.7nm,0.7s
KDAG Bornova 150.89 317 *i* P PKPbc 04 54 57.9 +1.0
HINF Hinteralfeld 150.96 354 *e*PKP1 PKPbc 04 54 58.0 +0.9
comp=Z,8.6nm,0.6s
DAVA Damuels 151.06 349 ⇑*i*P PKPbc 04 54 57.4 +0.1
comp=Z,5.8nm,0.6s
DAVA Damuels 151.06 349 ⇑*i*P PKPbc 04 54 57.4 +0.1
LJU Ljubljana 151.14 342 *i* PKPdf PKPdf 04 54 57.0 +6.1
LJU *i* PKPbc PKPbc 04 54 58.5 +1.0
ROBS Robic 151.24 344 *e*PKPbc PKPbc 04 54 58.8 +1.1
BOJS Bojanci 151.41 341 *e*PKPdf PKPdf 04 54 58.0 +6.7
BOJS *e*PKPbc PKPbc 04 54 59.8 +1.8
BOJS *e*PKPab PKPab 04 55 02.0 -7.3
BOJS *e* 04 57 38.3
DAVOX Davos 151.55 349 PKPbc PKPbc 04 54 58.1 -0.2
comp=Z,13nm,0.4s,baz=213,slow=4.9,SNR=31
LOR Lormes 151.72 358 *e*PKP1 PKPbc 04 55 00.1 +1.3
comp=Z,8.6nm,0.5s
SSF Saint Saulge 151.94 358 *e*PKP1 PKPbc 04 55 00.6 +1.4
comp=Z,10.0nm,0.7s
AVF Avril sur Loir 152.22 358 *e*PKP1 PKPbc 04 55 00.8 +1.0
CABF La Chapelle 152.23 354 *e*PKP1 PKPbc 04 55 01.7 +1.8
comp=Z,13nm,0.8s
MFF Saint Martin d 152.35 4 *e*PKP1 PKPbc 04 55 01.2 +1.1
comp=Z,13nm,0.7s
SMF Signal de Mont 152.35 358 *e*PKP1 PKPbc 04 55 01.2 +1.1
BGF Bois d'Agland 152.46 359 *e*PKP1 PKPbc 04 55 01.6 +1.2
comp=Z,10nm,0.7s
TCF Toulx Ste Croi 152.73 0 *e*PKP1 PKPbc 04 55 02.1 +1.1
LPL La Plagne 153.25 353 *e*PKP1 PKPbc 04 55 04.3 +2.2
comp=Z,3.5nm,0.7s
LPG La Plagne 153.26 353 *e*PKP1 PKPbc 04 55 04.4 +2.3
comp=Z,9.9nm,1.0s
BNI Bardonecchia 153.71 353 *e*PKPbc PKPbc 04 55 03.1 0.0
MBDF Montbardon 154.02 353 *e*PKP1 PKPbc 04 55 05.3 +1.6
comp=Z,10.0nm,0.8s
DBIC Dimbokro 165.96 149 PKP PKPdf 04 55 09.6 +1.5
comp=Z,3.5nm,1.2s,baz=286,slow=0.7,SNR=3.5
TORD Torodi Ar. Bea 174.21 174 PKP PKPdf 04 55 13.8 +1.1
comp=Z,0.7nm,1.0s,baz=345,slow=1.5,SNR=5.7

ISCJB ***22*** *04:37:32.8±0.7, 5144N×003×1608E±004, h0km, Error ellipse: s-maj=5.4km s-min=3.4km az=58.4*
IPEC ***22*** *04:37:32.8±0.2, 5155N×1622E, h0km, ML2.0/2, Error ellipse: s-maj=1.5km s-min=0.8km az=36.0*
PRU ***22*** *04:37:34.6, 5146N×1613E, h0km*
CSEM ***22*** *04:37:35.0±0.3, 5146N×1612E, h1km±1km, ML3.0/4, Error ellipse: s-maj=3.6km s-min=2.3km az=15.0*
VIE ***22*** *04:37:36.6±0.4, 5128N×1619E, h0km, mb2.1/2, ML2.5/3, Error ellipse: s-maj=2.7km s-min=2.3km az=81.0 61 km WNW of Breslau Suspected Mining induced.*
ISC 22 04:37:33.1±0.7, 5150N±003×1613E±004, h0km, n29, σ0s88/57, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**171**	*i* Pgd	**Pg**	**04 37 47.0**	**+1.1**
KSP				*e*Sg	**Sg**	**04 37 55.6**	**+1.0**
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg	**Pg**	**04 37 46.9**	**+1.0**
KSP				*e*Sg	**Sg**	**04 37 55.3**	**+0.7**
UPC	**Upice**	**1.00**	**184**	*e*PG	**Pg**	**04 37 53.0**	**+0.8**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**04 37 55.7**	**+0.4**
DPC				*e*SG	**Sg**	**04 38 09.8**	**-0.6**
20nm,0.4s							
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*Pg	**Pg**	**04 37 55.6**	**+0.3**
DPC				*e*Sg	**Sg**	**04 38 09.7**	**-0.7**
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pg**	**04 38 00.3**	**+0.7**
PVCC				*e*SG	**Sg**	**04 38 19.0**	**+1.4**
88nm,0.2s							
PVCC	**Panska Ves**	**1.39**	**226**	*e*Pg	**Pg**	**04 38 00.3**	**+0.7**
PVCC				*e*Sg	**Sg**	**04 38 19.6**	**+2.0**
BRG	**Berggiesshubel**	**1.51**	**246**	*e*Pn	**Pn**	**04 38 01.9**	**+0.5**
BRG				*e*Sg	**Sg**	**04 38 22.2**	**+0.5**
BRG	**Berggiesshubel**	**1.51**	**246**	PN	**Pn**	**04 38 01.1**	**-0.3**
BRG				PG	**Pg**	**04 38 01.2**	**-0.8**
BRG				SG	**Sg**	**04 38 22.6**	**+0.9**
23nm,0.4s							
PRU	**Pruhonice**	**1.82**	**214**	*e*PN	**Pn**	**04 38 06.3**	**+0.7**
PRU				*e*PG	**Pg**	**04 38 07.5**	**-0.5**
PRU				*e*SG	**Sg**	**04 38 31.0**	**-0.6**
11nm,0.2s							
PRU	**Pruhonice**	**1.82**	**214**	*e*Pn	**Pn**	**04 38 06.4**	**+0.8**
PRU	**Pruhonice**	**1.82**	**214**	*e*Pg	**Pg**	**04 38 07.5**	**-0.5**
PRU				*e*Sg	**Sg**	**04 38 31.0**	**-0.6**
11nm,0.2s							
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**04 38 07.5**	**+0.1**
MORC				*e*Sg	**Sg**	**04 38 34.5**	**-1.2**
9.5nm,0.3s							
CLL	**Collm**	**1.97**	**265**	*e*(Pn)	**Pn**	**04 38 08.0**	**+0.4**
CLL				*e*Pg	**Pg**	**04 38 10.0**	**-0.8**
CLL				*i* Sg	**Sg**	**04 38 35.9**	**-0.4**
comp=Z,9.0nm,0.7s							
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**04 38 07.3**	**-0.3**
CLL	**Collm**	**1.97**	**265**	*e*Pg	**Pg**	**04 38 09.8**	**-1.0**
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*PG	**Pg**	**04 38 13.5**	**+0.1**
OKC				*e*SG	**Sg**	**04 38 40.8**	**+0.1**
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**04 38 12.3**	**+1.2**
VRAC				*e*Sg	**Sg**	**04 38 43.5**	**-0.8**
comp=Z,6.0nm,0.2s							
TREC	**Trest**	**2.25**	**191**	*e*PG	**Pg**	**04 38 15.8**	**-0.4**
TREC	**Trest**	**2.25**	**191**	*e*Pn	**Pn**	**04 38 13.0**	**+1.5**
TREC				*e*Sg	**Sg**	**04 38 44.6**	**-0.7**
KRUC	**Moravsky**	**2.45**	**176**	*e*Pg	**Pg**	**04 38 19.0**	**-1.0**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**04 38 18.1**	**+1.0**
NKC				*e*PG	**Pg**	**04 38 22.2**	**-1.8**
NKC				*e*SG	**Sg**	**04 38 59.2**	**+0.8**
comp=Z,20nm,0.4s							
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pn	**Pn**	**04 38 18.0**	**+0.9**
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pg	**Pg**	**04 38 22.2**	**-1.8**
NKC				*e*Sg	**Sg**	**04 38 58.9**	**+0.5**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**04 38 20.8**	**+0.6**
KHC				*e*PG	**Pg**	**04 38 26.7**	**-1.6**
KHC				*e*SN	**Sn**	**04 38 55.1**	**-0.5**
KHC				*e*SG	**Sg**	**04 39 04.7**	**-1.0**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*Pn	**Pn**	**04 38 20.7**	**+0.5**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*Pg	**Pg**	**04 38 26.7**	**-1.6**
KHC				*e*Sn	**Sn**	**04 38 55.1**	**-0.5**
KHC				*e*Sg	**Sg**	**04 39 04.7**	**-1.0**
BSD	**Bornholm Skovb**	**3.69**	**349**	*i* P	**Pn**	**04 38 30.4**	**-0.9**
BSD				*i* S	**Sn**	**04 39 10.7**	**-4.8**
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**04 38 34.5**	**+1.0**
MOA				⇑*i*Sg	**Sg**	**04 39 37.5**	**+0.6**
comp=Z,5.6nm,0.5s							

ISCJB ***22*** *04:53:53.5±1.2, 0.1S±02×672E±02, h10km, mb4.0/10, MS3.6/6, Error ellipse: s-maj=28.2km s-min=16.5km az=91.2*
IDC ***22*** *04:53:53.2±1.7, 025S×6698E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, MS3.6/6, Ms1 3.6/6, ms1mx3.4/24, Error ellipse: s-maj=60.7km s-min=23.8km az=54.0*
NEIC ***22*** *04:53:55.2±0.7, 0.13S×6718E, h10km, mb4.2/5, Error ellipse: s-maj=19.0km s-min=13.0km az=45.0*
ISC 22 04:53:56.1±1.2, 00S±02×672E±02, h10km, n20, σ0s53/12, mb4.0/10, MS3.6/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.30**	**61**	*e*P	**Pn**	**04 57 31.6**	**-0.5**
4.7nm,0.3s							
ATD	**Arta Tunnel**	**26.77**	**296**	LR	LR	05 08 20.6	
comp=Z,67nm,20.4s,MS3.2,baz=184,slow=32							
KMBO	**Kilima Mbogo**	**29.96**	**268**	LR	LR	05 09 53.5	
comp=Z,123nm,19.9s,MS3.5,baz=100,slow=32							
PSI	**Prapat**	**31.84**	**85**	LR	LR	05 10 54.9	
comp=Z,213nm,20.4s,MS3.8,baz=215,slow=32							
MKAR	**Makanchi Array**	**48.47**	**14**	P	**P**	**05 02 38.8**	**0.0**
0.6nm,0.8s,mb3.7,baz=211,slow=6.9,SNR=4.6							
BOSA	**Boshof**	**49.14**	**231**	LR	LR	05 20 34.6	
comp=Z,72nm,20.9s,MS3.6,baz=250,slow=33							
BRTR	**Keskin Array B**	**50.03**	**326**	P	**P**	**05 02 50.8**	**0.0**
0.9nm,1.0s,mb3.8,baz=138,slow=9.4,SNR=5.3							
AKTK	**Aktyubinsk**	**50.88**	**352**	P	**P**	**05 02 56.6**	**-0.6**
AKTO	**Aktyubinsk**	**50.88**	**352**	P	**P**	**05 02 56.6**	**-0.6**
0.7nm,0.4s,mb4.0,baz=153,slow=4.5,SNR=4.4							
ZRNK	**Zerenda**	**52.82**	**1**	*e*P	**P**	**05 03 11.9**	**+0.2**
5.0nm,1.3s,mb4.3							
BRVK	**Borovoye**	**52.97**	**2**	*e*P	**P**	**05 03 12.7**	**0.0**
1.6nm,0.9s,mb4.0							
SONM	**Songino Array**	**58.55**	**30**	P	**P**	**05 03 54.3**	**+1.5**
2.6nm,1.0s,mb4.2,baz=229,slow=7.4,SNR=12							
ULN	**Ulaanbaatar**	**58.90**	**30**	*e*P	**P**	**05 03 55.3**	**+0.1**
1.0nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**68.55**	**111**	P	**P**	**05 04 59.2**	**+0.3**
2.1nm,0.8s,mb4.1,baz=284,slow=6.0,SNR=12							
WRAB	**Tennant Creek**	**68.56**	**111**	*e*P	**P**	**05 04 58.5**	**-0.5**
3.7nm,0.8s,mb4.4							
ASAR	**Alice Springs**	**68.73**	**115**	P	**P**	**05 05 00.1**	**0.0**
1.0nm,0.8s,mb3.8,baz=289,slow=6.0,SNR=8.8							
FINES	**FINESS Array B**	**68.81**	**340**	LR	LR	05 36 07.2	
comp=Z,38nm,20.8s,MS3.6,baz=165,slow=37							
DBIC	**Dimbokro**	**72.18**	**277**	LR	LR	05 37 35.3	
comp=Z,51nm,19.1s,MS3.8,baz=139,slow=36							
YKA	**Yellowknife Ar**	**117.68**	**1**	PKP	PKPdf	05 12 40.6	-1.8
0.1nm,0.6s,baz=342,slow=2.4,SNR=4.1							
PDAR	**Pinedale Array**	**137.36**	**356**	PKP	PKPdf	05 13 19.8	-0.1
0.4nm,0.8s,baz=72,slow=5.8,SNR=3.6							

IDC ***22*** *04:59:57.5±0.9, 1115N×1245E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, MS3.3/1, Ms1 3.3/1, ms1mx2.8/37, Error ellipse: s-maj=62.1km s-min=17.9km az=72.0*
MAN ***22*** *04:59:58.8, 1119N×1243E, h2km, mb3.9, ML5.0, MS1.2*
MAN F PALOMPON LEYTE - INTENSITY III CEBU CITY - INTENSITY II.
ISCJB ***22*** *04:59:59.9±0.5, 1120N±003×1244E±003, h20km±5km, mb4.1/13, Error ellipse: s-maj=5.7km s-min=4.4km az=6.4*
NEIC ***22*** *05:00:25.5±6.7, 1089N×1240E, h251km±68km, mb4.0/6, Error ellipse: s-maj=25.6km s-min=12.2km az=61.0*
NEIC Felt [III PIVS] at Palompon. Also felt [II PIVS] at Cebu City, Cebu.
ISC 22 04:59:59.5±0.7, 1120N±003×12441E±003, h6km±5km, n46, σ1s03/54, mb4.1/13, 3C-4D, Leyte

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

OCLP	**Ormoc**	**0.25**	**126**	*e*P	**Pg**	**05 00 05.0**	**+0.7**
OCLP				*e*S	**Sg**	**05 00 09.8**	**+2.3**
PLP	**Palo**	**0.56**	**93**	*e*P	**Pg**	**05 00 10.0**	**-0.3**
PLP				*i* S	**Sg**	**05 00 18.2**	**+0.5**
LLP	**Lapu-Lapu**	**0.98**	**206**	⇑*i*P	**Pg**	**05 00 16.8**	**-1.4**
LLP				*i* S	**Sg**	**05 00 30.1**	**-0.7**
BESP	**Borongan**	**1.09**	**68**	*e*P	**Pg**	**05 00 18.9**	**-1.4**
MSLP	**Maasin**	**1.15**	**157**	*e*P	**Pg**	**05 00 21.1**	**-0.3**
CNP	**Catarman**	**1.33**	**11**	*e*P	**Pn**	**05 00 23.5**	**-1.1**
MMPH	**Masbate**	**1.38**	**327**	⇓*i*P	**Pn**	**05 00 24.6**	**-0.7**
MMPH				*i* S	**Sb**	**05 00 43.6**	**-0.1**
TBP	**Tagbilaran**	**1.59**	**200**	*e*P	**Pn**	**05 00 27.0**	**-1.2**
TBP				*i* S	**Sn**	**05 00 49.0**	**0.0**
RCP	**Roxas**	**1.67**	**283**	⇓*i*P	**Pn**	**05 00 28.7**	**-0.5**
RCP				*e*S	**Sn**	**05 00 51.9**	**+0.9**
SCPH	**Surigao**	**1.76**	**143**	⇑*e*P	**Pn**	**05 00 30.5**	**0.0**
GUIM	**Jordan**	**1.87**	**253**	*e*P	**Pn**	**05 00 31.6**	**-0.4**
SNPH	**Sibulan**	**2.17**	**212**	⇓*i*P	**Pn**	**05 00 36.0**	**-0.2**
SNPH				*i* S	**Sn**	**05 01 05.0**	**+1.6**
PVCP	**Virac**	**2.40**	**354**	*e*P	**Pn**	**05 00 39.8**	**+0.6**
OTRP	**Odiongan**	**2.61**	**297**	*e*P	**Pn**	**05 00 42.9**	**+0.8**
AUQP	**San Andres**	**2.71**	**321**	*e*P	**Pn**	**05 00 46.5**	**+3.0**
CGP	**Cagayan de Oro**	**2.74**	**174**	⇓*i*P	**Pn**	**05 00 44.5**	**+0.5**
CGP				*i* S	**Sn**	**05 01 18.7**	**+1.2**
DCPH	**Dipolog City**	**2.80**	**202**	⇑*i*P	**Pn**	**05 00 43.5**	**-1.2**
DCPH				*e*S	**Sn**	**05 01 16.0**	**-2.8**
CUYO	**Cuyo Island**	**3.34**	**264**	*e*P	**Pn**	**05 00 52.3**	**0.0**
BUKP	**Musuan**	**3.36**	**169**	*e*P	**Pn**	**05 00 54.1**	**+1.6**
BOAC	**Boac**	**3.36**	**312**	*e*P	**Pn**	**05 00 53.1**	**+0.5**
PAGZ	**Pagadian**	**3.48**	**197**	*e*P	**Pn**	**05 00 54.7**	**+0.6**
BUSP	**Coron**	**4.20**	**281**	*e*P	**Pn**	**05 01 04.2**	**+0.1**
LUBP	**Lubang**	**4.78**	**302**	*e*P	**Pn**	**05 01 13.8**	**+1.8**
ENPP	**El Nido**	**4.89**	**271**	*e*P	**Pn**	**05 01 14.0**	**+0.5**
JOW	**Kunigami**	**15.97**	**13**	LR	LR	05 09 51.5	
comp=Z,93nm,19.1s,baz=186,slow=37							
ENH	**Enshi**	**23.51**	**326**	*e*P	**P**	**05 05 14.3**	**+4.0**
5.2nm,0.9s,mb4.0							
KULM	**Kulim**	**24.22**	**258**	*e*P	**P**	**05 05 16.8**	**-0.1**
WRA	**Warramunga Arr**	**32.45**	**162**	P	**P**	**05 06 27.1**	**-3.4**
1.7nm,0.9s,mb3.9,baz=342,slow=9.7,SNR=4.3							
ASAR	**Alice Springs**	**35.87**	**165**	P	**P**	**05 06 59.9**	**-0.2**
1.3nm,0.6s,mb4.0,baz=345,slow=8.0,SNR=12							
ULN	**Ulaanbaatar**	**39.35**	**342**	*e*P	**P**	**05 07 34.1**	**+4.5**
1.9nm,0.8s,mb3.9							
JIRN	**Jiri**	**39.38**	**300**	*e*P	**P**	**05 07 29.4**	**-0.5**
17nm,0.8s,mb4.9							
SONM	**Songino Array**	**39.53**	**341**	P	**P**	**05 07 31.7**	**+0.6**
0.6nm,0.5s,mb3.6,baz=170,slow=7.8,SNR=7.1							
GUN	**Gumba**	**39.72**	**300**	*e*P	**P**	**05 07 33.2**	**+0.5**
22nm,0.7s							
PKI	**Pulchoki**	**40.02**	**300**	*e*P	**P**	**05 07 35.2**	**0.0**
KKN	**Kakani**	**40.20**	**300**	*e*P	**P**	**05 07 37.3**	**+0.7**
DMN	**Daman**	**40.29**	**300**	*e*P	**P**	**05 07 37.6**	**+0.2**
GKN	**Gorkha**	**40.80**	**300**	*e*P	**P**	**05 07 41.3**	**-0.3**
6.1nm,0.3s							
KOLN	**Koldanda**	**41.62**	**299**	*e*P	**P**	**05 07 48.6**	**+0.2**
16nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**45.88**	**160**	P	**P**	**05 08 22.2**	**-0.4**
3.4nm,0.4s,baz=326,slow=6.1,SNR=4.2							
MKAR	**Makanchi Array**	**50.19**	**323**	P	**P**	**05 08 56.2**	**+0.2**
1.5nm,0.7s,mb4.1,baz=117,slow=7.4,SNR=10							
MKAR	**Makanchi Array**	**50.19**	**323**	P	**P**	**05 08 56.2**	**+0.2**
KURK	**Kurchatov**	**54.27**	**326**	*e*P	**P**	**05 09 27.9**	**+1.6**
8.7nm,1.0s,mb4.6							
ZRNK	**Zerenda**	**60.61**	**325**	P	**P**	**05 10 09.6**	**-1.4**
1.6nm,0.8s,mb4.2							
ILAR	**Eielson Array**	**79.41**	**26**	P	**P**	**05 12 05.5**	**-0.9**
0.3nm,0.9s,mb3.2,baz=279,slow=4.8,SNR=4.5							
FINES	**FINESS Array B**	**84.21**	**331**	P	**P**	**05 12 29.3**	**-2.5**
4.2nm,1.2s,mb4.5,baz=73,slow=6.6,SNR=3.7							
YKA	**Yellowknife Ar**	**93.65**	**24**	P	**P**	**05 13 15.3**	**-1.5**
0.2nm,0.8s,mb3.6,baz=305,slow=4.5,SNR=4.0							

IDC ***22*** *05:11:32.9±0.7, 1132N×1425E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/20, mbtmp4.3/12, ML4.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.4/34, Error ellipse: s-maj=29.3km s-min=15.5km az=94.0*
BJI ***22*** *05:11:33.7, 1082N×1429E, h50km, mB5.0, mb4.6, Ms4.7, Msz4.3*
MOS ***22*** *05:11:35.8±0.8, 1125N×1425E, h33km, mb4.8/13, Error ellipse: s-maj=15.9km s-min=9.7km az=95.5*
ISCJB ***22*** *05:11:36.1±1.7, 1125N±006×1425E±008, h35km±16km, mb4.5/28, MS3.8/7, Error ellipse: s-maj=13.7km s-min=9.3km az=33.0*
NEIC ***22*** *05:11:39.7±0.3, 1127N×1425E, mb4.7/12, Error ellipse: s-maj=12.5km s-min=7.9km az=101.0*

comp=Z,99nm,19.4s,MS3.8,baz=218,slow=37
SONM Songino Array 47.45 327 P **P 05 20 09.2 -0.1**
SONM 05 21 54.6
MA2 Magadan 48.59 5 *e*P **P 05 20 19.0 +0.8**
comp=Z,6.9nm,0.8s,mb4.7
MA2 Magadan 48.59 5 *e*P **P 05 20 19.0 +0.9**
MA2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ZAK Zakamensk 50.62 328 ⇓*i*P **P 05 20 33.4 -0.2**
ZAK *e* 05 21 52.9
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ZAK pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
JIRN Jiri 55.25 296 *e*P **P 05 21 07.9 +0.2**
GUN Gumba 55.54 296 *e*P **P 05 21 10.3 +0.5**
comp=Z,23nm,0.8s,mb5.3
PKI Pulchoki 55.93 296 *e*P **P 05 21 13.0 +0.4**
KKN Kakani 56.06 296 *e*P **P 05 21 13.5 0.0**
DMN Daman 56.20 296 *e*P **P 05 21 14.4 -0.1**
GKN Gorkha 56.65 296 *e*P **P 05 21 17.7 0.0**
KOLN Koldanda 57.54 296 *e*P **P 05 21 24.1 0.0**
comp=Z,14nm,0.9s,mb5.0
BILL Bilibino 58.80 10 *e*P **P 05 21 32.0 -0.8**
comp=Z,6.0nm,0.7s,mb4.7
BILL Bilibino 58.80 10 *e*P **P 05 21 32.6 -0.2**
BILL *e* pP 05 21 47.3 +1.1
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
MKAR Makanchi Array 61.70 317 P **P 05 21 52.5 -0.1**
comp=Z,1.9nm,0.7s,mb4.3,baz=96,slow=8.8,SNR=16
MKAR LR LR 05 50 24.8
comp=Z,105nm,19.2s,MS4.0,baz=120,slow=38
HYB Hyderabad 62.20 284 *i* P **P 05 21 57.0 +1.0**
HYB Hyderabad 62.20 284 *e*P **P 05 21 57.0 +1.0**
KURK Kurchatov 65.00 321 *e*P **P 05 22 13.6 -0.8**
comp=Z,11nm,0.9s,mb4.9
KURK *e*pP pP 05 22 27.3 -0.7
KURK Kurchatov 65.00 321 *e*P **P 05 22 13.6 -0.8**
KURK *e**PP pP 05 22 27.3 -0.7
KURK pmax pmax
comp=Z,11nm,0.9s,mb4.9
POO Poona 66.58 285 *e*x x 05 22 24.0
BRVK Borovoye 70.49 322 *e*P **P 05 22 49.0 -0.1**
comp=Z,7.5nm,0.9s,mb4.6
BRVK *e*pP pP 05 23 02.3 -0.5
BRVK Borovoye 70.49 322 *e*P **P 05 22 49.0 -0.1**
BRVK *e**PP pP 05 23 02.3 -0.5
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
COLA College 71.19 25 P **P 05 22 52.5 -0.7**
comp=Z,2.5nm,0.6s,mb4.3
COLA College 71.19 25 P **P 05 22 52.5 -0.8**
COLA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda 71.25 322 *e*P **P 05 22 53.1 -0.6**
comp=Z,17nm,1.0s,mb4.9
ZRNK *e*pP pP 05 23 07.4 +0.1
ZRNK Zerenda 71.25 322 *e*P **P 05 22 53.1 -0.5**
ZRNK *e**PP pP 05 23 07.4 0.0
ZRNK pmax pmax
comp=Z,17nm,1.0s,mb4.9
ILAR Eielson Array 71.56 25 P **P 05 22 54.5 -1.0**
comp=Z,2.4nm,0.5s,mb4.4,baz=254,slow=5.5,SNR=9.0
DAWY Dawson 74.65 26 *e*P **P 05 23 15.0 +1.2**
DAWY *e*pP pP 05 23 28.7 +1.0
SVE Sverdlovsk 76.30 326 *e*P **P 05 23 23.0 -0.2**
INK Inuvik 77.31 22 *e*P **P 05 23 28.9 0.0**
comp=Z,5.7nm,0.9s,mb4.5
INK Inuvik 77.31 22 *e*P **P 05 23 28.9 0.0**
INK pmax pmax
comp=Z,6.0nm,0.9s
YKW3 Yellowknife Ar 85.86 27 *e*P **P 05 24 14.9 +0.8**
YKA Yellowknife Ar 85.88 27 P **P 05 24 14.3 +0.2**
comp=Z,2.3nm,0.8s,mb4.4,baz=287,slow=4.9,SNR=30
RES Resolute Bay 87.28 13 *e*P **P 05 24 21.5 +0.5**
comp=Z,3.1nm,0.7s,mb4.7
RES *e*pP pP 05 24 37.5 +2.4
RES Resolute Bay 87.28 13 *e*P **P 05 24 21.5 +0.5**
RES *e**PP pP 05 24 37.5 +2.4
RES pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
ARCES ARCESS Array B 88.61 342 P **P 05 24 27.0 -0.3**
comp=Z,3.4nm,0.7s,mb4.8,baz=46,slow=6.9,SNR=4.0
JOF Joensuu 89.48 335 *e*p **P 05 24 28.3 -3.1**
comp=Z,3.4nm,0.8s,mb4.7
NVAR Mina Array Bea 90.03 51 P **P 05 24 36.5 +2.5**
comp=Z,2.7nm,0.8s,mb4.7,baz=265,slow=5.1,SNR=25
KAF Kangasniemi 91.92 335 *e*p **P 05 24 39.0 -3.7**
comp=Z,3.8nm,0.9s,mb4.7
KAF Kangasniemi 91.92 335 *e*P **P 05 24 39.0 -3.7**
KAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
FINES FINESS Array B 92.34 335 P **P 05 24 43.1 -1.5**
comp=Z,1.2nm,0.5s,mb4.5,baz=72,slow=6.2,SNR=4.7
LPAZ La Paz 149.68 103 PKPbc PKPbc 05 31 26.7 +2.8
comp=Z,2.7nm,0.9s,baz=328,slow=3.3,SNR=5.7
LPAZ La Paz 149.68 103 *e*PKPbc PKPbc 05 31 26.9 +3.1
LPAZ *e*PKPab PKPab 05 31 30.6 +1.4

IDC 22 05:41:10.2±2.5, 615S×14771E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/14, mbtmp3.8/5, ML3.5/2, Error ellipse: s-maj=68.0km s-min=22.6km az=95.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.28**	**189**	Pn	Pn	05 42 04.8	+2.1
	9.8nm,0.3s,baz=337,slow=5.3,SNR=15						
PMG				Pg	Pg	05 42 08.7	-4.3
	16nm,0.3s,baz=6.3,slow=8.9,SNR=49						
PMG				Sn	Sn	05 42 38.9	-3.5
	17nm,0.3s,baz=198,slow=22,SNR=9.7						
WB2	**Warramunga Arr**	**18.88**	**222**	*e*P	Pn	05 45 31.8	-0.6
WRA	**Warramunga Arr**	**18.88**	**222**	P	Pn	05 45 31.7	-0.8
	0.3nm,0.3s,baz=46,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.90**	**216**	P	P	05 46 05.0	+0.2
	2.0nm,0.5s,baz=50,slow=9.3,SNR=36						
ASPA	**Alice Springs**	**21.90**	**216**	*e*P	P	05 46 05.0	+0.2
FITZ	**Fitzroy Crossi**	**24.59**	**239**	*e*P	P	05 46 32.5	+0.7
	16nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.59**	**239**	P	P	05 46 32.1	+0.2
	1.9nm,0.3s,baz=90,slow=9.4,SNR=18						
MKAR	**Makanchi Array**	**78.06**	**320**	P	P	05 53 11.5	+0.8
	0.1nm,0.4s,baz=97,slow=8.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**145.81**	**284**	PKPbc	PKPbc	06 00 50.9	-0.3
	0.5nm,0.6s,baz=84,slow=3.6,SNR=8.1						

BJI ***22*** *05:41:57.5, 4005N×12626W, h22km, mB5.2, mb5.0, Ms4.9, Msz4.6*
IDC ***22*** *05:41:59.8±0.9, 4081N×12636W, h0km, mb4.3/13, mb1 4.4/18, mb1mx4.3/26, mbtmp4.3/18, ML4.2/5, MS4.3/30, Ms1 4.3/30, ms1mx4.2/36, Error ellipse: s-maj=17.8km s-min=11.1km az=16.0*
ISCJB ***22*** *05:42:00.8±0.2, 4076N±003×12633W±003, h10km, mb4.8/76, MS4.4/37, Error ellipse: s-maj=4.3km s-min=2.8km az=66.3*
MOS ***22*** *05:42:01.1±1.5, 4073N×12633W, h10km, mb5.1/44, MS4.5/9, Error ellipse: s-maj=5.2km s-min=4.8km az=88.2*
HRVD ***22*** *05:42:02.5±0.3, 4076N×12666W, h13km±1km, MW5.0/85, Centroid moment Tensor Solution. LP body waves: s43,c56;Mantle waves: s85,c150; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.49±.10; $M_{\theta\theta}$-2.22±.09; $M_{\phi\phi}$2.71±.10; $M_{r\theta}$-1.12±.27; $M_{\theta\phi}$-3.06±.09; $M_{\phi r}$-0.09±.22; Best double couple: M_0=4.10500×10^16 NP1:ϕs18.00000°, δ75.00000°, λ-8.00000°. NP2: ϕs111.00000°, δ82.00000°, λ-164.00000°. Principal axes: T 4.2100, Plg5.0000°, Azm244.0000°; N -0.2120, Plg72.0000°, Azm137.0000°; P -3.9990, Plg17.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *05:42:02.5±0.3, 4074N×12632W, h10km, mb4.9/57 Error ellipse: s-maj=5.4km s-min=3.6km az=39.0*
SZGRF ***22*** *05:42:08.6, 4046N×12586W, h33km, mb4.9, MS4.4, Off coast of northern California, United States*
ISC 22 05:42:02.1±0.2, 4077N±003×12643W±003, h10km, (h15km±.9km:pP-P), n326, σ1§33/315, mb4.8/76, MS4.4/37, 7C-5D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**2.05**	**86**	*e*Pn	**Pn**	**05 42 34.2**	**-2.4**
KBO	**Bosley Butte**	**2.20**	**48**	⇑*i*Pn	**Pn**	**05 42 36.2**	**-2.4**
KSXB	**Camp Six Broad**	**2.20**	**60**	P	**Pn**	**05 42 36.8**	**-1.8**
KCPM	**Cahto Peak**	**2.43**	**115**	⇓*i*Pn	**Pn**	**05 42 40.0**	**-1.8**
KIPM	**Iron Peak**	**2.45**	**112**	*e*Pn	**Pn**	**05 42 40.7**	**-1.3**
KTRM	**Thompson Ridge**	**2.57**	**63**	P	**Pn**	**05 42 42.3**	**-1.4**
KEBM	**Edson Butte**	**2.62**	**36**	*e*Pn	**Pn**	**05 42 41.3**	**-3.1**
WDC	**Whiskeytown Da**	**2.96**	**92**	*e*Pn	**Pn**	**05 42 47.7**	**-1.5**
YBH	**Yreka Blue Hor**	**2.97**	**70**	Pn	**Pn**	**05 42 48.5**	**-0.6**
	165nm,0.3s,baz=257,slow=13,SNR=1343						
YBH				Sn	**Sn**	**05 43 23.3**	**-1.6**
	88nm,0.3s,baz=41,slow=16,SNR=5.0						
YBH				LR	LR	05 44 11.0	
	comp=Z,10μm,20.8s,baz=324,slow=45						
YBH	**Yreka Blue Hor**	**2.97**	**70**	*e*P	**Pn**	**05 42 48.3**	**-0.9**
HOPS	**Hopland**	**3.13**	**123**	*e*Pn	**Pn**	**05 42 49.6**	**-1.9**
HUMO	**Hull Mountain**	**3.19**	**54**	⇑*i*Pn	**Pn**	**05 42 50.9**	**-1.3**
LHEM	**Herd Peak**	**3.29**	**73**	P	**Pn**	**05 42 53.5**	**-0.2**
DBO	**Dodson Butte**	**3.34**	**44**	P	**Pn**	**05 42 53.0**	**-1.4**
BUOR	**Burton Butte**	**3.49**	**63**	P	**Pn**	**05 42 57.1**	**+0.7**
BBOR	**Butler Butte**	**3.51**	**52**	P	**Pn**	**05 42 56.0**	**-0.7**
LAB	**Little Aspen B**	**3.61**	**64**	P	**Pn**	**05 42 58.8**	**+0.9**
HSO	**Harness Mounta**	**3.71**	**41**	P	**Pn**	**05 42 58.0**	**-1.4**
VSP	**Spence Mountai**	**3.71**	**63**	P	**Pn**	**05 42 59.8**	**+0.4**
RNO	**Roman Nose**	**3.72**	**31**	P	**Pn**	**05 42 58.0**	**-1.5**
MCCM	**Marconi Confer**	**3.79**	**132**	*e*Pn	**Pn**	**05 42 58.6**	**-1.9**
HOG	**Hogback Mounta**	**3.84**	**66**	P	**Pn**	**05 43 01.4**	**+0.2**
OHCM	**Honcut**	**4.06**	**109**	*e*Pn	**Pn**	**05 43 02.1**	**-2.0**
OHCM				*e*Sn	**Sn**	**05 43 43.2**	**-8.4**
HBO	**Huckleberry Mo**	**4.33**	**43**	P	**Pn**	**05 43 07.5**	**-0.4**
SAC	**San Andreas**	**4.45**	**134**	*e*Pn	**Pn**	**05 43 07.0**	**-2.6**
COR	**Corvallis**	**4.46**	**30**	*e*Pn	**Pn**	**05 43 08.8**	**-1.0**
IRO	**Indian Ridge**	**4.48**	**42**	P	**Pn**	**05 43 09.3**	**-0.6**
FRIS	**Frissel Point**	**4.70**	**41**	P	**Pn**	**05 43 12.6**	**-0.5**
MOD	**Modoc**	**4.75**	**74**	⇑*e*Pn	**Pn**	**05 43 13.3**	**-0.4**
BKCOR	**Black Crater**	**4.97**	**43**	P	**Pn**	**05 43 16.4**	**-0.3**
BEND	**Bend**	**5.02**	**47**	P	**Pn**	**05 43 17.3**	**-0.1**
CMB	**Columbia Colle**	**5.42**	**118**	*e*Pn	**Pn**	**05 43 22.3**	**-0.5**
	88nm,0.9s						
CMB	**Columbia Colle**	**5.42**	**118**	*e*P	**Pn**	**05 43 22.3**	**-0.6**
CMB				pmax	pmax		
	comp=Z,88nm,0.9s						
PAHR	**Pah Rah Range**	**5.50**	**99**	*e*Pn	**Pn**	**05 43 23.0**	**-1.0**
	comp=Z,159nm,1.2s						
SAO	**San Andreas Ge**	**5.58**	**134**	*e*Pn	**Pn**	**05 43 22.5**	**-2.5**
	comp=Z,154nm,0.7s						
SAO				*e*Sn	**Sn**	**05 44 27.1**	**-2.1**
SAO	**San Andreas Ge**	**5.58**	**134**	*e*P	**Pn**	**05 43 22.5**	**-2.6**
SAO				*e*		05 44 27.1	
SAO				pmax	pmax		
	comp=Z,154nm,0.7s						
WVOR	**Wild Horse Val**	**6.08**	**72**	*e*Pn	**Pn**	**05 43 30.8**	**-1.1**
	comp=Z,88nm,0.5s						
WVOR	**Wild Horse Val**	**6.08**	**72**	*e*P	**Pn**	**05 43 30.8**	**-1.1**
WVOR				pmax	pmax		
	comp=Z,88nm,0.5s						
NVAR	**Mina Array Bea**	**6.70**	**108**	Pn	**Pn**	**05 43 40.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=291,slow=14,SNR=33						
NVAR				LR	LR	05 46 19.2	
	comp=Z,1μm,18.8s,baz=285,slow=39						
MNV	**Mina**	**6.80**	**107**	*e*Pn	**Pn**	**05 43 41.0**	**-0.9**
	comp=Z,31nm,0.9s						
MNV	**Mina**	**6.80**	**107**	*e*P	**Pn**	**05 43 41.0**	**-0.9**
MNV				pmax	pmax		
	comp=Z,31nm,0.9s						
MTUM	**Tungsten Hills**	**7.00**	**117**	*e*Pn	**Pn**	**05 43 46.3**	**+1.6**
BMN	**Battle Mountai**	**7.02**	**90**	*e*Pn	**Pn**	**05 43 47.6**	**+2.8**
	comp=Z,25nm,0.9s						
BMN	**Battle Mountai**	**7.02**	**90**	*e*P	**Pn**	**05 43 47.7**	**+2.9**
BMN				pmax	pmax		
	comp=Z,25nm,0.9s						
PTRM	**Twisselman Ran**	**7.07**	**134**	*e*Pn	**Pn**	**05 43 43.0**	**-2.5**
HAWA	**Hanford**	**7.53**	**39**	*e*Pn	**Pn**	**05 43 51.5**	**-0.4**
	comp=Z,1.7nm,0.5s						
BMO	**Blue Mountains**	**7.85**	**56**	*e*Pn	**Pn**	**05 43 56.6**	**+0.3**
	comp=Z,51nm,0.7s						
ISA	**Isabella**	**8.07**	**127**	*e*Pn	**Pn**	**05 43 59.9**	**+0.6**
	comp=Z,176nm,3.1s						
ISA				*e*Sn	**Sn**	**05 45 31.5**	**+0.9**
ISA	**Isabella**	**8.07**	**127**	*e*P	**Pn**	**05 43 59.9**	**+0.6**
ISA				*e*		05 45 31.5	
ISA				pmax	pmax		
	comp=Z,177nm,3.1s						
PGC	**Sidney**	**8.16**	**14**	*e*Pn	**Pn**	**05 44 00.6**	**0.0**
	comp=Z,110nm,1.0s						
DAC	**Darwin (Calif)**	**8.25**	**120**	Pn	**Pn**	**05 44 00.9**	**-0.8**
	comp=Z,14nm,0.7s						
DAC	**Darwin (Calif)**	**8.25**	**120**	P	**Pn**	**05 44 00.9**	**-0.8**
DAC				pmax	pmax		
	comp=Z,14nm,0.7s						
ELK	**Elko**	**8.50**	**86**	*e*Pn	**Pn**	**05 44 05.0**	**-0.1**
	comp=Z,38nm,1.3s						
ELK	**Elko**	**8.50**	**86**	*e*P	**Pn**	**05 44 05.0**	**-0.1**
ELK				pmax	pmax		
	comp=Z,38nm,1.3s						
TPNV	**Topopah Spring**	**8.81**	**112**	*e*Pn	**Pn**	**05 44 10.8**	**+1.4**
	comp=Z,16nm,0.6s						
TPNV	**Topopah Spring**	**8.81**	**112**	*e*P	**Pn**	**05 44 10.8**	**+1.4**
TPNV				pmax	pmax		
	comp=Z,16nm,0.6s						
MWC	**Mount Wilson**	**9.32**	**132**	*e*Pn	**Pn**	**05 44 14.3**	**-2.1**
HLID	**Hailey**	**9.35**	**69**	*e*Pn	**Pn**	**05 44 16.7**	**-0.2**
	comp=Z,209nm,1.5s						
NEW	**Newport**	**10.01**	**38**	Pn	**Pn**	**05 44 25.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=232,slow=14,SNR=2.8						
NEW				LR	LR	05 48 16.7	
	comp=Z,3μm,19.9s,baz=227,slow=38						
NEW	**Newport**	**10.01**	**38**	*e*Pn	**Pn**	**05 44 27.5**	**+1.5**
	comp=Z,9.7nm,1.0s						
NEW	**Newport**	**10.01**	**38**	*e*P	**Pn**	**05 44 27.5**	**+1.6**
NEW				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BGU	**Big Grassy Mou**	**10.16**	**85**	*e*Pn	**Pn**	**05 44 32.5**	**+4.6**
HVU	**Hansel Valley**	**10.33**	**80**	Pn	**Pn**	**05 44 29.3**	**-1.0**
	comp=Z,59nm,1.3s						
HVU	**Hansel Valley**	**10.33**	**80**	P	**Pn**	**05 44 29.3**	**-1.0**
HVU				pmax	pmax		
	comp=Z,59nm,1.3s						
DUG	**Dugway**	**10.39**	**89**	*e*Pn	**Pn**	**05 44 30.4**	**-0.7**
	comp=Z,30nm,1.0s						
DUG	**Dugway**	**10.39**	**89**	*e*P	**Pn**	**05 44 30.4**	**-0.7**
DUG				pmax	pmax		
	comp=Z,30nm,1.0s						
NEN	**Nelson**	**10.45**	**116**	*e*Pn	**Pn**	**05 44 33.7**	**+1.8**
ARUT	**Antelope Range**	**10.50**	**102**	*e*Pn	**Pn**	**05 44 36.7**	**+4.1**
SPUT	**South Promonto**	**10.58**	**82**	*e*Pn	**Pn**	**05 44 33.3**	**-0.4**
LDFC	**Landfair**	**10.59**	**119**	*e*Pn	**Pn**	**05 44 33.2**	**-0.5**
PFO	**Pinyon Flat Ob**	**10.69**	**129**	*e*Pn	**Pn**	**05 44 34.9**	**-0.2**
	comp=Z,9.7nm,0.7s						
PFO	**Pinyon Flat Ob**	**10.69**	**129**	*e*P	**Pn**	**05 44 34.9**	**-0.2**
PFO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MCMT	**McKenzie Canyo**	**10.77**	**63**	*e*Pn	**Pn**	**05 44 36.6**	**+0.3**
NOQ	**North Oquirrh**	**10.87**	**86**	*e*Pn	**Pn**	**05 44 40.1**	**+2.4**
	comp=Z,66nm,1.3s						
MSO	**Missoula**	**10.87**	**52**	*e*Pn	**Pn**	**05 44 37.1**	**-0.6**
	comp=Z,29nm,0.9s						
NLU	**North Lily Min**	**10.99**	**90**	*e*Pn	**Pn**	**05 44 37.2**	**-2.0**
DLMT	**Dillon**	**11.11**	**61**	*e*Pn	**Pn**	**05 44 41.4**	**+0.4**
	comp=Z,206nm,1.4s						
MVU	**Marysvale**	**11.20**	**97**	*e*Pn	**Pn**	**05 44 45.1**	**+3.0**
	comp=Z,12nm,0.9s						
MSU	**Marysvale**	**11.22**	**97**	*e*Pn	**Pn**	**05 44 44.5**	**+2.1**
HWUT	**Hardware Ranch**	**11.24**	**81**	*e*Pn	**Pn**	**05 44 42.9**	**+0.2**
	comp=Z,208nm,1.7s						
MPU	**Maple Canyon**	**11.31**	**89**	*e*Pn	**Pn**	**05 44 44.6**	**+0.9**
	comp=Z,30nm,1.4s						
CHMT	**Chamberlain Mo**	**11.32**	**53**	*e*Pn	**Pn**	**05 44 40.4**	**+0.1**
TCUT	**Toone Canyon**	**11.37**	**83**	*e*Pn	**Pn**	**05 44 45.9**	**+1.3**
BBB	**Bella Bella**	**11.48**	**355**	Pn	**Pn**	**05 44 45.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=168,slow=5.4,SNR=3.2						
BBB				LR	LR	05 48 13.2	
	comp=Z,2μm,19.3s,baz=327,slow=33						
DAU	**Daniels Canyon**	**11.55**	**87**	*e*Pn	**Pn**	**05 44 47.4**	**+0.5**
AHID	**Auburn Hatcher**	**11.62**	**75**	*e*Pn	**Pn**	**05 44 47.7**	**-0.2**
	comp=Z,120nm,1.4s						
QLMT	**Earthquake Lak**	**11.74**	**65**	*e*Pn	**Pn**	**05 44 50.6**	**+1.0**
TMUT	**Trail Mountain**	**11.77**	**92**	*e*Pn	**Pn**	**05 44 51.2**	**+1.4**
BOZ	**Bozeman (W)**	**11.85**	**61**	*e*Pn	**Pn**	**05 44 50.6**	**-0.4**
	comp=Z,151nm,1.7s						
BOZ	**Bozeman (W)**	**11.85**	**61**	*e*P	**Pn**	**05 44 50.6**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,151nm,1.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REDW	**Red Top Meadow**	**11.87**	**72**	*e*Pn	**Pn**	**05 44 54.1**	**+2.7**
	comp=Z,225nm,1.5s						
SNOW	**Snow King Moun**	**11.95**	**72**	*e*Pn	**Pn**	**05 44 53.8**	**+1.4**
	comp=Z,145nm,1.4s						
MOOW	**Moose Ponds**	**12.00**	**70**	*e*Pn	**Pn**	**05 44 55.1**	**+2.0**
	comp=Z,175nm,1.6s						
YMR	**Madison River**	**12.03**	**66**	*e*Pn	**Pn**	**05 44 54.2**	**+0.8**
	comp=Z,284nm,1.6s						
YFT	**Old Faithful**	**12.07**	**67**	*e*Pn	**Pn**	**05 44 55.2**	**+1.2**
LOHW	**Long Hollow**	**12.08**	**71**	*e*Pn	**Pn**	**05 44 55.4**	**+1.2**
	comp=Z,63nm,1.3s						
FLWY	**Flagg Ranch**	**12.09**	**69**	*e*Pn	**Pn**	**05 44 56.5**	**+2.2**
	comp=Z,385nm,1.6s						
HRY	**Holter Researc**	**12.11**	**56**	*e*Pn	**Pn**	**05 44 54.9**	**+0.3**
WALA	**Waterton Lakes**	**12.13**	**43**	*e*Pn	**Pn**	**05 44 54.6**	**-0.3**
	comp=Z,67nm,1.4s						
LKWY	**Lake**	**12.39**	**67**	*e*Pn	**Pn**	**05 45 00.8**	**+2.3**
	comp=Z,114nm,1.4s						
LKWY	**Lake**	**12.39**	**67**	*e*P	**Pn**	**05 45 00.8**	**+2.3**
LKWY				pmax	pmax		
	comp=Z,114nm,1.4s						
BW06	**Boulder Array**	**12.76**	**75**	*e*Pn	**Pn**	**05 45 02.6**	**-0.9**
	comp=Z,139nm,1.5s						
PDAR	**Pinedale Array**	**12.76**	**75**	Pn	**Pn**	**05 45 05.2**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=264,slow=12,SNR=19						
PDAR				LR	LR	05 50 21.7	
	comp=Z,3μm,19.4s,baz=261,slow=40						
WUAZ	**Wupatki**	**12.95**	**109**	*e*Pn	**Pn**	**05 45 09.6**	**+3.4**
	comp=Z,34nm,1.1s						
GCMT	**Greycliff**	**13.20**	**62**	*e*Pn	**Pn**	**05 45 09.2**	**-0.3**
PV10	**Paradox Valley**	**13.63**	**94**	Pn	**Pn**	**05 45 17.4**	**+2.0**
EGMT	**Eagleton**	**13.94**	**53**	*e*Pn	**Pn**	**05 45 18.6**	**-1.0**
	comp=Z,38nm,0.8s						
PV01	**Paradox Valley**	**14.05**	**95**	*e*Pn	**Pn**	**05 45 21.6**	**+0.4**
RWWY	**Rawlins**	**14.50**	**80**	*e*Pn	**Pn**	**05 45 26.6**	**-0.7**
	comp=Z,94nm,1.4s						
SMCO	**Snowmass**	**15.01**	**90**	*e*Pn	**Pn**	**05 45 33.4**	**-0.8**
	comp=Z,21nm,1.2s						
TUC	**Tucson**	**15.13**	**119**	*e*P	**Pn**	**05 45 37.1**	**+1.3**
	comp=Z,14nm,0.9s						
TUC	**Tucson**	**15.13**	**119**	*e*P	**Pn**	**05 45 37.1**	**+1.3**
TUC				pmax	pmax		
	comp=Z,14nm,0.9s						
EDM	**Edmonton**	**15.29**	**31**	*e*Pn	**Pn**	**05 45 38.0**	**+0.1**
LAO	**LASA Array**	**15.74**	**61**	*e*P	**Pn**	**05 45 43.4**	**-0.5**
	comp=Z,545nm,1.4s						
PHWY	**Pilot Hill**	**15.84**	**81**	*e*P	**Pn**	**05 45 44.0**	**-1.0**
ISCO	**Idaho Springs**	**15.92**	**87**	*e*P	**Pn**	**05 45 46.2**	**+0.1**
	comp=Z,18nm,1.1s						
ISCO	**Idaho Springs**	**15.92**	**87**	*e*P	**Pn**	**05 45 46.2**	**+0.1**
ISCO				pmax	pmax		
	comp=Z,18nm,1.1s						
LENM	**Lemitar**	**16.78**	**107**	*e*P	**Pn**	**05 45 58.4**	**+1.4**
ANMO	**Albuquerque**	**16.79**	**104**	Pn	**Pn**	**05 46 00.1**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=294,slow=11,SNR=15						
ANMO				LR	LR	05 51 57.5	
	comp=Z,538nm,19.5s,baz=78,slow=36						
ANMO	**Albuquerque**	**16.79**	**104**	*e*P	**Pn**	**05 45 57.3**	**+0.1**
	comp=Z,21nm,1.0s						
ANMO	**Albuquerque**	**16.79**	**104**	⇑*i*P	**Pn**	**05 45 58.5**	**+1.2**
RSSD	**Black Hills**	**16.86**	**71**	*e*P	**Pn**	**05 45 55.5**	**-2.6**
	comp=Z,50nm,1.3s						
RSSD	**Black Hills**	**16.86**	**71**	*e*P	**Pn**	**05 45 55.5**	**-2.6**
RSSD				pmax	pmax		
	comp=Z,50nm,1.3s						
LPM	**Los Pinos Moun**	**16.96**	**106**	*e*P	**Pn**	**05 46 03.8**	**+4.5**
BNM	**Barren Site**	**17.04**	**106**	*e*P	**Pn**	**05 46 05.0**	**+4.6**
DGMT	**Dagmar**	**17.56**	**57**	*e*P	**Pn**	**05 46 04.6**	**-2.3**
	comp=Z,456nm,1.6s						
DLBC	**Dease Lake**	**17.84**	**354**	P	**Pn**	**05 46 11.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=176,slow=11,SNR=30						
DLBC				LR	LR	05 52 03.7	
	comp=Z,926nm,20.3s,baz=170,slow=34						
DLBC	**Dease Lake**	**17.84**	**354**	*e*P	**Pn**	**05 46 11.3**	**+1.0**
MNTX	**Cornudas Mount**	**19.20**	**111**	*e*P	**Pn**	**05 46 27.0**	**+0.1**
	comp=Z,22nm,1.2s						
CPRX	**Cap Rock**	**19.59**	**106**	*e*P	**Pn**	**05 46 33.0**	**+1.4**
GDL2	**Guadalupe Moun**	**19.66**	**109**	*e*P	**Pn**	**05 46 34.3**	**+1.9**
CLNB	**Carlsbad**	**19.97**	**108**	P	**Pn**	**05 46 32.9**	**-3.3**
CBKS	**Cedar Bluff**	**20.58**	**87**	*e*P	**P**	**05 46 37.8**	**-3.2**
	comp=Z,250nm,1.6s						
CBKS	**Cedar Bluff**	**20.58**	**87**	*e*P	**P**	**05 46 37.8**	**-3.2**
CBKS				pmax	pmax		
	comp=Z,250nm,1.6s						
FFC	**Flin Flon**	**21.42**	**41**	*e*P	**P**	**05 46 49.6**	**-0.5**
	comp=Z,322nm,1.6s,mb5.4						
FFC	**Flin Flon**	**21.42**	**41**	*e*P	**P**	**05 46 49.6**	**-0.5**
FFC				pmax	pmax		
	comp=Z,322nm,1.6s,mb5.4						
LTX	**Lajitas**	**21.78**	**114**	*e*P	**P**	**05 46 52.5**	**-1.5**
	comp=Z,52nm,1.4s,mb4.8						
LTX	**Lajitas**	**21.78**	**114**	*e*P	**P**	**05 46 52.5**	**-1.5**
LTX				pmax	pmax		
	comp=Z,52nm,1.4s,mb4.8						

INK Inuvik 27.87 354 *e*P **P 05 47 50.6 -1.2**
comp=Z,15nm,1.3s,mb4.5
INK Inuvik 27.87 354 *e*P **P 05 47 50.7 -1.1**
INK pmax pmax
comp=Z,15nm,1.3s
TTA Tatalina 28.29 332 *e*P **P 05 47 55.2 -0.4**
comp=Z,55nm,1.3s,mb5.0
TTA Tatalina 28.29 332 *e*P **P 05 47 55.3 -0.3**
TTA pmax pmax
comp=Z,55nm,1.3s,mb5.0
WVT Waverly 30.41 86 *e*P **P 05 48 14.8 +0.3**
comp=Z,11nm,1.1s,mb4.5
WVT Waverly 30.41 86 *e*P **P 05 48 14.8 +0.3**
WVT pmax pmax
comp=Z,11nm,1.1s,mb4.5
BLO Bloomington 30.45 80 *e*P **P 05 48 13.7 -1.1**
comp=Z,19nm,0.8s,mb4.9
BLO Bloomington 30.45 80 *e*P **P 05 48 13.7 -1.1**
BLO pmax pmax
comp=Z,19nm,0.8s,mb4.9
PLAL Pickwick Lake 30.65 88 *e*P **P 05 48 16.3 -0.3**
comp=Z,46nm,1.4s,mb5.1
WCI Wyandotte Cave 30.89 81 *e*P **P 05 48 17.6 -1.0**
comp=Z,9.0nm,0.8s,mb4.7
WCI Wyandotte Cave 30.89 81 *e*P **P 05 48 17.6 -1.1**
WCI pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
LRAL Lakeview Retre 32.25 91 *e*P **P 05 48 31.6 +1.0**
comp=Z,26nm,1.2s,mb4.9
ACSO Alum Creek Sta 32.79 76 *e*P **P 05 48 33.4 -2.0**
comp=Z,22nm,1.1s,mb5.0
CPCT Cooper Cave 33.17 85 *e*P **P 05 48 39.1 +0.4**
ELN Prospectdale 35.37 81 P **P 05 48 56.0 -1.8**
RES Resolute Bay 36.96 13 *e*P **P 05 49 10.6 -0.8**
comp=Z,11nm,0.8s,mb4.8
RES Resolute Bay 36.96 13 *e*P **P 05 49 10.6 -0.7**
RES pmax pmax
comp=Z,11nm,0.8s,mb4.7
BINY Binghamton 37.37 71 *e*P **P 05 49 14.8 -0.1**
comp=Z,31nm,1.0s,mb5.1
MIV Mineville/With 38.64 67 *e*P **P 05 49 24.6 -1.0**
LBNH Lisbon 39.72 66 *e*P **P 05 49 34.0 -0.6**
comp=Z,54nm,1.3s,mb5.1
LBNH Lisbon 39.72 66 *e*P **P 05 49 34.0 -0.6**
LBNH pmax pmax
comp=Z,54nm,1.3s,mb5.1
SCHQ Schefferville 41.16 49 P **P 05 49 44.2 -2.3**
comp=Z,10nm,0.8s,mb4.5,baz=274,slow=8.5,SNR=15
SCHQ LR LR 06 06 33.9
comp=Z,345nm,18.5s,MS4.2,baz=273,slow=36
BILL Bilibino 44.53 330 *e*P **P 05 50 12.1 -1.7**
comp=Z,12nm,1.0s,mb4.7
BILL Bilibino 44.53 330‖ *e*P **P 05 50 12.8 -1.0**
BILL *i* *PP pP 05 50 15.9 -1.0
BILL pmax pmax
comp=Z,14nm,1.3s,mb4.6
BILL MLR MLR
comp=Z,500nm,15.0s,MS4.6
SEY Seymchan 50.83 324⇑ *i*P **P 05 51 01.1 -1.7**
SUMG Summit 51.08 23 *e*P **P 05 51 05.0 +0.4**
comp=Z,13nm,0.8s,mb4.9
TIXI Tiksi 56.23 338 *e*P **P 05 51 39.2 -3.2**
TIXI *e*S **S 05 59 24.0 -8.0**
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TIXI MLR MLR
comp=Z,112nm,12.0s,MS4.2
SDV Santo Domingo 58.55 107 *e*P **P 05 51 57.6 -1.1**
comp=Z,21nm,1.7s,mb4.9
OTAV Otavalo 59.26 120 *e*P **P 05 52 03.9 +0.2**
comp=Z,15nm,1.3s,mb4.9
BORG Borgarnes 59.83 29 LR LR 06 17 44.2
comp=Z,416nm,19.3s,MS4.6,baz=303,slow=36
JMIC Jan Mayen 60.13 20 LR LR 06 20 46.3
comp=Z,266nm,20.3s,MS4.4,baz=52,slow=39
YAK Yakutsk 60.81 328 *d i*P **P 05 52 14.1 -0.3**
YAK pmax pmax
comp=Z,61nm,1.3s,mb5.6
ARCES ARCESS Array B 68.09 10 LR LR 06 21 40.3
comp=Z,215nm,18.6s,MS4.4,baz=8.9,slow=35
AFI Afiamalu 68.71 228 LR LR 06 17 27.0
comp=Z,185nm,18.0s,MS4.4,baz=78,slow=31
RAR Rarotonga 69.02 213 LR LR 06 18 09.8
comp=Z,164nm,18.9s,MS4.3,baz=84,slow=31
RPN Rapa Nui 69.39 164 LR LR 06 15 40.6
comp=Z,216nm,20.4s,MS4.4,baz=166,slow=29
BOD Bodaibo 69.58 330 *e*P **P 05 53 08.0 -3.3**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MAT Matsushiro 70.83 302 P **P 05 53 19.1 +0.2**
MAT Matsushiro 70.83 302 P **P 05 53 19.0 +0.1**
MDJ Mudanjiang 71.08 313 P **P 05 53 18.1 -2.3**
MDJ S S 06 02 41.0 +4.1
MDJ AMB AMB
comp=Z,8.0nm,2.3s,mb4.2
MDJ AMB AMB
comp=Z,106nm,4.8s
MDJ LR LR
comp=N,71nm,30.7s,MS3.8
MDJ LR LR
comp=E,46nm,32.1s,MS3.8
MDJ LR LR
comp=Z,111nm,30.0s,MS3.9
NB2 NORSAR Subarra 72.84 20 P **P 05 53 30.8 -0.2**
comp=Z,1.1nm,0.7s,mb3.9,baz=313,slow=6.5
NB2 NORSAR Subarra 72.84 20 P **P 05 53 30.8 -0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 72.84 20 P **P 05 53 31.0 0.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=330,slow=5.6,SNR=7.3
NOA LR LR 06 27 31.4
comp=Z,97nm,18.6s,MS4.1,baz=70,slow=38
CN2 Changchun 73.89 314 *e*P **P 05 53 36.1 -1.0**
CN2 *e*XP sP 05 53 43.1 +1.5
CN2 *e*S S 06 03 05.1 -3.8
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
FINES FINESS Array B 75.72 13 P **P 05 53 47.1 -0.7**
comp=Z,1.6nm,0.7s,mb4.1,baz=359,slow=9.5,SNR=4.6
FINES LR LR 06 27 12.7
comp=Z,147nm,20.0s,MS4.3,baz=358,slow=36
SAML Samuel 76.27 115 *e*P **P 05 53 50.3 -0.6**
comp=Z,4.1nm,1.0s,mb4.3
KLMR Klimovskoe 78.09 7 *e*P **P 05 54 01.6 +0.5**
KLMR pmax pmax
comp=Z,40nm,1.4s,mb5.2
LPAZ La Paz 78.34 123 P **P 05 54 02.6 +0.1**
comp=Z,2.0nm,0.8s,mb4.1,baz=339,slow=7.4,SNR=10
LPAZ LR LR 06 31 38.2
comp=Z,86nm,19.4s,MS4.1,baz=83,slow=38
LPAZ La Paz 78.34 123 *e*P **P 05 54 03.1 +0.6**
comp=Z,8.1nm,0.9s,mb4.7
LPAZ La Paz 78.34 123 *e*P **P 05 54 03.1 +0.6**
LPAZ pmax pmax
comp=Z,8.0nm,0.9s
VSU Vasula 78.63 14‖ *e*P **P 05 54 04.3 +0.2**
FLN La Foliniere 78.89 33 *e*P **P 05 54 08.2 +2.6**
FLN *e*R
comp=Z,247nm,21.0s
FLN La Foliniere 78.89 33 *e*P **P 05 54 08.2 +2.6**
FLN MLR MLR
comp=Z,250nm,21.0s,MS4.5
GRR Gorron 79.03 34 *e*P **P 05 54 08.2 +1.9**
MOY Mondy 79.12 332 *e*P **P 05 54 07.6 +0.8**
LDF La Druitiere 79.17 33 *e*P **P 05 54 09.3 +2.2**
ZAK Zakamensk 79.33 330 *e*P **P 05 54 06.5 -1.4**
ZAK pmax pmax
comp=Z,8.0nm,1.7s,mb4.4
ZAK pmax pmax
comp=Z,8.0nm,1.9s,mb4.3
BAIF Baives 79.72 30 *e*P **P 05 54 12.1 +2.0**
GIVF Givet 79.92 29 *e*P **P 05 54 13.1 +2.0**
SONM Songino Array 80.13 327 P **P 05 54 11.8 -0.5**
comp=Z,2.8nm,1.1s,mb4.1,baz=45,slow=4.4,SNR=11
SONM LR LR 06 29 33.8
comp=Z,192nm,19.2s,MS4.5,baz=151,slow=36
GUMO Guam 80.29 280 LR LR 06 21 04.6
comp=Z,202nm,22.0s,MS4.4,baz=72,slow=29
MFF Saint Martin d 80.73 34 *e*P **P 05 54 18.2 +2.7**
NVS Novosibirsk 81.44 343 *e*P **P 05 54 17.7 -1.6**
NVS pmax pmax
comp=Z,18nm,1.0s,mb5.0
NVS pmax pmax
comp=N,4.0nm,0.5s
NVS pmax pmax
comp=E,17nm,1.3s
BJI Beijing 81.46 316 P **P 05 54 17.9 -1.5**
BJI S S 06 04 28.9 -2.0
BJI AMB AMB
comp=Z,5.0nm,0.6s,mb4.6
BJI LR LR
comp=N,138nm,35.4s,MS4.1
BJI LR LR
comp=E,104nm,38.6s,MS4.1
BJI LR LR
comp=Z,144nm,27.1s
CLL Collm 81.71 24 *e*P **P 05 54 21.0 +0.3**
comp=Z,8.0nm,0.9s,mb4.7
CLL Collm 81.71 24 *e*P **P 05 54 21.0 +0.3**
CLL pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LOR Lormes 81.85 32 *e*P **P 05 54 23.3 +1.8**
comp=Z,28nm,1.3s,mb4.7
LOR *e*R
comp=Z,346nm,17.2s
LOR Lormes 81.85 32 *e*P **P 05 54 23.3 +1.8**
comp=Z,14nm,1.3s,mb4.7
LOR LR LR
comp=Z,350nm,17.3s,MS4.8
LOR Lormes 81.85 32 *e*P **P 05 54 23.3 +1.8**
LOR pmax pmax
comp=Z,14nm,1.3s,mb4.7
LOR MLR MLR
comp=Z,350nm,17.3s,MS4.8
SSF Saint Saulge 81.88 32 *e*P **P 05 54 23.2 +1.6**
comp=Z,28nm,1.3s,mb4.7
SSF Saint Saulge 81.88 32 *e*P **P 05 54 23.2 +1.6**
comp=Z,14nm,1.3s,mb4.7
SSF Saint Saulge 81.88 32 *e*P **P 05 54 23.2 +1.6**
SSF pmax pmax
comp=Z,14nm,1.3s,mb4.7
TCF Toulx Ste Croi 81.97 33 *e*P **P 05 54 23.7 +1.6**
comp=Z,48nm,1.5s,mb4.9
TCF Toulx Ste Croi 81.97 33 *e*P **P 05 54 23.7 +1.6**
comp=Z,24nm,1.5s,mb4.9
TCF Toulx Ste Croi 81.97 33 *e*P **P 05 54 23.7 +1.6**
TCF pmax pmax
comp=Z,24nm,1.5s,mb4.9
BGF Bois d'Agland 82.02 33 *e*P **P 05 54 23.7 +1.4**
AVF Avril sur Loir 82.03 32 *e*P **P 05 54 23.9 +1.5**
comp=Z,46nm,1.5s,mb4.9
AVF Avril sur Loir 82.03 32 *e*P **P 05 54 23.9 +1.5**
comp=Z,23nm,1.5s,mb4.9
AVF Avril sur Loir 82.03 32 *e*P **P 05 54 23.9 +1.5**
AVF pmax pmax
comp=Z,23nm,1.5s,mb4.9
HAU Haudompre 82.21 30 *e*P **P 05 54 25.0 +1.6**
HAU *e*R
comp=Z,304nm,19.5s
HAU Haudompre 82.21 30 *e*P **P 05 54 25.0 +1.6**
HAU MLR MLR
comp=Z,300nm,19.5s,MS4.7
CDF Champ du Feu 82.22 29 *e*P **P 05 54 25.6 +2.2**
SMF Signal de Mont 82.35 32 *e*P **P 05 54 26.0 +1.9**
comp=Z,20nm,1.1s,mb4.7
SMF Signal de Mont 82.35 32 *e*P **P 05 54 26.0 +1.9**
comp=Z,9.8nm,1.1s,mb4.7
SMF Signal de Mont 82.35 32 *e*P **P 05 54 26.0 +1.9**
SMF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BRG Berggiesshubel 82.38 24 *e*P **P 05 54 26.4 +2.1**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRG Berggiesshubel 82.38 24 *e*P **P 05 54 26.4 +2.1**
comp=Z,3.8nm,0.9s,mb4.3
GRA1 Grafenberg Arr 82.53 26 *e*P **P 05 54 27.1 +2.1**
comp=Z,15nm,1.7s,mb4.8
GRA1 LR LR
comp=Z,200nm,21.8s,MS4.4
GRF Grafenberg Arr 82.53 26 *e*P **P 05 54 27.1 +2.1**
comp=Z,15nm,1.7s,mb4.8
GRF *e*L 06 30 02.0
comp=Z,192nm,21.8s
GRF Grafenberg Arr 82.53 26 *e*P **P 05 54 27.1 +2.1**
GRF pmax pmax
comp=Z,15nm,1.7s,mb4.8
GRF MLR MLR
comp=Z,200nm,21.8s,MS4.4
GRF Grafenberg Arr 82.53 26 *e*P **P 05 54 27.1 +2.1**
GRF pmax pmax
comp=Z,15nm,1.7s,mb4.8
GRF MLR MLR
comp=Z,200nm,21.8s,MS4.4
HINF Hinterlafeld 82.56 30 *e*P **P 05 54 26.4 +1.2**
HHC Hu-ho-hao-te 83.20 320 *e*P **P 05 54 27.9 -0.6**
HHC AP pP 05 54 32.8 +1.0
HHC XP sP 05 54 34.9 +1.9
HHC PP PP 05 57 40.8 +1.0
HHC S S 06 04 45.3 -3.4
HHC SS SS 06 10 12.1 -0.9
HHC AMB AMB
comp=Z,6.0nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,131nm,3.9s
HHC LR LR
comp=N,92nm,4.7s
HHC LR LR
comp=E,110nm,5.7s
HHC LR LR
comp=Z,123nm,6.4s
CABF La Chapelle 83.27 31 *e*P **P 05 54 30.4 +1.6**
PRU Pruhonice 83.34 24 *e*P **P 05 54 30.1 +0.9**
OBN Obninsk 83.39 10 *e*P **P 05 54 29.5 0.0**
OBN pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.5
ETSF Etsaut 83.45 37 *e*P **P 05 54 31.5 +1.7**
comp=Z,21nm,1.1s,mb4.8
ETSF Etsaut 83.45 37 *e*P **P 05 54 31.5 +1.7**
comp=Z,10nm,1.1s,mb4.8
ETSF Etsaut 83.45 37 *e*P **P 05 54 31.5 +1.7**
ETSF pmax pmax
comp=Z,11nm,1.1s,mb4.8
DPC Dobruska-Polom 83.57 23 *e*P **P 05 54 31.1 +0.7**
EPF Esparros 83.75 36 *e*P **P 05 54 33.8 +2.5**
comp=Z,11nm,1.0s,mb4.6
EPF Esparros 83.75 36 *e*P **P 05 54 33.8 +2.5**
comp=Z,5.4nm,1.0s,mb4.6
EPF Esparros 83.75 36 *e*P **P 05 54 33.8 +2.5**
EPF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
KHC Kasperske Hory 83.79 25 *e*P **P 05 54 33.5 +2.0**
KHC AMS AMS 06 32 20.0
comp=Z,400nm,23.8s
HNR Honiara 83.95 252 LR LR 06 23 53.2
comp=Z,130nm,21.0s,MS4.3,baz=4.9,slow=30
GERES GERESS Array B 84.08 25 P **P 05 54 33.0 0.0**
comp=Z,1.0nm,0.8s,mb4.0,baz=330,slow=4.6,SNR=8.1
GERES LR LR 06 33 12.2
comp=Z,323nm,19.4s,MS4.7,baz=304,slow=37
VIVF Saint-Julien-l 84.14 33 *e*P **P 05 54 35.4 +2.1**
ESDC Sonseca Array 84.33 41 P **P 05 54 33.0 -1.2**
comp=Z,3.3nm,0.9s,mb4.5,baz=317,slow=4.9,SNR=8.8
MTLF Montolieu 84.33 35 *e*P **P 05 54 36.3 +2.0**
LPL La Plagne 84.42 31 *e*P **P 05 54 36.4 +1.6**
comp=Z,6.3nm,0.7s,mb4.5
LPL La Plagne 84.42 31 *e*P **P 05 54 36.4 +1.6**
comp=Z,3.2nm,0.7s,mb4.6
LPL La Plagne 84.42 31 *e*P **P 05 54 36.4 +1.6**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
MORC Moravsky Berou 84.44 23 *e*P **P 05 54 34.3 -0.5**
comp=Z,16nm,1.5s,mb4.9
MORC Moravsky Berou 84.44 23 *e*P **P 05 54 34.3 -0.5**
MORC pmax pmax
comp=Z,16nm,1.5s,mb4.9
LASF Ste Croix 84.44 34 *e*P **P 05 54 37.0 +2.1**
comp=Z,26nm,1.2s,mb4.9
LPG La Plagne 84.45 31 *e*P **P 05 54 36.8 +1.9**
comp=Z,60nm,1.6s,mb5.2
LPG La Plagne 84.45 31 *e*P **P 05 54 36.8 +1.9**
comp=Z,30nm,1.6s,mb5.2
LPG La Plagne 84.45 31 *e*P **P 05 54 36.8 +1.9**
LPG pmax pmax
comp=Z,30nm,1.6s,mb5.2
OJC Ojcow 84.67 21 *e*P **P 05 54 37.2 +1.2**
BNI Bardonecchia 84.79 31 *e*P **P 05 54 35.7 -0.9**
comp=Z,5.8nm,0.8s,mb4.8
BNI Bardonecchia 84.79 31 *e*P **P 05 54 35.7 -0.9**
BNI pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
SSE Sheshan 85.06 307 P **P 05 54 35.9 -2.1**
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,34nm,4.4s
SSE LR LR
comp=N,52nm,36.0s
SSE D
comp=Z,30nm,26.3s
MBDF Montbardon 85.09 31 *e*P **P 05 54 39.5 +1.4**
comp=Z,34nm,0.9s,mb5.2
MBDF Montbardon 85.09 31 *e*P **P 05 54 39.5 +1.4**
comp=Z,17nm,0.9s,mb5.2
MBDF Montbardon 85.09 31 *e*P **P 05 54 39.5 +1.4**
MBDF pmax pmax
comp=Z,17nm,0.9s,mb5.2
SMRF Simiane la Rot 85.23 33 *e*P **P 05 54 40.2 +1.4**
BRVK Borovoye 85.44 350 *e*P **P 05 54 39.1 -0.7**
comp=Z,13nm,1.0s,mb5.0
BRVK Borovoye 85.44 350 *e*P **P 05 54 39.2 -0.7**
BRVK pmax pmax
comp=Z,13nm,1.0s,mb5.0
ZRNK Zerenda 85.71 351 *e*P **P 05 54 40.5 -0.7**
comp=Z,17nm,1.1s,mb5.2
ZRNK Zerenda 85.71 351 *e*P **P 05 54 40.5 -0.7**
ZRNK pmax pmax
comp=Z,17nm,1.1s,mb5.2
ZST Bratislava 85.72 24 *e*P **P 05 54 42.6 +1.4**
NJ2 Nanjing 85.77 309 *e*P **P 05 54 41.1 -0.4**
NJ2 AP pP 05 54 45.9 +1.1
NJ2 XP sP 05 54 48.1 +2.1
NJ2 PP PP 05 58 02.4 +1.7
NJ2 S 06 05 12.0
NJ2 AMB AMB
comp=Z,40nm,0.5s
NJ2 AMB AMB
comp=Z,110nm,3.7s
NJ2 LR LR
comp=N,1μm,17.1s
NJ2 LR LR
comp=E,410nm,27.2s
NJ2 LR LR
comp=Z,1μm,17.5s,MS5.4
STHS Stebnicka Huta 85.79 20 *e*P **P 05 54 45.8 +4.2**
STHS *e*PP PP 05 58 05.8 +4.9
VYHS Vyhne 85.96 22 *e*P **P 05 54 43.0 +0.5**
VYHS *e*PP PP 05 58 09.2 +6.9
FRF La Foret Royal 86.01 32 *e*P **P 05 54 44.7 +2.0**
SBF Sospel 86.08 32 *e*P **P 05 54 44.6 +1.6**
LMR La Mourre 86.15 32 *e*P **P 05 54 44.9 +1.5**
KURK Kurchatov 86.30 344 *e*P **P 05 54 42.3 -1.8**
comp=Z,13nm,1.1s,mb5.1
KURK Kurchatov 86.30 344 *e*P **P 05 54 42.7 -1.4**
KECS Kecovo 86.44 21 *e*P **P 05 54 46.4 +1.6**
AKASG Malin Array Be 86.45 15 P **P 05 54 43.6 -1.2**
comp=Z,3.0nm,0.8s,mb4.6,baz=334,slow=4.4,SNR=9.8
PGF Pioggiola 87.80 31 *e*P **P 05 54 53.5 +2.1**
comp=Z,67nm,1.4s,mb5.4
PGF Pioggiola 87.80 31 *e*P **P 05 54 53.5 +2.1**
comp=Z,34nm,1.4s,mb5.4
PGF Pioggiola 87.80 31 *e*P **P 05 54 53.5 +2.1**
PGF pmax pmax
comp=Z,34nm,1.4s,mb5.4
AKTO Aktyubinsk 89.10 357 LR LR 06 32 09.2
comp=Z,120nm,22.0s,MS4.3,baz=78,slow=34
MKAR Makanchi Array 89.15 341 P **P 05 54 55.1 -2.7**
comp=Z,0.7nm,0.8s,mb4.1,baz=15,slow=5.8,SNR=4.6
MKAR LR LR 06 34 58.4
comp=Z,117nm,21.8s,MS4.3,baz=270,slow=36
WMQ Urumqi 90.36 336 P **P 05 55 03.8 +0.3**
WMQ AP pP 05 55 08.5 +1.7
WMQ XP sP 05 55 10.8 +2.8
WMQ PP PP 05 58 40.5 +2.9
WMQ AMB AMB
comp=Z,13nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,92nm,4.4s
WMQ LR LR
comp=N,152nm,22.0s
WMQ LR LR
comp=Z,178nm,22.0s,MS4.5
LZH Lanzhou 90.68 321 *e*P **P 05 55 03.5 -1.4**
LZH PP PP 05 58 40.0 -0.1
LZH AMB AMB
comp=Z,11nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,78nm,5.9s
LZH LR LR
comp=E,310nm,16.3s
LZH LR LR
comp=Z,398nm,17.7s,MS4.9
BDFB Brasilia 91.57 109 LR LR 06 36 44.7
comp=Z,164nm,19.1s,MS4.5,baz=310,slow=36
PMG Port Moresby 93.36 261⇑ *i*P **P 05 55 17.1 -0.3**
ANN Anapa 93.60 11 *e*P **P 05 55 16.3 -2.1**
ANN pmax pmax
comp=Z,66nm,1.7s,mb5.8
CD2 Chengdu 94.91 318 *e*P **P 05 55 23.0 -1.5**
CD2 AP pP 05 55 27.8 0.0
CD2 PP PP 05 59 14.0 +0.7
CD2 SKS 06 05 56.5
CD2 S 06 06 33.1
CD2 SS SS 06 13 01.3 -1.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,50nm,9.3s
CD2 LR LR
comp=E,70nm,15.6s
CD2 LR LR
comp=Z,70nm,13.2s,MS4.3
KIV Kislovodsk 95.10 8⇑ *e*P **P 05 55 24.3 -1.0**
KIV pmax pmax
comp=Z,3.0nm,0.5s,mb5.0
PLCA Paso Flores 95.68 141 LR LR 06 28 36.6
comp=Z,194nm,20.1s,MS4.6,baz=203,slow=29
KMI Kunming 100.11 316 P Pdif 05 55 49.8 +1.9
KMI AMB AMB
comp=Z,8.0nm,1.1s
KMI LR LR
comp=Z,45nm,31.6s,MS3.8
QSPA South Pole Qui 130.57 180 *e*P PKPdf 06 01 12.5 -0.6
LSZ Lusaka 146.37 48 *e*PKPbc PKPbc 06 01 44.0 +0.9
LBTB Lobatse 151.90 65 *e*PKPbc PKPbc 06 01 57.4 +0.2

ISCJB ***22*** *06:08:16.2±0.5, 5013N±003×1836E±003, h0km, Error ellipse: s-maj=4.2km s-min=2.4km az=36.9*
IPEC ***22*** *06:08:17.8±0.1, 5006N×1844E, h4km±1km, ML2.0/4, Error ellipse: s-maj=2.0km s-min=0.7km az=161.0*
CSEM ***22*** *06:08:17.9±0.2, 5012N×1838E, h2km, ML2.9/6*
WAR ***22*** *06:08:18.1, 5006N×1843E, ML2.5, Mining Induced*
PRU ***22*** *06:08:19.0, 5007N×1836E, h0km*
VIE ***22*** *06:08:20.9±0.6, 4976N×1834E, h0km, mb1.9/3, ML2.5/3, Error ellipse: s-maj=4.2km s-min=2.5km az=75.0 11 km SE of Ostrava Suspected Mining induced.*

ISC 22 06:08:17.7±0.4, 5009N±003×1838E±003, h0km, n27, σ1°02/52, 1C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.12**	**269**	*e*Pg	**Pg**	**06 08 21.8**	**+1.9**
RAC				*e*Sg	**Sg**	**06 08 25.0**	**+3.5**
OKC	**Ostrava-Krasne**	**0.29**	**211**	*e*PG	**Pg**	**06 08 23.9**	**+0.7**
OKC				*e*SG	**Sg**	**06 08 28.3**	**+1.3**
	193nm,0.7s						
OKC	**Ostrava-Krasne**	**0.29**	**211**	*e*Pg	**Pg**	**06 08 23.7**	**+0.5**
OKC				*e*Sg	**Sg**	**06 08 27.6**	**+0.6**
MORC	**Moravsky Berou**	**0.62**	**241**	*e*Pg	**Pg**	**06 08 30.0**	**+0.4**
MORC				*e*Sg	**Sg**	**06 08 38.5**	**+0.8**
	18nm,0.3s						
OJC	**Ojcow**	**0.92**	**81**	*i* Pgc	**Pg**	**06 08 34.7**	**-0.7**
OJC				*e*Sg	**Sg**	**06 08 47.0**	**-0.3**
OJC	**Ojcow**	**0.92**	**81**	*e*Pg	**Pg**	**06 08 34.6**	**-0.8**
OJC				*e*Sg	**Sg**	**06 08 46.0**	**-1.3**
LIKS	**Likavka**	**1.14**	**155**	*e*PN	**Pn**	**06 08 40.6**	**-0.2**
LIKS				*e*SN	**Sn**	**06 08 57.1**	**-0.1**
JAVC	**Velka Javorina**	**1.31**	**201**	*e*Pg	**Pg**	**06 08 43.3**	**+0.5**
JAVC				*e*Sg	**Sg**	**06 09 01.2**	**+1.4**
	24nm,0.7s						
DPC	**Dobruska-Polom**	**1.35**	**282**	*e*PG	**Pg**	**06 08 43.6**	**+0.1**
DPC				*e*SG	**Sg**	**06 09 01.7**	**+0.7**

33nm,0.6s
DPC Dobruska-Polom 1.35 282 *e*Pg **Pg 06 08 43.5 0.0**
DPC *e*Sg **Sg 06 09 01.3 +0.3**
VRAC Vranov 1.40 237 *e*Pg **Pg 06 08 44.0 -0.4**
VRAC *e*Sg **Sg 06 09 02.2 -0.3**
21nm,0.3s
NIE Niedzica 1.42 117 *e*Pg **Pg 06 08 44.6 -0.3**
NIE *e*Sg **Sg 06 09 04.3 +1.0**
KSP Ksiaz 1.53 300 *e*Pg **Pg 06 08 45.9 -1.2**
KSP *e*Sg **Sg 06 09 06.9 -0.1**
UPC Upice 1.58 286 *e*PG **Pg 06 08 47.9 0.0**
UPC *e*SG **Sg 06 09 08.6 +0.3**
VYHS Vyhne 1.62 169 *e*PN **Pn 06 08 46.9 -0.6**
VYHS *e*SN **Sn 06 09 08.3 -0.7**
KRUC Moravsky 1.65 232 *e*Pn **Pn 06 08 47.7 -0.1**
KRUC *e*Sg **Sg 06 09 09.6 -1.0**
12nm,0.2s
STHS Stebnicka Huta 1.98 109 *e*PN **Pn 06 08 55.4 +3.1**
STHS *e*SN **Sn 06 09 21.0 +3.2**
KECS Kecovo 2.12 138 *e*PN **Pn 06 08 53.5 -0.8**
KECS *e*SN **Sn 06 09 21.7 +0.5**
CRVS Cervenica-Dubn 2.33 119 *e*PN **Pn 06 09 00.7 +3.4**
CRVS *e*SG **Sg 06 09 31.9 -0.7**
PRU Pruhonice 2.48 269 *e*PG **Pg 06 09 04.3 -0.8**
PRU *e*SG **Sg 06 09 34.9 -2.3**
11nm,0.7s
BRG Berggiesshubel 2.94 287 PG **Pg 06 09 14.2 +0.1**
KHC Kasperske Hory 3.27 255 *e*PN **Pn 06 09 09.0 -1.1**
KHC *ex* **Pg 06 09 21.0 +0.7**
KHC *e*SG **Sg 06 10 00.9 -1.7**
10.0nm,0.8s
MOA Molln 3.51 232 ⇓*i*Pn **Pn 06 09 13.5 0.0**
MOA ⇓*i*Pg **Pg 06 09 23.9 -1.1**
MOA ⇑*i*Sg **Sg 06 10 09.5 -1.0**
comp=Z,5.7nm,0.5s
MOA Molln 3.51 232 Pg **Pg 06 09 23.9 -1.1**
MOA Sg **Sg 06 10 09.5 -1.1**
5.7nm,0.5s
CLL Collm 3.63 292 *e*Sg **Sg 06 10 16.0 +1.7**
CLL Collm 3.63 292 *e*Sg **Sg 06 10 16.0 +1.7**
MOX Moxa 4.37 280 *e*SG **Sg 06 10 38.9 +1.0**

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*ATH **22** 06:14:39.5,3807N×27.15E,h56km±11km,MD3.2/3*
*CSEM **22** 06:14:41.7±0.1,3812N×2663E,h5km,MD2.8,Error ellipse: s-maj=3.0km s-min=2.0km az=99.0*
*ISCJB **22** 06:14:42.5±0.8,3811N±003×2660E±005,h5km±6km, Error ellipse: s-maj=6.9km s-min=4.2km az=154.9*
*NEIC **22** 06:14:42.0,3809N×2667E,h8km,MD2.8(ISK), MD3.2(ATH),After ISK.*
*ISK **22** 06:14:42.8,3827N×2666E,h29km,MD2.8*
ISC 22 06:14:42.9±0.8,3813N±003×2660E±006,h10km±5km,n21, σ0°82/34,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.23**	**358**	*i* P	**Pg**	**06 14 47.4**	**-0.3**
URLA				*i* S	**Sg**	**06 14 51.1**	**+0.2**
SMG	**Samos**	**0.46**	**156**	*e*P	**Pg**	**06 14 51.6**	**-0.2**
SMG				*e*S	**Sg**	**06 14 59.1**	**+1.3**
SMG	**Samos**	**0.46**	**156**	*e*P	**Pg**	**06 14 51.6**	**-0.2**
SMG				*e*S	**Sg**	**06 15 00.0**	**+2.2**
IZM	**Izmir**	**0.58**	**62**	PG	**Pg**	**06 14 54.2**	**0.0**
IZM				SG	**Sg**	**06 15 01.7**	**-0.2**
IZM	**Izmir**	**0.58**	**62**	Pg	**Pg**	**06 14 54.0**	**-0.2**
IZM				*e*Sg	**Sg**	**06 15 01.7**	**-0.2**
IZM	**Izmir**	**0.58**	**62**	Pg	**Pg**	**06 14 54.0**	**-0.2**
KDAG	**Bornova**	**0.59**	**62**	*i* P	**Pg**	**06 14 54.0**	**-0.3**
KDAG				*i* S	**Sg**	**06 15 02.1**	**0.0**
AYDN	**Tasoluk**	**1.11**	**114**	*i* P	**Pb**	**06 15 04.4**	**+0.2**
AYDN				*i* S	**Sg**	**06 15 18.4**	**-0.3**
PRK	**Paraskevi**	**1.15**	**347**	*e*P	**Pb**	**06 15 02.9**	**-1.9**
PRK				*e*S	**Sb**	**06 15 21.0**	**+1.2**
PRK	**Paraskevi**	**1.15**	**347**	*e*P	**Pb**	**06 15 02.9**	**-1.9**
PRK				*e*S	**Sb**	**06 15 21.1**	**+1.3**
AYVA	**Ayvalik**	**1.18**	**3**	*i* P	**Pb**	**06 15 04.7**	**-0.7**
AYVA				*i* S	**Sb**	**06 15 22.1**	**+1.3**
BODT	**Bodrum**	**1.20**	**152**	*e*PN	**Pn**	**06 15 05.3**	**-0.5**
BODT				*e*SN	**Sn**	**06 15 22.1**	**0.0**
BODT	**Bodrum**	**1.20**	**152**	Pn	**Pn**	**06 15 04.7**	**-1.0**
AKS	**Akhisar**	**1.21**	**51**	*e*PN	**Pn**	**06 15 02.5**	**-3.4**
AKS	**Akhisar**	**1.21**	**51**	Pn	**Pn**	**06 15 06.6**	**+0.7**
AKS	**Akhisar**	**1.21**	**51**	Pn	**Pn**	**06 15 06.6**	**+0.7**
MLSB	**Milas**	**1.25**	**131**	*e*PN	**Pn**	**06 15 06.1**	**-0.3**
MLSB	**Milas**	**1.25**	**131**	Pn	**Pn**	**06 15 06.3**	**-0.1**
APE	**Apeiranthos**	**1.36**	**219**	*e*Pn	**Pn**	**06 15 07.8**	**-0.1**
APE				*e*S	**Sb**	**06 15 30.1**	**+4.3**
APE	**Apeiranthos**	**1.36**	**219**	*e*P	**Pn**	**06 15 07.2**	**-0.7**
APE				*e*S	**Sb**	**06 15 30.1**	**+4.3**
DAT	**Datca**	**1.60**	**151**	*e*PN	**Pn**	**06 15 11.4**	**+0.2**

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*NEIC **22** 06:25:19.7,3356S×7003W,h8km,ML2.7(GUC),After GUC.*
GUC 22 06:25:19.7±1.0,3356S×7003W,h8km±1km,MD3.9,ML2.7, 12C-11D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJCH	**San Jose de Ma**	**0.28**	**254**	⇓*i*P	Pg	06 25 25.5	+0.3
SJCH				*i* S	Sg	06 25 30.1	+1.2
SJCH				AMP		06 25 31.0	
comp=N,4μm,0.1s							
LMEL	**Las Melosas**	**0.32**	**206**	⇓*i*P	Pg	06 25 26.4	+0.5
LMEL				*i* S	Sg	06 25 31.5	+1.4
LMEL				AMP		06 25 33.1	
comp=E,2μm,0.1s							
LMEL	**Las Melosas**	**0.32**	**206**	⇓*i*P	Pg	06 25 26.4	+0.5
LMEL				*i* S	Sg	06 25 31.5	+1.4
FCH	**Farellones**	**0.32**	**318**	⇑*i*P	Pg	06 25 26.7	+0.7
FCH				*i* S	Sg	06 25 31.7	+1.5
FCH				AMP		06 25 32.0	
comp=N,2μm,0.1s							
PCH	**Pirque**	**0.41**	**262**	⇑*i*P	Pg	06 25 28.6	+1.1
PCH				*i* S	Sg	06 25 35.0	+2.1
FSR	**Penalolen**	**0.42**	**282**	⇑*i*P	Pg	06 25 28.9	+1.0
FSR				*i* S	Sg	06 25 35.8	+2.4
FSR				AMP		06 25 36.2	
comp=E,1μm,0.3s							
FSR	**Penalolen**	**0.42**	**282**	⇑*i*P	Pg	06 25 28.9	+1.0
FSR				*i* S	Sg	06 25 35.8	+2.4
CLCH	**Cerro Calan**	**0.45**	**292**	⇑*i*P	Pg	06 25 29.4	+1.0
CLCH				*i* S	Sg	06 25 36.8	+2.4
CLCH				AMP		06 25 37.4	
comp=E,2μm,0.5s							
CLCH				AMP		06 25 37.9	
comp=E,2μm,0.6s							
DSCH	**Colegio Aleman**	**0.48**	**290**	⇑*i*P	Pg	06 25 29.2	+0.3
DSCH				*i* S	Sg	06 25 37.0	+1.8
DSCH				AMP		06 25 37.2	
comp=E,428nm,0.2s							
DSCH	**Colegio Aleman**	**0.48**	**290**	⇑*i*P	Pg	06 25 29.2	+0.3
DSCH				*i* S	Sg	06 25 37.0	+1.8
ANTU	**Antumapu**	**0.50**	**269**	⇓*i*P	Pg	06 25 30.3	+0.9
ANTU				*i* S	Sg	06 25 38.0	+2.0
ANTU				AMP		06 25 38.3	
comp=N,1μm,0.3s							
ANTU	**Antumapu**	**0.50**	**269**	⇓*i*P	Pg	06 25 30.3	+0.9
ANTU				*i* S	Sg	06 25 38.0	+2.0
STL	**Santa Lucia**	**0.52**	**284**	⇑*i*P	Pg	06 25 30.1	+0.3
STL				*i* S	Sg	06 25 38.2	+1.5
STL				AMP		06 25 41.5	
comp=N,319nm,0.6s							
SAN	**Santiago**	**0.54**	**282**	*i* S	Sg	06 25 39.1	+2.0
SAN				AMP		06 25 41.4	
comp=N,524nm,0.4s							
CHCH	**Chadas Angostu**	**0.63**	**234**	⇑*i*P	Pg	06 25 32.5	+0.6
CHCH				*i* S	Sg	06 25 42.1	+2.0
RCDM	**Rinconada Maip**	**0.65**	**276**	⇓*i*P	Pg	06 25 33.0	+0.7
RCDM				*i* S	Sg	06 25 42.7	+2.0
RCDM				AMP		06 25 42.9	
comp=E,991nm,0.1s							
PEL	**Peldehue**	**0.69**	**307**	⇓*i*P	Pg	06 25 33.3	+0.4
PEL				*i* S	Sg	06 25 43.3	+1.4
PEL				AMP		06 25 44.3	
comp=E,1μm,0.3s							
PEL	**Peldehue**	**0.69**	**307**	⇓*i*P	Pg	06 25 33.3	+0.4
PEL				*i* S	Sg	06 25 43.3	+1.4
CACH	**El Canelo**	**0.72**	**220**	⇓*i*P	Pg	06 25 34.2	+0.5
CACH				*i* S	Sg	06 25 44.8	+1.7
TACH	**Talagante**	**0.76**	**263**	⇑*i*P	Pg	06 25 34.8	+0.5
TACH				*i* S	Sg	06 25 45.2	+1.0
CICH	**Cipreses**	**0.82**	**203**	⇑*i*P	Pg	06 25 35.5	+0.1
CICH				*i* S	Sg	06 25 47.8	+1.6
JACH	**Jahuel**	**1.00**	**332**	⇑*i*P	Pg	06 25 38.7	-0.1
JACH				*i* S	Sg	06 25 52.8	+1.0
ROCH	**El Roble**	**1.01**	**306**	⇓*i*P	Pg	06 25 39.0	-0.1
ROCH				*i* S	Sg	06 25 52.9	+0.7
LNV	**Longovilo**	**1.21**	**251**	⇓*i*P	Pb	06 25 42.3	-0.6
LNV				*i* S	Sb	06 25 59.2	+0.5

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*ISCJB **22** 06:29:20.8±0.3,6203N±003×150.12W±008,h73km±5km, mb3.4/4,Error ellipse: s-maj=5.9km s-min=4.5km az=12.1*
*IDC **22** 06:29:21.2±1.5,6207N×15029W,h54km±19km,mb3.3/4, mb1 3.5/9,mb1mx3.4/22,mbtmp3.5/9,ML3.3/5,Error ellipse: s-maj=24.8km s-min=9.1km az=111.0*
*NEIC **22** 06:29:23.0,6204N×150.11W,h44km,ML3.3(AEIC), ML3.7(PMR),After AEIC.*
ISC 22 06:29:22.1±0.3,6203N±003×15015W±007,h61km±7km, n38,σ0°86/48,mb3.5/4,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	**Glory Hole Cre**	**0.64**	**113**	P	**Pn**	**06 29 35.0**	**-0.6**
PMR	**Palmer**	**0.65**	**132**	P	**Pn**	**06 29 34.8**	**-1.0**
PMR				S	**Sn**	**06 29 44.7**	**-1.1**
FIB	**Fire Island**	**0.86**	**181**	P	**Pn**	**06 29 38.9**	**+0.5**
SML	**Sawmill**	**0.89**	**104**	P	**Pn**	**06 29 38.0**	**-0.7**
SML				S	**Sn**	**06 29 51.1**	**+0.1**
RC01	**Rabbit Creek A**	**0.96**	**168**	P	**Pn**	**06 29 39.2**	**-0.5**
RC01				S	**Sn**	**06 29 53.0**	**+0.4**
KNK	**Knik Glacier**	**1.02**	**127**	P	**Pn**	**06 29 40.1**	**-0.2**
TRF	**Thorofare Moun**	**1.43**	**358**	P	**Pn**	**06 29 45.9**	**+0.1**
SLKM	**Skilak Lake**	**1.53**	**181**	P	**Pn**	**06 29 47.5**	**+0.4**
KTH	**Kantishna Hill**	**1.57**	**347**	P	**Pn**	**06 29 48.1**	**+0.4**
KTH				S	**Sn**	**06 30 07.1**	**0.0**
MCK	**McKinley**	**1.80**	**18**	P	**Pn**	**06 29 51.1**	**+0.3**
SEW	**Seward**	**1.96**	**170**	P	**Pn**	**06 29 54.3**	**+1.3**
DIV	**Divide**	**2.28**	**111**	P	**Pn**	**06 29 57.2**	**-0.1**
PAX	**Paxson**	**2.37**	**64**	P	**Pn**	**06 29 59.9**	**+1.4**
PAX				S	**Sn**	**06 30 28.7**	**+2.2**
EYAK	**Cordova Ski Ar**	**2.59**	**123**	P	**Pn**	**06 30 01.4**	**-0.1**
SVW2	**Sparrevohn**	**2.76**	**253**	P	**Pn**	**06 30 04.3**	**+0.4**
BMRM	**Bremner River**	**2.87**	**109**	P	**Pn**	**06 30 05.0**	**-0.3**
TT01	**Tatalina**	**2.87**	**290**	P	**Pn**	**06 30 05.2**	**-0.1**
TTA	**Tatalina**	**2.87**	**291**	*e*P	**Pn**	**06 30 05.9**	**+0.6**
COLA	**College**	**3.04**	**19**	P	**Pn**	**06 30 07.7**	**0.0**
COLA				S	**Sn**	**06 30 41.3**	**-1.6**
IL1	**Eielson Array**	**3.12**	**27**	P	**Pn**	**06 30 08.7**	**-0.1**
ILAR	**Eielson Array**	**3.12**	**27**	P	**Pn**	**06 30 08.7**	**-0.1**
	7.2nm,0.3s,baz=216,slow=13,SNR=631						
ILAR				S	**Sn**	**06 30 44.0**	**-0.8**
	13nm,0.3s,baz=217,slow=16,SNR=11						
MENT	**Mentasta**	**3.12**	**70**	*e*P	**Pn**	**06 30 09.6**	**+0.8**
IM3	**Indian Mountai**	**4.28**	**340**	P	**Pn**	**06 30 24.7**	**+0.1**
KDAK	**Kodiak Island**	**4.43**	**197**	P	**Pn**	**06 30 26.8**	**0.0**
	2.5nm,0.3s,baz=142,slow=16,SNR=31						
KDAK				S	**Sn**	**06 31 16.3**	**-0.7**
	1.9nm,0.3s,baz=46,slow=16,SNR=2.8						
KDAK	**Kodiak Island**	**4.43**	**197**	P	**Pn**	**06 30 26.4**	**-0.4**
COLD	**Coldfoot**	**5.22**	**360**	P	**Pn**	**06 30 38.0**	**+0.4**
DAWY	**Dawson**	**5.30**	**63**	P	**Pn**	**06 30 39.6**	**+0.9**
PNL	**Peninsula**	**5.76**	**109**	P	**Pn**	**06 30 45.4**	**+0.4**
BM3	**Burnt Mountain**	**5.91**	**21**	P	**Pn**	**06 30 47.2**	**+0.3**
WHY	**Whitehorse**	**7.47**	**94**	P	**Pn**	**06 31 07.8**	**-0.6**
INK	**Inuvik**	**9.38**	**41**	P	**Pn**	**06 31 35.5**	**+1.0**
	0.4nm,0.3s,baz=227,slow=17,SNR=27						
INK				S	**Sn**	**06 33 17.6**	**-0.9**
	0.2nm,0.3s,baz=78,slow=23,SNR=3.3						
INK	**Inuvik**	**9.38**	**41**	*e*Pn	**Pn**	**06 31 35.5**	**+1.0**
	11nm,1.2s						
INK				*e*Sn	**Sn**	**06 33 18.8**	**+0.3**
DLBC	**Dease Lake**	**10.62**	**101**	P	**Pn**	**06 31 50.8**	**-0.6**
	0.1nm,0.3s,baz=125,slow=21,SNR=2.7						
YKA	**Yellowknife Ar**	**16.43**	**73**	P	**Pn**	**06 33 07.5**	**-1.0**
	baz=283,slow=9.4,SNR=5.6						
NVAR	**Mina Array Bea**	**30.64**	**126**	P	**P**	**06 35 32.4**	**+2.0**
	0.3nm,0.5s,mb3.4,baz=302,slow=11,SNR=3.7						
SONM	**Songino Array**	**54.71**	**307**	P	**P**	**06 38 45.9**	**+0.9**
	0.2nm,0.4s,mb3.5,baz=36,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**63.69**	**323**	P	**P**	**06 39 44.8**	**-2.2**
	0.1nm,0.3s,mb3.3,baz=32,slow=8.9,SNR=4.3						
AKASG	**Malin Array Be**	**67.62**	**0**	P	**P**	**06 40 10.0**	**-2.4**
	0.3nm,0.3s,mb3.8,baz=54,slow=6.5,SNR=4.2						

MEX 22 06:58:14.3±1.0,1689N×9654W,h64km±6km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.26**	**318**	*i* P	Pn	06 58 23.0	-1.6
OXX				*i* S	Sn	06 58 31.0	-1.0
VHO	**Vista Hermosa**	**0.26**	**315**	*i* P	Pn	06 58 23.3	-1.3
VHO				*i* S	Sn	06 58 30.7	-1.3
HUIG	**Huatulco**	**1.19**	**159**	*i* P	Pn	06 58 33.8	-1.1
HUIG				*i* S	Sn	06 58 48.6	-1.7
UTMO	**Huajuapan**	**1.53**	**308**	*i* P	Pn	06 58 38.9	-0.6
UTMO				*i* S	Sn	06 58 55.8	-2.6
PNIG	**Pinotepa**	**1.60**	**252**	*i* P	Pn	06 58 38.9	-1.4
PNIG				*i* S	Sn	06 58 58.5	-1.5
CMIG	**Matias Romero**	**1.60**	**82**	*i* P	Pn	06 58 38.9	-1.5
CMIG				*i* S	Sn	06 58 58.0	-2.1
TPIG	**Tehuac#an**	**1.71**	**333**	*i* P	Pn	06 58 41.7	-0.3
TPIG				*i* S	Sn	06 59 03.2	+0.3
PPM	**Popocatepetl**	**2.94**	**318**	*i* P	Pn	06 58 59.4	+0.8
PPM				*e*P		06 59 02.0	
PPM				*i* S	Sn	06 59 31.9	-0.9
PLIG	**Platanillo**	**3.20**	**298**	*i* P	Pn	06 59 02.6	+0.5
PLIG				*i* S	Sn	06 59 38.1	-0.9
ACX	**Acapulco**	**3.23**	**270**	*i* P	Pn	06 59 00.0	-2.6

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*IDC **22** 07:22:47.2±2.9,3470N×7321E,h0km,mb3.5/3,mb1 3.9/5, mb1mx3.5/23,mbtmp3.7/5,ML3.5/3,Error ellipse: s-maj=70.2km s-min=31.7km az=132.0*
*ISCJB **22** 07:22:48.3±0.7,3481N±007×7312E±0.1,h10km,mb3.6/3, Error ellipse: s-maj=17.3km s-min=6.1km az=115.7*
*NEIC **22** 07:22:48.7±3.3,3470N×7313E,h10km,mb3.4/3,Error ellipse: s-maj=53.1km s-min=26.0km az=156.0*
*NDI **22** 07:22:50.3±1.6,3358N×7165E,h38km±999km,MD3.7, ML4.2*
*NNC **22** 07:22:57.3±26.0,3502N×7352E,h65km±207km,mb3.0, mpv3.9,Error ellipse: s-maj=339.2km s-min=205.9km az=81.0*
ISC 22 07:22:49.9±0.7,3477N±007×731E±01,h10km,n20, σ1°29/25,mb3.6/3,2C-3D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.30**	**132**	*e*P	**Pn**	**07 23 46.0**	**+4.4**
DLH				*e*S	**Sn**	**07 24 25.0**	**+4.1**
DLH	**Dalhousie**	**3.30**	**132**	*e*P	**Pn**	**07 23 46.0**	**+4.4**
DLH				*e*S	**Sn**	**07 24 25.0**	**+4.1**
SDNR	**Sundarnagar**	**4.63**	**134**	*e*P	**Pn**	**07 24 01.0**	**+1.0**
SDNR				*e*S	**Sn**	**07 24 54.5**	**+0.7**
SDNR	**Sundarnagar**	**4.63**	**134**	*e*P	**Pn**	**07 24 01.0**	**+1.0**
SDNR				*e*S	**Sn**	**07 24 54.5**	**+0.7**
SMLA	**Simla**	**5.02**	**135**	*ex*	x	07 23 59.4	
SMLA				*e*S	**Sn**	**07 25 01.2**	**-2.1**
	437nm,0.3s						
SMLA	**Simla**	**5.02**	**135**	*ex*	x	07 23 59.4	
SMLA				*e*S	**Sn**	**07 25 01.2**	**-2.1**
	437nm,0.3s						
KK31	**Karatay Array**	**8.55**	**347**	⇑P	**Pn**	**07 24 56.5**	**+2.8**
	1.7nm,0.3s,baz=156,slow=11,SNR=67						
KK31				⇓S	**Sn**	**07 26 30.3**	**+0.1**
	5.5nm,0.8s,baz=151,slow=23,SNR=7.3						
MKAR	**Makanchi Array**	**13.89**	**27**	Pn	**Pn**	**07 26 04.8**	**-2.0**
	0.0nm,0.3s,baz=191,slow=5.9,SNR=2.8						
AB31	**Akbulak array**	**17.40**	**330**	⇓P	**Pn**	**07 26 54.0**	**+1.2**
	0.3nm,0.5s,baz=159,slow=11,SNR=12						
BVA0	**Borovoye Array**	**18.34**	**355**	⇑P	**Pn**	**07 27 05.8**	**+1.4**
	0.3nm,0.9s,baz=158,slow=10,SNR=11						
BVAR	**Borovoye Array**	**18.34**	**355**	P	**Pn**	**07 27 02.2**	**-2.2**
	0.6nm,0.3s,baz=156,slow=10.0,SNR=15						
BRVK	**Borovoye**	**18.39**	**355**	P	**Pn**	**07 27 04.8**	**-0.1**
	0.9nm,0.5s						
ZRNK	**Zerenda**	**18.40**	**352**	*e*P	**Pn**	**07 27 05.6**	**+0.5**
	1.3nm,0.6s						
AKTK	**Aktyubinsk**	**19.11**	**330**	P	**Pn**	**07 27 13.5**	**-0.2**
AKTO	**Aktyubinsk**	**19.11**	**330**	⇓P	**Pn**	**07 27 13.9**	**+0.2**
	0.6nm,0.8s						
AKTO	**Aktyubinsk**	**19.11**	**330**	P	**Pn**	**07 27 13.5**	**-0.2**
	0.3nm,0.3s,baz=132,slow=11,SNR=11						
ZAL	**Zalesovo**	**20.87**	**20**	P	**P**	**07 27 32.4**	**+0.4**
	1.7nm,0.3s,baz=295,slow=12,SNR=4.9						
MORC	**Moravsky Berou**	**42.73**	**308**	*e*P	**P**	**07 30 45.5**	**-1.8**
	2.0nm,0.5s,mb4.1						
TORD	**Torodi Ar. Bea**	**67.37**	**271**	P	**P**	**07 33 45.1**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=40,slow=5.1,SNR=4.3						
YKA	**Yellowknife Ar**	**82.88**	**4**	P	**P**	**07 35 14.0**	**-0.6**
	0.1nm,0.4s,mb3.2,baz=347,slow=5.4,SNR=6.9						

IDC 22 07:39:57.1±8.9,6015×15091E,h106km±61km,mb3.0/2, mb1 3.2/3,mb1mx3.0/13,mbtmp3.4/3,Error ellipse: s-maj=115.7km s-min=57.2km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.02**	**228**	P	Pn	07 41 10.3	+0.2
	1.2nm,0.3s,baz=45,slow=10.0,SNR=3.1						
PMG				S	Sn	07 42 07.9	+1.0
	3.9nm,0.3s,baz=150,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**21.24**	**228**	P	P	07 44 34.3	-0.3
	0.4nm,0.4s,baz=54,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**24.00**	**221**	P	P	07 45 02.4	+0.6
	0.8nm,0.6s,baz=59,slow=8.3,SNR=13						
TORD	**Torodi Ar. Bea**	**148.85**	**285**	PKPbc	PKPbc	07 59 32.9	+0.7
	0.7nm,0.8s,baz=92,slow=2.8,SNR=3.8						

IDC 22 07:41:32.9±1.3,108N×12635E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.5/15,mbtmp3.5/4,MS3.5/1,Ms1 3.5/1, ms1mx2.5/10,Error ellipse: s-maj=137.2km s-min=20.9km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.31**	**160**	P	P	07 46 31.4	-0.5
	1.1nm,0.6s,baz=339,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**25.67**	**164**	P	P	07 47 05.4	+1.0
	0.7nm,0.5s,baz=349,slow=14,SNR=8.8						
STKA	**Stephens Creek**	**35.82**	**158**	LR	LR	08 04 18.4	
	comp=Z,87nm,21.6s,baz=25,slow=38						
SONM	**Songino Array**	**49.69**	**342**	P	P	07 50 26.9	+0.4
	0.2nm,0.3s,baz=159,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**59.52**	**326**	P	P	07 51 37.9	-0.1
	0.3nm,0.4s,baz=116,slow=7.4,SNR=8.6						

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*CSEM **22** 07:47:04.5±1.1,3674N×526E,h10km,ML3.1/6,Error ellipse: s-maj=22.2km s-min=12.4km az=145.0*
*NEIC **22** 07:47:06.6,3693N×539E,h0km,MG4.0(MDD),After MDD.*
*LDG **22** 07:47:07.7±0.6,3676N×557E,h25km,Ml3.2/6,Error ellipse: s-maj=10.8km s-min=7.2km az=157.0*
MDD 22 07:47:05.3±2.5,3687N×547E,h0km,mb4.0/3,Error ellipse: s-maj=23.5km s-min=15.6km az=160.0,PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**3.57**	**325**	Pn	Pn	07 48 00.6	-1.3
	3.8nm,0.3s,SNR=7.9						
ETOS				Sn	Sn	07 48 39.7	-5.1
	3.2nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.57**	**325**	P	Pn	07 48 00.6	-1.3
	3.8nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.91**	**305**	Pn	Pn	07 48 04.7	-1.9
	2.7nm,0.2s,SNR=7.9						
EIBI				Sn	Sn	07 48 48.7	-4.6
	3.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.91**	**305**	P	Pn	07 48 04.7	-1.9
	2.7nm,0.2s,SNR=7.9						
EIBI				S	Sn	07 48 48.7	-4.5
	3.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.63**	**324**	Sn	Sn	07 49 29.3	-6.4
	1.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.82**	**309**	Pn	Pn	07 48 32.3	-0.6
	0.3nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	07 49 35.9	-4.3
	1.4nm,0.6s,SNR=7.9						
EMOS	**Mosqueruela**	**5.82**	**309**	P	Pn	07 48 32.3	-0.5
	0.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.89**	**330**	Pn	Pn	07 48 33.4	-0.5
	2.1nm,0.1s,SNR=7.9						
EMIR				Sn	Sn	07 49 37.8	-4.3
	3.8nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.89**	**330**	P	Pn	07 48 33.4	-0.5
	2.1nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**5.89**	**330**	P	Pn	07 48 33.4	-0.5
EMIR				S	Sn	07 49 37.8	-4.3
PGF	**Pioggiola**	**6.29**	**25**	*e*Pn	Pn	07 48 37.5	-1.8
PGF				*e*Sn	Sn	07 49 46.2	-5.6
	1.8nm,0.2s						
PGF	**Pioggiola**	**6.29**	**25**	*e*Pn	Pn	07 48 37.5	-1.8
PGF				*e*Sn	Sn	07 49 46.2	-5.6
	0.9nm,0.2s						
LMR	**La Mourre**	**6.51**	**7**	*e*Pn	Pn	07 48 40.2	-2.1
LMR				*e*Sn	Sn	07 49 52.8	-4.4
	2.1nm,0.2s						
LMR	**La Mourre**	**6.51**	**7**	Pn	Pn	07 48 40.2	-2.1
LMR				Sn	Sn	07 49 52.8	-4.4
	1.1nm,0.2s						
LMR	**La Mourre**	**6.51**	**7**	*e*Sn	Sn	07 49 52.8	-4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.47**	**240**	⇓*i*PG	**Pn**	**07 52 06.4**	**+3.5**
KSH				SG	**Sn**	**07 52 25.9**	**+4.5**
KSH				Smax			
	comp=N,25μm,1.2s						
KSH				Smax			
	comp=E,13μm,0.6s						
ULHL	**Ulahol**	**2.24**	**333**	P	**Pn**	**07 52 13.5**	**+0.1**
	SNR=286						
KZA	**Kyzart**	**2.55**	**316**	P	**Pn**	**07 52 18.7**	**+1.0**
	SNR=1879						
KNDC	**Almaty**	**2.99**	**351**	⇑Pn	**Pn**	**07 52 25.2**	**+1.3**
	comp=E,27μm,0.9s						
KNDC				⇑Lg		07 53 05.0	
	comp=E,89μm,1.1s						
AAA	**Alma-Ata**	**3.05**	**351**	*i* PN	**Pn**	**07 52 28.2**	**+3.6**
AAA				*i* S	**Sn**	**07 53 04.6**	**+4.2**
AAA				pmax	pmax		
	comp=Z,5μm,0.4s						
AAA				smax			
	comp=E,8μm,0.3s						
UCH	**Uchtor**	**3.06**	**311**	P	**Pn**	**07 52 26.0**	**+1.3**
	SNR=482						
TKM2	**Tokmak 2**	**3.06**	**331**	P	**Pn**	**07 52 25.9**	**+1.1**
	SNR=647						
TKM2	**Tokmak 2**	**3.06**	**331**	⇓Pn	**Pn**	**07 52 25.8**	**+1.0**
	comp=E,4μm,1.2s						
TKM2				⇑Lg		07 53 06.4	
	comp=E,6μm,0.7s						
TKM2	**Tokmak 2**	**3.06**	**331**	PN	**Pn**	**07 52 26.0**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,5μm,1.2s						
TKM2				MLR	MLR		
	comp=Z,4233μm,0.7s						
KBK	**Karagaybulak**	**3.12**	**321**	P	**Pn**	**07 52 26.9**	**+1.3**
	SNR=612						
AAK	**Ala-Archa**	**3.33**	**316**	P	**Pn**	**07 52 30.0**	**+1.4**
	SNR=92						
FRU	**Bishkek**	**3.42**	**320**	*i* PN	**Pn**	**07 52 31.3**	**+1.6**
FRU				*e*S	**Sn**	**07 53 13.0**	**+3.6**
FRU				pmax	pmax		
	comp=Z,5μm,2.0s						
FRU				smax			
	comp=N,14μm,2.1s						
CHMS	**Chumysh**	**3.48**	**323**	P	**Pn**	**07 52 31.6**	**+1.1**
	SNR=74						
AML	**Almayashu**	**3.50**	**303**	P	**Pn**	**07 52 32.6**	**+1.8**
	SNR=282						
EKS2	**Erkin-Say**	**3.75**	**311**	P	**Pn**	**07 52 36.2**	**+1.9**
	SNR=336						
USP	**Ospenovka**	**3.80**	**323**	P	**Pn**	**07 52 35.5**	**+0.5**
	SNR=13						
KK31	**Karatay Array**	**6.03**	**300**	Pn	**Pn**	**07 53 05.7**	**+0.1**
	comp=N,9.7nm,0.6s,baz=113,slow=12,SNR=77						
KK31				⇓Pg	**Pn**	**07 53 23.4**	**+18**
	comp=N,236nm,0.9s,baz=110,slow=16,SNR=71						
KK31				⇑Lg		07 54 40.6	
	comp=N,125nm,0.5s,baz=108,slow=28,SNR=6.5						
KK31	**Karatay Array**	**6.03**	**300**	*i* Pn	**Pn**	**07 53 05.7**	**+0.1**
KK31				pmax	pmax		
	comp=Z,12nm,0.6s						
KKAR	**Karatay Array**	**6.03**	**300**	*i* PN	**Pn**	**07 53 05.7**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MK31	**Makanchi Array**	**7.36**	**26**	⇓Pn	**Pn**	**07 53 24.2**	**+0.4**
	comp=Z,56nm,1.2s,baz=202,slow=13,SNR=114						
MK31				⇑Pg	Pn	07 53 48.1	+24
	comp=Z,45nm,0.8s,baz=210,slow=15,SNR=6.8						
MK31				⇑Lg		07 55 25.9	
	comp=Z,248nm,1.0s,baz=206,slow=28,SNR=7.5						
MK31	**Makanchi Array**	**7.36**	**26**	*e*Pn	**Pn**	**07 53 24.0**	**+0.2**
MK31	**Makanchi Array**	**7.36**	**26**	*i* PN	**Pn**	**07 53 23.9**	**+0.1**
MK31				pmax	pmax		
	comp=Z,20nm,0.5s						
MKAR	**Makanchi Array**	**7.36**	**26**	Pn	**Pn**	**07 53 23.8**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=199,slow=16,SNR=47						
MKAR				Lg		07 55 21.7	
	comp=Z,2.8nm,0.3s,baz=206,slow=27,SNR=3.7						
MKAR	**Makanchi Array**	**7.36**	**26**	Pn	**Pn**	**07 53 23.8**	**-0.1**
MKAR				Lg		07 55 21.7	
CHCP	**Chirah Chowk**	**7.46**	**209**	⇓P	**Pn**	**07 53 30.3**	**+5.1**
CEP	**Cherat**	**7.88**	**217**	P	**Pn**	**07 53 35.1**	**+4.1**
CEP				S	**Sn**	**07 55 02.0**	**+2.5**
WMQ	**Urumqi**	**8.30**	**61**	P	**Pn**	**07 53 39.1**	**+2.4**
WMQ				S	**Sn**	**07 55 09.8**	**+0.1**
WMQ				Smax			
	comp=N,280nm,1.3s						
WMQ				Smax			
	comp=E,153nm,1.0s						
WMQ				LR	LR		
	comp=N,1μm,6.0s						
WMQ				LR	LR		
	comp=Z,1μm,6.0s						
KLP	**Kalpa**	**8.73**	**176**	*e*x	**Pn**	**07 53 47.6**	**+5.0**
KLP				*e*x	**Sn**	**07 55 26.8**	**+6.6**
THW	**Thamme Wali**	**8.82**	**214**	P	**Pn**	**07 53 47.6**	**+3.6**
THW				S	**Sn**	**07 55 27.0**	**+4.3**
KURK	**Kurchatov**	**10.48**	**4**	⇑P	**Pn**	**07 54 06.0**	**-0.6**
	comp=Z,19nm,0.9s						
KURK				⇓Lg		07 57 01.0	
	comp=Z,305nm,1.4s						
KURK	**Kurchatov**	**10.48**	**4**	*e*Pn	**Pn**	**07 54 04.9**	**-1.7**
	comp=Z,37nm,0.9s						
KURK	**Kurchatov**	**10.48**	**4**	*e*P	**Pn**	**07 54 04.9**	**-1.7**
KURK				pmax	pmax		
	comp=Z,37nm,0.9s						
KALG	**Kalgarh**	**10.77**	**175**	*e*P	**Pn**	**07 54 05.8**	**-4.8**
NDI	**New Delhi**	**11.56**	**182**	*e*P	**Pn**	**07 54 21.5**	**+0.1**
NDI				*e*x	**Sn**	**07 56 28.0**	**-1.7**
AYAN	**Aya Nagar**	**11.76**	**182**	*e*P	**Pn**	**07 54 25.7**	**+1.5**
AYAN				*e*x	**Sn**	**07 56 32.8**	**-1.8**
SONA	**Sohna**	**11.99**	**182**	*e*P	**Pn**	**07 54 27.6**	**+0.3**
SONA				*e*x	**Sn**	**07 56 35.9**	**-4.4**
KHET	**Khetri**	**12.25**	**188**	*e*P	**Pn**	**07 54 31.9**	**+1.0**
KHET				*e*x	**Sn**	**07 56 44.0**	**-2.6**
VOSK	**Vostochnaya**	**13.27**	**342**	⇑P	**Pn**	**07 54 41.5**	**-3.3**
	comp=Z,20nm,1.1s						
VOSK				⇓Lg		07 58 21.7	
	comp=Z,633nm,1.5s						
VOSK	**Vostochnaya**	**13.27**	**342**	P	**Pn**	**07 54 40.7**	**-4.1**
VOSK				pmax	pmax		
	comp=Z,21nm,1.1s						
KOLN	**Koldanda**	**13.41**	**157**	*e*Pn	**Pn**	**07 54 45.9**	**-0.8**
KOLN				*e*Sn	**Sn**	**07 57 10.0**	**-4.9**
	comp=Z,66nm,1.0s						
GKN	**Gorkha**	**13.53**	**153**	*e*Pn	**Pn**	**07 54 48.0**	**-0.4**
BVA0	**Borovoye Array**	**13.69**	**341**	P	**Pn**	**07 54 47.7**	**-2.8**
	comp=Z,7.4nm,1.1s,baz=153,slow=12,SNR=84						
BVA0				⇓Lg		07 58 40.5	
	comp=Z,40nm,1.1s,baz=157,slow=27,SNR=3.8						
BVA0	**Borovoye Array**	**13.69**	**341**	*i* P	**Pn**	**07 54 47.7**	**-2.8**
BVA0				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BVAR	**Borovoye Array**	**13.69**	**341**	Pn	**Pn**	**07 54 46.9**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=149,slow=12,SNR=18						
BVAR				Sn	**Sn**	**07 57 28.7**	**+7.0**
	comp=Z,0.4nm,0.3s,baz=143,slow=22,SNR=3.0						
BVAR				Lg		07 58 36.1	
	comp=Z,1.4nm,0.3s,baz=150,slow=24,SNR=5.1						
BRVK	**Borovoye**	**13.74**	**341**	*e*Pn	**Pn**	**07 54 47.8**	**-3.5**
	comp=Z,24nm,0.9s						
BRVK	**Borovoye**	**13.74**	**341**	*e*P	**Pn**	**07 54 47.8**	**-3.4**
BRVK				pmax	pmax		
	comp=Z,24nm,0.9s						
KKN	**Kakani**	**13.96**	**151**	*e*Pn	**Pn**	**07 54 54.7**	**+0.5**
AJM	**Ajmer**	**13.97**	**191**	*i* P	**Pn**	**07 54 53.0**	**-1.3**
AJM				AMb	AMB	07 54 54.9	
	comp=Z,95nm,0.8s						
AJM				AMb	AMB	07 54 54.9	
	comp=Z,95nm,0.8s						
AJM				*e*P		07 54 55.0	
AJM				*e*P		07 54 55.0	
AJM				*e*x	x	07 57 12.7	
AJM				*i* x	x	07 57 25.0	
ZRNK	**Zerenda**	**13.99**	**338**	⇑P	**Pn**	**07 54 51.9**	**-2.8**
	comp=Z,12nm,0.8s						
ZRNK				⇓Lg		07 58 46.2	
	comp=Z,446nm,1.4s						
ZRNK	**Zerenda**	**13.99**	**338**	*e*Pn	**Pn**	**07 54 51.2**	**-3.4**
	comp=Z,4.7nm,0.6s						
ZRNK	**Zerenda**	**13.99**	**338**	*e*P	**Pn**	**07 54 51.2**	**-3.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DMN	**Daman**	**14.06**	**152**	*e*Pn	**Pn**	**07 54 55.9**	**+0.3**
DMN				*e*Sn	**Sn**	**07 57 27.2**	**-3.6**
	comp=Z,83nm,1.0s						
GUN	**Gumba**	**14.08**	**149**	*e*Pn	**Pn**	**07 54 56.5**	**+0.6**
PKI	**Pulchoki**	**14.21**	**151**	*e*Pn	**Pn**	**07 54 57.9**	**+0.3**
JIRN	**Jiri**	**14.43**	**148**	*e*Pn	**Pn**	**07 55 01.5**	**+0.9**
JIRN				*e*Sn	**Sn**	**07 57 38.4**	**-1.5**
	comp=Z,40nm,0.8s						
ZAL	**Zalesovo**	**14.51**	**17**	Pn	**Pn**	**07 55 00.8**	**-0.9**
	baz=271,slow=14						
ZAL				Sn	**Sn**	**07 57 44.1**	**+2.2**
ZAL				Lg		07 59 09.6	
	comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=2.5						
ZAL				LR	LR	08 01 21.1	
	comp=Z,558nm,19.9s,baz=264,slow=40						
ZAL	**Zalesovo**	**14.51**	**17**	Pn	**Pn**	**07 55 00.8**	**-0.9**
ZAL				Sn	**Sn**	**07 57 44.1**	**+2.2**
ZAL				Lg		07 59 09.6	
ZAL				LR	LR	08 01 21.1	
ZAL	**Zalesovo**	**14.51**	**17**	P	**Pn**	**07 55 00.8**	**-1.0**
ZAL						07 57 44.1	
NVS	**Novosibirsk**	**15.06**	**13**	*e*P	**Pn**	**07 55 07.3**	**-1.8**
NVS				pmax	pmax		
	comp=Z,49nm,1.0s						
NVS				pmax	pmax		
	comp=N,15nm,0.7s						
NVS				pmax	pmax		
	comp=E,10.0nm,0.6s						
LSA	**Lhasa**	**15.28**	**129**	*e*Pn	**Pn**	**07 55 17.8**	**+5.8**
	comp=E,6.3nm,0.3s						
LSA	**Lhasa**	**15.28**	**129**	*e*P	**Pn**	**07 55 17.8**	**+5.8**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
AB31	**Akbulak array**	**15.41**	**312**	P	**Pn**	**07 55 10.1**	**-3.6**
	comp=Z,22nm,1.0s,baz=114,slow=10,SNR=88						
AB31				⇑Lg		07 59 36.3	
	comp=Z,35nm,1.1s						
AB31	**Akbulak array**	**15.41**	**312**	*i* P	**Pn**	**07 55 10.1**	**-3.6**
AB31				pmax	pmax		
	comp=Z,16nm,0.9s						
BHPL	**Bhopal**	**16.97**	**181**	*e*P	**Pn**	**07 55 32.4**	**-1.3**
BHPL				AMb	AMB	07 55 44.7	
	comp=Z,40nm,1.0s						
BHPL				*e*x	**Sn**	**07 58 31.1**	**-11**
GTA	**Gaotai**	**17.07**	**86**	*e*P	**Pn**	**07 55 32.8**	**-2.1**
GTA				AP	pP	07 55 38.3	-4.6
GTA				XP	sP	07 55 42.9	-3.0
GTA				S	**Sn**	**07 58 37.3**	**-6.7**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s						
GTA				AMB	AMB		
	comp=Z,70nm,5.7s						
GTA				LR	LR		
	comp=N,404nm,16.4s						
GTA				LR	LR		
	comp=E,416nm,16.4s						
GTA				LR	LR		
	comp=Z,378nm,12.6s						
AKTK	**Aktyubinsk**	**17.07**	**313**	Pn	**Pn**	**07 55 33.5**	**-1.5**
AKTK				Lg		08 00 28.6	
AKTK				LR	LR	08 01 37.9	
AKTO	**Aktyubinsk**	**17.07**	**313**	⇑P	**Pn**	**07 55 32.7**	**-2.3**
	comp=Z,4.2nm,0.8s						
AKTO	**Aktyubinsk**	**17.07**	**313**	Pn	**Pn**	**07 55 33.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=110,slow=11,SNR=18						
AKTO				Lg		08 00 28.6	
	comp=Z,0.1nm,0.3s,baz=204,slow=16,SNR=3.6						
AKTO				LR	LR	08 01 37.9	
	comp=Z,167nm,20.5s,baz=0.0,slow=36						
AKTO	**Aktyubinsk**	**17.07**	**313**	P	**Pn**	**07 55 32.6**	**-2.4**
AKTO				pmax	pmax		
	comp=Z,20nm,2.0s						
JBP	**Jabalpur**	**17.16**	**173**	⇓*i*P	**Pn**	**07 55 35.5**	**-0.6**
JBP				*e*x	x	07 55 39.3	
	comp=Z,58nm,0.8s						
JBP				*e*x	x	07 58 37.3	
BOK	**Bokaro**	**17.84**	**155**	*e*x	x	07 55 35.7	
BOK				*e*x	x	07 58 35.3	
MOY	**Mondy**	**19.76**	**47**	*e*P	**Pn**	**07 56 09.9**	**+2.2**
CAL	**Calcutta**	**19.87**	**150**	*e*x	x	07 55 55.8	
CAL				*e*x	x	08 00 14.1	
SVE	**Sverdlovsk**	**19.93**	**332**	⇑*e*P	**Pn**	**07 56 06.2**	**-3.6**
SVE				pmax	pmax		
	comp=Z,40nm,1.9s						
SVE				MLR	MLR		
	comp=N,400nm,13.0s						
SVE				MLR	MLR		
	comp=E,600nm,13.0s						
SVE				MLR	MLR		
	comp=Z,1μm,13.0s						
ARU	**Arti**	**20.43**	**329**	*e*P	**P**	**07 56 12.3**	**-1.1**
ARU				*e*		07 56 32.0	
ARU				*e*S	**S**	**07 59 57.1**	**-4.0**
ARU				*e*SS		08 00 14.9	
ARU				MLR	MLR		
	comp=Z,300nm,16.0s,MS3.8						
ARU				MLR	MLR		
	comp=N,200nm,18.0s,MS3.7						
ARU				MLR	MLR		
	comp=E,200nm,16.0s,MS3.7						
ZAK	**Zakamensk**	**20.59**	**52**	⇑*i*P	**P**	**07 56 16.8**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,48nm,1.7s						
LZH	**Lanzhou**	**21.00**	**93**	*e*P	**P**	**07 56 23.0**	**+3.4**
LZH				AP		07 56 31.0	
LZH				XP	sP	07 56 33.5	+4.4
LZH				PP		07 56 46.0	
LZH				*e*S	**S**	**08 00 11.0**	**-1.5**
LZH				XS	sS	08 00 20.0	-2.8
LZH				SS		08 00 41.0	
LZH				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.2						
LZH				AMB	AMB		
	comp=Z,95nm,5.0s						
LZH				LR	LR		
	comp=N,780nm,13.6s						
LZH				LR	LR		
	comp=Z,995nm,15.0s,MS4.3						
IRK	**Irkutsk**	**21.84**	**48**	*e*P	**P**	**07 56 24.2**	**-4.4**
IRK				pmax	pmax		
	comp=Z,52nm,1.6s,mb4.7						
POO	**Poona**	**21.90**	**190**	*e*x	x	07 56 44.0	
SONM	**Songino Array**	**21.93**	**60**	P	**P**	**07 56 31.3**	**+1.7**
	comp=Z,7.8nm,0.8s,mb4.2,baz=266,slow=10,SNR=37						
SONM				LR	LR	08 05 56.4	
	comp=Z,363nm,19.5s,MS3.8,baz=57,slow=39						
ULN	**Ulaanbaatar**	**22.38**	**60**	*e*P	**P**	**07 56 36.1**	**+1.8**
	comp=Z,51nm,1.4s,mb4.8						
ULN	**Ulaanbaatar**	**22.38**	**60**	*e*P	**P**	**07 56 35.6**	**+1.3**
HYB	**Hyderabad**	**22.78**	**178**	⇑*i*P	**P**	**07 56 41.0**	**+2.4**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**08 00 48.0**	**+1.5**
HYB	**Hyderabad**	**22.78**	**178**	⇑*e*P	**P**	**07 56 41.0**	**+2.4**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**08 00 48.0**	**+1.5**
HYB	**Hyderabad**	**22.78**	**178**	⇑*e*P	**P**	**07 56 41.0**	**+2.4**
HYB				*e*S	**S**	**08 00 48.0**	**+1.5**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
KAD	**Karad**	**23.07**	**188**	*e*x	**P**	**07 56 46.0**	**+4.3**
KAD				AMb	AMB	07 56 50.7	
	comp=Z,64nm,0.8s,mb5.1						
CD2	**Chengdu**	**23.15**	**106**	P	**P**	**07 56 44.4**	**+1.9**
CD2				AP		07 56 51.4	
CD2				XP	sP	07 56 54.9	+2.9
CD2				PP		07 57 15.3	
CD2				S	**S**	**08 00 50.8**	**-1.7**
CD2				XS	sS	08 01 02.1	-1.7
CD2				SS		08 01 36.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.1						
CD2				AMB	AMB		
	comp=Z,60nm,5.3s						
CD2				LR	LR		
	comp=E,150nm,14.4s						
CD2				LR	LR		
	comp=Z,100nm,13.2s,MS3.4						
SOKR	**Solikamsk**	**23.34**	**333**	⇓*i*P	**P**	**07 56 45.4**	**+0.9**
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.7						
GNI	**Garni**	**25.03**	**280**	P	**P**	**07 57 02.8**	**+2.6**
	comp=Z,2.9nm,0.4s,mb4.2,baz=180,slow=6.1,SNR=2.6						
GNI	**Garni**	**25.03**	**280**	*e*P	**P**	**07 57 03.5**	**+3.3**
	comp=Z,84nm,1.4s,mb5.1						
GNI	**Garni**	**25.03**	**280**	*e*P	**P**	**07 57 02.7**	**+2.5**
GNI				pmax	pmax		
	comp=Z,26nm,1.2s						
GNI				MLR	MLR		
	comp=Z,100nm,18.0s						
ZEI	**Tsey**	**25.28**	**287**	*i* P	**P**	**07 57 01.6**	**-0.8**
ZEI				*i* *PP	pP	07 57 09.2	-0.1
HHC	**Hu-ho-hao-te**	**25.71**	**78**	*e*P	**P**	**07 57 09.0**	**+2.7**
HHC				AP	pP	07 57 15.6	+2.4
HHC				XP	sP	07 57 18.0	+1.9
HHC				PP		07 57 48.8	
HHC				PCP	PcP	08 00 40.6	+4.5
HHC				S	**S**	**08 01 33.3**	**-0.4**
HHC				XS	sS	08 01 45.0	-0.1
HHC				SS		08 02 37.0	
HHC				SCS	ScS	08 08 04.4	+1.1
HHC				AMB	AMB		
	comp=Z,4.0nm,0.3s,mb4.4						
HHC				AMB	AMB		
	comp=Z,116nm,4.5s						
HHC				LR	LR		
	comp=N,291nm,7.6s						
HHC				LR	LR		
	comp=E,373nm,9.0s						
HHC				LR	LR		
	comp=Z,291nm,11.6s,MS4.0						
GOF	**Gofitskoye**	**25.75**	**292**	*e*P	**P**	**07 57 12.0**	**+5.3**
GOF				pmax	pmax		
	comp=Z,50nm,1.3s,mb4.9						
KMI	**Kunming**	**25.86**	**118**	P	**P**	**07 57 15.4**	**+7.8**
KMI				XP	sP	07 57 23.6	+6.2
KMI				PP		07 57 55.4	
KMI				S	**S**	**08 01 44.9**	**+8.8**
KMI				XS	sS	08 01 55.8	+8.3
KMI				SS		08 02 49.6	
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.3						
KMI				AMB	AMB		
	comp=Z,65nm,3.3s						
KMI				LR	LR		
	comp=N,163nm,13.3s,MS3.9						
KMI				LR	LR		
	comp=E,199nm,13.8s,MS3.9						
KMI				LR	LR		
	comp=Z,212nm,14.2s,MS3.8						
KIV	**Kislovodsk**	**26.06**	**290**	*e*P	**P**	**07 57 10.2**	**+0.7**
	comp=Z,13nm,0.7s,mb4.6						
KIV	**Kislovodsk**	**26.06**	**290**	*e*P	**P**	**07 57 09.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.7						
KIV				MLR	MLR		
	comp=Z,356nm,15.0s,MS4.0						
GYA	**Guiyang**	**27.75**	**111**	P	**P**	**07 57 30.3**	**+5.6**
GYA				AP	pP	07 57 37.4	+5.8
GYA				XP	sP	07 57 40.9	+6.4
GYA				PP		07 58 20.3	
GYA				S	**S**	**08 02 11.5**	**+5.6**
GYA				SS		08 03 33.8	
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
GYA				AMB	AMB		
	comp=Z,110nm,3.2s						
GYA				LR	LR		
	comp=N,870nm,15.4s,MS4.5						
GYA				LR	LR		
	comp=E,670nm,16.0s,MS4.5						
GYA				LR	LR		
	comp=Z,790nm,15.8s,MS4.4						
BJI	**Beijing**	**29.32**	**78**	P	**P**	**07 57 43.4**	**+4.8**
BJI				S	**S**	**08 02 35.1**	**+4.5**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
BJI				LR	LR		
	comp=N,344nm,13.2s						
BJI				LR	LR		
	comp=E,172nm,18.6s						
BJI				LR	LR		
	comp=Z,91nm,20.4s						
ANN	**Anapa**	**29.74**	**292**	*e*P	**P**	**07 57 49.2**	**+6.8**
ANN				pmax	pmax		
	comp=Z,90nm,1.7s,mb5.2						
ANN				MLR	MLR		
	comp=Z,207nm,15.0s,MS3.9						
OBN	**Obninsk**	**30.86**	**313**	⇑*e*P	**P**	**07 57 52.2**	**0.0**
OBN				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.1						
KLMR	**Klimovskoe**	**31.11**	**324**	*e*P	**P**	**07 57 53.3**	**-1.2**
KLMR				*e*S	**S**	**08 03 01.5**	**+2.8**
KLMR				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.0						
KLMR				MLR	MLR		
	comp=Z,560nm,12.0s,MS4.5						
BR131	**Keskin Array S**	**33.44**	**284**	*e*P	**P**	**07 58 16.0**	**+1.1**
	comp=Z,7.5nm,0.7s,mb4.7						
BR131				*e*pP	pP	07 58 22.9	+1.0
BRTR	**Keskin Array B**	**33.44**	**284**	P	**P**	**07 58 15.5**	**+0.6**
	comp=Z,9.9nm,0.8s,mb4.8,baz=91,slow=8.4,SNR=54						
NJ2	**Nanjing**	**34.04**	**91**	*e*P	**P**	**07 58 19.4**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
QIZ	**Qiongzhong**	**34.81**	**118**	P	**P**	**07 58 33.4**	**+6.6**
QIZ				S	**S**	**08 04 04.1**	**+8.0**
QIZ				LR	LR		
	comp=E,101nm,25.7s						
AKASG	**Malin Array Be**	**34.92**	**304**	P	**P**	**07 58 26.6**	**-1.2**
	comp=E,0.8nm,0.4s,mb4.0,baz=80,slow=7.9,SNR=12						
CN2	**Changchun**	**35.31**	**68**	*e*P	**P**	**07 58 34.0**	**+2.9**
CN2				*e*XP	sP	07 58 42.8	+1.8
CN2				*e*S	**S**	**08 04 05.0**	**+1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,11.0s,MS4.3						
CN2				LR	LR		
	comp=E,200nm,11.0s,MS4.3						
CN2				LR	LR		
	comp=Z,400nm,12.0s,MS4.4						
JOF	**Joensuu**	**35.48**	**325**	*e*p	**P**	**07 58 31.3**	**-1.3**
SSE	**Sheshan**	**36.25**	**91**	P	**P**	**07 58 40.5**	**+1.4**
SSE				AMB	AMB		
	comp=Z,27nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,65nm,4.6s						
SSE				LR	LR		
	comp=N,97nm,21.8s,MS3.6						
SSE				LR	LR		
	comp=E,62nm,21.8s,MS3.6						
SSE				LR	LR		
	comp=Z,76nm,17.3s,MS3.5						
FINES	**FINESS Array B**	**37.51**	**322**	P	**P**	**07 58 49.4**	**-0.5**
	comp=Z,6.0nm,0.6s,mb4.5,baz=101,slow=10,SNR=29						
KAF	**Kangasniemi**	**37.53**	**323**	*e*p	**P**	**07 58 48.9**	**-1.1**
	baz=102,slow=8.7						
YAK	**Yakutsk**	**37.86**	**37**	*e*P	**P**	**07 58 52.9**	**+0.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
MDJ	**Mudanjiang**	**38.07**	**66**	P	**P**	**07 58 55.3**	**+0.7**
MDJ				XP	sP	07 59 04.3	-0.2
MDJ				S	**S**	**08 04 43.5**	**-2.4**
MDJ				XS	sS	08 04 54.3	-3.2
MDJ				PCS	PcS	08 05 01.8	+3.4
MDJ				SCS	ScS	08 09 07.3	+2.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,60nm,3.6s						
MDJ				LR	LR		
	comp=N,131nm,19.9s,MS3.9						
MDJ				LR	LR		
	comp=E,109nm,17.3s,MS3.9						
MDJ				LR	LR		
	comp=Z,156nm,17.8s,MS3.9				

ARCES LR LR 08 16 03.5
comp=Z,273nm,18.3s,MS4.1,baz=5.8,slow=37
STHS Stebnicka Huta 40.16 303 *e* **P 07 59 16.9 +4.8**
APE Apeiranthos 40.32 283 *eP* **P 07 59 14.0 +0.6**
TIXI Tiksi 40.33 22 *eP* **P 07 59 11.5 -2.0**
TIXI *e* 07 59 24.1
TIXI pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
TIXI MLR MLR
comp=Z,547nm,14.0s,MS4.6
NIE Niedzica 40.76 303 *eP* **P 07 59 18.4 +1.4**
NIE e pP 07 59 23.9 -0.2
NIE Niedzica 40.76 303 *eP* **P 07 59 18.4 +1.4**
NIE *e* pP 07 59 23.9 -0.2
KECS Kecovo 40.81 301 *eP* **P 07 59 17.1 -0.3**
OJC Ojcow 40.96 304 *eP* **P 07 59 24.5 +5.8**
HABR Khabarovsk 41.01 59 *eP* **P 07 59 19.4 +0.3**
HABR S **S 08 05 28.8 -1.2**
VYHS Vyhne 41.88 302 *eP* **P 07 59 27.5 +1.2**
PSI Prapat 41.98 147 LR LR 08 19 59.9
comp=Z,90nm,19.4s,MS3.7,baz=177,slow=40
OKC Ostrava-Krasne 42.07 304 *epP* pP 07 59 34.1 -0.8
MORC Moravsky Berou 42.47 304 *eP* **P 07 59 31.1 +0.1**
comp=Z,13nm,1.0s,mb4.5
MORC *epP* pP 07 59 37.6 -0.5
MORC Moravsky Berou 42.47 304 *eP* **P 07 59 31.1 0.0**
MORC pmax pmax
comp=Z,13nm,1.0s,mb4.5
DPC Dobruska-Polom 43.13 305 *eP* **P 07 59 37.3 +0.9**
DPC *epP* pP 07 59 43.1 -0.5
UPC Upice 43.30 305 *eP* **P 07 59 38.5 +0.7**
UPC *epP* pP 07 59 44.2 -0.7
PRU Pruhonice 44.33 305 *epP* pP 07 59 51.7 -1.5
BRG Berggiesshubel 44.52 306 *eP* **P 07 59 53.7 +6.2**
comp=Z,13nm,1.0s,mb4.7
BRG Berggiesshubel 44.52 306 *eP* **P 07 59 53.8 +6.3**
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
BRG Berggiesshubel 44.52 306 *eP* **P 07 59 53.8 +6.2**
comp=Z,7.7nm,1.0s,mb4.5
NB2 NORSAR Subarra 44.65 321 P **P 07 59 47.7 -0.9**
comp=Z,0.3nm,0.7s,baz=68,slow=8.6
NOA NORSAR Array B 44.65 321 P **P 07 59 48.2 -0.4**
comp=Z,3.8nm,0.8s,mb4.3,baz=87,slow=7.9,SNR=9.0
NOA LR LR 08 19 04.9
comp=Z,182nm,19.9s,MS4.0,baz=85,slow=37
CLL Collm 45.01 307 *eP* **P 07 59 51.1 -0.3**
comp=Z,6.0nm,0.7s,mb4.5
CLL *epP* pP 07 59 57.1 -1.5
CLL *e*PcP PcP 08 01 33.6 +1.3
CLL *e*PPP 08 02 16.0
CLL *e*S **S 08 06 34.9 +6.2**
CLL *e*L 08 21 32.4
comp=Z,105nm,20.0s
CLL Collm 45.01 307 *eP* **P 07 59 51.0 -0.4**
comp=Z,6.0nm,0.8s,mb4.5
CLL *i* pP pP 07 59 57.1 -1.5
comp=Z,14nm,1.0s
CLL *e*sP sP 08 00 01.0 -0.4
CLL *e*PP PP 08 01 34.0 -2.8
CLL *e*S **S 08 06 35.0 +6.3**
CLL Collm 45.01 307 *eP* **P 07 59 51.0 -0.4**
comp=Z,6.0nm,0.8s,mb4.5
CLL *i* pP pP 07 59 57.1 -1.5
CLL *e*S **S 08 06 35.0 +6.3**
CLL Collm 45.01 307 *eP* **P 07 59 51.0 -0.4**
CLL *e*S **S 08 06 35.0 +6.3**
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
GEC2 GERESS Array S 45.13 303 *eP* **P 07 59 58.9 +6.5**
comp=Z,16nm,1.0s,mb4.8
GEC2 GERESS Array S 45.13 303 *eP* **P 07 59 58.9 +6.5**
GEC2 pmax pmax
comp=Z,16nm,1.0s,mb4.8
GERES GERESS Array B 45.13 303 P **P 07 59 52.6 +0.2**
comp=Z,3.6nm,0.9s,mb4.2,baz=79,slow=7.2,SNR=21
KHC Kasperske Hory 45.14 304 *eP* **P 07 59 58.8 +6.3**
KHC Kasperske Hory 45.14 304 *eP* **P 07 59 52.7 +0.2**
WET Wettzell 45.58 304 *eP* **P 08 00 02.4 +6.4**
comp=Z,13nm,1.2s,mb4.7
WET Wettzell 45.58 304 *eP* **P 08 00 02.4 +6.4**
WET pmax pmax
comp=Z,13nm,1.2s,mb4.7
WERD Werda 45.63 306 *eP* **P 08 00 02.5 +6.1**
comp=Z,9.0nm,1.0s,mb4.7
MANZ Manzenberg 45.86 305 *eP* **P 08 00 04.6 +6.4**
comp=Z,6.0nm,0.9s,mb4.5
MOX Moxa 46.01 306 *eP* **P 08 00 05.1 +5.7**
comp=Z,9.0nm,1.1s,mb4.6
MOX Moxa 46.01 306 *eP* **P 08 00 03.2 +3.8**
comp=Z,19nm,1.6s,mb4.8
MOX Moxa 46.01 306 *eP* **P 08 00 03.2 +3.8**
MOX pmax pmax
comp=Z,19nm,1.6s,mb4.8
BSEG Bad Segeberg 46.07 311 *eP* **P 08 00 04.7 +4.8**
comp=Z,26nm,1.1s,mb5.1
BSEG Bad Segeberg 46.07 311 *eP* **P 08 00 04.7 +4.8**
BSEG pmax pmax
comp=Z,26nm,1.1s,mb5.1
CLZ Clausthal 46.49 308 *eP* **P 08 00 08.4 +5.2**
comp=Z,15nm,1.3s,mb4.8
CLZ Clausthal 46.49 308 *eP* **P 08 00 08.4 +5.2**
CLZ pmax pmax
comp=Z,15nm,1.3s,mb4.8
GRF Grafenberg Arr 46.49 305 *eP* **P 08 00 09.6 +6.4**
comp=Z,20nm,0.9s,mb5.0
GRF Grafenberg Arr 46.49 305 *eP* **P 08 00 09.6 +6.4**
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
MJAR Matsushiro Arr 46.82 74 P **P 08 00 06.0 +0.2**
comp=Z,0.9nm,0.5s,mb4.0,baz=280,slow=9.8,SNR=3.7
ASAJ Asahikawa 47.18 63 LR LR 08 20 47.9
comp=Z,86nm,21.2s,MS3.7,baz=239,slow=37
STU Stuttgart 48.02 304 *eP* **P 08 00 21.8 +6.7**
comp=Z,14nm,0.7s,mb5.1
TNS Taunus Mts 48.08 306 *eP* **P 08 00 21.1 +5.6**
comp=Z,5.0nm,0.8s,mb4.6
TNS Taunus Mts 48.08 306 *eP* **P 08 00 21.1 +5.6**
TNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BUG Bochum--Univer 48.46 308 *eP* **P 08 00 24.8 +6.3**
comp=Z,15nm,0.3s,mb5.5
BFO Black Forest 48.70 304 *eP* **P 08 00 25.7 +5.4**
comp=Z,15nm,1.3s,mb4.9
BFO Black Forest 48.70 304 *eP* **P 08 00 25.7 +5.4**
BFO pmax pmax
comp=Z,15nm,1.3s,mb4.9
CDF Champ du Feu 49.34 304 *eP* **P 08 00 24.7 -0.5**
comp=Z,38nm,1.3s,mb5.0
CDF Champ du Feu 49.34 304 *eP* **P 08 00 24.7 -0.5**
comp=Z,19nm,1.3s,mb5.0
CDF Champ du Feu 49.34 304 *eP* **P 08 00 24.7 -0.5**
CDF pmax pmax
comp=Z,19nm,1.3s,mb5.0
HINF Hinteralfeld 49.80 304 *eP* **P 08 00 28.1 -0.6**
comp=Z,14nm,1.0s,mb4.6
HINF Hinteralfeld 49.80 304 *eP* **P 08 00 28.1 -0.6**
comp=Z,6.8nm,1.0s,mb4.6
HINF Hinteralfeld 49.80 304 *eP* **P 08 00 28.1 -0.6**
HINF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
PGF Pioggiola 50.22 296 *eP* **P 08 00 31.4 -0.5**
comp=Z,59nm,1.3s,mb5.2
PGF Pioggiola 50.22 296 *eP* **P 08 00 31.4 -0.5**
comp=Z,29nm,1.3s,mb5.2
PGF Pioggiola 50.22 296 *eP* **P 08 00 31.4 -0.5**
PGF pmax pmax
comp=Z,29nm,1.3s,mb5.2
LPG La Plagne 50.65 301 *eP* **P 08 00 35.4 +0.2**
comp=Z,24nm,1.1s,mb4.8
LPG La Plagne 50.65 301 *eP* **P 08 00 35.4 +0.2**
comp=Z,12nm,1.1s,mb4.7
LPG La Plagne 50.65 301 *eP* **P 08 00 35.4 +0.2**
LPG pmax pmax
comp=Z,12nm,1.1s,mb4.7
LPL La Plagne 50.66 301 *eP* **P 08 00 35.1 -0.1**
comp=Z,27nm,1.1s,mb4.8
LPL La Plagne 50.66 301 *eP* **P 08 00 35.1 -0.1**
comp=Z,13nm,1.1s,mb4.8
LPL La Plagne 50.66 301 *eP* **P 08 00 35.1 -0.1**
LPL pmax pmax
comp=Z,13nm,1.1s,mb4.8
CABF La Chapelle 50.70 302 *eP* **P 08 00 34.7 -0.8**
comp=Z,28nm,1.2s,mb4.8
CABF La Chapelle 50.70 302 *eP* **P 08 00 34.7 -0.8**
comp=Z,14nm,1.2s,mb4.8
CABF La Chapelle 50.70 302 *eP* **P 08 00 34.7 -0.8**
CABF pmax pmax
comp=Z,14nm,1.2s,mb4.8
BNI Bardonecchia 50.86 300 *eP* **P 08 00 36.5 -0.3**
comp=Z,10nm,1.1s,mb4.7
BNI Bardonecchia 50.86 300 *eP* **P 08 00 36.5 -0.3**
BNI pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MBDF Montbardon 50.92 300 *eP* **P 08 00 36.2 -1.0**
comp=Z,24nm,1.1s,mb4.8
MBDF Montbardon 50.92 300 *eP* **P 08 00 36.2 -1.0**
comp=Z,12nm,1.1s,mb4.8
MBDF Montbardon 50.92 300 *eP* **P 08 00 36.2 -1.0**
MBDF pmax pmax
comp=Z,12nm,1.1s,mb4.7
LMR La Mourre 51.61 298 *eP* **P 08 00 41.7 -0.7**
SMF Signal de Mont 52.13 303 *eP* **P 08 00 45.2 -1.1**
comp=Z,29nm,1.2s,mb4.8
SMF Signal de Mont 52.13 303 *eP* **P 08 00 45.2 -1.1**
comp=Z,15nm,1.2s,mb4.8
SMF Signal de Mont 52.13 303 *eP* **P 08 00 45.2 -1.1**
SMF pmax pmax
comp=Z,15nm,1.2s,mb4.8
SSF Saint Saulge 52.19 304 *eP* **P 08 00 45.5 -1.2**
comp=Z,24nm,1.1s,mb4.7
SSF Saint Saulge 52.19 304 *eP* **P 08 00 45.5 -1.2**
comp=Z,12nm,1.1s,mb4.7
SSF Saint Saulge 52.19 304 *eP* **P 08 00 45.5 -1.2**
SSF pmax pmax
comp=Z,12nm,1.1s,mb4.7
AVF Avril sur Loir 52.39 303 *eP* **P 08 00 47.2 -1.0**
comp=Z,46nm,1.2s,mb5.0
AVF Avril sur Loir 52.39 303 *eP* **P 08 00 47.2 -1.0**
comp=Z,23nm,1.2s,mb5.0
AVF Avril sur Loir 52.39 303 *eP* **P 08 00 47.2 -1.0**
AVF pmax pmax
comp=Z,23nm,1.2s,mb5.0
BGF Bois d'Agland 52.80 303 *eP* **P 08 00 50.3 -0.9**
BILL Bilibino 52.90 28 *eP* **P 08 00 52.0 +0.1**
BILL pmax pmax
comp=Z,13nm,1.5s,mb4.6
TCF Toulx Ste Croi 53.31 303 *eP* **P 08 00 54.5 -0.5**
LDF La Druitiere 53.89 307 *eP* **P 08 00 58.3 -1.0**
CAF Calviac 53.94 302 *eP* **P 08 00 59.3 -0.3**
RJF Les Rejaudoux 54.14 302 *eP* **P 08 01 00.9 -0.2**
RJF *e*R
comp=Z,91nm,22.5s
RJF Les Rejaudoux 54.14 302 *eP* **P 08 01 00.9 -0.2**
RJF MLR MLR
comp=Z,90nm,22.5s,MS3.8
MTLF Montolieu 54.48 300 *eP* **P 08 01 03.0 -0.6**
MFF Saint Martin d 54.68 304 *eP* **P 08 01 04.5 -0.5**
LFF La Frestale 54.79 302 *eP* **P 08 01 05.5 -0.3**
ETSF Etsaut 56.51 300 *eP* **P 08 01 17.9 -0.2**
comp=Z,23nm,1.2s,mb4.8
ETSF Etsaut 56.51 300 *eP* **P 08 01 17.9 -0.2**
comp=Z,11nm,1.2s,mb4.8
ETSF Etsaut 56.51 300 *eP* **P 08 01 17.9 -0.2**
ETSF pmax pmax
comp=Z,11nm,1.2s,mb4.8
SJPF Ste Jean 56.85 301 *eP* **P 08 01 19.9 -0.7**
ESDC Sonseca Array 60.28 298 P **P 08 01 43.4 -1.0**
comp=Z,2.5nm,0.7s,mb4.3,baz=52,slow=6.6,SNR=5.8
TNA Tin City 63.03 25 *eP* **P 08 02 01.9 -1.1**
comp=Z,13nm,1.3s,mb4.9
TNA *e*pP pP 08 02 09.5 -0.8
GUMO Guam 64.02 94 LR LR 08 32 35.2
comp=Z,65nm,19.6s,MS3.8,baz=67,slow=38
INK Inuvik 69.26 12 LR LR 08 33 35.2
comp=Z,77nm,19.0s,MS4.0,baz=26,slow=36
INK Inuvik 69.26 12 *eP* **P 08 02 42.4 -0.6**
comp=Z,21nm,0.9s,mb5.1
INK Inuvik 69.26 12 *eP* **P 08 02 42.4 -0.6**
INK pmax pmax
comp=Z,21nm,0.9s
COLA College 69.33 19 *eP* **P 08 02 42.1 -1.3**
comp=Z,13nm,0.9s,mb4.8
COLA College 69.33 19 *eP* **P 08 02 41.5 -1.9**
ILAR Eielson Array 69.65 19 P **P 08 02 44.6 -0.8**
comp=Z,4.0nm,0.8s,mb4.4,baz=318,slow=5.2,SNR=44
ILAR LR LR 08 37 17.7
comp=Z,129nm,19.2s,MS4.2,baz=182,slow=39
TORD Torodi Ar. Bea 70.93 271 P **P 08 02 53.5 +0.3**
comp=Z,22nm,0.6s,mb5.2,baz=46,slow=5.4,SNR=219
PMR Palmer 71.66 22 *eP* **P 08 02 56.7 -1.0**
SML Sawmill 71.71 21 *eP* **P 08 02 57.1 -0.9**
DAWY Dawson 71.97 16 *eP* **P 08 02 58.5 -1.1**
YKW3 Yellowknife Ar 77.05 6 *eP* **P 08 03 28.1 -1.0**
YKA Yellowknife Ar 77.12 6 P **P 08 03 28.6 -0.8**
comp=Z,5.0nm,0.8s,mb4.5,baz=346,slow=5.4,SNR=104
YKA LR LR 08 39 52.3
comp=Z,49nm,18.1s,MS3.9,baz=295,slow=38
YKA Yellowknife Ar 77.12 6 P **P 08 03 28.6 -0.8**
YKA LR LR 08 39 52.3
WRA Warramunga Arr 79.82 127 P **P 08 03 46.2 +1.9**
comp=Z,2.7nm,0.9s,mb4.2,baz=324,slow=4.9,SNR=14
DBIC Dimbokro 79.99 270 P **P 08 03 44.2 -1.0**
comp=Z,5.7nm,0.8s,mb4.6,baz=14,slow=4.8,SNR=8.3
LIC Lamto 80.40 270 *eP* **P 08 03 47.6 +0.1**
comp=Z,10nm,0.8s,mb4.5
LIC Lamto 80.40 270 *eP* **P 08 03 47.6 +0.1**
comp=Z,5.1nm,0.8s,mb4.5
SCHQ Schefferville 80.51 340 P **P 08 03 46.5 -1.5**
comp=Z,2.1nm,0.9s,mb4.1,baz=252,slow=7.6,SNR=2.4
ASAR Alice Springs 82.39 130 P **P 08 03 59.6 +1.6**
comp=Z,1.9nm,0.8s,mb4.0,baz=328,slow=5.2,SNR=16
ULM Lac du Bonnet 89.69 356 P **P 08 04 33.5 -0.5**
comp=Z,0.9nm,0.4s,mb4.5,baz=319,slow=7.0,SNR=4.3
ULM LR LR 08 49 09.4
comp=Z,120nm,18.0s,MS4.4,baz=15,slow=38
PDAR Pinedale Array 97.10 5 P **P 08 05 08.2 +0.1**
comp=Z,0.5nm,0.8s,mb4.0,baz=29,slow=3.4,SNR=5.7
LVC Limon Verde 146.72 292 *eP*KPdf PKPdf 08 11 18.8 +2.8

*NEIC **22** 07:51:42.7, 19.12N×65.35W, h21km, MD3.5(RSPR), After RSPR.*
RSPR 22 07:51:42.7, 19.12N×65.35W, h21km±26km, MD3.5/19, MD3.5/19, 6C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.85**	**154**	*e*S	Sb	07 52 08.0	-1.7
STVI	**Saint Thomas**	**0.85**	**154**	⇑*e*P	Pb	07 51 56.8	-2.0
STVI				*e*S	Sb	07 52 08.0	-1.7
CBYP	**Canovanas**	**0.97**	**209**	*e*S	Sb	07 52 10.2	-3.0
CBYP	**Canovanas**	**0.97**	**209**	⇓*e*P	Pb	07 51 58.3	-2.5
CBYP				*e*S	Sb	07 52 10.2	-3.0
TBVI	**Tortola**	**1.00**	**135**	*e*S	Sb	07 52 10.7	-3.3
TBVI	**Tortola**	**1.00**	**135**	⇓*e*P	Pb	07 51 58.1	-3.2
TBVI				*e*S	Sb	07 52 10.7	-3.3
MTP	**Monte Pirata**	**1.04**	**191**	*e*S	Sb	07 52 12.9	-2.3
MTP	**Monte Pirata**	**1.04**	**191**	⇓*e*P	Pb	07 51 59.5	-2.5
MTP				*e*S	Sb	07 52 12.9	-2.3
HUMP	**Col San Antoni**	**1.08**	**206**	*e*S	Sb	07 52 13.1	-3.4
HUMP	**Col San Antoni**	**1.08**	**206**	⇓*e*P	Pn	07 51 59.8	-2.9
HUMP				*e*S	Sb	07 52 13.1	-3.4
CPD	**Cerro la Pandu**	**1.20**	**206**	*e*S	Sb	07 52 17.1	-2.8
CPD	**Cerro la Pandu**	**1.20**	**206**	⇓*e*P	Pn	07 52 01.6	-2.7
CPD				*e*S	Sb	07 52 17.1	-2.8
SJG	**San Juan**	**1.26**	**217**	*e*S	Sn	07 52 18.1	-3.3
SJG	**San Juan**	**1.26**	**217**	⇑*i*P	Pn	07 52 02.4	-2.7
SJG	**San Juan**	**1.26**	**217**	⇓*e*P	Pn	07 52 02.4	-2.7
SJG				*e*S	Sn	07 52 18.1	-3.3
CDVI	**St. Croix**	**1.47**	**158**	*e*S	Sn	07 52 23.6	-3.0
CDVI	**St. Croix**	**1.47**	**158**	⇑*e*P	Pn	07 52 05.7	-2.3
CDVI				*e*S	Sn	07 52 23.6	-3.0
AOPR	**Arecibo Observ**	**1.53**	**240**	*e*S	Sn	07 52 25.6	-2.6
AOPR	**Arecibo Observ**	**1.53**	**240**	⇓*e*P	Pn	07 52 06.3	-2.6
AOPR				*e*S	Sn	07 52 25.6	-2.6
CELP	**Cerrillos**	**1.56**	**228**	⇓*i*P	Pn	07 52 06.9	-2.4
CELP				*e*S	Sn	07 52 25.5	-3.4
OBIP	**Obispado Ponce**	**1.60**	**228**	*e*S	Sn	07 52 26.3	-3.6
OBIP	**Obispado Ponce**	**1.60**	**228**	⇓*e*P	Pn	07 52 07.4	-2.4
OBIP				*e*S	Sn	07 52 26.3	-3.6
LRS	**Lares**	**1.64**	**240**	⇑*e*P	Pn	07 52 07.8	-2.5
LRS				*e*S	Sn	07 52 27.1	-3.7
ICM	**Isla Caja Muer**	**1.65**	**222**	*e*S	Sn	07 52 27.5	-3.6
ICM	**Isla Caja Muer**	**1.65**	**222**	⇑*e*P	Pn	07 52 08.4	-2.1
ICM				*e*S	Sn	07 52 27.5	-3.6
AGPR	**Aguadilla, PR**	**1.79**	**249**	*e*S	Sn	07 52 30.9	-3.6
AGPR	**Aguadilla, PR**	**1.79**	**249**	⇑*e*P	Pn	07 52 10.4	-2.0
AGPR				*e*S	Sn	07 52 30.9	-3.6
LSP	**Las Mesas**	**1.89**	**241**	*e*S	Sn	07 52 34.5	-2.6
LSP	**Las Mesas**	**1.89**	**241**	⇑*e*P	Pn	07 52 11.5	-2.3
LSP				*e*S	Sn	07 52 34.5	-2.6
MGP	**Maguayo**	**1.99**	**236**	⇑*i*P	Pn	07 52 12.9	-2.2
MGP				*e*S	Sn	07 52 36.6	-2.7
CRPR	**Cabo Rojo, PR**	**2.00**	**237**	*e*S	Sn	07 52 37.4	-2.3
CRPR	**Cabo Rojo, PR**	**2.00**	**237**	⇓*e*P	Pn	07 52 12.9	-2.4
CRPR				*e*S	Sn	07 52 37.4	-2.3

*NEIC **22** 07:54:59.9, 9.84N×84.29W, h6km, MD3.6(HDC), MD4.0(CASC), ML4.0(UCR), After CASC.*
NEIC Felt [IV] at Puriscal and [III] in the Valle Central.
CASC 22 07:55:00.2±2.6, 9.84N×84.29W, h6km±5km, MD3.9, ML4.2, MW4.1, 22C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRS1	**Puriscal**	**0.14**	**352**	⇑*i*P	Pg	07 55 02.7	-0.5
PRS1				*e*S	Sg	07 55 05.1	0.0
PRS1	**Puriscal**	**0.14**	**352**	⇑*i*P	Pg	07 55 02.7	-0.5
PRS1				*e*S	Sg	07 55 05.1	0.0
LAJ	**Bijagual**	**0.17**	**83**	⇓*i*P	Pg	07 55 06.8	+3.2
LAJ				*e*S	Sg	07 55 11.6	+5.8
LAJ	**Bijagual**	**0.17**	**83**	⇓*i*P	Pg	07 55 06.8	+3.2
LAJ				*e*S	Sg	07 55 11.8	+6.0
CGA2	**Cerro Gallo 2**	**0.24**	**315**	⇑*i*P	Pg	07 55 05.2	+0.2
CGA2				*e*S	Sg	07 55 10.1	+1.8
CGA2	**Cerro Gallo 2**	**0.24**	**315**	⇑*i*P	Pg	07 55 05.2	+0.2
CGA2				*e*S	Sg	07 55 09.9	+1.6
SJS	**Escuela Geolog**	**0.25**	**67**	⇑*i*P	Pg	07 55 05.8	+0.7
SJS				*e*S	Sg	07 55 10.7	+2.2
SJS	**Escuela Geolog**	**0.25**	**67**	⇑*i*P	Pg	07 55 05.8	+0.7
SJS				*e*S	Sg	07 55 09.9	+1.5
LCR2	**La Lucha 2**	**0.30**	**109**	⇑*i*P	Pg	07 55 06.2	+0.2
LCR2				*e*S	Sg	07 55 10.9	+0.9
OCM	**Ochomogo**	**0.33**	**81**	⇑*i*P	Pg	07 55 06.8	+0.2
OCM				AML	AML	07 55 12.2	
comp=N,20μm,0.2s							
EPA	**Esparza**	**0.34**	**296**	⇓*i*P	Pg	07 55 06.7	0.0
POA2	**Poas 2**	**0.34**	**7**	⇓*i*P	Pg	07 55 07.5	+0.8
VPS2	**Volcan Poas 2**	**0.35**	**9**	⇑*i*P	Pg	07 55 07.5	+0.5
IRZ2	**Volcan Irazu 2**	**0.41**	**72**	⇑*i*P	Pg	07 55 08.4	+0.4
ICR	**Volcan Irazu**	**0.47**	**73**	⇓*e*P	Pg	07 55 09.7	+0.4
VTU	**Volcan Turrial**	**0.55**	**71**	⇑*e*P	Pg	07 55 10.2	-0.7
BUS	**Buena Vista**	**0.60**	**118**	⇑*i*P	Pg	07 55 11.6	-0.1
BUS				*e*S	Sg	07 55 19.8	+0.4
BUS	**Buena Vista**	**0.60**	**118**	⇑*i*P	Pg	07 55 11.6	-0.1
BUS				*e*S	Sg	07 55 21.2	+1.8
VACR	**Volcan Arenal**	**0.73**	**329**	⇑*i*P	Pg	07 55 14.2	-0.1
JTS	**JuntasAbangare**	**0.79**	**304**	⇑*i*P	Pg	07 55 14.6	-0.8
JTS				*e*S	Sg	07 55 25.2	-0.5
JTS	**JuntasAbangare**	**0.79**	**304**	*e*Pg	Pg	07 55 14.6	-0.8
JTS				*e*Sg	Sg	07 55 25.7	+0.1
CAO	**Cobano**	**0.81**	**260**	⇓*i*P	Pg	07 55 15.0	-0.8
LIM1	**Limonal**	**1.27**	**312**	⇑*e*P	Pn	07 55 22.9	-1.6
LIM1				*e*S	Sg	07 55 40.2	-1.0
VCR	**Vista de Mar**	**1.35**	**282**	⇑*i*P	Pn	07 55 23.9	-1.7
RIN3	**Volcan Rincon**	**1.43**	**311**	⇑*i*P	Pn	07 55 25.2	-1.5
RIN3				*e*S	Sb	07 55 44.2	-1.4
CTCR	**Cotoan**	**1.78**	**122**	⇑*i*P	Pn	07 55 31.2	-0.2
CTCR				*e*S	Sn	07 55 54.4	0.0
CNI	**Changuinola**	**1.80**	**103**	⇑*i*P	Pn	07 55 32.0	+0.3
CNI				*e*S	Sn	07 55 54.4	-0.5
CNI	**Changuinola**	**1.80**	**103**	⇑*e*P	Pn	07 55 32.0	+0.2
CNI				*e*S	Sn	07 55 55.6	+0.8
BRU2	**Volcan**	**1.89**	**123**	*e*P	Pn	07 55 33.8	+0.8
BRU2				*e*S	Sn	07 55 58.0	+0.8
BRU2	**Volcan**	**1.89**	**123**	*e*P	Pn	07 55 33.7	+0.7
MADN	**Villa Maderas**	**1.98**	**322**	*e*P	Pn	07 55 35.6	+1.4
MADN				*e*S	Sn	07 56 01.3	+2.0
SSNN	**San Juan del S**	**2.10**	**313**	*e*P	Pn	07 55 38.0	+2.1
SSNN				*e*S	Sn	07 56 07.1	+4.8
CONN	**Concepcion**	**2.16**	**323**	⇑*e*P	Pn	07 55 38.3	+1.7
DVD	**David**	**2.29**	**127**	*e*P	Pn	07 55 36.8	-1.8
DVD	**David**	**2.29**	**127**	*e*P	Pn	07 55 38.4	-0.1
AZU	**Azuero**	**4.46**	**117**	*e*P	Pn	07 56 09.8	+1.5
AZU	**Azuero**	**4.46**	**117**	*e*P	Pn	07 56 09.1	+0.7

*ISCJB **22** 08:41:30.9±0.8, 1926S±007×692W±0.1, h110km±12km, mb3.7/4, Error ellipse: s-maj=20.7km s-min=9.2km az=140.9*
*NEIC **22** 08:41:32.8±1.1, 1934S×6924W, h113km±14km, mb3.9/3, Error ellipse: s-maj=22.1km s-min=13.0km az=78.0*
*IDC **22** 08:41:34.5±1.7, 1940S×6895W, h127km±16km, mb3.6/2, mb1 3.7/5, mb1mx3.3/19, mbtmp3.9/5, Error ellipse: s-maj=38.3km s-min=14.9km az=102.0*
ISC 22 08:41:33.2±0.8, 1933S±006×692W±01, h118km±11km, n13, σ1§32/15, mb3.7/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.19**	**19**	P	**Pn**	**08 42 24.2**	**+2.3**
7.8nm,0.3s,baz=195,slow=5.6,SNR=170							
LPAZ	**La Paz**	**3.19**	**19**	P	**Pn**	**08 42 24.2**	**+2.2**
LVC	**Limon Verde**	**3.28**	**175**	P	**Pn**	**08 42 24.1**	**+1.0**
16nm,0.3s,baz=350,slow=9.4,SNR=136							
LVC				S	**Sn**	**08 43 02.3**	**+0.7**
23nm,0.3s,baz=349,slow=18,SNR=7.5							
LVC	**Limon Verde**	**3.28**	**175**	*e*Pn	**Pn**	**08 42 24.0**	**+0.9**
LVC				S	**Sn**	**08 43 02.3**	**+0.7**
ARE	**Arequipa**	**3.58**	**322**	*e*P	**Pn**	**08 42 25.0**	**-2.2**
ARE				*e*S	**Sn**	**08 43 04.0**	**-4.9**
SIV	**San Ignacio**	**8.43**	**68**	P	**Pn**	**08 43 31.2**	**-1.3**
0.6nm,0.3s,baz=270,slow=11,SNR=16							
CFAA	**Coronel Fontan**	**12.26**	**176**	P	**Pn**	**08 44 20.3**	**-3.4**
0.1nm,0.3s,baz=352,slow=14,SNR=9.0							
TRQA	**Tornquist**	**19.70**	**163**	*e*P	**P**	**08 45 52.2**	**-1.0**
5.3nm,0.6s							
OTAV	**Otavalo**	**21.45**	**334**	*e*P	**P**	**08 46 12.9**	**+0.9**
1.7nm,0.7s,mb3.5							
SDV	**Santo Domingo**	**28.07**	**357**	*e*P	**P**	**08 47 14.7**	**+1.3**
3.6nm,1.1s,mb3.8							
TORD	**Torodi Ar. Bea**	**76.90**	**71**	P	**P**	**08 53 12.1**	**-0.3**
0.4nm,0.5s,mb3.4,baz=251,slow=4.8,SNR=6.8							
YKA	**Yellowknife Ar**	**89.05**	**341**	P	**P**	**08 54 14.8**	**-0.1**
1.0nm,0.6s,mb4.0,baz=132,slow=4.7,SNR=39							
SONM	**Songino Array**	**151.34**	**6**	PKPbc	PKPbc	09 01 14.0	+1.1
0.6nm,0.5s,baz=324,slow=0.6,SNR=5.5							

IDC 22 08:50:52.0±1.1, 2564N×4521W, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.6/6, MS3.7/10, Ms1 3.7/10, ms1mx3.5/19, Error ellipse: s-maj=36.3km s-min=26.8km az=65.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.81**	**253**	LR	LR	09 01 48.5	
comp=Z,104nm,20.4s,baz=85,slow=32							
SDV	**Santo Domingo**	**29.35**	**240**	LR	LR	09 06 21.8	
comp=Z,83nm,20.6s,baz=30,slow=32							
SCHQ	**Schefferville**	**33.23**	**337**	LR	LR	09 09 39.1	
comp=Z,97nm,18.8s,baz=313,slow=34							
DBIC	**Dimbokro**	**42.87**	**109**	LR	LR	09 13 07.5	
comp=Z,97nm,21.1s,baz=240,slow=31							
TORD	**Torodi Ar. Bea**	**45.73**	**97**	P	P	08 59 15.6	+0.6
1.6nm,1.1s,baz=293,slow=7.6,SNR=3.9							
ULM	**Lac du Bonnet**	**45.79**	**316**	LR	LR	09 16 38.0	
comp=Z,70nm,18.6s,baz=37,slow=34							
LPAZ	**La Paz**	**47.27**	**211**	P	P	08 59 28.8	+

IDC 22 08:51:36.4±2.5, 360S×13083E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.6/14, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=132.3km s-min=26.8km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.28**	**199**	Pn	Pn	08 55 13.1	-0.2
	0.1nm,0.3s,baz=90,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**16.60**	**168**	Pn	Pn	08 55 28.8	-1.6
	0.2nm,0.3s,baz=349,slow=11,SNR=8.7						
WRA				Sn	Sn	08 58 24.3	-11
	0.1nm,0.3s,baz=357,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**20.17**	**172**	P	P	08 56 13.6	+1.2
	1.8nm,0.5s,baz=352,slow=9.2,SNR=18						
MKAR	**Makanchi Array**	**65.88**	**326**	P	P	09 02 24.0	+0.2
	0.2nm,0.5s,baz=117,slow=8.0,SNR=3.1						

*ISCJB **22** 09:01:55.3±1.2, 187S±02×1780W±01, h495km±15km, mb3.7/12, Error ellipse: s-maj=27.2km s-min=11.9km az=124.6*

*IDC **22** 09:01:57.0±1.7, 1863S×17807W, h504km±20km, mb3.3/10, mb1 3.6/11, mb1mx3.5/16, mbtmp4.2/11, Error ellipse: s-maj=25.4km s-min=11.5km az=151.0*

*NEIC **22** 09:01:57.2±1.0, 1870S×17802W, h507km±12km, mb4.1/3, Error ellipse: s-maj=17.4km s-min=8.5km az=151.0*

ISC 22 09:01:56.9±1.2, 187S±02×1780W±01, h503km±16km, n18, σ0°87/20, mb3.7/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.61**	**52**	P	**P**	**09 03 50.3**	**+1.0**
	2.2nm,0.3s,baz=21,slow=10,SNR=4.6						
AFI				S	**S**	**09 05 18.7**	**-2.9**
	2.1nm,0.3s,baz=210,slow=20,SNR=4.4						
STKA	**Stephens Creek**	**38.62**	**242**	*e*P	**P**	**09 08 35.1**	**-1.3**
	2.1nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**38.62**	**242**	P	**P**	**09 08 35.0**	**-1.3**
	2.2nm,0.4s,mb4.0,baz=93,slow=10,SNR=6.3						
WB2	**Warramunga Arr**	**44.89**	**260**	*e*P	**P**	**09 09 25.9**	**-0.1**
WRAB	**Tennant Creek**	**44.89**	**260**	*e*P	**P**	**09 09 26.1**	**+0.1**
	2.5nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**09 09 26.1**	**0.0**
	2.0nm,0.4s,mb3.9,baz=98,slow=6.8,SNR=75						
AS31	**Alice Springs**	**44.98**	**255**	*e*P	**P**	**09 09 27.2**	**+0.5**
ASAR	**Alice Springs**	**44.98**	**255**	P	**P**	**09 09 27.3**	**+0.6**
	6.3nm,0.6s,mb4.2,baz=89,slow=8.5,SNR=131						
ASAR				PcP	PcP	09 10 57.0	-0.2
	0.7nm,0.8s,baz=99,slow=5.4,SNR=4.0						
ASAR				S	**S**	**09 15 25.3**	**-2.6**
	0.5nm,0.6s,baz=89,slow=16,SNR=7.1						
ASPA	**Alice Springs**	**44.99**	**255**	*e*P	**P**	**09 09 27.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**53.31**	**261**	P	**P**	**09 10 28.8**	**+0.5**
	0.7nm,0.3s,mb3.4,baz=274,slow=21,SNR=5.6						
VNDA	**Vanda**	**59.70**	**185**	P	**P**	**09 11 12.4**	**0.0**
	1.5nm,1.0s,mb3.4,baz=19,slow=5.7,SNR=8.4						
QSPA	**South Pole Qui**	**71.37**	**180**	*e*P	**P**	**09 12 25.2**	**-0.3**
	6.4nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**79.70**	**44**	P	**P**	**09 13 13.3**	**+1.4**
	1.9nm,0.7s,mb3.7,baz=229,slow=11,SNR=17						
ILAR	**Eielson Array**	**86.55**	**13**	P	**P**	**09 13 45.1**	**-1.1**
	0.5nm,0.4s,mb3.6,baz=219,slow=4.8,SNR=35						
MCMT	**McKenzie Canyo**	**86.56**	**40**	*e*P	**P**	**09 13 47.0**	**+0.7**
PDAR	**Pinedale Array**	**87.63**	**43**	P	**P**	**09 13 51.4**	**+0.1**
	0.8nm,0.8s,mb3.5,baz=232,slow=2.3,SNR=7.4						
PLCA	**Paso Flores**	**90.50**	**134**	P	**P**	**09 14 04.5**	**-0.1**
	0.7nm,0.7s,mb3.6,baz=62,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**94.86**	**25**	P	**P**	**09 14 24.0**	**-0.6**
	0.2nm,0.6s,mb3.3,baz=238,slow=4.8,SNR=6.4						

*ISCJB **22** 09:13:15.0±2.0, 180S±03×175.1W±02, h217km±17km, mb4.1/13, Error ellipse: s-maj=61.0km s-min=14.5km az=111.3*

*IDC **22** 09:13:14.6±2.6, 1811S×17498W, h198km±22km, mb3.9/10, mb1 4.1/11, mb1mx3.9/18, mbtmp4.5/11, Error ellipse: s-maj=46.6km s-min=12.9km az=144.0*

*NEIC **22** 09:13:15.5±1.7, 1802S×17501W, h208km±13km, mb4.5/5, Error ellipse: s-maj=44.5km s-min=9.8km az=146.0*

ISC 22 09:13:16.0±2.1, 181S±03×1749W±02, h213km±17km, n26, σ0°84/26, mb4.1/13, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.11**	**37**	P	**Pn**	**09 14 31.7**	**-0.4**
	16nm,0.3s,baz=162,slow=2.0,SNR=24						
AFI				S	**S**	**09 15 26.1**	**-6.2**
	66nm,0.3s,baz=41,slow=22,SNR=12						
AFI	**Afiamalu**	**5.11**	**37**	*e*Pn	**Pn**	**09 14 31.5**	**-0.6**
AFI				*e*Sn	**S**	**09 15 25.5**	**-6.8**
DZM	**Mont Dzumac**	**17.95**	**254**	P	**P**	**09 17 12.3**	**+2.1**
	0.2nm,0.3s,baz=69,slow=18,SNR=6.8						
CTA	**Charters Tower**	**36.69**	**260**	P	**P**	**09 20 02.4**	**0.0**
	9.2nm,1.0s,mb4.2,baz=109,slow=13,SNR=4.6						
PMG	**Port Moresby**	**37.75**	**278**	P	**P**	**09 20 12.5**	**+1.3**
	5.0nm,0.5s,mb4.3,baz=64,slow=2.1,SNR=4.5						
PMG	**Port Moresby**	**37.75**	**278**	*e*P	**P**	**09 20 11.1**	**-0.2**
	12nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**41.48**	**242**	*e*P	**P**	**09 20 40.8**	**-1.1**
	5.7nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**41.48**	**242**	P	**P**	**09 20 40.9**	**-1.0**
	6.3nm,0.7s,mb4.2,baz=87,slow=10.0,SNR=14						
WB2	**Warramunga Arr**	**47.85**	**259**	*e*P	**P**	**09 21 28.9**	**-3.3**
WRAB	**Tennant Creek**	**47.85**	**259**	*e*P	**P**	**09 21 31.7**	**-0.5**
	10.0nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**47.86**	**259**	P	**P**	**09 21 31.8**	**-0.5**
	6.0nm,0.4s,mb4.3,baz=98,slow=6.3,SNR=108						
AS31	**Alice Springs**	**47.94**	**254**	*e*P	**P**	**09 21 33.0**	**+0.1**
ASAR	**Alice Springs**	**47.94**	**254**	P	**P**	**09 21 33.1**	**+0.2**
	40nm,0.7s,mb4.9,baz=90,slow=7.8,SNR=496						
ASAR				S	**S**	**09 28 10.1**	**-3.8**
	0.4nm,0.7s,baz=93,slow=16,SNR=4.2						
ASPA	**Alice Springs**	**47.94**	**254**	*e*P	**P**	**09 21 33.0**	**+0.1**
KAKA	**Kakadu**	**50.89**	**268**	⇑*i*P	**P**	**09 21 55.0**	**-0.2**
	12nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**56.27**	**260**	*e*P	**P**	**09 22 34.4**	**+0.2**
	6.8nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**56.27**	**260**	P	**P**	**09 22 34.8**	**+0.6**
	3.6nm,0.6s,mb4.1,baz=270,slow=12,SNR=12						
MBWA	**Marble Bar**	**61.24**	**255**	*e*P	**P**	**09 23 08.1**	**-0.3**
	4.0nm,0.4s,mb4.4						
MJAR	**Matsushiro Arr**	**70.04**	**321**	P	**P**	**09 24 04.3**	**-0.3**
	3.4nm,0.7s,mb4.1,baz=158,slow=6.1,SNR=11						
NVAR	**Mina Array Bea**	**77.27**	**42**	P	**P**	**09 24 48.0**	**+1.4**
	0.4nm,0.6s,mb3.2,baz=230,slow=11,SNR=4.7						
ILAR	**Eielson Array**	**85.31**	**12**	P	**P**	**09 25 28.6**	**-0.3**
	0.9nm,0.5s,mb3.7,baz=223,slow=5.8,SNR=29						
YKA	**Yellowknife Ar**	**93.10**	**24**	P	**P**	**09 26 05.5**	**0.0**
	0.2nm,0.6s,mb3.3,baz=246,slow=4.2,SNR=5.8						
YKA	**Yellowknife Ar**	**93.10**	**24**	P	**P**	**09 26 05.5**	**0.0**
AKASG	**Malin Array Be**	**142.15**	**335**	PKhKP		09 32 18.5	
	0.2nm,0.2s,baz=35,slow=4.0,SNR=4.1						
BRTR	**Keskin Array B**	**147.18**	**317**	PKPbc	PKPbc	09 32 35.0	+1.1
	1.7nm,0.9s,baz=68,slow=3.3,SNR=8.0						
GERES	**GERESS Array B**	**148.49**	**349**	PKPbc	PKPbc	09 32 38.2	+0.9
	0.8nm,0.6s,baz=48,slow=2.0,SNR=5.8						

KRSC 22 09:26:43.5±0.7, 5443N×16172E, h29km±5km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**1.25**	**314**	*i*P	Pn	09 27 05.2	+0.2
TUMR				*e*S	Sn	09 27 21.3	+0.5
KII	**Karymskiy**	**1.39**	**254**	*e*P	Pn	09 27 07.6	+0.7
KII				*e*S	Sn	09 27 25.6	+1.3
SPN	**Mys Shipunski**	**1.67**	**218**	*e*P	Pn	09 27 10.6	-0.2
SPN				*e*S	Sn	09 27 30.3	-1.0
ZLN	**Zelenaya**	**1.68**	**342**	*e*P	Pn	09 27 12.0	+1.2
ZLN				*e*S	Sn	09 27 32.9	+1.6
LGNR	**Loginova**	**1.76**	**341**	*e*P	Pn	09 27 13.6	+1.6
LGNR				*e*S	Sn	09 27 35.2	+1.8
KPT	**Kopyto**	**1.76**	**331**	*e*P	Pn	09 27 13.1	+1.0
KPT				*e*S	Sn	09 27 34.8	+1.3
CIRR	**Tsirk**	**1.78**	**342**	*e*P	Pn	09 27 13.5	+1.2
CIRR				*e*S	Sn	09 27 36.0	+2.1
KBTR	**Krutoberegovo**	**1.89**	**19**	*e*P	Pn	09 27 14.1	+0.3
KBTR				*e*S	Sn	09 27 36.5	-0.1
NLC	**Nalytchevo**	**1.89**	**229**	*i*P	Pn	09 27 14.4	+0.6
NLC				*e*S	Sn	09 27 37.0	+0.3
KRSR	**Krestovskiy**	**1.91**	**340**	*e*P	Pn	09 27 14.8	+0.7
KRSR				*e*S	Sn	09 27 37.9	+0.8
KOZ	**Kozyrevsk**	**1.94**	**328**	*e*P	Pn	09 27 15.7	+1.2
KOZ				*e*S	Sn	09 27 38.3	+0.3
KLY	**Klyuchi**	**1.98**	**343**	*e*P	Pn	09 27 15.5	+0.4
KLY				*e*S	Sn	09 27 38.9	0.0
SMAR	**Somma**	**2.09**	**237**	*e*P	Pn	09 27 18.1	+1.6
SMAR				*e*S	Sn	09 27 43.4	+1.9
UGLR	**Uglovaya**	**2.11**	**236**	*i*P	Pn	09 27 18.5	+1.7
UGLR				*e*S	Sn	09 27 44.1	+2.1
AVH	**Avacha**	**2.12**	**238**	*e*P	Pn	09 27 18.8	+1.9
AVH				*e*S	Sn	09 27 45.0	+2.7
KOK	**Koryaka**	**2.15**	**239**	*e*P	Pn	09 27 19.0	+1.6
SMKR	**Semkarok**	**2.16**	**356**	*e*P	Pn	09 27 18.7	+1.2
SMKR				*e*S	Sn	09 27 44.6	+1.2
BDR	**Baidarnaya**	**2.16**	**352**	*i*P	Pn	09 27 19.1	+1.6
SRDR	**Sredinnyy**	**2.21**	**330**	*i*P	Pn	09 27 18.9	+0.7
SRDR				*e*S	Sn	09 27 45.0	+0.5
SRKR	**Sorokina**	**2.25**	**352**	*i*P	Pn	09 27 20.1	+1.3
SRKR				*e*S	Sn	09 27 46.9	+1.3
ESO	**Esso**	**2.29**	**312**	*i*P	Pn	09 27 19.8	+0.5
ESO				*e*S	Sn	09 27 45.9	-0.6
ESO				Smax			
	70nm,0.8s						
PET	**Petropavlovsk**	**2.30**	**234**	*i*P	Pn	09 27 20.8	+1.3
PET				*e*S	Sn	09 27 47.7	+0.9
GNL	**Ganaly**	**2.34**	**253**	*e*P	Pn	09 27 21.7	+1.6
BKI	**Bering**	**2.58**	**71**	*e*P	Pn	09 27 23.4	+0.1
BKI				*e*S	Sn	09 27 51.5	-2.2
BKI				Smax			
	140nm,0.5s						
KRMR	**Karymshinskiy**	**2.67**	**235**	*e*P	Pn	09 27 26.1	+1.5
KRMR				*e*S	Sn	09 27 57.8	+1.9
RUS	**Russkaya**	**2.77**	**225**	*e*P	Pn	09 27 26.3	+0.4
RUS				*e*S	Sn	09 27 58.6	+0.2
GRL	**Gorelyy**	**2.88**	**231**	*e*P	Pn	09 27 29.5	+2.1
GRL				*e*S	Sn	09 28 03.2	+2.2
MIPR	**Malaya Ipel'ka**	**3.67**	**236**	*e*P	Pn	09 27 40.1	+1.8

*IDC **22** 10:01:07.2±4.6, 1161N×9311E, h103km±44km, mb3.6/8, mb1 3.8/9, mb1mx3.5/23, mbtmp4.0/9, MS3.7/1, Ms1 3.7/1, ms1mx2.7/27, Error ellipse: s-maj=69.0km s-min=14.7km az=60.0*

*ISCJB **22** 10:01:08.1±0.8, 115N±02×930E±02, h130km±10km, mb3.7/13, Error ellipse: s-maj=47.4km s-min=9.4km az=115.7*

*NEIC **22** 10:01:10.3±2.2, 1153N×9316E, h133km±23km, mb3.9/5, Error ellipse: s-maj=44.5km s-min=9.1km az=58.0*

ISC 22 10:01:09.1±0.8, 116N±02×931E±02, h120km±10km, n25, σ0°91/28, mb4.0/13, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.35**	**286**	*e*P	**Pn**	**10 01 25.6**	**-0.6**
PBA				⇑*i*P		10 01 25.6	
PBA				*e*S	**Sn**	**10 01 33.4**	**-5.7**
PBA				*e*S	**Sn**	**10 01 34.8**	**-4.3**
PBA				*e*x	x	10 01 35.3	
	comp=E,32μm,0.4s						
PBA				*e*x	x	10 01 35.5	
	comp=N,67μm,0.4s						
PSI	**Prapat**	**10.45**	**146**	P	**Pn**	**10 03 35.5**	**-0.1**
	comp=N,1.3nm,0.3s,baz=325,slow=9.3,SNR=5.4						
VIS	**Vishakhapatnam**	**11.25**	**304**	*e*P	**Pn**	**10 03 36.5**	**-10**
VIS				*i*S	**Sn**	**10 05 25.9**	**-24**
VIS				*e*S	**Sn**	**10 05 28.4**	**-22**
VIS				AML	AML	10 05 35.4	
	comp=E,31nm,0.5s						
VIS				AML	AML	10 05 35.4	
	comp=N,38nm,0.2s						
BOK	**Bokaro**	**13.96**	**332**	*e*S	**Sn**	**10 06 43.7**	**-12**
BOK				AML	AML	10 06 45.0	
	comp=N,10.0nm,0.3s						
BOK				AML	AML	10 06 45.9	
	comp=E,7.3nm,0.2s						
PKI	**Pulchoki**	**17.48**	**337**	*e*P	**Pn**	**10 05 10.7**	**+5.3**
GUN	**Gumba**	**17.61**	**338**	*e*P	**Pn**	**10 05 07.5**	**+0.5**
DMN	**Daman**	**17.64**	**336**	*e*P	**Pn**	**10 05 11.8**	**+4.6**
KKN	**Kakani**	**17.73**	**337**	*e*P	**Pn**	**10 05 10.7**	**+2.3**
GKN	**Gorkha**	**18.18**	**335**	*e*P	**P**	**10 05 14.1**	**+1.7**
	comp=E,13nm,0.4s						
KOLN	**Koldanda**	**18.42**	**332**	*e*P	**P**	**10 05 18.9**	**+3.8**
MKAR	**Makanchi Array**	**36.29**	**347**	P	**P**	**10 08 00.2**	**-0.7**
	comp=E,1.1nm,0.5s,mb4.0,baz=162,slow=8.4,SNR=11						
SONM	**Songino Array**	**37.85**	**15**	P	**P**	**10 08 13.7**	**-0.4**
	comp=E,0.5nm,0.4s,mb3.7,baz=206,slow=7.9,SNR=5.6						
KURK	**Kurchatov**	**40.81**	**346**	*e*P	**P**	**10 08 39.3**	**+0.6**
	comp=E,1.7nm,0.8s,mb3.9						
MBWA	**Marble Bar**	**41.74**	**141**	*e*P	**P**	**10 08 46.3**	**0.0**
FITZ	**Fitzroy Crossi**	**43.60**	**132**	P	**P**	**10 09 02.0**	**+0.6**
	comp=E,1.0nm,0.4s,mb3.9,baz=147,slow=18,SNR=6.9						
BVAR	**Borovoye Array**	**45.19**	**341**	P	**P**	**10 09 13.1**	**-0.9**
	comp=E,0.7nm,0.5s,mb3.6,baz=139,slow=8.1,SNR=6.3						
BRVK	**Borovoye**	**45.25**	**341**	*e*P	**P**	**10 09 12.8**	**-1.6**
	comp=E,0.7nm,0.5s,mb3.6						
ZRNK	**Zerenda**	**45.58**	**340**	*e*P	**P**	**10 09 16.4**	**-0.7**
	comp=E,1.0nm,0.6s,mb3.7						
ATD	**Arta Tunnel**	**49.17**	**275**	LR	LR	10 26 51.4	
	comp=E,86nm,19.6s,baz=53,slow=31						
WRA	**Warramunga Arr**	**51.27**	**127**	P	**P**	**10 10 00.9**	**+0.2**
	comp=E,1.7nm,0.5s,mb4.4,baz=306,slow=8.5,SNR=41						
WRAB	**Tennant Creek**	**51.27**	**127**	*e*P	**P**	**10 10 01.4**	**+0.7**
	comp=E,4.0nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**53.09**	**131**	P	**P**	**10 10 14.4**	**+0.3**
	comp=E,0.7nm,0.5s,mb4.0,baz=306,slow=6.6,SNR=11						
MALT	**Malatya**	**55.33**	**309**	*e*P	**P**	**10 10 30.4**	**0.0**
	comp=E,2.4nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**68.99**	**332**	P	**P**	**10 12 01.3**	**-0.2**
	comp=E,0.9nm,0.6s,mb3.8,baz=99,slow=12,SNR=4.2						
ILAR	**Eielson Array**	**91.74**	**22**	P	**P**	**10 14 02.0**	**-1.1**
	comp=E,0.5nm,0.8s,mb3.8,baz=300,slow=4.8,SNR=5.9						

*SZGRF **22** 10:08:41.1, 236N×9654E, h33km, mb4.7, Northern Sumatera, Indonesia*

*IDC **22** 10:08:45.6±0.5, 277N×9565E, h0km, mb4.5/24, mb1 4.6/25, mb1mx4.5/29, mbtmp4.5/25, ML4.5/1, MS4.5/17, Ms1 4.5/17, ms1mx4.3/29, Error ellipse: s-maj=21.4km s-min=11.1km az=38.0*

*ISCJB **22** 10:08:47.6±0.3, 273N±004×9569E±003, h25km, mb5.0/100, MS4.7/45, Error ellipse: s-maj=6.0km s-min=4.3km az=67.9*

*BJI **22** 10:08:47.2, 267N×9578E, h25km, mB5.2, mb5.2, Ms5.0, Msz4.8*

*MOS **22** 10:08:48.7±0.8, 275N×9564E, h33km, mb5.2/40, MS4.9/10, Error ellipse: s-maj=10.3km s-min=5.7km az=110.5*

*HRVD **22** 10:08:49.3±0.5, 261N×9524E, h38km±1km, MW5.0/64, Centroid moment Tensor Solution. LP body waves: s44,c67;Mantle waves: s64,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.18±.18; $M_{\theta\theta}$-1.97±.12; $M_{\phi\phi}$-0.20±.16; $M_{r\theta}$1.17±.12; $M_{\theta\phi}$2.50±.12; $M_{\phi r}$-1.79±.16; Best double couple: $M_0$3.74900×10^{16} NP1:ϕ_s276.00000°, δ35.00000°, λ45.00000°. NP2: ϕ_s147.00000°, δ66.00000°, λ116.00000°. Principal axes: T 3.1450, Plg60.0000°, Azm95.0000°; N 1.2140, Plg24.0000°, Azm315.0000°; P -4.3540, Plg17.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **22** 10:08:49.3±0.2, 272N×9568E, mb5.0/35, MS4.7/1 Error ellipse: s-maj=7.7km s-min=4.4km az=220.0*

ISC 22 10:08:50.1±0.3, 276N±004×9569E±003, h26km, h26km±.8km: pP-P, n211, σ1°93/223, mb5.0/100, MS4.7/45, 7C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.75**	**352**	P	**Pn**	**10 09 30.4**	**-2.0**
	924nm,0.6s						
PSI	**Prapat**	**3.23**	**89**	Pn	**Pn**	**10 09 40.4**	**+1.3**
	54nm,0.3s,baz=283,slow=7.2,SNR=113						
PSI				Sn	**Sn**	**10 10 18.9**	**+2.2**
	23nm,0.3s,baz=112,slow=19,SNR=2.5						
PSI				LR	LR	10 10 34.5	
	comp=Z,3μm,21.4s,baz=269,slow=33						
PSI	**Prapat**	**3.23**	**89**	Pn	**Pn**	**10 09 40.4**	**+1.3**
PSI				Sn	**Sn**	**10 10 18.9**	**+2.2**
PSI				LR	LR	10 10 34.5	
PSI	**Prapat**	**3.23**	**89**	P	**Pn**	**10 09 40.4**	**+1.3**
PSI						10 10 18.9	
PPI	**Padang Panjang**	**5.69**	**124**	P	**Pn**	**10 10 13.9**	**+1.0**
	131nm,0.7s						
SNG	**Songkhla**	**6.58**	**48**	P	**Pn**	**10 10 25.0**	**-0.2**
	456nm,1.0s						
PBA	**Port Blair**	**9.31**	**342**	*e*x	x	10 11 35.8	
PBA				*e*x	x	10 11 35.8	
PBA				*e*x	x	10 11 40.2	
	comp=Z,90nm,1.1s						
PBA				*e*x	x	10 14 56.1	
PBA				*e*x	x	10 14 56.1	
KSI	**Kapahiang**	**9.39**	**133**	P	**Pn**	**10 11 13.6**	**+10**
	comp=Z,181nm,0.8s						
BDT	**Bhumibol Dam**	**14.76**	**13**	P	**Pn**	**10 12 15.0**	**-2.0**
KKTK	**Khon Kaen**	**15.21**	**27**	P	**Pn**	**10 12 28.5**	**+5.5**
PALK	**Pallekele**	**15.58**	**287**	*e*P	**Pn**	**10 12 34.0**	**+6.2**
	comp=Z,51nm,0.9s						
PALK				*e*pP	pP	10 12 40.7	+1.6
CHRT	**Chiangrai**	**17.47**	**13**	⇑P	**Pn**	**10 12 52.0**	**+0.2**
	comp=Z,132nm,1.0s						
VIS	**Vishakhapatnam**	**19.18**	**322**	*i*P	**Pn**	**10 13 14.0**	**+1.3**
VIS				*e*x	x	10 13 17.3	
VIS				AMb	AMB	10 13 35.1	
	comp=Z,129nm,1.6s						
VIS				*i*x	x	10 16 28.4	
VIS				*e*x	x	10 16 43.5	
CAL	**Calcutta**	**20.92**	**341**	*e*P	**P**	**10 13 31.1**	**+0.6**
CAL				AMP		10 13 33.1	
	comp=Z,583nm,0.3s						
CAL				*e*x	**S**	**10 17 31.4**	**+9.1**
QIZ	**Qiongzhong**	**21.29**	**40**	P	**P**	**10 13 34.5**	**-0.1**
QIZ				XP	sP	10 13 45.1	-0.1
QIZ				S	**S**	**10 17 30.6**	**+0.9**
QIZ				LR	LR		
	comp=N,3μm,16.8s,MS4.8						
QIZ				LR	LR		
	comp=E,1μm,14.4s,MS4.8						
QIZ				LR	LR		
	comp=Z,2μm,15.6s,MS4.6						
QIZ	**Qiongzhong**	**21.29**	**40**	*e*P	**P**	**10 13 34.3**	**-0.2**
	comp=Z,178nm,1.6s,mb5.2						
HYB	**Hyderabad**	**22.25**	**312**	*i*P	**P**	**10 13 46.0**	**+1.2**
HYB				*e*		10 13 53.0	
HYB				*e*S	**S**	**10 17 44.5**	**-3.9**
HYB	**Hyderabad**	**22.25**	**312**	*e*P	**P**	**10 13 46.0**	**+1.2**
HYB				*e*		10 13 53.0	
HYB				*e*S	**S**	**10 17 51.0**	**+2.6**
BOK	**Bokaro**	**22.96**	**336**	*e*P	**P**	**10 13 50.6**	**-1.8**
BOK				AMb	AMB	10 13 57.3	
	comp=Z,127nm,1.3s,mb5.2						
BOK				*e*S	**S**	**10 18 02.1**	**+1.1**
SHL	**Shillong**	**22.97**	**351**	*e*P	**P**	**10 13 48.0**	**-4.4**
SHL				*e*S	**S**	**10 18 00.0**	**-1.1**
KMI	**Kunming**	**23.25**	**16**	P	**P**	**10 13 55.4**	**0.0**
KMI				AP		10 14 02.8	
KMI				XP	sP	10 14 06.9	+0.8
KMI				PP		10 14 27.8	
KMI				PPP		10 14 35.8	
KMI				S	**S**	**10 18 08.3**	**+2.6**
KMI				XS	sS	10 18 17.8	-0.6
KMI				AMB	AMB		
	comp=Z,55nm,1.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,634nm,5.0s						
KMI				LR	LR		
	comp=N,3μm,12.9s,MS5.0						
KMI				LR	LR		
	comp=E,1μm,14.4s,MS5.0						
KMI				LR	LR		
	comp=Z,4μm,13.5s,MS5.0						
PCI	**Palu**	**24.41**	**98**	P	**P**	**10 14 06.8**	**+0.5**
	comp=Z,100nm,1.6s,mb5.0						
JBP	**Jabalpur**	**25.36**	**324**	⇑*i*P	**P**	**10 14 16.1**	**+1.2**
JBP				*e*S	**S**	**10 18 40.4**	**+0.8**
KAD	**Karad**	**25.59**	**306**	*e*x	**P**	**10 14 20.0**	**+3.0**
GYA	**Guiyang**	**25.81**	**23**	⇓*i*P	**P**	**10 14 18.6**	**-0.4**
GYA				AP	pP	10 14 25.8	-1.0
GYA				XP	sP	10 14 28.9	-1.1
GYA				PP		10 14 59.1	
GYA				S	**S**	**10 18 43.9**	**-2.9**
GYA				SS		10 19 49.4	
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,460nm,5.7s						
GYA				LR	LR		
	comp=N,2μm,17.9s,MS4.8						
GYA				LR	LR		
	comp=E,760nm,14.1s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,18.8s,MS4.7						
JIRN	**Jiri**	**26.37**	**341**	*e*P	**P**	**10 14 25.2**	**+1.1**
	comp=Z,176nm,0.6s,mb5.7						
POO	**Poona**	**26.52**	**308**	*e*x	x	10 14 35.0	
PKI	**Pulchoki**	**26.56**	**339**	*e*P	**P**	**10 14 26.3**	**+0.5**
	comp=Z,54nm,0.6s,mb5.2						
PKI	**Pulchoki**	**26.56**	**339**	*e*P	**P**	**10 14 26.3**	**+0.5**
PKI				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.0						
DMN	**Daman**	**26.70**	**339**	*e*P	**P**	**10 14 27.6**	**+0.6**
	comp=Z,52nm,0.6s,mb5.2						
GUN	**Gumba**	**26.71**	**340**	*e*P	**P**	**10 14 28.0**	**+0.9**
	comp=Z,183nm,0.6s,mb5.8						
KKN	**Kakani**	**26.80**	**339**	*e*P	**P**	**10 14 28.5**	**+0.5**
	comp=Z,88nm,0.8s,mb5

LZH				AP	pP	10 15 37.6	-1.9
LZH				XP	sP	10 15 40.5	-2.2
LZH				PP	PP	10 16 45.1	-3.7
LZH				eS	**S**	**10 20 54.6**	**-0.7**
LZH				AMB	AMB		
	comp=Z,149nm,1.7s,mb5.6						
LZH				AMB	AMB		
	comp=Z,570nm,4.8s						
LZH				LR	LR		
	comp=E,3μm,14.6s						
LZH				LR	LR		
	comp=Z,4μm,17.7s,MS5.2						
SWI	**Sorong**	**35.74**	**95**	P	**P**	**10 15 45.6**	**-1.0**
	comp=Z,41nm,1.0s,mb5.3						
FITZ	**Fitzroy Crossi**	**36.06**	**126**	eP	**P**	**10 15 48.5**	**-0.8**
	comp=Z,11nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**36.06**	**126**	P	**P**	**10 15 48.9**	**-0.4**
	comp=Z,5.5nm,0.7s,mb4.6,baz=203,slow=4.2,SNR=11						
NJ2	**Nanjing**	**36.38**	**34**	eP	**P**	**10 15 53.1**	**+1.0**
NJ2				AP	pP	10 15 59.0	-1.0
NJ2				XP	sP	10 16 01.1	-2.1
NJ2				PP	PP	10 17 16.6	+1.6
NJ2				S	**S**	**10 21 31.0**	**-0.8**
NJ2				AMB	AMB		
	comp=Z,220nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,120nm,9.7s						
NJ2				LR	LR		
	comp=N,2μm,15.3s						
NJ2				LR	LR		
	comp=E,3μm,20.6s						
NJ2				LR	LR		
	comp=Z,1μm,17.3s,MS4.7						
GTA	**Gaotai**	**36.67**	**5**	eP	**P**	**10 15 53.9**	**-0.6**
GTA				PP	PP	10 17 17.3	-0.9
GTA				PCP	PcP	10 18 19.6	+2.6
GTA				S	**S**	**10 21 33.8**	**-2.4**
GTA				PCS	PcS	10 22 07.1	+2.2
GTA				SCS	ScS	10 26 07.5	-1.1
GTA				AMB	AMB		
	comp=Z,35nm,1.3s,mb5.0						
GTA				AMB	AMB		
	comp=Z,236nm,5.3s						
GTA				LR	LR		
	comp=N,621nm,14.1s,MS4.7						
GTA				LR	LR		
	comp=E,735nm,16.0s,MS4.7						
GTA				LR	LR		
	comp=Z,1μm,14.5s,MS4.8						
SSE	**Sheshan**	**37.06**	**38**	P	**P**	**10 15 57.9**	**0.0**
SSE				XP	sP	10 16 10.6	+1.6
SSE				PP	PP	10 17 22.6	+0.1
SSE				PCP	PcP	10 18 17.5	-0.7
SSE				S	**S**	**10 21 43.8**	**+1.7**
SSE				XS	sS	10 21 57.8	+2.6
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,134nm,4.8s						
SSE				LR	LR		
	comp=N,468nm,16.5s,MS4.6						
SSE				LR	LR		
	comp=E,641nm,16.5s,MS4.6						
SSE				LR	LR		
	comp=Z,987nm,16.9s,MS4.7						
TIA	**Tai'an**	**38.73**	**28**	eP	**P**	**10 16 11.4**	**-0.6**
TIA				AMB	AMB		
	comp=Z,27nm,1.1s,mb4.9						
JOW	**Kunigami**	**39.33**	**49**	LR	LR	10 33 29.6	
	comp=Z,385nm,19.1s,MS4.2,baz=153,slow=38						
KAKA	**Kakadu**	**39.60**	**114**	eP	**P**	**10 16 17.2**	**-2.0**
	comp=Z,8.5nm,0.6s,mb4.7						
BTO	**Baotou**	**39.84**	**17**	eP	**P**	**10 16 21.6**	**+0.4**
BTO				S	**S**	**10 22 15.8**	**-8.3**
BTO				AMB	AMB		
	comp=Z,48nm,1.4s,mb5.0						
BTO				LR	LR		
	comp=N,209nm,5.4s						
BTO				LR	LR		
	comp=E,1μm,15.2s						
HHC	**Hu-ho-hao-te**	**40.54**	**19**	eP	**P**	**10 16 28.3**	**+1.3**
HHC				AP	pP	10 16 35.6	+0.7
HHC				XP	sP	10 16 38.9	+0.7
HHC				PP	PP	10 18 05.8	+5.3
HHC				PCP	PcP	10 18 30.3	+1.2
HHC				SCP	ScP	10 22 17.4	+0.8
HHC				S	**S**	**10 22 36.3**	**+1.8**
HHC				XS	sS	10 22 48.8	+1.2
HHC				SS	SS	10 25 31.5	-3.1
HHC				SCS	ScS	10 26 30.3	-0.6
HHC				AMB	AMB		
	comp=Z,45nm,0.9s,mb5.1						
HHC				LR	LR		
	comp=N,2μm,16.5s,MS5.1						
HHC				LR	LR		
	comp=E,2μm,21.2s,MS5.1						
HHC				LR	LR		
	comp=Z,2μm,16.1s						
BJT	**Baijiatuau**	**41.48**	**24**	eP	**P**	**10 16 35.8**	**+1.1**
	comp=Z,53nm,0.8s,mb5.2						
BJT				epP	pP	10 16 42.1	-0.6
BJT	**Baijiatuau**	**41.48**	**24**	eP	**P**	**10 16 35.8**	**+1.1**
BJT				e*PP	pP	10 16 42.1	-0.6
BJT				pmax	pmax		
	comp=Z,53nm,0.8s						
BJI	**Beijing**	**41.50**	**24**	P	**P**	**10 16 35.6**	**+0.7**
BJI				S	**S**	**10 22 51.1**	**+2.3**
BJI				AMB	AMB		
	comp=Z,45nm,0.9s,mb5.1						
BJI				AMB	AMB		
	comp=Z,442nm,3.1s						
BJI				LR	LR		
	comp=N,561nm,20.2s,MS4.7						
BJI				LR	LR		
	comp=E,766nm,18.9s,MS4.7						
BJI				LR	LR		
	comp=Z,184nm,20.9s,MS3.9						
WMQ	**Urumqi**	**41.50**	**351**	P	**P**	**10 16 35.0**	**+0.1**
WMQ				AP	pP	10 16 42.4	-0.5
WMQ				XP	sP	10 16 45.8	-0.3
WMQ				PP	PP	10 18 14.5	+3.5
WMQ				PCP	PcP	10 18 33.0	+0.8
WMQ				PPP		10 18 44.8	
WMQ				S	**S**	**10 22 48.8**	**0.0**
WMQ				SCS	ScS	10 26 32.8	-3.9
WMQ				AMB	AMB		
	comp=Z,62nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,441nm,4.5s						
WMQ				LR	LR		
	comp=N,416nm,22.5s,MS4.6						
WMQ				LR	LR		
	comp=E,862nm,22.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,478nm,22.0s,MS4.3						
DL2	**Dalian**	**43.05**	**30**	P	**P**	**10 16 48.5**	**+1.0**
DL2				AP	pP	10 16 54.8	-0.8
DL2				S	**S**	**10 23 13.9**	**+2.2**
DL2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.5						
DL2				AMB	AMB		
	comp=Z,200nm,3.8s						
DL2				LR	LR		
	comp=N,500nm,15.5s,MS4.5						
DL2				LR	LR		
	comp=E,280nm,17.6s,MS4.5						
DL2				LR	LR		
	comp=Z,550nm,14.9s,MS4.6						
KZA	**Kyzart**	**43.22**	**338**	P	**P**	**10 16 50.4**	**+1.5**
	SNR=11						
UCH	**Uchtor**	**43.63**	**337**	P	**P**	**10 16 53.8**	**+1.6**
	SNR=26						
TKM2	**Tokmak 2**	**43.82**	**339**	P	**P**	**10 16 54.8**	**+1.1**
	SNR=18						
KBK	**Karagaybulak**	**43.83**	**338**	P	**P**	**10 16 55.6**	**+1.8**
	SNR=29						
AML	**Almayashu**	**43.87**	**336**	P	**P**	**10 16 55.8**	**+1.7**
	SNR=38						
FRU	**Bishkek**	**44.11**	**338**	eP	**P**	**10 16 57.5**	**+1.5**
FRU				eS	**S**	**10 23 27.0**	**-0.1**
FRU				e		10 23 41.0	
FRU				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.2						
FRU				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.8						
WRA	**Warramunga Arr**	**44.14**	**122**	P	**P**	**10 16 56.2**	**-0.1**
	comp=Z,7.8nm,0.7s,mb4.5,baz=299,slow=9.3,SNR=63						
WRAB	**Tennant Creek**	**44.15**	**122**	eP	**P**	**10 16 56.4**	**+0.1**
	comp=Z,13nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**44.15**	**122⇑**	iP	**P**	**10 16 56.2**	**-0.2**
WB2	**Warramunga Arr**	**44.15**	**122**	eP	**P**	**10 16 56.0**	**-0.4**
CHMS	**Chumysh**	**44.20**	**338**	P	**P**	**10 16 57.4**	**+0.6**
	SNR=6.0						
EKS2	**Erkin-Say**	**44.28**	**337**	P	**P**	**10 16 58.9**	**+1.4**
	SNR=20						
USP	**Ospenovka**	**44.52**	**338**	P	**P**	**10 17 00.1**	**+0.8**
	SNR=19						
MK31	**Makanchi Array**	**45.38**	**347**	iP	**P**	**10 17 06.4**	**+0.2**
MKAR	**Makanchi Array**	**45.38**	**347**	P	**P**	**10 17 06.5**	**+0.3**
	comp=Z,24nm,0.5s,mb5.3,baz=156,slow=8.9,SNR=440						
MKAR				LR	LR	10 38 54.5	
	comp=Z,490nm,21.9s,MS4.4,baz=179,slow=40						
MKAR	**Makanchi Array**	**45.38**	**347**	P	**P**	**10 17 06.5**	**+0.3**
MKAR				LR	LR	10 38 54.5	
KS15	**Wonju Array Si**	**45.43**	**37**	eP	**P**	**10 17 06.5**	**-0.1**
FORT	**Forrest**	**45.44**	**140**	eP	**P**	**10 17 07.8**	**+1.2**
	comp=Z,29nm,0.7s,mb5.2						
ASAR	**Alice Springs**	**45.54**	**127**	P	**P**	**10 17 07.5**	**+0.1**
	comp=Z,2.8nm,0.6s,mb4.3,baz=299,slow=7.8,SNR=33						
SONM	**Songino Array**	**45.84**	**10**	P	**P**	**10 17 09.9**	**0.0**
	comp=Z,13nm,0.6s,mb5.1,baz=192,slow=8.9,SNR=109						
SONM				PcP	PcP	10 18 47.8	+0.9
	comp=Z,6.5nm,0.6s,baz=194,slow=3.3,SNR=13						
SONM				LR	LR	10 37 44.7	
	comp=Z,979nm,21.1s,MS4.7,baz=190,slow=38						
SONM	**Songino Array**	**45.84**	**10**	P	**P**	**10 17 09.9**	**0.0**
SONM						10 18 47.8	
ULN	**Ulaanbaatar**	**45.99**	**11**	eP	**P**	**10 17 10.9**	**-0.1**
	comp=Z,9.3nm,0.6s,mb4.9						
ULN				epP	pP	10 17 17.5	-1.6
ULN				ePcP	PcP	10 18 48.0	+0.6
ULN	**Ulaanbaatar**	**45.99**	**11**	eP	**P**	**10 17 10.9**	**-0.1**
ULN				e*PP	pP	10 17 17.5	-1.6
ULN				e		10 18 48.0	
ULN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
KK31	**Karatay Array**	**46.00**	**334**	iP	**P**	**10 17 11.4**	**+0.3**
KKAR	**Karatay Array**	**46.00**	**334**	iP	**P**	**10 17 11.4**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ZAK	**Zakamensk**	**47.88**	**7**	eP	**P**	**10 17 25.6**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,49nm,2.0s,mb5.2						
CN2	**Changchun**	**48.64**	**29**	eP	**P**	**10 17 31.3**	**-0.3**
CN2				eXP	sP	10 17 42.0	-0.9
CN2				eS	**S**	**10 24 31.3**	**-0.7**
CN2				SS	SS	10 27 55.8	-6.5
CN2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.6						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s,MS5.0						
CN2				LR	LR		
	comp=E,900nm,14.0s,MS5.0						
CN2				LR	LR		
	comp=Z,900nm,14.0s,MS4.9						
MOY	**Mondy**	**48.94**	**4**	eP	**P**	**10 17 33.4**	**-0.6**
MOY				pmax	pmax		
	comp=Z,33nm,2.3s,mb5.0						
TLY	**Talaya**	**49.20**	**7**	c iP	**P**	**10 17 36.5**	**+0.5**
TLY				pmax	pmax		
	comp=Z,21nm,1.8s,mb4.9						
IRK	**Irkutsk**	**49.83**	**7**	eP	**P**	**10 17 40.7**	**-0.1**
IRK				pmax	pmax		
	comp=Z,72nm,2.1s,mb5.3						
KURK	**Kurchatov**	**49.91**	**346**	P	**P**	**10 17 41.8**	**+0.4**
	comp=Z,218nm,0.7s,SNR=19						
KURK	**Kurchatov**	**49.91**	**346**	eP	**P**	**10 17 41.5**	**+0.1**
	comp=Z,30nm,0.8s,mb5.4						
KURK				epP	pP	10 17 48.6	-0.8
KURK	**Kurchatov**	**49.91**	**346**	eP	**P**	**10 17 41.5**	**+0.1**
KURK				e*PP	pP	10 17 48.7	-0.8
KURK				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
HIA	**Hailar**	**50.68**	**20**	eP	**P**	**10 17 47.0**	**-0.2**
	comp=Z,11nm,0.7s,mb4.9						
HIA				epP	pP	10 17 54.0	-1.3
HIA	**Hailar**	**50.68**	**20**	eP	**P**	**10 17 47.0**	**-0.2**
HIA				e*PP	pP	10 17 54.0	-1.3
HIA				pmax	pmax		
	comp=Z,11nm,0.7s						
MDJ	**Mudanjiang**	**51.28**	**31**	P	**P**	**10 17 51.9**	**+0.2**
MDJ				PP	PP	10 19 47.5	-1.2
MDJ				PCS	PcS	10 23 01.3	-2.9
MDJ				XS	sS	10 25 27.0	+4.7
MDJ				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,122nm,6.4s						
MDJ				LR	LR		
	comp=N,352nm,22.4s,MS4.6						
MDJ				LR	LR		
	comp=E,560nm,21.4s,MS4.6						
MDJ				LR	LR		
	comp=Z,425nm,22.4s,MS4.4						
MDJ	**Mudanjiang**	**51.28**	**31**	eP	**P**	**10 17 51.7**	**0.0**
	comp=Z,15nm,0.9s,mb4.9						
MDJ				epP	pP	10 17 59.2	-0.7
CIT	**Chita**	**51.31**	**14**	eP	**P**	**10 17 52.2**	**+0.3**
CIT				pmax	pmax		
	comp=Z,76nm,2.2s,mb5.2						
MAT	**Matsushiro**	**51.59**	**44**	P	**P**	**10 17 53.9**	**-0.1**
MAT				S	**S**	**10 25 20.0**	**+6.8**
MAT	**Matsushiro**	**51.59**	**44**	eP	**P**	**10 17 54.0**	**0.0**
MAT				eS	**S**	**10 25 20.0**	**+6.8**
MAT				MLR	MLR		
	comp=Z,710nm,20.0s,MS4.7						
MJAR	**Matsushiro Arr**	**51.59**	**44**	P	**P**	**10 17 54.4**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=239,slow=8.2,SNR=7.1						
MJAR				PcP	PcP	10 19 08.4	+0.8
	comp=Z,2.4nm,0.9s,baz=255,slow=5.1,SNR=5.4						
MJAR				LR	LR	10 42 34.8	
	comp=Z,298nm,18.4s,MS4.3,baz=245,slow=39						
MJAR	**Matsushiro Arr**	**51.59**	**44**	P	**P**	**10 17 54.4**	**+0.4**
MJAR						10 19 08.5	
QRN	**Al-Qurain**	**52.23**	**305**	eP	**P**	**10 17 59.0**	**+0.2**
QRN				AMb	AMB	10 18 06.4	
	comp=Z,46nm,0.8s,mb5.4						
RDF	**Al-Radifah**	**52.60**	**305**	eP	**P**	**10 18 02.2**	**+0.7**
RDF				AMb	AMB	10 18 05.0	
	comp=Z,28nm,0.5s,mb5.5						
PMG	**Port Moresby**	**52.69**	**104**	P	**P**	**10 18 02.7**	**+0.5**
	comp=Z,16nm,0.7s,mb5.1,baz=299,slow=3.0,SNR=12						
PMG	**Port Moresby**	**52.69**	**104**	eP	**P**	**10 18 02.4**	**+0.3**
	comp=Z,17nm,0.8s,mb5.0						
PMG				epP	pP	10 18 11.5	+1.2
PMG	**Port Moresby**	**52.69**	**104**	eP	**P**	**10 18 02.4**	**+0.2**
PMG				e*PP	pP	10 18 11.5	+1.2
PMG				pmax	pmax		
	comp=Z,17nm,0.8s						
NVS	**Novosibirsk**	**52.90**	**351**	iP	**P**	**10 18 01.9**	**-1.8**
NVS				eS	**S**	**10 25 30.1**	**-1.0**
NVS				pmax	pmax		
	comp=N,23nm,0.8s						
NVS				pmax	pmax		
	comp=E,12nm,0.8s						
NVS				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
NVS				smax			
	comp=N,21nm,1.5s						
NAY	**Al-Naaiem**	**52.97**	**305**	eP	**P**	**10 18 04.8**	**+0.5**
NAY				AMb	AMB	10 18 07.2	
	comp=Z,16nm,0.5s,mb5.2						
MIB	**Mutribah**	**53.08**	**306**	eP	**P**	**10 18 05.8**	**+0.7**
MIB				AMb	AMB	10 18 08.5	
	comp=Z,57nm,0.7s,mb5.6						
KRAR	**Krasnoyarsk**	**53.14**	**358**	eP	**P**	**10 18 05.9**	**+0.4**
KRAR				pmax	pmax		
	comp=Z,91nm,1.2s,mb5.6						
VOSK	**Vostochnaya**	**53.85**	**342**	P	**P**	**10 18 10.0**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BVA0	**Borovoye Array**	**54.29**	**341**	iP	**P**	**10 18 13.3**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**54.29**	**341**	P	**P**	**10 18 13.6**	**-0.3**
	comp=Z,15nm,0.6s,mb5.1,baz=146,slow=9.2,SNR=118						
BRVK	**Borovoye**	**54.36**	**341**	P	**P**	**10 18 14.7**	**+0.3**
	comp=Z,162nm,0.6s,SNR=21						
BRVK	**Borovoye**	**54.36**	**341**	eP	**P**	**10 18 13.8**	**-0.6**
	comp=Z,10nm,0.6s,mb4.9						
BRVK	**Borovoye**	**54.36**	**341**	eP	**P**	**10 18 13.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
CTA	**Charters Tower**	**54.55**	**117**	P	**P**	**10 18 16.8**	**+0.9**
	comp=Z,8.3nm,0.7s,mb4.9,baz=330,slow=7.2,SNR=4.3						
ZRNK	**Zerenda**	**54.68**	**341**	eP	**P**	**10 18 16.2**	**-0.6**
	comp=Z,13nm,0.7s,mb5.1						
ZRNK				epP	pP	10 18 23.0	-1.9
ZRNK	**Zerenda**	**54.68**	**341**	eP	**P**	**10 18 16.2**	**-0.6**
ZRNK				e*PP	pP	10 18 23.0	-2.0
ZRNK				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
AB31	**Akbulak array**	**55.44**	**332**	iP	**P**	**10 18 21.5**	**-0.7**
STKA	**Stephens Creek**	**55.52**	**132**	eP	**P**	**10 18 20.8**	**-2.0**
	comp=Z,5.0nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**55.52**	**132**	P	**P**	**10 18 21.2**	**-1.6**
	comp=Z,3.1nm,0.8s,mb4.4,baz=330,slow=11,SNR=5.7						
STKA				LR	LR	10 44 07.7	
	comp=Z,257nm,19.8s,MS4.3,baz=113,slow=38						
KLR	**Kul'dur**	**55.57**	**28**	eP	**P**	**10 18 20.2**	**-3.0**
KLR				e	pP	10 18 28.0	-3.4
KLR				pmax	pmax		
	comp=E,75nm,2.4s						
KLR				pmax	pmax		
	comp=Z,150nm,2.4s,mb5.6						
KLR				MLR	MLR		
	comp=N,900nm,14.0s,MS5.2						
KLR				MLR	MLR		
	comp=E,900nm,14.0s,MS5.2						
KLR				MLR	MLR		
	comp=Z,4μm,14.0s,MS5.6						
HABR	**Khabarovsk**	**56.66**	**30**	eP	**P**	**10 18 38.2**	**+7.2**
HABR				eS	**S**	**10 26 31.8**	**+10**
AKTK	**Aktyubinsk**	**57.15**	**332**	P	**P**	**10 18 34.0**	**-0.5**
AKTO	**Aktyubinsk**	**57.15**	**332**	P	**P**	**10 18 34.0**	**-0.5**
	comp=Z,5.3nm,0.6s,mb4.8,baz=132,slow=8.8,SNR=18						
AKTO	**Aktyubinsk**	**57.15**	**332**	P	**P**	**10 18 33.0**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.8						
ASAJ	**Asahikawa**	**58.35**	**38**	LR	LR	10 43 25.6	
	comp=Z,420nm,21.6s,MS4.5,baz=271,slow=36						
KMBO	**Kilima Mbogo**	**58.54**	**267**	P	**P**	**10 18 44.6**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.3,baz=44,slow=12,SNR=7.4						
KMBO				LR	LR	10 41 07.4	
	comp=Z,840nm,18.8s,MS4.9,baz=92,slow=33						
CLNS	**Chul'man**	**58.73**	**18**	eP	**P**	**10 18 46.6**	**+1.1**
CLNS				e*PP	pP	10 18 52.8	-0.9
CLNS				e		10 19 34.2	
CLNS				ePPP		10 22 27.8	
CLNS				pmax	pmax		
	comp=N,12nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
CLNS				MLR	MLR		
	comp=N,300nm,16.0s,MS4.9						
CLNS				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.3						
CLNS				MLR	MLR		
	comp=E,700nm,14.0s,MS4.9						
GNI	**Garni**	**59.13**	**316**	LR	LR	10 47 36.5	
	comp=E,161nm,18.9s,MS4.2,baz=213,slow=39						
GNI	**Garni**	**59.13**	**316**	eP	**P**	**10 18 48.9**	**+0.6**
GNI				epP	pP	10 18 59.3	+2.7
YSS	**Yuzh-Sakhalins**	**59.94**	**35**	eP	**P**	**10 18 53.9**	**0.0**
YSS	**Yuzh-Sakhalins**	**59.94**	**35**	eP	**P**	**10 18 53.8**	**-0.1**
YSS				pmax	pmax		
	comp=Z,106nm,2.3s,mb5.5						
SVE	**Sverdlovsk**	**60.69**	**339**	eP	**P**	**10 18 59.0**	**0.0**
SVE				e	pP	10 19 07.0	-0.3
SVE				e		10 21 18.0	
SVE				eS	**S**	**10 27 14.0**	**-0.1**
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,300nm,16.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.7						
ZEI	**Tsey**	**60.84**	**319**	iP	**P**	**10 18 55.5**	**-4.5**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
ARU	**Arti**	**61.17**	**337⇓**	iP	**P**	**10 19 01.2**	**-1.1**
ARU				eS	**S**	**10 27 16.3**	**-3.8**
ARU				eSS	SS	10 31 22.9	+2.6
ARU				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.3						
KIV	**Kislovodsk**	**62.15**	**319**	eP	**P**	**10 19 09.1**	**+0.2**
KIV	**Kislovodsk**	**62.15**	**319**	eP	**P**	**10 19 08.8**	**-0.1**
KIV				e		10 21 26.2	
KIV				eS	**S**	**10 27 27.4**	**-5.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.9						
KIV				MLR	MLR		
	comp=Z,174nm,18.0s,MS4.3						
MALT	**Malatya**	**62.97**	**312**	eP	**P**	**10 19 14.4**	**+0.1**
	comp=Z,4.1nm,1.1s,mb4.5						
MALT				epP	pP	10 19 22.1	-0.6
MALT	**Malatya**	**62.97**	**312**	eP	**P**	**10 19 14.4**	**+0.1**
MALT				e*PP	pP	10 19 22.1	-0.6
MALT				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
EIL	**Elat**	**63.35**	**302**	P	**P**	**10 19 19.0**	**+2.1**
SOC	**Sochi**	**63.96**	**318**	eP	**P**	**10 19 18.8**	**-2.1**
SOC				eS	**S**	**10 27 46.7**	**-8.4**
SOC				e		10 29 07.7	
SOC				eSS	SS	10 31 55.0	-8.8
SOC				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
SOKR	**Solikamsk**	**64.09**	**339⇓**	iP	**P**	**10 19 22.1**	**+0.3**
SOKR				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
SOKR				MLR	MLR		
	comp=Z,460nm,19.0s,MS4.7						
YAK	**Yakutsk**	**64.37**	**17**	eP	**P**	**10 19 21.9**	**-1.6**
	comp=Z,63nm,0.6s,mb5.8						
YAK				e	pP	10 19 29.6	-2.3
YAK	**Yakutsk**	**64.37**	**17**	eP	**P**	**10 19 23.2**	**-0.4**
YAK				e		10 19 52.5	
YAK				e		10 21 46.4	
YAK				e		10 29 16.1	
YAK				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
YAK				pmax	pmax		
	comp=N,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,11nm,1.5s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,5.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				MLR	MLR		
	comp=Z,776nm,17.0s,MS5.0						
YAK				MLR	MLR		
	comp=N,487nm,15.0s,MS4.9						
YAK				MLR	MLR		
	comp=E,302nm,17.0s,MS4.9						
ANN	**Anapa**	**65.94**	**318**	eP	**P**	**10 19 30.2**	**-3.6**
ANN				pmax	pmax		
	comp=Z,90nm,1.8s,mb5.5						
BR131	**Keskin Array S**	**66.95**	**312**	eP	**P**	**10 19 40.4**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.2						
BR131				e	pP	10 19 49.7	+1.1
BRTR	**Keskin Array B**	**66.95**	**312**	P	**P**	**10 19 39.4**	**-0.9**
	comp=Z,1.3nm,0.8s,mb4.0,baz=148,slow=5.8,SNR=8.7						
LSZ	**Lusaka**	**69.12**	**253**	LR	LR	10 44 55.6	
	comp=Z,471nm,21.6s,MS4.7,baz=242,slow=31						
MOS	**Moscow**	**70.23**	**329**	eP	**P**	**10 19 57.3**	**-3.4**
OBN	**Obninsk**	**70.51**	**328**	eP	**P**	**10 20 01.7**	**-0.7**
OBN	**Obninsk**	**70.51**	**328⇓**	iP	**P**

comp=Z,17nm,0.8s,mb5.0
KLMR Klimovskoe 71.70 335 *e*P **P 10 20 08.0 -1.7**
KLMR pmax pmax
comp=Z,40nm,1.3s,mb5.2
KLMR MLR MLR
comp=Z,740nm,18.0s,MS5.0
PET Petropavlovsk 71.80 34 *e*P **P 10 20 10.6 +0.4**
PET *e*S S 10 29 26.1 -2.8
PET pmax pmax
comp=Z,47nm,1.1s,mb5.3
PET MLR MLR
comp=Z,1μm,17.0s,MS5.2
TIXI Tiksi 71.93 11⇑*i*P **P 10 20 09.6 -1.4**
TIXI Tiksi 71.93 11⇓*i*P **P 10 20 07.5 -3.5**
TIXI *e*PPP 10 24 36.3
TIXI pmax pmax
comp=Z,27nm,1.2s,mb5.0
TIXI MLR MLR
comp=Z,520nm,15.0s,MS4.9
SEY Seymchan 72.94 24⇓*i*P **P 10 20 16.7 -0.3**
SEY Seymchan 72.94 24 *e*P **P 10 20 13.7 -3.3**
SEY 10 20 34.2
SEY 10 22 58.2
SEY *e*PPP 10 24 44.6
SEY *e*S S 10 29 31.2 -11
SEY *e* 10 30 15.0
SEY SS SS 10 34 15.9 -6.7
SEY *e*SSS 10 37 37.2
SEY pmax pmax
comp=Z,18nm,1.2s,mb4.9
SEY pmax pmax
comp=E,5.0nm,0.7s
SEY smax
comp=N,160nm,18.9s
SEY smax
comp=E,577nm,39.4s
SEY MLR MLR
comp=Z,940nm,23.0s,MS5.0
SEY MLR MLR
comp=N,680nm,27.0s,MS5.0
SEY MLR MLR
comp=E,810nm,22.0s,MS5.0
AKASG Malin Array Be 73.11 322 P **P 10 20 16.8 -1.3**
comp=E,0.9nm,0.4s,mb4.0,baz=92,slow=4.5,SNR=13
AKASG Malin Array Be 73.11 322 P **P 10 20 16.8 -1.3**
MAW Mawson 73.89 192 LR LR 10 48 51.2
comp=E,293nm,18.3s,MS4.6,baz=269,slow=33
MLR Muntele Rosu 73.90 317 P **P 10 20 22.4 -0.3**
comp=E,5.8nm,0.9s,mb4.5,baz=112,slow=8.4,SNR=6.8
BOSA Boshof 74.25 239 LR LR 10 50 36.7
comp=E,483nm,18.4s,MS4.8,baz=46,slow=34
JOF Joensuu 76.10 335 *e*p **P 10 20 33.4 -2.0**
comp=E,4.8nm,0.9s,mb4.4
KOLS Kolonicke sedl 77.06 320 *e*P **P 10 20 41.8 +1.0**
KOLS *e*pP pP 10 20 49.2 -0.1
CRVS Cervenica-Dubn 77.58 319 *e*pP pP 10 20 50.5 -1.7
STHS Stebnicka Huta 77.81 320 *e*P **P 10 20 44.4 -0.6**
STHS *e*pP pP 10 20 53.4 -0.1
FINES FINESS Array B 77.93 333 P **P 10 20 45.3 -0.4**
comp=E,3.9nm,0.8s,mb4.4,baz=97,slow=6.0,SNR=7.5
FINES LR LR 11 00 25.3
comp=E,313nm,19.9s,MS4.6,baz=236,slow=40
KAF Kangasniemi 78.02 333 *e*p **P 10 20 44.9 -1.3**
comp=E,3.6nm,0.6s,mb4.5
KAF Kangasniemi 78.02 333 *e*P **P 10 20 44.9 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KECS Kecovo 78.14 319 *e*P **P 10 20 47.3 +0.4**
KECS *e*pP pP 10 20 56.3 +0.9
OJC Ojcow 78.87 321 *e*P **P 10 20 48.6 -2.3**
VYHS Vyhne 79.23 319 *e*P **P 10 20 52.5 -0.3**
VYHS *e* 10 21 07.6
BILL Bilibino 80.26 21 *e*P **P 10 20 57.3 -1.1**
comp=Z,4.0nm,0.6s,mb4.5
BILL Bilibino 80.26 21 *e*P **P 10 20 57.3 -1.1**
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ARCES ARCESS Array B 80.57 340 P **P 10 20 59.4 -0.7**
comp=Z,2.8nm,0.5s,mb4.4,baz=86,slow=5.2,SNR=21
ARCES LR LR 11 02 02.8
comp=Z,438nm,18.8s,MS4.8,baz=1.7,slow=40
GERES GERESS Array B 82.65 319 P **P 10 21 11.1 0.0**
comp=Z,1.9nm,0.9s,mb4.1,baz=104,slow=5.6,SNR=14
HFS Hagfors 83.62 330 P **P 10 21 15.9 -0.2**
comp=Z,2.5nm,0.6s,mb4.5,baz=120,slow=5.3,SNR=8.2
GRA1 Grafenberg Arr 84.32 319 *e*P **P 10 21 14.5 -5.2**
comp=Z,5.0nm,1.1s,mb4.6
GRF Grafenberg Arr 84.32 319 *e*P **P 10 21 14.5 -5.2**
comp=Z,5.0nm,1.1s,mb4.6
GRF Grafenberg Arr 84.32 319 *e*P **P 10 21 14.5 -5.2**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
GRF Grafenberg Arr 84.32 319 *e*P **P 10 21 14.5 -5.2**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
NB2 NORSAR Subarra 84.92 331 P **P 10 21 21.7 -1.0**
comp=Z,9.0nm,1.2s,mb4.8,baz=95,slow=5.1
NB2 NORSAR Subarra 84.92 331 P **P 10 21 21.7 -1.0**
NB2 pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
NOA NORSAR Array B 84.92 331 P **P 10 21 21.6 -1.1**
comp=Z,1.9nm,0.9s,mb4.2,baz=96,slow=5.4,SNR=3.8
NOA LR LR 11 02 51.2
comp=Z,171nm,20.8s,MS4.4,baz=70,slow=38
DAVOX Davos 85.13 317 P **P 10 21 23.8 0.0**
comp=Z,3.8nm,0.6s,mb4.7,baz=9.8,slow=8.3,SNR=4.2
LPG La Plagne 87.30 315 *e*P **P 10 21 33.9 -0.6**
comp=Z,13nm,1.0s,mb4.8
LPG La Plagne 87.30 315 *e*P **P 10 21 33.9 -0.6**
comp=Z,6.3nm,1.0s,mb4.8
LPG La Plagne 87.30 315 *e*P **P 10 21 33.9 -0.6**
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
VNDA Vanda 87.64 169 LR LR 10 55 41.7
comp=Z,225nm,18.1s,MS4.6,baz=297,slow=32
EKA Eskdalemuir Ar 92.78 326 P **P 10 21 59.7 -0.4**
comp=Z,1.2nm,0.7s,mb4.5,baz=88,slow=5.9,SNR=5.8
TORD Torodi Ar. Bea 93.26 283 P **P 10 22 03.5 +1.2**
comp=Z,0.3nm,0.5s,mb4.0,baz=103,slow=6.2,SNR=5.2
ILAR Eielson Array 98.86 23 P **P 10 22 25.5 -2.2**
comp=Z,0.2nm,0.6s,mb3.9,baz=294,slow=3.2,SNR=4.3
ILAR PP PP 10 26 29.4 0.0
comp=Z,0.6nm,0.7s,baz=294,slow=6.0,SNR=6.8
ILAR PKKPbc PKKPbc 10 38 59.0 +4.4
comp=Z,0.2nm,0.7s,baz=128,slow=1.9,SNR=5.7
ILAR LR LR 11 12 49.3
comp=Z,178nm,18.6s,MS4.6,baz=167,slow=39
ILAR Eielson Array 98.86 23 P **P 10 22 25.5 -2.2**
ILAR 10 26 29.4
YKA Yellowknife Ar 110.98 15 PP PP 10 27 54.7 -4.5
comp=Z,0.6nm,0.6s,baz=331,slow=7.8,SNR=12
YKA PKKPbc PKKPbc 10 38 18.8 +0.9
comp=Z,0.1nm,0.5s,baz=141,slow=3.2,SNR=4.2
TBI Tubuai 113.87 114 *e*LR LR 11 01 32.8
comp=Z,314nm,29.8s
PPT Papeete 114.40 108 *e*LR LR 11 01 48.0
comp=Z,190nm,26.2s
TAOE Nuku Hiva Isla 124.17 99 *e*LR LR 11 06 20.1
comp=Z,488nm,27.5s
ULM Lac du Bonnet 126.27 9 PKP PKPdf 10 27 49.5 -0.7
comp=Z,0.7nm,0.3s,baz=8.7,slow=9.9,SNR=2.9
NVAR Mina Array Bea 128.38 34 PKP PKPdf 10 27 56.3 +2.1
comp=Z,0.5nm,0.6s,baz=0.3,slow=1.1,SNR=5.4
PDAR Pinedale Array 129.27 24 PKP PKPdf 10 27 55.6 -0.3
comp=Z,0.5nm,0.7s,baz=89,slow=0.9,SNR=4.7
JCT Junction City 143.79 23 *e*PKPdf PKPdf 10 28 21.7 -1.0
CPUP Villa Florida 145.08 225 PKPbc PKPbc 10 28 26.2 +1.7
comp=Z,1.3nm,0.5s,baz=35,slow=2.1,SNR=6.1
CPUP Villa Florida 145.08 225 *e*PKIKP PKPdf 10 28 25.4 +0.4
CPUP *e* 10 28 32.4
LPAZ La Paz 159.16 229 PKPab PKPab 10 29 25.9 +3.2
comp=Z,1.1nm,0.6s,baz=112,slow=3.7,SNR=4.7

*NEIC **22** 10:14:14.5, 3821N×2736E, h57km, MD3.2(ATH), After ATH.*
*ATH **22** 10:14:15.2, 3823N×2732E, h44km±5km, MD3.2/3*
*ISK **22** 10:14:17.3, 3790N×2695E, h16km, MD2.6*
*CSEM **22** 10:14:18.7±0.2, 3815N×2669E, h20km, MD2.6, Error ellipse: s-maj=5.4km s-min=3.8km az=111.0*
*ISCJB **22** 10:14:19.7±0.7, 3818N±004×2664E±007, h27km±8km, Error ellipse: s-maj=9.7km s-min=6.6km az=35.3*
ISC 22 10:14:19.8±0.8, 3819N±004×**2665E**±007, **h24**km±10km, **n10**, σ1§**20**/18, **1C, Aegean Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SMG Samos 0.50 162⇑*i*P **Pb 10 14 29.6 -0.4**
SMG *e*S **Sb 10 14 38.4 +1.5**
IZM Izmir 0.53 66 *e*PG **Pb 10 14 28.5 -2.0**
IZM *e*SG **Sb 10 14 37.3 -0.4**
PRK Paraskevi 1.10 345 *e*P **Pn 10 14 37.3 -2.5**
PRK *e*S **Sb 10 14 55.3 +1.2**
AKS Akhisar 1.15 53 *e*PN **Pn 10 14 40.9 +0.5**
AKS *e*SN **Sn 10 14 56.4 +1.0**
BODT Bodrum 1.24 155 *e*PG **Pn 10 14 34.5 -7.2**
APE Apeiranthos 1.42 219 *e*PN **Pn 10 14 43.5 -0.7**
APE *e*SN **Sn 10 15 00.9 -1.3**
APE Apeiranthos 1.42 219 *e*P **Pn 10 14 45.5 +1.3**
APE *e*S **Sn 10 15 08.0 +5.8**
APE Apeiranthos 1.42 219 *e*P **Pn 10 14 44.2 0.0**
APE *e*Sn **Sn 10 15 00.9 -1.3**
APE Apeiranthos 1.42 219 *e*P **Pn 10 14 44.2 0.0**
APE *e*S **Sn 10 15 08.0 +5.8**
LIA Limnos Island 2.06 327 *e*P **Pn 10 14 53.4 +0.5**

*NIED **22** 11:16:00, 3790N×1442E, h23km, Mw4.2 Best double couple: M0=2.32000×10^15 NP1:ϕs=228.00000°, δ51.00000°, λ113.00000°. NP2:ϕs=13.00000°, δ44.00000°, λ64.00000°.*
*JMA **22** 11:16:15.8±0.2, 3786N×1424E, h36km±3km, M4.5*
JMA Felt II J1.
*ISCJB **22** 11:16:16.5±0.4, 3781N±004×1424E±004, h33km, mb4.3/29, MS4.0/2, Error ellipse: s-maj=5.6km s-min=4.5km az=117.2*
*MOS **22** 11:16:16.8±1.2, 3783N×1424E, h33km, mb4.6/9, Error ellipse: s-maj=12.6km s-min=10.0km az=94.3*
*BJI **22** 11:16:16.5, 3754N×1427E, h42km, mB4.7, mb4.4, Ms4.0, Msz3.5*
*IDC **22** 11:16:18.5±0.6, 3781N×1424E, h33km±4km, mb3.7/15, mb1 3.9/18, mb1mx3.8/26, mbtmp3.9/18, ML3.8/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/25, Error ellipse: s-maj=17.5km s-min=12.0km az=105.0*
*NEIC **22** 11:16:18.2±0.5, 3771N×1425E7, mb4.7/6, MW4.2(NIED), Error ellipse: s-maj=13.1km s-min=10.6km az=141.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Miyagi Prefectures.
ISC 22 11:16:13.6±1.2, 3783N±004×**1424 3E**±005, **h0**km±7km, **n75**, σ1§**13**/85, **mb4.3**/29, **MS4.0**/2, **1C-8D, Off east coast of Honshu**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JIO Ouri 1.05 307⇓P **Pg 11 16 34.3 +0.5**
JIO *e*S **Sg 11 16 47.8 +0.4**
JMM Marumori 1.29 272⇓P **Pn 11 16 38.1 -0.8**
JMM S **Sg 11 16 53.3 -1.8**
JFK Kawauchi 1.31 250⇓P **Pn 11 16 38.5 -0.7**
JFK S **Sg 11 16 54.1 -1.7**
JMK Ichinoseki 1.47 320⇓P **Pn 11 16 40.3 -1.0**
JOU Okura 1.49 292⇓P **Pn 11 16 41.3 -0.3**
JFT Otama 1.69 260⇓P **Pn 11 16 44.7 +0.4**
JFT S **Sn 11 17 04.9 -1.7**
JOM Ohasama 1.87 332 P **Pn 11 16 46.2 -0.6**
JOM S **Sn 11 17 10.5 -0.5**
JYS Shiratake 1.90 283 P **Pn 11 16 47.4 +0.1**
JYS *e*S **Sn 11 17 11.4 -0.6**
JYK Kaneyama 1.95 304⇓P **Pn 11 16 48.0 0.0**
MJAR Matsushiro Arr 3.60 250 Pn **Pn 11 17 11.7 +1.0**
5.2nm,0.3s,baz=60,slow=12,SNR=42
MJAR Sn **Sn 11 17 54.6 +0.7**
11nm,0.3s,baz=78,slow=32,SNR=4.5
MAJO Matsushiro 3.60 250 *e*Pn **Pn 11 17 12.7 +2.1**
MAT Matsushiro 3.60 250 P **Pn 11 17 12.6 +1.9**
MAT S **Sn 11 17 55.1 +1.2**
MAT Matsushiro 3.60 250 *e*P **Pn 11 17 13.0 +2.3**
MAT *e*S **Sn 11 17 55.0 +1.1**
JHJ Hachijo jima 2 5.17 205 Pn **Pn 11 17 32.9 +0.7**
62nm,0.3s,baz=75,slow=8.1,SNR=30
JHJ Sn **Sn 11 18 30.0 -2.5**
105nm,0.3s,baz=79,slow=23,SNR=6.5
JHJ LR LR 11 19 55.5
comp=Z,225nm,18.3s,baz=127,slow=42
ASAJ Asahikawa 6.28 1 Pn **Pn 11 17 47.9 +0.4**
1.4nm,0.3s,baz=231,slow=13,SNR=6.5
ASAJ Sn **Sn 11 18 55.2 -4.8**
0.7nm,0.3s,baz=255,slow=20,SNR=2.8
ASAJ LR LR 11 21 11.7
comp=Z,183nm,18.9s,baz=6.4,slow=46
ASAJ Asahikawa 6.28 1 P **Pn 11 17 47.9 +0.4**
ASAJ 11 18 55.2
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ smax
comp=N,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,183nm,19.0s
YUK Yuzh-Kuril'sk 6.72 22 P **Pn 11 18 01.4 +7.9**
YUK *e*S **Sn 11 19 03.5 -7.3**
YUK smax
comp=N,270nm,0.5s
KS15 Wonju Array Si 11.54 273 *e*Pn **Pn 11 19 04.9 +5.4**
MDJ Mudanjiang 11.80 309 *e*Pn **Pn 11 19 09.0 +5.9**
comp=N,9.5nm,1.0s
CIT Chita 24.68 314 *e*P **P 11 21 45.8 +10**
CIT pmax pmax
comp=Z,39nm,1.7s,mb4.9
SONM Songino Array 28.02 302 P **P 11 22 07.0 +0.7**
comp=Z,1.2nm,0.6s,mb3.9,baz=102,slow=8.1,SNR=8.4
ENH Enshi 28.21 264 *e*P **P 11 22 08.1 +0.1**
comp=Z,10nm,0.7s,mb4.8
ZAK Zakamensk 30.42 307 *e*P **P 11 22 30.6 +3.0**
ZAK pmax pmax
comp=Z,5.0nm,1.8s,mb4.0
KMI Kunming 35.88 261 P **P 11 23 19.8 +4.6**
KMI AP 11 23 25.9
KMI XP sP 11 23 29.1 +14
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.3
KMI LR LR
comp=Z,42nm,16.1s,MS3.3
NVS Novosibirsk 42.88 313 *e*P **P 11 24 20.7 +7.1**
MKAR Makanchi Array 44.38 302 P **P 11 24 25.8 0.0**
comp=Z,1.0nm,0.6s,mb3.7,baz=94,slow=9.5,SNR=12
KURK Kurchatov 46.08 308 *e*P **P 11 24 38.5 -0.8**
comp=Z,13nm,0.8s,mb5.0
KURK *e*pP 11 24 46.4
KURK Kurchatov 46.08 308 *e*P **P 11 24 38.5 -0.7**
KURK *e**PP 11 24 46.4
KURK pmax pmax
comp=Z,13nm,0.8s,mb5.0
MCK McKinley 47.52 34 P **P 11 24 50.0 -0.5**
comp=Z,17nm,2.1s,mb4.8
MCK McKinley 47.52 34 P **P 11 24 50.0 -0.6**
MCK pmax pmax
comp=Z,17nm,2.1s,mb4.8
JIRN Jiri 47.75 275 *e*P **P 11 24 55.3 +3.0**
JIRN Jiri 47.75 275 *e*P **P 11 24 56.4 +4.1**
comp=Z,13nm,0.8s,mb5.1
GUN Gumba 47.88 275 *e*P **P 11 24 56.9 +3.6**
GUN Gumba 47.88 275 *e*P **P 11 24 57.0 +3.7**
comp=Z,19nm,0.7s,mb5.3
ILAR Eielson Array 48.39 33 P **P 11 24 57.1 -0.1**
comp=Z,0.7nm,0.8s,mb3.8,baz=263,slow=5.9,SNR=10
ILAR pP 11 25 07.1
comp=Z,0.9nm,0.8s,baz=266,slow=5.6,SNR=6.1
PKI Pulchoki 48.41 275 *e*P **P 11 24 59.1 +1.7**
KKN Kakani 48.41 276 *e*P **P 11 25 00.8 +3.4**
KKN Kakani 48.41 276 *e*P **P 11 25 01.1 +3.7**
DMN Daman 48.63 276 *e*P **P 11 24 59.9 +0.8**
comp=Z,5.9nm,0.4s,mb4.9
DMN Daman 48.63 276 *e*P **P 11 25 04.1 +5.0**
GKN Gorkha 48.82 276 *e*P **P 11 25 02.8 +2.3**
GKN Gorkha 48.82 276 *e*P **P 11 25 03.6 +3.1**
KOLN Koldanda 49.74 277 *e*P **P 11 25 11.2 +3.6**
comp=Z,12nm,0.9s,mb4.8
KOLN Koldanda 49.74 277 *e*P **P 11 25 11.3 +3.7**
BVAR Borovoye Array 50.64 312 P **P 11 25 14.1 -0.3**
comp=Z,0.7nm,0.5s,mb3.9,baz=59,slow=9.0,SNR=5.8
BRVK Borovoye 50.69 312 *e*P **P 11 25 16.9 +2.0**
comp=Z,0.7nm,0.7s,mb3.7
BRVK *e*pP 11 25 24.5
BRVK Borovoye 50.69 312 *e*P **P 11 25 16.9 +2.1**
BRVK *e**PP 11 25 24.5
BRVK pmax pmax
comp=Z,1.0nm,0.7s,mb3.9

ZRNK Zerenda 51.47 312 *e*P **P 11 25 19.7 -1.0**
comp=Z,5.9nm,1.1s,mb4.4
ZRNK *e*pP 11 25 28.8
ZRNK Zerenda 51.47 312 *e*P **P 11 25 19.7 -1.0**
ZRNK *e**PP 11 25 28.8
ZRNK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
INK Inuvik 53.31 27 P **P 11 25 34.1 -0.3**
comp=Z,0.4nm,0.5s,mb3.6,baz=284,slow=4.5,SNR=6.3
WRAB Tennant Creek 57.95 189 *e*P **P 11 26 07.3 -0.4**
comp=Z,7.6nm,0.7s,mb4.8
WRAB Tennant Creek 57.95 189 *e*P **P 11 26 07.3 -0.4**
WRAB pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WB2 Warramunga Arr 57.96 189 *e*P **P 11 26 06.9 -0.9**
WRA Warramunga Arr 57.96 189 P **P 11 26 07.8 0.0**
comp=Z,7.5nm,0.8s,mb4.8,baz=6.5,slow=7.1,SNR=55
WRA pP 11 26 17.4
comp=Z,2.3nm,0.8s,baz=6.7,slow=7.1,SNR=5.0
AKTK Aktyubinsk 58.74 312 P **P 11 26 12.6 -0.6**
AKTO Aktyubinsk 58.74 312 P **P 11 26 12.6 -0.6**
comp=Z,1.4nm,0.9s,mb4.0,baz=70,slow=15,SNR=2.9
AKTO Aktyubinsk 58.74 312 P **P 11 26 12.6 -0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
ASAR Alice Springs 61.69 189 P **P 11 26 33.6 +0.2**
comp=Z,2.1nm,0.7s,mb4.5,baz=14,slow=6.5,SNR=29
YKA Yellowknife Ar 62.72 31 P **P 11 26 39.6 -0.7**
comp=Z,0.3nm,0.8s,mb3.5,baz=303,slow=6.7,SNR=7.9
YKA pP 11 26 49.9
comp=Z,0.5nm,0.8s,baz=305,slow=6.6,SNR=7.8
YKA Yellowknife Ar 62.72 31 P **P 11 26 39.6 -0.7**
YKA *PP 11 26 49.9
YKA pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 68.49 332 P **P 11 27 17.2 -0.4**
comp=Z,1.3nm,0.8s,mb4.2,baz=25,slow=14,SNR=3.2
FINES pP 11 27 27.1
comp=Z,0.9nm,0.6s,baz=34,slow=10,SNR=2.5
FINES FINESS Array B 68.49 332 P **P 11 27 17.2 -0.4**
FINES *PP 11 27 27.1
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 69.35 181 P **P 11 27 21.3 -1.7**
comp=Z,1.8nm,0.7s,mb4.4,baz=315,slow=6.5,SNR=3.6
STKA Stephens Creek 69.35 181 P **P 11 27 21.3 -1.7**
HFS Hagfors 73.69 336 P **P 11 27 48.3 -0.8**
comp=Z,1.3nm,0.7s,mb4.1,baz=28,slow=6.7,SNR=5.0
HFS Hagfors 73.69 336 P **P 11 27 48.3 -0.9**
HFS pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 73.76 338 P **P 11 27 49.4 -0.2**
comp=Z,1.1nm,0.8s,mb3.9,baz=40,slow=6.1,SNR=2.5
AKASG Malin Array Be 74.16 323 P **P 11 27 51.0 -0.9**
comp=Z,0.9nm,0.5s,mb4.1,baz=44,slow=5.7,SNR=5.6
PDAR Pinedale Array 76.54 46 P **P 11 28 05.9 +0.3**
comp=Z,0.9nm,1.2s,mb3.8,baz=277,slow=2.5,SNR=3.6
MUD Monsted U'grnd 78.07 336 *i* P **P 11 28 17.0 +2.8**
comp=Z,6.6nm,0.4s,mb5.1
MUD
comp=Z,250nm,16.0s
MUD Monsted U'grnd 78.07 336 *e*P **P 11 28 17.0 +2.8**
MUD pmax pmax
comp=Z,7.0nm,0.4s,mb5.1
MUD MLR MLR
comp=Z,260nm,16.0s,MS4.7
SALA Sala 81.49 305⇑P **P 11 28 37.5 +4.7**
DOU Dourbes 84.88 334⇓P **P 11 28 49.9 -0.3**
DOU XP sP 11 29 01.4 +11
DOU E 11 29 08.4
LPAZ La Paz 145.60 60 PKPbc PKPbc 11 35 54.8 +0.8
comp=Z,1.8nm,0.8s,baz=9.1,slow=6.4,SNR=7.1
LPAZ pPKPbc pPKPbc 11 36 05.3 +11
comp=Z,1.4nm,0.8s,baz=39,slow=13,SNR=3.3
LPAZ La Paz 145.60 60 PKP2 PKPab 11 35 54.8 +0.6
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ pmax pmax
comp=Z,1.0nm,0.9s

*ISCJB **22** 11:26:16.4±0.2, 4408N±0008×2009E±001, h6km±1km, mb4.5/60, MS4.2/22, Error ellipse: s-maj=1.5km s-min=1.3km az=85.9*
*MOS **22** 11:26:16.7±0.9, 4406N×2004E, h10km, mb4.8/17, MS4.1/8, Error ellipse: s-maj=3.0km s-min=2.1km az=109.3*
*CSEM **22** 11:26:16.1, 4407N×2007E, h2km, mb4.8*
*LDG **22** 11:26:16.8±0.1, 4408N×2006E, h10km, Ml4.9/23, ms3.9/6, Error ellipse: s-maj=2.6km s-min=2.1km az=31.0*
*PDG **22** 11:26:17.2±0.8, 4405N×2017E, h11km±2km*
*BEO **22** 11:26:17.5±0.3, 4408N×2011E, h13km*
*IDC **22** 11:26:17.4±0.5, 4406N×1998E, h0km, mb4.3/18, mb1 4.4/28, mb1mx4.4/32, mbtmp4.3/28, ML4.3/11, MS4.0/16, Ms1 4.0/16, ms1mx3.8/34, Error ellipse: s-maj=9.5km s-min=7.9km az=38.0*
*BJI **22** 11:26:17.4, 4467N×1985E, h10km, mB5.1, mb4.7, Ms4.9, Msz4.4*
*SKO **22** 11:26:17.6, 4406N×2014E, h7km*
*HRVD **22** 11:26:18.8±0.7, 4399N×2012E, h14km±3km, MW4.8/61, Centroid moment Tensor Solution. LP body waves: s14,c14;Mantle waves: s61,c90; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.10±.10; Mθθ0.74±.10; Mφφ-0.85±.11; Mrθ0.07±.23; Mrφ1.55±.11; Mθφ0.19±.23; Best double couple: M0=1.75500×10^16 NP1:ϕs=104.00000°, δ83.00000°, λ1.00000°. NP2:ϕs=14.00000°, δ89.00000°, λ173.00000°. Principal axes: T 1.7070, Plg6.0000°, Azm328.0000°; N 0.0960, Plg83.0000°, Azm181.0000°; P -1.8040, Plg4.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 11:26:18.8±0.1, 4404N×2012E, h10km, mb4.6/37, MS3.7/1, ML4.3(BUC), ML4.6(PDG), ML4.9(THE) Error ellipse: s-maj=1.7km s-min=1.5km az=217.0*
NEIC Felt at Belgrade, Cacak, Gorni Milanovac, Kralevo, Uzice and Valjevo. Also felt at Chirpan and Montana, Bulgaria.
*PRU **22** 11:26:18.4, 4412N×2009E, h0km, M4.6*
*SZGRF **22** 11:26:19.8, 4409N×2021E, h10km, mb4.9, Northwestern Balkan Peninsula*
*IPEC **22** 11:26:20.0±0.2, 4410N×2015E, h21km±2km, Error ellipse: s-maj=1.5km s-min=0.8km az=36.0*
*STR **22** 11:26:21.8±9.3, 4415N×2016E, h10km±1km, Ml4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 22 11:26:17.9±0.2, 4406 2N±0008×**2012E**±001, **h3**km±1km, **h14**km±1.7km:**pP-P, n685**, σ1§**09**/833, **mb4.5**/60, **MS4.2**/22, **65C-42D, Northwestern Balkan Peninsula**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DIVS Divcibare 0.10 291⇓*i*Pg **Pg 11 26 20.4 +0.5**
DIVS Sg **Sg 11 26 22.4 +1.2**
DIVS Divcibare 0.10 291 *e*P **Pg 11 26 20.4 +0.5**
GRUS Gruza 0.46 112 *i* Pg **Pg 11 26 26.4 -0.4**
GRUS Sg **Sg 11 26 33.0 +0.2**
GRUS Gruza 0.46 112 P **Pg 11 26 25.9 -0.9**
BBLS Bajina Basta - 0.55 250 *i* Pg **Pg 11 26 28.7 +0.2**
BBLS Sg **Sg 11 26 36.0 +0.5**
BEO Belgrade 0.80 17 *i* Pg **Pg 11 26 32.6 -0.6**
BEO Sg **Sg 11 26 43.6 +0.1**
BEO Belgrade 0.80 17 P **Pg 11 26 32.5 -0.7**
SJES Sjenica 0.80 189 Pg **Pg 11 26 32.6 -0.7**
SJES Sn **Sg 11 26 43.8 0.0**
SVIS Svilajnac 0.83 73⇓*i*Pg **Pg 11 26 33.7 -0.1**
SVIS Sg **Sg 11 26 44.9 +0.4**
SVIS Svilajnac 0.83 73 P **Pg 11 26 33.3 -0.5**
PLE Pljevlja 0.90 216⇓*i*Pg **Pg 11 26 34.0 -1.2**
PLE *e*Sg **Sg 11 26 47.8 +0.9**
IVA Berane 1.20 188⇑*i*Pg **Pg 11 26 39.3 -1.6**
IVA *e*Sg **Sg 11 26 57.6 +1.1**
UPM Unac-Piva 1.23 226⇓*i*Pg **Pg 11 26 40.1 -1.4**
UPM *e*Sg **Sg 11 26 59.6 +2.2**
BOLS Boljevac 1.35 99 *i* Pg **Pg 11 26 41.9 -1.9**
BOLS Sg **Sg 11 27 02.2 +0.9**
PVY Plav 1.47 184⇑*i*Pg **Pg 11 26 44.1 -2.0**
PVY *e*Sg **Sg 11 27 06.0 +0.8**
NKY Niksic 1.49 214⇓*i*Pg **Pg 11 26 44.5 -2.0**

NKY *e*Sg **Sg** **11 27 07.2 +1.3**
NKY Niksic 1.49 214 ⇓*i*Pg **Pg** **11 26 44.5 -2.0**
BRY Bratogost 1.63 225 ⇓*i*Pn **Pn** **11 26 46.8 -0.8**
BRY *e*Sn **Sn** **11 27 10.6 +1.5**
BCI Bajram Curri 1.69 181 *i* Pn **Pn** **11 26 47.6 -0.8**
BCI *i* Sn **Sn** **11 27 10.0 -0.6**
TTG Podgorica 1.75 201 ⇑*i*Pn **Pn** **11 26 48.2 -0.9**
TTG *e*Sn **Sn** **11 27 13.1 +1.2**
DJES Djerdap 1.82 71 *i* Pn **Pn** **11 26 50.1 0.0**
DJES Sg **Sg** **11 27 14.9 -1.4**
DJES Djerdap 1.82 71 Pn **Pn** **11 26 50.1 0.0**
DJES Sg **Sg** **11 27 14.9 -1.4**
TREB Trebinje 1.86 224 P **Pn** **11 26 50.4 -0.3**
TREB S **Sn** **11 27 16.1 +1.3**
BZS Buzias 1.88 34 ⇓P **Pn** **11 26 50.3 -0.7**
BZS Buzias 1.88 34 P **Pn** **11 26 49.9 -1.1**
BUM Brajici-Budva 1.97 207 ⇑*i*Pn **Pn** **11 26 52.3 +0.1**
BUM *e*Sn **Sn** **11 27 19.0 +1.5**
HCY Herceg Novi 2.00 217 ⇓*i*Pn **Pn** **11 26 52.5 -0.1**
HCY *e*Sn **Sn** **11 27 19.4 +1.2**
PUK Puka 2.02 185 *i* Pn **Pn** **11 26 52.7 -0.3**
SDA Shkodra 2.06 193 *i* Pn **Pn** **11 26 55.7 +2.3**
SDA *i* Sn **Sn** **11 27 22.3 +2.7**
SDA Shkodra 2.06 193 *i* Sn **Sn** **11 27 22.3 +2.7**
STON Ston 2.13 237 *i* Pn **Pn** **11 26 54.0 -0.3**
STON *i* Sn **Sn** **11 27 22.1 +0.8**
STON Ston 2.13 237 *i* Pn **Pn** **11 26 54.0 -0.3**
STON *i* Sn **Sn** **11 27 21.7 +0.4**
STON Ston 2.13 237 *i* Pn **Pn** **11 26 54.0 -0.3**
STON *i* Sn **Sn** **11 27 21.6 +0.3**
ULC Ulcinj 2.19 197 ⇓*i*Pn **Pn** **11 26 55.4 +0.2**
ULC *e*Sn **Sn** **11 27 23.6 +0.7**
BLY Banja Luka 2.21 289 P **Pn** **11 26 55.1 -0.5**
BLY S **Sn** **11 27 24.4 +1.0**
RHK3 Tenkes 2.26 325 Pg **Pg** **11 27 01.4 +0.2**
RHK3 Tenkes 2.26 325 ⇑*i*P **Pn** **11 26 55.6 -0.5**
RHK3 Pg **Pg** **11 27 01.4 +0.2**
RHK3 *e*S **Sn** **11 27 27.0 +2.5**
SKO Skopje 2.30 155 *e*P **Pn** **11 26 56.2 -0.5**
SKO Skopje 2.30 155 *i* Pn **Pn** **11 26 56.1 -0.7**
SKO Skopje 2.30 155 P **Pn** **11 26 56.2 -0.5**
SKO S **Sg** **11 27 34.8 +2.9**
KOZJ Kozjak Brana 2.32 160 ⇑*i*Pn **Pn** **11 26 56.0 -1.1**
KOZJ *i* 11 27 01.2
KOZJ *i* Sn **Sg** **11 27 33.1 +0.6**
PKSM Moragy 2.39 335 Pg **Pg** **11 27 03.3 -0.5**
PKSM *e*S **Sn** **11 27 30.6 +2.8**
PKSM Moragy 2.39 335 ⇑*i*P **Pn** **11 26 57.4 -0.6**
PKSM Pg **Pg** **11 27 03.3 -0.5**
PKSM *e*S **Sn** **11 27 30.6 +2.8**
LACI Lac 2.44 187 *i* Pn **Pn** **11 26 59.6 +0.9**
LACI *i* Sn **Sn** **11 27 31.5 +2.4**
LACI Lac 2.44 187 *i* Sn **Sn** **11 27 31.5 +2.4**
SAMO Samokov 2.48 162 ⇑*i*Pn **Pn** **11 26 58.5 -0.8**
SAMO *i* Sn **Sg** **11 27 37.1 -0.7**
PKS2 Kecel 2.51 346 ⇑*i*P **Pn** **11 26 59.6 -0.1**
BELI Belica 2.52 160 ⇑*i*Pn **Pn** **11 26 58.6 -1.2**
BELI *i* Sn **Sg** **11 27 39.8 +0.7**
PKS6 Bocsa 2.57 351 ⇑*e*P **Pn** **11 27 00.3 -0.1**
VTS Vitosha 2.69 122 *e*P **Pn** **11 27 01.3 -0.8**
VTS Vitosha 2.69 122 P **Pn** **11 27 01.3 -0.8**
VTS S **Sn** **11 27 42.2 +7.0**
SOF Sofiya 2.72 119 P **Pn** **11 27 04.0 +1.5**
TIR Tirane 2.72 184 *e*P **Pn** **11 27 01.2 -1.3**
TIR Tirane 2.72 184 P **Pn** **11 27 01.2 -1.3**
TIR S **Sn** **11 27 41.8 +5.9**
STIP Stip 2.81 147 ⇑*i*Pn **Pn** **11 27 01.8 -2.0**
STIP Stip 2.81 147 ⇑*i*Pn **Pn** **11 27 01.7 -2.1**
PKS9 Tamasi 2.84 333 ⇑*i*P **Pn** **11 27 03.9 -0.3**
OHR Ohrid 2.99 170 *e*P **Pn** **11 27 05.4 -0.9**
OHR Ohrid 2.99 170 *i* Pn **Pn** **11 27 05.2 -1.0**
OHR Ohrid 2.99 170 P **Pn** **11 27 05.4 -0.8**
OHR S **Sn** **11 27 50.5 +7.9**
SISC Sisak 3.02 299 *i* Pn **Pn** **11 27 07.0 +0.3**
SISC *i* Sn **Sn** **11 27 42.5 -0.8**
SISC *i* Sg **Sg** **11 27 54.3 -0.6**
SISC Sisak 3.02 299 *i* Pn **Pn** **11 27 06.9 +0.3**
SISC *i* Sn **Sn** **11 27 42.4 -0.9**
SISC *i* Sg **Sg** **11 27 54.3 -0.6**
PKS7 Kunszentmiklos 3.06 348 ⇑*i*P **Pn** **11 27 07.0 -0.2**
BIA Bitola 3.17 163 *e*P **Pn** **11 27 08.1 -0.6**
BIA Bitola 3.17 163 *i* Pn **Pn** **11 27 07.5 -1.1**
BIA Bitola 3.17 163 *i* Pn **Pn** **11 27 07.5 -1.2**
BIA Bitola 3.17 163 P **Pn** **11 27 08.1 -0.6**
VAY Valandovo 3.28 146 *e*P **Pn** **11 27 09.0 -1.2**
VAY Valandovo 3.28 146 *i* Pn **Pn** **11 27 08.8 -1.4**
DRGR 3.28 33 ⇓P **Pn** **11 27 09.5 -0.7**
PGB Panagyurishte 3.32 116 P **Pn** **11 27 10.0 -0.7**
FNA Florina 3.41 164 *e*P **Pn** **11 27 11.6 -0.4**
BUD Budapest 3.51 348 ⇓*i*Pn **Pn** **11 27 13.1 -0.2**
BUD *e*Sg **Sg** **11 28 17.4 +6.8**
GRG Griva 3.53 151 *e*P **Pn** **11 27 13.1 -0.6**
PKSG 3.54 341 ⇑*i*P **Pn** **11 27 13.4 -0.4**
PKSG *e*S **Sg** **11 28 10.8 -1.0**
KNT Kendrikon 3.55 144 *e*P **Pn** **11 27 12.9 -1.0**
MMB Musomiste 3.63 132 P **Pn** **11 27 14.0 -1.0**
KOGS Kog 3.63 312 *e*Pn **Pn** **11 27 14.6 -0.4**
KOGS *e*Sn **Sg** **11 28 15.2 +0.7**
MTUR Matau 3.71 70 ⇓P **Pn** **11 27 17.4 +1.2**
MTUR Matau 3.71 70 P **Pn** **11 27 18.4 +2.2**
GOLS Golise 3.74 303 *e*Pn **Pn** **11 27 16.3 -0.2**
CRES Cresnjev 3.75 300 *e*Pn **Pn** **11 27 16.4 -0.3**
CRES *e*Sg **Sg** **11 28 17.4 -1.1**
BOJS Bojanci 3.75 294 *i* Pn **Pn** **11 27 17.5 +0.7**
PENC Penc 3.77 351 ⇑*e*P **Pn** **11 27 16.7 -0.3**
PENC *e*S **Sg** **11 28 21.1 +1.9**
BAI Bari 3.80 220 *e*Pn **Pn** **11 27 16.0 -1.4**
NVLJ Novalja 3.80 279 ⇑*i*Pn **Pn** **11 27 17.7 +0.3**
NVLJ *i* Sn **Sn** **11 27 58.7 -3.9**
ZIMR 3.81 94 ⇓P **Pn** **11 27 17.5 -0.1**
PE1 Pezze di Greco 3.82 212 *e*Pn **Pn** **11 27 16.3 -1.3**
BRT Bari-Castellan 3.84 215 P **Pn** **11 27 16.9 -1.1**
PSZ Piszkesteto 3.86 358 ⇑*i*Pn **Pn** **11 27 17.7 -0.5**
PSZ *e*Sg **Sg** **11 28 24.6 +2.7**
PSZ Piszkesteto 3.86 358 *e*Pn **Pn** **11 27 17.7 -0.5**
FGMS Monte Sant'Ang 3.86 234 P **Pn** **11 27 17.2 -1.0**
MS1 Monte Sant'Ang 3.87 234 *e*Pn **Pn** **11 27 17.4 -0.9**
SRO2 Moca 3.89 343 *i* PN **Pn** **11 27 18.7 +0.1**
SRO2 *e*SN **Sn** **11 28 06.6 +1.8**
DOBS Dobrina 3.90 304 *e*Pn **Pn** **11 27 18.4 -0.3**
SRS Serrai 3.90 138 *e*P **Pn** **11 27 18.3 -0.5**
SRO1 Iza 3.93 341 *e*PN **Pn** **11 27 19.2 +0.1**
SRO1 *e*SN **Sn** **11 28 07.1 +1.4**
SRO Srobarova 3.96 342 *e*PN **Pn** **11 27 19.7 +0.2**
SRO *e*SN **Sn** **11 28 08.4 +1.9**
LCI Lecce 4.01 203 P **Pn** **11 27 21.4 +1.1**
THE Thessaloniki 4.02 147 *e*P **Pn** **11 27 19.2 -1.2**
SOH Sokhos 4.03 142 *e*P **Pn** **11 27 20.1 -0.4**
SOH Sokhos 4.03 142 P **Pn** **11 27 20.1 -0.4**
SOH S **Sn** **11 28 16.9 +8.8**
SNX Sinaia 4.06 70 ⇓P **Pn** **11 27 27.0 +6.1**
RGNG Rignano Grg 4.10 236 P **Pn** **11 27 20.3 -1.2**
SG1 Sgolgore (BA) 4.11 220 *e*Pn **Pn** **11 27 20.1 -1.5**
CDT Castel del Mon 4.12 225 *e*Pn **Pn** **11 27 20.9 -0.8**
RZN Rozhen 4.13 124 P **Pn** **11 27 21.0 -0.9**
VISS Visnje 4.13 297 *e*Pn **Pn** **11 27 22.3 +0.3**
BUC1 Bucharest 4.26 84 P **Pn** **11 27 23.8 +0.2**
FG2 Serracapriola 4.28 246 P **Pn** **11 27 22.4 -1.6**
LIT Litokhoron 4.33 155 *e*P **Pn** **11 27 23.8 -0.9**
KEK Kerkira 4.35 183 *e*Pn **Pn** **11 27 24.3 -0.7**
PERS Pernice 4.37 308 *i* Pn **Pn** **11 27 24.7 -0.5**
PERS *e*Sn **Sn** **11 28 14.7 -1.9**
MLR Muntele Rosu 4.39 69 Pn **Pn** **11 27 26.5 +1.1**
15nm,0.3s,baz=236,slow=3.6,SNR=84
MLR Lg 11 28 42.4
18nm,0.3s,baz=266,slow=17,SNR=5.0
MLR Muntele Rosu 4.39 69 ⇑P **Pn** **11 27 26.9 +1.5**
MLR Muntele Rosu 4.39 69 *e*Pn **Pn** **11 27 26.3 +0.9**
MLR Muntele Rosu 4.39 69 P **Pn** **11 27 27.2 +1.8**
SOP Sopron 4.39 327 ⇑*i*Pn **Pn** **11 27 25.1 -0.4**
SOP *e*Sn **Sn** **11 28 16.8 -0.4**
KECS Kecovo 4.43 3 *i* PN **Pn** **11 27 26.4 +0.4**
KECS *e*SN **Sn** **11 28 17.4 -0.7**
LJU Ljubljana 4.43 299 *e*Sn **Sn** **11 28 17.5 -0.6**
LJU *i* Pn **Pn** **11 27 26.4 +0.3**
LJU *e*Pb **Pb** **11 27 35.3 -1.1**
LJU *e*Pg **Pg** **11 27 42.0 -0.8**
LJU *e*Sg **Sg** **11 28 43.5 +3.2**
LJU Ljubljana 4.43 299 *e*Pn **Pn** **11 27 26.3 +0.3**

LJU Ljubljana 4.43 299 *e*Pg **Pg** **11 27 42.0 -0.8**
LJU Ljubljana 4.43 299 P **Pn** **11 27 26.8 +0.8**
FG4 Candela 4.49 231 P **Pn** **11 27 26.5 -0.3**
VYHS Vyhne 4.52 349 *i* PN **Pn** **11 27 26.9 -0.4**
VYHS *e*SN **Sn** **11 28 19.4 -1.0**
CIGN Sant'Elia a Pi 4.53 240 P **Pn** **11 27 27.3 0.0**
FG5 Orsara di Pugl 4.53 234 P **Pn** **11 27 27.3 -0.1**
IGT Igoumenitsa 4.53 178 *e*P **Pn** **11 27 27.1 -0.2**
ARSA Arzberg 4.53 316 ⇓*i*Sn **Sn** **11 28 17.6 -3.1**
ARSA Arzberg 4.53 316 *i* Pn **Pn** **11 27 27.1 -0.4**
SNR=319
ARSA ⇓*i*Sn **Sn** **11 28 17.6 -3.1**
ARSA Arzberg 4.53 316 *e*Pn **Pn** **11 27 27.3 -0.1**
ARSA Arzberg 4.53 316 *e*Pn **Pn** **11 27 27.2 -0.2**
ARSA Sn **Sn** **11 28 17.6 -3.1**
OBKA Obir 4.63 304 ⇑*i*Sn **Sn** **11 28 21.0 -2.0**
OBKA Obir 4.63 304 *i* Pn **Pn** **11 27 28.7 -0.1**
SNR=71
OBKA ⇑*i*Sn **Sn** **11 28 21.0 -2.0**
OBKA Obir 4.63 304 *e*Pn **Pn** **11 27 28.3 -0.5**
OBKA Obir 4.63 304 *e*Pn **Pn** **11 27 28.7 -0.1**
ZST Bratislava 4.64 334 *e*PN **Pn** **11 27 28.0 -0.9**
ZST *e*SN **Sn** **11 28 20.4 -2.8**
PTRP Pietrapertosa 4.64 222 P **Pn** **11 27 28.5 -0.5**
OUR Ouranopolis 4.70 141 *e*P **Pn** **11 27 28.7 -1.1**
ISR Istrita 4.71 75 ⇓P **Pn** **11 27 33.2 +3.4**
MRLC Muro Lucano 4.76 228 P **Pn** **11 27 30.1 -0.5**
TRI Trieste 4.81 292 P **Pn** **11 27 31.4 +0.2**
UZH Uzhgorod 4.81 17 *e*P **Pn** **11 27 33.0 +1.7**
UZH *e*S **Sn** **11 28 35.0 +7.5**
SMOL Smolenice 4.83 338 *e*PN **Pn** **11 27 30.7 -0.8**
SMOL *e* 11 27 39.6
SMOL Smolenice 4.83 338 *e*SN **Sn** **11 28 24.9 -3.0**
SMOL Smolenice 4.83 338 *e*P **Pn** **11 27 30.7 -0.8**
SMOL *e*Sn **Sn** **11 28 24.9 -3.0**
VOY Vojsko 4.83 296 *e*Pn **Pn** **11 27 32.0 +0.5**
VOY *e* 11 27 50.3
VOY *e*(Sn) **Sn** **11 28 26.1 -1.9**
VOY *e*Sg **Sg** **11 28 52.7 -0.4**
PSB1 Pescosannita 4.84 236 P **Pn** **11 27 31.6 0.0**
ORI Oriolo Calabro 4.84 216 P **Pn** **11 27 30.7 -1.0**
CII Carovilli 4.87 243 P **Pn** **11 27 32.7 +0.6**
PAIG Paliouri 4.91 146 *e*P **Pn** **11 27 31.6 -1.0**
CRVS Cervenica-Dubn 4.93 10 *e*PN **Pn** **11 27 33.5 +0.6**
CSSN Cassano Irpino 4.94 231 P **Pn** **11 27 32.2 -0.9**
MIDA Miranda 4.94 243 P **Pn** **11 27 33.1 0.0**
RDO Rodhopi 4.95 124 *e*Pn **Pn** **11 27 32.3 -0.8**
RDO *e*Sg **Sg** **11 28 55.3 -1.5**
VKA Vienna 4.96 329 *i* Pn **Pn** **11 27 33.8 +0.4**
VKA *i* Sn **Sn** **11 28 22.8 -8.5**
TERO Teramo 4.97 255 P **Pn** **11 27 34.5 +1.1**
PLOR Plostina 4.97 67 ⇑P **Pn** **11 27 33.7 +0.3**
RNI2 Rionero Sannit 4.98 244 P **Pn** **11 27 33.6 0.0**
JMB Yambol 4.98 106 *e*P **Pn** **11 27 32.4 -1.2**
INTR Introdacqua 5.00 248 P **Pn** **11 27 33.4 -0.4**
SGO Sicignano 5.00 227 P **Pn** **11 27 32.9 -0.9**
SGG Gregorio Mates 5.00 240 P **Pn** **11 27 33.2 -0.7**
VRI Vrincioaia 5.02 67 ⇓P **Pn** **11 27 34.4 +0.2**
VRI Vrincioaia 5.02 67 P **Pn** **11 27 35.0 +0.8**
BURAR Bucovina Array 5.03 43 ⇑P **Pn** **11 27 35.9 +1.6**
BURAR Bucovina Array 5.03 43 ⇑P **Pn** **11 27 35.9 +1.7**
LIKS Likavka 5.04 352 *e*PN **Pn** **11 27 35.3 +0.9**
LIKS *e* 11 27 43.3
DRE Drenchia 5.05 297 ⇓*i*P **Pn** **11 27 34.0 -0.5**
CING Cingoli 5.07 265 P **Pn** **11 27 35.9 +1.1**
JAVC Velka Javorina 5.09 341 *e*Pn **Pn** **11 27 34.6 -0.5**
JAVC Velka Javorina 5.09 341 P **Pn** **11 27 34.8 -0.3**
KOLS Kolonicke sedl 5.09 16 *e*PN **Pn** **11 27 35.8 +0.7**
ROBS Robic 5.16 297 *i* Pn **Pn** **11 27 36.2 +0.1**
CUC Castrocucco 5.18 220 P **Pn** **11 27 36.0 -0.3**
MGR Morigerati 5.19 222 P **Pn** **11 27 35.5 -0.9**
AQU L'Aquila 5.20 253 *e*P **Pn** **11 27 37.1 +0.5**
321nm,0.9s
AQU L'Aquila 5.20 253 *e*Pn **Pn** **11 27 37.1 +0.5**
321nm,0.9s
AQU L'Aquila 5.20 253 *e*P **Pn** **11 27 37.1 +0.5**
AQU pmax pmax
comp=Z,321nm,0.9s
COLI Coloredo 5.20 296 ⇓*i*P **Pn** **11 27 37.0 +0.4**
XOR Xorichti 5.22 153 *e*P **Pn** **11 27 36.0 -0.9**
ARV Arcevia 5.23 266 P **Pn** **11 27 37.2 +0.2**
LSR Lussari 5.24 300 ⇑*i*P **Pn** **11 27 37.0 -0.2**
NRCA Norcia 5.25 259 P **Pn** **11 27 37.3 +0.1**
VVLD Villa Vallelon 5.25 248 P **Pn** **11 27 37.4 +0.2**
SNTG Esanatoglia 5.27 264 P **Pn** **11 27 37.2 -0.4**
RFI Roccamonfina 5.30 241 P **Pn** **11 27 38.2 +0.3**
AGG Agios Georgios 5.30 161 *e*P **Pn** **11 27 37.8 -0.2**
FSSB Fossombrone 5.32 269 P **Pn** **11 27 38.4 +0.1**
BAD Bernadia 5.33 296 ⇓*i*P **Pn** **11 27 38.0 -0.4**
PTQR Pietraquaria 5.33 250 P **Pn** **11 27 39.4 +1.0**
EDRB Edirne 5.34 112 *e*PN **Pn** **11 27 37.4 -1.2**
NIE Niedzica 5.36 1 *i* P **Pn** **11 27 40.2 +1.4**
NIE *e*S **Sn** **11 28 42.6 +1.6**
ALN Alexandroupoli 5.40 124 *e*P **Pn** **11 27 38.4 -1.0**
STHS Stebnicka Huta 5.41 8 *i* PN **Pn** **11 27 40.6 +1.1**
STHS *e* 11 28 13.4
STHS Stebnicka Huta 5.41 8 *i* Pn **Pn** **11 27 40.6 +1.1**
STHS *e* 11 28 13.4
FIAM Fiamignano 5.43 253 P **Pn** **11 27 39.4 -0.3**
GUAR Guarcino 5.49 248 P **Pn** **11 27 40.7 +0.1**
TIP Timpagrande 5.49 208 *e*Pn **Pn** **11 27 39.3 -1.3**
MPRI Monte Prat 5.50 296 ⇑*i*P **Pn** **11 27 41.0 +0.3**
PLRO Paularo 5.51 299 ⇓*e*P **Pn** **11 27 41.0 +0.1**
RSM Repubblica di 5.54 271 P **Pn** **11 27 41.8 +0.6**
LOS Limnos 5.54 136 *e*P **Pn** **11 27 41.8 +0.6**
MOA Molln 5.57 315 ⇓*i*Sn **Sn** **11 28 44.6 -1.6**
MOA Molln 5.57 315 *i* Pn **Pn** **11 27 42.0 +0.3**
SNR=175
MOA ⇓*i*Sn **Sn** **11 28 44.6 -1.6**
MOA Molln 5.57 315 *e*Pn **Pn** **11 27 41.8 +0.1**
MOA Molln 5.57 315 *e*Pn **Pn** **11 27 42.0 +0.3**
MURB Monte Urbino 5.57 264 P **Pn** **11 27 43.1 +1.4**
KRUC Moravsky 5.62 334 P **Pn** **11 27 43.0 +0.6**
ZOU Zoufplan 5.62 299 ⇓*e*P **Pn** **11 27 43.0 +0.6**
KBA Koelnbreinsper 5.63 305 ⇑*i*Sn **Sn** **11 28 47.1 -0.6**
KBA Koelnbreinsper 5.63 305 ⇓*i*Pn **Pn** **11 27 42.5 0.0**
SNR=34
KBA ⇑*i*Sn **Sn** **11 28 47.1 -0.6**
KBA Koelnbreinsper 5.63 305 *e*Pn **Pn** **11 27 42.7 +0.2**
KBA *i* S **Sn** **11 28 47.1 -0.6**
KBA Koelnbreinsper 5.63 305 ⇓*i*Pn **Pn** **11 27 42.5 0.0**
KBA *i* Sn **Sn** **11 28 47.1 -0.7**
HARR Harsova 5.63 81 ⇑P **Pn** **11 27 42.0 -0.6**
MNS Montasola 5.69 255 P **Pn** **11 27 43.3 0.0**
BADI Badiali 5.73 267 P **Pn** **11 27 46.6 +2.7**
FVI Forni Avoltri 5.76 299 P **Pn** **11 27 45.2 +0.9**
MTCE Montecelio 5.78 252 P **Pn** **11 27 45.2 +0.7**
VRAC Vranov 5.78 336 Pn **Pn** **11 27 43.7 -0.9**
comp=Z,5.7nm,0.3s,baz=157,slow=12,SNR=43
VRAC Sn **Sn** **11 28 47.9 -3.5**
comp=Z,23nm,0.3s,baz=94,slow=15,SNR=5.7
VRAC LR LR 11 30 02.8
comp=Z,1μm,21.8s,baz=180,slow=39
VRAC Vranov 5.78 336 P **Pn** **11 27 44.5 -0.1**
VRAC Vranov 5.78 336 P **Pn** **11 27 44.5 -0.1**
VRAC Vranov 5.78 336 P **Pn** **11 27 43.7 -0.9**
VRAC 11 28 47.9
VRAC pmax pmax
comp=Z,6.0nm,0.3s
VRAC smax
comp=N,23nm,0.3s
VRAC MLR MLR
comp=Z,1μm,21.8s
CSMI Casera Mimoias 5.81 298 ⇓*i*P **Pn** **11 27 46.0 +1.0**
CFR Carcaliu 5.83 76 ⇓P **Pn** **11 27 44.2 -1.1**
PSN Preselentsi 5.84 91 P **Pn** **11 27 44.0 -1.4**
KWP Kalwaria 5.85 17 *e*Pn **Pn** **11 27 48.0 +2.5**
KWP *e*Sg **Sg** **11 29 36.4 +11**
RDP Rocca di Papa 5.90 250 P **Pn** **11 27 46.0 -0.3**
CRE Caprese Michel 5.93 269 P **Pn** **11 27 47.8 +1.2**
GRI Girifalco 5.93 209 P **Pn** **11 27 45.7 -0.9**
OKC Ostrava-Krasne 5.93 348 *e*PN **Pn** **11 27 46.2 -0.5**
OKC *e*SN **Sn** **11 28 51.4 -3.8**
OKC AMS AMS 11 30 30.0
comp=Z,2μm,10.9s
OKC Ostrava-Krasne 5.93 348 *e*Pn **Pn** **11 27 46.2 -0.5**
OKC *e*Sn **Sn** **11 28 51.4 -3.8**
MA9 Marino 5.94 250 P **Pn** **11 27 47.0 +0.3**
LAV9 Lanuvio 5.95 249 P **Pn** **11 27 47.0 +0.1**
TIRR Tirgusor 5.97 83 ⇓P **Pn** **11 27 46.4 -0.8**
TIRR Tirgusor 5.97 83 *e*P **Pn** **11 27 46.0 -1.2**

SFI Santa Sofia 5.97 271 P **Pn** **11 27 48.1 +0.9**
MORC Moravsky Berou 5.98 344 *e*P **Pn** **11 27 46.6 -0.8**
comp=Z,93nm,0.6s
MORC Moravsky Berou 5.98 344 *e*Pn **Pn** **11 27 46.6 -0.8**
comp=Z,93nm,0.6s
MORC *e*Sn **Sn** **11 28 52.5 -3.9**
MORC Moravsky Berou 5.98 344 *e*P **Pn** **11 27 46.6 -0.8**
MORC *e* 11 28 52.5
MORC pmax pmax
comp=Z,93nm,0.6s
TREC Trest 6.13 330 *e*PN **Pn** **11 27 48.4 -0.9**
LPK Lapseki 6.15 125 *e*PN **Pn** **11 27 48.3 -1.4**
OJC Ojcow 6.16 358 *e*Pn **Pn** **11 27 50.3 +0.4**
OJC *e*Sn **Sn** **11 29 02.1 +1.2**
RAC Raciborz 6.17 348 *e*Pn **Pn** **11 27 50.0 +0.1**
RAC *e*PP 11 27 56.9
RAC *e*Sg **Sg** **11 29 36.2 +0.3**
SEST Monte Rota 6.18 299 P **Pn** **11 27 51.0 +0.9**
VMG Vicchio 6.19 272 P **Pn** **11 27 52.4 +2.2**
SART Tekirdag 6.22 120 *i* P **Pn** **11 27 52.0 +1.4**
MFT Murefte 6.23 119 *e*PN **Pn** **11 27 47.5 -3.2**
TOLF Tolfa 6.27 254 P **Pn** **11 27 50.6 -0.8**
KMPD K-Podol'skiy 6.29 42 P **Pn** **11 27 52.0 +0.5**
CTI Castel Tesino 6.32 291 P **Pn** **11 27 52.1 +0.1**
LVV L'vov 6.35 24 *e*P **Pn** **11 27 42.9 -10**
CSNT Castellina Chi 6.42 268 P **Pn** **11 27 53.8 +0.4**
BRES Bressanone 6.47 297 P **Pn** **11 27 55.1 +1.1**
GEC2 GERESS Array S 6.52 319 *e*Pn **Pn** **11 27 54.9 +0.1**
GERES GERESS Array B 6.52 319 Pn **Pn** **11 27 54.1 -0.6**
comp=Z,11nm,0.3s,baz=131,slow=14,SNR=126
GERES Sn **Sn** **11 29 07.7 -1.9**
comp=Z,13nm,0.3s,baz=137,slow=23,SNR=5.5
GERES Lg 11 29 45.6
baz=135,slow=37,SNR=2.0
GERES GERESS Array B 6.52 319 P **Pn** **11 27 54.1 -0.7**
GERES 11 29 07.7
ZCCA Zocca 6.58 276 P **Pn** **11 27 53.5 -2.1**
SCLL Scilla 6.68 211 P **Pn** **11 27 56.9 -0.1**
APPI Appiano 6.72 294 P **Pn** **11 27 58.0 +0.5**
SOI Samo 6.72 209 P **Pn** **11 27 56.9 -0.7**
WTTA Wattenberg 6.75 301 ⇓*i*Sn **Sn** **11 29 14.6 -0.7**
WTTA Wattenberg 6.75 301 *i* Pn **Pn** **11 27 59.4 +1.5**
SNR=54
WTTA ⇓*i*Sn **Sn** **11 29 14.6 -0.7**
WTTA Wattenberg 6.75 301 *e*Pn **Pn** **11 27 59.3 +1.4**
WTTA *e*Sn **Sn** **11 29 15.0 -0.3**
WTTA Wattenberg 6.75 301 *i* Pn **Pn** **11 27 59.4 +1.5**
WTTA *i* Sn **Sn** **11 29 14.6 -0.7**
KIS Kishinev 6.78 61 *e*P **Pn** **11 27 58.0 -0.3**
KIS *e*S **Sn** **11 29 15.0 -0.9**
KIS MLR MLR
comp=Z,2μm,6.0s
KHC Kasperske Hory 6.78 321 *e*PN **Pn** **11 27 58.4 +0.1**
KHC *e*SN **Sn** **11 29 14.4 -1.7**
KHC AMS AMS 11 30 30.0
comp=Z,4μm,10.7s
KHC Kasperske Hory 6.78 321 *e*Pn **Pn** **11 27 58.4 +0.1**
KHC *e*Sn **Sn** **11 29 14.4 -1.7**
CTT Catalca 6.79 113 *e*PN **Pn** **11 27 55.2 -3.2**
ELBA Catalca 6.79 113 *i* P **Pn** **11 27 56.7 -1.7**
DPC Dobruska-Polom 6.80 339 *e*PN **Pn** **11 27 58.7 +0.1**
DPC *e*SN **Sn** **11 29 14.1 -2.4**
DPC AMS AMS 11 31 10.0
comp=Z,3μm,11.6s
DPC Dobruska-Polom 6.80 339 *e*Pn **Pn** **11 27 58.7 +0.1**
DPC *e*Sn **Sn** **11 29 14.1 -2.4**
WATA Walderalm 6.82 302 ⇑*i*Sn **Sn** **11 29 15.6 -1.4**
WATA Walderalm 6.82 302 ⇑*i*Pn **Pn** **11 27 60.0 +1.1**
SNR=25
WATA ⇑*i*Sn **Sn** **11 29 15.6 -1.4**
AYVA Ayvalik 6.83 132 *i* P **Pn** **11 27 58.7 -0.4**
GSCL Gusciola 6.86 276 P **Pn** **11 28 00.0 +0.6**
BNT Bandirma 6.87 120 *e*PN **Pn** **11 27 54.3 -5.3**
MTTG Motta San Giov 6.92 210 P **Pn** **11 28 02.8 +2.6**
PII Pisa 6.94 271 P **Pn** **11 28 01.1 +0.6**
ERBM Eremo 6.98 276 P **Pn** **11 28 03.4 +2.3**
SARO Sassorosso 7.00 274 P **Pn** **11 28 03.7 +2.4**
SQTA Sankt Quirin 7.00 300 ⇓*i*Sn **Sn** **11 29 19.7 -1.7**
SQTA Sankt Quirin 7.00 300 ⇑*i*Pn **Pn** **11 28 02.9 +1.6**
SNR=68
SQTA ⇓*i*Sn **Sn** **11 29 19.7 -1.7**
SQTA Sankt Quirin 7.00 300 ⇑*i*Pn **Pn** **11 28 02.9 +1.6**
SQTA *i* Sn **Sn** **11 29 19.7 -1.7**
VLC Villacollemand 7.01 274 *e*Pn **Pn** **11 28 02.2 +0.8**
comp=Z,72nm,1.0s
ITM Ithomi 7.01 168 P **Pn** **11 28 02.5 +1.0**
UPC Upice 7.03 338 *e*PN **Pn** **11 28 02.4 +0.7**
PRU Pruhonice 7.05 329 *e*PN **Pn** **11 28 00.9 -1.1**
PRU AMS AMS 11 31 30.0
comp=Z,2μm,7.2s
VALM 7.10 276 P **Pn** **11 28 05.0 +2.3**
MOTA Moosalm 7.12 301 ⇑*i*Sn **Sn** **11 29 22.8 -1.4**
MOTA Moosalm 7.12 301 ⇑*i*Pn **Pn** **11 28 04.0 +1.1**
SNR=76
MOTA ⇑*i*Sn **Sn** **11 29 22.8 -1.4**
MOTA Moosalm 7.12 301 ⇑*i*Pn **Pn** **11 28 04.0 +1.1**
MOTA *i* Sn **Sn** **11 29 22.8 -1.4**
WET Wettzell 7.12 318 *e*Pn **Pn** **11 28 03.0 0.0**
PRA Prague 7.15 329 PN **Pn** **11 28 03.0 -0.4**
VINC Vinca 7.18 274 P **Pn** **11 28 05.9 +2.1**
GRAM 7.23 277 P **Pn** **11 28 05.5 +1.0**
ISK Istanbul-Kandi 7.25 111 *e*PN **Pn** **11 28 00.4 -4.3**
KSP Ksiaz 7.26 340 *e*P **Pn** **11 28 04.8 -0.1**
KSP *e*S **Sn** **11 29 27.5 -0.4**
KSP Ksiaz 7.26 340 *e*Pn **Pn** **11 28 04.8 -0.1**
KSP *e*Sn **Sn** **11 29 27.5 -0.4**
BALB Balikesir 7.28 125 *e*PN **Pn** **11 28 01.1 -4.1**
BRMO Bormio 7.29 293 P **Pn** **11 28 06.5 +1.2**
CODM 7.39 276 P **Pn** **11 28 08.3 +1.7**
FUR Furstenfeldbru 7.39 307 *e*Pn **Pn** **11 28 06.7 0.0**
FUORN Ofenpass 7.40 294 ⇓*i*P **Pn** **11 27 59.3 -7.5**
comp=Z,6.9nm,0.5s
PVCC Panska Ves 7.49 332 P **Pn** **11 28 09.0 +1.0**
URLA Izmir 7.50 137 *i* P **Pn** **11 28 02.7 -5.5**
BERNI Berninapass 7.51 292 ⇑*i*P **Pn** **11 28 08.2 -0.1**
comp=Z,11nm,1.0s
SC2M Scurtabr 7.61 276 P **Pn** **11 28 10.9 +1.2**
GIB Gibilmanna 7.62 219 P **Pn** **11 28 09.9 +0.1**
CSLB Castelbuono 7.64 219 P **Pn** **11 28 09.8 -0.4**
BOB Bobbio (Coli) 7.68 279 P **Pn** **11 28 12.1 +1.5**
DAVOX Davos 7.70 294 Pn **Pn** **11 28 12.2 +1.3**
comp=Z,15nm,0.3s,baz=109,slow=12,SNR=50
DAVOX Sn **Sn** **11 29 38.9 +0.2**
comp=Z,3.7nm,0.3s,baz=308,slow=21,SNR=5.8
DAVOX Lg 11 30 22.1
baz=142,slow=20,SNR=3.1
DAVOX LR LR 11 31 49.5
comp=Z,1μm,18.7s,baz=91,slow=44
DAVOX Davos 7.70 294 *e*P **Pn** **11 28 08.4 -2.5**
comp=Z,11nm,0.9s
DAVOX Davos 7.70 294 Pn **Pn** **11 28 12.2 +1.3**
DAVOX Sn **Sn** **11 29 38.9 +0.2**
DAVOX Lg 11 30 22.1
DAVOX LR LR 11 31 49.5
**AKS Akhis

BRG *i* 11 29 31.9
BRG *i* 11 29 41.3
BERN Bernov 8.06 323 ⇑P Pn 11 28 09.4 -6.5
MANZ Manzenberg 8.06 320 *e*Pn **Pn 11 28 15.5 -0.4**
NKC Novy Kostel 8.09 322 *e*PN **Pn 11 28 15.5 -0.8**
NKC *e*SN **Sn 11 29 44.4 -3.8**
NKC AMS AMS 11 31 30.0
comp=Z,3μm,11.9s
NKC Novy Kostel 8.09 322 *e*Pn **Pn 11 28 15.5 -0.8**
NKC *e*Sn **Sn 11 29 44.4 -3.8**
APE Apeiranthos 8.11 148 P **Pn 11 28 16.4 -0.1**
PLONS Plons 8.11 295 ⇑*i*P **Pn 11 28 09.7 -6.8**
comp=Z,13nm,1.0s
CORF Corte 8.21 261 *e*P **Pn 11 28 17.0 -0.9**
WAR Warsaw 8.21 4 *e*P **Pn 11 28 20.3 +2.4**
TANN Tannenbergstha 8.21 323 *e*Pn **Pn 11 28 17.3 -0.7**
VAI Varese 8.25 287 P **Pn 11 28 17.9 -0.6**
PGF Pioggiola 8.25 263 *e*Pn **Pn 11 28 13.3 -5.2**
PGF Pioggiola 8.25 263 *e*P **Pn 11 28 18.2 -0.3**
PGF *e*Sn **Sn 11 29 39.7 -13**
comp=Z,93nm,1.1s
PGF Pioggiola 8.25 263 *e*P **Pn 11 28 18.2 -0.3**
PGF *e*Sn **Sn 11 29 39.7 -13**
comp=Z,46nm,1.1s
LLS Linth-Limmern 8.29 294 ⇑*i*P **Pn 11 28 12.1 -7.0**
comp=Z,7.1nm,0.7s
LLS Linth-Limmern 8.29 294 ⇑P **Pn 11 28 20.6 +1.5**
GRA1 Grafenberg Arr 8.30 316 *e*P **Pn 11 28 18.7 -0.4**
GRF Grafenberg Arr 8.30 316 *e*Pn **Pn 11 28 18.7 -0.4**
GRFO Grafenberg 8.30 316 P **Pn 11 28 18.8 -0.3**
PCP Pian Castagno 8.32 277 P **Pn 11 28 18.9 -0.5**
CLTB Caltabellotta 8.32 221 P **Pn 11 28 21.8 +2.3**
WEIN Weingarten 8.52 298 *e*P **Pn 11 28 14.2 -7.9**
comp=Z,22nm,0.8s
WILA Wila 8.53 297 ⇑*i*P **Pn 11 28 15.0 -7.3**
comp=Z,21nm,1.0s
WILA Wila 8.53 297 ⇑P **Pn 11 28 22.7 +0.4**
FIN Finale Ligure 8.57 275 P **Pn 11 28 21.8 -1.1**
MUO Muotathal 8.57 294 ⇑P **Pn 11 28 24.3 +1.4**
SISB Singen-Sch Ber 8.59 299 P **Pn 11 28 23.9 +0.8**
HENT Hendek 8.60 108 *i*P **Pn 11 28 23.9 +0.6**
GUT Gutenstein 8.64 302 P **Pn 11 28 23.4 -0.4**
STEIN Stein am Rhein 8.64 299 ⇑*i*P **Pn 11 28 17.4 -6.4**
comp=Z,28nm,0.7s
RORO 8.68 275 P **Pn 11 28 23.3 -1.1**
BNALP Bannalp 8.69 293 ⇑*i*P **Pn 11 28 17.7 -6.8**
comp=Z,7.1nm,0.8s
CLL Collm 8.69 329 *e*Pn **Pn 11 28 23.8 -0.7**
CLL Collm 8.69 329 *i*Pn **Pn 11 28 23.6 -0.9**
comp=Z,23nm,0.7s
CLL *i*x x 11 28 52.5
CLL *e*Pg Pn 11 29 04.0 +39
CLL *i*Sn **Sn 11 29 53.5 -10**
CLL *i*x x 11 29 59.5
CLL *i*(Sb) Sn 11 30 30.0 +27
CLL *e*x x 11 30 51.0
CLL *e*Sg Sn 11 31 13.0 +70
CLL Collm 8.69 329 *i*Pn **Pn 11 28 23.6 -0.9**
comp=Z,23nm,0.7s
CLL *e*Pg Pn 11 29 04.0 +39
CLL *i*Sn **Sn 11 29 53.5 -10**
CLL *e*Sg Sn 11 31 13.0 +70
CLL Collm 8.69 329 *i*P **Pn 11 28 23.6 -0.9**
CLL pmax pmax
comp=Z,23nm,0.7s
ZUR Zurich 8.72 296 ⇑*i*P **Pn 11 28 20.3 -4.7**
comp=Z,18nm,0.9s
ZUR Zurich 8.72 296 ⇑P **Pn 11 28 25.5 +0.5**
TRULL Truellikon 8.75 298 ⇑*i*P **Pn 11 28 22.4 -3.0**
comp=Z,21nm,0.7s
MOX Moxa 8.75 322 *e*Pn **Pn 11 28 25.1 -0.3**
MOX *e*Pn **Pn 11 28 25.2 -0.2**
MOX Moxa 8.75 322 *e*PN **Pn 11 28 25.1 -0.3**
MOX
comp=Z,2μm,14.0s
ORO Oropa 8.77 285 P **Pn 11 28 23.8 -1.8**
IMI Imperia 8.82 273 P **Pn 11 28 26.5 +0.2**
MMK Mattmark 8.83 287 ⇓P **Pn 11 28 26.6 +0.1**
HASLI Hasliberg 8.84 292 ⇑*i*P **Pn 11 28 23.8 -2.8**
comp=Z,7.5nm,0.8s
SPAK Spaichingen 8.85 301 *e*P **Pn 11 28 26.4 -0.3**
BODT Bodrum 8.88 140 *e*P **Pn 11 28 32.5 +5.5**
STU Stuttgart 8.89 306 *e*P **Pn 11 28 27.0 -0.3**
comp=Z,70nm,0.6s
STU Stuttgart 8.89 306 *e*Pn **Pn 11 28 27.0 -0.3**
comp=Z,70nm,0.6s
STU Stuttgart 8.89 306 *e*P **Pn 11 28 27.0 -0.3**
STU pmax pmax
comp=Z,70nm,0.6s
SLE Schleitheim 8.91 299 ⇑*i*P **Pn 11 28 25.3 -2.3**
comp=Z,14nm,0.7s
SLE Schleitheim 8.91 299 ⇑P **Pn 11 28 27.1 -0.5**
MLSB Milas 8.91 137 *e*P **Pn 11 28 30.3 +2.7**
SIND Sindeldorf 8.95 310 P **Pn 11 28 27.7 -0.4**
MDU Mudurnu 8.98 110 *e*P **Pn 11 28 23.9 -4.6**
KIEV Kiev 9.05 40 P **Pn 11 28 33.0 +3.5**
SAOF Saorge 9.06 274 *e*P **Pn 11 28 28.6 -0.9**
AKASG Malin Array Be 9.06 40 Pn **Pn 11 28 30.8 +1.1**
comp=Z,1.3nm,0.3s,baz=228,slow=13,SNR=13
AKASG Lg 11 31 04.4
comp=Z,0.7nm,0.3s,baz=222,slow=28,SNR=4.7
AKASG Malin Array Be 9.06 40 Pn **Pn 11 28 30.8 +1.1**
AKASG Lg 11 31 04.4
SULZ Sulz-Cheisache 9.07 297 ⇑*i*P **Pn 11 28 25.5 -4.3**
comp=Z,25nm,0.8s
SULZ Sulz-Cheisache 9.07 297 ⇑P **Pn 11 28 29.8 0.0**
LKBD Leukerbad 9.12 289 ⇑P **Pn 11 28 30.6 +0.2**
ENR Entracque 9.14 275 P **Pn 11 28 29.2 -1.4**
AUTN L'Aution 9.15 274 *e*P **Pn 11 28 31.1 +0.3**
SBF Sospel 9.15 273 *e*Pn **Pn 11 28 25.9 -5.0**
SBF Sospel 9.15 273 *e*P **Pn 11 28 30.6 -0.3**
SBF *e*Sn **Sn 11 30 02.6 -12**
comp=Z,96nm,0.8s
SBF Sospel 9.15 273 *e*P **Pn 11 28 30.6 -0.3**
SBF *e*Sn **Sn 11 30 02.6 -12**
ESKT Eskisehir 9.21 116 *i*P **Pn 11 28 30.8 -0.8**
SEYT Eskypehyr 9.21 116 *i*P **Pn 11 28 30.8 -0.8**
BFO Black Forest 9.22 302 *e*Pn **Pn 11 28 31.0 -0.8**
VSL Villasalto 9.23 244 *e*Pn **Pn 11 28 31.3 -0.6**
comp=Z,33nm,0.8s
VSL Villasalto 9.23 244 *e*Pn **Pn 11 28 31.3 -0.6**
comp=Z,33nm,0.8s
VSL *e*Sn **Sn 11 30 12.7 -3.5**
DOI San Damiano 9.25 277 P **Pn 11 28 32.0 -0.2**
FELD Feldberg 9.26 299 *e*P **Pn 11 28 31.4 -0.9**
BALST Balsthal 9.29 295 *e*P **Pn 11 28 26.0 -6.8**
comp=Z,16nm,1.0s
MVIF Mont Vial 9.35 273 *e*P **Pn 11 28 34.6 +1.0**
GKP Gorka Klasztor 9.41 349 *e*P **Pn 11 28 35.4 +1.0**
BBS Basel-Blauen 9.45 296 *e*P **Pn 11 28 34.3 -0.6**
IDI Anoyia 9.50 156 Pn **Pn 11 28 37.2 +1.6**
comp=Z,1.3nm,0.3s,baz=353,slow=20,SNR=6.7
IDI Sn **Sn 11 30 13.4 -10**
comp=Z,0.1nm,0.3s,baz=288,slow=20,SNR=3.2
IDI Anoyia 9.50 156 Sn **Sn 11 30 13.4 -10**
SGKT Sivrigoynuk 9.50 107 *i*P **Pn 11 28 36.2 +0.6**
SWS Schriesheim 9.53 309 P **Pn 11 28 35.9 -0.1**
TOD Tromm 9.53 310 *e*P **Pn 11 28 36.1 +0.1**
SURF Saint Ours 9.56 277 *e*P **Pn 11 28 38.9 +2.5**
EMV Vieux Emosson 9.57 287 ⇑P **Pn 11 28 38.1 +1.5**
MBDF Montbardon 9.58 279 *e*Pn **Pn 11 28 31.6 -5.2**
MBDF *e*Sn **Sn 11 30 13.3 -12**
comp=Z,83nm,0.9s
LIBD Limburg 9.61 300 *e*P **Pn 11 28 36.5 -0.6**
BOURR Bourrignon 9.61 295 *e*P **Pn 11 28 27.5 -10**
comp=Z,22nm,0.8s
LPG La Plagne 9.62 283 *e*P **Pn 11 28 39.1 +1.9**
LPG *e*Sn **Sn 11 30 16.6 -9.2**
comp=Z,378nm,1.3s
LPL La Plagne 9.63 283 *e*Pn **Pn 11 28 32.1 -5.3**
LPL La Plagne 9.63 283 *e*P **Pn 11 28 38.4 +1.0**
LPL *e*Sn **Sn 11 30 15.7 -10**
comp=Z,733nm,1.8s
LPL La Plagne 9.63 283 *e*P **Pn 11 28 38.4 +1.0**
LPL *e*Sn **Sn 11 30 15.7 -10**
BNI Bardonecchia 9.65 281 *e*Pn **Pn 11 28 39.4 +1.7**
comp=Z,24nm,0.8s
BNI Bardonecchia 9.65 281 *e*Pn **Pn 11 28 39.4 +1.7**
comp=Z,24nm,0.8s
BNI Bardonecchia 9.65 281 *e*P **Pn 11 28 39.4 +1.7**
BNI pmax pmax
comp=Z,24nm,0.8s
SAFT Safranbolu 9.68 103 *e*P **Pn 11 28 36.4 -1.7**

FRF La Foret Royal 9.76 272 *e*Pn **Pn 11 28 33.8 -5.3**
FRF *e*Sn **Sn 11 30 17.9 -11**
comp=Z,88nm,1.2s
TKTP Tekketepe 9.77 125 *i*P **Pn 11 28 39.9 +0.6**
KTD Kalmit 9.80 307 *e*P **Pn 11 28 40.7 +1.0**
MOF Molkenrain 9.81 297 *e*P **Pn 11 28 39.1 -0.7**
LANF Langenberg 9.81 304 *e*P **Pn 11 28 40.1 +0.3**
WLS Welschbruch 9.86 301 *e*P **Pn 11 28 39.5 -1.0**
LOMF Lomont 9.86 294 *e*P **Pn 11 28 39.8 -0.8**
LMR La Mourre 9.89 271 *e*Pn **Pn 11 28 35.6 -5.3**
LMR *e*Sn **Sn 11 30 20.5 -12**
comp=Z,43nm,1.1s
CDF Champ du Feu 9.90 301 *e*Pn **Pn 11 28 35.9 -5.3**
CDF Champ du Feu 9.90 301 *e*P **Pn 11 28 40.3 -0.9**
CDF *e*Sg Sn 11 31 24.6 +52
comp=Z,271nm,1.5s
CDF Champ du Feu 9.90 301 *e*P **Pn 11 28 40.3 -0.9**
CDF *e*Sg Sn 11 31 24.6 +52
comp=Z,136nm,1.5s
ECH Echery 9.91 299 *e*P **Pn 11 28 40.1 -1.1**
ARG Arkhangelos 9.94 139 P **Pn 11 28 42.3 +0.6**
HINF Hinterlalfeld 9.97 297 *e*Pn **Pn 11 28 36.9 -5.2**
HINF Hinterlalfeld 9.97 297 *e*P **Pn 11 28 41.2 -0.9**
HINF *e*Sg Sn 11 31 26.2 +52
comp=Z,437nm,1.7s
HINF Hinterlalfeld 9.97 297 *e*P **Pn 11 28 41.2 -0.9**
HINF *e*Sg Sn 11 31 26.2 +52
comp=Z,219nm,1.7s
ISP Isparta 10.01 125 *e*P **Pn 11 28 47.1 +4.5**
SIM Simferopol' 10.04 80 P **Pn 11 28 43.8 +0.8**
comp=Z,35μm,0.9s
SIM Simferopol' 10.04 80 P **Pn 11 28 43.8 +0.8**
SIM S **Sn 11 30 30.6 -5.6**
SIM pmax pmax
comp=Z,35μm,0.9s
SIM MLR MLR
comp=Z,640nm,18.0s
GDM Grand'Maison 10.05 281 *e*P **Pn 11 28 46.5 +3.3**
TNS Taunus Mts 10.05 312 *e*Pn **Pn 11 28 42.8 -0.4**
SUW Suwalki 10.16 10 *e*P **Pn 11 28 45.7 +1.1**
SUW *e*Sn **Sn 11 30 39.0 -0.1**
CABF La Chapelle 10.21 289 *e*Pn **Pn 11 28 39.7 -5.6**
CABF La Chapelle 10.21 289 *e*P **Pn 11 28 44.8 -0.5**
CABF *e*Sg Sn 11 31 33.0 +53
comp=Z,570nm,1.7s
CABF La Chapelle 10.21 289 *e*P **Pn 11 28 44.8 -0.5**
CABF *e*Sg Sn 11 31 33.0 +53
comp=Z,285nm,1.7s
HAU Haudompre 10.36 297 *e*P **Pn 11 28 47.8 +0.5**
HAU *e*Sn **Sn 11 30 31.7 -12**
HAU *e*Sg Sn 11 31 38.6 +55
comp=Z,275nm,1.5s
HAU *e*R
comp=Z,1μm,18.0s
HAU Haudompre 10.36 297 *e*P **Pn 11 28 47.8 +0.5**
HAU *e*Sn **Sn 11 30 31.7 -12**
HAU *e*Sg Sn 11 31 38.6 +55
comp=Z,137nm,1.5s
ABH Alteburg 10.37 309 *e*P **Pn 11 28 48.2 +0.6**
SMRF Simiane la Rot 10.48 275 *e*Pn **Pn 11 28 43.7 -5.4**
SMRF *e*Sn **Sn 11 30 35.1 -12**
comp=Z,218nm,1.8s
SMRF Simiane la Rot 10.48 275 *e*Pn **Pn 11 28 43.7 -5.4**
SMRF *e*Sn **Sn 11 30 35.1 -12**
comp=Z,109nm,1.8s
BERF Bertagne 10.48 271 *e*P **Pn 11 28 51.1 +2.0**
ELDT Eldivan 10.49 105 *i*P **Pn 11 28 49.4 +0.2**
ELDT Eldivan 10.49 105 *i*P **Pn 11 28 49.3 +0.2**
RUP Ruppelstein 10.56 307 *e*P **Pn 11 28 50.4 +0.2**
RUP Ruppelstein 10.56 307 P **Pn 11 28 53.6 +3.4**
THEF They Montfort 10.65 298 *e*P **Pn 11 28 51.2 -0.2**
BR131 Keskin Array S 10.97 109 *e*Pn **Pn 11 28 55.8 +0.1**
comp=Z,4.7nm,0.6s
BRTR Keskin Array B 10.97 109 Pn **Pn 11 28 55.4 -0.3**
comp=Z,0.4nm,0.3s,baz=297,slow=11,SNR=14
BRTR Lg 11 32 13.2
comp=Z,0.1nm,0.3s,baz=291,slow=22,SNR=3.0
VIVF Saint-Julien-l 11.07 279 *e*Pn **Pn 11 28 53.3 -3.9**
VIVF *e*Sn **Sn 11 30 47.1 -14**
comp=Z,115nm,1.4s
VIVF Saint-Julien-l 11.07 279 *e*Pn **Pn 11 28 53.3 -3.9**
VIVF *e*Sn **Sn 11 30 47.1 -14**
comp=Z,57nm,1.4s
WLF Walferdange 11.08 305 P **Pn 11 28 56.1 -1.1**
WLF AP 11 28 58.4
WLF PNPN 11 29 05.2
WLF PBPB 11 29 33.5
WLF S **Sn 11 30 54.8 -6.8**
WLF Walferdange 11.08 305 *e*Pn **Pn 11 28 55.8 -1.4**
comp=Z,21nm,0.6s
WLF Walferdange 11.08 305 *e*Pn **Pn 11 28 55.8 -1.5**
comp=Z,21nm,0.6s
WLF Walferdange 11.08 305 *e*P **Pn 11 28 55.8 -1.4**
WLF pmax pmax
comp=Z,21nm,0.6s
RFYF Reffroy 11.10 299 *e*Pn **Pn 11 28 52.2 -5.4**
baz=116
RFYF Reffroy 11.10 299 *e*P **Pn 11 28 58.2 +0.6**
RFYF *e*Sg Sn 11 32 01.4 +59
comp=Z,967nm,1.9s
RFYF Reffroy 11.10 299 *e*P **Pn 11 28 58.2 +0.6**
RFYF *e*Sg Sn 11 32 01.4 +59
comp=Z,483nm,1.9s
RFYF Reffroy 11.10 299 *e*Pn **Pn 11 28 52.2 -5.4**
SFTF Sexfontaines 11.25 297 *e*P **Pn 11 28 59.5 -0.1**
baz=115
SFTF *e*Sg Sn 11 32 06.2 +60
comp=Z,268nm,1.4s
SFTF Sexfontaines 11.25 297 *e*P **Pn 11 28 59.5 -0.1**
SFTF *e*Sg Sn 11 32 06.2 +60
comp=Z,134nm,1.4s
MEZF Maizieres J'vi 11.33 298 *e*P **Pn 11 29 01.0 +0.3**
baz=119
MEZF *e*Sg Sn 11 32 07.6 +60
comp=Z,362nm,1.8s
BSD Bornholm Skovb 11.56 345 *i*P **Pn 11 29 04.0 +0.1**
comp=Z,20nm,0.7s
BSD
comp=Z,490nm,16.0s
MNK Minsk 11.59 23 *e*P **Pn 11 29 04.0 -0.2**
MEM Membach 11.59 309 ⇓P **Pn 11 29 04.6 +0.3**
MEM PBPB 11 29 40.7
MEM S **Sn 11 31 08.7 -5.6**
MEM Membach 11.59 309 P **Pn 11 29 04.5 +0.2**
LASF Ste Croix 11.71 276 *e*Pn **Pn 11 29 00.4 -5.4**
LASF Ste Croix 11.71 276 *e*P **Pn 11 29 05.9 +0.1**
LASF Ste Croix 11.71 276 *e*P **Pn 11 29 05.9 +0.1**
LASF Ste Croix 11.71 276 *e*P **Pn 11 29 05.9 +0.1**
HGN Heimansgroeve 11.71 310 *e*P **Pn 11 29 07.0 +1.1**
comp=Z,21nm,0.4s
HGN *e*S Sn 11 32 17.0 +60
SMF Signal de Mont 11.74 288 *e*Pn **Pn 11 29 01.1 -5.2**
SMF *e*Sn **Sn 11 31 04.9 -13**
comp=Z,49nm,0.8s
SMF Signal de Mont 11.74 288 *e*Pn **Pn 11 29 01.1 -5.2**
SMF *e*Sn **Sn 11 31 04.9 -13**
comp=Z,24nm,0.8s
LOR Lormes 11.82 291 *e*Pn **Pn 11 29 03.4 -4.0**
baz=108
LOR *e*Sn **Sn 11 31 06.4 -13**
LOR *e*Sg Sn 11 32 21.9 +62
comp=Z,181nm,1.7s
LOR *e*R
comp=Z,2μm,15.2s
LOR Lormes 11.82 291 *e*Pn **Pn 11 29 03.4 -4.0**
LOR *e*Sn **Sn 11 31 06.4 -13**
LOR *e*Sg Sn 11 32 21.9 +62
PLDF La Plantade 11.84 285 *e*P **Pn 11 29 06.2 -1.4**
BEBN Eben Emael 11.87 310 P **Pn 11 29 07.9 -0.1**
BEBN AP 11 29 09.5
BEBN XP 11 29 12.2
BEBN Eben Emael 11.87 310 P **Pn 11 29 07.8 -0.2**
WTSB Winterswijk 11.91 316 *e*P **Pn 11 29 14.9 +6.3**
IIGN Ignalina 11.96 17 *e*P **Pn 11 29 12.5 +3.2**
IIGN AMb AMB 11 29 13.3
comp=Z,7.3nm,0.5s
IIGN Ignalina 11.96 17 *e*P **Pn 11 29 12.5 +3.1**
comp=Z,7.3nm,0.5s,SNR=34
SSF Saint Saulge 12.03 290 *e*Pn **Pn 11 29 06.3 -3.9**
SSF *e*Sn **Sn 11 31 12.0 -13**
SSF *e*Sg Sn 11 32 30.9 +66
comp=Z,40nm,1.1s
SSF Saint Saulge 12.03 290 *e*Pn **Pn 11 29 06.3 -3.9**
SSF *e*Sn **Sn 11 31 12.0 -13**
SSF *e*Sg Sn 11 32 30.9 +66
comp=Z,20nm,1.1s
GIVF Givet 12.04 305 *e*P **Pn 11 29 10.6 +0.2**
GIVF *e*Sn **Sn 11 31 11.9 -13**
GIVF *e*Sg Sn 11 32 29.1 +64
comp=Z,306nm,1.7s
GIVF Givet 12.04 305 *e*P **Pn 11 29 10.6 +0.2**
GIVF *e*Sn **Sn 11 31 11.9 -13**
IDID Didziasalis 12.04 18 *e*P **Pn 11 29 12.8 +2.4**
IDID AMb AMB 11 29 13.8
comp=Z,5.2nm,1.0s
IDID Didziasalis 12.04 18 *e*P **Pn 11 29 12.8 +2.3**
comp=Z,5.2nm,1.0s,SNR=34
LBL Lubilhac 12.08 281 *e*P **Pn 11 29 13.2 +2.3**
AVF Avril sur Loir 12.10 289 *e*P **Pn 11 29 09.9 -1.2**
AVF *e*Sn **Sn 11 31 15.5 -11**
comp=Z,47nm,1.0s
AVF Avril sur Loir 12.10 289 *e*P **Pn 11 29 09.9 -1.2**
AVF *e*Sn **Sn 11 31 15.5 -11**
comp=Z,24nm,1.0s
ISAL Salakas 12.15 16 *e*P **Pn 11 29 14.6 +2.7**
ISAL AMb AMB 11 29 15.2
comp=Z,4.8nm,0.6s
ISAL Salakas 12.15 16 *e*P **Pn 11 29 14.6 +2.7**
comp=Z,4.8nm,0.6s,SNR=34
DOU Dourbes 12.17 305 ⇑P **Pn 11 29 12.5 +0.2**
DOU AP 11 29 14.6
DOU XP 11 29 17.0
DOU PNPN 11 29 19.1
DOU E 11 29 32.3
DOU PBPB 11 29 53.4
DOU S **Sn 11 31 18.0 -10**
AGO Saint Agoulin 12.18 285 *e*P **Pn 11 29 11.5 -0.8**
IZAR Zarasai 12.34 16 *e*P **Pn 11 29 16.7 +2.2**
BAIF Baives 12.39 305 *e*P **Pn 11 29 14.8 -0.4**
BGF Bois d'Agland 12.42 288 *e*Pn **Pn 11 29 10.1 -5.4**
BGF Bois d'Agland 12.42 288 *e*P **Pn 11 29 14.6 -0.9**
BGF *e*Sn **Sn 11 31 20.1 -14**
comp=Z,45nm,0.9s
BGF Bois d'Agland 12.42 288 *e*P **Pn 11 29 14.6 -0.9**
BGF *e*Sn **Sn 11 31 20.1 -14**
comp=Z,22nm,0.9s
SNF Seneffe 12.53 307 P **Pn 11 29 17.2 +0.2**
HYF Humbligny 12.64 291 *e*P **Pn 11 29 18.7 +0.1**
TCF Toulx Ste Croi 12.83 286 *e*Pn **Pn 11 29 18.4 -2.9**
TCF *e*Sn **Sn 11 31 30.7 -14**
CAF Calviac 12.93 280 *e*Pn **Pn 11 29 17.2 -5.3**
MTLF Montolieu 12.98 273 *e*P **Pn 11 29 23.2 0.0**
SOC Sochi 14.16 85 *e*P **Pn 11 29 37.9 -1.4**
comp=Z,23nm,0.9s
SOC *e*S **Sn 11 32 16.9 -0.1**
comp=Z,350nm,13.0s
SOC Sochi 14.16 85 *e*P **Pn 11 29 37.9 -1.4**
SOC *e* 11 32 16.9
SOC pmax pmax
comp=Z,23nm,0.9s
SOC MLR MLR
comp=Z,350nm,13.0s
EPF Esparros 14.39 273 *e*Pn **Pn 11 29 37.1 -5.3**
MFF Saint Martin d 14.48 287 *e*P **Pn 11 29 43.0 -0.7**
EBIE Bielsa 14.60 272 P **Pn 11 29 45.5 +0.2**
comp=Z,15nm,1.4s
EBIE Bielsa 14.60 272 P **Pn 11 29 45.5 +0.2**
comp=Z,15nm,1.4s
VORD Divnogorie 14.66 55 *e*P **Pn 11 29 44.6 -1.5**
VORD pmax pmax
comp=E,50nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
LDF La Druitiere 14.69 295 *e*P **Pn 11 29 46.3 -0.3**
MALT Malatya 14.92 106 *e*Pn **Pn 11 29 57.6 +7.9**
comp=Z,7.6nm,0.8s
MALT Malatya 14.92 106 *e*P **Pn 11 29 57.6 +7.9**
MALT pmax pmax
comp=Z,8.0nm,0.8s
FLN La Foliniere 14.96 296 *e*P **Pn 11 29 49.6 -0.6**
FLN *e*R
comp=Z,1μm,15.8s
VSU Vasula 14.99 14 *e*P **Pn 11 29 50.5 -0.2**
ETSF Etsaut 15.06 273 *e*P **Pn 11 29 51.5 -0.1**
OBN Obninsk 15.32 38 *e*P **Pn 11 29 56.3 +1.2**
comp=Z,600nm,15.0s
OBN Obninsk 15.32 38 *e*P **Pn 11 29 56.3 +1.2**
OBN pmax pmax
comp=Z,50nm,1.3s
OBN MLR MLR
comp=Z,600nm,15.0s
VRHR Novokhopersk 16.09 57 *e*P **Pn 11 30 03.0 -2.1**
comp=Z,20nm,0.8s
VRHR Novokhopersk 16.09 57 *e*P **Pn 11 30 03.0 -2.1**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.4s
MOS Moscow 16.18 38 *e*P **Pn 11 30 04.8 -1.5**
comp=E,61nm,0.9s
MOS Moscow 16.18 38 *e*P **Pn 11 30 04.8 -1.5**
MOS *e*S **Sn 11 33 09.4 +3.2**
MOS pmax pmax
comp=Z,61nm,0.9s
MOS MLR MLR
comp=Z,140nm,1.6s
KIV Kislovodsk 16.23 83 *e*P **Pn 11 30 07.5 +0.6**
comp=Z,20nm,1.1s
KIV *e*S **Sn 11 33 08.6 +1.2**
comp=Z,408nm,12.0s
KIV Kislovodsk 16.23 83 *e*P **Pn 11 30 08.2 +1.3**
comp=Z,26nm,0.9s
KIV *e* 11 30 18.0
KIV Kislovodsk 16.23 83 *e*P **Pn 11 30 07.5 +0.6**
KIV *e*S **Sn 11 33 08.6 +1.2**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,408nm,12.0s
SGMF Saint Gilles 16.25 293 *e*Pn **Pn 11 30 02.4 -4.7**
GOF Gofitskoye 16.36 79 *e*P **Pn 11 30 09.4 +0.9**
comp=Z,50nm,0.8s
GOF Gofitskoye 16.36 79 *e*P **Pn 11 30 09.4 +0.9**
GOF pmax pmax
comp=Z,50nm,0.8s
MEF Metsahovi 16.39 8 P **Pn 11 30 09.2 +0.3**
HFS Hagfors 16.56 349 Pn **Pn 11 30 08.3 -2.8**
comp=Z,0.3nm,0.3s,baz=178,slow=8.2,SNR=7.7
HFS LR LR 11 35 50.3
comp=Z,250nm,21.3s,baz=347,slow=35
KONO Kongsberg 16.87 341 *e*P **Pn 11 30 15.3 +0.2**
ZEI Tsey 17.32 86 *e*P **Pn 11 30 23.9 +3.3**
NAO01 NORSAR Array S 17.70 345 *e*P **Pn 11 30 25.8 +0.5**
comp=Z,12nm,0.9s
NAO01 NORSAR Array S 17.70 345 *e*P **Pn 11 30 25.8 +0.4**
comp=Z,12nm,0.9s
FINES FINESS Array B 17.77 9 Pn **Pn 11 30 23.9 -2.4**
comp=Z,0.8nm,0.3s,baz=182,slow=11,SNR=18
FINES LR LR 11 36 44.7
comp=Z,281nm,18.6s,baz=12,slow=35
NB2 NORSAR Subarra 17.82 346 P **Pn 11 30 23.1 -3.8**
comp=Z,22nm,1.2s,baz=160,slow=11
NB2 NORSAR Subarra 17.82 346 P **Pn 11 30 23.1 -3.8**
NB2 pmax pmax
comp=Z,22nm,1.2s
NOA NORSAR Array B 17.82 346 Pn **Pn 11 30 22.9 -3.9**
comp=Z,0.6nm,0.3s,baz=161,slow=11,SNR=16
NOA LR LR 11 37 00.2
comp=Z,151nm,19.9s,baz=170,slow=36
NOA NORSAR Array B 17.82 346 Pn **Pn 11 30 22.9 -3.9**
NOA LR LR 11 37 00.2
ESDC Sonseca Array 18.44 265 P **Pn 11 30 32.7 -1.9**
comp=Z,0.5nm,0.3s,baz=69,slow=12,SNR=9.5
ESDC Sonseca Array 18.44 265 P **Pn 11 30 30.5 -4.0**
comp=Z,6.3nm,0.8s
KAF Kangasniemi 18.45 9 *e*p **Pn 11 30 31.4 -3.2**
comp=Z,12nm,0.8s,baz=191,slow=12
KAF Kangasniemi 18.45 9 *e*P **Pn 11 30 31.4 -3.2**
KAF pmax pmax
comp=Z,12nm,0.8s
EQES Quesada 18.58 258 P **Pn 11 30 38.4 +2.2**
comp=Z,24nm,1.0s
EIL Elat 18.59 136 *e*P **Pn 11 30 38.4 +2.0**
comp=Z,330nm,1.0s
EIL *e* 11 30 49.2
GNI Garni 18.66 94 *e*P **Pn 11 30 38.3 +1.1**
comp=Z,19nm,0.8s

GNI	**Garni**	**18.66**	**94**	*e*P	**Pn**	**11 30 38.3**	**+1.1**
	comp=Z,19nm,0.8s						
GNI	**Garni**	**18.66**	**94**	*e*P	**Pn**	**11 30 38.3**	**+1.1**
GNI				pmax	pmax		
	comp=Z,19nm,0.8s						
EKA	**Eskdalemuir Ar**	**18.71**	**315**	P	**Pn**	**11 30 36.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=115,slow=10,SNR=15						
MSL	**Mosul**	**19.15**	**106**	*e*x	x	11 30 46.5	
ECOG	**Cogollos-Vega**	**19.17**	**257**	P	**Pn**	**11 30 45.4**	**+2.0**
	comp=Z,9.5nm,0.6s						
ECOG	**Cogollos-Vega**	**19.17**	**257**	P	**Pn**	**11 30 45.4**	**+2.1**
ECOG				pmax	pmax		
	comp=Z,10.0nm,0.6s						
EADA	**Adamuz**	**19.48**	**261**	P	**Pn**	**11 30 47.3**	**+0.2**
	comp=Z,24nm,1.5s						
EADA	**Adamuz**	**19.48**	**261**	P	**Pn**	**11 30 47.3**	**+0.1**
	comp=Z,24nm,1.5s						
JOF	**Joensuu**	**19.97**	**15**	*e*p	**Pn**	**11 30 50.7**	**-2.3**
	comp=Z,13nm,0.9s						
ECAB	**El Cabril**	**20.12**	**262**	P	**P**	**11 30 54.4**	**+1.5**
	comp=Z,9.3nm,0.9s						
ECAB	**El Cabril**	**20.12**	**262**	P	**P**	**11 30 54.4**	**+1.4**
	comp=Z,9.3nm,0.9s						
KLMR	**Klimovskoe**	**20.42**	**28**	*i* P	**P**	**11 30 57.3**	**+1.2**
	comp=Z,2μm,14.0s						
KLMR	**Klimovskoe**	**20.42**	**28***d*	*i* P	**P**	**11 30 57.3**	**+1.2**
KLMR				pmax	pmax		
	comp=Z,50nm,1.1s						
KLMR				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.5						
MTE	**Manteigas**	**20.77**	**269**	*e*P	**P**	**11 31 00.8**	**+0.8**
	comp=Z,37nm,1.1s						
MTE	**Manteigas**	**20.77**	**269**	*e*P	**P**	**11 31 00.2**	**+0.2**
	comp=Z,17nm,0.8s						
PCBR	**Castelo Branco**	**20.91**	**268**	*e*P	**P**	**11 31 01.9**	**+0.4**
	comp=Z,29nm,1.2s						
EBAD	**Badajoz**	**20.98**	**265**	P	**P**	**11 31 01.6**	**-0.7**
	comp=Z,11nm,0.8s						
EBAD	**Badajoz**	**20.98**	**265**	P	**P**	**11 31 01.6**	**-0.7**
	comp=Z,11nm,0.8s						
EMIN	**Mina Concepcio**	**21.15**	**262**	P	**P**	**11 31 03.9**	**-0.2**
	comp=Z,16nm,0.7s,mb4.5						
EMIN	**Mina Concepcio**	**21.15**	**262**	P	**P**	**11 31 03.9**	**-0.2**
	comp=Z,16nm,0.7s,mb4.5						
PTOM	**Tomar**	**21.66**	**268**	*e*P	**P**	**11 31 10.8**	**+1.2**
	comp=Z,60nm,1.1s,mb4.9						
EGRO	**El Granado**	**21.83**	**262**	P	**P**	**11 31 08.3**	**-3.1**
	comp=Z,8.2nm,0.7s,mb4.3						
MDT	**Midelt**	**22.31**	**248**	P	**P**	**11 31 15.1**	**-1.4**
	comp=Z,5.0nm,1.1s,mb3.9,baz=70,slow=14,SNR=4.4						
MDT				LR	LR	11 39 17.3	
	comp=Z,278nm,21.9s,MS3.6,baz=42,slow=35						
APA	**Apatity**	**24.60**	**12**	*e*P	**P**	**11 31 40.3**	**+1.0**
	comp=Z,21nm,1.0s,mb4.6						
APA	**Apatity**	**24.60**	**12**[illegible]	*e*P	**P**	**11 31 40.3**	**+1.0**
APA				*i*		11 32 11.0	
APA				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.6						
ARCES	**ARCESS Array B**	**25.69**	**4**	P	**P**	**11 31 47.6**	**-1.5**
	comp=Z,8.8nm,0.7s,mb4.4,baz=184,slow=12,SNR=8.7						
ARCES				LR	LR	11 43 12.0	
	comp=Z,276nm,19.3s,MS3.8,baz=2.0,slow=40						
AKTK	**Aktyubinsk**	**26.29**	**62**	P	**P**	**11 31 53.6**	**-1.0**
	comp=Z,4.0nm,0.9s,mb4.0						
AKTO	**Aktyubinsk**	**26.29**	**62**	P	**P**	**11 31 53.6**	**-1.0**
	comp=Z,4.2nm,0.9s,mb4.0,baz=273,slow=9.6,SNR=11						
AKTO	**Aktyubinsk**	**26.29**	**62**	P	**P**	**11 31 53.6**	**-1.0**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
SVE	**Sverdlovsk**	**28.34**	**49**	*e*P	**P**	**11 32 12.8**	**-0.2**
	comp=Z,50nm,2.8s,mb4.7						
SVE	**Sverdlovsk**	**28.34**	**49**	*e*P	**P**	**11 32 12.8**	**-0.2**
SVE				pmax	pmax		
	comp=Z,50nm,2.8s,mb4.7						
SVE				MLR	MLR		
	comp=N,300nm,21.0s,MS4.2						
SVE				MLR	MLR		
	comp=E,500nm,21.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,900nm,21.0s,MS4.3						
ZRNK	**Zerenda**	**33.01**	**57**	*e*P	**P**	**11 32 54.8**	**+0.6**
	comp=Z,4.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**33.01**	**57**	*e*P	**P**	**11 32 54.8**	**+0.6**
	comp=Z,4.3nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**33.01**	**57**	*e*P	**P**	**11 32 54.8**	**+0.6**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BRVK	**Borovoye**	**33.77**	**56**	*e*P	**P**	**11 33 01.1**	**+0.2**
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**33.77**	**56**	*e*P	**P**	**11 33 01.1**	**+0.2**
	comp=Z,4.8nm,0.6s,mb4.6						
BRVK	**Borovoye**	**33.77**	**56**	*e*P	**P**	**11 33 01.1**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**33.84**	**57**	P	**P**	**11 33 01.8**	**+0.3**
	comp=Z,4.5nm,0.7s,mb4.5,baz=270,slow=7.7,SNR=26						
TORD	**Torodi Ar. Bea**	**34.62**	**213**	P	**P**	**11 33 08.5**	**+0.2**
	comp=Z,3.8nm,0.5s,mb4.5,baz=16,slow=9.0,SNR=29						
FRU	**Bishkek**	**38.97**	**72**	*e*P	**P**	**11 33 50.0**	**+4.7**
FRU				*e*		11 35 20.0	
KURK	**Kurchatov**	**39.25**	**59**	*e*P	**P**	**11 33 48.6**	**+1.0**
	comp=Z,6.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**39.25**	**59**	*e*P	**P**	**11 33 48.6**	**+0.9**
	comp=Z,5.7nm,0.9s,mb4.3						
KURK				*e*		11 35 15.7	
KURK	**Kurchatov**	**39.25**	**59**	*e*P	**P**	**11 33 48.6**	**+1.0**
KURK				*e*		11 35 15.7	
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
NVS	**Novosibirsk**	**41.07**	**52**	*e*P	**P**	**11 34 02.9**	**+0.1**
	comp=Z,9.0nm,0.8s,mb4.5						
NVS	**Novosibirsk**	**41.07**	**52**	*e*P	**P**	**11 34 02.9**	**+0.1**
NVS				*e*		11 35 36.1	
NVS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
MKAR	**Makanchi Array**	**42.71**	**64**	P	**P**	**11 34 16.1**	**-0.1**
	comp=E,6.7nm,0.7s,mb4.5,baz=279,slow=8.0,SNR=52						
MKAR				LR	LR	11 54 47.2	
	comp=E,97nm,20.1s,MS3.7,baz=0.4,slow=40						
DBIC	**Dimbokro**	**43.19**	**218**	P	**P**	**11 34 19.1**	**-0.9**
	comp=E,9.0nm,0.8s,mb4.6,baz=15,slow=8.9,SNR=13						
DBIC	**Dimbokro**	**43.19**	**218**	*e*P	**P**	**11 34 19.7**	**-0.3**
	comp=E,7.0nm,0.7s,mb4.5						
DBIC	**Dimbokro**	**43.19**	**218**	*e*P	**P**	**11 34 19.7**	**-0.3**
	comp=E,7.3nm,0.7s,mb4.5						
DBIC	**Dimbokro**	**43.19**	**218**	*e*P	**P**	**11 34 19.7**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LIC	**Lamto**	**43.66**	**218**	*e*P	**P**	**11 34 23.2**	**-0.7**
	comp=Z,28nm,0.9s,mb4.7						
LIC				*e*R			
	comp=Z,203nm,19.3s						
LIC	**Lamto**	**43.66**	**218**	*e*P	**P**	**11 34 23.2**	**-0.7**
	comp=Z,14nm,0.9s,mb4.7						
LIC				LR	LR		
	comp=Z,100nm,19.3s,MS3.7						
WMQ	**Urumqi**	**47.37**	**65**	P	**P**	**11 34 54.0**	**+0.7**
WMQ				AP	pP	11 34 58.5	+4.3
WMQ				XP	sP	11 35 01.0	+6.5
WMQ				PCP	PcP	11 36 24.9	+0.9
WMQ				PP	PP	11 36 44.8	+0.4
WMQ				PPP		11 37 32.8	
WMQ				*e*S	**S**	**11 41 46.8**	**-1.1**
WMQ				SS	SS	11 45 07.9	-7.4
WMQ				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,141nm,4.8s						
WMQ				LR	LR		
	comp=N,459nm,22.0s,MS4.5						
WMQ				LR	LR		
	comp=E,402nm,22.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,445nm,22.0s,MS4.4						
KMBO	**Kilima Mbogo**	**47.52**	**156**	P	**P**	**11 34 54.3**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=50,slow=22,SNR=4.6						
KOLN	**Koldanda**	**52.67**	**86**	*e*P	**P**	**11 35 34.1**	**+0.6**
	comp=Z,14nm,0.9s,mb4.9						
GKN	**Gorkha**	**53.28**	**85**	*e*P	**P**	**11 35 38.2**	**+0.2**
	comp=Z,19nm,0.7s,mb5.1						
KKN	**Kakani**	**53.86**	**85**	*e*P	**P**	**11 35 43.0**	**+0.7**
SCHQ	**Schefferville**	**54.03**	**314**	P	**P**	**11 35 42.6**	**-0.9**
	comp=Z,4.3nm,0.8s,mb4.4,baz=57,slow=6.7,SNR=6.1						
SCHQ				LR	LR	11 59 27.6	
	comp=Z,203nm,18.3s,MS4.2,baz=48,slow=37						
ZAK	**Zakamensk**	**54.03**	**52**	*e*P	**P**	**11 35 44.5**	**+1.0**
	comp=Z,6.0nm,1.8s,mb4.2						
ZAK	**Zakamensk**	**54.03**	**52**	*e*P	**P**	**11 35 44.5**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.2						
PKI	**Pulchoki**	**54.08**	**85**	*e*P	**P**	**11 35 45.1**	**+1.2**
GUN	**Gumba**	**54.22**	**84**	*e*P	**P**	**11 35 45.8**	**+0.9**
	comp=Z,25nm,0.9s,mb5.1						
TIXI	**Tiksi**	**54.27**	**22**	*e*P	**P**	**11 35 45.6**	**+0.3**
	comp=Z,229nm,15.0s						
TIXI	**Tiksi**	**54.27**	**22**	*e*P	**P**	**11 35 45.6**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,229nm,15.0s,MS4.4						
JIRN	**Jiri**	**54.59**	**84**	*e*P	**P**	**11 35 48.9**	**+1.3**
	comp=Z,29nm,0.9s,mb5.3						
LSA	**Lhasa**	**56.94**	**79**	*e*P	**P**	**11 36 05.4**	**+1.0**
SONM	**Songino Array**	**57.07**	**53**	P	**P**	**11 36 05.3**	**0.0**
	comp=Z,4.4nm,0.7s,mb4.6,baz=290,slow=8.0,SNR=37						
SONM				LR	LR	12 02 39.2	
	comp=Z,174nm,21.0s,MS4.1,baz=142,slow=38						
ULN	**Ulaanbaatar**	**57.43**	**53**	*e*P	**P**	**11 36 08.9**	**+1.0**
GTA	**Gaotai**	**57.44**	**65**	*e*P	**P**	**11 36 08.0**	**0.0**
GTA				XP	sP	11 36 15.4	+6.1
GTA				PP	PP	11 38 16.0	+0.6
GTA				PPP		11 39 37.3	
GTA				SCP	ScP	11 40 59.8	-2.7
GTA				PCS	PcS	11 41 00.3	-2.6
GTA				S	**S**	**11 44 05.0**	**-0.8**
GTA				XS	sS	11 44 11.6	+4.3
GTA				SCS	ScS	11 45 53.6	-4.8
GTA				SS	SS	11 47 56.5	+1.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.3						
GTA				AMB	AMB		
	comp=Z,150nm,6.1s						
GTA				LR	LR		
	comp=N,181nm,18.3s,MS4.5						
GTA				LR	LR		
	comp=E,223nm,13.4s,MS4.5						
GTA				LR	LR		
	comp=Z,184nm,24.1s						
LSZ	**Lusaka**	**59.51**	**171**	P	**P**	**11 36 23.5**	**+1.1**
	comp=Z,3.4nm,0.8s,mb4.5,baz=328,slow=7.9,SNR=4.7						
LSZ	**Lusaka**	**59.51**	**171**	*e*P	**P**	**11 36 24.9**	**+2.5**
	comp=Z,11nm,1.4s,mb4.7						
LSZ	**Lusaka**	**59.51**	**171**	*e*P	**P**	**11 36 24.9**	**+2.5**
	comp=Z,11nm,1.4s,mb4.7						
LSZ	**Lusaka**	**59.51**	**171**	*e*P	**P**	**11 36 24.9**	**+2.5**
LSZ				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
YAK	**Yakutsk**	**60.17**	**31**	*e*P	**P**	**11 36 28.3**	**+1.3**
	comp=Z,300nm,18.0s						
YAK	**Yakutsk**	**60.17**	**31**	*e*P	**P**	**11 36 28.3**	**+1.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
YAK				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.5						
LZH	**Lanzhou**	**61.95**	**66**	*e*P	**P**	**11 36 41.5**	**+2.4**
LZH				AP	pP	11 36 43.9	+3.9
LZH				XP	sP	11 36 45.8	+5.5
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,110nm,5.0s						
HHC	**Hu-ho-hao-te**	**64.04**	**58**	*e*P	**P**	**11 36 54.5**	**+1.5**
HHC				AP	pP	11 36 59.1	+5.2
HHC				XP	sP	11 37 01.4	+7.2
HHC				PCP	PcP	11 37 30.0	+1.7
HHC				PP	PP	11 39 16.8	+3.1
HHC				S	**S**	**11 45 28.6**	**-1.5**
HHC				XS	sS	11 45 35.6	+4.0
HHC				SCS	ScS	11 46 44.0	-3.8
HHC				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,85nm,4.8s						
HHC				LR	LR		
	comp=N,181nm,7.2s						
HHC				LR	LR		
	comp=E,164nm,5.9s						
HHC				LR	LR		
	comp=Z,149nm,5.7s						
CD2	**Chengdu**	**64.98**	**70**	P	**P**	**11 36 58.3**	**-0.8**
CD2				PP	PP	11 39 23.0	+1.1
CD2				S	**S**	**11 45 37.6**	**-4.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,6.9s						
INK	**Inuvik**	**66.22**	**350**	P	**P**	**11 37 05.6**	**-1.6**
	comp=Z,1.0nm,0.8s,mb3.9,baz=154,slow=1.4,SNR=5.5						
INK				LR	LR	12 05 44.4	
	comp=Z,111nm,18.7s,MS4.1,baz=41,slow=36						
INK	**Inuvik**	**66.22**	**350**	P	**P**	**11 37 05.6**	**-1.6**
INK				LR	LR	12 05 44.5	
BJI	**Beijing**	**67.31**	**56**	P	**P**	**11 37 13.3**	**-0.8**
BJI				S	S	11 46 03.9	-6.2
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=N,155nm,25.2s,MS4.3						
BJI				LR	LR		
	comp=E,170nm,27.5s,MS4.3						
BJI				LR	LR		
	comp=Z,123nm,29.1s,MS4.0						
YKW3	**Yellowknife Ar**	**67.72**	**339**	*e*P	**P**	**11 37 15.5**	**-1.2**
YKA	**Yellowknife Ar**	**67.78**	**339**	P	**P**	**11 37 16.1**	**-0.9**
	comp=Z,2.8nm,0.7s,mb4.4,baz=35,slow=5.4,SNR=47						
YKA				LR	LR	12 09 01.6	
	comp=Z,114nm,18.6s,MS4.1,baz=80,slow=38						
YKA	**Yellowknife Ar**	**67.78**	**339**	P	**P**	**11 37 16.1**	**-0.9**
YKA				LR	LR	12 09 01.6	
KMI	**Kunming**	**67.88**	**76**	P	**P**	**11 37 20.8**	**+3.1**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
KLR	**Kul'dur**	**69.57**	**41**	*e*P	**P**	**11 37 27.3**	**-0.9**
CN2	**Changchun**	**70.12**	**48**	*e*P	**P**	**11 37 33.0**	**+1.4**
CN2				*e*XP	sP	11 37 40.8	+7.9
CN2				*e*S	S	11 46 44.8	+1.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,600nm,17.0s,MS5.0						
CN2				LR	LR		
	comp=E,400nm,17.0s,MS5.0						
CN2				LR	LR		
	comp=Z,200nm,17.0s,MS4.4						
TNA	**Tin City**	**70.54**	**4**	*e*P	**P**	**11 37 35.1**	**+0.9**
	comp=Z,1.2nm,0.7s,mb3.9						
ULM	**Lac du Bonnet**	**70.82**	**322**	P	**P**	**11 37 35.0**	**-0.8**
	comp=Z,4.0nm,0.9s,mb4.4,baz=31,slow=7.2,SNR=6.9						
ULM				LR	LR	12 07 15.5	
	comp=Z,154nm,18.1s,MS4.3,baz=88,slow=35						
DAWY	**Dawson**	**71.01**	**351**	*e*P	**P**	**11 37 36.6**	**-0.4**
ILAR	**Eielson Array**	**71.03**	**354**	P	**P**	**11 37 37.1**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=7.8,slow=6.7,SNR=21						
ILAR				LR	LR	12 08 30.9	
	comp=Z,54nm,18.6s,MS3.8,baz=177,slow=36						
MDJ	**Mudanjiang**	**71.73**	**45**	P	**P**	**11 37 39.8**	**-1.6**
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.3s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,66nm,4.9s						
MDJ				LR	LR		
	comp=N,133nm,21.5s,MS4.3						
MDJ				LR	LR		
	comp=E,132nm,22.8s,MS4.3						
MDJ				LR	LR		
	comp=Z,201nm,18.8s,MS4.4						
NJ2	**Nanjing**	**74.16**	**61**	*e*P	**P**	**11 37 58.1**	**+2.3**
NJ2				AP	pP	11 38 02.8	+6.1
NJ2				XP	sP	11 38 05.1	+8.0
NJ2				PP	PP	11 40 45.6	+4.4
NJ2				S	S	11 47 30.0	+0.2
NJ2				XS	sS	11 47 37.0	+5.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,90nm,3.7s						
NJ2				LR	LR		
	comp=N,220nm,19.6s						
NJ2				LR	LR		
	comp=E,740nm,34.7s						
NJ2				LR	LR		
	comp=Z,130nm,23.6s,MS4.2						
SSE	**Sheshan**	**76.26**	**60**	P	**P**	**11 38 06.9**	**-1.0**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,83nm,5.9s						
LAO	**LASA Array**	**77.96**	**325**	*e*P	**P**	**11 38 18.4**	**+0.9**
	comp=Z,16nm,1.0s,mb4.9						
LAO				*e*		11 38 25.3	
EGMT	**Eagleton**	**78.27**	**328**	*e*P	**P**	**11 38 19.3**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8						
ASAJ	**Asahikawa**	**78.35**	**38**	LR	LR	12 18 17.8	
	comp=Z,197nm,18.9s,MS4.5,baz=354,slow=40						
KSU1	**Kansas State U**	**79.46**	**315**	*e*P	**P**	**11 38 25.2**	**-0.4**
GCMT	**Greycliff**	**80.08**	**327**	*e*P	**P**	**11 38 29.8**	**+0.8**
HRY	**Holter Researc**	**80.14**	**329**	*e*P	**P**	**11 38 29.4**	**0.0**
CBKS	**Cedar Bluff**	**81.25**	**317**	*e*P	**P**	**11 38 35.6**	**+0.3**
	comp=Z,15nm,1.1s,mb4.8						
CBKS	**Cedar Bluff**	**81.25**	**317**	*e*P	**P**	**11 38 35.6**	**+0.3**
	comp=Z,15nm,1.1s,mb4.8						
CBKS	**Cedar Bluff**	**81.25**	**317**	*e*P	**P**	**11 38 35.6**	**+0.3**
CBKS				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
LKWY	**Lake**	**81.38**	**327**	*e*P	**P**	**11 38 37.6**	**+1.5**
	comp=Z,8.0nm,1.1s,mb4.6						
LKWY	**Lake**	**81.38**	**327**	*e*P	**P**	**11 38 37.6**	**+1.6**
	comp=Z,8.1nm,1.1s,mb4.6						
LKWY	**Lake**	**81.38**	**327**	*e*P	**P**	**11 38 37.6**	**+1.5**
LKWY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
DLMT	**Dillon**	**81.56**	**328**	*e*P	**P**	**11 38 37.6**	**+0.6**
	comp=Z,9.7nm,1.1s,mb4.7						
FLWY	**Flagg Ranch**	**81.91**	**327**	*e*P	**P**	**11 38 40.2**	**+1.4**
	comp=Z,8.9nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**82.10**	**46**	P	**P**	**11 38 40.9**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=328,slow=4.6,SNR=4.3						
RWWY	**Rawlins**	**82.43**	**323**	*e*P	**P**	**11 38 42.2**	**+0.6**
	comp=Z,12nm,1.0s,mb4.8						
PDAR	**Pinedale Array**	**82.54**	**325**	P	**P**	**11 38 42.0**	**-0.1**
	comp=Z,2.9nm,1.0s,mb4.3,baz=69,slow=4.6,SNR=16						
PDAR				LR	LR	12 15 47.9	
	comp=Z,161nm,19.0s,MS4.4,baz=188,slow=36						
BMO	**Blue Mountains**	**83.72**	**331**	*e*P	**P**	**11 38 47.9**	**-0.3**
	comp=Z,7.0nm,1.0s,mb4.8						
WMOK	**Wichita Mounta**	**83.91**	**314**	*e*P	**P**	**11 38 49.5**	**+0.3**
	comp=Z,8.0nm,1.1s,mb4.8						
WMOK	**Wichita Mounta**	**83.91**	**314**	*e*P	**P**	**11 38 49.5**	**+0.3**
	comp=Z,8.5nm,1.1s,mb4.8						
WMOK	**Wichita Mounta**	**83.91**	**314**	*e*P	**P**	**11 38 49.5**	**+0.3**
WMOK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
HWUT	**Hardware Ranch**	**84.33**	**326**	*e*P	**P**	**11 38 51.4**	**+0.1**
	comp=Z,9.3nm,1.0s,mb4.9						
SDV	**Santo Domingo**	**84.44**	**277**	*e*P	**P**	**11 38 52.6**	**+0.7**
	comp=Z,7.1nm,1.0s,mb4.8						
BDFB	**Brasilia**	**85.81**	**244**	P	**P**	**11 39 01.2**	**+2.4**
	comp=Z,3.1nm,0.6s,mb4.7,baz=143,slow=5.1,SNR=3.9						
NVAR	**Mina Array Bea**	**89.69**	**329**	P	**P**	**11 39 17.9**	**+0.5**
	comp=Z,1.5nm,0.9s,mb4.3,baz=54,slow=4.0,SNR=10.0						
WRA	**Warramunga Arr**	**120.88**	**88**	PKP	PKPdf	11 45 10.6	-1.1
	comp=Z,1.1nm,1.0s,baz=315,slow=2.2,SNR=6.2						
WRA	**Warramunga Arr**	**120.88**	**88**	PKIKP	PKPdf	11 45 10.6	-1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**122.90**	**92**	PKP	PKPdf	11 45 16.1	+0.6
	comp=Z,1.8nm,1.0s,baz=338,slow=2.6,SNR=10						
ASAR	**Alice Springs**	**122.90**	**92**	PKIKP	PKPdf	11 45 16.2	+0.7
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**133.19**	**96**	PKP	PKPdf	11 45 34.8	-0.3
	comp=Z,0.9nm,0.4s,baz=4.5,slow=17,SNR=3.0						

ISCJB ***22*** *11:35:11.0±0.2,2140S±004×3307E±004,h10km, mb4.8/80,MS5.0/134,Error ellipse: s-maj=5.8km s-min=4.6km az=84.0*

IDC ***22*** *11:35:11.7±0.5,2133S×3326E,h0km,mb4.4/25, mb1 4.6/29,mb1mx4.6/31,mbtmp4.5/29,ML4.9/4,MS4.8/21, Ms1 4.8/21,ms1mx4.7/22,Error ellipse: s-maj=15.3km s-min=10.8km az=98.0*

MOS ***22*** *11:35:12.0±0.9,2119S×3334E,h10km,mb5.1/29, MS4.9/18,Error ellipse: s-maj=15.6km s-min=6.2km az=96.9*

BJI ***22*** *11:35:13.3,2095S×3346E,h10km,mB5.5,mb5.2,Ms5.2, Msz5.0*

NEIC ***22*** *11:35:13.1±0.2,2134S×3326E,h10km,mb5.0/43, MS5.1/112,Error ellipse: s-maj=7.1km s-min=6.6km az=97.0*

HRVD ***22*** *11:35:13.1±0.2,2125S×33.15E,h12km,MW5.2/83, Centroid moment Tensor Solution. LP body waves: s51,c76;Mantle waves: s83,c161; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr=0.73±.01; Mθθ=0.05±.01; Mφφ0.78±.01; Mrθ=0.31±.05; Mφθ=0.03±.01; Mφr0.17±.04; Best double couple: M=0.83900×10^17 NP1:φs17.00000°,δ42.00000°,λ-59.00000°. NP2: φs158.00000°,δ55.00000°,λ-115.00000°. Principal axes: T 0.8100, Plg7.0000°, Azm265.0000°; N 0.0590, Plg20.0000°, Azm173.0000°; P -0.8690, Plg69.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

PRE ***22*** *11:35:18.9±1.5,2185S×3253E,h5km,ML6.1*

SZGRF ***22*** *11:35:18.9, 1985S×3499E,h16km,mb4.9,MS4.7, Mozambique*

ISC 22 11:35:12.9±0.2,2140S±003×3311E±004,h10km, (h17km±.8km:pP-P),n352,σ1s05/231,mb4.8/80,MS5.0/134, 7C-4D,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.42**	**282**	Pn	**Pn**	**11 36 20.5**	**+0.5**
	61nm,0.3s,baz=93,slow=15,SNR=271						
MATP	

BOSA *e*S **Sn** **11 39 16.9 -15**
BOSA AML AML 11 40 50.0
comp=Z,519nm,0.7s
BOSA Boshof 10.11 223 Pn **Pn** **11 37 37.8 -0.4**
comp=Z,14nm,0.3s,baz=51,slow=14,SNR=129
BOSA Sn **Sn** **11 39 31.1 -0.6**
comp=Z,18nm,0.3s,baz=354,slow=16,SNR=3.9
BOSA Lg 11 40 29.1
comp=Z,21nm,0.3s,baz=132,slow=21,SNR=5.5
BOSA LR LR 11 41 49.3
comp=Z,9µm,18.4s,baz=52,slow=39
BOSA Boshof 10.11 223 *e*Pn **Pn** **11 37 37.8 -0.4**
comp=Z,103nm,0.7s
BOSA Boshof 10.11 223 *e*P **Pn** **11 37 37.8 -0.4**
BOSA pmax pmax
comp=Z,103nm,0.7s
PKA Prieska 12.45 227 *e*P **Pn** **11 38 08.6 -1.5**
GRM Grahamstown 13.23 205 *e*P **Pn** **11 38 20.9 +0.1**
GRM *e*S **Sn** **11 40 32.5 -16**
GRM AML AML 11 42 30.8
comp=Z,377nm,0.7s
OPO Ambohidratompo 13.53 80 Pn **Pn** **11 38 21.8 -3.1**
comp=Z,4.1nm,0.3s,baz=255,slow=13,SNR=12
OPO Sn **Sn** **11 40 44.6 -11**
comp=Z,8.2nm,0.3s,baz=330,slow=22,SNR=7.3
TSUM Tsumeb 14.73 276 Pn **Pn** **11 38 37.9 -3.3**
comp=Z,7.2nm,0.3s,baz=102,slow=11,SNR=46
TSUM Sn **Sn** **11 41 14.5 -10**
comp=Z,0.8nm,0.3s,baz=66,slow=20,SNR=4.7
TSUM Lg 11 42 53.9
comp=Z,11nm,0.3s,baz=227,slow=23,SNR=3.3
TSUM LR LR 11 44 24.5
comp=Z,11µm,18.9s,baz=239,slow=37
TSUM Tsumeb 14.73 276 *e*Pn **Pn** **11 38 38.5 -2.8**
comp=Z,55nm,0.6s
TSUM *e*Sn **Sn** **11 41 15.4 -9.2**
SUR Sutherland 15.48 222 Pn **Pn** **11 38 50.2 -1.0**
comp=Z,972nm,1.2s,SNR=32
SUR Sutherland 15.48 222 *e*P **Pn** **11 38 50.1 -1.1**
SUR *e*S **Sn** **11 41 25.5 -17**
SUR Sutherland 15.48 222 Pn **Pn** **11 38 49.8 -1.5**
comp=Z,5.1nm,0.3s,baz=57,slow=12,SNR=55
SUR Sn **Sn** **11 41 33.7 -9.0**
comp=Z,5.1nm,0.3s,baz=126,slow=22,SNR=7.0
SUR Lg 11 43 18.1
comp=Z,11nm,0.3s,baz=321,slow=22,SNR=5.5
SUR LR LR 11 45 48.9
comp=Z,1µm,21.3s,baz=49,slow=41
SUR Sutherland 15.48 222 *e*Pn **Pn** **11 38 49.5 -1.7**
comp=Z,127nm,0.7s
SUR *e*Sn **Sn** **11 41 32.2 -11**
CVNA Calvinia 15.60 227 *e*P **Pn** **11 38 51.2 -1.6**
CVNA *e*S **Sn** **11 41 27.8 -18**
CVNA AML AML 11 43 51.7
comp=Z,411nm,0.7s
KMBO Kilima Mbogo 20.55 12 P **P** **11 39 50.4 -1.1**
comp=Z,16nm,1.1s,baz=188,slow=13,SNR=19
KMBO S **S** **11 43 43.9 +2.5**
comp=Z,1.7nm,0.6s,baz=157,slow=17,SNR=2.2
KMBO Lg 11 45 51.7
comp=Z,9.9nm,0.9s,baz=98,slow=22,SNR=7.3
KMBO Kilima Mbogo 20.55 12 *e*P **P** **11 39 51.7 +0.2**
comp=Z,126nm,2.0s
KMBO Kilima Mbogo 20.55 12 *e*P **P** **11 39 51.7 +0.1**
KMBO pmax pmax
comp=Z,126nm,2.0s
ATD Arta Tunnel 34.09 17 P **P** **11 41 57.9 +0.3**
comp=Z,3.4nm,0.3s,mb4.8,baz=232,slow=19,SNR=2.7
SHEL Horse Pasture 37.14 272 PFAKE 11 42 40.0 +16
SHEL LR LR
comp=Z,2µm,20.0s,MS5.0
DGAR Diego Garcia 40.42 76 PFAKE 11 43 00.0 +8.7
DGAR LR LR
comp=Z,2µm,20.0s,MS5.0
TORD Torodi Ar. Bea 46.15 315 P **P** **11 43 38.5 +0.9**
comp=Z,9.1nm,0.8s,mb4.7,baz=128,slow=6.7,SNR=41
LIC Lamto 46.40 302 *e*P **P** **11 43 39.2 -0.3**
comp=Z,72nm,1.5s,mb5.1
LIC *e*R
comp=Z,3µm,21.8s
LIC Lamto 46.40 302 *e*P **P** **11 43 39.2 -0.3**
comp=Z,36nm,1.5s,mb5.1
LIC LR LR
comp=Z,1µm,21.8s,MS4.9
DBIC Dimbokro 46.53 303 P **P** **11 43 40.7 +0.2**
comp=Z,5.3nm,0.7s,mb4.6,baz=114,slow=9.0,SNR=11
DBIC LR LR 12 01 45.5
comp=Z,2µm,20.8s,MS5.0,baz=114,slow=34
DBIC Dimbokro 46.53 303 *e*P **P** **11 43 41.3 +0.7**
comp=Z,2.9nm,0.5s,mb4.5
DBIC LR LR
comp=Z,2µm,20.0s,MS5.0
DBIC Dimbokro 46.53 303 *e*P **P** **11 43 41.3 +0.7**
DBIC pmax pmax
comp=Z,3.0nm,0.5s
DBIC MLR MLR
comp=Z,2µm,20.0s
SYO Syowa Base 47.78 177‖ *e*P **P** **11 43 50.9 +0.6**
MAW Mawson 49.83 166 P **P** **11 44 07.1 +1.0**
comp=Z,19nm,0.8s,mb5.2,baz=256,slow=10,SNR=4.7
MAW LR LR 12 01 34.8
comp=Z,655nm,18.6s,MS4.7,baz=326,slow=32
MAW Mawson 49.83 166 *e*P **P** **11 44 04.5 -1.5**
comp=Z,31nm,1.0s,mb5.3
MAW Mawson 49.83 166 *e*P **P** **11 44 04.5 -1.5**
MAW pmax pmax
comp=Z,31nm,1.0s
EIL Elat 50.80 2 *e*P **P** **11 44 14.7 +1.3**
comp=Z,147nm,1.1s,mb5.8
NVL N'lazarevskaya 50.95 189‖ *i*P **P** **11 44 17.2 +2.7**
NVL pmax pmax
comp=Z,44nm,2.1s,mb5.0
SNAA Sanae 54.35 193 P **P** **11 44 41.2 +1.5**
comp=Z,3.5nm,0.9s,mb4.3,baz=227,slow=5.2,SNR=3.3
SNAA Sanae 54.35 193 *e*P **P** **11 44 41.6 +1.9**
SNAA Sanae 54.35 193 *e*P **P** **11 44 41.3 +1.6**
PALK Pallekele 54.70 64 PFAKE 11 44 50.0 +7.8
PALK LR LR
comp=Z,779nm,20.0s,MS4.8
VNA2 Neumayer–Watz 54.87 195 *e*PKPdf **P** **11 44 51.7 +8.3**
baz=356,slow=4.5
VNA2 *e* 11 45 11.4
VNA3 Neumayer Olymp 55.63 195 *e*PKPdf **P** **11 44 54.5 +5.5**
MSL Mosul 58.14 9 *e*x x 11 45 10.5
MSL *e*x x 11 52 33.5
HYB Hyderabad 58.91 53 *i*P **P** **11 45 11.0 -1.1**
HYB Hyderabad 58.91 53 *e*P **P** **11 45 11.0 -1.1**
BR131 Keskin Array S 60.80 0 *e*P **P** **11 45 25.0 -0.2**
comp=Z,0.6nm,0.3s,mb4.2
BR131 LR LR
comp=Z,233nm,20.0s,MS4.3
BRTR Keskin Array B 60.80 0 P **P** **11 45 26.1 +0.9**
comp=Z,1.7nm,0.7s,mb4.3,baz=179,slow=16,SNR=9.3
ANTO Ankara 60.95 360 PFAKE 11 45 40.0 +14
ANTO LR LR
comp=Z,197nm,20.0s,MS4.3
COCO West Island 61.35 93 PFAKE 11 45 40.0 +11
COCO LR LR
comp=Z,2µm,22.0s,MS5.1
GNI Garni 62.18 10 PFAKE 11 45 50.0 +16
GNI LR LR
comp=Z,326nm,21.0s,MS4.5
GNI Garni 62.18 10 *e*P **P** **11 45 34.1 -0.3**
GNI pmax pmax
comp=Z,7.0nm,1.5s
GNI MLR MLR
comp=Z,400nm,18.0s
SOC Sochi 64.94 5*d i*P **P** **11 45 49.7 -3.0**
SOC *e*S **S** **11 54 30.0 -4.3**
SOC *e* 11 55 38.8
SOC pmax pmax
comp=Z,11nm,0.7s,mb5.0
SOC MLR MLR
comp=Z,374nm,14.0s,MS4.7
KIV Kislovodsk 65.62 8 PFAKE 11 46 10.0 +13
KIV LR LR
comp=Z,380nm,22.0s,MS4.5
KIV Kislovodsk 65.62 8 *e*P **P** **11 45 57.3 +0.2**
KIV *e* 11 46 29.2
KIV *e*S S 11 54 40.4 -2.2
KIV pmax pmax
comp=Z,17nm,1.2s,mb5.0
GOF Gofitskoye 66.75 8 *e*P **P** **11 46 03.8 -0.5**
PGF Pioggiola 67.41 341 *e*P **P** **11 46 08.7 +0.2**
RCBR Riachuelo 68.37 272 PFAKE 11 46 30.0 +15
RCBR LR LR
comp=Z,1µm,22.0s,MS5.2
PSI Prapat 68.67 78 LR LR 12 11 48.3
comp=Z,2µm,21.4s,MS5.4,baz=300,slow=32
QSPA South Pole Qui 68.76 180 *e*P **P** **11 46 18.1 +1.1**
comp=Z,5.4nm,1.0s,mb4.4
LMR La Mourre 68.90 339 *e*P **P** **11 46 17.8 -0.1**
EADA Adamuz 69.02 329 P **P** **11 46 22.2 +3.6**
comp=Z,22nm,1.6s,mb4.8
FRF La Foret Royal 69.06 340 *e*P **P** **11 46 18.5 -0.4**
KOLN Koldanda 69.07 47 *e*P **P** **11 46 17.3 -1.6**
comp=Z,32nm,0.9s,mb5.3
SBF Sospel 69.08 340 *e*P **P** **11 46 18.9 -0.1**
EMIN Mina Concepcio 69.74 327 P **P** **11 46 22.3 -0.7**
comp=Z,28nm,1.6s,mb5.0
SMRF Simiane la Rot 69.78 339 *e*P **P** **11 46 24.1 +0.8**
comp=Z,68nm,1.5s,mb5.0
SMRF Simiane la Rot 69.78 339 *e*P **P** **11 46 24.1 +0.8**
comp=Z,68nm,1.5s,mb5.4
GKN Gorkha 69.92 47 *e*P **P** **11 46 22.5 -1.7**
comp=Z,41nm,0.8s,mb5.4
ESLA Sonseca Array 69.93 330 *e*P **P** **11 46 25.1 +0.8**
comp=Z,3.6nm,1.2s,mb4.2
ESLA LR LR
comp=Z,4µm,19.0s,MS5.7
ESDC Sonseca Array 69.93 330 P **P** **11 46 24.7 +0.4**
comp=Z,0.3nm,0.3s,baz=143,slow=6.2,SNR=8.1
DMN Daman 70.00 48 *e*P **P** **11 46 23.4 -1.3**
comp=Z,32nm,1.1s,mb5.2
MBDF Montbardon 70.06 340 *e*P **P** **11 46 25.6 +0.5**
comp=Z,21nm,1.1s,mb4.7
MBDF Montbardon 70.06 340 *e*P **P** **11 46 25.6 +0.5**
comp=Z,10nm,1.1s,mb4.7
MBDF Montbardon 70.06 340 *e*P **P** **11 46 25.6 +0.5**
MBDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
PKI Pulchoki 70.19 48 *e*P **P** **11 46 25.0 -0.8**
comp=Z,33nm,1.0s,mb5.2
PKI Pulchoki 70.19 48 *e*P **P** **11 46 25.0 -0.8**
PKI pmax pmax
comp=Z,17nm,1.0s,mb4.9
KKN Kakani 70.23 48 *e*P **P** **11 46 24.5 -1.6**
comp=Z,28nm,0.9s,mb5.2
KKN Kakani 70.23 48 *e*P **P** **11 46 24.5 -1.6**
KKN pmax pmax
comp=Z,14nm,0.9s,mb4.9
MTLF Montolieu 70.40 337 *e*P **P** **11 46 27.2 0.0**
KBA Koelnbreinsper 70.45 346⇑ *i*P **P** **11 46 28.9 +1.4**
comp=Z,11nm,1.4s,mb4.6
KBA Koelnbreinsper 70.45 346⇑ *i*P **P** **11 46 28.9 +1.4**
comp=Z,11nm,1.4s,mb4.6
KBA Koelnbreinsper 70.45 346⇑ *i*P **P** **11 46 28.9 +1.5**
KBA pmax pmax
comp=Z,11nm,1.4s,mb4.6
LASF Ste Croix 70.45 338 *e*P **P** **11 46 27.2 -0.3**
KECS Kecovo 70.47 351 *e*P **P** **11 46 28.9 +1.3**
GUN Gumba 70.72 48 *e*P **P** **11 46 28.5 -0.6**
VYHS Vyhne 70.73 350 *e*P **P** **11 46 29.1 -0.1**
LPG La Plagne 70.76 341 *e*P **P** **11 46 29.7 +0.3**
LPL La Plagne 70.79 341 *e*P **P** **11 46 30.5 +1.0**
JIRN Jiri 70.79 49 *e*P **P** **11 46 28.2 -1.3**
comp=Z,45nm,0.9s,mb5.4
EPF Esparros 70.86 335 *e*P **P** **11 46 29.9 0.0**
MOA Molln 70.98 347⇑ *i*P **P** **11 46 32.0 +1.3**
comp=Z,12nm,1.2s,mb4.7
STHS Stebnicka Huta 71.28 352 *e*P **P** **11 46 36.1 +3.6**
STHS Stebnicka Huta 71.28 352 *e*pP pP 11 46 36.1 +0.3
DAVA Damuels 71.50 344⇑ *i*P **P** **11 46 35.7 +1.9**
comp=Z,11nm,1.3s,mb4.6
SJPF Ste Jean 71.55 334 *e*P **P** **11 46 34.0 -0.1**
CAF Calviac 71.83 337 *e*P **P** **11 46 35.5 -0.3**
AKASG Malin Array Be 71.86 357 P **P** **11 46 35.4 -0.6**
comp=Z,3.1nm,0.7s,mb4.3,baz=179,slow=6.1,SNR=7.9
AKASG Malin Array Be 71.86 357 P **P** **11 46 35.4 -0.6**
FUR Furstenfeldbru 71.96 345 *e*P **P** **11 46 38.1 +1.5**
comp=Z,24nm,1.0s,mb5.1
FUR Furstenfeldbru 71.96 345 *e*P **P** **11 46 38.1 +1.5**
FUR pmax pmax
comp=Z,24nm,1.0s,mb5.1
CABF La Chapelle 71.97 341 *e*P **P** **11 46 36.5 -0.1**
comp=Z,121nm,1.8s,mb5.2
CABF La Chapelle 71.97 341 *e*P **P** **11 46 36.5 -0.1**
comp=Z,60nm,1.8s,mb5.2
CABF La Chapelle 71.97 341 *e*P **P** **11 46 36.5 -0.1**
CABF pmax pmax
comp=Z,61nm,1.8s,mb5.2
GEC2 GERESS Array S 72.04 347 *e*P **P** **11 46 38.1 +1.0**
comp=Z,11nm,1.5s,mb4.6
GEC2 GERESS Array S 72.04 347 *e*P **P** **11 46 38.1 +1.0**
GEC2 pmax pmax
comp=Z,11nm,1.5s,mb4.6
GERES GERESS Array B 72.04 347 P **P** **11 46 37.7 +0.6**
comp=Z,2.6nm,0.7s,mb4.3,baz=157,slow=7.2,SNR=14
GERES LR LR 12 20 44.7
comp=Z,292nm,20.5s,MS4.5,baz=343,slow=38
KHC Kasperske Hory 72.34 347 *e*P **P** **11 46 39.0 +0.2**
RJF Les Rejaudoux 72.35 337 *e*P **P** **11 46 38.5 -0.4**
RJF *e*R
comp=Z,649nm,18.2s
RJF Les Rejaudoux 72.35 337 *e*P **P** **11 46 38.5 -0.4**
RJF MLR MLR
comp=Z,650nm,18.3s,MS4.9
WET Wettzell 72.50 346 *e*P **P** **11 46 40.5 +0.7**
SMF Signal de Mont 72.71 339 *e*P **P** **11 46 40.4 -0.7**
HINF Hinteralfeld 72.82 342 *e*P **P** **11 46 40.9 -0.8**
TCF Toulx Ste Croi 72.95 338 *e*P **P** **11 46 42.4 -0.1**
comp=Z,54nm,1.4s,mb5.0
TCF Toulx Ste Croi 72.95 338 *e*P **P** **11 46 42.4 -0.1**
comp=Z,27nm,1.4s,mb5.0
TCF Toulx Ste Croi 72.95 338 *e*P **P** **11 46 42.4 -0.1**
TCF pmax pmax
comp=Z,27nm,1.4s,mb5.0
BGF Bois d'Agland 72.97 339 *e*P **P** **11 46 42.1 -0.5**
AVF Avril sur Loir 73.00 339 *e*P **P** **11 46 42.3 -0.5**
comp=Z,37nm,1.4s,mb4.8
AVF Avril sur Loir 73.00 339 *e*P **P** **11 46 42.3 -0.5**
comp=Z,18nm,1.4s,mb4.8
AVF Avril sur Loir 73.00 339 *e*P **P** **11 46 42.3 -0.5**
AVF pmax pmax
comp=Z,18nm,1.4s,mb4.8
HAU Haudompre 73.14 342 *e*P **P** **11 46 43.8 +0.2**
HAU *e*R
comp=Z,490nm,21.2s
HAU Haudompre 73.14 342 *e*P **P** **11 46 43.8 +0.2**
HAU MLR MLR
comp=Z,490nm,21.3s,MS4.8
SSF Saint Saulge 73.19 339 *e*P **P** **11 46 43.2 -0.7**
ROTZ Rotzenmuhle 73.24 346 *e*P **P** **11 46 44.9 +0.7**
comp=Z,20nm,1.4s,mb4.8
CDF Champ du Feu 73.24 342 *e*P **P** **11 46 44.7 +0.5**
LOR Lormes 73.25 340 *e*P **P** **11 46 43.7 -0.6**
LOR *e*R
comp=Z,377nm,17.8s
LOR Lormes 73.25 340 *e*P **P** **11 46 43.7 -0.6**
LOR MLR MLR
comp=Z,380nm,17.8s,MS4.7
GRA1 Grafenberg Arr 73.40 345 *e*P **P** **11 46 46.2 +1.1**
comp=Z,18nm,1.0s,mb5.0
GRA1 *e*pP pP 11 46 50.8 +2.4
GRA1 LR LR
comp=Z,400nm,20.0s,MS4.7
GRF Grafenberg Arr 73.40 345 *e*P **P** **11 46 46.2 +1.1**
comp=Z,18nm,1.0s,mb5.0
GRF *e*pP pP 11 46 50.8 +2.4
GRF *e*L 12 26 28.5
comp=Z,410nm,20.0s
GRF Grafenberg Arr 73.40 345 *e*P **P** **11 46 46.2 +1.1**
GRF *e**PP pP 11 46 50.8 +2.4
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF MLR MLR
comp=Z,400nm,20.0s,MS4.7
GRF Grafenberg Arr 73.40 345 *e*P **P** **11 46 46.2 +1.1**
GRF *e**PP pP 11 46 50.8 +2.4
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF MLR MLR
comp=Z,400nm,20.0s,MS4.7
MANZ Manzenberg 73.47 346 *e*P **P** **11 46 46.5 +1.0**
comp=Z,22nm,1.5s,mb4.9
AML Almayashu 73.50 30 P **P** **11 46 46.0 +0.3**
SNR=8.3
WERD Werda 73.86 346 *e*P **P** **11 46 48.7 +0.9**
comp=Z,20nm,1.4s,mb4.8
BRG Berggiesshubel 73.91 347 *e*P **P** **11 46 48.8 +0.6**
comp=Z,4.0nm,1.0s,mb4.3
EKS2 Erkin-Say 73.95 30 P **P** **11 46 48.6 +0.3**
SNR=6.3
NWAO Narrogin (SRO) 73.95 119 PFAKE 11 47 00.0 +12
NWAO LR LR
comp=Z,670nm,21.0s,MS4.9
UCH Uchtor 73.96 31 P **P** **11 46 49.1 +0.7**
SNR=8.1
MEZF Maizieres J'vi 73.97 341 *e*P **P** **11 46 48.5 0.0**
MFF Saint Martin d 74.06 337 *e*P **P** **11 46 48.6 -0.4**
comp=Z,36nm,1.1s,mb4.9
MFF Saint Martin d 74.06 337 *e*P **P** **11 46 48.6 -0.4**
comp=Z,18nm,1.1s,mb4.9
MFF Saint Martin d 74.06 337 *e*P **P** **11 46 48.6 -0.4**
MFF pmax pmax
comp=Z,18nm,1.1s,mb4.9
MOX Moxa 74.19 346 *e*P **P** **11 46 50.9 +1.1**
comp=Z,12nm,1.3s,mb4.7
MOX Moxa 74.19 346 *e*P **P** **11 46 49.3 -0.5**
comp=Z,21nm,1.6s,mb4.8
MOX
comp=Z,300nm,18.0s
MOX Moxa 74.19 346 *e*P **P** **11 46 49.3 -0.5**
MOX pmax pmax
comp=Z,21nm,1.6s,mb4.8
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.6
FRU Bishkek 74.47 30 *e*P **P** **11 46 51.0 -0.4**
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.0
FRU MLR MLR
comp=Z,500nm,21.0s,MS4.8
KBK Karagaybulak 74.50 31 P **P** **11 46 51.7 +0.1**
SNR=9.6
CLL Collm 74.52 347 *e*P **P** **11 46 52.3 +0.6**
comp=Z,9.0nm,1.2s,mb4.6
CLL Collm 74.52 347 *i*P **P** **11 46 52.5 +0.8**
comp=Z,13nm,1.3s,mb4.7
CLL *e* 11 47 09.0
CLL Collm 74.52 347 *i*P **P** **11 46 52.5 +0.8**
CLL *e* 11 47 09.0
CLL pmax pmax
comp=Z,13nm,1.3s,mb4.7
TNS Taunus Mts 74.57 344 *e*P **P** **11 46 53.3 +1.3**
comp=Z,8.0nm,1.1s,mb4.6
TNS Taunus Mts 74.57 344 *e*P **P** **11 46 53.3 +1.3**
TNS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
UBBA Unterbreizbach 74.73 345 *e*P **P** **11 46 54.2 +1.3**
comp=Z,14nm,1.5s,mb4.7
USP Ospenovka 74.75 30 P **P** **11 46 52.8 -0.2**
SNR=6.6
AKTK Aktyubinsk 74.83 16 P **P** **11 46 52.3 -1.2**
AKTO Aktyubinsk 74.83 16 P **P** **11 46 52.3 -1.2**
comp=Z,2.9nm,0.8s,mb4.3,baz=209,slow=6.7,SNR=6.4
TKM2 Tokmak 2 75.01 31 P **P** **11 46 54.9 +0.4**
SNR=9.3
GIVF Givet 75.47 342 *e*P **P** **11 46 56.7 -0.5**
LSA Lhasa 75.50 50 P **P** **11 46 58.3 +0.9**
LSA Lhasa 75.50 50 PFAKE 11 47 10.0 +13
LSA LR LR
comp=Z,640nm,20.0s,MS4.9
CLZ Clausthal 75.60 346 *e*P **P** **11 46 58.8 +0.9**
comp=Z,13nm,1.4s,mb4.7
CLZ Clausthal 75.60 346 *e*P **P** **11 46 58.8 +0.9**
CLZ pmax pmax
comp=Z,13nm,1.4s,mb4.7
BAIF Baives 75.61 341 *e*P **P** **11 46 57.4 -0.6**
OBN Obninsk 76.26 2 PFAKE 11 47 10.0 +8.3
OBN LR LR
comp=Z,284nm,21.0s,MS4.6
BDFB Brasilia 76.37 258 P **P** **11 47 04.3 +2.0**
comp=Z,4.6nm,0.6s,mb4.6,baz=110,slow=3.0,SNR=7.5
VNDA Vanda 76.87 170 P **P** **11 47 05.3 +0.2**
comp=Z,3.6nm,0.6s,mb4.5,baz=252,slow=6.8,SNR=17
VNDA PKiKP PKiKP 11 52 50.1 +2.2
comp=Z,3.3nm,0.5s,baz=240,slow=5.6,SNR=30
VNDA LR LR 12 17 34.7
comp=Z,474nm,20.2s,MS4.8,baz=230,slow=33
VNDA Vanda 76.87 170 *e*P **P** **11 47 06.0 +0.8**
comp=Z,35nm,1.6s,mb5.0
VNDA LR LR
comp=Z,592nm,22.0s,MS4.9
VNDA Vanda 76.87 170 *e*P **P** **11 47 06.0 +0.8**
VNDA pmax pmax
comp=Z,35nm,1.6s
VNDA MLR MLR
comp=Z,592nm,22.0s
SBA Scott Base 77.39 171 *e*P **P** **11 47 10.5 +2.4**
comp=Z,108nm,1.8s,mb5.5
SBA Scott Base 77.39 171 *e*P **P** **11 47 10.5 +2.4**
SBA pmax pmax
comp=Z,108nm,1.8s,mb5.5
BSEG Bad Segeberg 77.56 346 *e*P **P** **11 47 11.0 +2.0**
comp=Z,14nm,1.2s,mb4.8
MBWA Marble Bar 79.55 109 *e*P **P** **11 47 20.2 +0.2**
MBWA LR LR
comp=Z,488nm,19.0s,MS4.9
ZRNK Zerenda 80.33 21 *e*P **P** **11 47 23.1 -1.1**
comp=Z,6.7nm,0.9s,mb4.6
ZRNK Zerenda 80.33 21 *e*P **P** **11 47 23.1 -1.1**
ZRNK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ARU Arti 80.45 14 PFAKE 11 47 40.0 +15
ARU LR LR
comp=Z,480nm,20.0s,MS4.8
BRVK Borovoye 80.85 22 P **P** **11 47 26.0 -1.0**
comp=Z,56nm,0.9s,mb5.5,SNR=5.2
BRVK Borovoye 80.85 22 *e*P **P** **11 47 26.4 -0.7**
comp=Z,7.7nm,1.0s,mb4.6
BRVK Borovoye 80.85 22 *e*P **P** **11 47 26.4 -0.6**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TRQA Tornquist 80.95 233 PFAKE 11 47 40.0 +12
TRQA LR LR
comp=Z,1µm,22.0s,MS5.2
MKAR Makanchi Array 81.08 32 P **P** **11 47 26.8 -1.5**
comp=Z,3.2nm,0.8s,mb4.3,baz=216,slow=6.0,SNR=16
MKAR LR LR 12 23 30.5
comp=Z,282nm,20.9s,MS4.6,baz=213,slow=36
CPUP Villa Florida 81.17 245 LR LR 12 19 02.1
comp=Z,904nm,18.6s,MS5.2,baz=110,slow=32
CPUP Villa Florida 81.17 245 PFAKE 11 47 40.0 +11
CPUP LR LR
comp=Z,247nm,20.0s,MS4.6
SVE Sverdlovsk 81.30 15 *e*P **P** **11 47 29.0 -0.4**
KMI Kunming 81.90 59 P **P** **11 47 32.6 0.0**
KMI PP PP 11 50 42.0 +2.1
KMI S S 11 57 48.6 +2.3
KMI AMB AMB
comp=Z,8.0nm,1.6s,mb4.4
KMI AMB AMB
comp=Z,151nm,3.6s
KMI LR LR
comp=N,208nm,14.4s,MS4.9
KMI LR LR
comp=E,315nm,16.6s,MS4.9
KMI LR LR
comp=Z,436nm,16.6s,MS4.9
WMQ Urumqi 81.92 37 *e*P **P** **11 47 33.3 +0.6**
WMQ PP PP 11 50 42.8 +2.8
WMQ *e*S S 11 57 45.1 -1.3
WMQ SS SS 12 03 05.8 +1.0
WMQ AMB AMB
comp=Z,26nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,171nm,4.6s
WMQ LR LR
comp=N,195nm,18.2s,MS4.7
WMQ LR LR
comp=E,258nm,20.0s,MS4.7
WMQ LR LR
comp=Z,214nm,18.0s,MS4.5
KLMR Klimovskoe 82.12 3 *e*P **P** **11 47 32.3 -1.4**
KLMR pmax pmax
comp=Z,40nm,1.8s,mb5.0
KURK Kurchatov 82.23 27 P **P** **11 47 34.0 -0.3**
comp=Z,101nm,1.4s,mb5.6,SNR=12
KURK Kurchatov 82.23 27 *e*P **P** **11 47 33.7 -0.6**
comp=Z,40nm,1.4s,mb5.2
KURK LR LR
comp=Z,405nm,20.0s,MS4.8
KURK Kurchatov 82.23 27⇑ *e*P **P** **11 47 33.9 -0.4**
EKA Eskdalemuir Ar 82.44 340 P **P** **11 47 37.0 +1.6**
comp=Z,2.7nm,1.1s,mb4.1,baz=184,slow=9.2,SNR=4.2
ESK Eskdalemuir 82.44 340 PFAKE 11 47 50.0 +15
ESK LR LR
comp=Z,647nm,21.0s,MS5.0

FINES FINESS Array B 82.74 357 P **P** **11 47 35.0 -2.0**
comp=Z,2.4nm,0.9s,mb4.2,baz=116,slow=6.3,SNR=4.3
FINES LR LR 12 25 08.7
comp=Z,182nm,18.6s,MS4.5,baz=203,slow=36
KAF Kangasniemi 83.40 357 *ep* **P** **11 47 39.1 -1.3**
comp=Z,6.5nm,0.8s,mb4.7
KAF Kangasniemi 83.40 357 *e*P **P** **11 47 39.1 -1.3**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
NB2 NORSAR Subarra 84.03 349 P **P** **11 47 43.6 0.0**
comp=Z,19nm,1.4s,mb5.0,baz=160,slow=5.3
NB2 NORSAR Subarra 84.03 349 P **P** **11 47 43.6 0.0**
NB2 pmax pmax
comp=Z,19nm,1.4s,mb5.0
NOA NORSAR Array B 84.03 349 P **P** **11 47 44.0 +0.4**
comp=Z,3.7nm,0.8s,mb4.6,baz=153,slow=4.7,SNR=4.7
NOA LR LR 12 28 22.1
comp=Z,147nm,19.9s,MS4.4,baz=30,slow=38
NOA NORSAR Array B 84.03 349 P **P** **11 47 44.0 +0.4**
NOA LR LR 12 28 22.1
JOF Joensuu 84.04 359 *ep* **P** **11 47 42.7 -1.0**
comp=Z,4.2nm,0.9s,mb4.6
QIZ Qiongzhong 85.14 68 P **P** **11 47 48.0 -1.2**
QIZ S 11 58 19.8
QIZ AMB AMB
comp=Z,139nm,5.0s
QIZ LR LR
comp=E,458nm,18.1s
QIZ LR LR
comp=Z,539nm,16.5s,MS5.0
QIZ Qiongzhong 85.14 68 PFAKE 11 48 00.0 +11
QIZ LR LR
comp=Z,564nm,19.0s,MS5.0
CD2 Chengdu 85.41 54⇓ *i*P **P** **11 47 49.9 -0.7**
CD2 PP PP 11 51 10.3 +1.7
CD2 SKS 11 58 09.9
CD2 S 11 58 17.3
CD2 AMB AMB
comp=Z,30nm,1.2s,mb5.3
CD2 AMB AMB
comp=Z,150nm,7.9s
CD2 LR LR
comp=E,190nm,22.8s
CD2 LR LR
comp=Z,230nm,24.0s,MS4.5
GYA Guiyang 85.65 60⇑ *i*P **P** **11 47 51.8 0.0**
GYA PP PP 11 51 11.8 +1.2
GYA SKS 11 58 13.5
GYA S 11 58 22.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,110nm,4.0s
GYA LR LR
comp=N,570nm,18.2s,MS5.2
GYA LR LR
comp=E,670nm,18.0s,MS5.2
GYA LR LR
comp=Z,680nm,18.4s,MS5.1
FITZ Fitzroy Crossi 85.82 108 *e*P **P** **11 47 53.4 +0.8**
comp=Z,9.1nm,0.8s,mb5.1
FITZ Fitzroy Crossi 85.82 108 P **P** **11 47 53.6 +1.0**
comp=Z,4.1nm,0.7s,mb4.8,baz=243,slow=9.5,SNR=9.0
FITZ LR LR 12 20 20.2
comp=Z,270nm,20.8s,MS4.6,baz=275,slow=32
PLCA Paso Flores 86.07 228 P **P** **11 47 57.0 +3.1**
comp=Z,0.5nm,0.4s,mb4.1,baz=177,slow=9.5,SNR=2.1
PLCA LR LR 12 24 28.7
comp=Z,372nm,20.2s,MS4.8,baz=120,slow=34
PLCA Paso Flores 86.07 228 P **P** **11 47 57.0 +3.1**
PLCA LR LR 12 24 28.7
GTA Gaotai 86.78 45 *e*P **P** **11 47 57.6 +0.3**
GTA PP PP 11 51 23.0 +3.3
GTA PPP 11 53 19.1
GTA SKS 11 58 22.4
GTA S 11 58 35.4
GTA AMB AMB
comp=Z,11nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,165nm,5.7s
GTA LR LR
comp=E,716nm,22.2s,MS5.1
GTA LR LR
comp=N,465nm,22.2s,MS5.1
GTA LR LR
comp=Z,724nm,20.6s,MS5.1
NVS Novosibirsk 87.15 26 *e*P **P** **11 47 56.9 -2.2**
NVS *e*S 11 58 37.6
NVS pmax pmax
comp=Z,11nm,0.8s,mb5.1
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS smax
comp=N,124nm,3.6s
NVS smax
comp=E,77nm,2.8s
LZH Lanzhou 87.92 50 *e*P **P** **11 48 03.6 +0.8**
LZH AP pP 11 48 09.6 +3.4
LZH PP PP 11 51 32.0 +3.1
LZH *e*S 11 58 44.0
LZH AMB AMB
comp=Z,53nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,350nm,6.5s
LZH LR LR
comp=E,410nm,18.8s
LZH LR LR
comp=Z,695nm,20.0s,MS5.1
SIV San Ignacio 88.06 254 P **P** **11 48 06.1 +2.6**
comp=Z,0.7nm,0.6s,mb4.0,baz=104,slow=8.3,SNR=3.1
LVZ Lovozero 89.04 1 PFAKE 11 48 20.0 +12
LVZ LR LR
comp=Z,591nm,19.0s,MS5.0
ENH Enshi 89.54 57 PFAKE 11 48 20.0 +10
ENH LR LR
comp=Z,359nm,22.0s,MS4.8
ARCES ARCESS Array B 90.84 357 LR LR 12 31 38.8
comp=Z,269nm,18.9s,MS4.7,baz=357,slow=37
ASPA Alice Springs 90.87 116 *e*P **P** **11 48 17.5 +0.8**
ASAR Alice Springs 90.87 116 P **P** **11 48 16.4 -0.3**
comp=Z,6.2nm,0.7s,mb5.1,baz=239,slow=4.1,SNR=31
AS31 Alice Springs 90.87 116 *e*P **P** **11 48 17.5 +0.8**
LVC Limon Verde 92.33 245 PFAKE 11 48 40.0 +17
LVC LR LR
comp=Z,480nm,19.0s,MS5.0
WRA Warramunga Arr 92.73 113 P **P** **11 48 25.4 +0.1**
comp=Z,1.5nm,0.7s,mb4.5,baz=245,slow=2.9,SNR=15
WRA PKKPbc PKKPbc 12 05 38.7 +2.1
comp=Z,0.9nm,1.1s,baz=71,slow=3.1,SNR=6.2
WRAB Tennant Creek 92.75 113 PFAKE 11 48 40.0 +15
WRAB LR LR
comp=Z,1μm,20.0s,MS5.3
STKA Stephens Creek 93.48 126 P **P** **11 48 28.2 -0.5**
comp=Z,1.9nm,0.7s,mb4.7,baz=271,slow=5.9,SNR=4.2
STKA LR LR 12 24 49.5
comp=Z,567nm,19.7s,MS5.0,baz=109,slow=32
LPAZ La Paz 94.21 251 P **P** **11 48 33.4 +1.3**
comp=Z,1.8nm,0.8s,mb4.5,baz=104,slow=6.2,SNR=4.4
LPAZ LR LR 12 27 43.1
comp=Z,733nm,20.7s,MS5.1,baz=272,slow=33
LPAZ La Paz 94.21 251 *e*P **P** **11 48 34.2 +2.1**
LPAZ MLR MLR
comp=Z,774nm,21.0s
ZAK Zakamensk 94.37 37 *e*P **P** **11 48 32.1 -0.8**
ZAK pmax pmax
comp=Z,9.0nm,1.8s,mb4.9
DAV Davao City (W) 94.83 84 PFAKE 11 48 50.0 +15
DAV LR LR
comp=Z,384nm,19.0s,MS4.9
SONM Songino Array 95.02 40 P **P** **11 48 34.3 -1.5**
comp=Z,1.3nm,0.8s,mb4.4,baz=240,slow=4.8,SNR=9.2
SONM LR LR 12 31 02.0
comp=Z,419nm,19.8s,MS4.9,baz=254,slow=35
ULN Ulaanbaatar 95.43 41 *e*P **P** **11 48 36.6 -1.0**
comp=Z,5.9nm,1.4s,mb4.8
ULN LR LR
comp=Z,344nm,20.0s,MS4.8
ULN Ulaanbaatar 95.43 41 *e*P **P** **11 48 37.0 -0.7**
HHC Hu-ho-hao-te 95.44 48 *e*P **P** **11 48 40.0 +2.3**
HHC AP pP 11 48 44.9 +3.8
HHC S 11 59 54.1
HHC AMB AMB
comp=Z,5.0nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,76nm,5.3s
HHC LR LR
comp=N,270nm,19.0s
HHC LR LR
comp=E,200nm,7.1s
HHC LR LR
comp=Z,97nm,5.9s
TATO Taipei 97.37 66 PFAKE 11 49 00.0 +13
TATO LR LR
comp=Z,293nm,19.0s,MS4.8
NJ2 Nanjing 97.63 59 *e*P **P** **11 48 48.3 +0.6**
NJ2 PP PP 11 52 49.0 +3.8
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.4
NJ2 AMB AMB
comp=Z,150nm,11.3s
NJ2 LR LR
comp=N,880nm,26.2s
NJ2 LR LR
comp=E,460nm,14.4s
NJ2 LR LR
comp=Z,390nm,23.9s,MS4.8
BJT Baijiatuau 98.38 50 PFAKE 11 49 00.0 +8.9
BJT LR LR
comp=Z,543nm,21.0s,MS5.0
BJI Beijing 98.40 50 P **P** **11 48 51.3 +0.2**
BJI S 12 00 16.6
BJI AMB AMB
comp=Z,6.0nm,0.8s,mb5.2
BJI LR LR
comp=N,337nm,23.9s,MS4.9
BJI LR LR
comp=E,255nm,22.2s,MS4.9
BJI LR LR
comp=Z,411nm,27.4s
SSE Sheshan 99.18 60 P **P** **11 48 54.3 -0.3**
SSE AMB AMB
comp=Z,26nm,0.6s,mb5.9
SSE AMB AMB
comp=Z,53nm,5.1s
NNA Nana 103.67 251 PFAKE 11 49 30.0 +15
NNA LR LR
comp=Z,355nm,19.0s,MS4.9
HIA Hailar 103.78 42 PFAKE 11 49 30.0 +15
HIA LR LR
comp=Z,468nm,20.0s,MS5.0
SJG San Juan 104.76 284 PFAKE 11 49 30.0 +11
SJG LR LR
comp=Z,536nm,21.0s,MS5.1
INCN Inchon 105.39 55 PFAKE 11 53 50.0 +14
INCN LR LR
comp=Z,423nm,20.0s,MS5.0
SDV Santo Domingo 105.93 273 PFAKE 11 53 50.0 +13
SDV LR LR
comp=Z,583nm,20.0s,MS5.1
PMG Port Moresby 108.41 108 PFAKE 11 53 50.0 +8.4
PMG LR LR
comp=Z,753nm,19.0s,MS5.3
MDJ Mudanjiang 109.21 49 PFAKE 11 53 50.0 +6.9
MDJ LR LR
comp=Z,257nm,20.0s,MS4.8
OTAV Otavalo 110.12 262 PFAKE 11 54 00.0 +15
OTAV LR LR
comp=Z,681nm,21.0s,MS5.2
YAK Yakutsk 111.72 30 PFAKE 11 54 00.0 +12
YAK LR LR
comp=Z,334nm,20.0s,MS4.9
TIXI Tiksi 111.94 20 PFAKE 11 54 00.0 +12
TIXI LR LR
comp=Z,442nm,21.0s,MS5.0
SCHQ Schefferville 112.89 322 PFAKE 11 54 00.0 +10
SCHQ LR LR
comp=Z,1μm,21.0s,MS5.5
MAJO Matsushiro 114.23 59 PFAKE 11 54 00.0 +7.4
MAJO LR LR
comp=Z,362nm,20.0s,MS5.0
WES Weston 114.56 308 PFAKE 11 54 10.0 +17
WES LR LR
comp=Z,520nm,20.0s,MS5.1
HRV Harvard--Oak R 114.75 308 PFAKE 11 54 10.0 +16
HRV LR LR
comp=Z,481nm,22.0s,MS5.1
LBNH Lisbon 115.21 310 PFAKE 11 54 10.0 +15
LBNH LR LR
comp=Z,752nm,20.0s,MS5.3
NCB Newcomb 116.84 309 PFAKE 11 54 10.0 +12
NCB LR LR
comp=Z,530nm,20.0s,MS5.2
BINY Binghamton 117.99 307 PFAKE 11 54 10.0 +10
BINY LR LR
comp=Z,969nm,22.0s,MS5.4
CBN Corbin 118.71 303 PFAKE 11 54 10.0 +8.8
CBN LR LR
comp=Z,965nm,21.0s,MS5.4
HNR Honiara 119.48 115 PFAKE 11 54 20.0 +17
HNR LR LR
comp=Z,466nm,19.0s,MS5.1
JTS JuntasAbangare 119.72 270 PFAKE 11 54 20.0 +17
JTS LR LR
comp=Z,955nm,22.0s,MS5.4
ERPA Erie 120.96 307 PFAKE 11 54 20.0 +14
ERPA LR LR
comp=Z,405nm,19.0s,MS5.1
BLA Blacksburg 121.03 301 PFAKE 11 54 20.0 +14
BLA LR LR
comp=Z,34nm,20.0s,MS4.0
MA2 Magadan 122.17 32 PFAKE 11 54 20.0 +12
MA2 LR LR
comp=Z,316nm,22.0s,MS4.9
BILL Bilibino 125.16 20 PFAKE 11 54 20.0 +6.4
BILL LR LR
comp=Z,378nm,19.0s,MS5.1
BILL Bilibino 125.16 20 *i* PKIKP PKPdf 11 54 13.7 +0.1
BILL pmax pmax
comp=Z,300nm,25.0s
TEIG Tepich 125.48 280 PFAKE 11 54 30.0 +16
TEIG LR LR
comp=Z,46nm,20.0s,MS4.2
WCI Wyandotte Cave 125.72 302 PFAKE 11 54 30.0 +15
WCI LR LR
comp=Z,485nm,19.0s,MS5.2
LRAL Lakeview Retre 126.12 296 PFAKE 11 54 30.0 +15
LRAL LR LR
comp=Z,715nm,21.0s,MS5.3
PLAL Pickwick Lake 127.10 298 PFAKE 11 54 30.0 +13
PLAL LR LR
comp=Z,372nm,21.0s,MS5.0
PET Petropavlovsk 128.04 39 *e*PKHKP 11 54 00.9
OXF Oxford 128.19 298 PFAKE 11 54 30.0 +11
OXF LR LR
comp=Z,399nm,20.0s,MS5.1
EYMN Ely 128.63 315 PFAKE 11 54 30.0 +10
EYMN LR LR
comp=Z,848nm,21.0s,MS5.4
ULM Lac du Bonnet 130.88 319 PKP PKPdf 11 54 25.1 +0.6
comp=Z,2.6nm,0.6s,baz=90,slow=4.8,SNR=6.0
MIAR Mount Ida 131.63 298 PFAKE 11 54 40.0 +14
MIAR LR LR
comp=Z,442nm,19.0s,MS5.2
NATX Nacogdoches 132.55 294 PFAKE 11 54 40.0 +12
NATX LR LR
comp=Z,583nm,21.0s,MS5.3
FFC Flin Flon 132.71 326 PFAKE 11 54 40.0 +12
FFC LR LR
comp=Z,528nm,20.0s,MS5.2
YKW3 Yellowknife Ar 133.35 340 *e*PKPdf PKPdf 11 54 29.8 +0.6
YKA Yellowknife Ar 133.40 340 PKP PKPdf 11 54 29.7 +0.4
comp=Z,2.2nm,0.6s,baz=38,slow=2.1,SNR=35
HKT Hockley 133.52 291 PFAKE 11 54 40.0 +10
HKT LR LR
comp=Z,434nm,19.0s,MS5.2
TNA Tin City 133.76 12 PFAKE 11 54 40.0 +10
TNA LR LR
comp=Z,214nm,20.0s,MS4.9
TBI Tubuai 135.45 177 *e*LR LR 12 38 00.4
comp=Z,232nm,24.2s
WMOK Wichita Mounta 135.91 298 PFAKE 11 54 50.0 +16
WMOK LR LR
comp=Z,468nm,22.0s,MS5.2
CBKS Cedar Bluff 136.18 304 PFAKE 11 54 50.0 +16
CBKS LR LR
comp=Z,578nm,22.0s,MS5.3
COLA College 136.54 1 PFAKE 11 54 50.0 +15
COLA LR LR
comp=Z,254nm,20.0s,MS5.0
DGMT Dagmar 136.60 319 PFAKE 11 54 50.0 +15
DGMT LR LR
comp=Z,508nm,20.0s,MS5.2
ILAR Eielson Array 136.65 360 PKhKP 11 54 26.4
comp=Z,0.5nm,0.8s,baz=14,slow=1.4,SNR=4.8
ILAR PKP PKPdf 11 54 35.9 +0.5
comp=Z,1.1nm,0.8s,baz=336,slow=2.9,SNR=9.2
JCT Junction City 136.96 292 PFAKE 11 54 50.0 +14
JCT LR LR
comp=Z,395nm,20.0s,MS5.1
MCK McKinley 137.67 1 PFAKE 11 54 50.0 +13
MCK LR LR
comp=Z,90nm,20.0s,MS4.5
LAO LASA Array 138.56 317 PFAKE 11 54 50.0 +11
LAO LR LR
comp=Z,721nm,20.0s,MS5.4
EGMT Eagleton 140.14 321 PFAKE 11 54 50.0 +8.2
EGMT LR LR
comp=Z,409nm,20.0s,MS5.2
LTX Lajitas 140.33 290 PFAKE 11 54 50.0 +7.9
LTX LR LR
comp=Z,379nm,19.0s,MS5.2
ISCO Idaho Springs 140.43 307 PFAKE 11 55 00.0 +18
ISCO LR LR
comp=Z,799nm,19.0s,MS5.5
SDCO Great Sand Dun 140.84 304 PFAKE 11 55 00.0 +17
SDCO LR LR
comp=Z,745nm,21.0s,MS5.4
DLBC Dease Lake 141.04 346 PKP PKPdf 11 54 43.5 +0.1
comp=Z,1.9nm,0.9s,baz=285,slow=7.8,SNR=4.0
PPT Papeete 141.19 176 *e*LR LR 12 40 39.7
comp=Z,253nm,22.8s
SMCO Snowmass 141.61 307 *e*PKPdf PKPdf 11 54 42.9 -1.5
MNTX Cornudas Mount 141.68 294 PFAKE 11 55 00.0 +15
MNTX LR LR
comp=Z,463nm,20.0s,MS5.2
LKWY Lake 142.11 316 PFAKE 11 55 00.0 +15
LKWY LR LR
comp=Z,903nm,20.0s,MS5.5
ANMO Albuquerque 142.15 300 PFAKE 11 55 00.0 +15
ANMO LR LR
comp=Z,465nm,19.0s,MS5.3
BW06 Boulder Array 142.28 313 PFAKE 11 55 00.0 +14
BW06 LR LR
comp=Z,512nm,20.0s,MS5.3
PDAR Pinedale Array 142.28 313 PKhKP 11 54 41.9
comp=Z,1.1nm,0.7s,baz=86,slow=6.2,SNR=9.6
BOZ Bozeman (W) 142.40 318 PFAKE 11 55 00.0 +14
BOZ LR LR
comp=Z,670nm,20.0s,MS5.4
YMR Madison River 142.43 317 PFAKE 11 55 00.0 +14
YMR LR LR
comp=Z,907nm,22.0s,MS5.5
PV01 Paradox Valley 143.09 305 *e*PKPdf PKPdf 11 54 46.9 -0.2
DLMT Dillon 143.13 319 *e*PKPdf PKPdf 11 54 47.3 +0.1
MSO Missoula 143.19 321 PFAKE 11 55 00.0 +13
MSO LR LR
comp=Z,340nm,20.0s,MS5.1
AHID Auburn Hatcher 143.33 314 PFAKE 11 55 00.0 +13
AHID LR LR
comp=Z,720nm,22.0s,MS5.4
PV10 Paradox Valley 143.38 306 *e*PKPdf PKPdf 11 54 47.9 +0.3
KDAK Kodiak Island 143.42 5 PKP PKPdf 11 54 46.0 -1.7
comp=Z,14nm,0.7s,baz=338,slow=3.8,SNR=8.9
KDAK Kodiak Island 143.42 5 PKP PKPdf 11 54 46.0 -1.7
MCMT McKenzie Canyo 143.55 318 *e*PKPdf PKPdf 11 54 48.8 +0.9
HWUT Hardware Ranch 144.11 312 *e*PKPdf PKPdf 11 54 48.8 0.0
HWUT LR LR
comp=Z,504nm,19.0s,MS5.3
NEW Newport 144.13 326 PFAKE 11 55 00.0 +11
NEW LR LR
comp=Z,673nm,20.0s,MS5.4
TCUT Toone Canyon 144.19 311 *e*PKPdf PKPdf 11 54 49.6 +0.6
SRU San Rafael 144.26 308 *e*PKPdf PKPdf 11 54 49.2 +0.1
DAU Daniels Canyon 144.35 310 *e*PKPdf PKPdf 11 54 50.1 +0.8
TMUT Trail Mountain 144.70 308 *e*PKPdf PKPdf 11 54 51.2 +1.3
HVU Hansel Valley 144.87 313 *e*PKPdf PKPdf 11 54 51.3 +1.1
NLU North Lily Min 145.10 310 *e*PKPdf PKPdf 11 54 48.2 -2.3
HLID Hailey 145.14 317 *e*PKPdf PKPdf 11 54 52.4 +1.7
HLID LR LR
comp=Z,522nm,20.0s,MS5.3
BGU Big Grassy Mou 145.39 312 *e*PKPdf PKPdf 11 54 57.0 +6.0
DUG Dugway 145.53 311 *e*PKPdf PKPdf 11 54 53.2 +1.9
DUG LR LR
comp=Z,471nm,19.0s,MS5.3
MSU Marysvale 145.68 308 *e*PKPdf PKPdf 11 54 54.3 +2.8
MVU Marysvale 145.71 308 *e*PKPdf 11 55 02.6
MVU LR LR
comp=Z,372nm,20.0s,MS5.2
WUAZ Wupatki 145.95 302 *e*PKPab PKPab 11 54 55.1 +1.9
WUAZ LR LR
comp=Z,615nm,21.0s,MS5.4
TUC Tucson 146.15 296 *e*PKPab PKPab 11 54 55.7 +1.8
TUC LR LR
comp=Z,363nm,20.0s,MS5.2
BMO Blue Mountains 146.24 321 *e*PKPab PKPab 11 54 54.9 +0.5
BMO LR LR
comp=Z,632nm,20.0s,MS5.4
GBL Gable Mountain 146.41 325 P PKPab 11 54 56.3 +1.3
H2OWA Water 146.52 325 P PKPab 11 54 57.1 +1.7
MDW Midway 146.56 325 P PKPab 11 54 56.6 +1.0
HAWA Hanford 146.58 325 *e*PKPab PKPab 11 54 56.1 +0.5
JCW Jim Creek 146.60 329 P PKPdf 11 54 55.8 +2.7
ARUT Antelope Range 146.86 307 *e*PKPab PKPab 11 54 57.4 +0.7
ELK Elko 146.99 313 *e*PKPab PKPab 11 54 57.3 +0.1
ELK LR LR
comp=Z,542nm,20.0s,MS5.3
WVOR Wild Horse Val 148.38 318 *e*PKPbc PKPbc 11 54 58.5 -1.1
WVOR *e*PKPab PKPab 11 55 01.9 -0.9
WVOR LR LR
comp=Z,551nm,22.0s,MS5.3
BMN Battle Mountai 148.48 314 PFAKE 11 55 10.0 +14
BMN LR LR
comp=Z,500nm,20.0s,MS5.3
NEN Nelson 148.63 304 *e*PKPbc PKPbc 11 55 01.6 +1.4
LDFC Landfair 149.01 303 *e*PKPab PKPab 11 55 04.3 -1.0
TPNV Topopah Spring 149.25 307 PFAKE 11 55 10.0 +13
TPNV LR LR
comp=Z,675nm,22.0s,MS5.4
MOD Modoc 149.71 319 *e*PKPbc PKPbc 11 55 01.5 -1.4
MOD *e*PKPab PKPab 11 55 08.2 +0.1
MOD LR LR
comp=Z,459nm,19.0s,MS5.3
MNV Mina 150.03 311 *e*PKPdf PKPdf 11 55 02.0 +3.3
MNV *e*PKPbc PKPbc 11 55 06.2 +2.5
MNV *e*PKPab PKPab 11 55 11.0 +1.5
MNV LR LR
comp=Z,472nm,20.0s,MS5.3
MNV Mina 150.03 311 *e*PKIKP PKPdf 11 55 02.0 +3.3
MNV *e* 11 55 06.2
MNV MLR MLR
comp=Z,472nm,20.0s,MS5.3
NVAR Mina Array Bea 150.14 311 PKP PKPdf 11 55 01.4 +2.6
comp=Z,4.1nm,0.6s,baz=244,slow=1.8,SNR=28
NVAR PKPbc PKPbc 11 55 06.3 +2.4
comp=Z,7.7nm,0.6s,baz=100,slow=2.4,SNR=31
PFO Pinyon Flat Ob 150.50 301 PFAKE 11 55 10.0 +11
PFO LR LR
comp=Z,449nm,20.0s,MS5.3
DAC Darwin (Calif) 150.51 307 *e*PKPbc PKPbc 11 55 07.0 +2.2
DAC LR LR
comp=Z,549nm,21.0s,MS5.3
MTUM Tungsten Hills 150.79 309 *e*PKPbc PKPbc 11 55 08.0 +2.5
HUMO Hull Mountain 150.87 322 *e*PKPdf PKPdf 11 55 02.1 +2.1
YBH Yreka Blue Hor 151.27 320 PFAKE 11 55 10.0 +9.4
YBH LR LR
comp=Z,465nm,19.0s,MS5.3
ISA Isabella 151.40 306 PFAKE 11 55 10.0 +9.2
ISA LR LR
comp=Z,88nm,19.0s,MS4.6
CMB Columbia Colle 151.78 312 PFAKE 11 55 10.0 +8.6
CMB LR LR
comp=Z,560nm,20.0s,MS5.4
WDC Whiskeytown Da 151.85 318 PFAKE 11 55 10.0 +8.5
WDC LR LR
comp=Z,229nm,19.0s,MS5.0
SNCC San Nicolas Is 153.06 302 PFAKE 11 55 20.0 +17
SNCC LR LR
comp=Z,499nm,20.0s,MS5.3
SAO San Andreas Ge 153.12 310 PFAKE 11 55 20.0 +17
SAO LR LR
comp=Z,568nm,21.0s,MS5.4

*MOS **22** 11:50:57.3±1.6,2172S×6861W,h89km,mb4.9/9,Error ellipse: s-maj=18.4km s-min=8.3km az=109.9*
*ISCJB **22** 11:50:58.5±0.3,2162S±004×6848W±005,h105km,*

mb4.5/32, Error ellipse: s-maj=7.3km s-min=5.0km az=24.6
NEIC ***22*** *11:50:59.6±0.3, 2177S×6861W, mb4.7/26, MD4.5(GUC), Error ellipse: s-maj=11.0km s-min=6.8km az=83.0*
BJI ***22*** *11:50:59.3, 2188S×6854W, h103km, mB5.0*
IDC ***22*** *11:50:60.0±0.4, 2171S×6849W, h101km±3km, mb4.1/13, mb1 4.3/17, mb1mx4.3/19, mbtmp4.5/17, MS4.1/2, Ms1 4.1/2, ms1mx3.2/23, Error ellipse: s-maj=14.7km s-min=8.5km az=112.0*
GUC ***22*** *11:51:02.5±0.7, 2230S×72.14W, h15km±13km, MD4.5, ML4.5*

ISC 22 11:51:00.4±0.3, 2170S±004×6851W±006, h107km, h107km±1.7km: pP-P, n115, σ1°10/93, mb4.5/32, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.98**	**202**	P	**Pn**	**11 51 20.9**	**-0.3**
	baz=14,slow=11						
LVC				S	**Sn**	**11 51 35.8**	**-1.0**
	647nm,0.3s,baz=107,slow=19,SNR=75						
LVC	**Limon Verde**	**0.98**	**202**	*e*Pn	**Pn**	**11 51 20.6**	**-0.5**
LVC				*e*Sn	**Sn**	**11 51 36.1**	**-0.7**
CEN1	**Los Morros**	**2.29**	**223**	*e*P	**Pn**	**11 51 37.6**	**+0.6**
CEN1				*i* S	**Sn**	**11 52 05.1**	**0.0**
CEN1				AMP		11 52 13.6	
	comp=N,5μm,0.7s						
ANCH	**Antofagasta**	**2.64**	**221**	*e*P	**Pn**	**11 51 36.5**	**-5.0**
ANCH				*i* S	**Sn**	**11 52 03.1**	**-10**
CPN1	**Cerro Paranal**	**3.39**	**211**	*e*P	**Pn**	**11 51 49.7**	**-1.8**
CPN1				*i* S	**Sn**	**11 52 24.9**	**-6.1**
CPN1				AMP		11 52 41.8	
	comp=E,2μm,0.8s						
CRCH	**Chaqaral**	**5.01**	**202**	*i* P	**Pn**	**11 52 09.1**	**-4.2**
LPAZ	**La Paz**	**5.39**	**4**	P	**Pn**	**11 52 20.7**	**+2.2**
	comp=E,3.1nm,0.3s,baz=177,slow=5.1,SNR=58						
LPAZ	**La Paz**	**5.39**	**4**	*e*Pn	**Pn**	**11 52 21.0**	**+2.5**
	comp=E,83nm,1.0s						
LPAZ	**La Paz**	**5.39**	**4**	*e*P	**Pn**	**11 52 21.0**	**+2.5**
LPAZ				pmax	pmax		
	comp=Z,83nm,1.0s						
CDCH	**Caldera**	**5.75**	**201**	*i* P	**Pn**	**11 52 18.2**	**-5.1**
ARE	**Arequipa**	**5.92**	**331**	*e*P	**Pn**	**11 52 22.0**	**-3.6**
ARE				*e*S	**Sn**	**11 53 26.0**	**-6.1**
SIV	**San Ignacio**	**9.04**	**52**	P	**Pn**	**11 53 06.2**	**-1.9**
	comp=Z,5.8nm,0.3s,baz=241,slow=12,SNR=150						
SIV				S	**Sn**	**11 54 44.2**	**-3.8**
	comp=Z,0.6nm,0.3s,baz=294,slow=20,SNR=4.1						
CFAA	**Coronel Fontan**	**9.87**	**179**	P	**Pn**	**11 53 15.5**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=358,slow=13,SNR=26						
CFAA				S	**Sn**	**11 54 59.8**	**-8.2**
	comp=Z,0.3nm,0.3s,baz=245,slow=19,SNR=3.7						
CFAA	**Coronel Fontan**	**9.87**	**179**	P	**Pn**	**11 53 15.5**	**-3.7**
CFAA				S	**Sn**	**11 54 59.8**	**-8.2**
CPUP	**Villa Florida**	**11.21**	**116**	P	**Pn**	**11 53 35.1**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=283,slow=11,SNR=16						
CPUP				LR	LR	11 58 55.9	
	comp=Z,149nm,20.1s,baz=82,slow=42						
CPUP	**Villa Florida**	**11.21**	**116**	*e*Pn	**Pn**	**11 53 36.4**	**-0.9**
	comp=Z,54nm,0.7s						
CPUP	**Villa Florida**	**11.21**	**116**	*e*P	**Pn**	**11 53 36.4**	**-0.9**
CPUP				pmax	pmax		
	comp=Z,54nm,0.7s						
TRQA	**Tornquist**	**17.25**	**162**	*e*P	**Pn**	**11 54 53.8**	**-0.6**
	comp=Z,18nm,0.9s						
PLCA	**Paso Flores**	**19.05**	**185**	P	**P**	**11 55 13.9**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=7.1,slow=13,SNR=22						
PLCA				PcP	PcP	11 59 35.5	+1.0
	comp=Z,0.1nm,0.3s,baz=341,slow=2.9,SNR=5.8						
PLCA	**Paso Flores**	**19.05**	**185**	*e*P	**P**	**11 55 13.9**	**-0.2**
	comp=Z,15nm,0.8s						
PLCA	**Paso Flores**	**19.05**	**185**	*e*P	**P**	**11 55 13.9**	**-0.2**
PLCA				pmax	pmax		
	comp=Z,15nm,0.8s						
BDFB	**Brasilia**	**20.32**	**76**	P	**P**	**11 55 27.4**	**-0.5**
	comp=Z,3.5nm,0.5s,baz=256,slow=9.5,SNR=4.7						
OTAV	**Otavalo**	**23.86**	**335**	*e*P	**P**	**11 56 05.2**	**+1.4**
	comp=Z,1.3nm,0.7s,mb3.4						
RCBR	**Riachuelo**	**35.27**	**68**	*e*P	**P**	**11 57 45.4**	**+0.7**
	comp=Z,4.9nm,0.6s,mb4.5						
SWET	**Sewanee**	**58.97**	**343**	*e*P	**P**	**12 00 47.5**	**-1.1**
OXF	**Oxford**	**59.33**	**340**	*e*P	**P**	**12 00 49.6**	**-1.3**
	comp=Z,12nm,0.6s,mb5.1						
OXF	**Oxford**	**59.33**	**340**	*e*P	**P**	**12 00 49.6**	**-1.4**
OXF				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
ELN	**Prospectdale**	**59.74**	**349**	*e*P	**P**	**12 00 54.2**	**+0.4**
VNA3	**Neumayer Olymp**	**59.77**	**161**	*e*P	**P**	**12 00 56.8**	**+2.8**
VNA3				*e*		12 01 01.8	
JCT	**Junction City**	**59.96**	**329**	*e*P	**P**	**12 00 55.2**	**-0.2**
	comp=Z,9.0nm,0.8s,mb4.8						
JCT	**Junction City**	**59.96**	**329**	*e*P	**P**	**12 00 55.2**	**-0.1**
JCT				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
VNA2	**Neumayer--Watz**	**60.34**	**161**	*e*P	**P**	**12 00 59.0**	**+1.1**
	baz=277,slow=6.4						
VNA2				*e*		12 01 04.2	
VNA2				*e*	pP	12 01 24.1	-0.1
WVT	**Waverly**	**60.35**	**342**	*e*P	**P**	**12 00 56.1**	**-1.9**
	comp=Z,11nm,0.6s,mb5.1						
WVT	**Waverly**	**60.35**	**342**	*e*P	**P**	**12 00 56.1**	**-1.9**
WVT				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
MIAR	**Mount Ida**	**60.80**	**336**	*e*P	**P**	**12 01 00.1**	**-0.9**
	comp=Z,3.9nm,0.4s,mb4.8						
MIAR	**Mount Ida**	**60.80**	**336**	*e*P	**P**	**12 01 00.1**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
SNAA	**Sanae**	**61.97**	**161**	*e*P	**P**	**12 01 09.0**	**0.0**
	comp=Z,14nm,0.7s,mb5.1						
SNAA	**Sanae**	**61.97**	**161**	*e*P	**P**	**12 01 09.0**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,14nm,0.7s						
FVM	**French Village**	**62.84**	**341**	*e*P	**P**	**12 01 13.5**	**-1.2**
	comp=Z,15nm,0.7s,mb5.0						
FVM				*e*pP	pP	12 01 40.3	-0.8
FVM	**French Village**	**62.84**	**341**	*e*P	**P**	**12 01 13.5**	**-1.2**
FVM				*e*PP	pP	12 01 40.3	-0.9
FVM				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
WMOK	**Wichita Mounta**	**63.07**	**332**	*e*P	**P**	**12 01 15.4**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.0						
WMOK	**Wichita Mounta**	**63.07**	**332**	*e*P	**P**	**12 01 15.4**	**-0.8**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ACSO	**Alum Creek Sta**	**63.07**	**348**	*e*P	**P**	**12 01 15.2**	**-1.0**
	comp=Z,6.5nm,0.8s,mb4.6						
BINY	**Binghamton**	**63.95**	**354**	*e*P	**P**	**12 01 22.2**	**+0.2**
	comp=Z,12nm,0.9s,mb4.7						
ANMO	**Albuquerque**	**66.87**	**327**	*e*P	**P**	**12 01 41.2**	**+0.4**
CBKS	**Cedar Bluff**	**66.93**	**334**	*e*P	**P**	**12 01 41.4**	**+0.2**
	comp=Z,20nm,1.1s,mb4.9						
CBKS				*e*pP	pP	12 02 05.7	-2.2
CBKS	**Cedar Bluff**	**66.93**	**334**	*e*P	**P**	**12 01 41.4**	**+0.2**
CBKS				*e*PP	pP	12 02 05.7	-2.3
CBKS				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.9						
DBIC	**Dimbokro**	**68.44**	**73**	P	**P**	**12 01 51.4**	**+0.7**
	comp=Z,6.7nm,0.6s,mb4.6,baz=214,slow=8.9,SNR=13						
DBIC	**Dimbokro**	**68.44**	**73**	*e*P	**P**	**12 01 51.0**	**+0.3**
	comp=Z,9.2nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**68.44**	**73**	*e*P	**P**	**12 01 51.0**	**+0.3**
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
QSPA	**South Pole Qui**	**68.49**	**180**	*e*P	**P**	**12 01 52.2**	**+1.2**
	comp=Z,15nm,0.6s,mb5.0						
ISCO	**Idaho Springs**	**70.30**	**330**	*e*P	**P**	**12 02 02.7**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.1						
ISCO				*e*pP	pP	12 02 28.7	-0.4
ISCO	**Idaho Springs**	**70.30**	**330**	*e*P	**P**	**12 02 02.7**	**+0.5**
ISCO				*e*PP	pP	12 02 28.7	-0.4
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
PV01	**Paradox Valley**	**70.41**	**327**	*e*P	**P**	**12 02 03.9**	**+1.1**
PV10	**Paradox Valley**	**70.83**	**327**	P	**P**	**12 02 04.5**	**-0.9**
ARUT	**Antelope Range**	**72.70**	**324**	*e*P	**P**	**12 02 18.0**	**+1.4**
ARUT				*e*pP	pP	12 02 44.3	+0.6
RSSD	**Black Hills**	**73.14**	**334**	*e*P	**P**	**12 02 19.4**	**+0.3**
PDAR	**Pinedale Array**	**74.47**	**330**	P	**P**	**12 02 26.9**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.7,baz=133,slow=7.5,SNR=8.8						
PDAR				pP	pP	12 02 53.9	-0.2
	comp=Z,0.8nm,0.6s,baz=151,slow=5.8,SNR=3.8						
HWUT	**Hardware Ranch**	**74.55**	**328**	*e*P	**P**	**12 02 27.8**	**+0.5**
	comp=Z,4.2nm,0.8s,mb4.2						
HWUT				*e*pP	pP	12 02 56.0	+1.4
SNOW	**Snow King Moun**	**75.56**	**330**	*e*P	**P**	**12 02 34.2**	**+1.0**
	comp=Z,11nm,1.3s,mb4.4						
ULM	**Lac du Bonnet**	**75.62**	**342**	P	**P**	**12 02 32.4**	**-1.1**
	comp=Z,1.1nm,0.5s,mb3.9,baz=175,slow=5.5,SNR=3.6						
ULM				pP	pP	12 02 59.6	-1.2
	comp=Z,2.8nm,0.6s,baz=137,slow=4.7,SNR=4.4						
ULM	**Lac du Bonnet**	**75.62**	**342**	P	**P**	**12 02 32.4**	**-1.1**
ULM				pP	pP	12 02 59.6	-1.2
NVAR	**Mina Array Bea**	**75.88**	**322**	P	**P**	**12 02 36.4**	**+1.4**
	comp=Z,1.3nm,0.8s,mb3.7,baz=144,slow=7.4,SNR=12						
FLWY	**Flagg Ranch**	**76.01**	**330**	*e*P	**P**	**12 02 36.8**	**+1.0**
	comp=Z,12nm,1.0s,mb4.6						
FLWY				*e*pP	pP	12 03 03.2	+0.2
SYO	**Syowa Base**	**76.19**	**159⇑**	*e*P	**P**	**12 02 37.2**	**+0.5**
SYO	**Syowa Base**	**76.19**	**159⇑**	*e*PcP	PcP	12 02 46.1	-2.3
SCHQ	**Schefferville**	**76.23**	**1**	P	**P**	**12 02 36.2**	**-0.7**
	comp=Z,4.0nm,0.8s,mb4.2,baz=293,slow=3.9,SNR=5.6						
SCHQ				LR	LR	12 40 12.7	
	comp=Z,828nm,18.4s,baz=299,slow=39						
SCHQ	**Schefferville**	**76.23**	**1**	*e*P	**P**	**12 02 36.2**	**-0.8**
	comp=Z,8.6nm,1.0s,mb4.4						
VNDA	**Vanda**	**76.72**	**190**	P	**P**	**12 02 41.5**	**+1.8**
	comp=Z,2.7nm,0.8s,mb4.0,baz=291,slow=1.8,SNR=13						
VNDA	**Vanda**	**76.72**	**190**	*e*P	**P**	**12 02 41.1**	**+1.4**
	comp=Z,2.4nm,0.7s,mb4.0						
VNDA	**Vanda**	**76.72**	**190**	*e*P	**P**	**12 02 41.1**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P	**P**	**12 02 42.4**	**+0.6**
	comp=Z,6.9nm,0.8s,mb4.4,baz=254,slow=5.6,SNR=30						
TORD				pP	pP	12 03 10.0	+0.9
	comp=Z,17nm,0.8s,baz=253,slow=5.5,SNR=16						
HLID	**Hailey**	**77.41**	**328**	*e*P	**P**	**12 02 44.8**	**+1.2**
	comp=Z,9.6nm,1.0s,mb4.5						
HLID				*e*pP	pP	12 03 11.2	+0.2
MCMT	**McKenzie Canyo**	**77.58**	**329**	*e*P	**P**	**12 02 45.9**	**+1.3**
MCMT				*e*pP	pP	12 03 14.2	+2.2
TSUM	**Tsumeb**	**79.63**	**107**	*e*P	**P**	**12 02 57.3**	**+1.5**
	comp=Z,13nm,0.8s,mb4.8						
TSUM				*e*pP	pP	12 03 28.3	+5.0
WALA	**Waterton Lakes**	**81.22**	**332**	*e*P	**P**	**12 03 04.3**	**0.0**
FCC	**Fort Churchill**	**82.91**	**347**	*e*P	**P**	**12 03 12.2**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.3						
FCC	**Fort Churchill**	**82.91**	**347**	*e*P	**P**	**12 03 12.2**	**-0.9**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
BOSA	**Boshof**	**83.03**	**118**	P	**P**	**12 03 15.0**	**+1.2**
	comp=Z,5.7nm,0.5s,mb4.7,baz=293,slow=13,SNR=11						
MAW	**Mawson**	**84.03**	**163**	P	**P**	**12 03 19.1**	**+0.2**
	comp=Z,14nm,0.8s,mb4.8,baz=236,slow=3.6,SNR=4.3						
EDM	**Edmonton**	**84.10**	**335**	*e*P	**P**	**12 03 17.5**	**-1.7**
EDM				*e*pP	pP	12 03 46.0	-1.0
ESDC	**Sonseca Array**	**85.72**	**44**	P	**P**	**12 03 26.9**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=242,slow=5.3,SNR=6.2						
YKA	**Yellowknife Ar**	**91.50**	**340**	P	**P**	**12 03 53.9**	**-0.8**
	comp=Z,4.5nm,0.7s,mb4.7,baz=133,slow=4.4,SNR=108						
YKA				pP	pP	12 04 21.6	-1.2
	comp=Z,1.3nm,0.7s,baz=132,slow=4.5,SNR=4.9						
YKA	**Yellowknife Ar**	**91.50**	**340**	P	**P**	**12 03 53.9**	**-0.8**
YKA				*PP	pP	12 04 21.6	-1.2
DLBC	**Dease Lake**	**94.55**	**332**	P	**P**	**12 04 07.0**	**-1.7**
	comp=Z,1.6nm,0.9s,mb4.5,baz=142,slow=13,SNR=3.2						
SOC	**Sochi**	**117.64**	**51**	*i* PKIKP	PKPdf	12 09 35.7	+2.0
SOC				*e*		12 10 57.9	
SOC				*e*		12 16 37.5	
SOC				*e*SS	SS	12 27 03.8	+13
TIXI	**Tiksi**	**129.03**	**353**	*i* PKIKP	PKPdf	12 09 54.9	-0.7
ASAR	**Alice Springs**	**129.91**	**207**	PKP	PKPdf	12 09 57.7	+0.5
	comp=Z,4.7nm,0.8s,baz=151,slow=2.3,SNR=39						
ASPA	**Alice Springs**	**129.91**	**207**	*e*P	PKPdf	12 09 58.1	+0.9
SEY	**Seymchan**	**130.43**	**337**	*i* PKIKP	PKPdf	12 09 57.8	-0.4
WB2	**Warramunga Arr**	**132.96**	**210**	*e*P	PKPdf	12 10 03.8	+0.8
WRA	**Warramunga Arr**	**132.97**	**210**	PKP	PKPdf	12 10 04.0	+0.9
	comp=Z,3.7nm,0.7s,baz=158,slow=1.8,SNR=48						
WRA				pPKP	pPKPdf	12 10 33.1	+0.8
	comp=Z,0.6nm,0.6s,baz=153,slow=1.8,SNR=2.2						
WRAB	**Tennant Creek**	**132.97**	**210**	*i* PKIKP	PKPdf	12 10 04.7	+1.7
ZRNK	**Zerenda**	**135.04**	**35**	*e*PKPdf	PKPdf	12 10 07.8	+0.9
FITZ	**Fitzroy Crossi**	**138.09**	**200**	PKP	PKPdf	12 10 14.1	+1.6
	comp=Z,5.1nm,0.9s,baz=128,slow=7.2,SNR=4.7						
NVS	**Novosibirsk**	**140.69**	**26**	*e*PKHKP		12 10 07.9	
KURK	**Kurchatov**	**141.29**	**33**	*i* PKIKP	PKPdf	12 10 18.8	+0.4
BOD	**Bodaibo**	**143.88**	**358**	*e*PKIKP	PKPdf	12 10 19.3	-3.7
BOD				pmax	pmax		
	comp=Z,3.0nm,1.8s						
MKAR	**Makanchi Array**	**145.58**	**36**	PKPbc	PKPbc	12 10 26.7	+0.4
	comp=Z,2.6nm,0.6s,baz=317,slow=6.5,SNR=52						
MKAR				pPKPbc	pPKPbc	12 10 53.7	-1.4
	comp=Z,2.9nm,0.8s,baz=274,slow=3.4,SNR=5.6						
MOY	**Mondy**	**148.99**	**13**	*e*PKIKP	PKPdf	12 10 33.5	+1.9
WMQ	**Urumqi**	**150.41**	**36**	*e*PKP	PKPdf	12 10 34.6	+0.8
WMQ				LR	LR		
	comp=N,82nm,24.2s						
WMQ				LR	LR		
	comp=Z,77nm,24.0s						
ZAK	**Zakamensk**	**150.65**	**11**	*e*PKIKP	PKPdf	12 10 35.4	+1.2
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.6s						
MJAR	**Matsushiro Arr**	**152.49**	**308**	PKPbc	PKPbc	12 10 44.1	+0.2
	comp=Z,3.1nm,0.8s,baz=79,slow=1.0,SNR=9.9						
MAT	**Matsushiro**	**152.49**	**308**	PKP	PKPdf	12 10 44.1	+7.1
MDJ	**Mudanjiang**	**152.70**	**331**	PKP	PKPdf	12 10 37.4	+0.1
MDJ				PP	PP		
	comp=Z,127nm,8.2s						
SONM	**Songino Array**	**153.60**	**8**	PKP	PKPdf	12 10 40.0	+1.4
	comp=Z,2.0nm,0.8s,baz=296,slow=1.2,SNR=19						
SONM				PKPbc	PKPbc	12 10 46.9	+0.5
	comp=Z,1.2nm,0.7s,baz=324,slow=1.9,SNR=9.5						
SONM				PKPab	PKPab	12 10 59.7	+0.3
	comp=Z,1.0nm,0.7s,baz=326,slow=3.6,SNR=5.3						
ULN	**Ulaanbaatar**	**153.65**	**7**	*i* PKIKP	PKPdf	12 10 39.9	+1.2
CN2	**Changchun**	**155.10**	**335**	*e*PKP	PKPdf	12 10 41.1	+0.4
GTA	**Gaotai**	**159.72**	**27**	*e*PKP	PKPdf	12 10 48.3	+1.8
HHC	**Hu-ho-hao-te**	**160.91**	**360**	*e*PKP	PKPdf	12 10 48.3	+0.5
HHC				PKP2	PKPab	12 11 32.9	+2.0
HHC				PP	PP	12 15 17.5	+3.6
HHC				LR	LR		
	comp=N,144nm,6.7s						
HHC				LR	LR		
	comp=E,128nm,5.5s						
HHC				LR	LR		
	comp=Z,137nm,5.7s						
BJI	**Beijing**	**161.29**	**349**	PKP	PKPdf	12 10 48.5	+0.3
LZH	**Lanzhou**	**164.19**	**23**	*e*PKP	PKPdf	12 10 49.0	-2.0
LZH				APKP		12 11 16.0	
LZH				XPKP		12 11 26.6	
SSE	**Sheshan**	**167.24**	**319**	PKP	PKPdf	12 10 54.3	+0.8
SSE				PP	PP		
	comp=Z,110nm,3.4s						
NJ2	**Nanjing**	**167.78**	**329**	*e*PKP	PKPdf	12 10 54.4	+0.5
NJ2				APKP		12 11 21.4	
NJ2				XPKP		12 11 31.9	
NJ2				PKP2	PKPab	12 12 03.8	+2.7
NJ2				PKS		12 14 25.8	
NJ2				PP	PP	12 15 53.0	+3.2
NJ2				SKS	SKSdf	12 17 46.8	-1.0
NJ2				SKKS	SKKSac	12 22 28.9	+1.9
NJ2				PP	PP		
	comp=Z,70nm,11.3s						
NJ2				LR	LR		
	comp=N,2μm,21.0s						
NJ2				LR	LR		
	comp=E,680nm,25.4s						
NJ2				LR	LR		
	comp=Z,370nm,21.8s						
CD2	**Chengdu**	**168.51**	**35**	*e*PKP	PKPdf	12 10 54.8	+0.4
CD2				XPKP		12 11 32.3	
CD2				PKP2	PKPab	12 12 07.3	+3.0
CD2				PP	PP	12 15 56.9	+3.4
CD2				SKKS	SKKSac	12 22 32.8	+2.2
CD2				PP	PP		
	comp=Z,60nm,7.2s						
CD2				LR	LR		
	comp=E,60nm,13.2s						
CD2				LR	LR		
	comp=Z,90nm,14.4s						

ISCJB ***22*** *11:55:02.8±1.8, 514N×02×1775W×02, h55km±12km, mb3.5/5, Error ellipse: s-maj=32.2km s-min=17.0km az=150.5*
NEIC ***22*** *11:55:03.5±1.8, 5140N×17756W, h46km±15km, mb3.1/1, ML3.7(AEIC), Error ellipse: s-maj=27.9km s-min=17.2km az=153.0*
IDC ***22*** *11:55:03.5±9.2, 5139N×17747W, h46km±86km, mb3.1/6, mb1 3.5/7, mb1mx3.3/23, mbtmp3.5/7, ML4.0/1, Error ellipse: s-maj=54.7km s-min=29.7km az=170.0*

ISC 22 11:55:03.6±2.0, 515N±02×1776W±02, h47km±15km, n15, σ0°97/17, mb3.5/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.70**	**55**	P	**Pn**	**11 55 16.7**	**-0.6**
ADK				S	**Sn**	**11 55 27.1**	**-0.1**
ATKA	**Atka Island**	**2.24**	**70**	P	**Pn**	**11 55 36.9**	**-1.2**
ATKA				S	**Sn**	**11 56 05.1**	**+0.6**
NIKO	**Nikolski**	**5.58**	**71**	P	**Pn**	**11 56 24.5**	**+0.4**
UNV	**Unalaska Valle**	**7.16**	**66**	*e*Pn	**Pn**	**11 56 46.4**	**+0.7**
UNV				*e*S	**Sn**	**11 58 12.2**	**+6.6**
SDPT	**Sand Point**	**10.93**	**63**	*e*P	**Pn**	**11 57 38.0**	**+0.7**
	225nm,1.3s						
KDAK	**Kodiak Island**	**15.74**	**57**	P	**Pn**	**11 58 41.0**	**-1.1**
	0.6nm,0.3s,baz=287,slow=11,SNR=8.8						
SLKM	**Skilak Lake**	**17.66**	**49**	*e*P	**Pn**	**11 59 07.8**	**+1.7**
MCK	**McKinley**	**19.44**	**40**	*e*P	**Pn**	**11 59 26.6**	**-1.0**
	0.7nm,0.6s						
ILAR	**Eielson Array**	**20.70**	**38**	P	**P**	**11 59 39.8**	**+0.1**
	0.3nm,0.8s,baz=240,slow=10,SNR=7.5						
INK	**Inuvik**	**26.95**	**35**	P	**P**	**12 00 39.8**	**-0.7**
	0.3nm,0.5s,mb3.1,baz=286,slow=3.9,SNR=6.7						
YKA	**Yellowknife Ar**	**34.62**	**47**	P	**P**	**12 01 46.9**	**-1.2**
	0.2nm,0.5s,mb3.3,baz=286,slow=9.0,SNR=5.4						
PDAR	**Pinedale Array**	**45.57**	**73**	P	**P**	**12 03 19.9**	**+1.1**
	0.6nm,0.7s,mb3.6,baz=292,slow=3.1,SNR=4.9						
PDAR				pP	pP	12 03 36.6	+4.9
	0.8nm,0.6s,baz=319,slow=5.4,SNR=4.9						
SONM	**Songino Array**	**47.27**	**297**	P	**P**	**12 03 33.7**	**+1.6**
	0.5nm,0.5s,mb3.7,baz=50,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**86.07**	**223**	P	**P**	**12 07 38.4**	**-0.9**
	0.4nm,0.7s,mb3.7,baz=24,slow=5.7,SNR=4.3						
BOSA	**Boshof**	**151.45**	**314**	PKPbc	PKPbc	12 14 51.8	-0.5
	5.9nm,1.1s,baz=34,slow=1.2,SNR=4.2						

LDG ***22*** *12:15:50.5±0.3, 1392S×16670E, h190km, Mb3.7/1, Error ellipse: s-maj=50.3km s-min=10.1km az=86.0*
ISCJB ***22*** *12:15:51.2±2.5, 142S±01×167.1E±02, h231km±25km, mb4.0/11, Error ellipse: s-maj=26.4km s-min=19.9km az=76.5*
NEIC ***22*** *12:15:52.5±2.6, 1430S×167.16E, h231km±25km, mb4.3/4, Error ellipse: s-maj=24.2km s-min=16.4km az=163.0*
IDC ***22*** *12:15:52.4±2.5, 1430S×167.17E, h230km±24km, mb3.7/8, mb1 3.8/9, mb1mx3.7/15, mbtmp4.2/9, Error ellipse: s-maj=24.0km s-min=16.1km az=134.0*

ISC 22 12:15:52.2±2.4, 143S±01×1672E±02, h229km±24km, n37, σ0°72/18, mb4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.78**	**185**	P	**Pn**	**12 17 43.1**	**+0.5**
	0.7nm,0.3s,baz=52,slow=22,SNR=12						
DZM				S	**S**	**12 19 11.3**	**+0.1**
	0.5nm,0.3s,baz=54,slow=18,SNR=3.1						
STKA	**Stephens Creek**	**29.25**	**229**	*e*P	**P**	**12 21 32.1**	**-0.8**
	4.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**29.25**	**229**	P	**P**	**12 21 32.3**	**-0.6**
	4.9nm,0.5s,mb4.4,baz=45,slow=8.6,SNR=22						
WB2	**Warramunga Arr**	**31.88**	**255**	*e*P	**P**	**12 21 55.1**	**-0.9**
WRAB	**Tennant Creek**	**31.88**	**255**	*e*P	**P**	**12 21 55.5**	**-0.4**
	3.8nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**31.89**	**255**	P	**P**	**12 21 55.7**	**-0.4**
	2.5nm,0.4s,mb4.1,baz=86,slow=9.5,SNR=78						
AS31	**Alice Springs**	**32.79**	**248**	*e*P	**P**	**12 22 03.4**	**-0.5**
ASAR	**Alice Springs**	**32.79**	**248**	P	**P**	**12 22 03.5**	**-0.3**
	2.8nm,0.4s,mb4.1,baz=76,slow=9.4,SNR=120						
ASAR				PcP	PcP	12 24 43.5	+0.4
	0.3nm,0.6s,baz=85,slow=2.0,SNR=4.9						
ASAR				S	**S**	**12 27 04.1**	**+0.6**
	0.9nm,1.1s,baz=64,slow=17,SNR=4.2						
ASPA	**Alice Springs**	**32.80**	**248**	*e*P	**P**	**12 22 03.4**	**-0.5**
**FITZ

SBLS	**San Blas**	**1.56**	**59**	*e*P	Pn	12 21 18.2	+33
SBLS				*e*S	Sn	12 21 40.4	+36
TP2	**Tecpan 2**	**1.75**	**359**⇓	*e*P	Pn	12 20 48.2	+0.4
TP2				*e*S	Sn	12 21 10.9	+1.8
TP2				AML	AML	12 21 15.0	
	comp=E,413nm,0.4s						
LFRS	**El Faro**	**1.97**	**72**⇓	*e*P	Pn	12 21 25.0	+34
LFRS				*e*S	Sn	12 21 50.2	+36
MRL	**Marmol**	**2.39**	**32**	*e*P	Pn	12 20 58.5	+1.9

SKO 22 12:25:01.8, 4208N×2092E, h15km, 4C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZJ	**Kozjak Brana**	**0.29**	**134**⇑	*i*Pg	Pg	12 25 08.2	+0.3
KOZJ				⇓*i*		12 25 08.2	
KOZJ				⇑*i*		12 25 08.2	
KOZJ				*i*Sg	Sg	12 25 12.0	0.0
SKO	**Skopje**	**0.40**	**105**	*i*Pg	Pg	12 25 09.8	-0.2
SKO				*i*Sg	Sg	12 25 14.4	-1.0
SAMO	**Samokov**	**0.42**	**157**	*e*Pg	Pg	12 25 10.9	+0.6
SAMO				⇓*i*		12 25 10.9	
SAMO				⇓*i*		12 25 10.9	
SAMO				*i*Sg	Sg	12 25 17.1	+1.1
BELI	**Belica**	**0.48**	**146**⇑	*i*Pg	Pg	12 25 11.4	+0.1
BELI				⇓*i*		12 25 11.4	
BELI				⇑*i*		12 25 11.4	
BELI				*i*Sg	Sg	12 25 17.9	+0.2
OHR	**Ohrid**	**0.97**	**185**	*i*Pg	Pg	12 25 21.1	+0.4
OHR				*i*Sg	Sg	12 25 36.3	+2.9
OHR	**Ohrid**	**0.97**	**185**	*i*Pg	Pg	12 25 21.1	+0.4
OHR				*e*Sg	Sg	12 25 34.7	+1.3
OHR				*e*Lg		12 25 35.9	
	comp=E,73nm,0.5s						
BIA	**Bitola**	**1.10**	**164**	*i*Pg	Pg	12 25 23.0	-0.1
BIA	**Bitola**	**1.10**	**164**	*i*Pg	Pg	12 25 22.8	-0.3
BIA				*i*Sg	Sg	12 25 37.2	-0.3
BIA				*e*Lg		12 25 38.0	
	comp=E,32nm,0.3s						
BIA				*e*Lg		12 25 38.6	
	comp=N,29nm,0.3s						

IDC 22 12:43:05.1±70.0, 1778S×17646E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=1238.0km s-min=137.4km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.95**	**73**	LR	LR	12 49 32.9	
	comp=Z,148nm,19.9s,baz=287,slow=32						
STKA	**Stephens Creek**	**34.45**	**239**	P	P	12 49 54.2	-0.2
	0.4nm,0.3s,baz=90,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**39.85**	**260**	P	P	12 50 40.6	+0.4
	0.4nm,0.8s,baz=92,slow=8.0,SNR=10.0						
ASAR	**Alice Springs**	**40.12**	**254**	P	P	12 50 43.1	+0.6
	1.0nm,0.4s,baz=90,slow=7.9,SNR=43						

*ISCJB **22** 12:44:27.5±1.5, 244S±01×671W±02, h174km±27km, mb3.4/1, Error ellipse: s-maj=32.8km s-min=11.9km az=61.7*
*IDC **22** 12:44:30.0±4.1, 2414S×6697W, h169km±34km, mb3.3/1, mb1 3.4/5, mb1mx3.3/17, mbtmp3.9/5, Error ellipse: s-maj=64.8km s-min=27.3km az=172.0*
*NEIC **22** 12:44:31.8, 2431S×6758W, h200km, MD3.5(GUC), After GUC.*
*GUC **22** 12:44:31.8±0.5, 2431S×6758W, h200km, MD3.5, ML3.9*
ISC 22 12:44:28.7±1.4, 244S±01×670W±02, h165km±27km, n11, σ1§17/15, mb3.4/1, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.45**	**315**	P	**Pn**	**12 45 11.5**	**+1.5**
	4.3nm,0.3s,baz=130,slow=7.3,SNR=132						
LVC				S	**Sn**	**12 45 41.9**	**-0.1**
	23nm,0.3s,baz=8.3,slow=22,SNR=49						
CEN1	**Los Morros**	**3.05**	**288**	*e*P	**Pn**	**12 45 18.9**	**+1.6**
CEN1				*i*S	**Sn**	**12 45 54.1**	**-0.9**
CEN1				AMP		12 45 56.3	
	comp=N,146nm,1.1s						
CPN1	**Cerro Paranal**	**3.07**	**265**⇑	*i*P	**Pn**	**12 45 18.9**	**+1.4**
CPN1				*i*S	**Sn**	**12 45 55.0**	**-0.4**
CPN1				AMP		12 45 58.2	
	comp=E,199nm,0.3s						
ANCH	**Antofagasta**	**3.15**	**282**⇑	*i*P	**Pn**	**12 45 16.3**	**-2.2**
ANCH				*i*S	**Sn**	**12 45 52.2**	**-5.0**
ANCH				AMP		12 45 55.4	
	comp=N,404nm,0.3s						
ANCH	**Antofagasta**	**3.15**	**282**⇑	*i*P	**Pn**	**12 45 16.3**	**-2.2**
ANCH				*i*S	**Sn**	**12 45 52.2**	**-5.0**
CRCH	**Chaqaral**	**3.79**	**238**	*i*S	**Sn**	**12 46 11.3**	**-0.3**
CRCH				AMP		12 46 13.8	
	comp=E,140nm,0.8s						
LPAZ	**La Paz**	**8.11**	**353**	P	**Pn**	**12 46 23.9**	**+0.5**
	comp=E,0.9nm,0.3s,baz=159,slow=9.0,SNR=11						
SIV	**San Ignacio**	**10.05**	**35**	P	**Pn**	**12 46 46.7**	**-2.3**
	comp=E,0.8nm,0.3s,baz=214,slow=15,SNR=14						
BDFB	**Brasilia**	**19.86**	**68**	P	**P**	**12 48 47.3**	**+0.4**
	comp=E,0.7nm,0.3s,baz=251,slow=12,SNR=7.3						
TORD	**Torodi Ar. Bea**	**76.74**	**69**	P	**P**	**12 56 01.5**	**-0.1**
	comp=E,0.4nm,0.4s,mb3.4,baz=257,slow=5.6,SNR=5.4						
MKAR	**Makanchi Array**	**146.84**	**40**	PKPbc	PKPbc	13 03 51.4	+0.1
	comp=E,0.2nm,0.6s,baz=300,slow=3.8,SNR=4.0						

*MOS **22** 12:56:18.7±1.0, 2168N×14278E, h113km, mb4.6/22, Error ellipse: s-maj=18.7km s-min=8.1km az=100.9*
*ISCJB **22** 12:56:19.1±2.3, 2166N±005×14285E±008, h118km±21km, mb4.4/44, Error ellipse: s-maj=12.8km s-min=8.1km az=151.8*
*NEIC **22** 12:56:21.0±2.9, 2166N×14291E, h121km±26km, mb4.5/17, Error ellipse: s-maj=14.3km s-min=7.3km az=88.0*
*IDC **22** 12:56:20.2±5.4, 2172N×14304E, h119km±49km, mb3.9/18, mb1 4.0/19, mb1mx3.9/26, mbtmp4.2/19, MS3.5/9, Ms1 3.6/9, ms1mx3.3/28, Error ellipse: s-maj=20.5km s-min=11.1km az=80.0*
*BJI **22** 12:56:27.2, 2243N×14221E, h121km, mB4.6, mb4.6*
ISC 22 12:56:21.5±2.3, 2171N±005×14292E±008, h126km±21km, n93, σ1§19/88, mb4.4/44, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.28**	**167**	LR	LR	13 01 00.2	
	comp=Z,198nm,18.1s,baz=314,slow=34						
JOW	**Kunigami**	**14.29**	**294**	LR	LR	13 04 04.8	
	comp=Z,236nm,18.7s,baz=65,slow=32						
MJAR	**Matsushiro Arr**	**15.34**	**346**	P	**Pn**	**12 59 51.1**	**-0.1**
	0.2nm,0.3s,baz=157,slow=11,SNR=5.1						
MJAR				LR	LR	13 05 26.0	
	comp=Z,116nm,20.1s,baz=85,slow=36						
YHNB	**Yeheng**	**20.02**	**283**	*e*P	**P**	**13 00 44.9**	**+0.6**
SSE	**Sheshan**	**21.56**	**300**	P	**P**	**13 00 57.3**	**-3.5**
SSE				AMB	AMB		
	comp=Z,19nm,0.6s,mb4.6						
SSE				AMB	AMB		
	comp=Z,67nm,4.2s						
SSE				LR	LR		
	comp=N,21nm,20.3s						
SSE				LR	LR		
	comp=E,81nm,20.3s						
SSE				LR	LR		
	comp=Z,78nm,22.9s						
ASAJ	**Asahikawa**	**22.35**	**359**	LR	LR	13 10 36.3	
	comp=Z,109nm,19.2s,baz=350,slow=38						
NJ2	**Nanjing**	**23.76**	**301**	*e*P	**P**	**13 01 21.3**	**-1.0**
NJ2				PP		13 01 55.8	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
NJ2				AMB	AMB		
	comp=Z,50nm,10.3s						
NJ2				LR	LR		
	comp=N,570nm,33.0s						
NJ2				LR	LR		
	comp=E,430nm,23.5s						
NJ2				LR	LR		
	comp=Z,160nm,16.7s						
YSS	**Yuzh-Sakhalins**	**25.19**	**360**	P	**P**	**13 01 40.9**	**+5.7**
MDJ	**Mudanjiang**	**25.36**	**337**	P	**P**	**13 01 36.3**	**-0.5**
MDJ				S	**S**	**13 05 53.4**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,13nm,2.3s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,100nm,3.9s						
HABR	**Khabarovsk**	**27.44**	**349**	P	**P**	**13 01 53.5**	**-2.0**
HABR				*e*S	**S**	**13 06 32.2**	**+5.6**
KLR	**Kul'dur**	**28.87**	**345**	*e*P	**P**	**13 02 04.3**	**-3.8**
PMG	**Port Moresby**	**31.20**	**172**	P	**P**	**13 02 28.9**	**+0.2**
	comp=Z,6.1nm,0.8s,mb4.4,baz=333,slow=9.0,SNR=3.7						
PMG				LR	LR	13 14 42.3	
	comp=Z,81nm,18.8s,baz=188,slow=35						
PMG	**Port Moresby**	**31.20**	**172**	*e*P	**P**	**13 02 28.5**	**-0.2**
	comp=Z,6.5nm,0.8s,mb4.4						
PMG	**Port Moresby**	**31.20**	**172**	*e*P	**P**	**13 02 28.5**	**-0.2**
PMG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**32.65**	**313**	*e*P	**P**	**13 02 43.3**	**+1.9**
HHC				PCP	PcP	13 05 24.9	+0.5
HHC				S	**S**	**13 07 43.8**	**-4.3**
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,66nm,6.9s						
HHC				LR	LR		
	comp=N,105nm,7.6s						
HHC				LR	LR		
	comp=E,148nm,5.5s						
HHC				LR	LR		
	comp=Z,117nm,5.7s						
HNR	**Honiara**	**35.17**	**150**	LR	LR	13 16 39.5	
	comp=Z,60nm,18.4s,baz=177,slow=35						
CD2	**Chengdu**	**36.13**	**293**	*e*P	**P**	**13 03 12.6**	**+1.2**
CD2				S	**S**	**13 08 36.6**	**-5.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=E,170nm,15.6s						
CD2				LR	LR		
	comp=Z,100nm,20.4s						
LZH	**Lanzhou**	**36.83**	**302**	*e*P	**P**	**13 03 14.3**	**-3.0**
LZH				AMB	AMB		
	comp=Z,21nm,1.7s,mb4.8						
ULN	**Ulaanbaatar**	**38.80**	**321**	*e*P	**P**	**13 03 34.1**	**+0.2**
	comp=Z,10nm,1.1s,mb4.6						
ULN	**Ulaanbaatar**	**38.80**	**321**	*e*P	**P**	**13 03 34.2**	**+0.3**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
SONM	**Songino Array**	**39.17**	**321**	P	**P**	**13 03 37.2**	**+0.2**
	comp=Z,5.3nm,0.9s,mb4.4,baz=126,slow=7.0,SNR=36						
GTA	**Gaotai**	**40.67**	**306**	*e*P	**P**	**13 03 50.6**	**+1.3**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.3						
YAK	**Yakutsk**	**41.32**	**351**	*e*P	**P**	**13 03 52.8**	**-1.9**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s						
CTA	**Charters Tower**	**41.66**	**175**	P	**P**	**13 03 58.2**	**+0.7**
	comp=Z,8.2nm,1.0s,mb4.4,baz=358,slow=12,SNR=4.4						
CTA				LR	LR	13 20 25.9	
	comp=Z,82nm,19.3s,baz=229,slow=35						
CTA	**Charters Tower**	**41.66**	**175**	P	**P**	**13 03 58.2**	**+0.7**
CTA				LR	LR	13 20 25.9	
CTAO	**Charters Tower**	**41.66**	**175**	*e*P	**P**	**13 03 58.1**	**+0.6**
	comp=Z,25nm,1.3s,mb4.8						
CTAO	**Charters Tower**	**41.66**	**175**	*e*P	**P**	**13 03 58.1**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.8						
SEY	**Seymchan**	**41.70**	**6**	*e*P	**P**	**13 03 55.9**	**-1.9**
ZAK	**Zakamensk**	**42.19**	**323**⇓	*i*P	**P**	**13 04 02.0**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.7						
WRAB	**Tennant Creek**	**42.22**	**192**	*e*P	**P**	**13 04 01.8**	**-0.2**
	comp=Z,27nm,1.1s,mb4.9						
WRAB	**Tennant Creek**	**42.22**	**192**	*e*P	**P**	**13 04 01.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.9						
WB2	**Warramunga Arr**	**42.23**	**192**	*e*P	**P**	**13 04 02.1**	**0.0**
WRA	**Warramunga Arr**	**42.23**	**192**	P	**P**	**13 04 02.0**	**-0.1**
	comp=Z,7.9nm,1.0s,mb4.4,baz=15,slow=8.8,SNR=24						
MOY	**Moody**	**44.06**	**323**	*e*P	**P**	**13 04 17.8**	**+1.0**
AS31	**Alice Springs**	**45.94**	**192**	*e*P	**P**	**13 04 31.6**	**-0.1**
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**13 04 31.2**	**-0.5**
	comp=Z,4.2nm,0.6s,mb4.3,baz=16,slow=10,SNR=49						
ASPA	**Alice Springs**	**45.94**	**192**	*e*P	**P**	**13 04 31.6**	**-0.1**
PSI	**Prapat**	**46.68**	**252**	LR	LR	13 22 46.9	
	comp=Z,71nm,20.6s,baz=256,slow=34						
BILL	**Bilibino**	**48.56**	**11**	*e*P	**P**	**13 04 52.9**	**+0.9**
	comp=Z,5.8nm,1.1s,mb4.4						
BILL	**Bilibino**	**48.56**	**11**	*e*P	**P**	**13 04 52.9**	**+0.9**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
WMQ	**Urumqi**	**50.38**	**309**	P	**P**	**13 05 07.9**	**+2.1**
WMQ				PP	PP	13 07 06.6	+4.2
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,42nm,4.8s						
TIXI	**Tiksi**	**50.62**	**354**	*e*P	**P**	**13 05 09.0**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
STKA	**Stephens Creek**	**53.29**	**181**	P	**P**	**13 05 24.9**	**-2.4**
	comp=Z,5.1nm,0.9s,mb4.6,baz=357,slow=11,SNR=7.3						
STKA	**Stephens Creek**	**53.29**	**181**	*e*P	**P**	**13 05 24.6**	**-2.8**
MKAR	**Makanchi Array**	**54.51**	**313**	P	**P**	**13 05 37.2**	**+1.0**
	comp=Z,2.9nm,0.7s,mb4.5,baz=102,slow=8.4,SNR=28						
NVS	**Novosibirsk**	**55.15**	**323**	*e*P	**P**	**13 05 40.0**	**-0.8**
KURK	**Kurchatov**	**57.30**	**317**	*e*P	**P**	**13 05 56.0**	**-0.1**
	comp=Z,8.8nm,0.9s,mb4.8						
KURK	**Kurchatov**	**57.30**	**317**	*e*P	**P**	**13 05 56.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ILAR	**Eielson Array**	**62.15**	**27**	P	**P**	**13 06 26.9**	**-2.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=263,slow=5.3,SNR=9.5						
BVAR	**Borovoye Array**	**62.51**	**319**	P	**P**	**13 06 32.2**	**+0.5**
	comp=Z,12nm,0.8s,mb4.9,baz=92,slow=7.6,SNR=68						
BRVK	**Borovoye**	**62.57**	**320**	*e*P	**P**	**13 06 32.5**	**+0.4**
	comp=Z,7.2nm,0.9s,mb4.6						
BRVK	**Borovoye**	**62.57**	**320**	*e*P	**P**	**13 06 32.5**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**63.34**	**319**	*e*P	**P**	**13 06 37.2**	**+0.1**
	comp=Z,7.0nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**63.34**	**319**	*e*P	**P**	**13 06 37.3**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
INK	**Inuvik**	**67.66**	**24**	P	**P**	**13 07 03.7**	**-1.2**
	comp=Z,1.5nm,0.7s,mb3.9,baz=240,slow=8.5,SNR=9.5						
INK	**Inuvik**	**67.66**	**24**	*e*P	**P**	**13 07 06.3**	**+1.4**
	comp=Z,6.3nm,1.0s,mb4.4						
INK	**Inuvik**	**67.66**	**24**	*e*P	**P**	**13 07 06.3**	**+1.4**
INK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AKTK	**Aktyubinsk**	**70.39**	**317**	P	**P**	**13 07 21.7**	**-0.1**
AKTO	**Aktyubinsk**	**70.39**	**317**	P	**P**	**13 07 21.7**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.0,baz=77,slow=17,SNR=6.5						
YKW3	**Yellowknife Ar**	**76.54**	**28**	*e*P	**P**	**13 08 00.7**	**+2.9**
YKA	**Yellowknife Ar**	**76.56**	**28**	P	**P**	**13 07 56.9**	**-1.0**
	comp=Z,1.9nm,0.8s,mb3.9,baz=294,slow=5.6,SNR=15						
YKA	**Yellowknife Ar**	**76.56**	**28**	P	**P**	**13 07 56.9**	**-1.0**
YKA	**Yellowknife Ar**	**76.56**	**28**	*i*P	**P**	**13 07 59.7**	**+1.8**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RES	**Resolute Bay**	**77.12**	**13**	*e*P	**P**	**13 07 60.0**	**-1.1**
	comp=Z,7.4nm,1.1s,mb4.3						
RES	**Resolute Bay**	**77.12**	**13**	*e*P	**P**	**13 08 00.0**	**-1.1**
RES				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
OBN	**Obninsk**	**81.34**	**326**	*e*P	**P**	**13 08 31.2**	**+7.2**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.8						
CMB	**Columbia Colle**	**81.95**	**52**	*e*P	**P**	**13 08 29.2**	**+2.0**
	comp=Z,1.8nm,0.5s,mb4.2						
CMB	**Columbia Colle**	**81.95**	**52**	*e*P	**P**	**13 08 29.2**	**+2.0**
CMB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
KIV	**Kislovodsk**	**82.24**	**314**	*e*P	**P**	**13 08 30.4**	**+1.7**
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**83.07**	**334**	P	**P**	**13 08 32.5**	**-0.5**
	comp=Z,1.2nm,0.5s,mb4.0,baz=70,slow=6.3,SNR=10						
FINES	**FINESS Array B**	**83.07**	**334**	*i*P	**P**	**13 08 31.5**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**83.33**	**51**	P	**P**	**13 08 35.4**	**+1.1**
	comp=Z,1.6nm,0.9s,mb3.9,baz=273,slow=5.9,SNR=11						
NVAR				LR	LR	13 39 57.8	
	comp=Z,87nm,20.4s,baz=115,slow=31						
ELK	**Elko**	**84.61**	**48**	*e*P	**P**	**13 08 42.1**	**+1.4**
TPNV	**Topopah Spring**	**85.41**	**52**	*e*P	**P**	**13 08 45.5**	**+0.8**
	comp=Z,4.7nm,1.0s,mb4.4						
TPNV	**Topopah Spring**	**85.41**	**52**	*e*P	**P**	**13 08 45.6**	**+0.8**
TPNV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
YMR	**Madison River**	**85.79**	**43**	*e*P	**P**	**13 08 46.5**	**-0.2**
	comp=Z,8.6nm,0.9s,mb4.7						
FFC	**Flin Flon**	**85.95**	**32**	*e*P	**P**	**13 08 47.5**	**0.0**
	comp=Z,8.5nm,1.0s,mb4.6						
FFC	**Flin Flon**	**85.95**	**32**	*e*P	**P**	**13 08 47.5**	**0.0**
FFC				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
DUG	**Dugway**	**86.52**	**48**	*e*P	**P**	**13 08 50.8**	**+0.5**
	comp=Z,2.5nm,0.6s,mb4.3						
DUG	**Dugway**	**86.52**	**48**	*e*P	**P**	**13 08 50.8**	**+0.6**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
HWUT	**Hardware Ranch**	**86.75**	**46**	*e*P	**P**	**13 08 52.3**	**+0.9**
	comp=Z,4.7nm,0.9s,mb4.4						
FCC	**Fort Churchill**	**87.14**	**26**	*e*P	**P**	**13 08 52.3**	**-1.0**
	comp=Z,3.9nm,0.8s,mb4.4						
FCC	**Fort Churchill**	**87.14**	**26**	*e*P	**P**	**13 08 52.3**	**-1.0**
FCC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AKASG	**Malin Array Be**	**87.36**	**324**	P	**P**	**13 08 52.6**	**-1.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=51,slow=5.3,SNR=5.5						
AKASG	**Malin Array Be**	**87.36**	**324**	*i*P	**P**	**13 08 53.5**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**87.56**	**45**	P	**P**	**13 08 53.6**	**-1.6**
	comp=Z,0.2nm,0.8s,baz=316,slow=2.5,SNR=2.6						
HFS	**Hagfors**	**88.62**	**337**	P	**P**	**13 08 58.1**	**-2.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=46,slow=6.4,SNR=5.2						
PV10	**Paradox Valley**	**89.95**	**48**	*e*P	**P**	**13 09 06.8**	**+0.3**
BRTR	**Keskin Array B**	**90.16**	**313**	P	**P**	**13 09 06.0**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.9,baz=99,slow=3.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**128.54**	**309**	PKP	PKPdf	13 15 14.6	+1.1
	comp=Z,0.2nm,0.6s,baz=2.1,slow=3.0,SNR=4.2						
PLCA	**Paso Flores**	**145.95**	**132**	PKPbc	PKPbc	13 15 46.5	+0.1
	comp=Z,1.2nm,0.9s,baz=232,slow=10,SNR=3.1						
LPAZ	**La Paz**	**150.19**	**85**	PKPbc	PKPbc	13 15 59.5	+1.9
	comp=Z,1.5nm,0.8s,baz=158,slow=3.6,SNR=6.2						
LPAZ	**La Paz**	**150.19**	**85**	*e*PKIKP	PKPbc	13 15 59.4	+1.9

*IDC **22** 12:55:59.3±2.9, 1791N×12336E, h0km, mb4.0/3, mb1 4.3/5, mb1mx3.7/21, mbtmp4.3/5, ML4.2/2, Error ellipse: s-maj=81.6km s-min=32.7km az=111.0*
*ISCJB **22** 12:56:31.2±0.6, 1483N±004×12308E±006, h81km±9km, mb4.0/3, Error ellipse: s-maj=10.8km s-min=5.3km az=139.5*
*MAN **22** 12:56:31.8, 1484N×123.10E, h33km, mb3.2, ML4.5, MS3.7*
ISC 22 12:56:32.3±0.6, 1481N±004×12308E±007, h73km±9km, n41, σ1§05/47, mb4.0/3, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.09**	**214**⇓	*e*P	**Pn**	**12 56 52.0**	**-0.1**
GQP				*e*S	**Sn**	**12 57 05.8**	**-1.1**
POLP	**Polilio Island**	**1.11**	**266**	*e*P	**Pn**	**12 56 52.0**	**-0.2**
POLP	**Polilio Island**	**1.11**	**266**	*e*P	**Pn**	**12 56 52.0**	**-0.2**
AUQP	**San Andres**	**1.53**	**195**	*e*P	**Pn**	**12 56 59.0**	**+1.3**
AUQP	**San Andres**	**1.53**	**195**	*e*P	**Pn**	**12 56 59.0**	**+1.3**
PVCP	**Virac**	**1.60**	**139**	*e*P	**Pn**	**12 56 57.7**	**-0.8**
PVCP	**Virac**	**1.60**	**139**	*e*P	**Pn**	**12 56 57.7**	**-0.8**
LQP	**Lukban**	**1.65**	**245**⇓	*e*P	**Pn**	**12 56 58.4**	**-0.9**
BALP	**Baler**	**1.72**	**303**	*e*P	**Pn**	**12 56 59.1**	**-1.1**
BALP				*e*S	**Sn**	**12 57 20.2**	**-1.2**
BALP	**Baler**	**1.72**	**303**	*e*P	**Pn**	**12 56 59.1**	**-1.1**
BOAC	**Boac**	**1.81**	**222**	*e*P	**Pn**	**12 57 00.8**	**-0.6**
BOAC	**Boac**	**1.81**	**222**	*e*P	**Pn**	**12 57 00.8**	**-0.6**
PCPH	**Palayan**	**2.06**	**291**⇓	*e*P	**Pn**	**12 57 04.3**	**-0.4**
PCPH				*e*S	**Sn**	**12 57 27.2**	**-2.2**
TGY	**Tagaytay City**	**2.20**	**251**	Pn	**Pn**	**12 57 07.9**	**+1.3**
	82nm,0.3s,baz=13,slow=1.8,SNR=6.1						
TGY				Sn	**Sn**	**12 57 44.4**	**+12**
	97nm,0.3s,baz=346,slow=19,SNR=4.8						
PALP	**Palanan**	**2.32**	**344**	*e*P	**Pn**	**12 57 07.9**	**-0.4**
PALP	**Palanan**	**2.32**	**344**	*e*P	**Pn**	**12 57 07.9**	**-0.4**
CAUP	**Cauayan**	**2.44**	**330**	*e*P	**Pn**	**12 57 10.4**	**+0.5**
CAUP	**Cauayan**	**2.44**	**330**	*e*P	**Pn**	**12 57 10.4**	**+0.5**
OTRP	**Odiongan**	**2.65**	**203**	*e*P	**Pn**	**12 57 12.9**	**+0.2**
OTRP	**Odiongan**	**2.65**	**203**	*e*P	**Pn**	**12 57 12.9**	**+0.3**
CNP	**Cataman**	**2.76**	**146**	*e*P	**Pn**	**12 57 14.3**	**+0.1**
CNP	**Cataman**	**2.76**	**146**	*e*P	**Pn**	**12 57 14.3**	**+0.1**
BCPH	**Baguio City Da**	**2.87**	**303**⇑	*i*P	**Pn**	**12 57 16.5**	**+0.8**
BCPH				*i*S	**Sn**	**12 57 50.2**	**+1.1**
LUBP	**Lubang**	**2.95**	**249**	*e*P	**Pn**	**12 57 16.7**	**-0.1**
LUBP	**Lubang**	**2.95**	**249**	*e*P	**Pn**	**12 57 16.8**	**-0.1**
SJMP	**San Jose**	**3.02**	**219**	*e*P	**Pn**	**12 57 19.6**	**+1.8**
SJMP	**San Jose**	**3.02**	**219

comp=Z,4.0nm,0.4s,mb4.4
GKN Gorkha 28.21 337 *e*P P **13 08 33.8 +0.6**
comp=Z,6.5nm,0.3s,mb4.7
KOLN Koldanda 28.43 335 *e*P P **13 08 35.8 +0.7**
comp=Z,14nm,0.7s,mb4.7
CD2 Chengdu 29.27 12 P P **13 08 42.8 +0.2**
CD2 AP pP 13 08 52.3 +0.4
CD2 PP PP 13 09 38.5 -10
CD2 S **S 13 13 33.0 -0.4**
CD2 XS sS 13 13 48.9 +0.1
CD2 SS SS 13 15 05.9 -32
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,50nm,5.3s
CD2 LR LR
comp=E,180nm,14.4s
CD2 LR LR
comp=Z,130nm,19.2s,MS3.6
ENH Enshi 30.34 22 *e*P P **13 08 50.7 -1.4**
comp=Z,4.0nm,0.3s,mb4.6
MBWA Marble Bar 32.22 137 *e*P P **13 09 08.7 0.0**
comp=Z,6.8nm,0.9s,mb4.5
NJ2 Nanjing 36.16 33 *e*P P **13 09 43.1 +0.3**
NJ2 AP pP 13 09 52.8 +0.6
NJ2 XP sP 13 09 56.8 +0.7
NJ2 PP PP 13 11 06.3 +1.0
NJ2 S **S 13 15 19.0 -1.5**
NJ2 AMB AMB
comp=Z,50nm,7.6s
NJ2 LR LR
comp=N,880nm,29.4s,MS4.5
NJ2 LR LR
comp=E,740nm,29.2s,MS4.5
NJ2 LR LR
comp=Z,160nm,22.1s
SSE Sheshan 36.76 36 P P **13 09 46.6 -1.3**
SSE XP sP 13 09 59.1 -2.1
SSE PP PP 13 11 10.8 -1.1
SSE PCP PcP 13 12 07.4 -2.3
SSE S **S 13 15 29.9 +0.3**
SSE XS sS 13 15 44.9 -0.2
SSE AMB AMB
comp=Z,15nm,0.6s,mb5.0
SSE AMB AMB
comp=Z,97nm,5.3s
SSE LR LR
comp=N,116nm,20.1s,MS3.8
SSE LR LR
comp=E,89nm,20.4s,MS3.8
SSE LR LR
comp=Z,120nm,17.9s,MS3.7
GTA Gaotai 37.12 4 *e*P P **13 09 50.8 -0.1**
GTA AP pP 13 10 00.1 -0.3
GTA XP sP 13 10 04.1 -0.2
GTA AMB AMB
comp=Z,17nm,1.1s,mb4.8
NWAO Narrogin (SRO) 39.88 153 P P **13 10 13.4 -0.7**
comp=Z,11nm,0.9s,mb4.6,baz=307,slow=4.4,SNR=3.0
HHC Hu-ho-hao-te 40.68 17 *e*P P **13 10 21.8 +1.1**
HHC AP pP 13 10 31.5 +1.3
HHC XP sP 13 10 35.6 +1.5
HHC PP PP 13 12 00.1 +5.4
HHC PCP PcP 13 12 23.0 +1.0
HHC SCP ScP 13 16 09.3 +0.2
HHC S **S 13 16 30.3 +1.6**
HHC XS sS 13 16 46.4 +2.1
HHC SS SS 13 19 27.1 -2.6
HHC SCS ScS 13 20 22.0 -1.7
HHC AMB AMB
comp=Z,6.0nm,0.3s,mb4.7
HHC AMB AMB
comp=Z,84nm,4.1s
HHC LR LR
comp=N,124nm,6.9s
HHC LR LR
comp=E,143nm,5.1s
HHC LR LR
comp=Z,96nm,6.3s
WRA Warramunga Arr 42.81 123 P P **13 10 38.5 +0.4**
comp=Z,1.9nm,0.7s,mb3.9,baz=301,slow=9.2,SNR=18
WRA Warramunga Arr 42.81 123 *i*P P **13 10 39.2 +1.0**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 42.81 123 *e*P P **13 10 39.3 +1.1**
comp=Z,9.8nm,0.8s,mb4.6
WRAB *e* 13 10 45.5
WRAB Tennant Creek 42.81 123 *e*P P **13 10 39.3 +1.1**
WRAB *e* 13 10 45.5
WRAB pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
WB2 Warramunga Arr 42.82 123 *e*P P **13 10 38.6 +0.3**
ASAR Alice Springs 44.23 128 P P **13 10 49.9 +0.2**
comp=Z,0.3nm,0.4s,mb3.4,baz=297,slow=7.6,SNR=22
SONM Songino Array 46.18 9 P P **13 11 05.5 +0.4**
comp=Z,6.5nm,0.7s,mb4.7,baz=190,slow=8.9,SNR=52
MKAR Makanchi Array 46.20 346 P P **13 11 05.1 -0.1**
comp=Z,4.5nm,0.5s,mb4.6,baz=160,slow=9.3,SNR=66
ULN Ulaanbaatar 46.31 9 *e*P P **13 11 05.8 -0.4**
comp=Z,5.1nm,0.9s,mb4.5
ULN Ulaanbaatar 46.31 9 *e*P P **13 11 05.8 -0.3**
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ZAK Zakamensk 48.30 5 *e*P P **13 11 22.0 +0.4**
ZAK pmax pmax
comp=Z,7.0nm,2.2s,mb4.3
CN2 Changchun 48.54 27 *e*P P **13 11 23.0 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
KURK Kurchatov 50.75 345 *e*P P **13 11 40.3 0.0**
comp=Z,3.2nm,1.0s,mb4.2
KURK Kurchatov 50.75 345 *e*P P **13 11 40.3 0.0**
KURK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
HIA Hailar 50.78 19 *e*P P **13 11 40.8 +0.3**
comp=Z,7.7nm,0.9s,mb4.6
HIA Hailar 50.78 19 *e*P P **13 11 40.8 +0.3**
HIA pmax pmax
comp=Z,8.0nm,0.9s
MDJ Mudanjiang 51.13 30 P P **13 11 43.9 +0.8**
MDJ AMB AMB
comp=Z,57nm,4.0s
MDJ LR LR
comp=N,63nm,20.7s,MS3.8
MDJ LR LR
comp=E,63nm,20.7s,MS3.8
MDJ LR LR
comp=Z,81nm,18.7s,MS3.8
MAJO Matsushiro 51.14 43 *e*P P **13 11 43.8 +0.6**
comp=Z,5.2nm,0.8s,mb4.5
MAJO Matsushiro 51.14 43 *e*P P **13 11 43.8 +0.6**
MAJO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MJAR Matsushiro Arr 51.14 43 P P **13 11 43.9 +0.7**
comp=Z,2.8nm,0.9s,mb4.2,baz=214,slow=6.0,SNR=7.2
PMG Port Moresby 51.36 104 P P **13 11 45.7 +0.9**
comp=Z,8.5nm,0.8s,mb4.7,baz=305,slow=5.1,SNR=5.4
PMG Port Moresby 51.36 104 *e*P P **13 11 45.4 +0.6**
comp=Z,8.3nm,0.8s,mb4.7
PMG Port Moresby 51.36 104 *e*P P **13 11 45.4 +0.5**
PMG pmax pmax
comp=Z,8.0nm,0.8s
NVS Novosibirsk 53.64 350 ||*i*P P **13 12 00.5 -1.2**
NVS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
NVS pmax pmax
comp=E,3.0nm,0.7s
STKA Stephens Creek 54.24 133 *e*P P **13 12 04.4 -1.7**
comp=E,5.3nm,1.5s,mb4.2
STKA Stephens Creek 54.24 133 P P **13 12 05.1 -1.0**
comp=E,2.3nm,0.7s,mb4.2,baz=360,slow=6.3,SNR=3.5
BVAR Borovoye Array 55.21 341 P P **13 12 12.5 -0.6**
comp=E,1.7nm,0.5s,mb4.3,baz=134,slow=7.5,SNR=15
BRVK Borovoye 55.27 341 *e*P P **13 12 12.8 -0.8**
comp=E,2.7nm,0.9s,mb4.3
BRVK *e*pP pP 13 12 19.9 -3.5
BRVK Borovoye 55.27 341 *e*P P **13 12 12.8 -0.8**
BRVK *e**PP pP 13 12 19.9 -3.5
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KLR Kul'dur 55.48 27 *e*P P **13 12 13.2 -1.9**
ZRNK Zerenda 55.61 340 *e*P P **13 12 15.6 -0.4**
comp=Z,3.8nm,0.8s,mb4.5
ZRNK Zerenda 55.61 340 *e*P P **13 12 15.6 -0.5**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5

BOD Bodaibo 57.07 11 *e*P P **13 12 20.8 -5.7**
BOD pmax pmax
comp=Z,3.0nm,1.8s,mb4.0
AKTK Aktyubinsk 58.21 332 P P **13 12 34.5 0.0**
AKTO Aktyubinsk 58.21 332 P P **13 12 34.5 0.0**
comp=Z,1.6nm,0.5s,mb4.3,baz=137,slow=8.8,SNR=8.0
KMBO Kilima Mbogo 59.75 267 P P **13 12 45.3 +0.1**
comp=Z,0.6nm,0.4s,mb4.0,baz=49,slow=24,SNR=3.6
KMBO Kilima Mbogo 59.75 267⇑*e*P P **13 12 46.2 +1.1**
SVE Sverdlovsk 61.65 338 *e*P P **13 13 04.6 +6.5**
YAK Yakutsk 64.53 16 *e*P P **13 13 16.7 -0.5**
YAK pmax pmax
comp=Z,12nm,0.8s,mb5.0
BRTR Keskin Array B 68.23 312 P P **13 13 40.0 -0.9**
comp=Z,0.8nm,0.6s,mb4.0,baz=144,slow=8.6,SNR=4.4
LSZ Lusaka 70.14 253 P P **13 13 52.4 -0.3**
comp=Z,0.9nm,0.3s,mb4.1,baz=60,slow=8.1,SNR=2.8
OBN Obninsk 71.62 328 *e*P P **13 14 01.6 -0.1**
OBN pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
TIXI Tiksi 72.25 10 *e*P P **13 14 03.8 -1.6**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
SEY Seymchan 72.95 23 ||*i*P P **13 14 09.8 +0.2**
LBTB Lobatse 74.08 243 *e*P P **13 14 16.7 +0.4**
comp=Z,5.0nm,0.6s,mb4.6
LBTB Lobatse 74.08 243 *e*P P **13 14 16.7 +0.4**
LBTB pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AKASG Malin Array Be 74.29 322 P P **13 14 16.0 -1.5**
comp=Z,1.0nm,0.5s,mb4.0,baz=92,slow=5.3,SNR=3.9
BOSA Boshof 75.04 240 P P **13 14 21.6 -0.2**
comp=Z,1.4nm,0.7s,mb4.0,baz=89,slow=14,SNR=4.0
MLR Muntele Rosu 75.14 317 P P **13 14 23.3 +0.8**
comp=Z,2.5nm,0.4s,mb4.5,baz=144,slow=13,SNR=3.2
FINES FINESS Array B 78.98 332 P P **13 14 43.6 -0.4**
comp=Z,1.1nm,0.6s,mb4.0,baz=77,slow=8.4,SNR=5.5
FINES FINESS Array B 78.98 332 *i*P P **13 14 43.5 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.6s
SYO Syowa Base 80.87 198 ||*e*P P **13 14 58.8 +4.5**
ARCES ARCESS Array B 81.50 340 P P **13 14 57.5 -0.1**
comp=Z,5.2nm,0.9s,mb4.4,baz=91,slow=9.7,SNR=4.1
GERES GERESS Array B 83.87 319 P P **13 15 09.8 -0.1**
comp=Z,0.7nm,0.6s,mb4.0,baz=50,slow=2.1,SNR=5.6
NOA NORSAR Array B 85.99 331 P P **13 15 20.4 -0.1**
comp=Z,0.8nm,0.8s,mb4.0,baz=39,slow=9.1,SNR=3.3
TNA Tin City 90.14 24 *e*P P **13 15 37.3 -3.1**
comp=Z,3.1nm,1.0s,mb4.6
TORD Torodi Ar. Bea 94.59 283 P P **13 16 00.8 -0.2**
comp=Z,1.2nm,1.0s,mb4.3,baz=67,slow=5.7,SNR=4.4
CPUP Villa Florida 145.55 224 PKPbc PKPbc 13 22 19.0 +0.5
comp=Z,4.1nm,0.6s,baz=116,slow=3.1,SNR=12

IDC 22 13:31:29.5±72.0, 1207S×16983E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/13, mbtmp3.7/3, Error ellipse: s-maj=1241.0km s-min=126.0km az=63.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.61**	**228**	P		P		13 38 02.9	+0.2
	2.1nm,0.8s,baz=49,slow=10,SNR=6.2								
WRA	**Warramunga Arr**	**34.94**	**252**	P		P		13 38 23.6	+0.5
	0.6nm,1.2s,baz=84,slow=8.7,SNR=4.0								
ASAR	**Alice Springs**	**35.98**	**246**	P		P		13 38 32.2	+0.3
	0.5nm,0.5s,baz=76,slow=9.9,SNR=8.7								

*ISCJB **22** 13:52:45.0±3.6, 68S±0.1×1523E±0.1, h61km±31km, mb3.5/7, Error ellipse: s-maj=24.6km s-min=20.2km az=19.3*
*IDC **22** 13:52:46.5±4.6, 677S×15234E, h59km±41km, mb3.5/7, mb1 3.7/7, mb1mx3.6/13, mbtmp3.8/7, ML4.4/1, MS3.2/4, Ms1 3.2/4, ms1mx3.0/14, Error ellipse: s-maj=26.6km s-min=24.1km az=43.0*
ISC 22 13:52:46.7±3.0, 67S±01×1524E±01, h60km±27km, n13, σ0°52/12, mb3.5/7, MS3.2/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.78**	**242**	P		**Pn**		**13 54 09.6**	**-0.2**
	62nm,0.3s,baz=63,slow=5.3,SNR=72								
PMG				S		**Sn**		**13 55 15.1**	**+0.4**
	27nm,0.3s,baz=322,slow=22,SNR=7.6								
PMG				LR		LR		13 56 25.1	
	comp=Z,180nm,19.4s,baz=25,slow=38								
HNR	**Honiara**	**7.98**	**110**	LR		LR		13 57 11.4	
	comp=Z,135nm,22.0s,baz=176,slow=33								
DZM	**Mont Dzumac**	**20.43**	**140**	P		**P**		**13 57 19.2**	**+0.2**
	2.5nm,0.8s,baz=279,slow=19,SNR=1.9								
DZM				LR		LR		14 03 26.2	
	comp=Z,117nm,18.6s,MS3.3,baz=27,slow=31								
KAKA	**Kakadu**	**20.49**	**252**	*e*P		**P**		**13 57 18.6**	**-1.0**
	31nm,0.4s								
WB2	**Warramunga Arr**	**21.84**	**231**	*e*P		**P**		**13 57 34.6**	**+0.4**
WRA	**Warramunga Arr**	**21.86**	**231**	P		**P**		**13 57 30.4**	**-3.9**
	0.3nm,0.6s,mb2.9,baz=58,slow=10,SNR=6.0								
ASAR	**Alice Springs**	**24.44**	**225**	P		**P**		**13 58 00.2**	**+0.5**
	0.4nm,0.4s,mb3.2,baz=57,slow=8.9,SNR=9.8								
STKA	**Stephens Creek**	**26.95**	**201**	P		**P**		**13 58 22.0**	**-0.4**
	2.2nm,1.0s,mb3.6,baz=15,slow=16,SNR=2.3								
FITZ	**Fitzroy Crossi**	**28.37**	**244**	P		**P**		**13 58 35.2**	**0.0**
	1.9nm,0.8s,mb3.8,baz=76,slow=12,SNR=5.0								
FITZ				LR		LR		14 09 42.0	
	comp=Z,60nm,18.7s,MS3.2,baz=318,slow=36								
SONM	**Songino Array**	**67.73**	**328**	P		**P**		**14 03 38.3**	**+0.5**
	0.4nm,0.5s,mb3.7,baz=142,slow=4.2,SNR=8.0								
SONM				PcP		PcP		14 04 03.9	-0.4
	0.5nm,0.7s,baz=151,slow=5.1,SNR=4.5								
MKAR	**Makanchi Array**	**81.49**	**319**	P		**P**		**14 04 57.6**	**+0.1**
	0.6nm,0.8s,mb3.6,baz=112,slow=5.8,SNR=6.5								
ILAR	**Eielson Array**	**84.12**	**22**	P		**P**		**14 05 11.1**	**-0.1**
	0.9nm,1.0s,mb3.9,baz=252,slow=5.3,SNR=6.7								
TORD	**Torodi Ar. Bea**	**150.42**	**285**	PKPbc		PKPbc		14 12 32.5	+1.1
	0.5nm,0.5s,baz=83,slow=2.1,SNR=5.2								

IDC 22 13:56:58.6±2.5, 364N×12624E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/17, mbtmp3.3/3, Error ellipse: s-maj=233.8km s-min=25.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.75**	**162**	P		P		14 02 23.0	+1.2
	1.0nm,0.7s,baz=341,slow=10,SNR=5.6								
ASAR	**Alice Springs**	**28.15**	**165**	P		P		14 02 52.0	-0.4
	0.1nm,0.4s,baz=354,slow=7.6,SNR=4.2								
MKAR	**Makanchi Array**	**57.35**	**326**	P		P		14 06 48.6	+0.1
	0.2nm,0.6s,baz=121,slow=8.9,SNR=3.7								

*ISCJB **22** 13:57:45.9±0.7, 3477N±009×3383E±006, h31km±11km, Error ellipse: s-maj=14.7km s-min=8.1km az=25.3*
*CSEM **22** 13:57:45.6±0.1, 3485N×3374E, h30km, Mw2.9, Error ellipse: s-maj=3.1km s-min=2.3km az=70.0*
*HLW **22** 13:57:46.4, 3493N×3371E, h33km, Mb3.0*
*NEIC **22** 13:57:47.8, 3494N×3376E, h21km, ML2.9(NIC), After NIC.*
*NIC **22** 13:57:47.8±0.4, 3494N×3376E, h21km, ML2.9, MW2.9*
ISC 22 13:57:46.8±0.7, 3484N±009×3381E±006, h30km±10km, n10, σ0°73/15, 1C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.25**	**48**	P		**Pb**		**13 57 54.3**	**+0.7**
	20nm,0.2s								
PHNC				S		**Sb**		**13 57 57.7**	**-0.5**
CSS	**Prodhromos**	**0.41**	**288**	P		**Pb**		**13 57 55.2**	**-0.5**
	14nm,0.2s								
CSS				S		**Sb**		**13 58 01.8**	**-0.1**
MAMC	**Mammari**	**0.59**	**305**	P		**Pb**		**13 57 57.6**	**-1.0**
SZAC	**Souni-Zanaja**	**0.76**	**264**	P		**Pn**		**13 58 01.3**	**-0.2**
SZAC				S		**Sb**		**13 58 12.5**	**+0.9**
AKMC	**Akamas**	**1.23**	**279**	P		**Pn**		**13 58 08.0**	**+0.2**
HRSH	**Kfar Ka'horesh**	**3.87**	**181**	P		**Pn**		**13 58 44.5**	**+0.4**
HRSH				S		**Sn**		**13 59 27.5**	**-1.0**
RSH		**3.87**	**181**	P		**Pn**		**13 58 44.5**	**+0.4**
AMAG	**Maghara**	**4.21**	**187**	⇑P		**Pn**		**13 58 49.6**	**+0.8**
HNKL	**Nakhl**	**4.89**	**178**	P		**Pn**		**13 58 59.6**	**+1.3**
HNKL				S		**Sn**		**13 59 52.7**	**-1.1**
HMAT	**Matruh**	**6.76**	**238**	P		**Pn**		**13 59 23.6**	**-0.3**

*ISCJB **22** 14:03:13.5±0.1, 49380N±0009×690E±002, h0km, Error ellipse: s-maj=1.4km s-min=1.3km az=25.5*
*CSEM **22** 14:03:16.3±0.0, 4937N×690E, h1km, ML3.8/33, Error ellipse: s-maj=0.7km s-min=0.6km az=145.0*
*NEIC **22** 14:03:16.1, 4937N×689E, h1km, ML3.2(STR), ML3.3(SZGRF), ML3.7(LDG), After STR.*
*LEDBW **22** 14:03:16.4±0.2, 4938N×691E, h1km, ML3.2, Error ellipse: s-maj=6.0km s-min=2.0km az=89.0*
*LDG **22** 14:03:16.1±0.1, 4939N×690E, h1km, Md3.6/1, Ml3.7/29, Error ellipse: s-maj=1.1km s-min=1.0km az=108.0, Suspected Mining induced.*
*BNS **22** 14:03:16.0±0.4, 4936N×696E, h1km, ML3.3*
*BGR **22** 14:03:16.4±0.2, 4937N×691E, h1km, ML3.3/10, Error ellipse: s-maj=2.2km s-min=2.2km az=107.0*
*UCC **22** 14:03:16.4±0.7, 4938N×683E, h1km±4km, ML3.0*
*STR **22** 14:03:16.1±0.2, 4937N×689E, h1km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*PRU **22** 14:03:18.4, 4939N×708E, h0km*
ISC 22 14:03:14.6±0.1, 49369N±0008×685E±001, h0km, n203, σ1°26/413, 29C-22D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**23**	⇑*e*P*		**Pg**		**14 03 23.0**	**+1.4**
RUP	**Ruppelstein**	**0.36**	**23**	⇑*e*P		**Pg**		**14 03 23.0**	**+1.4**
RUP	**Ruppelstein**	**0.36**	**23**	Pg		**Pg**		**14 03 23.2**	**+1.6**
RUP				Sg		**Sg**		**14 03 27.9**	**+1.6**
WLF	**Walferdange**	**0.54**	**303**	*e*Pg		**Pg**		**14 03 27.3**	**+2.3**
	SNR=28								
WLF				*e*Sg		**Sg**		**14 03 34.7**	**+2.7**
WLF	**Walferdange**	**0.54**	**303**	⇑P		**Pg**		**14 03 27.2**	**+2.2**
WLF				S		**Sg**		**14 03 33.1**	**+1.1**
	comp=E,294nm,0.4s								
WLF	**Walferdange**	**0.54**	**303**	*e*Pg		**Pg**		**14 03 27.1**	**+2.1**
ABH	**Alteburg**	**0.69**	**41**	||*e*P*		**Pg**		**14 03 28.6**	**+0.8**
ABH	**Alteburg**	**0.69**	**41**	Pg		**Pg**		**14 03 28.7**	**+0.9**
ABH				Sg		**Sg**		**14 03 37.5**	**+0.8**
LANF	**Langenberg**	**0.74**	**121**	||*e*P*		**Pb**		**14 03 29.9**	**-0.5**
LANF	**Langenberg**	**0.74**	**121**	Pg		**Pg**		**14 03 29.8**	**+1.0**
KTD	**Kalmit**	**0.81**	**93**	P*		**Pb**		**14 03 30.9**	**-0.7**
BGG	**Burgeitz**	**0.90**	**21**	*e*Pg		**Pg**		**14 03 32.5**	**+0.7**
BGG				*e*Sg		**Sg**		**14 03 45.0**	**+1.5**
	comp=E,653nm,0.7s								
BGG	**Burgeitz**	**0.90**	**21**	Pg		**Pg**		**14 03 32.5**	**+0.7**
BGG				Sg		**Sg**		**14 03 45.0**	**+1.5**
	comp=E,653nm,0.7s								
HILG	**Hillesheim**	**0.93**	**353**	*e*Pg		**Pg**		**14 03 34.1**	**+1.7**
HILG				*e*Sg		**Sg**		**14 03 47.2**	**+2.6**
	comp=E,908nm,0.6s								
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn		**Pn**		**14 03 35.8**	**-0.1**
CDF				*e*Sg		**Sg**		**14 03 48.5**	**+1.8**
	comp=E,213nm,0.3s								
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn		**Pn**		**14 03 35.8**	**-0.1**
CDF				*e*Sg		**Sg**		**14 03 48.5**	**+1.8**
	comp=E,106nm,0.3s								
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pg		**Pg**		**14 03 34.7**	**+0.9**
CDF				*e*Pn		**Pn**		**14 03 35.8**	**-0.1**
CDF				*e*Sg		**Sg**		**14 03 48.5**	**+1.8**
WLS	**Welschbruch**	**1.01**	**161**	Pg		**Pg**		**14 03 35.1**	**+1.0**
WLS				Sg		**Sg**		**14 03 49.5**	**+2.3**
WLS	**Welschbruch**	**1.01**	**161**	*e*P*		**Pg**		**14 03 35.2**	**+1.2**
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg		**Pg**		**14 03 38.9**	**+1.9**
	baz=48								
RFYF				*e*Sg		**Sg**		**14 03 54.3**	**+2.1**
	comp=E,437nm,0.2s								
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg		**Pg**		**14 03 38.9**	**+1.9**
RFYF				*e*Sg		**Sg**		**14 03 54.3**	**+2.1**
	comp=E,218nm,0.2s								
ECH	**Echery**	**1.17**	**170**	Pg		**Pg**		**14 03 37.9**	**+0.8**
ECH				Sg		**Sg**		**14 03 53.8**	**+1.5**
ECH	**Echery**	**1.17**	**170**	P		**Pg**		**14 03 38.1**	**+1.0**
SWS	**Schriesheim**	**1.22**	**84**	||*i*P	**Pg**		**14 03 38.1**	**+0.1**
STB	**Steinbach**	**1.23**	**360**	*e*Pg		**Pg**		**14 03 38.6**	**+0.5**
STB				*e*Sg		**Sg**		**14 03 55.5**	**+1.4**
	comp=E,286nm,0.6s								
THEF	**They Montfort**	**1.28**	**207**	Pg		**Pg**		**14 03 40.3**	**+1.2**
THEF				Sg		**Sg**		**14 03 57.3**	**+1.6**
THEF	**They Montfort**	**1.28**	**207**	P		**Pg**		**14 03 40.2**	**+1.1**
TOD	**Tromm**	**1.30**	**79**	Pn		**Pn**		**14 03 39.2**	**-0.8**
TOD				Pg		**Pg**		**14 03 40.2**	**+0.6**
TOD	**Tromm**	**1.30**	**79**	Pg		**Pg**		**14 03 40.2**	**+0.7**
TOD				Sg		**Sg**		**14 03 57.3**	**+0.9**
TOD	**Tromm**	**1.30**	**79**	Pg		**Pg**		**14 03 39.1**	**-0.4**
TOD				Sg		**Sg**		**14 03 57.3**	**+0.9**
LIBD	**Limburg**	**1.32**	**157**	P*		**Pb**		**14 03 41.8**	**+1.5**
LIBD	**Limburg**	**1.32**	**157**	Pg		**Pg**		**14 03 41.4**	**+1.5**
LIBD				Sg		**Sg**		**14 03 59.5**	**+2.5**
KLL	**Kalltalsperre**	**1.32**	**345**	*e*Pg		**Pg**		**14 03 40.2**	**+0.1**
KLL				*e*Sg		**Sg**		**14 03 58.5**	**+1.2**
	comp=E,205nm,0.8s								
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pn		**Pn**		**14 03 40.0**	**-0.6**
	SNR=4.9								
TNS				*e*Pg		**Pg**		**14 03 41.4**	**+1.0**
	SNR=56								
TNS				*e*Sg		**Sg**		**14 03 59.0**	**+1.1**
TNS	**Taunus Mts**	**1.34**	**50**	Pg		**Pg**		**14 03 41.4**	**+1.0**
	SNR=56								
TNS				Sg		**Sg**		**14 03 59.0**	**+1.2**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg		**Pg**		**14 03 40.0**	**-0.4**
TNS				*e*Sg		**Sg**		**14 03 59.3**	**+1.5**
MEM	**Membach**	**1.35**	**337**	⇑P		**Pg**		**14 03 40.8**	**+0.2**
MEM				S		**Sg**		**14 03 59.9**	**+1.7**
	comp=N,244nm,0.6s								
MEM	**Membach**	**1.35**	**337**	P		**Pg**		**14 03 40.8**	**+0.2**
MEM				S		**Sg**		**14 03 59.8**	**+1.6**
	comp=N,244nm,0.6s								
HAU	**Haudompre**	**1.40**	**194**	*e*Pg		**Pg**		**14 03 42.9**	**+1.3**
HAU				*e*Sn		**Sn**		**14 04 00.0**	**-0.7**
	SNR=1.0								
HAU				*e*Sg		**Sg**		**14 04 01.6**	**+1.8**
	comp=N,291nm,0.2s								
HAU	**Haudompre**	**1.40**	**194**	*e*Pg		**Pg**		**14 03 42.9**	**+1.3**
HAU				*e*Sn		**Sn**		**14 04 00.0**	**-0.7**
	SNR=1.0								
HAU				*e*Sg		**Sg**		**14 04 01.6**	**+1.8**
	comp=N,145nm,0.2s								
HAU	**Haudompre**	**1.40**	**194**	*e*Pn		**Pn**		**14 03 41.6**	**+0.1**
HAU				*e*Pg		**Pg**		**14 03 42.9**	**+1.3**
HAU				*e*Sn		**Sn**		**14 04 00.0**	**-0.7**
HAU				*e*Sg		**Sg**		**14 04 01.6**	**+1.8**
BFO	**Black Forest**	**1.43**	**136**	||*i*Pn	**Pn**		**14 03 41.4**	**-0.5**
BFO				Pg		**Pg**		**14 03 43.1**	**+1.1**
BFO				Sg		**Sg**		**14 04 01.4**	**+0.9**
BFO	**Black Forest**	**1.43**	**136**	*e*Pg		**Pg**		**14 03 41.5**	**-0.5**
BFO				*e*Sg		**Sg**		**14 04 01.1**	**+0.6**
LBG	**Lerchenberg**	**1.46**	**118**	Pg		**Pg**		**14 03 43.6**	**+0.9**
MEZF	**Maizieres J'vi**	**1.47**	**234**	*e*Pg		**Pg**		**14 03 43.9**	**+1.1**
	baz=54,SNR=1.0								
MEZF				*e*Sn		**Sn**		**14 04 01.4**	**-0.8**
	SNR=1.0								
MEZF				*e*Sg		**Sg**		**14 04 03.6**	**+1.8**
	comp=N,151nm,0.3s,SNR=1.0								
MEZF	**Maizieres J'vi**	**1.47**	**234**	*e*Pg		**Pg**		**14 03 43.9**	**+1.1**
	SNR=1.0								
MEZF				*e*Sn		**Sn**		**14 04 01.4**	**-0.8**
	SNR=1.0								
MEZF				*e*Sg		**Sg**		**14 04 03.6**	**+1.8**
	comp=N,75nm,0.3s,SNR=1.0								
GIVF	**Givet**	**1.50**	**300**	*e*Pg		**Pg**		**14 03 45.2**	**+1.7**
GIVF				*e*Sn		**Sn**		**14 04 01.3**	**-1.9**
	SNR=1.0								
GIVF				*e*Sg		**Sg**		**14 04 04.0**	**+1.0**
	comp=N,544nm,0.5s,SNR=1.0								
GIVF	**Givet**	**1.50**	**300**	*e*Pg		**Pg**		**14 03 45.2**	**+1.7**
GIVF				*e*Sn		**Sn**		**14 04 01.3**	**-1.9**
	SNR=1.0								
GIVF				*e*Sg		**Sg**		**14 04 04.0**	**+1.0**
	comp=N,272nm,0.5s,SNR=1.0								
GIVF	**Givet**	**1.50**	**300**	*e*Pn		**Pn**		**14 03 43.7**	**+0.8**
GIVF				*e*Pg		**Pg**		**14 03 45.2**	**+1.7**
GIVF				*e*Sn		**Sn**		**14 04 01.3**	**-1

MOF				Sg	Sg	14 04 05.5	+1.7
MOF	**Molkenrain**	**1.53**	**173**	Pg	Pg	14 03 45.1	+1.1
MOF				Sg	Sg	14 04 05.8	+2.0
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	Pg	14 03 45.4	+1.0
HINF				*e*Sg	Sg	14 04 05.9	+1.3
comp=N,653nm,0.2s							
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	Pg	14 03 45.4	+1.0
HINF				*e*Sg	Sg	14 04 05.9	+1.3
comp=N,326nm,0.2s							
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pn	Pn	14 03 43.6	+0.1
HINF				*e*Pg	Pg	14 03 45.4	+1.0
HINF				*e*Sg	Sg	14 04 05.9	+1.3
KIZ	**Kirchzarten**	**1.58**	**153**	Pg	Pg	14 03 45.9	+0.9
BNS	**Bensberg**	**1.61**	**7**	*e*Pg	Pg	14 03 44.2	-1.3
BEBN	**Eben Emael**	**1.62**	**333**	P	Pn	14 03 44.0	-0.4
BEBN				S	Sn	14 04 01.9	-4.1
DOU	**Dourbes**	**1.63**	**297**	⇑P	Pn	14 03 45.4	+0.8
DOU				S	Sn	14 04 07.6	+1.2
comp=N,135nm,0.8s							
DOU	**Dourbes**	**1.63**	**297**	P	Pn	14 03 45.4	+0.8
DOU				S	Sn	14 04 07.5	+1.2
comp=N,135nm,0.8s							
HOBG	**Hohbusch**	**1.65**	**11**	*e*Pg	Pg	14 03 44.4	-1.8
HOBG				*e*Sg	Sg	14 04 05.5	-2.0
comp=N,596nm,0.5s							
STU	**Stuttgart**	**1.66**	**110**	*e*Pg	Pg	14 03 44.7	-1.7
STU				*e*Sg	Sg	14 04 07.6	-0.3
STU	**Stuttgart**	**1.66**	**110**	*e*Pg	Pg	14 03 44.7	-1.7
STU				*e*Sg	Sg	14 04 06.4	-1.5
SFTF	**Sexfontaines**	**1.67**	**226**	*e*Pg	Pg	14 03 47.9	+1.3
baz=43							
SFTF				*e*Sn	Sn	14 04 06.2	-1.0
SFTF				*e*Sg	Sg	14 04 09.9	+1.6
comp=N,135nm,0.3s							
SFTF	**Sexfontaines**	**1.67**	**226**	*e*Pg	Pg	14 03 47.9	+1.3
SFTF				*e*Sn	Sn	14 04 06.2	-1.0
SFTF				*e*Sg	Sg	14 04 09.9	+1.6
comp=N,67nm,0.3s							
SFTF	**Sexfontaines**	**1.67**	**226**	*e*Pn	Pn	14 03 45.2	+0.1
SFTF				*e*Pg	Pg	14 03 47.9	+1.3
SFTF				*e*Sn	Sn	14 04 06.2	-1.0
SFTF				*e*Sg	Sg	14 04 09.9	+1.6
FELD	**Feldberg**	**1.68**	**152**	Pg	Pg	14 03 47.6	+0.8
FELD	**Feldberg**	**1.68**	**152**	Pg	Pg	14 03 47.4	+0.6
FELD				Sg	Sg	14 04 09.9	+1.3
TUBL	**Tuebingen Lnz**	**1.70**	**119**	Pg	Pg	14 03 48.4	+1.2
SIND	**Sindeldorf**	**1.80**	**90**	⇓*i*P	Pn	14 03 46.2	-0.7
SPAK	**Spaichingen**	**1.81**	**134**	Pg	Pg	14 03 50.1	+0.9
SPAK	**Spaichingen**	**1.81**	**134**	Pg	Pg	14 03 49.7	+0.5
RODG	**Roetgen-Dahlhe**	**1.83**	**347**	*e*Sg	Sg	14 04 10.3	-3.1
comp=N,751nm,0.4s							
BAIF	**Baives**	**1.85**	**293**	*e*Pg	Pg	14 03 51.1	+1.0
BAIF				*e*Sn	Sn	14 04 09.7	-1.9
SNR=1.0							
BAIF				*e*Sg	Sg	14 04 14.9	+0.9
comp=N,136nm,0.4s,SNR=1.0							
BAIF	**Baives**	**1.85**	**293**	*e*Pg	Pg	14 03 51.1	+1.0
BAIF				*e*Sn	Sn	14 04 09.7	-1.9
SNR=1.0							
BAIF				*e*Sg	Sg	14 04 14.9	+0.9
comp=N,68nm,0.4s,SNR=1.0							
BAIF	**Baives**	**1.85**	**293**	*e*Pn	Pn	14 03 47.4	-0.2
BAIF				*e*Pg	Pg	14 03 51.1	+1.0
BAIF				*e*Sn	Sn	14 04 09.7	-1.9
BAIF				*e*Sg	Sg	14 04 14.9	+0.9
BBS	**Basel-Blauen**	**1.96**	**167**	*e*Pn	Pn	14 03 49.7	+0.6
SNR=1.4							
BBS	**Basel-Blauen**	**1.96**	**167**	Pg	Pg	14 03 52.7	+0.6
GUT	**Gutenstein**	**1.99**	**130**	Pg	Pg	14 03 53.3	+0.6
LAUG	**Laupendahl**	**1.99**	**2**	*e*Pg	Pg	14 03 49.6	-3.1
SNF	**Seneffe**	**2.01**	**306**	⇓P	Pn	14 03 50.7	+0.9
SNF				S	Sn	14 04 19.0	+3.4
comp=Z,66nm,0.4s							
LOMF	**Lomont**	**2.02**	**180**	Pg	Pg	14 03 54.3	+0.9
LOMF	**Lomont**	**2.02**	**180**	P	Pn	14 03 50.3	+0.4
BUG	**Bochum--Univer**	**2.09**	**7**	*e*Pg	Pg	14 03 55.2	+0.4
SNR=5.4							
BUG				*e*Sg	Sg	14 04 22.7	+0.8
UBBA	**Unterbreizbach**	**2.50**	**53**	*e*Sg	Sg	14 04 34.8	-0.1
NORI	**Noerdlinger Ri**	**2.57**	**103**	⇓*i*Pn	Pn	14 03 57.8	+0.3
UBR	**Uberruh**	**2.75**	**127**	P	Pn	14 04 00.7	+0.8
CABF	**La Chapelle**	**2.81**	**191**	*e*Pg	Pg	14 04 08.9	+0.5
SNR=1.0							
CABF				*e*Sg	Sg	14 04 45.5	+0.7
comp=Z,112nm,0.6s,SNR=1.0							
CABF	**La Chapelle**	**2.81**	**191**	*e*Pg	Pg	14 04 08.9	+0.5
SNR=1.0							
CABF				*e*Sg	Sg	14 04 45.5	+0.7
comp=Z,56nm,0.6s,SNR=1.0							
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn	Pn	14 04 01.1	+0.3
CABF				*e*Pg	Pg	14 04 08.9	+0.5
CABF				*e*Sg	Sg	14 04 45.5	+0.7
GRA1	**Grafenberg Arr**	**2.87**	**82**	*e*Pg	Pg	14 04 07.2	-2.4
GRA1				*e*Sg	Sg	14 04 46.6	-0.2
GRF	**Grafenberg Arr**	**2.87**	**82**	*e*Pg	Pg	14 04 07.2	-2.5
GRF				*e*Sg	Sg	14 04 46.5	-0.3
GRF	**Grafenberg Arr**	**2.87**	**82**	*e*Pg	Pg	14 04 07.2	-2.4
GRF				*e*Sg	Sg	14 04 46.6	-0.2
LOR	**Lormes**	**2.90**	**225**	*e*Pn	Pn	14 04 01.8	-0.2
baz=48,SNR=1.0							
LOR				*e*Sn	Sn	14 04 35.8	-1.7
SNR=1.0							
LOR				*e*Sg	Sg	14 04 46.0	-1.7
comp=Z,51nm,0.2s,SNR=1.0							
LOR	**Lormes**	**2.90**	**225**	*e*Pn	Pn	14 04 01.8	-0.2
SNR=1.0							
LOR				*e*Sn	Sn	14 04 35.8	-1.7
SNR=1.0							
LOR				*e*Sg	Sg	14 04 46.0	-1.7
comp=Z,26nm,0.2s,SNR=1.0							
DAVA	**Damuels**	**2.91**	**135**	⇑*i*Sn	Sn	14 04 37.5	-0.2
DAVA	**Damuels**	**2.91**	**135**	⇑*i*Sg	Sg	14 04 49.2	+1.3
comp=Z,60nm,0.5s							
DAVA	**Damuels**	**2.91**	**135**	⇓*i*Pn	Pn	14 04 03.5	+1.4
DAVA				⇑*i*Sn	Sn	14 04 37.5	-0.2
DAVA				⇑*i*Sg	Sg	14 04 49.2	+1.3
comp=Z,60nm,0.5s							
DAVA	**Damuels**	**2.91**	**135**	⇓*i*Pn	Pn	14 04 03.5	+1.4
DAVA				*i* Sn	Sn	14 04 37.5	-0.2
DAVA				Sg	Sg	14 04 49.2	+1.2
comp=Z,60nm,0.5s							
DAVA	**Damuels**	**2.91**	**135**	⇓*i*Pn	Pn	14 04 03.5	+1.4
DAVA				*i* Sn	Sn	14 04 37.5	-0.2
DAVA				*i* Sg	Sg	14 04 49.2	+1.3
GTTG	**Gvttingen**	**2.95**	**41**	*e*Pg	Pg	14 04 11.5	+0.3
SNR=3.7							
IBBN	**Ibbenburen**	**3.00**	**11**	*e*Pg	Pg	14 04 12.5	+0.4
SNR=1.7							
IBBN				*e*Sg	Sg	14 04 50.6	-0.4
FUR	**Furstenfeldbru**	**3.17**	**111**	*e*Pn	Pn	14 04 07.3	+1.5
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	Pn	14 04 06.0	-0.3
SNR=1.0							
SSF				*e*Sn	Sn	14 04 42.5	-2.8
SNR=1.0							
SSF				*e*Sg	Sg	14 04 55.5	-2.4
comp=Z,56nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	Pn	14 04 06.0	-0.3
SNR=1.0							
SSF				*e*Sn	Sn	14 04 42.5	-2.8
SNR=1.0							
SSF				*e*Sg	Sg	14 04 55.5	-2.4
comp=Z,28nm,0.4s,SNR=1.0							
MOX	**Moxa**	**3.33**	**66**	*e*Pn	Pn	14 04 08.6	+0.6
SNR=2.5							
MOX				*e*Pg	Pg	14 04 16.9	-1.6
SNR=12							
MOX				*e*Sg	Sg	14 05 00.3	-1.4
MOX	**Moxa**	**3.33**	**66**	*e*PN	Pn	14 04 07.4	-0.6
MOX				*e*PG	Pg	14 04 17.0	-1.5
MOX				*e*SN	Sn	14 04 46.7	-1.5
MOX				*e*SG	Sg	14 05 01.3	-0.4
MOX	**Moxa**	**3.33**	**66**	*e*Pg	Pg	14 04 17.0	-1.5
MOX	**Moxa**	**3.33**	**66**	*e*Pn	Pn	14 04 07.4	-0.6
MOX				*e*Pg	Pg	14 04 17.0	-1.5
MOX				*e*Sn	Sn	14 04 46.7	-1.5
MOX				*e*Sg	Sg	14 05 01.3	-0.4
CLZ	**Clausthal**	**3.34**	**41**	*e*Pn	Pn	14 04 09.0	+0.9
SNR=3.4							
CLZ				*e*Pg	Pg	14 04 19.5	+0.8
SNR=8.3							
CLZ				*e*Sg	Sg	14 05 01.9	-0.1
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pg	Pg	14 04 19.4	-0.2
SNR=1.0							
SMF				*e*Sn	Sn	14 04 46.9	-2.8
SNR=1.0							
SMF				*e*Sg	Sg	14 05 03.3	-0.3
comp=Z,57nm,0.4s							
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pg	Pg	14 04 19.4	-0.2
SNR=1.0							
SMF				*e*Sn	Sn	14 04 46.9	-2.8
SNR=1.0							
SMF				*e*Sg	Sg	14 05 03.3	-0.3
comp=Z,29nm,0.4s							
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	Pn	14 04 08.1	-0.7
SMF				*e*Pg	Pg	14 04 19.4	-0.2
SMF				*e*Sn	Sn	14 04 46.9	-2.8
SMF				*e*Sg	Sg	14 05 03.3	-0.3
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	Pn	14 04 09.4	-0.7
SNR=1.0							
AVF				*e*Sn	Sn	14 04 49.0	-3.0
comp=Z,36nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	Pn	14 04 09.4	-0.7
SNR=1.0							
AVF				*e*Sn	Sn	14 04 49.0	-3.0
comp=Z,18nm,0.3s,SNR=1.0							
MOTA	**Moosalm**	**3.49**	**124**	⇑*i*Sg	Sg	14 05 06.9	+0.2
comp=Z,28nm,0.5s							
MOTA	**Moosalm**	**3.49**	**124**	⇑*i*Pn	Pn	14 04 11.4	+1.2
MOTA				⇑*i*Sg	Sg	14 05 06.9	+0.2
comp=Z,28nm,0.5s							
MOTA	**Moosalm**	**3.49**	**124**	⇑*i*Pn	Pn	14 04 11.4	+1.3
MOTA				*i* Sg	Sg	14 05 06.8	+0.1
HYF	**Humbligny**	**3.51**	**235**	*e*Pg	Pg	14 04 21.6	-0.3
HYF				*e*Sg	Sg	14 05 06.8	-0.5
HYF	**Humbligny**	**3.51**	**235**	*e*Pn	Pn	14 04 10.7	+0.3
HYF				*e*Pg	Pg	14 04 21.6	-0.3
HYF				*e*Sg	Sg	14 05 06.8	-0.5
SQTA	**Sankt Quirin**	**3.62**	**125**	⇑*i*Sn	Sn	14 04 54.2	-1.2
SQTA	**Sankt Quirin**	**3.62**	**125**	⇓*i*Sg	Sg	14 05 11.1	+0.1
comp=Z,10nm,0.3s							
SQTA	**Sankt Quirin**	**3.62**	**125**	⇓*i*Pn	Pn	14 04 13.4	+1.5
SQTA				⇑*i*Sn	Sn	14 04 54.2	-1.2
SQTA				⇓*i*Sg	Sg	14 05 11.1	+0.1
comp=Z,10nm,0.3s							
SQTA	**Sankt Quirin**	**3.62**	**125**	⇓*i*Pn	Pn	14 04 13.4	+1.5
SQTA				*i* Sn	Sn	14 04 54.1	-1.2
SQTA				*i* Sg	Sg	14 05 11.1	+0.1
NEUB	**Neuenburg**	**3.66**	**58**	*e*Sg	Sg	14 05 11.7	-0.5
WERD	**Werda**	**3.69**	**71**	*e*Pn	Pn	14 04 12.8	-0.1
SNR=2.7							
WERD				*e*Pg	Pg	14 04 24.7	-0.6
SNR=13							
WERD				*e*Sg	Sg	14 05 12.1	-1.1
NKC	**Novy Kostel**	**3.73**	**74**	*e*PN	Pn	14 04 18.3	+4.8
NKC				*e*PG	Pg	14 04 24.5	-1.6
NKC				*e*SG	Sg	14 05 13.0	-1.5
comp=Z,93nm,0.6s							
NKC	**Novy Kostel**	**3.73**	**74**	*e*Pg	Pg	14 04 24.5	-1.6
NKC				*e*Sg	Sg	14 05 13.0	-1.5
comp=Z,93nm,0.6s							
WATA	**Walderalm**	**3.75**	**121**	⇑*i*Sg	Sg	14 05 15.2	-0.1
comp=Z,8.6nm,0.4s							
WATA	**Walderalm**	**3.75**	**121**	⇑*i*Pn	Pn	14 04 15.0	+1.3
WATA				⇑*i*Sg	Sg	14 05 15.2	-0.1
comp=Z,8.6nm,0.4s							
TANN	**Tannenbergstha**	**3.78**	**72**	*e*Pn	Pn	14 04 15.7	+1.6
SNR=2.6							
TANN				*e*Pg	Pg	14 04 26.7	-0.4
SNR=9.2							
TANN				*e*Sg	Sg	14 05 14.9	-1.2
WTTA	**Wattenberg**	**3.83**	**122**	⇓*i*Sn	Sn	14 04 59.4	-1.1
WTTA	**Wattenberg**	**3.83**	**122**	⇓*i*Sg	Sg	14 05 17.8	+0.2
comp=Z,20nm,0.6s							
WTTA	**Wattenberg**	**3.83**	**122**	⇑*i*Pn	Pn	14 04 16.2	+1.4
WTTA				⇓*i*Sn	Sn	14 04 59.4	-1.1
WTTA				⇓*i*Sg	Sg	14 05 17.8	+0.2
comp=Z,20nm,0.6s							
WTTA	**Wattenberg**	**3.83**	**122**	⇑*i*Pn	Pn	14 04 16.2	+1.4
WTTA				*i* Sn	Sn	14 04 59.4	-1.1
WTTA				*i* Sg	Sg	14 05 17.8	+0.2
LPL	**La Plagne**	**3.85**	**181**	*e*Pg	Pg	14 04 28.4	-0.1
SNR=1.0							
LPL				*e*Sn	Sn	14 04 58.6	-2.6
SNR=1.0							
LPL				*e*Sg	Sg	14 05 18.1	-0.4
comp=Z,12nm,0.4s,SNR=1.0							
LPL	**La Plagne**	**3.85**	**181**	*e*Pg	Pg	14 04 28.4	-0.1
SNR=1.0							
LPL				*e*Sn	Sn	14 04 58.6	-2.6
SNR=1.0							
LPL				*e*Sg	Sg	14 05 18.1	-0.4
comp=Z,6.1nm,0.4s,SNR=1.0							
LPL	**La Plagne**	**3.85**	**181**	*e*Pn	Pn	14 04 14.9	-0.3
LPL				*e*Pg	Pg	14 04 28.4	-0.1
LPL				*e*Sn	Sn	14 04 58.6	-2.6
LPL				*e*Sg	Sg	14 05 18.1	-0.4
LPG	**La Plagne**	**3.87**	**181**	*e*Pn	Pn	14 04 15.5	+0.1
LPG				*e*Sg	Sg	14 05 18.7	-0.4
comp=Z,13nm,0.3s							
LPG	**La Plagne**	**3.87**	**181**	*e*Pn	Pn	14 04 15.5	+0.1
LPG				*e*Sg	Sg	14 05 18.7	-0.4
comp=Z,6.7nm,0.3s							
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pg	Pg	14 04 29.2	0.0
SNR=1.0							
BGF				*e*Sn	Sn	14 04 58.0	-4.0
SNR=1.0							
BGF				*e*Sg	Sg	14 05 19.1	-0.5
comp=Z,129nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pg	Pg	14 04 29.2	0.0
SNR=1.0							
BGF				*e*Sn	Sn	14 04 58.0	-4.0
SNR=1.0							
BGF				*e*Sg	Sg	14 05 19.1	-0.5
comp=Z,65nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pn	Pn	14 04 15.1	-0.6
BGF				*e*Pg	Pg	14 04 29.2	0.0
BGF				*e*Sn	Sn	14 04 58.0	-4.0
BGF				*e*Sg	Sg	14 05 19.1	-0.5
WET	**Wettzell**	**3.96**	**91**	*e*Sg	Sg	14 05 20.8	-1.0
RJOB	**Jochberg**	**4.28**	**110**	⇓*i*Pn	Pn	14 04 22.6	+1.6
TCF	**Toulx Ste Croi**	**4.39**	**227**	*e*Pn	Pn	14 04 21.9	-0.6
SNR=1.0							
TCF				*e*Sn	Sn	14 05 11.8	-2.5
comp=Z,18nm,0.4s,SNR=1.0							
TCF	**Toulx Ste Croi**	**4.39**	**227**	*e*Pn	Pn	14 04 21.9	-0.6
SNR=1.0							
TCF				*e*Sn	Sn	14 05 11.8	-2.5
comp=Z,9.2nm,0.4s,SNR=1.0							
CLL	**Collm**	**4.39**	**61**	*e*Sg	Sg	14 05 34.9	-1.0
CLL	**Collm**	**4.39**	**61**	*e*Pg	Pg	14 04 37.0	-1.9
CLL				*e*Sn	Sn	14 05 11.0	-3.5
CLL				*e*Sg	Sg	14 05 35.0	-0.8
comp=Z,31nm,0.8s							
CLL	**Collm**	**4.39**	**61**	*e*Pg	Pg	14 04 37.0	-1.9
CLL				*e*Sn	Sn	14 05 11.0	-3.5
KHC	**Kasperske Hory**	**4.42**	**91**	*e*PN	Pn	14 04 23.4	+0.5
KHC				*e*PG	Pg	14 04 37.0	-2.3
KHC				*e*SN	Sn	14 05 12.6	-2.4
KHC				*e*SG	Sg	14 05 33.7	-2.8
comp=Z,48nm,1.2s							
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	Pn	14 04 25.3	+0.8
SNR=56							
GEC2				*e*Sn	Sn	14 05 16.4	-1.5
MBDF	**Montbardon**	**4.64**	**181**	*e*Pg	Pg	14 04 42.0	-1.7
SNR=1.0							
MBDF				*e*Sn	Sn	14 05 17.4	-3.2
SNR=1.0							
MBDF				*e*Sg	Sg	14 05 42.6	-1.3
comp=Z,30nm,0.9s							
MBDF	**Montbardon**	**4.64**	**181**	*e*Pg	Pg	14 04 42.0	-1.7
SNR=1.0							
MBDF				*e*Sn	Sn	14 05 17.4	-3.2
SNR=1.0							
MBDF				*e*Sg	Sg	14 05 42.6	-1.3
comp=Z,15nm,0.9s							
MBDF	**Montbardon**	**4.64**	**181**	*e*Pn	Pn	14 04 26.6	+0.6
MBDF				*e*Pg	Pg	14 04 42.0	-1.7
MBDF				*e*Sn	Sn	14 05 17.4	-3.2
MBDF				*e*Sg	Sg	14 05 42.6	-1.3
LDF	**La Druitiere**	**4.66**	**263**	*e*Pg	Pg	14 04 43.3	-0.6
SNR=1.0							
LDF				*e*Sn	Sn	14 05 16.6	-4.3
SNR=1.0							
LDF				*e*Sg	Sg	14 05 42.6	-1.6
comp=Z,47nm,0.6s							
LDF	**La Druitiere**	**4.66**	**263**	*e*Pg	Pg	14 04 43.3	-0.6
SNR=1.0							
LDF				*e*Sn	Sn	14 05 16.6	-4.3
SNR=1.0							
LDF				*e*Sg	Sg	14 05 42.6	-1.6
comp=Z,24nm,0.6s							
LDF	**La Druitiere**	**4.66**	**263**	*e*Pn	Pn	14 04 26.2	0.0
LDF				*e*Pg	Pg	14 04 43.3	-0.6
LDF				*e*Sn	Sn	14 05 16.6	-4.3
LDF				*e*Sg	Sg	14 05 42.6	-1.6
VIVF	**Saint-Julien-l**	**4.75**	**199**	*e*Pn	Pn	14 04 27.1	-0.4
VIVF				*e*Sg	Sg	14 05 45.2	-2.1
comp=Z,8.3nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.75**	**199**	*e*Pn	Pn	14 04 27.1	-0.4
VIVF				*e*Sg	Sg	14 05 45.2	-2.1
comp=Z,4.2nm,0.2s,SNR=1.0							
BRG	**Berggiesshubel**	**4.81**	**69**	*e*Sg	Sg	14 05 46.9	-2.2
BRG	**Berggiesshubel**	**4.81**	**69**	Pg	Pg	14 04 44.1	-2.7
BRG	**Berggiesshubel**	**4.81**	**69**	PN	Pn	14 04 23.5	-4.8
BRG				PG	Pg	14 04 44.1	-2.7
BRG				SG	Sg	14 05 46.0	-3.2
comp=Z,14nm,0.7s							
FLN	**La Foliniere**	**4.86**	**266**	*e*Pn	Pn	14 04 29.5	+0.6
baz=86,SNR=1.0							
FLN	**La Foliniere**	**4.86**	**266**	*e*Pg	Pg	14 04 46.6	-1.1
baz=83,SNR=1.0							
FLN				*e*Sn	Sn	14 05 21.6	-4.3
SNR=1.0							
FLN				*e*Sg	Sg	14 05 49.0	-1.7
comp=Z,36nm,0.5s							
FLN	**La Foliniere**	**4.86**	**266**	*e*Pg	Pg	14 04 46.6	-1.1
SNR=1.0							
FLN				*e*Sn	Sn	14 05 21.6	-4.3
SNR=1.0							
FLN				*e*Sg	Sg	14 05 49.0	-1.7
comp=Z,18nm,0.5s							
FLN	**La Foliniere**	**4.86**	**266**	*e*Pn	Pn	14 04 29.5	+0.6
FLN				*e*Pg	Pg	14 04 46.6	-1.1
FLN				*e*Sn	Sn	14 05 21.6	-4.3
FLN				*e*Sg	Sg	14 05 49.0	-1.7
KBA	**Koelnbreinsper**	**4.91**	**115**	⇑*i*Sn	Sn	14 05 25.9	-1.3
KBA	**Koelnbreinsper**	**4.91**	**115**	⇑*i*Pn	Pn	14 04 31.1	+1.4
KBA				⇑*i*Sn	Sn	14 05 25.9	-1.3
KBA	**Koelnbreinsper**	**4.91**	**115**	⇑*i*Pn	Pn	14 04 31.0	+1.3
KBA	**Koelnbreinsper**	**4.91**	**115**	⇑*i*Pn	Pn	14 04 31.1	+1.4
KBA				*i* Sn	Sn	14 05 25.9	-1.3
PRU	**Pruhonice**	**5.04**	**80**	*e*PN	Pn	14 04 33.9	+2.5
PRU				*e*SG	Sg	14 05 54.8	-1.6
comp=Z,52nm,0.9s							
PRU	**Pruhonice**	**5.04**	**80**	*e*Pn	Pn	14 04 33.9	+2.5
comp=Z,52nm,0.9s							
PRU				*e*Sg	Sg	14 05 54.8	-1.6
MOA	**Molln**	**5.15**	**104**	⇑*i*Sn	Sn	14 05 31.5	-1.6
MOA	**Molln**	**5.15**	**104**	⇑*i*Pn	Pn	14 04 33.6	+0.6
MOA				⇑*i*Sn	Sn	14 05 31.5	-1.6
MOA	**Molln**	**5.15**	**104**	⇑*i*Pn	Pn	14 04 33.6	+0.6
MOA	**Molln**	**5.15**	**104**	⇑*i*Pn	Pn	14 04 33.6	+0.6
MOA				*i* Sn	Sn	14 05 31.5	-1.6
GRR	**Gorron**	**5.18**	**262**	*e*Pn	Pn	14 04 32.3	-1.1
GRR				*e*Sn	Sn	14 05 29.7	-4.1
SNR=1.0							
GRR				*e*Sg	Sg	14 05 59.8	-1.2
comp=Z,28nm,0.5s,SNR=1.0							
GRR	**Gorron**	**5.18**	**262**	*e*Pn	Pn	14 04 32.3	-1.1
GRR				*e*Sn	Sn	14 05 29.7	-4.1
SNR=1.0							
GRR				*e*Sg	Sg	14 05 59.8	-1.2
comp=Z,14nm,0.5s,SNR=1.0							
RJF	**Les Rejaudoux**	**5.45**	**224**	*e*Sg	Sg	14 06 06.3	-3.3
comp=Z,18nm,0.4s,SNR=1.0							
RJF	**Les Rejaudoux**	**5.45**	**224**	*e*Sg	Sg	14 06 06.3	-3.3
comp=Z,9.2nm,0.4s,SNR=1.0							
MFF	**Saint Martin d**	**5.45**	**242**	*e*Pn	Pn	14 04 36.8	-0.3
MFF				*e*Sg	Sg	14 06 08.0	-1.7
comp=Z,42nm,0.8s							
MFF	**Saint Martin d**	**5.45**	**242**	*e*Pn	Pn	14 04 36.8	-0.3
MFF				*e*Sg	Sg	14 06 08.0	-1.7
comp=Z,21nm,0.8s							
SMRF	**Simiane la Rot**	**5.46**	**190**	*e*Sn	Sn	14 05 37.1	-3.8
comp=Z,2.9nm,0.4s,SNR=1.0							
SMRF	**Simiane la Rot**	**5.46**	**190**	*e*Sn	Sn	14 05 37.1	-3.8
comp=Z,1.5nm,0.4s,SNR=1.0							
CAF	**Calviac**	**5.51**	**218**	*e*Pn	Pn	14 04 36.5	-1.5
SNR=1.0							
CAF				*e*Sn	Sn	14 05 38.9	-3.1
SNR=1.0							
CAF				*e*Sg	Sg	14 06 09.6	-2.1
comp=Z,28nm,0.6s							
CAF	**Calviac**	**5.51**	**218**	*e*Pn	Pn	14 04 36.5	-1.5
SNR=1.0

200nm,0.7s
LEOM *i* S **Sn** **14 04 35.0 -1.0**
1μm,0.5s
VOIR **1.27 254**⇓*i*P **Pn** **14 04 19.9 -0.1**
VOIR *i* S **Sn** **14 04 36.5 -0.7**
MTUR **Matau** **1.34 245** *i* S **Sn** **14 04 42.7 +4.0**
HARR **Harsova** **1.37 144**⇑*i*P **Pn** **14 04 21.6 +0.3**
HARR *i* S **Sn** **14 04 38.8 -0.6**
HARR **Harsova** **1.37 144** ⇑P **Pn** **14 04 21.7 +0.4**
HARR S **Sn** **14 04 38.8 -0.6**
IAS **Iasi** **1.49 21**⇑*i*P **Pn** **14 04 23.1 +0.3**
IAS *i* S **Sn** **14 04 41.4 -0.7**
IAS **Iasi** **1.49 21** ⇓P **Pn** **14 04 23.1 +0.4**
IAS S **Sn** **14 04 41.4 -0.6**
BUC1 **Bucharest** **1.55 201** *i* S **Sn** **14 04 43.1 -0.3**
TIRR **Tirgusor** **1.77 139**⇑*i*P **Pn** **14 04 26.8 +0.5**
TIRR *i* S **Sn** **14 04 47.4 -1.0**
TIRR **Tirgusor** **1.77 139** *e*Pn **Pn** **14 04 26.3 0.0**
TIRR **Tirgusor** **1.77 139**⇑*i*P **Pn** **14 04 26.8 +0.5**
TIRR *e*Sn **Sn** **14 04 47.1 -1.3**
TIRR *i* S **Sn** **14 04 47.4 -1.0**
TIRR **Tirgusor** **1.77 139** *e*Pn **Pn** **14 04 26.3 -0.1**
TIRR *e*Sn **Sn** **14 04 47.1 -1.3**
BURAR **Bucovina Array** **2.11 330**⇓*i*P **Pn** **14 04 32.2 +1.3**
BURAR *i* S **Sn** **14 05 00.7 +4.2**
BURAR **Bucovina Array** **2.11 330** ⇑P **Pn** **14 04 32.1 +1.2**

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*ISCJB **22** 14:15:27.6±3.2, 409N±02×778E±02, h10km, Error ellipse: s-maj=34.0km s-min=14.0km az=144.3*
*NNC **22** 14:15:27.5±6.9, 4074N×7778E, h5km±39km, mb4.2, mpv3.8, Error ellipse: s-maj=43.9km s-min=33.8km az=158.0*

ISC 22 14:15:30.4±2.8, 410N±02×776E±02, h10km, n14, σ0§71/14, 6C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.64**	**323**	P	**Pn**	**14 16 00.3**	**+1.0**
	SNR=37						
KZA	**Kyzart**	**2.09**	**303**	P	**Pn**	**14 16 06.6**	**+1.2**
	SNR=28						
KNDC	**Almaty**	**2.31**	**349**	⇑Pg	**Pg**	**14 16 14.6**	**-0.1**
	642nm,0.5s,baz=112,slow=16						
KNDC				⇓Lg		14 16 49.2	
	1μm,0.5s,baz=112,slow=16						
TKM2	**Tokmak 2**	**2.47**	**324**	P	**Pn**	**14 16 15.6**	**+4.9**
	SNR=33						
TKM2	**Tokmak 2**	**2.47**	**324**	⇑Pn	**Pn**	**14 16 12.0**	**+1.3**
	31nm,0.5s,baz=112,slow=16						
TKM2				⇑Lg		14 16 53.1	
	39nm,0.8s,baz=112,slow=16						
KBK	**Karagaybulak**	**2.61**	**312**	P	**Pb**	**14 16 17.1**	**-0.1**
	SNR=23						
UCH	**Uchtor**	**2.64**	**300**	P	**Pn**	**14 16 11.9**	**-1.1**
	SNR=21						
AAK	**Ala-Archa**	**2.86**	**307**	P	**Pb**	**14 16 20.8**	**-0.7**
	SNR=26						
CHMS	**Chumysh**	**2.94**	**315**	P	**Pb**	**14 16 22.1**	**-0.8**
	SNR=18						
AML	**Almayashu**	**3.15**	**293**	P	**Pn**	**14 16 19.8**	**-0.2**
	SNR=16						
USP	**Ospenovka**	**3.26**	**316**	P	**Pb**	**14 16 28.7**	**+0.3**
	SNR=36						
EKS2	**Erkin-Say**	**3.32**	**302**	P	**Pb**	**14 16 29.6**	**+0.2**
	SNR=9.2						
KK31	**Karatay Array**	**5.69**	**295**	⇑Pg	**Pb**	**14 17 15.1**	**+5.3**
	2.2nm,0.8s,baz=112,slow=16,SNR=7.4						
KK31				⇑Lg		14 18 30.9	
	1.6nm,0.5s,baz=109,slow=29,SNR=4.2						
MK31	**Makanchi Array**	**6.76**	**29**	⇑Pn	**Pn**	**14 17 09.3**	**-0.3**
	0.6nm,0.6s,baz=197,slow=13,SNR=5.5						
MK31				⇓Lg		14 19 06.3	
	2.7nm,0.8s,baz=209,slow=27,SNR=3.5						

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*ISCJB **22** 14:53:25.0±1.6, 184S±02×178.1W±02, h430km±27km, mb4.0/8, Error ellipse: s-maj=35.2km s-min=19.9km az=97.7*
*IDC **22** 14:53:25.9±2.2, 1846S×178.10W, h425km±29km, mb3.5/5, mb1 3.6/7, mb1mx3.3/16, mbtmp4.3/7, Error ellipse: s-maj=32.3km s-min=17.5km az=138.0*
*NEIC **22** 14:53:26.3±1.0, 1845S×178.05W, h435km±14km, mb4.1/5, Error ellipse: s-maj=22.9km s-min=10.8km az=148.0*

ISC 22 14:53:26.7±1.4, 185S±02×178.0W±02, h441km±23km, n17, σ0§49/16, mb4.0/8, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.49**	**54**	P	**P**	**14 55 16.2**	**-0.2**
	7.5nm,0.3s,baz=245,slow=17,SNR=12						
DZM	**Mont Dzumac**	**15.04**	**254**	P	**P**	**14 56 38.9**	**+0.5**
	0.4nm,0.3s,baz=84,slow=19,SNR=7.3						
URZ	**Urewera**	**20.18**	**191**	P	**P**	**14 57 30.4**	**+0.2**
	1.9nm,0.3s,baz=186,slow=16,SNR=5.6						
CTA	**Charters Tower**	**33.75**	**261**	*e*P	**P**	**14 59 28.8**	**-1.0**
	3.3nm,0.5s,mb3.9						
CTAO	**Charters Tower**	**33.75**	**261**	*e*P	**P**	**14 59 30.6**	**+0.7**
STKA	**Stephens Creek**	**38.72**	**242**	*e*P	**P**	**15 00 10.0**	**-1.1**
	2.7nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**38.72**	**242**	P	**P**	**15 00 10.1**	**-1.0**
	4.1nm,0.3s,mb4.2,baz=85,slow=8.3,SNR=41						
WB2	**Warramunga Arr**	**44.91**	**260**	*e*P	**P**	**15 00 59.9**	**-0.5**
WRAB	**Tennant Creek**	**44.92**	**260**	*e*P	**P**	**15 01 00.1**	**-0.4**
	4.5nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.93**	**260**	P	**P**	**15 01 00.2**	**-0.3**
	2.7nm,0.5s,mb3.9,baz=97,slow=6.4,SNR=38						
AS31	**Alice Springs**	**45.03**	**255**	⇓*i*P	**P**	**15 01 01.6**	**+0.3**
ASAR	**Alice Springs**	**45.03**	**255**	P	**P**	**15 01 01.6**	**+0.4**
	14nm,0.4s,mb4.6,baz=90,slow=8.8,SNR=517						
ASPA	**Alice Springs**	**45.03**	**255**	⇓*i*P	**P**	**15 01 01.6**	**+0.3**
KAKA	**Kakadu**	**47.97**	**269**	*e*P	**P**	**15 01 23.8**	**0.0**
	30nm,1.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.33**	**261**	*e*P	**P**	**15 02 03.6**	**+0.5**
	3.7nm,0.5s,mb3.9						
ILAR	**Eielson Array**	**86.33**	**13**	P	**P**	**15 05 21.1**	**+0.3**
	0.1nm,0.4s,mb2.9,baz=222,slow=5.4,SNR=5.1						
GERES	**GERESS Array B**	**148.25**	**345**	PKPbc	PKPbc	15 12 22.6	+0.6
	0.5nm,0.5s,baz=29,slow=3.0,SNR=5.4						

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*ISCJB **22** 15:07:51.6±0.4, 1413S±008×1437W±007, h10km, mb4.4/26, MS4.2/16, Error ellipse: s-maj=12.0km s-min=8.7km az=121.7*
*IDC **22** 15:07:52.2±0.5, 1406S×1444W, h0km, mb4.3/22, mb1 4.3/22, mb1mx4.3/26, mbtmp4.3/22, MS4.1/15, Ms1 4.1/15, ms1mx4.0/20, Error ellipse: s-maj=16.7km s-min=12.5km az=168.0*
*NEIC **22** 15:07:53.6±0.3, 1410S×1439W, h10km, mb4.8/10, Error ellipse: s-maj=10.3km s-min=7.6km az=158.0*
*BJI **22** 15:07:53.6, 1410S×1440W, h10km, mB5.5, Ms5.5, Msz4.9*

ISC 22 15:07:53.9±0.4, 1411S±008×1436W±007, h10km, n53, σ1§02/42, mb4.4/26, MS4.2/16, 1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**22.70**	**25**	P	**P**	**15 12 56.9**	**+1.3**
	22nm,1.1s,mb4.5,baz=189,slow=11,SNR=8.7						
DBIC				LR	LR	15 19 55.1	
	comp=Z,284nm,18.9s,MS3.7,baz=177,slow=32						
DBIC	**Dimbokro**	**22.70**	**25**	*e*P	**P**	**15 12 56.5**	**+1.0**
	41nm,1.3s,mb4.7						
TSUM	**Tsumeb**	**30.99**	**104**	P	**P**	**15 14 10.9**	**-0.4**
	1.1nm,0.3s,mb4.1,baz=171,slow=9.2,SNR=7.9						
TSUM				LR	LR	15 24 31.0	
	comp=Z,190nm,18.3s,MS3.8,baz=146,slow=32						
TORD	**Torodi Ar. Bea**	**31.40**	**31**	P	**P**	**15 14 14.8**	**-0.2**
	23nm,1.2s,mb4.9,baz=217,slow=7.2,SNR=24						
BDFB	**Brasilia**	**32.55**	**263**	P	**P**	**15 14 24.8**	**-0.2**
	3.5nm,0.5s,mb4.5,baz=73,slow=9.0,SNR=6.0						
BDFB				LR	LR	15 24 58.1	
	comp=Z,351nm,18.5s,MS4.1,baz=96,slow=32						
SUR	**Sutherland**	**36.85**	**126**	P	**P**	**15 15 01.9**	**-0.3**
	8.6nm,0.9s,mb4.6,baz=298,slow=21,SNR=12						
SUR	**Sutherland**	**36.85**	**126**	*e*P	**P**	**15 15 01.0**	**-1.3**
BOSA	**Boshof**	**39.42**	**118**	P	**P**	**15 15 27.0**	**+3.1**
	3.6nm,1.0s,mb4.1,baz=297,slow=6.5,SNR=2.7						
BOSA				LR	LR	15 30 25.0	
	comp=Z,145nm,19.3s,MS3.8,baz=285,slow=34						
LSZ	**Lusaka**	**41.12**	**97**	P	**P**	**15 15 41.0**	**+3.0**
	5.1nm,1.0s,mb4.1,baz=281,slow=9.0,SNR=2.1						
LSZ	**Lusaka**	**41.12**	**97**	P	**P**	**15 15 40.6**	**+2.6**
	27nm,1.8s,mb4.6						
MATP	**Matopo**	**41.32**	**105**	P	**P**	**15 15 40.5**	**+0.9**
	7.3nm,0.9s,mb4.3,baz=270,slow=9.3,SNR=4.7						
MATP	**Matopo**	**41.32**	**105**	P	**P**	**15 15 40.5**	**+0.9**
CPUP	**Villa Florida**	**41.93**	**246**	P	**P**	**15 15 45.1**	**+0.4**
	0.8nm,0.3s,mb3.8,baz=83,slow=8.9,SNR=5.8						
CPUP				LR	LR	15 30 39.5	
	comp=Z,416nm,19.0s,MS4.3,baz=94,slow=33						
CPUP	**Villa Florida**	**41.93**	**246**	*e*P	**P**	**15 15 46.3**	**+1.7**
	15nm,0.7s,mb4.7						
SIV	**San Ignacio**	**45.08**	**261**	P	**P**	**15 16 10.7**	**+0.7**
	4.9nm,1.1s,mb4.3,baz=93,slow=11,SNR=10						
MDT	**Midelt**	**47.58**	**11**	P	**P**	**15 16 30.5**	**+0.8**
	6.9nm,1.1s,mb4.6,baz=228,slow=7.4,SNR=5.1						
SAML	**Samuel**	**48.05**	**271**	*e*P	**P**	**15 16 34.1**	**+0.8**
	14nm,1.1s,mb4.9						
TRQA	**Tornquist**	**48.32**	**231**	*e*P	**P**	**15 16 35.9**	**+0.5**
	22nm,1.3s,mb5.0						
LPAZ	**La Paz**	**51.82**	**260**	P	**P**	**15 17 01.8**	**-0.2**
	2.0nm,0.8s,mb4.1,baz=117,slow=7.0,SNR=6.4						
LPAZ				LR	LR	15 36 50.4	
	comp=Z,127nm,20.2s,MS3.9,baz=84,slow=34						
LPAZ	**La Paz**	**51.82**	**260**	*e*P	**P**	**15 17 01.6**	**-0.3**
	2.6nm,0.9s,mb4.2						
CFAA	**Coronel Fontan**	**52.10**	**241**	P	**P**	**15 17 03.6**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=118,slow=4.3,SNR=4.7						
KMBO	**Kilima Mbogo**	**52.62**	**80**	P	**P**	**15 17 10.1**	**+2.2**
	1.6nm,0.8s,mb4.0,baz=246,slow=7.4,SNR=5.9						
KMBO				LR	LR	15 36 46.1	
	comp=Z,144nm,18.2s,MS4.1,baz=283,slow=33						
KMBO	**Kilima Mbogo**	**52.62**	**80**	P	**P**	**15 17 08.8**	**+0.9**
	5.9nm,1.1s,mb4.4						
KMBO				*e*		15 17 16.7	
ESDC	**Sonseca Array**	**54.37**	**10**	P	**P**	**15 17 20.4**	**-0.4**
	0.4nm,0.3s,mb3.8,baz=188,slow=6.3,SNR=5.9						
PLCA	**Paso Flores**	**55.41**	**230**	LR	LR	15 38 04.0	
	comp=Z,160nm,19.4s,MS4.1,baz=167,slow=33						
SDV	**Santo Domingo**	**60.32**	**289**	*e*P	**P**	**15 18 03.3**	**+0.5**
	20nm,1.1s,mb5.1						
ROSC	**El Rosal**	**62.39**	**283**	P	**P**	**15 18 18.0**	**+1.2**
	4.1nm,0.3s,mb5.0,baz=96,slow=17,SNR=4.5						
ROSC				LR	LR	15 43 15.7	
	comp=Z,182nm,21.8s,MS4.2,baz=30,slow=34						
SYO	**Syowa Base**	**64.42**	**161**⇓*e*P		**P**	**15 18 27.9**	**-2.4**
EIL	**Élat**	**64.45**	**47**	*e*P	**P**	**15 18 30.5**	**+0.1**
	180nm,1.0s						
GERES	**GERESS Array B**	**67.43**	**20**	P	**P**	**15 18 48.9**	**-0.7**
	0.6nm,0.7s,mb3.7,baz=193,slow=5.5,SNR=4.7						
GERES				LR	LR	15 47 03.4	
	comp=Z,183nm,18.9s,MS4.3,baz=239,slow=35						
KHC	**Kasperske Hory**	**67.64**	**19**	*e*P	**P**	**15 18 49.9**	**-1.1**
PRU	**Pruhonice**	**68.70**	**20**	*e*P	**P**	**15 18 57.5**	**-0.1**
VRAC	**Vranov**	**68.81**	**21**	LR	LR	15 49 21.2	
	comp=Z,160nm,18.1s,MS4.3,baz=230,slow=36						
DPC	**Dobruska-Polom**	**69.60**	**20**	*e*P	**P**	**15 19 03.2**	**0.0**
UPC	**Upice**	**69.63**	**20**	*e*P	**P**	**15 19 02.2**	**-1.2**
BRTR	**Keskin Array B**	**69.72**	**38**	P	**P**	**15 19 04.6**	**+0.6**
	1.6nm,0.7s,mb4.0,baz=209,slow=6.5,SNR=11						
OKC	**Ostrava-Krasne**	**69.81**	**22**	*e*P	**P**	**15 19 04.0**	**-0.4**
AKASG	**Malin Array Be**	**74.93**	**27**	P	**P**	**15 19 34.2**	**-0.8**
	4.2nm,0.8s,mb4.4,baz=225,slow=6.6,SNR=18						
QSPA	**South Pole Qui**	**76.05**	**180**	*e*P	**P**	**15 19 39.3**	**-2.2**
	19nm,1.6s,mb4.8						
NB2	**NORSAR Subarra**	**77.62**	**12**	P	**P**	**15 19 49.7**	**-0.6**
	comp=Z,11nm,1.4s,mb4.6,baz=205,slow=6.2						
NOA	**NORSAR Array B**	**77.62**	**12**	P	**P**	**15 19 50.3**	**0.0**
	comp=Z,4.1nm,1.2s,mb4.2,baz=198,slow=6.1,SNR=2.5						
NOA				LR	LR	15 52 10.9	
	comp=Z,57nm,19.2s,MS3.9,baz=125,slow=34						
SCHQ	**Schefferville**	**81.70**	**332**	P	**P**	**15 20 11.3**	**-1.2**
	comp=Z,7.0nm,1.1s,mb4.5,baz=192,slow=4.3,SNR=4.9						
FINES	**FINESS Array B**	**81.81**	**18**	P	**P**	**15 20 12.8**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.0,baz=188,slow=3.9,SNR=6.8						
FINES				LR	LR	15 54 23.2	
	comp=Z,61nm,18.5s,MS4.0,baz=282,slow=34						
FINES	**FINESS Array B**	**81.81**	**18**	P	**P**	**15 20 12.8**	**-0.3**
FINES				LR	LR	15 54 23.2	
ARCES	**ARCESS Array B**	**87.98**	**13**	LR	LR	16 02 01.9	
	comp=Z,78nm,18.1s,MS4.2,baz=213,slow=37						
VNDA	**Vanda**	**88.52**	**179**	LR	LR	15 53 58.5	
	comp=Z,139nm,20.3s,MS4.4,baz=14,slow=31						
KMI	**Kunming**	**120.19**	**69**	PKP	PKPdf	15 26 47.0	+1.9
SONM	**Songino Array**	**120.88**	**42**	PKP	PKPdf	15 26 45.6	-0.8
	comp=Z,0.2nm,0.3s,baz=228,slow=3.8,SNR=4.1						
CD2	**Chengdu**	**121.12**	**62**	*e*PKP	PKPdf	15 26 46.8	0.0
HHC	**Hu-ho-hao-te**	**126.13**	**50**	*e*PKP	PKPdf	15 26 57.8	+1.4
HHC				PP	PP	15 28 56.0	+5.6
HHC				PKS		15 30 32.6	
HHC				SKS	SKSdf	15 34 08.3	0.0
HHC				SKKS	SKKSac	15 35 48.0	-0.6
HHC				SS	SS	15 45 56.8	+4.0
HHC				LR	LR		
	comp=N,123nm,6.3s						
HHC				LR	LR		
	comp=E,79nm,5.1s						
HHC				LR	LR		
	comp=Z,81nm,6.5s						
ASAR	**Alice Springs**	**131.29**	**140**	PKP	PKPdf	15 27 07.0	+0.7
	comp=Z,0.3nm,0.7s,baz=205,slow=2.4,SNR=4.6						
NJ2	**Nanjing**	**133.79**	**59**	*e*PKP	PKPdf	15 27 07.8	-3.2
NJ2				PP	PP	15 29 41.0	+0.8
NJ2				PKS		15 30 42.0	
NJ2				PP	PP		
	comp=Z,20nm,10.2s						
NJ2				LR	LR		
	comp=N,2μm,27.9s,MS5.7						
NJ2				LR	LR		
	comp=E,290nm,24.8s,MS5.7						
NJ2				LR	LR		
	comp=Z,1μm,23.6s,MS5.5						
MJAR	**Matsushiro Arr**	**146.83**	**43**	PKPbc	PKPbc	15 27 36.1	-0.1
	comp=Z,8.4nm,1.1s,baz=296,slow=4.2,SNR=10						

GUC 22 15:46:30.8±1.1, 2714S×7007W, h75km±11km, ML3.9, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.33**	**230**⇓*i*P		Pn	15 46 43.1	+0.3
CPCH				*i* S	Sn	15 46 52.2	+0.8
CPCH				AMP		15 46 52.7	
	comp=N,85μm,0.1s						
CDCH	**Caldera**	**0.68**	**276**⇑*i*P		Pn	15 46 46.2	+0.3
CDCH				*i* S	Sn	15 46 57.2	+0.1
CDCH				AMP		15 46 58.3	
	comp=N,3μm,0.2s						
CRCH	**Chaqaral**	**0.94**	**328**⇓*i*P		Pn	15 46 50.8	+2.0
CRCH				*i* S	Sn	15 47 05.2	+3.0
CRCH				AMP		15 47 06.7	
	comp=N,4μm,0.3s						
CPN1	**Cerro Paranal**	**2.53**	**353**⇑*i*P		Pn	15 47 11.2	+1.6
CPN1				*i* S	Sn	15 47 41.3	+1.9
CPN1				AMP		15 48 01.4	
	comp=N,378nm,0.5s						
CEN1	**Los Morros**	**3.74**	**358**⇓*i*P		Pn	15 47 23.9	-2.2
CEN1				*i* S	Sn	15 48 04.8	-4.2
CEN1				AMP		15 48 24.2	
	comp=E,81nm,0.3s						

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*IDC **22** 15:49:06.8±2.8, 353S×13576E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.6/12, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=92.4km s-min=29.9km az=85.0*
*ISCJB **22** 15:49:10.5±2.8, 375S±008×1357E±03, h38km±24km, mb3.3/1, Error ellipse: s-maj=48.1km s-min=13.8km az=0.8*

ISC 22 15:49:14.7±2.6, 381S±009×1359E±03, h72km±21km, n7, σ1§05/11, mb3.2/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.46**	**201**	*e*P	**Pn**	**15 51 27.3**	**-0.8**
	4.2nm,0.3s						
KAKA				*e*S	**Sn**	**15 53 13.8**	**+0.9**
WB2	**Warramunga Arr**	**16.10**	**185**	*e*P	**Pn**	**15 52 55.6**	**-0.9**
WB2				*e*S	**S**	**15 55 51.2**	**-12**
WRA	**Warramunga Arr**	**16.10**	**185**	Pn	**Pn**	**15 52 56.0**	**-0.5**
	0.2nm,0.3s,baz=7.6,slow=13,SNR=4.6						
WRA				Sn	**Sn**	**15 55 54.0**	**-0.3**
	0.2nm,0.3s,baz=3.9,slow=24,SNR=4.8						
FITZ	**Fitzroy Crossi**	**17.37**	**214**	P	**Pn**	**15 53 11.6**	**-0.6**
	0.2nm,0.3s,baz=40,slow=17,SNR=6.9						
ASAR	**Alice Springs**	**19.83**	**185**	P	**Pn**	**15 53 43.8**	**+2.1**
	2.5nm,0.7s,baz=6.4,slow=12,SNR=40						
ASPA	**Alice Springs**	**19.83**	**185**	*e*P	**Pn**	**15 53 44.7**	**+3.0**
ASPA				*e*S	**S**	**15 57 18.3**	**-0.6**
MKAR	**Makanchi Array**	**68.94**	**324**	P	**P**	**16 00 12.1**	**+0.1**
	0.2nm,0.5s,mb3.2,baz=127,slow=7.8,SNR=4.1						

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*ISCJB **22** 16:20:03.6±0.6, 372S±01×783E±01, h10km, mb4.6/28, MS4.4/15, Error ellipse: s-maj=16.5km s-min=13.2km az=13.1*
*IDC **22** 16:20:04.6±0.9, 3682S×7841E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/15, mbtmp4.1/9, MS4.3/11, Ms1 4.2/11, ms1mx4.2/15, Error ellipse: s-maj=39.3km s-min=20.5km az=25.0*
*HRVD **22** 16:20:05.9±0.4, 3723S×7815E, h15km±2km, MW5.0/57, Centroid moment Tensor Solution. LP body waves: s25,c32;Mantle waves: s57,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.48±.14; $M_{\theta\theta}$-2.67±.16; $M_{\phi\phi}$3.15±.16; $M_{r\theta}$0.41±.48; $M_{\theta\phi}$0.84±.17; $M_{\phi r}$1.18±.47; Best double couple: $M_0$3.22700×10^{16} NP1:ϕ_s322.00000°, δ74.00000°, λ173.00000°. NP2: ϕ_s54.00000°, δ83.00000°, λ17.00000°. Principal axes: T 3.6360, Plg17.0000°, Azm279.0000°; N -0.8150, Plg72.0000°, Azm76.0000°; P -2.8180, Plg7.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 16:20:05.9±0.5, 3702S×7827E, h10km, mb4.9/12 Error ellipse: s-maj=15.8km s-min=14.7km az=57.0*
*BJI **22** 16:20:05.9, 3700S×7830E, h10km, mB5.2, mb4.8, Ms4.9, Msz4.7*

ISC 22 16:20:05.1±0.7, 373S±01×783E±01, h10km, (h16km±1.0km: pP-P), n52, σ0§84/39, mb4.7/28, MS4.4/15, 1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**31.61**	**191**	LR	LR	16 36 14.0	
	comp=Z,567nm,21.1s,MS4.2,baz=41,slow=30						
NWAO	**Narrogin (SRO)**	**32.01**	**94**	LR	LR	16 36 32.7	
	comp=Z,933nm,20.6s,MS4.5,baz=256,slow=31						
SYO	**Syowa Base**	**38.12**	**201**⇓*e*P		**P**	**16 27 14.6**	**-10**
BOSA	**Boshof**	**44.83**	**265**	LR	LR	16 42 25.1	
	comp=Z,337nm,19.1s,MS4.3,baz=134,slow=30						
KULM	**Kulim**	**47.20**	**31**	*e*P	**P**	**16 28 38.1**	**+0.2**
ASAR	**Alice Springs**	**49.18**	**90**	P	**P**	**16 28 53.2**	**-0.1**
	2.6nm,1.0s,mb4.2,baz=241,slow=6.7,SNR=10						
LSZ	**Lusaka**	**49.31**	**283**	*e*P	**P**	**16 28 53.3**	**-0.9**
	19nm,1.5s,mb4.9						
WRA	**Warramunga Arr**	**51.43**	**87**	P	**P**	**16 29 10.0**	**-0.3**
	11nm,1.0s,mb4.7,baz=238,slow=7.1,SNR=14						
WRAB	**Tennant Creek**	**51.45**	**87**	P	**P**	**16 29 09.6**	**-0.7**
	27nm,1.2s,mb5.1						
STKA	**Stephens Creek**	**51.57**	**104**	P	**P**	**16 29 11.8**	**+0.5**
	10nm,1.1s,mb4.7,baz=272,slow=7.0,SNR=5.5						
STKA				LR	LR	16 47 00.9	
	comp=Z,351nm,19.4s,MS4.4,baz=100,slow=31						
STKA	**Stephens Creek**	**51.57**	**104**	*e*P	**P**	**16 29 09.0**	**-2.3**
STKA				LR	LR	16 47 00.9	
KMBO	**Kilima Mbogo**	**52.15**	**304**	P	**P**	**16 29 15.2**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=75,slow=5.6,SNR=5.6						
KMBO				LR	LR	16 46 09.5	
	comp=Z,167nm,20.5s,MS4.1,baz=94,slow=30						
KMBO	**Kilima Mbogo**	**52.15**	**304**	*e*P	**P**	**16 29 15.9**	**+0.2**
	1.6nm,0.9s,mb4.0						
VNDA	**Vanda**	**52.57**	**164**	P	**P**	**16 29 23.3**	**+4.5**
	1.2nm,1.0s,mb3.8,baz=5.9,slow=4.1,SNR=3.6						
VNDA				LR	LR	16 48 44.9	
	comp=Z,170nm,21.8s,MS4.0,baz=260,slow=32						
VNDA	**Vanda**	**52.57**	**164**	P	**P**	**16 29 23.3**	**+4.5**
VNDA				LR	LR	16 48 44.9	
QSPA	**South Pole Qui**	**52.90**	**180**	*e*P	**P**	**16 29 24.4**	**+3.2**
	23nm,1.3s,mb4.9						
TSUM	**Tsumeb**	**55.52**	**271**	*e*P	**P**	**16 29 40.0**	**-0.3**
	12nm,1.0s,mb4.9						
TSUM				*e*	pP	16 29 44.6	+1.1
SHL	**Shillong**	**63.79**	**14**	*e*P	**P**	**16 30 38.0**	**+0.7**
PKI	**Pulchoki**	**64.83**	**7**	*e*P	**P**	**16 30 44.3**	**+0.2**
DMN	**Daman**	**64.84**	**7**	*e*P	**P**	**16 30 44.6**	**+0.4**
	26nm,1.2s,mb5.2						
KOLN	**Koldanda**	**64.88**	**5**	*e*P	**P**	**16 30 43.2**	**-1.2**
	21nm,1.3s,mb5.0						
JIRN	**Jiri**	**65.00**	**8**	*e*P	**P**	**16 30 45.6**	**+0.4**
	25nm,1.1s,mb5.2						
KKN	**Kakani**	**65.04**	**7**	*e*P	**P**	**16 30 45.6**	**+0.1**
	22nm,1.2s,mb5.1						
GKN	**Gorkha**	**65.19**	**6**	*e*P	**P**	**16 30 45.4**	**-1.1**
	13nm,0.9s,mb5.0						
GUN	**Gumba**	**65.22**	**7**	*e*P	**P**	**16 30 47.3**	**+0.7**
RPZ	**Rata Peaks**	**67.22**	**128**	LR	LR	16 54 21.3	
	comp=Z,344nm,19.6s,MS4.6,baz=95,slow=30						
LSA	**Lhasa**	**67.69**	**12**	*e*P	**P**	**16 31 03.6**	**+1.1**
LSA	**Lhasa**	**67.69**	**12**	*e*P	**P**	**16 31 03.2**	**+0.8**
	5.0nm,0.8s,mb4.6						
CD2	**Chengdu**	**71.89**	**23**	*e*P	**P**	**16 31 27.9**	**-0.4**
CD2				AP	pP	16 31 32.6	+1.0
CD2				XP	sP	16 31 34.9	+2.1
CD2				PP	PP	16 34 11.1	+3.2
CD2				S	S	16 40 50.4	+1.2

HHC AMB AMB
comp=Z,5.0nm,0.3s,mb5.1
HHC AMB AMB
comp=Z,100nm,4.3s
HHC LR LR
comp=N,81nm,5.9s
HHC LR LR
comp=E,169nm,6.1s
HHC LR LR
comp=Z,115nm,6.9s
MKAR Makanchi Array 83.75 3 P **P 16 32 33.3 -1.1**
comp=Z,2.3nm,1.0s,mb4.3,baz=165,slow=5.6,SNR=12
MKAR LR LR 17 07 08.7
comp=Z,121nm,19.2s,MS4.3,baz=90,slow=34
BRTR Keskin Array B 86.90 327 P **P 16 32 51.3 +1.2**
comp=Z,0.9nm,0.7s,mb4.1,baz=163,slow=5.6,SNR=3.3
TORD Torodi Ar. Bea 87.47 288 P **P 16 32 53.0 +0.1**
comp=Z,0.5nm,0.6s,mb3.9,baz=108,slow=4.6,SNR=3.0
KURK Kurchatov 87.60 0 *e*P **P 16 32 52.4 -1.1**
comp=Z,6.3nm,1.2s,mb4.7
SONM Songino Array 88.36 19 P **P 16 32 56.2 -0.8**
comp=Z,0.4nm,0.7s,mb3.8,baz=203,slow=3.2,SNR=3.9
SONM LR LR 17 10 55.7
comp=Z,83nm,18.7s,MS4.2,baz=179,slow=35
SONM Songino Array 88.36 19 P **P 16 32 56.2 -0.8**
SONM LR LR 17 10 55.7
DBIC Dimbokro 88.56 279 LR LR 17 10 51.0
comp=Z,143nm,19.7s,MS4.4,baz=110,slow=34
MDJ Mudanjiang 93.77 34 P **P 16 33 22.6 +0.3**
MDJ AP pP 16 33 25.6 0.0
MDJ PP PP 16 37 09.4 +1.9
MDJ S 16 44 29.3
MDJ XS sS 16 44 40.1 +2.8
MDJ SS SS 16 50 55.5 +5.5
MDJ AMB AMB
comp=Z,3.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,40nm,4.2s
MDJ LR LR
comp=N,58nm,38.2s,MS3.9
MDJ LR LR
comp=E,62nm,37.0s,MS3.9
TBI Tubuai 104.81 135 *e*LR LR 17 08 44.7
comp=E,108nm,32.0s
PPT Papeete 109.26 131 *e*LR LR 17 10 48.1
comp=E,75nm,22.5s
INK Inuvik 144.27 20 PKP PKPdf 16 39 41.9 +0.6
comp=E,4.1nm,1.1s,baz=290,slow=3.3,SNR=5.4
SCHQ Schefferville 150.50 318 PKPbc PKPbc 16 39 59.8 +2.9
comp=E,3.6nm,0.8s,baz=8.1,slow=7.1,SNR=3.3
DLBC Dease Lake 151.91 32 PKPbc PKPbc 16 40 04.0 +3.8
comp=E,4.6nm,1.1s,baz=7.7,slow=7.4,SNR=4.2
YKA Yellowknife Ar 153.52 13 PKPbc PKPbc 16 40 02.0 -1.7
comp=E,0.6nm,0.9s,baz=300,slow=5.7,SNR=5.9
NVAR Mina Array Bea 166.84 80 PKPab PKPab 16 41 16.4 +2.4
comp=E,0.7nm,0.7s,baz=262,slow=6.3,SNR=5.5

PRE 22 16:44:46.6±3.0, 2073S×3261E, h5km, ML4.4, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFT	**Belfast (SA)**	**5.47**	**205**	*e*P	Pn	16 46 11.0	+2.3
BFT				*e*S	Sn	16 47 10.1	-2.0
BFT				AML	AML	16 47 40.4	
	comp=Z,90nm,0.7s						
KSR	**Koster**	**7.32**	**225**	*e*S	Sn	16 47 55.0	-2.5
LBTB	**Lobatse**	**7.74**	**235**	*e*P	Pn	16 46 42.0	+2.1
LBTB				*e*S	Sn	16 48 04.6	-3.4
LBTB				AML	AML	16 49 12.8	
	comp=Z,48nm,0.6s						
BOSA	**Boshof**	**10.31**	**219**	*e*P	Pn	16 47 17.1	+2.0
BOSA				*e*S	Sn	16 49 08.1	-2.9
BOSA				AML	AML	16 50 18.4	
	comp=Z,19nm,0.6s						
PKA	**Prieska**	**12.59**	**223**	*e*P	Pn	16 47 48.6	+2.2
SUR	**Sutherland**	**15.67**	**220**	*e*P	Pn	16 48 29.1	+1.0
SUR				*e*S	Sn	16 51 20.2	-1.8
CVNA	**Calvinia**	**15.73**	**224**	*e*P	Pn	16 48 30.0	+1.2

BJI ***22*** *17:24:29.5, 49.18N×114.81W, h4km, mB4.8, mb4.5, Ms4.6, Msz4.2*
ISCJB ***22*** *17:24:30.9±0.2, 4893N±002×11526W±002, h10km, mb4.0/3, Error ellipse: s-maj=3.1km s-min=2.0km az=61.7*
NEIC ***22*** *17:24:32.4, 4883N×11520W, h8km, mb3.6/1, ML4.2(BUT), MW4.3(PGC), After BUT.*
NEIC Items knocked from shelves [IV] at Eureka. Felt [IV] at Troy; [III] at Kila, Libby and Rexford. Felt at Bigfork, Fortine, Great Falls, Kalispell, Olney and Polson. Also felt at Bonners Ferry and Naples, Idaho.
IDC ***22*** *17:24:33.2±0.8, 4901N×11541W, h0km, mb3.1/2, mb1 3.9/7, mb1mx3.6/26, mbtmp3.6/7, ML3.7/5, MS3.5/2, Ms1 3.5/2, ms1mx2.9/12, Error ellipse: s-maj=9.8km s-min=7.2km az=141.0*
PGC ***22*** *17:24:33.3, 4877N×115.19W, h10km, ML4.2/9, Mw4.3, 91km southeast of Cranbrook, Bc Northwestern Montana.*
ISC 22 17:24:32.4±0.2, 4889N±002×11530W±002, h10km, (h14km±1.6km:pP-P), n136, σ1°20/189, mb4.0/3, 9C-10D, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WALA	**Waterton Lakes**	**0.93**	**79**	P	**Pg**	**17 24 49.7**	**-0.6**
WALA				S	**Sg**	**17 25 01.2**	**-1.1**
WALA				Trac		17 25 07.3	
	comp=Z,812nm,0.2s						
WALA				Trac		17 25 07.3	
	comp=Z,812nm,0.2s						
WALA	**Waterton Lakes**	**0.93**	**79**	*e*P	**Pg**	**17 24 49.4**	**-0.9**
WALA				Pn	**Pg**	**17 24 49.7**	**-0.6**
WALA				*e*S	**Sg**	**17 25 01.0**	**-1.4**
WALA				Sn	**Sg**	**17 25 01.2**	**-1.1**
BLMT	**Blacktail Moun**	**1.08**	**144**	*e*P	**Pb**	**17 24 51.0**	**-2.2**
BSMT	**Bassoo Peak**	**1.10**	**162**	*e*P	**Pb**	**17 24 51.1**	**-2.4**
BHMT	**Big Hole Peak**	**1.32**	**172**	*e*P	**Pn**	**17 24 55.4**	**-1.6**
JTMT	**Jette**	**1.33**	**149**	*e*P	**Pn**	**17 24 55.2**	**-1.9**
YBMT	**Yellow Bay**	**1.34**	**140**	*e*P	**Pn**	**17 24 55.5**	**-1.7**
NEW	**Newport**	**1.36**	**243**	Pg	**Pg**	**17 24 58.1**	**-0.5**
	130nm,0.3s,baz=65,slow=15,SNR=482						
NEW				Lg		17 25 15.9	
	1μm,0.3s,baz=174,slow=13,SNR=92						
NEW	**Newport**	**1.36**	**243**	⇑P	**Pn**	**17 24 58.0**	**+0.5**
NEW				S	**Sb**	**17 25 15.9**	**+0.4**
NEW	**Newport**	**1.36**	**243**	*e*Pn	**Pn**	**17 24 57.9**	**+0.4**
NEW				*e*Sn	**Sn**	17 25 15.1	-0.5
FBMT	**Ferry Basin**	**1.60**	**158**	‖*e*P	**Pn**	**17 25 00.2**	**-0.5**
SWMT	**Swartz Lake**	**1.64**	**147**	‖↑P	**Pn**	**17 25 00.6**	**-0.6**
NDMT	**Ninemile Divid**	**1.66**	**168**	⇑↑P	**Pn**	**17 25 01.6**	**0.0**
MKMT	**Mink Peak**	**1.80**	**176**	↑P	**Pn**	**17 25 03.6**	**+0.1**
PCMT	**Pistol Creek**	**1.88**	**153**	*e*P	**Pn**	**17 25 03.9**	**-0.7**
SLMT	**Seeley Lake**	**2.05**	**143**	‖*e*P	**Pn**	**17 25 06.3**	**-0.7**
DPW	**Davenport**	**2.19**	**243**	P	**Pn**	**17 25 09.1**	**+0.3**
MSO	**Missoula**	**2.26**	**156**	⇑*e*P	**Pn**	**17 25 09.4**	**-0.4**
MSO				*e*S	**Sn**	**17 25 38.4**	**+0.7**
OVMT	**Ovando**	**2.40**	**139**	⇑*e*P	**Pn**	**17 25 11.1**	**-0.6**
CHMT	**Chamberlain Mo**	**2.41**	**144**	P	**Pn**	**17 25 11.5**	**-0.4**
CHMT	**Chamberlain Mo**	**2.41**	**144**	*e*P	**Pn**	**17 25 11.3**	**-0.6**
CHMT				*e*Sn	**Sn**	**17 25 40.1**	**-1.4**
OD2	**Odessa Site #2**	**2.73**	**238**	P	**Pn**	**17 25 16.2**	**-0.1**
BPMT	**Black Pine Rid**	**2.76**	**152**	‖↑P	**Pn**	**17 25 16.4**	**-0.3**
LYMT	**Lyon Mountain**	**2.79**	**132**	‖*e*P	**Pn**	**17 25 17.3**	**+0.2**
PNT	**Penticton**	**2.87**	**280**	Pn	**Pn**	**17 25 19.9**	**+1.7**
PNT				Pg	**Pg**	**17 25 26.8**	**-0.6**
PNT				Sn	**Sn**	**17 25 53.3**	**+0.5**
PNT				Sg	**Sg**	**17 25 05.4**	**+0.8**
PNT				Trac		17 26 11.0	
	comp=Z,536nm,0.5s						
PNT	**Penticton**	**2.87**	**280**	Pn	**Pn**	**17 25 19.9**	**+1.7**
PNT				Pg	**Pg**	**17 25 26.8**	**-0.6**
PNT				Sn	**Sn**	**17 25 53.3**	**+0.5**
PNT				Sg	**Sg**	**17 26 25.9**	**+3.1**
SLEB	**Sale Mountain**	**2.92**	**322**	Pn	**Pn**	**17 25 21.4**	**+2.5**
SAW	**Saint Andrews**	**2.99**	**248**	P	**Pn**	**17 25 20.0**	**+0.2**
ELMT	**Elliston**	**3.10**	**139**	⇑*e*P	**Pn**	**17 25 20.1**	**-1.2**
DHW2	**Dyer Hill 2**	**3.11**	**255**	P	**Pn**	**17 25 22.1**	**+0.5**
HRY	**Holter Researc**	**3.20**	**132**	*e*Pn	**Pn**	**17 25 22.8**	**+0.1**
EPH	**Ephrata**	**3.27**	**243**	P	**Pn**	**17 25 24.2**	**+0.6**
WTV	**Waterville**	**3.33**	**251**	P	**Pn**	**17 25 24.9**	**+0.3**
DOWB	**Downie Slide**	**3.34**	**323**	‖Pn	**Pn**	**17 25 26.8**	**+2.1**
DOWB				Pg	**Pg**	**17 25 36.5**	**+0.1**
DOWB				Sg	**Sg**	**17 26 22.9**	**+3.1**
DOWB				Trac		17 26 24.4	
	comp=Z,1μm,0.7s						
CBSW	**Chelan Butte S**	**3.34**	**253**	P	**Pn**	**17 25 25.1**	**+0.4**
BUT	**Butte**	**3.43**	**146**	*e*P	**Pn**	**17 25 25.6**	**-0.3**
CRF	**Corfu**	**3.44**	**235**	P	**Pn**	**17 25 27.4**	**+1.3**
OT3	**Othello 3**	**3.46**	**231**	P	**Pn**	**17 25 26.6**	**+0.2**
ETW	**Entiat**	**3.60**	**251**	P	**Pn**	**17 25 28.6**	**+0.4**
HBMT	**Mount Humbug**	**3.60**	**148**	⇑*e*P	**Pn**	**17 25 27.8**	**-0.4**
LRM	**Limekiln Ridge**	**3.63**	**147**	*e*P	**Pn**	**17 25 28.2**	**-0.5**
LNOR	**Lincton Mounta**	**3.64**	**215**	⇑P	**Pn**	**17 25 30.1**	**+1.3**
SLFW	**Sugar Loaf**	**3.67**	**254**	P	**Pn**	**17 25 30.0**	**+0.8**
H2OWA	**Water**	**3.74**	**230**	P	**Pn**	**17 25 30.4**	**+0.1**
MDW	**Midway**	**3.78**	**235**	P	**Pn**	**17 25 30.8**	**+0.1**
EGMT	**Eagleton**	**3.79**	**101**	*e*Pn	**Pn**	**17 25 31.7**	**+0.8**
EGMT				*e*Pg	**Pg**	**17 25 39.6**	**-5.5**
EGMT				*e*Sg	**Sg**	**17 26 25.5**	**-8.6**
HAWA	**Hanford**	**3.80**	**230**	*e*Pn	**Pn**	**17 25 30.4**	**-0.6**
HAWA				*e*Pg	**Pg**	**17 25 42.2**	**-3.0**
HAWA				*e*Sg	**Sg**	**17 26 31.8**	**-2.7**
SNIWA	**Snively Ranch**	**3.82**	**232**	P	**Pn**	**17 25 31.5**	**+0.2**
RSW	**Rattlesnake Hi**	**3.83**	**231**	P	**Pn**	**17 25 32.0**	**+0.6**
LCCM	**Lewis and Clar**	**3.84**	**141**	*e*P	**Pn**	**17 25 31.9**	**+0.3**
MNB	**Mounoet Dainar**	**3.85**	**330**	Pn	**Pn**	**17 25 34.6**	**+3.0**
MNB				Pg	**Pg**	**17 25 46.0**	**-0.2**
MNB				Sg	**Sg**	**17 26 38.0**	**+2.0**
WRW	**Wenatchee Ridg**	**3.86**	**257**	P	**Pn**	**17 25 32.7**	**+0.8**
SXM	**Sixmile**	**3.90**	**133**	*e*P	**Pn**	**17 25 32.4**	**0.0**
DLMT	**Dillon**	**3.98**	**151**	⇑‖*e*P	**Pn**	**17 25 33.1**	**-0.4**
DLMT				*e*Sg	**Sg**	**17 26 34.5**	**-5.9**
MXC	**Moxie City**	**4.09**	**237**	P	**Pn**	**17 25 35.6**	**+0.6**
BOZ	**Bozeman (W)**	**4.10**	**141**	*e*Pn	**Pn**	**17 25 35.5**	**+0.4**
BOZ				*e*Pg	**Pg**	**17 25 46.5**	**-4.4**
BOZ				*e*Sg	**Sg**	**17 26 38.5**	**-5.5**
BMO	**Blue Mountains**	**4.27**	**200**	*e*Pn	**Pn**	**17 25 37.6**	**+0.1**
BMO				*e*Sg	**Sg**	**17 26 41.9**	**-7.6**
BGMT	**Barton Gulch**	**4.29**	**147**	*e*P	**Pn**	**17 25 37.4**	**-0.3**
MCMT	**McKenzie Canyo**	**4.40**	**157**	P	**Pn**	**17 25 39.2**	**-0.1**
MCMT	**McKenzie Canyo**	**4.40**	**157**	*e*P	**Pn**	**17 25 39.1**	**-0.1**
BZMT	**Bozeman Pass**	**4.46**	**135**	*e*P	**Pn**	**17 25 40.1**	**-0.1**
VDB	**Vedder Mountai**	**4.49**	**274**	Pn	**Pn**	**17 25 41.9**	**+1.4**
VDB				Pg	**Pg**	**17 25 57.0**	**-1.4**
VDB				Sg	**Sg**	**17 26 52.9**	**-3.5**
VDB				Trac		17 26 57.7	
	comp=Z,60nm,0.4s						
VDB	**Vedder Mountai**	**4.49**	**274**	Pn	**Pn**	**17 25 41.9**	**+1.4**
VDB				Pg	**Pg**	**17 25 57.0**	**-1.4**
VDB				Sg	**Sg**	**17 26 52.9**	**-3.5**
EDM	**Edmonton**	**4.50**	**15**	Pn	**Pn**	**17 25 41.8**	**+1.1**
EDM				Pg	**Pg**	**17 25 54.9**	**-3.8**
EDM				Sn	**Sn**	**17 26 32.7**	**-0.4**
EDM				Sg	**Sg**	**17 26 55.1**	**-2.0**
EDM				Trac		17 26 57.0	
	comp=Z,128nm,0.4s						
EDM				Trac		17 26 57.0	
	comp=Z,128nm,0.4s						
LLLB	**Lillooet**	**4.60**	**294**	Pn	**Pn**	**17 25 43.1**	**+1.1**
LLLB				Pg	**Pg**	**17 25 57.8**	**-2.8**
LLLB				Sn	**Sn**	**17 26 36.1**	**+0.6**
LLLB				Sg	**Sg**	**17 26 58.5**	**-1.6**
LLLB				Trac		17 27 03.6	
	comp=Z,107nm,0.5s						
JBO	**Jordan Butte**	**4.62**	**224**	P	**Pn**	**17 25 43.2**	**+0.9**
MSMT	**Mission Creek**	**4.69**	**132**	*e*P	**Pn**	**17 25 43.4**	**+0.2**
MOMT	**Monida**	**4.74**	**154**	*e*P	**Pn**	**17 25 44.0**	**0.0**
BCYI	**Bear Canyon**	**4.77**	**163**	*e*P	**Pn**	**17 25 43.9**	**-0.4**
HNB	**Haney**	**4.80**	**277**	Pn	**Pn**	**17 25 45.6**	**+0.9**
HNB				Pg	**Pg**	**17 26 01.8**	**-2.5**
HNB				Sg	**Sg**	**17 27 01.2**	**-5.3**
HNB				Trac		17 27 05.6	
	comp=Z,186nm,0.6s						
QLMT	**Earthquake Lak**	**4.85**	**145**	*e*Pn	**Pn**	**17 25 45.0**	**-0.4**
QLMT				*e*Sg	**Sg**	**17 27 01.5**	**-6.8**
TPMT	**Tepee Creek**	**4.86**	**148**	*e*P	**Pn**	**17 25 45.9**	**+0.4**
CRMT	**Chrome Mountai**	**4.92**	**132**	*e*P	**Pn**	**17 25 46.7**	**+0.3**
GCMT	**Greycliff**	**4.93**	**127**	*e*Pn	**Pn**	**17 25 46.8**	**+0.3**
GCMT				*e*Pg	**Pg**	**17 25 59.6**	**-7.2**
GCMT				*e*Sg	**Sg**	**17 27 04.7**	**-5.9**
PZCI	**Patelzick Cree**	**5.00**	**155**	*e*P	**Pn**	**17 25 48.2**	**+0.8**
YMV	**Mammoth Vault**	**5.03**	**139**	*e*P	**Pn**	**17 25 48.3**	**+0.4**
CMI	**Centennial Mou**	**5.05**	**149**	*e*P	**Pn**	**17 25 48.4**	**+0.3**
YMC	**Maple Creek**	**5.08**	**143**	*e*P	**Pn**	**17 25 49.0**	**+0.4**
STMT	**Stillwater Min**	**5.11**	**131**	*e*P	**Pn**	**17 25 51.0**	**+2.0**
WSLR	**Whistler**	**5.12**	**287**	Pn	**Pn**	**17 25 51.4**	**+2.3**
WSLR				Pg	**Pg**	**17 26 08.2**	**-2.2**
WSLR				Sn	**Sn**	**17 26 48.0**	**-0.2**
WSLR				Sg	**Sg**	**17 27 12.2**	**-4.4**
WSLR				Trac		17 27 17.7	
	comp=Z,76nm,0.4s						
JGI	**Juniper Gulch**	**5.13**	**158**	*e*P	**Pn**	**17 25 49.3**	**0.0**
YMR	**Madison River**	**5.17**	**143**	*e*Pn	**Pn**	**17 25 50.0**	**+0.2**
	34nm,0.6s						
YMR				*e*Sg	**Sg**	**17 27 10.3**	**-8.1**
SNB	**Saturna Island**	**5.20**	**272**	Trac		17 27 19.2	
	comp=Z,32nm,0.4s						
SNB	**Saturna Island**	**5.20**	**272**	Sg	**Sg**	**17 27 16.1**	**-3.3**
WPB	**Watts Point**	**5.24**	**281**	Pn	**Pn**	**17 25 52.9**	**+2.1**
WPB				Sg	**Sg**	**17 27 13.8**	**-6.6**
WPB				Trac		17 27 22.9	
	comp=Z,52nm,0.5s						
BIB	**Bowen Island**	**5.28**	**279**	Sg	**Sg**	**17 27 16.6**	**-5.3**
BIB				Trac		17 27 21.7	
	comp=Z,23nm,0.4s						
VGZ	**Gonzales**	**5.34**	**268**	Trac		17 27 21.0	
	comp=Z,40nm,0.5s						
VGZ	**Gonzales**	**5.34**	**268**	Sg	**Sg**	**17 27 15.7**	**-8.2**
HLID	**Hailey**	**5.37**	**173**	*e*Pn	**Pn**	**17 25 52.4**	**-0.1**
	11nm,0.4s						
HLID				*e*Sg	**Sg**	**17 27 17.5**	**-7.3**
GBI	**Big Grassy But**	**5.39**	**154**	*e*P	**Pn**	**17 25 54.0**	**+1.2**
PGC	**Sidney**	**5.40**	**270**	Trac		17 27 23.4	
	comp=Z,37nm,0.5s						
PGC	**Sidney**	**5.40**	**270**	Sg	**Sg**	**17 27 18.5**	**-7.2**
LZB	**Mount Lazard**	**5.65**	**270**	Pn	**Pn**	**17 25 58.6**	**+2.2**
LZB				Sn	**Sn**	**17 26 58.5**	**-2.7**
LZB				Sg	**Sg**	**17 27 24.7**	**-9.0**
LZB				Trac		17 27 40.8	
	comp=Z,12nm,0.7s						
SHB	**Sechelt**	**5.66**	**280**	Pg	**Pg**	**17 26 18.7**	**-2.1**
SHB				Sg	**Sg**	**17 27 26.2**	**-7.9**
SHB				Trac		17 27 30.6	
	comp=Z,54nm,0.6s						
NLLB	**Nanaimo Lost L**	**5.72**	**277**	Trac		17 27 32.2	
	comp=Z,7.0nm,0.2s						
NLLB	**Nanaimo Lost L**	**5.72**	**277**	Sg	**Sg**	**17 27 29.2**	**-6.9**
FLWY	**Flagg Ranch**	**5.76**	**145**	*e*P	**Pn**	**17 25 59.0**	**+1.0**
FLWY				*e*Pg	**Pg**	**17 26 12.1**	**-11**
FLWY				Sg	**Sg**	**17 27 30.1**	**-7.4**
TXB	**Texada**	**6.03**	**281**	Pn	**Pn**	**17 26 01.5**	**-0.2**
TXB				Sg	**Sg**	**17 27 39.6**	**-6.5**
TXB				Trac		17 27 42.7	
	comp=Z,23nm,0.4s						
MOOW	**Moose Ponds**	**6.04**	**147**	*e*Pn	**Pn**	**17 26 02.9**	**+1.2**
	4.1nm,0.5s						
MOOW				*e*Sg	**Sg**	**17 27 38.0**	**-8.2**
PFB	**Port Renfrew**	**6.06**	**270**	Trac		17 27 46.0	
	comp=Z,36nm,0.7s						
PFB	**Port Renfrew**	**6.06**	**270**	Sg	**Sg**	**17 27 40.3**	**-6.5**
MGB	**Mount Grey**	**6.19**	**275**	Pn	**Pn**	**17 26 07.5**	**+3.7**
MGB				Sg	**Sg**	**17 27 41.7**	**-9.4**
MGB				Trac		17 27 47.4	
	comp=Z,44nm,0.8s						
LOHW	**Long Hollow**	**6.20**	**147**	*e*Pn	**Pn**	**17 26 04.7**	**+0.7**
	9.8nm,0.6s						
ALB	**Alberni**	**6.27**	**277**	Sg	**Sg**	**17 27 47.6**	**-6.2**
ALB				Trac		17 27 50.2	
	comp=Z,5.0nm,0.4s						
REDW	**Red Top Meadow**	**6.34**	**149**	*e*P	**Pn**	**17 26 08.1**	**+2.3**
LAO	**LASA Array**	**6.50**	**106**	*e*Pn	**Pn**	**17 26 10.1**	**+2.0**
	35nm,0.6s						
LAO				*e*Sg	**Sg**	**17 27 45.5**	**-16**
BTB	**Buttle Lake**	**6.73**	**279**	Pn	**Pn**	**17 26 12.3**	**+1.1**
BTB				Sg	**Sg**	**17 28 00.1**	**-8.2**
BTB				Trac		17 28 05.9	
	comp=Z,25nm,0.5s						
GDR	**Gold River**	**7.07**	**281**	Sg	**Sg**	**17 28 11.3**	**-8.0**
GDR				Trac		17 28 20.5	
	comp=Z,20nm,0.6s						
PDAR	**Pinedale Array**	**7.32**	**145**	Pn	**Pn**	**17 26 24.9**	**+5.5**
	0.2nm,0.3s,baz=343,slow=12,SNR=19						
PDAR				Lg		17 28 25.9	
	0.2nm,0.3s,baz=353,slow=28,SNR=4.4						
HVU	**Hansel Valley**	**7.33**	**165**	*e*Pn	**Pn**	**17 26 23.0**	**+3.5**
	3.0nm,0.5s						
DGMT	**Dagmar**	**7.36**	**89**	*e*P	**Pn**	**17 26 20.1**	**+0.2**
DGMT				*e*Sg	**Sg**	**17 28 15.2**	**-14**
MAYB	**Maynard**	**7.86**	**286**	Sg	Sx	17 28 37.6	
MAYB				Trac		17 28 48.6	
	comp=Z,8.9nm,0.8s						
ELK	**Elko**	**8.15**	**180**	*e*Pn	**Pn**	**17 26 32.3**	**+1.5**
	3.4nm,0.6s						
ELK				*e*Sg	Sn	17 28 41.2	+38
BMBC	**Bull Mountain**	**8.28**	**332**	Trac		17 29 01.8	
	comp=Z,12nm,0.4s						
BMBC				Trac		17 29 01.8	
	comp=Z,12nm,0.4s						
BMBC	**Bull Mountain**	**8.28**	**332**	Sg	Sx	17 28 54.5	
YBH	**Yreka Blue Hor**	**8.86**	**219**	Pn	**Pn**	**17 26 45.0**	**+4.5**
	0.4nm,0.3s,baz=27,slow=11,SNR=7.8						
RSSD	**Black Hills**	**9.11**	**117**	Pn	**Pn**	**17 26 44.4**	**+0.4**
	3.6nm,0.5s						
FFC	**Flin Flon**	**10.10**	**50**	*e*Pn	**Pn**	**17 26 56.8**	**-0.7**
	17nm,0.7s						
NVAR	**Mina Array Bea**	**10.68**	**193**	Pn	**Pn**	**17 27 10.3**	**+4.8**
	0.2nm,0.3s,baz=13,slow=13,SNR=14						
ULM	**Lac du Bonnet**	**12.68**	**77**	LR	LR	17 33 02.1	
	comp=Z,768nm,18.8s,baz=309,slow=40						
ULM	**Lac du Bonnet**	**12.68**	**77**	S	Sx	17 31 06.2	
ULM				Trac		17 31 20.0	
	comp=Z,11nm,0.7s						
ULM				Trac		17 31 20.0	
	comp=Z,11nm,0.7s						
DLBC	**Dease Lake**	**12.92**	**323**	Pn	**Pn**	**17 27 30.5**	**-5.5**
	0.1nm,0.3s,baz=307,slow=27,SNR=2.6						
DLBC				Lg		17 31 06.0	
	0.3nm,0.3s,baz=165,slow=25,SNR=4.2						
DLBC				LR	LR	17 31 58.1	
	comp=Z,64nm,19.6s,baz=86,slow=35						
YKA	**Yellowknife Ar**	**13.64**	**1**	Pn	**Pn**	**17 27 42.9**	**-3.0**
	baz=185,slow=13,SNR=26						
YKA				Sn	**Sn**	**17 30 10.0**	**-7.4**
	baz=176,slow=22,SNR=4.4						
YKA				Lg		17 31 36.7	
	baz=174,slow=28,SNR=6.9						
YKA	**Yellowknife Ar**	**13.64**	**1**	Pn	**Pn**	**17 27 42.9**	**-3.0**
YKA				Sn	**Sn**	**17 30 10.1**	**-7.3**
YKA				Lg		17 31 36.7	
YKW3	**Yellowknife Ar**	**13.71**	**1**	Pn	**Pn**	**17 27 43.5**	**-3.2**
YKW3				Pn	**Pn**	**17 27 43.8**	**-3.0**
YKW3				Sn	**Sn**	**17 30 07.6**	**-11**
YKW3				Sn	**Sn**	**17 30 07.8**	**-11**
YKW3				S		17 31 37.9	
YKW3				S		17 31 38.7	
YKW3				Trac		17 31 43.0	
	comp=Z,7.0nm,0.5s						
YKW3				Trac		17 31 43.0	
	comp=Z,7.0nm,0.5s						
YKW3				Trac		17 31 53.0	
	comp=Z,6.0nm,0.5s						
YKW3				Trac		17 31 53.0	
	comp=Z,6.0nm,0.5s						
YKW3	**Yellowknife Ar**	**13.71**	**1**	*e*Pn	**Pn**	**17 27 43.5**	**-3.2**
FCC	**Fort Churchill**	**15.88**	**44**	Pn	**Pn**	**17 28 11.4**	**-4.6**
FCC				Sn	**Sn**	**17 30 60.0**	**-12**
FCC				S		17 32 45.6	
FCC				Trac		17 33 04.3	
	comp=Z,5.0nm,0.6s						
FCC				Trac		17 33 04.3	
	comp=Z,5.0nm,0.6s						
FCC	**Fort Churchill**	**15.88**	**44**	Pn	**Pn**	**17 28 10.4**	**-5.5**
	2.3nm,0.4s						
INK	**Inuvik**	**21.49**	**341**	P	**P**	**17 29 23.1**	**+1.9**
	0.7nm,0.7s,mb3.1,baz=142,slow=9.1,SNR=4.2						
ILAR	**Eielson Array**	**23.11**	**325**	P	**P**	**17 29 40.7**	**+2.2**
	0.2nm,0.6s,baz=109,slow=8.2,SNR=5.3						
RES	**Resolute Bay**	**27.29**	**12**	Trac		17 38 40.1	
	comp=Z,2.0nm,0.7s						
RES				Trac		17 38 40.1	
	comp=Z,2.0nm,0.7s						
MDJ	**Mudanjiang**	**70.98**	**317**	P	**P**	**17 35 50.3**	**+0.1**
MDJ				PP	PP	17 38 27.1	-0.4
MDJ				AMB	AMB		
	comp=Z,12nm,2.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,76nm,6.8s						
HHC	**Hu-ho-hao-te**	**81.54**	**326**	*e*P	**P**	**17 36 49.8**	**-0.4**
HHC				AP	pP	17 36 54.3	+0.8
HHC				XP	sP	17 36 56.9	+2.2
HHC				PP	PP	17 39 58.3	+1.9
HHC				S	S	17 46 59.3	-2.7
HHC				SKS		17 47 03.9	
HHC				XS	sS	17 47 07.0	-0.5
HHC				SS	SS	17 52 17.3	-1.4
HHC				AMB	AMB		
	comp=Z,95nm,4.0s						
HHC				LR	LR		
	comp=N,67nm,4.2s						
HHC				LR	LR		
	comp=E,66nm,4.4s						
HHC				LR	LR		
	comp=Z,85nm,7.5s						
WMQ	**Urumqi**	**85.49**	**344**	*e*P	**P**	**17 37 11.1**	**+0.6**
WMQ				AP	pP	17 37 15.9	+2.1
WMQ				XP	sP	17 37 18.1	+3.1
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,29nm,4.6s

ellipse: s-maj=36.2km s-min=6.7km az=114.9
*NNC **22** 17:35:29.5±6.0, 36.86N×70.17E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=58.4km s-min=41.4km az=129.0*

ISC 22 17:35:23.7±1.5, 364N±01×718E±03, h100km, n10, σ0§95/11, 1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.80**	**352**	P	**Pn**	**17 37 02.7**	**+1.9**
	1.3nm,0.3s,baz=180,slow=13,SNR=127						
KK31				S	**Sn**	**17 38 16.0**	**-0.7**
	8.4nm,0.5s,baz=184,slow=22,SNR=15						
KOLN	**Koldanda**	**13.16**	**127**	*eP*	**Pn**	**17 38 26.5**	**0.0**
	4.1nm,0.3s						
GKN	**Gorkha**	**13.68**	**124**	*eP*	**Pn**	**17 38 32.7**	**-0.7**
	8.8nm,0.3s						
DMN	**Daman**	**14.26**	**124**	*eP*	**Pn**	**17 38 41.4**	**+0.6**
	4.2nm,0.3s						
KKN	**Kakani**	**14.26**	**123**	*eP*	**Pn**	**17 38 40.8**	**0.0**
	6.9nm,0.5s						
PKI	**Pulchoki**	**14.48**	**123**	*eP*	**Pn**	**17 38 43.3**	**-0.4**
GUN	**Gumba**	**14.59**	**121**	*eP*	**Pn**	**17 38 45.5**	**+0.5**
	5.3nm,0.4s						
JIRN	**Jiri**	**14.96**	**121**	*eP*	**Pn**	**17 38 49.5**	**-0.3**
	17nm,0.4s						
AB31	**Akbulak array**	**15.52**	**330**	P	**Pn**	**17 38 54.3**	**-2.6**
	0.4nm,0.3s,baz=126,slow=73,SNR=24						
AKTO	**Aktyubinsk**	**17.23**	**329**	||P	**Pn**	**17 39 18.8**	**+0.8**
	2.3nm,2.2s						

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*IDC **22** 17:37:25.1±26.0, 16.65N×97.13W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/19, mbtmp3.6/3, Error ellipse: s-maj=472.8km s-min=134.2km az=172.0*
*ISCJB **22** 17:37:27.0±0.9, 16.35N±007×99.16W±003, h17km±8km, mb3.3/3, Error ellipse: s-maj=11.6km s-min=4.0km az=33.4*
*MEX **22** 17:37:29.2±0.8, 16.24N×99.19W, h21km±25km, MD4.3*

ISC 22 17:37:26.8±0.9, 1639N±007×9915W±003, h4km±6km, n25, σ1§21/38, mb3.3/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.88**	**303**	*iP*	**Pg**	**17 37 43.5**	**-0.1**
ACX				*iS*	**Sg**	**17 37 55.0**	**0.0**
PNIG	**Pinotepa**	**0.98**	**90**	*eP*	**Pg**	**17 37 45.9**	**+0.3**
PNIG				*iS*	**Sg**	**17 37 58.0**	**-0.2**
CAIG	**El Cayaco**	**1.26**	**301**	*eP*	**Pn**	**17 37 50.2**	**-1.0**
CAIG				*iS*	**Sg**	**17 38 04.9**	**-2.3**
MEIG	**Mezcala**	**1.59**	**344**	*eP*	**Pn**	**17 37 55.2**	**-0.6**
MEIG				*iS*	**Sn**	**17 38 15.2**	**-1.5**
UTMO	**Huajuapan**	**1.92**	**42**	*iP*	**Pn**	**17 37 59.2**	**-1.1**
UTMO				*iS*	**Sn**	**17 38 23.0**	**-1.9**
PLIG	**Platanillo**	**2.02**	**350**	*iP*	**Pn**	**17 38 01.9**	**+0.3**
PLIG				*iS*	**Sn**	**17 38 27.4**	**+0.1**
VHO	**Vista Hermosa**	**2.41**	**73**	*eP*	**Pn**	**17 38 07.1**	**+0.1**
VHO				*iS*	**Sn**	**17 38 36.5**	**-0.5**
OXX	**Oaxaca**	**2.42**	**73**	*eP*	**Pn**	**17 38 07.0**	**-0.2**
OXX				*iS*	**Sn**	**17 38 37.0**	**-0.2**
ZIIG	**Zihuatanejo**	**2.53**	**299**	*iP*	**Pn**	**17 38 08.5**	**-0.1**
ZIIG				*iS*	**Sn**	**17 38 38.5**	**-1.4**
CHVM	**Chichinautzin**	**2.68**	**360**	*iP*	**Pn**	**17 38 12.6**	**+1.9**
CIVM	**Cilcuayo**	**2.70**	**3**	*iP*	**Pn**	**17 38 10.2**	**-0.9**
PPM	**Popocatepetl**	**2.71**	**10**	*iP*	**Pn**	**17 38 12.0**	**+0.9**
PPM				*eP*		17 38 12.0	
PPM				*eP*		17 38 14.0	
PPM				*iS*	**Sn**	**17 38 47.0**	**+2.8**
IIZ	**Mezontepec**	**2.78**	**358**	*iP*	**Pn**	**17 38 14.1**	**+1.9**
SZVM	**Salazar**	**2.92**	**356**	*iP*	**Pn**	**17 38 17.8**	**+3.7**
HUIG	**Huatulco**	**2.99**	**102**	*iS*	**Sn**	**17 38 46.2**	**-5.0**
MDVM	**Presa Madin**	**3.13**	**358**	*iP*	**Pn**	**17 38 17.0**	**+0.1**
PTVM	**Pico Tres Padr**	**3.18**	**1**	*iP*	**Pn**	**17 38 20.2**	**+2.5**
MOIG	**Morelia**	**3.80**	**330**	*iP*	**Pn**	**17 38 26.4**	**+0.2**
MOIG				*iS*	**Sn**	**17 39 11.7**	**+0.4**
CMIG	**Matias Romero**	**4.14**	**80**	*eP*	**Pn**	**17 38 29.3**	**-1.5**
CMIG				*iS*	**Sn**	**17 39 16.2**	**-3.6**
LVIG	**Laguna Verde**	**4.21**	**38**	*iP*	**Pn**	**17 38 31.9**	**+0.1**
LVIG				*iS*	**Sn**	**17 39 20.3**	**-1.0**
SFJM	**Santa Fe**	**5.50**	**318**	*eP*	**Pn**	**17 38 51.0**	**+1.5**
CCIG	**Comitan**	**6.73**	**90**	*iS*	**Sn**	**17 40 25.1**	**+1.6**
NVAR	**Mina Array Bea**	**27.66**	**326**	P	**P**	**17 43 23.1**	**+7.4**
	0.3nm,0.7s,mb3.0,baz=146,slow=9.8,SNR=3.7						
PDAR	**Pinedale Array**	**27.75**	**343**	P	**P**	**17 43 18.5**	**+2.0**
	1.1nm,0.9s,mb3.5,baz=147,slow=8.5,SNR=3.9						
YKA	**Yellowknife Ar**	**47.32**	**350**	P	**P**	**17 46 01.2**	**-0.3**
	0.4nm,0.7s,mb3.5,baz=156,slow=7.1,SNR=6.7						

IDC 22 17:40:17.4±0.9, 3824S×7744E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/16, mbtmp3.9/8, MS3.9/8, Ms1 3.8/8, ms1mx3.8/11, Error ellipse: s-maj=35.7km s-min=20.3km az=21.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**30.53**	**191**	LR	LR	17 57 23.1	
	comp=Z,288nm,19.9s,baz=164,slow=34						
NWAO	**Narrogin (SRO)**	**32.61**	**93**	LR	LR	17 56 51.4	
	comp=Z,264nm,20.1s,baz=223,slow=30						
BOSA	**Boshof**	**44.10**	**266**	LR	LR	18 02 31.8	
	comp=Z,91nm,21.4s,baz=264,slow=30						
MATP	**Matopo**	**45.66**	**279**	P	P	17 48 40.2	+0.5
	0.8nm,0.4s,baz=110,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**49.84**	**90**	P	P	17 49 12.7	+0.5
	3.0nm,1.1s,baz=231,slow=6.5,SNR=7.2						
VNDA	**Vanda**	**51.81**	**164**	P	P	17 49 26.2	-0.8
	0.7nm,0.6s,baz=308,slow=7.9,SNR=5.7						
STKA	**Stephens Creek**	**51.97**	**104**	P	P	17 49 28.1	-0.1
	3.6nm,0.9s,baz=350,slow=2.2,SNR=5.2						
STKA				LR	LR	18 06 49.3	
	comp=Z,142nm,20.7s,baz=205,slow=31						
WRA	**Warramunga Arr**	**52.15**	**86**	P	P	17 49 29.6	0.0
	1.4nm,0.5s,baz=238,slow=6.8,SNR=6.7						
KMBO	**Kilima Mbogo**	**52.16**	**305**	P	P	17 49 29.9	+0.3
	0.4nm,0.4s,baz=169,slow=4.3,SNR=2.1						
KMBO				LR	LR	18 06 15.9	
	comp=Z,64nm,20.0s,baz=89,slow=30						
MKAR	**Makanchi Array**	**84.76**	**3**	P	P	17 52 53.1	-0.3
	1.2nm,0.9s,baz=180,slow=6.9,SNR=7.3						
MKAR				LR	LR	18 27 37.3	
	comp=Z,72nm,18.1s,baz=270,slow=34						
DBIC	**Dimbokro**	**88.07**	**280**	LR	LR	18 30 34.3	
	comp=Z,60nm,18.1s,baz=98,slow=34						
SONM	**Songino Array**	**89.50**	**19**	P	P	17 53 15.8	-0.6
	0.2nm,0.6s,baz=117,slow=0.6,SNR=2.7						
SONM				LR	LR	18 34 54.7	
	comp=Z,42nm,19.2s,baz=31,slow=37						

MEX 22 18:02:26.1±0.8, 1672N×9906W, h5km±11km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.83**	**280**	*iP*	Pg	18 02 40.0	-2.1
ACX				*iS*	Sg	18 02 52.0	-0.9
PNIG	**Pinotepa**	**0.95**	**110**	*eP*	Pg	18 02 43.2	-1.2
PNIG				*iS*	Sg	18 02 54.0	-2.7
CAIG	**El Cayaco**	**1.20**	**286**	*iP*	Pg	18 02 47.2	-1.9
CAIG				*iS*	Sg	18 03 01.3	-3.4
MEIG	**Mezcala**	**1.31**	**336**	*iP*	Pn	18 02 47.2	-3.9
MEIG				*iS*	Sg	18 03 03.4	-4.9
PLIG	**Platanillo**	**1.72**	**346**	*iP*	Pn	18 02 53.1	-3.5
PLIG				*iS*	Sn	18 03 14.6	-4.3
VHO	**Vista Hermosa**	**2.26**	**81**	*iP*	Pn	18 03 00.1	-3.9
VHO				*iS*	Sn	18 03 30.1	-2.1
CMIG	**Matias Romero**	**4.02**	**84**	*eP*	Pn	18 03 27.7	-0.6
CMIG				*iS*	Sn	18 04 12.5	-3.2

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*NIED **22** 18:36:00, 41.60N×139.40E, h190km, Mw4.0 Best double couple: M0:1.18000×10^15 NP1:φs=10.00000°, δ=90.00000°, λ=-11.00000°. NP2:φs=100.00000°, δ=79.00000°, λ=-180.00000°.*
*ISCJB **22** 18:36:31.7±0.2, 41.55N±003×139.43E±005, h195km±3km, mb3.9/20, Error ellipse: s-maj=6.8km s-min=4.9km az=52.3*
*MOS **22** 18:36:31.8±0.8, 41.64N×139.30E, h191km, mb4.3/5, Error ellipse: s-maj=14.7km s-min=8.3km az=90.4*
*BJI **22** 18:36:32.3, 41.60N×139.40E, h207km, mB4.5, mb4.6*
*JMA **22** 18:36:32.8±0.1, 41.55N×139.40E, h187km±2km, M3.6*
*IDC **22** 18:36:32.6±1.5, 41.54N×139.31E, h185km±17km, mb3.6/13, mb1 3.8/16, mb1mx3.6/26, mbtmp4.2/16, MS4.1/2, Ms1 4.1/2, ms1mx2.8/32, Error ellipse: s-maj=20.5km s-min=12.9km az=167.0*
*NEIC **22** 18:36:33.1±0.6, 41.61N×139.31E, h188km±7km, mb4.6/7, MW4.0(NIED), Error ellipse: s-maj=8.1km s-min=8.0km az=57.0*

ISC 22 18:36:32.7±0.3, 4154N±003×13944E±005, h191km±3km, n66, σ0§81/80, mb4.0/20, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.55**	**3**	P	**Pn**	**18 36 58.5**	**-0.4**
JOSM				*eS*	**Sn**	**18 37 17.8**	**-1.3**
JSR	**Shiriuchi**	**0.74**	**90**	P	**Pn**	**18 36 59.8**	**0.0**
JSR				*eS*	**Sn**	**18 37 20.6**	**-0.1**
JSI2	**Shiura 2**	**0.88**	**123**	P	**Pn**	**18 37 00.9**	**+0.3**
JSI2				*eS*	**Sn**	**18 37 22.5**	**+0.3**
JYM2	**Yakumo 2**	**0.91**	**50**	P	**Pn**	**18 37 00.9**	**+0.1**
JYM2				*eS*	**Sn**	**18 37 22.5**	**-0.1**
JIW	**Iwasaki**	**1.04**	**155**	P	**Pn**	**18 37 01.9**	**+0.2**
JIW				*eS*	**Sn**	**18 37 24.1**	**0.0**
JOT	**Ohata**	**1.22**	**97**	P	**Pn**	**18 37 03.0**	**-0.1**
JKB	**Kayabe**	**1.25**	**73**	P	**Pn**	**18 37 03.3**	**0.0**
JKB				*eS*	**Sn**	**18 37 26.8**	**-0.2**
JANG	**Nango**	**1.96**	**126**	P	**Pn**	**18 37 09.4**	**-0.6**
JANG				*eS*	**Sn**	**18 37 38.4**	**-0.6**
JSK	**Shakotan**	**1.97**	**23**	P	**Pn**	**18 37 10.5**	**+0.3**
JSK				*eS*	**Sn**	**18 37 39.3**	**0.0**
JEW	**Eniwo**	**1.98**	**48**	P	**Pn**	**18 37 11.2**	**+0.9**
JEW				*eS*	**Sn**	**18 37 40.9**	**+1.4**
JOM	**Ohasama**	**2.50**	**145**	P	**Pn**	**18 37 15.6**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.58**	**72**	P	**Pn**	**18 37 17.0**	**+0.1**
JNBK				*eS*	**Sn**	**18 37 50.8**	**-0.6**
JYK	**Kaneyama**	**2.71**	**165**	P	**Pn**	**18 37 18.6**	**+0.2**
JYK				*eS*	**Sn**	**18 37 54.4**	**+0.4**
JHR	**Hokuryu**	**2.78**	**37**	P	**Pn**	**18 37 20.2**	**+1.0**
JFR	**Furan**	**2.85**	**54**	P	**Pn**	**18 37 20.1**	**+0.1**
JFR				*eS*	**Sn**	**18 37 56.5**	**-0.5**
JMK	**Ichinoseki**	**2.92**	**152**	P	**Pn**	**18 37 19.7**	**-1.1**
ASAJ	**Asahikawa**	**3.47**	**41**	P	**Pn**	**18 37 27.9**	**+0.4**
	50nm,0.3s,baz=230,slow=12,SNR=420						
ASAJ	**Asahikawa**	**3.47**	**41**	P	**Pn**	**18 37 28.0**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,50nm,0.3s						
MAJO	**Matsushiro**	**5.08**	**191**	*eP*	**Pn**	**18 37 48.7**	**+0.9**
	comp=Z,44nm,0.8s						
MAJO	**Matsushiro**	**5.08**	**191**	*eP*	**Pn**	**18 37 48.7**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,44nm,0.8s						
MAT	**Matsushiro**	**5.08**	**191**	P	**Pn**	**18 37 48.5**	**+0.7**
MAT	**Matsushiro**	**5.08**	**191**	*eP*	**Pn**	**18 37 49.0**	**+1.2**
	comp=Z,41nm,0.8s						
MAT	**Matsushiro**	**5.08**	**191**	*eP*	**Pn**	**18 37 49.0**	**+1.2**
MAT				pmax	pmax		
	comp=Z,41nm,0.8s						
MJAR	**Matsushiro Arr**	**5.08**	**191**	P	**Pn**	**18 37 48.9**	**+1.1**
	comp=Z,4.4nm,0.3s,baz=9.9,slow=14,SNR=44						
YUK	**Yuzh-Kuril'sk**	**5.35**	**60**	*eP*	**Pn**	**18 37 50.5**	**-0.8**
YUK				*eS*	**Sn**	**18 38 49.5**	**-3.7**
YUK				pmax	pmax		
	comp=Z,460nm,0.3s						
YUK				pmax	pmax		
	comp=N,250nm,0.3s						
YUK				pmax	pmax		
	comp=E,110nm,0.3s						
YUK				smax			
	comp=E,130nm,0.2s						
YUK				smax			
	comp=N,460nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.92**	**23**	*eP*	**Pn**	**18 37 58.8**	**+0.1**
	comp=N,63nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.92**	**23**	*eP*	**Pn**	**18 37 58.8**	**+0.1**
YSS				pmax	pmax		
	comp=Z,63nm,0.6s						
MDJ	**Mudanjiang**	**7.84**	**296**	P	**Pn**	**18 38 23.8**	**+0.1**
MDJ				XP		18 39 04.3	
MDJ				S	**Sn**	**18 39 53.8**	**+1.9**
MDJ				PCP	PcP	18 44 42.9	+0.5
MDJ				AMB	AMB		
	comp=Z,17nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,60nm,4.3s						
MDJ	**Mudanjiang**	**7.84**	**296**	*eP*	**Pn**	**18 38 23.8**	**+0.1**
	comp=Z,19nm,1.0s						
JHJ	**Hachijo jima 2**	**8.40**	**178**	P	**Pn**	**18 38 29.5**	**-1.7**
	comp=Z,29nm,0.3s,baz=84,slow=22,SNR=5.4						
CBIJ	**Chichi jima**	**14.58**	**170**	LR	LR	18 44 33.2	
	comp=Z,479nm,20.5s,baz=126,slow=33						
HIA	**Hailar**	**15.82**	**306**	*eP*	**Pn**	**18 40 03.9**	**-1.2**
NJ2	**Nanjing**	**18.97**	**247**	*eP*	**P**	**18 40 41.3**	**+1.8**
NJ2				XP	sP	18 41 36.3	+0.9
NJ2				S	**S**	**18 44 01.0**	**-3.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,40nm,3.5s						
NJ2				LR	LR		
	comp=N,180nm,16.1s						
NJ2				LR	LR		
	comp=E,210nm,14.4s						
NJ2				LR	LR		
	comp=Z,320nm,11.9s						
HHC	**Hu-ho-hao-te**	**20.95**	**277**	*eP*	**P**	**18 41 00.3**	**-0.5**
HHC				PP		18 41 33.0	
HHC				XP	sP	18 41 58.5	+1.3
HHC				S	**S**	**18 44 36.3**	**-7.1**
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s						
HHC				AMB	AMB		
	comp=Z,59nm,3.9s						
HHC				LR	LR		
	comp=N,116nm,5.5s						
HHC				LR	LR		
	comp=E,116nm,5.3s						
HHC				LR	LR		
	comp=Z,72nm,6.5s						
YAK	**Yakutsk**	**21.35**	**347**	*eP*	**P**	**18 41 01.4**	**-3.5**
	comp=Z,13nm,0.6s,mb4.4						
YAK	**Yakutsk**	**21.35**	**347**	*eP*	**P**	**18 41 01.4**	**-3.5**
YAK				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.4						
BOD	**Bodaibo**	**22.95**	**324**	*eP*	**P**	**18 41 17.3**	**-2.9**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**24.19**	**296**	P	**P**	**18 41 31.1**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.4,baz=78,slow=9.5,SNR=7.4						
CD2	**Chengdu**	**30.48**	**261**	*eP*	**P**	**18 42 27.8**	**+0.2**
CD2				AP	pP	18 43 06.8	+0.1
CD2				XP	sP	18 43 28.9	+0.2
CD2				PP	PP	18 43 35.4	-4.9
CD2				S	**S**	**18 47 13.0**	**-1.6**
CD2				SS	SS	18 49 09.8	-23
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,50nm,5.3s						
WMQ	**Urumqi**	**37.60**	**291**	*eP*	**P**	**18 43 29.8**	**+0.9**
WMQ				AP	pP	18 44 10.4	+1.4
WMQ				XP	sP	18 44 31.9	+1.2
WMQ				AMB	AMB		
	comp=Z,29nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,191nm,4.6s						
MKAR	**Makanchi Array**	**40.55**	**297**	P	**P**	**18 43 52.9**	**-0.4**
	comp=Z,2.1nm,0.4s,mb4.1,baz=86,slow=10,SNR=69						
KURK	**Kurchatov**	**42.04**	**304**	*eP*	**P**	**18 44 04.9**	**-0.6**
	comp=Z,11nm,0.7s,mb4.6						
KURK	**Kurchatov**	**42.04**	**304**	*eP*	**P**	**18 44 04.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
KDAK	**Kodiak Island**	**44.88**	**45**	P	**P**	**18 44 28.4**	**+0.3**
	comp=Z,10nm,0.9s,mb4.4,baz=293,slow=11,SNR=7.9						
COLA	**College**	**46.16**	**34**	P	**P**	**18 44 39.4**	**+1.3**
BVAR	**Borovoye Array**	**46.48**	**309**	P	**P**	**18 44 40.4**	**-0.2**
	comp=Z,2.2nm,0.4s,mb4.1,baz=76,slow=9.4,SNR=21						
BRVK	**Borovoye**	**46.53**	**309**	*eP*	**P**	**18 44 41.1**	**+0.1**
ILAR	**Eielson Array**	**46.59**	**34**	P	**P**	**18 44 41.9**	**+0.4**
	comp=Z,2.3nm,0.9s,mb3.8,baz=277,slow=7.0,SNR=22						
ZRNK	**Zerenda**	**47.31**	**309**	*eP*	**P**	**18 44 46.5**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**47.31**	**309**	*eP*	**P**	**18 44 46.5**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
INK	**Inuvik**	**51.13**	**28**	P	**P**	**18 45 16.7**	**+0.8**
	comp=Z,0.7nm,0.4s,mb3.6,baz=238,slow=5.3,SNR=4.4						
AKTK	**Aktyubinsk**	**54.59**	**309**	P	**P**	**18 45 41.0**	**-0.2**
AKTO	**Aktyubinsk**	**54.59**	**309**	P	**P**	**18 45 41.0**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.1,baz=64,slow=11,SNR=9.8						
AKTO	**Aktyubinsk**	**54.59**	**309**	P	**P**	**18 45 41.1**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
RES	**Resolute Bay**	**58.63**	**15**	*eP*	**P**	**18 46 09.1**	**-0.7**
ARCES	**ARCESS Array B**	**59.25**	**338**	P	**P**	**18 46 13.2**	**-0.8**
	comp=Z,8.4nm,1.1s,mb4.5,baz=60,slow=7.3,SNR=3.6						
YKA	**Yellowknife Ar**	**60.71**	**31**	P	**P**	**18 46 23.8**	**-0.1**
	comp=Z,0.2nm,0.6s,mb3.2,baz=305,slow=6.8,SNR=6.2						
YKA	**Yellowknife Ar**	**60.71**	**31**	P	**P**	**18 46 23.8**	**-0.1**
JOF	**Joensuu**	**61.29**	**330**	*ep*	**P**	**18 46 28.1**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**64.13**	**331**	P	**P**	**18 46 46.2**	**-0.3**
	comp=Z,0.6nm,0.3s,mb4.0,baz=33,slow=9.6,SNR=15						
AKASG	**Malin Array Be**	**69.83**	**321**	P	**P**	**18 47 22.0**	**-0.5**
	comp=Z,0.7nm,0.3s,mb3.8,baz=44,slow=6.4,SNR=9.0						
NVAR	**Mina Array Bea**	**73.52**	**53**	P	**P**	**18 47 46.0**	**+1.5**
	comp=Z,0.7nm,0.7s,mb3.5,baz=276,slow=8.1,SNR=5.7						
NVAR	**Mina Array Bea**	**73.52**	**53**	P	**P**	**18 47 46.0**	**+1.5**
PDAR	**Pinedale Array**	**75.60**	**45**	P	**P**	**18 47 57.4**	**+1.0**
	comp=Z,1.4nm,0.6s,mb3.8,baz=242,slow=1.3,SNR=5.8						
RPZ	**Rata Peaks**	**89.50**	**158**	LR	LR	19 27 37.4	
	comp=Z,139nm,18.6s,baz=198,slow=34						
SIV	**San Ignacio**	**149.00**	**41**	PKPbc	PKPbc	18 55 59.1	+1.0
	comp=Z,0.9nm,0.4s,baz=255,slow=6.8,SNR=6.3						

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*IDC **22** 18:42:55.5±0.9, 27.2N×79.62W, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/23, mbtmp4.0/11, ML3.0/2, MS3.4/5, Ms1 3.5/5, ms1mx3.2/24, Error ellipse: s-maj=29.9km s-min=17.3km az=44.0*
*ISCJB **22** 18:42:56.2±3.9, 26.3N±008×79.61W±007, h16km±29km, mb4.0/11, MS3.3/4, Error ellipse: s-maj=13.7km s-min=12.3km az=141.1*
*NEIC **22** 18:42:58.7±5.0, 25.7N×79.62W, h23km±37km, mb4.2/4, Error ellipse: s-maj=21.2km s-min=11.1km az=74.0*

ISC 22 18:42:57.8±4.6, 259N±008×7965W±007, h14km±30km, n33, σ1§09/22, mb4.0/11, MS3.3/4, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**2.62**	**153**	*eP*	**Pn**	**18 43 38.8**	**-1.0**
ROSC	**El Rosal**	**5.76**	**67**	Pn	**Pn**	**18 44 23.7**	**+0.8**
	2.0nm,0.3s,baz=105,slow=16,SNR=9.4						
ROSC				Sn	**Sn**	**18 45 29.4**	**+0.6**
	2.5nm,0.3s,baz=79,slow=21,SNR=7.8						
JTS	**JuntasAbangare**	**9.29**	**326**	LR	LR	18 48 10.6	
	comp=Z,228nm,18.4s,baz=153,slow=34						
SDV	**Santo Domingo**	**10.93**	**55**	Pn	**Pn**	**18 45 33.2**	**-0.6**
	1.0nm,0.3s,baz=225,slow=12,SNR=9.2						
SDV				Sn	**Sn**	**18 47 30.3**	**-5.6**
	1.4nm,0.3s,baz=44,slow=16,SNR=8.1						
SAML	**Samuel**	**20.02**	**125**	*eP*	**P**	**18 47 28.8**	**-1.3**
	5.7nm,0.8s						
LPAZ	**La Paz**	**21.94**	**149**	P	**P**	**18 47 52.6**	**+1.8**
	2.2nm,0.7s,mb3.7,baz=345,slow=13,SNR=9.4						
LPAZ				LR	LR	18 57 35.7	
	comp=Z,88nm,19.7s,MS3.2,baz=301,slow=40						
LPAZ	**La Paz**	**21.94**	**149**	*eP*	**P**	**18 47 52.5**	**+1.6**
	3.5nm,0.9s,mb3.8						
LPAZ				LR	LR	18 57 35.7	
SIV	**San Ignacio**	**26.04**	**136**	P	**P**	**18 48 32.1**	**+1.6**
	4.1nm,0.8s,mb4.0,baz=316,slow=9.4,SNR=12						
LVC	**Limon Verde**	**27.15**	**158**	LR	LR	19 00 43.9	
	comp=Z,69nm,19.1s,MS3.2,baz=22,slow=39						
CPUP	**Villa Florida**	**35.95**	**145**	LR	LR	19 06 33.7	
	comp=Z,54nm,21.1s,MS3.3,baz=196,slow=39						
BDFB	**Brasilia**	**36.15**	**121**	LR	LR	19 05 16.0	
	comp=Z,104nm,18.1s,MS3.6,baz=282,slow=37						
WUAZ	**Wupatki**	**44.02**	**322**	*eP*	**P**	**18 51 06.5**	**+1.7**
	12nm,1.0s,mb4.6						
SRU	**San Rafael**	**45.95**	**326**	*eP*	**P**	**18 51 20.9**	**+0.7**
	4.6nm,1.0s,mb4.4						
SRU				*e*		18 51 29.2	
PDAR	**Pinedale Array**	**48.08**	**330**	P	**P**	**18 51 36.7**	**-0.2**
	0.7nm,1.0s,mb3.6,baz=114,slow=6.6,SNR=4.0						
HWUT	**Hardware Ranch**	**48.27**	**328**	*eP*	**P**	**18 51 38.4**	**+0.1**
NVAR	**Mina Array Bea**	**50.17**	**320**	P	**P**	**18 51 54.2**	**+1.3**
	0.8nm,0.6s,mb3.9,baz=122,slow=7.7,SNR=7.8						
NVAR	**Mina Array Bea**	**50.17**	**320**	P	**P**	**18 51 54.2**	**+1.3**
YKA	**Yellowknife Ar**	**65.17**	**343**	P	**P**	**18 53 36.7**	**-1.7**
	1.5nm,0.6s,mb4.2,baz=137,slow=6.0,SNR=42						
YKA	**Yellowknife Ar**	**65.17**	**343**	P	**P**	**18 53 36.7**	**-1.7**
INK	**Inuvik**	**74.89**	**342**	P	**P**	**18 54 37.3**	**-0.8**
	4.1nm,1.0s,mb4.3,baz=101,slow=5.1,SNR=9.8						
ILAR	**Eielson Array**	**78.10**	**336**	P	**P**	**18 54 55.2**	**-1.0**
	2.1nm,0.9s,mb4.1,baz=117,slow=4.0,SNR=21						
TORD	**Torodi Ar. Bea**	**80.99**	**77**	P	**P**	**18 55 10.9**	**-1.1**
	0.3nm,0.6s,mb3.4,baz=275,slow=6.8,SNR=3.3						

KUA	Kurravaara	0.92	345	eP	Pg	19 01 21.8	-0.9
SALU	Saltoluokta	1.01	289	eP	Pg	19 01 23.4	-1.1
LANU	Lannavaara	1.06	21	eP	Pg	19 01 24.3	-0.9
NIKU	Nikkaluokta	1.10	318	eP	Pg	19 01 24.9	-1.2
SJUU	Sjulsmark	1.59	171	eP	Pn	19 01 34.0	-0.3
LILU	Lillträsk	1.85	195	eP	Pn	19 01 38.0	0.0
KIF	Kilpisjarvi	1.94	358	eP	Pn	19 01 41.5	+2.2
KIF				eS	Sn	19 02 07.2	+2.7
SGF	Sodankyl	2.19	78	eP	Pn	19 01 43.2	+0.7
SGF				eS	Sn	19 02 10.2	-0.1
BURU	Burvik	2.50	176	eP	Pn	19 01 47.8	+0.8
OUL	Oulu	2.82	133	eP	Pn	19 01 53.4	+2.0
OUL				eS	Sn	19 02 26.4	+0.3
OUL				eSG	Sg	19 02 33.9	-1.9
ARCES	ARCESS Array B	2.99	32	Pn	Pn	19 01 53.9	+0.3
	0.5nm,0.3s,baz=210,slow=14,SNR=26						
ARCES				Sn	Sn	19 02 28.9	-1.3
	0.4nm,0.3s,baz=209,slow=20,SNR=3.8						
ARCES				Lg		19 02 34.1	
	1.3nm,0.3s,baz=213,slow=27,SNR=10						
UMAU	Umeaa	3.20	182	eP	Pn	19 01 57.1	+0.6
BREU	Bredtraesk	3.35	199	eP	Pn	19 01 58.8	+0.2
KEV	Kevo	3.50	37	eP	Pn	19 02 01.6	+1.0
KEV				eS	Sn	19 02 42.6	0.0
KEV				eSG	Sg	19 02 54.1	-3.2
KEV				MSG		19 02 59.5	
	comp=Z,2.0nm,0.3s						
HUSU	Husum	3.82	192	eP	Pn	19 02 05.6	+0.6
KJN	Kajaani	4.09	134	eP	Pn	19 02 09.6	+0.7
KJN				eS	Sn	19 02 57.3	-0.1
KJN				eSG	Sg	19 03 12.0	-4.6
KJN				MSG		19 03 16.7	
	comp=Z,1.7nm,0.3s						
VAF	Ylistaro	4.11	169	eP	Pn	19 02 10.2	+1.2
VAF				eS	Sn	19 02 58.1	+0.4
SOLU	Sollefteaa	4.15	204	eP	Pn	19 02 10.5	+0.9
NOD	Norderasen	4.46	218	eP	Pn	19 02 14.0	+0.2
ARNU	Arnoeviken	5.62	198	eP	Pn	19 02 29.3	-0.5
JOF	Joensuu	6.04	129	eP	Pn	19 02 37.9	+2.4
JOF				eS	Sn	19 03 43.5	-1.8
FINES	FINESS Array B	6.07	156	Pn	Pn	19 02 36.7	+0.8
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=6.6						
FINES				Sn	Sn	19 03 44.1	-1.9
	comp=Z,0.1nm,0.3s,baz=349,slow=21,SNR=3.5						
FINES				Lg		19 04 15.0	
	comp=Z,0.2nm,0.3s,baz=348,slow=26,SNR=2.6						
IGGU	Iggoen	6.43	196	eP	Pn	19 02 41.0	+0.2
NOA	NORSAR Array B	7.41	220	Pn	Pn	19 02 53.8	-0.6
	comp=Z,0.1nm,0.3s,baz=36,slow=20,SNR=2.8						
NOA				Sn	Sn	19 04 18.4	-0.7
	comp=Z,0.1nm,0.3s,baz=307,slow=18,SNR=2.5						
HFS	Hagfors	7.68	208	Pn	Pn	19 02 58.1	+0.1
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=4.9						
HFS				Sn	Sn	19 04 24.5	-1.3
	comp=Z,0.1nm,0.3s,baz=318,slow=14,SNR=2.9						

*ISCJB **22** 19:05:49.4±1.2,3657N±0.10×713E±0.1,h214km±13km, mb3.5/7,Error ellipse: s-maj=23.3km s-min=5.2km az=99.3*
*IDC **22** 19:05:49.1±5.8,3641N×7105E,h201km±53km,mb3.4/7, mb1 3.4/10,mb1mx3.2/22,mbtmp3.8/10,Error ellipse: s-maj=30.1km s-min=18.9km az=35.0*
*NEIC **22** 19:05:50.8±1.5,3655N×7125E,h212km±15km,mb4.4/8, Error ellipse: s-maj=20.6km s-min=5.5km az=57.0*
*NNC **22** 19:05:56.7±6.0,3716N×7092E,h180km±110km,mb2.6, mpv3.5,Error ellipse: s-maj=149.0km s-min=51.4km az=72.0*

ISC 22 19:05:50.2±1.3,3658N±009×712E±02,h210km±13km,n26, σ0§93/32,mb3.5/7,2C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.53	356	⇑P	Pn	19 07 22.8	-1.6
	1.4nm,0.2s,baz=180,slow=12,SNR=182						
KK31				⇓S		19 08 31.4	
	12nm,0.4s,baz=176,slow=15,SNR=30						
SDNR	Sundarnagar	7.00	135	eP	Pn	19 07 29.7	-0.8
SDNR				eS		19 08 43.7	
MKAR	Makanchi Array	13.15	36	P	Pn	19 08 49.6	+0.4
	0.1nm,0.3s,baz=206,slow=11,SNR=4.5						
KOLN	Koldanda	13.71	126	eP	Pn	19 08 54.9	-1.2
	14nm,0.5s						
KOLN				eS	S	19 11 18.1	-11
GKN	Gorkha	14.25	123	eP	Pn	19 09 02.2	-0.5
	19nm,0.4s						
GKN				eS	S	19 11 30.5	-10
DMN	Daman	14.82	123	eP	Pn	19 09 10.0	+0.3
	11nm,0.4s						
KKN	Kakani	14.82	122	eP	Pn	19 09 09.3	-0.4
	13nm,0.4s						
KKN				eS	S	19 11 44.9	-9.2
PKI	Pulchoki	15.05	123	eP	Pn	19 09 13.3	+0.8
	18nm,0.6s						
AB31	Akbulak array	15.07	331	P	Pn	19 09 14.3	+1.5
	0.6nm,0.3s,baz=141,slow=12,SNR=32						
GUN	Gumba	15.15	121	eP	Pn	19 09 14.4	+0.6
	7.7nm,0.3s						
JIRN	Jiri	15.53	121	eP	Pn	19 09 18.2	-0.1
	16nm,0.3s						
JIRN				eS	S	19 12 01.1	-9.0
ZRNK	Zerenda	16.44	355	eP	P	19 09 29.0	+0.9
	1.3nm,0.5s						
BVAR	Borovoye Array	16.45	358	P	P	19 09 28.7	+0.4
	0.2nm,0.3s,baz=155,slow=12,SNR=5.3						
AKTK	Aktyubinsk	16.77	330	P	P	19 09 32.8	+1.0
AKTK				S	S	19 12 33.9	-2.2
AKTO	Aktyubinsk	16.77	330	⇑P	P	19 09 32.7	+0.8
	0.7nm,1.1s						
AKTO	Aktyubinsk	16.77	330	P	P	19 09 32.8	+1.0
	0.3nm,0.3s,baz=129,slow=12,SNR=7.2						
AKTO				S	S	19 12 33.9	-2.2
	0.0nm,0.3s,baz=100,slow=19,SNR=2.6						
LSA	Lhasa	18.08	107	P	P	19 09 45.6	-0.6
FINES	FINESS Array B	37.48	326	P	P	19 12 44.4	+0.8
	1.1nm,0.9s,mb3.4,baz=99,slow=9.8,SNR=5.3						
ARCES	ARCESS Array B	41.11	338	P	P	19 13 14.1	+0.5
	5.0nm,0.9s,mb4.0,baz=70,slow=7.9,SNR=5.4						
ARCES	ARCESS Array B	41.11	338	P	P	19 13 14.1	+0.5
NB2	NORSAR Subarra	44.39	323	P	P	19 13 40.2	+0.4
	comp=Z,0.9nm,0.5s,mb3.4,baz=97,slow=7.9						
NOA	NORSAR Array B	44.39	323	P	P	19 13 40.5	+0.7
	comp=Z,1.2nm,0.5s,mb3.5,baz=96,slow=7.7,SNR=6.4						
TORD	Torodi Ar. Bea	65.84	269	P	P	19 16 12.3	-0.7
	comp=Z,0.6nm,0.3s,mb3.7,baz=51,slow=6.1,SNR=10						
YKA	Yellowknife Ar	81.16	3	P	P	19 17 42.9	+0.7
	comp=Z,0.4nm,0.4s,mb3.4,baz=349,slow=5.3,SNR=14						
WRA	Warramunga Arr	81.93	122	P	P	19 17 46.3	0.0
	comp=Z,0.3nm,0.5s,mb3.2,baz=325,slow=4.7,SNR=2.8						
ASAR	Alice Springs	84.20	125	P	P	19 17 57.9	0.0
	comp=Z,0.4nm,0.8s,mb3.2,baz=289,slow=4.5,SNR=5.5						

*ISCJB **22** 19:21:08.3±1.0,174S±02×1787W±02,h567km±25km, mb4.7/14,Error ellipse: s-maj=26.1km s-min=21.4km az=80.0*
*NEIC **22** 19:21:08.1±0.8,1744S×17875W,h532km±12km,mb4.7/9, Error ellipse: s-maj=15.4km s-min=11.3km az=149.0*
*IDC **22** 19:21:13.2±2.0,1770S×17905W,h573km±22km,mb3.6/7, mb1 3.6/8,mb1mx3.3/17,mbtmp4.6/8,Error ellipse: s-maj=20.7km s-min=15.9km az=11.0*

ISC 22 19:21:09.1±1.0,175S±02×1787W±01,h544km±22km,n27, σ0§95/29,mb4.7/14,10D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.58	63	P	P	19 23 01.2	-1.1
	21nm,0.3s,baz=72,slow=4.1,SNR=24						
DZM	Mont Dzumac	14.68	249	P	P	19 24 14.7	-0.5
	2.2nm,0.3s,baz=74,slow=20,SNR=12						
URZ	Urewera	21.03	189	P	P	19 25 13.0	-1.6
	7.9nm,0.6s,mb4.5,baz=58,slow=3.9,SNR=5.9						
RPZ	Rata Peaks	27.55	196	P	P	19 26 12.2	-0.2
	4.7nm,0.4s,mb4.4,baz=356,slow=6.4,SNR=7.6						
ARMA	Armidale	29.90	239	⇓iP	P	19 26 34.2	+1.4
CTA	Charters Tower	33.22	260	⇓iP	P	19 27 01.3	+0.2
	5.3nm,0.8s,mb4.1						
CTA	Charters Tower	33.22	260	P	P	19 27 00.8	-0.3
	5.7nm,0.6s,mb4.3,baz=49,slow=14,SNR=6.9						
CNB	Canberra Magne	33.45	232	⇓iP	P	19 27 04.4	+1.3
	40nm,0.6s,mb5.1						
PMG	Port Moresby	34.08	279	P	P	19 27 09.6	+1.2
	15nm,0.8s,mb4.6,baz=86,slow=5.3,SNR=9.2						
TOO	Toolangi	37.21	230	eP	P	19 27 35.4	+1.1
	16nm,0.9s,mb4.5						
STKA	Stephens Creek	38.57	241	⇓iP	P	19 27 44.5	-0.9
	14nm,0.6s,mb4.7						
STKA	Stephens Creek	38.57	241	P	P	19 27 44.5	-0.8
	13nm,0.5s,mb4.8,baz=88,slow=9.4,SNR=67						
WB2	Warramunga Arr	44.40	259	eP	P	19 28 31.0	-0.4
WB2				eS	S	19 34 22.3	-4.2
WRAB	Tennant Creek	44.40	259	eP	P	19 28 30.8	-0.7
	9.4nm,0.6s,mb4.5						
WRA	Warramunga Arr	44.41	259	P	P	19 28 31.1	-0.4
	4.8nm,0.4s,mb4.3,baz=97,slow=7.2,SNR=86						
WRA				PcP	PcP	19 30 03.8	+0.4
	0.6nm,0.4s,baz=90,slow=3.4,SNR=5.4						
WRA				S	S	19 34 21.8	-4.9
	0.4nm,0.6s,baz=97,slow=14,SNR=3.4						
AS31	Alice Springs	44.61	254	⇓iP	P	19 28 33.4	+0.3
AS31				eS	S	19 34 27.4	-2.1
ASAR	Alice Springs	44.61	254	P	P	19 28 33.5	+0.4
	51nm,0.4s,mb5.4,baz=89,slow=7.9,SNR=2540						
ASAR				PcP	PcP	19 30 04.9	+0.8
	2.2nm,0.6s,baz=102,slow=4.1,SNR=5.2						
ASAR				ScP	ScP	19 33 07.8	+3.3
	1.0nm,0.7s,baz=108,slow=3.3,SNR=5.7						
ASAR				S	S	19 34 27.2	-2.3
	1.6nm,0.8s,baz=88,slow=16,SNR=11						
ASPA	Alice Springs	44.62	254	⇓iP	P	19 28 33.4	+0.3
ASPA				eS	S	19 34 27.4	-2.2
KAKA	Kakadu	47.28	269	eP	P	19 28 53.8	+0.4
	12nm,0.2s,mb5.1						
FORT	Forrest	49.91	244	⇓iP	P	19 29 12.8	-0.1
	35nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	52.80	260	⇓iP	P	19 29 34.3	+0.6
	9.6nm,0.4s,mb4.5						
KLBR	Kellerberrin	58.75	243	⇓iP	P	19 30 14.6	-0.3
	18nm,0.6s,mb4.5						
MUN	Mundaring	60.05	243	⇓iP	P	19 30 24.4	+0.8
VNDA	Vanda	60.85	185	P	P	19 30 30.1	+1.2
	0.7nm,0.7s,baz=347,slow=7.6,SNR=4.3						
MKAR	Makanchi Array	108.61	314	PKiKP	PKiKP	19 38 36.1	-0.1
	0.2nm,0.5s,baz=159,slow=1.6,SNR=3.8						
BRTR	Keskin Array B	144.26	315	PKP	PKPdf	19 39 43.5	+0.3
	1.0nm,0.7s,baz=130,slow=3.6,SNR=7.4						
GERES	GERESS Array B	147.11	345	PKPbc	PKPbc	19 39 52.0	+0.9
	0.8nm,0.5s,baz=27,slow=2.8,SNR=9.0						

IDC 22 19:39:18.6±1.1,2640S×7162E,h0km,mb4.1/6,mb1 4.2/6, mb1mx3.8/18,mbtmp4.1/6,MS3.8/6,Ms1 3.7/6, ms1mx3.3/24,Error ellipse: s-maj=38.6km s-min=26.0km az=16.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	Matopo	39.88	269	LR	LR	20 01 59.3	
	comp=Z,120nm,18.6s,baz=79,slow=34						
BOSA	Boshof	40.99	256	P	P	19 47 03.8	+0.6
	3.5nm,0.9s,baz=86,slow=7.5,SNR=4.8						
BOSA				LR	LR	20 00 12.3	
	comp=Z,127nm,20.1s,baz=176,slow=31						
MAW	Mawson	41.57	185	LR	LR	19 59 23.9	
	comp=Z,208nm,21.5s,baz=197,slow=29						
LSZ	Lusaka	41.90	276	LR	LR	20 03 15.0	
	comp=Z,88nm,18.7s,baz=175,slow=34						
FITZ	Fitzroy Crossi	50.37	92	LR	LR	20 05 55.2	
	comp=Z,51nm,21.1s,baz=14,slow=32						
ASAR	Alice Springs	56.01	102	P	P	19 48 59.2	+0.3
	1.8nm,0.9s,baz=250,slow=6.5,SNR=11						
WRA	Warramunga Arr	57.54	98	P	P	19 49 10.7	+1.0
	2.5nm,0.8s,baz=252,slow=7.1,SNR=11						
STKA	Stephens Creek	60.41	113	P	P	19 49 29.6	-0.2
	1.3nm,0.7s,baz=339,slow=12,SNR=3.9						
CTA	Charters Tower	68.01	102	LR	LR	20 16 54.6	
	comp=Z,76nm,20.4s,baz=238,slow=33						
MKAR	Makanchi Array	73.48	8	P	P	19 50 52.7	-0.2
	1.5nm,0.7s,baz=204,slow=6.4,SNR=20						
SONM	Songino Array	80.23	23	P	P	19 51 31.2	+0.2
	0.5nm,0.8s,baz=208,slow=4.2,SNR=4.1						
YKA	Yellowknife Ar	143.67	5	PKP	PKPdf	19 58 52.3	-3.1
	0.3nm,0.7s,baz=337,slow=3.6,SNR=4.4						

*ISCJB **22** 19:50:23.4±0.7,78S±01×6833E±007,h10km,mb3.9/8, MS3.6/8,Error ellipse: s-maj=19.5km s-min=10.6km az=1.7*
*IDC **22** 19:50:24.5±0.8,7875×6813E,h0km,mb3.7/7,mb1 3.8/7, mb1mx3.6/20,mbtmp3.7/7,MS3.6/8,Ms1 3.6/8, ms1mx3.4/21,Error ellipse: s-maj=26.3km s-min=22.5km az=173.0*
*NEIC **22** 19:50:25.8±0.8,7835×6829E,h10km,mb4.3/2,Error ellipse: s-maj=23.8km s-min=17.7km az=200.0*

ISC 22 19:50:25.8±0.7,78S±01×682E±01,h10km,n22,σ1§13/14, mb3.9/8,MS3.6/8,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	4.26	85	eP	Pn	19 51 26.9	-3.9
DGAR				eS	Sn	19 52 13.9	-6.6
KMBO	Kilima Mbogo	31.51	281	LR	LR	20 06 51.9	
	comp=Z,136nm,19.3s,MS3.6,baz=94,slow=31						
ATD	Arta Tunnel	31.67	307	LR	LR	20 06 27.1	
	comp=Z,60nm,21.5s,MS3.2,baz=164,slow=30						
PSI	Prapat	32.44	72	LR	LR	20 06 19.2	
	comp=Z,127nm,21.8s,MS3.6,baz=179,slow=29						
LSZ	Lusaka	39.82	256	P	P	19 57 59.2	+0.1
	2.3nm,0.9s,mb3.9,baz=70,slow=6.8,SNR=4.0						
LSZ	Lusaka	39.82	256	eP	P	19 57 57.2	-2.0
	8.6nm,1.2s,mb4.4						
BOSA	Boshof	45.39	237	P	P	19 58 44.0	-0.5
	2.6nm,1.0s,mb4.0,baz=55,slow=12,SNR=2.2						
BOSA	Boshof	45.39	237	P	P	19 58 44.0	-0.5
NWAO	Narrogin (SRO)	51.76	126	LR	LR	20 15 05.9	
	comp=Z,87nm,19.6s,MS3.8,baz=197,slow=29						
MKAR	Makanchi Array	55.78	12	P	P	20 00 03.4	+0.5
	0.4nm,0.6s,mb3.6,baz=200,slow=7.5,SNR=5.1						
MKAR				LR	LR	20 23 55.5	
	comp=Z,46nm,19.8s,MS3.6,baz=88,slow=36						
BRTR	Keskin Array B	57.06	329	P	P	20 00 12.0	0.0
	0.2nm,0.5s,mb3.5,baz=150,slow=6.0,SNR=2.9						
AKTO	Aktyubinsk	58.66	352	LR	LR	20 22 22.5	
	comp=Z,28nm,18.6s,MS3.4,baz=0.0,slow=33						
KURK	Kurchatov	58.97	8	P	P	20 00 24.7	-0.7
ZRNK	Zerenda	60.51	1	eP	P	20 00 36.6	+0.5
	3.8nm,1.3s,mb4.4						
ASAR	Alice Springs	64.71	112	P	P	20 01 04.7	+0.6
	0.9nm,0.9s,mb3.8,baz=277,slow=6.5,SNR=7.3						
SONM	Songino Array	64.86	27	P	P	20 01 05.3	+0.3
	0.2nm,0.3s,mb3.6,baz=226,slow=5.6,SNR=3.4						
SONM				LR	LR	20 28 32.8	
	comp=Z,53nm,21.3s,MS3.7,baz=215,slow=35						
WRA	Warramunga Arr	65.02	108	P	P	20 01 06.9	+0.8
	1.2nm,0.7s,mb4.0,baz=278,slow=6.5,SNR=8.7						
WRAB	Tennant Creek	65.03	108	P	P	20 01 07.2	+1.0
ARCES	ARCESS Array B	82.52	346	LR	LR	20 38 37.1	
	comp=Z,75nm,18.7s,MS4.1,baz=14,slow=35						
YKA	Yellowknife Ar	125.37	2	PKP	PKPdf	20 09 29.4	+2.5
	0.5nm,0.8s,baz=353,slow=2.3,SNR=9.7						
YKA	Yellowknife Ar	125.37	2	PKP	PKPdf	20 09 29.4	+2.5
PDAR	Pinedale Array	145.11	357	PKPbc	PKPbc	20 10 05.6	+2.7
	0.4nm,0.8s,baz=56,slow=3.4,SNR=3.5						

*BJI **22** 19:52:04.7,5860N×15520W,h150km,mB4.8,mb4.7*
*ISCJB **22** 19:52:08.0±0.8,5885N±006×155.1W±0.1,h162km±7km, mb4.1/8,Error ellipse: s-maj=10.2km s-min=9.9km az=4.7*
*NEIC **22** 19:52:08.8,5863N×155.18W,h150km,MG3.5(AEIC), After AEIC.*
*IDC **22** 19:52:09.1±3.4,5902N×15532W,h159km±28km,mb3.3/4, mb1 3.5/7,mb1mx3.3/19,mbtmp3.8/7,Error ellipse: s-maj=30.8km s-min=16.8km az=26.0*

ISC 22 19:52:08.3±0.8,5882N±006×1552W±01,h151km±7km, h148km±2.8km:pP-P,n35,σ1§25/43,mb4.1/8,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	1.72	126	P	Pn	19 52 38.5	-1.7
KDAK				S	Sn	19 53 01.5	-3.2
SVW2	Sparrevohn	2.30	355	P	Pn	19 52 48.5	+1.5
SLKM	Skilak Lake	3.04	54	P	Pn	19 52 56.8	+0.8
SEW	Seward	3.20	64	P	Pn	19 52 58.4	+0.3
FIB	Fire Island	3.45	45	P	Pn	19 53 02.9	+1.5
RC01	Rabbit Creek A	3.56	48	P	Pn	19 53 03.2	+0.4
PMR	Palmer	4.11	45	P	Pn	19 53 09.6	-0.3
PMR				S	Sn	19 53 54.8	-3.0
TT01	Tatalina	4.12	355	P	Pn	19 53 11.8	+1.7
TTA	Tatalina	4.15	355	eP	Pn	19 53 12.1	+1.7
GHO	Glory Hole Cre	4.30	44	P	Pn	19 53 11.8	-0.6
SML	Sawmill	4.54	46	P	Pn	19 53 14.8	-0.7
MID	Middleton Isla	4.60	79	eP	Pn	19 53 17.4	+1.1
EYAK	Cordova Ski Ar	5.09	66	P	Pn	19 53 22.8	0.0
KTH	Kantishna Hill	5.18	22	P	Pn	19 53 24.5	+0.5
TRF	Thorofare Moun	5.22	25	P	Pn	19 53 25.3	+0.7
TRF				S	Sn	19 54 23.3	-0.8
BMRM	Bremner River	5.75	63	P	Pn	19 53 31.7	+0.1
MCK	McKinley	5.78	29	P	Pn	19 53 32.6	+0.6
PAX	Paxson	6.31	45	P	Pn	19 53 39.1	0.0
COLA	College	6.99	27	P	Pn	19 53 47.2	-1.0
ILAR	Eielson Array	7.15	30	P	Pn	19 53 49.0	-1.3
	1.8nm,0.3s,baz=215,slow=14,SNR=87						
ILAR				S	Sn	19 55 08.0	-2.2
	3.9nm,0.3s,baz=214,slow=27,SNR=11						
DAWY	Dawson	9.20	48	eP	Pn	19 54 18.0	+0.5
DLBC	Dease Lake	13.09	81	P	Pn	19 55 14.6	+6.1
	4.1nm,0.3s,baz=249,slow=14,SNR=50						
DLBC				S	Sn	19 57 34.5	+1.2
	0.3nm,0.3s,baz=87,slow=11,SNR=2.9						
INK	Inuvik	13.46	36	P	Pn	19 55 12.2	-1.1
	0.1nm,0.3s,baz=256,slow=13,SNR=5.8						
INK				S	Sn	19 57 38.4	-3.7
	0.0nm,0.3s,baz=274,slow=15,SNR=2.2						
INK	Inuvik	13.46	36	P	Pn	19 55 12.2	-1.1
INK				S	Sn	19 57 38.4	-3.7
YKA	Yellowknife Ar	19.98	62	P	P	19 56 29.2	+0.4
	baz=275,slow=9.7,SNR=33						
YKA				pP		19 56 57.6	
	baz=279,slow=11,SNR=3.4						
YKA				ScP	ScP	20 03 58.1	-2.7
	baz=293,slow=2.2,SNR=5.2						
NVAR	Mina Array Bea	31.19	114	P	P	19 58 14.0	+1.0
	0.6nm,0.5s,mb3.6,baz=295,slow=9.7,SNR=6.3						
PDAR	Pinedale Array	32.25	99	P	P	19 58 23.5	+1.2
	0.7nm,0.5s,mb3.6,baz=304,slow=6.4,SNR=6.3						
PDAR	Pinedale Array	32.25	99	P	P	19 58 23.5	+1.2
MDJ	Mudanjiang	46.17	287	P	P	20 00 16.4	-1.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,71nm,3.8s						
SONM	Songino Array	54.57	305	P	P	20 01 20.0	-0.9
	comp=Z,0.7nm,0.4s,mb3.8,baz=35,slow=5.8,SNR=11						
HHC	Hu-ho-hao-te	57.73	296	eP	P	20 01 44.0	+0.8
HHC				AP	pP	20 02 19.1	+0.7
HHC				XP	sP	20 02 35.6	+0.7
HHC				PP	PP	20 03 55.8	+3.0
HHC				S	S	20 09 28.4	-1.7
HHC				XS	sS	20 10 32.3	+1.3
HHC				SCS	ScS	20 11 13.8	-3.9
HHC				SS	SS	20 13 21.8	-1.0
HHC				AMB	AMB		
	comp=Z,5.0nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,112nm,4.4s						
HHC				LR	LR		
	comp=N,71nm,4.5s						
HHC				LR	LR		
	comp=E,119nm,4.7s						
HHC				LR	LR		
	comp=Z,83nm,5.9s						
MKAR	Makanchi Array	64.64	320	P	P	20 02 27.2	-2.6
	comp=Z,0.2nm,0.4s,mb3.3,baz=28,slow=6.7,SNR=7.1						
LZH	Lanzhou	65.13	299	eP	P	20 02 30.0	-2.9
LZH				PCP	PcP	20 03 01.5	-2.8
LZH				AP	pP	20 03 06.0	-2.9
LZH				XP	sP	20 03 24.8	-0.4
LZH				PP	PP	20 04 57.5	-0.5
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,67nm,4.5s						
WMQ	Urumqi	65.32	315	eP	P	20 02 36.1	+2.0
CD2	Chengdu	69.47	296	eP	P	20 03 00.8	+0.6
CD2				AP	pP	20 03 35.0	-1.6
CD2				XP	sP	20 03 50.4	-2.4
CD2				PP	PP	20 05 38.9	+3.2
CD2				S	S	20 11 57.1	+1.7
CD2				XS	sS	20 12 56.8	-1.6
CD2				SS	SS	20 16 30.1	+4.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,50nm,5.9s						

*ISCJB **22** 19:58:27.8±0.8,2860S±005×673W±0.1,h121km±13km, mb3.9/4,Error ellipse: s-maj=19.4km s-min=8.8km az=175.4*
*IDC **22** 19:58:28.9±1.1,2863S×6742W,h126km±12km,mb3.7/4, mb1 3.5/8,mb1mx3.5/17,mbtmp3.9/8,Error ellipse: s-maj=23.3km s-min=11.1km az=95.0*
*NEIC **22** 19:58:28.9±1.0,2861S×6716W,h126km±11km,mb3.6/1, Error ellipse: s-maj=17.6km s-min=12.8km az=102.0*

ISC 22 19:58:29.1±0.7,2861S±005×673W±01,h117km±12km,n15, σ1§09/14,mb3.9/4,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.10	196	P	Pn	19 59 17.2	+0.6
	2.2nm,0.3s,baz=351,slow=9.7,SNR=241						
CFAA				S	Sn	19 59 52.6	-0.6
	5.3nm,0.3s,baz=29,slow=13,SNR=9.3						
LVC	Limon Verde	6.15	346	P	Pn	19 59 58.6	+1.1
	1.3nm,0.3s,baz=179,slow=6.6,SNR=8.2						
LVC				S	Sn	20 01 05.7	-0.9
	0.8nm,0.

MKAR	Makanchi Array	67.04 328	P	P	20 10 21.7	-0.5
	0.2nm,0.5s,baz=130,slow=7.6,SNR=3.6					

NEIC ***22*** *20:19:56.1±3.0,35.11N×71.14E,h10km,mb3.8/1,Error ellipse: s-maj=50.6km s-min=26.5km az=159.0*
IDC ***22*** *20:20:24.5±20.0,3670N×7149E,h185km±125km,mb3.3/4, mb1 3.2/7,mb1mx2.9/22,mbtmp3.6/7,Error ellipse: s-maj=195.6km s-min=42.8km az=5.0*
ISCJB ***22*** *20:20:28.4±4.6,37.1N×03.7×715E±02,h209km±32km, mb3.4/4,Error ellipse: s-maj=48.9km s-min=26.3km az=21.9*
NNC ***22*** *20:20:29.2±5.0,37.18N×7166E,h187km±86km,mb2.4, mpv3.6,Error ellipse: s-maj=144.9km s-min=43.7km az=70.0*

ISC 22 20:20:30.3±5.3,372N±04×716E±02,h211km±35km,n12, σ0§78/13,mb3.4/4,1C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.94	353	⇑P	Pn	20 21 56.0	-0.9
	2.0nm,0.3s,baz=170,slow=11,SNR=12						
KK31				⇓S	S	20 23 05.0	-0.6
	14nm,0.9s,baz=176,slow=20,SNR=17						
MKAR	Makanchi Array	12.46	36	P	Pn	20 23 21.0	+0.4
	0.0nm,0.3s,baz=216,slow=14,SNR=4.5						
AB31	Akbulak array	14.69	329	⇓P	Pn	20 23 49.6	+1.4
	0.3nm,0.4s,baz=146,slow=12,SNR=15						
BVAR	Borovoye Array	15.84	357	P	Pn	20 24 03.4	+1.3
	0.1nm,0.3s,baz=179,slow=9.6,SNR=4.7						
AKTK	Aktyubinsk	16.40	328	P	P	20 24 08.0	+0.2
AKTO	Aktyubinsk	16.40	328	⇓P	P	20 24 08.5	+0.8
	1.1nm,2.1s						
AKTO	Aktyubinsk	16.40	328	P	P	20 24 08.0	+0.2
	0.3nm,0.3s,baz=146,slow=8.8,SNR=4.1						
FINES	FINESS Array B	37.15	325	P	P	20 27 20.6	-0.1
	0.6nm,0.6s,mb3.3,baz=116,slow=8.7,SNR=5.0						
ARCES	ARCESS Array B	40.66	337	P	P	20 27 49.3	-0.6
	8.8nm,1.1s,mb4.1,baz=106,slow=9.4,SNR=3.2						
NB2	NORSAR Subarra	44.08	323	P	P	20 28 16.4	-1.0
	comp=Z,0.6nm,0.5s,mb3.2,baz=93,slow=7.9						
NOA	NORSAR Array B	44.08	323	P	P	20 28 16.6	-0.8
	comp=Z,0.6nm,0.5s,mb3.2,baz=96,slow=7.7,SNR=3.4						
YKA	Yellowknife Ar	80.52	3	P	P	20 32 18.4	-0.5
	comp=Z,0.2nm,0.6s,mb2.9,baz=351,slow=5.7,SNR=6.0						

IDC 22 20:45:08.8±1.6,1344S×17162E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/13,mbtmp3.9/3,Error ellipse: s-maj=54.1km s-min=37.1km az=126.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	37.07	249	P	P	20 52 20.9	+0.4
	1.2nm,0.5s,baz=77,slow=9.2,SNR=32						
VNDA	Vanda	64.28	182	P	P	20 55 45.5	-0.4
	1.3nm,0.9s,baz=37,slow=10,SNR=5.2						
ILAR	Eielson Array	84.05	17	P	P	20 57 41.0	-0.3
	0.6nm,0.8s,baz=236,slow=6.4,SNR=4.5						

ISCJB ***22*** *21:04:48.8±0.5,4382N±003×10531W±005,h0km,mb3.9/4, Error ellipse: s-maj=4.9km s-min=4.6km az=143.7*
IDC ***22*** *21:04:48.7±1.2,4368N×10530W,h0km,mb3.8/4, mb1 3.8/7,mb1mx3.6/23,mbtmp3.6/7,ML3.8/3,MS2.9/1, Ms1 2.9/1,ms1mx2.4/26,Error ellipse: s-maj=34.7km s-min=10.1km az=154.0*
NEIC ***22*** *21:04:50.6±0.7,4376N×10530W,h0km,ML3.4,Error ellipse: s-maj=8.2km s-min=6.9km az=90.0,Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 22 21:04:49.9±0.5,4381N±003×10523W±005,h0km,n42, σ1§14/54,mb3.9/4,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.91	70	eP	Pg	21 05 08.6	+1.2
PHWY	Pilot Hill	2.51	184	eP	Pn	21 05 31.8	-0.1
RWWY	Rawlins	2.57	215	ePn	Pn	21 05 33.6	+0.8
RWWY				eS	Sn	21 06 05.8	+1.0
PDAR	Pinedale Array	3.33	253	Pn	Pn	21 05 43.2	0.0
	4.6nm,0.3s,baz=69,slow=15,SNR=80						
PDAR				Sn	Sn	21 06 23.9	+0.5
	3.1nm,0.3s,baz=74,slow=24,SNR=6.8						
PDAR				Lg		21 06 31.2	
	12nm,0.3s,baz=69,slow=34,SNR=8.8						
BW06	Boulder Array	3.33	253	ePn	Pn	21 05 43.2	0.0
BW06				eSn	Sn	21 06 23.9	+0.4
GCMT	Greycliff	3.73	304	ePn	Pn	21 05 49.6	+0.8
LKWY	Lake	3.80	283	Pn	Pn	21 05 47.2	-2.5
LKWY				ePg	Pg	21 05 58.8	-3.9
LKWY				eS	Sg	21 06 51.1	-0.8
LOHW	Long Hollow	3.91	269	P	Pn	21 05 54.6	+3.5
FLWY	Flagg Ranch	3.96	276	ePn	Pn	21 05 52.3	+0.4
FLWY				eP	Pb	21 06 02.6	+2.0
FLWY				eS	Sb	21 06 52.6	+3.5
MOOW	Moose Ponds	4.00	271	ePn	Pn	21 05 53.3	+0.9
ISCO	Idaho Springs	4.02	184	ePn	Pn	21 05 53.1	+0.5
ISCO				eSn	Sb	21 06 50.6	0.0
SNOW	Snow King Moun	4.03	267	ePg	Pg	21 06 02.3	-4.8
YFT	Old Faithful	4.09	281	ePg	Pg	21 06 05.3	-3.0
YFT				eS	Sg	21 07 00.8	-0.5
REDW	Red Top Meadow	4.11	266	ePn	Pn	21 05 55.3	+1.4
REDW				ePg	Pg	21 06 03.9	-4.8
QLMT	Earthquake Lak	4.57	285	P	Pn	21 06 03.1	+2.9
DGMT	Dagmar	4.72	8	ePn	Pn	21 06 04.8	+2.5
DGMT				ePg	Pg	21 06 16.1	-4.3
SMCO	Snowmass	4.81	196	ePg	Pg	21 06 14.8	-7.3
HWUT	Hardware Ranch	5.16	247	ePn	Pn	21 06 08.0	-0.4
	9.9nm,0.4s						
HWUT				eSn	Sg	21 07 29.2	-6.6
EGMT	Eagleton	5.27	325	ePn	Pn	21 06 09.7	-0.2
	24nm,0.5s						
TCUT	Toone Canyon	5.30	242	ePn	Pn	21 06 09.6	-0.8
DLMT	Dillon	5.49	289	ePn	Pn	21 06 13.5	+0.6
	7.2nm,0.6s						
HRY	Holter Researc	5.49	304	ePn	Pn	21 06 12.5	-0.4
MCMT	McKenzie Canyo	5.56	283	P	Pb	21 06 27.0	-0.9
DAU	Daniels Canyon	5.62	235	ePn	Pn	21 06 13.3	-1.4
HVU	Hansel Valley	5.91	253	ePn	Pn	21 06 19.0	+0.3
	7.3nm,0.6s						
MPU	Maple Canyon	6.10	234	P	Pn	21 06 20.5	-0.8
	14nm,0.7s						
PV10	Paradox Valley	6.14	209	eP	Pn	21 06 21.1	-0.7
SRU	San Rafael	6.15	222	ePn	Pn	21 06 21.1	-0.9
	17nm,0.6s						
SRU				eS	Sb	21 07 59.3	+7.2
PV01	Paradox Valley	6.21	205	eP	Pn	21 06 23.7	+0.9
TMUT	Trail Mountain	6.36	227	eP	Pn	21 06 25.3	+0.5
CHMT	Chamberlain Mo	6.45	302	eP	Pn	21 06 26.4	+0.3
HLID	Hailey	6.67	271	eP	Pn	21 06 31.5	+2.4
	2.6nm,0.6s						
DUG	Dugway	6.71	240	eP	Pn	21 06 29.2	-0.4
	5.1nm,0.6s						
MSU	Marysvale	7.45	227	eP	Pn	21 06 39.8	0.0
ANMO	Albuquerque	8.90	187	LR	LR	21 10 26.1	
	comp=Z,87nm,21.3s,baz=0.0,slow=38						
WUAZ	Wupatki	9.54	212	eP	Pn	21 07 06.6	-1.8
	10.0nm,0.7s						
NVAR	Mina Array Bea	11.23	246	Pn	Pn	21 07 32.5	+0.8
	0.1nm,0.3s,baz=47,slow=8.0,SNR=6.8						
YKA	Yellowknife Ar	19.51	347	P	Pn	21 09 18.1	-1.6
	baz=158,slow=13,SNR=8.3						
FINES	FINESS Array B	67.95	23	P	P	21 15 50.2	-0.3
	0.6nm,0.7s,mb3.9,baz=30,slow=8.7,SNR=2.3						
SONM	Songino Array	84.58	339	P	P	21 17 25.1	0.0
	0.2nm,0.6s,mb3.5,baz=47,slow=4.3,SNR=2.8						
MKAR	Makanchi Array	89.54	355	P	P	21 17 47.8	-1.4
	0.4nm,0.7s,mb3.8,baz=3.7,slow=4.9,SNR=5.7						
PLCA	Paso Flores	89.77	154	P	P	21 17 48.6	-1.6
	1.0nm,0.7s,mb4.2,baz=113,slow=2.7,SNR=3.4						

ISCJB ***22*** *21:27:15.2±0.3,6957N×003×1458W±0.1,h10km,mb4.1/14, MS3.5/2,Error ellipse: s-maj=5.8km s-min=4.6km az=26.9*
BJI ***22*** *21:27:15.0,6950N×14580W,h10km,mB4.8,mb4.6,Ms4.3, Msz4.0*
IDC ***22*** *21:27:16.0±0.8,6962N×14631W,h0km,mb4.0/9, mb1 4.2/12,mb1mx4.1/20,mbtmp4.0/12,ML3.9/3,MS3.2/4, Ms1 3.3/4,ms1mx2.7/24,Error ellipse: s-maj=22.7km s-min=13.7km az=69.0*
NEIC ***22*** *21:27:17.0,6953N×14580W,h10km,mb3.9/3, ML4.1(AEIC),After AEIC.*

ISC 22 21:27:16.7±0.3,6960N±003×1458W±01,h10km,n44, σ1§31/53,mb4.1/14,MS3.5/2,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	2.23	168	P	Pn	21 27 53.9	+0.1
BM3				S	Sn	21 28 20.4	-1.1
COLD	Coldfoot	2.88	216	P	Pn	21 28 02.9	+0.3
COLD				S	Sn	21 28 37.9	+0.6
INK	Inuvik	4.63	100	Pn	Pn	21 28 26.2	-0.5
	1.5nm,0.3s,baz=295,slow=12,SNR=56						
INK				Pg	Pg	21 28 47.7	+2.4
	3.8nm,0.3s,baz=287,slow=19,SNR=8.4						
INK				Lg		21 29 46.2	
	7.1nm,0.3s,baz=184,slow=33,SNR=4.8						
INK				LR	LR	21 30 38.0	
	comp=Z,146nm,19.9s,baz=242,slow=42						
INK	Inuvik	4.63	100	eP	Pn	21 28 26.4	-0.3
IM3	Indian Mountai	4.71	223	P	Pn	21 28 26.6	-1.2
COLA	College	4.81	190	P	Pn	21 28 28.8	-0.4
ILAR	Eielson Array	4.87	185	Pn	Pn	21 28 28.6	-1.4
	2.8nm,0.3s,baz=3.6,slow=13,SNR=260						
ILAR				Pg	Pg	21 28 47.0	-2.9
	5.1nm,0.3s,baz=7.1,slow=16,SNR=18						
ILAR				Lg		21 29 48.2	
	8.8nm,0.3s,baz=40,slow=14,SNR=5.0						
ILAR				LR	LR	21 30 30.5	
	comp=Z,194nm,20.0s,baz=150,slow=40						
DOT	Dot Lake	6.02	172	P	Pn	21 28 46.2	+0.4
MCK	McKinley	6.02	193	P	Pn	21 28 45.7	-0.1
MCK				S	Sn	21 29 52.2	-2.6
DAWY	Dawson	6.11	152	P	Pn	21 28 47.0	0.0
KTH	Kantishna Hill	6.40	201	P	Pn	21 28 51.0	0.0
TRF	Thorofare Moun	6.42	198	P	Pn	21 28 51.3	0.0
GCSA	Galena City Sc	6.49	227	P	Pn	21 28 52.7	+0.4
PAX	Paxson	6.66	179	P	Pn	21 28 55.1	+0.5
MENT	Mentasta	6.74	172	eP	Pn	21 28 56.1	+0.4
TTA	Tatalina	7.84	216	eP	Pn	21 29 11.4	+0.6
TT01	Tatalina	7.86	216	P	Pn	21 29 10.8	-0.4
PMR	Palmer	8.15	191	eP	Pn	21 29 16.0	+0.9
BMRM	Bremner River	8.68	176	P	Pn	21 29 24.6	+2.3
SLKM	Skilak Lake	9.31	194	eP	Pn	21 29 32.4	+1.4
TNA	Tin City	9.32	255	P	Pn	21 29 28.1	-3.1
SVW2	Sparrevohn	9.44	210	eP	Pn	21 29 33.9	+1.2
DLBC	Dease Lake	13.11	141	Pn	Pn	21 30 22.6	-0.3
	0.1nm,0.3s,baz=320,slow=15,SNR=5.4						
DLBC				Lg		21 34 08.2	
	0.2nm,0.3s,baz=88,slow=24,SNR=4.7						
YKW3	Yellowknife Ar	14.33	104	eP	Pn	21 30 35.3	-4.4
YKW3				eS	Sn	21 33 06.0	-13
YKA	Yellowknife Ar	14.38	104	Pn	Pn	21 30 36.1	-4.3
	baz=314,slow=13,SNR=51						
YKA				Sn	Sn	21 33 08.3	-12
	baz=310,slow=22,SNR=4.9						
RES	Resolute Bay	15.94	49	eP	Pn	21 30 59.0	-2.1
	3.4nm,0.6s						
RES				eS	Sn	21 33 41.6	-16
BILL	Bilibino	17.03	288	eP	Pn	21 31 14.7	-0.2
	9.2nm,0.9s						
FCC	Fort Churchill	24.16	90	eP	P	21 32 32.5	-0.5
	4.5nm,0.6s,mb4.1						
FRB	Frobisher Bay	29.18	63	P	P	21 33 17.8	-0.4
	4.0nm,0.7s,mb4.3,baz=310,slow=8.6,SNR=4.7						
PDAR	Pinedale Array	32.67	126	P	P	21 33 51.2	+2.2
	2.1nm,0.7s,mb4.2,baz=357,slow=8.0,SNR=19						
NVAR	Mina Array Bea	34.52	140	P	P	21 34 08.2	+3.1
	2.5nm,0.9s,mb4.2,baz=316,slow=7.1,SNR=11						
SCHQ	Schefferville	36.63	72	P	P	21 34 24.1	+0.8
	3.6nm,0.7s,mb4.3,baz=243,slow=10,SNR=4.1						
MDJ	Mudanjiang	47.22	284	P	P	21 35 48.5	-1.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,18nm,3.2s						
FINES	FINESS Array B	49.12	5	P	P	21 36 03.6	-0.8
	comp=Z,0.7nm,0.6s,mb3.9,baz=357,slow=10,SNR=6.1						
SONM	Songino Array	51.69	305	P	P	21 36 23.5	-0.4
	comp=Z,0.9nm,0.8s,mb3.7,baz=36,slow=7.7,SNR=8.2						
SONM				LR	LR	22 02 33.0	
	comp=Z,38nm,18.3s,MS3.5,baz=270,slow=41						
HHC	Hu-ho-hao-te	56.49	297	eP	P	21 37 00.0	+1.1
HHC				AP	pP	21 37 04.8	+2.7
HHC				XP	sP	21 37 07.1	+3.8
HHC				PCP	PcP	21 37 56.8	+1.2
HHC				PP	PP	21 39 07.3	+2.7
HHC				S	S	21 44 48.4	-1.7
HHC				XS	sS	21 44 56.1	+0.7
HHC				SCS	ScS	21 46 44.9	-3.4
HHC				SS	SS	21 48 36.1	-1.2
HHC				AMB	AMB		
	comp=Z,81nm,5.0s						
HHC				LR	LR		
	comp=N,60nm,5.5s						
HHC				LR	LR		
	comp=E,118nm,6.3s						
HHC				LR	LR		
	comp=Z,94nm,5.3s						
MKAR	Makanchi Array	58.69	323	P	P	21 37 12.5	-2.0
	comp=Z,0.4nm,0.6s,mb3.6,baz=51,slow=7.0,SNR=6.8						
MKAR				LR	LR	22 07 42.1	
	comp=Z,35nm,18.0s,MS3.5,baz=273,slow=41						
AKASG	Malin Array Be	59.96	4	P	P	21 37 24.5	+1.3
	comp=Z,0.4nm,0.4s,mb3.8,baz=356,slow=7.1,SNR=6.8						
WMQ	Urumqi	60.31	318	eP	P	21 37 28.1	+2.5
GERES	GERESS Array B	60.92	15	P	P	21 37 31.5	+1.7
	comp=Z,0.7nm,0.7s,mb3.9,baz=352,slow=5.4,SNR=5.9						
NJ2	Nanjing	62.16	287	eP	P	21 37 41.0	+2.9
LZH	Lanzhou	63.22	302	eP	P	21 37 47.0	+1.8
LZH				AP	pP	21 37 50.0	+1.5
LZH				XP	sP	21 37 51.8	+2.1
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
CD2	Chengdu	68.06	300	eP	P	21 38 15.8	-0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,6.2s						
BRTR	Keskin Array B	71.00	0	P	P	21 38 32.3	-2.3
	comp=Z,0.1nm,0.3s,mb3.2,baz=35,slow=5.3,SNR=2.6						

WEL 22 21:41:31.4±0.4,3846S×17606E,h143km±3km,ML3.6/12, Error ellipse: s-maj=3.9km s-min=3.1km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	0.79	154	PN	Pn	21 41 54.3	+0.5
BKZ				SN	Sn	21 42 10.8	0.0
URZ	Urewera	0.85	77	PN	Pn	21 41 54.3	0.0
URZ				SN	Sn	21 42 11.5	-0.3
TUVZ	Tukino	0.87	201	PN	Pn	21 41 54.8	+0.4
TUVZ				SN	Sn	21 42 12.7	+0.7
FWVZ	Far West T-bar	0.89	206	PN	Pn	21 41 55.2	+0.6
WNVZ	Wahianoa	0.94	202	PN	Pn	21 41 55.4	+0.4
MOVZ	Moawhango	0.98	194	PN	Pn	21 41 55.3	-0.1
MOVZ				SN	Sn	21 42 12.8	-0.8
PKVZ	Pokaka	1.00	213	PN	Pn	21 41 55.4	-0.1
MTVZ	Mangateitei	1.03	206	PN	Pn	21 41 55.9	+0.1
TSZ	Takapari Road	1.60	183	PN	Pn	21 42 01.1	-0.4
PXZ	Pawanui	1.69	159	PN	Pn	21 42 02.5	0.0
PXZ				SN	Sn	21 42 25.8	-0.6
BFZ	Birch Farm	2.23	176	PN	Pn	21 42 07.7	-1.1
MRZ	Mangatainoka R	2.23	189	PN	Pn	21 42 07.4	-1.5
KIW	Kapiti Island	2.56	200	PN	Pn	21 42 10.9	-2.0
MTW	Mount Morrison	2.73	189	PN	Pn	21 42 12.8	-2.3
CAW	Cannon Point	2.75	196	PN	Pn	21 42 13.1	-2.3
MRW	Makara Radio	2.96	200	PN	Pn	21 42 15.4	-2.5
MSWZ	Moikau Station	3.02	192	PN	Pn	21 42 16.0	-2.7
TCW	Tory Channel	3.07	206	PN	Pn	21 42 16.9	-2.6
QRZ	Quartz Range	3.61	228	PN	Pn	21 42 22.5	-3.8
BSWZ	Blackbirch Sta	3.66	207	PN	Pn	21 42 23.9	-3.1
THZ	Tophouse	4.09	215	PN	Pn	21 42 29.3	-3.3
KHZ	Kahutara	4.40	205	PN	Pn	21 42 33.0	-3.7

IDC 22 21:44:50.0±1.4,125N×12486E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.5/16,mbtmp3.4/4,Error ellipse: s-maj=210.9km s-min=22.2km az=67.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	17.48	346	*i* P	Pn	21 48 46.8	-8.2
WRA	Warramunga Arr	23.02	157	P	P	21 49 57.2	+0.7
	0.5nm,0.3s,baz=324,slow=11,SNR=8.9						
ASAR	Alice Springs	26.28	161	P	P	21 50 26.9	0.0
	0.5nm,0.5s,baz=345,slow=14,SNR=12						
SONM	Songino Array	49.09	344	P	P	21 53 37.7	-1.3
	0.2nm,0.8s,baz=156,slow=7.3,SNR=2.5						
MKAR	Makanchi Array	58.56	327	P	P	21 54 49.7	+1.3
	0.2nm,0.5s,baz=124,slow=7.7,SNR=4.2						

ISCJB ***22*** *22:16:09.4±0.3,5980N±003×77.36W±006,h18km, mb3.8/14,Error ellipse: s-maj=4.0km s-min=3.7km az=24.7*
OTT ***22*** *22:16:12.4±0.2,6006N×7725W,h18km,MN4.1/10*
OTT Puvirnituq, Qc. Felt. Boothia Ungava Seismic Zone.
NEIC ***22*** *22:16:12.5,6004N×7732W,h18km,mb3.9/1,MN4.0(OTT), After OTT.*
NEIC Felt at Puvirnituq.
IDC ***22*** *22:16:15.5±3.0,5999N×77.16W,h30km±23km,mb3.7/12, mb1 3.9/17,mb1mx3.8/27,mbtmp3.9/17,ML3.7/5,MS2.7/1, Ms1 2.7/1,ms1mx2.3/32,Error ellipse: s-maj=10.4km s-min=9.3km az=100.0*

ISC 22 22:16:11.3±0.3,5984N±002×7737W±005,h18km,n146, σ1§26/194,mb3.8/14,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUQ	Kuujjuuaa	4.95	107	PN	Pn	22 17 25.3	+0.6
KUQ				SN	Sn	22 18 20.8	-0.7
KUQ				LG		22 18 42.0	
KUQ				Trac		22 18 46.8	
	comp=Z,84nm,0.4s						
KUQ	Kuujjuuaa	4.95	107	Pn	Pn	22 17 25.8	+1.1
KUQ				Sn	Sn	22 18 20.8	-0.7
KUQ				Lg		22 18 51.3	
FRB	Frobisher Bay	5.73	43	Pn	Pn	22 17 35.0	-0.4
	7.3nm,0.3s,baz=235,slow=13,SNR=76						
FRB				Sn	Sn	22 18 34.4	-6.4
	17nm,0.3s,baz=227,slow=11,SNR=13						
FRB				Lg		22 18 59.1	
	30nm,0.3s,baz=325,slow=20,SNR=20						
FRB	Frobisher Bay	5.73	43	PN	Pn	22 17 34.7	-0.8
FRB				SN	Sn	22 18 34.8	-6.0
FRB				LG		22 18 56.0	
FRB				Trac		22 19 07.6	
	comp=Z,147nm,0.5s						
FRB	Frobisher Bay	5.73	43	Pn	Pn	22 17 34.7	-0.8
FRB				Sn	Sn	22 18 34.5	-6.2
FRB				Lg		22 19 07.0	
LG4Q	La Grande 4	6.49	162	PN	Pn	22 17 48.4	+2.6
LG4Q				SN	Sn	22 18 58.9	-0.5
LG4Q				LG		22 19 34.2	
LG4Q				Trac		22 19 40.2	
	comp=Z,238nm,0.4s						
LG4Q	La Grande 4	6.49	162	Pn	Pn	22 17 48.9	+3.0
LG4Q				Sn	Sn	22 19 00.3	+0.9
SILO	Sutton Inlier	6.76	221	PN	Pn	22 17 52.4	+2.8
SILO				SN	Sn	22 19 06.1	+0.1
SILO				LG		22 19 42.9	
SILO				Trac		22 19 46.4	
	comp=Z,86nm,0.3s						
SILO	Sutton Inlier	6.76	221	Pn	Pn	22 17 52.4	+2.8
SILO				Sn	Sn	22 19 06.7	+0.7
WEMQ	Wemindji, Queb	6.81	183	PN	Pn	22 17 53.9	+3.6
WEMQ				SN	Sn	22 19 09.2	+1.7
WEMQ				LG		22 19 43.6	
WEMQ				Trac		22 19 45.4	
	comp=Z,143nm,0.7s						
WEMQ	Wemindji, Queb	6.81	183	Pn	Pn	22 17 54.1	+3.7
WEMQ				Sn	Sn	22 19 09.2	+1.7
YOSQ	Ashton Mining	7.56	155	PN	Pn	22 18 02.6	+2.0
YOSQ				SN	Sn	22 19 24.6	-1.2
YOSQ				LG		22 20 06.5	
YOSQ				Trac		22 20 12.9	
	comp=Z,226nm,0.6s						
YOSQ	Ashton Mining	7.56	155	Pn	Pn	22 18 02.8	+2.2
YOSQ				Sn	Sn	22 19 25.1	-0.7
SCHQ	Schefferville	7.59	127	Pn	Pn	22 18 01.3	+0.2
	2.1nm,0.3s,baz=328,slow=10,SNR=42						
SCHQ				Sn	Sn	22 19 23.2	-3.5
	6.3nm,0.3s,baz=84,slow=15,SNR=9.1						
SCHQ				Lg		22 20 04.0	
	5.5nm,0.3s,baz=55,slow=14,SNR=8.1						
SCHQ	Schefferville	7.59	127	PN	Pn	22 18 01.1	+0.1
SCHQ				SN	Sn	22 19 23.4	-3.2
SCHQ				LG		22 20 08.2	
SCHQ				Trac		22 20 13.4	
	comp=Z,55nm,0.5s						
SCHQ	Schefferville	7.59	127	ePn	Pn	22 18 00.7	-0.4
SCHQ				eSn	Sn	22 19 23.4	-3.2
SCHQ				eLg		22 19 56.8	
YRTN	Rankin Inlet	7.69	299	PN	Pn	22 18 02.0	-0.2
YRTN				SN	Sn	22 19 23.5	-5.4
YRTN				LG		22 20 03.5	
YRTN				Trac		22 20 12.6	
	comp=Z,103nm,0.4s						
YRTN	Rankin Inlet	7.69	299	Pn	Pn	22 18 02.1	-0.2
YRTN				Sn	Sn	22 19 22.9	-6.0
YRTN				Lg		22 20 10.2	
VIMO	Victor Mine	7.88	209	PN	Pn	22 18 08.2	+3.3
VIMO				SN	Sn	22 19 34.1	+0.5
VIMO				LG		22 20 18.0	
VIMO				Trac		22 20 25.8	
	comp=Z,55nm,0.3s						
VIMO	Victor Mine	7.88	209	Pn	Pn	22 18 08.2	+3.3
VIMO				Sn	Sn	22 19 34.1	+0.5
QILN	Qililugaq Expl	7.94	333	PN	Pn	22 18 03.5	-2.3
QILN				SN	Sn	22 19 28.2	-7.0
QILN				LG		22 20 07.8	
QILN				Trac		22 20 12.6	
	comp=Z,77nm,0.3s						
QILN	Qililugaq Expl	7.94	333	Pn	Pn	22 18 03.5	-2.3
QILN				Sn	Sn	22 19 26.3	-8.9
QILN				Lg		22 20 13.7	
FCC	Fort Churchill	8.62	270	PN	Pn	22 18 16.1	+1.0
FCC				SN	Sn	22 19 50.0	-1.9
FCC				LG		22 20 33.7	
FCC				Trac		22 20 50.3	
	comp=Z,35nm,0.3s						
FCC	Fort Churchill	8.62	270	ePn	Pn	22 18

SMQ	**Clarke City**	**11.40 143**	PN	**Pn**	**22 18 52.9**	**-0.3**
SMQ			SN	**Sn**	**22 20 53.8**	**-6.3**
SMQ			LG		22 22 02.6	
SMQ			Trac		22 22 15.8	
comp=Z,57nm,0.5s						
SMQ	**Clarke City**	**11.40 143**	Pn	**Pn**	**22 18 53.2**	**0.0**
SMQ			Sn	**Sn**	**22 20 55.5**	**-4.6**
KILO	**Kirkland Lake**	**11.45 188**	SN	**Sn**	**22 20 57.5**	**-3.9**
KILO			LG		22 22 05.6	
KILO			Trac		22 22 18.3	
comp=Z,50nm,0.5s						
KILO	**Kirkland Lake**	**11.45 188**	Pn	**Pn**	**22 19 01.6**	**+7.7**
KILO			Sn	**Sn**	**22 20 57.5**	**-3.9**
GTO	**Geraldton**	**11.52 213**	PN	**Pn**	**22 18 55.0**	**+0.1**
GTO			SN	**Sn**	**22 20 57.5**	**-5.4**
GTO			LG		22 22 11.7	
GTO			Trac		22 22 13.6	
comp=Z,6.9nm,0.0s						
GTO	**Geraldton**	**11.52 213**	Pn	**Pn**	**22 18 56.6**	**+1.8**
GTO			Sn	**Sn**	**22 20 59.6**	**-3.3**
TIMO	**Timmins Ontari**	**11.63 193**	PN	**Pn**	**22 18 56.5**	**+0.2**
TIMO			SN	**Sn**	**22 21 02.2**	**-3.5**
TIMO			LG		22 22 14.0	
TIMO			Trac		22 22 26.9	
comp=Z,88nm,0.8s						
TIMO	**Timmins Ontari**	**11.63 193**	Pn	**Pn**	**22 18 58.3**	**+2.0**
TIMO			Sn	**Sn**	**22 21 03.0**	**-2.6**
VLDQ	**Val d'Or**	**11.75 180**	PN	**Pn**	**22 18 58.1**	**0.0**
VLDQ			SN	**Sn**	**22 21 01.2**	**-7.5**
VLDQ			LG		22 22 15.8	
VLDQ			Trac		22 22 18.6	
comp=Z,70nm,0.6s						
VLDQ	**Val d'Or**	**11.75 180**	Pn	**Pn**	**22 18 58.5**	**+0.5**
VLDQ			Sn	**Sn**	**22 21 03.0**	**-5.7**
CNQ	**Baie Comeau**	**11.84 149**	PN	**Pn**	**22 18 59.5**	**+0.3**
CNQ			SN	**Sn**	**22 21 02.9**	**-8.1**
CNQ			LG		22 22 16.9	
CNQ			Trac		22 22 33.4	
comp=Z,62nm,0.5s						
CNQ	**Baie Comeau**	**11.84 149**	Pn	**Pn**	**22 18 60.0**	**+0.7**
CNQ			Sn	**Sn**	**22 21 06.4**	**-4.5**
ICQ	**Pointe Anglais**	**11.86 146**	PN	**Pn**	**22 18 58.7**	**-0.8**
ICQ			SN	**Sn**	**22 21 04.6**	**-6.8**
ICQ			LG		22 22 17.6	
ICQ			Trac		22 22 30.7	
comp=Z,54nm,0.8s						
ICQ	**Pointe Anglais**	**11.86 146**	Pn	**Pn**	**22 18 59.1**	**-0.4**
ICQ			Sn	**Sn**	**22 21 07.0**	**-4.4**
PNPO	**Pukaskwa Natio**	**12.40 209**	PN	**Pn**	**22 19 07.5**	**+0.6**
PNPO			SN	**Sn**	**22 21 19.9**	**-4.7**
PNPO			LG		22 22 35.8	
PNPO			Trac		22 22 54.8	
comp=Z,51nm,0.7s						
PNPO	**Pukaskwa Natio**	**12.40 209**	Pn	**Pn**	**22 19 08.8**	**+1.9**
PNPO			Sn	**Sn**	**22 21 19.9**	**-4.7**
DAQ	**Lac Daran**	**12.43 161**	PN	**Pn**	**22 19 08.1**	**+0.8**
DAQ			SN	**Sn**	**22 21 19.1**	**-6.2**
DAQ			LG		22 22 38.2	
DAQ			Trac		22 22 48.6	
comp=Z,43nm,0.5s						
DAQ	**Lac Daran**	**12.43 161**	Pn	**Pn**	**22 19 09.0**	**+1.7**
DAQ			Sn	**Sn**	**22 21 20.8**	**-4.5**
GSQ	**Grosses Roches**	**12.46 147**	PN	**Pn**	**22 19 06.9**	**-0.8**
GSQ			SN	**Sn**	**22 21 19.7**	**-6.3**
GSQ			LG		22 22 35.6	
GSQ			Trac		22 22 43.0	
comp=Z,79nm,0.6s						
GSQ	**Grosses Roches**	**12.46 147**	Pn	**Pn**	**22 19 07.5**	**-0.2**
GSQ			Sn	**Sn**	**22 21 19.7**	**-6.3**
HSMO	**Haileybury Sch**	**12.57 187**	PN	**Pn**	**22 19 10.0**	**+0.8**
HSMO			SN	**Sn**	**22 21 23.1**	**-5.6**
HSMO			LG		22 22 40.5	
HSMO			Trac		22 22 48.2	
comp=Z,18nm,0.6s						
HSMO	**Haileybury Sch**	**12.57 187**	Pn	**Pn**	**22 19 10.1**	**+0.9**
HSMO			Sn	**Sn**	**22 21 24.0**	**-4.7**
NATG	**Natashquan Que**	**12.67 133**	PN	**Pn**	**22 19 08.2**	**-2.3**
NATG			SN	**Sn**	**22 21 20.9**	**-10**
NATG			LG		22 22 39.6	
NATG			Trac		22 22 55.7	
comp=Z,48nm,0.6s						
NATG	**Natashquan Que**	**12.67 133**	Pn	**Pn**	**22 19 09.7**	**-0.9**
NATG			Sn	**Sn**	**22 21 25.5**	**-5.6**
RLKO	**Red Lake**	**12.76 234**	PN	**Pn**	**22 19 11.8**	**0.0**
RLKO			SN	**Sn**	**22 21 27.1**	**-6.2**
RLKO			LG		22 22 46.3	
RLKO			Trac		22 22 57.5	
comp=Z,43nm,0.4s						
RLKO	**Red Lake**	**12.76 234**	Pn	**Pn**	**22 19 12.0**	**+0.2**
RLKO			Sn	**Sn**	**22 21 27.1**	**-6.2**
LDIO	**Lac des Isle M**	**12.80 219**	LG		22 22 47.2	
LDIO			Trac		22 23 03.0	
comp=Z,112nm,0.2s						
A64	**Saint Simeon**	**12.81 157**	PN	**Pn**	**22 19 12.5**	**0.0**
A64			SN	**Sn**	**22 21 28.1**	**-6.5**
A64			LG		22 22 48.5	
A64			Trac		22 22 55.1	
comp=Z,56nm,0.8s						
A64	**Saint Simeon**	**12.81 157**	Pn	**Pn**	**22 19 13.7**	**+1.2**
A64			Sn	**Sn**	**22 21 30.3**	**-4.3**
A61	**Sainte Mathild**	**12.90 157**	PN	**Pn**	**22 19 14.4**	**+0.7**
A61			SN	**Sn**	**22 21 30.4**	**-6.4**
A61			LG		22 22 51.3	
A61			Trac		22 22 57.0	
comp=Z,57nm,0.5s						
A61	**Sainte Mathild**	**12.90 157**	Pn	**Pn**	**22 19 14.4**	**+0.7**
A61			Sn	**Sn**	**22 21 31.6**	**-5.2**
PINU	**Pond Inlet**	**12.91 359**	PN	**Pn**	**22 19 08.9**	**-5.0**
PINU			SN	**Sn**	**22 21 21.6**	**-16**
PINU			LG		22 22 33.7	
PINU			Trac		22 22 42.5	
comp=Z,193nm,0.6s						
SOLO	**Sioux Lookout**	**12.94 227**	PN	**Pn**	**22 19 13.0**	**-1.3**
SOLO			SN	**Sn**	**22 21 31.1**	**-6.7**
SOLO			LG		22 22 56.2	
SOLO			Trac		22 23 16.2	
comp=Z,46nm,0.7s						
SOLO	**Sioux Lookout**	**12.94 227**	Pn	**Pn**	**22 19 14.9**	**+0.6**
SOLO			Sn	**Sn**	**22 21 32.9**	**-4.8**
A21	**Saint Andre**	**12.97 156**	PN	**Pn**	**22 19 13.7**	**-0.9**
A21			SN	**Sn**	**22 21 31.5**	**-7.0**
A21			LG		22 22 52.9	
A21			Trac		22 22 59.9	
comp=Z,88nm,0.8s						
LMQ	**La Malbaie**	**12.99 158**	PN	**Pn**	**22 19 14.9**	**-0.1**
LMQ			SN	**Sn**	**22 21 31.6**	**-7.5**
LMQ			LG		22 22 58.6	
LMQ			Trac		22 23 00.6	
comp=Z,46nm,0.8s						
A54	**Misere**	**13.07 159**	PN	**Pn**	**22 19 16.2**	**+0.2**
A54			SN	**Sn**	**22 21 36.1**	**-4.7**
A54			LG		22 22 54.6	
A54			Trac		22 23 05.8	
comp=Z,68nm,0.8s						
A16	**Riviere Ouelle**	**13.13 157**	SN	Sx	22 21 37.3	
A16			LG		22 22 59.1	
A16			Trac		22 23 02.6	
comp=Z,94nm,0.8s						
TBO	**Thunder Bay**	**13.21 217**	PN	**Pn**	**22 19 17.6**	**-0.4**
TBO			SN	Sx	22 21 39.5	
TBO			LG		22 22 59.4	
TBO			Trac		22 23 19.0	
comp=Z,40nm,0.6s						
EEO	**Eldee**	**13.27 185**	PN	**Pn**	**22 19 19.2**	**+0.5**
EEO			SN	Sx	22 21 39.2	
EEO			LG		22 23 00.3	
EEO			Trac		22 23 11.9	
comp=Z,27nm,0.4s						
GRQ	**Grand Remous**	**13.29 175**	PN	**Pn**	**22 19 18.4**	**-0.6**
GRQ			SN	**Sn**	**22 21 37.2**	**-9.1**
GRQ			LG		22 23 02.8	
GRQ			Trac		22 23 18.7	
comp=Z,42nm,0.6s						
A11	**Saint Roch-des**	**13.31 158**	SN	Sx	22 21 43.5	
A11			LG		22 23 04.8	
A11			Trac		22 23 10.3	
comp=Z,70nm,0.6s						
SUNO	**Sudbury Onapin**	**13.43 192**	SN	Sx	22 21 44.2	
SUNO			LG		22 23 06.9	
SUNO			Trac		22 23 13.0	
comp=Z,12nm,0.3s						
DPQ	**Saint Jean**	**13.46 166**	PN	**Pn**	**22 19 20.9**	**-0.5**
DPQ			SN	Sx	22 21 45.0	
DPQ			LG		22 23 06.6	
DPQ			Trac		22 23 20.5	
comp=Z,36nm,0.5s						
QCQ	**Quebec**	**13.58 162**	LG		22 23 12.8	
QCQ			Trac		22 23 14.3	
comp=Z,6.7nm,0.1s						
TRQ	**Mont Tremblant**	**13.75 172**	PN	**Pn**	**22 19 25.1**	**-0.1**
TRQ			SN	Sx	22 21 49.5	
TRQ			LG		22 23 17.9	
TRQ			Trac		22 23 31.1	
comp=Z,20nm,0.3s						
ATKO	**Atikokan Iron**	**13.77 223**	PN	**Pn**	**22 19 26.0**	**+0.4**
ATKO			SN	Sx	22 21 51.9	
ATKO			LG		22 23 17.6	
ATKO			Trac		22 23 32.3	
comp=Z,765nm,0.5s						
CRLO	**Chalk River**	**13.83 180**	PN	**Pn**	**22 19 25.9**	**-0.5**
CRLO			SN	Sx	22 21 50.6	
CRLO			LG		22 23 20.3	
CRLO			Trac		22 23 25.9	
comp=Z,139nm,1.0s						
EPLO	**Experimental L**	**13.84 230**	PN	**Pn**	**22 19 24.9**	**-1.7**
EPLO			SN	Sx	22 21 51.6	
EPLO			Trac		22 23 32.3	
comp=Z,1μm,0.6s						
SFJD	**Kangerlussuaq**	**13.85 48**	Pn	**Pn**	**22 19 25.3**	**-1.4**
0.7nm,0.3s,baz=239,slow=12,SNR=3.9						
SFJD			Sn	Sx	22 21 46.8	
0.7nm,0.3s,baz=128,slow=16,SNR=3.7						
SFJD	**Kangerlussuaq**	**13.85 48**	PN	**Pn**	**22 19 25.2**	**-1.5**
SFJD			SN	Sx	22 21 41.2	
SFJD	**Kangerlussuaq**	**13.85 48**	Pn	**Pn**	**22 19 25.3**	**-1.4**
SFJD			Sn	Sx	22 21 46.8	
RSPO	**Restoule Provi**	**13.87 187**	PN	**Pn**	**22 19 26.9**	**0.0**
RSPO			SN	Sx	22 21 54.0	
RSPO			LG		22 23 17.7	
RSPO			Trac		22 23 28.0	
comp=Z,34nm,1.0s						
ALGO	**Algonquin Park**	**13.92 182**	PN	**Pn**	**22 19 27.5**	**-0.1**
ALGO			SN	Sx	22 21 57.5	
ALGO			LG		22 23 20.0	
MRHQ	**Morin Heights**	**14.11 171**	SN	Sx	22 22 00.8	
MRHQ			LG		22 23 28.9	
MRHQ			Trac		22 23 41.1	
comp=Z,59nm,0.8s						
PEMO	**Pembroke**	**14.19 180**	PN	**Pn**	**22 19 31.1**	**-0.2**
PEMO			SN	Sx	22 21 57.0	
PEMO			LG		22 23 29.3	
PEMO			Trac		22 23 40.0	
comp=Z,65nm,0.8s						
GAC	**Glen Almond**	**14.21 175**	PN	**Pn**	**22 19 31.6**	**0.0**
GAC			SN	Sx	22 21 59.6	
GAC			LG		22 23 29.4	
GAC			Trac		22 23 39.0	
comp=Z,2.7nm,0.1s						
GAC			Trac		22 23 40.9	
comp=Z,34nm,1.4s						
FFC	**Flin Flon**	**14.21 260**	PN	**Pn**	**22 19 29.9**	**-1.7**
FFC			SN	Sx	22 22 00.0	
FFC			LG		22 23 30.6	
FFC			Trac		22 23 45.0	
comp=Z,19nm,0.4s						
FFC			Trac		22 25 20.1	
comp=Z,14nm,0.4s						
FFC	**Flin Flon**	**14.21 260**	*e*Pn	**Pn**	**22 19 29.5**	**-2.1**
3.5nm,0.4s						
FFC			*e*Sn	Sx	22 21 54.8	
FFC			*e*Lg		22 23 26.2	
BATG	**Bathurst New B**	**14.24 147**	PN	**Pn**	**22 19 30.3**	**-1.7**
BATG			SN	Sx	22 22 02.1	
BATG			LG		22 23 29.6	
BATG			Trac		22 23 52.8	
comp=Z,31nm,1.0s						
BATG	**Bathurst New B**	**14.24 147**	Pn	**Pn**	**22 19 32.4**	**+0.4**
ULM	**Lac du Bonnet**	**14.26 236**	PN	**Pn**	**22 19 32.4**	**+0.2**
ULM			SN	Sx	22 22 02.1	
ULM			LG		22 23 30.8	
ULM			Trac		22 23 45.7	
comp=Z,20nm,1.4s						
ULM	**Lac du Bonnet**	**14.26 236**	Pn	**Pn**	**22 19 32.4**	**+0.2**
ULM			Sn	Sx	22 22 02.1	
ALFO	**Alfred**	**14.32 173**	SN	Sx	22 22 03.4	
ALFO			LG		22 23 38.8	
BUKO	**Buck Lake**	**14.48 186**	PN	**Pn**	**22 19 35.4**	**+0.2**
BUKO			SN	Sx	22 22 08.8	
BUKO			LG		22 23 38.2	
BUKO			Trac		22 23 45.0	
comp=Z,29nm,0.7s						
EYMN	**Ely**	**14.49 221**	PN	**Pn**	**22 19 34.5**	**-0.9**
EYMN			SN	Sx	22 22 09.1	
EYMN			LG		22 23 36.4	
EYMN			Trac		22 23 48.7	
comp=Z,27nm,0.8s						
EYMN	**Ely**	**14.49 221**	*e*Pn	**Pn**	**22 19 34.7**	**-0.7**
EYMN			*e*Sn	Sx	22 22 11.2	
EYMN			*e*Lg		22 23 39.3	
MNT	**Montreal**	**14.54 169**	LG		22 23 44.6	
MNT			Trac		22 23 45.7	
comp=Z,29nm,0.4s						
KLBO	**Killbear Provi**	**14.61 188**	PN	**Pn**	**22 19 35.3**	**-1.8**
KLBO			SN	Sx	22 22 12.9	
KLBO			LG		22 23 42.4	
KLBO			Trac		22 23 59.8	
comp=Z,37nm,1.3s						
PLVO	**Plevna**	**14.83 179**	PN	**Pn**	**22 19 39.1**	**-1.0**
PLVO			SN	Sx	22 22 14.8	
PLVO			LG		22 23 48.8	
PLVO			Trac		22 23 56.8	
comp=Z,33nm,0.7s						
BANO	**Bancroft**	**14.85 182**	SN	Sx	22 22 16.4	
BANO			LG		22 23 49.1	
BANO			Trac		22 23 58.3	
comp=Z,10nm,0.2s						
WBO	**Williamsburg**	**14.92 174**	PN	**Pn**	**22 19 42.3**	**+1.1**
WBO			SN	Sx	22 22 20.8	
WBO			LG		22 23 54.4	
WBO			Trac		22 24 02.6	
comp=Z,18nm,0.5s						
MSNY	**Massena**	**14.95 173**	*e*Pn	**Pn**	**22 19 41.9**	**+0.3**
SADO	**Sadowa**	**15.14 185**	Pn	**Pn**	**22 19 43.9**	**-0.2**
0.9nm,0.3s,baz=18,slow=11,SNR=4.9						
SADO			Sn	Sx	22 22 22.7	
1.7nm,0.3s,baz=291,slow=22,SNR=7.7						
SADO			Lg		22 23 59.0	
2.2nm,0.3s,baz=112,slow=22,SNR=8.7						
SADO			LR	LR	22 24 29.5	
comp=Z,28nm,19.6s,baz=77,slow=32						
SADO	**Sadowa**	**15.14 185**	PN	**Pn**	**22 19 43.5**	**-0.6**
SADO			SN	Sx	22 22 23.6	
SADO			LG		22 23 58.4	
SADO			Trac		22 24 05.2	
comp=Z,38nm,2.9s						
SADO	**Sadowa**	**15.14 185**	Pn	**Pn**	**22 19 43.9**	**-0.2**
SADO			Sn	Sx	22 22 22.7	
SADO			Lg		22 23 59.0	
SADO			LR	LR	22 24 29.4	
KNDN	**Kennady Lake**	**15.45 297**	SN	Sx	22 22 25.9	
KNDN			LG		22 24 03.7	
KNDN			Trac		22 24 20.5	
comp=Z,20nm,1.1s						
CLWO	**Collingwood**	**15.52 188**	SN	Sx	22 22 34.9	
CLWO			LG		22 24 10.4	
CLWO			Trac		22 24 21.9	
comp=Z,45nm,0.5s						
GLWN	**Glow Worm Lake**	**15.53 302**	SN	Sx	22 22 27.0	
GLWN			LG		22 24 04.0	
GLWN			Trac		22 24 15.0	
comp=Z,44nm,0.8s						
MLON	**Marlo Lake**	**15.75 299**	SN	Sx	22 22 31.1	
MLON			LG		22 24 11.2	
MLON			Trac		22 24 16.8	
comp=Z,86nm,1.8s						
MCKN	**MacKay Lake No**	**15.89 300**	SN	Sx	22 22 36.5	
MCKN			LG		22 24 18.1	
MCKN			Trac		22 24 42.0	
comp=Z,24nm,2.4s						
LBNH	**Lisbon**	**15.97 166**	*e*Pn	**Pn**	**22 19 53.3**	**-1.7**
LBNH			*e*Sn	Sx	22 22 45.1	
SNPN	**Snap Lake**	**16.21 297**	SN	Sx	22 22 44.6	
RES	**Resolute Bay**	**16.24 343**	PN	**Pn**	**22 19 53.2**	**-5.3**
RES			SN	Sx	22 22 41.3	
RES			LG		22 24 21.7	
RES			Trac		22 24 44.1	
comp=Z,25nm,0.9s						
RES	**Resolute Bay**	**16.24 343**	*e*Pn	**Pn**	**22 19 52.7**	**-5.8**
8.8nm,0.9s						
RES			*e*Sn	Sx	22 22 42.9	
RES			*e*Lg		22 24 18.3	
YNEN	**Yamba Lake Nor**	**16.28 303**	SN	Sx	22 22 45.4	
COWN	**Contwyoto Lake**	**16.35 304**	SN	Sx	22 22 45.6	
COWN			LG		22 24 27.4	
COWN			Trac		22 24 47.1	
comp=Z,58nm,0.9s						
YMBN	**Yamba Lake**	**16.48 302**	SN	Sx	22 22 49.5	
YMBN			LG		22 24 36.4	
YKW3	**Yellowknife Ar**	**17.98 295**	SN	Sx	22 23 22.6	
YKW3			LG		22 25 23.3	
YKW3			Trac		22 25 56.8	
comp=Z,7.7nm,0.5s						
YKW3	**Yellowknife Ar**	**17.98 295**	*e*Pn	**Pn**	**22 20 15.8**	**-4.5**
YKA	**Yellowknife Ar**	**17.98 295**	Pn	**Pn**	**22 20 16.1**	**-4.2**
baz=85,slow=12,SNR=14						
YKA			Sn	Sx	22 23 22.8	
baz=350,slow=0.4,SNR=4.2						
YKA			Lg		22 25 23.3	
baz=77,slow=28,SNR=8.7						
ILKN	**Indian Lake**	**18.04 300**	SN	Sx	22 23 22.8	
ILKN			LG		22 25 28.0	
ILKN			Trac		22 25 34.6	
comp=Z,49nm,1.3s						
GALN	**Gameti Lake**	**19.00 300**	SN	Sx	22 23 50.9	
GALN			LG		22 25 54.7	
GALN			Trac		22 26 21.0	
comp=Z,32nm,2.2s						
GALN	**Gameti Lake**	**19.00 300**	Pn	**Pn**	**22 20 32.2**	**-0.5**
GALN			Sn	Sx	22 23 50.9	
EUNU	**Eureka**	**20.49 356**	PN	**P**	**22 20 46.3**	**-1.9**
EDM	**Edmonton**	**20.71 267**	*e*P	**P**	**22 20 51.6**	**+1.0**
INK	**Inuvik**	**25.06 313**	P	**P**	**22 21 35.6**	**+1.0**
2.4nm,0.7s,mb3.8,baz=67,slow=10,SNR=12						
INK			S	**S**	**22 26 10.2**	**+12**
0.8nm,0.7s,baz=354,slow=33,SNR=3.9						
INK	**Inuvik**	**25.06 313**	Pn	**P**	**22 21 35.5**	**+1.0**
BORG	**Borgarnes**	**25.75 55**	P	**P**	**22 21 41.4**	**+0.6**
34nm,1.0s,mb4.8,baz=256,slow=7.5,SNR=2.8						
BORG	**Borgarnes**	**25.75 55**	P	**P**	**22 21 41.4**	**+0.6**
PDAR	**Pinedale Array**	**26.02 243**	P	**P**	**22 21 47.5**	**+4.3**
2.7nm,0.7s,mb3.9,baz=51,slow=9.3,SNR=33						
PDAR			Lg		22 29 39.6	
0.6nm,0.9s,baz=39,slow=33,SNR=2.8						
ILAR	**Eielson Array**	**31.17 309**	P	**P**	**22 22 31.8**	**+2.6**
1.4nm,0.8s,mb3.8,baz=70,slow=8.0,SNR=22						
NVAR	**Mina Array Bea**	**33.50 249**	P	**P**	**22 22 54.9**	**+5.3**
0.2nm,0.4s,mb3.4,baz=45,slow=7.8,SNR=5.5						
ARCES	**ARCESS Array B**	**39.79 32**	P	**P**	**22 23 42.5**	**-0.6**
3.8nm,0.9s,mb4.1,baz=320,slow=8.3,SNR=4.9						
FINES	**FINESS Array B**	**45.53 41**	P	**P**	**22 24 29.6**	**-0.1**
1.4nm,0.8s,mb4.0,baz=328,slow=8.4,SNR=8.9						
JOF	**Joensuu**	**46.10 37**	*e*p	**P**	**22 24 33.5**	**-0.8**
2.3nm,0.9s,mb4.1						
BRTR	**Keskin Array B**	**65.81 52**	P	**P**	**22 26 57.0**	**+1.7**
0.3nm,0.5s,mb3.6,baz=346,slow=5.0,SNR=4.1						
MKAR	**Makanchi Array**	**72.43 15**	P	**P**	**22 27 36.9**	**+0.4**
0.2nm,0.4s,mb3.4,baz=20,slow=4.7,SNR=4.0						
SONM	**Songino Array**	**72.64 357**	P	**P**	**22 27 40.2**	**+2.5**
0.4nm,0.8s,mb3.4,baz=340,slow=4.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**73.24 93**	P	**P**	**22 27 42.8**	**+1.5**
0.5nm,0.9s,mb3.4,baz=325,slow=7.9,SNR=2.9						
LPAZ	**La Paz**	**76.23 171**	P	**P**	**22 28 02.1**	**+3.5**
1.0nm,0.9s,mb3.8,baz=0.0,slow=5.1,SNR=3.8						
BDFB	**Brasilia**	**78.89 151**	P	**P**	**22 28 16.5**	**+3.1**
1.5nm,0.5s,mb4.2,baz=347,slow=2.1,SNR=3.5						

*ROM **22** 22:45:18.1±0.5,3892N×902E,h10km,Md3.4/3,Error ellipse: s-maj=8.5km s-min=3.7km az=88.0*
*CSEM **22** 22:45:19.2±0.1,3877N×9.12E,h40km,ML3.4/11,Error ellipse: s-maj=3.5km s-min=2.0km az=151.0*
*NEIC **22** 22:45:19.0,3892N×901E,h10km,MD3.4(ROM), ML3.4(LDG),MN3.2(MDD),After ROM.*
*ISCJB **22** 22:45:21.2±0.4,3925N±003×872E±002,h10km,Error ellipse: s-maj=4.5km s-min=2.6km az=160.1*
*LDG **22** 22:45:22.5±0.2,3902N×904E,h10km,Ml3.4/15,Error ellipse: s-maj=5.2km s-min=2.9km az=131.0*
*STR **22** 22:45:22.5±0.0,3902N×904E,h10km±1km,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 22 22:45:22.2±0.5,3918N±003×882E±002,h10km,n97,
σ1$39/151,**1D,Sardinia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGL	**Cagliari Serpe**	**0.41**	**64**	Pg	**Pg**	**22 45 29.4**	**-0.9**
CGL				Sg	**Sg**	**22 45 36.3**	**+0.5**
VSL	**Villasalto**	**0.53**	**54**	Pg	**Pg**	**22 45 31.8**	**-0.8**
VSL				Sg	**Sg**	**22 45 40.5**	**+0.8**
OSPF	**L'Ospedale**	**2.50**	**6**	P	**Pn**	**22 46 04.8**	**+1.9**
OSPF				S	**Sn**	**22 46 40.3**	**+6.9**
SMPL	**Sampolo**	**2.93**	**7**	Pn	**Pn**	**22 46 09.3**	**+0.4**
CORF	**Corte**	**3.12**	**5**	P	**Pn**	**22 46 13.0**	**+1.5**
CORF				S	**Sn**	**22 46 58.7**	**+10**
ERC	**Erice**	**3.16**	**110**		**Pn**	**22 46 04.8**	**-7.3**
PGF	**Pioggiola**	**3.37**	**2**	*e*Pn	**Pn**	**22 46 16.0**	**+1.1**
SNR=1.0							
PGF				*e*Sn	**Sn**	**22 46 55.5**	**+0.6**
86nm,0.4s							
PGF	**Pioggiola**	**3.37**	**2**		**Pn**	**22 46 15.8**	**+0.9**
PGF	**Pioggiola**	**3.37**	**2**	*e*Pn	**Pn**	**22 46 16.0**	**+1.1**
SNR=1.0							
PGF				*e*Sn	**Sn**	**22 46 55.5**	**+0.6**
43nm,0.4s							
PGF	**Pioggiola**	**3.37**	**2**	P	**Pn**	**22 46 15.8**	**+0.9**
USI	**Ustica**	**3.43**	**97**		**Pn**	**22 46 07.6**	**-8.1**
MAON	**Monte Argentar**	**3.69**	**28**		**Pn**	**22 46 19.2**	**-0.1**
TOLF	**Tolfa**	**3.76**	**39**		**Pn**	**22 46 18.9**	**-1.4**
GIUL	**Giuliano Di Ro**	**4.14**	**54**		**Pn**	**22 46 22.4**	**-3.0**
CERT	**Cerreto**	**4.21**	**48**		**Pn**	**22 46 24.3**	**-2.1**
FAVR	**Favara**	**4.27**	**115**		**Pn**	**22 46 22.8**	**-4.4**
SACS	**San Casciano d**	**4.35**	**32**		**Pn**	**22 46 29.3**	**+1.0**
LMR	**La Mourre**	**4.50**	**338**	*e*Pn	**Pn**	**22 46 30.8**	**+0.4**
SNR=1.0							
LMR				*e*Sn	**Sn**	**22 47 21.3**	**-1.5**
28nm,0.2s							
LMR	**La Mourre**	**4.50**	**338**	*e*Pn	**Pn**	**22 46 30.8**	**+0.4**
SNR=1.0							
LMR				*e*Sn	**Sn**	**22 47 21.3**	**-1.5**
14nm,0.2s							
VVLD	**Villa Vallelon**	**4.54**	**52**		**Pn**	**22 46 28.9**	**-2.1**
FRF	**La Foret Royal**	**4.67**	**340**	*e*Pn	**Pn**	**22 46 33.9**	**+1.1**
SNR=1.0							
FRF				*e*Sn	**Sn**	**22 47 26.6**	**-0.5**
11nm,0.3s,SNR=1.0							
FRF	**La Foret Royal**	**4.67**	**340**	*e*Pn	**Pn**	**22 46 33.9**	**+1.1**
SNR=1.0							
FRF				*e*Sn	**Sn**	**22 47 26.6**	**-0.5**
5.6nm,0.3s,SNR=1.0							
ETOS	**Mallorca**	**4.69**	**279**	P	**Pn**	**22 46 34.0**	**+1.0**
11nm,0.2s,SNR=18							
ETOS				S	**Sn**	**22 47 25.7**	**-1.7**
13nm,0.3s,SNR=9.5							
ETOS	**Mallorca**	**4.69**	**279**	⇓P	**Pn**	**22 46 34.0**	**+1.0**
ETOS				S	**Sn**	**22 47 25.7**	**-1.7**
IMI	**Imperia**	**4.78**	**352**		**Pn**

9.2nm,0.4s,SNR=7.9
MBDF Montbardon 5.75 345 *e*Pn **Pn 22 46 49.5 +1.9**
SNR=1.0
MBDF *e*Sn **Sn 22 47 53.3 -0.3**
11nm,0.5s
MBDF Montbardon 5.75 345 *e*Pn **Pn 22 46 49.5 +1.9**
SNR=1.0
MBDF *e*Sn **Sn 22 47 53.3 -0.3**
5.3nm,0.5s
EIBI Ibiza 5.82 271 P **Pn 22 46 48.7 +0.1**
11nm,0.2s,SNR=7.9
EIBI S **Sn 22 47 55.8 +0.5**
9.4nm,0.3s,SNR=7.9
EIBI Ibiza 5.82 271 P **Pn 22 46 48.7 +0.2**
EIBI S **Sn 22 47 55.8 +0.5**
LASF Ste Croix 6.14 324 *e*Pn **Pn 22 46 52.4 -0.6**
SNR=1.0
LASF *e*Sn **Sn 22 48 02.0 -1.3**
4.3nm,0.3s
LASF Ste Croix 6.14 324 *e*Pn **Pn 22 46 52.4 -0.6**
SNR=1.0
LASF *e*Sn **Sn 22 48 02.0 -1.3**
2.2nm,0.3s
EMIR Miracle 6.19 298 P **Pn 22 46 54.2 +0.5**
0.9nm,0.1s,SNR=5.7
EMIR S **Sn 22 48 05.0 +0.5**
12nm,0.3s,SNR=5.3
EMIR Miracle 6.19 298 P **Pn 22 46 54.2 +0.6**
EMIR S **Sn 22 48 05.0 +0.5**
EPOB Poblet 6.31 293 P **Pn 22 46 55.9 +0.6**
1.3nm,0.1s,SNR=7.7
EPOB Poblet 6.31 293 P **Pn 22 46 55.9 +0.7**
EPOB S **Sn 22 48 06.2 -1.2**
VIVF Saint-Julien-l 6.46 333 *e*Pn **Pn 22 46 57.8 +0.5**
SNR=1.0
VIVF *e*Sn **Sn 22 48 09.5 -1.6**
2.9nm,0.4s
VIVF Saint-Julien-l 6.46 333 *e*Pn **Pn 22 46 57.8 +0.5**
SNR=1.0
VIVF *e*Sn **Sn 22 48 09.5 -1.6**
1.5nm,0.4s
MTLF Montolieu 6.48 312 *e*Pn **Pn 22 46 57.8 +0.1**
SNR=1.0
MTLF *e*Sn **Sn 22 48 10.8 -0.9**
11nm,0.3s,SNR=1.0
MTLF Montolieu 6.48 312 *e*Pn **Pn 22 46 57.8 +0.1**
SNR=1.0
MTLF *e*Sn **Sn 22 48 10.8 -0.9**
5.6nm,0.3s,SNR=1.0
LPG La Plagne 6.50 347 *e*Pn **Pn 22 46 59.3 +1.4**
LPG *e*Sn **Sn 22 48 09.7 -2.3**
4.3nm,0.5s
LPG La Plagne 6.50 347 *e*Pn **Pn 22 46 59.3 +1.4**
LPG *e*Sn **Sn 22 48 09.7 -2.3**
2.2nm,0.5s
LPL La Plagne 6.52 347 *e*Pn **Pn 22 47 00.2 +2.0**
SNR=1.0
LPL *e*Sn **Sn 22 48 11.2 -1.4**
4.8nm,0.7s
LPL La Plagne 6.52 347 *e*Pn **Pn 22 47 00.2 +2.0**
SNR=1.0
LPL *e*Sn **Sn 22 48 11.2 -1.4**
2.4nm,0.7s
ERTA Horta de San J 6.75 288 P **Pn 22 47 02.0 +0.7**
1.1nm,0.2s,SNR=7.9
ERTA Horta de San J 6.75 288 P **Pn 22 47 02.0 +0.7**
ERTA S **Sn 22 48 17.1 -1.1**
EBEN Beniarda 7.07 269 P **Pn 22 47 06.2 +0.5**
13nm,0.5s,SNR=10
EBEN Beniarda 7.07 269 P **Pn 22 47 06.2 +0.5**
EBEN S **Sn 22 48 23.4 -2.7**
EGRA Graus 7.13 298 P **Pn 22 47 07.4 +0.8**
1.4nm,0.2s,SNR=7.4
EGRA Graus 7.13 298 P **Pn 22 47 07.4 +0.8**
EGRA S **Sn 22 48 26.3 -1.3**
EMOS Mosqueruela 7.26 282 P **Pn 22 47 10.1 +1.8**
1.1nm,0.2s,SNR=7.9
EMOS Mosqueruela 7.26 282 P **Pn 22 47 10.1 +1.8**
EMOS S **Sn 22 48 27.9 -2.9**
EBIE Bielsa 7.45 301 P **Pn 22 47 11.6 +0.7**
0.3nm,0.1s,SNR=7.9
EBIE S **Sn 22 48 35.8 +0.4**
0.6nm,0.4s,SNR=7.9
EBIE Bielsa 7.45 301 P **Pn 22 47 11.6 +0.7**
EBIE S **Sn 22 48 35.8 +0.4**
EPF Esparros 7.47 304 *e*P **Pn 22 47 17.1 +5.9**
EPF *e*Sn **Sn 22 48 34.6 -1.4**
2.0nm,0.4s
EPF Esparros 7.47 304 *e*Pn **Pn 22 47 12.3 +1.1**
EPF *e*Sn **Sn 22 48 34.6 -1.4**
1.0nm,0.4s
EPF Esparros 7.47 304 *e*Pn **Pn 22 47 12.3 +1.1**
EPF *e*P 22 47 17.1
EPF *e*Sn **Sn 22 48 34.6 -1.4**
ESAC San Caprasio 7.53 293 P **Pn 22 47 12.2 +0.2**
10nm,0.2s,SNR=8.0
ESAC S **Sn 22 48 37.3 -0.1**
17nm,0.3s,SNR=4.7
ESAC San Caprasio 7.53 293 P **Pn 22 47 12.2 +0.2**
ESAC S **Sn 22 48 37.3 -0.1**
ECHE Chera 7.59 276 P **Pn 22 47 12.7 -0.2**
1.2nm,0.3s,SNR=7.9
ECHE Chera 7.59 276 P **Pn 22 47 12.7 -0.3**
ECHE S **Sn 22 48 37.0 -2.1**
CAF Calviac 7.63 321 *e*Pn **Pn 22 47 13.5 +0.1**
CAF *e*Sn **Sn 22 48 38.8 -1.1**
1.0nm,0.2s
CAF Calviac 7.63 321 *e*Pn **Pn 22 47 13.5 +0.1**
CAF *e*Sn **Sn 22 48 38.8 -1.1**
0.5nm,0.2s
CABF La Chapelle 7.69 346 *e*Pn **Pn 22 47 14.9 +0.6**
EMUR La Murta 8.00 264 P **Pn 22 47 18.9 +0.4**
5.0nm,0.4s,SNR=7.9
EMUR La Murta 8.00 264 P **Pn 22 47 18.9 +0.3**
ETSF Etsaut 8.00 301 *e*Pn **Pn 22 47 19.9 +1.4**
ETSF *e*Sn **Sn 22 48 47.4 -1.7**
2.2nm,0.4s
ETOB Tobarra 8.10 269 P **Pn 22 47 20.9 +1.0**
3.4nm,0.3s,SNR=12
ETOB Tobarra 8.10 269 P **Pn 22 47 20.9 +1.0**
ETOB S **Sn 22 48 47.6 -4.0**
RJF Les Rejaudoux 8.17 321 *e*Pn **Pn 22 47 21.3 +0.4**
SMF Signal de Mont 8.31 336 *e*Pn **Pn 22 47 23.8 +1.1**
LFF La Frestale 8.32 316 *e*Pn **Pn 22 47 23.8 +0.9**
SNR=1.0
LFF *e*Sn **Sn 22 48 55.1 -1.8**
2.2nm,0.3s
LFF La Frestale 8.32 316 *e*Pn **Pn 22 47 23.8 +0.9**
SNR=1.0
LFF *e*Sn **Sn 22 48 55.1 -1.8**
1.1nm,0.3s
SJPF Ste Jean 8.54 301 *e*Pn **Pn 22 47 27.1 +1.2**
SJPF *e*Sn **Sn 22 48 59.8 -2.4**
BGF Bois d'Agland 8.58 331 *e*Pn **Pn 22 47 27.8 +1.4**
SNR=1.0
AVF Avril sur Loir 8.60 334 *e*Pn **Pn 22 47 27.7 +1.0**
TCF Toulx Ste Croi 8.61 328 *e*Pn **Pn 22 47 27.9 +1.1**
EALK Alkurruntz 8.77 301 P **Pn 22 47 31.5 +2.4**
ENIJ Nijar 8.97 259 P **Pn 22 47 31.2 -0.6**
2.2nm,0.3s,SNR=4.0
ENIJ Nijar 8.97 259 P **Pn 22 47 31.2 -0.7**
EQES Quesada 9.43 265 P **Pn 22 47 40.5 +2.5**
EBER Berja 9.52 260 P **Pn 22 47 42.5 +3.2**
ESDC Sonseca Array 9.91 277 P **Pn 22 47 46.6 +1.9**
1.2nm,0.2s
MFF Saint Martin d 9.91 321 *e*Pn **Pn 22 47 45.5 +0.8**
ELAN Lanestosa 10.08 298 P **Pn 22 47 48.3 +1.3**
0.9nm,0.3s
ELAN S **Sn 22 49 39.0 -1.2**
ELAN Lanestosa 10.08 298 P **Pn 22 47 48.3 +1.3**
0.9nm,0.3s
ELAN S **Sn 22 49 39.0 -1.2**

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*ISCJB **22** 22:52:58.2±1.3,375S±04×781E±02,h10km,mb4.2/6, MS4.0/10,Error ellipse: s-maj=65.0km s-min=19.1km az=31.2*
*NEIC **22** 22:53:00.0±1.1,3738S×7805E,h10km,mb4.6/1,Error ellipse: s-maj=62.8km s-min=18.7km az=196.0*
*IDC **22** 22:53:00.2±3.2,3692S×7839E,h0km,mb4.0/5,mb1 4.2/5, mb1mx3.9/15,mbtmp4.0/5,MS4.0/10,Ms1 4.0/10, ms1mx3.6/24,Error ellipse: s-maj=139.9km s-min=30.1km az=29.0*
ISC 22 22:53:00.4±1.2,**373S**±04×**781E**±02,**h10**km,**n18**,σ0§**82**/7,

mb4.2/6,**MS4.0**/10,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**31.60**	**191**	LR	LR	23 09 06.8	
	comp=Z,406nm,18.8s,MS4.1,baz=165,slow=30						
NWAO	**Narrogin (SRO)**	**32.17**	**94**	LR	LR	23 09 46.0	
	comp=Z,259nm,18.1s,MS4.0,baz=97,slow=32						
BOSA	**Boshof**	**44.68**	**265**	LR	LR	23 15 05.4	
	comp=Z,79nm,21.8s,MS3.6,baz=169,slow=30						
LSZ	**Lusaka**	**49.16**	**283**	*e*P	**P**	**23 01 47.9**	**-0.6**
	4.4nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**49.34**	**91**	P	**P**	**23 01 50.0**	**+0.3**
	2.8nm,1.0s,mb4.2,baz=237,slow=7.1,SNR=9.6						
WRA	**Warramunga Arr**	**51.58**	**87**	P	**P**	**23 02 05.5**	**-1.3**
	2.9nm,1.0s,mb4.2,baz=237,slow=6.8,SNR=3.1						
STKA	**Stephens Creek**	**51.72**	**104**	P	**P**	**23 02 08.6**	**+0.8**
	3.4nm,0.8s,mb4.3,baz=276,slow=9.2,SNR=6.4						
STKA	**Stephens Creek**	**51.72**	**104**	P	**P**	**23 02 08.6**	**+0.8**
VNDA	**Vanda**	**52.62**	**164**	LR	LR	23 22 10.2	
	comp=Z,193nm,20.3s,MS4.1,baz=252,slow=33						
CTA	**Charters Tower**	**61.01**	**94**	LR	LR	23 27 42.9	
	comp=Z,161nm,18.2s,MS4.2,baz=230,slow=34						
PMG	**Port Moresby**	**67.72**	**85**	LR	LR	23 29 50.3	
	comp=Z,83nm,21.8s,MS3.9,baz=284,slow=33						
HNR	**Honiara**	**77.90**	**93**	LR	LR	23 35 22.8	
	comp=Z,80nm,19.0s,MS4.1,baz=358,slow=33						
JOW	**Kunigami**	**79.28**	**44**	LR	LR	23 32 12.5	
	comp=Z,194nm,21.4s,MS4.4,baz=332,slow=30						
MKAR	**Makanchi Array**	**83.75**	**3**	P	**P**	**23 05 29.4**	**-0.3**
	0.8nm,1.0s,mb3.8,baz=142,slow=4.1,SNR=4.5						
MKAR				LR	LR	23 40 12.6	
	comp=Z,62nm,21.0s,MS4.0,baz=180,slow=34						
BRTR	**Keskin Array B**	**86.81**	**327**	P	**P**	**23 05 46.1**	**+1.1**
	0.4nm,0.7s,mb3.8,baz=167,slow=7.1,SNR=4.2						
DBIC	**Dimbokro**	**88.40**	**280**	LR	LR	23 43 36.6	
	comp=Z,54nm,18.2s,MS4.0,baz=105,slow=34						
YKA	**Yellowknife Ar**	**153.54**	**13**	PKPbc	PKPbc	23 12 57.7	-1.5
	0.6nm,1.0s,baz=341,slow=2.3,SNR=4.2						
YKA	**Yellowknife Ar**	**153.54**	**13**	PKPbc	PKPbc	23 12 57.7	-1.5

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*IDC **22** 23:02:53.0±17.0,2680N×62.14E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.3/21,mbtmp3.6/3,Error ellipse: s-maj=350.3km s-min=73.7km az=95.0*
*THR **22** 23:03:24.0±1.5,2803N×5689E,h15km,ML3.5*
*CSEM **22** 23:03:24.0,2803N×5689E,h15km,ML3.5,After THR*
*ISCJB **22** 23:03:25.1±0.8,2801N±006×5686E±009,h10km,mb3.4/2, Error ellipse: s-maj=12.0km s-min=9.3km az=161.4*
ISC 22 23:03:26.9±0.8,**2804N**±007×**569E**±01,**h10**km,**n13**,
σ1§**25**/12,**mb3.4**/2,**3C-2D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.93**	**227**	*e*PG	**Pg**	**23 03 40.5**	**-4.3**
BNDS				AML	AML	23 04 05.4	
	comp=N,3μm,0.5s						
BNDS				AML	AML	23 04 05.4	
	comp=E,3μm,0.5s						
KRBR	**Kerman**	**1.94**	**356**	*e*Pg	**Pg**	**23 03 59.1**	**-5.1**
KRBR				AML	AML	23 04 37.5	
	comp=N,332nm,0.4s						
KRBR				AML	AML	23 04 37.9	
	comp=E,338nm,0.8s						
BANOM	**Banah**	**2.18**	**195**	⇑P	**Pn**	**23 03 58.9**	**-4.3**
	SNR=5.7						
ASHO	**Ashiyiah**	**3.43**	**193**	⇓P	**Pn**	**23 04 19.7**	**-0.8**
GHIR	**Ghir-Karzin**	**3.49**	**275**	*e*Pn	**Pn**	**23 04 20.2**	**-1.1**
GHIR				AML	AML	23 05 44.2	
	comp=N,48nm,0.5s						
GHIR				AML	AML	23 05 49.2	
	comp=E,54nm,0.6s						
ZHSF	**Zahedan**	**3.72**	**64**	*e*PN	**Pn**	**23 04 23.9**	**-0.5**
HOQ	**Hoqain**	**4.45**	**175**	⇑P	**Pn**	**23 04 34.7**	**+0.2**
BIDO	**Bidbid**	**4.63**	**166**	⇑P	**Pn**	**23 04 36.0**	**-0.9**
	SNR=9.6						
ARQ	**Araqi**	**4.70**	**185**	⇓P	**Pn**	**23 04 40.1**	**+2.2**
	SNR=7.6						
NASN	**Na'in**	**5.93**	**324**	*e*Pn	**Pn**	**23 04 54.1**	**-0.7**
BRTR	**Keskin Array B**	**22.51**	**307**	P	pP	23 08 36.5	+7.0
	comp=E,1.3nm,0.8s,baz=112,slow=10,SNR=9.8						
GERES	**GERESS Array B**	**39.06**	**314**	P	**P**	**23 10 56.0**	**+2.1**
	comp=E,0.5nm,0.6s,mb3.4,baz=103,slow=9.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**53.37**	**266**	P	**P**	**23 12 47.4**	**+0.9**
	comp=E,0.5nm,0.9s,mb3.5,baz=67,slow=6.6,SNR=6.6						

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*NIED **22** 23:09:00,4270N×14170E,h145km,Mw3.9 Best double couple: M07.63000×1014 NP1:φ8≈221.00000°,δ55.00000°, λ-126.00000°. NP2:φ9≈92.00000°,δ49.00000°, λ-50.00000°.*
*ISCJB **22** 23:09:35.8±0.3,4265N±004×14176E±004,h133km±2km, mb3.9/19,Error ellipse: s-maj=7.2km s-min=4.3km az=111.3*
*MOS **22** 23:09:35.8±1.0,4275N×14164E,h131km,mb4.3/3,Error ellipse: s-maj=16.1km s-min=10.2km az=95.0*
*BJI **22** 23:09:35.2,4258N×14184E,h141km,mB4.5,mb4.4*
*JMA **22** 23:09:36.7±0.1,4268N×14170E,h130km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φ8≈81.00000°,δ37.00000°,λ-79.00000°. NP2:φ9≈247.00000°, δ54.00000°,λ-98.00000°. Principal axes: T Plg9.0000°, Azm343.0000°; N Plg7.0000°, Azm252.0000°; P Plg79.0000°, Azm125.0000°;*
JMA Felt I J1.
*NEIC **22** 23:09:37.1±1.1,4266N×14178E,h132km±11km,mb4.0/5 Error ellipse: s-maj=15.3km s-min=10.4km az=142.0*
*IDC **22** 23:09:37.0±1.6,4269N×14176E,h126km±9km,mb3.6/12, mb1 3.7/13,mb1mx3.6/20,mbtmp3.9/13,Error ellipse: s-maj=23.3km s-min=14.2km az=153.0*
ISC 22 23:09:36.7±0.3,**4265N**±004×**14175E**±004,**h130**km±2km,
n51,σ0§**74**/70,**mb3.9**/19,**3C-10D**,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEW	**Eniwo**	**0.29**	**311**	⇓P	**Pn**	**23 09 54.7**	**0.0**
JEW				*e*S	**Sn**	**23 10 08.3**	**-0.1**
JBT2	**Biratori 2**	**0.47**	**74**	⇓P	**Pn**	**23 09 55.8**	**+0.3**
JBT2				*e*S	**Sn**	**23 10 10.7**	**+0.9**
JNB	**Noboribetsu**	**0.56**	**251**	⇓P	**Pn**	**23 09 55.9**	**-0.1**
JNB				*e*S	**Sn**	**23 10 10.5**	**-0.2**
JFR	**Furan**	**0.80**	**50**	P	**Pn**	**23 09 57.7**	**-0.1**
JFR				*e*S	**Sn**	**23 10 13.6**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.83**	**116**	⇑P	**Pn**	**23 09 58.8**	**+0.8**
JAB	**Ashibetsu**	**0.92**	**22**	⇓P	**Pn**	**23 09 59.3**	**+0.5**
JAB				*e*S	**Sn**	**23 10 15.8**	**+0.2**
JKB	**Kayabe**	**0.93**	**215**	⇓P	**Pn**	**23 09 58.9**	**0.0**
JKB				*e*S	**Sn**	**23 10 15.2**	**-0.6**
JHR	**Hokuryu**	**1.09**	**359**	P	**Pn**	**23 10 01.1**	**+0.7**
JHR				*e*S	**Sn**	**23 10 19.0**	**+0.5**
JSK	**Shakotan**	**1.17**	**307**	⇓P	**Pn**	**23 10 01.3**	**+0.1**
JSK				*e*S	**Sn**	**23 10 19.5**	**-0.3**
JCH	**Churui**	**1.19**	**91**	⇓P	**Pn**	**23 10 01.1**	**-0.3**
JCH				*e*S	**Sn**	**23 10 19.6**	**-0.6**
JOT	**Ohata**	**1.37**	**203**	⇑P	**Pn**	**23 10 03.4**	**+0.1**
JOT				*e*S	**Sn**	**23 10 23.1**	**-0.5**
JKK2	**Kamakawa 2**	**1.42**	**30**	P	**Pn**	**23 10 03.9**	**0.0**
JKK2				*e*S	**Sn**	**23 10 23.7**	**-0.9**
ASAJ	**Asahikawa**	**1.59**	**23**	P	**Pn**	**23 10 05.8**	**+0.1**
	12nm,0.3s,baz=228,slow=12,SNR=30						
ASAJ				S	**Sn**	**23 10 27.1**	**-0.9**
	32nm,0.3s,baz=172,slow=33,SNR=26						
ASAJ	**Asahikawa**	**1.59**	**23**	PN	**Pn**	**23 10 05.9**	**+0.1**
ASAJ				S	**Sn**	**23 10 27.1**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				smax			
	comp=N,32nm,0.3s						
JAR	**Ashorobuto**	**1.62**	**66**	⇓P	**Pn**	**23 10 05.8**	**-0.3**
JAR				*e*S	**Sn**	**23 10 27.4**	**-1.1**
JOSM	**Okushiri--Mats**	**1.78**	**252**	⇓P	**Pn**	**23 10 08.1**	**+0.1**
JOSM				*e*S	**Sn**	**23 10 31.5**	**-0.4**
JYG	**Yagishiri**	**1.79**	**353**	⇑P	**Pn**	**23 10 08.2**	**+0.1**
JTKR	**Abashiri--Toko**	**2.06**	**49**	⇓P	**Pn**	**23 10 11.8**	**+0.5**
JTKR				*e*S	**Sn**	**23 10 37.9**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**3.30**	**64**	*e*PN	**Pn**	**23 10 27.5**	**+0.3**
YUK				*e*S	**Sn**	**23 11 07.0**	**+0.8**
YUK				pmax	pmax		
	comp=Z,180nm,0.4s						
YUK				pmax	pmax		
	comp=N,140nm,0.5s						
YUK				smax			
	comp=E,260nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**4.36**	**9**	*e*Pn	**Pn**	**23 10 41.5**	**+0.2**
MJAR	**Matsushiro Arr**	**6.68**	**205**	P	**Pn**	**23 11 13.4**	**+1.0**
	comp=E,1.0nm,0.3s,baz=27,slow=13,SNR=7.6						
MDJ	**Mudanjiang**	**9.04**	**287**	P	**Pn**	**23 11 45.4**	**+1.4**
MDJ				S	**Sn**	**23 13 28.0**	**+4.0**
MDJ				AMB	AMB		
	comp=Z,60nm,3.6s						
MDJ				LR	LR		
	comp=N,28nm,21.3s						
MDJ				LR	LR		
	comp=E,10.0nm,20.8s						
MDJ				LR	LR		
	comp=Z,16nm,25.4s						
KLR	**Kul'dur**	**9.58**	**317**	*e*PN	**Pn**	**23 11 47.7**	**-3.6**
NJ2	**Nanjing**	**20.99**	**247**	*e*P	**P**	**23 14 09.8**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**22.54**	**276**	*e*P	**P**	**23 14 25.8**	**-0.1**
HHC				AP		23 14 51.6	
HHC				PP		23 15 01.3	
HHC				XP	sP	23 15 06.9	+0.7
HHC				PCP	PcP	23 18 15.1	+0.5
HHC				S	**S**	**23 18 22.3**	**-0.8**
HHC				SS		23 19 16.0	
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.4						
HHC				AMB	AMB		
	comp=Z,109nm,5.5s						
HHC				LR	LR		
	comp=N,143nm,7.5s						
HHC				LR	LR		
	comp=E,154nm,5.5s						
HHC				LR	LR		
	comp=Z,101nm,6.5s						
SONM	**Songino Array**	**25.28**	**294**	P	**P**	**23 14 51.1**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.5,baz=83,slow=8.2,SNR=16						
CD2	**Chengdu**	**32.35**	**261**	*e*P	**P**	**23 15 51.8**	**-1.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,5.4s						
WMQ	**Urumqi**	**38.81**	**291**	*e*P	**P**	**23 16 49.4**	**+0.7**
MKAR	**Makanchi Array**	**41.58**	**297**	P	**P**	**23 17 11.4**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.7,baz=84,slow=10,SNR=14						
MKAR				PcP	PcP	23 19 06.3	0.0
	comp=Z,0.2nm,0.5s,baz=74,slow=5.5,SNR=4.2						
LSA	**Lhasa**	**42.25**	**269**	*e*P	**P**	**23 17 15.8**	**-1.2**
LSA	**Lhasa**	**42.25**	**269**	P	**P**	**23 17 17.2**	**+0.2**
KURK	**Kurchatov**	**42.86**	**304**	*e*P	**P**	**23 17 21.4**	**-0.5**
	comp=Z,10nm,0.6s,mb4.6						
KURK	**Kurchatov**	**42.86**	**304**	*e*P	**P**	**23 17 21.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
ILAR	**Eielson Array**	**44.69**	**35**	P	**P**	**23 17 36.1**	**-0.4**
	comp=Z,0.8nm,1.0s,mb3.3,baz=279,slow=7.9,SNR=6.5						
BVAR	**Borovoye Array**	**47.13**	**309**	P	**P**	**23 17 55.7**	**+0.1**
	comp=Z,1.6nm,0.3s,mb4.1,baz=79,slow=9.6,SNR=16						
BVAR				PcP	PcP	23 19 25.5	+0.2
	comp=Z,0.5nm,0.4s,baz=90,slow=1.5,SNR=3.8						
BRVK	**Borovoye**	**47.18**	**309**	*e*P	**P**	**23 17 56.6**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.5						
ZRNK	**Zerenda**	**47.95**	**309**	*e*P	**P**	**23 18 02.1**	**+0.2**
	comp=Z,2.4nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**47.95**	**309**	*e*P	**P**	**23 18 02.1**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
INK	**Inuvik**	**49.32**	**29**	P	**P**	**23 18 12.4**	**0.0**
	comp=Z,0.5nm,0.3s,mb3.6,baz=324,slow=4.8,SNR=9.1						
ARCES	**ARCESS Array B**	**58.86**	**338**	P	**P**	**23 19 22.4**	**+0.7**
	comp=Z,6.0nm,1.1s,mb4.4,baz=38,slow=6.6,SNR=3.7						
YKA	**Yellowknife Ar**	**58.87**	**32**	P	**P**	**23 19 21.1**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.2,baz=310,slow=6.5,SNR=7.8						
JOF	**Joensuu**	**61.17**	**331**	*e*p	**P**	**23 19 35.4**	**-2.0**
	comp=Z,1.8nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**63.47**	**332**	*e*p	**P**	**23 19 44.4**	**-8.3**
	comp=Z,1.4nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**64.00**	**331**	P	**P**	**23 19 55.9**	**-0.3**
	comp=Z,2.3nm,0.5s,mb4.2,baz=51,slow=8.1,SNR=19						
EDM	**Edmonton**	**64.83**	**40**	*e*P	**P**	**23 19 59.1**	**-2.5**
NB2	**NORSAR Subarra**	**69.13**	**337**	P	**P**	**23 20 28.7**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=35,slow=6.9						
NB2	**NORSAR Subarra**	**69.13**	**337**	P	**P**	**23 20 28.7**	**-0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	**NORSAR Array B**	**69.13**	**337**	P	**P**	**23 20 29.2**	**+0.5**
	comp=Z,1.5nm,0.8s,mb3.8,baz=36,slow=6.3,SNR=5.9						
AKASG	**Malin Array Be**	**70.05**	**321**	P	**P**	**23 20 36.1**	**+1.7**
	comp=Z,0.8nm,0.4s,mb3.8,baz=40,slow=6.1,SNR=6.8						
NVAR	**Mina Array Bea**	**71.47**	**55**	P	**P**	**23 20 44.6**	**+1.6**
	comp=Z,0.3nm,0.6s,mb3.2,baz=301,slow=6.2,SNR=4.0						
PDAR	**Pinedale Array**	**73.59**	**47**	P	**P**	**23 20 55.9**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=65,slow=1.0,SNR=7.2						

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*IDC **22** 23:09:50.8±1.6,6175S×10120E,h0km,mb3.8/7,mb1 4.0/8, mb1mx3.8/18,mbtmp3.9/8,ML4.1/1,MS3.7/4,Ms1 3.6/4, ms1mx3.2/18,Error ellipse: s-maj=72.8km s-min=17.8km az=52.0*
*ISCJB **22** 23:09:53.6±0.5,607S±006×10129E±009,h30km, mb3.9/10,MS3.7/4,Error ellipse: s-maj=12.5km s-min=8.8km az=31.9*
*NEIC **22** 23:09:55.4±0.6,6.11S×10123E,h30km,mb4.4/3,Error ellipse: s-maj=17.8km s-min=10.2km az=66.0*
ISC 22 23:09:56.1±0.5,**605S**±006×**10132E**±009,**h30**km,**n18**,
σ1§**02**/16,**mb3.9**/10,**MS3.7**/4,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**7.54**	**216**	*e*Pn	**Pn**	**23 11 41.2**	**-2.7**
COCO				*e*Sn	**Sn**	**23 13 09.5**	**+1.1**
PSI	**Prapat**	**9.11**	**345**	Pn	**Pn**	**23 12 01.6**	**-3.9**
	1.8nm,0.3s,baz=197,slow=7.7,SNR=6.1						
KULM	**Kulim**	**11.29**	**357**	*e*P	**Pn**	**23 12 34.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**26.58**	**119**	LR	LR	23 25 10.4	
	comp=Z,98nm,18.4s,MS3.4,baz=138,slow=34						
NWAO	**Narrogin (SRO)**	**30.57**	**153**	LR	LR	23 26 52.3	
	comp=Z,128nm,18.9s,MS3.6,baz=199,slow=34						
WRA	**Warramunga Arr**	**34.92**	**116**	P	**P**	**23 16 44.8**	**-0.2**
	2.2nm,0.8s,mb4.1,baz=289,slow=11,SNR=7.8						
WRAB	**Tennant Creek**	**34.92**	**116**	*e*P	**P**	**23 16 45.9**	**+0.7**
	5.4nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**35.89**	**123**	P	**P**	**23 16 53.5**	**+0.1**
	1.1nm,0.6s,mb3.9,baz=301,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**45.53**	**130**	P	**P**	**23 18 12.1**	**-0.8**
	1.2nm,0.6s,mb4.0,baz=298,slow=6.5,SNR=6.3						
STKA				LR	LR	23 37 56.0	
	comp=Z,105nm,19.7s,MS3.8,baz=25,slow=37						
STKA	**Stephens Creek**	**45.53**	**130**	P	**P**	**23 18 12.1**	**-0.8**
STKA				LR	LR	23 37 56.0	
CTAO	**Charters Tower**	**45.77**	**112**	P	**P**	**23 18 15.0**	**+0.2**
SONM	**Songino Array**	**53.84**	**4**	P	**P**	**23 19 16.9**	**+0.8**
	1.9nm,0.8s,mb4.1,baz=181,slow=7.5,SNR=16						
MKAR	**Makanchi Array**	**55.26**	**344**	P	**P**	**23 19 26.6**	**+0.1**
	0.6nm,0.7s,mb3.7,baz=146,slow=9.8,SNR=5.1						
KURK	**Kurchatov**	**59.84**	**344**	*e*P	**P**	**23 20 01.0**	**+2.3**

IZM	**Izmir**	**1.08**	**121**	PN	**Pn**	**23 13 44.1**	**-1.1**
LIA	**Limnos Island**	**1.16**	**323**	*e*PN	**Pn**	**23 13 46.7**	**+0.3**
LIA				*e*SN	**Sn**	**23 14 02.0**	**+0.2**
AKS	**Akhisar**	**1.35**	**93**	PN	**Pn**	**23 13 49.4**	**+0.5**
AKS				SN	**Sn**	**23 14 06.8**	**+0.4**
SMG	**Samos**	**1.39**	**155**	*e*PN	**Pn**	**23 13 50.7**	**+1.3**
BALB	**Balikesir**	**1.54**	**64**	PN	**Pn**	**23 13 51.0**	**-0.6**
BALB				SN	**Sn**	**23 14 12.0**	**+0.8**
BNT	**Bandirma**	**1.98**	**45**	PN	**Pn**	**23 13 56.3**	**-1.3**
MRMT	**Marmara Adasi**	**2.00**	**35**	*e*PN	**Pn**	**23 13 57.5**	**-0.4**
MFT	**Murefte**	**2.04**	**26**	*e*PN	**Pn**	**23 13 57.0**	**-1.3**
RDO	**Rodhopi**	**2.22**	**349**	*e*PN	**Pn**	**23 14 03.0**	**+2.2**
RDO	**Rodhopi**	**2.22**	**349**	*e*Pn	**Pn**	**23 14 04.2**	**+3.4**

CASC 22 23:49:09.7±2.5, 1365N×9065W, h34km±8km, MD3.8, ML4.4, 2C-10D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.56**	**20**	*e*P	Pn	23 49 20.8	-0.4
IXG				*e*S	Sb	23 49 30.2	+1.1
IXG				AML	AML	23 49 34.0	
	comp=E,53μm,0.3s						
PCG	**Pacaya**	**0.74**	**3**	⇓*e*P	Pn	23 49 24.7	+1.0
PCG				*e*S	Sn	23 49 35.0	+1.2
FUG	**Fuego 3**	**0.82**	**347**	⇑*e*P	Pn	23 49 25.2	+0.4
GCG	**Guatemala City**	**0.94**	**7**	⇑*e*P	Pn	23 49 26.8	+0.4
NBG	**Las Nubes**	**0.98**	**17**	⇓*e*P	Pn	23 49 28.4	+1.4
NBG				*e*S	Sn	23 49 42.8	+3.2
SBLS	**San Blas**	**1.01**	**79**	⇓*i*P	Pn	23 50 04.2	+37
SBLS				*e*S	Sn	23 50 18.4	+38
SNJE	**San Jose**	**1.03**	**78**	⇓*i*P	Pn	23 50 04.6	+37
SNJE				*e*S	Sn	23 50 18.9	+38
RBDL	**Robledal**	**1.04**	**64**	⇓*i*P	Pn	23 50 05.1	+37
RBDL				*e*S	Sn	23 50 19.7	+39
JAT	**Jato**	**1.17**	**305**	⇓*e*P	Pn	23 49 30.0	+0.4
TP2	**Tecpan 2**	**1.19**	**342**	⇓*e*P	Pn	23 49 30.1	+0.3
TP2				*e*S	Sn	23 49 46.6	+1.9
TP2				AML	AML	23 49 47.1	
	comp=E,3μm,0.3s						
BOQS	**Boqueron**	**1.33**	**86**	⇓*e*P	Pn	23 50 08.8	+37
BOQS				*e*S	Sn	23 50 27.3	+39
MTO2	**Montecristo 2**	**1.45**	**59**	*e*P	Pn	23 50 10.2	+37
MTO2				*e*S	Sn	23 50 30.6	+39
LFU	**La Fuente**	**1.49**	**86**	*e*P	Pn	23 50 10.9	+37
LFU				*e*S	Sn	23 50 29.1	+37
LFRS	**El Faro**	**1.54**	**91**	*e*P	Pn	23 50 11.6	+37
LFRS				*e*S	Sn	23 50 30.8	+37
LBRS	**Las Brisas**	**1.56**	**87**	⇓*e*P	Pn	23 50 11.9	+37
LBRS				*e*S	Sn	23 50 33.1	+39
LCBS	**La Ceiba**	**1.62**	**90**	*e*P	Pn	23 50 13.0	+37
LCBS				*e*S	Sn	23 50 33.5	+38
MRL	**Marmol**	**1.69**	**33**	⇓*i*P	Pn	23 49 36.8	0.0
CNCH	**Conchagua**	**2.76**	**97**	*e*P	Pn	23 50 30.5	+39
CNCH				*e*S	Sn	23 51 01.7	+38

*ISCJB **22** 23:59:12.0±3.4, 306N±02×1416E±07, h34km±32km, mb3.8/9, Error ellipse: s-maj=109.0km s-min=18.5km az=143.2*
*NEIC **22** 23:59:14.8±2.2, 3065N×14165E, h43km±20km, mb4.0/4, Error ellipse: s-maj=70.3km s-min=12.2km az=72.0*
*IDC **22** 23:59:15.4±4.7, 3062N×14153E, h48km±41km, mb3.5/5, mb1 3.6/6, mb1mx3.4/18, mbtmp3.7/6, MS3.1/1, Ms1 3.1/1, ms1mx2.5/18, Error ellipse: s-maj=98.0km s-min=21.4km az=74.0*
ISC 22 23:59:14.9±3.1, 307N±02×1418E±07, h47km±27km, n11, σ0 52/10, mb3.8/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.94**	**326**	LR	LR	00 00 36.1	
	comp=Z,317nm,21.5s,baz=295,slow=28						
MJAR	**Matsushiro Arr**	**6.54**	**334**	P	**Pn**	**00 00 48.5**	**0.0**
	baz=154,slow=11						
ULN	**Ulaanbaatar**	**31.53**	**313**	*e*P	**P**	**00 05 33.5**	**+1.0**
	0.7nm,0.4s,mb3.8						
SONM	**Songino Array**	**31.94**	**313**	P	**P**	**00 05 35.3**	**-0.8**
	0.4nm,0.6s,mb3.4,baz=122,slow=9.1,SNR=5.0						
MKAR	**Makanchi Array**	**47.95**	**307**	P	**P**	**00 07 48.5**	**-0.3**
	0.6nm,0.6s,mb3.8,baz=89,slow=8.9,SNR=11						
KURK	**Kurchatov**	**50.24**	**312**	*e*P	**P**	**00 08 06.3**	**0.0**
	1.1nm,0.7s,mb4.0						
WRAB	**Tennant Creek**	**50.84**	**189**	*e*P	**P**	**00 08 11.5**	**+0.8**
	1.0nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**50.85**	**189**	P	**P**	**00 08 10.2**	**-0.6**
	0.9nm,0.6s,mb3.9,baz=7.4,slow=7.7,SNR=6.3						
ASAR	**Alice Springs**	**54.57**	**189**	P	**P**	**00 08 38.3**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=5.4,slow=6.1,SNR=7.8						
ZRNK	**Zerenda**	**56.02**	**316**	P	**P**	**00 08 49.0**	**+0.2**
	1.0nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**74.57**	**333**	P	**P**	**00 10 48.8**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=66,slow=6.4,SNR=9.8						

*IDC **23** 00:03:56.5±0.6, 3064N×14181E, h0km, mb4.2/14, mb1 4.3/17, mb1mx4.2/21, mbtmp4.2/17, ML3.6/3, MS3.4/4, Ms1 3.4/4, ms1mx3.1/19, Error ellipse: s-maj=26.3km s-min=13.8km az=79.0*
*BJI **23** 00:03:59.9, 3081N×14175E, h30km, mB4.7, mb4.4, Ms4.6, Msz4.4*
*ISCJB **23** 00:03:59.5±1.5, 3075N±003×14174E±008, h31km±11km, mb4.5/38, MS3.7/3, Error ellipse: s-maj=12.1km s-min=4.7km az=151.5*
*NIED **23** 00:04:00, 31.10N×14180E, h5km, Mw4.4 Best double couple: M0=3.84000×10^15 NP1:φs=357.00000°, δ=74.00000°, λ=93.00000° NP2:φs=168.00000°, δ=16.00000°, λ=81.00000°.*
*MOS **23** 00:04:00.2±0.9, 3064N×14176E, h39km, mb4.7/13, Error ellipse: s-maj=24.0km s-min=8.2km az=111.9*
*JMA **23** 00:04:01.1±0.4, 31.13N×14183E, h0km, M4.6*
*NEIC **23** 00:04:02.4±0.4, 3063N×14171E, mb4.6/15, MW4.3(NIED), Error ellipse: s-maj=10.9km s-min=6.5km az=79.0*
ISC 23 00:04:01.8±1.6, 3075N±003×14181E±008, h35km±12km, h36km±3.9km: pP-P, n85, σ1 9/07/94, mb4.5/38, MS3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.90**	**325**	P	**Pn**	**00 04 46.0**	**+0.5**
JHJ2				S	**Sn**	**00 05 18.1**	**-1.0**
JHJ	**Hachijo jima 2**	**2.92**	**324**	Pn	**Pn**	**00 04 46.2**	**+0.5**
	37nm,0.3s,baz=73,slow=23,SNR=8.0						
JHJ				Sn	**Sn**	**00 05 16.7**	**-3.0**
	91nm,0.3s,baz=82,slow=23,SNR=9.1						
CBIJ	**Chichi jima**	**3.66**	**175**	Pn	**Pn**	**00 04 53.1**	**-2.8**
	2.9nm,0.3s,baz=37,slow=20,SNR=2.1						
CBIJ				Sn	**Sn**	**00 05 32.5**	**-5.4**
	53nm,0.3s,baz=52,slow=24,SNR=7.0						
CBIJ				LR	LR	00 05 46.3	
	comp=Z,315nm,20.8s,baz=132,slow=31						
BSO1	**Boso 1**	**3.95**	**350**	P	**Pn**	**00 04 59.5**	**-0.5**
BSO1				*e*S	**Sn**	**00 05 44.6**	**-0.5**
BSO3	**Boso 3**	**4.18**	**345**	P	**Pn**	**00 05 03.4**	**+0.2**
BSO4	**Boso 4**	**4.40**	**344**	P	**Pn**	**00 05 07.6**	**+1.4**
BSO4				*e*S	**Sn**	**00 05 56.1**	**-0.1**
JOD2	**Odawara 2**	**5.04**	**334**	P	**Pn**	**00 05 15.0**	**0.0**
JOD2				*e*S	**Sn**	**00 06 10.0**	**-2.1**
JHU	**Hanno**	**5.51**	**338**	P	**Pn**	**00 05 22.0**	**+0.6**
JHU				S	**Sn**	**00 06 22.4**	**-1.1**
JYT	**Yasato**	**5.62**	**347**	P	**Pn**	**00 05 23.0**	**0.0**
JRY	**Ryogami san**	**5.79**	**336**	P	**Pn**	**00 05 26.5**	**+1.3**
JRY				S	**Sn**	**00 06 31.0**	**+0.7**
JHO	**Hitachi**	**5.93**	**350**	P	**Pn**	**00 05 27.0**	**-0.2**
JHO				S	**Sn**	**00 06 31.0**	**-3.0**
JAG	**Ashikaga**	**5.99**	**341**	P	**Pn**	**00 05 27.9**	**-0.1**
JAG				S	**Sn**	**00 06 33.8**	**-1.5**
MJAR	**Matsushiro Arr**	**6.51**	**334**	Pn	**Pn**	**00 05 36.8**	**+1.7**
	5.4nm,0.3s,baz=154,slow=11,SNR=42						
MJAR				Sn	**Sn**	**00 06 49.0**	**+0.9**
	1.7nm,0.3s,baz=159,slow=19,SNR=4.9						
MAT	**Matsushiro**	**6.51**	**334**	P	**Pn**	**00 05 36.7**	**+1.6**
MAT	**Matsushiro**	**6.51**	**334**	P	**Pn**	**00 05 36.6**	**+1.5**
MAT				S	**Sn**	**00 06 48.1**	**0.0**
MAT	**Matsushiro**	**6.51**	**334**	*e*P	**Pn**	**00 05 37.0**	**+1.9**
	18nm,0.7s						
MAT				*e*S	**Sn**	**00 06 48.0**	**-0.1**
MAT	**Matsushiro**	**6.51**	**334**	*e*P	**Pn**	**00 05 37.0**	**+1.9**
MAT				*e*S	**Sn**	**00 06 48.0**	**-0.1**
MAT				pmax	pmax		
	comp=Z,18nm,0.7s						
JFK	**Kawauchi**	**6.64**	**354**	P	**Pn**	**00 05 35.9**	**-1.1**
JFK				S	**Sn**	**00 06 45.7**	**-5.7**
JOW	**Kunigami**	**12.49**	**255**	LR	LR	00 11 18.0	
	comp=Z,358nm,19.3s,baz=116,slow=35						
ASAJ	**Asahikawa**	**13.36**	**2**	Pn	**Pn**	**00 07 06.8**	**-2.0**
	comp=Z,1.6nm,0.3s,baz=201,slow=18,SNR=3.9						
ASAJ				LR	LR	00 12 59.8	
	comp=Z,141nm,20.3s,baz=177,slow=40						
ASAJ	**Asahikawa**	**13.36**	**2**	P	**Pn**	**00 07 06.9**	**-2.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,141nm,20.3s						
YHNB	**Yeheng**	**19.07**	**256**	*e*P	**Pn**	**00 08 19.4**	**-2.7**
KLR	**Kul'dur**	**19.97**	**340**	*e*P	**Pn**	**00 08 27.4**	**-5.5**
HIA	**Hailar**	**24.90**	**324**	*e*P	**P**	**00 09 22.6**	**+1.1**
	comp=Z,17nm,0.8s,mb4.6						
HIA				*e*		00 09 33.1	
HIA	**Hailar**	**24.90**	**324**	*e*P	**P**	**00 09 22.6**	**+1.2**
HIA				*e*		00 09 33.1	
HIA				pmax	pmax		
	comp=Z,17nm,0.8s						
ENH	**Enshi**	**27.80**	**277**	*e*P	**P**	**00 09 45.6**	**-2.0**
	comp=Z,3.7nm,0.6s,mb4.2						
ENH				*e*		00 09 58.6	
ULN	**Ulaanbaatar**	**31.52**	**313**	*e*P	**P**	**00 10 20.6**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**31.52**	**313**	*e*P	**P**	**00 10 20.6**	**0.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
SONM	**Songino Array**	**31.93**	**312**	P	**P**	**00 10 24.5**	**+0.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=121,slow=8.5,SNR=26						
SONM				LR	LR	00 23 04.7	
	comp=Z,70nm,19.2s,MS3.4,baz=116,slow=36						
BOD	**Bodaibo**	**33.14**	**333**	*e*P	**P**	**00 10 34.1**	**-0.7**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ZAK	**Zakamensk**	**34.71**	**316**	*e*P	**P**	**00 10 43.2**	**-5.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.3						
KMI	**Kunming**	**34.84**	**271**	P	**P**	**00 10 51.4**	**+1.9**
KMI				AP	pP	00 10 59.8	+0.2
KMI				XP	sP	00 11 04.6	+0.9
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,49nm,3.1s						
GTA	**Gaotai**	**35.17**	**296**	*e*P	**P**	**00 10 51.9**	**-0.5**
GTA				SCS	ScS	00 21 02.9	-7.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,95nm,6.1s						
GTA				LR	LR		
	comp=N,97nm,14.9s						
GTA				LR	LR		
	comp=E,195nm,20.3s						
GTA				LR	LR		
	comp=Z,217nm,18.0s,MS4.0						
BILL	**Bilibino**	**39.99**	**14**	*e*P	**P**	**00 11 34.1**	**+1.0**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
NVS	**Novosibirsk**	**47.57**	**318**	*e*P	**P**	**00 12 37.7**	**+3.7**
MKAR	**Makanchi Array**	**47.95**	**307**	P	**P**	**00 12 37.4**	**+0.4**
	comp=Z,3.0nm,0.6s,mb4.5,baz=87,slow=9.0,SNR=47						
JIRN	**Jiri**	**48.23**	**281**	*e*P	**P**	**00 12 39.5**	**+0.4**
	comp=Z,20nm,0.8s,mb5.2						
GUN	**Gumba**	**48.41**	**281**	*e*P	**P**	**00 12 41.7**	**+1.2**
	comp=Z,15nm,0.6s,mb5.2						
KKN	**Kakani**	**48.96**	**282**	*e*P	**P**	**00 12 45.4**	**+0.7**
	comp=Z,4.7nm,0.3s,mb4.9						
GKN	**Gorkha**	**49.43**	**282**	*e*P	**P**	**00 12 49.4**	**+1.1**
KURK	**Kurchatov**	**50.24**	**312**	*e*P	**P**	**00 12 53.6**	**-0.8**
	comp=Z,10nm,0.9s,mb4.8						
KURK	**Kurchatov**	**50.24**	**312**	*e*P	**P**	**00 12 53.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KOLN	**Koldanda**	**50.38**	**282**	*e*P	**P**	**00 12 55.1**	**-0.4**
	comp=Z,4.9nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**50.73**	**175**	P	**P**	**00 12 57.8**	**-0.4**
WRAB	**Tennant Creek**	**50.90**	**189**	*e*P	**P**	**00 12 59.0**	**-0.5**
	comp=Z,16nm,1.1s,mb4.8						
WRAB				*e*pP	pP	00 13 11.1	+1.3
WRAB	**Tennant Creek**	**50.90**	**189**	*e*P	**P**	**00 12 59.0**	**-0.5**
WRAB				*e**PP	pP	00 13 11.1	+1.3
WRAB				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
WB2	**Warramunga Arr**	**50.91**	**189**	*e*P	**P**	**00 12 59.1**	**-0.4**
WRA	**Warramunga Arr**	**50.91**	**189**	P	**P**	**00 12 58.2**	**-1.3**
	comp=Z,5.3nm,0.6s,mb4.7,baz=7.8,slow=7.9,SNR=28						
ASAR	**Alice Springs**	**54.63**	**189**	P	**P**	**00 13 26.7**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.4,baz=3.1,slow=6.1,SNR=31						
ILAR	**Eielson Array**	**54.70**	**30**	P	**P**	**00 13 27.4**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.7,baz=261,slow=6.6,SNR=8.1						
BRVK	**Borovoye**	**55.23**	**316**	*e*P	**P**	**00 13 31.9**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.1						
BRVK	**Borovoye**	**55.23**	**316**	*e*P	**P**	**00 13 31.9**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
MBWA	**Marble Bar**	**55.80**	**205**	P	**P**	**00 13 35.1**	**-0.3**
ZRNK	**Zerenda**	**56.01**	**316**	*e*P	**P**	**00 13 37.4**	**+0.5**
	comp=Z,2.5nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**56.01**	**316**	*e*P	**P**	**00 13 37.4**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
INK	**Inuvik**	**59.87**	**25**	P	**P**	**00 14 03.4**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.8,baz=245,slow=6.7,SNR=3.1						
ARU	**Arti**	**61.36**	**321**	*e*P	**P**	**00 14 14.5**	**+0.4**
	comp=Z,13nm,0.8s,mb5.1						
ARU				*e*pP	pP	00 14 25.2	+0.4
ARU	**Arti**	**61.36**	**321**	*e*P	**P**	**00 14 14.5**	**+0.3**
ARU				*e**PP	pP	00 14 25.2	+0.4
ARU				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**62.29**	**180**	P	**P**	**00 14 19.1**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.4,baz=19,slow=12,SNR=4.6						
ARCES	**ARCESS Array B**	**70.00**	**340**	P	**P**	**00 15 10.7**	**+0.8**
	comp=Z,3.4nm,0.8s,mb4.3,baz=53,slow=8.1,SNR=4.1						
JOF	**Joensuu**	**71.67**	**333**	*e*p	**P**	**00 15 19.4**	**-0.7**
	comp=Z,3.6nm,0.6s,mb4.5						
OBN	**Obninsk**	**73.36**	**325**	*e*P	**P**	**00 15 30.6**	**+0.5**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KAF	**Kangasniemi**	**74.05**	**334**	*e*p	**P**	**00 15 32.1**	**-2.1**
	comp=Z,5.6nm,0.7s,mb4.6,baz=52,slow=5.5						
KAF	**Kangasniemi**	**74.05**	**334**	*e*P	**P**	**00 15 32.1**	**-2.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
FINES	**FINESS Array B**	**74.54**	**333**	P	**P**	**00 15 37.4**	**+0.4**
	comp=Z,2.5nm,0.6s,mb4.4,baz=60,slow=5.4,SNR=36						
KIV	**Kislovodsk**	**75.32**	**313**	*e*P	**P**	**00 15 43.6**	**+2.0**
	comp=Z,5.7nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**75.32**	**313**	*e*P	**P**	**00 15 43.5**	**+2.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
KIV				MLR	MLR		
	comp=Z,40nm,19.0s,MS3.7						
NVAR	**Mina Array Bea**	**78.53**	**52**	P	**P**	**00 16 02.0**	**+2.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=292,slow=4.9,SNR=3.9						
MIB	**Mutribah**	**78.85**	**298**	*e*P	**P**	**00 16 02.0**	**+0.6**
MIB				AMb	AMB	00 16 02.6	
	comp=Z,21nm,0.6s,mb5.3						
RDF	**Al-Radifah**	**79.12**	**297**	*e*P	**P**	**00 16 03.3**	**+0.5**
RDF				AMb	AMB	00 16 05.8	
	comp=Z,24nm,0.6s,mb5.3						
NAY	**Al-Naaiem**	**79.20**	**298**	*e*P	**P**	**00 16 03.6**	**+0.4**
NAY				AMb	AMB	00 16 05.7	
	comp=Z,10nm,0.6s,mb4.9						
AKASG	**Malin Array Be**	**79.49**	**323**	P	**P**	**00 16 05.1**	**+0.3**
	comp=Z,0.8nm,0.3s,mb4.1,baz=49,slow=5.6,SNR=12						
AKASG	**Malin Array Be**	**79.49**	**323**	P	**P**	**00 16 05.1**	**+0.3**
NB2	**NORSAR Subarra**	**80.11**	**338**	P	**P**	**00 16 08.5**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=42,slow=5.6						
NB2	**NORSAR Subarra**	**80.11**	**338**	P	**P**	**00 16 08.5**	**+0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**80.11**	**338**	P	**P**	**00 16 08.5**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.2,baz=42,slow=5.4,SNR=11						
BR131	**Keskin Array S**	**83.29**	**312**	*e*P	**P**	**00 16 26.3**	**+1.4**
	comp=Z,2.1nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**83.29**	**312**	P	**P**	**00 16 26.2**	**+1.3**
	comp=Z,2.7nm,0.8s,mb4.3,baz=107,slow=3.7,SNR=18						
GERES	**GERESS Array B**	**88.22**	**329**	P	**P**	**00 16 49.1**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.9,baz=35,slow=4.9,SNR=3.9						
MEM	**Membach**	**90.06**	**334**	AP	pP	00 17 09.7	+0.6
WLF	**Walferdange**	**90.76**	**333**	AP	pP	00 17 13.0	+0.7
WLF				XP	sP	00 17 18.1	+1.8
SNF	**Seneffe**	**90.80**	**334**	AP	pP	00 17 12.9	+0.4
DOU	**Dourbes**	**91.01**	**334**	P	**P**	**00 17 02.1**	**-0.4**
LSZ	**Lusaka**	**117.78**	**268**	*e*Pdif	Pdif	00 19 00.2	-2.2
TORD	**Torodi Ar. Bea**	**121.90**	**313**	PKP	PKPdf	00 22 53.0	+0.7
	comp=Z,0.6nm,0.9s,baz=46,slow=1.9,SNR=5.8						

*IDC **23** 00:19:00.6±0.9, 207N×9621E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, ML3.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/21, Error ellipse: s-maj=38.4km s-min=16.3km az=46.0*
*ISCJB **23** 00:19:05.1±1.3, 2.17N±007×9635E±007, h43km±11km, mb4.5/39, MS4.0/10, Error ellipse: s-maj=12.8km s-min=9.4km az=82.9*
*MOS **23** 00:19:05.0±0.9, 221N×9631E, h41km, mb4.7/15, Error ellipse: s-maj=13.7km s-min=8.4km az=108.5*
*BJI **23** 00:19:06.6, 197N×9657E, h71km, mB5.2, mb4.9, Ms4.3, Msz4.0*
*NEIC **23** 00:19:08.7±1.8, 225N×9646E, h55km±15km, mb4.6/12, Error ellipse: s-maj=17.6km s-min=6.0km az=49.0*
ISC 23 00:19:07.7±1.2, 218N±007×9637E±007, h47km±10km, n73, σ0 90/76, mb4.5/39, MS4.0/10, 5C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.63**	**76**	Pn	**Pn**	**00 19 47.0**	**-0.6**
	10nm,0.3s,baz=288,slow=7.7,SNR=38						
PSI				LR	LR	00 20 28.7	
	comp=Z,497nm,18.8s,baz=358,slow=32						
KULM	**Kulim**	**5.27**	**54**	⇑*i*Pn	**Pn**	**00 20 23.0**	**-0.9**
KULM				*e*Sn	**Sn**	**00 21 28.9**	**+5.6**
KKM	**Kota Kinabalu**	**20.16**	**78**	*e*P	**P**	**00 23 38.8**	**+0.8**
QIZ	**Qiongzhong**	**21.32**	**37**	P	**P**	**00 23 47.5**	**-3.0**
QIZ				S	**S**	**00 27 35.6**	**-9.0**
QIZ				LR	LR		
	comp=N,476nm,12.5s,MS4.3						
QIZ				LR	LR		
	comp=E,558nm,12.8s,MS4.3						
QIZ				LR	LR		
	comp=Z,840nm,13.1s,MS4.3						
QIZ	**Qiongzhong**	**21.32**	**37**	P	**P**	**00 23 49.4**	**-1.1**
KMI	**Kunming**	**23.62**	**15**	P	**P**	**00 24 14.5**	**0.0**
KMI				S	**S**	**00 28 26.0**	**+0.5**
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,65nm,3.1s						
KMI				LR	LR		
	comp=N,244nm,13.2s,MS3.9						
KMI				LR	LR		
	comp=E,155nm,14.4s,MS3.9						
KMI				LR	LR		
	comp=Z,300nm,12.0s,MS4.0						
SHL	**Shillong**	**23.65**	**350**	*e*P	**P**	**00 24 11.0**	**-3.7**
JIRN	**Jiri**	**27.15**	**340**	*e*P	**P**	**00 24 47.8**	**+1.4**
PKI	**Pulchoki**	**27.34**	**338**	*e*P	**P**	**00 24 49.3**	**+1.2**
GUN	**Gumba**	**27.48**	**340**	*e*P	**P**	**00 24 50.2**	**+0.8**
	comp=Z,27nm,0.8s,mb4.9						
DMN	**Daman**	**27.49**	**338**	*e*P	**P**	**00 24 50.6**	**+1.1**
	comp=Z,12nm,0.7s,mb4.6						
KKN	**Kakani**	**27.59**	**338**	*e*P	**P**	**00 24 51.0**	**+0.7**
	comp=Z,26nm,1.0s,mb4.8						
KKN	**Kakani**	**27.59**	**338**	*e*P	**P**	**00 24 51.0**	**+0.7**
KKN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
LSA	**Lhasa**	**27.82**	**350**	P	**P**	**00 24 53.4**	**+1.0**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
LSA	**Lhasa**	**27.82**	**350**	*e*P	**P**	**00 24 53.0**	**+0.6**
	comp=Z,38nm,1.0s,mb5.0						
LSA	**Lhasa**	**27.82**	**350**	*e*P	**P**	**00 24 53.0**	**+0.6**
LSA				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.0						
GKN	**Gorkha**	**28.02**	**338**	*e*P	**P**	**00 24 55.2**	**+1.0**
	comp=Z,36nm,0.9s,mb5.0						
KOLN	**Koldanda**	**28.23**	**336**	*e*P	**P**	**00 24 56.9**	**+0.9**
	comp=Z,16nm,0.7s,mb4.8						
DANN	**Dangsing**	**28.68**	**336**	*e*P	**P**	**00 25 00.5**	**+0.5**
ENH	**Enshi**	**30.59**	**23**	*e*P	**P**	**00 25 15.5**	**-1.5**
	comp=Z,3.4nm,0.5s,mb4.4						
LZH	**Lanzhou**	**34.44**	**11**	*e*P	**P**	**00 25 50.5**	**-0.2**
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,5.2s						
LZH				LR	LR		
	comp=E,270nm,14.2s						
LZH				LR	LR		
	comp=Z,402nm,15.6s,MS4.3						
NJ2	**Nanjing**	**36.49**	**33**	*e*P	**P**	**00 26 09.5**	**+1.3**
NJ

comp=N,12nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.3s
STKA Stephens Creek 54.62 132 P **P 00 28 30.7 -0.8**
comp=E,1.10nm,0.4s,mb4.2,baz=287,slow=14,SNR=4.9
STKA LR LR 00 54 24.7
comp=E,86nm,18.6s,MS3.9,baz=25,slow=39
STKA Stephens Creek 54.62 132 *e*P **P 00 28 31.3 -0.2**
BRVK Borovoye 55.12 341 *e*P **P 00 28 35.0 -0.1**
comp=E,3.9nm,0.8s,mb4.5
BRVK *e*PP PP 00 30 38.9 +0.2
BRVK Borovoye 55.12 341 *e*P **P 00 28 35.0 -0.1**
BRVK *e* 00 30 38.9
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ZRNK Zerenda 55.46 340 *e*P **P 00 28 36.9 -0.6**
comp=Z,5.5nm,0.9s,mb4.6
ZRNK Zerenda 55.46 340 *e*P **P 00 28 36.9 -0.6**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
KLR Kul'dur 55.76 27 *e*P **P 00 28 44.0 +4.3**
KLR MLR MLR
comp=Z,900nm,13.0s,MS5.0
BOD Bodaibo 57.21 11 *e*P **P 00 28 48.2 -1.8**
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
YSS Yuzh-Sakhalins 60.02 35 *e*P **P 00 29 09.4 -0.1**
YSS pmax pmax
comp=Z,14nm,1.2s,mb4.9
ARU Arti 61.97 337 *e*P **P 00 29 22.2 -0.5**
comp=Z,6.3nm,0.9s,mb4.8
ARU Arti 61.97 337⇑*i*P **P 00 29 22.0 -0.7**
ARU *e* 00 31 36.9
ARU *e*S **S 00 37 43.8 +0.3**
ARU *e*SS SS 00 41 48.3 +1.9
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
KIV Kislovodsk 63.03 319 *e*P **P 00 29 29.0 -0.8**
KIV pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
YAK Yakutsk 64.72 17 *e*P **P 00 29 40.0 -0.9**
YAK pmax pmax
comp=Z,15nm,0.9s,mb5.0
SOC Sochi 64.84 318 *e*P **P 00 29 40.3 -1.4**
SOC *e**PP pP 00 29 50.9 -4.2
SOC *e*PPP 00 33 43.2
SOC *e*S **S 00 38 16.7 -2.6**
SOC *e**SS sS 00 38 44.0 +2.3
SOC *e*SSS 00 45 15.2
SOC pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BRTR Keskin Array B 67.84 312 P **P 00 30 00.9 0.0**
comp=Z,0.5nm,0.7s,mb3.6,baz=146,slow=9.0,SNR=3.9
BRTR Keskin Array B 67.84 312⇑*e*P **P 00 30 01.5 +0.6**
OBN Obninsk 71.36 328 *e*P **P 00 30 22.2 -0.4**
OBN *e**SP sP 00 30 34.1 -7.4
OBN pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
TIXI Tiksi 72.38 10 *e*P **P 00 30 27.9 -0.8**
TIXI pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
SEY Seymchan 73.20 23 *e*P **P 00 30 33.5 0.0**
AKASG Malin Array Be 73.98 322 P **P 00 30 36.9 -1.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=100,slow=4.0,SNR=5.2
AKASG Malin Array Be 73.98 322 *i* P **P 00 30 37.7 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
JOF Joensuu 76.91 335 *e*p **P 00 30 55.0 +0.1**
FINES FINESS Array B 78.75 333 P **P 00 31 04.8 -0.3**
comp=Z,1.9nm,0.8s,mb4.1,baz=88,slow=6.7,SNR=8.5
FINES FINESS Array B 78.75 333 *i* P **P 00 31 05.6 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 78.84 333 *e*p **P 00 31 05.0 -0.7**
baz=103,slow=5.0
BILL Bilibino 80.55 21 *e*P **P 00 31 15.9 +0.9**
BILL *e*SS SS 00 46 32.1 +0.9
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.3
SYO Syowa Base 80.67 198⇓*e*P **P 00 31 14.5 -1.1**
SYO Syowa Base 80.67 198⇑*e*PcP PcP 00 31 22.5 +0.3
SYO Syowa Base 80.67 198⇓*e*PP PP 00 34 21.2 +1.4
ARCES ARCESS Array B 81.34 340 P **P 00 31 19.6 +0.4**
comp=Z,3.2nm,0.9s,mb4.2,baz=91,slow=6.2,SNR=11
GERES GERESS Array B 83.53 319 P **P 00 31 31.1 +0.6**
comp=Z,0.8nm,0.8s,mb3.9,baz=76,slow=5.6,SNR=5.1
NOA NORSAR Array B 85.75 331 LR LR 01 13 40.9
comp=Z,34nm,18.6s,MS3.8,baz=255,slow=38
SNF Seneffe 89.67 320 AP pP 00 32 15.7 +1.2

*NIED **23** 01:23:00,37.90N×142.40E,h20km,Mw3.5 Best double couple: M0 1.82000×10^14 NP1:φ0=24.00000°,δ51.00000°, λ69.00000°. NP2:φ0=235.00000°,δ44.00000°,λ114.00000°.*

JMA 23 01:23:25.4±0.3,3788N×14238E,h36km±3km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.99**	**306**	P	Pn	01 23 43.3	+0.5
JIO				*e*S	Sn	01 23 56.0	+0.4
JMM	**Marumori**	**1.26**	**270**	P	Pn	01 23 47.1	+0.7
JMM				S	Sn	01 24 02.2	+0.1
JFK	**Kawauchi**	**1.30**	**247**	P	Pn	01 23 47.4	+0.4
JFK				*e*S	Sn	01 24 03.0	-0.2
JMK	**Ichinoseki**	**1.41**	**320**	P	Pn	01 23 49.3	+0.8
JOU	**Okura**	**1.44**	**290**	P	Pn	01 23 50.3	+1.4
JFT	**Otama**	**1.66**	**258**	P	Pn	01 23 53.7	+1.7
JFT				*e*S	Sn	01 24 13.9	+1.8
JOM	**Ohasama**	**1.80**	**332**	P	Pn	01 23 55.2	+1.2
JYS	**Shiratake**	**1.86**	**281**	P	Pn	01 23 56.8	+2.1
JYK	**Kaneyama**	**1.90**	**304**	P	Pn	01 23 57.0	+1.8
JFY	**Yanaizu**	**2.17**	**258**	*e*S	Sn	01 24 27.3	+2.5
JYA	**Atsumi**	**2.22**	**290**	P	Pn	01 24 01.4	+1.8
MAT	**Matsushiro**	**3.59**	**249**	P	Pn	01 24 23.6	+5.1
MAT				*e*S	Sn	01 25 08.7	+9.1

*IDC **23** 01:28:59.3±4.2,36.61N×73.42E,h0km,mb3.7/3,mb1 3.8/5, mb1mx3.4/21,mbtmp3.6/5,ML3.6/2,Error ellipse: s-maj=93.1km s-min=66.1km az=43.0*
*ISCJB **23** 01:29:13.2±1.4,385N±0.1×745E±0.2,h33km,mb3.6/6, Error ellipse: s-maj=27.5km s-min=16.1km az=135.6*
*NEIC **23** 01:29:16.8±10.0,38.58N×74.45E,h50km±62km,mb3.5/2, Error ellipse: s-maj=89.4km s-min=27.5km az=144.0*
*NNC **23** 01:29:33.4±7.5,39.19N×72.58E,h0km,mb3.3,mpv2.8, Error ellipse: s-maj=143.5km s-min=68.5km az=59.0*

ISC 23 01:29:14.3±1.4,385N±01×746E±02,h35km,n12,σ0=92/14, mb3.6/6,4C,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.56**	**327**	⇑Pn	**Pn**	**01 30 41.3**	**+6.8**
	0.6nm,0.3s,baz=134,slow=13,SNR=55						
KK31				⇑Sn	**Sn**	**01 31 36.7**	**-0.4**
	8.0nm,0.5s,baz=149,slow=23,SNR=33						
BVAR	**Borovoye Array**	**14.83**	**350**	Pn	**Pn**	**01 32 50.1**	**+8.8**
	0.2nm,0.3s,baz=159,slow=9.9,SNR=7.3						
BRVK	**Borovoye**	**14.88**	**350**	Pn	**Pn**	**01 32 41.6**	**-0.3**
AB31	**Akbulak array**	**15.06**	**320**	⇑Pn	**Pn**	**01 32 48.4**	**+4.1**
	0.3nm,0.5s,baz=133,slow=14,SNR=9.3						
AB31				⇑Sn	**Sn**	**01 35 15.3**	**-15**
	0.4nm,0.5s						
AKTK	**Aktyubinsk**	**16.77**	**321**	P	**Pn**	**01 33 07.6**	**+1.2**
AKTO	**Aktyubinsk**	**16.77**	**321**	P	**Pn**	**01 33 07.6**	**+1.2**
	0.2nm,0.3s,baz=113,slow=12,SNR=3.9						
MALT	**Malatya**	**28.24**	**281**	P	**P**	**01 35 03.0**	**-0.9**
	0.4nm,0.3s,mb3.5						
BR131	**Keskin Array S**	**31.62**	**285**	P	**P**	**01 35 34.4**	**+0.6**
	0.2nm,0.2s,mb3.6						
JOF	**Joensuu**	**35.66**	**327**	*e*p	**P**	**01 36 08.6**	**-0.3**
	1.8nm,0.9s,mb4.0						
FINES	**FINESS Array B**	**37.51**	**324**	P	**P**	**01 36 23.1**	**-1.6**
	0.4nm,0.3s,mb3.6,baz=109,slow=11,SNR=6.6						
ARCES	**ARCESS Array B**	**40.46**	**336**	P	**P**	**01 36 48.9**	**-0.5**
	1.9nm,0.9s,mb3.8,baz=90,slow=7.3,SNR=3.9						
YKA	**Yellowknife Ar**	**79.09**	**4**	P	**P**	**01 41 15.9**	**+0.9**
	0.1nm,0.4s,mb3.1,baz=349,slow=5.7,SNR=6.4						

IDC 23 01:43:46.5±2.2,270S×12877E,h0km,mb3.4/2,mb1 3.7/3, mb1mx3.5/15,mbtmp3.5/3,ML3.2/1,Error ellipse: s-maj=144.7km s-min=27.2km az=68.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.98**	**163**	P	Pn	01 47 56.4	-1.5
	0.1nm,0.3s,baz=341,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**21.43**	**167**	P	P	01 48 36.6	+0.5
	1.3nm,0.6s,baz=340,slow=10,SNR=12						
MKAR	**Makanchi Array**	**63.98**	**326**	P	P	01 54 22.2	+0.6
	0.2nm,0.6s,baz=133,slow=7.9,SNR=4.4						

*NEIC **23** 01:49:47.2,18.96N×67.72W,h164km,MD3.6(RSPR), After RSPR.*

RSPR 23 01:49:47.2,1896N×6772W,h165km±5km,MD3.6/4, MD3.6/4,3C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**0.98**	**142**	*e*S	Sn	01 50 33.6	+0.5
LSP	**Las Mesas**	**0.98**	**142**⇑*e*P	Pn	Pn	01 50 13.0	-0.2
LSP				*e*S	Sn	01 50 33.6	+0.5
AOPR	**Arecibo Observ**	**1.10**	**123**⇓*e*P	Pn	Pn	01 50 13.9	-0.3
CRPR	**Cabo Rojo, PR**	**1.11**	**149**	*e*S	Sn	01 50 34.9	-0.1
CRPR	**Cabo Rojo, PR**	**1.11**	**149**⇑*e*P	Pn	Pn	01 50 14.4	+0.1
CRPR				*e*S	Sn	01 50 34.9	-0.1
MTP	**Monte Pirata**	**2.22**	**112**⇑*e*P	Pn	Pn	01 50 26.0	+0.3

IDC 23 02:10:15.6±5.5,3775S×7804E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.5/15,mbtmp3.6/4,MS4.1/10,Ms1 4.1/10, ms1mx3.8/17,Error ellipse: s-maj=201.9km s-min=47.6km az=27.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**31.10**	**191**	LR	LR	02 26 25.1	
	comp=Z,557nm,20.5s,baz=187,slow=31						
BOSA	**Boshof**	**44.61**	**266**	LR	LR	02 33 31.4	
	comp=Z,104nm,18.2s,baz=176,slow=31						
FITZ	**Fitzroy Crossi**	**45.84**	**78**	LR	LR	02 34 30.8	
	comp=Z,156nm,20.1s,baz=236,slow=32						
ASAR	**Alice Springs**	**49.37**	**90**	P	P	02 19 07.0	+0.2
	0.2nm,0.5s,baz=227,slow=7.5,SNR=2.6						
STKA	**Stephens Creek**	**51.63**	**104**	LR	LR	02 36 41.5	
	comp=Z,187nm,19.5s,baz=206,slow=31						
VNDA	**Vanda**	**52.15**	**164**	LR	LR	02 38 36.7	
	comp=Z,182nm,19.7s,baz=236,slow=33						
CTA	**Charters Tower**	**61.01**	**94**	LR	LR	02 43 48.2	
	comp=Z,318nm,19.5s,baz=227,slow=33						
HNR	**Honiara**	**77.91**	**93**	LR	LR	02 52 28.4	
	comp=Z,142nm,18.6s,baz=178,slow=32						
GNI	**Garni**	**83.32**	**335**	LR	LR	02 55 23.7	
	comp=Z,46nm,20.4s,baz=349,slow=32						
MKAR	**Makanchi Array**	**84.25**	**3**	P	P	02 22 47.6	-1.5
	1.2nm,1.0s,baz=180,slow=4.4,SNR=5.8						
MKAR				LR	LR	02 57 30.8	
	comp=Z,111nm,21.4s,baz=180,slow=34						
BRTR	**Keskin Array B**	**87.21**	**327**	P	P	02 23 04.2	+0.4
	0.3nm,0.8s,baz=158,slow=4.2,SNR=2.5						
DBIC	**Dimbokro**	**88.45**	**280**	LR	LR	02 56 22.6	
	comp=Z,96nm,20.4s,baz=322,slow=31						
SONM	**Songino Array**	**88.88**	**19**	P	P	02 23 12.4	+0.6
	0.1nm,0.4s,baz=198,slow=4.2,SNR=3.0						

CASC 23 02:14:52.4±2.5,974N×8291W,h2km±13km,MD3.5,ML2.6, 1C-3D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.85**	**170**⇓*i*P		Pg	02 15 08.3	-0.3
CTCR				*e*S	Sg	02 15 21.1	+1.5
BUS	**Buena Vista**	**0.86**	**258**	*e*P	Pg	02 15 09.8	+1.0
BUS				*e*S	Sg	02 15 23.5	+3.5
URSC	**Urasca**	**0.86**	**277**⇓*e*P		Pg	02 15 09.4	+0.4
URSC				*e*S	Sg	02 15 22.6	+2.4
BRU2	**Volcan**	**0.96**	**167**	*e*S	Sg	02 15 24.1	+0.8
OCM	**Ochomogo**	**1.05**	**279**	*i* P	Pg	02 15 11.5	-1.0
OCM				*e*S	Sg	02 15 27.4	+1.3
OCM				AML	AML	02 15 30.5	
	comp=N,223nm,0.4s						
LCR2	**La Lucha 2**	**1.08**	**270**⇓*e*P		Pg	02 15 13.2	+0.1
LCR2				*e*S	Sg	02 15 29.6	+2.5
PRS1	**Puriscal**	**1.41**	**280**⇑*e*P		Pn	02 15 19.3	+0.3
PRS1				*e*S	Sg	02 15 39.3	+1.7
EPA	**Esparza**	**1.68**	**279**	*e*S	Sn	02 15 46.9	+1.9
JTS	**JuntasAbangare**	**2.09**	**285**	*i* P	Pn	02 15 29.1	+0.6
JTS				*e*S	Sn	02 15 56.4	+1.4

IDC 23 02:28:56.4±3.0,398S×13515E,h0km,mb3.5/1,mb1 3.8/4, mb1mx3.6/12,mbtmp3.6/4,ML3.4/2,Error ellipse: s-maj=110.5km s-min=30.3km az=84.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.89**	**183**	Pn	Pn	02 32 40.3	-1.0
	0.1nm,0.3s,baz=4.5,slow=13,SNR=2.6						
WRA				Sn	Sn	02 35 25.6	-12
	0.2nm,0.3s,baz=0.4,slow=23,SNR=3.7						
FITZ	**Fitzroy Crossi**	**16.85**	**213**	Pn	Pn	02 32 51.9	-1.7
	baz=17,slow=19						
FITZ				Sn	Sn	02 35 47.1	-14
	baz=73,slow=19						
ASAR	**Alice Springs**	**19.61**	**183**	P	Pn	02 33 27.9	+0.4
	0.2nm,0.3s,baz=7.2,slow=10,SNR=14						
MKAR	**Makanchi Array**	**68.67**	**324**	P	P	02 40 01.7	+0.2
	0.2nm,0.4s,baz=126,slow=6.8,SNR=4.1						

*ISCJB **23** 02:30:13.7±1.3,39.70N±0.10×78.11E±0.10,h33km,mb3.6/4, Error ellipse: s-maj=16.0km s-min=7.1km az=112.5*
*IDC **23** 02:30:15.1±2.0,40.12N×77.10E,h0km,mb3.7/5,mb1 3.7/6, mb1mx3.5/21,mbtmp3.6/6,ML3.0/1,Error ellipse: s-maj=43.8km s-min=17.6km az=142.0*
*BJI **23** 02:30:16.1,39.89N×77.78E,h29km,ML4.2,Ms3.9*
*NNC **23** 02:30:26.5±3.5,40.21N×77.16E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=27.9km s-min=21.5km az=12.0*
*MOS **23** 02:30:39.8±1.0,41.36N×77.22E,h180km,mb3.6/2,Error ellipse: s-maj=53.4km s-min=24.7km az=108.0*

ISC 23 02:30:16.9±1.1,3973N±009×7794E±009,h35km,n29, σ1=13/26,mb3.6/4,10C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.53**	**263**	⇑PG	**Pn**	**02 30 41.9**	**+0.2**
KSH				SG	**Sn**	**02 31 01.5**	**+1.1**
KSH				Smax			
	comp=N,3μm,0.9s						
KSH				Smax			
	comp=E,3μm,0.8s						
ULHL	**Ulahol**	**2.82**	**333**	P	**Pn**	**02 30 59.6**	**+0.2**
	SNR=29						
KZA	**Kyzart**	**3.10**	**320**	P	**Pn**	**02 31 04.8**	**+1.4**
	SNR=19						
KNDC	**Almaty**	**3.56**	**348**	⇓Pn	**Pn**	**02 31 16.7**	**+7.1**
	comp=E,103nm,0.6s						
KNDC				⇑Lg		02 32 00.4	
	comp=E,209nm,0.6s						
UCH	**Uchtor**	**3.60**	**315**	P	**Pn**	**02 31 10.2**	**+0.1**
	SNR=12						
AAA	**Alma-Ata**	**3.61**	**348**	*e*PN	**Pn**	**02 31 16.0**	**+5.7**
AAA				pmax	pmax		
	comp=Z,300nm,0.2s						
TKM2	**Tokmak 2**	**3.64**	**332**	P	**Pn**	**02 31 11.2**	**+0.4**
	SNR=11						
TKM2	**Tokmak 2**	**3.64**	**332**	⇑Pn	**Pn**	**02 31 11.1**	**+0.4**
	comp=Z,14nm,1.1s						
TKM2				⇓Lg		02 32 01.0	
	comp=Z,59nm,1.5s						
KBK	**Karagaybulak**	**3.69**	**323**	P	**Pn**	**02 31 11.9**	**+0.5**
	SNR=6.8						
AML	**Almayashu**	**4.01**	**308**	P	**Pn**	**02 31 16.1**	**+0.3**
	SNR=34						
EKS2	**Erkin-Say**	**4.29**	**314**	P	**Pn**	**02 31 20.0**	**+0.4**
	SNR=15						
USP	**Ospenovka**	**4.38**	**325**	P	**Pn**	**02 31 30.0**	**+9.2**
	SNR=12						
KK31	**Karatay Array**	**6.52**	**304**	⇑Pn	**Pn**	**02 31 51.7**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=127,slow=13,SNR=7.4						
KK31				⇓Pg	**Pn**	**02 32 07.3**	**+17**
	comp=Z,3.8nm,0.6s,baz=127,slow=16,SNR=16						
KK31				⇓Lg		02 33 29.4	
	comp=Z,15nm,0.6s,baz=117,slow=28,SNR=8.2						
MK31	**Makanchi Array**	**7.74**	**23**	⇑Pn	**Pn**	**02 32 07.4**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=192,slow=12,SNR=11						
MK31				⇑Lg		02 34 18.9	
	comp=Z,12nm,0.9s,baz=204,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**7.74**	**23**	Pn	**Pn**	**02 32 07.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=183,slow=13,SNR=12						
MKAR				Sn	**Sn**	**02 33 33.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=199,slow=22,SNR=5.3						
MKAR				Lg		02 34 19.5	
	comp=Z,0.5nm,0.3s,baz=205,slow=28,SNR=4.6						
KURK	**Kurchatov**	**10.99**	**2**	⇑Lg		02 36 01.2	
	comp=Z,23nm,2.0s						
VOSK	**Vostochnaya**	**13.85**	**342**	⇓Lg		02 37 19.7	
	comp=Z,14nm,1.3s						
BVA0	**Borovoye Array**	**14.27**	**341**	⇑Lg		02 37 40.7	
	comp=Z,1.7nm,1.2s,baz=221,slow=36,SNR=3.6						
BVAR	**Borovoye Array**	**14.27**	**341**	Pn	**Pn**	**02 33 32.7**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=143,slow=10.0,SNR=3.0						
BVAR				Lg		02 37 37.2	
	comp=Z,0.2nm,0.3s,baz=155,slow=29,SNR=6.8						
ZRNK	**Zerenda**	**14.57**	**338**	⇑Lg		02 37 43.5	
	comp=Z,9.2nm,1.3s						
AB31	**Akbulak array**	**15.95**	**313**	⇑Pn	**Pn**	**02 33 57.0**	**-1.5**
	comp=Z,2.1nm,1.1s,baz=120,slow=14,SNR=5.0						
SONM	**Songino Array**	**21.99**	**59**	P	pP	02 35 16.6	-0.5
	comp=Z,1.0nm,0.8s,baz=257,slow=10,SNR=6.8						
SONM	**Songino Array**	**21.99**	**59**	P	pP	02 35 16.6	-0.5
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NJ2	**Nanjing**	**33.79**	**90**	*e*P	**P**	**02 36 57.3**	**+1.9**
FINES	**FINESS Array B**	**38.08**	**322**	P	**P**	**02 37 30.1**	**-2.0**
	comp=Z,0.4nm,0.8s,mb3.2,baz=88,slow=9.7,SNR=3.5						
NOA	**NORSAR Array B**	**45.21**	**321**	P	**P**	**02 38 28.1**	**-2.4**
	comp=Z,0.3nm,0.6s,mb3.3,baz=88,slow=13,SNR=2.3						
GERES	**GERESS Array B**	**45.62**	**304**	P	**P**	**02 38 32.6**	**-1.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=72,slow=8.6,SNR=5.7						
GERES	**GERESS Array B**	**45.62**	**304**	P	**P**	**02 38 32.6**	**-1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**71.19**	**272**	P	**P**	**02 41 30.7**	**-1.4**
	comp=Z,1.2nm,0.5s,mb4.0,baz=48,slow=5.4,SNR=35						

IDC 23 02:40:53.7±1.8,695S×12808E,h0km,mb3.8/2,mb1 4.1/5, mb1mx3.8/14,mbtmp4.0/5,ML4.1/2,Error ellipse: s-maj=92.8km s-min=25.8km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.33**	**192**	Pn	Pn	02 43 37.1	+0.2
	baz=90,slow=20						
FITZ				Sn	Sn	02 45 28.5	-16
WRA	**Warramunga Arr**	**14.27**	**155**	Pn	Pn	02 44 18.6	+1.7
	0.6nm,0.3s,baz=329,slow=13,SNR=14						
WRA				Sn	Sn	02 46 44.8	-11
	1.5nm,0.3s,baz=339,slow=20,SNR=12						
ASAR	**Alice Springs**	**17.54**	**162**	P	Pn	02 45 01.6	+2.1
	1.9nm,0.3s,baz=340,slow=12,SNR=66						
STKA	**Stephens Creek**	**27.82**	**155**	P	P	02 46 43.3	-1.2
	1.8nm,0.8s,baz=325,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**67.15**	**328**	P	P	02 51 49.6	+0.4
	0.4nm,0.9s,baz=133,slow=8.5,SNR=4.5						

*ISCJB **23** 02:46:33.4±1.3,1300N±007×90.89W±008,h40km±12km, mb3.8/6,MS3.6/1,Error ellipse: s-maj=14.7km s-min=10.4km az=117.0*
*CASC **23** 02:46:33.9±3.1,1331N×91.00W,h0km±11km,MD4.1, ML3.9,mb3.7(NEIC)*
*NEIC **23** 02:46:40.9±1.9,1332N×90.46W,h90km±17km,mb3.7/3, Error ellipse: s-maj=28.2km s-min=9.8km az=50.0*
*IDC **23** 02:46:41.9±4.5,1345N×90.25W,h96km±46km,mb3.4/5, mb1 3.6/6,mb1mx3.4/20,mbtmp3.7/6,MS3.6/1,Ms1 3.6/1, ms1mx2.6/17,Error ellipse: s-maj=53.2km s-min=24.7km az=53.0*

ISC 23 02:46:34.8±1.3,1305N±007×9096W±009,h40km±13km, n24,σ1=19/22,mb3.8/6,MS3.6/1,5C-2D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.22**	**24**⇓*e*P		**Pn**	**02 46 53.9**	**-1.4**
IXG				*e*S	**Sn**	**02 47 09.4**	**-1.3**
FUG	**Fuego 3**	**1.40**	**5**⇑*e*P		**Pn**	**02 46 56.9**	**-0.9**
JAT	**Jato**	**1.42**	**333**	*e*P	**Pn**	**02 46 57.8**	**-0.3**
SBLS	**San Blas**	**1.52**	**59**	*e*P	Px	02 47 37.5	
SBLS				*e*S	Sx	02 47 59.9	
GCG	**Guatemala City**	**1.58**	**15**	*e*P	**Pn**	**02 46 59.2**	**-1.2**
NBG	**Las Nubes**	**1.64**	**21**	*e*P	**Pn**	**02 47 01.9**	**+0.8**
NBG				*e*S	**Sn**	**02 47 21.4**	**+0.4**
TP2	**Tecpan 2**	**1.73**	**358**⇑*e*P		**Pn**	**02 47 01.3**	**-0.9**
TP2				*e*S	**Sn**	**02 47 24.0**	**+1.0**
TP2				AML	AML	02 47 28.4	
	comp=E,2μm,0.4s						
BOQS	**Boqueron**	**1.77**	**67**⇑*e*P		Px	02 47 42.3	
BOQS				*e*S	Sx	02 48 06.4	
LFRS	**El Faro**	**1.94**	**73**	*e*P	Px	02 47 44.0	
LFRS				*e*S	Sx	02 48 10.3	
LCBS	**La Ceiba**	**2.02**	**72**	*e*P	Px	02 47 45.1	
LCBS				*e*S	Sx	02 48 11.4	
MRL	**Marmol**	**2.35**	**31**⇑*e*P		**Pn**	**02 47 11.3**	**+0.4**
MRL				*e*S	**Sn**	**02 47 40.3**	**+1.7**
VSM	**San Miguel**	**2.65**	**81**⇓*e*P		Px	02 47 53.8	
VSM				*e*S	Sx	02 48 29.8	
BLLM	**Bellamira**	**2.68**	**81**⇑*e*P		Px	02 47 54.5	
BLLM				*e*S	Sx	02 48 31.3	
JTS	**JuntasAbangare**	**6.49**	**114**	P	**Pn**	**02 48 09.0**	**+1.2**
	comp=E,1.0nm,0.3s,baz=311,slow=21,SNR=9.8						
TEIG	**Tepich**	**7.59**	**19**	*e*Pn	**Pn**	**02 48 23.3**	**+0.6**
	comp=E,9.6nm,1.1s						
LTX	**Lajitas**	**20.04**	**326**	*e*P	**P**	**02 51 08.4**	**+4.1**
	comp=E,3.1nm,0.9s						
SDV	**Santo Domingo**	**20.38**	**100**	P	**P**	**02 51 07.4**	**-0.6**
	comp=E,2.9nm,0.7s						
MNTX	**Cornudas Mount**	**22.81**	**327**	P	**P**	**02 51 36.4**	**+2.4**
	comp=E,2.2nm,0.7s,mb3.7						
NVAR	**Mina Array Bea**	**35.04**	**321**	P	**P**	**02 53 26.9**	**+3.3**
	comp=E,1.0nm,0.6s,mb3.9,baz=128,slow=8.7,SNR=7.8						
SIV	**San Ignacio**	**41.31**	**133**	P	**P**	**02 54 16.4**	**0.0**
	comp=E,2.7nm,1.2s,mb3.7,baz=290,slow=12,SNR=4.1						
SCHQ	**Schefferville**	**45.77**	**19**	P	**P**	**02 54 49.3**	**-3.0**
	comp=E,1.4nm,0.5s,mb4.2,baz=202,slow=6.1,SNR=8.9						
SCHQ				LR	LR	03 14 57.3	
	comp=E,72nm,19.1s,MS3.6,baz=193,slow=38						
YKA	**Yellowknife Ar**	**52.18**	**346**	P	**P**	**02 55 40.4**	**-1.0**
	comp=E,0.3nm,0.5s,mb3.5,baz=143,slow=7.5,SNR=9.7						
YKA	**Yellowknife Ar**	**52.18**	**346**	P	**P**	**02 55 40.4**	**-1.0**
ILAR	**Eielson Array**	**64.11**	**337**	P	**P**	**02 57 04.6**	**-0.2**
	comp=E,0.8nm,1.0s,mb3.7,baz=134,slow

EPA			*e*S	Sn	02 50 35.9	+1.7
CAO	**Cobano**	**2.19 295**	⇓*i*P	Pn	02 50 14.4	-0.6
CAO			*e*S	Sn	02 50 39.3	-1.7
JTS	**JuntasAbangare**	**2.38 310**	*e*P	Pn	02 50 18.8	+1.2
JTS			*e*S	Sn	02 50 46.4	+0.8
AZU	**Azuero**	**2.95 109**	*e*P	Pn	02 50 25.6	+0.2

*ISCJB **23** 03:09:40.7±0.7, 1932S×0005×0015W±008, h97km±8km, mb3.9/10, Error ellipse: s-maj=12.6km s-min=7.0km az=143.9*
*NEIC **23** 03:09:42.4±0.6, 1932S×0014W, h98km±6km, mb4.3/6, Error ellipse: s-maj=8.3km s-min=5.8km az=81.0*
*IDC **23** 03:09:43.7±0.7, 1946S×0906W, h112km±5km, mb3.8/8, mb1 4.0/12, mb1mx3.9/19, mbtmp4.2/12, MS3.1/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=18.0km s-min=9.3km az=94.0*
ISC 23 03:09:42.0±0.7, 1934S×0005×0918W±008, h94km±8km, h115km±2.6km:pP-P, n33, σ0.84/28, mb3.9/10, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.19**	**18**	P	**Pn**	**03 10 35.6**	**+5.5**
	7.0nm,0.3s,baz=205,slow=7.5,SNR=132						
LPAZ	**La Paz**	**3.19**	**18**	⇑*e*Pn	**Pn**	**03 10 35.8**	**+5.6**
LVC	**Limon Verde**	**3.27**	**176**	P	**Pn**	**03 10 32.1**	**+1.0**
	25nm,0.3s,baz=341,slow=9.7,SNR=120						
LVC				S	**Sn**	**03 11 09.2**	**+0.1**
	66nm,0.3s,baz=215,slow=22,SNR=22						
LVC	**Limon Verde**	**3.27**	**176**	*e*Pn	**Pn**	**03 10 32.4**	**+1.3**
ARE	**Arequipa**	**3.61**	**322**	⇑*i*P	**Pn**	**03 10 36.2**	**+0.4**
ARE				*e*S	**Sn**	**03 11 16.0**	**-1.4**
SIV	**San Ignacio**	**8.41**	**68**	P	**Pn**	**03 11 41.3**	**+0.3**
	9.7nm,0.3s,baz=265,slow=10,SNR=280						
SAML	**Samuel**	**11.85**	**30**	*e*Pn	**Pn**	**03 12 27.8**	**+0.1**
	3.8nm,0.9s						
CFAA	**Coronel Fontan**	**12.24**	**176**	P	**Pn**	**03 12 33.0**	**0.0**
	0.1nm,0.3s,baz=353,slow=16,SNR=3.0						
CFAA	**Coronel Fontan**	**12.24**	**176**	P	**Pn**	**03 12 33.0**	**0.0**
CPUP	**Villa Florida**	**12.95**	**125**	P	**Pn**	**03 12 42.0**	**-0.3**
	1.6nm,0.3s,baz=288,slow=12,SNR=14						
CPUP	**Villa Florida**	**12.95**	**125**	*e*Pn	**Pn**	**03 12 42.1**	**-0.2**
	21nm,0.6s						
TRQA	**Tornquist**	**19.68**	**163**	*e*P	**Pn**	**03 14 04.0**	**-1.8**
	16nm,1.0s						
BDFB	**Brasilia**	**20.52**	**83**	P	**P**	**03 14 12.0**	**-0.6**
	18nm,0.6s,baz=263,slow=8.2,SNR=30						
BDFB				LR	LR	03 21 41.3	
	comp=Z,59nm,21.9s,baz=291,slow=35						
PLCA	**Paso Flores**	**21.36**	**183**	P	**P**	**03 14 20.4**	**-1.2**
	9.6nm,0.8s,mb4.2,baz=356,slow=11,SNR=26						
PLCA	**Paso Flores**	**21.36**	**183**	*e*P	**P**	**03 14 22.5**	**+0.9**
	15nm,1.0s,mb4.3						
OTAV	**Otavalo**	**21.48**	**334**	*e*P	**P**	**03 14 24.6**	**+1.7**
	1.3nm,0.8s,mb3.3						
SDV	**Santo Domingo**	**28.08**	**357**	*e*P	**P**	**03 15 24.0**	**-0.7**
	5.7nm,1.1s,mb4.0						
RCBR	**Riachuelo**	**35.05**	**72**	*e*P	**P**	**03 16 26.7**	**+1.0**
	5.8nm,0.5s,mb4.7						
DBIC	**Dimbokro**	**68.38**	**74**	P	**P**	**03 20 32.9**	**-0.5**
	7.0nm,0.7s,mb4.6,baz=229,slow=6.8,SNR=19						
DBIC				pP	pP	03 21 02.5	+5.2
	1.5nm,0.6s,baz=205,slow=6.4,SNR=2.7						
DBIC	**Dimbokro**	**68.38**	**74**	*e*P	**P**	**03 20 33.4**	**0.0**
	6.8nm,0.6s,mb4.7						
PDAR	**Pinedale Array**	**72.12**	**330**	P	**P**	**03 20 56.6**	**+0.3**
	0.2nm,0.5s,mb3.2,baz=115,slow=6.5,SNR=2.9						
NVAR	**Mina Array Bea**	**73.65**	**322**	P	**P**	**03 21 06.5**	**+1.2**
	0.2nm,0.5s,mb3.1,baz=164,slow=7.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**76.88**	**71**	P	**P**	**03 21 23.4**	**-0.4**
	2.4nm,0.5s,mb4.2,baz=255,slow=5.5,SNR=52						
TORD				pP	pP	03 21 52.1	+4.1
	4.1nm,1.1s,baz=249,slow=5.2,SNR=4.2						
SYO	**Syowa Base**	**78.60**	**160**	⇓*es*P	sP	03 22 12.7	+4.9
VNDA	**Vanda**	**78.92**	**190**	P	**P**	**03 21 34.9**	**-0.3**
	1.1nm,1.0s,mb3.6,baz=135,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**89.08**	**341**	P	**P**	**03 22 26.2**	**-0.4**
	1.6nm,0.6s,mb4.2,baz=133,slow=4.6,SNR=57						
YKA				pP	pP	03 22 55.1	+3.7
	9.3nm,1.3s,baz=131,slow=4.7,SNR=4.9						
YKA	**Yellowknife Ar**	**89.08**	**341**	P	**P**	**03 22 26.2**	**-0.5**
YKA				pP	pP	03 22 55.1	+3.7
ASAR	**Alice Springs**	**131.69**	**209**	PKP	PKPdf	03 28 44.0	+0.1
	0.4nm,0.5s,baz=129,slow=1.9,SNR=6.9						
WRA	**Warramunga Arr**	**134.66**	**212**	PKP	PKPdf	03 28 49.7	+0.2
	0.8nm,0.5s,baz=155,slow=1.8,SNR=6.4						
MKAR	**Makanchi Array**	**144.01**	**34**	PKP	PKPdf	03 29 06.7	+0.2
	0.3nm,0.7s,baz=235,slow=3.8,SNR=3.6						
MKAR	**Makanchi Array**	**144.01**	**34**	PKP	PKPdf	03 29 06.7	+0.2
MJAR	**Matsushiro Arr**	**150.50**	**311**	PKPbc	PKPbc	03 29 21.6	-1.1
	0.7nm,0.5s,baz=179,slow=10,SNR=4.7						
SONM	**Songino Array**	**151.35**	**6**	PKPbc	PKPbc	03 29 25.2	+0.5
	0.8nm,0.5s,baz=312,slow=1.5,SNR=6.8						
SONM				pPKPbc	pPKPbc	03 29 54.2	+3.7
	1.1nm,0.6s,baz=316,slow=1.4,SNR=5.6						

CASC 23 03:24:28.7±2.0, 981N×8333W, h1km±4km, MD3.8, ML3.2, 11C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URSC	**Urasca**	**0.44**	**273**	⇑*i*P	Pg	03 24 38.4	+1.3
VTU	**Volcan Turrial**	**0.47**	**296**	⇑*e*P	Pg	03 24 39.1	+1.4
BUS	**Buena Vista**	**0.49**	**239**	*e*P	Pg	03 24 39.9	+1.8
PICA	**Picada**	**0.49**	**295**	⇑*e*P	Pg	03 24 38.8	+0.6
PICA				*e*S	Sg	03 24 48.3	+3.8
ICR	**Volcan Irazu**	**0.52**	**289**	⇓*e*P	Pg	03 24 39.8	+1.2
ICR				*e*S	Sg	03 24 48.3	+3.0
IRZ2	**Volcan Irazu 2**	**0.58**	**286**	⇑*i*P	Pg	03 24 40.8	+1.0
OCM	**Ochomogo**	**0.62**	**278**	⇑*e*P	Pg	03 24 41.4	+0.8
OCM				AML	AML	03 24 51.5	
	comp=N,1μm,0.4s						
OCM				*e*S	Sg	03 24 51.7	+3.0
LCR2	**La Lucha 2**	**0.66**	**264**	⇑*e*P	Pg	03 24 42.4	+1.0
LCR2				*e*S	Sg	03 24 52.4	+2.4
LAJ	**Bijagual**	**0.78**	**274**	⇑*e*P	Pg	03 24 52.2	+8.6
LAJ				*e*S	Sg	03 25 10.3	+17
VPS2	**Volcan Poas 2**	**0.96**	**293**	*e*P	Pg	03 24 47.5	+0.3
POA2	**Poas 2**	**0.97**	**292**	⇓*i*P	Pg	03 24 47.5	+0.1
POA2				*e*S	Sg	03 25 02.5	+2.5
PRS1	**Puriscal**	**0.98**	**280**	⇑*e*P	Pg	03 24 48.5	+1.0
PRS1				*e*S	Sg	03 25 02.8	+2.6
CTCR	**Cotoan**	**1.07**	**148**	⇓*e*P	Pg	03 24 48.5	-0.8
CTCR				*e*S	Sg	03 25 04.3	+1.1
CGA2	**Cerro Gallo 2**	**1.13**	**280**	⇑*e*P	Pg	03 24 50.2	-0.3
CGA2				*e*S	Sg	03 25 05.8	+0.7
BRU2	**Volcan**	**1.19**	**148**	*e*P	Pg	03 24 50.6	-1.0
BRU2				*e*S	Sg	03 25 07.4	+0.4
EPA	**Esparza**	**1.26**	**278**	⇑*i*P	Pg	03 24 52.2	-0.5
EPA				*e*S	Sg	03 25 10.9	+1.8
CAO	**Cobano**	**1.75**	**267**	⇑*e*P	Pn	03 25 00.8	+0.6
CAO				*e*S	Sn	03 25 25.5	+2.4

*MOS **23** 03:25:23.3±1.7, 3008S×17781W, h33km, mb5.3/22, Error ellipse: s-maj=13.3km s-min=9.6km az=75.5*
*IDC **23** 03:25:24.9±1.7, 3018S×17780W, h39km±14km, mb4.6/12, mb1 4.8/15, mb1mx4.7/18, mbtmp4.8/15, ML4.7/2, MS4.3/15, Ms1 4.3/15, ms1mx4.1/24, Error ellipse: s-maj=13.6km s-min=12.8km az=149.0*
*BJI **23** 03:25:25.3, 2996S×17738W, h61km, mB5.5, mb5.1, Ms5.3, Msz4.8*
*ISCJB **23** 03:25:25.2±0.2, 3049S±004×17792W±006, h54km, mb5.1/52, MS4.5/23, Error ellipse: s-maj=8.5km s-min=4.9km az=63.0*
*HRVD **23** 03:25:26.8±0.2, 3024S×17746W, h44km±1km, MW5.1/71, Centroid moment Tensor Solution. LP body waves: s67,c99;Mantle waves: s71,c114; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.31±.22; $M_{\theta\theta}$-0.42±.16; $M_{\phi\phi}$-4.89±.14; $M_{r\theta}$0.48±.16; $M_{\theta\phi}$-1.72±.14; $M_{\phi r}$2.31±.14; Best double couple: $M_0$5.88600×10^{16} NP1:ϕ_s202.00000°, δ33.00000°, λ95.00000°. NP2: ϕ_s16.00000°, δ57.00000°, λ87.00000°. Principal axes: T 5.8110, Plg78.0000°, Azm275.0000°; N 0.1490, Plg3.0000°, Azm18.0000°; P -5.9620, Plg12.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 03:25:26.8±0.2, 3012S×17789W, mb5.1/35 Error ellipse: s-maj=8.8km s-min=5.9km az=129.0*
ISC 23 03:25:27.0±0.2, 3038S±005×17787W±006, h56km, h56km±.9km:pP-P, n343, σ19.09/148, mb5.1/52, MS4.5/23, 14C-16D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.13**	**358**	Pn	**Pn**	**03 25 41.4**	**-5.1**
	2μm,0.3s,baz=136,slow=3.0,SNR=117						
RAO				Sn	**Sn**	**03 25 54.1**	**-6.9**
	11μm,0.3s,baz=111,slow=19,SNR=29						
RAO	**Raoul Island**	**1.13**	**358**	*e*P	**Pn**	**03 25 41.0**	**-5.5**
RAO				*e*S	**Sn**	**03 25 52.0**	**-9.0**
PUZ	**Puketiti**	**8.32**	**202**	*e*PN	**Pn**	**03 27 20.4**	**-4.5**
PUZ				SN	**Sn**	**03 28 53.7**	**-3.7**
PUZ				SN	**Sn**	**03 28 54.4**	**-3.0**
PUZ	**Puketiti**	**8.32**	**202**	*e*P	**Pn**	**03 27 20.4**	**-4.5**
PUZ				S	**Sn**	**03 28 53.7**	**-3.6**
WCZ	**Waipu Caves**	**8.56**	**228**	*e*PN	**Pn**	**03 27 33.0**	**+4.7**
WCZ	**Waipu Caves**	**8.56**	**228**	*e*P	**Pn**	**03 27 33.0**	**+4.7**
OUZ	**Omahuta**	**8.66**	**234**	*e*PN	**Pn**	**03 27 36.4**	**+6.9**
OUZ	**Omahuta**	**8.66**	**234**	*e*P	**Pn**	**03 27 36.4**	**+6.9**
MWZ	**Matawai**	**8.80**	**204**	*e*PN	**Pn**	**03 27 27.1**	**-4.4**
MWZ				SN	**Sn**	**03 29 05.1**	**-4.1**
MWZ	**Matawai**	**8.80**	**204**	*e*P	**Pn**	**03 27 27.1**	**-4.4**
MWZ				S	**Sn**	**03 29 05.1**	**-4.1**
URZ	**Urewera**	**8.89**	**206**	Pn	**Pn**	**03 27 31.4**	**-1.3**
	5.1nm,0.3s,baz=11,slow=2.5,SNR=12						
URZ				Sn	**Sn**	**03 29 10.1**	**-1.3**
	29nm,0.3s,baz=146,slow=20,SNR=11						
URZ	**Urewera**	**8.89**	**206**	*e*PN	**Pn**	**03 27 28.5**	**-4.2**
URZ	**Urewera**	**8.89**	**206**	*e*P	**Pn**	**03 27 28.5**	**-4.2**
KNZ	**Kokohu**	**9.37**	**202**	SN	Sx	03 29 17.6	
PXZ	**Pawanui**	**10.55**	**203**	SN	Sx	03 29 46.0	
BFZ	**Birch Farm**	**11.34**	**203**	SN	Sx	03 30 04.1	
MRZ	**Mangatainoka R**	**11.56**	**206**	*e*PN	**Pn**	**03 28 02.4**	**-6.8**
MRZ				SN	**Sn**	**03 30 08.6**	**-8.2**
MRZ	**Mangatainoka R**	**11.56**	**206**	*e*P	**Pn**	**03 28 02.4**	**-6.8**
MRZ				S	**Sn**	**03 30 08.6**	**-8.1**
KIW	**Kapiti Island**	**11.99**	**207**	*e*PN	**Pn**	**03 28 07.7**	**-7.4**
KIW				SN	**Sn**	**03 30 18.3**	**-8.9**
MTW	**Mount Morrison**	**12.02**	**205**	SN	Sx	03 30 19.6	
CAW	**Cannon Point**	**12.14**	**206**	SN	Sx	03 30 21.9	
TRWZ	**Traveller**	**12.17**	**204**	SN	Sx	03 30 22.1	
PAWZ	**Paruwai Farm**	**12.25**	**204**	SN	Sx	03 30 23.2	
MSWZ	**Moikau Station**	**12.34**	**205**	SN	Sx	03 30 26.3	
DUWZ	**D'Urville Isla**	**12.36**	**210**	SN	Sx	03 30 29.8	
MRW	**Makara Radio**	**12.39**	**207**	SN	Sx	03 30 28.0	
SNZO	**South Karori**	**12.45**	**207**	*e*Pn	**Pn**	**03 28 24.3**	**+2.9**
SNZO				*e*Sn	**Sn**	**03 30 30.3**	**-8.2**
TCW	**Tory Channel**	**12.54**	**208**	SN	Sx	03 30 31.7	
NNZ	**Nelson**	**12.93**	**211**	SN	Sx	03 30 42.6	
THZ	**Tophouse**	**13.58**	**211**	*e*PN	**Pn**	**03 28 31.3**	**-5.5**
THZ				SN	**Sn**	**03 30 55.6**	**-10**
THZ	**Tophouse**	**13.58**	**211**	*e*P	**Pn**	**03 28 31.3**	**-5.5**
THZ				S	**Sn**	**03 30 55.6**	**-10**
KHZ	**Kahutara**	**13.85**	**208**	SN	Sx	03 31 02.1	
LTZ	**Lake Taylor**	**14.68**	**210**	*e*PN	**Pn**	**03 28 44.3**	**-7.0**
LTZ				SN	Sx	03 31 18.3	
LTZ	**Lake Taylor**	**14.68**	**210**	*e*P	**Pn**	**03 28 44.4**	**-7.0**
MQZ	**McQueen's Vall**	**15.29**	**207**	SN	Sx	03 31 31.7	
RPZ	**Rata Peaks**	**15.96**	**210**	Pn	**Pn**	**03 29 07.7**	**-0.2**
	5.4nm,0.3s,baz=20,slow=1.3,SNR=22						
RPZ				Sn	**Sn**	**03 31 48.9**	**-15**
	1.6nm,0.3s,baz=220,slow=19,SNR=6.4						
DZM	**Mont Dzumac**	**16.32**	**297**	Pn	**Pn**	**03 29 13.6**	**+1.2**
	0.2nm,0.3s,baz=100,slow=19,SNR=2.8						
DZM				LR	LR	03 34 19.0	
	comp=Z,2μm,18.9s,baz=200,slow=33						
JCZ	**Jackson Bay**	**17.30**	**214**	*e*PN	**Pn**	**03 29 18.4**	**-6.2**
AFI	**Afiamalu**	**17.33**	**20**	P	**Pn**	**03 29 20.0**	**-4.9**
	3.4nm,0.3s,baz=12,slow=14,SNR=4.3						
AFI				S	S	03 32 12.4	-31
	baz=41,slow=20,SNR=2.9						
AFI	**Afiamalu**	**17.33**	**20**	*e*P	**Pn**	**03 29 19.9**	**-5.0**
	68nm,1.1s						
AFI	**Afiamalu**	**17.33**	**20**	*e*P	**Pn**	**03 29 19.9**	**-5.0**
AFI				pmax	pmax		
	comp=Z,68nm,1.1s						
RAR	**Rarotonga**	**18.66**	**65**	P	**Pn**	**03 29 34.3**	**-6.8**
	comp=Z,1.2nm,0.3s,baz=216,slow=8.7,SNR=2.9						
RAR				LR	LR	03 35 41.6	
	comp=Z,189nm,19.1s,baz=276,slow=33						
RAR				T		03 49 26.1	
	comp=Z,23nm,0.3s,baz=227,slow=18,SNR=5.5						
RAR	**Rarotonga**	**18.66**	**65**	P	**Pn**	**03 29 34.3**	**-6.8**
RAR				LR	LR	03 35 41.6	
PPT	**Papeete**	**28.73**	**70**	LR	LR	03 39 27.9	
	comp=Z,655nm,21.1s,MS4.2,baz=238,slow=30						
HNR	**Honiara**	**29.38**	**311**	LR	LR	03 41 06.1	
	comp=Z,499nm,21.7s,MS4.1,baz=179,slow=32						
CTAO	**Charters Tower**	**33.91**	**279**	*e*P	**P**	**03 32 06.8**	**+2.2**
	comp=Z,175nm,0.7s,mb6.1						
CTAO	**Charters Tower**	**33.91**	**279**	*e*P	**P**	**03 32 06.8**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,175nm,0.7s,mb6.1						
STKA	**Stephens Creek**	**34.60**	**257**	P	**P**	**03 32 11.4**	**+0.9**
	comp=Z,101nm,0.8s,mb5.8,baz=97,slow=9.8,SNR=152						
STKA				LR	LR	03 45 28.4	
	comp=Z,860nm,18.1s,MS4.5,baz=55,slow=35						
STKA	**Stephens Creek**	**34.60**	**257**	⇑*i*P	**P**	**03 32 11.0**	**+0.5**
PMG	**Port Moresby**	**38.70**	**295**	P	**P**	**03 32 46.1**	**+0.7**
	comp=Z,20nm,0.7s,mb5.0,baz=125,slow=4.9,SNR=9.6						
PMG	**Port Moresby**	**38.70**	**295**	*e*P	**P**	**03 32 46.2**	**+0.7**
	comp=Z,40nm,1.0s,mb5.1						
PMG	**Port Moresby**	**38.70**	**295**	*e*P	**P**	**03 32 46.2**	**+0.8**
PMG				pmax	pmax		
	comp=Z,40nm,1.0s						
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	**03 33 22.9**	**+0.2**
	comp=Z,28nm,0.4s,mb5.3,baz=103,slow=7.4,SNR=344						
ASAR				ScP	ScP	03 39 06.5	+8.9
	comp=Z,4.2nm,0.7s,baz=110,slow=3.5,SNR=4.6						
ASAR				S	**S**	**03 39 50.3**	**+4.7**
	comp=Z,0.6nm,0.8s,baz=97,slow=15,SNR=3.1						
ASAR				PKiKP	PKiKP	03 42 12.9	-1.1
	comp=Z,0.3nm,0.5s,baz=93,slow=1.0,SNR=4.1						
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	**03 33 22.9**	**+0.2**
ASAR				ScP	ScP	03 39 06.5	+8.9
ASAR				S	**S**	**03 39 50.2**	**+4.7**
WRAB	**Tennant Creek**	**44.21**	**272**	P	**P**	**03 33 30.0**	**-0.5**
	comp=Z,982nm,0.5s,SNR=27						
WRAB	**Tennant Creek**	**44.21**	**272**	*e*P	**P**	**03 33 31.1**	**+0.6**
	comp=Z,166nm,0.7s,mb5.9						
WRAB	**Tennant Creek**	**44.21**	**272**	*e*P	**P**	**03 33 31.1**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,166nm,0.7s,mb5.9						
WRA	**Warramunga Arr**	**44.21**	**272**	P	**P**	**03 33 30.8**	**+0.3**
	comp=Z,100nm,0.6s,mb5.8,baz=111,slow=7.7,SNR=256						
WRA				ScP	ScP	03 39 09.2	+7.6
	comp=Z,1.7nm,0.9s,baz=109,slow=3.4,SNR=4.4						
WRA				S	**S**	**03 40 00.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=107,slow=14,SNR=5.0						
WRA				PKiKP	PKiKP	03 42 14.3	-0.6
	comp=Z,0.8nm,0.6s,baz=92,slow=0.4,SNR=5.9						
WRA	**Warramunga Arr**	**44.21**	**272**	P	**P**	**03 33 30.8**	**+0.3**
WRA				ScP	ScP	03 39 09.2	+7.6
WRA				S	**S**	**03 40 00.4**	**+0.4**
SBA	**Scott Base**	**48.06**	**184**	*e*P	**P**	**03 34 04.7**	**+3.9**
	comp=Z,32nm,0.9s,mb5.3						
SBA	**Scott Base**	**48.06**	**184**	*e*P	**P**	**03 34 04.7**	**+3.9**
SBA				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
VNDA	**Vanda**	**48.13**	**186**	P	**P**	**03 34 02.9**	**+1.6**
	comp=Z,9.0nm,1.0s,mb4.8,baz=8.2,slow=6.6,SNR=21						
VNDA				LR	LR	03 49 27.3	
	comp=Z,190nm,20.8s,MS4.0,baz=56,slow=30						
VNDA	**Vanda**	**48.13**	**186**	*e*P	**P**	**03 34 04.8**	**+3.5**
	comp=Z,6.3nm,0.8s,mb4.7						
VNDA	**Vanda**	**48.13**	**186**	*e*P	**P**	**03 34 04.8**	**+3.5**
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CASY	**Casey**	**55.21**	**208**	*e*P	**P**	**03 34 54.4**	**+0.2**
	comp=Z,83nm,0.7s,mb5.9						
MBWA	**Marble Bar**	**56.34**	**264**	*e*P	**P**	**03 35 01.2**	**-1.0**
	comp=Z,34nm,1.2s,mb5.2						
QSPA	**South Pole Qui**	**59.73**	**180**	*e*P	**P**	**03 35 34.7**	**+8.8**
	comp=Z,136nm,0.9s,mb6.0						
MAW	**Mawson**	**72.37**	**201**	P	**P**	**03 36 47.7**	**+0.7**
	comp=Z,14nm,0.8s,mb5.0,baz=134,slow=10,SNR=6.1						
MAW				LR	LR	04 07 11.9	
	comp=Z,340nm,18.0s,MS4.7,baz=95,slow=34						
MAW	**Mawson**	**72.37**	**201**	P	**P**	**03 36 47.7**	**+0.7**
MAW				LR	LR	04 07 11.9	
KKM	**Kota Kinabalu**	**72.66**	**288**	*e*P	**P**	**03 36 48.0**	**-0.8**
SYO	**Syowa Base**	**77.16**	**193**	⇓*e*P	**P**	**03 37 15.3**	**+0.6**
SYO	**Syowa Base**	**77.16**	**193**	⇑*e*pP	pP	03 37 30.2	-0.1
SYO	**Syowa Base**	**77.16**	**193**	⇑*e*PP	PP	03 40 07.5	-1.5
SNAA	**Sanae**	**78.17**	**178**	*e*P	**P**	**03 37 20.4**	**+0.1**
SNAA				*e*		03 37 28.1	
SNAA				*e*	pP	03 37 35.0	-1.0
MJAR	**Matsushiro Arr**	**78.29**	**325**	P	**P**	**03 37 18.8**	**-2.2**
	comp=Z,5.7nm,0.7s,mb4.6,baz=162,slow=5.9,SNR=15						
MJAR				LR	LR	04 06 26.3	
	comp=Z,150nm,20.8s,MS4.3,baz=70,slow=32						
MAT	**Matsushiro**	**78.29**	**325**	P	**P**	**03 37 18.6**	**-2.4**
MAT	**Matsushiro**	**78.29**	**325**	*e*P	**P**	**03 37 19.0**	**-2.0**
	comp=Z,10.0nm,1.0s,mb4.7						
MAT	**Matsushiro**	**78.29**	**325**	*e*P	**P**	**03 37 19.0**	**-2.0**
MAT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
VNA3	**Neumayer Olymp**	**78.32**	**176**	*e*P	**P**	**03 37 22.0**	**+0.9**
VNA3				*e*		03 37 29.7	
VNA3				*e*	pP	03 37 37.1	+0.3
VNA3				*e*		03 37 44.0	
VNA2	**Neumayer--Watz**	**78.75**	**177**	*e*P	**P**	**03 37 24.8**	**+1.3**
VNA2				*e*		03 37 32.4	
VNA2				*e*	pP	03 37 39.9	+0.7
VNA2				*e*	pP	03 37 44.8	+5.6
NVL	**N'lazarevskaya**	**78.90**	**183**	⇓*i*P	**P**	**03 37 25.7**	**+1.3**
NVL				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.3						
ADK	**Adak**	**81.92**	**1**	⇑*i*P	**P**	**03 37 39.0**	**-1.6**
	comp=Z,56nm,0.6s,mb5.7						
ADK	**Adak**	**81.92**	**1**	⇑*i*P	**P**	**03 37 39.0**	**-1.5**
ADK				pmax	pmax		
	comp=Z,56nm,0.6s,mb5.7						
PLCA	**Paso Flores**	**82.44**	**133**	P	**P**	**03 37 44.4**	**+1.2**
	comp=Z,5.5nm,1.1s,mb4.4,baz=228,slow=4.9,SNR=7.1						
PLCA				LR	LR	04 05 52.4	
	comp=Z,314nm,19.4s,MS4.7,baz=235,slow=29						
PLCA	**Paso Flores**	**82.44**	**133**	*e*P	**P**	**03 37 44.7**	**+1.5**
	comp=Z,36nm,1.7s,mb5.0						
PLCA	**Paso Flores**	**82.44**	**133**	*e*P	**P**	**03 37 44.7**	**+1.5**
PLCA				pmax	pmax		
	comp=Z,36nm,1.7s						
FX1	**Attu Island--F**	**83.28**	**355**	*e*P	**P**	**03 37 45.7**	**-1.9**
SSE	**Sheshan**	**84.18**	**311**	P	**P**	**03 37 51.5**	**-0.7**
SSE				XP	sP	03 38 11.8	-2.4
SSE				PP	PP	03 41 05.9	-1.2
SSE				S		03 48 12.8	
SSE				XS	sS	03 48 37.9	-1.7
SSE				SS	SS	03 53 44.3	+1.4
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.7						
SSE				AMB	AMB		
	comp=Z,77nm,4.3s						
SSE				LR	LR		
	comp=N,75nm,25.4s,MS4.1						
SSE				LR	LR		
	comp=E,74nm,25.4s,MS4.1						
SSE				LR	LR		
	comp=Z,132nm,21.8s,MS4.3						
YSS	**Yuzh-Sakhalins**	**84.78**	**334**	⇑*e*P	**P**	**03 37 56.0**	**+0.8**
YSS				*e*	pP	03 38 13.0	+1.9
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
KULM	**Kulim**	**85.33**	**279**	*e*P	**P**	**03 37 58.1**	**0.0**
MWC	**Mount Wilson**	**85.50**	**46**	*e*P	**P**	**03 37 57.5**	**-1.4**
MWC				*e*pP	pP	03 38 08.2	-6.5
MWC				*e*sP	sP	03 38 14.2	-6.7
PET	**Petropavlovsk**	**85.54**	**346**	*e*P	**P**	**03 38 06.1**	**+7.1**
PET				pmax	pmax		
	comp=Z,100nm,15.4s						
PFO	**Pinyon Flat Ob**	**86.11**	**47**	*e*P	**P**	**03 38 02.2**	**+0.4**
	comp=Z,10.0nm,1.2s,mb4.9						
PFO				*e*pP	pP	03 38 17.6	-0.2
PFO	**Pinyon Flat Ob**	**86.11**	**47**	*e*P	**P**	**03 38 02.2**	**+0.3**
PFO				*e**PP	pP	03 38 17.6	-0.1
PFO				pmax	pmax		
	comp

ELK *e*PP pP 03 38 42.9 -0.2
ELK pmax pmax
comp=Z,12nm,1.4s
GYA Guiyang 91.64 300 P **P** **03 38 28.4 +0.4**
GYA AP pP 03 38 45.6 +1.6
GYA XP sP 03 38 52.3 +2.2
GYA PP PP 03 42 10.3 +3.4
GYA SKS 03 48 54.1
GYA S 03 49 21.8
GYA SS SS 03 55 33.9 +2.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,110nm,3.8s
GYA LR LR
comp=N,670nm,18.9s,MS5.3
GYA LR LR
comp=E,730nm,19.0s,MS5.3
GYA LR LR
comp=Z,850nm,19.1s,MS5.2
ENH Enshi 91.69 304 *e*P **P** **03 38 28.2 0.0**
comp=Z,37nm,1.3s,mb5.5
ENH *e*pP pP 03 38 44.6 +0.3
MSU Marysvale 91.89 46 *e*P **P** **03 38 29.6 +0.4**
MSU *e*pP pP 03 38 45.4 +0.2
MNTX Cornudas Mount 92.37 54 *e*P **P** **03 38 31.6 +0.2**
comp=Z,2.2nm,1.1s,mb4.4
MNTX *e*pP pP 03 38 47.1 -0.3
DUG Dugway 92.54 44 *e*P **P** **03 38 32.2 0.0**
comp=Z,2.0nm,1.1s,mb4.5
DUG Dugway 92.54 44 *e*P **P** **03 38 32.2 0.0**
DUG pmax pmax
comp=Z,2.0nm,1.1s,mb4.5
BJI Beijing 92.99 315 *e*P **P** **03 38 36.3 +2.0**
BJI S 03 49 31.6
BJI AMB AMB
comp=Z,8.0nm,0.8s,mb5.2
BJI LR LR
comp=Z,201nm,30.2s,MS4.4
ANMO Albuquerque 93.47 51 P **P** **03 38 35.7 -0.8**
comp=Z,0.7nm,0.5s,mb4.3,baz=219,slow=5.4,SNR=5.7
ANMO LR LR 04 16 08.6
comp=Z,116nm,18.3s,MS4.4,baz=215,slow=33
ANMO Albuquerque 93.47 51 *e*P **P** **03 38 36.5 0.0**
comp=Z,5.7nm,1.3s,mb4.8
ANMO *e*pP pP 03 38 52.3 -0.2
ANMO Albuquerque 93.47 51 *e*P **P** **03 38 36.5 0.0**
ANMO *e**PP pP 03 38 52.3 -0.2
ANMO pmax pmax
comp=Z,6.0nm,1.3s
HLID Hailey 93.71 41 *e*P **P** **03 38 37.4 -0.2**
comp=Z,6.7nm,1.0s,mb5.0
HLID *e*pP pP 03 38 52.7 -0.9
LVC Limon Verde 93.84 119 LR LR 04 10 37.1
comp=Z,241nm,19.6s,MS4.7,baz=167,slow=29
KMI Kunming 93.92 297 P **P** **03 38 39.9 +1.4**
KMI LR LR
comp=Z,81nm,38.9s,MS3.9
HWUT Hardware Ranch 94.15 44 *e*P **P** **03 38 38.7 -0.9**
comp=Z,20nm,1.8s,mb5.2
CPRX Cap Rock 94.18 54 *e*P **P** **03 38 38.8 -0.9**
CPRX *e*pP pP 03 38 55.4 -0.3
MCMT McKenzie Canyo 95.38 40 *e*P **P** **03 38 45.2 0.0**
MCMT *e*pP pP 03 39 01.0 -0.2
SMCO Snowmass 95.55 48 *e*P **P** **03 38 46.3 +0.3**
comp=Z,4.5nm,1.1s,mb4.8
SNOW Snow King Moun 95.75 42 *e*P **P** **03 38 46.9 -0.1**
comp=Z,8.5nm,1.1s,mb5.1
SNOW *e*pP pP 03 39 02.0 -0.9
MOOW Moose Ponds 95.93 42 *e*P **P** **03 38 47.7 0.0**
comp=Z,5.4nm,1.4s,mb4.8
LOHW Long Hollow 95.93 42 *e*P **P** **03 38 47.0 -0.7**
comp=Z,3.2nm,1.2s,mb4.6
LOHW *e*pP pP 03 39 02.5 -1.2
SEY Seymchan 95.98 347 *e*P **P** **03 38 46.6 -1.4**
BW06 Boulder Array 96.04 43 *e*P **P** **03 38 47.7 -0.6**
comp=Z,1.1nm,0.5s,mb4.5
PDAR Pinedale Array 96.04 43 P **P** **03 38 47.8 -0.4**
comp=Z,1.0nm,0.9s,mb4.3,baz=184,slow=3.9,SNR=7.1
PDAR PKKPbc PKKPbc 03 55 36.5 +1.0
comp=Z,1.3nm,0.7s,baz=85,slow=4.1,SNR=14
PDAR LR LR 04 13 11.6
comp=Z,178nm,21.2s,MS4.5,baz=253,slow=30
FLWY Flagg Ranch 96.15 42 *e*P **P** **03 38 49.0 +0.2**
comp=Z,24nm,1.4s,mb5.4
FLWY *e*pP pP 03 39 04.3 -0.5
CD2 Chengdu 96.17 302 *e*P **P** **03 38 46.6 -2.3**
CD2 AP pP 03 39 03.8 -1.1
CD2 XP sP 03 39 10.5 -0.5
CD2 PP PP 03 42 42.0 -0.3
CD2 SKS 03 49 16.4
CD2 S 03 49 56.9
CD2 XS sS 03 50 26.5 -4.4
CD2 PS PS 03 51 29.6 -0.4
CD2 SS SS 03 56 32.8 -3.5
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,100nm,9.2s
CD2 LR LR
comp=E,80nm,18.0s
CD2 LR LR
comp=Z,80nm,15.6s,MS4.3
QLMT Earthquake Lak 96.18 41 *e*P **P** **03 38 49.7 +0.8**
QLMT *e*pP pP 03 39 05.5 +0.6
HHC Hu-ho-hao-te 96.30 314 *e*P **P** **03 38 49.1 -0.3**
HHC AP pP 03 39 06.4 +1.0
HHC XP sP 03 39 13.0 +1.5
HHC PP PP 03 42 45.3 +2.0
HHC SKS 03 49 19.5
HHC S 03 50 00.4
HHC XS sS 03 50 29.8 -2.3
HHC SS SS 03 56 37.3 -0.8
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.8
HHC AMB AMB
comp=Z,87nm,8.7s
HHC LR LR
comp=N,126nm,7.4s
HHC LR LR
comp=E,253nm,17.7s
HHC LR LR
comp=Z,193nm,26.0s
BOZ Bozeman (W) 96.57 40 *e*P **P** **03 38 50.2 -0.4**
comp=Z,6.4nm,1.5s,mb4.8
BOZ *e*pP pP 03 39 05.6 -1.1
BOZ Bozeman (W) 96.57 40 *e*P **P** **03 38 50.2 -0.4**
BOZ *e**PP pP 03 39 05.6 -1.0
BOZ pmax pmax
comp=Z,6.0nm,1.5s,mb4.8
ILAR Eielson Array 97.88 13 P **P** **03 38 54.1 -2.5**
comp=Z,1.4nm,0.7s,mb4.6,baz=209,slow=5.0,SNR=9.8
ILAR PKKPbc PKKPbc 03 55 35.1 +4.7
comp=Z,0.5nm,0.6s,baz=21,slow=3.2,SNR=9.1
ILAR LR LR 04 15 01.6
comp=Z,73nm,21.5s,MS4.1,baz=359,slow=30
LPAZ La Paz 98.05 114 LR LR 04 13 31.0
comp=Z,70nm,19.6s,MS4.2,baz=293,slow=29
LZH Lanzhou 98.80 307 *e*P **P** **03 39 02.5 +1.8**
LZH AP pP 03 39 17.0 +0.3
LZH XP sP 03 39 23.8 +1.0
LZH PP PP 03 43 06.5 +4.0
LZH *e*SKS 03 49 33.5
LZH *e*SS SS 03 57 10.0 -3.3
LZH AMB AMB
comp=Z,65nm,6.0s
LZH LR LR
comp=N,329nm,18.9s
LZH LR LR
comp=Z,450nm,20.0s,MS5.0
BILL Bilibino 98.83 354 *e*P **P** **03 38 59.2 -1.6**
comp=Z,2.0nm,0.6s,mb4.8
BILL Bilibino 98.83 354 *e*P **P** **03 38 59.0 -1.8**
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb5.0
BILL MLR MLR
comp=Z,200nm,21.0s,MS4.6
CPUP Villa Florida 99.91 128 LR LR 04 19 57.9
comp=Z,164nm,19.6s,MS4.5,baz=208,slow=33
RSSD Black Hills 100.12 45 *e*Pdif Pdif 03 39 06.7 +0.1
comp=Z,4.1nm,1.0s
RSSD Black Hills 100.12 45 *e*P Pdif 03 39 06.7 +0.1
RSSD pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 103.73 16 PP PP 03 43 35.7 -4.0
comp=Z,0.7nm,0.7s,baz=205,slow=9.7,SNR=4.5
YKA Yellowknife Ar 105.38 25 Pdiff Pdif 03 39 30.8 +0.9
comp=Z,0.1nm,0.6s,baz=258,slow=9.1,SNR=3.0
YKA PKiKP PKiKP 03 43 41.0 -2.5
comp=Z,0.3nm,0.6s,baz=257,slow=1.5,SNR=17
YKA PKKPbc PKKPbc 03 55 05.8 -2.9
comp=Z,1.4nm,0.9s,baz=36,slow=3.0,SNR=16
YKA PKKPab PKKPab 03 55 24.0 -2.2
comp=Z,1.4nm,0.9s,baz=46,slow=5.2,SNR=11
YKA Yellowknife Ar 105.38 25 Pdif Pdif 03 39 30.8 +0.9
YKA PKPdf PKiKP 03 43 41.0 -2.5
YKA PKKPbc PKKPbc 03 55 05.8 -2.9
YKA PKKPab PKKPab 03 55 24.0 -2.2
FCC Fort Churchill 112.38 34 *e*PKP PKiKP 03 43 55.3 -1.3
WMQ Urumqi 113.30 308 *e*PKP PKiKP 03 43 57.1 -1.3
WMQ LR LR
comp=N,449nm,22.0s,MS5.2
WMQ LR LR
comp=E,496nm,22.0s,MS5.2
WMQ LR LR
comp=Z,495nm,22.0s,MS5.1
RES Resolute Bay 117.19 17 *e*PKPdf PKPdf 03 44 03.5 -2.4
RES *ep*PKPdf pPKPdf 03 44 18.4 -4.0
BOSA Boshof 117.33 203 PKP PKPdf 03 44 07.0 +0.9
comp=Z,2.1nm,0.7s,baz=135,slow=4.3,SNR=2.9
MKAR Makanchi Array 117.85 310 PKP PKPdf 03 44 05.7 -1.4
comp=Z,4.7nm,0.7s,baz=200,slow=1.2,SNR=56
MKAR PKKPbc PKKPbc 03 54 28.1 +0.5
comp=Z,0.3nm,0.5s,baz=251,slow=3.5,SNR=5.4
NVS Novosibirsk 119.20 319 *e*PKIKP PKPdf 03 44 04.1 -5.6
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=E,3.0nm,0.6s
KURK Kurchatov 121.12 314 *e*PKPdf PKPdf 03 44 11.6 -1.8
TKM2 Tokmak 2 121.47 304 P PKPdf 03 44 13.4 -0.7
SNR=12
KZA Kyzart 121.52 303 P PKPdf 03 44 14.7 +0.5
SNR=15
KBK Karagaybulak 121.88 304 P PKPdf 03 44 14.6 -0.2
SNR=9.1
UCH Uchtor 122.09 303 P PKPdf 03 44 15.8 +0.6
SNR=19
CHMS Chumysh 122.10 304 P PKPdf 03 44 14.6 -0.7
SNR=8.1
USP Ospenovka 122.34 305 P PKPdf 03 44 15.1 -0.7
SNR=13
AML Almayashu 122.66 303 P PKPdf 03 44 16.6 +0.2
SNR=28
EKS2 Erkin-Say 122.72 304 P PKPdf 03 44 16.4 0.0
SNR=12
KKAR Karatay Array 125.16 304 *i* PKIKP PKPdf 03 44 20.3 -0.9
KKAR pmax pmax
comp=Z,9.0nm,0.6s
VOSK Vostochnaya 126.09 315 PKIKP PKPdf 03 44 21.5 -1.4
SCHQ Schefferville 126.15 42 PKP PKPdf 03 44 20.9 -2.2
comp=Z,7.0nm,1.1s,baz=315,slow=2.9,SNR=3.3
BVA0 Borovoye Array 126.47 316 *i* PKIKP PKPdf 03 44 22.3 -1.4
BVA0 pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 126.54 316 *e*PKPdf PKPdf 03 44 22.6 -1.2
ZRNK Zerenda 127.30 316 *e*PKPdf PKPdf 03 44 24.0 -1.2
LSZ Lusaka 128.13 213 *e*PKPdf PKPdf 03 44 28.1 +1.3
SUMG Summit 132.65 15 *e*PKPdf PKPdf 03 44 34.6 -0.8
AB31 Akbulak array 132.98 311 *i* PKIKP PKPdf 03 44 35.9 -0.1
AB31 pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 133.15 321 *e*PKPdf PKPdf 03 44 35.4 -0.9
ARU Arti 133.15 321 *i* PKIKP PKPdf 03 44 34.9 -1.4
ARU *e* 03 46 59.3
KMBO Kilima Mbogo 134.18 233 PKP PKPdf 03 44 39.5 +1.2
comp=Z,4.7nm,1.0s,baz=21,slow=3.6,SNR=10
KMBO Kilima Mbogo 134.18 233 *e*PKIKP PKPdf 03 44 39.8 +1.5
ARCES ARCESS Array B 138.59 348 PKhKP 03 44 36.4
comp=Z,2.1nm,0.5s,baz=31,slow=2.8,SNR=13
KTK1 Kautokeino 139.45 348 *e*P PKPdf 03 44 38.8 -9.2
KLMR Klimovskoe 140.80 332 *i* PKIKP PKPdf 03 44 47.7 -2.8
KLMR pmax pmax
comp=Z,50nm,2.2s
JOF Joensuu 142.44 339 *e*p PKPdf 03 44 48.1 -5.3
comp=Z,3.8nm,0.6s
GNI Garni 144.16 298 *e*P PKPdf 03 44 53.5 -2.9
GNI Garni 144.16 298 *e*PKIKP PKPdf 03 44 54.4 -2.1
KAF Kangasniemi 144.57 341 *e*p PKPdf 03 44 52.3 -4.9
ZEI Tsey 144.60 302 *i* PKIKP PKPdf 03 44 54.8 -2.4
CLDR Caldiran 144.83 296 *e*P PKPdf 03 44 56.4 -1.2
HKR Hakkari 144.98 293 *e*P PKPdf 03 44 55.9 -2.0
PUL Pulkovo 145.03 335 *i* PKIKP PKPdf 03 44 56.1 -1.9
PUL pmax pmax
comp=Z,168nm,0.6s
PUL pmax pmax
comp=N,165nm,0.9s
PUL pmax pmax
comp=E,111nm,0.8s
CUKT Cukurca 145.08 293 *e*P PKPbc 03 44 57.2 -0.4
FINES FINESS Array B 145.17 340 PKPbc PKPbc 03 44 56.1 -1.8
comp=E,104nm,0.6s,baz=60,slow=3.8,SNR=774
DIGO Kars 145.20 298 *i* P PKPbc 03 45 01.1 +3.1
OBN Obninsk 145.22 325 *e*PKPdf PKPdf 03 44 56.6 -1.6
OBN Obninsk 145.22 325 *c* *i*PKIKP PKPdf 03 44 56.8 -1.5
OBN *e* 03 51 27.6
OBN pmax pmax
comp=Z,57nm,0.8s
NSS Namsos 145.28 353 *e*P PKPbc 03 44 55.4 -2.8
NSS AMb AMB 03 44 57.3
comp=Z,168nm,1.3s
KIV Kislovodsk 145.31 304 *e*PKPdf PKPdf 03 44 57.5 -0.9
KIV Kislovodsk 145.31 304 *e*PKHKP 03 44 53.7
KIV *i* 03 44 57.8
KIV pmax pmax
comp=Z,26nm,1.0s
VOR Voronezh 145.38 319 PKHKP 03 44 54.0
VOR pmax pmax
comp=Z,60nm,2.0s
MSL Mosul 145.47 291 *ex* x 03 45 02.0
BTMT Batman 146.76 294 *e*P PKPdf 03 45 01.4 +0.5
EZM Erzurum 146.77 297 *e*P PKPdf 03 45 03.5 +2.6
SOC Sochi 147.50 304 *c* *i*PKP2 PKPab 03 45 03.4 -3.5
SOC *e*SS SKKSdf 04 01 19.1 +13
SOC pmax pmax
comp=Z,24nm,1.0s
MOL Molde 147.61 355 *e*P PKPab 03 45 07.0 -0.3
MOL AMb AMB 03 45 12.1
comp=Z,96nm,1.5s
DOMB Dombas 148.01 354 *e*P PKPdf 03 45 04.8 +1.8
DOMB AMb AMB 03 45 08.1
comp=Z,51nm,1.6s
GUMT Gumushane 148.15 299 *e*P PKPdf 03 45 05.7 +2.5
KELT Kelkit 148.36 298 *i* P PKPdf 03 45 07.2 +3.7
ELZG Elazig 148.71 295 *i* P PKPab 03 45 08.7 -3.1
NB2 NORSAR Subarra 148.75 351 PKPa PKPdf 03 45 06.6 +2.4
comp=Z,44nm,1.0s,baz=26,slow=3.0
NB2 NORSAR Subarra 148.75 351 PKPa PKPdf 03 45 06.6 +2.4
baz=26,slow=3.0
NOA NORSAR Array B 148.75 351 PKPbc PKPbc 03 45 06.2 -1.8
comp=Z,20nm,0.8s,baz=14,slow=4.3,SNR=63
URFA Urfa 148.89 293 *e*P PKPbc 03 45 09.5 +1.1
NAO01 NORSAR Array S 148.98 352 *e*PKPbc PKPbc 03 45 07.0 -1.7
NAO01 *e*PKPab PKPab 03 45 11.1 -1.8
GRSN GIRESUNGRSN 149.01 300 *i* P PKPdf 03 45 06.3 +1.7
MALT Malatya 149.16 295 *e*P PKPdf 03 45 05.7 +0.9
MALT Malatya 149.16 295 *e*PKP2 PKPab 03 45 09.1 -4.5
MNK Minsk 149.65 330 *e*PKP2 PKPab 03 45 09.0 -6.6
MNK pmax pmax
comp=Z,380nm,1.5s
ASK Askoy 149.82 357 *e*P PKPdf 03 45 09.8 +3.9
GZT Gaziantep 149.90 293 *i* P PKPdf 03 45 09.4 +3.4
EGD Espegrend 150.04 357 *e*P PKPbc 03 45 11.2 0.0
SVSK Karacayir 150.11 298 *e*P PKPbc 03 45 11.8 +0.3
KONO Kongsberg 150.30 352 *e*PKPbc PKPbc 03 45 10.6 -1.3
ODD1 Odda 150.31 355 *e*P PKPdf 03 45 10.1 +3.4
BLS5 Blasjo 150.81 355 *e*P PKPbc 03 45 12.0 -1.1
COBT Iskenderun 150.98 291 *i* P PKPbc 03 45 13.7 +0.2
SIM Simferopol' 151.02 309 ⇑ *i*PKIKP PKPbc 03 45 13.6 0.0
SIM pmax pmax
comp=Z,43nm,0.7s
AKASG Malin Array Be 151.35 323 PKP PKPdf 03 45 06.1 -2.2
comp=Z,1.3nm,0.6s,baz=55,slow=1.2,SNR=7.6
AKASG PKPbc PKPbc 03 45 12.2 -2.2
comp=Z,42nm,0.6s,baz=48,slow=3.3,SNR=154
AKASG Malin Array Be 151.35 323 PKP PKPdf 03 45 06.1 -2.2
AKASG PKPbc PKPbc 03 45 12.2 -2.2
BOYT Boyabat 151.42 302 *i* P PKPbc 03 45 14.1 -0.4
BHL Bhannes 151.47 286 *e*P PKPbc 03 45 15.2 +0.6
SUW Suwalki 151.91 333 *e*PKP PKPbc 03 45 14.6 -1.0
CDAG Cicekdag 152.15 298 *i* P PKPbc 03 45 15.6 -0.6
BR131 Keskin Array S 152.69 299 *e*PKPbc PKPbc 03 45 16.6 -0.8
BRTR Keskin Array B 152.69 299 PKP PKPdf 03 45 09.4 -0.9
comp=Z,1.1nm,0.8s,baz=111,slow=1.7,SNR=6.1
BRTR PKPbc PKPbc 03 45 16.5 -0.9
comp=Z,6.7nm,0.6s,baz=138,slow=3.8,SNR=34
ELDT Eldivan 152.71 300 *i* P PKPbc 03 45 17.2 -0.3
ANTO Ankara 153.31 299 *e*PKPdf PKPdf 03 45 11.0 -0.2
ANTO *e*PKPbc PKPbc 03 45 18.1 -0.6
CSS Prodhromos 153.40 288 *e*PKPbc PKPbc 03 45 18.6 -0.4
BSD Bornholm Skovb 153.65 343 *i* P PKPbc 03 45 21.7 +2.2
BSD *i* 03 45 24.4
HENT Hendek 154.50 302 *i* P PKPdf 03 45 13.7 +0.8
GKP Gorka Klasztor 154.62 339 *e*PKP PKPbc 03 45 21.1 -0.5
LIC Lamto 155.04 163 *e*PKIKP PKPdf 03 45 13.0 -0.6
comp=Z,35nm,1.3s
KWP Kalwaria 155.28 327 *e*PKP PKPab 03 45 38.1 -1.1
KWP Kalwaria 155.28 327 *e*PKPbc PKPdf 03 45 22.4 +8.5
KWP *e*PKPab PKPab 03 45 37.8 -1.5
KWP *e*PKP PKPab 03 45 38.1 -1.1
BURAR Bucovina Array 155.29 321 ⇓ P PKPdf 03 45 23.7 +10
BURAR Bucovina Array 155.29 321 ⇓ P PKPdf 03 45 23.7 +10
DBIC Dimbokro 155.52 163 PKP PKPdf 03 45 15.2 +0.9
comp=Z,3.6nm,0.9s,baz=197,slow=8.0,SNR=4.0
BSEG Bad Segeberg 155.72 348 *e*PKPab PKPab 03 45 40.2 -0.9
comp=Z,45nm,1.1s
MLR Muntele Rosu 156.04 316 ⇓ P PKPdf 03 45 21.8 +6.8
STHS Stebnicka Huta 156.11 328 *e* 03 45 33.0
CRVS Cervenica-Dubn 156.38 327 *e*PKP PKPab 03 45 43.6 -0.3
KSP Ksiaz 156.98 337 *e*PKP PKPab 03 45 46.0 -0.6
KSP Ksiaz 156.98 337 *e*PKP2 PKPab 03 45 45.8 -0.8
OKC Ostrava-Krasne 157.12 333 *e*PKPAB PKPab 03 45 47.1 0.0
KECS Kecovo 157.13 327 *e*PKP PKPab 03 45 45.8 -1.4
DRGR 157.15 322 ⇓ P pPKPdf 03 45 30.4 -2.6
DRGR 157.15 322 ⇓ P pPKPdf 03 45 30.4 -2.5
UPC Upice 157.36 337 *e*PKPAB PKPab 03 45 47.6 -0.6
DPC Dobruska-Polom 157.39 336 *e*PKPAB PKPab 03 45 47.9 -0.4
DPC *ep*PKP pPKPab 03 46 04.8 +0.4
CLL Collm 157.58 342 *e*PKPab PKPab 03 45 48.0 -1.1
comp=Z,29nm,0.9s
CLL Collm 157.58 342 *e*PKPdif 03 45 30.0
CLL ⇓ *i*PKPab PKPab 03 45 47.9 -1.2
comp=Z,29nm,0.9s
CLL *ex* x 03 45 52.0
CLL *e*PP PP 03 49 27.0 -1.3
CLL *ep*PP 03 49 44.0
CLL Collm 157.58 342 ⇓ *i*PKP2 PKPab 03 45 47.9 -1.2
CLL pmax pmax
comp=Z,29nm,0.9s
IBBN Ibbenburen 157.70 351 *e*PKPab PKPab 03 45 48.7 -1.0
comp=Z,84nm,0.9s
BRG Berggiesshubel 157.71 340 *e*PKPab PKPab 03 45 48.9 -0.8
BRG Berggiesshubel 157.71 340 *i* PKP PKPdf 03 45 16.3 -0.8
comp=Z,1.4nm,0.8s
BRG *i* 03 45 49.0
CLZ Clausthal 157.71 346 *e*PKPab PKPab 03 45 48.8 -0.9
comp=Z,26nm,0.9s
CLZ Clausthal 157.71 346 *e*PKP2 PKPab 03 45 48.8 -0.9
CLZ pmax pmax
comp=Z,26nm,0.9s
PVCC Panska Ves 157.82 339 *e*PKPAB PKPab 03 45 49.8 -0.4
VYHS Vyhne 157.87 330 *e*PKP PKPab 03 45 49.2 -1.2
VRAC Vranov 158.15 334 ⇓ P PKPab 03 45 51.3 -0.3
WTSB Winterswijk 158.16 352 ⇓ *e*PKiKP PKPab 03 45 50.2 -1.4
comp=Z,32nm,0.8s
PRU Pruhonice 158.30 338 *e*PKPAB PKPab 03 45 50.9 -1.3
PRU *ep*PKP pPKPab 03 46 08.6 +0.3
TANN Tannenbergstha 158.54 342 *e*PKPab PKPab 03 45 52.5 -0.8
comp=Z,16nm,1.1s
MOX Moxa 158.55 343 *e*PKPab PKPab 03 45 52.4 -0.9
comp=Z,18nm,1.1s
MOX Moxa 158.55 343 *e*PKP PKPab 03 45 52.2 -1.1
comp=Z,22nm,1.3s
MOX Moxa 158.55 343 *e*PKP2 PKPab 03 45 52.2 -1.1
MOX pmax pmax
comp=Z,22nm,1.3s
BUG Bochum--Univer 158.62 351 *e*PKPab PKPab 03 45 52.4 -1.2
comp=Z,25nm,1.1s
NKC Novy Kostel 158.71 342 *e*PKPAB PKPab 03 45 53.4 -0.6
VTS Vitosha 159.19 312 ⇑ PKP2 PKPab 03 45 56.7 +0.6
ROTZ Rotzenmuhle 159.19 341 *e*PKPab PKPab 03 45 55.8 -0.3
comp=Z,18nm,1.3s
KHC Kasperske Hory 159.35 338 *e*PKPDF PKPdf 03 45 18.2 -0.9
KHC *e*PKPAB PKPab 03 45 56.3 -0.5
KHC *ep*PKP pPKPab 03 46 09.3 -3.6
KHC Kasperske Hory 159.35 338 *e*PKIKP PKPdf 03 45 18.2 -0.9
KHC *e* 03 45 56.3
BEBN Eben Emael 159.43 354 PKPab PKPab 03 45 55.9 -1.3
HGN Heimansgroeve 159.44 353 ⇓ *e*PKiKP PKPab 03 45 56.0 -1.2
comp=Z,34nm,0.8s
GRF Grafenberg Arr 159.52 343 *e*PKPab PKPab 03 45 56.9 -0.7
comp=Z,42nm,1.2s
GRF Grafenberg Arr 159.52 343 *e*PKP2 PKPab 03 45 56.9 -0.7
GRF pmax pmax
comp=Z,42nm,1.2s
UCC Uccle 159.53 356 PKPab PKPab 03 45 56.2 -1.4
WET Wettzell 159.56 339 *e*PKPab PKPab 03 45 57.3 -0.4
comp=Z,19nm,1.0s
WET Wettzell 159.56 339 *e*PKP2 PKPab 03 45 57.3 -0.4
WET pmax pmax
comp=Z,19nm,1.0s
GERES GERESS Array B 159.56 338 PKP PKPdf 03 45 17.6 -1.7
comp=Z,1.3nm,0.9s,baz=17,slow=1.4,SNR=6.6
GERES PKPab PKPab 03 45 56.4 -1.3
comp=Z,2.1nm,0.6s,baz=44,slow=4.1,SNR=8.8
MEM Membach 159.59 353 PKPab PKPab 03 45 56.1 -1.7
TNS Taunus Mts 159.62 348 *e*PKPab PKPab 03 45 56.8 -1.2
comp=Z,19nm,0.8s
TNS Taunus Mts 159.62 348 *e*PKP2 PKPab 03 45 56.8 -1.2
TNS pmax pmax
comp=Z,19nm,0.8s
PKSM Moragy 159.63 325 ⇑ P PKPdf 03 45 18.5 -0.8
SNF Seneffe 159.83 356 PKPab PKPab 03 45 57.8 -1.1
GIVF Givet 160.20 355 *e*PKP2 PKPab 03 45 58.4 -2.1
DOU Dourbes 160.22 355 PKP PKPdf 03 45 14.4 -5.6
DOU APKP 03 45 29.1
DOU PKPab PKPab 03 45 59.0 -1.6
BAIF Baives 160.28 356 *e*PKP2 PKPab 03 45 59.1 -1.8
comp=Z,48nm,1.2s
WLF Walferdange 160.50 352 PKP PKPdf 03 45 20.9 +0.5
WLF APKP 03 45 34.8
WLF PKPab PKPab 03 46 00.7 -1.1
WLF Walferdange 160.50 352 *e*PKPab PKPab 03 46 00.4 -1.4
STU Stuttgart 160.86 346 *e*PKPab PKPab 03 46 02.5 -0.9
comp=Z,23nm,0.9s
FUR Furstenfeldbru 160.91 341 *e*PKPab PKPab 03 46 03.2 -0.4
comp=Z,47nm,0.8s
FUR Furstenfeldbru 160.91 341 *e*PKP2 PKPab 03 46 03.2 -0.4
FUR pmax pmax
comp=Z,47nm,0.8s
BFO Black Forest 161.46 347 *e*PKPab PKPab 03 46 04.9 -1.1
comp=Z,18nm,0.9s
FLN La Foliniere 161.53 5 *e*PKP2 PKPab 03 46 04.4 -1.9
comp=Z,67nm,1.2s
FLN *e*R
comp=Z,103nm,20.8s
CDF Champ du Feu 161.57 349 *e*PKP2 PKPab 03 46 04.6 -1.9
comp=Z,17nm,0.9s
WATA Walderalm 161.57 339 ⇓ *i*P PKPab 03 46 05.9 -0.6
comp=Z,10nm,1.1s
WTTA Wattenberg 161.61 339 ⇑ *i*P PKPab 03 46 05.9 -0.8
comp=Z,14nm,0.8s
MOTA Moosalm 161.70 340 ⇓ *i*P PKPab 03 46 06.4 -0.6
comp=Z,42nm,1.2s
LDF La Druitiere 161.73 5 *e*PKP2 PKPab 03 46 05.2 -2.0
MEZF Maizieres J'vi 161.76 354 *e*PKP2 PKPab 03 46 05.7 -1.6
comp=Z,30nm,0.7s
SQTA Sankt Quirin 161.78 340 ⇑ *i*P PKPab 03 46 06.5 -0.9
comp=Z,14nm,1.0s
GRR Gorron 161.87 6 *e*PKP2 PKPab 03 46 06.0 -1.8
comp=Z,71nm,1.3s
DAVA Damuels 162.09 343 ⇓ *i*P PKPab 03 46 07.8 -0.9
comp=Z,20nm,0.8s
DAVA Damuels 162.09 343 ⇓ *i*P PKPab 03 46 07.8 -0.9
HAU Haudompre 162.10 351 *e*PKP2 PKPab 03 46 07.7 -1.1
comp=Z,26nm,0.8s
HAU *e*R
comp=Z,152nm,20.8s
HINF Hinteralfeld 162.21 350 *e*PKP2 PKPab 03 46 07.1 -2.2
TORD Torodi Ar. Bea 162.84 179 PKP PKPdf 03 45 22.9 +0.1
comp=Z,2.7nm,1.1s,baz=259,slow=1.1,SNR=9.6
TORD PKPab PKPab 03 46 11.8 -0.3
comp=Z,7.7nm,0.9s,baz=180,slow=3.3,SNR=16

TORD			PP	PP	03 49 53.4	-3.4
	comp=Z,2.0nm,1.1s,baz=211,slow=4.9,SNR=3.5					
LOR	**Lormes**	**163.08 356**	*e*PKP2	PKPab	03 46 11.3	-1.8
	comp=Z,29nm,1.1s					
LOR			*e*R			
	comp=Z,206nm,22.2s					
SSF	**Saint Saulge**	**163.31 357**	*e*PKP2	PKPab	03 46 12.4	-1.7
	comp=Z,58nm,1.0s					
CABF	**La Chapelle**	**163.50 350**	*e*PKP2	PKPab	03 46 13.3	-1.7
	comp=Z,30nm,1.0s					
AVF	**Avril sur Loir**	**163.59 357**	*e*PKP2	PKPab	03 46 13.4	-1.9
	comp=Z,30nm,1.0s					
MFF	**Saint Martin d**	**163.71 6**	*e*PKP2	PKPab	03 46 14.3	-1.6
SMF	**Signal de Mont**	**163.71 356**	*e*PKP2	PKPab	03 46 14.0	-1.9
	comp=Z,71nm,1.0s					
BGF	**Bois d'Agland**	**163.84 358**	*e*PKP2	PKPab	03 46 14.6	-1.8
	comp=Z,12nm,0.8s					
TCF	**Toulx Ste Croi**	**164.12 360**	*e*PKP2	PKPab	03 46 15.7	-2.0
	comp=Z,24nm,1.2s					
LPL	**La Plagne**	**164.47 348**	*e*PKP2	PKPab	03 46 18.3	-0.9
	comp=Z,29nm,1.0s					
LPG	**La Plagne**	**164.48 348**	*e*PKP2	PKPab	03 46 18.4	-0.9
	comp=Z,28nm,0.9s					
BNI	**Bardonecchia**	**164.92 348**	*e*PKPab	PKPab	03 46 20.4	-0.8
RJF	**Les Rejaudoux**	**165.09 2**	*e*PKP2	PKPab	03 46 20.0	-2.0
	comp=Z,46nm,1.2s					
RJF			*e*R			
	comp=Z,217nm,20.0s					
MBDF	**Montbardon**	**165.22 347**	*e*PKP2	PKPab	03 46 20.3	-2.2
	comp=Z,16nm,0.7s					
VIVF	**Saint-Julien-l**	**165.41 353**	*e*PKP2	PKPab	03 46 22.0	-1.4
	comp=Z,57nm,1.2s					
LFF	**La Frestale**	**165.42 4**	*e*PKP2	PKPab	03 46 21.7	-1.7
	comp=Z,33nm,1.1s					
CAF	**Calviac**	**165.48 0**	*e*PKP2	PKPab	03 46 21.2	-2.5
	comp=Z,9.2nm,0.9s					
SBF	**Sospel**	**165.90 344**	*e*PKP2	PKPab	03 46 23.6	-1.9
	comp=Z,60nm,0.8s					
SMRF	**Simiane la Rot**	**166.16 350**	*e*PKP2	PKPab	03 46 24.7	-2.0
	comp=Z,23nm,0.9s					
FRF	**La Foret Royal**	**166.36 346**	*e*PKP2	PKPab	03 46 25.8	-1.8
LMR	**La Mourre**	**166.61 346**	*e*PKP2	PKPab	03 46 27.0	-1.6
	comp=Z,59nm,1.2s					
MTLF	**Montolieu**	**167.06 360**	*e*PKP2	PKPab	03 46 28.3	-2.4

PRE 23 03:30:28.1±1.7, 2644S×2731E, h2km, ML4.1, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.69**	**328**	*e*P	Pg	03 30 41.3	0.0
LBTB	**Lobatse**	**2.10**	**312**	*e*P	Pn	03 31 05.0	+0.8
LBTB				*e*S	Sn	03 31 31.7	+0.8
LBTB				AML	AML	03 31 36.9	
	comp=Z,433nm,0.5s						
BOSA	**Boshof**	**2.83**	**220**	*e*P	Pn	03 31 15.4	+1.1
BOSA				*e*S	Sn	03 31 50.0	+0.9
BOSA				AML	AML	03 32 09.4	
	comp=Z,126nm,0.3s						
PKA	**Prieska**	**5.15**	**230**	*e*P	Pn	03 31 45.8	-0.4
PKA				*e*S	Sn	03 32 41.3	-4.9
PKA				AML	AML	03 33 24.2	
	comp=Z,127nm,0.5s						
CVNA	**Calvinia**	**8.30**	**231**	*e*P	Pn	03 32 30.9	+1.5
CVNA				*e*S	Sn	03 33 59.8	-4.1
CVNA				AML	AML	03 34 55.6	
	comp=Z,94nm,0.6s						
CER	**Ceres**	**9.79**	**223**	*e*S	Sn	03 34 45.4	+5.0
CER				AML	AML	03 35 34.0	
	comp=Z,19nm,0.7s						

*ISCJB **23** 03:41:39.9±1.5, 59.34N×007.1540W±0.3, h86km±14km, mb3.5/3, Error ellipse: s-maj=24.1km s-min=10.6km az=11.6*
*IDC **23** 03:41:40.8±1.9, 59.29N×154.01W, h77km±19km, mb3.3/3, mb1 3.6/6, mb1mx3.3/19, mbtmp3.5/6, Error ellipse: s-maj=25.2km s-min=12.7km az=90.0*

ISC 23 03:41:41.3±1.5, 5929N±006×1540W±0.3, h82km±13km, n8, σ1°13/11, mb3.5/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.69**	**153**	P	**Pn**	**03 42 09.6**	**+0.6**
	70nm,0.3s,baz=21,slow=6.6,SNR=1040						
KDAK				S	**Sn**	**03 42 29.4**	**-0.8**
	126nm,0.3s,baz=163,slow=21,SNR=27						
ILAR	**Eielson Array**	**6.43**	**28**	P	**Pn**	**03 43 13.6**	**+0.2**
	0.2nm,0.3s,baz=215,slow=12,SNR=23						
ILAR				S	**Sn**	**03 44 24.4**	**-1.0**
	0.5nm,0.3s,baz=221,slow=21,SNR=5.5						
DLBC	**Dease Lake**	**12.42**	**84**	P	**Pn**	**03 44 35.8**	**+0.8**
	0.9nm,0.3s,baz=240,slow=10,SNR=8.7						
DLBC				S	**Sn**	**03 46 45.5**	**-5.8**
	0.1nm,0.3s,baz=131,slow=20,SNR=2.5						
INK	**Inuvik**	**12.71**	**36**	P	**Pn**	**03 44 41.3**	**+2.5**
	0.0nm,0.3s,baz=224,slow=9.0,SNR=2.1						
YKA	**Yellowknife Ar**	**19.22**	**64**	P	**Pn**	**03 45 57.4**	**-3.1**
	baz=277,slow=10.0,SNR=8.4						
NVAR	**Mina Array Bea**	**30.84**	**117**	P	**P**	**03 47 49.3**	**-0.2**
	0.3nm,0.6s,mb3.2,baz=312,slow=9.6,SNR=3.7						
PDAR	**Pinedale Array**	**31.74**	**101**	P	**P**	**03 47 58.0**	**+0.7**
	0.4nm,0.6s,mb3.3,baz=339,slow=6.3,SNR=4.2						
SONM	**Songino Array**	**54.79**	**306**	P	**P**	**03 51 02.2**	**-0.4**
	0.6nm,0.5s,mb3.9,baz=22,slow=8.2,SNR=4.7						

CASC 23 03:53:31.6±1.8, 1086N×8688W, h0km±10km, MD3.7, 5C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.10**	**67⇑**	*e*P	Pg	03 53 53.0	+0.3
SSNN				*e*S	Sg	03 54 08.4	+1.4
APON	**Apoyo**	**1.32**	**37**	*e*P	Pg	03 53 56.2	-0.7
TICN	**Ticuantepe**	**1.33**	**29⇓**	*e*P	Pg	03 53 56.9	-0.2
COPN	**Copaltepe**	**1.34**	**12⇓**	*e*P	Pg	03 53 57.1	-0.2
COPN				*e*S	Sg	03 54 17.6	+2.8
XAVN	**Gruta Xavier**	**1.39**	**23**	*e*P	Pn	03 53 57.4	-0.9
MGAN	**Managua**	**1.42**	**26⇑**	*e*P	Pn	03 53 57.9	-0.8
APYN	**Apoyeque**	**1.46**	**21**	*e*P	Pn	03 53 58.6	-0.7
LEON	**Leon**	**1.55**	**360⇑**	*e*P	Pn	03 53 60.0	-0.4
MOMJ	**Momotombo**	**1.58**	**12**	*e*P	Pn	03 53 59.5	-1.3
MIRN	**Miramar**	**1.58**	**6⇓**	*e*P	Pn	03 54 00.3	-0.6
CNGN	**Cerro Negro**	**1.64**	**6⇓**	*e*P	Pn	03 54 01.2	-0.5
TEL3	**Telica 3**	**1.70**	**1⇑**	*e*P	Pn	03 54 02.2	-0.3
PRS1	**Puriscal**	**2.67**	**109**	*e*P	Pn	03 54 15.5	-0.4
LAJ	**Bijagual**	**2.89**	**110⇑**	*e*P	Pn	03 54 14.9	-3.9
LCR2	**La Lucha 2**	**3.04**	**111**	*e*P	Pn	03 54 22.0	+1.0
URSC	**Urasca**	**3.22**	**108⇓**	*e*P	Pn	03 54 25.4	+2.0
BUS	**Buena Vista**	**3.34**	**113⇓**	*e*P	Pn	03 54 25.7	+0.7

*CASC **23** 03:54:02.1±2.4, 13.16N×91.00W, h0km±10km, MD4.2, ML4.0, mb3.8(NEIC)*
*ISCJB **23** 03:54:03.4±0.6, 12.99N±005×90.87W±006, h33km, mb3.9/13, MS4.2/1, Error ellipse: s-maj=10.2km s-min=6.2km az=109.5*
*IDC **23** 03:54:11.2±3.5, 13.66N×90.25W, h70km±33km, mb3.5/8, mb1 3.7/10, mb1mx3.5/22, mbtmp3.8/10, ML3.9/1, MS3.5/2, Ms1 3.6/2, ms1mx3.0/24, Error ellipse: s-maj=45.8km s-min=15.7km az=44.0*
*NEIC **23** 03:54:12.6±1.7, 13.42N×90.39W, h94km±15km, mb3.8/6, Error ellipse: s-maj=25.0km s-min=8.8km az=49.0*

ISC 23 03:54:02.9±3.5, 1305N±006×9086W±006, h13km±21km, n37, σ1°11/30, mb3.9/13, MS4.2/1, 4C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.19**	**19⇑**	*e*P	**Pn**	**03 54 24.2**	**-1.0**
IXG				*e*S	**Sb**	**03 54 41.2**	**+0.7**
FUG	**Fuego 3**	**1.39**	**1⇑**	*e*P	**Pn**	**03 54 27.2**	**-0.9**
SBLS	**San Blas**	**1.44**	**57**	*e*P	Px	03 55 08.1	
SBLS				*e*S	Sx	03 55 30.5	
JAT	**Jato**	**1.47**	**329**	*e*P	**Pn**	**03 54 28.2**	**-1.0**
SNJE	**San Jose**	**1.47**	**56**	*e*P	Px	03 55 08.7	
SNJE				*e*S	Sx	03 55 30.3	
RBDL	**Robledal**	**1.56**	**47**	*e*P	Px	03 55 09.9	
RBDL				*e*S	Sx	03 55 33.2	
GCG	**Guatemala City**	**1.56**	**12**	*e*P	**Pn**	**03 54 30.1**	**-0.3**
BOQS	**Boqueron**	**1.68**	**66**	*e*P	Px	03 55 13.1	
BOQS				*e*S	Sx	03 55 39.0	
TP2	**Tecpan 2**	**1.73**	**355⇑**	*e*P	**Pn**	**03 54 31.8**	**-1.0**
TP2				*e*S	**Sn**	**03 54 54.7**	**0.0**
TP2				AML	AML	03 54 58.8	
	comp=E,2μm,0.5s						
LFRS	**El Faro**	**1.84**	**72**	*e*P	Px	03 55 14.9	
LFRS				*e*S	Sx	03 55 41.4	
LBRS	**Las Brisas**	**1.90**	**69**	*e*P	Px	03 55 15.4	
LBRS				*e*S	Sx	03 55 43.3	
LCBS	**La Ceiba**	**1.93**	**72**	*e*P	Px	03 55 16.1	
LCBS				*e*S	Sx	03 55 44.0	
SNVI	**San Vicente**	**2.05**	**74**	*e*P	Px	03 55 18.0	
SNVI				*e*S	Sx	03 55 47.3	
MRL	**Marmol**	**2.31**	**29⇑**	*e*P	**Pn**	**03 54 41.8**	**+1.2**
VSM	**San Miguel**	**2.55**	**81⇓**	*e*P	Px	03 55 24.5	
VSM				*e*S	Sx	03 55 58.9	
JTS	**JuntasAbangare**	**6.41**	**115**	P	**Pn**	**03 55 40.5**	**+3.5**
	baz=302,slow=19,SNR=3.1						
JTS				S	**Sn**	**03 56 50.1**	**+0.1**
	comp=E,0.3nm,0.3s,baz=288,slow=20,SNR=1.5						
JTS				LR	LR	03 58 14.9	
	comp=E,106nm,20.8s,baz=180,slow=40						
TEIG	**Tepich**	**7.55**	**19**	*e*Pn	**Pn**	**03 55 54.1**	**+1.4**
	comp=E,3.5nm,0.6s						
SDV	**Santo Domingo**	**20.28**	**100**	P	**P**	**03 58 37.4**	**-0.9**
	comp=E,0.3nm,0.3s,baz=323,slow=11,SNR=8.7						
SDV	**Santo Domingo**	**20.28**	**100**	*e*P	**P**	**03 58 37.5**	**-0.8**
	comp=E,3.4nm,0.7s						
MNTX	**Cornudas Mount**	**22.86**	**327**	*e*P	**P**	**03 59 08.2**	**+2.3**
	comp=E,3.5nm,0.8s,mb3.8						
WVT	**Waverly**	**23.14**	**6**	P	**P**	**03 59 06.2**	**-2.7**
	comp=E,1.9nm,0.6s,mb3.7						
BNM	**Barren Site**	**25.43**	**328**	*e*P	**P**	**03 59 31.0**	**+0.7**
ANMO	**Albuquerque**	**25.98**	**330**	P	**P**	**03 59 35.8**	**+0.5**
	comp=E,0.3nm,0.3s,mb3.3,baz=137,slow=19,SNR=2.3						
PDAR	**Pinedale Array**	**33.74**	**335**	P	**P**	**04 00 45.1**	**+1.0**
	comp=E,0.5nm,0.6s,mb3.6,baz=124,slow=10,SNR=4.9						
SNOW	**Snow King Moun**	**34.81**	**334**	*e*P	**P**	**04 00 53.3**	**-0.1**
	comp=E,5.1nm,0.8s,mb4.5						
LOHW	**Long Hollow**	**34.87**	**335**	*e*P	**P**	**04 00 53.6**	**-0.3**
	comp=E,1.0nm,0.6s,mb3.9						
MOOW	**Moose Ponds**	**35.04**	**335**	P	**P**	**04 00 55.5**	**+0.1**
	comp=E,0.7nm,0.7s,mb3.7						
NVAR	**Mina Array Bea**	**35.10**	**321**	P	**P**	**04 00 57.4**	**+1.5**
	comp=E,1.4nm,0.8s,mb4.0,baz=123,slow=8.4,SNR=9.7						
NVAR				PcP	PcP	04 03 29.9	+2.5
	comp=E,0.4nm,0.6s,baz=134,slow=4.3,SNR=3.6						
NVAR	**Mina Array Bea**	**35.10**	**321**	P	**P**	**04 00 57.4**	**+1.5**
NVAR				PcP	PcP	04 03 29.9	+2.5
MCMT	**McKenzie Canyo**	**36.81**	**334**	*e*P	**P**	**04 01 11.0**	**+0.4**
SIV	**San Ignacio**	**41.24**	**134**	P	**P**	**04 01 47.6**	**0.0**
	comp=E,2.0nm,0.9s,mb3.7,baz=275,slow=9.0,SNR=5.7						
SCHQ	**Schefferville**	**45.74**	**19**	P	**P**	**04 02 18.5**	**-5.4**
	comp=E,1.6nm,0.4s,mb4.3,baz=223,slow=10,SNR=12						
BDFB	**Brasilia**	**51.08**	**123**	LR	LR	04 26 08.2	
	comp=E,249nm,20.6s,MS4.2,baz=163,slow=38						
YKA	**Yellowknife Ar**	**52.20**	**346**	P	**P**	**04 03 10.5**	**-3.0**
	comp=E,0.5nm,0.7s,mb3.5,baz=145,slow=7.5,SNR=13						
YKA	**Yellowknife Ar**	**52.20**	**346**	P	**P**	**04 03 10.5**	**-3.0**
ILAR	**Eielson Array**	**64.14**	**337**	P	**P**	**04 04 35.4**	**-1.7**
	comp=E,0.6nm,0.8s,mb3.7,baz=175,slow=5.2,SNR=7.1						
DBIC	**Dimbokro**	**84.65**	**84**	P	**P**	**04 06 36.2**	**-0.1**
	comp=E,1.8nm,0.5s,mb4.4,baz=279,slow=3.8,SNR=6.3						

*ISCJB **23** 04:02:52.6±2.4, 67.5S±0.1×128.1E±0.1, h427km±33km, mb3.7/5, Error ellipse: s-maj=25.3km s-min=11.6km az=119.7*
*BJI **23** 04:02:52.7, 6.48S×128.17E, h406km, mB4.6, mb4.3*
*IDC **23** 04:02:52.2±2.9, 6.57S×128.14E, h405km±37km, mb3.1/3, mb1 3.7/7, mb1mx3.5/15, mbtmp4.5/7, Error ellipse: s-maj=28.1km s-min=13.3km az=69.0*
*NEIC **23** 04:02:53.6±1.5, 6.66S×128.17E, h429km±26km, mb4.4/2, Error ellipse: s-maj=20.2km s-min=10.2km az=50.0*

ISC 23 04:02:52.5±1.7, 657S±008×1282E±01, h402km±22km, n16, σ0°89/17, mb3.7/5, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.73**	**192**	P	**P**	**04 05 29.0**	**-0.1**
	2.2nm,0.3s,baz=18,slow=9.0,SNR=48						
WRAB	**Tennant Creek**	**14.56**	**156**	*e*Pn	**P**	**04 05 59.6**	**-0.5**
	82nm,0.6s						
WRA	**Warramunga Arr**	**14.57**	**156**	P	**P**	**04 06 00.1**	**-0.1**
	7.5nm,0.3s,baz=332,slow=12,SNR=66						
WRA				S	**S**	**04 08 35.3**	**-0.1**
	0.5nm,0.3s,baz=341,slow=21,SNR=7.0						
MBWA	**Marble Bar**	**16.66**	**209**	*e*P	**P**	**04 06 21.8**	**-0.8**
	10nm,0.6s						
KKM	**Kota Kinabalu**	**17.32**	**316**	*e*P	**P**	**04 06 30.4**	**+0.7**
ASAR	**Alice Springs**	**17.86**	**163**	P	**P**	**04 06 35.6**	**+0.2**
	6.1nm,0.3s,baz=342,slow=12,SNR=534						
ASAR				S	**S**	**04 09 41.5**	**+1.7**
	0.4nm,0.3s,baz=341,slow=19,SNR=21						
PMG	**Port Moresby**	**18.99**	**100**	P	**P**	**04 06 47.9**	**+0.8**
	0.8nm,0.3s,baz=264,slow=9.2,SNR=7.3						
PMG	**Port Moresby**	**18.99**	**100**	*e*P	**P**	**04 06 47.2**	**0.0**
	7.9nm,0.7s						
STKA	**Stephens Creek**	**28.11**	**155**	P	**P**	**04 08 07.9**	**-1.5**
	2.5nm,0.6s,mb3.8,baz=348,slow=6.7,SNR=5.4						
STKA	**Stephens Creek**	**28.11**	**155**	P	**P**	**04 08 07.7**	**-1.7**
NJ2	**Nanjing**	**39.43**	**347**	*e*P	**P**	**04 09 45.5**	**-0.1**
NJ2				AP	pP	04 11 09.5	+7.4
NJ2				PP	PP	04 11 29.6	+3.1
NJ2				S	**S**	**04 15 16.0**	**-0.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,220nm,7.4s						
KMI	**Kunming**	**40.08**	**323**	P	**P**	**04 09 52.8**	**+1.9**
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.2						
SONM	**Songino Array**	**57.49**	**343**	P	**P**	**04 12 01.0**	**-0.3**
	comp=Z,0.3nm,0.4s,mb2.9,baz=145,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**66.90**	**328**	P	**P**	**04 13 02.3**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.4,baz=113,slow=6.5,SNR=11						
SYO	**Syowa Base**	**83.41**	**201⇑**	*e*PcP	PcP	04 14 38.6	-0.8
SYO	**Syowa Base**	**83.41**	**201⇑**	*e*pP	pP	04 16 08.3	+1.1

*ISCJB **23** 04:09:29.9±1.5, 8.12S±0.10×74.3W±0.2, h164km±21km, mb3.9/6, Error ellipse: s-maj=27.2km s-min=15.5km az=158.5*
*NEIC **23** 04:09:30.4±1.7, 8.15S×74.27W, h138km±25km, mb3.9/2, Error ellipse: s-maj=25.0km s-min=14.8km az=76.0*
*IDC **23** 04:09:39.0±4.1, 8.21S×73.00W, h178km±40km, mb3.9/5, mb1 3.8/7, mb1mx3.5/19, mbtmp4.2/7, Error ellipse: s-maj=35.4km s-min=20.8km az=71.0*

ISC 23 04:09:30.9±1.5, 815S±010×743W±02, h153km±20km, n14, σ1°17/14, mb3.9/6, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.56**	**213**	*e*Pn	**Pn**	**04 10 37.7**	**-0.7**
NNA				*e*Sn	**Sn**	**04 11 25.4**	**-5.8**
LPAZ	**La Paz**	**10.09**	**144**	P	**Pn**	**04 11 51.9**	**+0.1**
	0.6nm,0.3s,baz=343,slow=14,SNR=13						
LPAZ	**La Paz**	**10.09**	**144**	*e*Pn	**Pn**	**04 11 51.5**	**-0.3**
	3.3nm,0.6s						
SIV	**San Ignacio**	**15.10**	**122**	P	**Pn**	**04 12 56.7**	**+0.3**
	0.6nm,0.3s,baz=295,slow=12,SNR=19						
LVC	**Limon Verde**	**15.29**	**161**	P	**Pn**	**04 13 01.2**	**+2.4**
	0.5nm,0.3s,baz=344,slow=12,SNR=5.5						
SDV	**Santo Domingo**	**17.31**	**12**	P	**Pn**	**04 13 23.2**	**-0.1**
	0.3nm,0.3s,baz=163,slow=11,SNR=3.5						
SDV	**Santo Domingo**	**17.31**	**12**	*e*P	**Pn**	**04 13 23.2**	**-0.1**
	2.0nm,0.7s						
CFAA	**Coronel Fontan**	**24.02**	**167**	P	**P**	**04 14 32.8**	**+1.2**
	0.3nm,0.6s,mb3.0,baz=333,slow=9.4,SNR=6.8						
CPUP	**Villa Florida**	**24.24**	**140**	P	**P**	**04 14 32.5**	**-1.1**
	3.7nm,0.6s,mb4.1,baz=308,slow=9.9,SNR=12						
BDFB	**Brasilia**	**26.76**	**109**	pP	pP	04 15 30.6	+2.4
	3.7nm,0.7s,baz=272,slow=8.5,SNR=4.4						
SJG	**San Juan**	**27.30**	**17**	P	**P**	**04 15 02.8**	**+1.6**
	4.1nm,0.4s,mb4.4,baz=243,slow=4.5,SNR=3.3						
DBIC	**Dimbokro**	**70.80**	**80**	P	**P**	**04 20 29.4**	**-1.4**
	4.0nm,0.4s,mb4.5,baz=247,slow=6.7,SNR=20						
YKA	**Yellowknife Ar**	**76.94**	**342**	P	**P**	**04 21 15.1**	**+8.6**
	0.3nm,0.7s,mb3.0,baz=138,slow=6.1,SNR=9.4						
TORD	**Torodi Ar. Bea**	**78.38**	**75**	P	**P**	**04 21 13.5**	**-0.9**
	2.8nm,0.6s,mb4.0,baz=257,slow=3.7,SNR=40						

*ISCJB **23** 04:19:10.0±0.3, 43.13N±002×022E±002, h7km±4km, Error ellipse: s-maj=3.1km s-min=2.5km az=128.9*
*CSEM **23** 04:19:11.8±0.1, 43.04N×0.17E, h5km, ML2.5/8, Error ellipse: s-maj=1.0km s-min=0.9km az=106.0*
*STR **23** 04:19:11.6±0.1, 43.01N×0.17E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **23** 04:19:11.7±0.1, 43.03N×0.16E, h5km, Md2.4/2, Ml2.4/10, Error ellipse: s-maj=1.2km s-min=1.1km az=112.0*
*MDD **23** 04:19:12.9±0.3, 42.97N×023E, h7km±4km, mbLg1.7/18, Error ellipse: s-maj=2.3km s-min=1.6km az=130.0, PRXIMO*

ISC 23 04:19:11.0±0.3, 4307N±002×021E±002, h13km±3km, n69, σ0°95/104, 2C-1D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.10**	**260**	Pg	**Pg**	**04 19 14.1**	**+0.2**
LABF				Sg	**Sg**	**04 19 15.8**	**-0.2**
EPF	**Esparros**	**0.10**	**109**	*e*Pg	**Pg**	**04 19 14.5**	**+0.6**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**04 19 17.1**	**+1.0**
	95nm,0.2s						
EPF	**Esparros**	**0.10**	**109**	*e*Pg	**Pg**	**04 19 14.5**	**+0.6**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**04 19 17.1**	**+1.0**
	47nm,0.2s						
VIEF	**Viey**	**0.23**	**217**	Pg	**Pg**	**04 19 15.4**	**-0.4**
VIEF				Sg	**Sg**	**04 19 17.9**	**-1.2**
VIEF	**Viey**	**0.23**	**217**	P	**Pg**	**04 19 15.4**	**-0.4**
VIEF				S	**Sg**	**04 19 18.0**	**-1.1**
RESF	**Ens**	**0.28**	**159**	Pg	**Pg**	**04 19 16.7**	**0.0**
RESF				Sg	**Sg**	**04 19 20.3**	**-0.2**
RESF	**Ens**	**0.28**	**159**	P	**Pg**	**04 19 16.8**	**+0.1**
RESF				S	**Sg**	**04 19 20.4**	**-0.1**
EBIE	**Bielsa**	**0.38**	**187**	⇑Pg	**Pg**	**04 19 18.2**	**-0.4**
	9.9nm,0.1s,SNR=18						
EBIE				Lg		04 19 22.6	
	42nm,0.1s,SNR=37						
EBIE	**Bielsa**	**0.38**	**187**	Pg	**Pg**	**04 19 18.2**	**-0.4**
	9.9nm,0.1s,SNR=18						
EBIE				Lg		04 19 22.6	
	42nm,0.1s,SNR=37						
REYF	**Montagne du Re**	**0.44**	**271**	Pg	**Pg**	**04 19 19.4**	**-0.3**
REYF				Sg	**Sg**	**04 19 25.6**	**+0.1**
MELF	**Melles**	**0.45**	**115**	Pg	**Pg**	**04 19 20.2**	**+0.4**
MELF				Sg	**Sg**	**04 19 26.4**	**+0.6**
MELF	**Melles**	**0.45**	**115**	P	**Pg**	**04 19 20.2**	**+0.4**
MELF				S	**Sg**	**04 19 26.5**	**+0.7**
ETSF	**Etsaut**	**0.59**	**254**	*e*Pg	**Pg**	**04 19 21.8**	**-0.6**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**04 19 29.2**	**-1.0**
	12nm,0.2s						
ETSF	**Etsaut**	**0.59**	**254**	*e*Pg	**Pg**	**04 19 21.8**	**-0.6**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**04 19 29.2**	**-1.0**
	5.9nm,0.2s						
ATE	**Arette**	**0.67**	**272**	P	**Pg**	**04 19 24.4**	**+0.5**
SALF	**Salau**	**0.78**	**113**	Pg	**Pg**	**04 19 26.5**	**+0.3**
SALF				Sg	**Sg**	**04 19 37.5**	**+1.1**
SALF	**Salau**	**0.78**	**113**	P	**Pg**	**04 19 26.7**	**+0.5**
SALF				S	**Sg**	**04 19 37.1**	**+0.6**
EGRA	**Graus**	**0.87**	**175**	⇓Pg	**Pg**	**04 19 27.7**	**-0.2**
	2.6nm,0.2s,SNR=18						
EGRA				Lg		04 19 38.8	
	2.7nm,0.1s,SNR=5.0						
CSOR	**Sort**	**0.97**	**135**	Pg	**Pg**	**04 19 29.6**	**-0.1**
SJPF	**Ste Jean**	**1.05**	**273**	*e*Pg	**Pg**	**04 19 30.7**	**-0.5**
SJPF				*e*Sn	**Sn**	**04 19 44.8**	**-1.1**
	3.0nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**1.05**	**273**	*e*Pg	**Pg**	**04 19 30.7**	**-0.5**
SJPF				*e*Sn	**Sn**	**04 19 44.8**	**-1.1**
	1.5nm,0.2s,SNR=1.0						
CORG	**Organya**	**1.17**	**135**	Pg	**Pg**	**04 19 32.7**	**-0.8**
IPRE	**Itoiz**	**1.18**	**258**	Pg	**Pg**	**04 19 36.6**	**+3.0**
	0.8nm,0.1s,SNR=7.9						
IPRE				Lg		04 19 52.4	
	3.7nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**1.18**	**258**	Pg	**Pg**	**04 19 36.6**	**+3.0**
	0.8nm,0.1s,SNR=7.9						
CAVN	**Les Avellanes**	**1.25**	**161**	Pg	**Pg**	**04 19 34.5**	**-0.5**
EALK	**Alkurruntz**	**1.26**	**278**	Pg	**Pg**	**04 19 37.9**	**+2.6**
	0.6nm,0.1s,SNR=7.9						
EALK				Sn	**Sn**	**04 19 52.1**	**+0.9**
	1.1nm,0.2s,SNR=7.9						
EALK				Lg		04 19 56.2	
	2.3nm,0.2s,SNR=5.7						
EALK	**Alkurruntz**	**1.26**	**278**	Pg	**Pg**	**04 19 37.9**	**+2.6**
	0.6nm,0.1s,SNR=7.9						
EALK				Sn	**Sn**	**04 19 52.1**	**+0.9**
	1.1nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**1.27**	**275**	Pg	**Pg**	**04 19 37.7**	**+2.2**
	0.8nm,0.2s,SNR=7.9						
EL

CAF *e*Sg **Sg** **04 20 24.7 0.0**
2.3nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.43 22 *e*Pn **Pn** **04 19 51.0 +0.6**
RJF Les Rejaudoux 2.43 22 *e*Pg **Pg** **04 19 57.3 -0.2**
RJF *e*Sg **Sg** **04 20 28.2 -0.8**
4.5nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.43 22 *e*Pg **Pg** **04 19 57.3 -0.2**
RJF *e*Sg **Sg** **04 20 28.2 -0.8**
2.2nm,0.2s,SNR=1.0
EMOS Mosqueruela 2.75 191 Pg **Pg** **04 20 01.4 -2.2**
0.1nm,0.1s,SNR=7.9
EMOS Lg 04 20 36.2
1.4nm,0.3s,SNR=7.9
EMOS Mosqueruela 2.75 191 Pg **Pg** **04 20 01.4 -2.2**
0.1nm,0.1s,SNR=7.9
LASF Ste Croix 2.84 68 *e*Pg **Pg** **04 20 05.0 -0.4**
LASF *e*Sg **Sg** **04 20 42.3 +0.1**
3.2nm,0.5s,SNR=1.0
LASF Ste Croix 2.84 68 *e*Pg **Pg** **04 20 05.0 -0.4**
LASF *e*Sg **Sg** **04 20 42.3 +0.1**
1.6nm,0.5s,SNR=1.0
TCF Toulx Ste Croi 3.52 23 *e*Pn **Pn** **04 20 06.1 +0.6**
TCF Toulx Ste Croi 3.52 23 *e*Pg **Pg** **04 20 17.7 -0.8**
TCF *e*Sg **Sg** **04 21 02.4 -1.8**
2.1nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 3.52 23 *e*Pg **Pg** **04 20 17.7 -0.8**
TCF *e*Sg **Sg** **04 21 02.4 -1.8**
1.0nm,0.4s,SNR=1.0
MFF Saint Martin d 3.55 356 *e*Pn **Pn** **04 20 06.0 +0.3**
MFF Saint Martin d 3.55 356 *e*Pg **Pg** **04 20 17.8 -1.1**
MFF *e*Sg **Sg** **04 21 03.3 -1.6**
2.0nm,0.4s
MFF Saint Martin d 3.55 356 *e*Pg **Pg** **04 20 17.8 -1.1**
MFF *e*Sg **Sg** **04 21 03.3 -1.6**
1.0nm,0.4s
BGF Bois d'Agland 3.96 27 *e*Pg **Pg** **04 20 26.0 -0.9**
BGF *e*Sg **Sg** **04 21 18.4 +0.1**
7.4nm,0.5s
BGF Bois d'Agland 3.96 27 *e*Pg **Pg** **04 20 26.0 -0.9**
BGF *e*Sg **Sg** **04 21 18.4 +0.1**
3.7nm,0.5s
FLN La Foliniere 5.72 355 *e*Pn **Pn** **04 20 33.7 -1.9**
SNR=1.0

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*NNC **23** 04:44:27.9±4.3, 4063N×7749E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=29.3km s-min=19.8km az=156.0*
*ISCJB **23** 04:44:28.3±4.9, 404N±03×78.1E±02, h33km, Error ellipse: s-maj=52.5km s-min=11.6km az=126.7*
ISC 23 04:44:30.3±5.0, 403N±03×780E±02, h35km, n14, σ0§83/14, 5C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.31**	**327**	P	**Pn**	**04 45 05.4**	**-0.5**
	SNR=8.0						
KZA	**Kyzart**	**2.69**	**312**	P	**Pn**	**04 45 07.1**	**-3.9**
	SNR=96						
KNDC	**Almaty**	**2.98**	**346**	⇑Pn	**Pn**	**04 45 15.4**	**+0.3**
	47nm,0.5s						
KNDC				⇓Lg		04 45 50.9	
	125nm,0.6s						
TKM2	**Tokmak 2**	**3.14**	**327**	P	**Pn**	**04 45 16.7**	**-0.5**
	SNR=8.6						
TKM2	**Tokmak 2**	**3.14**	**327**	⇓Pg	**Pn**	**04 45 16.6**	**-0.6**
	1.6nm,0.5s						
TKM2				⇑Lg		04 45 53.9	
	6.2nm,0.7s						
UCH	**Uchtor**	**3.21**	**307**	P	**Pn**	**04 45 13.4**	**-4.8**
	SNR=15						
KBK	**Karagaybulak**	**3.24**	**317**	P	**Pn**	**04 45 17.7**	**-0.9**
	SNR=11						
AAK	**Ala-Archa**	**3.47**	**313**	P	**Pn**	**04 45 21.4**	**-0.4**
	SNR=20						
CHMS	**Chumysh**	**3.59**	**319**	P	**Pn**	**04 45 23.9**	**+0.5**
	SNR=15						
AML	**Almayashu**	**3.68**	**301**	P	**Pn**	**04 45 28.4**	**+3.7**
	SNR=13						
USP	**Ospenovka**	**3.91**	**320**	P	**Pn**	**04 45 29.3**	**+1.5**
	SNR=19						
KK31	**Karatay Array**	**6.22**	**299**	⇑Pg	**Pn**	**04 46 11.2**	**+12**
	0.7nm,0.5s,baz=106,slow=14,SNR=4.2						
KK31				⇑Lg		04 47 29.1	
	3.0nm,0.8s,baz=108,slow=29,SNR=4.6						
MK31	**Makanchi Array**	**7.20**	**25**	⇓Pn	**Pn**	**04 46 12.8**	**-0.1**
	0.7nm,0.7s,baz=200,slow=15,SNR=5.0						
MK31				⇓Sn	**Sn**	**04 47 33.5**	**0.0**
	0.6nm,0.6s,baz=208,slow=24,SNR=3.8						
MK31				⇑Lg		04 48 07.0	
	3.0nm,0.9s,baz=213,slow=26,SNR=3.6						
KURK	**Kurchatov**	**10.40**	**2**	⇓Lg		04 49 47.6	
	1.9nm,1.1s						

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*CASC **23** 05:01:17.5±1.8, 1317N×9094W, h18km±10km, MD4.4, ML4.1, mb4.4(NEIC)*
*ISCJB **23** 05:01:20.1±0.7, 1323N±005×9079W±006, h65km±6km, mb4.3/42, Error ellipse: s-maj=12.3km s-min=3.8km az=98.7*
*MOS **23** 05:01:22.4±0.9, 1377N×9038W, h66km, mb4.6/20, Error ellipse: s-maj=20.6km s-min=7.1km az=115.3*
*NEIC **23** 05:01:24.4±1.0, 1335N×9059W, h89km±9km, mb4.4/36, Error ellipse: s-maj=10.8km s-min=4.6km az=51.0*
*MEX **23** 05:01:24.8±0.2, 1335N×9162W, h86km±17km, MD4.9*
*BJI **23** 05:01:24.4, 1330N×9060W, h89km, mB5.0, Ms4.7, Msz4.5*
*IDC **23** 05:01:25.5±2.9, 1370N×9035W, h83km±26km, mb3.9/14, mb1 4.0/17, mb1mx3.9/26, mbtmp4.2/17, MS4.0/14, Ms1 4.0/14, ms1mx3.8/24, Error ellipse: s-maj=30.3km s-min=11.7km az=51.0*
ISC 23 05:01:19.2±0.6, 1316N±004×9100W±004, h38km±5km, n148, σ1§42/141, mb4.3/42, MS4.1/17, 3C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.14**	**28**	⇑*e*P	**Pn**	**05 01 37.0**	**-1.7**
IXG				*e*S	**Sn**	**05 01 53.8**	**+0.7**
PCG	**Pacaya**	**1.29**	**17**	*e*P	**Pn**	**05 01 40.5**	**-0.2**
PCG				*e*S	**Sn**	**05 01 57.5**	**+0.8**
FUG	**Fuego 3**	**1.29**	**7**	⇑*e*P	**Pn**	**05 01 40.1**	**-0.7**
JAT	**Jato**	**1.31**	**332**	*e*P	**Pn**	**05 01 41.1**	**+0.1**
GCG	**Guatemala City**	**1.49**	**18**	⇓*i*P	**Pn**	**05 01 43.1**	**-0.3**
NBG	**Las Nubes**	**1.56**	**24**	⇓*e*P	**Pn**	**05 01 45.1**	**+0.7**
TP2	**Tecpan 2**	**1.62**	**359**	⇓*e*P	**Pn**	**05 01 44.9**	**-0.3**
TP2				*e*S	**Sn**	**05 02 06.8**	**+2.0**
TP2				AML	AML	05 02 12.9	
	comp=E,8μm,0.7s						
MRL	**Marmol**	**2.28**	**34**	⇑*e*P	**Pn**	**05 01 54.6**	**+0.2**
CCIG	**Comitan**	**3.30**	**341**	*i*P	**Pn**	**05 02 09.1**	**+0.8**
CCIG				*i*S	**Sn**	**05 02 43.0**	**-3.2**
CRIN	**San Cristobal**	**3.88**	**96**	*e*P	**Pn**	**05 02 15.8**	**-0.5**
SCX	**San Cristobal**	**3.89**	**336**	*e*P	**Pn**	**05 02 22.0**	**+5.5**
LEON	**Leon**	**4.07**	**100**	*e*P	**Pn**	**05 02 18.3**	**-0.7**
TEL3	**Telica 3**	**4.09**	**98**	*e*P	**Pn**	**05 02 17.9**	**-1.3**
MIRN	**Miramar**	**4.24**	**99**	*e*P	**Pn**	**05 02 19.9**	**-1.4**
COPN	**Copaltepe**	**4.41**	**102**	*e*P	**Pn**	**05 02 22.6**	**-1.0**
MOMJ	**Momotombo**	**4.41**	**99**	*e*P	**Pn**	**05 02 22.2**	**-1.5**
APYN	**Apoyeque**	**4.63**	**101**	*e*P	**Pn**	**05 02 26.5**	**-0.1**
MGAN	**Managua**	**4.75**	**102**	*e*P	**Pn**	**05 02 27.4**	**-0.8**
MGAN				*i*		05 03 52.4	
	comp=N,150nm,0.6s						
CMIG	**Matias Romero**	**5.42**	**317**	*i*P	**Pn**	**05 02 35.3**	**-2.2**
CMIG				*i*S	**Sn**	**05 03 30.3**	**-8.3**
JTS	**JuntasAbangare**	**6.57**	**115**	P	**Pn**	**05 02 54.7**	**+1.4**
	comp=N,1.6nm,0.3s,baz=311,slow=20,SNR=30						
JTS				S	**Sn**	**05 04 08.2**	**+1.3**
	comp=N,2.4nm,0.3s,baz=347,slow=21,SNR=2.1						
JTS	**JuntasAbangare**	**6.57**	**115**	*e*Pn	**Pn**	**05 02 53.6**	**+0.4**
	comp=N,50nm,0.8s						
JTS	**JuntasAbangare**	**6.57**	**115**	P	**Pn**	**05 02 54.7**	**+1.4**
JTS				S	**Sn**	**05 04 08.2**	**+1.3**
JTS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JTS				smax			
	comp=E,2.0nm,0.3s						
OXX	**Oaxaca**	**6.77**	**306**	*e*P	**Pn**	**05 02 53.0**	**-3.0**
VHO	**Vista Hermosa**	**6.77**	**306**	*e*P	**Pn**	**05 02 53.1**	**-2.9**
VHO				*i*S	**Sn**	**05 04 01.1**	**-11**
PRS1	**Puriscal**	**7.27**	**115**	*e*P	**Pn**	**05 03 03.5**	**+0.6**
TEIG	**Tepich**	**7.50**	**20**	*e*Pn	**Pn**	**05 03 06.8**	**+0.8**
	comp=E,28nm,1.0s						
LCR2	**La Lucha 2**	**7.65**	**116**	*e*P	**Pn**	**05 03 10.1**	**+2.0**
URSC	**Urasca**	**7.81**	**114**	*e*P	**Pn**	**05 03 11.8**	**+1.5**
URSC				*e*S	**Sn**	**05 04 39.2**	**+1.9**
BUS	**Buena Vista**	**7.95**	**116**	*e*P	**Pn**	**05 03 13.8**	**+1.6**
PPM	**Popocatepetl**	**9.39**	**310**	*i*P	**Pn**	**05 03 29.6**	**-2.4**
PPM				*i*S	**Sn**	**05 05 04.8**	**-12**
MEIG	**Mezcala**	**9.56**	**301**	*i*P	**Pn**	**05 03 28.9**	**-5.4**
MEIG				*i*S	**Sn**	**05 05 09.1**	**-11**
MOIG	**Morelia**	**11.73**	**305**	*i*P	**Pn**	**05 04 00.3**	**-3.6**
SOR	**Soroa**	**12.23**	**37**	*e*P	**Pn**	**05 04 12.4**	**+1.6**
HKT	**Hockley**	**17.30**	**346**	*e*P	**Pn**	**05 05 20.5**	**+2.7**
	comp=E,35nm,1.5s						
HKT	**Hockley**	**17.30**	**346**	*e*P	**Pn**	**05 05 20.5**	**+2.7**
HKT				pmax	pmax		
	comp=Z,35nm,1.5s						
OTAV	**Otavalo**	**17.87**	**135**	*e*P	**Pn**	**05 05 25.8**	**+1.0**
	comp=Z,3.3nm,0.9s						
ROSC	**El Rosal**	**18.40**	**115**	P	**Pn**	**05 05 31.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=300,slow=2.4,SNR=6.2						
JCT	**Junction City**	**19.06**	**336**	*e*P	**Pn**	**05 05 39.7**	**+0.5**
	comp=Z,26nm,1.3s						
JCT	**Junction City**	**19.06**	**336**	*e*P	**Pn**	**05 05 39.7**	**+0.5**
JCT				pmax	pmax		
	comp=Z,26nm,1.3s						
LTX	**Lajitas**	**19.93**	**326**	*e*P	**Pn**	**05 05 50.1**	**+0.4**
	comp=Z,8.4nm,0.7s						
LTX	**Lajitas**	**19.93**	**326**	*e*P	**Pn**	**05 05 50.1**	**+0.5**
LTX				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LRAL	**Lakeview Retre**	**20.12**	**10**	*e*P	**P**	**05 05 50.4**	**+0.6**
	comp=Z,40nm,1.3s						
SDV	**Santo Domingo**	**20.43**	**100**	P	**P**	**05 05 51.4**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=305,slow=5.4,SNR=12						
SDV	**Santo Domingo**	**20.43**	**100**	*e*P	**P**	**05 05 51.2**	**-1.9**
	comp=Z,17nm,1.1s						
UALR	**University of**	**21.56**	**357**	*e*P	**P**	**05 06 05.0**	**-0.3**
	comp=Z,9.2nm,0.7s,mb4.3						
CLNB	**Carlsbad**	**22.38**	**330**	P	**P**	**05 06 16.7**	**+2.6**
SWET	**Sewanee**	**22.43**	**11**	*e*P	**P**	**05 06 14.3**	**-0.3**
GDL2	**Guadalupe Moun**	**22.57**	**329**	*e*P	**P**	**05 06 16.8**	**+0.7**
WMOK	**Wichita Mounta**	**22.61**	**343**	*e*P	**P**	**05 06 14.5**	**-2.1**
	comp=Z,10nm,1.5s,mb4.0						
WMOK	**Wichita Mounta**	**22.61**	**343**	*e*P	**P**	**05 06 14.5**	**-2.0**
WMOK				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.0						
MNTX	**Cornudas Mount**	**22.70**	**327**	*e*P	**P**	**05 06 17.5**	**+0.1**
	comp=Z,27nm,1.0s,mb4.6						
CPCT	**Cooper Cave**	**22.95**	**14**	*e*P	**P**	**05 06 20.2**	**0.0**
CPRX	**Cap Rock**	**23.01**	**331**	*e*P	**P**	**05 06 21.0**	**+0.2**
WVT	**Waverly**	**23.05**	**7**	*e*P	**P**	**05 06 19.6**	**-1.6**
	comp=Z,18nm,1.0s,mb4.5						
WVT				*e*		05 06 31.3	
WVT	**Waverly**	**23.05**	**7**	*e*P	**P**	**05 06 19.6**	**-1.6**
WVT				*e*		05 06 31.3	
WVT				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.5						
TZTN	**Tazewell**	**24.23**	**15**	*e*P	**P**	**05 06 31.0**	**-1.4**
BNM	**Barren Site**	**25.27**	**328**	*e*P	**P**	**05 06 43.4**	**+1.6**
WCI	**Wyandotte Cave**	**25.32**	**9**	*e*P	**P**	**05 06 40.5**	**-1.7**
	comp=Z,16nm,0.7s,mb4.7						
WCI	**Wyandotte Cave**	**25.32**	**9**	*e*P	**P**	**05 06 40.5**	**-1.8**
WCI				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.7						
LPM	**Los Pinos Moun**	**25.39**	**329**	*e*P	**P**	**05 06 44.5**	**+1.5**
LENM	**Lemitar**	**25.45**	**328**	*e*P	**P**	**05 06 44.7**	**+1.2**
ANMO	**Albuquerque**	**25.82**	**330**	P	**P**	**05 06 47.8**	**+1.0**
	comp=Z,1.5nm,0.8s,mb3.6,baz=159,slow=13,SNR=6.5						
ANMO	**Albuquerque**	**25.82**	**330**	*e*P	**P**	**05 06 48.0**	**+1.2**
	comp=Z,1.8nm,0.9s,mb3.6						
ANMO	**Albuquerque**	**25.82**	**330**	*e*P	**P**	**05 06 48.0**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TUC	**Tucson**	**26.30**	**320**	*e*P	**P**	**05 06 52.5**	**+1.3**
	comp=Z,4.5nm,0.9s,mb4.0						
TUC	**Tucson**	**26.30**	**320**	*e*P	**P**	**05 06 52.5**	**+1.3**
TUC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
LDFC	**Landfair**	**30.84**	**319**	*e*P	**P**	**05 07 34.7**	**+3.1**
NEN	**Nelson**	**31.03**	**320**	*e*P	**P**	**05 07 35.1**	**+1.8**
MSU	**Marysvale**	**31.48**	**327**	*e*P	**P**	**05 07 39.0**	**+1.8**
ARUT	**Antelope Range**	**31.65**	**325**	*e*P	**P**	**05 07 40.2**	**+1.5**
DAU	**Daniels Canyon**	**32.45**	**330**	*e*P	**P**	**05 07 47.9**	**+2.1**
DUG	**Dugway**	**33.06**	**329**	P	**P**	**05 07 50.9**	**-0.1**
	comp=Z,8.6nm,1.5s,mb4.5						
DUG	**Dugway**	**33.06**	**329**	P	**P**	**05 07 50.9**	**-0.2**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.5						
SADO	**Sadowa**	**33.09**	**16**	P	**P**	**05 07 48.5**	**-2.8**
	comp=Z,3.7nm,0.7s,mb4.5,baz=244,slow=7.1,SNR=4.3						
HWUT	**Hardware Ranch**	**33.53**	**332**	*e*P	**P**	**05 07 56.5**	**+1.3**
	comp=Z,5.2nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**33.59**	**335**	P	**P**	**05 07 55.5**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=134,slow=9.0,SNR=7.3						
PDAR				PcP	PcP	05 10 36.8	+1.3
	comp=Z,0.4nm,0.6s,baz=126,slow=2.0,SNR=3.9						
BW06	**Boulder Array**	**33.59**	**335**	*e*P	**P**	**05 07 55.9**	**+0.2**
	comp=Z,2.4nm,1.1s,mb4.0						
REDW	**Red Top Meadow**	**34.62**	**334**	*e*P	**P**	**05 08 05.6**	**+1.0**
	comp=Z,18nm,1.1s,mb4.9						
SNOW	**Snow King Moun**	**34.66**	**334**	*e*P	**P**	**05 08 06.0**	**+1.0**
	comp=Z,9.9nm,0.7s,mb4.8						
LOHW	**Long Hollow**	**34.72**	**335**	*e*P	**P**	**05 08 06.8**	**+1.3**
	comp=Z,2.9nm,0.7s,mb4.3						
ELK	**Elko**	**34.72**	**327**	*e*P	**P**	**05 08 07.5**	**+2.0**
	comp=Z,6.4nm,1.2s,mb4.4						
ELK	**Elko**	**34.72**	**327**	*e*P	**P**	**05 08 07.5**	**+2.0**
ELK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MOOW	**Moose Ponds**	**34.89**	**335**	*e*P	**P**	**05 08 07.9**	**+1.0**
	comp=Z,1.4nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**34.93**	**321**	P	**P**	**05 08 10.6**	**+3.2**
	comp=Z,3.9nm,0.6s,mb4.5,baz=130,slow=9.1,SNR=35						
NVAR				PcP	PcP	05 10 41.7	+2.4
	comp=Z,2.0nm,0.9s,baz=131,slow=4.3,SNR=6.7						
NVAR				LR	LR	05 25 07.4	
	comp=Z,195nm,18.4s,MS3.9,baz=130,slow=41						
NVAR	**Mina Array Bea**	**34.93**	**321**	P	**P**	**05 08 10.6**	**+3.2**
NVAR				PcP	PcP	05 10 41.7	+2.4
NVAR				LR	LR	05 25 07.4	
BMN	**Battle Mountai**	**35.60**	**325**	*e*P	**P**	**05 08 14.6**	**+1.5**
	comp=Z,3.5nm,0.6s,mb4.5						
BMN	**Battle Mountai**	**35.60**	**325**	*e*P	**P**	**05 08 14.6**	**+1.6**
BMN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
HLID	**Hailey**	**36.38**	**331**	*e*P	**P**	**05 08 20.7**	**+1.0**
	comp=Z,6.7nm,1.3s,mb4.4						
MCMT	**McKenzie Canyo**	**36.65**	**334**	*e*P	**P**	**05 08 23.7**	**+1.7**
BOZ	**Bozeman (W)**	**36.80**	**336**	*e*P	**P**	**05 08 23.9**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**36.80**	**336**	*e*P	**P**	**05 08 23.9**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
LPAZ	**La Paz**	**36.97**	**142**	P	**P**	**05 08 28.7**	**+3.9**
	comp=Z,0.5nm,0.5s,mb3.6,baz=240,slow=8.1,SNR=2.9						
LPAZ				LR	LR	05 24 59.5	
	comp=Z,81nm,19.4s,MS3.5,baz=36,slow=38						
LPAZ	**La Paz**	**36.97**	**142**	*e*P	**P**	**05 08 24.6**	**-0.2**
	comp=Z,2.1nm,1.1s,mb3.9						
LPAZ	**La Paz**	**36.97**	**142**	P	**P**	**05 08 28.7**	**+3.9**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ				MLR	MLR		
	comp=Z,81nm,19.4s						
WVOR	**Wild Horse Val**	**37.73**	**326**	*e*P	**P**	**05 08 32.8**	**+1.6**
	comp=Z,10nm,1.0s,mb4.5						
WVOR	**Wild Horse Val**	**37.73**	**326**	*e*P	**P**	**05 08 32.8**	**+1.6**
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
SIV	**San Ignacio**	**41.41**	**133**	P	**P**	**05 09 01.7**	**-0.1**
	comp=Z,6.1nm,1.0s,mb4.2,baz=308,slow=9.5,SNR=18						
FFC	**Flin Flon**	**42.36**	**351**	*e*P	**P**	**05 09 07.6**	**-2.0**
	comp=Z,5.4nm,0.8s,mb4.2						
FFC	**Flin Flon**	**42.36**	**351**	*e*P	**P**	**05 09 07.6**	**-2.0**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
EDM	**Edmonton**	**43.74**	**341**	*e*P	**P**	**05 09 19.3**	**-1.5**
FCC	**Fort Churchill**	**45.58**	**358**	*e*P	**P**	**05 09 32.2**	**-3.3**
	comp=Z,3.5nm,1.0s,mb4.2						
FCC	**Fort Churchill**	**45.58**	**358**	*e*P	**P**	**05 09 32.2**	**-3.2**
FCC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
SCHQ	**Schefferville**	**45.68**	**19**	P	**P**	**05 09 31.6**	**-4.6**
	comp=Z,14nm,1.0s,mb4.9,baz=214,slow=8.8,SNR=10						
SCHQ				LR	LR	05 29 23.7	
	comp=Z,360nm,18.5s,MS4.3,baz=216,slow=37						
SCHQ	**Schefferville**	**45.68**	**19**	*e*P	**P**	**05 09 33.1**	**-3.2**
	comp=Z,167nm,2.0s,mb5.6						
CFAA	**Coronel Fontan**	**49.57**	**154**	P	**P**	**05 10 06.2**	**-0.3**
	comp=Z,0.3nm,0.9s,mb3.3,baz=309,slow=3.5,SNR=5.8						
CPUP	**Villa Florida**	**51.12**	**140**	LR	LR	05 33 30.0	
	comp=Z,114nm,20.5s,MS3.9,baz=326,slow=38						
BDFB	**Brasilia**	**51.25**	**123**	LR	LR	05 34 22.7	
	comp=Z,91nm,18.6s,MS3.8,baz=131,slow=39						
YKA	**Yellowknife Ar**	**52.07**	**346**	P	**P**	**05 10 23.1**	**-2.1**
	comp=Z,2.4nm,0.9s,mb4.1,baz=145,slow=7.8,SNR=28						
YKA				PcP	PcP	05 11 37.0	+0.1
	comp=Z,0.5nm,0.9s,baz=153,slow=3.7,SNR=4.9						
YKA				LR	LR	05 37 48.7	
	comp=Z,189nm,18.2s,MS4.2,baz=90,slow=42						
YKA	**Yellowknife Ar**	**52.07**	**346**	P	**P**	**05 10 23.1**	**-2.1**
YKA				PcP	PcP	05 11 37.0	+0.1
YKA				LR	LR	05 37 48.7	
YKA	**Yellowknife Ar**	**52.07**	**346**	P	**P**	**05 10 23.2**	**-2.0**
YKA						05 11 37.0	
YKW3	**Yellowknife Ar**	**52.13**	**346**	*e*P	**P**	**05 10 23.6**	**-2.0**
FRB	**Frobisher Bay**	**52.92**	**12**	P	**P**	**05 10 27.6**	**-3.9**
	comp=Z,3.4nm,0.7s,mb4.4,baz=186,slow=4.3,SNR=5.5						
FRB	**Frobisher Bay**	**52.92**	**12**	P	**P**	**05 10 27.7**	**-3.8**
FRB				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RKT	**Rikitea**	**56.15**	**230**	*e*T		06 11 31.2	
	comp=Z,5.8nm,0.3s						
PLCA	**Paso Flores**	**56.87**	**162**	LR	LR	05 30 19.7	
	comp=Z,139nm,21.8s,MS4.0,baz=107,slow=30						
TRQA	**Tornquist**	**57.75**	**153**	*e*P	**P**	**05 11 05.8**	**-0.5**
	comp=Z,8.2nm,1.3s,mb4.6						
INK	**Inuvik**	**61.52**	**343**	P	**P**	**05 11 30.9**	**-1.4**
	comp=Z,4.6nm,1.0s,mb4.6,baz=133,slow=7.3,SNR=17						
INK	**Inuvik**	**61.52**	**343**	*e*P	**P**	**05 11 30.2**	**-2.0**
	comp=Z,3.8nm,0.9s,mb4.5						
INK	**Inuvik**	**61.52**	**343**	P	**P**	**05 11 30.9**	**-1.3**
INK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
RES	**Resolute Bay**	**61.55**	**359**	*e*P	**P**	**05 11 29.0**	**-3.5**
	comp=Z,3.1nm,0.6s,mb4.6						
RES	**Resolute Bay**	**61.55**	**359**	*e*P	**P**	**05 11 29.0**	**-3.5**
RES				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
PMOR	**Pomariorio Ree**	**62.88**	**245**	*e*T		06 20 04.9	
	comp=Z,4.1nm,0.3s						
ILAR	**Eielson Array**	**63.99**	**337**	P	**P**	**05 11 48.0**	**-0.8**
	comp=Z,4.1nm,1.0s,mb4.4,baz=127,slow=4.2,SNR=27						
ILAR				LR	LR	05 45 35.3	
	comp=Z,116nm,18.3s,MS4.1,baz=359,slow=42						
COLA	**College**	**64.41**	**337**	*e*P	**P**	**05 11 50.6**	**-0.9**
	comp=Z,2.1nm,0.6s,mb4.3						
COLA	**College**	**64.41**	**337**	*e*P	**P**	**05 11 50.7**	**-0.7**
PPT	**Papeete**	**65.38**	**244**	*e*LR	LR	05 31 08.4	
	comp=Z,148nm,24.8s						
PPT	**Papeete**	**65.38**	**244**	LR	LR	05 35 17.8	
	comp=Z,148nm,20.0s,MS4.2,baz=88,slow=31						
SUMG	**Summit**	**66.79**	**15**	*e*P	**P**	**05 12 04.7**	**-2.1**
	comp=Z,5.8nm,0.9s,mb4.6						
BILL	**Bilibino**	**82.60**	**338**	*e*P	**P**	**05 13 37.3**	**-1.0**
	comp=Z,8.0nm,1.0s,mb4.7						
BILL	**Bilibino**	**82.60**	**338**	*e*P	**P**	**05 13 38.2**	**-0.1**
BILL				*e*S	S	05 23 54.7	+1.9
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
NOA	**NORSAR Array B**	**84.42**	**29**	LR	LR	05 49 02.3	
	comp=Z,51nm,19.5s,MS3.9,baz=355,slow=34						
DBIC	**Dimbokro**	**84.77**	**84**	P	**P**	**05 13 48.8**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.6,baz=287,slow=3.6,SNR=8.0						
DBIC				LR	LR	05 48 28.3	
	comp=Z,62nm,18.0s,MS4.0,baz=268,slow=34						
DBIC	**Dimbokro**	**84.77**	**84**	*e*P	**P**	**05 13 48.8**	**-0.7**
	comp=Z,10.0nm,1.0s,mb4.9						
ARCES	**ARCESS Array B**	**86.63**	**18**	LR	LR	05 50 51.6	
	comp=Z,114nm,19.1s,MS4.3,baz=33,slow=34						
CLL	**Collm**	**88.39**	**38**	*i*P	**P**	**05 14 04.4**	**-2.7**
	comp=Z,3.0nm,0.5s,mb4.8						
CLL	**Collm**	**88.39**	**38**	*i*P	**P**	**05 14 04.4**	**-2.7**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.8						
TORD	**Torodi Ar. Bea**	**89.63**	**77**	P	**P**	**05 14 10.7**	**-2.3**
	comp=Z,0.5nm,0.8s,mb3.9,baz=288,slow=4.2,SNR=3.5						
GERES	**GERESS Array B**	**89.63**	**40**	P	**P**	**05 14 10.4**	**-2.5**
	comp=Z,0.6nm,0.9s,mb3.9,baz=266,slow=7.5,SNR=3.7						
GERES				LR	LR	05 50 14.4	
	comp=Z,74n

AGG	**Agios Georgios**	**0.98**	**81**	*e*Pg		**Pg**	**05 05 40.6 +0.2**
AGG				*e*Sg		**Sg**	**05 05 53.1 -0.1**
KEK	**Kerkira**	**1.31**	**311**	⇑*i*PN		**Pn**	**05 05 47.4 +0.4**
KEK				*e*SN		**Sn**	**05 06 06.3 +1.3**
SRN	**Sarande**	**1.31**	**320**	*i* Pn		**Pn**	**05 05 48.0 +0.9**
SRN				*i* Sn		**Sn**	**05 06 08.3 +3.1**
LSK	**Leskovik**	**1.33**	**344**	*i* Pn		**Pn**	**05 05 46.0 -1.3**
LKR	**Lokris**	**1.51**	**98**	⇑*i*PN		**Pn**	**05 05 50.0 +0.2**
LKR				*e*SN		**Sn**	**05 06 11.6 +1.6**
KZN	**Kozani**	**1.53**	**20**	*e*PN		**Pn**	**05 05 50.3 +0.3**
KZN				*e*SN		**Sn**	**05 06 10.5 0.0**
LIT	**Litokhoron**	**1.64**	**41**	*e*Pg		**Pg**	**05 05 51.6 -1.5**
LIT				*e*Sg		**Sg**	**05 06 13.3 -1.1**
XOR	**Xorichti**	**1.71**	**72**	*e*Pg		**Pg**	**05 05 52.8 -1.6**
NEO	**Neokhori**	**1.72**	**75**	*e*PN		**Pn**	**05 05 53.0 +0.4**
NEO				*e*SN		**Sn**	**05 06 16.3 +1.1**
ITM	**Ithomi**	**1.81**	**158**	*e*PN		**Pn**	**05 05 56.7 +2.8**
MGER	**Gerania Oros**	**1.92**	**117**	*e*PN		**Pn**	**05 05 57.0 +1.6**
MGER	**Gerania Oros**	**1.92**	**117**	*e*Pg		**Pg**	**05 05 58.0 -0.5**
FNA	**Florina**	**1.93**	**7**	*e*Pb		**Pb**	**05 05 57.0 -0.5**
BIA	**Bitola**	**2.15**	**5**	*e*Pn		**Pn**	**05 06 00.9 +2.3**
BIA				*e*Sn		**Sn**	**05 06 28.2 +2.2**
BIA	**Bitola**	**2.15**	**5**	*e*Pn		**Pn**	**05 06 01.0 +2.4**
MPAR	**Parnis Oros**	**2.20**	**108**	*e*PN		**Pn**	**05 06 01.0 +1.8**
MPAR	**Parnis Oros**	**2.20**	**108**	*e*Pg		**Pg**	**05 06 02.0 -1.8**
OHR	**Ohrid**	**2.25**	**354**	*e*Pn		**Pn**	**05 06 02.9 +2.9**
OHR	**Ohrid**	**2.25**	**354**	*e*Pn		**Pn**	**05 06 02.3 +2.4**
ATH	**Athens Observa**	**2.25**	**113**	*e*PN		**Pn**	**05 06 01.7 +1.8**
PAIG	**Paliouri**	**2.27**	**61**	*e*Pn		**Pn**	**05 05 59.8 -0.4**
PAIG				*e*Sn		**Sn**	**05 06 26.9 -1.9**
THE	**Thessaloniki**	**2.28**	**39**	*e*Pn		**Pn**	**05 06 00.6 +0.3**
THE				*e*Sn		**Sn**	**05 06 29.0 0.0**
GRG	**Griva**	**2.32**	**25**	*e*Pn		**Pn**	**05 06 01.2 +0.4**
PTL	**Penteli**	**2.33**	**110**	*e*PN		**Pn**	**05 06 02.0 +1.0**
PTL	**Penteli**	**2.33**	**110**	*e*Pn		**Pn**	**05 06 03.0 +2.0**
KVR	**Kavouri**	**2.35**	**115**	*e*PB		**Pb**	**05 06 03.0 -1.8**
PLG	**Polygyros**	**2.36**	**50**	⇓*i*PN		**Pn**	**05 06 01.4 -0.1**
VLI	**Veliai**	**2.60**	**145**	*e*PB		**Pb**	**05 06 07.0 -2.0**
VLI	**Veliai**	**2.60**	**145**	*e*Pn		**Pn**	**05 06 08.0 +3.3**
SOH	**Sokhos**	**2.62**	**41**	*e*Pn		**Pn**	**05 06 05.6 +0.6**
SOH				*e*Sn		**Sn**	**05 06 36.9 -0.4**
TIR	**Tirane**	**2.65**	**340**	*e*Pn		**Pn**	**05 06 07.3 +1.9**
OUR	**Ouranopolis**	**2.67**	**56**	*e*Pn		**Pn**	**05 06 06.4 +0.7**
KNT	**Kendrikon**	**2.68**	**31**	*e*Pn		**Pn**	**05 06 06.5 +0.7**
VAY	**Valandovo**	**2.70**	**24**	*e*Pn		**Pn**	**05 06 06.8 +0.7**
VAY	**Valandovo**	**2.70**	**24**	*e*Pn		**Pn**	**05 06 06.8 +0.7**
STIP	**Stip**	**2.94**	**16**	*e*Pn		**Pn**	**05 06 11.5 +2.1**
SRS	**Serrai**	**2.96**	**40**	*e*Pn		**Pn**	**05 06 10.1 +0.4**
SRS				*e*Sn		**Sn**	**05 06 45.9 +0.2**
SKO	**Skopje**	**3.11**	**5**	*e*Pn		**Pn**	**05 06 13.4 +1.6**
SKO	**Skopje**	**3.11**	**5**	*e*Pn		**Pn**	**05 06 13.3 +1.5**
NVR	**Nevrokopi**	**3.27**	**40**	*e*PN		**Pn**	**05 06 14.7 +0.8**
TIP	**Timpagrande**	**3.39**	**277**	*e*Pn		**Pn**	**05 06 15.9 +0.3**
TIP	**Timpagrande**	**3.39**	**277**	*e*Pn		**Pn**	**05 06 15.9 +0.4**
SG1	**Sgolgore (BA)**	**3.92**	**302**	*e*Pn		**Pn**	**05 06 23.4 +0.5**
APE	**Apeiranthos**	**3.94**	**116**	*e*Pn		**Pn**	**05 06 23.6 +0.4**
VTS	**Vitosha**	**4.05**	**23**	*e*Pn		**Pn**	**05 06 27.3 +2.6**
RDO	**Rodhopi**	**4.10**	**55**	*e*PN		**Pn**	**05 06 26.0 +0.6**
RDO	**Rodhopi**	**4.10**	**55**	*e*Pn		**Pn**	**05 06 25.0 -0.4**
VAM	**Vamos**	**4.26**	**143**	*e*PN		**Pn**	**05 06 30.0 +2.5**
ALN	**Alexandroupoli**	**4.32**	**60**	*e*Pn		**Pn**	**05 06 28.2 -0.1**
ALN				*e*Sn		**Sn**	**05 07 19.1 -0.2**
ALN	**Alexandroupoli**	**4.32**	**60**	*e*Pn		**Pn**	**05 06 28.2 -0.2**
GVD	**Gavdhos**	**4.69**	**148**	*e*Pn		**Pn**	**05 06 29.1 -4.3**
GVD	**Gavdhos**	**4.69**	**148**	*e*Pn		**Pn**	**05 06 29.1 -4.3**
IDI	**Anoyia**	**4.69**	**138**	P		**Pn**	**05 06 34.4 +0.9**
	3.3nm,0.3s,baz=328,slow=16,SNR=18						
IDI				S		**Sn**	**05 07 31.3 +2.8**
	7.2nm,0.3s,baz=296,slow=21,SNR=7.6						
IDI				LR		LR	05 08 53.6
	comp=Z,73nm,18.6s,baz=271,slow=43						
MFT	**Murefte**	**5.14**	**66**	*e*P		**Pn**	**05 06 38.3 -1.3**
EDRB	**Edirne**	**5.25**	**54**	*e*P		**Pn**	**05 06 40.7 -0.4**
MRMT	**Marmara Adasi**	**5.31**	**69**	*e*P		**Pn**	**05 06 41.7 -0.2**
MLR	**Muntele Rosu**	**7.53**	**27**	P		**Pn**	**05 07 17.0 +4.4**
	1.9nm,0.3s,baz=234,slow=19,SNR=10						
MLR				S		**Sn**	**05 08 44.3 +5.7**
	0.3nm,0.3s,baz=135,slow=20,SNR=2.6						
MLR	**Muntele Rosu**	**7.53**	**27**	⇓P		**Pn**	**05 07 12.0 -0.5**
MLR	**Muntele Rosu**	**7.53**	**27**	⇓P		**Pn**	**05 07 12.0 -0.5**
HARR	**Harsova**	**7.74**	**39**	⇑P		**Pn**	**05 07 19.7 +4.3**
HARR	**Harsova**	**7.74**	**39**	⇑P		**Pn**	**05 07 19.7 +4.3**
DRGR		**8.01**	**8**	⇓P		**Pn**	**05 07 17.1 -1.9**
DRGR		**8.01**	**8**	⇓P		**Pn**	**05 07 17.1 -1.9**
SLUM		**8.10**	**154**	⇑P		**Pn**	**05 07 18.8 -1.5**
SLUM				S		**Sn**	**05 08 45.5 -6.9**
VRI	**Vrincioaia**	**8.14**	**29**	⇑P		**Pn**	**05 07 25.1 +4.2**
VRI	**Vrincioaia**	**8.14**	**29**	⇑P		**Pn**	**05 07 25.1 +4.3**
OBKA	**Obir**	**9.02**	**330**	⇑*i*Sn		**Sn**	**05 09 08.2 -6.9**
OBKA	**Obir**	**9.02**	**330**	⇑*i*PN		**Pn**	**05 07 33.1 +0.1**
OBKA				⇑*i*Sn		**Sn**	**05 09 13.1 -2.0**
OBKA	**Obir**	**9.02**	**330**	⇑*i*PN		**Pn**	**05 07 33.1 +0.1**
OBKA				*i* Sn		**Sn**	**05 09 08.2 -6.9**
PSZ	**Piszkesteto**	**9.09**	**355**	*e*Pn		**Pn**	**05 07 37.7 +3.9**
	5.8nm,0.8s						
PSZ	**Piszkesteto**	**9.09**	**355**	*e*Pn		**Pn**	**05 07 37.7 +3.8**
	5.8nm,0.8s						
HMAT	**Matruh**	**9.19**	**146**	⇑P		**Pn**	**05 07 34.9 -0.3**
HMAT				S		**Sn**	**05 09 13.1 -6.1**
BURAR	**Bucovina Array**	**9.24**	**18**	⇓P		**Pn**	**05 07 41.4 +5.4**
ARSA	**Arzberg**	**9.31**	**336**	⇓*i*PN		**Pn**	**05 07 35.6 -1.3**
ARSA				⇓*i*Sn		**Sn**	**05 09 17.0 -5.2**
ARSA	**Arzberg**	**9.31**	**336**	⇓*i*PN		**Pn**	**05 07 35.6 -1.3**
ARSA				*i* Sn		**Sn**	**05 09 17.0 -5.3**
BR131	**Keskin Array S**	**9.77**	**81**	*e*Pn		**Pn**	**05 07 43.6 +0.4**
BRTR	**Keskin Array B**	**9.77**	**81**	P		**Pn**	**05 07 45.8 +2.6**
	0.4nm,0.3s,baz=265,slow=12,SNR=10						
BRTR				S		**Sn**	**05 09 32.7 -0.8**
	0.1nm,0.3s,baz=271,slow=23,SNR=3.3						
KBA	**Koelnbreinsper**	**9.97**	**328**	⇑*i*PN		**Pn**	**05 07 45.1 -0.8**
KBA				⇓*i*Sn		**Sn**	**05 09 31.7 -6.7**
KBA	**Koelnbreinsper**	**9.97**	**328**	⇑*i*PN		**Pn**	**05 07 45.1 -0.8**
KBA				*i* Sn		**Sn**	**05 09 31.7 -6.7**
MOA	**Molln**	**10.25**	**333**	⇑*i*Sn		**Sn**	**05 09 39.7 -5.7**
MOA	**Molln**	**10.25**	**333**	⇑*i*PN		**Pn**	**05 07 48.5 -1.3**
MOA				⇓*i*Sn		**Sn**	**05 09 42.5 -2.9**
MOA	**Molln**	**10.25**	**333**	⇑*i*PN		**Pn**	**05 07 48.5 -1.3**
MOA				*i* Sn		**Sn**	**05 09 39.7 -5.7**
SWA2		**10.26**	**158**	⇓P		**Pn**	**05 07 48.0 -2.0**
SWA1		**10.32**	**157**	⇑*e*P		**Pn**	**05 07 48.9 -1.8**
SWA1				S		**Sn**	**05 09 38.6 -8.3**
MOTA	**Moosalm**	**11.17**	**323**	⇑*i*Sn		**Sn**	**05 10 01.1 -6.8**
MOTA	**Moosalm**	**11.17**	**323**	⇓*i*PN		**Pn**	**05 08 00.9 -1.5**
MOTA				⇑*i*Sn		**Sn**	**05 10 04.1 -3.8**
MOTA	**Moosalm**	**11.17**	**323**	⇓*i*PN		**Pn**	**05 08 00.9 -1.5**
MOTA				*i* Sn		**Sn**	**05 10 01.1 -6.8**
GERES	**GERESS Array B**	**11.30**	**334**	S		**Sn**	**05 10 06.5 -4.6**
	0.2nm,0.3s,baz=152,slow=24,SNR=4.5						
DAVOX	**Davos**	**11.40**	**317**	LR		LR	05 12 58.7
	comp=Z,78nm,19.5s,baz=133,slow=40						
ESDC	**Sonseca Array**	**19.40**	**280**	P		**Pn**	**05 09 50.4 +0.4**
	0.2nm,0.3s,baz=72,slow=12,SNR=3.0						
MDT	**Midelt**	**21.66**	**262**	LR		LR	05 19 18.8
	comp=Z,51nm,20.5s,MS2.9,baz=276,slow=38						
HFS	**Hagfors**	**21.79**	**350**	P		**P**	**05 10 13.8 -1.1**
	1.0nm,0.6s,mb3.5,baz=142,slow=8.5,SNR=4.4						
HFS				LR		LR	05 18 42.3
	comp=Z,20nm,20.1s,MS2.5,baz=68,slow=37						
FINES	**FINESS Array B**	**22.81**	**6**	P		**P**	**05 10 23.9 -1.9**
	1.1nm,0.9s,mb3.3,baz=167,slow=14,SNR=2.9						
NB2	**NORSAR Subarra**	**23.03**	**348**	P		**P**	**05 10 29.7 +1.6**
	comp=Z,0.6nm,0.6s,mb3.2,baz=160,slow=9.3						
NOA	**NORSAR Array B**	**23.03**	**348**	P		**P**	**05 10 26.1 -2.0**
	comp=Z,0.7nm,0.7s,mb3.2,baz=163,slow=11,SNR=2.6						
EKA	**Eskdalemuir Ar**	**23.13**	**323**	P		**P**	**05 10 27.2 -1.9**
	comp=Z,2.0nm,1.0s,mb3.5,baz=134,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**30.82**	**3**	P		**P**	**05 11 36.4 -2.5**
	comp=Z,8.5nm,1.0s,mb4.5,baz=35,slow=7.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**30.85**	**219**	P		**P**	**05 11 39.1 -0.1**
	comp=Z,2.0nm,0.6s,mb4.2,baz=31,slow=9.3,SNR=57						
BVAR	**Borovoye Array**	**36.34**	**51**	P		**P**	**05 12 25.3 -1.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=269,slow=5.8,SNR=4.1						
MKAR	**Makanchi Array**	**44.56**	**59**	P		**P**	**05 13 32.9 -2.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=281,slow=7.7,SNR=15						
ZAL	**Zalesovo**	**44.89**	**49**	P		**P**	**05 13 35.2 -2.4**
	comp=Z,3.7nm,0.4s,mb4.6,baz=263,slow=8.4,SNR=15						
ZAL	**Zalesovo**	**44.89**	**49**	P		**P**	**05 13 35.2 -2.4**
SCHQ	**Schefferville**	**58.26**	**317**	P		**P**	**05 15 16.1 -1.6**
	comp=Z,4.5nm,1.0s,mb4.5,baz=69,slow=7.7,SNR=2.5						
SONM	**Songino Array**	**59.68**	**51**	P		**P**	**05 15 27.6 +0.1**
	comp=Z,0.8nm,1.0s,mb3.7,baz=297,slow=6.5,SNR=4.2						

CASC 23 05:33:59.6±2.7, 1328N×9090W, h4km±26km, MD4.0, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.99**	**26**	⇑*e*P	Pg	05 34 18.4	-0.3
IXG				*e*S	Sg	05 34 34.2	+2.6
FUG	**Fuego 3**	**1.17**	**3**	*e*P	Pg	05 34 21.4	-0.6
SBLS	**San Blas**	**1.36**	**66**	*e*P	Pn	05 35 03.6	+38
SBLS				*e*S	Sb	05 35 22.5	+39
RBDL	**Robledal**	**1.45**	**55**	*e*P	Pn	05 35 04.8	+38
RBDL				*e*S	Sb	05 35 26.4	+41
TP2	**Tecpan 2**	**1.50**	**356**	⇓*e*P	Pn	05 34 26.2	-1.1
TP2				*e*S	Sn	05 34 48.3	+1.0
LFRS	**El Faro**	**1.82**	**79**	*e*P	Pn	05 35 09.8	+38
LFRS				*e*S	Sn	05 35 34.8	+40
LCBS	**La Ceiba**	**1.91**	**78**	*e*P	Pn	05 35 11.2	+38
LCBS				*e*S	Sn	05 35 37.0	+40
SNVI	**San Vicente**	**2.04**	**80**	*e*P	Pn	05 35 19.8	+45
SNVI				*e*S	Sn	05 35 45.9	+45
MRL	**Marmol**	**2.13**	**33**	*e*P	Pn	05 34 37.9	+2.0

IDC 23 05:49:33.8±2.4, 6582N×11141E, h0km, mb3.1/4, mb1 3.5/4, mb1mx3.3/19, mbtmp3.1/4, Error ellipse: s-maj=213.8km s-min=25.6km az=135.0, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.59**	**233**	P	P	05 54 55.1	-0.5
	0.2nm,0.4s,baz=31,slow=8.0,SNR=5.8						
ILAR	**Eielson Array**	**38.05**	**43**	P	P	05 56 52.4	-1.5
	0.2nm,0.7s,baz=312,slow=6.6,SNR=6.6						
YKA	**Yellowknife Ar**	**47.61**	**27**	P	P	05 58 09.5	-1.9
	0.1nm,0.4s,baz=339,slow=7.9,SNR=4.2						
PDAR	**Pinedale Array**	**67.20**	**32**	P	P	06 00 30.9	+1.2
	0.3nm,0.8s,baz=347,slow=3.7,SNR=2.8						

IDC 23 05:51:45.5±2.0, 3833N×4279E, h0km, mb3.3/4, mb1 3.4/7, mb1mx3.3/20, mbtmp3.3/7, ML2.6/1, Error ellipse: s-maj=36.8km s-min=14.1km az=152.0
CSEM 23 05:51:48.0±0.1, 3881N×4251E, h20km, mb3.6, Error ellipse: s-maj=2.0km s-min=1.5km az=11.0
ISK 23 05:51:48.6, 3878N×4241E, h30km, MD3.2
MOS 23 05:51:48.0±1.6, 3862N×4248E, h10km, mb3.6/1, Error ellipse: s-maj=13.9km s-min=13.2km az=135.1
NEIC 23 05:51:49.0, 3881N×4248E, h32km, MD3.6(ISK), After ISK.
ISCJB 23 05:51:49.8±0.3, 3872N±003×4248E±003, h20km, mb3.2/4, Error ellipse: s-maj=4.6km s-min=3.5km az=154.1
ISC 23 05:51:49.5±1.0, 3866N±005×4246E±004, h7km±8km, n50, σ1§45/66, mb3.2/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.75**	**100**	*i* P	**Pg**	**05 52 03.0**	**-0.9**
TVAN				*i* S	**Sg**	**05 52 15.1**	**+1.4**
TVAN	**Van**	**0.75**	**100**	*i* P	**Pg**	**05 52 03.0**	**-0.9**
TVAN				*i* S	**Sg**	**05 52 15.1**	**+1.4**
VANT	**Van**	**0.76**	**106**	*i* PG	**Pg**	**05 52 02.9**	**-1.2**
VANT				*i* SG	**Sg**	**05 52 14.8**	**+0.9**
VANT	**Van**	**0.76**	**106**	P	**Pg**	**05 52 02.8**	**-1.3**
BTMT	**Batman**	**0.90**	**239**	PN	**Pn**	**05 52 08.2**	**-0.2**
BTMT				SN	**Sn**	**05 52 22.4**	**+0.8**
BEST	**Besiri**	**1.21**	**231**	*i* P	**Pn**	**05 52 14.3**	**+1.5**
BEST				*i* S	**Sb**	**05 52 33.8**	**+5.3**
CLDR	**Caldiran**	**1.23**	**67**	PN	**Pn**	**05 52 09.8**	**-3.3**
CLDR				SN	**Sn**	**05 52 26.0**	**-3.9**
CLDR	**Caldiran**	**1.23**	**67**	Pn	**Pn**	**05 52 08.7**	**-4.4**
HKR	**Hakkari**	**1.48**	**137**	PN	**Pn**	**05 52 16.2**	**-0.2**
HKR	**Hakkari**	**1.48**	**137**	Pn	**Pn**	**05 52 16.1**	**-0.3**
HKR	**Hakkari**	**1.48**	**137**	Pn	**Pn**	**05 52 16.1**	**-0.4**
ERZM	**Erzurum**	**1.51**	**326**	*i* P	**Pn**	**05 52 12.3**	**-4.5**
ERZM				*i* S	**Sn**	**05 52 32.9**	**-3.8**
EZM	**Erzurum**	**1.51**	**326**	PN	**Pn**	**05 52 12.5**	**-4.4**
CUKT	**Cukurca**	**1.68**	**147**	PN	**Pn**	**05 52 18.8**	**-0.4**
DIGO	**Kars**	**1.89**	**22**	*i* P	**Pn**	**05 52 18.9**	**-3.2**
DIGO				*i* S	**Sn**	**05 52 45.6**	**-0.5**
MARD	**Mardin**	**1.89**	**225**	*i* P	**Pn**	**05 52 22.5**	**+0.4**
MARD				*i* S	**Sn**	**05 52 53.7**	**+7.5**
KARS	**Kars**	**2.01**	**14**	PN	**Pn**	**05 52 20.5**	**-3.2**
KARS	**Kars**	**2.01**	**14**	P	**Pn**	**05 52 20.2**	**-3.5**
GNI	**Garni**	**2.31**	**49**	*e*PN	**Pn**	**05 52 25.1**	**-2.8**
GNI	**Garni**	**2.31**	**49**	Pn	**Pn**	**05 52 26.7**	**-1.2**
	12nm,0.3s,baz=218,slow=4.0,SNR=23						
GNI				Sn	**Sn**	**05 52 58.2**	**+1.7**
	10nm,0.3s,baz=204,slow=20,SNR=6.0						
GNI	**Garni**	**2.31**	**49**	*e*Pn	**Pn**	**05 52 26.4**	**-1.5**
GNI	**Garni**	**2.31**	**49**	P	**Pn**	**05 52 26.7**	**-1.2**
GNI						05 52 58.2	
GNI				pmax	pmax		
	comp=Z,12nm,0.3s						
GNI				smax			
	comp=N,10.0nm,0.3s						
MSL	**Mosul**	**2.42**	**168**	*ex*	x	05 52 36.5	
MSL				*ex*	x	05 53 12.5	
ARTV	**Artvin**	**2.55**	**351**	*i* P	**Pn**	**05 52 27.5**	**-3.7**
AKH	**Akhalkalaki**	**2.86**	**16**	P	**Pn**	**05 52 33.9**	**-1.5**
AKH				S	**Sn**	**05 53 10.6**	**+0.5**
KELT	**Kelkit**	**2.90**	**302**	*i* P	**Pn**	**05 52 39.0**	**+3.1**
KELT				*i* S	**Sn**	**05 53 19.2**	**+8.3**
GUMT	**Gumushane**	**2.92**	**309**	*e*PN	**Pn**	**05 52 33.0**	**-3.3**
GUMT	**Gumushane**	**2.92**	**309**	Pn	**Pn**	**05 52 34.2**	**-2.1**
GUMT	**Gumushane**	**2.92**	**309**	Pn	**Pn**	**05 52 34.2**	**-2.1**
URFA	**Urfa**	**3.12**	**248**	*e*PN	**Pn**	**05 52 38.2**	**-0.8**
URFA	**Urfa**	**3.12**	**248**	Pn	**Pn**	**05 52 39.0**	**0.0**
URFA	**Urfa**	**3.12**	**248**	Pn	**Pn**	**05 52 39.0**	**-0.1**
BKR	**Bakuriani**	**3.17**	**14**	P	**Pn**	**05 52 42.4**	**+2.7**
BKR				S	**Sn**	**05 53 22.0**	**+4.3**
MALT	**Malatya**	**3.19**	**265**	*e*PN	**Pn**	**05 52 38.2**	**-1.7**
MALT	**Malatya**	**3.19**	**265**	*e*Pn	**Pn**	**05 52 39.7**	**-0.2**
MYA	**Malataya**	**3.19**	**265**	*e*PN	**Pn**	**05 52 37.6**	**-2.3**
MYA	**Malataya**	**3.19**	**265**	Pn	**Pn**	**05 52 39.2**	**-0.7**
MTA	**Mtatsminda**	**3.52**	**30**	P	**Pn**	**05 52 47.6**	**+3.2**
MTA				S	**Sn**	**05 53 32.9**	**+6.6**
TBLG	**Delisi**	**3.53**	**29**	P	**Pn**	**05 52 45.8**	**+1.1**
TBLG				S	**Sn**	**05 53 34.8**	**+8.3**
TBLG	**Delisi**	**3.53**	**29**	*e*P	**Pn**	**05 52 45.8**	**+1.2**
TBLG				S	**Sn**	**05 53 34.8**	**+8.3**
DGRG	**David-gareji**	**3.57**	**38**	P	**Pn**	**05 52 43.4**	**-1.8**
DGRG				S	**Sn**	**05 53 31.2**	**+3.5**
GZT	**Gaziantep**	**4.08**	**253**	*i* P	**Pb**	**05 53 02.7**	**+1.1**
COBT	**Iskenderun**	**5.37**	**248**	*i* P	**Pb**	**05 53 24.0**	**+0.3**
BRTR	**Keskin Array B**	**6.94**	**282**	Pn	**Pn**	**05 53 31.8**	**+0.3**
	comp=N,0.1nm,0.3s,baz=105,slow=14,SNR=4.0						
AKASG	**Malin Array Be**	**15.25**	**326**	Pn	**Pn**	**05 55 26.6**	**+1.4**
	comp=N,0.8nm,0.3s,baz=134,slow=11,SNR=3.7						
GERES	**GERESS Array B**	**23.01**	**306**	P	**P**	**05 56 54.7**	**-0.2**
	comp=N,0.4nm,0.8s,mb2.9,baz=147,slow=12,SNR=3.5						
BVAR	**Borovoye Array**	**23.98**	**44**	P	**P**	**05 57 04.1**	**-0.4**
	comp=N,0.3nm,0.3s,mb3.2,baz=243,slow=6.3,SNR=3.4						
FINES	**FINESS Array B**	**24.97**	**341**	P	**P**	**05 57 15.7**	**+2.2**
	comp=N,1.1nm,0.9s,mb3.4,baz=23,slow=25,SNR=2.2						
FINES	**FINESS Array B**	**24.97**	**341**	P	**P**	**05 57 15.7**	**+2.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**44.09**	**246**	P	**P**	**05 59 56.1**	**-2.1**
	comp=Z,0.5nm,0.9s,mb3.2,baz=39,slow=6.7,SNR=3.5						

IDC 23 05:52:29.0±5.5, 3783N×4236E, h48km±51km, mb3.3/4, mb1 3.4/7, mb1mx3.2/21, mbtmp3.5/7, ML3.6/3, Error ellipse: s-maj=83.2km s-min=29.3km az=1.0
ISCJB 23 05:52:31.5±0.7, 3891N±005×4261E±006, h33km, mb3.3/4, Error ellipse: s-maj=7.1km s-min=6.8km az=67.7
ISC 23 05:52:32.5±0.7, 3892N±005×4256E±007, h35km, n12, σ1§43/17, mb3.3/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.77**	**120**	*i* P	**Pn**	**05 52 42.4**	**-4.5**
TVAN				*i* S	**Sn**	**05 52 55.0**	**-2.2**
ERZM	**Erzurum**	**1.35**	**317**	*i* P	**Pn**	**05 52 54.2**	**-0.6**
ERZM				*i* S	**Sn**	**05 53 11.2**	**-0.3**
BEST	**Besiri**	**1.44**	**225**	*i* P	**Pn**	**05 52 54.3**	**-1.8**
BEST				*i* S	**Sn**	**05 53 13.1**	**-0.7**
DIGO	**Kars**	**1.62**	**23**	*i* P	**Pn**	**05 52 59.1**	**+0.5**
DIGO				*i* S	**Sn**	**05 53 24.4**	**+6.2**
MARD	**Mardin**	**2.13**	**222**	*i* P	**Pn**	**05 53 07.5**	**+2.0**
MARD				*i* S	**Sn**	**05 53 32.9**	**+2.2**
BRTR	**Keskin Array B**	**6.96**	**279**	P	**Pn**	**05 54 11.0**	**-0.9**
	0.3nm,0.3s,baz=107,slow=13,SNR=6.7						
AKASG	**Malin Array Be**	**15.08**	**326**	P	**Pn**	**05 56 07.6**	**+4.7**
	0.8nm,0.3s,baz=138,slow=11,SNR=5.4						
AKTO	**Aktyubinsk**	**15.88**	**39**	P	**Pn**	**05 56 20.4**	**+7.1**
	0.2nm,0.3s,baz=237,slow=11,SNR=5.2						
GERES	**GERESS Array B**	**22.92**	**305**	P	**P**	**05 57 32.9**	**-0.4**
	0.5nm,0.6s,mb3.1,baz=99,slow=12,SNR=3.2						
BVAR	**Borovoye Array**	**23.75**	**44**	P	**P**	**05 57 45.3**	**+3.8**
	0.4nm,0.3s,mb3.3,baz=260,slow=8.1,SNR=5.9						
FINES	**FINESS Array B**	**24.75**	**341**	P	**P**	**05 57 55.5**	**+4.8**
	0.7nm,0.7s,mb3.3,baz=190,slow=4.1,SNR=2.8						
MKAR	**Makanchi Array**	**29.91**	**62**	P	**P**	**05 58 37.7**	**+0.7**
	0.8nm,1.0s,mb3.4,baz=265,slow=8.7,SNR=4.1						

CASC 23 05:59:05.3±3.6, 1312N×9106W, h0km±24km, MD3.9, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.20**	**29**	⇑*e*P	Pg	05 59 27.9	-0.3
JAT	**Jato**	**1.32**	**335**	*e*P	Pg	05 59 30.9	+0.4
SBLS	**San Blas**	**1.57**	**63**	*e*P	Pn	06 00 13.2	+39
SBLS				*e*S	Sn	06 00 37.7	+42
SNJE	**San Jose**	**1.59**	**62**	*e*P	Pn	06 00 13.3	+39
SNJE				*e*S	Sn	06 00 36.1	+40
NBG	**Las Nubes**	**1.61**	**25**	⇓*e*P	Pn	05 59 37.4	+2.4
NBG				*e*S	Sn	05 59 58.9	+2.4
TP2	**Tecpan 2**	**1.65**	**1**	⇓*e*P	Pn	05 59 35.5	-0.1
TP2				*e*S	Sn	05 59 59.0	+1.5
LCBS	**La Ceiba**	**2.09**	**75**	*e*P	Pn	06 00 20.4	+39
LCBS				*e*S	Sn	06 00 51.2	+43
MRL	**Marmol**	**2.34**	**34**	*e*P	Pn	05 59 46.1	+1.1

ISCJB 23 06:06:57.4±1.2, 3890N±004×4261E±005, h0km±10km, Error ellipse: s-maj=7.2km s-min=6.0km az=143.1
CSEM 23 06:06:57.6±0.1, 3894N×4261E, h12km, MD3.5, Error ellipse: s-maj=3.7km s-min=2.3km az=31.0
*ISK 23 06:06:59

comp=Z,398nm,0.9s,SNR=18
SUR Sutherland 15.80 223 Pn **Pn 06 18 19.9 -3.9**
comp=Z,4.6nm,0.3s,baz=59,slow=12,SNR=30
SUR Sn **Sn 06 21 08.7 -10**
comp=Z,2.0nm,0.3s,baz=340,slow=19,SNR=7.3
SUR Lg 06 22 53.9
comp=Z,4.5nm,0.3s,baz=133,slow=22,SNR=5.6
SUR LR LR 06 24 38.8
comp=Z,989nm,18.1s,baz=181,slow=38
KMBO Kilima Mbogo 20.33 11 P **P 06 19 17.6 0.0**
comp=Z,4.5nm,0.8s,baz=187,slow=12,SNR=12
KMBO Lg 06 25 16.9
comp=Z,24nm,1.1s,baz=84,slow=23,SNR=3.3
KMBO LR LR 06 27 04.9
comp=Z,692nm,18.9s,MS4.0,baz=21,slow=37
KMBO Kilima Mbogo 20.33 11 *e*P **P 06 19 20.0 +2.4**
KMBO 06 19 20.9
TORD Torodi Ar. Bea 46.25 315 P **P 06 23 07.3 +0.6**
comp=Z,10nm,1.0s,mb4.7,baz=126,slow=6.6,SNR=34
LIC Lamto 46.57 302 *e*P **P 06 23 08.1 -1.2**
comp=Z,54nm,1.5s,mb5.0
LIC *e*R
comp=Z,290nm,23.0s
LIC Lamto 46.57 302 *e*P **P 06 23 08.1 -1.2**
comp=Z,27nm,1.5s,mb5.0
LIC LR LR
comp=Z,150nm,23.0s,MS3.9
DBIC Dimbokro 46.70 302 P **P 06 23 11.3 +1.0**
comp=Z,3.3nm,0.5s,mb4.5,baz=104,slow=6.7,SNR=8.7
DBIC LR LR 06 41 42.7
comp=Z,211nm,19.1s,MS4.1,baz=112,slow=35
DBIC Dimbokro 46.70 302 *e*P **P 06 23 10.8 +0.5**
comp=Z,6.0nm,0.9s,mb4.5
DBIC Dimbokro 46.70 302 *e*P **P 06 23 10.8 +0.5**
DBIC pmax pmax
comp=Z,6.0nm,0.9s
SYO Syowa Base 47.92 177‖ *e*P **P 06 23 19.3 -0.5**
SYO Syowa Base 47.92 177‖ *e*pP pP 06 23 24.1 +1.1
SYO Syowa Base 47.92 177‖ *e*PcP PcP 06 24 46.0 -2.2
MAW Mawson 49.91 166 P **P 06 23 34.4 -0.7**
comp=Z,15nm,0.8s,mb5.1,baz=302,slow=10,SNR=8.4
MAW LR LR 06 40 52.5
comp=Z,318nm,19.4s,MS4.3,baz=160,slow=32
NVL N'lazarevskaya 51.15 189 *e*P **P 06 23 44.6 +0.1**
NVL pmax pmax
comp=Z,48nm,1.6s,mb5.2
SNAA Sanae 54.58 193 *e*P **P 06 24 09.8 +0.1**
comp=Z,28nm,1.4s,mb5.1
SNAA Sanae 54.58 193 *e*P **P 06 24 09.8 0.0**
SNAA pmax pmax
comp=Z,28nm,1.4s
VNA2 Neumayer--Watz 55.10 195 *e*P **P 06 24 13.6 +0.1**
VNA2 *e* pP 06 24 16.5 -0.2
VNA3 Neumayer Olymp 55.87 195 *e*P **P 06 24 19.4 +0.3**
VNA3 *e* pP 06 24 22.0 -0.3
HYB Hyderabad 58.58 52 *i* P **P 06 24 37.5 -0.7**
HYB Hyderabad 58.58 52 *e*P **P 06 24 37.5 -0.7**
MALT Malatya 59.42 5 Pn **P 06 24 46.0 +1.9**
comp=Z,1.1nm,0.3s,mb4.4
MALT Malatya 59.42 5 P **P 06 24 46.0 +1.9**
MALT pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
BR131 Keskin Array S 60.64 0 *e*P **P 06 24 53.9 +1.4**
comp=Z,2.9nm,0.8s,mb4.5
BRTR Keskin Array B 60.64 0 P **P 06 24 54.0 +1.5**
comp=Z,4.3nm,0.9s,mb4.6,baz=172,slow=9.6,SNR=20
BHPL Bhopal 61.57 47 *ex* x 06 24 58.4
KIV Kislovodsk 65.42 7 *e*P **P 06 25 25.4 +1.2**
comp=Z,7.7nm,0.4s,mb5.1
KIV Kislovodsk 65.42 7 *e*P **P 06 25 25.5 +1.3**
KIV pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
CASY Casey 65.57 154 *e*P **P 06 25 25.2 0.0**
comp=Z,23nm,0.7s,mb5.3
GOF Gofitskoye 66.55 7 *e*P **P 06 25 33.5 +2.0**
MLR Muntele Rosu 66.75 354⇓ P **P 06 25 33.7 +0.9**
VOIR 66.79 354⇓ P **P 06 25 34.0 +1.0**
DDI Dehra Dun 66.85 41 *e*P **P 06 25 31.5 -1.9**
DDI *ex* x 06 29 09.5
VRI Vrincioaia 67.06 355⇑ P **P 06 25 36.6 +1.9**
BZS Buzias 67.39 351⇑ P **P 06 25 35.1 -1.8**
PSI Prapat 68.34 78 LR LR 06 51 47.3
comp=Z,136nm,19.3s,MS4.2,baz=2.7,slow=33
CAM3 Guarapari 68.40 255 (P) **P 06 25 43.6 +0.4**
PKSM Moragy 68.45 349⇓ P **P 06 25 41.5 -2.1**
KOLN Koldanda 68.74 47 *e*P **P 06 25 44.0 -1.3**
comp=Z,60nm,1.2s,mb5.4
QSPA South Pole Qui 68.92 180 *e*P **P 06 25 46.0 -0.4**
comp=Z,5.9nm,0.9s,mb4.5
BURAR Bucovina Array 68.93 354⇓ P **P 06 25 49.2 +2.8**
DANN Dangsing 69.22 47 *e*P **P 06 25 47.8 -0.5**
GKN Gorkha 69.60 47 *e*P **P 06 25 49.5 -1.1**
comp=Z,58nm,1.0s,mb5.5
DMN Daman 69.67 48 *e*P **P 06 25 50.2 -0.9**
comp=Z,52nm,1.0s,mb5.4
CAM4 Nova Friburgo 69.81 253 *e*P **P 06 25 53.5 +1.6**
CAM4 *i* pP 06 25 56.8 +1.6
PKI Pulchoki 69.86 48 *e*P **P 06 25 51.3 -1.0**
comp=Z,66nm,1.2s,mb5.5
PKI Pulchoki 69.86 48 *e*P **P 06 25 51.3 -1.0**
PKI pmax pmax
comp=Z,33nm,1.2s,mb5.1
KKN Kakani 69.91 48 *e*P **P 06 25 52.2 -0.3**
comp=Z,64nm,1.1s,mb5.5
KKN Kakani 69.91 48 *e*P **P 06 25 52.2 -0.3**
KKN pmax pmax
comp=Z,32nm,1.1s,mb5.2
ESDC Sonseca Array 69.94 330 P **P 06 25 55.0 +2.3**
comp=Z,2.2nm,0.6s,mb4.3,baz=148,slow=5.1,SNR=11
ESLA Sonseca Array 69.94 330 *e*P **P 06 25 52.8 +0.1**
comp=Z,1.5nm,0.9s,mb3.9
MBDF Montbardon 70.02 340 *e*P **P 06 25 52.9 -0.3**
comp=Z,10.0nm,0.9s,mb4.4
MBDF Montbardon 70.02 340 *e*P **P 06 25 52.9 -0.3**
comp=Z,5.0nm,0.9s,mb4.4
MBDF Montbardon 70.02 340 *e*P **P 06 25 52.9 -0.3**
MBDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MTLF Montolieu 70.38 336 *e*P **P 06 25 54.9 -0.5**
GUN Gumba 70.40 48 *e*P **P 06 25 55.3 -0.2**
comp=Z,114nm,1.1s,mb5.7
LASF Ste Croix 70.42 338 *e*P **P 06 25 55.0 -0.7**
comp=Z,44nm,1.3s,mb4.9
JIRN Jiri 70.46 49 *e*P **P 06 25 55.2 -0.7**
comp=Z,62nm,1.0s,mb5.5
LPG La Plagne 70.71 340 *e*P **P 06 25 57.1 -0.4**
LPL La Plagne 70.74 340 *e*P **P 06 25 57.5 -0.1**
EPF Esparros 70.84 335 *e*P **P 06 25 58.3 +0.1**
ETSF Etsaut 71.08 334 *e*P **P 06 25 59.6 -0.1**
SJPF Ste Jean 71.53 334 *e*P **P 06 26 01.9 -0.6**
comp=Z,34nm,1.3s,mb4.8
SJPF Ste Jean 71.53 334 *e*P **P 06 26 01.9 -0.6**
comp=Z,17nm,1.3s,mb4.8
SJPF Ste Jean 71.53 334 *e*P **P 06 26 01.9 -0.6**
SJPF pmax pmax
comp=Z,17nm,1.3s,mb4.8
AKASG Malin Array Be 71.72 357 P **P 06 26 02.9 -0.7**
comp=Z,4.1nm,0.9s,mb4.3,baz=182,slow=5.9,SNR=14
CABF La Chapelle 71.92 341 *e*P **P 06 26 03.5 -1.2**
comp=Z,31nm,1.2s,mb4.8
CABF La Chapelle 71.92 341 *e*P **P 06 26 03.5 -1.2**
comp=Z,16nm,1.2s,mb4.8
CABF La Chapelle 71.92 341 *e*P **P 06 26 03.5 -1.2**
CABF pmax pmax
comp=Z,16nm,1.2s,mb4.8
GERES GERESS Array B 71.95 346 P **P 06 26 04.3 -0.7**
comp=Z,1.9nm,0.9s,mb4.0,baz=123,slow=7.2,SNR=7.4
GERES LR LR 07 00 45.4
comp=Z,134nm,18.2s,MS4.2,baz=108,slow=38
MORC Moravsky Berou 72.09 349 *e*P **P 06 26 06.5 +0.7**
comp=Z,1.5nm,0.6s,mb4.1
MORC Moravsky Berou 72.09 349 *e*P **P 06 26 06.5 +0.7**
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
OJC Ojcow 72.16 351 *e*P **P 06 26 07.2 +1.0**
KHC Kasperske Hory 72.25 346 *e*P **P 06 26 07.3 +0.5**
LFF La Frestale 72.30 336 *e*P **P 06 26 06.6 -0.4**
comp=Z,73nm,1.4s,mb5.1
LFF La Frestale 72.30 336 *e*P **P 06 26 06.6 -0.4**
comp=Z,36nm,1.4s,mb5.1
LFF La Frestale 72.30 336 *e*P **P 06 26 06.6 -0.4**
LFF pmax pmax
comp=Z,36nm,1.4s,mb5.1
KK31 Karatay Array 72.55 28 *i* P **P 06 26 08.5 0.0**
KK31 pmax pmax
comp=Z,24nm,1.2s,mb5.0
KKAR Karatay Array 72.55 28 *i* P **P 06 26 08.5 0.0**
KKAR pmax pmax
comp=Z,29nm,1.2s,mb5.1
SMF Signal de Mont 72.67 339 *e*P **P 06 26 08.1 -1.1**
comp=Z,4.3nm,0.5s,mb4.3
SMF Signal de Mont 72.67 339 *e*P **P 06 26 08.1 -1.1**
comp=Z,2.2nm,0.5s,mb4.3
SMF Signal de Mont 72.67 339 *e*P **P 06 26 08.1 -1.1**
SMF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
TCF Toulx Ste Croi 72.92 338 *e*P **P 06 26 09.8 -0.9**
comp=Z,61nm,1.4s,mb5.0
TCF Toulx Ste Croi 72.92 338 *e*P **P 06 26 09.8 -0.9**
comp=Z,30nm,1.4s,mb5.0
TCF Toulx Ste Croi 72.92 338 *e*P **P 06 26 09.8 -0.9**
TCF pmax pmax
comp=Z,31nm,1.4s,mb5.0
AVF Avril sur Loir 72.96 339 *e*P **P 06 26 10.4 -0.6**
HAU Haudompre 73.08 341 *e*P **P 06 26 11.3 -0.4**
comp=Z,25nm,1.1s,mb4.8
HAU *e*R
comp=Z,111nm,19.0s
HAU Haudompre 73.08 341 *e*P **P 06 26 11.3 -0.4**
comp=Z,13nm,1.1s,mb4.8
HAU Haudompre 73.08 341 *e*P **P 06 26 11.3 -0.4**
HAU pmax pmax
comp=Z,13nm,1.1s,mb4.8
SSF Saint Saulge 73.14 339 *e*P **P 06 26 11.3 -0.8**
comp=Z,38nm,1.6s,mb4.8
SSF Saint Saulge 73.14 339 *e*P **P 06 26 11.3 -0.8**
comp=Z,19nm,1.6s,mb4.8
SSF Saint Saulge 73.14 339 *e*P **P 06 26 11.3 -0.8**
SSF pmax pmax
comp=Z,19nm,1.6s,mb4.8
LOR Lormes 73.21 339 *e*P **P 06 26 11.9 -0.6**
LOR *e*R
comp=Z,122nm,18.8s
GRA1 Grafenberg Arr 73.32 345 *e*P **P 06 26 14.8 +1.7**
comp=Z,21nm,1.5s,mb4.8
GRA1 *e*pP pP 06 26 17.5 +1.1
GRF Grafenberg Arr 73.32 345 *e*P **P 06 26 14.8 +1.7**
comp=Z,21nm,1.5s,mb4.8
GRF Grafenberg Arr 73.32 345 *e*P **P 06 26 14.8 +1.7**
GRF *e**PP pP 06 26 17.5 +1.1
GRF pmax pmax
comp=Z,21nm,1.5s,mb4.8
GRF Grafenberg Arr 73.32 345 *e*P **P 06 26 14.8 +1.7**
GRF *e**PP pP 06 26 17.5 +1.1
AB31 Akbulak array 74.04 18 *i* P **P 06 26 16.5 -0.9**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
CLL Collm 74.43 347 *e*P **P 06 26 21.0 +1.4**
AKTK Aktyubinsk 74.59 16 P **P 06 26 20.1 -0.5**
AKTO Aktyubinsk 74.59 16 P **P 06 26 20.1 -0.5**
comp=Z,3.8nm,0.9s,mb4.3,baz=247,slow=3.0,SNR=7.6
LSA Lhasa 75.17 50 P **P 06 26 24.8 +0.9**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa 75.17 50 *e*P **P 06 26 24.9 +1.0**
comp=Z,31nm,1.0s,mb5.2
LSA Lhasa 75.17 50 *e*P **P 06 26 24.9 +1.0**
LSA pmax pmax
comp=Z,31nm,1.0s,mb5.2
OBN Obninsk 76.09 2 *e*P **P 06 26 28.9 -0.2**
OBN pmax pmax
comp=Z,15nm,1.3s,mb4.8
BDFB Brasilia 76.69 258 P **P 06 26 34.6 +2.0**
comp=Z,20nm,0.9s,mb5.1,baz=108,slow=4.6,SNR=24
VNDA Vanda 76.97 170 P **P 06 26 34.7 +0.5**
comp=Z,8.3nm,1.1s,mb4.6,baz=248,slow=7.0,SNR=14
VNDA LR LR 06 58 46.4
comp=Z,135nm,20.2s,MS4.3,baz=208,slow=34
VNDA Vanda 76.97 170 *e*P **P 06 26 34.4 +0.2**
comp=Z,28nm,1.5s,mb5.0
VNDA Vanda 76.97 170 *e*P **P 06 26 34.4 +0.2**
VNDA pmax pmax
comp=Z,28nm,1.5s
VSU Vasula 79.59 356 *e*P **P 06 26 49.1 +0.4**
ZRNK Zerenda 80.07 21 *e*P **P 06 26 50.7 -0.6**
comp=Z,6.3nm,1.0s,mb4.5
ZRNK Zerenda 80.07 21 *e*P **P 06 26 50.7 -0.6**
ZRNK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ARU Arti 80.23 14 *e*P **P 06 26 51.9 -0.2**
comp=Z,12nm,0.8s,mb4.9
ARU Arti 80.23 14⇑ *i*P **P 06 26 51.1 -1.0**
ARU *e* 06 29 53.6
ARU *e*PPP 06 31 45.6
ARU *e*S S 06 36 54.5 -2.8
ARU *e*SS SS 06 42 04.8 -3.2
ARU pmax pmax
comp=Z,15nm,1.4s,mb4.7
BRVK Borovoye 80.59 22 *e*P **P 06 26 53.9 -0.2**
comp=Z,7.7nm,1.2s,mb4.5
BRVK Borovoye 80.59 22 *e*P **P 06 26 53.9 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BVA0 Borovoye Array 80.60 22 *i* P **P 06 26 53.6 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
BVAR Borovoye Array 80.60 22 P **P 06 26 53.8 -0.3**
comp=Z,7.1nm,1.0s,mb4.6,baz=212,slow=7.0,SNR=19
MK31 Makanchi Array 80.79 32 *i* P **P 06 26 54.4 -0.7**
MK31 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MKAR Makanchi Array 80.79 32 P **P 06 26 54.5 -0.7**
comp=Z,5.0nm,0.8s,mb4.5,baz=220,slow=5.5,SNR=34
MKAR LR LR 07 03 43.3
comp=Z,58nm,19.4s,MS4.0,baz=178,slow=36
MKAR Makanchi Array 80.79 32 P **P 06 26 54.5 -0.7**
MKAR LR LR 07 03 43.3
MKAR Makanchi Array 80.79 32 *i* P **P 06 26 54.4 -0.7**
MKAR pmax pmax
comp=Z,8.0nm,0.9s
TRQA Tornquist 81.28 233 *e*P **P 06 26 58.3 +0.5**
comp=Z,15nm,1.1s,mb4.8
CPUP Villa Florida 81.50 245 P **P 06 27 00.1 +1.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=48,slow=6.9,SNR=3.1
CPUP LR LR 06 57 23.0
comp=Z,104nm,21.1s,MS4.2,baz=125,slow=31
CPUP Villa Florida 81.50 245 *e*P **P 06 26 59.8 +0.9**
KMI Kunming 81.56 59 P **P 06 27 02.8 +3.6**
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
WMQ Urumqi 81.61 36 *e*P **P 06 27 00.3 +0.8**
WMQ AP pP 06 27 05.0 +2.2
WMQ XP sP 06 27 07.3 +3.3
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,86nm,4.6s
WMQ LR LR
comp=N,404nm,18.0s
WMQ LR LR
comp=Z,391nm,17.0s,MS4.8
KLMR Klimovskoe 81.95 3 *e*P **P 06 27 00.2 -1.1**
KLMR pmax pmax
comp=Z,30nm,1.9s,mb4.9
KURK Kurchatov 81.95 27 P **P 06 27 01.4 +0.1**
comp=Z,67nm,1.0s,mb5.5,SNR=9.3
KURK Kurchatov 81.95 27 *e*P **P 06 27 00.3 -1.0**
comp=Z,13nm,1.0s,mb4.8
KURK Kurchatov 81.95 27 *e*P **P 06 27 00.3 -1.0**
KURK pmax pmax
comp=Z,13nm,1.0s,mb4.8
FINES FINESS Array B 82.60 356 P **P 06 27 04.9 +0.2**
comp=Z,4.7nm,0.9s,mb4.5,baz=134,slow=5.5,SNR=12
FINES LR LR 07 06 31.7
comp=Z,71nm,20.0s,MS4.0,baz=200,slow=38
SOKR Solikamsk 82.76 12⇑ *i*P **P 06 27 06.2 +0.7**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
KAF Kangasniemi 83.26 357 *ep* **P 06 27 05.7 -2.4**
comp=Z,5.0nm,0.8s,mb4.6
KAF Kangasniemi 83.26 357 *e*P **P 06 27 05.7 -2.4**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
JOF Joensuu 83.89 359 *ep* **P 06 27 11.7 +0.4**
NB2 NORSAR Subarra 83.93 349 P **P 06 27 12.0 +0.5**
comp=Z,11nm,1.2s,mb4.9,baz=157,slow=4.4
NB2 NORSAR Subarra 83.93 349 P **P 06 27 12.0 +0.5**
NB2 pmax pmax
comp=Z,11nm,1.2s,mb4.9
NOA NORSAR Array B 83.93 349 P **P 06 27 12.2 +0.6**
comp=Z,4.7nm,1.1s,mb4.5,baz=151,slow=4.8,SNR=4.0
NOA LR LR 07 06 40.4
comp=Z,41nm,18.7s,MS3.8,baz=200,slow=37
CD2 Chengdu 85.08 54⇑ *i*P **P 06 27 17.6 +0.3**
CD2 AP pP 06 27 22.3 +1.6
CD2 PP PP 06 30 37.4 +3.1
CD2 SKS 06 37 38.9
CD2 S 06 37 46.8
CD2 XS sS 06 37 54.8 +2.5
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.2
CD2 AMB AMB
comp=Z,100nm,7.9s
CD2 LR LR
comp=E,110nm,8.4s
CD2 LR LR
comp=Z,120nm,9.6s
PLCA Paso Flores 86.40 228 P **P 06 27 25.2 +1.3**
comp=Z,3.1nm,0.9s,mb4.5,baz=102,slow=5.8,SNR=6.4
PLCA LR LR 07 02 29.8
comp=Z,81nm,21.1s,MS4.1,baz=177,slow=33
PLCA Paso Flores 86.40 228 *e*P **P 06 27 25.0 +1.1**
comp=Z,3.1nm,0.9s,mb4.5
PLCA Paso Flores 86.40 228 *e*P **P 06 27 25.0 +1.1**
PLCA pmax pmax
comp=Z,3.0nm,0.9s
GTA Gaotai 86.46 45 *e*P **P 06 27 24.8 +0.6**
GTA AP pP 06 27 28.9 +1.4
GTA XP sP 06 27 32.3 +3.6
GTA PP PP 06 30 46.3 +0.8
GTA PPP 06 32 42.9
GTA SKS 06 37 47.5
GTA S 06 37 56.6
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,85nm,11.4s
GTA LR LR
comp=N,529nm,25.9s,MS5.1
GTA LR LR
comp=E,897nm,25.9s,MS5.1
GTA LR LR
comp=Z,134nm,15.2s
NVS Novosibirsk 86.87 26 *e*P **P 06 27 24.9 -1.3**
ZAL Zalesovo 86.91 28 LR LR 07 06 18.9
comp=Z,101nm,21.6s,MS4.2,baz=239,slow=36
LZH Lanzhou 87.58 50 *e*P **P 06 27 29.5 -0.2**
LZH AP pP 06 27 33.5 +0.5
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,89nm,4.5s
SIV San Ignacio 88.39 254 P **P 06 27 35.7 +2.2**
comp=Z,2.9nm,1.0s,mb4.5,baz=125,slow=5.6,SNR=8.6
CFAA Coronel Fontan 88.46 237 P **P 06 27 35.7 +1.8**
comp=Z,0.7nm,0.8s,mb3.9,baz=99,slow=2.8,SNR=13
ASAR Alice Springs 90.67 116 P **P 06 27 44.5 +0.3**
comp=Z,4.4nm,0.9s,mb4.8,baz=245,slow=4.2,SNR=23
ARCES ARCESS Array B 90.69 357 LR LR 07 11 16.5
comp=Z,119nm,18.1s,MS4.4,baz=206,slow=38
WRA Warramunga Arr 92.52 112 P **P 06 27 52.6 -0.2**
comp=Z,1.1nm,0.9s,mb4.3,baz=250,slow=2.4,SNR=4.8
LVC Limon Verde 92.67 245 P **P 06 27 56.9 +3.5**
comp=Z,15nm,0.8s,mb5.5,baz=108,slow=3.6,SNR=12
LVC Limon Verde 92.67 245 *e*P **P 06 27 55.6 +2.2**
comp=Z,16nm,0.8s,mb5.5
STKA Stephens Creek 93.34 126 LR LR 07 04 48.6
comp=Z,76nm,18.7s,MS4.2,baz=25,slow=32
LPAZ La Paz 94.54 251 P **P 06 28 04.8 +2.8**
comp=Z,3.2nm,1.0s,mb4.7,baz=91,slow=8.1,SNR=9.4
LPAZ LR LR 07 06 24.1
comp=Z,60nm,20.5s,MS4.0,baz=196,slow=33
LPAZ La Paz 94.54 251 *e*P **P 06 28 04.1 +2.0**
comp=Z,4.3nm,1.0s,mb4.8
LPAZ La Paz 94.54 251 *e*P **P 06 28 04.1 +2.0**
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 94.70 40 P **P 06 28 02.3 -0.5**
comp=Z,0.7nm,0.8s,mb4.1,baz=256,slow=3.7,SNR=3.7
HHC Hu-ho-hao-te 95.11 48 *e*P **P 06 28 06.8 +2.1**
HHC AP pP 06 28 11.8 +3.8
HHC XP sP 06 28 13.8 +4.6
HHC SKS 06 38 41.1
HHC S 06 39 20.4
HHC XS sS 06 39 27.8 +2.5
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,110nm,7.9s
HHC LR LR
comp=N,101nm,5.9s
HHC LR LR
comp=E,416nm,17.6s
HHC LR LR
comp=Z,114nm,6.3s
NJ2 Nanjing 97.30 59 *e*P **P 06 28 16.4 +1.8**
NJ2 AP pP 06 28 21.3 +3.4
NJ2 XP sP 06 28 23.4 +4.3
NJ2 PP PP 06 32 16.1 +5.0
NJ2 S 06 39 36.0
NJ2 XS sS 06 39 43.0 -1.1
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,90nm,6.2s
NJ2 LR LR
comp=N,300nm,19.0s,MS4.9
NJ2 LR LR
comp=E,190nm,17.9s,MS4.9
NJ2 LR LR
comp=Z,190nm,28.1s
SSE Sheshan 98.84 60 *e*P **P 06 28 22.0 +0.4**
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.9
SSE AMB AMB
comp=Z,38nm,4.2s
BILL Bilibino 124.91 20 *e*PKIKP PKPdf 06 33 40.3 -1.3
BILL *e*SS SS 06 52 23.8 -1.1
BILL pmax pmax
comp=Z,2.0nm,0.9s
YKW3 Yellowknife Ar 133.30 340 *e*PKPdf PKPdf 06 33 57.5 0.0
YKA Yellowknife Ar 133.35 340 PKP PKPdf 06 33 57.6 0.0
comp=Z,2.4nm,0.6s,baz=38,slow=2.1,SNR=72
ILAR Eielson Array 136.49 0 PKP PKPdf 06 34 02.0 -1.4
comp=Z,1.4nm,1.0s,baz=308,slow=1.5,SNR=7.6
LAO LASA Array 138.65 318 *e*PKPdf PKPdf 06 34 08.7 +1.2
EDM Edmonton 139.20 330 *e*PKPdf PKPdf 06 34 09.1 +0.6
EGMT Eagleton 140.20 321 *e*PKPdf PKPdf 06 34 12.4 +2.1
SMCO Snowmass 141.75 307 *e*PKPdf PKPdf 06 34 10.4 -2.7
MNTX Cornudas Mount 141.88 295 *e*PKPdf PKPdf 06 34 09.2 -4.1
PDAR Pinedale Array 142.39 313 PKhKP 06 34 10.4
comp=Z,1.8nm,1.0s,baz=72,slow=4.8,SNR=9.7
YMR Madison River 142.52 317 *e*PKPdf PKPdf 06 34 13.4 -1.0
BNM Barren Site 142.60 299 *e*PKPdf PKPdf 06 34 11.4 -3.2
CHMT Chamberlain Mo 142.81 321 *e*PKPdf PKPdf 06 34 14.3 -0.6
REDW Red Top Meadow 143.01 315 *e*PKPdf PKPdf 06 34 16.2 +0.8
DLMT Dillon 143.21 319 *e*PKPdf PKPdf 06 34 15.5 -0.2
PV01 Paradox Valley 143.24 306 *e*PKPdf PKPdf 06 34 15.1 -0.6
PV10 Paradox Valley 143.53 306 *e*PKPdf PKPdf 06 34 16.3 0.0
MCMT McKenzie Canyo 143.63 318 *e*PKPdf PKPdf 06 34 16.9 +0.5
HWUT Hardware Ranch 144.22 313 *e*PKPdf PKPdf 06 34 17.2 -0.3
TCUT Toone Canyon 144.31 312 *e*PKPdf PKPdf 06 34 17.9 +0.3
SRU San Rafael 144.40 308 *e*PKPdf PKPdf 06 34 18.2 +0.4
DAU Daniels Canyon 144.47 311 *e*PKPdf PKPdf 06 34 18.2 +0.3
HVU Hansel Valley 144.97 314 *e*PKPdf PKPdf 06 34 19.8 +1.0
NOQ North Oquirrh 144.99 311 *e*PKPdf PKPdf 06 34 19.5 +0.7
NLU North Lily Min 145.22 310 *e*PKPbc PKPbc 06 34 16.8 -2.1
HLID Hailey 145.23 317 *e*PKPbc PKPbc 06 34 20.8 +1.9
BGU Big Grassy Mou 145.51 312 *e*PKPbc PKPbc 06 34 26.1 +6.3
OD2 Odessa Site #2 145.55 326 P PKPdf 06 34 20.9 +1.2
DUG Dugway 145.65 311 *e*PKPdf PKPdf 06 34 21.5 +1.6
MSU Marysvale 145.82 308 *e*PKPbc PKPbc 06 34 23.0 +2.3
CBSW Chelan Butte S 145.96 327 P PKPdf 06 34 22.6 +2.1
EPH Ephrata 146.03 326 P PKPdf 06 34 22.7 +2.1
WUAZ Wupatki 146.12 302 *e*PKPbc PKPbc 06 34 23.6 +1.9
WRD Warden 146.15 325 P PKPdf 06 34 23.2 +2.4
BMO Blue Mountains 146.31 321 *e*PKPbc PKPbc 06 34 23.0 +0.8
GBL Gable Mountain 146.45 325 P PKPdf 06 34 24.1 +2.8
H2OWA Water 146.56 325 P PKPdf 06 34 24.9 +3.4
HAWA Hanford 146.62 325 *e*PKPbc PKPbc 06 34 24.0 +0.9
HAWA *e*PKPab PKPab 06 34 27.9 +3.7
TBM Table Mountain 146.67 327 P PKPdf 06 34 23.8 +2.1
ARUT Antelope Range 147.00 307 *e*PKPbc PKPbc 06 34 25.3 +1.1
ELK Elko 147.10 313 *e*PKPbc PKPbc 06 34 26.6 +2.1
LON Longmire 147.56 328 P PKPdf 06 34 27.3 +4.1
WVOR Wild Horse Val 148.46 318 *e*PKPdf PKPdf 06 34 27.3 +2.6

WVOR				*e*PKPbc	PKPbc	06 34 30.3	+2.1
WVOR				*e*PKPab	PKPab	06 34 33.6	+2.1
BMN	**Battle Mountai**	**148.58**	**314**	*e*PKPbc	PKPbc	06 34 27.0	-1.5
NEN	**Nelson**	**148.78**	**304**	*e*PKPbc	PKPbc	06 34 31.3	+2.3
TPNV	**Topopah Spring**	**149.39**	**307**	*e*PKPbc	PKPbc	06 34 32.1	+1.6
TPNV				*e*PKPab	PKPab	06 34 36.8	+1.5
MOD	**Modoc**	**149.78**	**319**	*e*PKPdf	PKPdf	06 34 28.4	+1.6
MOD				*e*PKPbc	PKPbc	06 34 32.2	+0.7
MNV	**Mina**	**150.15**	**311**	*e*PKPdf	PKPdf	06 34 30.2	+2.9
MNV				*e*PKPbc	PKPbc	06 34 34.8	+2.4
NVAR	**Mina Array Bea**	**150.26**	**311**	PKPbc	PKPbc	06 34 35.8	+3.2
	baz=54,slow=4.6						
DAC	**Darwin (Calif)**	**150.65**	**307**	*e*PKPdf	PKPdf	06 34 30.5	+2.4
DAC				*e*PKPbc	PKPbc	06 34 36.1	+2.6
PFO	**Pinyon Flat Ob**	**150.68**	**301**	*e*PKPbc	PKPbc	06 34 36.0	+2.4
PFO				*e*PKPab	PKPab	06 34 43.7	+3.2
MTUM	**Tungsten Hills**	**150.92**	**310**	*e*PKPbc	PKPbc	06 34 37.2	+3.0
HUMO	**Hull Mountain**	**150.92**	**323**	*e*PKPdf	PKPdf	06 34 29.3	+0.7
HUMO				*e*PKPbc	PKPbc	06 34 35.6	+1.4

IDC 23 06:15:58.0±14.0, 4886N×15346E, h146km±195km, mb3.0/3, mb1 3.5/4, mb1mx3.0/19, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=217.7km s-min=80.0km az=117.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.87**	**242**	P	Pn	06 18 02.9	-0.1
	1.8nm,0.3s,baz=76,slow=13,SNR=11						
ILAR	**Eielson Array**	**34.77**	**40**	P	P	06 22 33.9	-0.5
	0.3nm,0.6s,baz=265,slow=5.4,SNR=6.7						
YKA	**Yellowknife Ar**	**49.10**	**38**	P	P	06 24 29.8	-0.7
	0.3nm,0.5s,baz=299,slow=7.0,SNR=7.4						
PDAR	**Pinedale Array**	**63.33**	**55**	P	P	06 26 11.6	+0.2
	0.6nm,0.6s,baz=351,slow=1.8,SNR=5.4						

*NEIC **23** 06:38:03.3, 1042N×6234W, h3km, MD3.7(TRN), After TRN.*
TRN 23 06:38:03.5, 1040N×6234W, h3km, MD3.7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.87**	**95**	*e*P	Pg	06 38 20.3	+0.1
TPP				*e*S	Sg	06 38 33.9	+2.3
TRN	**Trinidad (W)**	**0.95**	**75**	*e*P	Pg	06 38 20.9	-0.8
TRN				*e*S	Sg	06 38 34.7	+0.6
TBH	**Brigand Hill**	**1.25**	**86**	*e*P	Pg	06 38 27.8	+0.4
TBH				*e*S	Sg	06 38 49.9	+6.2
TPR	**Prospect**	**1.72**	**63**	*e*P	Pn	06 38 34.4	+0.1
TPR				*e*S	Sn	06 38 58.6	+1.8
BOT	**Bacolet**	**1.76**	**64**	*e*P	Pn	06 38 35.3	+0.4
BOT				*e*S	Sn	06 38 58.9	+1.0
GRW	**Mount Saint Ca**	**1.87**	**21**	*e*P	Pn	06 38 37.2	+0.8
GRW				*e*S	Sn	06 38 58.5	-2.0
GRHS	**Sauteurs**	**1.94**	**21**	*e*S	Sn	06 39 02.6	+0.5
GRIC	**Isle de Caille**	**2.02**	**21**	*e*S	Sn	06 39 04.5	+0.4
GRSS	**Sisters**	**2.02**	**21**	*e*S	Sn	06 39 05.6	+1.5
GRCU	**Cariacou**	**2.23**	**23**	*e*S	Sn	06 39 09.7	+0.2
SDV	**Santo Domingo**	**8.32**	**260**	*e*Pn	Pn	06 40 02.8	-2.2
	3.3nm,0.4s						
SDV				*e*Sn	Sn	06 41 33.0	-6.4

*HLW **23** 06:38:11.5, 3458N×3555E, h33km, Mb3.3*
*ISCJB **23** 06:38:13.6±0.8, 3421N±003×3526E±003, h8km±5km, Error ellipse: s-maj=5.5km s-min=3.3km az=82.7*
*CSEM **23** 06:38:15.6±0.1, 3418N×3527E, h26km, ML3.4, Error ellipse: s-maj=2.3km s-min=1.2km az=122.0*
*GRAL **23** 06:38:15.6±0.9, 3425N×3533E, h0km±228km, MD3.4*
ISC 23 06:38:14.7±0.8, 3423N±003×3532E±004, h6km±5km, n30, σ0°39/44, 10C-12D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.43**	**140**	*i* Pg	**Pg**	**06 38 23.7**	**+0.7**
BHL				*i* Sg	**Sg**	**06 38 29.1**	**+0.4**
HWQ	**Hawqa**	**0.52**	**85**	*i* Pg	**Pg**	**06 38 24.7**	**-0.1**
HWQ				*i* Sg	**Sg**	**06 38 30.8**	**-0.8**
MATL	**Matirih**	**0.74**	**179**	*i* Pg	**Pg**	**06 38 29.1**	**+0.1**
FKH	**Fakeheh**	**0.90**	**90**	*i* Pg	**Pg**	**06 38 31.5**	**-0.4**
FKH				*i* Sg	**Sg**	**06 38 43.9**	**+0.3**
HAWK	**Haweek**	**0.94**	**72**	⇓*i*P	**Pg**	**06 38 32.3**	**-0.5**
HAWK				⇑*i*S	**Sg**	**06 38 44.6**	**-0.5**
BRBR	**Barbar**	**0.97**	**147**	⇑*i*P	**Pg**	**06 38 33.7**	**+0.3**
BRBR				⇑*i*S	**Sg**	**06 38 46.5**	**+0.4**
MARH	**Ras Al Marh**	**0.99**	**102**	⇑*i*P	**Pg**	**06 38 33.6**	**-0.1**
MARH				⇓*i*S	**Sg**	**06 38 46.4**	**-0.1**
QASN	**Qassioun**	**1.06**	**131**	⇑*i*P	**Pg**	**06 38 35.2**	**+0.1**
QASN				⇑*i*S	**Sg**	**06 38 48.7**	**-0.1**
BIDA	**Albida**	**1.14**	**46**	⇓*i*P	**Pg**	**06 38 36.2**	**-0.3**
SLNF	**Slenfeh**	**1.55**	**28**	⇑*i*P	**Pn**	**06 38 42.8**	**+0.1**
SLNF				⇓*i*S	**Sn**	**06 39 03.5**	**+0.4**
WRDH	**Warideh**	**1.56**	**35**	⇑*i*P	**Pn**	**06 38 43.1**	**+0.2**
WRDH				⇑*i*S	**Sn**	**06 39 04.0**	**+0.7**
KFRA	**Kufra**	**1.56**	**51**	⇓*i*P	**Pn**	**06 38 43.4**	**+0.5**
KFRA				⇑*i*S	**Sn**	**06 39 02.7**	**-0.8**
RABH	**Abou Rabah**	**1.57**	**82**	⇓*i*P	**Pn**	**06 38 43.2**	**+0.1**
RABH				⇓*i*S	**Sn**	**06 39 04.1**	**+0.2**
TCHB	**Talchebab**	**1.65**	**161**	⇑*i*P	**Pn**	**06 38 44.1**	**-0.1**
SALA	**Sala**	**1.93**	**142**	⇑*i*P	**Pn**	**06 38 47.9**	**0.0**
BTCH	**Batrach**	**2.03**	**27**	⇓*i*P	**Pn**	**06 38 49.9**	**+0.6**
ZALF	**Zalf**	**2.13**	**127**	⇓*i*P	**Pn**	**06 38 51.1**	**+0.3**
ZALF				⇑*i*S	**Sn**	**06 39 18.1**	**+0.6**
AMAG	**Maghara**	**4.00**	**207**	⇑*e*P	**Pn**	**06 39 16.5**	**0.0**
HNKL	**Nakhl**	**4.44**	**195**	⇑*e*P	**Pn**	**06 39 22.3**	**-0.2**
HNKL				S	**Sn**	**06 40 14.1**	**-0.4**
SUZ		**4.86**	**206**	⇑P	**Pn**	**06 39 28.1**	**-0.2**
SUZ				S	**Sn**	**06 40 23.7**	**-1.2**
HHAG	**Hagoal**	**5.07**	**213**	⇑P	**Pn**	**06 39 31.2**	**+0.1**
ZNM		**5.27**	**204**	⇓P	**Pn**	**06 39 34.2**	**+0.3**
GLL	**Jalalah**	**5.57**	**214**	⇑P	**Pn**	**06 39 38.1**	**+0.1**
HSAF	**As Saff**	**5.61**	**216**	⇓*e*P	**Pn**	**06 39 38.7**	**+0.2**
HKAT	**Jabal Katrina**	**5.80**	**192**	⇑P	**Pn**	**06 39 41.5**	**+0.2**
TR2		**5.99**	**194**	⇑P	**Pn**	**06 39 43.6**	**-0.2**
HNAT	**Natroun**	**6.08**	**222**	⇑*e*P	**Pn**	**06 39 45.0**	**-0.1**
TR1		**6.32**	**191**	⇑P	**Pn**	**06 39 48.4**	**+0.1**
GRB	**Gharib**	**6.33**	**201**	⇓P	**Pn**	**06 39 48.1**	**-0.3**
HHRG	**Al Ghardaqah**	**7.15**	**193**	⇑P	**Pn**	**06 39 59.9**	**+0.1**

*ISCJB **23** 06:44:15.8±1.0, 3475N±008×9929E±006, h10km, mb3.7/5, Error ellipse: s-maj=12.3km s-min=7.0km az=20.1*
*IDC **23** 06:44:15.6±3.8, 3472N×9946E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/22, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=84.6km s-min=41.8km az=13.0*
*NEIC **23** 06:44:17.7±1.7, 3480N×9943E, h10km, mb4.0/1, Error ellipse: s-maj=28.0km s-min=15.2km az=167.0*
*MOS **23** 06:44:20.1±1.1, 3499N×9930E, h33km, mb4.1/2, Error ellipse: s-maj=33.5km s-min=14.7km az=91.5*
*BJI **23** 06:44:20.6, 3490N×9968E, h16km, mb4.4, ML3.9, Ms3.6, Msz3.4*
ISC 23 06:44:19.0±0.9, 3499N±007×9933E±006, h10km, n15, σ0°96/20, mb3.7/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**3.84**	**72**	PG	**Pb**	**06 45 26.6**	**-0.3**
LZH				S	**Sn**	**06 46 03.4**	**0.0**
LZH				SG	**Sb**	**06 46 15.0**	**+1.6**
LZH				Smax			
	comp=N,529nm,0.5s						
LZH				Smax			
	comp=E,740nm,0.5s						
LZH				LR	LR		
	comp=E,1μm,5.1s						
LZH				LR	LR		
	comp=Z,1μm,6.0s						
GTA	**Gaotai**	**4.43**	**5**	P	**Pn**	**06 45 30.1**	**+3.8**
GTA				PG	**Pg**	**06 45 42.0**	**-1.9**
GTA				S	**Sn**	**06 46 23.1**	**+5.2**
GTA				SG	**Sg**	**06 46 40.8**	**-0.5**
GTA				Smax			
	comp=N,41nm,1.2s						
GTA				Smax			
	comp=E,41nm,1.6s						
GTA				LR	LR		
	comp=N,406nm,8.4s						
GTA				LR	LR		
	comp=E,457nm,12.2s						
GTA				LR	LR		
	comp=Z,357nm,9.5s						
XAN	**Xi'an**	**7.97**	**94**	P	**Pn**	**06 46 14.4**	**-0.5**
SONM	**Songino Array**	**13.88**	**20**	Pn	**Pn**	**06 47 36.7**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=204,slow=15,SNR=5.7						
ULN	**Ulaanbaatar**	**14.10**	**22**	*e*Pn	**Pn**	**06 47 39.3**	**+0.6**
NJ2	**Nanjing**	**16.55**	**95**	*e*P	**Pn**	**06 48 10.3**	**-0.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
MKAR	**Makanchi Array**	**17.42**	**318**	P	**Pn**	**06 48 22.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=120,slow=14,SNR=16						
ZAL	**Zalesovo**	**21.52**	**336**	P	**P**	**06 49 09.3**	**+1.2**
KURK	**Kurchatov**	**21.74**	**323**	*e*P	**P**	**06 49 11.5**	**+1.0**
	comp=Z,6.2nm,1.0s,mb4.0						
KURK	**Kurchatov**	**21.74**	**323**	*e*P	**P**	**06 49 11.5**	**+1.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
BOD	**Bodaibo**	**24.87**	**19**	*e*P	**P**	**06 49 40.7**	**-1.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.7						
NOA	**NORSAR Array B**	**59.22**	**326**	P	**P**	**06 54 20.3**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=69,slow=6.8,SNR=2.8						
ILAR	**Eielson Array**	**68.05**	**25**	P	**P**	**06 55 17.6**	**-1.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=285,slow=5.6,SNR=14						
YKA	**Yellowknife Ar**	**79.09**	**15**	P	**P**	**06 56 22.9**	**-0.6**
	comp=Z,0.2nm,0.7s,mb3.1,baz=331,slow=5.7,SNR=4.3						
YKA	**Yellowknife Ar**	**79.09**	**15**	P	**P**	**06 56 22.9**	**-0.7**

*NEIC **23** 06:54:39.1, 1993N×6896W, h108km, MD4.0(RSPR), After RSPR.*
RSPR 23 06:54:39.1, 1993N×6896W, h109km±24km, MD4.1/12, MD4.1/12, 23C-6D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**2.48**	**134**	*e*S	Sn	06 55 49.3	+1.1
LSP	**Las Mesas**	**2.48**	**134**	⇓*e*P	Pn	06 55 17.5	-0.7
LSP	**Las Mesas**	**2.48**	**134**	*e*S	Sn	06 55 48.5	+0.3
LSP	**Las Mesas**	**2.48**	**134**	⇑*e*P	Pn	06 55 18.3	+0.1
LSP				*e*S	Sn	06 55 49.3	+1.1
LRS	**Lares**	**2.57**	**129**	⇑*e*P	Pn	06 55 18.9	-0.5
LRS				*e*S	Sn	06 55 51.9	+1.5
LRS	**Lares**	**2.57**	**129**	⇑*e*P	Pn	06 55 18.9	-0.5
LRS				*e*S	Sn	06 55 51.0	+0.6
CRPR	**Cabo Rojo, PR**	**2.59**	**137**	*e*S	Sn	06 55 51.8	+1.0
CRPR	**Cabo Rojo, PR**	**2.59**	**137**	⇓*e*P	Pn	06 55 18.6	-1.0
CRPR	**Cabo Rojo, PR**	**2.59**	**137**	*e*S	Sn	06 55 51.8	+1.1
CRPR	**Cabo Rojo, PR**	**2.59**	**137**	⇑*e*P	Pn	06 55 17.1	-2.5
CRPR				*e*S	Sn	06 55 51.8	+1.0
MGP	**Maguayo**	**2.60**	**137**	⇓*i*P	Pn	06 55 18.4	-1.4
MGP				*e*S	Sn	06 55 50.8	-0.2
MGP	**Maguayo**	**2.60**	**137**	⇑*e*P	Pn	06 55 19.0	-0.8
MGP				*e*S	Sn	06 55 50.8	-0.2
AOPR	**Arecibo Observ**	**2.61**	**127**	*e*S	Sn	06 55 54.1	+2.8
AOPR	**Arecibo Observ**	**2.61**	**127**	⇓*e*P	Pn	06 55 20.1	+0.2
AOPR	**Arecibo Observ**	**2.61**	**127**	*e*S	Sn	06 55 51.4	+0.1
AOPR	**Arecibo Observ**	**2.61**	**127**	⇑*e*P	Pn	06 55 20.8	+0.9
AOPR				*e*S	Sn	06 55 54.1	+2.8
CELP	**Cerrillos**	**2.91**	**129**	⇓*e*P	Pn	06 55 24.2	+0.4
CELP				*e*S	Sn	06 56 00.1	+1.9
CELP	**Cerrillos**	**2.91**	**129**	⇑*e*P	Pn	06 55 24.2	+0.4
CELP				*e*S	Sn	06 55 59.0	+0.7
OBIP	**Obispado Ponce**	**2.91**	**130**	*e*S	Sn	06 56 00.4	+2.1
OBIP	**Obispado Ponce**	**2.91**	**130**	⇓*e*P	Pn	06 55 24.4	+0.6
OBIP	**Obispado Ponce**	**2.91**	**130**	*e*S	Sn	06 55 59.3	+1.1
OBIP	**Obispado Ponce**	**2.91**	**130**	⇑*e*P	Pn	06 55 24.3	+0.5
OBIP				*e*S	Sn	06 56 00.4	+2.1
SJG	**San Juan**	**3.21**	**124**	⇑*e*P	Pn	06 55 28.3	+0.5
SJG	**San Juan**	**3.21**	**124**	⇑*e*P	Pn	06 55 29.5	+1.6
SJG				*e*S	Sn	06 56 05.8	+0.3
SJG	**San Juan**	**3.21**	**124**	⇑*e*P	Pn	06 55 28.4	+0.5
SJG	**San Juan**	**3.21**	**124**	⇓*e*P	Pn	06 55 28.8	+0.9
SJG				*e*S	Sn	06 56 05.5	0.0
SJG	**San Juan**	**3.21**	**124**	⇑*e*P	Pn	06 55 28.3	+0.5
SJG				*e*S	Sn	06 56 05.7	+0.3
CBYP	**Canovanas**	**3.36**	**119**	*e*S	Sn	06 56 11.8	+2.7
CBYP	**Canovanas**	**3.36**	**119**	⇑*e*P	Pn	06 55 30.2	+0.3
CBYP	**Canovanas**	**3.36**	**119**	*e*S	Sn	06 56 09.4	+0.4
CBYP	**Canovanas**	**3.36**	**119**	⇑*e*P	Pn	06 55 30.1	+0.3
CBYP				*e*S	Sn	06 56 11.8	+2.7
HUMP	**Col San Antoni**	**3.43**	**121**	*e*S	Sn	06 56 12.4	+1.6
HUMP	**Col San Antoni**	**3.43**	**121**	⇑*e*P	Pn	06 55 30.7	-0.1
HUMP	**Col San Antoni**	**3.43**	**121**	*e*S	Sn	06 56 11.7	+1.0
HUMP	**Col San Antoni**	**3.43**	**121**	⇑*e*P	Pn	06 55 31.0	+0.2
HUMP				*e*S	Sn	06 56 12.4	+1.6
CPD	**Cerro la Pandu**	**3.44**	**123**	*e*S	Sn	06 56 09.9	-0.9
CPD	**Cerro la Pandu**	**3.44**	**123**	⇑*e*P	Pn	06 55 31.6	+0.8
CPD	**Cerro la Pandu**	**3.44**	**123**	*e*S	Sn	06 56 10.5	-0.3
CPD	**Cerro la Pandu**	**3.44**	**123**	⇑*e*P	Pn	06 55 31.0	+0.1
CPD				*e*S	Sn	06 56 09.9	-0.9
MTP	**Monte Pirata**	**3.70**	**119**	*e*S	Sn	06 56 19.0	+1.9
MTP	**Monte Pirata**	**3.70**	**119**	⇑*e*P	Pn	06 55 34.2	-0.1
MTP	**Monte Pirata**	**3.70**	**119**	*e*S	Sn	06 56 18.3	+1.2
MTP	**Monte Pirata**	**3.70**	**119**	⇓*e*P	Pn	06 55 34.2	-0.2
MTP				*e*S	Sn	06 56 19.0	+1.9
STVI	**Saint Thomas**	**4.09**	**112**	*e*S	Sn	06 56 30.1	+3.6
STVI	**Saint Thomas**	**4.09**	**112**	⇑*e*P	Pn	06 55 40.0	+0.4
STVI	**Saint Thomas**	**4.09**	**112**	*e*S	Sn	06 56 27.4	+1.0
STVI	**Saint Thomas**	**4.09**	**112**	⇑*e*P	Pn	06 55 39.1	-0.4
STVI				*e*S	Sn	06 56 30.1	+3.6
TBVI	**Tortola**	**4.38**	**109**	*e*S	Sn	06 56 34.0	+0.5

*IDC **23** 07:46:17.2±7.0, 3620N×7110E, h142km±62km, mb3.5/6, mb1 3.6/9, mb1mx3.3/22, mbtmp3.9/9, Error ellipse: s-maj=33.7km s-min=21.4km az=26.0*
*MOS **23** 07:46:17.4±1.0, 3624N×7095E, h157km, mb3.8/4, Error ellipse: s-maj=30.2km s-min=11.7km az=93.9*
*ISCJB **23** 07:46:21.4±1.2, 3652N±007×7111E±0.1, h191km±12km, mb3.6/6, Error ellipse: s-maj=20.5km s-min=7.3km az=123.7*
*NNC **23** 07:46:29.0±2.5, 3707N×7106E, h197km±27km, mb2.6, mpv3.8, Error ellipse: s-maj=30.0km s-min=15.4km az=40.0*
ISC 23 07:46:22.6±1.1, 3654N±007×7111E±01, h191km±11km, n31, σ0°63/36, mb3.6/6, 8C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.65**	**133**	*e*P	**Pn**	**07 47 45.0**	**-0.2**
DLH				*e*S	**Sn**	**07 48 50.0**	**-0.3**
AML	**Almayashu**	**5.93**	**19**	P	**Pn**	**07 47 48.8**	**0.0**
	SNR=99						
UCH	**Uchtor**	**6.26**	**24**	P	**Pn**	**07 47 53.3**	**+0.2**
	SNR=35						
KZA	**Kyzart**	**6.39**	**29**	P	**Pn**	**07 47 54.4**	**-0.4**
	SNR=11						
EKS2	**Erkin-Say**	**6.45**	**18**	P	**Pn**	**07 47 55.7**	**+0.2**
	SNR=11						
KK31	**Karatay Array**	**6.57**	**356**	⇓P	**Pn**	**07 47 57.0**	**-0.2**
	9.2nm,0.3s,baz=174,slow=12,SNR=408						
KK31				⇑S	**Sn**	**07 49 06.5**	**-5.3**
	7.0nm,0.3s,baz=176,slow=19,SNR=23						
KKAR	**Karatay Array**	**6.57**	**356**	PN	**Pn**	**07 47 56.9**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.2s						
AAK	**Ala-Archa**	**6.62**	**22**	P	**Pn**	**07 47 58.0**	**+0.2**
	SNR=16						
KBK	**Karagaybulak**	**6.79**	**25**	P	**Pn**	**07 48 00.6**	**+0.7**
	SNR=5.8						
ULHL	**Ulahol**	**6.95**	**33**	P	**Pn**	**07 48 02.1**	**+0.1**
	SNR=9.4						
CHMS	**Chumysh**	**7.03**	**22**	P	**Pn**	**07 48 02.9**	**-0.2**
	SNR=6.6						
TKM2	**Tokmak 2**	**7.25**	**27**	⇑P	**Pn**	**07 48 06.3**	**+0.3**
	comp=Z,1.1nm,0.5s						
TKM2				⇑S	**Sn**	**07 49 21.3**	**-6.6**
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**13.21**	**36**	P	**Pn**	**07 49 22.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=203,slow=9.1,SNR=6.6						
AB31	**Akbulak array**	**15.09**	**331**	⇑P	**Pn**	**07 49 45.7**	**-0.6**
	comp=Z,7.1nm,1.0s						
AB31				⇑S	**S**	**07 52 27.0**	**-7.0**
	comp=Z,1.4nm,0.6s,baz=153,slow=22,SNR=5.7						
AB31	**Akbulak array**	**15.09**	**331**	P	**Pn**	**07 49 45.6**	**-0.7**
VOSK	**Vostochnaya**	**16.18**	**360**	⇑P	**Pn**	**07 49 59.0**	**-0.5**
	comp=Z,2.8nm,0.8s						
BVA0	**Borovoye Array**	**16.49**	**358**	P	**Pn**	**07 50 03.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=165,slow=13,SNR=11						
BVAR	**Borovoye Array**	**16.49**	**358**	P	**Pn**	**07 50 03.3**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=165,slow=12,SNR=9.4						
BVAR	**Borovoye Array**	**16.49**	**358**	P	**Pn**	**07 50 03.3**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.79**	**330**	⇑P	**Pn**	**07 50 07.4**	**+0.6**
	comp=Z,0.1nm,0.8s						
AKTO				⇑S	**S**	**07 53 09.5**	**-1.6**
	comp=Z,0.2nm,1.5s						
AKTO	**Aktyubinsk**	**16.79**	**330**	P	**Pn**	**07 50 07.4**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=135,slow=11,SNR=16						
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**07 53 51.0**	**+3.0**
	comp=Z,6.0nm,1.1s,mb4.1,baz=113,slow=7.0,SNR=3.3						
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**07 53 51.0**	**+3.0**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NOA	**NORSAR Array B**	**44.40**	**323**	P	**P**	**07 54 15.0**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.3,baz=100,slow=15,SNR=2.5						
NOA	**NORSAR Array B**	**44.40**	**323**	P	**P**	**07 54 15.0**	**+0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.81**	**269**	P	**P**	**07 56 47.1**	**-0.1**
	comp=Z,0.6nm,0.3s,mb3.9,baz=50,slow=6.4,SNR=18						
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**07 58 17.6**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.1,baz=351,slow=5.4,SNR=11						
WRA	**Warramunga Arr**	**81.94**	**122**	P	**P**	**07 58 20.7**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.5,baz=324,slow=4.9,SNR=4.7						
WRA	**Warramunga Arr**	**81.94**	**122**	P	**P**	**07 58 20.7**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**84.20**	**125**	P	**P**	**07 58 32.2**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.4,baz=308,slow=5.3,SNR=9.3						
ASAR	**Alice Springs**	**84.20**	**125**	P	**P**	**07 58 32.2**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **23** 07:51:28.2±10.0, 8.11N×81.19W, h1km±74km, mb4.5/5, Error ellipse: s-maj=186.2km s-min=13.5km az=64.0*
*ISCJB **23** 07:52:53.4±2.8, 1294N±007×9104W±008, h27km±21km, mb3.9/9, MS3.1/1, Error ellipse: s-maj=13.6km s-min=10.6km az=65.7*
*IDC **23** 07:52:53.3±1.5, 1353N×9065W, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, MS3.2/1, Ms1 3.3/1, ms1mx2.6/19, Error ellipse: s-maj=55.8km s-min=20.0km az=44.0*
*CASC **23** 07:52:54.7±2.9, 1317N×9111W, h8km±24km, MD4.2, mb4.5(NEIC)*
ISC 23 07:52:52.3±1.9, 1305N±006×9110W±007, h1km±10km, n28, σ1°34/25, mb3.9/9, MS3.1/1, 3C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.28**	**29**	⇑*e*P	**Pg**	**07 53 16.1**	**-0.8**
IXG				*e*S	**Sg**	**07 53 34.0**	**+0.4**
JAT	**Jato**	**1.37**	**337**	⇑*e*P	**Pn**	**07 53 18.9**	**+0.3**
JAT				*e*S	**Sb**	**07 53 32.8**	**-3.9**
FUG	**Fuego 3**	**1.42**	**10**	⇑*i*P	**Pn**	**07 53 19.0**	**-0.2**
GCG	**Guatemala City**	**1.63**	**20**	*e*P	**Pn**	**07 53 21.9**	**-0.1**
SBLS	**San Blas**	**1.64**	**61**	*e*P	Px	07 54 03.1	
SBLS				*e*S	Sx	07 54 23.6	
SNJE	**San Jose**	**1.67**	**60**	*e*P	Px	07 54 03.6	
SNJE				*e*S	Sx	07 54 26.2	
TP2	**Tecpan 2**	**1.73**	**2**	⇓*e*P	**Pn**	**07 53 23.1**	**-0.4**
TP2				*e*S	**Sn**	**07 53 47.7**	**+1.5**
RBDL	**Robledal**	**1.73**	**52**	*e*P	Px	07 54 04.6	
RBDL				*e*S	Sx	07 54 28.4	
BOQS	**Boqueron**	**1.90**	**69**	*e*P	Px	07 54 06.8	
BOQS				*e*S	Sx	07 54 33.0	
LFRS	**El Faro**	**2.06**	**74**	*e*P	Px	07 54 09.4	
LFRS				*e*S	Sx	07 54 36.4	
MTO2	**Montecristo 2**	**2.16**	**51**	*e*P	Px	07 54 11.0	
MTO2				*e*S	Sx	07 54 38.7	
MRL	**Marmol**	**2.43**	**34**	*e*P	**Pn**	**07 53 34.0**	**+0.9**
MRL				*e*S	**Sn**	**07 54 02.8**	**-0.7**
TEIG	**Tepich**	**7.63**	**20**	*e*Pn	**Pn**	**07 54 46.0**	**+1.4**
	3.2nm,0.5s						
SDV	**Santo Domingo**	**20.51**	**100**	P	**P**	**07 57 31.2**	**-0.6**
	2.5nm,0.8s,baz

*NEIC **23** 09:32:43.7, 3261S×7176W, h17km, ML2.7(GUC), After GUC.*

GUC 23 09:32:43.7±0.8, 3261S×7176W, h17km±26km, MD3.5, ML2.7, 10C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.28**	**75**	⇓*i*P	Pg	09 32 50.4	+0.5
PACH				*i* S	Sg	09 32 55.2	+1.1
IHA	**Instituto Hidr**	**0.43**	**166**	⇓*i*P	Pg	09 32 51.7	-0.7
IHA				*i* S	Sg	09 32 57.3	-0.9
ROCH	**El Roble**	**0.73**	**120**	⇑*i*P	Pb	09 32 57.5	-0.4
CHNG	**Los Chungos**	**0.76**	**17**	⇑*i*P	Pb	09 32 57.7	-0.7
CHNG				*i* S	Sb	09 33 07.8	-0.7
LCCH	**Las Cruces**	**0.88**	**169**	⇓*i*P	Pb	09 32 59.3	-1.1
LCCH				*i* S	Sb	09 33 10.8	-1.1
JACH	**Jahuel**	**0.99**	**94**	⇑*i*P	Pb	09 33 01.6	-0.8
JACH				*i* S	Sb	09 33 15.0	-0.1
PEL	**Peldehue**	**1.05**	**121**	⇑*i*P	Pb	09 33 02.6	-0.8
PEL				*i* S	Sb	09 33 16.6	-0.3
PEL				AMP		09 33 17.5	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**1.05**	**121**	⇑*i*P	Pb	09 33 02.6	-0.8
PEL				*i* S	Sb	09 33 16.6	-0.3
RCDM	**Rinconada Maip**	**1.19**	**138**	*i* P	Pn	09 33 04.7	-0.8
RCDM				*i* S	Sb	09 33 20.2	-0.6
RCDM				AMP		09 33 22.3	
	comp=N,220nm,0.1s						
RCDM	**Rinconada Maip**	**1.19**	**138**	*i* P	Pn	09 33 04.7	-0.8
RCDM				*i* S	Sb	09 33 20.2	-0.6
TACH	**Talagante**	**1.25**	**147**	⇓*i*P	Pn	09 33 05.5	-0.8
TACH				*i* S	Sb	09 33 21.4	-1.1
DSCH	**Colegio Aleman**	**1.27**	**128**	*e*P	Pn	09 33 05.4	-1.3
DSCH				*i* S	Sb	09 33 22.2	-1.1
DSCH				AMP		09 33 22.8	
	comp=N,28nm,0.3s						
CLCH	**Cerro Calan**	**1.29**	**128**	⇓*i*P	Pn	09 33 06.6	-0.4
CLCH				*i* S	Sn	09 33 23.2	-0.6
CLCH				AMP		09 33 30.2	
	comp=E,214nm,0.4s						
ANTU	**Antumapu**	**1.35**	**136**	*e*P	Pn	09 33 07.2	-0.5
ANTU				*i* S	Sn	09 33 24.5	-0.7
ANTU				AMP		09 33 29.9	
	comp=E,333nm,0.5s						
ANTU	**Antumapu**	**1.35**	**136**	*e*P	Pn	09 33 07.2	-0.5
ANTU				*i* S	Sn	09 33 24.5	-0.7
LNV	**Longovilo**	**1.37**	**168**	*e*P	Pn	09 33 07.2	-0.8
FCH	**Farellones**	**1.43**	**120**	⇓*i*P	Pn	09 33 08.9	0.0
FCH				*i* S	Sn	09 33 27.6	+0.4
FCH				AMP		09 33 28.0	
	comp=E,458nm,0.3s						
PCH	**Pirque**	**1.45**	**134**	*i* P	Pn	09 33 08.9	-0.3
CMCH	**Combarbala**	**1.57**	**24**	⇑*i*P	Pn	09 33 10.4	-0.4
CMCH				*i* S	Sn	09 33 30.8	+0.1
CMCH				AMP		09 33 38.0	
	comp=E,341nm,0.7s						
CMCH	**Combarbala**	**1.57**	**24**	⇑*i*P	Pn	09 33 10.4	-0.4
CMCH				*i* S	Sn	09 33 30.8	+0.1
CHCH	**Chadas Angostu**	**1.61**	**145**	*e*P	Pn	09 33 11.8	+0.4
CACH	**El Canelo**	**1.79**	**147**	⇑*i*P	Pn	09 33 15.1	+1.3
CACH				*i* S	Sn	09 33 38.9	+2.8
LMEL	**Las Melosas**	**1.80**	**134**	⇑*i*P	Pn	09 33 15.0	+1.1
LMEL				*i* S	Sn	09 33 37.8	+1.5
LMEL				AMP		09 33 43.0	
	comp=N,182nm,0.2s						
LMEL	**Las Melosas**	**1.80**	**134**	⇑*i*P	Pn	09 33 15.0	+1.1
LMEL				*i* S	Sn	09 33 37.8	+1.5
CICH	**Cipreses**	**2.04**	**147**	*i* P	Pn	09 33 18.6	+1.4
SFDO	**San Fernando**	**2.09**	**163**	*i* P	Pn	09 33 18.8	+0.8
SFDO				*i* S	Sn	09 33 45.5	+1.9

*IDC **23** 09:42:43.3±1.1, 1641N×6150W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.7/22, mbtmp3.6/6, ML5.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/37, Error ellipse: s-maj=35.2km s-min=11.2km az=24.0*
*ISCJB **23** 09:42:45.6±0.7, 1643N±003×6107W±005, h29km±3km, mb3.7/5, Error ellipse: s-maj=9.0km s-min=3.4km az=134.2*
*NEIC **23** 09:42:45.9, 1642N×6111W, h35km, MD3.8(FDF), MD3.8(TRN), After TRN.*
NEIC Felt [III] on Guadeloupe.
*TRN **23** 09:42:45.5, 1639N×6124W, h30km, MD3.8, M3.6(FDF), Md3.9(FDF)*

ISC 23 09:42:45.7±0.8, 1642N±003×6105W±005, h20km±4km, n34, σ1°00/49, mb3.7/5, 8C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.11**	**185**	⇓*i*P	Pb	09 42 52.7	+3.0
SFG	**Saint Francois**	**0.22**	**220**	⇑*i*P	Pb	09 42 52.2	+1.1
SEG	**Port Louis**	**0.44**	**268**	⇑*i*P	Pb	09 42 54.2	-0.5
MGG	**Marie-Galante**	**0.56**	**207**	⇓*i*P	Pb	09 42 56.9	+0.1
BCG	**Bois Riant Cap**	**0.64**	**239**	*e*P	Pb	09 42 57.9	-0.3
DOG	**Dongo Capester**	**0.67**	**235**	⇑*i*P	Pb	09 42 57.8	-0.8
PHG	**Guadaloupe-2**	**0.70**	**235**	⇑*e*P	Pb	09 42 58.4	-0.8
SCG	**Saint Claude**	**0.72**	**237**	⇑*i*P	Pb	09 42 58.4	-1.2
LZG	**Guadaloupe-1**	**0.75**	**248**	⇑*i*P	Pb	09 42 58.6	-1.4
TBG	**Guadaloupe-3**	**0.80**	**225**	⇑*e*P	Pb	09 43 00.0	-0.9
DWS	**Wesley**	**0.88**	**197**	⇑*i*P	Pb	09 43 02.7	+0.4
DWS				*e*S	Sb	09 43 14.3	+0.6
BBL	**Barber's Block**	**0.98**	**204**	⇓*e*P	Pb	09 43 03.1	-0.7
BBL				*e*S	Sb	09 43 15.6	-0.8
BPA	**Boggy Peak**	**0.99**	**309**	*e*P	Pb	09 43 03.8	-0.3
BPA				*e*S	Sb	09 43 16.4	-0.4
MDN	**Morne-Daniel**	**1.14**	**197**	*e*P	Pn	09 43 07.0	+0.4
MDN				*e*S	Sb	09 43 21.7	+0.6
DBCT	**Belle View Cho**	**1.18**	**194**	*e*P	Pn	09 43 07.4	+0.4
DBCT				*e*S	Sb	09 43 22.7	+0.6
DSHT	**Scott's Head**	**1.24**	**195**	*e*P	Pn	09 43 08.7	+0.8
CPB	**Codrington**	**1.42**	**329**	*i* P	Pn	09 43 09.5	-0.9
CPB				*e*S	Sn	09 43 28.1	-0.4
CRM	**Caraville**	**1.66**	**175**	⇓*i*P	Pn	09 43 12.8	-0.8
CRM				*e*S	Sn	09 43 33.3	-1.1
FDF	**Fort de France**	**1.68**	**183**	⇓*i*P	Pn	09 43 12.9	-0.9
FDF				S	Sn	09 43 33.1	-1.7
MVM	**Montagne Vaucl**	**1.86**	**175**	*e*P	Pn	09 43 16.6	+0.2
STAT	**Sint Eustatius**	**2.13**	**300**	*e*P	Pn	09 43 20.8	+0.7
STAT				*e*S	Sn	09 43 46.0	0.0
SABT	**Saba**	**2.41**	**300**	*e*P	Pn	09 43 24.7	+0.7
SABT				*e*S	Sn	09 43 54.7	+1.8
SSV	**Crater Summit**	**3.08**	**183**	*e*P	Pn	09 43 34.9	+1.7
SSV				*e*S	Sn	09 44 08.6	-0.7
SVB	**Belmont**	**3.14**	**184**	*e*P	Pn	09 43 35.2	+1.3
SVB				*e*S	Sn	09 44 13.0	+2.2
MTP	**Monte Pirata**	**4.62**	**292**	*e*Pn	Pn	09 43 54.4	+0.2
MTP				*e*Sn	Sn	09 44 48.4	+1.1
CPD	**Cerro la Pandu**	**4.92**	**290**	*e*Pn	Pn	09 43 56.6	-1.8
CPD				*e*Sn	Sn	09 44 55.3	+0.5
SJG	**San Juan**	**5.15**	**290**	Pn	Pn	09 43 55.6	-6.0
	2.9nm,0.3s,baz=349,slow=19,SNR=2.0						
SJG				Sn	Sn	09 45 02.0	+1.5
	9.2nm,0.3s,baz=51,slow=22,SNR=8.3						
SJG	**San Juan**	**5.15**	**290**	*e*Pn	Pn	09 43 58.6	-3.0
SJG				Sn	Sn	09 45 02.0	+1.5
SDV	**Santo Domingo**	**11.97**	**232**	LR	LR	09 49 50.0	
	comp=Z,58nm,20.8s,baz=228,slow=37						
PDAR	**Pinedale Array**	**48.83**	**313**	P	P	09 51 29.4	-0.2
	1.1nm,0.6s,mb4.0,baz=116,slow=9.6,SNR=13						
NVAR	**Mina Array Bea**	**54.44**	**306**	P	P	09 52 11.1	-0.4
	0.2nm,0.4s,mb3.4,baz=95,slow=6.0,SNR=2.9						
YKA	**Yellowknife Ar**	**59.10**	**334**	P	P	09 52 43.6	-1.0
	0.7nm,0.5s,mb3.9,baz=103,slow=7.5,SNR=27						
ILAR	**Eielson Array**	**73.52**	**334**	P	P	09 54 16.4	-0.5
	0.3nm,0.6s,mb3.4,baz=81,slow=3.6,SNR=6.6						
FINES	**FINESS Array B**	**74.37**	**30**	P	P	09 54 22.6	+0.6
	0.4nm,0.5s,mb3.6,baz=230,slow=3.5,SNR=4.1						

*ISCJB **23** 09:47:27.1±0.5, 3072N±002×3505E±004, h0km, Error ellipse: s-maj=5.0km s-min=3.2km az=41.3*
*CSEM **23** 09:47:27.4±0.2, 3073N×3502E, h2km, ML2.2, Error ellipse: s-maj=4.7km s-min=3.3km az=86.0, Mining explosion.*
*GII **23** 09:47:27.2±0.5, 3076N×3504E, h0km, ML2.2/2*
*HLW **23** 09:47:30.8, 3066N×3485E, h8km, Mb2.5*

ISC 23 09:47:27.5±0.5, 3071N±002×3505E±004, h0km, n15, σ0°86/25, 4C-2D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.19**	**145**	Pg	Pg	09 47 32.3	+1.3
SVTA	**Shivta**	**0.43**	**301**	Pg	Pg	09 47 35.5	-0.3
SVTA				Sg	Sg	09 47 43.1	+1.7
SVTA	**Shivta**	**0.43**	**301**	Pg	Pg	09 47 35.4	-0.4
SVTA				Sg	Sg	09 47 43.1	+1.7
KZIT	**Kziot**	**0.60**	**289**	Pg	Pg	09 47 39.0	+0.1
KZIT				Sg	Sg	09 47 47.8	+1.1
MZDA	**Masada**	**0.66**	**24**	Pg	Pg	09 47 39.6	-0.4
MZDA				Sg	Sg	09 47 48.7	+0.2
HRFI	**Mount Harif**	**0.67**	**181**	Pg	Pg	09 47 41.3	+1.0
HRFI				Sg	Sg	09 47 53.3	+4.3
MKRJ	**Makawir**	**0.98**	**31**	Pg	Pg	09 47 45.7	-0.6
MKRJ				Sg	Sg	09 47 60.0	+1.0
HNKL	**Nakhl**	**1.21**	**230**	⇑*e*P	Pg	09 47 50.4	-0.2
HNKL				S	Sg	09 48 05.4	-1.0
HBST	**Basata**	**1.51**	**191**	⇓*e*P	Pn	09 47 56.3	+0.5
HBST				S	Sg	09 48 14.9	-1.2
SLTI	**Sal'it**	**1.53**	**360**	Pn	Pn	09 47 55.1	-0.9
SLTI				Sn	Sn	09 48 16.1	-0.4
AMAG	**Maghara**	**1.59**	**268**	⇑P	Pn	09 47 56.1	-0.8
MMLI	**Mount Malkishu**	**1.75**	**10**	Pn	Pn	09 47 58.0	-1.1
MMLI				Sn	Sn	09 48 21.9	-0.2
HDHB	**Dhahab**	**2.02**	**191**	⇑P	Pn	09 48 03.5	+0.7
SUZ		**2.11**	**246**	⇑*e*P	Pn	09 48 03.0	-1.0
HKAT	**Jabal Katrina**	**2.37**	**203**	⇓P	Pn	09 48 08.3	+0.7

WEL 23 09:54:42.3±0.3, 3900S×17535E, h157km±2km, ML3.6/16, 1C-2D, Error ellipse: s-maj=2.4km s-min=2.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.10**	**136**	PN	Pn	09 55 03.5	+0.2
TWVZ				SN	Sn	09 55 19.4	+0.2
WTVZ	**West Tongariro**	**0.22**	**122**	PN	Pn	09 55 03.8	+0.3
WPVZ	**Whakapapa**	**0.25**	**143**	PN	Pn	09 55 03.9	+0.4
WPVZ				SN	Sn	09 55 19.8	+0.1
PKVZ	**Pokaka**	**0.29**	**181**	PN	Pn	09 55 03.8	+0.2
PKVZ				SN	Sn	09 55 19.9	+0.1
FWVZ	**Far West T-bar**	**0.30**	**148**	PN	Pn	09 55 04.0	+0.4
TUVZ	**Tukino**	**0.35**	**139**	PN	Pn	09 55 04.4	+0.5
WNVZ	**Wahianoa**	**0.38**	**150**	PN	Pn	09 55 04.1	+0.2
MTVZ	**Mangateitei**	**0.39**	**167**	PN	Pn	09 55 04.2	+0.2
MTVZ				SN	Sn	09 55 20.1	-0.4
VRZ	**Vera Road**	**0.48**	**255**	PN	Pn	09 55 03.9	-0.4
MOVZ	**Moawhango**	**0.51**	**143**	PN	Pn	09 55 04.6	+0.1
MOVZ				SN	Sn	09 55 20.4	-1.0
HIZ	**Hauiti**	**0.62**	**321**	⇓PN	Pn	09 55 05.0	-0.1
WAZ	**Wanganui**	**0.80**	**201**	⇓*e*PN	Pn	09 55 06.4	+0.2
BKZ	**Black Stump Fm**	**0.90**	**101**	*e*PN	Pn	09 55 07.1	+0.1
BKZ				SN	Sn	09 55 25.3	-0.4
NEZ	**North Egmont**	**1.01**	**254**	PN	Pn	09 55 07.6	-0.2
PKE	**Pukeiti**	**1.08**	**259**	PN	Pn	09 55 07.9	-0.5
TSZ	**Takapari Road**	**1.16**	**156**	PN	Pn	09 55 09.3	+0.2
TSZ				SN	Sn	09 55 29.6	+0.1
PXZ	**Pawanui**	**1.56**	**132**	*e*PN	Pn	09 55 13.2	+0.2
URZ	**Urewera**	**1.56**	**62**	*e*PN	Pn	09 55 12.7	-0.4
URZ				SN	Sn	09 55 34.5	-2.2
MRZ	**Mangatainoka R**	**1.67**	**174**	PN	Pn	09 55 13.5	-0.6
MRZ				SN	Sn	09 55 36.1	-2.5
BFZ	**Birch Farm**	**1.81**	**158**	PN	Pn	09 55 15.5	-0.3
MWZ	**Matawai**	**1.83**	**69**	*e*PN	Pn	09 55 15.8	-0.1
MWZ				SN	Sn	09 55 41.5	-0.2
KIW	**Kapiti Island**	**1.89**	**190**	PN	Pn	09 55 15.5	-1.1
DUWZ	**D'Urville Isla**	**2.11**	**211**	PN	Pn	09 55 17.7	-1.4
CAW	**Cannon Point**	**2.11**	**186**	PN	Pn	09 55 18.1	-1.1
CAW				SN	Sn	09 55 44.0	-3.5
MTW	**Mount Morrison**	**2.16**	**177**	PN	Pn	09 55 18.4	-1.2
MRW	**Makara Radio**	**2.28**	**192**	PN	Pn	09 55 19.8	-1.3
TCW	**Tory Channel**	**2.36**	**200**	PN	Pn	09 55 20.6	-1.4
SNZO	**South Karori**	**2.36**	**192**	PN	Pn	09 55 20.3	-1.7
PAWZ	**Paruwai Farm**	**2.38**	**179**	PN	Pn	09 55 20.8	-1.4
TRWZ	**Traveller**	**2.41**	**174**	PN	Pn	09 55 21.3	-1.3
MSWZ	**Moikau Station**	**2.41**	**182**	PN	Pn	09 55 21.2	-1.5
BHW	**Baring Head**	**2.43**	**189**	PN	Pn	09 55 21.3	-1.6
TUWZ	**Tuamarina**	**2.65**	**204**	PN	Pn	09 55 23.8	-1.8
NNZ	**Nelson**	**2.68**	**214**	SN	Sn	09 55 55.9	-3.7
QRZ	**Quartz Range**	**2.83**	**229**	PN	Pn	09 55 25.0	-2.8
THZ	**Tophouse**	**3.33**	**213**	*e*PN	Pn	09 55 32.0	-2.1
THZ				SN	Sn	09 56 10.7	-3.5
KHZ	**Kahutara**	**3.68**	**201**	⇑PN	Pn	09 55 36.5	-2.1
LTZ	**Lake Taylor**	**4.44**	**211**	*e*PN	Pn	09 55 45.3	-3.2
MQZ	**McQueen's Vall**	**5.12**	**203**	SN	Sn	09 56 46.9	-9.2

*ISCJB **23** 10:02:01.3±0.4, 6249N±003×15122W±009, h108km±6km, mb3.8/1, Error ellipse: s-maj=6.6km s-min=4.4km az=3.3*
*IDC **23** 10:02:01.1±1.5, 6256N×15141W, h91km±24km, mb3.5/1, mb1 3.4/5, mb1mx3.2/20, mbtmp3.6/5, Error ellipse: s-maj=26.3km s-min=10.1km az=111.0*
*NEIC **23** 10:02:04.1, 6249N×15122W, h84km, MG3.3(AEIC), After AEIC.*

ISC 23 10:02:02.4±0.4, 6249N±003×15122W±009, h101km±7km, n33, σ0°74/44, mb3.8/1, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**1.05**	**23**	P	Pn	10 02 23.7	+0.2
TRF				S	Sn	10 02 39.1	-0.2
KTH	**Kantishna Hill**	**1.07**	**7**	P	Pn	10 02 23.7	0.0
KTH				S	Sn	10 02 38.5	-1.3
GHO	**Glory Hole Cre**	**1.30**	**123**	P	Pn	10 02 26.6	+0.3
GHO				S	Sn	10 02 43.8	-0.5
PMR	**Palmer**	**1.33**	**132**	*e*P	Pn	10 02 26.4	-0.3
FIB	**Fire Island**	**1.42**	**159**	P	Pn	10 02 28.9	+1.2
FIB				S	Sn	10 02 49.4	+2.4
SML	**Sawmill**	**1.52**	**116**	P	Pn	10 02 29.1	+0.2
RC01	**Rabbit Creek A**	**1.57**	**153**	P	Pn	10 02 29.3	-0.3
RC01				S	Sn	10 02 49.7	-0.6
MCK	**McKinley**	**1.62**	**39**	P	Pn	10 02 30.5	+0.3
MCK				S	Sn	10 02 51.0	-0.3
KNK	**Knik Glacier**	**1.70**	**128**	P	Pn	10 02 31.1	0.0
SLKM	**Skilak Lake**	**2.05**	**166**	P	Pn	10 02 35.4	-0.2
TT01	**Tatalina**	**2.25**	**283**	P	Pn	10 02 38.4	+0.1
TTA	**Tatalina**	**2.25**	**283**	*e*P	Pn	10 02 38.3	0.0
SVW2	**Sparrevohn**	**2.50**	**238**	P	Pn	10 02 41.8	+0.3
SEW	**Seward**	**2.54**	**160**	P	Pn	10 02 41.9	-0.3
SEW				S	Sn	10 03 11.9	-0.7
PAX	**Paxson**	**2.69**	**77**	P	Pn	10 02 45.0	+1.0
COLA	**College**	**2.82**	**31**	P	Pn	10 02 46.2	+0.4
IL1	**Eielson Array**	**3.00**	**38**	P	Pn	10 02 48.3	+0.2
ILAR	**Eielson Array**	**3.00**	**38**	P	Pn	10 02 48.2	+0.1
	18nm,0.3s,baz=224,slow=14,SNR=1591						
ILAR				S	Sn	10 03 21.7	-1.6
	17nm,0.3s,baz=220,slow=22,SNR=24						
EYAK	**Cordova Ski Ar**	**3.27**	**124**	P	Pn	10 02 50.9	-0.8
GCSA	**Galena City Sc**	**3.39**	**314**	P	Pn	10 02 54.0	+0.6
DOT	**Dot Lake**	**3.46**	**67**	P	Pn	10 02 54.6	+0.4
MENT	**Mentasta**	**3.48**	**79**	*e*P	Pn	10 02 55.6	+1.0
BMRM	**Bremner River**	**3.50**	**113**	P	Pn	10 02 53.9	-0.9
KDAK	**Kodiak Island**	**4.77**	**189**	P	Pn	10 03 11.1	-1.0
	1.1nm,0.3s,baz=110,slow=15,SNR=16						
KDAK				S	Sn	10 04 06.4	+0.2
	2.3nm,0.3s,baz=297,slow=23,SNR=6.9						
KDAK	**Kodiak Island**	**4.77**	**189**	P	Pn	10 03 10.2	-1.8
COLD	**Coldfoot**	**4.78**	**5**	P	Pn	10 03 13.0	+1.0
DAWY	**Dawson**	**5.56**	**68**	P	Pn	10 03 22.9	+0.2
BM3	**Burnt Mountain**	**5.69**	**27**	P	Pn	10 03 25.2	+0.8
TNA	**Tin City**	**7.95**	**300**	P	Pn	10 03 54.9	-0.3
INK	**Inuvik**	**9.38**	**44**	P	Pn	10 04 14.6	+0.1
	0.3nm,0.3s,baz=239,slow=17,SNR=26						
INK				S	Sn	10 05 53.3	-4.8
	0.3nm,0.3s,baz=167,slow=28,SNR=3.9						
INK	**Inuvik**	**9.38**	**44**	*e*Pn	Pn	10 04 15.5	+0.9
	11nm,1.2s						
INK				S	Sn	10 05 53.3	-4.8
YKA	**Yellowknife Ar**	**16.77**	**74**	P	Pn	10 05 51.3	+0.3
	baz=286,slow=10,SNR=7.5						
MKAR	**Makanchi Array**	**63.01**	**322**	P	P	10 12 17.2	-1.3
	0.4nm,0.4s,mb3.6,baz=21,slow=6.9,SNR=6.8						

*ISCJB **23** 10:06:29.9±1.5, 5937N±004×27.1E±04, h0km, Error ellipse: s-maj=27.0km s-min=5.8km az=5.0*
*NAO **23** 10:06:33.8±1.2, 5927N×2671E, ML2.1*
*HEL **23** 10:06:34.5±0.2, 5932N×2698E, h0km, ML2.1(NAO), Explosion*
*BER **23** 10:06:34.7±2.3, 5931N×2692E, h0km, ML2.1(NAO), Suspected explosion*
*IDC **23** 10:06:36.6±2.2, 5945N×2693E, h0km, mb1 3.2/3, mb1mx3.0/20, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=19.6km s-min=13.3km az=123.0*

ISC 23 10:06:32.6±1.3, 5934N±004×270E±04, h0km, n13, σ0°75/11, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.89**	**190**	Lg		10 07 01.1	
VSU	**Vasula**	**0.89**	**190**	*i* S	Sg	10 07 01.8	-0.2
FIA0	**FINESS Array S**	**2.17**	**348**	*e*P	Pn	10 07 11.4	+1.5
FIA0				*e*SG	Sg	10 07 41.8	-0.4
FIA0				*e*RG		10 07 49.8	
FIA0				*e*RG		10 08 00.9	
FIA0	**FINESS Array S**	**2.17**	**348**	Pn	Pn	10 07 11.8	+1.8
	baz=165,slow=16						
FIA0				Lg		10 07 43.5	
	baz=172,slow=28						
FIA0				Rg		10 07 54.9	
	baz=168,slow=28						
FINES	**FINESS Array B**	**2.17**	**348**	Pn	Pn	10 07 11.8	+1.9
	2.2nm,0.3s,baz=163,slow=15,SNR=53						
FINES				Lg		10 07 41.2	
	2.2nm,0.3s,baz=172,slow=28,SNR=17						
FINES				Rg		10 07 57.5	
	13nm,0.9s,baz=172,slow=31,SNR=5.9						
HFS	**Hagfors**	**6.79**	**282**	Lg		10 10 02.4	
	baz=97,slow=37						
HFS	**Hagfors**	**6.79**	**282**	*e*SG		10 10 02.4	
HFS	**Hagfors**	**6.79**	**282**	Lg		10 10 02.4	
	baz=97,slow=37						
HFS	**Hagfors**	**6.79**	**282**	Lg		10 10 06.0	
	0.5nm,0.3s,baz=76,slow=25,SNR=5.6						
NOA	**NORSAR Array B**	**8.07**	**289**	Pn	Pn	10 08 31.0	0.0
	0.2nm,0.3s,baz=90,slow=13,SNR=2.3						
NOA				Lg		10 10 46.5	
	0.3nm,0.3s,baz=53,slow=22,SNR=3.0						
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	Pn	10 09 00.6	-0.6
	baz=175,slow=14						
ARA0				Sn	Sn	10 10 50.0	-6.9
	baz=183,slow=28						
ARA0	**ARCESS Array S**	**10.26**	**357**	*e*P	Pn	10 09 00.6	-0.6
ARA0				*e*S	Sn	10 10 50.0	-6.9
ARCES	**ARCESS Array B**	**10.26**	**357**	Pn	Pn	10 09 00.7	-0.4
	0.1nm,0.3s,baz=183,slow=13,SNR=4.3						

*ISCJB **23** 10:37:09.7±1.4, 1745S±06×1789W±03, h524km±24km, mb3.8/8, Error ellipse: s-maj=102.2km s-min=14.4km az=124.9*
*IDC **23** 10:37:10.3±2.1, 1739S×17887W, h518km±30km, mb3.3/7, mb1 3.6/9, mb1mx3.4/15, mbtmp4.2/9, Error ellipse: s-maj=92.4km s-min=13.9km az=150.0*

ISC 23 10:37:10.9±1.3, 1745S±06×1788W±03, h527km±22km, n13, σ0°75/12, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.61**	**64**	P	P	10 39 03.6	-0.3
	3.7nm,0.3s,baz=60,slow=2.3,SNR=5.4						
DZM	**Mont Dzumac**	**14.64**	**249**	P	P	10 40 17.6	+0.8
	0.2nm,0.3s,baz=274,slow=23,SNR=3.8						
STKA	**Stephens Creek**	**38.54**	**241**	*e*P	P	10 43 46.9	-1.2
	2.0nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**38.54**	**241**	P	P	10 43 47.2	-0.9
	2.3nm,0.5s,mb4.0,baz=84,slow=9.3,SNR=8.1						
WB2	**Warramunga Arr**	**44.34**	**259**	*e*P	P	10 44 33.5	-0.5
WRA	**Warramunga Arr**	**44.35**	**259**	P	P	10 44 33.7	-0.4
	0.7nm,0.3s,mb3.7,baz=93,slow=7.9,SNR=46						
ASAR	**Alice Springs**	**44.57**	**254**	P	P	10 44 36.1	+0.4
	7.6nm,0.4s,mb4.6,baz=90,slow=7.6,SNR=9.6						
KAKA	**Kakadu**	**47.22**	**269**	*e*P	P	10 44 56.5	+0.6
	3.0nm,0.2s,mb4.5						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	P	10 48 23.1	+1.4
	0.8nm,0.7s,mb3.2,baz=215,slow=7.3,SNR=7.3						
ILAR	**Eielson Array**	**85.49**	**13**	P	P	10 48 51.9	-1.0
	0.4nm,0.4s,mb3.3,baz=226,slow=5.2,SNR=15						
PDAR	**Pinedale Array**	**87.25**	**44**	P	P	10 49 01.9	+0.6
	0.6nm,0.5s,mb3.5,baz=208,slow=2.7,SNR=7.1						
YKA	**Yellowknife Ar**	**94.04**	**25**	P	P	10 49 32.0	-0.6
	0.3nm,0.7s,mb3.6,baz=246,slow=4.5,SNR=9.2						
GERES	**GERESS Array B**	**147.04**	**345**	PKPbc	PKPbc	10 55 54.8	+0.4
	1.0nm,0.6s,baz=29,slow=3.0,SNR=7.0						

*NEIC **23** 10:56:21.6, 3131S×7161W, h20km, ML2.9(GUC), After GUC.*

**GUC 23 10:56:21.6±0.8, 3131S×7161W, h20km

200nm,0.3s,baz=95,slow=22,SNR=13
RAO Sn Sn 11 19 03.6 -1.0
791nm,0.3s,baz=110,slow=22,SNR=12
STKA Stephens Creek 34.83 257 *eP* P 11 25 21.2 -0.6
1.3nm,0.6s
STKA Stephens Creek 34.83 257 P P 11 25 21.6 -0.3
1.6nm,0.5s,baz=88,slow=9.0,SNR=7.7
ASAR Alice Springs 43.44 267 P P 11 26 34.0 +0.3
0.8nm,0.4s,baz=105,slow=7.4,SNR=27
WB2 Warramunga Arr 44.40 272 *eP* P 11 26 41.6 +0.1
WRA Warramunga Arr 44.41 272 P P 11 26 42.1 +0.5
2.3nm,0.3s,baz=110,slow=8.1,SNR=100
BVAR Borovoye Array 126.48 316 PKP PKPdf 11 37 33.1 -1.1
0.1nm,0.3s,baz=174,slow=5.8,SNR=3.8
FINES FINESS Array B 145.06 340 PKPbc PKPbc 11 38 06.3 -1.6
2.8nm,0.6s,baz=69,slow=3.8,SNR=19

NIED ***23*** *11:21:00,2030N×12170E,h5km,Mw4.0 Best double couple: M0:1.15000×10^15 NP1:φ0=141.00000°,δ86.00000°, λ-40.00000°. NP2:φ0=234.00000°,δ51.00000°, λ-175.00000°.*
ISCJB ***23*** *11:21:51.9±0.6,2007N±004×12132E±007,h61km±7km, mb4.1/15, Error ellipse: s-maj=11.8km s-min=6.0km az=177.4*
MAN ***23*** *11:21:51.6,1996N×121.15E,h10km,mb4.2,ML5.1,MS6.0*
NEIC ***23*** *11:21:53.0±0.5,2001N×12130E,mb4.2/5, Error ellipse: s-maj=13.3km s-min=8.5km az=83.0*
BJI ***23*** *11:21:53.6,2037N×121.18E,h56km,mB4.8,mb4.1,Ms3.8, Msz3.5*
IDC ***23*** *11:21:53.2±0.9,2002N×12146E,h55km±8km,mb3.7/9, mb1 4.0/10,mb1mx3.8/20,mbtmp4.1/10,MS3.6/6, Ms1 3.6/6,ms1mx3.3/25, Error ellipse: s-maj=26.1km s-min=13.9km az=73.0*
ISC 23 11:21:53.1±0.6,2006N±003×12131E±007,h54km±7km, h58km±3.6km:pP-P,n39,σ1§05/43,mb4.1/15,MS3.6/6, 2C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.85**	**201**	⇓*iP*	**Pn**	**11 22 20.8**	**-1.6**
PIP				*i*S	**Sn**	**11 22 43.3**	**-1.3**
SGCP	**Mt. Cagua**	**1.94**	**159**	*eP*	**Pn**	**11 22 23.9**	**+0.3**
SGCP						11 22 50.8	
APYP	**Conner**	**2.19**	**182**	*eP*	**Pn**	**11 22 27.1**	**+0.1**
APYP				*eS*	**Sn**	**11 22 53.9**	**+1.0**
CVP	**Callao Caves**	**2.40**	**168**	⇑*eP*	**Pn**	**11 22 30.0**	**+0.2**
CVP				*eS*	**Sn**	**11 22 58.0**	**0.0**
ABRA	**Dolores**	**2.47**	**193**	*eP*	**Pn**	**11 22 30.7**	**-0.1**
ABRA				*eS*	**Sn**	**11 23 02.1**	**+2.4**
CAUP	**Cauayan**	**3.14**	**171**	*eP*	**Pn**	**11 22 42.0**	**+2.0**
BCPH	**Baguio City Da**	**3.73**	**191**	⇑*iP*	**Pn**	**11 22 48.9**	**+0.9**
BCPH				*i*S	**Sn**	**11 23 34.8**	**+4.1**
BOLP	**Bolinao**	**3.90**	**200**	*eP*	**Pn**	**11 22 50.3**	**-0.1**
NACB	**Ninganchiao**	**4.10**	**4**	*e*Pn	**Pn**	**11 22 55.0**	**+1.8**
SCZP	**Santa Cruz**	**4.47**	**198**	*eP*	**Pn**	**11 22 58.3**	**+0.1**
YHNB	**Yeheng**	**4.58**	**1**	*e*Pn	**Pn**	**11 22 59.8**	**0.0**
POLP	**Polillo Island**	**5.34**	**173**	*eP*	**Pn**	**11 23 08.4**	**-1.8**
QZH	**Quanzhou**	**5.47**	**333**	*eP*	**Pn**	**11 23 07.8**	**-4.2**
JOW	**Kunigami**	**9.29**	**42**	P	**Pn**	**11 24 03.2**	**-1.0**
	4.4nm,0.3s,baz=159,slow=18,SNR=18						
JOW				LR	LR	11 27 38.0	
	comp=Z,102nm,19.3s,baz=346,slow=37						
QIZ	**Qiongzhong**	**10.86**	**267**	P	**Pn**	**11 24 23.8**	**-2.0**
QIZ				S	**Sn**	**11 26 24.9**	**-0.9**
QIZ				LR	LR		
	comp=E,252nm,12.1s						
QIZ				LR	LR		
	comp=Z,275nm,10.9s						
QIZ	**Qiongzhong**	**10.86**	**267**	*e*Pn	**Pn**	**11 24 22.6**	**-3.2**
QIZ				*e*Sn	**Sn**	**11 26 17.6**	**-8.2**
BJT	**Baijiatuau**	**20.37**	**349**	*eP*	**P**	**11 26 24.9**	**-0.2**
	comp=Z,11nm,0.6s						
BJI	**Beijing**	**20.39**	**349**	*eP*	**P**	**11 26 22.1**	**-3.3**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BJI				LR	LR		
	comp=Z,126nm,21.2s,MS3.2						
MJAR	**Matsushiro Arr**	**22.10**	**38**	P	**P**	**11 26 42.2**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.2,baz=224,slow=11,SNR=2.9						
LZH	**Lanzhou**	**22.13**	**320**	*eP*	**P**	**11 26 44.5**	**+0.5**
LZH				AP		11 26 51.4	
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.5						
PSI	**Prapat**	**27.78**	**235**	LR	LR	11 39 25.6	
	comp=Z,77nm,18.6s,MS3.3,baz=178,slow=38						
SONM	**Songino Array**	**30.23**	**340**	P	**P**	**11 27 59.5**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.3,baz=147,slow=8.6,SNR=2.8						
SONM				pP	pP	11 28 15.2	+3.0
	comp=Z,1.2nm,0.6s,baz=148,slow=8.5,SNR=6.1						
SONM				LR	LR	11 41 14.7	
	comp=Z,123nm,20.9s,MS3.5,baz=290,slow=38						
MKAR	**Makanchi Array**	**41.45**	**319**	P	**P**	**11 29 35.6**	**+1.2**
	comp=Z,2.1nm,0.6s,mb4.0,baz=116,slow=9.8,SNR=35						
MKAR				pP	pP	11 29 49.2	+0.8
	comp=Z,1.6nm,0.6s,baz=111,slow=8.8,SNR=7.8						
MKAR	**Makanchi Array**	**41.45**	**319**	P	**P**	**11 29 35.6**	**+1.2**
MKAR				pP	pP	11 29 49.2	+0.8
WRAB	**Tennant Creek**	**41.75**	**161**	*eP*	**P**	**11 29 36.0**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**41.76**	**161**	P	**P**	**11 29 36.0**	**-1.0**
	comp=Z,6.1nm,0.4s,mb4.6,baz=343,slow=9.0,SNR=80						
WB2	**Warramunga Arr**	**41.76**	**161**	*eP*	**P**	**11 29 36.0**	**-1.0**
ZAL	**Zalesovo**	**43.80**	**329**	P	**P**	**11 29 54.0**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.7,baz=24,slow=5.4,SNR=6.0						
ZAL				LR	LR	11 50 12.3	
	comp=Z,85nm,18.2s,MS3.7,baz=355,slow=39						
ASAR	**Alice Springs**	**45.16**	**164**	P	**P**	**11 30 04.5**	**+0.2**
	comp=Z,5.4nm,0.4s,mb4.7,baz=346,slow=6.9,SNR=146						
KURK	**Kurchatov**	**45.37**	**323**	*eP*	**P**	**11 30 06.3**	**+0.3**
	comp=Z,1.7nm,0.8s,mb3.9						
HNR	**Honiara**	**48.01**	**124**	LR	LR	11 48 49.7	
	comp=Z,93nm,18.4s,MS3.8,baz=178,slow=34						
FORT	**Forrest**	**50.96**	**173**	*eP*	**P**	**11 30 50.0**	**+0.9**
	comp=Z,34nm,0.7s,mb5.4						
BVAR	**Borovoye Array**	**50.97**	**323**	P	**P**	**11 30 49.7**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=103,slow=8.0,SNR=6.0						
BVAR				pP	pP	11 31 04.2	+0.5
	comp=Z,0.5nm,0.4s,baz=113,slow=10,SNR=2.7						
BRVK	**Borovoye**	**51.04**	**323**	*eP*	**P**	**11 30 50.1**	**+0.4**
	comp=Z,0.9nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**55.18**	**159**	*eP*	**P**	**11 31 19.5**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**55.18**	**159**	P	**P**	**11 31 19.4**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.3,baz=356,slow=9.2,SNR=10						
ILAR	**Eielson Array**	**72.82**	**27**	P	**P**	**11 33 16.9**	**+1.0**
	comp=Z,0.2nm,0.5s,mb3.4,baz=261,slow=3.8,SNR=6.7						
NOA	**NORSAR Array B**	**81.91**	**333**	LR	LR	12 13 11.6	
	comp=Z,40nm,19.3s,MS3.8,baz=115,slow=38						
YKA	**Yellowknife Ar**	**86.71**	**23**	P	**P**	**11 34 30.8**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.7,baz=307,slow=4.5,SNR=12						

IDC 23 11:40:18.7±1.4,1116N×14344E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.6/20,mbtmp3.5/5,ML3.2/1,Error ellipse: s-maj=159.0km s-min=18.4km az=112.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.79**	**30**	Pn	Pn	11 41 04.2	-0.4
	4.1nm,0.3s,baz=27,slow=21,SNR=2.6						
GUMO				Sn	Sn	11 41 41.1	+2.1
	28nm,0.3s,baz=345,slow=23,SNR=7.3						
WRA	**Warramunga Arr**	**32.17**	**196**	P	P	11 46 48.5	+0.3
	0.9nm,0.7s,baz=19,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**35.84**	**195**	P	P	11 47 20.1	+0.2
	0.3nm,0.6s,baz=16,slow=11,SNR=8.6						
ILAR	**Eielson Array**	**71.35**	**25**	P	P	11 51 39.6	-0.7
	0.4nm,0.7s,baz=249,slow=5.7,SNR=10						
YKA	**Yellowknife Ar**	**85.65**	**27**	P	P	11 52 60.0	+0.8
	0.2nm,0.6s,baz=289,slow=5.2,SNR=6.5						

IDC ***23*** *11:46:35.4±5.0,3959N×14577E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.5/19,mbtmp3.7/4,ML4.3/1,Error ellipse: s-maj=108.6km s-min=45.2km az=11.0*
ISCJB ***23*** *11:47:14.0±0.8,4367N±009×14571E±0.10,h129km±5km, mb3.4/3,Error ellipse: s-maj=14.9km s-min=11.1km az=132.4*
JMA ***23*** *11:47:15.4±0.1,4366N×14572E,h121km±1km,M3.0*
ISC 23 11:47:14.8±0.8,4366N±009×14572E±010,h125km±5km, n14,σ0§54/22,mb3.5/3,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.30**	**177**	P	**Pn**	**11 47 32.5**	**+0.2**
NEM2				*e*S	**Sn**	**11 47 45.1**	**-0.5**
JRA	**Rausu**	**0.52**	**303**	P	**Pn**	**11 47 33.5**	**+0.1**
JRA				*e*S	**Sn**	**11 47 47.2**	**-0.3**
JNK	**Nakash**	**0.73**	**264**	P	**Pn**	**11 47 35.2**	**+0.3**
JNK				*e*S	**Sn**	**11 47 49.9**	**-0.3**
JAK	**Akkeshi**	**1.00**	**229**	P	**Pn**	**11 47 37.6**	**+0.3**
JAK				S	**Sn**	**11 47 54.1**	**-0.2**
JTKR	**Abashiri--Toko**	**1.35**	**284**	P	**Pn**	**11 47 41.0**	**+0.1**
JTKR				*e*S	**Sn**	**11 48 00.0**	**-0.7**
JAR	**Ashorobuto**	**1.47**	**256**	P	**Pn**	**11 47 42.9**	**+0.7**
JAR				*e*S	**Sn**	**11 48 03.6**	**+0.6**
JOB	**Onbets**	**1.57**	**242**	P	**Pn**	**11 47 44.0**	**+0.6**
JOB				*e*S	**Sn**	**11 48 05.0**	**-0.2**
JMP	**Maruseppu**	**1.74**	**282**	P	**Pn**	**11 47 45.6**	**+0.2**
JCH	**Churui**	**2.02**	**240**	P	**Pn**	**11 47 49.0**	**+0.3**
JCH				*e*S	**Sn**	**11 48 13.6**	**-1.1**
JKK2	**Kamakawa 2**	**2.17**	**277**	P	**Pn**	**11 47 50.9**	**+0.4**
ASAJ	**Asahikawa**	**2.31**	**282**	Pn	**Pn**	**11 47 53.1**	**+0.9**
	10nm,0.3s,baz=99,slow=12,SNR=60						
ILAR	**Eielson Array**	**42.17**	**36**	P	**P**	**11 54 55.0**	**+0.1**
	0.5nm,0.8s,mb3.3,baz=252,slow=5.5,SNR=8.2						
YKA	**Yellowknife Ar**	**56.45**	**33**	P	**P**	**11 56 43.3**	**0.0**
	0.2nm,0.6s,mb3.4,baz=296,slow=6.4,SNR=4.8						
FINES	**FINESS Array B**	**64.48**	**332**	P	**P**	**11 57 36.5**	**-1.4**
	1.2nm,0.6s,mb3.9,baz=46,slow=8.2,SNR=9.8						

IDC 23 11:50:05.5±1.2,1295N×14562E,h0km,mb3.2/4, mb1 3.6/4,mb1mx3.4/18,mbtmp3.2/4,Error ellipse: s-maj=30.2km s-min=19.4km az=64.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.97**	**311**	Pn	Pn	11 50 26.6	+0.3
	36nm,0.3s,baz=159,slow=6.6,SNR=21						
GUMO				Sn	Sn	11 50 41.3	+0.6
	76nm,0.3s,baz=22,slow=22,SNR=15						
WRA	**Warramunga Arr**	**34.51**	**199**	P	P	11 56 54.6	-0.7
	0.3nm,0.7s,baz=20,slow=9.8,SNR=5.4						
ASAR	**Alice Springs**	**38.15**	**198**	P	P	11 57 27.7	+1.4
	0.2nm,0.7s,baz=18,slow=13,SNR=2.6						
ILAR	**Eielson Array**	**68.84**	**25**	P	P	12 01 11.3	-0.3
	0.2nm,0.7s,baz=265,slow=5.6,SNR=4.0						
YKA	**Yellowknife Ar**	**83.09**	**27**	P	P	12 02 32.9	-0.1
	0.1nm,0.3s,baz=286,slow=5.0,SNR=3.5						

ISCJB ***23*** *12:09:08.9±0.6,3032S±004×1779W±01,h100km, mb4.5/11,Error ellipse: s-maj=13.4km s-min=4.1km az=39.2*
IDC ***23*** *12:09:12.2±0.6,2952S×178.11W,h101km±6km,mb4.1/7, mb1 4.3/8,mb1mx4.1/15,mbtmp4.5/8,MS3.5/2,Ms1 3.5/2, ms1mx2.9/32, Error ellipse: s-maj=26.1km s-min=17.4km az=168.0*
NEIC ***23*** *12:09:13.2±1.1,2927S×17825W,h99km±10km,mb4.9/7, Error ellipse: s-maj=20.4km s-min=14.3km az=177.0*
ISC 23 12:09:11.0±0.6,3037S±004×1779W±01,h100km,n59, σ1§35/70,mb4.5/11,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.12**	**0**	P	**Pn**	**12 09 27.6**	**-5.1**
	2μm,0.3s,baz=100,slow=9.4,SNR=84						
RAO				S	**Sn**	**12 09 39.9**	**-9.2**
	17μm,0.3s,baz=73,slow=21,SNR=56						
RAO	**Raoul Island**	**1.12**	**0**	*e*Pn	**Pn**	**12 09 27.6**	**-5.1**
RAO				*e*Sn	**Sn**	**12 09 39.2**	**-10**
RAO				S	**Sn**	**12 09 39.9**	**-9.2**
PUZ	**Puketiti**	**8.30**	**201**	*e*PN	**Pn**	**12 11 08.1**	**-0.5**
PUZ				SN	**Sn**	**12 12 43.9**	**+3.2**
MWZ	**Matawai**	**8.79**	**204**	*e*PN	**Pn**	**12 11 16.2**	**+1.0**
MWZ				SN	**Sn**	**12 12 58.9**	**+6.5**
URZ	**Urewera**	**8.87**	**206**	P	**Pn**	**12 11 17.6**	**+1.3**
	1.2nm,0.3s,baz=0.0,slow=20,SNR=27						
URZ				S	**Sn**	**12 12 52.6**	**-1.9**
	5.7nm,0.3s,baz=292,slow=7.3,SNR=4.2						
URZ	**Urewera**	**8.87**	**206**	*e*PN	**Pn**	**12 11 15.7**	**-0.6**
URZ				SN	**Sn**	**12 12 59.2**	**+4.8**
KNZ	**Kokohu**	**9.36**	**202**	SN	**Sn**	**12 13 12.9**	**+6.7**
BKZ	**Black Stump Fm**	**9.90**	**206**	*e*PN	**Pn**	**12 11 29.5**	**-0.8**
BKZ				SN	**Sn**	**12 13 22.9**	**+3.5**
PXZ	**Pawanui**	**10.54**	**202**	*e*PN	**Pn**	**12 11 38.9**	**0.0**
PXZ				SN	**Sn**	**12 13 37.4**	**+2.5**
BFZ	**Birch Farm**	**11.32**	**203**	SN	**Sn**	**12 13 56.4**	**+2.3**
MRZ	**Mangatainoka R**	**11.54**	**205**	*e*PN	**Pn**	**12 11 50.5**	**-2.1**
MRZ				SN	**Sn**	**12 13 58.1**	**-1.4**
KIW	**Kapiti Island**	**11.97**	**207**	*e*PN	**Pn**	**12 11 57.0**	**-1.3**
KIW				SN	**Sn**	**12 14 12.0**	**+2.1**
MTW	**Mount Morrison**	**12.01**	**205**	SN	**Sn**	**12 14 10.9**	**+0.2**
CAW	**Cannon Point**	**12.12**	**206**	*e*PN	**Pn**	**12 11 56.8**	**-3.4**
CAW				SN	**Sn**	**12 14 13.0**	**-0.5**
PAWZ	**Paruwai Farm**	**12.23**	**204**	SN	**Sn**	**12 14 17.0**	**+0.8**
MSWZ	**Moikau Station**	**12.32**	**205**	SN	**Sn**	**12 14 17.1**	**-1.3**
DUWZ	**D'Urville Isla**	**12.34**	**210**	SN	**Sn**	**12 14 20.6**	**+1.9**
MRW	**Makara Radio**	**12.37**	**207**	SN	**Sn**	**12 14 20.4**	**+0.9**
TCW	**Tory Channel**	**12.53**	**208**	SN	**Sn**	**12 14 22.5**	**-0.8**
TUWZ	**Tuamarina**	**12.85**	**209**	SN	**Sn**	**12 14 29.4**	**-1.6**
NNZ	**Nelson**	**12.91**	**211**	*e*PN	**Pn**	**12 12 12.3**	**+1.6**
NNZ				SN	**Sn**	**12 14 31.7**	**-0.8**
QRZ	**Quartz Range**	**12.99**	**214**	SN	**Sn**	**12 14 34.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**13.11**	**208**	SN	**Sn**	**12 14 36.5**	**-0.9**
THZ	**Tophouse**	**13.56**	**211**	*e*PN	**Pn**	**12 12 17.5**	**-1.7**
THZ				SN	**Sn**	**12 14 48.2**	**-0.2**
KHZ	**Kahutara**	**13.84**	**207**	*e*PN	**Pn**	**12 12 21.7**	**-1.0**
KHZ				SN	**Sn**	**12 14 50.4**	**-4.6**
DSZ	**Denniston Nort**	**14.05**	**213**	*e*PN	**Pn**	**12 12 23.9**	**-1.7**
DSZ				SN	**Sn**	**12 14 58.4**	**-1.8**
LTZ	**Lake Taylor**	**14.66**	**210**	SN	**Sn**	**12 15 09.3**	**-5.7**
MQZ	**McQueen's Vall**	**15.27**	**207**	SN	**Sn**	**12 15 22.1**	**-7.6**
WVZ	**Waitaha Valley**	**15.58**	**212**	*e*PN	**Pn**	**12 12 47.0**	**+2.0**
WVZ				SN	**Sn**	**12 15 31.4**	**-5.8**
RPZ	**Rata Peaks**	**15.94**	**210**	P	**Pn**	**12 12 54.3**	**+4.8**
	5.5nm,0.3s,baz=344,slow=1.1,SNR=24						
RPZ				S	**S**	**12 15 38.1**	**-15**
	1.9nm,0.3s,baz=346,slow=22,SNR=9.1						
RPZ	**Rata Peaks**	**15.94**	**210**	SN	**Sn**	**12 15 40.6**	**-5.2**
DZM	**Mont Dzumac**	**16.27**	**297**	P	**Pn**	**12 12 55.6**	**+2.1**
	0.6nm,0.3s,baz=120,slow=18,SNR=7.6						
ODZ	**Otahua Downs**	**17.19**	**208**	SN	**Sn**	**12 16 10.2**	**-5.6**
AFI	**Afiamalu**	**17.34**	**20**	P	**Pn**	**12 12 53.3**	**-13**
	1.5nm,0.3s,baz=141,slow=19,SNR=2.8						
AFI				S	S	12 15 44.5	-36
	1.5nm,0.3s,baz=254,slow=23,SNR=2.4						
RAR	**Rarotonga**	**18.70**	**65**	P	**P**	**12 13 21.7**	**+0.3**
	2.6nm,0.3s,baz=283,slow=11,SNR=11						
RAR				S	S	12 16 27.5	-22
	0.7nm,0.3s,baz=221,slow=5.7,SNR=2.8						
CTA	**Charters Tower**	**33.86**	**279**	*eP*	**P**	**12 15 44.7**	**+0.8**
	9.9nm,0.4s,mb5.0						
CTA	**Charters Tower**	**33.86**	**279**	P	**P**	**12 15 44.2**	**+0.3**
	13nm,0.4s,mb5.1,baz=113,slow=11,SNR=18						
CTAO	**Charters Tower**	**33.86**	**279**	*eP*	**P**	**12 15 44.6**	**+0.7**
	12nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**34.55**	**257**	*eP*	**P**	**12 15 50.4**	**+0.6**
	3.4nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**34.55**	**257**	P	**P**	**12 15 50.5**	**+0.7**
	4.4nm,0.5s,mb4.6,baz=101,slow=11,SNR=23						
ASAR	**Alice Springs**	**43.17**	**267**	P	**P**	**12 17 02.0**	**+0.2**
	3.6nm,0.4s,mb4.5,baz=100,slow=6.8,SNR=74						
WB2	**Warramunga Arr**	**44.15**	**272**	*eP*	**P**	**12 17 09.3**	**-0.3**
WRAB	**Tennant Creek**	**44.16**	**272**	*eP*	**P**	**12 17 08.9**	**-0.7**
	7.8nm,0.4s,mb4.8						
WRA	**Warramunga Arr**	**44.16**	**272**	P	**P**	**12 17 09.5**	**-0.2**
	5.8nm,0.4s,mb4.6,baz=110,slow=7.9,SNR=137						
SBA	**Scott Base**	**48.07**	**184**	*eP*	**P**	**12 17 49.4**	**+9.0**
	3.6nm,0.5s,mb4.5						
VNDA	**Vanda**	**48.13**	**186**	P	**P**	**12 17 48.7**	**+7.9**
	0.9nm,0.6s,mb3.8,baz=4.0,slow=8.5,SNR=10						
FITZ	**Fitzroy Crossi**	**52.42**	**270**	P	**P**	**12 18 13.8**	**+0.6**
	2.5nm,0.8s,mb4.3,baz=121,slow=22,SNR=4.7						
GUMO	**Guam**	**56.51**	**315**	LR	LR	12 38 48.0	
	comp=Z,71nm,19.1s,baz=114,slow=32						
QSPA	**South Pole Qui**	**59.74**	**180**	*eP*	**P**	**12 19 16.4**	**+11**
	12nm,0.7s,mb5.0						
VNA3	**Neumayer Olymp**	**78.33**	**176**	*e*	**P**	**12 21 09.3**	**+9.1**
VNA2	**Neumayer--Watz**	**78.76**	**177**	*e*	**P**	**12 21 12.2**	**+10**
	baz=194,slow=4.1						
NVAR	**Mina Array Bea**	**88.17**	**43**	P	**P**	**12 21 49.5**	**-1.2**
	0.6nm,0.7s,mb3.7,baz=219,slow=6.8,SNR=4.4						
CFAA	**Coronel Fontan**	**89.20**	**127**	LR	LR	12 55 47.8	
	comp=Z,16nm,21.8s,baz=253,slow=31						
SRU	**San Rafael**	**93.31**	**46**	*eP*	**P**	**12 22 16.0**	**+1.4**
	4.2nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**145.14**	**340**	PKP	PKPdf	12 28 33.3	-3.4
	2.4nm,0.5s,baz=68,slow=3.7,SNR=24						
NB2	**NORSAR Subarra**	**148.73**	**351**	PKPa	PKPdf	12 28 43.7	+1.0
	comp=Z,1.2nm,0.5s,baz=12,slow=2.9						
NOA	**NORSAR Array B**	**148.73**	**351**	PKPbc	PKPbc	12 28 44.2	-2.4
	comp=Z,1.7nm,0.6s,baz=12,slow=4.3,SNR=6.2						
AKASG	**Malin Array Be**	**151.32**	**323**	PKPbc	PKPbc	12 28 50.8	-2.1
	comp=Z,0.6nm,0.4s,baz=48,slow=2.9,SNR=6.9						
AKASG				PKPab	PKPab	12 28 59.1	-2.1
	comp=Z,0.3nm,0.3s,baz=52,slow=3.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**162.85**	**179**	PKPab	PKPab	12 29 55.0	+4.0
	comp=Z,0.9nm,0.5s,baz=171,slow=4.3,SNR=10.0						

ISCJB ***23*** *12:12:44.3±0.7,1095N±004×6250W±003,h111km±7km, Error ellipse: s-maj=6.9km s-min=4.3km az=137.8*
FUNV ***23*** *12:12:44.6,1107N×6234W,h101km,MW3.6*
NEIC ***23*** *12:12:46.4,1107N×6226W,h131km,MD3.1(TRN),After TRN.*
TRN ***23*** *12:12:47.6,11.13N×6228W,h111km,MD3.1*
ISC 23 12:12:45.2±0.7,1096N±004×6250W±003,h107km±7km, n22,σ1§16/38,1C-4D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.41**	**139**	⇑*eP*	**Pn**	**12 13 00.8**	**-0.3**
GUIV				*e*S	**Sn**	**12 13 12.1**	**-0.9**
ITEV	**Isla Los Testi**	**0.74**	**302**	⇓*iP*	**Pn**	**12 13 02.0**	**-1.6**
ITEV				*e*S	**Sn**	**12 13 15.3**	**-2.1**
CRUV	**Carupano**	**0.78**	**249**	⇓*iP*	**Pn**	**12 13 04.3**	**+0.4**
CRUV				*e*S	**Sn**	**12 13 18.6**	**+0.5**
GUNV	**Guanoco**	**0.90**	**209**	⇓*iP*	**Pn**	**12 13 06.2**	**+1.0**
GUNV				*e*S	**Sn**	**12 13 21.1**	**+0.9**
TRN	**Trinidad (W)**	**1.12**	**106**	*eP*	**Pn**	**12 13 07.9**	**+0.5**
TRN				*e*S	**Sn**	**12 13 23.4**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.21**	**122**	*eP*	**Pn**	**12 13 11.4**	**+3.0**
TPP				*e*S	**Sn**	**12 13 28.3**	**+2.4**
GRW	**Mount Saint Ca**	**1.45**	**34**	*eP*	**Pn**	**12 13 11.1**	**-0.1**
GRW				*e*S	**Sn**	**12 13 31.7**	**+0.8**
TBH	**Brigand Hill**	**1.48**	**108**	*eP*	**Pn**	**12 13 12.2**	**+0.6**
TBH				*e*S	**Sn**	**12 13 33.7**	**+2.1**
GRHS	**Sauteurs**	**1.51**	**34**	*e*S	**Sn**	**12 13 24.1**	**-8.1**
GRSS	**Sisters**	**1.59**	**33**	*e*S	**Sn**	**12 13 34.1**	**+0.2**
GRIC	**Isle de Caille**	**1.59**	**34**	*e*S	**Sn**	**12 13 34.9**	**+0.8**
TPR	**Prospect**	**1.70**	**82**	*eP*	**Pn**	**12 13 14.2**	**-0.1**
TPR				*e*S	**Sn**	**12 13 33.9**	**-2.6**
BOT	**Bacolet**	**1.76**	**83**	*eP*	**Pn**	**12 13 14.8**	**-0.2**
BOT				*e*S	**Sn**	**12 13 35.5**	**-2.1**
GRCU	**Cariacou**	**1.82**	**34**	*eP*	**Pn**	**12 13 15.8**	**0.0**
PCRV	**Puerto La Cruz**	**2.24**	**250**	*eP*	**Pn**	**12 13 22.3**	**+1.1**
PCRV				*e*S	**Sn**	**12 13 49.2**	**+0.5**
GURV	**El Guri**	**3.23**	**190**	*eP*	**Pn**	**12 13 34.2**	**0.0**
GURV				*e*S	**Sn**	**12 14 10.6**	**-1.4**
CUPV	**Cœpira**	**3.36**	**255**	*eP*	**Pn**	**12 13 37.1**	**+1.2**
CUPV				*e*S	**Sn**	**12 14 15.4**	**+0.3**
BIRV	**Birongo**	**3.74**	**263**	*eP*	**Pn**	**12 13 42.4**	**+1.4**
MERV	**Las Mercedes**	**4.11**	**246**	*eP*	**Pn**	**12 13 46.4**	**+0.4**
MERV				*e*S	**Sn**	**12 14 32.7**	**-0.3**
LUEV	**Luepa**	**5.18**	**169**	*eP*	**Pn**	**12 13 59.1**	**-1.3**
LUEV				*e*S	**Sn**	**12 14 54.6**	**-4.4**
CAOV	**Caicara del Or**	**5.22**	**227**	*eP*	**Pn**	**12 14 00.4**	**-0.6**
BAUV	**El Baul**	**5.82**	**250**	⇓*iP*	**Pn**	**12 14 08.5**	**-0.6**
BAUV				*e*S	**Sn**	**12 15 11.8**	**-2.6**

ISCJB ***23*** *12:17:09.8±3.8,59S±02×1512

ellipse: s-maj=25.4km s-min=10.0km az=117.4
*BJI **23** 12:25:15.9, 4203N×8766E, h50km, ML3.9*
*ISCJB **23** 12:25:16.9±1.5, 4215N±008×8750E±007, h56km±13km, mb3.9/12, Error ellipse: s-maj=14.2km s-min=8.4km az=9.8*
*NEIC **23** 12:25:17.2±1.9, 4212N×8749E, h44km±15km, mb3.6/3, Error ellipse: s-maj=22.2km s-min=11.1km az=202.0*
*NNC **23** 12:25:18.6±2.4, 4247N×8748E, h21km±10km, mb3.6, mpv3.5, Error ellipse: s-maj=16.9km s-min=11.5km az=76.0*

ISC 23 12:25:19.0±1.3, 4221N±008×8758E±007, h60km±11km, n36, σ1°02/41, mb3.9/12, 10C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.62**	**3**	*i* P	**Pn**	**12 25 44.8**	**-0.4**
WMQ				S	**Sn**	**12 26 06.0**	**+1.0**
WMQ				Smax			
	comp=N,1μm,0.4s						
WMQ				Smax			
	comp=E,2μm,0.3s						
MK31	**Makanchi Array**	**5.94**	**322**	⇑Pn	**Pn**	**12 26 44.2**	**-0.1**
	comp=E,3.6nm,0.4s,baz=143,slow=14,SNR=138						
MK31				⇑Sn	**Sn**	**12 27 51.4**	**+0.3**
	comp=E,5.7nm,0.5s						
MK31				⇓Lg		12 28 18.9	
	comp=E,5.6nm,0.5s,baz=134,slow=27,SNR=4.3						
MKAR	**Makanchi Array**	**5.94**	**322**	Pn	**Pn**	**12 26 43.8**	**-0.5**
	comp=E,2.2nm,0.3s,baz=138,slow=14,SNR=73						
MKAR				Sn	**Sn**	**12 27 51.9**	**+0.8**
	comp=E,2.3nm,0.3s,baz=143,slow=23,SNR=4.5						
MKAR				Lg		12 28 22.7	
	comp=E,3.5nm,0.3s,baz=133,slow=30,SNR=3.7						
MKAR	**Makanchi Array**	**5.94**	**322**	P	**Pn**	**12 26 43.8**	**-0.6**
MKAR						12 27 51.9	
TKM2	**Tokmak 2**	**8.87**	**279**	⇑Pn	**Pn**	**12 27 25.2**	**+0.7**
	comp=E,1.2nm,0.9s						
TKM2				⇑Sn	**Sn**	**12 29 03.1**	**+0.2**
	comp=E,1.6nm,0.8s						
TKM2				⇑Lg		12 29 56.8	
	comp=E,0.7nm,0.6s						
KURK	**Kurchatov**	**10.51**	**327**	⇓Pn	**Pn**	**12 27 44.1**	**-2.7**
	comp=E,5.0nm,1.9s						
KURK				⇓Sn	**Sn**	**12 29 39.8**	**-3.2**
	comp=E,1.2nm,0.5s						
KURK				⇑Lg		12 30 47.6	
	comp=E,7.6nm,0.9s						
KURK	**Kurchatov**	**10.51**	**327**	*e*Pn	**Pn**	**12 27 44.2**	**-2.6**
	comp=E,1.6nm,0.6s						
KURK	**Kurchatov**	**10.51**	**327**	*e*P	**Pn**	**12 27 44.2**	**-2.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**14.44**	**61**	Pn	**Pn**	**12 28 41.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=248,slow=12,SNR=3.1						
SONM				Lg		12 32 48.2	
	comp=Z,0.1nm,0.3s,baz=251,slow=31,SNR=5.5						
VOSK	**Vostochnaya**	**15.35**	**319**	⇓P	**Pn**	**12 28 53.2**	**+1.4**
	comp=Z,2.5nm,0.9s						
BVAR	**Borovoye Array**	**15.81**	**319**	Pn	**Pn**	**12 28 57.2**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=125,slow=13,SNR=8.5						
CHKZ	**Chkalovo**	**16.10**	**321**	⇑P	**Pn**	**12 28 59.9**	**-1.5**
	comp=Z,1.9nm,0.7s						
CHKZ	**Chkalovo**	**16.10**	**321**	*e*P	**Pn**	**12 28 59.8**	**-1.6**
	comp=Z,2.2nm,0.6s						
CHKZ	**Chkalovo**	**16.10**	**321**	*e*P	**Pn**	**12 28 59.8**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	**Zerenda**	**16.46**	**317**	⇑P	**Pn**	**12 29 04.0**	**-1.9**
	comp=Z,4.3nm,1.5s						
ZRNK	**Zerenda**	**16.46**	**317**	*e*P	**Pn**	**12 29 04.0**	**-1.9**
	comp=Z,2.2nm,0.6s						
ZRNK	**Zerenda**	**16.46**	**317**	*e*P	**Pn**	**12 29 04.0**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AB31	**Akbulak array**	**20.46**	**300**	⇑P	**P**	**12 29 51.1**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=93,slow=10.0,SNR=5.5						
AKTK	**Aktyubinsk**	**21.90**	**302**	P	**P**	**12 30 08.5**	**+1.5**
AKTO	**Aktyubinsk**	**21.90**	**302**	⇑P	**P**	**12 30 08.5**	**+1.5**
	comp=Z,1.0nm,2.2s,mb2.9						
AKTO	**Aktyubinsk**	**21.90**	**302**	P	**P**	**12 30 08.5**	**+1.5**
	comp=Z,1.7nm,0.6s,mb3.7,baz=98,slow=11,SNR=6.3						
AKTO	**Aktyubinsk**	**21.90**	**302**	P	**P**	**12 30 08.5**	**+1.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
NJ2	**Nanjing**	**26.79**	**102**	*e*P	**P**	**12 30 52.5**	**-0.7**
FINES	**FINESS Array B**	**40.77**	**320**	P	**P**	**12 32 54.3**	**+0.1**
	comp=Z,6.0nm,0.9s,mb4.2,baz=90,slow=9.7,SNR=13						
ARCES	**ARCESS Array B**	**41.50**	**332**	P	**P**	**12 33 00.7**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.0,baz=92,slow=8.1,SNR=15						
NB2	**NORSAR Subarra**	**47.94**	**320**	P	**P**	**12 33 51.3**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=75,slow=7.9						
NB2	**NORSAR Subarra**	**47.94**	**320**	P	**P**	**12 33 51.3**	**-0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**47.94**	**320**	P	**P**	**12 33 51.6**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.2,baz=76,slow=7.7,SNR=6.3						
ILAR	**Eielson Array**	**65.19**	**23**	P	**P**	**12 35 53.5**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.7,baz=312,slow=4.3,SNR=6.9						
INK	**Inuvik**	**65.60**	**16**	P	**P**	**12 35 56.6**	**+0.1**
	comp=Z,0.6nm,1.0s,mb3.6,baz=333,slow=6.8						
KDAK	**Kodiak Island**	**68.46**	**30**	P	**P**	**12 36 14.7**	**0.0**
	comp=Z,9.6nm,1.0s,mb4.8,baz=0.0,slow=2.0,SNR=3.1						
YKA	**Yellowknife Ar**	**74.14**	**11**	P	**P**	**12 36 49.0**	**+0.1**
	comp=Z,0.1nm,0.3s,mb3.2,baz=336,slow=5.4,SNR=3.2						
WRA	**Warramunga Arr**	**75.41**	**135**	P	**P**	**12 36 56.7**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=334,slow=5.4,SNR=14						
ASAR	**Alice Springs**	**78.27**	**137**	P	**P**	**12 37 12.9**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=336,slow=6.2,SNR=6.1						
TORD	**Torodi Ar. Bea**	**78.27**	**277**	P	**P**	**12 37 12.8**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=44,slow=4.7,SNR=4.2						
STKA	**Stephens Creek**	**88.87**	**136**	P	**P**	**12 38 04.6**	**-2.0**
	comp=Z,1.4nm,0.9s,mb4.3,baz=319,slow=9.3,SNR=4.3						

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*NEIC **23** 12:27:13.3, 3805S×17830E, h25km, ML4.3(WEL), After WEL.*

WEL 23 12:27:13.5±0.3, 3805S×17830E, h23km±1km, ML4.3/23, 2C-2D, Error ellipse: s-maj=3.9km s-min=1.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.04**	**230**	⇑P*	Pb	12 27 17.1	-0.3
PUZ				S*	Sb	12 27 19.9	-0.3
PUZ	**Puketiti**	**0.04**	**230**	P	Pb	12 27 17.2	-0.3
PUZ				S	Sb	12 27 20.3	+0.1
MXZ	**Matakaoa Point**	**0.48**	**1**	⇑P*	Pb	12 27 23.2	0.0
MXZ				S*	Sb	12 27 31.0	+1.0
MXZ	**Matakaoa Point**	**0.48**	**1**	P	Pb	12 27 23.3	0.0
MWZ	**Matawai**	**0.67**	**244**	⇓P*	Pb	12 27 26.5	0.0
MWZ				S*	Sb	12 27 35.5	+0.1
MWZ	**Matawai**	**0.67**	**244**	P	Pb	12 27 26.5	0.0
MWZ				S	Sb	12 27 36.0	+0.6
URZ	**Urewera**	**0.96**	**257**	⇓PN	Pn	12 27 31.1	-0.4
URZ	**Urewera**	**0.96**	**257**	P	Pb	12 27 31.1	-0.3
WIZ	**White Island**	**1.02**	**300**	PN	Pn	12 27 31.5	-0.8
KNZ	**Kokohu**	**1.09**	**206**	PN	Pn	12 27 32.3	-1.0
KNZ	**Kokohu**	**1.09**	**206**	P	Pn	12 27 32.4	-0.9
MARZ	**Manawahe**	**1.28**	**272**	PN	Pn	12 27 35.5	-0.4
MARZ	**Manawahe**	**1.28**	**272**	P	Pn	12 27 34.7	-1.3
TAZ	**Tarawera**	**1.42**	**262**	PN	Pn	12 27 37.9	0.0
TGRZ	**Tauranga**	**1.64**	**280**	PN	Pn	12 27 39.9	-0.9
TGRZ	**Tauranga**	**1.64**	**280**	P	Pn	12 27 39.1	-1.8
BKZ	**Black Stump Fm**	**1.80**	**231**	PN	Pn	12 27 42.8	-0.3
BKZ	**Black Stump Fm**	**1.80**	**231**	P	Pn	12 27 43.1	0.0
PXZ	**Pawanui**	**2.28**	**209**	PN	Pn	12 27 47.2	-2.5
WTVZ	**West Tongariro**	**2.38**	**242**	P	Pn	12 27 45.1	-5.9
NGZ	**Ngauruhoe**	**2.40**	**241**	PN	Pn	12 27 51.3	0.0
NGZ	**Ngauruhoe**	**2.40**	**241**	P	Pn	12 27 50.6	-0.7
MOVZ	**Moawhango**	**2.41**	**235**	PN	Pn	12 27 51.1	-0.4
MOVZ	**Moawhango**	**2.41**	**235**	P	Pn	12 27 50.3	-1.2
KUZ	**Kuaotunu**	**2.43**	**301**	PN	Pn	12 27 49.7	-2.0
KUZ	**Kuaotunu**	**2.43**	**301**	P	Pn	12 27 49.5	-2.2
WPVZ	**Whakapapa**	**2.45**	**241**	PN	Pn	12 27 51.9	-0.1
WPVZ	**Whakapapa**	**2.45**	**241**	*e*P	Pn	12 27 51.4	-0.6
FWVZ	**Far West T-bar**	**2.47**	**240**	SN	Sn	12 28 20.7	-0.9
FWVZ	**Far West T-bar**	**2.47**	**240**	P	Pn	12 27 53.4	+1.2
WNVZ	**Wahianoa**	**2.47**	**238**	PN	Pn	12 27 52.0	-0.3
WNVZ	**Wahianoa**	**2.47**	**238**	P	Pn	12 27 51.4	-0.9
MTVZ	**Mangateitei**	**2.58**	**238**	PN	Pn	12 27 53.6	-0.3
TSZ	**Takapari Road**	**2.71**	**221**	PN	Pn	12 27 53.5	-2.1
TSZ	**Takapari Road**	**2.71**	**221**	*e*P	Pn	12 27 53.9	-1.7
HIZ	**Hauiti**	**2.75**	**259**	PN	Pn	12 27 56.3	+0.2
HIZ	**Hauiti**	**2.75**	**259**	*e*P	Pn	12 27 56.4	+0.3
OTAZ	**Otara**	**2.90**	**291**	PN	Pn	12 27 57.8	-0.3
OTAZ	**Otara**	**2.90**	**291**	P	Pn	12 27 58.2	+0.1
MTAZ	**Motutapu**	**2.98**	**294**	PN	Pn	12 27 58.8	-0.4
MTAZ	**Motutapu**	**2.98**	**294**	P	Pn	12 27 59.1	-0.1
VRZ	**Vera Road**	**2.98**	**248**	PN	Pn	12 27 59.9	+0.6
VRZ	**Vera Road**	**2.98**	**248**	*e*P	Pn	12 27 59.4	+0.2
BFZ	**Birch Farm**	**3.08**	**210**	PN	Pn	12 27 57.6	-3.0
BFZ				SN	Sn	12 28 33.9	-2.8
BFZ	**Birch Farm**	**3.08**	**210**	*e*P	Pn	12 27 57.7	-2.9
WAZ	**Wanganui**	**3.10**	**236**	PN	Pn	12 28 01.1	+0.2
WAZ	**Wanganui**	**3.10**	**236**	*e*P	Pn	12 28 01.4	+0.5
KAAZ	**Kauri Point**	**3.11**	**292**	PN	Pn	12 28 01.3	+0.2
KAAZ	**Kauri Point**	**3.11**	**292**	P	Pn	12 28 01.6	+0.5
WTAZ	**Waiatarua**	**3.16**	**289**	PN	Pn	12 28 02.0	+0.2
WTAZ	**Waiatarua**	**3.16**	**289**	P	Pn	12 28 02.3	+0.5
RAEZ	**Rainy Point**	**3.30**	**247**	PN	Pn	12 28 04.6	+1.0
RAEZ	**Rainy Point**	**3.30**	**247**	P	Pn	12 28 04.7	+1.0
MRZ	**Mangatainoka R**	**3.36**	**218**	*e*PN	Pn	12 28 01.6	-2.9
MRZ	**Mangatainoka R**	**3.36**	**218**	*e*P	Pn	12 28 02.0	-2.5
NEZ	**North Egmont**	**3.51**	**248**	*e*PN	Pn	12 28 07.8	+1.2
NEZ	**North Egmont**	**3.51**	**248**	P	Pn	12 28 08.2	+1.6
PKE	**Pukeiti**	**3.57**	**250**	*e*PN	Pn	12 28 09.1	+1.7
PKE	**Pukeiti**	**3.57**	**250**	P	Pn	12 28 09.3	+2.0
NRZ	**Ngariki Road**	**3.65**	**248**	*e*PN	Pn	12 28 09.8	+1.3
NRZ	**Ngariki Road**	**3.65**	**248**	P	Pn	12 28 09.6	+1.1
MTW	**Mount Morrison**	**3.79**	**214**	*e*PN	Pn	12 28 06.8	-3.6
MTW	**Mount Morrison**	**3.79**	**214**	P	Pn	12 28 05.9	-4.5
WCZ	**Waipu Caves**	**3.80**	**302**	PN	Pn	12 28 10.2	-0.4
WCZ	**Waipu Caves**	**3.80**	**302**	*e*P	Pn	12 28 10.4	-0.1
TRWZ	**Traveller**	**3.91**	**210**	*e*PN	Pn	12 28 08.0	-4.1
CAW	**Cannon Point**	**3.95**	**218**	*e*PN	Pn	12 28 08.9	-3.7
CAW	**Cannon Point**	**3.95**	**218**	P	Pn	12 28 08.1	-4.5
PAWZ	**Paruwai Farm**	**4.00**	**213**	*e*PN	Pn	12 28 09.2	-4.1
PAWZ	**Paruwai Farm**	**4.00**	**213**	P	Pn	12 28 08.6	-4.7
MSWZ	**Moikau Station**	**4.11**	**214**	SN	Sn	12 28 56.8	-5.2
DUWZ	**D'Urville Isla**	**4.37**	**230**	SN	Sn	12 29 06.0	-2.5
TCW	**Tory Channel**	**4.43**	**223**	SN	Sn	12 29 05.9	-4.3
NNZ	**Nelson**	**4.95**	**229**	SN	Sn	12 29 18.9	-3.9
QRZ	**Quartz Range**	**5.26**	**236**	SN	Sn	12 29 25.5	-5.0
THZ	**Tophouse**	**5.57**	**226**	SN	Sn	12 29 33.4	-4.7
KHZ	**Kahutara**	**5.69**	**218**	PN	Pn	12 28 33.5	-3.0
KHZ				SN	Sn	12 29 33.4	-7.6
DSZ	**Denniston Nort**	**6.21**	**231**	*e*PN	Pn	12 28 38.8	-5.0
DSZ				SN	Sn	12 29 47.8	-6.2
LTZ	**Lake Taylor**	**6.60**	**222**	*e*PN	Pn	12 28 45.1	-3.9
LTZ				SN	Sn	12 29 54.6	-8.9
CRLZ	**Canterbury Las**	**7.00**	**216**	SN	Sn	12 30 03.4	-10
MQZ	**McQueen's Vall**	**7.09**	**215**	*e*PN	Pn	12 28 51.5	-4.3
MQZ				SN	Sn	12 30 04.4	-11
WVZ	**Waitaha Valley**	**7.64**	**226**	SN	Sn	12 30 18.8	-10
RPZ	**Rata Peaks**	**7.88**	**222**	SN	Sn	12 30 24.5	-11
FOZ	**Fox Glacier**	**8.54**	**227**	SN	Sn	12 30 37.6	-14

IDC 23 12:31:01.2±8.2, 570S×15057E, h104km±56km, mb3.1/2, mb1 3.3/3, mb1mx3.0/13, mbtmp3.5/3, Error ellipse: s-maj=121.0km s-min=55.1km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.99**	**222**	P	Pn	12 32 13.8	0.0
	1.7nm,0.3s,baz=41,slow=7.8,SNR=8.0						
PMG				S	Sn	12 33 11.3	+1.0
	3.6nm,0.3s,baz=105,slow=16,SNR=9.9						
WRA	**Warramunga Arr**	**21.20**	**227**	P	P	12 35 38.2	0.0
	1.1nm,0.7s,baz=52,slow=10,SNR=10.0						
ASAR	**Alice Springs**	**24.01**	**220**	P	P	12 36 06.5	+0.4
	0.9nm,0.6s,baz=56,slow=9.1,SNR=13						
TORD	**Torodi Ar. Bea**	**148.44**	**286**	PKPbc	PKPbc	12 50 36.2	+0.7
	0.7nm,0.6s,baz=85,slow=2.5,SNR=5.7						

WEL 23 12:45:29.9±0.3, 4511S×16742E, h114km±2km, ML3.5/9, 3C, Error ellipse: s-maj=2.3km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**206**	PN	Pn	12 45 46.2	-0.4
DCZ				SN	Sn	12 45 58.3	-0.9
MSZ	**Milford Sound**	**0.57**	**40**	PN	Pn	12 45 47.7	+0.1
MSZ				SN	Sn	12 46 00.7	-0.2
MLZ	**Mavora Lakes**	**0.59**	**114**	⇑PN	Pn	12 45 47.6	-0.2
MLZ				SN	Sn	12 46 00.8	-0.4
WHZ	**Wether Hill Ro**	**0.87**	**155**	PN	Pn	12 45 50.1	0.0
WHZ				SN	Sn	12 46 04.8	-0.5
WKZ	**Wanaka**	**1.17**	**77**	⇑PN	Pn	12 45 53.2	+0.1
WKZ				SN	Sn	12 46 10.1	-0.7
EAZ	**Earnscleugh**	**1.34**	**96**	⇑PN	Pn	12 45 54.9	-0.2
JCZ	**Jackson Bay**	**1.41**	**43**	*e*PN	Pn	12 45 55.5	-0.4
JCZ				SN	Sn	12 46 14.2	-1.4
TUZ	**Tuapeka**	**1.77**	**119**	PN	Pn	12 45 60.0	-0.2
TUZ				SN	Sn	12 46 20.6	-2.7
LBZ	**Lake Benmore**	**2.10**	**71**	*e*PN	Pn	12 46 02.7	-1.6
LBZ				SN	Sn	12 46 26.7	-3.9
FOZ	**Fox Glacier**	**2.25**	**47**	*e*PN	Pn	12 46 05.6	-0.6
FOZ				SN	Sn	12 46 32.4	-1.6
ODZ	**Otahua Downs**	**2.29**	**90**	*e*PN	Pn	12 46 05.5	-1.2
ODZ				SN	Sn	12 46 31.1	-3.8
RPZ	**Rata Peaks**	**2.96**	**63**	SN	Sn	12 46 45.8	-4.6
WVZ	**Waitaha Valley**	**3.14**	**51**	*e*PN	Pn	12 46 15.8	-2.0
LTZ	**Lake Taylor**	**4.21**	**58**	*e*PN	Pn	12 46 31.5	-0.6
DSZ	**Denniston Nort**	**4.64**	**45**	*e*PN	Pn	12 46 34.9	-2.9
DSZ				SN	Sn	12 47 24.7	-5.9

IDC 23 12:53:18.8±3.8, 538N×9437E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, Error ellipse: s-maj=151.3km s-min=23.8km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.55**	**348**	P	P	13 01 16.1	-0.1
	1.2nm,0.7s,baz=161,slow=8.5,SNR=14						
SONM	**Songino Array**	**43.53**	**12**	P	P	13 01 24.4	+0.3
	0.2nm,0.4s,baz=206,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**46.66**	**124**	P	P	13 01 49.4	+0.4
	0.3nm,0.7s,baz=314,slow=9.4,SNR=8.0						
ASAR	**Alice Springs**	**48.17**	**128**	P	P	13 02 01.1	+0.4
	0.4nm,1.0s,baz=300,slow=7.2,SNR=5.5						

IDC 23 12:53:50.5±1.3, 1786S×6919W, h155km±9km, mb3.4/2, mb1 3.4/4, mb1mx3.2/17, mbtmp3.8/4, Error ellipse: s-maj=27.1km s-min=10.3km az=102.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.86**	**33**	P	Pn	12 54 26.1	+1.8
	17nm,0.3s,baz=228,slow=8.7,SNR=285						
LPAZ				S	Sn	12 54 51.5	+1.2
	2.4nm,0.3s,baz=342,slow=24,SNR=3.8						
LVC	**Limon Verde**	**4.74**	**177**	P	Pn	12 55 02.6	+2.1
	2.0nm,0.3s,baz=8.4,slow=13,SNR=59						
LVC				S	Sn	12 55 55.0	-0.1
	4.5nm,0.3s,baz=133,slow=18,SNR=17						
SIV	**San Ignacio**	**7.99**	**78**	P	Pn	12 55 43.8	+0.2
	1.4nm,0.3s,baz=267,slow=12,SNR=19						
SIV				S	Sn	12 57 13.5	+0.8
	0.4nm,0.3s,baz=326,slow=18,SNR=6.7						
TORD	**Torodi Ar. Bea**	**76.41**	**71**	P	P	13 05 23.6	+0.8
	0.7nm,0.3s,baz=257,slow=5.4,SNR=20						
YKA	**Yellowknife Ar**	**87.68**	**341**	P	P	13 06 20.6	-0.8
	0.2nm,0.5s,baz=133,slow=4.8,SNR=9.9						

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*ISCJB **23** 13:00:58.8±1.9, 373N±0.1×714E±0.1, h132km±16km, mb3.2/3, Error ellipse: s-maj=20.9km s-min=12.1km az=69.8*
*IDC **23** 13:01:01.2±25.0, 3746N×7159E, h133km±148km, mb3.2/3, mb1 3.4/6, mb1mx3.1/22, mbtmp3.7/6, ML3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/14, Error ellipse: s-maj=252.8km s-min=40.7km az=4.0*
*NNC **23** 13:01:02.8±6.3, 3760N×7122E, h171km±64km, mb2.7, mpv3.5, Error ellipse: s-maj=67.2km s-min=33.6km az=29.0*
*MOS **23** 13:01:02.1±1.1, 3760N×7125E, h144km, mb3.7/1, Error ellipse: s-maj=39.9km s-min=14.5km az=99.7*

ISC 23 13:00:59.4±2.1, 373N±01×714E±01, h131km±17km, n28, σ0°88/32, mb3.2/3, 10C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.13**	**19**	P	**Pn**	**13 02 14.4**	**+0.2**
	SNR=307						
UCH	**Uchtor**	**5.46**	**25**	P	**Pn**	**13 02 19.2**	**+0.5**
	SNR=20						
KZA	**Kyzart**	**5.61**	**31**	P	**Pn**	**13 02 20.8**	**+0.1**
	SNR=24						
EKS2	**Erkin-Say**	**5.65**	**18**	P	**Pn**	**13 02 21.9**	**+0.7**
	SNR=22						
AAK	**Ala-Archa**	**5.82**	**23**	P	**Pn**	**13 02 24.3**	**+0.8**
	SNR=34						
KK31	**Karatay Array**	**5.83**	**353**	⇑P	**Pn**	**13 02 23.4**	**-0.2**
	6.2nm,0.3s,baz=183,slow=13,SNR=142						
KK31				⇑S	**Sn**	**13 03 28.6**	**-0.7**
	4.6nm,0.3s,baz=192,slow=38,SNR=10						
KKAR	**Karatay Array**	**5.83**	**353**	PN	**Pn**	**13 02 23.4**	**-0.3**
KKAR				S	**Sn**	**13 03 30.5**	**+1.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KKAR				smax			
	comp=Z,2.0nm,0.3s						
KBK	**Karagaybulak**	**5.99**	**26**	P	**Pn**	**13 02 25.6**	**-0.2**
	SNR=7.7						
ULHL	**Ulahol**	**6.18**	**35**	P	**Pn**	**13 02 28.5**	**+0.2**
	SNR=8.9						
CHMS	**Chumysh**	**6.24**	**23**	P	**Pn**	**13 02 29.3**	**+0.2**
	SNR=15						
USP	**Ospenovka**	**6.41**	**21**	P	**Pn**	**13 02 31.1**	**-0.3**
	SNR=10						
TKM2	**Tokmak 2**	**6.46**	**28**	P	**Pn**	**13 02 32.0**	**0.0**
	SNR=15						
TKM2	**Tokmak 2**	**6.46**	**28**	⇑P	**Pn**	**13 02 32.0**	**-0.1**
	comp=Z,0.6nm,0.5s						
TKM2				⇑S	**Sn**	**13 03 44.9**	**+0.4**
	comp=Z,1.9nm,1.0s						
MK31	**Makanchi Array**	**12.45**	**37**	⇑P	**Pn**	**13 03 50.4**	**-1.5**
	comp=Z,2.2nm,0.8s,baz=220,slow=14,SNR=14						
MKAR	**Makanchi Array**	**12.45**	**37**	P	**Pn**	**13 03 51.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=222,slow=12,SNR=18						
AB31	**Akbulak array**	**14.56**	**329**	⇑P	**Pn**	**13 04 16.5**	**-2.6**
	comp=Z,1.6nm,0.5s,baz=140,slow=12,SNR=48						
AB31				⇑S	**Sn**	**13 06 49.2**	**-11**
	comp=Z,1.1nm,0.5s,baz=153,slow=22,SNR=5.7						
AB31	**Akbulak array**	**14.56**	**329**	P	**Pn**	**13 04 16.6**	**-2.4**
VOSK	**Vostochnaya**	**15.42**	**359**	⇑P	**Pn**	**13 04 27.1**	**-2.7**
	comp=Z,1.5nm,0.8s						
BVAR	**Borovoye Array**	**15.74**	**358**	P	**Pn**	**13 04 33.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=160,slow=14,SNR=9.1						
ZRNK	**Zerenda**	**15.74**	**355**	⇓P	**Pn**	**13 04 34.7**	**+1.0**
	comp=Z,1.4nm,0.8s						
AKTO	**Aktyubinsk**	**16.26**	**328**	⇑P	**Pn**	**13 04 40.8**	**+0.6**
	comp=Z,0.1nm,0.8s						
AKTO				⇑S	**S**	**13 07 35.2**	**-6.3**
	comp=Z,0.4nm,1.7s						
AKTO	**Aktyubinsk**	**16.26**	**328**	P	**Pn**	**13 04 40.8**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=127,slow=12,SNR=18						
FINES	**FINESS Array B**	**37.01**	**325**	P	**P**	**13 07 57.5**	**+1.3**
	comp=Z,0.4nm,0.4s,mb3.4,baz=113,slow=11,SNR=4.4						
NB2	**NORSAR Subarra**	**43.94**	**323**	P	**P**	**13 08 53.9**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.5,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**43.94**	**323**	P	**P**	**13 08 53.7**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=96,slow=7.9,SNR=4.2						
NOA	**NORSAR Array B**	**43.94**	**323**	P	**P**	**13 08 53.7**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DAVOX	**Davos**	**45.61**	**302**	LR	LR	13 31 47.9	
	comp=Z,35nm,18.2s,baz=263,slow=40						
YKA	**Yellowknife Ar**	**80.43**	**3**	P	**P**	**13 12 56.7**	**+0.3**
	comp=Z,0.1nm,0.5s,mb2.7,baz=350,slow=5.1,SNR=4.7						

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*MOS **23** 13:18:48.6±1.1, 5118N×17937E, h

CN2	Changchun	36.43	280	eP	P	13 25 53.1	+1.4
BOD	Bodaibo	37.05	306	eP	P	13 25 54.7	-2.3
BOD				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.2							
NVAR	Mina Array Bea	44.67	82	P	P	13 27 00.2	+0.5
comp=Z,0.6nm,0.8s,mb3.5,baz=300,slow=6.1,SNR=4.9							
NVAR	Mina Array Bea	44.67	82	P	P	13 27 00.2	+0.5
SONM	Songino Array	45.62	296	P	P	13 27 06.9	-0.3
comp=Z,0.8nm,0.5s,mb3.9,baz=64,slow=6.8,SNR=13							
SONM				LR	LR	13 47 50.5	
comp=Z,92nm,19.4s,MS3.7,baz=185,slow=38							
TPNV	Topopah Spring	46.87	82	eP	P	13 27 17.7	+0.7
comp=Z,2.2nm,0.7s,mb4.2							
TPNV	Topopah Spring	46.87	82	eP	P	13 27 17.7	+0.7
TPNV				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
PDAR	Pinedale Array	47.38	71	P	P	13 27 21.9	+0.9
comp=Z,1.5nm,0.6s,mb4.1,baz=321,slow=3.2,SNR=18							
NJ2	Nanjing	47.68	270	eP	P	13 27 25.4	+2.1
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.1							
GTA	Gaotai	54.50	291	eP	P	13 28 14.3	-0.2
GTA				PP	PP	13 30 17.0	-0.1
GTA				PCS	PcS	13 33 22.0	+5.1
GTA				S	S	13 35 50.1	+0.8
GTA				SCS	ScS	13 38 01.1	+2.5
GTA				SS	SS	13 39 30.6	-1.7
GTA				AMB	AMB		
comp=Z,5.0nm,1.4s,mb4.3							
GTA				AMB	AMB		
comp=Z,124nm,7.2s							
GTA				LR	LR		
comp=N,71nm,7.6s							
GTA				LR	LR		
comp=E,68nm,7.2s							
GTA				LR	LR		
comp=Z,73nm,9.1s							
MKAR	Makanchi Array	59.13	307	P	P	13 28 46.1	-1.2
comp=Z,1.3nm,0.4s,mb4.3,baz=53,slow=5.9,SNR=40							
MKAR				LR	LR	13 55 54.2	
comp=Z,38nm,18.7s,MS3.5,baz=270,slow=38							
CHKZ	Chkalovo	59.57	319	eP	P	13 28 49.6	-0.6
comp=Z,2.3nm,0.8s,mb4.3							
CHKZ	Chkalovo	59.57	319	eP	P	13 28 49.6	-0.7
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
BVAR	Borovoye Array	60.14	319	P	P	13 28 54.1	0.0
comp=Z,3.3nm,0.4s,mb4.7,baz=57,slow=6.9,SNR=30							
BRVK	Borovoye	60.16	319	eP	P	13 28 54.1	-0.2
comp=Z,1.5nm,0.4s,mb4.4							
BRVK	Borovoye	60.16	319	eP	P	13 28 54.1	-0.2
BRVK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
ZRNK	Zerenda	60.76	319	eP	P	13 28 58.1	-0.3
comp=Z,9.2nm,1.0s,mb4.9							
ZRNK	Zerenda	60.76	319	eP	P	13 28 58.1	-0.3
ZRNK				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.8							
AKTK	Aktyubinsk	67.01	324	P	P	13 29 39.6	+0.1
AKTO	Aktyubinsk	67.01	324	P	P	13 29 39.6	+0.1
comp=Z,3.0nm,0.5s,mb4.5,baz=62,slow=8.0,SNR=16							
AKTO	Aktyubinsk	67.01	324	P	P	13 29 39.6	+0.1
AKTO				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.6							
NOA	NORSAR Array B	67.52	354	P	P	13 29 42.0	-0.7
comp=Z,0.6nm,0.5s,mb3.9,baz=8.8,slow=6.4,SNR=3.6							
GUN	Gumba	70.79	291	eP	P	13 30 03.4	+0.4
comp=Z,36nm,1.0s,mb5.2							
JIRN	Jiri	70.80	290	eP	P	13 30 03.5	+0.5
comp=Z,29nm,1.1s,mb5.1							
KKN	Kakani	71.23	291	eP	P	13 30 05.8	+0.1
comp=Z,8.0nm,0.5s,mb4.9							
PKI	Pulchoki	71.32	291	eP	P	13 30 06.1	-0.1
GKN	Gorkha	71.45	292	eP	P	13 30 06.8	-0.2
DMN	Daman	71.47	291	eP	P	13 30 06.5	-0.6
comp=Z,12nm,0.8s,mb4.8							
KOLN	Koldanda	72.23	292	eP	P	13 30 11.5	-0.1
AKASG	Malin Array Be	75.17	341	P	P	13 30 28.0	-0.8
comp=Z,0.9nm,0.3s,mb4.1,baz=20,slow=6.3,SNR=4.2							
AKASG	Malin Array Be	75.17	341	P	P	13 30 28.0	-0.8

IDC 23 13:24:56.6±1.9, 670S×12956E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.4/13, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=82.4km s-min=31.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.96	161	Pn	Pn	13 28 15.5	-0.1
0.3nm,0.3s,baz=341,slow=14,SNR=50							
WRA				Sn	Sn	13 30 36.5	-15
1.0nm,0.3s,baz=336,slow=22,SNR=12							
ASAR	Alice Springs	17.38	167	P	Pn	13 29 01.0	+0.5
0.1nm,0.3s,baz=333,slow=9.1,SNR=8.8							
ASAR				S	Sn	13 31 57.9	-17
0.2nm,0.3s,baz=336,slow=18,SNR=6.1							
MKAR	Makanchi Array	67.74	327	P	P	13 35 56.1	+0.2
0.4nm,0.5s,baz=116,slow=6.6,SNR=8.0							

*ISCJB **23** 13:33:45.7±0.6, 3070N±004×1419E±02, h33km, mb3.4/5, MS3.2/1, Error ellipse: s-maj=19.7km s-min=4.3km az=153.6*
*JMA **23** 13:33:47.8±0.5, 3085N×14202E, h72km, M3.8*
*IDC **23** 13:33:49.0±4.9, 3064N×14173E, h34km±40km, mb3.2/5, mb1 3.4/7, mb1mx3.2/20, mbtmp3.5/7, ML3.3/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/7, Error ellipse: s-maj=40.3km s-min=17.3km az=79.0*

ISC 23 13:33:48.5±0.7, 3074N±005×1419E±02, h35km, n19, σ1§12/28, mb3.4/5, MS3.2/1, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.96	324	P	Pn	13 34 33.1	+0.2
JHJ2				eS	Sn	13 35 07.5	+0.3
JHJ	Hachijo jima 2	2.98	323	Pn	Pn	13 34 31.9	-1.4
9.6nm,0.3s,baz=353,slow=22,SNR=3.8							
JHJ				Sn	Sn	13 35 03.4	-4.4
8.0nm,0.3s,baz=69,slow=18,SNR=3.8							
CBIJ	Chichi jima	3.64	176	Pn	Pn	13 34 42.3	0.0
4.0nm,0.3s,baz=268,slow=19,SNR=2.0							
CBIJ				Sn	Sn	13 35 20.1	-3.8
15nm,0.3s,baz=248,slow=20,SNR=4.8							
CBIJ	Chichi jima	3.64	176	eS	Sn	13 35 20.7	-3.2
BSO1	Boso 1	3.98	349	P	Pn	13 34 46.7	-0.3
BSO1				eS	Sn	13 35 32.1	-0.3
BSO3	Boso 3	4.22	344	P	Pn	13 34 49.7	-0.5
BSO3				eS	Sn	13 35 38.3	0.0
JHU	Hanno	5.55	337	P	Pn	13 35 09.3	+0.7
JHU				eS	Sn	13 36 12.1	+1.0
JRY	Ryogami san	5.83	335	P	Pn	13 35 13.6	+1.2
JRY				eS	Sn	13 36 19.6	+1.5
JHO	Hitachi	5.96	350	P	Pn	13 35 13.8	-0.4
JHO				eS	Sn	13 36 17.4	-3.8
JAG	Ashikaga	6.03	341	P	Pn	13 35 15.2	+0.1
JAG				eS	Sn	13 36 20.7	-2.2
MJAR	Matsushiro Arr	6.56	333	Pn	Pn	13 35 24.3	+2.0
0.8nm,0.3s,baz=147,slow=15,SNR=6.7							
MJAR				Sn	Sn	13 36 34.3	-1.6
0.3nm,0.3s,baz=188,slow=16,SNR=3.0							
JFK	Kawauchi	6.67	353	P	Pn	13 35 22.7	-1.1
JFK				eS	Sn	13 36 32.8	-5.8
JOW	Kunigami	12.58	255	LR	LR	13 41 11.9	
comp=Z,75nm,18.6s,baz=99,slow=36							
SONM	Songino Array	32.01	312	P	P	13 40 13.2	+1.9
0.1nm,0.4s,mb3.0,baz=103,slow=9.3,SNR=2.6							
ZAL	Zalesovo	46.64	317	LR	LR	14 01 50.1	
comp=Z,24nm,18.4s,MS3.2,baz=82,slow=36							
MKAR	Makanchi Array	48.03	307	P	P	13 42 23.1	-1.1
0.2nm,0.4s,mb3.5,baz=84,slow=9.1,SNR=3.8							
WRA	Warramunga Arr	50.91	189	P	P	13 42 45.9	-0.2
0.4nm,0.5s,mb3.6,baz=6.9,slow=7.6,SNR=16							
ASAR	Alice Springs	54.64	189	P	P	13 43 13.6	-0.1
0.3nm,0.6s,mb3.5,baz=6.5,slow=6.3,SNR=6.6							
INK	Inuvik	59.84	25	P	P	13 43 51.8	+1.4
0.3nm,0.8s,mb3.4,baz=270,slow=7.1,SNR=3.0							

*IDC **23** 13:43:34.2±5.0, 3621N×7131E, h100km±44km, mb3.7/13, mb1 3.9/16, mb1mx3.8/24, mbtmp4.1/16, MS4.0/1, Ms1 4.0/1, ms1mx2.6/40, Error ellipse: s-maj=23.8km s-min=15.6km az=10.0*
*MOS **23** 13:43:34.4±1.4, 3636N×7134E, h105km, mb4.4/11, Error ellipse: s-maj=11.2km s-min=5.8km az=102.1*

*NEIC **23** 13:43:35.5±1.3, 3636N×7150E, h104km±15km, mb4.3/11, Error ellipse: s-maj=13.9km s-min=6.4km az=55.0*
*ISCJB **23** 13:43:35.5±0.5, 3633N±002×7146E±005, h122km±6km, mb4.2/26, Error ellipse: s-maj=6.8km s-min=3.4km az=143.0*
*BJI **23** 13:43:38.4, 3664N×7129E, h120km, mB5.1, mb4.5*
*NNC **23** 13:43:45.1±3.9, 3708N×7101E, h173km±38km, mb3.3, mpv4.2, Error ellipse: s-maj=34.0km s-min=23.4km az=7.0*

ISC 23 13:43:36.5±0.4, 3634N±002×7142E±005, h119km±5km, n108, σ1§32/135, mb4.2/26, 16C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.54	171	⇓P	Pn	13 44 24.0	+7.1
CHCP	Chirah Chowk	3.08	150	⇑P	Pn	13 44 27.3	+3.5
THW	Thamme Wali	3.55	176	P	Pn	13 44 32.3	+2.3
SBDP	Sheikh Budin	4.07	187	⇑P	Pn	13 44 37.8	+0.9
SARP	Sargodha	4.53	166	P	Pn	13 44 44.7	+1.6
DRP	Derazinda	4.70	193	P	Pn	13 44 47.0	+1.6
KSH	Kashi	4.80	47	eP	Pn	13 44 50.5	+3.8
KSH				S	Sn	13 45 43.6	+2.4
KSH				Smax			
comp=N,216nm,0.5s							
KSH				Smax			
comp=E,227nm,0.6s							
DLH	Dalhousie	5.34	134	eP	Pn	13 44 57.0	+3.0
DLH				eS	Sn	13 45 57.0	+2.7
PONG	Pong	5.77	138	eP	Pn	13 45 03.0	+3.2
PONG				eS	Sn	13 46 09.0	+4.3
AML	Almayashu	6.04	16	P	Pn	13 45 03.8	+0.3
SNR=332							
UCH	Uchtor	6.35	21	P	Pn	13 45 08.2	+0.6
SNR=110							
BHK	Bhakra	6.43	138	ex	x	13 47 26.6	
KZA	Kyzart	6.45	26	P	Pn	13 45 09.6	+0.5
SNR=60							
EKS2	Erkin-Say	6.57	15	P	Pn	13 45 10.7	+0.1
SNR=80							
SDNR	Sundarnagar	6.68	135	eP	Pn	13 45 12.5	+0.4
SDNR				eS	Sn	13 46 26.2	-0.5
AAK	Ala-Archa	6.72	20	P	Pn	13 45 13.2	+0.6
SNR=177							
KK31	Karatay Array	6.79	354	P	Pn	13 45 12.0	-1.6
comp=E,24nm,0.3s,baz=181,slow=16,SNR=708							
KK31				⇑S	Sn	13 46 23.1	-6.2
comp=E,34nm,0.6s,baz=189,slow=23,SNR=6.9							
KKAR	Karatay Array	6.79	354	ePN	Pn	13 45 12.0	-1.6
KKAR				pmax	pmax		
comp=Z,6.0nm,0.2s							
KBK	Karagaybulak	6.87	22	P	Pn	13 45 15.7	+1.0
SNR=20							
ULHL	Ulahol	6.98	31	P	Pn	13 45 16.8	+0.6
SNR=19							
SMLA	Simla	7.07	136	ex	x	13 45 14.1	
SMLA				ex	x	13 46 29.5	
CHMS	Chumysh	7.13	20	P	Pn	13 45 18.9	+0.8
SNR=12							
USP	Ospenovka	7.31	18	P	Pn	13 45 20.7	+0.1
SNR=21							
TKM2	Tokmak 2	7.32	25	P	Pn	13 45 21.2	+0.5
SNR=68							
TKM2	Tokmak 2	7.32	25	⇑P	Pn	13 45 21.0	+0.3
comp=Z,2.6nm,0.5s							
TKM2				⇓S	Sn	13 46 40.0	-2.2
comp=Z,4.3nm,0.8s							
KLP	Kalpa	7.43	128	eP	Pn	13 45 24.9	+2.6
KLP				AMb	AMB	13 45 26.0	
comp=Z,49nm,0.7s							
KLP				eS	Sn	13 46 44.2	-0.8
DDI	Dehra Dun	8.18	135	eP	Pn	13 45 34.2	+1.8
DDI				ex	x	13 47 07.2	
KHET	Khetri	9.04	155	eP	Pn	13 45 43.5	-0.6
KHET				AMb	AMB	13 45 44.2	
comp=Z,22nm,0.3s							
KHET				eS	Sn	13 47 18.3	-5.7
NDI	New Delhi	9.07	146	ex	x	13 45 22.0	
NDI				eP		13 45 42.9	
NDI				eS	Sn	13 47 22.0	-2.7
AYAN	Aya Nagar	9.20	147	eP	Pn	13 45 43.7	-2.6
AYAN				AMb	AMB	13 45 48.8	
comp=Z,17nm,0.6s							
AYAN				eS	Sn	13 47 26.3	-1.6
SONA	Sohna	9.38	148	eP	Pn	13 45 48.1	-0.6
SONA				AMb	AMB	13 45 51.9	
comp=Z,24nm,0.3s							
SONA				eS	Sn	13 47 26.7	-5.6
JASL	Jaisalmer	9.40	183	eP	Pn	13 45 44.4	-4.6
LGTI	Lohaghat	10.11	130	eP	Pn	13 45 59.0	+0.5
AJM	Ajmer	10.21	163	eP	Pn	13 45 59.5	-0.3
AJM				iP		13 46 00.0	
AJM				AMb	AMB	13 46 00.7	
comp=Z,32nm,0.4s							
AJM				eS	Sn	13 47 44.3	-8.0
AJM				iS	Sn	13 47 47.0	-5.3
AGRA	Agra	10.64	147	eP	Pn	13 46 05.4	-0.2
AGRA				eS	Sn	13 47 59.2	-3.6
MK31	Makanchi Array	13.22	35	⇓P	Pn	13 46 38.6	-1.0
comp=Z,11nm,0.9s							
MKAR	Makanchi Array	13.22	35	P	Pn	13 46 39.0	-0.6
comp=Z,0.3nm,0.3s,baz=221,slow=15,SNR=20							
MKAR	Makanchi Array	13.22	35	iP	Pn	13 46 39.7	+0.1
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
KOLN	Koldanda	13.40	126	ePn	Pn	13 46 40.9	-0.9
KOLN				eSn	Sn	13 49 03.3	-6.2
comp=Z,44nm,0.5s							
GKN	Gorkha	13.93	123	ePn	Pn	13 46 48.0	-0.8
GKN				eSn	Sn	13 49 14.7	-7.7
comp=Z,70nm,0.5s							
BHPL	Bhopal	14.05	157	eP	Pn	13 46 48.8	-1.5
BHPL				AMb	AMB	13 46 51.8	
comp=Z,14nm,0.4s							
BHPL				ex	x	13 49 21.1	
DMN	Daman	14.51	123	ePn	Pn	13 46 55.4	-0.6
DMN				eSn	Sn	13 49 28.0	-8.2
comp=Z,76nm,0.8s							
KKN	Kakani	14.51	122	ePn	Pn	13 46 55.0	-1.1
KKN				eSn	Sn	13 49 28.9	-7.4
comp=Z,84nm,0.7s							
PKI	Pulchoki	14.73	122	ePn	Pn	13 46 58.0	-0.9
PKI				eSn	Sn	13 49 35.2	-6.5
comp=Z,35nm,0.5s							
GUN	Gumba	14.85	120	ePn	Pn	13 46 59.9	-0.4
GUN				eSn	Sn	13 49 37.5	-6.9
comp=Z,50nm,0.8s							
JIRN	Jiri	15.22	121	ePn	Pn	13 47 04.4	-0.6
JIRN				eSn	Sn	13 49 45.5	-7.9
comp=Z,48nm,0.6s							
KURK	Kurchatov	15.27	18	⇑P	Pn	13 47 06.6	+0.9
comp=Z,2.1nm,0.8s							
KURK	Kurchatov	15.27	18	eP	Pn	13 47 07.4	+1.7
comp=Z,4.2nm,0.8s							
KURK				eS	S	13 49 55.5	-7.4
KURK	Kurchatov	15.27	18	eP	Pn	13 47 07.4	+1.7
KURK				eS	S	13 49 55.5	-7.3
KURK				pmax	pmax		
comp=Z,4.0nm,0.8s							
AB31	Akbulak array	15.39	331	⇑P	Pn	13 47 03.7	-3.4
comp=Z,7.1nm,0.4s,baz=140,slow=13,SNR=319							
AB31				⇑S	S	13 49 40.3	-25
comp=Z,10nm,0.6s,baz=143,slow=23,SNR=13							
AB31	Akbulak array	15.39	331	eP	Pn	13 47 04.2	-2.9
AB31				pmax	pmax		
comp=Z,5.0nm,0.4s							
VOSK	Vostochnaya	16.38	359	⇑P	Pn	13 47 16.4	-3.0
comp=Z,6.1nm,0.8s							
ZRNK	Zerenda	16.69	355	⇑P	Pn	13 47 20.8	-2.4
comp=Z,7.9nm,0.5s							
ZRNK	Zerenda	16.69	355	eP	Pn	13 47 20.4	-2.8
comp=Z,14nm,0.6s							
ZRNK	Zerenda	16.69	355	eP	Pn	13 47 20.4	-2.8
ZRNK				pmax	pmax		
comp=Z,14nm,0.6s							
BVA0	Borovoye Array	16.70	358	P	Pn	13 47 22.4	-0.9
comp=Z,1.2nm,0.9s,baz=175,slow=11,SNR=20							
BVA0	Borovoye Array	16.70	358	iP	Pn	13 47 22.3	-1.0
BVA0				pmax	pmax		
comp=Z,1.0nm,1.0s							
BVAR	Borovoye Array	16.70	358	P	Pn	13 47 22.0	-1.2
comp=Z,1.5nm,0.3s,baz=160,slow=12,SNR=17							
BRVK	Borovoye	16.73	358	eP	Pn	13 47 24.8	+1.1
comp=Z,7.3nm,0.6s							
BRVK	Borovoye	16.73	358	eP	Pn	13 47 24.8	+1.1
BRVK				pmax	pmax		
comp=Z,7.0nm,0.6s							
AKTK	Aktyubinsk	17.09	330	P	Pn	13 47 26.9	-1.1
AKTK				S	S	13 50 22.0	-16
AKTO	Aktyubinsk	17.09	330	⇑P	Pn	13 47 26.2	-1.8
comp=Z,0.9nm,1.2s							
AKTO				⇑S	S	13 50 21.7	-17
comp=Z,0.3nm,0.9s							
AKTO	Aktyubinsk	17.09	330	P	Pn	13 47 26.9	-1.1
comp=Z,1.9nm,0.3s,baz=136,slow=12,SNR=31							
AKTO				S	S	13 50 22.0	-16
comp=Z,0.4nm,0.3s,baz=68,slow=17,SNR=5.0							
AKTO	Aktyubinsk	17.09	330	P	Pn	13 47 26.9	-1.1
AKTO				S	S	13 50 22.0	-16
AKTO				pmax	pmax		
comp=Z,2.0nm,0.3s							
CHKZ	Chkalovo	17.34	358	⇑P	Pn	13 47 29.4	-1.7
comp=Z,4.4nm,0.5s							
CHKZ	Chkalovo	17.34	358	eP	Pn	13 47 29.0	-2.1
comp=Z,8.6nm,0.5s							
CHKZ	Chkalovo	17.34	358	P	Pn	13 47 29.3	-1.8
LSA	Lhasa	17.81	106	eP	Pn	13 47 40.2	+3.5
comp=Z,7.5nm,0.7s							
LSA	Lhasa	17.81	106	eP	Pn	13 47 40.2	+3.5
LSA				pmax	pmax		
comp=Z,7.0nm,0.7s							
HYB	Hyderabad	19.88	160	iP	P	13 48 04.5	+6.1
HYB	Hyderabad	19.88	160	eP	P	13 48 04.5	+6.1
NVS	Novosibirsk	20.21	20	⇑iP	P	13 48 02.5	+0.6
NVS				ePPP		13 48 37.2	
NVS				eS	S	13 51 38.6	-3.5
NVS				pmax	pmax		
comp=N,19nm,1.1s							
NVS				pmax	pmax		
comp=E,10.0nm,1.1s							
NVS				pmax	pmax		
comp=Z,24nm,1.1s							
NVS				smax			
comp=N,8.0nm,1.7s							
NVS				smax			
comp=E,12nm,1.3s							
GNI	Garni	21.26	288	P	P	13 48 13.1	-0.1
comp=E,8.4nm,0.6s,mb4.3,baz=132,slow=20,SNR=2.1							
GNI	Garni	21.26	288	eP	P	13 48 16.7	+3.6
comp=E,10nm,0.7s,mb4.3							
GNI	Garni	21.26	288	P	P	13 48 13.1	-0.1
GNI				pmax	pmax		
comp=Z,8.0nm,0.6s							
SVE	Sverdlovsk	21.74	344	eP	P	13 48 19.8	+1.6
ARU	Arti	21.89	341	eP	P	13 48 20.5	+0.7
comp=Z,37nm,0.9s,mb4.7							
ARU	Arti	21.89	341	⇓iP	P	13 48 20.2	+0.4
ARU				e		13 48 52.5	
ARU				eS	S	13 52 09.8	-4.3
ARU				pmax	pmax		
comp=Z,34nm,0.9s,mb4.7							
ZEI	Tsey	22.11	295	iP	P	13 48 22.0	-0.1
ZEI				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.0							
GTA	Gaotai	22.58	74	eP	P	13 48 31.9	+4.8
GTA				AMB	AMB		
comp=Z,3.0nm,0.8s,mb3.7							
SOC	Sochi	25.24	296	eP	P	13 48 48.4	-2.9
SOC				eS	S	13 52 56.2	-12
SOC				e		13 59 33.5	
SOC				pmax	pmax		
comp=Z,15nm,1.0s,mb4.4							
SONM	Songino Array	28.15	55	P	P	13 49 18.9	+1.5
comp=Z,0.4nm,0.4s,mb3.3,baz=258,slow=8.0,SNR=5.0							
BRTR	Keskin Array B	29.80	288	P	P	13 49 31.6	-0.4
comp=Z,0.5nm,0.5s,mb3.4,baz=90,slow=12,SNR=3.7							
BRTR	Keskin Array B	29.80	288	⇑eP	P	13 49 35.5	+3.5
OBN	Obninsk	30.28	319	⇑eP	P	13 49 36.9	+0.7
OBN				eSPP	pP	13 50 15.7	+13
OBN				eSS	SS	13 56 18.3	-23
OBN				pmax	pmax		
comp=Z,19nm,1.4s,mb4.5							
OBN				MLR	MLR		
comp=Z,100nm,16.0s							
AKASG	Malin Array Be	33.31	309	P	P	13 50 02.9	+0.1
comp=Z,2.1nm,0.5s,mb4.2,baz=83,slow=7.7,SNR=8.9							
MLR	Muntele Rosu	35.15	299	P	P	13 50 21.6	+3.0
comp=Z,5.2nm,0.8s,mb4.4,baz=185,slow=1.3,SNR=4.9							
FINES	FINESS Array B	37.80	326	P	P	13 50 41.7	+0.5
comp=Z,3.3nm,0.6s,mb4.3,baz=121,slow=9.0,SNR=14							
NJ2	Nanjing	39.16	82	eP	P	13 50 58.3	+5.8
NJ2				AP	pP	13 51 29.5	+10
NJ2				PP	PP	13 52 35.3	+11
NJ2				S	S	13 56 46.0	+2.4
NJ2				XS	sS	13 57 40.0	+10
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.7							
NJ2				AMB	AMB		
comp=Z,210nm,4.8s							
NJ2				LR	LR		
comp=N,480nm,13.7s							
NJ2				LR	LR		
comp=E,520nm,25.4s							
NJ2				LR	LR		
comp=Z,170nm,19.8s							
SSE	Sheshan	41.36	82	P	P	13 51 12.3	+1.6
SSE				AMB	AMB		
comp=Z,23nm,0.6s,mb5.2							
SSE				AMB	AMB		
comp=Z,135nm,4.0s							
ARCES	ARCESS Array B	41.42	338	P	P	13 51 12.0	+0.9
comp=Z,5.2nm,0.6s,mb4.6,baz=115,slow=8.0,SNR=25							
HFS	Hagfors	43.40	322	P	P	13 51 27.2	0.0
comp=Z,7.8nm,0.6s,mb4.6,baz=98,slow=11,SNR=23							
NB2	NORSAR Subarra	44.71	323	P	P	13 51 37.2	-0.4
comp=Z,4.4nm,0.6s,mb4.4,baz=97,slow=7.9							
NB2	NORSAR Subarra	44.71	323	P	P	13 51 37.2	-0.4
NB2				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.3							
NOA	NORSAR Array B	44.71	323	P	P	13 51 37.4	-0.2
comp=Z,4.7nm,0.6s,mb4.4,baz=96,slow=7.8,SNR=23							
TIXI	Tiksi	45.79	22	⇑eP	P	13 51 46.4	+0.2
TIXI				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.3							
BILL	Bilibino	58.60	26	eP	P	13 53 21.2	+0.4
BILL				eSPP	pP	13 54 00.9	+11
BILL				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.0							
CBIJ	Chichi jima	59.71	77	LR	LR	14 23 27.6	
comp=Z,141nm,21.0s,baz=120,slow=40							
SUMG	Summit	61.32	341	eP	P	13 53 40.2	+0.8
comp=Z,5.5nm,0.9s,mb4.6							
TORD	Torodi Ar. Bea	66.05	269	P	P	13 54 08.5	-1.9
comp=Z,0.9nm,0.6s,mb3.8,baz=49,slow=5.5,SNR=12							
INK	Inuvik	74.01	9	eP

$M_{\theta\theta}$3.96±.06; $M_{\phi\phi}$-3.60±.06; $M_{r\theta}$-0.72±.13; $M_{r\phi}$-1.55±.05; M_{rr}0.22±.13; Best double couple: $M_0$4.14600×10^{17} NP1:ϕ_s236.00000°, δ83.00000°, λ175.00000°. NP2: ϕ_s326.00000°, δ85.00000°, λ7.00000°. Principal axes: T 4.3840, Plg9.0000°, Azm191.0000°; N -0.4740, Plg81.0000°, Azm3.0000°; P -3.9070, Plg1.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **23** 13:57:41.6±0.3, 6247S×165.17E, h10^{km}, mb5.1/18 Error ellipse: s-maj=13.9km s-min=6.5km az=80.0*

*BJI **23** 13:57:41.6, 6250S×16520E, h10^{km}, mB5.7, mb5.4, Ms5.4, Msz5.1*

ISC 23 13:57:41.3±0.3, 6248S±004×1651E±02, h10^{km}, n108, σ1^{s}05/64, mb5.0/22, MS5.1/28, 7C-7D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.15**	**183**	Pn	**Pn**	**14 01 14.4**	**-0.9**
	0.1nm,0.3s,baz=355,slow=13,SNR=4.2						
VNDA				LR	LR	14 06 04.3	
	comp=Z,16μm,20.8s,baz=13,slow=33						
VNDA	**Vanda**	**15.15**	**183**	⇑*e*P	**Pn**	**14 01 14.1**	**-1.3**
VNDA				pmax	pmax		
	comp=Z,192nm,1.0s						
SBA	**Scott Base**	**15.46**	**179**	⇑*e*P	**Pn**	**14 01 19.4**	**-0.1**
	comp=Z,2μm,1.7s						
SBA	**Scott Base**	**15.46**	**179**	⇑*e*P	**Pn**	**14 01 19.4**	**0.0**
SBA				pmax	pmax		
	comp=Z,2μm,1.7s						
MLZ	**Mavora Lakes**	**17.26**	**7**	PN	**Pn**	**14 01 41.7**	**-0.7**
WKZ	**Wanaka**	**17.83**	**9**	PN	**Pn**	**14 01 49.7**	**+0.2**
RPZ	**Rata Peaks**	**19.12**	**13**	P	**Pn**	**14 02 04.3**	**-1.0**
	comp=Z,8.1nm,0.3s,baz=177,slow=13,SNR=29						
RPZ				LR	LR	14 08 18.0	
	comp=Z,16μm,19.9s,baz=144,slow=34						
RPZ	**Rata Peaks**	**19.12**	**13**	PN	**Pn**	**14 02 04.3**	**-1.0**
LTZ	**Lake Taylor**	**20.18**	**15**	PN	**P**	**14 02 17.6**	**+1.6**
KHZ	**Kahutara**	**20.71**	**18**	PN	**P**	**14 02 22.0**	**+0.2**
SNZO	**South Karori**	**21.97**	**20**	P	**P**	**14 02 34.6**	**-0.7**
QRZ	**Quartz Range**	**22.14**	**15**	PN	**P**	**14 02 34.1**	**-3.0**
URZ	**Urewera**	**25.34**	**23**	P	**P**	**14 03 07.7**	**-0.7**
	comp=Z,45nm,0.8s,mb5.0,baz=206,slow=4.0,SNR=17						
URZ				LR	LR	14 11 54.1	
	comp=Z,9μm,19.4s,MS5.3,baz=196,slow=34						
QSPA	**South Pole Qui**	**27.61**	**180**	*e*P	**P**	**14 03 29.3**	**+0.4**
	comp=Z,68nm,1.2s,mb5.2						
STKA	**Stephens Creek**	**34.12**	**323**	*e*P	**P**	**14 04 25.9**	**-0.3**
	comp=Z,8.2nm,0.9s,mb4.7						
STKA				*e*S	**S**	**14 09 56.1**	**+3.9**
STKA	**Stephens Creek**	**34.12**	**323**	P	**P**	**14 04 25.5**	**-0.7**
	comp=Z,11nm,0.9s,mb4.8,baz=152,slow=8.3,SNR=18						
STKA				LR	LR	14 16 04.5	
	comp=Z,4μm,19.2s,MS5.1,baz=323,slow=32						
RAO	**Raoul Island**	**35.05**	**26**	LR	LR	14 16 08.0	
	comp=Z,2μm,21.8s,MS4.7,baz=67,slow=32						
MAW	**Mawson**	**38.71**	**217**	P	**P**	**14 05 05.7**	**+0.3**
	comp=Z,8.6nm,0.9s,mb4.5,baz=108,slow=3.1,SNR=3.4						
MAW				LR	LR	14 21 11.9	
	comp=Z,8μm,18.2s,MS5.6,baz=128,slow=36						
DZM	**Mont Dzumac**	**40.39**	**2**	P	**P**	**14 05 19.7**	**+0.2**
	comp=Z,19nm,1.0s,mb4.8,baz=56,slow=14,SNR=6.2						
DZM				LR	LR	14 18 24.7	
	comp=Z,1μm,21.7s,MS4.8,baz=296,slow=31						
NWAO	**Narrogin (SRO)**	**42.16**	**292**	LR	LR	14 18 53.7	
	comp=Z,4μm,20.9s,MS5.3,baz=147,slow=30						
SYO	**Syowa Base**	**43.21**	**205**	⇑*e*P	**P**	**14 05 39.5**	**-3.0**
SYO	**Syowa Base**	**43.21**	**205**	⇑*e*pP	pP	14 05 41.6	-4.0
SYO	**Syowa Base**	**43.21**	**205**	⇓*e*sP	sP	14 05 44.2	-2.6
ASAR	**Alice Springs**	**44.12**	**317**	P	**P**	**14 05 50.3**	**+0.5**
	comp=Z,10nm,0.8s,mb4.6,baz=161,slow=8.0,SNR=113						
ASAR				PcP	PcP	14 07 34.0	-0.9
	comp=Z,4.1nm,1.0s,baz=139,slow=3.8,SNR=4.1						
CTA	**Charters Tower**	**44.31**	**334**	*e*P	**P**	**14 05 52.4**	**+1.1**
	comp=Z,13nm,1.1s,mb4.6						
CTA				*e*S	**S**	**14 12 30.3**	**+5.0**
CTA	**Charters Tower**	**44.31**	**334**	LR	LR	14 21 35.7	
	comp=Z,3μm,18.6s,MS5.2,baz=165,slow=32						
CTA	**Charters Tower**	**44.31**	**334**	*e*P	**P**	**14 05 52.4**	**+1.1**
CTA				*e*S	**S**	**14 12 30.3**	**+5.0**
CTA				pmax	pmax		
	comp=Z,13nm,1.1s						
CTAO	**Charters Tower**	**44.31**	**334**	*e*P	**P**	**14 05 52.0**	**+0.7**
	comp=Z,25nm,1.1s,mb4.9						
CTAO	**Charters Tower**	**44.31**	**334**	*e*P	**P**	**14 05 52.0**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.9						
NVL	**N'lazarevskaya**	**45.73**	**192**	⇓*i*P	**P**	**14 06 03.3**	**+0.6**
NVL				*e*		14 07 53.6	
NVL				*e*S	**S**	**14 12 57.6**	**+12**
NVL				pmax	pmax		
	comp=Z,74nm,1.9s,mb5.3						
NVL				MLR	MLR		
	comp=Z,5μm,17.1s,MS5.5						
SNAA	**Sanae**	**45.87**	**185**	LR	LR	14 24 24.6	
	comp=Z,2μm,20.1s,MS5.0,baz=200,slow=35						
SNAA	**Sanae**	**45.87**	**185**	*e*P	**P**	**14 06 03.0**	**-0.7**
	comp=Z,26nm,0.9s,mb5.2						
SNAA	**Sanae**	**45.87**	**185**	*e*P	**P**	**14 06 03.0**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,26nm,0.9s						
VNA3	**Neumayer Olymp**	**46.51**	**182**	⇓*i*P	**P**	**14 06 08.6**	**-0.2**
VNA3				*e*	pP	14 06 11.7	-0.2
VNA3				*e*	pP	14 06 13.1	+1.2
VNA3	**Neumayer Olymp**	**46.51**	**182**	⇓*i*P	**P**	**14 06 08.6**	**-0.2**
VNA3				*e*	pP	14 06 11.7	-0.2
VNA3				*e*	pP	14 06 13.1	+1.2
VNA3				*e*		14 16 36.3	
VNA2	**Neumayer--Watz**	**46.77**	**183**	⇓*i*P	**P**	**14 06 10.9**	**0.0**
VNA2				*e*	pP	14 06 13.9	-0.1
VNA2				*e*	pP	14 06 15.2	+1.2
VNA2	**Neumayer--Watz**	**46.77**	**183**	⇓*i*P	**P**	**14 06 10.9**	**0.0**
VNA2				*e*	pP	14 06 13.9	-0.1
VNA2				*e*	pP	14 06 15.2	+1.2
VNA2				*e*		14 16 39.1	
WB2	**Warramunga Arr**	**47.47**	**319**	*e*P	**P**	**14 06 13.3**	**-3.0**
WRA	**Warramunga Arr**	**47.48**	**319**	P	**P**	**14 06 15.7**	**-0.7**
	comp=Z,5.2nm,1.0s,mb4.4,baz=162,slow=6.7,SNR=16						
WRA				PcP	PcP	14 07 45.7	-0.9
	comp=Z,6.6nm,1.1s,baz=160,slow=3.3,SNR=13						
WRAB	**Tennant Creek**	**47.48**	**319**	*e*P	**P**	**14 06 15.7**	**-0.8**
	comp=Z,16nm,1.0s,mb4.9						
WRAB	**Tennant Creek**	**47.48**	**319**	*e*P	**P**	**14 06 15.7**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
RAR	**Rarotonga**	**47.71**	**47**	LR	LR	14 20 38.1	
	comp=Z,3μm,21.3s,MS5.2,baz=201,slow=29						
TBI	**Tubuai**	**49.58**	**59**	*e*S	**S**	**14 13 42.3**	**+1.7**
	comp=Z,1μm,27.8s						
TBI				*e*LQ		14 17 56.3	
	comp=Z,4μm,26.8s						
TBI				*e*LR	LR	14 20 26.5	
	comp=Z,3μm,25.0s,baz=206						
AFI	**Afiamalu**	**51.22**	**29**	LR	LR	14 24 35.7	
	comp=Z,1μm,20.7s,MS4.9,baz=90,slow=32						
MBWA	**Marble Bar**	**51.50**	**302**	*e*P	**P**	**14 06 49.1**	**+2.1**
	comp=Z,20nm,1.1s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.07**	**310**	LR	LR	14 26 19.0	
	comp=Z,1μm,19.2s,MS4.9,baz=336,slow=33						
PMG	**Port Moresby**	**54.55**	**338**	P	**P**	**14 07 10.5**	**+0.9**
	comp=Z,33nm,0.9s,mb5.4,baz=183,slow=4.3,SNR=22						
PMG				LR	LR	14 26 36.9	
	comp=Z,2μm,19.1s,MS5.3,baz=171,slow=32						
PMG	**Port Moresby**	**54.55**	**338**	⇑*e*P	**P**	**14 07 09.8**	**+0.1**
	comp=Z,32nm,0.9s,mb5.4						
PMG	**Port Moresby**	**54.55**	**338**	⇑*e*P	**P**	**14 07 09.8**	**+0.2**
PMG				pmax	pmax		
	comp=Z,32nm,0.9s						
PPT	**Papeete**	**54.75**	**56**	*e*S	**S**	**14 14 51.6**	**0.0**
	comp=Z,1μm,26.2s						
PPT				*e*LQ		14 19 56.4	
	comp=Z,2μm,23.8s						
PPT				*e*LR	LR	14 22 49.4	
	comp=Z,2μm,22.2s,baz=204						
PPT	**Papeete**	**54.75**	**56**	LR	LR	14 25 34.2	
	comp=Z,1μm,18.3s,MS5.1,baz=208,slow=31						
KAKA	**Kakadu**	**54.88**	**320**	*e*P	**P**	**14 07 11.8**	**-0.1**
	comp=Z,13nm,0.7s,mb5.1						
USHA	**Ushuaia**	**55.77**	**146**	P	**P**	**14 07 19.3**	**+0.9**
	comp=Z,21nm,1.0s,mb5.1,baz=284,slow=5.4,SNR=5.2						
EFI	**East Falkland**	**61.19**	**151**	*e*P	**P**	**14 07 53.3**	**-2.9**
	comp=Z,77nm,1.1s,mb5.8						
EFI	**East Falkland**	**61.19**	**151**	*e*P	**P**	**14 07 53.3**	**-2.9**
EFI				pmax	pmax		
	comp=Z,77nm,1.1s,mb5.8						
PLCA	**Paso Flores**	**67.89**	**137**	P	**P**	**14 08 40.3**	**+0.3**
	comp=Z,10nm,0.9s,mb4.9,baz=217,slow=6.9,SNR=12						
PLCA	**Paso Flores**	**67.89**	**137**	*e*P	**P**	**14 08 39.9**	**-0.1**
	comp=Z,9.7nm,0.8s,mb4.9						
PLCA	**Paso Flores**	**67.89**	**137**	*e*P	**P**	**14 08 39.9**	**-0.1**
PLCA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TRQA	**Tornquist**	**72.92**	**143**	*e*P	**P**	**14 09 10.0**	**-0.7**
	comp=Z,12nm,0.9s,mb4.8						
GUMO	**Guam**	**77.46**	**340**	LR	LR	14 37 03.8	
	comp=Z,352nm,21.5s,MS4.7,baz=23,slow=30						
PSI	**Prapat**	**81.69**	**293**	LR	LR	14 41 10.0	
	comp=Z,824nm,19.7s,MS5.1,baz=156,slow=32						
BOSA	**Boshof**	**83.69**	**215**	P	**P**	**14 10 12.0**	**+1.7**
	comp=Z,4.5nm,1.0s,mb4.5,baz=163,slow=5.1,SNR=5.7						
BOSA				LR	LR	14 44 35.3	
	comp=Z,2μm,19.9s,MS5.4,baz=165,slow=34						
BOSA	**Boshof**	**83.69**	**215**	*e*P	**P**	**14 10 12.0**	**+1.7**
	comp=Z,19nm,1.4s,mb5.0						
BOSA	**Boshof**	**83.69**	**215**	*e*P	**P**	**14 10 12.0**	**+1.7**
BOSA				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.0						
LVC	**Limon Verde**	**85.06**	**131**	*e*P	**P**	**14 10 19.1**	**+1.9**
	comp=Z,13nm,1.0s,mb5.0						
CPUP	**Villa Florida**	**85.25**	**143**	P	**P**	**14 10 18.2**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.8,baz=248,slow=1.9,SNR=10						
CPUP	**Villa Florida**	**85.25**	**143**	*e*P	**P**	**14 10 17.8**	**-0.4**
	comp=Z,32nm,0.9s,mb5.5						
CPUP	**Villa Florida**	**85.25**	**143**	*e*P	**P**	**14 10 17.8**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,32nm,0.9s						
LPAZ	**La Paz**	**91.17**	**130**	P	**P**	**14 10 46.6**	**+0.1**
	comp=Z,9.7nm,1.1s,mb5.0,baz=126,slow=1.7,SNR=20						
LPAZ				LR	LR	14 43 14.0	
	comp=Z,331nm,18.4s,MS4.8,baz=356,slow=30						
LPAZ	**La Paz**	**91.17**	**130**	*e*P	**P**	**14 10 46.7**	**+0.2**
	comp=Z,21nm,1.3s,mb5.3						
LPAZ	**La Paz**	**91.17**	**130**	*e*P	**P**	**14 10 46.7**	**+0.2**
LPAZ				pmax	pmax		
	comp=Z,21nm,1.3s						
QIZ	**Qiongzhong**	**92.09**	**309**	P	**P**	**14 10 51.3**	**+0.5**
QIZ				S		14 21 51.9	
QIZ				LR	LR		
	comp=E,608nm,19.2s						
BDFB	**Brasilia**	**97.91**	**148**	LR	LR	14 54 41.9	
	comp=E,394nm,18.7s,MS4.9,baz=184,slow=35						
SSE	**Sheshan**	**99.67**	**323**	P	Pdif	14 11 25.8	+0.6
SSE				PP	PP	14 15 30.9	+1.7
SSE				S		14 22 56.3	
SSE				XS	sS	14 23 09.1	+4.9
SSE				AMB	AMB		
	comp=Z,51nm,3.8s						
SSE				LR	LR		
	comp=N,212nm,20.8s,MS4.7						
SSE				LR	LR		
	comp=E,127nm,20.9s,MS4.7						
SSE				LR	LR		
	comp=Z,326nm,21.8s,MS4.8						
SAML	**Samuel**	**99.71**	**132**	*e*P	Pdif	14 11 25.7	+0.3
	comp=Z,2.5nm,1.2s						
KMI	**Kunming**	**100.28**	**305**	P	Pdif	14 11 31.6	+3.7
KMI				XP		14 11 38.0	
KMI				PP	PP	14 15 37.8	+3.9
KMI				PPP		14 17 47.9	
KMI				SKS		14 22 11.1	
KMI				S	Sdif	14 23 04.6	+0.9
KMI				AMB	AMB		
	comp=Z,3.0nm,1.3s						
KMI				AMB	AMB		
	comp=Z,91nm,5.1s						
KMI				LR	LR		
	comp=N,385nm,24.1s,MS5.0						
KMI				LR	LR		
	comp=E,480nm,28.7s,MS5.0						
KMI				LR	LR		
	comp=Z,390nm,22.9s						
NJ2	**Nanjing**	**101.23**	**321**	*e*P	Pdif	14 11 32.3	+0.1
NJ2				AP		14 11 37.1	
NJ2				PP	PP	14 15 43.5	+2.4
NJ2				S	Sdif	14 23 06.0	-5.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,130nm,7.4s						
NJ2				LR	LR		
	comp=N,840nm,28.0s						
NJ2				LR	LR		
	comp=E,3μm,22.5s						
NJ2				LR	LR		
	comp=Z,1μm,24.9s,MS5.3						
CD2	**Chengdu**	**105.13**	**309**	PDIF	Pdif	14 11 51.0	+1.5
CD2				PP	PP	14 16 15.1	+4.8
CD2				PP	PP		
	comp=Z,60nm,7.2s						
CD2				LR	LR		
	comp=N,210nm,22.8s						
CD2				LR	LR		
	comp=Z,220nm,22.8s,MS4.6						
DL2	**Dalian**	**106.90**	**326**	*e*PDIF	Pdif	14 11 55.8	-1.6
DL2				PP	PP	14 16 25.3	+2.0
DL2				SS	SS	14 31 36.8	+7.5
DL2				PP	PP		
	comp=Z,100nm,4.4s						
DL2				LR	LR		
	comp=N,210nm,16.9s,MS4.9						
DL2				LR	LR		
	comp=E,210nm,18.4s,MS4.9						
DL2				LR	LR		
	comp=Z,340nm,16.8s,MS5.0						
BJI	**Beijing**	**109.45**	**322**	PDIF	Pdif	14 12 13.8	+5.1
BJI				PP	PP	14 16 50.9	+9.0
BJI				LR	LR		
	comp=N,477nm,22.1s,MS5.0						
BJI				LR	LR		
	comp=E,195nm,22.1s,MS5.0						
BJI				LR	LR		
	comp=Z,582nm,22.3s,MS5.1						
LZH	**Lanzhou**	**109.77**	**311**	*e*PKP	PKiKP	14 16 09.3	-3.3
LZH				XPKP		14 16 14.1	
LZH				PP	PP	14 16 47.1	+2.9
LZH				PP	PP		
	comp=Z,130nm,6.2s						
LZH				LR	LR		
	comp=E,498nm,18.0s						
LZH				LR	LR		
	comp=Z,745nm,20.0s,MS5.3						
HHC	**Hu-ho-hao-te**	**111.56**	**319**	*e*PKP	PKiKP	14 16 16.9	+0.9
HHC				PP	PP	14 17 03.9	+6.8
HHC				PKS		14 19 52.3	
HHC				SKS	SKSdf	14 23 28.3	+0.2
HHC				SKKS	SKKSac	14 23 57.3	-2.7
HHC				SS	SS	14 32 37.4	+5.5
HHC				PP	PP		
	comp=Z,80nm,5.7s						
HHC				LR	LR		
	comp=N,267nm,20.6s,MS4.9						
HHC				LR	LR		
	comp=E,250nm,22.6s,MS4.9						
HHC				LR	LR		
	comp=Z,473nm,22.6s,MS5.0						
SONM	**Songino Array**	**119.45**	**319**	PKP	PKPdf	14 16 29.8	-1.3
	comp=Z,0.5nm,0.9s,baz=180,slow=0.3,SNR=2.6						
WMQ	**Urumqi**	**122.52**	**303**	*e*PKP	PKPdf	14 16 36.8	-0.2
WMQ				PP	PP	14 18 17.6	+4.0
WMQ				PPP		14 20 54.0	
WMQ				SKS	SKSdf	14 23 43.8	-5.2
WMQ				PP	PP		
	comp=Z,228nm,7.0s						
WMQ				LR	LR		
	comp=N,2μm,19.4s,MS5.9						
WMQ				LR	LR		
	comp=E,1μm,19.0s,MS5.9						
WMQ				LR	LR		
	comp=Z,2μm,21.4s,MS5.6						
PDAR	**Pinedale Array**	**124.85**	**63**	PKP	PKPdf	14 16 40.8	-0.7
	comp=Z,1.9nm,1.1s,baz=207,slow=0.7,SNR=7.5						
MKAR	**Makanchi Array**	**127.11**	**301**	PKhKP		14 16 40.9	
	comp=Z,0.4nm,0.9s,baz=156,slow=3.3,SNR=3.2						
MKAR				PKP	PKPdf	14 16 45.9	+0.1
	comp=Z,1.5nm,1.0s,baz=142,slow=4.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**129.33**	**201**	PKhKP		14 16 47.4	
	comp=Z,0.2nm,0.4s,baz=98,slow=37,SNR=4.4						
TZTN	**Tazewell**	**131.40**	**89**	*e*PKPdf	PKPdf	14 16 56.4	+2.4
ILAR	**Eielson Array**	**131.83**	**25**	PKP	PKPdf	14 16 52.3	-2.5
	comp=Z,2.2nm,1.0s,baz=248,slow=2.9,SNR=10						
TIXI	**Tiksi**	**136.16**	**344**	*e*PKIKP	PKPdf	14 17 00.6	-2.3
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BVAR	**Borovoye Array**	**136.78**	**298**	PKP	PKPdf	14 17 01.6	-2.4
	comp=Z,0.2nm,0.2s,baz=211,slow=33,SNR=3.5						
INK	**Inuvik**	**137.68**	**29**	PKP	PKPdf	14 17 03.0	-2.6
	comp=Z,1.6nm,0.9s,baz=255,slow=5.6,SNR=5.4						
YKA	**Yellowknife Ar**	**138.42**	**44**	PKhKP		14 16 57.7	
	comp=Z,0.1nm,0.6s,baz=227,slow=2.6,SNR=3.3						
AKTK	**Aktyubinsk**	**140.17**	**287**	PKP	PKPdf	14 17 10.1	-0.2
AKTO	**Aktyubinsk**	**140.17**	**287**	PKP	PKPdf	14 17 10.1	-0.2
	comp=Z,1.3nm,0.8s,baz=153,slow=2.3,SNR=3.5						
KIV	**Kislovodsk**	**142.39**	**268**	*i* PKHKP		14 17 07.0	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BR131	**Keskin Array S**	**143.21**	**255**	*e*PKPpre		14 17 13.4	
BRTR	**Keskin Array B**	**143.21**	**255**	PKhKP		14 17 10.4	
	comp=Z,2.3nm,0.9s,baz=123,slow=4.6,SNR=8.5						
SVE	**Sverdlovsk**	**143.46**	**297**	*e*PKIKP	PKPdf	14 17 15.7	-0.4
ARU	**Arti**	**144.06**	**295**	*e*PKIKP	PKPdf	14 17 16.6	-0.6
SOKR	**Solikamsk**	**146.76**	**298**	⇓*i*PKP2	PKPab	14 17 25.1	+0.3
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s						
MDT	**Midelt**	**149.60**	**197**	PKPbc	PKPbc	14 17 29.3	-1.7
	comp=Z,2.4nm,0.9s,baz=188,slow=6.5,SNR=2.5						
RES	**Resolute Bay**	**151.07**	**33**	PKPdf	PKPdf	14 17 27.7	-1.1
RES				*e*PKPbc	PKPbc	14 17 33.9	-0.6
MLR	**Muntele Rosu**	**151.23**	**253**	PKPbc	PKPbc	14 17 35.0	+0.1
	comp=Z,5.7nm,0.8s,baz=128,slow=7.7,SNR=3.9						
AKASG	**Malin Array Be**	**153.56**	**264**	PKPbc	PKPbc	14 17 41.7	+1.5
	comp=Z,0.6nm,0.5s,baz=116,slow=1.2,SNR=5.2						
KLMR	**Klimovskoe**	**154.75**	**291**	*e*PKIKP	PKPbc	14 17 41.0	-1.7
KLMR				pmax	pmax		
	comp=Z,30nm,2.5s						
GERES	**GERESS Array B**	**159.10**	**242**	PKPab	PKPab	14 18 15.7	-0.7
	comp=Z,0.2nm,0.3s,baz=134,slow=5.8,SNR=4.3						
GRF	**Grafenberg Arr**	**160.77**	**240**	*e*PKPab	PKPab	14 18 24.4	+0.7
GRF				*e*L		15 40 25.0	
	comp=Z,564nm,21.1s						

*BJI **23** 13:57:58.5, 5294N×17372W, h119^{km}, mB4.9, mb4.9*

*ISCJB **23** 13:58:00.3±0.2, 5274N±004×17344W±003, h141^{km}, mb4.7/131, Error ellipse: s-maj=5.9km s-min=2.4km az=174.0*

*MOS **23** 13:58:01.9±0.9, 5272N×17345W, h157^{km}, mb4.8/40, Error ellipse: s-maj=7.7km s-min=6.8km az=68.9*

*NEIC **23** 13:58:01.6±0.1, 5272N×17344W, mb4.9/79, Error ellipse: s-maj=5.3km s-min=2.7km az=174.0*

*HRVD **23** 13:58:01.6±0.5, 5255N×17331W, h133^{km}±6^{km}, MW4.8/58, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s58,c93; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43±.17; $M_{\theta\theta}$0.67±.18; $M_{\phi\phi}$-0.24±.15; $M_{r\theta}$1.09±.12; $M_{r\phi}$-1.43±.12; $M_{\theta\phi}$-1.29±.10; Best double couple: $M_0$2.13500×10^{16} NP1:ϕ_s77.00000°, δ37.00000°, λ-169.00000°. NP2:ϕ_s338.00000°, δ83.00000°, λ-53.00000°. Principal axes: T 2.6130, Plg29.0000°, Azm39.0000°; N -0.9560, Plg36.0000°, Azm153.0000°; P -1.6570, Plg40.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **23** 13:58:02.1±0.5, 5271N×17342W, h144^{km}±3^{km}, mb4.4/30, mb1 4.5/31, mb1mx4.4/35, mbtmp4.8/31, MS3.7/4, Ms1 3.6/4, ms1mx3.0/42 Error ellipse: s-maj=10.8km s-min=6.7km az=160.0*

ISC 23 13:58:02.0±0.2, 5274N±004×17342W±003, h143^{km}, h143^{km}±1.2^{km}:pP-P, n305, σ0^{s}92/305, mb4.7/131, 4C-6D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.72**	**222**	P	**Pn**	**13 58 23.0**	**-0.9**
ATKA				S	**Sn**	**13 58 39.2**	**-1.3**
NIKO	**Nikolski**	**2.78**	**83**	P	**Pn**	**13 58 45.1**	**-1.1**
NIKO				S	**Sn**	**13 59 17.1**	**-3.2**
OKCE	**Okmok Cone E**	**3.24**	**76**	P	**Pn**	**13 58 52.1**	**0.0**
OKCE				S	**Sn**	**13 59 29.5**	**-1.4**
OKCD	**Okmok Cone D**	**3.27**	**76**	P	**Pn**	**13 58 52.6**	**+0.1**
OKCD				S	**Sn**	**13 59 33.0**	**+1.4**
UNV	**Unalaska Valle**	**4.29**	**72**	P	**Pn**	**13 59 05.7**	**-0.2**
UNV				S	**Sn**	**13 59 53.7**	**-1.8**
AKLV	**Akutan Long Va**	**4.68**	**69**	P	**Pn**	**13 59 11.6**	**+0.6**
AKUT	**Akutan**	**4.78**	**70**	P	**Pn**	**13 59 12.9**	**+0.7**
SDPT	**Sand Point**	**8.05**	**66**	P	**Pn**	**13 59 54.6**	**-1.4**
FX1	**Attu Island--F**	**8.13**	**276**	P	**Pn**	**13 59 58.2**	**+1.1**
	11nm,0.3s,baz=39,slow=2.1,SNR=40						
FX1				S	**Sn**	**14 01 27.9**	**+0.4**
	9.7nm,0.3s,baz=73,slow=20,SNR=4.8						
FX1	**Attu Island--F**	**8.13**	**276**	P	**Pn**	**13 59 59.4**	**+2.3**
FX1	**Attu Island--F**	**8.13**	**276**	P	**Pn**	**13 59 58.2**	**+1.1**
FX1				S	**Sn**	**14 01 28.0**	**+0.4**
FX1				pmax	pmax		
	comp=Z,11nm,0.3s						
FX1				smax			
	comp=N,10.0nm,0.3s						
SVW2	**Sparrevohn**	**12.80**	**42**	*e*P	**Pn**	**14 00 59.8**	**+1.0**
KDAK	**Kodiak Island**	**12.88**	**59**	P	**Pn**	**14 00 57.3**	**-2.5**
	comp=N,43nm,0.3s,baz=256,slow=6.9,SNR=263						
TTA	**Tatalina**	**13.73**	**35**	*e*P	**Pn**	**14 01 12.1**	**+1.4**
SLKM	**Skilak Lake**	**14.88**	**49**	*e*Pn	**Pn**	**14 01 24.0**	**-1.1**
PMR	**Palmer**	**15.78**	**46**	*e*P	**Pn**	**14 01 35.8**	**-0.5**
	comp=N,21nm,0.3s						
PMR	**Pal

comp=Z,11nm,0.6s,mb4.6,baz=288,slow=11,SNR=50
DLBC pP 14 03 40.0
comp=Z,17nm,0.6s,baz=272,slow=12,SNR=2.8
DLBC ScP ScP 14 10 07.5 -1.2
comp=Z,4.2nm,0.7s,baz=289,slow=4.9,SNR=13
DLBC Dease Lake 24.82 59 *e*P **P 14 03 11.6 +0.9**
DLBC *e*pP 14 03 40.9
BBB Bella Bella 27.26 73 P **P 14 03 33.9 +1.2**
comp=Z,17nm,0.7s,mb4.8,baz=268,slow=8.2,SNR=9.5
BBB Bella Bella 27.26 73 P **P 14 03 33.9 +1.2**
YSS Yuzh-Sakhalins 28.49 276 *e*P **P 14 03 44.0 +0.3**
ASAJ Asahikawa 30.02 271 P **P 14 03 57.2 +0.1**
comp=Z,9.0nm,0.7s,mb4.6,baz=155,slow=5.7,SNR=6.5
ASAJ ScP ScP 14 10 23.3 -1.1
comp=Z,7.9nm,0.8s,baz=120,slow=15,SNR=3.6
ASAJ LR LR 14 15 41.4
comp=Z,29nm,20.9s,baz=320,slow=35
ASAJ Asahikawa 30.02 271 P **P 14 03 57.3 +0.1**
ASAJ pmax pmax
comp=Z,9.0nm,0.7s
ASAJ pmax pmax
comp=N,8.0nm,0.8s
ASAJ MLR MLR
comp=Z,29nm,20.9s
YAK Yakutsk 31.05 310 *i* P **P 14 04 05.9 -0.3**
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
TIXI Tiksi 31.14 329 *i* P **P 14 04 08.0 +1.0**
TIXI pmax pmax
comp=Z,6.0nm,2.1s,mb4.0
YKW3 Yellowknife Ar 31.84 49 *e*P **P 14 04 12.2 -0.9**
YKA Yellowknife Ar 31.86 49 P **P 14 04 12.4 -0.8**
comp=Z,7.5nm,0.5s,mb4.7,baz=273,slow=8.5,SNR=278
YKA PP PP 14 05 23.4 -4.7
comp=Z,4.4nm,1.0s,baz=277,slow=10,SNR=6.4
YKA ScP ScP 14 10 28.8 -1.8
comp=Z,3.1nm,0.5s,baz=287,slow=3.4,SNR=44
YKA LR LR 14 17 31.1
comp=Z,68nm,20.1s,baz=270,slow=37
YKA Yellowknife Ar 31.86 49 P **P 14 04 12.4 -0.8**
YKA PP PP 14 05 23.4 -4.7
YKA ScP ScP 14 10 28.8 -1.8
YKA LR LR 14 17 31.1
YKA Yellowknife Ar 31.86 49 P **P 14 04 12.4 -0.9**
YKA 14 05 23.4
HABR Khabarovsk 32.40 284 *e*P **P 14 04 18.2 +0.2**
HABR pmax pmax
comp=Z,13nm,1.0s,mb4.6
TBM Table Mountain 33.78 78 P **P 14 04 31.0 +0.9**
VFP Flag Point 34.21 81 P **P 14 04 34.7 +1.0**
EPH Ephrata 34.29 77 P **P 14 04 34.8 +0.3**
FRIS Frissel Point 34.41 83 P **P 14 04 36.8 +1.3**
HBO Huckleberry Mo 34.48 84 P **P 14 04 37.6 +1.5**
MDW Midway 34.56 78 P **P 14 04 37.6 +0.8**
SNIWA Snively Ranch 34.70 78 P **P 14 04 38.8 +0.9**
GBL Gable Mountain 34.75 78 P **P 14 04 39.0 +0.6**
HAWA Hanford 34.81 78 *e*P **P 14 04 39.2 +0.4**
comp=Z,2.3nm,0.7s,mb3.9
HAWA *e*pP pP 14 05 09.2 -0.6
H2OWA Water 34.87 78 P **P 14 04 40.0 +0.6**
EDM Edmonton 35.23 65 *e*P **P 14 04 42.5 0.0**
EDM *e*pP pP 14 05 13.1 -0.4
EDM *e*ScP ScP 14 10 41.4 -1.0
EDM Edmonton 35.23 65 *e*P **P 14 04 42.5 0.0**
EDM *e**PP pP 14 05 13.1 -0.4
NEW Newport 35.30 74 ScP ScP 14 10 40.9 -1.7
comp=Z,6.1nm,0.9s,baz=254,slow=5.5,SNR=5.1
NEW Newport 35.30 74 *e*P **P 14 04 43.3 +0.2**
comp=Z,27nm,0.6s,mb5.0
NEW Newport 35.30 74 P **P 14 04 43.5 +0.4**
NEW pmax pmax
comp=Z,27nm,0.6s
YBH Yreka Blue Hor 35.44 87 P **P 14 04 45.8 +1.5**
comp=Z,19nm,0.8s,mb4.8,baz=320,slow=4.2,SNR=23
YBH LR LR 14 16 54.7
comp=Z,100nm,19.4s,baz=317,slow=32
KIPM Iron Peak 36.13 91 *e*P **P 14 04 50.1 0.0**
WDC Whiskeytown Da 36.23 89 *e*P **P 14 04 52.0 +0.9**
comp=Z,18nm,0.9s,mb4.7
WDC Whiskeytown Da 36.23 89 *e*P **P 14 04 52.0 +1.0**
WDC pmax pmax
comp=Z,18nm,0.9s,mb4.7
WALA Waterton Lakes 36.78 71 *e*P **P 14 04 55.9 +0.2**
comp=Z,63nm,1.0s,mb5.2
MOD Modoc 36.80 85 *e*P **P 14 04 56.9 +1.0**
comp=Z,18nm,0.6s,mb4.9
BSMT Bassoo Peak 36.87 73 P **P 14 04 57.0 +0.6**
BMO Blue Mountains 36.95 79 *e*P **P 14 04 57.2 +0.1**
comp=Z,6.3nm,0.8s,mb4.3
RES Resolute Bay 37.10 26 *e*P **P 14 04 58.2 -0.1**
comp=Z,9.1nm,0.8s,mb4.5
RES Resolute Bay 37.10 26 P **P 14 04 58.5 +0.1**
RES pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
MJAR Matsushiro Arr 37.26 264 PcP PcP 14 07 16.2 -0.1
comp=Z,10nm,0.8s,baz=44,slow=2.3,SNR=10.0
MJAR ScP ScP 14 10 48.5 -1.4
comp=Z,1.5nm,0.7s,baz=47,slow=3.5,SNR=4.1
WVOR Wild Horse Val 37.50 83 *e*P **P 14 05 02.5 +0.7**
comp=Z,28nm,0.8s,mb5.0
WVOR *e*pP pP 14 05 33.5 +0.5
WVOR Wild Horse Val 37.50 83 *e*P **P 14 05 02.5 +0.7**
WVOR *e**PP pP 14 05 33.5 +0.5
WVOR pmax pmax
comp=Z,28nm,0.8s,mb4.9
MDJ Mudanjiang 37.60 281 P **P 14 05 02.5 -0.1**
MDJ XP sP 14 05 46.0 -4.2
MDJ AMB AMB
comp=Z,9.0nm,2.0s,mb4.0
MDJ AMB AMB
comp=Z,67nm,5.8s
OHCM Honcut 37.63 90 *e*P **P 14 05 03.1 +0.3**
OHCM *e*pP pP 14 05 34.2 +0.1
OHCM *e*PcP PcP 14 07 20.2 +2.8
MSO Missoula 37.89 74 *e*P **P 14 05 04.8 -0.2**
comp=Z,9.4nm,0.6s,mb4.6
CHMT Chamberlain Mo 38.24 74 *e*P **P 14 05 07.6 -0.4**
CHMT *e*PP PP 14 06 43.7 +5.4
CHMT *e* 14 10 54.1
PAHR Pah Rah Range 38.68 88 *e*P **P 14 05 12.5 +0.8**
comp=Z,38nm,0.7s,mb5.1
PAHR *e*pP pP 14 05 42.1 -0.9
PAHR *e*sP sP 14 05 56.0 -3.3
CMB Columbia Colle 39.12 90 *e*P **P 14 05 15.8 +0.5**
comp=Z,16nm,1.1s,mb4.6
CMB Columbia Colle 39.12 90 *e*P **P 14 05 15.8 +0.5**
CMB pmax pmax
comp=Z,16nm,1.1s,mb4.6
HRY Holter Researc 39.18 73 *e*P **P 14 05 15.7 -0.1**
SAO San Andreas Ge 39.29 93 *e*P **P 14 05 17.1 +0.3**
comp=Z,12nm,0.8s,mb4.6
SAO San Andreas Ge 39.29 93 *e*P **P 14 05 17.1 +0.4**
SAO pmax pmax
comp=Z,12nm,0.8s,mb4.6
HLID Hailey 39.39 79 *e*P **P 14 05 17.9 +0.3**
comp=Z,6.5nm,0.7s,mb4.4
HLID *e*pP pP 14 05 49.0 0.0
DLMT Dillon 39.46 76 *e*P **P 14 05 18.2 +0.1**
comp=Z,4.9nm,0.8s,mb4.2
BMN Battle Mountai 39.55 85 *e*P **P 14 05 19.4 +0.6**
comp=Z,11nm,0.7s,mb4.6
BMN Battle Mountai 39.55 85 *e*P **P 14 05 19.4 +0.6**
BMN pmax pmax
comp=Z,11nm,0.7s,mb4.6
MCMT McKenzie Canyo 39.61 76 *e*P **P 14 05 19.3 0.0**
EGMT Eagleton 39.69 70 *e*P **P 14 05 19.3 -0.7**
comp=Z,30nm,0.6s,mb5.1
EGMT *e* 14 10 57.8
BOD Bodaibo 39.82 307 *e*P **P 14 05 19.2 -1.9**
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb3.9
BOZ Bozeman (W) 39.87 75 *e*P **P 14 05 21.7 +0.2**
comp=Z,21nm,0.7s,mb4.9
BOZ Bozeman (W) 39.87 75 P **P 14 05 21.9 +0.4**
BOZ pmax pmax
comp=Z,21nm,0.7s,mb4.9
NVAR Mina Array Bea 40.13 88 P **P 14 05 24.7 +1.1**
comp=Z,20nm,0.7s,mb4.8,baz=302,slow=7.0,SNR=136
NVAR pP pP 14 05 55.4 +0.1
comp=Z,5.7nm,0.9s,baz=297,slow=8.9,SNR=2.8
NVAR ScP ScP 14 11 00.6 -0.4
comp=Z,1.3nm,0.7s,baz=320,slow=2.8,SNR=7.6
MNV Mina 40.22 88 *e*P **P 14 05 25.0 +0.6**
comp=Z,14nm,0.8s,mb4.6
MNV Mina 40.22 88 *e*P **P 14 05 25.0 +0.6**
MNV pmax pmax
comp=Z,14nm,0.8s,mb4.6
QLMT Earthquake Lak 40.44 76 *e*P **P 14 05 26.4 +0.2**
CN2 Changchun 40.52 283 ⇑P **P 14 05 25.5 -1.4**
CN2 *e*AP pP 14 05 57.0 -1.5
CN2 *e*S **S 14 11 23.0 -2.2**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CN2 AMB AMB
comp=Z,200nm,3.0s
ELK Elko 40.56 83 *e*P **P 14 05 27.8 +0.7**
comp=Z,17nm,0.8s,mb4.7
ELK *e*pP pP 14 05 58.8 0.0
ELK *e*sP sP 14 06 27.6 +13
ELK Elko 40.56 83 *e*P **P 14 05 27.8 +0.6**
ELK *e**PP pP 14 05 58.8 0.0
ELK pmax pmax
comp=Z,17nm,0.8s
FFC Flin Flon 40.62 58 *e*P **P 14 05 26.4 -1.4**
comp=Z,9.5nm,0.7s,mb4.5
FFC Flin Flon 40.62 58 P **P 14 05 26.7 -1.0**
FFC pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
MTUM Tungsten Hills 40.66 90 *e*P **P 14 05 29.4 +1.4**
MTUM *e*pP pP 14 06 00.2 +0.5
PTRM Twissleman Ran 40.77 93 *e*P **P 14 05 29.8 +0.9**
YMR Madison River 40.81 75 *e*P **P 14 05 29.7 +0.5**
comp=Z,20nm,0.8s,mb4.8
HIA Hailar 40.84 293 *e*P **P 14 05 29.1 -0.4**
comp=Z,22nm,0.9s,mb4.8
HIA *e*pP pP 14 06 06.3 +5.2
HIA Hailar 40.84 293 *e*P **P 14 05 29.1 -0.4**
HIA *e**PP pP 14 06 06.3 +5.2
HIA pmax pmax
comp=Z,22nm,0.9s
GCMT Greycliff 40.94 73 *e*P **P 14 05 30.3 0.0**
YFT Old Faithful 41.01 76 *e*P **P 14 05 31.9 +1.0**
LKWY Lake 41.20 75 *e*P **P 14 05 33.7 +1.3**
comp=Z,13nm,0.6s,mb4.8
LKWY *e*pP pP 14 06 05.5 +1.4
LKWY *e*ScP ScP 14 11 07.1 +2.0
LKWY Lake 41.20 75 *e*P **P 14 05 33.7 +1.3**
LKWY *e**PP pP 14 06 05.5 +1.4
LKWY pmax pmax
comp=Z,13nm,0.6s,mb4.7
FLWY Flagg Ranch 41.30 76 *e*P **P 14 05 33.8 +0.5**
comp=Z,14nm,0.8s,mb4.6
HVU Hansel Valley 41.41 80 *e*P **P 14 05 34.6 +0.4**
comp=Z,12nm,0.7s,mb4.7
HVU Hansel Valley 41.41 80 *e*P **P 14 05 34.6 +0.4**
HVU pmax pmax
comp=Z,12nm,0.7s,mb4.6
LOHW Long Hollow 41.63 77 *e*P **P 14 05 36.0 +0.1**
comp=Z,5.7nm,0.9s,mb4.2
CBIJ Chichi jima 41.67 250 P **P 14 05 36.5 +0.2**
comp=Z,149nm,0.7s,mb5.7,baz=8.0,slow=9.4,SNR=5.6
BGU Big Grassy Mou 41.78 81 *e*P **P 14 05 42.1 +5.0**
BGU *e*pP pP 14 06 12.1 +3.2
ISA Isabella 41.82 92 *e*P **P 14 05 36.7 -0.8**
comp=Z,19nm,1.0s,mb4.7
ISA Isabella 41.82 92 *e*P **P 14 05 36.7 -0.8**
ISA pmax pmax
comp=Z,19nm,1.0s,mb4.7
DAC Darwin (Calif) 41.95 90 *e*P **P 14 05 39.2 +0.6**
comp=Z,20nm,0.7s,mb4.8
DAC *e*pP pP 14 06 09.1 -1.3
DAC Darwin (Calif) 41.95 90 *e*P **P 14 05 39.2 +0.6**
DAC *e**PP pP 14 06 09.1 -1.2
DAC pmax pmax
comp=Z,20nm,0.7s,mb4.9
HWUT Hardware Ranch 42.24 80 *e*P **P 14 05 41.2 +0.3**
comp=Z,6.9nm,0.6s,mb4.5
TPNV Topopah Spring 42.33 88 *e*P **P 14 05 42.1 +0.5**
comp=Z,49nm,0.7s,mb5.2
TPNV Topopah Spring 42.33 88 *e*P **P 14 05 42.1 +0.5**
TPNV pmax pmax
comp=Z,49nm,0.7s,mb5.2
DUG Dugway 42.35 82 *e*P **P 14 05 42.2 +0.4**
comp=Z,34nm,1.0s,mb4.9
DUG *e*pP pP 14 06 13.8 +0.1
DUG *e*sP sP 14 06 41.1 +11
DUG Dugway 42.35 82 *e*P **P 14 05 42.2 +0.4**
DUG *e**PP pP 14 06 13.8 +0.1
DUG pmax pmax
comp=Z,34nm,1.0s,mb4.9
LAO LASA Array 42.43 70 *e*P **P 14 05 42.7 +0.3**
comp=Z,43nm,0.8s,mb5.1
FCC Fort Churchill 42.59 49 *e*P **P 14 05 42.3 -1.4**
comp=Z,8.6nm,0.4s,mb4.7
FCC *e*ScP ScP 14 11 08.6 -2.1
FCC Fort Churchill 42.59 49 *e*P **P 14 05 42.3 -1.4**
FCC pmax pmax
comp=Z,9.0nm,0.4s,mb4.8
DGMT Dagmar 42.60 67 *e*P **P 14 05 43.2 -0.6**
comp=Z,49nm,1.1s,mb5.0
TCUT Toone Canyon 42.63 80 *e*P **P 14 05 44.6 +0.6**
PDAR Pinedale Array 42.74 77 P **P 14 05 45.1 +0.2**
comp=Z,23nm,0.7s,mb4.9,baz=306,slow=3.8,SNR=203
PDAR pP pP 14 06 16.0 -0.8
comp=Z,8.8nm,0.8s,baz=303,slow=5.6,SNR=3.8
PDAR ScP ScP 14 11 10.1 -1.3
comp=Z,1.9nm,1.0s,baz=125,slow=0.8,SNR=12
SNY Shenyang 42.80 281 PR 14 05 45.0
SNY LR LR
comp=N,294nm,23.7s
SNY LR LR
comp=Z,592nm,33.0s
MWC Mount Wilson 43.04 93 *e*P **P 14 05 47.7 +0.3**
DAU Daniels Canyon 43.16 81 *e*P **P 14 05 49.0 +0.8**
DAU *e*ScP ScP 14 11 13.1 +0.2
MPU Maple Canyon 43.18 82 *e*P **P 14 05 48.5 +0.1**
comp=Z,10nm,0.7s,mb4.6
ARUT Antelope Range 43.49 85 *e*P **P 14 05 51.5 +0.5**
ARUT *e*ScP ScP 14 11 14.3 -0.1
CCUT Cedar City 43.69 86 *e*P **P 14 05 53.0 +0.4**
MVU Marysvale 43.78 84 *e*P **P 14 06 01.9 +8.7**
comp=Z,12nm,0.8s,mb4.6
MSU Marysvale 43.79 84 *e*P **P 14 05 54.2 +0.8**
MSU *e*ScP ScP 14 11 16.0 +0.4
TMUT Trail Mountain 43.88 82 *e*P **P 14 05 54.8 +0.7**
JNU Nakatsue 44.01 266 P **P 14 05 56.1 +1.0**
comp=Z,24nm,0.8s,mb4.9,baz=50,slow=9.6,SNR=6.9
NEN Nelson 44.04 89 *e*P **P 14 05 55.9 +0.5**
NEN *e*pP pP 14 06 27.3 -0.1
LDFC Landfair 44.26 90 *e*P **P 14 05 57.3 +0.2**
SRU San Rafael 44.41 82 *e*P **P 14 05 58.7 +0.4**
comp=Z,21nm,0.7s,mb4.9
SRU San Rafael 44.41 82 *e*P **P 14 05 58.7 +0.4**
SRU pmax pmax
comp=Z,21nm,0.7s,mb4.9
RWWY Rawlins 44.78 77 *e*P **P 14 06 00.5 -0.8**
comp=Z,16nm,0.8s,mb4.7
BAR Barrett 44.94 93 *e*P **P 14 06 02.6 +0.1**
RSSD Black Hills 45.17 72 *e*P **P 14 06 03.5 -0.7**
comp=Z,15nm,0.6s,mb4.8
RSSD Black Hills 45.17 72 P **P 14 06 03.7 -0.6**
RSSD pmax pmax
comp=Z,15nm,0.6s,mb4.8
PV10 Paradox Valley 45.77 81 *e*P **P 14 06 09.3 +0.3**
PHWY Pilot Hill 46.06 76 *e*P **P 14 06 10.8 -0.5**
PV01 Paradox Valley 46.21 81 *e*P **P 14 06 12.6 +0.1**
WUAZ Wupatki 46.23 86 *e*P **P 14 06 13.1 +0.4**
comp=Z,31nm,0.8s,mb5.0
SMCO Snowmass 46.50 79 *e*P **P 14 06 14.5 -0.2**
comp=Z,5.2nm,0.6s,mb4.3
ISCO Idaho Springs 46.91 78 *e*P **P 14 06 18.7 +0.8**
comp=Z,5.6nm,1.0s,mb4.2
ISCO Idaho Springs 46.91 78 P **P 14 06 18.6 +0.7**
ISCO pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
ULN Ulaanbaatar 48.59 298 *e*P **P 14 06 30.8 -0.1**
TUC Tucson 48.78 89 *e*P **P 14 06 32.7 +0.4**
comp=Z,16nm,0.9s,mb4.7
TUC *e*pP pP 14 07 04.7 -0.2
TUC Tucson 48.78 89 *e*P **P 14 06 32.7 +0.4**
TUC *e**PP pP 14 07 04.7 -0.2
TUC pmax pmax
comp=Z,16nm,0.9s,mb4.7
SONM Songino Array 48.97 298 P **P 14 06 33.9 +0.1**
comp=Z,3.1nm,0.8s,mb4.0,baz=48,slow=8.3,SNR=15
SONM pP pP 14 07 05.2 -1.1
comp=Z,1.1nm,0.6s,baz=49,slow=7.9,SNR=2.6
SONM ScP ScP 14 11 34.5 -2.7
comp=Z,1.3nm,0.8s,baz=56,slow=2.7,SNR=8.5
SONM Songino Array 48.97 298 P **P 14 06 33.9 +0.2**
SONM *PP pP 14 07 05.2 -1.2
ZAK Zakamensk 49.06 303 *e*P **P 14 06 34.3 -0.1**
ZAK *e* 14 07 13.0
ZAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.0
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.0
MOY Mondy 49.44 305 *e*P **P 14 06 36.9 -0.4**
LAZ Ladron 49.55 84 *e*P **P 14 06 39.2 +1.0**
LAZ *e*pP pP 14 07 12.0 +1.1
DAG Danmarks Havn 49.76 7 ⇑*i*P pP 14 07 12.9 +0.4
comp=Z,15nm,1.1s
LENM Lemitar 49.81 84 *e*P **P 14 06 41.2 +1.1**
LENM *e*pP pP 14 07 14.2 +1.3
BNM Barren Site 50.03 84 *e*P **P 14 06 42.4 +0.6**
BNM *e*pP pP 14 07 15.4 +0.8
BNM *e*ScP ScP 14 11 42.2 +0.5
JOW Kunigami 50.07 263 P **P 14 06 42.7 +0.6**
comp=Z,10nm,0.4s,mb4.8,baz=105,slow=9.2,SNR=7.7
FRB Frobisher Bay 50.08 34 P **P 14 06 41.1 -1.0**
comp=Z,32nm,0.4s,mb5.3,baz=310,slow=8.4,SNR=75
FRB pP pP 14 07 14.1 -0.8
comp=Z,9.5nm,0.8s,baz=319,slow=4.0,SNR=2.2
HHC Hu-ho-hao-te 50.47 288 *e*P **P 14 06 45.3 +0.2**
HHC AP pP 14 07 17.5 -0.4
HHC PCP PcP 14 08 02.3 +1.2
HHC PP PP 14 08 43.5 +1.5
HHC S **S 14 13 45.3 -2.4**
HHC AMB AMB
comp=Z,18nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,121nm,6.2s
HHC LR LR
comp=N,174nm,9.8s
HHC LR LR
comp=E,127nm,5.3s
HHC LR LR
comp=Z,109nm,6.1s
CBKS Cedar Bluff 51.02 75 *e*P **P 14 06 48.7 -0.5**
comp=Z,32nm,0.6s,mb5.1
CBKS Cedar Bluff 51.02 75 P **P 14 06 49.0 -0.2**
CBKS pmax pmax
comp=Z,32nm,0.7s,mb5.1
SUMG Summit 51.12 16 *e*P **P 14 06 50.5 +0.5**
comp=Z,23nm,0.9s,mb4.8
SUMG *e*pP pP 14 07 25.7 +2.8
GUMO Guam 51.20 236 P **P 14 06 48.5 -2.0**
comp=Z,21nm,0.3s,mb5.2,baz=23,slow=7.7,SNR=4.3
SSE Sheshan 51.31 272 P **P 14 06 49.8 -1.5**
SSE AMB AMB
comp=Z,33nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,101nm,5.8s
BTO Baotou 51.52 289 *e*P **P 14 06 53.8 +0.9**
BTO AMB AMB
comp=Z,33nm,0.8s,mb5.0
NJ2 Nanjing 52.05 275 *e*P **P 14 06 58.8 +1.9**
NJ2 PP PP 14 08 59.5 +3.1
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
NJ2 AMB AMB
comp=Z,190nm,5.2s
NJ2 LR LR
comp=N,1μm,26.9s
NJ2 LR LR
comp=E,3μm,21.0s
NJ2 LR LR
comp=Z,630nm,24.2s
CPRX Cap Rock 52.47 83 *e*P **P 14 07 00.0 +0.1**
MNTX Cornudas Mount 52.48 85 *e*P **P 14 07 00.3 +0.3**
comp=Z,22nm,0.8s,mb4.8
MNTX *e*pP pP 14 07 33.0 -0.2
MNTX *e* 14 07 57.8
KSU1 Kansas State U 52.65 72 *e*P **P 14 06 59.3 -2.0**
GDL2 Guadalupe Moun 52.75 84 *e*P **P 14 07 02.2 +0.2**
GDL2 *e*pP pP 14 07 35.5 +0.4
SFJD Kangerlussuaq 53.08 24 P **P 14 07 04.2 -0.3**
comp=Z,16nm,0.7s,mb4.9,baz=302,slow=6.0,SNR=13
SFJD pP pP 14 07 39.2 +1.6
comp=Z,17nm,0.7s,baz=305,slow=9.1,SNR=5.5
SFJD Kangerlussuaq 53.08 24 ⇑*i*P **P 14 07 04.0 -0.5**
comp=Z,14nm,0.5s,mb5.0
SFJD *i* pP 14 07 39.7 +2.1
SFJD
comp=Z,1μm,20.0s
SFJD Kangerlussuaq 53.08 24 P **P 14 07 04.2 -0.3**
SFJD *PP pP 14 07 39.2 +1.6
SFJD pmax pmax
comp=Z,16nm,0.7s,mb4.9
SFJD pmax pmax
comp=Z,17nm,0.7s,mb4.9
WMOK Wichita Mounta 54.34 78 *e*P **P 14 07 12.9 -0.7**
comp=Z,7.5nm,0.8s,mb4.5
WMOK *e*pP pP 14 07 46.1 -0.8
WMOK Wichita Mounta 54.34 78 *e*P **P 14 07 12.9 -0.7**
WMOK *e**PP pP 14 07 46.1 -0.7
WMOK pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LTX Lajitas 55.20 86 *e*P **P 14 07 19.7 -0.1**
comp=Z,23nm,0.8s,mb5.0
LTX *e*pP pP 14 07 53.2 0.0
LTX Lajitas 55.20 86 *e*P **P 14 07 19.7 -0.1**
LTX *e**PP pP 14 07 53.2 0.0
LTX pmax pmax
comp=Z,23nm,0.8s,mb5.0
ZAL Zalesovo 55.47 315 P **P 14 07 20.6 -1.1**
comp=Z,0.6nm,0.5s,mb3.6,baz=116,slow=22,SNR=3.4
NVS Novosibirsk 55.50 317 *e*P **P 14 07 20.7 -1.2**
NVS pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
JCT Junction City 56.72 82 *e*P **P 14 07 29.4 -1.2**
comp=Z,19nm,0.6s,mb5.1
JCT Junction City 56.72 82 P **P 14 07 29.7 -0.9**
JCT pmax pmax
comp=Z,19nm,0.6s,mb5.1
SCHQ Schefferville 56.83 41 P **P 14 07 30.2 -1.1**
comp=Z,6.5nm,0.5s,mb4.7,baz=333,slow=7.0,SNR=24
FVM French Village 56.96 69 *e*P **P 14 07 30.7 -1.6**
comp=Z,41nm,0.6s,mb5.4
FVM French Village 56.96 69 *e*P **P 14 07 30.7 -1.6**
FVM pmax pmax
comp=Z,41nm,0.6s,mb5.4
ARCES ARCESS Array B 57.25 352 P **P 14 07 33.2 -1.2**
comp=Z,1.2nm,0.6s,mb3.9,baz=24,slow=9.3,SNR=6.9
MIAR Mount Ida 57.54 74 *e*P **P 14 07 35.1 -1.2**
comp=Z,14nm,0.7s,mb4.9
MIAR Mount Ida 57.54 74 P **P 14 07 35.4 -1.0**
MIAR pmax pmax
comp=Z,15nm,0.7s,mb4.9
GTA Gaotai 58.09 294 *e*P **P 14 07 39.8 -0.4**
GTA AP pP 14 08 13.1 -0.8
GTA PCP PcP 14 08 29.6 -0.7
GTA PP PP 14 09 53.8 +3.5
GTA PPP 14 11 17.9
GTA SCP ScP 14 12 14.0 -2.9
GTA S **S 14 15 29.3 -0.6**
GTA SCS ScS 14 17 13.6 -2.0
GTA SS SS 14 19 24.6 +1.1
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.3
GTA AMB AMB
comp=Z,80nm,8.0s
GTA LR LR
comp=N,160nm,18.3s
GTA LR LR
comp=E,162nm,18.6s
GTA LR LR
comp=Z,173nm,16.7s
LZH Lanzhou 58.14 289 *e*P **P 14 07 41.0 +0.5**
LZH AP pP 14 08 13.5 -0.7
LZH XP sP 14 08 28.5 -1.4
LZH PP PP 14 09 53.3 +2.5
LZH *e*S **S 14 15 29.0 -1.6**
LZH AMB AMB
comp=Z,27nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,130nm,4.5s
SADO Sadowa 58.33 57 P **P 14 07 40.5 -1.4**
comp=Z,9.7nm,0.5s,mb4.9,baz=336,slow=8.3,SNR=10
USIN University of 58.53 68 *e*P **P 14 07 41.7 -1.5**
ENH Enshi 58.96 280 *e*P **P 14 07 45.4 -0.8**
comp=Z,5.7nm,0.5s,mb4.7
WCI Wyandotte Cave 59.12 66 *e*P **P 14 07 46.0 -1.2**
comp=Z,34nm,0.8s,mb5.2
WCI Wyandotte Cave 59.12 66 *e*P **P 14 07 46.1 -1.2**

WCI pmax pmax
comp=Z,34nm,0.8s,mb5.2
ACSO Alum Creek Sta 59.52 63 *eP* **P 14 07 49.0 -1.0**
comp=Z,8.8nm,0.8s,mb4.6
WVT Waverly 59.74 69 *eP* **P 14 07 50.5 -1.0**
comp=Z,14nm,0.6s,mb5.0
WVT Waverly 59.74 69 P **P 14 07 50.7 -0.9**
WVT pmax pmax
comp=Z,14nm,0.6s,mb5.0
OXF Oxford 59.99 72 *eP* **P 14 07 52.2 -1.0**
comp=Z,138nm,0.9s
OXF Oxford 59.99 72 P **P 14 07 52.5 -0.8**
OXF pmax pmax
comp=Z,140nm,0.9s
PLAL Pickwick Lake 60.42 70 *eP* **P 14 07 54.6 -1.6**
comp=Z,14nm,0.5s,mb5.0
PLAL *e*pP pP 14 08 28.9 -1.2
KURK Kurchatov 60.42 316 *eP* **P 14 07 56.2 0.0**
comp=Z,8.0nm,0.6s,mb4.7
KURK *e*pP pP 14 08 32.6 +2.5
KURK Kurchatov 60.42 316 *eP* **P 14 07 56.2 0.0**
KURK *e**PP pP 14 08 32.6 +2.5
KURK pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
WMQ Urumqi 61.33 305 *eP* **P 14 08 03.8 +1.5**
WMQ AP pP 14 08 37.3 +1.0
WMQ PP PP 14 10 22.5 +3.5
WMQ AMB AMB
comp=Z,9.0nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,63nm,4.6s
CHKZ Chkalovo 61.33 322 *eP* **P 14 08 01.9 -0.4**
comp=Z,1.2nm,0.7s,mb3.8
CHKZ *e*pP pP 14 08 38.4 +2.1
CHKZ Chkalovo 61.33 322 *eP* **P 14 08 01.9 -0.4**
CHKZ *e**PP pP 14 08 38.4 +2.0
CHKZ pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
SWET Sewanee 61.47 69 *eP* **P 14 08 01.4 -1.8**
MK31 Makanchi Array 61.72 311 *i P* **P 14 08 04.1 -0.9**
MK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
MKAR Makanchi Array 61.72 311 P **P 14 08 04.4 -0.6**
comp=Z,1.0nm,0.3s,mb4.1,baz=54,slow=6.3,SNR=28
MKAR pP pP 14 08 39.1 +0.1
comp=Z,3.7nm,1.0s,baz=46,slow=6.9,SNR=3.2
MKAR Makanchi Array 61.72 311 *i P* **P 14 08 04.1 -0.9**
BINY Binghamton 61.78 57 *eP* **P 14 08 04.7 -0.6**
comp=Z,16nm,0.4s,mb5.2
TZTN Tazewell 61.85 66 *eP* **P 14 08 05.1 -0.7**
CD2 Chengdu 61.90 285 ⇓*iP* **P 14 08 06.0 -0.1**
CD2 AP pP 14 08 39.5 -0.7
CD2 PP PP 14 10 25.9 +1.9
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.9s
CD2 LR LR
comp=N,210nm,10.8s
CD2 LR LR
comp=Z,120nm,13.2s
BVA0 Borovoye Array 61.92 322 *i P* **P 14 08 06.8 +0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
BVAR Borovoye Array 61.92 322 P **P 14 08 06.9 +0.5**
comp=Z,4.4nm,0.5s,mb4.5,baz=53,slow=6.7,SNR=44
BVAR pP pP 14 08 40.9 +0.5
comp=Z,5.2nm,0.6s,baz=52,slow=6.5,SNR=4.1
BVAR sP sP 14 08 57.9 +1.9
comp=Z,4.4nm,0.8s,baz=50,slow=5.2,SNR=2.7
BRVK Borovoye 61.94 322 *eP* **P 14 08 06.7 +0.2**
comp=Z,2.9nm,0.9s,mb4.1
BRVK *e*PcP PcP 14 08 44.7 -1.1
BRVK Borovoye 61.94 322 *eP* **P 14 08 06.7 +0.3**
BRVK *e* pP 14 08 44.7 +4.2
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
LRAL Lakeview Retre 62.44 71 *eP* **P 14 08 07.8 -2.0**
comp=Z,13nm,0.7s,mb4.9
ZRNK Zerenda 62.50 323 *eP* **P 14 08 10.2 0.0**
comp=Z,5.3nm,0.5s,mb4.6
ZRNK *e*pP pP 14 08 48.7 +4.4
ZRNK Zerenda 62.50 323 *eP* **P 14 08 10.2 +0.1**
ZRNK *e**PP pP 14 08 48.7 +4.4
ZRNK pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
FWV Forest Hill 62.60 63 *eP* **P 14 08 10.4 -0.5**
ELN Prospectdale 62.89 64 *eP* **P 14 08 11.8 -0.9**
BLA Blacksburg 63.08 63 *eP* **P 14 08 13.7 -0.4**
comp=Z,4.3nm,0.9s,mb4.3
BLA Blacksburg 63.08 63 *eP* **P 14 08 14.1 +0.1**
BLA pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
MVL Millersville 63.20 59 *eP* **P 14 08 13.8 -1.0**
GYA Guiyang 63.43 279 ⇑*iP* **P 14 08 15.9 -0.4**
GYA AP pP 14 08 49.3 -1.2
GYA XP sP 14 09 05.1 -1.0
GYA PP PP 14 10 37.6 +0.1
GYA S **S 14 16 33.3 -4.5**
GYA XS sS 14 17 31.8 -5.1
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.8
GYA AMB AMB
comp=Z,100nm,3.8s
GYA LR LR
comp=N,670nm,16.8s
GYA LR LR
comp=E,570nm,17.0s
GYA LR LR
comp=Z,720nm,17.2s
TGY Tagaytay City 64.18 259 P **P 14 08 22.4 +1.2**
comp=Z,250nm,0.7s,baz=190,slow=0.7,SNR=14
FINES FINESS Array B 65.11 350 P **P 14 08 27.9 +0.7**
comp=Z,1.1nm,0.7s,mb3.8,baz=40,slow=4.5,SNR=4.6
FINES pP pP 14 09 01.8 +0.1
comp=Z,3.9nm,0.9s,baz=23,slow=10,SNR=3.9
FINES FINESS Array B 65.11 350 *i P* **P 14 08 27.3 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.7s
HNR Honiara 65.99 209 LR LR 14 33 02.6
comp=Z,409nm,18.5s,baz=180,slow=32
NB2 NORSAR Subarra 66.51 358 P **P 14 08 36.3 +0.1**
comp=Z,0.7nm,0.5s,mb3.8,baz=3.8,slow=6.9
NB2 NORSAR Subarra 66.51 358 P pP 14 09 08.5 -2.2
comp=Z,2.9nm,0.6s,baz=2.9,slow=6.5
NB2 NORSAR Subarra 66.51 358 P **P 14 08 36.3 +0.1**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
NOA NORSAR Array B 66.51 358 P **P 14 08 36.3 +0.1**
comp=Z,0.8nm,0.6s,mb3.7,baz=4.0,slow=6.5,SNR=3.9
NOA pP pP 14 09 09.2 -1.5
comp=Z,2.9nm,0.9s,baz=3.0,slow=6.4,SNR=3.7
KMI Kunming 66.78 281 P **P 14 08 38.3 +0.4**
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,76nm,3.7s
KMI LR LR
comp=N,309nm,16.3s
KMI LR LR
comp=E,290nm,17.8s
KMI LR LR
comp=Z,196nm,15.6s
HFS Hagfors 67.33 356 P **P 14 08 40.8 -0.6**
comp=Z,1.0nm,0.3s,mb4.1,baz=40,slow=4.8,SNR=11
HFS pP pP 14 09 14.1 -1.9
comp=Z,3.2nm,0.8s,baz=112,slow=4.0,SNR=2.7
USP Ospenovka 67.96 313 P **P 14 08 48.8 +3.4**
SNR=5.5
KBK Karagaybulak 68.24 312 P **P 14 08 47.7 +0.6**
SNR=6.2
AKTK Aktyubinsk 68.41 327 P **P 14 08 49.1 +1.0**
AKTK pP pP 14 09 22.4 -0.4
AKTO Aktyubinsk 68.41 327 P **P 14 08 49.1 +0.9**
comp=Z,2.7nm,0.5s,mb4.2,baz=50,slow=6.9,SNR=12
AKTO pP pP 14 09 22.4 -0.4
comp=Z,3.1nm,0.7s,baz=62,slow=5.4,SNR=3.0
AKTO Aktyubinsk 68.41 327 P **P 14 08 49.1 +1.0**
AKTO *PP pP 14 09 22.4 -0.4
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
AAK Ala-Archa 68.47 313 P **P 14 08 49.4 +0.9**
SNR=10
KZA Kyzart 68.57 312 P **P 14 08 49.8 +0.6**
SNR=8.1
EKS2 Erkin-Say 68.76 313 P **P 14 08 51.1 +0.7**
SNR=14
AB31 Akbulak array 68.77 326 *eP* **P 14 08 50.4 0.0**
AML Almayashu 69.22 313 P **P 14 08 54.7 +1.5**
SNR=10
OBN Obninsk 69.68 342 *eP* **P 14 08 54.5 -1.5**
OBN *e**PP pP 14 09 35.2 +4.4
OBN *e*S S 14 17 51.5 -1.5
OBN *e*SS SS 14 22 23.8 -0.1
OBN pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
OBN MLR MLR
comp=Z,200nm,19.0s
LSA Lhasa 70.04 293 P **P 14 09 00.1 +1.9**
LSA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
LSA Lhasa 70.04 293 *eP* **P 14 08 59.8 +1.6**
comp=Z,5.4nm,0.6s,mb4.5
LSA Lhasa 70.04 293 *eP* **P 14 08 59.8 +1.6**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
PMG Port Moresby 70.46 222 P **P 14 09 00.5 -0.2**
comp=Z,19nm,0.8s,mb4.9,baz=20,slow=6.9,SNR=10.0
EKA Eskdalemuir Ar 71.99 6 P **P 14 09 09.6 -0.4**
comp=Z,0.8nm,0.6s,mb3.6,baz=359,slow=5.4,SNR=3.7
GUN Gumba 74.35 295 *eP* **P 14 09 24.2 +0.4**
comp=Z,13nm,0.4s,mb5.0
JIRN Jiri 74.38 295 *eP* **P 14 09 24.4 +0.5**
comp=Z,14nm,0.5s,mb4.9
KKN Kakani 74.77 296 *eP* **P 14 09 26.3 +0.1**
comp=Z,7.6nm,0.4s,mb4.7
PKI Pulchoki 74.87 296 *eP* **P 14 09 26.6 -0.2**
GKN Gorkha 74.96 296 *eP* **P 14 09 27.0 -0.3**
comp=Z,13nm,0.5s,mb4.8
DMN Daman 75.01 296 *eP* **P 14 09 27.8 +0.2**
comp=Z,6.5nm,0.4s,mb4.6
DANN Dangsing 75.16 297 *eP* **P 14 09 28.8 +0.4**
KOLN Koldanda 75.70 297 *eP* **P 14 09 31.4 -0.1**
comp=Z,3.8nm,0.4s,mb4.3
DZM Mont Dzumac 76.53 199 P **P 14 09 36.6 +0.4**
comp=Z,10nm,0.7s,mb4.6,baz=65,slow=11,SNR=8.7
KHC Kasperske Hory 78.33 355 *e*pP pP 14 10 20.0 -1.8
GERES GERESS Array B 78.61 355 P **P 14 09 47.9 +0.1**
comp=Z,0.5nm,0.6s,baz=22,slow=7.5,SNR=4.4
GERES pP pP 14 10 23.4 +0.1
comp=Z,0.8nm,0.6s,baz=15,slow=5.5,SNR=4.3
KIV Kislovodsk 78.79 334 *eP* **P 14 09 48.1 -0.6**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
KAKA Kakadu 79.98 233 *eP* **P 14 09 54.3 -0.9**
comp=Z,19nm,0.6s,mb4.9
CTA Charters Tower 80.53 218 ⇓*iP* **P 14 09 57.6 -0.5**
comp=Z,18nm,0.9s,mb4.7
CTA Charters Tower 80.53 218 P **P 14 09 57.7 -0.4**
comp=Z,21nm,0.8s,mb4.8,baz=25,slow=7.0,SNR=12
CTA Charters Tower 80.53 218 ⇓*iP* **P 14 09 57.6 -0.5**
CTA pmax pmax
comp=Z,18nm,0.9s
KULM Kulim 83.36 270 *eP* **P 14 10 11.0 -1.9**
BRTR Keskin Array B 84.96 339 P **P 14 10 21.6 +0.6**
comp=Z,0.3nm,0.5s,baz=88,slow=7.5,SNR=3.8
BRTR pP pP 14 10 57.5 +0.4
comp=Z,1.2nm,0.8s,baz=41,slow=2.5,SNR=3.2
WRAB Tennant Creek 85.34 228 *eP* **P 14 10 21.7 -1.2**
comp=Z,23nm,0.9s,mb4.9
WRAB Tennant Creek 85.34 228 *eP* **P 14 10 21.7 -1.2**
WRAB pmax pmax
comp=Z,23nm,0.9s,mb4.9
WB2 Warramunga Arr 85.35 228 ⇓*iP* **P 14 10 21.7 -1.2**
WRA Warramunga Arr 85.35 228 P **P 14 10 21.9 -1.1**
comp=Z,7.6nm,0.4s,mb4.7,baz=32,slow=5.8,SNR=166
WRA Warramunga Arr 85.35 228 *i P* **P 14 10 21.8 -1.2**
WRA pmax pmax
comp=Z,8.0nm,0.4s
CPD Cerro la Pandu 85.96 65 *eP* **P 14 10 26.6 +0.6**
PSI Prapat 86.37 270 P **P 14 10 27.9 -0.1**
comp=Z,82nm,0.8s,mb5.5,baz=34,slow=6.5,SNR=49
FITZ Fitzroy Crossi 87.96 236 ⇓*iP* **P 14 10 35.2 -0.4**
comp=Z,33nm,0.6s,mb5.3
ARMA Armidale 88.26 210 *eP* **P 14 10 37.8 +0.8**
ASAR Alice Springs 88.79 227 P **P 14 10 39.2 -0.3**
comp=Z,32nm,0.7s,mb5.3,baz=22,slow=5.0,SNR=523
URZ Urewera 91.00 187 P **P 14 10 44.9 -4.9**
comp=Z,16nm,1.0s,mb5.0,baz=107,slow=5.1,SNR=4.1
STKA Stephens Creek 92.95 217 *eP* **P 14 10 56.0 -2.8**
comp=Z,3.3nm,0.6s,mb4.6
STKA Stephens Creek 92.95 217 P **P 14 10 56.5 -2.4**
comp=Z,4.9nm,0.6s,mb4.8,baz=5.9,slow=4.6,SNR=13
TORD Torodi Ar. Bea 114.25 5 SKP 14 19 44.6
comp=Z,1.1nm,0.5s,baz=343,slow=2.5,SNR=15
TORD PKKPbc PKKPbc 14 27 02.4 -2.2
comp=Z,0.8nm,0.4s,baz=162,slow=2.3,SNR=13
TORD PKKPab PKKPab 14 27 10.2 -1.4
comp=Z,2.3nm,0.7s,baz=177,slow=3.2,SNR=11
PLCA Paso Flores 128.24 109 PKP PKPdf 14 16 51.1 -0.1
comp=Z,4.7nm,0.8s,baz=322,slow=1.3,SNR=8.0
VNDA Vanda 130.91 187 SKPab 14 20 05.0
comp=Z,2.0nm,0.8s,baz=350,slow=3.8,SNR=9.6
LBTB Lobatse 148.80 325 PKPbc PKPbc 14 17 32.9 +0.5
comp=Z,4.2nm,0.7s,baz=80,slow=2.0,SNR=4.5
LBTB Lobatse 148.80 325 *e*PKPbc PKPbc 14 17 31.9 -0.6
LBTB Lobatse 148.80 325 PKP2 PKPbc 14 17 32.9 +0.4
LBTB pmax pmax
comp=Z,4.0nm,0.7s
MAW Mawson 149.62 219 PKPbc PKPbc 14 17 33.0 -1.5
comp=Z,23nm,0.9s,baz=17,slow=1.9,SNR=12
BOSA Boshof 152.21 323 PKPbc PKPbc 14 17 39.2 -1.3
comp=Z,2.3nm,0.7s,baz=13,slow=9.4,SNR=5.9
SNAA Sanae 160.55 171 PKPab PKPab 14 18 24.1 -2.6
comp=Z,1.5nm,0.4s,baz=217,slow=8.2,SNR=15

NIED ***23*** *14:03:00,3620N×14000E,h74km,Mw3.9 Best double couple: M0=7.91000×10^14 NP1:φs=5.00000°,δ65.00000°, λ76.00000°. NP2:φs=215.00000°,δ28.00000°,λ117.00000°.*
ISCJB ***23*** *14:03:43.9±0.4,36.11N±003×13999E±005,h86km±3km, mb4.0/12,Error ellipse: s-maj=6.9km s-min=4.3km az=13.5*
MOS ***23*** *14:03:43.7±0.9,3606N×13998E,h87km,mb4.2/3,Error ellipse: s-maj=18.7km s-min=12.3km az=122.3*
IDC ***23*** *14:03:45.6±1.2,36.11N×13993E,h80km±11km,mb3.7/9, mb1 3.8/11,mb1mx3.6/24,mbtmp4.0/11,Error ellipse: s-maj=16.3km s-min=7.9km az=69.0*
JMA ***23*** *14:03:45.6±0.1,3613N×13999E,h69km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φs=188.00000°,δ29.00000°,λ100.00000°. NP2: φs=356.00000°,δ61.00000°,λ84.00000°. Principal axes: T Plg73.0000°, Azm252.0000°; N Plg5.0000°, Azm359.0000°; P Plg16.0000°, Azm90.0000°;*
JMA Felt I J1.
NEIC ***23*** *14:03:46.6±1.1,3606N×13978E,h89km±8km,mb4.4/4 Error ellipse: s-maj=16.5km s-min=9.2km az=82.0*

ISC 23 14:03:45.1±0.4,3611N±003×13997E±005,h79km±3km, n39,σ0°71/57,mb4.0/12,4C-6D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.21**	**58**	⇑P	**Pn**	**14 03 56.2**	**-0.6**
JYT				S	**Sn**	**14 04 03.9**	**-1.5**
TOK	**Tokyo**	**0.46**	**202**	P	**Pn**	**14 03 59.3**	**+0.9**
TOK				*e*S	**Sn**	**14 04 10.0**	**+1.8**
JAG	**Ashikaga**	**0.52**	**307**	⇓P	**Pn**	**14 03 58.7**	**-0.2**
JAG				*e*S	**Sn**	**14 04 08.3**	**-0.8**
JRY	**Ryogami san**	**0.87**	**264**	⇓P	**Pn**	**14 04 02.9**	**+0.3**
JRY				*e*S	**Sn**	**14 04 15.7**	**+0.1**
JKT	**Katashina**	**0.87**	**318**	⇓P	**Pn**	**14 04 02.6**	**0.0**
JKT				*e*S	**Sn**	**14 04 15.4**	**-0.2**
JOD2	**Odawara 2**	**1.11**	**221**	⇓P	**Pn**	**14 04 05.6**	**+0.2**
JOD2				*e*S	**Sn**	**14 04 20.1**	**-0.6**
JFY	**Yanaizu**	**1.31**	**351**	P	**Pn**	**14 04 08.3**	**+0.4**
JFY				S	**Sn**	**14 04 25.8**	**+0.8**
JYN	**Shimob**	**1.31**	**242**	⇓P	**Pn**	**14 04 08.7**	**+0.7**
JYN				*e*S	**Sn**	**14 04 25.6**	**+0.5**
JHK	**Hiroka**	**1.37**	**326**	⇓P	**Pn**	**14 04 09.1**	**+0.5**
JHK				*e*S	**Sn**	**14 04 27.4**	**+1.0**
BSO3	**Boso 3**	**1.38**	**161**	⇑P	**Pn**	**14 04 08.3**	**-0.5**
JFT	**Otama**	**1.43**	**12**	⇑P	**Pn**	**14 04 09.9**	**+0.4**
JFT				*e*S	**Sn**	**14 04 28.1**	**+0.3**
JFK	**Kawauchi**	**1.45**	**30**	⇑P	**Pn**	**14 04 09.5**	**-0.1**
JIM2	**Oshima 3**	**1.46**	**198**	P	**Pn**	**14 04 09.4**	**-0.5**
JIM2				*e*S	**Sn**	**14 04 27.5**	**-1.0**
MJAR	**Matsushiro Arr**	**1.49**	**287**	P	**Pn**	**14 04 10.1**	**-0.1**
MJAR				S	**Sn**	**14 04 28.3**	**-0.8**
MAJO	**Matsushiro**	**1.49**	**287**	*e*Pn	**Pn**	**14 04 10.7**	**+0.5**
MAT	**Matsushiro**	**1.49**	**287**	P	**Pn**	**14 04 10.4**	**+0.2**
MAT				*e*S	**Sn**	**14 04 29.5**	**+0.4**
MAT	**Matsushiro**	**1.49**	**287**	P	**Pn**	**14 04 10.9**	**+0.7**
MAT				S	**Sn**	**14 04 27.5**	**-1.6**
MAT	**Matsushiro**	**1.49**	**287**	*e*P	**Pn**	**14 04 11.0**	**+0.8**
MAT				*e*S	**Sn**	**14 04 28.0**	**-1.1**
JHJ	**Hachijo jima 2**	**2.99**	**183**	P	**Pn**	**14 04 29.7**	**-0.6**
JHJ				S	**Sn**	**14 05 06.1**	**+1.0**
ASAJ	**Asahikawa**	**8.24**	**13**	P	**Pn**	**14 05 41.4**	**-0.5**
ASAJ				S	**Sn**	**14 07 12.7**	**-0.6**
ASAJ	**Asahikawa**	**8.24**	**13**	P	**Pn**	**14 05 41.4**	**-0.4**
ASAJ				S	**Sn**	**14 07 12.7**	**-0.6**
ZAL	**Zalesovo**	**41.70**	**313**	P	**Pn**	**14 11 25.3**	**-0.7**
MKAR	**Makanchi Array**	**43.63**	**303**	P	**Pn**	**14 11 42.3**	**+0.7**
KURK	**Kurchatov**	**45.59**	**309**	*e*P	**P**	**14 11 56.9**	**-0.3**
KURK	**Kurchatov**	**45.59**	**309**	*e*P	**P**	**14 11 56.9**	**-0.4**
KURK				pmax	pmax		
ILAR	**Eielson Array**	**50.89**	**32**	P	**P**	**14 12 39.1**	**+1.1**
ZRNK	**Zerenda**	**51.17**	**313**	*e*P	**P**	**14 12 39.8**	**-0.4**
ZRNK	**Zerenda**	**51.17**	**313**	*e*P	**P**	**14 12 39.8**	**-0.3**
ZRNK				pmax	pmax		
INK	**Inuvik**	**55.73**	**27**	P	**P**	**14 13 14.5**	**+1.0**
WRAB	**Tennant Creek**	**55.99**	**186**	*e*P	**P**	**14 13 14.5**	**-0.9**
WRA	**Warramunga Arr**	**56.00**	**186**	P	**P**	**14 13 15.3**	**-0.1**
AKTK	**Aktyubinsk**	**58.43**	**312**	P	**P**	**14 13 31.7**	**-0.8**
AKTO	**Aktyubinsk**	**58.43**	**312**	P	**P**	**14 13 31.7**	**-0.8**
ASAR	**Alice Springs**	**59.73**	**186**	P	**P**	**14 13 42.5**	**+1.0**
MBWA	**Marble Bar**	**60.10**	**202**	P	**P**	**14 13 43.9**	**-0.2**
HFS	**Hagfors**	**74.44**	**335**	P	**P**	**14 15 14.6**	**-0.1**
NB2	**NORSAR Subarra**	**74.58**	**337**	P	**P**	**14 15 15.6**	**+0.1**
NB2	**NORSAR Subarra**	**74.58**	**337**	P	**P**	**14 15 15.6**	**+0.1**
NB2				pmax	pmax		
NOA	**NORSAR Array B**	**74.58**	**337**	P	**P**	**14 15 15.4**	**-0.1**

WEL 23 14:29:56.6±0.3,3837S×17615E,h132km±2km,ML3.5/13, 3C,Error ellipse: s-maj=1.6km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.77**	**82**	*e*PN	Pn	14 30 17.4	-0.2
URZ				SN	Sn	14 30 33.6	0.0
BKZ	**Black Stump Fm**	**0.84**	**161**	PN	Pn	14 30 18.6	+0.4
BKZ				SN	Sn	14 30 34.6	0.0
WTVZ	**West Tongariro**	**0.86**	**210**	PN	Pn	14 30 18.6	+0.2
TWVZ	**Taurewa**	**0.89**	**218**	PN	Pn	14 30 18.8	+0.2
WPVZ	**Whakapapa**	**0.96**	**209**	PN	Pn	14 30 19.5	+0.3
TUVZ	**Tukino**	**0.97**	**203**	PN	Pn	14 30 19.8	+0.4
HIZ	**Hauiti**	**1.02**	**262**	⇑PN	Pn	14 30 19.7	-0.2
WNVZ	**Wahianoa**	**1.05**	**204**	PN	Pn	14 30 20.2	+0.2
MOVZ	**Moawhango**	**1.08**	**196**	⇑PN	Pn	14 30 20.3	-0.1
MOVZ				SN	Sn	14 30 37.9	-0.6
MWZ	**Matawai**	**1.09**	**89**	PN	Pn	14 30 20.6	+0.2
MWZ				SN	Sn	14 30 38.6	+0.1
PKVZ	**Pokaka**	**1.11**	**214**	PN	Pn	14 30 20.7	0.0
VRZ	**Vera Road**	**1.32**	**235**	⇑PN	Pn	14 30 22.9	+0.1
WAZ	**Wanganui**	**1.65**	**213**	PN	Pn	14 30 26.2	-0.2
PUZ	**Puketiti**	**1.69**	**80**	SN	Sn	14 30 49.8	-0.3
TSZ	**Takapari Road**	**1.69**	**185**	*e*PN	Pn	14 30 26.2	-0.7
TSZ				SN	Sn	14 30 48.7	-1.5
PXZ	**Pawanui**	**1.75**	**162**	PN	Pn	14 30 27.3	-0.3
MRZ	**Mangatainoka R**	**2.33**	**191**	PN	Pn	14 30 32.9	-1.8
MRZ				SN	Sn	14 31 00.5	-3.4
KIW	**Kapiti Island**	**2.66**	**201**	PN	Pn	14 30 36.5	-2.4
MTW	**Mount Morrison**	**2.83**	**190**	*e*PN	Pn	14 30 38.0	-2.9
CAW	**Cannon Point**	**2.86**	**197**	PN	Pn	14 30 38.8	-2.6
PAWZ	**Paruwai Farm**	**3.06**	**190**	SN	Sn	14 31 15.8	-4.8
MRW	**Makara Radio**	**3.06**	**201**	PN	Pn	14 30 41.2	-2.8
MSWZ	**Moikau Station**	**3.12**	**193**	PN	Pn	14 30 41.8	-2.9
TCW	**Tory Channel**	**3.18**	**206**	PN	Pn	14 30 42.7	-2.9
TUWZ	**Tuamarina**	**3.49**	**208**	PN	Pn	14 30 46.2	-3.4
NNZ	**Nelson**	**3.55**	**216**	PN	Pn	14 30 47.2	-3.2
NNZ				SN	Sn	14 31 28.1	-4.0
QRZ	**Quartz Range**	**3.72**	**228**	PN	Pn	14 30 49.0	-3.6
KHZ	**Kahutara**	**4.50**	**205**	PN	Pn	14 30 59.1	-4.0
MQZ	**McQueen's Vall**	**5.95**	**205**	SN	Sn	14 32 19.1	-10

ISCJB ***23*** *14:37:51.7±0.3,4103S±003×17448E±005,h71km±4km, mb3.4/2,Error ellipse: s-maj=7.6km s-min=3.9km az=61.1*
IDC ***23*** *14:37:51.5±2.2,4093S×17453E,h46km±24km,mb3.1/2, mb1 3.4/4,mb1mx3.4/13,mbtmp3.3/4,ML3.0/2,MS3.1/1, Ms1 3.1/1,ms1mx2.9/13,Error ellipse: s-maj=35.0km s-min=17.5km az=136.0*
WEL ***23*** *14:37:54.0±0.1,4090S×17447E,h48km±1km,ML4.1/16, Error ellipse: s-maj=0.9km s-min=0.7km az=0.0*
WEL Felt from Wellington to Marlborough, maximum reported intensity MM 5.
NEIC ***23*** *14:37:53.5,4099S×17451E,h61km,ML4.1(WEL),After WEL.*
NEIC Felt in the Wellington area.

ISC 23 14:37:52.7±0.3,4102S±003×17450E±005,h64km±5km, n82,σ0°95/94,mb3.3/2,9C-1D,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRW	**Makara Radio**	**0.26**	**145**	⇑PN	**Pn**	**14 38 03.4**	**+0.4**
MRW				SN	**Sn**	**14 38 10.6**	**+0.2**
MRW	**Makara Radio**	**0.26**	**145**	P	**Pn**	**14 38 03.4**	**+0.4**
MRW				S	**Sn**	**14 38 10.7**	**+0.3**
TCW	**Tory Channel**	**0.26**	**221**	PN	**Pn**	**14 38 02.9**	**-0.1**
TCW				SN	**Sn**	**14 38 09.5**	**-0.9**
TCW	**Tory Channel**	**0.26**	**221**	P	**Pn**	**14 38 02.9**	**-0.1**
TCW				S	**Sn**	**14 38 09.5**	**-0.9**
SNZO	**South Karori**	**0.33**	**152**	PN	**Pn**	**14 38 04.1**	**+0.6**
SNZO				SN	**Sn**	**14 38 11.6**	**+0.3**
SNZO	**South Karori**	**0.33**	**152**	P	**Pn**	**14 38 04.2**	**+0.7**
SNZO				S	**Sn**	**14 38 11.7**	**+0.4**
SNZO				S	**Sn**	**14 38 11.9**	**+0.6**
WEL	**Wellington**	**0.33**	**143**	⇑PN	**Pn**	**14 38 04.3**	**+0.8**
WEL	**Wellington**	**0.33**	**143**	P	**Pn**	**14 38 03.3**	**-0.2**
WEL				S	**Sn**	**14 38 11.1**	**-0.3**
KIW	**Kapiti Island**	**0.35**	**63**	⇓PN	**Pn**	**14 38 03.1**	**-0.5**
KIW				SN	**Sn**	**14 38 09.8**	**-1.7**
KIW	**Kapiti Island**	**0.35**	**63**	P	**Pn**	**14 38 03.1**	**-0.5**
KIW				S	**Sn**	**14 38 09.9**	**-1.6**
CAW	**Cannon Point**	**0.44**	**102**	⇑PN	**Pn**	**14 38 05.0**	**+0.6**
CAW	**Cannon Point**	**0.44**	**102**	P	**Pn**	**14 38 04.1**	**-0.3**
BHW	**Baring Head**	**0.48**	**145**	⇑PN	**Pn**	**14 38 05.9**	**+1.1**
BHW	**Baring Head**	**0.48**	**145**	P	**Pn**	**14 38 04.9**	**+0.1**
BHW				S	**Sn**	**14 38 14.0**	**+0.4**
DUWZ	**D'Urville Isla**	**0.49**	**296**	⇑PN	**Pn**	**14 38 03.7**	**-1.2**
TUWZ	**Tuamarina**	**0.59**	**226**	⇑PN	**Pn**	**14 38 06.7**	**+0.8**
MSWZ	**Moikau Station**	**0.69**	**125**	⇑PN	**Pn**	**14 38 08.2**	**+1.1**
MSWZ	**Moikau Station**	**0.69**	**125**	P	**Pn**	**14 38 07.2**	**+0.1**
MTW	**Mount Morrison**	**0.77**	**101**	⇑PN	**Pn**	**14 38 08.7**	**+0.7**
MTW	**Mount Morrison**	**0.77**	**101**	P	**Pn**	**14 38 07.8**	**-0.2**
PAWZ	**Paruwai Farm**	**0.79**	**118**	PN	**Pn**	**14 38 09.1**	**+0.8**
PAWZ	**Paruwai Farm**	**0.79**	**118**	P	**Pn**	**14 38 08.3**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.84**	**214**	PN	**Pn**	**14 38 10.7**	**+1.8**
BSWZ	**Blackbirch Sta**	**0.84**	**214**	P	**Pn**	**14 38 09.7**	**+0.8**
NNZ	**Nelson**	**0.87**	**256**	PN	**Pn**	**14 38 09.8**	**+0.6**
NNZ	**Nelson**	**0.87**	**256**	P	**Pn**	**14 38 09.9**	**+0.6**
MRZ	**Mangatainoka R**	**0.89**	**67**	⇑PN	**Pn**	**14 38 09.8**	**+0.2**

MRZ	Mangatainoka R	0.89	67	P	Pn	14 38 09.8	+0.3
TRWZ	Traveller	0.97	113	PN	Pn	14 38 11.4	+0.8
WAZ	Wanganui	1.31	16	PN	Pn	14 38 15.3	+0.3
WAZ	Wanganui	1.31	16	P	Pn	14 38 15.5	+0.5
BFZ	Birch Farm	1.36	76	PN	Pn	14 38 15.7	0.0
BFZ	Birch Farm	1.36	76	*e*P	Pn	14 38 15.8	+0.1
THZ	Tophouse	1.41	238	PN	Pn	14 38 17.4	+1.1
TSZ	Takapari Road	1.47	50	PN	Pn	14 38 16.9	-0.1
TSZ	Takapari Road	1.47	50	*e*P	Pn	14 38 15.3	-1.8
QRZ	Quartz Range	1.51	277	PN	Pn	14 38 17.4	-0.2
QRZ	Quartz Range	1.51	277	P	Pn	14 38 18.2	+0.6
KHZ	Kahutara	1.57	207	P	Pn	14 38 20.2	+1.7
RAEZ	Rainy Point	1.73	357	P	Pn	14 38 21.2	+0.6
NRZ	Ngariki Road	1.74	345	P	Pn	14 38 21.0	+0.3
NEZ	North Egmont	1.77	350	P	Pn	14 38 21.7	+0.5
NWEZ	Newall Road	1.81	344	P	Pn	14 38 22.0	+0.4
PKE	Pukeiti	1.86	348	P	Pn	14 38 22.7	+0.3
MOVZ	Moawhango	1.87	31	P	Pn	14 38 21.4	-1.1
WNVZ	Wahianoa	1.89	27	P	Pn	14 38 22.3	-0.4
VRZ	Vera Road	1.90	6	P	Pn	14 38 23.4	+0.5
DRZ	Dome Shelter	1.92	25	P	Pn	14 38 24.9	+1.7
FWVZ	Far West T-bar	1.94	25	P	Pn	14 38 23.1	-0.3
TUVZ	Tukino	1.96	27	P	Pn	14 38 23.5	-0.2
WPVZ	Whakapapa	1.98	24	P	Pn	14 38 23.6	-0.4
NGZ	Ngauruhoe	2.02	25	P	Pn	14 38 24.3	-0.3
TWVZ	Taurewa	2.07	21	P	Pn	14 38 24.7	-0.5
WTVZ	West Tongariro	2.08	24	P	Pn	14 38 24.9	-0.3
KATZ	Kakaramea	2.24	25	P	Pn	14 38 28.4	+1.0
RATZ	Rangitukua	2.36	25	P	Pn	14 38 30.7	+1.6
BKZ	Black Stump Fm	2.40	40	*e*P	Pn	14 38 28.8	-0.8
WATZ	Wairara	2.49	23	P	Pn	14 38 32.4	+1.5
HIZ	Hauiti	2.52	6	PN	Pn	14 38 31.6	+0.3
CRLZ	Canterbury Las	2.91	206	*e*P	Pn	14 38 36.5	-0.1
MQZ	McQueen's Vall	3.02	206	*e*P	Pn	14 38 37.5	-0.6
URZ	Urewera	3.41	37	P	Pn	14 38 41.2	-2.3
	1.0nm,0.3s,baz=274,slow=15,SNR=17						
URZ				S	Sn	14 39 19.7	-3.0
	10nm,0.3s,baz=192,slow=1.7,SNR=4.0						
URZ				LR	LR	14 39 27.0	
	comp=Z,341nm,21.7s,baz=34,slow=29						
URZ	Urewera	3.41	37	*e*P	Pn	14 38 41.2	-2.3
MWZ	Matawai	3.55	42	*e*P	Pn	14 38 42.8	-2.6
RPZ	Rata Peaks	3.71	222	P	Pn	14 38 47.2	-0.3
	2.0nm,0.3s,baz=78,slow=18,SNR=13						
RPZ				S	Sn	14 39 26.6	-3.5
	8.6nm,0.3s,baz=18,slow=6.4,SNR=8.3						
RPZ	Rata Peaks	3.71	222	*e*P	Pn	14 38 47.7	+0.1
OTAZ	Otara	4.08	5	P	Pn	14 38 53.2	+0.7
WTAZ	Waiatarua	4.08	1	P	Pn	14 38 53.2	+0.6
MTAZ	Motutapu	4.24	4	P	Pn	14 38 55.4	+0.7
KUZ	Kuaotunu	4.37	13	*e*P	Pn	14 38 55.5	-1.1
FOZ	Fox Glacier	4.38	233	*e*P	Pn	14 38 54.3	-2.4
LBZ	Lake Benmore	4.63	222	*e*P	Pn	14 38 59.5	-0.6
ODZ	Otahua Downs	4.92	214	*e*P	Pn	14 39 03.3	-0.7
WCZ	Waipu Caves	5.07	359	*e*P	Pn	14 39 06.1	-0.1
WKZ	Wanaka	5.54	225	*e*P	Pn	14 39 09.3	-3.3
EAZ	Earnscleugh	5.67	220	*e*P	Pn	14 39 12.2	-2.2
OUZ	Omahuta	5.83	353	*e*P	Pn	14 39 16.5	-0.1
MSZ	Milford Sound	6.06	231	*e*P	Pn	14 39 19.2	-0.4
TUZ	Tuapeka	6.07	214	*e*P	Pn	14 39 20.0	+0.1
ASAR	Alice Springs	38.02	284	P	P	14 45 05.2	+0.6
	0.2nm,0.3s,mb3.3,baz=126,slow=8.2,SNR=16						
WRA	Warramunga Arr	40.03	289	P	P	14 45 21.8	+0.4
	0.3nm,0.5s,mb3.3,baz=126,slow=8.4,SNR=8.9						
TORD	Torodi Ar. Bea	151.53	195	PKPbc	PKPbc	14 57 40.7	+1.3
	0.3nm,0.6s,baz=147,slow=3.5,SNR=3.8						
TORD				PKPab	PKPab	14 57 49.3	+1.2
	1.2nm,0.9s,baz=172,slow=3.9,SNR=5.4						

*NNC **23** 14:39:14.0±1.3,4174N×7295E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=19.1km s-min=4.0km az=1.0*
*KNET **23** 14:39:15.7±0.8,4191N×7313E,h7km±2km,ml2.0,Error ellipse: s-maj=4.3km s-min=4.0km az=68.0*
*ISCJB **23** 14:39:16.2±1.1,4190N±008×7303E±005,h10km,Error ellipse: s-maj=12.2km s-min=5.5km az=0.2*
ISC 23 14:39:16.9±1.1,4192N±008×7305E±005,h10km,n10, σ1§31/20,12C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.52	66	⇑P	Pg	14 39 25.5	-1.6
	10nm,0.1s,SNR=92						
AML				⇑S	Sg	14 39 34.2	+0.3
	45nm,0.1s						
EKS2	Erkin-Say	0.91	36	⇑P	Pg	14 39 32.5	-2.0
	1.7nm,0.1s,SNR=15						
EKS2				⇓S	Sg	14 39 46.4	0.0
	8.3nm,0.1s						
UCH	Uchtor	1.13	74	⇑P	Pb	14 39 36.2	-2.3
	6.7nm,0.2s,SNR=22						
UCH				⇑S	Sb	14 39 52.8	-0.4
	16nm,0.1s						
AAK	Ala-Archa	1.28	56	⇓P	Pn	14 39 39.3	-1.6
	3.1nm,0.2s						
AAK				⇓S	Sb	14 39 57.6	-0.1
	7.9nm,0.2s						
KZA	Kyzart	1.64	84	⇓P	Pn	14 39 45.6	-0.2
	4.5nm,0.1s,SNR=21						
KZA				⇑S	Sn	14 40 08.9	+1.8
	55nm,0.3s						
CHMS	Chumysh	1.65	49	⇓P	Pn	14 39 46.4	+0.4
	4.4nm,0.2s						
CHMS				⇑S	Sn	14 40 09.3	+2.0
	9.0nm,0.2s						
TKM2	Tokmak 2	2.13	61	⇑P	Pn	14 39 53.8	+1.3
	5.0nm,0.3s						
TKM2				⇓S	Sn	14 40 23.7	+4.6
	10nm,0.2s						
TKM2	Tokmak 2	2.13	61	⇑P	Pn	14 39 53.7	+1.1
	0.2nm,0.5s						
TKM2				⇑S	Sn	14 40 23.5	+4.4
	0.3nm,0.5s						
KK31	Karatay Array	2.22	303	⇑P	Pn	14 39 52.7	-1.0
	16nm,0.5s,baz=126,slow=17,SNR=129						
KK31				⇑S	Sn	14 40 22.6	+1.4
	3.0nm,0.2s						
ULHL	Ulahol	2.40	81	⇓P	Pn	14 39 57.7	+1.6
	1.4nm,0.1s,SNR=9.2						
ULHL				⇓S	Sn	14 40 31.5	+6.0
	8.6nm,0.3s						

PRE 23 15:24:51.7±1.7,2694S×2666E,h2km,ML3.6,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	Silverton	1.89	51	*e*P	Pn	15 25 26.2	+1.2
SLR				*e*S	Sn	15 25 49.5	+0.2
SLR				AML	AML	15 25 51.1	
	comp=Z,271nm,0.5s						
PKA	Prieska	4.38	231	*e*P	Pn	15 26 00.8	+1.5
PKA				*e*S	Sn	15 26 49.1	-1.7
PKA				AML	AML	15 27 15.1	
	comp=Z,33nm,0.7s						
CVNA	Calvinia	7.53	231	*e*P	Pn	15 26 44.1	+1.6
CVNA				*e*S	Sn	15 28 04.9	-3.6
CVNA				AML	AML	15 28 51.9	
	comp=Z,22nm,0.6s						

*NNC **23** 16:07:11.6±3.7,3913N×7152E,h0km±22km,mb4.2, mpv4.3,Error ellipse: s-maj=19.7km s-min=15.7km az=51.0*
*MOS **23** 16:07:12.3±1.5,3899N×7162E,h33km,mb4.6/14,Error ellipse: s-maj=8.7km s-min=5.7km az=107.9*
*NEIC **23** 16:07:13.9±0.4,3905N×7195E,h50km,mb4.3/18,Error ellipse: s-maj=11.7km s-min=5.7km az=45.0*
*IDC **23** 16:07:15.6±3.2,3906N×7178E,h38km±25km,mb3.8/16, mb1 3.9/19,mb1mx3.9/26,mbtmp4.0/19,ML3.6/4,MS3.7/5, Ms1 3.7/5,ms1mx3.3/21,Error ellipse: s-maj=26.1km s-min=12.3km az=8.0*
*ISCJB **23** 16:07:16.5±0.5,3913N±003×7158E±004,h67km±5km, mb4.1/34,Error ellipse: s-maj=5.7km s-min=4.7km az=143.0*
*BJI **23** 16:07:16.1,3934N×7174E,h67km,mB5.0,mb4.7,ML4.3, Ms4.0,Msz4.1*
ISC 23 16:07:18.2±0.4,3917N±003×7158E±004,h67km±5km, n128,σ1§20/137,mb4.1/34,22C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.37	28	P	Pn	16 08 08.9	+0.5
	SNR=262						
KSH	Kashi	3.42	83	P	Pn	16 08 08.1	-1.1
KSH				S	Sn	16 08 51.3	+2.8
KSH				Smax			
	comp=N,518nm,0.5s						
KSH				Smax			
	comp=E,732nm,0.6s						
UCH	Uchtor	3.78	35	P	Pn	16 08 14.7	+0.6
	SNR=106						
EKS2	Erkin-Say	3.87	25	P	Pn	16 08 16.0	+0.8
	SNR=76						
KK31	Karatay Array	4.01	349	⇑Pn	Pn	16 08 17.7	+0.5
	comp=E,129nm,0.8s,baz=170,slow=12,SNR=863						
KK31				⇑Sn	Sn	16 09 07.3	+4.3
	comp=E,40nm,0.4s,baz=170,slow=23,SNR=4.0						
KK31				⇑Lg		16 09 20.7	
	comp=E,328nm,0.8s,baz=166,slow=30,SNR=9.4						
KKAR	Karatay Array	4.01	349	*e*PN	Pn	16 08 17.6	+0.4
KKAR				S	Sn	16 09 20.5	+18
KKAR				pmax	pmax		
	comp=Z,14nm,0.3s						
KKAR				smax			
	comp=Z,77nm,0.5s						
KKAR				smax			
	comp=Z,77nm,0.5s						
KZA	Kyzart	4.03	43	P	Pn	16 08 17.9	+0.5
	SNR=56						
AAK	Ala-Archa	4.11	32	P	Pn	16 08 19.4	+0.9
	SNR=170						
KBK	Karagaybulak	4.32	35	P	Pn	16 08 23.1	+1.7
	SNR=83						
CHMS	Chumysh	4.51	31	P	Pn	16 08 25.5	+1.4
	SNR=87						
USP	Ospenovka	4.65	27	P	Pn	16 08 26.8	+0.9
	SNR=28						
ULHL	Ulahol	4.69	48	P	Pn	16 08 27.6	+1.2
	SNR=35						
TKM2	Tokmak 2	4.83	38	P	Pn	16 08 29.5	+1.2
	SNR=22						
TKM2	Tokmak 2	4.83	38	⇑Pn	Pn	16 08 28.9	+0.7
	comp=Z,5.3nm,0.7s						
TKM2				⇑Lg		16 09 42.2	
	comp=Z,13nm,0.8s						
TKM2	Tokmak 2	4.83	38	PN	Pn	16 08 28.9	+0.6
TKM2				pmax	pmax		
	comp=Z,16nm,0.4s						
CEP	Cherat	5.34	177	P	Pn	16 08 36.3	+0.9
CEP				S	Sn	16 09 45.0	+10
CHCP	Chirah Chowk	5.66	166	P	Pn	16 08 41.3	+1.5
KNDC	Almaty	5.73	43	⇑Pg	Px	16 08 58.4	
	comp=Z,60nm,0.7s						
KNDC				⇑Lg		16 10 11.9	
	comp=Z,325nm,0.9s						
AAA	Alma-Ata	5.76	43	*e*PN	Px	16 09 00.0	
AAA				pmax	pmax		
	comp=Z,90nm,0.5s						
THW	Thamme Wali	6.36	179	P	Pn	16 08 48.8	-0.5
SBDP	Sheikh Budin	6.88	185	P	Pn	16 08 56.1	-0.3
DRP	Derazinda	7.49	189	P	Pn	16 09 05.3	+0.5
DLH	Dalhousie	7.51	150	*e*P	Pn	16 09 03.0	-2.0
DLH				*ex*	x	16 10 28.0	
DDI	Dehra Dun	10.30	147	*e*P	Pn	16 09 41.2	-2.0
DDI				*ex*	x	16 11 40.7	
MK31	Makanchi Array	10.93	42	⇑Pn	Pn	16 09 51.1	-0.6
	comp=Z,3.1nm,0.7s						
MK31				⇑Lg		16 12 55.4	
	comp=Z,15nm,1.1s						
MKAR	Makanchi Array	10.93	42	Pn	Pn	16 09 50.2	-1.5
	comp=Z,0.4nm,0.3s,baz=226,slow=14,SNR=23						
MKAR				Lg		16 12 55.4	
	comp=Z,0.3nm,0.3s,baz=260,slow=30,SNR=4.4						
MKAR	Makanchi Array	10.93	42	Pn	Pn	16 09 50.2	-1.5
MKAR				Lg		16 12 55.4	
NDI	New Delhi	11.45	154	*ex*	x	16 09 51.5	
NDI				*e*S	Sn	16 11 54.0	-11
KURK	Kurchatov	12.57	21	⇑Pn	Pn	16 10 09.0	-5.0
	comp=Z,3.5nm,1.4s						
KURK				⇑Lg		16 13 48.2	
	comp=Z,18nm,1.3s						
KURK	Kurchatov	12.57	21	*e*Pn	Pn	16 10 08.8	-5.3
	comp=Z,4.0nm,0.9s						
KURK				*e*Sn	Sn	16 12 12.5	-20
KURK	Kurchatov	12.57	21	*e*P	Pn	16 10 08.8	-5.3
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AB31	Akbulak array	13.07	324	⇑Pn	Pn	16 10 17.8	-3.1
	comp=Z,2.9nm,0.3s						
AB31				⇑Sn	Sn	16 12 40.0	-4.6
	comp=Z,3.9nm,0.5s,baz=137,slow=22,SNR=7.6						
VOSK	Vostochnaya	13.56	358	⇑Pn	Pn	16 10 23.9	-3.7
	comp=Z,5.8nm,0.9s						
VOSK				⇑Lg		16 14 22.6	
	comp=Z,15nm,1.3s						
BVA0	Borovoye Array	13.88	357	⇑Pn	Pn	16 10 28.7	-3.1
	comp=Z,0.8nm,0.7s,baz=160,slow=10,SNR=21						
BVA0				⇓Lg		16 14 35.0	
	comp=Z,5.6nm,2.2s,baz=168,slow=22,SNR=3.5						
BVAR	Borovoye Array	13.88	357	Pn	Pn	16 10 28.8	-3.0
	comp=Z,0.7nm,0.3s,baz=164,slow=14,SNR=16						
BVAR				Lg		16 14 32.9	
	comp=Z,0.2nm,0.3s,baz=158,slow=25,SNR=3.1						
ZRNK	Zerenda	13.90	354	⇑Pn	Pn	16 10 30.8	-1.1
	comp=Z,4.7nm,0.6s						
ZRNK				⇑Lg		16 14 31.5	
	comp=Z,13nm,1.1s						
ZRNK	Zerenda	13.90	354	*e*Pn	Pn	16 10 29.2	-2.8
	comp=Z,8.3nm,0.6s						
ZRNK	Zerenda	13.90	354	*e*P	Pn	16 10 29.2	-2.8
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRVK	Borovoye	13.92	357	*e*Pn	Pn	16 10 27.0	-5.3
	comp=Z,4.1nm,0.6s						
BRVK	Borovoye	13.92	357	*e*P	Pn	16 10 27.0	-5.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHKZ	Chkalovo	14.53	358	⇑Pn	Pn	16 10 37.9	-2.3
	comp=Z,3.1nm,0.8s						
CHKZ				⇑Lg		16 14 56.0	
	comp=Z,37nm,2.0s						
CHKZ	Chkalovo	14.53	358	*e*Pn	Pn	16 10 37.0	-3.2
	comp=Z,4.3nm,0.8s						
CHKZ	Chkalovo	14.53	358	*e*P	Pn	16 10 37.0	-3.2
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTK	Aktyubinsk	14.79	324	Pn	Pn	16 10 40.9	-2.7
AKTK				Sn	Sn	16 13 25.8	-0.5
AKTK				Lg		16 15 19.6	
AKTK				LR	LR	16 17 02.5	
AKTO	Aktyubinsk	14.79	324	⇑Pn	Pn	16 10 41.3	-2.4
	comp=Z,0.6nm,1.1s						
AKTO				⇓Sn	Sn	16 13 26.0	-0.3
	comp=Z,0.4nm,1.3s						
AKTO	Aktyubinsk	14.79	324	Pn	Pn	16 10 40.9	-2.7
	comp=Z,0.8nm,0.3s,baz=131,slow=15,SNR=30						
AKTO				Sn	Sn	16 13 25.8	-0.5
	comp=Z,0.4nm,0.3s,baz=343,slow=17,SNR=5.5						
AKTO				Lg		16 15 19.6	
	comp=Z,0.0nm,0.3s,baz=36,slow=19,SNR=3.0						
AKTO				LR	LR	16 17 02.6	
	comp=Z,260nm,19.7s,baz=0.0,slow=39						
KOLN	Koldanda	15.14	135	*e*P	Pn	16 10 41.1	-7.1
	comp=Z,24nm,0.7s						
GKN	Gorkha	15.55	132	*e*P	Pn	16 10 46.3	-7.1
	comp=Z,27nm,0.5s						
KKN	Kakani	16.09	131	*e*P	Pn	16 10 52.1	-8.0
	comp=Z,18nm,0.5s						
KKN	Kakani	16.09	131	*e*P	Pn	16 10 52.1	-8.0
KKN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
DMN	Daman	16.12	132	*e*P	Pn	16 10 53.3	-7.3
	comp=Z,17nm,0.6s						
PKI	Pulchoki	16.32	131	*e*P	Pn	16 10 55.9	-7.2
	comp=Z,22nm,0.6s						
PKI	Pulchoki	16.32	131	*e*P	Pn	16 10 55.9	-7.2
PKI				pmax	pmax		
	comp=Z,11nm,0.6s						
JIRN	Jiri	16.72	129	*e*P	Pn	16 11 00.3	-7.8
ZAL	Zalesovo	17.30	27	P	Pn	16 11 13.6	-1.6
	comp=Z,0.2nm,0.3s,baz=134,slow=22,SNR=1.8						
NVS	Novosibirsk	17.54	23	*e*P	Pn	16 11 19.5	+1.4
NVS				*e*S	S	16 14 30.9	-6.2
NVS				pmax	pmax		
	comp=N,15nm,1.4s						
NVS				pmax	pmax		
	comp=Z,12nm,1.4s						
NVS				pmax	pmax		
	comp=E,11nm,1.6s						
NVS				smax			
	comp=N,14nm,1.7s						
LSA	Lhasa	18.67	114	*e*Pn	Pn	16 11 27.6	-4.2
	comp=N,4.5nm,0.8s						
LSA	Lhasa	18.67	114	*e*P	Pn	16 11 27.7	-4.2
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARU	Arti	19.30	338	*e*Pn	Pn	16 11 38.3	-1.0
	comp=Z,19nm,1.1s						
ARU	Arti	19.30	338	⇓*i*P	Pn	16 11 38.7	-0.7
ARU				*e*S	S	16 15 17.9	+5.3
ARU				pmax	pmax		
	comp=Z,15nm,1.0s						
ARU				MLR	MLR		
	comp=N,200nm,18.0s						
ARU				MLR	MLR		
	comp=Z,200nm,18.0s						
ARU				MLR	MLR		
	comp=E,100nm,21.0s						
GNI	Garni	20.66	281	P	P	16 11 54.1	+1.6
	comp=E,2.4nm,0.5s,baz=117,slow=11,SNR=4.7						
GNI	Garni	20.66	281	P	P	16 11 54.9	+2.4
	comp=E,16nm,0.9s						
GNI	Garni	20.66	281	P	P	16 11 54.1	+1.6
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZEI	Tsey	21.17	289	*i*P	P	16 11 57.9	-0.1
SHL	Shillong	21.80	122	*e*P	P	16 12 04.0	-0.7
GTA	Gaotai	21.82	80	*e*P	P	16 12 04.6	-0.3
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.0						
KIV	Kislovodsk	22.08	292	P	P	16 12 08.3	+0.6
	comp=Z,14nm,0.8s,mb4.3						
KIV	Kislovodsk	22.08	292	P	P	16 12 08.3	+0.6
KIV				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.3						
ZAK	Zakamensk	24.95	53	*e*P	P	16 12 35.2	-0.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.6						
TLY	Talaya	25.52	50	*i*P	P	16 12 40.9	+0.4
MALT	Malatya	25.80	279	*e*P	P	16 12 49.2	+6.3
	comp=Z,4.1nm,0.9s,mb3.9						
MALT	Malatya	25.80	279	*e*P	P	16 12 49.2	+6.2
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
SONM	Songino Array	26.51	60	P	P	16 12 49.3	-0.2
	comp=Z,1.9nm,0.8s,mb3.7,baz=263,slow=9.0,SNR=9.5						
ULN	Ulaanbaatar	26.96	60	*e*P	P	16 12 52.6	-0.9
	comp=Z,2.4nm,0.8s,mb3.8						
ULN	Ulaanbaatar	26.96	60	⇓*i*P	P	16 12 52.9	-0.5
OBN	Obninsk	28.28	316	*e*P	P	16 13 06.0	+0.8
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
BR131	Keskin Array S	29.16	283	*e*P	P	16 13 18.6	+5.5
	comp=Z,2.7nm,0.9s,mb3.9						
BRTR	Keskin Array B	29.16	283	P	P	16 13 16.2	+3.1
	comp=Z,0.7nm,0.8s,mb3.4,baz=80,slow=8.1,SNR=3.5						
KMI	Kunming	29.70	109	P	P	16 13 19.3	+1.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1						
AKASG	Malin Array Be	31.70	305	P	P	16 13 36.5	+1.0
	comp=Z,0.5nm,0.3s,mb3.6,baz=80,slow=8.7,SNR=5.2						
AKASG	Malin Array Be	31.70	305	P	P	16 13 36.5	+1.0
BOD	Bodaibo	33.02	41	*e*P	P	16 13 46.6	-0.4
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
FINES	FINESS Array B	35.56	324	P	P	16 14 10.3	+1.3
	comp=Z,0.7nm,0.4s,mb4.3,baz=115,slow=9.0,SNR=8.9						
FINES				LR	LR	16 29 25.7	
	comp=Z,74nm,18.3s,baz=109,slow=37						
FINES	FINESS Array B	35.56	324	P	P	16 14 10.3	+1.3
FINES				LR	LR	16 29 25.7	
KWP	Kalwaria	35.87	303	*e*P	P	16 14 14.4	+2.8
	comp=Z,4.9nm,0.4s,mb4.8						
KWP	Kalwaria	35.87	303	*e*P	P	16 14 14.4	+2.8
KWP				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
NJ2	Nanjing	38.73	86	*e*P	P	16 14 35.3	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
ARCES	ARCESS Array B	38.88	336	P	P	16 14 38.4	+1.4
	comp=Z,1.2nm,0.6s,mb3.9,baz=107,slow=7.8,SNR=7.9						
ARCES				LR	LR	16 31 34.8	
	comp=Z,160nm,18.5s,baz=201,slow=37						
SSE	Sheshan	40.94	86	P	P	16 14 52.5	-1.7
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,67nm,3.4s						
HFS	Hagfors	41.29	320	P	P	16 14 58.3	+1.3
	comp=Z,2.5nm,0.4s,mb4.3,baz=97,slow=11,SNR=26						
YAK	Yakutsk	41.55	37	⇓*e*P	P	16 14 59.0	-0.2
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
GERES	GERESS Array B	41.81	303	P	P	16 15 03.7	+2.4
	comp=Z,0.8nm,0.6s,mb3.7,baz=62,slow=7.1,SNR=8.0						
KHC	Kasperske Hory	41.85	303	*e*P	P	16 15 04.0	+2.4
NB2	NORSAR Subarra	42.56	321	P	P	16 15 08.2	+0.8
	comp=Z,0.7nm,0.5s,mb3.6,baz=93,slow=8.6						
NB2	NORSAR Subarra	42.56	321	P	P	16 15 08.2	+0.8
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	NORSAR Array B	42.56	321	P	P	16 15 08.2	+0.9
	comp=Z,0.4nm,0.5s,mb3.4,baz=82,slow=8.5,SNR=4.4						
NOA				LR	LR	16 33 60.0	
	comp=Z,55nm,20.9s,baz=235,slow=38						
TIXI	Tiksi	43.14	23	*e*P	P	16 15 11.0	-1.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,61nm,13.0s						
DAVOX	Davos	44.75	301	P	P	16 15 26.2	+1.3
	comp=Z,2.2nm,0.5s,mb4.2,baz=90,slow=7.9,SNR=3.9						
CDF	Champ du Feu	46.08	304	*e*P	P	16 15 35.0	-0.5
HAU	Haudompre	46.78	303	*e*P	P	16 15 39.7	-1.3
LPG	La Plagne	47.18	300	*e*P	P	16 15 43.9	-0.2
LPL	La Plagne	47.19	300	*e*P	P	16 15 43.8	-0.3
	comp=Z,5.5nm,0.6s,mb4.2						
LPL	La Plagne	47.19	300	*e*P	P	16 15 43.8	-0.3
	comp

ILAR	**Eielson Array**	**72.09**	**16**	P	**P**	**16 18 35.7**	**+0.3**
	comp=Z,1.0nm,1.0s,mb3.6,baz=313,slow=4.2,SNR=9.5						
YKA	**Yellowknife Ar**	**78.56**	**3**	P	**P**	**16 19 13.3**	**+0.8**
	comp=Z,1.1nm,0.6s,mb3.9,baz=351,slow=5.7,SNR=20						
YKA				LR	LR	16 55 28.6	
	comp=Z,64nm,19.3s,baz=280,slow=37						
WRA	**Warramunga Arr**	**83.02**	**123**	P	**P**	**16 19 35.9**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=323,slow=5.0,SNR=5.9						
WRA	**Warramunga Arr**	**83.02**	**123**	*i* P	**P**	**16 19 39.7**	**+3.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRAB	**Tennant Creek**	**83.02**	**123**	*e*P	**P**	**16 19 36.1**	**-0.2**
	comp=Z,5.6nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**83.02**	**123**	*e*P	**P**	**16 19 36.1**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**85.41**	**125**	P	**P**	**16 19 48.3**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=314,slow=4.6,SNR=13						

*ISCJB **23** 16:14:43.2±0.7, 31.12S±006×13869E±006, h10km, Error ellipse: s-maj=8.9km s-min=7.0km az=61.2*
*NEIC **23** 16:14:45.0, 3129S×13876E, h10km, ML2.5(AUST), After AUST.*
*AUST **23** 16:14:45.8, 3129S×13876E, h10km, ML2.5*
*IDC **23** 16:14:45.2±4.6, 3106S×13880E, h0km, mb1 2.9/3, mb1mx2.8/11, mbtmp2.6/3, ML2.5/3, Error ellipse: s-maj=93.7km s-min=17.1km az=35.0*

ISC 23 16:14:45.9±3.5, 3120S±006×13871E±006, h15km±23km, n7, σ0§78/12, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.55**	**106**	*e*P	**Pn**	**16 15 26.2**	**-0.5**
STKA				*e*S	**Sn**	**16 15 58.2**	**+0.7**
	4.2nm,0.2s						
STKA	**Stephens Creek**	**2.55**	**106**	Pn	**Pn**	**16 15 26.6**	**-0.1**
	0.3nm,0.3s,baz=301,slow=15,SNR=10						
STKA				Lg		16 16 06.0	
	3.8nm,0.3s,baz=271,slow=16,SNR=9.6						
BBOO	**Buckleboo**	**2.77**	**234**	*e*P	**Pn**	**16 15 29.9**	**+0.3**
BBOO				*e*S	**Sn**	**16 16 03.1**	**+0.4**
	8.7nm,0.3s						
ARPS	**Mount Arapiles**	**6.13**	**156**	*e*P	**Pn**	**16 16 14.5**	**-1.4**
ARPS				*e*S	**Sn**	**16 17 16.1**	**-10**
	4.6nm,0.3s						
ARPS	**Mount Arapiles**	**6.13**	**156**	*e*P	**Pn**	**16 16 14.5**	**-1.4**
	4.6nm,0.3s						
ARPS				*e*S	**Sn**	**16 17 16.1**	**-10**
ASAR	**Alice Springs**	**8.63**	**329**	Pn	**Pn**	**16 16 51.1**	**+0.9**
	0.1nm,0.3s,baz=154,slow=12,SNR=5.7						
ASAR				Sn	**Sn**	**16 18 26.2**	**-1.1**
	0.1nm,0.3s,baz=154,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**11.88**	**340**	Pn	**Pn**	**16 17 35.2**	**+0.5**
	0.0nm,0.3s,baz=154,slow=12,SNR=6.5						

MAN 23 16:17:44.6, 1356N×12010E, h33km, mb2.1, ML3.8, MS4.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.23**	**39**	*e*P	Pb	16 17 52.4	+0.8
LUBP	**Lubang**	**0.23**	**39**	*e*P	Pb	16 17 52.3	+0.8
LUBP				*e*S	Sb	16 17 56.9	+0.7
PGP	**Puerto Galera**	**0.83**	**94**	*e*P	Pn	16 18 01.0	+1.0
SJMP	**San Jose**	**1.48**	**137**	*e*P	Pn	16 18 09.6	+0.7
SJMP				*e*S	Sn	16 18 27.2	+0.2
BUSP	**Coron**	**1.55**	**176**	*e*P	Pn	16 18 11.2	+1.3
BUSP				*e*S	Sn	16 18 28.7	-0.1
BOAC	**Boac**	**1.70**	**93**	*e*P	Pn	16 18 13.0	+1.0
BOAC				*e*S	Sn	16 18 36.7	+4.1

*ISCJB **23** 16:26:54.8±0.6, 5031N±005×1873E±004, h0km, Error ellipse: s-maj=7.4km s-min=3.0km az=33.8*
*CSEM **23** 16:26:54.7±0.4, 5041N×1878E, h2km, ML2.5/1, Error ellipse: s-maj=10.9km s-min=3.8km az=6.0*
*NEIC **23** 16:26:55.4±3.1, 5031N×1874E, h5km, MG2.5(WAR), Error ellipse: s-maj=46.2km s-min=9.6km az=167.0*
*WAR **23** 16:26:55.4, 5033N×1880E, ML2.4, Mining Induced*
*PRU **23** 16:26:57.0, 5031N×1867E, h0km*

ISC 23 16:26:56.0±0.6, 5028N±005×1875E±004, h0km, n15, σ1§20/25, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.59**	**222**	*e*PG	**Pg**	**16 27 08.1**	**+0.8**
OJC	**Ojcow**	**0.68**	**95**	*e*Pg	**Pg**	**16 27 07.9**	**-1.1**
OJC				*e*Sg	**Sg**	**16 27 17.4**	**-0.3**
MORC	**Moravsky Berou**	**0.93**	**238**	*e*Pg	**Pg**	**16 27 13.4**	**-0.4**
MORC				*e*Sg	**Sg**	**16 27 26.4**	**+0.6**
MORC	**Moravsky Berou**	**0.93**	**238**	*e*Pg	**Pg**	**16 27 13.4**	**-0.4**
MORC				*e*Sg	**Sg**	**16 27 26.4**	**+0.6**
NIE	**Niedzica**	**1.33**	**130**	*e*Pg	**Pg**	**16 27 20.6**	**-0.9**
NIE				*e*Sg	**Sg**	**16 27 39.5**	**+0.8**
DPC	**Dobruska-Polom**	**1.56**	**274**	*e*PG	**Pg**	**16 27 23.7**	**-2.2**
DPC				*e*SG	**Sg**	**16 27 45.6**	**-0.5**
	9.2nm,0.6s						
KSP	**Ksiaz**	**1.67**	**291**	*e*Pn	**Pn**	**16 27 26.7**	**+0.3**
KSP				*e*Sn	**Sn**	**16 27 50.3**	**+1.8**
KSP	**Ksiaz**	**1.67**	**291**	*e*Pg	**Pg**	**16 27 26.1**	**-1.8**
KSP				*e*Sg	**Sg**	**16 27 49.3**	**-0.2**
UPC	**Upice**	**1.77**	**278**	*e*SG	**Sg**	**16 27 53.6**	**+0.8**
VYHS	**Vyhne**	**1.79**	**178**	*e*PN	**Pn**	**16 27 27.2**	**-0.9**
VYHS				*e*SN	**Sn**	**16 27 51.0**	**-0.5**
STHS	**Stebnicka Huta**	**1.83**	**117**	*e*PN	**Pn**	**16 27 28.9**	**+0.2**
STHS				*e*SN	**Sn**	**16 27 56.1**	**+3.5**
KECS	**Kecovo**	**2.13**	**147**	*e*SN	**Sn**	**16 28 03.8**	**+3.9**
CRVS	**Cervenica-Dubn**	**2.24**	**127**	*e*PN	**Pn**	**16 27 36.7**	**+2.4**
BRG	**Berggiesshubel**	**3.12**	**283**	SG	**Sg**	**16 28 38.2**	**+1.9**
	1.3nm,0.6s						
KHC	**Kasperske Hory**	**3.55**	**253**	*e*PG	**Pg**	**16 28 00.0**	**-4.0**
KHC				*ex*	x	16 28 37.0	
KHC				*e*SG	**Sg**	**16 28 49.0**	**-1.0**

*IDC **23** 16:28:49.6±1.3, 3887N×7163E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/21, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=44.0km s-min=23.9km az=143.0*
*ISCJB **23** 16:28:53.7±3.0, 389N±02×715E±02, h42km±27km, mb3.2/3, Error ellipse: s-maj=31.6km s-min=15.6km az=73.4*
*NNC **23** 16:28:54.5±4.6, 3927N×7145E, h10km±13km, mb3.4, mpv3.0, Error ellipse: s-maj=34.2km s-min=28.5km az=156.0*

ISC 23 16:28:51.2±4.3, 3877N±010×713E±01, h16km±27km, n15, σ0§79/17, mb3.2/3, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.82**	**28**	P	**Pn**	**16 29 48.8**	**-0.5**
	SNR=24						
UCH	**Uchtor**	**4.23**	**34**	P	**Pn**	**16 29 54.4**	**-0.5**
	SNR=11						
EKS2	**Erkin-Say**	**4.31**	**25**	P	**Pn**	**16 29 56.2**	**0.0**
	SNR=7.8						
KK31	**Karatay Array**	**4.37**	**352**	⇑Pn	**Pn**	**16 29 57.6**	**+0.8**
	3.9nm,0.3s,baz=172,slow=13,SNR=106						
KK31				⇑Sn	**Sn**	**16 30 47.5**	**+0.1**
	7.0nm,0.3s,baz=172,slow=24,SNR=5.5						
KK31				⇑Lg		16 31 00.1	
	36nm,0.7s						
KZA	**Kyzart**	**4.47**	**41**	P	**Pn**	**16 29 59.7**	**+1.5**
	SNR=20						
AAK	**Ala-Archa**	**4.55**	**31**	P	**Pn**	**16 29 59.7**	**+0.3**
	SNR=13						
KBK	**Karagaybulak**	**4.76**	**34**	P	**Pn**	**16 30 03.4**	**+1.0**
	SNR=13						
CHMS	**Chumysh**	**4.96**	**31**	P	**Pn**	**16 30 05.2**	**+0.1**
	SNR=17						
ULHL	**Ulahol**	**5.12**	**46**	P	**Pn**	**16 30 06.6**	**-0.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**5.27**	**37**	⇑Pn	**Pn**	**16 30 09.1**	**-0.1**
	0.3nm,0.5s						
TKM2				⇑Lg		16 31 21.4	
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**11.37**	**42**	Pn	**Pn**	**16 31 31.8**	**-1.1**
	0.1nm,0.3s,baz=235,slow=15,SNR=5.7						
AB31	**Akbulak array**	**13.27**	**326**	⇓Pn	**Pn**	**16 31 58.2**	**-0.8**
	0.4nm,0.3s,baz=138,slow=13,SNR=31						
AB31				⇓Sn	**Sn**	**16 34 19.5**	**-6.6**
	1.1nm,0.6s,baz=138,slow=22,SNR=4.0						
TORD	**Torodi Ar. Bea**	**66.03**	**268**	P	**P**	**16 39 40.5**	**+3.4**
	0.2nm,0.6s,mb3.3,baz=43,slow=4.9,SNR=2.9						
YKA	**Yellowknife Ar**	**78.97**	**3**	P	**P**	**16 40 53.2**	**-0.9**
	0.1nm,0.6s,mb3.0,baz=350,slow=6.0,SNR=5.1						
WRA	**Warramunga Arr**	**82.99**	**122**	P	**P**	**16 41 15.8**	**+0.2**
	0.2nm,0.8s,mb3.2,baz=321,slow=4.8,SNR=6.1						

MEX 23 16:55:49.9±0.7, 1607N×9757W, h18km±27km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.62**	**301**	*i* P	Pg	16 55 59.8	-2.4
PNIG				*i* S	Sg	16 56 08.0	-2.5
VHO	**Vista Hermosa**	**1.28**	**39**	*i* P	Pn	16 56 09.9	-3.0
VHO				*i* S	Sb	16 56 24.7	-5.0
OXX	**Oaxaca**	**1.30**	**39**	*i* P	Pn	16 56 10.5	-2.6
OXX				*i* S	Sn	16 56 25.0	-5.0
HUIG	**Huatulco**	**1.44**	**102**	*i* P	Pn	16 56 11.9	-3.3
HUIG				*i* S	Sn	16 56 28.4	-5.2
UTMO	**Huajuapan**	**1.77**	**353**	*e*P	Pn	16 56 17.5	-2.0
UTMO				*i* S	Sn	16 56 37.6	-4.0
UTMO				*i* S	Sn	16 56 39.6	-2.0
ACX	**Acapulco**	**2.38**	**290**	*i* P	Pn	16 56 29.5	+1.4
ACX				*e*S	Sn	16 56 53.5	-3.3
MEIG	**Mezcala**	**2.69**	**314**	*e*P	Pn	16 56 29.6	-2.7
MEIG				*i* S	Sn	16 57 01.1	-3.3
CAIG	**El Cayaco**	**2.76**	**291**	*e*P	Pn	16 56 31.9	-1.3
CAIG				*i* S	Sn	16 57 02.9	-3.2
CMIG	**Matias Romero**	**2.77**	**68**	*i* P	Pn	16 56 30.3	-3.1
CMIG				*i* S	Sn	16 57 02.6	-3.8
PLIG	**Platanillo**	**2.96**	**322**	*i* P	Pn	16 56 34.7	-1.2
PLIG				*i* S	Sn	16 57 07.0	-4.0
PPM	**Popocatepetl**	**3.15**	**342**	*i* P	Pn	16 56 37.9	-0.7
PPM				*i* S	Sn	16 57 12.1	-3.6

IDC 23 16:59:51.4±4.3, 5204N×17916W, h136km±32km, mb3.1/4, mb1 3.3/5, mb1mx3.1/22, mbtmp3.6/5, Error ellipse: s-maj=43.4km s-min=24.5km az=151.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**4.77**	**283**	P	Pn	17 01 00.8	-0.7
	3.2nm,0.3s,baz=264,slow=18,SNR=8.7						
FX1				S	Sn	17 01 56.7	+0.7
	3.5nm,0.3s,baz=215,slow=22,SNR=4.3						
KDAK	**Kodiak Island**	**16.26**	**59**	P	Pn	17 03 26.7	-5.2
	1.1nm,0.3s,baz=330,slow=11,SNR=34						
KDAK				S	S	17 06 22.4	-11
	0.1nm,0.3s,baz=162,slow=20,SNR=3.0						
ILAR	**Eielson Array**	**20.88**	**40**	P	P	17 04 22.6	0.0
	0.3nm,0.9s,baz=232,slow=11,SNR=4.1						
ARCES	**ARCESS Array B**	**57.41**	**350**	P	P	17 09 24.5	-1.1
	3.7nm,0.9s,baz=22,slow=7.8,SNR=2.9						
MKAR	**Makanchi Array**	**59.45**	**308**	P	P	17 09 39.6	-0.2
	0.2nm,0.5s,baz=48,slow=7.4,SNR=6.8						
WRA	**Warramunga Arr**	**82.33**	**224**	P	P	17 11 57.9	0.0
	0.4nm,1.0s,baz=32,slow=5.9,SNR=4.6						

IDC 23 17:24:24.4±2.9, 3153S×17807W, h0km, mb4.2/2, mb1 4.3/3, mb1mx4.0/14, mbtmp4.1/3, ML3.5/1, Error ellipse: s-maj=67.2km s-min=35.7km az=114.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.80**	**209**	Pn	Pn	17 26 18.2	-0.9
	0.6nm,0.3s,baz=339,slow=18,SNR=6.6						
URZ				Sn	Sn	17 27 46.6	-1.5
	1.3nm,0.3s,baz=91,slow=21,SNR=6.1						
ASAR	**Alice Springs**	**43.00**	**268**	P	P	17 32 25.9	+0.4
	0.9nm,0.3s,baz=107,slow=7.6,SNR=57						
WB2	**Warramunga Arr**	**44.08**	**273**	*e*P	P	17 32 34.6	+0.4
WRA	**Warramunga Arr**	**44.09**	**273**	P	P	17 32 34.7	+0.4
	1.6nm,0.4s,baz=111,slow=8.0,SNR=52						
FINES	**FINESS Array B**	**146.18**	**339**	PKPbc	PKPbc	17 44 04.9	-1.7
	0.3nm,0.3s,baz=44,slow=4.2,SNR=9.1						

IDC 23 17:46:40.4±1.2, 1173N×14480E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, Error ellipse: s-maj=108.6km s-min=18.1km az=99.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.85**	**2**	Pn	Pn	17 47 13.6	+0.2
	20nm,0.3s,baz=198,slow=9.1,SNR=8.2						
GUMO				Sn	Sn	17 47 37.8	+0.3
	22nm,0.3s,baz=19,slow=23,SNR=11						
WRA	**Warramunga Arr**	**33.11**	**198**	P	P	17 53 18.3	+0.2
	0.6nm,0.6s,baz=20,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**36.75**	**197**	P	P	17 53 50.4	+0.9
	0.5nm,0.9s,baz=26,slow=12,SNR=6.5						
STKA	**Stephens Creek**	**43.46**	**184**	P	P	17 54 44.4	-0.8
	1.5nm,0.7s,baz=356,slow=15,SNR=3.6						
SONM	**Songino Array**	**48.22**	**326**	LR	LR	18 15 54.7	
	comp=Z,32nm,21.2s,baz=233,slow=36						
YKA	**Yellowknife Ar**	**84.54**	**27**	P	P	17 59 15.3	0.0
	0.3nm,0.4s,baz=286,slow=5.1,SNR=4.2						

*UPP **23** 18:00:27.6, 5874N×950E, h0km, ML2.9, Suspected Mining explosion.*
*CSEM **23** 18:00:35.1±0.1, 5881N×1081E, h1km, ML1.8, Error ellipse: s-maj=4.5km s-min=2.7km az=1.0, Mining explosion.*
*BER **23** 18:00:37.4±3.4, 5849N×1056E, h0km±13km, MD2.4, ML1.8, ML2.0(NAO)*
*NAO **23** 18:00:38.4±2.2, 5859N×1057E, ML2.0*

HEL 23 18:00:35.8±0.2, 5843N×1059E, h0km, ML2.6, ML2.9(UPP), ML1.7(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONO	**Kongsberg**	**1.32**	**338**	*e*P	Pg	18 00 59.5	-1.7
KONO				*e*S	Sg	18 01 17.8	-0.5
HFS	**Hagfors**	**2.33**	**42**	*e*P	Pn	18 01 14.7	-0.7
HFS				*e*PG	Pg	18 01 17.7	-2.9
HFS				*e*S	Sn	18 01 43.3	-1.5
HFS				*e*SG		18 01 48.6	
HFS	**Hagfors**	**2.33**	**42**	Pn	Pn	18 01 14.7	-0.7
	baz=229,slow=14						
HFS				Pg	Pg	18 01 17.7	-2.9
	baz=220,slow=18						
HFS				Sn	Sn	18 01 43.3	-1.5
	baz=220,slow=28						
HFS				Lg		18 01 48.6	
	baz=230,slow=37						
HFS	**Hagfors**	**2.33**	**42**	Pg	Pg	18 01 17.7	-2.9
HFS				Sn	Sn	18 01 43.3	-1.5
	SNR=50						
BLS5	**Blasjo**	**2.36**	**297**	*e*P	Pn	18 01 14.9	-0.9
BLS5				*e*S	Sn	18 01 45.6	+0.2
BLS5	**Blasjo**	**2.36**	**297**	*e*P	Pn	18 01 14.9	-0.9
BLS5				*e*S	Sn	18 01 45.6	+0.2
BLS5				AML	AML	18 01 53.6	
	comp=Z,17nm,0.6s						
BLS5	**Blasjo**	**2.36**	**297**	*e*P	Pn	18 01 14.9	-0.9
	SNR=50						
BLS5				*e*S	Sn	18 01 45.6	+0.1
	comp=Z,17nm,0.6s,SNR=50						
ODD1	**Odda**	**2.52**	**308**	*e*SB	Sb	18 01 51.0	-2.5
LNKU	**Linkoeping**	**2.60**	**93**	*e*P	Pn	18 01 18.6	-0.5
NB2	**NORSAR Subarra**	**2.63**	**7**	*e*P	Pn	18 01 17.7	-1.9
NB2				*e*PG	Pg	18 01 23.5	-2.8
NB2				*e*SG		18 01 57.3	
NB2	**NORSAR Subarra**	**2.63**	**7**	Pn	Pn	18 01 17.7	-1.9
	baz=191,slow=16						
NB2				Pg	Pg	18 01 23.5	-2.8
NB2				Lg		18 01 57.3	
	baz=183,slow=37						
DEL	**Delary**	**2.65**	**137**	*e*P	Pn	18 01 20.0	+0.2
EKSU	**Eksjoe**	**2.65**	**107**	*e*P	Pn	18 01 20.3	+0.5
VXJU	**Vaexsjoe**	**2.79**	**121**	*e*P	Pn	18 01 22.0	+0.4
KMY	**Karmoy**	**2.89**	**288**	*e*P	Pn	18 01 21.1	-1.9
KMY				*e*P		18 01 21.2	
KMY				*e*S	Sn	18 01 55.9	-2.5
KMY				AML	AML	18 02 02.9	
	comp=Z,6.2nm,0.5s						
KMY	**Karmoy**	**2.89**	**288**	*e*P	Pn	18 01 21.2	-1.8
	SNR=50						
KMY				*e*S	Sn	18 01 55.9	-2.5
	comp=Z,6.2nm,0.5s,SNR=50						
OSKU	**Oskarshamn**	**3.20**	**110**	*e*P	Pn	18 01 27.6	+0.3
VSTU	**Vaestervik**	**3.25**	**101**	*e*P	Pn	18 01 28.3	+0.2
ASK	**Askoy**	**3.44**	**309**	*e*P	Pn	18 01 31.0	+0.4
BLEU	**Blekinge**	**3.54**	**125**	*e*P	Pn	18 01 31.9	-0.1
RAF	**Rauma**	**6.22**	**61**	*e*P	Pn	18 02 07.3	-1.5
RAF				*e*S	Sn	18 03 16.4	-4.3
RAF				*e*SG	Sg	18 03 46.9	-8.6
RAF	**Rauma**	**6.22**	**61**	P	Pn	18 02 07.3	-1.5
RAF				S	Sn	18 03 16.3	-4.3
MEF	**Metsahovi**	**7.29**	**70**	*e*P	Pn	18 02 22.1	-1.4
MEF				*e*S	Sn	18 03 41.6	-5.3
MEF				*e*SG	Sg	18 04 20.9	-8.9
MEF	**Metsahovi**	**7.29**	**70**	P	Pn	18 02 22.0	-1.5
MEF				S	Sn	18 03 41.6	-5.3
VAF	**Ylistaro**	**7.51**	**47**	*e*P	Pn	18 02 23.9	-2.6
VAF				*e*S	Sn	18 03 47.2	-5.1
VAF				*e*SG	Sg	18 04 26.0	-11
VAF	**Ylistaro**	**7.51**	**47**	P	Pn	18 02 23.9	-2.6
VAF				S	Sn	18 03 47.2	-5.1
KEF	**Keuruu**	**8.02**	**56**	*e*S	Sn	18 03 59.6	-5.2
KEF				*e*SG	Sg	18 04 42.0	-11
KEF				MSG		18 04 48.3	
	comp=Z,2.8nm,0.6s						
PVF	**Pernaja**	**8.05**	**68**	*e*S	Sn	18 04 00.3	-5.5
PVF				*e*SG	Sg	18 04 44.2	-10
PVF				MSG		18 04 53.5	
	comp=Z,4.1nm,0.5s						
FIA0	**FINESS Array S**	**8.34**	**62**	*e*P	Pn	18 02 35.8	-2.1
FIA0				*e*S	Sn	18 04 07.8	-5.0
FIA0				*e*SG	Sg	18 04 53.1	-10
FIA0				MSG		18 05 04.3	
	comp=Z,1.6nm,0.5s						
FIA0	**FINESS Array S**	**8.34**	**62**	Pn	Pn	18 02 36.5	-1.4
	baz=253,slow=11						
FIA0				Sn	Sn	18 04 07.5	-5.3
	baz=255,slow=22						
FIA0				Lg		18 04 53.4	
	baz=259,slow=28						
FIA0	**FINESS Array S**	**8.34**	**62**	P	Pn	18 02 35.8	-2.1
FIA0				S	Sn	18 04 07.7	-5.1
KAF	**Kangasniemi**	**8.63**	**58**	*e*P	Pn	18 02 40.0	-1.9
KAF				*e*S	Sn	18 04 14.7	-5.2
KAF				*e*SG	Sg	18 05 01.0	-12
KAF				MSG		18 05 07.5	
	comp=Z,2.4nm,0.6s						
SUF	**Sumiainen**	**8.77**	**54**	*e*S	Sn	18 04 17.8	-5.7
SUF				*e*SG	Sg	18 05 05.2	-12
SUF				MSG		18 05 10.8	
	comp=Z,2.3nm,0.5s						
VJF	**Virojoki**	**8.88**	**69**	*e*SG	Sg	18 05 09.1	-12
ARA0	**ARCESS Array S**	**12.87**	**24**	Pn	Pn	18 03 36.7	-3.2
	baz=212,slow=14						
ARA0	**ARCESS Array S**	**12.87**	**24**	*e*P	Pn	18 03 36.7	-3.2

*IDC **23** 18:19:42.6±1.2, 4517N×107.15W, h0km, mb1 3.7/3, mb1mx3.3/24, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=49.0km s-min=7.7km az=131.0*
*ISCJB **23** 18:19:43.6±0.6, 4512N±004×10679W±007, h0km, Error ellipse: s-maj=7.1km s-min=6.3km az=147.9*
*NEIC **23** 18:19:44.6±0.5, 4514N×10678W, h0km, ML3.3, Error ellipse: s-maj=7.1km s-min=6.7km az=106.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] NNE of Sheridan.

ISC 23 18:19:44.6±0.5, 4515N±004×10677W±007, h0km, n36, σ1§23/36, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.59**	**14**	*e*P	**Pn**	**18 20 14.4**	**+0.5**
GCMT	**Greycliff**	**2.14**	**289**	*e*P	**Pn**	**18 20 20.5**	**-1.0**
RSSD	**Black Hills**	**2.21**	**117**	*e*P	**Pn**	**18 20 23.2**	**+0.7**
LKWY	**Lake**	**2.65**	**259**	*e*P	**Pn**	**18 20 29.4**	**+0.9**
YFT	**Old Faithful**	**2.98**	**258**	*e*P	**Pn**	**18 20 36.2**	**+3.1**
FLWY	**Flagg Ranch**	**3.00**	**251**	*e*P	**Pn**	**18 20 34.2**	**+0.8**
YMR	**Madison River**	**3.02**	**262**	*e*P	**Pn**	**18 20 34.7**	**+1.1**
BW06	**Boulder Array**	**3.12**	**221**	*e*P	**Pn**	**18 20 34.3**	**-0.7**
PDAR	**Pinedale Array**	**3.12**	**221**	Pn	**Pn**	**18 20 34.3**	**-0.7**
	9.8nm,0.3s,baz=50,slow=15,SNR=160						
PDAR				Lg		18 21 14.6	
	28nm,0.3s,baz=48,slow=29,SNR=11						
PDAR	**Pinedale Array**	**3.12**	**221**	Pn	**Pn**	**18 20 34.3**	**-0.7**
PDAR				Lg		18 21 14.6	
LOHW	**Long Hollow**	**3.15**	**242**	*e*P	**Pn**	**18 20 33.4**	**-2.1**
MOOW	**Moose Ponds**	**3.17**	**245**	*e*P	**Pn**	**18 20 35.8**	**+0.1**
IMW	**Indian Meadow**	**3.23**	**249**	*e*P	**Pn**	**18 20 39.8**	**+3.2**
SNOW	**Snow King Moun**	**3.32**	**241**	*e*P	**Pn**	**18 20 39.6**	**+1.8**
QLMT	**Earthquake Lak**	**3.32**	**266**	*e*P	**Pn**	**18 20 41.5**	**+3.7**
REDW	**Red Top Meadow**	**3.43**	**240**	*e*P	**Pn**	**18 20 39.8**	**+0.4**
BOZ	**Bozeman (W)**	**3.46**	**280**	*e*P	**Pn**	**18 20 38.0**	**-1.7**
RWWY	**Rawlins**	**3.47**	**185**	*e*P	**Pn**	**18 20 40.2**	**+0.4**
EGMT	**Eagleton**	**3.54**	**325**	*e*P	**Pn**	**18 20 40.5**	**-0.2**
DGMT	**Dagmar**	**3.76**	**27**	*e*P	**Pn**	**18 20 45.5**	**+1.7**
PHWY	**Pilot Hill**	**3.96**	**166**	*e*P	**Pn**	**18 20 45.1**	**-1.5**
DLMT	**Dillon**	**4.12**	**275**	*e*P	**Pn**	**18 20 47.8**	**-1.0**
MCMT	**McKenzie Canyo**	**4.32**	**268**	*e*P	**Pn**	**18 20 51.7**	**+0.1**
CHMT	**Chamberlain Mo**	**4.85**	**294**	*e*P	**Pn**	**18 20 57.7**	**-1.0**
HWUT	**Hardware Ranch**	**4.97**	**226**	*e*P	**Pn**	**18 21 00.2**	**-0.3**
TCUT	**Toone Canyon**	**5.27**	**222**	*e*P	**Pn**	**18 21 04.9**	**+0.3**
MSO	**Missoula**	**5.27**	**291**	P	**Pn**	**18 21 11.0**	**+6.4**
	6.5nm,0.8s						
ISCO	**Idaho Springs**	**5.41**	**171**	*e*P	**Pn**	**18 21 06.3**	**-0.2**
	11nm,0.8s						
DAU	**Daniels Canyon**	**5.77**	**216**	P	**Pn**	**18 21 08.1**	**-3.4**

KEF	**Keuruu**	**8.13**	**56**	*e*S	Sn	18 31 17.2	-3.8
KEF				*e*SG	Sg	18 31 59.0	-11
KEF				MSG		18 32 03.2	
	comp=Z,1.7nm,0.6s						
PVF	**Pernaja**	**8.16**	**68**	*e*SG	Sg	18 31 60.0	-11
PVF				MSG		18 32 11.2	
	comp=Z,1.9nm,0.5s						
FIA0	**FINESS Array S**	**8.45**	**62**	*e*P	Pn	18 29 52.5	-0.4
FIA0				*e*S	Sn	18 31 23.0	-5.9
FIA0				*e*SG	Sg	18 32 09.8	-11
FIA0				MSG		18 32 21.6	
	comp=Z,1.6nm,0.5s						
FIA0	**FINESS Array S**	**8.45**	**62**	Pn	Pn	18 29 52.4	-0.5
	baz=251,slow=12						
FIA0				Sn	Sn	18 31 23.2	-5.7
	baz=242,slow=22						
FIA0				Lg		18 32 09.2	
	baz=256,slow=28						
KAF	**Kangasniemi**	**8.74**	**58**	*e*P	Pn	18 29 54.8	-2.1
KAF				*e*S	Sn	18 31 31.5	-4.6
KAF				*e*SG	Sg	18 32 19.9	-10
KAF				MSG		18 32 29.8	
	comp=Z,2.1nm,0.6s						
SUF	**Sumiainen**	**8.89**	**54**	*e*S	Sn	18 31 33.1	-6.6

IDC 23 18:50:20.9±3.3, 5504S×14835E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.9/10, mbtmp3.8/3, Error ellipse: s-maj=320.8km s-min=26.1km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**23.09**	**173**	P	P	18 55 27.7	-0.5
	4.8nm,1.1s,baz=341,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**33.12**	**335**	P	P	18 56 59.3	+0.7
	0.6nm,0.8s,baz=164,slow=9.7,SNR=5.3						
WRA	**Warramunga Arr**	**36.61**	**338**	P	P	18 57 28.1	-0.7
	1.2nm,0.7s,baz=165,slow=7.7,SNR=9.8						

JMA 23 18:51:27.3±0.3, 4310N×14846E, h0km, M4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.00**	**279**	P	Pn	18 52 03.2	+0.8
NEM2				*e*S	Sn	18 52 29.1	+1.0
JRA	**Rausu**	**2.57**	**290**	P	Pn	18 52 11.1	+1.0
JRA				*e*S	Sn	18 52 43.6	+1.5
JAK	**Akkeshi**	**2.76**	**269**	P	Pn	18 52 13.9	+1.1
JAK				*e*S	Sn	18 52 48.2	+1.4
JNK	**Nakash**	**2.77**	**281**	P	Pn	18 52 13.7	+0.8
JNK				*e*S	Sn	18 52 48.6	+1.5
JTKR	**Abashiri--Toko**	**3.42**	**286**	P	Pn	18 52 23.8	+1.9
JAR	**Ashorobuto**	**3.44**	**275**	P	Pn	18 52 23.6	+1.5
JAR				*e*S	Sn	18 53 05.6	+2.1
JCH	**Churui**	**3.78**	**264**	P	Pn	18 52 28.1	+1.3
JCH				*e*S	Sn	18 53 13.5	+1.5
JKK2	**Kamakawa 2**	**4.23**	**282**	P	Pn	18 52 35.6	+2.6
JNBK	**Urakawa-nobuka**	**4.29**	**261**	P	Pn	18 52 34.9	+1.1
JNBK				*e*S	Sn	18 53 25.6	+1.1
JFR	**Furan**	**4.29**	**273**	P	Pn	18 52 36.5	+2.6
JHR	**Hokuryu**	**4.95**	**280**	P	Pn	18 52 47.2	+4.3
JEW	**Eniwo**	**5.15**	**269**	P	Pn	18 52 48.5	+2.9
JWK2	**Keihoku**	**5.21**	**297**	P	Pn	18 52 50.1	+3.6
JKB	**Kayabe**	**5.62**	**260**	P	Pn	18 52 53.7	+1.6
JKB				*e*S	Sn	18 53 56.7	-0.7
JOT	**Ohata**	**5.76**	**255**	P	Pn	18 52 55.7	+1.6
JOT				*e*S	Sn	18 54 00.1	-0.8
JANG	**Nango**	**5.87**	**245**	P	Pn	18 52 55.0	-0.5
JANG				*e*S	Sn	18 54 00.0	-3.4
JOSM	**Okushiri--Mats**	**6.71**	**264**	P	Pn	18 53 09.9	+2.8
JMK	**Ichinoseki**	**6.87**	**235**	P	Pn	18 53 09.4	+0.2
JMK				*e*S	Sn	18 54 23.5	-4.5

*ISCJB **23** 19:09:15.8±0.6, 6630N±004×1422W±0.1, h10km, Error ellipse: s-maj=6.6km s-min=5.9km az=128.3*
*PGC **23** 19:09:16.4, 6626N×14252W, h10km, ML2.6/2, 284km northwest of Dawson, Yt Eastern Alaska.*
*NEIC **23** 19:09:18.0, 66.19N×142.55W, h4km, ML2.8(AEIC), After AEIC.*

ISC 23 19:09:17.1±0.6, 6629N±005×1422W±01, h10km, n14, σ0§84/21, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.48**	**321**	P	**Pn**	**19 09 45.1**	**+1.3**
IL1	**Eielson Array**	**2.47**	**234**	P	**Pn**	**19 09 56.9**	**-0.6**
IL1				S	**Sn**	**19 10 27.3**	**-0.4**
DAWY	**Dawson**	**2.53**	**151**	Pn	**Pn**	**19 09 57.5**	**-0.8**
DAWY				Sn	**Sn**	**19 10 28.3**	**-0.8**
DAWY				Sg	**Sg**	**19 10 32.7**	**-5.7**
DAWY				Trac		19 10 41.0	
	comp=Z,12nm,0.3s						
DAWY	**Dawson**	**2.53**	**151**	P	**Pn**	**19 09 59.0**	**+0.8**
DAWY				S	**Sn**	**19 10 32.6**	**+3.5**
COLA	**College**	**2.74**	**241**	*e*P	**Pn**	**19 09 54.9**	**-6.3**
DOT	**Dot Lake**	**2.77**	**197**	P	**Pn**	**19 10 02.1**	**+0.6**
DOT				S	**Sn**	**19 10 35.6**	**+0.7**
COLD	**Coldfoot**	**3.31**	**290**	P	**Pn**	**19 10 09.7**	**+0.7**
COLD				S	**Sn**	**19 10 48.1**	**-0.2**
MCK	**McKinley**	**3.84**	**231**	*e*P	**Pn**	**19 10 14.5**	**-1.7**
INK	**Inuvik**	**3.93**	**55**	Pn	**Pn**	**19 10 17.8**	**+0.3**
INK				Sn	**Sn**	**19 11 02.9**	**-0.8**
INK				Trac		19 11 24.4	
	comp=Z,6.0nm,0.5s						
INK	**Inuvik**	**3.93**	**55**	*e*P	**Pn**	**19 10 17.3**	**-0.2**
IM3	**Indian Mountai**	**4.70**	**272**	P	**Pn**	**19 10 27.7**	**-0.3**
HYT	**Haines Junctio**	**5.87**	**157**	Pn	**Pn**	**19 10 45.1**	**+0.9**
HYT				Sg	**Sg**	**19 12 20.0**	**-5.6**
HYT				Trac		19 12 24.1	
	comp=Z,6.0nm,0.6s						
WHY	**Whitehorse**	**6.53**	**146**	Trac		19 12 44.2	
	comp=Z,1.0nm,0.6s						
YKW3	**Yellowknife Ar**	**12.43**	**95**	Pn	**Pn**	**19 12 09.0**	**-5.1**

*IDC **23** 19:17:52.5±3.5, 1064N×9400E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.5/3, Error ellipse: s-maj=136.5km s-min=30.3km az=66.0*
*ISCJB **23** 19:17:59.2±1.8, 109N±003×950E±04, h33km, mb3.4/3, Error ellipse: s-maj=74.2km s-min=17.7km az=108.6*

ISC 23 19:18:02.6±1.8, 110N±003×951E±04, h35km, n9, σ1§59/9, mb3.4/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**18.59**	**334**	*e*P	**Pn**	**19 22 17.7**	**+0.6**
PKI	**Pulchoki**	**18.86**	**332**	*e*P	**Pn**	**19 22 21.8**	**+1.4**
GUN	**Gumba**	**18.95**	**334**	*e*P	**Pn**	**19 22 17.4**	**-4.0**
DMN	**Daman**	**19.03**	**332**	*e*P	**Pn**	**19 22 24.1**	**+1.7**
KKN	**Kakani**	**19.11**	**332**	*e*P	**Pn**	**19 22 21.7**	**-1.6**
	17nm,1.2s						
GKN	**Gorkha**	**19.59**	**331**	*e*P	**Pn**	**19 22 23.4**	**-5.6**
	23nm,1.2s						
MKAR	**Makanchi Array**	**37.31**	**345**	P	**P**	**19 25 06.9**	**-4.4**
	0.5nm,0.7s,mb3.5,baz=156,slow=9.3,SNR=6.2						
SONM	**Songino Array**	**37.93**	**12**	P	**P**	**19 25 16.7**	**+0.1**
	0.6nm,0.9s,mb3.3,baz=188,slow=8.7,SNR=3.5						
ASAR	**Alice Springs**	**51.22**	**133**	P	**P**	**19 27 02.5**	**0.0**
	0.4nm,0.7s,mb3.5,baz=309,slow=7.4,SNR=4.7						

IDC 23 19:18:28.4±3.1, 1064N×9431E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/20, mbtmp3.9/5, Error ellipse: s-maj=134.6km s-min=22.8km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.83**	**303**	*e*P	Pn	19 18 44.6	-17
PBA				*e*S	Sn	19 19 39.5	+14
PBA				*ex*	x	19 19 57.7	
	comp=E,779nm,0.8s						
PBA				*ex*	x	19 19 58.5	
	comp=N,516nm,0.8s						
MKAR	**Makanchi Array**	**37.45**	**346**	P	P	19 25 43.8	+0.4
	comp=N,1.4nm,1.0s,baz=162,slow=8.4,SNR=5.6						
SONM	**Songino Array**	**38.44**	**13**	P	P	19 25 51.4	-0.4
	comp=N,0.8nm,1.0s,baz=201,slow=7.8,SNR=4.0						
WRA	**Warramunga Arr**	**49.77**	**128**	P	P	19 27 23.5	+0.8
	comp=N,1.4nm,0.9s,baz=305,slow=8.3,SNR=6.2						
ASAR	**Alice Springs**	**51.59**	**132**	P	P	19 27 37.2	+0.8
	comp=N,1.8nm,0.8s,baz=311,slow=7.8,SNR=13						
STKA	**Stephens Creek**	**61.91**	**135**	P	P	19 28 49.0	-0.7
	comp=N,1.7nm,0.9s,baz=303,slow=2.8,SNR=3.4						

IDC 23 19:28:13.8±8.2, 5406S×13160W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.9/14, mbtmp4.1/2, MS3.6/1, Ms1 3.6/1, ms1mx3.2/23, Error ellipse: s-maj=671.5km s-min=60.9km az=147.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**38.99**	**332**	LR	LR	19 48 00.0	
	comp=Z,95nm,21.6s,baz=149,slow=30						
ASAR	**Alice Springs**	**73.74**	**252**	P	P	19 39 49.6	0.0
	1.3nm,0.8s,baz=138,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**76.44**	**255**	P	P	19 40 05.2	0.0
	1.0nm,0.5s,baz=140,slow=5.5,SNR=21						
ILAR	**Eielson Array**	**119.08**	**353**	PKP	PKPdf	19 47 02.6	-1.9
	0.3nm,1.0s,baz=193,slow=3.7,SNR=2.9						
SONM	**Songino Array**	**143.85**	**284**	PKP	PKPdf	19 47 48.9	-2.0
	2.0nm,0.9s,baz=139,slow=2.8,SNR=12						
MKAR	**Makanchi Array**	**157.39**	**265**	PKPab	PKPab	19 48 42.8	-0.4
	0.6nm,0.9s,baz=107,slow=4.2,SNR=4.5						

IDC 23 19:30:12.7±8.3, 587S×15121E, h51km±62km, mb3.8/4, mb1 4.0/5, mb1mx3.6/15, mbtmp4.1/5, ML3.4/1, Error ellipse: s-maj=67.8km s-min=48.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.34**	**229**	P	Pn	19 31 30.6	+0.8
	8.8nm,0.3s,baz=56,slow=5.4,SNR=38						
PMG				S	Sn	19 32 30.2	+0.2
	7.9nm,0.3s,baz=176,slow=19,SNR=11						
WB2	**Warramunga Arr**	**21.55**	**228**	*e*P	P	19 34 58.0	+0.3
WRA	**Warramunga Arr**	**21.56**	**228**	P	P	19 34 58.2	+0.4
	2.0nm,0.5s,baz=53,slow=11,SNR=46						
ASAR	**Alice Springs**	**24.30**	**222**	P	P	19 35 26.4	+1.1
	2.5nm,0.8s,baz=57,slow=8.9,SNR=42						
STKA	**Stephens Creek**	**27.40**	**198**	*e*P	P	19 35 51.6	-1.8
	2.7nm,1.0s						
STKA	**Stephens Creek**	**27.40**	**198**	P	P	19 35 53.1	-0.3
	3.1nm,0.9s,baz=37,slow=3.4,SNR=3.3						
FITZ	**Fitzroy Crossi**	**27.77**	**242**	*e*P	P	19 35 57.3	+0.7
	15nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.77**	**242**	P	P	19 35 57.2	+0.5
	3.1nm,0.6s,baz=82,slow=9.8,SNR=8.7						
GERES	**GERESS Array B**	**124.11**	**327**	PKP	PKPdf	19 49 04.9	-0.6
	0.3nm,0.5s,baz=129,slow=1.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.10**	**286**	PKPbc	PKPbc	19 49 56.0	+0.7
	1.1nm,0.6s,baz=82,slow=2.3,SNR=12						

*IDC **23** 20:01:50.9±2.5, 4350N×10534W, h0km, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, ML2.6/2, Error ellipse: s-maj=55.7km s-min=9.7km az=151.0*
*ISCJB **23** 20:01:51.8±0.7, 4367N±004×105.16W±008, h0km, Error ellipse: s-maj=8.1km s-min=5.6km az=3.2*
*NEIC **23** 20:01:53.4±0.5, 4363N×105.17W, h0km, ML3.3, Error ellipse: s-maj=6.7km s-min=6.0km az=129.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.

ISC 23 20:01:52.6±0.6, 4366N±004×10507W±007, h0km, n31, σ1§16/36, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.88**	**58**	*e*P	**Pg**	**20 02 12.2**	**+2.7**
PHWY	**Pilot Hill**	**2.38**	**187**	*e*P	**Pn**	**20 02 32.5**	**-0.2**
PHWY				*e*S	**Sn**	**20 03 02.9**	**+0.3**
RWWY	**Rawlins**	**2.52**	**219**	*e*P	**Pn**	**20 02 34.8**	**-0.1**
RWWY				*e*S	**Sn**	**20 03 06.5**	**+0.2**
LAO	**LASA Array**	**3.13**	**345**	*e*P	**Pn**	**20 02 43.5**	**+0.3**
PDAR	**Pinedale Array**	**3.40**	**256**	Pn	**Pn**	**20 02 46.1**	**-0.7**
	3.5nm,0.3s,baz=69,slow=15,SNR=50						
PDAR				Lg		20 03 29.2	
	3.4nm,0.3s,baz=85,slow=20,SNR=3.7						
BW06	**Boulder Array**	**3.40**	**256**	*e*P	**Pn**	**20 02 46.0**	**-0.9**
ISCO	**Idaho Springs**	**3.88**	**186**	*e*P	**Pn**	**20 02 54.0**	**+0.6**
GCMT	**Greycliff**	**3.91**	**305**	*e*P	**Pn**	**20 02 53.0**	**-0.8**
LKWY	**Lake**	**3.94**	**285**	*e*P	**Pn**	**20 02 57.5**	**+3.2**
LOHW	**Long Hollow**	**4.01**	**271**	*e*P	**Pn**	**20 02 56.2**	**+0.9**
LOHW				*e*S	**Sn**	**20 03 48.5**	**+5.5**
FLWY	**Flagg Ranch**	**4.09**	**278**	*e*P	**Pn**	**20 02 56.9**	**+0.6**
FLWY				*e*Pg	**Pg**	**20 03 05.3**	**-5.7**
FLWY				*e*S	**Sg**	**20 04 00.1**	**-3.9**
MOOW	**Moose Ponds**	**4.11**	**273**	*e*P	**Pn**	**20 02 56.2**	**-0.4**
SNOW	**Snow King Moun**	**4.13**	**269**	*e*P	**Pn**	**20 02 58.2**	**+1.2**
REDW	**Red Top Meadow**	**4.21**	**268**	*e*P	**Pn**	**20 03 01.2**	**+3.1**
YFT	**Old Faithful**	**4.23**	**283**	P	**Pn**	**20 03 02.6**	**+4.4**
IMW	**Indian Meadow**	**4.25**	**275**	*e*P	**Pn**	**20 02 59.0**	**+0.4**
TPAW	**Teton Pass**	**4.27**	**270**	*e*P	**Pn**	**20 02 59.8**	**+1.0**
YMR	**Madison River**	**4.36**	**285**	*e*P	**Pn**	**20 03 01.9**	**+1.8**
AHID	**Auburn Hatcher**	**4.50**	**261**	*e*P	**Pn**	**20 03 02.0**	**+0.1**
QLMT	**Earthquake Lak**	**4.71**	**287**	P	**Pn**	**20 03 10.9**	**+6.0**
BOZ	**Bozeman (W)**	**5.08**	**295**	*e*P	**Pn**	**20 03 09.3**	**-0.7**
	6.1nm,0.5s						
HWUT	**Hardware Ranch**	**5.21**	**249**	*e*P	**Pn**	**20 03 10.9**	**-0.9**
	12nm,0.5s						
TCUT	**Toone Canyon**	**5.33**	**244**	*e*P	**Pn**	**20 03 13.4**	**-0.1**
EGMT	**Eagleton**	**5.45**	**325**	*e*P	**Pn**	**20 03 13.5**	**-1.6**
	7.3nm,0.4s						
DLMT	**Dillon**	**5.64**	**290**	P	**Pn**	**20 03 18.8**	**+1.1**
DLMT				*e*P		20 03 32.9	
SRU	**San Rafael**	**6.12**	**224**	*e*P	**Pn**	**20 03 22.5**	**-1.7**
	10nm,0.5s						
CHMT	**Chamberlain Mo**	**6.62**	**302**	*e*P	**Pn**	**20 03 31.6**	**+0.4**
DUG	**Dugway**	**6.73**	**242**	*e*P	**Pn**	**20 03 30.2**	**-2.4**
	3.2nm,0.4s						
MSU	**Marysvale**	**7.43**	**229**	*e*P	**Pn**	**20 03 42.5**	**+0.2**
ULM	**Lac du Bonnet**	**9.11**	**40**	Pn	**Pn**	**20 04 04.2**	**-1.1**
	0.8nm,0.3s,baz=229,slow=11,SNR=7.7						
ULM				Lg		20 06 40.0	
	0.1nm,0.3s,baz=142,slow=22,SNR=3.0						
YKA	**Yellowknife Ar**	**19.67**	**347**	P	**Pn**	**20 06 22.3**	**-2.2**
	baz=152,slow=11,SNR=2.0						

*OMAN **23** 20:08:51.5, 1287N×5022E, h18km, Error ellipse: s-maj=5777.0km s-min=26.9km az=36.0*
*ISCJB **23** 20:09:17.7±2.8, 146N±04×515E±02, h10km, Error ellipse: s-maj=59.3km s-min=7.3km az=134.6*

ISC 23 20:09:20.2±2.8, 147N±04×514E±02, h10km, n7, σ0§37/8, 3C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.31**	**265**	⇑*e*P	**Pn**	**20 09 58.9**	**+0.7**
MUKL				*e*		20 09 59.1	
	baz=98,slow=7.4						
MUKL				*i* S	**Sn**	**20 10 26.5**	**-0.1**
MUKL				AML	AML	20 10 28.9	
	comp=N,350nm,0.2s						
ABTO	**Aybut**	**3.21**	**34**	⇑P	**Pn**	**20 10 10.8**	**+0.2**
	SNR=41						
RBK	**Rabkut**	**3.87**	**44**	P	**Pn**	**20 10 19.6**	**-0.1**
	SNR=132						
WHFO	**Wadi Hawf**	**3.92**	**35**	P	**Pn**	**20 10 20.7**	**+0.3**
	SNR=31						
SHAO	**Shalim**	**5.23**	**50**	⇑P	**Pn**	**20 10 38.3**	**0.0**
	SNR=12						
LBOS		**6.03**	**263**	*i* P	**Pn**	**20 10 48.8**	**-0.5**
BIDO	**Bidbid**	**10.83**	**35**	⇓P	**Pn**	**20 11 54.8**	**-0.4**

IDC 23 20:25:12.9±5.5, 2257S×17022E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.8/13, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=104.1km s-min=58.6km az=34.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.53**	**277**	Pn	Pn	20 26 09.9	+1.0
	5.5nm,0.3s,baz=111,slow=21,SNR=153						
DZM				Sn	Sn	20 26 51.5	+0.1
	2.5nm,0.3s,baz=102,slow=20,SNR=9.2						
STKA	**Stephens Creek**	**27.02**	**244**	P	P	20 30 57.3	+0.7
	1.5nm,0.7s,baz=78,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**33.36**	**261**	P	P	20 31 53.6	+0.9
	0.9nm,0.7s,baz=82,slow=9.2,SNR=11						
WRA	**Warramunga Arr**	**33.49**	**268**	P	P	20 31 53.0	-0.9
	0.5nm,0.8s,baz=102,slow=8.1,SNR=8.0						

*NEIC **23** 20:38:02.0, 3873S×17538E, h201km, MG4.2(WEL), After WEL.*

WEL 23 20:38:01.5±0.3, 3867S×17536E, h207km±2km, ML4.2/17, 6C-1D, Error ellipse: s-maj=3.3km s-min=2.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.38**	**121**	PN	Pn	20 38 29.1	+0.1
RATZ	**Rangitukua**	**0.38**	**121**	P	Pn	20 38 29.3	+0.3
TWVZ	**Taurewa**	**0.40**	**171**	PN	Pn	20 38 29.2	+0.1
TWVZ				SN	Sn	20 38 50.6	+0.1
TWVZ	**Taurewa**	**0.40**	**171**	P	Pn	20 38 28.3	-0.8
HIZ	**Hauiti**	**0.42**	**292**	PN	Pn	20 38 29.1	-0.1
HIZ				SN	Sn	20 38 51.4	+0.7
HIZ	**Hauiti**	**0.42**	**292**	P	Pn	20 38 29.1	-0.1
WTVZ	**West Tongariro**	**0.48**	**158**	PN	Pn	20 38 29.6	+0.3
WTVZ				SN	Sn	20 38 51.2	+0.2
WTVZ	**West Tongariro**	**0.48**	**158**	P	Pn	20 38 28.6	-0.7
WTVZ				S	Sn	20 38 50.4	-0.6
NGZ	**Ngauruhoe**	**0.54**	**159**	PN	Pn	20 38 29.8	+0.2
NGZ	**Ngauruhoe**	**0.54**	**159**	P	Pn	20 38 28.9	-0.7
WPVZ	**Whakapapa**	**0.55**	**164**	PN	Pn	20 38 29.8	+0.2
WPVZ	**Whakapapa**	**0.55**	**164**	P	Pn	20 38 29.0	-0.6
FWVZ	**Far West T-bar**	**0.60**	**165**	PN	Pn	20 38 30.2	+0.4
FWVZ	**Far West T-bar**	**0.60**	**165**	P	Pn	20 38 29.3	-0.5
HATZ	**Hinemaiaia**	**0.61**	**111**	PN	Pn	20 38 30.0	+0.1
HATZ				SN	Sn	20 38 51.6	-0.3
HATZ	**Hinemaiaia**	**0.61**	**111**	P	Pn	20 38 30.0	+0.1
PKVZ	**Pokaka**	**0.62**	**181**	⇑PN	Pn	20 38 29.9	+0.1
PKVZ				SN	Sn	20 38 51.6	-0.3
TUVZ	**Tukino**	**0.64**	**159**	PN	Pn	20 38 30.4	+0.4
TUVZ				SN	Sn	20 38 51.6	-0.5
TUVZ	**Tukino**	**0.64**	**159**	P	Pn	20 38 29.5	-0.5
TRVZ	**Turoa**	**0.64**	**167**	PN	Pn	20 38 30.4	+0.4
VRZ	**Vera Road**	**0.65**	**226**	PN	Pn	20 38 29.7	-0.4
VRZ	**Vera Road**	**0.65**	**226**	P	Pn	20 38 29.7	-0.3
WNVZ	**Wahianoa**	**0.68**	**164**	PN	Pn	20 38 30.2	0.0
WNVZ	**Wahianoa**	**0.68**	**164**	P	Pn	20 38 29.6	-0.6
MTVZ	**Mangateitei**	**0.72**	**173**	PN	Pn	20 38 30.6	+0.2
MOVZ	**Moawhango**	**0.80**	**157**	⇑PN	Pn	20 38 30.7	-0.1
MOVZ				SN	Sn	20 38 52.1	-1.4
MOVZ	**Moawhango**	**0.80**	**157**	P	Pn	20 38 29.7	-1.1
MOVZ				S	Sn	20 38 51.2	-2.3
RAEZ	**Rainy Point**	**0.97**	**230**	PN	Pn	20 38 31.3	-0.4
RAEZ	**Rainy Point**	**0.97**	**230**	P	Pn	20 38 31.4	-0.4
BKZ	**Black Stump Fm**	**1.01**	**119**	⇑*e*PN	Pn	20 38 32.3	+0.2
BKZ	**Black Stump Fm**	**1.01**	**119**	*e*P	Pn	20 38 32.3	+0.2
BKZ				S	Sn	20 38 55.2	-0.7
WAZ	**Wanganui**	**1.12**	**195**	PN	Pn	20 38 32.6	-0.2
WAZ	**Wanganui**	**1.12**	**195**	P	Pn	20 38 32.7	-0.1
NEZ	**North Egmont**	**1.15**	**238**	P	Pn	20 38 32.8	-0.2
PKE	**Pukeiti**	**1.19**	**244**	PN	Pn	20 38 32.6	-0.7
PKE	**Pukeiti**	**1.19**	**244**	P	Pn	20 38 32.8	-0.5
URZ	**Urewera**	**1.44**	**74**	⇓PN	Pn	20 38 34.9	-0.4
URZ	**Urewera**	**1.44**	**74**	P	Pn	20 38 34.9	-0.4
TSZ	**Takapari Road**	**1.46**	**161**	PN	Pn	20 38 35.3	-0.2
TSZ	**Takapari Road**	**1.46**	**161**	P	Pn	20 38 35.3	-0.2
MWZ	**Matawai**	**1.74**	**79**	PN	Pn	20 38 37.7	-0.3
MWZ	**Matawai**	**1.74**	**79**	P	Pn	20 38 37.8	-0.1
PXZ	**Pawanui**	**1.79**	**140**	PN	Pn	20 38 38.2	-0.3
KNZ	**Kokohu**	**1.84**	**102**	PN	Pn	20 38 39.0	+0.1
KNZ	**Kokohu**	**1.84**	**102**	P	Pn	20 38 39.2	+0.2
MRZ	**Mangatainoka R**	**1.99**	**175**	PN	Pn	20 38 39.2	-1.3
MRZ	**Mangatainoka R**	**1.99**	**175**	P	Pn	20 38 39.3	-1.2
BFZ	**Birch Farm**	**2.12**	**161**	PN	Pn	20 38 40.7	-1.1
BFZ	**Birch Farm**	**2.12**	**161**	*e*P	Pn	20 38 40.7	-1.0
KIW	**Kapiti Island**	**2.21**	**189**	PN	Pn	20 38 40.9	-1.8
KIW	**Kapiti Island**	**2.21**	**189**	P	Pn	20 38 41.0	-1.7
PUZ	**Puketiti**	**2.36**	**76**	PN	Pn	20 38 43.6	-0.7
PUZ				SN	Sn	20 39 14.4	-3.2
PUZ	**Puketiti**	**2.36**	**76**	*e*P	Pn	20 38 43.7	-0.6
PUZ				S	Sn	20 39 15.4	-2.3
DUWZ	**D'Urville Isla**	**2.40**	**207**	PN	Pn	20 38 42.4	-2.3
CAW	**Cannon Point**	**2.44**	**185**	⇑PN	Pn	20 38 43.4	-1.8
CAW	**Cannon Point**	**2.44**	**185**	P	Pn	20 38 42.4	-2.8
CAW				S	Sn	20 39 15.1	-4.2
MTW	**Mount Morrison**	**2.49**	**177**	PN	Pn	20 38 43.6	-2.0
MTW	**Mount Morrison**	**2.49**	**177**	P	Pn	20 38 42.6	-3.0
MRW	**Makara Radio**	**2.60**	**191**	PN	Pn	20 38 44.8	-2.1
TCW	**Tory Channel**	**2.67**	**198**	⇑PN	Pn	20 38 45.6	-2.1
TCW	**Tory Channel**	**2.67**	**198**	P	Pn	20 38 45.6	-2.1
SNZO	**South Karori**	**2.68**	**191**	PN	Pn	20 38 45.4	-2.4
SNZO	**South Karori**	**2.68**	**191**	P	Pn	20 38 45.5	-2.3
PAWZ	**Paruwai Farm**	**2.71**	**179**	PN	Pn	20 38 45.9	-2.2
PAWZ	**Paruwai Farm**	**2.71**	**179**	P	Pn	20 38 44.9	-3.2
TRWZ	**Traveller**	**2.73**	**175**	PN	Pn	20 38 46.3	-2.1
MSWZ	**Moikau Station**	**2.74**	**182**	PN	Pn	20 38 46

comp=Z,120nm,12.0s
SYO Syowa Base 86.36 193 ⇑ *e*P **P 20 55 33.8 -0.6**
ILAR Eielson Array 88.68 13 P **P 20 55 44.6 -0.6**
comp=Z,1.0nm,0.7s,mb3.7,baz=224,slow=5.3,SNR=16
HHC Hu-ho-hao-te 89.19 315 *e*P **P 20 55 46.6 -0.9**
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,73nm,5.2s
PDAR Pinedale Array 89.49 43 P **P 20 55 50.2 +1.3**
comp=Z,1.1nm,0.6s,mb3.8,baz=224,slow=3.9,SNR=9.5
MKAR Makanchi Array 111.02 313 PKiKP PKiKP 21 01 20.6 +0.1
comp=Z,0.2nm,0.4s,baz=118,slow=1.4,SNR=8.0
CHKZ Chkalovo 118.79 321 *e*PKPdf PKPdf 21 01 35.2 -0.2
BRVK Borovoye 119.03 320 *e*PKPdf PKPdf 21 01 35.9 0.0
ZRNK Zerenda 119.81 320 *e*PKPdf PKPdf 21 01 37.5 +0.1
ARCES ARCESS Array B 129.09 349 PKP PKPdf 21 01 54.4 -0.7
comp=Z,4.5nm,0.9s,baz=318,slow=1.2,SNR=5.7
ARCES ARCESS Array B 129.09 349 PKP PKPdf 21 01 54.4 -0.7
FINES FINESS Array B 135.89 343 PKP PKPdf 21 02 08.0 +0.1
comp=Z,0.8nm,0.6s,baz=27,slow=4.7,SNR=6.1
FINES FINESS Array B 135.89 343 PKP PKPdf 21 02 08.0 +0.1
AKASG Malin Array Be 143.00 331 PKP PKPdf 21 02 18.7 -2.1
comp=Z,4.2nm,0.5s,baz=43,slow=4.2,SNR=24
AKASG Malin Array Be 143.00 331 PKP PKPdf 21 02 18.7 -2.1
MALT Malatya 143.70 307 *e*PKPdf PKPdf 21 02 23.1 +1.1
BR131 Keskin Array S 146.65 312 *e*PKPdf PKPdf 21 02 28.4 +1.4
BR131 *e*PKPbc PKPbc 21 02 31.1 +1.3
BRTR Keskin Array B 146.65 312 PKPbc PKPbc 21 02 30.9 +1.1
comp=Z,1.6nm,0.6s,baz=150,slow=3.5,SNR=8.5
CLL Collm 148.21 346 ⇓ *i* PKPbc PKPbc 21 02 34.6 +0.8
comp=Z,9.0nm,0.8s
CLL *i* PKPab PKPab 21 02 39.2 -0.2
BRG Berggiesshubel 148.39 345 *e*(P) PKPbc 21 02 35.5 +1.2
comp=Z,1.5nm,0.7s
KHC Kasperske Hory 150.09 344 *e*PKPbc PKPbc 21 02 39.0 +0.7
GERES GERESS Array B 150.32 344 PKPbc PKPbc 21 02 39.9 +1.0
comp=Z,1.7nm,0.8s,baz=45,slow=2.1,SNR=14
TORD Torodi Ar. Bea 172.42 182 PKP PKPdf 21 02 56.3 +1.1
comp=Z,0.5nm,0.8s,baz=289,slow=1.0,SNR=3.7

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*IDC **23** 21:13:39.7±3.0, 1905S×16938E, h234km±35km, mb3.6/6, mb1 3.7/7, mb1mx3.6/14, mbtmp4.1/7, Error ellipse: s-maj=74.5km s-min=25.8km az=152.0*
*ISCJB **23** 21:13:40.9±2.5, 192S±05×1694E±04, h261km±30km, mb3.8/7, Error ellipse: s-maj=92.7km s-min=31.5km az=115.8*
*NEIC **23** 21:13:40.6±2.4, 1892S×16926E, h238km±30km, mb4.1/1, Error ellipse: s-maj=73.7km s-min=24.7km az=149.0*
ISC 23 21:13:40.0±2.8, 190S±05×1694E±04, h234km±35km, n9, σ0°82/9, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.08**	**221**	P	**Pn**	**21 14 45.2**	**+1.1**
	3.4nm,0.3s,baz=56,slow=21,SNR=27						
DZM				S	**S**	**21 15 34.0**	**-0.9**
	2.5nm,0.3s,baz=101,slow=20,SNR=2.5						
CTA	**Charters Tower**	**21.79**	**263**	P	**P**	**21 18 14.1**	**+0.8**
	4.6nm,0.6s,mb4.2,baz=97,slow=16,SNR=4.2						
STKA	**Stephens Creek**	**28.05**	**237**	P	**P**	**21 19 10.2**	**+0.5**
	0.6nm,0.4s,mb3.6,baz=326,slow=5.5,SNR=4.3						
WRAB	**Tennant Creek**	**32.98**	**262**	*e*P	**P**	**21 19 51.9**	**-1.0**
	2.7nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**32.98**	**262**	P	**P**	**21 19 52.2**	**-0.8**
	1.2nm,0.4s,mb3.8,baz=89,slow=8.5,SNR=55						
ASAR	**Alice Springs**	**33.28**	**256**	P	**P**	**21 19 56.1**	**+0.6**
	8.1nm,0.4s,mb4.6,baz=82,slow=8.8,SNR=172						
SONM	**Songino Array**	**87.10**	**323**	P	**P**	**21 25 59.9**	**+0.6**
	0.6nm,0.8s,mb3.4,baz=139,slow=4.9,SNR=5.4						
ILAR	**Eielson Array**	**89.98**	**17**	P	**P**	**21 26 11.8**	**-1.0**
	0.4nm,0.7s,mb3.4,baz=242,slow=4.9,SNR=12						
GERES	**GERESS Array B**	**144.34**	**332**	PKP	PKPdf	21 32 46.5	-1.6
	0.2nm,0.5s,baz=336,slow=2.9,SNR=3.7						

IDC 23 21:25:57.4±1.9, 427S×14694E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/12, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=147.9km s-min=30.0km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.83**	**217**	P	Pn	21 30 29.7	-1.5
	0.2nm,0.3s,baz=42,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.02**	**212**	P	P	21 31 04.5	+0.5
	0.5nm,0.5s,baz=35,slow=9.0,SNR=7.7						
ILAR	**Eielson Array**	**83.92**	**23**	P	P	21 38 29.1	-0.2
	0.4nm,0.8s,baz=247,slow=5.8,SNR=4.7						

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*CSEM **23** 21:34:20.3±4.2, 3677N×534E, h0km, mb3.5/5, Error ellipse: s-maj=57.9km s-min=36.9km az=55.0, After MDD*
MDD 23 21:34:20.3±4.2, 3677N×534E, h0km, mb3.6/2, Error ellipse: s-maj=57.9km s-min=36.9km az=55.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**3.59**	**327**	P	Pn	21 35 16.2	-1.0
	1.2nm,0.2s,SNR=15						
ETOS				S	Sn	21 35 56.6	-3.7
	2.2nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.59**	**327**	P	Pn	21 35 16.2	-1.0
	1.2nm,0.2s,SNR=15						
ETOS				S	Sn	21 35 56.6	-3.7
	2.2nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.88**	**307**	P	Pn	21 35 20.2	-1.0
	1.3nm,0.1s,SNR=7.9						
EIBI				S	Sn	21 36 03.9	-3.5
	1.2nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.88**	**307**	P	Pn	21 35 20.2	-0.9
	1.3nm,0.1s,SNR=7.9						
EIBI				S	Sn	21 36 03.9	-3.5
	1.2nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.65**	**325**	P	Pn	21 35 43.2	-2.3
	0.5nm,0.1s,SNR=7.9						
EPOB				S	Sn	21 36 45.8	-5.2
	0.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.65**	**325**	P	Pn	21 35 43.2	-2.3
	0.5nm,0.1s,SNR=7.9						
EPOB				S	Sn	21 36 45.8	-5.2
	0.7nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.72**	**318**	P	Pn	21 35 45.4	-1.0
	0.1nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**5.72**	**318**	P	Pn	21 35 45.4	-1.0
	0.1nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**5.92**	**331**	P	Pn	21 35 48.5	-0.8
	0.5nm,0.2s,SNR=7.9						
EMIR				S	Sn	21 36 53.9	-3.9
	2.6nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.92**	**331**	P	Pn	21 35 48.5	-0.8
	0.5nm,0.2s,SNR=7.9						
EMIR				S	Sn	21 36 53.9	-3.9
	2.6nm,0.3s,SNR=7.9						

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*INMG **23** 21:37:35.5±0.8, 3662N×958W, h10km, ML1.7, Error ellipse: s-maj=8.5km s-min=5.6km az=87.0*
MDD 23 21:37:34.9±2.5, 3656N×971W, h73km±44km, mb2.6/5, Error ellipse: s-maj=21.7km s-min=17.9km az=50.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.26**	**38**	*e*P	Pn	21 37 56.4	-0.4
PTEO				*e*S	Sn	21 38 11.2	-2.0
PTEO							
	6.0nm,0.3s						
EGRO	**El Granado**	**2.03**	**61**	P	Pn	21 38 06.4	-0.5
	0.3nm,0.1s,SNR=7.9						
EGRO				S	Sn	21 38 30.0	-1.4
	4.5nm,0.1s,SNR=12						
PBEJ	**Beja**	**2.07**	**45**	*e*Pn	Pn	21 38 07.0	-0.6
PBEJ				*e*Sn	Sn	21 38 31.0	-1.5
PBEJ							
	2.5nm,0.1s						
MOE	**Montemor**	**2.23**	**28**	*e*Sn	Sn	21 38 34.6	-1.8
PLOU	**Loures**	**2.36**	**11**	*e*Sn	Sn	21 38 38.0	-1.4
EMIN	**Mina Concepcio**	**2.71**	**63**	P	Pn	21 38 15.9	-0.2
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	21 38 45.3	-2.5
	0.3nm,0.1s,SNR=6.6						
EBAD	**Badajoz**	**3.06**	**44**	P	Pn	21 38 20.0	-1.0
	0.5nm,0.1s,SNR=4.0						
EBAD				S	Sn	21 38 52.4	-4.0
	4.6nm,0.2s,SNR=6.5						
ESPR	**Espera**	**3.11**	**83**	P	Pn	21 38 20.6	-1.0
	1.3nm,0.1s,SNR=7.9						
ESPR				S	Sn	21 38 56.2	-1.4
	5.0nm,0.2s,SNR=4.0						
PCBR	**Castelo Branco**	**3.71**	**28**	*e*Sn	Sn	21 39 10.0	-2.4
EADA	**Adamuz**	**4.39**	**67**	P	Pn	21 38 37.6	-1.5
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	21 39 25.6	-3.3
	0.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.44**	**75**	S	Sn	21 39 49.9	-4.8
	0.3nm,0.2s,SNR=7.9						

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*ISCJB **23** 21:48:34.2±0.7, 2384N±005×7079E±005, h10km, Error ellipse: s-maj=9.2km s-min=4.7km az=101.2*
*NDI **23** 21:48:37.3±5.7, 2386N×7055E, h10km, ML3.2*
ISC 23 21:48:35.5±0.7, 2384N±005×7069E±005, h10km, n17, σ1°20/24, 1C, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**1.12**	**239**	⇑ *e*P	**Pb**	**21 48 56.9**	**0.0**
BHJ				*e*S	**Sb**	**21 49 11.6**	**+0.1**
BHJ				*e*x	x	21 49 13.0	
	comp=E,222nm,0.2s						
BHJ				*e*x	x	21 49 13.2	
	comp=N,199nm,0.2s						
BHJ				AML	AML	21 49 17.7	
	comp=N,376nm,0.2s						
BHJ				AML	AML	21 49 18.1	
	comp=E,285nm,0.2s						
BHV	**Bhavnagar**	**2.48**	**147**	*e*PN	**Pn**	**21 49 17.0**	**+1.1**
BHV				*e*SN	**Sn**	**21 49 51.0**	**+4.9**
JASL	**Jaisalmer**	**3.08**	**3**	*e*P	**Pn**	**21 49 27.6**	**+3.5**
JASL				*e*x	x	21 50 12.1	
AJM	**Ajmer**	**4.44**	**53**	*e*P	**Pn**	**21 49 43.3**	**+0.5**
AJM				*e*S	**Sn**	**21 50 35.3**	**+0.7**
AJM				AML	AML	21 51 00.5	
	comp=N,54nm,0.3s						
AJM				AML	AML	21 51 00.5	
	comp=N,54nm,0.3s						
AJM				AML	AML	21 51 00.7	
	comp=E,80nm,0.4s						
BOM	**Bombay**	**5.30**	**158**	*e*P	**Pn**	**21 50 00.3**	**+5.6**
BOM				*e*x	x	21 50 12.9	
	comp=Z,75nm,1.1s						
BOM				*e*S	**Sn**	**21 50 55.4**	**-0.5**
POO	**Poona**	**6.05**	**150**	*e*x	x	21 50 23.9	
POO				*e*x	x	21 51 04.0	
BHPL	**Bhopal**	**6.21**	**94**	*e*P	**Pn**	**21 50 08.8**	**+1.6**
BHPL				*e*S	**Sn**	**21 51 18.8**	**+0.7**
BHPL				AML	AML	21 52 01.3	
	comp=E,25nm,0.8s						
BHPL				AML	AML	21 52 01.3	
	comp=N,31nm,0.5s						
KHET	**Khetri**	**6.24**	**46**	*e*P	**Pn**	**21 50 08.6**	**+1.0**
KHET				*e*S	**Sn**	**21 51 18.8**	**-0.2**
KHET				AML	AML	21 51 53.1	
	comp=N,30nm,0.6s						
KHET				AML	AML	21 51 53.5	
	comp=E,27nm,0.7s						
SONA	**Sohna**	**7.23**	**51**	*e*S	**Sn**	**21 51 43.8**	**+0.4**
SONA				AML	AML	21 52 28.1	
	comp=E,25nm,0.4s						
SONA				AML	AML	21 52 28.7	
	comp=N,19nm,0.5s						
KOLN	**Koldanda**	**12.27**	**69**	*e*P	**Pn**	**21 51 28.7**	**-1.5**
	comp=N,6.3nm,0.4s						
KOLN				*e*S	**Sn**	**21 53 40.1**	**-6.9**
GKN	**Gorkha**	**13.21**	**69**	*e*P	**Pn**	**21 51 38.4**	**-4.7**
DMN	**Daman**	**13.52**	**71**	*e*P	**Pn**	**21 51 45.9**	**-1.5**
KKN	**Kakani**	**13.71**	**70**	*e*P	**Pn**	**21 51 46.2**	**-3.8**
	comp=N,7.1nm,0.6s						
KKN				*e*S	**Sn**	**21 54 11.1**	**-11**
PKI	**Pulchoki**	**13.78**	**71**	*e*P	**Pn**	**21 51 48.9**	**-1.9**
BOK	**Bokaro**	**13.91**	**87**	*e*P	**Pn**	**21 51 56.7**	**+4.1**
GUN	**Gumba**	**14.26**	**70**	*e*P	**Pn**	**21 51 52.8**	**-4.6**
	comp=N,13nm,0.7s						
JIRN	**Jiri**	**14.47**	**72**	*e*P	**Pn**	**21 51 56.8**	**-3.5**
	comp=N,5.3nm,0.5s						

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*IDC **23** 22:06:14.1±5.1, 338S×145.17E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.8/13, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=160.2km s-min=24.1km az=100.0*
*ISCJB **23** 22:06:17.2±0.7, 350S±009×1452E±0.1, h33km, mb3.8/6, Error ellipse: s-maj=17.2km s-min=12.6km az=35.4*
*NEIC **23** 22:06:19.1±0.4, 346S×14525E, h35km, mb4.3/4, Error ellipse: s-maj=11.2km s-min=8.2km az=107.0*
ISC 23 22:06:19.2±0.7, 350S±009×1452E±01, h35km, n14, σ0°47/14, mb3.8/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**15.78**	**113**	Pn	**Pn**	**22 09 58.4**	**-0.1**
WRAB	**Tennant Creek**	**19.47**	**212**	*e*P	**Pn**	**22 10 44.0**	**-0.2**
	22nm,0.9s						
WB2	**Warramunga Arr**	**19.48**	**212**	*e*P	**Pn**	**22 10 43.4**	**-1.0**
WRA	**Warramunga Arr**	**19.48**	**212**	P	**Pn**	**22 10 44.1**	**-0.3**
	0.5nm,0.3s,baz=41,slow=12,SNR=27						
ASAR	**Alice Springs**	**22.83**	**208**	P	**P**	**22 11 20.1**	**+1.0**
	1.2nm,0.6s,mb3.5,baz=29,slow=12,SNR=13						
FITZ	**Fitzroy Crossi**	**24.04**	**231**	*e*P	**P**	**22 11 31.4**	**+0.5**
	11nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**24.04**	**231**	P	**P**	**22 11 31.2**	**+0.3**
	5.7nm,0.7s,mb4.1,baz=68,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**28.43**	**186**	*e*P	**P**	**22 12 10.9**	**+0.4**
SONM	**Songino Array**	**61.37**	**331**	P	**P**	**22 16 31.2**	**-0.3**
	0.4nm,0.9s,mb3.6,baz=126,slow=4.1,SNR=2.8						
SONM	**Songino Array**	**61.37**	**331**	P	**P**	**22 16 31.2**	**-0.3**
MKAR	**Makanchi Array**	**74.45**	**321**	P	**P**	**22 17 53.6**	**-0.1**
	0.4nm,0.9s,mb3.4,baz=106,slow=5.1,SNR=3.6						
SML	**Sawmill**	**82.19**	**26**	*e*P	**P**	**22 18 36.4**	**0.0**
CHKZ	**Chkalovo**	**83.75**	**325**	*e*P	**P**	**22 18 44.6**	**0.0**
	0.7nm,0.4s,mb4.1						
BRVK	**Borovoye**	**83.78**	**324**	*e*P	**P**	**22 18 45.1**	**+0.4**
	0.6nm,0.8s,mb3.8						

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*NEIC **23** 22:35:55.1, 3669N×951W, h0km, MN2.6(MDD), After MDD.*
*INMG **23** 22:35:56.2±0.8, 3660N×956W, h10km, ML2.2, Error ellipse: s-maj=4.5km s-min=2.9km az=75.0*
*IGIL **23** 22:35:56.8, 3650N×960W, h47km, ML2.7*
*CSEM **23** 22:35:56.7±0.6, 3646N×930W, h40km, ML2.2, Error ellipse: s-maj=12.1km s-min=7.7km az=33.0*
MDD 23 22:35:55.6±2.4, 3649N×968W, h49km±63km, mb3.6/9, Error ellipse: s-maj=25.5km s-min=10.7km az=42.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.16**	**45**	*e*P	Pn	22 36 14.9	-0.6
MORF				*e*S	Sn	22 36 28.6	-1.6
MORF				*e*S	Sn	22 36 28.7	-1.6
MORF				AML	AML	22 36 29.4	
	comp=N,64nm,0.1s						
MORF	**Marmelete**	**1.16**	**45**	*e*P	Pn	22 36 14.9	-0.6
MORF				*e*S	Sn	22 36 28.6	-1.7
PTEO	**Sao Teotonio**	**1.30**	**36**	*e*P	Pn	22 36 17.1	-0.3
PTEO				*e*S	Sn	22 36 32.5	-1.2
PTEO							
	comp=N,23nm,0.3s						
PTEO	**Sao Teotonio**	**1.30**	**36**	*e*P	Pn	22 36 17.1	-0.3
PTEO				*e*S	Sn	22 36 32.5	-1.2
PTEO							
	comp=N,23nm,0.3s						
EGRO	**El Granado**	**2.05**	**59**	P	Pn	22 36 26.9	-0.7
	comp=N,1.2nm,0.1s,SNR=9.3						
EGRO				S	Sn	22 36 49.7	-2.2
	comp=N,9.8nm,0.1s,SNR=21						
PBEJ	**Beja**	**2.11**	**43**	*e*Pn	Pn	22 36 28.1	-0.4
PBEJ				*e*Sn	Sn	22 36 51.4	-2.1
PBEJ							
	comp=N,9.0nm,0.1s						
MOE	**Montemor**	**2.29**	**27**	*e*Sn	Sn	22 36 56.1	-1.8
PLOU	**Loures**	**2.43**	**10**	*e*Pn	Pn	22 36 32.1	-0.7
PLOU				*e*Sn	Sn	22 36 59.3	-2.0
PLOU							
	comp=N,23nm,0.2s						
PLOU	**Loures**	**2.43**	**10**	*e*Pn	Pn	22 36 32.1	-0.7
PLOU				*e*Sn	Sn	22 36 59.3	-2.0
EMIN	**Mina Concepcio**	**2.72**	**61**	P	Pn	22 36 35.9	-1.0
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	22 37 05.9	-2.6
	comp=N,4.0nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**2.72**	**61**	P	Pn	22 36 35.9	-1.0
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	22 37 05.9	-2.6
	comp=N,4.0nm,0.1s,SNR=12						
ALMR	**Almeirim**	**2.80**	**18**	*e*P	Pn	22 36 37.5	-0.4
ALMR				*e*S	Sn	22 37 07.5	-3.0
ALMR				*e*S	Sn	22 37 07.5	-3.0
ALMR				AML	AML	22 37 17.9	
	comp=E,51nm,0.5s						
ALMR	**Almeirim**	**2.80**	**18**	*e*P	Pn	22 36 37.5	-0.4
ALMR				*e*S	Sn	22 37 07.5	-3.0
ALMR	**Almeirim**	**2.80**	**18**	P	Pn	22 36 37.5	-0.4
ALMR				S	Sn	22 37 07.5	-3.0
ESPR	**Espera**	**3.10**	**82**	P	Pn	22 36 41.6	-0.4
	comp=E,2.0nm,0.1s,SNR=4.6						
ESPR				S	Sn	22 37 15.6	-2.2
	comp=E,14nm,0.2s,SNR=4.9						
ESPR	**Espera**	**3.10**	**82**	P	Pn	22 36 41.6	-0.4
	comp=E,2.0nm,0.1s,SNR=4.6						
ESPR				S	Sn	22 37 15.6	-2.2
	comp=E,14nm,0.2s,SNR=4.9						
EBAD	**Badajoz**	**3.10**	**42**	S	Sn	22 37 15.1	-2.8
	comp=E,0.5nm,0.1s,SNR=8.8						
EBAD	**Badajoz**	**3.10**	**42**	S	Sn	22 37 15.1	-2.7
	comp=E,0.5nm,0.1s,SNR=8.8						
PTOM	**Tomar**	**3.28**	**17**	*e*Pn	Pn	22 36 44.0	-0.5
PTOM				*e*Sn	Sn	22 37 19.4	-2.9
PTOM							
	comp=E,6.6nm,0.1s						
PTOM	**Tomar**	**3.28**	**17**	*e*Pn	Pn	22 36 44.0	-0.5
PTOM				*e*Sn	Sn	22 37 19.4	-2.9
PCBR	**Castelo Branco**	**3.77**	**27**	*e*Sn	Sn	22 37 30.9	-3.4
PCBR							
	comp=E,3.1nm,0.2s						
PCBR	**Castelo Branco**	**3.77**	**27**	Sn	Sn	22 37 30.9	-3.4
	comp=E,1.6nm,0.2s						
MTE	**Manteigas**	**4.25**	**23**	*e*Sn	Sn	22 37 43.2	-2.9
MTE							
	comp=E,3.1nm,0.4s						
MTE	**Manteigas**	**4.25**	**23**	Sn	Sn	22 37 43.2	-2.9
	comp=E,1.6nm,0.4s						
EADA	**Adamuz**	**4.40**	**66**	P	Pn	22 36 59.3	-0.6
	comp=E,0.6nm,0.1s,SNR=6.3						
EADA				S	Sn	22 37 45.2	-4.6
	comp=E,2.3nm,0.1s,SNR=7.0						
EADA	**Adamuz**	**4.40**	**66**	P	Pn	22 36 59.3	-0.6
	comp=E,0.6nm,0.1s,SNR=6.3						
EADA				S	Sn	22 37 45.2	-4.6
	comp=E,2.3nm,0.1s,SNR=7.0						
PVIS	**Viseu**	**4.45**	**18**	*e*Sn	Sn	22 37 47.7	-3.3
ELUQ	**Luque**	**4.46**	**75**	P	Pn	22 37 00.0	-0.7
	comp=E,0.5nm,0.1s,SNR=7.9						
ELUQ				S	Sn	22 37 49.3	-2.1
	comp=E,1.4nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**4.99**	**69**	P	Pn	22 37 07.2	-0.7
	comp=E,0.5nm,0.1s,SNR=7.9						
EBAN				S	Sn	22 37 59.1	-5.2
	comp=E,0.9nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**5.02**	**17**	*e*Sn	Sn	22 38 01.4	-3.7
PVRL							
	comp=E,4.8nm,0.1s						
PVRL	**Vila Real**	**5.02**	**17**	Sn	Sn	22 38 01.4	-3.7
	comp=E,2.4nm,0.1s						
EQES	**Quesada**	**5.44**	**74**	P	Pn	22 37 13.4	-0.8
	comp=E,0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	22 38 12.2	-3.2
	comp=E,0.6nm,0.1s,SNR=8.4						
EQES	**Quesada**	**5.44**	**74**	P	Pn	22 37 13.4	-0.7
	comp=E,0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	22 38 12.2	-3.2
	comp=E,0.6nm,0.1s,SNR=8.4						
ESDC	**Sonseca Array**	**5.52**	**53**	P	Pn	22 37 14.5	-0.7
	comp=E,1.5nm,0.1s,baz=240,slow=14,SNR=6.6						
ESDC				S	Sn	22 38 13.9	-3.4
	comp=E,1.6nm,0.5s,baz=239,slow=23,SNR=12						
ESDC	**Sonseca Array**	**5.52**	**53**	P	Pn	22 37 14.5	-0.7
	comp=E,1.5nm,0.1s,SNR=6.6						
ESDC				S	Sn	22 38 13.9	-3.4
	comp=E,1.6nm,0.5s,SNR=12						
ETOB	**Tobarra**	**6.81**	**69**	P	Pn	22 37 31.6	-1.3
	comp=E,0.1nm,0.1s,SNR=7.9						
ETOB				S	Sn	22 38 43.8	-5.3
	comp=E,0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.81**	**69**	P	Pn	22 37 31.6	-1.3
	comp=E,0.1nm,0.1s,SNR=7.9						
ETOB				S	Sn	22 38 43.8	-5.3

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*IDC **23** 22:39:52.9±2.3, 0.14N×9777E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=71.3km s-min=22.8km az=64.0*
*ISCJB **23** 22:39:55.6±1.1, 02N±01×978E±02, h33km, mb3.7/6, Error ellipse: s-maj=26.6km s-min=14.0km az=149.5*
*NEIC **23** 22:39:57.1±0.8, 0.17N×9777E, h30km, mb3.8/2, Error ellipse: s-maj=19.9km s-min=10.3km az=73.0*
ISC 23 22:39:58.3±1.1, 02N±01×978E±02, h35km, n10, σ0°51/10, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.77**	**24**	Pn	**Pn**	**22 40 39.6**	**-0.6**
	1.4nm,0.3s,baz=300,slow=14,SNR=5.9						
KULM	**Kulim**	**5.76**	**29**	*e*Pn	**Pn**	**22 41 21.6**	**+0.4**
WRA	**Warramunga Arr**	**41.01**	**121**	P	**P**	**22 47 37.6**	**-0.3**
	0.2nm,0.4s,mb3.1,baz=302,slow=8.9,SNR=5.5						
ASAR	**Alice Springs**	**42.33**	**127**	P	**P**	**22 47 49.0**	**+0.2**
	0.6nm,0.6s,mb3.4,baz=297,slow=8.1,SNR=6.6						
SONM	**Songino Array**	**47.99**	**8**	P	**P**	**22 48 34.1**	**+0.5**
	0.5nm,0.6s,mb3.7,baz=188,slow=9.7,SNR=6.5						
MKAR	**Makanchi Array**	**48.31**	**346**	P	**P**	**22 48 36.7**	**+0.5**
	1.1nm,0.5s,mb4.2,baz=161,slow=9.3,SNR=27						
MKAR	**Makanchi Array**	**48.31**	**346**	P	**P**	**22 48 36.7**	**+0.5**
STKA	**Stephens Creek**	**52.26**	**132**	P	**P**	**22 49 06.0**	**0.0**
BRVK	**Borovoye**	**57.41**	**341**	*e*P	**P**	**22 49 43.5**	**+0.3**
	0.3nm,0.3s,mb3.8						
CHKZ	**Chkalovo**	**57.83**	**341**	*e*P	**P**	**22 49 45.1**	**-1.0**
	0.6nm,0.6s,mb3.8						

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*IDC **23** 22:40:27.1±1.7, 0.11N×9773E, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, ML3.1/1, Error ellipse: s-maj=57.7km

*ISCJB **23** 22:56:51.3±0.6, 3608N±003×2142E±008, h23km, Error ellipse: s-maj=9.7km s-min=4.3km az=150.5*
*CSEM **23** 22:56:51.4±0.1, 3607N×2156E, h12km, MD3.7, Error ellipse: s-maj=8.6km s-min=2.1km az=76.0*
*HLW **23** 22:56:52.8, 3636N×2174E, h33km, Mb3.7*
*NEIC **23** 22:56:53.0, 36.16N×2158E, h20km, MD3.7(ATH), After ATH.*
*ATH **23** 22:56:53.0, 36.17N×2158E, h23km±3km, MD3.7/8*
*THE **23** 22:56:59.1, 3647N×2177E, h22km*

ISC 23 22:56:53.8±0.6, 3616N±003×2150E±008, h23km, n35, σ1§02/43, 5C-4D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.08**	**18**	*e*PN	**Pn**	**22 57 13.2**	**-0.3**
ITM				*e*SN	**Sn**	**22 57 27.8**	**+0.1**
KYTH	**Kithira**	**1.25**	**84**	*e*PN	**Pn**	**22 57 15.5**	**-0.3**
VLI	**Veliai**	**1.29**	**64**	*e*PN	**Pn**	**22 57 16.8**	**+0.4**
VLI				*e*SN	**Sn**	**22 57 33.6**	**+0.7**
RLS	**Riolos of Patr**	**1.90**	**359**	*e*PN	**Pn**	**22 57 26.9**	**+2.1**
VLS	**Valsamata**	**2.15**	**340**	*e*PB	**Pb**	**22 57 29.4**	**-2.6**
NAIG	**Nisos Aigina**	**2.26**	**44**	*e*PN	**Pn**	**22 57 30.0**	**+0.3**
VAM	**Vamos**	**2.32**	**108**	*e*PN	**Pn**	**22 57 31.4**	**+0.8**
PTL	**Penteli**	**2.67**	**44**	*e*PB	**Pb**	**22 57 37.0**	**-4.0**
PTL	**Penteli**	**2.67**	**44**	*e*Pb	**Pb**	**22 57 38.1**	**-2.9**
LKR	**Lokris**	**2.76**	**25**	*e*PN	**Pn**	**22 57 37.5**	**+0.8**
EVR	**Evrytania**	**2.77**	**5**	*e*PN	**Pn**	**22 57 38.0**	**+1.3**
EVR	**Evrytania**	**2.77**	**5**	*e*Pb	**Pb**	**22 57 39.8**	**-2.8**
AGG	**Agios Georgios**	**2.94**	**13**	*e*Pn	**Pn**	**22 57 40.4**	**+1.3**
AGG				*e*Sn	**Sn**	**22 58 08.7**	**-5.0**
AGG	**Agios Georgios**	**2.94**	**13**	*e*Pn	**Pn**	**22 57 40.4**	**+1.3**
AGG				*e*Sn	**Sn**	**22 58 08.6**	**-5.0**
XOR	**Xorichti**	**3.47**	**22**	*e*Pn	**Pn**	**22 57 45.3**	**-1.2**
IGT	**Igoumenitsa**	**3.50**	**345**	*e*Pn	**Pn**	**22 57 47.3**	**+0.5**
SRN	**Sarande**	**3.90**	**343**	*i* Pn	**Pn**	**22 57 52.2**	**-0.2**
SRN				*i* Sn	**Sn**	**22 58 32.8**	**-4.6**
FNA	**Florina**	**4.62**	**359**	*e*Pn	**Pn**	**22 58 02.9**	**+0.7**
FNA				*e*Sn	**Sn**	**22 58 53.7**	**-1.5**
GRG	**Griva**	**4.84**	**8**	*e*Pn	**Pn**	**22 58 05.9**	**+0.6**
SOH	**Sokhos**	**4.88**	**17**	*e*Pn	**Pn**	**22 58 06.0**	**+0.2**
KNT	**Kendrikon**	**5.12**	**12**	*e*Pn	**Pn**	**22 58 09.5**	**+0.4**
SRS	**Serrai**	**5.22**	**18**	*e*Pn	**Pn**	**22 58 10.2**	**-0.2**
SLUM		**5.58**	**145**	⇑*e*P	**Pn**	**22 58 15.6**	**+0.1**
HMAT	**Matruh**	**6.87**	**136**	⇓*e*P	**Pn**	**22 58 32.5**	**-0.6**
HMAT				S	**Sn**	**22 59 44.4**	**-6.2**
HMAT	**Matruh**	**6.87**	**136**	P	**Pn**	**22 58 32.5**	**-0.7**
SWA2		**7.66**	**153**	⇑P	**Pn**	**22 58 44.1**	**+0.3**
SWA1		**7.73**	**152**	⇑P	**Pn**	**22 58 45.2**	**+0.3**
SWA1				S	**Sn**	**23 00 07.2**	**-4.6**
SWA1		**7.73**	**152**	P	**Pn**	**22 58 45.2**	**+0.2**
AWBH		**10.01**	**139**	⇓*i* P	**Pn**	**22 59 15.7**	**-0.5**
HFRF	**Wahat Farafira**	**10.69**	**145**	⇓P	**Pn**	**22 59 25.5**	**0.0**
AMAG	**Maghara**	**11.22**	**116**	⇑*e*P	**Pn**	**22 59 31.2**	**-1.5**
AMAG	**Maghara**	**11.22**	**116**	P	**Pn**	**22 59 31.2**	**-1.5**
SUZ		**11.40**	**120**	⇓*e*P	**Pn**	**22 59 33.9**	**-1.3**
HDK1	**Dakhla**	**12.56**	**145**	⇑P	**Pn**	**22 59 52.2**	**+1.2**
HDK1	**Dakhla**	**12.56**	**145**	P	**Pn**	**22 59 52.2**	**+1.1**

*NIED **23** 22:59:00, 3880N×14160E, h68km, Mw3.9 Best double couple: M0=8.91000×10^14 NP1:ϕ=140.00000°, δ60.00000°, λ127.00000°. NP2:ϕ=263.00000°, δ46.00000°, λ44.00000°.*
*ISCJB **23** 22:59:07.6±0.5, 3880N±003×14167E±008, h81km±3km, mb3.7/14, Error ellipse: s-maj=10.6km s-min=5.0km az=36.6*
*NEIC **23** 22:59:08.6±0.4, 3887N×14167E, mb3.9/4, Error ellipse: s-maj=12.9km s-min=7.8km az=128.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi; [1 JMA] in Fukushima and Yamagata Prefectures.
*IDC **23** 22:59:08.3±0.7, 3876N×14156E, h70km±5km, mb3.4/10, mb1 3.8/13, mb1mx3.6/23, mbtmp3.9/13, Error ellipse: s-maj=20.0km s-min=13.3km az=106.0*
*MOS **23** 22:59:08.6±1.2, 3887N×14155E, h91km, mb4.0/4, Error ellipse: s-maj=17.4km s-min=11.1km az=73.0*
*JMA **23** 22:59:09.1, 3882N×14159E, h74km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕ=272.00000°, δ42.00000°, λ70.00000°. NP2: ϕ=118.00000°, δ51.00000°, λ107.00000°. Principal axes: T Plg76.0000°, Azm85.0000°; N Plg13.0000°, Azm287.0000°; P Plg5.0000°, Azm196.0000°;*
JMA Felt II J1.

ISC 23 22:59:08.7±0.5, 3880N±003×14167E±007, h75km±3km, h71km±2.3km: pP-P, n40, σ0§78/50, mb3.7/14, 6C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.28**	**360**	⇑P	**Pn**	**22 59 20.6**	**+0.4**
OFUJ				S	**Sn**	**22 59 28.9**	**+0.3**
JMK	**Ichinoseki**	**0.38**	**293**	⇑P	**Pn**	**22 59 20.8**	**-0.1**
JMK				S	**Sn**	**22 59 29.5**	**-0.3**
JIO	**Ouri**	**0.43**	**216**	⇑P	**Pn**	**22 59 21.6**	**+0.3**
JIO				S	**Sn**	**22 59 30.4**	**-0.1**
JOM	**Ohasama**	**0.73**	**336**	⇓P	**Pn**	**22 59 24.3**	**+0.1**
JOM				S	**Sn**	**22 59 35.4**	**-0.3**
JOU	**Okura**	**0.90**	**241**	⇑P	**Pn**	**22 59 26.3**	**+0.1**
JOU				S	**Sn**	**22 59 39.4**	**+2.2**
JYK	**Kaneyama**	**1.03**	**277**	⇑P	**Pn**	**22 59 27.6**	**-0.1**
JYK				S	**Sn**	**22 59 41.7**	**+1.3**
JMM	**Marumori**	**1.16**	**217**	⇓P	**Pn**	**22 59 29.2**	**-0.2**
JMM				S	**Sn**	**22 59 44.1**	**+0.5**
JYS	**Shiratake**	**1.39**	**246**	⇓P	**Pn**	**22 59 32.5**	**+0.3**
JYS				S	**Sn**	**22 59 50.3**	**+1.2**
JYA	**Atsumi**	**1.54**	**263**	⇑P	**Pn**	**22 59 34.4**	**+0.1**
JFK	**Kawauchi**	**1.57**	**204**	⇓P	**Pn**	**22 59 34.9**	**+0.3**
JFK				S	**Sn**	**22 59 54.2**	**+0.7**
JANG	**Nango**	**1.57**	**356**	⇓P	**Pn**	**22 59 34.4**	**-0.3**
JANG				S	**Sn**	**22 59 54.2**	**+0.5**
JAH	**Hinai**	**1.60**	**330**	⇓P	**Pn**	**22 59 35.5**	**+0.5**
MJAR	**Matsushiro Arr**	**3.55**	**232**	P	**Pn**	**23 00 03.0**	**+1.5**
	15nm,0.3s,baz=38,slow=12,SNR=128						
MAJO	**Matsushiro**	**3.56**	**232**	*e*Pn	**Pn**	**23 00 02.3**	**+0.9**
MAT	**Matsushiro**	**3.56**	**232**	P	**Pn**	**23 00 03.0**	**+1.6**
MAT	**Matsushiro**	**3.56**	**232**	*e*P	**Pn**	**23 00 03.0**	**+1.6**
ASAJ	**Asahikawa**	**5.35**	**7**	P	**Pn**	**23 00 25.2**	**-0.8**
	8.8nm,0.3s,baz=224,slow=8.7,SNR=22						
ASAJ	**Asahikawa**	**5.35**	**7**	P	**Pn**	**23 00 25.2**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
JHJ	**Hachijo jima 2**	**5.88**	**196**	P	**Pn**	**23 00 31.4**	**-1.7**
	comp=Z,43nm,0.3s,baz=76,slow=11,SNR=9.7						
JHJ				S	**Sn**	**23 01 34.9**	**-4.1**
	comp=Z,22nm,0.3s,baz=107,slow=19,SNR=4.0						
CBIJ	**Chichi jima**	**11.68**	**178**	P	**Pn**	**23 01 49.6**	**-2.8**
	comp=Z,7.6nm,0.3s,baz=300,slow=20,SNR=4.0						
ULN	**Ulaanbaatar**	**26.57**	**301**	*e*P	**P**	**23 04 36.2**	**-3.4**
	comp=Z,0.7nm,0.3s,mb3.7						
ULN	**Ulaanbaatar**	**26.57**	**301**	*e*P	**P**	**23 04 36.2**	**-3.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
SONM	**Songino Array**	**27.01**	**301**	P	**P**	**23 04 43.7**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.0,baz=92,slow=8.0,SNR=3.6						
MKAR	**Makanchi Array**	**43.37**	**301**	P	**P**	**23 07 03.4**	**-0.2**
	comp=Z,1.4nm,0.6s,mb3.9,baz=87,slow=10,SNR=22						
KURK	**Kurchatov**	**45.02**	**307**	*e*P	**P**	**23 07 16.0**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.1						
KURK	**Kurchatov**	**45.02**	**307**	*e*P	**P**	**23 07 16.0**	**-0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**47.90**	**33**	P	**P**	**23 07 39.6**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.8,baz=269,slow=5.9,SNR=15						
ILAR				pP	pP	23 07 55.6	-2.2
	comp=Z,0.9nm,0.7s,baz=280,slow=7.5,SNR=6.8						
ILAR				sP	sP	23 08 06.2	-0.1
	comp=Z,1.1nm,0.7s,baz=267,slow=6.1,SNR=5.7						
CHKZ	**Chkalovo**	**49.27**	**312**	*e*P	**P**	**23 07 49.0**	**-0.8**
	comp=Z,0.8nm,0.3s,mb4.1						
CHKZ	**Chkalovo**	**49.27**	**312**	*e*P	**P**	**23 07 49.0**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ZRNK	**Zerenda**	**50.38**	**311**	*e*P	**P**	**23 07 58.1**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.5						
INK	**Inuvik**	**52.73**	**28**	P	**P**	**23 08 15.2**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=325,slow=6.9,SNR=5.9						
WRAB	**Tennant Creek**	**58.83**	**188**	*e*P	**P**	**23 08 59.4**	**+0.1**
WRA	**Warramunga Arr**	**58.84**	**188**	P	**P**	**23 08 59.0**	**-0.4**
	comp=Z,0.9nm,0.6s,mb4.0,baz=5.5,slow=7.2,SNR=5.7						
WRA				pP	pP	23 09 17.2	-1.3
	comp=Z,0.7nm,0.5s,baz=2.4,slow=7.5,SNR=2.6						
YKA	**Yellowknife Ar**	**62.18**	**31**	P	**P**	**23 09 22.4**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.5,baz=301,slow=6.4,SNR=5.6						
YKA	**Yellowknife Ar**	**62.18**	**31**	P	**P**	**23 09 22.4**	**+0.2**
ASAR	**Alice Springs**	**62.56**	**188**	P	**P**	**23 09 24.9**	**+0.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=3.5,slow=6.1,SNR=5.5						
FINES	**FINESS Array B**	**67.35**	**332**	P	**P**	**23 09 55.1**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.3,baz=32,slow=8.2,SNR=3.5						
FINES				pP	pP	23 10 13.8	-1.4
	comp=Z,0.9nm,0.8s,baz=73,slow=6.4,SNR=2.2						
NVAR	**Mina Array Bea**	**73.77**	**54**	P	**P**	**23 10 37.0**	**+2.1**
	comp=Z,0.6nm,0.5s,mb3.5,baz=282,slow=7.6,SNR=3.9						
PDAR	**Pinedale Array**	**76.29**	**46**	P	**P**	**23 10 50.5**	**+1.2**
	comp=Z,0.8nm,0.6s,mb3.7,baz=313,slow=1.2,SNR=8.2						
PDAR				pP	pP	23 11 10.6	+1.4
	comp=Z,0.5nm,0.7s,baz=309,slow=4.7,SNR=2.8						
LPAZ	**La Paz**	**145.60**	**58**	PKPbc	PKPbc	23 18 39.7	+1.1
	comp=Z,0.7nm,0.6s,baz=32,slow=5.1,SNR=5.3						

*IDC **23** 23:11:37.5±1.7, 725S×12970E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.8/14, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=81.2km s-min=24.6km az=80.0*
*NEIC **23** 23:11:41.7±0.7, 728S×12994E, h35km, mb3.8/3, Error ellipse: s-maj=24.1km s-min=9.4km az=78.0*
*ISCJB **23** 23:11:50.0±3.4, 79S±0.1×1298E±0.1, h150km±36km, mb3.6/4, Error ellipse: s-maj=24.4km s-min=16.2km az=113.4*

ISC 23 23:11:51.9±5.2, 80S±02×1298E±01, h155km±58km, n9, σ0§68/13, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.87**	**202**	Pn	**Pn**	**23 14 23.5**	**+0.2**
	1.2nm,0.3s,baz=31,slow=13,SNR=28						
FITZ				Sn	**Sn**	**23 16 23.1**	**-0.3**
	4.0nm,0.3s,baz=314,slow=22,SNR=11						
WRAB	**Tennant Creek**	**12.69**	**160**	*e*Pn	**Pn**	**23 14 47.1**	**+0.3**
WRAB				*e*Sn	**Sn**	**23 17 07.4**	**+0.3**
WRA	**Warramunga Arr**	**12.69**	**160**	Pn	**Pn**	**23 14 47.6**	**+0.7**
	0.5nm,0.3s,baz=342,slow=14,SNR=13						
WRA				Sn	**Sn**	**23 17 05.8**	**-1.4**
	2.5nm,0.3s,baz=337,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.10**	**166**	Pn	**Pn**	**23 15 35.4**	**+5.8**
	0.3nm,0.3s,baz=341,slow=9.1,SNR=14						
ASAR				Sn	**Sn**	**23 18 29.6**	**+0.5**
	0.6nm,0.3s,baz=343,slow=26,SNR=9.1						
MBWA	**Marble Bar**	**16.34**	**216**	*e*Pn	**Pn**	**23 15 36.8**	**+4.3**
	4.2nm,0.4s						
SONM	**Songino Array**	**59.29**	**342**	P	**P**	**23 21 36.0**	**-1.2**
	0.3nm,0.6s,mb3.3,baz=151,slow=6.5,SNR=3.6						
MKAR	**Makanchi Array**	**68.93**	**327**	P	**P**	**23 22 40.4**	**+0.3**
	1.2nm,0.4s,mb4.0,baz=125,slow=7.8,SNR=43						
KURK	**Kurchatov**	**73.24**	**329**	*e*P	**P**	**23 23 06.3**	**+0.3**
	0.6nm,0.5s,mb3.6						
ZRNK	**Zerenda**	**79.47**	**327**	*e*P	**P**	**23 23 41.2**	**+0.1**
	0.4nm,0.4s,mb3.4						

*ISCJB **23** 23:23:33.7±0.6, 6627N±005×142.1W±0.1, h10km, Error ellipse: s-maj=6.8km s-min=5.5km az=123.1*
*NEIC **23** 23:23:33.6, 6625N×142.33W, h1km, ML3.0(AEIC), After AEIC.*
*PGC **23** 23:23:35.5, 6626N×142.15W, h1km, ML2.8/2, 276km northwest of Dawson, Yt Eastern Alaska.*

ISC 23 23:23:34.8±0.6, 6630N±004×14206W±009, h10km, n16, σ1§30/28, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.51**	**152**	Pn	**Pn**	**23 24 16.1**	**+0.5**
DAWY				Pg	**Pg**	**23 24 19.4**	**-3.6**
DAWY				Sn	**Sn**	**23 24 46.8**	**+0.5**
DAWY				Sg	**Sg**	**23 24 53.5**	**-2.0**
DAWY				Trac		23 24 54.0	
	comp=Z,23nm,0.2s						
DAWY	**Dawson**	**2.51**	**152**	P	**Pn**	**23 24 15.8**	**+0.2**
DAWY				S	**Sn**	**23 24 48.6**	**+2.2**
DOT	**Dot Lake**	**2.80**	**199**	P	**Pn**	**23 24 19.7**	**+0.1**
DOT				S	**Sn**	**23 24 53.9**	**+0.5**
COLA	**College**	**2.80**	**242**	P	**Pn**	**23 24 17.8**	**-1.9**
COLA				S	**Sn**	**23 24 53.4**	**-0.1**
COLD	**Coldfoot**	**3.36**	**290**	P	**Pn**	**23 24 27.0**	**-0.3**
PAX	**Paxson**	**3.65**	**205**	P	**Pn**	**23 24 30.1**	**-1.3**
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**23 24 35.5**	**+1.1**
INK				Sn	**Sn**	**23 25 21.5**	**+1.6**
INK				Sg	**Sg**	**23 25 37.7**	**-1.5**
INK				Trac		23 25 47.6	
	comp=Z,7.0nm,0.3s						
INK	**Inuvik**	**3.87**	**55**	*e*Pn	**Pn**	**23 24 35.4**	**+1.0**
INK				*e*Sn	**Sn**	**23 25 21.7**	**+1.8**
MCK	**McKinley**	**3.89**	**232**	*e*Pn	**Pn**	**23 24 34.0**	**-0.7**
MCK				*e*Sg	**Sg**	**23 25 34.5**	**-5.4**
TRF	**Thorofare Moun**	**4.53**	**235**	P	**Pn**	**23 24 42.5**	**-0.8**
SML	**Sawmill**	**5.28**	**214**	P	**Pn**	**23 24 55.1**	**+1.3**
DIV	**Divide**	**5.45**	**199**	*e*Pn	**Pn**	**23 24 58.4**	**+2.4**
BMRM	**Bremner River**	**5.47**	**193**	P	**Pn**	**23 24 57.4**	**+1.0**
HYT	**Haines Junctio**	**5.86**	**158**	Pn	**Pn**	**23 25 03.1**	**+1.4**
HYT				Sg	**Sg**	**23 26 37.3**	**-5.7**
HYT				Trac		23 26 43.4	
	comp=Z,8.0nm,0.6s						
WHY	**Whitehorse**	**6.51**	**147**	Pn	**Pn**	**23 25 11.2**	**+0.6**
WHY				Trac		23 27 24.8	
	comp=Z,2.0nm,0.4s						
YKW3	**Yellowknife Ar**	**12.37**	**95**	Pn	**Pn**	**23 26 29.1**	**-1.8**
YKW3				Sn	**Sn**	**23 28 38.9**	**-10**
YKW3				Trac		23 28 47.5	
	comp=Z,1.0nm,0.5s						

*ISCJB **23** 23:23:45.3±2.2, 339S±0.1×1793W±0.4, h33km, mb3.5/2, Error ellipse: s-maj=44.6km s-min=11.5km az=27.2*
*IDC **23** 23:23:48.5±7.9, 3388S×179.34W, h46km±65km, mb3.4/2, mb1 3.8/3, mb1mx3.6/13, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=58.8km s-min=38.8km az=51.0*

ISC 23 23:23:46.1±2.6, 338S±01×1791W±04, h35km, n11, σ0§54/11, mb3.5/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.76**	**206**	*e*PN	**Pn**	**23 24 54.7**	**-0.5**
MWZ	**Matawai**	**5.27**	**210**	PN	**Pn**	**23 25 03.0**	**+0.6**
MWZ				SN	**Sn**	**23 26 02.4**	**+0.6**
URZ	**Urewera**	**5.39**	**214**	P	**Pn**	**23 25 04.6**	**+0.5**
	6.9nm,0.3s,baz=235,slow=0.2,SNR=22						
URZ				S	**Sn**	**23 26 02.9**	**-2.0**
	8.3nm,0.3s,baz=114,slow=16,SNR=6.7						
URZ	**Urewera**	**5.39**	**214**	*e*PN	**Pn**	**23 25 03.7**	**-0.3**
URZ				SN	**Sn**	**23 26 04.8**	**-0.1**
URZ				SN	**Sn**	**23 26 05.1**	**+0.2**
BKZ	**Black Stump Fm**	**6.41**	**212**	*e*PN	**Pn**	**23 25 17.8**	**-0.3**
ASAR	**Alice Springs**	**42.13**	**271**	P	**P**	**23 31 35.0**	**0.0**
	0.5nm,0.6s,mb3.3,baz=110,slow=7.7,SNR=5.2						
WRA	**Warramunga Arr**	**43.43**	**276**	P	**P**	**23 31 45.5**	**0.0**
	0.5nm,0.3s,mb3.7,baz=118,slow=7.1,SNR=7.9						
FINES	**FINESS Array B**	**147.99**	**337**	PKPbc	PKPbc	23 43 26.9	-0.8
	0.5nm,0.4s,baz=43,slow=4.7,SNR=13						
NB2	**NORSAR Subarra**	**151.96**	**349**	PKPa	PKPbc	23 43 37.1	-0.3
	comp=Z,0.7nm,0.8s,baz=17,slow=2.6						
BRTR	**Keskin Array B**	**153.23**	**292**	PKPab	PKPab	23 43 50.8	-1.3
	comp=Z,0.6nm,0.9s,baz=87,slow=3.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**159.40**	**182**	PKPab	PKPab	23 44 20.0	+1.4
	comp=Z,0.4nm,0.8s,baz=182,slow=3.9,SNR=4.0						

*ISCJB **23** 23:35:26.5±0.3, 39.19N±001×257W±002, h5km±2km, Error ellipse: s-maj=3.3km s-min=2.1km az=60.7*
*CSEM **23** 23:35:30.4±0.0, 3909N×252W, h10km, ML3.2/20, Error ellipse: s-maj=1.2km s-min=0.7km az=123.0*
*LDG **23** 23:35:30.5±0.1, 39.10N×251W, h10km, Ml3. 1/7, Error ellipse: s-maj=1.8km s-min=1.1km az=124.0*
*MDD **23** 23:35:30.4±0.3, 3909N×252W, h10km±1km, mbLg3.1/34, Error ellipse: s-maj=2.9km s-min=2.0km az=126.0, PRXIMO II-III EL BONILLO II LEZUZA*
MDD EMS: III MUNERA.
*SFS **23** 23:35:30.0, 3909N×252W, h10km, ML3.2*
*NEIC **23** 23:35:30.5, 3909N×252W, h10km, ML3.1(LDG), MN3.2(MDD), After MDD.*
NEIC Felt [III] at El Bonillo and Munera; [II] at Lezuza.

ISC 23 23:35:28.5±0.3, 3913N±001×252W±002, h9km±2km, n143, σ1§17/259, 7C-6D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVIA	**Vianos**	**0.49**	**178**	⇑Pg	**Pg**	**23 35 38.9**	**+0.9**
	SNR=18						
ETOB	**Tobarra**	**0.90**	**122**	⇓Pg	**Pg**	**23 35 46.4**	**+0.5**
	114nm,0.2s,SNR=18						
ETOB				Lg		23 35 57.7	
	243nm,0.1s,SNR=45						
ETOB	**Tobarra**	**0.90**	**122**	Pg	**Pg**	**23 35 46.4**	**+0.6**
	114nm,0.2s,SNR=18						
ESDC	**Sonseca Array**	**1.24**	**296**	Pn	**Pn**	**23 35 52.4**	**+0.4**
	5.5nm,0.1s,baz=114,slow=17,SNR=4.0						
ESDC				Pg	**Pg**	**23 35 53.5**	**+1.2**
	220nm,0.2s,baz=114,slow=17,SNR=18						
ESDC				Lg		23 36 09.5	
	82nm,0.1s,baz=112,slow=28,SNR=16						
ESDC	**Sonseca Array**	**1.24**	**296**	Pn	**Pn**	**23 35 52.4**	**+0.4**
	5.5nm,0.1s,SNR=4.0						
ESDC	**Sonseca Array**	**1.24**	**296**	Pg	**Pg**	**23 35 53.5**	**+1.2**
	220nm,0.2s,SNR=18						
ESLA	**Sonseca Array**	**1.24**	**296**	*e*Pn	**Pn**	**23 35 53.7**	**+1.7**
ESLA				*e*S	**Sb**	**23 36 10.1**	**+1.9**
ESLA	**Sonseca Array**	**1.24**	**296**	*e*Pn	**Pn**	**23 35 53.6**	**+1.6**
ESLA				*e*S	**Sb**	**23 36 10.1**	**+1.9**
ECHE	**Chera**	**1.29**	**69**	⇑Pn	**Pn**	**23 35 53.2**	**+0.6**
	2.8nm,0.2s,SNR=18						
ECHE				Pg	**Pg**	**23 35 54.7**	**+1.5**
	19nm,0.2s,SNR=18						
ECHE				Lg		23 36 10.6	
	95nm,0.3s,SNR=21						
ECHE	**Chera**	**1.29**	**69**	Pg	**Pg**	**23 35 54.7**	**+1.5**
	19nm,0.2s,SNR=18						
EHUE	**Huescar**	**1.32**	**182**	⇓Pn	**Pn**	**23 35 53.4**	**+0.3**
	12nm,0.1s,SNR=18						
EHUE				Pg	**Pg**	**23 35 54.5**	**+0.7**
	83nm,0.2s,SNR=4.0						
EHUE				Lg		23 36 11.5	
	66nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**1.32**	**182**	Pg	**Pg**	**23 35 54.5**	**+0.7**
	83nm,0.2s,SNR=4.0						
EBAN	**Banos Encina**	**1.39**	**226**	⇑Pn	**Pn**	**23 35 54.1**	**+0.1**
	5.4nm,0.2s,SNR=18						
EBAN				Pg	**Pg**	**23 35 55.5**	**+0.4**
	81nm,0.2s,SNR=62						
EBAN				Lg		23 36 12.2	
	226nm,0.2s,SNR=12						
EBAN	**Banos Encina**	**1.39**	**226**	Pg	**Pg**	**23 35 55.5**	**+0.4**
	81nm,0.2s,SNR=62						
EQES	**Quesada**	**1.40**	**198**	⇑Pn	**Pn**	**23 35 54.3**	**+0.2**
	4.0nm,0.2s,SNR=18						
EQES				Pg	**Pg**	**23 35 55.6**	**+0.4**
	135nm,0.2s,SNR=9.1						
EQES				Sn	**Sn**	**23 36 12.2**	**-0.5**
	26nm,0.2s,SNR=4.0						
EQES				Lg		23 36 13.9	
	67nm,0.2s,SNR=9.1						
EQES	**Quesada**	**1.40**	**198**	Pn	**Pn**	**23 35 54.3**	**+0.2**
	4.0nm,0.2s,SNR=18						
EQES	**Quesada**	**1.40**	**198**	Pg	**Pg**	**23 35 55.6**	**+0.3**
	135nm,0.2s,SNR=9.1						
EQES				Sn	**Sn**	**23 36 12.2**	**-0.5**
	26nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**1.63**	**142**	Pn	**Pn**	**23 35 58.6**	**+1.2**
	1.0nm,0.2s,SNR=94						
EMUR				Pg	**Pg**	**23 36 00.0**	**+0.2**
	43nm,0.3s,SNR=5.0						
EMUR				Sn	**Sn**	**23 36 17.6**	**-1.0**
	63nm,0.3s,SNR=4.0						
EMUR				Lg		23 36 20.4	
	236nm,0.3s,SNR=20						
EMUR	**La Murta**	**1.63**	**142**	Pn	**Pn**	**23 35 58.6**	**+1.2**
	1.0nm,0.2s,SNR=94						
EMUR	**La Murta**	**1.63**	**142**	Pg	**Pg**	**23 36 00.0**	**+0.2**
	43nm,0.3s,SNR=5.0						
EMUR				Sn	**Sn**	**23 36 17.6**	**-1.0**
	63nm,0.3s,SNR=4.0						
EBEN	**Beniarda**	**1.84**	**103**	⇓Pn	**Pn**	**23 36 00.2**	**-0.1**
	6.0nm,0.2s,SNR=18						
EBEN				Pg	**Pg**	**23 36 04.1**	**+0.3**
	48nm,0.4s,SNR=25						
EBEN				Sn	**Sn**	**23 36 22.8**	**-0.9**
	11nm,0.2s,SNR=4.0						
EBEN				Lg		23 36 28.7	
	38nm,0.3s,SNR=7.1						
EBEN	**Beniarda**	**1.84**	**103**	Pn	**Pn**	**23 36 00.2**	**-0.1**
	6.0nm,0.2s,SNR=18						
EBEN	**Beniarda**	**1.84**	**103**	Pg	**Pg**	**23 36 04.1**	**+0.3**
	48nm,0.4s,SNR=25						
EBEN				Sn

ELOJ				Lg				23 36 45.8
	12nm,0.2s,SNR=4.0							
ERTA	**Horta de San J**	**2.85**	**49**	Pn	**Pn**	**23 36 15.0**	**+0.9**	
	1.5nm,0.1s,SNR=14							
ERTA				Pg	**Pg**	**23 36 23.1**	**+0.1**	
	1.3nm,0.1s,SNR=12							
ERTA				Sn	**Sn**	**23 36 47.5**	**-1.0**	
	6.5nm,0.2s,SNR=4.0							
ERTA				Lg		23 36 56.5		
	62nm,0.3s,SNR=5.0							
ERTA	**Horta de San J**	**2.85**	**49**	Pn	**Pn**	**23 36 15.0**	**+0.9**	
	1.5nm,0.1s,SNR=14							
ERTA	**Horta de San J**	**2.85**	**49**	Pg	**Pg**	**23 36 23.1**	**0.0**	
	1.3nm,0.1s,SNR=12							
ERTA				Sn	**Sn**	**23 36 47.5**	**-1.0**	
	6.5nm,0.2s,SNR=4.0							
EBR	**Ebro Roquetas**	**2.86**	**53**	*e*PG	**Pg**	**23 36 24.5**	**+1.1**	
EBR				*e*S*	**Sb**	**23 36 58.0**	**+3.1**	
EIBI	**Ibiza**	**3.01**	**91**	⇓Pn	**Pn**	**23 36 15.8**	**-0.5**	
	3.7nm,0.2s,SNR=18							
EIBI				Sn	**Sn**	**23 36 49.8**	**-2.7**	
	8.2nm,0.3s,SNR=7.9							
EIBI	**Ibiza**	**3.01**	**91**	⇓Pn	**Pn**	**23 36 15.9**	**-0.4**	
EIBI				Sn	**Sn**	**23 36 49.8**	**-2.7**	
	8.2nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**3.02**	**31**	Pn	**Pn**	**23 36 18.2**	**+1.7**	
	7.4nm,0.2s,SNR=4.0							
ESAC				Pg	**Pg**	**23 36 28.0**	**+1.6**	
	30nm,0.2s,SNR=9.1							
ESAC				Lg		23 37 04.2		
	91nm,0.3s,SNR=5.9							
ESAC	**San Caprasio**	**3.02**	**31**	Pn	**Pn**	**23 36 19.9**	**+3.4**	
	7.4nm,0.2s,SNR=4.0							
ESAC	**San Caprasio**	**3.02**	**31**	Pg	**Pg**	**23 36 28.0**	**+1.6**	
	30nm,0.2s,SNR=9.1							
ESAC	**San Caprasio**	**3.02**	**31**	Pn	**Pn**	**23 36 19.9**	**+3.4**	
ESAC				Pg	**Pg**	**23 36 28.0**	**+1.6**	
ESAC				Lg		23 37 04.2		
EMIJ	**Mijas**	**3.12**	**216**	Pn	**Pn**	**23 36 18.0**	**+0.1**	
	0.5nm,0.1s,SNR=5.6							
EMIJ				Pg	**Pg**	**23 36 28.6**	**+0.3**	
	5.8nm,0.3s,SNR=6.7							
EMIJ				Sn	**Sn**	**23 36 54.0**	**-1.3**	
	13nm,0.5s,SNR=4.0							
EMIJ				Sb	**Sb**	**23 37 02.5**	**+0.2**	
	SNR=4.0							
EMIJ				Lg		23 37 10.1		
	35nm,0.5s,SNR=5.0							
EMIJ	**Mijas**	**3.12**	**216**	Pg	**Pg**	**23 36 28.6**	**+0.3**	
	5.8nm,0.3s,SNR=6.7							
EMIJ				Sn	**Sn**	**23 36 54.0**	**-1.3**	
	13nm,0.5s,SNR=4.0							
EMIJ	**Mijas**	**3.12**	**216**	Pn	**Pn**	**23 36 20.8**	**+2.9**	
EMIJ				Pg	**Pg**	**23 36 28.6**	**+0.3**	
EMIJ				Sn	**Sn**	**23 36 54.0**	**-1.3**	
EMIJ				Sb	**Sb**	**23 37 02.5**	**+0.2**	
EMIJ				Lg		23 37 10.1		
EALB	**Alboran**	**3.21**	**187**	Pn	**Pn**	**23 36 20.3**	**+1.2**	
	1.9nm,0.1s,SNR=4.0							
EALB				Pg	**Pg**	**23 36 27.8**	**-2.2**	
	3.6nm,0.2s,SNR=4.0							
EALB	**Alboran**	**3.21**	**187**	Pn	**Pn**	**23 36 20.3**	**+1.2**	
	1.9nm,0.1s,SNR=4.0							
EALB	**Alboran**	**3.21**	**187**	Pg	**Pg**	**23 36 27.9**	**-2.2**	
ECRI	**Cripan**	**3.47**	**0**	Pn	**Pn**	**23 36 23.4**	**+0.7**	
	1.2nm,0.2s,SNR=4.0							
ECRI				Pg	**Pg**	**23 36 34.9**	**-0.1**	
	7.4nm,0.3s,SNR=7.9							
ECRI				Lg		23 37 21.5		
	23nm,0.3s,SNR=7.9							
ECRI	**Cripan**	**3.47**	**0**	Pg	**Pg**	**23 36 34.9**	**-0.1**	
	7.4nm,0.3s,SNR=7.9							
ECRI	**Cripan**	**3.47**	**0**	Pn	**Pn**	**23 36 23.4**	**+0.7**	
ECRI				Pg	**Pg**	**23 36 34.9**	**-0.1**	
ECRI				Lg		23 37 20.5		
ESPR	**Espera**	**3.47**	**230**	Lg		23 37 20.9		
	33nm,0.3s,SNR=5.1							
EBAD	**Badajoz**	**3.52**	**265**	Pn	**Pn**	**23 36 23.5**	**+0.1**	
	3.9nm,0.1s,SNR=22							
EBAD				Pg	**Pg**	**23 36 34.8**	**-1.2**	
	2.0nm,0.1s,SNR=5.0							
EBAD				Sn	**Sn**	**23 37 04.0**	**-1.2**	
	20nm,0.3s,SNR=4.7							
EBAD				Lg		23 37 20.7		
	40nm,0.2s,SNR=5.6							
EBAD	**Badajoz**	**3.52**	**265**	Pn	**Pn**	**23 36 23.5**	**+0.1**	
	3.9nm,0.1s,SNR=22							
EBAD	**Badajoz**	**3.52**	**265**	Pg	**Pg**	**23 36 34.8**	**-1.2**	
	2.0nm,0.1s,SNR=5.0							
EBAD				Sn	**Sn**	**23 37 04.0**	**-1.2**	
	20nm,0.3s,SNR=4.7							
EMIN	**Mina Concepcio**	**3.53**	**249**	Pn	**Pn**	**23 36 23.7**	**+0.2**	
	0.7nm,0.1s,SNR=12							
EMIN				Sn	**Sn**	**23 37 04.4**	**-1.0**	
	2.5nm,0.2s,SNR=7.9							
EMIN				Lg		23 37 20.2		
	56nm,0.4s,SNR=5.0							
EMIN	**Mina Concepcio**	**3.53**	**249**	Pn	**Pn**	**23 36 23.7**	**+0.2**	
	0.7nm,0.1s,SNR=12							
EMIN				Sn	**Sn**	**23 37 04.4**	**-1.0**	
	2.5nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**3.54**	**50**	Pn	**Pn**	**23 36 24.4**	**+0.9**	
	1.3nm,0.2s,SNR=7.9							
EPOB				Pg	**Pg**	**23 36 35.8**	**-0.4**	
	2.5nm,0.3s,SNR=5.0							
EPOB				Sn	**Sn**	**23 37 05.1**	**-0.4**	
	4.7nm,0.3s,SNR=7.9							
EPOB				Lg		23 37 17.4		
	18nm,0.3s,SNR=10							
EPOB	**Poblet**	**3.54**	**50**	Pn	**Pn**	**23 36 24.5**	**+0.9**	
EPOB	**Poblet**	**3.54**	**50**	Pg	**Pg**	**23 36 35.8**	**-0.4**	
	2.5nm,0.3s,SNR=5.0							
EPOB				Sn	**Sn**	**23 37 05.1**	**-0.4**	
	4.7nm,0.3s,SNR=7.9							
EJIF	**Jimena Fronter**	**3.55**	**222**	Lg		23 37 22.5		
	13nm,0.6s,SNR=6.2							
IUNC	**Uncíti**	**3.70**	**12**	Pn	**Pn**	**23 36 27.7**	**+1.9**	
	1.0nm,0.2s,SNR=4.0							
IUNC				Pg	**Pg**	**23 36 40.7**	**+1.3**	
	5.8nm,0.3s,SNR=7.9							
IUNC				Lg		23 37 30.9		
	17nm,0.4s,SNR=7.9							
IUNC	**Uncíti**	**3.70**	**12**	Pn	**Pn**	**23 36 27.7**	**+1.9**	
	1.0nm,0.2s,SNR=4.0							
IUNC	**Uncíti**	**3.70**	**12**	Pg	**Pg**	**23 36 40.7**	**+1.3**	
	5.8nm,0.3s,SNR=7.9							
EARA	**Aranguren**	**3.71**	**11**	Pg	**Pg**	**23 36 40.3**	**+0.9**	
	16nm,0.3s,SNR=4.8							
EARA				Lg		23 37 30.0		
	89nm,0.4s,SNR=7.9							
EGRA	**Graus**	**3.74**	**34**	Pn	**Pn**	**23 36 29.1**	**+2.7**	
	0.2nm,0.1s,SNR=4.0							
EGRA				Pg	**Pg**	**23 36 39.8**	**-0.3**	
	14nm,0.6s,SNR=11							
EGRA				Sn	**Sn**	**23 37 11.0**	**+0.4**	
	6.4nm,0.5s,SNR=4.0							
EGRA				Lg		23 37 29.5		
	11nm,0.4s,SNR=5.4							
EGRA	**Graus**	**3.74**	**34**	Pg	**Pg**	**23 36 39.8**	**-0.4**	
	14nm,0.6s,SNR=11							
EGRA				Sn	**Sn**	**23 37 11.0**	**+0.4**	
	6.4nm,0.5s,SNR=4.0							
IUSE	**Utxeti**	**3.88**	**11**	Pg	**Pg**	**23 36 44.4**	**+1.5**	
	6.9nm,0.3s,SNR=7.9							
IUSE				Lg		23 37 34.8		
	16nm,0.5s,SNR=7.9							
IUSE	**Utxeti**	**3.88**	**11**	Pg	**Pg**	**23 36 44.3**	**+1.5**	
	6.9nm,0.3s,SNR=7.9							
ETSF	**Etsaut**	**4.04**	**21**	*e*P	**Pn**	**23 36 34.7**	**+4.2**	
ETSF	**Etsaut**	**4.04**	**21**	*e*Pg	**Pg**	**23 36 46.1**	**+0.2**	
ETSF				*e*Sn	**Sn**	**23 37 15.6**	**-2.4**	
ETSF				*e*Sg	**Sg**	**23 37 38.2**	**-0.1**	
	11nm,0.4s							
ETSF	**Etsaut**	**4.04**	**21**	Pn	**Pn**	**23 36 31.1**	**+0.6**	
ETSF				Pg	**Pg**	**23 36 46.1**	**+0.2**	
ETSF				Sn	**Sn**	**23 37 15.6**	**-2.4**	
ETSF				Lg		23 37 38.2		
	5.5nm,0.4s							
ETSF	**Etsaut**	**4.04**	**21**	*e*P	**Pn**	**23 36 34.7**	**+4.2**	
ETSF	**Etsaut**	**4.04**	**21**	*e*Pg	**Pg**	**23 36 46.1**	**+0.2**	
ETSF				*e*Sn	**Sn**	**23 37 15.6**	**-2.4**	
ETSF				*e*Sg	**Sg**	**23 37 38.2**	**-0.1**	
	5.5nm,0.4s							
ETSF	**Etsaut**	**4.04**	**21**	*e*Pn	**Pn**	**23 36 31.1**	**+0.6**	
ETSF				*e*P		23 36 34.7		
ETSF				*e*Pg	**Pg**	**23 36 46.1**	**+0.2**	
ETSF				*e*Sn	**Sn**	**23 37 15.6**	**-2.4**	
ETSF				*e*Sg	**Sg**	**23 37 38.2**	**-0.1**	
SJPF	**Ste Jean**	**4.09**	**13**	*e*P	**Pn**	**23 36 35.3**	**+4.1**	
SJPF	**Ste Jean**	**4.09**	**13**	*e*Pg	**Pg**	**23 36 47.0**	**+0.1**	
SJPF				*e*Sn	**Sn**	**23 37 17.0**	**-2.3**	
SJPF				*e*Sg	**Sg**	**23 37 40.0**	**0.0**	
	16nm,0.4s							
SJPF	**Ste Jean**	**4.09**	**13**	Pn	**Pn**	**23 36 31.8**	**+0.6**	
SJPF				Pg	**Pg**	**23 36 47.0**	**+0.1**	
SJPF				Sn	**Sn**	**23 37 17.0**	**-2.3**	
SJPF				Lg		23 37 40.0		
	7.9nm,0.4s							
SJPF	**Ste Jean**	**4.09**	**13**	*e*P	**Pn**	**23 36 35.3**	**+4.1**	
SJPF	**Ste Jean**	**4.09**	**13**	*e*Pg	**Pg**	**23 36 47.0**	**+0.1**	
SJPF				*e*Sn	**Sn**	**23 37 17.0**	**-2.3**	
SJPF				*e*Sg	**Sg**	**23 37 40.0**	**0.0**	
	7.9nm,0.4s							
SJPF	**Ste Jean**	**4.09**	**13**	*e*Pn	**Pn**	**23 36 31.8**	**+0.6**	
SJPF				*e*P		23 36 35.3		
SJPF				*e*Pg	**Pg**	**23 36 47.0**	**+0.1**	
SJPF				*e*Sn	**Sn**	**23 37 17.0**	**-2.3**	
SJPF				*e*Sg	**Sg**	**23 37 40.0**	**0.0**	
ELIZ	**Elizondo**	**4.10**	**10**	Pn	**Pn**	**23 36 33.6**	**+2.4**	
	0.7nm,0.2s,SNR=4.0							
ELIZ				Pg	**Pg**	**23 36 47.4**	**+0.4**	
	7.3nm,0.3s,SNR=7.9							
ELIZ	**Elizondo**	**4.10**	**10**	Pg	**Pg**	**23 36 47.4**	**+0.5**	
	7.3nm,0.3s,SNR=7.9							
EMIR	**Miracle**	**4.15**	**47**	Pn	**Pn**	**23 36 33.7**	**+1.7**	
	1.0nm,0.1s,SNR=5.7							
EMIR				Pg	**Pg**	**23 36 48.8**	**+0.8**	
	3.3nm,0.2s,SNR=7.9							
EMIR				Sn	**Sn**	**23 37 19.8**	**-0.9**	
	9.7nm,0.4s,SNR=4.0							
EMIR				Lg		23 37 37.1		
	34nm,0.4s,SNR=4.8							
EMIR	**Miracle**	**4.15**	**47**	Pn	**Pn**	**23 36 33.7**	**+1.7**	
	1.0nm,0.1s,SNR=5.7							
EMIR	**Miracle**	**4.15**	**47**	Pg	**Pg**	**23 36 48.8**	**+0.8**	
	3.3nm,0.2s,SNR=7.9							
EMIR				Sn	**Sn**	**23 37 19.8**	**-0.8**	
	9.7nm,0.4s,SNR=4.0							
EMIR	**Miracle**	**4.15**	**47**	Pn	**Pn**	**23 36 33.7**	**+1.7**	
EMIR				Pg	**Pg**	**23 36 48.8**	**+0.8**	
EMIR				Sn	**Sn**	**23 37 19.8**	**-0.9**	
EMIR				Lg		23 37 37.1		
ELAN	**Lanestosa**	**4.15**	**351**	Pg	**Pg**	**23 36 48.5**	**+0.5**	
	5.0nm,0.3s,SNR=7.1							
ELAN				Lg		23 37 40.3		
	46nm,0.6s,SNR=6.3							
ELAN	**Lanestosa**	**4.15**	**351**	Pg	**Pg**	**23 36 48.5**	**+0.5**	
	5.0nm,0.3s,SNR=7.1							
EALK	**Alkurruntz**	**4.15**	**10**	Pn	**Pn**	**23 36 34.0**	**+2.0**	
	5.1nm,0.1s,SNR=7.9							
EALK				Pg	**Pg**	**23 36 47.4**	**-0.6**	
	3.1nm,0.2s,SNR=4.7							
EALK				Lg		23 37 43.7		
	29nm,0.5s,SNR=7.9							
EALK	**Alkurruntz**	**4.15**	**10**	Pg	**Pg**	**23 36 47.4**	**-0.7**	
	3.1nm,0.2s,SNR=4.7							
ETOS	**Mallorca**	**4.18**	**80**	Pn	**Pn**	**23 36 31.8**	**-0.6**	
	0.4nm,0.1s,SNR=4.0							
ETOS				Sn	**Sn**	**23 37 20.3**	**-1.1**	
	1.9nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**4.18**	**80**	Pn	**Pn**	**23 36 31.8**	**-0.6**	
	0.4nm,0.1s,SNR=4.0							
ETOS				Sn	**Sn**	**23 37 20.3**	**-1.0**	
	1.9nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.22**	**249**	Pn	**Pn**	**23 36 32.8**	**-0.1**	
	0.7nm,0.1s,SNR=9.7							
EGRO				Pg	**Pg**	**23 36 48.6**	**-0.7**	
	1.0nm,0.1s,SNR=4.0							
EGRO				Sn	**Sn**	**23 37 18.0**	**-4.3**	
	5.0nm,0.2s,SNR=7.4							
EGRO				Lg		23 37 41.1		
	54nm,0.6s,SNR=7.9							
EGRO	**El Granado**	**4.22**	**249**	Pn	**Pn**	**23 36 32.8**	**-0.1**	
EGRO	**El Granado**	**4.22**	**249**	Pg	**Pg**	**23 36 48.6**	**-0.6**	
ECAL	**Calabor**	**4.26**	**312**	Lg		23 37 44.5		
	36nm,0.4s,SNR=7.9							
EPF	**Esparros**	**4.45**	**28**	*e*P	**Pn**	**23 36 40.4**	**+4.2**	
EPF	**Esparros**	**4.45**	**28**	*e*Pg	**Pg**	**23 36 52.8**	**-1.0**	
EPF				*e*Sn	**Sn**	**23 37 26.3**	**-1.8**	
EPF				*e*Sg	**Sg**	**23 37 49.4**	**-2.1**	
	13nm,0.5s							
EPF	**Esparros**	**4.45**	**28**	Pn	**Pn**	**23 36 36.5**	**+0.3**	
EPF				Pg	**Pg**	**23 36 52.8**	**-1.0**	
EPF				Sn	**Sn**	**23 37 26.3**	**-1.8**	
EPF				Lg		23 37 49.4		
	6.7nm,0.5s							
EPF	**Esparros**	**4.45**	**28**	*e*P	**Pn**	**23 36 40.4**	**+4.2**	
EPF	**Esparros**	**4.45**	**28**	*e*Pg	**Pg**	**23 36 52.8**	**-1.0**	
EPF				*e*Sn	**Sn**	**23 37 26.3**	**-1.8**	
EPF				*e*Sg	**Sg**	**23 37 49.4**	**-2.1**	
	6.7nm,0.5s							
EPF	**Esparros**	**4.45**	**28**	*e*Pn	**Pn**	**23 36 36.5**	**+0.3**	
EPF				*e*P		23 36 40.4		
EPF				*e*Pg	**Pg**	**23 36 52.8**	**-1.0**	
EPF				*e*Sn	**Sn**	**23 37 26.3**	**-1.8**	
EPF				*e*Sg	**Sg**	**23 37 49.4**	**-2.1**	
EARI	**Arriondas**	**4.63**	**335**	Pn	**Pn**	**23 36 40.8**	**+2.2**	
	0.3nm,0.2s,SNR=7.9							
EARI				Pg	**Pg**	**23 36 56.6**	**-0.6**	
	1.1nm,0.3s,SNR=4.9							
EARI				Sn	**Sn**	**23 37 31.9**	**-0.6**	
	3.6nm,0.4s,SNR=7.9							
EARI				Lg		23 37 54.6		
	10nm,0.5s,SNR=7.9							
EARI	**Arriondas**	**4.63**	**335**	Pn	**Pn**	**23 36 40.8**	**+2.2**	
EARI	**Arriondas**	**4.63**	**335**	Pg	**Pg**	**23 36 56.6**	**-0.6**	
ERUA	**La Rua**	**4.79**	**314**	Pn	**Pn**	**23 36 43.4**	**+2.7**	
	4.5nm,0.1s,SNR=4.0							
ERUA				Pg	**Pg**	**23 36 59.2**	**-1.0**	
	5.2nm,0.2s,SNR=4.0							
ERUA				Lg		23 38 00.8		
	17nm,0.5s,SNR=4.0							
ERUA	**La Rua**	**4.79**	**314**	Pg	**Pg**	**23 36 59.2**	**-1.0**	
ELOB	**Lobios**	**5.03**	**305**	Pg	**Pg**	**23 37 02.6**	**-2.2**	
	0.9nm,0.1s,SNR=4.0							
ELOB				Lg		23 38 09.7		
	14nm,0.4s,SNR=5.9							
EJON	**La Jonquera**	**5.27**	**49**	Pn	**Pn**	**23 36 49.0**	**+1.6**	
	0.3nm,0.1s,SNR=4.0							
EJON				Lg		23 38 15.4		
	14nm,0.6s,SNR=4.6							
EJON	**La Jonquera**	**5.27**	**49**	Pn	**Pn**	**23 36 49.0**	**+1.5**	
EPON	**Pontenova**	**5.45**	**322**	Pn	**Pn**	**23 36 51.7**	**+1.8**	
	0.8nm,0.2s,SNR=4.0							
EPON				Pg	**Pg**	**23 37 12.5**	**-0.4**	
	0.7nm,0.1s,SNR=4.0							
EPON				Sn	**Sn**	**23 37 49.4**	**-3.3**	
	1.8nm,0.3s,SNR=4.0							
EPON				Lg		23 38 21.2		
	16nm,0.5s,SNR=10							
EPON	**Pontenova**	**5.45**	**322**	Pn	**Pn**	**23 36 51.7**	**+1.8**	
EPON	**Pontenova**	**5.45**	**322**	Pg	**Pg**	**23 37 12.5**	**-0.4**	
MTLF	**Montolieu**	**5.51**	**39**	*e*P	**Pn**	**23 36 55.1**	**+4.3**	
MTLF	**Montolieu**	**5.51**	**39**	*e*Pg	**Pg**	**23 37 12.3**	**-1.8**	
MTLF				*e*Sn	**Sn**	**23 37 51.0**	**-3.3**	
MTLF				*e*Sg	**Sg**	**23 38 22.8**	**-2.8**	
	9.2nm,0.6s							
MTLF	**Montolieu**	**5.51**	**39**	Pn	**Pn**	**23 36 50.9**	**+0.1**	
MTLF				Pg	**Pg**	**23 37 12.3**	**-1.8**	
MTLF				Sn	**Sn**	**23 37 51.0**	**-3.3**	
MTLF				Lg		23 38 22.8		
	4.6nm,0.6s							
MTLF	**Montolieu**	**5.51**	**39**	*e*P	**Pn**	**23 36 55.1**	**+4.3**	
MTLF	**Montolieu**	**5.51**	**39**	*e*Pg	**Pg**	**23 37 12.3**	**-1.8**	
MTLF				*e*Sn	**Sn**	**23 37 51.0**	**-3.3**	
MTLF				*e*Sg	**Sg**	**23 38 22.8**	**-2.8**	
	4.6nm,0.6s							
MTLF	**Montolieu**	**5.51**	**39**	*e*Pn	**Pn**	**23 36 50.9**	**+0.1**	
MTLF				*e*P		23 36 55.1		
MTLF				*e*Pg	**Pg**	**23 37 12.3**	**-1.8**	
MTLF				*e*Sn	**Sn**	**23 37 51.0**	**-3.3**	
MTLF				*e*Sg	**Sg**	**23 38 22.8**	**-2.8**	
STS	**Santiago**	**5.90**	**311**	Lg		23 38 36.8		
	23nm,0.7s,SNR=4.0							
LFF	**La Frestale**	**6.29**	**22**	*e*Pn	**Pn**	**23 37 01.6**	**+0.2**	
LFF				*e*Sn	**Sn**	**23 38 09.6**	**-3.8**	
LFF				*e*Sg	**Sg**	**23 38 48.7**	**-1.7**	
	4.2nm,0.4s							
LFF	**La Frestale**	**6.29**	**22**	*e*Pn	**Pn**	**23 37 01.6**	**+0.2**	
LFF				*e*Sn	**Sn**	**23 38 09.6**	**-3.8**	
LFF				*e*Sg	**Sg**	**23 38 48.7**	**-1.7**	
	2.1nm,0.4s							
CAF	**Calviac**	**6.72**	**29**	*e*Pn	**Pn**	**23 37 08.0**	**+0.7**	
CAF				*e*Sn	**Sn**	**23 38 19.1**	**-4.8**	
CAF				*e*Sg	**Sg**	**23 39 02.2**	**-1.9**	
	1.9nm,0.4s							
CAF	**Calviac**	**6.72**	**29**	*e*Pn	**Pn**	**23 37 08.0**	**+0.7**	
CAF				*e*Sn	**Sn**	**23 38 19.1**	**-4.8**	
CAF				*e*Sg	**Sg**	**23 39 02.2**	**-1.9**	
	0.9nm,0.4s							
LASF	**Ste Croix**	**6.87**	**42**	*e*Pn	**Pn**	**23 37 09.0**	**-0.4**	
LASF				*e*Sn	**Sn**	**23 38 23.4**	**-4.3**	
LASF				*e*Sg	**Sg**	**23 39 05.4**	**-3.6**	
	4.8nm,0.5s							
LASF	**Ste Croix**	**6.87**	**42**	*e*Pn	**Pn**	**23 37 09.0**	**-0.4**	
LASF				*e*Sn	**Sn**	**23 38 23.4**	**-4.3**	
LASF				*e*Sg	**Sg**	**23 39 05.4**	**-3.6**	
	2.4nm,0.5s							
BGF	**Bois d'Agland**	**8.40**	**26**	*e*Pn	**Pn**	**23 37 30.0**	**-0.4**	
AVF	**Avril sur Loir**	**8.78**	**27**	*e*Pn	**Pn**	**23 37 35.7**	**+0.1**	
SSF	**Saint Saulge**	**9.06**	**27**	*e*Pn	**Pn**	**23 37 39.1**	**-0.4**	
GRR	**Gorron**	**9.33**	**7**	*e*Pn	**Pn**	**23 37 43.0**	**-0.1**	
CABF	**La Chapelle**	**9.78**	**37**	*e*Pn	**Pn**	**23 37 49.2**	**-0.1**	

NEIC ***23*** *23:41:05.1±3.6,5.17S×1296E,h128km±43km,mb3.5/1, Error ellipse: s-maj=32.5km s-min=11.5km az=51.0*
IDC ***23*** *23:41:09.2±17.0,536S×1295.9E,h170km±181km,mb3.0/1, mb1 3.3/4,mb1mx3.1/15,mbtmp3.7/4,ML3.7/3,MS3.3/1, Ms1 3.3/1,ms1mx2.5/8,Error ellipse: s-maj=132.7km s-min=54.6km az=46.0*
ISCJB ***23*** *23:41:14.4±3.4,57S±0.1×1296E±0.1,h249km±39km, mb3.1/1,Error ellipse: s-maj=24.2km s-min=21.0km az=160.2*
ISC 23 23:41:05.7±4.6,**52S**±02×**1296E**±02,**h132**km±55km,**n8,** σ0°37/9,**mb3.3**/1,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.42**	**197**	P	**Pn**	**23 44 11.1**	**+0.4**
	0.3nm,0.3s,baz=90,slow=20,SNR=4.8						
FITZ				S	**Sn**	**23 46 29.8**	**-9.0**
	0.1nm,0.3s,baz=356,slow=14,SNR=2.5						
WRAB	**Tennant Creek**	**15.36**	**163**	*e*P	**Pn**	**23 44 35.6**	**+0.3**
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**15.37**	**163**	P	**Pn**	**23 44 35.3**	**-0.1**
	0.3nm,0.3s,baz=344,slow=12,SNR=5.3						
WRA				S	**S**	**23 47 14.8**	**-18**
	baz=346,slow=21,SNR=2.0						
KKM	**Kota Kinabalu**	**17.43**	**310**	Pn	**Pn**	**23 45 00.3**	**-0.3**
ASAR	**Alice Springs**	**18.83**	**168**	P	**P**	**23 45 14.4**	**-0.7**
	0.3nm,0.3s,baz=350,slow=12,SNR=18						
GUMO	**Guam**	**24.02**	**39**	LR	LR	23 54 29.8	
	comp=Z,74nm,20.2s,baz=211,slow=33						
HNR	**Honiara**	**30.35**	**100**	P	**P**	**23 47 04.9**	**+0.1**
MKAR	**Makanchi Array**	**66.52**	**327**	P	**P**	**23 51 41.5**	**+0.3**
	0.3nm,0.6s,mb3.3,baz=126,slow=6.2,SNR=4.5						

ISCJB ***24*** *00:02:46.8±0.4,677N±004×7291W±004,h172km±4km, mb4.3/32,Error ellipse: s-maj=7.1km s-min=5.8km az=69.1*
IDC ***24*** *00:02:47.4±1.0,677N×7297W,h167km±9km,mb3.8/14, mb1 4.1/18,mb1mx3.9/26,mbtmp4.4/18,Error ellipse: s-maj=11.6km s-min=9.3km az=81.0*
NEIC ***24*** *00:02:47.7±0.3,675N×7296W,mb4.5/20,Error ellipse: s-maj=6.6km s-min=5.4km az=74.0*
BJI ***24*** *00:02:47.7,680N×7300W,h166km,mB4.4*
FUNV ***24*** *00:02:50.4,708N×73.14W,h165km,MW4.4*
ISC 24 00:02:47.7±0.4,**676N**±003×**7294W**±004,**h162**km±3km,**n99,** σ1°**00**/107,**mb4.3**/32,**10D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.26**	**30**	*e*P	**Pn**	**00 03 16.9**	**+1.0**
CAPV				*e*S	**Sn**	**00 03 37.2**	**-0.3**
ROSC	**El Rosal**	**2.34**	**216**	P	**Pn**	**00 03 27.8**	**+0.2**
	368nm,0.3s,baz=68,slow=4.7,SNR=594						
ROSC				S	**Sn**	**00 03 54.9**	**-3.5**
	210nm,0.3s,baz=106,slow=22,SNR=9.7						
SOCV	**Socops**	**2.56**	**54**	*i* P	**Pn**	**00 03 31.6**	**+1.4**
SOCV				*e*S	**Sn**	**00 04 03.1**	**+0.2**
VIGV	**El Vigia**	**2.59**	**37**	*e*P	**Pn**	**00 03 31.2**	**+0.7**
VIGV				*e*S	**Sn**	**00 04 01.2**	**-2.4**
SDV	**Santo Domingo**	**3.11**	**47**	P	**Pn**	**00 03 38.2**	**+1.3**
	96nm,0.3

TUC	Tucson	43.42 311	P	P	00 10 34.8	+0.5
EYMN	Ely	43.98 342	eP	P	00 10 38.0	-0.7
	21nm,0.8s,mb4.8					
ISCO	Idaho Springs	44.06 323	P	P	00 10 40.2	+0.8
	8.7nm,1.0s,mb4.3					
PV01	Paradox Valley	44.89 319	P	P	00 10 47.0	+1.0
WUAZ	Wupatki	45.39 315	P	P	00 10 51.0	+1.1
	14nm,0.9s,mb4.6					
RSSD	Black Hills	46.08 329	P	P	00 10 55.5	+0.2
SRU	San Rafael	46.70 319	P	P	00 10 59.5	-0.6
	4.6nm,0.7s,mb4.2					
ULM	Lac du Bonnet	47.40 340	P	P	00 11 03.5	-2.0
	12nm,0.7s,mb4.7,baz=146,slow=7.9,SNR=32					
MSU	Marysvale	47.47 318	P	P	00 11 07.2	+1.1
DAU	Daniels Canyon	47.89 320	P	P	00 11 10.4	+1.1
MPU	Maple Canyon	47.91 320	P	P	00 11 10.7	+1.2
NEN	Nelson	47.94 313	eP	P	00 11 09.9	+0.2
NLU	North Lily Min	48.17 319	P	P	00 11 08.8	-2.6
SCHQ	Schefferville	48.18 5	P	P	00 11 11.4	-0.1
	9.3nm,0.8s,mb4.5,baz=175,slow=6.8,SNR=12					
BW06	Boulder Array	48.23 324	P	P	00 11 11.8	-0.2
	4.7nm,1.0s,mb4.1					
PDAR	Pinedale Array	48.23 324	P	P	00 11 11.6	-0.3
	3.0nm,0.8s,mb4.0,baz=132,slow=8.3,SNR=21					
TCUT	Toone Canyon	48.38 321	P	P	00 11 13.9	+0.8
DUG	Dugway	48.77 319	P	P	00 11 16.8	+0.8
DGMT	Dagmar	49.28 333	P	P	00 11 20.3	+0.3
BGU	Big Grassy Mou	49.30 320	eP	P	00 11 24.3	+4.2
REDW	Red Top Meadow	49.35 324	P	P	00 11 20.9	+0.5
	7.2nm,0.4s,mb4.7					
TPAW	Teton Pass	49.48 324	P	P	00 11 21.9	+0.4
	4.1nm,0.6s,mb4.2					
MOOW	Moose Ponds	49.51 324	P	P	00 11 21.6	-0.1
BOZ	Bozeman (W)	51.16 326	P	P	00 11 34.1	+0.1
	3.3nm,0.7s,mb4.1					
HLID	Hailey	51.59 322	P	P	00 11 37.7	+0.5
NVAR	Mina Array Bea	51.65 315	P	P	00 11 37.0	-0.7
	1.2nm,0.7s,mb3.6,baz=118,slow=8.3,SNR=7.6					
FFC	Flin Flon	53.20 339	P	P	00 11 46.7	-2.4
FCC	Fort Churchill	54.37 347	P	P	00 11 56.6	-1.0
	8.2nm,0.9s,mb4.5					
EDM	Edmonton	56.76 332	P	P	00 12 13.7	-1.0
YKA	Yellowknife Ar	63.38 340	P	P	00 12 58.9	-0.8
	8.3nm,0.7s,mb4.7,baz=131,slow=6.7,SNR=200					
YKA		pP	pP		00 13 37.4	-0.6
	1.8nm,0.7s,baz=128,slow=6.8,SNR=2.5					
YKW3	Yellowknife Ar	63.43 340	P	P	00 12 59.2	-0.8
DBIC	Dimbokro	67.56 86	P	P	00 13 26.7	+0.2
	4.2nm,0.6s,mb4.3,baz=278,slow=8.0,SNR=23					
INK	Inuvik	73.14 340	P	P	00 13 59.9	-0.5
	3.6nm,0.8s,mb4.2					
TORD	Torodi Ar. Bea	73.57 78	P	P	00 14 01.7	-1.2
	0.4nm,0.3s,mb3.7,baz=284,slow=6.8,SNR=26					
ILAR	Eielson Array	77.09 335	P	P	00 14 21.4	-1.6
	1.2nm,0.7s,mb3.6,baz=112,slow=4.3,SNR=13					
ILAR		pP	pP		00 15 03.2	+0.5
	0.6nm,0.7s,baz=124,slow=4.1,SNR=3.3					
SML	Sawmill	77.18 332	eP	P	00 14 23.4	-0.1
SLKM	Skilak Lake	77.89 330	P	P	00 14 36.3	+8.9
NOA	NORSAR Array B	81.29 29	P	P	00 14 46.1	+0.3
	1.9nm,0.7s,mb3.8,baz=268,slow=5.3,SNR=7.9					
HFS	Hagfors	82.50 30	P	P	00 14 51.8	-0.3
	1.6nm,0.8s,mb3.8,baz=225,slow=8.2,SNR=4.6					
ARCES	ARCESS Array B	86.66 20	P	P	00 15 11.8	-1.2
	2.8nm,0.8s,mb4.2,baz=281,slow=4.9,SNR=16					
MKAR	Makanchi Array	122.32 20	PKP	PKPdf	00 21 23.4	0.0
	0.4nm,0.4s,baz=299,slow=2.7,SNR=14					
MDJ	Mudanjiang	124.98 340	PKP	PKPdf	00 21 27.6	-0.8
MDJ			XPKP		00 22 26.0	
MDJ			PP	PP	00 23 18.0	-1.0
MDJ			SS	SS	00 40 00.3	-1.4
MDJ			LR	LR		
	comp=N,64nm,28.0s					
MDJ			LR	LR		
	comp=E,48nm,28.0s					
MDJ			LR	LR		
	comp=Z,65nm,25.7s					
SONM	Songino Array	125.64 1	PKP	PKPdf	00 21 30.0	+0.3
	comp=Z,1.0nm,0.6s,baz=323,slow=1.6,SNR=9.8					
WMQ	Urumqi	126.69 17	ePKP	PKPdf	00 21 31.4	-0.3
HHC	Hu-ho-hao-te	132.44 355	ePKP	PKPdf	00 21 42.0	-0.6
HHC			PP	PP	00 24 10.3	+2.5
HHC			PKS		00 25 17.4	
HHC			SKS	SKSdf	00 28 35.5	-3.2
HHC			SKKS	SKKSac	00 30 43.4	-4.3
HHC			SS	SS	00 41 32.5	-1.3
HHC			LR	LR		
	comp=N,64nm,5.1s					
HHC			LR	LR		
	comp=E,98nm,5.1s					
HHC			LR	LR		
	comp=Z,154nm,4.6s					
LZH	Lanzhou	137.27 4	ePKP	PKPdf	00 21 51.5	-0.2
LZH			XPKP		00 22 50.0	
NJ2	Nanjing	139.80 344	ePKP	PKPdf	00 21 55.9	-0.4
SSE	Sheshan	140.00 341	ePKP	PKPdf	00 21 56.1	-0.6
CD2	Chengdu	142.41 5	ePKP	PKPdf	00 21 59.3	-1.7
GYA	Guiyang	146.98 1	PKP	PKPdf	00 22 12.1	+3.2
ASAR	Alice Springs	149.22 234	PKPbc	PKPbc	00 22 16.8	-0.2
	comp=Z,1.1nm,0.4s,baz=114,slow=3.7,SNR=16					
WRA	Warramunga Arr	150.47 241	PKPbc	PKPbc	00 22 17.4	-2.6
	comp=Z,1.5nm,0.5s,baz=108,slow=2.6,SNR=14					

*ISCJB **24** 00:28:23.7±0.4, 4889S±006×1247E±0.1, h10km, mb4.7/21, MS4.2/17, Error ellipse: s-maj=12.8km s-min=8.5km az=14.8*
*IDC **24** 00:28:23.1±0.5, 4882S×12449E, h0km, mb4.6/12, mb1 4.7/12, mb1mx4.7/13, mbtmp4.6/12, MS4.2/17, Ms1 4.2/17, ms1mx4.1/22, Error ellipse: s-maj=25.7km s-min=15.2km az=117.0*
*NEIC **24** 00:28:25.0±0.3, 4891S×12463E, h10km, mb4.7/9, Error ellipse: s-maj=10.9km s-min=7.4km az=96.0*
*BJI **24** 00:28:25.0, 4890S×12460E, h10km, mB5.4, mb5.2, Ms5.3, Msz4.6*
ISC 24 00:28:25.1±0.4, 4892S±006×1247E±01, h10km, (h21km±2.0km:pP-P), n69, σ0§93/33, mb4.7/21, MS4.2/17, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	Tasmania Unive	16.84	78	ePn	Pn	00 32 22.9	+1.9
NWAO	Narrogin (SRO)	16.92	338	Pn	Pn	00 32 22.1	+0.2
	2.8nm,0.3s,baz=158,slow=11,SNR=14						
NWAO				LR	LR	00 37 22.3	
	comp=Z,708nm,19.9s,baz=156,slow=32						
NWAO	Narrogin (SRO)	16.92	338	eP	Pn	00 32 22.9	+0.9
	22nm,0.7s						
MUN	Mundaring	18.08	336	eP	Pn	00 32 37.5	+1.1
MUN				e		00 32 46.2	
MUN	Mundaring	18.08	336	eP	Pn	00 32 37.3	+0.9
FORT	Forrest	18.30	9	eP	Pn	00 32 39.0	-0.1
	41nm,0.8s						
STKA	Stephens Creek	21.27	43	eP	P	00 33 10.6	-1.0
	16nm,0.8s,mb4.4						
STKA	Stephens Creek	21.27	43	P	P	00 33 10.3	-1.3
	19nm,0.7s,mb4.5,baz=199,slow=11,SNR=23						
STKA				LR	LR	00 39 57.5	
	comp=Z,1μm,19.1s,MS4.3,baz=204,slow=33						
ASAR	Alice Springs	26.24	19	P	P	00 33 59.0	-1.2
	13nm,0.8s,mb4.5,baz=200,slow=8.3,SNR=39						
ASAR				PcP	PcP	00 37 25.8	-1.0
	1.6nm,0.6s,baz=186,slow=1.9,SNR=10						
WRA	Warramunga Arr	29.94	18	P	P	00 34 32.4	-0.9
	3.3nm,0.9s,mb4.0,baz=199,slow=8.8,SNR=7.4						
WRA				PcP	PcP	00 37 35.0	-0.8
	3.2nm,0.7s,baz=208,slow=2.4,SNR=11						
WRAB	Tennant Creek	29.95	18	eP	P	00 34 32.9	-0.5
	2.0nm,0.4s,mb4.2						
FITZ	Fitzroy Crossi	30.75	2	eP	P	00 34 41.2	+0.7
	12nm,1.1s,mb4.6						
VNDA	Vanda	32.02	166	P	P	00 34 50.6	-1.0
	5.7nm,0.9s,mb4.4,baz=303,slow=6.7,SNR=15						
VNDA				LR	LR	00 45 02.6	
	comp=Z,338nm,20.8s,MS4.0,baz=320,slow=31						
RPZ	Rata Peaks	32.06	98	LR	LR	00 44 30.8	
	comp=Z,580nm,20.1s,MS4.3,baz=48,slow=30						
MAW	Mawson	35.55	216	P	P	00 35 22.5	+0.1
	15nm,1.0s,mb4.9,baz=59,slow=8.8,SNR=3.6						
MAW				LR	LR	00 45 34.6	
	comp=Z,414nm,21.4s,MS4.2,baz=74,slow=29						
KAKA	Kakadu	36.67	13	eP	P	00 35 30.7	-1.3
	19nm,1.0s,mb4.9						
URZ	Urewera	38.74	94	P	P	00 35 50.7	+1.2
	19nm,1.0s,mb4.8,baz=251,slow=7.9,SNR=3.8						
QSPA	South Pole Qui	41.20	180	eP	P	00 36 10.4	+0.4
	20nm,1.0s,mb4.7						
SNAA	Sanae	54.13	198	P	P	00 37 50.0	-0.3
	15nm,0.9s,mb4.9,baz=147,slow=8.8,SNR=18						
SNAA				LR	LR	00 59 41.1	
	comp=Z,239nm,21.7s,MS4.2,baz=202,slow=35						
SNAA	Sanae	54.13	198	eP	P	00 37 50.3	0.0
	40nm,0.9s,mb5.3						
KULM	Kulim	57.91	331	eP	P	00 38 17.4	+0.1
RAR	Rarotonga	64.92	94	LR	LR	01 00 07.6	
	comp=Z,112nm,20.4s,MS4.0,baz=43,slow=29						
TBI	Tubuai	70.13	103	eLR	LR	01 01 20.5	
	137nm,29.8s						
PPT	Papeete	74.22	99	eLR	LR	01 03 13.7	
	158nm,32.0s						
PPT	Papeete	74.22	99	LR	LR	01 08 07.6	
	comp=Z,187nm,18.3s,MS4.4,baz=211,slow=32						
BOSA	Boshof	74.74	244	P	P	00 40 04.6	-0.6
	5.2nm,0.7s,mb4.6,baz=152,slow=7.0,SNR=13						
BOSA				LR	LR	01 05 40.9	
	comp=Z,176nm,19.6s,MS4.4,baz=141,slow=30						
KMI	Kunming	76.27	340	P	P	00 40 16.1	+2.1
KMI				AP	pP	00 40 21.3	+4.0
KMI				XP	sP	00 40 23.3	+4.8
KMI				PP	PP	00 43 10.4	+5.2
KMI				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.1						
KMI				LR	LR		
	comp=Z,49nm,22.3s,MS3.8						
LBTB	Lobatse	77.19	247	LR	LR	01 07 01.2	
	comp=Z,168nm,20.3s,MS4.3,baz=149,slow=30						
MATP	Matopo	78.80	252	LR	LR	01 08 05.2	
	comp=Z,210nm,19.3s,MS4.5,baz=66,slow=30						
LSZ	Lusaka	82.82	255	LR	LR	01 10 54.7	
	comp=Z,222nm,19.8s,MS4.5,baz=169,slow=31						
LSZ	Lusaka	82.82	255	eP	P	00 40 50.5	+0.8
	comp=Z,11nm,1.0s,mb4.8						
LSA	Lhasa	83.80	331	eP	P	00 40 54.9	+0.2
LSA	Lhasa	83.80	331	eP	P	00 40 55.4	+0.8
	comp=Z,4.9nm,0.6s,mb4.8						
MJAR	Matsushiro Arr	85.93	11	P	P	00 41 04.5	-0.9
	comp=Z,5.2nm,0.8s,mb4.8,baz=188,slow=6.1,SNR=10						
MJAR				LR	LR	01 17 18.3	
	comp=Z,87nm,20.2s,MS4.1,baz=55,slow=34						
MJAR	Matsushiro Arr	85.93	11	P	P	00 41 04.5	-0.9
MJAR				LR	LR	01 17 18.2	
TSUM	Tsumeb	86.41	245	LR	LR	01 13 39.1	
	comp=Z,170nm,18.3s,MS4.5,baz=146,slow=32						
LZH	Lanzhou	86.64	343	eP	P	00 41 09.9	+1.0
LZH				AP	pP	00 41 16.1	+3.9
LZH				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,170nm,4.9s						
KMBO	Kilima Mbogo	87.45	271	P	P	00 41 11.7	-1.1
	comp=Z,0.5nm,0.6s,mb3.9,baz=34,slow=23,SNR=3.2						
KMBO				LR	LR	01 11 48.9	
	comp=Z,74nm,21.4s,MS4.1,baz=98,slow=30						
PLCA	Paso Flores	89.72	168	P	P	00 41 23.5	0.0
	comp=Z,5.2nm,1.1s,mb4.8,baz=121,slow=4.4,SNR=3.6						
PLCA				LR	LR	01 18 37.2	
	comp=Z,138nm,19.7s,MS4.4,baz=177,slow=34						
PLCA	Paso Flores	89.72	168	P	P	00 41 23.5	-0.1
PLCA				LR	LR	01 18 37.2	
GTA	Gaotai	90.66	341	eP	P	00 41 27.6	-0.3
GTA				AP	pP	00 41 35.3	+4.0
GTA				XP	sP	00 41 38.8	+6.3
GTA				AMB	AMB		
	comp=Z,5.0nm,2.0s,mb4.5						
ASAJ	Asahikawa	93.97	13	LR	LR	01 20 33.4	
	comp=Z,86nm,20.8s,MS4.2,baz=310,slow=33						
SONM	Songino Array	97.66	348	P	P	00 41 59.5	-0.6
	comp=Z,0.5nm,0.7s,mb4.1,baz=167,slow=4.2,SNR=5.2						
BRVK	Borovoye	111.55	328	ePKiKP	PKiKP	00 46 55.9	-3.9
BRTR	Keskin Array B	119.18	298	PKP	PKPdf	00 47 12.7	-1.7
	comp=Z,0.8nm,0.6s,baz=151,slow=4.7,SNR=5.4						
TORD	Torodi Ar. Bea	121.30	253	PKP	PKPdf	00 47 17.7	-0.8
	comp=Z,1.7nm,0.9s,baz=95,slow=1.5,SNR=10						
TORD				PP	PP	00 48 45.8	-3.4
	comp=Z,0.7nm,1.1s,baz=134,slow=6.2,SNR=2.5						
OTAV	Otavalo	127.57	150	ePKPdf	PKPdf	00 47 31.5	+1.0
AKASG	Malin Array Be	128.30	306	PKP	PKPdf	00 47 29.4	-2.5
	comp=Z,0.2nm,0.3s,baz=99,slow=2.0,SNR=5.6						
MCK	McKinley	130.89	36	ePKPdf	PKPdf	00 47 35.6	-1.2
ILAR	Eielson Array	132.17	35	PKP	PKPdf	00 47 37.0	-2.2
	comp=Z,1.2nm,0.6s,baz=278,slow=3.5,SNR=21						
NVAR	Mina Array Bea	134.48	79	PKP	PKPdf	00 47 45.8	+2.3
	comp=Z,1.0nm,0.7s,baz=224,slow=5.0,SNR=3.8						
FINES	FINESS Array B	134.95	318	PKP	PKPdf	00 47 42.8	-1.6
	comp=Z,1.5nm,0.7s,baz=145,slow=4.7,SNR=6.6						
GERES	GERESS Array B	136.07	297	PKP	PKPdf	00 47 44.6	-1.9
	comp=Z,0.8nm,0.7s,baz=180,slow=1.3,SNR=5.3						
INK	Inuvik	138.41	33	ePKPdf	PKPdf	00 47 44.4	-6.4
MVU	Marysvale	138.48	82	ePKPdf	PKPdf	00 47 50.0	-1.0
NOA	NORSAR Array B	141.66	314	PKP	PKPdf	00 47 56.2	-0.5
	comp=Z,0.6nm,0.8s,baz=100,slow=2.4,SNR=3.9						
CHMT	Chamberlain Mo	141.94	70	ePKPdf	PKPdf	00 47 52.6	-4.6
EDM	Edmonton	144.16	61	ePKPdf	PKPdf	00 47 58.6	-2.5
WMOK	Wichita Mounta	145.16	98	ePKPbc	PKPbc	00 48 02.0	-0.4
YKA	Yellowknife Ar	145.30	45	PKPbc	PKPbc	00 48 01.5	-1.4
	comp=Z,20nm,0.8s,baz=271,slow=3.3,SNR=342						
YKW3	Yellowknife Ar	145.30	44	ePKPbc	PKPbc	00 48 01.8	-1.1
LAO	LASA Array	146.26	74	ePKP	PKPdf	00 48 04.7	-0.1
KSU1	Kansas State U	149.07	93	ePKP	PKPdf	00 48 12.1	+2.7
RES	Resolute Bay	149.28	19	ePKP	PKPdf	00 48 12.0	+2.3
FFC	Flin Flon	151.03	61	ePKPbc	PKPbc	00 48 17.4	-0.9
OXF	Oxford	151.05	107	ePKPdf	PKPdf	00 48 11.0	-1.6
OXF				ePKPbc	PKPbc	00 48 17.2	-1.1
PLAL	Pickwick Lake	152.19	108	ePKPdf	PKPdf	00 48 13.2	-1.1
PLAL				ePKPbc	PKPbc	00 48 19.9	-1.0
ULM	Lac du Bonnet	153.90	72	PKPbc	PKPbc	00 48 22.5	-2.2
	comp=Z,2.6nm,0.9s,baz=268,slow=1.8,SNR=5.7						
WCI	Wyandotte Cave	155.32	104	ePKPdf	PKPdf	00 48 18.2	-0.5

*ISCJB **24** 00:39:01.7±0.7, 2331S±005×6782W±009, h121km±10km, mb4.0/5, Error ellipse: s-maj=14.2km s-min=7.1km az=23.6*
*IDC **24** 00:39:02.7±1.0, 2328S×6790W, h121km±12km, mb3.9/4, mb1 3.9/6, mb1mx3.7/16, mbtmp4.3/6, Error ellipse: s-maj=22.6km s-min=16.5km az=79.0*
*NEIC **24** 00:39:04.8, 2340S×6824W, h150km, mb4.0/4, After GUC.*
*GUC **24** 00:39:04.8±0.7, 2340S×6824W, h150km, ML4.1*
ISC 24 00:39:03.0±0.6, 2331S±004×6782W±008, h112km±9km, n21, σ1§25/32, mb4.0/5, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.22	304	P	Pn	00 39 27.9	+1.2
	228nm,0.3s,baz=124,slow=7.7,SNR=7881						
LVC				S	Sn	00 39 44.6	-0.1
	408nm,0.3s,baz=227,slow=22,SNR=218						
LVC	Limon Verde	1.22	304	P	Pn	00 39 27.9	+1.1
LVC				S	Sn	00 39 44.6	-0.1
CEN1	Los Morros	2.19	267	⇓iP	Pn	00 39 40.0	+1.5
CEN1				i S	Sn	00 40 06.6	+0.9
CEN1				AMP		00 40 07.9	
	comp=N,444nm,0.7s						
ANCH	Antofagasta	2.41	261	⇑iP	Pn	00 39 38.2	-3.1
ANCH				i S	Sn	00 40 05.1	-5.5
ANCH				AMP		00 40 07.0	
	comp=N,1μm,0.1s						
ANCH	Antofagasta	2.41	261	⇑iP	Pn	00 39 38.2	-3.1
ANCH				i S	Sn	00 40 05.1	-5.5
CPN1	Cerro Paranal	2.71	240	⇑iP	Pn	00 39 45.9	+0.7
CPN1				i S	Sn	00 40 17.0	-0.6
CPN1				AMP		00 40 17.4	
	comp=E,890nm,0.4s						
CRCH	Chaqaral	3.96	220	⇑iP	Pn	00 40 02.0	+0.2
CRCH				i S	Sn	00 40 45.4	-1.9
CRCH				AMP		00 40 51.6	
	comp=N,420nm,0.2s						
CRCH	Chaqaral	3.96	220	⇑iP	Pn	00 40 02.0	+0.2
CRCH				i S	Sn	00 40 45.4	-1.9
LPAZ	La Paz	6.99	358	P	Pn	00 40 42.8	+0.1
	comp=N,0.8nm,0.3s,baz=189,slow=8.3,SNR=16						
CFAA	Coronel Fontan	8.27	182	P	Pn	00 41 00.9	+0.7
	comp=N,0.1nm,0.3s,baz=355,slow=11,SNR=8.2						
CFAA				S	Sn	00 42 30.7	-1.2
	comp=N,0.3nm,0.3s,baz=248,slow=21,SNR=9.6						
CFAA	Coronel Fontan	8.27	182	P	Pn	00 41 00.9	+0.7
CFAA				S	Sn	00 42 30.7	-1.2
SIV	San Ignacio	9.66	42	P	Pn	00 41 17.2	-1.8
	comp=N,8.7nm,0.3s,baz=252,slow=11,SNR=150						
SIV				S	Sn	00 43 00.1	-5.4
	comp=N,0.8nm,0.3s,baz=143,slow=23,SNR=4.8						
SAML	Samuel	14.95	18	ePn	Pn	00 42 25.1	-3.3
	comp=N,0.6nm,0.4s						
TRQA	Tornquist	15.53	163	Pn	Pn	00 42 37.1	+1.4
	comp=N,3.0nm,0.5s						
BDFB	Brasilia	20.15	71	P	P	00 43 28.6	+0.3
	comp=N,9.1nm,0.5s,baz=253,slow=11,SNR=20						
SDV	Santo Domingo	32.11	355	eP	P	00 45 19.2	-0.3
	comp=N,1.1nm,0.4s,mb3.9						
RCBR	Riachuelo	35.30	66	eP	P	00 45 49.8	+2.6
QSPA	South Pole Qui	66.89	180	eP	P	00 49 44.5	+1.4
	comp=N,4.2nm,0.5s,mb4.5						
DBIC	Dimbokro	68.30	72	P	P	00 49 51.8	-0.1
	comp=N,2.7nm,0.6s,mb4.2,baz=219,slow=6.5,SNR=8.7						
PDAR	Pinedale Array	76.17	330	P	P	00 50 37.1	-1.7
	comp=N,0.3nm,0.6s,mb3.2,baz=128,slow=7.0,SNR=3.2						
TORD	Torodi Ar. Bea	77.02	69	P	P	00 50 43.4	-0.2
	comp=N,2.1nm,0.3s,mb4.3,baz=257,slow=5.8,SNR=72						

*ISCJB **24** 00:43:02.1±0.8, 2134S±007×6704W±009, h174km±12km, mb3.9/2, Error ellipse: s-maj=14.0km s-min=10.1km az=51.0*
*NEIC **24** 00:43:03.0±0.9, 2134S×6704W, h177km±13km, mb4.5/1, Error ellipse: s-maj=16.8km s-min=15.1km az=91.0*
*IDC **24** 00:43:02.9±1.0, 2130S×67.11W, h165km±16km, mb3.3/1, mb1 3.3/4, mb1mx3.1/17, mbtmp3.7/4, Error ellipse: s-maj=29.0km s-min=11.7km az=116.0*
ISC 24 00:43:03.2±0.8, 2133S±007×6702W±008, h164km±11km, n8, σ0§97/10, mb3.9/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.17	234	P	Pn	00 43 41.6	+0.5
	10nm,0.3s,baz=37,slow=9.0,SNR=7.0						
LVC				S	Sn	00 44 09.8	-0.5
	6.0nm,0.3s,baz=223,slow=21,SNR=9.3						
LPAZ	La Paz	5.12	348	P	Pn	00 44 19.7	+1.3
	0.5nm,0.3s,baz=214,slow=9.8,SNR=7.1						
LPAZ				S	Sn	00 45 17.1	-0.2
	0.2nm,0.3s,baz=265,slow=23,SNR=3.8						
SIV	San Ignacio	7.75	48	P	Pn	00 44 54.5	+1.4
	3.0nm,0.3s,baz=248,slow=9.0,SNR=11						
SIV				S	Sn	00 46 19.2	-0.5
	0.2nm,0.3s,baz=144,slow=22,SNR=4.3						
CPUP	Villa Florida	10.17	121	eP	Pn	00 45 24.6	-0.5
SAML	Samuel	12.85	17	eP	Pn	00 45 57.7	-2.2
JTS	JuntasAbangare	36.02	329	eP	P	00 49 48.2	-0.4
	9.0nm,0.8s,mb4.5						
TORD	Torodi Ar. Bea	75.64	70	P	P	00 54 30.8	+0.7
	0.3nm,0.4s,mb3.3,baz=254,slow=5.5,SNR=9.1						
MKAR	Makanchi Array	144.45	37	PKP	PKPdf	01 02 18.1	-1.7
	0.2nm,0.5s,baz=308,slow=6.0,SNR=3.8						

CASC 24 00:50:58.4±2.6, 1384N×9132W, h22km±16km, MD3.6, ML3.7, 6C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.57	327	⇑eP	Pb	00 51 10.3	+0.6
FUG	Fuego 3	0.77	37	eP	Pb	00 51 14.1	+1.1
IXG	Ixpaco	0.90	68	⇓eP	Pb	00 51 15.4	+0.1
IXG				eS	Sb	00 51 28.9	+1.9
IXG				AML	AML	00 51 34.5	
	comp=E,6μm,0.4s						
TP2	Tecpan 2	0.99	17	eP	Pb	00 51 16.3	-0.5
TP2				eS	Sb	00 51 30.9	+1.6
TP2				AML	AML	00 51 31.9	
	comp=E,2μm,0.3s						
RBDL	Robledal	1.61	80	⇑eP	Pn	00 51 16.4	-9.1
RBDL				eS	Sn	00 51 38.3	-7.3
SBLS	San Blas	1.65	90	⇑eP	Pn	00 51 16.6	-9.4
SBLS				eS	Sn	00 51 38.0	-8.5
SNJE	San Jose	1.66	89	⇑eP	Pn	00 51 17.0	-9.2
SNJE				eS	Sn	00 51 37.8	-9.2
MTO2	Montecristo 2	1.98	73	⇑eP	Pn	00 51 20.6	-10
MTO2				eS	Sn	00 51 46.2	-8.6
BOQS	Boqueron	1.98	93	eP	Pn	00 51 21.4	-9.3
BOQS				eS	Sn	00 51 46.4	-8.4
MRL	Marmol	2.00	52	eP	Pn	00 51 31.2	+0.4
MRL				AML	AML	00 52 04.5	
	comp=E,134nm,0.6s						
LFRS	El Faro	2.20	95	⇑eP	Pn	00 51 24.6	-9.1
LFRS				eS	Sn	00 51 52.5	-7.8
LCBS	La Ceiba	2.28	94	eP	Pn	00 51 25.5	-9.2
LCBS				eS	Sn	00 51 54.4	-7.8

*NIED **24** 01:04:00, 2240N×12560E, h5km, Mw4.0 Best double couple: M0:1.26000×10^15 NP1:φ0s315.00000°, δ74.00000°, λ-34.00000°. NP2:φ0s55.00000°, δ58.00000°, λ-161.00000°.*
*IDC **24** 01:04:07.7±0.7, 2216N×12589E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.1/10, ML4.2/1, MS3.4/2, Ms1 3.5/2, ms1mx2.8/23, Error ellipse: s-maj=36.1km s-min=15.0km az=76.0*
*ISCJB **24** 01:04:09.6±1.6, 2232N±003×12585E±004, h33km±13km, mb

MKAR Makanchi Array 42.61 316 P **P 01 12 06.5 +1.6**
3.7nm,0.7s,mb4.2,baz=106,slow=8.9,SNR=21
WRAB Tennant Creek 42.84 168 *e*P **P 01 12 05.8 -0.9**
48nm,0.6s
WRA Warramunga Arr 42.85 168 P **P 01 12 06.0 -0.8**
45nm,0.6s,baz=347,slow=9.2,SNR=160
WB2 Warramunga Arr 42.85 168 ⇑*i*P **P 01 12 06.2 -0.6**
MBWA Marble Bar 43.65 188 *e*P **P 01 12 11.1 -2.1**
KURK Kurchatov 46.22 320 *e*P **P 01 12 35.8 +2.1**
1.1nm,0.4s,mb4.1
ASAR Alice Springs 46.41 170 P **P 01 12 35.3 +0.1**
5.0nm,0.4s,mb4.8,baz=352,slow=12,SNR=91
BVAR Borovoye Array 51.78 321 P **P 01 13 17.5 +1.2**
1.0nm,0.6s,mb3.9,baz=107,slow=8.5,SNR=8.6
CHKZ Chkalovo 51.81 322 *e*P **P 01 13 20.3 +3.8**
2.7nm,0.8s,mb4.2
BRVK Borovoye 51.85 321 *e*P **P 01 13 18.4 +1.6**
1.9nm,0.8s,mb4.1
ZRNK Zerenda 52.57 320 *e*P **P 01 13 24.2 +2.0**
3.4nm,0.8s,mb4.3
STKA Stephens Creek 56.00 164 P **P 01 13 45.0 -2.2**
4.5nm,0.8s,mb4.5,baz=82,slow=2.8,SNR=5.8
FINES FINESS Array B 75.14 331 P **P 01 15 52.7 +1.9**
1.3nm,1.0s,mb3.8,baz=57,slow=7.0,SNR=5.0
HFS Hagfors 81.20 332 P **P 01 16 26.8 +2.5**
2.1nm,0.8s,mb4.1,baz=339,slow=3.7,SNR=3.9
NOA NORSAR Array B 81.79 333 P **P 01 16 31.0 +3.5**
0.4nm,0.6s,mb3.5,baz=57,slow=5.0,SNR=2.3
NOA LR LR 01 57 06.6
comp=Z,32nm,19.1s,MS3.7,baz=310,slow=39
YKA Yellowknife Ar 82.96 24 P **P 01 16 35.7 +2.2**
1.0nm,0.8s,mb3.9,baz=302,slow=5.2,SNR=13
YKA Yellowknife Ar 82.96 24 P **P 01 16 35.7 +2.1**

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*IDC **24** 01:42:43.5±2.6, 2800N×5707E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.4/22, mbtmp3.5/7, Error ellipse: s-maj=54.0km s-min=30.1km az=153.0*
*ISCJB **24** 01:42:49.3±0.8, 2828N±006×5677E±010, h18km, mb3.5/8, Error ellipse: s-maj=13.3km s-min=7.0km az=53.3*
*CSEM **24** 01:42:50.1±0.1, 2819N×5680E, h16km, ML3.8/3, Error ellipse: s-maj=2.6km s-min=1.6km az=125.0*
*NEIC **24** 01:42:50.1, 2820N×5679E, h18km, mb3.5/2, ML3.0(THR), After THR.*
*THR **24** 01:42:50.1±0.5, 2819N×5679E, h18km±3km, ML3.0*
ISC 24 01:42:48.3±0.6, 2817N±005×5692E±006, h18km, n27, σ19.17/36, mb3.5/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.02**	**221**	*e*PG	**Pg**	**01 43 08.3**	**+0.3**
BNDS				*e*SG	**Sg**	**01 43 21.8**	**+0.5**
BNDS				AML	AML	01 43 25.3	
	comp=E,631nm,0.5s						
BNDS				AML	AML	01 43 26.6	
	comp=N,433nm,0.6s						
BNDS	**Bandar-Abbas**	**1.02**	**221**	*e*Pg	**Pg**	**01 43 08.3**	**+0.3**
	SNR=93						
BNDS				*e*Sg	**Sg**	**01 43 21.8**	**+0.5**
	comp=N,433nm,0.6s,SNR=93						
BNDS	**Bandar-Abbas**	**1.02**	**221**	*e*Pg	**Pg**	**01 43 08.0**	**0.0**
BNDS				*e*Sg	**Sg**	**01 43 21.0**	**-0.3**
KRBR	**Kerman**	**1.81**	**356**	*e*PG	**Pg**	**01 43 22.8**	**-0.3**
KRBR				*e*SG	**Sg**	**01 43 47.0**	**+0.4**
KRBR				AML	AML	01 43 52.6	
	comp=N,346nm,0.4s						
KRBR	**Kerman**	**1.81**	**356**	*e*Pg	**Pg**	**01 43 22.8**	**-0.3**
	SNR=91						
KRBR				*e*Sg	**Sg**	**01 43 47.0**	**+0.4**
	comp=N,346nm,0.4s,SNR=91						
KRBR	**Kerman**	**1.81**	**356**	*e*Pg	**Pg**	**01 43 22.0**	**-1.1**
KRBR				*e*Sg	**Sg**	**01 43 46.0**	**-0.6**
GHIR	**Ghir-Karzin**	**3.47**	**273**	*e*PN	**Pn**	**01 43 43.9**	**+2.5**
GHIR				AML	AML	01 45 04.8	
	comp=E,24nm,0.4s						
GHIR				AML	AML	01 45 05.0	
	comp=N,21nm,0.8s						
GHIR	**Ghir-Karzin**	**3.47**	**273**	*e*Pn	**Pn**	**01 43 43.0**	**+1.6**
ZHSF	**Zahedan**	**3.67**	**66**	*e*PN	**Pn**	**01 43 49.4**	**+5.3**
ZHSF				*e*SG	**Sg**	**01 44 47.4**	**+1.2**
ZHSF				AML	AML	01 44 58.9	
	comp=E,19nm,0.6s						
ZHSF				AML	AML	01 45 00.5	
	comp=N,13nm,0.6s						
ZHSF	**Zahedan**	**3.67**	**66**	*e*Pn	**Pn**	**01 43 49.4**	**+5.3**
	SNR=52						
ZHSF				*e*Sg	**Sg**	**01 44 47.4**	**+1.2**
	comp=N,13nm,0.6s,SNR=91						
ZHSF	**Zahedan**	**3.67**	**66**	*e*Pn	**Pn**	**01 43 49.0**	**+4.9**
ZHSF				*e*Sg	**Sg**	**01 44 47.0**	**+0.8**
NASN	**Na'in**	**5.82**	**323**	*e*Pn	**Pn**	**01 44 17.0**	**+3.3**
MALT	**Malatya**	**18.45**	**308**	*e*P	**Pn**	**01 47 03.4**	**+0.4**
	comp=N,0.6nm,0.4s						
MALT	**Malatya**	**18.45**	**308**	*e*P	**Pn**	**01 47 03.4**	**+0.4**
	comp=N,0.6nm,0.4s						
CSS	**Prodhromos**	**21.18**	**295**	*e*P	**P**	**01 47 32.2**	**-0.4**
	comp=N,1.5nm,0.4s,mb3.7						
CSS	**Prodhromos**	**21.18**	**295**	*e*P	**P**	**01 47 32.2**	**-0.4**
	comp=N,1.5nm,0.4s,mb3.7						
AKTK	**Aktyubinsk**	**22.25**	**2**	P	**P**	**01 47 44.8**	**+0.7**
AKTK	**Aktyubinsk**	**22.25**	**2**	P	**P**	**01 47 44.8**	**+0.7**
AKTO	**Aktyubinsk**	**22.25**	**2**	P	**P**	**01 47 44.8**	**+0.7**
	comp=N,1.1nm,0.7s,mb3.4,baz=184,slow=16,SNR=3.9						
BRTR	**Keskin Array B**	**22.42**	**307**	P	**P**	**01 47 47.8**	**+1.9**
	comp=N,0.6nm,0.7s,mb3.1,baz=97,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**27.21**	**40**	P	**P**	**01 48 29.8**	**-1.2**
	comp=N,0.4nm,0.7s,mb3.0,baz=234,slow=7.4,SNR=5.1						
GVD	**Gavdhos**	**28.69**	**292**	P	**P**	**01 48 43.0**	**-1.1**
FINES	**FINESS Array B**	**39.10**	**337**	P	**P**	**01 50 12.6**	**-1.8**
	comp=N,1.0nm,0.6s,mb3.7,baz=131,slow=10,SNR=7.4						
KAF	**Kangasniemi**	**39.49**	**338**	*e*p	**P**	**01 50 18.6**	**+0.9**
NOA	**NORSAR Array B**	**44.74**	**330**	P	**P**	**01 50 58.5**	**-2.0**
	comp=N,1.2nm,1.0s,mb3.7,baz=119,slow=8.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**53.37**	**266**	P	**P**	**01 52 06.1**	**-0.5**
	comp=N,0.5nm,0.7s,mb3.6,baz=65,slow=8.0,SNR=4.4						
YKA	**Yellowknife Ar**	**89.40**	**356**	P	**P**	**01 55 42.6**	**-1.3**
	comp=N,0.2nm,0.7s,mb3.6,baz=0.7,slow=5.8,SNR=6.5						

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*ISCJB **24** 02:00:17.8±0.6, 3973N±003×2363E±007, h17km±7km, Error ellipse: s-maj=9.1km s-min=4.8km az=42.3*
*ATH **24** 02:00:17.3, 3980N×2356E, h29km±2km, MD2.8/4*
*NEIC **24** 02:00:17.3, 3980N×2356E, h29km, MD2.8(ATH), After ATH.*
*CSEM **24** 02:00:18.0±0.1, 3980N×2357E, h15km, ML2.3, Error ellipse: s-maj=2.9km s-min=1.8km az=110.0*
*THE **24** 02:00:18.3, 3977N×2359E, h9km, ML2.3*
ISC 24 02:00:18.0±0.5, 3979N±003×2356E±006, h15km±5km, n14, σ0.67/21, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.16**	**35**	*e*Pg	**Pg**	**02 00 21.8**	**-0.3**
PAIG				*e*Sg	**Sg**	**02 00 24.7**	**-0.2**
XOR	**Xorichti**	**0.51**	**214**	*e*Pg	**Pg**	**02 00 28.7**	**+0.6**
XOR				*e*Sg	**Sg**	**02 00 34.6**	**-0.4**
NEO	**Neokhori**	**0.55**	**208**	*e*PN	**Pg**	**02 00 29.1**	**+0.3**
NEO				*e*SN	**Sg**	**02 00 37.1**	**+0.9**
PLG	**Polygyros**	**0.59**	**352**	⇑*i*PN	**Pg**	**02 00 29.1**	**-0.4**
PLG				*e*SN	**Sg**	**02 00 37.0**	**-0.3**
OUR	**Ouranopolis**	**0.63**	**31**	*e*Pg	**Pg**	**02 00 30.4**	**+0.1**
SOH	**Sokhos**	**1.04**	**351**	*e*Pg	**Pg**	**02 00 38.9**	**+0.9**
SOH				*e*Sg	**Sg**	**02 00 53.5**	**+1.9**
LKR	**Lokris**	**1.22**	**201**	*e*PN	**Pn**	**02 00 40.1**	**-0.3**
AGG	**Agios Georgios**	**1.22**	**231**	*e*Pg	**Pg**	**02 00 40.7**	**-0.8**
LIA	**Limnos Island**	**1.26**	**85**	*e*PN	**Pn**	**02 00 41.1**	**+0.2**
SRS	**Serrai**	**1.32**	**1**	*e*Pg	**Pg**	**02 00 42.3**	**-1.1**
SRS				*e*Sg	**Sg**	**02 01 00.7**	**+0.1**
GRG	**Griva**	**1.46**	**323**	*e*Pg	**Pg**	**02 00 44.8**	**-1.2**
GRG				*e*Sg	**Sg**	**02 01 05.1**	**+0.1**
NVR	**Nevrokopi**	**1.57**	**8**	*e*PN	**Pn**	**02 00 45.7**	**+0.4**
RDO	**Rodhopi**	**2.03**	**48**	*e*PN	**Pn**	**02 00 51.3**	**-0.2**
PRK	**Paraskevi**	**2.17**	**104**	*e*PN	**Pn**	**02 00 53.5**	**0.0**

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*ISCJB **24** 02:03:20.4±0.8, 3935N±004×2066E±005, h10km, Error ellipse: s-maj=7.2km s-min=4.7km az=86.4*
*SKO **24** 02:03:21.0, 3915N×2070E, h22km*
*ATH **24** 02:03:21.5, 3961N×2085E, h33km±8km, MD3.1/3*
*THE **24** 02:03:22.6, 3935N×2079E, h3km*
*CSEM **24** 02:03:23.1±0.2, 3947N×2079E, h10km, MD3.1, Error ellipse: s-maj=5.0km s-min=3.9km az=23.0*

ISC 24 02:03:19.6±1.2, 3931N±005×2062E±006, h1km±7km, n11, σ0.91/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.31**	**315**	*e*Pg	**Sg**	**02 03 30.5**	**+0.8**
JAN	**Janina**	**0.39**	**27**	*e*PB	**Pg**	**02 03 27.5**	**+0.5**
JAN				*e*SB	**Sg**	**02 03 31.0**	**-1.1**
KEK	**Kerkira**	**0.75**	**303**	*e*PN	**Pn**	**02 03 37.5**	**+0.2**
LSK	**Leskovik**	**0.84**	**359**	*e*Pn	**Pn**	**02 03 36.6**	**-1.9**
EVR	**Evrytania**	**1.00**	**113**	*e*PN	**Pn**	**02 03 40.5**	**-0.3**
EVR				*e*SN	**Sn**	**02 03 55.0**	**-0.6**
AGG	**Agios Georgios**	**1.36**	**102**	*e*Pg	**Pg**	**02 03 45.5**	**-0.2**
AGG				*e*Sg	**Sg**	**02 04 04.8**	**+1.4**
FNA	**Florina**	**1.58**	**21**	*e*Pg	**Pg**	**02 03 48.7**	**-1.2**
FNA				*e*Sg	**Sg**	**02 04 10.8**	**+0.4**
BIA	**Bitola**	**1.79**	**17**	*e*Pb	**Pb**	**02 03 52.7**	**-0.5**
BIA				*e*Sb	**Sb**	**02 04 15.9**	**-0.2**
BIA	**Bitola**	**1.79**	**17**	*e*Pn	**Pn**	**02 03 51.9**	**+0.3**
BIA				*i* Sn	**Sn**	**02 04 16.9**	**+1.9**
BIA	**Bitola**	**1.79**	**17**	*e*Pn	**Pn**	**02 03 51.9**	**+0.3**
BIA				*i* Sn	**Sn**	**02 04 16.8**	**+1.9**
GRG	**Griva**	**2.14**	**39**	*e*Pn	**Pn**	**02 03 56.8**	**+0.4**

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*IDC **24** 02:11:11.7±0.6, 4840N×12709E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.3/21, mbtmp4.3/13, MS3.3/1, Ms1 3.3/1, ms1mx2.4/29, Error ellipse: s-maj=33.4km s-min=13.1km az=80.0*
*ISCJB **24** 02:11:20.4±5.2, 4770N±007×1270E±02, h81km±49km, mb4.3/25, Error ellipse: s-maj=25.8km s-min=10.9km az=159.1*
*NEIC **24** 02:11:25.8±4.0, 4720N×12698E, h117km±38km, mb4.3/12, Error ellipse: s-maj=17.3km s-min=7.1km az=72.0*
*BJI **24** 02:11:26.4, 5000N×12688E, h101km, mB5.0, mb4.7*
ISC 24 02:11:26.6±5.1, 4740N±007×1271E±02, h124km±48km, n31, σ0.72/30, mb4.3/25, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.63**	**62**	LR	LR	02 21 27.7	
	comp=Z,88nm,21.6s,baz=176,slow=32						
FITZ	**Fitzroy Crossi**	**22.74**	**184**	*e*P	**P**	**02 16 17.3**	**-0.9**
	21nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**22.74**	**184**	P	**P**	**02 16 17.0**	**-1.2**
	12nm,0.8s,mb4.3,baz=11,slow=9.5,SNR=15						
WRAB	**Tennant Creek**	**25.54**	**164**	*e*P	**P**	**02 16 44.3**	**+0.7**
	19nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**25.54**	**164**	P	**P**	**02 16 43.9**	**+0.3**
	7.4nm,0.8s,mb4.2,baz=344,slow=10,SNR=22						
WB2	**Warramunga Arr**	**25.55**	**164**	*e*P	**P**	**02 16 43.8**	**+0.1**
CBIJ	**Chichi jima**	**26.50**	**31**	P	**P**	**02 16 51.0**	**-1.2**
	74nm,0.8s,mb5.2,baz=306,slow=20,SNR=4.1						
MBWA	**Marble Bar**	**26.72**	**195**	*e*P	**P**	**02 16 54.3**	**0.0**
	12nm,1.0s,mb4.4						
NJ2	**Nanjing**	**28.25**	**345**	*e*P	**P**	**02 17 09.6**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
ASAR	**Alice Springs**	**29.00**	**167**	P	**P**	**02 17 14.9**	**+0.4**
	comp=Z,1.3nm,0.6s,mb3.7,baz=15,slow=9.1,SNR=10						
BJT	**Baijiatuan**	**36.48**	**346**	*e*P	**P**	**02 18 19.9**	**+0.3**
	comp=Z,8.3nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**38.60**	**193**	P	**P**	**02 18 38.1**	**+0.6**
	comp=Z,8.9nm,0.9s,mb4.6,baz=24,slow=7.6,SNR=6.0						
STKA	**Stephens Creek**	**38.95**	**160**	P	**P**	**02 18 38.8**	**-1.6**
	comp=Z,7.1nm,0.7s,mb4.6,baz=334,slow=7.7,SNR=21						
STKA	**Stephens Creek**	**38.95**	**160**	*e*P	**P**	**02 18 39.5**	**-0.8**
ULN	**Ulaanbaatar**	**46.28**	**341**	*e*P	**P**	**02 19 40.4**	**+0.9**
	comp=Z,1.9nm,0.6s,mb4.0						
SONM	**Songino Array**	**46.46**	**341**	P	**P**	**02 19 40.6**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.6,baz=155,slow=8.7,SNR=8.6						
MKAR	**Makanchi Array**	**56.93**	**325**	P	**P**	**02 20 57.8**	**-0.9**
	comp=Z,1.6nm,0.6s,mb4.2,baz=125,slow=7.5,SNR=13						
KURK	**Kurchatov**	**61.09**	**327**	*e*P	**P**	**02 21 27.1**	**-0.2**
	comp=Z,7.0nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**66.67**	**327**	P	**P**	**02 22 04.6**	**+0.6**
	comp=Z,3.5nm,0.7s,mb4.3,baz=144,slow=7.6,SNR=14						
BRVK	**Borovoye**	**66.74**	**327**	*e*P	**P**	**02 22 03.9**	**-0.5**
	comp=Z,3.2nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**66.83**	**327**	*e*P	**P**	**02 22 03.7**	**-1.2**
	comp=Z,1.7nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**67.40**	**326**	*e*P	**P**	**02 22 08.2**	**-0.4**
	comp=Z,4.7nm,0.7s,mb4.4						
KDAK	**Kodiak Island**	**80.86**	**32**	P	**P**	**02 23 27.2**	**+0.6**
	comp=Z,5.6nm,0.7s,mb4.5,baz=214,slow=7.3,SNR=5.1						
MCK	**McKinley**	**83.11**	**26**	*e*P	**P**	**02 23 39.0**	**+0.6**
	comp=Z,1.7nm,0.8s,mb3.9						
COLA	**College**	**83.64**	**25**	*e*P	**P**	**02 23 41.4**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**84.05**	**25**	P	**P**	**02 23 42.9**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.9,baz=245,slow=5.0,SNR=17						
VNDA	**Vanda**	**84.38**	**173**	P	**P**	**02 23 46.0**	**+1.1**
	comp=Z,1.2nm,0.9s,mb3.7,baz=360,slow=11,SNR=4.2						
VNDA	**Vanda**	**84.38**	**173**	*e*P	**P**	**02 23 44.7**	**-0.2**
	comp=Z,1.7nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**89.65**	**310**	P	**P**	**02 24 10.4**	**0.0**
	comp=Z,1.3nm,0.9s,mb4.0,baz=116,slow=5.6,SNR=4.8						
FINES	**FINESS Array B**	**91.11**	**332**	P	**P**	**02 24 17.4**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.9,baz=169,slow=36,SNR=3.3						
FINES	**FINESS Array B**	**91.11**	**332**	P	**P**	**02 24 17.4**	**+0.2**

IDC 24 02:29:24.1±5.6, 2429N×14186E, h148km±118km, mb3.2/3, mb1 3.4/4, mb1mx3.1/19, mbtmp3.8/4, ML4.3/1, Error ellipse: s-maj=247.8km s-min=23.5km az=73.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.81**	**6**	P	Pn	02 30 10.1	+1.2
	50nm,0.3s,baz=177,slow=4.4,SNR=29						
CBIJ				S	Sn	02 30 43.9	+0.4
	86nm,0.3s,baz=290,slow=23,SNR=22						
WRA	**Warramunga Arr**	**44.57**	**190**	P	P	02 37 21.2	0.0
	2.1nm,0.7s,baz=10.0,slow=8.6,SNR=6.4						
ASAR	**Alice Springs**	**48.29**	**190**	P	P	02 37 50.1	0.0
	0.3nm,0.5s,baz=19,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**52.07**	**311**	P	P	02 38 18.6	+0.1
	0.3nm,0.4s,baz=103,slow=8.2,SNR=8.4						

WEL 24 02:38:56.4±0.2, 4196S×17142E, h5km, ML3.6/11, 2C-1D, Error ellipse: s-maj=2.1km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.36**	**54**	⇑P*	Pg	02 39 03.7	+0.4
DSZ				SG	Sg	02 39 08.1	+0.1
LTZ	**Lake Taylor**	**1.04**	**143**	⇑P*	Pb	02 39 16.7	-0.2
LTZ				S*	Sb	02 39 29.0	-0.9
THZ	**Tophouse**	**1.13**	**80**	⇓P*	Pb	02 39 17.6	-0.8
WVZ	**Waitaha Valley**	**1.22**	**204**	P*	Pb	02 39 18.9	-1.1
QRZ	**Quartz Range**	**1.41**	**37**	PN	Pn	02 39 21.6	-1.1
KHZ	**Kahutara**	**1.64**	**107**	*e*PN	Pn	02 39 25.9	0.0
NNZ	**Nelson**	**1.65**	**64**	*e*PN	Pn	02 39 25.2	-0.8
RPZ	**Rata Peaks**	**1.77**	**188**	*e*PN	Pn	02 39 27.4	-0.3
BSWZ	**Blackbirch Sta**	**1.85**	**83**	*e*PN	Pn	02 39 28.9	+0.1
MQZ	**McQueen's Vall**	**1.97**	**153**	*e*PN	Pn	02 39 28.8	-1.6
FOZ	**Fox Glacier**	**2.05**	**218**	PN	Pn	02 39 29.0	-2.5
DUWZ	**D'Urville Isla**	**2.21**	**59**	*e*PN	Pn	02 39 34.0	+0.3
TCW	**Tory Channel**	**2.27**	**72**	*e*PN	Pn	02 39 35.6	+1.1
LBZ	**Lake Benmore**	**2.59**	**200**	*e*PN	Pn	02 39 38.5	-0.4
CAW	**Cannon Point**	**2.87**	**74**	PN	Pn	02 39 42.5	-0.3
ODZ	**Otahua Downs**	**3.13**	**190**	*e*PN	Pn	02 39 44.8	-1.6
WKZ	**Wanaka**	**3.36**	**211**	*e*PN	Pn	02 39 48.6	-0.9
TUZ	**Tuapeka**	**4.20**	**197**	*e*PN	Pn	02 39 59.8	-1.3

IDC 24 02:43:02.3±6.9, 1773S×17378W, h84km±39km, mb3.8/4, mb1 4.0/5, mb1mx3.7/16, mbtmp4.2/5, Error ellipse: s-maj=186.6km s-min=24.5km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.26**	**27**	P	Pn	02 44 04.9	+0.2
	15nm,0.3s,baz=188,slow=7.1,SNR=16						
AFI				S	Sn	02 44 46.7	-6.4
	53nm,0.3s,baz=66,slow=22,SNR=20						
STKA	**Stephens Creek**	**42.59**	**242**	P	P	02 50 50.1	+0.1
	3.3nm,0.8s,baz=92,slow=9.8,SNR=6.2						
WRA	**Warramunga Arr**	**49.00**	**259**	P	P	02 51 40.1	-0.3
	0.8nm,0.6s,baz=98,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**49.08**	**254**	P	P	02 51 42.0	+1.0
	7.7nm,0.6s,baz=88,slow=8.6,SNR=85						

ILAR Eielson Array 84.78 11 P P 02 55 26.6 -0.7
0.3nm,0.7s,baz=218,slow=5.2,SNR=6.6
BRTR Keskin Array B 147.68 318 PKPbc PKPbc 03 02 37.5 +0.3
0.6nm,0.7s,baz=122,slow=3.9,SNR=3.8

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*IDC **24** 02:53:41.1±0.7, 2675×14173E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.3/13, mbtmp4.1/9, ML3.9/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/24, Error ellipse: s-maj=31.7km s-min=11.5km az=105.0*
*ISCJB **24** 02:53:43.0±0.6, 2665S±005×1419E±01, h23km, mb4.5/25, MS3.6/2, Error ellipse: s-maj=20.4km s-min=7.5km az=11.1*
*NEIC **24** 02:53:44.8±0.5, 2655S×14184E, mb4.4/11, Error ellipse: s-maj=21.0km s-min=9.2km az=101.0*
*BJI **24** 02:53:44.6, 2775S×14180E, h34km, mB4.6, mb4.9, Ms4.6, Msz4.4*
ISC 24 02:53:46.3±5.7, 2735S±007×1420E±01, h35km±41km, h24km±.5km: pP-P, n43, σ0.95/38, mb4.5/25, MS3.6/2, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.38**	**143**	LR	LR	02 59 14.7	
	comp=Z,123nm,21.6s,baz=18,slow=39						
KAKA	**Kakadu**	**13.72**	**223**	*e*P	**Pn**	**02 56 54.0**	**-4.3**
	12nm,0.6s						
WRAB	**Tennant Creek**	**18.67**	**203**	*e*P	**Pn**	**02 58 03.0**	**+1.2**
	18nm,0.7s						
WB2	**Warramunga Arr**	**18.68**	**203**	*e*P	**Pn**	**02 58 02.6**	**+0.7**
WRA	**Warramunga Arr**	**18.68**	**203**	P	**Pn**	**02 58 02.0**	**0.0**
	0.4nm,0.3s,baz=23,slow=12,SNR=22						
WRA				S	**Sn**	**03 01 29.5**	**-0.4**
	0.1nm,0.3s,baz=23,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**18.68**	**203**	P	**Pn**	**02 58 02.0**	**0.0**
WRA				S	**Sn**	**03 01 29.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.16**	**225**	*e*P	**P**	**02 58 36.3**	**-2.8**
	18nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**22.16**	**225**	P	**P**	**02 58 37.2**	**-1.9**
	5.8nm,0.8s,mb4.1,baz=33,slow=11,SNR=7.5						
FITZ				LR	LR	03 06 46.7	
	comp=Z,107nm,18.6s,MS3.3,baz=216,slow=36						
ASAR	**Alice Springs**	**22.25**	**200**	P	**P**	**02 58 39.7**	**-0.3**
	4.3nm,0.8s,mb3.9,baz=32,slow=9.4,SNR=25						
MBWA	**Marble Bar**	**28.39**	**228**	*e*P	**P**	**02 59 36.5**	**-0.8**
	4.3nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**29.00**	**181**	*e*P	**P**	**02 59 42.1**	**-0.6**
	2.5nm,0.3s,mb4.4						
STKA	**Stephens Creek**	**29.00**	**181**	P	**P**	**02 59 43.0**	**+0.2**
	5.3nm,0.8s,mb4.3,baz=341,slow=8.5,SNR=8.8						
NJ2	**Nanjing**	**40.98**	**329**	*e*P	**P**	**03 01 26.1**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
LZH	**Lanzhou**	**52.53**	**321**	*e*P	**P**	**03 02 53.5**	**-2.6**
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.9						
GTA	**Gaotai**	**57.09**	**322**	*e*P	**P**	**03 03 29.8**	**+0.7**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.2						
ULN	**Ulaanbaatar**	**58.92**	**333**	*e*P	**P**	**03 03 42.0**	**+0.1**
	comp=Z,5.4nm,0.9s,mb4.6						
ULN				*e*	pP	03 03 49.2	-3.2
SONM	**Songino Array**	**59.19**	**333**	P	**P**	**03 03 41.0**	**-2.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=136,slow=7.0,SNR=4.2						
JIRN	**Jiri**	**61.58**	**303**	*e*P	**P**	**03 04 00.5**	**+0.4**
	comp=Z,14nm,1.0s,mb5.0						
GUN	**Gumba**	**61.93**	**304**	*e*P	**P**	**03 04 03.0**	**+0.6**
	comp=Z,17nm,0.8s,mb5.2						
KKN	**Kakani**	**62.39**	**303**	*e*P	**P**	**03 04 06.3**	**+0.8**
	comp=Z,16nm,0.8s,mb5.2						
DMN	**Daman**	**62.47**	**303**	*e*P	**P**	**03 04 06.8**	**+0.7**
	comp=Z,10nm,0.5s,mb5.2						
GKN	**Gorkha**	**62.99**	**303**	*e*P	**P**	**03 04 10.2**	**+0.6**
	comp=Z,5.7nm,0.4s,mb5.1						
KOLN	**Koldanda**	**63.79**	**303**	*e*P	**P**	**03 04 15.2**	**+0.4**
	comp=Z,16nm,0.9s,mb5.0						
WMQ	**Urumqi**	**67.10**	**320**	*e*P	**P**	**03 04 37.0**	**+0.8**
PPT	**Papeete**	**68.61**	**108**	LR	LR	03 30 12.0	
	comp=Z,88nm,21.6s,MS4.0,baz=216,slow=32						
MKAR	**Makanchi Array**	**71.84**	**321**	P	**P**	**03 05 06.1**	**+0.6**
	comp=Z,4.3nm,0.8s,mb4.4,baz=125,slow=8.0,SNR=41						
MKAR	**Makanchi Array**	**71.84**	**321**	P	**P**	**03 05 06.1**	**+0.6**
VNDA	**Vanda**	**75.49**	**176**	P	**P**	**03 05 28.5**	**+1.6**
	comp=Z,1.4nm,1.0s,mb3.8,baz=256,slow=4.2,SNR=2.5						
**VN

comp=Z,4.6nm,0.3s
STHS Stebnicka Huta 3.90 120 *e*PG **Pg 03 09 25.9 +0.4**
STHS *e*SG **Sg 03 10 17.9 +1.8**

IDC 24 03:15:09.2±7.5, 1819S×17457W, h0km, mb4.0/3, mb1 4.4/3, mb1mx3.8/15, mbtmp4.0/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=328.7km s-min=35.9km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.25**	**105**	LR	LR	03 22 08.7	
	comp=Z,168nm,18.4s,baz=100,slow=29						
WB2	**Warramunga Arr**	**48.16**	**259**	*e*P	P	03 23 51.3	+0.2
WRA	**Warramunga Arr**	**48.17**	**259**	P	P	03 23 51.5	+0.4
	0.7nm,0.3s,baz=97,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**48.23**	**254**	P	P	03 23 52.1	+0.5
	4.1nm,0.6s,baz=89,slow=8.6,SNR=42						
ILAR	**Eielson Array**	**85.38**	**12**	P	P	03 27 47.9	-0.5
	0.7nm,1.1s,baz=219,slow=5.6,SNR=8.1						

*IDC **24** 03:36:51.7±1.3, 3438N×7334E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/23, mbtmp3.6/6, ML3.5/3, MS3.4/2, Ms1 3.4/2, ms1mx2.7/23, Error ellipse: s-maj=35.8km s-min=27.1km az=64.0*
*NEIC **24** 03:36:53.8±1.4, 3440N×7344E, h10km, mb3.5/1, Error ellipse: s-maj=29.3km s-min=19.7km az=64.0*
NEIC Felt in the Mansehra area.
*ISCJB **24** 03:36:54.0±0.7, 3464N±006×734E±0.1, h10km, mb3.7/3, MS4.1/1, Error ellipse: s-maj=14.9km s-min=4.6km az=120.2*
*NDI **24** 03:37:01.2±1.5, 3426N×7348E, h10km, MD3.7, mb3.5(NEIC)*
*NNC **24** 03:37:03.7±3.4, 3526N×7283E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=34.4km s-min=27.8km az=83.0*

ISC 24 03:36:55.0±0.7, 3457N±005×7332E±010, h10km, n23, σ1$32/23, mb3.7/3, MS4.1/1, 5C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.00**	**132**	*e*P	**Pn**	**03 37 45.0**	**+2.5**
DLH				*e*SB	**Sb**	**03 38 24.0**	**-1.1**
PONG	**Pong**	**3.42**	**139**	*e*P	**Pn**	**03 37 51.0**	**+2.7**
PONG				*e*SB	**Sb**	**03 38 36.0**	**-1.2**
BHK	**Bhakra**	**4.08**	**140**	*e*x	x	03 40 10.2	
SDNR	**Sundarnagar**	**4.33**	**134**	*e*P	**Pn**	**03 38 02.0**	**+1.1**
SDNR				*e*x	x	03 38 11.0	
DDI	**Dehra Dun**	**5.83**	**135**	*e*x	x	03 38 22.5	
NDI	**New Delhi**	**6.74**	**149**	*e*x	x	03 39 50.0	
TKM2	**Tokmak 2**	**8.53**	**11**	⇑Pn	**Pn**	**03 39 02.0**	**+3.6**
	0.1nm,0.4s						
TKM2				⇑Sn	**Sn**	**03 40 33.6**	**-1.1**
	0.5nm,0.7s						
TKM2				⇓Lg		03 41 10.8	
	0.5nm,0.6s						
KK31	**Karatay Array**	**8.80**	**346**	⇑Pn	**Pn**	**03 39 04.3**	**+2.1**
	1.7nm,0.3s,baz=155,slow=11,SNR=96						
KK31				Sn	**Sn**	**03 40 39.8**	**-1.6**
	1.4nm,0.3s,baz=154,slow=21,SNR=11						
MK31	**Makanchi Array**	**13.96**	**26**	P	**Pn**	**03 40 13.4**	**+0.5**
	0.5nm,0.6s,baz=196,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**13.96**	**26**	Pn	**Pn**	**03 40 13.2**	**+0.3**
	0.1nm,0.3s,baz=204,slow=14,SNR=7.0						
AB31	**Akbulak array**	**17.69**	**330**	P	**Pn**	**03 41 01.3**	**-0.1**
	0.5nm,0.5s,baz=151,slow=15,SNR=14						
AB31				⇑S	**Sn**	**03 44 08.7**	**-10**
	1.5nm,0.9s						
BVAR	**Borovoye Array**	**18.57**	**354**	P	**Pn**	**03 41 12.4**	**+0.2**
	0.4nm,0.3s,baz=153,slow=10.0,SNR=7.4						
ZRNK	**Zerenda**	**18.63**	**352**	⇓P	**Pn**	**03 41 14.3**	**+1.3**
	9.7nm,2.8s						
ZRNK	**Zerenda**	**18.63**	**352**	*e*P	**Pn**	**03 41 13.9**	**+1.0**
	2.3nm,0.7s						
AKTK	**Aktyubinsk**	**19.40**	**329**	P	**Pn**	**03 41 22.8**	**+0.5**
AKTO	**Aktyubinsk**	**19.40**	**329**	⇑P	**Pn**	**03 41 21.8**	**-0.4**
	1.1nm,2.7s						
AKTO	**Aktyubinsk**	**19.40**	**329**	P	**Pn**	**03 41 22.8**	**+0.6**
	0.3nm,0.3s,baz=124,slow=10,SNR=6.7						
ARCES	**ARCESS Array B**	**43.64**	**338**	P	**P**	**03 44 58.4**	**-1.3**
	6.1nm,1.1s,mb4.2,baz=108,slow=7.3,SNR=5.8						
ARCES	**ARCESS Array B**	**43.64**	**338**	P	**P**	**03 44 58.4**	**-1.3**
TGY	**Tagaytay City**	**47.43**	**103**	LR	LR	04 07 55.0	
	comp=Z,9.8nm,21.1s,baz=155,slow=39						
TORD	**Torodi Ar. Bea**	**67.60**	**271**	P	**P**	**03 47 50.4**	**-1.5**
	0.1nm,0.3s,mb3.3,baz=54,slow=4.2,SNR=7.8						
FITZ	**Fitzroy Crossi**	**72.22**	**128**	LR	LR	04 22 31.4	
	comp=Z,102nm,18.1s,MS4.1,baz=78,slow=38						
WRA	**Warramunga Arr**	**79.36**	**123**	P	**P**	**03 48 59.4**	**-1.6**
	0.3nm,0.4s,mb3.6,baz=323,slow=5.1,SNR=7.5						

IDC 24 03:49:22.3±2.2, 350N×12670E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=191.7km s-min=24.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48**	**162**	P	P	03 54 43.8	+0.9
	5.3nm,0.5s,baz=342,slow=10,SNR=32						
WB2	**Warramunga Arr**	**24.48**	**162**	*e*P	P	03 54 43.8	+0.8
ASAR	**Alice Springs**	**27.90**	**166**	P	P	03 55 13.8	-0.1
	0.4nm,0.5s,baz=349,slow=7.9,SNR=5.5						
MKAR	**Makanchi Array**	**57.72**	**325**	P	P	03 59 14.9	0.0
	0.5nm,0.4s,baz=122,slow=8.1,SNR=14						

OTT 24 04:07:38.4±0.3, 6887N×6713W, h18km, MN3.0/2, 190km south from Clyde River, Nu Baffin Island Seismic Zone, Nt., Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**5.18**	**187**	PN	Pn	04 08 54.5	-0.5
FRB				SN	Sn	04 09 51.2	-3.1
FRB				SG	Sg	04 10 14.5	-10
FRB				Trac		04 10 25.4	
	comp=Z,8.1nm,0.2s						
PINU	**Pond Inlet**	**5.25**	**322**	PN	Pn	04 08 56.0	+0.1
PINU				SN	Sn	04 09 51.9	-4.0
PINU				SG	Sg	04 10 17.7	-9.1
PINU				Trac		04 10 27.4	
	comp=Z,5.8nm,0.2s						
SFJD	**Kangerlussuaq**	**6.50**	**99**	PN	Pn	04 09 10.7	-2.4
SFJD				SN	Sn	04 10 21.5	-5.2
QILN	**Qililugaq Expl**	**7.62**	**262**	PN	Pn	04 09 27.3	-1.2
QILN				SN	Sn	04 10 47.7	-6.6
QILN				LG		04 11 26.6	
QILN				Trac		04 11 37.5	
	comp=Z,26nm,1.7s						
RES	**Resolute Bay**	**10.36**	**316**	PN	Pn	04 10 03.2	-2.9
RES				SN	Sn	04 11 52.9	-8.8
KUQ	**Kuujjuuaa**	**10.82**	**184**	LG		04 13 05.7	
KUQ				Trac		04 13 14.2	
	comp=Z,0.8nm,0.2s						
YRTN	**Rankin Inlet**	**11.82**	**251**	PN	Pn	04 10 23.4	-2.7
YRTN				SN	Sn	04 12 28.3	-9.2
YRTN				LG		04 13 41.0	
YOSQ	**Ashton Mining**	**16.24**	**191**	SN	Sn	04 14 10.3	-15
SILO	**Sutton Inlier**	**16.61**	**219**	PN	Pn	04 11 24.6	-5.6
SILO				SN	Sn	04 14 21.7	-13

*IDC **24** 04:07:42.6±1.2, 2390N×9450E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, Error ellipse: s-maj=127.1km s-min=18.7km az=54.0*
*ISCJB **24** 04:07:45.3±0.9, 239N±0.1×945E±02, h33km, mb3.9/10, Error ellipse: s-maj=25.7km s-min=14.4km az=83.3*
*NEIC **24** 04:07:47.9±0.6, 2398N×9457E, h35km, mb3.9/3, Error ellipse: s-maj=17.0km s-min=9.8km az=220.0*

ISC 24 04:07:48.0±0.9, 240N±01×946E±01, h35km, n13, σ0$30/13, mb3.9/10, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**14.69**	**62**	*e*Pn	**Pn**	**04 11 13.2**	**+0.1**
	14nm,0.9s						
MKAR	**Makanchi Array**	**24.78**	**340**	P	**P**	**04 13 06.6**	**+0.1**
	5.2nm,0.5s,mb4.3,baz=148,slow=9.7,SNR=94						
MKAR	**Makanchi Array**	**24.78**	**340**	P	**P**	**04 13 06.6**	**+0.1**
KURK	**Kurchatov**	**29.39**	**339**	*e*P	**P**	**04 13 47.2**	**-0.6**
	1.8nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**34.67**	**335**	*e*P	**P**	**04 14 34.1**	**-0.1**
	0.9nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**34.78**	**333**	*e*P	**P**	**04 14 35.3**	**+0.2**
	1.0nm,0.6s,mb3.9						
AKASG	**Malin Array Be**	**56.29**	**316**	P	**P**	**04 17 25.3**	**+0.2**
	0.5nm,0.3s,mb4.0,baz=85,slow=6.4,SNR=5.6						
AKASG	**Malin Array Be**	**56.29**	**316**	P	**P**	**04 17 25.3**	**+0.2**
WRA	**Warramunga Arr**	**58.40**	**135**	P	**P**	**04 17 39.7**	**-0.2**
	0.3nm,0.3s,mb3.8,baz=323,slow=7.3,SNR=16						
FINES	**FINESS Array B**	**58.94**	**329**	P	**P**	**04 17 43.9**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=88,slow=7.1,SNR=4.5						
ARCES	**ARCESS Array B**	**60.42**	**338**	P	**P**	**04 17 54.4**	**+0.5**
	1.7nm,0.9s,mb4.1,baz=97,slow=6.6,SNR=2.8						
ASAR	**Alice Springs**	**60.86**	**138**	P	**P**	**04 17 57.0**	**+0.2**
	0.3nm,0.8s,mb3.5,baz=318,slow=6.8,SNR=4.6						
NOA	**NORSAR Array B**	**66.11**	**328**	P	**P**	**04 18 31.2**	**-0.4**
	0.5nm,0.7s,mb3.6,baz=83,slow=6.6,SNR=3.0						

*ISCJB **24** 04:43:00.8±0.8, 30N±0.1×9671E±009, h33km, mb3.9/7, Error ellipse: s-maj=19.0km s-min=11.0km az=44.5*
*NEIC **24** 04:43:02.3±0.7, 295N×9669E, h30km, mb4.0/1, Error ellipse: s-maj=17.2km s-min=11.5km az=221.0*
*IDC **24** 04:43:08.3±5.6, 3.18N×9708E, h76km±46km, mb3.5/6, mb1 3.6/6, mb1mx3.3/20, mbtmp3.8/6, Error ellipse: s-maj=67.9km s-min=17.6km az=54.0*

ISC 24 04:43:03.4±0.9, 30N±01×9674E±009, h35km, n11, σ0$70/11, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.19**	**95**	P	**Pn**	**04 43 39.4**	**+2.1**
	81nm,0.3s,baz=284,slow=12,SNR=277						
PSI				S	**Sn**	**04 44 02.6**	**-0.5**
	69nm,0.3s,baz=345,slow=22,SNR=18						
KULM	**Kulim**	**4.51**	**60**	*e*Pn	**Pn**	**04 44 08.6**	**-0.5**
WRA	**Warramunga Arr**	**43.39**	**123**	P	**P**	**04 51 02.3**	**-0.2**
	1.3nm,0.5s,mb3.9,baz=301,slow=9.3,SNR=13						
WRAB	**Tennant Creek**	**43.40**	**123**	*e*P	**P**	**04 51 02.4**	**-0.1**
	1.5nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**43.40**	**123**	*e*P	**P**	**04 51 02.5**	**0.0**
ASAR	**Alice Springs**	**44.86**	**128**	P	**P**	**04 51 14.4**	**+0.3**
	0.6nm,0.5s,mb3.7,baz=300,slow=8.1,SNR=4.9						
MKAR	**Makanchi Array**	**45.38**	**346**	P	**P**	**04 51 18.7**	**+0.3**
	0.4nm,0.3s,mb3.7,baz=155,slow=8.7,SNR=9.3						
BVAR	**Borovoye Array**	**54.40**	**341**	P	**P**	**04 52 26.5**	**-0.4**
	0.6nm,0.5s,mb3.8,baz=139,slow=9.6,SNR=3.2						
STKA	**Stephens Creek**	**54.91**	**133**	P	**P**	**04 52 29.7**	**-0.8**
	0.8nm,0.7s,mb3.8,baz=323,slow=10,SNR=3.9						
ARCES	**ARCESS Array B**	**80.69**	**340**	P	**P**	**04 55 13.0**	**+0.2**
	2.5nm,0.8s,mb4.2,baz=104,slow=3.8,SNR=3.6						
CPUP	**Villa Florida**	**146.00**	**225**	PKPbc	PKPbc	05 02 40.1	+0.8
	1.0nm,0.5s,baz=90,slow=2.0,SNR=3.1						

CASC 24 04:46:04.5±1.8, 1312N×8928W, h48km±99km, MD3.5, 3C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.55**	**23**	⇓*e*P	Pn	04 46 07.3	-8.8
LFRS				*e*S	Sn	04 46 16.2	-8.3
LCBS	**La Ceiba**	**0.61**	**29**	⇓*e*P	Pn	04 46 07.9	-9.0
LCBS				*e*S	Sn	04 46 17.8	-8.2
BOQS	**Boqueron**	**0.61**	**360**	⇑*e*P	Pn	04 46 08.8	-8.2
BOQS				*e*S	Sn	04 46 18.4	-7.6
LFU	**La Fuente**	**0.65**	**14**	⇓*e*P	Pn	04 46 09.2	-8.3
LFU				*e*S	Sn	04 46 19.6	-7.2
SNVI	**San Vicente**	**0.65**	**41**	*e*P	Pn	04 46 08.4	-9.1
SNVI				*e*S	Sn	04 46 18.7	-8.2
SBLS	**San Blas**	**0.79**	**335**	⇓*e*P	Pn	04 46 11.5	-7.8
SBLS				*e*S	Sn	04 46 22.9	-7.3
SNJE	**San Jose**	**0.81**	**337**	*e*P	Pn	04 46 11.3	-8.3
SNJE				*e*S	Sn	04 46 23.4	-7.2
VSM	**San Miguel**	**1.02**	**72**	*e*P	Pn	04 46 13.1	-9.4
VSM				*e*S	Sn	04 46 27.7	-8.1
BLLM	**Bellamira**	**1.06**	**72**	⇓*e*P	Pn	04 46 14.1	-8.9
BLLM				*e*S	Sn	04 46 27.6	-9.1
CNCH	**Conchagua**	**1.42**	**83**	⇑*e*P	Pn	04 46 18.2	-10
CNCH				*e*S	Sn	04 46 36.6	-8.7
IXG	**Ixpaco**	**1.55**	**313**	⇑*e*P	Pn	04 46 29.8	+0.1
IXG				*e*S	Sn	04 46 49.1	+0.5

*ISCJB **24** 04:57:29.4±0.4, 5014N±003×1837E±002, h0km, Error ellipse: s-maj=3.8km s-min=2.1km az=32.4*
*NEIC **24** 04:57:30.5±0.4, 5017N×1842E, h5km, ML3.0(BRG), Error ellipse: s-maj=6.3km s-min=4.1km az=187.0*
*IPEC **24** 04:57:31.5±0.1, 5006N×1844E, h4km±2km, ML2.3/3, Error ellipse: s-maj=2.1km s-min=0.7km az=162.0*
*IDC **24** 04:57:31.5±1.9, 4993N×1850E, h0km, mb1 3.2/4, mb1mx3.0/19, mbtmp3.0/4, ML2.9/4, Error ellipse: s-maj=28.5km s-min=10.2km az=131.0*
*CSEM **24** 04:57:31.3±0.1, 5006N×1841E, h1km, ML3.3/7, Error ellipse: s-maj=2.3km s-min=1.1km az=2.0*
*WAR **24** 04:57:32.0, 5006N×1844E, ML2.8, Mining Induced*
*PRU **24** 04:57:32.1, 5012N×1835E, h0km*
*VIE **24** 04:57:34.5±0.5, 4972N×1834E, h0km, mb2.2/3, ML2.6/5, Error ellipse: s-maj=3.7km s-min=2.1km az=86.0 14 km SSE of Ostrava Suspected Mining induced.*

ISC 24 04:57:30.7±0.3, 5012N±002×1837E±002, h0km, n57, σ1$08/102, 3C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.12**	**255**	⇓*i*Pg	**Pg**	**04 57 35.7**	**+2.7**
RAC				*e*Sg	**Sg**	**04 57 38.9**	**+4.4**
OKC	**Ostrava-Krasne**	**0.31**	**208**	*e*PG	**Pg**	**04 57 37.8**	**+1.1**
OKC				*e*SG	**Sg**	**04 57 42.1**	**+1.3**
	554nm,0.6s						
OKC	**Ostrava-Krasne**	**0.31**	**208**	*e*Pg	**Pg**	**04 57 37.5**	**+0.8**
OKC				*e*Sg	**Sg**	**04 57 41.2**	**+0.4**
MORC	**Moravsky Berou**	**0.64**	**238**	*e*Pg	**Pg**	**04 57 43.5**	**+0.7**
MORC				*e*Sg	**Sg**	**04 57 51.9**	**+0.8**
MORC	**Moravsky Berou**	**0.64**	**238**	*e*Pg	**Pg**	**04 57 43.5**	**+0.6**
MORC				*e*Sg	**Sg**	**04 57 51.9**	**+0.8**
OJC	**Ojcow**	**0.92**	**83**	*e*Pg	**Pg**	**04 57 48.4**	**+0.1**
OJC				*e*Sg	**Sg**	**04 58 00.7**	**+0.4**
LIKS	**Likavka**	**1.17**	**156**	*e*SN	**Sn**	**04 58 10.6**	**-0.3**
LIKS	**Likavka**	**1.17**	**156**	*e*P	**Pg**	**04 57 53.7**	**+0.6**
LIKS				*e*Sn	**Sn**	**04 58 10.6**	**-0.3**
DPC	**Dobruska-Polom**	**1.34**	**281**	*e*PG	**Pg**	**04 57 57.3**	**+1.0**
DPC				*e*SG	**Sg**	**04 58 16.4**	**+2.7**
	200nm,0.5s						
DPC	**Dobruska-Polom**	**1.34**	**281**	*e*Pg	**Pg**	**04 57 57.1**	**+0.8**
DPC				*e*Sg	**Sg**	**04 58 15.2**	**+1.5**
JAVC	**Velka Javorina**	**1.34**	**200**	*e*Pg	**Pg**	**04 57 56.9**	**+0.6**
VRAC	**Vranov**	**1.41**	**236**	Pg	**Pg**	**04 57 57.9**	**+0.2**
	6.4nm,0.3s,baz=60,slow=14,SNR=56						
VRAC				Lg		04 58 16.1	
	15nm,0.3s,baz=145,slow=19,SNR=24						
VRAC	**Vranov**	**1.41**	**236**	*e*Pg	**Pg**	**04 57 57.6**	**-0.1**
VRAC				*e*Sg	**Sg**	**04 58 15.7**	**-0.3**
	49nm,0.3s						
NIE	**Niedzica**	**1.44**	**118**	*e*Pg	**Pg**	**04 57 58.4**	**+0.2**
NIE				*e*Sg	**Sg**	**04 58 18.2**	**+1.3**
NIE	**Niedzica**	**1.44**	**118**	*i*Pg	**Pg**	**04 57 58.4**	**+0.2**
NIE				*e*Sg	**Sg**	**04 58 18.2**	**+1.3**
NIE	**Niedzica**	**1.44**	**118**	*e*P	**Pn**	**04 57 57.4**	**-0.6**
NIE				*i*Pg	**Pg**	**04 57 58.4**	**+0.2**
NIE				*e*Sg	**Sg**	**04 58 18.2**	**+1.3**
KSP	**Ksiaz**	**1.52**	**300**	*e*Pg	**Pg**	**04 57 59.6**	**-0.1**
KSP				e		04 58 02.0	
KSP				*e*Sg	**Sg**	**04 58 21.0**	**+1.6**
KSP	**Ksiaz**	**1.52**	**300**	*e*Pg	**Pg**	**04 57 59.6**	**-0.1**
KSP				e		04 58 02.0	
KSP				*e*Sg	**Sg**	**04 58 21.0**	**+1.6**
UPC	**Upice**	**1.56**	**285**	*e*PG	**Pg**	**04 58 01.1**	**+0.4**
UPC				*e*SG	**Sg**	**04 58 22.9**	**+2.0**
VYHS	**Vyhne**	**1.65**	**169**	*e*PN	**Pn**	**04 58 00.0**	**-0.9**
VYHS				*e*PG	**Pg**	**04 58 02.6**	**+0.3**
VYHS				*e*SN	**Sn**	**04 58 22.3**	**-0.5**
VYHS	**Vyhne**	**1.65**	**169**	*e*Pg	**Pg**	**04 58 02.6**	**+0.3**
VYHS				*e*Sn	**Sn**	**04 58 22.3**	**-0.5**
KRUC	**Moravsky**	**1.67**	**231**	*e*Pg	**Pg**	**04 58 01.7**	**-0.9**
KRUC				*e*Sg	**Sg**	**04 58 23.6**	**-0.6**
	46nm,0.5s						
SMOL	**Smolenice**	**1.72**	**201**	*e*PN	**Pn**	**04 58 01.5**	**-0.3**
SMOL				*e*SN	**Sn**	**04 58 24.9**	**+0.4**
STHS	**Stebnicka Huta**	**1.99**	**110**	*i*PG	**Pg**	**04 58 09.1**	**+0.3**
STHS				*e*SN	**Sn**	**04 58 36.7**	**+5.6**
TREC	**Trest**	**2.05**	**247**	*e*PG	**Pg**	**04 58 08.5**	**-1.4**
ZST	**Bratislava**	**2.10**	**204**	*e*PN	**Pn**	**04 58 06.5**	**-0.5**
ZST				*e*SN	**Sn**	**04 58 35.4**	**+1.7**
KECS	**Kecovo**	**2.14**	**139**	*e*PG	**Pg**	**04 58 13.1**	**+1.4**
KECS				*e*SN	**Sn**	**04 58 35.7**	**+0.8**
KECS	**Kecovo**	**2.14**	**139**	*e*P	**Pn**	**04 58 06.9**	**-0.7**
KECS				*e*Pg	**Pg**	**04 58 13.1**	**+1.4**
KECS				*e*Sn	**Sn**	**04 58 35.7**	**+0.8**
CRVS	**Cervenica-Dubn**	**2.35**	**120**	*e*PG	**Pg**	**04 58 13.6**	**-2.1**
CRVS				*e*SN	**Sn**	**04 58 45.3**	**+5.2**
PSZ	**Piszkesteto**	**2.42**	**155**	*e*Pg	**Pg**	**04 58 17.0**	**0.0**
PSZ	**Piszkesteto**	**2.42**	**155**	*e*Pn	**Pn**	**04 58 10.6**	**-0.8**
PSZ				*e*Pg	**Pg**	**04 58 17.1**	**+0.1**
PRU	**Pruhonice**	**2.47**	**269**	*e*PN	**Pn**	**04 58 11.8**	**-0.4**
PRU				*e*PG	**Pg**	**04 58 16.5**	**-1.6**
PRU				*e*SG	**Sg**	**04 58 49.0**	**-1.1**
	21nm,0.6s						
PRU	**Pruhonice**	**2.47**	**269**	*e*Pg	**Pg**	**04 58 16.5**	**-1.6**
PRU				*e*Sg	**Sg**	**04 58 49.0**	**-1.1**
	21nm,0.6s						
PVCC	**Panska Ves**	**2.47**	**281**	*e*SG	**Sg**	**04 58 51.4**	**+1.2**
	42nm,0.4s						
KOLS	**Kolonicke sedl**	**2.80**	**113**	*e*PN	**Pn**	**04 58 17.5**	**+0.8**
KOLS				*e*PG	**Pg**	**04 58 24.0**	**-0.4**
KOLS				*e*		04 59 00.0	
KOLS	**Kolonicke sedl**	**2.80**	**113**	*e*Pg	**Pg**	**04 58 24.0**	**-0.4**
KWP	**Kalwaria**	**2.84**	**98**	*e*Pg	**Pg**	**04 58 24.6**	**-0.6**
KWP	**Kalwaria**	**2.84**	**98**	*e*Pg	**Pg**	**04 58 24.6**	**-0.5**
BRG	**Berggiesshubel**	**2.93**	**287**	Pg	**Pg**	**04 58 26.0**	**-0.8**
BRG				Sg	**Sg**	**04 59 05.3**	**+0.5**
BRG	**Berggiesshubel**	**2.93**	**287**	Pg	**Pg**	**04 58 26.1**	**-0.8**
BRG				Sg	**Sg**	**04 59 05.3**	**+0.5**
BRG				SG	**Sg**	**04 59 05.3**	**+0.5**
	13nm,0.8s						
BRG	**Berggiesshubel**	**2.93**	**287**	PG	**Pg**	**04 58 26.1**	**-0.8**
KHC	**Kasperske Hory**	**3.27**	**254**	*e*PN	**Pn**	**04 58 23.7**	**+0.5**
KHC				*e*PG	**Pg**	**04 58 32.0**	**-1.4**
KHC				*e*SG	**Sg**	**04 59 14.2**	**-1.5**
KHC	**Kasperske Hory**	**3.27**	**254**	*e*Pg	**Pg**	**04 58 32.0**	**-1.4**
KHC				*e*Sg	**Sg**	**04 59 14.2**	**-1.5**
GERES	**GERESS Array B**	**3.30**	**249**	Pn	**Pn**	**04 58 23.8**	**+0.2**
	0.2nm,0.3s,baz=70,slow=17,SNR=6.8						
GERES				Pg	**Pg**	**04 58 32.8**	**-1.1**
	1.0nm,0.3s,baz=68,slow=18,SNR=19						
GERES				Lg		04 59 15.8	
	2.9nm,0.3s,baz=67,slow=30,SNR=15						
GERES	**GERESS Array B**	**3.30**	**249**	Pg	**Pg**	**04 58 32.8**	**-1.1**
ARSA	**Arzberg**	**3.43**	**214**	⇓*i*Sg	**Sg**	**04 59 16.4**	**-4.6**
	comp=E,3.6nm,0.4s						
ARSA	**Arzberg**	**3.43**	**214**	⇓*i*Pn	**Pn**	**04 58 25.1**	**-0.3**
ARSA				⇓*i*Sg	**Sg**	**04 59 16.4**	**-4.6**
	3.6nm,0.4s						
MOA	**Molln**	**3.53**	**232**	⇓*i*Sg	**Sg**	**04 59 22.3**	**-1.8**
	comp=E,23nm,0.8s						
MOA	**Molln**	**3.53**	**232**	⇓*i*Pn	**Pn**	**04 58 26.6**	**-0.2**
MOA				⇓*i*Sg	**Sg**	**04 59 22.3**	**-1.8**
	23nm,0.8s						
CLL	**Collm**	**3.62**	**291**	*e*Pg	**Pg**	**04 58 43.0**	**+3.0**
CLL				*i*x	x	04 59 28.6	
CLL				*i*Sg	**Sg**	**04 59 31.9**	**+5.0**
	comp=Z,21nm,0.6s						
NKC	**Novy Kostel**	**3.81**	**274**	*e*SG	**Sg**	**04 59 31.0**	**-2.1**
	comp=Z,28nm,0.9s						
KBA	**Koelnbreinsper**	**4.51**	**230**	⇑*i*Sg	**Sg**	**04 59 55.2**	**-0.5**
	comp=Z,4.8nm,0.5s						
KBA	**Koelnbreinsper**	**4.51**	**230**	⇑*i*Pn	**Pn**	**04 58 40.8**	**+0.6**
KBA				⇑*i*Sg	**Sg**	**04 59 55.2**	**-0.5**
	comp=Z,4.8nm,0.5s						
DAVOX	**Davos**	**6.56**	**243**	Pn	**Pn**	**04 59 09.9**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=61,slow=10,SNR=3.7						
DAVOX				Lg		05 01 01.5	
	comp=Z,0.3nm,0.3s,baz=196,slow=19,SNR=3.0						
DAVOX	**Davos**	**6.56**	**243**	Pn	**Pn**	**04 59 09.9**	**+1.5**
NOA	**NORSAR Array B**	**11.66**	**343**	Pn	**Pn**	**05 00 16.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=2.6						
FINES	**FINESS Array B**	**12.14**	**18**	Pn	**Pn**	**05 00 22.1**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=194,slow=11,SNR=4.4						
FINES				Sn	**Sn**	**05 02 29.7**	**-11**
	comp=Z,0.1nm,0.3s,baz=245,slow=23,SNR=2.8						

IDC 24 05:18:25.2±10.0, 1985S×17734W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.9/14, mbtmp3.9/3, Error ellipse: s-maj=444.0km s-min=36.9km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.27**	**256**	P	P	05 26 45.0	+0.5
	1.7nm,0.5s,baz=96,slow=7.6,SNR=27						
WB2	**Warramunga

JACH	**Jahuel**	**2.60 164**	*e*P	Pn	05 40 58.1	+1.5
PEL	**Peldehue**	**3.02 168**⇑	*i*P	Pn	05 41 03.0	+0.6
PEL			*i* S	Sn	05 41 42.1	+2.9
PEL			AMP		05 41 49.3	
	comp=N,2µm,0.5s					
PEL	**Peldehue**	**3.02 168**⇑	*i*P	Pn	05 41 03.0	+0.6
PEL			*i* S	Sn	05 41 42.1	+2.9
FCH	**Farellones**	**3.29 163**	*e*P	Pn	05 41 07.7	+1.6
FCH			*i* S	Sn	05 41 49.2	+3.5
FCH			AMP		05 42 03.0	
	comp=E,813nm,0.4s					
DSCH	**Colegio Aleman**	**3.29 167**	AMP		05 42 00.8	
	comp=E,205nm,0.6s					
CLCH	**Cerro Calan**	**3.30 166**	AMP		05 42 01.2	
	comp=E,1µm,1.0s					
CLCH			AMP		05 42 02.3	
	comp=E,2µm,0.3s					
RCDM	**Rinconada Maip**	**3.34 171**⇓	*i*P	Pn	05 41 07.7	+0.9
RCDM			*i* S	Sn	05 41 49.1	+2.1
RCDM			AMP		05 42 05.0	
	comp=E,902nm,0.2s					
RCDM	**Rinconada Maip**	**3.34 171**⇓	*i*P	Pn	05 41 07.7	+0.9
RCDM			*i* S	Sn	05 41 49.1	+2.1
ANTU	**Antumapu**	**3.45 168**	*e*P	Pn	05 41 09.5	+1.3
ANTU			*i* S	Sn	05 41 52.0	+2.4
ANTU			AMP		05 42 03.7	
	comp=N,1µm,0.7s					
ANTU	**Antumapu**	**3.45 168**	*e*P	Pn	05 41 09.5	+1.3
ANTU			*i* S	Sn	05 41 52.0	+2.4
TACH	**Talagante**	**3.49 173**	*i* P	Pn	05 41 09.1	+0.3
TACH			*i* S	Sn	05 41 51.5	+0.9
LMEL	**Las Melosas**	**3.81 164**	*e*P	Pn	05 41 14.2	+1.1
LMEL			*i* S	Sn	05 42 02.3	+3.9
CICH	**Cipreses**	**4.22 168**	*e*P	Pn	05 41 19.9	+1.2
CICH			*e*S	Sn	05 42 09.8	+1.2

NEIC 24 05:54:13.0, 3379N×11618W, h9km, ML3.6(PAS), **1C-2D, After PAS., Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**0.29**	**233**⇑	*e*Pg	Pg	05 54 18.2	-0.6
PFO				*e*Sg	Sg	05 54 22.0	-0.8
BAR	**Barrett**	**1.18**	**201**	*e*Pn	Pn	05 54 33.9	-1.7
BAR				*e*Sn	Sn	05 54 49.2	-2.6
GLA	**Glamis**	**1.35**	**123**	*e*Pn	Pn	05 54 37.4	-0.5
GLA				*e*Sn	Sn	05 54 55.5	-0.4
LDFC	**Landfair**	**1.56**	**34**⇓	*e*Pn	Pn	05 54 39.8	-1.1
LDFC				*e*Sn	Sn	05 55 01.1	-0.1
MWC	**Mount Wilson**	**1.62**	**286**	*e*Pn	Pn	05 54 41.2	-0.5
MWC				*e*Sn	Sn	05 55 02.9	+0.3
NEN	**Nelson**	**2.16**	**30**	*e*Pn	Pn	05 54 47.8	-1.2
NEN				*e*Pg	Pg	05 54 52.5	-1.9
NEN				*e*Sg	Sg	05 55 20.4	-1.9
DAC	**Darwin (Calif)**	**2.74**	**335**	*e*Pn	Pn	05 54 56.2	-0.9
DAC				*e*Pg	Pg	05 55 03.8	-1.7
DAC				*e*Sn	Sn	05 55 30.3	0.0
DAC				*e*Sg	Sg	05 55 38.1	-3.0
TPNV	**Topopah Spring**	**3.15**	**359**⇓	*e*Pn	Pn	05 55 02.5	-0.3
TPNV				*e*Sg	Sg	05 55 53.0	-1.3
MTUM	**Tungsten Hills**	**4.05**	**332**	*e*Pn	Pn	05 55 15.2	+0.1
MTUM				*e*Pg	Pg	05 55 28.2	-2.5
MTUM				*e*Sg	Sg	05 56 22.7	-0.6
WUAZ	**Wupatki**	**4.32**	**65**	*e*Pn	Pn	05 55 18.6	-0.2
WUAZ				*e*Pg	Pg	05 55 33.6	-2.1
WUAZ				*e*Sg	Sg	05 56 30.4	-1.3
CCUT	**Cedar City**	**4.40**	**31**	*e*Pn	Pn	05 55 20.3	+0.4
CCUT				*e*Sg	Sg	05 56 31.1	-3.2
ARUT	**Antelope Range**	**4.57**	**28**	*e*Pn	Pn	05 55 22.5	+0.2
ARUT				*e*Pg	Pg	05 55 38.7	-1.8
ARUT				*e*Sg	Sg	05 56 36.1	-3.6
TUC	**Tucson**	**4.76**	**107**	*e*Pn	Pn	05 55 24.1	-0.8
TUC				*e*Sg	Sg	05 56 43.1	-2.9
MNV	**Mina**	**4.90**	**342**	*e*Pn	Pn	05 55 26.7	-0.1
MNV				*e*Pg	Pg	05 55 44.3	-2.7
MNV				*e*Sg	Sg	05 56 49.7	-0.8
CMB	**Columbia Colle**	**5.44**	**322**	*e*Pn	Pn	05 55 35.0	+0.8
CMB				*e*Pg	Pg	05 55 54.4	-2.8
CMB				*e*Sg	Sg	05 56 57.9	-10
MSU	**Marysvale**	**5.72**	**33**	*e*Pn	Pn	05 55 39.0	+1.0
MSU				*e*Sg	Sg	05 57 13.7	-2.9
DUG	**Dugway**	**6.94**	**22**	*e*Pn	Pn	05 55 54.4	-0.4
DUG				*e*Pg	Pg	05 56 21.9	-4.0
DUG				*e*Sg	Sg	05 57 49.8	-5.9
ELK	**Elko**	**6.99**	**6**	*e*Pn	Pn	05 55 56.0	+0.6
ELK				*e*Pg	Pg	05 56 23.9	-2.8
ELK				*e*Sg	Sg	05 57 52.1	-5.1
PV01	**Paradox Valley**	**7.54**	**53**	*e*Pn	Pn	05 56 04.4	+1.3
PV01				*e*Pg	Pg	05 56 37.1	-0.3
PV01				*e*Sg	Sg	05 58 10.5	-4.5

*ISK **24** 06:14:46.6, 3939N×3310E, h2km, ML3.9*
*ISCJB **24** 06:14:47.4±0.2, 3938N±002×3312E±002, h2km, Error ellipse: s-maj=3.1km s-min=2.7km az=129.4*
*CSEM **24** 06:14:47.0±0.1, 3939N×3312E, h5km, ML3.9, Error ellipse: s-maj=1.3km s-min=1.1km az=35.0*
*NEIC **24** 06:14:48.0, 3947N×3307E, h15km, ML3.9(ISK), After ISK.*

ISC 24 06:14:48.2±0.2, 3940N±002×3311E±002, h2km, n57, σ0°76/75, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BR131	**Keskin Array S**	**0.52**	**51**	*e*Pg	**Pg**	**06 14 57.7**	**-0.5**
BR131				*e*Sg	**Sg**	**06 15 05.2**	**+0.3**
BR131	**Keskin Array S**	**0.52**	**51**	*e*Pg	**Pg**	**06 14 57.7**	**-0.4**
BR131				*e*Sg	**Sg**	**06 15 05.2**	**+0.2**
ANTO	**Ankara**	**0.53**	**332**	PG	**Pg**	**06 14 57.4**	**-0.9**
ANTO				SG	**Sg**	**06 15 05.8**	**+0.6**
ANTO	**Ankara**	**0.53**	**332**	*e*Pg	**Pg**	**06 14 58.4**	**+0.1**
ANTO				*e*Sg	**Sg**	**06 15 05.8**	**+0.6**
ANTO	**Ankara**	**0.53**	**332**	*e*Pg	**Pg**	**06 14 58.4**	**0.0**
ANTO				*e*Sg	**Sg**	**06 15 03.8**	**-1.4**
LOD	**Lodumlu**	**0.56**	**331**	PG	**Pg**	**06 14 58.9**	**0.0**
CDAG	**Cicekdag**	**1.00**	**77**	*i* P	**Pg**	**06 15 06.1**	**-1.2**
CDAG				*i* S	**Sg**	**06 15 20.8**	**+0.5**
KIZT	**Kizilcal**	**1.09**	**242**	PG	**Pg**	**06 15 07.8**	**-1.3**
ELDT	**Eldivan**	**1.12**	**12**	*i* P	**Pg**	**06 15 09.0**	**-0.6**
ELDT				*i* S	**Sg**	**06 15 25.9**	**+1.9**
KDHN	**Kadinhani**	**1.17**	**222**	*i* P	**Pg**	**06 15 09.6**	**-1.1**
KDHN				*i* S	**Sg**	**06 15 26.1**	**+0.3**
CANT	**Cankiri**	**1.27**	**18**	PN	**Pn**	**06 15 12.1**	**-0.8**
CORM	**Corum**	**1.41**	**56**	PN	**Pn**	**06 15 13.9**	**-0.9**
CORM				SN	**Sn**	**06 15 34.6**	**+0.8**
SGKT	**Sivrigoynuk**	**1.43**	**326**	*i* P	**Pn**	**06 15 15.0**	**-0.1**
SGKT				*i* S	**Sg**	**06 15 34.3**	**+0.3**
KONT	**Konya--Tatoy**	**1.57**	**202**	PN	**Pn**	**06 15 16.9**	**-0.1**
NIG	**Nigde**	**1.74**	**137**	PN	**Pn**	**06 15 18.9**	**-0.5**
ESKT	**Eskisehir**	**1.76**	**275**	*i* P	**Pn**	**06 15 20.4**	**+0.8**
ESKT				*i* S	**Sn**	**06 15 46.4**	**+3.9**
SEYT	**Eskypehyr**	**1.76**	**275**	*i* P	**Pn**	**06 15 20.4**	**+0.8**
TOS	**Tosya**	**1.78**	**23**	PN	**Pn**	**06 15 19.5**	**-0.4**
MDU	**Mudurnu**	**1.81**	**307**	PN	**Pn**	**06 15 20.2**	**-0.1**
SAFT	**Safranbolu**	**1.87**	**350**	PN	**Pn**	**06 15 21.5**	**+0.4**
BORA	**Eskisehir**	**2.11**	**284**	*i* P	**Pn**	**06 15 24.0**	**-0.4**
BORA				*i* S	**Sn**	**06 15 57.5**	**+6.2**
HENT	**Hendek**	**2.22**	**311**	*e*P	**Pn**	**06 15 26.9**	**+1.0**
HENT				*i* S	**Sn**	**06 16 00.1**	**+6.3**
GPA	**Golpazari**	**2.33**	**293**	PN	**Pn**	**06 15 26.9**	**-0.7**
ALT	**Altintas**	**2.36**	**263**	PN	**Pn**	**06 15 27.6**	**-0.3**
BYBT	**Boyabat**	**2.42**	**31**	PN	**Pn**	**06 15 28.0**	**-0.8**
BOYT	**Boyabat**	**2.44**	**34**	*i* P	**Pn**	**06 15 28.7**	**-0.3**
BOYT				*i* S	**Sn**	**06 15 58.8**	**-0.6**
ISP	**Isparta**	**2.56**	**234**	PN	**Pn**	**06 15 30.0**	**-0.7**
ISP	**Isparta**	**2.56**	**234**	*e*Pn	**Pn**	**06 15 30.5**	**-0.2**
ISP				*e*Sn	**Sn**	**06 16 04.4**	**+2.0**
ISP	**Isparta**	**2.56**	**234**	*e*Pn	**Pn**	**06 15 30.5**	**-0.2**
ISP				*e*Sn	**Sn**	**06 16 04.4**	**+2.0**
TKTP	**Tekketepe**	**2.57**	**239**	*i* P	**Pn**	**06 15 31.0**	**+0.2**
KARA	**Karaisali**	**2.62**	**144**	PN	**Pn**	**06 15 31.3**	**-0.2**
MERS	**Mersin**	**2.76**	**156**	PN	**Pn**	**06 15 33.1**	**-0.3**
TOKT	**Tokat**	**2.80**	**70**	PN	**Pn**	**06 15 33.9**	**0.0**
KVT	**Kavak**	**2.80**	**52**	PN	**Pn**	**06 15 33.3**	**-0.7**
GDZ	**Gediz**	**2.84**	**265**	*e*P	**Pn**	**06 15 35.0**	**+0.6**
GDZ				*i* S	**Sn**	**06 16 23.0**	**+14**
KOZT	**Kozan**	**2.86**	**131**	PN	**Pn**	**06 15 34.6**	**-0.2**
IZI	**Iznik**	**2.95**	**290**	PN	**Pn**	**06 15 36.3**	**+0.2**
HRT	**Hereke**	**3.00**	**299**	PN	**Pn**	**06 15 37.3**	**+0.6**
SVSK	**Karacayir**	**3.04**	**79**	PN	**Pn**	**06 15 38.2**	**+0.9**
YLV	**Yalova**	**3.10**	**293**	PN	**Pn**	**06 15 37.7**	**-0.4**
ULDT	**Uludag**	**3.15**	**285**	*i* P	**Pn**	**06 15 38.0**	**-0.9**
CEYT	**Ceyhan**	**3.16**	**138**	PN	**Pn**	**06 15 39.7**	**+0.8**
IKL	**Isikli**	**3.19**	**172**	PN	**Pn**	**06 15 39.0**	**-0.3**
KRTS	**Karatas**	**3.34**	**147**	*e*PN	**Pn**	**06 15 41.5**	**+0.1**
DST	**Dursunbey**	**3.48**	**275**	PN	**Pn**	**06 15 42.9**	**-0.3**
ELL	**Elmali**	**3.66**	**225**	*e*PN	**Pn**	**06 15 46.0**	**+0.2**
KCT	**Karacabey**	**3.76**	**285**	*e*PN	**Pn**	**06 15 46.7**	**-0.5**
GAZ	**Gaziantep**	**3.92**	**123**	*e*PN	**Pn**	**06 15 50.0**	**+0.7**
GZT	**Gaziantep**	**4.05**	**119**	*e*P	**Pn**	**06 15 48.7**	**-2.4**
HTY	**Hatay**	**4.05**	**143**	*e*PN	**Pn**	**06 15 51.5**	**+0.3**
AKS	**Akhisar**	**4.15**	**265**	*e*PN	**Pn**	**06 15 52.7**	**+0.1**
MYA	**Malataya**	**4.28**	**103**	*e*PN	**Pn**	**06 15 54.2**	**-0.1**
MALT	**Malatya**	**4.29**	**103**	*e*PN	**Pn**	**06 15 55.0**	**+0.6**
MALT	**Malatya**	**4.29**	**103**	*e*Pn	**Pn**	**06 15 57.8**	**+3.4**
MALT				*e*Sn	**Sn**	**06 16 50.7**	**+5.7**
YER	**Yerkesik**	**4.42**	**241**	*e*PN	**Pn**	**06 15 57.1**	**+0.8**
KELT	**Kelkit**	**4.79**	**79**	*e*P	**Pn**	**06 16 02.5**	**+1.2**
URFA	**Urfa**	**4.89**	**112**	*e*PN	**Pn**	**06 16 04.0**	**+1.3**

*ISCJB **24** 07:09:59.3±0.2, 4717N±001×745E±002, h10km, Error ellipse: s-maj=2.0km s-min=1.6km az=73.6*
*NEIC **24** 07:10:00.0, 4720N×752E, h1km, ML2.2(ZUR), ML2.3(STR), ML2.7(LDG), After ZUR.*
*ZUR **24** 07:10:00.0, 4720N×752E, h-1km±6km, ML2.2/6*
*LEDBW **24** 07:10:01.1±2.6, 4721N×752E, h5km, ML2.3, Error ellipse: s-maj=50.0km s-min=28.0km az=158.0*
*LDG **24** 07:10:01.3±0.1, 4720N×750E, h8km, Md2.6/1, Ml2.7/16, Error ellipse: s-maj=1.0km s-min=0.9km az=116.0*
*CSEM **24** 07:10:01.2±0.1, 4720N×752E, h12km, ML2.7/17, Error ellipse: s-maj=0.9km s-min=0.8km az=119.0*
*STR **24** 07:10:01.4±0.5, 4721N×746E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 24 07:10:00.5±0.2, 4719N±001×748E±002, h10km, n70, σ0°93/150, 4C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.21**	**45**	*e*Sg	**Pg**	**07 10 04.4**	**-0.5**
	1µm,0.4s						
BALST	**Balsthal**	**0.21**	**45**⇓	*i*Pg	**Sg**	**07 10 07.5**	**-0.3**
	1µm,0.4s						
BALST	**Balsthal**	**0.21**	**45**⇓	*i*Pg	**Sg**	**07 10 07.5**	**-0.3**
	1µm,0.4s						
BOURR	**Bourrignon**	**0.27**	**320**⇓	*i*Pg	**Pg**	**07 10 06.3**	**+0.4**
	433nm,0.5s						
BOURR				*e*Sg	**Sg**	**07 10 10.6**	**+1.1**
	433nm,0.5s						
BBS	**Basel-Blauen**	**0.28**	**4**	*i* P*	**Pg**	**07 10 06.2**	**0.0**
BBS				S*	**Sg**	**07 10 09.9**	**+0.1**
BBS	**Basel-Blauen**	**0.28**	**4**	Pg	**Pg**	**07 10 06.0**	**-0.1**
BBS				Sg	**Sg**	**07 10 10.0**	**+0.1**
BBS	**Basel-Blauen**	**0.28**	**4**	*i* P	**Pg**	**07 10 06.2**	**+0.1**
BBS				S	**Sg**	**07 10 10.0**	**+0.1**
LOMF	**Lomont**	**0.47**	**290**	S*	**Sg**	**07 10 17.4**	**+1.4**
TORNY	**Torny**	**0.55**	**221**⇑	*i*Pg	**Pg**	**07 10 12.0**	**+0.8**
	178nm,1.0s						
SULZ	**Sulz-Cheisache**	**0.55**	**52**	*e*Pg	**Pg**	**07 10 10.9**	**-0.3**
	140nm,0.8s						
HASLI	**Hasliberg**	**0.63**	**133**⇓	*i*Pg	**Pg**	**07 10 12.8**	**0.0**
	143nm,0.6s						
HASLI				*e*Sg	**Sg**	**07 10 22.8**	**+1.7**
	143nm,0.6s						
MOF	**Molkenrain**	**0.70**	**341**	P*	**Pg**	**07 10 14.3**	**+0.2**
MOF				PmP		07 10 15.4	
MOF				S*	**Sb**	**07 10 24.2**	**-0.4**
MOF				SmS		07 10 27.3	
MOF	**Molkenrain**	**0.70**	**341**	P	**Pg**	**07 10 14.3**	**+0.2**
MOF				P		07 10 15.4	
MOF	**Molkenrain**	**0.70**	**341**	Pg	**Pg**	**07 10 14.2**	**+0.1**
BRANT	**Les Verrieres**	**0.73**	**250**⇑	*i*P	**Pg**	**07 10 15.4**	**+0.7**
	154nm,0.5s						
BRANT				*e*S	**Sg**	**07 10 26.4**	**+2.1**
	154nm,0.5s						
HINF	**Hinteralfeld**	**0.76**	**326**	*e*Pn	**Pn**	**07 10 16.7**	**-0.6**
HINF				*e*Sg	**Sg**	**07 10 25.4**	**+0.3**
HINF				*e*Sn	**Sg**	**07 10 28.1**	**+3.0**
	88nm,0.3s						
HINF	**Hinteralfeld**	**0.76**	**326**	*e*Pn	**Pn**	**07 10 16.7**	**-0.6**
HINF				*e*Sg	**Sg**	**07 10 25.4**	**+0.3**
HINF				*e*Sn	**Sg**	**07 10 28.1**	**+3.0**
	44nm,0.3s						
HINF	**Hinteralfeld**	**0.76**	**326**	*e*Pg	**Pg**	**07 10 15.1**	**-0.1**
HINF				*e*Pn	**Pn**	**07 10 16.7**	**-0.6**
HINF				*e*Sg	**Sg**	**07 10 25.4**	**+0.3**
HINF				*e*Sn	**Sg**	**07 10 28.1**	**+3.0**
FELD	**Feldberg**	**0.77**	**27**	P	**Pg**	**07 10 16.1**	**+0.6**
FELD				S	**Sg**	**07 10 27.8**	**+2.2**
FELD	**Feldberg**	**0.77**	**27**	Pg	**Pg**	**07 10 16.1**	**+0.6**
FELD				Sg	**Sg**	**07 10 26.2**	**+0.6**
KIZ	**Kirchzarten**	**0.82**	**21**	P*	**Pb**	**07 10 15.7**	**-1.2**
KIZ				PmP		07 10 17.2	
KIZ				S*	**Sg**	**07 10 26.7**	**-0.4**
KIZ	**Kirchzarten**	**0.82**	**21**	P	**Pg**	**07 10 17.2**	**+0.8**
KIZ				S	**Sg**	**07 10 26.7**	**-0.4**
ECH	**Echery**	**1.05**	**348**	Pg	**Pg**	**07 10 20.8**	**+0.1**
ECH				Sg	**Sg**	**07 10 35.4**	**+1.0**
ECH	**Echery**	**1.05**	**348**	P	**Pg**	**07 10 21.1**	**+0.4**
ECH				S	**Sg**	**07 10 35.7**	**+1.3**
CABF	**La Chapelle**	**1.12**	**239**	*e*Pg	**Pg**	**07 10 23.2**	**+1.2**
CABF				*e*Sn	**Sn**	**07 10 36.7**	**-0.9**
CABF				*e*Sg	**Sg**	**07 10 38.1**	**+1.6**
	14nm,0.3s						
CABF	**La Chapelle**	**1.12**	**239**	*e*Pg	**Pg**	**07 10 23.2**	**+1.2**
CABF				*e*Sn	**Sn**	**07 10 36.7**	**-0.9**
CABF				*e*Sg	**Sg**	**07 10 38.1**	**+1.6**
	7.2nm,0.3s						
CABF	**La Chapelle**	**1.12**	**239**	*e*Pn	**Pn**	**07 10 22.4**	**+0.2**
CABF				*e*Pg	**Pg**	**07 10 23.2**	**+1.2**
CABF				*e*Sn	**Sn**	**07 10 36.7**	**-0.9**
CABF				*e*Sg	**Sg**	**07 10 38.1**	**+1.6**
HAU	**Haudompre**	**1.12**	**317**	*e*Pg	**Pg**	**07 10 22.6**	**+0.5**
HAU	**Haudompre**	**1.12**	**317**	*e*P	**Pb**	**07 10 23.3**	**+1.3**
HAU				*e*Sg	**Sg**	**07 10 37.6**	**+1.0**
	58nm,0.2s						
HAU	**Haudompre**	**1.12**	**317**	*e*Pg	**Pg**	**07 10 22.6**	**+0.5**
HAU	**Haudompre**	**1.12**	**317**	*e*P	**Pb**	**07 10 23.3**	**+1.3**
HAU				*e*Sg	**Sg**	**07 10 37.6**	**+1.0**
	29nm,0.2s						
HAU	**Haudompre**	**1.12**	**317**	*e*Pn	**Pn**	**07 10 21.8**	**-0.5**
HAU				*e*Pg	**Pg**	**07 10 22.6**	**+0.5**
HAU				*e*Sg	**Sg**	**07 10 37.6**	**+1.0**
SISB	**Singen-Sch Ber**	**1.12**	**63**	Pg	**Pg**	**07 10 22.2**	**+0.1**
SISB				Sg	**Sg**	**07 10 37.2**	**+0.5**
WLS	**Welschbruch**	**1.23**	**356**	Pg	**Pg**	**07 10 24.3**	**+0.2**
WLS				Sg	**Sg**	**07 10 41.0**	**+0.9**
CDF	**Champ du Feu**	**1.23**	**354**	*e*Pg	**Pg**	**07 10 24.2**	**0.0**
CDF				*e*Sn	**Sn**	**07 10 38.4**	**-2.1**
CDF				*e*Sg	**Sg**	**07 10 40.4**	**+0.2**
	64nm,0.5s						
CDF	**Champ du Feu**	**1.23**	**354**	*e*Pg	**Pg**	**07 10 24.2**	**0.0**
CDF				*e*Sn	**Sn**	**07 10 38.4**	**-2.1**
CDF				*e*Sg	**Sg**	**07 10 40.4**	**+0.2**
	32nm,0.5s						
CDF	**Champ du Feu**	**1.23**	**354**	*e*Pn	**Pn**	**07 10 23.1**	**-0.7**
CDF				*e*Pg	**Pg**	**07 10 24.2**	**0.0**
CDF				*e*Sn	**Sn**	**07 10 38.4**	**-2.1**
CDF				*e*Sg	**Sg**	**07 10 40.4**	**+0.2**
BFO	**Black Forest**	**1.28**	**26**	*e*Pg	**Pg**	**07 10 24.6**	**-0.5**
BFO				*e*Sg	**Sg**	**07 10 41.3**	**-0.4**
BFO	**Black Forest**	**1.28**	**26**	*e*Pg	**Pg**	**07 10 24.2**	**-0.9**
BFO				*e*Sg	**Sg**	**07 10 41.3**	**-0.4**
BFO	**Black Forest**	**1.28**	**26**	*e*Pg	**Pg**	**07 10 24.2**	**-0.8**
BFO				*e*Sg	**Sg**	**07 10 41.3**	**-0.4**
GUT	**Gutenstein**	**1.42**	**51**	Pg	**Pg**	**07 10 27.6**	**-0.1**
GUT				Sg	**Sg**	**07 10 45.8**	**-0.2**
THEF	**They Montfort**	**1.45**	**316**	Pg	**Pg**	**07 10 28.3**	**0.0**
THEF				Sg	**Sg**	**07 10 47.4**	**+0.3**
THEF	**They Montfort**	**1.45**	**316**	P	**Pn**	**07 10 28.5**	**+1.7**
THEF				S	**Sn**	**07 10 47.9**	**+2.1**
DAVA	**Damuels**	**1.64**	**86**⇑	*i*Pg	**Pg**	**07 10 30.9**	**-1.1**
DAVA			⇑	*i*Sg	**Sg**	**07 10 53.2**	**0.0**
	comp=N,9.5nm,0.2s						
LPL	**La Plagne**	**1.75**	**197**	*e*Pg	**Pg**	**07 10 34.0**	**-0.1**
LPL				*e*Sg	**Sg**	**07 10 58.0**	**+1.1**
	9.0nm,0.5s						
LPL	**La Plagne**	**1.75**	**197**	*e*Pg	**Pg**	**07 10 34.0**	**-0.1**
LPL				*e*Sg	**Sg**	**07 10 58.0**	**+1.1**
	4.5nm,0.5s						
LPG	**La Plagne**	**1.77**	**197**	*e*Pg	**Pg**	**07 10 34.6**	**+0.2**
LPG				*e*Sg	**Sg**	**07 10 58.4**	**+1.1**
	6.5nm,0.3s						
LPG	**La Plagne**	**1.77**	**197**	*e*Pg	**Pg**	**07 10 34.6**	**+0.2**
LPG				*e*Sg	**Sg**	**07 10 58.4**	**+1.1**
	3.2nm,0.3s						
UBR	**Uberruh**	**1.85**	**74**	Pg	**Pg**	**07 10 35.5**	**-0.6**
UBR				Sg	**Sg**	**07 11 00.3**	**+0.2**
SFTF	**Sexfontaines**	**1.94**	**303**	*e*Pg	**Pg**	**07 10 37.5**	**-0.2**
	baz=124						
SFTF				*e*Sn	**Sn**	**07 10 56.0**	**-1.9**
SFTF				*e*Sg	**Sg**	**07 11 02.8**	**0.0**
	13nm,0.3s						
SFTF	**Sexfontaines**	**1.94**	**303**	*e*Pg	**Pg**	**07 10 37.5**	**-0.2**
SFTF				*e*Sn	**Sn**	**07 10 56.0**	**-1.9**
SFTF				*e*Sg	**Sg**	**07 11 02.8**	**0.0**
	6.4nm,0.3s						
RFYF	**Reffroy**	**1.97**	**318**	*e*Sn	**Sn**	**07 10 56.5**	**-2.3**
	baz=134						
RFYF				*e*Sg	**Sg**	**07 11 03.8**	**-0.2**
	9.4nm,0.2s						
RFYF	**Reffroy**	**1.97**	**318**	*e*Sn	**Sn**	**07 10 56.5**	**-2.3**
RFYF				*e*Sg	**Sg**	**07 11 03.8**	**-0.2**
	4.7nm,0.2s						
MEZF	**Maizieres J'vi**	**2.10**	**310**	*e*Pg	**Pg**	**07 10 40.7**	**-0.1**
	baz=127						
MEZF				*e*Sn	**Sn**	**07 10 58.9**	**-2.9**
MEZF				*e*Sg	**Sg**	**07 11 07.6**	**-0.3**
	13nm,0.3s						
MEZF	**Maizieres J'vi**	**2.10**	**310**	*e*Pg	**Pg**	**07 10 40.7**	**-0.1**
MEZF				*e*Sn	**Sn**	**07 10 58.9**	**-2.9**
MEZF				*e*Sg	**Sg**	**07 11 07.6**	**-0.3**
	6.3nm,0.3s						
LOR	**Lormes**	**2.47**	**273**	*e*Pg	**Pg**	**07 10 47.7**	**-0.2**
	baz=92						
LOR				*e*Sg	**Sg**	**07 11 19.3**	**-0.6**
	16nm,0.5s,baz=98						
LOR	**Lormes**	**2.47**	**273**	*e*Pg	**Pg**	**07 10 47.7**	**-0.2**
LOR				*e*Sg	**Sg**	**07 11 19.3**	**-0.6**
	8.2nm,0.5s						
MBDF	**Montbardon**	**2.51**	**192**	*e*Pg	**Pg**	**07 10 48.3**	**-0.4**
MBDF				*e*Sg	**Sg**	**07 11 21.0**	**-0.3**
	3.6nm,0.4s						
MBDF	**Montbardon**	**2.51**	**192**	*e*Pg	**Pg**	**07 10 48.3**	**-0.4**
MBDF				*e*Sg	**Sg**	**07 11 21.0**	**-0.3**
	1.8nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.53**	**207**	*e*Pg	**Pg**	**07 10 48.1**	**-0.9**
ORIF				*e*Sg	**Sg**	**07 11 21.0**	**-0.8**
	6.1nm,0.5s						
ORIF	**Oris-en-Rattie**	**2.53**	**207**	*e*Pg	**Pg**	**07 10 48.1**	**-0.9**
ORIF				*e*Sg	**Sg**	**07 11 21.0**	**-0.8**
	3.0nm,0.5s						
SMF	**Signal de Mont**	**2.55**	**259**	*e*Pg	**Pg**	**07 10 49.0**	**-0.5**
SMF				*e*Sn	**Sn**	**07 11 10.5**	**-2.6**
SMF				*e*Sg	**Sg**	**07 11 22.6**	**0.0**
	6.7nm,0.3s						
SMF	**Signal de Mont**	**2.55**	**259**	*e*Pg	**Pg**	**07 10 49.0**	**-0.5**
SMF				*e*Sn	**Sn**	**07 11 10.5**	**-2.6**
SMF				*e*Sg	**Sg**	**07 11 22.6**	**0.0**
	3.3nm,0.3s						
SSF	**Saint Saulge**	**2.72**	**269**	*e*Sn	**Sn**	**07 11 14.9**	**-2.2**
SSF				*e*Sg	**Sg**	**07 11 27.7**	**-0.1**
	5.5nm,0.4s						
SSF	**Saint Saulge**	**2.72**	**269**	*e*Sn	**Sn**	**07 11 14.9**	**-2.2**
SSF				*e*Sg	**Sg**	**07 11 27.7**	**-0.1**
	2.8nm,0.4s						
AVF	**Avril sur Loir**	**2.85**	**263**	*e*Pg	**Pg**	**07 10 54.3**	**-0.9**
AVF				*e*Sg	**Sg**	**07 11 32.0**	**-0.2**
	1.7nm,0.3s						
AVF	**Avril sur Loir**	**2.85**	**263**	*e*Pg	**Pg**	**07 10 54.3**	**-0.9**
AVF				*e*Sg	**Sg**	**07 11 32.0**	**-0.2**
	0.9nm,0.3s						

SALF Sg Sg 07 19 53.2 -0.4
SALF Salau 1.01 269 P Pg 07 19 39.8 -0.8
SALF S Sg 07 19 53.0 -0.6
CFON Fontmartina 1.03 185 Pg Pg 07 19 40.3 -0.8
CFON Sg Sg 07 19 54.0 -0.5
381nm,0.2s
CFON Fontmartina 1.03 185 Pg Pg 07 19 40.3 -0.7
CFON Sg Sg 07 19 54.0 -0.4
CORG Organya 1.07 239 Pg Pg 07 19 40.1 -1.8
CORG Lg 07 19 54.6
15nm,0.1s
CORG Organya 1.07 239 Pg Pg 07 19 40.2 -1.7
CORG Sg Sg 07 19 54.6 -1.2
30nm,0.1s
CORG Organya 1.07 239 Pg Pg 07 19 40.2 -1.7
CORG Sg Sg 07 19 54.6 -1.2
MLS Moulis 1.09 279 Pg Pg 07 19 41.9 -0.2
MLS Sg Sg 07 19 56.5 +0.3
MLS Moulis 1.09 279 P Pg 07 19 41.2 -0.9
MLS S Sg 07 19 56.5 +0.3
CSOR Sort 1.13 249 Pg Pg 07 19 41.7 -1.2
CSOR Lg 07 19 57.1
23nm,0.2s
CSOR Sort 1.13 249 Pg Pg 07 19 41.7 -1.2
CSOR Sg Sg 07 19 57.2 -0.4
45nm,0.2s
CSOR Sort 1.13 249 Pg Pg 07 19 41.7 -1.2
CSOR Sg Sg 07 19 57.2 -0.4
EMIR Miracle 1.16 221 Pg Pg 07 19 43.0 -0.5
15nm,0.1s,SNR=13
EMIR Lg 07 19 58.6
52nm,0.1s,SNR=13
EMIR Miracle 1.16 221 Pg Pg 07 19 43.0 -0.6
15nm,0.1s,SNR=13
EMIR Miracle 1.16 221 Pg Pg 07 19 43.0 -0.5
EMIR Lg 07 19 58.6
MELF Melles 1.32 274 Pg Pg 07 19 45.0 -1.6
MELF Sg Sg 07 20 03.1 -0.7
MELF Melles 1.32 274 P Pn 07 19 45.2 -0.8
MELF S Sb 07 20 02.7 -0.8
LASF Ste Croix 1.60 36 *e*P Pn 07 19 50.1 +0.3
LASF Ste Croix 1.60 36 *e*Pg Pg 07 19 51.8 -0.1
LASF *e*Sn Sn 07 20 08.2 -2.4
SNR=1.0
LASF *e*Sg Sg 07 20 11.6 -1.0
32nm,0.2s
LASF Ste Croix 1.60 36 Pn Pn 07 19 47.7 -2.1
LASF Pg Pg 07 19 51.8 -0.1
LASF Sn Sn 07 20 08.2 -2.4
LASF Lg 07 20 11.6
16nm,0.2s
LASF Ste Croix 1.60 36 *e*P Pn 07 19 50.1 +0.3
LASF Ste Croix 1.60 36 *e*Pg Pg 07 19 51.8 -0.1
LASF *e*Sn Sn 07 20 08.2 -2.4
SNR=1.0
LASF *e*Sg Sg 07 20 11.6 -1.0
16nm,0.2s
LASF Ste Croix 1.60 36 *e*Pn Pn 07 19 47.7 -2.1
LASF *e*Pg Pg 07 19 51.8 -0.1
LASF *e*Sn Sn 07 20 08.2 -2.4
LASF *e*Sg Sg 07 20 11.6 -1.0
CAVN Les Avellanes 1.62 236 Pg Pg 07 19 51.3 -0.9
CAVN Lg 07 20 12.3
99nm,0.3s
CAVN Les Avellanes 1.62 236 Pg Pg 07 19 51.4 -0.8
CAVN Sg Sg 07 20 12.4 -0.8
198nm,0.3s
CAVN Les Avellanes 1.62 236 Pg Pg 07 19 51.4 -0.9
CAVN Sg Sg 07 20 12.4 -0.8
RESF Ens 1.63 271 S Sn 07 20 13.3 +1.9
EPF Esparros 1.65 279 *e*P Pn 07 19 51.8 +1.3
SNR=1.0
EPF Esparros 1.65 279 *e*Pg Pg 07 19 52.6 -0.2
EPF *e*Sn Sn 07 20 09.7 -2.1
SNR=1.0
EPF *e*Sg Sg 07 20 13.0 -1.1
36nm,0.3s,SNR=1.0
EPF Esparros 1.65 279 Pn Pn 07 19 49.6 -0.9
EPF Pg Pg 07 19 52.6 -0.2
EPF Sn Sn 07 20 09.7 -2.1
EPF Lg 07 20 13.0
18nm,0.3s
EPF Esparros 1.65 279 *e*P Pn 07 19 51.8 +1.3
SNR=1.0
EPF Esparros 1.65 279 *e*Pg Pg 07 19 52.6 -0.2
EPF *e*Sn Sn 07 20 09.7 -2.1
SNR=1.0
EPF *e*Sg Sg 07 20 13.0 -1.1
18nm,0.3s,SNR=1.0
EPF Esparros 1.65 279 *e*Pn Pn 07 19 49.6 -0.9
EPF *e*Pg Pg 07 19 52.6 -0.2
EPF *e*Sn Sn 07 20 09.7 -2.1
EPF *e*Sg Sg 07 20 13.0 -1.1
EGRA Graus 1.76 251 Pg Pg 07 19 54.3 -0.7
0.6nm,0.1s,SNR=11
EGRA Lg 07 20 19.0
18nm,0.2s,SNR=11
EBIE Bielsa 1.78 267 Pg Pg 07 19 54.6 -0.8
1.8nm,0.1s,SNR=20
EBIE Lg 07 20 18.5
4.2nm,0.1s,SNR=4.5
EBIE Bielsa 1.78 267 Pn Pn 07 19 54.6 +2.3
1.8nm,0.1s,SNR=20
EBIE Bielsa 1.78 267 Pg Pg 07 19 54.6 -0.8
EBIE Sn Sn 07 20 17.5 +2.3
EPOB Poblet 1.81 218 Pg Pg 07 19 53.6 -2.3
7.9nm,0.1s,SNR=28
EPOB Lg 07 20 17.2
57nm,0.2s,SNR=14
EPOB Poblet 1.81 218 Pn Pn 07 19 53.6 +0.8
7.9nm,0.1s,SNR=28
EPOB Poblet 1.81 218 Pg Pg 07 19 54.2 -1.8
EPOB Poblet 1.81 218 Pn Pn 07 19 53.6 +0.9
EPOB Pg Pg 07 19 54.2 -1.7
EPOB Sn Sn 07 20 17.2 +1.3
CGAR Garraf 1.83 216 Pg Pg 07 19 50.3 -6.1
CGAR Lg 07 20 10.6
21nm,0.2s
CGAR Garraf 1.83 216 Pg Pg 07 19 50.4 -6.0
CGAR Sg Sg 07 20 10.6 -10
LABF Labassere 1.84 279 Pg Pg 07 19 55.5 -1.0
LABF Labassere 1.84 279 P Pn 07 19 55.1 +2.0
LABF S Sn 07 20 18.9 +2.2
VIEF Viey 1.86 274 S Sn 07 20 19.9 +2.6
CAF Calviac 2.16 351 *e*Pg Pg 07 20 01.2 -1.5
SNR=1.0
CAF *e*Sn Sn 07 20 21.2 -3.4
SNR=1.0
CAF *e*Sg Sg 07 20 28.0 -2.7
33nm,0.2s,SNR=1.0
CAF Calviac 2.16 351 Pn Pn 07 19 56.4 -1.2
CAF Pg Pg 07 20 01.2 -1.5
CAF Sn Sn 07 20 21.2 -3.4
CAF Lg 07 20 28.0
16nm,0.2s
CAF Calviac 2.16 351 *e*Pg Pg 07 20 01.2 -1.5
SNR=1.0
CAF *e*Sn Sn 07 20 21.2 -3.4
SNR=1.0
CAF *e*Sg Sg 07 20 28.0 -2.7
16nm,0.2s,SNR=1.0
CAF Calviac 2.16 351 *e*Pn Pn 07 19 56.4 -1.2
CAF *e*Pg Pg 07 20 01.2 -1.5
CAF *e*Sn Sn 07 20 21.2 -3.4
CAF *e*Sg Sg 07 20 28.0 -2.7
ETSF Etsaut 2.29 274 *e*Pg Pg 07 20 04.5 -0.7
SNR=1.0
ETSF *e*Sn Sn 07 20 24.7 -3.1
ETSF *e*Sg Sg 07 20 34.0 -0.9
44nm,0.5s
ETSF Etsaut 2.29 274 Pn Pn 07 19 58.5 -0.9
ETSF Pg Pg 07 20 04.5 -0.7
ETSF Sn Sn 07 20 24.7 -3.1
ETSF Lg 07 20 34.0
22nm,0.5s
ETSF Etsaut 2.29 274 *e*Pg Pg 07 20 04.5 -0.7
SNR=1.0
ETSF *e*Sn Sn 07 20 24.7 -3.1
ETSF *e*Sg Sg 07 20 34.0 -0.9
22nm,0.5s
ETSF Etsaut 2.29 274 *e*Pn Pn 07 19 58.5 -0.9
ETSF *e*Pg Pg 07 20 04.5 -0.7
ETSF *e*Sn Sn 07 20 24.7 -3.1
ETSF *e*Sg Sg 07 20 34.0 -0.9

ERTA Horta de San J 2.47 223 Pn Pn 07 20 01.7 -0.1
0.8nm,0.1s,SNR=8.6
ERTA Pg Pg 07 20 07.4 -1.3
1.1nm,0.1s,SNR=7.9
ERTA Lg 07 20 37.7
8.2nm,0.2s,SNR=15
ERTA Horta de San J 2.47 223 Pn Pn 07 20 01.7 -0.2
0.8nm,0.1s,SNR=8.6
ERTA Horta de San J 2.47 223 Pg Pg 07 20 06.9 -1.7
ERTA Horta de San J 2.47 223 Pn Pn 07 20 01.7 -0.1
ERTA Pg Pg 07 20 06.9 -1.7
ERTA Pg Pg 07 20 07.4 -1.3
ERTA Lg 07 20 36.9
ERTA Lg 07 20 37.7
ESAC San Caprasio 2.49 246 Pn Pn 07 20 02.2 +0.2
0.5nm,0.1s,SNR=4.0
ESAC Pg Pg 07 20 07.5 -1.4
8.6nm,0.2s,SNR=7.9
ESAC Sn Sn 07 20 33.4 +0.8
14nm,0.2s,SNR=7.9
ESAC Lg 07 20 41.5
16nm,0.2s,SNR=7.9
ESAC San Caprasio 2.49 246 Pn Pn 07 20 03.5 +1.4
0.5nm,0.1s,SNR=40
ESAC San Caprasio 2.49 246 Pg Pg 07 20 07.5 -1.4
8.6nm,0.2s,SNR=7.9
ESAC San Caprasio 2.49 246 Pn Pn 07 20 03.5 +1.5
ESAC Pg Pg 07 20 07.5 -1.4
ESAC Sn Sn 07 20 33.4 +0.8
ESAC Sn Sn 07 20 33.7 +1.1
ESAC Lg 07 20 38.7
ESAC Lg 07 20 41.5
LBL Lubilhac 2.49 11 Pg Pg 07 20 07.9 -1.1
SMRF Simiane la Rot 2.50 61 *e*Pg Pg 07 20 08.4 -0.8
SNR=1.0
SMRF *e*Sn Sn 07 20 30.0 -2.9
SMRF *e*Sg Sg 07 20 40.0 -1.6
15nm,0.4s
SMRF Simiane la Rot 2.50 61 Pn Pn 07 20 01.2 -1.0
SMRF Pg Pg 07 20 08.4 -0.8
SMRF Sn Sn 07 20 30.0 -2.9
SMRF Lg 07 20 40.0
15nm,0.4s
SMRF Simiane la Rot 2.50 61 *e*Pg Pg 07 20 08.4 -0.8
SNR=1.0
SMRF *e*Sn Sn 07 20 30.0 -2.9
SMRF *e*Sg Sg 07 20 40.0 -1.6
7.5nm,0.4s
SMRF Simiane la Rot 2.50 61 *e*Pn Pn 07 20 01.2 -1.0
SMRF *e*Pg Pg 07 20 08.4 -0.8
SMRF *e*Sn Sn 07 20 30.0 -2.9
SMRF *e*Sg Sg 07 20 40.0 -1.6
EBR Ebro Roquetas 2.50 219 *eS*[4] Sb 07 20 39.5 +2.1
LFF La Frestale 2.52 329 *e*Pg Pg 07 20 08.3 -1.2
SNR=1.0
LFF *e*Sn Sn 07 20 29.8 -3.5
LFF *e*Sg Sg 07 20 38.6 -3.5
44nm,0.3s,SNR=1.0
LFF La Frestale 2.52 329 Pn Pn 07 20 01.0 -1.5
LFF Pg Pg 07 20 08.3 -1.2
LFF Sn Sn 07 20 29.8 -3.5
LFF Lg 07 20 38.6
22nm,0.3s
LFF La Frestale 2.52 329 *e*Pg Pg 07 20 08.3 -1.2
SNR=1.0
LFF *e*Sn Sn 07 20 29.8 -3.5
LFF *e*Sg Sg 07 20 38.6 -3.5
22nm,0.3s,SNR=1.0
LFF La Frestale 2.52 329 *e*Pn Pn 07 20 01.0 -1.5
LFF *e*Pg Pg 07 20 08.3 -1.2
LFF *e*Sn Sn 07 20 29.8 -3.5
LFF *e*Sg Sg 07 20 38.6 -3.5
VIVF Saint-Julien-l 2.57 36 *e*Pg Pg 07 20 08.3 -2.2
SNR=1.0
VIVF *e*Sn Sn 07 20 31.4 -3.3
VIVF *e*Sg Sg 07 20 41.5 -2.3
19nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 2.57 36 Pn Pn 07 20 00.5 -2.7
VIVF Pg Pg 07 20 08.3 -2.2
VIVF Sn Sn 07 20 31.4 -3.3
VIVF Lg 07 20 41.5
9.3nm,0.2s
VIVF Saint-Julien-l 2.57 36 *e*Pg Pg 07 20 08.3 -2.2
SNR=1.0
VIVF *e*Sn Sn 07 20 31.4 -3.3
VIVF *e*Sg Sg 07 20 41.5 -2.3
9.3nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 2.57 36 *e*Pn Pn 07 20 00.5 -2.7
VIVF *e*Pg Pg 07 20 08.3 -2.2
VIVF *e*Sn Sn 07 20 31.4 -3.3
VIVF *e*Sg Sg 07 20 41.5 -2.3
RJF Les Rejaudoux 2.62 344 *e*Pg Pg 07 20 09.8 -1.7
RJF *e*Sn Sn 07 20 31.7 -4.2
SNR=1.0
RJF *e*Sg Sg 07 20 42.8 -2.7
25nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.62 344 Pn Pn 07 20 02.2 -1.7
RJF Pg Pg 07 20 09.8 -1.7
RJF Sn Sn 07 20 31.7 -4.2
RJF Lg 07 20 42.8
13nm,0.2s
RJF Les Rejaudoux 2.62 344 *e*Pg Pg 07 20 09.8 -1.7
RJF *e*Sn Sn 07 20 31.7 -4.2
SNR=1.0
RJF *e*Sg Sg 07 20 42.8 -2.7
13nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.62 344 *e*Pn Pn 07 20 02.2 -1.7
RJF *e*Pg Pg 07 20 09.8 -1.7
RJF *e*Sn Sn 07 20 31.7 -4.2
RJF *e*Sg Sg 07 20 42.8 -2.7
SJPF Ste Jean 2.79 278 *e*Pg Pg 07 20 13.4 -1.4
SJPF *e*Sn Sn 07 20 37.2 -3.0
SJPF *e*Sg Sg 07 20 49.6 -1.4
7.4nm,0.3s,SNR=1.0
SJPF Ste Jean 2.79 278 Pn Pn 07 20 05.0 -1.3
SJPF Pg Pg 07 20 13.4 -1.4
SJPF Sn Sn 07 20 37.2 -3.0
SJPF Lg 07 20 49.6
3.7nm,0.3s
SJPF Ste Jean 2.79 278 *e*Pg Pg 07 20 13.4 -1.4
SJPF *e*Sn Sn 07 20 37.2 -3.0
SJPF *e*Sg Sg 07 20 49.6 -1.4
3.7nm,0.3s,SNR=1.0
SJPF Ste Jean 2.79 278 *e*Pn Pn 07 20 05.0 -1.3
SJPF *e*Pg Pg 07 20 13.4 -1.4
SJPF *e*Sn Sn 07 20 37.2 -3.0
SJPF *e*Sg Sg 07 20 49.6 -1.4
LMR La Mourre 2.95 78 *e*Pg Pg 07 20 16.0 -1.7
SNR=1.0
LMR *e*Sn Sn 07 20 41.2 -2.8
SNR=1.0
LMR *e*Sg Sg 07 20 54.6 -1.4
6.4nm,0.2s,SNR=1.0
LMR La Mourre 2.95 78 Pn Pn 07 20 07.1 -1.3
LMR Pg Pg 07 20 16.0 -1.7
LMR Sn Sn 07 20 41.2 -2.8
LMR Lg 07 20 54.6
3.2nm,0.2s
LMR La Mourre 2.95 78 *e*Pg Pg 07 20 16.0 -1.7
SNR=1.0
LMR *e*Sn Sn 07 20 41.2 -2.8
SNR=1.0
LMR *e*Sg Sg 07 20 54.6 -1.4
3.2nm,0.2s,SNR=1.0
LMR La Mourre 2.95 78 *e*Pn Pn 07 20 07.1 -1.3
LMR *e*Pg Pg 07 20 16.0 -1.7
LMR *e*Sn Sn 07 20 41.2 -2.8
LMR *e*Sg Sg 07 20 54.6 -1.4
PYM Petit Puy Mans 2.98 6 Pg Pg 07 20 17.1 -1.2
IUNC Unciti 2.98 271 Lg 07 20 56.7
SNR=4.0
IUSE Utxeti 3.02 274 Lg 07 20 59.5
SNR=7.9
FRF La Foret Royal 3.09 74 *e*Pg Pg 07 20 18.4 -2.1
SNR=1.0
FRF *e*Sn Sn 07 20 44.1 -3.4
FRF *e*Sg Sg 07 20 57.7 -2.8
14nm,0.3s
FRF La Foret Royal 3.09 74 Pn Pn 07 20 08.9 -1.5
FRF Pg Pg 07 20 18.4 -2.1
FRF Sn Sn 07 20 44.1 -3.4
FRF Lg 07 20 57.7
7.1nm,0.3s
FRF La Foret Royal 3.09 74 *e*Pg Pg 07 20 18.4 -2.1
SNR=1.0
FRF *e*Sn Sn 07 20 44.1 -3.4
FRF *e*Sg Sg 07 20 57.7 -2.8
7.1nm,0.3s
FRF La Foret Royal 3.09 74 *e*Pn Pn 07 20 08.9 -1.5
FRF *e*Pg Pg 07 20 18.4 -2.1
FRF *e*Sn Sn 07 20 44.1 -3.4
FRF *e*Sg Sg 07 20 57.7 -2.8
ORIF Oris-en-Rattie 3.21 47 *e*Pg Pg 07 20 21.7 -1.1
SNR=1.0
ORIF *e*Sn Sn 07 20 47.1 -3.4
3.3nm,0.4s
ORIF Oris-en-Rattie 3.21 47 Pn Pn 07 20 10.5 -1.5
ORIF Pg Pg 07 20 21.7 -1.1
ORIF Sn Sn 07 20 47.1 -3.4
1.6nm,0.4s
ORIF Oris-en-Rattie 3.21 47 *e*Pg Pg 07 20 21.7 -1.1
SNR=1.0
ORIF *e*Sn Sn 07 20 47.1 -3.4
1.6nm,0.4s
ORIF Oris-en-Rattie 3.21 47 *e*Pn Pn 07 20 10.5 -1.5
ORIF *e*Pg Pg 07 20 21.7 -1.1
ORIF *e*Sn Sn 07 20 47.1 -3.4
PLDF La Plantade 3.27 13 Pg Pg 07 20 21.8 -2.1
AGO Saint Agoulin 3.29 7 Pg Pg 07 20 22.5 -1.7
EMOS Mosqueruela 3.32 224 Pn Pn 07 20 13.3 -0.3
0.8nm,0.2s,SNR=4.0
EMOS Pg Pg 07 20 23.1 -1.8
1.0nm,0.2s,SNR=4.0
EMOS Lg 07 21 05.8
3.6nm,0.2s,SNR=7.9
EMOS Mosqueruela 3.32 224 Pn Pn 07 20 16.1 +2.5
0.8nm,0.2s,SNR=4.0
EMOS Mosqueruela 3.32 224 Pg Pg 07 20 23.1 -1.8
1.0nm,0.2s,SNR=4.0
EMOS Mosqueruela 3.32 224 Pn Pn 07 20 16.1 +2.5
EMOS Pg Pg 07 20 23.1 -1.8
EMOS Lg 07 21 05.8
TCF Toulx Ste Croi 3.50 356 *e*Pg Pg 07 20 26.5 -1.9
SNR=1.0
TCF *e*Sg Sg 07 21 09.7 -4.1
12nm,0.2s,SNR=1.0
TCF Toulx Ste Croi 3.50 356 *e*Pg Pg 07 20 26.5 -1.9
SNR=1.0
TCF *e*Sg Sg 07 21 09.7 -4.1
6.2nm,0.2s,SNR=1.0
TCF Toulx Ste Croi 3.50 356 *e*Pn Pn 07 20 14.6 -1.5
TCF *e*Pg Pg 07 20 26.5 -1.9
TCF *e*Sg Sg 07 21 09.7 -4.1
MBDF Montbardon 3.62 56 *e*Pg Pg 07 20 28.4 -2.1
MBDF *e*Sn Sn 07 20 56.3 -4.2
3.0nm,0.4s
MBDF Montbardon 3.62 56 *e*Pg Pg 07 20 28.4 -2.1
MBDF *e*Sn Sn 07 20 56.3 -4.2
1.5nm,0.4s
MBDF Montbardon 3.62 56 *e*Pn Pn 07 20 16.6 -1.0
MBDF *e*Pg Pg 07 20 28.4 -2.1
MBDF *e*Sn Sn 07 20 56.3 -4.2
SBF Sospel 3.72 72 *e*Pg Pg 07 20 31.0 -1.5
SBF *e*Sn Sn 07 20 57.6 -5.4
SNR=1.0
SBF *e*Sg Sg 07 21 19.2 -1.5
14nm,0.4s,SNR=1.0
SBF Sospel 3.72 72 *e*Pg Pg 07 20 31.0 -1.5
SBF *e*Sn Sn 07 20 57.6 -5.4
SNR=1.0
SBF *e*Sg Sg 07 21 19.2 -1.5
6.8nm,0.4s,SNR=1.0
SBF Sospel 3.72 72 *e*Pn Pn 07 20 17.9 -1.1
SBF *e*Pg Pg 07 20 31.0 -1.5
SBF *e*Sn Sn 07 20 57.6 -5.4
SBF *e*Sg Sg 07 21 19.2 -1.5
BGF Bois d'Agland 3.77 3 *e*Pg Pg 07 20 31.2 -2.3
BGF *e*Sg Sg 07 21 18.7 -3.7
38nm,0.2s,SNR=1.0
BGF Bois d'Agland 3.77 3 *e*Pg Pg 07 20 31.2 -2.3
BGF *e*Sg Sg 07 21 18.7 -3.7
19nm,0.2s,SNR=1.0
BGF Bois d'Agland 3.77 3 *e*Pn Pn 07 20 18.5 -1.2
BGF *e*Pg Pg 07 20 31.2 -2.3
BGF *e*Sg Sg 07 21 18.7 -3.7
SMF Signal de Mont 3.96 13 *e*Pg Pg 07 20 34.8 -2.3
SNR=1.0
SMF *e*Sg Sg 07 21 23.8 -4.7
9.1nm,0.3s,SNR=1.0
SMF Signal de Mont 3.96 13 *e*Pg Pg 07 20 34.8 -2.3
SNR=1.0
SMF *e*Sg Sg 07 21 23.8 -4.7
4.6nm,0.3s,SNR=1.0
SMF Signal de Mont 3.96 13 *e*Pn Pn 07 20 20.4 -1.9
SMF *e*Pg Pg 07 20 34.8 -2.3
SMF *e*Sg Sg 07 21 23.8 -4.7
AVF Avril sur Loir 4.04 8 *e*Pg Pg 07 20 36.4 -2.2
AVF *e*Sg Sg 07 21 27.8 -3.2
8.9nm,0.3s,SNR=1.0
AVF Avril sur Loir 4.04 8 *e*Pg Pg 07 20 36.4 -2.2
AVF *e*Sg Sg 07 21 27.8 -3.2
4.4nm,0.3s,SNR=1.0
AVF Avril sur Loir 4.04 8 *e*Pn Pn 07 20 21.8 -1.6
AVF *e*Pg Pg 07 20 36.4 -2.2
AVF *e*Sg Sg 07 21 27.8 -3.2
LPG La Plagne 4.05 47 *e*Pn Pn 07 20 22.4 -1.2
LPL La Plagne 4.06 46 *e*Pn Pn 07 20 22.3 -1.3
SNR=1.0
MFF Saint Martin d 4.27 334 *e*Pg Pg 07 20 41.0 -2.0
MFF *e*Sn Sn 07 21 11.2 -5.4
MFF *e*Sg Sg 07 21 34.3 -4.0
8.1nm,0.3s,SNR=1.0
MFF Saint Martin d 4.27 334 *e*Pg Pg 07 20 41.0 -2.0
MFF *e*Sn Sn 07 21 11.2 -5.4
MFF *e*Sg Sg 07 21 34.3 -4.0
4.1nm,0.3s,SNR=1.0
MFF Saint Martin d 4.27 334 *e*Pn Pn 07 20 24.9 -1.7
MFF *e*Pg Pg 07 20 41.0 -2.0
MFF *e*Sn Sn 07 21 11.2 -5.4
MFF *e*Sg Sg 07 21 34.3 -4.0
SSF Saint Saulge 4.32 9 *e*Pg Pg 07 20 42.5 -1.6
SSF *e*Sg Sg 07 21 36.3 -3.8
7.5nm,0.3s,SNR=1.0
SSF Saint Saulge 4.32 9 *e*Pg Pg 07 20 42.5 -1.6
SSF *e*Sg Sg 07 21 36.3 -3.8
3.8nm,0.3s,SNR=1.0
LOR Lormes 4.57 11 *e*Pg Pg 07 20 46.3 -2.5
LOR *e*Sg Sg 07 21 43.9 -4.1
4.3nm,0.2s,SNR=1.0
LOR Lormes 4.57 11 *e*Pg Pg 07 20 46.3 -2.5
LOR *e*Sg Sg 07 21 43.9 -4.1
2.2nm,0.2s,SNR=1.0
CABF La Chapelle 4.57 32 *e*Pg Pg 07 20 46.2 -2.7
CABF *e*Sg Sg 07 21 42.9 -5.2
9.0nm,0.6s
CABF La Chapelle 4.57 32 *e*Pg Pg 07 20 46.2 -2.7
CABF *e*Sg Sg 07 21 42.9 -5.2
4.5nm,0.6s
CABF La Chapelle 4.57 32 *e*Pn Pn 07 20 28.8 -2.0
CABF *e*Pg Pg 07 20 46.2 -2.7
CABF *e*Sg Sg 07 21 42.9 -5.2
PGF Pioggiola 4.76 91 *e*Pn Pn 07 20 30.5 -2.8
SNR=1.0
PGF *e*Sn Sn 07 21 22.0 -6.6
3.2nm,0.3s
PGF Pioggiola 4.76 91 *e*Pn Pn 07 20 30.5 -2.8
SNR=1.0
PGF *e*Sn Sn 07 21 22.0 -6.6
1.6nm,0.3s
HAU Haudompre 5.86 26 *e*Pg Pg 07 21 09.2 -4.2
SNR=1.0
GRR Gorron 6.09 338 *e*Pn Pn 07 20 50.0 -1.5
GRR *e*Sg Sg 07 22 31.5 -5.2
4.6nm,0.4s
GRR Gorron 6.09 338 *e*Pn Pn 07 20 50.0 -1.5
GRR *e*Sg Sg 07 22 31.5 -5.2
2.3nm,0.4s
LDF La Druitiere 6.10 343 *e*Sg Sg 07 22 32.1 -4.9
3.8nm,0.4s
LDF La Druitiere 6.10 343 *e*Sg Sg 07 22 32.1 -4.9
1.9nm,0.4s
FLN La Foliniere 6.34 341 *e*Pn Pn 07 20 53.0 -2.0
FLN *e*Sg Sg 07 22 39.2 -5.5
5.9nm,0.4s
FLN La Foliniere 6.34 341 *e*Pn Pn 07 20 53.0 -2.0
FLN *e*Sg Sg 07 22 39.2 -5.5
3.0nm,0.4s
QUIF Quistinic 6.52 324 *e*Pn Pn 07 20 55.5 -2.0
SGMF Saint Gilles 6.54 328 *e*Pn Pn 07 20 55.7 -2.0

ROSF	Rostrenen	6.89 326	ePn	Pn	07 21 00.8	-1.8
EALB	Alboran	8.10 214	Pg	Px	07 19 30.4	
EALB			Lg		07 19 37.2	

*IDC **24** 07:28:56.6±1.0, 668S×13069E, h0km, mb4.1/3, mb1 4.4/6, mb1mx4.1/13, mbtmp4.2/6, ML4.4/3, Error ellipse: s-maj=59.0km s-min=19.1km az=79.0*
*NEIC **24** 07:28:58.4±7.6, 671S×13045E, h12km±49km, mb3.8/2, Error ellipse: s-maj=22.3km s-min=16.1km az=61.0*
*ISCJB **24** 07:28:59.2±0.8, 680S±007×1305E±02, h33km, mb4.0/3, Error ellipse: s-maj=22.1km s-min=9.0km az=154.9*

ISC 24 07:29:01.5±0.8, 676S±007×1305E±02, h35km, n14, σ0°71/19, mb4.0/3, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.22 162		eP	Pn	07 30 36.4	+5.6
KAKA	41nm,0.5s			eS	Sn	07 31 40.2	-0.5
FITZ	Fitzroy Crossi	12.22 202		eP	Pn	07 31 52.9	-0.1
FITZ	19nm,0.3s			eS	Sn	07 33 57.1	-11
FITZ	Fitzroy Crossi	12.22 202		Pn	Pn	07 31 53.1	0.0
FITZ	5.3nm,0.3s,baz=39,slow=11,SNR=73			Sn	Sn	07 33 56.7	-11
WRAB	Tennant Creek	13.62 164		ePn	Pn	07 32 12.4	+0.2
WRA	12nm,0.6s Warramunga Arr	13.63 164		Pn	Pn	07 32 12.3	0.0
WRA	1.1nm,0.3s,baz=334,slow=13,SNR=37			Sn	Sn	07 34 34.0	-8.4
WB2	Warramunga Arr	13.63 164		⇑iP	Pn	07 32 12.5	+0.2
WB2				eS	Sn	07 34 34.1	-8.4
ASAR	Alice Springs	17.13 169		P	Pn	07 32 59.6	+1.5
ASAR	1.2nm,0.3s,baz=3.8,slow=11,SNR=54			S	S	07 35 59.5	-17
MBWA	Marble Bar	17.69 215		ePn	Pn	07 33 04.4	-0.7
STKA	5.7nm,0.7s Stephens Creek	27.06 159		eP	P	07 34 40.0	-0.6
STKA	4.6nm,1.9s,mb3.7 Stephens Creek	27.06 159		P	P	07 34 39.9	-0.7
JOW	1.0nm,0.4s,mb3.7,baz=350,slow=9.2,SNR=7.6 Kunigami	33.46 356		P	P	07 35 36.5	-0.7
MKAR	50nm,0.3s,baz=132,slow=12,SNR=64 Makanchi Array	68.29 327		P	P	07 40 00.1	+1.2
ILAR	2.3nm,0.4s,mb4.6,baz=126,slow=8.0,SNR=40 Eielson Array	92.93 25		P	P	07 42 10.6	-0.4
LPAZ	0.2nm,0.8s,mb3.6,baz=263,slow=4.0,SNR=4.4 La Paz	150.61 141		PKPbc	PKPbc	07 48 52.8	+3.1
	0.5nm,0.4s,baz=225,slow=4.8,SNR=5.2						

JMA 24 07:34:54.3±0.2, 2841N×12660E, h225km, M3.9, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	Iheya	1.83 138		P	Pn	07 35 33.5	+0.4
JAGN	Aguni-jima	1.90 162		P	Pn	07 35 34.0	+0.2
JAGN				eS	S	07 36 05.1	+0.4
JKE	Kume jima 2	2.08 175		P	Pn	07 35 35.5	0.0
JKE				eS	S	07 36 07.4	-0.4
JOW	Kunigami	2.16 136		P	Pn	07 35 36.4	+0.1
JOW				eS	S	07 36 08.7	-0.5
JTK	Tokunoshima	2.17 106		P	Pn	07 35 36.4	+0.1
JTK				eS	S	07 36 09.1	-0.2
NAH1	Naha	2.40 156		P	Pn	07 35 38.9	+0.2
NAH1				eS	S	07 36 12.9	-0.7
JJT2	Tamagusuku 2	2.48 155		P	Pn	07 35 40.0	+0.4
JJT2				eS	S	07 36 14.9	-0.3
JAM	Amami Oshima	2.65 89		P	Pn	07 35 41.8	+0.5
JAM				eS	S	07 36 18.4	+0.1
JTN	Tanegashima 3	4.42 59		eS	S	07 36 54.2	-1.7
JIJ	Ishigaki jima	4.59 209		P	Pn	07 36 00.4	-3.8
JIJ				eS	S	07 36 51.9	-7.7

IDC 24 08:12:36.2±7.0, 1067S×12676E, h62km±53km, mb3.7/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=55.7km s-min=42.7km az=148.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	7.47 188		P	Pn	08 14 22.5	+0.1
FITZ	1.0nm,0.3s,baz=32,slow=12,SNR=33			S	Sn	08 15 48.0	+2.3
WRA	Warramunga Arr	11.76 142		P	Pn	08 15 19.8	-1.3
WRA	3.3nm,0.3s,baz=242,slow=19,SNR=9.4			S	Sn	08 17 30.6	-0.1
ASAR	Alice Springs	14.61 153		P	Pn	08 16 00.5	+1.1
ASAR	2.2nm,0.3s,baz=316,slow=26,SNR=15			S	Sn	08 18 41.1	+1.1
STKA	Stephens Creek	25.17 149		P	P	08 17 55.8	+0.2
	0.4nm,0.3s,baz=319,slow=11,SNR=23						
	1.2nm,0.4s,baz=320,slow=12,SNR=7.2						

IDC 24 08:16:15.0±1.9, 5338N×9230E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, ML3.7/2, Error ellipse: s-maj=40.1km s-min=19.7km az=129.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	9.21 228		Pn	Pn	08 18 29.8	+0.8
MKAR	0.5nm,0.3s,baz=37,slow=14,SNR=22			Lg		08 21 02.7	
BVAR	Borovoye Array	13.13 277		Pn	Pn	08 19 20.5	-2.2
BVAR	0.6nm,0.3s,baz=75,slow=15,SNR=6.7			Sn	Sn	08 21 49.8	+0.3
AKTO	Aktyubinsk	21.23 276		P	P	08 21 02.1	-0.3
YKA	1.0nm,0.6s,baz=59,slow=8.6,SNR=6.3 Yellowknife Ar	62.54 14		P	P	08 26 40.6	0.0
TORD	0.2nm,0.6s,baz=337,slow=7.2,SNR=6.8 Torodi Ar. Bea	79.93 278		P	P	08 28 24.5	-1.3
	0.2nm,0.4s,baz=26,slow=5.4,SNR=4.9						

*CSEM **24** 08:28:20.0, 3786N×1951E, h24km, MD3.6/3, After ATH*

ATH 24 08:28:20.0, 3786N×1951E, h24km, MD3.6/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.91 69		ePN	Pn	08 28 38.0	+0.7
VLS				eSN	Sn	08 28 51.0	+1.4
RLS	Riolos of Patr	1.56 82		ePN	Pn	08 28 48.3	+2.1
EVR	Evrytania	2.09 59		ePN	Pn	08 28 55.8	+2.3
EVR				eSN	Sn	08 29 22.0	+3.2

*NEIC **24** 08:49:04.0, 3202S×7140W, h47km, MD3.7(GUC), After GUC.*

GUC 24 08:49:04.0±0.8, 3202S×7140W, h47km±15km, MD3.7, ML2.4, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.52 183		⇑iP	Pn	08 49 15.7	+0.4
PACH				i S	Sn	08 49 24.7	+1.3
CMCH	Combarbala	0.91 22		eP	Pn	08 49 21.2	+0.9
CMCH				i S	Sn	08 49 33.6	+1.3
CMCH				AMP		08 49 34.5	
	comp=N,438nm,0.3s						
CMCH	Combarbala	0.91 22		eP	Pn	08 49 21.2	+0.9
CMCH				i S	Sn	08 49 33.6	+1.3
JACH	Jahuel	0.95 134		⇑iP	Pn	08 49 22.1	+1.1
JACH				i S	Sn	08 49 35.6	+2.1
ROCH	El Roble	1.01 161		⇑iP	Pn	08 49 22.3	+0.6
PEL	Peldehue	1.28 152		eP	Pn	08 49 26.1	+0.7
PEL				i S	Sn	08 49 42.7	+1.3
PEL				AMP		08 49 45.6	
	comp=N,188nm,0.3s						
PEL	Peldehue	1.28 152		eP	Pn	08 49 26.1	+0.7
PEL				i S	Sn	08 49 42.7	+1.3
DSCH	Colegio Aleman	1.55 153		i S	Sn	08 49 48.7	+0.7
DSCH				AMP		08 49 52.4	
	comp=N,13nm,0.2s						

RCDM	Rinconada Maip	1.55 161		eP	Pn	08 49 29.8	+0.6
RCDM				AMP		08 49 53.7	
	comp=E,184nm,0.1s						
CLCH	Cerro Calan	1.56 152		⇑iP	Pn	08 49 30.2	+1.0
CLCH				i S	Sn	08 49 49.9	+1.6
CLCH				AMP		08 49 53.6	
	comp=E,72nm,0.5s						
FCH	Farellones	1.61 145		⇓iP	Pn	08 49 31.2	+1.3
FCH				i S	Sn	08 49 52.1	+2.6
FCH				AMP		08 49 52.9	
	comp=E,119nm,0.3s						
ANTU	Antumapu	1.68 158		AMP		08 49 59.0	
	comp=N,72nm,0.2s						
TACH	Talagante	1.68 167		⇑iP	Pn	08 49 31.7	+0.8
PCH	Pirque	1.77 155		i S	Sn	08 49 54.3	+0.9
CHCH	Chadas Angostu	2.01 162		⇓iP	Pn	08 49 36.4	+0.9
CHCH				i S	Sn	08 50 00.9	+1.5
CACH	El Canelo	2.20 162		eP	Pn	08 49 39.5	+1.5

*NEIC **24** 10:10:37.2±0.7, 1338N×14384E, h10km, mb4.1/1, Error ellipse: s-maj=21.6km s-min=10.0km az=141.0*
*ISCJB **24** 10:10:42.5±4.5, 131N±05×144E±, h63km±35km, mb3.8/5, Error ellipse: s-maj=227.2km s-min=20.5km az=45.6*
*IDC **24** 10:10:42.7±3.0, 1317N×14434E, h46km±24km, mb3.5/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/20, Error ellipse: s-maj=86.2km s-min=18.0km az=116.0*

ISC 24 10:10:42.5±5.9, 133N±03×1442E±07, h47km±52km, n10, σ0°26/10, mb3.8/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.75 64		P	Pn	10 10 56.8	+0.1
GUMO	588nm,0.3s,baz=174,slow=22,SNR=407			S	Sn	10 11 07.0	0.0
GUMO	599nm,0.3s,baz=197,slow=19,SNR=30						
GUMO	Guam	0.75 64		P	Pn	10 10 56.8	+0.1
GUMO				S	Sn	10 11 07.0	0.0
CBIJ	Chichi jima	13.89 353		LR	LR	10 18 55.7	
	comp=Z,85nm,20.9s,baz=166,slow=35						
WRAB	Tennant Creek	34.37 197		P	P	10 17 24.9	+0.1
WRA	1.4nm,0.6s,mb4.1 Warramunga Arr	34.38 197		P	P	10 17 24.6	-0.3
ASAR	0.8nm,0.8s,mb3.7,baz=22,slow=9.9,SNR=8.8 Alice Springs	38.05 195		P	P	10 17 56.4	+0.2
ILAR	0.4nm,0.9s,mb3.2,baz=13,slow=12,SNR=4.1 Eielson Array	69.15 25		P	P	10 21 43.5	-0.4
YKA	0.9nm,0.4s,mb4.1,baz=252,slow=5.7,SNR=41 Yellowknife Ar	83.46 27		P	P	10 23 05.4	+0.4
LPAZ	0.5nm,0.4s,mb3.9,baz=286,slow=5.1,SNR=24 La Paz	148.63 100		PKPbc	PKPbc	10 30 27.1	+2.9
	1.1nm,0.6s,baz=320,slow=3.3,SNR=5.7						

*ISCJB **24** 10:14:23.0±0.5, 5138N±003×1607E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.4km az=25.5*
*NEIC **24** 10:14:24.8±1.1, 5143N×1607E, h5km, ML2.9(SZGRF), Error ellipse: s-maj=16.9km s-min=8.2km az=214.0*
*CSEM **24** 10:14:24.7±0.2, 5147N×1610E, h1km, ML3.3/4, Error ellipse: s-maj=3.7km s-min=2.1km az=32.0*
*BGR **24** 10:14:24.1±1.0, 5156N×1607E, h1km, ML3.0/4, Error ellipse: s-maj=17.8km s-min=7.8km az=167.0*
*WAR **24** 10:14:24.6, 5148N×1610E, ML2.7, Mining Induced*
*PRU **24** 10:14:25.3, 5142N×1605E, h0km*
*VIE **24** 10:14:25.6±0.3, 5131N×1613E, h0km, mb2.4/3, ML2.8/3, Error ellipse: s-maj=2.2km s-min=1.8km az=9.0 66 km WNW of Breslau Suspected Mining induced.*

ISC 24 10:14:24.1±0.5, 5145N±003×1607E±003, h0km, n37, σ0°90/70, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63 167		ePg	Pg	10 14 36.5	+0.4
KSP				eSg	Sg	10 14 45.4	+1.2
KSP				eL		10 14 49.0	
KSP	Ksiaz	0.63 167		ePg	Pg	10 14 36.5	+0.4
KSP				eSg	Sg	10 14 45.4	+1.2
UPC	Upice	0.95 182		ePG	Pg	10 14 42.6	+0.3
DPC	Dobruska-Polom	1.11 172		ePG	Pg	10 14 45.6	+0.1
DPC				eSG	Sg	10 15 00.0	+0.1
	52nm,0.7s						
PVCC	Panska Ves	1.33 226		ePG	Pg	10 14 50.0	+0.5
BRG	Berggiesshubel	1.46 247		ePg	Pg	10 14 51.9	-0.2
BRG				eSg	Sg	10 15 12.3	+1.3
BRG	Berggiesshubel	1.46 247		Pg	Pg	10 14 52.0	-0.1
BRG				Sg	Sg	10 15 12.3	+1.3
BRG	Berggiesshubel	1.46 247		PN	Pn	10 14 51.5	-0.2
BRG				PG	Pg	10 14 52.0	-0.2
BRG				SG	Sg	10 15 12.2	+1.1
	42nm,0.4s						
RUE	Ruedersdorf	1.75 307		eP	Pn	10 14 56.7	+1.0
RUE				eS	Sn	10 15 20.2	+1.5
RUE	Ruedersdorf	1.75 307		eP	Pn	10 14 56.7	+0.9
RUE				eS	Sn	10 15 20.2	+1.5
PRU	Pruhonice	1.76 214		ePG	Pg	10 14 56.5	-1.3
PRU				eSG	Sg	10 15 20.6	0.0
	38nm,0.6s						
MORC	Moravsky Berou	1.92 150		eP	Pn	10 14 56.8	-1.3
MORC				eS	Sn	10 15 24.7	+1.8
MORC	Moravsky Berou	1.92 150		eP	Pn	10 14 56.8	-1.3
MORC				eS	Sn	10 15 24.7	+1.8
CLL	Collm	1.93 267		ePn	Pn	10 14 57.2	-1.0
CLL				eSg	Sg	10 15 25.8	-0.3
CLL	Collm	1.93 267		ePn	Pn	10 14 57.0	-1.2
CLL				i Pg	Pg	10 15 00.0	-1.1
CLL				i x	x	10 15 03.9	
CLL				i Sg	Sg	10 15 25.6	-0.5
	comp=Z,33nm,1.0s						
CLL	Collm	1.93 267		i Pg	Pg	10 15 00.0	-1.1
CLL				Sg	Sg	10 15 25.8	-0.3
CLL	Collm	1.93 267		ePn	Pn	10 14 57.0	-1.2
CLL				i Pg	Pg	10 15 00.0	-1.1
CLL				i Sg	Sg	10 15 25.6	-0.5
OKC	Ostrava-Krasne	2.09 140		eSG	Sg	10 15 29.2	-2.0
TANN	Tannenbergstha	2.51 247		ePn	Pn	10 15 06.3	+0.2
TANN				eSg	Sg	10 15 43.9	-0.8
WERD	Werda	2.58 249		eSg	Sg	10 15 46.5	-0.7
NKC	Novy Kostel	2.60 243		ePN	Pn	10 15 07.6	+0.2
NKC				ePG	Pg	10 15 13.8	-0.2
NKC				eSG	Sg	10 15 48.3	+0.6
	comp=Z,35nm,0.4s						
NKC	Novy Kostel	2.60 243		ePg	Pg	10 15 13.8	-0.2
NKC				eSg	Sg	10 15 48.3	+0.6
	comp=Z,35nm,0.4s						
OJC	Ojcow	2.67 116		ePg	Pg	10 15 14.5	-0.7
OJC				eSg	Sg	10 15 49.5	-0.3
KHC	Kasperske Hory	2.82 215		ePN	Pn	10 15 10.6	+0.2
KHC				ePG	Pg	10 15 16.0	-2.2
KHC				eSG	Sg	10 15 54.5	-0.3
	comp=Z,34nm,0.8s						
KHC	Kasperske Hory	2.82 215		ePg	Pg	10 15 16.0	-2.2
KHC				eSg	Sg	10 15 54.5	-0.3
	comp=Z,34nm,0.8s						
MOX	Moxa	2.93 256		eSg	Sg	10 15 58.3	+0.2
MOX	Moxa	2.93 256		ePN	Pn	10 15 11.8	-0.1
MOX				ePG	Pg	10 15 19.7	-0.5
MOX				eSG	Sg	10 15 59.4	+1.3
MOX	Moxa	2.93 256		ePg	Pg	10 15 19.7	-0.5
MOX				Sg	Sg	10 15 58.3	+0.2
GEC2	GERESS Array S	3.02 211		ePn	Pn	10 15 14.3	+1.1
GEC2	GERESS Array S	3.02 211		ePn	Pn	10 15 14.3	+1.1
ZST	Bratislava	3.33 168		eSG	Sg	10 16 10.4	-0.6
NIE	Niedzica	3.39 125		eP	Pg	10 15 28.1	-1.0
NIE				eS	Sg	10 16 13.7	+0.6
GRA1	Grafenberg Arr	3.56 242		Sg	Sg	10 16 18.9	+0.4
GRF	Grafenberg Arr	3.56 242		eSg	Sg	10 16 18.9	+0.5
MOA	Molln	3.79 199		⇑iPn	Pn	10 15 24.0	+0.3
MOA				⇓iSg	Sg	10 16 26.9	+1.0
	comp=Z,16nm,0.6s						
STHS	Stebnicka Huta	3.88 120		ePN	Pn	10 15 25.3	+0.3
STHS				ePG	Pg	10 15 38.3	-0.3
STHS				eSG	Sg	10 16 31.8	+2.9
STHS	Stebnicka Huta	3.88 120		ePg	Pg	10 15 38.3	-0.3

*ISCJB **24** 10:32:21.4±0.7, 3013S±007×1789W±02, h363km±10km, mb3.5/5, Error ellipse: s-maj=28.8km s-min=6.5km az=40.5*

*NEIC **24** 10:32:22.4±0.7, 3006S×1791W, h335km±9km, mb3.9/1, Error ellipse: s-maj=26.2km s-min=8.7km az=116.0*
*IDC **24** 10:32:24.0±1.1, 2966S×17942W, h333km±12km, mb3.4/4, mb1 3.8/6, mb1mx3.5/14, mbtmp4.3/6, Error ellipse: s-maj=34.9km s-min=15.6km az=152.0*

ISC 24 10:32:25.9±0.9, 3033S±007×1793W±02, h358km±10km, n61, σ1°13/67, mb3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.62 49		P	Pn	10 33 09.8	-5.7
RAO	252nm,0.3s,baz=36,slow=22,SNR=7.0			S	S	10 33 33.8	-22
RAO	Raoul Island	1.62 49		eP	Pn	10 33 08.4	-7.1
MXZ	Matakaoa Point	7.48 195		ePN	Pn	10 34 16.9	+2.9
MXZ				SN	S	10 35 42.6	+0.5
MXZ	Matakaoa Point	7.48 195		P	Pn	10 34 18.5	+4.5
MWZ	Matawai	8.40 197		ePN	Pn	10 34 24.0	-0.8
MWZ				eSN	S	10 36 03.8	+1.8
MWZ	Matawai	8.40 197		eP	Pn	10 34 26.1	+1.3
MWZ				eS	S	10 36 04.1	+2.1
URZ	Urewera	8.44 199		P	Pn	10 34 29.1	+3.8
URZ	12nm,0.3s,baz=276,slow=3.9,SNR=48			S	S	10 36 04.9	+1.9
URZ	Urewera	8.44 199		ePN	Pn	10 34 26.0	+0.7
URZ	8.5nm,0.3s,baz=104,slow=19,SNR=11			SN	S	10 36 04.6	+1.7
URZ	Urewera	8.44 199		eP	Pn	10 34 26.0	+0.7
URZ				eS	S	10 36 04.9	+1.9
KNZ	Kokohu	9.02 195		ePN	Pn	10 34 35.9	+3.8
KNZ				SN	S	10 36 15.6	+0.1
BKZ	Black Stump Fm	9.46 200		ePN	Pn	10 34 36.3	-1.1
BKZ				SN	S	10 36 25.8	+0.6
BKZ	Black Stump Fm	9.46 200		eP	Pn	10 34 36.6	-0.8
WNVZ	Wahianoa	9.90 204		ePN	Pn	10 34 42.4	-0.1
WNVZ	Wahianoa	9.90 204		P	Pn	10 34 43.0	+0.4
MOVZ	Moawhango	9.92 203		ePN	Pn	10 34 43.4	+0.6
MOVZ	Moawhango	9.92 203		P	Pn	10 34 43.7	+0.9
PXZ	Pawanui	10.17 197		ePN	Pn	10 34 46.2	+0.4
TSZ	Takapari Road	10.45 200		SN	S	10 36 45.0	-1.7
WAZ	Wanganui	10.50 205		ePN	Pn	10 34 51.8	+2.1
WAZ	Wanganui	10.50 205		eP	Pn	10 34 52.7	+3.0
BFZ	Birch Farm	10.94 198		ePN	Pn	10 34 56.3	+1.4
BFZ				SN	S	10 36 57.6	-1.3
BFZ	Birch Farm	10.94 198		eP	Pn	10 34 56.5	+1.6
MRZ	Mangatainoka R	11.11 201		ePN	Pn	10 34 54.4	-2.6
MRZ				eSN	S	10 36 58.3	-4.1
MRZ	Mangatainoka R	11.11 201		eP	Pn	10 34 56.4	-0.6
KIW	Kapiti Island	11.51 202		ePN	Pn	10 35 01.2	-0.5
KIW				SN	S	10 37 08.2	-2.3
KIW	Kapiti Island	11.51 202		P	Pn	10 35 01.8	+0.2
MTW	Mount Morrison	11.59 200		ePN	Pn	10 35 02.5	-0.2
MTW	Mount Morrison	11.59 200		P	Pn	10 35 02.1	-0.6
CAW	Cannon Point	11.68 201		PN	Pn	10 35 02.3	-1.3
CAW	Cannon Point	11.68 201		P	Pn	10 35 01.8	-1.9
MRW	Makara Radio	11.91 202		ePN	Pn	10 35 07.3	+0.9
MRW				SN	S	10 37 17.9	-0.7
MRW	Makara Radio	11.91 202		P	Pn	10 35 06.9	+0.5
TCW	Tory Channel	12.04 204		SN	S	10 37 21.7	+0.5
TUWZ	Tuamarina	12.35 204		PN	Pn	10 35 10.0	-1.6
NNZ	Nelson	12.37 207		PN	Pn	10 35 09.8	-2.0
NNZ				SN	S	10 37 27.4	-0.7
NNZ	Nelson	12.37 207		eP	P	10 35 10.6	-0.6
QRZ	Quartz Range	12.39 210		ePN	Pn	10 35 11.2	-0.8
QRZ	Quartz Range	12.39 210		eP	P	10 35 11.6	+0.2
THZ	Tophouse	13.02 207		ePN	Pn	10 35 17.9	-1.6
THZ	Tophouse	13.02 207		eP	P	10 35 18.7	+0.3
DSZ	Denniston Nort	13.46 210		ePN	Pn	10 35 24.0	-0.5
DSZ				SN	S	10 37 49.8	-0.2
LTZ	Lake Taylor	14.14 206		ePN	Pn	10 35 33.4	+1.0
LTZ				SN	S	10 38 04.9	+1.2
MQZ	McQueen's Vall	14.80 203		SN	S	10 38 18.3	+1.3
ODZ	Otahua Downs	16.68 205		ePN	P	10 36 06.2	+8.0
AFI	Afiamalu	17.76 25		P	P	10 36 02.8	-7.0
	2.6nm,0.3s,baz=304,slow=3.6,SNR=4.9						
ASAR	Alice Springs	41.97 267		P	P	10 39 43.9	+0.8
ASAR	0.6nm,0.5s,mb3.0,baz=102,slow=7.7,SNR=12			ScP	ScP	10 44 50.5	+4.3
WRAB	Tennant Creek	42.95 273		eP	P	10 39 51.4	+0.6
WRA	7.5nm,0.9s,mb3.8 Warramunga Arr	42.95 273		P	P	10 39 50.6	-0.2
WRA	1.9nm,0.7s,mb3.4,baz=110,slow=8.1,SNR=35			PcP	PcP	10 41 34.5	+0.6
WRA	1.0nm,1.1s,baz=117,slow=3.2,SNR=4.8			S	S	10 45 48.7	+0.3
NVAR	1.8nm,0.9s,baz=109,slow=15,SNR=5.5 Mina Array Bea	88.97 43		P	P	10 44 40.6	0.0
ILAR	0.7nm,0.6s,mb3.6,baz=209,slow=5.8,SNR=5.7 Eielson Array	98.12 13		P	P	10 45 17.6	-4.8
KURK	0.5nm,1.1s,mb3.6,baz=212,slow=8.5,SNR=2.8 Kurchatov	120.17 314		ePKPdf	PKPdf	10 50 33.1	-1.5
CHKZ	Chkalovo	125.47 317		ePKPdf	PKPdf	10 50 42.9	-1.8
BRVK	Borovoye	125.62 316		ePKPdf	PKPdf	10 50 44.1	-0.9
ZRNK	Zerenda	126.39 316		ePKPdf	PKPdf	10 50 45.2	-1.3
KAF	Kangasniemi	144.09 340		epkp	PKPdf	10 51 15.0	-4.2
FINES	FINESS Array B	144.68 339		PKP	PKPdf	10 51 17.8	-2.4
	5.7nm,0.6s,baz=64,slow=4.4,SNR=24						
NB2	NORSAR Subarra	148.50 350		PKPa	PKPdf	10 51 28.6	+2.0
	comp=Z,1.8nm,0.6s,baz=17,slow=2.8						
NOA	NORSAR Array B	148.50 350		PKPbc	PKPbc	10 51 28.9	-1.8
	comp=Z,3.4nm,0.8s,baz=16,slow=4.3,SNR=11						
NOA	NORSAR Array B	148.50 350		PKPbc	PKPbc	10 51 28.9	-1.8
	comp=Z,4.0nm,0.7s,baz=50,slow=2.7,SNR=18						
AKASG	Malin Array Be	150.54 322		PKPbc	PKPbc	10 51 34.6	-1.1
	comp=Z,4.0nm,0.7s,baz=50,slow=2.7,SNR=18						
BRTR	Keskin Array B	151.56 298		PKPbc	PKPbc	10 51 37.9	-0.1
	comp=Z,1.3nm,0.7s,baz=127,slow=5.5,SNR=5.5						

IDC 24 10:38:10.4±7.8, 560S×14877E, h97km±49km, mb3.4/4, mb1 3.6/5, mb1mx3.4/14, mbtmp3.8/5, MS2.5/1, Ms1 2.5/1, ms1mx2.5/16, Error ellipse: s-maj=65.9km s-min=53.9km az=78.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.10 203		P	Pn	10 39 10.5	-0.3
PMG	9.6nm,0.3s,baz=8.3,slow=5.5,SNR=31			S	Sn	10 39 58.8	+1.1
HNR	6.8nm,0.3s,baz=126,slow=21,SNR=10 Honiara	11.72 110		LR	LR	10 44 13.0	
WB2	comp=Z,24nm,18.3s,baz=181,slow=31 Warramunga Arr	19.99 223		eP	Pn	10 42 35.3	-2.4
WRA	Warramunga Arr	20.00 223		P	P	10 42 35.3	+0.1
	0.8nm,0.3s,baz=51,slow=10,SNR=9.2						
ASAR	Alice Springs	22.97 217		P	P	10 43 05.8	-0.8
	0.3nm,0.3s,baz=50,slow=8.6,SNR=11						
FITZ	Fitzroy Crossi	25.78 239		eP	P	10 43 32.0	-0.1
	5.6nm,0.4s						
FITZ	Fitzroy Crossi	25.78 239		P	P	10 43 32.6	+0.6
	3.7nm,0.5s,baz=67,slow=10,SNR=11						
STKA	Stephens Creek	26.99 194		P	P	10 43 44.2	+1.2
	1.0nm,0.7s,baz=45,slow=8.6,SNR=3.2						

*ISCJB **24** 10:38:22.1±1.2, 2413S±02×1798E±02, h500km, mb3.8/6, Error ellipse: s-maj=25.7km s-min=22.9km az=0.1*
*IDC **24** 10:38:22.1±2.7, 2407S×17991E, h491km±24km, mb3.4/6, mb1 3.6/7, mb1mx3.4/15, mbtmp4.3/7, Error ellipse: s-maj=46.1

WRA	**Warramunga Arr**	**42.28**	**266**	P	**P**	**10 45 31.7**	**-0.2**
	3.1nm,0.5s,mb4.0,baz=96,slow=8.3,SNR=44						
WRA				ScP	ScP	10 50 18.8	+1.8
	0.6nm,0.7s,baz=100,slow=3.7,SNR=7.8						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	P	**P**	**10 46 36.1**	**+0.3**
	3.0nm,0.7s,mb3.8,baz=108,slow=6.4,SNR=5.6						
NVAR	**Mina Array Bea**	**84.98**	**44**	P	**P**	**10 50 04.9**	**-0.2**
	0.2nm,0.3s,mb3.2,baz=230,slow=6.9,SNR=3.7						

*CSEM **24** 10:43:41.2±0.1,3860N×963E,h10km,ML4.2/3,Error ellipse: s-maj=2.3km s-min=1.5km az=32.0*
*ISCJB **24** 10:43:45.5±0.4,3887N±004×882E±003,h10km,Error ellipse: s-maj=5.2km s-min=2.9km az=0.1*
*ROM **24** 10:43:47.6±0.5,3890N×900E,h9km±8km,Md3.1/2, Ml4.1/3,Error ellipse: s-maj=9.5km s-min=4.8km az=6.0*
*NEIC **24** 10:43:47.6,3890N×900E,h9km,ML3.6(LDG), ML4.1(ROM),After ROM.*
*LDG **24** 10:43:52.0±0.3,3908N×903E,h10km,Ml3.6/10,Error ellipse: s-maj=7.0km s-min=3.8km az=129.0*

ISC 24 10:43:47.6±0.3,3893N±003×893E±003,h10km,n66, σ1§58/113,1C-1D,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGL	**Cagliari Serpe**	**0.52**	**33**	⇓*i*Pg	**Pg**	**10 43 58.4**	**+0.7**
CGL				Sg	**Sg**	**10 44 07.0**	**+2.4**
VSL	**Villasalto**	**0.67**	**31**	⇑*e*Pg	**Pg**	**10 44 00.8**	**+0.3**
VSL				Sg	**Sg**	**10 44 09.5**	**+0.3**
SMPL	**Sampolo**	**3.18**	**5**	Pg	**Pn**	**10 44 38.8**	**+1.2**
USI	**Ustica**	**3.33**	**92**	Pg	**Pn**	**10 44 36.7**	**-2.9**
CRJA	**Costa Raja**	**3.39**	**108**	Pg	**Pn**	**10 44 40.7**	**+0.1**
PGF	**Pioggiola**	**3.62**	**1**	*e*Pn	**Pn**	**10 44 45.1**	**+1.4**
PGF				*e*Sn	**Sn**	**10 45 23.9**	**-2.6**
	84nm,0.3s						
PGF	**Pioggiola**	**3.62**	**1**	*e*Pn	**Pn**	**10 44 45.1**	**+1.4**
PGF				*e*Sn	**Sn**	**10 45 23.9**	**-2.6**
	42nm,0.3s						
CLTB	**Caltabellotta**	**3.63**	**110**		**Pn**	**10 44 43.9**	**+0.1**
CSLB	**Castelbuono**	**4.14**	**102**	Pn	**Pn**	**10 44 49.6**	**-1.3**
CERT	**Cerreto**	**4.32**	**44**		**Pn**	**10 44 53.6**	**+0.3**
RAFF	**Raffo Rosso**	**4.61**	**110**	Pn	**Pn**	**10 44 57.5**	**+0.2**
RAFF				Sn	**Sn**	**10 45 48.6**	**-2.3**
LMR	**La Mourre**	**4.77**	**338**	*e*Pn	**Pn**	**10 44 59.5**	**0.0**
LMR				*e*Sn	**Sn**	**10 45 50.1**	**-4.7**
	42nm,0.3s						
ETOS	**Mallorca**	**4.82**	**282**	P	**Pn**	**10 45 02.9**	**+2.8**
	5.1nm,0.1s,SNR=8.3						
ETOS				S	**Sn**	**10 45 54.4**	**-1.6**
	2.9nm,0.1s,SNR=25						
ETOS	**Mallorca**	**4.82**	**282**	P	**Pn**	**10 45 02.9**	**+2.8**
ETOS				S	**Sn**	**10 45 54.4**	**-1.6**
HVZN	**Vizzini**	**4.89**	**109**	Pg	**Pn**	**10 45 00.3**	**-0.8**
HVZN				Sg	**Sn**	**10 45 55.3**	**-2.4**
	120nm,0.5s						
FRF	**La Foret Royal**	**4.94**	**340**	*e*Pn	**Pn**	**10 45 02.4**	**+0.6**
FRF				*e*Sn	**Sn**	**10 45 54.9**	**-4.1**
	18nm,0.3s						
FRF	**La Foret Royal**	**4.94**	**340**	*e*Pn	**Pn**	**10 45 02.4**	**+0.6**
FRF				*e*Sn	**Sn**	**10 45 54.9**	**-4.1**
	8.8nm,0.3s						
HMDC	**Modica**	**5.02**	**111**	Pg	**Pn**	**10 45 03.6**	**+0.6**
HMDC				Sg	**Sn**	**10 45 59.1**	**-2.0**
	82nm,0.5s						
SBF	**Sospel**	**5.06**	**348**	*e*Pn	**Pn**	**10 45 03.8**	**+0.3**
SBF				*e*Sn	**Sn**	**10 45 56.7**	**-5.3**
	17nm,0.3s						
SBF	**Sospel**	**5.06**	**348**	*e*Pn	**Pn**	**10 45 03.8**	**+0.3**
SBF				*e*Sn	**Sn**	**10 45 56.7**	**-5.3**
	8.7nm,0.3s						
SSY	**Sortino**	**5.16**	**108**	Pg	**Pn**	**10 45 05.6**	**+0.8**
SSY				Sg	**Sn**	**10 46 01.7**	**-2.7**
	120nm,0.3s						
SMRF	**Simiane la Rot**	**5.64**	**335**	*e*Pn	**Pn**	**10 45 13.2**	**+1.7**
SMRF				*e*Sn	**Sn**	**10 46 13.2**	**-3.1**
	13nm,0.4s						
SMRF	**Simiane la Rot**	**5.64**	**335**	*e*Pn	**Pn**	**10 45 13.2**	**+1.7**
SMRF				*e*Sn	**Sn**	**10 46 13.2**	**-3.1**
	6.6nm,0.4s						
DOI	**San Damiano**	**5.71**	**348**	Pn	**Pn**	**10 45 14.2**	**+1.7**
EJON	**La Jonquera**	**5.79**	**309**	P	**Pn**	**10 45 13.2**	**-0.3**
	1.1nm,0.2s,SNR=7.9						
EJON				S	**Sn**	**10 46 17.3**	**-2.6**
	5.7nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.79**	**309**	P	**Pn**	**10 45 13.2**	**-0.3**
EJON				S	**Sn**	**10 46 17.3**	**-2.5**
EIBI	**Ibiza**	**5.91**	**273**	P	**Pn**	**10 45 18.9**	**+3.7**
	6.0nm,0.2s,SNR=11						
EIBI				S	**Sn**	**10 46 20.3**	**-2.7**
	9.9nm,0.3s						
EIBI	**Ibiza**	**5.91**	**273**	P	**Pn**	**10 45 18.9**	**+3.6**
EIBI				S	**Sn**	**10 46 20.3**	**-2.7**
MBDF	**Montbardon**	**6.02**	**345**	*e*Pn	**Pn**	**10 45 19.1**	**+2.5**
MBDF				*e*Sn	**Sn**	**10 46 22.0**	**-3.6**
	18nm,0.6s						
MBDF	**Montbardon**	**6.02**	**345**	*e*Pn	**Pn**	**10 45 19.1**	**+2.5**
MBDF				*e*Sn	**Sn**	**10 46 22.0**	**-3.6**
	9.2nm,0.6s						
EMIR	**Miracle**	**6.39**	**300**	P	**Pn**	**10 45 22.4**	**+0.6**
	0.7nm,0.2s,SNR=7.9						
EMIR				S	**Sn**	**10 46 33.1**	**-1.7**
	6.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**6.39**	**300**	P	**Pn**	**10 45 22.4**	**+0.7**
EMIR				S	**Sn**	**10 46 33.1**	**-1.7**
LASF	**Ste Croix**	**6.40**	**325**	*e*Pn	**Pn**	**10 45 21.4**	**-0.5**
LASF				*e*Sn	**Sn**	**10 46 31.0**	**-4.0**
	3.6nm,0.3s						
LASF	**Ste Croix**	**6.40**	**325**	*e*Pn	**Pn**	**10 45 21.4**	**-0.5**
LASF				*e*Sn	**Sn**	**10 46 31.0**	**-4.0**
	1.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**6.41**	**340**	*e*Pn	**Pn**	**10 45 23.3**	**+1.3**
EPOB	**Poblet**	**6.49**	**294**	P	**Pn**	**10 45 24.7**	**+1.6**
	3.4nm,0.2s,SNR=14						
EPOB				S	**Sn**	**10 46 35.2**	**-1.9**
	1.0nm,0.1s						
EPOB	**Poblet**	**6.49**	**294**	P	**Pn**	**10 45 24.7**	**+1.7**
EPOB				S	**Sn**	**10 46 35.2**	**-2.0**
MTLF	**Montolieu**	**6.72**	**313**	*e*Pn	**Pn**	**10 45 26.2**	**-0.1**
MTLF				*e*Sn	**Sn**	**10 46 39.2**	**-3.6**
	11nm,0.3s						
MTLF	**Montolieu**	**6.72**	**313**	*e*Pn	**Pn**	**10 45 26.2**	**-0.1**
MTLF				*e*Sn	**Sn**	**10 46 39.2**	**-3.6**
	5.7nm,0.3s						
VIVF	**Saint-Julien-l**	**6.72**	**333**	*e*Pn	**Pn**	**10 45 26.6**	**+0.3**
VIVF				*e*Sn	**Sn**	**10 46 38.6**	**-4.4**
	3.0nm,0.4s						
VIVF	**Saint-Julien-l**	**6.72**	**333**	*e*Pn	**Pn**	**10 45 26.6**	**+0.3**
VIVF				*e*Sn	**Sn**	**10 46 38.6**	**-4.4**
	1.5nm,0.4s						
LPG	**La Plagne**	**6.76**	**347**	*e*Pn	**Pn**	**10 45 27.2**	**+0.3**
LPL	**La Plagne**	**6.79**	**347**	*e*Pn	**Pn**	**10 45 28.2**	**+1.0**
LPL				*e*Sn	**Sn**	**10 46 39.8**	**-4.7**
	2.4nm,0.3s						
LPL	**La Plagne**	**6.79**	**347**	*e*Pn	**Pn**	**10 45 28.2**	**+1.0**
LPL				*e*Sn	**Sn**	**10 46 39.8**	**-4.7**
	1.2nm,0.3s						
ERTA	**Horta de San J**	**6.91**	**290**	P	**Pn**	**10 45 29.6**	**+0.7**
	1.4nm,0.2s,SNR=4.0						
ERTA				S	**Sn**	**10 46 46.4**	**-1.2**
	1.9nm,0.1s,SNR=4.0						
ERTA	**Horta de San J**	**6.91**	**290**	P	**Pn**	**10 45 29.6**	**+0.7**
ERTA				S	**Sn**	**10 46 46.4**	**-1.2**
EBEN	**Beniarda**	**7.15**	**271**	P	**Pn**	**10 45 35.8**	**+3.6**
	6.2nm,0.3s,SNR=7.7						
EBEN				S	**Sn**	**10 46 52.1**	**-1.5**
	1.0nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**7.15**	**271**	P	**Pn**	**10 45 35.8**	**+3.6**
EBEN				S	**Sn**	**10 46 52.1**	**-1.5**
EGRA	**Graus**	**7.33**	**299**	P	**Pn**	**10 45 36.1**	**+1.5**
	2.2nm,0.2s,SNR=7.9						
EGRA				S	**Sn**	**10 46 53.8**	**-4.0**
	1.1nm,0.3s,SNR=7.9						
EGRA	**Graus**	**7.33**	**299**	P	**Pn**	**10 45 36.1**	**+1.4**
EGRA				S	**Sn**	**10 46 53.8**	**-4.0**
EMOS	**Mosqueruela**	**7.40**	**284**	P	**Pn**	**10 45 38.3**	**+2.7**
	0.9nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**10 47 00.8**	**+1.2**
	1.5nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**7.40**	**284**	P	**Pn**	**10 45 38.3**	**+2.7**
EMOS				S	**Sn**	**10 47 00.8**	**+1.2**
EBIE	**Bielsa**	**7.65**	**302**	P	**Pn**	**10 45 41.0**	**+1.9**
	1.3nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**7.65**	**302**	P	**Pn**	**10 45 41.0**	**+2.0**
EPF	**Esparros**	**7.68**	**305**	*e*Pn	**Pn**	**10 45 40.5**	**+1.0**
ESAC	**San Caprasio**	**7.71**	**294**	P	**Pn**	**10 45 41.7**	**+1.9**
	9.0nm,0.1s,SNR=9.0						
ESAC				S	**Sn**	**10 47 05.4**	**-1.8**
	0.9nm,0.1s						
ESAC	**San Caprasio**	**7.71**	**294**	P	**Pn**	**10 45 41.7**	**+1.9**
ESAC				S	**Sn**	**10 47 05.4**	**-1.8**
ECHE	**Chera**	**7.71**	**278**	S	**Sn**	**10 47 06.6**	**-0.7**
	1.2nm,0.4s,SNR=7.9						
CAF	**Calviac**	**7.88**	**322**	*e*Pn	**Pn**	**10 45 41.9**	**-0.3**
ETOB	**Tobarra**	**8.19**	**271**	P	**Pn**	**10 45 51.3**	**+4.8**
	3.1nm,0.2s,SNR=7.0						
ETOB				S	**Sn**	**10 47 18.6**	**-0.5**
ETOB	**Tobarra**	**8.19**	**271**	P	**Pn**	**10 45 51.3**	**+4.8**
ETOB				S	**Sn**	**10 47 18.6**	**-0.4**
AVF	**Avril sur Loir**	**8.86**	**334**	*e*Pn	**Pn**	**10 45 56.6**	**+0.9**
TCF	**Toulx Ste Croi**	**8.87**	**328**	*e*Pn	**Pn**	**10 45 56.5**	**+0.7**
EQES	**Quesada**	**9.49**	**267**	P	**Pn**	**10 46 09.5**	**+5.1**
EBER	**Berja**	**9.56**	**261**	P	**Pn**	**10 46 09.0**	**+3.8**
EBER	**Berja**	**9.56**	**261**	P	**Pn**	**10 46 09.0**	**+3.8**

*BJI **24** 10:54:57.9,4706N×13929E,h474km,mB4.4,mb4.3*
*MOS **24** 10:54:57.3±0.9,4722N×139.15E,h455km,mb3.8/11,Error ellipse: s-maj=16.5km s-min=8.6km az=114.5*
*ISCJB **24** 10:54:58.0±0.2,4713N±003×139.14E±007,h466km±4km, mb3.8/28,Error ellipse: s-maj=7.6km s-min=4.5km az=157.9*
*NEIC **24** 10:54:59.7±0.4,4711N×13926E,h479km±8km,mb4.1/8, Error ellipse: s-maj=10.4km s-min=6.3km az=132.0*
*IDC **24** 10:54:59.3±1.5,4727N×139.15E,h459km±24km,mb3.3/16, mb1 3.5/19,mb1mx3.4/28,mbtmp4.2/19,Error ellipse: s-maj=25.6km s-min=11.0km az=174.0*
*JMA **24** 10:55:00.7±0.4,4692N×13972E,h489km,M3.9*
*SKHL **24** 10:55:00.2±1.3,4733N×13883E,h461km±8km,mb4.3/9, msh4.3/3*

ISC 24 10:54:59.0±0.2,4721N±003×13916E±007,h463km±4km, n90,σ0§90/104,mb3.8/28,5C-3D,Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.47**	**95**	⇓*i*P	**P**	**10 56 06.0**	**+2.6**
YSS				AMB	AMB	10 56 06.9	
	520nm,0.6s						
YSS				*i*S	**S**	**10 56 58.0**	**+2.3**
YSS				A		10 56 59.0	
	60nm,0.8s						
YSS	**Yuzh-Sakhalins**	**2.47**	**95**	*e*P	**P**	**10 56 05.0**	**+1.7**
YSS	**Yuzh-Sakhalins**	**2.47**	**95**	⇓*i*PN	**P**	**10 56 06.0**	**+2.6**
YSS				*i*S	**S**	**10 56 57.2**	**+1.5**
YSS				pmax	pmax		
	comp=Z,520nm,0.6s						
YSS				smax			
	comp=N,60nm,0.8s						
YSS				smax			
	comp=E,60nm,1.0s						
JWK2	**Keihoku**	**2.68**	**134**	P	**P**	**10 56 06.1**	**+1.3**
TEY	**Ternei**	**2.81**	**220**	⇑*i*P	**P**	**10 56 05.1**	**-0.6**
TEY				AMB	AMB	10 56 07.0	
	comp=E,42nm,0.7s						
HABR	**Khabarovsk**	**3.04**	**296**	PN	**P**	**10 56 03.2**	**-4.1**
JSE	**Soyaes**	**3.28**	**132**	P	**P**	**10 56 09.9**	**+0.8**
JSE				*e*S	**S**	**10 57 05.3**	**-0.7**
JHR	**Hokuryu**	**3.91**	**152**	P	**P**	**10 56 15.4**	**+1.3**
ASAJ	**Asahikawa**	**3.92**	**141**	P	**P**	**10 56 14.9**	**+0.7**
	comp=E,12nm,0.3s,baz=304,slow=7.5,SNR=55						
ASAJ	**Asahikawa**	**3.92**	**141**	PN	**P**	**10 56 14.9**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
GRNR	**Gornyy**	**3.99**	**334**	⇑*i*P	**P**	**10 56 14.0**	**-0.9**
GRNR				AMB	AMB	10 56 14.6	
	comp=Z,16nm,0.8s						
GRNR				*e*S	**S**	**10 57 16.0**	**-0.6**
JKK2	**Kamakawa 2**	**4.18**	**142**	P	**P**	**10 56 16.8**	**+0.3**
TYV	**Tymovskoe**	**4.32**	**31**	*e*P	**P**	**10 56 19.5**	**+1.8**
TYV				AMB	AMB	10 56 21.2	
	comp=Z,24nm,0.8s						
TYV				*e*S	**S**	**10 57 22.2**	**+0.4**
TYV				A		10 57 27.0	
	comp=Z,28nm,1.0s						
JTKR	**Abashiri--Toko**	**4.65**	**132**	P	**P**	**10 56 20.8**	**+0.1**
JAR	**Ashorobuto**	**5.09**	**139**	P	**P**	**10 56 24.8**	**0.0**
JOSM	**Okushiri--Mats**	**5.13**	**177**	P	**P**	**10 56 26.4**	**+1.2**
JRA	**Rausu**	**5.31**	**126**	P	**P**	**10 56 27.2**	**+0.3**
KLR	**Kul'dur**	**5.35**	**295**	*e*PN	**P**	**10 56 26.5**	**-0.8**
KLR				*e*		10 57 39.7	
KLR				pmax	pmax		
	comp=E,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,43nm,1.2s						
JCH	**Churui**	**5.48**	**146**	P	**P**	**10 56 26.6**	**-2.0**
JCH				*e*S	**S**	**10 57 34.2**	**-7.5**
JNBK	**Urakawa-nobuka**	**5.55**	**151**	P	**P**	**10 56 29.1**	**-0.2**
JNBK				*e*S	**S**	**10 57 37.5**	**-5.5**
JAK	**Akkeshi**	**5.75**	**135**	P	**P**	**10 56 29.9**	**-1.4**
JAK				*e*S	**S**	**10 57 40.7**	**-5.9**
JOT	**Ohata**	**5.98**	**166**	*e*S	**S**	**10 57 47.0**	**-3.9**
NKL	**Nikolayevsk**	**6.03**	**9**	⇑*i*P	**P**	**10 56 33.0**	**-1.0**
NKL				AMB	AMB	10 56 33.6	
	comp=Z,70nm,0.7s						
NKL				*e*S	**S**	**10 57 52.0**	**+0.3**
NKL				A		10 57 53.2	
	comp=Z,22nm,1.0s						
NEM2	**Nemuro 2**	**6.03**	**127**	P	**P**	**10 56 31.7**	**-2.3**
NEM2				*e*S	**S**	**10 57 44.4**	**-7.3**
JANG	**Nango**	**7.04**	**165**	P	**P**	**10 56 43.3**	**-1.2**
JANG				*e*S	**S**	**10 58 03.8**	**-7.0**
JOM	**Ohasama**	**7.89**	**168**	P	**P**	**10 56 52.6**	**-0.8**
JOM				*e*S	**S**	**10 58 20.9**	**-6.3**
JYK	**Kaneyama**	**8.34**	**174**	P	**P**	**10 56 57.9**	**-0.3**
JMK	**Ichinoseki**	**8.39**	**169**	P	**P**	**10 56 58.0**	**-0.8**
JMK				*e*S	**S**	**10 58 31.5**	**-5.6**
YASR	**Yasnyy**	**9.39**	**314**	⇓*i*P	**P**	**10 57 08.6**	**-0.9**
YASR				AMB	AMB	10 57 09.1	
	comp=Z,20nm,0.5s						
JMM	**Marumori**	**9.42**	**172**	P	**P**	**10 57 09.4**	**-0.4**
JMM				*e*S	**S**	**10 58 52.9**	**-4.4**
BMKR	**Bomnak**	**9.93**	**323**	*e*P	**P**	**10 57 14.5**	**-0.8**
BMKR				AMB	AMB	10 57 15.1	
	comp=Z,5.0nm,0.6s						
CN2	**Changchun**	**10.21**	**256**	⇑P	**P**	**10 57 19.3**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KROS	**Kirovskiy**	**10.56**	**318**	*e*P	**P**	**10 57 21.1**	**-1.1**
KROS				AMB	AMB	10 57 21.6	
	comp=Z,6.0nm,0.6s						
MAJO	**Matsushiro**	**10.68**	**184**	*e*P	**P**	**10 57 22.9**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MAJO	**Matsushiro**	**10.68**	**184**	*e*PN	**P**	**10 57 22.9**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAT	**Matsushiro**	**10.68**	**184**	P	**P**	**10 57 23.2**	**-0.3**
MAT	**Matsushiro**	**10.68**	**184**	*e*P	**P**	**10 57 23.0**	**-0.5**
	comp=Z,6.0nm,0.8s						
MAT	**Matsushiro**	**10.68**	**184**	*e*PN	**P**	**10 57 23.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MJAR	**Matsushiro Arr**	**10.68**	**184**	P	**P**	**10 57 23.8**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=358,slow=12,SNR=32						
KS15	**Wonju Array Si**	**12.83**	**225**	*e*P	**P**	**10 57 47.0**	**+0.3**
JHJ	**Hachijo jima 2**	**14.08**	**178**	P	**P**	**10 58 01.1**	**+1.0**
	comp=Z,26nm,0.3s,baz=61,slow=19,SNR=7.8						
MA2	**Magadan**	**14.16**	**25**	*e*P	**P**	**10 58 01.8**	**+0.9**
MA2	**Magadan**	**14.16**	**25**	*e*P	**P**	**10 58 01.7**	**+0.9**
	comp=Z,6.3nm,0.6s						
MA2	**Magadan**	**14.16**	**25**	*c i*P	**P**	**10 58 01.8**	**+0.9**
MA2				pmax	pmax		
	comp=N,2.0nm,0.6s						
MA2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
IRK	**Irkutsk**	**22.96**	**296**	*e*P	**P**	**10 59 22.5**	**-3.9**
GTA	**Gaotai**	**29.42**	**269**	*e*P	**P**	**11 00 25.3**	**+1.8**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb3.9						
MKAR	**Makanchi Array**	**38.04**	**291**	P	**P**	**11 01 36.9**	**+0.5**
	comp=Z,4.3nm,0.6s,mb4.1,baz=76,slow=8.2,SNR=52						
MKAR				PcP	PcP	11 03 40.1	0.0
	comp=Z,0.3nm,0.3s,baz=68,slow=4.7,SNR=4.4						
KURK	**Kurchatov**	**38.94**	**298**	*e*P	**P**	**11 01 43.3**	**-0.4**
	comp=Z,4.4nm,0.9s,mb3.9						
KURK	**Kurchatov**	**38.94**	**298**	*e*P	**P**	**11 01 43.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
KDAK	**Kodiak Island**	**41.14**	**49**	P	**P**	**11 02 00.5**	**-1.0**
	comp=Z,6.3nm,0.9s,mb4.0,baz=297,slow=9.0,SNR=6.3						
KDAK	**Kodiak Island**	**41.14**	**49**	P	**P**	**11 02 00.5**	**-1.1**
ILAR	**Eielson Array**	**42.12**	**38**	P	**P**	**11 02 08.7**	**-0.6**
	comp=Z,1.2nm,0.9s,mb3.3,baz=262,slow=5.6,SNR=21						
CHKZ	**Chkalovo**	**42.58**	**305**	*e*P	**P**	**11 02 12.8**	**-0.1**
VOSK	**Vostochnaya**	**42.71**	**304**	P	**P**	**11 02 13.8**	**-0.1**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
BVA0	**Borovoye Array**	**42.94**	**304**	*i* P	**P**	**11 02 15.5**	**-0.2**
BVAR	**Borovoye Array**	**42.94**	**304**	P	**P**	**11 02 16.2**	**+0.5**
	comp=Z,2.3nm,0.3s,mb4.0,baz=82,slow=9.3,SNR=17						
BRVK	**Borovoye**	**42.98**	**304**	*e*P	**P**	**11 02 16.6**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.5						
BRVK	**Borovoye**	**42.98**	**304**	*e*P	**P**	**11 02 16.6**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
ZRNK	**Zerenda**	**43.74**	**305**	*e*P	**P**	**11 02 22.1**	**+0.1**
	comp=Z,2.3nm,0.4s,mb4.0						
ZRNK	**Zerenda**	**43.74**	**305**	P	**P**	**11 02 22.3**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
JIRN	**Jiri**	**45.41**	**264**	*e*P	**P**	**11 02 36.1**	**+1.1**
	comp=Z,10nm,0.4s,mb4.7						
GUN	**Gumba**	**45.46**	**264**	*e*P	**P**	**11 02 36.0**	**+0.6**
	comp=Z,4.6nm,0.2s,mb4.5						
KKN	**Kakani**	**45.95**	**265**	*e*P	**P**	**11 02 39.9**	**+0.8**
	comp=Z,8.8nm,0.5s,mb4.5						
KKN	**Kakani**	**45.95**	**265**	*e*P	**P**	**11 02 39.9**	**+0.8**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
GKN	**Gorkha**	**46.25**	**265**	*e*P	**P**	**11 02 41.9**	**+0.5**
	comp=Z,13nm,0.4s,mb4.7						
INK	**Inuvik**	**46.29**	**31**	P	**P**	**11 02 41.7**	**0.0**
	comp=Z,3.0nm,0.4s,mb4.1,baz=297,slow=7.4,SNR=79						
INK	**Inuvik**	**46.29**	**31**	*e*P	**P**	**11 02 41.5**	**-0.2**
	comp=Z,3.4nm,0.5s,mb4.0						
INK	**Inuvik**	**46.29**	**31**	P	**P**	**11 02 41.7**	**0.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KOLN	**Koldanda**	**47.10**	**266**	*e*P	**P**	**11 02 48.6**	**+0.7**
	comp=Z,2.8nm,0.4s,mb4.1						
KKAR	**Karatay Array**	**47.17**	**292**	*e*P	**P**	**11 02 48.6**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
ARU	**Arti**	**47.92**	**312**	*e*P	**P**	**11 02 54.2**	**+0.2**
ARU	**Arti**	**47.92**	**312**	*e*P	**P**	**11 02 54.2**	**+0.1**
AB31	**Akbulak array**	**50.49**	**303**	*i* P	**P**	**11 03 13.6**	**+0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
AKTK	**Aktyubinsk**	**50.98**	**306**	P	**P**	**11 03 16.8**	**0.0**
AKTO	**Aktyubinsk**	**50.98**	**306**	P	**P**	**11 03 16.8**	**0.0**
	comp=Z,2.0nm,0.6s,mb3.6,baz=72,slow=9.6,SNR=5.3						
AKTO	**Aktyubinsk**	**50.98**	**306**	P	**P**	**11 03 16.8**	**0.0**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
YKA	**Yellowknife Ar**	**55.98**	**33**	P	**P**	**11 03 52.0**	**-0.4**
	comp=Z,0.3nm,0.5s,mb2.9,baz=307,slow=6.7,SNR=13						
JOF	**Joensuu**	**56.30**	**328**	*ep*	**P**	**11 03 54.4**	**-0.2**
KAF	**Kangasniemi**	**58.59**	**329**	*ep*	**P**	**11 04 09.0**	**-1.3**
FINES	**FINESS Array B**	**59.13**	**329**	P	**P**	**11 04 13.3**	**-0.6**
	comp=Z,2.4nm,0.4s,mb3.9,baz=51,slow=8.8,SNR=15						
FINES	**FINESS Array B**	**59.13**	**329**	P	**P**	**11 04 13.4**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS	**Hagfors**	**64.19**	**333**	P	**P**	**11 04 46.7**	**-0.4**
	comp=Z,2.8nm,0.4s,mb4.2,baz=51,slow=7.8,SNR=13						
NOA	**NORSAR Array B**	**64.21**	**335**	P	**P**	**11 04 46.6**	**-0.7**
	comp=Z,1.5nm,0.8s,mb3.6,baz=37,slow=6.4,SNR=3.9						
AKASG	**Malin Array Be**	**65.37**	**319**	P	**P**	**11 04 53.9**	**-0.7**
	comp=Z,1.4nm,0.5s,mb3.9,baz=41,slow=6.4,SNR=9.4						
AKASG	**Malin Array Be**	**65.37**	**319**	P	**P**	**11 04 53.9**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**70.33**	**55**	P	**P**	**11 05 26.8**	**+1.8**
	comp=Z,1.0nm,0.7s,mb3.5,baz=290,slow=7.5,SNR=7.2						
BRTR	**Keskin Array B**	**71.04**	**308**	P	**P**	**11 05 29.3**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.3,baz=79,slow=4.8,SNR=3.3						
PDAR	**Pinedale Array**	**71.78**	**46**	P	**P**	**11 05 34.5**	**+1.0**
	comp

TUP				*e*S	**Sn**	**10 57 02.4**	**-0.8**
TUP				*e*		10 57 15.1	
TUP	**Tupik**	**3.41**	**36**	*e*PN	**Pn**	**10 56 23.5**	**+0.8**
TUP				*e*		10 56 31.2	
TUP				*e*S	**Sn**	**10 57 02.4**	**-0.8**
TUP				*e*		10 57 15.1	
TUP				pmax	pmax		
	comp=Z,103nm,0.4s						
TUP				smax			
	comp=E,2μm,1.3s						
UKT	**Uakit**	**4.13**	**337**	⇑*i*Pn	**Pn**	**10 56 32.2**	**-0.3**
UKT				*e*		10 56 33.6	
UKT				*e*Pg	**Pb**	**10 56 44.1**	**+1.9**
UKT				Pmax		10 56 48.2	
	comp=E,130nm,1.3s						
UKT				*e*Sn	**Sn**	**10 57 19.3**	**-1.6**
UKT				*e*Sg	**Sb**	**10 57 36.9**	**+4.8**
UKT				Smax		10 57 43.5	
	comp=E,536nm,1.0s						
UKT				*e*		10 57 49.1	
UKT	**Uakit**	**4.13**	**337**	*e*Pn	**Pn**	**10 56 32.3**	**-0.2**
UKT				*e*		10 56 44.1	
UKT				*e*S	**Sn**	**10 57 20.6**	**-0.3**
UKT				*e*		10 57 37.5	
UKT	**Uakit**	**4.13**	**337**	*e*PN	**Pn**	**10 56 32.3**	**-0.2**
UKT				*e*		10 56 44.1	
UKT				*e*S	**Sn**	**10 57 20.6**	**-0.3**
UKT				*e*		10 57 37.5	
UKT				pmax	pmax		
	comp=Z,128nm,0.6s						
UKT				smax			
	comp=E,535nm,0.6s						
SYVR	**Suvo**	**4.39**	**299**	*e*Pn	**Pn**	**10 56 36.4**	**+0.3**
SYVR				*e*Pg	**Pb**	**10 56 48.4**	**+1.8**
SYVR				Pmax		10 56 54.7	
	comp=E,42nm,0.4s						
SYVR				*e*Sn	**Sn**	**10 57 27.4**	**+0.1**
SYVR				*e*Sg	**Sb**	**10 57 43.2**	**+3.5**
SYVR				*e*SgSg		10 57 45.8	
SYVR				max		10 57 47.3	
	comp=E,1μm,0.9s						
SYVR	**Suvo**	**4.39**	**299**	*e*Pn	**Pn**	**10 56 36.6**	**+0.5**
SYVR				*e*		10 56 48.4	
SYVR				*e*		10 57 45.4	
SYVR	**Suvo**	**4.39**	**299**	*e*PN	**Pn**	**10 56 36.6**	**+0.5**
SYVR				*e*		10 56 48.4	
SYVR				*e*		10 57 45.4	
SYVR				pmax	pmax		
	comp=Z,42nm,0.5s						
SYVR				smax			
	comp=E,1μm,0.7s						
YLYR	**Ulyunkhan**	**4.49**	**317**	*e*Pn	**Pn**	**10 56 37.1**	**-0.3**
YLYR				*e*Pg	**Pb**	**10 56 50.0**	**+1.8**
YLYR				Pmax		10 56 53.7	
	comp=E,66nm,0.7s						
YLYR				*e*Sn	**Sn**	**10 57 27.0**	**-2.6**
YLYR				*e*Sg	**Sb**	**10 57 45.7**	**+3.4**
YLYR				*e*SgSg		10 57 48.7	
YLYR				max		10 57 50.7	
	comp=E,1μm,1.1s						
YLYR	**Ulyunkhan**	**4.49**	**317**	*e*Pn	**Pn**	**10 56 37.0**	**-0.4**
YLYR				*e*		10 56 48.7	
YLYR				*e*		10 57 45.9	
YLYR	**Ulyunkhan**	**4.49**	**317**	*e*PN	**Pn**	**10 56 37.0**	**-0.4**
YLYR				*e*		10 56 48.7	
YLYR				*e*		10 57 45.9	
YLYR				pmax	pmax		
	comp=Z,66nm,1.0s						
YLYR				smax			
	comp=N,1μm,1.1s						
SVKR	**Severomuysk**	**4.72**	**340**	*e*Pg	**Pg**	**10 56 55.9**	**-3.9**
SVKR				Pmax		10 56 57.3	
	comp=N,111nm,1.0s						
SVKR				*e*Sg	**Sg**	**10 57 59.1**	**-1.9**
SVKR				Smax		10 58 09.1	
	comp=N,1μm,0.5s						
SVKR	**Severomuysk**	**4.72**	**340**	*e*PN	**Pg**	**10 56 56.4**	**-3.4**
NLYR	**Nelyaty**	**4.79**	**355**	*e*Pn	**Pn**	**10 56 41.0**	**-0.6**
NLYR				⇓*i*Pg	**Pb**	**10 56 56.7**	**+3.3**
NLYR				Pmax		10 56 57.3	
	comp=N,175nm,0.6s						
NLYR				*e*Sn	**Sn**	**10 57 38.0**	**+0.8**
NLYR				*e*Sg	**Sb**	**10 57 58.6**	**+7.5**
NLYR				*e*		10 58 09.5	
NLYR				max		10 58 10.8	
	comp=N,668nm,0.6s						
NLYR	**Nelyaty**	**4.79**	**355**	*e*Pn	**Pn**	**10 56 40.9**	**-0.7**
NLYR				*e*		10 56 56.2	
NLYR				*e*		10 57 58.4	
NLYR	**Nelyaty**	**4.79**	**355**	*e*PN	**Pn**	**10 56 40.9**	**-0.7**
NLYR				*e*		10 56 56.2	
NLYR				*e*		10 57 58.4	
NLYR				pmax	pmax		
	comp=Z,176nm,0.6s						
NLYR				smax			
	comp=N,667nm,0.8s						
MXMB	**Maximikha**	**4.97**	**291**	*e*Pn	**Pn**	**10 56 43.8**	**-0.3**
MXMB				*e*Pg	**Pb**	**10 56 59.1**	**+2.6**
MXMB				Pmax		10 57 03.4	
	comp=N,42nm,0.9s						
MXMB				*e*Sn	**Sn**	**10 57 41.7**	**+0.1**
MXMB				*e*Sg	**Sb**	**10 58 01.4**	**+5.1**
MXMB				Smax		10 58 07.6	
	comp=N,2μm,0.9s						
KMO	**Kumora**	**5.21**	**325**	*e*Pn	**Pn**	**10 56 47.2**	**-0.1**
KMO				*e*Pg	**Pb**	**10 57 04.0**	**+3.5**
KMO				Pmax		10 57 05.3	
	comp=N,46nm,0.5s						
KMO				*e*Sn	**Sn**	**10 57 48.7**	**+1.3**
KMO				*e*Sg	**Sb**	**10 58 10.6**	**+7.5**
KMO				Smax		10 58 15.0	
	comp=N,888nm,0.9s						
KMO	**Kumora**	**5.21**	**325**	*e*Pn	**Pn**	**10 56 47.2**	**-0.1**
	comp=N,46nm,0.6s						
KMO				*e*		10 57 02.7	
KMO				*e*S	**Sn**	**10 57 46.9**	**-0.5**
KMO				*e*		10 58 09.9	
KMO	**Kumora**	**5.21**	**325**	*e*PN	**Pn**	**10 56 47.2**	**-0.1**
KMO				*e*		10 57 02.7	
KMO				*e*S	**Sn**	**10 57 46.9**	**-0.5**
KMO				*e*		10 58 09.9	
KMO				pmax	pmax		
	comp=Z,46nm,0.6s						
KMO				smax			
	comp=N,888nm,1.0s						
YOA	**Uoyan**	**5.23**	**329**	*e*Sg	**Sg**	**10 58 11.1**	**-6.2**
YOA				Smax		10 58 42.1	
	comp=N,2μm,1.5s						
YOA	**Uoyan**	**5.23**	**329**	*e*Pn	**Pg**	**10 57 04.0**	**-5.6**
YOA				*i*		10 58 12.0	
YOA	**Uoyan**	**5.23**	**329**	*e*PN	**Pg**	**10 57 04.0**	**-5.6**
YOA				*i*		10 58 12.0	
YOA				pmax	pmax		
	comp=Z,365nm,0.3s						
YOA				smax			
	comp=N,2μm,1.2s						
KELR	**Kotokel**	**5.27**	**285**	*e*Pg	**Pb**	**10 57 01.5**	**0.0**
KELR				*e*Sg	**Sb**	**10 58 10.6**	**+5.8**
CRS	**Chara**	**5.28**	**11**	*e*Pn	**Pn**	**10 56 49.2**	**+0.8**
CRS				*e*Pg	**Pg**	**10 57 05.3**	**-5.3**
CRS				Pmax		10 57 07.6	
	comp=N,98nm,1.2s						
CRS				*e*Sg	**Sg**	**10 58 15.0**	**-4.0**
CRS				Smax		10 58 28.3	
	comp=N,709nm,2.0s						
CRS	**Chara**	**5.28**	**11**	*e*Pn	Px	10 57 03.4	
CRS				*e*		10 58 14.7	
CRS	**Chara**	**5.28**	**11**	*e*PN	Px	10 57 03.4	
CRS				*e*		10 58 14.7	
CRS				pmax	pmax		
	comp=Z,96nm,0.8s						
CRS				smax			
	comp=E,602nm,1.2s						
TRTB	**Turuntaevo**	**5.50**	**279**	*e*Pn	**Pn**	**10 56 50.9**	**-0.4**
TRTB				*e*Pg	**Pb**	**10 57 06.8**	**+1.4**
TRTB				Pmax		10 57 09.6	
	comp=E,60nm,0.6s						
TRTB				*e*Sn	**Sn**	**10 57 54.2**	**-0.3**
TRTB				*e*Sg	**Sb**	**10 58 19.0**	**+7.6**
TRTB				Smax		10 58 27.6	
	comp=E,626nm,1.5s						
OGRR	**Ongureny**	**5.74**	**293**	*e*Pn	**Pn**	**10 56 53.7**	**-0.9**
OGRR				*e*Pg	**Pb**	**10 57 12.7**	**+3.2**
OGRR				Pmax		10 57 14.4	
	comp=E,13nm,0.5s						
OGRR				*e*Sn	**Sn**	**10 57 55.0**	**-5.5**
OGRR				*e*Sg	**Sb**	**10 58 25.1**	**+6.8**
OGRR				Smax		10 58 30.2	
	comp=E,283nm,2.2s						
OGRR	**Ongureny**	**5.74**	**293**	*e*Pn	**Pn**	**10 56 54.1**	**-0.5**
	comp=E,14nm,0.7s						
OGRR				*e*		10 57 11.3	
OGRR				*e*S	**Sn**	**10 57 55.6**	**-4.9**
OGRR				*e*		10 58 25.2	
OGRR	**Ongureny**	**5.74**	**293**	*e*PN	**Pn**	**10 56 54.1**	**-0.5**
OGRR				*e*		10 57 11.3	
OGRR				*e*S	**Sn**	**10 57 55.6**	**-4.9**
OGRR				*e*		10 58 25.2	
OGRR				pmax	pmax		
	comp=Z,14nm,0.7s						
OGRR				smax			
	comp=N,253nm,1.5s						
NIZ	**Nizh Angarsk**	**5.78**	**317**	*e*Pn	**Pn**	**10 56 55.8**	**+0.7**
NIZ				*e*Pg	**Pg**	**10 57 11.6**	**-8.4**
NIZ				Pmax		10 57 17.8	
	comp=N,11nm,0.6s						
NIZ				*e*Sg	**Sg**	**10 58 26.8**	**-8.0**
NIZ				Smax		10 58 39.5	
	comp=N,391nm,1.2s						
NIZ	**Nizh Angarsk**	**5.78**	**317**	*e*Pn	**Pn**	**10 56 55.5**	**+0.4**
	comp=N,12nm,0.7s						
NIZ				*e*		10 57 13.8	
NIZ				*e*		10 58 26.8	
NIZ	**Nizh Angarsk**	**5.78**	**317**	*e*PN	**Pn**	**10 56 55.5**	**+0.4**
NIZ				*e*		10 57 13.8	
NIZ				*e*		10 58 26.8	
NIZ				pmax	pmax		
	comp=Z,12nm,0.7s						
NIZ				smax			
	comp=N,391nm,1.3s						
ZRHB	**Zarechye**	**5.81**	**282**	*e*Pn	**Pn**	**10 56 55.4**	**-0.1**
ZRHB				*e*Pg	**Pb**	**10 57 13.9**	**+3.2**
ZRHB				Pmax		10 57 18.9	
	comp=N,215nm,0.9s						
ZRHB				*e*Sn	**Sn**	**10 58 02.4**	**+0.2**
ZRHB				*e*Sg	**Sb**	**10 58 29.0**	**+8.7**
ZRHB				Smax		10 58 43.4	
	comp=N,3μm,1.1s						
HRMR	**Khuramsha**	**5.93**	**273**	*e*Pn	**Pn**	**10 56 56.6**	**-0.7**
HRMR				*e*Pg	**Pb**	**10 57 15.4**	**+2.6**
HRMR				Pmax		10 57 18.1	
	comp=N,52nm,0.7s						
HRMR				*e*Sn	**Sn**	**10 58 02.2**	**-3.1**
HRMR				*e*Sg	**Sb**	**10 58 30.1**	**+6.2**
HRMR				Smax		10 58 45.1	
	comp=N,1μm,1.4s						
FFNB	**Fofonovo**	**6.03**	**277**	*e*Pn	**Pn**	**10 56 57.8**	**-0.8**
FFNB				*e*Pg	**Pb**	**10 57 16.7**	**+2.2**
FFNB				Pmax		10 57 21.9	
	comp=N,106μm,0.5s						
FFNB				*e*Sn	**Sn**	**10 58 06.6**	**-1.1**
FFNB				*e*Sg	**Sb**	**10 58 34.6**	**+7.9**
FFNB				Smax		10 58 42.6	
	comp=N,1μm,0.7s						
KAB	**Kabansk**	**6.10**	**277**	*e*Sn	**Sn**	**10 57 55.4**	**-14**
KAB				*e*Sg	**Sg**	**10 58 38.0**	**-7.1**
KAB				Smax		10 58 59.0	
	comp=N,2μm,1.7s						
KAB	**Kabansk**	**6.10**	**277**	*e*PG	**Pg**	**10 57 21.1**	**-5.0**
BOD	**Bodaibo**	**6.27**	**348**	*e*Pg	**Pg**	**10 57 22.9**	**-6.5**
BOD				Pmax		10 57 25.4	
	comp=N,58nm,0.9s						
BOD				*e*Sg	**Sg**	**10 58 43.0**	**-7.6**
BOD				Smax		10 58 51.9	
	comp=N,232nm,1.0s						
BOD	**Bodaibo**	**6.27**	**348**	*e*Pg	**Pg**	**10 57 21.4**	**-8.0**
	comp=N,58nm,0.9s						
BOD				*e*		10 58 40.7	
BOD	**Bodaibo**	**6.27**	**348**	*e*PG	**Pg**	**10 57 21.4**	**-8.0**
BOD				*e*		10 58 40.7	
BOD				pmax	pmax		
	comp=Z,58nm,0.9s						
BOD				smax			
	comp=E,232nm,1.0s						
TRG	**Tyrgan**	**6.31**	**283**	*e*Pn	**Pn**	**10 57 01.2**	**-1.3**
TRG				*e*Pg	**Pg**	**10 57 23.3**	**-7.0**
TRG				Pmax		10 57 28.9	
	comp=E,23nm,0.9s						
TRG				*e*Sg	**Sg**	**10 58 44.9**	**-7.1**
TRG				Smax		10 58 50.5	
	comp=E,315nm,1.0s						
TRG	**Tyrgan**	**6.31**	**283**	*e*PN	**Pn**	**10 57 01.7**	**-0.8**
TRG				*e*		10 57 22.2	
TRG				*e*		10 58 43.9	
TRG				pmax	pmax		
	comp=Z,23nm,0.9s						
TRG				smax			
	comp=N,314nm,0.8s						
ZEA	**Zeya**	**6.84**	**69**	*e*Pg	**Pg**	**10 57 34.8**	**-5.5**
ZEA				Pmax		10 57 35.9	
	comp=N,46nm,0.8s						
ZEA				*e*Sn	**Sn**	**10 58 23.4**	**-4.2**
ZEA				*e*Sg	**Sg**	**10 59 01.9**	**-7.0**
ZEA				Smax		10 59 05.7	
	comp=N,230nm,0.8s						
KROS	**Kirovskiy**	**6.87**	**63**	*e*Pn	**Pn**	**10 57 08.6**	**-1.6**
KROS				max		10 57 09.4	
	comp=N,6.0nm,0.5s						
KROS				*e*Sg	**Sg**	**10 59 00.5**	**-9.4**
KROS				Smax		10 59 04.4	
	comp=N,160nm,0.6s						
NRGR	**Nerungri**	**6.90**	**41**	*e*PG	**Pg**	**10 57 35.9**	**-5.7**
NRGR				S	**Sn**	**10 58 34.0**	**+4.8**
NRGR				smax			
	comp=N,15nm,0.3s						
CLNS	**Chul'man**	**7.09**	**41**	*e*Pg	**Pg**	**10 57 39.1**	**-6.1**
CLNS				*e*		10 59 08.5	
CLNS	**Chul'man**	**7.09**	**41**	*e*PG	**Pg**	**10 57 39.1**	**-6.1**
CLNS				*e*		10 59 08.5	
CLNS				pmax	pmax		
	comp=Z,5.0nm,0.4s						
CLNS				pmax	pmax		
	comp=N,2.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.4s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.5s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.5s						
CLNS				smax			
	comp=E,180nm,0.4s						
CLNS				smax			
	comp=N,504nm,0.6s						
CLNS				smax			
	comp=Z,330nm,0.6s						
CLNS				MLR	MLR		
	comp=Z,40nm,12.0s						
ULN	**Ulaanbaatar**	**7.23**	**241**	P	**Pn**	**10 57 15.3**	**+0.2**
ULN				*e*S	Sx	10 59 08.2	
LSTR	**Listvyanka**	**7.23**	**276**	*e*Sg	**Sg**	**10 59 13.4**	**-8.0**
LSTR				Smax		10 59 23.2	
	comp=Z,150nm,1.0s						
IRK	**Irkutsk**	**7.56**	**279**	*e*Sg	**Sg**	**10 59 22.6**	**-9.5**
IRK				Smax		10 59 27.9	
	comp=Z,594nm,0.9s						
IRK	**Irkutsk**	**7.56**	**279**	*e*Pn	**Pn**	**10 57 19.3**	**-0.4**
	comp=Z,130nm,0.1s						
IRK				*e*		10 57 44.4	
IRK				*e*		10 59 23.2	
IRK	**Irkutsk**	**7.56**	**279**	*e*PN	**Pn**	**10 57 19.3**	**-0.4**
IRK				*e*		10 57 44.4	
IRK				*e*		10 59 23.2	
IRK				pmax	pmax		
	comp=Z,130nm,0.1s						
IRK				smax			
	comp=N,603nm,0.9s						
SONM	**Songino Array**	**7.61**	**243**	Pn	**Pn**	**10 57 20.5**	**+0.3**
	comp=N,1.6nm,0.3s,baz=54,slow=13,SNR=15						
SONM				Pg	**Pg**	**10 57 48.0**	**-7.0**
	comp=N,3.6nm,0.3s,baz=56,slow=16,SNR=13						
SONM				Sn	**Sn**	**10 58 46.8**	**+0.3**
	comp=N,2.9nm,0.3s,baz=50,slow=19,SNR=4.5						
SONM				Lg		10 59 22.9	
	comp=N,16nm,0.3s,baz=58,slow=28,SNR=18						
SONM	**Songino Array**	**7.61**	**243**	Pn	**Pn**	**10 57 20.5**	**+0.3**
SONM				Pg	**Pg**	**10 57 48.0**	**-7.0**
SONM				Sn	**Sn**	**10 58 46.8**	**+0.3**
SONM				Lg		10 59 22.9	
TLY	**Talaya**	**7.98**	**275**	*e*Sn	**Sn**	**10 58 48.6**	**-7.1**
TLY				*e*Sg	Sn	10 59 38.2	+42
TLY				Smax		10 59 49.5	
	comp=N,58nm,1.5s						
TLY	**Talaya**	**7.98**	**275**	*e*Pn	**Pn**	**10 57 28.2**	**+2.8**
TLY				*e*		10 57 54.3	
TLY	**Talaya**	**7.98**	**275**	*e*PN	**Pn**	**10 57 28.2**	**+2.8**
TLY				*e*		10 57 54.3	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAK	**Zakamensk**	**8.43**	**266**	*e*	Px	10 59 08.9	
ZAK				*e*Sg	Sx	10 59 51.4	
ZAK				Smax		11 00 03.1	
	comp=Z,122nm,1.4s						
ZAK	**Zakamensk**	**8.43**	**266**	*e*Pn	**Pn**	**10 57 31.1**	**-0.5**
	comp=Z,14nm,0.8s						
ZAK				*e*		10 58 02.0	
ZAK				*e*		10 59 04.1	
ZAK	**Zakamensk**	**8.43**	**266**	*e*PN	**Pn**	**10 57 31.1**	**-0.5**
ZAK				*e*		10 58 02.0	
ZAK				*e*		10 59 04.1	
ZAK				pmax	pmax		
	comp=Z,14nm,0.8s						
ZAK				smax			
	comp=N,121nm,1.3s						
ARS	**Arshan**	**8.72**	**277**	*e*Sg	Sx	10 59 59.3	
ARS				*e*		11 00 16.7	
ARS				max		11 00 20.2	
	comp=N,306nm,1.0s						
MOY	**Mondy**	**9.62**	**276**	*e*	Px	10 59 44.4	
MOY				*e*Sg	Sx	11 00 28.2	
MOY				Smax		11 00 40.6	
	comp=N,126nm,1.4s						
MOY	**Mondy**	**9.62**	**276**	*e*P	**Pn**	**10 57 53.8**	**+5.9**
	comp=N,2.0nm,0.4s						
MOY				*e*S	**Sn**	**10 59 37.8**	**+1.7**
MOY	**Mondy**	**9.62**	**276**	*e*P	**Pn**	**10 57 53.8**	**+5.9**
MOY				*e*S	**Sn**	**10 59 37.8**	**+1.7**
MOY				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MOY				pmax	pmax		
	comp=E,127nm,1.5s						
ORL	**Orlik**	**10.29**	**281**	*e*Sn	**Sn**	**10 59 49.2**	**-3.2**
ORL				*e*Sg	Sn	11 00 48.3	+56
ORL				Smax		11 01 06.9	
	comp=E,90nm,2.4s						
KRAR	**Krasnoyarsk**	**14.54**	**296**	*e*P	**Pn**	**10 58 54.7**	**-0.5**
NJ2	**Nanjing**	**19.74**	**174**	*e*P	**Pn**	**11 00 00.3**	**-0.4**
NJ2				AP	pP	11 00 05.4	+3.3
NJ2				XP	sP	11 00 08.9	+5.5
NJ2				PP		11 00 19.0	
NJ2				S	**Sn**	**11 03 36.0**	**-6.5**
NJ2				XS	sS	11 03 43.0	-3.3
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,190nm,3.8s						
NJ2				LR	LR		
	comp=N,160nm,14.2s						
NJ2				LR	LR		
	comp=E,430nm,14.6s						
NJ2				LR	LR		
	comp=Z,220nm,14.7s						
TIXI	**Tiksi**	**20.74**	**11**	*e*P	**P**	**11 00 09.8**	**-0.3**
	comp=Z,6.0nm,0.7s						
TIXI				LR	LR		
	comp=Z,60nm,16.0s,MS3.1						
TIXI	**Tiksi**	**20.74**	**11**	*e*P	**P**	**11 00 09.8**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,59nm,16.0s,MS3.0						
SSE	**Sheshan**	**20.91**	**169**	*e*P	**P**	**11 00 10.9**	**-1.0**
SSE				AMB	AMB		
	comp=Z,19nm,0.8s						
SSE				AMB	AMB		
	comp=Z,83nm,4.2s						
MKAR	**Makanchi Array**	**22.72**	**271**	P	**P**	**11 00 33.1**	**+1.8**
	comp=Z,1.5nm,0.7s,mb3.5,baz=75,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**22.72**	**271**	*i* P	**P**	**11 00 35.9**	**+4.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**23.57**	**283**	*e*P	**P**	**11 00 37.6**	**-2.6**
ARCES	**ARCESS Array B**	**43.17**	**329**	LR	LR	11 24 41.0	
	comp=Z,40nm,18.8s,MS3.4,baz=229,slow=40						
ILAR	**Eielson Array**	**47.41**	**35**	P	**P**	**11 04 06.2**	**+2.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=304,slow=6.4,SNR=3.8						
SOC	**Sochi**	**50.10**	**293**	*e*P	**P**	**11 04 22.0**	**-2.6**
SOC				*e*S	**S**	**11 11 29.5**	**-6.5**
SOC				*e*SS	SS	11 15 04.6	-4.5
YKA	**Yellowknife Ar**	**59.19**	**25**	P	**P**	**11 05 31.3**	**+0.8**
	comp=Z,0.1nm,0.7s,mb3.0,baz=334,slow=7.9,SNR=3.6						
YKA	**Yellowknife Ar**	**59.19**	**25**	P	**P**	**11 05 31.3**	**+0.8**

ISCJB ***24*** *10:58:43.8±2.4, 56S±02×15481E±009, h90km±23km, mb3.6/8, Error ellipse: s-maj=29.3km s-min=12.0km az=146.8*
NEIC ***24*** *10:58:44.7±1.4, 551S×15475E, h83km±13km, mb4.5/1, Error ellipse: s-maj=17.6km s-min=9.2km az=157.0*
IDC ***24*** *10:58:45.2±3.3, 553S×15476E, h89km±32km, mb3.5/8, mb1 3.7/10, mb1mx3.6/18, mbtmp3.9/10, MS3.1/2, Ms1 3.1/2, ms1mx2.8/18, Error ellipse: s-maj=34.4km s-min=17.7km az=149.0*

ISC 24 10:58:45.2±1.9, 55S±02×15484E±009, h90km±18km, n17, σ0°66/16, mb3.6/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.40**	**128**	P		**Pn**	**11 00 17.0**	**+0.1**
	4.6nm,0.3s,baz=255,slow=1.8,SNR=4.4							
PMG	**Port Moresby**	**8.54**	**243**	P		**Pn**	**11 00 44.8**	**-1.2**
	0.6nm,0.3s,baz=90,slow=3.0,SNR=3.2							
PMG				S		**Sn**	**11 02 22.0**	**+1.4**
	0.5nm,0.3s,baz=131,slow=20,SNR=3.1							
CTA	**Charters Tower**	**16.73**	**209**	LR		LR	11 08 19.3	
	comp=Z,53nm,19.4s,baz=232,slow=34							
GUMO	**Guam**	**21.40**	**333**	LR		LR	11 09 27.0	
	comp=Z,66nm,19.9s,baz=93,slow=30							
WRAB	**Tennant Creek**	**24.55**	**232**	*e*P		**P**	**11 03 56.7**	**+0.3**
WB2	**Warramunga Arr**	**24.55**	**232**	*e*P		**P**	**11 03 56.4**	**-0.1**
WRA	**Warramunga Arr**	**24.56**	**232**	P		**P**	**11 03 56.4**	**-0.2**
	1.5nm,0.6s,mb3.6,baz=56,slow=9.7,SNR=16							
ASAR	**Alice Springs**	**27.06**	**226**	P		**P**	**11 04 19.1**	**0.0**
	1.0nm,0.9s,mb3.4,baz=65,slow=8.2,SNR=8.4							
STKA	**Stephens Creek**	**29.02**	**204**	P		**P**	**11 04 36.4**	**-0.1**
	1.9nm,0.9s,mb3.7,baz=39,slow=14,SNR=3.7							
STKA	**Stephens Creek**	**29.02**	**204**	P		**P**	**11 04 36.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**31.14**	**244**	P		**P**	**11 04 54.2**	**-1.1**
	2.3nm,0.8s,mb3.9,baz=64,slow=14,SNR=4.6							
ILAR	**Eielson Array**	**82.06**	**22**	P		**P**	**11 10 55.5**	**0.0**
	0.5nm,0.8s,mb3.4,baz=246,slow=5.5,SNR=12							
MKAR	**Makanchi Array**	**82.19**	**319**	P		**P**	**11 10 55.7**	**-0.5**
	0.3nm,0.6s,mb3.3,baz=93,slow=7.1,SNR=3.0							
INK	**Inuvik**	**88.39**	**21**	P		**P**	**11 11 28.0**	**+0.9**
	0.5nm,0.8s,mb3.6,baz=207,slow=4.9,SNR=3.3							
INK	**Inuvik**	**88.39**	**21**	P		**P**	**11 11 27.7**	**+0.6**
	6.3nm,1.7s,mb4.4							
YKA	**Yellowknife Ar**	**95.10**	**28**	P		**P**	**11 11 58.7**	**+0.6**
	0.3nm,0.7s,mb3.8,baz=266,slow=4.6,SNR=5.3							
YKA	**Yellowknife Ar**	**95.10**	**28**	P		**P**	**11 11 58.7**	**+0.6**

ISCJB ***24*** *10:59:48.5±0.8, 6474N±003×306E±0.1, h0km, Error ellipse: s-maj=8.3km s-min=4.3km az=10.4*
IDC ***24*** *10:59:49.6±2.7, 6468N×3127E, h0km, mb1 2.9/4, mb1mx2.8/21, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=37.1km s-min=7.8km az=101.0*
HEL ***24*** *10:59:50.1±0.2, 6471N×3061E, h0km, ML1.8, Explosion*

ISC 24 10:59:49.7±0.8, 6472N±003×305E±01, h0km, n11, σ1°14/22, Finland-Karelia border region

| Code | Station Name | Δ° | AZ° | Phase | ID Op | ISC

JOF MSG 11 00 55.3
comp=Z,7.8nm,0.1s
OUL Oulu 2.01 282 *eP* **Pn 11 00 26.1 +1.2**
OUL *eS* **Sn 11 00 52.3 +1.7**
SUF Sumiainen 2.80 226 *eP* **Pn 11 00 36.8 +1.1**
SUF *eSB* **Sb 11 01 13.8 -1.6**
SUF MSG 11 01 18.7
comp=Z,2.5nm,0.1s
KAF Kangasniemi 3.24 218 *eP* **Pn 11 00 41.9 +0.1**
KAF *eSB* **Sb 11 01 26.2 -1.8**
KEF Keuruu 3.61 227 *eP* **Pn 11 00 48.1 +1.2**
KEF *eSG* **Sg 11 01 41.2 -4.5**
KEF MSG 11 01 41.8
comp=Z,1.5nm,0.2s
FINES FINESS Array B 3.86 214 Pn **Pn 11 00 51.8 +1.4**
comp=Z,0.0nm,0.3s,baz=34,slow=13,SNR=2.9
FINES Pg **Pg 11 00 59.8 -3.9**
comp=Z,0.2nm,0.3s,baz=38,slow=18,SNR=5.3
FINES Sn **Sn 11 01 38.6 +2.2**
comp=Z,0.2nm,0.3s,baz=61,slow=24,SNR=2.7
FINES Lg 11 01 53.4
comp=Z,0.7nm,0.3s,baz=34,slow=30,SNR=4.3
ARCES ARCESS Array B 5.21 340 Pn **Pn 11 01 08.2 -0.7**
comp=Z,0.2nm,0.3s,baz=154,slow=14,SNR=14
ARCES Pg **Pg 11 01 20.7 -8.9**
comp=Z,0.4nm,0.3s,baz=151,slow=13,SNR=12
ARCES Sn **Sn 11 02 09.0 -0.7**
comp=Z,0.1nm,0.3s,baz=166,slow=34,SNR=2.5
ARCES Lg 11 02 37.9
comp=Z,0.4nm,0.3s,baz=166,slow=28,SNR=3.1
HFS Hagfors 9.05 247 Pn **Pn 11 02 02.0 +0.5**
comp=Z,0.1nm,0.3s,baz=31,slow=45,SNR=2.4
NOA NORSAR Array B 9.54 256 Pn **Pn 11 02 08.6 +0.3**
comp=Z,0.1nm,0.3s,baz=75,slow=12,SNR=2.6

IDC 24 11:07:23.7±5.2,1666N×9411E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.4/21,mbtmp3.5/3,Error ellipse: s-maj=371.0km s-min=27.7km az=60.0,Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**31.61**	**344**	P		P	11 13 48.3 +0.1
	0.4nm,0.5s,baz=162,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**53.71**	**131**	P		P	11 16 47.7 +0.4
	0.5nm,0.5s,baz=312,slow=7.5,SNR=20						
WRA				PcP		PcP	11 17 53.7 +0.2
	0.3nm,0.7s,baz=328,slow=3.7,SNR=6.8						
ASAR	**Alice Springs**	**55.83**	**135**	P		P	11 17 03.2 +0.5
	0.4nm,0.8s,baz=312,slow=7.0,SNR=7.5						

IDC 24 11:16:20.7±2.6,388S×15454E,h0km,mb3.3/3,mb1 3.6/3, mb1mx3.4/14,mbtmp3.3/3,Error ellipse: s-maj=203.1km s-min=29.5km az=127.0,North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.35**	**229**	P		P	11 21 50.4 +1.0
	0.3nm,0.4s,baz=54,slow=9.5,SNR=8.1						
ASAR	**Alice Springs**	**28.00**	**223**	P		P	11 22 12.9 -0.3
	0.1nm,0.3s,baz=56,slow=9.3,SNR=7.9						
ILAR	**Eielson Array**	**80.66**	**22**	P		P	11 28 35.4 -0.1
	0.2nm,0.7s,baz=234,slow=5.0,SNR=5.2						

MEX 24 11:34:53.5±0.8,1600N×9721W,h12km±9km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.96**	**294**	*i* P		Pg	11 35 09.1 -3.0
PNIG				*i* S		Sg	11 35 20.9 -3.7
HUIG	**Huatulco**	**1.09**	**102**	*i* P		Pb	11 35 10.6 -3.7
HUIG				*i* S		Sb	11 35 24.7 -3.7
VHO	**Vista Hermosa**	**1.16**	**23**	*i* P		Pb	11 35 12.2 -3.3
VHO				*i* S		Sb	11 35 26.4 -4.1
UTMO	**Huajuapan**	**1.90**	**343**	*eP*		Pn	11 35 24.2 -1.6
UTMO				*i* S		Sn	11 35 47.3 -2.4
CMIG	**Matias Romero**	**2.48**	**64**	*eP*		Pn	11 35 29.7 -4.0
CMIG				*i* S		Sn	11 35 59.0 -5.0
ACX	**Acapulco**	**2.73**	**289**	*eP*		Pn	11 35 34.0 -3.2
ACX				*eS*		Sn	11 36 07.5 -2.7
MEIG	**Mezcala**	**3.00**	**310**	*i* P		Pn	11 35 35.5 -5.3
MEIG				*i* S		Sn	11 36 11.7 -4.9
CAIG	**El Cayaco**	**3.11**	**290**	*i* P		Pn	11 35 44.2 +1.8
CAIG				*i* S		Sn	11 36 16.4 -3.1
PLIG	**Platanillo**	**3.23**	**318**	*i* P		Pn	11 35 43.3 -0.8
PLIG				*i* S		Sn	11 36 18.7 -3.8
PPM	**Popocatepetl**	**3.33**	**336**	*eP*		Pn	11 35 46.0 +0.6
PPM				*i* S		Sn	11 36 23.1 -1.9

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*ISCJB **24** 11:37:39.2±0.8, 1092N±005×6233W±003, h109km±7km, Error ellipse: s-maj=7.6km s-min=4.7km az=168.7*
*FUNV **24** 11:37:39.7, 1101N×6218W, h99km, MW3.5*
*NEIC **24** 11:37:41.6, 1099N×6235W, h83km, MD2.9(TRN), After TRN.*
*TRN **24** 11:37:41.8, 1097N×6234W, h80km, MD2.9*
ISC 24 11:37:40.1±0.7,1092N±004×6234W±003,h104km±7km, n16,σ1§02/32,1C-1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.30**	**158⇑**	*eP*		**Pn**	**11 37 55.3 +0.1**
GUIV				*eS*		**Sn**	**11 38 05.4 -1.0**
ITEV	**Isla Los Testi**	**0.89**	**299**	*eP*		**Pn**	**11 37 59.3 -0.4**
ITEV				*eS*		**Sn**	**11 38 13.5 -0.9**
CRUV	**Carupano**	**0.92**	**254**	*eP*		**Pn**	**11 38 00.9 +0.9**
CRUV				*eS*		**Sn**	**11 38 15.5 +0.6**
TRN	**Trinidad (W)**	**0.96**	**107**	*eP*		**Pn**	**11 38 01.1 +0.7**
TRN				*eS*		**Sn**	**11 38 14.2 -1.4**
GUNV	**Guanoco**	**0.96**	**218**	*eP*		**Pn**	**11 38 02.0 +1.5**
GUNV				*eS*		**Sn**	**11 38 16.7 +0.9**
TBH	**Brigand Hill**	**1.32**	**109**	*eP*		**Pn**	**11 38 05.4 +1.0**
TBH				*eS*		**Sn**	**11 38 24.3 +1.5**
GRW	**Mount Saint Ca**	**1.40**	**28**	*eP*		**Pn**	**11 38 06.2 +0.9**
GRW				*eS*		**Sn**	**11 38 22.5 -1.8**
TPR	**Prospect**	**1.55**	**80**	*eP*		**Pn**	**11 38 07.5 +0.3**
TPR				*eS*		**Sn**	**11 38 27.1 -0.7**
BOT	**Bacolet**	**1.61**	**81**	*eP*		**Pn**	**11 38 07.9 +0.1**
BOT				*eS*		**Sn**	**11 38 29.1 +0.1**
IBAV	**Isla La Blanqu**	**2.37**	**292**	*eP*		**Pn**	**11 38 17.9 +0.2**
IBAV				*eS*		**Sn**	**11 38 46.1 -0.3**
PCRV	**Puerto La Cruz**	**2.38**	**252**	*eP*		**Pn**	**11 38 18.9 +1.1**
PCRV				*eS*		**Sn**	**11 38 47.2 +0.6**
GURV	**El Guri**	**3.23**	**193**	*eP*		**Pn**	**11 38 28.4 -0.5**
GURV				*eS*		**Sn**	**11 39 05.8 -0.9**
CUPV	**Cœpira**	**3.50**	**256**	*eP*		**Pn**	**11 38 34.0 +1.3**
CUPV				*eS*		**Sn**	**11 39 14.3 +1.0**
LUEV	**Luepa**	**5.12**	**170⇓**	*eP*		**Pn**	**11 38 53.7 -0.8**
LUEV				*eS*		**Sn**	**11 39 47.4 -5.0**
CAOV	**Caicara del Or**	**5.32**	**228**	*eP*		**Pn**	**11 38 57.1 0.0**
CAOV				*eS*		**Sn**	**11 39 54.7 -2.4**
BAUV	**El Baul**	**5.96**	**251**	*eP*		**Pn**	**11 39 05.0 -0.8**
BAUV				*eS*		**Sn**	**11 40 09.9 -2.7**

CASC 24 11:38:17.5±4.5,1593N×8824W,h28km±234km,MD3.7, ML3.3,1D,Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**1.64**	**239⇓**	*eP*		Pn	11 38 42.9 -1.6
MRL				*eS*		Sn	11 39 04.1 -0.5
MRL				AML	AML		11 39 05.3
	comp=E,422nm,0.5s						
LCBS	**La Ceiba**	**2.37**	**198**	*eP*		Pn	11 38 48.6 -5.9
LCBS				*eS*		Sn	11 39 17.1 -5.6
SNJE	**San Jose**	**2.44**	**213**	*eP*		Pn	11 38 50.0 -5.4
SNJE				*eS*		Sn	11 39 18.8 -5.5
SBLS	**San Blas**	**2.47**	**213**	*eP*		Pn	11 38 50.8 -5.1
SBLS				*eS*		Sn	11 39 19.5 -5.6
CNCH	**Conchagua**	**2.67**	**171**	*eP*		Pn	11 38 55.0 -3.6
CNCH				*eS*		Sn	11 39 26.4 -3.6
IXG	**Ixpaco**	**2.76**	**231**	*eP*		Pn	11 39 02.8 +2.9
IXG				*eS*		Sn	11 39 35.1 +2.8
TP2	**Tecpan 2**	**2.92**	**247**	*eP*		Pn	11 39 02.6 +0.7
TP2				*eS*		Sn	11 39 39.3 +3.2

IDC 24 11:46:31.9±31.0,2203S×17630W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.9/14,mbtmp4.0/4,Error ellipse: s-maj=555.1km s-min=147.8km az=77.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.95**	**266**	P		P	11 53 26.5 +1.0
	2.3nm,0.6s,baz=94,slow=14,SNR=3.3						
STKA	**Stephens Creek**	**38.59**	**246**	P		P	11 53 56.6 0.0
	1.3nm,0.7s,baz=86,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**45.73**	**258**	P		P	11 54 55.3 +0.4
	0.7nm,0.9s,baz=96,slow=7.4,SNR=5.1						
WRA	**Warramunga Arr**	**45.98**	**263**	P		P	11 54 56.6 -0.2
	1.7nm,0.7s,baz=101,slow=8.6,SNR=24						

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*ISCJB **24** 11:53:58.9±1.5, 130N±0.1×1439E±03, h129km±15km, mb3.6/8, Error ellipse: s-maj=42.6km s-min=19.9km az=24.2*
*IDC **24** 11:54:00.6±1.0, 1311N×14401E, h127km±10km, mb3.5/7, mb1 3.8/7, mb1mx3.6/20, mbtmp3.9/7, Error ellipse: s-maj=31.7km s-min=15.8km az=105.0*
ISC 24 11:54:00.8±1.3,131N±01×1441E±03,h132km±13km,n10, σ1§14/10,mb3.6/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.93**	**55**	P		**Pn**	**11 54 23.3 +0.1**
	50nm,0.3s,baz=229,slow=1.6,SNR=19						
GUMO				S		**Sn**	**11 54 40.1 -0.1**
	476nm,0.3s,baz=8,0,slow=23,SNR=78						
WRA	**Warramunga Arr**	**34.16**	**196**	P		**P**	**12 00 33.5 +0.3**
	2.2nm,0.6s,mb4.1,baz=17,slow=9.2,SNR=42						
ASAR	**Alice Springs**	**37.83**	**195**	P		**P**	**12 01 05.5 +1.1**
	0.8nm,0.5s,mb3.6,baz=22,slow=12,SNR=31						
STKA	**Stephens Creek**	**44.74**	**183**	P		**P**	**12 01 58.7 -2.1**
	0.7nm,0.7s,mb3.4,baz=336,slow=9.7,SNR=4.9						
MKAR	**Makanchi Array**	**61.35**	**316**	P		**P**	**12 04 02.9 +0.4**
	0.5nm,0.5s,mb3.6,baz=86,slow=7.6,SNR=7.8						
ILAR	**Eielson Array**	**69.37**	**25**	P		**P**	**12 04 52.5 -1.7**
	0.1nm,0.4s,mb2.9,baz=250,slow=5.7,SNR=4.3						
BVAR	**Borovoye Array**	**69.88**	**322**	P		**P**	**12 04 56.8 -0.4**
	1.2nm,0.4s,mb4.0,baz=110,slow=7.7,SNR=8.8						
YKA	**Yellowknife Ar**	**83.68**	**27**	P		**P**	**12 06 14.8 +0.2**
	0.3nm,0.4s,mb3.4,baz=286,slow=5.1,SNR=12						
NVAR	**Mina Array Bea**	**87.84**	**51**	P		**P**	**12 06 37.8 +2.7**
	1.3nm,0.7s,mb3.9,baz=262,slow=7.3,SNR=9.2						
TORD	**Torodi Ar. Bea**	**134.54**	**304**	PKP		PKPdf	12 13 04.4 +1.1
	1.6nm,1.2s,baz=10,slow=1.8,SNR=4.0						

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*IDC **24** 11:56:45.2±0.6, 0.19S×12479E, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.5/22, mbtmp4.5/16, ML4.2/1, Error ellipse: s-maj=27.9km s-min=13.5km az=71.0*
*MOS **24** 11:56:49.3±1.7, 0.16S×12489E, h45km, mb4.7/13, Error ellipse: s-maj=21.1km s-min=9.3km az=104.5*
*ISCJB **24** 11:56:52.4±2.4, 0.30S±007×1248E±0.1, h75km±23km, mb4.5/37, Error ellipse: s-maj=18.3km s-min=8.8km az=131.7*
*NEIC **24** 11:56:54.0±1.8, 0.33S×12479E, h75km±18km, mb4.6/12, Error ellipse: s-maj=17.2km s-min=7.4km az=65.0*
*BJI **24** 11:56:53.9, 0.30S×12480E, h74km, mB5.1, mb4.8*
ISC 24 11:56:54.7±1.8,033S±007×1248E±01,h80km±18km,n64, σ1§10/59,mb4.5/37,2C,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**10.67**	**307**	*eP*		**Pn**	**11 59 24.7 +0.1**
FITZ	**Fitzroy Crossi**	**17.67**	**177**	*eP*		**Pn**	**12 00 56.7 +1.2**
	15nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.67**	**177**	P		**Pn**	**12 00 56.0 +0.5**
	0.5nm,0.3s,baz=31,slow=10,SNR=16						
MBWA	**Marble Bar**	**21.29**	**193**	*eP*		**P**	**12 01 33.0 -1.6**
WRAB	**Tennant Creek**	**21.60**	**155**	*eP*		**P**	**12 01 37.4 -0.5**
	22nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**21.60**	**155**	*eP*		**P**	**12 01 37.4 -0.6**
WRAB				pmax	pmax		
	comp=Z,22nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**21.60**	**155**	P		**P**	**12 01 37.9 -0.1**
	comp=Z,8.2nm,0.8s,mb4.1,baz=337,slow=9.4,SNR=31						
WRA	**Warramunga Arr**	**21.60**	**155**	*i* P		**P**	**12 01 38.2 +0.2**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WB2	**Warramunga Arr**	**21.61**	**155**	*eP*		**P**	**12 01 37.1 -1.0**
KULM	**Kulim**	**24.78**	**283**	*eP*		**P**	**12 02 08.5 -0.4**
ASAR	**Alice Springs**	**24.81**	**160**	P		**P**	**12 02 10.9 +1.7**
	comp=Z,20nm,1.1s,mb4.5,baz=334,slow=8.1,SNR=61						
ASAR				PcP	PcP		12 05 46.8 +3.1
	comp=Z,1.0nm,0.5s,baz=349,slow=2.0,SNR=10						
PSI	**Prapat**	**26.07**	**277**	P		**P**	**12 02 20.6 -0.1**
	comp=Z,4.2nm,0.7s,mb4.0,baz=332,slow=3.4,SNR=4.2						
FORT	**Forrest**	**30.43**	**174**	*eP*		**P**	**12 03 02.8 +3.3**
	comp=Z,9.6nm,0.5s,mb4.7						
GYA	**Guiyang**	**31.87**	**328**	P		**P**	**12 03 16.3 +4.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
STKA	**Stephens Creek**	**35.16**	**155**	*eP*		**P**	**12 03 40.1 -0.6**
	comp=Z,9.6nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**35.16**	**155**	P		**P**	**12 03 40.9 +0.2**
	comp=Z,16nm,1.0s,mb4.8,baz=325,slow=7.1,SNR=18						
MAJO	**Matsushiro**	**38.74**	**17**	*eP*		**P**	**12 04 12.1 +1.1**
	comp=Z,7.8nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**38.74**	**17**	*eP*		**P**	**12 04 12.1 +1.0**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
MAT	**Matsushiro**	**38.74**	**17**	P		**P**	**12 04 14.5 +3.4**
MAT	**Matsushiro**	**38.74**	**17**	*eP*		**P**	**12 04 15.0 +3.9**
	comp=Z,4.2nm,0.9s,mb4.3						
MAT	**Matsushiro**	**38.74**	**17**	*eP*		**P**	**12 04 15.0 +3.9**
MAT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MJAR	**Matsushiro Arr**	**38.74**	**17**	P		**P**	**12 04 09.7 -1.4**
	comp=Z,5.5nm,0.8s,mb4.5,baz=196,slow=8.0,SNR=7.9						
LZH	**Lanzhou**	**41.16**	**334**	*eP*		**P**	**12 04 33.5 +2.4**
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.8						
HHC	**Hu-ho-hao-te**	**42.73**	**345**	*eP*		**P**	**12 04 48.6 +4.7**
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,61nm,6.8s						
GTA	**Gaotai**	**45.70**	**333**	*eP*		**P**	**12 05 08.6 +1.0**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
ASAJ	**Asahikawa**	**47.01**	**17**	P		**P**	**12 05 18.2 +0.3**
	comp=Z,9.7nm,1.0s,mb4.5,baz=222,slow=19,SNR=3.2						
KLR	**Kul'dur**	**49.73**	**6**	*eP*		**P**	**12 05 35.2 -3.6**
SONM	**Songino Array**	**50.59**	**344**	P		**P**	**12 05 44.4 -0.8**
	comp=Z,1.1nm,0.6s,mb4.1,baz=145,slow=5.3,SNR=3.6						
ZAK	**Zakamensk**	**53.77**	**343**	*eP*		**P**	**12 06 10.0 +1.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.3						
BOD	**Bodaibo**	**58.62**	**353**	*eP*		**P**	**12 06 42.7 -0.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
MKAR	**Makanchi Array**	**59.86**	**328**	P		**P**	**12 06 51.3 -0.7**
	comp=Z,1.7nm,0.4s,mb4.5,baz=119,slow=8.2,SNR=46						
YAK	**Yakutsk**	**62.31**	**3**	*eP*		**P**	**12 07 08.6 +0.1**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
MA2	**Magadan**	**63.09**	**14**	*eP*		**P**	**12 07 13.1 -0.6**
	comp=Z,3.8nm,0.6s,mb4.5						
MA2				*e*		pP	12 07 28.9 -5.2
MA2	**Magadan**	**63.09**	**14**	*eP*		**P**	**12 07 14.5 +0.8**
MA2				*e*			12 07 29.0
MA2				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
ZAL	**Zalesovo**	**63.38**	**335**	P		**P**	**12 07 16.0 +0.4**
	comp=Z,1.9nm,0.3s,mb4.5,baz=342,slow=4.5,SNR=4.8						
KURK	**Kurchatov**	**64.18**	**329**	*eP*		**P**	**12 07 19.7 -1.2**
	comp=Z,8.3nm,0.4s,mb4.9						
KURK	**Kurchatov**	**64.18**	**329**	*eP*		**P**	**12 07 19.7 -1.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.9						
SEY	**Seymchan**	**66.40**	**13⇑**	*eP*		**P**	**12 07 34.5 -0.7**
BVAR	**Borovoye Array**	**69.71**	**328**	P		**P**	**12 07 56.1 +0.2**
	comp=Z,1.6nm,0.6s,mb4.0,baz=131,slow=8.4,SNR=11						
BRVK	**Borovoye**	**69.78**	**328**	*eP*		**P**	**12 07 54.0 -2.4**
	comp=Z,2.3nm,0.7s,mb4.1						
BRVK	**Borovoye**	**69.78**	**328**	*eP*		**P**	**12 07 54.0 -2.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**69.92**	**329**	*eP*		**P**	**12 07 57.2 0.0**
	comp=Z,2.6nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**69.92**	**329**	*eP*		**P**	**12 07 57.3 +0.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**70.41**	**328**	*eP*		**P**	**12 07 59.5 -0.7**
	comp=Z,3.7nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**70.41**	**328**	*eP*		**P**	**12 07 59.5 -0.7**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
TIXI	**Tiksi**	**71.91**	**1**	*eP*		**P**	**12 08 05.7 -3.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
BILL	**Bilibino**	**73.94**	**15**	*eP*		**P**	**12 08 17.3 -4.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.9						
AKTK	**Aktyubinsk**	**75.67**	**323**	P		**P**	**12 08 31.4 +0.2**
AKTO	**Aktyubinsk**	**75.67**	**323**	P		**P**	**12 08 31.4 +0.2**
	comp=Z,5.8nm,0.7s,mb4.4,baz=95,slow=5.3,SNR=11						
ARU	**Arti**	**77.36**	**329**	*eP*		**P**	**12 08 36.8 -4.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
VOR	**Voronezh**	**87.54**	**322**	*eP*		**P**	**12 09 27.0 -6.7**
VOR				pmax	pmax		
	comp=Z,70nm,1.6s,mb5.4						
KMBO	**Kilima Mbogo**	**87.56**	**269**	P		**P**	**12 09 36.3 +2.5**
	comp=Z,5.1nm,0.2s,mb5.3,baz=99,slow=14,SNR=10						
KMBO	**Kilima Mbogo**	**87.56**	**269**	*eP*		**P**	**12 09 37.5 +3.6**
	comp=Z,5.5nm,0.1s,mb5.5						
KMBO	**Kilima Mbogo**	**87.56**	**269**	*eP*		**P**	**12 09 37.5 +3.7**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.1s						
KLMR	**Klimovskoe**	**87.99**	**331**	*eP*		**P**	**12 09 37.9 +2.0**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
OBN	**Obninsk**	**89.27**	**325⇑**	*eP*		**P**	**12 09 34.0 -7.9**
OBN				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
ILAR	**Eielson Array**	**89.57**	**25**	P		**P**	**12 09 43.6 +0.3**
	comp=Z,0.3nm,0.8s,mb3.5,baz=247,slow=3.9,SNR=4.8						
ARCES	**ARCESS Array B**	**93.58**	**340**	P		**P**	**12 10 02.0 +0.2**
	comp=Z,5.9nm,1.0s,mb4.9,baz=64,slow=5.5,SNR=5.8						
FINES	**FINESS Array B**	**94.48**	**332**	P		**P**	**12 10 05.5 -0.5**
	comp=Z,1.1nm,0.9s,mb4.2,baz=56,slow=5.7,SNR=2.7						
VNA2	**Neumayer--Watz**	**102.44**	**194**	*e*PKiKP	PKiKP		12 15 07.8 +4.9
VNA3	**Neumayer Olymp**	**102.78**	**194**	*e*PKiKP	PKiKP		12 15 14.6 +11
VNA1	**Neumayer--Stat**	**102.84**	**194**	*e*PKiKP	PKiKP		12 15 05.0 +1.4
TORD	**Torodi Ar. Bea**	**122.25**	**285**	PKP	PKPdf		12 15 42.6 +2.2
	comp=Z,1.2nm,0.8s,baz=78,slow=0.8,SNR=6.8						
CFAA	**Coronel Fontan**	**145.91**	**160**	PKPbc	PKPbc		12 16 28.1 +3.1
	comp=Z,0.3nm,0.5s,baz=212,slow=5.6,SNR=2.9						

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*IDC **24** 12:27:03.2±0.4, 328S×14304E, h0km, mb5.2/23, mb1 5.2/27, mb1mx5.2/28, mbtmp5.2/27, ML4.6/4, MS5.6/15, Ms1 5.6/15, ms1mx5.5/23, Error ellipse: s-maj=11.9km s-min=6.8km az=104.0*
*BJI **24** 12:27:04.5, 3135×14353E, h23km, mB6.1, mb5.5, Ms5.9, Msz5.6*
*NEIC **24** 12:27:05.4±0.1, 3255×143.14E, h12km, mb5.8/58, ME6.1, MS5.8/94, MW6.1, Error ellipse: s-maj=5.4km s-min=3.7km az=83.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s330.00000°, δ82.00000°, λ134.00000°. NP2: ϕ_s68.00000°, δ45.00000°, λ11.00000°. Principal axes: T 1.4900, Plg37.0000°, Azm278.0000°; N -0.2000, Plg44.0000°, Azm142.0000°; P -1.4700, Plg24.0000°, Azm27.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s74.00000°, δ31.00000°, λ16.00000°. NP2: ϕ_s330.00000°, δ82.00000°, λ120.00000°. Principal axes: T Plg45.0000°, Azm270.0000°; N Plg0.0000°, Azm0.0000°; P Plg31.0000°, Azm36.0000°; Depth from synthetics of broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*HRVD **24** 12:27:05.4±0.1, 3125×14309E, h12km, MW6.1/107, Centroid moment Tensor Solution. LP body waves: s106, c236; Mantle waves: s107, c385; Half duration: 2s8 Moment tensor: Scale 10^{18}Nm; M_{rr}0.87±.01; $M_{\theta\theta}$-0.74±.01; $M_{\phi\phi}$-0.13±.01; $M_{r\theta}$-0.35±.03; $M_{\theta\phi}$0.93±.01; $M_{\phi r}$1.28±.03; Best double couple: $M_0$1.81100×10^{18} NP1:ϕ_s94.00000°, δ33.00000°, λ32.00000°. NP2: ϕ_s336.00000°, δ73.00000°, λ119.00000°. Principal axes: T 1.7700, Plg53.0000°, Azm280.0000°; N 0.0820, Plg27.0000°, Azm147.0000°; P -1.8520, Plg23.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **24** 12:27:07.7±1.3, 3185×143.15E, h33km, mb5.9/41, MS5.7/44 Error ellipse: s-maj=9.7km s-min=5.1km az=106.3*
*SVSA **24** 12:27:07.8, 330S×143.10E, h40km, MW6.0*
*ISCJB **24** 12:27:08.5±0.2, 330S±002×143.15E±004, h48km, mb5.7/125, MS5.8/146, Error ellipse: s-maj=5.1km s-min=3.3km az=149.3*
*SZGRF **24** 12:27:11.2, 3155×143.15E, h33km, mb6.0, Near north coast of New Guinea, Papua New Guinea*
ISC 24 12:27:10.7±0.2,326S±002×14321E±003,h50km, h50km±3.0km:pP-P,n519,σ1§14/336,mb5.7/125,MS5.8/146, 74C-16D,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.25**	**147**	Pn		**Pn**	**12 28 53.4 -0.7**
	6.5nm,0.3s,baz=350,slow=6.1,SNR=46						
PMG				Sn		**Sn**	**12 30 16.9 +1.9**
	baz=258,slow=18,SNR=1.8						
PMG				Lg			12 30 46.4
	2.8nm,0.3s,baz=148,slow=19,SNR=2.1

WRAB				pmax	pmax	
	comp=Z,459nm,0.8s					
WB2	**Warramunga Arr**	**18.70 207**	*e*P		**Pn**	**12 31 21.9 -3.7**
WB2			*e*S		**S**	**12 34 46.9 -8.0**
WRA	**Warramunga Arr**	**18.70 207**	P		**Pn**	**12 31 22.0 -3.7**
	comp=Z,7.4nm,0.3s,baz=32,slow=11,SNR=350					
WRA			S		**S**	**12 34 51.9 -3.1**
	comp=Z,1.1nm,0.3s,baz=28,slow=21,SNR=6.0					
DAV	**Davao City (W)**	**20.38 300⇓**	*e*P		**P**	**12 31 42.0 -1.1**
DAV	**Davao City (W)**	**20.38 300**	*e*P		**P**	**12 31 41.4 -1.7**
	comp=Z,4μm,1.8s					
DAV			LR		LR	
	comp=Z,13μm,19.0s,MS5.3					
CGP	**Cagayan de Oro**	**21.83 302⇓**	*e*P		**P**	**12 31 56.2 -2.5**
	comp=Z,3506μm,5.0s					
ASAR	**Alice Springs**	**22.19 203**	P		**P**	**12 32 00.5 -2.1**
	comp=Z,230nm,1.1s,mb5.5,baz=32,slow=8.6,SNR=145					
ASAR			S		**S**	**12 36 07.0 +2.9**
	comp=Z,169nm,1.1s,baz=20,slow=22,SNR=12					
FITZ	**Fitzroy Crossi**	**22.67 228⇑**	*i*P		**P**	**12 32 04.5 -3.2**
	comp=Z,2μm,1.2s,mb6.4					
FITZ			*e*S		**S**	**12 36 14.9 +2.4**
FITZ	**Fitzroy Crossi**	**22.67 228**	P		**P**	**12 32 04.7 -2.9**
	comp=Z,1μm,1.1s,mb6.2,baz=48,slow=12,SNR=78					
FITZ			S		**S**	**12 36 11.9 -0.6**
	comp=Z,72nm,1.1s,baz=176,slow=19,SNR=2.8					
FITZ			LR		LR	12 41 22.1
	comp=Z,42μm,20.2s,MS5.9,baz=259,slow=38					
DCPH	**Dipolog City**	**23.04 301⇑**	*e*P		**P**	**12 32 10.9 -0.6**
TBP	**Tagbilaran**	**23.18 304⇑**	*i*P		**P**	**12 32 10.8 -2.2**
LLP	**Lapu-Lapu**	**23.44 305**	*e*P		**P**	**12 32 14.3 -1.2**
SNPH	**Sibulan**	**23.52 302⇑**	*e*P		**P**	**12 32 15.7 -0.5**
RCP	**Roxas**	**25.12 306**	*e*P		**P**	**12 32 30.2 -0.6**
TSM	**Tawau**	**26.41 286**	P		**P**	**12 32 41.8 -0.6**
TGY	**Tagaytay City**	**28.03 308**	P		**P**	**12 32 55.9 -1.1**
	comp=Z,71nm,0.3s,baz=134,slow=10,SNR=13					
TGY	**Tagaytay City**	**28.03 308⇑**	*e*P		**P**	**12 32 52.2 -4.8**
ARMA	**Armidale**	**28.16 164**	*e*P		**P**	**12 32 59.7 +1.5**
ARMA			*e*S		**S**	**12 37 46.9 +6.9**
KKM	**Kota Kinabalu**	**28.50 289**	P		**P**	**12 32 60.0 -1.2**
KKM	**Kota Kinabalu**	**28.50 289⇑**	*i*P		**P**	**12 32 59.9 -1.3**
STKA	**Stephens Creek**	**28.50 183⇑**	*i*P		**P**	**12 32 58.8 -2.4**
	comp=Z,62nm,1.0s,mb5.3					
STKA			*e*S		**S**	**12 37 39.7 -5.7**
STKA	**Stephens Creek**	**28.50 183**	P		**P**	**12 32 58.9 -2.3**
	comp=Z,68nm,0.8s,mb5.4,baz=354,slow=8.9,SNR=93					
STKA			S		**S**	**12 37 45.4 0.0**
	comp=Z,9.4nm,1.0s,baz=79,slow=17,SNR=1.7					
STKA			LR		LR	12 44 00.9
	comp=Z,20μm,18.6s,MS5.7,baz=0.1,slow=36					
MBWA	**Marble Bar**	**28.95 230**	*e*P		**P**	**12 33 03.7 -1.6**
	comp=Z,18nm,1.3s,mb4.6					
MBWA			LR		LR	
	comp=Z,33μm,19.0s,MS6.0					
DZM	**Mont Dzumac**	**29.29 132**	P		**P**	**12 33 08.1 -0.1**
	comp=Z,9.3nm,0.9s,baz=168,slow=22,SNR=7.9					
CVP	**Callao Caves**	**29.65 315**	*e*P		**P**	**12 33 10.0 -1.4**
BCPH	**Baguio City Da**	**29.69 312⇑**	*e*P		**P**	**12 33 09.5 -2.2**
CBIJ	**Chichi jima**	**30.20 358**	LR		LR	12 42 40.3
	comp=Z,6μm,20.3s,MS5.2,baz=181,slow=31					
FORT	**Forrest**	**30.89 206**	*e*P		**P**	**12 33 22.2 -0.1**
	comp=Z,741nm,0.8s,mb6.6					
FORT			*e*S		**S**	**12 38 23.9 +1.1**
ADE	**Adelaide**	**31.82 187⇑**	*i*P		**P**	**12 33 31.0 +0.5**
CNB	**Canberra Magne**	**32.40 171⇑**	*i*P		**P**	**12 33 36.3 +0.7**
	comp=Z,41nm,0.8s,mb5.3					
JOW	**Kunigami**	**33.22 335**	P		**P**	**12 33 40.2 -2.5**
	comp=Z,27nm,0.9s,mb5.2,baz=115,slow=16,SNR=6.6					
TOO	**Toolangi**	**34.21 177⇑**	*i*P		**P**	**12 33 52.5 +1.1**
	comp=Z,56nm,1.4s,mb5.3					
TOO			*e*S		**S**	**12 39 16.8 +2.4**
TOO	**Toolangi**	**34.21 177⇑**	*i*P		**P**	**12 33 52.5 +1.1**
TOO			*e*S		**S**	**12 39 16.8 +2.4**
TOO			pmax		pmax	
	comp=Z,56nm,1.4s,mb5.3					
NACB	**Ninganchiao**	**34.44 323**	*e*P		**P**	**12 33 52.3 -1.1**
YHNB	**Yeheng**	**34.95 324**	*e*P		**P**	**12 33 57.3 -0.5**
TATO	**Taipei**	**35.11 324**	*e*P		**P**	**12 33 58.6 -0.5**
	comp=Z,2μm,2.2s,mb6.6					
FUNA	**Funafuti**	**36.16 100**	PFAKE			12 34 20.0 +12
FUNA			LR		LR	
	comp=Z,8μm,22.0s,MS5.4					
QZH	**Quanzhou**	**36.85 321⇓**	*i*P		**P**	**12 34 13.4 -0.6**
QZH			S		**S**	**12 39 57.4 +2.5**
QZH			AMB		AMB	
	comp=Z,1μm,2.1s,mb6.3					
QZH			AMB		AMB	
	comp=Z,3μm,5.2s					
QZH			LR		LR	
	comp=N,9μm,12.2s,MS5.9					
QZH			LR		LR	
	comp=E,4μm,10.2s,MS5.9					
QZH			LR		LR	
	comp=Z,16μm,34.3s					
KLBR	**Kellerberrin**	**36.99 218⇑**	*i*P		**P**	**12 34 13.8 -1.4**
	comp=Z,259nm,1.1s,mb6.0					
JNU	**Nakatsue**	**38.02 343**	P		**P**	**12 34 21.9 -2.0**
	comp=Z,12nm,0.7s,mb4.7,baz=108,slow=11,SNR=4.0					
JNU			S		**S**	**12 40 11.6 -1.1**
	comp=Z,4.8nm,0.8s,baz=304,slow=15,SNR=1.7					
JNU			LR		LR	12 48 54.2
	comp=Z,6μm,20.4s,MS5.4,baz=157,slow=34					
HKC	**Hong Kong**	**38.09 313**	*i* P		**P**	**12 34 26.0 +1.5**
HKC			*i* S		**S**	**12 40 18.0 +4.2**
MUN	**Mundaring**	**38.21 219**	*e*P		**P**	**12 34 24.9 -0.6**
MUN			*e*S		**S**	**12 40 08.0 -7.5**
NWAO	**Narrogin (SRO)**	**38.24 217**	P		**P**	**12 34 25.2 -0.6**
	comp=Z,128nm,1.0s,mb5.6,baz=45,slow=9.2,SNR=20					
NWAO			S		**S**	**12 40 19.4 +3.3**
	comp=Z,18nm,1.0s,baz=360,slow=19,SNR=2.8					
NWAO	**Narrogin (SRO)**	**38.24 217**	*e*P		**P**	**12 34 25.0 -0.8**
	comp=Z,154nm,1.1s,mb5.7					
NWAO			LR		LR	
	comp=Z,40μm,19.0s,MS6.2					
NWAO	**Narrogin (SRO)**	**38.24 217**	*e*P		**P**	**12 34 25.0 -0.8**
NWAO			pmax		pmax	
	comp=Z,154nm,1.1s					
NWAO			MLR		MLR	
	comp=Z,40μm,19.0s					
GZH	**Guangzhou**	**39.17 313**	P		**P**	**12 34 34.1 +0.5**
GZH			PP		PP	12 36 07.3 +3.2
GZH			S		**S**	**12 40 34.8 +4.7**
GZH			SS		SS	12 43 19.9 -4.5
GZH			AMB		AMB	
	comp=Z,144nm,1.9s,mb5.4					
GZH			LR		LR	
	comp=N,6μm,16.8s,MS5.5					
GZH			LR		LR	
	comp=E,3μm,20.8s,MS5.5					
GZH			LR		LR	
	comp=Z,9μm,19.0s,MS5.6					
QIZ	**Qiongzhong**	**39.60 305**	P		**P**	**12 34 34.5 -2.7**
QIZ			S		**S**	**12 40 31.6 -4.9**
QIZ			AMB		AMB	
	comp=Z,188nm,1.8s,mb5.5					
QIZ			LR		LR	
	comp=N,4μm,15.1s,MS5.7					
QIZ			LR		LR	
	comp=E,7μm,16.0s,MS5.7					
QIZ			LR		LR	
	comp=Z,10μm,17.0s,MS5.7					
QIZ	**Qiongzhong**	**39.60 305**	*e*P		**P**	**12 34 36.4 -0.8**
	comp=Z,497nm,1.6s,mb6.0					
TAU	**Tasmania Unive**	**39.65 175**	*e*P		**P**	**12 34 37.6 +0.1**
	comp=Z,191nm,1.3s,mb5.7					
TAU	**Tasmania Unive**	**39.65 175**	*e*P		**P**	**12 34 37.6 +0.1**
TAU			pmax		pmax	
	comp=Z,191nm,1.3s,mb5.7					
MJAR	**Matsushiro Arr**	**39.87 354**	P		**P**	**12 34 37.6 -1.8**
	comp=Z,1.8nm,0.8s,baz=174,slow=4.6,SNR=4.8					
MAJO	**Matsushiro**	**39.87 354**	*e*P		**P**	**12 34 37.3 -2.1**
	comp=Z,66nm,1.3s,mb5.2					
MAJO			LR		LR	
	comp=Z,7μm,19.0s,MS5.5					
MAJO	**Matsushiro**	**39.87 354**	*e*P		**P**	**12 34 37.3 -2.1**
MAJO			pmax		pmax	
	comp=Z,66nm,1.3s,mb5.2					
MAJO			MLR		MLR	
	comp=Z,7μm,19.0s,MS5.5					
MAT	**Matsushiro**	**39.87 354**	P		**P**	**12 34 35.8 -3.6**
MAT			S		**S**	**12 40 38.0 -2.6**
MAT	**Matsushiro**	**39.87 354**	*e*P		**P**	**12 34 36.0 -3.4**
	comp=Z,88nm,2.0s,mb5.1					
MAT			*e*S		**S**	**12 40 39.0 -1.6**
MAT			LR		LR	
	comp=Z,5μm,21.0s,MS5.3					
MAT	**Matsushiro**	**39.87 354**	*e*P		**P**	**12 34 36.0 -3.4**
MAT			*e*S		**S**	**12 40 39.0 -1.6**
MAT			pmax		pmax	
	comp=Z,88nm,2.0s,mb5.1					
MAT			MLR		MLR	
	comp=Z,5μm,21.0s,MS5.3					
SSE	**Sheshan**	**40.10 330**	⇑P		**P**	**12 34 41.3 0.0**
SSE			PP		PP	12 36 13.0 -1.2
SSE			PCP		PcP	12 36 44.3 -0.8
SSE			S		**S**	**12 40 45.3 +1.3**
SSE			SCS		ScS	12 44 41.6 -1.9
SSE			AMB		AMB	
	comp=Z,98nm,2.1s,mb5.2					
SSE			AMB		AMB	
	comp=Z,1μm,6.2s					
SSE			LR		LR	
	comp=N,2μm,17.4s,MS5.7					
SSE			LR		LR	
	comp=E,9μm,17.4s,MS5.7					
SSE			LR		LR	
	comp=Z,8μm,17.9s,MS5.6					
KGM	**Kluang**	**40.22 277**	P		**P**	**12 34 41.8 -0.5**
NJ2	**Nanjing**	**42.06 328**	*e*P		**P**	**12 34 57.9 +0.5**
NJ2			AP		pP	12 35 02.4 -8.3
NJ2			XP		sP	12 35 04.9 -12
NJ2			PP		PP	12 36 38.9 +3.5
NJ2			S		**S**	**12 41 16.0 +3.0**
NJ2			AMB		AMB	
	comp=Z,490nm,1.0s,mb6.1					
NJ2			AMB		AMB	
	comp=Z,2μm,8.1s					
NJ2			LR		LR	
	comp=N,18μm,19.6s,MS6.1					
NJ2			LR		LR	
	comp=E,20μm,19.5s,MS6.1					
NJ2			LR		LR	
	comp=Z,7μm,22.4s,MS5.5					
IPM	**Ipoh**	**42.85 280**	P		**P**	**12 35 02.8 -1.0**
KS15	**Wonju Array Si**	**42.93 342**	*e*P		**P**	**12 35 04.2 -0.3**
KULM	**Kulim**	**43.36 281**	*e*P		**P**	**12 35 06.5 -1.4**
INCN	**Inchon**	**43.37 341**	*e*P		**P**	**12 35 07.6 -0.4**
	comp=Z,100nm,1.1s,mb5.5					
INCN			LR		LR	
	comp=Z,7μm,22.0s,MS5.5					
WHN	**Wuhan**	**43.47 323**	⇑P		**P**	**12 35 10.0 +1.2**
WHN			S		**S**	**12 41 30.0 -3.7**
WHN			LR		LR	
	comp=Z,11μm,15.2s,MS5.9					
SNG	**Songkhla**	**43.76 284**	P		**P**	**12 35 10.0 -1.1**
	comp=Z,490nm,1.0s,mb6.2					
KKTK	**Khon Kaen**	**44.41 297**	P		**P**	**12 35 16.0 -0.4**
PSI	**Prapat**	**44.68 277**	P		**P**	**12 35 17.4 -1.1**
	comp=Z,310nm,1.0s,mb6.1,baz=109,slow=4.5,SNR=182					
RAO	**Raoul Island**	**45.03 129**	LR		LR	12 52 10.7
	comp=Z,3μm,19.9s,MS5.2,baz=117,slow=33					
AFI	**Afiamalu**	**45.66 106**	LR		LR	12 52 10.2
	comp=Z,5μm,21.1s,MS5.4,baz=279,slow=33					
AFI	**Afiamalu**	**45.66 106**	PFAKE			12 35 40.0 +14
AFI			LR		LR	
	comp=Z,5μm,21.0s,MS5.5					
NNT	**Nongplab**	**45.97 291**	P		**P**	**12 35 29.0 +0.3**
GYA	**Guiyang**	**46.06 312⇑**	*i*P		**P**	**12 35 31.1 +1.7**
GYA			AP		pP	12 35 35.8 -7.1
GYA			XP		sP	12 35 38.4 -10
GYA			PP		PP	12 37 20.5 +2.4
GYA			PPP			12 38 05.8
GYA			SCP		ScP	12 40 57.3 +3.3
GYA			S		**S**	**12 42 18.8 +7.6**
GYA			AMB		AMB	
	comp=Z,160nm,1.8s,mb5.7					
GYA			AMB		AMB	
	comp=Z,2μm,10.5s					
GYA			LR		LR	
	comp=N,3μm,14.7s,MS5.5					
GYA			LR		LR	
	comp=E,3μm,18.2s,MS5.5					
GYA			LR		LR	
	comp=Z,4μm,17.7s,MS5.4					
TIA	**Tai'an**	**46.22 330**	*e*P		**P**	**12 35 29.9 -0.8**
TIA			S		**S**	**12 42 16.0 +2.5**
TIA			AMB		AMB	
	comp=Z,272nm,2.0s,mb5.8					
TIA			LR		LR	
	comp=N,8μm,15.0s,MS6.2					
TIA			LR		LR	
	comp=E,17μm,16.0s,MS6.2					
ENH	**Enshi**	**46.37 318⇑**	*i*P		**P**	**12 35 31.8 -0.1**
	comp=E,140nm,1.3s,mb5.7					
ENH			LR		LR	
	comp=Z,9μm,21.0s,MS5.7					
DL2	**Dalian**	**46.45 337⇑**	*i*P		**P**	**12 35 31.6 -0.9**
DL2			PP		PP	12 37 17.8 -4.4
DL2			S		**S**	**12 42 20.9 +4.1**
DL2			SS		SS	12 45 31.1 -12
DL2			AMB		AMB	
	comp=Z,20nm,0.9s,mb5.0					
DL2			AMB		AMB	
	comp=Z,640nm,5.9s					
DL2			LR		LR	
	comp=N,2μm,12.5s,MS5.5					
DL2			LR		LR	
	comp=E,3μm,12.8s,MS5.5					
DL2			LR		LR	
	comp=Z,3μm,16.3s,MS5.3					
NST	**Nakhon Sawan**	**46.59 295**	⇓P		**P**	**12 35 33.8 +0.2**
	comp=Z,156nm,1.3s,mb5.8					
URZ	**Urewera**	**46.59 143**	P		**P**	**12 35 33.8 +0.2**
	comp=Z,14nm,0.5s,mb5.2,baz=277,slow=7.7,SNR=11					
LTZ	**Lake Taylor**	**47.09 151**	PN		**P**	**12 35 37.8 +0.3**
ASAJ	**Asahikawa**	**47.17 359**	P		**P**	**12 35 38.9 +0.8**
	comp=Z,7.8nm,0.7s,mb4.7,baz=156,slow=20,SNR=4.5					
RPZ	**Rata Peaks**	**47.23 153**	P		**P**	**12 35 38.9 +0.3**
	comp=Z,53nm,0.8s,mb5.5,baz=304,slow=3.2,SNR=18					
RPZ	**Rata Peaks**	**47.23 153**	PN		**P**	**12 35 38.4 -0.2**
MLZ	**Mavora Lakes**	**47.28 156**	PN		**P**	**12 35 39.5 +0.5**
VLA	**Vladivostok**	**47.29 349**	*i* Pr		**P**	**12 35 38.2 -0.8**
VLA	**Vladivostok**	**47.29 349**	*de*P		**P**	**12 35 37.0 -2.0**
VLA			*e**PP		pP	12 35 52.6 0.0
VLA			*e*S		**S**	**12 42 32.2 +3.4**
VLA			pmax		pmax	
	comp=Z,91nm,1.7s,mb5.4					
SNY	**Shenyang**	**48.30 340**	⇑P		**P**	**12 35 46.0 -0.9**
SNY			AP		pP	12 35 57.0 -3.5
SNY			XP		sP	12 36 01.4 -4.9
SNY			PP		PP	12 37 34.8 -4.8
SNY			SCP		ScP	12 41 05.9 +2.5
SNY			S		**S**	**12 42 47.8 +4.7**
SNY			AMB		AMB	
	comp=Z,71nm,2.0s,mb5.3					
SNY			AMB		AMB	
	comp=Z,2μm,5.6s					
SNY			LR		LR	
	comp=N,5μm,13.2s,MS5.7					
SNY			LR		LR	
	comp=E,2μm,10.8s,MS5.7					
SNY			LR		LR	
	comp=Z,5μm,19.8s					
KMI	**Kunming**	**48.35 308**	⇑P		**P**	**12 35 49.1 +1.9**
KMI			PCP		PcP	12 37 15.0 +1.8
KMI			PP		PP	12 37 40.1 0.0
KMI			PPP			12 38 34.0
KMI			S		**S**	**12 42 45.0 +1.2**
KMI			XS		sS	12 43 06.8 +0.2
KMI			SCS		ScS	12 45 34.9 -0.7
KMI			SS		SS	12 46 11.1 -2.7
KMI			SSS			12 47 28.9
KMI			AMB		AMB	
	comp=Z,183nm,1.3s,mb6.0					
KMI			AMB		AMB	
	comp=Z,3μm,5.8s					
KMI			LR		LR	
	comp=N,5μm,18.5s,MS5.6					
KMI			LR		LR	
	comp=E,4μm,23.1s,MS5.6					
KMI			LR		LR	
	comp=Z,7μm,24.4s,MS5.5					
MIDW	**Midway**	**49.15 48**	PFAKE			12 36 10.0 +17
MIDW			LR		LR	
	comp=Z,8μm,19.0s,MS5.7					
XAN	**Xi'an**	**49.20 322**	P		**P**	**12 35 53.6 -0.2**
XAN			S		**S**	**12 42 54.6 -1.2**
XAN			AMB		AMB	
	comp=Z,124nm,1.9s,mb5.6					
XAN			AMB		AMB	
	comp=Z,2μm,11.2s					
XAN			LR		LR	
	comp=N,5μm,20.9s,MS5.6					
XAN			LR		LR	
	comp=E,3μm,17.4s,MS5.6					
XAN			LR		LR	
	comp=Z,5μm,22.1s,MS5.4					
MDJ	**Mudanjiang**	**49.20 347**	P		**P**	**12 35 54.1 +0.3**
MDJ			AP		pP	12 35 57.3 -10
MDJ			PP		PP	12 37 47.3 -0.5
MDJ			PCS		PcS	12 41 13.5 +0.7
MDJ			S		**S**	**12 42 58.5 +2.7**
MDJ			XS		sS	12 43 06.6 -12
MDJ			AMB		AMB	
	comp=Z,15nm,2.3s,mb4.6					
MDJ			AMB		AMB	
	comp=Z,776nm,8.9s					
MDJ			LR		LR	
	comp=N,4μm,25.1s,MS5.8					
MDJ			LR		LR	
	comp=E,10μm,25.6s,MS5.8					
MDJ			LR		LR	
	comp=Z,5μm,31.0s					
MDJ	**Mudanjiang**	**49.20 347**	*e*P		**P**	**12 35 52.4 -1.4**
	comp=Z,22nm,0.9s,mb5.2					
MDJ			LR		LR	
	comp=Z,5μm,21.0s,MS5.5					
CN2	**Changchun**	**49.50 343**	*e*P		**P**	**12 35 55.3 -0.8**
CN2			*e*S		**S**	**12 43 00.5 +0.5**
CN2			AMB		AMB	
	comp=Z,30nm,1.3s,mb5.2					
CN2			AMB		AMB	
	comp=Z,200nm,8.0s					
CN2			LR		LR	
	comp=N,6μm,17.0s,MS5.8					
CN2			LR		LR	
	comp=E,5μm,17.0s,MS5.8					
CN2			LR		LR	
	comp=Z,4μm,18.0s,MS5.5					
BJT	**Baijiatuau**	**49.71 333**	*e*P		**P**	**12 35 57.1 -0.6**
	comp=Z,775nm,2.3s,mb6.3					
BJT			LR		LR	
	comp=Z,10μm,20.0s,MS5.8					
BJT	**Baijiatuau**	**49.71 333**	*e*P		**P**	**12 35 57.1 -0.5**
BJT			pmax		pmax	
	comp=Z,775nm,2.3s					
BJT			MLR		MLR	
	comp=Z,10μm,20.0s					
BJI	**Beijing**	**49.72 333**	P		**P**	**12 35 57.3 -0.5**
BJI			AP		pP	12 36 10.8 -0.6
BJI			S		**S**	**12 43 05.9 +2.8**
BJI			SS		SS	12 46 37.0 +1.1
BJI			AMB		AMB	
	comp=Z,77nm,1.9s,mb5.4					
BJI			AMB		AMB	
	comp=Z,2μm,6.1s					
BJI			LR		LR	
	comp=N,5μm,19.6s,MS5.9					
BJI			LR		LR	
	comp=E,9μm,16.0s,MS5.9					
BJI			LR		LR	
	comp=Z,7μm,21.3s					
YSS	**Yuzh-Sakhalins**	**50.00 360**	*e*P		**P**	**12 35 59.2 -0.7**
	comp=Z,68nm,1.1s,mb5.6					
YSS	**Yuzh-Sakhalins**	**50.00 360**	*e*P		**P**	**12 36 02.0 +2.1**
YSS			*i* S		**S**	**12 43 09.0 +2.0**
YSS			*e*			12 43 17.0
YSS			MLR		MLR	
	comp=Z,3μm,18.0s,MS5.3					
YSS			MLR		MLR	
	comp=N,2μm,20.0s					
CD2	**Chengdu**	**50.68 315⇑**	*i*P		**P**	**12 36 05.8 +0.8**
CD2			AP		pP	12 36 18.3 -0.4
CD2			PP		PP	12 38 02.9 +1.6
CD2			S		**S**	**12 43 20.9 +4.5**
CD2			XS		sS	12 43 37.4 -1.9
CD2			SS		SS	12 46 48.3 -2.8
CD2			AMB		AMB	
	comp=Z,100nm,1.7s,mb5.5					
CD2			AMB		AMB	
	comp=Z,1μm,10.0s					
CD2			LR		LR	
	comp=E,4μm,18.0s					
CD2			LR		LR	
	comp=Z,6μm,18.0s,MS5.6					
HABR	**Khabarovsk**	**52.01 353⇑**	*e*P		**P**	**12 36 13.1 -1.9**
HABR			*e*S		**S**	**12 43 34.6 -0.2**
PBA	**Port Blair**	**52.33 287**	*ex*		x	12 36 32.8
PBA			*ex*		x	12 37 25.3
	comp=Z,134nm,0.0s					
PBA			*ex*		x	12 38 16.3
PBA			*ex*		x	12 55 03.0
	comp=N,80nm,3.2s					
PBA			*ex*		x	12 55 09.4
	comp=E,89nm,3.2s					
HHC	**Hu-ho-hao-te**	**52.56 330⇑**	*i*P		**P**	**12 36 19.3 +0.3**
HHC			AP		pP	12 36 31.8 -1.0
HHC			PCP		PcP	12 37 28.6 -0.2
HHC			PP		PP	12 38 19.9 +1.6
HHC			S		**S**	**12 43 42.4 +0.1**
HHC			XS		sS	12 44 03.3 -2.0
HHC			SCS		ScS	12 46 01.4 -3.0
HHC			SS		SS	12 47 19.3 -1.6
HHC			AMB		AMB	
	comp=Z,53nm,0.7s,mb5.6					
HHC			AMB		AMB	
	comp=Z,2μm,6.5s					
HHC			LR		LR	
	comp=N,5μm,18.4s,MS5.6					
HHC			LR		LR	
	comp=E,3μm,18.6s,MS5.6					
HHC			LR		LR	
	comp=Z,5μm,20.1s,MS5.6					
BTO	**Baotou**	**53.17 329**	*e*P		**P**	**12 36 23.8 +0.3**
BTO			S		**S**	**12 43 51.1 +0.5**
BTO			AMB		AMB	
	comp=Z,70nm,1.7s,mb5.3					
KLR	**Kul'dur**	**53.22 351**	*e*P		**P**	**12 36 19.5 -4.4**
KLR			*e*S		**S**	**12 43 50.0 -1.3**
KLR			pmax		pmax	
	comp=Z,240nm,2.4s,mb5.7					
KLR			pmax		pmax	
	comp=Z,2μm,11.0s					
KLR			MLR		MLR	
	comp=N,2μm,14.0s					
KLR			MLR		MLR	
	comp=Z,14μm,14.0s,MS6.2					
LZH	**Lanzhou**	**53.70 320**	⇑P		**P**	**12 36 28.8 +1.4**
LZH			AP		pP	12 36 32.8 -8.4
LZH			PP		PP	12 38 31.0 +2.4
LZH			PPP			12 39 40.1
LZH			S		**S**	**12 44 03.0 +5.2**
LZH			SS		SS	12 47 41.3 +2.4
LZH			AMB		AMB	
	comp=Z,514nm,1.7s,mb6.2					
LZH			AMB		AMB	
	comp=Z,2μm,4.8s					
LZH			LR		LR	
	comp=E,5μm,16.0s					
LZH			LR		LR	
	comp=Z,7μm,18.2s,MS5.8					
HIA	**Hailar**	**56.14 342⇑**	*i*P		**P**	**12 36 44.6 -0.4**
	comp=Z,55nm,1.0s,mb5.5					
HIA			LR		LR	
	comp=Z,5μm,20.0s,MS5.6					
HIA	**Hailar**	**56.14 342⇑**	*i*P		**P**	**12 36 44.6 -0.4**
HIA			pmax		pmax	
	comp=Z,55nm,1.0s					
HIA			MLR		MLR	
	comp=Z,5μm,20.0s					
AGT	**Agartala**	**57.29 301⇑**	*i*P		**P**	**12 36 57.0 +3.8**
AGT			⇓*i*x		x	12 37 34.0
SHL	**Shillong**	**57.37 303⇓**	*i*x		x	12 36 58.5
PET	**Petropavlovsk**	**57.57 11**	PFAKE			12 37 10.0 +15
PET			LR		LR	
	comp=Z,3μm,19.0s,MS5.3					
PET	**Petropavlovsk**	**57.57 11⇓**	*i*P		**P**	**12 36 55.7 +0.5**
PET			*e**PP		pP	12 37 09.2 +0.1
PET			*e*			12 39 04.8
PET			*i* S		**S**	**12 44 53.2 +3.9**
PET			*e*SS		SS	12 48 47.3 +7.5
PET			*e*SSS			12 50 57.4
PET			pmax		pmax	
	comp=Z,1μm,4.7s					
PET			pmax		pmax	
	comp=Z,35nm,1.0s,mb5.3					

PET pmax pmax
comp=Z,1μm,15.4s
PET pmax pmax
comp=N,600nm,15.6s
PET smax
comp=N,2μm,16.2s
PET smax
comp=E,4μm,17.5s
PET smax
comp=N,6μm,29.9s
PET smax
comp=E,3μm,16.9s
PET MLR MLR
comp=Z,2μm,15.0s,MS5.4
GTA Gaotai 58.25 321 P P 12 37 01.0 +1.1
GTA AP pP 12 37 14.1 +0.3
GTA PCP PcP 12 37 53.4 +2.7
GTA PP PP 12 39 12.6 +3.4
GTA PPP 12 40 35.1
GTA SCP ScP 12 41 47.6 +0.9
GTA PCS PcS 12 41 53.4 +1.1
GTA S **S 12 44 54.6 -3.6**
GTA XS sS 12 45 15.1 -6.4
GTA SCS ScS 12 46 43.8 -1.4
GTA AMB AMB
comp=Z,110nm,1.8s,mb5.6
GTA AMB AMB
comp=Z,2μm,10.3s
GTA LR LR
comp=N,4μm,18.7s,MS5.6
GTA LR LR
comp=E,3μm,19.9s,MS5.6
GTA LR LR
comp=Z,4μm,22.2s,MS5.5
CAL Calcutta 59.37 298 *e*P **P 12 37 03.9 -3.8**
LSA Lhasa 59.59 307 P **P 12 37 11.4 +2.2**
LSA PP PP 12 39 27.3 +6.2
LSA PCS PcS 12 41 55.4 -2.8
LSA S **S 12 45 23.5 +7.9**
LSA SCS ScS 12 46 58.5 +3.3
LSA AMB AMB
comp=Z,80nm,1.9s,mb5.4
LSA AMB AMB
comp=Z,2μm,12.2s
LSA LR LR
comp=N,2μm,20.5s,MS5.5
LSA LR LR
comp=E,4μm,24.0s,MS5.5
LSA LR LR
comp=Z,5μm,24.7s,MS5.5
LSA Lhasa 59.59 307⇑ *i*P **P 12 37 11.1 +1.8**
comp=Z,317nm,1.8s,mb6.0
LSA LR LR
comp=Z,3μm,22.0s,MS5.4
LSA Lhasa 59.59 307⇑ *i*P **P 12 37 11.1 +1.9**
LSA pmax pmax
comp=Z,317nm,1.8s,mb6.0
LSA MLR MLR
comp=Z,3μm,22.0s,MS5.4
ULN Ulaanbaatar 59.93 333⇑ *i*P **P 12 37 12.1 +0.5**
comp=Z,186nm,1.8s,mb5.8
ULN Ulaanbaatar 59.93 333⇑ *i*P **P 12 37 12.1 +0.5**
ULN pmax pmax
comp=Z,186nm,1.8s,mb5.8
SONM Songino Array 60.22 332 P **P 12 37 14.0 +0.5**
comp=Z,7.1nm,0.9s,mb4.7,baz=152,slow=6.4,SNR=30
SONM LR LR 13 02 45.9
comp=Z,8μm,19.4s,MS5.8,baz=130,slow=36
CIT Chita 60.55 339⇑ *i*P **P 12 37 16.4 +0.6**
CIT *e* 12 37 56.4
CIT *e* 12 45 30.0
CIT pmax pmax
comp=Z,317nm,2.2s,mb6.1
NRGR Nerungri 61.59 349 *e*P **P 12 37 21.6 -1.3**
NRGR S **S 12 45 43.9 +2.7**
NRGR smax
comp=E,7.0nm,0.2s
CLNS Chul'man 61.73 349 *e*P **P 12 37 22.9 -0.9**
CLNS *e**PP pP 12 37 29.1 -8.7
CLNS *e* 12 38 00.0
CLNS *e*S **S 12 45 44.6 +1.7**
CLNS *e*PS 12 46 04.2
CLNS pmax pmax
comp=Z,38nm,1.7s,mb5.2
CLNS pmax pmax
comp=N,25nm,1.6s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS pmax pmax
comp=Z,17nm,1.2s,mb5.0
CLNS pmax pmax
comp=N,20nm,1.1s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS smax
comp=N,150nm,15.0s
CLNS smax
comp=Z,479nm,11.8s
CLNS smax
comp=E,1μm,13.9s
CLNS MLR MLR
comp=N,700nm,16.0s,MS5.3
CLNS MLR MLR
comp=Z,3μm,16.0s,MS5.5
CLNS MLR MLR
comp=E,1μm,13.0s,MS5.3
BOK Bokaro 61.90 299⇑ *i*P **P 12 37 26.2 +1.3**
BOK AMb AMB 12 37 28.9
comp=Z,188nm,1.2s,mb6.1
VIS Vishakhapatnam 62.59 292⇑ *i*P **P 12 37 31.0 +1.4**
VIS AMb AMB 12 37 33.5
comp=Z,200nm,1.4s,mb6.0
VIS *i* x x 12 45 57.0
JIRN Jiri 62.88 303 *e*P **P 12 37 32.9 +1.4**
comp=Z,377nm,1.3s,mb6.4
MA2 Magadan 62.93 4 *e*P **P 12 37 31.2 -0.6**
comp=Z,22nm,0.9s,mb5.3
MA2 LR LR
comp=Z,2μm,20.0s,MS5.2
MA2 Magadan 62.93 4*c i*P **P 12 37 31.7 -0.1**
MA2 *e* 12 39 57.9
MA2 *e*S **S 12 45 57.7 -0.3**
MA2 *e*PS 12 46 16.2
MA2 *e* 12 47 20.0
MA2 *e*SS SS 12 50 07.9 +4.0
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MA2 MLR MLR
comp=Z,5μm,24.0s,MS5.6
GUN Gumba 63.22 303 *e*P **P 12 37 35.2 +1.5**
comp=Z,3μm,1.9s
PALK Pallekele 63.25 280 P **P 12 37 34.4 +0.4**
comp=Z,420nm,1.3s,mb6.4,SNR=15
PALK Pallekele 63.25 280⇑ *i*P **P 12 37 34.7 +0.7**
comp=Z,131nm,1.3s,mb5.9
DRV Dumont d'Urvil 63.32 181 P **P 12 37 32.0 -2.4**
DRV SP 12 46 20.0
DRV SS SS 12 50 14.0 +3.9
DRV L 12 53 00.0
DRV R 12 57 00.0
ZAK Zakamensk 63.47 333⇑ *i*P **P 12 37 36.0 +0.6**
ZAK pmax pmax
comp=Z,190nm,1.8s,mb5.9
PKI Pulchoki 63.50 303 *e*P **P 12 37 36.7 +1.1**
comp=Z,277nm,1.1s,mb6.3
PKI Pulchoki 63.50 303 *e*P **P 12 37 36.7 +1.1**
PKI pmax pmax
comp=Z,139nm,1.1s,mb6.0
KKN Kakani 63.68 303 *e*P **P 12 37 37.8 +1.0**
comp=Z,316nm,0.9s,mb6.3
KKN Kakani 63.68 303 *e*P **P 12 37 37.8 +1.0**
KKN pmax pmax
comp=Z,158nm,0.9s,mb6.0
DMN Daman 63.77 303 *e*P **P 12 37 38.5 +1.2**
comp=Z,738nm,1.2s,mb6.6
TLY Talaya 64.22 334 P **P 12 37 41.7 +1.4**
comp=Z,71nm,1.6s,mb5.5,SNR=12
GKN Gorkha 64.29 303 *e*P **P 12 37 41.9 +1.1**
comp=Z,454nm,1.0s,mb6.4
IRK Irkutsk 64.35 335 *e*P **P 12 37 41.0 -0.2**
IRK *e*S **S 12 46 22.2 +6.6**
IRK *e* 12 50 20.3
IRK pmax pmax
comp=Z,234nm,2.0s,mb5.9
BLSP Bilaspur 64.76 296 *e*x x 12 40 16.0
KOLN Koldanda 65.08 303 *e*P **P 12 37 47.0 +1.1**
comp=Z,1μm,1.6s,mb6.6
DANN Dangsing 65.13 303 *e*P **P 12 37 46.9 +0.6**
BOD Bodaibo 65.25 343 *e*P **P 12 37 45.4 -1.6**
BOD *e* 12 46 30.6
BOD pmax pmax
comp=Z,50nm,2.0s,mb5.2
MOY Mondy 65.40 333 *e*P **P 12 37 48.4 +0.4**
MOY pmax pmax
comp=Z,387nm,2.2s,mb6.0
YAK Yakutsk 65.93 353 *e*P **P 12 37 50.8 -0.6**
comp=Z,58nm,0.8s,mb5.7
YAK Yakutsk 65.93 353*c i*P **P 12 37 50.9 -0.5**
YAK *e**PP pP 12 38 00.9 -4.7
YAK *e* 12 38 19.3
YAK *e*S S 12 46 36.7 +1.6
YAK *e**SS sS 12 46 56.4 -2.4
YAK *e* 12 47 41.3
YAK pmax pmax
comp=Z,28nm,1.4s,mb5.1
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
YAK smax
comp=N,577nm,12.6s
YAK smax
comp=E,2μm,13.7s
SEY Seymchan 66.38 5⇓ *i*P **P 12 37 53.0 -1.3**
JBP Jabalpur 66.94 297 *e*S S 12 46 54.8 +7.6
CASY Casey 66.94 194⇑ *i*P **P 12 37 57.0 -0.9**
HYB Hyderabad 66.97 290⇑ *i*P **P 12 37 58.0 -0.1**
comp=E,100nm,1.0s,mb5.8
HYB *e*S S 12 46 52.0 +4.3
HYB Hyderabad 66.97 290⇑ *e*P **P 12 37 58.0 -0.1**
comp=E,100nm,1.0s,mb5.8
HYB *e*S S 12 46 52.0 +4.3
HYB Hyderabad 66.97 290⇑ *e*P **P 12 37 58.0 -0.1**
HYB *e*S S 12 46 52.0 +4.3
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.8
TRD Trivandrum 67.09 281⇑ *i*P **P 12 37 59.9 +1.1**
TRD AMb AMB 12 38 02.4
comp=Z,137nm,1.2s,mb5.9
NGP Nagpur 67.30 294 *e*P **P 12 37 53.4 -6.8**
NGP AMb AMB 12 37 55.7
comp=Z,164nm,1.0s,mb6.0
NGP *e*S S 12 46 47.9 -3.7
PPT Papeete 67.30 108 *e*S S 12 46 52.5 +0.9
comp=Z,1μm,22.0s
PPT *e*LQ 12 55 35.9
comp=Z,11μm,33.5s
PPT *e*LR LR 12 58 17.5
comp=Z,6μm,29.0s
TBI Tubuai 67.91 114 *e*S S 12 47 01.0 +2.1
comp=Z,1μm,24.5s
TBI *e*LQ 12 55 49.3
comp=Z,6μm,43.8s
TBI *e*LR LR 12 58 46.7
WMQ Urumqi 68.28 320⇑ *i*P **P 12 38 06.8 +0.5**
WMQ AP pP 12 38 19.8 -0.7
WMQ PCP PcP 12 38 32.4 +0.7
WMQ PP PP 12 40 39.6 +2.3
WMQ PPP 12 42 17.1
WMQ S S 12 47 02.3 -1.0
WMQ SKS 12 47 58.5
WMQ SS SS 12 51 27.0 0.0
WMQ AMB AMB
comp=Z,243nm,1.2s,mb6.1
WMQ AMB AMB
comp=Z,982nm,4.2s
WMQ LR LR
comp=N,6μm,22.0s,MS5.9
WMQ LR LR
comp=E,5μm,22.0s,MS5.9
WMQ LR LR
comp=Z,6μm,22.0s,MS5.8
WMQ Urumqi 68.28 320 P **P 12 38 07.2 +0.9**
WMQ S S 12 47 09.7 +6.4
BHPL Bhopal 69.24 296⇑ *i*P **P 12 38 12.3 +0.1**
BHPL AMb AMB 12 38 15.3
comp=Z,182nm,1.4s,mb5.8
DDI Dehra Dun 70.47 304 *e*P **P 12 38 21.2 +1.4**
DGAR Diego Garcia 70.52 263 *e*P **P 12 38 20.4 +0.3**
comp=Z,843nm,1.7s,mb6.4
DGAR LR LR
comp=Z,3μm,21.0s,MS5.5
DGAR Diego Garcia 70.52 263 P **P 12 38 20.6 +0.5**
DGAR pmax pmax
comp=Z,840nm,1.7s,mb6.4
UNV Unalaska Valle 70.58 29 *e*P **P 12 38 20.5 0.0**
comp=Z,128nm,0.9s,mb5.8
NDI New Delhi 70.74 302⇑ *i*P **P 12 38 20.9 -0.6**
NDI AMb AMB 12 38 23.6
comp=Z,197nm,1.7s,mb5.8
NDI *i* x x 12 47 35.6
NDI *e*S S 12 47 36.0 +3.8
KAD Karad 71.06 289⇑ *i*P **P 12 38 23.3 -0.1**
KAD AMb AMB 12 38 25.9
comp=Z,186nm,1.2s,mb5.9
AKUT Akutan 71.10 29 *e*P **P 12 38 26.9 +3.2**
comp=Z,154nm,1.4s,mb5.7
SMLA Simla 71.43 304⇑ *i*P **P 12 38 23.0 -2.7**
SMLA AMb AMB 12 38 25.7
comp=Z,291nm,1.3s,mb6.1
SMLA *i* x x 12 47 41.6
POO Poona 71.58 291⇑ *i*P **P 12 38 26.0 -0.6**
comp=Z,200nm,1.0s,mb6.0
POO *i* PCP PcP 12 38 44.0 -1.6
POO *e*PP PP 12 41 07.5 +1.7
POO *i* PPP 12 42 50.0
POO *e*S S 12 47 48.0 +6.0
MIR Mirnyy 72.09 199⇑ *i*P **P 12 38 30.0 +0.4**
MIR pmax pmax
comp=Z,6μm,2.0s
AJM Ajmer 72.43 299⇑ *i*P **P 12 38 31.9 +0.2**
BOM Bombay 72.61 291⇑ *i*P **P 12 38 31.9 -0.8**
BOM AMb AMB 12 38 35.4
comp=Z,121nm,1.6s,mb5.6
BILL Bilibino 72.95 9 *e*P **P 12 38 34.3 -0.4**
comp=Z,46nm,1.4s,mb5.2
BILL LR LR
comp=Z,3μm,21.0s,MS5.6
BILL Bilibino 72.95 9 *e*P **P 12 38 34.3 -0.5**
BILL pmax pmax
comp=Z,46nm,1.4s,mb5.2
BILL MLR MLR
comp=Z,3μm,21.0s,MS5.6
MK31 Makanchi Array 73.00 321 *i*P **P 12 38 35.7 +0.6**
MKAR Makanchi Array 73.00 321 P **P 12 38 35.2 +0.1**
comp=Z,21nm,0.7s,mb5.2,baz=104,slow=5.1,SNR=142
MKAR S S 12 48 03.2 +4.9
comp=Z,0.3nm,0.8s,baz=99,slow=8.9,SNR=2.1
MKAR PKPPKP 13 06 23.4
comp=Z,0.9nm,1.0s,baz=294,slow=3.9,SNR=4.5
MKAR LR LR 13 10 17.0
comp=Z,2μm,18.4s,MS5.4,baz=103,slow=36
MKAR Makanchi Array 73.00 321 P **P 12 38 35.2 +0.1**
MKAR S S 12 48 03.2 +4.9
SDPT Sand Point 74.34 30 *e*P **P 12 38 43.1 +0.2**
comp=Z,141nm,0.9s,mb5.9
ZAL Zalesovo 74.72 329 LR LR 13 10 49.9
comp=Z,6μm,19.3s,MS5.9,baz=346,slow=35
KSH Kashi 74.75 312 P **P 12 38 47.8 +2.5**
KSH AP pP 12 38 51.8 -7.9
KSH XP sP 12 38 54.3 -11
KSH PCP PcP 12 39 01.3 +2.1
KSH PP PP 12 41 37.4 +4.5
KSH PPP 12 43 21.6
KSH S S 12 48 22.8 +4.8
KSH SKS 12 48 50.4
KSH SCS ScS 12 48 55.4 +2.5
KSH SS SS 12 53 11.4 +5.1
KSH AMB AMB
comp=Z,120nm,1.2s,mb5.7
KSH AMB AMB
comp=Z,1μm,3.8s
KSH LR LR
comp=N,1μm,12.9s,MS5.7
KSH LR LR
comp=E,3μm,15.8s,MS5.7
KSH LR LR
comp=Z,3μm,23.2s
VNDA Vanda 74.87 176 P **P 12 38 45.4 -0.6**
comp=Z,16nm,0.8s,mb5.0,baz=328,slow=6.9,SNR=33
VNDA LR LR 13 08 38.0
comp=Z,5μm,20.1s,MS5.8,baz=349,slow=33
VNDA Vanda 74.87 176 *e*P **P 12 38 45.1 -0.9**
comp=Z,93nm,1.5s,mb5.5
VNDA Vanda 74.87 176 *e*P **P 12 38 45.1 -0.9**
VNDA pmax pmax
comp=Z,93nm,1.5s
AAA Alma-Ata 75.23 316 *i*P **P 12 38 49.3 +1.2**
AAA *i*S S 12 48 29.0 +5.7
AAA pmax pmax
comp=Z,2μm,6.1s
AAA smax
comp=N,4μm,12.2s
AAA MLR MLR
comp=Z,3μm,16.1s,MS5.7
NIL Nilore 75.28 306 P **P 12 38 49.8 +1.5**
comp=Z,206nm,1.3s,mb5.9,SNR=8.8
TIXI Tiksi 75.36 355⇑ *i*P **P 12 38 47.0 -1.8**
TIXI Tiksi 75.36 355 *e*P **P 12 38 45.6 -3.2**
TIXI *e*S S 12 48 21.6 -3.1
TIXI *e*SS SS 12 53 13.3 -2.2
TIXI pmax pmax
comp=Z,20nm,1.3s,mb4.9
TIXI smax
comp=N,631nm,13.4s
TIXI smax
comp=E,2μm,16.9s
TIXI MLR MLR
comp=Z,3μm,17.0s,MS5.7
ULHL Ulahol 75.40 315 P **P 12 38 50.1 +1.1**
SNR=13
SBA Scott Base 75.57 175 *e*P **P 12 38 49.5 -0.5**
comp=Z,148nm,1.6s,mb5.7
SBA Scott Base 75.57 175 *e*P **P 12 38 49.5 -0.5**
SBA pmax pmax
comp=Z,148nm,1.6s,mb5.7
NVS Novosibirsk 75.95 329⇑ *i*P **P 12 38 50.9 -1.2**
NVS *e*S S 12 48 32.2 +1.1
NVS pmax pmax
comp=Z,554nm,2.1s,mb6.1
NVS pmax pmax
comp=N,263nm,1.9s
NVS pmax pmax
comp=E,303nm,1.9s
NVS smax
comp=N,160nm,2.4s
NVS smax
comp=E,211nm,2.4s
KZA Kyzart 76.05 315 P **P 12 38 54.9 +2.2**
SNR=119
TKM2 Tokmak 2 76.06 316 P **P 12 38 53.8 +1.0**
SNR=31
TKM2 Tokmak 2 76.06 316 *i*P **P 12 38 53.8 +1.0**
BHJ Bhuj 76.25 295⇑ *i*P **P 12 38 55.3 +1.4**
BHJ AMb AMB 12 38 57.6
comp=Z,391nm,1.4s,mb6.1
TAOE Nuku Hiva Isla 76.31 98 *e*LR LR 13 02 38.2
comp=Z,12μm,32.2s
KBK Karagaybulak 76.43 315 P **P 12 38 56.0 +1.1**
SNR=14
UCH Uchtor 76.61 315 P **P 12 38 57.8 +1.8**
SNR=77
CHMS Chumysh 76.67 315 P **P 12 38 57.0 +0.8**
SNR=20
FRU Bishkek 76.72 315⇑ *e*P **P 12 38 57.0 +0.5**
FRU *e* 12 41 48.0
FRU *e* 12 48 47.0
FRU pmax pmax
comp=Z,280nm,2.2s,mb5.8
AAK Ala-Archa 76.75 315 P **P 12 38 57.8 +1.1**
SNR=31
KURK Kurchatov 76.78 324 P **P 12 38 56.0 -0.9**
comp=Z,455nm,1.5s,mb6.2,SNR=45
KURK Kurchatov 76.78 324⇑ *i*P **P 12 38 56.6 -0.3**
comp=Z,242nm,1.6s,mb5.9
KURK LR LR
comp=Z,2μm,19.0s,MS5.5
KURK Kurchatov 76.78 324 P **P 12 38 56.9 0.0**
KURK pmax pmax
comp=Z,240nm,1.6s,mb5.9
USP Ospenovka 76.93 316 P **P 12 38 58.5 +0.8**
SNR=45
AML Almayashu 77.17 314 P **P 12 39 00.7 +1.7**
SNR=90
TNA Tin City 77.18 19 *e*P **P 12 38 59.2 +0.1**
comp=Z,22nm,1.1s,mb5.0
EKS2 Erkin-Say 77.26 315 P **P 12 39 00.8 +1.2**
SNR=42
KDAK Kodiak Island 79.34 29 P **P 12 39 11.0 0.0**
comp=Z,389nm,0.9s,mb6.3,SNR=9.1
KDAK Kodiak Island 79.34 29 P **P 12 39 11.7 +0.7**
comp=Z,48nm,0.8s,mb5.5,baz=255,slow=3.1,SNR=15
SVW2 Sparrevohn 79.38 26 *e*P **P 12 39 12.0 +0.7**
KK31 Karatay Array 79.69 315 *i*P **P 12 39 13.3 +0.3**
KKAR Karatay Array 79.69 315 *i*P **P 12 39 13.3 +0.3**
KKAR pmax pmax
comp=Z,402nm,1.6s,mb6.1
TTA Tatalina 80.05 24 *e*P **P 12 39 15.2 +0.3**
TTA Tatalina 80.05 24 *e*P **P 12 39 15.0 +0.1**
TTA pmax pmax
comp=Z,89nm,1.3s,mb5.5
RKT Rikitea 81.20 113 *e*S S 12 49 29.3 +2.0
comp=Z,769nm,26.2s
RKT *e*LR LR 13 04 46.2
comp=Z,4μm,29.5s
SLKM Skilak Lake 81.53 27 *e*P **P 12 39 22.2 -0.6**
FIB Fire Island 81.80 27 *e*P **P 12 39 22.3 -1.9**
comp=Z,37nm,0.8s,mb5.4
FIB LR LR
comp=Z,5μm,22.0s,MS5.8
FIB Fire Island 81.80 27 *e*P **P 12 39 22.3 -1.9**
FIB pmax pmax
comp=Z,37nm,0.8s,mb5.4
FIB MLR MLR
comp=Z,5μm,22.0s,MS5.8
VOSK Vostochnaya 81.93 324 P **P 12 39 24.8 -0.1**
VOSK pmax pmax
comp=Z,584nm,2.9s,mb6.0
BVA0 Borovoye Array 82.36 324 *i*P **P 12 39 27.5 +0.4**
BVA0 pmax pmax
comp=Z,94nm,1.9s,mb5.4
BVAR Borovoye Array 82.36 324 P **P 12 39 27.6 +0.5**
comp=Z,22nm,0.6s,mb5.2,baz=112,slow=7.5,SNR=77
BVAR S S 12 49 43.6 +4.4
comp=Z,0.2nm,0.3s,baz=114,slow=10,SNR=3.7
CHKZ Chkalovo 82.40 325⇑ *i*P **P 12 39 27.0 -0.3**
comp=Z,329nm,1.7s,mb6.0
CHKZ Chkalovo 82.40 325⇑ *i*P **P 12 39 27.0 -0.4**
CHKZ pmax pmax
comp=Z,329nm,1.7s,mb6.0
PMR Palmer 82.42 27 *e*P **P 12 39 26.9 -0.6**
comp=Z,64nm,1.0s,mb5.5
PMR Palmer 82.42 27 *e*P **P 12 39 26.9 -0.6**
PMR pmax pmax
comp=Z,64nm,1.0s,mb5.5
BRVK Borovoye 82.42 324 P **P 12 39 27.9 +0.4**
comp=Z,518nm,2.0s,mb6.1,SNR=43
BRVK Borovoye 82.42 324⇑ *i*P **P 12 39 27.6 +0.1**
comp=Z,376nm,1.9s,mb6.0
BRVK LR LR
comp=Z,2μm,22.0s,MS5.4
BRVK Borovoye 82.42 324⇑ *i*P **P 12 39 27.6 +0.1**
BRVK pmax pmax
comp=Z,376nm,1.9s,mb6.0
BRVK MLR MLR
comp=Z,2μm,22.0s,MS5.4
SML Sawmill 82.85 26 *e*P **P 12 39 29.5 -0.3**
ZRNK Zerenda 83.14 324⇑ *i*P **P 12 39 31.4 +0.2**
comp=Z,357nm,1.4s,mb6.2
ZRNK Zerenda 83.14 324 *i*P **P 12 39 31.6 +0.4**
ZRNK pmax pmax
comp=Z,313nm,1.6s,mb6.1
MCK McKinley 83.29 25 *e*P **P 12 39 30.8 -1.2**
comp=Z,23nm,0.9s,mb5.2
MCK LR LR
comp=Z,3μm,22.0s,MS5.6
MCK McKinley 83.29 25 *e*P **P 12 39 30.8 -1.2**
MCK pmax pmax
comp=Z,23nm,0.9s,mb5.2
MCK MLR MLR
comp=Z,3μm,22.0s,MS5.6
MAW Mawson 83.32 202 *e*S S 12 49 49.1 +0.1
MAW Mawson 83.32 202 P **P 12 39 32.1 0.0**
comp=Z,58nm,0.9s,mb5.6,baz=102,slow=1.3,SNR=22
MAW LR LR 13 16 29.3
comp=Z,7μm,18.5s,MS6.0,baz=75,slow=36

MAW	**Mawson**	**83.32**	**202**⇑	*i* P	**P**	**12 39 31.9**	**-0.2**
	comp=Z,49nm,0.9s,mb5.5						
MAW				*e*S	S	12 49 49.1	+0.1
MAW	**Mawson**	**83.32**	**202**⇑	*i* P	**P**	**12 39 31.9**	**-0.2**
MAW				*e*S	S	12 49 49.1	+0.1
MAW				pmax	pmax		
	comp=Z,49nm,0.9s						
EYAK	**Cordova Ski Ar**	**83.62**	**28**	*e*P	**P**	**12 39 33.4**	**-0.2**
DIV	**Divide**	**83.79**	**27**	*e*P	**P**	**12 39 34.1**	**-0.4**
	comp=Z,198nm,1.0s,mb6.2						
DIV				LR	LR		
	comp=Z,12μm,22.0s,MS6.2						
COLA	**College**	**84.14**	**24**	*e*P	**P**	**12 39 35.6**	**-0.7**
	comp=Z,32nm,0.9s,mb5.5						
COLA				LR	LR		
	comp=Z,3μm,22.0s,MS5.7						
COLA	**College**	**84.14**	**24**	P	**P**	**12 39 35.0**	**-1.3**
COLA				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.5						
ILAR	**Eielson Array**	**84.49**	**24**	P	**P**	**12 39 36.7**	**-1.4**
	comp=Z,38nm,0.8s,mb5.6,baz=257,slow=4.7,SNR=240						
ILAR				S		12 50 00.1	
	comp=Z,0.2nm,1.0s,baz=163,slow=6.0,SNR=3.0						
ILAR				LR	LR	13 13 49.1	
	comp=Z,3μm,20.0s,MS5.7,baz=262,slow=33						
ILAR	**Eielson Array**	**84.49**	**24**	P	**P**	**12 39 36.7**	**-1.4**
ILAR				S		12 50 00.1	
MENT	**Mentasta**	**85.25**	**26**	*e*P	**P**	**12 39 42.0**	**+0.1**
WBK	**Wadi Bani Khal**	**85.93**	**293**	P	**P**	**12 39 46.9**	**+1.6**
	SNR=26						
QSPA	**South Pole Qui**	**86.69**	**180**⇑	*i* P	**P**	**12 39 48.6**	**-0.4**
	comp=Z,128nm,1.1s,mb6.1						
BIDO	**Bidbid**	**86.79**	**294**	P	**P**	**12 39 50.7**	**+1.2**
	SNR=13						
SMDO	**Samad**	**86.82**	**293**	P	**P**	**12 39 50.7**	**+1.0**
	SNR=9.0						
DAWY	**Dawson**	**87.42**	**25**	*e*P	**P**	**12 39 53.5**	**+0.9**
HOQ	**Hoqain**	**87.54**	**294**	P	**P**	**12 39 53.5**	**+0.4**
	SNR=9.1						
AB31	**Akbulak array**	**88.05**	**319**⇑	*e*P	**P**	**12 39 54.8**	**-0.8**
ABKT	**Ailbek**	**88.11**	**308**	P	**P**	**12 39 56.0**	**+0.1**
	comp=Z,119nm,1.2s,mb6.0,SNR=9.4						
SHAO	**Shalim**	**88.71**	**288**	P	**P**	**12 39 59.6**	**+1.0**
	SNR=9.3						
AKTK	**Aktyubinsk**	**89.43**	**320**	P	**P**	**12 40 01.1**	**-0.9**
AKTO	**Aktyubinsk**	**89.43**	**320**	P	**P**	**12 40 01.1**	**-0.9**
	comp=Z,18nm,1.1s,mb5.3,baz=84,slow=5.8,SNR=42						
AKTO	**Aktyubinsk**	**89.43**	**320**	*i* P	**P**	**12 40 01.2**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,12nm,1.5s,mb5.0						
ARU	**Arti**	**89.73**	**326**	PFAKE		12 40 10.0	+6.5
ARU				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
ARU	**Arti**	**89.73**	**326**	*e*P	**P**	**12 39 58.3**	**-5.2**
ARU				*e*S		12 50 33.0	
ARU				*e*PS	PS	12 51 57.8	-5.2
ARU				*e*SS	SS	12 56 49.6	+0.9
ARU				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.6						
ARU				MLR	MLR		
	comp=N,200nm,15.0s,MS5.6						
ARU				MLR	MLR		
	comp=E,2μm,19.0s,MS5.6						
RBK	**Rabkut**	**90.03**	**287**	P	**P**	**12 40 05.6**	**+0.8**
	SNR=13						
WHFO	**Wadi Hawf**	**90.46**	**288**	P	**P**	**12 40 06.8**	**-0.1**
	SNR=13						
INK	**Inuvik**	**90.51**	**22**	P	**P**	**12 40 06.2**	**-0.9**
	comp=E,2.5nm,0.9s,mb4.6,baz=245,slow=9.3,SNR=16						
INK	**Inuvik**	**90.51**	**22**	*e*P	**P**	**12 40 06.0**	**-1.1**
	comp=E,37nm,1.4s,mb5.5						
INK				*e*	pP	12 40 24.0	+2.2
INK	**Inuvik**	**90.51**	**22**	*e*P	**P**	**12 40 06.8**	**-0.3**
INK				*e*	pP	12 40 24.0	+2.2
INK				pmax	pmax		
	comp=Z,37nm,1.4s						
ABTO	**Aybut**	**90.88**	**287**	P	**P**	**12 40 09.7**	**+0.8**
	SNR=13						
SOKR	**Solikamsk**	**90.97**	**329***d*	*i* P	**P**	**12 40 08.3**	**-0.9**
SOKR				S		12 50 42.5	
SOKR				SS	SS	12 57 17.1	+10
SOKR				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.6						
SOKR				MLR	MLR		
	comp=Z,4μm,25.0s,MS5.8						
DLBC	**Dease Lake**	**91.05**	**32**	P	**P**	**12 40 10.6**	**+0.9**
	comp=Z,2.7nm,0.8s,mb4.6,baz=287,slow=8.9,SNR=4.5						
DLBC	**Dease Lake**	**91.05**	**32**	*e*P	**P**	**12 40 10.0**	**+0.3**
COR	**Corvallis**	**94.75**	**46**	PFAKE		12 40 40.0	+13
COR				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
HOPS	**Hopland**	**94.92**	**51**	PFAKE		12 40 40.0	+13
HOPS				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
HUMO	**Hull Mountain**	**95.01**	**48**	PFAKE		12 40 40.0	+12
HUMO				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
MAK	**Makhachkala**	**96.39**	**313**	*e*P	**P**	**12 40 29.2**	**-4.9**
MAK				*i*		12 44 23.1	
MAK				*e*S		12 51 04.1	
MAK				*i* PS	PS	12 53 07.2	-9.3
MAK				pmax	pmax		
	comp=Z,245nm,1.1s,mb6.5						
MAK				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.8						
MOD	**Modoc**	**96.99**	**48**	PFAKE		12 40 50.0	+13
MOD				LR	LR		
	comp=Z,4μm,22.0s,MS5.9						
CMB	**Columbia Colle**	**97.04**	**52**	PFAKE		12 40 50.0	+13
CMB				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
PTRM	**Twissleman Ran**	**97.23**	**55**	*e*P	**P**	**12 40 37.8**	**-0.2**
HAWA	**Hanford**	**97.36**	**44**	PFAKE		12 40 50.0	+11
HAWA				LR	LR		
	comp=Z,196nm,20.0s						
PECR	**Pechory**	**97.77**	**326**	*e*P	**P**	**12 40 36.6**	**-3.8**
PECR				*e*		12 51 13.0	
PECR				*e*S		12 52 03.7	
PECR				*e*PS	PS	12 53 36.0	+4.5
PECR				*e*SS	SS	12 58 39.0	-4.5
PECR				pmax	pmax		
	comp=Z,180nm,2.0s,mb6.2						
PECR				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.6						
PECR				MLR	MLR		
	comp=E,1μm,21.0s,MS5.6						
PECR				MLR	MLR		
	comp=Z,2μm,18.0s						
PECR				MLR	MLR		
	comp=N,1μm,16.0s,MS5.6						
PECR				MLR	MLR		
	comp=E,500nm,16.0s						
WVOR	**Wild Horse Val**	**98.21**	**48**	*e*P	**P**	**12 40 43.3**	**+1.0**
	comp=E,14nm,1.0s,mb5.4						
WVOR	**Wild Horse Val**	**98.21**	**48**	*e*P	**P**	**12 40 43.3**	**+0.9**
WVOR				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.5						
YKW3	**Yellowknife Ar**	**98.49**	**27**	*e*P	**P**	**12 40 43.8**	**+0.2**
YKA	**Yellowknife Ar**	**98.50**	**27**	P	**P**	**12 40 42.9**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=278,slow=4.7,SNR=20						
YKA				PP	PP	12 44 45.3	+0.9
	comp=Z,0.6nm,0.8s,baz=277,slow=7.6,SNR=4.1						
YKA				PKKPbc	PKKPbc	12 57 13.0	0.0
	comp=Z,0.2nm,0.4s,baz=107,slow=3.0,SNR=4.8						
YKA				LR	LR	13 21 15.0	
	comp=Z,4μm,22.0s,MS5.9,baz=285,slow=33						
YKA	**Yellowknife Ar**	**98.50**	**27**	P	**P**	**12 40 42.9**	**-0.7**
YKA				PP	PP	12 44 45.4	+0.9
YKA				PKKPbc	PKKPbc	12 57 13.1	0.0
YKA				LR	LR	13 21 15.0	
YKA	**Yellowknife Ar**	**98.50**	**27**	P	**P**	**12 40 42.9**	**-0.8**
YKA						12 44 45.4	
GNI	**Garni**	**98.57**	**310**⇑	*i* P	**P**	**12 40 43.3**	**-0.7**
GNI				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
ISA	**Isabella**	**98.65**	**55**	PFAKE		12 41 00.0	+16
ISA				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
NVAR	**Mina Array Bea**	**98.67**	**52**	P	**P**	**12 40 45.0**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.8,baz=259,slow=8.9,SNR=9.6						
NVAR				PP	PP	12 44 54.5	+8.7
	comp=Z,1.2nm,1.0s,baz=255,slow=7.1,SNR=4.2						
NVAR				LR	LR	13 17 28.8	
	comp=Z,4μm,20.8s,MS5.9,baz=265,slow=31						
MNV	**Mina**	**98.78**	**52**	*e*P	**P**	**12 40 45.7**	**+0.8**
MNV				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
NEW	**Newport**	**98.86**	**42**	PFAKE		12 41 00.0	+15
NEW				LR	LR		
	comp=Z,3μm,19.0s,MS5.8						
BMO	**Blue Mountains**	**99.02**	**45**	*e*P	**P**	**12 40 45.6**	**-0.4**
	comp=Z,27nm,1.7s,mb5.5						
BMO	**Blue Mountains**	**99.02**	**45**	*e*P	**P**	**12 40 45.6**	**-0.4**
BMO				pmax	pmax		
	comp=Z,27nm,1.7s,mb5.5						
ZEI	**Tsey**	**99.05**	**313**	*i* P	**P**	**12 40 42.0**	**-4.1**
ZEI				*i* *PP	pP	12 40 58.6	-2.3
ZEI				*i*		12 44 50.8	
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb5.1						
BHD	**Baghdad**	**99.17**	**303**	*e*x	x	12 40 42.0	
BHD				*e*x	x	12 44 43.5	
BHD				*e*x	x	12 46 54.0	
BHD				*e*x	x	12 51 22.0	
BHD				*e*x	x	12 51 58.0	
DAC	**Darwin (Calif)**	**99.33**	**54**	PFAKE		12 41 00.0	+13
DAC				LR	LR		
	comp=Z,8μm,20.0s,MS6.2						
BMN	**Battle Mountai**	**99.39**	**50**	PFAKE		12 41 00.0	+12
BMN				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
KLMR	**Klimovskoe**	**99.50**	**331**	*i* P	**P**	**12 40 46.4**	**-1.7**
KLMR				*e*		12 44 47.5	
KLMR				*e*S		12 51 26.4	
KLMR				*e*SP	SP	12 53 42.5	-1.3
KLMR				*e*PS	PS	12 53 45.4	-4.7
KLMR				*e*SS	SS	12 59 03.9	-3.8
KLMR				pmax	pmax		
	comp=Z,130nm,6.7s						
KLMR				smax			
	comp=N,60nm,17.6s						
KLMR				smax			
	comp=E,570nm,11.4s						
KLMR				MLR	MLR		
	comp=Z,4μm,19.0s,MS6.0						
NVL	**N'lazarevskaya**	**99.52**	**195**⇓	*i* P		12 40 49.2	
NVL				*e*		12 52 13.4	
NVL				*e*SP	SP	12 53 53.5	+9.4
NVL				*e*SS	SS	12 59 20.9	+13
NVL				pmax	pmax		
	comp=Z,43nm,1.9s,mb5.5						
NVL				MLR	MLR		
	comp=Z,7μm,19.7s,MS6.2						
KIV	**Kislovodsk**	**99.84**	**314**⇑	*i* P	Pdif	12 40 48.9	-0.7
KIV				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
KIV	**Kislovodsk**	**99.84**	**314***c*	*i* P	Pdif	12 40 48.8	-0.8
KIV				pmax	pmax		
	comp=Z,35nm,2.5s,mb5.3						
LVZ	**Lovozero**	**99.94**	**339**	*i* P	Pdif	12 40 41.9	-8.2
LVZ				*e*S	Sdif	12 52 15.0	-5.5
LVZ				*e*SS	SS	12 59 14.7	+0.8
LVZ				pmax	pmax		
	comp=Z,71nm,7.3s						
LVZ				pmax	pmax		
	comp=N,39nm,6.2s						
LVZ				smax			
	comp=N,821nm,4.7s						
LVZ				smax			
	comp=Z,1μm,4.8s						
LVZ				smax			
	comp=E,512nm,4.4s						
MSL	**Mosul**	**100.08**	**306**	*e*x	x	12 40 51.0	
TPNV	**Topopah Spring**	**100.38**	**53**	P	Pdif	12 40 52.7	+0.6
APA	**Apatity**	**100.49**	**338**⇑	*e*P	Pdif	12 40 51.0	-1.5
APA				*i* S	Sdif	12 52 26.0	+0.9
APA				*i* SS	SS	12 59 28.0	+6.5
APA				MLR	MLR		
	comp=Z,3μm,15.0s,MS6.0						
KBS	**Kingsbay**	**100.53**	**352**	*e*SS	SS	12 59 22.0	-0.1
KBS	**Kingsbay**	**100.53**	**352**	PFAKE		12 41 00.0	+7.3
KBS				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
ELK	**Elko**	**100.87**	**49**	*e*Pdif	Pdif	12 40 55.3	+1.1
	comp=Z,3.6nm,1.0s						
ELK				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
ELK	**Elko**	**100.87**	**49**	*e*P	Pdif	12 40 55.3	+1.1
ELK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ELK				MLR	MLR		
	comp=Z,5μm,20.0s						
HLID	**Hailey**	**101.20**	**46**	PFAKE		12 41 10.0	+14
HLID				LR	LR		
	comp=Z,6μm,21.0s,MS6.1						
VOR	**Voronezh**	**101.22**	**322**	*e*P	Pdif	12 40 54.0	-1.8
VOR				pmax	pmax		
	comp=Z,80nm,1.8s						
RES	**Resolute Bay**	**101.22**	**13**	*e*Pdif	Pdif	12 40 55.1	-0.7
BJO	**Bjornoya**	**101.81**	**347**	AMS	AMS	13 27 43.9	
	comp=Z,1μm,20.7s,MS5.5						
KEV	**Kevo**	**101.92**	**341**	PFAKE		12 41 10.0	+11
KEV				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
SOC	**Sochi**	**102.02**	**314**	*e*P	Pdif	12 40 45.6	-14
SOC				*e*		12 45 08.5	
SOC				*e*S	SKSac	12 51 30.2	-4.4
SOC				*e*SS	SS	12 59 42.3	-0.4
SOC				pmax	pmax		
	comp=Z,40nm,1.6s						
SOC				pmax	pmax		
	comp=Z,12nm,0.8s						
SOC				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.6						
OBN	**Obninsk**	**102.16**	**326**⇓	*i* P	Pdif	12 40 58.9	-1.0
OBN				*e*		12 45 10.0	
OBN				*e*SS	SS	12 59 48.9	+4.2
OBN				pmax	pmax		
	comp=Z,31nm,1.3s						
OBN				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.6						
ARCES	**ARCESS Array B**	**102.48**	**341**	P	Pdif	12 40 59.8	-1.6
	comp=Z,3.3nm,0.8s,baz=79,slow=8.8,SNR=4.3						
JOF	**Joensuu**	**102.75**	**334**	*e*p	Pdif	12 41 02.6	0.0
DUG	**Dugway**	**102.77**	**50**	PFAKE		12 41 10.0	+7.3
DUG				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
BOZ	**Bozeman (W)**	**102.91**	**44**	PFAKE		12 41 20.0	+17
BOZ				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
VNA2	**Neumayer--Watz**	**103.45**	**190**	*e*Pdif	Pdif	12 41 04.7	-1.0
VNA2				*e*		12 41 18.6	
VNA2				*e*		12 41 27.2	
ANN	**Anapa**	**103.47**	**315**	*e*P	Pdif	12 41 04.2	-1.6
ANN				*e*		12 45 21.8	
ANN				*e*		12 51 40.0	
ANN				*e*S	Sdif	12 52 50.2	+0.2
ANN				*e*SS	SS	13 00 05.6	+2.8
ANN				pmax	pmax		
	comp=Z,333nm,2.2s						
HWUT	**Hardware Ranch**	**103.53**	**48**	PFAKE		12 41 20.0	+14
HWUT				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
VNA3	**Neumayer Olymp**	**103.53**	**189**	*e*Pdif	Pdif	12 41 07.3	+1.2
VNA3				*e*		12 41 21.7	
VNA3				*e*		12 41 30.3	
AHID	**Auburn Hatcher**	**103.71**	**47**	PFAKE		12 41 20.0	+13
AHID				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
LKWY	**Lake**	**103.94**	**45**	PFAKE		12 41 20.0	+12
LKWY				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
PUL	**Pulkovo**	**104.20**	**331**	*e*P	Pdif	12 40 58.1	-11
PUL				*e*		12 45 27.5	
PUL				*e*S	Sdif	12 52 47.6	-8.5
PUL				*e*SS	SS	13 00 18.0	+5.2
PUL				pmax	pmax		
	comp=Z,88nm,8.7s						
PUL				smax			
	comp=N,1μm,16.5s						
PUL				smax			
	comp=Z,97nm,8.8s						
PUL				smax			
	comp=E,440nm,17.1s						
PUL				MLR	MLR		
	comp=N,1μm,20.0s,MS5.9						
PUL				MLR	MLR		
	comp=Z,4μm,20.0s,MS6.0						
PUL				MLR	MLR		
	comp=E,3μm,21.0s,MS5.9						
TRO	**Tromso**	**104.47**	**343**	*e*PP	PP	12 45 24.5	-5.0
TRO				*e*		12 45 34.0	
TRO				*e*		12 53 02.8	
TRO				*e*SS	SS	13 00 19.9	+3.4
TRO				AMS	AMS	13 30 46.4	
	comp=Z,2μm,20.2s,MS5.7						
BW06	**Boulder Array**	**104.83**	**47**	PFAKE		12 41 20.0	+8.2
BW06				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
PDAR	**Pinedale Array**	**104.83**	**47**	Pdiff	Pdif	12 41 13.7	+1.8
	comp=Z,0.3nm,0.8s,baz=270,slow=3.0,SNR=2.5						
PDAR				PKiKP	PKiKP	12 45 27.4	+0.6
	comp=Z,0.7nm,0.8s,baz=347,slow=3.7,SNR=3.2						
KAF	**Kangasniemi**	**105.21**	**334**	*e*p	Pdif	12 41 12.1	-1.4
FINES	**FINESS Array B**	**105.57**	**334**	Pdiff	Pdif	12 41 13.8	-1.3
	comp=Z,2.0nm,0.9s,baz=26,slow=4.9,SNR=15						
SIM	**Simferopol'**	**105.77**	**316**	P	Pdif	12 41 18.1	+2.1
SIM						12 45 47.6	
SIM						12 51 58.6	
SIM				S	Sdif	12 53 15.7	+6.6
SIM				PS	PS	12 54 58.0	+1.7
SIM				SS	SS	13 00 39.6	+5.3
SIM				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.5						
KMBO	**Kilima Mbogo**	**105.87**	**268**	Pdiff	Pdif	12 41 15.6	-0.8
	comp=Z,1.2nm,0.4s,baz=85,slow=5.2,SNR=8.1						
KMBO				PP	PP	12 45 38.7	-1.0
	comp=Z,0.7nm,0.5s,baz=75,slow=23,SNR=3.3						
KMBO	**Kilima Mbogo**	**105.87**	**268**	*e*Pdif	Pdif	12 41 16.7	+0.3
	comp=Z,6.8nm,1.3s						
KMBO				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
KMBO	**Kilima Mbogo**	**105.87**	**268**	*e*P	Pdif	12 41 16.7	+0.3
KMBO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KMBO				MLR	MLR		
	comp=Z,1μm,21.0s						
DAG	**Danmarks Havn**	**105.87**	**356**⇑	*i* P	PP	12 45 37.3	-2.5
	comp=Z,6.0nm,1.0s						
PV10	**Paradox Valley**	**105.91**	**51**	*e*Pdif	Pdif	12 41 19.4	+2.8
LAO	**LASA Array**	**106.40**	**42**	PFAKE		12 45 40.0	+10
LAO				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
FFC	**Flin Flon**	**106.80**	**33**	PFAKE		12 45 40.0	+10
FFC				LR	LR		
	comp=Z,4μm,22.0s,MS5.9						
BR131	**Keskin Array S**	**107.09**	**311**	PFAKE		12 45 40.0	+9.0
BR131				LR	LR		
	comp=Z,851nm,20.0s,MS5.3						
BRTR	**Keskin Array B**	**107.09**	**311**	PKiKP	PKiKP	12 45 30.4	-0.6
	comp=Z,2.4nm,1.1s,baz=145,slow=4.5,SNR=4.3						
DGMT	**Dagmar**	**107.30**	**40**	PFAKE		12 45 40.0	+8.6
DGMT				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
AKASG	**Malin Array Be**	**107.56**	**322**	Pdiff	Pdif	12 41 22.5	-1.5
	comp=Z,0.3nm,0.4s,baz=56,slow=3.6,SNR=7.5						
AKASG				PP	PP	12 45 51.4	-0.9
	comp=Z,2.1nm,0.7s,baz=65,slow=6.2,SNR=5.5						
ANTO	**Ankara**	**107.71**	**311**	PFAKE		12 45 40.0	+7.8
ANTO				LR	LR		
	comp=Z,889nm,20.0s,MS5.3						
ISCO	**Idaho Springs**	**108.29**	**49**	PFAKE		12 45 50.0	+17
ISCO				LR	LR		
	comp=Z,5μm,19.0s,MS6.1						
ANMO	**Albuquerque**	**108.49**	**54**	PFAKE		12 45 50.0	+16
ANMO				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
PMSA	**Palmer Station**	**109.22**	**168**	PFAKE		12 45 50.0	+15
PMSA				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
NSS	**Namsos**	**109.61**	**340**	AMS	AMS	13 40 07.5	
	comp=Z,2μm,20.7s,MS5.6						
MNTX	**Cornudas Mount**	**109.89**	**58**	PFAKE		12 45 50.0	+14
MNTX				LR	LR		
	comp=Z,3μm,19.0s,MS5.8						
JMIC	**Jan Mayen**	**109.97**	**350**	*e*	PP	12 46 17.0	+7.3
JMIC				*e*	SP	12 55 36.8	+3.8
LVV	**L'vov**	**111.00**	**323**	*e*PKIKP	Px	12 45 54.4	
MLR	**Muntele Rosu**	**111.22**	**318**	PKiKP	PKiKP	12 45 39.6	+0.9
	comp=Z,5.6nm,0.8s,baz=277,slow=4.4,SNR=4.5						
MLR	**Muntele Rosu**	**111.22**	**318**	⇓PKIKP	PKiKP	12 45 39.7	+0.9
LTX	**Lajitas**	**111.71**	**60**	PFAKE		12 45 50.0	+10
LTX				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
KOLS	**Kolonicke sedl**	**112.40**	**322**	*e*PKP	PKiKP	12 45 43.0	+2.0
BOSA	**Boshof**	**112.62**	**237**	PFAKE		12 45 50.0	+8.6
BOSA				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
STHS	**Stebnicka Huta**	**112.83**	**323**	*e*PKP	PKiKP	12 45 43.9	+2.1
CBKS	**Cedar Bluff**	**112.95**	**49**	PFAKE		12 45 50.0	+7.9
CBKS				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
LSZ	**Lusaka**	**113.13**	**252**	PFAKE		12 46 00.0	+18
LSZ				LR	LR		
	comp=Z,5μm,21.0s,MS6.0						
LBTB	**Lobatse**	**113.34**	**241**	PFAKE		12 46 00.0	+17
LBTB				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
KONO	**Kongsberg**	**113.48**	**336**	*e*PP	PP	12 46 32.2	-2.6
KONO				*e*		12 56 23.2	
KONO				*e*SS	SS	13 02 21.9	+4.1
KONO	**Kongsberg**	**113.48**	**336**	PFAKE		12 45 50.0	+6.9
KONO				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
BZS	**Buzias**	**114.04**	**319**	⇓P	PKiKP	12 45 45.2	+1.1
OKC	**Ostrava-Krasne**	**114.49**	**324**	AMS	AMS	13 41 00.0	
	comp=Z,3μm,16.3s						
BER	**Bergen**	**114.64**	**338**	*e*	Px	12 45 12.5	
BER				*e*		12 54 29.0	
BER				AMS	AMS	13 37 31.8	
	comp=Z,4μm,21.5s,MS6.0						
VYHS	**Vyhne**	**114.66**	**323**	*e*PKP	PKiKP	12 45 46.0	+0.7
VYHS				*e*PP	PP	12 46 45.9	+2.7
JCT	**Junction City**	**114.81**	**58**	*e*PKiKP	PKiKP	12 45 47.2	+1.6
JCT				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
DPC	**Dobruska-Polom**	**115.30**	**325**	*e*PKP	PKPdf	12 45 45.7	-0.9
DPC				AMS	AMS	13 35 30.0	
	comp=Z,3μm,19.8s						
UPC	**Upice**	**115.40**	**326**	*e*PKP	PKPdf	12 45 47.8	+1.0
VRAC	**Vranov**	**115.63**	**324**	PKP	PKPdf	12 45 48.5	+1.3
	comp=Z,3.1nm,0.6s,baz=88,slow=6.1,SNR=4.1						
SFJD	**Kangerlussuaq**	**115.66**	**6**	*i* P	PP	12 46 54.8	+4.6
SFJD				*i* S	PS	12 56 30.9	-0.3
SFJD				*i*		13 02 49.2	
SFJD							
	comp=Z,670nm,22.0s						
DIVS	**Divcibare**	**115.68**	**318**⇑	*i* P	PKPdf	12 45 47.7	+0.4
ZST	**Bratislava**	**115.83**	**323**	*e*PKP	PKPdf	12 45 48.8	+1.2
ZST				*e*		12 57 14.5	
BRG	**Berggiesshubel**	**116.37**	**327**	*e*Pdiff	Pdif	12 42 05.7	+2.6
BRG				*e*PKiKP	PKiKP	12 45 50.0	+1.4
BRG				*e*PP	PP	12 46 56.9	+1.7
BRG

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BRG
         comp=E,1μm,22.0s
BRG
         comp=Z,2μm,20.1s
PRU      Pruhonice          116.48 326 ePKP      PKPdf    12 45 49.5 +0.7
PRU                                    AMS      AMS      13 36 10.0
         comp=Z,4μm,22.8s
BSEG     Bad Segeberg       116.58 331 ePdiff    Pdif     12 42 05.4 +1.4
BSEG                                   ePP      PP       12 46 58.7 +2.0
CLL      Collm              116.65 328 ePdiff    Pdif     12 42 05.1 +0.7
CLL                                    ePKPdf   PKPdf    12 45 50.0 +0.8
         comp=Z,14nm,1.1s
CLL                                    epPKPdf  pPKPdf   12 46 03.8 -0.6
CLL                                    ePP      PP       12 46 58.5 +1.3
CLL                                    ePPP             12 49 31.6
CLL                                    eSKKSac  SKKSac   12 53 54.4 +0.5
CLL                                    eSdiff   Sdif     12 54 46.7 +6.8
CLL                                    ePS      PS       12 56 44.2 +3.9
CLL                                    eSS      SS       13 03 11.1 +12
CLL                                    eSSS             13 07 24.9
CLL                                    eL               13 41 13.3
         comp=Z,4μm,18.0s
CLL      Collm              116.65 328⇓iPKPdf    PKPdf    12 45 49.9 +0.7
         comp=Z,14nm,1.1s
CLL                                    ePP      PP       12 46 58.0 +0.8
CLL                                    ePPP             12 49 31.0
CLL                                    eSKKSac  SKKSac   12 53 54.0 +0.1
CLL                                    eSdif    Sdif     12 54 47.0 +7.1
CLL                                    ePS      PS       12 56 36.0 -4.3
CLL                                    ex       x        12 57 53.0
CLL                                    eSS      SS       13 02 53.0 -6.4
CLL                                    eSSS             13 07 27.0
CLL      Collm              116.65 328⇓iPKP      PKPdf    12 45 49.9 +0.7
CLL                                    eSdif    Sdif     12 54 47.0 +7.1
CLL                                    LR       LR
         comp=Z,4μm,16.6s,MS6.1
TANN     Tannenbergstha     117.41 327 ePdiff    Pdif     12 42 09.8 +2.0
TANN                                   ePP      PP       12 47 04.6 +2.1
KHC      Kasperske Hory     117.45 325 ePKP      PKPdf    12 45 51.5 +0.8
KHC                                    AMS      AMS      13 38 10.0
         comp=Z,4μm,17.3s
KHC      Kasperske Hory     117.45 325 ePKP      PKPdf    12 45 49.5 -1.2
KHC      Kasperske Hory     117.45 325 iPKIKP    PKPdf    12 45 49.4 -1.3
NKC      Novy Kostel        117.52 327 ePKP      PKPdf    12 45 50.4 -0.4
NKC                                    AMS      AMS      13 41 00.0
         comp=Z,3μm,19.8s
GEC2     GERESS Array S     117.52 325 ePdiff    Pdif     12 42 10.5 +2.3
GEC2                                   ePKiKP   PKiKP    12 45 52.0 +1.1
GEC2                                   ePP      PP       12 47 04.8 +1.5
GEC2     GERESS Array S     117.52 325 iPKIKP    PKPdf    12 45 52.0 +1.2
GEC2                                   e                 12 47 04.8
GERES    GERESS Array B     117.52 325 PKP       PKPdf    12 45 51.1 +0.3
         comp=Z,3.6nm,0.9s,baz=70,slow=1.6,SNR=21
BORG     Borgarnes          117.64 353 PFAKE
BORG                                   LR       LR       12 46 00.0 +8.9
         comp=Z,3μm,20.0s,MS5.8
CLZ      Clausthal          117.74 329 ePdiff    Pdif     12 42 11.0 +1.8
CLZ                                    ePKiKP   PKiKP    12 45 52.3 +1.0
CLZ                                    ePP      PP       12 47 06.8 +2.0
CLZ      Clausthal          117.74 329 iPKIKP    PKPdf    12 45 52.3 +1.0
CLZ                                    e                 12 47 06.8
MOX      Moxa               117.75 327 ePdiff    Pdif     12 42 11.3 +2.0
MOX                                    ePKiKP   PKiKP    12 45 51.8 +0.5
MOX                                    ePP      PP       12 47 07.0 +2.1
MOX      Moxa               117.75 327 ePKP      PKPdf    12 45 52.1 +0.8
         comp=Z,23nm,1.6s
MOX
         comp=Z,3μm,18.0s
WET      Wettzell           117.84 326 ePdiff    Pdif     12 42 12.6 +2.9
WET                                    ePKiKP   PKiKP    12 45 52.8 +1.3
WET                                    ePP      PP       12 47 07.9 +2.4
WET                                    eSdiff   Sdif     12 54 54.7 +4.9
WET      Wettzell           117.84 326 iPKIKP    PKPdf    12 45 52.8 +1.3
WET                                    e                 12 47 07.9
ROTZ     Rotzenmuhle        117.89 326 ePdiff    Pdif     12 42 13.4 +3.5
HKT      Hockley            118.28  58 PFAKE
HKT                                    LR       LR       12 46 00.0 +7.7
         comp=Z,2μm,19.0s,MS5.8
GRA1     Grafenberg Arr     118.47 327 ePdif     Pdif     12 42 15.2 +2.7
GRA1                                   ePKPdf   PKPdf    12 45 53.9 +1.2
GRA1                                   ePP      PP       12 47 12.0 +2.1
GRA1                                   eSdif    Sdif     12 54 58.3 +3.2
GRA1                                   LR       LR
         comp=Z,3μm,19.2s,MS6.0
GRF      Grafenberg Arr     118.47 327 ePdiff    Pdif     12 42 15.2 +2.7
GRF                                    ePKiKP   PKiKP    12 45 53.9 +1.2
GRF                                    ePP      PP       12 47 12.0 +2.1
GRF                                    eSdiff   Sdif     12 54 58.3 +3.2
GRF                                    eL               13 42 30.6
         comp=Z,3μm,19.2s
GRF      Grafenberg Arr     118.47 327 ePdif     Pdif     12 42 15.2 +2.7
GRF                                    PKPdf    PKPdf    12 45 53.9 +1.2
GRF                                    ePP      PP       12 47 12.0 +2.1
GRF                                    Sdif     Sdif     12 54 58.3 +3.2
GRF      Grafenberg Arr     118.47 327 iPKIKP    PKPdf    12 45 53.9 +1.2
GRF                                    e                 12 47 12.0
GRF      Grafenberg Arr     118.47 327 eP        Pdif     12 42 15.2 +2.7
GRF                                                      12 45 53.9
GRF                                    e                 12 47 12.0
UBBA     Unterbreizbach     118.51 328 ePP       PP       12 47 11.8 +1.7
IBBN     Ibbenburen         118.79 331 ePdiff    Pdif     12 42 16.5 +2.6
IBBN                                   ePP      PP       12 47 14.4 +2.4
FUR      Furstenfeldbru     119.25 325 ePdiff    Pdif     12 42 18.2 +2.3
FUR                                    ePKiKP   PKiKP    12 45 55.7 +1.5
FUR                                    ePP      PP       12 47 17.8 +2.5
FUR      Furstenfeldbru     119.25 325 iPKIKP    PKPdf    12 45 55.7 +1.5
FUR                                    e                 12 47 17.8
BUG      Bochum--Univer     119.55 330 ePdiff    Pdif     12 42 20.0 +2.7
BUG                                    ePP      PP       12 47 19.0 +1.7
TNS      Taunus Mts         119.67 328 ePdiff    Pdif     12 42 19.4 +1.6
TNS                                    ePP      PP       12 47 20.5 +2.4
STU      Stuttgart          120.09 327 ePdiff    Pdif     12 42 22.3 +2.6
STU                                    ePKiKP   PKiKP    12 45 57.3 +1.4
STU                                    ePP      PP       12 47 23.5 +2.5
DAVOX    Davos              120.79 324 PKP       PKPdf    12 45 57.0 -0.2
         comp=Z,8.9nm,0.8s,baz=153,slow=3.3,SNR=7.2
DAVOX    Davos              120.79 324 PKP       PKPdf    12 45 57.0 -0.2
BFO      Black Forest       120.81 327 ePdiff    Pdif     12 42 24.6 +1.7
BFO                                    ePKiKP   PKiKP    12 45 58.2 +0.9
BFO                                    ePP      PP       12 47 28.0 +2.0
BFO      Black Forest       120.81 327 iPKIKP    PKPdf    12 45 58.2 +1.0
BFO                                    e                 12 47 28.0
WLF      Walferdange        121.19 329 ePdiff    Pdif     12 42 28.3 +3.7
CDF      Champ du Feu       121.34 327 ePKIKP    PKPdf    12 45 58.3 +0.1
         comp=Z,47nm,1.5s
EKA      Eskdalemuir Ar     121.43 338 PKP       PKPdf    12 45 57.7 -0.7
         comp=Z,6.4nm,1.0s,baz=62,slow=2.0,SNR=4.7
ESK      Eskdalemuir        121.46 338 PFAKE
ESK                                    LR       LR       12 46 10.0 +12
         comp=Z,3μm,20.0s,MS6.0
GIVF     Givet              121.60 330 ePKIKP    PKPdf    12 45 59.2 +0.5
HINF     Hinteralfeld       121.92 327 ePKIKP    PKPdf    12 45 59.5 +0.2
         comp=Z,69nm,1.3s
BAIF     Baives             121.93 330 ePKIKP    PKPdf    12 46 00.0 +0.7
         comp=Z,39nm,1.3s
HAU      Haudompre          122.08 327 ePKIKP    PKPdf    12 46 01.0 +1.4
         comp=Z,106nm,1.4s
HAU                                    eR
         comp=Z,4μm,22.8s
HAU      Haudompre          122.08 327 ePKIKP    PKPdf    12 46 01.0 +1.4
HAU                                    MLR      MLR
         comp=Z,4μm,22.8s,MS6.0
EFI      East Falkland      122.35 164 PFAKE
EFI                                    LR       LR       12 46 10.0 +10
         comp=Z,2μm,20.0s,MS5.8
MEZF     Maizieres J'vi     122.47 328 ePKIKP    PKPdf    12 46 01.2 +0.8
BLO      Bloomington        122.49  45 ePKPdf    PKPdf    12 46 01.6 +1.2
HOPE     Hope Point         122.66 180 PFAKE
HOPE                                   LR       LR
         comp=Z,5μm,21.0s,MS6.2
PLAL     Pickwick Lake      123.02  50 PFAKE
PLAL                                   LR       LR       12 46 10.0 +8.6
         comp=Z,3μm,22.0s,MS6.0
CABF     La Chapelle        123.05 326 ePKIKP    PKPdf    12 46 02.5 +1.0
         comp=Z,128nm,1.3s
SCHQ     Schefferville      123.10  20 PKP       PKPdf    12 46 02.3 +0.7
         comp=Z,9.5nm,1.0s,baz=356,slow=4.6,SNR=10
SCHQ     Schefferville      123.10  20 ePKPdf    PKPdf    12 45 59.6 -2.0
LPG      La Plagne          123.31 325 ePKIKP    PKPdf    12 46 02.9 +0.9
         comp=Z,17nm,0.9s
LPL      La Plagne          123.31 325 ePKIKP    PKPdf    12 46 02.9 +0.9
         comp=Z,29nm,1.0s
PGF      Pioggiola          123.54 321 ePKIKP    PKPdf    12 46 03.1 +0.7
         comp=Z,78nm,1.1s
MBDF     Montbardon         123.74 324 ePKIKP    PKPdf    12 46 03.3 +0.5
         comp=Z,18nm,0.9s
SBF      Sospel             123.82 323 ePKIKP    PKPdf    12 46 03.4 +0.5
         comp=Z,63nm,1.0s
LOR      Lormes             123.87 328 ePKIKP    PKPdf    12 46 03.5 +0.5
         comp=Z,119nm,1.7s
LOR                                    eR
         comp=Z,3μm,20.2s
LOR      Lormes             123.87 328 ePKIKP    PKPdf    12 46 03.5 +0.5
LOR                                    MLR      MLR
         comp=Z,3μm,20.3s,MS5.9
ORIF     Oris-en-Rattie     124.15 324 ePKIKP    PKPdf    12 46 04.3 +0.7
         comp=Z,29nm,1.1s
ORIF                                   eR
         comp=Z,2μm,19.5s
SSF      Saint Saulge       124.19 328 ePKIKP    PKPdf    12 46 04.3 +0.7
         comp=Z,98nm,1.4s
SMF      Signal de Mont     124.27 327 ePKIKP    PKPdf    12 46 04.3 +0.5
         comp=Z,123nm,1.5s
ACSO     Alum Creek Sta     124.43  42 ePKPdf    PKPdf    12 46 04.6 +0.5
ACSO                                   LR       LR
         comp=Z,1μm,20.0s,MS5.6
AVF      Avril sur Loir     124.44 328 ePKIKP    PKPdf    12 46 04.6 +0.5
         comp=Z,16nm,1.0s
FRF      La Foret Royal     124.46 323 ePKIKP    PKPdf    12 46 04.6 +0.4
LMR      La Mourre          124.67 323 ePKIKP    PKPdf    12 46 05.2 +0.6
         comp=Z,99nm,1.2s
BGF      Bois d'Agland      124.86 328 ePKIKP    PKPdf    12 46 05.7 +0.8
         comp=Z,113nm,1.4s
SMRF     Simiane la Rot     124.87 324 ePKIKP    PKPdf    12 46 05.9 +0.9
         comp=Z,104nm,1.2s
VIVF     Saint-Julien-l     124.88 325 ePKIKP    PKPdf    12 46 05.8 +0.8
         comp=Z,57nm,1.2s
LDF      La Druitiere       125.03 331 ePKIKP    PKPdf    12 46 05.5 +0.2
         comp=Z,85nm,1.3s
FLN      La Foliniere       125.08 331 ePKIKP    PKPdf    12 46 05.5 +0.1
FLN
         comp=Z,243nm,1.8s
FLN                                    eR
         comp=Z,3μm,20.2s
FLN      La Foliniere       125.08 331 ePKIKP    PKPdf    12 46 05.5 +0.1
FLN                                    MLR      MLR
         comp=Z,3μm,20.3s,MS6.0
TCF      Toulx Ste Croi     125.37 328 ePKIKP    PKPdf    12 46 06.7 +0.8
         comp=Z,122nm,1.4s
ERPA     Erie               125.40  39 PFAKE
ERPA                                   LR       LR       12 46 20.0 +14
         comp=Z,4μm,21.0s,MS6.0
GRR      Gorron             125.52 331 ePKIKP    PKPdf    12 46 06.8 +0.6
         comp=Z,138nm,1.5s
LASF     Ste Croix          125.82 325 ePKIKP    PKPdf    12 46 07.6 +0.8
         comp=Z,61nm,1.1s
CAF      Calviac            126.31 326 ePKIKP    PKPdf    12 46 09.0 +1.3
         comp=Z,42nm,1.2s
RJF      Les Rejaudoux      126.37 327 ePKIKP    PKPdf    12 46 08.8 +1.0
         comp=Z,109nm,1.5s
RJF                                    eR
         comp=Z,2μm,20.5s
RJF      Les Rejaudoux      126.37 327 ePKIKP    PKPdf    12 46 08.8 +1.0
RJF                                    MLR      MLR
         comp=Z,2μm,20.5s,MS5.8
PAYG     Puerto Ayora       126.38  93 PFAKE
PAYG                                   LR       LR       12 46 20.0 +12
         comp=Z,1μm,20.0s,MS5.6
MFF      Saint Martin d     126.39 329 ePKIKP    PKPdf    12 46 08.4 +0.5
         comp=Z,88nm,1.3s
PLCA     Paso Flores        126.44 148 PKP       PKPdf    12 46 09.6 +1.6
         comp=Z,3.1nm,0.7s,baz=208,slow=2.8,SNR=7.8
LFF      La Frestale        127.02 327 ePKIKP    PKPdf    12 46 10.3 +1.2
MTLF     Montolieu          127.21 325 ePKIKP    PKPdf    12 46 10.1 +0.7
         comp=Z,70nm,1.5s
BLA      Blacksburg         127.66  44 PFAKE
BLA                                    LR       LR       12 46 20.0 +10
         comp=Z,181nm,20.0s,MS4.8
NCB      Newcomb            127.70  34 ePKPdf    PKPdf    12 46 11.5 +1.2
BINY     Binghamton         127.79  36 ePKPdf    PKPdf    12 46 10.6  0.0
BINY                                   LR       LR
         comp=Z,6μm,21.0s,MS6.3
MIV      Mineville/With     128.01  33 PKPdf     PKPdf    12 46 10.7 -0.3
EPF      Esparros           128.47 326 ePKIKP    PKPdf    12 46 12.7 +0.9
         comp=Z,60nm,1.4s
LBNH     Lisbon             128.76  32 PFAKE
LBNH                                   LR       LR       12 46 20.0 +7.6
         comp=Z,8μm,22.0s,MS6.4
ETSF     Etsaut             129.06 326 ePKIKP    PKPdf    12 46 14.7 +1.7
         comp=Z,51nm,1.2s
CBN      Corbin             129.21  41 PFAKE
CBN                                    LR       LR       12 46 30.0 +17
         comp=Z,4μm,20.0s,MS6.1
SJPF     Ste Jean           129.29 327 ePKIKP    PKPdf    12 46 14.6 +1.2
         comp=Z,79nm,1.6s
HRV      Harvard--Oak R     130.13  33 PFAKE
HRV                                    LR       LR       12 46 30.0 +15
         comp=Z,3μm,21.0s,MS6.0
DWPF     Disney             130.84  55 PFAKE
DWPF                                   LR       LR       12 46 30.0 +14
         comp=Z,2μm,20.0s,MS5.9
JTS      JuntasAbangare     131.71  79 ePKPdf    PKPdf    12 46 19.3 +1.3
JTS                                    LR       LR
         comp=Z,2μm,20.0s,MS5.7
ESLA     Sonseca Array      133.12 325 PFAKE
ESLA                                   LR       LR       12 46 30.0 +9.4
         comp=Z,16μm,21.0s,MS6.7
OTAV     Otavalo            138.25  93 ePKPdf    PKPdf    12 46 33.2 +3.0
OTAV                                   LR       LR
         comp=Z,902nm,20.0s,MS5.5
LVC      Limon Verde        139.44 131 PFAKE
LVC                                    LR       LR       12 46 50.0 +18
         comp=Z,2μm,21.0s,MS5.7
TORD     Torodi Ar. Bea     140.72 287 PKhKP
         comp=Z,2.2nm,0.7s,baz=85,slow=3.4,SNR=10
TORD                                   PKP      PKPdf    12 46 36.3 +1.6
         comp=Z,12nm,1.0s,baz=76,slow=3.0,SNR=18
BBSR     BB Station         140.96  39 PFAKE
BBSR                                   LR       LR       12 46 50.0 +15
         comp=Z,2μm,22.0s,MS5.9
ROSC     El Rosal           142.52  86 PKhKP
         comp=Z,5.9nm,0.5s,baz=88,slow=23,SNR=7.2
LPAZ     La Paz             143.43 123 PKPdf     PKPdf    12 46 39.1 -0.4
LPAZ     La Paz             143.43 123 PKP       PKPdf    12 46 39.2 -0.3
         comp=Z,3.9nm,0.7s,baz=268,slow=4.0,SNR=14
LPAZ     La Paz             143.43 123 ePKIKP    PKPdf    12 46 38.5 -1.0
LPAZ                                   MLR      MLR
         comp=Z,1μm,20.0s
ADH      Angra Heroismo     143.71 347 ex
CPUP     Villa Florida      144.50 147 PKP       PKPdf    12 46 41.3 -0.1
         comp=Z,1.4nm,0.4s,baz=148,slow=2.2,SNR=5.6
CPUP     Villa Florida      144.50 147 ePKIKP    PKPdf    12 46 40.5 -0.9
CPUP                                   MLR      MLR
         comp=Z,507nm,20.0s
SDV      Santo Domingo      145.90  79 PKPdf     PKPdf    12 46 44.5 +0.7
SDV                                    SKKSac   SKKSac   12 56 57.4 +3.5
SDV      Santo Domingo      145.90  79 ePKPdf    PKPdf    12 46 45.3 +1.5
EFAM     Famara             146.09 322 P         PKPdf    12 46 47.2 +3.1
CFTV     Fuerteventura      146.94 321 P         PKPdf    12 46 48.5 +2.9
SJG      San Juan           147.67  61 ePKPdf    PKPdf    12 46 48.5 +1.7
SJG                                    ePKPbc   PKPbc    12 46 50.4 +0.8
CPD      Cerro la Pandu     147.91  61 ePKPbc    PKPbc    12 46 50.5 +0.3
DBIC     Dimbokro           148.02 277 PKPbc     PKPbc    12 46 51.3 +0.8
         comp=Z,133nm,1.1s,baz=69,slow=2.8,SNR=43
DBIC     Dimbokro           148.02 277 ePKPdf    PKPdf    12 46 48.5 +1.1
DBIC                                   ePKPbc   PKPbc    12 46 51.4 +0.9
DBIC                                   LR       LR
         comp=Z,2μm,20.0s,MS5.9
DBIC     Dimbokro           148.02 277 ePKP2     PKPab    12 46 51.4 -1.9
MTP      Monte Pirata       148.20  60 ePKPdf    PKPdf    12 46 48.8 +1.2
MTP                                    ePKPbc   PKPbc    12 46 51.5 +0.5
LIC      Lamto              148.22 277⇑iPKIKP    PKPbc    12 46 52.3 +1.3
         comp=Z,529nm,1.2s
LIC                                    eR
         comp=Z,3μm,21.0s
LIC      Lamto              148.22 277⇑iPKPdf    PKPbc    12 46 52.3 +1.3
LIC                                    LR       LR
         comp=Z,2μm,21.0s,MS5.8
CCAN     Las Canadas        148.60 324 P         PKPbc    12 46 53.6 +1.6
EGOM     La Gomera          149.00 325 P         PKPbc    12 46 53.9 +0.9
SAML     Samuel             151.03 115 ePKPdf    PKPdf    12 46 53.2 +1.1
SAML                                   ePKPbc   PKPbc    12 46 58.8 +0.9
CAM4     Nova Friburgo      153.92 168 (P)       PKPdf    12 46 54.4 -2.0
ASCN     Ascension          155.02 243 PFAKE
ASCN                                   LR       LR
         comp=Z,2μm,22.0s,MS6.0
CAM3     Guarapari          155.88 171 (P)       PKPab    12 47 25.8 -0.3
CAM3                                   i                 12 47 30.7
CAM3                                   i                 12 47 38.6
BDFB     Brasilia           158.18 150 PKP       PKPdf    12 47 04.1 +2.1
         comp=Z,1.9nm,0.6s,baz=288,slow=6.4,SNR=3.0
```

IDC 24 12:41:34.8±1.8, 249S×12550E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.5/16, mbtmp3.4/3, Error ellipse: s-maj=179.6km s-min=26.0km az=64.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.37	154	P	Pn	12 46 03.8	+0.8
	baz=333,slow=11,SNR=4.5						
ASAR	Alice Springs	22.57	160	P	P	12 46 35.5	-1.0
	0.4nm,0.7s,baz=345,slow=7.7,SNR=4.9						
MKAR	Makanchi Array	62.03	328	P	P	12 51 57.2	+0.3
	0.2nm,0.4s,baz=127,slow=8.9,SNR=4.2						

CASC 24 13:15:36.2±1.9, 1606N×8850W, h20km±612km, MD3.7, ML3.2, 1C-1D, Belize

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRL	Marmol	1.51	229	⇑eP	Pn	13 16 01.5	-0.6
MRL				eS	Sn	13 16 22.6	+1.4
MRL				AML	AML	13 16 24.1	
	comp=E,327nm,0.4s						
RBDL	Robledal	2.25	211	eP	Pn	13 16 07.1	-5.1
RBDL				eS	Sn	13 16 34.6	-4.7
LCBS	La Ceiba	2.43	191	⇓eP	Pn	13 16 07.7	-7.1
LCBS				eS	Sn	13 16 37.2	-6.7
LFRS	El Faro	2.48	193	eP	Pn	13 16 10.0	-5.4
LFRS				eS	Sn	13 16 40.2	-4.8
IXG	Ixpaco	2.66	225	eP	Pn	13 16 19.0	+1.1

*ISCJB **24** 13:30:31.6±0.6, 3420N±002×3532E±003, h6km±4km, Error ellipse: s-maj=4.6km s-min=2.8km az=27.9*
*GRAL **24** 13:30:32.5±0.8, 3425N×3531E, h0km±333km, MD3.5*
*CSEM **24** 13:30:33.5±0.1, 3423N×3543E, h15km, Mw3.1, Error ellipse: s-maj=3.2km s-min=1.4km az=105.0*
*GII **24** 13:31:17.8±0.7, 3419N×3545E, h14km±1km, ML2.9/4, Mw3.1/2*

ISC 24 13:30:32.2±0.6, 3421N±002×3534E±004, h6km±3km, n37, σ0§67/58, 7D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	Bhannes	0.40	140	i Pg	Pg	13 30 40.6	+0.6
BHL				i Sg	Sg	13 30 46.2	+0.9
HWQ	Hawqa	0.51	83	Pg	Pg	13 30 41.6	-0.4
HWQ				Sg	Sg	13 30 48.8	+0.1
HWQ	Hawqa	0.51	83	i Pg	Pg	13 30 41.6	-0.4
HWQ				i Sg	Sg	13 30 49.0	+0.4
MATL	Matirih	0.72	181	Pg	Pg	13 30 46.5	+0.4
MATL	Matirih	0.72	181	i Pg	Pg	13 30 46.4	+0.3
FKH	Fakeheh	0.88	88	i Pg	Pg	13 30 48.6	-0.5
FKH				i Sg	Sg	13 31 01.4	+0.8
HAWK	Haweek	0.93	71	⇑iP	Pg	13 30 49.5	-0.7
HAWK				⇑iS	Sg	13 31 01.3	-1.0
BRBR	Barbar	0.95	147	⇑iP	Pg	13 30 50.8	+0.4
BRBR				⇓iS	Sg	13 31 03.6	+0.9
MARH	Ras Al Marh	0.97	101	⇓iP	Pg	13 30 50.2	-0.6
MARH				⇑iS	Sg	13 31 03.0	-0.3
QASN	Qassioun	1.03	131	⇑iP	Pg	13 30 52.2	+0.1
QASN				⇑iS	Sg	13 31 05.8	+0.3
KSDI	Kefar Szold	1.05	165	Pg	Pg	13 30 52.2	-0.3
KSDI				Sg	Sg	13 31 07.0	+0.9
BIDA	Albida	1.14	45	⇓iP	Pg	13 30 53.2	-0.9
BIDA				⇓iS	Sg	13 31 08.6	-0.2
MMC7	Mount Meron ar	1.19	178	Pg	Pg	13 30 54.2	-0.8
MMA0B	Mount Meron ar	1.20	177	Pg	Pg	13 30 54.3	-0.9
MMA0B				Sg	Sg	13 31 10.1	-0.6
SLNF	Slenfeh	1.56	28	⇑iP	Pn	13 31 00.1	-0.4
SLNF				⇑iS	Sn	13 31 20.7	-0.3
RABH	Abou Rabah	1.56	81	⇑iP	Pn	13 31 00.2	-0.3
RABH				⇓iS	Sn	13 31 20.6	-0.5
KFRA	Kufra	1.56	50	⇓iP	Pn	13 31 00.3	-0.3
KFRA				⇑iS	Sn	13 31 20.6	-0.5
WRDH	Warideh	1.56	34	⇑iP	Pn	13 31 00.2	-0.4
WRDH				⇑iS	Sn	13 31 20.6	-0.6
TCHB	Talchebab	1.63	161	⇓iP	Pn	13 31 01.4	-0.1
MMLI	Mount Malkishu	1.77	178	Pn	Pn	13 31 02.9	-0.5
MMLI				Sn	Sn	13 31 25.5	-0.8
SALA	Sala	1.90	142	⇑iP	Pn	13 31 05.4	+0.2
SALA				⇑iS	Sn	13 31 30.0	+0.6
SLTI	Sal'it	1.98	187	Pn	Pn	13 31 06.0	-0.3
SLTI				Sn	Sn	13 31 31.0	-0.5
HTY	Hatay	2.01	19	ePN	Pn	13 31 07.5	+0.7
BTCH	Batrach	2.04	26	⇑iP	Pn	13 31 07.3	+0.2
BTCH				⇑iS	Sn	13 31 33.5	+0.6
ZALF	Zalf	2.10	127	⇑iP	Pn	13 31 08.9	+0.9
ZALF				⇑iS	Sn	13 31 34.6	+0.1
KRTS	Karatas	2.35	1	ePN	Pn	13 31 13.0	+1.5
IKL	Isikli	2.43	327	ePN	Pn	13 31 11.7	-0.8
MKRJ	Makawir	2.67	174	Pn	Pn	13 31 15.2	-0.5
MERS	Mersin	2.73	346	ePN	Pn	13 31 16.5	-0.1
CEYT	Ceyhan	2.81	7	ePN	Pn	13 31 18.9	+1.2
JHLN	Al Jahlan	2.94	59	⇑iP	Pn	13 31 19.4	0.0
KARA	Karaisali	3.05	356	ePN	Pn	13 31 21.0	0.0
KOZT	Kozan	3.28	7	ePN	Pn	13 31 25.8	+1.5
GAZ	Gaziantep	3.32	27	eP	Pn	13 31 28.0	+3.2
SVTA	Shivta	3.33	191	Pn	Pn	13 31 24.8	0.0
KZIT	Kziot	3.39	194	Pn	Pn	13 31 26.1	+0.3
KZIT				Sn	Sn	13 32 05.7	-0.6
EIL	Elat	4.54	184	Pn	Pn	13 31 42.3	+0.8

*ISCJB **24** 14:08:24.4±0.2, 645S±004×15495E±005, h36km, mb4.9/70, MS4.3/13, Error ellipse: s-maj=6.7km s-min=5.3km az=43.6*
*BJI **24** 14:08:24.1, 608S×15494E, h17km, mB5.1, mb4.8, Ms4.9, Msz4.6*
*MOS **24** 14:08:25.9±1.0, 637S×15485E, h47km, mb5.1/25, Error ellipse: s-maj=10.0km s-min=7.6km az=77.2*
*IDC **24** 14:08:25.9±0.7, 646S×15497E, h38km±5km, mb4.5/19, mb1 4.6/22, mb1mx4.6/23, mbtmp4.7/22, ML4.3/3, MS4.2/10, Ms1 4.2/10, ms1mx4.0/25, Error ellipse: s-maj=14.5km s-min=10.4km az=113.0*
*NEIC **24** 14:08:26.3±0.2, 646S×15497E, mb5.0/41, Error ellipse: s-maj=6.9km s-min=4.8km az=112.0*
*HRVD **24** 14:08:26.3±0.6, 693S×15480E, h39km±1km, MW5.3/40, Centroid moment Tensor Solution. LP body waves: s30,c33;Mantle waves: s40,c46; Half duration: 1§0 Moment tensor: Scale 10^17^Nm; M_{rr}1.07±.08; $M_{\theta\theta}$-0.72±.05; $M_{\phi\phi}$-0.35±.05; $M_{r\theta}$0.15±.04; $M_{\theta\phi}$0.29±.03; $M_{\phi r}$-0.01±.04; Best double couple: $M_0$0.98500×10^17^ NP1:ϕ_s302.00000°, δ41.00000°, λ94.00000°. NP2: ϕ_s116.00000°, δ49.00000°, λ86.00000°. Principal axes: T 1.0820, Plg85.0000°, Azm352.0000°; N -0.1980, Plg3.0000°, Azm118.0000°; P -0.8870, Plg4.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 14:08:26.3±0.2, 647S±004×15505E±005, h38km, h38km±1.3km: pP-P, n157, σ1§09/151, mb4.9/70, MS4.3/13, 2C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	5.67	122	Pn	Pn	14 09 53.7	+5.7
	54nm,0.3s,baz=259,slow=3.5,SNR=27						
HNR				Sn	Sn	14 11 02.8	+11
	61nm,0.3s,baz=94,slow=23,SNR=7.2						
HNR				LR	LR	14 11 42.7	
	comp=Z,1μm,22.0s,baz=356,slow=34						
HNR	Honiara	5.67	122	ePn	Pn	14 09 52.5	+4.5
	343nm,0.7s						
HNR				eSn	Sn	14 11 01.0	+9.2
HNR	Honiara	5.67	122	eP	Pn	14 09 52.5	+4.5
HNR				e		14 11 01.0	
HNR				pmax	pmax		
	comp=Z,343nm,0.7s						
PMG	Port Moresby	8.34	249	Pn	Pn	14 10 25.4	+0.7
	comp=Z,13nm,0.3s,baz=68,slow=6.2,SNR=52						
PMG				Sn	Sn	14 11 59.9	+2.3
	comp=Z,6.1nm,0.3s,baz=50,slow=17,SNR=6.7						
PMG				LR	LR	14 13 28.6	
	comp=Z,2μm,20.9s,baz=225,slow=37						
PMG	Port Moresby	8.34	249	ePn	Pn	14 10 25.2	+0.5
	comp=Z,118nm,0.6s						

PMG			*e*Sn		**Sn**	**14 12 01.4 +3.8**
PMG	**Port Moresby**	**8.34 249**	*e*P		**Pn**	**14 10 25.2 +0.5**
PMG			*e*			14 12 01.4
PMG			pmax	pmax		
	comp=Z,118nm,0.6s					
CTA	**Charters Tower**	**16.00 211**	Pn		**Pn**	**14 12 09.2 +0.6**
	comp=Z,0.7nm,0.3s,baz=25,slow=13,SNR=11					
CTA	**Charters Tower**	**16.00 211**	*e*P		**Pn**	**14 12 08.9 +0.4**
CTA			pmax	pmax		
	comp=Z,12nm,0.9s					
CTAO	**Charters Tower**	**16.00 211**	*e*Pn		**Pn**	**14 12 08.9 +0.3**
	comp=Z,21nm,0.9s					
CTAO	**Charters Tower**	**16.00 211**	*e*P		**Pn**	**14 12 08.9 +0.4**
CTAO			pmax	pmax		
	comp=Z,21nm,0.9s					
DZM	**Mont Dzumac**	**19.02 146**	P		**Pn**	**14 12 47.0 +1.2**
	comp=Z,2.3nm,0.3s,baz=328,slow=15,SNR=16					
DZM			LR	LR		14 18 38.5
	comp=Z,959nm,18.9s,baz=207,slow=32					
GUMO	**Guam**	**22.35 333**	LR	LR		14 21 17.7
	comp=Z,291nm,19.4s,MS3.7,baz=57,slow=35					
KAKA	**Kakadu**	**23.13 253**	*e*P		**P**	**14 13 28.9 -0.2**
	comp=Z,26nm,0.6s,mb4.8					
ARMA	**Armidale**	**24.04 187**	⇊*i*P		**P**	**14 13 38.7 +1.0**
WRAB	**Tennant Creek**	**24.15 234**	P		**P**	**14 13 39.0 +0.3**
	comp=Z,182nm,0.6s,mb5.7,SNR=12					
WRAB	**Tennant Creek**	**24.15 234**	*e*P		**P**	**14 13 38.7 0.0**
	comp=Z,29nm,0.6s,mb4.9					
WRAB			*e*PcP	PcP		14 17 19.6 +0.6
WRAB			*e*S		**S**	**14 17 56.4 +2.2**
WRAB	**Tennant Creek**	**24.15 234**	*e*P		**P**	**14 13 38.7 0.0**
WRAB			*e*			14 17 19.6
WRAB			*e*S		**S**	**14 17 56.4 +2.2**
WRAB			pmax	pmax		
	comp=Z,29nm,0.6s,mb4.9					
WB2	**Warramunga Arr**	**24.15 234**	*e*P		**P**	**14 13 38.8 0.0**
WB2			*e*PCP	PcP		14 17 19.3 +0.4
WB2			*e*S		**S**	**14 17 47.2 -7.0**
WRA	**Warramunga Arr**	**24.16 234**	P		**P**	**14 13 39.4 +0.6**
	comp=Z,20nm,0.6s,mb4.7,baz=56,slow=9.8,SNR=176					
WRA			PcP	PcP		14 17 19.5 +0.6
	comp=Z,7.1nm,0.5s,baz=61,slow=2.3,SNR=16					
WRA			S		**S**	**14 17 55.2 +0.8**
	comp=Z,8.6nm,1.2s,baz=57,slow=16,SNR=8.8					
ASAR	**Alice Springs**	**26.56 228**	P		**P**	**14 14 00.3 -0.3**
	comp=Z,4.7nm,0.5s,mb4.3,baz=58,slow=9.1,SNR=168					
ASAR			pP	pP		14 14 11.7 +0.6
	comp=Z,7.2nm,0.4s,baz=57,slow=9.3,SNR=16					
ASAR			PcP	PcP		14 17 24.6 +0.2
	comp=Z,6.9nm,0.7s,baz=55,slow=2.8,SNR=15					
ASAR			pPcP			14 17 36.2
	comp=Z,3.1nm,0.7s,baz=71,slow=2.3,SNR=5.9					
ASAR	**Alice Springs**	**26.56 228**	P		**P**	**14 14 00.3 -0.3**
ASAR			*PP	pP		14 14 11.7 +0.6
ASAR						14 17 24.6
STKA	**Stephens Creek**	**28.23 205**	*e*P		**P**	**14 14 12.6 -3.0**
	comp=Z,4.4nm,0.6s,mb4.3					
STKA			*e*PCP	PcP		14 17 26.2 -2.2
STKA	**Stephens Creek**	**28.23 205**	P		**P**	**14 14 13.1 -2.5**
	comp=Z,4.9nm,0.7s,mb4.3,baz=48,slow=12,SNR=21					
STKA			pP	pP		14 14 25.4 -0.7
	comp=Z,4.9nm,0.7s,baz=29,slow=9.9,SNR=4.8					
STKA			PcP	PcP		14 17 26.4 -2.0
	comp=Z,7.8nm,0.8s,baz=55,slow=1.4,SNR=7.0					
STKA			LR	LR		14 25 15.4
	comp=Z,833nm,18.5s,MS4.4,baz=23,slow=36					
FITZ	**Fitzroy Crossi**	**30.92 245**	*e*P		**P**	**14 14 38.3 -1.1**
	comp=Z,19nm,0.7s,mb5.0					
FITZ	**Fitzroy Crossi**	**30.92 245**	P		**P**	**14 14 38.7 -0.7**
	comp=Z,6.9nm,0.6s,mb4.7,baz=62,slow=9.3,SNR=18					
FITZ			pP	pP		14 14 48.5 -1.5
	comp=Z,8.4nm,0.5s,baz=108,slow=6.0,SNR=7.8					
FITZ			PcP	PcP		14 17 33.7 -1.5
	comp=Z,5.2nm,0.9s,baz=295,slow=7.9,SNR=3.7					
FITZ			LR	LR		14 26 05.4
	comp=Z,399nm,21.0s,MS4.0,baz=64,slow=34					
AFI	**Afiamalu**	**33.44 105**	LR	LR		14 25 40.9
	comp=Z,408nm,19.3s,MS4.2,baz=321,slow=31					
RAO	**Raoul Island**	**34.11 135**	LR	LR		14 27 07.5
	comp=Z,317nm,19.7s,MS4.0,baz=270,slow=33					
FORT	**Forrest**	**35.01 223**	*e*P		**P**	**14 15 14.4 -0.7**
	comp=Z,16nm,0.5s,mb5.2					
TAU	**Tasmania Unive**	**36.93 189**	*e*P		**P**	**14 15 31.6 +0.1**
	comp=Z,31nm,0.9s,mb5.1					
TAU	**Tasmania Unive**	**36.93 189**	*e*P		**P**	**14 15 31.6 +0.1**
TAU			pmax	pmax		
	comp=Z,31nm,0.9s,mb5.1					
MBWA	**Marble Bar**	**37.16 243**	*e*P		**P**	**14 15 32.7 -0.7**
MBWA			*e*PcP	PcP		14 17 53.2 +0.1
URZ	**Urewera**	**37.43 151**	P		**P**	**14 15 35.9 +0.1**
	comp=Z,16nm,0.9s,mb4.9,baz=323,slow=0.5,SNR=10					
RPZ	**Rata Peaks**	**39.67 162**	P		**P**	**14 15 53.9 -0.7**
	comp=Z,17nm,0.8s,mb4.8,baz=271,slow=3.3,SNR=7.1					
RPZ			LR	LR		14 29 52.9
	comp=Z,604nm,19.3s,MS4.5,baz=340,slow=32					
KKM	**Kota Kinabalu**	**40.70 287**	*e*P		**P**	**14 16 03.8 +0.6**
KLBR	**Kellerberrin**	**42.86 229**	⇑*i*P		**P**	**14 16 19.7 -1.1**
	comp=Z,14nm,0.6s,mb4.9					
NWAO	**Narrogin (SRO)**	**43.88 228**	P		**P**	**14 16 27.4 -1.7**
	comp=Z,8.1nm,0.9s,mb4.4,baz=48,slow=15,SNR=4.2					
NWAO	**Narrogin (SRO)**	**43.88 228**	P		**P**	**14 16 29.9 +0.9**
MUN	**Mundaring**	**44.21 230**	*e*P		**P**	**14 16 31.2 -0.5**
NACB	**Ningaanhiao**	**44.63 314**	P		**P**	**14 16 34.3 -0.8**
YHNB	**Yeheng**	**45.10 315**	*e*P		**P**	**14 16 39.2 +0.5**
JNU	**Nakatsue**	**45.58 331**	P		**P**	**14 16 41.7 -0.9**
	comp=Z,14nm,0.8s,mb4.9,baz=105,slow=6.2,SNR=4.7					
MJAR	**Matsushiro Arr**	**45.61 341**	P		**P**	**14 16 42.0 -0.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=168,slow=10,SNR=4.3					
MAJO	**Matsushiro**	**45.61 341**	P		**P**	**14 16 39.9 -2.8**
	comp=Z,4.4nm,0.6s,mb4.6					
MAJO	**Matsushiro**	**45.61 341**	P		**P**	**14 16 39.9 -2.9**
MAJO			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5					
RAR	**Rarotonga**	**46.06 113**	LR	LR		14 32 56.5
	comp=Z,262nm,20.5s,MS4.2,baz=214,slow=32					
SSE	**Sheshan**	**49.44 321**	*e*P		**P**	**14 17 10.8 -1.7**
SSE			AMB	AMB		
	comp=Z,35nm,0.7s,mb5.5					
SSE			AMB	AMB		
	comp=Z,68nm,3.8s					
KS15	**Wonju Array Si**	**50.51 332**	*e*P		**P**	**14 17 20.6 -0.1**
QIZ	**Qiongzhong**	**51.24 301**	P		**P**	**14 17 27.6 +1.4**
	comp=Z,22nm,1.0s,mb5.0					
NJ2	**Nanjing**	**51.55 320**	*e*P		**P**	**14 17 29.5 +1.0**
NJ2			AP	pP		14 17 39.5 0.0
NJ2			XP	sP		14 17 43.4 -0.5
NJ2			PP	PP		14 19 27.4 +1.4
NJ2			S		**S**	**14 24 43.0 -3.4**
NJ2			XS	sS		14 25 00.0 -4.6
NJ2			AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8					
NJ2			AMB	AMB		
	comp=Z,120nm,5.0s					
NJ2			LR	LR		
	comp=N,380nm,19.6s					
NJ2			LR	LR		
	comp=E,380nm,28.1s					
NJ2			LR	LR		
	comp=Z,220nm,25.0s					
YSS	**Yuzh-Sakhalins**	**54.30 350**	P		**P**	**14 17 49.5 +0.7**
	comp=Z,7.1nm,0.6s,mb4.8					
YSS	**Yuzh-Sakhalins**	**54.30 350**	P		**P**	**14 17 49.5 +0.8**
YSS			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8					
PPT	**Papeete**	**55.09 107**	*e*LR		LR	14 34 36.0
	comp=Z,164nm,21.8s					
KULM	**Kulim**	**55.55 281**	*e*P		**P**	**14 17 56.9 -0.8**
MDJ	**Mudanjiang**	**55.78 338**	P		**P**	**14 18 00.8 +1.4**
MDJ			AP	pP		14 18 10.1 -0.4
MDJ			XP	sP		14 18 13.6 -1.3
MDJ			AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.6					
MDJ			AMB	AMB		
	comp=Z,159nm,6.7s					
MDJ			LR	LR		
	comp=N,89nm,54.9s					
MDJ			LR	LR		
	comp=Z,151nm,30.5s					
TBI	**Tubuai**	**55.84 114**	*e*LR		LR	14 34 58.0
	comp=Z,589nm,28.2s					
ENH	**Enshi**	**56.93 313**	P		**P**	**14 18 07.2 -0.4**
	comp=Z,9.4nm,0.8s,mb4.9					
GYA	**Guiyang**	**57.18 307**	P		**P**	**14 18 10.8 +1.4**
GYA			AP	pP		14 18 20.9 +0.3
GYA			XP	sP		14 18 25.8 +0.8
GYA			PP	PP		14 20 19.6 +3.0
GYA			S		**S**	**14 26 01.1 -1.2**
GYA			XS	sS		14 26 17.9 -2.8
GYA			SS	SS		14 29 51.0 -0.5
GYA			AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7					
GYA			AMB	AMB		
	comp=Z,100nm,3.9s					
GYA			LR	LR		
	comp=N,590nm,18.4s,MS4.8					
GYA			LR	LR		
	comp=E,410nm,17.8s,MS4.8					
GYA			LR	LR		
	comp=Z,460nm,18.0s,MS4.6					
NST	**Nakhon Sawan**	**58.66 293**	P		**P**	**14 18 20.0 +0.2**
KLR	**Kul'dur**	**59.09 342**	*e*P		**P**	**14 18 19.4 -3.3**
PET	**Petropavlovsk**	**59.35 3**	*e*P		**P**	**14 18 27.3 +2.8**
PET			MLR	MLR		
	comp=Z,200nm,17.0s,MS4.3					
KMI	**Kunming**	**59.77 304**	P		**P**	**14 18 29.6 +2.2**
KMI			AP	pP		14 18 39.9 +1.2
KMI			AMB	AMB		
	comp=Z,21nm,1.0s,mb5.1					
CHG	**Chiang Mai**	**60.73 296**	P		**P**	**14 18 33.0 -1.0**
	comp=Z,21nm,0.9s,mb5.3					
CD2	**Chengdu**	**61.52 310**	*e*P		**P**	**14 18 39.4 0.0**
CD2			AP	pP		14 18 49.5 -1.1
CD2			XP	sP		14 18 53.5 -1.5
CD2			PP	PP		14 20 57.0 +2.0
CD2			S		**S**	**14 26 56.8 -1.5**
CD2			XS	sS		14 27 13.5 -3.4
CD2			SS	SS		14 30 59.4 -0.2
CD2			AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9					
CD2			AMB	AMB		
	comp=Z,50nm,5.3s					
CD2			LR	LR		
	comp=E,140nm,16.8s					
CD2			LR	LR		
	comp=Z,90nm,20.4s,MS3.9					
HHC	**Hu-ho-hao-te**	**61.71 324**	*e*P		**P**	**14 18 43.3 +2.7**
HHC			AP	pP		14 18 53.4 +1.5
HHC			XP	sP		14 18 57.3 +1.1
HHC			PCP	PcP		14 19 24.3 +2.6
HHC			PP	PP		14 21 01.3 +4.7
HHC			S		**S**	**14 27 02.3 +1.6**
HHC			SCS	ScS		14 28 28.8 -0.5
HHC			SS	SS		14 31 05.3 +2.7
HHC			AMB	AMB		
	comp=Z,7.0nm,0.3s,mb5.3					
HHC			AMB	AMB		
	comp=Z,66nm,4.4s					
HHC			LR	LR		
	comp=N,202nm,8.0s					
HHC			LR	LR		
	comp=E,160nm,4.9s					
HHC			LR	LR		
	comp=Z,123nm,8.8s					
HIA	**Hailar**	**63.47 335**	*e*P		**P**	**14 18 51.9 -0.5**
	comp=Z,9.2nm,0.7s,mb5.0					
HIA	**Hailar**	**63.47 335**	*e*P		**P**	**14 18 51.9 -0.5**
HIA			pmax	pmax		
	comp=Z,9.0nm,0.7s					
LZH	**Lanzhou**	**63.98 315**	*e*P		**P**	**14 18 57.4 +1.6**
LZH			AP	pP		14 19 08.3 +1.2
LZH			PCP	PcP		14 19 33.6 +2.6
LZH			PP	PP		14 21 19.5 +2.8
LZH			*e*S		**S**	**14 27 24.1 -5.1**
LZH			SS	SS		14 31 39.0 +0.9
LZH			AMB	AMB		
	comp=Z,34nm,1.2s,mb5.2					
LZH			AMB	AMB		
	comp=Z,136nm,4.7s					
LZH			LR	LR		
	comp=E,410nm,15.4s					
LZH			LR	LR		
	comp=Z,787nm,17.9s,MS4.9					
MA2	**Magadan**	**65.92 358**	*e*P		**P**	**14 19 07.8 -0.6**
	comp=Z,13nm,0.7s,mb5.1					
MA2	**Magadan**	**65.92 358**	⇊*i*P		**P**	**14 19 08.2 -0.2**
MA2			pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1					
CASY	**Casey**	**67.10 198**	*e*P		**P**	**14 19 14.6 -1.3**
	comp=Z,10.0nm,0.7s,mb5.0					
GTA	**Gaotai**	**68.40 317**	*e*P		**P**	**14 19 25.0 +0.9**
GTA			AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7					
ULN	**Ulaanbaatar**	**68.59 327**	*e*P		**P**	**14 19 25.4 +0.1**
	comp=Z,7.6nm,0.9s,mb4.6					
ULN	**Ulaanbaatar**	**68.59 327**	*e*P		**P**	**14 19 25.4 +0.1**
ULN			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7					
SONM	**Songino Array**	**68.93 327**	P		**P**	**14 19 27.5 +0.1**
	comp=Z,4.3nm,0.6s,mb4.6,baz=125,slow=5.4,SNR=24					
SONM			PKPPKP			14 47 40.6
	comp=Z,1.0nm,0.9s,baz=338,slow=3.5,SNR=3.5					
RKT	**Rikitea**	**69.08 112**	*e*LR		LR	14 41 06.0
	comp=Z,394nm,30.2s					
SEY	**Seymchan**	**69.23 359**	⇓*i*P		**P**	**14 19 29.3 0.0**
LSA	**Lhasa**	**71.03 304**	*e*P		**P**	**14 19 42.1 +1.9**
	comp=Z,13nm,0.9s,mb4.8					
LSA			*e*pP	pP		14 19 53.1 +1.4
LSA	**Lhasa**	**71.03 304**	*e*P		**P**	**14 19 42.1 +1.9**
LSA			*e*PP	pP		14 19 53.1 +1.4
LSA			pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9					
YAK	**Yakutsk**	**71.06 348**	*e*P		**P**	**14 19 40.2 -0.2**
YAK			pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8					
VNDA	**Vanda**	**71.10 178**	P		**P**	**14 19 40.3 -0.4**
	comp=Z,3.3nm,0.7s,mb4.3,baz=338,slow=7.0,SNR=15					
VNDA	**Vanda**	**71.10 178**	*e*P		**P**	**14 19 39.9 -0.8**
	comp=Z,5.7nm,0.8s,mb4.5					
VNDA	**Vanda**	**71.10 178**	*e*P		**P**	**14 19 39.9 -0.8**
VNDA			pmax	pmax		
	comp=Z,6.0nm,0.8s					
ZAK	**Zakamensk**	**72.08 328**	⇑*i*P		**P**	**14 19 46.3 -0.3**
ZAK			pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8					
BOD	**Bodaibo**	**72.15 338**	*e*P		**P**	**14 19 45.1 -1.9**
BOD			pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.0					
MOY	**Mondy**	**74.00 328**	*e*P		**P**	**14 19 58.0 +0.1**
JIRN	**Jiri**	**74.56 301**	*e*P		**P**	**14 20 02.6 +1.4**
	comp=Z,45nm,0.8s,mb5.4					
BILL	**Bilibino**	**74.76 4**	*e*P		**P**	**14 20 02.3 -0.1**
	comp=Z,17nm,0.9s,mb5.0					
BILL	**Bilibino**	**74.76 4**	*e*P		**P**	**14 20 02.3 -0.1**
BILL			pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0					
GUN	**Gumba**	**74.90 301**	*e*P		**P**	**14 20 03.9 +0.7**
	comp=Z,80nm,0.8s,mb5.7					
PKI	**Pulchoki**	**75.21 301**	*e*P		**P**	**14 20 05.8 +0.9**
	comp=Z,22nm,0.6s,mb5.3					
PKI	**Pulchoki**	**75.21 301**	*e*P		**P**	**14 20 05.8 +0.9**
PKI			pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0					
KKN	**Kakani**	**75.38 301**	*e*P		**P**	**14 20 06.6 +0.7**
	comp=Z,44nm,0.8s,mb5.4					
KKN	**Kakani**	**75.38 301**	*e*P		**P**	**14 20 06.6 +0.7**
KKN			pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1					
PALK	**Pallekele**	**75.41 279**	*e*P		**P**	**14 20 06.4 +0.3**
	comp=Z,13nm,1.0s,mb4.8					
DMN	**Daman**	**75.48 301**	*e*P		**P**	**14 20 07.3 +0.8**
	comp=Z,138nm,1.1s,mb5.8					
GKN	**Gorkha**	**75.98 301**	*e*P		**P**	**14 20 09.8 +0.4**
	comp=Z,106nm,1.2s,mb5.7					
TNA	**Tin City**	**76.81 15**	*e*P		**P**	**14 20 14.2 +0.2**
	comp=Z,3.7nm,1.3s,mb4.2					
TNA			*e*pP	pP		14 20 25.8 +0.2
KOLN	**Koldanda**	**76.81 300**	*e*P		**P**	**14 20 14.8 +0.7**
	comp=Z,56nm,0.9s,mb5.5					
DANN	**Dangsing**	**76.82 301**	*e*P		**P**	**14 20 13.0 -1.1**
WMQ	**Urumqi**	**78.48 317**	*e*P		**P**	**14 20 24.4 +1.0**
WMQ			AP	pP		14 20 34.4 -0.6
WMQ			XP	sP		14 20 38.4 -0.9
WMQ			AMB	AMB		
	comp=Z,21nm,1.0s,mb5.0					
WMQ			AMB	AMB		
	comp=Z,116nm,4.6s					
WMQ			LR	LR		
	comp=N,449nm,22.0s					
WMQ			LR	LR		
	comp=Z,524nm,22.0s,MS4.8					
TTA	**Tatalina**	**78.52 21**	*e*P		**P**	**14 20 24.5 +1.0**
	comp=Z,26nm,1.4s,mb5.0					
TTA	**Tatalina**	**78.52 21**	*e*P		**P**	**14 20 24.5 +0.9**
TTA			pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0					
HYB	**Hyderabad**	**79.15 289**	*i*P		**P**	**14 20 27.0 -0.1**
HYB			*e*pP	pP		14 20 38.0 -0.6
HYB	**Hyderabad**	**79.15 289**	*e*P		**P**	**14 20 27.0 -0.1**
HYB			*e*	pP		14 20 38.0 -0.6
SLKM	**Skilak Lake**	**79.24 24**	*e*P		**P**	**14 20 27.7 +0.1**
FIB	**Fire Island**	**79.63 24**	*e*P		**P**	**14 20 30.3 +0.6**
	comp=Z,25nm,0.8s,mb5.2					
FIB			*e*pP	pP		14 20 41.5 +0.3
FIB	**Fire Island**	**79.63 24**	*e*P		**P**	**14 20 30.3 +0.6**
FIB			*e*PP	pP		14 20 41.6 +0.3
FIB			pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2					
TIXI	**Tiksi**	**79.85 352**	*e*P		**P**	**14 20 30.5 -0.4**
TIXI			pmax	pmax		
	comp=Z,10.0nm,2.5s,mb4.3					
PMR	**Palmer**	**80.29 24**	*e*P		**P**	**14 20 33.1 -0.1**
PMR			*e*pP	pP		14 20 42.0 -2.9
SML	**Sawmill**	**80.73 24**	*e*P		**P**	**14 20 36.0 +0.4**
DIV	**Divide**	**81.42 25**	*e*P		**P**	**14 20 39.3 +0.1**
	comp=Z,29nm,0.7s,mb5.3					
MCK	**McKinley**	**81.55 22**	*e*P		**P**	**14 20 39.3 -0.7**
	comp=Z,20nm,1.1s,mb5.0					
MCK	**McKinley**	**81.55 22**	*e*P		**P**	**14 20 39.3 -0.7**
MCK			pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0					
COLA	**College**	**82.58 21**	*e*P		**P**	**14 20 44.4 -1.0**
	comp=Z,16nm,1.0s,mb5.0					
COLA			*e*pP	pP		14 20 56.3 -0.6
COLA	**College**	**82.58 21**	*e*P		**P**	**14 20 44.4 -0.9**
COLA			*e*PP	pP		14 20 56.3 -0.7
COLA			pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0					
ILAR	**Eielson Array**	**82.87 22**	P		**P**	**14 20 46.0 -0.9**
	comp=Z,2.0nm,0.4s,mb4.5,baz=244,slow=5.6,SNR=95					
MKAR	**Makanchi Array**	**83.05 319**	P		**P**	**14 20 47.1 -0.7**
	comp=Z,6.7nm,0.8s,mb4.7,baz=116,slow=5.5,SNR=43					
MKAR	**Makanchi Array**	**83.05 319**	*i*P		**P**	**14 20 47.7 -0.1**
MKAR			pmax	pmax		
	comp=Z,7.0nm,0.8s					
QSPA	**South Pole Qui**	**83.50 180**	*e*P		**P**	**14 20 49.6 -0.5**
	comp=Z,17nm,0.7s,mb5.2					
ZAL	**Zalesovo**	**83.79 326**	P		**P**	**14 20 50.4 -1.2**
	comp=Z,2.1nm,0.7s,mb4.4,baz=357,slow=7.7,SNR=14					
ZAL			pP	pP		14 21 01.7 -1.5
	comp=Z,1.8nm,0.5s,baz=346,slow=7.7,SNR=4.0					
MAW	**Mawson**	**84.90 203**	P		**P**	**14 20 56.8 -0.4**
	comp=Z,7.6nm,0.6s,mb5.0,baz=127,slow=7.4,SNR=9.1					
NVS	**Novosibirsk**	**84.95 327**	*e*P		**P**	**14 20 54.7 -2.8**
DAWY	**Dawson**	**85.40 24**	*e*P		**P**	**14 21 00.8 +1.1**
KSH	**Kashi**	**85.72 310**	P		**P**	**14 21 01.0 -0.3**
KSH			AP	pP		14 21 11.1 -1.9
KSH			XP	sP		14 21 15.4 -1.9
KSH			PP	PP		14 24 20.3 -0.4
KSH			PPP			14 26 16.8
KSH			SKS			14 31 20.3
KSH			S			14 31 28.8
KSH			XS	sS		14 31 45.9 -4.6
KSH			SS	SS		14 37 06.3 -1.7
KSH			AMB	AMB		
	comp=Z,469nm,3.2s					
KSH			AMB	AMB		
	comp=Z,217nm,6.0s					
KSH			LR	LR		
	comp=N,205nm,5.4s					
KSH			LR	LR		
	comp=E,240nm,5.4s					
KSH			LR	LR		
	comp=Z,228nm,6.0s					
KURK	**Kurchatov**	**86.46 322**	*e*P		**P**	**14 21 02.7 -2.2**
	comp=Z,2.1nm,0.6s,mb4.5					
KURK	**Kurchatov**	**86.46 322**	*e*P		**P**	**14 21 02.7 -2.3**
KURK			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5					
INK	**Inuvik**	**89.21 21**	*e*P		**P**	**14 21 17.9 -0.3**
	comp=Z,9.2nm,1.1s,mb5.0					
INK			*e*pP	pP		14 21 31.7 +1.8
INK	**Inuvik**	**89.21 21**	*e*P		**P**	**14 21 17.9 -0.2**
INK			*e*PP	pP		14 21 31.7 +1.8
INK			pmax	pmax		
	comp=Z,9.0nm,1.1s					
NVAR	**Mina Array Bea**	**91.35 52**	P		**P**	**14 21 29.9 +1.8**
	comp=Z,5.9nm,0.9s,mb4.9,baz=254,slow=9.6,SNR=29					
MNV	**Mina**	**91.47 52**	*e*P		**P**	**14 21 29.9 +1.2**
	comp=Z,11nm,1.1s,mb5.1					
MNV	**Mina**	**91.47 52**	*e*P		**P**	**14 21 29.9 +1.2**
MNV			pmax	pmax		
	comp=Z,11nm,1.1s,mb5.1					
CHKZ	**Chkalovo**	**91.87 324**	*e*P		**P**	**14 21 27.0 -3.5**
	comp=Z,2.0nm,0.8s,mb4.5					
CHKZ	**Chkalovo**	**91.87 324**	*e*P		**P**	**14 21 27.0 -3.5**
CHKZ			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5					
BVAR	**Borovoye Array**	**91.91 323**	P		**P**	**14 21 28.0 -2.7**
	comp=Z,0.9nm,0.5s,mb4.4,baz=106,slow=5.3,SNR=8.2					
BRVK	**Borovoye**	**91.98 323**	P		**P**	**14 21 28.2 -2.8**
	comp=Z,7.0nm,1.9s,mb4.7					
BRVK	**Borovoye**	**91.98 323**	P		**P**	**14 21 28.2 -2.8**
BRVK			pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.7					
ZRNK	**Zerenda**	**92.73 323**	*e*P		**P**	**14 21 32.0 -2.5**
	comp=Z,1.4nm,0.7s,mb4.5					
ZRNK	**Zerenda**	**92.73 323**	*e*P		**P**	**14 21 32.0 -2.5**
ZRNK			pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.3					
LDFC	**Landfair**	**93.54 55**	*e*P		**P**	**14 21 38.7 +0.5**
NEN	**Nelson**	**93.81 55**	P		**P**	**14 21 40.7 +1.2**
YKW3	**Yellowknife Ar**	**95.85 28**	*e*P		**P**	**14 21 48.6 -0.2**
YKA	**Yellowknife Ar**	**95.85 28**	P		**P**	**14 21 48.8 +0.1**
	comp=Z,6.2nm,0.8s,mb5.1,baz=269,slow=4.6,SNR=95					
YKA			pP	pP		14 22 00.9 +0.4
	comp=Z,2.1nm,0.7s,baz=267,slow=4.6,SNR=7.4					
YKA			PKKPbc	PKKPbc		14 38 36.1 -1.4
	comp=Z,0.6nm,0.5s,baz=87,slow=2.8,SNR=16					
YKA	**Yellowknife Ar**	**95.85 28**	P		**P**	**14 21 48.9 +0.1**
YKA			pP	pP		14 22 00.9 +0.4
YKA			PKKPbc	PKKPbc		14 38 36.1 -1.4
YKA	**Yellowknife Ar**	**95.85 28**	P		**P**	**14 21 48.9 +0.1**
YKA			*PP	pP		14 22

CHNG				*i* S	Sb	15 34 28.8	+0.3
CHNG				AMP		15 34 29.4	
	comp=E,1μm,0.5s						
JACH	**Jahuel**	**1.13**	**111**	⇑*i*P	Pn	15 34 31.2	+0.1
JACH				*i* S	Sn	15 34 46.3	+0.7
LCCH	**Las Cruces**	**1.22**	**169**	*i* P	Pn	15 34 32.2	-0.1
LCCH				*i* S	Sn	15 34 48.5	+0.7
PEL	**Peldehue**	**1.30**	**132**	*e*P	Pn	15 34 33.9	+0.4
PEL				*i* S	Sn	15 34 51.1	+1.3
PEL				AMP		15 34 53.8	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.30**	**132**	*e*P	Pn	15 34 33.9	+0.4
PEL				*i* S	Sn	15 34 51.1	+1.3
CMCH	**Combarbala**	**1.31**	**33**	⇑*i*P	Pn	15 34 34.1	+0.5
CMCH				*i* S	Sn	15 34 51.5	+1.4
CMCH				AMP		15 34 58.9	
	comp=E,2μm,0.7s						
CMCH	**Combarbala**	**1.31**	**33**	⇑*i*P	Pn	15 34 34.1	+0.5
CMCH				*i* S	Sn	15 34 51.5	+1.4
RCDM	**Rinconada Maip**	**1.49**	**145**	⇓*i*P	Pn	15 34 37.1	+1.1
RCDM				*i* S	Sn	15 34 56.3	+1.8
RCDM				AMP		15 34 58.6	
	comp=E,440nm,0.2s						
RCDM	**Rinconada Maip**	**1.49**	**145**	⇓*i*P	Pn	15 34 37.1	+1.1
RCDM				*i* S	Sn	15 34 56.3	+1.8
SAN	**Santiago**	**1.54**	**140**	AMP		15 35 02.4	
	comp=E,250nm,0.7s						
CLCH	**Cerro Calan**	**1.56**	**136**	*i* S	Sn	15 34 59.2	+2.8
CLCH				AMP		15 35 08.3	
	comp=E,249nm,0.5s						
TACH	**Talagante**	**1.57**	**151**	⇓*i*P	Pn	15 34 38.8	+1.6
TACH				*e*S	Sn	15 34 57.6	+1.2
FCH	**Farellones**	**1.67**	**129**	*i* S	Sn	15 35 02.6	+3.5
CHCH	**Chadas Angostu**	**1.93**	**149**	*e*P	Pn	15 34 42.9	+0.8
CHCH				*i* S	Sn	15 35 07.1	+1.8
LMEL	**Las Melosas**	**2.08**	**139**	*e*P	Pn	15 34 45.9	+1.7
LMEL				*i* S	Sn	15 35 12.8	+3.7
LMEL				AMP		15 35 20.6	
	comp=N,180nm,0.1s						
LMEL	**Las Melosas**	**2.08**	**139**	*e*P	Pn	15 34 45.9	+1.7
LMEL				*i* S	Sn	15 35 12.8	+3.7
TLL	**Tololo Astrono**	**2.28**	**23**	*e*P	Pn	15 34 50.9	+3.9
TLL				*i* S	Sn	15 35 21.0	+6.9
TLL				AMP		15 35 27.4	
	comp=N,431nm,0.9s						
TLL	**Tololo Astrono**	**2.28**	**23**	P	Pn	15 34 50.9	+3.9
TLL				S	Sn	15 35 21.0	+6.9

IDC 24 16:00:06.5±8.0, 2297N×9470E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/20, mbtmp3.4/3, Error ellipse: s-maj=700.7km s-min=25.7km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.79**	**340**	P	P	16 05 39.1	0.0
	0.4nm,0.4s,baz=152,slow=11,SNR=11						
WRA	**Warramunga Arr**	**57.58**	**135**	P	P	16 09 58.4	+0.4
	0.2nm,0.3s,baz=317,slow=7.8,SNR=17						
ASAR	**Alice Springs**	**60.00**	**138**	P	P	16 10 15.1	+0.2
	0.2nm,0.5s,baz=319,slow=6.5,SNR=7.5						

*IDC **24** 16:14:03.3±2.8, 2797N×5687E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/23, mbtmp3.6/6, Error ellipse: s-maj=57.8km s-min=27.4km az=151.0*
*ISCJB **24** 16:14:07.0±0.7, 2828N±004×5685E±006, h14km, mb3.4/6, Error ellipse: s-maj=8.8km s-min=4.9km az=52.2*
*KISR **24** 16:14:08.5±0.8, 2858N×5643E, h18km, ML3.5*
*THR **24** 16:14:08.7±0.6, 2828N×5683E, h14km±5km, ML3.5*
*TEH **24** 16:14:09.6, 2810N×5693E, h18km, Mn3.5*
*CSEM **24** 16:14:11.1±0.3, 2830N×5664E, h20km, ML3.5, Error ellipse: s-maj=6.9km s-min=3.9km az=128.0*

ISC 24 16:14:08.7±0.7, 2825N±004×5689E±007, h14km, n25, σ1°45/34, mb3.4/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.06**	**217**	*e*PG	**Pg**	**16 14 28.2**	**-0.9**
BNDS				*e*SG	**Sg**	**16 14 43.0**	**+0.1**
BNDS				AML	AML	16 14 44.8	
	comp=E,2μm,0.3s						
BNDS				AML	AML	16 14 47.0	
	comp=N,1μm,0.5s						
BNDS	**Bandar-Abbas**	**1.06**	**217**	*e*Pg	**Pg**	**16 14 28.2**	**-0.9**
	SNR=90						
BNDS				*e*Sg	**Sg**	**16 14 43.0**	**+0.1**
	SNR=90						
KRBR	**Kerman**	**1.73**	**356**	*e*PG	**Pg**	**16 14 39.8**	**-2.0**
KRBR				*e*SG	**Sg**	**16 15 02.8**	**-1.6**
KRBR				AML	AML	16 15 09.3	
	comp=N,403nm,0.3s						
KRBR				AML	AML	16 15 11.4	
	comp=E,437nm,0.6s						
KRBR	**Kerman**	**1.73**	**356**	*e*Pg	**Pg**	**16 14 39.8**	**-2.1**
	SNR=90						
KRBR				*e*Sg	**Sg**	**16 15 02.8**	**-1.5**
	SNR=90						
GHIR	**Ghir-Karzin**	**3.44**	**272**	*e*PN	**Pn**	**16 15 03.4**	**+1.6**
GHIR				AML	AML	16 16 04.7	
	comp=E,56nm,0.6s						
IBAF	**Bafgh**	**3.52**	**341**	*e*Pn	**Pn**	**16 15 04.9**	**+2.0**
ZHSF	**Zahedan**	**3.67**	**67**	*e*PN	**Pn**	**16 15 07.8**	**+2.9**
IMEH	**Mehriz**	**3.70**	**328**	*e*Pn	**Pn**	**16 15 07.5**	**+2.1**
IPAR	**Pars**	**3.71**	**296**	*e*Pn	**Pn**	**16 15 07.0**	**+1.4**
IMOK	**Mook**	**3.75**	**283**	*e*Pn	**Pn**	**16 15 06.7**	**+0.6**
IMOK				*e*Sn	**Sn**	**16 15 50.3**	**+0.3**
ICHK	**Chekchek**	**4.52**	**332**	*e*Pn	**Pn**	**16 15 19.1**	**+2.4**
IGAR	**Garneh**	**5.68**	**316**	*e*Pn	**Pn**	**16 15 36.5**	**+3.9**
IZEF	**Zefreh**	**6.07**	**321**	*e*Pn	**Pn**	**16 15 39.4**	**+1.4**
IPIR	**Pirpir**	**6.80**	**312**	*e*Pn	**Pn**	**16 15 48.5**	**+0.5**
IKLH	**Kalahroud**	**6.81**	**319**	*e*Pn	**Pn**	**16 15 49.5**	**+1.4**
UMR	**Umm Al-Rimmam**	**8.14**	**281**	*e*P	**Pn**	**16 16 05.0**	**-1.4**
UMR				*e*S	**Sn**	**16 17 32.0**	**-6.2**
UMR				AML	AML	16 17 34.6	
	comp=Z,12nm,0.3s						
RDF	**Al-Radifah**	**8.23**	**277**	*e*P	**Pn**	**16 16 06.5**	**-1.1**
RDF				AML	AML	16 17 34.8	
	comp=Z,3.8nm,0.2s						
RDF				*e*S	**Sn**	**16 17 35.7**	**-4.8**
MIB	**Mutribah**	**8.50**	**283**	*e*P	**Pn**	**16 16 10.3**	**-1.0**
MIB				AML	AML	16 17 40.9	
	comp=Z,5.4nm,0.3s						
MIB				*e*S	**Sn**	**16 17 41.4**	**-5.6**
NAY	**Al-Naaiem**	**8.52**	**279**	*e*P	**Pn**	**16 16 10.5**	**-1.1**
NAY				*e*S	**Sn**	**16 17 41.8**	**-5.8**
NAY				AML	AML	16 17 41.9	
	comp=Z,2.8nm,0.3s						
AKTO	**Aktyubinsk**	**22.17**	**2**	P	**P**	**16 19 03.4**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.3,baz=175,slow=13,SNR=3.1						
BRTR	**Keskin Array B**	**22.35**	**307**	P	**P**	**16 19 05.6**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.3,baz=129,slow=13,SNR=4.5						
BVAR	**Borovoye Array**	**26.70**	**18**	P	**P**	**16 19 46.5**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.3,baz=206,slow=9.9,SNR=4.3						
MKAR	**Makanchi Array**	**27.17**	**40**	P	**P**	**16 19 50.8**	**-0.8**
	comp=Z,0.3nm,0.9s,mb2.8,baz=225,slow=12,SNR=3.3						
FINES	**FINESS Array B**	**39.01**	**337**	P	**P**	**16 21 32.9**	**-1.8**
	comp=Z,1.0nm,0.5s,mb3.8,baz=126,slow=7.2,SNR=8.7						
TORD	**Torodi Ar. Bea**	**53.34**	**266**	P	**P**	**16 23 24.2**	**-3.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=63,slow=6.5,SNR=5.1						

IDC 24 16:22:46.8±1.6, 105S×12774E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=152.1km s-min=21.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.86**	**161**	P	Pn	16 27 19.7	-1.1
	0.1nm,0.3s,baz=340,slow=12,SNR=11						
ASAR	**Alice Springs**	**23.26**	**166**	P	P	16 27 56.6	+0.7
	0.3nm,0.3s,baz=345,slow=12,SNR=12						
ASAR				PcP	PcP	16 31 42.9	-0.7
	0.1nm,0.5s,baz=355,slow=2.0,SNR=4.1						
MKAR	**Makanchi Array**	**62.05**	**326**	P	P	16 33 09.8	+0.7
	1.0nm,0.6s,baz=120,slow=8.7,SNR=14						
BVAR	**Borovoye Array**	**71.86**	**328**	P	P	16 34 11.1	-0.4
	0.3nm,0.6s,baz=123,slow=7.4,SNR=4.7						

*NEIC **24** 16:30:22.5, 3860S×17578E, h138km, MG4.0(WEL), After WEL.*

WEL 24 16:30:21.5±0.4, 3853S×17580E, h149km±3km, ML4.0/17, 6C, Error ellipse: s-maj=2.2km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.61**	**195**	PN	Pn	16 30 43.6	+0.3
WTVZ	**West Tongariro**	**0.61**	**195**	P	Pn	16 30 42.6	-0.6
TWVZ	**Taurewa**	**0.61**	**207**	PN	Pn	16 30 43.3	+0.1
TWVZ	**Taurewa**	**0.61**	**207**	P	Pn	16 30 42.4	-0.8
OTVZ	**Oturere**	**0.64**	**189**	PN	Pn	16 30 43.9	+0.4
WPVZ	**Whakapapa**	**0.70**	**196**	PN	Pn	16 30 44.1	+0.3
WPVZ				SN	Sn	16 31 01.9	+1.1
WPVZ	**Whakapapa**	**0.70**	**196**	P	Pn	16 30 43.0	-0.8
HIZ	**Hauiti**	**0.74**	**271**	⇑PN	Pn	16 30 44.0	0.0
HIZ	**Hauiti**	**0.74**	**271**	P	Pn	16 30 44.1	+0.1
TUVZ	**Tukino**	**0.75**	**188**	PN	Pn	16 30 44.4	+0.3
TUVZ	**Tukino**	**0.75**	**188**	P	Pn	16 30 43.5	-0.6
FWVZ	**Far West T-bar**	**0.75**	**195**	PN	Pn	16 30 44.5	+0.4
FWVZ	**Far West T-bar**	**0.75**	**195**	P	Pn	16 30 43.5	-0.6
TRVZ	**Turoa**	**0.85**	**194**	PN	Pn	16 30 44.9	+0.5
WNVZ	**Wahianoa**	**0.81**	**191**	⇑PN	Pn	16 30 44.9	+0.3
WNVZ	**Wahianoa**	**0.81**	**191**	P	Pn	16 30 43.9	-0.7
BKZ	**Black Stump Fm**	**0.84**	**140**	PN	Pn	16 30 45.1	+0.3
BKZ				SN	Sn	16 31 02.5	-0.1
BKZ	**Black Stump Fm**	**0.84**	**140**	P	Pn	16 30 45.2	+0.4
BKZ				S	Sn	16 31 02.6	+0.1
PKVZ	**Pokaka**	**0.84**	**205**	PN	Pn	16 30 44.8	0.0
MOVZ	**Moawhango**	**0.88**	**182**	⇑PN	Pn	16 30 45.0	-0.1
MOVZ	**Moawhango**	**0.88**	**182**	P	Pn	16 30 44.0	-1.1
MTVZ	**Mangateitei**	**0.89**	**196**	PN	Pn	16 30 45.3	+0.1
VRZ	**Vera Road**	**1.01**	**233**	PN	Pn	16 30 45.9	-0.2
VRZ	**Vera Road**	**1.01**	**233**	P	Pn	16 30 45.9	-0.2
URZ	**Urewera**	**1.07**	**76**	PN	Pn	16 30 46.4	-0.2
URZ				SN	Sn	16 31 05.6	-0.3
URZ	**Urewera**	**1.07**	**76**	P	Pn	16 30 46.7	0.0
MWZ	**Matawai**	**1.37**	**82**	PN	Pn	16 30 49.8	+0.2
MWZ				SN	Sn	16 31 10.6	-0.5
MWZ	**Matawai**	**1.37**	**82**	*e*P	Pn	16 30 50.0	+0.4
MWZ				S	Sn	16 31 11.1	0.0
WAZ	**Wanganui**	**1.38**	**207**	PN	Pn	16 30 48.9	-0.8
WAZ	**Wanganui**	**1.38**	**207**	*e*P	Pn	16 30 49.4	-0.2
TSZ	**Takapari Road**	**1.54**	**175**	⇑PN	Pn	16 30 50.9	-0.4
TSZ	**Takapari Road**	**1.54**	**175**	P	Pn	16 30 50.9	-0.4
KNZ	**Kokohu**	**1.55**	**109**	PN	Pn	16 30 51.9	+0.5
KNZ	**Kokohu**	**1.55**	**109**	*e*P	Pn	16 30 52.0	+0.6
PXZ	**Pawanui**	**1.71**	**151**	PN	Pn	16 30 53.0	-0.2
PXZ				SN	Sn	16 31 15.2	-2.4
PUZ	**Puketiti**	**1.99**	**78**	PN	Pn	16 30 56.3	-0.1
PUZ	**Puketiti**	**1.99**	**78**	*e*P	Pn	16 30 56.4	+0.1
MRZ	**Mangatainoka R**	**2.14**	**184**	⇑PN	Pn	16 30 56.5	-1.6
MRZ				SN	Sn	16 31 22.3	-4.0
MRZ	**Mangatainoka R**	**2.14**	**184**	P	Pn	16 30 56.4	-1.7
BFZ	**Birch Farm**	**2.18**	**171**	PN	Pn	16 30 57.3	-1.3
BFZ	**Birch Farm**	**2.18**	**171**	P	Pn	16 30 57.3	-1.3
MXZ	**Matakaoa Point**	**2.20**	**65**	PN	Pn	16 30 59.2	+0.3
MXZ	**Matakaoa Point**	**2.20**	**65**	P	Pn	16 30 59.3	+0.4
KIW	**Kapiti Island**	**2.43**	**196**	PN	Pn	16 30 59.3	-2.3
KIW	**Kapiti Island**	**2.43**	**196**	P	Pn	16 30 59.4	-2.2
MTW	**Mount Morrison**	**2.64**	**185**	PN	Pn	16 31 01.6	-2.6
MTW	**Mount Morrison**	**2.64**	**185**	P	Pn	16 31 00.6	-3.6
CAW	**Cannon Point**	**2.64**	**192**	PN	Pn	16 31 01.7	-2.5
CAW	**Cannon Point**	**2.64**	**192**	P	Pn	16 31 00.7	-3.5
DUWZ	**D'Urville Isla**	**2.69**	**212**	PN	Pn	16 31 02.0	-2.9
MRW	**Makara Radio**	**2.83**	**197**	PN	Pn	16 31 03.7	-2.9
MRW	**Makara Radio**	**2.83**	**197**	P	Pn	16 31 03.9	-2.7
PAWZ	**Paruwai Farm**	**2.87**	**186**	PN	Pn	16 31 04.1	-2.9
PAWZ	**Paruwai Farm**	**2.87**	**186**	P	Pn	16 31 03.3	-3.7
TRWZ	**Traveller**	**2.87**	**182**	PN	Pn	16 31 04.5	-2.6
SNZO	**South Karori**	**2.90**	**196**	PN	Pn	16 31 04.5	-3.0
SNZO	**South Karori**	**2.90**	**196**	P	Pn	16 31 04.6	-2.9
MSWZ	**Moikau Station**	**2.91**	**188**	⇑PN	Pn	16 31 04.8	-2.9
MSWZ				SN	Sn	16 31 37.6	-5.8
MSWZ	**Moikau Station**	**2.91**	**188**	P	Pn	16 31 03.8	-3.9
TCW	**Tory Channel**	**2.92**	**203**	PN	Pn	16 31 04.9	-2.9
TCW	**Tory Channel**	**2.92**	**203**	P	Pn	16 31 05.0	-2.8
TUWZ	**Tuamarina**	**3.23**	**206**	PN	Pn	16 31 08.1	-3.5
NNZ	**Nelson**	**3.27**	**214**	PN	Pn	16 31 08.8	-3.4
NNZ				SN	Sn	16 31 46.5	-4.9
NNZ	**Nelson**	**3.27**	**214**	*e*P	Pn	16 31 08.8	-3.4
QRZ	**Quartz Range**	**3.41**	**227**	PN	Pn	16 31 10.0	-4.0
QRZ	**Quartz Range**	**3.41**	**227**	*e*P	Pn	16 31 10.1	-3.9
THZ	**Tophouse**	**3.92**	**214**	*e*P	Pn	16 31 15.7	-4.9
KHZ	**Kahutara**	**4.25**	**203**	PN	Pn	16 31 21.2	-3.7
KHZ	**Kahutara**	**4.25**	**203**	*e*P	Pn	16 31 21.3	-3.6
DSZ	**Denniston Nort**	**4.44**	**222**	*e*PN	Pn	16 31 22.0	-5.3
LTZ	**Lake Taylor**	**5.03**	**211**	*e*PN	Pn	16 31 30.0	-5.1
LTZ				SN	Sn	16 32 23.3	-9.4
MQZ	**McQueen's Vall**	**5.69**	**204**	PN	Pn	16 31 38.0	-6.0
WVZ	**Waitaha Valley**	**5.95**	**219**	SN	Sn	16 32 45.0	-10
ODZ	**Otahua Downs**	**7.56**	**209**	*e*PN	Pn	16 32 03.2	-5.8

*NEIC **24** 16:41:24.6, 3229S×7184W, h25km, ML2.7(GUC), After GUC.*

GUC 24 16:41:24.6±0.8, 3229S×7184W, h25km±17km, MD3.6, ML2.7, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.50**	**36**	⇑*i*P	Pb	16 41 34.6	-0.3
CHNG				*i* S	Sb	16 41 42.2	+0.4
CHNG				AMP		16 41 42.7	
	comp=E,450nm,0.5s						
ROCH	**El Roble**	**0.98**	**134**	*i* S	Sb	16 41 55.9	+0.6
JACH	**Jahuel**	**1.13**	**111**	⇑*i*P	Pn	16 41 44.5	-0.2
JACH				*i* S	Sn	16 41 59.3	-0.1
LCCH	**Las Cruces**	**1.20**	**169**	*e*P	Pn	16 41 45.1	-0.7
LCCH				*e*S	Sn	16 42 01.2	-0.1
PEL	**Peldehue**	**1.29**	**131**	*e*P	Pn	16 41 47.3	+0.3
PEL				*i* S	Sn	16 42 04.4	+0.9
PEL				AMP		16 42 07.8	
	comp=N,326nm,0.3s						
PEL	**Peldehue**	**1.29**	**131**	*e*P	Pn	16 41 47.3	+0.3
PEL				*i* S	Sn	16 42 04.4	+0.9
CMCH	**Combarbala**	**1.33**	**33**	⇓*i*P	Pn	16 41 47.7	+0.2
CMCH				*i* S	Sn	16 42 04.9	+0.6
CMCH				AMP		16 42 12.5	
	comp=E,507nm,0.7s						
CMCH	**Combarbala**	**1.33**	**33**	⇓*i*P	Pn	16 41 47.7	+0.2
CMCH				*i* S	Sn	16 42 04.9	+0.6
RCDM	**Rinconada Maip**	**1.48**	**144**	*e*P	Pn	16 41 50.5	+1.0
RCDM				*i* S	Sn	16 42 09.6	+1.5
RCDM				AMP		16 42 11.9	
	comp=E,192nm,0.1s						
RCDM	**Rinconada Maip**	**1.48**	**144**	*e*P	Pn	16 41 50.5	+1.0
RCDM				*i* S	Sn	16 42 09.6	+1.5
TACH	**Talagante**	**1.56**	**151**	*e*S	Sn	16 42 11.3	+1.3
FCH	**Farellones**	**1.67**	**129**	*e*P	Pn	16 41 53.2	+1.1
FCH				*i* S	Sn	16 42 15.8	+3.1
FCH				AMP		16 42 18.1	
	comp=E,88nm,0.3s						
LNV	**Longovilo**	**1.70**	**168**	*i* S	Sn	16 42 14.9	+1.4
CHCH	**Chadas Angostu**	**1.92**	**149**	*e*P	Pn	16 41 57.6	+2.0

MEX 24 16:41:36.3±0.9, 1569N×9906W, h16km±24km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.14**	**52**	*e*P	Pn	16 41 53.6	-3.9
PNIG				*i* S	Sb	16 42 07.9	-4.3
ACX	**Acapulco**	**1.43**	**325**	*i* P	Pn	16 41 58.0	-3.6
ACX				*i* S	Sn	16 42 14.5	-5.6
MEIG	**Mezcala**	**2.29**	**347**	*e*P	Pn	16 42 09.9	-3.5
MEIG				*i* S	Sn	16 42 37.4	-3.9
UTMO	**Huajuapan**	**2.45**	**29**	*e*P	Pn	16 42 12.4	-3.2
UTMO				*i* S	Sn	16 42 40.6	-4.5
VHO	**Vista Hermosa**	**2.62**	**58**	*i* P	Pn	16 42 17.1	-0.9
VHO				*i* S	Sn	16 42 44.8	-4.7
OXX	**Oaxaca**	**2.64**	**58**	*e*P	Pn	16 42 16.5	-1.7
PLIG	**Platanillo**	**2.72**	**351**	*i* P	Pn	16 42 18.5	-0.8
PLIG				*i* S	Sn	16 42 49.9	-2.0
PPM	**Popocatepetl**	**3.39**	**7**	*e*P	Pn	16 42 27.4	-1.1
PPM				*i* S	Sn	16 43 05.7	-2.6
CMIG	**Matias Romero**	**4.25**	**70**	*e*P	Pn	16 42 37.3	-3.0
CMIG				*e*S	Sn	16 43 26.3	-3.2
MOIG	**Morelia**	**4.46**	**333**	*i* S	Sn	16 43 30.5	-4.2

*CSEM **24** 17:02:07.5±1.0, 3578N×1268W, h10km, mb4.6/3, Error ellipse: s-maj=24.9km s-min=17.3km az=145.0*

MDD 24 17:02:04.6±3.5, 3543N×1302W, h0km, mb4.6/3, Error ellipse: s-maj=49.4km s-min=30.2km az=148.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**4.06**	**57**	*e*Pn	Pn	17 03 07.3	-0.6
PTEO				*e*Sn	Sn	17 03 53.1	-3.0
PBEJ	**Beja**	**4.89**	**56**	*e*Pn	Pn	17 03 18.9	-0.4
EGRO	**El Granado**	**4.94**	**63**	P	Pn	17 03 18.9	-1.0
	1.9nm,0.1s,SNR=16						
EGRO				S	Sn	17 04 13.2	-4.6
	1.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.94**	**63**	P	Pn	17 03 18.9	-1.0
	1.9nm,0.1s,SNR=16						
EGRO				S	Sn	17 04 13.2	-4.5
	1.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.62**	**64**	P	Pn	17 03 27.8	-1.5
	3.3nm,0.1s,SNR=36						
EMIN				S	Sn	17 04 28.6	-6.0
	0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.62**	**64**	P	Pn	17 03 27.8	-1.5
	3.3nm,0.1s,SNR=36						
EMIN				S	Sn	17 04 28.6	-6.0
	0.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.84**	**54**	P	Pn	17 03 31.2	-1.2
	0.8nm,0.1s,SNR=7.8						
EBAD				S	Sn	17 04 34.7	-5.4
	1.7nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**5.84**	**54**	P	Pn	17 03 31.2	-1.2
	0.8nm,0.1s,SNR=7.8						
EBAD				S	Sn	17 04 34.7	-5.3
	1.7nm,0.3s,SNR=7.9						
ESPR	**Espera**	**5.98**	**74**	P	Pn	17 03 32.5	-1.7
	3.5nm,0.2s,SNR=7.9						
ESPR				S	Sn	17 04 38.3	-5.1
	4.1nm,0.3s,SNR=7.9						
ESPR	**Espera**	**5.98**	**74**	P	Pn	17 03 32.5	-1.7
	3.5nm,0.2s,SNR=7.9						
ESPR				S	Sn	17 04 38.3	-5.1
	4.1nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**6.65**	**64**	P	Pn	17 03 41.9	-1.6
	0.4nm,0.1s,SNR=9.5						
ECAB				S	Sn	17 04 54.4	-5.7
	0.6nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**6.65**	**64**	P	Pn	17 03 41.9	-1.6
	0.4nm,0.1s,SNR=9.5						
ECAB				S	Sn	17 04 54.4	-5.7
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.31**	**66**	P	Pn	17 03 50.7	-1.8
	0.8nm,0.1s,SNR=5.9						
EADA				S	Sn	17 05 10.4	-5.7
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.31**	**66**	P	Pn	17 03 50.7	-1.8
	0.8nm,0.1s,SNR=5.9						
EADA				S	Sn	17 05 10.4	-5.8
	0.3nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**7.51**	**30**	S	Sn	17 05 13.5	-7.7
	0.9nm,0.2s,SNR=7.9						

*ISCJB **24** 17:09:38.2±2.5, 1820S±009×1676E±02, h49km±21km, mb3.7/5, MS3.4/1, Error ellipse: s-maj=37.0km s-min=15.3km az=176.2*
*IDC **24** 17:09:38.8±3.5, 1817S×16772E, h43km±31km, mb3.6/5, mb1 4.0/7, mb1mx3.8/15, mbtmp4.1/7, ML4.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/19, Error ellipse: s-maj=40.1km s-min=21.9km az=94.0*
*NEIC **24** 17:09:39.7±1.8, 1815S×16769E, h52km±14km, Error ellipse: s-maj=26.6km s-min=13.9km az=86.0*

ISC 24 17:09:39.3±2.3, 1820S±009×1678E±02, h50km±18km, n10, σ0°77/12, mb3.7/5, MS3.4/1, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.04**	**198**	P	**Pn**	**17 10 39.7**	**+1.1**
	13nm,0.3s,baz=27,slow=18,SNR=79						
DZM				S	**Sn**	**17 11 24.7**	**0.0**
	17nm,0.3s,baz=138,slow=23,SNR=10						
DZM	**Mont Dzumac**	**4.04**	**198**	*e*P	**Pn**	**17 10 39.7**	**+1.1**
DZM				*e*S	**Sn**	**17 11 22.7**	**-1.9**
HNR	**Honiara**	**11.55**	**318**	P	**Pn**	**17 12 20.9**	**-0.6**
	14nm,0.3s,baz=114,slow=1.0,SNR=10						
HNR	**Honiara**	**11.55**	**318**	P	**Pn**	**17 12 20.9**	**-0.6**
HNR				*e*Pn	**Pn**	**17 12 21.6**	**+0.1**
STKA	**Stephens Creek**	**27.25**	**235**	P	**P**	**17 15 18.4**	**-0.3**
	0.9nm,0.6s,mb3.5,baz=58,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**31.60**	**261**	P	**P**	**17 15 56.8**	**-0.5**
	0.3nm,0.5s,mb3.4,baz=85,slow=8.3,SNR=8.6						
ASAR	**Alice Springs**	**32.03**	**254**	P	**P**	**17 16

MAN ***24*** *17:26:09.2, 631N×12574E, h151km, mb4.2, ML5.1, MS1.5*
ISC 24 17:26:04.3±1.2, 612N±007×1265E±01, h84km±10km, n29, σ1§32/30, mb3.9/16, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.31**	**316**		Pn	**Pn**	**17 26 24.9**	**-2.5**
KCP	**Kidapawan**	**1.65**	**302⇑**	*eP*		**Pn**	**17 26 34.1**	**+2.3**
KCP				*i* S		**Sn**	**17 26 53.1**	**+0.6**
BUKP	**Musuan**	**2.25**	**321**	*eP*		**Pn**	**17 26 38.5**	**-1.1**
CGP	**Cagayan de Oro**	**2.93**	**322⇑**	*eP*		**Pn**	**17 26 49.3**	**+0.5**
CGP				*i* S		**Sn**	**17 27 24.3**	**+1.3**
BUTP	**Butuan**	**2.96**	**343**	*eP*		**Pn**	**17 26 47.5**	**-1.6**
PAGZ	**Pagadian**	**3.54**	**299**	*eP*		**Pn**	**17 26 54.9**	**-2.1**
SCPH	**Surigao**	**3.77**	**345⇑**	*eP*		**Pn**	**17 27 03.6**	**+3.5**
MSLP	**Maasin**	**4.30**	**338**	*eP*		**Pn**	**17 27 08.5**	**+1.1**
QIZ	**Qiongzhong**	**20.68**	**310**	P		**P**	**17 30 41.4**	**+4.0**
20nm,1.1s								
FITZ	**Fitzroy Crossi**	**24.08**	**182**	P		**P**	**17 31 11.6**	**-0.2**
1.3nm,0.3s,mb3.7,baz=323,slow=15,SNR=6.5								
WRAB	**Tennant Creek**	**27.02**	**164**	*eP*		**P**	**17 31 39.4**	**+1.0**
193nm,2.4s,mb5.2								
WRA	**Warramunga Arr**	**27.02**	**164**	P		**P**	**17 31 38.8**	**+0.4**
1.2nm,0.4s,mb3.8,baz=342,slow=10,SNR=39								
ASAR	**Alice Springs**	**30.48**	**167**	P		**P**	**17 32 09.8**	**+0.7**
1.4nm,0.5s,mb3.8,baz=343,slow=7.0,SNR=43								
ASAR				PcP		PcP	17 35 07.8	+1.4
0.4nm,0.6s,baz=354,slow=2.6,SNR=8.3								
NWAO	**Narrogin (SRO)**	**39.82**	**192**	P		**P**	**17 33 29.4**	**+0.2**
6.8nm,0.9s,mb4.5,baz=29,slow=8.0,SNR=6.6								
NWAO	**Narrogin (SRO)**	**39.82**	**192**	P		**P**	**17 33 29.4**	**+0.2**
STKA	**Stephens Creek**	**40.44**	**160**	P		**P**	**17 33 33.6**	**-0.7**
1.5nm,0.5s,mb4.1,baz=341,slow=7.5,SNR=4.4								
STKA				PcP		PcP	17 35 34.5	-1.2
2.0nm,0.7s,baz=313,slow=8.2,SNR=3.4								
STKA	**Stephens Creek**	**40.44**	**160**	P		**P**	**17 33 33.4**	**-0.9**
ULN	**Ulaanbaatar**	**44.79**	**341**	P		**P**	**17 34 11.5**	**+1.9**
0.9nm,0.7s,mb3.6								
SONM	**Songino Array**	**44.98**	**341**	P		**P**	**17 34 11.5**	**+0.5**
0.3nm,0.5s,mb3.3,baz=166,slow=7.4,SNR=3.0								
MKAR	**Makanchi Array**	**55.48**	**324**	P		**P**	**17 35 29.4**	**-1.0**
0.5nm,0.7s,mb3.7,baz=125,slow=7.3,SNR=7.0								
MKAR				PcP		PcP	17 36 29.3	-0.2
0.6nm,0.7s,baz=131,slow=3.7,SNR=5.0								
MKAR	**Makanchi Array**	**55.48**	**324**	P		**P**	**17 35 29.4**	**-1.0**
MKAR				PcP		PcP	17 36 29.3	-0.2
BVAR	**Borovoye Array**	**65.21**	**326**	P		**P**	**17 36 35.2**	**-1.5**
0.6nm,0.6s,mb3.6,baz=141,slow=7.4,SNR=2.4								
BRVK	**Borovoye**	**65.28**	**326**	P		**P**	**17 36 36.1**	**-1.0**
2.5nm,0.9s,mb4.0								
ZRNK	**Zerenda**	**65.94**	**326**	*eP*		**P**	**17 36 43.5**	**+2.1**
1.4nm,0.6s,mb4.0								
ILAR	**Eielson Array**	**83.06**	**26**	P		**P**	**17 38 21.6**	**+1.1**
0.5nm,0.6s,mb3.5,baz=244,slow=5.5,SNR=13								
VNDA	**Vanda**	**85.81**	**173**	P		**P**	**17 38 34.3**	**0.0**
0.6nm,0.7s,mb3.6,baz=337,slow=4.9,SNR=4.3								
ARCES	**ARCESS Array B**	**88.14**	**340**	P		**P**	**17 38 44.5**	**-1.2**
2.8nm,0.8s,mb4.3,baz=67,slow=7.0,SNR=4.3								
FINES	**FINESS Array B**	**89.63**	**332**	P		**P**	**17 38 50.8**	**-1.9**
1.3nm,0.9s,mb4.1,baz=49,slow=5.8,SNR=4.8								
TORD	**Torodi Ar. Bea**	**121.93**	**290**	PKP		PKPdf	17 44 49.6	+0.8
0.7nm,0.6s,baz=65,slow=2.0,SNR=8.9								

BJI ***24*** *17:46:47.7, 1688S×17508E, h15km, mB5.6, mb5.2, Ms5.8, Msz5.5*
IDC ***24*** *17:46:48.2±0.4, 1669S×17434E, h0km, mb4.9/18, mb1 5.0/20, mb1mx5.0/22, mbtmp4.9/20, ML4.3/2, MS5.5/27, Ms1 5.5/27, ms1mx5.5/27, Error ellipse: s-maj=11.2km s-min=10.3km az=167.0*
LDG ***24*** *17:46:48.6±0.2, 1722S×17463E, h10km, Mb5.4/3, Ms5.5/9, Error ellipse: s-maj=19.5km s-min=3.5km az=137.0*
NEIC ***24*** *17:46:49.8±3.1, 1689S×17450E, h10km±19km, mb5.8/82, ME6.7, MS5.6/143, MW6.0, Error ellipse: s-maj=7.6km s-min=4.8km az=155.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^18Nm; Mrr0.03; Mθθ-0.27; Mφφ0.24; Mrθ-0.01; Mθφ1.14; Mφr0.34; Best double couple: M0 1.20000×10^18 NP1:φs353.00000°, δ88.00000°, λ164.00000°. NP2:φs84.00000°, δ74.00000°, λ2.00000°. Principal axes: T 1.2100, Plg13.0000°, Azm307.0000°; N 0.0100, Plg74.0000°, Azm167.0000°; P -1.2300, Plg10.0000°, Azm40.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*
MOS ***24*** *17:46:49.6±1.7, 1674S×17450E, h10km, mb6.0/37, MS5.6/56 Error ellipse: s-maj=7.7km s-min=7.4km az=61.3*
HRVD ***24*** *17:46:49.8±0.1, 1663S×17454E, h16km, MW6.0/105, Centroid moment Tensor Solution. LP body waves: s105,c237;Mantle waves: s105,c368; Half duration: 2≤3 Moment tensor: Scale 10^18Nm; Mrr-0.02±.01; Mθθ0.20±.01; Mφφ-0.17±.01; Mrθ-0.14±.03; Mθφ1.04±.01; Mφr-0.02±.03; Best double couple: M0 1.06500×10^18 NP1:φs185.00000°, δ83.00000°, λ179.00000°. NP2: φs275.00000°, δ89.00000°, λ7.00000°. Principal axes: T 1.0780, Plg6.0000°, Azm140.0000°; N -0.0250, Plg83.0000°, Azm286.0000°; P -1.0530, Plg4.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF ***24*** *17:46:51.3, 1825S×175.12E, h33km, mb5.7, Fiji Islands region*
ISCJB ***24*** *17:46:53.0±0.1, 1687S±003×17442E±003, h39km, mb5.6/118, MS5.6/186, Error ellipse: s-maj=5.1km s-min=4.1km az=100.2*
ORF ***24*** *17:46:57.5, 2058S×16741E, h30km, mb6.2*
ISC 24 17:46:54.9±0.1, 1686S±003×17450E±003, h41km, h41km±1.8km: pP-P, n553, σ1§21/289, mb5.6/118, MS5.6/186, 11C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**6.03**	**261⇑**	*iP*		**Pn**	**17 48 22.6**	**+1.1**
DZM	**Mont Dzumac**	**9.20**	**234**	Pn		**Pn**	**17 49 03.5**	**-1.4**
2.6nm,0.3s,baz=67,slow=16,SNR=26								
DZM	**Mont Dzumac**	**9.20**	**234**	*eP*		**Pn**	**17 49 02.3**	**-2.6**
FUNA	**Funafuti**	**9.47**	**30**	*ePn*		**Pn**	**17 49 00.9**	**-7.7**
AFI	**Afiamalu**	**13.56**	**79**	Pn		**Pn**	**17 50 02.1**	**-2.5**
0.9nm,0.3s,baz=87,slow=23,SNR=18								
AFI	**Afiamalu**	**13.56**	**79**	*ePn*		**Pn**	**17 50 01.3**	**-3.2**
2μm,1.8s								
AFI	**Afiamalu**	**13.56**	**79**	*eP*		**Pn**	**17 50 01.3**	**-3.2**
AFI				pmax		pmax		
comp=Z,2μm,1.8s								
RAO	**Raoul Island**	**14.16**	**152**	Pn		**Pn**	**17 50 12.8**	**0.0**
comp=Z,53nm,0.3s,baz=59,slow=22,SNR=4.2								
RAO				LR		LR	17 54 28.3	
comp=Z,53μm,18.5s,baz=343,slow=32								
RAO	**Raoul Island**	**14.16**	**152**	*ePn*		**Pn**	**17 50 13.5**	**+0.6**
comp=Z,3μm,1.5s								
RAO	**Raoul Island**	**14.16**	**152**	*eP*		**Pn**	**17 50 13.5**	**+0.7**
RAO				pmax		pmax		
comp=Z,3μm,1.5s								
HNR	**Honiara**	**15.97**	**296**	Pn		**Pn**	**17 50 31.2**	**-5.3**
comp=Z,1.3nm,0.3s,baz=92,slow=18,SNR=1.9								
HNR				Sn		**Sn**	**17 53 37.9**	**+5.4**
comp=Z,1.2nm,0.3s,baz=265,slow=5.1,SNR=1.9								
HNR	**Honiara**	**15.97**	**296**	*ePn*		**Pn**	**17 50 35.5**	**-1.0**
comp=Z,225nm,1.1s								
HNR				Sn		**Sn**	**17 53 37.9**	**+5.4**
HNR	**Honiara**	**15.97**	**296**	*eP**		**Pn**	**17 50 35.5**	**-1.1**
HNR							17 53 37.9	
HNR				pmax		pmax		
comp=Z,225nm,1.1s								
WCZ	**Waipu Caves**	**19.01**	**180**	PN		**Pn**	**17 51 15.9**	**+1.8**
KUZ	**Kuaotunu**	**19.84**	**177**	PN		**Pn**	**17 51 25.6**	**+1.5**
PUZ	**Puketiti**	**21.39**	**172**	PN		**P**	**17 51 39.1**	**+0.2**
URZ	**Urewera**	**21.44**	**174**	P		**P**	**17 51 40.1**	**+0.5**
comp=Z,104nm,0.9s,mb5.2,baz=27,slow=3.8,SNR=24								
URZ				S		**S**	**17 55 40.8**	**+5.7**
comp=Z,15nm,1.2s,baz=167,slow=14,SNR=2.3								
URZ				LR		LR	17 58 29.7	
comp=Z,19μm,18.2s,MS5.5,baz=3.1,slow=32								
URZ	**Urewera**	**21.44**	**174**	PN		**P**	**17 51 41.3**	**+1.7**
HIZ	**Hauiti**	**21.58**	**179**	PN		**P**	**17 51 42.3**	**+1.4**
VRZ	**Vera Road**	**22.19**	**179**	PN		**P**	**17 51 48.1**	**+0.6**
NNZ	**Nelson**	**24.29**	**182**	PN		**P**	**17 52 07.8**	**-0.6**
SNZO	**South Karori**	**24.37**	**180**	PFAKE			17 52 20.0	+11
SNZO				LR		LR		
comp=Z,16μm,21.0s,MS5.5								
RAR	**Rarotonga**	**24.69**	**104**	P		**P**	**17 52 13.0**	**+1.0**
comp=Z,23nm,0.6s,mb4.9,baz=244,slow=0.6,SNR=4.2								
RAR				S		**S**	**17 56 40.9**	**+10**
comp=Z,16nm,0.7s,baz=112,slow=11,SNR=2.2								
RAR				LR		LR	17 59 37.7	
comp=Z,9μm,21.7s,MS5.2,baz=282,slow=31								
RAR	**Rarotonga**	**24.69**	**104**	P		**P**	**17 52 13.0**	**+1.0**
RAR				S		**S**	**17 56 40.9**	**+10**
ARMA	**Armidale**	**24.86**	**233**	*eP*		**P**	**17 52 14.5**	**+1.0**
ARMA				*eS*		**S**	**17 56 40.1**	**+6.4**
WVZ	**Waitaha Valley**	**26.33**	**186**	PN		**P**	**17 52 28.6**	**+1.8**
RPZ	**Rata Peaks**	**26.93**	**186**	LR		LR	18 02 04.5	
comp=Z,23μm,19.0s,MS5.8,baz=2.4,slow=34								
RPZ	**Rata Peaks**	**26.93**	**186**	*ePN*		**P**	**17 52 32.6**	**+0.4**
CTA	**Charters Tower**	**26.97**	**259**	*eP*		**P**	**17 52 32.5**	**-0.1**
comp=Z,31nm,0.9s,mb4.8								
CTA				*eS*		**S**	**17 57 20.0**	**+13**
CTA	**Charters Tower**	**26.97**	**259**	P		**P**	**17 52 31.1**	**-1.5**
comp=Z,24nm,0.8s,mb4.8,baz=83,slow=12,SNR=11								
CTA				LR		LR	18 01 49.6	
comp=Z,8μm,20.0s,MS5.3,baz=85,slow=34								
CTA	**Charters Tower**	**26.97**	**259**	*eP*		**P**	**17 52 32.5**	**-0.1**
CTA				pmax		pmax		
comp=Z,31nm,0.9s								
CTAO	**Charters Tower**	**26.97**	**259**	*ePn*		**P**	**17 52 32.4**	**-0.2**
comp=Z,56nm,1.0s,mb5.0								
CTAO				LR		LR		
comp=Z,9μm,19.0s,MS5.3								
CTAO	**Charters Tower**	**26.97**	**259**	*eP*		**P**	**17 52 32.4**	**-0.2**
CTAO				pmax		pmax		
comp=Z,56nm,1.0s,mb5.0								
CTAO				MLR		MLR		
comp=Z,9μm,19.0s,MS5.3								
PMG	**Port Moresby**	**27.61**	**282**	P		**P**	**17 52 36.2**	**-2.1**
comp=Z,8.8nm,0.9s,baz=162,slow=3.2,SNR=3.1								
PMG				LR		LR	18 00 40.2	
comp=Z,15μm,18.5s,MS5.6,baz=80,slow=30								
PMG	**Port Moresby**	**27.61**	**282⇓**	*eP*		**P**	**17 52 37.2**	**-1.1**
comp=Z,65nm,1.2s,mb5.1								
PMG				LR		LR		
comp=Z,16μm,20.0s,MS5.6								
PMG	**Port Moresby**	**27.61**	**282⇓**	*eP*		**P**	**17 52 37.2**	**-1.2**
PMG				pmax		pmax		
comp=Z,65nm,1.2s								
PMG				MLR		MLR		
comp=Z,16μm,20.0s								
MLZ	**Mavora Lakes**	**28.89**	**189**	PN		**P**	**17 52 50.6**	**+0.9**
CNB	**Canberra Magne**	**28.98**	**226**	*eP*		**P**	**17 52 51.3**	**+0.8**
comp=Z,70nm,1.1s,mb5.3								
TUZ	**Tuapeka**	**29.29**	**187**	*ePN*		**P**	**17 52 53.4**	**0.0**
TOO	**Toolangi**	**32.81**	**225**	*eP*		**P**	**17 53 25.1**	**+0.7**
comp=Z,30nm,1.1s,mb5.1								
TOO				*eS*		**S**	**17 58 39.1**	**+0.4**
TOO	**Toolangi**	**32.81**	**225**	*eP*		**P**	**17 53 25.1**	**+0.7**
TOO				*eS*		**S**	**17 58 39.1**	**+0.4**
TOO				pmax		pmax		
comp=Z,30nm,1.1s,mb5.1								
STKA	**Stephens Creek**	**33.34**	**237**	*eP*		**P**	**17 53 27.2**	**-1.7**
comp=Z,21nm,0.9s,mb5.1								
STKA				*eS*		**S**	**17 58 47.7**	**+0.9**
STKA	**Stephens Creek**	**33.34**	**237**	P		**P**	**17 53 27.3**	**-1.6**
comp=Z,16nm,0.9s,mb5.0,baz=58,slow=7.4,SNR=23								
STKA				S		**S**	**17 58 50.9**	**+4.1**
comp=Z,1.2nm,0.8s,baz=357,slow=18,SNR=2.1								
STKA				LR		LR	18 06 11.5	
comp=Z,17μm,18.8s,MS5.8,baz=64,slow=35								
PAE	**Paea**	**34.28**	**97**	*eP*		**P**	**17 53 40.4**	**+3.3**
comp=Z,134nm,1.3s,mb5.7								
PPT	**Papeete**	**34.29**	**97**	*eP*		**P**	**17 53 41.1**	**+3.9**
comp=Z,130nm,1.5s,mb5.6								
PPT	**Papeete**	**34.29**	**97**	*eS*		**S**	**17 59 06.1**	**+4.5**
comp=Z,1μm,23.5s								
PPT				*eLQ*			18 01 22.0	
comp=Z,52μm,26.2s								
PPT				*eLR*		LR	18 02 50.5	
comp=Z,15μm,23.5s,baz=256								
PPT	**Papeete**	**34.29**	**97**	LR		LR	18 04 03.9	
comp=Z,9μm,20.7s,MS5.5,baz=263,slow=30								
TBI	**Tubuai**	**34.39**	**107**	*eS*		**S**	**17 59 07.3**	**+4.2**
comp=Z,2μm,25.0s								
TBI				*eLQ*			18 01 22.5	
comp=Z,35μm,29.0s								
TBI				*eLR*		LR	18 02 45.2	
comp=Z,16μm,31.5s,baz=278								
TVO	**Taravao**	**34.59**	**97**	*eP*		**P**	**17 53 43.4**	**+3.6**
comp=Z,157nm,1.2s,mb5.8								
TAU	**Tasmania Unive**	**34.78**	**216**	PFAKE			17 53 50.0	+8.6
TAU				LR		LR		
comp=Z,12μm,19.0s,MS5.7								
PMOR	**Pomariorio Ree**	**36.18**	**92**	*eP*		**P**	**17 53 57.1**	**+3.7**
comp=Z,300nm,1.4s,mb6.0								
WAKE	**Wake Island**	**36.73**	**348**	PFAKE			17 54 10.0	+12
WAKE				LR		LR		
comp=Z,6μm,21.0s,MS5.3								
WB2	**Warramunga Arr**	**38.16**	**259**	*eP*		**P**	**17 54 08.0**	**-2.2**
WB2				*eS*		**S**	**18 00 02.9**	**+2.3**
WRAB	**Tennant Creek**	**38.16**	**259**	P		**P**	**17 54 08.0**	**-2.2**
comp=Z,121nm,0.8s,mb5.7,SNR=7.9								
WRAB	**Tennant Creek**	**38.16**	**259**	*eP*		**P**	**17 54 08.3**	**-1.9**
comp=Z,32nm,0.8s,mb5.1								
WRAB				LR		LR		
comp=Z,6μm,22.0s,MS5.3								
WRAB	**Tennant Creek**	**38.16**	**259**	*eP*		**P**	**17 54 08.3**	**-1.9**
WRAB				pmax		pmax		
comp=Z,32nm,0.8s,mb5.1								
WRAB				MLR		MLR		
comp=Z,6μm,22.0s,MS5.3								
WRA	**Warramunga Arr**	**38.17**	**259**	P		**P**	**17 54 08.6**	**-1.7**
comp=Z,12nm,0.8s,mb4.7,baz=91,slow=8.7,SNR=112								
ASAR	**Alice Springs**	**38.58**	**253**	P		**P**	**17 54 12.4**	**-1.3**
comp=Z,22nm,0.8s,mb4.9,baz=83,slow=8.9,SNR=262								
ASAR				PcP		PcP	17 56 26.3	+0.6
comp=Z,11nm,0.9s,baz=96,slow=3.6,SNR=6.9								
KAKA	**Kakadu**	**40.82**	**270**	*eP*		**P**	**17 54 31.0**	**-1.4**
comp=Z,14nm,0.9s,mb4.6								
GUMO	**Guam**	**42.09**	**314**	LR		LR	18 11 11.6	
comp=Z,5μm,18.3s,MS5.4,baz=141,slow=35								
GUMO	**Guam**	**42.09**	**314**	PFAKE			17 54 50.0	+7.2
GUMO				LR		LR		
comp=Z,4μm,19.0s,MS5.4								
FORT	**Forrest**	**44.38**	**243**	*eP*		**P**	**17 55 00.5**	**-0.8**
comp=Z,68nm,1.0s,mb5.3								
FORT				*eS*		**S**	**18 01 38.0**	**+5.0**
TAOE	**Nuku Hiva Isla**	**44.84**	**86**	*eLR*		LR	18 07 29.6	
comp=Z,39μm,29.2s,baz=262								
FITZ	**Fitzroy Crossi**	**46.51**	**261**	*eP*		**P**	**17 55 18.0**	**-0.2**
comp=Z,39nm,1.1s,mb5.2								
FITZ				*i* S		**S**	**18 02 06.9**	**+3.2**
FITZ	**Fitzroy Crossi**	**46.51**	**261**	P		**P**	**17 55 17.7**	**-0.5**
comp=Z,10.0nm,0.9s,mb4.7,baz=91,slow=11,SNR=9.4								
FITZ				LR		LR	18 14 42.3	
comp=Z,5μm,18.4s,MS5.5,baz=93,slow=36								
POHA	**Pohakuloa**	**46.81**	**40**	PFAKE			17 55 30.0	+10
POHA				LR		LR		
comp=Z,6μm,20.0s,MS5.5								
RKT	**Rikitea**	**47.71**	**106**	*eS*		**S**	**18 02 25.5**	**+4.8**
comp=Z,1μm,25.0s								
RKT				*eLR*		LR	18 08 54.6	
comp=Z,11μm,29.5s,baz=273								
MBWA	**Marble Bar**	**51.75**	**256**	*eP*		**P**	**17 55 56.9**	**-1.4**
comp=Z,52nm,1.3s,mb5.3								
MBWA				LR		LR		
comp=Z,4μm,21.0s,MS5.5								
KLBR	**Kellerberrin**	**53.25**	**243**	*eP*		**P**	**17 56 08.3**	**-1.0**
comp=Z,84nm,1.1s,mb5.6								
NWAO	**Narrogin (SRO)**	**53.74**	**241**	P		**P**	**17 56 12.2**	**-0.7**
comp=Z,28nm,0.9s,mb5.2,baz=83,slow=7.5,SNR=7.7								
NWAO				LR		LR	18 17 29.5	
comp=Z,18μm,21.4s,MS6.1,baz=83,slow=34								
NWAO	**Narrogin (SRO)**	**53.74**	**241**	*eP*		**P**	**17 56 12.0**	**-0.9**
comp=Z,39nm,0.9s,mb5.3								
NWAO				LR		LR		
comp=Z,14μm,22.0s,MS6.0								
NWAO	**Narrogin (SRO)**	**53.74**	**241**	P		**P**	**17 56 12.7**	**-0.2**
NWAO				pmax		pmax		
comp=Z,39nm,1.0s								
CBIJ	**Chichi jima**	**53.78**	**324**	LR		LR	18 16 16.9	
comp=Z,2μm,21.2s,MS5.2,baz=139,slow=33								
DAV	**Davao City (W)**	**53.89**	**292**	PFAKE			17 56 30.0	+16
DAV				LR		LR		
comp=Z,2μm,19.0s,MS5.3								
DRV	**Dumont d'Urvil**	**54.63**	**196**	P		**P**	**17 56 16.0**	**-3.4**
DRV				S		**S**	**18 04 02.0**	**+5.6**
DRV				L			18 09 00.0	
MSLP	**Maasin**	**55.93**	**295**	*eP*		**P**	**17 56 30.0**	**+1.2**
TBP	**Tagbilaran**	**56.59**	**294**	*eP*		**P**	**17 56 31.6**	**-1.9**
VNDA	**Vanda**	**61.01**	**183**	P		**P**	**17 57 02.7**	**-1.5**
comp=Z,8.9nm,1.1s,mb4.8,baz=357,slow=6.0,SNR=11								
VNDA				LR		LR	18 19 47.2	
comp=Z,1μm,19.2s,MS5.0,baz=22,slow=32								
VNDA	**Vanda**	**61.01**	**183**	*eP*		**P**	**17 57 02.2**	**-2.0**
comp=Z,83nm,1.7s,mb5.6								
VNDA				LR		LR		
comp=Z,2μm,19.0s,MS5.3								
VNDA	**Vanda**	**61.01**	**183**	*eP*		**P**	**17 57 02.2**	**-2.0**
VNDA				pmax		pmax		
comp=Z,83nm,1.7s								
VNDA				MLR		MLR		
comp=Z,2μm,19.0s								
SBA	**Scott Base**	**61.14**	**182**	*eP*		**P**	**17 57 04.1**	**-1.0**
comp=Z,210nm,1.6s,mb6.0								
SBA				LR		LR		
comp=Z,3μm,20.0s,MS5.4								
SBA	**Scott Base**	**61.14**	**182**	*eP*		**P**	**17 57 04.1**	**-0.9**
SBA				pmax		pmax		
comp=Z,210nm,1.6s,mb6.0								
SBA				MLR		MLR		
comp=Z,3μm,20.0s,MS5.4								
TGY	**Tagaytay City**	**61.18**	**297**	LR		LR	18 19 25.5	
comp=Z,15nm,20.8s,baz=70,slow=32								
KKM	**Kota Kinabalu**	**61.93**	**287**	*eP*		**P**	**17 57 11.3**	**+0.9**
MJAR	**Matsushiro Arr**	**63.21**	**328**	P		**P**	**17 57 16.7**	**-2.2**
comp=Z,15nm,0.9s,mb5.1,baz=156,slow=7.7,SNR=11								
MJAR				LR		LR	18 20 05.0	
comp=Z,2μm,20.4s,MS5.3,baz=125,slow=32								
MAJO	**Matsushiro**	**63.21**	**328**	*eP*		**P**	**17 57 19.2**	**+0.3**
comp=Z,117nm,1.6s,mb5.8								
MAJO				LR		LR		
comp=Z,3μm,21.0s,MS5.4								
MAJO	**Matsushiro**	**63.21**	**328**	*eP*		**P**	**17 57 19.2**	**+0.3**
MAJO				pmax		pmax		
comp=Z,117nm,1.6s,mb5.8								
MAJO				MLR		MLR		
comp=Z,3μm,21.0s,MS5.4								
MAT	**Matsushiro**	**63.21**	**328**	P		**P**	**17 57 18.7**	**-0.2**
MAT				S		**S**	**18 05 49.0**	**+1.4**
MAT	**Matsushiro**	**63.21**	**328**	*eP*		**P**	**17 57 19.0**	**+0.1**
comp=Z,92nm,1.5s,mb5.7								
MAT				*eS*		**S**	**18 05 49.0**	**+1.4**
MAT				LR		LR		
comp=Z,2μm,20.0s,MS5.3								
MAT	**Matsushiro**	**63.21**	**328**	*eP*		**P**	**17 57 19.0**	**+0.1**
MAT				*eS*		**S**	**18 05 49.0**	**+1.4**
MAT				pmax		pmax		
comp=Z,92nm,1.5s,mb5.7								
MAT				MLR		MLR		
comp=Z,2μm,20.0s,MS5.3								
CASY	**Casey**	**64.30**	**204**	*eP*		**P**	**17 57 25.4**	**-0.7**
JNU	**Nakatsue**	**64.85**	**320**	P		**P**	**17 57 29.2**	**-0.5**
comp=Z,34nm,1.0s,mb5.3,baz=248,slow=0.7,SNR=5.4								
TATO	**Taipei**	**66.31**	**308**	PFAKE			17 57 50.0	+11
TATO				LR		LR		
comp=Z,12μm,22.0s,MS6.1								
QZH	**Quanzhou**	**68.51**	**306**	P		**P**	**17 57 55.6**	**+2.6**
QZH				S		S	18 06 56.5	+4.4
QZH				AMB		AMB		
comp=Z,110nm,1.1s,mb5.7								
QZH				AMB		AMB		
comp=Z,1μm,3.1s								
QZH				LR		LR		
comp=N,7μm,21.7s,MS6.1								
QZH				LR		LR		
comp=E,10μm,24.2s,MS6.1								
QZH				LR		LR		
comp=Z,13μm,40.1s								
SMY	**Shemya**	**69.30**	**360**	PFAKE			17 58 10.0	+12
SMY				LR		LR		
comp=Z,2μm,20.0s,MS5.4								
YSS	**Yuzh-Sakhalins**	**69.64**	**337**	*eP*		**P**	**17 58 02.7**	**+2.6**
YSS				LR		LR		
comp=Z,6μm,21.0s,MS5.8								
YSS	**Yuzh-Sakhalins**	**69.64**	**337**	*eP*		**P**	**17 58 02.0**	**+1.9**
YSS				*e*			18 00 36.0	
YSS				*eS*		S	18 07 09.0	+3.5
YSS				*ePPS*			18 07 42.0	
YSS				MLR		MLR		
comp=Z,2μm,18.0s,MS5.5								
YSS				MLR		MLR		
comp=N,2μm,20.0s								
SSE	**Sheshan**	**69.96**	**313**	*eP*		**P**	**17 58 02.8**	**+0.8**
SSE				AP		pP	17 58 14.8	+0.7
SSE				PCP		PcP	17 58 24.8	+0.7
SSE				PP		PP	18 00 36.1	-0.9
SSE				S		S	18 07 10.8	+1.5
SSE				XS		sS	18 07 30.3	+1.0
SSE				SCS		ScS	18 08 01.4	+0.4
SSE				AMB		AMB		
comp=Z,27nm,0.7s,mb5.3								
SSE

MDJ AP pP 17 58 37.1 +1.2
MDJ PP PP 18 01 09.0 +0.9
MDJ S S 18 07 59.6 +8.7
MDJ SS SS 18 12 43.3 +8.9
MDJ AMB AMB
comp=Z,338nm,8.1s
MDJ LR LR
comp=N,1μm,32.2s,MS5.2
MDJ LR LR
comp=E,2μm,34.4s,MS5.2
MDJ LR LR
comp=Z,2μm,35.2s,MS5.2
MDJ Mudanjiang 73.58 328 *e*P **P 17 58 24.6 +0.9**
comp=Z,100nm,1.9s,mb5.4
MDJ LR LR
comp=Z,2μm,19.0s,MS5.4
HABR Khabarovsk 73.92 334 *e*P **P 17 58 26.7 +1.0**
HABR *e*S S 18 07 57.8 +3.0
DL2 Dalian 74.29 320 P **P 17 58 31.3 +3.4**
DL2 AP pP 17 58 36.9 -3.2
DL2 XP sP 17 58 40.8 -3.9
DL2 S S 18 08 04.4 +5.5
DL2 SKS 18 08 32.5
DL2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
DL2 AMB AMB
comp=Z,160nm,3.2s
DL2 LR LR
comp=N,480nm,19.0s,MS5.2
DL2 LR LR
comp=E,950nm,19.7s,MS5.2
DL2 LR LR
comp=Z,940nm,18.5s,MS5.1
WHN Wuhan 74.61 309 *e*P **P 17 58 31.5 +1.8**
WHN S S 18 08 08.0 +5.6
WHN LR LR
comp=Z,13μm,24.2s,MS6.1
COCO West Island 74.90 262 PFAKE 17 58 40.0 +8.6
COCO LR LR
comp=Z,3μm,20.0s,MS5.5
SNY Shenyang 74.95 323 ⇑P **P 17 58 33.3 +1.6**
SNY S S 18 08 13.6 +7.3
SNY XS sS 18 08 20.1 -6.4
SNY SCS ScS 18 08 37.9 -2.8
SNY SS SS 18 12 56.8 +1.6
SNY AMB AMB
comp=Z,38nm,2.0s,mb5.0
SNY AMB AMB
comp=Z,665nm,3.8s
SNY LR LR
comp=N,934nm,17.2s,MS5.4
SNY LR LR
comp=E,1μm,18.2s,MS5.4
SNY LR LR
comp=Z,2μm,18.8s,MS5.4
CN2 Changchun 75.19 326 *e*P **P 17 58 34.0 +0.9**
CN2 *e*AP pP 17 58 45.5 +0.2
CN2 *e*S S 18 08 09.8 +0.9
CN2 *e*SS SS 18 13 05.0 +6.2
CN2 AMB AMB
comp=Z,30nm,1.4s,mb5.0
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,21.0s,MS5.5
CN2 LR LR
comp=E,2μm,21.0s,MS5.5
CN2 LR LR
comp=Z,2μm,23.0s,MS5.3
TIA Tai'an 75.64 315 *e*P **P 17 58 37.5 +1.8**
KLR Kul'dur 75.92 333 *e*P **P 17 58 33.3 -4.0**
KLR *e* 17 58 34.0
KLR *e*S S 18 08 20.0 +3.0
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,100nm,2.0s,mb5.4
KLR smax
comp=N,2μm,9.0s
KLR smax
comp=E,600nm,9.0s
KULM Kulim 76.18 280 *e*P **P 17 58 38.5 -0.3**
PSI Prapat 77.04 277 P **P 17 58 42.2 -1.4**
comp=E,11nm,0.9s,mb4.8,baz=198,slow=6.4,SNR=6.1
KKTK Khon Kaen 77.97 291 P **P 17 58 51.0 +2.2**
ENH Enshi 78.15 307 *e*P **P 17 58 49.3 -0.5**
comp=E,130nm,1.6s,mb5.6
ENH LR LR
comp=Z,5μm,22.0s,MS5.8
BJT Baijiatuau 78.38 318 *e*P **P 17 58 51.7 +0.7**
comp=Z,12nm,0.6s,mb5.0
BJT LR LR
comp=Z,2μm,19.0s,MS5.5
BJT Baijiatuau 78.38 318 *e*P **P 17 58 51.7 +0.6**
BJT pmax pmax
comp=Z,12nm,0.6s
BJT MLR MLR
comp=Z,2μm,19.0s
BJI Beijing 78.38 318 P **P 17 58 52.9 +1.8**
BJI AP pP 17 59 04.3 +1.0
BJI S S 18 08 46.4 +2.6
BJI AMB AMB
comp=Z,32nm,2.0s,mb4.9
BJI AMB AMB
comp=Z,421nm,2.8s,mb5.9
BJI LR LR
comp=N,2μm,19.3s,MS5.5
BJI LR LR
comp=E,1μm,17.8s,MS5.5
BJI LR LR
comp=Z,4μm,32.6s
MA2 Magadan 78.58 348 *e*P **P 17 58 48.9 -3.3**
comp=Z,93nm,1.9s,mb5.4
MA2 LR LR
comp=Z,2μm,20.0s,MS5.5
MA2 Magadan 78.58 348 *e*P **P 17 58 48.9 -3.3**
MA2 pmax pmax
comp=Z,93nm,1.9s,mb5.4
MA2 MLR MLR
comp=Z,2μm,20.0s,MS5.5
GYA Guiyang 78.69 302 ⇓*i*P **P 17 58 54.0 +1.2**
GYA AP pP 17 59 04.4 -0.6
GYA XP sP 17 59 08.8 -0.8
GYA PP PP 18 01 56.8 +5.7
GYA S S 18 08 55.5 +8.5
GYA SKS 18 09 03.6
GYA SS SS 18 14 03.6 +12
GYA AMB AMB
comp=Z,30nm,1.4s,mb5.0
GYA AMB AMB
comp=Z,450nm,7.5s
GYA LR LR
comp=N,900nm,23.1s,MS5.5
GYA LR LR
comp=E,2μm,21.6s,MS5.5
GYA LR LR
comp=Z,2μm,22.5s,MS5.5
NST Nakhon Sawan 80.14 290 P **P 17 59 00.0 -0.7**
SNCC San Nicolas Is 80.25 51 PFAKE 17 59 10.0 +8.7
SNCC LR LR
comp=Z,4μm,19.0s,MS5.8
XAN Xi'an 80.32 310 P **P 17 59 02.6 +1.0**
XAN S S 18 09 05.5 +1.2
XAN LR LR
comp=N,2μm,24.5s,MS5.6
XAN LR LR
comp=E,3μm,27.1s,MS5.6
XAN LR LR
comp=Z,4μm,25.1s,MS5.7
HOPS Hopland 80.52 44 PFAKE 17 59 10.0 +7.3
HOPS LR LR
comp=Z,3μm,22.0s,MS5.6
SAO San Andreas Ge 80.52 47 *e*P **P 17 59 01.9 -0.9**
comp=Z,238nm,2.1s,mb5.8
SAO LR LR
comp=Z,4μm,20.0s,MS5.7
SAO San Andreas Ge 80.52 47 *e*P **P 17 59 01.9 -0.8**
SAO pmax pmax
comp=Z,238nm,2.1s,mb5.8
SAO MLR MLR
comp=Z,4μm,20.0s,MS5.7
LRV Little Rabbit 80.66 48 *e*P **P 17 59 06.6 +3.1**
KIPM Iron Peak 80.66 44 *e*P **P 17 59 06.0 +2.5**
KMI Kunming 81.37 299 P **P 17 59 09.3 +2.0**
KMI AMB AMB
comp=Z,262nm,4.0s
KMI LR LR
comp=N,2μm,19.3s,MS5.5
KMI LR LR
comp=E,2μm,22.2s,MS5.5
KMI LR LR
comp=Z,2μm,22.3s,MS5.5
SEY Seymchan 81.40 350 *e*P **P 17 59 08.4 +1.0**
SEY Seymchan 81.40 350 *e*P **P 17 59 05.2 -2.2**
SEY *e*S S 18 09 10.5 -5.1
SEY *e*SSS 18 18 02.6
SEY pmax pmax
comp=Z,85nm,1.4s,mb5.5
SEY pmax pmax
comp=N,20nm,1.1s
SEY pmax pmax
comp=E,16nm,1.6s
SEY smax
comp=N,610nm,10.1s
SEY smax
comp=E,652nm,8.9s
SEY MLR MLR
comp=Z,1μm,20.0s,MS5.3
SEY MLR MLR
comp=N,240nm,15.0s,MS5.2
SEY MLR MLR
comp=E,795nm,19.0s,MS5.2
WDC Whiskeytown Da 81.68 43 *e*P **P 17 59 08.6 -0.3**
comp=E,160nm,1.8s,mb5.7
WDC LR LR
comp=Z,3μm,21.0s,MS5.6
WDC Whiskeytown Da 81.68 43 *e*P **P 17 59 08.6 -0.3**
WDC pmax pmax
comp=Z,160nm,1.8s,mb5.7
WDC MLR MLR
comp=Z,3μm,21.0s,MS5.6
HIA Hailar 81.71 327 *e*P **P 17 59 09.6 +0.5**
comp=Z,13nm,1.2s,mb4.7
HIA LR LR
comp=Z,3μm,20.0s,MS5.6
HIA Hailar 81.71 327 *e*P **P 17 59 09.6 +0.5**
HIA pmax pmax
comp=Z,13nm,1.2s
HIA MLR MLR
comp=Z,3μm,20.0s
OHCM Honcut 81.76 45 *e*P **P 17 59 09.1 -0.2**
MWC Mount Wilson 81.78 51 *e*P **P 17 59 08.9 -0.5**
HHC Hu-ho-hao-te 81.79 317 *e*P **P 17 59 11.3 +1.8**
HHC PP PP 18 02 21.9 +5.0
HHC S S 18 09 21.4 +1.8
HHC SKS 18 09 23.4
HHC SS SS 18 14 44.4 +6.3
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,421nm,3.1s
HHC LR LR
comp=N,1μm,22.1s,MS5.5
HHC LR LR
comp=E,2μm,23.5s,MS5.5
HHC LR LR
comp=Z,2μm,25.0s,MS5.4
CMB Columbia Colle 81.88 46 *e*P **P 17 59 09.7 -0.2**
comp=Z,91nm,1.6s,mb5.5
CMB LR LR
comp=Z,3μm,20.0s,MS5.6
CMB Columbia Colle 81.88 46 *e*P **P 17 59 09.7 -0.2**
CMB pmax pmax
comp=Z,91nm,1.6s,mb5.5
CMB MLR MLR
comp=Z,3μm,20.0s,MS5.6
BAR Barrett 82.14 53 *e*P **P 17 59 11.5 +0.2**
YBH Yreka Blue Hor 82.15 42 LR LR 18 26 58.8
comp=Z,2μm,21.7s,MS5.5,baz=239,slow=29
YBH Yreka Blue Hor 82.15 42 *e*P **P 17 59 11.0 -0.4**
comp=Z,83nm,1.5s,mb5.4
YBH LR LR
comp=Z,3μm,21.0s,MS5.6
YBH Yreka Blue Hor 82.15 42 *e*P **P 17 59 11.0 -0.4**
YBH pmax pmax
comp=Z,83nm,1.5s
YBH MLR MLR
comp=Z,3μm,21.0s
SLKM Skilak Lake 82.17 17 *e*P **P 17 59 09.1 -2.4**
CHG Chiang Mai 82.31 292 ⇑PN **P 17 59 11.5 -0.7**
HUMO Hull Mountain 82.44 41 *e*P **P 17 59 12.8 0.0**
comp=Z,47nm,1.4s,mb5.2
HUMO LR LR
comp=Z,3μm,20.0s,MS5.6
MAW Mawson 82.47 201 P **P 17 59 12.9 -0.2**
comp=Z,6.7nm,0.8s,mb4.6,baz=130,slow=11,SNR=3.6
MAW LR LR 18 34 09.6
comp=Z,2μm,18.5s,MS5.5,baz=277,slow=34
BTO Baotou 82.69 316 *e*P **P 17 59 11.9 -2.3**
PFO Pinyon Flat Ob 82.71 52 P **P 17 59 16.1 +1.8**
comp=Z,170nm,1.7s,mb5.8,SNR=11
PFO Pinyon Flat Ob 82.71 52 *e*P **P 17 59 14.2 -0.1**
comp=Z,367nm,2.3s,mb6.0
PFO LR LR
comp=Z,4μm,20.0s,MS5.8
PFO Pinyon Flat Ob 82.71 52 *e*P **P 17 59 14.2 -0.1**
PFO pmax pmax
comp=Z,367nm,2.3s,mb6.0
PFO MLR MLR
comp=Z,4μm,20.0s,MS5.8
FIB Fire Island 82.73 16 *e*P **P 17 59 13.4 -1.0**
comp=Z,266nm,1.6s,mb6.0
FIB Fire Island 82.73 16 *e*P **P 17 59 13.4 -1.0**
FIB pmax pmax
comp=Z,266nm,1.6s,mb6.0
TTA Tatalina 82.82 13 *e*P **P 17 59 13.6 -1.2**
MTUM Tungsten Hills 82.83 48 *e*P **P 17 59 15.2 +0.3**
CD2 Chengdu 82.87 305 P **P 17 59 15.3 +0.2**
CD2 AP pP 17 59 28.6 +1.2
CD2 PP PP 18 02 28.3 +2.6
CD2 S S 18 09 31.8 +1.2
CD2 XS sS 18 09 52.3 +1.1
CD2 SS SS 18 14 57.3 +3.3
CD2 AMB AMB
comp=Z,240nm,6.4s
CD2 LR LR
comp=E,2μm,22.8s
CD2 LR LR
comp=Z,2μm,24.0s,MS5.4
DAC Darwin (Calif) 83.04 49 *e*P **P 17 59 15.8 -0.2**
comp=Z,138nm,1.7s,mb5.7
DAC LR LR
comp=Z,4μm,22.0s,MS5.7
DAC Darwin (Calif) 83.04 49 *e*P **P 17 59 15.8 -0.2**
DAC pmax pmax
comp=Z,138nm,1.7s,mb5.7
DAC MLR MLR
comp=Z,4μm,22.0s,MS5.7
TNA Tin City 83.24 7 *e*P **P 17 59 14.2 -2.9**
comp=Z,82nm,1.6s,mb5.5
TNA *e*PP PP 18 02 26.6 -2.2
TNA LR LR
comp=Z,1μm,22.0s,MS5.2
COR Corvallis 83.25 40 PFAKE 17 59 30.0 +13
COR LR LR
comp=Z,4μm,20.0s,MS5.8
PAHR Pah Rah Range 83.36 45 *e*P **P 17 59 17.8 +0.2**
comp=Z,354nm,2.0s,mb6.0
PMR Palmer 83.36 17 *e*P **P 17 59 17.9 +0.2**
comp=Z,315nm,1.6s,mb6.1
PMR Palmer 83.36 17 *e*P **P 17 59 17.9 +0.2**
PMR pmax pmax
comp=Z,315nm,1.6s,mb6.1
EYAK Cordova Ski Ar 83.50 19 *e*P **P 17 59 17.6 -0.7**
NVAR Mina Array Bea 83.51 47 P **P 17 59 18.3 -0.1**
comp=Z,22nm,1.1s,mb5.2,baz=220,slow=4.7,SNR=36
NVAR LR LR 18 27 43.5
comp=Z,3μm,22.0s,MS5.7,baz=220,slow=29
BROR Big Rock Looko 83.61 40 P **P 17 59 22.6 +3.7**
MNV Mina 83.61 47 *e*P **P 17 59 18.4 -0.6**
comp=Z,259nm,1.8s,mb6.1
MNV LR LR
comp=Z,4μm,22.0s,MS5.7
MNV Mina 83.61 47 *e*P **P 17 59 18.4 -0.6**
MNV pmax pmax
comp=Z,259nm,1.8s,mb6.1
MNV MLR MLR
comp=Z,4μm,22.0s,MS5.7
SML Sawmill 83.76 17 *e*P **P 17 59 19.4 -0.2**
MOD Modoc 83.80 43 *e*P **P 17 59 19.0 -0.8**
comp=Z,185nm,1.8s,mb5.9
MOD LR LR
comp=Z,2μm,19.0s,MS5.6
DIV Divide 83.95 18 *e*P **P 17 59 18.9 -1.8**
comp=Z,463nm,1.6s,mb6.4
DIV LR LR
comp=Z,7μm,22.0s,MS6.0
CLNS Chul'man 84.25 335 *e*P **P 17 59 22.9 +0.7**
CLNS *e**PP pP 17 59 31.8 -2.7
CLNS *e* 18 02 34.8
CLNS *e*S 18 09 45.3
CLNS pmax pmax
comp=Z,12nm,1.1s,mb4.9
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=E,2.0nm,0.9s
CLNS smax
comp=E,199nm,12.0s
CLNS smax
comp=Z,199nm,11.8s
CLNS smax
comp=N,280nm,11.7s
TPNV Topopah Spring 84.31 49 *e*P **P 17 59 22.1 -0.3**
comp=N,284nm,1.9s,mb6.1
TPNV LR LR
comp=Z,6μm,22.0s,MS5.9
TPNV Topopah Spring 84.31 49 *e*P **P 17 59 22.2 -0.3**
TPNV pmax pmax
comp=Z,284nm,1.9s,mb6.1
TPNV MLR MLR
comp=Z,6μm,22.0s,MS5.9
LDFC Landfair 84.34 51 *e*P **P 17 59 22.0 -0.7**
PINOR Pine Mountain 84.37 41 P **P 17 59 25.2 +2.4**
OCWA Octopus Mounta 84.41 37 PFAKE 17 59 30.0 +7.0
OCWA LR LR
comp=Z,3μm,21.0s,MS5.7
SIT Sitka 84.62 25 PFAKE 17 59 30.0 +5.9
SIT LR LR
comp=Z,2μm,19.0s,MS5.6
VFP Flag Point 84.75 40 P **P 17 59 26.1 +1.3**
NEN Nelson 84.78 51 *e*P **P 17 59 25.0 +0.1**
BILL Bilibino 84.87 357 *e*P **P 17 59 24.2 -1.1**
comp=Z,32nm,1.4s,mb5.2
BILL LR LR
comp=Z,945nm,21.0s,MS5.2
BILL Bilibino 84.87 357 *e*P **P 17 59 24.2 -1.1**
BILL pmax pmax
comp=Z,32nm,1.4s,mb5.3
BILL MLR MLR
comp=Z,945nm,21.0s,MS5.2
LZH Lanzhou 84.96 310 *e*P **P 17 59 28.8 +3.0**
LZH PP PP 18 02 49.0 +6.2
LZH *e*SKS 18 09 45.0
LZH S 18 09 54.0
LZH XS sS 18 10 14.1 +1.9
LZH SS SS 18 15 29.5 +4.6
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,325nm,5.0s
LZH LR LR
comp=E,8μm,18.7s
LZH LR LR
comp=Z,10μm,20.0s,MS6.2
WVOR Wild Horse Val 85.14 43 *e*P **P 17 59 27.8 +1.1**
comp=Z,394nm,1.9s,mb6.2
WVOR LR LR
comp=Z,3μm,19.0s,MS5.7
WVOR Wild Horse Val 85.14 43 *e*P **P 17 59 27.8 +1.1**
WVOR pmax pmax
comp=Z,394nm,1.9s,mb6.2
WVOR MLR MLR
comp=Z,3μm,19.0s,MS5.7
BMN Battle Mountai 85.17 45 *e*P **P 17 59 23.7 -3.1**
comp=Z,148nm,1.5s,mb5.9
BMN *e*PP PP 18 02 43.0 -1.5
BMN LR LR
comp=Z,2μm,22.0s,MS5.5
BMN Battle Mountai 85.17 45 *e*P **P 17 59 23.7 -3.1**
BMN *e* 18 02 43.0
BMN pmax pmax
comp=Z,148nm,1.5s,mb5.9
BMN MLR MLR
comp=Z,2μm,22.0s,MS5.5
MCK McKinley 85.18 15 *e*P **P 17 59 26.4 -0.5**
comp=Z,100nm,1.8s,mb5.7
MCK LR LR
comp=Z,2μm,22.0s,MS5.3
MCK McKinley 85.18 15 *e*P **P 17 59 26.4 -0.5**
MCK pmax pmax
comp=Z,100nm,1.8s,mb5.6
MCK MLR MLR
comp=Z,2μm,22.0s,MS5.3
WPW White Pass 85.39 38 P **P 17 59 29.3 +1.3**
YAK Yakutsk 86.21 341 *e*P **P 17 59 30.7 -1.3**
comp=Z,114nm,1.6s,mb5.8
YAK LR LR
comp=Z,2μm,22.0s,MS5.5
YAK Yakutsk 86.21 341 *e*P **P 17 59 32.9 +0.9**
YAK *e*S 18 10 04.2
YAK *e* 18 11 00.1
YAK *e*SS SS 18 15 45.7 +2.3
YAK pmax pmax
comp=Z,11nm,1.4s,mb4.9
YAK pmax pmax
comp=N,8.0nm,1.9s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,65nm,9.1s
YAK smax
comp=N,575nm,20.1s
RPW Rockport 86.30 37 P **P 17 59 34.5 +2.1**
COLA College 86.39 15 *e*P **P 17 59 30.9 -2.0**
comp=N,75nm,1.5s,mb5.7
COLA LR LR
comp=Z,2μm,22.0s,MS5.5
COLA College 86.39 15 *e*P **P 17 59 30.9 -2.0**
COLA pmax pmax
comp=Z,75nm,1.5s,mb5.7
COLA MLR MLR
comp=Z,2μm,22.0s,MS5.5
HAWA Hanford 86.45 39 *e*P **P 17 59 32.9 -0.3**
comp=Z,11nm,1.6s,mb4.8
HAWA LR LR
comp=Z,219nm,20.0s,MS4.5
CIT Chita 86.52 327 *e*P **P 17 59 34.2 +0.7**
CIT pmax pmax
comp=Z,95nm,2.2s,mb5.6
TUC Tucson 86.54 55 *e*P **P 17 59 33.0 -0.6**
comp=Z,104nm,1.7s,mb5.8
TUC LR LR
comp=Z,3μm,19.0s,MS5.6
TUC Tucson 86.54 55 *e*P **P 17 59 33.0 -0.6**
TUC pmax pmax
comp=Z,104nm,1.7s,mb5.8
TUC MLR MLR
comp=Z,3μm,19.0s,MS5.6
ILAR Eielson Array 86.55 16 P **P 17 59 30.3 -3.3**
comp=Z,6.3nm,0.9s,mb4.9,baz=246,slow=6.3,SNR=28
ILAR LR LR 18 30 59.7
comp=Z,2μm,21.7s,MS5.5,baz=234,slow=31
CCUT Cedar City 86.65 49 *e*P **P 17 59 33.9 -0.2**
ELK Elko 86.66 46 *e*P **P 17 59 33.6 -0.6**
comp=Z,362nm,2.3s,mb6.2
ELK *e*PP PP 18 02 52.8 -3.8
ELK LR LR
comp=Z,3μm,22.0s,MS5.6
ELK Elko 86.66 46 *e*P **P 17 59 33.6 -0.6**
ELK *e* 18 02 52.8
ELK pmax pmax
comp=Z,362nm,2.3s
ELK MLR MLR
comp=Z,3μm,22.0s
ARUT Antelope Range 86.69 49 *e*P **P 17 59 35.0 +0.7**
BMO Blue Mountains 87.11 41 *e*P **P 17 59 36.0 -0.4**
comp=Z,288nm,2.2s,mb6.1
BMO LR LR
comp=Z,4μm,20.0s,MS5.8
WUAZ Wupatki 87.31 52 *e*P **P 17 59 34.5 -2.9**
comp=Z,84nm,1.4s,mb5.8

WUAZ ePP PP 18 03 02.3 +0.5
WUAZ LR LR
comp=Z,5μm,22.0s,MS5.9
PMSA Palmer Station 87.35 159 PFAKE 17 59 50.0 +12
PMSA LR LR
comp=Z,3μm,21.0s,MS5.6
OD2 Odessa Site #2 87.43 39 P **P 17 59 38.9 +0.9**
DLBC Dease Lake 87.69 26 LR LR 18 30 16.9
comp=Z,2μm,20.8s,MS5.4,baz=238,slow=30
DLBC Dease Lake 87.69 26 eP **P 17 59 39.6 +0.4**
MVU Marysvale 87.86 49 eP **P 17 59 49.0 +9.0**
comp=Z,151nm,1.9s,mb5.9
MVU LR LR
comp=Z,4μm,22.0s,MS5.8
MSU Marysvale 87.89 49 eP **P 17 59 40.4 +0.3**
ULN Ulaanbaatar 88.04 322 eP **P 17 59 40.1 -0.7**
comp=Z,24nm,1.3s,mb5.3
ULN LR LR
comp=Z,2μm,19.0s,MS5.5
ULN Ulaanbaatar 88.04 322 eP **P 17 59 41.8 +1.0**
DUG Dugway 88.11 47 eP **P 17 59 41.0 -0.2**
comp=Z,596nm,2.5s,mb6.4
DUG ePP PP 18 03 05.9 -2.4
DUG LR LR
comp=Z,4μm,22.0s,MS5.8
DUG Dugway 88.11 47 eP **P 17 59 41.0 -0.2**
DUG e 18 03 05.9
DUG pmax pmax
comp=Z,596nm,2.5s,mb6.4
DUG MLR MLR
comp=Z,4μm,22.0s,MS5.8
BGU Big Grassy Mou 88.26 46 eP **P 17 59 45.7 +3.9**
BGU ePP PP 18 03 11.6 +2.2
HLID Hailey 88.41 43 eP **P 17 59 42.0 -0.6**
comp=Z,93nm,1.5s,mb5.8
HLID ePP PP 18 03 11.6 +0.9
HLID LR LR
comp=Z,3μm,20.0s,MS5.7
SONM Songino Array 88.42 321 P **P 17 59 41.8 -0.8**
comp=Z,6.5nm,1.0s,mb4.8,baz=145,slow=2.9,SNR=17
SONM LR LR 18 39 51.1
comp=Z,2μm,19.0s,MS5.5,baz=122,slow=36
NLU North Lily Min 88.53 47 eP **P 17 59 40.4 -2.8**
NLU ePP PP 18 03 09.3 -2.3
HVU Hansel Valley 88.78 46 eP **P 17 59 43.4 -0.9**
comp=Z,155nm,1.5s,mb6.1
HVU ePP PP 18 03 09.7 -3.9
HVU Hansel Valley 88.78 46 eP **P 17 59 43.4 -0.9**
HVU e 18 03 09.7
HVU pmax pmax
comp=Z,155nm,1.5s,mb6.1
NEW Newport 88.78 38 LR LR 18 32 22.2
comp=Z,2μm,20.4s,MS5.5,baz=235,slow=31
NEW Newport 88.78 38 eP **P 17 59 43.5 -0.9**
comp=Z,313nm,2.3s,mb6.2
NEW LR LR
comp=Z,3μm,22.0s,MS5.6
NEW Newport 88.78 38 eP **P 17 59 43.5 -0.8**
NEW pmax pmax
comp=Z,313nm,2.3s
NEW MLR MLR
comp=Z,3μm,22.0s
NOQ North Oquirrh 88.78 47 eP **P 17 59 45.6 +1.3**
comp=Z,432nm,1.9s,mb6.5
NOQ ePP PP 18 03 14.4 +0.8
SPUT South Promonto 88.81 46 eP **P 17 59 43.7 -0.8**
SPUT ePP PP 18 03 08.9 -4.9
MPU Maple Canyon 88.87 48 eP **P 17 59 45.1 +0.3**
comp=Z,217nm,1.8s,mb6.2
MPU ePP PP 18 03 14.3 0.0
MPU LR LR
comp=Z,4μm,21.0s,MS5.8
TMUT Trail Mountain 88.89 48 eP **P 17 59 44.9 0.0**
GTA Gaotai 89.22 312 eP **P 17 59 46.5 +0.1**
GTA AP pP 18 00 00.3 +1.5
GTA PP PP 18 03 22.9 +5.8
GTA PPP 18 05 22.3
GTA SKS 18 10 11.6
GTA S 18 10 35.3
GTA XS sS 18 10 46.8 -6.6
GTA SS SS 18 16 36.3 +9.1
GTA AMB AMB
comp=Z,319nm,5.7s
GTA LR LR
comp=N,2μm,26.7s
GTA LR LR
comp=E,2μm,21.0s
GTA LR LR
comp=Z,2μm,20.6s
DAU Daniels Canyon 89.29 47 eP **P 17 59 47.3 +0.5**
DAU ePP PP 18 03 17.9 +0.2
SRU San Rafael 89.31 49 eP **P 17 59 45.9 -1.0**
comp=Z,119nm,1.4s,mb6.0
SRU San Rafael 89.31 49 eP **P 17 59 45.9 -0.9**
SRU pmax pmax
comp=Z,119nm,1.4s,mb6.0
TCUT Toone Canyon 89.46 47 eP **P 17 59 47.0 -0.5**
TCUT ePP PP 18 03 20.1 +1.1
BOD Bodaibo 89.49 332 eP **P 17 59 47.1 -0.6**
BOD pmax pmax
comp=Z,11nm,2.0s,mb4.8
HWUT Hardware Ranch 89.54 46 eP **P 17 59 46.7 -1.2**
comp=Z,80nm,1.6s,mb5.8
HWUT ePP PP 18 03 19.2 -0.4
HWUT LR LR
comp=Z,2μm,21.0s,MS5.5
MCMT McKenzie Canyo 89.96 43 eP **P 17 59 50.1 +0.2**
MSO Missoula 90.09 41 eP **P 17 59 49.5 -1.0**
comp=Z,65nm,1.9s,mb5.6
MSO LR LR
comp=Z,2μm,20.0s,MS5.5
PV10 Paradox Valley 90.12 50 P **P 17 59 49.4 -1.3**
AHID Auburn Hatcher 90.31 45 eP **P 17 59 54.1 +2.6**
comp=Z,125nm,1.6s,mb6.0
AHID LR LR
comp=Z,2μm,22.0s,MS5.4
DLMT Dillon 90.34 42 eP **P 17 59 51.3 -0.4**
comp=Z,105nm,1.4s,mb6.0
PV01 Paradox Valley 90.37 50 eP **P 17 59 51.2 -0.6**
PV01 ePP PP 18 03 24.8 -1.5
CHMT Chamberlain Mo 90.56 41 eP **P 17 59 51.9 -0.7**
MNTX Cornudas Mount 90.61 57 eP **P 17 59 52.4 -0.5**
comp=Z,80nm,1.6s,mb5.8
MNTX LR LR
comp=Z,3μm,20.0s,MS5.7
TPAW Teton Pass 90.69 45 eP **P 17 59 53.8 +0.5**
comp=Z,183nm,2.0s,mb6.1
TPAW ePP PP 18 03 27.8 -1.0
REDW Red Top Meadow 90.71 45 eP **P 17 59 52.7 -0.7**
comp=Z,164nm,1.7s,mb6.1
REDW ePP PP 18 03 28.6 -0.4
SNOW Snow King Moun 90.81 45 eP **P 17 59 54.3 +0.4**
comp=Z,450nm,2.3s,mb6.4
ANMO Albuquerque 90.85 54 LR LR 18 33 18.1
comp=Z,3μm,20.5s,MS5.6,baz=111,slow=31
ANMO Albuquerque 90.85 54 eP **P 17 59 53.8 -0.3**
comp=Z,69nm,1.3s,mb5.8
ANMO ePP PP 18 03 28.9 -1.2
ANMO LR LR
comp=Z,3μm,21.0s,MS5.6
ANMO Albuquerque 90.85 54 eP **P 17 59 53.8 -0.2**
ANMO e 18 03 28.9
ANMO pmax pmax
comp=Z,69nm,1.3s
ANMO MLR MLR
comp=Z,3μm,21.0s
IMW Indian Meadow 90.85 44 eP **P 17 59 54.7 +0.6**
comp=Z,99nm,1.5s,mb5.9
QLMT Earthquake Lak 90.89 43 eP **P 17 59 54.9 +0.7**
MOOW Moose Ponds 90.93 44 eP **P 17 59 54.2 -0.2**
comp=Z,162nm,2.1s,mb6.0
LOHW Long Hollow 90.97 45 eP **P 17 59 54.4 -0.1**
comp=Z,305nm,2.5s,mb6.2
LOHW ePP PP 18 03 30.4 -0.7
BOZ Bozeman (W) 91.08 42 eP **P 17 59 54.8 -0.3**
comp=Z,149nm,1.8s,mb6.0
BOZ ePP PP 18 03 27.9 -4.0
BOZ LR LR
comp=Z,3μm,20.0s,MS5.7
BOZ Bozeman (W) 91.08 42 eP **P 17 59 54.8 -0.3**
BOZ e 18 03 27.9
BOZ pmax pmax
comp=Z,149nm,1.8s,mb6.0
BOZ MLR MLR
comp=Z,3μm,20.0s,MS5.7

FLWY Flagg Ranch 91.08 44 eP **P 17 59 56.0 +0.9**
comp=Z,132nm,1.8s,mb6.0
YMR Madison River 91.13 43 eP **P 17 59 56.9 +1.6**
comp=Z,288nm,2.2s,mb6.2
YMR LR LR
comp=Z,2μm,20.0s,MS5.6
YFT Old Faithful 91.14 44 eP **P 17 59 56.4 +1.0**
LTX Lajitas 91.25 60 eP **P 17 59 55.7 -0.2**
comp=Z,118nm,1.5s,mb6.0
LTX LR LR
comp=Z,5μm,21.0s,MS5.9
LTX Lajitas 91.25 60 eP **P 17 59 55.7 -0.2**
LTX pmax pmax
comp=Z,118nm,1.5s,mb6.0
LTX MLR MLR
comp=Z,5μm,21.0s,MS5.9
BW06 Boulder Array 91.36 46 PFAKE 18 00 10.0 +14
BW06 LR LR
comp=Z,1μm,21.0s,MS5.4
PDAR Pinedale Array 91.36 46 P **P 17 59 55.6 -0.7**
comp=Z,15nm,1.2s,mb5.2,baz=224,slow=4.1,SNR=14
PDAR PKKPbc PKKPbc 18 17 22.6 +5.1
comp=Z,0.8nm,0.9s,baz=72,slow=4.8,SNR=4.2
PDAR LR LR 18 33 43.0
comp=Z,1μm,21.1s,MS5.3,baz=263,slow=31
HRY Holter Researc 91.37 41 eP **P 17 59 56.2 -0.3**
ZAK Zakamensk 91.38 323 eP **P 17 59 56.9 +0.4**
ZAK pmax pmax
comp=Z,45nm,1.9s,mb5.5
LKWY Lake 91.47 44 eP **P 17 59 59.2 +2.3**
comp=Z,24nm,1.3s,mb5.4
LKWY LR LR
comp=Z,3μm,20.0s,MS5.8
LKWY Lake 91.47 44 eP **P 17 59 59.2 +2.3**
LKWY pmax pmax
comp=Z,24nm,1.3s,mb5.4
LKWY MLR MLR
comp=Z,3μm,20.0s,MS5.8
IRK Irkutsk 91.61 325 eP **P 17 59 53.0 -4.5**
IRK pmax pmax
comp=Z,45nm,2.3s,mb5.4
SNAA Sanae 91.67 181 eP **P 17 59 54.5 -3.3**
comp=Z,100nm,1.5s,mb5.9
SNAA Sanae 91.67 181 P **P 17 59 55.8 -2.0**
SNAA pmax pmax
comp=Z,100nm,1.5s
TLY Talaya 91.72 324 eP **P 17 59 58.5 +0.5**
NVL N'lazarevskaya 91.78 186 eP **P 18 00 02.3 +4.0**
NVL eS 18 11 00.9
NVL eSS SS 18 17 20.9 +17
NVL pmax pmax
comp=Z,54nm,1.9s,mb5.5
NVL pmax pmax
comp=Z,2μm,17.5s
SMCO Snowmass 91.91 50 eP **P 17 59 59.2 +0.3**
comp=Z,108nm,1.7s,mb5.9
SMCO ePP PP 18 03 37.9 -0.6
VNA3 Neumayer Olymp 92.08 179 eP **P 17 59 57.6 -2.1**
VNA3 e 17 59 58.7
VNA3 e 18 00 02.1
VNA3 e pP 18 00 09.9 -2.2
VNA3 e 18 00 15.4
VNA3 e 18 00 22.5
GCMT Greycliff 92.41 43 eP **P 18 00 02.5 +1.3**
VNA2 Neumayer--Watz 92.43 179 eP **P 17 59 59.6 -1.7**
VNA2 e 18 00 00.6
VNA2 e 18 00 04.6
VNA2 e pP 18 00 11.4 -2.4
VNA2 e 18 00 17.0
VNA2 e 18 00 23.9
SDCO Great Sand Dun 92.52 51 PFAKE 18 00 10.0 +8.3
SDCO LR LR
comp=Z,4μm,22.0s,MS5.8
RWWY Rawlins 92.61 47 eP **P 18 00 01.6 -0.5**
comp=Z,109nm,1.6s,mb6.0
RWWY ePP PP 18 03 42.8 -1.1
LSA Lhasa 92.61 300 P **P 18 00 05.8 +3.6**
LSA AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
LSA Lhasa 92.61 300 eP **P 18 00 02.4 +0.2**
comp=Z,17nm,1.0s,mb5.4
LSA LR LR
comp=Z,3μm,22.0s,MS5.7
LSA Lhasa 92.61 300 eP **P 18 00 02.4 +0.2**
LSA pmax pmax
comp=Z,17nm,1.0s,mb5.4
LSA MLR MLR
comp=Z,3μm,22.0s,MS5.7
INK Inuvik 92.77 17 LR LR 18 34 48.7
comp=Z,1μm,20.6s,MS5.4,baz=224,slow=31
ISCO Idaho Springs 93.11 49 PFAKE 18 00 20.0 +16
ISCO LR LR
comp=Z,2μm,22.0s,MS5.5
EGMT Eagleton 93.17 41 PFAKE 18 00 20.0 +15
EGMT LR LR
comp=Z,2μm,20.0s,MS5.5
TIXI Tiksi 93.51 347 ePr **P 18 00 06.6 +0.3**
TIXI LR LR
comp=Z,2μm,21.0s,MS5.5
TIXI Tiksi 93.51 347⇓iP **P 18 00 06.1 -0.2**
TIXI e 18 10 35.4
TIXI e 18 11 08.5
TIXI eSP SP 18 12 24.6 -0.1
TIXI eSS SS 18 17 27.1 -2.0
TIXI eSSS 18 21 06.0
TIXI pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
TIXI MLR MLR
comp=Z,788nm,18.0s,MS5.2
JCT Junction City 94.79 60 eP **P 18 00 11.7 -0.5**
comp=Z,83nm,1.8s,mb5.9
JCT LR LR
comp=Z,4μm,20.0s,MS5.9
JCT Junction City 94.79 60 eP **P 18 00 11.7 -0.5**
JCT pmax pmax
comp=Z,83nm,1.8s,mb5.9
JCT MLR MLR
comp=Z,4μm,20.0s,MS5.9
PAYG Puerto Ayora 94.80 92 PFAKE 18 00 20.0 +7.8
PAYG LR LR
comp=Z,2μm,19.0s,MS5.6
LAO LASA Array 94.96 43 P **P 18 00 14.9 +1.9**
comp=Z,127nm,1.7s,mb6.1
LAO LR LR
comp=Z,3μm,20.0s,MS5.8
RSSD Black Hills 95.60 46 eP **P 18 00 14.8 -1.2**
comp=Z,42nm,1.4s,mb5.7
RSSD LR LR
comp=Z,2μm,22.0s,MS5.6
RSSD Black Hills 95.60 46 eP **P 18 00 14.8 -1.1**
RSSD pmax pmax
comp=Z,42nm,1.4s,mb5.7
RSSD MLR MLR
comp=Z,2μm,22.0s,MS5.6
PALK Pallekele 95.69 276 PFAKE 18 00 30.0 +14
PALK LR LR
comp=Z,1μm,20.0s,MS5.4
YKA Yellowknife Ar 96.30 26 P **P 18 00 17.2 -1.9**
comp=Z,4.4nm,0.9s,mb4.9,baz=253,slow=4.1,SNR=24
YKA PP PP 18 04 11.3 -1.5
comp=Z,0.9nm,1.0s,baz=242,slow=7.7,SNR=4.9
YKA LR LR 18 45 03.2
comp=Z,1μm,18.2s,MS5.5,baz=245,slow=36
YKA Yellowknife Ar 96.30 26 P **P 18 00 17.2 -1.9**
YKA 18 04 11.3
WMOK Wichita Mounta 96.80 56 PFAKE 18 00 30.0 +8.7
WMOK LR LR
comp=Z,2μm,19.0s,MS5.6
DGMT Dagmar 96.82 41 PFAKE 18 00 30.0 +8.6
DGMT LR LR
comp=Z,2μm,22.0s,MS5.6
PLCA Paso Flores 96.87 136 LR LR 18 34 53.9
comp=Z,3μm,22.0s,MS5.7,baz=244,slow=30
PLCA Paso Flores 96.87 136 PFAKE 18 00 30.0 +8.3
PLCA LR LR
comp=Z,3μm,21.0s,MS5.8
CBKS Cedar Bluff 97.16 52 PFAKE 18 00 30.0 +7.0
CBKS LR LR
comp=Z,2μm,22.0s,MS5.6
EFI East Falkland 97.87 150 PFAKE 18 00 40.0 +14
EFI LR LR
comp=Z,3μm,20.0s,MS5.8
HKT Hockley 97.95 61 PFAKE 18 00 40.0 +13
HKT LR LR
comp=Z,4μm,20.0s,MS5.9

WMQ Urumqi 99.22 313 eP **P 18 00 31.5 -0.7**
WMQ AP pP 18 00 45.0 +0.3
WMQ PP PP 18 04 37.0 +1.9
WMQ SKS 18 11 04.9
WMQ S 18 11 56.1
WMQ LR LR
comp=N,2μm,24.0s,MS5.8
WMQ LR LR
comp=E,3μm,26.0s,MS5.8
WMQ LR LR
comp=Z,3μm,24.0s,MS5.8
DGAR Diego Garcia 99.28 259 PFAKE 18 00 40.0 +7.5
DGAR LR LR
comp=Z,2μm,20.0s,MS5.7
NATX Nacogdoches 99.38 60 PFAKE 18 00 40.0 +7.1
NATX LR LR
comp=Z,5μm,20.0s,MS6.0
FFC Flin Flon 99.91 36 PFAKE 18 00 50.0 +15
FFC LR LR
comp=Z,3μm,21.0s,MS5.7
MIAR Mount Ida 100.91 57 PFAKE 18 00 50.0 +10
MIAR LR LR
comp=Z,2μm,19.0s,MS5.6
TEIG Tepich 102.25 72 PFAKE 18 01 00.0 +14
TEIG LR LR
comp=Z,339nm,20.0s,MS4.9
ULM Lac du Bonnet 102.53 41 P Pdif 18 00 46.4 -0.6
comp=Z,0.5nm,0.3s,baz=225,slow=1.4,SNR=2.9
JTS JuntasAbangare 102.93 83 PFAKE 18 01 00.0 +11
JTS LR LR
comp=Z,4μm,22.0s,MS5.9
ZAL Zalesovo 103.27 323 Pdiff Pdif 18 00 50.5 +0.3
comp=Z,0.5nm,0.3s,baz=106,slow=21,SNR=2.5
MKAR Makanchi Array 103.58 315 Pdiff Pdif 18 00 52.3 +0.7
comp=Z,0.8nm,0.5s,baz=132,slow=8.8,SNR=16
MKAR PKKPbc PKKPbc 18 16 43.0 -0.9
comp=Z,1.0nm,0.9s,baz=254,slow=3.5,SNR=6.5
MKAR Makanchi Array 103.58 315 Pdif Pdif 18 00 52.3 +0.7
MKAR PKKPbc PKKPbc 18 16 43.0 -0.9
TRQA Tornquist 103.92 137 PFAKE 18 01 00.0 +6.9
TRQA LR LR
comp=Z,4μm,21.0s,MS5.9
OXF Oxford 104.27 58 PFAKE 18 01 10.0 +15
OXF LR LR
comp=Z,3μm,20.0s,MS5.8
HOPE Hope Point 104.35 162 PFAKE 18 01 10.0 +15
HOPE LR LR
comp=Z,4μm,22.0s,MS5.9
EYMN Ely 104.97 44 PFAKE 18 01 10.0 +12
EYMN LR LR
comp=Z,4μm,20.0s,MS5.9
PLAL Pickwick Lake 105.44 58 PFAKE 18 05 20.0 +6.6
PLAL LR LR
comp=Z,3μm,20.0s,MS5.9
WVT Waverly 105.83 57 PFAKE 18 05 30.0 +16
WVT LR LR
comp=Z,2μm,22.0s,MS5.5
LRAL Lakeview Retre 105.98 60 PFAKE 18 05 30.0 +16
LRAL LR LR
comp=Z,3μm,20.0s,MS5.8
OTAV Otavalo 106.38 95 PFAKE 18 05 30.0 +15
OTAV LR LR
comp=Z,1μm,21.0s,MS5.5
KURK Kurchatov 106.55 319 ePKPdf PKiKP 18 05 11.9 -3.5
KURK LR LR
comp=Z,1μm,20.0s,MS5.4
LVC Limon Verde 106.61 120 PFAKE 18 05 30.0 +14
LVC LR LR
comp=Z,1μm,20.0s,MS5.5
WCI Wyandotte Cave 107.36 55 ePKPdf PKiKP 18 05 23.6 +6.7
WCI LR LR
comp=Z,2μm,22.0s,MS5.7
DWPF Disney 109.92 66 PFAKE 18 05 30.0 +8.3
DWPF LR LR
comp=Z,2μm,20.0s,MS5.7
LPAZ La Paz 110.03 115 PFAKE 18 05 30.0 +8.1
LPAZ LR LR
comp=Z,1μm,20.0s,MS5.5
ACSO Alum Creek Sta 110.14 53 PFAKE 18 05 30.0 +7.9
ACSO LR LR
comp=Z,1μm,19.0s,MS5.5
CHKZ Chkalovo 111.61 322 ePKPdf PKiKP 18 05 22.6 -2.3
NHSC New Hope 111.66 61 PFAKE 18 05 40.0 +15
NHSC LR LR
comp=Z,4μm,20.0s,MS5.9
BRVK Borovoye 111.82 321 ePKPdf PKiKP 18 05 26.4 +1.1
BRVK LR LR
comp=Z,1μm,19.0s,MS5.5
BLA Blacksburg 111.87 56 PFAKE 18 05 40.0 +15
BLA LR LR
comp=Z,145nm,20.0s,MS4.6
MCWV Mont Chateau 112.50 54 PFAKE 18 05 40.0 +13
MCWV LR LR
comp=Z,3μm,20.0s,MS5.9
ERPA Erie 112.53 51 PFAKE 18 05 40.0 +13
ERPA LR LR
comp=Z,2μm,22.0s,MS5.7
ZRNK Zerenda 112.60 321 ePKPdf PKiKP 18 05 27.0 +0.2
CBN Corbin 114.35 55 PFAKE 18 05 40.0 +10
CBN LR LR
comp=Z,3μm,20.0s,MS5.9
BINY Binghamton 115.51 51 PFAKE 18 05 40.0 +7.6
BINY LR LR
comp=Z,3μm,22.0s,MS5.9
SDV Santo Domingo 116.24 88 PFAKE 18 05 50.0 +16
SDV LR LR
comp=Z,760nm,21.0s,MS5.3
NCB Newcomb 116.77 49 PFAKE 18 05 50.0 +15
NCB LR LR
comp=Z,3μm,22.0s,MS5.9
KBS Kingsbay 117.35 356 eSS SS 18 22 54.6 0.0
KBS AMS AMS 18 49 39.5
comp=Z,289nm,20.0s,MS4.9
KBS Kingsbay 117.35 356 PFAKE 18 05 50.0 +14
KBS LR LR
comp=Z,931nm,21.0s,MS5.4
SAML Samuel 117.47 110 PFAKE 18 05 50.0 +14
SAML LR LR
comp=Z,944nm,19.0s,MS5.4
ARU Arti 118.19 325 PFAKE 18 05 50.0 +12
ARU LR LR
comp=Z,2μm,21.0s,MS5.7
LBNH Lisbon 118.40 48 PFAKE 18 05 50.0 +12
LBNH LR LR
comp=Z,5μm,20.0s,MS6.1
HRV Harvard--Oak R 118.78 50 PFAKE 18 05 50.0 +11
HRV LR LR
comp=Z,2μm,20.0s,MS5.8
AKTK Aktyubinsk 119.65 319 PKP PKPdf 18 05 39.1 -1.2
AKTO Aktyubinsk 119.65 319 PKP PKPdf 18 05 39.1 -1.2
comp=Z,3.4nm,1.0s,baz=131,slow=7.8,SNR=7.1
SCHQ Schefferville 120.06 36 PFAKE 18 05 50.0 +8.9
SCHQ LR LR
comp=Z,4μm,21.0s,MS6.0
SJG San Juan 122.38 79 PFAKE 18 06 00.0 +14
SJG LR LR
comp=Z,1μm,20.0s,MS5.5
LVZ Lovozero 122.94 343 PFAKE 18 06 00.0 +13
LVZ LR LR
comp=Z,2μm,19.0s,MS5.7
KEV Kevo 123.46 347 PFAKE 18 06 00.0 +12
KEV LR LR
comp=Z,2μm,22.0s,MS5.8
ARCES ARCESS Array B 123.95 347 PKP PKPdf 18 05 48.3 -0.3
comp=Z,2.1nm,0.6s,baz=145,slow=3.3,SNR=3.5
BBSR BB Station 124.65 62 PFAKE 18 06 00.0 +10
BBSR LR LR
comp=Z,1μm,20.0s,MS5.6
SUR Sutherland 124.94 207 PFAKE 18 06 00.0 +10
SUR LR LR
comp=Z,2μm,22.0s,MS5.7
TRO Tromso 125.11 350 eSS SS 18 24 38.3 +4.4
TRO i 18 38 20.6
TRO AMS AMS 18 50 05.5
comp=Z,340nm,19.5s,MS5.0
KLMR Klimovskoe 125.64 335 i PKIKP PKPdf 18 05 53.2 +1.4
KLMR pmax pmax
comp=Z,30nm,1.3s
BDFB Brasilia 127.07 125 PKP PKPdf 18 05 53.4 -1.1
comp=Z,2.0nm,0.4s,baz=88,slow=6.9,SNR=3.5
LBTB Lobatse 128.51 217 PFAKE 18 06 10.0 +13
LBTB LR LR
comp=Z,1μm,21.0s,MS5.6
MOS Moscow 129.27 330 ePKIKP PKPdf 18 05 52.9 -5.8
MOS MLR MLR

comp=Z,2μm,22.4s,MS5.8
OBN Obninsk 130.11 330 *e*PKP PKPdf 18 05 59.3 -1.0
OBN LR LR
comp=Z,2μm,22.0s,MS5.7
OBN Obninsk 130.11 330⇑ *i*PKIKP PKPdf 18 05 57.6 -2.7
OBN *i* 18 08 13.2
OBN *e* 18 13 14.0
OBN *i* PS PS 18 18 20.4 -4.1
OBN *i* SS SS 18 25 42.2 +6.3
OBN *e*SSS 18 30 29.9
OBN pmax pmax
comp=Z,32nm,1.7s
FINES FINESS Array B 130.15 341 PKP PKPdf 18 05 58.1 -2.3
comp=Z,0.7nm,0.8s,baz=20,slow=4.4,SNR=2.6
VOR Voronezh 130.47 325 PKIKP PKPdf 18 06 00.0 -1.0
VOR pmax pmax
comp=Z,80nm,2.0s
ZEI Tsey 130.84 312 *i* PKIKP PKPdf 18 06 04.4 +2.7
GNI Garni 130.88 309 PKP PKPdf 18 06 02.7 +0.9
comp=Z,1.3nm,0.4s,baz=302,slow=15,SNR=3.7
NSS Namsos 130.91 350 AMS AMS 19 03 08.7
comp=Z,1μm,15.0s,MS5.8
KIV Kislovodsk 131.33 314⇑ *e*PKP PKPdf 18 06 05.8 +3.1
KIV LR LR
comp=Z,1μm,21.0s,MS5.5
KIV Kislovodsk 131.33 314*c* *i*PKIKP PKPdf 18 06 05.7 +3.0
KIV MLR MLR
comp=Z,1μm,22.0s,MS5.5
ERZM Erzurum 133.45 309 *i* P PKPdf 18 06 12.8 +6.2
SOC Sochi 133.49 315 *i* PKIKP PKPdf 18 06 13.4 +6.7
SOC *e* 18 08 32.7
SOC *e*SSS 18 31 15.5
SOC MLR MLR
comp=Z,1μm,20.0s,MS5.6
LSZ Lusaka 133.91 228 PFAKE 18 06 20.0 +12
LSZ LR LR
comp=Z,3μm,21.0s,MS6.0
KMBO Kilima Mbogo 134.21 251 PKP PKPdf 18 06 08.6 +0.5
comp=Z,2.8nm,0.9s,baz=36,slow=5.0,SNR=7.5
KMBO Kilima Mbogo 134.21 251 PKIKP PKPdf 18 06 08.6 +0.5
KMBO *e* 18 06 12.2
KMBO MLR MLR
comp=Z,1μm,19.0s
NOA NORSAR Array B 134.28 349 PKP PKPdf 18 06 07.7 -0.5
comp=Z,1.4nm,1.0s,baz=32,slow=2.0,SNR=3.3
NAO01 NORSAR Array S 134.52 349 PFAKE 18 06 20.0 +11
NAO01 LR LR
comp=Z,1μm,21.0s,MS5.7
BER Bergen 135.83 352 *e*SS SS 18 26 47.4 +2.1
BER AMS AMS 18 58 22.5
comp=Z,516nm,18.9s,MS5.3
KONO Kongsberg 135.87 349 *e*SS SS 18 26 48.3 +2.6
KONO Kongsberg 135.87 349 PFAKE 18 06 20.0 +8.8
KONO LR LR
comp=Z,1μm,20.0s,MS5.6
KONO Kongsberg 135.87 349⇑ *i*PKIKP PKPdf 18 06 15.5 +4.3
MALT Malatya 136.09 308 PKPdf PKPdf 18 06 11.9 +0.3
AKASG Malin Array Be 136.30 328 PKP PKPdf 18 06 11.1 -0.8
comp=Z,0.2nm,0.3s,baz=44,slow=2.2,SNR=4.7
TSUM Tsumeb 137.58 213 PFAKE 18 06 30.0 +16
TSUM LR LR
comp=Z,2μm,19.0s,MS5.8
BR131 Keskin Array S 139.13 312 *e*PKPdf PKPdf 18 06 19.1 +1.9
BR131 LR LR
comp=Z,634nm,20.0s,MS5.4
BRTR Keskin Array B 139.13 312 PKP PKPdf 18 06 18.1 +0.9
comp=Z,2.3nm,1.0s,baz=37,slow=0.6,SNR=6.2
ANTO Ankara 139.68 313 PFAKE 18 06 30.0 +12
ANTO LR LR
comp=Z,915nm,22.0s,MS5.5
KDHN Kadinhani 140.69 311 *i* P PKPdf 18 06 15.1 -4.9
KOLS Kolonicke sedl 140.84 331 *e* PKPdf 18 06 28.2 +7.9
STHS Stebnicka Huta 140.96 332 *e*PKP PKPdf 18 06 19.3 -1.2
STHS *e* 18 06 43.8
ESK Eskdalemuir 141.58 358 PFAKE 18 06 30.0 +8.4
ESK LR LR
comp=Z,658nm,19.0s,MS5.4
KSP Ksiaz 141.87 338 *e*PKPdf PKPdf 18 06 20.8 -1.3
KSP *e* 18 32 53.1
OKC Ostrava-Krasne 141.96 335 *e*PKP PKPdf 18 06 28.0 +5.7
OKC AMS AMS 19 04 30.0
comp=Z,3μm,24.3s
KECS Kecovo 141.99 332 *e*PKP PKPdf 18 06 18.7 -3.7
ULDT Uludag 142.09 315 *i* P PKPdf 18 06 23.1 +0.6
TKTP Tekketepe 142.18 311 *i* P PKPdf 18 06 24.6 +1.9
UPC Upice 142.25 338 *e*PKP PKPdf 18 06 24.2 +1.4
MORC Moravsky Berou 142.25 336 *e*PKPdf PKPdf 18 06 20.3 -2.5
DPC Dobruska-Polom 142.26 337 *e*PKP PKPdf 18 06 24.5 +1.7
DPC AMS AMS 19 06 40.0
comp=Z,2μm,24.5s
RCBR Riachuelo 142.43 124 PFAKE 18 06 40.0 +17
RCBR LR LR
comp=Z,482μm,21.0s
CLL Collm 142.59 341 *e*PKPdf PKPdf 18 06 23.2 -0.2
comp=Z,26nm,1.5s
CLL *ep*PKPdf pPKPdf 18 06 37.2 +0.9
CLL *e*PP PP 18 09 34.2 +2.7
CLL *e*SKSac SKSac 18 13 35.9 -0.9
CLL *e*SS SS 18 28 15.5 +11
CLL *e*SSS 18 33 28.0
CLL *e*LQ 18 48 34.4
CLL *e*LR LR 18 54 36.1
CLL *e*L 19 06 37.0
comp=Z,2μm,22.0s
CLL Collm 142.59 341 *e*PKPdf PKPdf 18 06 23.0 -0.4
comp=Z,11nm,1.3s
CLL *i* pPKPdf pPKPdf 18 06 29.0 -7.3
comp=Z,26nm,1.5s
CLL *e*PP PP 18 09 35.0 +3.5
CLL *e*SKSac SKSac 18 13 31.0 -5.8
CLL *e*SSP 18 28 52.0
CLL *e*SSS 18 33 22.0
CLL Collm 142.59 341 *e*PKIKP PKPdf 18 06 23.0 -0.4
CLL *i* 18 06 29.0
CLL *e* 18 13 31.0
CLL MLR MLR
comp=Z,2μm,22.6s,MS5.9
BRG Berggiesshubel 142.66 340 *e*PKP PKPdf 18 06 25.0 +1.5
BRG *ep*PKP pPKPdf 18 06 29.3 -7.1
BRG *e* 18 06 43.2
BRG LR LR
comp=Z,1μm,24.0s,MS5.7
BRG Berggiesshubel 142.66 340 *e*PKIKP PKPdf 18 06 25.0 +1.4
BRG *e* 18 06 29.3
BRG MLR MLR
comp=Z,1μm,24.0s,MS5.7
BRG Berggiesshubel 142.66 340 *e*PKP PKPdf 18 06 25.0 +1.5
comp=Z,5.7nm,1.3s
BRG *ep*PKP pPKPdf 18 06 29.3 -7.1
comp=Z,22nm,1.6s
BRG *e* 18 06 43.2
comp=Z,14nm,1.6s
BRG
comp=E,712nm,22.2s
BRG
comp=Z,1μm,24.0s
BRG Berggiesshubel 142.66 340 *e*PKP PKPdf 18 06 25.0 +1.5
comp=Z,5.7nm,1.3s
BRG *ep*PKP pPKPdf 18 06 29.3 -7.1
comp=Z,22nm,1.6s
BRG *e* 18 06 43.2
comp=Z,14nm,1.6s
BRG
comp=N,932nm,20.7s
BRG
comp=E,712nm,22.2s
BRG
comp=Z,1μm,24.0s
VYHS Vyhne 142.71 333 *e*PKP PKPdf 18 06 23.8 +0.2
WIT Witteveen 142.87 348 *e*PKiKP PKiKP 18 06 17.9 -9.2
comp=Z,356nm,2.2s
PRU Pruhonice 143.21 338 *e*PKP PKPdf 18 06 23.2 -1.3
PRU AMS AMS 19 06 40.0
comp=Z,2μm,24.2s
MOX Moxa 143.60 342 *e*PKP PKPdf 18 06 28.6 +3.4
comp=Z,150nm,2.5s
MOX
comp=Z,800nm,20.0s
WTSB Winterswijk 143.64 347 *e*PKiKP PKiKP 18 06 26.1 -2.6
comp=Z,60nm,3.0s
ZST Bratislava 143.68 334 *e*PKP PKPdf 18 06 24.6 -0.7
NKC Novy Kostel 143.70 340 *e*PKP PKPdf 18 06 24.6 -0.8
NKC AMS AMS 19 06 40.0
comp=Z,2μm,25.2s
RDO Rodhopi 143.95 319 *e*P PKPdf 18 06 20.3 -5.5

PGB Panagyurishte 144.00 322 P PKPdf 18 06 25.0 -0.9
ROTZ Rotzenmuhle 144.19 340 *e*PKPbc PKPdf 18 06 26.0 -0.2
KDAG Bornova 144.19 313 *i* P PKPdf 18 06 22.6 -3.6
KHC Kasperske Hory 144.27 338 *e*PKP PKPdf 18 06 26.1 -0.3
KHC AMS AMS 19 07 50.0
comp=Z,4μm,22.6s
KHC Kasperske Hory 144.27 338 *e*PKP PKPdf 18 06 26.8 +0.4
GEC2 GERESS Array S 144.47 338 *e*PKPbc PKPdf 18 06 26.9 +0.2
GERES GERESS Array B 144.47 338 PKP PKPdf 18 06 24.5 -2.3
comp=Z,8.1nm,0.9s,baz=39,slow=2.6,SNR=28
WET Wettzell 144.50 339 *e*PKPbc PKPdf 18 06 26.8 0.0
VTS Vitosha 144.54 322 P PKPdf 18 06 28.0 +1.1
GRF Grafenberg Arr 144.56 341 *e*PKPbc PKPdf 18 06 27.1 +0.2
GRF *e*L 19 11 13.4
comp=Z,1μm,21.0s
URLA Izmir 144.67 314 *i* P PKPdf 18 06 26.7 -0.4
SMG Samos 144.81 313 *e*P PKPdf 18 06 19.4 -7.9
MMB Musomiste 144.83 321 P PKPdf 18 06 27.0 -0.4
TNS Taunus Mts 144.87 344 *e*PKPbc PKPdf 18 06 28.1 +0.7
NVR Nevrokopi 144.89 320 *e*P PKPdf 18 06 27.4 -0.1
HGN Heimansgroeve 144.96 347 *e*PKiKP PKiKP 18 06 25.6 -5.8
comp=Z,90nm,2.2s
KKB Krupnik 145.05 321 P PKPbc 18 06 29.0 +1.8
ARSA Arzberg 145.08 335 *i* P PKPbc 18 06 29.4 +2.2
comp=Z,57nm,1.6s,SNR=18
MEM Membach 145.09 347 PKP PKPdf 18 06 29.0 +1.2
MOA Molln 145.09 337⇓ *i*P PKPbc 18 06 26.8 -0.5
comp=Z,84nm,1.5s,SNR=26
GRUS Gruza 145.11 326 *i* PKP PKPdf 18 06 29.3 +1.5
UCC Uccle 145.23 349 PKP PKPdf 18 06 29.3 +1.2
UCC E 18 07 15.5
TOD Tromm 145.34 344 PKP PKPdf 18 06 29.3 +1.1
DIVS Divcibare 145.35 327⇓ *i*PKP PKPdf 18 06 30.4 +2.2
ABH Alteburg 145.41 345 PKP PKPdf 18 06 29.8 +1.4
KARP Karpathos 145.51 309 *e*P PKPdf 18 06 30.9 +2.4
SNF Seneffe 145.52 349 PKP PKPdf 18 06 30.1 +1.6
SNF E 18 06 34.8
VAY Valandovo 145.69 321 *e*PKP PKPdf 18 06 28.6 -0.2
STIP Stip 145.69 322 *e*PKP PKPdf 18 06 29.2 +0.4
RUP Ruppelstein 145.70 345 PKP PKPdf 18 06 30.8 +2.0
PERS Pernice 145.74 334 *e*PKPdf PKPdf 18 06 31.5 +2.6
PERS Pernice 145.74 334 *e*PKPdf PKPdf 18 06 28.3 -0.6
PERS *e*PKPbc PKPbc 18 06 31.5 +2.2
KTD Kalmit 145.79 344 PKP PKPdf 18 06 31.1 +2.1
GIVF Givet 145.81 348 *e*PKP1 PKPbc 18 06 28.4 -1.2
comp=Z,604nm,1.9s
DOU Dourbes 145.86 348 PKP PKPdf 18 06 31.6 +2.5
FUR Furstenfeldbru 145.88 340 *e*PKPbc PKPbc 18 06 31.6 +1.8
WLF Walferdange 145.94 346 *e*PKPbc PKPbc 18 06 31.9 +1.9
WLF Walferdange 145.94 346 PKP PKPdf 18 06 30.0 +0.7
WLF E 18 06 33.9
WLF Walferdange 145.94 346 *e*PKP2 PKPab 18 06 29.3 -1.2
SKO Skopje 145.96 323 *e*PKP PKPdf 18 06 30.2 +0.9
BAIF Baives 145.97 349 *e*PKP1 PKPbc 18 06 29.2 -0.9
comp=Z,490nm,1.6s
STU Stuttgart 145.99 343 *e*PKPbc PKPbc 18 06 31.7 +1.6
STU Stuttgart 145.99 343 *e*PKP2 PKPab 18 06 31.6 +0.9
APE Apeiranthos 146.03 312 *e*P PKPdf 18 06 31.4 +2.0
OBKA Obir 146.07 335⇑ *i*P PKPdf 18 06 30.5 +1.0
comp=Z,38nm,1.4s,SNR=10
KBA Koelnbreinsper 146.07 337⇑ *i*P PKPdf 18 06 30.7 +1.2
comp=Z,70nm,1.7s,SNR=21
SISC Sisak 146.11 332 *i* PKP PKPdf 18 06 32.5 +2.9
LANF Langenberg 146.18 344 PKP PKPdf 18 06 32.6 +2.9
SANT Santorini 146.40 311 *e*PKPbc PKPbc 18 06 32.0 +0.6
LJU Ljubljana 146.45 334 *e*PKPdf PKPdf 18 06 31.0 +0.9
WATA Walderalm 146.50 339⇑ *i*P PKPdf 18 06 31.0 +0.8
comp=Z,102nm,1.7s
WTTA Wattenberg 146.54 339⇓ *i*P PKPdf 18 06 32.5 +2.2
comp=Z,79nm,1.5s,SNR=17
STR Strasbourg 146.55 344 PKP PKPdf 18 06 33.9 +3.6
BOJS Bojanci 146.58 333 *e*PKPdf PKPdf 18 06 31.5 +1.2
BIA Bitola 146.62 322 *e*PKP PKPdf 18 06 32.5 +2.1
BFO Black Forest 146.63 343 *e*PKPbc PKPbc 18 06 33.5 +1.5
MOTA Moosalm 146.65 339⇓ *i*P PKPdf 18 06 31.2 +0.7
comp=Z,84nm,1.2s,SNR=18
ROBS Robic 146.70 336 *e*PKPdf PKPdf 18 06 30.4 -0.2
ROBS *i* PKPbc PKPbc 18 06 33.9 +1.6
VOY Vojsko 146.72 335 *e*PKPdf PKPdf 18 06 33.4 +2.8
VOY *e* 18 06 55.8
SQTA Sankt Quirin 146.72 339⇓ *i*P PKPdf 18 06 32.0 +1.5
comp=Z,74nm,1.4s,SNR=18
KZN Kozani 146.78 320 *e*P PKPbc 18 06 34.0 +1.5
WLS Welschbruch 146.82 344 PKP PKPbc 18 06 34.5 +1.9
CDF Champ du Feu 146.84 344 *e*PKP1 PKPbc 18 06 31.8 -0.8
comp=Z,355nm,1.6s
OHR Ohrid 146.87 322 *e*PKP PKPdf 18 06 31.3 +0.5
LKR Lokris 146.95 317 *e*P PKPdf 18 06 28.4 -2.6
LIBD Limburg 146.99 344 PKP PKPbc 18 06 35.0 +1.9
ECH Echery 147.05 344 PKP PKPbc 18 06 34.5 +1.3
DAVA Damuels 147.11 341⇑ *i*P PKPdf 18 06 32.5 +1.2
comp=Z,97nm,1.4s,SNR=14
FELD Feldberg 147.13 343 *e*P PKPbc 18 06 34.0 +0.5
MEZF Maizierg J'vi 147.28 347 *e*PKP1 PKPbc 18 06 33.4 -0.5
comp=Z,429nm,1.6s
THEF They Montfort 147.33 346 PKP PKPbc 18 06 35.4 +1.4
SHEL Horse Pasture 147.39 180 PFAKE 18 06 40.0 +8.3
SHEL LR LR
comp=Z,1μm,20.0s,MS5.7
MOF Molkenrain 147.39 344 PKP PKPbc 18 06 35.8 +1.6
STON Ston 147.40 327 *i* P PKPbc 18 06 34.7 +0.5
HAU Haudompre 147.45 345 *e*PKP1 PKPbc 18 06 34.4 +0.1
comp=Z,159nm,1.5s
HAU *e*R
comp=Z,2μm,20.8s
HAU Haudompre 147.45 345 *e*PKP2 PKPbc 18 06 34.4 +0.1
HAU MLR MLR
comp=Z,2μm,20.8s,MS5.8
HINF Hinteralfeld 147.50 344 *e*PKP1 PKPbc 18 06 33.5 -1.0
comp=Z,137nm,1.5s
EVR Evrytania 147.57 318 *e*P PKPbc 18 06 35.2 +0.5
BBS Basel-Blauen 147.65 343 PKP PKPbc 18 06 36.3 +1.4
JAN Janina 147.74 320 *e*P PKPbc 18 06 37.1 +2.0
FLN La Foliniere 147.92 354 *e*PKP1 PKPbc 18 06 34.3 -1.3
comp=Z,245nm,1.4s
FLN *e*R
comp=Z,2μm,22.8s
FLN La Foliniere 147.92 354 *e*PKP2 PKPbc 18 06 34.3 -1.3
FLN MLR MLR
comp=Z,2μm,22.8s,MS5.9
LOMF Lomont 147.94 344 PKP PKPbc 18 06 37.5 +1.8
LDF La Druitiere 148.05 353 *e*PKP1 PKPbc 18 06 34.6 -1.4
comp=Z,389nm,1.9s
RLS Riolos of Patr 148.28 317 *e*P PKPbc 18 06 39.4 +2.8
GRR Gorron 148.33 354 *e*PKP1 PKPbc 18 06 35.7 -1.0
comp=Z,314nm,1.6s
KEK Kerkira 148.34 321 *e*P PKPbc 18 06 37.6 +0.9
ROSF Rostrenen 148.56 357 *e*PKP1 PKPbc 18 06 35.8 -1.5
comp=Z,212nm,1.4s
SGMF Saint Gilles 148.60 356 *e*PKP1 PKPbc 18 06 36.1 -1.3
comp=Z,553nm,1.8s
LOR Lormes 148.71 348 *e*PKP1 PKPbc 18 06 36.8 -0.9
comp=Z,364nm,1.8s
LOR *e*R
comp=Z,1μm,21.5s
LOR Lormes 148.71 348 *e*PKP2 PKPbc 18 06 36.8 -0.9
LOR MLR MLR
comp=Z,1μm,21.5s,MS5.7
CABF La Chapelle 148.81 344 *e*PKP1 PKPbc 18 06 37.7 -0.2
comp=Z,509nm,1.9s
OG01 Vacheresse 148.91 344 PKP PKPbc 18 06 38.7 +0.5
HYF Humbligny 148.94 349 *e*PKP1 PKPbc 18 06 37.7 -0.6
QUIF Quistinic 148.97 357 *e*PKP1 PKPbc 18 06 37.1 -1.2
SSF Saint Saulge 148.97 348 *e*PKP1 PKPbc 18 06 37.5 -0.9
comp=Z,295nm,1.5s
AVF Avril sur Loir 149.26 348 *e*PKP1 PKPbc 18 06 37.9 -1.2
comp=Z,88nm,1.3s
SMF Signal de Mont 149.30 347 *e*PKP1 PKPbc 18 06 38.1 -1.1
comp=Z,263nm,1.7s
BGF Bois d'Agland 149.59 349 *e*PKP1 PKPbc 18 06 39.0 -0.9
comp=Z,183nm,1.5s
LPL La Plagne 149.65 343 *e*PKP1 PKPbc 18 06 39.9 -0.1
LPG La Plagne 149.66 343 *e*PKP1 PKPbc 18 06 40.0 -0.1
comp=Z,318nm,1.6s
TCF Toulx Ste Croi 149.96 349 *e*PKP1 PKPbc 18 06 39.8 -1.0
comp=Z,366nm,1.6s
PLDF La Plantade 149.99 347 PKP PKPbc 18 06 43.3 +2.4
MFF Saint Martin d 150.01 353 *e*PKP1 PKPbc 18 06 39.8 -1.1
comp=Z,362nm,1.5s
AGO Saint Agoulin 150.01 348 PKP PKPbc 18 06 42.6 +1.7
GDM Grand'Maison 150.11 343 PKP PKPbc 18 06 43.9 +2.8
GRN Grenoble 150.17 344 PKP PKPbc 18 06 43.9 +2.6
PYM Petit Puy Mans 150.33 348 PKP PKPbc 18 06 44.0 +2.3
MBDF Montbardon 150.36 342 *e*PKP1 PKPbc 18 06 41.0 -0.7

comp=Z,185nm,1.9s
VERF Verneugheol 150.43 349 PKP PKPbc 18 06 43.0 +1.1
ORIF Oris-en-Rattie 150.43 343 *e*PKP1 PKPbc 18 06 41.3 -0.6
comp=Z,60nm,1.0s
ORIF *e*R
comp=Z,1μm,20.8s
SURF Saint Ours 150.57 342 PKP PKPbc 18 06 44.0 +1.7
FRNF Fournols 150.77 348 PKP PKPbc 18 06 45.4 +2.7
LBL Lubilhac 150.78 347 PKP PKPbc 18 06 44.7 +2.0
VIVF Saint-Julien-l 150.81 345 *e*PKP1 PKPbc 18 06 42.1 -0.7
comp=Z,229nm,1.6s
SBF Sospel 150.94 341 *e*PKP1 PKPbc 18 06 41.7 -1.4
comp=Z,231nm,1.3s
RJF Les Rejaudoux 151.04 350 *e*PKP1 PKPbc 18 06 42.5 -0.9
comp=Z,144nm,1.4s
RJF *e*R
comp=Z,1μm,21.8s
CAF Calviac 151.31 349 *e*PKP1 PKPbc 18 06 43.5 -0.5
SMRF Simiane la Rot 151.39 343 *e*PKP1 PKPbc 18 06 43.7 -0.5
comp=Z,337nm,1.8s
FRF La Foret Royal 151.46 341 *e*PKP1 PKPbc 18 06 43.1 -1.2
comp=Z,354nm,1.8s
LFF La Frestale 151.52 351 *e*PKP1 PKPbc 18 06 43.6 -0.9
comp=Z,167nm,1.5s
PGF Pioggiola 151.55 337 *e*PKP1 PKPbc 18 06 43.5 -1.0
comp=Z,430nm,1.8s
LMR La Mourre 151.70 341 *e*PKP1 PKPbc 18 06 43.8 -1.1
comp=Z,421nm,1.9s
CORF Corte 151.71 337 PKP PKPdf 18 06 43.1 +4.5
LASF Ste Croix 151.74 346 *e*PKP1 PKPbc 18 06 44.3 -0.7
comp=Z,202nm,1.8s
MTLF Montolieu 152.80 348 *e*PKP1 PKPbc 18 06 46.4 -1.0
comp=Z,142nm,1.9s
ESLA Sonseca Array 157.23 357 PFAKE 18 07 00.0 +14
ESLA LR LR
comp=Z,8μm,20.0s,MS6.5
DBIC Dimbokro 169.85 184 PKP PKPdf 18 06 57.8 -0.2
comp=Z,1.2nm,0.7s,baz=250,slow=5.1,SNR=3.5
DBIC PKPab PKPab 18 08 13.9 +1.2
comp=Z,3.9nm,1.0s,baz=222,slow=2.9,SNR=3.0
DBIC Dimbokro 169.85 184 PKIKP PKPdf 18 06 57.8 -0.2
DBIC 18 08 13.9
DBIC MLR MLR
comp=Z,2μm,20.0s
TORD Torodi Ar. Bea 172.13 243 PKP PKPdf 18 06 58.8 -0.4
comp=Z,8.5nm,1.2s,baz=301,slow=1.0,SNR=8.6
TORD PKPab PKPab 18 08 23.0 +0.3
comp=Z,6.2nm,1.2s,baz=130,slow=2.3,SNR=5.4
TORD PP PP 18 12 14.5 +0.6
comp=Z,3.4nm,1.3s,baz=123,slow=5.3,SNR=3.8

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*ISCJB **24** 17:50:58.2±0.4,39.14N±002×24.24E±002,h18km±4km,*
Error ellipse: s-maj=3.2km s-min=2.9km az=39.7
*ATH **24** 17:50:58.4,39.12N×24.24E,h38km±1km,MD3.6/15,ML3.8*
*THE **24** 17:50:59.4,39.19N×24.24E,h12km,ML3.5*
*SOF **24** 17:50:59.9,39.42N×24.44E,h7km,MD3.3*
*CSEM **24** 17:50:59.8±0.1,39.14N×24.24E,h40km,ML3.5,Error*
ellipse: s-maj=1.5km s-min=1.3km az=103.0
*NEIC **24** 17:50:59.4,39.19N×24.24E,h13km,MD3.3(SOF),*
ML3.5(THE),ML3.8(ATH),After THE.
*SKO **24** 17:50:59.6,39.20N×24.04E,h0km*
ISC 24 17:50:58.5±0.4,3913N±002×2420E±002,h15km±3km,n86,
σ1§07/113,11C-2D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.25**	**280**	*e*Pg	**Pg**	**17 51 04.3**	**+0.4**
AOS				*e*Sg	**Sg**	**17 51 08.7**	**+1.0**
NEO	**Neokhori**	**0.78**	**283**	*e*PN	**Pn**	**17 51 14.4**	**-0.4**
NEO				*e*SN	**Sn**	**17 51 26.1**	**-0.1**
XOR	**Xorichti**	**0.82**	**287**	*e*Pg	**Pg**	**17 51 14.9**	**+0.6**
XOR				*e*Sg	**Sg**	**17 51 26.7**	**+1.7**
PAIG	**Paliouri**	**0.89**	**334**	*e*Pg	**Pg**	**17 51 16.0**	**+0.3**
PAIG				*e*Sg	**Sg**	**17 51 28.4**	**+0.9**
MPAR	**Parnis Oros**	**1.04**	**200**	*e*PN	**Pn**	**17 51 18.0**	**-0.5**
LKR	**Lokris**	**1.05**	**243**	*e*PN	**Pn**	**17 51 18.1**	**-0.5**
LKR				*e*SN	**Sn**	**17 51 33.0**	**+0.1**
LOS	**Limnos**	**1.05**	**40**	*e*Pg	**Pg**	**17 51 17.9**	**-0.9**
LIA	**Limnos Island**	**1.08**	**44**	*e*PN	**Pn**	**17 51 18.5**	**-0.5**
LIA				*e*SB	**Sb**	**17 51 32.9**	**+0.1**
PTL	**Penteli**	**1.11**	**194**	*e*PN	**Pn**	**17 51 18.5**	**-0.9**
ATH	**Athens Observa**	**1.22**	**198**	*e*PN	**Pn**	**17 51 20.3**	**-0.6**
ATH				*e*SN	**Sn**	**17 51 36.7**	**-0.3**
OUR	**Ouranopolis**	**1.22**	**352**	*e*Pg	**Pg**	**17 51 20.9**	**-1.0**
OUR				*e*Sg	**Sg**	**17 51 35.9**	**-1.9**
KVR	**Kavouri**	**1.34**	**195**	*e*PB	**Pb**	**17 51 21.8**	**-1.5**
MGER	**Gerania Oros**	**1.36**	**213**	*e*PN	**Pn**	**17 51 22.5**	**-0.3**
MGER				*e*SB	**Sb**	**17 51 41.0**	**+0.3**
PLG	**Polygyros**	**1.37**	**335**	*e*PB	**Pb**	**17 51 22.8**	**-1.0**
AGG	**Agios Georgios**	**1.46**	**266**	*e*Pg	**Pg**	**17 51 24.4**	**-2.1**
AGG				*e*Sg	**Sg**	**17 51 45.7**	**+0.3**
NAIG	**Nisos Aigina**	**1.48**	**202**	*e*PN	**Pn**	**17 51 24.5**	**0.0**
PRK	**Paraskevi**	**1.62**	**85**	*e*PB	**Pb**	**17 51 26.0**	**-2.0**
PRK				*e*SN	**Sn**	**17 51 45.9**	**-1.0**
LIT	**Litokhoron**	**1.64**	**307**	*e*Pb	**Pb**	**17 51 27.0**	**-1.3**
LIT				*e*Sb	**Sb**	**17 51 47.6**	**-1.1**
THE	**Thessaloniki**	**1.77**	**328**	*e*Pb	**Pb**	**17 51 29.3**	**-1.4**
THE				*e*Sb	**Sb**	**17 51 50.7**	**-2.1**
SOH	**Sokhos**	**1.81**	**339**	*e*Pb	**Pb**	**17 51 28.9**	**-2.4**
SOH				*e*Sb	**Sb**	**17 51 51.7**	**-2.0**
EVR	**Evrytania**	**1.87**	**264**	*e*PB	**Pb**	**17 51 30.8**	**-1.5**
AYVA	**Ayvalik**	**1.94**	**84**	*i* P	**Pn**	**17 51 31.4**	**+0.5**
AYVA				*i* S	**Sg**	**17 51 59.6**	**-1.4**
URLA	**Izmir**	**2.03**	**112**	*i* P	**Pn**	**17 51 31.8**	**-0.2**
URLA				*i* S	**Sn**	**17 52 00.2**	**+3.1**
SRS	**Serrai**	**2.04**	**347**	*e*Pn	**Pn**	**17 51 32.4**	**+0.2**
SRS				*e*Sn	**Sn**	**17 51 57.3**	**-0.1**
NVR	**Nevrokopi**	**2.23**	**354**	*e*PN	**Pn**	**17 51 35.1**	**+0.2**
KNT	**Kendrikon**	**2.26**	**334**	*e*Pn	**Pn**	**17 51 36.1**	**+0.8**
KNT				*e*Sn	**Sn**	**17 52 03.2**	**+0.4**
KNT	**Kendrikon**	**2.26**	**334**	*e*Pn	**Pn**	**17 51 36.1**	**+0.8**
KNT				*e*Sn	**Sn**	**17 52 03.2**	**+0.4**
RDO	**Rodhopi**	**2.26**	**27**	*e*PN	**Pn**	**17 51 35.0**	**-0.3**
ALN	**Alexandroupoli**	**2.27**	**38**	*e*Pn	**Pn**	**17 51 34.7**	**-0.7**
ALN				*e*Sn	**Sn**	**17 52 02.1**	**-0.9**
GRG	**Griva**	**2.29**	**324**	*e*Pn	**Pn**	**17 51 36.6**	**+1.0**
GRG				*e*Sn	**Sn**	**17 52 03.8**	**+0.3**
APE	**Apeiranthos**	**2.31**	**152**	*e*PN	**Pn**	**17 51 35.0**	**-1.0**
APE	**Apeiranthos**	**2.31**	**152**	*e*Pn	**Pn**	**17 51 36.5**	**+0.5**
APE	**Apeiranthos**	**2.31**	**152**	*e*Pn	**Pn**	**17 51 35.5**	**-0.4**
MMB	**Musomiste**	**2.48**	**352**	P	**Pn**	**17 51 38.0**	**-0.3**
KDAG	**Bornova**	**2.51**	**106**	*i* P	**Pn**	**17 51 38.8**	**+0.1**
KDAG				*i* S	**Sg**	**17 52 20.1**	**+1.1**
SMG	**Samos**	**2.51**	**124**	*e*PN	**Pn**	**17 51 38.0**	**-0.7**
VAY	**Valandovo**	**2.52**	**331**	*i* Pn	**Pn**	**17 51 39.5**	**+0.7**
RZN	**Rozhen**	**2.59**	**9**	*i* P	**Pn**	**17 51 39.0**	**-0.7**
RZN	**Rozhen**	**2.59**	**9**	P	**Pn**	**17 51 40.0**	**+0.3**
RZN	**Rozhen**	**2.59**	**9**	P	**Pn**	**17 51 40.0**	**+0.3**
VLI	**Veliai**	**2.60**	**203**	*e*PN	**Pn**	**17 51 40.0**	**0.0**
ITM	**Ithomi**	**2.64**	**223**	*e*PN	**Pn**	**17 51 41.1**	**+0.6**
KDZ	**Kurdzhali**	**2.69**	**20**	P	**Pn**	**17 51 40.5**	**-0.6**
KDZ	**Kurdzhali**	**2.69**	**20**	P	**Pn**	**17 51 40.0**	**-1.1**
KDZ	**Kurdzhali**	**2.69**	**20**	P	**Pn**	**17 51 40.0**	**-1.1**
FNA	**Florina**	**2.73**	**308**	*e*Pn	**Pn**	**17 51 42.9**	**+1.3**
SART	**Tekirdag**	**2.77**	**55**	*i* P	**Pn**	**17 51 47.3**	**+5.0**
SART				*i* S	**Sg**	**17 52 29.0**	**+1.4**
KKB	**Krupnik**	**2.86**	**343**	*i* P	**Pn**	**17 51 44.0**	**+0.5**
MFT	**Murefte**	**2.89**	**54**	*e*PN	**Pn**	**17 51 44.1**	**+0.1**
BALB	**Balikesir**	**2.90**	**79**	*e*PN	**Pn**	**17 51 45.2**	**+1.2**
VLS	**Valsamata**	**2.98**	**253**	*e*PN	**Pn**	**17 51 45.8**	**+0.7**
STIP	**Stip**	**2.99**	**330**	*e*Pn	**Pn**	**17 51 46.9**	**+1.6**
STIP	**Stip**	**2.99**	**330**	*e*Pn	**Pn**	**17 51 46.8**	**+1.6**
IGT	**Igoumenitsa**	**3.02**	**279**	*e*Pn	**Pn**	**17 51 49.1**	**+3.4**
DIM	**Dimitrovgrad**	**3.09**	**19**	P	**Pn**	**17 51 46.5**	**-0.2**
DIM	**Dimitrovgrad**	**3.09**	**19**	P	**Pn**	**17 51 47.0**	**+0.3**
DIM	**Dimitrovgrad**	**3.09**	**19**	P	**Pn**	**17 51 47.0**	**+0.3**
BODT	**Bodrum**	**3.21**	**129**	*e*PN	**Pn**	**17 51 47.3**	**-1.0**
SRN	**Sarande**	**3.33**	**284**	*e*Pn	**Pn**	**17 51 53.5**	**+3.5**
PGB	**Panagyurishte**	**3.42**	**360**	*i* P	**Pn**	**17 51 51.5**	**+0.3**
PGB	**Panagyurishte**	**3.42**	**360**	P	**Pn**	**17 51 51.8**	**+0.6**
PGB	**Panagyurishte**	**3.42**	**360**	P	**Pn**	**17 51 51.8**	**+0.6**
VTS	**Vitosha**	**3.54**	**348**	*i* P	**Pn**	**17 51 54.5**	**+1.7**
VTS	**Vitosha**	**3.54**	**348**	P	**Pn**	**17 51 54.0**	**+1.2**
VTS	**Vitosha**	**3.

ULDT	**Uludag**	**3.94**	**74**	*i* P	**Pn**	**17 52 00.4**	**+2.0**
ULDT				*i* S	**Sn**	**17 52 54.1**	**+10**
DENT	**Denizli**	**4.04**	**108**	*e*P	**Pn**	**17 52 01.1**	**+1.4**
PVL	**Pavlikeni**	**4.17**	**11**	*e*P	**Pn**	**17 52 09.0**	**+7.5**
PRD	**Provadia**	**4.73**	**30**	P	**Pn**	**17 52 09.0**	**-0.2**
TIRR	**Tirgusor**	**6.19**	**29**	⇑P	**Pn**	**17 52 29.6**	**+0.4**
TIRR	**Tirgusor**	**6.19**	**29**	⇑P	**Pn**	**17 52 29.6**	**+0.4**
TIRR				S	**Sn**	**17 53 38.0**	**-1.6**
MLR	**Muntele Rosu**	**6.49**	**11**	⇑P	**Pn**	**17 52 35.2**	**+1.9**
MLR	**Muntele Rosu**	**6.49**	**11**	⇑P	**Pn**	**17 52 35.2**	**+1.9**
CFR	**Carcaliu**	**6.71**	**25**	⇑P	**Pn**	**17 52 36.6**	**+0.1**
CFR	**Carcaliu**	**6.71**	**25**	⇑P	**Pn**	**17 52 36.6**	**+0.2**
BZS	**Buzias**	**6.76**	**344**	⇑P	**Pn**	**17 52 37.5**	**+0.4**
BZS	**Buzias**	**6.76**	**344**	⇑P	**Pn**	**17 52 37.5**	**+0.5**
PLOR	**Plostina**	**6.96**	**14**	⇑P	**Pn**	**17 52 41.8**	**+2.0**
VRI	**Vrincioaia**	**6.99**	**15**	⇑P	**Pn**	**17 52 42.7**	**+2.5**
VRI	**Vrincioaia**	**6.99**	**15**	⇑P	**Pn**	**17 52 42.7**	**+2.5**
BURAR	**Bucovina Array**	**8.51**	**5**	⇓P	**Pn**	**17 53 02.9**	**+1.7**
BURAR	**Bucovina Array**	**8.51**	**5**	⇓P	**Pn**	**17 53 02.9**	**+1.8**

BJI 24 17:59:18.9, 2200N×10066E, h15km, ML3.6, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.65**	**31**	PG	Pg	18 00 23.8	-5.0

*ISCJB **24** 18:01:53.9±1.0, 4754N±010×9315W±007, h0km, Error ellipse: s-maj=14.5km s-min=6.9km az=159.5*
*NEIC **24** 18:01:55.4±1.2, 4742N×9297W, h0km, MN2.9, Error ellipse: s-maj=19.5km s-min=10.1km az=158.0, Suspected Mining explosion.*
NEIC NEAR Hibbing.
*IDC **24** 18:01:58.3±1.8, 4744N×9311W, h0km, mb1 3.8/4, mb1mx3.5/25, mbtmp3.5/4, ML4.2/2, Error ellipse: s-maj=18.7km s-min=15.1km az=91.0*
ISC 24 18:01:56.1±0.9, 4756N±009×9308W±007, h0km, n12, σ1§28/17, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**1.14**	**70**	*e*P	**Pg**	**18 02 18.7**	**+0.7**
EYMN				*e*S	**Sg**	**18 02 32.6**	**0.0**
ULM	**Lac du Bonnet**	**3.26**	**327**	Pn	**Pn**	**18 02 50.8**	**+2.3**
	0.6nm,0.3s,baz=150,slow=13,SNR=15						
ULM				Pg	**Pg**	**18 02 58.5**	**-0.1**
	3.9nm,0.3s,baz=150,slow=16,SNR=24						
ULM				Lg		18 03 40.9	
	8.4nm,0.3s,baz=68,slow=19,SNR=8.7						
ULM				Rg		18 04 00.1	
	31nm,0.8s,baz=136,slow=15,SNR=5.8						
ULM	**Lac du Bonnet**	**3.26**	**327**	Pn	**Pn**	**18 02 50.8**	**+2.3**
ULM				Pg	**Pg**	**18 02 58.5**	**-0.1**
ULM				Lg		18 03 40.9	
ULM				Rg		18 04 00.1	
RSSD	**Black Hills**	**8.39**	**250**	*e*P	**Pn**	**18 03 59.3**	**+0.4**
	9.3nm,0.8s						
FFC	**Flin Flon**	**9.09**	**325**	*e*P	**Pn**	**18 04 09.4**	**+0.9**
	2.0nm,0.4s						
FFC				*e*S	**Sn**	**18 05 47.8**	**-3.7**
FCC	**Fort Churchill**	**11.23**	**357**	*e*P	**Pn**	**18 04 38.0**	**0.0**
	4.2nm,0.6s						
FCC				*e*S	**Sn**	**18 06 32.4**	**-12**
PDAR	**Pinedale Array**	**12.57**	**254**	Pn	**Pn**	**18 04 55.3**	**-1.0**
	0.3nm,0.3s,baz=76,slow=12,SNR=13						
PDAR				Lg		18 08 25.8	
	0.1nm,0.3s,baz=61,slow=25,SNR=4.9						
PDAR	**Pinedale Array**	**12.57**	**254**	Pn	**Pn**	**18 04 55.3**	**-1.0**
PDAR				Lg		18 08 25.8	
SCHQ	**Schefferville**	**17.91**	**56**	Pn	**Pn**	**18 06 04.0**	**-2.6**
	0.1nm,0.3s,baz=250,slow=15,SNR=2.4						
SCHQ				Lg		18 11 11.7	
	0.2nm,0.3s,baz=232,slow=19,SNR=3.8						
SCHQ	**Schefferville**	**17.91**	**56**	Pn	**Pn**	**18 06 04.0**	**-2.6**
SCHQ				Lg		18 11 11.7	
YKA	**Yellowknife Ar**	**19.24**	**329**	P	**Pn**	**18 06 23.3**	**+0.6**
	baz=127,slow=12,SNR=21						
YKA				Lg		18 11 50.8	
	baz=132,slow=29,SNR=3.6						
YKA	**Yellowknife Ar**	**19.24**	**329**	P	**Pn**	**18 06 23.3**	**+0.5**
YKA				Lg		18 11 50.8	

IDC 24 18:31:14.7±86.0, 1609S×16793E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=1452.0km s-min=116.6km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.63**	**232**	P	P	18 37 13.2	+0.3
	1.9nm,1.0s,baz=63,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**32.14**	**258**	P	P	18 37 44.8	+0.9
	0.4nm,0.6s,baz=89,slow=8.9,SNR=7.7						
ASAR	**Alice Springs**	**32.82**	**251**	P	P	18 37 49.6	-0.1
	0.7nm,0.7s,baz=82,slow=9.1,SNR=15						

*IDC **24** 18:51:54.5±1.7, 1648S×17406E, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/14, mbtmp3.9/7, ML2.9/1, MS3.9/4, Ms1 4.0/4, ms1mx3.6/23, Error ellipse: s-maj=105.3km s-min=20.3km az=144.0*
*NEIC **24** 18:51:57.1±0.8, 1611S×17374E, h10km, mb4.5/1, Error ellipse: s-maj=39.0km s-min=14.3km az=138.0*
*ISCJB **24** 18:51:59.3±0.8, 1625±02×1737E±02, h33km, mb4.0/7, MS4.2/2, Error ellipse: s-maj=41.7km s-min=16.4km az=98.9*
ISC 24 18:52:01.0±0.8, 1615±02×1737E±02, h35km, n13, σ1§17/10, mb4.0/7, MS4.2/2, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.06**	**228**	Pn	**Pn**	**18 54 07.1**	**-2.2**
	0.1nm,0.3s,baz=57,slow=17,SNR=2.3						
DZM				LR	LR	18 56 58.1	
	comp=Z,463nm,19.1s,baz=165,slow=33						
DZM	**Mont Dzumac**	**9.06**	**228**	Pn	**Pn**	**18 54 07.1**	**-2.2**
DZM				LR	LR	18 56 58.1	
AFI	**Afiamalu**	**14.18**	**83**	LR	LR	18 59 29.4	
	comp=Z,232nm,21.5s,baz=206,slow=33						
STKA	**Stephens Creek**	**33.11**	**236**	P	**P**	**18 58 32.7**	**-0.9**
	2.2nm,0.8s,mb4.1,baz=50,slow=5.1,SNR=4.6						
STKA				LR	LR	19 10 23.3	
	comp=Z,357nm,20.0s,MS4.1,baz=27,slow=33						
STKA	**Stephens Creek**	**33.11**	**236**	*e*P	**P**	**18 58 34.0**	**+0.4**
STKA				LR	LR	19 10 23.3	
WRA	**Warramunga Arr**	**37.58**	**258**	P	**P**	**18 59 12.5**	**+0.4**
	1.2nm,0.8s,mb3.7,baz=92,slow=9.1,SNR=9.7						
ASAR	**Alice Springs**	**38.09**	**252**	P	**P**	**18 59 18.0**	**+1.7**
	2.0nm,0.8s,mb3.9,baz=82,slow=8.7,SNR=18						
VNDA	**Vanda**	**61.69**	**183**	LR	LR	19 22 23.3	
	comp=Z,282nm,20.3s,MS4.4,baz=112,slow=30						
QSPA	**South Pole Qui**	**73.90**	**180**	*e*P	**P**	**19 03 33.5**	**+1.2**
	5.4nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**83.56**	**47**	P	**P**	**19 04 25.4**	**-0.1**
	0.4nm,0.5s,mb3.8,baz=223,slow=12,SNR=3.4						
ILAR	**Eielson Array**	**86.06**	**16**	P	**P**	**19 04 38.1**	**+0.2**
	0.9nm,0.8s,mb4.1,baz=231,slow=5.4,SNR=11						
YKA	**Yellowknife Ar**	**95.99**	**26**	P	**P**	**19 05 23.0**	**-1.4**
	0.1nm,0.3s,mb3.7,baz=260,slow=3.6,SNR=2.5						
GERES	**GERESS Array B**	**143.53**	**338**	PKP	PKPdf	19 11 31.3	-0.5
	0.7nm,0.7s,baz=0.0,slow=1.3,SNR=7.0						

*IDC **24** 18:56:52.1±1.3, 1990N×12192E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.3/19, Error ellipse: s-maj=51.0km s-min=24.6km az=72.0*
*ISCJB **24** 18:56:55.4±1.0, 2011N±01×1222E±02, h33km, mb3.2/3, Error ellipse: s-maj=30.6km s-min=13.7km az=20.5*
ISC 24 18:56:57.5±1.0, 2200N±01×1220E±02, h35km, n5, σ0§83/6, mb3.2/3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.28**	**184**	⇑*e*P	**Pn**	**18 57 33.5**	**+0.9**
CVP				*e*S	**Sn**	**18 58 05.0**	**+5.5**
JOW	**Kunigami**	**8.92**	**39**	Pn	**Pn**	**18 59 04.2**	**+0.4**
	3.8nm,0.3s,baz=240,slow=10,SNR=5.6						
JOW				LR	LR	19 01 57.6	
	comp=Z,220nm,20.5s,baz=340,slow=34						
WRA	**Warramunga Arr**	**41.49**	**162**	P	**P**	**19 04 40.2**	**-0.8**
	0.5nm,0.6s,mb3.3,baz=344,slow=9.1,SNR=8.3						
MKAR	**Makanchi Array**	**41.91**	**319**	P	**P**	**19 04 44.4**	**-0.1**
	0.7nm,0.8s,mb3.3,baz=114,slow=9.0,SNR=7.0						
ASAR	**Alice Springs**	**44.92**	**164**	P	**P**	**19 05 08.4**	**-0.3**
	0.1nm,0.4s,mb3.0,baz=350,slow=8.0,SNR=11						

*IDC **24** 19:00:40.4±1.2, 1840S×7134W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, ML5.1/1, MS3.1/1, Ms1 3.3/1, ms1mx2.8/21, Error ellipse: s-maj=23.3km s-min=17.5km az=112.0*
*ISCJB **24** 19:00:46.3±1.2, 1852S±006×713W±02, h52km±14km, mb3.8/4, Error ellipse: s-maj=27.7km s-min=9.8km az=159.7*
*NEIC **24** 19:00:46.9±1.2, 1846S×7122W, h41km±14km, Error ellipse: s-maj=18.7km s-min=10.7km az=91.0*
NEIC Felt [II] at Arica.
ISC 24 19:00:47.6±1.1, 1848S±006×712W±01, h51km±13km, n13, σ0§86/15, mb3.8/4, 2C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.02**	**353**	⇑*i*P	**Pn**	**19 01 18.3**	**-0.9**
ARE				S	**Sn**	**19 01 44.0**	**+0.7**
LPAZ	**La Paz**	**3.69**	**54**	Pn	**Pn**	**19 01 42.8**	**+0.8**
	4.1nm,0.3s,baz=232,slow=7.7,SNR=65						
LPAZ				Pg	**Pn**	**19 01 49.4**	**+7.3**
	7.3nm,0.3s,baz=229,slow=15,SNR=26						
LPAZ				Lg		19 02 40.7	
	4.8nm,0.3s,baz=204,slow=19,SNR=1.5						
LPAZ				LR	LR	19 02 46.4	
	comp=Z,255nm,18.4s,baz=136,slow=34						
LPAZ	**La Paz**	**3.69**	**54**	Pn	**Pn**	**19 01 42.8**	**+0.8**
LPAZ				Pg	**Pn**	**19 01 49.4**	**+7.3**
LPAZ				Lg		19 02 40.7	
LPAZ				LR	LR	19 02 46.4	
LVC	**Limon Verde**	**4.65**	**152**	Pn	**Pn**	**19 01 55.9**	**+0.5**
	40nm,0.3s,baz=340,slow=9.6,SNR=446						
LVC				Lg		19 03 11.0	
	25nm,0.3s,baz=215,slow=21,SNR=7.2						
LVC	**Limon Verde**	**4.65**	**152**	⇑*i*P	**Pn**	**19 01 55.8**	**+0.5**
LVC				Lg		19 03 11.0	
SIV	**San Ignacio**	**10.03**	**77**	Pn	**Pn**	**19 03 06.1**	**-2.8**
	7.3nm,0.3s,baz=273,slow=10,SNR=53						
CFAA	**Coronel Fontan**	**13.35**	**169**	Pn	**Pn**	**19 03 54.3**	**0.0**
	0.0nm,0.3s,baz=354,slow=19,SNR=3.2						
PLCA	**Paso Flores**	**22.18**	**179**	P	**P**	**19 05 39.1**	**-0.2**
	3.1nm,0.9s,mb3.7,baz=24,slow=10.0,SNR=3.8						
BDFB	**Brasilia**	**22.38**	**86**	P	**P**	**19 05 42.5**	**+1.0**
	1.5nm,0.3s,mb3.8,baz=100,slow=2.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**78.46**	**72**	P	**P**	**19 12 42.4**	**-0.7**
	0.5nm,0.4s,mb3.8,baz=261,slow=5.6,SNR=15						
YKA	**Yellowknife Ar**	**87.63**	**341**	P	**P**	**19 13 30.7**	**+0.3**
	0.4nm,0.8s,mb3.7,baz=136,slow=4.8,SNR=13						
YKA	**Yellowknife Ar**	**87.63**	**341**	P	**P**	**19 13 30.7**	**+0.3**
ASAR	**Alice Springs**	**131.45**	**211**	PKP	PKPdf	19 19 55.6	+1.3
	0.4nm,0.9s,baz=154,slow=2.7,SNR=4.1						

*IDC **24** 19:59:39.9±1.5, 3634N×2891E, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.6/21, mbtmp3.7/6, ML3.5/4, Error ellipse: s-maj=31.2km s-min=17.9km az=141.0*
*CSEM **24** 19:59:39.5±0.3, 3634N×2889E, h6km±2km, MD3.7, Error ellipse: s-maj=2.5km s-min=1.3km az=51.0*
*ISCJB **24** 19:59:40.0±0.7, 3636N±002×2891E±003, h4km±5km, mb3.6/3, Error ellipse: s-maj=4.0km s-min=3.7km az=111.4*
*ISK **24** 19:59:41.1, 3646N×2884E, h8km, MD3.4*
*NEIC **24** 19:59:42.0, 3650N×2883E, h10km, MD3.4(ISK), MD3.7(ATH), After ISK.*
*ATH **24** 19:59:42.5, 3652N×2878E, h16km±1km, MD3.7/10*
*HLW **24** 19:59:48.7, 3607N×2906E, h33km, Mb3.7*
ISC 24 19:59:42.0±0.6, 3643N±002×2889E±003, h7km±4km, n52, σ1§02/61, mb3.6/3, 5C-7D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.63**	**116**	*e*PN	**Pg**	**19 59 56.8**	**+2.6**
ARG	**Arkhangelos**	**0.65**	**251**	*e*PN	**Pg**	**19 59 54.3**	**-0.2**
ARG				*e*SN	**Sg**	**20 00 04.0**	**+1.0**
YER	**Yerkesik**	**0.85**	**326**	*i* PG	**Pg**	**19 59 56.6**	**-1.8**
ELL	**Elmali**	**0.88**	**69**	*i* PG	**Pg**	**19 59 58.9**	**-0.1**
GOLH	**Golhisar**	**0.97**	**34**	*i* P	**Pg**	**20 00 00.6**	**-0.1**
GOLH				*i* S	**Sg**	**20 00 15.7**	**+2.4**
DAT	**Datca**	**1.09**	**286**	*i* PG	**Pg**	**20 00 01.6**	**-1.4**
DAT				*i* SG	**Sg**	**20 00 17.0**	**-0.2**
MLSB	**Milas**	**1.24**	**314**	PN	**Pn**	**20 00 04.4**	**-1.3**
DENT	**Denizli**	**1.33**	**5**	PN	**Pn**	**20 00 06.6**	**-0.3**
BODT	**Bodrum**	**1.41**	**297**	PN	**Pn**	**20 00 06.8**	**-1.3**
NISR	**Nisiros**	**1.43**	**278**	*e*PN	**Pn**	**20 00 07.5**	**-0.8**
AYDN	**Tasoluk**	**1.47**	**327**	*i* P	**Pn**	**20 00 08.4**	**-0.5**
AYDN				*i* S	**Sn**	**20 00 29.0**	**+0.6**
KARP	**Karpathos**	**1.65**	**238**	*e*PN	**Pn**	**20 00 12.8**	**+1.4**
KARP				*e*SN	**Sn**	**20 00 34.3**	**+1.4**
BCK	**Bucak**	**1.71**	**53**	PN	**Pn**	**20 00 12.1**	**-0.1**
ISP	**Isparta**	**1.92**	**42**	*e*PN	**Pn**	**20 00 15.3**	**+0.2**
ISP	**Isparta**	**1.92**	**42**	*e*P	**Pn**	**20 00 16.3**	**+1.3**
KHL	**Karahalli**	**1.96**	**15**	*e*PN	**Pn**	**20 00 15.3**	**-0.3**
TKTP	**Tekketepe**	**1.97**	**35**	*i* P	**Pn**	**20 00 17.6**	**+1.8**
TKTP				*i* S	Sx	20 00 47.5	
MANT	**Manisa**	**2.07**	**353**	*i* P	**Pn**	**20 00 16.7**	**-0.5**
MANT				*i* S	Sx	20 00 46.3	
SMG	**Samos**	**2.08**	**309**	*e*PB	**Pb**	**20 00 16.5**	**-3.5**
SMG				*e*SN	**Sn**	**20 00 42.5**	**-0.8**
KDAG	**Bornova**	**2.35**	**327**	*i* P	**Pn**	**20 00 20.9**	**-0.2**
KDAG				*i* S	Sx	20 00 52.9	
SANT	**Santorini**	**2.76**	**270**	*e*P	**Pn**	**20 00 25.8**	**-0.9**
SANT	**Santorini**	**2.76**	**270**	*e*P	**Pn**	**20 00 25.8**	**-0.9**
APE	**Apeiranthos**	**2.77**	**284**	*e*PN	**Pn**	**20 00 27.0**	**+0.2**
ALT	**Altintas**	**2.79**	**20**	*e*PN	**Pn**	**20 00 26.8**	**-0.3**
NPS	**Neapolis**	**2.90**	**247**	*e*PN	**Pn**	**20 00 29.5**	**+0.9**
NPS				*e*SN	**Sn**	**20 01 04.2**	**+0.5**
XRY	**Khrisi**	**3.03**	**240**	*e*PN	**Pn**	**20 00 32.5**	**+2.2**
KONT	**Konya--Tatoy**	**3.16**	**60**	*e*PN	**Pn**	**20 00 32.1**	**-0.1**
BALB	**Balikesir**	**3.30**	**346**	*e*PN	**Pn**	**20 00 34.8**	**+0.7**
IDI	**Anoyia**	**3.44**	**252**	Pn	**Pn**	**20 00 36.7**	**+0.7**
	7.5nm,0.3s,baz=70,slow=13,SNR=30						
IDI				Sn	**Sn**	**20 01 17.6**	**+0.6**
	24nm,0.3s,baz=191,slow=23,SNR=13						
PRK	**Paraskevi**	**3.49**	**324**	*e*PN	**Pn**	**20 00 37.1**	**+0.4**
VAM	**Vamos**	**3.94**	**256**	*e*PN	**Pn**	**20 00 45.2**	**+2.4**
BRTR	**Keskin Array B**	**4.99**	**47**	Pn	**Pn**	**20 00 56.9**	**-0.4**
	0.2nm,0.3s,baz=227,slow=14,SNR=6.7						
BRTR				Sn	**Sn**	**20 01 58.8**	**+3.6**
	0.3nm,0.3s,baz=210,slow=26,SNR=5.0						
BR131	**Keskin Array S**	**4.99**	**47**	*e*P	**Pn**	**20 01 00.1**	**+2.8**
HMAT	**Matruh**	**5.53**	**196**	⇑P	**Pn**	**20 01 04.7**	**+0.1**
HMAT				S	Sx	20 02 00.5	
HRSH	**Kfar Ka'horesh**	**6.78**	**142**	⇓P	**Pn**	**20 01 21.6**	**-0.3**
RSH		**6.78**	**142**	P	**Pn**	**20 01 21.6**	**-0.3**
AMAG	**Maghara**	**6.81**	**147**	⇓P	**Pn**	**20 01 21.4**	**-0.9**
KOT	**Kottamia**	**6.94**	**158**	⇓P	**Pn**	**20 01 23.2**	**-0.8**
KOT				S	Sx	20 02 32.3	
GLL	**Jalalah**	**7.23**	**160**	⇓P	**Pn**	**20 01 27.1**	**-1.1**
SUZ		**7.36**	**152**	⇑P	**Pn**	**20 01 29.0**	**-0.8**
SWA1		**7.63**	**201**	⇓P	**Pn**	**20 01 34.1**	**+0.6**
SWA1				S	Sx	20 02 51.3	
SWA2		**7.72**	**203**	⇑*e*P	**Pn**	**20 01 35.1**	**+0.3**
AWBH		**8.09**	**180**	⇓P	**Pn**	**20 01 40.0**	**+0.1**
HKAT	**Jabal Katrina**	**8.99**	**150**	⇑P	**Pn**	**20 01 51.9**	**-0.3**
TR2		**9.00**	**152**	⇑P	**Pn**	**20 01 51.8**	**-0.6**
HFRF	**Wahat Farafira**	**9.27**	**183**	⇓P	**Pn**	**20 01 55.0**	**-1.0**
MLR	**Muntele Rosu**	**9.32**	**347**	Pn	**Pn**	**20 01 58.1**	**+1.3**
	0.1nm,0.3s,baz=160,slow=6.8,SNR=4.5						
GERES	**GERESS Array B**	**16.66**	**323**	Pn	**Pn**	**20 03 35.3**	**-0.6**
	0.1nm,0.3s,baz=135,slow=9.8,SNR=2.8						
MOX	**Moxa**	**18.87**	**324**	*e*P	**Pn**	**20 04 03.7**	**+0.4**
	19nm,1.6s						
FINES	**FINESS Array B**	**25.10**	**357**	P	**P**	**20 05 07.2**	**0.0**
	2.2nm,0.8s,mb3.7,baz=165,slow=11,SNR=7.8						
TORD	**Torodi Ar. Bea**	**33.65**	**233**	P	**P**	**20 06 21.5**	**-1.8**
	0.6nm,0.5s,mb3.8,baz=38,slow=8.9,SNR=9.5						
MKAR	**Makanchi Array**	**40.54**	**58**	P	**P**	**20 07 20.6**	**-1.2**
	0.5nm,0.7s,mb3.2,baz=284,slow=7.0,SNR=6.9						

*CSEM **24** 20:07:21.6±0.1, 3783N×1487E, h20km, ML3.7/2, Error ellipse: s-maj=2.1km s-min=1.5km az=105.0*
*NEIC **24** 20:07:22.0, 3781N×1484E, h26km, ML2.7(ROM), After ROM.*
ROM 24 20:07:22.0±0.1, 3781N×1484E, h26km±2km, Md2.7/6, Ml2.7/8, 2D, Error ellipse: s-maj=2.2km s-min=1.3km az=83.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPZF	**Pizzo Felice**	**0.02**	**48**		Pb	20 07 26.7	+0.3
ESVO	**Monte Scavo**	**0.09**	**115**		Pb	20 07 27.0	+0.3
ECZM	**Case Zampini**	**0.10**	**148**		Pb	20 07 26.9	+0.1
EPOL	**Con Chiusa Pol**	**0.13**	**67**		Pb	20 07 26.7	-0.3
EMNR	**Monte Nero**	**0.15**	**88**		Pb	20 07 27.4	+0.2
ESLN	**Serra La Nave**	**0.16**	**138**	⇓*i*Pg	Pb	20 07 27.6	+0.3
ESLN				Sg	Sb	20 07 32.2	+1.3
	585nm,0.5s						
ERSA	**Rifugio Sapien**	**0.17**	**133**		Pb	20 07 27.4	0.0
EMPL	**Monte Parmente**	**0.17**	**142**		Pb	20 07 27.8	+0.4
ESPC	**Serra Pizzuta**	**0.19**	**129**		Pb	20 07 27.5	-0.2
EMFO	**Monte Fontane**	**0.21**	**112**		Pb	20 07 27.7	-0.2
EPET	**Petrulli**	**0.25**	**116**		Pb	20 07 28.4	+0.1
EVRN	**Santa Venerina**	**0.27**	**118**		Pb	20 07 28.7	+0.1
EMLP	**Malpasso**	**0.30**	**115**		Pb	20 07 29.6	+0.6
MMME	**Mongiuffi-Meli**	**0.35**	**69**	⇓*i*Pg	Pb	20 07 29.6	-0.2
MMME						20 07 29.6	
	739nm,0.3s						
VPL	**Vulcano Piano**	**0.58**	**11**	Pg	Pb	20 07 33.0	-0.5
VPL				Sg	Sb	20 07 41.8	+0.4
	570nm,0.6s						
HAGA	**Augusta**	**0.58**	**154**		Pb	20 07 33.4	-0.2
CSLB	**Castelbuono**	**0.63**	**282**	Pg	Pb	20 07 35.3	+0.9
	39nm,0.4s						
AGST	**Augusta-Monte**	**0.63**	**151**	Pg	Pb	20 07 33.9	-0.6
AGST				Sg	Sb	20 07 43.5	+0.5
	85nm,0.2s						
HVZN	**Vizzini**	**0.64**	**189**	Pg	Pb	20 07 34.7	+0.1
HVZN				Sg	Sb	20 07 44.6	+1.4
SSY	**Sortino**	**0.68**	**164**	Pg	Pb	20 07 34.8	-0.5
SSY				Sg	Sb	20 07 45.4	+1.1
	420nm,0.3s						
MSRU	**Castanea**	**0.69**	**49**	Pg	Pb	20 07 35.5	0.0
MSRU				Sg	Sb	20 07 46.5	+1.8
	302nm,0.3s						
RAFF	**Raffo Rosso**	**0.70**	**213**	Pg	Pb	20 07 36.2	+0.6
	155nm,0.8s						
MTTG	**Motta San Giov**	**0.70**	**74**	Pg	Pb	20 07 35.6	0.0
	85nm,0.6s						
SLNA	**Salina**	**0.75**	**360**	Pg	Pb	20 07 36.6	+0.2
	124nm,0.2s						
PZI	**Palazzolo**	**0.76**	**173**	Pg	Pb	20 07 36.4	-0.2
	57nm,0.1s						
IFIL	**Filicudi I Eol**	**0.78**	**344**	Pg	Pb	20 07 36.2	-0.8
IFIL				Sg	Sb	20 07 48.2	+1.0
	1μm,0.6s						
SCLL	**Scilla**	**0.82**	**57**	Pg	Pb	20 07 38.7	+1.1
	9.0nm,0.3s						
HMDC	**Modica**	**0.85**	**183**	Pg	Pb	20 07 37.8	-0.4
HMDC				Sg	Sb	20 07 50.6	+1.4
CEL	**Celeste**	**0.94**	**61**	Pg	Pn	20 07 39.8	+0.2
	98nm,0.6s						
SOI	**Samo**	**0.99**	**74**	Pg	Pn	20 07 40.4	+0.1
SOI				Sg	Sb	20 07 55.1	+1.8
	117nm,0.8s						

IDC 24 20:20:01.5±71.0, 2225S×17959W, h0km, mb4.4/3, mb1 4.6/3, mb1mx4.0/13, mbtmp4.4/3, 1D, Error ellipse: s-maj=1286.0km s-min=148.7km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.89**	**267**	*e*P	P	20 26 34.4	+6.0
	8.0nm,0.4s						
STKA	**Stephens Creek**	**35.71**	**246**	*e*P	P	20 27 00.5	-1.2
	1.5nm,0.4s						
STKA	**Stephens Creek**	**35.71**	**246**	P	P	20 27 00.6	-1.2
	1.7nm,0.5s,baz=85,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**42.70**	**259**	P	P	20 28 00.8	+0.7
	2.9nm,0.6s,baz=95,slow=7.4,SNR=57						
WB2	**Warramunga Arr**	**42.91**	**264**	⇓*i*P	P	20 28 02.8	+1.0
WRA	**Warramunga Arr**	**42.92**	**264**	P	P	20 28 03.0	+1.1
	2.3nm,0.3s,baz=94,slow=8.3,SNR=247						
KAKA	**Kakadu**	**46.56**	**273**	*e*P	P	20 28 32.3	+1.3
	3.6nm,0.8s						
FORT	**Forrest**	**47.26**	**248**	*e*P	P	20 28 33.7	-2.7
	10.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.35**	**264**	*e*P	P	20 29 07.5	-0.2
	6.4nm,1.0s						

*ISCJB **24** 20:43:49.9±0.7, 7644N±006×85E±03, h10km, mb3.2/5, Error ellipse: s-maj=13.1km s-min=7.1km az=64.9*
*BER **24** 20:43:49.3±31.0, 7782N×2963E, h15km±914km, ML2.2(NAO)*
*IDC **24** 20:43:50.1±1.0, 7653N×883E, h0km, mb3.4/5, mb1 3.6/9, mb1mx3.5/23, mbtmp3.5/9, ML3.0/

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.62	115	ePB	Pg	20 50 40.0	+1.7
ARG	Arkhangelos	0.65	253	ePB	Pg	20 50 39.0	+0.2
ARG				eSB	Sg	20 50 48.0	+0.8
YER	Yerkesik	0.87	326	PG	Pg	20 50 41.4	-1.7
ELL	Elmali	0.89	67	PG	Pg	20 50 43.5	0.0
GOLH	Golhisar	0.99	33	i P	Pg	20 50 44.8	-0.5
GOLH				i S	Sg	20 50 59.8	+1.7
DAT	Datca	1.10	287	PG	Pg	20 50 46.9	-0.6
DAT				SG	Sg	20 51 01.0	-0.8
MLSB	Milas	1.25	315	PN	Pn	20 50 48.3	-2.1
DENT	Denizli	1.35	5	PN	Pn	20 50 50.0	-1.6
BODT	Bodrum	1.42	298	PN	Pn	20 50 51.2	-1.5
AYDN	Tasoluk	1.49	327	i P	Pn	20 50 52.7	-0.8
AYDN				i S	Sn	20 51 13.1	-0.2
KARP	Karpathos	1.64	239	ePB	Pb	20 50 58.1	+1.1
KARP				eSB	Sb	20 51 20.3	+2.3
BCK	Bucak	1.72	52	PN	Pn	20 50 57.1	+0.3
ISP	Isparta	1.93	42	ePN	Pn	20 50 58.6	-1.1
ISP	Isparta	1.93	42	eP	Pn	20 51 00.8	+1.1
ISP	Isparta	1.93	42	eP	Pn	20 51 00.8	+1.1
ISP				eS	Sn	20 51 28.4	+4.2
KHL	Karahalli	1.98	15	ePN	Pn	20 50 59.7	-0.6
SMG	Samos	2.09	309	ePN	Pn	20 51 02.1	+0.2
SMG				eSN	Sn	20 51 29.3	+1.2
MANT	Manisa	2.09	353	i P	Pn	20 51 01.1	-0.8
MANT				i S	Sn	20 51 28.4	+0.2
KDAG	Bornova	2.37	328	i P	Pn	20 51 05.4	-0.3
KDAG				i S	Sn	20 51 37.4	+2.3
AKS	Akhisar	2.61	341	ePN	Pn	20 51 07.6	-1.4
IDI	Anoyia	3.44	252	Pn	Pn	20 51 20.9	+0.5
IDI	2.9nm,0.3s,baz=69,slow=16,SNR=13			Sn	Sn	20 52 01.4	+0.1
IDI	3.6nm,0.3s,baz=354,slow=18,SNR=5.9						
IDI	Anoyia	3.44	252	Sn	Sn	20 52 01.4	+0.1
PRK	Paraskevi	3.51	325	ePN	Pn	20 51 22.5	+1.1
BR131	Keskin Array S	5.00	47	eP	Pn	20 51 44.7	+2.8
BRTR	Keskin Array B	5.00	47	Pn	Pn	20 51 43.9	+2.0
BRTR	0.3nm,0.3s,baz=220,slow=15,SNR=10			Sn	Sn	20 52 45.2	+5.3
BRTR	0.4nm,0.3s,baz=218,slow=25,SNR=6.3						
BRTR	Keskin Array B	5.00	47	Pn	Pn	20 51 43.9	+2.0
BRTR				Sn	Sn	20 52 45.2	+5.3
AMAG	Maghara	6.79	147	⇑P	Pn	20 52 05.0	-1.4
AMAG				S	Sn	20 53 14.0	-10
GLL	Jalalah	7.21	160	⇓P	Pn	20 52 10.9	-1.4
SWA1		7.61	201	⇓P	Pn	20 52 18.1	+0.4
SWA1				S	Sn	20 53 36.2	-8.1
SWA2		7.71	203	⇑P	Pn	20 52 19.7	+0.6
SWA2				S	Sn	20 53 39.2	-7.4
HFRF	Wahat Farafira	9.25	183	⇓P	Pn	20 52 39.2	-0.9
MLR	Muntele Rosu	9.34	347	Pn	Pn	20 52 42.3	+0.8
GERES	0.2nm,0.3s,baz=265,slow=16,SNR=6.6 GERESS Array B	16.67	323	Pn	Pn	20 54 22.3	+1.8
FINES	0.1nm,0.3s,baz=133,slow=11,SNR=14 FINESS Array B	25.12	357	P	P	20 55 51.1	-0.8
TORD	1.6nm,0.8s,mb3.6,baz=158,slow=11,SNR=8.1 Torodi Ar. Bea	33.64	233	P	P	20 57 06.5	-1.2
	0.4nm,0.6s,mb3.5,baz=35,slow=7.9,SNR=8.6						

*NNC **24** 20:55:59.4±17.0, 4523N×9217E, h9km±36km, mb3.6, mpv3.3, Error ellipse: s-maj=127.0km s-min=121.2km az=43.0*

BJI 24 20:55:58.3, 4534N×9268E, h15km, ML3.9, 3C-1D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	3.87	249	ePG	Pg	20 57 06.5	-6.0
WMQ				SG	Sg	20 57 56.5	-6.1
WMQ	comp=N,131nm,0.6s			Smax			
WMQ	comp=E,145nm,0.6s			Smax			
MK31	Makanchi Array	7.37	285	⇑Pn	Pn	20 57 45.4	+0.1
MK31	comp=E,0.9nm,0.4s,baz=94,slow=16,SNR=17 comp=E,3.1nm,0.5s,baz=105,slow=21			⇓Sn	Sn	20 59 09.4	+0.7
MK31	comp=E,6.9nm,0.6s,baz=98,slow=31,SNR=4.3			⇑Lg		20 59 43.6	
KURK	Kurchatov	10.84	305	⇑Lg		21 01 32.9	
	comp=E,6.6nm,0.7s						

*IDC **24** 21:04:30.9±1.2, 6.13S×151.87E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML3.0/1, Error ellipse: s-maj=67.5km s-min=22.3km az=126.0*

*ISCJB **24** 21:04:38.5±4.3, 62S±03×151.5E±03, h67km±35km, mb3.6/5, Error ellipse: s-maj=61.2km s-min=27.2km az=80.9*

*NEIC **24** 21:04:38.8±3.6, 6.19S×151.72E, h59km±28km, mb4.3/1, Error ellipse: s-maj=52.6km s-min=22.7km az=120.0*

ISC 24 21:04:39.2±4.0, 61S±03×151.6E±03, h60km±33km, n13, σ0.85/10, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.48	233	Pn	Pn	21 05 58.9	+0.7
PMG	3.0nm,0.3s,baz=57,slow=9.4,SNR=9.7			Sn	Sn	21 06 58.9	-1.0
WB2	3.3nm,0.3s,baz=162,slow=21,SNR=10 Warramunga Arr	21.68	229	eP	P	21 09 25.0	+0.2
WRA	Warramunga Arr	21.68	229	P	P	21 09 25.2	+0.3
WRA	1.8nm,0.5s,mb3.8,baz=54,slow=10,SNR=24			PcP	PcP	21 13 26.8	+2.8
ASAR	0.4nm,0.7s,baz=65,slow=2.1,SNR=4.9 Alice Springs	24.38	222	P	P	21 09 53.4	+1.7
STKA	2.0nm,0.6s,mb3.7,baz=58,slow=8.9,SNR=29 Stephens Creek	27.29	199	P	P	21 10 17.1	-1.0
STKA	1.1nm,0.9s,mb3.4,baz=338,slow=16,SNR=2.5 Stephens Creek	27.29	199	P	P	21 10 17.1	-1.0
STKA				P		21 10 21.5	
FITZ	Fitzroy Crossi	27.99	242	eP	P	21 10 24.2	0.0
FITZ	15nm,1.9s,mb4.3 Fitzroy Crossi	27.99	242	P	P	21 10 24.3	+0.1
ILAR	1.9nm,0.6s,mb3.9,baz=21,slow=12,SNR=5.6 Eielson Array	83.81	22	P	P	21 17 01.3	-0.8
VNA3	0.2nm,0.5s,mb3.5,baz=256,slow=5.5,SNR=8.3 Neumayer Olymp	101.81	186	eP	Pdif	21 18 23.8	-2.0
VNA3				e		21 18 27.6	
VNA2	Neumayer--Watz	101.86	187	eP	Pdif	21 18 27.3	+1.3
VNA2	baz=320,slow=13			e		21 18 30.9	
GERES	GERESS Array B	124.51	327	PKP	PKPdf	21 23 32.6	+1.0
TORD	0.3nm,0.5s,baz=66,slow=4.5,SNR=4.7 Torodi Ar. Bea	149.53	286	PKPbc	PKPbc	21 24 23.6	+1.9
	1.0nm,0.6s,baz=83,slow=2.1,SNR=12						

IDC 24 21:15:36.1±2.3, 186N×12729E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=179.0km s-min=26.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	13.15	332	eP	Pn	21 18 34.8	-9.3
WRA	Warramunga Arr	22.75	163	P	P	21 20 40.1	+0.4
ASAR	1.4nm,0.5s,baz=341,slow=10,SNR=27 Alice Springs	26.18	166	P	P	21 21 12.2	0.0
MKAR	0.2nm,0.5s,baz=345,slow=7.3,SNR=4.2 Makanchi Array	59.40	326	P	P	21 25 40.6	+0.3
	0.2nm,0.4s,baz=122,slow=8.2,SNR=5.4						

*CSEM **24** 21:16:04.3±0.3, 7669N×751E, h2km, ML2.8, Error ellipse: s-maj=11.6km s-min=6.1km az=68.0*

*ISCJB **24** 21:16:04.5±0.6, 7654N±005×83E±02, h10km, mb3.5/10, MS3.6/14, Error ellipse: s-maj=8.4km s-min=7.2km az=81.8*

*IDC **24** 21:16:06.6±0.7, 7651N×744E, h0km, mb3.5/9, mb1 3.7/12, mb1mx3.6/21, mbtmp3.6/12, ML3.1/3, MS3.6/18, Ms1 3.6/18, ms1mx3.5/25, Error ellipse: s-maj=23.1km s-min=11.1km az=48.0*

*NEIC **24** 21:16:08.1±0.7, 7671N×760E, h10km, mb3.9/1, Error ellipse: s-maj=19.5km s-min=12.3km az=67.0*

*NAO **24** 21:16:11.1±5.1, 7657N×931E, h15km±64km, ML2.8*

*BER **24** 21:16:12.7±5.7, 7659N×1009E, h0km±105km, ML2.8(NAO)*

ISC 24 21:16:06.4±0.6, 7662N±005×84E±02, h10km, n45, σ1.45/41, mb3.5/10, MS3.6/14, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	1.69	73	eP	Pn	21 16 36.3	+0.4
HSP				eS	Sn	21 16 57.4	-0.2
SPA0	Spitsbergen Ar	2.34	44	Pn	Pn	21 16 45.9	+0.9
SPA0	baz=229,slow=14			Sn	Sn	21 17 13.5	-0.3
KBS	baz=195,slow=16 Kingsbay	2.44	16	eP	Pn	21 16 44.9	-1.3
KBS	Kingsbay	2.44	16	eP	Pn	21 16 44.9	-1.3
KBS				eS	Sn	21 17 10.8	-5.3
DAG	Danmarks Havn	6.21	284	⇑P	Pn	21 17 31.5	-6.6
JMIC	16nm,0.4s Jan Mayen	7.34	228	Pn	Pn	21 17 50.1	-3.5
ARA0	20nm,0.3s,baz=172,slow=13,SNR=3.3 ARCESS Array S	8.64	136	Pn	Pn	21 18 11.2	-0.3
ARA0	baz=329,slow=12			Sn	Sn	21 19 42.5	-6.5
ARA0	baz=343,slow=22						
ARA0	ARCESS Array S	8.64	136	Pn	Pn	21 18 11.2	-0.3
ARA0	SNR=50			Sn	Sn	21 19 42.5	-6.5
ARA0	SNR=50						
ARCES	ARCESS Array B	8.64	136	Pn	Pn	21 18 11.3	-0.2
ARCES	0.4nm,0.3s,baz=327,slow=11,SNR=14			Sn	Sn	21 19 45.6	-3.5
ARCES	0.5nm,0.3s,baz=344,slow=28,SNR=3.7			LR	LR	21 21 38.3	
ARCES	comp=Z,330nm,18.7s,baz=334,slow=38 ARCESS Array B	8.64	136	Pn	Pn	21 18 11.4	-0.1
ARCES				Sn	Sn	21 19 45.6	-3.4
SCO	Scoresbysund	10.43	250	i P	Pn	21 18 31.2	-4.8
SCO	7.6nm,0.9s Scoresbysund	10.43	250	eP	Pn	21 18 31.2	-4.8
APA0	7.6nm,0.9s Apatity Array	11.65	128	Sn	Sn	21 20 56.3	-6.5
SUMG	baz=326,slow=22 Summit	12.76	276	eP	Pn	21 19 01.9	-6.0
SUMG	18nm,0.5s Summit	12.76	276	eP	Pn	21 19 01.9	-6.0
JOF	18nm,0.5s Joensuu	15.67	139	ep	Pn	21 19 39.9	-7.4
NOA	NORSAR Array B	15.69	175	LR	LR	21 25 08.2	
KAF	comp=Z,88nm,21.7s,baz=350,slow=35 Kangasniemi	15.75	148	ep	Pn	21 19 44.6	-3.6
FIA0	FINESS Array S	16.37	149	P	Pn	21 19 57.5	+1.2
FINES	slow=16 FINESS Array B	16.37	149	Pn	Pn	21 19 56.5	+0.3
FINES	0.1nm,0.3s,baz=0.8,slow=14,SNR=4.2			LR	LR	21 26 30.2	
HFS	comp=Z,159nm,18.0s,baz=359,slow=38 Hagfors	16.67	171	P	Pn	21 20 02.4	+2.3
HFS	baz=22,slow=11 Hagfors	16.67	171	Pn	Pn	21 20 01.7	+1.6
HFS	0.1nm,0.3s,baz=3.8,slow=8.7,SNR=2.4 Hagfors	16.67	171	P	Pn	21 20 02.4	+2.3
SFJD	SNR=47 Kangerlussuaq	19.72	273	LR	LR	21 27 05.5	
FRB	comp=Z,174nm,20.5s,baz=26,slow=34 Frobisher Bay	26.56	284	LR	LR	21 32 16.0	
AKASG	comp=Z,297nm,19.9s,MS3.8,baz=206,slow=37 Malin Array Be	27.26	150	P	P	21 21 52.8	+2.0
GERES	0.3nm,0.5s,mb3.1,baz=347,slow=9.4,SNR=2.6 GERESS Array B	27.96	173	LR	LR	21 33 14.4	
DAVOX	comp=Z,85nm,18.4s,MS3.4,baz=84,slow=37 Davos	29.96	178	LR	LR	21 32 54.2	
MLR	comp=Z,64nm,20.6s,MS3.2,baz=181,slow=34 Muntele Rosu	32.07	156	LR	LR	21 36 22.8	
CHKZ	comp=Z,102nm,18.6s,MS3.5,baz=182,slow=38 Chkalovo	32.20	99	eP	P	21 22 40.2	+5.7
CHKZ	Chkalovo	32.20	99	eP	P	21 22 40.2	+5.6
AKTO	1.3nm,0.8s,mb3.8 Aktyubinsk	32.42	115	LR	LR	21 36 50.5	
SCHQ	comp=Z,196nm,18.1s,MS3.8,baz=0.0,slow=38 Schefferville	34.15	275	LR	LR	21 36 26.1	
ZAL	comp=Z,90nm,20.2s,MS3.5,baz=160,slow=36 Zalesovo	35.25	85	LR	LR	21 41 45.1	
YKA	comp=Z,44nm,19.1s,MS3.2,baz=119,slow=43 Yellowknife Ar	36.63	319	P	P	21 23 12.0	-0.9
YKA	0.7nm,0.9s,mb3.5,baz=13,slow=9.1,SNR=5.6			LR	LR	21 37 50.2	
ILAR	comp=Z,57nm,19.3s,MS3.4,baz=0.0,slow=36 Eielson Array	38.00	343	P	P	21 23 25.3	+0.8
BRTR	0.4nm,0.7s,mb3.3,baz=1.0,slow=6.7,SNR=7.9 Keskin Array B	38.60	148	P	P	21 23 32.6	+3.0
GNI	1.3nm,1.0s,mb3.6,baz=14,slow=12,SNR=4.2 Garni	39.80	135	LR	LR	21 41 02.8	
MKAR	comp=Z,85nm,20.0s,MS3.6,baz=349,slow=38 Makanchi Array	41.32	91	P	P	21 23 56.0	+3.7
MKAR	0.9nm,0.8s,mb3.5,baz=343,slow=8.0,SNR=6.4			LR	LR	21 44 48.1	
MKAR	comp=Z,122nm,18.1s,MS3.8,baz=97,slow=41 Makanchi Array	41.32	91	P	P	21 23 56.0	+3.7
MKAR				LR	LR	21 44 48.1	
IDI	Anoyia	42.10	160	LR	LR	21 43 38.7	
ULM	comp=Z,42nm,18.4s,MS3.4,baz=276,slow=39 Lac du Bonnet	44.86	298	P	P	21 24 20.9	0.0
ULM	0.8nm,0.4s,mb3.9,baz=0.0,slow=6.1,SNR=2.2			LR	LR	21 43 39.1	
SONM	comp=Z,161nm,19.0s,MS4.0,baz=19,slow=37 Songino Array	45.83	68	P	P	21 24 32.6	+4.0
SONM	0.3nm,0.8s,mb3.3,baz=327,slow=7.1,SNR=3.2			LR	LR	21 47 26.4	
PDAR	comp=Z,58nm,18.6s,MS3.5,baz=345,slow=41 Pinedale Array	54.72	307	P	P	21 25 35.8	-0.1
PDAR	0.5nm,1.0s,mb3.5,baz=71,slow=6.4,SNR=3.6			LR	LR	21 48 47.6	
TORD	comp=Z,158nm,19.4s,MS4.1,baz=21,slow=36 Torodi Ar. Bea	63.57	187	P	P	21 26 38.7	+1.4
	0.9nm,1.0s,mb3.8,baz=349,slow=3.9,SNR=4.4						

*ISCJB **24** 21:45:28.2±2.4, 43S±01×1400E±01, h43km±24km, mb3.6/2, MS3.5/1, Error ellipse: s-maj=24.1km s-min=12.9km az=88.0*

*IDC **24** 21:45:30.7±3.8, 4.10S×140.09E, h51km±34km, mb3.9/2, mb1 4.2/4, mb1mx3.7/11, mbtmp4.3/4, ML3.6/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/24, Error ellipse: s-maj=36.5km s-min=17.6km az=102.0*

*NEIC **24** 21:45:32.2±2.3, 438S×140.08E, h69km±19km, mb4.3/2, Error ellipse: s-maj=23.8km s-min=14.5km az=164.0*

ISC 24 21:45:33.8±2.1, 45S±02×1401E±01, h91km±18km, n15, σ0.67/16, mb3.5/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.55	126	P	Pn	21 47 34.5	-0.2
KAKA	1.1nm,0.3s,baz=312,slow=7.7,SNR=8.3 Kakadu	11.18	222	eP	Pn	21 48 09.2	-1.2
KAKA	33nm,0.4s			eS	Sn	21 50 14.2	+0.8
WRAB	Tennant Creek	16.39	200	eP	Pn	21 49 18.5	+0.4
WRAB	26nm,0.7s			eS	S	21 52 14.1	-12
WB2	Warramunga Arr	16.39	200	eP	Pn	21 49 19.0	+0.7
WB2				eS	S	21 52 20.3	-6.1
WRA	Warramunga Arr	16.40	200	P	Pn	21 49 18.2	-0.2
CTA	0.7nm,0.3s,baz=16,slow=13,SNR=33 Charters Tower	16.66	159	LR	LR	21 56 12.3	
FITZ	comp=Z,137nm,18.9s,baz=227,slow=38 Fitzroy Crossi	19.61	225	eP	Pn	21 49 57.3	+0.3
FITZ	9.9nm,0.9s			eS	S	21 53 29.5	-1.7
FITZ	Fitzroy Crossi	19.61	225	P	Pn	21 49 57.1	+0.1
FITZ	0.5nm,0.3s,baz=109,slow=11,SNR=10			S	S	21 53 31.4	+0.1
FITZ	0.4nm,0.3s,baz=190,slow=19,SNR=4.5			LR	LR	21 59 23.6	
ASAR	comp=Z,49nm,18.7s,baz=359,slow=42 Alice Springs	20.03	197	P	P	21 50 04.0	+4.7
ASAR	17nm,0.6s,baz=27,slow=9.7,SNR=165			S	S	21 53 49.0	+10
STKA	1.0nm,0.7s,baz=12,slow=28,SNR=4.6 Stephens Creek	27.32	177	P	P	21 51 09.8	-0.1
STKA	0.9nm,0.5s,mb3.6,baz=343,slow=11,SNR=4.0			LR	LR	22 03 25.8	
BVAR	comp=Z,146nm,20.3s,baz=197,slow=39 Borovoye Array	81.53	325	P	P	21 57 41.6	+0.3
CPUP	0.4nm,0.5s,mb3.5,baz=122,slow=7.0,SNR=4.6 Villa Florida	145.05	152	PKPbc	PKPbc	22 05 02.7	+2.7
CPUP	0.6nm,0.4s,baz=360,slow=18,SNR=2.9 Villa Florida	145.05	152	PKPbc	PKPbc	22 05 02.7	+2.7
DBIC	Dimbokro	145.07	275	PKPbc	PKPbc	22 05 01.5	+1.4
LPAZ	2.4nm,0.7s,baz=172,slow=1.7,SNR=6.2 La Paz	145.29	127	PKPbc	PKPbc	22 05 04.4	+3.6
	1.2nm,0.5s,baz=264,slow=2.2,SNR=5.9						

*CSEM **24** 21:49:08.3, 3648N×469E, h0km, ML3.5, After ALG*

CRAAG 24 21:49:08.3, 3648N×469E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	Setif	0.64	116	P	Pg	21 49 21.0	+0.4
CKHR	Kef el Ahmar	0.81	125	P	Pg	21 49 25.0	+1.1
DFRA	Djebel Bou Aff	0.96	86	P	Pg	21 49 26.0	-0.7
CMER	Merouana	1.31	131	P	Pg	21 49 34.0	+0.7
CASM	Ain Smara	1.47	98	P	Pn	21 49 36.0	-0.1

IDC 24 21:54:44.3±4.0, 1691S×17814W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, Error ellipse: s-maj=171.2km s-min=34.4km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.34	240	P	P	22 02 14.8	-0.4
WRA	2.2nm,0.5s,baz=89,slow=8.2,SNR=10 Warramunga Arr	45.07	259	P	P	22 03 02.5	+0.6
ASAR	1.0nm,0.7s,baz=92,slow=7.5,SNR=42 Alice Springs	45.31	253	P	P	22 03 04.5	+0.7
ILAR	8.0nm,0.6s,baz=88,slow=8.3,SNR=139 Eielson Array	84.86	13	P	P	22 07 20.4	-0.4
	0.2nm,0.5s,baz=225,slow=4.9,SNR=4.6						

*ISCJB **24** 22:08:50.6±2.0, 3618N±008×704E±02, h154km±26km, Error ellipse: s-maj=27.0km s-min=6.7km az=127.4*

*NNC **24** 22:08:57.4±10.0, 3667N×7011E, h107km±160km, mb3.0, mpv3.8, Error ellipse: s-maj=82.0km s-min=48.6km az=14.0*

ISC 24 22:08:53.9±2.2, 364N±01×704E±02, h216km±24km, n21, σ0.51/25, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	5.95	128	eP	S	22 11 22.0	-7.7
AML	Almayashu	6.29	23	P	Pn	22 10 24.7	-0.4
UCH	SNR=69 Uchtor	6.66	27	P	Pn	22 10 29.5	-0.3
KK31	SNR=15 Karatay Array	6.73	0	⇓P	Pn	22 10 31.1	+0.4
KK31	2.2nm,0.3s,baz=175,slow=12,SNR=128			⇓S	S	22 11 43.1	-4.8
EKS2	5.0nm,0.5s,baz=186,slow=28,SNR=11 Erkin-Say	6.80	21	P	Pn	22 10 31.8	+0.1
KZA	SNR=9.7 Kyzart	6.82	32	P	Pn	22 10 31.6	-0.3
AAK	SNR=9.2 Ala-Archa	7.00	25	P	Pn	22 10 34.4	+0.1
KBK	SNR=12 Karagaybulak	7.19	28	P	Pn	22 10 37.7	+1.1
CHMS	SNR=5.3 Chumysh	7.42	25	P	Pn	22 10 39.4	-0.2
USP	SNR=5.3 Ospenovka	7.57	23	P	Pn	22 10 41.4	-0.2
TKM2	SNR=5.2 Tokmak 2	7.66	30	P	Pn	22 10 43.1	+0.3
TKM2	SNR=5.2 Tokmak 2	7.66	30	P	Pn	22 10 42.0	-0.8
TKM2				S	S	22 12 09.6	-0.1
MK31	Makanchi Array	13.67	37	P	Pn	22 12 03.1	+4.0
KOLN	0.6nm,0.7s,baz=221,slow=15,SNR=5.3 Koldanda	14.06	124	eP	Pn	22 12 02.9	-1.0
GKN	Gorkha	14.62	121	eP	Pn	22 12 10.5	-0.2
AB31	Akbulak array	14.99	333	⇑P	Pn	22 12 21.1	+5.9
AB31	2.5nm,0.3s,baz=149,slow=13,SNR=130			⇑S	S	22 14 55.2	-6.1
DMN	1.2nm,0.5s,baz=159,slow=22,SNR=13 Daman	15.19	121	eP	Pn	22 12 17.6	-0.1
KKN	Kakani	15.20	120	eP	Pn	22 12 18.0	+0.2
GUN	Gumba	15.55	118	eP	Pn	22 12 22.8	+0.8
JIRN	Jiri	15.92	119	eP	Pn	22 12 26.6	+0.2
AKTO	Aktyubinsk	16.68	331	⇑P	P	22 12 42.6	+8.5
AKTO	0.1nm,1.0s			⇓S	S	22 15 37.1	-0.1

*ISCJB **24** 22:09:33.3±0.6, 3170S±004×7160W±009, h55km±5km, mb4.2/8, MS3.6/1, Error ellipse: s-maj=12.4km s-min=5.9km az=172.1*

*IDC **24** 22:09:34.8±2.9, 3165S×7157W, h51km±23km, mb4.0/6, mb1 4.0/12, mb1mx3.9/21, mbtmp4.1/12, ML4.3/6, MS3.4/3, Ms1 3.4/3, ms1mx3.0/19, Error ellipse: s-maj=38.8km s-min=16.4km az=108.0*

*NEIC **24** 22:09:35.3, 3185S×7157W, h45km, mb4.4/3, After GUC.*

*GUC **24** 22:09:35.3±0.9, 3185S×7157W, h45km±3km, ML4.7*

ISC 24 22:09:34.4±0.6, 3173S±003×7162W±009, h48km±5km, n49, σ0.67/62, mb4.2/8, MS3.6/1, 7C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.19	147	⇑iP	Pn	22 09 42.5	+0.1
CHNG				i S	Sn	22 09 47.8	-0.3
CHNG	comp=N,65μm,0.4s			AMP		22 09 48.2	
PACH	Papudo	0.82	169	⇑iP	Pn	22 09 49.4	-0.3
JACH	Jahuel	1.29	138	⇑iP	Pn	22 09 56.2	+0.2
ROCH	El Roble	1.34	158	⇓iP	Pn	22 09 56.8	+0.1
PEL	Peldehue	1.62	151	⇓iP	Pn	22 10 00.7	+0.2
PEL				i S	Sn	22 10 19.7	-0.5
PEL				AMP		22 10 22.1	
	comp=E,34μm,0.7s						
PEL	Peldehue	1.62	151	⇓iP	Pn	22 10 00.7	+0.2
PEL				i S	Sn	22 10 19.7	-0.5
LCCH	Las Cruces	1.74	179	⇓iP	Pn	22 10 02.1	-0.1
RCDM	Rinconada Maip	1.89	159	⇓iP	Pn	22 10 04.2	0.0
RCDM				i S	Sn	22 10 25.8	-0.9
RCDM				AMP		22 10 32.6	
	comp=E,14μm,0.1s						
RCDM	Rinconada Maip	1.89	159	⇓iP	Pn	22 10 04.2	0.0
RCDM				i S	Sn	22 10 25.8	-0.9
DSCH	Colegio Aleman	1.89	152	⇓iP	Pn	22 10 03.9	-0.3
DSCH				i S	Sn	22 10 25.6	-1.1
CLCH	Cerro Calan	1.90	152	⇑iP	Pn	22 10 04.6	+0.3
CLCH				i S	Sn	22 10 27.9	+0.9
CLCH				AMP		22 10 31.6	
	comp=E,18μm,0.5s						
SAN	Santiago	1.90	155	i P	Pn	22 10 04.5	+0.1
SAN				i S	Sn	22 10 26.9	-0.2
SAN				AMP		22 10 30.8	
	comp=E,10μm,0.7s						
SAN	Santiago	1.90	155	i P	Pn	22 10 04.5	+0.1
SAN				i S	Sn	22 10 26.9	-0.2
FCH	Farellones	1.95	145	⇑iP	Pn	22 10 05.6	+0.5
FCH				i S	Sn	22 10 28.7	+0.4
FCH				AMP		22 10 31.6	
	comp=E,9μm,0.3s						
TACH	Talagante	2.00	164	⇓iP	Pn	22 10 05.9	+0.1
ANTU	Antumapu	2.02	156	i P	Pn	22 10 06.1	+0.2
ANTU				i S	Sn	22 10 29.7	-0.2
ANTU				AMP		22 10 35.8	
	comp=E,9μm,0.3s						
ANTU	Antumapu	2.02	156	i P	Pn	22 10 06.1	+0.2
ANTU				i S	Sn	22 10 29.7	-0.2
PCH	Pirque	2.11	154	⇓iP	Pn	22 10 07.3	+0.2
LNV	Longovilo	2.23	176	⇑iP	Pn	22 10 08.2	-0.7
CHCH	Chadas Angostu	2.35	160	⇓iP	Pn	22 10 10.8	+0.3
CACH	El Canelo	2.53	160	⇑iP	Pn	22 10 13.9	+0.9
MDZ	Mendoza	2.61	117	eP	Pn	22 10 14.3	+0.2
MDZ				i		22 10 15.9	
MDZ		

LVC	**Limon Verde**	**9.39**	**16**	*e*Pn		**Pn**		**22 11 46.6**	**-0.4**
	comp=E,16nm,0.8s								
LVC				*e*Sn		**Sn**		**22 13 20.8**	**-10**
LVC				S		**Sn**		**22 13 43.0**	**+12**
TRQA	**Tornquist**	**10.12**	**131**	*e*Pn		**Pn**		**22 11 56.7**	**-0.3**
	comp=E,40nm,1.0s								
TRQA				*e*Sn		**Sn**		**22 13 44.3**	**-4.9**
CPUP	**Villa Florida**	**13.61**	**70**	P		**Pn**		**22 12 42.9**	**-1.7**
	comp=E,0.3nm,0.3s,baz=224,slow=12,SNR=6.0								
CPUP				LR		LR		22 17 54.4	
	comp=E,119nm,18.8s,baz=236,slow=37								
CPUP	**Villa Florida**	**13.61**	**70**	*e*Pn		**Pn**		**22 12 43.0**	**-1.6**
	comp=E,44nm,0.8s								
CPUP				LR		LR		22 17 54.4	
LPAZ	**La Paz**	**15.69**	**12**	P		**Pn**		**22 13 13.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=237,slow=12,SNR=4.2								
SIV	**San Ignacio**	**18.38**	**34**	P		**Pn**		**22 13 45.2**	**-0.3**
	comp=E,0.3nm,0.3s,baz=216,slow=11,SNR=8.0								
USHA	**Ushuaia**	**23.21**	**175**	P		**P**		**22 14 37.7**	**+0.5**
	comp=E,12nm,0.7s,mb4.5,baz=345,slow=5.9,SNR=6.7								
SAML	**Samuel**	**23.98**	**21**	*e*P		**P**		**22 14 44.5**	**+0.1**
	comp=E,3.5nm,0.9s,mb3.8								
BDFB	**Brasilia**	**26.81**	**59**	P		**P**		**22 15 08.8**	**-1.2**
	comp=E,9.2nm,0.9s,mb4.3,baz=238,slow=7.3,SNR=8.7								
BDFB				LR		LR		22 27 10.1	
	comp=E,162nm,18.2s,MS3.6,baz=251,slow=40								
VNA3	**Neumayer Olymp**	**51.33**	**159**	*e*		**P**		**22 18 32.9**	**-1.0**
VNA3				*e*		pP		22 18 45.6	-1.5
VNA2	**Neumayer--Watz**	**51.97**	**158**	*e*		**P**		**22 18 38.9**	**+0.2**
	baz=295,slow=9.0								
VNA2				*e*		pP		22 18 51.2	-0.7
SNAA	**Sanae**	**53.56**	**158**	P		**P**		**22 18 50.3**	**-0.1**
	comp=E,1.3nm,0.7s,mb4.0,baz=303,slow=8.6,SNR=6.9								
SNAA	**Sanae**	**53.56**	**158**	*e*P		**P**		**22 18 48.4**	**-2.0**
	comp=E,3.2nm,0.8s,mb4.3								
QSPA	**South Pole Qui**	**58.50**	**180**	*e*P		**P**		**22 19 26.3**	**+0.6**
	comp=E,6.2nm,0.7s,mb4.8								
VNDA	**Vanda**	**66.39**	**191**	P		**P**		**22 20 18.9**	**+0.5**
	comp=E,0.5nm,0.7s,mb3.7,baz=111,slow=14,SNR=3.7								
DBIC	**Dimbokro**	**74.12**	**72**	P		**P**		**22 21 05.7**	**+0.1**
	comp=E,2.3nm,0.8s,mb4.2,baz=209,slow=3.6,SNR=3.7								
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P		**P**		**22 21 55.5**	**+0.5**
	comp=E,1.5nm,0.7s,mb4.1,baz=261,slow=4.4,SNR=9.7								
WRA	**Warramunga Arr**	**122.91**	**209**	PKP		PKPdf		22 28 25.8	+0.5
	comp=E,0.8nm,0.5s,baz=160,slow=1.7,SNR=7.0								
WRAB	**Tennant Creek**	**122.92**	**209**	*e*PKPdf		PKPdf		22 28 25.5	+0.3
ZAL	**Zalesovo**	**152.10**	**30**	PKPbc		PKPbc		22 29 23.9	-0.5
	comp=E,1.1nm,0.7s,baz=133,slow=3.7,SNR=5.9								
MKAR	**Makanchi Array**	**154.97**	**46**	PKPbc		PKPbc		22 29 30.9	+0.2
	comp=E,0.2nm,0.7s,baz=319,slow=2.2,SNR=2.3								
MKAR				PKPab		PKPab		22 29 44.7	-1.5
	comp=E,0.4nm,0.6s,baz=354,slow=1.2,SNR=4.1								
MKAR	**Makanchi Array**	**154.97**	**46**	PKPbc		PKPbc		22 29 30.9	+0.2
MKAR				PKPab		PKPab		22 29 44.7	-1.6

SZGRF ***24*** *22:15:56.5, 42.28N×144.85E, h33km, mb5.0, Hokkaido, Japan, region*

BJI ***24*** *22:15:58.6, 42.18N×143.08E, h63km, mB4.9, mb4.6, Ms4.2, Msz3.9*

ISCJB ***24*** *22:16:00.5±0.3, 42.27N±0.003×143.03E±0.003, h71km±2km, mb4.5/99, Error ellipse: s-maj=4.5km s-min=3.3km az=111.2*

MOS ***24*** *22:16:00.2±1.1, 42.26N×143.00E, h67km, mb5.0/50, Error ellipse: s-maj=8.1km s-min=4.9km az=103.0*

NIED ***24*** *22:16:00, 42.30N×143.00E, h53km, Mw4.8 Best double couple: M0 1.73000×10^16 NP1:φ=29.00000°, δ=68.00000°, λ=93.00000°. NP2:φ=200.00000°, δ=23.00000°, λ=82.00000°.*

JMA ***24*** *22:16:02.4±0.1, 42.32N×142.98E, h51km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φ=223.00000°, δ=37.00000°, λ=101.00000°. NP2: φ=29.00000°, δ=54.00000°, λ=82.00000°. Principal axes: T Plg=79.0000°, Azm=267.0000°; N Plg=7.0000°, Azm=34.0000°; P Plg=9.0000°, Azm=125.0000°;*

JMA Felt III J1.

NEIC ***24*** *22:16:02.5, 42.33N×142.98E, h51km, mb4.7/58, MW4.8(NIED), After JMA.*

NEIC Recorded [3 JMA] in south-central Hokkaido and [1 JMA] in much of southern Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.

SKHL ***24*** *22:16:02.8±4.8, 42.40N×143.20E, h33km±11km, mb5.3/5, ms3.6/1*

IDC ***24*** *22:16:02.1±1.9, 42.31N×142.97E, h65km±16km, mb4.1/22, mb1 4.2/25, mb1mx4.2/26, mbtmp4.4/25, MS3.9/23, Ms1 3.9/23, ms1mx3.7/34, Error ellipse: s-maj=13.4km s-min=11.5km az=113.0*

ISC 24 22:16:01.7±0.3, 42.30N±0.003×143.03E±0.003, h68km±2km, h75km±3.4km; pP-P, n285, σ0=99/298, mb4.5/99, 51C-12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.21**	**266**	⇑P	**Pn**	**22 16 10.6**	**-1.5**
JEM	**Erimo**	**0.29**	**161**	⇑P	**Pn**	**22 16 12.1**	**-0.5**
ERM	**Erimo**	**0.29**	**162**	*e*Pn	**Pn**	**22 16 13.1**	**+0.5**
ERM				*e*Sn	**Sn**	**22 16 22.2**	**+1.6**
JCH	**Churui**	**0.40**	**37**	⇑P	**Pn**	**22 16 12.7**	**-0.7**
JCH				S	**Sn**	**22 16 20.8**	**-1.2**
JBT2	**Biratori 2**	**0.69**	**315**	⇓P	**Pn**	**22 16 15.5**	**-0.9**
JBT2				*e*S	**Sn**	**22 16 26.6**	**-0.5**
JOB	**Onbets**	**0.85**	**44**	⇑P	**Pn**	**22 16 18.8**	**+0.6**
JOB				*e*S	**Sn**	**22 16 30.3**	**-0.1**
JFR	**Furan**	**0.93**	**340**	P	**Pn**	**22 16 18.5**	**-0.7**
JFR				*e*S	**Sn**	**22 16 30.9**	**-1.2**
JAR	**Ashorobuto**	**1.14**	**28**	⇑P	**Pn**	**22 16 21.7**	**-0.2**
JAR				*e*S	**Sn**	**22 16 36.4**	**-0.5**
JEW	**Eniwo**	**1.29**	**296**	⇓P	**Pn**	**22 16 23.6**	**-0.2**
JEW				*e*S	**Sn**	**22 16 39.9**	**-0.5**
JAB	**Ashibetsu**	**1.35**	**334**	⇓P	**Pn**	**22 16 24.7**	**+0.1**
JAK	**Akkeshi**	**1.41**	**60**	⇓P	**Pn**	**22 16 25.6**	**+0.1**
ASAJ	**Asahikawa**	**1.85**	**350**	P	**Pn**	**22 16 31.9**	**+0.6**
	256nm,0.3s,baz=207,slow=12,SNR=516						
ASAJ	**Asahikawa**	**1.85**	**350**	PN	**Pn**	**22 16 31.9**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,256nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.70**	**49**	*e*P	**Pn**	**22 16 44.0**	**+1.2**
YUK				AMB	AMB	22 16 45.9	
	comp=Z,860nm,0.3s						
YUK				AMB	AMB	22 16 45.9	
	comp=Z,470nm,0.6s						
YUK				AMB	AMB	22 16 45.9	
	comp=Z,430nm,0.6s						
YUK				AMB	AMB	22 16 50.7	
	comp=Z,3μm,0.7s						
YUK				AMB	AMB	22 16 50.7	
	comp=Z,2μm,0.7s						
YUK				AMB	AMB	22 16 50.7	
	comp=Z,4μm,1.7s						
YUK				*i* S	**Sn**	**22 17 14.9**	**+0.5**
YUK				A		22 17 24.8	
	comp=Z,14μm,1.0s						
YUK				A		22 17 24.8	
	comp=Z,8μm,0.7s						
YUK				A		22 17 29.3	
	comp=Z,2μm,0.6s						
YUK				A		22 17 29.3	
	comp=Z,7μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.70**	**49**	*e*PN	**Pn**	**22 16 44.0**	**+1.2**
YUK				*i* S	**Sn**	**22 17 14.9**	**+0.5**
YUK				pmax	pmax		
	comp=Z,860nm,0.3s						
YUK				pmax	pmax		
	comp=N,470nm,0.6s						
YUK				pmax	pmax		
	comp=E,430nm,0.6s						
YUK				pmax	pmax		
	comp=Z,3μm,0.7s						
YUK				pmax	pmax		
	comp=N,4μm,1.7s						
YUK				pmax	pmax		
	comp=E,2μm,0.7s						
YUK				smax			
	comp=N,14μm,1.0s						
YUK				smax			
	comp=E,8μm,0.7s						
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=E,7μm,0.6s						
KUR	**Kuril'sk**	**4.57**	**48**	⇑*i*P	**Pn**	**22 17 07.5**	**-0.8**
KUR				AMB	AMB	22 17 10.0	
	comp=E,140nm,0.8s						
KUR				AMB	AMB	22 17 10.0	
	comp=E,3μm,0.8s						
KUR				*e*S	**Sn**	**22 18 01.5**	**+1.4**
KUR				A		22 18 17.7	
	comp=E,2μm,1.0s						
KUR				A		22 18 17.7	
	comp=E,560nm,1.0s						
KUR	**Kuril'sk**	**4.57**	**48**	⇑*i*PN	**Pn**	**22 17 07.5**	**-0.8**
KUR				*e*S	**Sn**	**22 18 01.5**	**+1.4**
KUR				pmax	pmax		
	comp=Z,140nm,0.8s						
KUR				smax			
	comp=N,2μm,1.0s						
KUR				smax			
	comp=E,560nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.66**	**358**	⇑*i*P	**Pn**	**22 17 12.2**	**+2.6**
YSS				⇑*i*P		22 17 12.2	
YSS				AMB	AMB	22 17 13.8	
	comp=E,140nm,0.9s						
YSS				AMB	AMB	22 17 13.8	
	comp=E,160nm,0.9s						
YSS				*e*S	**Sn**	**22 18 04.0**	**+1.6**
YSS				A		22 18 05.0	
	comp=E,140nm,0.9s						
YSS				A		22 18 05.0	
	comp=E,90nm,1.0s						
YSS				*e*LQ		22 18 40.0	
YSS				AMS	AMS	22 19 38.0	
	comp=E,500nm,13.0s						
YSS				AMS	AMS	22 19 38.0	
	comp=E,500nm,12.0s						
YSS	**Yuzh-Sakhalins**	**4.66**	**358**	*e*Pn	**Pn**	**22 17 11.3**	**+1.8**
YSS	**Yuzh-Sakhalins**	**4.66**	**358**	α *i*PN	**Pn**	**22 17 12.2**	**+2.6**
YSS				*e*S	**Sn**	**22 18 04.0**	**+1.6**
YSS				pmax	pmax		
	comp=N,160nm,0.9s						
YSS				pmax	pmax		
	comp=Z,140nm,0.9s						
YSS				smax			
	comp=E,140nm,0.9s						
YSS				smax			
	comp=N,90nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,12.0s						
YSS				MLR	MLR		
	comp=N,500nm,13.0s						
UGL	**Uglegorsk**	**6.82**	**355**	*e*P	**Pn**	**22 17 41.5**	**+2.4**
UGL				AMB	AMB	22 17 42.5	
	comp=N,400nm,1.2s						
UGL				AMB	AMB	22 17 43.5	
	comp=N,48nm,0.8s						
UGL				AMB	AMB	22 17 43.5	
	comp=N,66nm,0.8s						
UGL				AMB	AMB	22 17 43.5	
	comp=N,170nm,0.8s						
MAJO	**Matsushiro**	**6.85**	**215**	*e*Pn	**Pn**	**22 17 39.5**	**0.0**
	comp=N,47nm,0.6s						
MAJO	**Matsushiro**	**6.85**	**215**	*e*PN	**Pn**	**22 17 39.5**	**0.0**
MAJO				pmax	pmax		
	comp=Z,47nm,0.6s						
MAT	**Matsushiro**	**6.85**	**215**	P	**Pn**	**22 17 39.3**	**-0.2**
MAT				S	**Sn**	**22 18 59.4**	**+3.4**
MAT	**Matsushiro**	**6.85**	**215**	*e*P	**Pn**	**22 17 39.0**	**-0.5**
	comp=Z,14nm,0.7s						
MAT				*e*S	**Sn**	**22 18 59.0**	**+3.0**
MAT	**Matsushiro**	**6.85**	**215**	*e*PN	**Pn**	**22 17 39.0**	**-0.5**
MAT				*e*S	**Sn**	**22 18 59.0**	**+3.0**
MAT				pmax	pmax		
	comp=Z,14nm,0.7s						
MJAR	**Matsushiro Arr**	**6.85**	**215**	P	**Pn**	**22 17 40.1**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=33,slow=11,SNR=31						
MJAR				LR	LR	22 20 48.0	
	comp=Z,414nm,21.1s,baz=345,slow=42						
VLA	**Vladivostok**	**8.24**	**279**	*e*PN	**Pn**	**22 17 59.8**	**+1.2**
VLA				pmax	pmax		
	comp=Z,185nm,2.0s						
VLA				MLR	MLR		
	comp=Z,800nm,15.0s						
HABR	**Khabarovsk**	**8.35**	**320**	⇑*e*PN	**Pn**	**22 18 02.0**	**+2.1**
HABR				*e*S	**Sn**	**22 19 37.8**	**+5.2**
HABR				pmax	pmax		
	comp=Z,33nm,1.2s						
HABR				pmax	pmax		
	comp=Z,58nm,0.9s						
TYV	**Tymovskoe**	**8.57**	**358**	*e*P	**Pn**	**22 18 05.0**	**+1.9**
TYV				AMB	AMB	22 18 09.0	
	comp=Z,54nm,0.7s						
TYV				AMB	AMB	22 18 09.0	
	comp=Z,48nm,1.0s						
MDJ	**Mudanjiang**	**10.05**	**288**	P	**Pn**	**22 18 24.8**	**+1.6**
MDJ				XP		22 18 46.0	
MDJ				S	**Sn**	**22 20 17.3**	**+3.1**
MDJ				SS		22 20 33.9	
MDJ				SCP	ScP	22 27 54.3	-0.4
MDJ				AMB	AMB		
	comp=Z,11nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,101nm,5.4s						
MDJ				LR	LR		
	comp=N,255nm,19.6s						
MDJ				LR	LR		
	comp=E,564nm,18.8s						
MDJ				LR	LR		
	comp=Z,1μm,23.5s						
KLR	**Kul'dur**	**10.49**	**315**	*e*PN	**Pn**	**22 18 26.3**	**-2.9**
KLR				*e*		22 20 36.0	
KLR				pmax	pmax		
	comp=E,130nm,2.4s						
KLR				pmax	pmax		
	comp=Z,150nm,2.4s						
KLR				MLR	MLR		
	comp=N,700nm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s						
KS15	**Wonju Array Si**	**12.60**	**252**	*e*Pn	**Pn**	**22 18 57.8**	**-0.2**
CN2	**Changchun**	**12.95**	**283**	*e*P	**Pn**	**22 19 02.8**	**0.0**
CN2				*e*XP		22 19 24.8	
CN2				*e*S	**Sn**	**22 21 26.1**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,500nm,15.0s						
CN2				LR	LR		
	comp=E,700nm,15.0s						
CN2				LR	LR		
	comp=Z,700nm,17.0s						
JNU	**Nakatsue**	**13.27**	**230**	P	**Pn**	**22 19 06.3**	**-0.7**
	baz=43,slow=10,SNR=5.4						
SNY	**Shenyang**	**14.46**	**275**	⇑P	**Pn**	**22 19 20.3**	**-2.5**
SNY				AP		22 19 33.4	
SNY				PP		22 19 39.0	
SNY				XP	sP	22 19 43.8	-6.4
SNY				AMB	AMB		
	comp=Z,12nm,1.0s						
SNY				AMB	AMB		
	comp=Z,247nm,4.7s						
SNY				LR	LR		
	comp=E,372nm,21.6s						
SNY				LR	LR		
	comp=Z,439nm,24.0s						
CBIJ	**Chichi jima**	**15.18**	**183**	P	**Pn**	**22 19 31.8**	**-0.3**
	comp=Z,9.2nm,0.3s,baz=88,slow=24,SNR=4.6						
HIA	**Hailar**	**17.64**	**301**	*e*Pn	**Pn**	**22 20 02.4**	**-0.4**
	comp=Z,5.7nm,0.5s						
HIA	**Hailar**	**17.64**	**301**	*e*P	**Pn**	**22 20 02.4**	**-0.4**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MA2	**Magadan**	**17.95**	**13**	*e*P	**Pn**	**22 20 05.1**	**-1.5**
	comp=Z,8.7nm,0.6s						
MA2	**Magadan**	**17.95**	**13**	*e*P	**Pn**	**22 20 05.1**	**-1.5**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CLNS	**Chul'man**	**18.62**	**328**	*e*P	**Pn**	**22 20 10.5**	**-4.2**
CLNS				*e*S	**S**	**22 23 32.1**	**-10**
CLNS				pmax	pmax		
	comp=N,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,15nm,1.0s						
CLNS				smax			
	comp=N,90nm,11.5s						
CLNS				smax			
	comp=Z,16nm,7.4s						
CLNS				smax			
	comp=E,206nm,11.7s						
JOW	**Kunigami**	**19.59**	**223**	LR	LR	22 28 47.6	
	comp=E,156nm,19.7s,baz=44,slow=39						
BJI	**Beijing**	**20.32**	**273**	*e*P	**P**	**22 20 29.6**	**-2.6**
BJI				AP		22 20 45.9	
BJI				XP	sP	22 20 56.3	+1.4
BJI				AMB	AMB		
	comp=Z,19nm,1.0s						
BJI				LR	LR		
	comp=N,212nm,21.2s						
BJI				LR	LR		
	comp=E,342nm,20.8s						
BJI				LR	LR		
	comp=Z,461nm,27.3s						
BJT	**Baijiatuau**	**20.33**	**273**	*e*P	**P**	**22 20 30.6**	**-1.6**
	comp=Z,26nm,0.9s						
BJT	**Baijiatuau**	**20.33**	**273**	*e*P	**P**	**22 20 30.6**	**-1.7**
BJT				pmax	pmax		
	comp=Z,26nm,0.9s						
SSE	**Sheshan**	**20.72**	**244**	*e*P	**P**	**22 20 36.3**	**-0.2**
SSE				AP		22 20 52.5	
SSE				XP	sP	22 21 01.8	+2.5
SSE				S	**S**	**22 24 21.8**	**-2.3**
SSE				AMB	AMB		
	comp=Z,47nm,0.6s						
SSE				AMB	AMB		
	comp=Z,31nm,3.5s						
SSE				LR	LR		
	comp=N,91nm,21.1s						
SSE				LR	LR		
	comp=E,173nm,21.1s						
SSE				LR	LR		
	comp=Z,166nm,27.7s						
TIA	**Tai'an**	**20.92**	**262**	⇓P	**P**	**22 20 36.1**	**-2.6**
YAK	**Yakutsk**	**21.31**	**343**	*e*P	**P**	**22 20 40.7**	**-2.2**
	comp=Z,44nm,0.8s,mb4.8						
YAK	**Yakutsk**	**21.31**	**343**	*e*P	**P**	**22 20 40.1**	**-2.8**
YAK				*e*PP		22 20 58.7	
YAK				*e*S	**S**	**22 24 32.4**	**-3.3**
YAK				*e*		22 24 40.7	
YAK				*e*SS	sS	22 25 06.6	+7.3
YAK				*e*		22 31 57.4	
YAK				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.6						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				smax			
	comp=N,10.0nm,1.4s						
SEY	**Seymchan**	**21.39**	**12**	*e*P	**P**	**22 20 41.2**	**-2.5**
SEY				*e*		22 21 15.2	
SEY				*e*		22 24 45.3	
SEY				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.2						
SEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
SEY				MLR	MLR		
	comp=Z,85nm,22.0s						
SEY				MLR	MLR		
	comp=N,60nm,23.0s						
NJ2	**Nanjing**	**21.74**	**250**	*e*P	**P**	**22 20 48.3**	**+0.8**
NJ2				AP		22 21 04.8	
NJ2				PP		22 21 16.6	
NJ2				S	**S**	**22 24 36.0**	**-8.1**
NJ2				XS	sS	22 25 05.0	-2.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,150nm,3.6s						
NJ2				LR	LR		
	comp=N,880nm,20.4s						
NJ2				LR	LR		
	comp=E,1μm,21.0s						
NJ2				LR	LR		
	comp=Z,230nm,16.6s						
CIT	**Chita**	**22.14**	**306**	*e*P	**P**	**22 20 52.4**	**+0.7**
CIT				*e*		22 21 10.6	
CIT				*e*		22 21 26.6	
CIT				pmax	pmax		
	comp=Z,67nm,2.2s,mb4.6						
FX1	**Attu Island--F**	**22.75**	**52**	P	**P**	**22 20 59.9**	**+1.8**
	comp=Z,10nm,0.5s,mb4.4,baz=273,slow=23,SNR=5.6						
FX1	**Attu Island--F**	**22.75**	**52**	*e*P	**P**	**22 20 58.7**	**+0.6**
FX1	**Attu Island--F**	**22.75**	**52**	P	**P**	**22 20 59.9**	**+1.8**
FX1				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**23.52**	**277**	*e*P	**P**	**22 21 04.8**	**-0.8**
HHC				AP		22 21 21.9	
HHC				XP	sP	22 21 31.3	+2.0
HHC				PP		22 21 40.0	
HHC				PCP	PcP	22 24 50.1	+0.8
HHC				S	**S**	**22 25 10.3**	**-4.1**
HHC				XS	sS	22 25 39.3	-2.5
HHC				SS		22 26 02.6	
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.4						
HHC				AMB	AMB		
	comp=Z,188nm,5.5s						
HHC				LR	LR		
	comp=N,187nm,8.4s						
HHC				LR	LR		
	comp=E,307nm,15.2s						
HHC				LR	LR		
	comp=Z,296nm,22.6s						
BOD	**Bodaibo**	**24.00**	**320**	*e*P	**P**	**22 21 06.9**	**-3.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
WHN	**Wuhan**	**25.77**	**252**	*e*P	**P**	**22 21 25.0**	**-1.0**
ULN	**Ulaanbaatar**	**25.85**	**295**	*e*P	**P**	**22 21 25.8**	**-1.0**
	comp=Z,16nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**25.85**	**295**	*e*P	**P**	**22 21 25.8**	**-1.0**
ULN				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.4						
SONM	**Songino Array**	**26.29**	**295**	P	**P**	**22 21 31.2**	**+0.4**
	comp=Z,12nm,0.8s,mb4.4,baz=76,slow=8.7,SNR=95						
SONM				PcP	PcP	22 24 56.8	+1.3
	comp=Z,1.0nm,0.7s,baz=126,slow=2.9,SNR=5.1						
SONM				LR	LR	22 32 26.0	
	comp=Z,377nm,20.9s,baz=107,slow=38						
SONM	**Songino Array**	**26.29**	**295**	P	**P**	**22 21 31.2**	**+0.4**
SONM						22 24 56.8	
IRK	**Irkutsk**	**27.81**	**304**	*e*P	**P**	**22 21 43.6**	**-0.8**
IRK				*e*	pP	22 21 56.4	-4.3
IRK				pmax	pmax		
	comp=Z,35nm,3.0s						
XAN	**Xi'an**	**27.91**	**264**	P	**P**	**22 21 45.0**	**-0.3**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.0						
TLY	**Talaya**	**28.16**	**303**	⇓*i*P	**P**	**22 21 46.4**	**-1.1**
TLY				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.3						
ZAK	**Zakamensk**	**28.33**	**300**	*e*P	**P**	**22 21 49.2**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.4						
BILL	**Bilibino**	**28.64**	**18**	*e*P	**P**	**22 21 51.9**	**+0.1**
	comp=Z,1.5nm,0.4s,mb4.0						
BILL	**Bilibino**	**28.64**	**18**	*e*P	**P**	**22 21 51.9**	**+0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
GUMO	**Guam**	**28.65**	**176**	LR	LR	22 31 16.6	
	comp=Z,153nm,19.9s,baz=77,slow=32						
ENH	**Enshi**	**29.40**	**257**	*e*P	**P**	**22 21 57.7**	**-0.8**
	comp=Z,4.5nm,0.5s,mb4.3						
MOY	**Mondy**	**29.80**	**303**	*e*P	**P**	**22 22 02.4**	**+0.3**
MOY				pmax	pmax		
	comp=Z,47nm,1.7s,mb4.8						
TIXI	**Tiksi**	**30.25**	**351**	*e*P	**P**	**22 22 01.8**	**-4.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
TIXI				MLR	MLR		
	comp=Z,49nm,10.0s						
GTA	**Gaotai**	**32.56**	**280**	*e*P	**P**	**22 22 27.1**	**+0.7**
GTA				AP	pP	22 22 44.8	+2.1
GTA				XP	sP	22 22 54.1	+3.4
GTA				PP	PP	22 23 38.8	-2.2
GTA				PPP		22 23 57.8	
GTA				PCP	PcP	22 25 13.1	+1.6
GTA				S	**S**	**22 27 39.3**	**+2.4**
GTA				XS	sS	22 28 09.0	+4.1
GTA				SCP	ScP	22 28 46.0	-3.3
GTA				PCS	PcS	22 28 54.8	-1.8
GTA				SS	SS	22 29 40.9	-18
GTA				SCS	ScS	22 32 45.3	-3.6
GTA				AMB	AMB		

comp=Z,23nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,77nm,6.9s
GTA LR LR
comp=N,112nm,14.9s
GTA LR LR
comp=E,217nm,18.0s
GTA LR LR
comp=Z,233nm,21.4s
CD2 Chengdu 33.24 263⇓ *i*P **P 22 22 31.8 -0.5**
CD2 AP pP 22 22 49.8 +1.1
CD2 XP sP 22 22 58.9 +2.2
CD2 PP PP 22 23 45.5 -3.1
CD2 S **S 22 27 45.6 -1.9**
CD2 XS sS 22 28 16.8 +1.3
CD2 SS SS 22 29 52.3 -21
CD2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.5
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,220nm,12.0s
CD2 LR LR
comp=Z,60nm,16.8s
GYA Guiyang 33.62 254 P **P 22 22 35.5 -0.1**
GYA AP pP 22 22 53.4 +1.3
GYA XP sP 22 23 02.5 +2.5
GYA PP PP 22 23 50.0 -2.8
GYA S **S 22 27 50.0 -3.4**
GYA SCP ScP 22 28 52.1 -0.9
GYA SS SS 22 30 01.3 -20
GYA SCS ScS 22 32 51.4 -3.0
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
GYA AMB AMB
comp=Z,70nm,3.9s
GYA LR LR
comp=N,430nm,16.4s
GYA LR LR
comp=E,410nm,15.0s
GYA LR LR
comp=Z,400nm,16.2s
QIZ Qiongzhong 36.42 241 P **P 22 22 57.9 -1.8**
QIZ S **S 22 28 36.4 +0.1**
QIZ LR LR
comp=E,71nm,19.1s
QIZ LR LR
comp=N,113nm,21.6s
KMI Kunming 37.24 256⇑ P **P 22 23 07.5 +0.8**
KMI AP pP 22 23 25.5 +2.2
KMI PP PP 22 24 35.3 +2.6
KMI S **S 22 28 48.4 -0.4**
KMI XS sS 22 29 20.3 +3.1
KMI SS SS 22 31 21.0 -12
KMI AMB AMB
comp=Z,14nm,1.4s,mb4.7
KMI AMB AMB
comp=Z,121nm,3.1s
KMI LR LR
comp=N,174nm,15.2s
KMI LR LR
comp=E,117nm,14.0s
KMI LR LR
comp=Z,169nm,19.3s
ZAL Zalesovo 39.50 308 P **P 22 23 25.6 0.0**
comp=Z,1.4nm,0.5s,mb4.1,baz=79,slow=2.4,SNR=3.0
ZAL PcP PcP 22 25 32.9 +0.8
comp=Z,3.0nm,0.8s,baz=42,slow=2.9,SNR=5.3
ZAL LR LR 22 41 18.0
comp=Z,246nm,18.9s,baz=28,slow=38
ZAL Zalesovo 39.50 308 P **P 22 23 25.6 0.0**
ZAL 22 25 32.9
WMQ Urumqi 39.82 292 *e*P **P 22 23 28.6 +0.3**
WMQ AP pP 22 23 46.9 +1.9
WMQ XP sP 22 23 56.0 +3.1
WMQ PP PP 22 25 05.6 +4.7
WMQ PCP PcP 22 25 32.9 -0.2
WMQ *e*S **S 22 29 27.8 +0.1**
WMQ SS SS 22 32 20.5 -5.6
WMQ SCS ScS 22 33 26.1 -2.9
WMQ AMB AMB
comp=Z,21nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,135nm,4.6s
WMQ LR LR
comp=N,435nm,19.6s
WMQ LR LR
comp=E,332nm,17.0s
WMQ LR LR
comp=Z,483nm,20.4s
NVS Novosibirsk 40.29 309⇑ *i*P **P 22 23 30.8 -1.4**
NVS pmax pmax
comp=Z,30nm,1.7s,mb4.8
NVS pmax pmax
comp=E,39nm,1.8s
KDAK Kodiak Island 42.44 46 P **P 22 23 50.0 +0.2**
comp=E,8.0nm,0.7s,mb4.6,baz=124,slow=22,SNR=9.4
KDAK LR LR 22 41 59.8
comp=E,110nm,20.9s,baz=266,slow=37
MKAR Makanchi Array 42.58 298 P **P 22 23 51.0 0.0**
comp=E,16nm,0.9s,mb4.8,baz=89,slow=8.3,SNR=93
MKAR PcP PcP 22 25 43.2 +1.1
comp=E,1.4nm,0.5s,baz=46,slow=1.9,SNR=4.3
MKAR LR LR 22 42 19.7
comp=E,117nm,18.0s,baz=88,slow=37
MKAR Makanchi Array 42.58 298 P **P 22 23 51.0 0.0**
MKAR PcP PcP 22 25 43.2 +1.1
MKAR LR LR 22 42 19.7
MKAR Makanchi Array 42.58 298 P **P 22 23 51.0 +0.1**
MKAR 22 25 43.2
LSA Lhasa 43.20 270 *e*P **P 22 23 57.9 +2.0**
LSA Lhasa 43.20 270 *e*P **P 22 23 58.0 +2.0**
comp=E,14nm,1.1s,mb4.6
LSA Lhasa 43.20 270 *e*P **P 22 23 58.0 +2.1**
LSA pmax pmax
comp=Z,14nm,1.1s,mb4.6
MCK McKinley 43.62 37 *e*P **P 22 23 58.9 -0.4**
comp=Z,5.5nm,1.1s,mb4.2
MCK McKinley 43.62 37 *e*P **P 22 23 58.9 -0.4**
MCK pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
KURK Kurchatov 43.84 304⇑ *i*P **P 22 24 00.8 -0.3**
comp=Z,28nm,0.8s,mb5.0
KURK Kurchatov 43.84 304⇑ *i*P **P 22 24 00.8 -0.3**
KURK pmax pmax
comp=Z,28nm,0.8s,mb5.0
COLA College 44.01 35 *e*P **P 22 24 03.0 +0.6**
comp=Z,6.2nm,0.9s,mb4.3
COLA *ep*P pP 22 24 17.1 -2.3
COLA College 44.01 35 *e*P **P 22 24 03.0 +0.5**
COLA *e**PP pP 22 24 17.1 -2.3
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
SML Sawmill 44.08 39 *e*P **P 22 24 02.2 -0.8**
ILAR Eielson Array 44.43 35 P **P 22 24 06.0 +0.2**
comp=Z,4.1nm,0.9s,mb4.2,baz=268,slow=6.8,SNR=35
ILAR LR LR 22 46 15.0
comp=Z,45nm,19.7s,baz=8.5,slow=41
CHKZ Chkalovo 47.76 310⇑ *i*P **P 22 24 31.6 -0.3**
comp=Z,24nm,0.9s,mb5.0
CHKZ Chkalovo 47.76 310⇑ *i*P **P 22 24 31.6 -0.3**
CHKZ pmax pmax
comp=Z,24nm,0.9s,mb5.0
JIRN Jiri 47.97 271 *e*P **P 22 24 34.4 +0.8**
GUN Gumba 48.06 272 *e*P **P 22 24 35.2 +0.9**
comp=Z,59nm,0.4s,mb5.7
BVAR Borovoye Array 48.09 309 P **P 22 24 34.7 +0.2**
comp=Z,4.9nm,0.3s,mb4.8,baz=82,slow=10,SNR=47
BVAR PcP PcP 22 26 02.2 +0.9
comp=Z,3.4nm,0.5s,baz=94,slow=3.6,SNR=5.5
BRVK Borovoye 48.14 309⇑ *i*P **P 22 24 35.0 +0.2**
comp=Z,4.0nm,0.8s,mb4.3
BRVK Borovoye 48.14 309⇑ *i*P **P 22 24 35.0 +0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ULHL Ulahol 48.23 294 P **P 22 24 36.1 +0.6**
SNR=8.5
TKM2 Tokmak 2 48.39 295 P **P 22 24 37.8 +1.0**
SNR=18
KKN Kakani 48.57 272 *e*P **P 22 24 38.9 +0.7**
comp=Z,44nm,0.8s,mb5.4
KKN Kakani 48.57 272 *e*P **P 22 24 38.9 +0.7**
KKN pmax pmax
comp=Z,22nm,0.8s,mb5.1
PKI Pulchoki 48.59 272 *e*P **P 22 24 38.9 +0.5**
comp=Z,16nm,0.6s,mb5.1
PKI Pulchoki 48.59 272 *e*P **P 22 24 38.9 +0.5**
PKI pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
DMN Daman 48.80 272 *e*P **P 22 24 40.5 +0.6**
ZRNK Zerenda 48.90 309⇑ *i*P **P 22 24 40.9 +0.1**
comp=Z,34nm,1.1s,mb5.2
ZRNK Zerenda 48.90 309⇑ *i*P **P 22 24 40.9 +0.2**
ZRNK pmax pmax
comp=Z,34nm,1.1s,mb5.2
GKN Gorkha 48.93 273 *e*P **P 22 24 41.4 +0.4**
KBK Karagaybulak 48.93 295 P **P 22 24 41.7 +0.7**
SNR=24
KZA Kyzart 48.97 294 P **P 22 24 42.7 +1.5**
SNR=11
USP Ospenovka 48.99 296 P **P 22 24 41.8 +0.4**
SNR=5.4
AAK Ala-Archa 49.25 295 P **P 22 24 43.8 +0.4**
SNR=6.1
DANN Dangsing 49.39 274 *e*P **P 22 24 46.3 +1.8**
EKS2 Erkin-Say 49.72 295 P **P 22 24 47.4 +0.4**
SNR=9.8
KOLN Koldanda 49.83 273 *e*P **P 22 24 48.6 +0.8**
comp=Z,21nm,0.6s,mb5.3
AML Almayashu 50.00 295 P **P 22 24 49.2 +0.2**
SNR=11
DDI Dehra Dun 52.54 279 *ex* x 22 25 09.4
KULM Kulim 52.62 238 *e*P **P 22 25 09.2 +0.6**
ARU Arti 53.33 316 *e*P **P 22 25 13.1 -0.8**
comp=Z,42nm,1.1s,mb5.4
ARU Arti 53.33 316 *c i*P **P 22 25 13.5 -0.4**
ARU pmax pmax
comp=Z,38nm,1.0s,mb5.4
PSI Prapat 55.62 237 LR LR 22 51 56.8
comp=Z,57nm,18.1s,baz=0.7,slow=39
AKTK Aktyubinsk 56.17 310 P **P 22 25 34.6 +0.2**
AKTO Aktyubinsk 56.17 310 P **P 22 25 34.6 +0.1**
baz=70,slow=13
RES Resolute Bay 57.20 16 *e*P **P 22 25 40.6 -1.1**
comp=Z,12nm,0.9s,mb4.9
RES Resolute Bay 57.20 16 *e*P **P 22 25 40.6 -1.2**
RES pmax pmax
comp=Z,12nm,0.9s,mb4.9
YKW3 Yellowknife Ar 58.62 32 *e*P **P 22 25 50.2 -1.5**
YKA Yellowknife Ar 58.66 32 P **P 22 25 52.2 +0.2**
comp=Z,0.9nm,0.5s,mb4.1,baz=306,slow=6.6,SNR=29
ARCES ARCESS Array B 59.53 339 P **P 22 25 57.9 -0.2**
comp=Z,4.1nm,0.8s,mb4.5,baz=44,slow=8.4,SNR=14
ARCES LR LR 22 56 19.8
comp=Z,81nm,18.1s,baz=39,slow=41
HYB Hyderabad 59.69 266 *i* P **P 22 26 00.0 +0.9**
HYB Hyderabad 59.69 266 *e*P **P 22 26 00.0 +0.9**
KLMR Klimovskoe 60.02 327 *e*P **P 22 26 00.1 -1.2**
KLMR pmax pmax
comp=Z,30nm,1.9s,mb5.0
DAG Danmarks Havn 60.65 355⇓ *i*P **P 22 26 04.2 -1.4**
comp=Z,4.2nm,0.5s,mb4.7
DAG Danmarks Havn 60.65 355⇓ *e*P **P 22 26 04.2 -1.4**
comp=Z,4.2nm,0.5s,mb4.7
DAG Danmarks Havn 60.65 355⇓ *e*P **P 22 26 04.2 -1.4**
DAG pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
JOF Joensuu 61.94 331 *ep* **P 22 26 14.1 -0.2**
comp=Z,2.3nm,0.4s,mb4.6
CTA Charters Tower 62.14 177 LR LR 22 50 15.1
comp=Z,114nm,18.9s,baz=47,slow=33
CTAO Charters Tower 62.14 177 *e*P **P 22 26 14.1 -1.6**
comp=Z,27nm,1.4s,mb5.1
CTAO Charters Tower 62.14 177 *e*P **P 22 26 14.1 -1.6**
CTAO pmax pmax
comp=Z,27nm,1.4s,mb5.1
FITZ Fitzroy Crossi 62.20 199 LR LR 22 49 26.3
comp=Z,55nm,20.4s,baz=104,slow=32
WRAB Tennant Creek 62.43 189 *e*P **P 22 26 17.6 -0.1**
comp=Z,16nm,1.1s,mb5.0
WRAB *ep*P pP 22 26 29.4 -6.0
WRAB *es*P sP 22 26 34.5 -8.6
WRAB Tennant Creek 62.43 189 *e*P **P 22 26 17.6 0.0**
WRAB *e**SP sP 22 26 34.5 -8.5
WRAB pmax pmax
comp=Z,16nm,1.1s,mb5.0
WB2 Warramunga Arr 62.44 189 *e*P **P 22 26 18.0 +0.3**
WRA Warramunga Arr 62.44 189 P **P 22 26 18.2 +0.5**
comp=Z,4.5nm,0.9s,mb4.5,baz=7.3,slow=7.0,SNR=27
MOS Moscow 63.80 323 *e*P **P 22 26 25.5 -1.2**
MOS *e* 22 26 49.1
MOS *e* 22 26 57.1
KAF Kangasniemi 64.23 332 *ep* **P 22 26 27.8 -1.7**
comp=Z,2.7nm,0.6s,mb4.2,baz=46,slow=6.3
KAF Kangasniemi 64.23 332 *e*P **P 22 26 27.8 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
OBN Obninsk 64.66 322⇑ *e*P **P 22 26 30.6 -1.7**
OBN *e*S **S 22 35 23.3 +16**
OBN *e*SS SS 22 39 13.9 -5.1
OBN pmax pmax
comp=Z,13nm,1.0s,mb4.7
OBN MLR MLR
comp=Z,100nm,18.0s
FINES FINESS Array B 64.76 332 P **P 22 26 32.3 -0.7**
comp=Z,4.7nm,0.4s,mb4.7,baz=57,slow=7.1,SNR=113
FINES LR LR 22 56 09.9
comp=Z,131nm,21.3s,baz=183,slow=37
SUMG Summit 65.43 0 *e*P **P 22 26 37.4 +0.1**
comp=Z,36nm,1.1s,mb5.1
ASAR Alice Springs 66.17 189 P **P 22 26 43.2 +1.1**
comp=Z,1.2nm,0.9s,mb3.7,baz=10,slow=5.8,SNR=11
GOF Gofitskoye 67.56 311 *e*P **P 22 26 49.5 -1.4**
KIV Kislovodsk 68.44 310 *e*P **P 22 26 57.0 +0.6**
comp=Z,14nm,0.9s,mb4.8
KIV Kislovodsk 68.44 310 *c i*P **P 22 26 57.7 +1.3**
KIV pmax pmax
comp=Z,28nm,1.3s,mb4.9
ZEI Tsey 68.48 309 *i* P **P 22 26 55.9 -0.7**
ZEI *i* *PP pP 22 27 18.3 +3.6
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
FFC Flin Flon 68.64 34 *e*P **P 22 26 57.9 +0.3**
comp=Z,5.7nm,1.1s,mb4.3
FFC Flin Flon 68.64 34 *e*P **P 22 26 57.9 +0.3**
FFC pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
FCC Fort Churchill 68.76 28 *e*P **P 22 26 58.2 -0.2**
comp=Z,9.6nm,1.3s,mb4.5
FCC Fort Churchill 68.76 28 *e*P **P 22 26 58.2 -0.2**
FCC pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
GNI Garni 69.60 306 LR LR 23 00 33.3
comp=Z,51nm,20.1s,baz=48,slow=38
GNI Garni 69.60 306 *e*P **P 22 27 02.5 -1.1**
comp=Z,11nm,1.3s,mb4.5
GNI Garni 69.60 306 *d i*P **P 22 27 05.7 +2.1**
GNI pmax pmax
comp=Z,22nm,2.5s
NB2 NORSAR Subarra 69.82 337 P **P 22 27 04.3 -0.7**
comp=Z,5.5nm,0.7s,mb4.5,baz=35,slow=6.5
NB2 NORSAR Subarra 69.82 337 P **P 22 27 04.3 -0.7**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
NOA NORSAR Array B 69.82 337 P **P 22 27 04.5 -0.5**
comp=Z,6.2nm,0.8s,mb4.5,baz=36,slow=6.1,SNR=21
NOA LR LR 23 01 05.4
comp=Z,72nm,18.3s,baz=35,slow=39
NOA NORSAR Array B 69.82 337 P **P 22 27 04.5 -0.5**
NOA LR LR 23 01 05.4
HLID Hailey 69.93 49 *e*P **P 22 27 06.2 +0.6**
comp=Z,9.1nm,1.6s,mb4.3
NAO01 NORSAR Array S 70.08 337 *e*P **P 22 27 05.2 -1.4**
comp=Z,7.3nm,0.9s,mb4.5
NVAR Mina Array Bea 70.90 55 P **P 22 27 12.2 +0.7**
comp=Z,1.5nm,0.7s,mb3.9,baz=291,slow=5.6,SNR=8.6
AKASG Malin Array Be 70.92 322 P **P 22 27 11.2 -0.4**
comp=Z,1.8nm,0.4s,mb4.3,baz=41,slow=6.1,SNR=24
GCMT Greycliff 71.06 45 P **P 22 27 11.9 -0.6**
GCMT *e* pP 22 27 28.4 -2.3
MOOW Moose Ponds 71.83 47 *e*P **P 22 27 16.1 -1.0**
comp=Z,6.7nm,1.2s,mb4.3
MOOW *ep*P pP 22 27 29.2 -6.1
MOOW *es*P sP 22 27 34.7 -8.2
LOHW Long Hollow 72.00 47 P **P 22 27 17.6 -0.6**
comp=Z,5.8nm,1.3s,mb4.2
HWUT Hardware Ranch 72.80 49 *e*P **P 22 27 21.9 -1.0**
comp=Z,3.1nm,0.9s,mb4.1
DUG Dugway 73.02 51 *e*P **P 22 27 22.1 -2.1**
comp=Z,3.5nm,0.9s,mb4.2
DUG Dugway 73.02 51 *e*P **P 22 27 22.1 -2.1**
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TPNV Topopah Spring 73.10 55 *e*P **P 22 27 22.1 -2.6**
comp=Z,5.5nm,1.0s,mb4.3
TPNV Topopah Spring 73.10 55 *e*P **P 22 27 22.1 -2.6**
TPNV pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
BW06 Boulder Array 73.14 47 *e*P **P 22 27 25.6 +0.7**
comp=Z,1.1nm,0.4s,mb4.0
PDAR Pinedale Array 73.14 47 P **P 22 27 26.4 +1.4**
comp=Z,1.6nm,1.0s,mb3.8,baz=268,slow=0.9,SNR=8.9
STKA Stephens Creek 73.82 181 P **P 22 27 28.2 -0.7**
comp=Z,2.4nm,0.9s,mb3.9,baz=76,slow=1.4,SNR=4.0
STKA LR LR 23 01 19.0
comp=Z,75nm,19.7s,baz=25,slow=37
STKA Stephens Creek 73.82 181 *e*P **P 22 27 26.9 -2.0**
ULM Lac du Bonnet 74.45 35 P **P 22 27 32.8 +0.2**
comp=Z,3.0nm,0.7s,mb4.1,baz=305,slow=4.6,SNR=7.8
MIB Mutribah 74.48 296 *e*P **P 22 27 32.5 -0.3**
MIB AMb AMB 22 27 33.7
comp=Z,27nm,0.7s,mb5.1
MALT Malatya 74.53 308 *e*P **P 22 27 34.5 +1.4**
comp=Z,6.1nm,1.0s,mb4.3
MALT Malatya 74.53 308 *e*P **P 22 27 34.5 +1.4**
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
KWP Kalwaria 74.59 324 *e*P **P 22 27 34.5 +1.1**
KBD Kabd 74.64 295 *e*P **P 22 27 33.8 0.0**
QRN Al-Qurain 74.77 295 *e*P **P 22 27 34.5 0.0**
QRN AMb AMB 22 27 35.4
comp=Z,38nm,0.4s,mb5.5
NAY Al-Naaiem 74.90 296 *e*P **P 22 27 35.0 -0.3**
NAY AMb AMB 22 27 36.0
comp=Z,14nm,0.6s,mb4.8
RDF Al-Radifah 74.90 295 *e*P **P 22 27 35.3 +0.1**
RDF AMb AMB 22 27 36.4
comp=Z,43nm,0.7s,mb5.3
BURAR Bucovina Array 74.96 322 ⇑P **P 22 27 35.9 +0.3**
KOLS Kolonicke sedl 75.30 324 *e* **P 22 27 31.9 -5.6**
KOLS *e* pP 22 27 54.4 -1.4
OJC Ojcow 75.37 326 *e*P **P 22 27 38.5 +0.6**
STHS Stebnicka Huta 75.38 325 *e* **P 22 27 35.4 -2.5**
MLR Muntele Rosu 76.18 320 LR LR 23 03 57.7
comp=Z,119nm,19.3s,baz=106,slow=38
KSP Ksiaz 76.28 328 *e*P **P 22 27 44.1 +1.0**
KSP Ksiaz 76.28 328 *e*P **P 22 27 43.7 +0.6**
KSP *e**PP pP 22 28 07.0 +5.5
BR131 Keskin Array S 76.30 312 *e*P **P 22 27 43.4 +0.2**
comp=Z,1.2nm,0.6s,mb3.8
BRTR Keskin Array B 76.30 312 P **P 22 27 44.0 +0.8**
comp=Z,2.0nm,0.8s,mb3.9,baz=66,slow=4.6,SNR=10
KECS Kecovo 76.41 325 *e* **P 22 27 38.5 -5.3**
KECS *e* pP 22 27 56.9 -5.3
MORC Moravsky Berou 76.63 327 *e*P **P 22 27 45.4 +0.3**
comp=Z,4.5nm,1.0s,mb4.2
MORC Moravsky Berou 76.63 327 *e*P **P 22 27 45.4 +0.3**
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
UPC Upice 76.66 328 *e*P **P 22 27 45.9 +0.7**
UPC *ep*P pP 22 28 08.0 +4.4
DPC Dobruska-Polom 76.66 328 *e*P **P 22 27 45.9 +0.6**
DPC *ep*P pP 22 28 08.3 +4.7
VYHS Vyhne 77.10 326 *e* **P 22 27 46.6 -1.1**
VYHS *e* pP 22 28 04.7 -1.4
CLL Collm 77.15 330⇑ *i*P **P 22 27 47.6 -0.4**
comp=Z,10.0nm,0.9s,mb4.5
CLL *i* PcP PcP 22 27 56.6 -1.9
CLL *i* pP pP 22 28 04.3 -2.1
CLL *i* x x 22 28 10.6
CLL Collm 77.15 330⇑ *i*P **P 22 27 47.6 -0.4**
CLL *i* *PP pP 22 28 04.3 -2.1
CLL *i* pP 22 28 10.6 +4.2
CLL pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VRAC Vranov 77.38 327 LR LR 23 06 13.3
comp=Z,102nm,18.1s,baz=355,slow=39
PRU Pruhonice 77.64 329 *e*P **P 22 27 51.6 +0.9**
PRU *ep*P pP 22 28 13.5 +4.3
BZS Buzias 78.10 322 ⇓P **P 22 27 53.2 -0.1**
MOX Moxa 78.20 331 *e*P **P 22 27 53.8 0.0**
comp=Z,31nm,1.9s,mb4.7
MOX Moxa 78.20 331 *e*P **P 22 27 53.8 0.0**
MOX pmax pmax
comp=Z,31nm,1.9s,mb4.7
NKC Novy Kostel 78.23 330 *e*P **P 22 27 54.5 +0.5**
KHC Kasperske Hory 78.71 329 *e*P **P 22 27 57.2 +0.6**
KHC Kasperske Hory 78.71 329⇑ *e*P **P 22 27 57.4 +0.8**
GERES GERESS Array B 78.89 329 P **P 22 27 57.8 +0.2**
comp=Z,1.3nm,0.7s,mb3.9,baz=31,slow=6.2,SNR=12
GERES LR LR 23 04 15.5
comp=Z,108nm,18.5s,baz=81,slow=37
GRA1 Grafenberg Arr 79.13 330 *e*P **P 22 27 59.9 +1.0**
comp=Z,27nm,1.3s,mb4.9
GRF Grafenberg Arr 79.13 330 *e*P **P 22 27 59.9 +1.0**
comp=Z,27nm,1.3s,mb4.9
GRF Grafenberg Arr 79.13 330 *e*P **P 22 27 59.9 +1.0**
GRF pmax pmax
comp=Z,27nm,1.3s,mb4.9
GRF Grafenberg Arr 79.13 330 *e*P **P 22 27 59.9 +1.0**
GRF pmax pmax
comp=Z,27nm,1.3s,mb4.9
SCHQ Schefferville 79.95 17 P **P 22 28 03.7 +0.3**
comp=Z,2.4nm,0.8s,mb4.1,baz=330,slow=9.0,SNR=4.5
SCHQ LR LR 23 07 36.6
comp=Z,62nm,18.3s,baz=41,slow=39
SCHQ Schefferville 79.95 17 P **P 22 28 03.7 +0.3**
SCHQ LR LR 23 07 36.6
CBKS Cedar Bluff 81.18 45 *e*P **P 22 28 09.7 -0.3**
comp=Z,13nm,0.8s,mb4.8
CBKS Cedar Bluff 81.18 45 *e*P **P 22 28 09.7 -0.3**
CBKS pmax pmax
comp=Z,13nm,0.8s,mb4.8
CDF Champ du Feu 81.61 332 *e*P **P 22 28 12.3 0.0**
comp=Z,6.2nm,0.8s,mb4.2
CDF Champ du Feu 81.61 332 *e*P **P 22 28 12.3 0.0**
comp=Z,3.1nm,0.8s,mb4.2
CDF Champ du Feu 81.61 332 *e*P **P 22 28 12.3 0.0**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
DAVOX Davos 82.05 330 LR LR 23 07 30.9
comp=Z,115nm,19.2s,baz=63,slow=38
LOR Lormes 83.77 333⇑ *i*P **P 22 28 23.3 -0.1**
comp=Z,15nm,0.9s,mb4.5
LOR *e*R
comp=Z,160nm,22.2s
LOR Lormes 83.77 333⇑ *i*P **P 22 28 23.3 -0.1**
comp=Z,7.4nm,0.9s,mb4.5
LOR LR LR
comp=Z,160nm,22.3s
LOR Lormes 83.77 333⇑ *i*P **P 22 28 23.3 -0.1**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
LOR MLR MLR
comp=Z,160nm,22.3s
LDF La Druitiere 83.85 336 *e*P **P 22 28 23.9 +0.1**
SSF Saint Saulge 84.06 334⇑ *i*P **P 22 28 24.9 -0.1**
comp=Z,14nm,1.0s,mb4.4
SSF Saint Saulge 84.06 334⇑ *i*P **P 22 28 24.9 -0.1**
comp=Z,6.8nm,1.0s,mb4.4
SSF Saint Saulge 84.06 334⇑ *i*P **P 22 28 24.9 -0.1**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRR Gorron 84.25 337 *e*P **P 22 28 26.7 +0.8**
IDI Anoyia 84.30 314 LR LR 23 09 55.4
comp=Z,30nm,20.0s,baz=76,slow=38
SMF Signal de Mont 84.32 333⇑ *i*P **P 22 28 26.3 +0.1**
comp=Z,18nm,1.0s,mb4.6
SMF Signal de Mont 84.32 333⇑ *i*P **P 22 28 26.3 +0.1**
comp=Z,9.1nm,1.0s,mb4.6
SMF Signal de Mont 84.32 333⇑ *i*P **P 22 28 26.3 +0.1**
SMF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
AVF Avril sur Loir 84.35 333⇑ *i*P **P 22 28 26.5 +0.1**
comp=Z,23nm,0.9s,mb4.7
AVF Avril sur Loir 84.35 333⇑ *i*P **P 22 28 26.5 +0.1**
comp=Z,12nm,0.9s,mb4.7
AVF Avril sur Loir 84.35 333⇑ *i*P **P 22 28 26.5 +0.1**
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.7
WMOK Wichita Mounta 84.74 47 *e*P **P 22 28 27.9 -0.5**
comp=Z,9.1nm,1.3s,mb4.5
WMOK *ep*P pP 22 28 41.0 -6.1
WMOK *es*P sP 22 28 46.5 -7.9
WMOK Wichita Mounta 84.74 47 *e*P **P 22 28 27.9 -0.5**
WMOK *e**SP sP 22 28 46.6 -7.8
WMOK pmax pmax

comp=Z,9.0nm,1.3s,mb4.5
MBDF Montbardon 84.95 330 *e*P P **22 28 29.5 +0.1**
ORIF Oris-en-Rattie 85.11 131 *e*P P **22 28 30.8 +0.6**
ORIF *e*R
comp=Z,90nm,19.8s
VIVF Saint-Julien-I 85.59 332 *e*P P **22 28 33.1 +0.5**
comp=Z,7.4nm,0.8s,mb4.3
VIVF Saint-Julien-I 85.59 332 *e*P P **22 28 33.1 +0.5**
comp=Z,3.7nm,0.8s,mb4.4
VIVF Saint-Julien-I 85.59 332 *e*P P **22 28 33.1 +0.5**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MFF Saint Martin d 85.64 336⇑*i*P P **22 28 33.4 +0.6**
comp=Z,22nm,0.9s,mb4.8
MFF Saint Martin d 85.64 336⇑*i*P P **22 28 33.4 +0.6**
comp=Z,11nm,0.9s,mb4.8
MFF Saint Martin d 85.64 336⇑*i*P P **22 28 33.4 +0.6**
MFF pmax pmax
comp=Z,11nm,0.9s,mb4.8
PPT Papeete 85.93 118 LR LR 23 03 07.4
comp=Z,176nm,18.9s,baz=359,slow=33
FRF La Foret Royal 85.99 330 *e*P P **22 28 35.5 +0.9**
LMR La Mourre 86.24 330 *e*P P **22 28 35.6 -0.2**
comp=Z,69nm,1.3s,mb5.1
LMR La Mourre 86.24 330 *e*P P **22 28 35.6 -0.2**
comp=Z,34nm,1.3s,mb5.1
LMR La Mourre 86.24 330 *e*P P **22 28 35.6 -0.2**
LMR pmax pmax
comp=Z,34nm,1.3s,mb5.1
RJF Les Rejaudoux 86.27 334 *e*P P **22 28 36.5 +0.5**
CAF Calviac 86.42 333⇑*i*P P **22 28 37.8 +1.1**
comp=Z,28nm,1.0s,mb4.8
CAF Calviac 86.42 333⇑*i*P P **22 28 37.8 +1.1**
comp=Z,14nm,1.0s,mb4.8
CAF Calviac 86.42 333⇑*i*P P **22 28 37.8 +1.1**
CAF pmax pmax
comp=Z,14nm,1.0s,mb4.8
LASF Ste Croix 86.56 332 *e*P P **22 28 38.1 +0.7**
LFF La Frestale 86.84 334⇑*i*P P **22 28 39.8 +1.0**
comp=Z,66nm,1.2s,mb5.1
LFF La Frestale 86.84 334⇑*i*P P **22 28 39.8 +1.0**
comp=Z,33nm,1.3s,mb5.1
LFF La Frestale 86.84 334⇑*i*P P **22 28 39.8 +1.0**
LFF pmax pmax
comp=Z,33nm,1.3s,mb5.1
EPF Esparros 88.67 334 *e*P P **22 28 48.1 +0.6**
comp=Z,13nm,1.0s,mb4.6
EPF Esparros 88.67 334 *e*P P **22 28 48.1 +0.6**
comp=Z,6.7nm,1.0s,mb4.6
EPF Esparros 88.67 334 *e*P P **22 28 48.1 +0.6**
EPF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ETSF Etsaut 89.09 334 *e*P P **22 28 50.0 +0.5**
comp=Z,6.4nm,0.6s,mb4.5
ETSF Etsaut 89.09 334 *e*P P **22 28 50.0 +0.5**
comp=Z,3.2nm,0.6s,mb4.5
ETSF Etsaut 89.09 334 *e*P P **22 28 50.0 +0.5**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ESDC Sonseca Array 93.09 335 P P **22 29 08.3 +0.3**
comp=Z,2.0nm,0.9s,mb4.5,baz=16,slow=3.3,SNR=5.4
TORD Torodi Ar. Bea 114.38 318 PKP PKiKP 22 34 34.2 +0.5
comp=Z,0.2nm,0.5s,baz=19,slow=3.1,SNR=5.0
TORD PP PP 22 35 27.6 -2.8
comp=Z,2.7nm,1.1s,baz=13,slow=3.3,SNR=9.7
VNDA Vanda 120.11 175 PKP PKPdf 22 34 44.6 0.0
comp=Z,1.1nm,0.9s,baz=342,slow=7.5,SNR=3.4
DBIC Dimbokro 123.15 321 PKP PKPdf 22 34 51.1 +0.6
comp=Z,1.9nm,0.7s,baz=327,slow=16,SNR=4.3
VNA2 Neumayer--Watz 147.71 198 *e*PKPdf PKPdf 22 35 38.4 +2.7
VNA2 *e* 22 35 41.7
VNA2 *e* 22 35 52.3
VNA2 *e* 22 35 55.9
VNA2 *e* 22 36 01.0
VNA2 *e* 22 36 08.5
VNA3 Neumayer Olymp 147.96 196 *e*PKPdf PKPdf 22 35 38.7 +2.6
VNA3 *e* 22 35 42.3
VNA3 *e* 22 35 53.0
VNA3 *e* 22 35 56.5
BDFB Brasilia 151.79 23 PKPbc PKPbc 22 35 50.5 +1.9
comp=Z,3.9nm,0.7s,baz=214,slow=1.6,SNR=7.3

NIED ***24*** *22:39:00, 3100N×14160E, h5km, Mw4.1 Best double couple: M0:1.71000×10^15 NP1:φ=169.00000°, δ=64.00000°, λ=38.00000°. NP2:φ=60.00000°, δ=57.00000°, λ=148.00000°.*
JMA ***24*** *22:39:49.9±0.4, 3099N×14161E, h0km, M3.9*
IDC ***24*** *22:39:50.6±0.7, 3099N×14177E, h0km, mb4.0/16, mb1 4.2/19, mb1mx4.1/25, mbtmp4.0/19, ML3.8/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/37, Error ellipse: s-maj=20.2km s-min=15.1km az=77.0*
ISCJB ***24*** *22:39:51.8±1.7, 3103N±003×14183E±008, h24km±13km, mb4.1/24, MS3.2/1, Error ellipse: s-maj=11.8km s-min=4.6km az=146.1*
BJI ***24*** *22:39:52.4, 3093N×14196E, h48km, mB4.8, mb4.1*
MOS ***24*** *22:39:53.2±1.1, 3104N×14186E, h34km, mb4.5/9, Error ellipse: s-maj=20.2km s-min=7.6km az=113.8*
NEIC ***24*** *22:39:55.8±0.3, 3100N×14176E, h35km, mb4.2/7, Error ellipse: s-maj=9.6km s-min=7.0km az=76.0*
ISC 24 22:39:54.1±1.9, 3102N±003×14180E±008, h25km±13km, n62, σ=1.05/70, mb4.1/24, MS3.2/1, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.68**	**322**	P	**Pn**	**22 40 35.4**	**-0.2**
JHJ2				*e*S	**Sn**	**22 41 07.1**	**-0.1**
JHJ	**Hachijo jima 2**	**2.70**	**321**	Pn	**Pn**	**22 40 34.2**	**-1.7**
	13nm,0.3s,baz=58,slow=23,SNR=2.4						
JHJ				Sn	**Sn**	**22 41 07.0**	**-0.8**
	34nm,0.3s,baz=30,slow=20,SNR=3.8						
JHJ				LR	LR	22 41 07.1	
	comp=Z,1μm,20.7s,baz=51,slow=28						
BSO1	**Boso 1**	**3.69**	**349**	P	**Pn**	**22 40 49.2**	**-0.2**
BSO1				S	**Sn**	**22 41 31.2**	**-0.9**
BSO2	**Boso 2**	**3.82**	**347**	S	**Sn**	**22 41 34.7**	**-0.7**
JKO	**Kozu shima**	**3.87**	**325**	*e*S	**Sn**	**22 41 36.2**	**-0.5**
BSO3	**Boso 3**	**3.92**	**344**	S	**Sn**	**22 41 36.2**	**-1.7**
CBIJ	**Chichi jima**	**3.93**	**175**	Pn	**Pn**	**22 40 51.5**	**-1.3**
	16nm,0.3s,baz=292,slow=23,SNR=7.4						
CBIJ				Sn	**Sn**	**22 41 36.9**	**-1.2**
	20nm,0.3s,baz=295,slow=20,SNR=4.1						
CBIJ	**Chichi jima**	**3.93**	**175**	P	**Pn**	**22 40 53.3**	**+0.5**
TK01	**Tokai 1**	**4.49**	**309**	P	**Pn**	**22 40 58.8**	**-1.7**
JOD2	**Odawara 2**	**4.80**	**332**	P	**Pn**	**22 41 05.9**	**+1.1**
JOD2				S	**Sn**	**22 41 59.9**	**+0.3**
JRY	**Ryogami san**	**5.54**	**335**	P	**Pn**	**22 41 16.3**	**+1.4**
MJAR	**Matsushiro Arr**	**6.26**	**332**	Pn	**Pn**	**22 41 26.0**	**+1.1**
	4.0nm,0.3s,baz=156,slow=11,SNR=58						
MJAR				Sn	**Sn**	**22 42 39.3**	**+3.7**
	2.0nm,0.3s,baz=287,slow=6.8,SNR=5.5						
MJAR				LR	LR	22 43 55.4	
	comp=Z,316nm,18.9s,baz=185,slow=39						
MJAR	**Matsushiro Arr**	**6.26**	**332**	P	**Pn**	**22 41 26.0**	**+1.2**
MJAR						22 42 39.3	
MAJO	**Matsushiro**	**6.26**	**332**	*e*P	**Pn**	**22 41 26.3**	**+1.4**
	25nm,0.6s						
MAJO	**Matsushiro**	**6.26**	**332**	*e*P	**Pn**	**22 41 26.3**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,25nm,0.6s						
MAT	**Matsushiro**	**6.26**	**332**	P	**Pn**	**22 41 25.9**	**+1.0**
MAT				S	**Sn**	**22 42 38.4**	**+2.8**
MAT	**Matsushiro**	**6.26**	**332**	*e*P	**Pn**	**22 41 26.0**	**+1.1**
	comp=Z,16nm,0.7s						
MAT				*e*S	**Sn**	**22 42 38.0**	**+2.4**
MAT	**Matsushiro**	**6.26**	**332**	*e*P	**Pn**	**22 41 26.0**	**+1.1**
MAT				*e*S	**Sn**	**22 42 38.0**	**+2.4**
MAT				pmax	pmax		
	comp=Z,16nm,0.7s						
JMK	**Ichinoseki**	**7.92**	**357**	P	**Pn**	**22 41 47.6**	**-0.1**
JOW	**Kunigami**	**12.56**	**254**	LR	LR	22 47 46.3	
	comp=Z,72nm,18.7s,baz=258,slow=38						
YSS	**Yuzh-Sakhalins**	**15.92**	**2**	*e*P	**Pn**	**22 43 35.0**	**-1.4**
YHNB	**Yeheng**	**19.13**	**256**	*e*P	**Pn**	**22 44 16.3**	**+0.1**
HIA	**Hailar**	**24.68**	**324**	*e*P	**P**	**22 45 12.2**	**-0.7**
	comp=Z,9.2nm,1.0s,mb4.3						
HIA	**Hailar**	**24.68**	**324**	*e*P	**P**	**22 45 12.2**	**-0.7**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ULN	**Ulaanbaatar**	**31.34**	**312**	*e*P	**P**	**22 46 12.5**	**0.0**
	comp=Z,5.1nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**31.34**	**312**	*e*P	**P**	**22 46 12.5**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
SONM	**Songino Array**	**31.74**	**312**	P	**P**	**22 46 17.1**	**+1.1**
	comp=Z,3.9nm,1.1s,mb4.1,baz=118,slow=7.8,SNR=18						
SONM				LR	LR	22 58 56.0	
	comp=Z,54nm,19.2s,MS3.2,baz=225,slow=36						
BOD	**Bodaibo**	**32.90**	**333**	*e*P	**P**	**22 46 23.9**	**-2.3**
ZAK	**Zakamensk**	**34.52**	**315**	*e*P	**P**	**22 46 41.3**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
LSA	**Lhasa**	**43.41**	**282**	P	**P**	**22 47 56.3**	**+1.6**
	comp=Z,0.7nm,0.4s,mb3.7						
LSA	**Lhasa**	**43.41**	**282**	P	**P**	**22 47 56.3**	**+1.6**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
NVS	**Novosibirsk**	**47.37**	**318**	*e*P	**P**	**22 48 23.3**	**-2.7**
MKAR	**Makanchi Array**	**47.78**	**307**	P	**P**	**22 48 29.7**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=98,slow=8.7,SNR=22						
KURK	**Kurchatov**	**50.05**	**312**	*e*P	**P**	**22 48 46.2**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.6						
KURK	**Kurchatov**	**50.05**	**312**	*e*P	**P**	**22 48 46.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**51.17**	**189**	*e*P	**P**	**22 48 55.3**	**+0.3**
	comp=Z,3.9nm,0.4s,mb4.7						
WRAB	**Tennant Creek**	**51.17**	**189**	*e*P	**P**	**22 48 55.3**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**51.18**	**189**	*e*P	**P**	**22 48 54.9**	**-0.2**
WRA	**Warramunga Arr**	**51.18**	**189**	P	**P**	**22 48 54.8**	**-0.3**
	comp=Z,1.9nm,0.3s,mb4.5,baz=5.4,slow=7.5,SNR=63						
KDAK	**Kodiak Island**	**51.47**	**39**	P	**P**	**22 48 56.6**	**-0.7**
	comp=Z,5.8nm,1.0s,mb4.5,baz=148,slow=11,SNR=4.7						
KSH	**Kashi**	**53.35**	**298**	*e*P	**P**	**22 49 10.8**	**-0.5**
SML	**Sawmill**	**53.73**	**34**	*e*P	**P**	**22 49 21.9**	**+7.9**
ILAR	**Eielson Array**	**54.46**	**30**	P	**P**	**22 49 19.1**	**-0.3**
	comp=Z,1.2nm,1.1s,mb3.8,baz=258,slow=7.1,SNR=8.5						
CHKZ	**Chkalovo**	**54.77**	**316**	*e*P	**P**	**22 49 21.1**	**-0.5**
	comp=Z,1.2nm,0.5s,mb4.2						
CHKZ	**Chkalovo**	**54.77**	**316**	*e*P	**P**	**22 49 21.1**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**54.90**	**189**	P	**P**	**22 49 23.1**	**+0.6**
	comp=Z,1.1nm,0.5s,mb4.1,baz=354,slow=5.2,SNR=28						
BVAR	**Borovoye Array**	**54.97**	**316**	P	**P**	**22 49 23.3**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.1,baz=93,slow=6.9,SNR=6.1						
ZRNK	**Zerenda**	**55.81**	**316**	*e*P	**P**	**22 49 29.0**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**55.81**	**316**	*e*P	**P**	**22 49 29.0**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
INK	**Inuvik**	**59.62**	**25**	P	**P**	**22 49 56.0**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.8,baz=297,slow=7.5,SNR=3.9						
AKTK	**Aktyubinsk**	**63.02**	**314**	P	**P**	**22 50 18.7**	**-0.2**
AKTO	**Aktyubinsk**	**63.02**	**314**	P	**P**	**22 50 18.7**	**-0.2**
	comp=Z,2.4nm,0.9s,mb4.3,baz=72,slow=10.0,SNR=7.3						
AKTO	**Aktyubinsk**	**63.02**	**314**	P	**P**	**22 50 18.7**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
YKA	**Yellowknife Ar**	**68.87**	**29**	P	**P**	**22 50 56.2**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=294,slow=5.8,SNR=5.1						
FINES	**FINESS Array B**	**74.29**	**333**	P	**P**	**22 51 30.0**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=67,slow=5.0,SNR=6.1						
NVAR	**Mina Array Bea**	**78.37**	**52**	P	**P**	**22 51 55.2**	**+2.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=304,slow=5.7,SNR=5.5						
AKASG	**Malin Array Be**	**79.27**	**323**	P	**P**	**22 51 57.4**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=48,slow=5.3,SNR=6.0						
AKASG	**Malin Array Be**	**79.27**	**323**	P	**P**	**22 51 57.4**	**+0.1**
NB2	**NORSAR Subarra**	**79.85**	**338**	P	**P**	**22 52 00.1**	**-0.4**
	comp=Z,0.1nm,0.7s,mb2.9,baz=48,slow=5.6						
NOA	**NORSAR Array B**	**79.85**	**338**	P	**P**	**22 52 00.1**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=42,slow=5.3,SNR=5.3						
PDAR	**Pinedale Array**	**81.67**	**45**	P	**P**	**22 52 12.8**	**+2.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=291,slow=1.3,SNR=5.4						
BRTR	**Keskin Array B**	**83.10**	**312**	P	**P**	**22 52 18.9**	**+1.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=116,slow=5.9,SNR=8.4						

ISCJB ***24*** *23:00:44.7±1.5, 308N±0.1×1413E±05, h10km, mb3.8/8, Error ellipse: s-maj=70.2km s-min=6.1km az=145.5*
IDC ***24*** *23:00:45.3±2.2, 3077N×14136E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.7/22, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=101.0km s-min=17.1km az=72.0*
NEIC ***24*** *23:00:48.3±2.7, 3098N×14200E, h35km, Error ellipse: s-maj=112.0km s-min=9.7km az=74.0*
ISC 24 23:00:46.2±1.4, 308N±02×1414E±05, h10km, n14, σ=0.76/19, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.76**	**170**	Pn	**Pn**	**23 01 44.8**	**+0.5**
	5.6nm,0.3s,baz=291,slow=22,SNR=3.1						
CBIJ				Sn	**Sn**	**23 02 26.4**	**-2.1**
	3.6nm,0.3s,baz=296,slow=23,SNR=2.9						
MJAR	**Matsushiro Arr**	**6.32**	**336**	Pn	**Pn**	**23 02 19.6**	**+0.2**
	1.7nm,0.3s,baz=156,slow=11,SNR=23						
MJAR				Sn	**Sn**	**23 03 30.8**	**-0.8**
	0.5nm,0.3s,baz=296,slow=23,SNR=4.1						
MAJO	**Matsushiro**	**6.32**	**336**	*e*Pn	**Pn**	**23 02 19.3**	**-0.1**
	8.6nm,0.5s						
MAJO				*e*Sn	**Sn**	**23 03 30.1**	**-1.6**
MAT	**Matsushiro**	**6.32**	**336**	P	**Pn**	**23 02 19.5**	**+0.1**
MAT				S	**Sn**	**23 03 31.6**	**-0.1**
MAT	**Matsushiro**	**6.32**	**336**	*e*P	**Pn**	**23 02 20.0**	**+0.6**
	3.3nm,0.6s						
MAT				*e*S	**Sn**	**23 03 32.0**	**+0.3**
SONM	**Songino Array**	**31.66**	**313**	P	**P**	**23 07 09.8**	**+0.2**
	0.5nm,0.7s,mb3.4,baz=115,slow=7.8,SNR=4.9						
ZAL	**Zalesovo**	**46.31**	**317**	P	**P**	**23 09 12.8**	**+0.6**
	0.5nm,0.6s,mb3.6,baz=0,2,slow=11,SNR=5.3						
ZAL	**Zalesovo**	**46.31**	**317**	P	**P**	**23 09 12.8**	**+0.6**
MKAR	**Makanchi Array**	**47.67**	**307**	P	**P**	**23 09 23.6**	**+0.9**
	0.7nm,0.8s,mb3.7,baz=103,slow=9.2,SNR=7.8						
WRA	**Warramunga Arr**	**50.92**	**189**	P	**P**	**23 09 48.2**	**+0.6**
	0.8nm,0.3s,mb4.1,baz=5.5,slow=7.5,SNR=32						
ASAR	**Alice Springs**	**54.65**	**188**	P	**P**	**23 10 15.1**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=3.5,slow=5.5,SNR=7.3						
BVAR	**Borovoye Array**	**54.91**	**316**	P	**P**	**23 10 17.2**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=96,slow=5.8,SNR=4.4						
FINES	**FINESS Array B**	**74.34**	**333**	P	**P**	**23 12 24.7**	**+0.7**
	2.7nm,1.1s,mb4.1,baz=306,slow=4.5,SNR=3.0						
BRTR	**Keskin Array B**	**83.02**	**312**	P	**P**	**23 13 11.7**	**-0.1**
	1.2nm,0.9s,mb3.9,baz=66,slow=6.0,SNR=4.8						

CSEM ***24*** *23:04:25.5±0.4, 3680N×783W, h40km, mb3.5/4, Error ellipse: s-maj=8.0km s-min=4.0km az=26.0*
NEIC ***24*** *23:04:27.9±6.2, 3682N×765W, h35km, MG3.5(MDD), Error ellipse: s-maj=74.9km s-min=13.5km az=46.0*
MDD 24 23:04:24.0±1.7, 3659N×800W, h70km±27km, mb3.2/4, Error ellipse: s-maj=15.7km s-min=9.6km az=23.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**1.02**	**23**	P	Pn	23 04 41.3	-1.4
	1.9nm,0.1s,SNR=15						
EGRO				S	Sn	23 04 55.8	-0.9
	7.4nm,0.2s,SNR=24						
EGRO	**El Granado**	**1.02**	**23**	P	Pn	23 04 41.3	-1.4
	1.9nm,0.1s,SNR=15						
EGRO				S	Sn	23 04 55.8	-0.9
	7.4nm,0.2s,SNR=24						
PTEO	**Sao Teotonio**	**1.11**	**329**	*e*P	Pn	23 04 43.8	-0.1
PTEO				*e*S	Sn	23 04 58.4	-0.4
PBEJ	**Beja**	**1.43**	**4**	*e*S	Sn	23 05 05.3	-0.9
PBEJ							
	11nm,0.2s						
PBEJ	**Beja**	**1.43**	**4**	*e*S	Sn	23 05 05.3	-0.9
	11nm,0.2s						
EMIN	**Mina Concepcio**	**1.58**	**42**	P	Pn	23 04 48.6	-1.3
	0.2nm,0.1s,SNR=8.8						
EMIN				S	Sn	23 05 08.7	-0.9
	1.7nm,0.3s,SNR=7.1						
EMIN	**Mina Concepcio**	**1.58**	**42**	P	Pn	23 04 48.6	-1.3
	0.2nm,0.1s,SNR=8.8						
EMIN				S	Sn	23 05 11.4	+1.8
EMIN	**Mina Concepcio**	**1.58**	**42**	P	Pn	23 04 48.6	-1.3
EMIN				S	Sn	23 05 11.3	+1.8
ESPR	**Espera**	**1.74**	**80**	P	Pn	23 04 52.0	-0.1
	4.3nm,0.1s,SNR=8.8						
ESPR				S	Sn	23 05 11.7	-1.7
	3.9nm,0.3s,SNR=5.7						
ESPR	**Espera**	**1.74**	**80**	P	Pn	23 04 52.0	-0.1
	4.3nm,0.1s,SNR=8.8						
ESPR				S	Sn	23 05 11.7	-1.7
	3.9nm,0.3s,SNR=5.7						
MOE	**Montemor**	**1.95**	**352**	*e*S	Sn	23 05 16.5	-1.9
EBAD	**Badajoz**	**2.29**	**20**	P	Pn	23 04 59.4	-0.1
	0.2nm,0.1s,SNR=4.0						
EBAD				S	Sn	23 05 24.3	-2.5
	2.1nm,0.3s,SNR=7.1						
EBAD	**Badajoz**	**2.29**	**20**	P	Pn	23 04 59.4	-0.2
	0.2nm,0.1s,SNR=4.0						
EBAD				S	Sn	23 05 24.3	-2.5
	2.1nm,0.3s,SNR=7.1						
PTOM	**Tomar**	**3.04**	**354**	*e*S	Sn	23 05 42.6	-2.3
EADA	**Adamuz**	**3.14**	**59**	P	Pn	23 05 10.7	-0.4
	1.1nm,0.2s,SNR=10						
EADA				S	Sn	23 05 45.4	-2.1
	1.2nm,0.4s,SNR=7.5						
EADA	**Adamuz**	**3.14**	**59**	P	Pn	23 05 10.7	-0.4
	1.1nm,0.2s,SNR=10						
EADA				S	Sn	23 05 45.4	-2.0
	1.2nm,0.4s,SNR=7.5						
PCBR	**Castelo Branco**	**3.27**	**7**	*e*S	Sn	23 05 47.0	-3.5
PCBR							
	5.6nm,0.1s						
PCBR	**Castelo Branco**	**3.27**	**7**	*e*S	Sn	23 05 47.0	-3.5
	5.6nm,0.1s						
EBAN	**Banos Encina**	**3.70**	**64**	P	Pn	23 05 18.2	-0.5
	1.6nm,0.1s,SNR=7.9						
EBAN				S	Sn	23 05 59.2	-1.8
	1.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.11**	**71**	P	Pn	23 05 23.0	-1.3
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	23 06 08.7	-2.4
	4.7nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.11**	**71**	P	Pn	23 05 23.0	-1.3
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	23 06 08.7	-2.4
	4.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.51**	**66**	P	Pn	23 05 42.4	-1.1
	0.3nm,0.2s,SNR=4.0						
ETOB				S	Sn	23 06 42.0	-3.4
	0.7nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.51**	**66**	P	Pn	23 05 42.4	-1.0
	0.3nm,0.2s,SNR=4.0						
ETOB				S	Sn	23 06 42.0	-3.4

MOS ***24*** *23:12:37.3±0.7, 544S×110.10E, h542km, mb4.2/18, Error ellipse: s-maj=17.1km s-min=10.8km az=122.4*
ISCJB ***24*** *23:12:39.8±0.8, 561S±005×11015E±006, h581km±10km, mb4.4/47, Error ellipse: s-maj=11.2km s-min=5.7km az=103.0*
NEIC ***24*** *23:12:39.0±0.3, 555S×110.11E, mb4.2/16, Error ellipse: s-maj=15.4km s-min=7.4km az=45.0*
BJI ***24*** *23:12:39.0, 550S×110.10E, h551km, mB4.7, mb4.6*
IDC ***24*** *23:12:40.0±1.1, 561S×110.17E, h557km±12km, mb3.8/15, mb1 3.9/17, mb1mx3.9/21, mbtmp4.7/17, Error ellipse: s-maj=12.7km s-min=6.7km az=51.0*
ISC 24 23:12:40.3±0.7, 561S±005×11012E±006, h566km±9km, h546km±3.8km; pP-P, n117, σ=93/109, mb4.4/47, 8C-2D, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**10.18**	**318**	P	**P**	**23 14 59.5**	**-0.7**
TSM	**Tawau**	**12.52**	**38**	D		23 15 18.2	
KKM	**Kota Kinabalu**	**13.07**	**28**	P	**P**	**23 15 29.5**	**-0.4**
KKM	**Kota Kinabalu**	**13.07**	**28**⇑	*i*P	**P**	**23 15 28.9**	**-1.0**
IPM	**Ipoh**	**13.53**	**318**	P	**P**	**23 15 33.2**	**-1.3**
PSI	**Prapat**	**13.96**	**306**	P	**P**	**23 15 39.2**	**+0.3**
	1.3nm,0.3s,baz=95,slow=11,SNR=3.8						
PSI	**Prapat**	**13.96**	**306**	P	**P**	**23 15 39.2**	**+0.3**
PSI	**Prapat**	**13.96**	**306**	P	**P**	**23 15 39.2**	**+0.3**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KULM	**Kulim**	**14.38**	**319**⇑	*i*P	**P**	**23 15 41.7**	**-1.5**
MBWA	**Marble Bar**	**18.05**	**150**	*e*P	**P**	**23 16 18.1**	**+0.3**
	comp=Z,16nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.59**	**131**	*e*P	**P**	**23 16 31.4**	**-0.4**
	comp=Z,16nm,0.6s						
FITZ				*e*S	PcP	23 20 33.9	+10
FITZ	**Fitzroy Crossi**	**19.59**	**131**	P	**P**	**23 16 32.3**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=323,slow=6.4,SNR=43						
KAKA	**Kakadu**	**23.12**	**109**	*e*P	**P**	**23 17 03.0**	**-0.5**
	comp=Z,11nm,0.4s,mb4.8						
WRA	**Warramunga Arr**	**27.52**	**123**	P	**P**	**23 17 42.8**	**+0.5**
	comp=Z,7.7nm,0.3s,mb4.8,baz=292,slow=7.5,SNR=315						
WRA				PcP	PcP	23 20 42.5	+1.1
	comp=Z,2.6nm,0.4s,baz=306,slow=2.1,SNR=9.9						
WRA				S	**S**	**23 21 43.1**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=299,slow=18,SNR=6.1						
WRA	**Warramunga Arr**	**27.52**	**123**	P	**P**	**23 17 42.8**	**+0.5**
WRA						23 20 42.5	
WRA				S	**S**	**23 21 43.1**	**-1.0**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRA				smax			
	comp=E,3.0nm,0.9s						
WRAB	**Tennant Creek**	**27.52**	**123**	*e*P	**P**	**23 17 42.6**	**+0.3**
	comp=E,25nm,0.8s,mb4.9						
WRAB				*e*PcP	PcP	23 20 41.8	+0.5
WRAB	**Tennant Creek**	**27.52**	**123**	*e*P	**P**	**23 17 42.6**	**+0.3**
WRAB				*e*		23 20 41.8	
WRAB				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**27.53**	**123**	*e*P	**P**	**23 17 42.0**	**-0.4**
WB2		

comp=Z,160nm,4.6s
STKA Stephens Creek 39.36 136⇓iP P 23 19 20.6 -1.0
comp=Z,33nm,0.4s,mb5.2
STKA ePCP PcP 23 21 14.5 -1.0
STKA eS S **23 24 41.3 -1.5**
STKA Stephens Creek 39.36 136 P P 23 19 20.6 -1.0
comp=Z,22nm,0.4s,mb5.0,baz=312,slow=10,SNR=126
STKA PcP PcP 23 21 14.5 -1.0
comp=Z,6.2nm,0.5s,baz=330,slow=4.6,SNR=4.6
STKA S S **23 24 41.3 -1.5**
comp=Z,4.9nm,0.6s,baz=114,slow=19,SNR=13
STKA Stephens Creek 39.36 136⇓iP P 23 19 20.3 -1.3
STKA ePcP PcP 23 21 13.8 -1.7
XAN Xi'an 39.45 358 P P 23 19 23.0 +0.7
XAN AMB AMB
comp=Z,32nm,0.6s,mb5.0
LSA Lhasa 39.55 334 P P 23 19 25.1 +1.9
LSA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
JIRN Jiri 40.35 326 eP P 23 19 30.0 +0.4
comp=Z,27nm,0.5s,mb5.1
GUN Gumba 40.72 326 eP P 23 19 33.3 +0.8
comp=Z,31nm,0.5s,mb5.1
PKI Pulchoki 40.72 325 eP P 23 19 32.4 -0.1
DMN Daman 40.92 325 eP P 23 19 34.1 0.0
comp=Z,24nm,0.5s,mb5.0
KKN Kakani 40.96 325 eP P 23 19 34.6 +0.2
comp=Z,6.0nm,0.3s,mb4.6
GKN Gorkha 41.49 325 eP P 23 19 38.6 0.0
comp=Z,23nm,0.3s,mb5.2
LZH Lanzhou 41.89 352 eP P 23 19 43.0 +1.3
LZH AP pP 23 21 19.6 -1.7
LZH XP sP 23 22 19.6 -5.3
LZH AMB AMB
comp=Z,27nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,147nm,4.5s
KOLN Koldanda 41.92 324 eP P 23 19 41.9 0.0
GTA Gaotai 45.80 349 eP P 23 20 13.6 +1.7
GTA AP pP 23 21 53.5 -0.6
GTA PP PP 23 22 09.9 +1.7
GTA XP sP 23 22 50.8 -6.1
GTA S S **23 26 18.0 +3.4**
GTA SCS ScS 23 29 07.9 +2.5
GTA AMB AMB
comp=Z,9.0nm,0.7s,mb4.4
GTA AMB AMB
comp=Z,76nm,5.3s
HHC Hu-ho-hao-te 46.25 2 eP P 23 20 16.9 +1.6
HHC PCP PcP 23 21 41.1 +2.1
HHC AP pP 23 21 57.0 -0.8
HHC PP PP 23 22 15.1 +2.8
HHC XP sP 23 22 55.8 -4.8
HHC S S **23 26 25.1 +4.2**
HHC SCS ScS 23 29 11.0 +2.6
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb4.7
HHC AMB AMB
comp=Z,140nm,4.8s
SNY Shenyang 48.78 13 ⇑P P 23 20 33.9 -0.3
SNY AMB AMB
comp=Z,12nm,2.0s,mb4.1
MJAR Matsushiro Arr 49.49 30 P P 23 20 38.6 -0.9
comp=Z,1.3nm,0.6s,mb3.6,baz=219,slow=7.9,SNR=4.7
MJAR Matsushiro Arr 49.49 30 P P 23 20 38.6 -0.9
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MDJ Mudanjiang 52.97 17 P P 23 21 05.6 +1.0
WMQ Urumqi 53.21 340 eP P 23 21 06.8 +0.5
ULN Ulaanbaatar 53.31 357 eP P 23 21 07.3 +0.3
comp=Z,3.7nm,0.5s,mb4.0
ULN Ulaanbaatar 53.31 357 eP P 23 21 06.2 -0.8
SONM Songino Array 53.31 357 P P 23 21 07.6 +0.6
comp=Z,3.2nm,0.5s,mb3.9,baz=178,slow=8.3,SNR=54
SONM PcP PcP 23 22 05.7 +0.4
comp=Z,0.7nm,0.4s,baz=183,slow=4.2,SNR=8.1
SONM Songino Array 53.31 357 P P 23 21 07.6 +0.6
SONM 23 22 05.7
SONM pmax pmax
comp=Z,3.0nm,0.5s
SONM pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 57.71 338 P P 23 21 37.7 +0.2
comp=Z,6.1nm,0.3s,mb4.3,baz=156,slow=8.5,SNR=207
MKAR S S **23 28 54.8 +1.3**
comp=Z,0.4nm,1.0s,baz=177,slow=12,SNR=3.2
MKAR Makanchi Array 57.71 338 P P 23 21 37.7 +0.2
MKAR S S **23 28 54.8 +1.3**
MKAR pmax pmax
comp=Z,6.0nm,0.3s
KURK Kurchatov 62.32 338 eP P 23 22 06.1 -1.9
comp=Z,2.4nm,0.6s,mb3.8
KURK Kurchatov 62.32 338 eP P 23 22 06.1 -1.9
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
OPO Ambohidratompo 62.59 252 P P 23 22 10.9 +1.1
comp=Z,4.2nm,0.8s,mb3.9,baz=89,slow=5.0,SNR=7.2
ZAL Zalesovo 63.02 344 P P 23 22 11.9 -0.6
comp=Z,4.1nm,0.3s,mb4.3,baz=332,slow=5.0,SNR=18
ZAL Zalesovo 63.02 344 P P 23 22 11.9 -0.6
ZAL pmax pmax
comp=Z,4.0nm,0.3s
CHKZ Chkalovo 67.74 336 eP P 23 22 41.1 -0.9
comp=Z,2.7nm,0.4s,mb4.1
CHKZ Chkalovo 67.74 336 eP P 23 22 41.1 -0.9
CHKZ pmax pmax
comp=Z,3.0nm,0.4s,mb4.2
ZRNK Zerenda 67.89 335 eP P 23 22 41.8 -1.0
comp=Z,2.3nm,0.6s,mb3.9
ZRNK epP pP 23 24 35.6 -2.0
ZRNK Zerenda 67.89 335 eP P 23 22 41.8 -1.1
ZRNK e*PP pP 23 24 35.6 -2.0
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
YAK Yakutsk 69.11 10 eP P 23 22 49.0 -1.3
YAK pmax pmax
comp=Z,5.0nm,0.4s,mb4.4
RDF Al-Radifah 69.20 304 eP P 23 22 50.0 -0.8
UMR Umm Al-Rimmam 69.27 304 eP P 23 22 50.3 -0.9
UMR AMb AMB 23 22 51.0
comp=Z,28nm,0.4s,mb5.2
NAY Al-Naaiem 69.56 304 eP P 23 22 51.8 -1.1
NAY AMb AMB 23 22 53.1
comp=Z,5.9nm,0.7s,mb4.2
MAW Mawson 69.60 197 P P 23 22 53.6 +0.4
comp=Z,8.0nm,0.5s,mb4.5,baz=62,slow=6.6,SNR=14
MAW Mawson 69.60 197 P P 23 22 53.6 +0.4
MAW pmax pmax
comp=Z,8.0nm,0.5s
MIB Mutribah 69.66 304 eP P 23 22 52.5 -1.0
MIB AMb AMB 23 22 53.2
comp=Z,9.3nm,0.5s,mb4.5
MA2 Magadan 72.50 20 eP P 23 23 09.3 -0.8
comp=Z,3.4nm,0.7s,mb3.9
MA2 Magadan 72.50 20 eP P 23 23 09.3 -0.8
MA2 pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
KMBO Kilima Mbogo 72.84 271 P P 23 23 12.6 +0.4
comp=Z,1.7nm,0.5s,mb3.7,baz=66,slow=9.0,SNR=10
KMBO Kilima Mbogo 72.84 271 eP P 23 23 13.1 +0.9
comp=Z,1.5nm,0.6s,mb3.6
KMBO Kilima Mbogo 72.84 271 eP P 23 23 13.1 +1.0
KMBO pmax pmax
comp=Z,1.0nm,0.6s
SEY Seymchan 75.48 19⇑eP P 23 23 25.4 -1.6
VNDA Vanda 76.77 170 P P 23 23 34.4 +0.3
comp=Z,4.1nm,0.4s,mb4.2,baz=316,slow=6.5,SNR=65
VNDA Vanda 76.77 170 P P 23 23 34.4 +0.3
VNDA pmax pmax
comp=Z,4.0nm,0.4s
TIXI Tiksi 78.08 6 eP P 23 23 40.4 -0.8
TIXI pmax pmax
comp=Z,2.0nm,0.6s,mb3.6
LSZ Lusaka 80.78 255 eP P 23 23 56.2 +0.8
comp=Z,2.4nm,0.6s,mb3.8
LSZ Lusaka 80.78 255 eP P 23 23 56.2 +0.8
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
BR131 Keskin Array S 83.25 311 eP P 23 24 07.7 -0.2
comp=Z,3.0nm,0.8s,mb3.9
BR131 epP pP 23 26 07.3 -1.8
BRTR Keskin Array B 83.25 311 P P 23 24 08.0 +0.1
comp=Z,3.0nm,0.8s,mb3.9,baz=134,slow=6.8,SNR=13
BRTR Keskin Array B 83.25 311 P P 23 24 08.0 +0.1
BRTR pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 85.27 326⇑eP P 23 24 16.6 -1.2
OBN e 23 27 46.4
OBN eS 23 34 10.6
OBN pmax pmax
comp=Z,16nm,1.7s,mb4.3
AKASG Malin Array Be 88.56 321 P P 23 24 32.4 -0.9
comp=Z,1.5nm,0.4s,mb4.2,baz=94,slow=4.3,SNR=6.7
AKASG Malin Array Be 88.56 321 iP P 23 24 32.9 -0.3
AKASG pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 89.88 333 ep P 23 24 39.1 -0.3
TSUM Tsumeb 90.57 251 eP P 23 24 43.3 +0.8
comp=Z,0.9nm,0.6s,mb3.9
FINES FINESS Array B 92.04 331 P P 23 24 48.8 -0.5
comp=Z,2.3nm,1.2s,mb4.1,baz=115,slow=7.5,SNR=6.5
FINES FINESS Array B 92.04 331 P P 23 24 48.8 -0.5
FINES pmax pmax
comp=Z,2.0nm,1.2s
TORD Torodi Ar. Bea 109.17 282 PKiKP PKiKP 23 30 07.0 +0.7
comp=Z,0.9nm,0.6s,baz=38,slow=1.0,SNR=7.8
TORD PKKPbc PKKPbc 23 41 17.6 +3.7
comp=Z,0.2nm,0.4s,baz=226,slow=39,SNR=2.3
YKA Yellowknife Ar 114.47 21 PKP PKPdf 23 30 16.1 -0.3
comp=Z,0.9nm,0.6s,baz=328,slow=1.9,SNR=19
YKA Yellowknife Ar 114.47 21 PKIKP PKPdf 23 30 16.1 -0.3
YKA pmax pmax
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 125.37 46 PKP PKPdf 23 30 40.2 +2.9
comp=Z,1.4nm,0.8s,baz=241,slow=2.6,SNR=5.3
PDAR Pinedale Array 129.03 37 PKP PKPdf 23 30 46.2 +2.0
comp=Z,0.6nm,0.6s,baz=131,slow=1.2,SNR=3.7
ULM Lac du Bonnet 130.45 22 PKP PKPdf 23 30 47.9 +0.9
comp=Z,0.8nm,0.3s,baz=267,slow=1.8,SNR=3.1
ULM SKPbc SKPbc 23 33 19.7 +1.6
comp=Z,5.0nm,0.8s,baz=322,slow=4.5,SNR=15
SCHQ Schefferville 130.86 358 PKP PKPdf 23 30 48.2 +0.5
comp=Z,3.2nm,1.1s,baz=39,slow=4.4,SNR=5.1
SCHQ SKPbc SKPbc 23 33 21.4 +1.9
comp=Z,2.4nm,0.5s,baz=22,slow=3.1,SNR=23
JCT Junction City 142.53 45 ePKPdf PKPdf 23 31 07.2 -2.0
CFAA Coronel Fontan 142.96 182 PKP PKPdf 23 31 09.3 -0.7
comp=Z,2.5nm,0.6s,baz=190,slow=3.5,SNR=27
WCI Wyandotte Cave 144.26 22 ePKPdf PKPdf 23 31 12.5 +0.3
WVT Waverly 145.44 26 ePKPbc PKPbc 23 31 16.3 +0.7
HKT Hockley 145.58 42 ePKPbc PKPbc 23 31 15.6 -0.4
CPUP Villa Florida 146.00 200 PKPbc PKPbc 23 31 18.4 +1.3
comp=Z,4.5nm,0.4s,baz=141,slow=2.1,SNR=16
CPUP Villa Florida 146.00 200 PKP2 PKPab 23 31 18.5 -0.7
CPUP pmax pmax
comp=Z,5.0nm,0.4s
BDFB Brasilia 149.76 225 PKPbc PKPbc 23 31 28.6 +1.8
comp=Z,9.2nm,0.5s,baz=131,slow=1.8,SNR=14
BDFB Brasilia 149.76 225 PKHKP 23 31 28.6
BDFB pmax pmax
comp=Z,9.0nm,0.5s
LVC Limon Verde 151.94 182 PKPbc PKPbc 23 31 34.6 +2.9
comp=Z,3.1nm,0.6s,baz=236,slow=2.9,SNR=5.3
LVC Limon Verde 151.94 182 ePKPbc PKPbc 23 31 34.2 +2.5
LVC ePKPab PKPab 23 31 42.7 -1.1
SIV San Ignacio 156.84 202 PKPab PKPab 23 32 06.2 +1.4
comp=Z,2.3nm,0.8s,baz=130,slow=7.0,SNR=6.7
LPAZ La Paz 158.18 185 PKPab PKPab 23 32 13.5 +2.9
comp=Z,1.0nm,0.5s,baz=126,slow=2.7,SNR=5.0
LPAZ La Paz 158.18 185 PKP2 PKPab 23 32 13.5 +2.9
LPAZ pmax pmax
comp=Z,1.0nm,0.5s

*ISCJB **24** 23:17:45.9±0.3, 3151S±002×6903W±004, h109km±3km, mb4.3/22, Error ellipse: s-maj=5.9km s-min=3.8km az=4.4*
*GUC **24** 23:17:45.7±1.0, 3154S×6939W, h162km±12km, MD4.2, ML4.5*
*NEIC **24** 23:17:46.5±0.3, 3153S×6900W, h100km±4km, mb4.4/16, MD4.2(GUC), Error ellipse: s-maj=7.2km s-min=4.1km az=92.0*
*IDC **24** 23:17:47.2±0.6, 3157S×6895W, h108km±4km, mb4.0/11, mb1 4.0/15, mb1mx3.9/19, mbtmp4.2/15, Error ellipse: s-maj=16.7km s-min=13.5km az=86.0*

ISC 24 23:17:46.8±0.3, 3150S±002×6902W±004, h103km±3km, n93, σ1§05/106, mb4.3/22, 15C-18D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.68**	**99**	P		**Pn**	**23 18 05.2 +0.9**
	144nm,0.3s,baz=270,slow=8.1						
CFAA				S		**Sn**	**23 18 19.1 +1.7**
	442nm,0.3s,baz=156,slow=20,SNR=250						
CMCH	**Combarbala**	**1.72**	**280**	⇓iP		**Pn**	**23 18 16.4 +0.4**
CMCH				*i* S		**Sn**	**23 18 39.1 +1.0**
CMCH				AMP			23 18 44.2
	comp=N,24μm,0.7s						
CMCH	**Combarbala**	**1.72**	**280**	⇓iP		**Pn**	**23 18 16.4 +0.4**
CMCH				*i* S		**Sn**	**23 18 39.1 +1.0**
JACH	**Jahuel**	**1.78**	**228**	⇓iP		**Pn**	**23 18 17.1 +0.4**
JACH				*i* S		**Sn**	**23 18 41.4 +2.1**
TLL	**Tololo Astrono**	**2.03**	**311**	⇑iP		**Pn**	**23 18 20.9 +1.0**
TLL				*i* S		**Sn**	**23 18 46.8 +1.7**
TLL				AMP			23 18 54.7
	comp=E,4μm,0.5s						
TLL	**Tololo Astrono**	**2.03**	**311**	⇑iP		**Pn**	**23 18 20.9 +1.0**
TLL				*i* S		**Sn**	**23 18 46.8 +1.7**
OVCH	**Ovalle**	**2.07**	**295**	⇑iP		**Pn**	**23 18 20.2 -0.2**
OVCH				*i* S		**Sn**	**23 18 45.8 -0.2**
OVCH				AMP			23 18 56.5
	comp=N,4μm,0.6s						
OVCH	**Ovalle**	**2.07**	**295**	⇑iP		**Pn**	**23 18 20.2 -0.2**
OVCH				*i* S		**Sn**	**23 18 45.8 -0.2**
FCH	**Farellones**	**2.11**	**210**	⇓iP		**Pn**	**23 18 22.0 +1.1**
FCH				*i* S		**Sn**	**23 18 49.4 +2.4**
FCH				AMP			23 18 58.8
	comp=N,2μm,0.2s						
CHNG	**Los Chungos**	**2.14**	**259**	⇑iP		**Pn**	**23 18 20.1 -1.2**
CHNG				*i* S		**Sn**	**23 18 45.9 -1.9**
CHNG				AMP			23 18 54.6
	comp=E,4μm,0.6s						
PEL	**Peldehue**	**2.16**	**220**	⇑iP		**Pn**	**23 18 21.2 -0.3**
PEL				*i* S		**Sn**	**23 18 48.1 0.0**
PEL				AMP			23 18 50.4
	comp=E,8μm,0.2s						
PEL	**Peldehue**	**2.16**	**220**	⇑iP		**Pn**	**23 18 21.2 -0.3**
PEL				*i* S		**Sn**	**23 18 48.1 0.0**
ROCH	**El Roble**	**2.23**	**228**	⇓iP		**Pn**	**23 18 22.0 -0.4**
ROCH				*i* S		**Sn**	**23 18 49.5 -0.3**
CLCH	**Cerro Calan**	**2.28**	**214**	⇓iP		**Pn**	**23 18 23.2 +0.1**
CLCH				*i* S		**Sn**	**23 18 51.4 +0.5**
CLCH				AMP			23 18 53.4
	comp=E,3μm,0.5s						
CLCH				AMP			23 18 54.6
	comp=E,5μm,0.4s						
PACH	**Papudo**	**2.29**	**243**	⇓iP		**Pn**	**23 18 22.0 -1.3**
DSCH	**Colegio Aleman**	**2.30**	**214**	AMP			23 18 54.6
	comp=N,235nm,0.4s						
FSR	**Penalolen**	**2.34**	**212**	*e*P		**Pn**	**23 18 24.7 +0.8**
FSR				*i* S		**Sn**	**23 18 53.7 +1.3**
FSR				AMP			23 19 03.1
	comp=N,2μm,0.3s						
FSR	**Penalolen**	**2.34**	**212**	*e*P		**Pn**	**23 18 24.7 +0.8**
FSR				*i* S		**Sn**	**23 18 53.7 +1.3**
STL	**Santa Lucia**	**2.36**	**215**	*e*P		**Pn**	**23 18 23.3 -0.9**
STL				*i* S		**Sn**	**23 18 51.9 -0.9**
STL				AMP			23 18 57.5
	comp=N,814nm,0.2s						
SAN	**Santiago**	**2.39**	**215**	*e*P		**Pn**	**23 18 24.0 -0.5**
SAN				*i* S		**Sn**	**23 18 52.9 -0.5**
SAN				AMP			23 18 57.1
	comp=E,1μm,0.3s						
SAN	**Santiago**	**2.39**	**215**	*e*P		**Pn**	**23 18 24.0 -0.5**
SAN				*i* S		**Sn**	**23 18 52.9 -0.5**
SJCH	**San Jose de Ma**	**2.41**	**207**	AMP			23 19 02.1
	comp=E,787nm,0.7s						
PCH	**Pirque**	**2.46**	**210**	⇓iP		**Pn**	**23 18 25.7 +0.2**
PCH				*i* S		**Sn**	**23 18 56.2 +1.1**
ANTU	**Antumapu**	**2.47**	**213**	⇓iP		**Pn**	**23 18 25.8 +0.3**
ANTU				*i* S		**Sn**	**23 18 55.5 +0.2**
ANTU				AMP			23 19 00.6
	comp=E,2μm,0.2s						
ANTU	**Antumapu**	**2.47**	**213**	⇓iP		**Pn**	**23 18 25.8 +0.3**
ANTU				*i* S		**Sn**	**23 18 55.5 +0.2**
LSCH	**La Serena**	**2.49**	**309**	⇑iP		**Pn**	**23 18 25.7 -0.1**
LSCH				*i* S		**Sn**	**23 18 54.5 -1.2**
LSCH				AMP			23 18 55.2
	comp=N,4μm,0.4s						
LSCH	**La Serena**	**2.49**	**309**	⇑iP		**Pn**	**23 18 25.7 -0.1**
LSCH				*i* S		**Sn**	**23 18 54.5 -1.2**
RCDM	**Rinconada Maip**	**2.49**	**217**	⇓iP		**Pn**	**23 18 25.5 -0.3**
RCDM				*i* S		**Sn**	**23 18 55.6 -0.1**
RCDM				AMP			23 18 56.3
	comp=E,4μm,0.1s						
RCDM	**Rinconada Maip**	**2.49**	**217**	⇓iP		**Pn**	**23 18 25.5 -0.3**
RCDM				*i* S		**Sn**	**23 18 55.6 -0.1**
LMEL	**Las Melosas**	**2.54**	**203**	⇓iP		**Pn**	**23 18 27.3 +0.8**
LMEL				AMP			23 19 07.2
	comp=N,1μm,0.1s						
TACH	**Talagante**	**2.69**	**216**	⇓iP		**Pn**	**23 18 27.6 -0.8**
CHCH	**Chadas Angostu**	**2.79**	**209**	⇑iP		**Pn**	**23 18 29.7 -0.1**
LCCH	**Las Cruces**	**2.92**	**227**	*e*P		**Pn**	**23 18 30.1 -1.3**
CACH	**El Canelo**	**2.92**	**207**	⇓iP		**Pn**	**23 18 31.9 +0.3**
CICH	**Cipreses**	**3.04**	**202**	*e*P		**Pn**	**23 18 33.3 +0.1**
LNV	**Longovilo**	**3.17**	**219**	⇓iP		**Pn**	**23 18 32.7 -2.1**
LNV				*i* S		**Sn**	**23 19 08.8 -3.1**
SFDO	**San Fernando**	**3.52**	**208**	⇓iP		**Pn**	**23 18 38.3 -1.3**
CPCH	**Copiapo**	**4.29**	**344**	⇑iP		**Pn**	**23 18 50.0 +0.1**
CDCH	**Caldera**	**4.69**	**340**	⇑iP		**Pn**	**23 18 54.7 -0.5**
CRCH	**Chaqaral**	**5.33**	**344**	*e*P		**Pn**	**23 19 03.5 -0.4**
TRQA	**Tornquist**	**8.73**	**140**	⇑iP		**Pn**	**23 19 49.0 -1.2**
	comp=N,121nm,0.8s						
LVC	**Limon Verde**	**8.86**	**1**	P		**Pn**	**23 19 50.2 -1.6**
	comp=N,8.8nm,0.3s,baz=184,slow=8.4,SNR=65						
LVC				S		**Sn**	**23 21 28.3 -1.5**
	comp=N,3.5nm,0.3s,baz=251,slow=16,SNR=3.5						
LVC	**Limon Verde**	**8.86**	**1**	*e*Pn		**Pn**	**23 19 50.1 -1.7**
	comp=N,58nm,0.8s						
LVC				*e*Sn		**Sn**	**23 21 27.8 -2.0**
PLCA	**Paso Flores**	**9.29**	**187**	P		**Pn**	**23 19 56.4 -1.5**
	comp=N,0.1nm,0.3s,baz=8.0,slow=11,SNR=3.4						
PLCA	**Paso Flores**	**9.29**	**187**	*e*Pn		**Pn**	**23 19 54.4 -3.4**
	comp=N,8.9nm,0.8s						
CPUP	**Villa Florida**	**11.46**	**66**	P		**Pn**	**23 20 25.3 -1.9**
	comp=N,0.6nm,0.3s,baz=221,slow=12,SNR=6.6						
CPUP	**Villa Florida**	**11.46**	**66**	*e*Pn		**Pn**	**23 20 25.1 -2.1**
	comp=N,84nm,0.8s						
CPUP				*e*Sn		**Sn**	**23 22 30.4 -2.9**
ARE	**Arequipa**	**15.14**	**351**	*e*P		**Pn**	**23 21 17.0 +1.9**
LPAZ	**La Paz**	**15.17**	**3**	P		**Pn**	**23 21 18.1 +2.6**
	comp=N,0.8nm,0.3s,baz=186,slow=8.1,SNR=50						
LPAZ	**La Paz**	**15.17**	**3**	⇓*e*Pn		**Pn**	**23 21 17.8 +2.4**
	comp=N,14nm,0.8s						
SIV	**San Ignacio**	**17.06**	**27**	P		**Pn**	**23 21 40.2 +1.4**
	comp=N,0.4nm,0.3s,baz=226,slow=12,SNR=9.8						
EFI	**East Falkland**	**21.71**	**161**	*e*P		**P**	**23 22 29.9 +0.4**
	comp=N,8.0nm,0.6s,mb4.2						
USHA	**Ushuaia**	**23.32**	**179**	P		**P**	**23 22 45.9 +0.2**
	comp=N,25nm,0.7s,mb4.7,baz=352,slow=6.8,SNR=14						
BDFB	**Brasilia**	**24.83**	**55**	pP		pP	23 23 23.7 +1.7
	comp=N,6.7nm,0.7s,baz=230,slow=12,SNR=8.8						
VNA3	**Neumayer Olymp**	**50.74**	**159**	⇑iP		**P**	**23 26 36.1 0.0**
VNA3				*e*			23 26 43.3
VNA2	**Neumayer--Watz**	**51.35**	**158**	⇑iP		**P**	**23 26 40.7 0.0**
	baz=291,slow=8.6						
VNA2				*e*			23 26 48.4
SNAA	**Sanae**	**52.96**	**159**	P		**P**	**23 26 52.2 -0.4**
	comp=N,2.2nm,0.9s,mb4.2,baz=26,slow=18,SNR=12						
SNAA	**Sanae**	**52.96**	**159**	*e*P		**P**	**23 26 52.1 -0.4**
	comp=N,1.8nm,0.4s,mb4.5						
TEIG	**Tepich**	**54.65**	**338**	*e*P		**P**	**23 27 05.4 +0.6**
	comp=N,1.8nm,0.5s,mb4.4						
QSPA	**South Pole Qui**	**58.73**	**180**	*e*P		**P**	**23 27 33.8 +0.1**
	comp=N,9.6nm,0.7s,mb4.9						
VNDA	**Vanda**	**67.03**	**191**	P		**P**	**23 28 27.8 -0.9**
	comp=N,1.9nm,0.7s,mb4.0,baz=105,slow=4.2,SNR=6.8						
WVT	**Waverly**	**69.55**	**344**	*e*P		**P**	**23 28 44.0 -0.4**
	comp=N,12nm,0.5s,mb5.0						
DBIC	**Dimbokro**	**71.96**	**70**	P		**P**	**23 28 59.6 +0.6**
	comp=N,2.3nm,0.5s,mb4.2,baz=216,slow=7.7,SNR=12						
DBIC				pP		pP	23 29 27.6 +2.5
	comp=N,3.0nm,0.7s,baz=249,slow=4.4,SNR=3.6						
DBIC	**Dimbokro**	**71.96**	**70**	*e*P		**P**	**23 28 59.1 +0.1**
	comp=N,2.2nm,0.5s,mb4.2						
DBIC				pP		pP	23 29 27.6 +2.5
SUR	**Sutherland**	**73.79**	**118**	*e*P		**P**	**23 29 11.1 +1.3**
	comp=N,3.1nm,0.6s,mb4.2						
ANMO	**Albuquerque**	**74.89**	**329**	P		**P**	**23 29 17.6 +1.4**
	comp=N,1.3nm,0.5s,mb3.9,baz=162,slow=10,SNR=3.9						
MIV	**Mineville/With**	**75.33**	**357**	*e*P		**P**	**23 29 20.3 +1.6**
MIV				*e*PcP		PcP	23 29 31.7 +0.1
SADO	**Sadowa**	**76.47**	**353**	P		**P**	**23 29 24.9 -0.3**
	comp=N,3.9nm,0.6s,mb4.3,baz=210,slow=6.7,SNR=6.8						
TSUM	**Tsumeb**	**77.42**	**105**	*e*P		**P**	**23 29 29.2 -1.4**
	comp=N,2.4nm,0.9s,mb3.9						
SMCO	**Snowmass**	**78.67**	**331**	*e*P		**P**	**23 29 39.2 +1.7**
	comp=N,5.0nm,0.9s,mb4.3						
TORD	**Torodi Ar. Bea**	**80.95**	**69**	P		**P**	**23 29 50.4 +0.6**
	comp=N,2.2nm,0.6s,mb4.1,baz=281,slow=6.2,SNR=43						
TORD				pP		pP	23 30 18.4 +1.9
	comp=N,4.5nm,0.9s,baz=263,slow=5.2,SNR=9.2						
LBTB	**Lobatse**	**81.01**	**114**	*e*P		**P**	**23 29 50.5 +0.4**
	comp=N,9.9nm,0.6s,mb4.8						
DAC	**Darwin (Calif)**	**81.35**	**322**	*e*P		**P**	**23 29 52.5 +0.6**
	comp=N,1.9nm,1.0s,mb3.9						
PDAR	**Pinedale Array**	**82.75**	**331**	P		**P**	**23 29 59.4 +0.2**
	comp=N,1.1nm,0.7s,mb3.8,baz=138,slow=6.4,SNR=4.2						
NVAR	**Mina Array Bea**	**83.35**	**323**	P		**P**	**23 30 03.0 +0.8**
	comp=N,1.1nm,0.6s,mb3.8,baz=151,slow=5.6,SNR=6.8						
ULM	**Lac du Bonnet**	**84.80**	**343**	P		**P**	**23 30 08.8 -0.8**
	comp=N,1.6nm,0.5s,mb4.2,baz=158,slow=3.8,SNR=7.9						
SCHQ	**Schefferville**	**86.00**	**1**	P		**P**	**23 30 14.4 -1.2**
	comp=N,1.3nm,0.7s,mb4.0,baz=237,slow=5.1,SNR=6.0						
FFC	**Flin Flon**	**90.44**	**342**	*e*P		**P**	**23 30 36.1 -0.6**
	comp=N,2.3nm,0.8s,mb4.4						
FCC	**Fort Churchill**	**92.32**	**347**	*e*P		**P**	**23 30 45.1 -0.3**
	comp=N,4.9nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**120.92**	**205**	PKP		PKPdf	23 36 25.9 -1.1
	comp=N,0.4nm,0.5s,baz=163,slow=2.9,SNR=6.3						
WRA	**Warramunga Arr**	**124.15**	**207**	PKP		PKPdf	23 36 32.6 -0.6
	comp=N,0.7nm,0.4s,baz=153,slow=1.9,SNR=37						
WRA				pPKP		pPKPdf	23 37 02.7 +1.2
	comp=N,0.8nm,0.6s,baz=162,slow=1.4,SNR=5.3						
HYB	**Hyderabad**	**147.47**	**108**	*i* PKP		PKPbc	23 37 19.0 +0.3
HYB	**Hyderabad**	**147.47**	**108**	*e*P		PKPbc	23 37 19.0 +0.3
EKS2	**Erkin-Say**	**148.54**	**59**	P		PKPbc	23 37 22.1 +0.6
	SNR=8.8						
AML	**Almayashu**	**148.55**	**60**	P		PKPbc	23 37 22.1 +0.6
	SNR=5.8						
AAK	**Ala-Archa**	**149.06**	**59**	P		PKPbc	23 37 23.8 +1.0
	SNR=7.7						
UCH	**Uchtor**	**149.14**	**59**	P		PKPbc	23 37 24.4 +1.4
	SNR=9.9						
KBK	**Karagaybulak**	**149.39**	**58**	P		PKPbc	23 37 24.6 +0.9
	SNR=5.3						
ULHL	**Ulahol**	**150.40**	**59**	P		PKPbc	23 37 27.2 +1.2
	SNR=11						
ZAL	**Zalesovo**	**150.76**	**32**	PKPbc		PKPbc	23 37 26.6 -0.3
	comp=N,6.3nm,0.6s,baz=179,slow=1.9,SNR=32						
ZAL				pPKPbc		pPKPbc	23 37 55.7 +0.6
	comp=N,2.0nm,0.4s,baz=140,slow=2.8,SNR=3.7						
ZAL	**Zalesovo**	**150.76**	**32**	PKPbc		PKPbc	23 37 26.6 -0.3
ZAL				pPKPbc		pPKPbc	23 37 55.7 +0.6
MKAR	**Makanchi Array**	**153.21**	**47**	PKPbc		PKPbc	23 37 32.0 -0.5
	comp=N,2.1nm,0.8s,baz=291,slow=2.7,SNR=19						
MKAR				PKPab		PKPab	23 37 44.5 -0.1
	comp=N,1.

MRL	**Marmol**	**1.98**	**41**	*e*P	Pn	23 20 30.1	+1.6
LCBS	**La Ceiba**	**2.00**	**87**	*e*P	Pn	23 20 29.3	+0.5
LCBS				*e*S	Sn	23 20 54.9	+1.7
SNVI	**San Vicente**	**2.14**	**88**	*e*S	Sn	23 20 58.6	+2.0

*LDG **24** 23:31:00.1±0.3, 1340S×167.14E, h110km, Mb4.7/4, Error ellipse: s-maj=37.6km s-min=14.3km az=88.0*
*ISCJB **24** 23:31:08.8±0.3, 1370S±004×167.10E±007, h196km, mb4.5/51, Error ellipse: s-maj=9.7km s-min=5.8km az=15.0*
*BJI **24** 23:31:08.0, 1337S×16727E, h182km, mB4.9, mb4.7*
*NEIC **24** 23:31:09.0±0.3, 1370S×16722E, mb4.7/23, Error ellipse: s-maj=9.2km s-min=6.8km az=111.0*
*IDC **24** 23:31:09.7±0.8, 1371S×16703E, h193km±6km, mb4.2/16, mb1 4.2/19, mb1mx4.2/21, mbtmp4.6/19, MS3.4/2, Ms1 3.4/2, ms1mx2.8/24, Error ellipse: s-maj=12.1km s-min=9.3km az=123.0*
*MOS **24** 23:31:11.0±1.1, 1372S×167.13E, h219km, mb4.6/16, Error ellipse: s-maj=10.7km s-min=10.1km az=134.4*
ISC 24 23:31:10.2±0.3, 1372S±004×16721E±007, h198km, h198km±3.1km: pP-P, n163, ∘0§96/102, mb4.5/52, 11C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.29**	**300**	P	**Pn**	**23 33 04.8**	**-2.4**
	8.3nm,0.3s,baz=106,slow=3.9,SNR=4.5						
HNR				LR	LR	23 35 31.6	
	comp=Z,183nm,20.7s,baz=359,slow=32						
HNR	**Honiara**	**8.29**	**300**	*e*Pn	**Pn**	**23 33 08.0**	**+0.7**
	63nm,0.6s						
HNR				LR	LR	23 35 31.6	
HNR	**Honiara**	**8.29**	**300**	*e*P	**Pn**	**23 33 08.0**	**+0.8**
HNR				pmax	pmax		
	comp=Z,63nm,0.6s						
DZM	**Mont Dzumac**	**8.34**	**185**	P	**Pn**	**23 33 08.6**	**+0.7**
	comp=Z,3.4nm,0.3s,baz=188,slow=8.8,SNR=16						
DZM				S	**Sn**	**23 34 42.0**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=136,slow=23,SNR=2.5						
PMG	**Port Moresby**	**20.10**	**280**	P	**P**	**23 35 28.7**	**0.0**
	comp=Z,1.1nm,0.3s,baz=84,slow=8.7,SNR=9.6						
PMG	**Port Moresby**	**20.10**	**280**	*e*P	**P**	**23 35 30.9**	**+2.2**
	comp=Z,22nm,0.9s						
PMG	**Port Moresby**	**20.10**	**280**	*e*P	**P**	**23 35 30.9**	**+2.2**
PMG				pmax	pmax		
	comp=Z,22nm,0.9s						
CTA	**Charters Tower**	**21.02**	**250**	*e*P	**P**	**23 35 38.7**	**+0.3**
	comp=Z,11nm,0.5s,mb4.6						
CTA	**Charters Tower**	**21.02**	**250**	P	**P**	**23 35 38.8**	**+0.3**
	comp=Z,13nm,0.5s,mb4.7,baz=76,slow=12,SNR=22						
CTA	**Charters Tower**	**21.02**	**250**	*e*P	**P**	**23 35 38.7**	**+0.3**
CTA				pmax	pmax		
	comp=Z,11nm,0.5s						
CTAO	**Charters Tower**	**21.02**	**250**	*e*P	**P**	**23 35 38.6**	**+0.2**
	comp=Z,15nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**21.02**	**250**	*e*P	**P**	**23 35 38.6**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.7						
ARMA	**Armidale**	**21.97**	**218**	⇑*i*P	**P**	**23 35 49.8**	**+1.6**
CNB	**Canberra Magne**	**26.86**	**214**	*e*P	**P**	**23 36 33.2**	**+0.8**
	comp=Z,17nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**29.61**	**228**	*e*P	**P**	**23 36 55.4**	**-1.4**
	comp=Z,12nm,0.4s,mb4.9						
STKA				*e*PcP	PcP	23 39 54.6	-1.7
STKA	**Stephens Creek**	**29.61**	**228**	P	**P**	**23 36 55.6**	**-1.2**
	comp=Z,21nm,0.7s,mb4.9,baz=48,slow=8.2,SNR=54						
STKA				PcP	PcP	23 39 54.7	-1.6
	comp=Z,6.2nm,0.7s,baz=33,slow=3.8,SNR=6.8						
STKA				ScP	ScP	23 43 19.6	+0.3
	comp=Z,1.4nm,0.7s,baz=87,slow=4.1,SNR=4.3						
RPZ	**Rata Peaks**	**30.08**	**174**	P	**P**	**23 37 00.8**	**-0.1**
	comp=Z,12nm,0.6s,mb4.7,baz=66,slow=10,SNR=10.0						
TOO	**Toolangi**	**30.63**	**215**	⇑*i*P	**P**	**23 37 06.6**	**+0.8**
	comp=Z,19nm,0.8s,mb4.8						
TOO	**Toolangi**	**30.63**	**215**	⇑*i*P	**P**	**23 37 06.6**	**+0.8**
TOO				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**32.02**	**254**	*e*P	**P**	**23 37 17.4**	**-0.5**
WB2				*e*PCP	PcP	23 40 03.0	+0.3
WRAB	**Tennant Creek**	**32.02**	**254**	*e*P	**P**	**23 37 16.8**	**-1.1**
	comp=Z,5.7nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**32.02**	**254**	*e*P	**P**	**23 37 16.8**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**32.03**	**254**	P	**P**	**23 37 17.3**	**-0.7**
	comp=Z,5.5nm,0.8s,mb4.2,baz=86,slow=9.0,SNR=50						
WRA				PcP	PcP	23 40 03.1	+0.3
	comp=Z,6.6nm,0.9s,baz=79,slow=2.7,SNR=17						
WRA				S	**S**	**23 42 10.7**	**-4.3**
	comp=Z,1.9nm,1.1s,baz=85,slow=14,SNR=4.1						
WRA				ScP	ScP	23 43 30.1	+2.8
	comp=Z,3.7nm,1.1s,baz=84,slow=3.3,SNR=9.1						
WRA				PKiKP	PKiKP	23 47 29.9	-0.6
	comp=Z,0.6nm,0.6s,baz=330,slow=0.2,SNR=13						
WRA	**Warramunga Arr**	**32.03**	**254**	P	**P**	**23 37 17.3**	**-0.7**
WRA						23 40 03.1	
WRA				S	**S**	**23 42 10.7**	**-4.2**
WRA						23 43 30.1	
RAR	**Rarotonga**	**32.31**	**108**	LR	LR	23 46 46.7	
	comp=Z,97nm,21.1s,baz=291,slow=29						
ASAR	**Alice Springs**	**32.99**	**248**	P	**P**	**23 37 25.6**	**-0.8**
	comp=Z,9.7nm,0.6s,mb4.5,baz=74,slow=9.3,SNR=101						
ASAR				PcP	PcP	23 40 05.6	+0.2
	comp=Z,3.4nm,0.7s,baz=74,slow=2.1,SNR=12						
ASAR				S	**S**	**23 42 26.8**	**-3.0**
	comp=Z,4.0nm,1.0s,baz=79,slow=16,SNR=15						
ASAR				ScP	ScP	23 43 33.5	+2.8
	comp=Z,4.8nm,1.1s,baz=76,slow=3.6,SNR=11						
ASAR				PKiKP	PKiKP	23 47 30.4	-0.8
	comp=Z,0.3nm,0.5s,baz=115,slow=2.0,SNR=5.4						
ASAR	**Alice Springs**	**32.99**	**248**	P	**P**	**23 37 25.6**	**-0.8**
ASAR				PcP	PcP	23 40 05.6	+0.2
ASAR				S	**S**	**23 42 26.8**	**-3.0**
ASAR				ScP	ScP	23 43 33.5	+2.8
ASAR	**Alice Springs**	**32.99**	**248**	P	**P**	**23 37 25.6**	**-0.8**
ASAR						23 40 05.6	
ASAR				S	**S**	**23 42 26.8**	**-3.0**
FORT	**Forrest**	**39.77**	**238**	*e*P	**P**	**23 38 23.4**	**-0.3**
	comp=Z,34nm,0.9s,mb4.8						
MBWA	**Marble Bar**	**45.76**	**254**	*e*P	**P**	**23 39 12.0**	**+0.2**
	comp=Z,19nm,0.9s,mb4.4						
KLBR	**Kellerberrin**	**48.55**	**240**	*e*P	**P**	**23 39 32.0**	**-1.4**
	comp=Z,11nm,0.6s,mb4.3						
NWAO	**Narrogin (SRO)**	**49.22**	**238**	P	**P**	**23 39 38.0**	**-0.5**
	comp=Z,28nm,0.9s,mb4.6,baz=85,slow=6.6,SNR=9.4						
MUN	**Mundaring**	**49.92**	**240**	*e*P	**P**	**23 39 42.4**	**-1.3**
MJAR	**Matsushiro Arr**	**56.99**	**332**	P	**P**	**23 40 34.0**	**-1.1**
	comp=Z,5.6nm,1.0s,mb4.1,baz=167,slow=7.4,SNR=8.1						
MAJO	**Matsushiro**	**56.99**	**332**	*e*P	**P**	**23 40 34.5**	**-0.5**
	comp=Z,8.3nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**56.99**	**332**	*e*P	**P**	**23 40 34.6**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
SSE	**Sheshan**	**62.76**	**316**	*e*P	**P**	**23 41 15.5**	**+1.2**
SSE				AMB	AMB		
	comp=Z,32nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,47nm,6.5s						
VNDA	**Vanda**	**63.87**	**181**	P	**P**	**23 41 21.5**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.1,baz=354,slow=3.8,SNR=24						
SBA	**Scott Base**	**64.14**	**180**	*e*P	**P**	**23 41 23.4**	**0.0**
	comp=Z,16nm,0.8s,mb4.7						
SBA	**Scott Base**	**64.14**	**180**	*e*P	**P**	**23 41 23.4**	**0.0**
SBA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.7						
YSS	**Yuzh-Sakhalins**	**64.25**	**342**	*e*P	**P**	**23 41 25.3**	**+1.1**
	comp=Z,30nm,1.0s,mb4.9						
YSS	**Yuzh-Sakhalins**	**64.25**	**342**	*e*P	**P**	**23 41 25.3**	**+1.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.9						
NJ2	**Nanjing**	**64.92**	**316**	*e*P	**P**	**23 41 30.4**	**+2.0**
NJ2				S	**S**	**23 49 52.0**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,30nm,6.3s						
NJ2				LR	LR		
	comp=N,200nm,15.4s						
NJ2				LR	LR		
	comp=E,110nm,16.8s						
NJ2				LR	LR		
	comp=Z,110nm,14.7s						
MDJ	**Mudanjiang**	**67.37**	**332**	P	**P**	**23 41 45.1**	**+1.1**
MDJ				AP	pP	23 42 31.8	+1.4
MDJ				PP	PP	23 44 14.3	-0.7
MDJ				S	S	23 50 25.9	+2.6
MDJ				SCS	ScS	23 51 23.8	+1.0
MDJ				SS	SS	23 54 48.8	+1.6
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,70nm,5.6s						
HABR	**Khabarovsk**	**68.18**	**338**	*e*P	**P**	**23 41 50.2**	**+1.1**
HABR				*e*S	S	23 50 35.9	+2.9
HABR				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.7						
KULM	**Kulim**	**68.69**	**281**	*e*P	**P**	**23 41 52.5**	**+0.2**
CN2	**Changchun**	**68.75**	**329**	*e*P	**P**	**23 41 51.4**	**-1.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
KLR	**Kul'dur**	**70.06**	**336**	*e*P	**P**	**23 41 58.7**	**-1.9**
GYA	**Guiyang**	**71.10**	**304**	⇑*i*P	**P**	**23 42 07.8**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
XAN	**Xi'an**	**72.97**	**312**	P	**P**	**23 42 18.1**	**+0.1**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.5						
KMI	**Kunming**	**73.73**	**302**	P	**P**	**23 42 24.4**	**+2.0**
KMI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.6						
MA2	**Magadan**	**74.24**	**351**	*e*P	**P**	**23 42 24.1**	**-1.3**
	comp=Z,2.9nm,0.4s,mb4.3						
MA2	**Magadan**	**74.24**	**351**	*e*P	**P**	**23 42 24.3**	**-1.1**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
HHC	**Hu-ho-hao-te**	**74.78**	**320**	*e*P	**P**	**23 42 29.8**	**+1.3**
HHC				PCP	PcP	23 42 42.8	+1.2
HHC				PP	PP	23 45 21.9	+3.4
HHC				S	S	23 51 48.9	+0.3
HHC				SKS		23 52 14.3	
HHC				SCS	ScS	23 52 19.8	-1.8
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,58nm,4.4s						
HHC				LR	LR		
	comp=N,79nm,4.7s						
HHC				LR	LR		
	comp=E,170nm,5.3s						
HHC				LR	LR		
	comp=Z,70nm,5.4s						
CD2	**Chengdu**	**75.35**	**307**	⇑*i*P	**P**	**23 42 32.0**	**+0.2**
CD2				AP	pP	23 43 21.1	+1.9
CD2				PP	PP	23 45 26.0	+2.7
CD2				S	S	23 51 53.8	-1.1
CD2				SS	SS	23 56 52.5	+3.3
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.2						
CD2				AMB	AMB		
	comp=Z,60nm,9.3s						
CD2				LR	LR		
	comp=E,80nm,13.2s						
CD2				LR	LR		
	comp=Z,110nm,13.2s						
QSPA	**South Pole Qui**	**76.30**	**180**	*e*P	**P**	**23 42 37.0**	**-0.1**
	comp=Z,36nm,1.1s,mb4.9						
SEY	**Seymchan**	**77.28**	**353**	⇑*e*P	**P**	**23 42 42.7**	**+0.1**
LZH	**Lanzhou**	**77.60**	**312**	*e*P	**P**	**23 42 46.5**	**+2.1**
LZH				PCP	PcP	23 42 56.3	+2.5
LZH				AP	pP	23 43 33.3	+1.3
LZH				PP	PP	23 45 46.3	+4.2
LZH				AMB	AMB		
	comp=Z,32nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,167nm,5.0s						
CIT	**Chita**	**80.18**	**330**	*e*P	**P**	**23 42 59.0**	**+0.6**
YAK	**Yakutsk**	**81.05**	**343**	*e*P	**P**	**23 43 02.7**	**-0.3**
	comp=Z,20nm,0.3s,mb5.2						
YAK	**Yakutsk**	**81.05**	**343**	⇑*e*P	**P**	**23 43 02.4**	**-0.6**
YAK				pmax	pmax		
	comp=Z,54nm,1.4s,mb5.0						
ULN	**Ulaanbaatar**	**81.29**	**324**	*e*P	**P**	**23 43 04.3**	**+0.1**
	comp=Z,9.7nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**81.29**	**324**	*e*P	**P**	**23 43 04.4**	**+0.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
BILL	**Bilibino**	**81.54**	**360**	*e*P	**P**	**23 43 04.8**	**-0.8**
	comp=Z,32nm,1.2s,mb4.8						
BILL	**Bilibino**	**81.54**	**360**	*e*P	**P**	**23 43 04.8**	**-0.8**
BILL				pmax	pmax		
	comp=Z,32nm,1.2s,mb4.8						
SONM	**Songino Array**	**81.65**	**324**	P	**P**	**23 43 07.0**	**+0.8**
	comp=Z,2.5nm,0.8s,mb3.9,baz=136,slow=5.8,SNR=22						
SONM				PKiKP	PKiKP	23 48 29.6	+1.0
	comp=Z,0.1nm,0.3s,baz=116,slow=3.4,SNR=3.6						
GTA	**Gaotai**	**81.93**	**314**	*e*P	**P**	**23 43 08.1**	**+0.5**
GTA				AP	pP	23 43 58.4	+2.6
GTA				PP	PP	23 46 21.4	+3.5
GTA				S	S	23 53 04.3	-0.3
GTA				SS	SS	23 58 32.3	+4.6
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,203nm,6.9s						
GTA				LR	LR		
	comp=N,194nm,22.5s						
GTA				LR	LR		
	comp=E,293nm,22.5s						
GTA				LR	LR		
	comp=Z,71nm,11.5s						
MAW	**Mawson**	**82.80**	**202**	P	**P**	**23 43 12.3**	**+0.2**
	comp=Z,10.0nm,0.6s,mb4.7,baz=119,slow=5.6,SNR=16						
BOD	**Bodaibo**	**83.54**	**334**	*e*P	**P**	**23 43 14.7**	**-1.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.0						
MCK	**McKinley**	**84.21**	**18**	*e*P	**P**	**23 43 18.6**	**-0.7**
	comp=Z,4.5nm,1.4s,mb4.0						
MCK	**McKinley**	**84.21**	**18**	*e*P	**P**	**23 43 18.6**	**-0.7**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.0						
ZAK	**Zakamensk**	**84.70**	**325**	*e*P	**P**	**23 43 21.6**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
LSA	**Lhasa**	**84.98**	**302**	*e*P	**P**	**23 43 25.0**	**+1.9**
LSA	**Lhasa**	**84.98**	**302**	*e*P	**P**	**23 43 24.8**	**+1.6**
	comp=Z,7.1nm,1.0s,mb4.3						
LSA	**Lhasa**	**84.98**	**302**	*e*P	**P**	**23 43 24.8**	**+1.7**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**85.59**	**18**	P	**P**	**23 43 25.2**	**-0.9**
	comp=Z,1.1nm,0.7s,mb3.7,baz=240,slow=5.4,SNR=18						
ILAR				pP	pP	23 44 11.7	-3.0
	comp=Z,2.3nm,0.7s,baz=239,slow=5.9,SNR=7.3						
NVAR	**Mina Array Bea**	**86.66**	**49**	P	**P**	**23 43 32.1**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.4,baz=229,slow=7.7,SNR=3.6						
GUN	**Gumba**	**88.86**	**299**	*e*P	**P**	**23 43 42.1**	**+0.3**
	comp=Z,20nm,0.9s,mb4.9						
TIXI	**Tiksi**	**88.97**	**349**	⇑*e*P	**P**	**23 43 40.9**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
PKI	**Pulchoki**	**89.17**	**299**	*e*P	**P**	**23 43 43.4**	**+0.1**
KKN	**Kakani**	**89.34**	**299**	*e*P	**P**	**23 43 44.2**	**+0.1**
	comp=Z,9.9nm,0.6s,mb4.8						
DMN	**Daman**	**89.44**	**298**	*e*P	**P**	**23 43 44.8**	**+0.3**
	comp=Z,39nm,1.0s,mb5.2						
ELK	**Elko**	**89.66**	**48**	*e*P	**P**	**23 43 45.8**	**+0.2**
	comp=Z,2.3nm,0.9s,mb4.0						
ELK	**Elko**	**89.66**	**48**	*e*P	**P**	**23 43 45.8**	**+0.3**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GKN	**Gorkha**	**89.94**	**299**	*e*P	**P**	**23 43 46.4**	**-0.5**
KOLN	**Koldanda**	**90.77**	**298**	*e*P	**P**	**23 43 50.6**	**-0.1**
WMQ	**Urumqi**	**91.98**	**315**	*e*P	**P**	**23 43 56.6**	**+0.3**
WMQ				AP	pP	23 44 47.3	+1.9
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,44nm,4.2s						
PV10	**Paradox Valley**	**93.58**	**52**	*e*P	**P**	**23 44 04.3**	**+0.6**
SNAA	**Sanae**	**94.55**	**183**	P	**P**	**23 44 06.9**	**-1.2**
	comp=Z,3.2nm,0.9s,mb4.4,baz=249,slow=11,SNR=6.4						
SNAA	**Sanae**	**94.55**	**183**	*e*P	**P**	**23 44 06.8**	**-1.4**
	comp=Z,16nm,1.2s,mb5.0						
SNAA	**Sanae**	**94.55**	**183**	*e*P	**P**	**23 44 06.8**	**-1.3**
SNAA				pmax	pmax		
	comp=Z,16nm,1.2s						
MKAR	**Makanchi Array**	**96.44**	**316**	P	**P**	**23 44 16.4**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.7,baz=111,slow=5.9,SNR=35						
MKAR				pP	pP	23 45 03.6	-2.2
	comp=Z,0.7nm,0.7s,baz=100,slow=7.5,SNR=2.2						
MKAR				PKiKP	PKiKP	23 48 53.5	+0.3
	comp=Z,0.2nm,0.5s,baz=186,slow=1.7,SNR=5.9						
MKAR	**Makanchi Array**	**96.44**	**316**	P	**P**	**23 44 16.4**	**-0.3**
MKAR				pP	pP	23 45 03.6	-2.2
ZAL	**Zalesovo**	**96.56**	**324**	P	**P**	**23 44 16.5**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.4,baz=11,slow=4.0,SNR=11						
YKA	**Yellowknife Ar**	**96.68**	**27**	P	**P**	**23 44 16.7**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.6,baz=256,slow=4.5,SNR=7.2						
YKA				pP	pP	23 45 03.8	-3.1
	comp=Z,0.2nm,0.6s,baz=256,slow=4.9,SNR=2.9						
YKA				PKKPbc	PKKPbc	00 00 55.3	-4.4
	comp=Z,0.1nm,0.3s,baz=50,slow=4.1,SNR=3.7						
YKA	**Yellowknife Ar**	**96.68**	**27**	P	**P**	**23 44 16.7**	**-1.1**
YKA				pP	pP	23 45 03.9	-3.1
YKA				PKKPbc	PKKPbc	00 00 55.4	-4.4
ARU	**Arti**	**111.63**	**326**	*i* PKIKP	PKiKP	23 49 16.4	-4.6
ARU				*e*		23 55 37.8	
ARU				*e*SS	SS	00 05 18.2	-7.1
ARCES	**ARCESS Array B**	**119.26**	**346**	PKP	PKPdf	23 49 34.7	-0.9
	comp=Z,4.4nm,0.6s,baz=89,slow=0.7,SNR=20						
ARCES				PKKPbc	PKKPbc	23 59 47.0	-1.8
	comp=Z,2.7nm,0.7s,baz=225,slow=1.5,SNR=6.9						
JOF	**Joensuu**	**121.93**	**338**	*e*p	PKPdf	23 49 40.2	-0.6
OBN	**Obninsk**	**123.82**	**328**	⇑*i*PKIKP	PKPdf	23 49 43.0	-1.4
OBN				*e*		23 51 30.7	
OBN				*e*		23 56 38.9	
OBN				*e*SS	SS	00 08 14.5	+12
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SIV	**San Ignacio**	**123.88**	**120**	PKP	PKPdf	23 49 44.9	+0.3
	comp=Z,0.8nm,0.5s,baz=264,slow=7.8,SNR=6.0						
KAF	**Kangasniemi**	**124.24**	**339**	*e*p	PKPdf	23 49 43.5	-1.7
FINES	**FINESS Array B**	**124.77**	**338**	PKP	PKPdf	23 49 45.5	-0.7
	comp=Z,5.0nm,0.9s,baz=15,slow=2.2,SNR=11						
FINES	**FINESS Array B**	**124.77**	**338**	⇑*i*PKIKP	PKPdf	23 49 45.5	-0.7
KMBO	**Kilima Mbogo**	**128.28**	**257**	*i* PKIKP	PKPdf	23 49 46.7	-6.2
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NB2	**NORSAR Subarra**	**129.64**	**345**	PKPd	PKPdf	23 49 55.1	-0.4
	comp=Z,1.1nm,0.6s,baz=32,slow=1.8						
NOA	**NORSAR Array B**	**129.64**	**345**	PKP	PKPdf	23 49 55.4	-0.2
	comp=Z,1.6nm,0.7s,baz=32,slow=2.0,SNR=7.1						
AKASG	**Malin Array Be**	**129.87**	**326**	PKP	PKPdf	23 49 56.5	+0.6
	comp=Z,0.5nm,0.4s,baz=62,slow=2.1,SNR=8.1						
BRTR	**Keskin Array B**	**131.81**	**311**	PKP	PKPdf	23 50 00.3	+0.7
	comp=Z,1.3nm,0.9s,baz=101,slow=2.5,SNR=4.8						
BRTR				SKPbc	SKPbc	23 53 11.1	+4.3
	comp=Z,0.9nm,0.6s,baz=116,slow=4.0,SNR=4.3						
KOLS	**Kolonicke sedl**	**134.56**	**328**	*e*PKP	PKPdf	23 50 06.8	+2.0
STHS	**Stebnicka Huta**	**134.78**	**329**	*e*PKP	PKPdf	23 50 06.2	+1.0
KECS	**Kecovo**	**135.77**	**328**	*e*PKP	PKPdf	23 50 07.1	0.0
BRG	**Berggiesshubel**	**137.07**	**335**	*e*PKIKP	PKPdf	23 50 09.9	+0.4
BRG				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRG	**Berggiesshubel**	**137.07**	**335**	*e*(P)	PKPdf	23 50 09.9	+0.5
	comp=Z,1.6nm,1.1s						
CLL	**Collm**	**137.11**	**336**	*i* PKPdf	PKPdf	23 50 11.4	+1.9
	comp=Z,9.0nm,1.3s						
CLL	**Collm**	**137.11**	**336**	*i* PKIKP	PKPdf	23 50 11.4	+1.9
CLL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KHC	**Kasperske Hory**	**138.56**	**334**	⇑*i*PKIKP	PKPdf	23 50 12.5	+0.3
GERES	**GERESS Array B**	**138.72**	**333**	PKhKP		23 50 05.5	
	comp=Z,1.1nm,0.8s,baz=42,slow=4.2,SNR=4.2						
GERES				PKP	PKPdf	23 50 13.8	+1.3
	comp=Z,2.1nm,0.8s,baz=48,slow=2.0,SNR=14						
VISS	**Visnje**	**140.42**	**329**	*e*PKPbc	PKPdf	23 50 16.0	+0.5
BOJS	**Bojanci**	**140.42**	**329**	*i* PKPdf	PKPdf	23 50 16.9	+1.3
BOJS				*e*		23 50 18.9	
ROBS	**Robic**	**140.74**	**331**	*e*PKPbc	PKPdf	23 50 18.3	+2.1
CDF	**Champ du Feu**	**141.62**	**338**	*e*PKP1	PKPdf	23 50 11.9	-5.9
	comp=Z,10nm,1.0s						
DAVOX	**Davos**	**141.95**	**335**	PKhKP		23 50 15.0	
	comp=Z,3.5nm,0.6s,baz=209,slow=2.8,SNR=7.2						
CABF	**La Chapelle**	**143.57**	**338**	*e*PKP1	PKPdf	23 50 21.7	+0.5
	comp=Z,20nm,0.9s						
FLN	**La Foliniere**	**143.61**	**346**	*e*PKP1	PKPdf	23 50 18.3	-3.0
	comp=Z,18nm,0.7s						
LDF	**La Druitiere**	**143.68**	**346**	*e*PKP1	PKPdf	23 50 18.5	-2.9
	comp=Z,10.0nm,0.7s						
LOR	**Lormes**	**143.77**	**341**	*e*PKP1	PKPdf	23 50 20.0	-1.6
GRR	**Gorron**	**144.04**	**346**	*e*PKP1	PKPdf	23 50 20.2	-1.8
	comp=Z,19nm,0.7s						
SSF	**Saint Saulge**	**144.07**	**341**	*e*PKP1	PKPdf	23 50 21.0	-1.1
	comp=Z,48nm,1.2s						
HYF	**Humbligny**	**144.15**	**342**	*e*PKP1	PKPdf	23 50 22.4	+0.2
SMF	**Signal de Mont**	**144.32**	**340**	*e*PKP1	PKPdf	23 50 21.5	-1.0
	comp=Z,71

YLYR				Pmax			
	214nm,0.3s						
YLYR				Smax			
	536nm,0.3s						
YLYR	**Ulyunkhan**	**0.60**	**128⇑**	*i*PG	Pg	23 47 05.8	-0.7
YLYR				*e*		23 47 13.9	
YLYR				pmax	pmax		
	comp=Z,216nm,0.2s						
YLYR				smax			
	comp=N,541nm,0.4s						
NIZ	**Nizh Angarsk**	**0.70**	**319⇑**	*i*Pg	Pg	23 47 08.0	-0.4
NIZ				*e*Sg	Sg	23 47 17.7	+0.2
NIZ				Pmax			
	comp=N,45nm,0.2s						
NIZ				Smax			
	comp=N,205nm,0.5s						
KMO	**Kumora**	**0.80**	**37⇓**	*i*Pg	Pg	23 47 09.2	-1.2
KMO				*e*Sg	Sg	23 47 19.8	-1.0
KMO				Pmax			
	comp=N,169nm,0.6s						
KMO				Smax			
	comp=N,375nm,0.8s						
KMO	**Kumora**	**0.80**	**37**	*e*PG	Pg	23 47 09.1	-1.3
KMO				*e*		23 47 19.5	
KMO				pmax	pmax		
	comp=Z,169nm,0.4s						
KMO				smax			
	comp=E,375nm,0.7s						
YOA	**Uoyan**	**1.18**	**41**	*e*Pg	Pg	23 47 16.7	-0.9
YOA				*e*Sg	Sg	23 47 32.6	-0.3
YOA				Pmax			
	comp=E,178nm,0.4s						
YOA				Smax			
	comp=E,597nm,0.5s						
YOA	**Uoyan**	**1.18**	**41⇓**	*i*PG	Pg	23 47 16.6	-1.0
YOA				*i*		23 47 32.6	
YOA				pmax	pmax		
	comp=Z,177nm,0.4s						
YOA				smax			
	comp=E,633nm,0.5s						
SYVR	**Suvo**	**1.61**	**187**	*e*Pg	Pg	23 47 24.3	-1.5
SYVR				*e*Sg	Sg	23 47 45.8	-0.9
SYVR				*e*		23 47 48.8	
SYVR				Pmax			
	comp=E,43nm,0.5s						
SYVR				max			
	comp=E,389nm,1.0s						
SYVR	**Suvo**	**1.61**	**187**	*e*PN	Pn	23 47 24.7	+0.9
SYVR				*e*		23 47 46.9	
SYVR				pmax	pmax		
	comp=Z,45nm,0.5s						
SYVR				smax			
	comp=N,397nm,0.9s						
UKT	**Uakit**	**1.89**	**81**	*e*Pg	Pg	23 47 28.6	-2.6
UKT				*e*Sg	Sg	23 47 53.0	-2.6
UKT				Pmax			
	comp=N,51nm,0.8s						
UKT				Smax			
	comp=N,181nm,0.8s						
UKT	**Uakit**	**1.89**	**81**	*e*PN	Pn	23 47 28.4	+0.8
UKT				*e*		23 47 53.0	
UKT				pmax	pmax		
	comp=Z,44nm,0.4s						
UKT				smax			
	comp=E,178nm,0.4s						
SVKR	**Severomuysk**	**2.01**	**63**	*e*Sg	Sg	23 47 58.9	-0.8
SVKR				Smax			
	comp=E,640nm,0.6s						
MXMB	**Maximikha**	**2.20**	**206**	*e*Pg	Pg	23 47 34.5	-2.7
MXMB				*e*Sg	Sg	23 48 03.9	-1.9
MXMB				Pmax			
	comp=E,72nm,0.4s						
MXMB				Smax			
	comp=E,382nm,0.9s						
OGRR	**Ongureny**	**2.28**	**226**	*e*Pg	Pg	23 47 36.0	-2.6
OGRR				*e*		23 47 36.5	
OGRR				*e*Sg	Sg	23 48 06.0	-2.1
OGRR				max			
	comp=E,75nm,0.4s						
OGRR				Smax			
	comp=E,216nm,0.4s						
OGRR	**Ongureny**	**2.28**	**226**	*e*PN	Pn	23 47 33.7	+0.7
OGRR				*e*		23 47 35.7	
OGRR				*e*		23 48 06.3	
OGRR				pmax	pmax		
	comp=Z,75nm,0.4s						
OGRR				smax			
	comp=N,215nm,0.4s						
KELR	**Kotokel**	**2.83**	**209**	*e*Pg	Pg	23 47 45.5	-3.8
KELR				*e*Sg	Sg	23 48 23.3	-2.7
KELR				Pmax			
	comp=N,45nm,0.4s						
KELR				Smax			
	comp=N,247nm,0.4s						
NLYR	**Nelyaty**	**3.26**	**65**	*e*Sg	Sg	23 48 36.2	-3.6
NLYR				Smax			
	comp=N,150nm,1.2s						
BOD	**Bodaibo**	**3.27**	**37**	*e*Sg	Sg	23 48 35.1	-5.1
BOD				Smax			
	comp=N,45nm,0.9s						
ZRHB	**Zarechye**	**3.30**	**216**	*e*Pg	Pg	23 47 54.2	-4.0
ZRHB				*e*Sg	Sg	23 48 38.2	-2.7
ZRHB				Pmax			
	comp=N,50nm,0.8s						
ZRHB				Smax			
	comp=N,180nm,0.8s						
TRTB	**Turuntaevo**	**3.43**	**209**	*e*Sg	Sg	23 48 41.5	-3.7
TRTB				Smax			
	comp=N,53nm,0.8s						
TRG	**Tyrgan**	**3.44**	**225**	*e*Sg	Sg	23 48 40.9	-4.4
TRG				Smax			
	comp=N,64nm,0.4s						
CIT	**Chita**	**3.75**	**148**	*e*Sg	Sg	23 48 50.5	-5.1
CIT				Smax			
	comp=N,60nm,0.3s						
FFNB	**Fofonovo**	**3.85**	**215**	*e*Sg	Sg	23 48 54.2	-4.6
FFNB				Smax			
	comp=N,110nm,0.7s						
HRMR	**Khuramsha**	**4.16**	**211**	*e*Pg	Pg	23 48 09.2	-5.5
HRMR				*e*Sg	Sg	23 49 03.4	-5.1
HRMR				Pmax			
	comp=N,28nm,0.4s						
HRMR				Smax			
	comp=N,139nm,0.7s						
IRK	**Irkutsk**	**4.70**	**233**	*e*PN	Pn	23 48 18.7	+12
IRK				*e*		23 49 17.7	
LSTR	**Listvyanka**	**4.72**	**226**	*e*Sg	Sg	23 49 20.3	-6.3
LSTR				Smax			
	comp=N,44nm,0.8s						
CRS	**Chara**	**4.74**	**66**	*e*Sg	Sg	23 49 22.0	-5.1
CRS				Smax			
	comp=N,73nm,1.9s						
CRS	**Chara**	**4.74**	**66**	*e*PN	Pn	23 48 21.0	+14
CRS				*e*		23 49 22.0	
CRS				pmax	pmax		
	comp=Z,17nm,0.9s						
CRS				smax			
	comp=E,73nm,1.6s						
TLY	**Talaya**	**5.37**	**231**	*e*Pg	Pg	23 48 31.0	-6.8
TLY				*e*Sg	Sg	23 49 39.3	-8.1
TLY				Pmax			
	comp=E,15nm,0.6s						
TLY				Smax			
	comp=E,28nm,0.6s						
TLY	**Talaya**	**5.37**	**231**	*e*PN	Pn	23 48 14.4	-1.1
TLY				*e*		23 48 29.7	
TLY				*e*S	Sn	23 49 14.8	-2.8
TLY				*e*		23 49 37.9	
TLY				pmax	pmax		
	comp=Z,16nm,0.6s						
TLY				smax			
	comp=E,30nm,1.0s						
TUP	**Tupik**	**5.61**	**95**	*e*Pn	Pn	23 48 18.5	-0.3
TUP				*e*Sg	Sg	23 49 48.3	-6.9
TUP				Smax			
	comp=E,66nm,1.2s						
TUP	**Tupik**	**5.61**	**95**	*e*PN	Pn	23 48 18.5	-0.3
TUP				*e*		23 48 35.0	
TUP				*e*		23 49 46.7	
TUP				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TUP				smax			
	comp=N,66nm,1.4s						
KPC	**Khapcheranga**	**5.69**	**167**	*e*	Pn	23 48 38.7	+19
KPC				*e*Sg	Sg	23 49 50.8	-7.0
KPC				Smax			
	comp=N,56nm,1.3s						
KPC	**Khapcheranga**	**5.69**	**167**	*e*PN	Pg	23 48 38.7	-5.3
KPC				*e*		23 49 51.3	
KPC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KPC				smax			
	comp=E,55nm,1.3s						
ARS	**Arshan**	**5.78**	**238**	*e*PN	Pn	23 48 38.0	+17
ARS				*e*		23 49 51.9	
ARS				pmax	pmax		
	comp=Z,14nm,0.4s						
ARS				smax			
	comp=N,93nm,0.9s						
MOY	**Mondy**	**6.64**	**241**	*e*Pn	Pn	23 48 33.9	+0.9
MOY				*e*Sg	Sg	23 50 20.1	-8.1
MOY				Smax			
	comp=N,44nm,1.9s						
MOY	**Mondy**	**6.64**	**241**	*e*PN	Pn	23 48 34.8	+1.8
MOY				*e*		23 48 54.3	
MOY				*e*		23 50 20.1	
MOY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MOY				smax			
	comp=N,47nm,1.1s						
ORL	**Orlik**	**6.79**	**251**	*e*Pn	Pn	23 48 36.2	+1.1
ORL				*e*Sg	Sg	23 50 24.4	-8.7
ORL				Smax			
	comp=N,33nm,1.1s						
ORL	**Orlik**	**6.79**	**251**	*e*PN	Pn	23 48 35.8	+0.7
ORL				*e*S	Sn	23 50 24.3	+32
ORL				smax			
	comp=E,23nm,1.1s						
KRAR	**Krasnoyarsk**	**9.91**	**282**	*e*P	Pn	23 49 17.4	-0.5
KRAR				*e*		23 51 08.5	

*IDC **24** 23:46:50.0±2.7, 2789N×5544E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.6/5, Error ellipse: s-maj=58.6km s-min=30.9km az=155.0*
*CSEM **24** 23:46:54.4±0.1, 2820N×5525E, h30km, ML3.1, Error ellipse: s-maj=2.8km s-min=2.0km az=174.0*
*THR **24** 23:46:54.3±0.6, 2823N×5527E, h18km±8km, ML3.1*
*KISR **24** 23:46:55.0±1.5, 2797N×5474E, h6km±999km, ML3.1*
*ISCJB **24** 23:46:56.1±0.9, 2806N±009×55.10E±005, h48km±12km, mb3.4/5, Error ellipse: s-maj=14.4km s-min=6.8km az=160.8*

ISC 24 23:46:57.7±0.9, 2804N±009×5519E±005, h49km±11km, n16, σ1°91/22, mb3.4/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.08**	**126**	*e*PG	**Pn**	**23 47 15.8**	**-0.7**
BNDS				AML	AML	23 47 36.8	
	comp=E,530nm,0.4s						
BNDS				AML	AML	23 47 39.9	
	comp=N,546nm,0.6s						
GHIR	**Ghir-Karzin**	**1.96**	**278**	*e*PG	**Pn**	**23 47 31.2**	**+2.7**
GHIR				AML	AML	23 48 09.4	
	comp=E,130nm,0.7s						
GHIR				AML	AML	23 48 24.4	
	comp=N,94nm,0.7s						
KRBR	**Kerman**	**2.38**	**35**	*e*PG	**Pn**	**23 47 33.9**	**-0.3**
KRBR				*e*SG	**Sn**	**23 48 03.2**	**+1.1**
KRBR				AML	AML	23 48 09.8	
	comp=N,140nm,0.6s						
KRBR				AML	AML	23 48 15.0	
	comp=E,120nm,0.6s						
KRBR	**Kerman**	**2.38**	**35**	*e*Pg	**Pn**	**23 47 33.9**	**-0.3**
KRBR	SNR=91						
				*e*Sg	**Sn**	**23 48 03.2**	**+1.1**
KRBR	SNR=91						
NASN	**Na'in**	**5.17**	**337**	*e*PN	**Pn**	**23 48 11.0**	**-1.5**
QRN	**Al-Qurain**	**6.44**	**278**	*e*P	**Pn**	**23 48 30.1**	**+0.1**
KBD	**Kabd**	**6.68**	**282**	*e*P	**Pn**	**23 48 34.2**	**+0.9**
KBD				*e*S	**Sn**	**23 49 46.5**	**-1.5**
RDF	**Al-Radifah**	**6.78**	**279**	*e*P	**Pn**	**23 48 34.2**	**-0.4**
RDF				AML	AML	23 49 42.6	
	comp=Z,10nm,0.6s						
NAY	**Al-Naaiem**	**7.08**	**282**	*e*P	**Pn**	**23 48 39.0**	**+0.3**
NAY				*e*S	**Sn**	**23 49 57.9**	**-0.1**
NAY				AML	AML	23 49 59.0	
	comp=Z,1.7nm,0.5s						
NAY	**Al-Naaiem**	**7.08**	**282**	*e*P	**Pn**	**23 48 39.0**	**+0.2**
NAY				*e*S	**Sn**	**23 49 57.8**	**-0.1**
MIB	**Mutribah**	**7.10**	**286**	*e*P	**Pn**	**23 48 39.1**	**+0.2**
MIB				AML	AML	23 49 41.8	
	comp=Z,3.7nm,0.4s						
MIB				*e*S	**Sn**	**23 49 58.0**	**-0.2**
BRTR	**Keskin Array B**	**21.29**	**309**	P	**P**	**23 51 43.2**	**+3.1**
	comp=Z,0.5nm,0.6s,mb3.0,baz=124,slow=17,SNR=3.6						
MKAR	**Makanchi Array**	**28.31**	**41**	P	**P**	**23 52 45.5**	**-1.2**
	comp=Z,0.2nm,0.7s,mb2.9,baz=231,slow=10,SNR=3.2						
FINES	**FINESS Array B**	**38.63**	**338**	P	**P**	**23 54 16.0**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=149,slow=14,SNR=5.2						
HFS	**Hagfors**	**42.59**	**331**	P	**P**	**23 54 48.7**	**-0.2**
	comp=Z,1.1nm,0.4s,mb3.9,baz=128,slow=9.6,SNR=12						
TORD	**Torodi Ar. Bea**	**51.83**	**265**	P	**P**	**23 56 01.7**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=60,slow=7.4,SNR=7.3						

IDC 24 23:54:07.2±4.9, 1734S×17515W, h102km±36km, mb3.4/3, mb1 3.7/4, mb1mx3.5/15, mbtmp3.8/4, Error ellipse: s-maj=170.9km s-min=24.3km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.71**	**44**	P	Pn	23 55 18.1	+2.1
	5.1nm,0.3s,baz=217,slow=5.1,SNR=5.9						
AFI				S	Sn	23 56 09.2	-0.3
	17nm,0.3s,baz=157,slow=19,SNR=5.8						
WRA	**Warramunga Arr**	**47.79**	**259**	P	P	00 02 34.4	+0.3
	0.5nm,0.5s,baz=97,slow=7.3,SNR=19						
WRA				PcP	PcP	00 04 01.8	+0.3
	0.2nm,0.5s,baz=100,slow=3.2,SNR=2.8						
ASAR	**Alice Springs**	**47.93**	**254**	P	P	00 02 35.4	+0.2
	2.9nm,0.7s,baz=86,slow=8.4,SNR=29						
ILAR	**Eielson Array**	**84.67**	**12**	P	P	00 06 29.5	0.0
	0.2nm,0.6s,baz=222,slow=6.0,SNR=5.6						

IDC 25 00:18:46.0±3.0, 1327N×14516E, h43km±19km, mb3.4/3, mb1 3.6/3, mb1mx3.2/18, mbtmp3.6/3, Error ellipse: s-maj=74.2km s-min=27.5km az=74.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.42**	**318**	P	Pn	00 18 57.4	+1.5
	128nm,0.3s,baz=146,slow=7.4,SNR=61						
GUMO				S	Sn	00 19 05.4	+2.6
	795nm,0.3s,baz=50,slow=24,SNR=157						
WRA	**Warramunga Arr**	**34.68**	**198**	P	P	00 25 31.5	0.0
	0.7nm,0.6s,baz=24,slow=9.7,SNR=6.2						
MKAR	**Makanchi Array**	**61.91**	**316**	P	P	00 29 02.0	+0.9
	0.2nm,0.5s,baz=96,slow=8.3,SNR=3.5						
ILAR	**Eielson Array**	**68.73**	**25**	pP	pP	00 29 55.5	-2.3
	0.1nm,0.5s,baz=243,slow=5.3,SNR=5.2						
FINES	**FINESS Array B**	**91.57**	**335**	P	P	00 31 47.3	-1.0
	1.2nm,1.0s,baz=54,slow=7.1,SNR=5.4						

*IDC **25** 00:24:05.8±0.7, 1194N×14367E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.2/21, mbtmp4.1/12, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/35, Error ellipse: s-maj=26.9km s-min=16.9km az=109.0*
*ISCJB **25** 00:24:08.0±4.4, 1189N±007×14359E±0.10, h25km±31km, mb4.2/17, Error ellipse: s-maj=17.7km s-min=10.4km az=56.9*
*NEIC **25** 00:24:11.1±0.3, 1192N×14367E, h35km, mb4.5/6, Error ellipse: s-maj=11.8km s-min=8.1km az=103.0*

ISC 25 00:24:09.1±6.1, 1194N±008×14364E±010, h19km±38km, n28, σ0°86/28, mb4.2/17, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.03**	**36**	Pn	**Pn**	**00 24 42.1**	**-0.2**
	100nm,0.3s,baz=191,slow=9.3,SNR=29						
GUMO				Sn	**Sn**	**00 25 09.4**	**+2.3**
	146nm,0.3s,baz=10,slow=23,SNR=11						
GUMO	**Guam**	**2.03**	**36**	*e*Pn	**Pn**	**00 24 42.1**	**-0.2**
GUMO				*e*Sn	**Sn**	**00 25 05.4**	**-1.7**
NACB	**Ninganchiao**	**24.19**	**303**	*e*P	**P**	**00 29 25.7**	**+1.4**
YHNB	**Yeheng**	**24.59**	**304**	*e*P	**P**	**00 29 27.8**	**-0.2**
WRAB	**Tennant Creek**	**32.97**	**196**	*e*P	**P**	**00 30 42.5**	**-0.1**
	5.9nm,0.6s,mb4.7						
WRAB				*e*		00 30 54.0	
WRAB				*e*PP	PP	00 31 46.1	-11
WB2	**Warramunga Arr**	**32.98**	**196**	*e*P	**P**	**00 30 42.4**	**-0.3**
WRA	**Warramunga Arr**	**32.98**	**196**	P	**P**	**00 30 42.6**	**-0.1**
	2.0nm,0.6s,mb4.2,baz=19,slow=9.8,SNR=31						
QIZ	**Qiongzhong**	**33.28**	**286**	*e*P	**P**	**00 30 37.1**	**-8.3**
ASAR	**Alice Springs**	**36.65**	**195**	P	**P**	**00 31 14.8**	**+0.4**
	0.7nm,0.8s,mb3.5,baz=16,slow=14,SNR=7.2						
SONM	**Songino Array**	**47.41**	**326**	P	**P**	**00 32 42.7**	**+0.5**
	0.4nm,0.4s,mb3.7,baz=145,slow=8.0,SNR=7.7						
SONM				LR	LR	00 53 21.2	
	comp=Z,37nm,18.2s,baz=254,slow=37						
MKAR	**Makanchi Array**	**61.85**	**317**	P	**P**	**00 34 27.6**	**+0.6**
	0.6nm,0.5s,mb4.0,baz=103,slow=7.7,SNR=10						
ZAL	**Zalesovo**	**62.28**	**325**	P	**P**	**00 34 29.8**	**-0.1**
	1.0nm,0.5s,mb4.2,baz=354,slow=11,SNR=3.3						
KURK	**Kurchatov**	**65.08**	**321**	*e*P	**P**	**00 34 47.7**	**-0.6**
	5.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**70.41**	**323**	*e*P	**P**	**00 35 21.5**	**-0.5**
	1.6nm,0.7s,mb4.1						
BRVK	**Borovoye**	**70.54**	**322**	*e*P	**P**	**00 35 22.8**	**0.0**
	1.8nm,0.3s,mb4.5						
ILAR	**Eielson Array**	**70.56**	**25**	P	**P**	**00 35 21.1**	**-1.7**
	1.9nm,0.8s,mb4.1,baz=252,slow=5.8,SNR=19						
ZRNK	**Zerenda**	**71.30**	**322**	*e*P	**P**	**00 35 27.6**	**+0.2**
	1.4nm,0.7s,mb4.0						
DAWY	**Dawson**	**73.64**	**27**	*e*P	**P**	**00 35 41.8**	**+0.5**
INK	**Inuvik**	**76.34**	**22**	*e*P	**P**	**00 35 56.5**	**-0.4**
	5.4nm,1.0s,mb4.4						
YKA	**Yellowknife Ar**	**84.86**	**27**	P	**P**	**00 36 42.5**	**-0.1**
	1.0nm,0.5s,mb4.2,baz=288,slow=5.0,SNR=22						
YKA	**Yellowknife Ar**	**84.86**	**27**	P	**P**	**00 36 42.5**	**-0.1**
ARCES	**ARCESS Array B**	**88.27**	**342**	P	**P**	**00 36 58.6**	**-0.7**
	3.4nm,0.7s,mb4.7,baz=63,slow=8.3,SNR=9.9						
NVAR	**Mina Array Bea**	**88.88**	**51**	P	**P**	**00 37 04.0**	**+1.9**
	2.3nm,0.7s,mb4.6,baz=270,slow=5.1,SNR=11						
NVAR	**Mina Array Bea**	**88.88**	**51**	P	**P**	**00 37 04.0**	**+1.8**
FINES	**FINESS Array B**	**92.14**	**335**	P	**P**	**00 37 15.7**	**-1.6**
	1.7nm,0.9s,mb4.4,baz=65,slow=4.8,SNR=9.6						
PDAR	**Pinedale Array**	**93.97**	**45**	P	**P**	**00 37 26.7**	**+1.0**
	0.3nm,0.6s,mb3.9,baz=238,slow=2.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**134.77**	**302**	PKP	PKPdf	00 43 28.8	+2.2
	0.5nm,0.9s,baz=60,slow=2.3,SNR=4.0						
LPAZ	**La Paz**	**148.91**	**102**	PKPbc	PKPbc	00 43 55.6	0.0
	1.3nm,0.7s,baz=287,slow=3.7,SNR=6.7						

*BJI **25** 00:45:47.3, 402N×9303E, h30km, mB5.0, mb4.8, Ms4.5, Msz4.0*
*IDC **25** 00:45:50.0±0.8, 469N×9298E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.1/25, mbtmp4.2/13, ML3.7/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/26, Error ellipse: s-maj=36.5km s-min=14.8km az=45.0*
*ISCJB **25** 00:45:51.4±1.8, 469N±007×9305E±005, h22km±14km, mb4.5/36, MS3.5/8, Error ellipse: s-maj=13.1km s-min=7.6km az=54.1*
*NEIC **25** 00:45:54.4±0.4, 472N×9308E, h30km, mb4.4/9, Error ellipse: s-maj=13.6km s-min=6.3km az=212.0*

ISC 25 00:45:54.6±1.8, 474N±007×9308E±005, h28km±14km, h34km±.2km; pP-P, n64, σ0°85/65, mb4.5/36, MS3.5/8, 2C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.14**	**108**	Pn	**Pn**	**00 47 23.8**	**+0.4**
	1.6nm,0.3s,baz=291,slow=6.4,SNR=8.1						
PSI				Sn	**Sn**	**00 48 37.6**	**+4.9**
	1.1nm,0.3s,baz=359,slow=16,SNR=3.2						
KULM	**Kulim**	**7.56**	**86**	*e*Pn	**Pn**	**00 47 42.0**	**-0.9**
PALK	**Pallekele**	**12.56**	**282**	Pn	**Pn**	**00 48 50.4**	**-1.1**
PALK				*e*Sn	**Sn**	**00 50 56.6**	**-14**
VIS	**Vishakhapatnam**	**16.05**	**324**	*e*P	**Pn**	**00 49 36.7**	**-1.5**
VIS				*e*S	**Sn**	**00 52 21.1**	**-14**
VIS				AML	AML	00 52 28.3	
	comp=E,10nm,0.6s						
VIS				AML	AML	00 52 28.4	
	comp=E,9.2nm,0.7s						
VIS				AML	AML	00 52 30.7	
	comp=N,8.7nm,0.7s						
VIS				AML	AML	00 52 31.4	
	comp=N,12nm,0.5s						
HYB	**Hyderabad**	**19.00**	**313**	*i*P	**Pn**	**00 50 16.0**	**+1.1**
HYB				*e*S	**Sn**	**00 53 47.0**	**+0.2**
HYB	**Hyderabad**	**19.00**	**313**	*e*P	**Pn**	**00 50 16.0**	**+1.1**
HYB				*e*S	**Sn**	**00 53 47.0**	**+0.2**
BOK	**Bokaro**	**20.17**	**341**	*e*P	**P**	**00 50 28.0**	**+1.2**
BOK				AMb	AMB	00 50 35.5	
	comp=Z,28nm,0.7s						
KMI	**Kunming**	**22.29**	**24**	P	**P**	**00 50 51.0**	**+1.4**
KMI				S	**S**	**00 54 52.8**	**-0.6**
KMI				LR	LR		
	comp=Z,42nm,16.8s,MS2.9						
JIRN	**Jiri**	**23.72**	**345**	*e*P	**P**	**00 51 04.5**	**+0.2**
	comp=Z,39nm,0.9s,mb4.8						
PKI	**Pulchoki**	**23.85**	**343**	*e*P	**P**	**00 51 06.1**	**+0.6**
GUN	**Gumba**	**24.04**	**344**	*e*P	**P**	**00 51 07.8**	**+0.6**
	comp=Z,27nm,0.7s,mb4.8						
KKN	**Kakani**	**24.09**	**343**	*e*P	**P**	**00 51 07.8**	**+0.1**
	comp=Z,27nm,0.8s,mb4.7						
GKN	**Gorkha**	**24.49**	**342**	*e*P	**P**	**00 51 11.6**	**+0.3**
	comp=Z,75nm,1.1s,mb5.0						
KOLN	**Koldanda**	**24.62**	**339**	*e*P	**P**	**00 51 12.2**	**-0.3**
	comp=Z,23nm,0.9s,mb4.7						
LSA	**Lhasa**	**24.89**	**356**	P	**P**	**00 51 17.6**	**+2.6**
LSA	**Lhasa**	**24.89**	**356**	*e*P	**P**	**00 51 16.9**	**+1.9**
	comp=Z,10nm,0.6s,mb4.5						
GYA	**Guiyang**	**25.20**	**30⇑**	*i*P	**P**	**00 51 18.8**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
CD2	**Chengdu**	**27.90**	**20⇑**	*i*P	**P**	**00 51 41.5**	**-0.7**
CD2				AP	pP	00 51 50.9	+0.6
CD2				XP	sP	00 51 54.9	+1.2
CD2				PP		00 52 31.9	
CD2				S	**S**	**00 56 22.6**	**-1.4**
CD2				XS	sS	00 56 38.5	+1.0
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=N,100nm,12.0s						
CD2				LR	LR		
	comp=Z,160nm,9.6s						
XAN	**Xi'an**	**32.66**	**25**	P	**P**	**00 52 23.1**	**-1.1**
XAN				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
NJ2	**Nanjing**	**36.34**	**39**	*e*P	**P**	**00 52 57.3**	**+1.3**
NJ2				AP	pP	00 53 06.9	+2.6
NJ2				XP	sP	00 53 10.9	+3.3
NJ2				PP	PP	00 54 21.3	+2.4
NJ2				S	**S**	**00 58 35.0**	**-0.4**
NJ2				XS	sS	00 58 51.0	+2.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,100nm,5.6s						
NJ2				LR	LR		
	comp=N,210nm,11.4s,MS4.4						
NJ2				LR	LR		
	comp=E,310nm,12.2s,MS4.4						
NJ2				LR	LR		
	comp=Z,220nm,16.1s,MS4.0						
SSE	**Sheshan**	**37.22**	**42**	*e*P	**P**	**00 53 02.8**	**-0.7**
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,83nm,4.4s						
SSE				LR	LR		
	comp=Z,35nm,22.2s,MS3.1						
WMQ	**Urumqi**	**39.21**	**354**	*e*P	**P**	**00 53 20.4**	**+0.1**
WMQ				AP	pP	00 53 30.3	+1.8
WMQ				XP	sP	00 53 34.3	+2.4
WMQ				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,124nm,4.4s						

HHC XP sP 00 53 38.3 +3.2
HHC PP PP 00 55 00.6 +6.0
HHC PCP PcP 00 55 30.3 0.0
HHC S **S** **00 59 25.9 +1.3**
HHC XS sS 00 59 42.4 +4.1
HHC SS SS 01 02 16.5 -3.6
HHC SCS ScS 01 03 26.9 -2.6
HHC AMB AMB
comp=Z,15nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,108nm,4.9s
HHC LR LR
comp=N,134nm,5.3s
HHC LR LR
comp=E,227nm,4.5s
HHC LR LR
comp=Z,56nm,6.9s
MKAR Makanchi Array 42.92 349 P **P** **00 53 50.8 0.0**
comp=Z,2.2nm,0.7s,mb4.0,baz=166,slow=9.6,SNR=23
SONM Songino Array 44.43 13 P **P** **00 54 03.1 +0.2**
comp=Z,3.5nm,0.8s,mb4.2,baz=195,slow=8.2,SNR=34
SONM PcP PcP 00 55 47.1 +0.8
comp=Z,1.6nm,0.8s,baz=199,slow=4.0,SNR=6.8
SONM LR LR 01 13 48.0
comp=Z,14nm,18.9s,MS2.9,baz=94,slow=38
ULN Ulaanbaatar 44.61 13 *eP* **P** **00 54 03.8 -0.5**
comp=Z,2.0nm,0.8s,mb4.0
WRA Warramunga Arr 47.39 123 P **P** **00 54 26.2 -0.1**
comp=Z,5.0nm,0.8s,mb4.5,baz=301,slow=8.9,SNR=24
WRAB Tennant Creek 47.40 123 *eP* **P** **00 54 26.2 -0.1**
comp=Z,11nm,0.9s,mb4.8
WRAB *e*PcP PcP 00 55 54.1 -2.6
KURK Kurchatov 47.40 348 *eP* **P** **00 54 23.9 -2.4**
comp=Z,3.8nm,0.8s,mb4.4
WB2 Warramunga Arr 47.40 123 *eP* **P** **00 54 26.4 0.0**
CN2 Changchun 48.23 31 *eP* **P** **00 54 31.6 -1.2**
CN2 *e*XP sP 00 54 45.4 +0.9
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
ASAR Alice Springs 48.80 127 P **P** **00 54 37.4 +0.2**
comp=Z,1.3nm,0.8s,mb4.0,baz=305,slow=7.2,SNR=13
ASAR PcP PcP 00 56 02.6 +0.9
comp=Z,0.2nm,0.6s,baz=299,slow=2.9,SNR=4.1
KBD Kabd 49.31 305 *eP* pP 00 54 48.3 -1.2
ZAL Zalesovo 49.51 354 P **P** **00 54 42.8 +0.2**
comp=Z,4.0nm,0.5s,mb4.7,baz=300,slow=4.9,SNR=24
NAY Al-Naaiem 49.71 305 *eP* **P** **00 54 44.8 +0.6**
NAY AMb AMB 00 54 45.6
comp=Z,12nm,0.8s,mb5.0
HIA Hailar 49.80 23 *eP* **P** **00 54 44.7 -0.1**
comp=Z,3.2nm,0.6s,mb4.5
MIB Mutribah 49.82 305 *eP* **P** **00 54 46.0 +1.0**
MIB AMb AMB 00 54 46.8
comp=Z,18nm,0.8s,mb5.1
MDJ Mudanjiang 50.98 33 P **P** **00 54 54.8 +1.0**
MDJ AMB AMB
comp=Z,10.0nm,1.5s,mb4.5
MDJ AMB AMB
comp=Z,64nm,3.2s
BVAR Borovoye Array 51.62 343 P **P** **00 54 57.8 -0.8**
comp=Z,3.1nm,0.7s,mb4.3,baz=141,slow=9.4,SNR=22
BRVK Borovoye 51.68 343 *eP* **P** **00 54 58.0 -1.0**
comp=Z,1.5nm,0.9s,mb3.9
ZRNK Zerenda 51.98 342 *eP* **P** **00 55 00.0 -1.2**
comp=Z,2.4nm,0.8s,mb4.2
MJAR Matsushiro Arr 52.05 46 LR LR 01 16 21.7
comp=Z,73nm,19.8s,MS3.7,baz=30,slow=35
CHKZ Chkalovo 52.13 343 *eP* **P** **00 55 01.6 -0.7**
comp=Z,7.4nm,0.8s,mb4.7
AKTK Aktyubinsk 54.21 333 P **P** **00 55 16.8 -0.9**
AKTO Aktyubinsk 54.21 333 P **P** **00 55 16.8 -0.9**
comp=Z,1.2nm,0.6s,mb4.0,baz=140,slow=6.2,SNR=6.4
KMBO Kilima Mbogo 56.08 265 LR LR 01 14 46.9
comp=Z,37nm,19.1s,MS3.5,baz=96,slow=31
BR131 Keskin Array S 63.70 312 *eP* **P** **00 56 22.6 -0.9**
comp=Z,2.5nm,0.9s,mb4.2
BRTR Keskin Array B 63.70 312 P **P** **00 56 23.1 -0.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=126,slow=7.8,SNR=12
VRI Vrincioaia 70.24 317 ⇓P **P** **00 57 05.7 +0.6**
VRI Vrincioaia 70.24 317 ⇓P **P** **00 57 05.7 +0.6**
PLOR Plostina 70.29 317 ⇓P **P** **00 57 06.0 +0.6**
MLR Muntele Rosu 70.69 317 P **P** **00 57 08.2 +0.4**
comp=Z,3.7nm,0.8s,mb4.4,baz=155,slow=4.6,SNR=5.2
MLR Muntele Rosu 70.69 317 ⇓P **P** **00 57 08.5 +0.7**
MLR Muntele Rosu 70.69 317 ⇓P **P** **00 57 08.5 +0.7**
BURAR Bucovina Array 71.67 319 ⇓P **P** **00 57 14.1 +0.4**
BURAR Bucovina Array 71.67 319 ⇓P **P** **00 57 14.1 +0.4**
FINES FINESS Array B 74.98 333 P **P** **00 57 32.6 -0.7**
comp=Z,0.6nm,0.6s,mb3.7,baz=128,slow=9.0,SNR=4.1
GERES GERESS Array B 79.46 319 P **P** **00 57 58.7 +0.3**
comp=Z,1.3nm,0.7s,mb4.0,baz=100,slow=5.5,SNR=13
CLL Collm 80.11 321 *ep*P pP 00 58 09.0 -1.8
CLL *es*P sP 00 58 14.0 0.0
DAVOX Davos 81.91 316 P **P** **00 58 12.1 +0.6**
comp=Z,3.5nm,0.6s,mb4.4,baz=305,slow=22,SNR=7.4
DBIC Dimbokro 97.31 277 LR LR 01 42 26.9
comp=Z,32nm,21.0s,MS3.8,baz=240,slow=35
ULM Lac du Bonnet 124.69 7 PKP PKPdf 01 04 51.5 +0.1
comp=Z,0.7nm,0.5s,baz=304,slow=3.6,SNR=3.4
PDAR Pinedale Array 128.45 21 PKP PKPdf 01 05 00.1 +1.4
comp=Z,0.4nm,0.8s,baz=132,slow=2.2,SNR=3.9
CPUP Villa Florida 144.49 230 PKP PKPdf 01 05 28.1 -0.2
comp=Z,3.2nm,0.9s,baz=86,slow=3.6,SNR=3.8

*NEIC **25** 01:08:31.5, 3185S×6853W, h150km, mb3.6/1, MD3.8(GUC), After GUC.*
GUC 25 01:08:31.5±0.5, 3185S×6853W, h150km, MD3.8, ML3.8, 2C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.94**	**244**	⇓*i*P	Pn	01 09 06.7	+0.9
JACH				*i* S	Sn	01 09 33.1	+0.9
FCH	**Farellones**	**2.09**	**225**	⇓*i*P	Pn	01 09 09.0	+1.3
FCH				*i* S	Sn	01 09 37.5	+1.9
CMCH	**Combarbala**	**2.22**	**287**	⇓*i*P	Pn	01 09 10.2	+1.0
CMCH				*i* S	Sn	01 09 39.2	+1.0
CMCH				AMP		01 09 40.9	
	comp=E,1μm,0.7s						
CMCH	**Combarbala**	**2.22**	**287**	⇓*i*P	Pn	01 09 10.2	+1.0
CMCH				*i* S	Sn	01 09 39.2	+1.1
PEL	**Peldehue**	**2.23**	**234**	⇓*i*P	Pn	01 09 09.6	+0.3
PEL				*i* S	Sn	01 09 39.1	+0.7
PEL				AMP		01 09 41.1	
	comp=N,291nm,0.3s						
PEL	**Peldehue**	**2.23**	**234**	⇓*i*P	Pn	01 09 09.6	+0.3
PEL				*i* S	Sn	01 09 39.1	+0.7
CLCH	**Cerro Calan**	**2.29**	**227**	*i* P	Pn	01 09 11.0	+0.9
CLCH				*i* S	Sn	01 09 40.8	+1.0
CLCH				AMP		01 09 44.3	
	comp=E,261nm,0.7s						
PCH	**Pirque**	**2.43**	**223**	⇑*i*P	Pn	01 09 12.4	+0.6
RCDM	**Rinconada Maip**	**2.52**	**229**	⇓*i*P	Pn	01 09 13.4	+0.6
RCDM				*i* S	Sn	01 09 45.6	+0.8
RCDM				AMP		01 09 46.9	
	comp=E,263nm,0.2s						
RCDM	**Rinconada Maip**	**2.52**	**229**	⇓*i*P	Pn	01 09 13.4	+0.6
RCDM				*i* S	Sn	01 09 45.6	+0.8
CHNG	**Los Chungos**	**2.53**	**269**	*i* P	Pn	01 09 13.2	+0.3
CHNG				*i* S	Sn	01 09 45.0	+0.1
TLL	**Tololo Astrono**	**2.58**	**310**	*i* P	Pn	01 09 14.8	+1.3
TLL				*i* S	Sn	01 09 47.2	+1.3
TLL				AMP		01 09 52.2	
	comp=N,331nm,0.5s						
TLL	**Tololo Astrono**	**2.58**	**310**	*i* P	Pn	01 09 14.8	+1.3
TLL				*i* S	Sn	01 09 47.2	+1.3
CHCH	**Chadas Angostu**	**2.74**	**220**	⇑*i*P	Pn	01 09 16.1	+0.6
CICH	**Cipreses**	**2.93**	**212**	*i* P	Pn	01 09 18.9	+0.9
TRQA	**Tornquist**	**8.20**	**141**	P	Pn	01 10 27.8	+0.3
	comp=N,0.9nm,0.5s						

MAN 25 01:18:03.0, 997N×12339E, h23km, mb2.8, ML4.2, MS2.1, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.54**	**120**	*eP*	Pb	01 18 14.4	+0.6
TBP				*e*S	Sb	01 18 22.6	+1.4
SNPH	**Sibulan**	**0.64**	**194**	⇑*i*P	Pb	01 18 15.2	-0.2
SNPH				*i* S	Sb	01 18 24.5	+0.6
LLP	**Lapu-Lapu**	**0.67**	**58**	⇑*i*P	Pb	01 18 16.8	+0.8
LLP				*i* S	Sb	01 18 25.5	+0.7
GUIM	**Jordan**	**1.02**	**310**	*eP*	Pn	01 18 21.6	-0.3
GUIM				*e*S	Sb	01 18 35.5	+0.5
DCPH	**Dipolog City**	**1.38**	**181**	⇓*e*P	Pn	01 18 26.3	-0.4
DCPH				*e*S	Sn	01 18 44.8	+0.7
MSLP	**Maasin**	**1.46**	**83**	*eP*	Pn	01 18 26.9	-1.0
MSLP				*e*S	Sn	01 18 51.3	+5.0
PAGZ	**Pagadian**	**2.10**	**180**	*eP*	Pn	01 18 38.5	+1.7
PAGZ				*e*S	Sn	01 19 05.8	+3.6
BUTP	**Butuan**	**2.42**	**114**	*eP*	Pn	01 18 52.2	+11

*ISCJB **25** 01:27:10.9±0.8, 39.11N±003×2423E±005, h14km±5km, Error ellipse: s-maj=6.3km s-min=4.2km az=54.7*
*CSEM **25** 01:27:11.2±0.1, 3906N×2427E, h12km, ML2.7, Error ellipse: s-maj=2.0km s-min=1.5km az=92.0*
*ATH **25** 01:27:11.5, 39.10N×2423E, h35km±1km, MD3.0/9, ML3.0*
*NEIC **25** 01:27:11.5, 39.10N×2423E, h35km, ML2.8(ATH), After ATH.*
*THE **25** 01:27:11.9, 39.14N×2426E, h9km, ML2.7*
ISC 25 01:27:11.4±0.8, 3910N±003×2423E±005, h15km±5km, n22, σ0§67/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.28**	**285**	*eP*g	**Pg**	**01 27 17.4**	**0.0**
AOS				*e*Sg	**Sg**	**01 27 21.8**	**+0.3**
NEO	**Neokhori**	**0.81**	**285**	*eP*N	**Pn**	**01 27 27.6**	**-0.6**
NEO				*e*SN	**Sn**	**01 27 39.3**	**-0.6**
XOR	**Xorichti**	**0.85**	**289**	*eP*g	**Pg**	**01 27 28.1**	**+0.2**
XOR				*e*Sg	**Sg**	**01 27 39.7**	**+0.6**
PAIG	**Paliouri**	**0.93**	**333**	*eP*g	**Pg**	**01 27 29.2**	**-0.3**
PAIG				*e*Sg	**Sg**	**01 27 43.0**	**+1.3**
MPAR	**Parnis Oros**	**1.02**	**202**	*eP*N	**Pn**	**01 27 31.0**	**-0.1**
MPAR				*e*SN	**Sn**	**01 27 45.0**	**-0.1**
LKR	**Lokris**	**1.06**	**246**	*eP*N	**Pn**	**01 27 31.2**	**-0.4**
LKR				*e*SN	**Sn**	**01 27 45.7**	**-0.3**
PTL	**Penteli**	**1.08**	**195**	*eP*N	**Pn**	**01 27 31.8**	**-0.2**
LIA	**Limnos Island**	**1.09**	**42**	*eP*N	**Pn**	**01 27 32.1**	**+0.1**
ATH	**Athens Observa**	**1.19**	**200**	*eP*N	**Pn**	**01 27 33.3**	**-0.1**
ATH				*e*SN	**Sn**	**01 27 50.0**	**+0.7**
OUR	**Ouranopolis**	**1.25**	**351**	*eP*g	**Pg**	**01 27 34.1**	**-1.5**
KVR	**Kavouri**	**1.32**	**196**	*eP*N	**Pn**	**01 27 35.5**	**+0.3**
MGER	**Gerania Oros**	**1.34**	**215**	*eP*N	**Pn**	**01 27 36.0**	**+0.5**
PLG	**Polygyros**	**1.41**	**335**	*eP*B	**Pb**	**01 27 36.2**	**-1.2**
AGG	**Agios Georgios**	**1.48**	**268**	*eP*g	**Pg**	**01 27 37.6**	**-2.3**
AGG				*e*Sg	**Sg**	**01 27 59.5**	**+0.3**
PRK	**Paraskevi**	**1.59**	**84**	*eP*N	**Pn**	**01 27 39.2**	**+0.2**
SRS	**Serrai**	**2.08**	**347**	*eP*n	**Pn**	**01 27 45.7**	**+0.1**
SRS				*e*Sn	**Sn**	**01 28 11.3**	**+0.1**
NVR	**Nevrokopi**	**2.27**	**353**	*eP*N	**Pn**	**01 27 48.4**	**+0.1**
ALN	**Alexandroupoli**	**2.28**	**37**	*eP*n	**Pn**	**01 27 48.9**	**+0.5**
ALN				*e*Sn	**Sn**	**01 28 15.6**	**-0.5**
RDO	**Rodhopi**	**2.28**	**26**	*eP*N	**Pn**	**01 27 48.5**	**+0.1**
KNT	**Kendrikon**	**2.30**	**334**	*eP*n	**Pn**	**01 27 49.5**	**+0.8**
GRG	**Griva**	**2.33**	**324**	*eP*n	**Pn**	**01 27 50.1**	**+1.0**
VLI	**Veliai**	**2.58**	**204**	*eP*N	**Pn**	**01 27 52.8**	**+0.2**

*ISCJB **25** 02:10:50.6±0.5, 350S±010×1275E±02, h33km, mb3.9/10, Error ellipse: s-maj=34.4km s-min=8.3km az=139.8*
*NEIC **25** 02:10:50.1±9.5, 346S×12745E, h15km±61km, mb4.2/4, Error ellipse: s-maj=35.8km s-min=15.7km az=60.0*
*IDC **25** 02:10:56.2±4.7, 354S×12725E, h63km±42km, mb3.6/8, mb1 3.8/9, mb1mx3.7/17, mbtmp3.9/9, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/30, Error ellipse: s-maj=54.1km s-min=12.2km az=70.0*
ISC 25 02:10:50.8±4.1, 346S±010×1275E±02, h19km±26km, n18, σ1§08/18, mb3.9/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.43**	**152**	*eP*	**Pn**	**02 13 19.4**	**0.0**
	15nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.65**	**187**	*eP*	**Pn**	**02 14 18.4**	**+1.3**
	8.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**14.65**	**187**	P	**Pn**	**02 14 17.9**	**+0.9**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=2.8						
FITZ				LR	LR	02 20 46.8	
	comp=Z,91nm,19.6s,baz=173,slow=41						
WRAB	**Tennant Creek**	**17.70**	**158**	*eP*	**Pn**	**02 14 55.5**	**-0.7**
	14nm,0.8s						
WRA	**Warramunga Arr**	**17.70**	**158**	P	**Pn**	**02 14 54.8**	**-1.5**
	0.5nm,0.3s,baz=343,slow=12,SNR=19						
WB2	**Warramunga Arr**	**17.71**	**158**	*eP*	**Pn**	**02 14 54.7**	**-1.6**
ASAR	**Alice Springs**	**21.03**	**163**	P	**P**	**02 15 34.8**	**+1.4**
	24nm,0.8s,mb4.6,baz=346,slow=12,SNR=213						
ASAR				S	**S**	**02 19 26.9**	**+0.1**
	0.9nm,1.0s,baz=345,slow=21,SNR=4.1						
ASAR				PcP	PcP	02 19 39.0	-1.0
	0.2nm,0.4s,baz=355,slow=1.5,SNR=4.1						
CTA	**Charters Tower**	**24.69**	**133**	P	**P**	**02 16 12.7**	**+2.2**
	3.4nm,0.7s,mb4.0,baz=302,slow=13,SNR=3.8						
STKA	**Stephens Creek**	**31.24**	**156**	P	**P**	**02 17 10.4**	**+1.3**
	0.6nm,0.4s,mb3.7,baz=337,slow=7.7,SNR=3.0						
ULN	**Ulaanbaatar**	**54.15**	**343**	P	**P**	**02 20 15.0**	**+0.2**
	2.2nm,0.9s,mb4.1						
SONM	**Songino Array**	**54.32**	**343**	P	**P**	**02 20 16.8**	**+0.9**
	0.2nm,0.3s,mb3.5,baz=179,slow=7.2,SNR=3.3						
MKAR	**Makanchi Array**	**63.89**	**327**	P	**P**	**02 21 22.4**	**0.0**
	0.4nm,0.6s,mb3.6,baz=133,slow=8.5,SNR=7.5						
ZAL	**Zalesovo**	**67.31**	**334**	P	**P**	**02 21 45.1**	**+0.8**
	0.6nm,0.3s,mb4.1,baz=86,slow=18,SNR=1.5						
KURK	**Kurchatov**	**68.19**	**329**	*eP*	**P**	**02 21 49.3**	**-0.7**
	2.5nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**74.44**	**328**	*eP*	**P**	**02 22 26.7**	**-1.0**
	0.9nm,0.6s,mb3.9						
VNDA	**Vanda**	**76.25**	**173**	P	**P**	**02 22 36.8**	**-1.3**
	0.9nm,0.8s,mb3.7,baz=317,slow=6.6,SNR=4.0						
ILAR	**Eielson Array**	**91.26**	**25**	P	**P**	**02 23 54.1**	**-0.8**
	0.7nm,1.2s,mb3.9,baz=239,slow=4.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**125.57**	**284**	PKP	PKPdf	02 29 50.5	-0.3
	0.2nm,0.8s,baz=96,slow=1.4,SNR=4.3						

*ISCJB **25** 02:18:37.0±0.7, 348S±007×1436E±0.1, h62km, mb4.1/10, Error ellipse: s-maj=19.4km s-min=9.7km az=22.7*
*IDC **25** 02:18:38.4±3.5, 349S×14347E, h64km±33km, mb3.7/5, mb1 3.9/7, mb1mx3.7/14, mbtmp4.0/7, ML3.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/25, Error ellipse: s-maj=37.3km s-min=12.2km az=111.0*
*NEIC **25** 02:18:38.7±3.4, 347S×14347E, h62km±35km, mb4.2/7, Error ellipse: s-maj=30.2km s-min=14.2km az=127.0*
ISC 25 02:18:39.6±2.1, 352S±010×1435E±02, h70km±22km, n17, σ1§07/18, mb4.0/10, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.91**	**148**	P	**Pn**	**02 20 18.1**	**0.0**
	0.7nm,0.3s,baz=27,slow=2.7,SNR=7.1						
GUMO	**Guam**	**17.06**	**5**	LR	LR	02 27 17.1	
	comp=Z,77nm,20.9s,baz=88,slow=30						
WRAB	**Tennant Creek**	**18.57**	**208**	*eP*	**Pn**	**02 22 51.7**	**-0.1**
	9.0nm,0.8s						
WB2	**Warramunga Arr**	**18.58**	**208**	*eP*	**Pn**	**02 22 51.8**	**-0.1**
WRA	**Warramunga Arr**	**18.59**	**208**	P	**Pn**	**02 22 51.4**	**-0.6**
	0.3nm,0.3s,baz=28,slow=9.8,SNR=20						
WRA				S	**S**	**02 26 17.7**	**-1.5**
	0.0nm,0.3s,baz=42,slow=21,SNR=3.2						
ASAR	**Alice Springs**	**22.05**	**204**	P	**P**	**02 23 29.6**	**+1.1**
	1.9nm,0.7s,mb3.5,baz=36,slow=9.6,SNR=16						
ASAR				S	**S**	**02 27 30.4**	**+2.8**
	0.1nm,0.5s,baz=22,slow=23,SNR=2.7						
FITZ	**Fitzroy Crossi**	**22.68**	**229**	*eP*	**P**	**02 23 34.1**	**-1.0**
	18nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**22.68**	**229**	P	**P**	**02 23 34.7**	**-0.4**
	12nm,0.9s,mb4.2,baz=26,slow=9.4,SNR=5.2						
STKA	**Stephens Creek**	**28.26**	**183**	P	**P**	**02 24 25.9**	**-0.2**
	2.9nm,0.9s,mb3.8,baz=358,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**28.26**	**183**	*eP*	**P**	**02 24 26.3**	**+0.2**
FORT	**Forrest**	**30.76**	**207**	*eP*	**P**	**02 24 49.7**	**+1.5**
	14nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**73.36**	**321**	P	**P**	**02 30 05.1**	**+1.3**
	0.9nm,0.8s,mb3.6,baz=97,slow=6.3,SNR=5.3						
KURK	**Kurchatov**	**77.13**	**324**	*eP*	**P**	**02 30 26.0**	**+0.5**
	1.0nm,0.5s,mb3.8						
CHKZ	**Chkalovo**	**82.75**	**325**	*eP*	**P**	**02 30 56.3**	**+0.5**
	0.6nm,0.5s,mb3.7						
MCK	**McKinley**	**83.42**	**24**	*eP*	**P**	**02 30 59.7**	**+0.4**
	2.0nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**83.50**	**324**	*eP*	**P**	**02 30 58.1**	**-1.6**
	5.7nm,1.2s,mb4.3						
ILAR	**Eielson Array**	**84.63**	**24**	P	**P**	**02 31 03.4**	**-2.1**
	2.2nm,0.9s,mb4.1,baz=258,slow=4.7,SNR=16						

*IDC **25** 02:46:36.6±1.1, 3865N×2175E, h0km, mb3.7/8, mb1 3.7/13, mb1mx3.6/27, mbtmp3.6/13, ML3.3/5, Error ellipse: s-maj=18.1km s-min=17.1km az=72.0*
*ATH **25** 02:46:38.4, 3864N×2180E, h23km±1km, MD3.7/19, ML3.7*
*NEIC **25** 02:46:38.4, 3864N×2180E, h23km, mb3.4/1, ML3.6(THE), ML3.7(ATH), After ATH.*
*ISCJB **25** 02:46:39.4±0.5, 3861N±002×2180E±002, h23km±4km, mb3.6/9, Error ellipse: s-maj=3.3km s-min=3.0km az=147.7*
*THE **25** 02:46:40.3, 3856N×2199E, h17km, ML3.6*
*CSEM **25** 02:46:41.5±0.1, 3866N×2190E, h40km, ML3.7, Error ellipse: s-maj=2.0km s-min=1.5km az=178.0*
*ROM **25** 02:47:06.0±0.2, 3999N×1987E, h10km, Md3.3/14, Ml2.8/9, Error ellipse: s-maj=3.9km s-min=2.4km az=90.0*
ISC 25 02:46:39.7±0.5, 3862N±002×2184E±002, h15km±3km, n88, σ1§09/114, mb3.6/9, 1C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.30**	**355**	*eP*B	**Pg**	**02 46 45.4**	**-0.7**
EVR				*e*SB	**Sg**	**02 46 50.3**	**0.0**
AGG	**Agios Georgios**	**0.56**	**43**	*eP*g	**Pg**	**02 46 50.7**	**0.0**
AGG				*e*Sg	**Sg**	**02 46 59.2**	**+1.0**
RLS	**Riolos of Patr**	**0.63**	**208**	*eP*N	**Pg**	**02 46 50.9**	**-1.2**
RLS				*e*SN	**Sg**	**02 47 01.0**	**+0.5**
RLS	**Riolos of Patr**	**0.63**	**208**	*e*Sn	**Sg**	**02 47 01.0**	**+0.5**
LKR	**Lokris**	**0.91**	**88**	*eP*N	**Pb**	**02 46 56.3**	**-0.9**
VLS	**Valsamata**	**1.07**	**246**	*eP*B	**Pb**	**02 46 58.1**	**-1.9**
VLS				*e*SN	**Sn**	**02 47 13.4**	**-1.4**
VLS	**Valsamata**	**1.07**	**246**	*e*Sn	**Sn**	**02 47 13.4**	**-1.4**
NEO	**Neokhori**	**1.28**	**57**	*eP*N	**Pn**	**02 47 02.7**	**-0.3**
NEO				*e*SN	**Sn**	**02 47 19.9**	**0.0**
MGER	**Gerania Oros**	**1.28**	**119**	*eP*N	**Pn**	**02 47 03.3**	**+0.2**
JAN	**Janina**	**1.29**	**324**	*eP*N	**Pn**	**02 47 03.0**	**-0.2**
JAN				*e*SN	**Sn**	**02 47 19.3**	**-0.9**
XOR	**Xorichti**	**1.29**	**54**	*eP*g	**Pn**	**02 47 02.6**	**-0.5**
ITM	**Ithomi**	**1.44**	**177**	*eP*N	**Pn**	**02 47 05.7**	**+0.5**
IGT	**Igoumenitsa**	**1.49**	**308**	*eP*b	**Pb**	**02 47 06.6**	**-0.4**
IGT				*e*Sb	**Sb**	**02 47 29.4**	**+3.7**
MPAR	**Parnis Oros**	**1.56**	**107**	*eP*N	**Pn**	**02 47 07.5**	**+0.6**
ATH	**Athens Observa**	**1.61**	**113**	*eP*N	**Pn**	**02 47 08.1**	**+0.5**
ATH				*e*SN	**Sn**	**02 47 30.0**	**+1.9**
AOS	**Alonnisos**	**1.69**	**70**	*eP*g	**Pn**	**02 47 07.7**	**-0.9**
AOS				*e*Sg	**Sn**	**02 47 27.9**	**-1.9**
KZN	**Kozani**	**1.69**	**358**	*eP*N	**Pn**	**02 47 09.0**	**+0.4**
PTL	**Penteli**	**1.69**	**109**	*eP*N	**Pn**	**02 47 09.0**	**+0.3**
KVR	**Kavouri**	**1.71**	**117**	*eP*B	**Pn**	**02 47 08.5**	**-0.5**
LSK	**Leskovik**	**1.81**	**328**	*eP*n	**Pn**	**02 47 11.4**	**+1.1**
KEK	**Kerkira**	**1.93**	**305**	Pn	**Pn**	**02 47 12.4**	**+0.5**
	450nm,0.8s						
KEK	**Kerkira**	**1.93**	**305**	*e*Pn	**Pn**	**02 47 11.9**	**0.0**
KEK				*e*Sn	**Sn**	**02 47 35.8**	**0.0**
PAIG	**Paliouri**	**1.94**	**47**	*eP*b	**Pn**	**02 47 11.2**	**-0.9**
PAIG				*e*Sb	**Sn**	**02 47 34.9**	**-1.2**
PAIG	**Paliouri**	**1.94**	**47**	*eP*b	**Pn**	**02 47 11.2**	**-0.8**
PAIG				*e*Sb	**Sn**	**02 47 34.8**	**-1.3**
VLI	**Veliai**	**2.09**	**155**	*eP*N	**Pn**	**02 47 14.3**	**+0.2**
PLG	**Polygyros**	**2.15**	**35**	*eP*N	**Pn**	**02 47 13.9**	**-1.1**
THE	**Thessaloniki**	**2.19**	**23**	*eP*n	**Pn**	**02 47 15.1**	**-0.5**
FNA	**Florina**	**2.19**	**351**	*eP*n	**Pn**	**02 47 16.5**	**+0.9**
FNA				*e*Sn	**Sn**	**02 47 45.2**	**+2.7**
GRG	**Griva**	**2.38**	**10**	*eP*n	**Pn**	**02 47 18.1**	**0.0**
GRG				*e*Sn	**Sn**	**02 47 47.8**	**+0.8**
OUR	**Ouranopolis**	**2.39**	**43**	*eP*n	**Pn**	**02 47 17.7**	**-0.5**
BIA	**Bitola**	**2.43**	**351**	*eP*n	**Pn**	**02 47 19.4**	**+0.5**
BIA	**Bitola**	**2.43**	**351**	*eP*n	**Pn**	**02 47 19.3**	**+0.4**
SOH	**Sokhos**	**2.49**	**27**	*eP*n	**Pn**	**02 47 19.4**	**-0.3**
SOH				*e*Sn	**Sn**	**02 47 50.9**	**+1.1**
KYTH	**Kithira**	**2.52**	**157**	*eP*B	**Pn**	**02 47 21.5**	**+1.4**
OHR	**Ohrid**	**2.62**	**343**	*eP*n	**Pn**	**02 47 22.9**	**+1.5**
OHR				*e*Sn	**Sn**	**02 47 57.4**	**+4.5**
KNT	**Kendrikon**	**2.67**	**17**	*eP*n	**Pn**	**02 47 22.1**	**0.0**
KNT				*e*Sn	**Sn**	**02 47 55.2**	**+1.1**
KNT	**Kendrikon**	**2.67**	**17**	*eP*n	**Pn**	**02 47 22.1**	**0.0**
KNT				*e*Sn	**Sn**	**02 47 55.2**	**+1.0**
VAY	**Valandovo**	**2.76**	**12**	*eP*n	**Pn**	**02 47 23.1**	**-0.3**
VAY				*e*Sn	**Sn**	**02 47 55.6**	**-0.7**
VAY	**Valandovo**	**2.76**	**12**	*eP*n	**Pn**	**02 47 23.0**	**-0.3**
VAY				*e*Sn	**Sn**	**02 47 55.6**	**-0.8**
SRS	**Serrai**	**2.84**	**28**	*eP*n	**Pn**	**02 47 24.0**	**-0.5**
SRS				*e*Sn	**Sn**	**02 47 58.7**	**+0.3**
STIP	**Stip**	**3.08**	**5**	*i* Pn	**Pn**	**02 47 28.6**	**+0.7**
STIP				*e*Sn	**Sn**	**02 48 04.9**	**+0.4**
STIP	**Stip**	**3.08**	**5**	*i* Pn	**Pn**	**02 47 28.5**	**+0.7**
STIP				*e*Sn	**Sn**	**02 48 04.8**	**+0.4**
TIR	**Tirane**	**3.12**	**332**	Pn	**Pn**	**02 47 30.8**	**+2.5**
	239nm,1.0s						
NVR	**Nevrokopi**	**3.14**	**29**	*e*PN	**Pn**	**02 47 29.0**	**+0.4**
LCI	**Lecce**	**3.36**	**302**	Pn	**Pn**	**02 47 31.4**	**-0

ZAL Zalesovo 44.62 49 P P 02 54 50.9 -0.4
comp=Z,0.8nm,0.3s,mb4.0,baz=90,slow=21,SNR=2.3
ZAL Zalesovo 44.62 49 P P 02 54 50.9 -0.4

ISCJB ***25*** *02:47:46.3±2.3, 196S±0.1×1778W±0.1, h385km±24km, mb4.0/16, Error ellipse: s-maj=25.0km s-min=14.1km az=118.9*
IDC ***25*** *02:47:48.0±2.3, 1989S×1777ZW, h393km±26km, mb3.6/7, mb1 3.9/9, mb1mx3.7/16, mbtmp4.4/9, Error ellipse: s-maj=32.5km s-min=12.4km az=148.0*
NEIC ***25*** *02:47:51.6±2.8, 1952S×1779 8W, h421km±29km, mb4.2/10, Error ellipse: s-maj=21.4km s-min=14.7km az=133.0*
ISC 25 02:47:48.0±2.1, 196S±02×1777W±01, h390km±22km, n27, σ1§03/24, mb4.0/16, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.98**	**258**	P		**P**		**02 51 01.8**	**+1.2**
	0.7nm,0.3s,baz=77,slow=15,SNR=5.9								
URZ	**Urewera**	**19.09**	**192**	P		**P**		**02 51 40.8**	**-3.5**
	2.1nm,0.3s,baz=0.9,slow=6.4,SNR=10								
CNB	**Canberra Magne**	**32.91**	**235**	*eP*		**P**		**02 53 48.6**	**+1.1**
	20nm,0.8s,mb4.5								
CTA	**Charters Tower**	**33.82**	**263**	*eP*		**P**		**02 53 55.9**	**+0.6**
	6.0nm,0.9s,mb3.9								
CTAO	**Charters Tower**	**33.82**	**263**	*eP*		**P**		**02 53 55.5**	**+0.2**
	4.8nm,0.4s,mb4.2								
TOO	**Toolangi**	**36.60**	**233**	⇓*iP*		**P**		**02 54 19.3**	**+0.6**
	12nm,0.6s,mb4.4								
STKA	**Stephens Creek**	**38.38**	**243**	*eP*		**P**		**02 54 32.1**	**-1.4**
	4.2nm,0.6s,mb4.0								
STKA	**Stephens Creek**	**38.38**	**243**	P		**P**		**02 54 32.5**	**-1.0**
	6.4nm,0.7s,mb4.1,baz=91,slow=10,SNR=9.8								
STKA	**Stephens Creek**	**38.38**	**243**	*eP*		**P**		**02 54 31.9**	**-1.6**
WB2	**Warramunga Arr**	**44.95**	**261**	*eP*		**P**		**02 55 25.8**	**-0.2**
ASAR	**Alice Springs**	**44.95**	**256**	P		**P**		**02 55 26.4**	**+0.3**
	24nm,0.6s,mb4.7,baz=92,slow=8.4,SNR=381								
ASAR				S		**S**		**03 01 34.6**	**+0.3**
	0.6nm,0.9s,baz=87,slow=16,SNR=3.7								
WRAB	**Tennant Creek**	**44.95**	**261**	*eP*		**P**		**02 55 25.1**	**-0.9**
	8.4nm,0.6s,mb4.2								
WRA	**Warramunga Arr**	**44.96**	**261**	P		**P**		**02 55 26.1**	**0.0**
	6.6nm,0.7s,mb4.1,baz=97,slow=8.6,SNR=104								
WRA				S		**S**		**03 01 34.3**	**-0.1**
	0.5nm,0.9s,baz=98,slow=13,SNR=3.9								
FORT	**Forrest**	**49.86**	**246**	*eP*		**P**		**02 56 02.9**	**-0.4**
	11nm,0.5s,mb4.5								
FITZ	**Fitzroy Crossi**	**53.38**	**262**	*eP*		**P**		**02 56 29.0**	**0.0**
	5.2nm,0.6s,mb3.9								
MBWA	**Marble Bar**	**58.28**	**257**	*eP*		**P**		**02 57 03.1**	**-0.2**
	8.1nm,0.6s,mb4.2								
VNDA	**Vanda**	**58.78**	**185**	*eP*		**P**		**02 57 08.3**	**+1.6**
	1.2nm,0.5s,mb3.5								
MJAR	**Matsushiro Arr**	**69.66**	**323**	P		**P**		**02 58 16.7**	**+0.2**
	2.2nm,0.7s,mb3.8,baz=162,slow=7.4,SNR=5.4								
NVAR	**Mina Array Bea**	**80.24**	**43**	P		**P**		**02 59 17.9**	**+1.5**
	0.8nm,0.6s,mb3.5,baz=220,slow=7.9,SNR=5.6								
MCK	**McKinley**	**86.09**	**12**	*eP*		**P**		**02 59 44.7**	**-1.2**
	1.4nm,0.9s,mb3.7								
ILAR	**Eielson Array**	**87.43**	**13**	P		**P**		**02 59 50.9**	**-1.4**
	2.5nm,1.2s,mb3.8,baz=224,slow=5.1,SNR=14								
PDAR	**Pinedale Array**	**88.17**	**43**	P		**P**		**02 59 56.5**	**+0.8**
	0.3nm,0.6s,mb3.2,baz=158,slow=1.6,SNR=3.7								
AKASG	**Malin Array Be**	**142.38**	**332**	PKhKP				03 06 31.0	
	0.5nm,0.3s,baz=41,slow=3.6,SNR=5.7								
AKASG	**Malin Array Be**	**142.38**	**332**	PKP		PKPdf		03 06 31.0	-3.8
EKA	**Eskdalemuir Ar**	**144.13**	**5**	PKP		PKPdf		03 06 36.8	-1.1
	2.6nm,0.8s,baz=348,slow=3.5,SNR=4.4								
BRTR	**Keskin Array B**	**146.43**	**313**	PKPbc		PKPbc		03 06 44.8	+0.8
	1.0nm,0.7s,baz=119,slow=4.4,SNR=5.4								
GERES	**GERESS Array B**	**149.44**	**345**	PKPbc		PKPbc		03 06 52.9	+1.2
	1.2nm,0.8s,baz=54,slow=2.3,SNR=9.5								

MEX 25 03:03:10.6±0.6, 1600N×9852W, h14km±17km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**44**	*iP*			Pg	03 03 19.9	-1.5
PNIG				*iS*			Sg	03 03 27.1	-1.6
ACX	**Acapulco**	**1.59**	**303**	*iP*			Pn	03 03 34.8	-3.6
UTMO	**Huajuapan**	**1.95**	**21**	*eP*			Pn	03 03 40.4	-2.8
UTMO				*iS*			Sn	03 04 02.8	-4.7
CAIG	**El Cayaco**	**1.97**	**302**	*eP*			Pn	03 03 39.5	-4.1
CAIG				*iS*			Sn	03 04 03.8	-4.3
VHO	**Vista Hermosa**	**2.02**	**58**	*eP*			Pn	03 03 43.1	-1.1
VHO				*eS*			Sn	03 04 06.1	-3.2
OXX	**Oaxaca**	**2.04**	**58**	*eP*			Pn	03 03 40.0	-4.4
MEIG	**Mezcala**	**2.19**	**331**	*iP*			Pn	03 03 43.9	-2.6
MEIG				*iS*			Sn	03 04 10.0	-3.3
PLIG	**Platanillo**	**2.56**	**339**	*iP*			Pn	03 03 49.4	-2.2
PLIG				*iS*			Sn	03 04 18.1	-4.5
PPM	**Popocatepetl**	**3.06**	**358**	*iP*			Pn	03 03 58.6	+0.2
PPM				*iS*			Sn	03 04 33.1	-1.7

ISCJB ***25*** *03:15:57.9±1.8, 1117N±007×1427 7E±008, h62km±16km, mb4.6/35, Error ellipse: s-maj=13.8km s-min=12.2km az=36.6*
MOS ***25*** *03:15:57.9±0.7, 1116N×1427 7E, h65km, mb4.9/14, Error ellipse: s-maj=16.0km s-min=9.6km az=104.7*
IDC ***25*** *03:15:59.4±2.5, 1117N×1422 0E, h58km±23km, mb4.0/14, mb1 4.1/14, mb1mx4.0/23, mbtmp4.3/14, ML4.8/1, MS3.3/7, Ms1 3.3/7, ms1mx3.1/30, Error ellipse: s-maj=19.8km s-min=13.5km az=100.0*
NEIC ***25*** *03:16:00.5±1.5, 1125N×1428 E, h66km±12km, mb4.8/11, Error ellipse: s-maj=12.8km s-min=10.9km az=204.0*
ISC 25 03:16:01.1±1.6, 1120N±007×14231E±009, h75km±15km, n70, σ0§87/66, mb4.5/35, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.45**	**46**	P		**Pn**		**03 16 53.6**	**+1.1**
	79nm,0.3s,baz=207,slow=7.9,SNR=25								
GUMO				S		**Sn**		**03 17 33.0**	**+0.9**
	56nm,0.3s,baz=8.9,slow=23,SNR=5.0								
GUMO				LR		LR		03 18 12.1	
	comp=Z,226nm,21.9s,baz=28,slow=37								
GUMO	**Guam**	**3.45**	**46**	*e*Pn		**Pn**		**03 16 52.7**	**+0.3**
GUMO				*e*Sn		**Sn**		**03 17 28.6**	**-3.5**
CBIJ	**Chichi jima**	**15.81**	**360**	LR		LR		03 24 44.7	
	comp=Z,54nm,19.0s,baz=18,slow=33								
JOW	**Kunigami**	**20.41**	**322**	P		**P**		**03 20 31.1**	**-0.8**
	19nm,0.8s,baz=181,slow=14,SNR=3.6								
PMG	**Port Moresby**	**21.03**	**167**	P		**P**		**03 20 37.5**	**-1.1**
	18nm,0.8s,mb4.5,baz=347,slow=9.0,SNR=9.1								
PMG				LR		LR		03 27 13.3	
	comp=Z,119nm,18.8s,baz=45,slow=32								
PMG	**Port Moresby**	**21.03**	**167**	*eP*		**P**		**03 20 38.5**	**-0.2**
	40nm,1.1s,mb4.7								
PMG	**Port Moresby**	**21.03**	**167**	*eP*		**P**		**03 20 38.5**	**-0.2**
PMG				pmax		pmax			
	comp=Z,40nm,1.1s								
JHJ	**Hachijo jima 2**	**21.94**	**354**	LR		LR		03 27 48.2	
	comp=Z,71nm,20.4s,baz=258,slow=32								
JNU	**Nakatsue**	**24.21**	**336**	P		**P**		**03 21 09.6**	**-1.1**
	comp=Z,6.9nm,0.7s,mb4.1,baz=97,slow=15,SNR=3.8								
MJAR	**Matsushiro Arr**	**25.50**	**352**	LR		LR		03 29 51.0	
	comp=Z,37nm,18.4s,baz=190,slow=33								
CTA	**Charters Tower**	**31.33**	**173**	LR		LR		03 33 35.5	
	comp=Z,130nm,18.5s,baz=49,slow=34								
WRAB	**Tennant Creek**	**31.91**	**194**	P		**P**		**03 22 26.9**	**+7.5**
	comp=Z,7.5nm,0.8s,mb4.5								
WRAB	**Tennant Creek**	**31.91**	**194**	P		**P**		**03 22 26.9**	**+7.5**
WRAB				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.5								
WRA	**Warramunga Arr**	**31.92**	**194**	P		**P**		**03 22 18.3**	**-1.1**
	comp=Z,1.8nm,0.8s,mb3.9,baz=13,slow=9.4,SNR=6.6								
ASAR	**Alice Springs**	**35.61**	**193**	P		**P**		**03 22 51.7**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=23,slow=11,SNR=2.6								
KLR	**Kul'dur**	**38.92**	**349**	*eP*		**P**		**03 23 16.0**	**-3.4**
STKA	**Stephens Creek**	**42.84**	**181**	*eP*		**P**		**03 23 58.6**	**+7.0**
SONM	**Songino Array**	**47.31**	**327**	P		**P**		**03 24 27.7**	**+0.6**
	comp=Z,0.9nm,0.6s,mb3.7,baz=142,slow=7.5,SNR=12								
SONM				PcP		PcP		03 25 57.9	+0.9
	comp=Z,1.0nm,0.7s,baz=147,slow=3.4,SNR=6.4								
NWAO	**Narrogin (SRO)**	**49.98**	**208**	LR		LR		03 47 49.7	
	comp=Z,89nm,19.5s,baz=192,slow=38								
ZAK	**Zakamensk**	**50.49**	**328**	*eP*		**P**		**03 24 51.7**	**+0.3**
ZAK				pmax		pmax			
	comp=Z,9.0nm,1.2s,mb4.6								
BOD	**Bodaibo**	**51.29**	**341**	*eP*		**P**		**03 24 56.2**	**-1.2**
BOD				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.8								
YAK	**Yakutsk**	**51.57**	**352**	*eP*		**P**		**03 24 59.1**	**-0.4**
	comp=Z,48nm,0.6s,mb5.7								
YAK	**Yakutsk**	**51.57**	**352**	*eP*		**P**		**03 24 59.3**	**-0.2**
YAK				pmax		pmax			
	comp=Z,13nm,0.8s,mb5.0								
YAK				pmax		pmax			
	comp=N,2.0nm,0.9s								
YAK				MLR		MLR			
	comp=Z,187nm,16.0s								
YAK				MLR		MLR			
	comp=N,129nm,26.0s								
YAK				MLR		MLR			
	comp=E,149nm,18.0s								
SEY	**Seymchan**	**52.15**	**6**	*eP*		**P**		**03 25 00.6**	**-3.2**
JIRN	**Jiri**	**54.95**	**296**	*eP*		**P**		**03 25 24.5**	**+0.2**
	comp=E,19nm,0.8s,mb5.2								
GUN	**Gumba**	**55.25**	**296**	*eP*		**P**		**03 25 26.9**	**+0.5**
	comp=E,41nm,0.8s,mb5.5								
PKI	**Pulchoki**	**55.63**	**296**	*eP*		**P**		**03 25 29.3**	**+0.1**
KKN	**Kakani**	**55.77**	**296**	*eP*		**P**		**03 25 30.1**	**0.0**
DMN	**Daman**	**55.90**	**296**	*eP*		**P**		**03 25 31.0**	**-0.1**
	comp=E,24nm,0.9s,mb5.2								
GKN	**Gorkha**	**56.35**	**296**	*eP*		**P**		**03 25 34.3**	**0.0**
	comp=E,32nm,1.0s,mb5.3								
KOLN	**Koldanda**	**57.25**	**296**	*eP*		**P**		**03 25 40.5**	**-0.2**
	comp=E,18nm,0.9s,mb5.1								
BILL	**Bilibino**	**58.93**	**10**	P		**P**		**03 25 52.0**	**-0.4**
	comp=E,5.2nm,1.0s,mb4.5								
BILL	**Bilibino**	**58.93**	**10**	P		**P**		**03 25 52.0**	**-0.4**
BILL				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.5								
TIXI	**Tiksi**	**60.97**	**355**	*eP*		**P**		**03 25 59.8**	**-6.6**
TIXI				pmax		pmax			
	comp=Z,6.0nm,1.2s,mb4.5								
TIXI				MLR		MLR			
	comp=Z,167nm,18.0s								
MKAR	**Makanchi Array**	**61.50**	**317**	P		**P**		**03 26 10.6**	**+0.6**
	comp=Z,3.6nm,0.8s,mb4.5,baz=111,slow=8.3,SNR=32								
ZAL	**Zalesovo**	**62.14**	**326**	P		**P**		**03 26 14.0**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=3.5,slow=8.4,SNR=11								
NVS	**Novosibirsk**	**63.31**	**326**	*eP*		**P**		**03 26 21.4**	**-0.7**
NVS				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.7								
NVS				pmax		pmax			
	comp=E,11nm,1.2s								
KURK	**Kurchatov**	**64.82**	**321**	*eP*		**P**		**03 26 31.7**	**-0.2**
	comp=E,23nm,0.7s,mb5.1								
KURK	**Kurchatov**	**64.82**	**321**	*eP*		**P**		**03 26 31.7**	**-0.2**
KURK				pmax		pmax			
	comp=Z,23nm,0.7s,mb5.1								
ULHL	**Ulahol**	**64.86**	**311**	P		**P**		**03 26 32.9**	**+0.7**
	SNR=6.2								
TKM2	**Tokmak 2**	**65.42**	**312**	P		**P**		**03 26 36.6**	**+0.8**
	SNR=5.2								
KZA	**Kyzart**	**65.57**	**311**	P		**P**		**03 26 38.5**	**+1.7**
	SNR=18								
KBK	**Karagaybulak**	**65.86**	**312**	P		**P**		**03 26 39.4**	**+0.7**
	SNR=5.8								
CHMS	**Chumysh**	**66.05**	**312**	P		**P**		**03 26 41.1**	**+1.2**
	SNR=5.2								
UCH	**Uchtor**	**66.13**	**311**	P		**P**		**03 26 42.0**	**+1.6**
	SNR=13								
AML	**Almayashu**	**66.73**	**311**	P		**P**		**03 26 45.5**	**+1.3**
	SNR=10								
KKAR	**Karatay Array**	**69.15**	**312**	*i*P		**P**		**03 26 58.8**	**-0.6**
KKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb3.9								
VOSK	**Vostochnaya**	**69.86**	**322**	P		**P**		**03 27 03.1**	**-0.7**
VOSK				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.3								
CHKZ	**Chkalovo**	**70.22**	**323**	*eP*		**P**		**03 27 05.1**	**-0.8**
	comp=Z,9.7nm,0.8s,mb4.7								
CHKZ	**Chkalovo**	**70.22**	**323**	P		**P**		**03 27 05.5**	**-0.4**
CHKZ				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.5								
BRVK	**Borovoye**	**70.33**	**322**	*eP*		**P**		**03 27 06.6**	**0.0**
	comp=Z,12nm,0.6s,mb4.9								
BRVK	**Borovoye**	**70.33**	**322**	P		**P**		**03 27 06.9**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
MCK	**McKinley**	**70.67**	**26**	*eP*		**P**		**03 27 08.4**	**-0.3**
	comp=Z,2.0nm,1.0s,mb3.9								
MCK	**McKinley**	**70.67**	**26**	*eP*		**P**		**03 27 08.4**	**-0.3**
MCK				pmax		pmax			
	comp=Z,2.0nm,1.0s,mb3.9								
ZRNK	**Zerenda**	**71.08**	**322**	*eP*		**P**		**03 27 11.1**	**-0.1**
	comp=Z,20nm,0.8s,mb5.0								
ZRNK	**Zerenda**	**71.08**	**322**	P		**P**		**03 27 11.2**	**0.0**
ZRNK				pmax		pmax			
	comp=Z,15nm,0.9s,mb4.8								
ILAR	**Eielson Array**	**71.78**	**25**	P		**P**		**03 27 14.6**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.2,baz=250,slow=5.8,SNR=17								
DAWY	**Dawson**	**74.88**	**26**	*eP*		**P**		**03 27 34.3**	**+0.7**
AB31	**Akbulak array**	**76.63**	**318**	*i*P		**P**		**03 27 43.1**	**-0.5**
AB31				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb3.8								
ARU	**Arti**	**77.30**	**326**	*eP*		**P**		**03 27 46.7**	**-0.7**
	comp=Z,4.2nm,0.3s,mb4.7								
ARU	**Arti**	**77.30**	**326**	*eP*		**P**		**03 27 46.7**	**-0.7**
ARU				pmax		pmax			
	comp=Z,4.0nm,0.3s,mb4.6								
INK	**Inuvik**	**77.52**	**22**	P		**P**		**03 27 48.3**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.5,baz=233,slow=6.5,SNR=3.3								
YKW3	**Yellowknife Ar**	**86.09**	**27**	*eP*		**P**		**03 28 34.0**	**+0.4**
YKA	**Yellowknife Ar**	**86.11**	**27**	P		**P**		**03 28 34.4**	**+0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=288,slow=5.2,SNR=17								
RES	**Resolute Bay**	**87.43**	**13**	*eP*		**P**		**03 28 40.4**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.1								
RES	**Resolute Bay**	**87.43**	**13**	*eP*		**P**		**03 28 40.4**	**+0.3**
RES				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.2								
ARCES	**ARCESS Array B**	**88.57**	**342**	P		**P**		**03 28 45.3**	**-0.2**
	comp=Z,4.4nm,0.8s,mb4.5,baz=53,slow=8.1,SNR=6.6								
NVAR	**Mina Array Bea**	**90.36**	**51**	P		**P**		**03 28 56.6**	**+2.7**
	comp=Z,0.8nm,0.5s,mb4.1,baz=267,slow=5.1,SNR=6.3								
FINES	**FINESS Array B**	**92.25**	**334**	P		**P**		**03 29 01.1**	**-1.6**
	comp=Z,1.9nm,0.7s,mb4.5,baz=63,slow=5.8,SNR=6.0								
LPAZ	**La Paz**	**150.02**	**103**	PKPbc		PKPbc		03 35 46.4	+3.5
	comp=Z,3.1nm,0.8s,baz=270,slow=1.7,SNR=12								

BJI ***25*** *03:16:03.3, 4170N×126.10W, h10km, mB5.1, mb4.8, Ms5.2, Msz4.7*
MOS ***25*** *03:16:04.7±1.4, 4179N×1260 0W, h10km, mb5.1/48, MS4.5/7, Error ellipse: s-maj=5.7km s-min=4.8km az=131.0*
ISCJB ***25*** *03:16:04.9±0.2, 4187N±003×12594W±003, h10km, mb4.8/95, MS4.3/35, Error ellipse: s-maj=4.9km s-min=2.6km az=73.3*
SZGRF ***25*** *03:16:05.2, 4094N×1276 2W, h33km, mb5.0, MS4.7, Off coast of northern California, United States*
NEIC ***25*** *03:16:05.4±0.3, 4175N×1260 8W, h10km, mb4.9/66, Error ellipse: s-maj=5.6km s-min=3.3km az=219.0*
HRVD ***25*** *03:16:05.4±0.3, 4182N×1263 0W, h16km±1km, MW5.1/95, Centroid moment Tensor Solution. LP body waves: s48,c65;Mantle waves: s95,c182; Half duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-0.71±.15; $M_{\theta\theta}$-4.85±.14; $M_{\phi\phi}$5.56±.16; $M_{r\theta}$0.86±.39; $M_{\theta\phi}$0.33±.12; $M_{\phi r}$-0.23±.40; Best double couple: $M_0$5.30500×10^16 NP1:φ226.00000°, δ81.00000°, λ-7.00000°. NP2: φ317.00000°, δ83.00000°, λ-171.00000°. Principal axes: T 5.5770, Plg2.0000°, Azm92.0000°; N -0.5470, Plg79.0000°, Azm353.0000°; P -5.0330, Plg11.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***25*** *03:16:06.8±0.8, 4203N×1256 7W, h0km, mb4.3/18, mb1 4.6/25, mb1mx4.5/31, mbtmp4.4/25, ML4.0/6, MS4.3/28, Ms1 4.3/28, ms1mx4.3/34 Error ellipse: s-maj=17.7km s-min=9.4km az=34.0*
ISC 25 03:16:05.5±0.2, 4177N±003×12612W±003, h10km, (h16km±2km:pP-P), n319, σ1§35/307, mb4.8/95, MS4.3/35, 3C-2D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.48**	**72**	*e*Pn		**Pn**		**03 16 29.4**	**-2.8**
KEBM	**Edson Butte**	**1.73**	**50**	*e*Pn		**Pn**		**03 16 32.4**	**-3.2**
KHMM	**Horse Mountain**	**2.01**	**116**	*e*Pn		**Pn**		**03 16 37.8**	**-1.7**
YBH	**Yreka Blue Hor**	**2.55**	**90**	Pn		**Pn**		**03 16 46.3**	**-0.6**
	117nm,0.3s,baz=277,slow=12,SNR=1742								
YBH				LR		LR		03 17 14.3	
	comp=Z,3μm,19.6s,baz=3.3,slow=30								
YBH	**Yreka Blue Hor**	**2.55**	**90**	*e*P		**Pn**		**03 16 46.0**	**-0.9**
KIPM	**Iron Peak**	**2.80**	**133**	*e*Pn		**Pn**		**03 16 49.3**	**-1.0**
WDC	**Whiskeytown Da**	**2.95**	**113**	*e*Pn		**Pn**		**03 16 51.8**	**-0.7**
WDC				*e*Sn		**Sn**		**03 17 26.6**	**-1.3**
COR	**Corvallis**	**3.49**	**35**	*e*Pn		**Pn**		**03 16 57.8**	**-2.1**
COR				*e*Sn		**Sn**		**03 17 35.9**	**-5.3**
HOPS	**Hopland**	**3.62**	**139**	*e*Pn		**Pn**		**03 17 00.1**	**-1.5**
HOPS				*e*Sn		**Sn**		**03 17 39.4**	**-4.9**
OHCM	**Honcut**	**4.29**	**123**	*e*Pn		**Pn**		**03 17 09.3**	**-1.5**
OHCM				*e*Sn		**Sn**		**03 18 00.7**	**-0.2**
MOD	**Modoc**	**4.35**	**86**	*e*Pn		**Pn**		**03 17 10.1**	**-1.5**
MCCM	**Marconi Confer**	**4.39**	**144**	*e*Pn		**Pn**		**03 17 10.7**	**-1.5**
MCCM				*e*Sn		**Sn**		**03 18 01.7**	**-1.7**
SAC	**San Andreas**	**5.06**	**144**	*e*Pn		**Pn**		**03 17 19.6**	**-1.8**
PAHR	**Pah Rah Range**	**5.51**	**110**	*e*Pn		**Pn**		**03 17 28.3**	**+0.6**
	302nm,1.4s								
WVOR	**Wild Horse Val**	**5.61**	**81**	*e*Pn		**Pn**		**03 17 26.6**	**-2.4**
	164nm,0.9s								
WVOR	**Wild Horse Val**	**5.61**	**81**	*e*P		**Pn**		**03 17 26.6**	**-2.3**
WVOR				pmax		pmax			
	comp=Z,164nm,0.9s								
CMB	**Columbia Colle**	**5.77**	**128**	*e*Pn		**Pn**		**03 17 31.3**	**+0.1**
	comp=Z,24nm,0.6s								
CMB				*e*Sn		**Sn**		**03 18 40.2**	**+2.7**
CMB	**Columbia Colle**	**5.77**	**128**	*e*P		**Pn**		**03 17 31.3**	**+0.1**
CMB				*e*				03 18 40.2	
CMB				pmax		pmax			
	comp=Z,24nm,0.6s								
SAO	**San Andreas Ge**	**6.17**	**143**	*e*Pn		**Pn**		**03 17 35.6**	**-1.1**
	comp=Z,20nm,0.6s								
SAO	**San Andreas Ge**	**6.17**	**143**	*e*P		**Pn**		**03 17 35.6**	**-1.1**
SAO				pmax		pmax			
	comp=Z,20nm,0.6s								
HAWA	**Hanford**	**6.62**	**44**	*e*Pn		**Pn**		**03 17 41.4**	**-1.5**
	comp=Z,2.5nm,0.5s								
BMN	**Battle Mountai**	**6.85**	**98**	*e*Pn		**Pn**		**03 17 44.7**	**-1.3**
	comp=Z,71nm,1.1s								
BMN	**Battle Mountai**	**6.85**	**98**	*e*P		**Pn**		**03 17 44.7**	**-1.3**
BMN				pmax		pmax			
	comp=Z,71nm,1.1s								
NVAR	**Mina Array Bea**	**6.86**	**117**	Pn		**Pn**		**03 17 47.0**	**+0.9**
	comp=Z,3.4nm,0.3s,baz=294,slow=15,SNR=40								
NVAR				Sn		**Sn**		**03 19 08.3**	**+4.1**
	comp=Z,1.8nm,0.3s,baz=302,slow=22,SNR=4.3								
NVAR				Lg				03 19 29.5	
	comp=Z,1.5nm,0.3s,baz=304,slow=28,SNR=4.2								
NVAR	**Mina Array Bea**	**6.86**	**117**	Pn		**Pn**		**03 17 47.0**	**+0.9**
NVAR				Sn		**Sn**		**03 19 08.3**	**+4.1**
NVAR				Lg				03 19 29.5	
MNV	**Mina**	**6.96**	**116**	*e*Pn		**Pn**		**03 17 47.5**	**0.0**
	comp=Z,74nm,1.3s								
MNV	**Mina**	**6.96**	**116**	*e*P		**Pn**		**03 17 47.5**	**0.0**
MNV				pmax		pmax			
	comp=Z,75nm,1.3s								
BMO	**Blue Mountains**	**7.13**	**61**	*e*Pn		**Pn**		**03 17 48.6**	**-1.2**
	comp=Z,28nm,0.8s								
BMO	**Blue Mountains**	**7.13**	**61**	*e*P		**Pn**		**03 17 48.6**	**-1.3**
BMO				pmax		pmax			
	comp=Z,28nm,0.8s								
PGC	**Sidney**	**7.14**	**14**	*e*Pn		**Pn**		**03 17 49.3**	**-0.6**
	comp=Z,121nm,0.9s								
PTRM	**Twissleman Ran**	**7.65**	**141**	P		**Pn**		**03 17 54.9**	**-2.1**
ELK	**Elko**	**8.26**	**93**	*e*Pn		**Pn**		**03 18 06.5**	**+1.2**
	comp=Z,277nm,1.4s								
ELK	**Elko**	**8.26**	**93**	*e*P		**Pn**		**03 18 06.6**	**+1.2**
ELK				pmax		pmax			
	comp=Z,277nm,1.4s								
ISA	**Isabella**	**8.53**	**133**	*e*Pn		**Pn**		**03 18 10.1**	**+1.0**
	comp=Z,51nm,1.0s								
ISA	**Isabella**	**8.53**	**133**	*e*P		**Pn**		**03 18 10.1**	**+1.0**
ISA

TMUT Trail Mountain 11.62 97 *e*Pn **Pn 03 18 53.8 +2.5**
LKWY Lake 11.82 71 *e*Pn **Pn 03 18 55.6 +1.5**
comp=Z,82nm,1.5s
LKWY **Lake 11.82 71** *e*P **Pn 03 18 55.6 +1.5**
LKWY pmax pmax
comp=Z,82nm,1.5s
SRU San Rafael 12.18 97 *e*Pn **Pn 03 19 00.7 +1.7**
comp=Z,314nm,1.7s
SRU San Rafael 12.18 97 *e*P **Pn 03 19 00.7 +1.7**
SRU pmax pmax
comp=Z,314nm,1.7s
BW06 Boulder Array 12.31 80 *e*Pn **Pn 03 19 01.1 +0.2**
comp=Z,182nm,1.9s
PDAR Pinedale Array 12.31 80 Pn **Pn 03 19 01.6 +0.8**
comp=Z,0.1nm,0.3s,baz=266,slow=12,SNR=54
PDAR LR LR 03 24 04.0
comp=Z,2μm,19.8s,baz=268,slow=40
GCMT Greycliff 12.55 66 *e*Pn **Pn 03 19 03.3 -0.8**
WUAZ Wupatki 13.10 114 *e*Pn **Pn 03 19 11.1 -0.6**
comp=Z,231nm,1.7s
PV10 Paradox Valley 13.51 99 *e*Pn **Pn 03 19 19.9 +2.7**
PV01 Paradox Valley 13.94 99 *e*Pn **Pn 03 19 24.5 +1.4**
RWWY Rawlins 14.13 84 *e*Pn **Pn 03 19 24.1 -1.5**
comp=Z,316nm,1.9s
EDM Edmonton 14.32 33 *e*Pn **Pn 03 19 22.1 -6.2**
SMCO Snowmass 14.80 94 *e*Pn **Pn 03 19 34.8 0.0**
comp=Z,188nm,1.8s
LAO LASA Array 15.08 64 *e*Pn **Pn 03 19 36.5 -2.1**
comp=Z,63nm,1.0s
TUC Tucson 15.44 123 *e*Pn **Pn 03 19 42.4 -0.9**
comp=Z,68nm,1.7s
TUC Tucson 15.44 123 *e*P **Pn 03 19 42.4 -1.0**
TUC pmax pmax
comp=Z,68nm,1.7s
PHWY Pilot Hill 15.48 85 *e*Pn **Pn 03 19 41.1 -2.8**
ISCO Idaho Springs 15.66 90 *e*Pn **Pn 03 19 45.2 -1.0**
comp=Z,24nm,0.9s
ISCO Idaho Springs 15.66 90 *e*P **Pn 03 19 45.2 -1.0**
ISCO pmax pmax
comp=Z,24nm,0.9s
RSSD Black Hills 16.34 74 *e*Pn **Pn 03 19 49.8 -5.2**
comp=Z,45nm,1.4s
RSSD Black Hills 16.34 74 *e*P **Pn 03 19 49.8 -5.1**
RSSD pmax pmax
comp=Z,45nm,1.4s
DGMT Dagmar 16.83 59 *e*Pn **Pn 03 19 58.1 -3.2**
comp=Z,35nm,1.0s
ANMO Albuquerque 16.84 107 Pn **Pn 03 20 03.0 +1.6**
comp=Z,1.1nm,0.3s,baz=307,slow=12,SNR=32
ANMO LR LR 03 27 01.2
comp=Z,2μm,18.4s,baz=111,slow=39
ANMO Albuquerque 16.84 107 *e*Pn **Pn 03 20 00.9 -0.4**
comp=Z,65nm,1.4s
ANMO Albuquerque 16.84 107 *e*P **Pn 03 20 00.9 -0.4**
ANMO pmax pmax
comp=Z,65nm,1.4s
DLBC Dease Lake 16.87 353 Pn **Pn 03 20 02.2 +0.5**
comp=Z,0.2nm,0.3s,baz=166,slow=12,SNR=25
DLBC LR LR 03 25 27.2
comp=Z,869nm,21.5s,baz=164,slow=34
DLBC Dease Lake 16.87 353 *e*Pn **Pn 03 20 03.3 +1.5**
MNTX Cornudas Mount 19.38 115 *e*P **Pn 03 20 34.5 +2.0**
comp=Z,97nm,1.5s
CBKS Cedar Bluff 20.32 90 *e*P **P 03 20 40.9 -0.8**
comp=Z,138nm,1.4s
CBKS Cedar Bluff 20.32 90 *e*P **P 03 20 40.9 -0.7**
CBKS pmax pmax
comp=Z,138nm,1.4s
FFC Flin Flon 20.52 43 *e*P **P 03 20 43.3 -0.6**
comp=Z,57nm,0.8s
FFC Flin Flon 20.52 43 *e*P **P 03 20 43.3 -0.6**
FFC pmax pmax
comp=Z,57nm,0.8s
YKA Yellowknife Ar 21.86 14 P **P 03 20 56.5 -1.8**
comp=Z,12nm,0.9s,mb4.3,baz=202,slow=10,SNR=33
YKA LR LR 03 29 15.5
comp=Z,749nm,20.4s,MS4.1,baz=215,slow=37
YKA Yellowknife Ar 21.86 14 P **P 03 20 56.5 -1.8**
YKA LR LR 03 29 15.5
YKW3 Yellowknife Ar 21.92 14 *e*P **P 03 20 57.1 -1.8**
LTX Lajitas 22.01 117 *e*P **P 03 21 02.4 +2.5**
comp=Z,181nm,1.7s,mb5.2
LTX Lajitas 22.01 117 *e*P **P 03 21 02.4 +2.5**
LTX pmax pmax
comp=Z,181nm,1.7s,mb5.2
EYAK Cordova Ski Ar 22.31 334 *e*P **P 03 21 01.6 -1.6**
WMOK Wichita Mounta 22.53 99 *e*P **P 03 21 05.4 0.0**
comp=Z,65nm,1.0s,mb5.0
WMOK Wichita Mounta 22.53 99 *e*P **P 03 21 05.4 0.0**
WMOK pmax pmax
comp=Z,65nm,1.0s,mb5.0
ULM Lac du Bonnet 22.53 58 P **P 03 21 04.4 -1.1**
comp=Z,33nm,0.9s,mb4.8,baz=268,slow=10,SNR=88
ULM LR LR 03 30 01.1
comp=Z,554nm,20.4s,MS4.0,baz=264,slow=38
KSU1 Kansas State U 22.57 87 *e*P **P 03 21 05.5 -0.4**
DIV Divide 22.76 335 *e*P **P 03 21 06.9 -1.0**
comp=Z,156nm,1.2s,mb5.3
KDAK Kodiak Island 23.20 323 P **P 03 21 16.5 +3.9**
comp=Z,27nm,1.1s,mb4.6,baz=121,slow=5.9,SNR=5.5
KDAK LR LR 03 27 56.6
comp=Z,686nm,20.0s,MS4.1,baz=132,slow=31
DAWY Dawson 23.63 345 *e*P **P 03 21 16.8 -0.1**
SLKM Skilak Lake 23.86 330 *e*P **P 03 21 19.2 +0.2**
JCT Junction City 23.96 110 *e*P **P 03 21 20.1 +0.1**
comp=Z,59nm,1.2s,mb4.9
JCT Junction City 23.96 110 *e*P **P 03 21 20.1 +0.1**
JCT pmax pmax
comp=Z,59nm,1.2s,mb4.9
SML Sawmill 24.09 334 *e*P **P 03 21 21.5 +0.4**
PMR Palmer 24.20 333 *e*P **P 03 21 21.2 -1.0**
comp=Z,5.7nm,0.9s,mb4.0
PMR Palmer 24.20 333 *e*P **P 03 21 21.2 -1.0**
PMR pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
EYMN Ely 25.16 64 *e*P **P 03 21 30.8 -0.1**
comp=Z,294nm,2.0s,mb5.5
EYMN LR LR
comp=Z,1μm,20.0s,MS4.5
MCK McKinley 25.70 337 *e*P **P 03 21 33.9 -1.8**
comp=Z,72nm,1.9s,mb4.9
MCK McKinley 25.70 337 *e*P **P 03 21 33.9 -1.8**
MCK pmax pmax
comp=Z,72nm,1.9s,mb4.9
ILAR Eielson Array 25.93 340 P **P 03 21 37.8 -0.1**
comp=Z,9.0nm,0.9s,mb4.3,baz=157,slow=7.7,SNR=54
ILAR PcP PcP 03 25 09.1 +2.7
comp=Z,1.5nm,0.9s,baz=184,slow=2.3,SNR=11
ILAR LR LR 03 30 11.9
comp=Z,555nm,20.1s,MS4.1,baz=167,slow=33
ILAR Eielson Array 25.93 340 P **P 03 21 37.8 0.0**
ILAR 03 25 09.1
FCC Fort Churchill 26.25 39 *e*P **P 03 21 40.1 -0.7**
comp=Z,28nm,1.0s,mb4.7
FCC Fort Churchill 26.25 39 *e*P **P 03 21 40.1 -0.7**
FCC pmax pmax
comp=Z,28nm,1.0s,mb4.8
COLA College 26.26 339 *e*P **P 03 21 40.8 -0.1**
comp=Z,7.4nm,0.9s,mb4.2
COLA College 26.26 339 *e*P **P 03 21 40.8 -0.1**
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
SVW2 Sparrevohn 26.30 327 *e*P **P 03 21 41.7 +0.5**
MIAR Mount Ida 26.48 95 *e*P **P 03 21 44.1 +1.2**
comp=Z,67nm,1.1s,mb5.1
MIAR Mount Ida 26.48 95 *e*P **P 03 21 44.1 +1.3**
MIAR pmax pmax
comp=Z,67nm,1.1s,mb5.1
INK Inuvik 26.89 354 P **P 03 21 46.0 -0.6**
comp=Z,3.4nm,0.9s,mb3.9,baz=176,slow=9.9,SNR=12
INK LR LR 03 31 53.5
comp=Z,1μm,18.4s,MS4.4,baz=173,slow=36
INK Inuvik 26.89 354 *e*P **P 03 21 45.1 -1.4**
comp=Z,37nm,1.5s,mb4.7
INK Inuvik 26.89 354 *e*P **P 03 21 45.2 -1.4**
INK pmax pmax
comp=Z,37nm,1.5s
NATX Nacogdoches 26.98 101 *e*P **P 03 21 49.7 +2.4**
comp=Z,52nm,0.9s,mb5.1
NATX LR LR
comp=Z,2μm,22.0s,MS4.6
HKT Hockley 27.09 106 *e*P **P 03 21 48.7 +0.4**
comp=Z,63nm,1.4s,mb5.0
HKT Hockley 27.09 106 *e*P **P 03 21 48.7 +0.3**
HKT pmax pmax
comp=Z,63nm,1.4s,mb5.0

SLM Saint Louis 27.46 85 *e*P **P 03 21 50.9 -0.8**
comp=Z,29nm,0.6s,mb5.0
SLM Saint Louis 27.46 85 *e*P **P 03 21 50.9 -0.8**
SLM pmax pmax
comp=Z,29nm,0.6s,mb5.0
TTA Tatalina 27.53 330 *e*P **P 03 21 51.6 -0.6**
comp=Z,35nm,1.3s,mb4.8
TTA Tatalina 27.53 330 *e*P **P 03 21 51.6 -0.7**
TTA pmax pmax
comp=Z,35nm,1.3s,mb4.8
FVM French Village 27.53 86 *e*P **P 03 21 51.5 -0.7**
comp=Z,12nm,0.6s,mb4.7
FVM French Village 27.53 86 *e*P **P 03 21 51.6 -0.7**
FVM pmax pmax
comp=Z,12nm,0.6s,mb4.7
UNV Unalaska Valle 29.28 308 *e*P **P 03 22 06.7 -1.2**
comp=Z,120nm,0.8s,mb5.7
OXF Oxford 29.60 92 *e*P **P 03 22 10.9 +0.2**
comp=Z,94nm,1.0s,mb5.5
OXF Oxford 29.60 92 *e*P **P 03 22 10.9 +0.2**
OXF pmax pmax
comp=Z,94nm,1.0s,mb5.5
BLO Bloomington 30.06 82 *e*P **P 03 22 12.6 -2.1**
comp=Z,67nm,0.8s,mb5.4
BLO Bloomington 30.06 82 *e*P **P 03 22 12.6 -2.2**
BLO pmax pmax
comp=Z,67nm,0.8s,mb5.4
WVT Waverly 30.13 88 *e*P **P 03 22 14.4 -1.0**
comp=Z,14nm,1.0s,mb4.6
WVT Waverly 30.13 88 *e*P **P 03 22 14.4 -1.0**
WVT pmax pmax
comp=Z,14nm,1.0s,mb4.7
PLAL Pickwick Lake 30.40 90 *e*P **P 03 22 17.0 -0.8**
comp=Z,94nm,1.4s,mb5.3
WCI Wyandotte Cave 30.53 83 *e*P **P 03 22 17.1 -1.8**
comp=Z,26nm,0.9s,mb5.1
WCI Wyandotte Cave 30.53 83 *e*P **P 03 22 17.1 -1.8**
WCI pmax pmax
comp=Z,26nm,0.9s,mb5.1
LRAL Lakeview Retre 32.05 93 *e*P **P 03 22 33.1 +0.7**
comp=Z,56nm,1.4s,mb5.2
ACSO Alum Creek Sta 32.35 78 *e*P **P 03 22 33.9 -1.1**
comp=Z,20nm,0.7s,mb5.1
CPCT Cooper Cave 32.87 87 *e*P **P 03 22 38.8 -0.7**
FWV Forest Hill 34.82 82 *e*P **P 03 22 56.0 -0.5**
MCWV Mont Chateau 34.82 78 *e*P **P 03 22 55.0 -1.5**
comp=Z,19nm,0.8s,mb5.1
ELN Prospectdale 34.99 82 *e*P **P 03 22 57.5 -0.4**
BLA Blacksburg 35.24 82 *e*P **P 03 23 00.9 +0.8**
comp=Z,4.3nm,0.9s,mb4.4
BLA Blacksburg 35.24 82 *e*P **P 03 23 00.9 +0.8**
BLA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
JSC Jenkinsville 35.79 87 *e*P **P 03 23 04.8 -0.1**
RES Resolute Bay 35.93 14 *e*P **P 03 23 04.2 -1.8**
comp=Z,11nm,1.3s,mb4.6
RES Resolute Bay 35.93 14 *e*P **P 03 23 04.2 -1.8**
RES pmax pmax
comp=Z,11nm,1.3s,mb4.6
BINY Binghamton 36.83 72 *e*P **P 03 23 11.5 -2.2**
comp=Z,21nm,1.0s,mb4.9
CBN Corbin 37.12 79 *e*P **P 03 23 15.1 -1.2**
comp=Z,44nm,0.8s,mb5.3
MIV Mineville/With 38.04 68 *e*P **P 03 23 23.6 -0.4**
TEIG Tepich 38.48 112 P **P 03 23 26.5 -1.2**
comp=Z,17nm,1.4s,mb4.6
FRB Frobisher Bay 39.40 36 LR LR 03 39 48.8
comp=Z,408nm,19.6s,MS4.3,baz=343,slow=36
SCHQ Schefferville 40.33 50 P **P 03 23 42.4 -0.7**
comp=Z,3.0nm,0.8s,mb4.1,baz=288,slow=9.6,SNR=9.8
SCHQ LR LR 03 41 12.7
comp=Z,364nm,19.3s,MS4.2,baz=344,slow=38
SCHQ Schefferville 40.33 50 *e*P **P 03 23 42.5 -0.6**
comp=Z,22nm,1.0s,mb4.8
BILL Bilibino 43.78 330 *e*P **P 03 24 10.4 -0.9**
comp=Z,6.8nm,0.8s,mb4.4
BILL Bilibino 43.78 330 *e*P **P 03 24 09.9 -1.4**
BILL *e* 03 25 53.4
BILL pmax pmax
comp=Z,12nm,1.6s,mb4.4
BILL MLR MLR
comp=Z,400nm,20.0s,MS4.3
SFJD Kangerlussuaq 46.86 31 LR LR 03 44 49.7
comp=Z,503nm,18.4s,MS4.5,baz=258,slow=37
SUMG Summit 50.06 23 *e*P **P 03 24 59.9 -0.5**
comp=Z,48nm,1.0s,mb5.5
SEY Seymchan 50.16 324 *e*P **P 03 25 01.1 0.0**
SEY *e* 03 26 16.2
SEY 03 26 55.1
SEY *e*PPP 03 27 57.5
SEY *e*S **S 03 32 11.1 -1.7**
SEY *e* 03 34 47.0
SEY *e*SS SS 03 35 49.4 +3.3
SEY pmax pmax
comp=E,5.0nm,0.8s
SEY pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SEY smax
comp=N,50nm,5.5s
SEY smax
comp=E,46nm,5.9s
SEY MLR MLR
comp=Z,149nm,24.0s,MS3.9
SEY MLR MLR
comp=N,80nm,17.0s
SEY MLR MLR
comp=E,20nm,14.0s
MA2 Magadan 51.91 320 *e*P **P 03 25 15.2 +0.9**
comp=E,5.3nm,0.8s,mb4.5
MA2 Magadan 51.91 320 P **P 03 25 14.4 +0.1**
MA2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TAOE Nuku Hiva Isla 51.99 198 *e*LR LR 03 39 42.5
comp=Z,2μm,28.6s
TAOE Nuku Hiva Isla 51.99 198 *e*T 04 21 04.5
comp=Z,376nm,0.3s
DAG Danmarks Havn 53.56 16⇓ *i*P **P 03 25 25.8 -0.7**
comp=Z,10nm,0.8s,mb4.8
DAG Danmarks Havn 53.56 16⇓ *i*P **P 03 25 25.8 -0.7**
DAG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TIXI Tiksi 55.39 338 *e*P **P 03 25 37.7 -2.1**
TIXI *e*S **S 03 33 14.6 -10**
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
TIXI MLR MLR
comp=Z,267nm,17.0s,MS4.4
SDV Santo Domingo 58.62 108 P **P 03 26 01.9 -0.8**
comp=Z,15nm,1.0s,mb5.0
ROSC El Rosal 58.88 114 LR LR 03 53 09.6
comp=Z,122nm,20.4s,MS4.0,baz=42,slow=38
OTAV Otavalo 59.57 121 *e*P **P 03 26 10.4 +1.1**
comp=Z,17nm,1.1s,mb5.0
PMOR Pomariorio Ree 59.96 204 *e*T 04 31 03.3
comp=Z,14nm,0.3s
YSS Yuzh-Sakhalins 61.75 309⇑ *e*P **P 03 26 24.4 +0.3**
YSS pmax pmax
comp=Z,19nm,1.7s,mb5.0
YSS MLR MLR
comp=Z,100nm,24.0s,MS3.9
PPT Papeete 62.90 205 *e*LR LR 03 44 45.3
comp=Z,693nm,26.0s,baz=18
PPT Papeete 62.90 205 LR LR 03 45 44.3
comp=Z,381nm,19.7s,MS4.6,baz=26,slow=28
PAE Paea 62.99 205 *e*T 04 34 49.9
comp=Z,7.6nm,0.3s
TVO Taravao 62.99 205 *e*T 04 34 50.6
comp=Z,8.0nm,0.3s
RKT Rikitea 65.07 189 *e*LR LR 03 45 49.4
comp=Z,684nm,27.2s,baz=5.7
RKT Rikitea 65.07 189 *e*T 04 37 31.7
comp=Z,14nm,0.3s
ARCES ARCESS Array B 67.06 10 LR LR 03 56 36.3
comp=Z,380nm,18.1s,MS4.7,baz=337,slow=36
TBI Tubuai 68.30 203 *e*LR LR 03 47 12.4
comp=Z,604nm,29.0s,baz=23
BOD Bodaibo 68.83 330 *e*P **P 03 27 07.5 -2.6**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MAJO Matsushiro 70.50 302 *e*P **P 03 27 18.4 -1.9**
comp=Z,9.4nm,0.8s,mb4.8
MAJO Matsushiro 70.50 302 *e*P **P 03 27 18.4 -1.9**
MAJO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MJAR Matsushiro Arr 70.50 302 P **P 03 27 25.9 +5.5**
comp=Z,2.7nm,0.7s,mb4.3,baz=50,slow=5.3,SNR=10
MJAR LR LR 03 53 10.7
comp=Z,158nm,19.4s,MS4.3,baz=85,slow=32
MAT Matsushiro 70.50 302 P **P 03 27 25.4 +5.1**
MAT *e*S S 03 36 37.6 +4.1
MAT Matsushiro 70.50 302 P **P 03 27 25.0 +4.7**
comp=Z,6.0nm,0.8s,mb4.6
MAT S S 03 36 38.0 +4.5
MAT Matsushiro 70.50 302 P **P 03 27 25.0 +4.7**
MAT S S 03 36 38.0 +4.5
MAT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MDJ Mudanjiang 70.57 313 P **P 03 27 18.8 -2.0**
MDJ AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,100nm,3.7s
MDJ LR LR
comp=N,179nm,30.1s,MS4.2
MDJ LR LR
comp=E,45nm,26.7s,MS4.2
MDJ LR LR
comp=Z,160nm,25.4s,MS4.2
NB2 NORSAR Subarra 71.82 20 P **P 03 27 28.0 -0.4**
comp=Z,12nm,1.1s,mb4.8,baz=327,slow=5.9
NB2 NORSAR Subarra 71.82 20 P **P 03 27 28.0 -0.4**
NB2 pmax pmax
comp=Z,13nm,1.1s,mb4.8
NOA NORSAR Array B 71.82 20 P **P 03 27 28.9 +0.5**
comp=Z,4.9nm,0.9s,mb4.4,baz=329,slow=6.1,SNR=8.9
NOA LR LR 03 57 49.7
comp=Z,216nm,21.3s,MS4.4,baz=340,slow=35
NAO01 NORSAR Array S 71.90 21 *e*P **P 03 27 28.7 -0.2**
comp=Z,28nm,1.3s,mb5.0
KAF Kangasniemi 74.11 13 *e*p **P 03 27 38.1 -3.8**
comp=Z,7.3nm,1.0s,mb4.6,baz=336,slow=5.8
KAF Kangasniemi 74.11 13 *e*P **P 03 27 38.1 -3.8**
KAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
JOF Joensuu 74.11 11 *e*p **P 03 27 36.7 -5.2**
FINES FINESS Array B 74.69 13 P **P 03 27 45.3 0.0**
comp=Z,9.5nm,1.0s,mb4.7,baz=4.3,slow=7.6,SNR=16
FINES LR LR 04 00 54.6
comp=Z,183nm,18.3s,MS4.4,baz=248,slow=36
ARE Arequipa 76.78 127 *e*P **P 03 28 05.0 +7.7**
KLMR Klimovskoe 77.06 7 *c i*P **P 03 28 00.3 +1.4**
KLMR pmax pmax
comp=Z,70nm,1.7s,mb5.3
KLMR pmax pmax
comp=Z,100nm,5.4s
BSEG Bad Segeberg 77.61 25 *e*P **P 03 28 03.2 +1.3**
comp=Z,23nm,1.5s,mb4.9
BSEG *e*PP PP 03 30 59.1 +2.3
IBBN Ibbenburen 78.15 27 *e*P **P 03 28 07.6 +2.7**
comp=Z,20nm,1.3s,mb4.9
IBBN *e*PP PP 03 31 04.2 +2.8
MOY Mondy 78.34 332 *e*P **P 03 28 09.3 +3.3**
ZAK Zakamensk 78.58 330 *e*P **P 03 28 03.4 -3.9**
ZAK pmax pmax
comp=Z,10.0nm,1.8s,mb4.4
BUG Bochum--Univer 78.70 28 *e*P **P 03 28 09.7 +1.7**
comp=Z,12nm,0.9s,mb4.8
LPAZ La Paz 78.70 124 P **P 03 28 09.9 +1.9**
comp=Z,5.3nm,0.8s,mb4.5,baz=309,slow=4.9,SNR=14
LPAZ La Paz 78.70 124 *e*P **P 03 28 08.4 +0.4**
comp=Z,9.0nm,0.9s,mb4.7
LPAZ La Paz 78.70 124 *e*P **P 03 28 08.4 +0.4**
LPAZ pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 79.12 327 *e*P **P 03 28 08.8 -1.5**
comp=Z,8.0nm,1.3s,mb4.5
ULN Ulaanbaatar 79.12 327 *e*P **P 03 28 08.8 -1.5**
ULN pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
CLZ Clausthal 79.41 26 *e*P **P 03 28 14.0 +2.2**
comp=Z,13nm,1.2s,mb4.7
CLZ *e*PP PP 03 31 13.6 +1.7
CLZ Clausthal 79.41 26 *e*P **P 03 28 14.0 +2.2**
CLZ *e* 03 31 13.6
CLZ pmax pmax
comp=Z,13nm,1.2s,mb4.7
SONM Songino Array 79.42 327 P **P 03 28 12.8 +0.9**
comp=Z,1.2nm,0.8s,mb3.9,baz=15,slow=6.0,SNR=6.4
SONM LR LR 04 05 35.5
comp=Z,196nm,20.4s,MS4.4,baz=35,slow=37
TNS Taunus Mts 80.13 28 *e*P **P 03 28 18.2 +2.4**
comp=Z,18nm,1.8s,mb4.7
TNS Taunus Mts 80.13 28 *e*P **P 03 28 18.2 +2.4**
TNS pmax pmax
comp=Z,18nm,1.8s,mb4.7
NVS Novosibirsk 80.55 343 *e*P **P 03 28 16.6 -1.4**
NVS pmax pmax
comp=Z,29nm,1.5s,mb5.0
NVS pmax pmax
comp=N,11nm,1.6s
CLL Collm 80.70 25 *e*P **P 03 28 21.0 +2.2**
comp=Z,4.0nm,0.8s,mb4.4
CLL Collm 80.70 25 *e*(P) **P 03 28 20.0 +1.2**
MOX Moxa 80.84 26 *e*P **P 03 28 21.7 +2.1**
comp=Z,17nm,1.7s,mb4.7
BJI Beijing 80.90 316 *e*P **P 03 28 18.8 -1.1**
BJI S S 03 38 22.6 -5.9
BJI LR LR
comp=Z,119nm,24.7s,MS4.2
SUW Suwalki 81.02 18 *e*P **P 03 28 20.6 +0.1**
ZAL Zalesovo 81.04 342 P **P 03 28 23.2 +2.6**
comp=Z,1.5nm,0.9s,mb3.9,baz=116,slow=7.6,SNR=5.3
ZAL LR LR 04 07 00.0
comp=Z,124nm,18.7s,MS4.3,baz=87,slow=38
BRG Berggiesshubel 81.38 24 *e*P **P 03 28 24.1 +1.7**
comp=Z,18nm,1.3s,mb4.8
BRG Berggiesshubel 81.38 24 *e*P **P 03 28 23.6 +1.2**
BRG pmax pmax
comp=Z,11nm,1.3s,mb4.6
BRG Berggiesshubel 81.38 24 *e*P **P 03 28 23.6 +1.2**
comp=Z,11nm,1.3s,mb4.6
NKC Novy Kostel 81.46 25 *e*P **P 03 28 25.1 +2.2**
GRA1 Grafenberg Arr 81.53 26 *e*P **P 03 28 24.6 +1.4**
comp=Z,18nm,1.2s,mb4.9
GRA1 *e*PP PP 03 31 31.1 +1.6
GRA1 LR LR
comp=Z,400nm,20.1s,MS4.8
GRF Grafenberg Arr 81.53 26 *e*P **P 03 28 24.6 +1.4**
comp=Z,18nm,1.2s,mb4.9
GRF *e*PP PP 03 31 31.1 +1.6
GRF *e*L 04 03 07.2
comp=Z,352nm,20.1s
GRF Grafenberg Arr 81.53 26 *e*P **P 03 28 24.6 +1.4**
GRF *e* 03 31 31.1
GRF Grafenberg Arr 81.53 26 *e*P **P 03 28 24.6 +1.4**
GRF *e* 03 31 31.1
GRF pmax pmax
comp=Z,18nm,1.2s,mb4.9
GRF MLR MLR
comp=Z,400nm,20.1s,MS4.8
BFO Black Forest 81.69 29 *e*P **P 03 28 25.5 +1.4**
comp=Z,66nm,2.7s,mb5.1
BFO *e*PP PP 03 31 33.5 +2.7
BFO Black Forest 81.69 29 *e*P **P 03 28 25.5 +1.4**
BFO *e* 03 31 33.5
BFO pmax pmax
comp=Z,66nm,2.7s,mb5.1
MOS Moscow 81.89 9 *e*P **P 03 28 25.4 +0.3**
MOS *e* 03 31 42.0
ARU Arti 82.09 357⇑ *e*P **P 03 28 26.8 +0.6**
ARU pmax pmax
comp=Z,15nm,1.4s,mb4.7
ARU MLR MLR
comp=Z,200nm,20.0s,MS4.5
UPC Upice 82.32 23 *e*P **P 03 28 29.6 +2.2**
UPC *ex* x 03 28 38.6
PRU Pruhonice 82.34 24 *e*P **P 03 28 29.6 +2.1**
PRU *ex* x 03 28 38.2
PRU AMS AMS 04 02 30.0
comp=Z,300nm,16.7s
OBN Obninsk 82.37 10 *e*P **P 03 28 26.8 -0.9**
comp=Z,12nm,0.6s,mb5.0
OBN Obninsk 82.37 10 *e*P **P 03 28 26.8 -0.9**
OBN pmax pmax
comp=Z,27nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.4
WET Wettzell 82.55 26 *e*P **P 03 28 29.0 +0.4**
comp=Z,10.0nm,1.4s,mb4.7
WET Wettzell 82.55 26 *e*P **P 03 28 29.0 +0.4**
WET pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
DPC Dobruska-Polom 82.55 23 *e*P **P 03 28 30.9 +2.3**

HHC	**Hu-ho-hao-te**	**82.59**	**320**	*eP*	**P**	**03 28 26.9**	**-1.9**
HHC				PP	PP	03 31 37.9	-0.3
HHC				S	S	03 38 41.1	-4.9
HHC				SKS		03 38 43.0	
HHC				AMB	AMB		
	comp=Z,11nm,0.3s,mb5.4						
HHC				AMB	AMB		
	comp=Z,91nm,5.7s						
HHC				LR	LR		
	comp=N,145nm,6.4s						
HHC				LR	LR		
	comp=E,226nm,5.4s						
HHC				LR	LR		
	comp=Z,161nm,5.7s						
KHC	**Kasperske Hory**	**82.78**	**25**	*eP*	**P**	**03 28 32.1**	**+2.3**
KHC				AMS	AMS	04 04 00.0	
	comp=Z,400nm,20.9s						
FUR	**Furstenfeldbru**	**82.86**	**27**	*e*PP	PP	03 31 43.3	+2.9
LVC	**Limon Verde**	**83.07**	**129**	*eP*	**P**	**03 28 30.5**	**-0.8**
	comp=Z,6.1nm,1.0s,mb4.6						
GERES	**GERESS Array B**	**83.07**	**25**	P	**P**	**03 28 31.0**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=355,slow=8.0,SNR=4.1						
GERES				LR	LR	04 04 35.0	
	comp=Z,328nm,20.6s,MS4.7,baz=187,slow=35						
TREC	**Trest**	**83.24**	**24**	*e*P	**P**	**03 28 33.6**	**+1.4**
ESDC	**Sonseca Array**	**83.42**	**41**	P	**P**	**03 28 34.8**	**+1.7**
	comp=Z,2.9nm,1.0s,mb4.3,baz=305,slow=4.0,SNR=7.8						
OKC	**Ostrava-Krasne**	**83.54**	**22**	*eP*	**P**	**03 28 36.0**	**+2.3**
VRAC	**Vranov**	**83.56**	**24**	P	**P**	**03 28 35.7**	**+1.9**
	comp=Z,1.4nm,0.4s,mb4.4,baz=342,slow=6.7,SNR=7.9						
CHKZ	**Chkalovo**	**83.85**	**350**	*eP*	**P**	**03 28 33.0**	**-2.3**
	comp=Z,9.5nm,1.2s,mb4.8						
CHKZ	**Chkalovo**	**83.85**	**350**	*i* P	**P**	**03 28 34.6**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.7						
BRVK	**Borovoye**	**84.50**	**350**	*eP*	**P**	**03 28 38.5**	**-0.1**
	comp=Z,3.9nm,0.6s,mb4.7						
BRVK	**Borovoye**	**84.50**	**350**	*eP*	**P**	**03 28 38.5**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
BVA0	**Borovoye Array**	**84.52**	**350**	P	**P**	**03 28 38.7**	**0.0**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.4						
SMOL	**Smolenice**	**84.52**	**23**	*eP*	**P**	**03 28 41.5**	**+2.8**
NIE	**Niedzica**	**84.52**	**21**	*eP*	**P**	**03 28 40.1**	**+1.4**
ZST	**Bratislava**	**84.71**	**24**	*eP*	**P**	**03 28 41.0**	**+1.3**
VOSK	**Vostochnaya**	**84.73**	**350**	P	**P**	**03 28 39.5**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,24nm,1.9s,mb5.0						
ZRNK	**Zerenda**	**84.76**	**351**	*eP*	**P**	**03 28 38.5**	**-1.4**
	comp=Z,7.4nm,0.7s,mb4.9						
ZRNK	**Zerenda**	**84.76**	**351**	*i* P	**P**	**03 28 39.6**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.9						
STHS	**Stebnicka Huta**	**84.77**	**21**	*eP*	**P**	**03 28 41.4**	**+1.4**
STHS				*e*		03 28 51.6	
VYHS	**Vyhne**	**84.95**	**23**	*eP*	**P**	**03 28 43.4**	**+2.5**
CRVS	**Cervenica-Dubn**	**85.30**	**21**	*eP*	**P**	**03 28 45.1**	**+2.5**
NJ2	**Nanjing**	**85.31**	**309**	*eP*	**P**	**03 28 43.3**	**+0.6**
NJ2				AP	pP	03 28 48.0	+2.0
NJ2				XP	sP	03 28 50.3	+3.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,80nm,4.8s						
NJ2				LR	LR		
	comp=N,590nm,20.5s,MS5.0						
NJ2				LR	LR		
	comp=E,310nm,25.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,60nm,21.6s,MS4.0						
KURK	**Kurchatov**	**85.39**	**345**	*eP*	**P**	**03 28 42.8**	**-0.3**
	comp=Z,5.2nm,0.9s,mb4.7						
KURK	**Kurchatov**	**85.39**	**345**	P	**P**	**03 28 42.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.7						
KECS	**Kecovo**	**85.42**	**22**	*eP*	**P**	**03 28 44.9**	**+1.7**
KECS				*e*		03 28 54.0	
AKASG	**Malin Array Be**	**85.42**	**15**	P	**P**	**03 28 42.8**	**-0.5**
	comp=Z,0.6nm,0.3s,mb4.2,baz=338,slow=4.3,SNR=24						
AKASG	**Malin Array Be**	**85.42**	**15**	*i* P	**P**	**03 28 42.7**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PERS	**Pernice**	**85.47**	**26**	*eP*	**P**	**03 28 44.7**	**+1.2**
PSZ	**Piszkesteto**	**85.77**	**22**	*eP*	**P**	**03 28 46.1**	**+1.1**
	comp=Z,26nm,1.6s,mb5.2						
PSZ	**Piszkesteto**	**85.77**	**22**	*eP*	**P**	**03 28 46.1**	**+1.1**
PSZ				pmax	pmax		
	comp=Z,26nm,1.6s,mb5.2						
BOJS	**Bojanci**	**86.52**	**26**	*eP*	**P**	**03 28 49.2**	**+0.6**
AKTO	**Aktyubinsk**	**88.11**	**357**	*i* P	**P**	**03 28 56.1**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.2						
MK31	**Makanchi Array**	**88.28**	**341**	*i* P	**P**	**03 28 59.3**	**+2.1**
MK31				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.5						
MKAR	**Makanchi Array**	**88.28**	**341**	P	**P**	**03 28 59.5**	**+2.3**
	comp=Z,0.4nm,0.6s,mb3.8,baz=351,slow=6.3,SNR=3.8						
MKAR				LR	LR	04 09 13.7	
	comp=Z,137nm,21.4s,MS4.3,baz=272,slow=36						
MKAR	**Makanchi Array**	**88.28**	**341**	*i* P	**P**	**03 28 59.3**	**+2.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MDT	**Midelt**	**88.36**	**46**	LR	LR	04 03 02.4	
	comp=Z,64nm,20.1s,MS4.0,baz=166,slow=32						
AB31	**Akbulak array**	**89.20**	**356**	*i* P	**P**	**03 29 01.5**	**0.0**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
WMQ	**Urumqi**	**89.54**	**336**	*eP*	**P**	**03 29 03.6**	**+0.5**
WMQ				AP	pP	03 29 08.4	+1.9
WMQ				XP	sP	03 29 10.6	+3.0
WMQ				PP	PP	03 32 37.8	+3.3
WMQ				PPP		03 34 36.8	
WMQ				*e*SKS		03 39 31.4	
WMQ				*e*S		03 39 52.0	
WMQ				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,145nm,4.6s						
WMQ				LR	LR		
	comp=N,386nm,20.0s,MS5.0						
WMQ				LR	LR		
	comp=E,492nm,24.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,343nm,18.0s						
BDFB	**Brasilia**	**91.68**	**109**	LR	LR	04 14 56.1	
	comp=Z,178nm,18.0s,MS4.5,baz=145,slow=39						
CPUP	**Villa Florida**	**92.86**	**123**	LR	LR	04 14 26.0	
	comp=Z,78nm,18.7s,MS4.2,baz=315,slow=38						
KIV	**Kislovodsk**	**94.07**	**8**	*eP*	**P**	**03 29 23.2**	**-0.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.9						
CD2	**Chengdu**	**94.31**	**319**	*eP*	**P**	**03 29 24.5**	**-0.7**
CD2				AP	pP	03 29 29.4	+0.9
CD2				XP	sP	03 29 31.5	+1.8
CD2				PP	PP	03 33 13.5	+1.4
CD2				SKS		03 39 57.3	
CD2				S		03 40 31.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,9.2s						
CD2				LR	LR		
	comp=E,120nm,14.4s						
CD2				LR	LR		
	comp=Z,80nm,21.6s						
PLCA	**Paso Flores**	**96.31**	**141**	LR	LR	04 08 43.2	
	comp=Z,101nm,19.9s,MS4.3,baz=55,slow=33						
BRTR	**Keskin Array B**	**96.83**	**16**	P	**P**	**03 29 36.5**	**-0.2**
	comp=Z,1.1nm,1.0s,mb4.2,baz=9.5,slow=3.8,SNR=3.7						
QSPA	**South Pole Qui**	**131.57**	**180**	*eP*	PKPdf	03 35 21.5	+3.0
LSZ	**Lusaka**	**145.53**	**48**	PKPdf	PKPdf	03 35 43.5	-0.4

NEIC ***25*** *03:29:25.4±3.1, 6.54S×13.026E, h100km±34km, mb4.2/2, Error ellipse: s-maj=27.8km s-min=15.9km az=54.0*
IDC ***25*** *03:29:28.2±4.9, 6.63S×13.022E, h130km±49km, mb3.7/6, mb1 3.9/9, mb1mx3.8/15, mbtmp4.2/9, Error ellipse: s-maj=37.4km s-min=21.3km az=71.0*
ISCJB ***25*** *03:29:32.9±1.7, 6.99S±0.08×1.300E±0.1, h203km±19km, mb3.7/5, Error ellipse: s-maj=23.1km s-min=11.8km az=144.7*
ISC 25 03:29:31.5±1.6, 681S±008×1302E±02, h168km±16km, n16, σ1§11/22, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.28**	**159**	*eP*	**Pn**	**03 31 04.3**	**+2.3**
	61nm,0.6s						
KAKA				*e*S	**Sn**	**03 32 11.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**12.05**	**201**	*eP*	**Pn**	**03 32 17.2**	**-0.7**
	7.1nm,0.3s						
FITZ				*e*S	**Sn**	**03 34 21.5**	**-10**
FITZ	**Fitzroy Crossi**	**12.05**	**201**	P	**Pn**	**03 32 17.2**	**-0.7**
	1.8nm,0.3s,baz=34,slow=12,SNR=50						
FITZ				S	**Sn**	**03 34 23.6**	**-7.9**
	4.5nm,0.3s,baz=129,slow=22,SNR=8.1						
WRAB	**Tennant Creek**	**13.66**	**163**	*e*Pn	**Pn**	**03 32 37.4**	**-1.0**
	24nm,0.4s						
WRAB				*e*Sn	**Sn**	**03 35 04.7**	**-5.4**
WRA	**Warramunga Arr**	**13.67**	**163**	P	**Pn**	**03 32 38.6**	**+0.1**
	2.0nm,0.3s,baz=342,slow=13,SNR=62						
WRA				S	**Sn**	**03 35 03.5**	**-6.7**
	3.6nm,0.3s,baz=328,slow=22,SNR=9.9						
WB2	**Warramunga Arr**	**13.68**	**163**	*eP*	**Pn**	**03 32 38.3**	**-0.2**
WB2				*e*		03 32 45.8	
WB2				*e*S	**Sn**	**03 35 03.1**	**-7.2**
ASAR	**Alice Springs**	**17.14**	**168**	P	**Pn**	**03 33 23.1**	**+2.1**
	2.3nm,0.3s,baz=342,slow=9.1,SNR=147						
ASAR				S	**S**	**03 36 29.3**	**-0.6**
	1.2nm,0.3s,baz=353,slow=26,SNR=6.5						
CTA	**Charters Tower**	**20.45**	**132**	P	**P**	**03 33 56.2**	**+0.4**
	3.3nm,0.8s,baz=262,slow=14,SNR=3.1						
CTA	**Charters Tower**	**20.45**	**132**	P	**P**	**03 33 56.2**	**+0.4**
STKA	**Stephens Creek**	**27.13**	**158**	*eP*	**P**	**03 35 00.7**	**+1.9**
	0.9nm,0.5s,mb3.7						
STKA	**Stephens Creek**	**27.13**	**158**	P	**P**	**03 35 00.7**	**+1.9**
	1.4nm,0.4s,mb3.9,baz=326,slow=8.7,SNR=5.1						
MJAR	**Matsushiro Arr**	**43.78**	**9**	P	**P**	**03 37 19.3**	**-1.1**
	0.7nm,0.6s,mb3.5,baz=186,slow=10,SNR=3.9						
SONM	**Songino Array**	**58.31**	**341**	P	**P**	**03 39 09.2**	**+0.5**
	0.4nm,0.6s,mb3.4,baz=157,slow=7.1,SNR=5.4						
MKAR	**Makanchi Array**	**68.15**	**327**	P	**P**	**03 40 13.6**	**+0.2**
	5.8nm,0.5s,mb4.6,baz=123,slow=8.4,SNR=86						
ILAR	**Eielson Array**	**93.11**	**25**	P	**P**	**03 42 25.2**	**-1.0**
	0.4nm,0.7s,mb3.7,baz=259,slow=4.5,SNR=7.7						
TORD	**Torodi Ar. Bea**	**128.92**	**281**	PKP	PKPdf	03 48 21.0	+1.9
	0.3nm,0.5s,baz=61,slow=2.2,SNR=8.1						

BJI ***25*** *03:42:30.2, 41.80N×125.90W, h10km, mB5.0, mb4.5, Ms4.9, Msz4.3*
ISCJB ***25*** *03:42:32.0±0.4, 41.80N±0.04×125.95W±0.05, h10km, mb4.0/17, MS3.5/6, Error ellipse: s-maj=6.3km s-min=4.0km az=88.4*
IDC ***25*** *03:42:34.2±1.4, 41.94N×125.78W, h0km, mb3.8/9, mb1 4.0/16, mb1mx3.9/30, mbtmp3.8/16, ML3.5/6, MS3.5/10, Ms1 3.5/10, ms1mx3.3/34, Error ellipse: s-maj=27.4km s-min=11.3km az=41.0*
NEIC ***25*** *03:42:34.2±0.5, 41.83N×125.90W, h10km, mb4.1/11, Error ellipse: s-maj=8.1km s-min=4.5km az=50.0*
ISC 25 03:42:33.5±0.4, 4182N±004×12598W±005, h10km, n85, σ1§09/88, mb4.0/17, MS3.5/6, 4C-2D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.36**	**73**	*i*Pn	**Pn**	**03 42 57.5**	**-1.1**
KEBM	**Edson Butte**	**1.61**	**49**	*e*Pn	**Pn**	**03 43 00.2**	**-1.8**
KEBM				*e*Sn	**Sn**	**03 43 21.8**	**-1.0**
KHMM	**Horse Mountain**	**1.94**	**118**	⇑*i*Pn	**Pn**	**03 43 05.9**	**-0.5**
KTRM	**Thompson Ridge**	**1.94**	**86**	⇑P	**Pn**	**03 43 05.9**	**-0.7**
HUMO	**Hull Mountain**	**2.38**	**70**	*e*Pn	**Pn**	**03 43 11.9**	**-0.7**
YBH	**Yreka Blue Hor**	**2.44**	**91**	Pn	**Pn**	**03 43 14.3**	**+0.9**
	22nm,0.3s,baz=274,slow=13,SNR=272						
YBH	**Yreka Blue Hor**	**2.44**	**91**	*e*Pn	**Pn**	**03 43 14.3**	**+0.8**
RNO	**Roman Nose**	**2.66**	**37**	⇓P	**Pn**	**03 43 15.4**	**-1.0**
BBOR	**Butler Butte**	**2.67**	**65**	P	**Pn**	**03 43 16.4**	**-0.1**
HSO	**Harness Mounta**	**2.73**	**50**	P	**Pn**	**03 43 16.4**	**-0.9**
KIPM	**Iron Peak**	**2.76**	**136**	*e*Pn	**Pn**	**03 43 17.3**	**-0.5**
BUOR	**Burton Butte**	**2.82**	**79**	⇓P	**Pn**	**03 43 19.7**	**+1.1**
WDC	**Whiskeytown Da**	**2.87**	**114**	*e*Pn	**Pn**	**03 43 19.6**	**+0.2**
WDC				*e*Sn	**Sn**	**03 43 53.1**	**-0.8**
HOG	**Hogback Mounta**	**3.21**	**81**	P	**Pn**	**03 43 24.6**	**+0.6**
LASM	**Arnica Sink**	**3.30**	**92**	P	**Pn**	**03 43 26.2**	**+1.0**
HBO	**Huckleberry Mo**	**3.37**	**52**	P	**Pn**	**03 43 26.6**	**+0.5**
COR	**Corvallis**	**3.39**	**34**	*e*Pn	**Pn**	**03 43 25.8**	**-0.7**
COR				*e*Sn	**Sn**	**03 44 03.7**	**-2.9**
IRO	**Indian Ridge**	**3.50**	**50**	P	**Pn**	**03 43 28.2**	**+0.2**
LBCM	**Butte Creek Ri**	**3.62**	**104**	P	**Pn**	**03 43 31.1**	**+1.4**
OHCM	**Honcut**	**4.22**	**124**	*e*Pn	**Pn**	**03 43 36.2**	**-1.7**
OHCM				*e*Sn	**Sn**	**03 44 24.7**	**-2.6**
MOD	**Modoc**	**4.24**	**87**	⇑*i*Pn	**Pn**	**03 43 38.2**	**0.0**
PAHR	**Pah Rah Range**	**5.43**	**111**	*e*Pn	**Pn**	**03 43 55.0**	**+0.5**
	9.0nm,0.6s						
WVOR	**Wild Horse Val**	**5.49**	**81**	*e*Pn	**Pn**	**03 43 54.2**	**-1.1**
	17nm,0.8s						
CMB	**Columbia Colle**	**5.72**	**130**	*e*Pn	**Pn**	**03 44 00.4**	**+1.9**
	6.1nm,0.8s						
HAWA	**Hanford**	**6.51**	**43**	*e*Pn	**Pn**	**03 44 09.0**	**-0.4**
	0.6nm,0.4s						
NVAR	**Mina Array Bea**	**6.78**	**117**	Pn	**Pn**	**03 44 14.7**	**+1.6**
	0.7nm,0.3s,baz=294,slow=15,SNR=14						
NVAR				Sn	**Sn**	**03 45 36.0**	**+5.7**
	baz=306,slow=22,SNR=2.7						
BMO	**Blue Mountains**	**7.01**	**61**	*e*Pn	**Pn**	**03 44 16.4**	**+0.2**
	4.9nm,0.6s						
ELK	**Elko**	**8.16**	**94**	*e*Pn	**Pn**	**03 44 33.4**	**+1.5**
	7.3nm,0.7s						
ISA	**Isabella**	**8.49**	**134**	*e*Pn	**Pn**	**03 44 36.5**	**0.0**
	4.1nm,0.8s						
HLID	**Hailey**	**8.69**	**75**	*e*Pn	**Pn**	**03 44 39.8**	**+0.5**
	2.8nm,0.8s						
NEW	**Newport**	**8.99**	**41**	Pn	**Pn**	**03 44 45.3**	**+2.0**
	0.1nm,0.3s,baz=251,slow=18,SNR=1.7						
NEW				LR	LR	03 48 18.3	
	comp=Z,213nm,18.6s,baz=228,slow=39						
NEW	**Newport**	**8.99**	**41**	P	**Pn**	**03 44 43.0**	**-0.4**
	4.0nm,1.0s						
BGU	**Big Grassy Mou**	**9.78**	**91**	*e*Pn	**Pn**	**03 45 01.6**	**+7.5**
DUG	**Dugway**	**10.08**	**95**	*e*Pn	**Pn**	**03 44 58.3**	**0.0**
	15nm,1.1s						
SPUT	**South Promonto**	**10.15**	**88**	*e*Pn	**Pn**	**03 45 00.7**	**+1.4**
DLMT	**Dillon**	**10.33**	**65**	*e*Pn	**Pn**	**03 45 06.0**	**+4.3**
	7.8nm,1.1s						
CHMT	**Chamberlain Mo**	**10.43**	**56**	*e*Pn	**Pn**	**03 45 04.5**	**+1.3**
ARUT	**Antelope Range**	**10.45**	**109**	*e*Pn	**Pn**	**03 45 03.4**	**0.0**
BBB	**Bella Bella**	**10.47**	**353**	Pn	**Pn**	**03 45 05.2**	**+1.6**
	0.3nm,0.3s,baz=171,slow=13,SNR=3.9						
BBB				LR	LR	03 48 15.0	
	comp=Z,294nm,19.9s,baz=51,slow=33						
BBB	**Bella Bella**	**10.47**	**353**	Pn	**Pn**	**03 45 05.2**	**+1.6**
BBB				LR	LR	03 48 15.0	
NLU	**North Lily Min**	**10.69**	**95**	*e*Pn	**Pn**	**03 45 06.2**	**-0.4**
HWUT	**Hardware Ranch**	**10.78**	**86**	*e*P	**Pn**	**03 45 07.6**	**-0.3**
	16nm,1.3s						
BOZ	**Bozeman (W)**	**11.06**	**65**	*e*P	**Pn**	**03 45 12.1**	**+0.3**
	5.5nm,0.9s						
MSU	**Marysvale**	**11.06**	**103**	*e*Pn	**Pn**	**03 45 15.6**	**+3.8**
TPAW	**Teton Pass**	**11.19**	**76**	*e*P	**Pn**	**03 45 15.4**	**+1.9**
	18nm,1.5s						
DAU	**Daniels Canyon**	**11.20**	**92**	*e*Pn	**Pn**	**03 45 14.2**	**+0.6**
MOOW	**Moose Ponds**	**11.36**	**75**	*e*P	**Pn**	**03 45 14.2**	**-1.7**
	4.6nm,1.3s						
LOHW	**Long Hollow**	**11.45**	**76**	*e*P	**Pn**	**03 45 18.0**	**+0.8**
	8.8nm,1.6s						
TMUT	**Trail Mountain**	**11.52**	**98**	*e*Pn	**Pn**	**03 45 17.3**	**-0.7**
SRU	**San Rafael**	**12.08**	**98**	*e*Pn	**Pn**	**03 45 25.5**	**-0.1**
	7.3nm,0.9s						
PDAR	**Pinedale Array**	**12.20**	**80**	Pn	**Pn**	**03 45 30.2**	**+2.9**
	0.1nm,0.3s,baz=268,slow=8.9,SNR=6.2						
PV01	**Paradox Valley**	**13.85**	**100**	*e*Pn	**Pn**	**03 45 51.4**	**+1.6**
ISCO	**Idaho Springs**	**15.55**	**91**	*e*Pn	**Pn**	**03 46 11.4**	**-1.3**
	4.1nm,0.9s						
ANMO	**Albuquerque**	**16.75**	**108**	Pn	**Pn**	**03 46 29.8**	**+1.6**
	0.2nm,0.3s,baz=314,slow=13,SNR=5.2						
ANMO				LR	LR	03 53 28.7	
	comp=Z,214nm,18.4s,baz=206,slow=39						
ANMO	**Albuquerque**	**16.75**	**108**	*e*P	**Pn**	**03 46 28.1**	**-0.2**
	2.2nm,0.9s						
DLBC	**Dease Lake**	**16.83**	**353**	Pn	**Pn**	**03 46 29.2**	**0.0**
	0.1nm,0.3s,baz=176,slow=15,SNR=3.0						
DLBC				LR	LR	03 52 15.1	
	comp=Z,163nm,18.4s,baz=86,slow=35						
MNTX	**Cornudas Mount**	**19.30**	**115**	*e*P	**Pn**	**03 46 59.3**	**-0.3**
	13nm,1.5s						
FFC	**Flin Flon**	**20.41**	**43**	*e*P	**P**	**03 47 10.8**	**+0.1**
	18nm,0.9s						
YKA	**Yellowknife Ar**	**21.79**	**14**	P	**P**	**03 47 24.9**	**-0.6**
	3.1nm,0.8s,mb3.8,baz=205,slow=11,SNR=20						
YKA				LR	LR	03 55 20.7	
	comp=Z,73nm,19.1s,MS3.1,baz=175,slow=35						
YKW3	**Yellowknife Ar**	**21.85**	**14**	*e*P	**P**	**03 47 28.8**	**+2.6**
LTX	**Lajitas**	**21.94**	**117**	*e*P	**P**	**03 47 26.2**	**-0.9**
	9.5nm,1.1s,mb4.1						
ULM	**Lac du Bonnet**	**22.41**	**58**	P	**P**	**03 47 32.3**	**+0.1**
	7.5nm,0.9s,mb4.1,baz=275,slow=8.8,SNR=10						
WMOK	**Wichita Mounta**	**22.43**	**99**	*e*P	**P**	**03 47 31.6**	**-0.8**
	5.9nm,0.8s,mb4.1						
DAWY	**Dawson**	**23.61**	**345**	*e*P	**P**	**03 47 45.4**	**+0.7**
SML	**Sawmill**	**24.09**	**334**	*e*P	**P**	**03 47 49.8**	**+0.6**
MCK	**McKinley**	**25.69**	**336**	*e*P	**P**	**03 48 02.7**	**-1.0**
	2.5nm,1.2s,mb3.6						
ILAR	**Eielson Array**	**25.92**	**340**	P	**P**	**03 48 05.9**	**+0.1**
	1.2nm,0.8s,mb3.5,baz=160,slow=9.0,SNR=16						
ILAR				LR	LR	03 58 07.4	
	comp=Z,28nm,18.1s,MS2.8,baz=176,slow=36						
FCC	**Fort Churchill**	**26.14**	**39**	*e*P	**P**	**03 48 08.6**	**+0.7**
	6.1nm,1.1s,mb4.0						
MIAR	**Mount Ida**	**26.37**	**95**	*e*P	**P**	**03 48 08.0**	**-1.9**
	5.2nm,0.9s,mb4.1						
INK	**Inuvik**	**26.85**	**354**	P	**P**	**03 48 13.7**	**-0.5**
	2.4nm,1.1s,mb3.6,baz=208,slow=4.5,SNR=4.0						
INK				LR	LR	03 58 30.0	
	comp=Z,158nm,20.0s,MS3.6,baz=210,slow=36						
FRB	**Frobisher Bay**	**39.29**	**36**	P	**P**	**03 50 02.2**	**-0.3**
	2.0nm,0.9s,mb3.9,baz=269,slow=12,SNR=2.9						
SUMG	**Summit**	**49.97**	**23**	*e*P	**P**	**03 51 27.8**	**0.0**
	9.7nm,1.1s,mb4.8						
OTAV	**Otavalo**	**59.50**	**121**	*e*P	**P**	**03 52 36.2**	**-0.6**
	3.7nm,1.1s,mb4.3						
PPT	**Papeete**	**62.99**	**205**	LR	LR	04 12 13.0	
	comp=Z,111nm,19.6s,MS4.0,baz=58,slow=28						
ARCES	**ARCESS Array B**	**66.99**	**11**	LR	LR	04 27 10.2	
	comp=Z,55nm,19.1s,MS3.8,baz=157,slow=40						
NOA	**NORSAR Array B**	**71.74**	**20**	P	**P**	**03 53 57.0**	**+1.2**
	1.2nm,0.9s,mb3.8,baz=328,slow=6.0,SNR=3.6						
NOA				LR	LR	04 24 29.5	
	comp=Z,31nm,21.9s,MS3.5,baz=135,slow=35						
CN2	**Changchun**	**73.40**	**314**	*e*P	**P**	**03 54 05.3**	**-0.5**
CN2				*e*XP	sP	03 54 12.3	+2.1
FINES	**FINESS Array B**	**74.62**	**14**	P	**P**	**03 54 14.3**	**+1.5**
	2.6nm,0.9s,mb4.2,baz=328,slow=6.9,SNR=6.0						
SONM	**Songino Array**	**79.43**	**327**	P	**P**	**03 54 43.5**	**+3.5**
	0.1nm,0.3s,mb3.2,baz=83,slow=4.5,SNR=3.2						
HHC	**Hu-ho-hao-te**	**82.62**	**320**	*eP*	**P**	**03 54 54.9**	**-2.1**
HHC				AP	pP	03 54 59.8	-0.5
HHC				XP	sP	03 55 02.0	+0.5
HHC				PP	PP	03 58 06.1	-0.4
HHC				S	S	04 05 08.9	-5.4
HHC				SKS		04 05 11.1	
HHC				AMB	AMB		
	comp=Z,99nm,5.3s						
HHC				LR	LR		
	comp=N,100nm,5.1s						
HHC				LR	LR		
	comp=E,156nm,5.3s						
HHC				LR	LR		
	comp=Z,62nm,5.3s						
SSE	**Sheshan**	**84.69**	**307**	*eP*	**P**	**03 55 05.8**	**-1.8**
SSE				AMB	AMB		
	comp=Z,82nm,5.1s						
AKASG	**Malin Array Be**	**85.35**	**16**	P	**P**	**03 55 12.1**	**+1.2**
	comp=Z,0.4nm,0.4s,mb3.9,baz=346,slow=4.4,SNR=4.9						
NJ2	**Nanjing**	**85.36**	**310**	*eP*	**P**	**03 55 11.1**	**+0.1**
WMQ	**Urumqi**	**89.54**	**336**	*eP*	**P**	**03 55 31.4**	**+0.3**
WMQ				AP	pP	03 55 36.3	+1.8
WMQ				XP	sP	03 55 38.4	+2.8
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,14nm,4.6s						
CD2	**Chengdu**	**94.34**	**319**	*eP*	**P**	**03 55 51.6**	**-1.7**

MEX 25 03:42:51.6±0.8, 1598N×9703W, h31km±110km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.12**	**15**	*i* P	Pn	03 43 08.6	-2.5
VHO				*i* S	Sn	03 43 22.5	-3.0
OXX	**Oaxaca**	**1.13**	**15**	*i* P	Pn	03 43 09.5	-1.8
OXX				*i* S	Sn	03 43 23.5	-2.2
UTMO	**Huajuapan**	**1.98**	**338**	*i* P	Pn	03 43 21.4	-1.5

	1.3nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.28**	**356**	P	**Pn**	**03 46 38.3**	**+0.9**
	1.4nm,0.3s,SNR=9.8						
ELUQ				S	**Sn**	**03 47 08.1**	**+2.6**
	2.4nm,0.3s,SNR=7.6						
CZD	**Col de Zad**	**2.38**	**200**	P	**Pn**	**03 46 41.0**	**+2.2**
CZD				S	**Sn**	**03 47 10.5**	**+2.5**
EQES	**Quesada**	**2.64**	**18**	P	**Pn**	**03 46 43.9**	**+1.4**
	4.6nm,0.8s,SNR=15						
EQES				S	**Sn**	**03 47 16.4**	**+1.9**
	3.6nm,0.5s,SNR=6.0						
EQES	**Quesada**	**2.64**	**18**	P	**Pn**	**03 46 43.8**	**+1.4**
EQES				S	**Sn**	**03 47 16.4**	**+1.9**
	3.6nm,0.5s,SNR=6.0						
EADA	**Adamuz**	**2.91**	**352**	P	**Pn**	**03 46 46.6**	**+0.6**
	1.1nm,0.3s,SNR=10						
EADA				S	**Sn**	**03 47 21.2**	**+0.2**
	4.1nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.91**	**352**	P	**Pn**	**03 46 46.6**	**+0.6**
	1.1nm,0.3s,SNR=10						
EADA				S	**Sn**	**03 47 22.9**	**+1.9**
	4.1nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.24**	**321**	P	**Pn**	**03 46 49.4**	**-1.2**
	1.6nm,0.5s,SNR=13						
EMIN				S	**Sn**	**03 47 25.4**	**-3.9**
	5.9nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.24**	**321**	P	**Pn**	**03 46 49.4**	**-1.2**
	1.6nm,0.5s,SNR=13						
EMIN				S	**Sn**	**03 47 25.4**	**-3.9**
	5.9nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**3.55**	**310**	P	**Pn**	**03 46 53.6**	**-1.2**
	1.6nm,0.3s,SNR=12						
EGRO				S	**Sn**	**03 47 31.8**	**-5.0**
	3.0nm,0.3s,SNR=5.5						
EGRO	**El Granado**	**3.55**	**310**	P	**Pn**	**03 46 53.6**	**-1.2**
	1.6nm,0.3s,SNR=12						
EGRO				S	**Sn**	**03 47 31.8**	**-5.0**
ETOB	**Tobarra**	**3.92**	**30**	P	**Pn**	**03 47 02.3**	**+2.3**
	0.7nm,0.4s,SNR=7.9						
ETOB				S	**Sn**	**03 47 45.8**	**-0.2**
	2.0nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**3.92**	**30**	P	**Pn**	**03 47 02.3**	**+2.3**
ETOB				S	**Sn**	**03 47 45.8**	**-0.2**
EBAD	**Badajoz**	**4.19**	**327**	P	**Pn**	**03 47 02.7**	**-0.9**
	1.2nm,0.5s,SNR=9.0						
EBAD				S	**Sn**	**03 47 49.6**	**-3.0**
	3.6nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.19**	**327**	P	**Pn**	**03 47 02.7**	**-0.9**
EBAD				S	**Sn**	**03 47 49.6**	**-3.0**
ESDC	**Sonseca Array**	**4.39**	**1**	P	**Pn**	**03 47 06.9**	**+0.6**
	1.0nm,0.3s,baz=178,slow=12,SNR=5.9						
ESDC	**Sonseca Array**	**4.39**	**1**	P	**Pn**	**03 47 06.9**	**+0.5**

IGQ 25 03:52:57.8, 177S×8040W, h12km±9km, Mb4.3, Ms4.1, 2C-10D, Error ellipse: s-maj=5.8km s-min=3.0km az=176.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.72**	**235**	⇓P	Pg	03 53 11.4	-0.4
JAMA	**Jama**	**1.51**	**7**	⇓P	Pn	03 53 24.9	+0.3
JAMA				S	Sn	03 53 47.8	+3.6
IGUA	**Igualata**	**1.78**	**81**	⇓P	Pn	03 53 30.6	+2.2
IGUA				S	Sn	03 53 53.6	+2.7
MAG1	**Magdalena**	**1.80**	**20**	⇑P	Pn	03 53 29.5	+0.9
CUSU	**Cusua**	**1.95**	**80**	⇓P	Pn	03 53 33.2	+2.7
CUSU				S	Sn	03 53 59.6	+4.7
ARRY	**Arrayan**	**1.96**	**82**	⇓P	Pn	03 53 32.9	+2.1
JUIV	**Juive**	**1.96**	**80**	⇓P	Pn	03 53 33.4	+2.5
JUIV				S	Sn	03 53 59.8	+4.4
ULBA	**Ulba**	**2.02**	**81**	⇓P	Pn	03 53 34.3	+2.7
ULBA				S	Sn	03 54 00.3	+3.6
PISA	**Pisayambo**	**2.13**	**71**	P	Pn	03 53 36.4	+3.3
CAMI	**Rancho Maria**	**2.18**	**60**	⇓P	Pn	03 53 36.8	+2.9
VC1	**Cotopaxi 1**	**2.29**	**61**	P	Pn	03 53 38.9	+3.5
TAMB	**Tambo**	**2.29**	**62**	⇓P	Pn	03 53 38.9	+3.5
PINO	**Pino**	**2.40**	**48**	⇓P	Pn	03 53 38.7	+1.8
YANA	**Yana**	**2.46**	**48**	P	Pn	03 53 38.7	+1.1
ANTI	**Antisana**	**2.59**	**60**	P	Pn	03 53 43.0	+3.5
CAYR	**Refugio Cayamb**	**2.98**	**53**	P	Pn	03 53 49.2	+4.4
CAYR				S	Sn	03 54 34.3	+14
ANGU	**Angureal**	**3.00**	**53**	⇑P	Pn	03 53 49.9	+4.8
LAV3	**Lava3-Reventad**	**3.23**	**59**	P	Pn	03 53 55.0	+6.8
CONE	**Cono NE Rev Vo**	**3.23**	**59**	P	Pn	03 53 55.4	+7.1

*SKO **25** 03:57:53.2, 3928N×2259E, h1km*
*CSEM **25** 03:57:54.9±0.1, 3931N×2239E, h15km, ML2.9, Error ellipse: s-maj=2.3km s-min=2.0km az=104.0*
*ISCJB **25** 03:57:54.1±0.5, 3930N±002×2245E±003, h8km±4km, Error ellipse: s-maj=3.9km s-min=3.2km az=29.3*
*ATH **25** 03:57:54.1, 3927N×2239E, h22km±1km, MD3.4/8*
*NEIC **25** 03:57:54.1, 3927N×2239E, h22km, MD3.4(ATH), After ATH.*
*THE **25** 03:57:55.2, 3927N×2240E, h9km, ML2.9*

ISC 25 03:57:54.4±0.5, 3931N±002×2239E±003, h5km±5km, n36, σ1°13/60, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.29**	**189**	*e*Pg	**Pg**	**03 57 59.6**	**-0.4**
AGG				*e*Sg	**Sg**	**03 58 04.3**	**+0.6**
EVR	**Evrytania**	**0.60**	**229**	*e*PN	**Pg**	**03 58 05.3**	**-0.6**
EVR				*e*SN	**Sg**	**03 58 14.5**	**+0.9**
XOR	**Xorichti**	**0.62**	**84**	*e*Pg	**Pg**	**03 58 06.8**	**+0.4**
XOR				*e*Sg	**Sg**	**03 58 16.8**	**+2.3**
NEO	**Neokhori**	**0.65**	**90**	*e*PN	**Pg**	**03 58 07.3**	**+0.5**
NEO				*e*SN	**Sg**	**03 58 17.0**	**+1.8**
LKR	**Lokris**	**0.81**	**144**	*e*PN	**Pg**	**03 58 08.9**	**-1.0**
LKR				*e*SN	**Sg**	**03 58 20.0**	**-0.4**
KZN	**Kozani**	**1.11**	**335**	*e*PN	**Pn**	**03 58 16.0**	**-0.5**
KZN				*e*SN	**Sn**	**03 58 31.2**	**-1.0**
AOS	**Alonnisos**	**1.17**	**96**	*e*Pg	**Pg**	**03 58 15.9**	**-0.8**
AOS				*e*Sg	**Sg**	**03 58 33.7**	**+1.8**
AOS	**Alonnisos**	**1.17**	**96**	*e*Pg	**Pg**	**03 58 15.9**	**-0.8**
PAIG	**Paliouri**	**1.17**	**58**	*e*Pg	**Pg**	**03 58 16.4**	**-0.5**
PAIG				*e*Sg	**Sg**	**03 58 33.5**	**+1.4**
JAN	**Janina**	**1.24**	**287**	*e*PN	**Pn**	**03 58 18.1**	**-0.3**
JAN				*e*SN	**Sn**	**03 58 34.5**	**-1.0**
PLG	**Polygyros**	**1.34**	**37**	*e*PN	**Pn**	**03 58 18.9**	**-0.9**
THE	**Thessaloniki**	**1.40**	**18**	*e*Pg	**Pg**	**03 58 21.3**	**+0.2**
THE				*e*Sg	**Sg**	**03 58 40.2**	**+1.0**
RLS	**Riolos of Patr**	**1.44**	**210**	*e*PN	**Pn**	**03 58 20.5**	**-0.7**
RLS				*e*SN	**Sn**	**03 58 40.3**	**-0.2**
MPAR	**Parnis Oros**	**1.56**	**137**	*e*PN	**Pn**	**03 58 22.0**	**-0.8**
OUR	**Ouranopolis**	**1.60**	**50**	*e*Pg	**Pg**	**03 58 22.9**	**-2.1**
IGT	**Igoumenitsa**	**1.61**	**279**	*e*Pb	**Pb**	**03 58 23.5**	**-1.0**
IGT				*e*Sb	**Sb**	**03 58 45.9**	**+0.6**
LSK	**Leskovik**	**1.62**	**302**	*e*Pn	**Pn**	**03 58 24.5**	**+0.9**
LSK				*i* Sn	**Sn**	**03 58 47.2**	**+2.4**
GRG	**Griva**	**1.65**	**0**	*e*Pb	**Pb**	**03 58 23.1**	**-2.1**
GRG				*e*Sb	**Sb**	**03 58 46.2**	**-0.1**
FNA	**Florina**	**1.67**	**332**	*e*Pb	**Pb**	**03 58 24.3**	**-1.3**
FNA				*e*Sb	**Sb**	**03 58 46.7**	**-0.2**
SOH	**Sokhos**	**1.68**	**26**	*e*Pb	**Pb**	**03 58 24.8**	**-1.1**
VLS	**Valsamata**	**1.80**	**232**	*e*PN	**Pn**	**03 58 26.1**	**-0.1**
KNT	**Kendrikon**	**1.89**	**12**	*e*Pb	**Pb**	**03 58 27.8**	**-1.7**
KNT				*e*Sb	**Sb**	**03 58 51.7**	**-1.6**
BIA	**Bitola**	**1.90**	**335**	*e*Pn	**Pn**	**03 58 28.0**	**+0.6**
BIA				*e*Sn	**Sn**	**03 58 53.9**	**+2.3**
BIA	**Bitola**	**1.90**	**335**	*e*Pn	**Pn**	**03 58 27.9**	**+0.5**
BIA				*e*Sn	**Sn**	**03 58 53.9**	**+2.2**
SRN	**Sarande**	**1.93**	**288**	*i* Pn	**Pn**	**03 58 29.0**	**+1.1**
SRN				*i* Sn	**Sn**	**03 58 55.4**	**+2.8**
SRN	**Sarande**	**1.93**	**288**	*e*Pn	**Pn**	**03 58 29.0**	**+1.1**
VAY	**Valandovo**	**2.02**	**4**	*e*Pn	**Pn**	**03 58 28.4**	**-0.6**
VAY				*e*Sn	**Sn**	**03 58 54.4**	**-0.2**
SRS	**Serrai**	**2.03**	**27**	*e*Pn	**Pn**	**03 58 29.9**	**+0.7**
KEK	**Kerkira**	**2.04**	**282**	*e*PN	**Pn**	**03 58 30.4**	**+0.9**
ITM	**Ithomi**	**2.15**	**190**	*e*PN	**Pn**	**03 58 30.8**	**-0.2**
OHR	**Ohrid**	**2.17**	**326**	*e*Pn	**Pn**	**03 58 31.6**	**+0.3**
OHR				*e*Sn	**Sn**	**03 59 00.6**	**+2.0**
OHR	**Ohrid**	**2.17**	**326**	*e*Pn	**Pn**	**03 58 31.5**	**+0.2**
OHR				*e*Sn	**Sn**	**03 59 00.5**	**+1.9**
NVR	**Nevrokopi**	**2.33**	**28**	*e*PB	**Pb**	**03 58 34.2**	**-2.7**
STIP	**Stip**	**2.39**	**356**	*e*Pn	**Pn**	**03 58 34.4**	**+0.2**
STIP				*e*Sn	**Sn**	**03 59 04.6**	**+0.7**
STIP	**Stip**	**2.39**	**356**	*e*Pn	**Pn**	**03 58 34.4**	**+0.2**
STIP				*e*Sn	**Sn**	**03 59 04.5**	**+0.6**
VLI	**Veliai**	**2.62**	**170**	*e*PN	**Pn**	**03 58 36.8**	**-0.6**

MAN 25 05:25:03.1, 1321N×12038E, h1km, mb2.6, ML4.1, MS3.1, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.54**	**346**	*e*P	Pg	05 25 13.1	-0.3
LUBP				*e*S	Sg	05 25 19.9	-0.6
PGP	**Puerto Galera**	**0.63**	**62**	*e*P	Pg	05 25 15.1	-0.1
SJMP	**San Jose**	**1.03**	**136**	*e*P	Pg	05 25 24.7	+1.8
TGY	**Tagaytay City**	**1.04**	**31**	⇓*e*P	Pg	05 25 24.4	+1.3
TGY				*e*S	Sg	05 25 38.2	+1.6
BUSP	**Coron**	**1.21**	**188**	*e*P	Pg	05 25 26.9	+0.7
BUSP				*e*S	Sg	05 25 43.3	+1.4
BOAC	**Boac**	**1.45**	**80**	*e*P	Pn	05 25 29.6	-0.8
BOAC				*e*S	Sg	05 25 50.0	+0.3
OTRP	**Odiongan**	**1.81**	**117**	*e*P	Pn	05 25 37.7	+2.3
ENPP	**El Nido**	**2.19**	**205**	*e*P	Pn	05 25 41.0	+0.3
ENPP				*e*S	Sn	05 26 06.2	-2.3

MEX 25 05:29:03.4±0.8, 1919N×10422W, h5km±9km, MD4.4, 1C, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLM	**Colima**	**0.50**	**91**	*i* P	Pg	05 29 12.0	-1.1
CJM	**Chamela**	**0.83**	**292**	⇑*i* P	Pg	05 29 17.2	-2.2
CJM				*i* S	Sg	05 29 29.6	-0.5
SFJM	**Santa Fe**	**1.71**	**41**	*i* P	Pn	05 29 30.3	-3.5
SFJM				*i* S	Sn	05 29 49.5	-6.5
MOIG	**Morelia**	**2.91**	**80**	*i* P	Pn	05 29 47.9	-2.4
MOIG				*i* S	Sn	05 30 22.8	-2.8
MRX	**Morelia**	**2.91**	**79**	*e*P	Pn	05 29 48.0	-2.3
MRX				*i* S	Sn	05 30 23.0	-2.6
ZIIG	**Zihuatanejo**	**3.06**	**121**	*i* P	Pn	05 29 51.0	-1.3
ZIIG				*i* S	Sn	05 30 25.6	-3.7
ZAIG	**Zacatecas**	**3.88**	**23**	*e*P	Pn	05 30 02.2	-1.5
ZAIG				*i* S	Sn	05 30 46.2	-3.5
CAIG	**El Cayaco**	**4.32**	**119**	*i* P	Pn	05 30 07.5	-2.3
CAIG				*i* S	Sn	05 30 55.1	-5.4
PLIG	**Platanillo**	**4.54**	**99**	*i* P	Pn	05 30 10.3	-2.5
PLIG				*i* S	Sn	05 31 01.5	-4.4
MEIG	**Mezcala**	**4.54**	**105**	*e*P	Pn	05 30 11.6	-1.3
MEIG				*i* S	Sn	05 31 01.1	-4.9
ACX	**Acapulco**	**4.70**	**119**	*e*P	Pn	05 30 11.5	-3.5
UNM	**Universidad Na**	**4.77**	**88**	*e*P	Pn	05 30 17.0	+1.1
PPM	**Popocatepetl**	**5.29**	**90**	*e*P	Pn	05 30 22.0	-1.1
PPM				*i* P		05 30 22.2	
PPM				*i* S	Sn	05 31 21.8	-2.6
UTMO	**Huajuapan**	**6.24**	**101**	*e*P	Pn	05 30 34.2	-1.9
TPIG	**Tehuac#an**	**6.54**	**96**	*i* P	Pn	05 30 37.8	-2.5
TPIG				*i* S	Sn	05 31 50.7	-4.7
LNIG	**Linares**	**7.19**	**37**	*i* P	Pn	05 30 49.5	+0.3

CASC 25 05:31:22.5±2.8, 874N×8308W, h0km±4km, MD4.0, ML3.6, MW4.3, 6C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.35**	**64**	⇑*e*P	Pg	05 31 32.2	+3.0
BRU2	**Volcan**	**0.39**	**82**	⇑*i* P	Pg	05 31 32.4	+2.5
BRU2				*e*S	Sg	05 31 39.9	+4.9
BUS	**Buena Vista**	**1.05**	**320**	⇑*e*P	Pg	05 31 42.8	+0.1
BUS				*e*S	Sg	05 31 58.6	+2.4
URSC	**Urasca**	**1.29**	**328**	⇑*e*P	Pg	05 31 46.4	-0.8
LCR2	**La Lucha 2**	**1.35**	**318**	*e*P	Pg	05 31 46.8	-1.6
LCR2				*e*S	Sg	05 32 07.7	+1.9
ICR	**Volcan Irazu**	**1.44**	**329**	⇓*e*P	Pn	05 31 49.0	-0.7
OCM	**Ochomogo**	**1.44**	**323**	⇑*e*P	Pn	05 31 48.6	-1.2
OCM				*e*S	Sg	05 32 10.6	+1.9
OCM				AML	AML	05 32 13.9	
	comp=N,1μm,0.3s						
IRZ2	**Volcan Irazu 2**	**1.46**	**327**	⇓*e*P	Pn	05 31 49.4	-0.7
LAJ	**Bijagual**	**1.52**	**317**	*e*P	Pn	05 31 53.7	+2.9
LAJ				*e*S	Sg	05 32 19.8	+8.6
PRS1	**Puriscal**	**1.73**	**316**	⇓*e*P	Pn	05 31 52.3	-1.5
PRS1				*e*S	Sn	05 32 17.0	+0.4
POA2	**Poas 2**	**1.84**	**321**	*e*P	Pn	05 31 55.4	+0.1
POA2				*e*S	Sn	05 32 23.8	+4.6
VPS2	**Volcan Poas 2**	**1.84**	**322**	*e*P	Pn	05 31 56.1	+0.9
CGA2	**Cerro Gallo 2**	**1.86**	**313**	*e*P	Pn	05 31 55.8	+0.1
CGA2				*e*S	Sn	05 32 22.0	+2.2
EPA	**Esparza**	**1.94**	**310**	*e*P	Pn	05 31 56.6	-0.1
EPA				*e*S	Sn	05 32 24.5	+2.6
CAO	**Cobano**	**2.21**	**296**	⇓*e*P	Pn	05 31 58.2	-2.3
JTS	**JuntasAbangare**	**2.41**	**310**	⇑*e*P	Pn	05 32 03.5	+0.4
JTS				*e*S	Sn	05 32 32.5	-0.7

*IDC **25** 05:36:59.8±0.9, 5149N×17870W, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.9/28, mbtmp3.8/16, ML4.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/35, Error ellipse: s-maj=27.7km s-min=16.1km az=169.0*
*BJI **25** 05:37:00.6, 5150N×17870W, h41km, mB4.6, mb4.6, Ms4.6, Msz4.0*
*ISCJB **25** 05:37:04.7±1.3, 516N±0.1×17873W±008, h49km±10km, mb4.1/32, MS3.9/4, Error ellipse: s-maj=16.8km s-min=8.5km az=171.7*
*MOS **25** 05:37:04.8±0.8, 5153N×17867W, h49km, mb4.4/8, Error ellipse: s-maj=18.4km s-min=10.3km az=62.1*
*NEIC **25** 05:37:05.6±1.4, 5153N×17871W, h41km±10km, mb4.1/16, ML3.8(AEIC), Error ellipse: s-maj=14.1km s-min=7.8km az=199.0*

ISC 25 05:37:05.9±1.4, 516N±01×17873W±009, h45km±11km, n65, σ0°88/67, mb4.1/32, MS3.9/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.30**	**77**	P	**Pn**	**05 37 27.3**	**-0.4**
ADK				S	**Sn**	**05 37 43.9**	**0.0**
ATKA	**Atka Island**	**2.87**	**76**	P	**Pn**	**05 37 49.6**	**+0.4**
ATKA				S	**Sn**	**05 38 23.3**	**+0.8**
UNV	**Unalaska Valle**	**7.76**	**68**	Pn	**Pn**	**05 38 56.8**	**+0.6**
KDAK	**Kodiak Island**	**16.27**	**57**	Pn	**Pn**	**05 40 49.3**	**-1.9**
	1.3nm,0.3s,baz=276,slow=7.2,SNR=12						
KDAK				Sn	**Sn**	**05 43 49.3**	**-1.3**
	0.1nm,0.3s,baz=310,slow=15,SNR=2.4						
BILL	**Bilibino**	**18.04**	**342**	P	**Pn**	**05 41 11.0**	**-2.1**
	5.4nm,0.9s						
BILL	**Bilibino**	**18.04**	**342**	*e*P	**Pn**	**05 41 19.7**	**+6.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SLKM	**Skilak Lake**	**18.11**	**49**	*e*P	**Pn**	**05 41 15.6**	**+1.6**
SML	**Sawmill**	**19.38**	**46**	*e*P	**Pn**	**05 41 30.4**	**+1.1**
MCK	**McKinley**	**19.81**	**41**	*e*P	**Pn**	**05 41 33.8**	**-0.6**
	comp=Z,1.8nm,0.8s						
MCK	**McKinley**	**19.81**	**41**	*e*P	**Pn**	**05 41 33.8**	**-0.6**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EYAK	**Cordova Ski Ar**	**20.27**	**51**	*e*P	**P**	**05 41 36.6**	**-0.9**
COLA	**College**	**20.71**	**38**	*e*P	**P**	**05 41 43.3**	**+0.9**
	comp=Z,6.0nm,0.9s						
COLA				*e*		05 41 57.3	
COLA	**College**	**20.71**	**38**	*e*P	**P**	**05 41 43.3**	**+0.9**
COLA				*e*		05 41 57.3	
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ILAR	**Eielson Array**	**21.04**	**39**	P	**P**	**05 41 45.8**	**-0.1**
	comp=Z,1.5nm,0.9s,mb3.3,baz=240,slow=9.8,SNR=18						
ILAR				PcP	PcP	05 45 50.3	-1.1
	comp=Z,0.4nm,0.6s,baz=285,slow=3.2,SNR=6.1						
DAWY	**Dawson**	**23.92**	**43**	*e*P	**P**	**05 42 15.0**	**-0.6**
INK	**Inuvik**	**27.25**	**35**	P	**P**	**05 42 46.8**	**+1.0**
	comp=Z,0.5nm,0.4s,mb3.4,baz=248,slow=9.8,SNR=14						
INK				PcP	PcP	05 46 04.3	-0.4
	comp=Z,0.8nm,0.6s,baz=27,slow=6.8,SNR=7.3						
INK	**Inuvik**	**27.25**	**35**	*e*P	**P**	**05 42 46.5**	**+0.7**
	comp=Z,0.6nm,0.4s,mb3.5						
INK	**Inuvik**	**27.25**	**35**	P	**P**	**05 42 46.8**	**+1.0**
INK						05 46 04.4	
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DLBC	**Dease Lake**	**28.20**	**57**	LR	LR	05 53 28.4	
	comp=Z,32nm,18.1s,MS3.0,baz=260,slow=35						
MDJ	**Mudanjiang**	**34.58**	**279**	P	**P**	**05 43 44.8**	**-5.5**
MDJ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,115nm,3.2s						
YKW3	**Yellowknife Ar**	**35.03**	**47**	*e*P	**P**	**05 43 54.1**	**-0.1**
YKA	**Yellowknife Ar**	**35.05**	**47**	P	**P**	**05 43 53.4**	**-0.9**
	comp=Z,0.7nm,0.7s,mb3.7,baz=282,slow=8.6,SNR=10						
YKA				PcP	PcP	05 46 25.7	+0.2
	comp=Z,0.6nm,0.9s,baz=290,slow=3.0,SNR=8.9						
YKA	**Yellowknife Ar**	**35.05**	**47**	P	**P**	**05 43 53.4**	**-1.0**
YKA						05 46 25.7	
CN2	**Changchun**	**37.55**	**281**	*e*P	**P**	**05 44 15.3**	**-0.4**
NEW	**Newport**	**38.77**	**70**	P	**P**	**05 44 26.2**	**+0.2**
	comp=Z,4.6nm,0.6s,mb4.4,baz=303,slow=7.3,SNR=10						
NEW	**Newport**	**38.77**	**70**	*e*P	**P**	**05 44 25.5**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.3						
NEW	**Newport**	**38.77**	**70**	P	**P**	**05 44 26.2**	**+0.2**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WVOR	**Wild Horse Val**	**40.91**	**78**	*e*P	**P**	**05 44 44.0**	**+0.2**
	comp=Z,3.2nm,0.7s,mb4.1						
WVOR	**Wild Horse Val**	**40.91**	**78**	*e*P	**P**	**05 44 44.0**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
HLID	**Hailey**	**42.84**	**74**	*e*P	**P**	**05 45 00.1**	**+0.6**
	comp=Z,0.9nm,0.6s,mb3.7						
MCMT	**McKenzie Canyo**	**43.07**	**72**	*e*P	**P**	**05 45 01.3**	**0.0**
ELK	**Elko**	**43.97**	**78**	*e*P	**P**	**05 45 09.1**	**+0.4**
	comp=Z,1.5nm,0.9s,mb3.7						
ELK	**Elko**	**43.97**	**78**	*e*P	**P**	**05 45 09.1**	**+0.5**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LOHW	**Long Hollow**	**45.09**	**72**	*e*P	**P**	**05 45 17.8**	**+0.3**
	comp=Z,1.3nm,0.6s,mb3.9						
TPNV	**Topopah Spring**	**45.68**	**83**	*e*P	**P**	**05 45 21.5**	**-0.7**
	comp=Z,2.6nm,0.9s,mb4.2						
TPNV	**Topopah Spring**	**45.68**	**83**	*e*P	**P**	**05 45 21.5**	**-0.7**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
DUG	**Dugway**	**45.78**	**77**	*e*P	**P**	**05 45 23.4**	**+0.3**
	comp=Z,7.0nm,1.1s,mb4.5						
DUG	**Dugway**	**45.78**	**77**	*e*P	**P**	**05 45 23.4**	**+0.4**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BW06	**Boulder Array**	**46.20**	**72**	*e*P	**P**	**05 45 26.3**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**46.20**	**72**	P	**P**	**05 45 26.6**	**+0.3**
	comp=Z,2.7nm,0.6s,mb4.4,baz=322,slow=3.5,SNR=28						
SONM	**Songino Array**	**46.59**	**296**	P	**P**	**05 45 30.2**	**+0.8**
	comp=Z,0.1nm,0.4s,mb3.1,baz=90,slow=7.4,SNR=2.6						
SONM				PcP	PcP	05 47 04.4	+1.5
	comp=Z,0.4nm,0.5s,baz=62,slow=1.8,SNR=4.5						
HHC	**Hu-ho-hao-te**	**47.67**	**286**	*e*P	**P**	**05 45 33.8**	**-4.0**
HHC				PCP	PcP	05 47 04.8	-1.9
HHC				PP	PP	05 47 24.1	-5.5
HHC				S	**S**	**05 52 26.0**	**-4.5**
HHC				SCS	ScS	05 55 24.9	-2.6
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,90nm,5.5s						
HHC				LR	LR		
	comp=N,222nm,6.3s						
HHC				LR	LR		
	comp=E,222nm,5.7s						
HHC				LR	LR		
	comp=Z,187nm,10.0s,MS4.4						
SRU	**San Rafael**	**47.84**	**77**	*e*P	**P**	**05 45 38.5**	**-0.6**
	comp=Z,3.2nm,0.8s,mb4.4						
SRU	**San Rafael**	**47.84**	**77**	*e*P	**P**	**05 45 38.5**	**-0.6**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
SSE	**Sheshan**	**48.05**	**269**	*e*P	**P**	**05 45 35.4**	**-5.3**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s						
SSE				AMB	AMB		
	comp=Z,46nm,5.8s						
NJ2	**Nanjing**	**48.85**	**272**	*e*P	**P**	**05 45 44.1**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
PV01	**Paradox Valley**	**49.64**	**77**	*e*P	**P**	**05 45 52.8**	**-0.2**
SMCO	**Snowmass**	**49.94**	**75**	*e*P	**P**	**05 45 54.9**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.1						
FRB	**Frobisher Bay**	**52.82**	**32**	P	**P**	**05 46 16.4**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=307,slow=10,SNR=7.8						
LZH	**Lanzhou**	**55.37**	**286**	*e*P	**P**	**05 46 31.4**	**-3.9**
LZH				PP	PP	05 48 36.1	-3.2
LZH				AMB	AMB	

YASR Yasnyy 2.79 109 *e*Pn Pn 05 49 27.8 +1.0
YASR *e*Pg Pg 05 49 32.4 -3.2
YASR AMB AMB 05 49 43.0
1.0nm,0.3s
YASR AMB AMB 05 49 43.0
11nm,0.3s
YASR AMB AMB 05 49 43.0
12nm,0.3s
YASR *e*Sg Sg 05 50 08.8 -2.9
YASR A 05 50 10.4
70nm,0.4s
YASR A 05 50 10.4
40nm,0.4s
YASR A 05 50 10.4
19nm,0.4s
BMKR Bomnak 3.09 80 *e*Pn Pn 05 49 31.1 +0.1
BMKR AMB AMB 05 49 37.4
7.0nm,0.4s
BMKR *e*Pg Pg 05 49 37.4 -3.9
BMKR *e*Sg Sg 05 50 19.0 -2.3
BMKR A 05 50 25.9
44nm,0.5s
BMKR A 05 50 25.9
81nm,0.5s
EKMR Ekimchan 5.69 99 *e*rx rx 05 50 01.1
EKMR *e*Sg Sg 05 51 38.1 -6.8
EKMR A 05 51 56.5
12nm,0.6s
EKMR A 05 51 56.5
7.0nm,0.6s
KLR Kul'dur 7.16 132 *e*Sg Sg 05 52 28.0 -3.9

BJI ***25*** *05:51:49.9,2684N×92.15E,h9km,mB4.6,mb4.7,ML4.4, Ms4.2,Msz3.7*
IDC ***25*** *05:51:50.0±0.5,2676N×92.13E,h0km,mb4.5/21, mb1 4.7/21,mb1mx4.6/24,mbtmp4.5/21,Error ellipse: s-maj=19.5km s-min=12.7km az=49.0*
LDG ***25*** *05:51:50.1±0.2,2680N×9200E,h10km,Mb4.9/25,Ms3.0/1, Error ellipse: s-maj=11.2km s-min=5.0km az=157.0*
ISCJB ***25*** *05:51:51.9±1.0,2680N±003×92.19E±002,h25km±7km, mb4.6/102,MS3.6/2,Error ellipse: s-maj=5.7km s-min=3.4km az=158.8*
NEIC ***25*** *05:51:51.4±0.2,2679N×9224E,h10km,mb4.8/59,Error ellipse: s-maj=5.4km s-min=3.3km az=191.0*
MOS ***25*** *05:51:53.6±0.7,2674N×92.14E,h38km,mb4.9/57,Error ellipse: s-maj=8.0km s-min=4.3km az=121.6*
SZGRF ***25*** *05:51:56.1,2673N×9206E,h33km,mb5.0,Northeastern India*

ISC 25 05:51:51.6±1.0,2682N±003×9221E±002,h9km±6km,n266, σ0**95**/284,**mb4.6**/102,**MS3.6**/2,**9C-5D,Northeastern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.28**	**193**	*e*P	**Pn**	**05 52 15.5**	**-0.2**
SHL				*e*x	x	05 52 32.0	
SHL				*e*SG	**Sg**	**05 52 32.5**	**-0.4**
SHL				*e*S	**Sb**	**05 52 35.9**	**+3.4**
SHL				AML	AML	05 52 36.7	
	comp=N,34μm,0.2s						
SHL				AML	AML	05 52 36.8	
	comp=E,52μm,0.3s						
LSA	**Lhasa**	**3.02**	**342**	PG	**Pb**	**05 52 44.3**	**-1.2**
LSA				SG	**Sg**	**05 53 26.9**	**-1.6**
LSA				Smax			
	comp=N,530nm,0.5s						
LSA				Smax			
	comp=E,1μm,0.6s						
LSA	**Lhasa**	**3.02**	**342**	*e*Pn	**Pb**	**05 52 44.1**	**-1.4**
LSA				*e*Sn	**Sg**	**05 53 26.7**	**-1.8**
GTK	**Gangtok**	**3.25**	**280**	*e*PN	**Pn**	**05 52 40.0**	**-2.7**
GTK				*e*SN	**Sn**	**05 53 21.0**	**-0.5**
LKP	**Lekhapani**	**3.47**	**81**	*e*P	**Pn**	**05 52 42.0**	**-3.9**
LKP				*e*x	x	05 53 44.0	
JIRN	**Jiri**	**5.43**	**280**	*e*Pn	**Pn**	**05 53 14.6**	**+1.9**
JIRN				*e*Sn	**Sn**	**05 54 17.9**	**+2.7**
	comp=E,521nm,0.3s						
CAL	**Calcutta**	**5.54**	**220**	*e*S	**Sn**	**05 54 18.5**	**+0.6**
CAL				*e*x	x	05 54 30.4	
CAL				*e*x	x	05 54 50.6	
GUN	**Gumba**	**5.74**	**282**	*e*Pn	**Pn**	**05 53 19.0**	**+2.1**
GUN				*e*Sn	**Sn**	**05 54 24.8**	**+1.9**
	comp=E,908nm,0.5s						
PKI	**Pulchoki**	**6.10**	**279**	*e*Pn	**Pn**	**05 53 22.9**	**+0.9**
PKI				*e*Sn	**Sn**	**05 54 31.8**	**-0.2**
	comp=E,287nm,0.4s						
KKN	**Kakani**	**6.24**	**280**	*e*Pn	**Pn**	**05 53 25.3**	**+1.4**
KKN				*e*Sn	**Sn**	**05 54 37.1**	**+1.7**
	comp=E,690nm,0.6s						
DMN	**Daman**	**6.38**	**279**	*e*Pn	**Pn**	**05 53 26.3**	**+0.6**
DMN				*e*Sn	**Sn**	**05 54 38.6**	**0.0**
	comp=E,634nm,0.8s						
BOK	**Bokaro**	**6.47**	**244**	*e*P	**Pn**	**05 53 27.2**	**+0.2**
BOK				⇑*i*P		05 53 27.3	
BOK				AMb	AMB	05 53 29.0	
	comp=Z,19nm,0.4s						
BOK				*i* S	**Sn**	**05 54 35.3**	**-5.6**
BOK				*e*S	**Sn**	**05 54 38.9**	**-2.1**
GKN	**Gorkha**	**6.83**	**282**	*e*Pn	**Pn**	**05 53 33.4**	**+1.4**
GKN				*e*Sn	**Sn**	**05 54 50.5**	**+0.5**
	comp=Z,383nm,0.3s						
KOLN	**Koldanda**	**7.72**	**279**	*e*Pn	**Pn**	**05 53 44.4**	**+0.2**
KOLN				*e*Sn	**Sn**	**05 55 09.1**	**-2.6**
	comp=Z,162nm,0.4s						
KMI	**Kunming**	**9.62**	**98**	P	**Pn**	**05 54 17.5**	**+7.2**
KMI				AMB	AMB		
	comp=Z,13nm,0.7s						
LGTI	**Lohaghat**	**10.88**	**287**	*e*P	**Pn**	**05 54 29.0**	**+1.5**
CD2	**Chengdu**	**10.91**	**65**	*e*P	**Pn**	**05 54 31.5**	**+3.6**
CD2				PP		05 54 41.3	
CD2				S	**Sn**	**05 56 32.8**	**+2.7**
CD2				SS		05 56 48.0	
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
CD2				AMB	AMB		
	comp=Z,90nm,5.2s						
CD2				LR	LR		
	comp=N,170nm,10.8s						
CD2				LR	LR		
	comp=Z,150nm,12.0s						
VIS	**Vishakhapatnam**	**12.23**	**224**	*e*S	**Sn**	**05 56 52.1**	**-10**
GYA	**Guiyang**	**12.93**	**88**	P	**Pn**	**05 54 55.8**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KLP	**Kalpa**	**13.07**	**294**	AMb	AMB	05 57 20.7	
	comp=Z,28nm,0.7s						
NGP	**Nagpur**	**13.29**	**248**	*e*P	**Pn**	**05 54 55.2**	**-5.2**
NGP				*e*S	**Sn**	**05 57 14.5**	**-14**
NDI	**New Delhi**	**13.41**	**281**	*e*P	**Pn**	**05 54 57.0**	**-5.1**
NDI				*e*x	x	05 59 09.5	
LZH	**Lanzhou**	**13.55**	**44**	⇓P	**Pn**	**05 55 04.0**	**0.0**
LZH				AP		05 55 11.1	
LZH				PP		05 55 16.0	
LZH				*e*S	**Sn**	**05 57 35.0**	**+0.3**
LZH				XS		05 57 48.0	
LZH				*e*SS		05 57 51.0	
LZH				LG		05 59 13.0	
LZH				AMB	AMB		
	comp=Z,60nm,1.2s						
LZH				AMB	AMB		
	comp=Z,220nm,4.0s						
LZH				LR	LR		
	comp=E,650nm,9.0s						
LZH				LR	LR		
	comp=Z,830nm,9.2s						
BHPL	**Bhopal**	**13.87**	**258**	*e*P	**Pn**	**05 55 07.0**	**-1.4**
BHPL				AMb	AMB	05 55 11.8	
	comp=Z,16nm,0.7s						
BHPL				*e*S	**Sn**	**05 57 32.3**	**-10**
GTA	**Gaotai**	**14.07**	**25**	*e*P	**Pn**	**05 55 09.9**	**-1.2**
GTA				S	**Sn**	**05 57 39.8**	**-7.5**
GTA				XS		05 57 53.8	
GTA				AMB	AMB		
	comp=Z,11nm,1.3s						
GTA				AMB	AMB		
	comp=Z,84nm,6.5s						
GTA				LR	LR		
	comp=N,166nm,11.1s						
GTA				LR	LR		
	comp=E,262nm,11.1s						
GTA				LR	LR		
	comp=Z,105nm,8.4s						
ENH	**Enshi**	**15.56**	**73**	*e*P	**Pn**	**05 55 34.6**	**+3.4**
	comp=Z,65nm,0.8s						
HYB	**Hyderabad**	**15.73**	**236**	*i* P	**Pn**	**05 55 32.0**	**-1.3**
HYB	**Hyderabad**	**15.73**	**236**	*e*P	**Pn**	**05 55 32.0**	**-1.3**
HYB				*e*S	**Sn**	**05 58 45.0**	**+17**
WMQ	**Urumqi**	**17.35**	**349**	*e*P	**Pn**	**05 55 54.5**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,48nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,311nm,3.6s						
WMQ				LR	LR		
	comp=N,922nm,14.0s						
WMQ				LR	LR		
	comp=Z,956nm,13.0s						
QIZ	**Qiongzhong**	**17.98**	**112**	P	**Pn**	**05 56 06.1**	**+4.3**
CEP	**Cherat**	**18.85**	**297**	P	**Pn**	**05 56 13.2**	**+0.8**
ULHL	**Ulahol**	**20.19**	**324**	P	**P**	**05 56 29.1**	**+2.5**
SNR=16							
TKM2	**Tokmak 2**	**21.00**	**324**	P	**P**	**05 56 37.6**	**+2.2**
SNR=22							
TKM2	**Tokmak 2**	**21.00**	**324**	*i* P	**P**	**05 56 37.3**	**+1.9**
TKM2				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.6						
UCH	**Uchtor**	**21.12**	**321**	P	**P**	**05 56 38.9**	**+2.2**
SNR=12							
HHC	**Hu-ho-hao-te**	**21.25**	**44**	*e*P	**P**	**05 56 39.0**	**+1.0**
HHC				PP		05 57 05.1	
HHC				S	**S**	**06 00 27.1**	**-7.0**
HHC				PCP	PcP	06 00 42.6	-0.3
HHC				SS		06 01 05.3	
HHC				AMB	AMB		
	comp=Z,8.0nm,0.3s,mb4.5						
HHC				LR	LR		
	comp=N,107nm,8.6s						
HHC				LR	LR		
	comp=E,366nm,6.7s						
HHC				LR	LR		
	comp=Z,187nm,11.9s,MS3.7						
AAK	**Ala-Archa**	**21.40**	**322**	P	**P**	**05 56 41.7**	**+2.0**
SNR=6.1							
MK31	**Makanchi Array**	**21.43**	**341**	*i* P	**P**	**05 56 39.6**	**-0.3**
MK31				pmax	pmax		
	comp=Z,22nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**21.43**	**341**	P	**P**	**05 56 40.1**	**+0.2**
	comp=Z,27nm,0.7s,mb4.7,baz=147,slow=13,SNR=121						
MKAR				PcP	PcP	06 00 42.4	-0.8
	comp=Z,0.3nm,0.4s,baz=191,slow=2.0,SNR=4.8						
AML	**Almayashu**	**21.52**	**320**	P	**P**	**05 56 43.2**	**+2.2**
SNR=17							
EKS2	**Erkin-Say**	**21.82**	**321**	P	**P**	**05 56 48.7**	**+4.6**
SNR=10							
SONM	**Songino Array**	**23.74**	**24**	P	**P**	**05 57 04.6**	**+0.4**
	comp=Z,11nm,0.8s,mb4.4,baz=206,slow=9.6,SNR=46						
NJ2	**Nanjing**	**23.75**	**71**	*e*P	**P**	**05 57 06.3**	**+2.0**
NJ2				PP		05 57 41.8	
NJ2				S	**S**	**06 01 15.0**	**-4.5**
NJ2				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,120nm,11.4s						
NJ2				LR	LR		
	comp=N,120nm,12.0s,MS3.7						
NJ2				LR	LR		
	comp=E,120nm,12.0s,MS3.7						
NJ2				LR	LR		
	comp=Z,60nm,14.2s,MS3.2						
KK31	**Karatay Array**	**23.98**	**318**	*i* P	**P**	**05 57 03.9**	**-2.5**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
KKAR	**Karatay Array**	**23.98**	**318**	P	**P**	**05 57 03.9**	**-2.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
ULN	**Ulaanbaatar**	**24.01**	**25**	*e*P	**P**	**05 57 06.3**	**-0.4**
	comp=Z,14nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**24.01**	**25**	*e*P	**P**	**05 57 06.3**	**-0.4**
ULN				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.4						
ZAK	**Zakamensk**	**25.01**	**17**	*e*P	**P**	**05 57 17.4**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
SSE	**Sheshan**	**25.67**	**74**	*e*P	**P**	**05 57 22.3**	**+0.5**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,70nm,5.3s						
MOY	**Mondy**	**25.69**	**13**	*e*P	**P**	**05 57 24.9**	**+2.9**
KURK	**Kurchatov**	**26.02**	**340**	*e*P	**P**	**05 57 24.9**	**-0.1**
	comp=Z,14nm,0.9s,mb4.5						
KURK	**Kurchatov**	**26.02**	**340**	*e*P	**P**	**05 57 24.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**27.64**	**351**	P	**P**	**05 57 40.2**	**+0.7**
NVS	**Novosibirsk**	**28.76**	**349**	*e*P	**P**	**05 57 48.8**	**-0.7**
NVS				*e*		05 58 08.0	
NVS				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
NVS				pmax	pmax		
	comp=N,11nm,0.9s						
VOSK	**Vostochnaya**	**30.36**	**334**	P	**P**	**05 58 04.2**	**+0.5**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
BVA0	**Borovoye Array**	**30.82**	**334**	P	**P**	**05 58 05.3**	**-2.5**
BVAR	**Borovoye Array**	**30.82**	**334**	P	**P**	**05 58 08.1**	**+0.3**
	comp=Z,2.5nm,0.5s,mb4.3,baz=141,slow=8.4,SNR=14						
BRVK	**Borovoye**	**30.89**	**334**	*e*P	**P**	**05 58 07.3**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.0						
BRVK	**Borovoye**	**30.89**	**334**	*e*P	**P**	**05 58 07.4**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
CHKZ	**Chkalovo**	**31.23**	**335**	*e*P	**P**	**05 58 11.7**	**+0.2**
	comp=Z,8.9nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**31.23**	**335**	*e*P	**P**	**05 58 11.7**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**31.32**	**333**	*e*P	**P**	**05 58 11.9**	**-0.2**
	comp=Z,7.0nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**31.32**	**333**	*e*P	**P**	**05 58 12.0**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
CN2	**Changchun**	**31.71**	**49**	*e*P	**P**	**05 58 15.6**	**0.0**
AB31	**Akbulak array**	**33.48**	**321**	*i* P	**P**	**05 58 32.0**	**+0.9**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
MDJ	**Mudanjiang**	**34.79**	**49**	P	**P**	**05 58 43.9**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,157nm,3.2s						
AKTO	**Aktyubinsk**	**35.14**	**321**	*i* P	**P**	**05 58 45.6**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
ARU	**Arti**	**38.15**	**330**	⇓*i*P	**P**	**05 59 11.8**	**+0.6**
ARU				*e*		06 00 39.3	
ARU				*e*		06 01 24.8	
ARU				*e*S	**S**	**06 04 55.1**	**-9.3**
ARU				*e*SS	SS	06 07 44.0	-7.9
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
RDF	**Al-Radifah**	**39.36**	**284**	*e*P	**P**	**05 59 21.3**	**0.0**
RDF				AMb	AMB	05 59 25.3	
	comp=Z,22nm,0.7s,mb5.0						
MIB	**Mutribah**	**39.43**	**285**	*e*P	**P**	**05 59 22.5**	**+0.6**
MIB				AMb	AMB	05 59 23.1	
	comp=Z,22nm,1.1s,mb4.8						
NAY	**Al-Naaiem**	**39.59**	**284**	*e*P	**P**	**05 59 23.1**	**-0.1**
NAY				AMb	AMB	05 59 25.2	
	comp=Z,8.8nm,0.6s,mb4.6						
MAJO	**Matsushiro**	**40.00**	**64**	*e*P	**P**	**05 59 25.6**	**-1.0**
	comp=Z,5.7nm,0.6s,mb4.5						
MAJO	**Matsushiro**	**40.00**	**64**	*e*P	**P**	**05 59 25.6**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
MAT	**Matsushiro**	**40.00**	**64**	P	**P**	**05 59 26.2**	**-0.5**
MAT	**Matsushiro**	**40.00**	**64**	P	**P**	**05 59 26.0**	**-0.7**
	comp=Z,3.4nm,0.7s,mb4.2						
MAT	**Matsushiro**	**40.00**	**64**	P	**P**	**05 59 26.0**	**-0.7**
MAT				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
MJAR	**Matsushiro Arr**	**40.00**	**64**	P	**P**	**05 59 26.9**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.0,baz=270,slow=10,SNR=5.8						
YAK	**Yakutsk**	**43.10**	**25**	*e*P	**P**	**05 59 51.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
YSS	**Yuzh-Sakhalins**	**44.28**	**49**	*e*P	**P**	**06 00 02.1**	**+0.5**
	comp=Z,22nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**44.28**	**49**	⇑*e*P	**P**	**06 00 02.4**	**+0.8**
YSS				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.9						
OBN	**Obninsk**	**48.92**	**321**	*e*P	**P**	**06 00 36.9**	**-1.1**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0						
KLMR	**Klimovskoe**	**48.97**	**329**	*e*P	**P**	**06 00 38.1**	**-0.2**
KLMR				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.9						
TIXI	**Tiksi**	**49.25**	**14**	*e*P	**P**	**06 00 39.4**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BR131	**Keskin Array S**	**49.83**	**301**	*e*P	**P**	**06 00 45.2**	**+0.3**
	comp=Z,0.9nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**49.83**	**301**	P	**P**	**06 00 45.2**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=114,slow=7.8,SNR=6.7						
MA2	**Magadan**	**51.42**	**34**	*e*P	**P**	**06 00 56.6**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.3						
MA2	**Magadan**	**51.42**	**34**	*e*P	**P**	**06 00 56.6**	**-0.3**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
AKASG	**Malin Array Be**	**52.81**	**315**	P	**P**	**06 01 06.5**	**-0.7**
	comp=Z,4.6nm,0.6s,mb4.6,baz=82,slow=6.4,SNR=23						
SEY	**Seymchan**	**52.96**	**30**	⇑*e*P	**P**	**06 01 09.0**	**+0.7**
JOF	**Joensuu**	**53.28**	**330**	*e*p	**P**	**06 01 11.3**	**+0.6**
	comp=Z,5.3nm,0.7s,mb4.6						
APA	**Apatity**	**53.70**	**336**	⇑*e*P	**P**	**06 01 13.0**	**-0.8**
APA				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
VRI	**Vrincioaia**	**54.54**	**309**	⇓P	**P**	**06 01 20.9**	**+1.0**
PLOR	**Plostina**	**54.59**	**309**	⇓P	**P**	**06 01 21.6**	**+1.3**
MLR	**Muntele Rosu**	**55.11**	**308**	⇓P	**P**	**06 01 25.0**	**+0.9**
KAF	**Kangasniemi**	**55.42**	**329**	*e*p	**P**	**06 01 25.0**	**-1.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=98,slow=7.2						
KAF	**Kangasniemi**	**55.42**	**329**	*e*P	**P**	**06 01 25.0**	**-1.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**55.44**	**328**	P	**P**	**06 01 26.2**	**-0.3**
	comp=Z,6.5nm,0.6s,mb4.8,baz=100,slow=8.4,SNR=54						
KWP	**Kalwaria**	**57.02**	**313**	*e*P	**P**	**06 01 38.0**	**+0.3**
ARCES	**ARCESS Array B**	**57.02**	**337**	P	**P**	**06 01 37.6**	**-0.1**
	comp=Z,20nm,1.2s,mb5.0,baz=95,slow=7.9,SNR=18						
DRGR		**57.24**	**310**	⇑P	**P**	**06 01 39.9**	**+0.6**
STHS	**Stebnicka Huta**	**57.98**	**313**	*e*P	**P**	**06 01 43.8**	**-0.7**
PSZ	**Piszkesteto**	**59.02**	**312**	*e*P	**P**	**06 01 51.8**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.5						
PSZ	**Piszkesteto**	**59.02**	**312**	*e*P	**P**	**06 01 51.8**	**0.0**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BILL	**Bilibino**	**59.46**	**25**	*e*P	**P**	**06 01 55.1**	**+0.3**
	comp=Z,10nm,0.8s,mb4.9						
BILL	**Bilibino**	**59.46**	**25**	⇑*i*P	**P**	**06 01 55.3**	**+0.5**
BILL				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
KMBO	**Kilima Mbogo**	**59.72**	**251**	P	**P**	**06 01 56.0**	**-0.6**
	comp=Z,0.7nm,0.4s,mb4.0,baz=56,slow=18,SNR=3.8						
OKC	**Ostrava-Krasne**	**59.94**	**314**	*e*P	**P**	**06 01 58.3**	**+0.2**
PKSM	**Moragy**	**60.10**	**310**	⇑P	**P**	**06 01 58.8**	**-0.5**
MORC	**Moravsky Berou**	**60.34**	**314**	*e*P	**P**	**06 02 01.2**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.5						
MORC	**Moravsky Berou**	**60.34**	**314**	*e*P	**P**	**06 02 01.2**	**+0.3**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KSP	**Ksiaz**	**60.99**	**315**	*e*P	**P**	**06 02 05.5**	**+0.2**
DPC	**Dobruska-Polom**	**61.04**	**315**	*e*P	**P**	**06 02 06.1**	**+0.5**
UPC	**Upice**	**61.22**	**315**	*e*P	**P**	**06 02 06.7**	**-0.1**
WRA	**Warramunga Arr**	**61.88**	**134**	P	**P**	**06 02 11.3**	**0.0**
	comp=Z,11nm,0.7s,mb5.1,baz=325,slow=7.0,SNR=166						
WRAB	**Tennant Creek**	**61.88**	**134**	*e*P	**P**	**06 02 11.1**	**-0.2**
	comp=Z,24nm,0.8s,mb5.4						
WRAB	**Tennant Creek**	**61.88**	**134**	*e*P	**P**	**06 02 11.1**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.4						
WB2	**Warramunga Arr**	**61.89**	**134**	⇑*i*P	**P**	**06 02 11.4**	**+0.1**
PRU	**Pruhonice**	**62.23**	**315**	*e*P	**P**	**06 02 13.8**	**+0.1**
RUE	**Ruedersdorf**	**62.31**	**317**	*e*P	**P**	**06 02 13.2**	**-1.0**
	comp=Z,14nm,0.6s,mb5.3						
PERS	**Pernice**	**62.44**	**311**	*i* P	**P**	**06 02 15.0**	**0.0**
BRG	**Berggiesshubel**	**62.46**	**316**	*e*P	**P**	**06 02 14.4**	**-0.8**
	comp=Z,6.0nm,0.6s,mb4.9						
BRG	**Berggiesshubel**	**62.46**	**316**	*i* P	**P**	**06 02 15.1**	**-0.1**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
BRG	**Berggiesshubel**	**62.46**	**316**	*i* P	**P**	**06 02 15.1**	**-0.2**
	comp=Z,3.4nm,0.6s,mb4.6						
NB2	**NORSAR Subarra**	**62.61**	**327**	P	**P**	**06 02 15.4**	**-0.8**
	comp=Z,6.8nm,0.6s,mb5.0,baz=84,slow=6.5						
NB2	**NORSAR Subarra**	**62.61**	**327**	P	**P**	**06 02 15.4**	**-0.8**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
NOA	**NORSAR Array B**	**62.61**	**327**	P	**P**	**06 02 15.4**	**-0.8**
	comp=Z,5.4nm,0.6s,mb4.9,baz=85,slow=6.7,SNR=33						
PDKS	**Podkum**	**62.62**	**310**	*i* P	**P**	**06 02 16.5**	**+0.2**
VISS	**Visnje**	**62.78**	**310**	*e*P	**P**	**06 02 17.3**	**0.0**
NAO01	**NORSAR Array S**	**62.79**	**327**	*e*P	**P**	**06 02 16.3**	**-1.0**
	comp=Z,4.6nm,0.4s,mb5.0						
LJU	**Ljubljana**	**62.95**	**310**	*e*P	**P**	**06 02 18.5**	**+0.1**
GEC2	**GERESS Array S**	**62.97**	**313**	*e*P	**P**	**06 02 18.6**	**0.0**
	comp=Z,11nm,0.9s,mb5.0						
GEC2	**GERESS Array S**	**62.97**	**313**	*e*P	**P**	**06 02 18.6**	**0.0**
GEC2				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
GERES	**GERESS Array B**	**62.97**	**313**	P	**P**	**06 02 18.9**	**+0.3**
	comp=Z,9.0nm,0.6s,mb5.0,baz=74,slow=6.2,SNR=80						
CLL	**Collm**	**62.98**	**316**	*e*P	**P**	**06 02 18.3**	**-0.3**
	comp=Z,2.0nm,0.5s,mb4.5						
KHC	**Kasperske Hory**	**62.99**	**314**	*e*P	**P**	**06 02 18.3**	**-0.5**
WET	**Wettzell**	**63.44**	**314**	*e*P	**P**	**06 02 21.8**	**+0.1**
	comp=Z,4.0nm,0.6s,mb4.7						
WET	**Wettzell**	**63.44**	**314**	*e*P	**P**	**06 02 21.8**	**+0.1**
WET				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
CADS	**Cadrg**	**63.45**	**310**	*e*P	**P**	**06 02 21.1**	**-0.7**
MOX	**Moxa**	**63.96**	**316**	*e*P	**P**	**06 02 25.2**	**+0.1**
	comp=Z,2.0nm,0.6s,mb4.3						
BSEG	**Bad Segeberg**	**64.12**	**319**	*e*P	**P**	**06 02 26.5**	**+0.3**
	comp=Z,7.0nm,0.7s,mb4.8						
PMG	**Port Moresby**	**64.31**	**116**	P	**P**	**06 02 29.0**	**+1.6**
	comp=Z,12nm,0.9s,mb4.9,baz=308,slow=4.4,SNR=5.7						
ASAR	**Alice Springs**	**64.36**	**137**	P	**P**	**06 02 28.0**	**+0.2**
	comp=Z,7.9nm,0.6s,mb5.0,baz=320,slow=6.6,SNR=203						
GRA1	**Grafenberg Arr**	**64.40**	**315**	*e*P	**P**	**06 02 28.1**	**+0.1**
	comp=Z,7.0nm,0.7s,mb4.8						
**

comp=Z,12nm,0.5s,mb4.8
PGF Pioggiola 67.64 307 *eP* **P 06 02 48.4 -0.5**
comp=Z,5.8nm,0.5s,mb4.9
PGF Pioggiola 67.64 307 *eP* **P 06 02 48.4 -0.5**
PGF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
HINF Hinteralfeld 67.65 313 *eP* **P 06 02 48.4 -0.5**
comp=Z,6.2nm,0.5s,mb4.6
HINF Hinteralfeld 67.65 313 *eP* **P 06 02 48.4 -0.5**
comp=Z,3.1nm,0.5s,mb4.6
HINF Hinteralfeld 67.65 313 *eP* **P 06 02 48.4 -0.5**
HINF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
HAU Haudompre 67.92 314 *eP* **P 06 02 51.3 +0.6**
comp=Z,9.9nm,0.7s,mb4.7
HAU Haudompre 67.92 314 *eP* **P 06 02 51.3 +0.6**
comp=Z,4.9nm,0.7s,mb4.7
HAU Haudompre 67.92 314 *eP* **P 06 02 51.3 +0.6**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SBF Sospel 68.36 309 *eP* **P 06 02 53.0 -0.4**
DOU Dourbes 68.45 316 ⇑P **P 06 02 51.5 -2.5**
CABF La Chapelle 68.48 312 *eP* **P 06 02 54.0 -0.2**
comp=Z,9.9nm,0.7s,mb4.7
CABF La Chapelle 68.48 312 *eP* **P 06 02 54.0 -0.2**
comp=Z,4.9nm,0.6s,mb4.7
CABF La Chapelle 68.48 312 *eP* **P 06 02 54.0 -0.2**
CABF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MBDF Montbardon 68.57 310 *eP* **P 06 02 54.8 +0.1**
comp=Z,11nm,0.7s,mb4.6
MBDF Montbardon 68.57 310 *eP* **P 06 02 54.8 +0.1**
comp=Z,5.7nm,0.7s,mb4.6
MBDF Montbardon 68.57 310 *eP* **P 06 02 54.8 +0.1**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MEZF Maizieres J'vi 68.62 314 *eP* **P 06 02 54.9 -0.1**
comp=Z,14nm,0.6s,mb4.8
MEZF Maizieres J'vi 68.62 314 *eP* **P 06 02 54.9 -0.1**
comp=Z,14nm,0.6s,mb5.1
FRF La Foret Royal 69.00 309 *eP* **P 06 02 56.3 -1.1**
comp=Z,5.0nm,0.6s,mb4.3
FRF La Foret Royal 69.00 309 *eP* **P 06 02 56.3 -1.1**
comp=Z,2.5nm,0.6s,mb4.3
FRF La Foret Royal 69.00 309 *eP* **P 06 02 56.3 -1.1**
FRF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ORIF Oris-en-Rattie 69.12 311 *eP* **P 06 02 57.4 -0.7**
LMR La Mourre 69.16 309 *eP* **P 06 02 57.9 -0.5**
comp=Z,33nm,1.1s,mb4.9
LMR La Mourre 69.16 309 *eP* **P 06 02 57.9 -0.5**
comp=Z,16nm,1.1s,mb4.9
LMR La Mourre 69.16 309 *eP* **P 06 02 57.9 -0.5**
LMR pmax pmax
comp=Z,17nm,1.1s,mb4.9
SMRF Simiane la Rot 69.61 310 *eP* **P 06 03 01.1 -0.1**
LOR Lormes 69.75 313 *eP* **P 06 03 01.2 -0.8**
comp=Z,7.1nm,0.7s,mb4.4
LOR Lormes 69.75 313 *eP* **P 06 03 01.2 -0.8**
comp=Z,3.5nm,0.7s,mb4.4
LOR Lormes 69.75 313 *eP* **P 06 03 01.2 -0.8**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SMF Signal de Mont 69.95 313 *eP* **P 06 03 02.7 -0.6**
comp=Z,26nm,0.8s,mb4.9
SMF Signal de Mont 69.95 313 *eP* **P 06 03 02.7 -0.6**
comp=Z,13nm,0.8s,mb4.9
SMF Signal de Mont 69.95 313 *eP* **P 06 03 02.7 -0.6**
SMF pmax pmax
comp=Z,13nm,0.8s,mb4.9
VIVF Saint-Julien-l 69.95 311 *eP* **P 06 03 02.9 -0.4**
SSF Saint Saulge 70.04 313 *eP* **P 06 03 03.4 -0.4**
comp=Z,20nm,0.7s,mb4.8
SSF Saint Saulge 70.04 313 *eP* **P 06 03 03.4 -0.4**
comp=Z,10nm,0.7s,mb4.9
SSF Saint Saulge 70.04 313 *eP* **P 06 03 03.4 -0.4**
SSF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CTA Charters Tower 70.12 126 *eP* **P 06 03 05.0 +0.7**
comp=Z,7.8nm,0.9s,mb4.6
CTA Charters Tower 70.12 126 P **P 06 03 05.0 +0.6**
comp=Z,10nm,0.8s,mb4.8,baz=327,slow=9.3,SNR=4.7
CTA Charters Tower 70.12 126 *eP* **P 06 03 05.0 +0.7**
CTA pmax pmax
comp=Z,8.0nm,0.9s
CTAO Charters Tower 70.12 126 *eP* **P 06 03 04.6 +0.3**
comp=Z,12nm,0.9s,mb4.8
CTAO Charters Tower 70.12 126 *eP* **P 06 03 04.6 +0.3**
CTAO pmax pmax
comp=Z,12nm,0.9s,mb4.8
AVF Avril sur Loir 70.23 313 *eP* **P 06 03 04.4 -0.6**
comp=Z,11nm,0.7s,mb4.6
AVF Avril sur Loir 70.23 313 *eP* **P 06 03 04.4 -0.6**
comp=Z,5.6nm,0.6s,mb4.7
AVF Avril sur Loir 70.23 313 *eP* **P 06 03 04.4 -0.6**
AVF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BGF Bois d'Agland 70.63 313 *eP* **P 06 03 07.0 -0.4**
LASF Ste Croix 70.76 310 *eP* **P 06 03 08.1 -0.1**
comp=Z,9.0nm,0.7s,mb4.5
TCF Toulx Ste Croi 71.14 313 *eP* **P 06 03 10.5 0.0**
comp=Z,22nm,0.9s,mb4.8
TCF Toulx Ste Croi 71.14 313 *eP* **P 06 03 10.5 0.0**
comp=Z,11nm,0.9s,mb4.8
TCF Toulx Ste Croi 71.14 313 *eP* **P 06 03 10.5 0.0**
TCF pmax pmax
comp=Z,11nm,0.9s,mb4.8
CAF Calviac 71.69 312 *eP* **P 06 03 14.0 +0.2**
comp=Z,11nm,0.7s,mb4.6
CAF Calviac 71.69 312 *eP* **P 06 03 14.0 +0.2**
comp=Z,5.4nm,0.7s,mb4.6
CAF Calviac 71.69 312 *eP* **P 06 03 14.0 +0.2**
CAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LDF La Druitiere 71.85 316 *eP* **P 06 03 14.2 -0.6**
RJF Les Rejaudoux 71.92 312 *eP* **P 06 03 15.6 +0.3**
comp=Z,21nm,0.7s,mb4.8
RJF Les Rejaudoux 71.92 312 *eP* **P 06 03 15.6 +0.3**
comp=Z,10nm,0.7s,mb4.9
RJF Les Rejaudoux 71.92 312 *eP* **P 06 03 15.6 +0.3**
RJF pmax pmax
comp=Z,11nm,0.7s,mb4.9
FLN La Foliniere 72.02 316 *eP* **P 06 03 14.9 -0.9**
MTLF Montolieu 72.12 310 *eP* **P 06 03 16.2 -0.3**
comp=Z,15nm,1.0s,mb4.6
MTLF Montolieu 72.12 310 *eP* **P 06 03 16.2 -0.3**
comp=Z,7.5nm,1.0s,mb4.6
MTLF Montolieu 72.12 310 *eP* **P 06 03 16.2 -0.3**
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GRR Gorron 72.38 316 *eP* **P 06 03 17.4 -0.6**
MFF Saint Martin d 72.56 314 *eP* **P 06 03 18.6 -0.5**
LFF La Frestale 72.56 312 *eP* **P 06 03 19.2 +0.1**
comp=Z,19nm,0.7s,mb4.8
LFF La Frestale 72.56 312 *eP* **P 06 03 19.2 +0.1**
comp=Z,9.4nm,0.7s,mb4.8
LFF La Frestale 72.56 312 *eP* **P 06 03 19.2 +0.1**
LFF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SGMF Saint Gilles 73.49 316 *eP* **P 06 03 24.3 -0.3**
comp=Z,33nm,0.9s,mb5.0
SGMF Saint Gilles 73.49 316 *eP* **P 06 03 24.3 -0.3**
comp=Z,16nm,0.9s,mb5.0
SGMF Saint Gilles 73.49 316 *eP* **P 06 03 24.3 -0.3**
SGMF pmax pmax
comp=Z,16nm,0.9s,mb5.0
ROSF Rostrenen 73.90 316 *eP* **P 06 03 26.8 -0.2**
comp=Z,18nm,0.7s,mb4.8
ROSF Rostrenen 73.90 316 *eP* **P 06 03 26.8 -0.2**
comp=Z,8.8nm,0.7s,mb4.8
ROSF Rostrenen 73.90 316 *eP* **P 06 03 26.8 -0.2**
ROSF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ETSF Etsaut 74.18 310 *eP* **P 06 03 28.9 +0.3**
comp=Z,13nm,0.6s,mb4.7
ETSF Etsaut 74.18 310 *eP* **P 06 03 28.9 +0.3**
comp=Z,6.3nm,0.6s,mb4.7
ETSF Etsaut 74.18 310 *eP* **P 06 03 28.9 +0.3**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSZ Lusaka 74.92 244 *eP* **P 06 03 32.7 -0.2**
comp=Z,2.3nm,0.6s,mb4.3
LSZ Lusaka 74.92 244 *eP* **P 06 03 32.7 -0.2**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
STKA Stephens Creek 74.98 138 *eP* **P 06 03 30.8 -2.5**
comp=Z,2.8nm,0.9s,mb4.2
STKA Stephens Creek 74.98 138 P **P 06 03 30.5 -2.8**
comp=Z,3.6nm,0.8s,mb4.3,baz=336,slow=12,SNR=6.2
SUMG Summit 75.38 346 *eP* **P 06 03 35.3 -0.2**
comp=Z,7.2nm,0.9s,mb4.6
COLA College 77.56 22 *eP* **P 06 03 47.3 -0.6**
comp=Z,5.5nm,1.0s,mb4.4
COLA College 77.56 22 *eP* **P 06 03 47.3 -0.6**
COLA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MCK McKinley 77.88 23 *eP* **P 06 03 49.6 -0.1**
comp=Z,1.9nm,0.7s,mb4.1
MCK McKinley 77.88 23 *eP* **P 06 03 49.6 -0.1**
MCK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ILAR Eielson Array 77.95 22 P **P 06 03 49.4 -0.7**
comp=Z,3.6nm,0.9s,mb4.3,baz=301,slow=5.4,SNR=40
ILAR PP PP 06 06 45.6 -0.3
comp=Z,0.4nm,0.8s,baz=308,slow=8.5,SNR=4.7
RES Resolute Bay 78.64 2 *eP* **P 06 03 53.4 -0.5**
comp=Z,1.5nm,0.7s,mb4.0
RES Resolute Bay 78.64 2 *eP* **P 06 03 53.4 -0.5**
RES pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SML Sawmill 79.27 25 *eP* **P 06 03 57.6 +0.3**
INK Inuvik 79.36 16 P **P 06 03 58.1 +0.3**
comp=Z,5.7nm,0.8s,mb4.5,baz=349,slow=5.8,SNR=35
INK Inuvik 79.36 16 *eP* **P 06 03 57.7 -0.1**
comp=Z,7.9nm,0.9s,mb4.6
INK Inuvik 79.36 16 *eP* **P 06 03 57.7 -0.1**
INK pmax pmax
comp=Z,8.0nm,0.9s
LBTB Lobatse 82.35 237 *eP* **P 06 04 13.4 -0.5**
comp=Z,5.6nm,1.0s,mb4.5
LBTB Lobatse 82.35 237 *eP* **P 06 04 13.4 -0.4**
LBTB pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TORD Torodi Ar. Bea 84.63 282 P **P 06 04 26.0 +0.4**
comp=Z,1.2nm,0.8s,mb4.1,baz=63,slow=4.4,SNR=14
DLBC Deas-Lake 88.07 21 P **P 06 04 43.3 +0.8**
comp=Z,1.1nm,0.9s,mb4.1,baz=315,slow=11,SNR=3.2
YKW3 Yellowknife Ar 88.38 12 *eP* **P 06 04 43.0 -0.9**
YKA Yellowknife Ar 88.44 12 P **P 06 04 43.7 -0.5**
comp=Z,1.7nm,0.7s,mb4.4,baz=331,slow=4.4,SNR=43
YKA PP PP 06 08 09.3 -2.6
comp=Z,0.2nm,0.7s,baz=335,slow=8.1,SNR=4.3
YKA Yellowknife Ar 88.44 12 P **P 06 04 43.7 -0.5**
YKA 06 08 09.4
FCC Fort Churchill 94.58 3 *eP* **P 06 05 11.7 -1.0**
comp=Z,5.9nm,1.3s,mb4.9
FCC Fort Churchill 94.58 3 *eP* **P 06 05 11.7 -1.0**
FCC pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
SCHQ Schefferville 96.71 348 P **P 06 05 21.9 -0.5**
comp=Z,1.2nm,0.6s,mb4.5,baz=63,slow=14,SNR=3.3
ROSC El Rosal 145.92 336 PKPbc PKPbc 06 11 33.1 +1.6
comp=Z,14nm,0.6s,baz=63,slow=1.3,SNR=16
OTAV Otavalo 151.63 340 *e*PKPbc PKPbc 06 11 47.4 +1.0
CPUP Villa Florida 152.78 264 PKPbc PKPbc 06 11 47.8 -1.1
comp=Z,1.4nm,0.6s,baz=90,slow=4.0,SNR=3.5
PLCA Paso Flores 160.10 221 PKPab PKPab 06 12 30.4 -0.8
comp=Z,2.1nm,0.9s,baz=226,slow=3.9,SNR=2.8

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*IDC **25** 06:17:11.3±1.7,3358N×141.78E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.5/19,mbtmp3.5/5,ML3.0/1,MS3.0/1, Ms1 3.0/1,ms1mx2.3/28,Error ellipse: s-maj=34.7km s-min=20.6km az=59.0*
*ISCJB **25** 06:17:12.4±2.1,3357N±005×14188E±009,h24km±14km, mb3.6/4,MS3.0/1,Error ellipse: s-maj=12.7km s-min=9.0km az=163.7*
*JMA **25** 06:17:13.4±0.4,3358N×14181E,h79km,M3.0*
ISC 25 06:17:12.4±2.8,3358N±005×1418E±01,h6km±20km,n12, σ0°79/18,mb3.6/4,MS3.0/1,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.25**	**329**	P		**Pn**	**Pn**	**06 17 35.9**	**-0.4**
BSO1				S		S	**Sb**	**06 17 53.1**	**+0.5**
BSO2	**Boso 2**	**1.43**	**325**	S		**Sb**	**Sb**	**06 17 58.3**	**+0.4**
BSO3	**Boso 3**	**1.59**	**320**	P		**Pn**	**Pn**	**06 17 40.9**	**-0.2**
BSO3				S		**Sn**	**Sn**	**06 18 01.7**	**-0.2**
JHJ2	**Mitsune**	**1.69**	**254**	P		**Pn**	**Pn**	**06 17 42.6**	**+0.3**
JHJ2				S		**Sn**	**Sn**	**06 18 03.6**	**-0.6**
JHJ	**Hachijo jima 2**	**1.71**	**255**	Pn		**Pn**	**Pn**	**06 17 41.8**	**-0.9**
	19nm,0.3s,baz=253,slow=19,SNR=10								
JHJ				Sn		**Sn**	**Sn**	**06 18 06.5**	**+1.7**
	32nm,0.3s,baz=60,slow=21,SNR=4.4								
BSO4	**Boso 4**	**1.83**	**321**	P		**Pn**	**Pn**	**06 17 44.6**	**+0.3**
KTJJ	**Kamata 2**	**2.60**	**302**	P		**Pn**	**Pn**	**06 17 54.3**	**-0.6**
KTJJ				S		**Sn**	**Sn**	**06 18 23.8**	**-2.9**
MJAR	**Matsushiro Arr**	**4.14**	**316**	Pn		**Pn**	**Pn**	**06 18 16.6**	**+0.5**
	0.9nm,0.3s,baz=153,slow=13,SNR=6.7								
MJAR				Sn			**Sn**	**06 19 05.3**	**+0.5**
	0.9nm,0.3s,baz=132,slow=18,SNR=3.8								
SONM	**Songino Array**	**30.06**	**309**	P			**P**	**06 23 22.1**	**0.0**
	0.6nm,0.6s,mb3.5,baz=109,slow=6.7,SNR=6.1								
SONM				LR		LR	LR	06 34 47.8	
	comp=Z,31nm,19.8s,MS3.0,baz=9.9,slow=35								
MKAR	**Makanchi Array**	**46.26**	**305**	P			**P**	**06 25 38.3**	**-0.1**
	1.1nm,0.7s,mb3.9,baz=89,slow=8.8,SNR=11								
WRA	**Warramunga Arr**	**53.69**	**189**	P			**P**	**06 26 34.4**	**-0.5**
	1.0nm,0.8s,mb3.8,baz=5.8,slow=7.7,SNR=13								
ASAR	**Alice Springs**	**57.42**	**189**	P			**P**	**06 27 02.5**	**+0.8**
	0.2nm,0.5s,mb3.4,baz=18,slow=11,SNR=6.0								

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*IDC **25** 06:42:03.0±1.1,1091S×11893E,h0km,mb4.0/4, mb1 4.1/7,mb1mx4.0/15,mbtmp4.0/7,ML4.0/3,Error ellipse: s-maj=52.8km s-min=19.3km az=63.0*
*ISCJB **25** 06:42:04.3±0.7,1101S±009×11931E±010,h33km, mb4.1/5,Error ellipse: s-maj=17.3km s-min=6.3km az=98.4*
*NEIC **25** 06:42:07.7±0.7,1094S×11904E,h40km,mb4.4/3,Error ellipse: s-maj=20.2km s-min=10.1km az=65.0*
ISC 25 06:42:07.2±0.7,1094S±008×1193E±01,h35km,n16, σ1°65/21,mb4.1/5,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.43**	**140**	*eP*		**Pn**	**Pn**	**06 44 21.7**	**+1.2**
	8.4nm,0.3s								
FITZ				*e*S			**Sn**	**06 46 03.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**9.43**	**140**	Pn		**Pn**	**Pn**	**06 44 21.8**	**+1.3**
	1.8nm,0.3s,baz=324,slow=9.1,SNR=27								
FITZ				Sn			**Sn**	**06 46 02.7**	**-2.6**
	1.3nm,0.3s,baz=175,slow=21,SNR=6.5								
MBWA	**Marble Bar**	**10.17**	**177**	*e*Pn			**Pn**	**06 44 23.9**	**-6.8**
	27nm,0.3s								
WRA	**Warramunga Arr**	**17.07**	**123**	P			**Pn**	**06 46 05.6**	**+2.6**
	0.3nm,0.3s,baz=290,slow=14,SNR=9.1								
WRA				S			**S**	**06 49 08.4**	**-12**
	0.3nm,0.3s,baz=298,slow=24,SNR=5.0								
WRAB	**Tennant Creek**	**17.07**	**123**	*eP*			**Pn**	**06 46 06.1**	**+3.1**
	3.5nm,0.8s								
WB2	**Warramunga Arr**	**17.08**	**123**	*eP*			**Pn**	**06 46 06.0**	**+2.9**
WB2				*e*S			**S**	**06 49 08.6**	**-12**
KKM	**Kota Kinabalu**	**17.14**	**350**	*eP*			**Pn**	**06 46 02.1**	**-1.9**
ASAR	**Alice Springs**	**18.84**	**134**	P			**Pn**	**06 46 28.9**	**+4.1**
	0.8nm,0.3s,baz=318,slow=14,SNR=39								
ASAR				S			**S**	**06 49 47.1**	**-8.8**
	0.1nm,0.3s,baz=309,slow=23,SNR=4.2								
KLBR	**Kellerberrin**	**20.60**	**184**	*eP*			**P**	**06 46 41.4**	**-1.8**
	104nm,1.9s								
MUN	**Mundaring**	**21.12**	**187**	*eP*			**P**	**06 46 48.4**	**-0.5**
FORT	**Forrest**	**21.37**	**159**	*eP*			**P**	**06 46 53.7**	**+2.2**
	18nm,0.8s,mb4.5								
NWAO	**Narrogin (SRO)**	**21.96**	**185**	P			**P**	**06 46 58.9**	**+1.0**
	8.5nm,0.5s,mb4.4,baz=5.8,slow=11,SNR=12								
NWAO				S			S	06 50 37.2	-21
	4.6nm,0.5s,baz=238,slow=15,SNR=5.5								
NWAO	**Narrogin (SRO)**	**21.96**	**185**	*eP*			**P**	**06 46 59.4**	**+1.6**
SONM	**Songino Array**	**59.62**	**350**	P			**P**	**06 52 09.1**	**+1.5**
	0.4nm,0.6s,mb3.6,baz=164,slow=8.0,SNR=4.9								
MKAR	**Makanchi Array**	**66.29**	**333**	P			**P**	**06 52 52.1**	**+0.2**
	0.9nm,0.4s,mb4.2,baz=152,slow=7.2,SNR=7.8								
ZAL	**Zalesovo**	**70.93**	**339**	P			**P**	**06 53 19.9**	**-0.9**
	0.7nm,0.5s,mb3.8,baz=311,slow=13,SNR=3.6								

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*ISCJB **25** 06:59:45.5±4.4,26N±01×9447E±008,h5km±28km, mb4.1/12,Error ellipse: s-maj=20.3km s-min=11.2km az=43.5*
*IDC **25** 06:59:46.9±1.3,255N×9447E,h0km,mb3.9/7,mb1 4.0/8, mb1mx3.8/22,mbtmp3.9/8,ML3.8/1,Error ellipse: s-maj=44.7km s-min=18.1km az=49.0*
*NEIC **25** 06:59:51.5±0.7,260N×9457E,h30km,mb4.7/2,Error ellipse: s-maj=15.7km s-min=9.7km az=223.0*
*MOS **25** 06:59:51.8±0.5,267N×9463E,h50km,mb4.7/5,Error ellipse: s-maj=21.4km s-min=15.5km az=115.6*
ISC 25 06:59:47.2±5.3,26N±01×9445E±008,h3km±33km,n17, σ0°67/19,mb4.1/12,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.47**	**87**	Pn		**Pn**	**Pn**	**07 00 56.2**	**+0.4**
	5.1nm,0.3s,baz=289,slow=8.0,SNR=14								
PSI				Sn		**Sn**	**Sn**	**07 01 48.5**	**+0.2**
	2.2nm,0.3s,baz=279,slow=2.3,SNR=3.5								
PSI	**Prapat**	**4.47**	**87**	Pn		**Pn**	**Pn**	**07 00 56.2**	**+0.4**
PSI				Sn		**Sn**	**Sn**	**07 01 48.5**	**+0.2**
KULM	**Kulim**	**6.73**	**66**	*e*Pn		**Pn**	**Pn**	**07 01 26.3**	**-0.6**
LSA	**Lhasa**	**27.13**	**354**	*eP*			**P**	**07 05 36.5**	**+5.1**
	15nm,0.8s,mb4.6								
LSA	**Lhasa**	**27.13**	**354**	*eP*			**P**	**07 05 36.5**	**+5.1**
LSA				pmax		pmax			
	comp=Z,15nm,0.8s,mb4.6								
NWAO	**Narrogin (SRO)**	**41.39**	**150**	*eP*			**P**	**07 07 34.7**	**0.0**
	comp=Z,24nm,1.4s,mb4.6								
NWAO	**Narrogin (SRO)**	**41.39**	**150**	*eP*			**P**	**07 07 34.7**	**0.0**
NWAO				pmax		pmax			
	comp=Z,24nm,1.4s								
WRA	**Warramunga Arr**	**45.10**	**122**	P			**P**	**07 08 04.5**	**-0.2**
	comp=Z,2.3nm,1.0s,mb4.0,baz=301,slow=8.9,SNR=9.7								
MKAR	**Makanchi Array**	**45.27**	**348**	P			**P**	**07 08 07.0**	**+1.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=167,slow=7.9,SNR=20								
SONM	**Songino Array**	**46.22**	**11**	P			**P**	**07 08 14.0**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=191,slow=8.6,SNR=20								
SONM				PcP		PcP	PcP	07 09 49.7	+0.6
	comp=Z,0.3nm,0.7s,baz=182,slow=2.6,SNR=4.6								
ASAR	**Alice Springs**	**46.43**	**126**	P			**P**	**07 08 15.4**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=295,slow=7.8,SNR=6.4								
ASAR				PcP		PcP		07 09 51.0	+1.1
	comp=Z,0.5nm,0.6s,baz=304,slow=2.9,SNR=6.2								
ZAK	**Zakamensk**	**48.19**	**8**	*eP*			**P**	**07 08 28.5**	**-0.3**
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.9s,mb4.3								
ZAL	**Zalesovo**	**51.77**	**353**	P			**P**	**07 08 56.8**	**+0.7**
	comp=Z,1.4nm,0.4s,mb4.2,baz=311,slow=8.2,SNR=7.1								
BVAR	**Borovoye Array**	**54.05**	**342**	P			**P**	**07 09 13.4**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=154,slow=7.4,SNR=6.7								
BOD	**Bodaibo**	**57.18**	**12**	*eP*			**P**	**07 09 35.2**	**-0.2**
BOD				pmax		pmax			
	comp=Z,5.0nm,1.4s,mb4.3								
TIXI	**Tiksi**	**72.31**	**11**	*eP*			**P**	**07 11 12.2**	**-1.9**
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.3s,mb4.3								
FINES	**FINESS Array B**	**77.50**	**333**	P			**P**	**07 11 43.6**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=111,slow=7.6,SNR=3.0								

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*ISCJB **25** 07:02:01.4±1.7,158S±02×1753W±03,h282km±29km, mb3.8/4,Error ellipse: s-maj=54.2km s-min=28.1km az=69.2*
*IDC **25** 07:02:02.2±1.6,1581S×175.19W,h278km±26km,mb3.6/4, mb1 3.8/5,mb1mx3.4/16,mbtmp4.2/5,Error ellipse: s-maj=45.0km s-min=21.5km az=130.0*
ISC 25 07:02:03.0±1.6,158S±02×1751W±03,h288km±28km,n6, σ0°23/7,mb3.8/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.73**	**60**	P		**Pn**	**Pn**	**07 03 05.3**	**-0.3**
	5.3nm,0.3s,baz=27,slow=13,SNR=7.3								
AFI				S			**S**	**07 03 55.9**	**+0.2**
	32nm,0.3s,baz=215,slow=24,SNR=14								
URZ	**Urewera**	**23.38**	**196**	P			**P**	**07 06 46.3**	**0.0**
	13nm,1.1s,mb4.2,baz=108,slow=6.9,SNR=3.8								
WB2	**Warramunga Arr**	**48.14**	**257**	*eP*			**P**	**07 10 14.5**	**+0.1**
WRA	**Warramunga Arr**	**48.16**	**257**	P			**P**	**07 10 14.5**	**0.0**
	2.1nm,0.7s,mb3.6,baz=92,slow=7.7,SNR=14								
ASAR	**Alice Springs**	**48.42**	**252**	P			**P**	**07 10 16.5**	**0.0**
	7.0nm,0.7s,mb4.1,baz=85,slow=8.0,SNR=90								
ILAR	**Eielson Array**	**83.19**	**12**	P			**P**	**07 13 57.0**	**0.0**
	0.3nm,0.4s,mb3.4,baz=235,slow=5.5,SNR=20								

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*IDC **25** 07:10:27.1±1.0,1098N×9203E,h0km,mb4.1/11, mb1 4.2/11,mb1mx3.9/23,mbtmp4.0/11,MS2.9/1, Ms1 2.9/1,ms1mx2.4/45,Error ellipse: s-maj=50.5km s-min=15.7km az=59.0*
*ISCJB **25** 07:10:29.1±0.7,108N±0.1×917E±0.1,h33km,mb4.1/12, Error ellipse: s-maj=22.7km s-min=11.3km az=80.4*
ISC 25 07:10:31.8±0.7,109N±01×918E±01,h35km,n17,σ0°42/16, mb4.1/12,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.18**	**50**	*eP*			Px	07 11 03.3	
PBA				*eP*			Px	07 11 05.4	
PBA				*e*S			Sx	07 11 19.0	
PBA				*e*S			Sx	07 11 19.8	
PBA				*e*S			Sx	07 11 19.8	
PBA				*ex*			x	07 11 21.1	
	comp=N,12μm,0.3s								
PBA				*ex*			x	07 11 21.6	
	comp=E,12μm,0.4s								
VIS	**Vishakhapatnam**	**10.66**	**311**	*eP*			**Pn**	**07 13 01.4**	**-0.6**
VIS				*e*S			**Sn**	**07 14 49.5**	**-11**
VIS				*e*S			**Sn**	**07 14 49.9**	**-10**
VIS				AML			AML	07 14 53.6	
	comp=N,54nm,0.3s								
VIS				AML			AML	07 14 53.7	
	comp=E,41nm,0.4s								
PSI	**Prapat**	**10.70**	**138**	LR			LR	07 16 57.0	
	comp=E,58nm,18.5s,baz=28,slow=36								
MDRS	**Chennai**	**11.52**	**282**	*eP*			**Pn**	**07 13 13.7**	**0.0**
MKAR	**Makanchi Array**	**36.68**	**349**	P			**P**	**07 17 35.2**	**0.0**
	comp=E,3.4nm,0.8s,mb4.2,baz=167,slow=8.6,SNR=32								
MKAR				PcP			PcP	07 19 58.5	+1.1
	comp=E,0.3nm,0.6s,baz=200,slow=3.4,SNR=3.5								
SONM	**Songino Array**	**38.81**	**16**	P			**P**	**07 17 53.3**	**+0.2**
	comp=E,0.4nm,0.3s,mb3.6,baz=201,slow=8.5,SNR=8.0								
ZAL	**Zalesovo**	**43.30**	**354**	P			**P**	**07 18 29.5**	**-0.6**
	comp=E,0.9nm,0.4s,mb3.9,baz=235,slow=2.1,SNR=4.9								
FITZ	**Fitzroy Crossi**	**44.10**	**130**	P			**P**	**07 18 36.4**	**-0.1**
	comp=E,4.7nm,0.6s,mb4.4,baz=99,slow=8.0,SNR=4.6								
BVAR	**Borovoye Array**	**45.42**	**342**	P			**P**	**07 18 47.3**	**+0.2**
	comp=E,0.7nm,0.4s,mb3.8,baz=146,slow=10.0,SNR=5.9								
AKTO	**Aktyubinsk**	**48.22**	**332**	P			**P**	**07 19 09.8**	**+0.9**
	comp=E,1.8nm,0.7s,mb4.2,baz=127,slow=11,SNR=5.8								
WRA	**Warramunga Arr**	**51.88**	**126**	P			**P**	**07 19 36.6**	**-0.1**
	comp=E,1.4nm,0.4s,mb4.2,baz=300,slow=10,SNR=35								
ASAR	**Alice Springs**	**53.60**	**130**	P			**P**	**07 19 49.6**	**+0.2**
	comp=E,0.5nm,0.5s,mb3.7,baz=306,slow=6.8,SNR=12								
JOF	**Joensuu**	**67.15**	**334**	*ep*			**P**	**07 21 22.2**	**+0.2**
	comp=E,

MS5.5/21,MW5.8,ML5.4(THR),ML5.6(TEH),Error ellipse: s-maj=4.7km s-min=2.8km az=18.0,Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}5.49; $M_{\theta\theta}$-5.40; $M_{\phi\phi}$-0.08; $M_{r\theta}$-0.17; $M_{\theta\phi}$0.58; $M_{\phi r}$1.49; Best double couple: $M_0$5.70000×10^{17} NP1:$\phi_1$290.00000°, δ48.00000°,λ109.00000°. NP2:$\phi_2$83.00000°,δ45.00000°, λ70.00000°. Principal axes: T 5.8600, Plg76.0000°, Azm269.0000°; N -0.3900, Plg14.0000°, Azm97.0000°; P -5.4800, Plg2.0000°, Azm7.0000°; Depth from synthetics of broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.

NEIC *One person killed and one person injured at Fin. Damage to homes in Hormozgan Province. Felt at Bandar-e Abbas. Also felt at Abu Dhabi, Dubai, Ra's al Khaymah and Sharjah, United Arab Emirates.*

THR ***25*** *07:28:57.3±0.5,2757N×5587E,h16^{km}±3^{km},ML5.5*

HRVD ***25*** *07:28:57.7±0.1,2743N×5560E,h14^{km},MW5.9/100, Centroid moment Tensor Solution. LP body waves: s100,c201;Mantle waves: s99,c316; Half duration: 2±1 Moment tensor: Scale 10^{18}Nm; M_{rr}0.56±.01; $M_{\theta\theta}$-0.71±.01; $M_{\phi\phi}$0.15±.01; $M_{r\theta}$0.44±.01; $M_{\theta\phi}$0.06±.01; $M_{\phi r}$-0.06±.01; Best double couple: $M_0$0.78000×10^{18} NP1:$\phi_1$269.00000°,δ28.00000°,λ83.00000°. NP2: $\phi_2$97.00000°,δ63.00000°,λ93.00000°. Principal axes: T 0.7020, Plg72.0000°, Azm15.0000°; N 0.1560, Plg3.0000°, Azm275.0000°; P -0.8580, Plg17.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

CSEM ***25*** *07:28:58.9±0.0,2750N×5556E,h40^{km},mb5.7/99,Ms5.4, Mw5.9 Error ellipse: s-maj=1.5km s-min=1.2km az=22.0*

CRAAG ***25*** *07:28:58.9,2778N×5574E,Mb5.7*

SZGRF ***25*** *07:28:59.7,2763N×5557E,h33^{km},mb5.6,MS5.6, Southern Iran*

ISC 25 07:28:56.6±0.1,2755N±002×5566E±001,h10^{km}, (h31^{km}±2.7^{km}:pP-P),n1460,σ1§21/1576,mb5.6/278, MS5.6/97,76C-26D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.48**	**108**	*e*PG	**Pg**	**07 29 04.1**	**-1.9**
BNDS	**Bandar-Abbas**	**0.48**	**108**	*i* P	**Pg**	**07 29 01.0**	**-4.9**
BANOM	**Banah**	**1.72**	**160**	P	**Pn**	**07 29 26.2**	**-0.4**
	SNR=404						
GHIR	**Ghir-Karzin**	**2.48**	**288**	*e*PN	**Pb**	**07 29 41.6**	**+0.4**
GHIR				*e*SG	**Sg**	**07 30 20.3**	**+4.1**
GHIR				AML	AML	07 30 33.7	
	comp=N,40μm,0.6s						
GHIR				AML	AML	07 30 42.1	
	comp=E,58μm,0.7s						
GHIR	**Ghir-Karzin**	**2.48**	**288**	*i* P	**Pn**	**07 29 39.0**	**+2.0**
KRBR	**Kerman**	**2.61**	**21**	*e*PN	**Pn**	**07 29 40.1**	**+1.3**
KRBR				AML	AML	07 30 27.2	
	comp=N,13μm,0.7s						
KRBR				AML	AML	07 30 27.5	
	comp=E,14μm,0.6s						
KRBR	**Kerman**	**2.61**	**21**	*i* P	**Pn**	**07 29 40.0**	**+1.2**
ASHO	**Ashiyiah**	**2.88**	**173**	P	**Pn**	**07 29 42.7**	**+0.2**
	SNR=459						
IMOK	**Mook**	**3.00**	**300**	*e*Pn	**Pn**	**07 29 46.3**	**+2.2**
IMOK	**Mook**	**3.00**	**300**	*e*Pn	**Pn**	**07 29 47.1**	**+3.0**
IMOK	**Mook**	**3.00**	**300**	Pn	**Pn**	**07 29 46.2**	**+2.1**
IPAR	**Pars**	**3.24**	**315**	*e*Pn	**Pn**	**07 29 49.0**	**+1.6**
IPAR	**Pars**	**3.24**	**315**	*e*Pn	**Pn**	**07 29 50.7**	**+3.3**
SHI	**Shiraz**	**3.46**	**308**	*e*Pn	**Pn**	**07 29 53.6**	**+3.0**
IMEH	**Mehriz**	**3.93**	**347**	*e*Pn	**Pn**	**07 29 59.3**	**+2.3**
IMEH	**Mehriz**	**3.93**	**347**	*e*Pn	**Pn**	**07 29 59.0**	**+2.0**
IBAF	**Bafgh**	**4.03**	**359**	*e*Pn	**Pn**	**07 29 59.4**	**+1.1**
IBAF	**Bafgh**	**4.03**	**359**	*e*Pn	**Pn**	**07 29 59.3**	**+1.0**
HOQ	**Hoqain**	**4.22**	**159**	P	**Pn**	**07 30 02.4**	**+1.4**
	SNR=86						
ARQ	**Araqi**	**4.27**	**169**	P	**Pn**	**07 30 03.7**	**+2.1**
	SNR=360						
BIDO	**Bidbid**	**4.59**	**150**	P	**Pn**	**07 30 06.5**	**+0.5**
	SNR=122						
ISAD	**Sadrabad**	**4.67**	**339**	*e*Pn	**Pn**	**07 30 08.5**	**+1.3**
ICHK	**Chekchek**	**4.80**	**347**	*e*Pn	**Pn**	**07 30 10.1**	**+1.1**
ICHK	**Chekchek**	**4.80**	**347**	*e*Pn	**Pn**	**07 30 10.5**	**+1.5**
ICHK	**Chekchek**	**4.80**	**347**	Pn	**Pn**	**07 30 10.0**	**+1.0**
ZHSF	**Zahedan**	**4.94**	**64**	*e*PN	**Pn**	**07 30 10.8**	**-0.1**
ZHSF				*e*SG	**Sg**	**07 31 25.4**	**-10**
ZHSF	**Zahedan**	**4.94**	**64**	*i* P	**Pn**	**07 30 11.0**	**+0.1**
SMDO	**Samad**	**4.97**	**154**	P	**Pn**	**07 30 12.5**	**+1.2**
	SNR=142						
BSY	**Bisya**	**4.99**	**163**	P	**Pn**	**07 30 13.4**	**+1.9**
	SNR=84						
BSYO	**Bisya**	**5.01**	**163**	P	**Pn**	**07 30 13.4**	**+1.6**
	SNR=84						
IGAR	**Garneh**	**5.56**	**328**	*e*Pn	**Pn**	**07 30 22.6**	**+3.2**
IBRJ	**Borojen**	**5.68**	**319**	*e*Pn	**Pn**	**07 30 24.0**	**+3.0**
WBK	**Wadi Bani Khal**	**5.76**	**148**	P	**Pn**	**07 30 23.3**	**+1.1**
	SNR=157						
NASN	**Na'in**	**5.78**	**335**	*e*PN	**Pn**	**07 30 25.8**	**+3.3**
NASN				*e*SG	**Sg**	**07 31 57.8**	**-4.5**
NASN				AML	AML	07 32 35.0	
	comp=E,692nm,0.6s						
NASN	**Na'in**	**5.78**	**335**	*i* P	**Pn**	**07 30 23.0**	**+0.5**
NASN	**Na'in**	**5.78**	**335**	*e*Pn	**Pn**	**07 30 25.8**	**+3.3**
	SNR=52						
IZEF	**Zefreh**	**6.06**	**332**	*e*Pn	**Pn**	**07 30 26.6**	**+0.4**
IPIR	**Pirpir**	**6.57**	**322**	*e*Pn	**Pn**	**07 30 33.8**	**+0.5**
IPIR	**Pirpir**	**6.57**	**322**	Pn	**Pn**	**07 30 33.7**	**+0.4**
IKLH	**Kalahroud**	**6.74**	**329**	*e*Pn	**Pn**	**07 30 36.1**	**+0.5**
QRN	**Al-Qurain**	**6.94**	**282**	*e*P	**Pn**	**07 30 39.4**	**+1.1**
KBD	**Kabd**	**7.20**	**285**	*e*P	**Pn**	**07 30 42.5**	**+0.5**
KBD				AML	AML	07 32 05.8	
	comp=Z,4μm,0.4s						
KBD	**Kabd**	**7.20**	**285**	*e*P	**Pn**	**07 30 41.8**	**-0.2**
UMR	**Umm Al-Rimmam**	**7.27**	**288**	*e*P	**Pn**	**07 30 44.1**	**+1.3**
UMR				AML	AML	07 32 06.6	
	comp=Z,1μm,0.4s						
UMR	**Umm Al-Rimmam**	**7.27**	**288**	*e*P	**Pn**	**07 30 43.8**	**+1.0**
RDF	**Al-Radifah**	**7.29**	**283**	*e*P	**Pn**	**07 30 44.0**	**+1.0**
RDF				AML	AML	07 32 07.1	
	comp=Z,2μm,0.6s						
RDF	**Al-Radifah**	**7.29**	**283**	*e*P	**Pn**	**07 30 43.7**	**+0.6**
NAY	**Al-Naaiem**	**7.61**	**285**	*e*P	**Pn**	**07 30 48.6**	**+1.2**
NAY				*e*S	**Sn**	**07 32 14.7**	**+1.0**
NAY	**Al-Naaiem**	**7.61**	**285**	*e*P	**Pn**	**07 30 47.2**	**-0.3**
NAY				*e*S	**Sn**	**07 32 13.0**	**-0.7**
MIB	**Mutribah**	**7.65**	**289**	*e*P	**Pn**	**07 30 49.3**	**+1.3**
MIB	**Mutribah**	**7.65**	**289**	*e*P	**Pn**	**07 30 48.6**	**+0.6**
IANJ	**Anjiloo**	**8.03**	**350**	*e*Pn	**Pn**	**07 30 57.2**	**+3.9**
ILAS	**Lasjerd**	**8.14**	**344**	*e*Pn	**Pn**	**07 30 58.6**	**+3.8**
IVRN	**Varamin**	**8.15**	**337**	*e*Pn	**Pn**	**07 30 56.0**	**+1.1**
IVRN				*e*Sn	**Sn**	**07 32 23.8**	**-3.3**
IFIR	**Firoozkooh**	**8.44**	**344**	*e*Pn	**Pn**	**07 31 00.8**	**+1.9**
IFIR	**Firoozkooh**	**8.44**	**344**	*e*Pn	**Pn**	**07 31 01.7**	**+2.8**
IFIR				*e*Sn	**Sn**	**07 32 30.9**	**-3.3**
IFIR	**Firoozkooh**	**8.44**	**344**	Pn	**Pn**	**07 31 00.7**	**+1.8**
ISHM	**Shahmirzad**	**8.47**	**347**	*e*Pn	**Pn**	**07 31 01.1**	**+1.7**
ISHM	**Shahmirzad**	**8.47**	**347**	*e*Pn	**Pn**	**07 31 02.4**	**+3.0**
ISHM	**Shahmirzad**	**8.47**	**347**	Pn	**Pn**	**07 31 01.0**	**+1.6**
ASAO	**Ashtian**	**8.48**	**327**	*e*PN	**Pn**	**07 31 02.9**	**+3.3**
DAMV	**Damavand**	**8.65**	**340**	*e*PN	**Pn**	**07 31 05.5**	**+3.7**
IKIA	**Kiasar**	**8.79**	**349**	*e*Pn	**Pn**	**07 31 07.7**	**+4.0**
IKIA	**Kiasar**	**8.79**	**349**	*e*Pn	**Pn**	**07 31 05.7**	**+2.0**
IGLO	**Galoogah**	**8.92**	**349**	*e*Pn	**Pn**	**07 31 09.5**	**+4.0**
IAFJ	**Afjeh**	**8.94**	**339**	*e*Pn	**Pn**	**07 31 07.3**	**+1.6**
IAFJ	**Afjeh**	**8.94**	**339**	*e*Pn	**Pn**	**07 31 07.7**	**+2.0**
IAFJ				*e*Sn	**Sn**	**07 32 42.5**	**-3.9**
IMOG	**Moghan**	**9.09**	**19**	*e*Pn	**Pn**	**07 31 11.7**	**+3.9**
IPRN	**Paran-Amol**	**9.14**	**342**	*e*Pn	**Pn**	**07 31 09.7**	**+1.2**
IMHD	**Mahdasht**	**9.16**	**334**	*e*Pn	**Pn**	**07 31 11.3**	**+2.6**
CHTH	**Charan**	**9.18**	**336**	*e*PN	**Pn**	**07 31 12.9**	**+3.8**
IRAZ	**Razeghan**	**9.23**	**329**	*e*Pn	**Pn**	**07 31 13.0**	**+3.2**
IRAZ	**Razeghan**	**9.23**	**329**	*e*Pn	**Pn**	**07 31 12.1**	**+2.3**
THKV	**Tehran--Karaj**	**9.28**	**335**	*e*PN	**Pn**	**07 31 13.8**	**+3.4**
MHI	**Mashhad**	**9.31**	**19**	*e*Pn	**Pn**	**07 31 14.7**	**+3.9**
SHAO	**Shalim**	**9.48**	**180**	P	**Pn**	**07 31 12.9**	**-0.3**
	SNR=261						
IMYA	**Miamay**	**9.54**	**22**	*e*Pn	**Pn**	**07 31 18.0**	**+4.0**
IKOM	**Komasi**	**9.62**	**315**	*e*Pn	**Pn**	**07 31 14.9**	**-0.2**
IKOM				*e*Sn	**Sn**	**07 32 55.4**	**-7.8**
IKOM	**Komasi**	**9.62**	**315**	*e*Pn	**Pn**	**07 31 14.3**	**-0.8**
WHFO	**Wadi Hawf**	**9.74**	**191**	P	**Pn**	**07 31 14.2**	**-2.6**
	SNR=817						
IQHU	**Quchan**	**9.79**	**14**	*e*Pn	**Pn**	**07 31 21.4**	**+3.9**
RBK	**Rabkut**	**10.09**	**188**	P	**Pn**	**07 31 18.2**	**-3.4**
	SNR=259						
ISHV	**Shirvan**	**10.10**	**9**	*e*Pn	**Pn**	**07 31 24.1**	**+2.4**
IGHG	**Ghaleghazi**	**10.32**	**313**	*e*Pn	**Pn**	**07 31 23.6**	**-1.1**
ABTO	**Aybut**	**10.38**	**193**	P	**Pn**	**07 31 23.1**	**-2.5**
	SNR=919						
ABTO				P		07 31 23.2	
	SNR=56						
ABKT	**Ailbek**	**10.55**	**11**	Pn	**Pn**	**07 31 31.2**	**+3.3**
	comp=Z,1μm,1.1s,SNR=25						
VAN	**Vannovskaya**	**10.57**	**11**	*e*P	**Pn**	**07 31 32.0**	**+3.9**
VAN				S	**Sn**	**07 33 21.6**	**-4.9**
ASH	**Ashkhabad**	**10.61**	**12**	*e*P	**Pn**	**07 31 32.0**	**+3.3**
IDHR	**Dehrash**	**10.67**	**314**	*e*Pn	**Pn**	**07 31 28.3**	**-1.2**
BHD	**Baghdad**	**11.28**	**303**	*i* x	x	07 31 32.0	
BHD				*i* x	x	07 33 13.0	
BHD				*i* x	x	07 34 53.0	
BHD				*i* x	x	07 35 17.0	
BHD				*i* x	x	07 40 01.0	
BHD				*i* x	x	07 44 41.0	
BHD				*i* x	x	07 44 53.0	
BHD				*i* x	x	07 48 23.0	
GRMI	**Germi**	**12.97**	**332**	*e*PN	**Pn**	**07 32 05.3**	**+4.4**
IAZR	**Azarshahr**	**12.97**	**324**	*e*Pn	**Pn**	**07 32 03.2**	**+2.2**
BHJ	**Bhuj**	**13.35**	**106**	*e*P	**Pn**	**07 32 05.5**	**-0.6**
BHJ				AMb	AMB	07 32 16.5	
	comp=Z,126nm,1.3s						
JASL	**Jaisalmer**	**13.58**	**89**	*e*P	**Pn**	**07 32 06.4**	**-2.8**
MSL	**Mosul**	**13.77**	**312**	*e*x	x	07 32 10.0	
MSL				*i* x	x	07 34 37.0	
MSL				*i* x	x	07 35 10.0	
MSL				*e*x	x	07 36 37.0	
MSL				*i* x	x	07 37 34.0	
HKR	**Hakkari**	**14.16**	**318**	*e*P	**Pn**	**07 32 16.0**	**-1.3**
MUKL	**Al Mukalla**	**14.40**	**207**	*e*P	**Pn**	**07 32 17.0**	**-3.5**
TVAN	**Van**	**15.00**	**320**	*i* P	**Pn**	**07 32 31.0**	**+2.4**
CLDR	**Caldiran**	**15.15**	**323**	*e*P	**Pn**	**07 32 32.4**	**+1.8**
GNI	**Garni**	**15.48**	**327**	*e*P	**Pn**	**07 32 40.4**	**+5.4**
GNI	**Garni**	**15.48**	**327**	Pn	**Pn**	**07 32 36.4**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=310,slow=2.7,SNR=12						
GNI				LR	LR	07 38 08.8	
	comp=Z,6μm,19.9s,baz=136,slow=36						
GNI	**Garni**	**15.48**	**327**	*e*P	**Pn**	**07 32 37.5**	**+2.6**
	comp=Z,598nm,1.0s						
GNI	**Garni**	**15.48**	**327**	*e*Pn	**Pn**	**07 32 37.6**	**+2.6**
	comp=Z,2μm,1.1s						
GNI	**Garni**	**15.48**	**327**	*c*eP	**Pn**	**07 32 37.5**	**+2.6**
GNI				pmax	pmax		
	comp=Z,598nm,1.0s						
BSHR	**Al Beshri**	**15.72**	**305**	⇑*i*P	**Pn**	**07 32 39.2**	**+1.1**
SFNV	**Sufian**	**15.87**	**308**	⇑*i*P	**Pn**	**07 32 39.7**	**-0.3**
MARD	**Mardin**	**15.88**	**312**	*i* P	**Pn**	**07 32 49.6**	**+10**
BEST	**Besiri**	**15.89**	**314**	*i* P	**Pn**	**07 32 40.0**	**-0.2**
SANA	**San'a**	**16.12**	**224**	*e*P	**Pn**	**07 32 39.5**	**-3.8**
DGRG	**David-gareji**	**16.23**	**331**	P	**Pn**	**07 32 49.4**	**+4.7**
NIL	**Nilore**	**16.31**	**64**	P	**Pn**	**07 32 49.8**	**+4.1**
	comp=Z,348nm,1.0s,SNR=7.4						
DIGO	**Kars**	**16.36**	**325**	*i* P	**Pn**	**07 32 51.5**	**+5.1**
BDHA	**Al Bayda'**	**16.46**	**217**	*e*P	**Pn**	**07 32 43.1**	**-4.5**
BDHA				AMb	AMB	07 32 45.1	
	comp=Z,230nm,1.0s						
BDHA				*i* S	**Sn**	**07 35 45.4**	**-5.0**
BDHA	**Al Bayda'**	**16.46**	**217**	*i* S	**Sn**	**07 35 45.4**	**-5.0**
BNGL	**BINGOL**	**16.61**	**317**	*i* P	**Pn**	**07 32 51.6**	**+2.1**
DHBB	**Dhamar BB**	**16.64**	**221**	⇑*e*P	**Pn**	**07 32 46.1**	**-3.8**
DHBB				AMb	AMB	07 32 47.5	
	comp=Z,683nm,1.1s						
DHBB				*i* S	**Sn**	**07 35 48.9**	**-5.8**
MTA	**Mtatsminda**	**16.68**	**331**	P	**Pn**	**07 32 55.6**	**+5.1**
ZALF	**Zalf**	**16.71**	**293**	⇑*i*P	**Pn**	**07 32 51.9**	**+1.1**
LBOS		**16.72**	**218**	⇑*e*P	**Pn**	**07 32 47.0**	**-4.0**
TBLG	**Delisi**	**16.74**	**330**	P	**Pn**	**07 32 58.3**	**+7.2**
TBLG	**Delisi**	**16.74**	**330**	*e*P	**Pn**	**07 32 58.3**	**+7.2**
JHLN	**Al Jahlan**	**16.74**	**303**	⇑*i*P	**Pn**	**07 32 49.0**	**-2.2**
MAK	**Makhachkala**	**16.74**	**339**	*e*P	**Pn**	**07 32 56.2**	**+5.0**
MAK				pmax	pmax		
	comp=Z,2μm,1.2s						
MAK				MLR	MLR		
	comp=Z,18μm,12.0s						
AJM	**Ajmer**	**16.95**	**89**	*e*P	**Pn**	**07 32 52.4**	**-1.4**
AJM				*i* P		07 32 57.0	
AJM				AMb	AMB	07 33 02.7	
	comp=Z,182nm,1.1s						
ROOS	**tl_alroos**	**17.09**	**297**	⇑*i*P	**Pn**	**07 32 55.0**	**-0.5**
ERZM	**Erzurum**	**17.09**	**320**	*i* P	**Pn**	**07 32 59.0**	**+3.3**
EZM	**Erzurum**	**17.10**	**320**	*e*P	**Pn**	**07 32 58.9**	**+3.2**
SALA	**Sala**	**17.16**	**292**	⇑*i*P	**Pn**	**07 32 54.8**	**-1.6**
RABH	**Abou Rabah**	**17.24**	**298**	⇑*i*P	**Pn**	**07 32 57.8**	**+0.4**
URFA	**Urfa**	**17.27**	**309**	*e*P	**Pn**	**07 32 59.4**	**+1.6**
BKR	**Bakuriani**	**17.30**	**328**	P	**Pn**	**07 33 03.6**	**+5.4**
UDYN	**Al 'Udayn**	**17.37**	**221**	*e*P	**Pn**	**07 32 54.7**	**-4.3**
UDYN				*i* S	**Sn**	**07 36 06.7**	**-5.6**
ARTV	**Artvin**	**17.67**	**324**	*i* P	**Pn**	**07 33 08.8**	**+6.0**
MARH	**Ras Al Marh**	**17.69**	**296**	⇑*i*P	**Pn**	**07 33 02.6**	**-0.4**
ELZG	**Elazig**	**17.71**	**312**	*i* P	**Pn**	**07 33 03.5**	**+0.2**
TCHB	**Talchebab**	**17.78**	**291**	⇑*i*P	**Pn**	**07 33 03.3**	**-0.8**
KFRA	**Kufra**	**17.81**	**300**	⇑*i*P	**Pn**	**07 33 03.5**	**-1.0**
KHET	**Khetri**	**17.83**	**84**	*e*P	**Pn**	**07 33 04.6**	**-0.2**
TRBA	**At Turbah**	**17.87**	**219**	*e*P	**Pn**	**07 33 01.2**	**-4.1**
HAWK	**Haweek**	**17.89**	**298**	⇑*i*P	**Pn**	**07 33 05.9**	**+0.4**
ZEI	**Tsey**	**17.94**	**331**	*e*P	**Pn**	**07 33 13.2**	**+7.0**
BOM	**Bombay**	**17.95**	**115**	*i* P	**Pn**	**07 33 05.6**	**-0.6**
BOM				*e*x	x	07 36 10.5	
BRBR	**Barbar**	**17.96**	**294**	⇑*i*P	**Pn**	**07 33 06.5**	**+0.2**
MALT	**Malatya**	**17.98**	**311**	*e*P	**Pn**	**07 33 05.9**	**-0.8**
MALT	**Malatya**	**17.98**	**311**	*e*P	**Pn**	**07 33 06.8**	**+0.1**
	comp=Z,319nm,1.0s						
MALT				*e*Sn	**Sn**	**07 36 26.9**	**-0.3**
MALT	**Malatya**	**17.98**	**311**	*e*P	**Pn**	**07 33 06.8**	**+0.2**
	comp=Z,319nm,1.0s						
MALT				*e*Sn	**Sn**	**07 36 26.9**	**-0.3**
MALT	**Malatya**	**17.98**	**311**	*e*P	**Pn**	**07 33 06.8**	**+0.1**
MALT				*e*		07 36 26.9	
MALT				pmax	pmax		
	comp=Z,319nm,1.0s						
GZT	**Gaziantep**	**18.11**	**307**	*i* P	**Pn**	**07 33 08.5**	**+0.4**
BIDA	**Albida**	**18.11**	**299**	⇑*i*P	**Pn**	**07 33 08.4**	**+0.2**
WRDH	**Warideh**	**18.21**	**301**	⇑*i*P	**Pn**	**07 33 09.1**	**-0.3**
DLH	**Dalhousie**	**18.26**	**69**	*e*P	**Pn**	**07 33 14.0**	**+3.9**
GAZ	**Gaziantep**	**18.27**	**306**	*e*P	**Pn**	**07 33 11.2**	**+0.9**
BHL	**Bhannes**	**18.32**	**295**	*e*Pn	**Pn**	**07 33 10.9**	**+0.2**
BTCH	**Batrach**	**18.36**	**302**	⇑*i*P	**Pn**	**07 33 10.8**	**-0.5**
SLNF	**Slenfeh**	**18.38**	**301**	⇑*i*P	**Pn**	**07 33 13.2**	**+1.6**
DRWC	**Darouich**	**18.44**	**304**	⇑*i*P	**Pn**	**07 33 12.1**	**-0.1**
KELT	**Kelkit**	**18.50**	**317**	*i* P	**Pn**	**07 33 10.7**	**-2.2**
GUMT	**Gumushane**	**18.55**	**318**	*e*P	**Pn**	**07 33 14.4**	**+0.8**
MACK	**Trabzon**	**18.70**	**320**	*i* P	**Pn**	**07 33 16.5**	**+1.1**
COBT	**Iskenderun**	**18.70**	**303**	*i* P	**Pn**	**07 33 16.4**	**+1.0**
SONA	**Sohna**	**18.95**	**83**	*e*P	**Pn**	**07 33 21.1**	**+2.6**
AYAN	**Aya Nagar**	**18.98**	**82**	*e*P	**Pn**	**07 33 20.1**	**+1.4**
AYAN				AMb	AMB	07 33 24.2	
	comp=Z,144nm,1.4s						
POO	**Poona**	**18.98**	**114**	⇑*i*P	**Pn**	**07 33 20.0**	**+1.2**
	comp=Z,120nm,1.0s						
NDI	**New Delhi**	**19.05**	**82**	*e*P	**Pn**	**07 33 19.0**	**-0.6**
NDI				*e*S	**Sn**	**07 36 56.0**	**+3.0**
CEYT	**Ceyhan**	**19.27**	**304**	*e*P	**Pn**	**07 33 24.1**	**+1.8**
KRTS	**Karatas**	**19.38**	**303**	*e*P	**Pn**	**07 33 24.2**	**+0.6**
KOZT	**Kozan**	**19.40**	**306**	*e*P	**Pn**	**07 33 25.2**	**+1.3**
KIV	**Kislovodsk**	**19.42**	**331**	Pn	**Pn**	**07 33 24.1**	**0.0**
	comp=Z,5μm,0.9s,SNR=64						
KIV	**Kislovodsk**	**19.42**	**331**	*e*P	**Pn**	**07 33 24.2**	**+0.1**
	comp=Z,519nm,0.7s						
KIV	**Kislovodsk**	**19.42**	**331**	*e*P	**Pn**	**07 33 24.2**	**+0.1**
	comp=Z,519nm,0.7s						
KIV	**Kislovodsk**	**19.42**	**331**	⇓*e*P	**Pn**	**07 33 24.4**	**+0.3**
KIV				pmax	pmax		
	comp=Z,1μm,1.4s						
KIV				MLR	MLR		
	comp=Z,8μm,15.0s						
GRSN	**GIRESUNGRSN**	**19.57**	**317**	*i* P	**Pn**	**07 33 26.6**	**+0.8**
KK31	**Karatay Array**	**19.64**	**34**	*i* P	**Pn**	**07 33 22.9**	**-3.8**
KK31				pmax	pmax		
	comp=Z,218nm,0.8s						
KKAR	**Karatay Array**	**19.64**	**34**	*e*P	**Pn**	**07 33 22.9**	**-3.8**
KKAR				S	**Sn**	**07 37 09.9**	**+2.7**
KKAR				pmax	pmax		
	comp=Z,186nm,0.9s						
KKAR				smax			
	comp=Z,4μm,3.0s						
SVST	**Sivas**	**19.73**	**313**	*i* P	**Pn**	**07 33 30.7**	**+2.9**
SVSK	**Karacayir**	**19.78**	**313**	*e*P	**Pn**	**07 33 28.8**	**+0.4**
KARA	**Karaisali**	**19.88**	**304**	*e*P	**Pn**	**07 33 26.0**	**-3.5**
PHNC	**Paralimni**	**19.90**	**297**	P	**Pn**	**07 33 31.5**	**+1.7**
	comp=Z,7.2nm,1.1s						
KAD	**Karad**	**19.90**	**117**	*e*P	**Pn**	**07 33 30.3**	**+0.4**
KAD				AMb	AMB	07 33 48.5	
	comp=Z,218nm,1.2s						
ATD	**Arta Tunnel**	**19.97**	**220**	P	**Pn**	**07 33 30.2**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=2.9,slow=7.4,SNR=28						
ATD				S	**Sn**	**07 37 14.1**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=222,slow=24,SNR=1.7						
ATD				LR	LR	07 41 37.7	
	comp=Z,14μm,18.2s,baz=215,slow=38						
ATD	**Arta Tunnel**	**19.97**	**220**	P	**Pn**	**07 33 30.2**	**-0.5**
ATD				S	**Sn**	**07 37 14.1**	**-1.1**
ATD				LR	LR	07 41 37.7	
KLP	**Kalpa**	**20.04**	**73**	*e*P	**P**	**07 33 31.3**	**+1.5**
KLP				AMb	AMB	07 33 40.6	
	comp=Z,291nm,1.0s						
BHPL	**Bhopal**	**20.12**	**97**	*e*P	**P**	**07 33 32.3**	**+1.7**
BHPL				AMb	AMB	07 33 42.2	
	comp=Z,234nm,2.6s						
MERS	**Mersin**	**20.12**	**303**	*e*P	**P**	**07 33 30.4**	**-0.3**
GOF	**Gofitskoye**	**20.17**	**333**	*e*P	**P**	**07 33 31.5**	**+0.3**
	comp=Z,260nm,1.7s						
GOF	**Gofitskoye**	**20.17**	**333**	*e*P	**P**	**07 33 31.5**	**+0.3**
GOF				*i* S	**S**	**07 37 17.5**	**-0.1**
GOF				pmax	pmax		
	comp=Z,770nm,1.3s						
GOF				smax			
	comp=N,260nm,1.7s						
CSS	**Prodhromos**	**20.45**	**297**	⇓P	**P**	**07 33 35.6**	**+1.5**
	comp=N,8.1nm,1.0s						
SOC	**Sochi**	**20.54**	**325**	*i* P	**P**	**07 33 36.2**	**+1.1**
SOC	**Sochi**	**20.54**	**325**	*c i*P	**P**	**07 33 36.3**	**+1.2**
SOC				*e*PP		07 33 41.8	
SOC				*e*		07 33 54.4	
SOC				*i* S	**S**	**07 37 25.8**	**+1.0**
SOC				*e*SS		07 37 47.8	
SOC				*e*SSS		07 38 04.9	
SOC				pmax	pmax		
	comp=Z,1μm,1.3s						
SOC				MLR	MLR		
	comp=Z,28μm,14.0s,MS5.8						
IKL	**Isikli**	**20.54**	**300**	*e*P	**P**	**07 33 36.0**	**+0.8**
NIG	**Nigde**	**20.54**	**306**	*e*P	**P**	**07 33 39.0**	**+3.9**
MAMC	**Mammari**	**20.59**	**297**	P	**P**	**07 33 37.4**	**+1.7**
AVNT	**Avonos**	**20.66**	**308**	*i* P	**P**	**07 33 37.6**	**+1.1**
KSH	**Kashi**	**20.66**	**50**	P	**P**	**07 33 35.8**	**-0.7**
KSH				AP		07 33 40.5	
KSH				XP	sP	07 33 43.3	+2.7
KSH				PP		07 33 56.3	
KSH				PPP		07 34 04.8	
KSH				S	**S**	**07 37 18.5**	**-8.8**
KSH				PCP	PcP	07 37 47.0	+0.5
KSH				PCS	PcS	07 41 23.5	-0.8
KSH				SCS	ScS	07 45 02.0	-4.3
KSH				AMB	AMB		
	comp=Z,184nm,1.0s						
KSH				LR	LR		
	comp=N,24μm,7.9s						
KSH				LR	LR		
	comp=E,28μm,12.1s						

AAA smax
comp=E,7μm,5.6s
AAA MLR MLR
comp=Z,18μm,8.0s
SGKT Sivrigoynuk 23.39 310 *i* P **P 07 34 07.2 +1.5**
HYB Hyderabad 23.40 111⇑*i*P **P 07 34 06.0 +0.3**
comp=Z,170nm,1.0s,mb5.4
HYB *e*S **S 07 38 24.0 +5.5**
HYB LR LR 07 44 12.0
comp=Z,15nm,20.0s
HYB Hyderabad 23.40 111⇑*e*P **P 07 34 06.0 +0.3**
comp=Z,170nm,1.0s,mb5.4
HYB *e*S **S 07 38 24.0 +5.5**
HYB Hyderabad 23.40 111⇑*e*P **P 07 34 06.0 +0.3**
HYB *e*S **S 07 38 24.0 +5.5**
HYB pmax pmax
comp=Z,170nm,1.0s,mb5.4
ISP Isparta 23.46 302 *e*P **P 07 34 05.4 -1.0**
ISP Isparta 23.46 302 *e*P **P 07 34 06.8 +0.4**
comp=Z,571nm,1.4s,mb5.8
ISP Isparta 23.46 302 *e*P **P 07 34 06.8 +0.5**
ISP pmax pmax
comp=Z,571nm,1.4s,mb5.8
ELL Elmali 23.60 299 *e*P **P 07 34 08.3 +0.5**
TKTP Tekketepe 23.66 303 *i* P **P 07 34 09.4 +1.1**
KSL Kastellorizon 23.70 298 *e*P **P 07 34 08.0 -0.7**
ESKT Eskisehir 23.80 306 *i* P **P 07 34 10.8 +1.2**
SEYT Eskypehyr 23.80 306 *i* P **P 07 34 10.8 +1.2**
MDU Mudurnu 23.92 309 *e*P **P 07 34 10.8 +0.1**
GOLH Golhisar 24.00 300 *i* P **P 07 34 11.3 -0.1**
BORA Eskisehir 24.22 307 *i* P **P 07 34 13.0 -0.4**
SLAT Slait 24.27 246 *i* S **P 07 34 12.2 -1.7**
SLAT AMS AMS 07 35 05.4
comp=Z,689nm,18.4s
SLAT *e*S **S 07 38 35.3 +2.7**
HENT Hendek 24.29 309 *i* P **P 07 34 13.4 -0.7**
KHL Karahalli 24.35 303 *e*P **P 07 34 15.0 +0.4**
SIM Simferopol' 24.44 321 *e*P **P 07 34 16.2 +0.8**
comp=Z,2μm,10.0s
SIM Simferopol' 24.44 321⇑*e*P **P 07 34 16.2 +0.8**
SIM S **S 07 38 36.6 +1.2**
SIM pmax pmax
comp=Z,2μm,10.0s
SIM MLR MLR
comp=Z,10μm,16.0s,MS5.4
GPA Golpazari 24.48 308 *e*P **P 07 34 16.3 +0.5**
MRKH Merkhyat 24.61 246 *i* S **P 07 34 15.7 -1.3**
MRKH *e*S **S 07 38 42.3 +4.2**
KOLN Koldanda 24.73 83 *e*P **P 07 34 17.2 -0.9**
comp=Z,748nm,1.3s,mb6.0
DANN Dangsing 24.82 82 *e*P **P 07 34 17.8 -1.0**
comp=Z,15nm,1.1s
ARG Arkhangelos 24.86 297 *e*P **P 07 34 21.5 +2.2**
ARG Arkhangelos 24.86 297 P **P 07 34 20.0 +0.7**
YER Yerkesik 24.95 299 *e*P **P 07 34 20.1 0.0**
IZI Iznik 25.09 307 *e*P **P 07 34 23.1 +1.8**
MANT Manisa 25.12 303 *i* P **P 07 34 22.6 +0.9**
MANT Manisa 25.12 303 *i* P **P 07 34 22.5 +0.9**
HRT Hereke 25.14 308 *e*P **P 07 34 20.1 -1.7**
YLV Yalova 25.25 308 *e*P **P 07 34 22.1 -0.7**
ULDT Uludag 25.25 307 *i* P **P 07 34 22.5 -0.3**
MLSB Milas 25.39 300 *e*P **P 07 34 21.5 -2.5**
ORLT Orhaneli 25.39 306 *e*P **P 07 34 25.7 +1.6**
AYDN Tasoluk 25.40 300 *i* P **P 07 34 23.7 -0.5**
DAT Datca 25.41 298 *e*P **P 07 34 21.9 -2.3**
KARP Karpathos 25.50 295 *e*P **P 07 34 26.5 +1.4**
BADT Buyukada 25.54 308 *e*P **P 07 34 24.2 -1.2**
GKN Gorkha 25.62 82 *e*P **P 07 34 25.4 -0.7**
comp=Z,304nm,0.9s,mb5.8
ISK Istanbul-Kandi 25.66 309 *e*P **P 07 34 27.2 +0.7**
BODT Bodrum 25.69 299 *e*P **P 07 34 26.5 -0.3**
AKS Akhisar 25.79 303 *e*P **P 07 34 28.5 +0.8**
VRHR Novokhopersk 25.81 339 *e*P **P 07 34 28.3 +0.4**
comp=Z,250nm,0.9s,mb5.7
VRHR Novokhopersk 25.81 339 *e*P **P 07 34 28.3 +0.4**
VRHR *e*S **S 07 39 01.5 +4.3**
VRHR pmax pmax
comp=E,100nm,0.6s
VRHR pmax pmax
comp=Z,220nm,0.6s,mb5.9
VRHR pmax pmax
comp=N,250nm,0.9s
VRHR smax
comp=N,16μm,10.7s
VRHR smax
comp=Z,11μm,10.2s
VRHR smax
comp=E,5μm,5.3s
VRHR MLR MLR
comp=Z,9μm,19.0s,MS5.3
VRHR MLR MLR
comp=N,4μm,13.0s
VRHR MLR MLR
comp=E,3μm,17.0s
BTOK Tokmak 25.91 305 *i* P **P 07 34 28.9 +0.1**
BALB Balikesir 25.98 305 *e*P **P 07 34 29.6 +0.1**
BALB Balikesir 25.98 305 *e*P **P 07 34 33.4 +4.0**
KDAG Bornova 26.07 302 *i* P **P 07 34 31.0 +0.8**
IZM Izmir 26.07 302 *e*P **P 07 34 30.1 -0.1**
DMN Daman 26.07 83 *e*P **P 07 34 29.4 -0.9**
comp=E,527nm,1.0s,mb6.0
ELBA Catalca 26.13 308 *i* P **P 07 34 28.8 -2.0**
KKN Kakani 26.21 83 *e*P **P 07 34 30.7 -0.8**
comp=E,360nm,0.7s,mb6.0
KKN Kakani 26.21 83 *e*P **P 07 34 30.7 -0.8**
KKN pmax pmax
comp=Z,180nm,0.7s,mb5.7
PKI Pulchoki 26.34 83 *e*P **P 07 34 32.0 -0.7**
comp=Z,529nm,0.8s,mb6.1
PKI Pulchoki 26.34 83 *e*P **P 07 34 32.0 -0.7**
PKI pmax pmax
comp=Z,264nm,0.8s,mb5.8
VORD Divnogorie 26.48 336 *e*P **P 07 34 36.4 +2.5**
comp=Z,70nm,2.6s,mb4.7
VORD Divnogorie 26.48 336 *e*P **P 07 34 36.4 +2.5**
VORD *e*S **S 07 39 09.3 +1.5**
VORD pmax pmax
comp=E,150nm,1.0s
VORD pmax pmax
comp=Z,110nm,1.0s,mb5.3
VORD smax
comp=Z,70nm,2.6s
VORD smax
comp=E,900nm,3.2s
URLA Izmir 26.56 301 *i* P **P 07 34 38.4 +3.7**
XRY Khrisi 26.58 293 *e*P **P 07 34 36.0 +1.1**
NPS Neapolis 26.70 294 *e*P **P 07 34 37.2 +1.3**
GUN Gumba 26.72 82 *e*P **P 07 34 35.2 -0.9**
comp=E,962nm,1.0s,mb6.3
AYVA Ayvalik 26.76 303 *i* P **P 07 34 37.5 +1.1**
AYVA Ayvalik 26.76 303 *i* P **P 07 34 37.5 +1.1**
SART Tekirdag 26.84 307 *i* P **P 07 34 40.2 +3.0**
SANT Santorini 27.00 297 *e*P **P 07 34 42.1 +3.4**
SANT Santorini 27.00 297 *e*P **P 07 34 38.9 +0.2**
comp=E,1μm,1.3s,mb6.2
SANT Santorini 27.00 297 *e*P **P 07 34 38.9 +0.2**
comp=E,1μm,1.3s,mb6.2
JIRN Jiri 27.02 83 *e*P **P 07 34 38.0 -0.8**
comp=E,774nm,1.0s,mb6.2
PRK Paraskevi 27.05 303 *e*P **P 07 34 40.0 +0.9**
APE Apeiranthos 27.08 298 *e*P **P 07 34 41.5 +2.1**
APE Apeiranthos 27.08 298 P **P 07 34 40.2 +0.8**
ZRNK Zerenda 27.25 18 *i* P **P 07 34 40.5 -0.3**
comp=E,101nm,1.0s,mb5.3
ZRNK Zerenda 27.25 18 *e*P **P 07 34 40.6 -0.2**
comp=E,124nm,1.0s,mb5.4
ZRNK Zerenda 27.25 18 *i* P **P 07 34 40.5 -0.3**
ZRNK pmax pmax
comp=Z,101nm,1.0s,mb5.3
IDI Anoyia 27.29 294 P **P 07 34 40.7 -0.6**
comp=Z,76nm,0.8s,mb5.3,baz=99,slow=9.1,SNR=25
IDI S **S 07 39 15.9 -4.7**
comp=Z,17nm,1.0s,baz=336,slow=5.2,SNR=1.4
VIS Vishakhapatnam 27.29 105 *e*P **P 07 34 42.8 +1.6**
VIS AMb AMB 07 34 51.4
comp=Z,71nm,1.7s,mb4.9
PSN Preselentsi 27.36 313 *i* P **P 07 34 44.0 +2.1**
TIRR Tirgusor 27.58 315 ⇓P **P 07 34 43.9 +0.1**
TIRR Tirgusor 27.58 315 *e*P **P 07 34 42.8 -1.0**
TIRR Tirgusor 27.58 315 *e*P **P 07 34 42.8 -1.0**
TIRR Tirgusor 27.58 315 P **P 07 34 44.6 +0.8**
VOSK Vostochnaya 27.62 20 P **P 07 34 43.8 -0.4**
comp=Z,141nm,1.0s,mb5.5
VOSK Vostochnaya 27.62 20 P **P 07 34 43.8 -0.4**
VOSK pmax pmax
comp=Z,141nm,1.0s,mb5.5
BRVK Borovoye 27.70 19 P **P 07 34 44.6 -0.3**
comp=Z,480nm,1.0s,mb6.1,SNR=28
BRVK Borovoye 27.70 19 *e*P **P 07 34 42.9 -2.0**
comp=Z,67nm,1.0s,mb5.2
BRVK Borovoye 27.70 19 *e*P **P 07 34 42.9 -2.0**
BRVK pmax pmax
comp=Z,67nm,1.0s,mb5.2
BVA0 Borovoye Array 27.70 19 P **P 07 34 45.1 +0.2**
comp=Z,25nm,0.9s,mb4.8
BVA0 Borovoye Array 27.70 19 P **P 07 34 45.1 +0.2**
BVA0 pmax pmax
comp=Z,25nm,0.9s,mb4.8
BVAR Borovoye Array 27.70 19 P **P 07 34 45.1 +0.2**
comp=Z,90nm,0.8s,mb5.4,baz=205,slow=8.0,SNR=57
BVAR PcP PcP 07 38 01.9 +0.2
comp=Z,5.0nm,0.3s,baz=206,slow=2.6,SNR=7.9
BVAR S **S 07 39 25.9 -1.2**
comp=Z,7.3nm,0.9s,baz=269,slow=20,SNR=3.2
BVAR P3KPbc 08 07 13.1
comp=Z,1.0nm,0.6s,baz=46,slow=4.3,SNR=6.3
BVAR Borovoye Array 27.70 19 PcP PcP 07 38 01.9 +0.2
BVAR S **S 07 39 25.9 -1.2**
BVAR Borovoye Array 27.70 19 P **P 07 34 45.1 +0.2**
BVAR PcP PcP 07 38 01.9 +0.2
BVAR S **S 07 39 25.9 -1.2**
BVAR *e* 08 07 13.1
BVAR Borovoye Array 27.70 19 P **P 07 34 45.1 +0.2**
BVAR 07 38 01.9
BVAR S **S 07 39 25.9 -1.2**
ALN Alexandroupoli 27.72 306 *e*P **P 07 34 45.6 +0.4**
VAM Vamos 27.86 294 *e*P **P 07 34 47.5 +1.1**
HARR Harsova 27.99 315 ⇑P **P 07 34 47.9 +0.4**
CFR Carcaliu 28.10 316 ⇑P **P 07 34 48.1 -0.4**
RDO Rodhopi 28.17 307 *e*P **P 07 34 49.8 +0.7**
RDO Rodhopi 28.17 307 P **P 07 34 49.2 +0.1**
CHKZ Chkalovo 28.34 19 *e*P **P 07 34 48.9 -1.7**
comp=Z,86nm,0.5s,mb5.6
CHKZ *e*pP pP 07 35 00.7 +7.0
CHKZ Chkalovo 28.34 19 *e*P **P 07 34 48.9 -1.7**
CHKZ pmax pmax
comp=Z,86nm,0.5s,mb5.6
MK31 Makanchi Array 28.40 40 *i* P **P 07 34 50.6 -0.6**
MKAR Makanchi Array 28.40 40 P **P 07 34 51.2 0.0**
comp=Z,20nm,0.6s,mb4.9,baz=224,slow=9.4,SNR=39
MKAR LR LR 07 47 53.1
comp=Z,13μm,20.6s,MS5.5,baz=245,slow=40
MKAR P3KPbc 08 07 13.8
comp=Z,1.1nm,0.8s,baz=61,slow=5.7,SNR=8.5
MKAR Makanchi Array 28.40 40 P **P 07 34 50.6 -0.6**
comp=Z,76nm,0.9s,mb5.3
MKAR Makanchi Array 28.40 40 P **P 07 34 51.2 0.0**
MKAR LR LR 07 47 53.1
MKAR *e* 08 07 13.8
MKAR Makanchi Array 28.40 40 P **P 07 34 50.6 -0.6**
MKAR pmax pmax
comp=Z,76nm,0.9s
KVR Kavouri 28.61 299 *e*P **P 07 34 55.0 +2.0**
KIS Kishinev 28.64 320 *e*S **S 07 39 40.0 -1.8**
KIS Kishinev 28.64 320 *e*P **P 07 34 51.0 -2.3**
KIS *e* 07 35 56.0
KIS *e*S **S 07 39 40.0 -1.8**
ATH Athens Observa 28.68 299 *e*P **P 07 34 56.9 +3.3**
MPAR Parnis Oros 28.70 300 *e*P **P 07 34 54.8 +1.0**
AOS Alonnisos 28.82 302 *e*P **P 07 34 57.0 +2.1**
RZN Rozhen 28.93 307 *i* P **P 07 34 57.0 +1.1**
ARU Arti 28.93 3 P **P 07 34 55.0 -0.9**
ARU Arti 28.93 3 *i* PcP PcP 07 38 01.6 -3.2
ARU *e*S **S 07 39 44.7 -1.8**
ARU Arti 28.93 3 P **P 07 34 55.0 -0.9**
ARU Arti 28.93 3⇓*i*P **P 07 34 55.2 -0.7**
ARU *e* 07 35 44.5
ARU *i* 07 38 01.6
ARU *e*S **S 07 39 44.7 -1.8**
ARU *e*SSS 07 41 26.0
ARU pmax pmax
comp=Z,97nm,1.2s,mb5.4
ARU MLR MLR
comp=E,3μm,16.0s,MS5.3
ARU MLR MLR
comp=Z,8μm,16.0s,MS5.5
ARU MLR MLR
comp=N,6μm,17.0s,MS5.3
KURK Kurchatov 28.97 31 P **P 07 34 57.3 +1.1**
comp=N,459nm,1.0s,mb6.2,SNR=27
KURK Kurchatov 28.97 31 *e*P **P 07 34 54.8 -1.5**
comp=N,174nm,1.3s,mb5.6
KURK LR LR
comp=Z,13μm,20.0s,MS5.5
KURK Kurchatov 28.97 31 *e*P **P 07 34 54.8 -1.4**
KURK pmax pmax
comp=Z,174nm,1.3s,mb5.6
KURK MLR MLR
comp=Z,13μm,20.0s,MS5.5
OUR Ouranopolis 29.05 304 *e*P **P 07 34 58.1 +1.2**
BUC1 Bucharest 29.05 313 P **P 07 34 58.9 +2.0**
VLI Veliai 29.07 297 *e*P **P 07 34 58.0 +0.9**
PAIG Paliouri 29.16 303 *e*P **P 07 34 57.2 -0.8**
VRI Vrincioaia 29.30 316 ⇑P **P 07 35 00.0 +0.9**
VRI Vrincioaia 29.30 316 P **P 07 35 00.3 +1.2**
PLOR Plostina 29.34 316 ⇓P **P 07 35 00.6 +1.1**
NEO Neokhori 29.35 302 *e*P **P 07 35 03.2 +3.6**
LKR Lokris 29.37 301 *e*P **P 07 35 00.1 +0.3**
XOR Xorichti 29.39 302 *e*P **P 07 35 01.2 +1.2**
NVR Nevrokopi 29.43 306 *e*P **P 07 35 01.2 +0.9**
PLG Polygyros 29.45 304 *e*P **P 07 35 01.9 +1.4**
SRS Serrai 29.56 306 *e*P **P 07 35 01.2 -0.3**
MMB Musomiste 29.60 307 *i* P **P 07 35 03.0 +1.2**
MLR Muntele Rosu 29.61 315 P **P 07 35 00.4 -1.4**
comp=Z,143nm,0.9s,mb5.7,baz=28,slow=4.4,SNR=37
MLR S **S 07 39 57.4 +0.4**
comp=Z,8.2nm,0.9s,baz=94,slow=23,SNR=1.7
MLR LR LR 07 50 07.8
comp=Z,15μm,18.2s,MS5.7,baz=336,slow=43
MLR Muntele Rosu 29.61 315 ⇑P **P 07 35 03.4 +1.5**
MLR Muntele Rosu 29.61 315 P **P 07 35 03.8 +1.9**
SOH Sokhos 29.64 305 *e*P **P 07 35 03.5 +1.3**
THE Thessaloniki 29.88 304 *e*P **P 07 35 05.3 +1.0**
PECR Pechory 29.92 347 *e*P **P 07 35 04.4 -0.3**
comp=Z,2μm,5.0s
PECR *i* S **S 07 40 00.0 -2.0**
comp=Z,6μm,18.0s
PECR Pechory 29.92 347 *e*P **P 07 35 04.4 -0.3**
PECR *i* S **S 07 40 00.0 -2.0**
PECR *e* 07 41 35.0
PECR pmax pmax
comp=Z,1μm,6.0s
PECR pmax pmax
comp=N,700nm,7.0s
PECR smax
comp=N,2μm,5.0s
PECR smax
comp=E,2μm,4.0s
PECR MLR MLR
comp=Z,6μm,18.0s,MS5.3
PECR MLR MLR
comp=N,7μm,16.0s,MS5.4
PECR MLR MLR
comp=E,3μm,20.0s,MS5.4
PECR MLR MLR
comp=N,5μm,14.0s
PECR MLR MLR
comp=E,4μm,14.0s
PECR MLR MLR
comp=Z,6μm,14.0s
ITM Ithomi 29.93 297 *e*P **P 07 35 04.8 0.0**
ITM Ithomi 29.93 297 P **P 07 35 04.5 -0.3**
AGG Agios Georgios 29.96 301 *e*P **P 07 35 04.5 -0.5**
CAL Calcutta 29.96 92 *e*P **P 07 35 07.7 +2.6**
CAL *ex* x 07 39 41.5
CAL *i* x x 07 40 13.3
CAL AMP 07 49 44.7
comp=Z,9μm,19.2s
MTUR Matau 30.05 314 P **P 07 35 07.3 +1.5**
KNT Kendrikon 30.07 305 *e*P **P 07 35 06.7 +0.7**
KKB Krupnik 30.15 307 *i* P **P 07 35 06.0 -0.7**
VOIR 30.15 314 ⇓P **P 07 35 07.8 +1.1**
VTS Vitosha 30.29 308 *i* P **P 07 35 09.0 +1.1**
VTS Vitosha 30.29 308 P **P 07 35 09.2 +1.3**
EVR Evrytania 30.34 301 *e*P **P 07 35 07.5 -0.8**
VAY Valandovo 30.35 306 *i* P **P 07 35 07.9 -0.6**
VAY Valandovo 30.35 306 *i* P **P 07 35 07.8 -0.7**
GRG Griva 30.38 305 *e*P **P 07 35 09.3 +0.6**
WMQ Urumqi 30.43 49 P **P 07 35 09.5 +0.4**
WMQ AP pP 07 35 14.0 +1.8
WMQ XP sP 07 35 16.5 +3.0
WMQ PP PP 07 36 09.0 -8.8
WMQ PPP 07 36 23.5
WMQ PCP PcP 07 38 09.3 +0.7
WMQ S **S 07 40 08.5 -1.4**
WMQ SS SS 07 41 48.3 -31
WMQ AMB AMB
comp=Z,251nm,1.1s,mb5.9
WMQ AMB AMB
comp=Z,2μm,4.4s
WMQ LR LR
comp=N,35μm,24.0s,MS6.0
WMQ LR LR
comp=E,19μm,24.0s,MS6.0
WMQ LR LR
comp=Z,21μm,21.8s,MS5.8
RLS Riolos of Patr 30.44 299 *e*P **P 07 35 09.8 +0.6**
CRAR CRAIOVA 30.50 312 P **P 07 35 11.9 +2.1**
AKASG Malin Array Be 30.61 326 P **P 07 35 08.7 -2.1**
comp=Z,114nm,0.8s,mb5.8,baz=134,slow=8.4,SNR=102
AKASG PcP PcP 07 38 11.6 +2.5
comp=Z,2.8nm,0.3s,baz=98,slow=3.1,SNR=4.9
AKASG S **S 07 40 10.3 -2.5**
comp=Z,2.4nm,0.8s,baz=136,slow=15,SNR=2.7
AKASG Malin Array Be 30.61 326 S **S 07 40 10.4 -2.4**
AKASG Malin Array Be 30.61 326 P **P 07 35 08.7 -2.1**
AKASG PcP PcP 07 38 11.6 +2.5
AKASG S **S 07 40 10.3 -2.5**
KIEV Kiev 30.61 326 P **P 07 35 11.0 +0.2**
KZN Kozani 30.67 303 *e*P **P 07 35 11.6 +0.3**
STIP Stip 30.74 306 *e*P **P 07 35 11.1 -0.8**
KMPD K-Podol'skiy 30.82 321 P **P 07 35 12.0 -0.6**
OBN Obninsk 30.84 338 P **P 07 35 13.8 +1.0**
comp=Z,1μm,0.7s,SNR=9.5
OBN Obninsk 30.84 338 *i* P **P 07 35 13.2 +0.4**
comp=Z,209nm,1.1s,mb5.9
OBN *i* S **S 07 40 14.6 -1.7**
comp=Z,6μm,18.0s
OBN Obninsk 30.84 338 *e*P **P 07 35 13.7 +1.0**
comp=Z,174nm,0.8s,mb5.9
OBN LR LR
comp=Z,5μm,21.0s,MS5.1
OBN Obninsk 30.84 338*c i*P **P 07 35 13.2 +0.4**
OBN *i* 07 36 12.4
OBN *i* S **S 07 40 14.6 -1.7**
OBN *i* SS SS 07 41 52.3 -36
OBN pmax pmax
comp=Z,209nm,1.1s,mb5.9
OBN MLR MLR
comp=Z,6μm,18.0s,MS5.3
MOS Moscow 31.03 340 *i* P **P 07 35 15.8 +1.4**
comp=Z,1μm,3.0s
MOS Moscow 31.03 340 *e*PcP PcP 07 38 07.9 -2.3
MOS Moscow 31.03 340α *i*P **P 07 35 15.8 +1.4**
MOS *e* 07 36 14.2
MOS *e*PPP 07 36 28.6
MOS *e* 07 38 07.9
MOS *e*S **S 07 40 20.6 +1.3**
MOS *e*SS SS 07 41 58.4 -33
MOS pmax pmax
comp=Z,1μm,3.0s
MOS MLR MLR
comp=Z,6μm,17.7s,MS5.3
MOS MLR MLR
comp=N,6μm,18.2s,MS5.6
MOS MLR MLR
comp=E,10μm,17.3s,MS5.6
BURAR Bucovina Array 31.05 318 ⇑P **P 07 35 15.4 +0.7**
BURAR Bucovina Array 31.05 318 ⇑P **P 07 35 15.4 +0.7**
FNA Florina 31.08 304 *e*P **P 07 35 14.8 -0.1**
VLS Valsamata 31.14 299 *e*P **P 07 35 13.5 -1.9**
PALK Pallekele 31.14 126 *e*P **P 07 35 17.2 +1.8**
comp=E,47nm,1.3s,mb5.2
PALK Pallekele 31.14 126 *e*P **P 07 35 17.2 +1.8**
comp=E,47nm,1.3s,mb5.2
LSA Lhasa 31.15 78 P **P 07 35 17.5 +2.0**
LSA AP pP 07 35 26.0 +7.4
LSA S **S 07 40 25.3 +4.0**
LSA XS sS 07 40 43.5 +17
LSA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
LSA LR LR
comp=N,5μm,18.7s,MS5.5
LSA LR LR
comp=E,7μm,20.7s,MS5.5
LSA LR LR
comp=Z,9μm,19.7s,MS5.4
LSA Lhasa 31.15 78 *e*P **P 07 35 18.0 +2.5**
comp=Z,145nm,1.5s,mb5.6
LSA Lhasa 31.15 78 *e*P **P 07 35 18.1 +2.5**
comp=Z,145nm,1.5s,mb5.6
LSA Lhasa 31.15 78 *e*P **P 07 35 18.1 +2.6**
LSA pmax pmax
comp=Z,145nm,1.5s,mb5.6
BIA Bitola 31.18 304 *i* P **P 07 35 15.2 -0.6**
BIA Bitola 31.18 304 *i* P **P 07 35 15.1 -0.7**
JAN Janina 31.22 302 *e*P **P 07 35 19.4 +3.3**
SKO Skopje 31.35 306 *i* P **P 07 35 16.9 -0.4**
SKO Skopje 31.35 306 *i* P **P 07 35 16.8 -0.5**
BOLS Boljevac 31.56 310⇓*i*P **P 07 35 19.1 -0.1**
IGT Igoumenitsa 31.58 301 *e*P **P 07 35 21.4 +2.0**
OHR Ohrid 31.59 304 *i* P **P 07 35 18.4 -1.0**
OHR Ohrid 31.59 304 *i* P **P 07 35 18.3 -1.1**
SOKR Solikamsk 32.02 1 *i* P **P 07 35 24.4 +1.3**
comp=Z,18μm,26.0s
SOKR Solikamsk 32.02 1*d i*P **P 07 35 24.4 +1.3**
SOKR pmax pmax
comp=Z,190nm,0.7s,mb6.0
SOKR MLR MLR
comp=Z,18μm,26.0s,MS5.6
KEK Kerkira 32.02 302 *e*P **P 07 35 22.6 -0.6**
KEK Kerkira 32.02 302 P **P 07 35 22.0 -1.2**
DRGR 32.20 315 ⇓P **P 07 35 25.6 +0.9**
DRGR 32.20 315 P **P 07 35 25.4 +0.7**
AGT Agartala 32.20 88 *i* P **P 07 35 27.0 +2.2**
SVIS Svilajnac 32.22 310⇑*i*P **P 07 35 20.8 -4.1**
TIR Tirane 32.33 305 P **P 07 35 26.2 +0.3**
SHL Shillong 32.39 85 *e*P **P 07 35 27.0 +0.6**
SHL *e*S **S 07 40 40.0 -0.6**
BZS Buzias 32.43 313 ⇓P **P 07 35 26.9 +0.2**
BZS Buzias 32.43 313 P **P 07 35 27.9 +1.2**
GRUS Gruza 32.43 309 *e*P **P 07 35 26.6 -0.2**
PVY Plav 32.57 307 *e*P **P 07 35 27.1 -0.8**
PVY Plav 32.57 307 *e*P **P 07 35 27.1 -0.9**
IVA Berane 32.70 307 *e*P **P 07 35 28.3 -0.8**
LVV L'vov 32.84 321 *e*P **P 07 35 29.9 -0.4**
LVV *i* 07 35 39.1
LVV *e* 07 36 45.7
LVV *e*PPP 07 37 02.3
LVV *e*S **S 07 40 46.9 -0.7**
LVV *e*SS SS 07 43 05.5 -3.3
LVV MLR MLR
comp=N,4μm,19.0s,MS5.2
LVV MLR MLR
comp=E,3μm,19.0s,MS5.2
LVV MLR MLR
comp=Z,5μm,19.0s,MS5.3
ULC Ulcinj 32.92 305⇑*i*P **P 07 35 29.0 -2.1**
DIVS Divcibare 32.99 310⇓*i*P **P 07 35 31.5 -0.2**
TTG Podgorica 33.03 306⇑*i*P **P 07 35 28.9 -3.1**
PLE Pljevlja 33.18 308⇑*i*P **P 07 35 34.8 +1.4**
BUM Brajici-Budva 33.26 306⇑*i*P **P 07 35 31.8 -2.2**
UZH Uzhgorod 33.26 318 *i* P **P 07 35 34.0 0.0**
UZH *e*S **S 07 40 53.0 -1.1**
NKY Niksic 33.32 307⇑*i*P **P 07 35 32.2 -2.3**
BBLS Bajina Basta - 33.32 309 *e*P **P 07 35 35.8 +1.2**
BBLS Bajina Basta - 33.32 309 P **P 07 35 36.1 +1.5**
KOLS Kolonicke sedl 33.41 319 *e*P **P 07 35 36.4 +1.1**
KOLS *e* 07 36 21.6
KOLS *e*S **S 07 41 04.0 +7.5**
KOLS Kolonicke sedl 33.41 319 P **P 07 35 36.7 +1.4**
LCI Lecce 33.41 302 P **P 07 35 35.1 -0.3**
UPM Unac-Piva 33.48 308⇑*i*P **P 07 35 35.0 -1.0**
KWP Kalwaria 33.49 320 *e*P **P 07 35 36.7 +0.7**
KWP *e*pP pP 07 35 47.3 +8.2
KWP *e*S **S 07 41 04.1 +6.4**
KWP L 07 52 12.8
comp=Z,7.5nm,22.9s
KWP Kalwaria 33.49 320 *e*P **P 07 35 36.7 +0.7**
KWP *e*pP pP 07 35 47.3 +8.2
KWP Kalwaria 33.49 320 *e*P **P 07 35 36.7 +0.7**

KWP *ep*P pP 07 35 47.3 +8.2
KWP *e*S **S** **07 41 04.1 +6.4**
KMBO Kilima Mbogo 33.56 215 P **P** **07 35 38.1 +1.4**
comp=Z,26nm,0.9s,mb5.1,baz=36,slow=10,SNR=25
KMBO S **S** **07 40 58.8 -0.1**
comp=Z,2.0nm,0.9s,baz=113,slow=16,SNR=1.9
KMBO Kilima Mbogo 33.56 215 *i* P **P** **07 35 38.0 +1.3**
comp=Z,26nm,1.0s,mb5.1
KMBO Kilima Mbogo 33.56 215 *e*P **P** **07 35 39.0 +2.4**
comp=Z,100nm,1.1s,mb5.7
KMBO LR LR
comp=Z,4μm,21.0s,MS5.1
KMBO Kilima Mbogo 33.56 215 *i* P **P** **07 35 38.0 +1.3**
KMBO pmax pmax
comp=Z,26nm,1.0s
HCY Herceg Novi 33.58 306⇑ *i*P **P** **07 35 35.4 -1.4**
BRY Bratogost 33.66 307⇑ *i*P **P** **07 35 36.2 -1.4**
MNK Minsk 33.72 331 *e*P **P** **07 35 34.0 -4.1**
MNK *e*PPP 07 37 06.0
MNK *e* 07 38 18.0
MNK *e*S **S** **07 40 56.0 -5.3**
MNK *e*SSS 07 43 26.0
MNK pmax pmax
comp=Z,560nm,1.0s,mb6.5
MNK pmax pmax
comp=N,460nm,2.0s
MNK pmax pmax
comp=E,500nm,1.5s
MNK MLR MLR
comp=Z,23μm,22.0s,MS5.8
NVS Novosibirsk 33.84 29 *i* P **P** **07 35 39.1 0.0**
comp=Z,235nm,1.7s,mb5.8
NVS *i* S **S** **07 41 02.7 -0.5**
NVS Novosibirsk 33.84 29⇓ *i*P **P** **07 35 39.1 0.0**
NVS *i* S **S** **07 41 02.7 -0.5**
NVS pmax pmax
comp=Z,241nm,1.5s,mb5.9
NVS pmax pmax
comp=N,360nm,1.6s
NVS smax
comp=N,235nm,1.7s
CRVS Cervenica-Dubn 33.87 818 *e*P **P** **07 35 41.4 +2.0**
CRVS *e*S **S** **07 41 10.4 +6.7**
ZAL Zalesovo 33.94 31 P **P** **07 35 37.3 -2.7**
comp=N,86nm,0.8s,mb5.8,baz=237,slow=8.1,SNR=69
ZAL S **S** **07 41 04.1 -0.6**
comp=N,3.2nm,0.9s,baz=154,slow=24,SNR=5.2
ZAL LR LR 07 51 22.1
comp=N,12μm,18.2s,MS5.7,baz=241,slow=40
ZAL Zalesovo 33.94 31 S **S** **07 41 04.1 -0.6**
ZAL Zalesovo 33.94 31 P **P** **07 35 37.3 -2.7**
ZAL S **S** **07 41 04.1 -0.6**
BRT Bari-Castellan 34.19 303 P **P** **07 35 42.2 0.0**
STHS Stebnicka Huta 34.23 319 *e*P **P** **07 35 42.4 -0.1**
STHS *e* 07 36 18.9
STHS *e* 07 36 45.0
TIP Timpagrande 34.26 300 P **P** **07 35 43.8 +1.1**
STON Ston 34.26 307 *i* P **P** **07 35 39.9 -2.8**
KECS Kecovo 34.27 317 *i* P **P** **07 35 43.6 +0.7**
KECS *e* 07 36 22.9
KECS *e*S **S** **07 41 10.3 +0.4**
KECS Kecovo 34.27 317 P **P** **07 35 43.8 +0.9**
PSZ Piszkesteto 34.41 316⇑ *e*P **P** **07 35 44.7 +0.7**
PSZ *i* 08 11 11.5
PSZ Piszkesteto 34.41 316⇑ *e*P **P** **07 35 44.7 +0.7**
PSZ *i* 07 41 11.5
NE53 Naroch' 34.45 330 *e*PcP PcP 07 38 16.0 -3.6
NE53 *e*S **S** **07 41 09.4 -3.1**
NE53 *e*ScP ScP 07 41 58.4 -6.4
NE53 Naroch' 34.45 330 *e*PcS PcS 07 42 05.3 -0.7
NE53 *e*ScS ScS 07 46 01.0 -6.5
GRI Girifalco 34.47 299 P **P** **07 35 46.0 +1.4**
PKSM Moragy 34.58 313 *i* P **P** **07 35 46.0 +0.5**
PKSM *i* S **S** **07 41 11.6 -3.0**
ORI Oriolo Calabro 34.62 301 P **P** **07 35 47.0 +1.1**
TDS Terranova Siba 34.65 301 P **P** **07 35 48.8 +2.7**
SOI Samo 34.67 298 P **P** **07 35 47.5 +1.2**
IDID Didziasalis 34.74 331 *e*P **P** **07 35 47.3 +0.5**
IDID AMb AMB 07 35 57.5
comp=Z,129nm,1.0s,mb5.8
NIE Niedzica 34.78 319 *e*P **P** **07 35 47.7 +0.5**
NIE *e*S **S** **07 41 21.9 +4.3**
BUD Budapest 34.78 315 *e*Pc 07 35 47.8
PKS8 Sarbogard 34.78 314⇑ *e*P **P** **07 35 47.7 +0.4**
CEL Celeste 34.82 298 P **P** **07 35 45.7 -1.9**
MTTG Motta San Giov 34.95 298 P **P** **07 35 50.5 +1.8**
SCLL Scilla 34.96 298 P **P** **07 35 50.1 +1.3**
IIGN Ignalina 34.98 331 *i* P **P** **07 35 49.7 +0.7**
PTRP Pietrapertosa 34.99 302 P **P** **07 35 50.4 +1.4**
KLMR Klimovskoe 35.04 346 *i* P **P** **07 35 49.4 -0.1**
comp=Z,440nm,1.5s,mb6.2
KLMR Klimovskoe 35.04 346 *c* *i*P **P** **07 35 49.4 -0.1**
KLMR *i* 07 37 08.8
KLMR *e*S **S** **07 41 16.3 -5.4**
KLMR pmax pmax
comp=Z,900nm,11.3s
KLMR pmax pmax
comp=Z,440nm,1.5s,mb6.2
KLMR MLR MLR
comp=Z,4μm,11.0s,MS5.4
CUC Castrocucco 35.09 301 P **P** **07 35 51.3 +1.4**
PKSG 35.15 314 *e*P **P** **07 35 51.2 +0.8**
ISAL Salakas 35.17 331 *i* P **P** **07 35 51.1 +0.5**
ISAL AMb AMB 07 35 56.2
comp=Z,70nm,0.9s,mb5.6
ISAL Salakas 35.17 331 *i* P **P** **07 35 51.1 +0.5**
comp=Z,70nm,0.9s,mb5.6,SNR=54
IZAR Zarasai 35.24 331 *i* P **P** **07 35 51.7 +0.5**
IZAR AMb AMB 07 35 57.0
comp=Z,77nm,1.3s,mb5.5
IZAR Zarasai 35.24 331 *i* P **P** **07 35 51.7 +0.5**
comp=Z,129nm,1.0s,mb5.8,SNR=54
AGST Augusta-Monte 35.26 296 P **P** **07 35 52.0 +0.6**
FGMS Monte Sant'Ang 35.27 304 P **P** **07 35 51.7 +0.2**
SRO2 Moca 35.28 315 *e*P **P** **07 35 50.7 -0.9**
VYHS Vyhne 35.28 316 *e*P **P** **07 35 52.0 +0.4**
VYHS *e*S **S** **07 41 23.7 -1.7**
VYHS Vyhne 35.28 316 P **P** **07 35 52.1 +0.5**
MGR Morigerati 35.31 301 P **P** **07 35 51.2 -0.6**
LIKS Likavka 35.34 317 *e*P **P** **07 35 52.1 0.0**
SRO Srobarova 35.35 315 *e*P **P** **07 35 53.4 +1.2**
SSY Sortino 35.37 296 P **P** **07 35 53.2 +0.8**
SRO1 Iza 35.38 315 *e*P **P** **07 35 53.2 +0.8**
OJC Ojcow 35.43 320 *i* Pc 07 35 53.3
OJC *e*pP pP 07 36 03.7 +7.8
OJC *e*S **S** **07 41 23.6 -4.0**
OJC L 07 54 28.2
comp=Z,31nm,19.7s
OJC Ojcow 35.43 320 *i* P **P** **07 35 53.3 +0.5**
OJC *e*pP pP 07 36 03.7 +7.8
OJC *e*S **S** **07 41 23.6 -4.0**
comp=Z,31μm,19.7s
OJC Ojcow 35.43 320⇑ *i*P **P** **07 35 53.3 +0.5**
OJC *e*pP pP 07 36 03.7 +7.8
OJC *e*S **S** **07 41 23.6 -4.0**
OJC LR LR
comp=Z,31μm,19.7s,MS6.1
MRLC Muro Lucano 35.45 302 P **P** **07 35 54.2 +1.2**
FG4 Candela 35.49 303 P **P** **07 35 54.8 +1.4**
RGNG Rignano Grg 35.54 304 P **P** **07 35 55.5 +1.7**
SGO Sicignano 35.56 302 P **P** **07 35 53.9 -0.1**
SUW Suwalki 35.56 327 *e*P **P** **07 35 54.1 +0.1**
SUW *e*pP pP 07 36 04.8 +7.7
SUW *e*S **S** **07 41 25.8 -3.9**
SUW *e*sS sS 07 41 45.3 +11
SUW *e*SS SS 07 43 58.8 -5.6
SUW L 07 53 59.0
comp=Z,5.9nm,24.0s
SUW Suwalki 35.56 327 *e*P **P** **07 35 54.1 +0.1**
SUW *e*pP pP 07 36 04.8 +7.7
SUW *e*S **S** **07 41 25.8 -3.9**
SUW Suwalki 35.56 327 *e*P **P** **07 35 54.1 +0.1**
SUW *e*pP pP 07 36 04.8 +7.7
SUW *e*S **S** **07 41 25.8 -3.9**
SUW *e*SS sS 07 41 45.3 +11
SUW *e*SS SS 07 43 58.8 -5.6
SLNA Salina 35.68 298 P **P** **07 35 56.6 +1.6**
FG5 Orsara di Pugl 35.70 303 P **P** **07 35 56.7 +1.5**
WAR Warsaw 35.70 323 *e*P **P** **07 35 56.0 +0.8**
WAR *e*pP pP 07 36 06.7 +8.4
WAR *e*S **S** **07 41 31.5 -0.4**
WAR *e*SS SS 07 44 04.1 -3.2
WAR L 07 54 04.0
comp=Z,5.8nm,24.8s
WAR Warsaw 35.70 323 *e*P **P** **07 35 56.0 +0.8**
WAR *e*SS SS 07 44 04.1 -3.2
WAR Warsaw 35.70 323 *e*P **P** **07 35 56.0 +0.8**
WAR *e*S **S** **07 41 31.5 -0.4**
WAR MLR MLR
comp=Z,6μm,24.8s,MS5.2
SISC Sisak 35.86 310 *i* P **P** **07 35 57.0 +0.5**
SISC Sisak 35.86 310 *i* P **P** **07 35 57.0 +0.5**
FG2 Serracapriola 35.87 304 P **P** **07 35 58.1 +1.5**
VAE Valguarnera 35.92 297 P **P** **07 35 59.6 +2.6**
comp=Z,80nm,0.9s,mb5.7,baz=77,slow=5.5,SNR=11
VAE S **S** **07 41 43.3 +8.1**
comp=Z,7.7nm,0.3s,baz=45,slow=23,SNR=3.3
VAE Valguarnera 35.92 297 P **P** **07 35 59.6 +2.6**
VAE S **S** **07 41 43.3 +8.1**
PSB1 Pescosannita 36.03 303 P **P** **07 35 59.5 +1.5**
CIGN Sant'Elia a Pi 36.04 304 P **P** **07 35 59.5 +1.5**
JAVC Velka Javorina 36.14 316 P **P** **07 35 58.8 -0.1**
SMOL Smolenice 36.16 316 *e*P **P** **07 35 59.0 -0.1**
SMOL Smolenice 36.16 316 *e*P **P** **07 35 59.1 0.0**
KOGS Kog 36.23 312 *e*P **P** **07 36 00.1 +0.5**
KOGS *e*PP PP 07 37 27.8 +5.8
KOGS *e*S **S** **07 41 41.7 +1.9**
CSLB Castelbuono 36.23 297 P **P** **07 36 01.0 +1.3**
OKC Ostrava-Krasne 36.23 318 *e*P **P** **07 35 59.6 -0.1**
OKC AMS AMS 07 53 30.0
comp=Z,8μm,17.1s
OKC Ostrava-Krasne 36.23 318 *e*P **P** **07 35 59.6 -0.1**
comp=Z,8μm,17.1s
OKC Ostrava-Krasne 36.23 318 P **P** **07 36 00.0 +0.3**
ZST Bratislava 36.25 315 *e*P **P** **07 35 59.6 -0.2**
ZST *e*S **S** **07 41 37.2 -3.0**
RAC Raciborz 36.30 319 *e*P **P** **07 35 59.2 -1.1**
comp=Z,8μm,23.8s
RAC *e*S **S** **07 41 37.1 -4.0**
RAC Raciborz 36.30 319 *e*P **P** **07 35 59.2 -1.1**
RAC *e*S **S** **07 41 37.1 -4.0**
RAC MLR MLR
comp=Z,8μm,23.8s,MS5.4
SGG Gregorio Mates 36.38 303 P **P** **07 36 02.1 +1.1**
SOP Sopron 36.42 314 *i* S **P** **07 36 01.7 +0.4**
SOP *e* 07 41 40.8
SOP Sopron 36.42 314 *i* P **P** **07 36 01.7 +0.4**
SOP S **S** **07 41 40.8 -2.0**
CII Carovilli 36.49 304 P **P** **07 36 03.4 +1.5**
MIDA Miranda 36.52 304 P **P** **07 36 02.6 +0.5**
MORC Moravsky Berou 36.57 318 *e*P **P** **07 36 02.5 -0.1**
comp=Z,137nm,0.9s,mb5.8
MORC Moravsky Berou 36.57 318 *e*P **P** **07 36 02.5 -0.1**
comp=Z,137nm,0.9s,mb5.8
MORC Moravsky Berou 36.57 318 *e*P **P** **07 36 02.5 -0.1**
MORC pmax pmax
comp=Z,137nm,0.9s,mb5.8
CRES Cresnjev 36.58 311 *e*P **P** **07 36 03.3 +0.6**
PUL Pulkovo 36.59 339 *e*P **P** **07 36 03.3 +0.5**
comp=Z,441nm,1.4s,mb6.1
PUL *e*S **S** **07 41 44.7 -0.8**
comp=Z,585nm,10.6s
PUL Pulkovo 36.59 339⇑ *e*P **P** **07 36 03.9 +1.1**
PUL Pulkovo 36.59 339 *e*P **P** **07 36 03.3 +0.5**
PUL *e* 07 37 28.3
PUL *e*S **S** **07 41 44.7 -0.8**
PUL *e*SS SS 07 44 07.1 -18
PUL pmax pmax
comp=Z,257nm,1.0s,mb6.0
PUL pmax pmax
comp=N,408nm,1.3s
PUL pmax pmax
comp=E,423nm,1.2s
PUL pmax pmax
comp=Z,2μm,3.9s
PUL pmax pmax
comp=N,441nm,1.4s
PUL pmax pmax
comp=E,618nm,1.5s
PUL smax
comp=N,861nm,1.9s
PUL smax
comp=E,322nm,1.0s
PUL smax
comp=N,2μm,13.7s
PUL smax
comp=Z,585nm,10.6s
PUL smax
comp=E,1μm,13.3s
PUL MLR MLR
comp=Z,8μm,21.0s,MS5.5
PUL MLR MLR
comp=N,5μm,16.0s,MS5.5
PUL MLR MLR
comp=E,4μm,18.0s,MS5.5
RNI2 Rionero Sannit 36.60 304 P **P** **07 36 04.5 +1.6**
BOJS Bojanci 36.63 310 *e*P **P** **07 36 03.5 +0.5**
BOJS Bojanci 36.63 310 *e*P **P** **07 36 03.5 +0.4**
NVLJ Novalja 36.65 309 P **P** **07 36 03.1 -0.2**
NVLJ Novalja 36.65 309 P **P** **07 36 03.0 -0.3**
RFI Roccamonfina 36.66 303 P **P** **07 36 05.0 +1.6**
INTR Introdacqua 36.83 304 P **P** **07 36 04.6 -0.2**
CLTB Caltabellotta 36.88 297 P **P** **07 36 07.5 +2.3**
VSU Vasula 36.88 335 *i* P **P** **07 36 05.1 -0.2**
ARSA Arzberg 36.94 313 *i* P **P** **07 36 06.3 +0.5**
comp=E,948nm,3.5s,SNR=27
ARSA Arzberg 36.94 313 P **P** **07 36 05.5 -0.3**
VRAC Vranov 36.96 317 P **P** **07 36 04.6 -1.3**
comp=E,156nm,0.8s,mb5.9,baz=104,slow=8.5,SNR=65
VRAC S **S** **07 41 49.1 -2.0**
comp=E,2.4nm,0.5s,baz=328,slow=17,SNR=4.1
VRAC LR LR 07 53 39.8
comp=E,10μm,18.3s,MS5.6,baz=120,slow=40
VRAC Vranov 36.96 317 *e*P **P** **07 36 04.8 -1.1**
VRAC Vranov 36.96 317 P **P** **07 36 05.3 -0.6**
USI Ustica 36.98 299 P **P** **07 36 07.4 +1.3**
KRUC Moravsky 36.99 316 P **P** **07 36 05.0 -1.2**
VVLD Villa Vallelon 37.02 304 P **P** **07 36 07.0 +0.6**
TERO Teramo 37.16 305 P **P** **07 36 06.7 -0.9**
PTQR Pietraquaria 37.20 304 P **P** **07 36 09.3 +1.3**
AQU L'Aquila 37.26 305 P **P** **07 36 09.9 +1.4**
LJU Ljubljana 37.26 311 *e*P **P** **07 36 09.2 +0.8**
LJU *e*PP PP 07 37 40.4 +7.1
LJU *e*S **S** **07 41 53.3 -2.3**
AOI Ancona 37.33 307 P **P** **07 36 09.5 +0.4**
OBKA Obir 37.37 312 *i* P **P** **07 36 10.0 +0.6**
comp=E,1μm,3.5s,SNR=21
OBKA Obir 37.37 312 P **P** **07 36 09.9 +0.5**
FIAM Fiamignano 37.45 304 P **P** **07 36 11.4 +1.3**
CERT Cerreto 37.50 304 P **P** **07 36 10.9 +0.4**
DPC Dobruska-Polom 37.51 318 *e*P **P** **07 36 10.3 -0.3**
DPC *e*S **S** **07 42 03.1 +3.6**
DPC AMS AMS 07 51 40.0
comp=E,13μm,23.4s
DPC Dobruska-Polom 37.51 318 P **P** **07 36 09.2 -1.4**
CING Cingoli 37.59 306 P **P** **07 36 12.0 +0.8**
RDP Rocca di Papa 37.67 303 P **P** **07 36 12.5 +0.5**
VOY Vojsko 37.68 311 *e*P **P** **07 36 12.3 +0.3**
VOY *e* 07 36 45.9
VOY *e* 07 37 00.2
TRI Trieste 37.69 310 P **P** **07 36 12.0 -0.1**
MTCE Montecelio 37.69 304 P **P** **07 36 12.6 +0.5**
KSP Ksiaz 37.72 319 *e*P **P** **07 36 12.7 +0.3**
KSP *e*pP pP 07 36 21.3 +5.8
KSP *e*sP sP 07 36 29.5 +13
KSP *e*PP PP 07 37 43.7 +5.2
KSP *e*S **S** **07 42 07.8 +5.1**
KSP *e*sS sS 07 42 21.1 +13
KSP *e*SS SS 07 44 44.8 -3.3
KSP L 07 52 30.4
comp=Z,20nm,24.0s
KSP Ksiaz 37.72 319 *e*P **P** **07 36 12.6 +0.2**
KSP *e* 07 37 42.6
KSP *e*S **S** **07 42 07.2 +4.5**
KSP MLR MLR
comp=Z,23μm,24.0s,MS5.9
SNTG Esanatoglia 37.75 306 P **P** **07 36 12.9 +0.3**
UPC Upice 37.76 318 *e*P **P** **07 36 11.4 -1.3**
ARV Arcevia 37.79 306 P **P** **07 36 13.9 +0.9**
CADS Cadrg 37.84 311 *e*P **P** **07 36 13.4 +0.1**
CADS *e*S **S** **07 42 03.7 -0.7**
CADS *e*SS SS 07 45 05.1 +15
MOA Molln 37.94 314⇑ *i*P **P** **07 36 14.5 +0.3**
comp=Z,1μm,4.5s,SNR=53
MOA Molln 37.94 314 P **P** **07 36 13.1 -1.1**
PESA Pesaro 37.95 307 P **P** **07 36 15.6 +1.3**
LSR Lussari 38.04 311⇓ *e*P **P** **07 36 15.0 -0.1**
MURB Monte Urbino 38.05 306 P **P** **07 36 16.3 +1.2**
PTCC Patocco-Chiusa 38.14 311 P **P** **07 36 14.8 -1.1**
PBA Port Blair 38.16 107 *ex* x 07 36 28.3
PBA *ex* x 07 36 43.2
comp=Z,375nm,1.7s
PBA *ex* x 07 42 36.6
BAD Bernadia 38.17 311⇓ *e*P **P** **07 36 16.0 -0.2**
GMNA Gemona 38.18 311 P **P** **07 36 15.3 -1.0**
GKP Gorka Klasztor 38.22 323 *e*P **P** **07 36 19.3 +2.7**
GKP *e*pP pP 07 36 24.9 +5.2
GKP *e*PP PP 07 37 45.2 +1.3
GKP *e*PcP PcP 07 38 28.6 -2.3
GKP *e*S **S** **07 42 09.6 -0.6**
GKP *e*sS sS 07 42 25.1 +10
GKP L 07 56 10.9
comp=Z,5.9nm,21.6s
GKP Gorka Klasztor 38.22 323 *e*pP pP 07 36 24.9 +5.2
GKP Gorka Klasztor 38.22 323 *e*PcP PcP 07 38 28.6 -2.3
GKP Gorka Klasztor 38.22 323 *e*P **P** **07 36 19.3 +2.7**
GKP *e**PP pP 07 36 24.9 +5.2
GKP *e* 07 37 45.2
GKP *e* 07 38 28.6
GKP *e*S **S** **07 42 09.6 -0.6**
GKP MLR MLR
comp=Z,6μm,21.6s,MS5.4
RSM Repubblica di 38.22 307 P **P** **07 36 18.1 +1.5**
TOLF Tolfa 38.24 304 P **P** **07 36 17.3 +0.5**
BOO Bordano 38.29 311⇓ *e*P **P** **07 36 17.0 -0.2**
BADI Badiali 38.29 306 P **P** **07 36 17.9 +0.7**
PLRO Paularo 38.31 311⇓ *e*P **P** **07 36 18.0 +0.6**
KBA Koelnbreinsper 38.32 312 *i* P **P** **07 36 17.8 +0.3**
comp=Z,320nm,2.1s,mb5.7,SNR=57
KBA Koelnbreinsper 38.32 312 P **P** **07 36 16.2 -1.2**
GTA Gaotai 38.33 60 P **P** **07 36 16.8 -0.7**
GTA AP pP 07 36 29.3 +8.7
GTA PP PP 07 37 49.0 +3.9
GTA PPP 07 38 11.5
GTA PCP PcP 07 38 31.3 0.0
GTA S **S** **07 42 07.3 -4.6**
GTA SCP ScP 07 42 13.5 -5.7
GTA PCS PcS 07 42 19.3 -1.0
GTA XS sS 07 42 28.0 +11
GTA SCS ScS 07 46 22.5 -6.5
GTA AMB AMB
comp=Z,40nm,1.7s,mb4.9
GTA AMB AMB
comp=Z,1μm,9.9s
GTA LR LR
comp=N,5μm,20.3s,MS5.6
GTA LR LR
comp=E,7μm,16.8s,MS5.6
GTA LR LR
comp=Z,8μm,16.4s,MS5.6
MPRI Monte Prat 38.34 311⇑ *i*P **P** **07 36 17.0 -0.6**
ZOU Zoufplan 38.43 311⇓ *e*P **P** **07 36 19.0 +0.6**
PRU Pruhonice 38.45 317 *e*P **P** **07 36 18.4 -0.1**
PRU *e*S **S** **07 42 11.3 -2.4**
PRU AMS AMS 07 55 40.0
comp=Z,9μm,17.2s
PRU Pruhonice 38.45 317 P **P** **07 36 17.1 -1.4**
PRU *e*S **S** **07 42 11.3 -2.4**
CRE Caprese Michel 38.52 306 P **P** **07 36 19.5 +0.4**
PRA Prague 38.54 317 P **P** **07 36 19.0 -0.3**
MLNI Malnisio 38.58 310⇓ *e*P **P** **07 36 19.0 -0.6**
GEC2 GERESS Array S 38.60 315 *e*P **P** **07 36 18.9 -0.9**
comp=Z,99nm,1.1s,mb5.5
GEC2 GERESS Array S 38.60 315 *e*P **P** **07 36 18.9 -0.9**
GEC2 pmax pmax
comp=Z,99nm,1.1s,mb5.5
GERES GERESS Array B 38.60 315 P **P** **07 36 17.9 -1.9**
comp=Z,24nm,0.8s,mb5.0,baz=117,slow=7.6,SNR=65
GERES S **S** **07 42 20.3 +4.4**
comp=Z,4.1nm,1.0s,baz=104,slow=4.1,SNR=3.5
GERES LR LR 07 54 43.8
comp=Z,5μm,19.1s,MS5.3,baz=111,slow=40
GERES GERESS Array B 38.60 315 P **P** **07 36 17.9 -1.9**
GERES S **S** **07 42 20.3 +4.4**
PVCC Panska Ves 38.62 318 *e*P **P** **07 36 20.7 +0.7**
SFI Santa Sofia 38.64 307 P **P** **07 36 20.9 +0.7**
CAE Caneva 38.66 310⇓ *e*P **P** **07 36 20.0 -0.3**
KHC Kasperske Hory 38.76 315 *e*P **P** **07 36 19.4 -1.7**
KHC pP pP 07 36 31.5 +7.3
KHC *e*S **S** **07 42 13.2 -5.2**
KHC AMS AMS 07 55 20.0
comp=Z,7μm,12.9s
KHC Kasperske Hory 38.76 315 *e*P **P** **07 36 19.4 -1.7**
KHC *e*S **S** **07 42 13.2 -5.2**
comp=Z,7μm,12.9s
KHC Kasperske Hory 38.76 315⇑ *i*P **P** **07 36 21.2 +0.1**
JOF Joensuu 38.80 342 *ep* **P** **07 36 20.4 -1.1**
comp=Z,15nm,0.4s,mb5.1
VMG Vicchio 38.87 307 P **P** **07 36 22.7 +0.6**
MAON Monte Argentar 38.93 304 P **P** **07 36 23.3 +0.7**
KRAR Krasnoyarsk 38.94 33 *e*PcP PcP 07 38 30.1 -3.1
KRAR Krasnoyarsk 38.94 33 *i* P **P** **07 36 21.3 -1.3**
KRAR *i* *PP pP 07 36 29.0 +3.3
KRAR *e* 07 37 49.6
KRAR *e* 07 38 30.1
KRAR *e*S **S** **07 42 16.7 -4.4**
MEF Metsahovi 38.96 336 P **P** **07 36 22.7 -0.1**
SEI Scarperia 39.02 307 P **P** **07 36 24.5 +1.2**
FIU Minerbio Fiu 39.03 308 P **P** **07 36 25.0 +1.6**
BRG Berggiesshubel 39.12 318 *e*P **P** **07 36 22.5 -1.6**
comp=Z,130nm,1.0s,mb5.6
BRG Berggiesshubel 39.12 318 *i* P **P** **07 36 24.2 +0.1**
comp=Z,78nm,0.6s,mb5.6
BRG *i* pP pP 07 36 32.7 +5.5
BRG PP PP 07 37 53.0 -0.8
BRG *e* 07 38 35.4
BRG ScP ScP 07 42 22.2 +0.1
BRG *e* 07 42 27.0
BRG *e* 07 45 12.0
BRG LR LR
comp=Z,5μm,21.6s,MS5.3
BRG Berggiesshubel 39.12 318 *i* P **P** **07 36 24.2 +0.1**
BRG *i* *PP pP 07 36 32.7 +5.5
BRG 07 37 53.0
BRG *e* 07 38 35.4
BRG 07 42 22.2
BRG *e* 07 42 27.0
BRG *e* 07 45 12.0
BRG pmax pmax
comp=Z,78nm,0.6s,mb5.6
BRG MLR MLR
comp=Z,5μm,21.6s,MS5.3
BRG Berggiesshubel 39.12 318 *i* P **P** **07 36 24.2 +0.1**
comp=Z,78nm,1.0s,mb5.4
BRG *i* pP pP 07 36 32.7 +5.5
comp=Z,104nm,1.1s
BRG PP PP 07 37 53.0 -0.8
BRG *e* 07 38 35.4
comp=Z,39nm,1.5s
BRG SCP ScP 07 42 22.2 +0.1
BRG *e* 07 42 27.0
BRG *e* 07 45 12.0
BRG
comp=N,9μm,22.4s
BRG
comp=E,9μm,21.6s
BRG
comp=Z,5μm,21.6s
GRFL Gerfalco 39.15 305 P **P** **07 36 24.1 -0.3**
WET Wettzell 39.20 315 *e*P **P** **07 36 22.7 -2.1**
comp=Z,78nm,1.0s,mb5.4
WET Wettzell 39.20 315 *e*P **P** **07 36 22.7 -2.1**
WET pmax pmax
comp=Z,78nm,1.0s,mb5.4
CTI Castel Tesino 39.20 310 P **P** **07 36 25.1 +0.2**
FNVD Fontana Vidola 39.20 307 P **P** **07 36 26.4 +1.5**
FINES FINESS Array B 39.24 338 P **P** **07 36 23.4 -1.7**
comp=Z,20nm,0.4s,mb5.2,baz=118,slow=11,SNR=33
FINES S **S** **07 42 22.6 -2.9**
comp=Z,3.8nm,0.8s,baz=119,slow=11,SNR=2.3
BRES Bressanone 39.29 311 P **P** **07 36 26.1 +0.5**
ZCCA Zocca 39.34 307 P **P** **07 36 27.7 +1.7**
WTTA Wattenberg 39.49 312⇑ *i*P **P** **07 36 27.2 -0.1**
comp=Z,610nm,1.6s,mb6.1,SNR=32
WTTA Wattenberg 39.49 312 P **P** **07 36 27.3 0.0**
WATA Walderalm 39.55 312⇑ *i*P **P** **07 36 27.4 -0.3**
comp=Z,523nm,1.6s,mb6.0,SNR=36
WATA Walderalm 39.55 312 P **P** **07 36 27.7 0.0**

PII Pisa 39.56 306 P **P** **07 36 27.0 -0.8**
BDI Bagni Di Lucca 39.56 307 P **P** **07 36 27.6 -0.2**
APPI Appiano 39.58 311 P **P** **07 36 27.0 -1.0**
MAIM 39.61 306 P **P** **07 36 27.4 -0.9**
GSCL Gusciola 39.61 307 P **P** **07 36 29.2 +0.9**
KAF Kangasniemi 39.65 339 *e*p **P** **07 36 26.7 -1.9**
comp=Z,22nm,0.9s,mb4.9,baz=135,slow=8.5
KAF Kangasniemi 39.65 339 *e*P **P** **07 36 26.7 -1.9**
KAF pmax pmax
comp=Z,22nm,0.9s,mb4.9
SARO Sassorosso 39.72 307 P **P** **07 36 27.9 -1.2**
ERBM Eremo 39.75 307 P **P** **07 36 30.9 +1.5**
BERN Bernov 39.76 317 ⇓P **P** **07 36 33.7 +4.2**
SQTA Sankt Quirin 39.77 312 ⇑*i*P **P** **07 36 29.4 -0.1**
comp=Z,105nm,1.0s,mb5.5,SNR=110
GOTU Gotland 39.78 330 P **P** **07 36 30.3 +0.6**
baz=140
RUE Ruedersdorf 39.80 320 *e*P **P** **07 36 29.9 +0.1**
comp=Z,363nm,1.5s,mb5.9
RUE Ruedersdorf 39.80 320 *e*P **P** **07 36 29.9 +0.1**
comp=Z,128nm,0.8s,mb5.7
NKC Novy Kostel 39.80 317 *e*P **P** **07 36 29.8 -0.1**
NKC *e*S S 07 42 09.5 -25
NKC AMS AMS 07 56 30.0
comp=Z,10μm,17.2s
NKC Novy Kostel 39.80 317 P **P** **07 36 28.5 -1.4**
CLL Collm 39.82 318 ⇑*i*P **P** **07 36 30.4 +0.4**
comp=Z,177nm,1.0s,mb5.8
CLL *e*PP PP 07 38 03.0 +1.5
CLL *e*PcP PcP 07 38 41.7 +5.7
CLL *e*ScP ScP 07 42 24.2 -0.7
CLL *e*S **S** **07 42 34.8 +0.5**
CLL *e*SS SS 07 45 37.4 +7.0
CLL *e*LR LR 07 49 53.9
CLL *e*L 07 55 22.1
comp=Z,10μm,18.0s
CLL Collm 39.82 318 ⇑*i*P **P** **07 36 30.4 +0.4**
comp=Z,98nm,1.1s,mb5.5
CLL *i* Pmax pP 07 36 32.8 -0.3
comp=Z,175nm,1.0s
CLL *e*x x 07 36 41.0
CLL *e*PP PP 07 38 02.0 +0.5
CLL *e*PPPP 07 38 35.0
CLL *e*PcS PcS 07 42 26.0 -0.1
CLL *e*S **S** **07 42 35.0 +0.7**
CLL *e*sSS 07 45 38.0
CLL *e*SSS 07 45 48.0
CLL Collm 39.82 318 ⇑*i*P **P** **07 36 30.4 +0.4**
comp=Z,98nm,1.1s,mb5.5
CLL *i* pP 07 36 32.8 -0.3
CLL *e*pP pP 07 36 41.0 +7.9
CLL *i* PcP PcP 07 38 42.1 +6.1
CLL *e*ScP ScP 07 42 20.0 -4.9
CLL LR LR
comp=Z,9μm,15.2s,MS5.8
CLL Collm 39.82 318 ⇑*i*P **P** **07 36 30.4 +0.4**
CLL *i* pP 07 36 32.8 -0.3
CLL *i* 07 38 42.1
CLL pmax pmax
comp=Z,98nm,1.1s,mb5.5
CLL MLR MLR
comp=Z,9μm,15.2s,MS5.8
VALM 39.85 307 P **P** **07 36 29.2 -1.1**
MOTA Moosalm 39.87 312 ⇑*i*P **P** **07 36 29.8 -0.6**
comp=Z,554nm,2.1s,mb5.9,SNR=29
MOTA Moosalm 39.87 312 P **P** **07 36 30.5 +0.1**
VINC Vinca 39.89 307 P **P** **07 36 29.6 -1.0**
FUR Furstenfeldbru 39.95 313 *e*P **P** **07 36 30.6 -0.5**
comp=Z,207nm,1.0s,mb5.8
FUR Furstenfeldbru 39.95 313 *e*P **P** **07 36 30.6 -0.5**
FUR pmax pmax
comp=Z,207nm,1.0s,mb5.8
BACM 39.97 307 P **P** **07 36 29.8 -1.4**
GRAM 40.01 307 P **P** **07 36 30.6 -0.9**
CODM 40.14 307 P **P** **07 36 31.4 -1.3**
BRMO Bormio 40.16 310 P **P** **07 36 32.0 -0.8**
BSD Bornholm Skovb 40.27 325 ⇑*i*P **P** **07 36 35.0 +1.3**
comp=Z,130nm,0.7s,mb5.8
BSD *i* 07 38 12.6
BSD *i* S **S** **07 42 45.1 +4.1**
BSD *e* 07 45 24.8
BSD
comp=Z,2μm,17.0s
BSD Bornholm Skovb 40.27 325 ⇑*i*P **P** **07 36 35.0 +1.3**
comp=Z,130nm,0.7s,mb5.8
BSD *i* 07 38 12.6
BSD *i* S **S** **07 42 45.1 +4.1**
BSD *e* 07 45 24.8
BLEU Blekinge 40.36 327 P **P** **07 36 35.3 +0.8**
SC2M Scurtabr 40.37 307 P **P** **07 36 33.2 -1.3**
GRA1 Grafenberg Arr 40.40 315 *e*P **P** **07 36 33.5 -1.3**
comp=Z,298nm,1.1s,mb5.9
GRA1 *e*PP PP 07 38 14.3 +6.6
GRA1 *e*S **S** **07 42 42.7 -0.2**
GRA1 *e*SS SS 07 45 44.1 +2.3
GRA1 LR LR
comp=Z,9μm,18.3s,MS5.6
GRF Grafenberg Arr 40.40 315 *e*P **P** **07 36 33.5 -1.3**
comp=Z,298nm,1.1s,mb5.9
GRF *e*PP PP 07 38 14.3 +6.6
GRF *e*S **S** **07 42 42.7 -0.2**
GRF *e*SS SS 07 45 44.1 +2.3
GRF *e*L 07 56 54.9
comp=Z,9μm,18.3s
GRF Grafenberg Arr 40.40 315 *e*P **P** **07 36 33.5 -1.3**
GRF *e*PP PP 07 38 14.3 +6.6
GRF *e*S **S** **07 42 42.7 -0.2**
GRF *e*SS SS 07 45 44.1 +2.3
GRF Grafenberg Arr 40.40 315 *e*P **P** **07 36 33.5 -1.3**
GRF *e* 07 38 14.3
GRF *e*S **S** **07 42 42.7 -0.2**
GRF pmax pmax
comp=Z,298nm,1.1s,mb5.9
GRF MLR MLR
comp=Z,9μm,18.3s,MS5.6
GRF Grafenberg Arr 40.40 315 *e*P **P** **07 36 33.5 -1.3**
GRF *e* 07 38 14.3
GRF *e*S **S** **07 42 42.7 -0.2**
MOX Moxa 40.44 317 *e*P **P** **07 36 34.1 -1.0**
comp=Z,159nm,1.4s,mb5.6
MOX Moxa 40.44 317 *e*P **P** **07 36 35.5 +0.4**
comp=Z,193nm,1.6s,mb5.6
MOX
comp=Z,10μm,19.0s
MOX Moxa 40.44 317 *e*P **P** **07 36 35.5 +0.4**
MOX pmax pmax
comp=Z,193nm,1.6s,mb5.6
MOX MLR MLR
comp=Z,10μm,19.0s,MS5.7
BOB Bobbio (Coli) 40.49 308 P **P** **07 36 35.4 -0.1**
PGF Pioggiola 40.51 304 *e*P **P** **07 36 33.9 -1.8**
comp=Z,534nm,1.6s,mb5.6
PGF Pioggiola 40.51 304 *e*P **P** **07 36 33.9 -1.8**
comp=Z,267nm,1.6s,mb5.6
PGF Pioggiola 40.51 304 *e*P **P** **07 36 33.9 -1.8**
PGF pmax pmax
comp=Z,267nm,1.6s,mb5.6
ASPU Aespoe 40.54 328 P **P** **07 36 37.7 +1.7**
DAVOX Davos 40.56 311 P **P** **07 36 35.6 -0.5**
comp=Z,74nm,0.7s,mb5.4,baz=115,slow=7.5,SNR=39
DAVOX S **S** **07 42 42.0 -3.3**
comp=Z,7.9nm,0.8s,baz=214,slow=16,SNR=4.9
DAVOX LR LR 07 54 25.3
comp=Z,10μm,20.3s,MS5.7,baz=6.0,slow=38
DAVOX Davos 40.56 311 P **P** **07 36 35.6 -0.5**
DAVOX S **S** **07 42 42.0 -3.3**
UBR Uberruh 40.60 312 P **P** **07 36 36.0 -0.4**
OSKU Oskarshamn 40.66 328 P **P** **07 36 36.9 -0.1**
DAVA Damuels 40.66 312 ⇑*i*P **P** **07 36 36.9 -0.1**
comp=Z,680nm,1.9s,mb6.0,SNR=122
DAVA Damuels 40.66 312 P **P** **07 36 34.2 -2.8**
VSTU Vaestervik 40.69 329 P **P** **07 36 37.1 -0.1**
VDL Val di Lei 40.77 310 P **P** **07 36 37.4 -0.5**
TUE Stuetta 40.85 310 P **P** **07 36 38.6 0.0**
RGN Rugen 40.86 323 P **P** **07 36 38.0 -0.6**
comp=Z,281nm,0.9s,mb5.9
RGN Rugen 40.86 323 P **P** **07 36 38.0 -0.6**
comp=Z,281nm,0.9s,mb5.9
NRTU Norrtaelje 40.88 332 P **P** **07 36 36.7 -2.0**
baz=114
CHRT Chiangrai 40.94 91 ⇑P **P** **07 36 42.0 +2.7**
comp=Z,263nm,1.1s,mb5.8
PCP Pian Castagno 41.09 307 P **P** **07 36 39.0 -1.5**
LLS Linth-Limmern 41.16 311 ⇑P **P** **07 36 39.0 -2.0**

EKSU Eksjoe 41.23 328 P **P** **07 36 42.8 +1.2**
FIN Finale Ligure 41.28 307 P **P** **07 36 40.9 -1.2**
FIN Finale Ligure 41.28 307 P **P** **07 36 41.6 -0.5**
SIND Sindeldorf 41.32 315 P **P** **07 36 42.1 -0.3**
WILA Wila 41.34 311 ⇑P **P** **07 36 42.2 -0.3**
GUT Gutenstein 41.34 313 P **P** **07 36 42.0 -0.5**
SISB Singen-Sch Ber 41.35 312 P **P** **07 36 43.0 +0.3**
RORO 41.37 306 P **P** **07 36 41.2 -1.6**
MUO Muotathal 41.43 311 ⇑P **P** **07 36 42.9 -0.4**
FLYU Flymyra 41.44 332 P **P** **07 36 42.8 -0.6**
STU Stuttgart 41.44 314 *e*P **P** **07 36 42.4 -1.0**
comp=Z,65nm,1.1s,mb5.2
STU Stuttgart 41.44 314 *e*P **P** **07 36 42.4 -1.1**
comp=Z,44nm,0.8s,mb5.2
STU Stuttgart 41.44 314 *e*P **P** **07 36 42.4 -1.0**
STU pmax pmax
comp=Z,44nm,0.8s,mb5.1
LNKU Linkoeping 41.45 329 P **P** **07 36 43.6 +0.1**
ABSA Djebel Ababsia 41.46 295 P **P** **07 36 46.0 +2.4**
LZH Lanzhou 41.47 66 P **P** **07 36 44.8 +1.2**
LZH PP PP 07 38 25.0 +5.7
LZH S **S** **07 42 58.5 -0.4**
LZH XS sS 07 43 17.3 +13
LZH SS SS 07 46 00.0 -3.1
LZH AMB AMB
comp=Z,120nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,890nm,5.8s
LZH LR LR
comp=E,10μm,13.6s
LZH LR LR
comp=Z,19μm,14.0s,MS6.1
UBBA Unterbreizbach 41.47 317 *e*P **P** **07 36 43.8 +0.2**
comp=Z,62nm,1.0s,mb5.2
IMI Imperia 41.47 306 P **P** **07 36 42.3 -1.4**
IMI Imperia 41.47 306 P **P** **07 36 43.2 -0.5**
CMAH Djebel Manchou 41.50 295 P **P** **07 36 45.0 +1.2**
CGMA Guelma 41.51 295 P **P** **07 36 50.0 +6.0**
MOY Mondy 41.52 42 *e*P **P** **07 36 45.5 +1.5**
comp=Z,138nm,1.4s,mb5.4
MOY Mondy 41.52 42 *e*P **P** **07 36 45.5 +1.5**
MOY pmax pmax
comp=Z,138nm,1.4s,mb5.4
ROB Roburent 41.53 307 P **P** **07 36 43.0 -1.2**
ZUR Zurich 41.55 311 P **P** **07 36 43.3 -0.9**
CLZ Clausthal 41.55 318 *e*P **P** **07 36 44.5 +0.2**
comp=Z,427nm,1.2s,mb6.0
CLZ Clausthal 41.55 318 *e*P **P** **07 36 44.5 +0.2**
CLZ pmax pmax
comp=Z,427nm,1.2s,mb6.0
SPAK Spaichingen 41.56 312 *e*P **P** **07 36 44.2 -0.2**
ESKU Eskilstuna 41.58 331 P **P** **07 36 42.8 -1.7**
baz=134
MONE Monesi 41.59 306 P **P** **07 36 43.8 -0.8**
NEGI Negi 41.60 306 P **P** **07 36 43.5 -1.2**
BACU Backbrunna 41.61 332 P **P** **07 36 42.2 -2.6**
ORO Oropa 41.65 309 P **P** **07 36 43.4 -1.7**
ORX Oropa 41.65 309 P **P** **07 36 42.8 -2.3**
LBG Lerchenberg 41.68 313 P **P** **07 36 44.7 -0.6**
SAOF Saorge 41.72 306 *e*P **P** **07 36 45.7 0.0**
MMK Mattmark 41.72 309 P **P** **07 36 44.8 -0.9**
COP Copenhagen 41.79 324 ⇑*i*P **P** **07 36 49.6 +3.3**
comp=Z,105nm,0.8s,mb5.5
COP *i* 07 38 32.8
COP *i* S **S** **07 43 11.9 +8.2**
COP
comp=Z,2μm,18.0s
COP Copenhagen 41.79 324 ⇑*i*P **P** **07 36 49.6 +3.3**
COP *i* 07 38 32.8
COP *i* S **S** **07 43 11.9 +8.2**
COP pmax pmax
comp=Z,105nm,0.8s,mb5.5
COP MLR MLR
comp=Z,2μm,18.0s,MS5.0
TRAV 41.79 308 P **P** **07 36 43.6 -2.6**
SBF Sospel 41.79 306 *e*P **P** **07 36 44.4 -1.9**
comp=Z,543nm,1.0s,mb5.8
SBF Sospel 41.79 306 *e*P **P** **07 36 44.4 -1.9**
comp=Z,271nm,1.0s,mb5.8
SBF Sospel 41.79 306 *e*P **P** **07 36 44.4 -1.9**
SBF pmax pmax
comp=Z,271nm,1.0s,mb5.8
OSTU Oestervaala 41.81 332 P **P** **07 36 45.7 -0.7**
AUTN L'Aution 41.81 306 *e*P **P** **07 36 47.4 +1.0**
ENR Entracque 41.85 306 P **P** **07 36 45.9 -0.8**
CD2 Chengdu 41.85 73 ⇑*i*P **P** **07 36 44.5 -2.3**
CD2 AP pP 07 36 56.8 +6.9
CD2 XP sP 07 37 02.0 +11
CD2 PP PP 07 38 25.0 +1.5
CD2 PCS PcS 07 42 30.8 -3.3
CD2 S **S** **07 42 58.5 -6.1**
CD2 XS sS 07 43 19.3 +10
CD2 SCS ScS 07 46 41.0 -8.9
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.7
CD2 AMB AMB
comp=Z,430nm,10.4s
CD2 LR LR
comp=N,5μm,16.8s
CD2 LR LR
comp=Z,3μm,21.6s,MS5.1
SULZ Sulz-Cheisache 41.88 312 ⇓P **P** **07 36 45.5 -1.5**
TOD Tromm 41.89 315 *e*P **P** **07 36 46.6 -0.5**
BFO Black Forest 41.91 313 *e*P **P** **07 36 47.1 -0.1**
comp=Z,50nm,1.0s,mb5.1
BFO Black Forest 41.91 313 P **P** **07 36 46.3 -0.9**
comp=Z,322nm,1.2s,mb5.8,SNR=9.3
BFO Black Forest 41.91 313 *e*P **P** **07 36 47.1 -0.1**
BFO pmax pmax
comp=Z,50nm,1.0s,mb5.1
STV2 Anna di Valdie 41.92 307 P **P** **07 36 45.9 -1.4**
STV Sta Anna Valdi 41.92 307 P **P** **07 36 46.0 -1.3**
SWS Schriesheim 41.93 314 P **P** **07 36 47.2 -0.2**
CAEH `Ain El Ouahch 41.95 295 P **P** **07 36 52.0 +4.4**
OUL Oulu 41.99 342 P **P** **07 36 47.2 -0.7**
MVIF Mont Vial 42.00 306 *e*P **P** **07 36 48.1 +0.1**
LKBD Leukerbad 42.01 310 ⇓P **P** **07 36 46.2 -1.8**
FELD Feldberg 42.03 312 *e*P **P** **07 36 47.3 -0.9**
KMI Kunming 42.07 82 P **P** **07 36 50.5 +2.0**
KMI AP pP 07 37 00.3 +8.7
KMI XP sP 07 37 04.3 +11
KMI PP PP 07 38 31.3 +5.5
KMI PCP PcP 07 38 45.0 +1.7
KMI PPP 07 39 03.8
KMI SCP ScP 07 42 31.8 -2.0
KMI PCS PcS 07 42 35.8 +0.9
KMI S **S** **07 43 08.0 +0.3**
KMI XS sS 07 43 24.3 +11
KMI SCS ScS 07 46 48.0 -3.2
KMI SSS 07 46 55.0
KMI AMB AMB
comp=Z,70nm,1.4s,mb5.1
KMI AMB AMB
comp=Z,1μm,6.4s
KMI LR LR
comp=N,4μm,22.6s,MS5.3
KMI LR LR
comp=E,2μm,20.1s,MS5.3
KMI LR LR
comp=Z,2μm,20.5s,MS5.0
RSP Reno Superiore 42.08 308 P **P** **07 36 46.1 -2.5**
ASKU Askersund 42.10 330 P **P** **07 36 46.5 -2.3**
KIZ Kirchzarten 42.10 312 P **P** **07 36 48.4 -0.4**
IGGU Iggoen 42.10 333 P **P** **07 36 48.4 -0.4**
PZZ Prazzo 42.11 307 P **P** **07 36 46.9 -1.9**
DIX Grande Dixence 42.11 309 P **P** **07 36 47.0 -1.9**
FENE Fenestrelle 42.20 308 P **P** **07 36 47.5 -2.1**
APA Apatity 42.25 348 ⇑*i*P **P** **07 36 48.3 -1.7**
APA *i* pP 07 36 49.8 -3.3
APA *i* 07 36 55.3
APA *i* 07 38 37.0
APA *i* S **S** **07 43 13.0 +2.6**
APA MLR MLR
comp=Z,9μm,12.0s,MS5.9
CASM Ain Smara 42.26 295 P **P** **07 36 51.5 +1.4**
BSEG Bad Segeberg 42.27 321 *e*P **P** **07 36 50.2 +0.1**
comp=Z,211nm,1.6s,mb5.5
TNS Taunus Mts 42.27 315 *e*P **P** **07 36 50.4 +0.3**
comp=Z,449nm,1.6s,mb5.8
TNS Taunus Mts 42.27 315 *e*P **P** **07 36 50.4 +0.3**
TNS pmax pmax
comp=Z,449nm,1.6s,mb5.8
BBS Basel-Blauen 42.28 311 *e*P **P** **07 36 49.6 -0.6**

KTD Kalmit 42.28 314 *e*P **P** **07 36 50.1 -0.2**
LVZ Lovozero 42.31 348 *e*P **P** **07 36 50.0 -0.5**
comp=Z,473nm,3.0s
LVZ Lovozero 42.31 348 *e*P **P** **07 36 50.0 -0.5**
LVZ *e* 07 38 30.2
LVZ *e*S **S** **07 43 13.1 +1.8**
LVZ *e*SS SS 07 46 07.2 -13
LVZ pmax pmax
comp=Z,388nm,1.6s,mb5.8
LVZ pmax pmax
comp=N,473nm,3.0s
LVZ pmax pmax
comp=E,634nm,3.6s
LVZ pmax pmax
comp=N,67nm,1.1s
LVZ pmax pmax
comp=Z,138nm,1.1s,mb5.5
LVZ pmax pmax
comp=E,22nm,0.9s
LVZ smax
comp=E,994nm,4.4s
LVZ smax
comp=Z,924nm,4.5s
LVZ smax
comp=N,2μm,6.8s
LVZ smax
comp=E,1μm,12.5s
LVZ smax
comp=Z,645nm,10.5s
LVZ smax
comp=N,2μm,12.1s
LVZ MLR MLR
comp=E,3μm,13.0s,MS5.6
LVZ MLR MLR
comp=Z,6μm,13.0s,MS5.6
LVZ MLR MLR
comp=N,5μm,15.0s,MS5.6
SURF Saint Ours 42.31 307 *e*P **P** **07 36 50.8 +0.3**
FRF La Foret Royal 42.33 305 *e*P **P** **07 36 48.5 -2.2**
comp=N,62nm,0.8s,mb5.0
FRF La Foret Royal 42.33 305 *e*P **P** **07 36 48.5 -2.2**
comp=N,31nm,0.8s,mb5.0
FRF La Foret Royal 42.33 305 *e*P **P** **07 36 48.5 -2.2**
FRF pmax pmax
comp=Z,31nm,0.8s,mb5.0
CTEI Djebel Teioual 42.34 294 P **P** **07 36 53.0 +2.3**
LIBD Limburg 42.35 312 *e*P **P** **07 36 50.2 -0.6**
NRAU Nora 42.35 331 P **P** **07 36 48.9 -1.9**
MBDF Montbardon 42.37 307 *e*P **P** **07 36 48.7 -2.3**
comp=Z,300nm,0.9s,mb5.6
MBDF Montbardon 42.37 307 *e*P **P** **07 36 48.7 -2.3**
comp=Z,150nm,0.9s,mb5.6
MBDF Montbardon 42.37 307 *e*P **P** **07 36 48.7 -2.3**
MBDF pmax pmax
comp=Z,150nm,0.9s,mb5.6
RRL Cesana Torines 42.38 307 P **P** **07 36 50.1 -1.0**
LANF Langenberg 42.38 314 *e*P **P** **07 36 49.9 -1.2**
LMR La Mourre 42.41 305 *e*P **P** **07 36 49.0 -2.3**
comp=Z,112nm,1.2s,mb5.1
LMR La Mourre 42.41 305 *e*P **P** **07 36 49.0 -2.3**
comp=Z,56nm,1.2s,mb5.1
LMR La Mourre 42.41 305 *e*P **P** **07 36 49.0 -2.3**
LMR pmax pmax
comp=Z,56nm,1.2s,mb5.1
EMV Vieux Emosson 42.46 309 ⇑P **P** **07 36 51.3 -0.4**
BNI Bardonecchia 42.47 308 P **P** **07 36 51.3 -0.5**
FALU Falun 42.50 332 P **P** **07 36 52.0 0.0**
ARNU Arnoeviken 42.55 334 P **P** **07 36 52.3 -0.1**
ZAK Zakamensk 42.56 44 *e*P **P** **07 36 53.3 +0.8**
comp=Z,59nm,1.8s,mb5.0
ZAK Zakamensk 42.56 44 *e*P **P** **07 36 53.3 +0.8**
ZAK pmax pmax
comp=Z,59nm,1.8s,mb5.0
WLS Welschbruch 42.56 313 *e*P **P** **07 36 51.3 -1.2**
MOF Molkenrain 42.60 312 *e*P **P** **07 36 52.3 -0.5**
CDF Champ du Feu 42.61 313 *e*P **P** **07 36 50.3 -2.6**
comp=Z,169nm,1.0s,mb5.4
CDF Champ du Feu 42.61 313 *e*P **P** **07 36 50.3 -2.6**
comp=Z,85nm,1.0s,mb5.4
CDF Champ du Feu 42.61 313 *e*P **P** **07 36 50.3 -2.6**
CDF pmax pmax
comp=Z,85nm,1.0s,mb5.4
ECH Echery 42.65 312 *e*P **P** **07 36 52.7 -0.6**
LOMF Lomont 42.71 311 *e*P **P** **07 36 53.0 -0.8**
UMAU Umeaa 42.73 338 P **P** **07 36 53.7 -0.2**
DFRA Djebel Bou Aff 42.74 295 P **P** **07 36 55.0 +1.0**
ABH Alteburg 42.75 315 *e*P **P** **07 36 53.6 -0.5**
TAVF Tavernes 42.76 305 *e*P **P** **07 36 53.9 -0.3**
CMER Merouana 42.77 294 P **P** **07 36 54.0 -0.2**
HINF Hinteralfeld 42.78 312 *e*P **P** **07 36 51.8 -2.5**
comp=Z,271nm,1.1s,mb5.6
HINF Hinteralfeld 42.78 312 *e*P **P** **07 36 51.8 -2.5**
comp=Z,135nm,1.1s,mb5.6
HINF Hinteralfeld 42.78 312 *e*P **P** **07 36 51.8 -2.5**
HINF pmax pmax
comp=Z,135nm,1.1s,mb5.6
NST Nakhon Sawan 42.79 97 P **P** **07 36 57.0 +2.6**
OG25 Le Caire 42.83 307 *e*P **P** **07 36 53.8 -0.9**
GDM Grand'Maison 42.89 308 *e*P **P** **07 36 53.9 -1.3**
BERF Bertagne 43.00 305 *e*P **P** **07 36 56.3 +0.2**
ROTU Roteberg 43.01 333 P **P** **07 36 54.4 -1.8**
PUYF Puyloubier 43.01 305 *e*P **P** **07 36 55.3 -0.9**
RUP Ruppelstein 43.02 314 *e*P **P** **07 36 55.7 -0.5**
ORIF Oris-en-Rattie 43.02 307 *e*P **P** **07 36 54.2 -2.1**
comp=Z,124nm,1.0s,mb5.3
ORIF *e*R
comp=Z,5μm,20.2s
ORIF Oris-en-Rattie 43.02 307 *e*P **P** **07 36 54.2 -2.1**
comp=Z,62nm,1.0s,mb5.3
ORIF Oris-en-Rattie 43.02 307 *e*P **P** **07 36 54.2 -2.1**
ORIF pmax pmax
comp=Z,62nm,1.0s,mb5.3
VILF Villemus 43.03 306 *e*P **P** **07 36 56.3 0.0**
CKHR Kef el Ahmar 43.06 294 P **P** **07 36 58.0 +1.4**
CABF La Chapelle 43.10 310 *e*P **P** **07 36 55.1 -1.8**
SET Setif 43.14 295 P **P** **07 36 59.0 +1.7**
SMRF Simiane la Rot 43.14 306 *e*P **P** **07 36 55.5 -1.8**
comp=Z,75nm,1.1s,mb5.0
SMRF Simiane la Rot 43.14 306 *e*P **P** **07 36 55.5 -1.8**
comp=Z,37nm,1.1s,mb5.0
HAU Haudompre 43.15 312 *e*P **P** **07 36 55.7 -1.6**
comp=Z,174nm,0.9s,mb5.5
HAU *e*R
comp=Z,6μm,19.5s
HAU Haudompre 43.15 312 *e*P **P** **07 36 55.7 -1.6**
comp=Z,87nm,0.9s,mb5.5
HAU LR LR
comp=Z,6μm,19.5s,MS5.5
HAU Haudompre 43.15 312 *e*P **P** **07 36 55.7 -1.6**
HAU pmax pmax
comp=Z,87nm,0.9s,mb5.5
HAU MLR MLR
comp=Z,6μm,19.5s,MS5.5
GRN Grenoble 43.15 308 *e*P **P** **07 36 56.0 -1.3**
GELF Grande-Etoile 43.20 305 *e*P **P** **07 36 57.7 0.0**
HFS Hagfors 43.22 331 P **P** **07 36 55.5 -2.4**
comp=Z,32nm,0.4s,mb5.4,baz=122,slow=7.8,SNR=54
HFS S **S** **07 43 23.4 -1.3**
comp=Z,3.9nm,0.8s,baz=144,slow=18,SNR=2.3
HFS LR LR 07 58 13.6
comp=Z,7μm,20.4s,MS5.5,baz=128,slow=41
HFS Hagfors 43.22 331 P **P** **07 36 55.5 -2.4**
HFS S **S** **07 43 23.4 -1.3**
HFS Hagfors 43.22 331 P **P** **07 36 55.5 -2.4**
HFS S **S** **07 43 23.4 -1.3**
HFS LR LR 07 58 13.6
HFA0 Hagfors New Ar 43.23 331 P **P** **07 36 55.2 -2.7**
IBBN Ibbenburen 43.23 318 *e*P **P** **07 36 58.8 +0.8**
comp=Z,188nm,1.2s,mb5.7
TREF Treveresse 43.25 305 *e*P **P** **07 36 58.6 +0.5**
BUG Bochum--Univer 43.29 317 *e*P **P** **07 36 59.2 +0.7**
comp=Z,315nm,1.4s,mb5.8
FINU Finntorp 43.40 329 P **P** **07 36 58.9 -0.5**
PRAF Pradon 43.42 306 *e*P **P** **07 36 58.4 -1.1**
THEF They Montfort 43.42 312 *e*P **P** **07 36 58.6 -0.9**
WLF Walferdange 43.59 314 ⇑P **P** **07 37 00.3 -0.5**
WLF AP pP 07 37 03.6 -0.3
WLF XP sP 07 37 07.5 +2.4
comp=Z,68nm,1.1s
WLF E 07 37 11.7
WLF Walferdange 43.59 314 *e*P **P** **07 37 00.6 -0.3**
comp=Z,183nm,1.1s,mb5.7
WLF *e*pP pP 07 37 11.9 +8.0
WLF Walferdange 43.59 314 *e*P **P** **07 37 00.6 -0.2**
WLF pmax pmax

comp=Z,183nm,1.1s,mb5.7
IRK Irkutsk 43.63 42 *i* P **P 07 37 01.2 0.0**
comp=Z,111nm,2.2s,mb5.2
IRK *e*ScS ScS 07 46 58.2 -2.7
IRK Irkutsk 43.63 42⇑ *i*P **P 07 37 01.2 0.0**
IRK *e* 07 38 42.6
IRK *e* 07 46 58.2
IRK pmax pmax
comp=Z,111nm,2.2s,mb5.2
WTSB Winterswijk 43.71 318⇑ *e*P **P 07 37 02.5 +0.6**
comp=Z,296nm,2.4s,mb5.6
NNT Nongplab 43.75 101 P sP 07 37 18.8 +12
MUD Monsted U'grnd 43.77 324⇑ *i*P **P 07 37 02.8 +0.4**
comp=Z,65nm,0.8s,mb5.4
MUD *i* 07 38 55.8
MUD *i* S **S 07 43 39.8 +7.0**
MUD *i* 07 46 52.2
MUD
comp=Z,4μm,20.0s
MUD Monsted U'grnd 43.77 324⇑ *i*P **P 07 37 02.8 +0.4**
comp=Z,65nm,0.8s,mb5.4
MUD *i* 07 38 55.8
MUD *i* S **S 07 43 39.8 +7.0**
MUD *i* 07 46 52.2
VIVF Saint-Julien-l 43.87 307 *e*P **P 07 37 00.6 -2.5**
comp=Z,326nm,1.4s,mb5.6
VIVF Saint-Julien-l 43.87 307 *e*P **P 07 37 00.6 -2.5**
comp=Z,163nm,1.4s,mb5.6
VIVF Saint-Julien-l 43.87 307 *e*P **P 07 37 00.6 -2.5**
VIVF pmax pmax
comp=Z,163nm,1.4s,mb5.6
MEM Membach 43.88 316 P **P 07 37 03.9 +0.8**
MEM AP pP 07 37 06.6 +0.3
comp=Z,52nm,1.0s
MEM XP sP 07 37 10.6 +3.1
MEM E 07 37 14.3
HGN Heimansgroeve 43.95 316 *e*P **P 07 37 04.7 +0.9**
comp=Z,364nm,2.5s,mb5.7
HGN *e*PP PP 07 38 53.6 +7.5
HGN *e*S **S 07 43 35.4 -0.1**
SONM Songino Array 44.06 49 P **P 07 37 04.0 -0.6**
comp=Z,7.6nm,0.9s,baz=261,slow=8.8,SNR=40
SONM S **S 07 43 37.8 +0.8**
comp=Z,1.4nm,1.1s,baz=318,slow=23,SNR=2.4
SONM LR LR 07 57 34.8
comp=Z,12μm,21.6s,MS5.8,baz=263,slow=39
SONM Songino Array 44.06 49 P **P 07 37 04.0 -0.6**
SONM S **S 07 43 37.8 +0.8**
MEZF Maizieres J'vi 44.08 312 *e*P **P 07 37 03.2 -1.6**
comp=Z,708nm,1.3s,mb5.9
MEZF Maizieres J'vi 44.08 312 *e*P **P 07 37 03.2 -1.6**
comp=Z,354nm,1.3s,mb5.9
ERTU Ertsjaerv 44.11 342 P **P 07 37 05.7 +0.7**
BEBN Eben Emael 44.12 316⇑P **P 07 37 05.8 +0.7**
BEBN AP pP 07 37 08.5 +0.2
comp=Z,39nm,1.0s
BEBN XP sP 07 37 12.1 +2.6
LASF Ste Croix 44.39 306 *e*P **P 07 37 05.2 -2.1**
comp=Z,189nm,0.9s,mb5.5
LASF Ste Croix 44.39 306 *e*P **P 07 37 05.2 -2.1**
comp=Z,94nm,0.9s,mb5.5
OSL Oslo 44.44 329 *e*P **P 07 37 07.3 -0.4**
OSL AMb AMB 07 37 16.9
comp=Z,213nm,1.2s,mb5.8
OSL Oslo 44.44 329 *e*P **P 07 37 07.3 -0.4**
comp=Z,213nm,1.2s,mb5.8,SNR=26
OSL Oslo 44.44 329 *e*P **P 07 37 07.3 -0.4**
comp=Z,213nm,1.2s,mb5.8
ULN Ulaanbaatar 44.50 49 *e*P **P 07 37 09.0 +0.8**
comp=Z,33nm,0.8s,mb5.2
ULN LR LR
comp=Z,11μm,20.0s,MS5.8
ULN Ulaanbaatar 44.50 49 *e*P **P 07 37 09.0 +0.8**
ULN pmax pmax
comp=Z,33nm,0.8s,mb5.2
ULN MLR MLR
comp=Z,11μm,20.0s,MS5.8
GIVF Givet 44.51 315 *e*P **P 07 37 07.3 -1.0**
comp=Z,418nm,1.2s,mb5.8
GIVF Givet 44.51 315 *e*P **P 07 37 07.3 -1.0**
comp=Z,209nm,1.2s,mb5.8
GIVF Givet 44.51 315 *e*P **P 07 37 07.3 -1.0**
GIVF pmax pmax
comp=Z,209nm,1.2s,mb5.8
COLF Collangettes 44.62 308 *e*P **P 07 37 08.3 -0.8**
SMF Signal de Mont 44.63 310 *e*P **P 07 37 07.1 -2.1**
comp=Z,673nm,1.2s,mb6.0
SMF Signal de Mont 44.63 310 *e*P **P 07 37 07.1 -2.1**
comp=Z,336nm,1.2s,mb6.0
SMF Signal de Mont 44.63 310 *e*P **P 07 37 07.1 -2.1**
SMF pmax pmax
comp=Z,336nm,1.2s,mb6.0
DOU Dourbes 44.66 315⇑P **P 07 37 09.9 +0.5**
DOU AP pP 07 37 12.5 0.0
comp=Z,66nm,1.1s
DOU XP sP 07 37 17.2 +3.4
DOU E 07 37 20.9
LOR Lormes 44.70 310 *e*P **P 07 37 07.4 -2.3**
comp=Z,402nm,1.4s,mb5.8
LOR *e*R
comp=Z,6μm,20.0s
LOR Lormes 44.70 310 *e*P **P 07 37 07.4 -2.3**
comp=Z,201nm,1.4s,mb5.8
LOR LR LR
comp=Z,6μm,20.0s,MS5.5
LOR Lormes 44.70 310 *e*P **P 07 37 07.4 -2.3**
LOR pmax pmax
comp=Z,201nm,1.4s,mb5.8
LOR MLR MLR
comp=Z,6μm,20.0s,MS5.5
PLDF La Plantade 44.71 309 *e*P **P 07 37 09.5 -0.4**
NB2 NORSAR Subarra 44.73 331 P **P 07 37 07.2 -2.8**
comp=Z,86nm,0.9s,mb5.6,baz=118,slow=7.9
NB2 NORSAR Subarra 44.73 331 P **P 07 37 07.2 -2.8**
NB2 pmax pmax
comp=Z,86nm,0.9s,mb5.6
NOA NORSAR Array B 44.73 331 P **P 07 37 07.7 -2.3**
comp=Z,7.6nm,0.6s,mb4.7,baz=117,slow=7.7,SNR=43
NOA S **S 07 43 48.9 +2.2**
comp=Z,3.3nm,1.0s,baz=122,slow=15,SNR=2.4
NOA LR LR 07 58 04.0
comp=Z,5μm,21.3s,MS5.4,baz=130,slow=39
NOA NORSAR Array B 44.73 331 P **P 07 37 07.7 -2.3**
NOA S **S 07 43 48.9 +2.2**
NAO01 NORSAR Array S 44.78 331 *e*P **P 07 37 08.0 -2.4**
comp=Z,83nm,0.9s,mb5.6
KONO Kongsberg 44.83 329 *e*P **P 07 37 10.0 -0.8**
comp=Z,105nm,1.1s,mb5.6
KONO Kongsberg 44.83 329 *e*P **P 07 37 10.0 -0.8**
comp=Z,105nm,1.1s,mb5.6
KONO LR LR
comp=Z,5μm,21.0s,MS5.4
KONO Kongsberg 44.83 329 P **P 07 37 10.6 -0.2**
KONO pmax pmax
comp=Z,110nm,1.0s,mb5.6
BAIF Baives 44.90 314 *e*P **P 07 37 10.5 -0.8**
comp=Z,842nm,1.3s,mb6.1
BAIF Baives 44.90 314 *e*P **P 07 37 10.5 -0.8**
comp=Z,421nm,1.3s,mb6.1
BAIF Baives 44.90 314 *e*P **P 07 37 10.5 -0.8**
BAIF pmax pmax
comp=Z,421nm,1.3s,mb6.1
KKTK Khon Kaen 44.91 94 P **P 07 37 16.0 +4.6**
LBL Lubilhac 44.91 308 *e*P **P 07 37 11.4 0.0**
SSF Saint Saulge 44.91 310 *e*P **P 07 37 09.4 -2.1**
comp=Z,549nm,1.1s,mb6.0
SSF Saint Saulge 44.91 310 *e*P **P 07 37 09.4 -2.1**
comp=Z,274nm,1.1s,mb6.0
SSF Saint Saulge 44.91 310 *e*P **P 07 37 09.4 -2.1**
SSF pmax pmax
comp=Z,274nm,1.1s,mb6.0
SNF Seneffe 44.93 315 P **P 07 37 12.2 +0.6**
SNF AP pP 07 37 14.2 -0.5
comp=Z,60nm,1.2s
SNF XP sP 07 37 19.3 +3.3
SNF E 07 37 23.0
UCC Uccle 44.94 315⇑P **P 07 37 12.2 +0.5**
UCC AP pP 07 37 14.7 -0.1
UCC XP sP 07 37 19.0 +3.0
UCC E 07 37 23.2
UCC Uccle 44.94 315 P **P 07 37 12.1 +0.4**
AVF Avril sur Loir 44.99 310 *e*P **P 07 37 10.0 -2.0**
comp=Z,196nm,0.9s,mb5.6
AVF Avril sur Loir 44.99 310 *e*P **P 07 37 10.0 -2.0**
comp=Z,98nm,0.9s,mb5.6
AVF Avril sur Loir 44.99 310 *e*P **P 07 37 10.0 -2.0**
AVF pmax pmax
comp=Z,98nm,0.9s,mb5.6
ABA Alger-Bouzarea 45.01 296 P **P 07 37 14.0 +1.8**
SJAF Saint Jean de 45.02 304 *e*P **P 07 37 12.0 -0.3**
ETOS Mallorca 45.05 300 P **P 07 37 13.7 +1.1**
comp=Z,217nm,1.6s,mb5.7
ETOS Mallorca 45.05 300 P **P 07 37 13.7 +1.1**
comp=Z,217nm,1.6s,mb5.7
AGO Saint Agoulin 45.06 309 *e*P **P 07 37 12.1 -0.5**
PYM Petit Puy Mans 45.12 308 *e*P **P 07 37 12.6 -0.5**
GYA Guiyang 45.19 79⇑ *i*P **P 07 37 14.5 +0.8**
GYA AP pP 07 37 19.0 +2.2
GYA XP sP 07 37 21.8 +3.8
GYA PP PP 07 39 03.5 +4.2
GYA S **S 07 43 54.5 +1.1**
GYA SS SS 07 47 11.3 -4.7
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,510nm,9.9s
GYA LR LR
comp=N,3μm,24.0s,MS5.2
GYA LR LR
comp=E,2μm,27.0s,MS5.2
GYA LR LR
comp=Z,3μm,23.7s,MS5.2
FILF Fillols 45.26 304 *e*P **P 07 37 15.1 +0.9**
LRDF Laroque-de-Fa 45.29 304 *e*P **P 07 37 14.6 +0.2**
BGF Bois d'Agland 45.31 309 *e*P **P 07 37 12.6 -2.0**
comp=Z,251nm,0.9s,mb5.7
BGF Bois d'Agland 45.31 309 *e*P **P 07 37 12.6 -2.0**
comp=Z,125nm,0.9s,mb5.7
BGF Bois d'Agland 45.31 309 *e*P **P 07 37 12.6 -2.0**
BGF pmax pmax
comp=Z,125nm,0.9s,mb5.7
KEV Kevo 45.37 346 *e*p **P 07 37 12.6 -2.5**
comp=Z,104nm,0.9s,mb5.7
KEV Kevo 45.37 346 P **P 07 37 15.8 +0.7**
comp=Z,160nm,1.0s,mb5.8
KEV Kevo 45.37 346 P **P 07 37 15.8 +0.7**
KEV pmax pmax
comp=Z,160nm,1.0s,mb5.8
FRNF Fournols 45.40 308 *e*P **P 07 37 15.6 +0.3**
VERF Verneugheol 45.49 308 *e*P **P 07 37 16.2 +0.2**
ARE0 ARCESS Array S 45.52 346 P **P 07 37 16.5 +0.3**
ARE0 ARCESS Array S 45.52 346 P **P 07 37 16.5 +0.2**
ARCES ARCESS Array B 45.52 346 P **P 07 37 14.8 -1.4**
comp=Z,13nm,0.8s,mb4.9,baz=139,slow=8.2,SNR=34
ARCES PcP PcP 07 38 57.2 +2.3
comp=Z,14nm,0.8s,baz=169,slow=4.1,SNR=5.4
ARCES LR LR 07 57 49.1
comp=Z,5μm,19.6s,MS5.4,baz=154,slow=38
ARCES ARCESS Array B 45.52 346 P **P 07 37 14.8 -1.4**
ARCES PcP PcP 07 38 57.2 +2.3
ARCES LR LR 07 57 49.1
ARCES ARCESS Array B 45.52 346 P **P 07 37 14.8 -1.4**
ARCES 07 38 57.3
HYF Humbligny 45.52 310 *e*P **P 07 37 14.9 -1.4**
MTLF Montolieu 45.53 305 *e*P **P 07 37 15.1 -1.3**
comp=Z,528nm,1.3s,mb6.0
MTLF Montolieu 45.53 305 *e*P **P 07 37 15.1 -1.3**
comp=Z,264nm,1.3s,mb6.0
MTLF Montolieu 45.53 305 *e*P **P 07 37 15.1 -1.3**
MTLF pmax pmax
comp=Z,264nm,1.3s,mb6.0
KTK1 Kautokeino 45.64 344 *e*P **P 07 37 17.5 +0.3**
KTK1 AMb AMB 07 37 30.6
comp=Z,91nm,1.9s,mb5.4
KTK1 Kautokeino 45.64 344 *e*P **P 07 37 17.5 +0.3**
comp=Z,91nm,1.9s,mb5.4,SNR=26
KTK1 Kautokeino 45.64 344 *e*P **P 07 37 17.5 +0.3**
comp=Z,91nm,1.9s,mb5.4
TCF Toulx Ste Croi 45.72 309 *e*P **P 07 37 15.9 -2.0**
comp=Z,256nm,1.0s,mb5.8
TCF Toulx Ste Croi 45.72 309 *e*P **P 07 37 15.9 -2.0**
comp=Z,128nm,1.0s,mb5.8
TCF Toulx Ste Croi 45.72 309 *e*P **P 07 37 15.9 -2.0**
TCF pmax pmax
comp=Z,128nm,1.0s,mb5.8
CAF Calviac 45.72 307 *e*P **P 07 37 16.2 -1.7**
comp=Z,185nm,0.8s,mb5.7
CAF Calviac 45.72 307 *e*P **P 07 37 16.2 -1.7**
comp=Z,93nm,0.8s,mb5.7
CAF Calviac 45.72 307 *e*P **P 07 37 16.2 -1.7**
CAF pmax pmax
comp=Z,93nm,0.8s,mb5.8
XAN Xi'an 45.78 68 P **P 07 37 17.5 -0.9**
XAN PCS PcS 07 42 45.8 -4.3
XAN S **S 07 44 04.0 +2.1**
XAN AMB AMB
comp=Z,19nm,1.2s,mb4.9
XAN AMB AMB
comp=Z,578nm,10.5s
XAN LR LR
comp=N,12μm,24.6s,MS5.8
XAN LR LR
comp=E,4μm,24.3s,MS5.8
XAN LR LR
comp=Z,5μm,18.1s
EMIR Miracle 46.02 303 P **P 07 37 21.2 +1.0**
comp=Z,228nm,1.1s,mb6.0
EMIR Miracle 46.02 303 P **P 07 37 21.2 +1.0**
comp=Z,228nm,1.1s,mb6.0
DOMB Dombas 46.11 332 *e*P **P 07 37 21.3 +0.4**
DOMB AMb AMB 07 37 30.9
comp=Z,129nm,1.3s,mb5.7
DOMB Dombas 46.11 332 *e*P **P 07 37 21.3 +0.4**
comp=Z,129nm,1.3s,mb5.7,SNR=26
DOMB Dombas 46.11 332 *e*P **P 07 37 21.3 +0.4**
comp=Z,129nm,1.3s,mb5.7
RJF Les Rejaudoux 46.13 307 *e*P **P 07 37 19.7 -1.4**
comp=Z,562nm,1.2s,mb6.1
RJF *e*R
comp=Z,6μm,17.0s
RJF Les Rejaudoux 46.13 307 *e*P **P 07 37 19.7 -1.4**
comp=Z,281nm,1.2s,mb6.1
RJF LR LR
comp=Z,6μm,17.0s,MS5.6
RJF Les Rejaudoux 46.13 307 *e*P **P 07 37 19.7 -1.4**
RJF pmax pmax
comp=Z,281nm,1.2s,mb6.1
RJF MLR MLR
comp=Z,6μm,17.0s,MS5.6
BTO Baotou 46.20 59 *e*P **P 07 37 23.0 +1.4**
BTO S **S 07 44 09.5 +1.6**
BLS5 Blasjo 46.21 328 *e*P **P 07 37 25.5 +3.7**
BLS5 AMb AMB 07 37 32.6
comp=Z,63nm,1.6s,mb5.3
BLS5 Blasjo 46.21 328 *e*P **P 07 37 25.9 +4.2**
comp=Z,63nm,1.6s,mb5.3
EIBI Ibiza 46.22 299 P **P 07 37 21.7 -0.1**
comp=Z,529nm,1.7s,mb6.2
EIBI Ibiza 46.22 299 P **P 07 37 21.7 -0.1**
comp=Z,529nm,1.7s,mb6.2
MOR8 Moi Rana 46.23 338 *e*P **P 07 37 21.1 -0.8**
MOR8 AMb AMB 07 37 31.2
comp=Z,118nm,1.3s,mb5.7
MOR8 Moi Rana 46.23 338 *e*P **P 07 37 21.1 -0.8**
comp=Z,118nm,1.3s,mb5.7,SNR=26
MOR8 Moi Rana 46.23 338 *e*P **P 07 37 21.1 -0.8**
comp=Z,118nm,1.3s,mb5.7
ODD1 Odda 46.31 328 *e*P **P 07 37 23.4 +0.9**
ODD1 AMb AMB 07 37 32.7
comp=Z,163nm,1.2s,mb5.8
ODD1 Odda 46.31 328 *e*P **P 07 37 23.4 +0.9**
comp=Z,163nm,1.2s,mb5.8,SNR=26
ODD1 Odda 46.31 328 *e*P **P 07 37 23.4 +0.9**
comp=Z,163nm,1.2s,mb5.8
MLS Moulis 46.35 304 *e*P **P 07 37 22.6 -0.2**
EPOB Poblet 46.35 302 P **P 07 37 23.1 +0.2**
comp=Z,215nm,1.8s,mb5.8
EPOB Poblet 46.35 302 P **P 07 37 23.1 +0.3**
comp=Z,215nm,1.8s,mb5.8
ECHA Ech Chlef 46.40 295 P **P 07 37 26.8 +3.6**
ETRT Tiaret 46.53 294 P **P 07 37 25.4 +1.1**
OPO Ambohidratompo 46.58 191 P **P 07 37 26.0 +1.4**
comp=Z,12nm,0.9s,mb4.8,baz=9.0,slow=8.0,SNR=8.5
OPO S **S 07 44 17.0 +3.6**
comp=Z,2.5nm,0.9s,baz=175,slow=8.4,SNR=1.9
OPO LR LR 07 55 56.1
comp=Z,13μm,18.6s,MS5.9,baz=333,slow=35
EANR 'Ain N'Sour 46.63 295 P **P 07 37 26.2 +1.1**
LFF La Frestale 46.66 307 *e*P **P 07 37 23.8 -1.5**
comp=Z,250nm,0.8s,mb5.9
LFF La Frestale 46.66 307 *e*P **P 07 37 23.8 -1.5**
comp=Z,125nm,0.8s,mb5.9
LFF La Frestale 46.66 307 *e*P **P 07 37 23.8 -1.5**
LFF pmax pmax
comp=Z,125nm,0.8s,mb5.9
EBR Ebro Roquetas 46.80 301 *e*P **P 07 37 27.0 +0.6**
ENH Enshi 46.83 73 *e*P **P 07 37 27.3 +0.7**
comp=Z,41nm,0.6s,mb5.5
ENH Enshi 46.83 73 *e*P **P 07 37 27.3 +0.7**
comp=Z,41nm,0.6s,mb5.5
EPF Esparros 46.90 304 *e*P **P 07 37 25.1 -2.0**
comp=Z,27nm,0.7s,mb5.0
EPF Esparros 46.90 304 *e*P **P 07 37 25.1 -2.0**
comp=Z,13nm,0.7s,mb5.0
EPF Esparros 46.90 304 *e*P **P 07 37 25.1 -2.0**
EPF pmax pmax
comp=Z,13nm,0.7s,mb5.0
EGRA Graus 46.92 303 P **P 07 37 27.1 -0.2**
comp=Z,87nm,0.7s,mb5.8
EGRA Graus 46.92 303 P **P 07 37 27.1 -0.2**
comp=Z,87nm,0.7s,mb5.8
ERTA Horta de San J 46.92 301 P **P 07 37 28.0 +0.7**
comp=Z,534nm,1.8s,mb6.2
ERTA Horta de San J 46.92 301 P **P 07 37 28.0 +0.6**
comp=Z,534nm,1.8s,mb6.2
MOL Molde 46.98 332 *e*P **P 07 37 31.9 +4.2**
MOL Molde 46.98 332 *e*P **P 07 37 32.1 +4.4**
EBIE Bielsa 47.04 304 P **P 07 37 28.8 +0.5**
comp=Z,295nm,2.0s,mb5.9
EBIE Bielsa 47.04 304 P **P 07 37 28.8 +0.6**
comp=Z,295nm,2.0s,mb5.9
RUND Rundenannen 47.08 329 *e*P **P 07 37 29.3 +0.7**
RUND AMb AMB 07 37 34.9
comp=Z,244nm,1.0s,mb6.1
RUND Rundenannen 47.08 329 *e*P **P 07 37 29.3 +0.7**
comp=Z,244nm,1.0s,mb6.1,SNR=25
LABF Labassere 47.10 304 *e*P **P 07 37 30.0 +1.3**
SNG Songkhla 47.11 107 P **P 07 37 30.0 +1.2**
VIEF Viey 47.13 304 *e*P **P 07 37 29.0 0.0**
TRO Tromso 47.15 343 *e*P **P 07 37 26.2 -2.9**
TRO AMb AMB 07 37 34.0
comp=Z,123nm,1.2s,mb5.7
HHC Hu-ho-hao-te 47.36 59 *e*P **P 07 37 31.5 +0.8**
HHC PCP PcP 07 39 03.0 +1.6
HHC PP PP 07 39 22.5 +0.6
HHC S **S 07 44 20.3 -4.3**
HHC XS sS 07 44 41.8 +12
HHC SCS ScS 07 47 19.0 -5.9
HHC AMB AMB
comp=Z,37nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,1μm,5.1s
HHC LR LR
comp=N,6μm,20.6s,MS5.7
HHC LR LR
comp=E,4μm,18.1s,MS5.7
HHC LR LR
comp=Z,4μm,21.4s,MS5.4
MFF Saint Martin d 47.37 309 *e*P **P 07 37 28.4 -2.4**
comp=Z,219nm,1.3s,mb5.6
MFF Saint Martin d 47.37 309 *e*P **P 07 37 28.4 -2.4**
comp=Z,109nm,1.3s,mb5.6
MFF Saint Martin d 47.37 309 *e*P **P 07 37 28.4 -2.4**
MFF pmax pmax
comp=Z,109nm,1.3s,mb5.6
MATF Mathat 47.43 308 *e*P **P 07 37 31.6 +0.3**
REYF Montagne du Re 47.44 304 *e*P **P 07 37 31.9 +0.6**
EBEN Beniarda 47.46 298 P **P 07 37 32.5 +1.0**
comp=Z,538nm,1.7s,mb6.2
EBEN Beniarda 47.46 298 P **P 07 37 32.5 +1.0**
comp=Z,538nm,1.7s,mb6.2
LDF La Druitiere 47.50 312 *e*P **P 07 37 29.3 -2.6**
comp=Z,78nm,0.5s,mb5.7
LDF La Druitiere 47.50 312 *e*P **P 07 37 29.3 -2.6**
comp=Z,39nm,0.5s,mb5.7
LDF La Druitiere 47.50 312 *e*P **P 07 37 29.3 -2.6**
LDF pmax pmax
comp=Z,39nm,0.5s,mb5.7
ESAC San Caprasio 47.51 303 P **P 07 37 32.5 +0.6**
comp=Z,311nm,0.9s,mb6.3
ESAC San Caprasio 47.51 303 P **P 07 37 32.5 +0.6**
comp=Z,311nm,0.9s,mb6.3
EMOS Mosqueruela 47.56 301 P **P 07 37 33.0 +0.7**
comp=Z,772nm,1.8s,mb6.4
EMOS Mosqueruela 47.56 301 P **P 07 37 33.0 +0.7**
comp=Z,772nm,1.8s,mb6.4
ETSF Etsaut 47.56 304 *e*P **P 07 37 31.0 -1.3**
comp=Z,275nm,1.0s,mb5.9
ETSF Etsaut 47.56 304 *e*P **P 07 37 31.0 -1.3**
comp=Z,138nm,1.0s,mb5.9
ETSF Etsaut 47.56 304 *e*P **P 07 37 31.0 -1.3**
ETSF pmax pmax
comp=Z,138nm,1.0s,mb5.9
FOO Floro 47.66 330 *e*P **P 07 37 36.6 +3.5**
FOO AMb AMB 07 37 48.2
comp=Z,94nm,1.6s,mb5.6
FOO Floro 47.66 330 *e*P **P 07 37 36.6 +3.5**
comp=Z,94nm,1.6s,mb5.6
LOF Lofoten 47.68 340 *e*P **P 07 37 31.1 -2.0**
LOF Lofoten 47.68 340 *e*P **P 07 37 31.1 -2.1**
SNR=25
ODJA Bouhanifia 47.72 294 P **P 07 37 36.0 +2.5**
FLN La Foliniere 47.76 312 *e*P **P 07 37 31.4 -2.4**
comp=Z,537nm,1.1s,mb6.2
FLN *e*R
comp=Z,6μm,22.5s
FLN La Foliniere 47.76 312 *e*P **P 07 37 31.4 -2.4**
comp=Z,268nm,1.1s,mb6.2
FLN LR LR
comp=Z,6μm,22.5s,MS5.5
FLN La Foliniere 47.76 312 *e*P **P 07 37 31.4 -2.4**
FLN pmax pmax
comp=Z,269nm,1.1s,mb6.2
FLN MLR MLR
comp=Z,6μm,22.5s,MS5.5
LCHF La Chataignera 47.78 309 *e*P **P 07 37 34.0 0.0**
ORDF Ordiarp 47.84 305 *e*P **P 07 37 33.9 -0.5**
LARF Larrau 47.87 304 *e*P **P 07 37 35.3 +0.6**
GRR Gorron 47.98 312 *e*P **P 07 37 33.2 -2.3**
ECHE Chera 47.98 300 P **P 07 37 35.8 +0.3**
comp=Z,59nm,0.8s,mb5.7
ECHE Chera 47.98 300 P **P 07 37 35.8 +0.3**
comp=Z,59nm,0.8s,mb5.7
ECHE Chera 47.98 300 P **P 07 37 35.8 +0.3**
ECHE pmax pmax
comp=Z,59nm,0.8s,mb5.7
SJPF Ste Jean 48.05 304 *e*P **P 07 37 34.8 -1.3**
comp=Z,122nm,0.6s,mb5.8
SJPF Ste Jean 48.05 304 *e*P **P 07 37 34.8 -1.3**
comp=Z,61nm,0.6s,mb5.8
SJPF Ste Jean 48.05 304 *e*P **P 07 37 34.8 -1.3**
SJPF pmax pmax
comp=Z,61nm,0.6s,mb5.8
OSSF Osses 48.07 305 *e*P **P 07 37 35.4 -0.9**
PSI Prapat 48.08 113 P **P 07 37 37.5 +1.3**
comp=Z,3.0nm,0.6s,baz=238,slow=11,SNR=5.0
PSI LR LR 07 58 21.3
comp=Z,3μm,21.9s,MS5.2,baz=289,slow=37
KULM Kulim 48.13 109 *e*P **P 07 37 38.1 +1.4**
KULM Kulim 48.13 109 *e*P **P 07 37 38.1 +1.4**
CART Cartagena 48.16 297 P **P 07 37 36.1 -0.8**
comp=Z,70nm,0.9s,mb5.7
CART Cartagena 48.16 297 P **P 07 37 36.1 -0.8**
comp=Z,70nm,0.9s,mb5.7
EALK Alkurruntz 48.25 305 P **P 07 37 37.4 -0.3**
comp=Z,234nm,1.6s,mb6.0
EALK Alkurruntz 48.25 305 P **P 07 37 37.4 -0.2**
comp=Z,234nm,1.6s,mb6.0
ELIZ Elizondo 48.27 305 P **P 07 37 37.5 -0.3**
comp=Z,113nm,1.4s,mb5.7
ELIZ Elizondo 48.27 305 P **P 07 37 37.5 -0.3**
comp=Z,113nm,1.4s,mb5.7
ELIZ Elizondo 48.27 305 P **P 07 37 37.5 -0.3**
ELIZ pmax pmax
comp=Z,113nm,1.4s,mb5.7
SKP1 Kophill 48.29 316 *e*P **P 07 37 37.3 -0.6**
SKP1 Kophill 48.29 316 *e*P **P 07 37 37.3 -0.6**
EMUR La Murta 48.32 297 P **P 07 37 38.0 -0.2**
comp=Z,185nm,1.7s,mb5.8
EMUR La Murta 48.32 297 P **P 07 37 38.0 -0.2**
comp=Z,185nm,1.7s,mb5.8
ETOB Tobarra 48.49 298 P **P 07 37 39.6 +0.1**
comp=Z,435nm,1.9s,mb6.2
ETOB Tobarra 48.49 298 P **P 07 37 39.6 +0.1**
comp=Z,435nm,1.9s,mb6.2
JRS Jersey 48.85 313 *e*P **P 07 37 44.1 +1.8**
JRS Jersey 48.85 313 *e*P **P 07 37 44.1 +1.8**
JLP Les Platons 48.86 313 *e*P **P 07 37 40.9 -1.4**

JLP	**Les Platons**	**48.86 313**	*e*P	**P**	**07 37 40.9**	**-1.4**	
SWN1	**Swindon**	**48.88 316**	*e*P	**P**	**07 37 43.1**	**+0.6**	
SWN1	**Swindon**	**48.88 316**	*e*P	**P**	**07 37 43.1**	**+0.6**	
JVM	**Valle D.L. Mar**	**48.93 313**	*e*P	**P**	**07 37 42.1**	**-0.7**	
JVM	**Valle D.L. Mar**	**48.93 313**	*e*P	**P**	**07 37 42.1**	**-0.7**	
KBI1	**Birley Grange**	**48.94 318**	*e*P	**P**	**07 37 41.6**	**-1.3**	
KBI1	**Birley Grange**	**48.94 318**	*e*P	**P**	**07 37 41.6**	**-1.3**	
ECRI	**Cripan**	**49.00 304**	P	**P**	**07 37 42.9**	**-0.5**	
ECRI	**Cripan**	**49.00 304**	P	**P**	**07 37 42.9**	**-0.5**	
	comp=Z,7.8nm,1.2s,mb4.6						
KWE	**Weaver Farm**	**49.09 318⇑**	*e*P	**P**	**07 37 43.8**	**-0.3**	
KWE	**Weaver Farm**	**49.09 318⇑**	*e*P	**P**	**07 37 43.8**	**-0.3**	
SGMF	**Saint Gilles**	**49.10 311**	*e*P	**P**	**07 37 42.2**	**-1.9**	
SWK	**Warminster**	**49.12 315**	*e*P	**P**	**07 37 42.8**	**-1.6**	
SWK	**Warminster**	**49.12 315**	*e*P	**P**	**07 37 42.8**	**-1.6**	
LHO	**Holmfirth**	**49.17 318**	*e*P	**P**	**07 37 44.2**	**-0.6**	
LHO	**Holmfirth**	**49.17 318**	*e*P	**P**	**07 37 44.2**	**-0.6**	
ENIJ	**Nijar**	**49.18 296**	P	**P**	**07 37 44.3**	**-0.5**	
	comp=Z,54nm,0.9s,mb5.6						
ENIJ	**Nijar**	**49.18 296**	P	**P**	**07 37 44.4**	**-0.4**	
	comp=Z,54nm,0.9s,mb5.6						
ENIJ	**Nijar**	**49.18 296**	P	**P**	**07 37 44.4**	**-0.4**	
ENIJ			pmax	pmax			
	comp=Z,54nm,0.9s,mb5.6						
CIT	**Chita**	**49.20 44**	*e*P	**P**	**07 37 44.3**	**-0.7**	
	comp=Z,151nm,2.3s,mb5.6						
CIT	**Chita**	**49.20 44**	*e*P	**P**	**07 37 44.3**	**-0.7**	
CIT			pmax	pmax			
	comp=Z,151nm,2.3s,mb5.6						
EHUE	**Huescar**	**49.39 297**	P	**P**	**07 37 45.7**	**-0.7**	
	comp=Z,49nm,0.8s,mb5.6						
EHUE	**Huescar**	**49.39 297**	P	**P**	**07 37 45.7**	**-0.7**	
	comp=Z,49nm,0.8s,mb5.6						
EHUE	**Huescar**	**49.39 297**	P	**P**	**07 37 45.7**	**-0.7**	
EHUE			pmax	pmax			
	comp=Z,49nm,0.8s,mb5.6						
QUIF	**Quistinic**	**49.49 311**	*e*P	**P**	**07 37 44.9**	**-2.2**	
	comp=Z,386nm,1.1s,mb6.0						
QUIF	**Quistinic**	**49.49 311**	*e*P	**P**	**07 37 44.9**	**-2.2**	
	comp=Z,193nm,1.1s,mb6.0						
QUIF	**Quistinic**	**49.49 311**	*e*P	**P**	**07 37 44.9**	**-2.2**	
QUIF			pmax	pmax			
	comp=Z,193nm,1.1s,mb6.0						
ROSF	**Rostrenen**	**49.58 311**	*e*P	**P**	**07 37 45.6**	**-2.2**	
	comp=Z,327nm,1.1s,mb6.0						
ROSF	**Rostrenen**	**49.58 311**	*e*P	**P**	**07 37 45.6**	**-2.2**	
	comp=Z,164nm,1.1s,mb6.0						
ROSF	**Rostrenen**	**49.58 311**	*e*P	**P**	**07 37 45.6**	**-2.2**	
ROSF			pmax	pmax			
	comp=Z,164nm,1.1s,mb6.0						
HLM1	**Long Mynd**	**49.66 317**	*e*P	**P**	**07 37 47.8**	**-0.6**	
HLM1			AMb	AMB	07 37 59.8		
	comp=Z,224nm,1.0s,mb6.2						
HLM1	**Long Mynd**	**49.66 317**	*e*P	**P**	**07 37 47.8**	**-0.6**	
HLM1			AMb	AMB	07 37 59.8		
	comp=Z,224nm,1.0s,mb6.2						
ELAN	**Lanestosa**	**49.66 305**	P	**P**	**07 37 48.4**	**-0.1**	
	comp=Z,312nm,1.3s,mb6.2						
ELAN	**Lanestosa**	**49.66 305**	P	**P**	**07 37 48.4**	**-0.1**	
	comp=Z,312nm,1.3s,mb6.2						
MCH1	**Michaelchurch**	**49.67 316**	*e*P	**P**	**07 37 46.6**	**-2.0**	
MCH1	**Michaelchurch**	**49.67 316**	*e*P	**P**	**07 37 46.6**	**-2.0**	
EBER	**Berja**	**49.73 296**	P	**P**	**07 37 48.7**	**-0.3**	
	comp=Z,454nm,1.7s,mb6.2						
EBER	**Berja**	**49.73 296**	P	**P**	**07 37 48.7**	**-0.3**	
	comp=Z,454nm,1.7s,mb6.2						
EQES	**Quesada**	**49.77 298**	P	**P**	**07 37 49.4**	**+0.1**	
	comp=Z,163nm,0.8s,mb6.1						
EQES	**Quesada**	**49.77 298**	P	**P**	**07 37 49.4**	**+0.1**	
	comp=Z,163nm,0.8s,mb6.1						
SSP1	**Stoney Pound**	**49.79 317**	*e*P	**P**	**07 37 47.7**	**-1.7**	
SSP1			AMb	AMB	07 37 57.8		
	comp=Z,272nm,2.1s,mb5.9						
SSP1	**Stoney Pound**	**49.79 317**	*e*P	**P**	**07 37 47.7**	**-1.7**	
SSP1			AMb	AMB	07 37 57.8		
	comp=Z,272nm,2.1s,mb5.9						
SBD1	**Bryn Du**	**49.93 317**	*e*P	**P**	**07 37 49.0**	**-1.5**	
SBD1	**Bryn Du**	**49.93 317**	*e*P	**P**	**07 37 49.0**	**-1.5**	
ESY	**Stoneypath**	**49.98 321**	*e*P	**P**	**07 37 52.7**	**+1.9**	
ESY			AMb	AMB	07 37 59.1		
	comp=Z,332nm,1.9s,mb6.0						
ESY	**Stoneypath**	**49.98 321**	*e*P	**P**	**07 37 52.7**	**+1.9**	
ESY			AMb	AMB	07 37 59.1		
	comp=Z,332nm,1.9s,mb6.0						
MELI	**Melilla**	**49.98 294**	*i* P	**P**	**07 37 52.0**	**+1.1**	
BDL	**Dobcross Hall**	**49.99 320**	*e*P	**P**	**07 37 50.6**	**-0.3**	
BDL	**Dobcross Hall**	**49.99 320**	*e*P	**P**	**07 37 50.6**	**-0.3**	
CKE	**Keswick**	**50.05 320**	*e*P	**P**	**07 37 51.4**	**-0.1**	
CKE	**Keswick**	**50.05 320**	*e*P	**P**	**07 37 51.4**	**-0.1**	
HEX	**Exmoor**	**50.09 315**	*e*P	**P**	**07 37 51.2**	**-0.5**	
HEX	**Exmoor**	**50.09 315**	*e*P	**P**	**07 37 51.2**	**-0.5**	
BBO1	**Bothel**	**50.15 320**	*e*P	**P**	**07 37 51.8**	**-0.4**	
BBO1	**Bothel**	**50.15 320**	*e*P	**P**	**07 37 51.8**	**-0.4**	
QIZ	**Qiongzhong**	**50.16 88**	P	**P**	**07 37 54.0**	**+1.8**	
QIZ			PP	PP	07 39 52.0	+4.6	
QIZ			S	**S**	**07 45 06.5**	**+2.5**	
QIZ			AMB	AMB			
	comp=Z,60nm,1.4s,mb5.4						
QIZ			AMB	AMB			
	comp=Z,923nm,10.4s						
QIZ			LR	LR			
	comp=N,2μm,20.0s,MS5.5						
QIZ			LR	LR			
	comp=E,4μm,18.9s,MS5.5						
QIZ			LR	LR			
	comp=Z,4μm,20.0s,MS5.4						
QIZ	**Qiongzhong**	**50.16 88**	*e*P	**P**	**07 37 53.4**	**+1.2**	
	comp=Z,78nm,0.9s,mb5.7						
BHH	**Howats Hill**	**50.19 320**	*e*P	**P**	**07 37 53.4**	**+0.9**	
BHH	**Howats Hill**	**50.19 320**	*e*P	**P**	**07 37 53.4**	**+0.9**	
EKA	**Eskdalemuir Ar**	**50.19 320**	P	**P**	**07 37 51.1**	**-1.3**	
	comp=Z,19nm,0.8s,mb5.1,baz=109,slow=5.7,SNR=15						
ESK	**Eskdalemuir**	**50.21 320**	*e*P	**P**	**07 37 52.5**	**-0.2**	
ECOG	**Cogollos-Vega**	**50.22 297**	P	**P**	**07 37 52.7**	**0.0**	
	comp=Z,37nm,0.7s,mb5.5						
ECOG	**Cogollos-Vega**	**50.22 297**	P	**P**	**07 37 52.7**	**0.0**	
	comp=Z,37nm,0.7s,mb5.5						
ECOG	**Cogollos-Vega**	**50.22 297**	P	**P**	**07 37 52.7**	**0.0**	
ECOG			pmax	pmax			
	comp=Z,37nm,0.7s,mb5.5						
LSZ	**Lusaka**	**50.22 215**	P	**P**	**07 37 53.7**	**+1.0**	
	comp=Z,1.2nm,0.3s,baz=50,slow=6.0,SNR=10.0						
LSZ			S	**S**	**07 45 05.7**	**+0.8**	
	comp=Z,2.7nm,0.7s,baz=168,slow=9.3,SNR=2.1						
LSZ			LR	LR	07 59 40.8		
	comp=Z,7μm,18.4s,MS5.7,baz=30,slow=37						
LSZ	**Lusaka**	**50.22 215**	*e*P	**P**	**07 37 53.8**	**+1.1**	
	comp=Z,87nm,1.3s,mb5.6						
LSZ	**Lusaka**	**50.22 215**	*e*P	**P**	**07 37 53.8**	**+1.1**	
	comp=Z,87nm,1.3s,mb5.6						
LSZ	**Lusaka**	**50.22 215**	*e*P	**P**	**07 37 53.8**	**+1.1**	
LSZ			pmax	pmax			
	comp=Z,87nm,1.3s,mb5.6						
ESDC	**Sonseca Array**	**50.28 300**	P	**P**	**07 37 52.7**	**-0.4**	
	comp=Z,8.3nm,0.5s,mb5.0,baz=70,slow=7.3,SNR=34						
ESDC			S	**S**	**07 45 04.7**	**-0.9**	
	comp=Z,0.2nm,0.3s,baz=79,slow=6.7,SNR=3.2						
ESDC	**Sonseca Array**	**50.28 300**	P	**P**	**07 37 53.1**	**0.0**	
	comp=Z,48nm,0.8s,mb5.6						
ESLA	**Sonseca Array**	**50.28 300**	*e*P	**P**	**07 37 53.3**	**+0.2**	
	comp=Z,9.1nm,0.8s,mb4.9						
ESLA	**Sonseca Array**	**50.28 300**	*e*P	**P**	**07 37 53.3**	**+0.1**	
	comp=Z,9.1nm,0.8s,mb4.9						
ESLA			LR	LR			
	comp=Z,31μm,22.0s,MS6.3						
EBAN	**Banos Encina**	**50.29 298**	P	**P**	**07 37 53.6**	**+0.4**	
	comp=Z,94nm,0.8s,mb5.9						
EBAN	**Banos Encina**	**50.29 298**	P	**P**	**07 37 53.6**	**+0.4**	
	comp=Z,94nm,0.8s,mb5.9						
EBAN	**Banos Encina**	**50.29 298**	P	**P**	**07 37 53.6**	**+0.4**	
EBAN			pmax	pmax			
	comp=Z,94nm,0.8s,mb5.9						
GUD	**Guadarrama**	**50.34 301**	P	**P**	**07 37 53.6**	**0.0**	
	comp=Z,46nm,1.0s,mb5.5						
GUD	**Guadarrama**	**50.34 301**	P	**P**	**07 37 53.6**	**0.0**	
	comp=Z,46nm,1.0s,mb5.5						
GUD	**Guadarrama**	**50.34 301**	P	**P**	**07 37 53.6**	**0.0**	
GUD			pmax	pmax			
	comp=Z,46nm,1.0s,mb5.5						
BOD	**Bodaibo**	**50.35 36**	*e*P	**P**	**07 37 52.9**	**-0.8**	
	comp=Z,187nm,1.6s,mb5.9						
BOD	**Bodaibo**	**50.35 36**	*e*P	**P**	**07 37 52.9**	**-0.8**	
BOD			pmax	pmax			
	comp=Z,187nm,1.6s,mb5.9						
HSA	**Swansea**	**50.36 316**	*e*P	**P**	**07 37 52.8**	**-1.0**	
HSA	**Swansea**	**50.36 316**	*e*P	**P**	**07 37 52.8**	**-1.0**	
ERON	**Agron**	**50.44 297**	P	**P**	**07 37 52.9**	**-1.5**	
	comp=Z,96nm,0.8s,mb5.9						
ERON	**Agron**	**50.44 297**	P	**P**	**07 37 52.9**	**-1.5**	
	comp=Z,96nm,0.8s,mb5.9						
BWH	**Wardlaw**	**50.45 320**	*e*P	**P**	**07 37 53.8**	**-0.6**	
BWH	**Wardlaw**	**50.45 320**	*e*P	**P**	**07 37 53.8**	**-0.6**	
YRE	**Yr Eifl**	**50.64 317**	*e*P	**P**	**07 37 54.1**	**-1.8**	
YRE			AMb	AMB	07 37 59.0		
	comp=Z,100nm,0.9s,mb5.8						
YRE	**Yr Eifl**	**50.64 317**	*e*P	**P**	**07 37 54.1**	**-1.8**	
YRE			AMb	AMB	07 37 59.0		
	comp=Z,100nm,0.9s,mb5.8						
WLF1	**Llynfaes**	**50.65 318**	*e*P	**P**	**07 37 53.6**	**-2.4**	
WLF1			AMb	AMB	07 38 08.0		
	comp=Z,174nm,1.3s,mb5.8						
WLF1	**Llynfaes**	**50.65 318**	*e*P	**P**	**07 37 53.6**	**-2.4**	
WLF1			AMb	AMB	07 38 08.0		
	comp=Z,174nm,1.3s,mb5.8						
ELOJ	**Sierra Loja**	**50.70 297**	P	**P**	**07 37 55.7**	**-0.6**	
	comp=Z,62nm,0.8s,mb5.6						
ELOJ	**Sierra Loja**	**50.70 297**	P	**P**	**07 37 55.7**	**-0.6**	
	comp=Z,62nm,0.8s,mb5.6						
ELOJ	**Sierra Loja**	**50.70 297**	P	**P**	**07 37 55.7**	**-0.6**	
ELOJ			pmax	pmax			
	comp=Z,62nm,0.8s,mb5.6						
CSA1	**St Austell**	**50.73 314**	*e*P	**P**	**07 37 56.2**	**-0.4**	
CSA1	**St Austell**	**50.73 314**	*e*P	**P**	**07 37 56.2**	**-0.4**	
ELUQ	**Luque**	**50.74 297**	P	**P**	**07 37 55.8**	**-0.8**	
	comp=Z,39nm,0.8s,mb5.4						
ELUQ	**Luque**	**50.74 297**	P	**P**	**07 37 55.8**	**-0.9**	
	comp=Z,39nm,0.8s,mb5.4						
ELUQ	**Luque**	**50.74 297**	P	**P**	**07 37 55.8**	**-0.8**	
ELUQ			pmax	pmax			
	comp=Z,39nm,0.8s,mb5.4						
WCB1	**Church Bay**	**50.75 318**	*e*P	**P**	**07 37 56.5**	**-0.2**	
WCB1			AMb	AMB	07 38 01.9		
	comp=Z,142nm,1.3s,mb5.7						
WCB1	**Church Bay**	**50.75 318**	*e*P	**P**	**07 37 56.5**	**-0.2**	
WCB1			AMb	AMB	07 38 01.9		
	comp=Z,142nm,1.3s,mb5.7						
YRC	**Rhoscolyn**	**50.76 318**	*e*P	**P**	**07 37 54.9**	**-1.9**	
YRC	**Rhoscolyn**	**50.76 318**	*e*P	**P**	**07 37 54.9**	**-1.9**	
GIM	**North Isle of**	**50.80 319**	*e*P	**P**	**07 37 56.9**	**-0.2**	
GIM	**North Isle of**	**50.80 319**	*e*P	**P**	**07 37 56.9**	**-0.2**	
CMA1	**Manaccan**	**50.87 314**	*e*P	**P**	**07 38 00.1**	**+2.5**	
CMA1	**Manaccan**	**50.87 314**	*e*P	**P**	**07 38 00.1**	**+2.5**	
CGH1	**Goonhilly**	**50.90 314**	*e*P	**P**	**07 38 00.1**	**+2.3**	
CGH1	**Goonhilly**	**50.90 314**	*e*P	**P**	**07 38 00.1**	**+2.3**	
WHN	**Wuhan**	**50.90 72**	P	**P**	**07 37 59.0**	**+1.2**	
WHN			LR	LR			
	comp=Z,10μm,15.6s,MS5.9						
EADA	**Adamuz**	**50.91 298**	P	**P**	**07 37 58.1**	**+0.2**	
	comp=Z,584nm,1.5s,mb6.3						
EADA	**Adamuz**	**50.91 298**	P	**P**	**07 37 58.1**	**+0.1**	
	comp=Z,584nm,1.5s,mb6.3						
BJT	**Baijiatuau**	**50.92 59**	P	**P**	**07 37 58.9**	**+0.9**	
	comp=Z,46nm,1.0s,mb5.4						
BJT	**Baijiatuau**	**50.92 59**	P	**P**	**07 37 58.9**	**+0.9**	
BJT			pmax	pmax			
	comp=Z,46nm,1.0s						
BJI	**Beijing**	**50.92 59**	P	**P**	**07 37 58.8**	**+0.8**	
BJI			AP	pP	07 38 10.3	+9.1	
BJI			PCP	PcP	07 39 14.8	+0.4	
BJI			PP	PP	07 39 57.0	+2.6	
BJI			S	**S**	**07 45 14.5**	**-0.1**	
BJI			AMB	AMB			
	comp=Z,23nm,1.2s,mb5.0						
BJI			AMB	AMB			
	comp=Z,913nm,9.1s						
BJI			LR	LR			
	comp=N,12μm,22.5s,MS5.9						
BJI			LR	LR			
	comp=E,5μm,23.4s,MS5.9						
BJI			LR	LR			
	comp=Z,7μm,19.0s,MS5.7						
CCA1	**Carnmenellis**	**50.94 314**	*e*P	**P**	**07 38 00.6**	**+2.4**	
CCA1	**Carnmenellis**	**50.94 314**	*e*P	**P**	**07 38 00.6**	**+2.4**	
EARI	**Arriondas**	**50.95 305**	P	**P**	**07 37 58.8**	**+0.6**	
	comp=Z,474nm,2.4s,mb6.0						
EARI	**Arriondas**	**50.95 305**	P	**P**	**07 37 58.8**	**+0.6**	
	comp=Z,474nm,2.4s,mb6.0						
EAB	**Aberfoyle**	**50.98 321**	*e*P	**P**	**07 37 59.9**	**+1.5**	
EAB			AMb	AMB	07 38 12.1		
	comp=Z,172nm,1.5s,mb5.8						
EAB	**Aberfoyle**	**50.98 321**	*e*P	**P**	**07 37 59.9**	**+1.5**	
EAB			AMb	AMB	07 38 12.1		
	comp=Z,172nm,1.5s,mb5.8						
CPZ	**Penzance**	**51.17 314**	*e*P	**P**	**07 38 02.0**	**+2.1**	
CPZ	**Penzance**	**51.17 314**	*e*P	**P**	**07 38 02.0**	**+2.1**	
EMIJ	**Mijas**	**51.27 296**	P	**P**	**07 37 59.8**	**-0.8**	
	comp=Z,397nm,2.1s,mb6.0						
EMIJ	**Mijas**	**51.27 296**	P	**P**	**07 37 59.8**	**-0.8**	
	comp=Z,397nm,2.1s,mb6.0						
ECAB	**El Cabril**	**51.58 298**	P	**P**	**07 38 02.6**	**-0.3**	
	comp=Z,643nm,1.5s,mb6.3						
ECAB	**El Cabril**	**51.58 298**	P	**P**	**07 38 02.6**	**-0.4**	
	comp=Z,643nm,1.5s,mb6.3						
KAC	**Achnashellach**	**51.69 323**	*e*P	**P**	**07 38 02.8**	**-0.9**	
KAC	**Achnashellach**	**51.69 323**	*e*P	**P**	**07 38 02.8**	**-0.9**	
LIJA	**Lijar**	**51.73 297**	*e*P	**P**	**07 38 02.5**	**-1.5**	
RSC	**Scourie**	**51.75 324**	*e*P	**P**	**07 38 03.9**	**-0.3**	
RSC	**Scourie**	**51.75 324**	*e*P	**P**	**07 38 03.9**	**-0.3**	
MDT	**Midelt**	**51.77 291**	P	**P**	**07 38 02.9**	**-1.5**	
	comp=Z,30nm,1.0s,mb5.2,baz=86,slow=9.2,SNR=41						
MDT			S	**S**	**07 45 27.0**	**+0.8**	
	comp=Z,2.2nm,1.0s,baz=272,slow=14,SNR=3.1						
EJIF	**Jimena Fronter**	**51.84 296**	P	**P**	**07 38 04.0**	**-0.9**	
	comp=Z,26nm,0.8s,mb5.2						
EJIF	**Jimena Fronter**	**51.84 296**	P	**P**	**07 38 04.0**	**-0.9**	
	comp=Z,26nm,0.8s,mb5.2						
EJIF	**Jimena Fronter**	**51.84 296**	P	**P**	**07 38 04.0**	**-0.9**	
EJIF			pmax	pmax			
	comp=Z,26nm,0.8s,mb5.2						
KPL	**Plockton**	**51.85 323**	*e*P	**P**	**07 38 05.3**	**+0.3**	
KPL	**Plockton**	**51.85 323**	*e*P	**P**	**07 38 05.3**	**+0.3**	
KAR1	**Arisaig**	**51.89 322**	*e*P	**P**	**07 38 05.1**	**-0.2**	
KAR1	**Arisaig**	**51.89 322**	*e*P	**P**	**07 38 05.1**	**-0.2**	
DLF	**Lyons Farm**	**51.93 318**	*e*P	**P**	**07 38 03.3**	**-2.3**	
GZH	**Guangzhou**	**51.94 81**	P	**P**	**07 38 06.0**	**+0.4**	
GZH			S	**S**	**07 45 27.0**	**-1.6**	
GZH			LR	LR			
	comp=N,4μm,21.8s,MS5.5						
GZH			LR	LR			
	comp=E,3μm,24.3s,MS5.5						
GZH			LR	LR			
	comp=Z,3μm,18.0s						
CZD	**Col de Zad**	**52.08 292**	*i* P	**P**	**07 38 07.0**	**+0.3**	
ESPR	**Espera**	**52.09 297**	P	**P**	**07 38 06.1**	**-0.7**	
	comp=Z,385nm,1.8s,mb6.0						
ESPR	**Espera**	**52.09 297**	P	**P**	**07 38 06.1**	**-0.7**	
	comp=Z,385nm,1.8s,mb6.0						
TIA	**Tai'an**	**52.15 64**	*e*P	**P**	**07 38 08.0**	**+0.8**	
TIA			AMB	AMB			
	comp=Z,51nm,1.0s,mb5.4						
TIA			LR	LR			
	comp=N,6μm,15.0s,MS5.8						
TIA			LR	LR			
	comp=E,3μm,14.0s,MS5.8						
MIF	**Mishlifen**	**52.16 292**	*i* P	**P**	**07 38 07.0**	**-0.3**	
ECAL	**Calabor**	**52.17 303**	P	**P**	**07 38 07.4**	**0.0**	
	comp=E,373nm,2.2s,mb5.9						
ECAL	**Calabor**	**52.17 303**	P	**P**	**07 38 07.5**	**+0.1**	
	comp=E,373nm,2.2s,mb5.9						
PBRG	**Braganca**	**52.19 303**	*e*P	**P**	**07 38 07.9**	**+0.4**	
	comp=E,50nm,1.1s,mb5.3						
DMUB	**Kingscourt**	**52.20 318**	*e*P	**P**	**07 38 08.0**	**+0.4**	
TORD	**Torodi Ar. Bea**	**52.21 265**	P	**P**	**07 38 06.0**	**-1.7**	
	comp=E,46nm,0.6s,mb5.6,baz=63,slow=6.6,SNR=217						
TORD			S	**S**	**07 45 28.6**	**-3.8**	
	comp=E,3.6nm,1.0s,baz=75,slow=15,SNR=3.4						
EPON	**Pontenova**	**52.37 305**	P	**P**	**07 38 09.2**	**+0.4**	
	comp=E,325nm,1.8s,mb6.0						
EPON	**Pontenova**	**52.37 305**	P	**P**	**07 38 09.2**	**+0.4**	
	comp=E,325nm,1.8s,mb6.0						
DCN	**Croghan**	**52.38 318**	*e*P	**P**	**07 38 07.2**	**-1.7**	
ERUA	**La Rua**	**52.43 304**	P	**P**	**07 38 09.3**	**0.0**	
	comp=E,146nm,1.4s,mb5.7						
ERUA	**La Rua**	**52.43 304**	P	**P**	**07 38 09.3**	**0.0**	
	comp=E,146nm,1.4s,mb5.7						
ERUA	**La Rua**	**52.43 304**	P	**P**	**07 38 09.3**	**0.0**	
ERUA			pmax	pmax			
	comp=Z,146nm,1.4s,mb5.7						
RRH	**Rhenigidale**	**52.48 323**	*e*P	**P**	**07 38 09.8**	**+0.2**	
RRH	**Rhenigidale**	**52.48 323**	*e*P	**P**	**07 38 09.8**	**+0.2**	
EMIN	**Mina Concepcio**	**52.60 298**	P	**P**	**07 38 09.8**	**-0.8**	
	comp=Z,372nm,2.0s,mb6.0						
EMIN	**Mina Concepcio**	**52.60 298**	P	**P**	**07 38 09.8**	**-0.8**	
	comp=Z,372nm,2.0s,mb6.0						
EBAD	**Badajoz**	**52.73 299**	P	**P**	**07 38 11.3**	**-0.2**	
	comp=Z,281nm,1.9s,mb5.9						
EBAD	**Badajoz**	**52.73 299**	P	**P**	**07 38 11.3**	**-0.3**	
	comp=Z,281nm,1.9s,mb5.9						
MTE	**Manteigas**	**52.94 301**	*e*P	**P**	**07 38 13.8**	**+0.8**	
	comp=Z,97nm,1.6s,mb5.5						
MTE			*e*S	**S**	**07 45 44.9**	**+2.6**	
MTE			*i* -		07 50 07.5		
MTE			*e*LQ		07 55 30.6		
MTE			*e*LR	LR	07 59 35.2		
	comp=Z,4μm,20.0s						
MTE	**Manteigas**	**52.94 301**	*e*P	**P**	**07 38 13.0**	**0.0**	
	comp=Z,237nm,1.4s,mb5.9						
MTE	**Manteigas**	**52.94 301**	*e*P	**P**	**07 38 13.0**	**-0.1**	
	comp=Z,237nm,1.4s,mb5.9						
PCBR	**Castelo Branco**	**52.95 301**	*e*P	**P**	**07 38 13.3**	**+0.2**	
	comp=Z,113nm,1.3s,mb5.6						
PVRL	**Vila Real**	**52.97 302**	*e*P	**P**	**07 38 13.9**	**+0.6**	
	comp=Z,109nm,1.6s,mb5.5						
HIA	**Hailar**	**53.00 48**	*e*P	**P**	**07 38 14.0**	**+0.5**	
	comp=Z,45nm,1.0s,mb5.3						
HIA	**Hailar**	**53.00 48**	*e*P	**P**	**07 38 14.0**	**+0.5**	
	comp=Z,45nm,1.0s,mb5.4						
HIA	**Hailar**	**53.00 48**	*e*P	**P**	**07 38 14.0**	**+0.5**	
HIA			pmax	pmax			
	comp=Z,45nm,1.0s						
HSP	**Hornsund**	**53.00 349**	*e*P	**P**	**07 38 13.9**	**+0.4**	
ELOB	**Lobios**	**53.16 303**	P	**P**	**07 38 14.6**	**-0.1**	
	comp=Z,163nm,1.4s,mb5.8						
ELOB	**Lobios**	**53.16 303**	P	**P**	**07 38 14.6**	**-0.1**	
	comp=Z,163nm,1.4s,mb5.8						
PVIS	**Viseu**	**53.16 302**	*e*P	**P**	**07 38 15.6**	**+0.9**	
	comp=Z,113nm,1.7s,mb5.5						
EGRO	**El Granado**	**53.27 298**	P	**P**	**07 38 14.6**	**-0.9**	
	comp=Z,649nm,3.5s						
EGRO	**El Granado**	**53.27 298**	P	**P**	**07 38 14.6**	**-0.9**	
	comp=Z,649nm,3.5s						
STS	**Santiago**	**53.42 305**	P	**P**	**07 38 16.5**	**-0.1**	
	comp=Z,43nm,0.8s,mb5.4						
STS	**Santiago**	**53.42 305**	P	**P**	**07 38 16.5**	**-0.1**	
	comp=Z,43nm,0.8s,mb5.4						
STS	**Santiago**	**53.42 305**	P	**P**	**07 38 16.5**	**-0.1**	
STS			pmax	pmax			
	comp=Z,43nm,0.8s,mb5.4						
PBEJ	**Beja**	**53.50 298**	*e*P	**P**	**07 38 17.3**	**+0.1**	
	comp=Z,42nm,1.7s,mb5.1						
EZAM	**Zamans**	**53.60 304**	P	**P**	**07 38 18.0**	**+0.1**	
	comp=Z,45nm,1.0s,mb5.3						
EZAM	**Zamans**	**53.60 304**	P	**P**	**07 38 18.0**	**+0.1**	
	comp=Z,45nm,1.0s,mb5.3						
EZAM	**Zamans**	**53.60 304**	P	**P**	**07 38 18.0**	**+0.1**	
EZAM			pmax	pmax			
	comp=Z,45nm,1.0s,mb5.3						
PTOM	**Tomar**	**53.70 300**	*e*P	**P**	**07 38 19.3**	**+0.7**	
	comp=Z,133nm,1.1s,mb5.8						
EMAZ	**Mazaricos**	**53.73 305**	P	**P**	**07 38 19.0**	**+0.1**	
	comp=Z,198nm,1.0s,mb6.0						
EMAZ	**Mazaricos**	**53.73 305**	P	**P**	**07 38 19.0**	**+0.2**	
	comp=Z,198nm,1.0s,mb6.0						
AVE	**Averroes**	**53.98 293**	P	**P**	**07 38 20.5**	**-0.2**	
VAL	**Valentia**	**54.15 316**	*e*P	**P**	**07 38 19.5**	**-2.4**	
NJ2	**Nanjing**	**54.34 69**	*e*P	**P**	**07 38 24.3**	**+1.0**	
NJ2			AP	pP	07 38 29.0	+2.5	
NJ2			XP	sP	07 38 31.3	+3.6	
NJ2			PP	PP	07 40 28.0	+2.8	
NJ2			S	**S**	**07 46 00.0**	**-1.2**	
NJ2			AMB	AMB			
	comp=Z,30nm,1.1s,mb5.1						
NJ2			AMB	AMB			
	comp=Z,510nm,10.6s						
NJ2			LR	LR			
	comp=N,7μm,19.2s,MS

SSE S **S** **07 46 22.5 -7.6**
SSE XS sS 07 46 41.8 +6.4
SSE SCS ScS 07 48 28.0 -0.2
SSE AMB AMB
comp=Z,45nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,493nm,8.9s
SSE LR LR
comp=N,1μm,21.0s,MS5.5
SSE LR LR
comp=E,4μm,21.0s,MS5.5
SSE LR LR
comp=Z,4μm,20.2s,MS5.5
CN2 Changchun 57.35 54 *e*P **P** **07 38 45.0 +0.1**
CN2 *e*S **S** **07 46 36.3 -5.1**
CN2 XS sS 07 46 57.8 +11
CN2 AMB AMB
comp=Z,50nm,1.3s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,11μm,22.0s,MS6.0
CN2 LR LR
comp=E,4μm,22.0s,MS6.0
CN2 LR LR
comp=Z,9μm,21.0s,MS5.9
YHNB Yeheng 58.45 77 P **P** **07 38 54.5 +1.9**
YHNB Yeheng 58.45 77 P **P** **07 38 54.5 +1.8**
YAK Yakutsk 58.60 32 *e*P **P** **07 38 52.3 -1.4**
comp=Z,11nm,1.0s,mb4.8
YAK Yakutsk 58.60 32 *e*PcP PcP 07 39 41.8 -2.0
YAK *e*S **S** **07 46 55.8 -2.0**
comp=Z,302nm,9.4s
YAK Yakutsk 58.60 32 P **P** **07 38 51.8 -1.9**
comp=Z,88nm,0.9s,mb5.8
YAK Yakutsk 58.60 32 *e*P **P** **07 38 52.3 -1.4**
YAK *e**PP pP 07 39 01.4 +4.5
YAK *e* 07 39 41.8
YAK *e* 07 41 02.8
YAK *e*PPP 07 42 22.2
YAK *e*S **S** **07 46 55.8 -2.0**
YAK *e* 07 48 44.2
YAK *e*SS SS 07 50 49.4 -1.0
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,0.8s
YAK smax
comp=E,467nm,11.2s
YAK smax
comp=N,302nm,9.4s
YAK MLR MLR
comp=Z,9μm,14.0s,MS6.1
YAK MLR MLR
comp=N,1μm,12.0s
YAK MLR MLR
comp=E,9μm,18.0s
TIXI Tiksi 58.82 21⇑ *i*P **P** **07 38 54.4 -0.8**
TIXI Tiksi 58.82 21 *e*P **P** **07 38 49.1 -6.1**
TIXI *e*S **S** **07 46 52.3 -8.4**
TIXI *e* 07 48 38.1
TIXI pmax pmax
comp=Z,57nm,1.1s,mb5.5
TIXI pmax pmax
comp=N,14nm,1.6s
TIXI pmax pmax
comp=E,13nm,0.8s
TIXI pmax pmax
comp=Z,912nm,4.9s
TIXI smax
comp=N,612nm,11.4s
TIXI smax
comp=E,832nm,11.2s
TIXI MLR MLR
comp=E,11μm,16.0s,MS6.1
TIXI MLR MLR
comp=Z,14μm,16.0s,MS6.2
TIXI MLR MLR
comp=N,5μm,15.0s,MS6.1
TSUM Tsumeb 59.33 223 P **P** **07 38 59.8 +1.0**
TSUM S **S** **07 47 11.0 +3.8**
TSUM Tsumeb 59.33 223 P **P** **07 38 59.1 +0.3**
comp=N,16nm,0.6s,mb5.2,baz=36,slow=6.3,SNR=47
TSUM Tsumeb 59.33 223 *e*P **P** **07 38 58.6 -0.1**
comp=N,458nm,0.3s
TSUM Tsumeb 59.33 223 *e*P **P** **07 38 58.6 -0.2**
comp=N,458nm,0.3s
INCN Inchon 59.40 61 *e*P **P** **07 38 57.9 -1.3**
comp=N,83nm,0.9s,mb5.8
INCN Inchon 59.40 61 *e*P **P** **07 38 57.9 -1.3**
comp=N,83nm,0.9s,mb5.8
LBTB Lobatse 59.76 212 P **P** **07 39 02.1 +0.5**
LBTB Lobatse 59.76 212 P **P** **07 39 01.4 -0.2**
comp=N,16nm,0.7s,mb5.1,baz=38,slow=7.2,SNR=17
LBTB S **S** **07 47 10.6 -2.1**
comp=N,3.2nm,0.7s,baz=165,slow=20,SNR=1.2
LBTB LR LR 08 03 45.9
comp=N,3μm,20.3s,MS5.5,baz=277,slow=35
LBTB Lobatse 59.76 212 *e*P **P** **07 39 01.7 0.0**
comp=N,67nm,0.9s,mb5.7
LBTB Lobatse 59.76 212 *e*P **P** **07 39 01.7 0.0**
comp=N,67nm,0.9s,mb5.7
LBTB Lobatse 59.76 212 *e*P **P** **07 39 01.7 0.0**
LBTB pmax pmax
comp=Z,67nm,0.9s,mb5.7
DAG Danmarks Havn 59.80 345⇓ *i*P **P** **07 39 02.0 0.0**
comp=Z,14nm,0.5s,mb5.2
DAG Danmarks Havn 59.80 345⇓ *i*P **P** **07 39 02.0 0.0**
DAG pmax pmax
comp=Z,14nm,0.5s,mb5.2
BORG Borgarnes 59.91 331 P **P** **07 39 04.2 +1.4**
comp=Z,43nm,0.9s,mb5.5,baz=100,slow=8.3,SNR=8.1
BORG LR LR 08 06 56.3
comp=Z,4μm,20.5s,MS5.5,baz=113,slow=38
MDJ Mudanjiang 60.16 52 P **P** **07 39 02.0 -2.5**
MDJ XP sP 07 39 10.5 +1.6
MDJ PP PP 07 41 19.0 +1.9
MDJ S **S** **07 47 16.0 -1.9**
MDJ PS 07 47 29.3
MDJ SCS ScS 07 48 50.3 -4.9
MDJ SS SS 07 51 14.8 -0.1
MDJ AMB AMB
comp=Z,20nm,1.4s,mb5.0
MDJ AMB AMB
comp=Z,377nm,3.2s
MDJ LR LR
comp=N,6μm,26.0s,MS5.7
MDJ LR LR
comp=E,4μm,24.2s,MS5.7
MDJ LR LR
comp=Z,5μm,21.5s,MS5.6
SCO Scoresbysund 60.17 338 *i*P **P** **07 39 05.5 +1.0**
comp=Z,24nm,0.8s,mb5.3
SCO *i*S **S** **07 47 30.3 +12**
SCO Scoresbysund 60.17 338 *i*P **P** **07 39 05.5 +1.0**
SCO *i*S **S** **07 47 30.3 +12**
SCO pmax pmax
comp=Z,25nm,0.8s,mb5.3
KS15 Wonju Array Si 60.38 61 *e*P **P** **07 39 06.0 +0.1**
KLR Kul'dur 60.83 47 *e*S **S** **07 47 23.5 -3.0**
KLR Kul'dur 60.83 47 *e*P **P** **07 39 05.3 -3.7**
KLR *e*S **S** **07 47 23.5 -3.0**
KLR *e* 07 48 51.5
KLR pmax pmax
comp=E,40nm,1.4s
KLR pmax pmax
comp=Z,110nm,1.4s,mb5.8
KLR pmax pmax
comp=Z,2μm,12.0s
KLR MLR MLR
comp=E,9μm,13.5s
KLR MLR MLR
comp=Z,31μm,13.5s,MS6.6
DBIC Dimbokro 60.85 262 P **P** **07 39 09.2 0.0**
DBIC S **S** **07 47 25.5 -1.2**
DBIC Dimbokro 60.85 262 P **P** **07 39 09.2 +0.1**
comp=Z,28nm,0.9s,mb5.4,baz=51,slow=8.5,SNR=21
DBIC S **S** **07 47 24.0 -2.7**
comp=Z,8.9nm,1.0s,baz=213,slow=16,SNR=4.4
DBIC LR LR 08 06 47.1
comp=Z,4μm,19.2s,MS5.5,baz=42,slow=37
DBIC Dimbokro 60.85 262 *e*P **P** **07 39 09.2 +0.1**
comp=Z,51nm,0.7s,mb5.8
DBIC Dimbokro 60.85 262 *e*P **P** **07 39 09.2 0.0**
comp=Z,51nm,0.7s,mb5.8
DBIC Dimbokro 60.85 262 *e*P **P** **07 39 09.2 +0.1**
DBIC pmax pmax
comp=Z,51nm,0.7s
LIC Lamto 61.20 262 *e*P **P** **07 39 11.3 -0.3**
comp=Z,134nm,0.7s,mb5.9
LIC *e*R
comp=Z,2μm,17.0s
LIC Lamto 61.20 262 *e*P **P** **07 39 11.3 -0.3**
comp=Z,67nm,0.7s,mb5.9
LIC LR LR
comp=Z,1μm,17.0s,MS5.0
PMPS Porto Santo 61.30 294 *e*P **P** **07 39 12.5 +0.3**
comp=Z,176nm,2.1s,mb5.8
VLA Vladivostok 62.09 54*c i*P **P** **07 39 15.2 -2.3**
VLA MLR MLR
comp=Z,7μm,19.6s,MS5.8
HABR Khabarovsk 63.11 47 *e*P **P** **07 39 24.1 -0.3**
HABR *e*S **S** **07 47 57.9 +2.5**
HABR pmax pmax
comp=Z,143nm,1.5s,mb5.9
HABR MLR MLR
comp=Z,3μm,22.2s,MS5.4
JOW Kunigami 63.66 72 P **P** **07 39 30.9 +2.9**
comp=Z,19nm,0.7s,mb5.2,baz=298,slow=13,SNR=5.3
JOW LR LR 08 09 56.3
comp=Z,3μm,19.9s,MS5.4,baz=177,slow=39
JNU Nakatsue 63.88 65 P **P** **07 39 30.1 +0.7**
comp=Z,32nm,0.8s,mb5.4,baz=20,slow=4.5,SNR=5.5
JNU S **S** **07 48 07.3 +2.5**
comp=Z,2.8nm,0.3s,baz=0.0,slow=20,SNR=2.3
SUMG Summit 65.19 341 *e*P **P** **07 39 37.6 -0.4**
comp=Z,170nm,0.9s,mb6.1
SUMG Summit 65.19 341 *e*P **P** **07 39 37.6 -0.5**
comp=Z,170nm,0.9s,mb6.1
ALE Alert 66.34 353 P **P** **07 39 43.7 -1.7**
comp=Z,353nm,1.0s,mb6.3,SNR=21
SUR Sutherland 68.20 211 P **P** **07 39 59.6 +2.3**
comp=Z,14nm,1.0s,mb5.0,baz=161,slow=9.4,SNR=3.5
SUR Sutherland 68.20 211 *e*P **P** **07 40 01.9 +4.7**
comp=Z,48nm,0.9s,mb5.5
YSS Yuzh-Sakhalins 68.53 47 *e*P **P** **07 39 58.7 -0.5**
comp=Z,104nm,0.8s,mb5.8
YSS Yuzh-Sakhalins 68.53 47⇓ *e*P **P** **07 39 57.7 -1.6**
YSS *i**SP sP 07 40 02.7 -1.0
YSS *e* 07 42 39.0
YSS *e*S S 07 48 56.0 -5.4
YSS *e*PPS 07 49 23.0
YSS *e* 07 49 51.0
YSS *e*SS SS 07 53 26.0 +0.7
YSS *e*SSS 07 56 30.0
YSS MLR MLR
comp=E,9μm,17.0s
YSS MLR MLR
comp=Z,9μm,17.0s,MS6.1
MAJO Matsushiro 68.56 59 *e*P **P** **07 39 59.2 -0.3**
comp=Z,54nm,1.1s,mb5.4
MAJO Matsushiro 68.56 59 *e*P **P** **07 39 59.2 -0.2**
comp=Z,54nm,1.1s,mb5.4
MAJO Matsushiro 68.56 59 P **P** **07 39 59.4 -0.1**
MAJO pmax pmax
comp=Z,54nm,1.1s,mb5.4
MAT Matsushiro 68.56 59 *e*P **P** **07 39 59.0 -0.5**
comp=Z,20nm,1.0s,mb5.0
MAT *e*S S 07 48 59.0 -2.8
comp=Z,3μm,19.0s
MAT Matsushiro 68.56 59 *e*P **P** **07 39 59.0 -0.5**
comp=Z,20nm,1.0s,mb5.0
MAT *e*S S 07 48 59.0 -2.8
MAT LR LR
comp=Z,3μm,19.0s,MS5.6
MAT Matsushiro 68.56 59 *e*P **P** **07 39 59.0 -0.5**
MAT *e*S S 07 48 59.0 -2.8
MAT pmax pmax
comp=Z,20nm,1.0s,mb5.0
MAT MLR MLR
comp=Z,3μm,19.0s,MS5.6
MJAR Matsushiro Arr 68.56 59 P **P** **07 39 59.0 -0.5**
comp=Z,12nm,0.9s,mb4.8,baz=287,slow=8.8,SNR=25
MJAR LR LR 08 12 54.2
comp=Z,3μm,19.9s,MS5.5,baz=295,slow=38
SEY Seymchan 68.80 29 *e*P **P** **07 40 00.8 -0.2**
comp=Z,127nm,1.6s,mb5.6
SEY Seymchan 68.80 29⇓ *i*P **P** **07 40 01.6 +0.6**
SEY Seymchan 68.80 29 *e*P **P** **07 40 00.8 -0.2**
SEY 07 40 28.1
SEY *e* 07 42 31.3
SEY *e*PPP 07 44 09.5
SEY *e*S S 07 49 06.7 +2.0
SEY 07 50 00.9
SEY pmax pmax
comp=Z,127nm,1.6s,mb5.6
SEY pmax pmax
comp=E,50nm,1.3s
SEY smax
comp=N,690nm,7.2s
SEY smax
comp=E,374nm,8.1s
SEY MLR MLR
comp=Z,33μm,17.0s,MS6.6
SEY MLR MLR
comp=N,7μm,18.0s,MS6.3
SEY MLR MLR
comp=E,16μm,18.0s,MS6.3
MA2 Magadan 69.16 33 *e*P **P** **07 40 02.9 -0.3**
comp=E,40nm,0.8s,mb5.4
MA2 Magadan 69.16 33 *e*P **P** **07 40 02.9 -0.3**
comp=E,40nm,0.8s,mb5.4
MA2 Magadan 69.16 33*d i*P **P** **07 40 05.8 +2.6**
MA2 *e* 07 40 31.4
MA2 *e*S S 07 49 00.9 -8.0
MA2 *e* 07 49 53.6
MA2 *e*SS SS 07 53 30.2 -4.8
MA2 pmax pmax
comp=Z,30nm,1.1s,mb5.1
MA2 pmax pmax
comp=E,10.0nm,1.2s
MA2 MLR MLR
comp=Z,12μm,20.0s,MS6.1
ASAJ Asahikawa 69.31 50 P **P** **07 40 04.2 +0.1**
comp=Z,16nm,0.8s,mb5.0,baz=297,slow=14,SNR=8.8
SFJD Kangerlussuaq 71.02 336 P **P** **07 40 13.7 -0.9**
comp=Z,40nm,0.9s,mb5.3,baz=42,slow=6.0,SNR=9.6
SFJD Kangerlussuaq 71.02 336 *i*P **P** **07 40 14.9 +0.3**
comp=Z,71nm,1.1s,mb5.5
SFJD *i*S S 07 49 35.9 +5.2
SFJD *i* 07 50 20.9
SFJD *i* 07 57 40.2
SFJD
comp=Z,3μm,20.0s
SFJD Kangerlussuaq 71.02 336 *i*P **P** **07 40 14.9 +0.3**
SFJD *i*S S 07 49 35.9 +5.2
SFJD *i* 07 50 20.9
SFJD pmax pmax
comp=Z,71nm,1.1s,mb5.5
SFJD MLR MLR
comp=Z,3μm,20.0s,MS5.6
BILL Bilibino 72.02 22 *e*P **P** **07 40 20.4 -0.2**
comp=Z,66nm,1.0s,mb5.5
BILL *i*S S 07 49 41.1 -1.1
comp=Z,6μm,17.0s
BILL Bilibino 72.02 22*c i*P **P** **07 40 20.9 +0.3**
BILL *i*S S 07 49 41.1 -1.1
BILL pmax pmax
comp=Z,42nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,6μm,17.0s,MS6.0
PET Petropavlovsk 75.75 37 *i*P **P** **07 40 42.8 +0.3**
comp=Z,200nm,11.0s
PET *e*S S 07 50 21.0 -3.3
comp=Z,3μm,18.0s
PET Petropavlovsk 75.75 37*d i*P **P** **07 40 42.8 +0.3**
PET *e* 07 43 41.0
PET *e*PPP 07 45 23.8
PET *e*S S 07 50 21.0 -3.3
PET pmax pmax
comp=Z,23nm,0.9s,mb5.1
PET pmax pmax
comp=Z,500nm,12.0s
PET pmax pmax
comp=Z,200nm,11.0s
PET smax
comp=N,400nm,16.6s
PET MLR MLR
comp=Z,3μm,18.0s,MS5.7
RES Resolute Bay 76.23 352 *e*P **P** **07 40 44.4 -0.8**
comp=Z,51nm,1.5s,mb5.2
RES Resolute Bay 76.23 352 *e*P **P** **07 40 44.4 -0.8**
comp=Z,51nm,1.5s,mb5.2
RES Resolute Bay 76.23 352 *e*P **P** **07 40 44.4 -0.8**
RES pmax pmax
comp=Z,51nm,1.5s,mb5.2
MBWA Marble Bar 78.62 121 P **P** **07 40 58.7 +0.1**
comp=Z,21nm,1.0s,mb5.0
MBWA Marble Bar 78.62 121 P **P** **07 40 58.7 +0.1**
comp=Z,21nm,1.0s,mb5.0
MBWA LR LR
comp=Z,4μm,19.0s,MS5.8
FRB Frobisher Bay 79.04 338 P **P** **07 40 58.9 -2.1**
comp=Z,54nm,0.8s,mb5.5,baz=44,slow=5.5,SNR=45
FRB S S 07 51 02.2 +2.2
comp=Z,2.2nm,0.9s,baz=90,slow=20,SNR=2.9
TNA Tin City 81.33 17 *e*P **P** **07 41 10.8 -2.5**
comp=Z,37nm,1.1s,mb5.2
TNA Tin City 81.33 17 *e*P **P** **07 41 10.8 -2.5**
comp=Z,37nm,1.1s,mb5.2
FITZ Fitzroy Crossi 81.54 115 P **P** **07 41 13.9 -0.5**
comp=Z,7.1nm,0.8s,mb4.6,baz=279,slow=4.0,SNR=11
FITZ Fitzroy Crossi 81.54 115 *e*P **P** **07 41 14.7 +0.3**
comp=Z,26nm,0.6s,mb5.3
MUN Mundaring 82.61 132 *e*P **P** **07 41 21.5 +1.5**
KLBR Kellerberrin 83.41 131 *e*P **P** **07 41 27.7 +3.6**
comp=Z,31nm,0.8s,mb5.4
NWAO Narrogin (SRO) 83.88 132 P **P** **07 41 26.1 -0.5**
comp=Z,13nm,0.8s,mb5.1,baz=16,slow=7.4,SNR=3.3
NWAO Narrogin (SRO) 83.88 132 *e*P **P** **07 41 26.6 0.0**
comp=Z,34nm,0.9s,mb5.5
NWAO Narrogin (SRO) 83.88 132 *e*P **P** **07 41 26.6 0.0**
comp=Z,34nm,0.9s,mb5.5
NWAO Narrogin (SRO) 83.88 132 *e*P **P** **07 41 26.6 0.0**
NWAO pmax pmax
comp=Z,34nm,0.9s
INK Inuvik 84.19 3 P **P** **07 41 25.4 -2.7**
comp=Z,19nm,0.9s,mb5.2,baz=3.3,slow=6.9,SNR=32
INK S 07 51 46.1
comp=Z,2.5nm,1.1s,baz=157,slow=17,SNR=5.9
INK Inuvik 84.19 3 *e*P **P** **07 41 27.3 -0.8**
comp=Z,30nm,0.9s,mb5.4
INK Inuvik 84.19 3 *e*P **P** **07 41 27.3 -0.8**
INK pmax pmax
comp=Z,30nm,0.9s
SCHQ Schefferville 84.30 331 P **P** **07 41 26.2 -2.5**
comp=Z,22nm,0.7s,mb5.4,baz=32,slow=5.5,SNR=23
SCHQ LR LR 08 22 02.8
comp=Z,1μm,18.7s,MS5.3,baz=56,slow=38
SCHQ Schefferville 84.30 331 *e*P **P** **07 41 27.9 -0.8**
comp=Z,80nm,1.1s,mb5.8
SCHQ *e*pP pP 07 41 40.7 +8.7
SCHQ Schefferville 84.30 331 *e*P **P** **07 41 27.9 -0.8**
comp=Z,80nm,1.1s,mb5.8
SCHQ *e*pP pP 07 41 40.7 +8.6
KAKA Kakadu 84.40 107 *e*P **P** **07 41 29.6 +0.4**
comp=Z,54nm,0.7s,mb5.8
COLA College 86.08 10 *e*P **P** **07 41 37.3 -0.3**
comp=Z,40nm,1.1s,mb5.6
COLA *e*pP pP 07 41 48.6 +7.7
COLA College 86.08 10 *e*P **P** **07 41 37.3 -0.3**
COLA pmax pmax
comp=Z,40nm,1.1s,mb5.6
ILAR Eielson Array 86.31 9 P **P** **07 41 36.7 -2.1**
comp=Z,10nm,0.9s,mb5.0,baz=326,slow=3.8,SNR=57
ILAR PKKP PKKPbc 07 59 39.3 +3.1
comp=Z,0.8nm,0.6s,baz=192,slow=1.8,SNR=6.6
ILAR PKPPKP 08 07 39.0
comp=Z,0.3nm,0.8s,baz=230,slow=4.1,SNR=4.3
ILAR LR LR 08 25 25.2
comp=Z,3μm,20.5s,MS5.7,baz=221,slow=39
MCK McKinley 86.97 11 P **P** **07 41 39.5 -2.5**
comp=Z,90nm,1.3s,mb5.8
MCK McKinley 86.97 11 P **P** **07 41 39.5 -2.5**
MCK pmax pmax
comp=Z,90nm,1.3s,mb5.8
SML Sawmill 88.87 11 P **P** **07 41 51.2 +0.1**
PMR Palmer 88.93 12 *e*P **P** **07 41 51.0 -0.3**
comp=Z,61nm,1.7s,mb5.7
PMR Palmer 88.93 12 *e*P **P** **07 41 51.0 -0.3**
PMR pmax pmax
comp=Z,61nm,1.7s,mb5.7
FIB Fire Island 89.14 12 *e*P **P** **07 41 52.1 -0.2**
comp=Z,36nm,0.9s,mb5.7
FIB *e*pP pP 07 42 04.2 +8.5
FIB Fire Island 89.14 12 *e*P **P** **07 41 52.1 -0.2**
comp=Z,36nm,0.9s,mb5.7
FIB *e*pP pP 07 42 04.2 +8.6
FIB Fire Island 89.14 12 *e*P **P** **07 41 52.1 -0.2**
FIB pmax pmax
comp=Z,36nm,0.9s,mb5.7
WRA Warramunga Arr 89.54 113 P **P** **07 41 54.3 +0.1**
comp=Z,5.9nm,0.8s,mb4.9,baz=309,slow=4.2,SNR=24
WRA PKKP PKKPbc 07 59 32.3 +3.9
comp=Z,1.2nm,0.8s,baz=114,slow=2.5,SNR=8.8
WRAB Tennant Creek 89.55 113 *e*P **P** **07 41 53.8 -0.4**
comp=Z,26nm,0.8s,mb5.6
WRAB Tennant Creek 89.55 113 *e*P **P** **07 41 53.8 -0.4**
comp=Z,26nm,0.8s,mb5.6
WRAB LR LR
comp=Z,1μm,19.0s,MS5.4
WRAB Tennant Creek 89.55 113 P **P** **07 41 54.6 +0.4**
WRAB pmax pmax
comp=Z,26nm,0.8s,mb5.6
WB2 Warramunga Arr 89.55 113 *e*P **P** **07 41 54.3 +0.1**
SLKM Skilak Lake 89.74 12 *e*P **P** **07 41 54.2 -0.9**
SLKM Skilak Lake 89.74 12 *e*P **P** **07 41 54.2 -0.9**
SLKM *e*pP pP 07 42 06.4 +7.9
YKW3 Yellowknife Ar 89.86 356 *e*P **P** **07 41 54.8 -0.9**
YKW3 Yellowknife Ar 89.86 356 *e*P **P** **07 41 54.8 -0.9**
YKA Yellowknife Ar 89.93 355 P **P** **07 41 54.1 -1.9**
comp=Z,8.5nm,0.9s,mb5.0,baz=2.8,slow=4.6,SNR=85
YKA PP PP 07 45 37.6 +8.9
comp=Z,5.1nm,0.9s,baz=11,slow=7.8,SNR=4.3
YKA S 07 52 35.5
comp=Z,0.6nm,1.0s,baz=345,slow=6.3,SNR=4.5
YKA PKKP PKKPbc 07 59 29.1 +1.7
comp=Z,0.3nm,0.4s,baz=176,slow=2.1,SNR=6.1
YKA LR LR 08 25 51.2
comp=Z,2μm,20.4s,MS5.5,baz=355,slow=38
YKA Yellowknife Ar 89.93 355 P **P** **07 41 54.1 -1.9**
YKA PP PP 07 45 37.6 +8.9
YKA S 07 52 35.5
YKA PKKP PKKPbc 07 59 29.1 +1.7
YKA LR LR 08 25 51.1
YKA Yellowknife Ar 89.93 355 P **P** **07 41 54.2 -1.8**
YKA 07 45 37.6
YKA S 07 52 35.5
DIV Divide 89.93 10 *e*P **P** **07 41 55.5 -0.5**
comp=Z,70nm,1.1s,mb5.9
DIV *e*pP pP 07 42 08.5 +9.1
DIV Divide 89.93 10 *e*P **P** **07 41 55.5 -0.5**
comp=Z,70nm,1.1s,mb5.9
DIV *e*pP pP 07 42 08.5 +9.1
DIV LR LR
comp=Z,7μm,19.0s,MS6.1
FORT Forrest 90.18 125 *e*P **P** **07 41 57.3 +0.1**
comp=Z,62nm,0.7s,mb6.0
FCC Fort Churchill 90.40 345 *e*P **P** **07 41 57.8 -0.4**
comp=Z,51nm,1.5s,mb5.6
FCC Fort Churchill 90.40 345 *e*P **P** **07 41 57.8 -0.4**
FCC pmax pmax
comp=Z,51nm,1.5s,mb5.6
EYAK Cordova Ski Ar 90.49 10 *e*P **P** **07 41 57.7 -0.9**
EYAK *e*pP pP 07 42 10.6 +8.6
EYAK Cordova Ski Ar 90.49 10 *e*P **P** **07 41 57.7 -0.9**
EYAK *e*pP pP 07 42 10.6 +8.6
ASAR Alice Springs 91.02 116 P **P** **07 42 00.1 -1.0**
comp=Z,3.0nm,0.8s,mb4.7,baz=309,slow=4.5,SNR=24
ASAR S 07 52 37.1
comp=Z,1.1nm,1.0s,baz=290,slow=5.6,SNR=4.0
ASAR PKKP PKKPbc 07 59 31.9 +7.2
comp=Z,0.8nm,0.8s,baz=120,slow=3.6,SNR=5.3
ASAR Alice Springs 91.02 116 P **P** **07 42 00.1 -1.0**
ASAR S 07 52 37.1
KDAK Kodiak Island 91.75 15 P **P** **07 42 03.4 -1.0**
comp=Z,6.3nm,0.4s,mb5.3,baz=23,slow=3.5,SNR=12
KDAK Kodiak Island 91.75 15 P **P** **07 42 03.4 -1.0**
LBNH Lisbon 93.98 325 *e*P **P** **07 42 15.2 +0.4**
comp=Z,73nm,1.7s,mb5.8
LBNH Lisbon 93.98 325 *e*P **P** **07 42 15.2 +0.4**
comp=Z,73nm,1.7s,mb5.8

LBNH Lisbon 93.98 325 *eP* **P 07 42 15.2 +0.4**
LBNH pmax pmax
comp=Z,73nm,1.7s,mb5.8
DLBC Dease Lake 94.21 3 P **P 07 42 16.2 +0.4**
comp=Z,9.8nm,1.1s,mb5.2,baz=2.2,slow=12,SNR=7.1
DLBC Dease Lake 94.21 3 *eP* **P 07 42 15.2 -0.6**
DLBC Dease Lake 94.21 3 *eP* **P 07 42 15.2 -0.6**
MIV Mineville/With 94.91 326 *eP* **P 07 42 18.6 -0.4**
MIV Mineville/With 94.91 326 *eP* **P 07 42 18.6 -0.4**
MAW Mawson 95.02 177 P **P 07 42 18.4 -1.2**
comp=Z,4.2nm,0.7s,mb5.0,baz=0.0,slow=5.1,SNR=2.9
MAW LR LR 08 21 15.5
comp=Z,2μm,18.4s,MS5.7,baz=353,slow=33
LONY Lake Ozonia 95.02 327 *eP* **P 07 42 19.5 -0.1**
LONY Lake Ozonia 95.02 327 *eP* **P 07 42 19.6 0.0**
NCB Newcomb 95.32 326 *eP* **P 07 42 19.8 -1.1**
FFC Flin Flon 95.83 347 P **P 07 42 22.1 -1.1**
comp=Z,109nm,1.4s,mb6.1,SNR=9.9
FFC Flin Flon 95.83 347 *eP* **P 07 42 22.6 -0.6**
comp=Z,44nm,1.4s,mb5.7
FFC Flin Flon 95.83 347 *eP* **P 07 42 22.6 -0.6**
comp=Z,44nm,1.4s,mb5.7
FFC Flin Flon 95.83 347 *eP* **P 07 42 22.7 -0.5**
FFC pmax pmax
comp=Z,44nm,1.4s,mb5.7
SYO Syowa Base 96.99 186⇓ *eP* **P 07 42 27.2 -1.3**
SYO Syowa Base 96.99 186⇑ *eP* pP 07 42 36.7 +4.8
SADO Sadowa 97.05 329 P **P 07 42 28.6 -0.1**
comp=Z,5.3nm,1.0s,mb4.9,baz=135,slow=1.4,SNR=4.2
SADO PP PP 07 46 22.8 -1.7
comp=Z,8.3nm,1.1s,baz=23,slow=6.3,SNR=3.0
SADO Sadowa 97.05 329 PP PP 07 46 22.8 -1.7
ULM Lac du Bonnet 98.53 342 P **P 07 42 34.9 -0.6**
comp=Z,2.8nm,0.7s,mb4.9,baz=28,slow=5.1,SNR=8.7
ULM PKKPbc PKKPbc 07 59 06.8 +2.0
comp=Z,1.0nm,0.5s,baz=323,slow=4.2,SNR=4.9
ULM LR LR 08 30 04.1
comp=Z,2μm,21.8s,MS5.6,baz=34,slow=37
ULM Lac du Bonnet 98.53 342 P **P 07 42 34.8 -0.6**
EDM Edmonton 99.00 353 *eP* **P 07 42 37.9 +0.4**
NEW Newport 104.26 355 PP PP 07 47 19.7 +0.6
comp=Z,5.2nm,1.0s,baz=17,slow=7.8,SNR=4.7
MSO Missoula 105.37 353 *e*PKPdf PKiKP 07 47 20.9 +1.2
PDAR Pinedale Array 108.72 349 PKiKP PKiKP 07 47 29.0 +3.1
comp=Z,1.0nm,0.6s,baz=62,slow=3.0,SNR=5.3
PDAR PKKPbc PKKPbc 07 58 37.4 +2.9
comp=Z,0.8nm,0.8s,baz=164,slow=3.2,SNR=6.1
PDAR PKKP PKKPbc 07 58 49.1 +15
comp=Z,3.2nm,0.7s,baz=169,slow=5.5,SNR=17
BDFB Brasilia 109.00 262 PP PP 07 47 58.8 +4.9
comp=Z,6.3nm,1.0s,baz=90,slow=8.1,SNR=4.5
HWUT Hardware Ranch 110.18 350 *e*PKPdf PKiKP 07 47 28.6 -0.1
DRV Dumont d'Urvil 112.78 155 PP PP 07 48 38.0 +17
DRV SP SP 07 57 55.0 +0.5
DRV SS SS 08 04 05.0 +1.6
NVAR Mina Array Bea 114.12 355 PKP PKiKP 07 47 37.0 +0.9
comp=Z,2.6nm,0.8s,baz=16,slow=0.9,SNR=10
NVAR PKKPbc PKKPbc 07 58 19.9 +3.3
comp=Z,0.9nm,0.7s,baz=187,slow=5.4,SNR=4.8
NVAR Mina Array Bea 114.12 355 PKP PKiKP 07 47 37.0 +0.9
NVAR PKKPbc PKKPbc 07 58 19.9 +3.3
ANMO Albuquerque 115.58 344 PKP PKPdf 07 47 41.7 +2.7
comp=Z,0.7nm,0.7s,baz=83,slow=5.6,SNR=3.8
ANMO PKKPbc PKKPbc 07 58 16.1 +4.5
comp=Z,4.1nm,0.8s,baz=190,slow=6.8,SNR=6.6
QSPA South Pole Qui 117.39 180 *e*PKPdf PKPdf 07 47 40.6 -1.9
JCT Junction City 117.72 336 *e*PKPdf PKPdf 07 47 41.4 -1.6
MNTX Cornudas Mount 118.37 342 *e*PKPdf PKPdf 07 47 43.8 -0.5
TUC Tucson 119.09 347 *e*PKPdf PKPdf 07 47 46.4 +0.7
LTX Lajitas 120.07 339 *e*PKPdf PKPdf 07 47 50.5 +2.9
VNDA Vanda 120.19 166 PKP PKPdf 07 47 45.8 -2.1
comp=Z,1.8nm,0.8s,baz=202,slow=2.0,SNR=3.7
VNDA PKKPbc PKKPbc 07 57 59.4 +4.3
comp=Z,1.7nm,0.8s,baz=139,slow=3.0,SNR=4.4
VNDA Vanda 120.19 166 *e*PKIKP PKPdf 07 47 46.6 -1.2
SIV San Ignacio 120.67 267 PKP PKPdf 07 47 49.0 +0.3
comp=Z,2.8nm,0.8s,baz=104,slow=4.7,SNR=11
SIV PKKPbc PKKPbc 07 57 57.8 +4.5
comp=Z,1.1nm,0.8s,baz=26,slow=1.6,SNR=6.8
CPUP Villa Florida 120.94 254 PKP PKPdf 07 47 51.1 +1.9
comp=Z,1.8nm,0.5s,baz=46,slow=3.3,SNR=7.7
CPUP Villa Florida 120.94 254 *e*PKIKP PKPdf 07 47 52.1 +2.9
ROSC El Rosal 122.00 296 PKP PKPdf 07 47 52.8 +1.5
comp=Z,7.0nm,0.8s,baz=106,slow=1.2,SNR=6.5
RPZ Rata Peaks 126.36 126 PKP PKPdf 07 48 02.6 +3.0
comp=Z,20nm,1.0s,baz=353,slow=1.6,SNR=5.7
JTS JuntasAbangare 125.42 309 PKKPbc 07 57 32.0
comp=Z,3.5nm,0.6s,baz=112,slow=19,SNR=4.6
LPAZ La Paz 127.05 270 PKP PKPdf 07 48 02.5 +1.6
comp=Z,2.8nm,0.8s,baz=49,slow=2.8,SNR=13
LPAZ La Paz 127.05 270 *e*PKIKP PKPdf 07 48 02.5 +1.6
TRQA Tornquist 127.42 242 *e*PKPdf PKPdf 07 48 02.4 +0.7
LVC Limon Verde 129.90 263 PKP PKPdf 07 48 08.5 +2.1
comp=Z,14nm,0.9s,baz=58,slow=0.4,SNR=8.2
LVC Limon Verde 129.90 263 *e*PKPdf PKPdf 07 48 08.5 +2.2
URZ Urewera 130.42 118 PKP PKPdf 07 48 06.1 -1.3
comp=Z,17nm,0.9s,baz=58,slow=9.5,SNR=3.0
URZ SKPbc SKPbc 07 51 32.0 +1.3
comp=Z,4.1nm,0.3s,baz=175,slow=3.9,SNR=3.5
CFAA Coronel Fontan 131.49 251 PKP PKPdf 07 48 09.8 +0.5
comp=Z,1.9nm,0.9s,baz=125,slow=1.2,SNR=12
CFAA SKPbc SKPbc 07 51 36.5 +1.8
comp=Z,1.5nm,0.9s,baz=71,slow=3.2,SNR=5.8
PLCA Paso Flores 134.24 239 PKP PKPdf 07 48 13.6 -1.0
comp=Z,1.4nm,0.9s,baz=16,slow=4.8,SNR=2.4
PLCA Paso Flores 134.24 239 *e*PKIKP PKPdf 07 48 14.9 +0.3
PPT Papeete 154.71 72 *e*PP PP 07 52 35.9 -12
comp=Z,225nm,27.0s
PPT Papeete 154.71 72 *e*LR LR 08 40 28.1
comp=Z,2μm,23.8s
TBI Tubuai 156.95 85 *e*PP PP 07 52 54.9 -5.7
comp=Z,278nm,28.0s
TBI Tubuai 156.95 85 *e*SS SS 08 13 01.6 +7.6
comp=Z,966nm,26.5s
TBI *e*LR LR 08 41 42.5
comp=Z,1μm,27.5s
RKT Rikitea 169.42 68 *e*PP PP 07 53 49.7 -17
comp=Z,241nm,25.2s
RKT Rikitea 169.42 68 *e*SS SS 08 15 03.7 +0.7
comp=Z,472nm,30.0s
RKT *e*LR LR 08 47 13.8
comp=Z,2μm,23.2s

MOS ***25*** *07:42:37.8±1.9, 2669N×5572E, h33km, mb4.3/3, Error ellipse: s-maj=19.3km s-min=10.3km az=105.9*
IDC ***25*** *07:42:41.4±1.7, 2758N×5555E, h0km, mb4.0/20, mb1 4.1/21, mb1mx4.0/29, mbtmp4.0/21, ML1.7/1, Error ellipse: s-maj=37.9km s-min=18.2km az=163.0*
ISCJB ***25*** *07:42:42.9±1.6, 272N±0.1×556E±0.1, h39km±12km, mb3.9/21, Error ellipse: s-maj=18.8km s-min=14.3km az=123.4*
THR ***25*** *07:42:46.6±0.7, 2762N×5591E, h14km±6km, ML3.8*
CSEM ***25*** *07:42:46.6±0.5, 2751N×5602E, h35km, ML3.8, Error ellipse: s-maj=16.7km s-min=13.3km az=6.0*
NEIC ***25*** *07:42:46.6, 2762N×5591E, h14km, mb4.1/2, ML3.8(THR), After THR.*
ISC 25 07:42:43.4±1.2, 2762N±006×5567E±006, h13km±7km, n40, σ1º09/46, mb3.9/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.50**	**116**	*e*PG	**Pg**	**07 42 53.2**	**-0.1**
BNDS	**Bandar-Abbas**	**0.50**	**116**	Pg	**Pg**	**07 42 53.0**	**-0.2**
GHIR	**Ghir-Karzin**	**2.46**	**286**	*e*PN	**Pg**	**07 43 31.6**	**+0.9**
GHIR				*e*SG	**Sg**	**07 44 09.9**	**+7.4**
GHIR				AML	AML	07 44 20.0	
	comp=N,494nm,0.4s						
GHIR	**Ghir-Karzin**	**2.46**	**286**	*e*Pn	**Pg**	**07 43 31.5**	**+0.9**
	SNR=52						
GHIR				*e*Sg	**Sg**	**07 44 09.9**	**+7.4**
	SNR=90						
GHIR	**Ghir-Karzin**	**2.46**	**286**	Pn	**Pg**	**07 43 31.0**	**+0.4**
GHIR				Sg	**Sg**	**07 44 09.0**	**+6.5**
KRBR	**Kerman**	**2.54**	**22**	*e*PN	**Pb**	**07 43 28.9**	**+0.1**
KRBR				*e*SG	**Sg**	**07 44 04.1**	**-1.0**
KRBR				AML	AML	07 44 08.1	
	comp=N,386nm,0.5s						
KRBR	**Kerman**	**2.54**	**22**	*e*Pn	**Pb**	**07 43 28.9**	**0.0**
	SNR=52						
KRBR				*e*Sg	**Sg**	**07 44 04.1**	**-1.0**
	SNR=90						
KRBR	**Kerman**	**2.54**	**22**	Pn	**Pn**	**07 43 28.0**	**+3.7**
KRBR				Sg	**Sg**	**07 44 04.0**	**-1.1**
GNI	**Garni**	**15.42**	**327**	Pn	**Pn**	**07 46 23.3**	**+2.6**
	comp=N,0.8nm,0.3s,baz=356,slow=14,SNR=1.9						
GNI	**Garni**	**15.42**	**327**	*e*Pn	**Pn**	**07 46 27.5**	**+6.9**
KIV	**Kislovodsk**	**19.36**	**331**	*e*P	**Pn**	**07 47 12.1**	**+2.3**
	comp=N,15nm,0.5s						
KIV	**Kislovodsk**	**19.36**	**331**	*e*P	**Pn**	**07 47 12.1**	**+2.2**
	comp=N,15nm,0.5s						
KIV	**Kislovodsk**	**19.36**	**331**	*i*P	**Pn**	**07 47 14.0**	**+4.2**
KIV				pmax	pmax		
	comp=Z,11nm,0.8s						
KKAR	**Karatay Array**	**19.58**	**34**	*i*P	**Pn**	**07 47 10.6**	**-1.8**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AB31	**Akbulak array**	**21.85**	**8**	*i*P	**P**	**07 47 36.2**	**+0.5**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
BR131	**Keskin Array S**	**21.89**	**309**	*e*P	**P**	**07 47 39.8**	**+3.8**
	comp=Z,1.9nm,0.6s,mb3.7						
BRTR	**Keskin Array B**	**21.89**	**309**	P	**P**	**07 47 36.9**	**+0.9**
	comp=Z,2.7nm,0.7s,mb3.8,baz=122,slow=9.9,SNR=9.2						
AKTK	**Aktyubinsk**	**22.85**	**4**	P	**P**	**07 47 47.7**	**+1.4**
AKTK	**Aktyubinsk**	**22.85**	**4**	P	**P**	**07 47 47.6**	**+1.3**
AKTO	**Aktyubinsk**	**22.85**	**4**	P	**P**	**07 47 47.6**	**+1.3**
	comp=Z,5.0nm,0.8s,mb4.0,baz=249,slow=9.5,SNR=5.2						
BVAR	**Borovoye Array**	**27.64**	**19**	P	**P**	**07 48 32.2**	**+1.5**
	comp=Z,2.3nm,0.8s,mb3.9,baz=207,slow=9.5,SNR=8.5						
MKAR	**Makanchi Array**	**28.35**	**40**	P	**P**	**07 48 37.0**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.2,baz=256,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**28.35**	**40**	P	**P**	**07 48 37.0**	**0.0**
MLR	**Muntele Rosu**	**29.56**	**315**	P	**P**	**07 48 46.3**	**-1.5**
	comp=Z,0.8nm,0.4s,mb3.9,baz=169,slow=16,SNR=2.8						
AKASG	**Malin Array Be**	**30.56**	**326**	P	**P**	**07 48 55.3**	**-1.3**
	comp=Z,1.9nm,0.6s,mb4.1,baz=134,slow=8.5,SNR=6.8						
ZAL	**Zalesovo**	**33.88**	**31**	P	**P**	**07 49 25.9**	**+0.1**
	comp=Z,3.7nm,0.5s,mb4.5,baz=233,slow=9.2,SNR=9.0						
VRAC	**Vranov**	**36.91**	**317**	P	**P**	**07 49 50.1**	**-1.8**
	comp=Z,2.8nm,0.7s,mb4.2,baz=48,slow=12,SNR=2.8						
GERES	**GERESS Array B**	**38.55**	**315**	P	**P**	**07 50 05.9**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.7,baz=110,slow=10,SNR=4.0						
KHC	**Kasperske Hory**	**38.72**	**315**	*e*P	**P**	**07 50 05.0**	**-2.1**
FINES	**FINESS Array B**	**39.18**	**338**	P	**P**	**07 50 10.7**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.6,baz=113,slow=11,SNR=2.9						
DAVOX	**Davos**	**40.52**	**311**	P	**P**	**07 50 21.7**	**-0.4**
	comp=Z,2.7nm,0.6s,mb4.1,baz=342,slow=6.4,SNR=3.2						
SONM	**Songino Array**	**44.01**	**49**	P	**P**	**07 50 51.7**	**+1.1**
	comp=Z,0.9nm,0.9s,mb3.5,baz=248,slow=7.6,SNR=3.6						
NOA	**NORSAR Array B**	**44.67**	**331**	P	**P**	**07 50 54.6**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.5,baz=131,slow=4.3,SNR=3.6						
ARCES	**ARCESS Array B**	**45.45**	**346**	P	**P**	**07 51 02.9**	**+0.8**
	comp=Z,9.4nm,1.2s,mb4.5,baz=136,slow=7.3,SNR=4.8						
ESDC	**Sonseca Array**	**50.25**	**300**	P	**P**	**07 51 39.0**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=48,slow=9.3,SNR=4.4						
MDT	**Midelt**	**51.75**	**291**	P	**P**	**07 51 50.2**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=80,slow=5.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**52.22**	**265**	P	**P**	**07 51 54.1**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=62,slow=7.2,SNR=16						
FRB	**Frobisher Bay**	**78.98**	**338**	P	**P**	**07 54 47.3**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.1,baz=23,slow=4.3,SNR=3.6						
ILAR	**Eielson Array**	**86.25**	**9**	P	**P**	**07 55 24.3**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.6,baz=319,slow=4.3,SNR=5.0						
YKA	**Yellowknife Ar**	**89.86**	**356**	P	**P**	**07 55 42.5**	**+0.5**
	comp=Z,0.4nm,0.9s,mb3.8,baz=9.0,slow=4.8,SNR=4.6						

OMAN ***25*** *08:01:53.5, 3147N×6108E, h123km*
IDC ***25*** *08:02:57.0±5.1, 2739N×5582E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.4/21, mbtmp3.6/5, Error ellipse: s-maj=98.5km s-min=37.5km az=126.0*
ISCJB ***25*** *08:03:00.8±0.8, 2761N±007×5582E±009, h25km±9km, mb3.5/5, Error ellipse: s-maj=14.3km s-min=9.9km az=122.8*
CSEM ***25*** *08:03:02.6±0.1, 2761N×5595E, h16km, ML3.2, Error ellipse: s-maj=3.3km s-min=1.8km az=37.0*
NEIC ***25*** *08:03:02.7, 2761N×5593E, h14km, ML3.2(THR), After THR.*
THR ***25*** *08:03:02.7±0.8, 2761N×5593E, h14km±7km, ML3.2*
ISC 25 08:03:01.2±0.7, 2762N±004×5586E±005, h18km±6km, n20, σ1º11/28, mb3.5/5, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.35**	**129**	*e*PG	**Pg**	**08 03 09.0**	**+0.3**
BNDS				*e*SG	**Sg**	**08 03 14.0**	**+0.3**
BNDS				AML	AML	08 03 20.7	
	comp=N,2μm,0.2s						
BNDS	**Bandar-Abbas**	**0.35**	**129**	*e*Pg	**Pg**	**08 03 09.0**	**+0.3**
	SNR=97						
BNDS				*e*Sg	**Sg**	**08 03 14.0**	**+0.3**
	comp=N,2μm,0.2s,SNR=97						
BNDS	**Bandar-Abbas**	**0.35**	**129**	Pg	**Pg**	**08 03 08.0**	**-0.7**
BNDS				Sg	**Sg**	**08 03 13.0**	**-0.7**
BANOM	**Banah**	**1.74**	**167**	P	**Pn**	**08 03 32.8**	**+2.3**
	SNR=11						
KRBR	**Kerman**	**2.48**	**18**	*e*PN	**Pb**	**08 03 45.3**	**+0.1**
KRBR				*e*SG	**Sg**	**08 04 20.2**	**-0.7**
KRBR				AML	AML	08 04 21.6	
	comp=N,191nm,0.6s						
KRBR				AML	AML	08 04 30.6	
	comp=E,125nm,0.6s						
KRBR	**Kerman**	**2.48**	**18**	*e*Pn	**Pb**	**08 03 45.3**	**+0.1**
	SNR=52						
KRBR				*e*Sg	**Sg**	**08 04 20.2**	**-0.7**
	comp=E,125nm,0.6s,SNR=90						
KRBR	**Kerman**	**2.48**	**18**	Pn	**Pb**	**08 03 45.0**	**-0.2**
KRBR				Sg	**Sg**	**08 04 20.0**	**-0.9**
GHIR	**Ghir-Karzin**	**2.63**	**285**	*e*PN	**Pb**	**08 03 47.5**	**-0.2**
GHIR				*e*SG	**Sg**	**08 04 27.0**	**+1.3**
GHIR				AML	AML	08 04 35.6	
	comp=N,112nm,0.5s						
GHIR				AML	AML	08 04 38.2	
	comp=E,105nm,0.4s						
GHIR	**Ghir-Karzin**	**2.63**	**285**	Pn	**Pb**	**08 03 47.0**	**-0.7**
GHIR				Sg	**Sg**	**08 04 26.0**	**+0.4**
ASHO	**Ashiyiah**	**2.93**	**176**	P	**Pn**	**08 03 48.4**	**+1.5**
	SNR=7.0						
WHFO	**Wadi Hawf**	**9.85**	**192**	⇓P	**Pn**	**08 05 20.3**	**-1.6**
ABTO	**Aybut**	**10.49**	**194**	P	**Pn**	**08 05 28.9**	**-1.8**
	SNR=12						
BRTR	**Keskin Array B**	**22.02**	**309**	P	**P**	**08 07 55.1**	**+0.6**
	comp=E,0.9nm,0.7s,mb3.3,baz=132,slow=12,SNR=5.0						
AKTK	**Aktyubinsk**	**22.84**	**4**	P	**P**	**08 08 04.4**	**+1.1**
AKTK	**Aktyubinsk**	**22.84**	**4**	P	**P**	**08 08 04.4**	**+1.1**
AKTO	**Aktyubinsk**	**22.84**	**4**	P	**P**	**08 08 04.4**	**+1.1**
	comp=E,0.9nm,0.5s,mb3.5,baz=204,slow=12,SNR=3.8						
AKASG	**Malin Array Be**	**30.65**	**326**	P	**P**	**08 09 13.7**	**-0.8**
	comp=E,1.0nm,0.4s,mb4.0,baz=135,slow=8.6,SNR=4.4						
FINES	**FINESS Array B**	**39.24**	**338**	P	**P**	**08 10 28.2**	**-0.3**
	comp=E,0.5nm,0.7s,mb3.4,baz=148,slow=16,SNR=3.0						
FINES	**FINESS Array B**	**39.24**	**338**	P	**P**	**08 10 28.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**52.39**	**265**	P	**P**	**08 12 11.0**	**-1.3**
	comp=E,0.7nm,0.9s,mb3.6,baz=64,slow=7.9,SNR=5.2						

IDC 25 08:03:24.8±7.8, 1547S×17318W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=371.1km s-min=23.7km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.06**	**41**	Pn	Pn	08 03 58.9	-1.8
	15nm,0.3s,baz=214,slow=1.9,SNR=17						
AFI				Sn	Sn	08 04 24.7	-2.5
	22nm,0.3s,baz=47,slow=17,SNR=5.5						
WRA	**Warramunga Arr**	**50.03**	**257**	P	P	08 12 19.6	-1.5
	0.2nm,0.5s,baz=93,slow=6.9,SNR=3.5						
ASAR	**Alice Springs**	**50.29**	**252**	P	P	08 12 24.4	+1.4
	2.9nm,0.9s,baz=89,slow=8.5,SNR=22						
ILAR	**Eielson Array**	**82.47**	**11**	P	P	08 15 50.2	+1.1
	0.3nm,0.6s,baz=225,slow=5.8,SNR=8.2						

IDC ***25*** *08:07:18.5±2.5, 298N×12495E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=309.4km s-min=25.4km az=64.0*
ISCJB ***25*** *08:07:20.3±1.8, 34N±03×1258E±07, h33km, mb3.6/4, Error ellipse: s-maj=113.3km s-min=22.1km az=135.0*
ISC 25 08:07:22.7±1.7, 35N±03×1260E±07, h35km, n5, σ0º13/5, mb3.6/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.42**	**181**	*e*P	**P**	**08 12 07.6**	**0.0**
	1.9nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**24.67**	**161**	P	**P**	**08 12 40.3**	**+0.1**
	0.7nm,0.6s,mb3.4,baz=337,slow=10,SNR=5.0						
WB2	**Warramunga Arr**	**24.67**	**161**	*e*P	**P**	**08 12 40.2**	**0.0**
ASAR	**Alice Springs**	**28.05**	**164**	P	**P**	**08 13 10.5**	**-0.2**
	0.6nm,0.8s,mb3.3,baz=336,slow=7.7,SNR=4.8						
MKAR	**Makanchi Array**	**57.34**	**326**	P	**P**	**08 17 07.2**	**0.0**
	0.4nm,0.3s,mb3.9,baz=124,slow=7.8,SNR=12						

OMAN ***25*** *08:19:20.2, 3187N×5460E, h0km, Error ellipse: s-maj=717.6km s-min=80.1km az=351.0*
MOS ***25*** *08:20:16.5±1.2, 2688N×5564E, h33km, mb4.2/1, Error ellipse: s-maj=23.5km s-min=11.6km az=111.6*
IDC ***25*** *08:20:17.2±1.9, 2746N×5562E, h0km, mb3.8/15, mb1 4.0/15, mb1mx3.9/24, mbtmp3.8/15, Error ellipse: s-maj=39.9km s-min=19.4km az=166.0*
KISR ***25*** *08:20:18.8±1.3, 2736N×5528E, h18km, ML3.8*
ISCJB ***25*** *08:20:18.1±0.3, 2750N±004×5557E±005, h10km, mb3.6/15, Error ellipse: s-maj=6.4km s-min=4.6km az=100.6*
CSEM ***25*** *08:20:19.5±0.1, 2739N×5563E, h30km, ML3.8, Error ellipse: s-maj=3.1km s-min=2.7km az=154.0*
THR ***25*** *08:20:21.6±0.3, 2753N×5587E, h15km±3km, ML3.8*
NEIC ***25*** *08:20:21.6, 2753N×5587E, h15km, mb3.9/2, ML3.8(THR), After THR.*
TEH ***25*** *08:20:24.7, 2724N×5513E, h18km, Mn3.8*
ISC 25 08:20:20.0±0.3, 2756N±004×5557E±004, h10km, n51, σ1º24/61, mb3.6/15, 5C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.56**	**106**	*e*PG	**Pg**	**08 20 28.1**	**-2.7**
BNDS				*e*SG	**Sg**	**08 20 32.8**	**-5.4**
BNDS	**Bandar-Abbas**	**0.56**	**106**	*e*Pg	**Pg**	**08 20 28.1**	**-2.7**
	SNR=104						
BNDS				Sg	**Sg**	**08 20 32.0**	**-6.2**
BNDS	**Bandar-Abbas**	**0.56**	**106**	Pg	**Pg**	**08 20 28.0**	**-2.8**
BNDS				Sg	**Sg**	**08 20 32.0**	**-6.2**
BANOM	**Banah**	**1.75**	**158**	P	**Pn**	**08 20 52.1**	**+1.6**
	SNR=20						
GHIR	**Ghir-Karzin**	**2.40**	**288**	*e*PN	**Pg**	**08 21 06.0**	**0.0**
GHIR				*e*SG	**Sg**	**08 21 44.8**	**+7.7**
GHIR				AML	AML	08 21 56.3	
	comp=N,519nm,0.6s						
GHIR				AML	AML	08 21 58.6	
	comp=E,494nm,0.7s						
GHIR	**Ghir-Karzin**	**2.40**	**288**	*e*Pn	**Pg**	**08 21 06.0**	**0.0**
	SNR=52						
GHIR				*e*Sg	**Sg**	**08 21 44.8**	**+7.7**
	comp=E,494nm,0.7s,SNR=90						
GHIR	**Ghir-Karzin**	**2.40**	**288**	Pn	**Pg**	**08 21 06.0**	**0.0**
GHIR				Sg	**Sg**	**08 21 44.0**	**+6.9**
KRBR	**Kerman**	**2.63**	**23**	*e*PN	**Pn**	**08 21 05.0**	**+2.4**
KRBR				AML	AML	08 21 41.4	
	comp=N,387nm,0.8s						
KRBR				AML	AML	08 21 45.0	
	comp=E,381nm,0.4s						
KRBR	**Kerman**	**2.63**	**23**	Pn	**Pn**	**08 21 04.0**	**+1.4**
ASHO	**Ashiyiah**	**2.89**	**171**	P	**Pn**	**08 21 07.3**	**+1.1**
	SNR=20						
IMOK	**Mook**	**2.92**	**301**	*e*Pn	**Pn**	**08 21 08.3**	**+1.7**
IPAR	**Pars**	**3.18**	**316**	*e*Pn	**Pn**	**08 21 12.9**	**+2.8**
IPAR				*e*Sn	**Sn**	**08 21 49.7**	**+1.7**
IMEH	**Mehriz**	**3.91**	**348**	*e*Pn	**Pn**	**08 21 24.1**	**+4.0**
IBAF	**Bafgh**	**4.02**	**360**	*e*Pn	**Pn**	**08 21 23.7**	**+2.1**
HOQ	**Hoqain**	**4.26**	**158**	⇑P	**Pn**	**08 21 25.4**	**+0.5**
ARQ	**Araqi**	**4.29**	**168**	⇑P	**Pn**	**08 21 25.9**	**+0.6**
BSY	**Bisya**	**5.01**	**163**	⇑P	**Pn**	**08 21 36.7**	**+1.4**
ZHSF	**Zahedan**	**5.01**	**65**	*e*PN	**Pn**	**08 21 35.4**	**+0.1**
ZHSF	**Zahedan**	**5.01**	**65**	Pn	**Pn**	**08 21 35.0**	**-0.3**
WBK	**Wadi Bani Khal**	**5.81**	**147**	⇑P	**Pn**	**08 21 45.7**	**-0.5**
UMR	**Umm Al-Rimmam**	**7.19**	**288**	*e*P	**Pn**	**08 22 06.4**	**+1.3**
UMR				*e*S	**Sn**	**08 23 25.4**	**-1.5**
RDF	**Al-Radifah**	**7.21**	**283**	*e*P	**Pn**	**08 22 04.8**	**-0.6**
RDF				*e*S	**Sn**	**08 23 26.2**	**-1.1**
RDF				AML	AML	08 23 28.2	
	comp=Z,24nm,0.5s						
NAY	**Al-Naaiem**	**7.53**	**285**	*e*P	**Pn**	**08 22 10.3**	**+0.5**
NAY				*e*S	**Sn**	**08 23 33.8**	**-1.4**
NAY				AML	AML	08 23 36.5	
	comp=Z,7.4nm,0.5s						
SHAO	**Shalim**	**9.49**	**180**	⇑P	**Pn**	**08 22 38.1**	**+1.3**
	SNR=7.4						
WHFO	**Wadi Hawf**	**9.73**	**190**	⇓P	**Pn**	**08 22 39.4**	**-0.7**
	SNR=11						
ABTO	**Aybut**	**10.37**	**192**	P	**Pn**	**08 22 47.5**	**-1.3**
	SNR=24						
GNI	**Garni**	**15.43**	**327**	Pn	**Pn**	**08 24 04.2**	**+6.5**
	comp=Z,0.9nm,0.3s,baz=8.2,slow=6.5,SNR=4.6						
GNI	**Garni**	**15.43**	**327**	P	**Pn**	**08 24 01.4**	**+3.7**
	comp=Z,13nm,0.8s						
GNI	**Garni**	**15.43**	**327**	Pn	**Pn**	**08 24 01.4**	**+3.6**
	comp=Z,13nm,0.8s						
GNI	**Garni**	**15.43**	**327**	P	**Pn**	**08 24 01.4**	**+3.7**
GNI				pmax	pmax		
	comp=Z,13nm,0.8s						
KIV	**Kislovodsk**	**19.38**	**331**	*e*P	**Pn**	**08 24 49.6**	**+2.6**
	comp=Z,10.0nm,1.0s						
KIV	**Kislovodsk**	**19.38**	**331**	*e*P	**Pn**	**08 24 49.6

IDC ***25*** *08:29:27.2±1.3, 44.95N×149.85E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/19, mbtmp3.3/4, Error ellipse: s-maj=43.8km s-min=28.2km az=131.0*
MOS ***25*** *08:29:32.5±0.1, 45.04N×149.65E, h56km, mb4.0/1, Error ellipse: s-maj=68.9km s-min=39.0km az=47.4*
JMA ***25*** *08:29:32.2±0.9, 45.12N×149.69E, h30km, M4.0*
ISCJB ***25*** *08:29:33.9±1.4, 44.3N±0.1×149.8E±0.1, h103km±15km, mb3.2/4, Error ellipse: s-maj=24.6km s-min=10.6km az=101.5*
ISC 25 08:29:35.1±1.3,**443N**±01×**1498E**±01,**h98**km±16km,**n25**, σ**1**§**15**/33,**mb3.2**/4,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.87**	**266**	*e*PN	**Pn**	**08 30 17.4**	**-1.6**
YUK				*e*S	**Sn**	**08 30 56.1**	**+3.3**
YUK				pmax	pmax		
	comp=Z,200nm,0.4s						
YUK				smax			
	comp=N,460nm,0.5s						
YUK				smax			
	comp=E,170nm,0.5s						
YUK				smax			
	comp=N,2μm,0.7s						
NEM2	**Nemuro 2**	**3.10**	**254**	P	**Pn**	**08 30 20.6**	**-1.5**
NEM2				*e*S	**Sn**	**08 30 56.3**	**-2.1**
JRA	**Rausu**	**3.41**	**265**	P	**Pn**	**08 30 25.5**	**-0.7**
JNK	**Nakash**	**3.76**	**261**	P	**Pn**	**08 30 30.9**	**0.0**
JAK	**Akkeshi**	**3.95**	**252**	*e*S	**Sn**	**08 31 18.8**	**0.0**
JTKR	**Abashiri--Toko**	**4.28**	**267**	P	**Pn**	**08 30 38.0**	**+0.1**
JAR	**Ashorobuto**	**4.50**	**259**	P	**Pn**	**08 30 41.6**	**+0.6**
JAR				*e*S	**Sn**	**08 31 34.5**	**+2.3**
JOB	**Onbets**	**4.58**	**254**	P	**Pn**	**08 30 42.7**	**+0.7**
JOB				*e*S	**Sn**	**08 31 34.1**	**+0.2**
JMP	**Maruseppu**	**4.67**	**268**	P	**Pn**	**08 30 42.4**	**-0.8**
JCH	**Churui**	**5.00**	**252**	P	**Pn**	**08 30 48.9**	**+1.1**
JCH				*e*S	**Sn**	**08 31 45.9**	**+1.6**
JKK2	**Kamakawa 2**	**5.12**	**268**	P	**Pn**	**08 30 49.5**	**+0.2**
ASAJ	**Asahikawa**	**5.20**	**270**	P	**Pn**	**08 30 50.0**	**-0.5**
JEM	**Erimo**	**5.39**	**247**	P	**Pn**	**08 30 53.8**	**+0.8**
JNBK	**Urakawa-nobuka**	**5.55**	**251**	P	**Pn**	**08 30 55.8**	**+0.6**
JNBK				*e*S	**Sn**	**08 31 55.9**	**-1.7**
JBT2	**Biratori 2**	**5.64**	**257**	P	**Pn**	**08 30 56.9**	**+0.5**
JNB	**Noboribetsu**	**6.67**	**257**	P	**Pn**	**08 31 10.8**	**+0.5**
JKB	**Kayabe**	**6.88**	**252**	P	**Pn**	**08 31 13.8**	**+0.6**
JKB				*e*S	**Sn**	**08 32 28.1**	**-1.9**
JANG	**Nango**	**7.31**	**240**	P	**Pn**	**08 31 19.2**	**+0.1**
JTH	**Tanohata**	**7.36**	**236**	*e*S	**Sn**	**08 32 40.2**	**-1.5**
OFUJ	**Ofunato**	**8.04**	**232**	P	**Pn**	**08 31 31.5**	**+2.5**
OFUJ				*e*S	**Sn**	**08 32 58.1**	**-0.1**
ILAR	**Eielson Array**	**39.89**	**37**	P	**P**	**08 36 57.9**	**-1.3**
	comp=N,0.4nm,0.9s,mb3.2,baz=269,slow=8.6,SNR=7.8						
MKAR	**Makanchi Array**	**46.03**	**298**	P	**P**	**08 37 50.0**	**+1.3**
	comp=N,0.3nm,0.6s,mb3.2,baz=62,slow=6.1,SNR=3.4						
MKAR	**Makanchi Array**	**46.03**	**298**	P	**P**	**08 37 50.0**	**+1.3**
YKA	**Yellowknife Ar**	**54.25**	**35**	P	**P**	**08 38 50.4**	**-0.4**
	comp=N,0.2nm,0.6s,mb3.3,baz=298,slow=7.1,SNR=5.2						
ASAR	**Alice Springs**	**69.20**	**196**	P	**P**	**08 40 39.4**	**+8.2**
	comp=N,0.3nm,0.7s,mb3.2,baz=15,slow=5.1,SNR=5.0						

ISCJB ***25*** *08:31:25.6±0.7, 680N±008×730W±0.1, h167km±7km, mb3.6/8, Error ellipse: s-maj=19.9km s-min=9.0km az=71.8*
IDC ***25*** *08:31:26.1±0.7, 675N×729.3W, h158km±6km, mb3.4/8, mb1 3.6/10, mb1mx3.4/23, mbtmp3.9/10, MS3.0/1, Ms1 3.0/1, ms1mx2.8/22, Error ellipse: s-maj=17.0km s-min=7.5km az=127.0*
ISC 25 08:31:26.7±0.7,**680N**±008×**730W**±01,**h161**km±7km,**n14**, σ**0**§**51**/12,**mb3.6/8**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.35**	**215**	P	**Pn**	**08 32 06.6**	**0.0**
	82nm,0.3s,baz=276,slow=15,SNR=436						
ROSC				S	**Sn**	**08 32 37.2**	**-0.2**
	89nm,0.3s,baz=102,slow=19,SNR=7.6						
SDV	**Santo Domingo**	**3.11**	**48**	P	**Pn**	**08 32 16.4**	**+0.5**
	26nm,0.3s,baz=238,slow=5.5,SNR=505						
SDV				S	**Sn**	**08 32 53.7**	**-0.3**
	77nm,0.3s,baz=268,slow=23,SNR=51						
SDV				LR	LR	08 33 06.2	
	comp=Z,270nm,21.4s,baz=24,slow=32						
LPAZ	**La Paz**	**23.43**	**168**	P	**P**	**08 36 22.2**	**+0.8**
	0.5nm,0.7s,mb3.1,baz=344,slow=15,SNR=2.4						
SIV	**San Ignacio**	**25.52**	**153**	P	**P**	**08 36 39.8**	**-0.5**
	0.6nm,0.9s,mb3.2,baz=290,slow=9.9,SNR=3.7						
ULM	**Lac du Bonnet**	**47.36**	**340**	P	**P**	**08 39 43.8**	**-0.7**
	1.6nm,0.5s,mb3.9,baz=143,slow=7.6,SNR=4.8						
SCHQ	**Schefferville**	**48.15**	**5**	P	**P**	**08 39 51.2**	**+0.7**
	3.9nm,0.6s,mb4.2,baz=189,slow=5.9,SNR=23						
PDAR	**Pinedale Array**	**48.19**	**324**	P	**P**	**08 39 51.5**	**+0.7**
	0.3nm,0.7s,mb3.0,baz=138,slow=11,SNR=2.7						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	**P**	**08 41 38.1**	**-0.5**
	1.2nm,0.5s,mb4.0,baz=133,slow=6.6,SNR=62						
YKA				pP	pP	08 42 15.1	-1.4
	0.3nm,0.5s,baz=134,slow=6.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**73.60**	**78**	P	**P**	**08 42 42.0**	**-0.3**
	0.1nm,0.3s,mb3.0,baz=285,slow=6.0,SNR=4.0						
ARCES	**ARCESS Array B**	**86.64**	**20**	P	**P**	**08 43 51.9**	**-0.2**
	6.1nm,1.1s,mb4.4,baz=282,slow=4.2,SNR=3.0						
MKAR	**Makanchi Array**	**122.30**	**20**	PKP	PKPdf	08 50 02.2	-0.3
	0.2nm,0.5s,baz=320,slow=2.1,SNR=3.7						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	PKPbc	08 50 56.2	0.0
	0.8nm,0.5s,baz=118,slow=3.5,SNR=18						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPbc	08 50 59.5	+0.2
	0.7nm,0.4s,baz=108,slow=2.6,SNR=40						
WRA				pPKPbc	pPKPbc	08 51 39.8	-1.4
	0.5nm,0.5s,baz=107,slow=2.4,SNR=3.0						

OMAN ***25*** *08:56:00.6±272.0, 29.39N×54.95E, h98km±3km, Error ellipse: s-maj=37.0km s-min=4.7km az=346.0*
SZGRF ***25*** *08:56:18.2, 27.18N×56.45E, h33km, mb4.7, Southern Iran*
BJI ***25*** *08:56:19.4, 27.50N×55.09E, h26km, mB5.0, mb4.8, Ms4.8, Msz4.5*
MOS ***25*** *08:56:20.7±0.9, 27.47N×55.51E, h16km, mb5.0/77, Error ellipse: s-maj=6.6km s-min=4.0km az=119.0*
NEIC ***25*** *08:56:21.7±0.2, 27.38N×55.45E, h10km, mb4.9/90, ML4.5(THR), MN4.5(TEH), Error ellipse: s-maj=5.5km s-min=3.8km az=195.0*
ISCJB ***25*** *08:56:21.1±0.1, 27.45N±002×55.49E±002, h15km, mb4.8/138, MS4.1/13, Error ellipse: s-maj=2.8km s-min=2.6km az=40.8*
CSEM ***25*** *08:56:21.1±0.0, 27.45N×55.34E, h16km, mb4.8/89, Error ellipse: s-maj=1.8km s-min=1.3km az=46.0*
THR ***25*** *08:56:23.9±0.3, 27.57N×55.61E, h10km±9km, ML4.8*
IDC ***25*** *08:56:24.8±2.0, 27.59N×55.59E, h27km±13km, mb4.4/24, mb1 4.5/26, mb1mx4.5/28, mbtmp4.6/26, ML1.6/1, MS4.2/4, Ms1 4.2/4, ms1mx3.6/29, Error ellipse: s-maj=12.1km s-min=11.2km az=141.0*
TEH ***25*** *08:56:26.3, 27.46N×55.34E, h18km, Mn4.7*
ISC 25 08:56:23.3±0.1,**2749N**±002×**5552E**±002,**h16**km, **h16**km±1.9km:**pP-P**,**n489**,σ**1**§**35**/505,**mb4.8**/138,**MS4.1**/13, **14C-15D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.58**	**99**	*e*PG	**Pg**	**08 56 34.5**	**-0.3**
BNDS				*e*SG	**Sg**	**08 56 42.0**	**-0.6**
BANOM	**Banah**	**1.71**	**156**	P	**Pn**	**08 56 54.7**	**+2.2**
	SNR=388						
GHIR	**Ghir-Karzin**	**2.38**	**290**	*e*Pn	**Pn**	**08 57 05.7**	**+4.1**
GHIR				AML	AML	08 57 57.8	
	comp=N,6μm,0.5s						
GHIR				AML	AML	08 57 58.1	
	comp=E,5μm,0.8s						
GHIR	**Ghir-Karzin**	**2.38**	**290**	*i* P	**Pn**	**08 57 05.0**	**+3.3**
KRBR	**Kerman**	**2.71**	**23**	*e*Pn	**Pn**	**08 57 08.4**	**+2.2**
KRBR				AML	AML	08 57 46.7	
	comp=E,2μm,0.5s						
KRBR	**Kerman**	**2.71**	**23**	*i* P	**Pn**	**08 57 08.0**	**+1.8**
KRBR	**Kerman**	**2.71**	**23**	*e*Pn	**Pn**	**08 57 08.4**	**+2.2**
	SNR=47						
ASHO	**Ashiyiah**	**2.84**	**170**	P	**Pn**	**08 57 11.4**	**+3.4**
	SNR=657						
ASHO	**Ashiyiah**	**2.84**	**170**	P	**Pn**	**08 57 11.4**	**+3.4**
	SNR=657						
IMOK	**Mook**	**2.92**	**303**	*e*Pn	**Pn**	**08 57 10.9**	**+1.8**
IMOK				*e*Lg		08 58 02.3	
IMOK				*e*Lg		08 58 05.9	
IMOK	**Mook**	**2.92**	**303**	Pn	**Pn**	**08 57 10.9**	**+1.8**
IMOK				Lg		08 58 02.2	
IMOK				Lg		08 58 05.9	
IPAR	**Pars**	**3.19**	**318**	*e*Pn	**Pn**	**08 57 14.4**	**+1.5**
SHI	**Shiraz**	**3.40**	**310**	*e*Pn	**Pn**	**08 57 27.2**	**+11**
IMEH	**Mehriz**	**3.96**	**349**	*e*Pn	**Pn**	**08 57 25.5**	**+2.0**
IMEH				*e*Sn	**Sn**	**08 58 10.4**	**+0.8**
IMEH	**Mehriz**	**3.96**	**349**	Pn	**Pn**	**08 57 25.4**	**+1.9**
IMEH				Sn	**Sn**	**08 58 10.3**	**+0.7**
IBAF	**Bafgh**	**4.08**	**1**	*e*Pn	**Pn**	**08 57 26.4**	**+1.3**
IBAF				*e*Sn	**Sn**	**08 58 13.5**	**+0.9**
IBAF				*e*Sn	**Sn**	**08 58 13.9**	**+1.3**
IBAF	**Bafgh**	**4.08**	**1**	*e*Pn	**Pn**	**08 57 26.4**	**+1.3**
IBAF				*e*Sn	**Sn**	**08 58 13.9**	**+1.3**
IBAF	**Bafgh**	**4.08**	**1**	Pn	**Pn**	**08 57 26.3**	**+1.2**
IBAF				Sn	**Sn**	**08 58 13.4**	**+0.8**
IBAF				Sn	**Sn**	**08 58 13.8**	**+1.2**
HOQ	**Hoqain**	**4.22**	**157**	P	**Pn**	**08 57 27.9**	**+0.9**
	SNR=20						
ARQ	**Araqi**	**4.24**	**167**	P	**Pn**	**08 57 29.7**	**+2.4**
	SNR=61						
BIDO	**Bidbid**	**4.60**	**149**	P	**Pn**	**08 57 33.1**	**+0.8**
	SNR=41						
ISAD	**Sadrabad**	**4.69**	**341**	*e*Lg		08 58 30.1	
ISAD				*e*Lg		08 58 31.0	
ICHK	**Chekchek**	**4.83**	**349**	*e*Pn	**Pn**	**08 57 37.1**	**+1.7**
BSY	**Bisya**	**4.97**	**162**	P	**Pn**	**08 57 39.9**	**+2.6**
	SNR=68						
BSYO	**Bisya**	**4.99**	**161**	P	**Pn**	**08 57 39.9**	**+2.3**
	SNR=68						
ZHSF	**Zahedan**	**5.08**	**64**	*e*Pn	**Pn**	**08 57 41.1**	**+2.3**
ZHSF	**Zahedan**	**5.08**	**64**	*i* P	**Pn**	**08 57 41.0**	**+2.2**
IGAR	**Garneh**	**5.54**	**329**	*e*Pn	**Pn**	**08 57 50.0**	**+4.8**
IGAR				*e*Sn	**Sn**	**08 58 51.2**	**+2.6**
IGAR				*e*Sn	**Sn**	**08 58 51.3**	**+2.7**
JMDO	**Jabal Madar**	**5.61**	**155**	P	**Pn**	**08 57 48.8**	**+2.6**
	SNR=25						
WBK	**Wadi Bani Khal**	**5.78**	**147**	P	**Pn**	**08 57 49.9**	**+1.5**
	SNR=40						
IZEF	**Zefreh**	**6.05**	**334**	*e*Pn	**Pn**	**08 57 52.6**	**+0.4**
IZEF				*e*Sn	**Sn**	**08 58 58.1**	**-3.0**
IZEF	**Zefreh**	**6.05**	**334**	Pn	**Pn**	**08 57 52.6**	**+0.4**
IZEF				Sn	**Sn**	**08 58 58.0**	**-3.1**
IPIR	**Pirpir**	**6.55**	**323**	*e*Pn	**Pn**	**08 57 59.8**	**+0.8**
IPIR				*e*Lg		08 59 12.7	
IPIR				*e*Lg		08 59 12.8	
IPIR	**Pirpir**	**6.55**	**323**	Pn	**Pn**	**08 57 59.7**	**+0.7**
IPIR				Lg		08 59 12.6	
IKLH	**Kalahroud**	**6.73**	**331**	*e*Pn	**Pn**	**08 58 02.7**	**+1.2**
IKLH				*e*Sn	**Sn**	**08 59 14.7**	**-3.1**
IKLH				*e*Sn	**Sn**	**08 59 14.8**	**-3.0**
IKLH	**Kalahroud**	**6.73**	**331**	Pn	**Pn**	**08 58 02.7**	**+1.2**
IKLH				Sn	**Sn**	**08 59 14.6**	**-3.2**
QRN	**Al-Qurain**	**6.83**	**282**	*e*P	**Pn**	**08 58 03.5**	**+0.7**
QRN				AML	AML	08 59 20.7	
	comp=Z,404nm,0.4s						
KBD	**Kabd**	**7.10**	**285**	*e*P	**Pn**	**08 58 07.1**	**+0.6**
KBD				AML	AML	08 59 28.1	
	comp=Z,382nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.17**	**288**	*e*P	**Pn**	**08 58 07.9**	**+0.4**
UMR				AML	AML	08 59 24.8	
	comp=Z,135nm,0.5s						
RDF	**Al-Radifah**	**7.18**	**283**	*e*P	**Pn**	**08 58 07.4**	**-0.2**
RDF				AML	AML	08 59 27.7	
	comp=Z,94nm,0.3s						
NAY	**Al-Naaiem**	**7.50**	**285**	*e*P	**Pn**	**08 58 12.7**	**+0.7**
NAY				AML	AML	08 59 35.2	
	comp=Z,72nm,0.5s						
MIB	**Mutribah**	**7.55**	**290**	*e*P	**Pn**	**08 58 13.7**	**+0.9**
MIB				AML	AML	08 59 36.5	
	comp=Z,181nm,0.5s						
IANJ	**Anjiloo**	**8.07**	**351**	*e*Pn	**Pn**	**08 58 21.5**	**+1.7**
IVRN	**Varamin**	**8.15**	**337**	*e*Pn	**Pn**	**08 58 22.3**	**+1.3**
IVRN				*e*Sn	**Sn**	**08 59 48.9**	**-3.9**
ILAS	**Lasjerd**	**8.16**	**345**	*e*Pn	**Pn**	**08 58 22.6**	**+1.4**
IFIR	**Firoozkooh**	**8.46**	**344**	*e*Pn	**Pn**	**08 58 25.9**	**+0.7**
IPRN	**Paran-Amol**	**9.16**	**343**	*e*Pn	**Pn**	**08 58 36.4**	**+1.6**
IMOG	**Moghan**	**9.18**	**20**	*e*Pn	**Pn**	**08 58 38.0**	**+2.9**
IRAZ	**Razeghan**	**9.22**	**330**	*e*Lg		09 00 22.0	
IRAZ				*e*Lg		09 00 24.7	
IPAY	**Payeh**	**9.40**	**17**	*e*Pn	**Pn**	**08 58 40.7**	**+2.5**
SHAO	**Shalim**	**9.43**	**179**	P	**Pn**	**08 58 39.1**	**+0.7**
	SNR=82						
IKOM	**Komasi**	**9.57**	**316**	*e*Pn	**Pn**	**08 58 40.4**	**-0.1**
IKOM				*e*Lg		09 00 26.2	
IKOM				*e*Lg		09 00 26.3	
IKOM	**Komasi**	**9.57**	**316**	Pn	**Pn**	**08 58 40.3**	**-0.2**
IKOM				Lg		09 00 26.2	
IKRD	**Kardeh**	**9.59**	**15**	*e*Pn	**Pn**	**08 58 47.2**	**+6.4**
IKRD	**Kardeh**	**9.59**	**15**	Pn	**Pn**	**08 58 47.1**	**+6.3**
IMYA	**Miamay**	**9.64**	**23**	*e*Pn	**Pn**	**08 58 44.1**	**+2.7**
IMYA	**Miamay**	**9.64**	**23**	Pn	**Pn**	**08 58 44.0**	**+2.6**
WHFO	**Wadi Hawf**	**9.66**	**190**	P	**Pn**	**08 58 42.1**	**+0.4**
	SNR=354						
RBK	**Rabkut**	**10.02**	**187**	P	**Pn**	**08 58 46.6**	**0.0**
	SNR=116						
ABTO	**Aybut**	**10.30**	**192**	P	**Pn**	**08 58 50.5**	**+0.1**
	SNR=328						
IDHR	**Dehrash**	**10.62**	**315**	*e*Pn	**Pn**	**08 58 54.1**	**-0.7**
IDHR				*e*Lg		09 00 48.7	
IDHR				*e*Lg		09 00 49.2	
IDHR	**Dehrash**	**10.62**	**315**	Pn	**Pn**	**08 58 54.1**	**-0.7**
IDHR				Lg		09 00 48.6	
IDHR				Lg		09 00 49.1	
BHD	**Baghdad**	**11.21**	**304**	*i* x	x	08 59 21.0	
BHD				*i* x	x	09 01 28.0	
BHD				*i* x	x	09 03 08.0	
BHD				*i* x	x	09 03 32.0	
BHD				*i* x	x	09 08 16.0	
MSL	**Mosul**	**13.72**	**313**	*e*x	x	08 59 39.0	
MSL				*e*x	x	09 02 06.0	
GNI	**Garni**	**15.46**	**327**	Pn	**Pn**	**09 00 03.4**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=5.3,slow=12,SNR=4.0						
GNI	**Garni**	**15.46**	**327**	P	**Pn**	**09 00 02.7**	**+2.0**
	comp=Z,61nm,0.6s						
GNI	**Garni**	**15.46**	**327**	Pn	**Pn**	**09 00 02.7**	**+2.0**
	comp=Z,61nm,0.6s						
GNI				*e*		09 00 07.3	
GNI	**Garni**	**15.46**	**327**	P	**Pn**	**09 00 02.7**	**+2.0**
GNI				pmax	pmax		
	comp=Z,61nm,0.6s						
BDHA	**Al Bayda'**	**16.34**	**217**	*e*P	**Pn**	**09 00 09.5**	**-2.7**
BDHA				AMb	AMB	09 00 09.8	
	comp=Z,20nm,0.7s						
BDHA				*i* S	**Sn**	**09 03 10.0**	**-3.2**
DHBB	**Dhamar BB**	**16.52**	**221**	*e*P	**Pn**	**09 00 11.8**	**-2.5**
DHBB				*i* S	**Sn**	**09 03 14.6**	**-2.8**
LBOS		**16.60**	**217**	*e*P	**Pn**	**09 00 12.9**	**-2.5**
LBOS				*i* S	**Sn**	**09 03 15.9**	**-3.5**
MAK	**Makhachkala**	**16.75**	**339**	*e*P	**Pn**	**09 00 28.8**	**+12**
MAK				pmax	pmax		
	comp=Z,302nm,1.1s						
MAK				MLR	MLR		
	comp=Z,626nm,13.0s						
ERZM	**Erzurum**	**17.06**	**320**	*i* P	**Pn**	**09 00 24.5**	**+3.3**
MALT	**Malatya**	**17.93**	**311**	*e*P	**Pn**	**09 00 32.6**	**+0.7**
	comp=Z,41nm,1.1s						
MALT	**Malatya**	**17.93**	**311**	*e*P	**Pn**	**09 00 32.6**	**+0.7**
	comp=Z,41nm,1.1s						
MALT	**Malatya**	**17.93**	**311**	*e*P	**Pn**	**09 00 32.6**	**+0.7**
MALT				pmax	pmax		
	comp=Z,41nm,1.1s						
ZEI	**Tsey**	**17.93**	**331**	*i* P	**Pn**	**09 00 34.5**	**+2.5**
COBT	**Iskenderun**	**18.63**	**304**	*i* P	**Pn**	**09 00 44.2**	**+3.7**
POO	**Poona**	**19.07**	**114**	*e*P	**Pn**	**09 00 46.0**	**+0.2**
ANR	**Andizhan**	**19.17**	**42**	*e*P	**Pn**	**09 00 51.0**	**+3.9**
KIV	**Kislovodsk**	**19.41**	**331**	*i* P	**Pn**	**09 00 51.1**	**+1.1**
	comp=Z,72nm,1.0s						
KIV	**Kislovodsk**	**19.41**	**331**	*e*P	**Pn**	**09 00 49.8**	**-0.1**
	comp=Z,116nm,1.1s						
KIV	**Kislovodsk**	**19.41**	**331**	*d i*P	**Pn**	**09 00 51.1**	**+1.1**
KIV				pmax	pmax		
	comp=Z,72nm,1.0s						
KK31	**Karatay Array**	**19.76**	**34**	*i* P	**Pn**	**09 00 51.5**	**-2.6**
KK31				pmax	pmax		
	comp=Z,15nm,0.7s						
KKAR	**Karatay Array**	**19.76**	**34**	P	**Pn**	**09 00 51.5**	**-2.6**
KKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
ATD	**Arta Tunnel**	**19.84**	**219**	P	**Pn**	**09 00 56.7**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=282,slow=9.3,SNR=4.6						
ATD				LR	LR	09 09 32.8	
	comp=Z,10.0nm,21.1s,baz=21,slow=40						
GOF	**Gofitskoye**	**20.17**	**334**	*e*P	**P**	**09 00 59.2**	**+2.1**
	comp=Z,100nm,1.0s						
GOF	**Gofitskoye**	**20.17**	**334**	*e*P	**P**	**09 00 59.2**	**+2.1**
GOF				pmax	pmax		
	comp=Z,100nm,1.0s						
CSS	**Prodhromos**	**20.36**	**297**	*e*P	**P**	**09 01 00.1**	**+1.0**
	comp=Z,64nm,1.3s						
CSS	**Prodhromos**	**20.36**	**297**	*e*P	**P**	**09 01 00.1**	**+1.0**
	comp=Z,64nm,1.3s						
SOC	**Sochi**	**20.51**	**326**	*e*P	**P**	**09 01 04.1**	**+3.3**
SOC				*e**PP		09 01 11.5	
SOC				*e*		09 01 21.9	
SOC				*e*S	**S**	**09 04 53.4**	**+3.6**
SOC				pmax	pmax		
	comp=Z,50nm,1.2s						
SOC				MLR	MLR		
	comp=Z,295nm,13.0s,MS3.8						
KSH	**Kashi**	**20.79**	**50**	P	**P**	**09 01 02.0**	**-1.8**
KSH				PP		09 01 22.8	
KSH				S	**S**	**09 04 44.5**	**-11**
KSH				PCP	PcP	09 05 14.5	+2.0
KSH				SCP	ScP	09 08 48.0	-0.6
KSH				PCS	PcS	09 08 50.8	+0.4
KSH				AMB	AMB		
	comp=Z,21nm,0.6s						
KSH				AMB	AMB		
	comp=Z,255nm,4.9s						
KSH				LR	LR		
	comp=N,692nm,10.5s						
KSH				LR	LR		
	comp=E,711nm,9.8s						
KSH				LR	LR		
	comp=Z,275nm,9.8s						
AML	**Almayashu**	**20.81**	**41**	P	**P**	**09 01 03.8**	**-0.2**
	SNR=36						
EKS2	**Erkin-Say**	**21.20**	**40**	P	**P**	**09 01 08.7**	**+0.5**
	SNR=38						
UCH	**Uchtor**	**21.35**	**42**	P	**P**	**09 01 09.5**	**-0.3**
	SNR=12						
AAK	**Ala-Archa**	**21.59**	**41**	P	**P**	**09 01 12.9**	**+0.5**
	SNR=14						
KZA	**Kyzart**	**21.70**	**43**	P	**P**	**09 01 15.1**	**+1.4**
	SNR=19						
BR131	**Keskin Array S**	**21.87**	**309**	*e*P	**P**	**09 01 15.5**	**+0.1**
	comp=Z,11nm,0.6s,mb4.5						
BR131	**Keskin Array S**	**21.87**	**309**	*e*P	**P**	**09 01 15.5**	**+0.2**
	comp=Z,11nm,0.6s,mb4.5						
BRTR	**Keskin Array B**	**21.87**	**309**	P	**P**	**09 01 15.6**	**+0.2**
	comp=Z,10.0nm,0.8s,mb4.3,baz=130,slow=13,SNR=17						
BRTR				S	**S**	**09 05 18.1**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=31,slow=39,SNR=2.6						
BRTR				ScP	ScP	09 08 49.6	-1.6
	comp=Z,0.8nm,0.7s,baz=52,slow=5.7,SNR=3.8						
BRTR	**Keskin Array B**	**21.87**	**309**	P	**P**	**09 01 15.6**	**+0.2**
BRTR				S	**S**	**09 05 18.2**	**+1.8**
BOYT	**Boyabat**	**21.88**	**315**	*i* P	**P**	**09 01 17.0**	**+1.5**
USP	**Ospenovka**	**21.99**	**39**	P	**P**	**09 01 19.0**	**+2.3**
	SNR=9.2						
AB31	**Akbulak array**	**22.00**	**8**	*e*P	**P**	**09 01 16.0**	**-0.7**
	comp=Z,37nm,0.8s,mb4.9						
AB31	**Akbulak array**	**22.00**	**8**	*e*P	**P**	**09 01 16.0**	**-0.7**
AB31				pmax	pmax		
	comp=Z,37nm,0.8s,mb4.9						
ELDT	**Eldivan**	**22.37**	**311**	*i* P	**P**	**09 01 22.3**	**+1.5**
ULHL	**Ulahol**	**22.40**	**44**	P	**P**	**09 01 19.6**	**-1.5**
	SNR=9.0						
TKM2	**Tokmak 2**	**22.41**	**41**	*i* P	**P**	**09 01 20.8**	**-0.4**
	comp=Z,16nm,1.0s,mb4.4						
TKM2	**Tokmak 2**	**22.41**	**41**	*i* P	**P**	**09 01 20.8**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
KDHN	**Kadinhani**	**22.44**	**305**	*i* P	**P**	**09 01 24.8**	**+3.3**
ANTO	**Ankara**	**22.51**	**309**	P	**P**	**09 01 25.0**	**+2.7**
	comp=Z,32nm,0.9s,mb4.8						
ANTO	**Ankara**	**22.51**	**309**	P	**P**	**09 01 25.0**	**+2.7**
ANTO				pmax	pmax		
	comp=Z,32nm,0.9s,mb4.8						
ANN	**Anapa**	**22.53**	**325**	*e*P	**P**	**09 01 21.6**	**-0.9**
	comp=Z,116nm,1.4s,mb5.1						
ANN	**Anapa**	**22.53**	**325**	*e*P	**P**	**09 01 21.6**	**-0.9**
ANN				pmax	pmax		
	comp=Z,116nm,1.4s,mb5.1						
AKTK	**Aktyubinsk**	**22.99**	**4**	*i* P	**P**	**09 01 27.4**	**+0.1**
	comp=Z,7.0nm,1.1s,mb4.0						
AKTK				S	**S**	**09 05 35.3**	**-1.8**
AKTK	**Aktyubinsk**	**22.99**	**4**	P	**P**	**09 01 27.0**	**-0.3**
AKTK				S	**S**	**09 05 35.3**	**-1.8**
AKTK				LR	LR	09 10 14.1	
AKTO	**Aktyubinsk**	**22.99**	**4**	P	**P**	**09 01 27.0**	**-0.3**
	comp=Z,12nm,0.5s,mb4.5,baz=186,slow=11,SNR=46						
AKTO				S	**S**	**09 05 35.3**

BVAR ScP ScP 09 09 05.9 -1.9
comp=Z,0.9nm,0.7s,baz=219,slow=5.8,SNR=4.0
BVAR Borovoye Array 27.80 19 PcP PcP 09 05 26.2 -1.5
BVAR Borovoye Array 27.80 19 P **P** **09 02 10.8 -0.8**
BVAR 09 05 26.2
CFR Carcaliu 28.05 316 ⇑P **P** **09 02 14.3 +0.4**
CHKZ Chkalovo 28.43 19 *i* P **P** **09 02 16.9 -0.4**
comp=Z,7.0nm,1.7s,mb4.0
CHKZ Chkalovo 28.43 19 *e*P **P** **09 02 16.8 -0.5**
comp=Z,3.4nm,0.5s,mb4.2
CHKZ Chkalovo 28.43 19 *i* P **P** **09 02 16.9 -0.4**
CHKZ pmax pmax
comp=Z,7.0nm,1.7s,mb4.0
MK31 Makanchi Array 28.53 40 *i* P **P** **09 02 17.3 -0.8**
MK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
MKAR Makanchi Array 28.53 40 P **P** **09 02 17.8 -0.4**
comp=Z,4.0nm,0.7s,mb4.3,baz=229,slow=8.3,SNR=54
MKAR PcP PcP 09 05 28.8 -0.7
comp=Z,1.0nm,0.5s,baz=236,slow=3.4,SNR=4.6
MKAR ScP ScP 09 09 08.3 -1.8
comp=Z,0.6nm,0.7s,baz=229,slow=3.4,SNR=4.1
MKAR Makanchi Array 28.53 40 *i* P **P** **09 02 17.7 -0.4**
comp=Z,4.0nm,0.7s,mb4.3
MKAR Makanchi Array 28.53 40 PcP PcP 09 05 28.8 -0.7
MKAR Makanchi Array 28.53 40 *i* P **P** **09 02 17.7 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 29.00 3 *i* P **P** **09 02 24.3 +2.0**
comp=Z,8.0nm,1.5s,mb4.2
ARU *e*S **S** **09 07 13.9 +1.1**
comp=Z,200nm,17.0s
ARU Arti 29.00 3 *e*P **P** **09 02 21.9 -0.5**
ARU Arti 29.00 3⇓*i*P **P** **09 02 24.3 +2.0**
ARU *e* 09 03 16.1
ARU *e*PPP 09 03 26.9
ARU *e*S **S** **09 07 13.9 +1.1**
ARU *e*SS SS 09 08 37.8 -38
ARU pmax pmax
comp=Z,8.0nm,1.5s,mb4.2
ARU MLR MLR
comp=Z,200nm,17.0s,MS3.8
ARU MLR MLR
comp=N,200nm,18.0s
KURK Kurchatov 29.08 31 *e*P **P** **09 02 22.7 -0.4**
comp=N,9.0nm,0.9s,mb4.5
KURK Kurchatov 29.08 31 *e*P **P** **09 02 22.7 -0.4**
comp=N,8.8nm,0.9s,mb4.5
KURK Kurchatov 29.08 31 *e*P **P** **09 02 22.7 -0.4**
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
VRI Vrincioaia 29.25 316 ⇓P **P** **09 02 30.7 +6.1**
MLR Muntele Rosu 29.56 315 P **P** **09 02 28.0 +0.7**
comp=Z,12nm,0.7s,mb4.8,baz=350,slow=5.2,SNR=9.0
MLR Muntele Rosu 29.56 315 ⇓P **P** **09 02 29.8 +2.5**
VOIR 30.10 315 ⇓P **P** **09 02 33.4 +1.3**
WMQ Urumqi 30.56 49 *e*P **P** **09 02 36.8 +0.6**
WMQ AP pP 09 02 41.3 +0.4
WMQ XP sP 09 02 43.8 +1.0
WMQ PP PP 09 03 37.3 -7.9
WMQ PPP 09 03 51.8
WMQ AMB AMB
comp=Z,36nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,222nm,4.6s
WMQ LR LR
comp=N,954nm,20.0s
WMQ LR LR
comp=Z,966nm,22.0s,MS4.4
AKASG Malin Array Be 30.59 326 P **P** **09 02 34.8 -1.6**
comp=Z,9.0nm,0.5s,mb4.8,baz=135,slow=8.5,SNR=28
AKASG PcP PcP 09 05 33.9 -0.9
comp=Z,0.9nm,0.4s,baz=103,slow=2.4,SNR=4.7
AKASG Malin Array Be 30.59 326 *i* P **P** **09 02 37.0 +0.6**
comp=Z,9.0nm,0.5s,mb4.9
AKASG Malin Array Be 30.59 326 PcP PcP 09 05 33.9 -0.9
AKASG Malin Array Be 30.59 326 *i* P **P** **09 02 37.0 +0.6**
AKASG pmax pmax
comp=Z,9.0nm,0.5s
OBN Obninsk 30.84 339 *e*P **P** **09 02 40.0 +1.3**
comp=Z,28nm,0.7s,mb5.2
OBN Obninsk 30.84 339 P **P** **09 02 38.4 -0.3**
comp=Z,26nm,0.6s,mb5.2
OBN Obninsk 30.84 339⇓*e*P **P** **09 02 40.0 +1.3**
OBN *e* 09 03 39.4
OBN pmax pmax
comp=Z,28nm,0.7s,mb5.2
OBN MLR MLR
comp=Z,200nm,16.0s,MS3.9
BURAR Bucovina Array 31.01 318 ⇓P **P** **09 02 41.1 +0.9**
BURAR Bucovina Array 31.01 318 ⇓P **P** **09 02 41.1 +0.9**
MOS Moscow 31.04 340 *e*P **P** **09 02 36.7 -3.7**
SOKR Solikamsk 32.08 1 *i* P **P** **09 02 52.7 +3.2**
comp=Z,30nm,1.0s,mb5.1
SOKR Solikamsk 32.08 1⇓*i*P **P** **09 02 52.7 +3.2**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.1
DRGR 32.15 316 ⇓P **P** **09 02 50.6 +0.4**
BZS Buzias 32.38 313 ⇓P **P** **09 02 52.0 -0.1**
KOLS Kolonicke sedl 33.37 319 *e*P **P** **09 03 01.0 +0.1**
KMBO Kilima Mbogo 33.44 215 P **P** **09 03 03.5 +2.0**
comp=Z,6.5nm,0.8s,mb4.6,baz=29,slow=12,SNR=18
KMBO LR LR 09 17 25.7
comp=Z,312nm,19.7s,MS4.0,baz=272,slow=38
KMBO Kilima Mbogo 33.44 215 *e*P **P** **09 03 04.3 +2.8**
comp=Z,5.0nm,0.8s,mb4.5
KMBO Kilima Mbogo 33.44 215 *e*P **P** **09 03 04.3 +2.8**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KWP Kalwaria 33.45 320 *e*P **P** **09 03 04.9 +3.3**
CRVS Cervenica-Dubn 33.83 318 *e*pP pP 09 03 08.8 -0.9
NVS Novosibirsk 33.95 29 *e*P **P** **09 03 04.0 -1.9**
NVS *e*S **S** **09 08 27.4 -2.8**
NVS pmax pmax
comp=N,34nm,1.6s
NVS pmax pmax
comp=Z,30nm,1.6s,mb5.0
NVS smax
comp=N,20nm,1.7s
ZAL Zalesovo 34.06 31 P **P** **09 03 05.6 -1.2**
comp=N,11nm,0.6s,mb5.0,baz=234,slow=8.1,SNR=47
ZAL PcP PcP 09 05 42.0 -2.3
comp=N,1.5nm,0.4s,baz=356,slow=3.4,SNR=2.8
ZAL S **S** **09 08 28.6 -3.2**
comp=N,0.9nm,0.4s,baz=113,slow=23,SNR=6.4
ZAL Zalesovo 34.06 31 PcP PcP 09 05 42.0 -2.3
STHS Stebnicka Huta 34.20 319 *e*P **P** **09 03 09.9 +1.9**
KECS Kecovo 34.23 317 *e*P **P** **09 03 08.5 +0.1**
PSZ Piszkesteto 34.36 316 *e*P **P** **09 03 09.0 -0.5**
comp=N,7.0nm,0.8s,mb4.6
PSZ Piszkesteto 34.36 316 *e*P **P** **09 03 09.0 -0.4**
comp=N,7.0nm,0.8s,mb4.6
PSZ Piszkesteto 34.36 316 *e*P **P** **09 03 09.0 -0.5**
PSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
PKSM Moragy 34.53 313 P **P** **09 03 11.9 +1.0**
KLMR Klimovskoe 35.07 346 *e*P **P** **09 03 16.4 +0.8**
comp=Z,70nm,1.4s,mb5.4
KLMR Klimovskoe 35.07 346 *e*P **P** **09 03 16.4 +0.8**
KLMR *e* 09 04 30.2
KLMR pmax pmax
comp=Z,70nm,1.4s,mb5.4
VYHS Vyhne 35.24 316 *e*P **P** **09 03 17.5 +0.5**
VYHS *e* 09 16 25.1
VYHS *e* 09 16 46.5
LIKS Likavka 35.30 317 *e*P **P** **09 03 19.0 +1.4**
SRO1 Iza 35.34 315 *e*pP pP 09 03 20.4 -2.3
OJC Ojcow 35.39 320 *e*P **P** **09 03 18.9 +0.5**
SUW Suwalki 35.55 327 *e*P **P** **09 03 22.7 +3.0**
OKC Ostrava-Krasne 36.19 318 *e*P **P** **09 03 28.6 +3.4**
ZST Bratislava 36.20 315 *e*P **P** **09 03 27.7 +2.4**
MORC Moravsky Berou 36.53 318 *e*P **P** **09 03 26.8 -1.3**
comp=Z,11nm,0.8s,mb4.7
MORC Moravsky Berou 36.53 318 *e*P **P** **09 03 26.8 -1.3**
comp=Z,11nm,0.8s,mb4.7
MORC Moravsky Berou 36.53 318 *e*P **P** **09 03 26.8 -1.3**
MORC pmax pmax
comp=Z,11nm,0.8s,mb4.7
BOJS Bojanci 36.57 310 *e*P **P** **09 03 28.5 +0.1**
VSU Vasula 36.88 335 *i* P **P** **09 03 32.6 +1.5**
VRAC Vranov 36.92 317 *e*P **P** **09 03 31.1 -0.3**
VRAC Vranov 36.92 317 ⇑P **P** **09 03 32.2 +0.8**
DPC Dobruska-Polom 37.48 318 *e*P **P** **09 03 35.4 -0.7**
JAVS Javornik 37.48 311 *e*P **P** **09 03 35.7 -0.4**
KSP Ksiaz 37.69 319 *e*P **P** **09 03 35.6 -2.3**

KSP *e*pP pP 09 03 40.3 -2.4
UPC Upice 37.72 318 *e*P **P** **09 03 38.1 -0.1**
MOA Molln 37.89 314⇑*i*P **P** **09 03 39.3 -0.3**
comp=Z,14nm,0.8s,mb4.8
KBA Koelnbreinsper 38.27 312⇑*i*P **P** **09 03 43.5 +0.7**
comp=Z,16nm,1.0s,mb4.7,SNR=8.2
KBA Koelnbreinsper 38.27 312⇓*i*P **P** **09 03 41.8 -1.0**
comp=Z,16nm,1.0s,mb4.7,SNR=8.2
PRU Pruhonice 38.41 317 *e*P **P** **09 03 46.0 +2.0**
GTA Gaotai 38.47 60 *e*P **P** **09 03 45.5 +1.0**
GTA AP pP 09 03 57.8 +8.5
GTA PP PP 09 05 19.5 +6.9
GTA PPP 09 05 41.3
GTA PCP PcP 09 05 57.5 +0.1
GTA S **S** **09 09 36.8 -2.4**
GTA SCP ScP 09 09 40.8 -4.0
GTA PCS PcS 09 09 47.0 +0.4
GTA XS sS 09 09 57.8 +11
GTA SS SS 09 12 19.0 -9.3
GTA SCS ScS 09 13 50.5 -4.4
GTA AMB AMB
comp=Z,21nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,126nm,8.8s
GTA LR LR
comp=N,387nm,20.2s,MS4.5
GTA LR LR
comp=E,656nm,21.0s,MS4.5
GTA LR LR
comp=Z,144nm,16.8s,MS3.9
GERES GERESS Array B 38.55 315 P **P** **09 03 44.4 -0.8**
comp=Z,1.9nm,0.4s,mb4.1,baz=108,slow=7.1,SNR=20
GERES PcP PcP 09 05 57.1 -0.6
comp=Z,1.1nm,0.7s,baz=112,slow=4.4,SNR=4.0
GERES GERESS Array B 38.55 315 PcP PcP 09 05 57.1 -0.6
KHC Kasperske Hory 38.72 315 *e*P **P** **09 03 46.2 -0.4**
KHC x x 09 03 50.0
KHC Kasperske Hory 38.72 315 *i* P **P** **09 03 46.2 -0.4**
JOF Joensuu 38.82 343 *e*p **P** **09 03 45.7 -1.8**
comp=Z,6.9nm,0.9s,mb4.4
BRG Berggiesshubel 39.08 318 *e*P **P** **09 03 49.8 +0.2**
comp=Z,6.0nm,1.0s,mb4.3
BRG Berggiesshubel 39.08 318 *e*P **P** **09 03 49.8 +0.1**
comp=Z,5.9nm,1.0s,mb4.3
BRG Berggiesshubel 39.08 318 *e*P **P** **09 03 49.8 +0.2**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
FINES FINESS Array B 39.25 338 P **P** **09 03 50.3 -0.8**
comp=Z,1.8nm,0.4s,mb4.1,baz=138,slow=9.5,SNR=24
FINES PcP PcP 09 05 57.6 -2.3
comp=Z,1.5nm,0.6s,baz=125,slow=7.3,SNR=2.8
FINES FINESS Array B 39.25 338 *i* P **P** **09 03 50.2 -0.8**
comp=Z,2.0nm,0.4s,mb4.2
FINES FINESS Array B 39.25 338 PcP PcP 09 05 57.6 -2.3
FINES FINESS Array B 39.25 338 *i* P **P** **09 03 50.2 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.4s
WTTA Wattenberg 39.44 312⇑*i*P **P** **09 03 51.8 -0.8**
comp=Z,19nm,0.8s,mb4.9,SNR=8.9
KAF Kangasniemi 39.66 339 *e*p **P** **09 03 54.3 -0.2**
comp=Z,1.2nm,0.4s,mb4.0
KAF Kangasniemi 39.66 339 *e*P **P** **09 03 54.3 -0.2**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
SQTA Sankt Quirin 39.71 312⇑*i*P **P** **09 03 53.9 -1.0**
comp=Z,14nm,1.0s,mb4.7,SNR=26
NKC Novy Kostel 39.76 317 *e*P **P** **09 03 58.4 +3.1**
CLL Collm 39.78 318 *e*P **P** **09 03 55.0 -0.5**
CLL *i* pP pP 09 03 58.9 -1.5
comp=Z,23nm,0.9s
CLL Collm 39.78 318 *e*P **P** **09 03 55.0 -0.5**
comp=Z,23nm,0.9s,mb4.9
CLL *i* pP 09 03 58.9 -1.5
CLL Collm 39.78 318 *e*P **P** **09 03 55.0 -0.5**
CLL *i* pP 09 03 58.9 -1.5
CLL pmax pmax
comp=Z,23nm,0.9s,mb4.9
GRA1 Grafenberg Arr 40.35 316 *e*P **P** **09 03 59.2 -1.0**
comp=Z,18nm,1.2s,mb4.7
GRF Grafenberg Arr 40.35 316 *e*P **P** **09 03 59.2 -1.0**
comp=Z,18nm,1.2s,mb4.7
GRF Grafenberg Arr 40.35 316 *e*P **P** **09 03 59.2 -1.0**
GRF pmax pmax
comp=Z,18nm,1.2s,mb4.7
GRF Grafenberg Arr 40.35 316 *e*P **P** **09 03 59.2 -1.0**
GRF pmax pmax
comp=Z,18nm,1.2s,mb4.7
PGF Pioggiola 40.44 304 *e*P **P** **09 04 00.0 -1.0**
DAVA Damuels 40.61 312 *i* P **P** **09 04 01.5 -0.9**
comp=Z,38nm,0.5s,mb5.3,SNR=19
LZH Lanzhou 41.60 66 *e*P **P** **09 04 10.5 -0.1**
LZH AP pP 09 04 18.0 +2.6
LZH XP sP 09 04 23.0 +5.7
LZH AMB AMB
comp=Z,28nm,1.0s,mb4.8
MOY Mondy 41.65 42 *e*P **P** **09 04 10.8 -0.1**
SBF Sospel 41.73 306 *e*P **P** **09 04 10.4 -1.2**
comp=Z,34nm,0.8s,mb4.8
SBF Sospel 41.73 306 *e*P **P** **09 04 10.4 -1.2**
comp=Z,17nm,0.8s,mb4.8
SBF Sospel 41.73 306 *e*P **P** **09 04 10.4 -1.2**
SBF pmax pmax
comp=Z,17nm,0.8s,mb4.7
CD2 Chengdu 41.99 73 *e*P **P** **09 04 10.0 -3.7**
CD2 AP pP 09 04 22.3 +3.8
CD2 XP sP 09 04 27.8 +7.3
CD2 PP PP 09 05 50.8 -0.1
CD2 S **S** **09 10 24.5 -7.4**
CD2 XS sS 09 10 45.5 +5.7
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,50nm,5.3s
CD2 LR LR
comp=N,140nm,16.8s
CD2 LR LR
comp=Z,100nm,15.6s,MS3.8
KMI Kunming 42.20 82 P **P** **09 04 15.0 -0.4**
KMI AP pP 09 04 24.3 +4.1
KMI XP sP 09 04 30.8 +8.6
KMI AMB AMB
comp=Z,12nm,0.8s,mb4.6
FRF La Foret Royal 42.26 305 *e*P **P** **09 04 14.8 -1.1**
APA Apatity 42.28 348⇑*i*P **P** **09 04 12.0 -4.1**
APA *i* 09 04 21.7
APA pmax pmax
comp=Z,16nm,0.8s,mb4.7
MBDF Montbardon 42.31 307 *e*P **P** **09 04 15.2 -1.1**
comp=Z,25nm,0.6s,mb4.7
MBDF Montbardon 42.31 307 *e*P **P** **09 04 15.2 -1.1**
comp=Z,13nm,0.6s,mb4.7
MBDF Montbardon 42.31 307 *e*P **P** **09 04 15.2 -1.1**
MBDF pmax pmax
comp=Z,13nm,0.6s,mb4.7
LMR La Mourre 42.34 305 *e*P **P** **09 04 15.1 -1.5**
LPG La Plagne 42.42 308 *e*P **P** **09 04 16.2 -1.0**
comp=Z,29nm,0.8s,mb4.7
LPG La Plagne 42.42 308 *e*P **P** **09 04 16.2 -1.0**
comp=Z,15nm,0.8s,mb4.7
LPG La Plagne 42.42 308 *e*P **P** **09 04 16.2 -1.0**
LPG pmax pmax
comp=Z,15nm,0.8s,mb4.7
LPL La Plagne 42.44 308 *e*P **P** **09 04 16.4 -1.0**
comp=Z,27nm,0.7s,mb4.7
LPL La Plagne 42.44 308 *e*P **P** **09 04 16.4 -1.0**
comp=Z,14nm,0.7s,mb4.7
LPL La Plagne 42.44 308 *e*P **P** **09 04 16.4 -1.0**
LPL pmax pmax
comp=Z,14nm,0.6s,mb4.8
CDF Champ du Feu 42.56 313 *e*P **P** **09 04 16.8 -1.6**
comp=Z,12nm,0.6s,mb4.5
CDF Champ du Feu 42.56 313 *e*P **P** **09 04 16.8 -1.6**
comp=Z,5.8nm,0.6s,mb4.5
CDF Champ du Feu 42.56 313 *e*P **P** **09 04 16.8 -1.6**
CDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
ZAK Zakamensk 42.69 44 *e*P **P** **09 04 07.2 -12**
ZAK *e* 09 04 16.7
ZAK *e* 09 06 10.1
ZAK pmax pmax
comp=Z,9.0nm,1.8s,mb4.2
ZAK pmax pmax
comp=Z,7.0nm,1.8s,mb4.1
HINF Hinteralfeld 42.72 312 *e*P **P** **09 04 18.0 -1.7**
comp=Z,10nm,0.5s,mb4.5

HINF Hinteralfeld 42.72 312 *e*P **P** **09 04 18.0 -1.7**
comp=Z,5.2nm,0.5s,mb4.5
HINF Hinteralfeld 42.72 312 *e*P **P** **09 04 18.0 -1.7**
HINF pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
ORIF Oris-en-Rattie 42.96 307 *e*P **P** **09 04 20.1 -1.5**
comp=Z,9.0nm,0.7s,mb4.3
ORIF Oris-en-Rattie 42.96 307 *e*P **P** **09 04 20.1 -1.5**
comp=Z,4.5nm,0.7s,mb4.3
ORIF Oris-en-Rattie 42.96 307 *e*P **P** **09 04 20.1 -1.5**
ORIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
CABF La Chapelle 43.04 310 *e*P **P** **09 04 21.2 -1.0**
comp=Z,52nm,0.8s,mb5.0
CABF La Chapelle 43.04 310 *e*P **P** **09 04 21.2 -1.0**
comp=Z,26nm,0.8s,mb5.0
CABF La Chapelle 43.04 310 *e*P **P** **09 04 21.2 -1.0**
CABF pmax pmax
comp=Z,26nm,0.8s,mb5.0
SMRF Simiane la Rot 43.08 306 *e*P **P** **09 04 21.5 -1.0**
HAU Haudompre 43.09 312 *e*P **P** **09 04 21.4 -1.3**
comp=Z,11nm,0.5s,mb4.6
HAU Haudompre 43.09 312 *e*P **P** **09 04 21.4 -1.3**
comp=Z,5.7nm,0.5s,mb4.6
HAU Haudompre 43.09 312 *e*P **P** **09 04 21.4 -1.3**
HAU pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
TLY Talaya 43.23 43 *e*P **P** **09 04 23.6 -0.2**
comp=Z,3.0nm,2.5s
TLY Talaya 43.23 43⇑*e*P **P** **09 04 23.6 -0.2**
TLY pmax pmax
comp=Z,3.0nm,2.5s
WLF Walferdange 43.54 314 P **P** **09 04 25.6 -0.6**
WLF AP pP 09 04 28.1 -3.0
WLF XP sP 09 04 30.5 -2.6
WLF Walferdange 43.54 314 P **P** **09 04 26.2 -0.1**
comp=Z,13nm,0.8s,mb4.7
WLF Walferdange 43.54 314 P **P** **09 04 26.1 -0.1**
comp=Z,13nm,0.8s,mb4.7
WLF Walferdange 43.54 314 P **P** **09 04 26.2 -0.1**
WLF pmax pmax
comp=Z,13nm,0.8s,mb4.7
VIVF Saint-Julien-l 43.80 307 *e*P **P** **09 04 27.0 -1.4**
MEM Membach 43.83 316 ⇑P **P** **09 04 29.7 +1.1**
MEM AP pP 09 04 32.2 -1.2
MEM XP sP 09 04 34.0 -1.4
MEZF Maizieres J'vi 44.03 312 *e*P **P** **09 04 28.9 -1.3**
comp=Z,30nm,0.6s,mb4.9
MEZF Maizieres J'vi 44.03 312 *e*P **P** **09 04 28.9 -1.3**
comp=Z,15nm,0.6s,mb4.9
SONM Songino Array 44.19 49 P **P** **09 04 31.4 -0.1**
comp=Z,3.2nm,0.9s,mb4.0,baz=268,slow=9.1,SNR=18
LASF Ste Croix 44.32 306 *e*P **P** **09 04 31.3 -1.3**
GIVF Givet 44.47 315 *e*P **P** **09 04 32.5 -1.2**
SMF Signal de Mont 44.58 310 *e*P **P** **09 04 33.1 -1.5**
comp=Z,33nm,0.7s,mb5.0
SMF Signal de Mont 44.58 310 *e*P **P** **09 04 33.1 -1.5**
comp=Z,17nm,0.7s,mb5.0
SMF Signal de Mont 44.58 310 *e*P **P** **09 04 33.1 -1.5**
SMF pmax pmax
comp=Z,17nm,0.7s,mb5.0
DOU Dourbes 44.61 315 ⇑P **P** **09 04 35.6 +0.7**
DOU XP sP 09 04 40.0 -1.7
ULN Ulaanbaatar 44.63 49 *e*P **P** **09 04 34.9 -0.2**
comp=Z,8.0nm,1.1s,mb4.5
ULN Ulaanbaatar 44.63 49 *e*P **P** **09 04 34.9 -0.1**
comp=Z,7.7nm,1.1s,mb4.5
ULN Ulaanbaatar 44.63 49 *e*P **P** **09 04 34.9 -0.2**
ULN pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
LOR Lormes 44.64 311 *e*P **P** **09 04 33.6 -1.5**
comp=Z,7.3nm,0.5s,mb4.4
LOR Lormes 44.64 311 *e*P **P** **09 04 33.6 -1.5**
comp=Z,3.7nm,0.5s,mb4.4
LOR Lormes 44.64 311 *e*P **P** **09 04 33.6 -1.5**
LOR pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
NB2 NORSAR Subarra 44.72 331 P **P** **09 04 33.9 -1.9**
comp=Z,8.7nm,0.9s,mb4.6,baz=120,slow=8.6
NB2 NORSAR Subarra 44.72 331 P **P** **09 04 33.9 -1.9**
NB2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
NOA NORSAR Array B 44.72 331 P **P** **09 04 34.4 -1.4**
comp=Z,3.8nm,0.6s,mb4.4,baz=117,slow=7.6,SNR=14
NOA PP PP 09 06 17.7 -2.5
comp=Z,1.8nm,0.8s,baz=128,slow=11,SNR=3.6
NOA NORSAR Array B 44.72 331 PP PP 09 06 17.7 -2.5
NAO01 NORSAR Array S 44.77 331 P **P** **09 04 34.4 -1.8**
NAO01 NORSAR Array S 44.77 331 P **P** **09 04 34.4 -1.7**
KONO Kongsberg 44.81 329 *e*P **P** **09 04 35.6 -0.9**
comp=Z,16nm,0.9s,mb4.8
KONO Kongsberg 44.81 329 *e*P **P** **09 04 35.6 -0.9**
comp=Z,16nm,0.9s,mb4.9
KONO Kongsberg 44.81 329 *e*P **P** **09 04 35.6 -0.9**
KONO pmax pmax
comp=Z,16nm,0.9s,mb4.8
BAIF Baives 44.85 314 *e*P **P** **09 04 35.5 -1.3**
comp=Z,28nm,0.7s,mb4.9
BAIF Baives 44.85 314 *e*P **P** **09 04 35.5 -1.3**
comp=Z,14nm,0.7s,mb4.9
BAIF Baives 44.85 314 *e*P **P** **09 04 35.5 -1.3**
BAIF pmax pmax
comp=Z,14nm,0.7s,mb4.9
SSF Saint Saulge 44.85 310 *e*P **P** **09 04 35.6 -1.2**
comp=Z,13nm,0.6s,mb4.7
SSF Saint Saulge 44.85 310 *e*P **P** **09 04 35.6 -1.2**
comp=Z,6.6nm,0.6s,mb4.7
SSF Saint Saulge 44.85 310 *e*P **P** **09 04 35.6 -1.2**
SSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
SNF Seneffe 44.88 315 P **P** **09 04 37.1 0.0**
SNF AP pP 09 04 40.6 -1.3
SNF XP sP 09 04 42.2 -1.6
SNF Seneffe 44.88 315 P **P** **09 04 37.0 -0.1**
AVF Avril sur Loir 44.93 310 *e*P **P** **09 04 36.1 -1.3**
comp=Z,13nm,0.7s,mb4.6
AVF Avril sur Loir 44.93 310 *e*P **P** **09 04 36.1 -1.3**
comp=Z,6.7nm,0.7s,mb4.6
AVF Avril sur Loir 44.93 310 *e*P **P** **09 04 36.1 -1.3**
AVF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
BGF Bois d'Agland 45.25 309 *e*P **P** **09 04 38.6 -1.4**
comp=Z,19nm,0.6s,mb4.8
BGF Bois d'Agland 45.25 309 *e*P **P** **09 04 38.6 -1.4**
comp=Z,9.6nm,0.6s,mb4.8
BGF Bois d'Agland 45.25 309 *e*P **P** **09 04 38.6 -1.4**
BGF pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
KEV Kevo 45.40 347 *e*p **P** **09 04 33.9 -7.2**
comp=Z,9.8nm,0.8s,mb4.7
KEV Kevo 45.40 347 *e*P **P** **09 04 33.9 -7.2**
KEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
HYF Humbligny 45.47 310 *e*P **P** **09 04 41.0 -0.7**
MTLF Montolieu 45.47 305 *e*P **P** **09 04 40.6 -1.1**
ARCES ARCESS Array B 45.54 346 P **P** **09 04 40.3 -2.0**
comp=Z,5.6nm,1.0s,mb4.4,baz=111,slow=6.6,SNR=11
ARCES PcP PcP 09 06 19.9 -0.9
comp=Z,2.3nm,0.7s,baz=145,slow=6.5,SNR=4.1
ARCES ARCESS Array B 45.54 346 PcP PcP 09 06 19.9 -0.9
ARE0 ARCESS Array S 45.54 346 *e*P **P** **09 04 42.0 -0.3**
ARE0 ARCESS Array S 45.54 346 *e*P **P** **09 04 42.0 -0.3**
CAF Calviac 45.66 307 *e*P **P** **09 04 42.2 -1.0**
comp=Z,15nm,0.5s,mb4.8
CAF Calviac 45.66 307 *e*P **P** **09 04 42.2 -1.0**
comp=Z,7.4nm,0.5s,mb4.8
CAF Calviac 45.66 307 *e*P **P** **09 04 42.2 -1.0**
CAF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
TCF Toulx Ste Croi 45.66 309 *e*P **P** **09 04 42.1 -1.1**
comp=Z,32nm,0.7s,mb5.1
TCF Toulx Ste Croi 45.66 309 *e*P **P** **09 04 42.1 -1.1**
comp=Z,16nm,0.7s,mb5.1
TCF Toulx Ste Croi 45.66 309 *e*P **P** **09 04 42.1 -1.1**
TCF pmax pmax
comp=Z,16nm,0.7s,mb5.1
RJF Les Rejaudoux 46.07 308 *e*P **P** **09 04 45.6 -0.8**
comp=Z,22nm,0.7s,mb4.9
RJF Les Rejaudoux 46.07 308 *e*P **P** **09 04 45.6 -0.8**
comp=Z,11nm,0.7s,mb4.9
RJF Les Rejaudoux 46.07 308 *e*P **P** **09 04 45.6 -0.8**
RJF pmax pmax
comp=Z,11nm,0.7s,mb4.9
EPOB Poblet 46.28 302 P **P** **09 04 52.5 +4.4**
comp=Z,106nm,1.9s,mb5.5
LFF La Frestale 46.60 307 *e*P **P** **09 04 49.7 -0.9**

comp=Z,32nm,0.8s,mb5.0
LFF La Frestale 46.60 307 *e*P **P 09 04 49.7 -0.9**
comp=Z,16nm,0.8s,mb5.0
LFF La Frestale 46.60 307 *e*P **P 09 04 49.7 -0.9**
LFF pmax pmax
comp=Z,16nm,0.8s,mb5.0
EBR Ebro Roquetas 46.73 301 *e*P **P 09 04 54.0 +2.4**
EPF Esparros 46.83 304 *e*P **P 09 04 51.1 -1.3**
EBIE Bielsa 46.97 304 P **P 09 04 57.5 +3.9**
comp=Z,17nm,1.2s,mb4.9
MFF Saint Martin d 47.31 309 *e*P **P 09 04 54.8 -1.4**
ESAC San Caprasio 47.44 303 P **P 09 04 58.3 +1.2**
comp=Z,22nm,0.5s,mb5.3
ESAC San Caprasio 47.44 303 P **P 09 04 58.3 +1.2**
comp=Z,22nm,0.5s,mb5.3
LDF La Druitiere 47.45 312 *e*P **P 09 04 55.7 -1.6**
comp=Z,27nm,0.5s,mb5.2
LDF La Druitiere 47.45 312 *e*P **P 09 04 55.7 -1.6**
comp=Z,14nm,0.5s,mb5.2
LDF La Druitiere 47.45 312 *e*P **P 09 04 55.7 -1.6**
LDF pmax pmax
comp=Z,14nm,0.5s,mb5.2
ETSF Etsaut 47.49 304 *e*P **P 09 04 56.8 -0.8**
comp=Z,13nm,0.6s,mb4.8
ETSF Etsaut 47.49 304 *e*P **P 09 04 56.8 -0.8**
comp=Z,6.4nm,0.6s,mb4.8
ETSF Etsaut 47.49 304 *e*P **P 09 04 56.8 -0.8**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
HHC Hu-ho-hao-te 47.50 59 *e*P **P 09 04 57.5 -0.1**
HHC AP pP 09 05 10.0 +7.5
HHC PCP PcP 09 06 28.0 +0.3
HHC PP PP 09 06 49.0 0.0
HHC S **S 09 11 47.5 -4.3**
HHC XS sS 09 12 08.3 +8.5
HHC SCS ScS 09 14 44.8 -6.1
HHC SS SS 09 15 09.0 -11
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,113nm,3.9s
HHC LR LR
comp=N,131nm,5.1s
HHC LR LR
comp=E,240nm,5.1s
HHC LR LR
comp=Z,129nm,5.1s
FLN La Foliniere 47.70 312 *e*P **P 09 04 57.5 -1.7**
comp=Z,19nm,0.6s,mb5.0
FLN La Foliniere 47.70 312 *e*P **P 09 04 57.5 -1.7**
comp=Z,9.6nm,0.6s,mb5.0
FLN La Foliniere 47.70 312 *e*P **P 09 04 57.5 -1.7**
FLN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
ECHE Chera 47.90 300 P **P 09 04 57.2 -3.5**
comp=Z,9.0nm,0.6s,mb5.0
ECHE Chera 47.90 300 P **P 09 04 57.2 -3.5**
comp=Z,8.6nm,0.6s,mb5.0
ECHE Chera 47.90 300 P **P 09 04 57.2 -3.5**
ECHE pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
GRR Gorron 47.92 312 *e*P **P 09 04 59.4 -1.5**
comp=Z,20nm,0.6s,mb5.0
GRR Gorron 47.92 312 *e*P **P 09 04 59.4 -1.5**
comp=Z,9.9nm,0.6s,mb5.0
GRR Gorron 47.92 312 *e*P **P 09 04 59.4 -1.5**
GRR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
SJPF Ste Jean 47.98 304 *e*P **P 09 05 00.5 -0.9**
comp=Z,22nm,0.6s,mb5.0
SJPF Ste Jean 47.98 304 *e*P **P 09 05 00.5 -0.9**
comp=Z,11nm,0.6s,mb5.0
SJPF Ste Jean 47.98 304 *e*P **P 09 05 00.5 -0.9**
SJPF pmax pmax
comp=Z,11nm,0.6s,mb5.1
ETOB Tobarra 48.41 299 P **P 09 05 07.6 +2.9**
comp=Z,11nm,0.7s,mb5.0
ECRI Cripan 48.93 304 P **P 09 05 12.6 +3.9**
comp=Z,6.3nm,0.5s,mb4.9
ECRI Cripan 48.93 304 P **P 09 05 12.6 +3.9**
ECRI pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ENIJ Nijar 49.09 296 P **P 09 05 13.6 +3.7**
EVIA Vianos 49.16 299 P **P 09 05 14.3 +3.9**
QUIF Quistinic 49.43 311 *e*P **P 09 05 10.9 -1.6**
ROSF Rostrenen 49.52 311 *e*P **P 09 05 11.7 -1.5**
comp=Z,28nm,0.9s,mb5.0
ROSF Rostrenen 49.52 311 *e*P **P 09 05 11.7 -1.5**
comp=Z,14nm,0.9s,mb5.0
ROSF Rostrenen 49.52 311 *e*P **P 09 05 11.7 -1.5**
ROSF pmax pmax
comp=Z,14nm,0.9s,mb5.0
ELAN Lanestosa 49.59 305 P **P 09 05 17.7 +4.0**
comp=Z,11nm,0.6s,mb5.1
EQES Quesada 49.69 298 P **P 09 05 16.9 +2.4**
comp=Z,17nm,0.9s,mb5.1
EALB Alboran 49.88 295 P **P 09 05 17.2 +1.3**
LSZ Lusaka 50.10 215 P **P 09 05 17.7 0.0**
comp=Z,9.0nm,1.2s,mb4.7
LSZ Lusaka 50.10 215 P **P 09 05 17.6 0.0**
comp=Z,8.8nm,1.2s,mb4.7
LSZ Lusaka 50.10 215 P **P 09 05 17.7 0.0**
LSZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
ESDC Sonseca Array 50.20 300 P **P 09 05 17.3 -1.1**
comp=Z,2.1nm,0.5s,mb4.5,baz=77,slow=7.0,SNR=9.3
ESDC Sonseca Array 50.20 300 P **P 09 05 18.1 -0.3**
comp=Z,1.9nm,0.4s,mb4.5
ESDC Sonseca Array 50.20 300 P **P 09 05 18.1 -0.3**
comp=Z,1.9nm,0.4s,mb4.5
ESLA Sonseca Array 50.20 300 P **P 09 05 18.2 -0.2**
comp=Z,0.7nm,0.6s,mb3.9
ESLA Sonseca Array 50.20 300 P **P 09 05 18.2 -0.1**
comp=Z,0.7nm,0.6s,mb3.9
EBAN Banos Encina 50.21 298 P **P 09 05 18.6 +0.2**
comp=Z,14nm,0.6s,mb5.2
EBAN Banos Encina 50.21 298 P **P 09 05 18.6 +0.1**
comp=Z,14nm,0.6s,mb5.2
EBAN Banos Encina 50.21 298 P **P 09 05 18.6 +0.2**
EBAN pmax pmax
comp=Z,14nm,0.6s,mb5.2
GUD Guadarrama 50.27 301 P **P 09 05 19.7 +0.8**
ERON Agron 50.36 297 P **P 09 05 23.8 +4.2**
comp=Z,12nm,0.8s,mb5.0
BOD Bodaibo 50.47 36 *e*P **P 09 05 18.8 -1.6**
BOD pmax pmax
comp=Z,19nm,1.2s,mb5.0
ELUQ Luque 50.66 297 P **P 09 05 24.7 +2.8**
comp=Z,5.6nm,0.6s,mb4.7
ELUQ Luque 50.66 297 P **P 09 05 24.7 +2.9**
ELUQ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
EADA Adamuz 50.83 298 P **P 09 05 25.9 +2.8**
comp=Z,16nm,1.0s,mb4.9
EARI Arriondas 50.88 305 P **P 09 05 26.9 +3.4**
comp=Z,6.1nm,0.6s,mb4.7
EMIJ Mijas 51.19 296 P **P 09 05 27.1 +1.3**
comp=Z,9.5nm,0.6s,mb4.9
EMIJ Mijas 51.19 296 P **P 09 05 27.1 +1.3**
comp=Z,9.5nm,0.6s,mb4.9
ECAB El Cabril 51.50 298 P **P 09 05 28.3 +0.1**
comp=Z,17nm,0.7s,mb5.1
ECAB El Cabril 51.50 298 P **P 09 05 28.3 +0.1**
comp=Z,17nm,0.7s,mb5.1
ESPR Espera 52.01 297 P **P 09 05 30.7 -1.2**
comp=Z,8.1nm,0.7s,mb4.8
ESPR Espera 52.01 297 P **P 09 05 30.7 -1.2**
comp=Z,8.1nm,0.7s,mb4.8
TORD Torodi Ar. Bea 52.08 265 P **P 09 05 32.5 -0.1**
comp=Z,13nm,0.5s,mb5.1,baz=62,slow=7.2,SNR=218
EBAD Badajoz 52.66 299 P **P 09 05 38.3 +1.5**
comp=Z,8.5nm,0.8s,mb4.7
EBAD Badajoz 52.66 299 P **P 09 05 38.3 +1.6**
comp=Z,8.5nm,0.8s,mb4.7
NJ2 Nanjing 54.47 69 *e*P **P 09 05 50.5 +0.4**
NJ2 AP pP 09 05 55.0 -0.1
NJ2 XP sP 09 05 57.5 +0.6
NJ2 PP PP 09 07 54.0 +1.7
NJ2 S **S 09 13 25.0 -3.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,130nm,6.4s
NJ2 LR LR
comp=N,460nm,24.6s
NJ2 LR LR
comp=E,310nm,13.9s
NJ2 LR LR
comp=Z,240nm,16.2s
SSE Sheshan 56.63 69 *e*P **P 09 06 03.8 -1.8**
SSE AMB AMB
comp=Z,31nm,0.6s,mb5.5
SSE AMB AMB
comp=Z,39nm,3.5s
CN2 Changchun 57.49 54 *e*P **P 09 06 11.0 -0.7**
CN2 *e*XP sP 09 06 29.0 +10
CN2 *e*PP PP 09 08 20.0 +0.8
CN2 *e*S **S 09 14 02.0 -6.4**
CN2 AMB AMB
comp=Z,10.0nm,1.5s,mb4.6
YHNB Yeheng 58.59 77 *e*P **P 09 06 19.7 +0.3**
YHNB Yeheng 58.59 77 *e*P **P 09 06 19.7 +0.3**
YAK Yakutsk 58.72 32⇑ *e*P **P 09 06 17.1 -3.2**
YAK pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
YAK MLR MLR
comp=Z,100nm,15.0s,MS4.1
TIXI Tiksi 58.92 21⇓ *e*P **P 09 06 19.8 -1.9**
TIXI pmax pmax
comp=Z,19nm,2.5s,mb4.7
TIXI MLR MLR
comp=Z,100nm,16.0s,MS4.0
TSUM Tsumeb 59.20 223 *e*P **P 09 06 23.1 -0.6**
comp=Z,10nm,0.8s,mb4.9
TSUM Tsumeb 59.20 223 *e*P **P 09 06 23.1 -0.5**
comp=Z,10nm,0.8s,mb4.9
LBTB Lobatse 59.64 212 *e*P **P 09 06 27.4 +0.7**
comp=Z,8.3nm,0.8s,mb4.8
LBTB Lobatse 59.64 212 *e*P **P 09 06 27.4 +0.7**
comp=Z,8.3nm,0.8s,mb4.8
LBTB Lobatse 59.64 212 *e*P **P 09 06 27.4 +0.7**
LBTB pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MDJ Mudanjiang 60.29 52 P **P 09 06 31.5 +0.3**
MDJ AMB AMB
comp=Z,11nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,158nm,3.2s
DBIC Dimbokro 60.72 262 P **P 09 06 34.0 0.0**
comp=Z,4.0nm,0.6s,mb4.8,baz=21,slow=6.2,SNR=8.4
DBIC Dimbokro 60.72 262 *e*P **P 09 06 33.6 -0.5**
comp=Z,10nm,0.9s,mb5.0
DBIC Dimbokro 60.72 262 *e*P **P 09 06 33.6 -0.5**
comp=Z,10nm,0.9s,mb5.0
DBIC Dimbokro 60.72 262 *e*P **P 09 06 33.6 -0.5**
DBIC pmax pmax
comp=Z,10.0nm,0.9s
LIC Lamto 61.07 262 *e*P **P 09 06 36.0 -0.5**
SUMG Summit 65.21 341 *e*P **P 09 07 04.3 +0.4**
comp=Z,22nm,0.9s,mb5.2
SUMG Summit 65.21 341 *e*P **P 09 07 04.3 +0.3**
comp=Z,22nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 68.66 47 *e*P **P 09 07 24.5 -1.4**
comp=Z,15nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 68.66 47 *e*P **P 09 07 24.5 -1.4**
comp=Z,15nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 68.66 47⇑ *e*P **P 09 07 25.0 -0.9**
YSS *e* pP 09 07 29.0 -1.9
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.1
MAJO Matsushiro 68.70 59 *e*P **P 09 07 25.0 -1.1**
comp=Z,3.0nm,0.6s,mb4.4
MAJO Matsushiro 68.70 59 *e*P **P 09 07 25.0 -1.1**
comp=Z,3.0nm,0.6s,mb4.4
MAJO Matsushiro 68.70 59 *e*P **P 09 07 25.0 -1.1**
MAJO pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MJAR Matsushiro Arr 68.70 59 P **P 09 07 25.3 -0.8**
comp=Z,2.3nm,0.8s,mb4.2,baz=300,slow=10.0,SNR=5.9
SEY Seymchan 68.91 29⇑ *e*P **P 09 07 26.8 -0.7**
MA2 Magadan 69.27 33 *e*P **P 09 07 28.5 -1.2**
comp=Z,13nm,1.3s,mb4.7
MA2 Magadan 69.27 33 *e*P **P 09 07 28.5 -1.2**
comp=Z,13nm,1.3s,mb4.7
MA2 Magadan 69.27 33⇓ *i*P **P 09 07 28.9 -0.8**
MA2 pmax pmax
comp=Z,11nm,1.7s,mb4.5
BILL Bilibino 72.12 22 *e*P **P 09 07 46.8 -0.2**
comp=Z,19nm,1.3s,mb4.9
BILL Bilibino 72.12 22 *e*P **P 09 07 46.8 -0.3**
comp=Z,19nm,1.3s,mb4.9
BILL Bilibino 72.12 22⇑ *e*P **P 09 07 46.1 -0.9**
BILL *i* pP 09 07 51.2 -0.9
BILL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.2
TNA Tin City 81.42 17 *e*P **P 09 08 38.6 -0.9**
comp=Z,6.1nm,1.3s,mb4.4
TNA Tin City 81.42 17 *e*P **P 09 08 38.6 -0.9**
comp=Z,6.1nm,1.3s,mb4.4
FITZ Fitzroy Crossi 81.63 115 *e*P **P 09 08 40.8 +0.2**
comp=Z,6.3nm,0.7s,mb4.7
INK Inuvik 84.25 3 P **P 09 08 53.3 -1.0**
comp=Z,1.7nm,0.6s,mb4.3,baz=352,slow=4.2,SNR=19
INK LR LR 09 50 29.4
comp=Z,314nm,19.6s,MS4.7,baz=236,slow=39
INK Inuvik 84.25 3 *e*P **P 09 08 53.0 -1.2**
comp=Z,7.3nm,1.2s,mb4.7
INK Inuvik 84.25 3 *e*P **P 09 08 53.0 -1.2**
comp=Z,7.3nm,1.2s,mb4.7
INK Inuvik 84.25 3 *e*P **P 09 08 53.0 -1.2**
INK pmax pmax
comp=Z,7.0nm,1.2s
SCHQ Schefferville 84.29 331 P **P 09 08 53.7 -0.7**
comp=Z,2.5nm,0.5s,mb4.6,baz=59,slow=6.9,SNR=5.7
SCHQ Schefferville 84.29 331 *e*P **P 09 08 53.3 -1.1**
comp=Z,2.4nm,0.5s,mb4.6
KAKA Kakadu 84.50 107 *e*P **P 09 08 55.7 +0.2**
comp=Z,9.5nm,0.7s,mb5.0
COLA College 86.15 10 *e*P **P 09 09 02.4 -1.4**
comp=Z,7.9nm,1.3s,mb4.8
COLA College 86.15 10 *e*P **P 09 09 02.4 -1.3**
comp=Z,7.9nm,1.3s,mb4.8
COLA College 86.15 10 *e*P **P 09 09 02.4 -1.4**
COLA pmax pmax
comp=Z,8.0nm,1.3s,mb4.8
ILAR Eielson Array 86.39 9 P **P 09 09 03.2 -1.7**
comp=Z,1.5nm,0.6s,mb4.4,baz=320,slow=4.5,SNR=28
ILAR PP PP 09 12 30.6 +4.5
comp=Z,0.4nm,0.8s,baz=318,slow=6.3,SNR=4.1
ILAR LR LR 09 49 44.4
comp=Z,181nm,19.6s,MS4.5,baz=78,slow=37
ILAR Eielson Array 86.39 9 P **P 09 09 03.2 -1.7**
ILAR Eielson Array 86.39 9 P **P 09 09 03.3 -1.6**
ILAR 09 12 30.7
MCK McKinley 87.05 11 *e*P **P 09 09 07.0 -1.2**
WRA Warramunga Arr 89.63 113 P **P 09 09 20.5 +0.1**
comp=Z,2.5nm,0.6s,mb4.8,baz=315,slow=4.0,SNR=30
WRAB Tennant Creek 89.64 113 *e*P **P 09 09 20.4 0.0**
comp=Z,4.8nm,0.6s,mb5.0
WRAB Tennant Creek 89.64 113 *e*P **P 09 09 20.4 0.0**
comp=Z,4.9nm,0.6s,mb5.0
WRAB Tennant Creek 89.64 113 *e*P **P 09 09 20.4 0.0**
WRAB pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
WB2 Warramunga Arr 89.64 113 *e*P **P 09 09 20.2 -0.2**
YKW3 Yellowknife Ar 89.91 355 *e*P **P 09 09 20.4 -1.3**
YKW3 Yellowknife Ar 89.91 355 *e*P **P 09 09 20.4 -1.3**
YKA Yellowknife Ar 89.98 355 P **P 09 09 21.5 -0.5**
comp=Z,2.2nm,0.9s,mb4.5,baz=5.3,slow=4.7,SNR=15
YKA PKKPbc PKKPbc 09 26 51.4 -1.6
comp=Z,0.1nm,0.4s,baz=174,slow=2.4,SNR=7.3
YKA Yellowknife Ar 89.98 355 P **P 09 09 21.5 -0.5**
YKA Yellowknife Ar 89.98 355 P **P 09 09 21.6 -0.5**
YKA PKKPbc PKKPbc 09 26 51.4 -1.6
YKA Yellowknife Ar 89.98 355 *i* P **P 09 09 21.3 -0.7**
YKA pmax pmax
comp=Z,2.0nm,0.9s
FORT Forrest 90.25 125 *e*P **P 09 09 23.1 -0.2**
comp=Z,19nm,0.7s,mb5.5
FCC Fort Churchill 90.43 345 *e*P **P 09 09 23.5 -0.6**
FCC Fort Churchill 90.43 345 *e*P **P 09 09 23.6 -0.5**
ASAR Alice Springs 91.10 116 P **P 09 09 27.1 -0.1**
comp=Z,2.5nm,0.7s,mb4.7,baz=305,slow=4.7,SNR=26
PDAR Pinedale Array 108.75 348 PKiKP PKiKP 09 14 51.0 -0.7
comp=Z,0.4nm,0.7s,baz=82,slow=2.1,SNR=3.6
PDAR PKKP PKKPbc 09 26 12.4 +12
comp=Z,0.8nm,0.7s,baz=179,slow=5.0,SNR=8.6
NVAR Mina-Array Bea 114.17 355 PKP PKiKP 09 15 01.7 -0.2
comp=Z,0.6nm,0.6s,baz=354,slow=1.6,SNR=4.4
CPUP Villa Florida 120.81 254 PKP PKPdf 09 15 13.7 -1.1
comp=Z,0.4nm,0.4s,baz=234,slow=2.2,SNR=3.5
LPAZ La Paz 126.92 270 PKP PKPdf 09 15 27.9 +1.5
comp=Z,1.3nm,0.9s,baz=0.0,slow=1.0,SNR=3.4
CFAA Coronel Fontan 131.35 251 PKP PKPdf 09 15 35.3 +0.4
comp=Z,0.4nm,1.0s,baz=98,slow=2.7,SNR=5.8

MOS ***25*** *08:56:25.2±0.7, 981S×7555W, h86km, mb5.0/20, Error ellipse: s-maj=13.6km s-min=8.0km az=107.0*
ISCJB ***25*** *08:56:26.6±0.3, 1002S±006×7566W±007, h108km, mb4.7/57, Error ellipse: s-maj=12.1km s-min=5.4km az=103.8*
BJI ***25*** *08:56:27.9, 1010S×7560W, h108km, mB5.2*
IDC ***25*** *08:56:27.9±0.8, 1014S×7570W, h107km±5km, mb4.1/14, mb1 4.3/17, mb1mx4.2/23, mbtmp4.5/17, Error ellipse: s-maj=21.8km s-min=11.0km az=56.0*
NEIC ***25*** *08:56:27.9±0.2, 1009S×7562W, mb4.8/50, Error ellipse: s-maj=7.2km s-min=3.5km az=55.0*
NEIC Felt [III] at Ambo.
ISC 25 08:56:28.5±0.3, 1006S±006×7561W±007, h110km, h110km±2.8km: pP-P, n154, σ0s76/134, mb4.7/57, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**7.52**	**148**	*e*P	**Pn**	**08 58 18.0**	**+2.6**
LPAZ	**La Paz**	**9.56**	**131**	P	**Pn**	**08 58 43.4**	**+0.3**
0.5nm,0.3s,baz=345,slow=10,SNR=19							
LPAZ	**La Paz**	**9.56**	**131**	*e*Pn	**Pn**	**08 58 43.0**	**-0.1**
0.7nm,0.3s							
LPAZ	**La Paz**	**9.56**	**131**	*e*P	**Pn**	**08 58 43.0**	**-0.1**
LPAZ				pmax	pmax		
comp=Z,1.0nm,0.3s							
OTAV	**Otavalo**	**10.62**	**344**	*e*Pn	**Pn**	**08 58 58.7**	**+1.4**
LVC	**Limon Verde**	**14.03**	**154**	P	**Pn**	**08 59 48.5**	**+6.2**
comp=Z,0.4nm,0.3s,baz=298,slow=8.4,SNR=15							
LVC	**Limon Verde**	**14.03**	**154**	Pn	**Pn**	**08 59 42.8**	**+0.5**
comp=Z,8.6nm,0.8s							
ROSC	**El Rosal**	**14.88**	**5**	P	**Pn**	**08 59 58.4**	**+5.4**
comp=Z,2.2nm,0.3s,baz=165,slow=12,SNR=8.0							
ROSC				S	**Sn**	**09 02 54.7**	**+17**
baz=90,slow=23,SNR=1.8							
SIV	**San Ignacio**	**15.34**	**114**	P	**Pn**	**08 59 58.6**	**-0.3**
comp=Z,1.5nm,0.3s,baz=304,slow=12,SNR=39							
PAYG	**Puerto Ayora**	**17.32**	**302**	*e*P	**Pn**	**09 00 23.4**	**+0.1**
comp=Z,4.3nm,0.7s							
SDV	**Santo Domingo**	**19.46**	**15**	P	**P**	**09 00 49.1**	**+2.6**
comp=Z,3.3nm,0.3s,baz=196,slow=9.3,SNR=95							
SDV	**Santo Domingo**	**19.46**	**15**	*e*P	**P**	**09 00 49.1**	**+2.6**
comp=Z,72nm,0.8s							
JTS	**JuntasAbangare**	**22.25**	**335**	P	**P**	**09 01 17.7**	**+1.4**
comp=Z,7.2nm,0.5s,mb4.3,baz=133,slow=4.5,SNR=4.9							
CFAA	**Coronel Fontan**	**22.50**	**163**	P	**P**	**09 01 19.2**	**+0.3**
comp=Z,0.2nm,0.7s,baz=333,slow=11,SNR=4.1							
CPUP	**Villa Florida**	**23.68**	**136**	P	**P**	**09 01 29.8**	**-0.2**
comp=Z,1.9nm,0.6s,mb3.6,baz=289,slow=9.6,SNR=7.1							
CPUP	**Villa Florida**	**23.68**	**136**	*e*P	**P**	**09 01 29.9**	**-0.1**
comp=Z,10nm,0.5s,mb4.4							
CPUP	**Villa Florida**	**23.68**	**136**	*e*P	**P**	**09 01 29.9**	**-0.1**
CPUP				pmax	pmax		
comp=Z,10.0nm,0.5s							
BDFB	**Brasilia**	**27.46**	**105**	P	**P**	**09 02 04.4**	**+0.4**
comp=Z,2.0nm,0.5s,mb3.9,baz=255,slow=6.6,SNR=4.9							
SJG	**San Juan**	**29.51**	**19**	P	**P**	**09 02 23.5**	**+1.2**
comp=Z,26nm,0.4s,mb5.2,baz=315,slow=8.6,SNR=9.7							
SJG	**San Juan**	**29.51**	**19**	*e*P	**P**	**09 02 20.9**	**-1.4**
comp=Z,16nm,0.4s,mb5.0							
SJG	**San Juan**	**29.51**	**19**	*e*P	**P**	**09 02 20.9**	**-1.4**
SJG				pmax	pmax		
comp=Z,16nm,0.4s							
PLCA	**Paso Flores**	**30.87**	**172**	P	**P**	**09 02 33.3**	**-1.0**
comp=Z,1.7nm,1.0s,mb3.8,baz=123,slow=23,SNR=3.7							
PLCA				PcP	PcP	09 05 28.6	+0.2
comp=Z,1.6nm,0.7s,baz=352,slow=6.4,SNR=5.2							
TEIG	**Tepich**	**32.58**	**338**	*e*P	**P**	**09 02 49.5**	**+0.2**
comp=Z,3.0nm,0.7s,mb4.2							
LRAL	**Lakeview Retre**	**44.21**	**346**	*e*P	**P**	**09 04 26.4**	**-0.1**
comp=Z,47nm,0.9s,mb5.2							
SWET	**Sewanee**	**46.08**	**348**	*e*P	**P**	**09 04 40.8**	**-0.6**
OXF	**Oxford**	**46.22**	**344**	*e*P	**P**	**09 04 41.8**	**-0.6**
comp=Z,36nm,0.8s,mb5.2							
OXF	**Oxford**	**46.22**	**344**	*e*P	**P**	**09 04 41.8**	**-0.6**
OXF				pmax	pmax		
comp=Z,36nm,0.8s,mb5.2							
PLAL	**Pickwick Lake**	**46.33**	**346**	*e*P	**P**	**09 04 42.2**	**-1.0**
comp=Z,27nm,1.0s,mb4.9							
BLA	**Blacksburg**	**47.24**	**355**	*e*P	**P**	**09 04 50.9**	**+0.5**
comp=Z,1.1nm,0.7s,mb3.7							
BLA	**Blacksburg**	**47.24**	**355**	*e*P	**P**	**09 04 50.9**	**+0.6**
BLA				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.6							
WVT	**Waverly**	**47.37**	**347**	*e*P	**P**	**09 04 49.7**	**-1.7**
comp=Z,29nm,1.3s,mb4.8							
WVT	**Waverly**	**47.37**	**347**	*e*P	**P**	**09 04 49.7**	**-1.6**
WVT				pmax	pmax		
comp=Z,29nm,1.3s,mb4.8							
MIAR	**Mount Ida**	**47.52**	**340**	*e*P	**P**	**09 04 52.8**	**+0.3**
comp=Z,22nm,0.8s,mb5.0							
MIAR	**Mount Ida**	**47.52**	**340**	*e*P	**P**	**09 04 52.8**	**+0.3**
MIAR				pmax	pmax		
comp=Z,22nm,0.8s,mb5.0							
LTX	**Lajitas**	**47.60**	**326**	*e*P	**P**	**09 04 53.5**	**+0.4**
WCI	**Wyandotte Cave**	**49.06**	**349**	*e*P	**P**	**09 05 03.5**	**-0.9**
comp=Z,8.4nm,0.4s,mb5.0							
WCI				*e*pP	pP	09 05 26.5	-3.8
WCI	**Wyandotte Cave**	**49.06**	**349**	*e*P	**P**	**09 05 03.5**	**-0.9**
WCI				*e*PP	pP	09 05 26.5	-3.8
WCI				pmax	pmax		
comp=Z,8.0nm,0.4s,mb5.0							
SIUC	**Southern Illin**	**49.20**	**346**	*e*P	**P**	**09 05 04.8**	**-0.6**
comp=Z,40nm,0.6s,mb5.5							
WMOK	**Wichita Mounta**	**49.67**	**335**	*e*P	**P**	**09 05 08.6**	**-0.4**
comp=Z,2.3nm,0.9s,mb4.1							
WMOK	**Wichita Mounta**	**49.67**	**335**	*e*P	**P**	**09 05 08.6**	**-0.4**
WMOK				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0							
FVM	**French Village**	**49.76**	**345**	*e*P	**P**	**09 05 08.8**	**-0.8**
comp=Z,35nm,0.9s,mb5.3							
FVM				*e*pP	pP	09 05 35.5	-0.1
FVM	**French Village**	**49.76**	**345**	*e*P	**P**	**09 05 08.9**	**-0.8**
FVM				*e*PP	pP	09 05 35.6	-0.1
FVM				pmax	pmax		
comp=Z,35nm,0.9s,mb5.3							
MVL	**Millersville**	**49.81**	**359**	*e*P	**P**	**09 05 10.3**	**+0.2**
BLO	**Bloomington**	**50.02**	**349**	*e*P	**P**	**09 05 11.0**	**-0.7**
comp=Z,36nm,0.6s,mb5.5							
BLO				*e*pP	pP	09 05 35.0	-2.6
BLO	**Bloomington**	**50.02**	**349**	*e*P	**P**	**09 05 11.0**	**-0.7**
BLO				*e*PP	pP	09 05 35.0	-2.6
BLO				pmax	pmax		
comp=Z,36nm,0.6s,mb5.5							
ACSO	**Alum Creek Sta**	**50.50**	**353**	*e*P	**P**	**09 05 14.8**	**-0.5**
comp=Z,20nm,1.0s,mb5.1							
BINY	**Binghamton**	**52.01**	**360**	*e*P	**P**	**09 05 27.1**	**+0.6**
comp=Z,20nm,0.7s,mb5.3							
KSU1	**Kansas State U**	**52.67**	**339**	*e*P	**P**	**09 05 30.7**	**-0.7**
ANMO	**Albuquerque**	**53.45**	**328**	*e*P	**P**	**09 05 37.9**	**+0.7**
comp=Z,11nm,1.4s,mb4.7							
ANMO	**Albuquerque**	**53.45**	**328**	*e*P	**P**	**09 05 37.9**	**+0.8**
ANMO				pmax	pmax		
comp=Z,11nm,1.4s							
CBKS	**Cedar Bluff**	**53.57**	**337**	*e*P	**P**	**09 05 38.7**	**+0.7**
comp=Z,3.8nm,0.5s,mb4.7							
CBKS	**Cedar Bluff**	**53.57**	**337**	*e*P	**P**	**09 05 38.7**	**+0.7**
CBKS				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.7							
NCB	**Newcomb**	**53.79**	**1**	*e*P	**P**	**09 05 39.2**	**-0.4**
comp=Z,8.8nm,0.6s,mb5.0							
MIV	**Mineville/With**	**53.91**	**2**	*e*P	**P**	**09 05 40.7**	**+0.2**
MIV				*e*pP	pP	09 06 06.8	0.0
LONY	**Lake Ozonia**	**54.43**	**1**	*e*P	**P**	**09 05 44.7**	**+0.4**
WUAZ	**Wupatki**	**56.53**	**325**	*e*P	**P**	**09 06 00.4**	**+1.1**
comp=Z,22nm,1.0s,mb5.1							
PV01	**Paradox Valley**	**56.98**	**329**	*e*P	**P**	**09 06 03.3**	**+0.8**
ARUT	**Antelope Range**	**59.31**	**326**	*e*P	**P**	**09 06 19.6**	**+0.9**
EYMN	**Ely**	**59.45**	**348**	*e*P	**P**	**09 06 18.4**	**-1.2**
comp=Z,14nm,1.1s,mb4.9							
TPNV	**Topopah Spring**	**60.34**	**323**	*e*P	**P**	**09 06 26.8**	**+1.1**
comp=Z,8.6nm,0.9s,mb4.8							
TPNV	**Topopah Spring**	**60.34**	**323**	*e*P	**P**	**09 06 26.8**	**+1.0**
TPNV				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.8							
DUG	**Dugway**	**60.71**	**328**	*e*P	**P**	**09 06 29.2**	**+1.0**
comp=Z,15nm,1.1s,mb4.9							
DUG	**Dugway**	**60.71**	**328**	*e*P	**P**	**09 06 29.2**	**+1.0**

```
DUG                                  pmax    pmax
     comp=Z,15nm,1.1s,mb4.9
PDAR Pinedale Array    61.04 332 P       P       09 06 30.4  0.0
     comp=Z,1.2nm,0.6s,mb4.1,baz=147,slow=8.3,SNR=14
PDAR                                 PcP     PcP     09 07 12.3 -0.3
     comp=Z,1.0nm,0.6s,baz=133,slow=6.9,SNR=6.6
HWUT Hardware Ranch    61.12 330 eP      P       09 06 31.1 +0.1
     comp=Z,20nm,1.3s,mb5.0
MTUM Tungsten Hills    62.00 322 eP      P       09 06 37.6 +0.7
TPAW Teton Pass        62.25 332 eP      P       09 06 36.9 -1.7
     comp=Z,1.7nm,0.7s,mb4.2
NVAR Mina Array Bea    62.54 323 P       P       09 06 41.7 +1.2
     comp=Z,2.6nm,0.8s,mb4.2,baz=150,slow=6.7,SNR=13
NVAR                                 PcP     PcP     09 07 18.3 -0.4
     comp=Z,1.3nm,0.8s,baz=168,slow=4.6,SNR=4.6
NVAR Mina Array Bea    62.54 323 P       P       09 06 41.7 +1.2
NVAR                                 PcP     PcP     09 07 18.3 -0.4
FLWY Flagg Ranch       62.59 332 eP      P       09 06 41.4 +0.5
     comp=Z,12nm,0.9s,mb4.8
ULM  Lac du Bonnet     62.61 345 P       P       09 06 40.3 -0.7
     comp=Z,36nm,0.6s,mb5.5,baz=160,slow=6.5,SNR=122
ULM                                  pP      pP      09 07 05.8 -2.2
     comp=Z,5.9nm,0.5s,baz=176,slow=7.2,SNR=3.0
YMR  Madison River     63.16 332 eP      P       09 06 46.1 +1.5
     comp=Z,7.9nm,1.0s,mb4.6
GCMT Greycliff         63.46 334 eP      P       09 06 46.9 +0.3
HLID Hailey            63.98 330 eP      P       09 06 50.2 +0.2
     comp=Z,2.2nm,0.9s,mb4.0
SCHQ Schefferville     65.07  6  P       P       09 06 56.6 -0.5
     comp=Z,5.8nm,0.9s,mb4.4,baz=192,slow=2.9,SNR=10
SCHQ Schefferville     65.07  6 eP       P       09 06 56.9 -0.2
     comp=Z,6.0nm,0.8s,mb4.5
EGMT Eagleton          65.26 335 eP      P       09 06 58.3  0.0
     comp=Z,7.4nm,1.0s,mb4.5
MSO  Missoula          66.16 332 eP      P       09 07 04.7 +0.6
     comp=Z,6.3nm,1.1s,mb4.4
YBH  Yreka Blue Hor    67.25 324 P       P       09 07 10.3 -0.8
     comp=Z,1.2nm,0.4s,mb4.1,baz=60,slow=3.4,SNR=7.5
WALA Waterton Lakes    67.81 334 eP      P       09 07 14.5 -0.1
     comp=Z,4.6nm,0.8s,mb4.4
NEW  Newport           68.68 332 P       P       09 07 19.8 -0.2
     comp=Z,3.7nm,0.8s,mb4.2,baz=194,slow=3.1,SNR=7.2
NEW  Newport           68.68 332 eP      P       09 07 19.7 -0.3
     comp=Z,2.1nm,0.7s,mb4.1
NEW  Newport           68.68 332 eP      P       09 07 19.7 -0.3
NEW                                  pmax    pmax
     comp=Z,2.0nm,0.7s
FCC  Fort Churchill    70.21 350 eP      P       09 07 28.2 -1.2
     comp=Z,15nm,1.0s,mb4.8
FCC  Fort Churchill    70.21 350 eP      P       09 07 28.2 -1.2
FCC                                  pmax    pmax
     comp=Z,15nm,1.0s,mb4.8
VNA3 Neumayer Olymp    72.89 162 eP      pP      09 08 14.7 +1.5
VNA3                                 e       09 08 31.4
VNA2 Neumayer--Watz    73.50 161 eP      pP      09 08 20.9 +4.1
     baz=321,slow=6.5
VNA2                                 e       09 08 34.7
YKA  Yellowknife Ar    78.37 343 P       P       09 08 16.0 -0.7
     comp=Z,5.3nm,0.7s,mb4.4,baz=140,slow=6.1,SNR=114
YKA                                  pP      pP      09 08 43.9 -0.9
     comp=Z,2.7nm,0.5s,baz=130,slow=5.8,SNR=10
YKW3 Yellowknife Ar    78.42 343 eP      P       09 08 15.9 -1.1
YKW3                                 epP     pP      09 08 44.8 -0.3
QSPA South Pole Qui    80.06 180 eP      P       09 08 25.0 -0.9
     comp=Z,4.0nm,0.9s,mb4.2
QSPA                                 epP     pP      09 08 58.0 +4.0
TORD Torodi Ar. Bea    80.12  75 P       P       09 08 26.9 +0.7
     comp=Z,5.7nm,0.8s,mb4.5,baz=274,slow=5.3,SNR=13
TORD                                 pP      pP      09 08 54.9 +0.5
     comp=Z,4.3nm,1.0s,baz=273,slow=5.2,SNR=4.6
DLBC Dease Lake        81.15 334 P       P       09 08 32.5 +0.7
     comp=Z,4.5nm,0.8s,mb4.4,baz=124,slow=8.3,SNR=11
DLBC Dease Lake        81.15 334 eP      P       09 08 31.4 -0.4
ESDC Sonseca Array     82.59  48 P       P       09 08 41.0 +1.7
     comp=Z,3.1nm,0.8s,mb4.2,baz=254,slow=4.9,SNR=9.2
RES  Resolute Bay      85.43 355 eP      P       09 08 53.2 -0.5
     comp=Z,3.7nm,0.9s,mb4.3
RES  Resolute Bay      85.43 355 eP      P       09 08 53.2 -0.5
RES                                  pmax    pmax
     comp=Z,4.0nm,0.9s,mb4.3
SJPF Ste Jean          85.65  45 eP      P       09 08 55.3 +0.5
     comp=Z,27nm,1.0s,mb4.8
SJPF Ste Jean          85.65  45 eP      P       09 08 55.3 +0.5
     comp=Z,13nm,1.0s,mb4.8
SJPF Ste Jean          85.65  45 eP      P       09 08 55.3 +0.5
SJPF                                 pmax    pmax
     comp=Z,13nm,1.0s,mb4.8
SUMG Summit            85.93  11 eP      P       09 08 55.8 -0.3
     comp=Z,57nm,1.2s,mb5.4
SUMG                                 epP     pP      09 09 26.0 +1.3
EPF  Esparros          86.72  45 eP      P       09 09 00.1 +0.1
MFF  Saint Martin d    87.44  42 eP      P       09 09 03.4 -0.1
LFF  La Frestale       87.55  44 eP      P       09 09 04.2 +0.2
DAWY Dawson            87.97 337 eP      P       09 09 05.5 -0.6
INK  Inuvik            88.09 342 P       P       09 09 06.2 -0.4
     comp=Z,14nm,0.7s,mb5.1,baz=113,slow=4.6,SNR=46
INK                                  pP      pP      09 09 35.3 +0.1
     comp=Z,2.8nm,0.6s,baz=89,slow=6.4,SNR=2.0
INK  Inuvik            88.09 342 eP      P       09 09 05.7 -0.9
     comp=Z,12nm,0.6s,mb5.1
INK                                  epP     pP      09 09 33.7 -1.5
INK  Inuvik            88.09 342 eP      P       09 09 05.7 -0.9
INK                                  e*PP    pP      09 09 33.7 -1.5
INK                                  pmax    pmax
     comp=Z,12nm,0.6s
MTLF Montolieu         88.12  46 eP      P       09 09 07.0 +0.3
     comp=Z,7.2nm,0.9s,mb4.4
MTLF Montolieu         88.12  46 eP      P       09 09 07.0 +0.3
     comp=Z,3.6nm,0.9s,mb4.4
MTLF Montolieu         88.12  46 eP      P       09 09 07.0 +0.3
MTLF                                 pmax    pmax
     comp=Z,4.0nm,0.9s,mb4.5
RJF  Les Rejaudoux     88.17  44 eP      P       09 09 06.9 -0.1
TSUM Tsumeb            89.72 109 eP      P       09 09 14.3 +0.1
     comp=Z,0.9nm,0.5s,mb4.2
AVF  Avril sur Loir    89.81  42 eP      P       09 09 14.1 -0.5
SSF  Saint Saulge      89.98  42 eP      P       09 09 15.4  0.0
     comp=Z,10.0nm,1.1s,mb4.6
SSF  Saint Saulge      89.98  42 eP      P       09 09 15.4  0.0
     comp=Z,5.0nm,1.1s,mb4.6
SSF  Saint Saulge      89.98  42 eP      P       09 09 15.4  0.0
SSF                                  pmax    pmax
     comp=Z,5.0nm,1.1s,mb4.6
SMF  Signal de Mont    90.09  43 eP      P       09 09 16.0  0.0
VIVF Saint-Julien-l    90.22  45 eP      P       09 09 16.2 -0.4
LOR  Lormes            90.26  42 eP      P       09 09 16.6 -0.2
SMRF Simiane la Rot    90.64  46 eP      P       09 09 18.6 +0.1
ORIF Oris-en-Rattie    91.07  45 eP      P       09 09 20.3 -0.2
     comp=Z,9.1nm,0.7s,mb4.7
ORIF Oris-en-Rattie    91.07  45 eP      P       09 09 20.3 -0.2
     comp=Z,4.6nm,0.7s,mb4.7
ORIF Oris-en-Rattie    91.07  45 eP      P       09 09 20.3 -0.2
ORIF                                 pmax    pmax
     comp=Z,5.0nm,0.7s,mb4.8
BAIF Baives            91.18  39 eP      P       09 09 20.1 -0.9
ILAR Eielson Array     91.22 336 PP      PP      09 13 03.8 +4.2
     comp=Z,1.3nm,0.9s,baz=103,slow=5.3,SNR=10
FRF  La Foret Royal    91.31  46 eP      P       09 09 21.3 -0.3
GIVF Givet             91.57  39 eP      P       09 09 22.8  0.0
     comp=Z,12nm,0.7s,mb5.0
GIVF Givet             91.57  39 eP      P       09 09 22.8  0.0
     comp=Z,5.9nm,0.7s,mb4.9
GIVF Givet             91.57  39 eP      P       09 09 22.8  0.0
GIVF                                 pmax    pmax
     comp=Z,6.0nm,0.7s,mb4.9
CABF La Chapelle       91.59  43 eP      P       09 09 22.8 -0.1
COLA College           91.64 336 eP      P       09 09 22.5 -0.7
     comp=Z,8.4nm,0.8s,mb5.0
COLA College           91.64 336 eP      P       09 09 22.5 -0.7
COLA                                 pmax    pmax
     comp=Z,8.0nm,0.8s,mb5.0
MBDF Montbardon        91.64  45 eP      P       09 09 23.3 +0.1
LPG  La Plagne         91.80  44 eP      P       09 09 24.2 +0.3
     comp=Z,9.8nm,0.8s,mb4.8
LPG  La Plagne         91.80  44 eP      P       09 09 24.2 +0.3
     comp=Z,4.9nm,0.8s,mb4.8
LPG  La Plagne         91.80  44 eP      P       09 09 24.2 +0.3
LPG                                  pmax    pmax
     comp=Z,5.0nm,0.8s,mb4.8
ZRNK Zerenda          128.61  27 ePKPdf  PKPdf   09 15 22.7 +0.2
BVAR Borovoye Array   129.16  26 PKP     PKPdf   09 15 24.0 +0.4
     comp=Z,2.5nm,0.8s,baz=241,slow=1.5,SNR=14
ZAL  Zalesovo         133.52  16 PKP     PKPdf   09 15 31.9 +0.1
     comp=Z,5.0nm,0.7s,baz=149,slow=2.6,SNR=23
KURK Kurchatov        134.25  23 ePKPdf  PKPdf   09 15 33.5 +0.3
ASAR Alice Springs    135.76 220 PKP     PKPdf   09 15 36.1 +0.1
     comp=Z,2.1nm,0.8s,baz=134,slow=2.3,SNR=18
WB2  Warramunga Arr   138.06 225 eP      PKPdf   09 15 40.3  0.0
WRA  Warramunga Arr   138.06 225 PKP     PKPdf   09 15 40.7 +0.4
     comp=Z,1.9nm,0.5s,baz=128,slow=2.0,SNR=33
MKAR Makanchi Array   138.86  23 PKP     PKPdf   09 15 41.6 -0.1
     comp=Z,1.9nm,0.7s,baz=334,slow=2.5,SNR=15
MJAR Matsushiro Arr   139.62 316 PKhKP   09 15 37.6
     comp=Z,1.0nm,0.5s,baz=222,slow=1.7,SNR=4.0
SONM Songino Array    142.32 358 PKhKP   09 15 43.9
     comp=Z,0.9nm,0.4s,baz=336,slow=2.7,SNR=9.8
WMQ  Urumqi           143.38  20 PKP     PKPdf   09 15 48.8 -1.1
WMQ                              PP      PP
     comp=Z,316nm,4.2s
BJI  Beijing          148.36 343 PKP     PKPdf   09 16 01.8 +3.5
BJT  Baijiatuau       148.38 343 ePKPbc  PKPbc   09 16 01.6 -0.4
HHC  Hu-ho-hao-te     148.69 349 ePKP    PKPdf   09 16 01.8 +2.9
HHC                              APKP              09 16 28.5
HHC                              XPKP              09 16 39.5
HHC                              PKS               09 19 35.8
HHC                              PP      PP        09 19 39.0 +5.6
HHC                              SKS     SKSdf     09 22 58.3 +1.3
HHC                              SKKS    SKKSac    09 26 17.8 +3.4
HHC                              SS      SS        09 38 39.0 +4.9
HHC                              LR      LR
     comp=N,122nm,6.1s
HHC                              LR      LR
     comp=E,200nm,5.1s
HHC                              LR      LR
     comp=Z,293nm,11.0s
SSE  Sheshan          153.89 326 ePKP    PKPdf   09 16 07.3 +0.5
SSE                              PP      PP
     comp=Z,55nm,3.5s
LZH  Lanzhou          154.09   1 ePKP    PKPdf   09 16 07.8 +0.7
LZH                              APKP              09 16 34.5
LZH                              XPKP              09 16 45.3
LZH                              LR      LR
     comp=N,256nm,19.6s
LZH                              LR      LR
     comp=Z,352nm,20.5s
NJ2  Nanjing          154.35 331 ePKP    PKPdf   09 16 08.3 +0.9
NJ2                              PKP2    PKPab   09 16 33.8 +3.5
NJ2                              APKP              09 16 35.0
NJ2                              XPKP              09 16 45.8
NJ2                              PKS               09 19 41.0
NJ2                              PP      PP        09 20 10.0 +4.3
NJ2                              SKKS    SKKSac    09 26 47.0 +1.7
NJ2                              PP      PP
     comp=Z,70nm,9.3s
NJ2                              LR      LR
     comp=N,560nm,26.4s
NJ2                              LR      LR
     comp=E,1μm,24.2s
NJ2                              LR      LR
     comp=Z,410nm,25.6s
CD2  Chengdu          159.25   2 ePKP    PKPdf   09 16 10.8 -2.9
CD2                              APKP              09 16 37.5
CD2                              PKP2    PKPab   09 16 51.3 -0.1
CD2                              PP      PP        09 20 32.3 -0.4
CD2                              SKS     SKSdf     09 23 04.5 -4.5
CD2                              SKKS    SKKSac    09 27 09.3 -1.9
CD2                              SS      SS        09 40 27.5 -1.4
CD2                              PP      PP
     comp=Z,40nm,7.2s
CD2                              LR      LR
     comp=N,1μm,21.6s
CD2                              LR      LR
     comp=Z,850nm,16.8s
```

IDC 25 08:59:38.7±2.1, 682S×12949E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=78.1km s-min=32.5km az=68.0, Banda Sea

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Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
WRA  Warramunga Arr   13.86 161 Pn    Pn        09 02 55.9 -0.5
     0.4nm,0.3s,baz=340,slow=14,SNR=30
WRA                             Sn    Sn        09 05 17.6 -13
     0.7nm,0.3s,baz=334,slow=22,SNR=13
ASAR Alice Springs    17.27 166 P     Pn        09 03 42.0 +0.8
     0.2nm,0.3s,baz=339,slow=9.5,SNR=12
ASAR                            S     Sn        09 06 40.5 -13
     0.1nm,0.3s,baz=343,slow=25,SNR=4.0
MKAR Makanchi Array   67.80 327 P     P         09 10 38.5 +0.2
     0.3nm,0.5s,baz=109,slow=7.5,SNR=4.0
```

*ISCJB **25** 09:00:24.4±0.6, 5836N±006×1513W±0.1, h47km±13km, mb4.2/1, Error ellipse: s-maj=10.9km s-min=7.9km az=97.8*
*IDC **25** 09:00:26.0±1.2, 5832N×15152W, h42km±27km, mb3.7/1, mb1 3.7/5, mb1mx3.4/21, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=34.4km s-min=16.1km az=141.0*
*NEIC **25** 09:00:26.0, 5830N×15128W, h46km, ML3.5(AEIC), After AEIC.*

ISC 25 09:00:25.5±0.6, 5830N±006×15131W±009, h41km±16km, n34, σ0§63/37, mb4.2/1, Kodiak Island region

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Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
KDAK Kodiak Island     0.86 233 P     Pn        09 00 40.9 -0.1
     149nm,0.3s,baz=41,slow=12,SNR=3678
KDAK                            S     Sn        09 00 52.2 -0.2
     385nm,0.3s,baz=210,slow=18,SNR=75
KDAK Kodiak Island     0.86 233 P     Pn        09 00 40.6 -0.5
KDAK                            S     Sn        09 00 52.5 +0.1
SEW  Seward            2.04  27 P     Pn        09 00 56.9 -0.4
SLKM Skilak Lake       2.28  14 P     Pn        09 01 00.6  0.0
MID  Middleton Isla    2.82  64 P     Pn        09 01 08.0  0.0
RC01 Rabbit Creek A    2.91  15 P     Pn        09 01 09.1 -0.1
FIB  Fire Island       2.93  11 P     Pn        09 01 10.2 +0.7
KNK  Knik Glacier      3.44  24 P     Pn        09 01 16.3 -0.2
PMR  Palmer            3.48  17 P     Pn        09 01 16.6 -0.4
SVW2 Sparrevohn        3.54 324 P     Pn        09 01 17.7 -0.2
EYAK Cordova Ski Ar    3.62  49 P     Pn        09 01 18.6 -0.5
GHO  Glory Hole Cre    3.68  18 P     Pn        09 01 19.8 -0.1
SML  Sawmill           3.82  22 P     Pn        09 01 21.6 -0.1
DIV  Divide            3.99  42 P     Pn        09 01 23.9 -0.2
BMRM Bremner River     4.33  49 P     Pn        09 01 28.6 -0.1
TT01 Tatalina          5.17 335 P     Pn        09 01 40.0 -0.3
TTA  Tatalina          5.19 335 Pn    Pn        09 01 40.9 +0.4
     23nm,0.8s
TRF  Thorofare Moun    5.19   5 P     Pn        09 01 40.6  0.0
KTH  Kantishna Hill    5.27   2 P     Pn        09 01 42.0 +0.3
PAX  Paxson            5.49  29 P     Pn        09 01 45.3 +0.6
MCK  McKinley          5.57  11 P     Pn        09 01 46.2 +0.4
MENT Mentasta          5.96  36 eP    Pn        09 01 52.5 +1.3
PNL  Peninsula         6.31  72 P     Pn        09 01 56.2 +0.3
COLA College           6.80  13 P     Pn        09 02 02.5 -0.1
IL1  Eielson Array     6.83  16 P     Pn        09 02 02.5 -0.5
ILAR Eielson Array     6.83  16 P     Pn        09 02 02.6 -0.4
     1.8nm,0.3s,baz=204,slow=14,SNR=88
ILAR                            S     Sn        09 03 15.2 -4.2
     0.4nm,0.3s,baz=270,slow=26,SNR=2.6
IM3  Indian Mountai    7.79 353 P     Pn        09 02 15.6 -0.7
DLBC Dease Lake        11.17  80 P     Pn        09 03 04.0 +1.4
     0.2nm,0.3s,baz=280,slow=18,SNR=6.6
DLBC                            S     Sn        09 05 03.8 -2.2
     0.1nm,0.3s,baz=68,slow=24,SNR=2.8
INK  Inuvik            12.76  31 P     Pn        09 03 25.3 +1.0
     0.0nm,0.3s,baz=252,slow=16,SNR=4.0
INK  Inuvik            12.76  31 P     Pn        09 03 25.3 +0.9
YKA  Yellowknife Ar    18.43  61 P     Pn        09 04 38.5 +0.8
     baz=272,slow=10,SNR=40
YKA                             pP    pP        09 04 48.1 +0.8
     baz=272,slow=10,SNR=6.3
YKA  Yellowknife Ar    18.43  61 P     Pn        09 04 38.5 +0.8
YKA                             pP    pP        09 04 48.1 +0.8
SONM Songino Array     56.51 308 pP    pP        09 10 13.6 -1.7
     0.4nm,0.7s,baz=39,slow=7.2,SNR=3.9
FINES FINESS Array B   60.57   1 P     P         09 10 31.5 -0.3
     1.8nm,1.0s,mb4.2,baz=1.1,slow=9.9,SNR=4.9
```

*IDC **25** 09:02:19.7±0.8, 3526N×8956E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/22, mbtmp3.9/10, ML3.0/2, Error ellipse: s-maj=34.0km s-min=19.4km az=65.0*
*ISCJB **25** 09:02:23.4±0.8, 353N±0.1×897E±0.2, h33km, mb3.9/10, Error ellipse: s-maj=22.6km s-min=16.3km az=162.0*
*MOS **25** 09:02:23.0±2.0, 3542N×8950E, h33km, mb4.2/7, Error ellipse: s-maj=33.8km s-min=16.0km az=90.0*

ISC 25 09:02:25.3±0.8, 354N±01×896E±02, h35km, n20, σ1§01/18, mb3.9/10, Xizang

```
Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
MKAR Makanchi Array   12.61 336 Pn    Pn        09 05 20.3 -1.8
     0.1nm,0.3s,baz=153,slow=13,SNR=2.8
SONM Songino Array    17.59  40 P     Pn        09 06 27.6  0.0
     0.1nm,0.3s,baz=246,slow=11,SNR=5.8
BVAR Borovoye Array   22.21 328 P     P         09 07 20.6 +2.0
     1.5nm,0.8s,mb3.5,baz=126,slow=2.0,SNR=4.6
BVAR Borovoye Array   22.21 328 P     P         09 07 20.6 +2.0
BVAR                            pmax  pmax
     comp=Z,2.0nm,0.8s
TIXI Tiksi            41.61  18 eP    P         09 10 08.1 -1.8
TIXI                            pmax  pmax
     comp=Z,2.0nm,0.9s,mb3.8
BILL Bilibino         52.73  27 eP    P         09 11 37.7 +1.2
BILL                            pmax  pmax
     comp=Z,4.0nm,0.9s,mb4.3
WRA  Warramunga Arr   69.51 135 P     P         09 13 29.7 -0.5
     comp=Z,2.2nm,0.9s,mb4.1,baz=328,slow=6.6,SNR=16
WRA  Warramunga Arr   69.51 135 P     P         09 13 29.7 -0.6
WRA                             pmax  pmax
     comp=Z,2.0nm,0.9s
ILAR Eielson Array    70.84  22 P     P         09 13 38.8 +0.4
     comp=Z,1.4nm,0.9s,mb3.9,baz=299,slow=5.3,SNR=8.4
ILAR Eielson Array    70.84  22 P     P         09 13 38.8 +0.4
ILAR                            pmax  pmax
     comp=Z,1.0nm,0.9s
INK  Inuvik           71.69  16 P     P         09 13 44.4 +0.8
     comp=Z,1.1nm,1.0s,mb3.8,baz=0.8,slow=6.9,SNR=3.7
INK  Inuvik           71.69  16 P     P         09 13 44.4 +0.9
INK                             pmax  pmax
     comp=Z,1.0nm,1.0s
ASAR Alice Springs    72.21 138 P     P         09 13 46.3 -0.4
     comp=Z,1.3nm,0.9s,mb3.9,baz=326,slow=5.5,SNR=8.8
ASAR Alice Springs    72.21 138 P     P         09 13 46.3 -0.4
ASAR                            pmax  pmax
     comp=Z,1.0nm,0.9s
YKA  Yellowknife Ar   80.48  11 P     P         09 14 33.6 +0.1
     comp=Z,0.7nm,0.7s,mb3.7,baz=331,slow=5.4,SNR=11
YKA  Yellowknife Ar   80.48  11 P     P         09 14 33.6  0.0
YKA                             pmax  pmax
     comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea   80.82 280 P     P         09 14 35.1 -0.3
     comp=Z,1.0nm,0.9s,mb3.8,baz=49,slow=5.3,SNR=4.5
STKA Stephens Creek   82.85 137 P     P         09 14 46.4 +0.3
     comp=Z,0.9nm,0.5s,mb4.1,baz=339,slow=8.6,SNR=3.0
CPUP Villa Florida   150.31 279 PKPbc  PKPbc     09 22 12.5 -0.2
     comp=Z,3.0nm,0.6s,baz=61,slow=1.6,SNR=7.2
CPUP Villa Florida   150.31 279 PKIKP  PKPbc     09 22 12.5 -0.2
CPUP                            pmax  pmax
     comp=Z,3.0nm,0.6s
```

IDC 25 09:03:56.5±1.0, 2135S×6806W, h128km±14km, mb3.5/2, mb1 3.7/4, mb1mx3.5/14, mbtmp4.0/4, Error ellipse: s-maj=34.5km s-min=16.8km az=109.0, Chile-Bolivia border region

```
Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
LVC  Limon Verde      1.48 212 P     Pn        09 04 24.8 +0.6
     32nm,0.3s,baz=147,slow=4.8,SNR=72
LVC                             S     Sn        09 04 46.0 +0.7
     27nm,0.3s,baz=276,slow=22,SNR=43
LPAZ La Paz           5.04 359 P     Pn        09 05 09.5 -0.5
     2.4nm,0.3s,baz=179,slow=9.7,SNR=16
SIV  San Ignacio      8.51  52 P     Pn        09 05 56.3 -0.5
     2.4nm,0.3s,baz=253,slow=12,SNR=5.4
CFAA Coronel Fontan  10.21 181 P     Pn        09 06 18.1 -1.5
     0.0nm,0.3s,baz=347,slow=14,SNR=3.5
CFAA                            S     Sn        09 08 08.5 -3.7
     0.0nm,0.3s,baz=194,slow=16,SNR=2.9
TORD Torodi Ar. Bea  76.56  70 P     P         09 15 33.8 +1.1
     0.8nm,0.6s,baz=257,slow=5.4,SNR=11
YKA  Yellowknife Ar  91.31 340 P     P         09 16 45.5 -2.0
     0.2nm,0.6s,baz=134,slow=4.3,SNR=6.8
MKAR Makanchi Array  145.05  36 PKPbc  PKPbc     09 23 18.8 +0.6
     0.4nm,0.4s,baz=331,slow=2.7,SNR=8.5
```

IDC 25 09:26:35.4±4.2, 1773S×17492W, h234km±36km, mb3.0/4, mb1 3.2/5, mb1mx3.1/15, mbtmp3.6/5, Error ellipse: s-maj=183.2km s-min=27.1km az=139.0, Tonga Islands

```
Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
AFI  Afiamalu         4.85  39 P     Pn        09 27 49.0 +0.2
     2.9nm,0.3s,baz=206,slow=22,SNR=4.3
AFI                             S     Sn        09 28 43.2 -3.9
     3.9nm,0.3s,baz=188,slow=19,SNR=6.8
STKA Stephens Creek  41.64 242 P     P         09 34 00.7 -0.1
     0.5nm,0.4s,baz=90,slow=9.1,SNR=2.7
WRA  Warramunga Arr  47.94 259 P     P         09 34 50.1 -0.1
     0.2nm,0.3s,baz=97,slow=7.1,SNR=9.4
ASAR Alice Springs   48.04 254 P     P         09 34 51.9 +0.8
     1.2nm,0.7s,baz=88,slow=8.7,SNR=16
ILAR Eielson Array   85.00  12 P     P         09 38 43.9 -0.5
     0.3nm,0.9s,baz=212,slow=6.2,SNR=4.5
```

*ISCJB **25** 09:38:08.8±0.6, 5885N±005×15645W±0.10, h189km±5km, mb3.8/15, Error ellipse: s-maj=9.4km s-min=7.5km az=114.2*
*IDC **25** 09:38:08.9±1.3, 5902N×15620W, h165km±11km, mb3.5/13, mb1 3.7/16, mb1mx3.6/26, mbtmp4.0/16, Error ellipse: s-maj=16.9km s-min=13.1km az=42.0*
*NEIC **25** 09:38:10.8, 5876N×15642W, h192km, mb4.2/8, After AEIC.*

ISC 25 09:38:10.1±0.6, 5888N±005×15636W±009, h186km±5km, n51, σ1§16/60, mb3.8/15, Alaska Peninsula

```
Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
SVW2 Sparrevohn       2.26  10 P     Pn        09 38 53.3 +3.0
KDAK Kodiak Island    2.27 117 P     Pn        09 38 49.0 -1.5
     47nm,0.3s,baz=309,slow=3.9,SNR=682
KDAK                            S     Sn        09 39 17.6 -4.2
     21nm,0.3s,baz=71,slow=22,SNR=5.7
SLKM Skilak Lake      3.51  60 P     Pn        09 39 05.9 +0.7
SEW  Seward           3.73  68 P     Pn        09 39 08.1 +0.2
FIB  Fire Island      3.86  51 P     Pn        09 39 10.8 +1.3
RC01 Rabbit Creek A   4.00  54 P     Pn        09 39 11.4 +0.1
TTA  Tatalina         4.07   2 ePn   Pn        09 39 15.4 +3.3
SDPT Sand Point       4.19 214 P     Pn        09 39 12.6 -1.2
PMR  Palmer           4.51  50 ePn   Pn        09 39 18.5 +0.6
SML  Sawmill          4.95  50 P     Pn        09 39 24.0 +0.6
MID  Middleton Isla   5.19  80 eP    Pn        09 39 26.4 -0.1
KTH  Kantishna Hill   5.37  27 P     Pn        09 39 29.4 +0.5
TRF  Thorofare Moun   5.45  30 P     Pn        09 39 30.2 +0.3
EYAK Cordova Ski Ar   5.62  68 P     Pn        09 39 31.7 -0.5
DIV  Divide           5.77  62 ePn   Pn        09 39 33.9 -0.2
     62nm,0.5s
DIV                             eSn   Sn        09 40 32.4 -7.9
MCK  McKinley         6.04  33 ePn   Pn        09 39 36.9 -0.7
     4.8nm,0.4s
MCK                             eSn   Sn        09 40 37.1 -9.4
COLA College          7.23  30 ePn   Pn        09 39 51.5 -1.6
     19nm,0.8s
COLA                            eSn   Sn        09 41 11.1 -3.6
IM3  Indian Mountai   7.23   9 P     Pn        09 39 55.6 +2.5
MENT Mentasta         7.38  51 eP    Pn        09 39 55.5 +0.4
ILAR Eielson Array    7.41  33 P     Pn        09 39 53.9 -1.7
     2.5nm,0.3s,baz=224,slow=13,SNR=142
ILAR                            S     Sn        09 41 14.8 -4.3
     3.0nm,0.3s,baz=75,slow=30,SNR=16
UNV  Unalaska Valle   7.56 233 P     Pn        09 39 56.4 -1.1
PNL  Peninsula        8.72  78 P     Pn        09 40 13.7 +1.0
DAWY Dawson           9.62  50 ePn   Pn        09 40 24.4 -0.1
DAWY                            eSn   Sn        09 42 13.6 +1.8
WHY  Whitehorse      10.96  71 P     Pn        09 40 42.2 +0.3
DLBC Dease Lake      13.68  81 P     Pn        09 41 17.2 +0.7
     0.3nm,0.3s,baz=281,slow=14,SNR=14
DLBC                            S     Sn        09 43 47.4 -1.4
     0.1nm,0.3s,baz=105,slow=20,SNR=2.7
DLBC Dease Lake      13.68  81 P     Pn        09 41 17.5 +1.0
INK  Inuvik          13.77  37 P     Pn        09 41 15.5 -2.1
     1.3nm,0.3s,baz=236,slow=12,SNR=106
INK                             S     Sn        09 43 47.4 -3.6
     0.0nm,0.3s,baz=64,slow=8.1,SNR=2.4
INK  Inuvik          13.77  37 ePn   Pn        09 41 15.4 -2.2
     4.8nm,0.6s
INK                             eSn   Sn        09 43 49.8 -1.2
BILL Bilibino        18.73 315 eP     P         09 42 17.1 +2.4
     2.8nm,0.5s
```

YKW3 Yellowknife Ar 20.47 62 *e*P **P 09 42 32.2 -1.1**
YKA Yellowknife Ar 20.49 62 P **P 09 42 33.3 -0.2**
4.3nm,0.5s,baz=277,slow=10.0,SNR=178
YKA ScP ScP 09 49 53.6 -2.4
0.6nm,0.9s,baz=283,slow=2.5,SNR=8.6
EDM Edmonton 24.33 85 *e*P **P 09 43 11.1 +0.5**
NEW Newport 25.23 98 P **P 09 43 19.2 +0.4**
0.7nm,0.4s,mb3.6,baz=292,slow=16,SNR=2.9
NEW Newport 25.23 98 P **P 09 43 19.2 +0.4**
HRY Holter Researc 28.97 95 *e*P **P 09 43 52.8 +0.7**
HRY *e*pP pP 09 44 31.6 +1.4
FCC Fort Churchill 31.21 63 *e*P **P 09 44 11.5 -0.4**
2.2nm,0.6s,mb4.1
FCC *e*pP pP 09 44 50.2 +0.1
IMW Indian Meadow 31.35 98 *e*P **P 09 44 13.8 +0.8**
5.2nm,0.8s,mb4.3
NVAR Mina Array Bea 31.77 113 P **P 09 44 17.9 +1.1**
0.3nm,0.4s,mb3.4,baz=332,slow=9.4,SNR=3.1
PDAR Pinedale Array 32.86 98 P **P 09 44 27.2 +1.0**
0.7nm,0.5s,mb3.6,baz=323,slow=3.0,SNR=9.2
ULM Lac du Bonnet 34.97 77 P **P 09 44 44.5 +0.1**
1.9nm,0.8s,mb3.8,baz=299,slow=7.9,SNR=3.9
SRU San Rafael 35.07 104 *e*P **P 09 44 46.6 +1.4**
4.2nm,0.6s,mb4.2
SFJD Kangerlussuaq 43.08 34 P **P 09 45 48.8 -2.8**
11nm,1.0s,mb4.5,baz=307,slow=5.1,SNR=3.2
SFJD Kangerlussuaq 43.08 34 P **P 09 45 48.8 -2.9**
SCHQ Schefferville 45.61 54 P **P 09 46 10.3 -1.4**
2.0nm,0.5s,mb4.0,baz=312,slow=8.4,SNR=16
SCHQ Schefferville 45.61 54 P **P 09 46 10.3 -1.4**
SONM Songino Array 54.03 304 P **P 09 47 16.7 +1.6**
2.9nm,0.7s,mb4.1,baz=40,slow=6.3,SNR=27
HFS Hagfors 61.07 6 P **P 09 48 03.5 -0.8**
0.7nm,0.4s,mb3.9,baz=31,slow=3.4,SNR=4.2
BVAR Borovoye Array 62.22 330 P **P 09 48 11.3 -0.6**
0.2nm,0.4s,mb3.3,baz=30,slow=8.9,SNR=2.8
EKA Eskdalemuir Ar 64.13 17 P **P 09 48 23.5 -0.9**
1.9nm,0.9s,mb3.9,baz=338,slow=5.4,SNR=4.2
MKAR Makanchi Array 64.20 319 P **P 09 48 24.8 -0.2**
0.6nm,0.6s,mb3.6,baz=20,slow=8.5,SNR=6.1
GERES GERESS Array B 72.33 7 P **P 09 49 15.1 -0.3**
0.2nm,0.5s,mb3.1,baz=347,slow=4.1,SNR=3.7

IDC 25 09:52:05.1±1.6,1864S×17905W,h0km,mb4.0/5,
mb1 4.2/5,mb1mx3.9/14,mbtmp4.0/5,Error ellipse:
s-maj=42.0km s-min=35.9km az=143.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.75**	**242**	P	P	09 59 24.1	+1.4
	0.9nm,0.5s,baz=93,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**43.90**	**260**	P	P	10 00 13.0	-0.5
	1.1nm,0.4s,baz=94,slow=7.0,SNR=67						
ASAR	**Alice Springs**	**44.01**	**255**	P	P	10 00 14.7	+0.3
	3.1nm,0.6s,baz=88,slow=8.7,SNR=49						
VNDA	**Vanda**	**59.67**	**185**	P	P	10 02 10.4	-0.8
	0.4nm,0.3s,baz=36,slow=7.2,SNR=8.4						
ILAR	**Eielson Array**	**86.73**	**13**	P	P	10 04 50.9	0.0
	0.7nm,1.1s,baz=212,slow=6.4,SNR=4.3						

OMAN ***25*** *09:52:42.0,2879N×5824E,h148km±5km, Error ellipse: s-maj=125.1km s-min=37.4km az=42.0*
IDC ***25*** *09:52:59.8±1.0,2750N×5569E,h0km,mb4.1/22, mb1 4.3/22,mb1mx4.2/27,mbtmp4.1/22,Error ellipse: s-maj=23.9km s-min=15.6km az=2.0*
ISCJB ***25*** *09:53:00.1±0.2,2753N±003×5564E±003,h10km, mb4.3/47,Error ellipse: s-maj=4.9km s-min=3.9km az=72.7*
CSEM ***25*** *09:53:00.0±0.1,2759N×5561E,h10km,mb4.5/22,Error ellipse: s-maj=3.6km s-min=1.7km az=17.0*
NEIC ***25*** *09:53:01.6±0.4,2752N×5564E,h10km,mb4.5/25,Error ellipse: s-maj=12.0km s-min=4.4km az=193.0*
BJI ***25*** *09:53:02,2750N×5560E,h10km,mb4.3*
THR ***25*** *09:53:02.9±1.2,2759N×5589E,h14km±13km,ML4.0*
MOS ***25*** *09:53:03.5±0.9,2763N×5566E,h33km,mb4.7/18,Error ellipse: s-maj=10.5km s-min=6.5km az=123.2*
SZGRF ***25*** *09:53:12.0,2836N×5513E,h33km,mb4.2,Southern Iran*
ISC 25 09:53:02.0±0.2,2759N±003×5566E±003,h10km,n128,
σ0§98/131,mb4.3/47,2C-1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.49**	**112**	*e*PG	**Pg**	**09 53 09.3**	**-2.3**
BNDS				*e*SG	**Sg**	**09 53 14.6**	**-3.4**
BANOM	**Banah**	**1.75**	**161**	P	**Pn**	**09 53 33.6**	**+1.2**
	SNR=24						
GHIR	**Ghir-Karzin**	**2.46**	**287**	*e*Pn	**Pb**	**09 53 47.5**	**+1.1**
GHIR				AML	AML	09 54 55.3	
	comp=N,385nm,0.5s						
GHIR				AML	AML	09 54 57.6	
	comp=E,518nm,0.7s						
KRBR	**Kerman**	**2.58**	**22**	*e*PN	**Pn**	**09 53 46.1**	**+2.3**
KRBR				*e*SG	**Sb**	**09 54 21.1**	**+1.1**
KRBR				AML	AML	09 54 29.1	
	comp=E,1μm,0.6s						
KRBR				AML	AML	09 54 29.6	
	comp=N,905nm,0.6s						
KRBR	**Kerman**	**2.58**	**22**	*e*Pn	**Pn**	**09 53 46.1**	**+2.4**
	SNR=52						
KRBR				*e*Sg	**Sb**	**09 54 21.1**	**+1.1**
	SNR=90						
ASHO	**Ashiyiah**	**2.91**	**173**	P	**Pn**	**09 53 49.3**	**+0.9**
	SNR=48						
ARQ	**Araqi**	**4.30**	**169**	⇑P	**Pn**	**09 54 09.0**	**+1.5**
	SNR=12						
ZHSF	**Zahedan**	**4.93**	**65**	*e*PN	**Pn**	**09 54 16.8**	**+0.7**
BSY	**Bisya**	**5.02**	**164**	⇑P	**Pn**	**09 54 17.7**	**+0.4**
	SNR=5.3						
BSYO	**Bisya**	**5.04**	**163**	P	**Pn**	**09 54 17.7**	**+0.1**
	SNR=5.3						
NASN	**Na'in**	**5.75**	**335**	*e*Pn	**Pn**	**09 54 31.2**	**+3.8**
WBK	**Wadi Bani Khal**	**5.79**	**148**	⇓P	**Pn**	**09 54 24.0**	**-3.9**
	SNR=8.7						
SHAO	**Shalim**	**9.52**	**180**	P	**Pn**	**09 55 19.9**	**+0.8**
	SNR=12						
WHFO	**Wadi Hawf**	**9.78**	**191**	P	**Pn**	**09 55 23.4**	**+0.7**
	SNR=14						
RBK	**Rabkut**	**10.12**	**188**	P	**Pn**	**09 55 26.4**	**-0.9**
	SNR=9.4						
ABTO	**Aybut**	**10.41**	**193**	P	**Pn**	**09 55 29.9**	**-1.4**
	SNR=44						
SBDP	**Sheikh Budin**	**13.95**	**67**	P	Px	09 56 57.0	
SBDP				S	**Sn**	**09 58 53.0**	**-1.5**
GNI	**Garni**	**15.45**	**327**	Pn	**Pn**	**09 56 46.6**	**+6.7**
	comp=N,1.6nm,0.3s,baz=196,slow=8.0,SNR=6.4						
KIV	**Kislovodsk**	**19.39**	**331**	*e*P	**Pn**	**09 57 30.5**	**+1.4**
	comp=N,44nm,1.1s						
KIV	**Kislovodsk**	**19.39**	**331**	*e*P	**Pn**	**09 57 30.5**	**+1.4**
	comp=N,44nm,1.1s						
KIV	**Kislovodsk**	**19.39**	**331**	*e*P	**Pn**	**09 57 32.6**	**+3.5**
KIV				pmax	pmax		
	comp=Z,43nm,1.3s						
FRU	**Bishkek**	**21.64**	**40**	*e*P	**P**	**09 57 55.0**	**+2.6**
BR131	**Keskin Array S**	**21.90**	**309**	*e*P	**P**	**09 57 56.5**	**+1.3**
	comp=Z,3.7nm,0.6s,mb4.0						
BR131	**Keskin Array S**	**21.90**	**309**	*e*P	**P**	**09 57 56.5**	**+1.3**
	comp=Z,3.7nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**21.90**	**309**	P	**P**	**09 57 57.0**	**+1.7**
	comp=Z,5.7nm,0.9s,mb4.0,baz=138,slow=11,SNR=18						
AKTK	**Aktyubinsk**	**22.89**	**4**	P	**P**	**09 58 06.2**	**+0.5**
AKTO	**Aktyubinsk**	**22.89**	**4**	P	**P**	**09 58 06.2**	**+0.5**
	comp=Z,2.5nm,0.4s,mb4.0,baz=189,slow=8.6,SNR=8.7						
TKTP	**Tekketepe**	**23.64**	**303**	*i* P	**P**	**09 58 12.2**	**-1.3**
KOLN	**Koldanda**	**24.73**	**83**	*e*P	**P**	**09 58 24.3**	**+0.9**
	comp=Z,31nm,1.2s,mb4.7						
DANN	**Dangsing**	**24.81**	**82**	*e*P	**P**	**09 58 26.6**	**+2.4**
ULDT	**Uludag**	**25.23**	**307**	*i* P	**P**	**09 58 28.8**	**+0.7**
GKN	**Gorkha**	**25.62**	**82**	*e*P	**P**	**09 58 31.1**	**-0.4**
DMN	**Daman**	**26.07**	**83**	*e*P	**P**	**09 58 35.9**	**+0.3**
	comp=Z,53nm,1.3s,mb4.9						
KKN	**Kakani**	**26.20**	**83**	*e*P	**P**	**09 58 37.6**	**+0.8**
	comp=Z,29nm,0.8s,mb4.9						
KKN	**Kakani**	**26.20**	**83**	*e*P	**P**	**09 58 37.6**	**+0.8**
KKN				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
PKI	**Pulchoki**	**26.34**	**83**	*e*P	**P**	**09 58 38.8**	**+0.7**
	comp=Z,23nm,0.7s,mb4.8						
PKI	**Pulchoki**	**26.34**	**83**	*e*P	**P**	**09 58 38.8**	**+0.7**
PKI				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
GUN	**Gumba**	**26.72**	**82**	*e*P	**P**	**09 58 42.6**	**+1.1**
	comp=Z,75nm,1.0s,mb5.2						
JIRN	**Jiri**	**27.02**	**83**	*e*P	**P**	**09 58 44.8**	**+0.6**
	comp=Z,32nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**27.21**	**18**	*e*P	**P**	**09 58 45.4**	**-0.5**
	comp=Z,3.5nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**27.21**	**18**	*e*P	**P**	**09 58 45.4**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
IDI	**Anoyia**	**27.27**	**294**	P	**P**	**09 58 47.0**	**+0.6**
	comp=Z,7.5nm,0.9s,mb4.2,baz=158,slow=23,SNR=3.7						
BRVK	**Borovoye**	**27.67**	**19**	*e*P	**P**	**09 58 48.7**	**-1.3**
	comp=Z,5.1nm,1.1s,mb4.1						
BRVK	**Borovoye**	**27.67**	**19**	*e*P	**P**	**09 58 48.7**	**-1.3**
	comp=Z,5.1nm,1.1s,mb4.1						
BRVK	**Borovoye**	**27.67**	**19**	*e*P	**P**	**09 58 48.7**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**27.67**	**19**	P	**P**	**09 58 49.8**	**-0.2**
	comp=Z,3.2nm,0.7s,mb4.0,baz=208,slow=7.1,SNR=6.5						
MKAR	**Makanchi Array**	**28.38**	**40**	P	**P**	**09 58 56.5**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.5,baz=221,slow=9.7,SNR=10						
MKAR	**Makanchi Array**	**28.38**	**40**	P	**P**	**09 58 56.5**	**+0.2**
MLR	**Muntele Rosu**	**29.58**	**315**	P	**P**	**09 59 08.4**	**+1.3**
	comp=Z,5.1nm,1.0s,mb4.2,baz=146,slow=14,SNR=2.4						
AKASG	**Malin Array Be**	**30.58**	**326**	P	**P**	**09 59 15.9**	**+0.1**
	comp=Z,4.6nm,0.6s,mb4.5,baz=135,slow=8.4,SNR=13						
AKASG	**Malin Array Be**	**30.58**	**326**	P	**P**	**09 59 15.9**	**0.0**
NVS	**Novosibirsk**	**33.81**	**29**	*e*P	**P**	**09 59 42.6**	**-1.6**
ZAL	**Zalesovo**	**33.91**	**31**	P	**P**	**09 59 44.2**	**-0.9**
	comp=Z,4.2nm,0.5s,mb4.6,baz=236,slow=7.7,SNR=14						
VRAC	**Vranov**	**36.94**	**317**	P	**P**	**10 00 09.5**	**-1.6**
	comp=Z,2.9nm,0.6s,mb4.3,baz=222,slow=18,SNR=2.7						
GTA	**Gaotai**	**38.32**	**61**	*e*P	**P**	**10 00 24.0**	**+1.2**
GTA				AP	pP	10 00 30.0	+4.1
GTA				XP	sP	10 00 32.8	+5.7
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
PRU	**Pruhonice**	**38.42**	**317**	*e*P	**P**	**10 00 24.6**	**+0.9**
PRU				*ex*	x	10 00 30.6	
GERES	**GERESS Array B**	**38.57**	**315**	P	**P**	**10 00 24.1**	**-0.8**
	comp=Z,2.1nm,0.9s,mb3.9,baz=108,slow=8.6,SNR=8.5						
KHC	**Kasperske Hory**	**38.74**	**315**	*e*P	**P**	**10 00 26.0**	**-0.3**
JOF	**Joensuu**	**38.77**	**342**	*e*p	**P**	**10 00 27.5**	**+0.9**
	comp=Z,3.1nm,0.9s,mb4.0						
BRG	**Berggiesshubel**	**39.09**	**318**	*e*(P)	**P**	**10 00 30.5**	**+1.2**
	comp=Z,1.4nm,0.7s,mb3.8						
BRG				*e*	pP	10 00 33.1	+0.7
	comp=Z,3.7nm,1.1s						
FINES	**FINESS Array B**	**39.21**	**338**	P	**P**	**10 00 29.5**	**-0.8**
	comp=Z,1.6nm,0.6s,mb3.9,baz=141,slow=9.6,SNR=10						
CLL	**Collm**	**39.80**	**318**	*i* P	**P**	**10 00 39.3**	**+4.1**
	comp=Z,8.0nm,0.8s,mb4.5						
CLL	**Collm**	**39.80**	**318**	*i* P	**P**	**10 00 39.3**	**+4.1**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
GRA1	**Grafenberg Arr**	**40.37**	**315**	*e*P	**P**	**10 00 39.2**	**-0.7**
	comp=Z,6.0nm,1.0s,mb4.3						
GRF	**Grafenberg Arr**	**40.37**	**315**	*e*P	**P**	**10 00 39.2**	**-0.7**
	comp=Z,6.0nm,1.0s,mb4.3						
GRF	**Grafenberg Arr**	**40.37**	**315**	*e*P	**P**	**10 00 39.2**	**-0.7**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
GRF	**Grafenberg Arr**	**40.37**	**315**	*e*P	**P**	**10 00 39.2**	**-0.7**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
PGF	**Pioggiola**	**40.49**	**304**	*e*P	**P**	**10 00 40.6**	**-0.3**
DAVOX	**Davos**	**40.53**	**311**	P	**P**	**10 00 41.8**	**+0.6**
	comp=Z,5.7nm,0.8s,mb4.3,baz=141,slow=8.2,SNR=8.1						
SBF	**Sospel**	**41.77**	**306**	*e*P	**P**	**10 00 51.0**	**-0.5**
FRF	**La Foret Royal**	**42.31**	**305**	*e*P	**P**	**10 00 55.6**	**-0.3**
MBDF	**Montbardon**	**42.35**	**307**	*e*P	**P**	**10 00 55.5**	**-0.7**
	comp=Z,14nm,0.8s,mb4.3						
MBDF	**Montbardon**	**42.35**	**307**	*e*P	**P**	**10 00 55.5**	**-0.7**
	comp=Z,7.1nm,0.8s,mb4.3						
MBDF	**Montbardon**	**42.35**	**307**	*e*P	**P**	**10 00 55.5**	**-0.7**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
LMR	**La Mourre**	**42.39**	**305**	*e*P	**P**	**10 00 56.0**	**-0.5**
	comp=Z,72nm,1.5s,mb4.8						
LMR	**La Mourre**	**42.39**	**305**	*e*P	**P**	**10 00 56.0**	**-0.5**
	comp=Z,36nm,1.5s,mb4.8						
LMR	**La Mourre**	**42.39**	**305**	*e*P	**P**	**10 00 56.0**	**-0.5**
LMR				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.8						
LPG	**La Plagne**	**42.46**	**308**	*e*P	**P**	**10 00 56.8**	**-0.3**
	comp=Z,14nm,0.8s,mb4.3						
LPG	**La Plagne**	**42.46**	**308**	*e*P	**P**	**10 00 56.8**	**-0.3**
	comp=Z,6.9nm,0.8s,mb4.3						
LPG	**La Plagne**	**42.46**	**308**	*e*P	**P**	**10 00 56.8**	**-0.3**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
LPL	**La Plagne**	**42.48**	**308**	*e*P	**P**	**10 00 56.9**	**-0.3**
CABF	**La Chapelle**	**43.07**	**310**	*e*P	**P**	**10 01 02.0**	**-0.1**
SONM	**Songino Array**	**44.04**	**49**	P	**P**	**10 01 10.4**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.5,baz=262,slow=8.4,SNR=6.8						
ULN	**Ulaanbaatar**	**44.48**	**49**	*e*P	**P**	**10 01 12.6**	**-0.8**
	comp=Z,2.5nm,1.0s,mb3.9						
ULN	**Ulaanbaatar**	**44.48**	**49**	*e*P	**P**	**10 01 12.6**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
GIVF	**Givet**	**44.49**	**315**	*e*P	**P**	**10 01 12.9**	**-0.6**
SMF	**Signal de Mont**	**44.61**	**310**	*e*P	**P**	**10 01 14.1**	**-0.3**
	comp=Z,48nm,1.3s,mb4.9						
SMF	**Signal de Mont**	**44.61**	**310**	*e*P	**P**	**10 01 14.1**	**-0.3**
	comp=Z,24nm,1.3s,mb4.9						
SMF	**Signal de Mont**	**44.61**	**310**	*e*P	**P**	**10 01 14.1**	**-0.3**
SMF				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
LOR	**Lormes**	**44.67**	**310**	*e*P	**P**	**10 01 14.6**	**-0.3**
	comp=Z,10nm,0.8s,mb4.4						
LOR	**Lormes**	**44.67**	**310**	*e*P	**P**	**10 01 14.6**	**-0.3**
	comp=Z,5.1nm,0.8s,mb4.4						
LOR	**Lormes**	**44.67**	**310**	*e*P	**P**	**10 01 14.6**	**-0.3**
LOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
NB2	**NORSAR Subarra**	**44.70**	**331**	P	**P**	**10 01 14.3**	**-0.8**
	comp=Z,1.3nm,0.7s,mb3.9,baz=117,slow=7.9						
NB2	**NORSAR Subarra**	**44.70**	**331**	P	**P**	**10 01 14.3**	**-0.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
NOA	**NORSAR Array B**	**44.70**	**331**	P	**P**	**10 01 14.6**	**-0.6**
	comp=Z,2.9nm,0.9s,mb4.1,baz=118,slow=8.0,SNR=7.7						
BAIF	**Baives**	**44.87**	**314**	*e*P	**P**	**10 01 15.9**	**-0.6**
	comp=Z,18nm,0.8s,mb4.6						
BAIF	**Baives**	**44.87**	**314**	*e*P	**P**	**10 01 15.9**	**-0.6**
	comp=Z,9.2nm,0.8s,mb4.6						
BAIF	**Baives**	**44.87**	**314**	*e*P	**P**	**10 01 15.9**	**-0.6**
BAIF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
SSF	**Saint Saulge**	**44.89**	**310**	*e*P	**P**	**10 01 16.6**	**0.0**
	comp=Z,17nm,0.9s,mb4.6						
SSF	**Saint Saulge**	**44.89**	**310**	*e*P	**P**	**10 01 16.6**	**0.0**
	comp=Z,8.7nm,0.9s,mb4.6						
SSF	**Saint Saulge**	**44.89**	**310**	*e*P	**P**	**10 01 16.6**	**0.0**
SSF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
AVF	**Avril sur Loir**	**44.96**	**310**	*e*P	**P**	**10 01 17.0**	**-0.2**
	comp=Z,21nm,1.2s,mb4.5						
AVF	**Avril sur Loir**	**44.96**	**310**	*e*P	**P**	**10 01 17.0**	**-0.2**
	comp=Z,10nm,1.2s,mb4.5						
AVF	**Avril sur Loir**	**44.96**	**310**	*e*P	**P**	**10 01 17.0**	**-0.2**
AVF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.5						
BGF	**Bois d'Agland**	**45.28**	**309**	*e*P	**P**	**10 01 19.5**	**-0.3**
	comp=Z,38nm,1.1s,mb4.8						
BGF	**Bois d'Agland**	**45.28**	**309**	*e*P	**P**	**10 01 19.5**	**-0.3**
	comp=Z,19nm,1.1s,mb4.8						
BGF	**Bois d'Agland**	**45.28**	**309**	*e*P	**P**	**10 01 19.5**	**-0.3**
BGF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.8						
ARCES	**ARCESS Array B**	**45.48**	**346**	P	**P**	**10 01 21.9**	**+0.5**
	comp=Z,4.6nm,0.9s,mb4.3,baz=142,slow=9.2,SNR=8.3						
TCF	**Toulx Ste Croi**	**45.70**	**309**	*e*P	**P**	**10 01 22.4**	**-0.7**
QUIF	**Quistinic**	**49.47**	**311**	*e*P	**P**	**10 01 51.4**	**-0.9**
	comp=Z,201nm,1.4s						
QUIF	**Quistinic**	**49.47**	**311**	*e*P	**P**	**10 01 51.4**	**-0.9**
	comp=Z,100nm,1.4s						
QUIF	**Quistinic**	**49.47**	**311**	*e*P	**P**	**10 01 51.4**	**-0.9**
QUIF				pmax	pmax		
	comp=Z,101nm,1.4s						
ROSF	**Rostrenen**	**49.55**	**311**	*e*P	**P**	**10 01 52.9**	**-0.1**
	comp=Z,276nm,1.7s						
ROSF	**Rostrenen**	**49.55**	**311**	*e*P	**P**	**10 01 52.9**	**-0.1**
	comp=Z,138nm,1.7s						
ROSF	**Rostrenen**	**49.55**	**311**	*e*P	**P**	**10 01 52.9**	**-0.1**
ROSF				pmax	pmax		
	comp=Z,138nm,1.7s						
ESDC	**Sonseca Array**	**50.26**	**300**	P	**P**	**10 01 58.5**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=66,slow=7.4,SNR=3.1						
BOD	**Bodaibo**	**50.33**	**36**	*e*P	**P**	**10 01 57.3**	**-1.6**
	comp=Z,3.0nm,1.6s,mb4.1						
BOD	**Bodaibo**	**50.33**	**36**	*e*P	**P**	**10 01 57.3**	**-1.6**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**52.21**	**265**	P	**P**	**10 02 12.9**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.5,baz=58,slow=7.5,SNR=26						
TIXI	**Tiksi**	**58.79**	**21**	*e*P	**P**	**10 02 58.3**	**-2.1**
	comp=Z,3.0nm,0.9s,mb4.3						
TIXI	**Tiksi**	**58.79**	**21**	*e*P	**P**	**10 02 58.3**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
SCHQ	**Schefferville**	**84.27**	**331**	P	**P**	**10 05 34.0**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.3,baz=60,slow=8.0,SNR=4.6						
ILAR	**Eielson Array**	**86.28**	**9**	P	**P**	**10 05 43.0**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.9,baz=320,slow=4.3,SNR=10						
ILAR	**Eielson Array**	**86.28**	**9**	P	**P**	**10 05 43.0**	**-1.0**
WRA	**Warramunga Arr**	**89.56**	**113**	P	**P**	**10 05 59.4**	**-0.3**
	comp=Z,0.9nm,0.9s,mb4.1,baz=303,slow=4.5,SNR=6.0						
YKA	**Yellowknife Ar**	**89.90**	**355**	P	**P**	**10 06 00.9**	**-0.3**
	comp=Z,0.9nm,0.9s,mb4.1,baz=1.7,slow=4.7,SNR=9.0						
YKA	**Yellowknife Ar**	**89.90**	**355**	P	**P**	**10 06 00.9**	**-0.3**
ASAR	**Alice Springs**	**91.03**	**116**	P	**P**	**10 06 06.0**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.9,baz=304,slow=5.1,SNR=5.3						

BJI ***25*** *09:55:06.3,2767N×5507E,h10km,mB5.4,mb5.1,Ms5.4, Msz5.0*
TEH ***25*** *09:55:10.1,2751N×5572E,h18km,ML5.4*
MOS ***25*** *09:55:11.7±1.0,2760N×5574E,h17km,mb5.5/102, MS5.0/26,Error ellipse: s-maj=5.4km s-min=2.7km az=126.5*
ISCJB ***25*** *09:55:11.6±0.1,2753N±002×5574E±002,h15km, mb5.2/227,MS5.0/61,Error ellipse: s-maj=2.7km s-min=1.9km az=38.0*
HRVD ***25*** *09:55:12.4±0.2,2748N×5568E,h12km,MW5.5/102, Centroid moment Tensor Solution. LP body waves: s92,c155;Mantle waves: s102,c217; Half duration: 1§4 Moment tensor: Scale 10¹⁷Nm; M_{rr}1.84±.03; $M_{\theta\theta}$-2.13±.03; $M_{\phi\phi}$0.29±.03; $M_{r\theta}$0.75±.09; $M_{\theta\phi}$0.30±.03; $M_{\phi r}$-0.12±.09; Best double couple: $M_0$2.14400×10¹⁷ NP1:φ₀276.00000°,δ35.00000°,λ89.00000°. NP2: φ₀98.00000°,δ55.00000°,λ91.00000°. Principal axes: T 1.9800, Plg80.0000°, Azm12.0000°; N 0.3290, Plg1.0000°, Azm277.0000°; P -2.3070, Plg10.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *09:55:12.4±0.2,2754N×5578E,h10km,mb5.3/134, MS4.9/11,MW5.5,ML5.1(THR),MN5.4(TEH) Error ellipse: s-maj=5.2km s-min=3.3km az=197.0,Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁷Nm; M_{rr}2.01; $M_{\theta\theta}$-1.88; $M_{\phi\phi}$-0.13; $M_{r\theta}$-0.37; $M_{\theta\phi}$0.59; $M_{\phi r}$0.15; Best double couple: $M_0$2.10000×10¹⁷ NP1:φ₀288.00000°, δ51.00000°,λ91.00000°. NP2:φ₀106.00000°,δ39.00000°, λ88.00000°. Principal axes: T 2.0500, Plg84.0000°, Azm207.0000°; N 0.0500, Plg1.0000°, Azm107.0000°; P -2.1000, Plg6.0000°, Azm17.0000°;*
CRAAG ***25*** *09:55:13.3,2782N×5610E,Mb5.4*
CSEM ***25*** *09:55:13.7,2760N×5587E,h30km,ML5.5*
SFS ***25*** *09:55:14.0,27.17N×5509E,h0km,ML5.3*
THR ***25*** *09:55:16.0±0.8,2762N×5602E,h16km,ML5.1*
IDC ***25*** *09:55:16.4±1.8,2765N×5569E,h38km±15km,mb4.7/30, mb1 4.8/31,mb1mx4.8/33,mbtmp4.9/31,ML1.7/1,MS5.0/20, Ms1 5.0/20,ms1mx4.8/27,Error ellipse: s-maj=9.5km s-min=8.6km az=144.0*
SZGRF ***25*** *09:55:18.1,2782N×5554E,h33km,mb5.2,MS4.9, Southern Iran*
OMAN ***25*** *09:55:18.8,2733N×5594E,h77km±7km,Error ellipse: s-maj=207.9km s-min=11.8km az=350.0*
ISC 25 09:55:13.7±0.1,2758N±002×5577E±002,h16km,
h16km±2.3km:pP-P,n983,σ1§23/1032,mb5.2/227,MS5.0/62,
50C-32D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.40**	**116**	*e*PG	**Pg**	**09 55 21.4**	**-0.5**
BNDS				*e*SG	**Sg**	**09 55 26.4**	**-1.1**
BNDS				AML	AML	09 55 28.1	
	comp=E,124μm,0.2s						
BNDS	**Bandar-Abbas**	**0.40**	**116**	*e*Pg	**Pg**	**09 55 21.4**	**-0.5**
	SNR=112

comp=Z,979nm,0.5s
RDF Al-Radifah 7.37 282 *e*P **Pn 09 57 00.2 -0.4**
RDF AML AML 09 58 29.0
comp=Z,1μm,0.6s
ISFB Sefidab 7.40 337 *e*Pn **Pn 09 57 00.8 -0.2**
ISFB Sefidab 7.40 337 *e*Pn **Pn 09 57 01.1 +0.1**
IANJ Anjiloo 8.02 349 *e*Pn **Pn 09 57 12.3 +2.7**
IANJ Anjiloo 8.02 349 Pn **Pn 09 57 12.2 +2.6**
ILAS Lasjerd 8.14 344 *e*Pn **Pn 09 57 17.9 +6.7**
ILAS Lasjerd 8.14 344 Pn **Pn 09 57 17.8 +6.6**
IVRN Varamin 8.16 336 *e*Pn **Pn 09 57 12.5 +1.0**
IVRN *e*Sn **Sn 09 58 40.4 -2.9**
IVRN Varamin 8.16 336 *e*Pn **Pn 09 57 12.8 +1.3**
IFIR Firoozkooh 8.44 343 *e*Pn **Pn 09 57 17.5 +2.2**
IFIR Firoozkooh 8.44 343 *e*Pn **Pn 09 57 17.1 +1.8**
IFIR Firoozkooh 8.44 343 Pn **Pn 09 57 17.4 +2.1**
ISHM Shahmirzad 8.47 346 *e*Pn **Pn 09 57 18.5 +2.8**
ISHM *e*Sn **Sn 09 58 47.9 -3.0**
ISHM *e*Sn **Sn 09 58 48.2 -2.7**
IGLO Galoogah 8.91 348 *e*Pn **Pn 09 57 27.1 +5.3**
IGLO Galoogah 8.91 348 Pn **Pn 09 57 27.0 +5.2**
IAFJ Afjeh 8.94 338 *e*Pn **Pn 09 57 23.8 +1.6**
IPRN Paran-Amol 9.14 342 *e*Pn **Pn 09 57 27.2 +2.3**
IPRN *e*Sn **Sn 09 59 03.0 -4.4**
IPRN *e*Sn **Sn 09 59 03.7 -3.7**
IMHD Mahdasht 9.17 333 *e*Pn **Pn 09 57 27.4 +2.0**
IRAZ Razeghan 9.25 329 *e*Pn **Pn 09 57 32.9 +6.4**
IRAZ *e*Sn **Sn 09 59 05.8 -4.4**
IRAZ *e*Sn **Sn 09 59 05.9 -4.3**
IRAZ Razeghan 9.25 329 Sn **Sn 09 59 05.7 -4.5**
IRAZ Razeghan 9.25 329 Pn **Pn 09 57 32.9 +6.4**
IRAZ Sn **Sn 09 59 05.7 -4.5**
IRAZ Sn **Sn 09 59 05.9 -4.3**
IPAY Payeh 9.26 16 *e*Pn **Pn 09 57 28.4 +1.9**
SHAO Shalim 9.51 181 ⇑P **Pn 09 57 29.3 -0.7**
IKOM Komasi 9.67 315 *e*Sn **Sn 09 59 14.9 -5.4**
IKOM *e*Sn **Sn 09 59 15.4 -4.9**
WHFO Wadi Hawf 9.79 191 ⇓P **Pn 09 57 33.6 -0.2**
IGHG Ghaleghazi 10.37 313 *e*Pn **Pn 09 57 38.9 -2.8**
ABKT Ailbek 10.51 10 Pn **Pn 09 57 46.6 +2.9**
comp=Z,539nm,1.4s,SNR=15
VAN Vannovskaya 10.53 10 *e*P **Pn 09 57 46.5 +2.6**
VAN *e*S **Sn 09 59 42.6 +1.2**
IDHR Dehrash 10.72 314 *e*Pn **Pn 09 57 44.1 -2.4**
IDHR *e*Sn **Sn 09 59 40.4 -5.7**
IDHR Dehrash 10.72 314 Sn **Sn 09 59 40.3 -5.8**
IDHR Dehrash 10.72 314 Pn **Pn 09 57 44.1 -2.4**
IDHR Sn **Sn 09 59 40.3 -5.8**
BHD Baghdad 11.34 303 *i* x x 09 57 46.0
BHD *i* x x 09 59 54.5
BHD *i* x x 10 01 32.4
BHD *i* x x 10 01 55.2
BHD *i* x x 10 03 20.0
BHD *i* x x 10 06 40.0
IBST Bostanabad 12.55 326 *e*Pn **Pn 09 58 12.0 +0.4**
BHJ Bhuj 13.27 106 *e*P **Pn 09 58 21.1 -0.3**
BHJ AMb AMB 09 58 33.5
comp=Z,118nm,1.5s
MSL Mosul 13.82 312 *e*x x 09 58 28.0
MSL *i* x x 10 00 56.0
MSL *e*x x 10 02 53.0
MSL *e*x x 10 03 59.0
IMRD Marand 13.93 325 *e*Pn Px 09 58 42.2
CUKT Cukurca 14.07 316 PN **Pn 09 58 28.4 -4.0**
HKR Hakkari 14.21 318 PN **Pn 09 58 31.5 -2.7**
MUKL Al Mukalla 14.47 207 *e*P **Pn 09 58 32.5 -5.3**
MUKL *i* S **Sn 10 01 11.8 -6.0**
TVAN Van 15.04 320 *i* P **Pn 09 58 47.6 +2.1**
CLDR Caldiran 15.18 322 PN **Pn 09 58 47.5 +0.1**
GNI Garni 15.51 327 PN **Pn 09 58 55.7 +4.1**
GNI Garni 15.51 327 Pn **Pn 09 58 53.9 +2.2**
comp=Z,0.8nm,0.3s,baz=150,slow=9.2,SNR=2.6
GNI LR LR 10 04 48.8
comp=Z,4μm,18.4s,baz=134,slow=37
GNI Garni 15.51 327 *e*P **Pn 09 58 55.7 +4.1**
comp=Z,385nm,1.1s
GNI Garni 15.51 327 *e*P **Pn 09 58 55.7 +4.0**
comp=Z,385nm,1.1s
GNI Garni 15.51 327 *de*P **Pn 09 58 54.3 +2.7**
GNI pmax pmax
comp=Z,628nm,2.2s
MARD Mardin 15.93 311 *i* P **Pn 09 58 58.1 +1.0**
BEST Besiri 15.93 314 *i* P **Pn 09 58 59.0 +1.8**
DIGO Kars 16.39 325 *i* P **Pn 09 59 09.3 +6.3**
BDHA Al Bayda' 16.54 217⇓*e*P **Pn 09 58 60.0 -5.0**
BDHA AMb AMB 09 59 01.9
comp=Z,167nm,1.2s
BDHA *i* S **Sn 10 02 02.0 -6.3**
BDHA Al Bayda' 16.54 217⇓*e*P **Pn 09 59 00.0 -5.0**
comp=Z,84nm,1.2s
BDHA *i* S **Sn 10 02 02.0 -6.3**
BNGL BINGOL 16.65 317 *i* P **Pn 09 59 16.6 +10**
DHBB Dhamar BB 16.72 222⇓*e*P **Pn 09 59 02.3 -4.9**
DHBB *i* S **Sn 10 02 06.6 -6.1**
MAK Makhachkala 16.75 339 *c i*P **Pn 09 59 13.2 +5.6**
MAK pmax pmax
comp=Z,1μm,1.5s
MAK MLR MLR
comp=Z,7μm,16.0s
ZALF Zalf 16.79 293⇑*i*P **Pn 09 59 07.9 -0.2**
LBOS 16.80 218⇓*e*P **Pn 09 59 03.1 -5.1**
LBOS *i* S **Sn 10 02 08.6 -5.9**
JHLN Al Jahlan 16.80 303⇑*i*P **Pn 09 59 09.3 +1.0**
ERZM Erzurum 17.13 320 *i* P **Pn 09 59 16.1 +3.6**
EZM Erzurum 17.14 320 PN **Pn 09 59 15.5 +3.0**
ROOS tl_alroos 17.16 297⇑*i*P **Pn 09 59 16.1 +3.4**
SALA Sala 17.23 292⇑*i*P **Pn 09 59 14.5 +0.8**
URFA Urfa 17.32 309 PN **Pn 09 59 15.1 +0.3**
SLMH Al Salmeh 17.40 304⇑*i*P **Pn 09 59 16.8 +1.0**
ATAB Bozova 17.70 308 *i* P **Pn 09 59 21.1 +1.6**
ARTV Artvin 17.70 324 *i* P **Pn 09 59 22.5 +2.9**
ELZG Elazig 17.76 312 *i* P **Pn 09 59 22.7 +2.5**
KFRA Kufra 17.87 300⇑*i*P **Pn 09 59 22.5 +0.9**
BOM Bombay 17.88 115 *e*x x 09 59 14.9
BOM *e*x x 09 59 31.5
comp=Z,167nm,9.2s
TRBA At Turbah 17.95 220⇓*e*P **Pn 09 59 17.4 -5.2**
TRBA *i* S **Sn 10 02 36.3 -6.1**
ZEI Tsey 17.96 331 *e*P **Pn 09 59 24.6 +1.9**
ZEI *e*S **Sn 10 02 48.0 +5.3**
MALT Malatya 18.03 311 PN **Pn 09 59 21.4 -2.2**
MALT Malatya 18.03 311 *e*P **Pn 09 59 23.7 +0.1**
comp=Z,204nm,1.3s
MALT Malatya 18.03 311 *e*P **Pn 09 59 23.7 +0.1**
comp=Z,204nm,1.3s
MALT Malatya 18.03 311 *e*P **Pn 09 59 23.7 +0.1**
MALT pmax pmax
comp=Z,204nm,1.3s
MYA Malataya 18.04 311 PN **Pn 09 59 21.0 -2.7**
GZT Gaziantep 18.16 307 *i* P **Pn 09 59 25.6 +0.4**
BHL Bhannes 18.39 295 *e*Pn **Pn 09 59 27.9 -0.1**
KELT Kelkit 18.54 317 *i* P **Pn 09 59 31.1 +1.3**
GUMT Gumushane 18.60 318 PN **Pn 09 59 31.2 +0.7**
HTY Hatay 18.70 302 PN **Pn 09 59 31.4 -0.3**
MACK Trabzon 18.73 319 *i* P **Pn 09 59 36.7 +4.6**
COBT Iskenderun 18.76 303 *i* P **Pn 09 59 32.8 +0.3**
POO Poona 18.90 115 *e*x x 09 59 42.8
POO AMb AMB 09 59 46.5
comp=Z,84nm,0.9s
NDI New Delhi 18.95 82 *e*P **Pn 09 59 35.2 +0.4**
NDI AMb AMB 09 59 46.4
comp=Z,176nm,1.4s
SMLA Simla 18.98 74 *e*P **Pn 09 59 32.3 -2.8**
SMLA AMb AMB 09 59 45.2
comp=Z,379nm,0.8s
CEYT Ceyhan 19.33 304 PN **Pn 09 59 39.7 +0.4**
KIV Kislovodsk 19.44 331 Pn **Pn 09 59 41.0 +0.3**
comp=Z,826nm,1.5s,SNR=26
KIV Kislovodsk 19.44 331 *e*P **Pn 09 59 40.2 -0.5**
comp=Z,262nm,1.0s
KIV Kislovodsk 19.44 331 *e*P **Pn 09 59 40.2 -0.5**
comp=Z,262nm,1.0s
KIV Kislovodsk 19.44 331⇑*i*P **Pn 09 59 40.8 +0.1**
KIV pmax pmax
comp=Z,301nm,1.7s
KOZT Kozan 19.46 305 PN **Pn 09 59 39.9 -1.0**
KK31 Karatay Array 19.56 34 *i* P **Pn 09 59 40.3 -1.8**
KK31 *i* S **Sn 10 03 19.0 -2.4**
KKAR Karatay Array 19.56 34 *e*P **Pn 09 59 40.3 -1.8**
KKAR S **Sn 10 03 19.7 -1.7**
KKAR pmax pmax
comp=Z,87nm,0.9s
KKAR smax
comp=Z,144nm,1.8s
GRSN GIRESUNGRSN 19.61 317 *i* P **Pn 09 59 43.1 +0.5**
SVSK Karacayir 19.83 313 PN **Pn 09 59 44.0 -1.2**
PHNC Paralimni 19.97 297 P **Pn 09 59 48.7 +1.7**
ATD Arta Tunnel 20.05 220 P **P 09 59 46.4 +0.3**
comp=Z,66nm,1.0s,baz=33,slow=4.0,SNR=12
ATD S **S 10 03 31.5 +0.6**
comp=Z,7.3nm,0.8s,baz=298,slow=22,SNR=2.1
ATD LR LR 10 07 46.0
comp=Z,7μm,19.1s,MS5.0,baz=38,slow=37
ATD Arta Tunnel 20.05 220 P **P 09 59 46.3 +0.2**
ATD S **S 10 03 31.5 +0.7**
MERS Mersin 20.18 303 PN **P 09 59 48.6 +1.1**
GOF Gofitskoye 20.19 333 *e*P **P 09 59 48.4 +0.8**
GOF pmax pmax
comp=Z,200nm,1.3s
CSS Prodhromos 20.51 297 ⇓P **P 09 59 53.2 +2.1**
comp=Z,4.2nm,1.2s
SOC Sochi 20.57 325 *i* P **P 09 59 52.8 +1.1**
SOC Sochi 20.57 325 *c i*P **P 09 59 51.9 +0.2**
SOC *e*PP 10 00 01.5
SOC *e* 10 00 20.2
SOC *i* S **S 10 03 38.6 -2.5**
SOC *e*SS 10 04 09.8
SOC pmax pmax
comp=Z,276nm,1.6s
SOC MLR MLR
comp=Z,6μm,16.0s,MS5.0
KSH Kashi 20.57 49 P **P 09 59 52.0 +0.2**
KSH AP 09 59 55.5
KSH XP sP 09 59 58.5 +0.1
KSH PP 10 00 11.5
KSH PPP 10 00 21.3
KSH S **S 10 03 34.3 -7.0**
KSH PCP PcP 10 04 03.8 +1.3
KSH AMB AMB
comp=Z,58nm,0.5s
KSH LR LR
comp=N,9μm,12.3s,MS5.5
KSH LR LR
comp=E,9μm,12.9s,MS5.5
KSH LR LR
comp=Z,7μm,10.4s,MS5.3
AML Almayashu 20.61 41 P **P 09 59 52.9 +0.7**
SNR=72
MAMC Mammari 20.66 297 P **P 09 59 55.4 +2.7**
SZAC Souni-Zanaja 20.82 296 P **P 09 59 58.3 +3.8**
EKS2 Erkin-Say 20.99 40 P **P 09 59 57.1 +0.8**
SNR=50
UCH Uchtor 21.15 41 P **P 09 59 58.2 +0.2**
SNR=22
PPCY Paphos 21.28 296 P **P 10 00 04.2 +4.8**
AAK Ala-Archa 21.39 41 P **P 10 00 01.4 +0.8**
SNR=28
KZA Kyzart 21.49 43 P **P 10 00 02.8 +1.1**
SNR=26
FRU Bishkek 21.58 40 *e*P **P 10 00 03.0 +0.3**
FRU *i* 10 00 09.0
FRU *e*S **S 10 04 05.0 +3.8**
FRU pmax pmax
comp=Z,120nm,1.9s,mb5.0
FRU smax
comp=E,6μm,14.0s
KBK Karagaybulak 21.66 41 P **P 10 00 04.4 +0.9**
SNR=21
CHMS Chumysh 21.76 40 P **P 10 00 09.0 +4.4**
SNR=16
USP Ospenovka 21.79 39 P **P 10 00 04.0 -0.8**
SNR=18
AB31 Akbulak array 21.88 7 *e*P **P 10 00 05.3 -0.6**
AB31 S **S 10 04 06.0 -1.0**
AB31 pmax pmax
comp=Z,149nm,0.8s,mb5.5
AB31 smax
comp=Z,145nm,1.5s
BOYT Boyabat 21.98 314 *i* P **P 10 00 07.4 +0.6**
BR131 Keskin Array S 21.98 309 *e*P **P 10 00 07.2 +0.3**
comp=Z,43nm,0.6s,mb5.1
BR131 Keskin Array S 21.98 309 *e*P **P 10 00 07.2 +0.2**
comp=Z,43nm,0.6s,mb5.1
BRTR Keskin Array B 21.98 309 P **P 10 00 06.6 -0.3**
comp=Z,28nm,0.7s,mb4.8,baz=130,slow=12,SNR=29
BRTR S **S 10 04 04.5 -4.5**
comp=Z,3.0nm,0.9s,baz=146,slow=9.0,SNR=2.6
BYBT Boyabat 22.09 314 *e*PN **P 10 00 08.4 +0.3**
KONT Konya--Tatoy 22.18 304 *e*PN **P 10 00 12.0 +3.0**
ULHL Ulahol 22.19 43 P **P 10 00 10.1 +0.9**
SNR=26
TKM2 Tokmak 2 22.20 41 P **P 10 00 09.3 0.0**
SNR=28
TKM2 Tokmak 2 22.20 41 *i* P **P 10 00 08.0 -1.3**
TKM2 Tokmak 2 22.20 41 *i* P **P 10 00 08.9 -0.4**
TKM2 pmax pmax
comp=Z,88nm,1.2s,mb5.1
DESE Dese 22.31 226 *e*P **P 10 00 12.1 +1.6**
DESE *e*S **S 10 04 22.3 +6.9**
CANT Cankiri 22.40 311 *e*PN **P 10 00 15.6 +4.2**
ELDT Eldivan 22.48 311 *i* P **P 10 00 08.7 -3.5**
KDHN Kadinhani 22.56 305 *i* P **P 10 00 15.5 +2.3**
ANN Anapa 22.59 324 *e*P **P 10 00 12.6 -0.8**
ANN *e* 10 00 43.0
ANN *e*S **S 10 04 20.2 -0.6**
ANN pmax pmax
comp=Z,2μm,7.0s
ANN MLR MLR
comp=N,5μm,17.0s
ANN MLR MLR
comp=Z,3μm,17.0s,MS4.8
ANTO Ankara 22.63 309 *e*PN **P 10 00 10.8 -3.0**
ANTO Ankara 22.63 309 *e*P **P 10 00 15.9 +2.1**
comp=Z,344nm,1.3s,mb5.6
ANTO Ankara 22.63 309 *e*P **P 10 00 15.9 +2.1**
comp=Z,344nm,1.3s,mb5.6
ANTO Ankara 22.63 309 *e*P **P 10 00 15.9 +2.1**
ANTO pmax pmax
comp=Z,344nm,1.3s,mb5.6
KIZT Kizilcal 22.87 306 *e*PN **P 10 00 16.5 +0.1**
AKTK Aktyubinsk 22.89 4 P **P 10 00 16.9 +0.3**
AKTK S **S 10 04 23.3 -2.5**
AKTK Aktyubinsk 22.89 4 P **P 10 00 16.9 +0.3**
AKTK S **S 10 04 23.3 -2.5**
AKTK LR LR 10 10 51.6
AKTO Aktyubinsk 22.89 4 P **P 10 00 16.9 +0.3**
comp=Z,90nm,0.7s,mb5.3,baz=178,slow=11,SNR=21
AKTO S **S 10 04 23.3 -2.5**
comp=Z,3.4nm,0.7s,baz=213,slow=8.7,SNR=1.4
AKTO LR LR 10 10 51.6
comp=Z,8μm,19.9s,MS5.1,baz=0.0,slow=41
AKTO Aktyubinsk 22.89 4 *i* P **P 10 00 15.7 -0.9**
AKTO pmax pmax
comp=Z,99nm,2.0s,mb4.9
AAA Alma-Ata 23.21 42 *i* P **P 10 00 21.2 +1.3**
AAA *i* S **S 10 04 32.5 +1.5**
AAA pmax pmax
comp=Z,2μm,3.7s
AAA smax
comp=E,5μm,5.6s
AAA MLR MLR
comp=Z,6μm,8.5s
HYB Hyderabad 23.32 111⇑*i*P **P 10 00 21.0 -0.1**
comp=Z,60nm,1.0s,mb5.0
HYB *e* 10 00 36.0
HYB *e*S **S 10 04 36.0 +3.2**
HYB Hyderabad 23.32 111⇑*e*P **P 10 00 21.0 -0.1**
comp=Z,60nm,1.0s,mb5.0
HYB *e* 10 00 36.0
HYB *e*S **S 10 04 40.0 +7.2**
SAFT Safranbolu 23.32 312 *e*PN **P 10 00 23.1 +1.9**
SGKT Sivrigoynuk 23.44 310 *i* P **P 10 00 22.8 +0.4**
ISP Isparta 23.52 302 *e*P **P 10 00 23.2 -0.1**
comp=Z,413nm,1.6s,mb5.6
ISP Isparta 23.52 302 *e*P **P 10 00 23.2 0.0**
ISP pmax pmax
comp=Z,413nm,1.6s,mb5.6
ELL Elmali 23.66 299 *e*PN **P 10 00 25.8 +1.3**
TKTP Tekketepe 23.73 303 *i* P **P 10 00 26.3 +1.2**
ESKT Eskisehir 23.85 306 *i* P **P 10 00 27.5 +1.2**
MDU Mudurnu 23.98 309 *e*PN **P 10 00 26.8 -0.6**
GOLH Golhisar 24.06 300 *i* P **P 10 00 26.8 -1.3**
ALT Altintas 24.22 305 *e*PN **P 10 00 30.9 +1.3**
BORA Eskisehir 24.27 307 *i* P **P 10 00 32.6 +2.5**
HENT Hendek 24.34 309 *i* P **P 10 00 28.8 -2.0**
SIM Simferopol' 24.48 321 *e*P **P 10 00 29.7 -2.3**
SIM *e*S **S 10 04 51.5 -0.1**
SIM pmax pmax
comp=Z,240nm,0.8s,mb5.7
KOLN Koldanda 24.63 83 *e*P **P 10 00 34.5 +1.1**
comp=Z,266nm,1.2s,mb5.6
DANN Dangsing 24.72 82 *e*P **P 10 00 35.4 +1.2**
comp=Z,4.6nm,1.0s
ARG Arkhangelos 24.93 297 *e*P pP 10 00 48.8 +7.8
MANT Manisa 25.18 303 *i* P **P 10 00 46.2 +7.8**
HRT Hereke 25.20 308 *e*PN **P 10 00 36.7 -1.8**
YLV Yalova 25.30 308 *e*PN **P 10 00 37.5 -2.0**
ULDT Uludag 25.31 307 *i* P **P 10 00 39.8 +0.2**
AYDN Tasoluk 25.46 300 *i* P **P 10 00 34.9 -6.1**
GKN Gorkha 25.52 82 *e*P **P 10 00 41.7 +0.2**
comp=Z,264nm,1.1s,mb5.7
BADT Buyukada 25.59 308 *e*PN **P 10 00 40.7 -1.4**
VRHR Novokhopersk 25.82 339 *e*P **P 10 00 45.5 +1.4**
VRHR pmax pmax
comp=E,9.0nm,0.6s
VRHR pmax pmax
comp=Z,90nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,60nm,0.7s
AKS Akhisar 25.86 303 *e*PN **P 10 00 44.1 -0.4**
BTOK Tokmak 25.97 305 *i* P **P 10 00 44.8 -0.7**
DMN Daman 25.98 83 *e*P **P 10 00 46.5 +0.9**
comp=N,184nm,0.8s,mb5.7
KKN Kakani 26.11 83 *e*P **P 10 00 47.9 +1.1**
comp=N,157nm,0.5s,mb5.8
KKN Kakani 26.11 83 *e*P **P 10 00 47.9 +1.1**
KKN pmax pmax
comp=Z,79nm,0.5s,mb5.5
KDAG Bornova 26.13 302 *i* P **P 10 00 47.6 +0.6**
ZKR Zakros 26.26 294 *e*P **P 10 00 49.2 +1.0**
GUN Gumba 26.63 82 *e*P **P 10 00 53.4 +1.9**
comp=Z,342nm,0.8s,mb5.9
URLA Izmir 26.63 301 *i* P **P 10 00 51.0 -0.5**
XRY Khrisi 26.66 293 *e*P **P 10 00 50.0 -1.7**
NPS Neapolis 26.77 294 *e*P **P 10 00 54.7 +1.9**
AYVA Ayvalik 26.82 303 *i* P **P 10 00 43.9 -9.3**
LAST Lasithi 26.87 294 *e*P **P 10 00 54.6 +0.9**
JIRN Jiri 26.93 83 *e*P **P 10 00 55.8 +1.6**
SANT Santorini 27.07 297 *e*P **P 10 00 55.3 -0.2**
APE Apeiranthos 27.15 298 *e*PN **P 10 00 54.7 -1.5**
APE Apeiranthos 27.15 298 *c i*P **P 10 00 57.8 +1.6**
ZRNK Zerenda 27.19 18 *e*P **P 10 00 56.2 -0.4**
comp=Z,98nm,1.4s,mb5.2
ZRNK Zerenda 27.19 18 *e*P **P 10 00 56.2 -0.4**
comp=Z,98nm,1.4s,mb5.2
ZRNK Zerenda 27.19 18 *e*P **P 10 00 56.2 -0.4**
ZRNK pmax pmax
comp=Z,98nm,1.4s,mb5.2
VIS Vishakhapatnam 27.21 105 *e*P **P 10 00 58.2 +1.5**
IDI Anoyia 27.36 294 P **P 10 00 57.4 -0.7**
comp=Z,25nm,0.6s,mb4.9,baz=99,slow=10,SNR=27
IDI S **S 10 05 35.1 -2.2**
comp=Z,15nm,0.9s,baz=177,slow=21,SNR=1.6
BOK Bokaro 27.37 91 *e*P **P 10 00 58.0 -0.1**
BOK AMb AMB 10 01 03.9
comp=Z,84nm,1.1s,mb5.2
PSN Preselentsi 27.41 313 *i* P **P 10 01 01.0 +2.5**
VOSK Vostochnaya 27.56 20 P **P 10 00 59.2 -0.7**
VOSK pmax pmax
comp=Z,63nm,1.3s,mb5.1
TIRR Tirgusor 27.62 315⇓P **P 10 01 00.0 -0.4**
TIRR Tirgusor 27.62 315 *e*P **P 10 00 59.6 -0.8**
EDRB Edirne 27.62 309 *e*P **P 10 00 59.6 -0.8**
BRVK Borovoye 27.64 19 P **P 10 01 00.4 -0.2**
comp=Z,251nm,1.1s,mb5.8,SNR=11
BRVK Borovoye 27.64 19 *e*P **P 10 01 00.2 -0.4**
comp=Z,21nm,0.9s,mb4.8
BRVK Borovoye 27.64 19 *e*P **P 10 01 00.2 -0.4**
comp=Z,21nm,0.9s,mb4.8
BRVK Borovoye 27.64 19 *e*P **P 10 01 00.2 -0.4**
BRVK pmax pmax
comp=Z,21nm,0.9s,mb4.8
BVA0 Borovoye Array 27.65 19 *i* P **P 10 00 59.8 -0.8**
BVA0 pmax pmax
comp=Z,11nm,1.0s,mb4.4
BVAR Borovoye Array 27.65 19 P **P 10 01 00.2 -0.4**
comp=Z,29nm,0.7s,mb5.0,baz=205,slow=7.9,SNR=23
BVAR PcP PcP 10 04 16.9 -0.8
comp=Z,1.9nm,0.4s,baz=217,slow=3.0,SNR=4.9
BVAR S **S 10 05 38.9 -2.9**
comp=Z,2.7nm,0.9s,baz=251,slow=23,SNR=1.8
BVAR Borovoye Array 27.65 19 PcP PcP 10 04 16.9 -0.8
ALN Alexandroupoli 27.78 306 *e*P **P 10 01 02.1 +0.3**
VAM Vamos 27.94 294 *e*P **P 10 01 04.0 +0.8**
HARR Harsova 28.03 315⇑P **P 10 01 04.1 0.0**
CFR Carcaliu 28.14 316⇓P **P 10 01 06.9 +1.9**
RDO Rodhopi 28.23 306 *e*P **P 10 01 03.0 -2.8**
CHKZ Chkalovo 28.28 19 *e*P **P 10 01 05.7 -0.6**
comp=Z,55nm,0.5s,mb5.4
CHKZ Chkalovo 28.28 19 *e*P **P 10 01 05.7 -0.6**
comp=Z,55nm,0.5s,mb5.4
CHKZ Chkalovo 28.28 19 *i* P **P 10 01 05.4 -0.9**
CHKZ pmax pmax
comp=Z,31nm,1.6s,mb4.7
MK31 Makanchi Array 28.32 40 *i* P **P 10 01 06.3 -0.4**
MKAR Makanchi Array 28.32 40 P **P 10 01 06.5 -0.2**
comp=Z,5.5nm,0.6s,mb4.4,baz=222,slow=8.4,SNR=16
MKAR S **S 10 05 52.9 +0.4**
comp=Z,1.4nm,0.8s,baz=231,slow=19,SNR=2.0
MKAR LR LR 10 12 41.6
comp=Z,3μm,21.1s,MS4.9,baz=211,slow=37
MKAR Makanchi Array 28.32 40 P **P 10 01 06.5 -0.2**
MKAR S **S 10 05 52.9 +0.4**
KIS Kishinev 28.68 320 *e*P **P 10 01 15.0 +5.2**
MPAR Parnis Oros 28.77 300 *e*P **P 10 01 11.0 +0.4**
AOS Alonnisos 28.88 302 *e*P **P 10 01 16.2 +4.6**
KURK Kurchatov 28.90 31 P **P 10 01 12.3 +0.5**
comp=Z,52nm,0.7s,mb5.4,SNR=6.2
KURK Kurchatov 28.90 31 *e*P **P 10 01 11.3 -0.5**
comp=Z,15nm,0.8s,mb4.8
KURK Kurchatov 28.90 31 *e*P **P 10 01 11.3 -0.4**
comp=Z,15nm,0.8s,mb4.8
KURK Kurchatov 28.90 31 *e*P **P 10 01 11.3 -0.5**
KURK pmax pmax
comp=Z,15nm,0.8s,mb4.8
ARU Arti 28.90 3⇑*e*P **P 10 01 13.4 +1.6**
ARU Arti 28.90 3⇓*i*P **P 10 01 13.5 +1.7**
ARU *e* 10 02 02.7
ARU *e*PPP 10 02 12.7
ARU *e* 10 04 21.4
ARU *e*S **S 10 06 02.6 +1.0**
ARU *e*SS SS 10 07 20.9 -43
ARU *e*SSS 10 07 43.2
ARU pmax pmax
comp=Z,20nm,0.8s,mb4.9
ARU MLR MLR
comp=N,2μm,20.0s,MS4.8
ARU MLR MLR
comp=Z,3μm,20.0s,MS4.9
ARU MLR MLR
comp=E,800nm,16.0s,MS4.8
RZN Rozhen 28.99 307 *i* P **P 10 01 14.0 +1.4**
OUR Ouranopolis 29.11 304 *e*P **P 10 01 13.2 -0.5**
VLI Veliai 29.13 297 *e*P **P 10 01 15.0 +1.1**
PAIG Paliouri 29.22 303 *e*P **P 10 01 16.9 +2.2**
VRI Vrincioaia 29.34 316⇓P **P 10 01 16.2 +0.5**
LKR Lokris 29.44 300 *e*P **P 10 01 19.9 +3.3**
XOR Xorichti 29.45 302 *e*P **P 10 01 17.1 +0.4**
NVR Nevrokopi 29.49 306 *e*P **P 10 01 16.3 -0.7**
PLG Polygyros 29.51 304 *e*P **P 10 01 17.7 +0.5**
SRS Serrai 29.61 305 *e*P **P 10 01 18.2 0.0**
MLR Muntele Rosu 29.65 315 P **P 10 01 18.5 0.0**
comp=E,26nm,0.7s,mb5.1,baz=36,slow=4.8,SNR=21
MLR S **S 10 06 11.7 -1.7**
comp=E,3.2nm,0.8s,baz=340,slow=20,SNR=1.8
MLR LR LR 10 16 02.3
comp=E,3μm,20.4s,MS4.9,baz=336,slow=42
MLR Muntele Rosu 29.65 315⇑P **P 10 01 20.9 +2.4**
MLR Muntele Rosu 29.65 315 P **P 10 01 21.1 +2.6**
MMB Musomiste 29.66 306 *i* P **P 10 01 21.0 +2.5**
SOH Sokhos 29.70 305 *e*P **P 10 01 19.5 +0.6**
THE Thessaloniki 29.94 304 *e*P **P 10 01 20.3 -0.7**
ITM Ithomi 30.00 297 *e*P **P 10 01 22.1 +0.5**
AGG Agios Georgios 30.02 301 *e*P **P 10 01 21.4 -0.4**
MTUR Matau 30.09 314 P **P 10 01 23.7 +1.3**
KNT Kendrikon 30.13 305 *e*P **P 10 01 22.6 -0.1**
VOIR 30.19 314⇓P **P 10 01 23.9 +0.6**
KKB Krupnik 30.20 307 *i* P **P 10 01 23.0 -0.3**
VTS Vitosha 30.34 308 *i* P **P 10 01 25.1 +0.5**
VTS Vitosha 30.34 308 *e*P **P 10 01 24.7 +0.1**

VTS	**Vitosha**	**30.34 308**	P	**P**	**10 01 25.5**	**+0.9**
EVR	**Evrytania**	**30.40 301**	*e*P	**P**	**10 01 20.0**	**-5.1**
VAY	**Valandovo**	**30.41 305**	*e*P	**P**	**10 01 24.6**	**-0.6**
VAY	**Valandovo**	**30.41 305**	*i* P	**P**	**10 01 23.0**	**-2.2**
VAY	**Valandovo**	**30.41 305**	P	**P**	**10 01 24.5**	**-0.7**
GRG	**Griva**	**30.43 305**	*e*P	**P**	**10 01 24.7**	**-0.7**
RLS	**Riolos of Patr**	**30.51 299**	*e*P	**P**	**10 01 26.7**	**+0.7**
AKASG	**Malin Array Be**	**30.64 326**	P	**P**	**10 01 25.2**	**-2.0**
	comp=E,19nm,0.6s,mb5.2,baz=134,slow=8.5,SNR=38					
AKASG			S	**S**	**10 06 25.1**	**-3.7**
	comp=E,0.4nm,0.4s,baz=132,slow=14,SNR=3.2					
OBN	**Obninsk**	**30.84 338**	*i* Pr		10 01 29.2	
OBN	**Obninsk**	**30.84 338**	*d iP*	**P**	**10 01 29.1**	**+0.1**
OBN			*i*	pP	10 01 35.2	+1.3
OBN			*i* S	**S**	**10 06 34.6**	**+2.5**
OBN			*i* SS	SS	10 08 13.4	-30
OBN			pmax	pmax		
	comp=Z,69nm,1.6s,mb5.2					
OBN			MLR	MLR		
	comp=Z,1µm,18.0s,MS4.6					
MOS	**Moscow**	**31.03 340**	*e*P	**P**	**10 01 32.6**	**+1.9**
MOS			*e*		10 02 36.3	
MOS			*e*S	**S**	**10 06 35.8**	**+0.8**
MOS			pmax	pmax		
	comp=Z,167nm,2.0s,mb5.5					
MOS			pmax	pmax		
	comp=Z,600nm,2.4s,mb6.0					
LSA	**Lhasa**	**31.06 78**	P	**P**	**10 01 31.5**	**+0.6**
LSA			XP	sP	10 01 44.8	+7.0
LSA			S	**S**	**10 06 40.5**	**+5.1**
LSA			AMB	AMB		
	comp=Z,360nm,8.5s					
LSA			LR	LR		
	comp=N,3µm,18.6s,MS5.0					
LSA			LR	LR		
	comp=E,3µm,22.5s,MS5.0					
LSA			LR	LR		
	comp=Z,3µm,22.5s,MS4.9					
BURAR	**Bucovina Array**	**31.09 318**	⇑P	**P**	**10 01 31.7**	**+0.5**
BURAR	**Bucovina Array**	**31.09 318**	⇑P	**P**	**10 01 31.7**	**+0.5**
FNA	**Florina**	**31.14 304**	*e*P	**P**	**10 01 31.4**	**-0.3**
VLS	**Valsamata**	**31.21 299**	*e*P	**P**	**10 01 30.8**	**-1.4**
SKO	**Skopje**	**31.41 306**	*e*P	**P**	**10 01 33.8**	**-0.2**
SKO	**Skopje**	**31.41 306**	*i* P	**P**	**10 01 33.0**	**-1.0**
BOLS	**Boljevac**	**31.61 310**	⇓*i*P	**P**	**10 01 35.9**	**+0.1**
OHR	**Ohrid**	**31.65 304**	*e*P	**P**	**10 01 35.1**	**-1.0**
OHR	**Ohrid**	**31.65 304**	*i* P	**P**	**10 01 32.7**	**-3.4**
IGT	**Igoumenitsa**	**31.65 301**	*e*P	**P**	**10 01 35.3**	**-0.8**
SOKR	**Solikamsk**	**31.99 1**	⇑*i*P	**P**	**10 01 39.4**	**+0.3**
SOKR			S	**S**	**10 06 51.6**	**+1.7**
SOKR			pmax	pmax		
	comp=Z,40nm,0.6s,mb5.4					
SOKR			MLR	MLR		
	comp=Z,5µm,25.0s,MS5.1					
KEK	**Kerkira**	**32.09 301**	P	**P**	**10 01 40.4**	**+0.5**
DRGR		**32.24 315**	⇑P	**P**	**10 01 41.3**	**0.0**
DRGR		**32.24 315**	P	**P**	**10 01 41.5**	**+0.2**
BZS	**Buzias**	**32.47 313**	⇑P	**P**	**10 01 43.0**	**-0.3**
BZS	**Buzias**	**32.47 313**	P	**P**	**10 01 43.1**	**-0.2**
LVV	**L'vov**	**32.87 321**	*e*P	**P**	**10 01 50.1**	**+3.2**
LVV			*i*		10 03 13.5	
LVV			*e*S	**S**	**10 07 04.9**	**+1.2**
LVV			MLR	MLR		
	comp=N,500nm,15.0s,MS4.7					
LVV			MLR	MLR		
	comp=E,900nm,15.0s,MS4.7					
LVV			MLR	MLR		
	comp=Z,900nm,15.0s,MS4.6					
DIVS	**Divcibare**	**33.05 309**	⇓*i*P	**P**	**10 01 46.9**	**-1.5**
DIVS	**Divcibare**	**33.05 309**	*e*P	**P**	**10 01 47.5**	**-0.8**
UZH	**Uzhgorod**	**33.30 318**	*e*P	**P**	**10 01 51.0**	**+0.4**
UZH			*e*S	**S**	**10 07 05.0**	**-5.4**
UZH			MLR	MLR		
	comp=Z,2µm,10.0s,MS5.0					
KOLS	**Kolonicke sedl**	**33.45 319**	*e*P	**P**	**10 01 52.2**	**+0.3**
KOLS			*e*		10 02 43.8	
KMBO	**Kilima Mbogo**	**33.64 215**	P	**P**	**10 01 53.3**	**-0.2**
	comp=Z,12nm,1.0s,mb4.8,baz=26,slow=10,SNR=15					
KMBO			LR	LR	10 15 37.3	
	comp=Z,2µm,18.6s,MS4.8,baz=183,slow=36					
KMBO	**Kilima Mbogo**	**33.64 215**	*e*P	**P**	**10 01 54.3**	**+0.8**
	comp=Z,21nm,1.0s,mb5.0					
KMBO	**Kilima Mbogo**	**33.64 215**	*e*P	**P**	**10 01 54.3**	**+0.8**
	comp=Z,21nm,1.0s,mb5.0					
KMBO	**Kilima Mbogo**	**33.64 215**	*e*P	**P**	**10 01 54.3**	**+0.8**
KMBO			pmax	pmax		
	comp=Z,21nm,1.0s					
MNK	**Minsk**	**33.74 331**	*e*P	**P**	**10 01 52.0**	**-2.5**
MNK			*e*S	**S**	**10 07 14.0**	**-3.3**
MNK			*e*SSS		10 09 46.0	
MNK			pmax	pmax		
	comp=Z,560nm,1.8s,mb6.2					
NVS	**Novosibirsk**	**33.77 29**	*i* P	**P**	**10 01 53.4**	**-1.3**
NVS			pmax	pmax		
	comp=N,127nm,1.7s					
NVS			pmax	pmax		
	comp=Z,113nm,1.7s,mb5.5					
ZAL	**Zalesovo**	**33.87 31**	P	**P**	**10 01 54.3**	**-1.3**
	comp=Z,32nm,0.4s,mb5.6,baz=233,slow=7.3,SNR=42					
ZAL			LR	LR	10 17 26.8	
	comp=Z,3µm,19.5s,MS5.0,baz=243,slow=39					
CRVS	**Cervenica-Dubn**	**33.91 318**	*e*	**P**	**10 02 04.6**	**+8.7**
CRVS			*e*		10 02 14.5	
STHS	**Stebnicka Huta**	**34.27 319**	*e*sP	sP	10 02 05.2	-0.7
STHS			*e*		10 02 49.1	
STHS			*e*pP	**S**	**10 07 28.6**	**+3.2**
STHS			*e*		10 29 41.4	
STON	**Ston**	**34.31 306**	*i* P	**P**	**10 01 57.2**	**-2.2**
KECS	**Kecovo**	**34.32 317**	*e*P	**P**	**10 01 58.8**	**-0.6**
TIP	**Timpagrande**	**34.32 300**	P	**P**	**10 02 01.2**	**+1.7**
PKS2	**Kecel**	**34.35 313**	*e*P	**P**	**10 02 05.5**	**+5.8**
PSZ	**Piszkesteto**	**34.45 316**	⇑*i*P	**P**	**10 02 00.2**	**-0.4**
PSZ	**Piszkesteto**	**34.45 316**	P	**P**	**10 02 00.7**	**+0.1**
PKSM	**Moragy**	**34.63 312**	⇑*i*P	**P**	**10 02 01.6**	**-0.5**
TDS	**Terranova Siba**	**34.71 301**	P	**P**	**10 02 05.8**	**+3.0**
IDID	**Didziasalis**	**34.76 331**	*e*P	**P**	**10 02 02.9**	**-0.4**
IDID			AMb	AMB	10 02 14.1	
	comp=Z,50nm,0.8s,mb5.5					
IDID	**Didziasalis**	**34.76 331**	*e*P	**P**	**10 02 02.9**	**-0.3**
	comp=Z,50nm,0.8s,mb5.5,SNR=60					
NIE	**Niedzica**	**34.82 318**	*e*P	**P**	**10 02 05.6**	**+1.9**
BUD	**Budapest**	**34.83 315**	*e*P	**P**	**10 02 05.6**	**+1.8**
PKS8	**Sarbogard**	**34.83 314**	*e*P	**P**	**10 02 05.1**	**+1.2**
CEL	**Celeste**	**34.88 298**	P	**P**	**10 02 06.9**	**+2.6**
IIGN	**Ignalina**	**35.01 331**	*e*P	**P**	**10 02 05.0**	**-0.4**
IIGN			AMb	AMB	10 02 16.4	
	comp=Z,71nm,0.8s,mb5.7					
IIGN	**Ignalina**	**35.01 331**	*e*P	**P**	**10 02 05.0**	**-0.4**
	comp=Z,71nm,0.8s,mb5.7,SNR=60					
MTTG	**Motta San Giov**	**35.02 298**	P	**P**	**10 02 08.0**	**+2.5**
SCLL	**Scilla**	**35.03 298**	P	**P**	**10 02 08.2**	**+2.7**
KLMR	**Klimovskoe**	**35.04 346**	*c i*P	**P**	**10 02 04.7**	**-1.0**
KLMR			pmax	pmax		
	comp=Z,220nm,1.7s,mb5.8					
PTRP	**Pietrapertosa**	**35.05 302**	P	**P**	**10 02 08.0**	**+2.3**
CUC	**Castrocucco**	**35.16 301**	P	**P**	**10 02 07.5**	**+0.8**
ISAL	**Salakas**	**35.19 331**	*e*P	**P**	**10 02 06.6**	**-0.4**
ISAL			AMb	AMB	10 02 17.1	
	comp=Z,36nm,0.9s,mb5.3					
ISAL	**Salakas**	**35.19 331**	*e*P	**P**	**10 02 06.6**	**-0.4**
	comp=Z,36nm,0.9s,mb5.3,SNR=60					
PKSG		**35.20 314**	⇓*e*P	**P**	**10 02 07.1**	**+0.1**
IZAR	**Zarasai**	**35.26 331**	*e*P	**P**	**10 02 07.3**	**-0.3**
IZAR			AMb	AMB	10 02 16.5	
	comp=Z,45nm,1.3s,mb5.2					
IZAR	**Zarasai**	**35.26 331**	*e*P	**P**	**10 02 07.3**	**-0.2**
	comp=Z,45nm,1.3s,mb5.2,SNR=60					
SRO2	**Moca**	**35.33 315**	*e*pP	pP	10 02 11.1	-2.0
VYHS	**Vyhne**	**35.33 316**	*e*P	**P**	**10 02 07.6**	**-0.5**
VYHS			*e*PP	PP	10 03 31.5	+3.2
AGST	**Augusta-Monte**	**35.33 296**	P	**P**	**10 02 09.8**	**+1.7**
LIKS	**Likavka**	**35.38 317**	*e*P	**P**	**10 02 08.1**	**-0.5**
LIKS			*e*		10 02 15.2	
SRO	**Srobarova**	**35.40 315**	*e*P	**P**	**10 02 09.9**	**+1.2**
SRO1	**Iza**	**35.43 315**	*e*P	**P**	**10 02 10.7**	**+1.7**
OJC	**Ojcow**	**35.47 319**	*e*P	**P**	**10 02 08.5**	**-0.8**
OJC			*e*S	**S**	**10 07 43.3**	**-0.5**
OJC			L		10 23 41.8	
	comp=Z,6.9nm,18.6s					
OJC	**Ojcow**	**35.47 319**	*e*P	**P**	**10 02 08.5**	**-0.8**
OJC			*e*S	**S**	**10 07 43.3**	**-0.5**
MRLC	**Muro Lucano**	**35.52 302**	P	**P**	**10 02 10.1**	**+0.3**
FG4	**Candela**	**35.55 303**	P	**P**	**10 02 12.6**	**+2.5**
SUW	**Suwalki**	**35.59 327**	*e*P	**P**	**10 02 09.9**	**-0.5**
SGO	**Sicignano**	**35.62 302**	P	**P**	**10 02 11.3**	**+0.6**
FG5	**Orsara di Pugl**	**35.77 303**	P	**P**	**10 02 14.4**	**+2.5**
CSSN	**Cassano Irpino**	**35.88 302**	P	**P**	**10 02 14.2**	**+1.3**
SISC	**Sisak**	**35.91 310**	*i* P	**P**	**10 02 15.2**	**+2.1**
FG2	**Serracapriola**	**35.93 304**	P	**P**	**10 02 15.7**	**+2.4**
SMOL	**Smolenice**	**36.20 316**	*e*P	**P**	**10 02 15.5**	**-0.1**
OKC	**Ostrava-Krasne**	**36.27 318**	*e*P	**P**	**10 02 15.3**	**-0.9**
OKC			AMS	AMS	10 19 40.0	
	comp=Z,2µm,16.4s					
KOGS	**Kog**	**36.27 312**	*e*P	**P**	**10 02 15.6**	**-0.7**
ZST	**Bratislava**	**36.29 315**	*e*P	**P**	**10 02 16.1**	**-0.3**
ZST	**Bratislava**	**36.29 315**	P	**P**	**10 02 15.8**	**-0.6**
SGG	**Gregorio Mates**	**36.44 303**	P	**P**	**10 02 19.5**	**+1.8**
SOP	**Sopron**	**36.46 314**	P	**P**	**10 02 17.4**	**-0.5**
CII	**Carovilli**	**36.55 304**	P	**P**	**10 02 20.7**	**+2.1**
MIDA	**Miranda**	**36.58 304**	P	**P**	**10 02 20.5**	**+1.7**
MORC	**Moravsky Berou**	**36.61 318**	*e*P	**P**	**10 02 18.2**	**-0.9**
	comp=Z,80nm,1.2s,mb5.4					
MORC	**Moravsky Berou**	**36.61 318**	*e*P	**P**	**10 02 18.2**	**-0.9**
	comp=Z,80nm,1.2s,mb5.4					
MORC	**Moravsky Berou**	**36.61 318**	*e*P	**P**	**10 02 18.3**	**-0.8**
MORC			pmax	pmax		
	comp=Z,80nm,1.2s,mb5.4					
CRES	**Cresnjev**	**36.63 311**	P	**P**	**10 02 19.5**	**+0.2**
RNI2	**Rionero Sannit**	**36.66 304**	P	**P**	**10 02 20.2**	**+0.6**
BOJS	**Bojanci**	**36.68 310**	*e*P	**P**	**10 02 19.2**	**-0.6**
BOJS			*e*PP	PP	10 03 55.5	+12
NVLJ	**Novalja**	**36.71 308**	P	**P**	**10 02 18.7**	**-1.3**
RFI	**Roccamonfina**	**36.72 303**	P	**P**	**10 02 22.9**	**+2.8**
VSU	**Vasula**	**36.90 335**	⇑*e*P	**P**	**10 02 21.4**	**-0.2**
CLTB	**Caltabellotta**	**36.95 297**	P	**P**	**10 02 24.8**	**+2.8**
ARSA	**Arzberg**	**36.99 313**	⇓*i*P	**P**	**10 02 22.3**	**-0.1**
	comp=Z,24nm,0.9s,mb5.0,SNR=9.0					
ARSA	**Arzberg**	**36.99 313**	P	**P**	**10 02 21.4**	**-1.0**
VRAC	**Vranov**	**37.00 317**	P	**P**	**10 02 22.1**	**-0.3**
	comp=Z,29nm,0.6s,mb5.3,baz=106,slow=9.0,SNR=18					
VRAC			LR	LR	10 19 47.2	
	comp=Z,3µm,18.8s,MS5.1,baz=119,slow=40					
KRUC	**Moravsky**	**37.04 316**	P	**P**	**10 02 21.5**	**-1.3**
TERO	**Teramo**	**37.22 305**	P	**P**	**10 02 24.4**	**+0.1**
PTQR	**Pietraquaria**	**37.27 304**	P	**P**	**10 02 25.4**	**+0.7**
LJU	**Ljubljana**	**37.31 311**	*e*P	**P**	**10 02 25.9**	**+0.8**
AOI	**Ancona**	**37.39 307**	P	**P**	**10 02 25.5**	**-0.2**
OBKA	**Obir**	**37.42 312**	⇓*i*P	**P**	**10 02 26.0**	**0.0**
	comp=Z,22nm,0.9s,mb5.0,SNR=10					
OBKA	**Obir**	**37.42 312**	P	**P**	**10 02 26.6**	**+0.6**
FIAM	**Fiamignano**	**37.51 304**	P	**P**	**10 02 27.4**	**+0.6**
DPC	**Dobruska-Polom**	**37.55 318**	*e*P	**P**	**10 02 26.4**	**-0.8**
DPC			AMS	AMS	10 18 00.0	
	comp=Z,4µm,26.6s					
DPC	**Dobruska-Polom**	**37.55 318**	P	**P**	**10 02 25.1**	**-2.1**
JAVS	**Javornik**	**37.58 310**	*e*P	**P**	**10 02 26.7**	**-0.7**
NRCA	**Norcia**	**37.61 305**	P	**P**	**10 02 27.7**	**+0.1**
RDP	**Rocca di Papa**	**37.73 303**	P	**P**	**10 02 30.1**	**+1.4**
TRI	**Trieste**	**37.74 310**	P	**P**	**10 02 29.5**	**+0.8**
MTCE	**Montecelio**	**37.75 304**	P	**P**	**10 02 29.6**	**+0.8**
KSP	**Ksiaz**	**37.76 319**	*e*P	**P**	**10 02 28.5**	**-0.4**
KSP	**Ksiaz**	**37.76 319**	*e*PP	PP	10 03 56.0	+0.8
KSP	**Ksiaz**	**37.76 319**	*e*P	**P**	**10 02 28.0**	**-0.9**
KSP			*e*PP	PP	10 03 56.0	+0.8
KSP			*e*S	**S**	**10 08 01.1**	**-18**
KSP			LR	LR		
	comp=Z,6µm,23.7s,MS5.4					
KSP	**Ksiaz**	**37.76 319**	*e*P	**P**	**10 02 28.0**	**-0.9**
KSP			*e*		10 03 56.0	
KSP			MLR	MLR		
	comp=Z,6µm,23.7s,MS5.4					
UPC	**Upice**	**37.80 318**	*e*P	**P**	**10 02 28.3**	**-0.9**
SNTG	**Esanatoglia**	**37.80 306**	P	**P**	**10 02 29.2**	**-0.1**
ARV	**Arcevia**	**37.85 306**	P	**P**	**10 02 29.7**	**+0.1**
CADS	**Cadrg**	**37.89 311**	*e*P	**P**	**10 02 28.8**	**-1.2**
MOA	**Molln**	**37.98 314**	*i* P	**P**	**10 02 30.0**	**-0.8**
	comp=Z,67nm,0.8s,mb5.4,SNR=39					
MOA	**Molln**	**37.98 314**	P	**P**	**10 02 30.1**	**-0.7**
PTCC	**Patocco-Chiusa**	**38.19 311**	P	**P**	**10 02 31.8**	**-0.7**
GMNA	**Gemona**	**38.24 311**	P	**P**	**10 02 32.7**	**-0.2**
GTA	**Gaotai**	**38.24 60**	P	**P**	**10 02 33.8**	**+0.9**
GTA			AP	pP	10 02 41.3	+3.4
GTA			XP	sP	10 02 44.0	+4.1
GTA			PP	PP	10 04 09.0	+8.6
GTA			PCP	PcP	10 04 43.5	-3.6
GTA			AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7					
GTA			AMB	AMB		
	comp=Z,387nm,7.6s					
GTA			LR	LR		
	comp=N,2µm,25.6s					
GTA			LR	LR		
	comp=E,2µm,14.1s					
GTA			LR	LR		
	comp=Z,2µm,19.5s					
RSM	**Repubblica di**	**38.28 307**	P	**P**	**10 02 34.2**	**+0.9**
TOLF	**Tolfa**	**38.30 304**	P	**P**	**10 02 34.4**	**+0.9**
BADI	**Badiali**	**38.35 306**	P	**P**	**10 02 34.7**	**+0.8**
KBA	**Koelnbreinsper**	**38.37 312**	⇑*i*P	**P**	**10 02 33.6**	**-0.4**
	comp=Z,48nm,0.7s,mb5.3,SNR=23					
KBA	**Koelnbreinsper**	**38.37 312**	P	**P**	**10 02 33.0**	**-1.0**
PRU	**Pruhonice**	**38.49 317**	*e*P	**P**	**10 02 33.6**	**-1.5**
PRU			AMS	AMS	10 20 00.0	
	comp=Z,2µm,17.6s					
PRU	**Pruhonice**	**38.49 317**	P	**P**	**10 02 33.5**	**-1.6**
FVI	**Forni Avoltri**	**38.62 311**	P	**P**	**10 02 37.1**	**+1.0**
GEC2	**GERESS Array S**	**38.64 315**	*e*P	**P**	**10 02 35.4**	**-0.9**
	comp=Z,47nm,1.4s,mb5.0					
GEC2	**GERESS Array S**	**38.64 315**	*e*P	**P**	**10 02 35.4**	**-0.9**
GEC2			pmax	pmax		
	comp=Z,47nm,1.4s,mb5.0					
GERES	**GERESS Array B**	**38.64 315**	P	**P**	**10 02 34.9**	**-1.4**
	comp=Z,4.8nm,0.7s,mb4.4,baz=111,slow=7.0,SNR=21					
GERES			LR	LR	10 20 41.5	
	comp=Z,1µm,19.1s,MS4.8,baz=112,slow=40					
SFI	**Santa Sofia**	**38.70 307**	P	**P**	**10 02 37.4**	**+0.6**
JOF	**Joensuu**	**38.80 342**	*ep*	**P**	**10 02 35.9**	**-1.8**
	comp=Z,7.8nm,0.4s,mb4.8					
KHC	**Kasperske Hory**	**38.81 315**	*e*P	**P**	**10 02 36.8**	**-0.9**
KHC			x	x	10 02 45.5	
KHC			AMS	AMS	10 22 50.0	
	comp=Z,2µm,17.0s					
KHC	**Kasperske Hory**	**38.81 315**	⇑*i*P	**P**	**10 02 36.8**	**-0.9**
VMG	**Vicchio**	**38.93 307**	P	**P**	**10 02 39.7**	**+1.0**
MEF	**Metsahovi**	**38.98 336**	P	**P**	**10 02 39.6**	**+0.5**
SEST	**Monte Rota**	**39.03 311**	P	**P**	**10 02 39.2**	**-0.4**
SEI	**Scarperia**	**39.08 307**	P	**P**	**10 02 41.1**	**+1.1**
BRG	**Berggiesshubel**	**39.16 318**	*e*P	**P**	**10 02 39.7**	**-0.9**
	comp=Z,45nm,1.3s,mb5.0					
BRG	**Berggiesshubel**	**39.16 318**	*e*P	**P**	**10 02 39.8**	**-0.9**
	comp=Z,27nm,1.3s,mb4.8					
BRG			*i*		10 02 47.6	
BRG			PP	PP	10 04 16.0	+5.5
BRG			S	**S**	**10 08 54.0**	**+14**
BRG			SS	SS	10 11 44.0	+11
BRG			LR	LR		
	comp=Z,1µm,18.4s,MS4.8					
BRG	**Berggiesshubel**	**39.16 318**	*e*P	**P**	**10 02 39.8**	**-0.8**
BRG			*i*		10 02 47.6	
BRG					10 04 16.0	
BRG			pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8					
BRG			MLR	MLR		
	comp=Z,1µm,18.4s,MS4.8					
BRG	**Berggiesshubel**	**39.16 318**	*e*P	**P**	**10 02 39.8**	**-0.9**
	comp=Z,27nm,1.3s,mb4.8					
BRG			*i*		10 02 47.6	
	comp=Z,24nm,1.0s					
BRG			PP	PP	10 04 16.0	+5.5
BRG			S	**S**	**10 08 54.0**	**+14**
BRG			SS	SS	10 11 44.0	+11
BRG						
	comp=N,2µm,25.4s					
BRG						
	comp=E,2µm,19.4s					
BRG						
	comp=Z,1µm,18.4s					
FINES	**FINESS Array B**	**39.25 338**	P	**P**	**10 02 40.5**	**-0.9**
	comp=Z,5.0nm,0.4s,mb4.6,baz=138,slow=10,SNR=38					
FINES			LR	LR	10 21 18.2	
	comp=Z,1µm,21.3s,MS4.7,baz=147,slow=40					
WET	**Wettzell**	**39.25 315**	*e*P	**P**	**10 02 40.0**	**-1.4**
	comp=Z,24nm,1.0s,mb4.9					
WET	**Wettzell**	**39.25 315**	*e*P	**P**	**10 02 40.0**	**-1.4**
WET			pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9					
CTI	**Castel Tesino**	**39.26 310**	P	**P**	**10 02 40.7**	**-0.8**
FNVD	**Fontana Vidola**	**39.26 307**	P	**P**	**10 02 42.3**	**+0.8**
BRES	**Bressanone**	**39.34 311**	P	**P**	**10 02 43.0**	**+0.8**
WTTA	**Wattenberg**	**39.54 312**	*i* P	**P**	**10 02 42.9**	**-1.0**
	comp=Z,142nm,1.1s,mb5.6,SNR=25					
WTTA	**Wattenberg**	**39.54 312**	P	**P**	**10 02 42.8**	**-1.1**
WATA	**Walderalm**	**39.60 312**	⇑*i*P	**P**	**10 02 43.1**	**-1.3**
	comp=Z,92nm,1.1s,mb5.4,SNR=20					
WATA	**Walderalm**	**39.60 312**	P	**P**	**10 02 43.2**	**-1.1**
PII	**Pisa**	**39.62 306**	P	**P**	**10 02 46.8**	**+2.3**
BDI	**Bagni Di Lucca**	**39.62 307**	P	**P**	**10 02 45.0**	**+0.5**
KAF	**Kangasniemi**	**39.66 339**	*ep*	**P**	**10 02 41.8**	**-3.0**
	comp=Z,2.5nm,0.4s,mb4.3					
KAF	**Kangasniemi**	**39.66 339**	*e*P	**P**	**10 02 41.8**	**-3.0**
KAF			pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4					
GSCL	**Gusciola**	**39.67 307**	P	**P**	**10 02 45.4**	**+0.5**
ERBM	**Eremo**	**39.81 307**	P	**P**	**10 02 46.7**	**+0.7**
SQTA	**Sankt Quirin**	**39.82 312**	⇑*i*P	**P**	**10 02 44.8**	**-1.3**
	comp=Z,40nm,0.7s,mb5.2,SNR=43					
SQTA	**Sankt Quirin**	**39.82 312**	P	**P**	**10 02 45.0**	**-1.1**
RUE	**Ruedersdorf**	**39.83 320**	*e*P	**P**	**10 02 47.1**	**+0.8**
	comp=Z,68nm,1.2s,mb5.2					
RUE	**Ruedersdorf**	**39.83 320**	P	**P**	**10 02 47.3**	**+1.0**
	comp=Z,29nm,0.6s,mb5.2					
RUE	**Ruedersdorf**	**39.83 320**	P	**P**	**10 02 47.3**	**+1.0**
	comp=Z,29nm,0.6s,mb5.2					
NKC	**Novy Kostel**	**39.85 317**	*e*P	**P**	**10 02 45.5**	**-0.9**
NKC			AMS	AMS	10 19 00.0	
	comp=Z,3µm,20.0s					
NKC	**Novy Kostel**	**39.85 317**	P	**P**	**10 02 45.0**	**-1.4**
CLL	**Collm**	**39.86 318**	*e*P	**P**	**10 02 46.0**	**-0.5**
	comp=Z,100nm,1.4s,mb5.3					
CLL			*e*PP	PP	10 04 22.1	+3.9
CLL			*e*S	**S**	**10 08 53.7**	**+3.2**
CLL			*e*LR	LR	10 15 44.8	
CLL			*e*L		10 20 04.6	
	comp=Z,2µm,22.0s					
CLL	**Collm**	**39.86 318**	*i* P	**P**	**10 02 46.0**	**-0.5**
CLL			⇓*i*Pmax		10 02 47.8	
	comp=Z,60nm,1.2s					
CLL			*i* x	x	10 02 56.0	
CLL			*e*PP	PP	10 04 22.0	+3.8
CLL			*e*S	**S**	**10 08 50.0**	**-0.5**
CLL			*e*SSS		10 12 06.0	
CLL	**Collm**	**39.86 318**	*i* P	**P**	**10 02 46.0**	**-0.5**
	comp=Z,60nm,1.2s,mb5.2					
CLL			*i*		10 02 47.8	
CLL			*i* pP	pP	10 02 56.0	+4.5
CLL			*e*S	**S**	**10 08 50.0**	**-0.5**
CLL	**Collm**	**39.86 318**	*i* P	**P**	**10 02 46.0**	**-0.5**
CLL			*i*		10 02 47.8	
CLL			*i* *PP	pP	10 02 56.0	+4.5
CLL			*e*S	**S**	**10 08 50.0**	**-0.5**
CLL			pmax	pmax		
	comp=Z,60nm,1.2s,mb5.2					
MOTA	**Moosalm**	**39.91 312**	⇑*i*P	**P**	**10 02 45.3**	**-1.7**
	comp=Z,92nm,1.3s,mb5.3,SNR=27					
MOTA	**Moosalm**	**39.91 312**	P	**P**	**10 02 46.0**	**-1.0**
FUR	**Furstenfeldbru**	**40.00 313**	*e*P	**P**	**10 02 47.1**	**-0.6**
	comp=Z,94nm,1.1s,mb5.4					
FUR	**Furstenfeldbru**	**40.00 313**	*e*P	**P**	**10 02 47.1**	**-0.6**
FUR			pmax	pmax		
	comp=Z,94nm,1.1s,mb5.4					
VSL	**Villasalto**	**40.05 299**	P	**P**	**10 02 49.9**	**+1.8**
BSD	**Bornholm Skovb**	**40.30 324**	*i* P	**P**	**10 02 49.4**	**-0.7**
BSD			*i*		10 04 28.1	
BSD			*e*		10 11 46.2	
BSD						
	comp=Z,740nm,21.0s					
BSD	**Bornholm Skovb**	**40.30 324**	*e*P	**P**	**10 02 49.4**	**-0.7**
BSD			*i*		10 04 28.1	
BSD			*e*		10 11 46.2	
CORF	**Corte**	**40.43 304**	*e*P	**P**	**10 02 50.4**	**-0.8**
BERNI	**Berninapass**	**40.44 310**	⇑*i*P	**P**	**10 02 42.6**	**-8.7**
	comp=Z,244nm,2.0s,mb5.6					
BERNI	**Berninapass**	**40.44 310**	⇑*i*P	**P**	**10 02 50.9**	**-0.4**
GRA1	**Grafenberg Arr**	**40.44 315**	*e*P	**P**	**10 02 50.7**	**-0.6**
	comp=Z,76nm,0.9s,mb5.4					
GRA1			*e*S	**S**	**10 09 01.4**	**+2.2**
GRA1	**Grafenberg Arr**	**40.44 315**	*e*P	**P**	**10 02 50.7**	**-0.6**
	comp=Z,76nm,0.9s,mb5.4					
GRA1			*e*S	**S**	**10 09 01.4**	**+2.2**
GRA1			LR	LR		
	comp=Z,2µm,18.7s,MS4.9					
GRF	**Grafenberg Arr**	**40.44 315**	*e*P	**P**	**10 02 50.7**	**-0.6**
	comp=Z,76nm,0.9s,mb5.4					
GRF			*e*S	**S**	**10 09 01.4**	**+2.2**
GRF			*e*L		10 23 52.4	
	comp=Z,

CMAH	**Djebel Manchou**	**41.57 295**	P	**P**	**10 03 03.5**	**+2.9**
CGMA	**Guelma**	**41.58 295**	P	**P**	**10 03 05.0**	**+4.3**
CLZ	**Clausthal**	**41.59 318**	*e*P	**P**	**10 03 00.7**	**-0.1**
	comp=Z,118nm,1.4s,mb5.3					
CLZ	**Clausthal**	**41.59 318**	*e*P	**P**	**10 03 00.7**	**-0.1**
CLZ			pmax	pmax		
	comp=Z,118nm,1.4s,mb5.3					
ZUR	**Zurich**	**41.59 311⇑**	*i*P	**P**	**10 02 54.2**	**-6.6**
	comp=Z,574nm,1.6s,mb6.0					
ZUR	**Zurich**	**41.59 311⇑**	*i*P	**P**	**10 02 59.7**	**-1.1**
ORO	**Oropa**	**41.70 309**	P	**P**	**10 03 01.5**	**-0.2**
SLE	**Schleitheim**	**41.73 312**	*e*P	**P**	**10 02 54.3**	**-7.6**
	comp=Z,309nm,3.5s					
SLE	**Schleitheim**	**41.73 312**	*e*P	**P**	**10 02 59.6**	**-2.3**
CD2	**Chengdu**	**41.76 74**	*e*P	**P**	**10 03 01.5**	**-0.7**
CD2			PP	PP	10 04 42.0	+3.3
CD2			AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0					
CD2			AMB	AMB		
	comp=Z,120nm,5.2s					
CD2			LR	LR		
	comp=N,2μm,19.2s					
CD2			LR	LR		
	comp=Z,640nm,18.0s,MS4.5					
MMK	**Mattmark**	**41.78 309⇑**	*i*P	**P**	**10 02 56.4**	**-5.9**
	comp=Z,166nm,1.7s,mb5.4					
MMK	**Mattmark**	**41.78 309⇑**	*i*P	**P**	**10 03 00.8**	**-1.5**
SAOF	**Saorge**	**41.78 306**	*e*P	**P**	**10 03 01.4**	**-0.9**
SBF	**Sospel**	**41.85 306**	*e*P	**P**	**10 03 01.5**	**-1.4**
	comp=Z,168nm,0.9s,mb5.3					
SBF	**Sospel**	**41.85 306**	*e*P	**P**	**10 03 01.5**	**-1.4**
	comp=Z,84nm,0.9s,mb5.3					
SBF	**Sospel**	**41.85 306**	*e*P	**P**	**10 03 01.5**	**-1.4**
SBF			pmax	pmax		
	comp=Z,84nm,0.9s,mb5.4					
AUTN	**L'Aution**	**41.87 306**	*e*P	**P**	**10 03 02.2**	**-0.9**
TOD	**Tromm**	**41.94 315**	P	**P**	**10 03 04.4**	**+0.8**
BFO	**Black Forest**	**41.95 313**	*e*P	**P**	**10 03 03.4**	**-0.4**
	comp=Z,20nm,0.9s,mb4.8					
BFO	**Black Forest**	**41.95 313**	*e*P	**P**	**10 03 03.4**	**-0.4**
BFO			pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8					
KMI	**Kunming**	**41.97 82**	P	**P**	**10 03 05.0**	**+1.1**
KMI			AP	pP	10 03 07.5	-1.4
KMI			PP	PP	10 04 44.5	+3.4
KMI			PCP	PcP	10 05 01.5	+2.5
KMI			PPP		10 05 15.5	
KMI			AMB	AMB		
	comp=Z,53nm,1.2s,mb5.0					
KMI			AMB	AMB		
	comp=Z,568nm,7.5s					
KMI			LR	LR		
	comp=N,1μm,22.4s,MS4.8					
KMI			LR	LR		
	comp=E,730nm,18.8s,MS4.8					
KMI			LR	LR		
	comp=Z,718nm,21.0s,MS4.5					
OUL	**Oulu**	**41.99 342**	P	**P**	**10 03 03.5**	**-0.6**
CAEH	**'Ain El Ouahch**	**42.02 295**	P	**P**	**10 03 09.0**	**+4.7**
FELD	**Feldberg**	**42.08 312**	*e*P	**P**	**10 03 05.1**	**+0.3**
APA	**Apatity**	**42.24 347⇓**	*i*P	**P**	**10 03 05.5**	**-0.6**
APA			*i*		10 03 16.6	
APA			*i*		10 04 50.0	
APA			*e*S	**S**	**10 09 32.0**	**+6.1**
APA			pmax	pmax		
	comp=Z,75nm,1.1s,mb5.2					
APA			MLR	MLR		
	comp=Z,3μm,12.0s,MS5.4					
BSEG	**Bad Segeberg**	**42.30 321**	*e*P	**P**	**10 03 07.9**	**+1.3**
	comp=Z,81nm,1.4s,mb5.0					
BSEG	**Bad Segeberg**	**42.30 321**	*e*P	**P**	**10 03 07.9**	**+1.3**
TNS	**Taunus Mts**	**42.31 315**	*e*P	**P**	**10 03 06.3**	**-0.4**
	comp=Z,104nm,1.5s,mb5.2					
TNS	**Taunus Mts**	**42.31 315**	*e*P	**P**	**10 03 06.3**	**-0.4**
TNS			pmax	pmax		
	comp=Z,104nm,1.5s,mb5.2					
BBS	**Basel-Blauen**	**42.33 311**	*e*P	**P**	**10 03 07.0**	**+0.2**
CASM	**Ain Smara**	**42.33 295**	P	**P**	**10 03 09.0**	**+2.2**
SURF	**Saint Ours**	**42.37 307**	*e*P	**P**	**10 03 08.1**	**+1.0**
FRF	**La Foret Royal**	**42.39 305**	*e*P	**P**	**10 03 05.5**	**-1.8**
	comp=Z,69nm,1.3s,mb4.8					
FRF	**La Foret Royal**	**42.39 305**	*e*P	**P**	**10 03 05.5**	**-1.8**
	comp=Z,34nm,1.3s,mb4.8					
FRF	**La Foret Royal**	**42.39 305**	*e*P	**P**	**10 03 05.5**	**-1.8**
FRF			pmax	pmax		
	comp=Z,34nm,1.3s,mb4.8					
CTEI	**Djebel Teioual**	**42.41 294**	P	**P**	**10 03 09.0**	**+1.5**
MBDF	**Montbardon**	**42.42 307**	*e*P	**P**	**10 03 05.9**	**-1.7**
	comp=Z,71nm,0.7s,mb5.1					
MBDF	**Montbardon**	**42.42 307**	*e*P	**P**	**10 03 05.9**	**-1.7**
	comp=Z,35nm,0.7s,mb5.1					
MBDF	**Montbardon**	**42.42 307**	*e*P	**P**	**10 03 05.9**	**-1.7**
MBDF			pmax	pmax		
	comp=Z,35nm,0.7s,mb5.1					
LANF	**Langenberg**	**42.43 314**	P	**P**	**10 03 06.6**	**-1.1**
LMR	**La Mourre**	**42.47 305**	*e*P	**P**	**10 03 06.2**	**-1.8**
	comp=Z,87nm,1.6s,mb4.8					
LMR	**La Mourre**	**42.47 305**	*e*P	**P**	**10 03 06.2**	**-1.8**
	comp=Z,43nm,1.6s,mb4.8					
LMR	**La Mourre**	**42.47 305**	*e*P	**P**	**10 03 06.2**	**-1.8**
LMR			pmax	pmax		
	comp=Z,43nm,1.6s,mb4.8					
ZAK	**Zakamensk**	**42.47 44**	*e*P	**P**	**10 03 07.9**	**-0.1**
ZAK			*e*		10 05 04.3	
ZAK			pmax	pmax		
	comp=Z,29nm,1.6s,mb4.7					
LPG	**La Plagne**	**42.54 308**	*e*P	**P**	**10 03 07.4**	**-1.1**
	comp=Z,134nm,0.9s,mb5.3					
LPG	**La Plagne**	**42.54 308**	*e*P	**P**	**10 03 07.4**	**-1.1**
	comp=Z,67nm,0.9s,mb5.3					
LPG	**La Plagne**	**42.54 308**	*e*P	**P**	**10 03 07.4**	**-1.1**
LPG			pmax	pmax		
	comp=Z,67nm,0.9s,mb5.4					
LPL	**La Plagne**	**42.55 308**	*e*P	**P**	**10 03 07.2**	**-1.4**
	comp=Z,77nm,0.8s,mb5.2					
LPL	**La Plagne**	**42.55 308**	*e*P	**P**	**10 03 07.2**	**-1.4**
	comp=Z,38nm,0.8s,mb5.2					
LPL	**La Plagne**	**42.55 308**	*e*P	**P**	**10 03 07.2**	**-1.4**
LPL			pmax	pmax		
	comp=Z,38nm,0.8s,mb5.2					
MOF	**Molkenrain**	**42.65 312**	*e*P	**P**	**10 03 08.1**	**-1.3**
CDF	**Champ du Feu**	**42.66 313**	*e*P	**P**	**10 03 07.3**	**-2.2**
	comp=Z,70nm,1.1s,mb5.0					
CDF	**Champ du Feu**	**42.66 313**	*e*P	**P**	**10 03 07.3**	**-2.2**
	comp=Z,35nm,1.1s,mb5.0					
CDF	**Champ du Feu**	**42.66 313**	*e*P	**P**	**10 03 07.3**	**-2.2**
CDF			pmax	pmax		
	comp=Z,35nm,1.1s,mb5.0					
ECH	**Echery**	**42.70 312**	*e*P	**P**	**10 03 07.2**	**-2.6**
NST	**Nakhon Sawan**	**42.70 97**	P	**P**	**10 03 11.2**	**+1.3**
LOMF	**Lomont**	**42.76 311**	*e*P	**P**	**10 03 09.2**	**-1.2**
ABH	**Alteburg**	**42.80 315**	*e*P	**P**	**10 03 10.2**	**-0.4**
DFRA	**Djebel Bou Aff**	**42.81 295**	P	**P**	**10 03 14.0**	**+3.3**
HINF	**Hinteralfeld**	**42.83 312**	*e*P	**P**	**10 03 08.8**	**-2.1**
	comp=Z,44nm,0.8s,mb4.9					
HINF	**Hinteralfeld**	**42.83 312**	*e*P	**P**	**10 03 08.8**	**-2.1**
	comp=Z,22nm,0.8s,mb4.9					
HINF	**Hinteralfeld**	**42.83 312**	*e*P	**P**	**10 03 08.8**	**-2.1**
HINF			pmax	pmax		
	comp=Z,22nm,0.8s,mb4.9					
CMER	**Merouana**	**42.84 294**	P	**P**	**10 03 13.0**	**+2.0**
TLY	**Talaya**	**43.03 43⇓**	*e*P	**P**	**10 03 13.5**	**+1.0**
TLY	**Talaya**	**43.03 43⇓**	*e*P	**P**	**10 03 13.4**	**+0.9**
TLY			pmax	pmax		
	comp=Z,7.0nm,1.7s					
RUP	**Ruppelstein**	**43.06 314**	*e*P	**P**	**10 03 11.3**	**-1.5**
ORIF	**Oris-en-Rattie**	**43.08 307**	*e*P	**P**	**10 03 11.3**	**-1.6**
	comp=Z,57nm,1.2s,mb4.9					
ORIF			*e*R			
	comp=Z,3μm,22.0s					
ORIF	**Oris-en-Rattie**	**43.08 307**	*e*P	**P**	**10 03 11.3**	**-1.6**
	comp=Z,29nm,1.2s,mb4.9					
ORIF	**Oris-en-Rattie**	**43.08 307**	*e*P	**P**	**10 03 11.3**	**-1.6**
ORIF			pmax	pmax		
	comp=Z,29nm,1.2s,mb4.9					
CKHR	**Kef el Ahmar**	**43.13 294**	P	**P**	**10 03 16.0**	**+2.6**
CABF	**La Chapelle**	**43.15 310**	*e*P	**P**	**10 03 12.2**	**-1.3**
	comp=Z,106nm,0.8s,mb5.3					
CABF	**La Chapelle**	**43.15 310**	*e*P	**P**	**10 03 12.2**	**-1.3**
	comp=Z,53nm,0.8s,mb5.3					
CABF	**La Chapelle**	**43.15 310**	*e*P	**P**	**10 03 12.2**	**-1.3**
CABF			pmax	pmax		
	comp=Z,53nm,0.8s,mb5.3					
HAU	**Haudompre**	**43.20 312**	*e*P	**P**	**10 03 12.9**	**-0.9**
	comp=Z,40nm,0.7s,mb5.0					
HAU			*e*R			
	comp=Z,1μm,19.0s					
HAU	**Haudompre**	**43.20 312**	*e*P	**P**	**10 03 12.9**	**-0.9**
	comp=Z,20nm,0.7s,mb5.0					
HAU			LR	LR		
	comp=Z,1μm,19.0s,MS4.8					
HAU	**Haudompre**	**43.20 312**	*e*P	**P**	**10 03 12.9**	**-0.9**
HAU			pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0					
HAU			MLR	MLR		
	comp=Z,1μm,19.0s,MS4.8					
SMRF	**Simiane la Rot**	**43.20 306**	*e*P	**P**	**10 03 12.2**	**-1.7**
SET	**Setif**	**43.22 295**	P	**P**	**10 03 15.0**	**+1.0**
HFS	**Hagfors**	**43.24 331**	LR	LR	10 24 07.1	
	comp=Z,2μm,20.9s,MS5.0,baz=129,slow=40					
HFA0	**Hagfors New Ar**	**43.25 331**	P	**P**	**10 03 14.2**	**-0.1**
IBBN	**Ibbenburen**	**43.27 318**	*e*P	**P**	**10 03 15.0**	**+0.5**
	comp=Z,92nm,1.5s,mb5.3					
IBBN	**Ibbenburen**	**43.27 318**	P	**P**	**10 03 14.4**	**-0.1**
BUG	**Bochum-Univer**	**43.34 317**	*e*P	**P**	**10 03 14.9**	**-0.1**
	comp=Z,111nm,1.4s,mb5.4					
THEF	**They Montfort**	**43.47 312**	P	**P**	**10 03 17.2**	**+1.1**
IRK	**Irkutsk**	**43.55 42**	*e*P	**P**	**10 03 16.8**	**+0.1**
IRK			*e*		10 05 02.0	
IRK			pmax	pmax		
	comp=Z,43nm,2.2s,mb4.8					
WLF	**Walferdange**	**43.63 314**	P	**P**	**10 03 17.1**	**-0.3**
WLF			AP	pP	10 03 19.7	-2.7
WLF			XP	sP	10 03 21.8	-2.5
	comp=Z,18nm,0.6s					
WLF	**Walferdange**	**43.63 314**	*e*P	**P**	**10 03 17.0**	**-0.4**
	comp=Z,43nm,1.0s,mb5.1					
WLF	**Walferdange**	**43.63 314**	*e*P	**P**	**10 03 17.0**	**-0.4**
	comp=Z,43nm,1.0s,mb5.1					
WLF	**Walferdange**	**43.63 314**	*e*P	**P**	**10 03 17.0**	**-0.4**
WLF			pmax	pmax		
	comp=Z,43nm,1.0s,mb5.1					
MUD	**Monsted U'grnd**	**43.81 324**	*i* P	**P**	**10 03 19.0**	**+0.2**
	comp=Z,32nm,1.0s,mb5.0					
MUD			*i*		10 05 07.4	
MUD			*i*		10 13 14.9	
MUD						
	comp=Z,1μm,18.0s					
MUD	**Monsted U'grnd**	**43.81 324**	*e*P	**P**	**10 03 19.0**	**+0.2**
	comp=Z,32nm,1.0s,mb5.0					
MUD			*i*		10 05 07.4	
MUD			*i*		10 13 14.9	
MUD	**Monsted U'grnd**	**43.81 324**	*e*P	**P**	**10 03 19.0**	**+0.2**
MUD			*i*		10 05 07.4	
MUD			*i*		10 13 14.9	
MUD			pmax	pmax		
	comp=Z,33nm,1.0s,mb5.0					
MEM	**Membach**	**43.92 315**	⇓P	**P**	**10 03 19.1**	**-0.6**
MEM			AP	pP	10 03 23.0	-1.7
	comp=Z,18nm,1.2s					
MEM			XP	sP	10 03 24.9	-1.8
VIVF	**Saint-Julien-l**	**43.92 307**	*e*P	**P**	**10 03 18.0**	**-1.7**
	comp=Z,184nm,1.4s,mb5.3					
VIVF	**Saint-Julien-l**	**43.92 307**	*e*P	**P**	**10 03 18.0**	**-1.7**
	comp=Z,92nm,1.4s,mb5.3					
VIVF	**Saint-Julien-l**	**43.92 307**	*e*P	**P**	**10 03 18.0**	**-1.7**
VIVF			pmax	pmax		
	comp=Z,92nm,1.4s,mb5.3					
SONM	**Songino Array**	**43.97 49**	P	**P**	**10 03 20.0**	**-0.1**
	comp=Z,6.9nm,1.0s,mb4.3,baz=262,slow=8.7,SNR=16					
SONM			LR	LR	10 23 49.6	
	comp=Z,2μm,21.6s,MS5.0,baz=262,slow=39					
MAHO	**Mahon**	**44.00 300**	*i* P	**P**	**10 03 15.2**	**-5.1**
MAHO			*i* S	**S**	**10 09 57.4**	**+5.7**
MEZF	**Maizieres J'vi**	**44.13 312**	*e*P	**P**	**10 03 20.2**	**-1.2**
	comp=Z,282nm,1.3s,mb5.5					
MEZF	**Maizieres J'vi**	**44.13 312**	*e*P	**P**	**10 03 20.2**	**-1.2**
	comp=Z,141nm,1.3s,mb5.5					
BEBN	**Eben Emael**	**44.16 316**	P	**P**	**10 03 23.2**	**+1.6**
BEBN			AP	pP	10 03 25.0	-1.7
BEBN			XP	sP	10 03 27.0	-1.7
ULN	**Ulaanbaatar**	**44.41 49**	*e*P	**P**	**10 03 23.6**	**-0.1**
	comp=Z,15nm,0.9s,mb4.7					
ULN	**Ulaanbaatar**	**44.41 49**	*e*P	**P**	**10 03 23.6**	**-0.1**
	comp=Z,15nm,0.9s,mb4.7					
ULN	**Ulaanbaatar**	**44.41 49**	*e*P	**P**	**10 03 23.6**	**-0.1**
ULN			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7					
LASF	**Ste Croix**	**44.45 306**	*e*P	**P**	**10 03 22.5**	**-1.4**
	comp=Z,119nm,1.2s,mb5.2					
LASF	**Ste Croix**	**44.45 306**	*e*P	**P**	**10 03 22.5**	**-1.4**
	comp=Z,60nm,1.2s,mb5.2					
GIVF	**Givet**	**44.56 315**	*e*P	**P**	**10 03 23.9**	**-0.9**
	comp=Z,277nm,1.4s,mb5.6					
GIVF	**Givet**	**44.56 315**	*e*P	**P**	**10 03 23.9**	**-0.9**
	comp=Z,139nm,1.4s,mb5.6					
GIVF	**Givet**	**44.56 315**	*e*P	**P**	**10 03 23.9**	**-0.9**
GIVF			pmax	pmax		
	comp=Z,139nm,1.4s,mb5.6					
SMF	**Signal de Mont**	**44.69 310**	*e*P	**P**	**10 03 24.2**	**-1.6**
	comp=Z,183nm,1.0s,mb5.6					
SMF	**Signal de Mont**	**44.69 310**	*e*P	**P**	**10 03 24.2**	**-1.6**
	comp=Z,92nm,1.0s,mb5.6					
SMF	**Signal de Mont**	**44.69 310**	*e*P	**P**	**10 03 24.2**	**-1.6**
SMF			pmax	pmax		
	comp=Z,92nm,1.0s,mb5.6					
DOU	**Dourbes**	**44.70 315**	⇑P	**P**	**10 03 25.8**	**-0.2**
DOU			AP	pP	10 03 29.1	-1.9
DOU			XP	sP	10 03 31.1	-1.8
	comp=Z,27nm,1.1s					
LOR	**Lormes**	**44.75 310**	*e*P	**P**	**10 03 24.6**	**-1.7**
	comp=Z,153nm,1.3s,mb5.4					
LOR			*e*R			
	comp=Z,2μm,17.8s					
LOR	**Lormes**	**44.75 310**	*e*P	**P**	**10 03 24.6**	**-1.7**
	comp=Z,76nm,1.3s,mb5.4					
LOR			LR	LR		
	comp=Z,2μm,17.8s,MS5.0					
LOR	**Lormes**	**44.75 310**	*e*P	**P**	**10 03 24.6**	**-1.7**
LOR			pmax	pmax		
	comp=Z,76nm,1.3s,mb5.4					
LOR			MLR	MLR		
	comp=Z,2μm,17.8s,MS5.0					
NB2	**NORSAR Subarra**	**44.75 331**	P	**P**	**10 03 24.6**	**-1.7**
	comp=Z,6.2nm,0.6s,mb4.6,baz=117,slow=7.9					
NB2	**NORSAR Subarra**	**44.75 331**	P	**P**	**10 03 24.6**	**-1.7**
NB2			pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6					
NOA	**NORSAR Array B**	**44.75 331**	P	**P**	**10 03 24.7**	**-1.7**
	comp=Z,9.9nm,0.7s,mb4.8,baz=117,slow=8.0,SNR=32					
NOA			PP	PP	10 05 11.3	+0.4
	comp=Z,8.5nm,1.0s,baz=128,slow=11,SNR=3.3					
NOA			LR	LR	10 25 02.9	
	comp=Z,1μm,21.0s,MS4.8,baz=130,slow=40					
NOA	**NORSAR Array B**	**44.75 331**	PP	PP	10 05 11.3	+0.4
NOA	**NORSAR Array B**	**44.75 331**	P	**P**	**10 03 24.7**	**-1.7**
NOA			PP	PP	10 05 11.3	+0.4
NOA			LR	LR	10 25 02.9	
NOA	**NORSAR Array B**	**44.75 331**	P	**P**	**10 03 24.7**	**-1.6**
NOA					10 05 11.3	
PLDF	**La Plantade**	**44.77 309**	*e*P	**P**	**10 03 25.1**	**-1.4**
NAO01	**NORSAR Array S**	**44.80 331**	*e*P	**P**	**10 03 25.3**	**-1.4**
	comp=Z,18nm,0.8s,mb5.0					
KKTK	**Khon Kaen**	**44.82 94**	P	**P**	**10 03 28.0**	**+1.1**
KONO	**Kongsberg**	**44.85 329**	*e*P	**P**	**10 03 26.1**	**-1.0**
	comp=Z,28nm,1.0s,mb5.0					
KONO	**Kongsberg**	**44.85 329**	*e*P	**P**	**10 03 26.1**	**-1.0**
	comp=Z,28nm,1.0s,mb5.0					
KONO	**Kongsberg**	**44.85 329**	*e*P	**P**	**10 03 26.1**	**-1.0**
KONO			pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0					
BAIF	**Baives**	**44.94 314**	*e*P	**P**	**10 03 26.5**	**-1.4**
	comp=Z,404nm,1.3s,mb5.8					
BAIF	**Baives**	**44.94 314**	*e*P	**P**	**10 03 26.5**	**-1.4**
	comp=Z,202nm,1.3s,mb5.8					
BAIF	**Baives**	**44.94 314**	*e*P	**P**	**10 03 26.5**	**-1.4**
BAIF			pmax	pmax		
	comp=Z,202nm,1.3s,mb5.8					
LBL	**Lubilhac**	**44.97 307**	*e*P	**P**	**10 03 27.0**	**-1.0**
SSF	**Saint Saulge**	**44.97 310**	*e*P	**P**	**10 03 26.6**	**-1.4**
	comp=Z,211nm,1.2s,mb5.6					
SSF	**Saint Saulge**	**44.97 310**	*e*P	**P**	**10 03 26.6**	**-1.4**
	comp=Z,105nm,1.2s,mb5.6					
SSF	**Saint Saulge**	**44.97 310**	*e*P	**P**	**10 03 26.6**	**-1.4**
SSF			pmax	pmax		
	comp=Z,105nm,1.2s,mb5.5					
SNF	**Seneffe**	**44.98 315**	P	**P**	**10 03 28.1**	**0.0**
UCC	**Uccle**	**44.98 315**	P	**P**	**10 03 29.4**	**+1.2**
AVF	**Avril sur Loir**	**45.04 310**	*e*P	**P**	**10 03 26.9**	**-1.7**
	comp=Z,52nm,0.8s,mb5.1					
AVF	**Avril sur Loir**	**45.04 310**	*e*P	**P**	**10 03 26.9**	**-1.7**
	comp=Z,26nm,0.8s,mb5.1					
AVF	**Avril sur Loir**	**45.04 310**	*e*P	**P**	**10 03 26.9**	**-1.7**
AVF			pmax	pmax		
	comp=Z,26nm,0.8s,mb5.1					
EJON	**La Jonquera**	**45.07 304**	P	**P**	**10 03 28.7**	**-0.2**
	comp=Z,349nm,3.3s					
EJON	**La Jonquera**	**45.07 304**	P	**P**	**10 03 28.7**	**-0.2**
	comp=Z,349nm,3.3s					
GYA	**Guiyang**	**45.09 79⇑**	*i*P	**P**	**10 03 31.3**	**+2.2**
GYA			AP	pP	10 03 35.8	+1.7
GYA			XP	sP	10 03 38.8	+2.7
GYA			PP	PP	10 05 18.5	+4.0
GYA			AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1					
GYA			AMB	AMB		
	comp=Z,320nm,7.5s					
GYA			LR	LR		
	comp=N,1μm,18.7s,MS5.0					
GYA			LR	LR		
	comp=E,1μm,19.0s,MS5.0					
GYA			LR	LR		
	comp=Z,1μm,18.8s,MS4.9					
AGO	**Saint Agoulin**	**45.12 309**	*e*P	**P**	**10 03 28.1**	**-1.1**
ETOS	**Mallorca**	**45.12 300**	P	**P**	**10 03 29.3**	**0.0**
	comp=Z,146nm,2.0s,mb5.5					
ETOS	**Mallorca**	**45.12 300**	P	**P**	**10 03 29.3**	**0.0**
	comp=Z,146nm,2.0s,mb5.5					
PYM	**Petit Puy Mans**	**45.17 308**	*e*P	**P**	**10 03 29.4**	**-0.3**
LRDF	**Laroque-de-Fa**	**45.35 304**	*e*P	**P**	**10 03 30.1**	**-1.0**
BGF	**Bois d'Agland**	**45.36 309**	*e*P	**P**	**10 03 29.8**	**-1.4**
	comp=Z,78nm,0.9s,mb5.2					
BGF	**Bois d'Agland**	**45.36 309**	*e*P	**P**	**10 03 29.8**	**-1.4**
	comp=Z,39nm,0.9s,mb5.2					
BGF	**Bois d'Agland**	**45.36 309**	*e*P	**P**	**10 03 29.8**	**-1.4**
BGF			pmax	pmax		
	comp=Z,39nm,0.9s,mb5.2					
KEV	**Kevo**	**45.36 346**	*e*P	**P**	**10 03 30.2**	**-1.0**
	comp=Z,46nm,0.8s,mb5.4					
KEV	**Kevo**	**45.36 346**	*e*P	**P**	**10 03 30.2**	**-1.0**
	comp=Z,46nm,0.8s,mb5.4					
KEV	**Kevo**	**45.36 346**	*e*P	**P**	**10 03 30.2**	**-1.0**
KEV			pmax	pmax		
	comp=Z,46nm,0.8s,mb5.4					
FRNF	**Fournols**	**45.46 308**	*e*P	**P**	**10 03 31.4**	**-0.6**
ARCES	**ARCESS Array B**	**45.51 346**	P	**P**	**10 03 31.7**	**-0.7**
	comp=Z,7.0nm,0.6s,mb4.8,baz=139,slow=7.1,SNR=26					
VERF	**Verneugheol**	**45.54 308**	*e*P	**P**	**10 03 31.6**	**-1.0**
HYF	**Humbligny**	**45.58 310**	*e*P	**P**	**10 03 31.5**	**-1.4**
MTLF	**Montolieu**	**45.59 305**	*e*P	**P**	**10 03 31.4**	**-1.6**
	comp=Z,194nm,1.2s,mb5.6					
MTLF	**Montolieu**	**45.59 305**	*e*P	**P**	**10 03 31.4**	**-1.6**
	comp=Z,97nm,1.2s,mb5.6					
MTLF	**Montolieu**	**45.59 305**	*e*P	**P**	**10 03 31.4**	**-1.6**
MTLF			pmax	pmax		
	comp=Z,97nm,1.2s,mb5.6					
KTK1	**Kautokeino**	**45.63 344**	*e*P	**P**	**10 03 33.8**	**+0.4**
KTK1			AMb	AMB	10 03 39.2	
	comp=Z,53nm,1.8s,mb5.2					
KTK1	**Kautokeino**	**45.63 344**	*e*P	**P**	**10 03 33.8**	**+0.5**
	comp=Z,53nm,1.8s,mb5.2,SNR=25					
KTK1	**Kautokeino**	**45.63 344**	*e*P	**P**	**10 03 33.8**	**+0.4**
	comp=Z,53nm,1.8s,mb5.2					
XAN	**Xi'an**	**45.69 68**	P	**P**	**10 03 33.8**	**0.0**
XAN			PP	PP	10 05 19.0	-1.8
XAN			AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5					
XAN			AMB	AMB		
	comp=Z,217nm,8.1s					
XAN			LR	LR		
	comp=N,4μm,24.8s,MS5.3					
XAN			LR	LR		
	comp=E,2μm,24.2s,MS5.3					
XAN			LR	LR		
	comp=Z,2μm,23.4s,MS4.9					
TCF	**Toulx Ste Croi**	**45.77 309**	*e*P	**P**	**10 03 33.0**	**-1.5**
	comp=Z,103nm,0.9s,mb5.5					
TCF	**Toulx Ste Croi**	**45.77 309**	*e*P	**P**	**10 03 33.0**	**-1.5**
	comp=Z,52nm,0.9s,mb5.5					
TCF	**Toulx Ste Croi**	**45.77 309**	*e*P	**P**	**10 03 33.0**	**-1.5**
TCF			pmax	pmax		
	comp=Z,52nm,0.9s,mb5.5					
CAF	**Calviac**	**45.78 307**	*e*P	**P**	**10 03 33.3**	**-1.2**
	comp=Z,107nm,0.9s,mb5.5					
CAF	**Calviac**	**45.78 307**	*e*P	**P**	**10 03 33.3**	**-1.2**
	comp=Z,54nm,0.9s,mb5.5					
CAF	**Calviac**	**45.78 307**	*e*P	**P**	**10 03 33.3**	**-1.2**
CAF			pmax	pmax		
	comp=Z,54nm,0.9s,mb5.5					
EMIR	**Miracle**	**46.08 303**	P	**P**	**10 03 38.1**	**+1.2**
	comp=Z,1μm,3.5s					
EMIR	**Miracle**	**46.08 303**	P	**P**	**10 03 38.1**	**+1.3**
	comp=Z,1μm,3.5s					
BTO	**Baotou**	**46.10 59**	*e*P	**P**	**10 03 37.3**	**+0.2**
DOMB	**Dombas**	**46.13 332**	*e*P	**P**	**10 03 36.8**	**-0.5**
DOMB			AMb	AMB	10 03 41.7	
	comp=Z,57nm,1.7s,mb5.2					
DOMB	**Dombas**	**46.13 332**	*e*P	**P**	**10 03 36.8**	**-0.4**
	comp=Z,57nm,1.7s,mb5.2,SNR=24					
DOMB	**Dombas**	**46.13 332**	*e*P	**P**	**10 03 36.8**	**-0.5**
	comp=Z,57nm,1.7s,mb5.2					
NSS	**Namsos**	**46.19 335**	*e*P	**P**	**10 03 36.1**	**-1.6**
NSS			*e*SS	SS	10 13 47.7	-0.9
NSS			AMS	AMS	10 28 37.8	
	comp=Z,1μm,14.3s,MS4.9					
NSS	**Namsos**	**46.19 335**	*e*P	**P**	**10

TRO	**Tromso**	**47.15 343**	*e*P	**P**	**10 03 43.4**	**-1.8**
TRO			*e*S	**S**	**10 10 35.5**	**-1.6**
TRO			*e*SS	SS	10 13 58.8	-5.4
TRO			AMS	AMS	10 27 58.6	
	comp=Z,944nm,18.8s,MS4.8					
TRO	**Tromso**	**47.15 343**	*e*P	**P**	**10 03 43.4**	**-1.8**
	SNR=24					
TRO			*e*S	**S**	**10 10 35.5**	**-1.6**
	SNR=26					
TRO			*e*SS	SS	10 13 58.8	-5.4
	SNR=30					
HHC	**Hu-ho-hao-te**	**47.27 59**	*e*P	**P**	**10 03 45.0**	**-1.2**
HHC			AP	pP	10 03 49.5	-1.7
HHC			XP	sP	10 03 52.0	-1.2
HHC			PCP	PcP	10 05 17.0	-0.2
HHC			PP	PP	10 05 35.8	-1.4
HHC			AMB	AMB		
	comp=Z,15nm,0.5s,mb5.2					
HHC			AMB	AMB		
	comp=Z,520nm,5.1s					
HHC			LR	LR		
	comp=N,2μm,21.1s,MS5.2					
HHC			LR	LR		
	comp=E,973nm,18.1s,MS5.2					
HHC			LR	LR		
	comp=Z,1μm,21.4s,MS4.9					
MFF	**Saint Martin d**	**47.42 309**	*e*P	**P**	**10 03 46.2**	**-1.2**
	comp=Z,102nm,1.3s,mb5.3					
MFF	**Saint Martin d**	**47.42 309**	*e*P	**P**	**10 03 46.2**	**-1.2**
	comp=Z,51nm,1.3s,mb5.3					
MFF	**Saint Martin d**	**47.42 309**	*e*P	**P**	**10 03 46.2**	**-1.2**
MFF			pmax	pmax		
	comp=Z,51nm,1.3s,mb5.3					
LDF	**La Druitiere**	**47.55 312**	*e*P	**P**	**10 03 46.6**	**-1.8**
	comp=Z,30nm,0.4s,mb5.3					
LDF	**La Druitiere**	**47.55 312**	*e*P	**P**	**10 03 46.6**	**-1.8**
	comp=Z,15nm,0.4s,mb5.3					
ESAC	**San Caprasio**	**47.57 303**	P	**P**	**10 03 49.8**	**+1.3**
	comp=Z,94nm,0.7s,mb5.9					
ESAC	**San Caprasio**	**47.57 303**	P	**P**	**10 03 49.8**	**+1.2**
	comp=Z,34nm,0.7s,mb5.9					
EMOS	**Mosqueruela**	**47.62 301**	P	**P**	**10 03 51.0**	**+2.1**
	comp=Z,204nm,2.0s,mb5.8					
EMOS	**Mosqueruela**	**47.62 301**	P	**P**	**10 03 51.0**	**+2.0**
	comp=Z,204nm,2.0s,mb5.8					
ETSF	**Etsaut**	**47.62 304**	*e*P	**P**	**10 03 47.9**	**-1.0**
	comp=Z,105nm,0.9s,mb5.6					
ETSF	**Etsaut**	**47.62 304**	*e*P	**P**	**10 03 47.9**	**-1.0**
	comp=Z,52nm,0.9s,mb5.6					
ETSF	**Etsaut**	**47.62 304**	*e*P	**P**	**10 03 47.9**	**-1.0**
ETSF			pmax	pmax		
	comp=Z,52nm,0.9s,mb5.6					
LOF	**Lofoten**	**47.68 340**	*e*P	**P**	**10 03 49.3**	**-0.1**
LOF			AMb	AMB	10 03 52.7	
	comp=Z,159nm,1.9s,mb5.7					
LOF	**Lofoten**	**47.68 340**	*e*P	**P**	**10 03 49.3**	**-0.1**
	comp=Z,159nm,1.9s,mb5.7,SNR=24					
LOF	**Lofoten**	**47.68 340**	*e*P	**P**	**10 03 49.3**	**-0.1**
	comp=Z,159nm,1.9s,mb5.7					
FLN	**La Foliniere**	**47.81 312**	*e*P	**P**	**10 03 48.7**	**-1.7**
	comp=Z,162nm,1.1s,mb5.7					
FLN			*e*R			
	comp=Z,2μm,21.0s					
FLN	**La Foliniere**	**47.81 312**	*e*P	**P**	**10 03 48.7**	**-1.7**
	comp=Z,81nm,1.1s,mb5.7					
FLN			LR	LR		
	comp=Z,2μm,21.0s,MS5.1					
FLN	**La Foliniere**	**47.81 312**	*e*P	**P**	**10 03 48.7**	**-1.7**
FLN			pmax	pmax		
	comp=Z,81nm,1.1s,mb5.7					
FLN			MLR	MLR		
	comp=Z,2μm,21.0s,MS5.1					
LARF	**Larrau**	**47.93 304**	*e*P	**P**	**10 03 50.7**	**-0.7**
PSI	**Prapat**	**48.00 113**	P	**P**	**10 03 54.0**	**+2.1**
	comp=Z,2.2nm,0.4s,mb4.5,baz=244,slow=16,SNR=2.9					
PSI			LR	LR	10 26 00.9	
	comp=Z,592nm,21.2s,MS4.5,baz=164,slow=38					
GRR	**Gorron**	**48.02 312**	*e*P	**P**	**10 03 50.5**	**-1.6**
	comp=Z,42nm,0.7s,mb5.3					
GRR	**Gorron**	**48.02 312**	*e*P	**P**	**10 03 50.5**	**-1.6**
	comp=Z,21nm,0.7s,mb5.3					
GRR	**Gorron**	**48.02 312**	*e*P	**P**	**10 03 50.5**	**-1.6**
GRR			pmax	pmax		
	comp=Z,21nm,0.7s,mb5.3					
ECHE	**Chera**	**48.04 300**	P	**P**	**10 03 52.8**	**+0.6**
	comp=Z,9.4nm,0.8s,mb4.9					
ECHE	**Chera**	**48.04 300**	P	**P**	**10 03 52.9**	**+0.7**
	comp=Z,9.4nm,0.8s,mb4.9					
ECHE	**Chera**	**48.04 300**	P	**P**	**10 03 52.9**	**+0.7**
ECHE			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
KULM	**Kulim**	**48.05 109**	*e*P	**P**	**10 03 53.6**	**+1.3**
KULM	**Kulim**	**48.05 109**	*e*P	**P**	**10 03 53.6**	**+1.3**
SJPF	**Ste Jean**	**48.11 304**	*e*P	**P**	**10 03 51.4**	**-1.3**
	comp=Z,65nm,0.7s,mb5.5					
SJPF	**Ste Jean**	**48.11 304**	*e*P	**P**	**10 03 51.4**	**-1.3**
	comp=Z,32nm,0.7s,mb5.5					
SJPF	**Ste Jean**	**48.11 304**	*e*P	**P**	**10 03 51.4**	**-1.3**
SJPF			pmax	pmax		
	comp=Z,32nm,0.7s,mb5.5					
CART	**Cartagena**	**48.23 297**	*i* P	**P**	**10 03 56.6**	**+3.0**
EALK	**Alkurruntz**	**48.31 305**	P	**P**	**10 03 55.4**	**+1.1**
	comp=Z,149nm,1.9s,mb5.7					
EALK	**Alkurruntz**	**48.31 305**	P	**P**	**10 03 55.4**	**+1.1**
	comp=Z,149nm,1.9s,mb5.7					
ELIZ	**Elizondo**	**48.33 304**	P	**P**	**10 03 55.5**	**+1.1**
	comp=Z,57nm,1.4s,mb5.4					
ELIZ	**Elizondo**	**48.33 304**	P	**P**	**10 03 55.5**	**+1.1**
	comp=Z,57nm,1.4s,mb5.4					
ELIZ	**Elizondo**	**48.33 304**	P	**P**	**10 03 55.5**	**+1.1**
ELIZ			pmax	pmax		
	comp=Z,57nm,1.4s,mb5.4					
EMUR	**La Murta**	**48.39 297**	P	**P**	**10 03 58.3**	**+3.4**
	comp=Z,55nm,1.1s,mb5.5					
EMUR	**La Murta**	**48.39 297**	P	**P**	**10 03 58.3**	**+3.4**
	comp=Z,55nm,1.1s,mb5.5					
ETOB	**Tobarra**	**48.56 298**	P	**P**	**10 03 56.1**	**-0.1**
	comp=Z,212nm,2.4s,mb5.8					
ETOB	**Tobarra**	**48.56 298**	P	**P**	**10 03 56.1**	**-0.1**
	comp=Z,212nm,2.4s,mb5.8					
ECRI	**Cripan**	**49.06 304**	P	**P**	**10 04 01.1**	**+1.1**
	comp=Z,13nm,0.8s,mb5.0					
ECRI	**Cripan**	**49.06 304**	P	**P**	**10 04 01.1**	**+1.1**
	comp=Z,13nm,0.8s,mb5.0					
ECRI	**Cripan**	**49.06 304**	P	**P**	**10 04 01.1**	**+1.1**
ECRI			pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0					
CIT	**Chita**	**49.12 44**	*e*P	**P**	**10 04 00.5**	**0.0**
SGMF	**Saint Gilles**	**49.15 311**	*e*P	**P**	**10 03 59.1**	**-1.6**
	comp=Z,180nm,1.2s,mb5.7					
SGMF	**Saint Gilles**	**49.15 311**	*e*P	**P**	**10 03 59.1**	**-1.6**
	comp=Z,90nm,1.2s,mb5.7					
SGMF	**Saint Gilles**	**49.15 311**	*e*P	**P**	**10 03 59.1**	**-1.6**
SGMF			pmax	pmax		
	comp=Z,90nm,1.2s,mb5.7					
ENIJ	**Nijar**	**49.25 296**	P	**P**	**10 04 01.1**	**-0.4**
	comp=Z,16nm,0.7s,mb5.2					
ENIJ	**Nijar**	**49.25 296**	P	**P**	**10 04 01.1**	**-0.3**
	comp=Z,16nm,0.7s,mb5.2					
ENIJ	**Nijar**	**49.25 296**	P	**P**	**10 04 01.1**	**-0.4**
ENIJ			pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2					
EVIA	**Vianos**	**49.31 299**	P	**P**	**10 04 03.9**	**+2.0**
	comp=Z,84nm,1.1s,mb5.7					
EVIA	**Vianos**	**49.31 299**	P	**P**	**10 04 03.9**	**+2.0**
EVIA			pmax	pmax		
	comp=Z,84nm,1.1s,mb5.7					
EHUE	**Huescar**	**49.46 297**	P	**P**	**10 04 02.6**	**-0.5**
QUIF	**Quistinic**	**49.54 311**	*e*P	**P**	**10 04 02.3**	**-1.4**
	comp=Z,186nm,1.1s,mb5.7					
QUIF	**Quistinic**	**49.54 311**	*e*P	**P**	**10 04 02.3**	**-1.4**
	comp=Z,93nm,1.1s,mb5.7					
QUIF	**Quistinic**	**49.54 311**	*e*P	**P**	**10 04 02.3**	**-1.4**
QUIF			pmax	pmax		
	comp=Z,93nm,1.1s,mb5.7					
ROSF	**Rostrenen**	**49.63 311**	*e*P	**P**	**10 04 03.0**	**-1.4**
	comp=Z,121nm,1.1s,mb5.6					
ROSF	**Rostrenen**	**49.63 311**	*e*P	**P**	**10 04 03.0**	**-1.4**
	comp=Z,60nm,1.1s,mb5.6					
ROSF	**Rostrenen**	**49.63 311**	*e*P	**P**	**10 04 03.0**	**-1.4**
ROSF			pmax	pmax		
	comp=Z,60nm,1.1s,mb5.5					
ELAN	**Lanestosa**	**49.72 305**	P	**P**	**10 04 09.8**	**+4.7**
	comp=Z,142nm,1.9s,mb5.7					
ELAN	**Lanestosa**	**49.72 305**	P	**P**	**10 04 09.8**	**+4.7**
	comp=Z,142nm,1.9s,mb5.7					
EBER	**Berja**	**49.80 296**	P	**P**	**10 04 06.2**	**+0.5**
	comp=Z,343nm,2.5s,mb5.9					
EBER	**Berja**	**49.80 296**	P	**P**	**10 04 06.2**	**+0.6**
	comp=Z,343nm,2.5s,mb5.9					
EQES	**Quesada**	**49.84 298**	P	**P**	**10 04 05.9**	**-0.1**
	comp=Z,45nm,1.1s,mb5.4					
EQES	**Quesada**	**49.84 298**	P	**P**	**10 04 05.9**	**0.0**
	comp=Z,45nm,1.1s,mb5.4					
QIZ	**Qiongzhong**	**50.07 88**	P	**P**	**10 04 09.0**	**+1.3**
QIZ			AMB	AMB		
	comp=Z,47nm,1.6s,mb5.3					
QIZ			LR	LR		
	comp=N,970nm,19.6s,MS5.0					
QIZ			LR	LR		
	comp=E,1μm,18.2s,MS5.0					
QIZ			LR	LR		
	comp=Z,1μm,19.6s,MS4.8					
BOD	**Bodaibo**	**50.28 36**	*e*P	**P**	**10 04 07.5**	**-1.8**
BOD			pmax	pmax		
	comp=Z,49nm,0.8s,mb5.6					
ECOG	**Cogollos-Vega**	**50.29 297**	P	**P**	**10 04 08.4**	**-1.0**
	comp=Z,6.8nm,0.6s,mb4.8					
ECOG	**Cogollos-Vega**	**50.29 297**	P	**P**	**10 04 08.4**	**-0.9**
	comp=Z,6.8nm,0.6s,mb4.8					
ECOG	**Cogollos-Vega**	**50.29 297**	P	**P**	**10 04 08.5**	**-0.9**
ECOG			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9					
LSZ	**Lusaka**	**50.30 216**	LR	LR	10 26 48.7	
	comp=Z,3μm,18.1s,MS5.3,baz=244,slow=38					
LSZ	**Lusaka**	**50.30 216**	*e*P	**P**	**10 04 12.0**	**+2.5**
	comp=Z,25nm,1.3s,mb5.1					
LSZ	**Lusaka**	**50.30 216**	*e*P	**P**	**10 04 12.0**	**+2.5**
	comp=Z,25nm,1.3s,mb5.1					
LSZ	**Lusaka**	**50.30 216**	*e*P	**P**	**10 04 12.0**	**+2.5**
LSZ			pmax	pmax		
	comp=Z,25nm,1.3s,mb5.1					
ESDC	**Sonseca Array**	**50.34 300**	P	**P**	**10 04 09.0**	**-0.8**
	comp=Z,3.7nm,0.4s,mb4.8,baz=74,slow=7.3,SNR=24					
ESLA	**Sonseca Array**	**50.34 300**	*e*P	**P**	**10 04 08.8**	**-1.0**
	comp=Z,18nm,1.3s,mb5.0					
EBAN	**Banos Encina**	**50.36 298**	P	**P**	**10 04 09.6**	**-0.3**
	comp=Z,16nm,0.7s,mb5.2					
EBAN	**Banos Encina**	**50.36 298**	P	**P**	**10 04 09.6**	**-0.3**
	comp=Z,16nm,0.7s,mb5.2					
EBAN	**Banos Encina**	**50.36 298**	P	**P**	**10 04 09.6**	**-0.3**
EBAN			pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2					
GUD	**Guadarrama**	**50.41 301**	P	**P**	**10 04 09.9**	**-0.4**
ERON	**Agron**	**50.51 297**	P	**P**	**10 04 10.4**	**-0.7**
	comp=Z,14nm,0.6s,mb5.0					
ERON	**Agron**	**50.51 297**	P	**P**	**10 04 10.4**	**-0.7**
	comp=Z,14nm,0.6s,mb5.0					
ELOJ	**Sierra Loja**	**50.77 297**	P	**P**	**10 04 11.8**	**-1.2**
	comp=Z,9.1nm,0.8s,mb4.8					
ELOJ	**Sierra Loja**	**50.77 297**	P	**P**	**10 04 11.8**	**-1.2**
	comp=Z,9.1nm,0.8s,mb4.8					
ELOJ	**Sierra Loja**	**50.77 297**	P	**P**	**10 04 11.8**	**-1.2**
ELOJ			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
WHN	**Wuhan**	**50.80 72**	P	**P**	**10 04 16.0**	**+2.8**
ELUQ	**Luque**	**50.81 297**	P	**P**	**10 04 12.0**	**-1.3**
	comp=Z,16nm,0.8s,mb5.0					
ELUQ	**Luque**	**50.81 297**	P	**P**	**10 04 12.0**	**-1.3**
	comp=Z,16nm,0.8s,mb5.0					
ELUQ	**Luque**	**50.81 297**	P	**P**	**10 04 12.0**	**-1.3**
ELUQ			pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0					
BJI	**Beijing**	**50.83 59**	P	**P**	**10 04 13.5**	**0.0**
BJI			XP	sP	10 04 20.5	0.0
BJI			AMB	AMB		
	comp=Z,17nm,1.4s,mb4.8					
BJI			AMB	AMB		
	comp=Z,387nm,8.7s					
BJI			LR	LR		
	comp=N,4μm,21.0s,MS5.4					
BJI			LR	LR		
	comp=E,2μm,21.5s,MS5.4					
BJI			LR	LR		
	comp=Z,2μm,24.2s,MS5.0					
EADA	**Adamuz**	**50.98 298**	P	**P**	**10 04 14.9**	**+0.3**
	comp=Z,334nm,2.5s,mb5.8					
EADA	**Adamuz**	**50.98 298**	P	**P**	**10 04 14.9**	**+0.3**
	comp=Z,334nm,2.5s,mb5.8					
EARI	**Arriondas**	**51.01 305**	P	**P**	**10 04 15.5**	**+0.7**
	comp=Z,154nm,1.9s,mb5.6					
EARI	**Arriondas**	**51.01 305**	P	**P**	**10 04 15.5**	**+0.6**
	comp=Z,154nm,1.9s,mb5.6					
EMIJ	**Mijas**	**51.34 296**	P	**P**	**10 04 16.1**	**-1.2**
EMIJ	**Mijas**	**51.34 296**	P	**P**	**10 04 16.1**	**-1.3**
ECAB	**El Cabril**	**51.65 298**	P	**P**	**10 04 18.8**	**-0.8**
	comp=Z,50nm,1.1s,mb5.4					
ECAB	**El Cabril**	**51.65 298**	P	**P**	**10 04 18.8**	**-0.8**
	comp=Z,50nm,1.1s,mb5.4					
GZH	**Guangzhou**	**51.84 81**	P	**P**	**10 04 23.3**	**+2.2**
GZH			S	**S**	**10 11 44.3**	**+1.5**
GZH			LR	LR		
	comp=N,1μm,18.3s,MS5.0					
GZH			LR	LR		
	comp=E,750nm,19.3s,MS5.0					
GZH			LR	LR		
	comp=Z,1μm,17.4s,MS4.9					
EJIF	**Jimena Fronter**	**51.91 296**	P	**P**	**10 04 21.1**	**-0.5**
	comp=Z,9.0nm,0.6s,mb4.9					
EJIF	**Jimena Fronter**	**51.91 296**	P	**P**	**10 04 21.1**	**-0.5**
	comp=Z,9.0nm,0.6s,mb4.9					
EJIF	**Jimena Fronter**	**51.91 296**	P	**P**	**10 04 21.1**	**-0.5**
EJIF			pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9					
DLF	**Lyons Farm**	**51.97 318**	*e*P	**P**	**10 04 22.3**	**+0.3**
TIA	**Tai'an**	**52.05 64**	*e*P	**P**	**10 04 23.0**	**+0.4**
ESPR	**Espera**	**52.16 297**	P	**P**	**10 04 23.5**	**+0.1**
	comp=Z,37nm,1.0s,mb5.3					
ESPR	**Espera**	**52.16 297**	P	**P**	**10 04 23.5**	**+0.1**
	comp=Z,37nm,1.0s,mb5.3					
PBRG	**Braganca**	**52.25 303**	*e*P	**P**	**10 04 23.6**	**-0.5**
	comp=Z,39nm,1.1s,mb5.2					
TORD	**Torodi Ar. Bea**	**52.30 265**	P	**P**	**10 04 23.3**	**-1.2**
	comp=Z,28nm,0.7s,mb5.3,baz=61,slow=6.8,SNR=51					
DCN	**Crighan**	**52.42 318**	*e*P	**P**	**10 04 24.2**	**-1.2**
EPON	**Pontenova**	**52.42 305**	P	**P**	**10 04 27.4**	**+2.0**
	comp=Z,31nm,1.0s,mb5.2					
EPON	**Pontenova**	**52.42 305**	P	**P**	**10 04 27.4**	**+2.0**
	comp=Z,31nm,1.0s,mb5.2					
ERUA	**La Rua**	**52.49 304**	P	**P**	**10 04 27.6**	**+1.7**
EBAD	**Badajoz**	**52.80 299**	P	**P**	**10 04 28.7**	**+0.5**
EBAD	**Badajoz**	**52.80 299**	P	**P**	**10 04 28.7**	**+0.5**
MTE	**Manteigas**	**53.00 301**	*e*P	**P**	**10 04 29.3**	**-0.4**
MTE	**Manteigas**	**53.00 301**	*i* -		10 16 26.9	
MTE	**Manteigas**	**53.00 301**	*e*P	**P**	**10 04 29.1**	**-0.5**
	comp=Z,59nm,1.3s,mb5.3					
PCBR	**Castelo Branco**	**53.02 301**	*e*P	**P**	**10 04 29.9**	**+0.1**
	comp=Z,27nm,1.1s,mb5.1					
PVRL	**Vila Real**	**53.03 302**	*e*P	**P**	**10 04 30.9**	**+1.0**
	comp=Z,73nm,1.2s,mb5.5					
ELOB	**Lobios**	**53.23 303**	P	**P**	**10 04 34.0**	**+2.7**
	comp=Z,12nm,0.6s,mb5.0					
ELOB	**Lobios**	**53.23 303**	P	**P**	**10 04 34.0**	**+2.7**
	comp=Z,12nm,0.6s,mb5.0					
PVIS	**Viseu**	**53.23 302**	*e*P	**P**	**10 04 32.3**	**+1.0**
	comp=Z,80nm,1.5s,mb5.4					
STS	**Santiago**	**53.48 304**	P	**P**	**10 04 34.9**	**+1.7**
PBEJ	**Beja**	**53.57 298**	*e*P	**P**	**10 04 32.0**	**-1.8**
	comp=Z,30nm,1.7s,mb5.0					
EZAM	**Zamans**	**53.67 304**	P	**P**	**10 04 36.4**	**+1.9**
PTOM	**Tomar**	**53.76 300**	*e*P	**P**	**10 04 34.6**	**-0.6**
	comp=Z,106nm,1.7s,mb5.5					
NJ2	**Nanjing**	**54.24 69**	*e*P	**P**	**10 04 40.3**	**+1.6**
NJ2			AP	pP	10 04 45.0	+1.1
NJ2			XP	sP	10 04 47.3	+1.5
NJ2			PP	PP	10 06 43.5	+3.0
NJ2			AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8					
NJ2			AMB	AMB		
	comp=Z,130nm,7.9s					
NJ2			LR	LR		
	comp=N,4μm,22.1s					
NJ2			LR	LR		
	comp=E,6μm,16.1s					
NJ2			LR	LR		
	comp=Z,1μm,21.2s,MS5.0					
KBS	**Kingsbay**	**54.85 351**	P	**P**	**10 04 42.3**	**-0.9**
	comp=Z,38nm,0.8s,mb5.5					
KBS	**Kingsbay**	**54.85 351**	P	**P**	**10 04 42.3**	**-0.9**
	comp=Z,38nm,0.8s,mb5.5					
KBS	**Kingsbay**	**54.85 351**	P	**P**	**10 04 42.3**	**-0.9**
KBS			pmax	pmax		
	comp=Z,38nm,0.8s,mb5.5					
OUK	**Oukaimeden**	**54.88 290**	*i* P	**P**	**10 04 44.0**	**+0.6**
DL2	**Dalian**	**55.16 60**	*e*P	**P**	**10 04 43.5**	**-1.9**
DL2			AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2					
DL2			AMB	AMB		
	comp=Z,180nm,6.0s					
DL2			LR	LR		
	comp=N,1μm,19.8s,MS5.1					
DL2			LR	LR		
	comp=E,630nm,17.6s,MS5.1					
DL2			LR	LR		
	comp=Z,630nm,18.8s,MS4.7					
JMIC	**Jan Mayen**	**55.85 339**	*e*S	**S**	**10 12 36.5**	**-0.5**
JMIC			AMS	AMS	10 30 57.0	
	comp=Z,601nm,19.2s,MS4.7					
JMIC	**Jan Mayen**	**55.85 339**	LR	LR	10 30 42.2	
	comp=Z,822nm,21.8s,MS4.8,baz=103,slow=38					
JMIC	**Jan Mayen**	**55.85 339**	*e*S	**S**	**10 12 36.5**	**-0.6**
	SNR=24					
CLNS	**Chul'man**	**56.05 38**	*e*P	**P**	**10 04 53.7**	**+1.9**
CLNS			pmax	pmax		
	comp=E,13nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9					
CLNS			pmax	pmax		
	comp=N,9.0nm,0.8s					
SNY	**Shenyang**	**56.19 56**	⇑P	**P**	**10 04 53.0**	**+0.2**
SNY			AP	pP	10 05 03.3	+5.4
SNY			PP	PP	10 07 00.3	+2.3
SNY			AMB	AMB		
	comp=Z,18nm,2.0s,mb4.8					
SNY			AMB	AMB		
	comp=Z,414nm,5.8s					
SNY			LR	LR		
	comp=N,3μm,20.4s,MS5.4					
SNY			LR	LR		
	comp=E,1μm,19.8s,MS5.4					
SNY			LR	LR		
	comp=Z,1μm,18.6s,MS5.1					
SSE	**Sheshan**	**56.40 69**	*e*P	**P**	**10 04 54.0**	**-0.3**
SSE			AP	pP	10 04 56.5	-2.9
SSE			XP	sP	10 04 58.5	-2.9
SSE			PCP	PcP	10 05 52.5	+1.2
SSE			PP	PP	10 06 59.5	-0.4
SSE			AMB	AMB		
	comp=Z,29nm,0.8s,mb5.4					
SSE			AMB	AMB		
	comp=Z,182nm,7.6s					
SSE			LR	LR		
	comp=N,1μm,21.0s,MS4.9					
SSE			LR	LR		
	comp=E,222nm,21.1s,MS4.9					
SSE			LR	LR		
	comp=Z,1μm,23.9s,MS5.0					
CN2	**Changchun**	**57.26 54**	*e*P	**P**	**10 05 00.5**	**+0.1**
CN2			*e*PP	PP	10 07 08.8	+1.3
CN2			AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,4μm,21.0s,MS5.5					
CN2			LR	LR		
	comp=E,2μm,21.0s,MS5.5					
CN2			LR	LR		
	comp=Z,3μm,22.0s,MS5.3					
YHNB	**Yeheng**	**58.36 77**	*e*P	**P**	**10 05 09.0**	**+0.9**
YHNB	**Yeheng**	**58.36 77**	*e*P	**P**	**10 05 09.0**	**+0.9**
YAK	**Yakutsk**	**58.53 32**	⇑*i*P	**P**	**10 05 08.3**	**-1.0**
YAK	**Yakutsk**	**58.53 32**	*e*P	**P**	**10 05 10.1**	**+0.8**
YAK			*e**PP	pP	10 05 18.5	+4.0
YAK			*e*		10 05 53.7	
YAK			*e*		10 07 20.6	
YAK			*e*PPP		10 08 40.7	
YAK			*e*S	**S**	**10 13 19.5**	**+7.2**
YAK			*e*		10 14 51.6	
YAK			*e*SS	SS	10 17 07.1	+2.2
YAK			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9					
YAK			pmax	pmax		
	comp=N,3.0nm,1.5s					
YAK			pmax	pmax		
	comp=E,11nm,1.8s					
YAK			pmax	pmax		
	comp=N,2.0nm,1.2s					
YAK			pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8					
YAK			pmax	pmax		
	comp=E,6.0nm,1.1s					
YAK			MLR	MLR		
	comp=Z,1μm,14.0s,MS5.2					
YAK			MLR	MLR		
	comp=N,983nm,22.0s					
YAK			MLR	MLR		
	comp=E,978nm,12.0s					
TIXI	**Tiksi**	**58.77 21**	⇑*e*P	**P**	**10 05 09.4**	**-1.6**
TIXI	**Tiksi**	**58.77 21**	*e*P	**P**	**10 05 07.7**	**-3.3**
TIXI			*e*		10 07 19.6	
TIXI			*e*S	**S**	**10 13 08.9**	**-6.5**
TIXI			*e*SS	SS	10 17 08.3	-0.3
TIXI			pmax	pmax		
	comp=Z,29nm,1.3s,mb5.2					
TIXI			smax			
	comp=N,118nm,13.7s					
TIXI			smax			
	comp=E,316nm,17.1s					
TIXI			MLR	MLR		
	comp=Z,4μm,16.0s,MS5.6					
INCN	**Inchon**	**59.30 61**	*e*P	**P**	**10 05 14.4**	**-0.3**
	comp=Z,114nm,1.4s,mb5.7					
INCN	**Inchon**	**59.30 61**	*e*P	**P**	**10 05 14.4**	**-0.3**
	comp=Z,114nm,1.4s,mb5.7					
TSUM	**Tsumeb**	**59.41 223**	*e*P	**P**	**10 05 16.9**	**+1.4**
	comp=Z,31nm,0.9s,mb5.3					
TSUM	**Tsumeb**	**59.41 223**	*e*P	**P**	**10 05 16.9**	**+1.4**
	comp=Z,31nm,0.9s,mb5.3					
DAG	**Danmarks Havn**	**59.80 345**	⇓*i*P	**P**	**10 05 17.2**	**-0.9**
	comp=Z,4.7nm,0.6s,mb4.7					
DAG	**Danmarks Havn**	**59.80 345**	⇓*i*P	**P**	**10 05 17.2**	**-0.9**
DAG			pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7					
LBTB	**Lobatse**	**59.83 212**	*e*P	**P**	**10 05 18.5**	**+0.2**
	comp=Z,27nm,1.0s,mb5.2					
LBTB	**Lobatse**	**59.83 212**	*e*P	**P**	**10 05 18.5**	**+0.2**
	comp=Z,27nm,1.0s,mb5.2					
LBTB	**Lobatse**	**59.83 212**	*e*P	**P**	**10 05 18.5**	**+0.2**
LBTB			pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2					
MDJ	**Mudanjiang**	**60.07 52**	P	**P**	**10 05 19.0**	**-1.0**
MDJ			XP	sP	10 05 25.0	-2.1
MDJ			PP	PP	10 07 30.5	-2.0
MDJ			AMB	AMB		
	comp=

comp=Z,600nm,20.5s,MS4.7
HABR Khabarovsk 63.03 47 *e*P **P 10 05 38.1 -1.8**
JNU Nakatsue 63.78 65 P **P 10 05 44.2 -0.7**
comp=Z,11nm,0.7s,mb5.0,baz=352,slow=9.9,SNR=4.8
SUMG Summit 65.20 341 *e*P **P 10 05 54.2 0.0**
comp=Z,58nm,0.9s,mb5.6
SUMG Summit 65.20 341 *e*P **P 10 05 54.2 0.0**
comp=Z,58nm,0.9s,mb5.6
ALE Alert 66.32 353 P **P 10 06 01.0 -0.4**
comp=Z,130nm,0.6s,mb6.1,SNR=17
YSS Yuzh-Sakhalins 68.44 47 *e*P **P 10 06 13.6 -1.3**
comp=Z,56nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 68.44 47 *e*P **P 10 06 13.6 -1.3**
comp=Z,56nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 68.44 47⇑*e*P **P 10 06 13.8 -1.1**
YSS *e**SP sP 10 06 16.8 -5.2
YSS *i* 10 06 25.0
YSS *e* 10 06 35.0
YSS *e*S S 10 15 10.0 -5.9
YSS *e* 10 16 08.0
YSS *e*SS SS 10 19 36.0 -3.6
YSS MLR MLR
comp=Z,1μm,17.0s,MS5.3
YSS MLR MLR
comp=E,1μm,15.0s
MAJO Matsushiro 68.47 59 *e*P **P 10 06 13.0 -2.0**
comp=E,23nm,0.9s,mb5.2
MAJO Matsushiro 68.47 59 *e*P **P 10 06 13.0 -2.0**
comp=E,23nm,0.9s,mb5.2
MAJO Matsushiro 68.47 59 *e*P **P 10 06 13.0 -2.0**
MAJO pmax pmax
comp=Z,23nm,0.9s,mb5.2
MAT Matsushiro 68.47 59 P **P 10 06 13.6 -1.4**
MAT *e*S S 10 15 24.0 +7.8
MAT Matsushiro 68.47 59 *e*P **P 10 06 14.0 -1.0**
comp=Z,19nm,1.1s,mb5.0
MAT S S 10 15 25.0 +8.8
MAT LR LR
comp=Z,710nm,20.0s,MS4.9
MAT Matsushiro 68.47 59 *e*P **P 10 06 14.0 -1.0**
MAT S S 10 15 25.0 +8.8
MAT pmax pmax
comp=Z,19nm,1.1s,mb5.0
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.9
MJAR Matsushiro Arr 68.47 59 P **P 10 06 14.4 -0.6**
comp=Z,9.0nm,0.8s,mb4.8,baz=292,slow=7.5,SNR=13
MJAR LR LR 10 38 57.4
comp=Z,593nm,20.3s,MS4.8,baz=300,slow=38
SEY Seymchan 68.73 29⇓*e*P **P 10 06 16.0 -0.7**
SEY Seymchan 68.73 29 *e*P **P 10 06 16.5 -0.2**
SEY *e* 10 06 46.4
SEY *e*S S 10 15 16.5 -2.9
SEY *e* 10 16 16.6
SEY SS SS 10 19 37.1 -7.0
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY pmax pmax
comp=Z,14nm,0.7s,mb5.0
SEY pmax pmax
comp=E,11nm,0.8s
SEY smax
comp=N,450nm,23.5s
SEY smax
comp=E,220nm,23.5s
SEY MLR MLR
comp=Z,6μm,19.0s,MS5.9
SEY MLR MLR
comp=N,2μm,22.0s,MS5.5
SEY MLR MLR
comp=E,2μm,17.0s,MS5.5
MA2 Magadan 69.08 33 *e*P **P 10 06 18.0 -0.9**
comp=E,16nm,0.9s,mb4.9
MA2 Magadan 69.08 33 *e*P **P 10 06 18.0 -0.9**
comp=E,16nm,0.9s,mb4.9
MA2 Magadan 69.08 33⇓*i*P **P 10 06 17.8 -1.1**
MA2 pmax pmax
comp=Z,30nm,1.7s,mb5.0
SFJD Kangerlussuaq 71.03 337 P **P 10 06 29.4 -1.5**
comp=Z,12nm,0.8s,mb4.9,baz=22,slow=7.6,SNR=6.0
SFJD Kangerlussuaq 71.03 337 *i*P **P 10 06 29.3 -1.5**
comp=Z,29nm,1.1s,mb5.1
SFJD *e*S S 10 15 44.7 -1.6
SFJD *i* 10 23 46.8
SFJD
comp=Z,650nm,19.0s
SFJD Kangerlussuaq 71.03 337 *e*P **P 10 06 29.3 -1.5**
comp=Z,29nm,1.1s,mb5.1
SFJD *e*S S 10 15 44.7 -1.6
SFJD Kangerlussuaq 71.03 337 *e*P **P 10 06 29.3 -1.5**
comp=Z,29nm,1.1s,mb5.1
SFJD *e*S S 10 15 44.7 -1.6
SFJD *i* 10 23 46.8
SFJD LR LR
comp=Z,650nm,19.0s,MS4.9
SFJD Kangerlussuaq 71.03 337 *e*P **P 10 06 29.3 -1.5**
SFJD *e*S S 10 15 44.7 -1.6
SFJD pmax pmax
comp=Z,29nm,1.1s,mb5.1
SFJD MLR MLR
comp=Z,650nm,19.0s,MS4.9
BILL Bilibino 71.96 22⇑*i*P **P 10 06 35.9 -0.5**
RES Resolute Bay 76.21 352 *e*P **P 10 07 00.2 -1.1**
comp=Z,5.4nm,0.9s,mb4.5
RES Resolute Bay 76.21 352 *e*P **P 10 07 00.1 -1.1**
comp=Z,5.4nm,0.9s,mb4.5
RES Resolute Bay 76.21 352 *e*P **P 10 07 00.2 -1.1**
RES pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
FITZ Fitzroy Crossi 81.47 115 *e*P **P 10 07 29.5 -0.6**
comp=Z,13nm,0.8s,mb4.9
INK Inuvik 84.16 3 LR LR 10 50 46.6
comp=Z,483nm,21.5s,MS4.8,baz=18,slow=40
INK Inuvik 84.16 3 *e*P **P 10 07 42.9 -1.2**
comp=Z,15nm,0.9s,mb5.1
INK Inuvik 84.16 3 *e*P **P 10 07 42.9 -1.1**
comp=Z,15nm,0.9s,mb5.1
INK Inuvik 84.16 3 *e*P **P 10 07 42.9 -1.2**
INK pmax pmax
comp=Z,15nm,0.9s
KAKA Kakadu 84.32 107 *e*P **P 10 07 44.6 -0.3**
comp=Z,16nm,0.7s,mb5.3
SCHQ Schefferville 84.32 331 P **P 10 07 43.8 -1.2**
comp=Z,7.6nm,0.8s,mb4.9,baz=43,slow=5.9,SNR=19
SCHQ Schefferville 84.32 331 *e*P **P 10 07 43.5 -1.4**
comp=Z,27nm,1.1s,mb5.3
SCHQ Schefferville 84.32 331 *e*P **P 10 07 43.5 -1.4**
comp=Z,27nm,1.1s,mb5.3
COLA College 86.03 10 *e*P **P 10 07 52.2 -1.3**
comp=Z,12nm,0.9s,mb5.1
COLA College 86.03 10 *e*P **P 10 07 52.2 -1.3**
comp=Z,12nm,0.9s,mb5.1
COLA College 86.03 10 *e*P **P 10 07 52.2 -1.3**
COLA pmax pmax
comp=Z,12nm,0.9s,mb5.1
ILAR Eielson Array 86.27 10 P **P 10 07 52.9 -1.8**
comp=Z,4.0nm,0.6s,mb4.8,baz=324,slow=4.3,SNR=50
ILAR PKKPbc PKKPbc 10 25 55.9 +3.5
comp=Z,0.5nm,0.7s,baz=205,slow=1.4,SNR=5.0
ILAR Eielson Array 86.27 10 P **P 10 07 52.8 -1.9**
MCK McKinley 86.93 11 *e*P **P 10 07 56.9 -1.0**
comp=Z,27nm,1.2s,mb5.4
MCK McKinley 86.93 11 *e*P **P 10 07 56.9 -1.0**
comp=Z,27nm,1.2s,mb5.4
MCK McKinley 86.93 11 *e*P **P 10 07 56.9 -1.0**
MCK pmax pmax
comp=Z,27nm,1.2s,mb5.3
DAWY Dawson 87.89 7 *e*P **P 10 08 01.2 -1.3**
DAWY Dawson 87.89 7 *e*P **P 10 08 01.2 -1.3**
SML Sawmill 88.83 11 *e*P **P 10 08 05.8 -1.1**
WRA Warramunga Arr 89.47 113 P **P 10 08 09.3 -0.6**
comp=Z,5.2nm,1.0s,mb4.8,baz=310,slow=3.9,SNR=15
WRA PKKPbc PKKPbc 10 25 49.2 +4.5
comp=Z,0.3nm,0.5s,baz=115,slow=2.6,SNR=5.6
WRAB Tennant Creek 89.47 113 *e*P **P 10 08 11.2 +1.2**
comp=Z,10nm,0.8s,mb5.2
WRAB Tennant Creek 89.47 113 *e*P **P 10 08 11.2 +1.2**
WRAB pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
WB2 Warramunga Arr 89.48 113 *e*P **P 10 08 09.8 -0.2**
SLKM Skilak Lake 89.69 13 P **P 10 08 09.3 -1.7**
YKW3 Yellowknife Ar 89.84 356 *e*P **P 10 08 10.8 -0.9**
YKW3 Yellowknife Ar 89.84 356 *e*P **P 10 08 10.8 -0.9**
YKA Yellowknife Ar 89.91 356 P **P 10 08 10.9 -1.1**
comp=Z,4.9nm,0.9s,mb4.8,baz=2.6,slow=4.7,SNR=24
YKA PKKPbc PKKPbc 10 25 42.3 -1.2
comp=Z,0.1nm,0.5s,baz=177,slow=2.2,SNR=5.1
YKA Yellowknife Ar 89.91 356 P **P 10 08 10.9 -1.1**
YKA Yellowknife Ar 89.91 356 P **P 10 08 10.9 -1.1**
YKA PKKPbc PKKPbc 10 25 42.3 -1.2
YKA Yellowknife Ar 89.91 356 *i* P **P 10 08 11.5 -0.5**
YKA pmax pmax
comp=Z,5.0nm,0.9s
FORT Forrest 90.12 125 *e*P **P 10 08 13.5 +0.5**
comp=Z,24nm,0.8s,mb5.6
FCC Fort Churchill 90.40 345 *e*P **P 10 08 13.1 -1.2**
comp=Z,16nm,1.3s,mb5.2
FCC Fort Churchill 90.40 345 *e*P **P 10 08 13.1 -1.2**
comp=Z,16nm,1.3s,mb5.2
FCC Fort Churchill 90.40 345 *e*P **P 10 08 13.1 -1.2**
FCC pmax pmax
comp=Z,16nm,1.3s,mb5.2
ASAR Alice Springs 90.95 116 P **P 10 08 16.0 -0.9**
comp=Z,2.5nm,0.7s,mb4.7,baz=302,slow=4.5,SNR=20
DLBC Dease Lake 94.18 3 LR LR 10 58 04.6
comp=Z,626nm,20.4s,MS5.1,baz=330,slow=40
LONY Lake Ozonia 95.05 327 *e*P **P 10 08 34.9 -0.9**
FFC Flin Flon 95.82 347 *e*P **P 10 08 39.4 +0.1**
comp=Z,15nm,1.3s,mb5.2
FFC Flin Flon 95.82 347 *e*P **P 10 08 39.4 +0.1**
comp=Z,15nm,1.3s,mb5.2
EDM Edmonton 98.98 353 *e*P **P 10 08 53.4 -0.2**
PDAR Pinedale Array 108.71 349 PKiKP PKiKP 10 13 43.4 +1.4
comp=Z,0.4nm,0.7s,baz=48,slow=2.7,SNR=3.7
PDAR PKKP PKKPbc 10 25 08.1 +18
comp=Z,0.5nm,0.6s,baz=172,slow=4.7,SNR=3.9
NVAR Mina Array Bea 114.10 355 PKP PKiKP 10 13 50.0 -2.2
comp=Z,0.2nm,0.5s,baz=256,slow=0.7,SNR=2.4
QSPA South Pole Qui 117.42 180 *e*PKIKP PKPdf 10 13 57.2 -1.4
QSPA South Pole Qui 117.42 180 *e*PKPdf PKPdf 10 13 57.2 -1.3
LPAZ La Paz 127.14 270 PKP PKPdf 10 14 17.5 +0.3
comp=Z,1.0nm,0.8s,baz=277,slow=3.4,SNR=3.8
OTAV Otavalo 128.10 294 *e*PKIKP PKPdf 10 14 19.1 +0.1
OTAV Otavalo 128.10 294 *e*PKPdf PKPdf 10 14 19.1 +0.1
WTAZ Waiatarua 128.19 117 P PKPdf 10 14 23.5 +4.3
KAAZ Kauri Point 128.28 117 P PKPdf 10 14 22.1 +2.7
MTAZ Motutapu 128.44 116 PN PKPdf 10 14 20.9 +1.2
OTAZ Otara 128.47 117 PN PKPdf 10 14 22.6 +2.9
OTAZ Otara 128.47 117 P PKPdf 10 14 23.0 +3.3
MKAZ Moumakai 128.69 117 P PKPdf 10 14 23.1 +3.0
URZ Urewera 130.35 118 PN PKPdf 10 14 22.5 -0.8
URZ Urewera 130.35 118 *e*P PKPdf 10 14 23.4 +0.1
MWZ Matawai 130.69 118 *e*PN PKPdf 10 14 21.8 -2.1
MWZ Matawai 130.69 118 *e*P PKPdf 10 14 24.6 +0.7
CFAA Coronel Fontan 131.58 251 PKP PKPdf 10 14 27.2 +1.6
comp=Z,0.4nm,0.8s,baz=256,slow=5.7,SNR=4.5
PLCA Paso Flores 134.33 239 PKP PKPdf 10 14 31.9 +1.1
comp=Z,1.4nm,0.8s,baz=243,slow=4.5,SNR=3.8
PPT Papeete 154.61 72 *e*PP PP 10 18 52.8 -11
comp=Z,97nm,24.2s
PPT Papeete 154.61 72 *e*LR LR 11 06 52.3
comp=Z,439nm,24.8s
TBI Tubuai 156.85 85 *e*LR LR 11 07 54.2
comp=Z,371nm,26.5s
RKT Rikitea 169.32 68 *e*PP PP 10 20 24.0 +1.8
comp=Z,124nm,30.2s
RKT Rikitea 169.32 68 *e*LR LR 11 13 43.2
comp=Z,567nm,22.5s

TEH ***25*** *09:59:48.0,2769N×5580E,h18km,ML5.2*
OMAN ***25*** *10:00:19.8,2891N×5530E,h31km,Error ellipse: s-maj=129.9km s-min=26.3km az=346.0*
SFS ***25*** *10:00:20.0,2885N×5700E,h0km,ML5.4*
SZGRF ***25*** *10:00:31.8,2731N×5683E,h33km,mb5.3,Southern Iran*
ISCJB ***25*** *10:00:34.0±0.1,2760N±002×5571E±002,h10km, mb5.3/229,MS5.0/17,Error ellipse: s-maj=3.0km s-min=2.0km az=37.9*
CSEM ***25*** *10:00:35.6±0.1,2759N×5571E,h23km,mb5.4/99,Mw5.2, Error ellipse: s-maj=2.2km s-min=1.5km az=20.0*
HRVD ***25*** *10:00:36.6±0.5,2741N×5566E,h12km,MW5.2/83, Centroid moment Tensor Solution. LP body waves: s41,c56;Mantle waves: s83,c139; Half duration: 1s0 Moment tensor: Scale 1017Nm; Mrr0.62±.02; Mθθ-0.72±.02; Mφφ0.09±.02; Mrθ0.39±.07; Mrφ0.14±.02; Mθφ-0.20±.08; Best double couple: M0.81000×1017 NP1:φs267.00000°,δ30.00000°,λ70.00000°. NP2: φs110.00000°,δ62.00000°,λ101.00000°. Principal axes: T 0.7610, Plg71.0000°, Azm45.0000°; N 0.0990, Plg10.0000°, Azm284.0000°; P -0.8600, Plg16.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *10:00:36.6,2747N×5580E,h15km,mb5.5/119, ML5.0(THR),MN5.2(TEH),After THR.*
BJI ***25*** *10:00:36.6,2750N×5580E,h15km,mB5.3,mb5.2,Ms5.3, Msz5.0*
THR ***25*** *10:00:37.0±0.9,2747N×5579E,h15km,ML5.0*
MOS ***25*** *10:00:37.0±0.9,2759N×5574E,h33km,mb5.5/98,Error ellipse: s-maj=5.6km s-min=2.7km az=128.9*
CRAAG ***25*** *10:00:38.2,2762N×5573E,Mb5.5*
BGS ***25*** *10:00:38.1±1.6,27.19N×5535E,h33km,mb5.4*
IDC ***25*** *10:00:39.5±1.3,2756N×5575E,h39km±11km,mb4.9/33, mb1 5.0/33,mb1mx4.9/35,mbtmp5.1/33,Error ellipse: s-maj=9.8km s-min=8.6km az=27.0*
ISC 25 10:00:35.8±0.1,2761N±002×5572E±002,h10km, (h18km±2.0km:pP-P),n902,σ1§02/926,mb5.3/229, MS5.0/17,73C-20D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.45**	**117**	*e*PG	**Pg**	**10 00 43.8**	**-0.8**
BNDS				*e*Sg	**Sg**	**10 00 49.9**	**-0.7**
BNDS				AML	AML	10 01 03.8	
	comp=N,127μm,0.7s						
BNDS				AML	AML	10 01 04.2	
	comp=E,119μm,0.5s						
BNDS	**Bandar-Abbas**	**0.45**	**117**	*e*Pg	**Pg**	**10 00 43.8**	**-0.8**
	SNR=99						
BNDS				*e*Sg	**Sg**	**10 00 49.8**	**-0.8**
	SNR=99						
BNDS	**Bandar-Abbas**	**0.45**	**117**	*e*Pg	**Pg**	**10 00 43.0**	**-1.6**
BANOM	**Banah**	**1.76**	**163**	P	**Pn**	**10 01 06.7**	**+0.4**
	SNR=50						
BANOM				⇓S	**Sn**	**10 01 28.9**	**+0.2**
GHIR	**Ghir-Karzin**	**2.51**	**286**	*e*Pn	**Pb**	**10 01 21.0**	**0.0**
GHIR				AML	AML	10 02 07.1	
	comp=E,5μm,0.6s						
GHIR				AML	AML	10 02 07.4	
	comp=N,4μm,0.6s						
GHIR	**Ghir-Karzin**	**2.51**	**286**	*i* P	**Pb**	**10 01 20.0**	**-1.0**
KRBR	**Kerman**	**2.54**	**21**	*e*Pn	**Pb**	**10 01 21.3**	**-0.1**
KRBR				AML	AML	10 01 58.7	
	comp=N,11μm,0.5s						
KRBR				AML	AML	10 02 08.7	
	comp=E,9μm,0.7s						
KRBR	**Kerman**	**2.54**	**21**	*i* P	**Pb**	**10 01 21.0**	**-0.4**
ASHO	**Ashiyiah**	**2.93**	**174**	P	**Pn**	**10 01 23.7**	**+1.3**
	SNR=92						
IMOK	**Mook**	**3.01**	**299**	*e*Pn	**Pb**	**10 01 29.7**	**+0.2**
IMOK				*e*Lg		10 02 21.9	
IMOK				*e*Lg		10 02 23.0	
IPAR	**Pars**	**3.23**	**314**	*e*Pn	**Pn**	**10 01 30.3**	**+3.7**
IPAR				*e*Lg		10 02 23.5	
IPAR				*e*Lg		10 02 23.6	
IPAR	**Pars**	**3.23**	**314**	Pn	**Pn**	**10 01 30.2**	**+3.6**
IPAR				Lg		10 02 23.4	
IPAR				Lg		10 02 23.5	
SHI	**Shiraz**	**3.47**	**306**	*e*Pn	**Pn**	**10 01 34.2**	**+4.3**
IMEH	**Mehriz**	**3.89**	**346**	*e*Pn	**Pn**	**10 01 39.6**	**+4.0**
IMEH				*e*Sn	**Sn**	**10 02 21.9**	**+0.5**
IMEH	**Mehriz**	**3.89**	**346**	*e*Sn	**Sn**	**10 02 21.9**	**+0.5**
IBAF	**Bafgh**	**3.97**	**358**	*e*Pn	**Pn**	**10 01 40.1**	**+3.4**
IBAF				*e*Sn	**Sn**	**10 02 23.8**	**+0.5**
IBAF				*e*Sn	**Sn**	**10 02 24.2**	**+0.9**
IBAF	**Bafgh**	**3.97**	**358**	*e*Pn	**Pn**	**10 01 40.1**	**+3.4**
IBAF				*e*Sn	**Sn**	**10 02 23.8**	**+0.5**
IBAF	**Bafgh**	**3.97**	**358**	Pn	**Pn**	**10 01 40.0**	**+3.3**
IBAF				Sn	**Sn**	**10 02 23.7**	**+0.4**
IBAF				Sn	**Sn**	**10 02 24.2**	**+0.9**
HOQ	**Hoqain**	**4.26**	**160**	⇓P	**Pn**	**10 01 39.3**	**-1.3**
ARQ	**Araqi**	**4.31**	**170**	⇑P	**Pn**	**10 01 42.8**	**+1.3**
BIDO	**Bidbid**	**4.61**	**151**	P	**Pn**	**10 01 45.3**	**-0.3**
	SNR=11						
ISAD	**Sadrabad**	**4.64**	**338**	*e*Sn	**Sn**	**10 02 40.1**	**+0.2**
ISAD				*e*Sn	**Sn**	**10 02 40.4**	**+0.5**
ICHK	**Chekchek**	**4.76**	**346**	*e*Pn	**Pn**	**10 01 51.2**	**+3.6**
ZHSF	**Zahedan**	**4.87**	**65**	*e*Pn	**Pn**	**10 01 52.3**	**+3.2**
ZHSF	**Zahedan**	**4.87**	**65**	*i* P	**Pn**	**10 01 52.0**	**+2.9**
JMDO	**Jabal Madar**	**5.64**	**157**	⇑P	**Pn**	**10 02 00.4**	**+0.7**
NASN	**Na'in**	**5.75**	**335**	*i* P	**Pn**	**10 02 04.0**	**+2.8**
WBK	**Wadi Bani Khal**	**5.78**	**149**	⇓P	**Pn**	**10 02 01.5**	**-0.1**
	SNR=19						
SHAO	**Shalim**	**9.54**	**181**	⇑P	**Pn**	**10 02 52.1**	**-1.1**
IKOM	**Komasi**	**9.62**	**315**	*e*Pn	**Pn**	**10 02 54.9**	**+0.6**
IKOM	**Komasi**	**9.62**	**315**	Pn	**Pn**	**10 02 54.8**	**+0.5**
WHFO	**Wadi Hawf**	**9.81**	**191**	⇓S	**Sn**	**10 04 36.9**	**-10**
RBK	**Rabkut**	**10.15**	**188**	⇓P	**Pn**	**10 03 01.1**	**-0.5**
	SNR=15						
BHJ	**Bhuj**	**13.31**	**106**	AMb	AMB	09 58 22.7	
	comp=Z,38nm,0.6s						
BHJ				*e*P		10 03 45.0	
BHJ				AMb	AMB	10 03 49.8	
	comp=Z,126nm,1.1s						
CUKT	**Cukurca**	**14.02**	**316**	P	**Pn**	**10 03 53.3**	**-1.2**
CLDR	**Caldiran**	**15.13**	**322**	P	**Pn**	**10 04 02.2**	**-7.4**
GNI	**Garni**	**15.46**	**327**	P	**Pn**	**10 04 18.2**	**+4.3**
GNI	**Garni**	**15.46**	**327**	Pn	**Pn**	**10 04 21.5**	**+7.6**
	comp=Z,13nm,0.3s,baz=43,slow=1.1,SNR=28						
GNI	**Garni**	**15.46**	**327**	*e*P	**Pn**	**10 04 21.3**	**+7.4**
	comp=Z,258nm,0.8s						
GNI	**Garni**	**15.46**	**327**	*e*P	**Pn**	**10 04 21.3**	**+7.4**
GNI				pmax	pmax		
	comp=Z,258nm,0.8s						
MAK	**Makhachkala**	**16.71**	**339**	*c i*P	**Pn**	**10 04 35.4**	**+5.5**
MAK				pmax	pmax		
	comp=Z,1μm,1.6s						
AJM	**Ajmer**	**16.90**	**89**	AMb	AMB	09 59 19.9	
	comp=Z,156nm,1.3s						
AJM				AMb	AMB	09 59 19.9	
	comp=Z,156nm,1.3s						
AJM				*e*P		10 04 31.9	
AJM				AMb	AMB	10 04 38.1	
	comp=Z,224nm,0.9s						
BKR	**Bakuriani**	**17.28**	**328**	P	**Pn**	**10 04 44.5**	**+7.4**
KHET	**Khetri**	**17.77**	**84**	*e*P	**Pn**	**10 04 42.5**	**-0.7**
KHET				*e*P		10 04 43.1	
KHET				AMb	AMB	10 04 50.9	
	comp=Z,189nm,1.1s						
ZEI	**Tsey**	**17.92**	**331**	*e*P	**Pn**	**10 04 48.3**	**+3.2**
ZEI				*e*S	**Sn**	**10 08 03.9**	**-1.0**
MALT	**Malatya**	**17.99**	**311**	P	**Pn**	**10 04 43.9**	**-1.9**
MALT	**Malatya**	**17.99**	**311**	*e*Pn	**Pn**	**10 04 45.8**	**-0.1**
MALT				*e*Sn	**Sn**	**10 08 01.9**	**-4.6**
GUMT	**Gumushane**	**18.55**	**318**	P	**Pn**	**10 04 53.4**	**+0.6**
AYAN	**Aya Nagar**	**18.91**	**82**	*e*P	**Pn**	**10 04 55.4**	**-1.8**
AYAN				AMb	AMB	10 05 03.7	
	comp=Z,195nm,1.2s						
KIV	**Kislovodsk**	**19.40**	**331**	Pn	**Pn**	**10 05 05.6**	**+2.6**
	comp=Z,2μm,0.8s,SNR=8.1						
KIV	**Kislovodsk**	**19.40**	**331**	*i* P	**Pn**	**10 05 05.1**	**+2.1**
	comp=Z,263nm,1.0s						
KIV	**Kislovodsk**	**19.40**	**331**	*e*P	**Pn**	**10 05 04.2**	**+1.2**
	comp=Z,333nm,0.8s						
KIV	**Kislovodsk**	**19.40**	**331**	*c i*P	**Pn**	**10 05 05.1**	**+2.1**
KIV				pmax	pmax		
	comp=Z,263nm,1.0s						
KOZT	**Kozan**	**19.41**	**305**	P	**Pn**	**10 05 05.1**	**+1.9**
KK31	**Karatay Array**	**19.56**	**34**	*i* P	**Pn**	**10 05 04.0**	**-1.0**
	comp=Z,116nm,1.0s						
KK31	**Karatay Array**	**19.56**	**34**	*i* P	**Pn**	**10 05 04.0**	**-1.0**
KK31				pmax	pmax		
	comp=Z,116nm,1.0s						
KKAR	**Karatay Array**	**19.56**	**34**	*e*P	**Pn**	**10 05 04.0**	**-1.0**
	comp=Z,122nm,1.1s						
KKAR	**Karatay Array**	**19.56**	**34**	*e*P	**Pn**	**10 05 04.0**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,122nm,1.1s						
SVSK	**Karacayir**	**19.78**	**313**	P	**Pn**	**10 05 08.3**	**+0.7**
KAD	**Karad**	**19.88**	**117**	AMb	AMB	09 59 50.9	
	comp=Z,52nm,1.2s						
KAD				AMb	AMB	09 59 50.9	
	comp=Z,52nm,1.2s						
KAD				*e*P		10 05 06.5	
KARA	**Karaisali**	**19.89**	**304**	P	**Pn**	**10 05 09.2**	**+0.3**
KLP	**Kalpa**	**19.98**	**73**	*e*P	**Pn**	**10 05 09.8**	**-0.1**
ATD	**Arta Tunnel**	**20.05**	**220**	P	**P**	**10 05 10.6**	**+1.6**
	comp=Z,70nm,0.9s,baz=355,slow=11,SNR=6.2						
ATD	**Arta Tunnel**	**20.05**	**220**	P	**P**	**10 05 10.6**	**+1.6**
BHPL	**Bhopal**	**20.07**	**98**	AMb	AMB	09 59 53.7	
	comp=Z,131nm,1.0s						
BHPL				AMb	AMB	09 59 53.7	
	comp=Z,131nm,1.0s						
BHPL				*e*P		10 05 10.4	
BHPL				AMb	AMB	10 05 16.0	
	comp=Z,137nm,1.4s						
MERS	**Mersin**	**20.14**	**303**	P	**P**	**10 05 13.7**	**+3.7**
GOF	**Gofitskoye**	**20.15**	**333**	*e*P	**P**	**10 05 11.6**	**+1.5**
	comp=Z,200nm,1.3s						
GOF	**Gofitskoye**	**20.15**	**333**	*e*P	**P**	**10 05 11.6**	**+1.5**
GOF				pmax	pmax		
	comp=Z,200nm,1.3s						
SOC	**Sochi**	**20.52**	**325**	*e*P	**P**	**10 05 15.6**	**+1.5**
	comp=Z,267nm,1.0s						
SOC	**Sochi**	**20.52**	**325**	*de*P	**P**	**10 05 15.6**	**+1.5**
SOC				pmax	pmax		
	comp=Z,267nm,1.0s						
KSH	**Kashi**	**20.59**	**50**	P	**P**	**10 05 16.8**	**+2.0**
KSH				AP		10 05 23.8	
KSH				XP	sP	10 05 27.5	+8.5
KSH				PP		10 05 38.5	
KSH				PPP		10 05 47.5	
KSH				S	**S**	**10 09 00.0**	**-5.0**
KSH				SCS	ScS	10 16 42.3	-3.0
KSH				AMB	AMB		
	comp=Z,66nm,0.7s						
KSH				AMB	AMB		
	comp=Z,1μm,3.8s						
KSH				LR	LR		
	comp=N,14μm,15.8s,MS5.5						
KSH				LR	LR		
	comp=E,9μm,12.9s,MS5.5						
KSH				LR	LR		
	comp=Z,7μm,10.4s,MS5.3						
AML	**Almayashu**	**20.61**	**41**	P	**P**	**10 05 16.6**	**+1.5**
	SNR=7.5						
EKS2	**Erkin-Say**	**21.00**	**40**	P	**P**	**10 05 21.3**	**+2.0**
	SNR=19						
UCH	**Uchtor**	**21.15**	**42**	P	**P**	**10 05 22.4**	**+1.4**
	SNR=7.9						
AAK	**Ala-Archa**	**21.39**	**41**	P	**P**	**10 05 25.5**	**+2.0**
	SNR=18						
KZA	**Kyzart**	**21.50**	**43**	P	**P**	**10 05 30.0**	**+5.3**
	SNR=15						
FRU	**Bishkek**	**21.58**	**40**	*e*P	**P**	**10 05 25.0**	**-0.6**
	comp=Z,290nm,1.9s,mb5.4						
FRU	**Bishkek**	**21.58**	**40**	*e*P	**P**	**10 05 25.0**	**-0.6**
FRU				pmax	pmax		
	comp=Z,290nm,1.9s,mb5.4						
KBK	**Karagaybulak**	**21.67**	**41**	P	**P**	**10 05 27.9**	**+1.4**
	SNR=14						
KAMT	**Kaman**	**21.72**	**308**	P	**P**	**10 05 28.1**	**+1.0**
CHMS	**Chumysh**	**21.77**	**40**	P	**P**	**10 05 31.0**	**+3.5**
	SNR=15						
USP	**Ospenovka**	**21.79**	**39**	P	**P**	**10 05 28.1**	**+0.2**
	SNR=13						
AB31	**Akbulak array**	**21.86**	**7**	*e*P	**P**	**10 05 29.1**	**+0.5**
	comp=Z,692nm,1.2s,mb6.0						
AB31	**Akbulak array**	**21.86**	**7**	*e*P	**P**	**10 05 29.1**	**+0.5**
AB31				pmax	pmax		
	comp=Z,692nm,1.2s,mb6.0						
BR131	**Keskin Array S**	**21.93**	**309**	*e*P	**P**	**10 05 30.0**	**+0.7**
	comp=Z,54nm,0.7s,mb5.1						
BR131	**Keskin Array S**	**21.93**	**309**	*e*P	**P**	**10 05 30.1**	**+0.7**
	comp=Z,54nm,0.7s,mb5.1						
BRTR	**Keskin Array B**	**21.93**	**309**	P	**P**	**10 05 30.3**	**+1.0**
	comp=Z,63nm,0.8s,mb5.1,baz=130,slow=12,SNR=21						
BRTR				S	**S**	**10 09 36.3**	**+4.8**
	comp=Z,4.4nm,1.0s,baz=109,slow=17,SNR=3.2						
BRTR				ScP	ScP	10 13 02.4	-3.1
	comp=Z,2.6nm,1.0s,baz=156,slow=3.4,SNR=4.0						
KONT	**Konya--Tatoy**	**22.13**	**304**	P	**P**	**10 05 32.6**	**+1.1**
ULHL	**Ulahol**	**22.20**	**44**	P	**P**	**10 05 33.7**	**+1.5**
	SNR=13						
TKM2	**Tokmak 2**	**22.21**	**41**	P	**P**	**10 05 33.5**	**+1.2**
	SNR=20						
TKM2	**Tokmak 2**	**22.21**	**41**	*i* P	**P**	**10 05 33.3**	**+1.0**
	comp=Z,97nm,1.1s,mb5.2						
TKM2	**Tokmak 2**	**22.21**	**41**	*i* P	**P**	**10 05 33.3**	**+1.0**
TKM2				pmax	pmax		
	comp=

TOS	**Tosya**	**22.30**	**313**	P	**P**	**10 05 34.9**	**+1.6**
ANN	**Anapa**	**22.54**	**324**	*e*P	**P**	**10 05 39.7**	**+3.8**
ANN				*e*S	**S**	**10 09 45.5**	**+2.1**
ANN				pmax	pmax		
	comp=Z,259nm,1.3s,mb5.5						
ANTO	**Ankara**	**22.58**	**309**	*e*P	**P**	**10 05 37.6**	**+1.4**
	comp=Z,162nm,1.0s,mb5.4						
ANTO	**Ankara**	**22.58**	**309**	*e*P	**P**	**10 05 37.6**	**+1.4**
	comp=Z,162nm,1.0s,mb5.4						
ANTO	**Ankara**	**22.58**	**309**	*e*P	**P**	**10 05 37.6**	**+1.4**
ANTO				pmax	pmax		
	comp=Z,162nm,1.0s,mb5.4						
KIZT	**Kizilcal**	**22.82**	**306**	P	**P**	**10 05 39.5**	**+0.6**
AKTK	**Aktyubinsk**	**22.86**	**4**	*i* P	**P**	**10 05 39.9**	**+0.7**
	comp=Z,124nm,1.7s,mb5.1						
AKTK	**Aktyubinsk**	**22.86**	**4**	P	**P**	**10 05 39.3**	**+0.1**
AKTK				S	**S**	**10 09 48.0**	**-1.0**
AKTO	**Aktyubinsk**	**22.86**	**4**	P	**P**	**10 05 39.3**	**+0.1**
	comp=Z,178nm,1.0s,mb5.5,baz=196,slow=9.8,SNR=18						
AKTO				S	**S**	**10 09 48.0**	**-1.0**
	comp=Z,18nm,1.0s,baz=54,slow=19,SNR=5.3						
AKTO	**Aktyubinsk**	**22.86**	**4**	*i* P	**P**	**10 05 39.9**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,124nm,1.7s,mb5.1						
SAFT	**Safranbolu**	**23.28**	**312**	P	**P**	**10 05 44.5**	**+0.8**
HYB	**Hyderabad**	**23.37**	**111**⇑	*i*P	**P**	**10 05 45.0**	**+0.4**
	comp=Z,90nm,1.0s,mb5.2						
HYB	**Hyderabad**	**23.37**	**111**⇑	*e*P	**P**	**10 05 45.0**	**+0.4**
	comp=Z,90nm,1.0s,mb5.2						
HYB	**Hyderabad**	**23.37**	**111**⇑	*e*P	**P**	**10 05 45.0**	**+0.4**
HYB				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.2						
ISP	**Isparta**	**23.47**	**302**	*e*P	**P**	**10 05 46.3**	**+0.6**
	comp=Z,63nm,0.9s,mb5.0						
ISP	**Isparta**	**23.47**	**302**	*e*P	**P**	**10 05 46.3**	**+0.6**
ISP				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.0						
ELL	**Elmali**	**23.61**	**299**	*e*P	**P**	**10 05 48.5**	**+1.5**
SIM	**Simferopol'**	**24.43**	**321**	*e*P	**P**	**10 05 55.5**	**+1.0**
	comp=Z,260nm,0.9s,mb5.7						
SIM	**Simferopol'**	**24.43**	**321**	*e*P	**P**	**10 05 55.5**	**+1.0**
SIM				*e*S	**S**	**10 10 03.0**	**-11**
SIM				pmax	pmax		
	comp=Z,260nm,0.9s,mb5.7						
KOLN	**Koldanda**	**24.67**	**83**	*e*P	**P**	**10 05 58.6**	**+1.9**
	comp=Z,325nm,1.2s,mb5.7						
DANN	**Dangsing**	**24.75**	**82**	*e*P	**P**	**10 05 59.9**	**+2.4**
	comp=Z,77nm,1.2s						
HRT	**Hereke**	**25.15**	**308**	*e*P	**P**	**10 06 00.1**	**-0.9**
YLV	**Yalova**	**25.25**	**308**	*e*P	**P**	**10 06 00.3**	**-1.7**
DAT	**Datca**	**25.43**	**298**	*e*P	**P**	**10 06 00.1**	**-3.5**
DST	**Dursunbey**	**25.44**	**305**	*e*P	**P**	**10 06 04.7**	**+1.0**
KARP	**Karpathos**	**25.52**	**295**	*e*P	**P**	**10 06 05.7**	**+1.2**
BADT	**Buyukada**	**25.54**	**308**	*e*P	**P**	**10 06 04.5**	**-0.1**
GKN	**Gorkha**	**25.56**	**82**	*e*P	**P**	**10 06 06.3**	**+1.5**
	comp=Z,417nm,1.2s,mb5.8						
BODT	**Bodrum**	**25.71**	**299**	*e*P	**P**	**10 06 06.4**	**+0.2**
VRHR	**Novokhopersk**	**25.77**	**339**	*e*P	**P**	**10 06 07.2**	**+0.5**
	comp=Z,460nm,2.2s,mb5.6						
VRHR	**Novokhopersk**	**25.77**	**339**	*e*P	**P**	**10 06 07.2**	**+0.5**
VRHR				pmax	pmax		
	comp=Z,200nm,0.7s,mb5.8						
VRHR				pmax	pmax		
	comp=N,460nm,2.2s						
VRHR				pmax	pmax		
	comp=E,210nm,1.5s						
DMN	**Daman**	**26.01**	**83**	*e*P	**P**	**10 06 10.5**	**+1.6**
	comp=E,381nm,1.2s,mb5.8						
IZM	**Izmir**	**26.08**	**302**	*e*P	**P**	**10 06 10.4**	**+0.9**
KKN	**Kakani**	**26.15**	**83**	*e*P	**P**	**10 06 11.9**	**+1.8**
	comp=E,417nm,1.1s,mb5.9						
KKN	**Kakani**	**26.15**	**83**	*e*P	**P**	**10 06 11.9**	**+1.8**
KKN				pmax	pmax		
	comp=Z,209nm,1.1s,mb5.6						
ZKR	**Zakros**	**26.22**	**294**	*e*P	**P**	**10 06 12.1**	**+1.4**
SMG	**Samos**	**26.23**	**300**	*e*P	**P**	**10 06 11.0**	**+0.1**
PKI	**Pulchoki**	**26.29**	**83**	*e*P	**P**	**10 06 12.9**	**+1.5**
	comp=Z,538nm,1.1s,mb6.0						
PKI	**Pulchoki**	**26.29**	**83**	*e*P	**P**	**10 06 12.9**	**+1.5**
PKI				pmax	pmax		
	comp=Z,269nm,1.1s,mb5.7						
XRY	**Khrisi**	**26.61**	**293**	*e*P	**P**	**10 06 15.8**	**+1.5**
GUN	**Gumba**	**26.66**	**82**	*e*P	**P**	**10 06 16.8**	**+2.1**
	comp=Z,953nm,1.2s,mb6.2						
NPS	**Neapolis**	**26.73**	**294**	*e*P	**P**	**10 06 16.5**	**+1.1**
LAST	**Lasithi**	**26.82**	**294**	*e*P	**P**	**10 06 17.8**	**+1.6**
JIRN	**Jiri**	**26.96**	**83**	*e*P	**P**	**10 06 19.2**	**+1.7**
	comp=Z,521nm,1.1s,mb6.0						
SANT	**Santorini**	**27.03**	**296**	*e*P	**P**	**10 06 16.0**	**-2.0**
PRK	**Paraskevi**	**27.06**	**303**	*e*P	**P**	**10 06 20.0**	**+1.6**
APE	**Apeiranthos**	**27.10**	**298**	*e*P	**P**	**10 06 20.1**	**+1.4**
APE	**Apeiranthos**	**27.10**	**298**	⇑P	**P**	**10 06 19.2**	**+0.5**
ZRNK	**Zerenda**	**27.18**	**18**	*e*P	**P**	**10 06 19.2**	**-0.2**
	comp=Z,102nm,1.3s,mb5.2						
ZRNK				*e*pP	pP	10 06 26.6	+4.2
ZRNK	**Zerenda**	**27.18**	**18**	*e*P	**P**	**10 06 19.2**	**-0.2**
	comp=Z,102nm,1.3s,mb5.2						
ZRNK				*e*pP	pP	10 06 26.6	+4.2
ZRNK	**Zerenda**	**27.18**	**18**	*e*P	**P**	**10 06 19.2**	**-0.2**
ZRNK				*e*PP	pP	10 06 26.7	+4.3
ZRNK				pmax	pmax		
	comp=Z,102nm,1.3s,mb5.2						
VIS	**Vishakhapatnam**	**27.25**	**105**	AMb	AMB	10 00 59.8	
	comp=Z,20nm,0.9s,mb4.7						
VIS				AMb	AMB	10 01 06.3	
	comp=Z,32nm,1.5s,mb4.6						
VIS				AMb	AMB	10 01 06.3	
	comp=Z,32nm,1.5s,mb4.6						
IDI	**Anoyia**	**27.32**	**294**	P	**P**	**10 06 21.3**	**+0.6**
	comp=Z,44nm,0.9s,mb5.0,baz=117,slow=7.7,SNR=14						
PSN	**Preselentsi**	**27.36**	**313**	*i* P	**P**	**10 06 22.0**	**+0.9**
BOK	**Bokaro**	**27.41**	**91**	AMb	AMB	10 01 04.4	
	comp=Z,94nm,1.8s,mb5.0						
BOK				*e*P		10 06 22.7	
BOK				AMb	AMB	10 06 25.4	
	comp=Z,100nm,1.1s,mb5.2						
VOSK	**Vostochnaya**	**27.55**	**20**	P	**P**	**10 06 22.7**	**0.0**
	comp=Z,107nm,1.3s,mb5.3						
VOSK	**Vostochnaya**	**27.55**	**20**	P	**P**	**10 06 22.7**	**0.0**
VOSK				pmax	pmax		
	comp=Z,107nm,1.3s,mb5.3						
EDRB	**Edirne**	**27.57**	**309**	*e*P	**P**	**10 06 21.3**	**-1.6**
TIRR	**Tirgusor**	**27.57**	**315**	⇑P	**P**	**10 06 23.1**	**+0.1**
TIRR	**Tirgusor**	**27.57**	**315**	*e*P	**P**	**10 06 22.7**	**-0.3**
BRVK	**Borovoye**	**27.63**	**19**	P	**P**	**10 06 24.9**	**+1.4**
	comp=Z,480nm,1.1s,mb6.0,SNR=7.9						
BRVK	**Borovoye**	**27.63**	**19**	*e*P	**P**	**10 06 21.9**	**-1.6**
	comp=Z,72nm,1.2s,mb5.2						
BRVK	**Borovoye**	**27.63**	**19**	*e*P	**P**	**10 06 21.9**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,72nm,1.2s,mb5.2						
BVA0	**Borovoye Array**	**27.63**	**19**	P	**P**	**10 06 24.0**	**+0.5**
	comp=Z,30nm,1.3s,mb4.8						
BVA0	**Borovoye Array**	**27.63**	**19**	P	**P**	**10 06 24.0**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.8						
BVAR	**Borovoye Array**	**27.63**	**19**	P	**P**	**10 06 23.7**	**+0.2**
	comp=Z,58nm,1.0s,mb5.2,baz=208,slow=6.0,SNR=15						
BVAR				PcP	PcP	10 09 40.3	-0.4
	comp=Z,5.8nm,0.6s,baz=214,slow=2.8,SNR=6.6						
BVAR	**Borovoye Array**	**27.63**	**19**	PcP	PcP	10 09 40.3	-0.4
ALN	**Alexandroupoli**	**27.73**	**306**	*e*P	**P**	**10 06 24.8**	**+0.4**
VAM	**Vamos**	**27.89**	**294**	*e*P	**P**	**10 06 25.0**	**-0.8**
HARR	**Harsova**	**27.99**	**315**	⇑P	**P**	**10 06 27.4**	**+0.7**
CFR	**Carcaliu**	**28.09**	**316**	⇓P	**P**	**10 06 27.9**	**+0.3**
RDO	**Rodhopi**	**28.18**	**306**	*e*P	**P**	**10 06 27.0**	**-1.4**
CHKZ	**Chkalovo**	**28.27**	**19**	*i* P	**P**	**10 06 29.6**	**+0.4**
	comp=Z,49nm,1.6s,mb4.9						
CHKZ	**Chkalovo**	**28.27**	**19**	*i* P	**P**	**10 06 29.6**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,49nm,1.6s,mb4.9						
MK31	**Makanchi Array**	**28.33**	**40**	*i* P	**P**	**10 06 29.4**	**-0.3**
	comp=Z,27nm,0.8s,mb4.9						
MK31	**Makanchi Array**	**28.33**	**40**	*i* P	**P**	**10 06 29.4**	**-0.3**
MK31				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**28.33**	**40**	P	**P**	**10 06 30.4**	**+0.8**
	comp=Z,4.2nm,0.5s,mb4.3,baz=225,slow=7.3,SNR=18						
MKAR				PcP	PcP	10 09 40.9	-1.5
	comp=Z,6.2nm,0.9s,baz=270,slow=2.9,SNR=3.4						
MKAR				ScP	ScP	10 13 20.0	-3.5
	comp=Z,1.5nm,1.0s,baz=219,slow=1.8,SNR=2.3						
MKAR	**Makanchi Array**	**28.33**	**40**	P	**P**	**10 06 29.4**	**-0.3**
	comp=Z,22nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**28.33**	**40**	PcP	PcP	10 09 40.9	-1.5
MKAR	**Makanchi Array**	**28.33**	**40**	P	**P**	**10 06 30.4**	**+0.8**
MKAR				PcP	PcP	10 09 40.9	-1.5
MKAR				ScP	ScP	10 13 20.0	-3.5
MKAR	**Makanchi Array**	**28.33**	**40**	P	**P**	**10 06 29.4**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,22nm,0.8s						
KIS	**Kishinev**	**28.63**	**320**	*e*P	**P**	**10 06 35.0**	**+2.6**
MPAR	**Parnis Oros**	**28.72**	**300**	*e*P	**P**	**10 06 34.0**	**+0.8**
AOS	**Alonnisos**	**28.84**	**302**	*e*P	**P**	**10 06 36.1**	**+1.9**
ARU	**Arti**	**28.87**	**3**	*i* P	**P**	**10 06 34.6**	**0.0**
	comp=Z,37nm,1.1s,mb5.0						
ARU				*e*S	**S**	**10 11 23.6**	**-1.1**
ARU				*e*ScS	ScS	10 17 16.3	-2.6
ARU	**Arti**	**28.87**	**3**	⇓*i*P	**P**	**10 06 34.6**	**0.0**
ARU				*e*PPP		10 07 31.9	
ARU				*e*		10 09 38.1	
ARU				*e*S	**S**	**10 11 23.6**	**-1.1**
ARU				*e*SS	SS	10 12 49.0	-38
ARU				*e*SSS		10 13 03.4	
ARU				*e*		10 17 16.3	
ARU				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.0						
KURK	**Kurchatov**	**28.89**	**31**	*e*P	**P**	**10 06 35.0**	**+0.3**
	comp=Z,16nm,0.8s,mb4.8						
KURK	**Kurchatov**	**28.89**	**31**	*e*P	**P**	**10 06 35.0**	**+0.2**
	comp=Z,16nm,0.8s,mb4.8						
KURK	**Kurchatov**	**28.89**	**31**	*e*P	**P**	**10 06 35.0**	**+0.3**
KURK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
RZN	**Rozhen**	**28.94**	**307**	*i* P	**P**	**10 06 36.0**	**+0.9**
OUR	**Ouranopolis**	**29.06**	**304**	*e*P	**P**	**10 06 31.2**	**-5.0**
VRI	**Vrincioaia**	**29.29**	**316**	⇓P	**P**	**10 06 39.3**	**+1.0**
XOR	**Xorichti**	**29.40**	**302**	*e*P	**P**	**10 06 36.9**	**-2.4**
SRS	**Serrai**	**29.57**	**305**	*e*P	**P**	**10 06 41.5**	**+0.8**
MLR	**Muntele Rosu**	**29.61**	**315**	P	**P**	**10 06 42.6**	**+1.5**
	comp=Z,103nm,0.8s,mb5.6,baz=41,slow=2.6,SNR=18						
MLR	**Muntele Rosu**	**29.61**	**315**	⇑P	**P**	**10 06 43.8**	**+2.8**
MMB	**Musomiste**	**29.61**	**306**	*i* P	**P**	**10 06 43.0**	**+1.9**
SOH	**Sokhos**	**29.66**	**305**	*e*P	**P**	**10 06 42.8**	**+1.3**
THE	**Thessaloniki**	**29.89**	**304**	*e*P	**P**	**10 06 44.4**	**+0.9**
AGG	**Agios Georgios**	**29.98**	**301**	*e*P	**P**	**10 06 44.3**	**-0.1**
KNT	**Kendrikon**	**30.08**	**305**	*e*P	**P**	**10 06 45.7**	**+0.5**
VOIR		**30.15**	**314**	⇑P	**P**	**10 06 46.8**	**+1.0**
VOIR		**30.15**	**314**	P	**P**	**10 06 46.9**	**+1.1**
KKB	**Krupnik**	**30.16**	**307**	*i* P	**P**	**10 06 46.0**	**+0.1**
VTS	**Vitosha**	**30.30**	**308**	*i* P	**P**	**10 06 48.2**	**+1.1**
VTS	**Vitosha**	**30.30**	**308**	*e*P	**P**	**10 06 47.7**	**+0.6**
WMQ	**Urumqi**	**30.35**	**49**	P	**P**	**10 06 49.5**	**+1.9**
WMQ				AP	pP	10 06 56.8	+6.1
WMQ				XP	sP	10 07 00.0	+8.0
WMQ				PP	PP	10 07 49.3	-6.8
WMQ				PPP		10 08 03.5	
WMQ				PCP	PcP	10 09 49.0	+1.4
WMQ				S	**S**	**10 11 47.5**	**-0.4**
WMQ				SCS	ScS	10 17 23.0	-2.9
WMQ				AMB	AMB		
	comp=Z,92nm,1.1s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,632nm,4.3s						
WMQ				LR	LR		
	comp=N,10μm,24.0s,MS5.4						
WMQ				LR	LR		
	comp=E,5μm,26.0s,MS5.4						
WMQ				LR	LR		
	comp=Z,6μm,20.0s						
VAY	**Valandovo**	**30.36**	**305**	*e*P	**P**	**10 06 48.0**	**+0.3**
VAY	**Valandovo**	**30.36**	**305**	*i* P	**P**	**10 06 46.9**	**-0.9**
GRG	**Griva**	**30.39**	**305**	*e*P	**P**	**10 06 48.6**	**+0.7**
AKASG	**Malin Array Be**	**30.59**	**326**	P	**P**	**10 06 49.4**	**-0.4**
	comp=Z,49nm,0.7s,mb5.5,baz=134,slow=8.4,SNR=30						
AKASG				PcP	PcP	10 09 47.1	-1.1
	comp=Z,11nm,0.9s,baz=100,slow=2.2,SNR=6.2						
AKASG				S	**S**	**10 11 49.1**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=133,slow=15,SNR=4.1						
AKASG				ScP	ScP	10 13 28.9	-1.9
	comp=Z,0.9nm,0.7s,baz=108,slow=1.5,SNR=2.9						
AKASG	**Malin Array Be**	**30.59**	**326**	PcP	PcP	10 09 47.1	-1.1
AKASG				S	**S**	**10 11 49.2**	**-2.5**
OBN	**Obninsk**	**30.80**	**338**	*i* P	**P**	**10 06 52.1**	**+0.5**
	comp=Z,72nm,0.8s,mb5.5						
OBN	**Obninsk**	**30.80**	**338**	*e*P	**P**	**10 06 50.7**	**-0.9**
	comp=Z,64nm,0.7s,mb5.6						
OBN	**Obninsk**	**30.80**	**338**	⇓*i*P	**P**	**10 06 52.1**	**+0.5**
OBN				pmax	pmax		
	comp=Z,72nm,0.8s,mb5.5						
MOS	**Moscow**	**30.99**	**340**	*e*P	**P**	**10 06 51.8**	**-1.5**
	comp=Z,500nm,2.0s,mb6.0						
MOS	**Moscow**	**30.99**	**340**	*e*P	**P**	**10 06 51.8**	**-1.5**
MOS				*e*		10 07 53.8	
MOS				*e*PPP		10 08 05.9	
MOS				pmax	pmax		
	comp=Z,173nm,1.7s,mb5.6						
MOS				pmax	pmax		
	comp=Z,500nm,2.0s,mb6.0						
BURAR	**Bucovina Array**	**31.05**	**318**	⇑P	**P**	**10 06 55.0**	**+1.2**
BURAR	**Bucovina Array**	**31.05**	**318**	⇑P	**P**	**10 06 55.0**	**+1.3**
FNA	**Florina**	**31.09**	**304**	*e*P	**P**	**10 06 55.0**	**+0.8**
BIA	**Bitola**	**31.19**	**304**	*e*P	**P**	**10 06 54.3**	**-0.7**
SKO	**Skopje**	**31.36**	**306**	*i* P	**P**	**10 06 56.7**	**+0.1**
SKO	**Skopje**	**31.36**	**306**	*i* P	**P**	**10 06 56.6**	**+0.1**
SKO	**Skopje**	**31.36**	**306**	P	**P**	**10 06 58.3**	**+1.8**
BOLS	**Boljevac**	**31.57**	**310**	⇓*i*P	**P**	**10 06 59.2**	**+0.8**
OHR	**Ohrid**	**31.60**	**304**	*e*P	**P**	**10 06 58.8**	**+0.1**
OHR	**Ohrid**	**31.60**	**304**	*i* P	**P**	**10 06 58.0**	**-0.7**
SOKR	**Solikamsk**	**31.96**	**1**	*c i*P	**P**	**10 07 06.3**	**+4.5**
SOKR				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.6						
DRGR		**32.20**	**315**	⇑P	**P**	**10 07 04.7**	**+0.8**
BZS	**Buzias**	**32.43**	**313**	⇑P	**P**	**10 07 06.3**	**+0.4**
DIVS	**Divcibare**	**33.00**	**309**	⇑*i*P	**P**	**10 07 10.9**	**0.0**
DIVS	**Divcibare**	**33.00**	**309**	*e*P	**P**	**10 07 10.9**	**0.0**
UZH	**Uzhgorod**	**33.25**	**318**	*e*P	**P**	**10 07 13.0**	**-0.2**
KOLS	**Kolonicke sedl**	**33.40**	**319**	*i* P	**P**	**10 07 15.5**	**+1.0**
KOLS				*e*pP	pP	10 07 18.6	+1.1
KOLS	**Kolonicke sedl**	**33.40**	**319**	P	**P**	**10 07 16.0**	**+1.5**
LCI	**Lecce**	**33.43**	**302**	P	**P**	**10 07 16.3**	**+1.6**
KWP	**Kalwaria**	**33.48**	**320**	*e*P	**P**	**10 07 15.5**	**+0.4**
KMBO	**Kilima Mbogo**	**33.64**	**215**	P	**P**	**10 07 16.2**	**-0.3**
	comp=Z,9.3nm,1.0s,mb4.7,baz=18,slow=10,SNR=7.2						
KMBO	**Kilima Mbogo**	**33.64**	**215**	*e*P	**P**	**10 07 17.7**	**+1.2**
NVS	**Novosibirsk**	**33.77**	**29**	*i* P	**P**	**10 07 16.1**	**-1.5**
	comp=Z,144nm,1.6s,mb5.7						
NVS				*i* S	**S**	**10 12 40.4**	**-0.8**
NVS	**Novosibirsk**	**33.77**	**29**	*i* P	**P**	**10 07 16.1**	**-1.5**
NVS				*i* S	**S**	**10 12 40.4**	**-0.8**
NVS				pmax	pmax		
	comp=Z,112nm,1.5s,mb5.6						
NVS				pmax	pmax		
	comp=N,135nm,1.6s						
NVS				smax			
	comp=N,144nm,1.6s						
CRVS	**Cervenica-Dubn**	**33.87**	**318**	*e*P	**P**	**10 07 20.6**	**+2.1**
ZAL	**Zalesovo**	**33.87**	**31**	P	**P**	**10 07 18.5**	**0.0**
	comp=N,32nm,0.5s,mb5.5,baz=230,slow=7.8,SNR=39						
ZAL				S	**S**	**10 12 40.6**	**-2.1**
	comp=N,1.5nm,0.8s,baz=166,slow=24,SNR=6.6						
STON	**Ston**	**34.27**	**306**	P	**P**	**10 07 21.8**	**-0.2**
KECS	**Kecovo**	**34.27**	**317**	*i* P	**P**	**10 07 22.5**	**+0.5**
KECS				*e*		10 18 11.7	
KECS	**Kecovo**	**34.27**	**317**	P	**P**	**10 07 23.0**	**+1.0**
TIP	**Timpagrande**	**34.27**	**300**	P	**P**	**10 07 22.8**	**+0.8**
PSZ	**Piszkesteto**	**34.40**	**316**	⇑*i*P	**P**	**10 07 23.5**	**+0.3**
GRI	**Girifalco**	**34.49**	**299**	P	**P**	**10 07 25.0**	**+1.1**
PKSM	**Moragy**	**34.58**	**312**	⇓P	**P**	**10 07 24.7**	**0.0**
PKSM	**Moragy**	**34.58**	**312**	*i*	**P**	**10 07 24.7**	**0.0**
TDS	**Terranova Siba**	**34.66**	**301**	P	**P**	**10 07 27.2**	**+1.8**
IDID	**Didziasalis**	**34.72**	**331**	*e*P	**P**	**10 07 26.1**	**+0.3**
IDID				AMb	AMB	10 07 30.8	
	comp=Z,47nm,0.9s,mb5.4						
IDID	**Didziasalis**	**34.72**	**331**	*e*P	**P**	**10 07 26.1**	**+0.2**
	comp=Z,47nm,0.9s,mb5.4,SNR=27						
NIE	**Niedzica**	**34.77**	**318**	*e*P	**P**	**10 07 26.9**	**+0.6**
IIGN	**Ignalina**	**34.96**	**331**	*e*P	**P**	**10 07 28.4**	**+0.4**
IIGN				AMb	AMB	10 07 33.1	
	comp=Z,70nm,0.8s,mb5.7						
IIGN	**Ignalina**	**34.96**	**331**	*e*P	**P**	**10 07 28.4**	**+0.4**
	comp=Z,70nm,0.8s,mb5.7,SNR=26						
MTTG	**Motta San Giov**	**34.97**	**298**	P	**P**	**10 07 29.5**	**+1.4**
SCLL	**Scilla**	**34.98**	**298**	P	**P**	**10 07 29.5**	**+1.4**
KLMR	**Klimovskoe**	**35.00**	**346**	*i* P	**P**	**10 07 27.0**	**-1.3**
	comp=Z,200nm,1.7s,mb5.8						
KLMR	**Klimovskoe**	**35.00**	**346**	*c i*P	**P**	**10 07 27.0**	**-1.3**
KLMR				pmax	pmax		
	comp=Z,200nm,1.7s,mb5.8						
PTRP	**Pietrapertosa**	**35.00**	**302**	P	**P**	**10 07 29.9**	**+1.6**
ISAL	**Salakas**	**35.15**	**331**	*e*P	**P**	**10 07 29.8**	**+0.2**
ISAL				AMb	AMB	10 07 35.6	
	comp=Z,44nm,1.0s,mb5.4						
ISAL	**Salakas**	**35.15**	**331**	*e*P	**P**	**10 07 29.8**	**+0.2**
	comp=Z,44nm,1.0s,mb5.4,SNR=26						
IZAR	**Zarasai**	**35.21**	**331**	*e*P	**P**	**10 07 30.2**	**+0.1**
IZAR				AMb	AMB	10 07 35.2	
	comp=Z,41nm,1.0s,mb5.3						
IZAR	**Zarasai**	**35.21**	**331**	*e*P	**P**	**10 07 30.2**	**0.0**
	comp=Z,41nm,1.0s,mb5.3,SNR=26						
SRO2	**Moca**	**35.28**	**315**	*e*P	**P**	**10 07 31.0**	**+0.3**
VYHS	**Vyhne**	**35.28**	**316**	*i* P	**P**	**10 07 31.1**	**+0.4**
VYHS				*e*pP	pP	10 07 35.2	+1.4
VYHS	**Vyhne**	**35.28**	**316**	P	**P**	**10 07 31.3**	**+0.6**
AGST	**Augusta-Monte**	**35.28**	**296**	P	**P**	**10 07 30.9**	**+0.2**
LIKS	**Likavka**	**35.34**	**317**	*e*P	**P**	**10 07 31.9**	**+0.7**
SRO	**Srobarova**	**35.35**	**315**	*i* P	**P**	**10 07 32.2**	**+0.9**
SRO1	**Iza**	**35.38**	**315**	*e*P	**P**	**10 07 32.0**	**+0.4**
OJC	**Ojcow**	**35.42**	**319**	*i* Pc	**P**	**10 07 32.1**	**+0.2**
MRLC	**Muro Lucano**	**35.47**	**302**	P	**P**	**10 07 33.3**	**+0.9**
FG4	**Candela**	**35.51**	**303**	P	**P**	**10 07 35.6**	**+2.9**
SUW	**Suwalki**	**35.55**	**327**	*e*P	**P**	**10 07 32.9**	**-0.1**
RGNG	**Rignano Grg**	**35.55**	**304**	P	**P**	**10 07 34.8**	**+1.8**
SGO	**Sicignano**	**35.58**	**302**	P	**P**	**10 07 34.5**	**+1.2**
FG5	**Orsara di Pugl**	**35.72**	**303**	P	**P**	**10 07 36.1**	**+1.6**
CSSN	**Cassano Irpino**	**35.83**	**302**	P	**P**	**10 07 37.0**	**+1.5**
FG2	**Serracapriola**	**35.89**	**304**	P	**P**	**10 07 37.2**	**+1.3**
VAE	**Valguarnera**	**35.94**	**297**	P	**P**	**10 07 39.6**	**+3.2**
	comp=Z,46nm,0.8s,mb5.4,baz=36,slow=3.4,SNR=11						
VAE	**Valguarnera**	**35.94**	**297**	P	**P**	**10 07 39.6**	**+3.2**
CIGN	**Sant'Elia a Pi**	**36.05**	**304**	P	**P**	**10 07 38.5**	**+1.2**
JAVC	**Velka Javorina**	**36.13**	**316**	P	**P**	**10 07 39.3**	**+1.2**
SMOL	**Smolenice**	**36.16**	**316**	*e*P	**P**	**10 07 38.4**	**+0.2**
OKC	**Ostrava-Krasne**	**36.23**	**318**	*e*P	**P**	**10 07 38.2**	**-0.6**
OKC	**Ostrava-Krasne**	**36.23**	**318**	P	**P**	**10 07 39.0**	**+0.2**
KOGS	**Kog**	**36.23**	**312**	*e*P	**P**	**10 07 39.0**	**+0.2**
KOGS	**Kog**	**36.23**	**312**	*e*P	**P**	**10 07 39.0**	**+0.1**
ZST	**Bratislava**	**36.24**	**315**	*e*P	**P**	**10 07 38.7**	**-0.3**
SOP	**Sopron**	**36.41**	**314**	P	**P**	**10 07 40.8**	**+0.3**
CII	**Carovilli**	**36.50**	**304**	P	**P**	**10 07 42.2**	**+1.0**
MIDA	**Miranda**	**36.53**	**304**	P	**P**	**10 07 42.4**	**+1.0**
PUL	**Pulkovo**	**36.56**	**339**	*e*P	**P**	**10 07 42.0**	**+0.3**
	comp=Z,104nm,0.6s,mb5.8						
PUL	**Pulkovo**	**36.56**	**339**	*e*P	**P**	**10 07 42.0**	**+0.3**
PUL				pmax	pmax		
	comp=Z,115nm,0.8s,mb5.8						
PUL				pmax	pmax		
	comp=N,104nm,0.6s						
PUL				pmax	pmax		
	comp=E,153nm,0.9s						
MORC	**Moravsky Berou**	**36.56**	**318**	*e*P	**P**	**10 07 41.6**	**-0.1**
MORC	**Moravsky Berou**	**36.56**	**318**	*e*P	**P**	**10 07 41.5**	**-0.2**

WATA Walderalm 39.55 312⇑ *i*P P 10 08 06.4 -0.6
comp=Z,92nm,1.2s,mb5.4,SNR=18
WATA Walderalm 39.55 312 P P 10 08 06.6 -0.3
BDI Bagni Di Lucca 39.57 307 P **P 10 08 06.5 -0.6**
KAF Kangasniemi 39.62 339 *e*p **P 10 08 04.3 -3.2**
comp=Z,7.2nm,1.0s,mb4.4,baz=136,slow=8.7
KAF Kangasniemi 39.62 339 *e*P **P 10 08 04.3 -3.2**
KAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MAIM 39.62 306 P **P 10 08 07.5 0.0**
GSCL Gusciola 39.62 307 P **P 10 08 08.6 +1.1**
SARO Sassorosso 39.73 307 P **P 10 08 07.8 -0.6**
ERBM Eremo 39.76 307 P **P 10 08 09.9 +1.2**
SQTA Sankt Quirin 39.77 312⇑ *i*P P 10 08 08.2 -0.5
comp=Z,45nm,0.7s,mb5.3,SNR=65
SQTA Sankt Quirin 39.77 312 P **P 10 08 08.4 -0.3**
NKC Novy Kostel 39.80 317 *e*P **P 10 08 08.5 -0.5**
CLL Collm 39.82 318⇑ *i*P P 10 08 09.0 -0.1
comp=Z,64nm,1.1s,mb5.3
CLL *i* x x 10 08 12.2
comp=Z,68nm,0.9s
CLL *e*PPP 10 10 06.0
CLL *e*PPPP 10 10 14.0
CLL Collm 39.82 318⇑ *i*P P 10 08 09.0 -0.1
comp=Z,64nm,1.1s,mb5.3
CLL *i* pP 10 08 12.2 -0.1
CLL Collm 39.82 318⇑ *i*P P 10 08 09.0 -0.1
CLL pmax pmax
comp=Z,64nm,1.1s,mb5.3
VALM 39.86 307 P **P 10 08 09.0 -0.5**
MOTA Moosalm 39.87 312⇑ *i*P P 10 08 08.6 -0.9
comp=Z,65nm,0.9s,mb5.4,SNR=51
MOTA Moosalm 39.87 312 P **P 10 08 09.3 -0.3**
VINC Vinca 39.90 307 P **P 10 08 09.1 -0.7**
BACM 39.98 307 P **P 10 08 09.6 -0.9**
GRAM 40.02 307 P **P 10 08 10.3 -0.5**
CODM 40.15 307 P **P 10 08 11.0 -0.9**
BRMO Bormio 40.16 310 P **P 10 08 12.1 +0.1**
CORF Corte 40.38 304 *e*P **P 10 08 13.4 -0.5**
GRA1 Grafenberg Arr 40.40 315 *e*P **P 10 08 14.0 +0.1**
comp=Z,62nm,1.1s,mb5.2
GRF Grafenberg Arr 40.40 315 *e*P **P 10 08 14.0 +0.1**
comp=Z,62nm,1.1s,mb5.2
GRF Grafenberg Arr 40.40 315 *e*P **P 10 08 14.0 +0.1**
GRF pmax pmax
comp=Z,62nm,1.1s,mb5.2
MOX Moxa 40.43 317 *e*P **P 10 08 13.9 -0.4**
comp=Z,31nm,1.1s,mb5.0
MOX Moxa 40.43 317 *e*P **P 10 08 13.9 -0.4**
MOX pmax pmax
comp=Z,31nm,1.1s,mb5.0
BOB Bobbio (Coli) 40.49 308 P **P 10 08 14.3 -0.5**
PGF Pioggiola 40.52 304 *e*P **P 10 08 14.1 -0.9**
comp=Z,77nm,0.9s,mb5.0
PGF Pioggiola 40.52 304 *e*P **P 10 08 14.1 -0.9**
comp=Z,39nm,0.9s,mb5.0
PGF Pioggiola 40.52 304 *e*P **P 10 08 14.1 -0.9**
PGF pmax pmax
comp=Z,39nm,0.9s,mb5.0
DAVOX Davos 40.56 311 P **P 10 08 15.1 -0.2**
comp=Z,56nm,0.8s,mb5.2,baz=115,slow=8.1,SNR=32
DAVOX S **S 10 14 22.4 -2.2**
comp=Z,12nm,1.0s,baz=350,slow=21,SNR=6.1
UBR Uberruh 40.60 312 P **P 10 08 15.2 -0.4**
DAVA Damuels 40.67 311 *i*P **P 10 08 15.7 -0.5**
comp=Z,252nm,0.6s,mb6.0,SNR=59
DAVA Damuels 40.67 311 P **P 10 08 15.6 -0.6**
HDH Heidenheim 40.75 313 P **P 10 08 15.5 -1.4**
TUE Stuetta 40.86 310 P **P 10 08 17.9 +0.1**
PCP Pian Castagno 41.10 307 P **P 10 08 18.0 -1.7**
FIN Finale Ligure 41.29 307 P **P 10 08 20.0 -1.3**
SIND Sindeldorf 41.32 314 P **P 10 08 20.9 -0.7**
GUT Gutenstein 41.34 312 P **P 10 08 20.9 -0.8**
SISB Singen-Sch Ber 41.36 312 P **P 10 08 21.8 -0.1**
LZH Lanzhou 41.40 66 P **P 10 08 23.0 +0.8**
LZH AP pP 10 08 31.5 +6.2
LZH XP sP 10 08 37.3 +11
LZH PP PP 10 10 05.0 +7.3
LZH *e*S **S 10 14 40.0 +3.0**
LZH XS sS 10 14 54.0 +12
LZH AMB AMB
comp=Z,70nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,400nm,4.0s
LZH LR LR
comp=N,4μm,17.0s
LZH LR LR
comp=Z,4μm,18.4s,MS5.3
IMI Imperia 41.48 306 P **P 10 08 22.1 -0.8**
ABSA Djebel Ababsia 41.49 294 P **P 10 08 25.0 +2.1**
CMAH Djebel Manchou 41.52 295 P **P 10 08 25.0 +1.8**
CGMA Guelma 41.53 295 P **P 10 08 25.0 +1.7**
ROB Roburent 41.54 307 P **P 10 08 22.0 -1.4**
SPAK Spaichingen 41.56 312 P **P 10 08 25.3 +1.8**
MONE Monesi 41.60 306 P **P 10 08 22.3 -1.6**
NEGI Negi 41.61 306 P **P 10 08 22.1 -1.8**
ORX Oropa 41.65 309 P **P 10 08 22.5 -1.8**
LBG Lerchenberg 41.68 313 P **P 10 08 23.8 -0.7**
SAOF Saorge 41.73 306 *e*P **P 10 08 24.4 -0.6**
CD2 Chengdu 41.79 74 *e*P **P 10 08 25.3 -0.1**
CD2 AP pP 10 08 35.0 +6.5
CD2 XP sP 10 08 39.0 +9.2
CD2 PP PP 10 10 06.0 +4.0
CD2 S **S 10 14 41.0 -1.8**
CD2 XS sS 10 14 57.3 +9.4
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,1μm,18.0s
CD2 LR LR
comp=Z,740nm,14.4s,MS4.7
SBF Sospel 41.80 306 *e*P **P 10 08 24.8 -0.7**
comp=Z,292nm,0.9s,mb5.6
SBF Sospel 41.80 306 *e*P **P 10 08 24.8 -0.7**
comp=Z,146nm,0.9s,mb5.6
SBF Sospel 41.80 306 *e*P **P 10 08 24.8 -0.7**
SBF pmax pmax
comp=Z,146nm,0.9s,mb5.6
AUTN L'Aution 41.83 306 *e*P **P 10 08 25.3 -0.4**
REVF Revere 41.84 306 *e*P **P 10 08 25.0 -0.8**
ENR Entracque 41.86 306 P **P 10 08 24.9 -1.1**
TOD Tromm 41.89 315 *e*P **P 10 08 25.2 -1.0**
BFO Black Forest 41.91 313 *e*P **P 10 08 26.5 +0.1**
STV2 Anna di Valdie 41.93 306 P **P 10 08 24.8 -1.7**
STV Sta Anna Valdi 41.93 306 P **P 10 08 24.9 -1.6**
CAEH 'Ain El Ouahch 41.98 295 P **P 10 08 29.0 +2.1**
KMI Kunming 42.01 82 P **P 10 08 28.5 +1.3**
KMI AP pP 10 08 35.0 +4.7
KMI XP sP 10 08 38.0 +6.4
KMI PP PP 10 10 08.0 +3.6
KMI PCP PcP 10 10 25.8 +3.6
KMI PPP 10 10 38.5
KMI S **S 10 14 43.3 -2.7**
KMI AMB AMB
comp=Z,78nm,1.5s,mb5.1
KMI AMB AMB
comp=Z,391nm,5.3s
KMI LR LR
comp=N,563nm,15.4s,MS4.8
KMI LR LR
comp=E,831nm,15.9s,MS4.8
KMI LR LR
comp=Z,777nm,19.1s,MS4.6
MVIF Mont Vial 42.01 306 *e*P **P 10 08 27.0 -0.2**
FELD Feldberg 42.03 312 *e*P **P 10 08 26.3 -1.1**
RSP Reno Superiore 42.09 308 P **P 10 08 25.5 -2.4**
KIZ Kirchzarten 42.10 312 P **P 10 08 28.5 +0.5**
PZZ Prazzo 42.12 307 P **P 10 08 25.8 -2.3**
APA Apatity 42.21 347 *i*P **P 10 08 28.3 -0.5**
comp=Z,74nm,0.8s,mb5.4
APA Apatity 42.21 347⇓ *i*P P 10 08 28.3 -0.5
APA *i* 10 08 38.3
APA *i* 10 08 45.4
APA *i* 10 10 07.5
APA pmax pmax
comp=Z,74nm,0.8s,mb5.4
APA MLR MLR
comp=Z,2μm,12.0s,MS5.1
FENE Fenestrelle 42.21 308 P **P 10 08 26.3 -2.6**
BBS Basel-Blauen 42.28 311 *e*P **P 10 08 28.6 -0.8**
KTD Kalmit 42.28 314 *e*P **P 10 08 28.6 -0.8**

CASM Ain Smara 42.28 295 P **P 10 08 30.0 +0.5**
SURF Saint Ours 42.32 307 *e*P **P 10 08 29.8 +0.1**
FRF La Foret Royal 42.34 305 *e*P **P 10 08 28.7 -1.2**
comp=Z,94nm,1.1s,mb5.0
FRF La Foret Royal 42.34 305 *e*P **P 10 08 28.7 -1.2**
comp=Z,47nm,1.1s,mb5.0
FRF La Foret Royal 42.34 305 *e*P **P 10 08 28.7 -1.2**
FRF pmax pmax
comp=Z,47nm,1.1s,mb5.0
CTEI Djebel Teioual 42.36 294 P **P 10 08 31.0 +0.9**
MBDF Montbardon 42.38 307 *e*P **P 10 08 29.1 -1.1**
comp=Z,96nm,0.8s,mb5.2
MBDF Montbardon 42.38 307 *e*P **P 10 08 29.1 -1.1**
comp=Z,48nm,0.8s,mb5.2
MBDF Montbardon 42.38 307 *e*P **P 10 08 29.1 -1.1**
MBDF pmax pmax
comp=Z,48nm,0.8s,mb5.2
LANF Langenberg 42.38 314 *e*P **P 10 08 28.9 -1.4**
RRL Cesana Torines 42.39 307 P **P 10 08 28.8 -1.5**
LMR La Mourre 42.42 305 *e*P **P 10 08 29.0 -1.6**
ZAK Zakamensk 42.48 44 *e*P **P 10 08 30.8 -0.3**
comp=Z,25nm,2.2s,mb4.5
ZAK Zakamensk 42.48 44 *e*PcP PcP 10 10 23.0 -0.8
ZAK Zakamensk 42.48 44 *e*P **P 10 08 30.8 -0.3**
ZAK *e* 10 10 23.0
ZAK pmax pmax
comp=Z,25nm,2.2s,mb4.5
LPG La Plagne 42.49 308 *e*P **P 10 08 30.4 -0.7**
comp=Z,181nm,0.8s,mb5.5
LPG La Plagne 42.49 308 *e*P **P 10 08 30.4 -0.7**
comp=Z,90nm,0.8s,mb5.5
LPG La Plagne 42.49 308 *e*P **P 10 08 30.4 -0.7**
LPG pmax pmax
comp=Z,90nm,0.8s,mb5.5
LPL La Plagne 42.51 308 *e*P **P 10 08 30.1 -1.2**
comp=Z,172nm,1.0s,mb5.5
LPL La Plagne 42.51 308 *e*P **P 10 08 30.1 -1.2**
comp=Z,86nm,1.0s,mb5.5
LPL La Plagne 42.51 308 *e*P **P 10 08 30.1 -1.2**
LPL pmax pmax
comp=Z,86nm,1.0s,mb5.4
MOF Molkenrain 42.60 312 *e*P **P 10 08 31.0 -1.0**
CDF Champ du Feu 42.61 313 *e*P **P 10 08 30.6 -1.5**
comp=Z,65nm,0.9s,mb5.1
CDF Champ du Feu 42.61 313 *e*P **P 10 08 30.6 -1.5**
comp=Z,32nm,0.9s,mb5.1
CDF Champ du Feu 42.61 313 *e*P **P 10 08 30.6 -1.5**
CDF pmax pmax
comp=Z,32nm,0.9s,mb5.0
ECH Echery 42.65 312 *e*P **P 10 08 31.4 -1.1**
LOMF Lomont 42.72 311 *e*P **P 10 08 32.3 -0.7**
NST Nakhon Sawan 42.74 97 P **P 10 08 35.5 +2.3**
ABH Alteburg 42.75 315 *e*P **P 10 08 32.3 -0.9**
DFRA Djebel Bou Aff 42.77 295 P **P 10 08 33.0 -0.4**
HINF Hinteralfeld 42.78 312 *e*P **P 10 08 32.2 -1.3**
comp=Z,74nm,1.0s,mb5.1
HINF Hinteralfeld 42.78 312 *e*P **P 10 08 32.2 -1.3**
comp=Z,37nm,1.0s,mb5.1
HINF Hinteralfeld 42.78 312 *e*P **P 10 08 32.2 -1.3**
HINF pmax pmax
comp=Z,37nm,1.0s,mb5.1
CMER Merouana 42.80 294 P **P 10 08 35.0 +1.4**
RUP Ruppelstein 43.02 314 *e*P **P 10 08 34.7 -0.7**
ORIF Oris-en-Rattie 43.03 307 *e*P **P 10 08 33.1 -2.4**
comp=Z,35nm,0.8s,mb4.8
ORIF Oris-en-Rattie 43.03 307 *e*P **P 10 08 33.1 -2.4**
comp=Z,17nm,0.8s,mb4.8
ORIF Oris-en-Rattie 43.03 307 *e*P **P 10 08 33.1 -2.4**
ORIF pmax pmax
comp=Z,17nm,0.8s,mb4.8
TLY Talaya 43.03 43 *e*P **P 10 08 36.1 +0.6**
comp=Z,12nm,1.7s,mb4.3
TLY Talaya 43.03 43⇑ *e*P **P 10 08 36.1 +0.6**
TLY pmax pmax
comp=Z,12nm,1.7s,mb4.3
CKHR Kef el Ahmar 43.09 294 P **P 10 08 37.0 +1.0**
CABF La Chapelle 43.10 310 *e*P **P 10 08 35.4 -0.7**
comp=Z,130nm,0.8s,mb5.4
CABF La Chapelle 43.10 310 *e*P **P 10 08 35.4 -0.7**
comp=Z,65nm,0.8s,mb5.4
CABF La Chapelle 43.10 310 *e*P **P 10 08 35.4 -0.7**
CABF pmax pmax
comp=Z,65nm,0.8s,mb5.4
HAU Haudompre 43.15 312 *e*P **P 10 08 35.9 -0.6**
comp=Z,80nm,0.8s,mb5.2
HAU Haudompre 43.15 312 *e*P **P 10 08 35.9 -0.6**
comp=Z,40nm,0.8s,mb5.2
HAU Haudompre 43.15 312 *e*P **P 10 08 35.9 -0.6**
HAU pmax pmax
comp=Z,40nm,0.8s,mb5.2
SMRF Simiane la Rot 43.15 306 *e*P **P 10 08 35.4 -1.1**
comp=Z,70nm,1.3s,mb4.9
SMRF Simiane la Rot 43.15 306 *e*P **P 10 08 35.4 -1.1**
comp=Z,35nm,1.3s,mb4.9
HFS Hagfors 43.20 331 P **P 10 08 36.4 -0.4**
comp=Z,34nm,0.9s,mb5.1,baz=130,slow=9.1,SNR=20
HFS PP PP 10 10 10.6 -6.6
comp=Z,10nm,0.8s,baz=131,slow=18,SNR=2.1
HFS S **S 10 14 59.9 -3.6**
comp=Z,5.3nm,1.0s,baz=120,slow=23,SNR=4.0
HFA0 Hagfors New Ar 43.20 331 P **P 10 08 36.2 -0.7**
THEF They Montfort 43.42 312 P **P 10 08 38.8 +0.1**
IRK Irkutsk 43.55 42 *e*P **P 10 08 36.1 -3.6**
IRK *e* 10 10 19.7
IRK pmax pmax
comp=Z,44nm,2.2s,mb4.8
WLF Walferdange 43.59 314 ⇓P **P 10 08 39.5 -0.5**
WLF AP pP 10 08 42.7 -0.5
comp=Z,48nm,1.0s
WLF XP sP 10 08 49.9 +5.5
WLF E 10 08 57.2
WLF Walferdange 43.59 314 *e*P **P 10 08 39.6 -0.4**
comp=Z,43nm,0.9s,mb5.2
WLF Walferdange 43.59 314 *e*P **P 10 08 39.6 -0.4**
comp=Z,43nm,0.9s,mb5.2
WLF Walferdange 43.59 314 *e*P **P 10 08 39.6 -0.4**
WLF pmax pmax
comp=Z,43nm,0.9s,mb5.2
WTSB Winterswijk 43.70 318⇑ *e*P **P 10 08 41.5 +0.5**
comp=Z,76nm,0.7s,mb5.5
MEM Membach 43.87 315 ⇑P **P 10 08 42.9 +0.6**
MEM AP pP 10 08 46.1 +0.6
comp=Z,28nm,1.0s
MEM XP sP 10 08 50.0 +3.3
VIVF Saint-Julien-l 43.88 307 *e*P **P 10 08 40.9 -1.5**
comp=Z,104nm,1.0s,mb5.2
VIVF Saint-Julien-l 43.88 307 *e*P **P 10 08 40.9 -1.5**
comp=Z,52nm,1.0s,mb5.2
VIVF Saint-Julien-l 43.88 307 *e*P **P 10 08 40.9 -1.5**
VIVF pmax pmax
comp=Z,52nm,1.0s,mb5.2
HGN Heimansgroeve 43.95 316⇑ *e*P **P 10 08 42.8 -0.2**
comp=Z,95nm,0.9s,mb5.5
SONM Songino Array 43.98 49 P **P 10 08 43.9 +0.7**
comp=Z,8.1nm,0.9s,mb4.5,baz=260,slow=8.3,SNR=17
MEZF Maizieres J'vi 44.09 312 *e*P **P 10 08 43.5 -0.5**
comp=Z,321nm,1.2s,mb5.6
MEZF Maizieres J'vi 44.09 312 *e*P **P 10 08 43.5 -0.5**
comp=Z,161nm,1.2s,mb5.6
BEBN Eben Emael 44.12 316 ⇑P **P 10 08 44.8 +0.5**
BEBN AP pP 10 08 48.0 +0.6
LASF Ste Croix 44.40 306 *e*P **P 10 08 45.6 -0.9**
comp=Z,153nm,1.0s,mb5.4
LASF Ste Croix 44.40 306 *e*P **P 10 08 45.6 -0.9**
comp=Z,76nm,1.0s,mb5.4
ULN Ulaanbaatar 44.43 49 *i*P **P 10 08 47.2 +0.4**
ULN Ulaanbaatar 44.43 49*c i*P **P 10 08 47.2 +0.4**
GIVF Givet 44.51 315 *e*P **P 10 08 47.5 0.0**
comp=Z,206nm,1.1s,mb5.6
GIVF Givet 44.51 315 *e*P **P 10 08 47.5 0.0**
comp=Z,103nm,1.1s,mb5.6
GIVF Givet 44.51 315 *e*P **P 10 08 47.5 0.0**
GIVF pmax pmax
comp=Z,103nm,1.1s,mb5.6
SMF Signal de Mont 44.64 310 *e*P **P 10 08 47.3 -1.2**
comp=Z,244nm,0.9s,mb5.7
SMF Signal de Mont 44.64 310 *e*P **P 10 08 47.3 -1.2**
comp=Z,122nm,0.9s,mb5.7
SMF Signal de Mont 44.64 310 *e*P **P 10 08 47.3 -1.2**
SMF pmax pmax
comp=Z,122nm,0.9s,mb5.7
DOU Dourbes 44.66 314 ⇑P **P 10 08 49.0 +0.4**
DOU AP pP 10 08 52.0 +0.2
comp=Z,43nm,1.0s
DOU XP sP 10 08 58.7 +5.7
LOR Lormes 44.70 310 *e*P **P 10 08 47.7 -1.3**

comp=Z,79nm,0.9s,mb5.3
LOR Lormes 44.70 310 *e*P **P 10 08 47.7 -1.3**
comp=Z,39nm,0.9s,mb5.3
LOR Lormes 44.70 310 *e*P **P 10 08 47.7 -1.3**
LOR pmax pmax
comp=Z,39nm,0.9s,mb5.2
NB2 NORSAR Subarra 44.71 331 P **P 10 08 47.7 -1.3**
comp=Z,25nm,0.9s,mb5.0,baz=115,slow=8.6
NB2 NORSAR Subarra 44.71 331 P **P 10 08 47.7 -1.3**
NB2 pmax pmax
comp=Z,25nm,0.9s,mb5.0
NOA NORSAR Array B 44.71 331 P **P 10 08 48.0 -1.0**
comp=Z,15nm,0.8s,mb4.9,baz=117,slow=8.0,SNR=23
NOA PP PP 10 10 28.2 -5.1
comp=Z,5.4nm,0.9s,baz=127,slow=10,SNR=3.7
NOA NORSAR Array B 44.71 331 PcP PcP 10 10 28.2 -3.1
PLDF La Plantade 44.72 309 *e*P **P 10 08 48.4 -0.7**
KONO Kongsberg 44.81 329 *i*P **P 10 08 49.3 -0.5**
KONO Kongsberg 44.81 329*g i*P **P 10 08 49.3 -0.5**
KKTK Khon Kaen 44.86 94 P **P 10 08 51.0 +0.8**
BAIF Baives 44.90 314 *e*P **P 10 08 50.7 +0.2**
comp=Z,299nm,1.0s,mb5.8
BAIF Baives 44.90 314 *e*P **P 10 08 50.7 +0.2**
comp=Z,150nm,1.0s,mb5.8
BAIF Baives 44.90 314 *e*P **P 10 08 50.7 +0.2**
BAIF pmax pmax
comp=Z,150nm,1.0s,mb5.8
LBL Lubilhac 44.92 307 *e*P **P 10 08 49.8 -0.9**
SSF Saint Saulge 44.92 310 *e*P **P 10 08 49.7 -1.0**
comp=Z,195nm,0.9s,mb5.6
SSF Saint Saulge 44.92 310 *e*P **P 10 08 49.7 -1.0**
comp=Z,98nm,0.9s,mb5.6
SSF Saint Saulge 44.92 310 *e*P **P 10 08 49.7 -1.0**
SSF pmax pmax
comp=Z,98nm,0.9s,mb5.6
SNF Seneffe 44.93 315 ⇓P **P 10 08 51.1 +0.4**
SNF AP pP 10 08 54.2 +0.3
comp=Z,32nm,0.9s
SNF Seneffe 44.93 315 P **P 10 08 51.1 +0.3**
UCC Uccle 44.94 315 ⇑P **P 10 08 51.1 +0.3**
UCC AP pP 10 08 54.2 +0.2
UCC XP sP 10 08 55.9 +0.7
AVF Avril sur Loir 44.99 310 *e*P **P 10 08 50.0 -1.3**
comp=Z,67nm,0.8s,mb5.2
AVF Avril sur Loir 44.99 310 *e*P **P 10 08 50.0 -1.3**
comp=Z,34nm,0.8s,mb5.2
AVF Avril sur Loir 44.99 310 *e*P **P 10 08 50.0 -1.3**
AVF pmax pmax
comp=Z,34nm,0.8s,mb5.2
EJON La Jonquera 45.03 304 P **P 10 08 51.6 +0.1**
comp=Z,40nm,1.5s,mb5.0
EJON La Jonquera 45.03 304 P **P 10 08 51.6 0.0**
comp=Z,40nm,1.5s,mb5.0
ABA Alger-Bouzarea 45.03 296 P **P 10 08 53.0 +1.4**
AGO Saint Agoulin 45.07 309 *e*P **P 10 08 51.0 -0.9**
ETOS Mallorca 45.07 300 P **P 10 08 53.4 +1.5**
comp=Z,136nm,1.4s,mb5.6
ETOS Mallorca 45.07 300 P **P 10 08 53.4 +1.5**
comp=Z,136nm,1.4s,mb5.6
GYA Guiyang 45.13 79 P **P 10 08 52.3 0.0**
GYA AP pP 10 08 56.8 +1.3
GYA XP sP 10 08 59.5 +2.8
GYA PP PP 10 10 38.0 +0.2
GYA S **S 10 15 28.5 -3.2**
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.9
GYA AMB AMB
comp=Z,310nm,5.8s
GYA LR LR
comp=N,1μm,18.7s,MS5.0
GYA LR LR
comp=E,1μm,19.0s,MS5.0
GYA LR LR
comp=Z,1μm,18.8s,MS4.9
PYM Petit Puy Mans 45.13 308 *e*P **P 10 08 51.4 -0.9**
LRDF Laroque-de-Fa 45.30 304 *e*P **P 10 08 53.6 -0.1**
BGF Bois d'Agland 45.31 309 *e*P **P 10 08 52.8 -1.0**
comp=Z,108nm,0.8s,mb5.4
BGF Bois d'Agland 45.31 309 *e*P **P 10 08 52.8 -1.0**
comp=Z,54nm,0.8s,mb5.4
BGF Bois d'Agland 45.31 309 *e*P **P 10 08 52.8 -1.0**
BGF pmax pmax
comp=Z,54nm,0.8s,mb5.4
KEV Kevo 45.33 346 *e*p **P 10 08 53.2 -0.7**
FRNF Fournols 45.41 308 *e*P **P 10 08 54.8 +0.2**
ARCES ARCESS Array B 45.48 346 P **P 10 08 55.0 -0.1**
comp=Z,17nm,0.9s,mb4.8,baz=142,slow=8.2,SNR=21
ARCES PcP PcP 10 10 34.0 0.0
comp=Z,5.3nm,0.9s,baz=149,slow=5.2,SNR=4.1
VERF Verneugheol 45.49 308 *e*P **P 10 08 55.0 -0.2**
HYF Humbligny 45.53 310 *e*P **P 10 08 55.1 -0.4**
comp=Z,611nm,0.8s,mb6.3
HYF Humbligny 45.53 310 *e*P **P 10 08 55.1 -0.4**
comp=Z,306nm,0.8s,mb6.3
MTLF Montolieu 45.55 305 *e*P **P 10 08 55.4 -0.3**
comp=Z,213nm,1.1s,mb5.7
MTLF Montolieu 45.55 305 *e*P **P 10 08 55.4 -0.3**
comp=Z,107nm,1.1s,mb5.7
MTLF Montolieu 45.55 305 *e*P **P 10 08 55.4 -0.3**
MTLF pmax pmax
comp=Z,107nm,1.1s,mb5.7
KTK1 Kautokeino 45.60 344 *e*P **P 10 08 57.1 +1.1**
KTK1 AMb AMB 10 09 03.4
comp=Z,79nm,1.7s,mb5.4
KTK1 Kautokeino 45.60 344 *e*P **P 10 08 57.1 +1.0**
comp=Z,79nm,1.7s,mb5.4,SNR=24
KTK1 Kautokeino 45.60 344 *e*P **P 10 08 57.1 +1.1**
comp=Z,79nm,1.7s,mb5.4
XAN Xi'an 45.71 68 P **P 10 08 56.5 -0.5**
XAN AMB AMB
comp=Z,25nm,1.5s,mb4.9
XAN LR LR
comp=N,2μm,21.2s,MS5.2
XAN LR LR
comp=E,2μm,24.2s,MS5.2
XAN LR LR
comp=Z,2μm,15.4s
TCF Toulx Ste Croi 45.73 309 *e*P **P 10 08 56.3 -0.8**
comp=Z,136nm,0.9s,mb5.6
TCF Toulx Ste Croi 45.73 309 *e*P **P 10 08 56.3 -0.8**
comp=Z,68nm,0.9s,mb5.6
TCF Toulx Ste Croi 45.73 309 *e*P **P 10 08 56.3 -0.8**
TCF pmax pmax
comp=Z,68nm,0.9s,mb5.6
CAF Calviac 45.73 307 *e*P **P 10 08 56.7 -0.4**
comp=Z,166nm,0.9s,mb5.7
CAF Calviac 45.73 307 *e*P **P 10 08 56.7 -0.4**
comp=Z,83nm,0.9s,mb5.7
CAF Calviac 45.73 307 *e*P **P 10 08 56.7 -0.4**
CAF pmax pmax
comp=Z,83nm,0.9s,mb5.7
EMIR Miracle 46.03 303 P **P 10 09 00.4 +0.9**
comp=Z,165nm,1.1s,mb5.9
EMIR Miracle 46.03 303 P **P 10 09 00.4 +0.9**
comp=Z,165nm,1.1s,mb5.9
BTO Baotou 46.12 59 *e*P **P 10 09 01.0 +0.8**
BTO AMB AMB
comp=Z,27nm,1.3s,mb5.0
RJF Les Rejaudoux 46.14 307 *e*P **P 10 08 59.8 -0.6**
comp=Z,232nm,1.0s,mb5.8
RJF Les Rejaudoux 46.14 307 *e*P **P 10 08 59.8 -0.6**
comp=Z,116nm,1.0s,mb5.8
RJF Les Rejaudoux 46.14 307 *e*P **P 10 08 59.8 -0.6**
RJF pmax pmax
comp=Z,116nm,1.0s,mb5.8
NSS Namsos 46.15 336 *e*P **P 10 08 59.3 -1.1**
NSS AMb AMB 10 09 06.8
comp=Z,62nm,1.8s,mb5.2
NSS Namsos 46.15 336 *e*P **P 10 08 59.3 -1.1**
comp=Z,62nm,1.8s,mb5.2,SNR=24
NSS Namsos 46.15 336 *e*P **P 10 08 59.3 -1.1**
comp=Z,62nm,1.8s,mb5.2
MOR8 Moi Rana 46.20 338 *e*P **P 10 08 59.8 -1.0**
MOR8 AMb AMB 10 09 03.9
comp=Z,48nm,0.9s,mb5.4
MOR8 Moi Rana 46.20 338 *e*P **P 10 08 59.8 -1.0**
comp=Z,48nm,0.9s,mb5.4,SNR=24
MOR8 Moi Rana 46.20 338 *e*P **P 10 08 59.8 -1.0**
comp=Z,48nm,0.9s,mb5.4
EIBI Ibiza 46.24 299 P **P 10 09 00.5 -0.6**
comp=Z,114nm,1.1s,mb5.7
MLS Moulis 46.36 304 *e*P **P 10 09 01.5 -0.6**
EPOB Poblet 46.37 302 P **P 10 09 02.3 +0.1**
comp=Z,66nm,0.9s,mb5.6
ECHA Ech Chlef 46.43 295 P **P 10 09 06.5 +3.9**
ETRT Tiaret 46.56 294 P **P 10 09 05.0 +1.4**

OPO Ambohidratompo 46.64 191 P **P** **10 09 04.3 0.0**
comp=Z,11nm,1.1s,mb4.7,baz=2.8,slow=6.6,SNR=5.6
EANR 'Ain N'Sour 46.66 295 P **P** **10 09 05.5 +1.1**
LFF La Frestale 46.67 307 *e*P **P** **10 09 04.2 -0.3**
comp=Z,195nm,1.0s,mb5.7
LFF La Frestale 46.67 307 *e*P **P** **10 09 04.2 -0.3**
comp=Z,97nm,1.0s,mb5.7
LFF La Frestale 46.67 307 *e*P **P** **10 09 04.2 -0.3**
LFF pmax pmax
comp=Z,97nm,1.0s,mb5.7
EBR Ebro Roquetas 46.82 301 *e*P **P** **10 09 06.4 +0.7**
EPF Esparros 46.91 304 *e*P **P** **10 09 05.2 -1.2**
comp=Z,20nm,0.9s,mb4.8
EPF Esparros 46.91 304 *e*P **P** **10 09 05.2 -1.2**
comp=Z,10nm,0.9s,mb4.8
EPF Esparros 46.91 304 *e*P **P** **10 09 05.2 -1.2**
EPF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
EGRA Graus 46.93 303 P **P** **10 09 06.9 +0.3**
comp=Z,22nm,0.7s,mb5.2
ERTA Horta de San J 46.94 301 P **P** **10 09 07.1 +0.5**
comp=Z,127nm,1.1s,mb5.8
ERTA Horta de San J 46.94 301 P **P** **10 09 07.1 +0.4**
comp=Z,127nm,1.1s,mb5.8
EBIE Bielsa 47.06 304 P **P** **10 09 08.5 +0.9**
comp=Z,52nm,1.2s,mb5.3
EBIE Bielsa 47.06 304 P **P** **10 09 08.5 +0.9**
comp=Z,52nm,1.2s,mb5.3
TRO Tromso 47.11 343 *e*P **P** **10 09 06.7 -1.2**
HHC Hu-ho-hao-te 47.29 59 *e*P **P** **10 09 09.8 +0.5**
HHC AP pP 10 09 19.8 +7.3
HHC XP sP 10 09 23.8 +10
HHC PCP PcP 10 10 41.0 +0.6
HHC PP PP 10 11 00.0 -0.4
HHC SCP ScP 10 14 31.0 -3.4
HHC S **S** **10 16 00.0 -2.7**
HHC XS sS 10 16 15.5 +7.6
HHC SCS ScS 10 18 59.3 -4.3
HHC AMB AMB
comp=Z,30nm,0.5s,mb5.5
HHC AMB AMB
comp=Z,158nm,2.4s,mb5.5
HHC LR LR
comp=N,2µm,20.6s,MS5.2
HHC LR LR
comp=E,973nm,18.1s,MS5.2
HHC LR LR
comp=Z,1µm,18.6s,MS5.0
MFF Saint Martin d 47.38 309 *e*P **P** **10 09 08.7 -1.3**
comp=Z,110nm,1.3s,mb5.3
MFF Saint Martin d 47.38 309 *e*P **P** **10 09 08.7 -1.3**
comp=Z,55nm,1.3s,mb5.3
MFF Saint Martin d 47.38 309 *e*P **P** **10 09 08.7 -1.3**
MFF pmax pmax
comp=Z,55nm,1.3s,mb5.3
EBEN Beniarda 47.48 298 P **P** **10 09 11.5 +0.7**
comp=Z,46nm,1.0s,mb5.4
EBEN Beniarda 47.48 298 P **P** **10 09 11.5 +0.6**
comp=Z,46nm,1.0s,mb5.4
LDF La Druitiere 47.51 312 *e*P **P** **10 09 10.1 -1.0**
comp=Z,75nm,0.8s,mb5.5
LDF La Druitiere 47.51 312 *e*P **P** **10 09 10.1 -1.0**
comp=Z,38nm,0.8s,mb5.5
LDF La Druitiere 47.51 312 *e*P **P** **10 09 10.1 -1.0**
LDF pmax pmax
comp=Z,38nm,0.8s,mb5.5
ESAC San Caprasio 47.52 303 P **P** **10 09 11.4 +0.2**
comp=Z,126nm,0.8s,mb6.0
ESAC San Caprasio 47.52 303 P **P** **10 09 11.4 +0.2**
comp=Z,126nm,0.8s,mb6.0
ETSF Etsaut 47.57 304 *e*P **P** **10 09 11.3 -0.3**
comp=Z,97nm,0.9s,mb5.5
ETSF Etsaut 47.57 304 *e*P **P** **10 09 11.3 -0.3**
comp=Z,48nm,0.9s,mb5.5
ETSF Etsaut 47.57 304 *e*P **P** **10 09 11.3 -0.3**
ETSF pmax pmax
comp=Z,49nm,0.9s,mb5.5
EMOS Mosqueruela 47.57 301 P **P** **10 09 12.8 +1.2**
comp=Z,165nm,1.3s,mb5.9
EMOS Mosqueruela 47.57 301 P **P** **10 09 12.8 +1.2**
comp=Z,165nm,1.3s,mb5.9
LOF Lofoten 47.64 340 *e*P **P** **10 09 12.9 +0.8**
FLN La Foliniere 47.76 312 *e*P **P** **10 09 11.8 -1.2**
comp=Z,195nm,1.1s,mb5.8
FLN La Foliniere 47.76 312 *e*P **P** **10 09 11.8 -1.2**
comp=Z,98nm,1.1s,mb5.8
FLN La Foliniere 47.76 312 *e*P **P** **10 09 11.8 -1.2**
FLN pmax pmax
comp=Z,98nm,1.1s,mb5.8
LARF Larrau 47.89 304 *e*P **P** **10 09 14.2 +0.2**
GRR Gorron 47.98 312 *e*P **P** **10 09 13.6 -1.1**
comp=Z,214nm,1.3s,mb5.7
GRR Gorron 47.98 312 *e*P **P** **10 09 13.6 -1.1**
comp=Z,107nm,1.3s,mb5.7
GRR Gorron 47.98 312 *e*P **P** **10 09 13.6 -1.1**
GRR pmax pmax
comp=Z,107nm,1.3s,mb5.7
ECHE Chera 48.00 300 P **P** **10 09 16.1 +1.3**
comp=Z,22nm,0.8s,mb5.2
ECHE Chera 48.00 300 P **P** **10 09 16.1 +1.3**
comp=Z,22nm,0.8s,mb5.2
ECHE Chera 48.00 300 P **P** **10 09 16.1 +1.3**
ECHE pmax pmax
comp=Z,22nm,0.8s,mb5.2
PSI Prapat 48.05 113 P **P** **10 09 15.0 -0.3**
comp=Z,8.7nm,0.9s,mb4.8,baz=270,slow=5.2,SNR=4.0
SJPF Ste Jean 48.06 304 *e*P **P** **10 09 14.8 -0.5**
comp=Z,68nm,0.7s,mb5.5
SJPF Ste Jean 48.06 304 *e*P **P** **10 09 14.8 -0.5**
comp=Z,34nm,0.7s,mb5.5
SJPF Ste Jean 48.06 304 *e*P **P** **10 09 14.8 -0.5**
SJPF pmax pmax
comp=Z,34nm,0.7s,mb5.5
EALK Alkurruntz 48.27 305 P **P** **10 09 16.5 -0.4**
comp=Z,178nm,2.3s,mb5.7
EALK Alkurruntz 48.27 305 P **P** **10 09 16.6 -0.4**
comp=Z,178nm,2.3s,mb5.7
ELIZ Elizondo 48.28 304 P **P** **10 09 17.6 +0.5**
comp=Z,33nm,1.2s,mb5.2
ELIZ Elizondo 48.28 304 P **P** **10 09 17.6 +0.5**
comp=Z,33nm,1.2s,mb5.2
ELIZ Elizondo 48.28 304 P **P** **10 09 17.6 +0.5**
ELIZ pmax pmax
comp=Z,33nm,1.2s,mb5.2
SKP1 Kophill 48.29 316 *e*P **P** **10 09 16.7 -0.5**
SKP1 Kophill 48.29 316 *e*P **P** **10 09 16.7 -0.5**
EMUR La Murta 48.34 297 P **P** **10 09 17.3 -0.2**
comp=Z,39nm,1.0s,mb5.4
EMUR La Murta 48.34 297 P **P** **10 09 17.3 -0.3**
comp=Z,39nm,1.0s,mb5.4
ETOB Tobarra 48.52 298 P **P** **10 09 19.5 +0.6**
comp=Z,90nm,1.1s,mb5.7
ETOB Tobarra 48.52 298 P **P** **10 09 19.5 +0.6**
comp=Z,90nm,1.1s,mb5.7
JLP Les Platons 48.86 313⇑ *e*P **P** **10 09 20.2 -1.3**
JLP Les Platons 48.86 313⇑ *e*P **P** **10 09 20.2 -1.3**
SWN1 Swindon 48.88 316 *e*P **P** **10 09 21.4 -0.2**
SWN1 Swindon 48.88 316 *e*P **P** **10 09 21.4 -0.2**
JSA Saint Aubin 48.90 312⇑ *e*P **P** **10 09 20.9 -0.9**
JSA Saint Aubin 48.90 312⇑ *e*P **P** **10 09 20.9 -0.9**
JVM Valle D.L. Mar 48.93 313⇑ *e*P **P** **10 09 20.1 -1.9**
JVM Valle D.L. Mar 48.93 313⇑ *e*P **P** **10 09 20.1 -1.9**
ECRI Cripan 49.02 304 P **P** **10 09 22.9 +0.2**
comp=Z,15nm,0.6s,mb5.2
ECRI Cripan 49.02 304 P **P** **10 09 22.9 +0.2**
comp=Z,15nm,0.6s,mb5.2
ECRI Cripan 49.02 304 P **P** **10 09 22.9 +0.2**
ECRI pmax pmax
comp=Z,15nm,0.6s,mb5.2
KWE Weaver Farm 49.09 318 *e*P **P** **10 09 22.4 -0.9**
KWE Weaver Farm 49.09 318 *e*P **P** **10 09 22.4 -0.9**
SGMF Saint Gilles 49.10 311 *e*P **P** **10 09 22.3 -1.1**
comp=Z,139nm,1.0s,mb5.7
SGMF Saint Gilles 49.10 311 *e*P **P** **10 09 22.3 -1.1**
comp=Z,69nm,1.0s,mb5.6
SGMF Saint Gilles 49.10 311 *e*P **P** **10 09 22.3 -1.1**
SGMF pmax pmax
comp=Z,69nm,1.0s,mb5.6
SWK Warminster 49.12 315⇑ *e*P **P** **10 09 23.2 -0.3**
SWK Warminster 49.12 315⇑ *e*P **P** **10 09 23.2 -0.3**
CIT Chita 49.13 44 *e*P **P** **10 09 22.6 -1.0**
comp=Z,83nm,2.6s,mb5.3
CIT Chita 49.13 44 *e*P **P** **10 09 22.6 -1.0**
CIT pmax pmax
comp=Z,83nm,2.6s,mb5.3
LHO Holmfirth 49.17 318 *e*P **P** **10 09 23.2 -0.7**

LHO Holmfirth 49.17 318 *e*P **P** **10 09 23.2 -0.7**
ENIJ Nijar 49.20 296 P **P** **10 09 24.0 -0.1**
comp=Z,21nm,0.7s,mb5.3
ENIJ Nijar 49.20 296 P **P** **10 09 24.0 -0.1**
comp=Z,21nm,0.7s,mb5.3
ENIJ Nijar 49.20 296 P **P** **10 09 24.0 -0.1**
ENIJ pmax pmax
comp=Z,21nm,0.7s,mb5.3
HAE Alders End 49.40 316⇑ *e*P **P** **10 09 24.8 -0.8**
HAE AMb AMB 10 09 28.7
comp=Z,172nm,1.2s,mb6.0
HAE Alders End 49.40 316⇑ *e*P **P** **10 09 24.8 -0.8**
HAE AMb AMB 10 09 28.7
comp=Z,172nm,1.2s,mb6.0
QUIF Quistinic 49.49 311 *e*P **P** **10 09 25.2 -1.2**
comp=Z,143nm,1.0s,mb5.6
QUIF Quistinic 49.49 311 *e*P **P** **10 09 25.2 -1.2**
comp=Z,71nm,1.0s,mb5.6
QUIF Quistinic 49.49 311 *e*P **P** **10 09 25.2 -1.2**
QUIF pmax pmax
comp=Z,71nm,1.0s,mb5.7
HGH Gray Hill 49.52 316⇑ *e*P **P** **10 09 25.6 -0.9**
HGH AMb AMB 10 09 34.0
comp=Z,132nm,1.3s,mb5.8
HGH Gray Hill 49.52 316⇑ *e*P **P** **10 09 25.6 -0.9**
HGH AMb AMB 10 09 34.0
comp=Z,132nm,1.3s,mb5.8
ROSF Rostrenen 49.58 311 *e*P **P** **10 09 26.3 -0.7**
comp=Z,112nm,1.0s,mb5.5
ROSF Rostrenen 49.58 311 *e*P **P** **10 09 26.3 -0.7**
comp=Z,56nm,1.0s,mb5.5
ROSF Rostrenen 49.58 311 *e*P **P** **10 09 26.3 -0.7**
ROSF pmax pmax
comp=Z,56nm,1.0s,mb5.5
HLM1 Long Mynd 49.65 317⇑ *e*P **P** **10 09 27.0 -0.6**
HLM1 AMb AMB 10 09 30.9
comp=Z,90nm,1.1s,mb5.7
HLM1 Long Mynd 49.65 317⇑ *e*P **P** **10 09 27.0 -0.6**
HLM1 AMb AMB 10 09 30.9
comp=Z,90nm,1.1s,mb5.7
MCH1 Michaelchurch 49.67 316⇑ *e*P **P** **10 09 26.8 -0.9**
MCH1 AMb AMB 10 09 31.2
comp=Z,183nm,1.9s,mb5.8
MCH1 Michaelchurch 49.67 316⇑ *e*P **P** **10 09 26.8 -0.9**
MCH1 AMb AMB 10 09 31.2
comp=Z,183nm,1.9s,mb5.8
ELAN Lanestosa 49.67 305 P **P** **10 09 26.9 -0.8**
comp=Z,55nm,0.9s,mb5.6
ELAN Lanestosa 49.67 305 P **P** **10 09 26.9 -0.9**
comp=Z,55nm,0.9s,mb5.6
EBER Berja 49.75 296 P **P** **10 09 28.9 +0.6**
comp=Z,51nm,0.9s,mb5.5
SSP1 Stoney Pound 49.78 317⇑ *e*P **P** **10 09 28.2 -0.4**
SSP1 AMb AMB 10 09 32.0
comp=Z,143nm,1.0s,mb5.9
SSP1 Stoney Pound 49.78 317⇑ *e*P **P** **10 09 28.2 -0.4**
SSP1 AMb AMB 10 09 32.0
comp=Z,143nm,1.0s,mb5.9
EQES Quesada 49.79 297 P **P** **10 09 28.6 0.0**
comp=Z,108nm,1.2s,mb5.8
EQES Quesada 49.79 297 P **P** **10 09 28.6 0.0**
comp=Z,108nm,1.2s,mb5.8
HTR Trewern Hill 49.84 316⇑ *e*P **P** **10 09 28.0 -1.1**
HTR AMb AMB 10 09 32.5
comp=Z,95nm,1.7s,mb5.5
HTR Trewern Hill 49.84 316⇑ *e*P **P** **10 09 28.0 -1.1**
HTR AMb AMB 10 09 32.5
comp=Z,95nm,1.7s,mb5.5
SBD1 Bryn Du 49.92 317⇑ *e*P **P** **10 09 29.3 -0.4**
SBD1 AMb AMB 10 09 33.3
comp=Z,135nm,1.4s,mb5.8
SBD1 Bryn Du 49.92 317⇑ *e*P **P** **10 09 29.3 -0.4**
SBD1 AMb AMB 10 09 33.3
comp=Z,135nm,1.4s,mb5.8
ESY Stoneypath 49.97 321⇑ *e*P **P** **10 09 29.4 -0.6**
ESY AMb AMB 10 09 33.2
comp=Z,160nm,1.1s,mb6.0
ESY Stoneypath 49.97 321⇑ *e*P **P** **10 09 29.4 -0.6**
ESY AMb AMB 10 09 33.2
comp=Z,160nm,1.1s,mb6.0
BDL Dobcross Hall 49.98 320 *e*P **P** **10 09 29.9 -0.1**
BDL Dobcross Hall 49.98 320 *e*P **P** **10 09 29.9 -0.1**
HEX Exmoor 50.09 315⇑ *e*P **P** **10 09 30.2 -0.7**
HEX Exmoor 50.09 315⇑ *e*P **P** **10 09 30.2 -0.7**
QIZ Qiongzhong 50.10 88 P **P** **10 09 32.5 +1.5**
QIZ S **S** **10 16 46.8 +4.4**
QIZ AMB AMB
comp=Z,85nm,1.4s,mb5.6
QIZ LR LR
comp=E,466nm,18.3s
QIZ LR LR
comp=Z,565nm,16.6s,MS4.7
DYA Yadsworthy 50.12 314 *e*P **P** **10 09 30.6 -0.6**
DYA Yadsworthy 50.12 314 *e*P **P** **10 09 30.6 -0.6**
BBO1 Bothel 50.15 320 *e*P **P** **10 09 30.6 -0.7**
BBO1 Bothel 50.15 320 *e*P **P** **10 09 30.6 -0.7**
EKA Eskdalemuir Ar 50.18 320 P **P** **10 09 30.7 -0.9**
comp=Z,8.9nm,0.8s,mb4.8,baz=116,slow=5.8,SNR=9.7
EBL Broad Law 50.18 321 *e*P **P** **10 09 31.1 -0.5**
EBL AMb AMB 10 09 34.9
comp=Z,68nm,1.4s,mb5.5
EBL Broad Law 50.18 321 *e*P **P** **10 09 31.1 -0.5**
EBL AMb AMB 10 09 34.9
comp=Z,68nm,1.4s,mb5.5
ECOG Cogollos-Vega 50.24 297 P **P** **10 09 31.2 -0.9**
comp=Z,18nm,0.7s,mb5.2
ECOG Cogollos-Vega 50.24 297 P **P** **10 09 31.2 -0.9**
ECOG pmax pmax
comp=Z,19nm,0.7s,mb5.2
BOD Bodaibo 50.28 36 *e*P **P** **10 09 31.0 -1.3**
comp=Z,60nm,1.3s,mb5.5
BOD Bodaibo 50.28 36 *e*P **P** **10 09 31.0 -1.3**
BOD pmax pmax
comp=Z,60nm,1.3s,mb5.5
ESDC Sonseca Array 50.30 300 P **P** **10 09 32.3 -0.2**
comp=Z,10nm,0.7s,mb5.0,baz=72,slow=7.3,SNR=19
ESDC Sonseca Array 50.30 300 P **P** **10 09 32.3 -0.2**
comp=Z,16nm,0.8s,mb5.1
ESLA Sonseca Array 50.30 300 *e*P **P** **10 09 32.3 -0.2**
ESLA Sonseca Array 50.30 300 *e*P **P** **10 09 32.3 -0.2**
EBAN Banos Encina 50.31 298 P **P** **10 09 32.9 +0.3**
comp=Z,50nm,0.8s,mb5.6
EBAN Banos Encina 50.31 298 P **P** **10 09 32.9 +0.3**
EBAN pmax pmax
comp=Z,50nm,0.8s,mb5.6
GUD Guadarrama 50.36 301 P **P** **10 09 33.3 +0.4**
comp=Z,26nm,1.0s,mb5.2
GUD Guadarrama 50.36 301 P **P** **10 09 33.3 +0.4**
comp=Z,26nm,1.0s,mb5.2
GUD Guadarrama 50.36 301 P **P** **10 09 33.3 +0.4**
GUD pmax pmax
comp=Z,26nm,1.0s,mb5.2
HSA Swansea 50.36 316 *e*P **P** **10 09 32.5 -0.4**
HSA Swansea 50.36 316 *e*P **P** **10 09 32.5 -0.4**
MME1 Meikle Cairn 50.40 323 *e*P **P** **10 09 32.9 -0.3**
MME1 Meikle Cairn 50.40 323 *e*P **P** **10 09 32.9 -0.3**
BWH Wardlaw 50.44 320 *e*P **P** **10 09 34.1 +0.6**
BWH Wardlaw 50.44 320 *e*P **P** **10 09 34.1 +0.6**
ERON Agron 50.47 297 P **P** **10 09 33.7 0.0**
comp=Z,40nm,0.8s,mb5.5
ERON Agron 50.47 297 P **P** **10 09 33.7 -0.1**
comp=Z,40nm,0.8s,mb5.5
ELOJ Sierra Loja 50.72 297 P **P** **10 09 34.9 -0.8**
comp=Z,11nm,0.6s,mb5.0
ELOJ Sierra Loja 50.72 297 P **P** **10 09 34.9 -0.8**
comp=Z,11nm,0.6s,mb5.0
ELOJ Sierra Loja 50.72 297 P **P** **10 09 34.9 -0.8**
ELOJ pmax pmax
comp=Z,11nm,0.6s,mb5.0
CSA1 St Austell 50.73 314 *e*P **P** **10 09 35.5 -0.2**
CSA1 St Austell 50.73 314 *e*P **P** **10 09 35.5 -0.2**
WCB1 Church Bay 50.75 318⇑ *e*P **P** **10 09 35.4 -0.5**
WCB1 AMb AMB 10 09 39.3
comp=Z,142nm,1.2s,mb5.8
WCB1 Church Bay 50.75 318⇑ *e*P **P** **10 09 35.4 -0.5**
WCB1 AMb AMB 10 09 39.3
comp=Z,142nm,1.2s,mb5.8
YRC Rhoscolyn 50.75 318 *e*P **P** **10 09 35.0 -0.9**
YRC AMb AMB 10 09 39.4
comp=Z,56nm,1.1s,mb5.4
YRC Rhoscolyn 50.75 318 *e*P **P** **10 09 35.0 -0.9**
YRC AMb AMB 10 09 39.4
comp=Z,56nm,1.1s,mb5.4
ELUQ Luque 50.76 297 P **P** **10 09 34.8 -1.2**
comp=Z,9.8nm,0.7s,mb4.8

ELUQ Luque 50.76 297 P **P** **10 09 34.8 -1.2**
comp=Z,9.8nm,0.7s,mb4.8
ELUQ Luque 50.76 297 P **P** **10 09 34.8 -1.2**
ELUQ pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MPAL Palemas 50.83 294 *i*P **P** **10 09 36.0 -0.5**
WHN Wuhan 50.83 72 P **P** **10 09 37.5 +1.0**
BJI Beijing 50.85 59 P **P** **10 09 37.5 +0.8**
BJI XP sP 10 09 46.3 +5.3
BJI PCP PcP 10 10 53.0 -0.3
BJI PP PP 10 11 36.3 +3.4
BJI S **S** **10 16 53.0 +0.2**
BJI XS sS 10 17 08.5 +11
BJI SS SS 10 20 25.3 -2.1
BJI AMB AMB
comp=Z,24nm,1.3s,mb5.0
BJI AMB AMB
comp=Z,266nm,5.6s
BJI LR LR
comp=N,922nm,15.1s,MS5.0
BJI LR LR
comp=E,910nm,17.8s,MS5.0
BJI LR LR
comp=Z,2µm,20.2s,MS5.1
WIM Isle of Man 50.90 319 *e*P **P** **10 09 36.0 -1.0**
WIM AMb AMB 10 09 40.6
comp=Z,59nm,1.1s,mb5.5
WIM Isle of Man 50.90 319 *e*P **P** **10 09 36.0 -1.0**
WIM AMb AMB 10 09 40.6
comp=Z,59nm,1.1s,mb5.5
EADA Adamuz 50.93 298 P **P** **10 09 37.0 -0.3**
comp=Z,131nm,1.2s,mb5.7
EADA Adamuz 50.93 298 P **P** **10 09 37.0 -0.2**
comp=Z,131nm,1.2s,mb5.7
EARI Arriondas 50.97 305 P **P** **10 09 37.0 -0.5**
comp=Z,329nm,3.3s
EARI Arriondas 50.97 305 P **P** **10 09 37.0 -0.6**
comp=Z,329nm,3.3s
EMIJ Mijas 51.30 296 P **P** **10 09 38.8 -1.2**
comp=Z,89nm,1.0s,mb5.7
EMIJ Mijas 51.30 296 P **P** **10 09 38.8 -1.2**
comp=Z,89nm,1.0s,mb5.7
ECAB El Cabril 51.60 298 P **P** **10 09 42.2 -0.1**
comp=Z,194nm,1.2s,mb5.9
ECAB El Cabril 51.60 298 P **P** **10 09 42.2 0.0**
comp=Z,194nm,1.2s,mb5.9
KAC Achnashellach 51.67 323 *e*P **P** **10 09 40.3 -2.5**
KAC Achnashellach 51.67 323 *e*P **P** **10 09 40.3 -2.5**
RSC Scourie 51.73 324 *e*P **P** **10 09 42.7 -0.6**
RSC Scourie 51.73 324 *e*P **P** **10 09 42.7 -0.6**
LIJA Lijar 51.75 297 *e*P **P** **10 09 42.0 -1.4**
REB Eisghbrachaidh 51.76 324 *e*P **P** **10 09 43.1 -0.3**
REB Eisghbrachaidh 51.76 324 *e*P **P** **10 09 43.1 -0.3**
MDT Midelt 51.80 291 P **P** **10 09 44.2 +0.5**
comp=Z,36nm,0.9s,mb5.3,baz=87,slow=9.1,SNR=27
EJIF Jimena Fronter 51.87 296 P **P** **10 09 43.8 -0.5**
comp=Z,26nm,1.2s,mb5.0
EJIF Jimena Fronter 51.87 296 P **P** **10 09 43.8 -0.5**
comp=Z,26nm,1.2s,mb5.0
EJIF Jimena Fronter 51.87 296 P **P** **10 09 43.8 -0.5**
EJIF pmax pmax
comp=Z,26nm,1.2s,mb5.0
KAR1 Arisaig 51.88 322 *e*P **P** **10 09 43.8 -0.5**
KAR1 Arisaig 51.88 322 *e*P **P** **10 09 43.8 -0.5**
DLF Lyons Farm 51.93 318 *e*P **P** **10 09 43.5 -1.2**
TIA Tai'an 52.07 64 ⇓P **P** **10 09 46.5 +0.7**
CZD Col de Zad 52.11 292 *i*P **P** **10 09 47.0 +0.9**
ESPR Espera 52.11 297 P **P** **10 09 45.2 -0.9**
comp=Z,229nm,2.2s,mb5.7
ESPR Espera 52.11 297 P **P** **10 09 45.2 -0.9**
comp=Z,229nm,2.2s,mb5.7
ECAL Calabor 52.19 303 P **P** **10 09 46.4 -0.3**
comp=Z,128nm,1.5s,mb5.6
ECAL Calabor 52.19 303 P **P** **10 09 46.4 -0.2**
comp=Z,128nm,1.5s,mb5.6
MIF Mishlifen 52.19 292 *e*P **P** **10 09 47.0 +0.3**
PBRG Braganca 52.20 303 *e*P **P** **10 09 46.5 -0.3**
comp=Z,31nm,1.0s,mb5.2
TORD Torodi Ar. Bea 52.27 265 P **P** **10 09 46.6 -0.7**
comp=Z,54nm,0.8s,mb5.5,baz=64,slow=8.0,SNR=48
TORD PKPPKP 10 40 20.5
comp=Z,0.9nm,1.1s,baz=222,slow=2.0,SNR=3.6
DCN Croghan 52.38 318 *e*P **P** **10 09 46.8 -1.2**
EPON Pontenova 52.38 305 P **P** **10 09 49.2 +1.1**
comp=Z,48nm,1.0s,mb5.4
EPON Pontenova 52.38 305 P **P** **10 09 49.2 +1.2**
comp=Z,48nm,1.0s,mb5.4
ERUA La Rua 52.45 304 P **P** **10 09 48.9 +0.3**
comp=Z,15nm,0.7s,mb5.0
ERUA La Rua 52.45 304 P **P** **10 09 48.9 +0.4**
comp=Z,15nm,0.7s,mb5.0
ERUA La Rua 52.45 304 P **P** **10 09 48.9 +0.3**
ERUA pmax pmax
comp=Z,15nm,0.7s,mb5.0
EMIN Mina Concepcio 52.62 298 P **P** **10 09 47.8 -2.1**
comp=Z,427nm,3.2s
EMIN Mina Concepcio 52.62 298 P **P** **10 09 47.8 -2.1**
comp=Z,427nm,3.2s
EBAD Badajoz 52.75 299 P **P** **10 09 50.0 -0.9**
comp=Z,143nm,2.0s,mb5.5
EBAD Badajoz 52.75 299 P **P** **10 09 50.0 -0.8**
comp=Z,143nm,2.0s,mb5.5
HIA Hailar 52.92 48 *i*P **P** **10 09 52.0 -0.1**
HIA Hailar 52.92 48 *e*P **P** **10 09 52.0 -0.1**
MTE Manteigas 52.95 301 *e*P **P** **10 09 52.7 +0.4**
comp=Z,94nm,1.5s,mb5.5
PCBR Castelo Branco 52.97 301 *e*P **P** **10 09 52.8 +0.3**
comp=Z,92nm,1.4s,mb5.5
PVRL Vila Real 52.98 302 *e*P **P** **10 09 52.8 +0.2**
comp=Z,60nm,1.6s,mb5.3
ELOB Lobios 53.18 303 P **P** **10 09 53.9 -0.1**
PVIS Viseu 53.18 302 *e*P **P** **10 09 54.6 +0.6**
comp=Z,102nm,1.5s,mb5.5
EGRO El Granado 53.30 298 P **P** **10 09 54.3 -0.6**
EGRO El Granado 53.30 298 P **P** **10 09 54.3 -0.5**
STS Santiago 53.44 304 P **P** **10 09 56.4 +0.5**
PBEJ Beja 53.52 298 *e*P **P** **10 09 56.2 -0.3**
comp=Z,65nm,1.4s,mb5.4
EZAM Zamans 53.62 304 P **P** **10 09 57.0 -0.2**
EMAZ Mazaricos 53.74 305 P **P** **10 09 58.3 +0.2**
EMAZ Mazaricos 53.74 305 P **P** **10 09 58.3 +0.2**
NJ2 Nanjing 54.27 69 *e*P **P** **10 10 03.0 +1.0**
NJ2 AP pP 10 10 10.5 +5.3
NJ2 XP sP 10 10 13.8 +7.4
NJ2 PP PP 10 12 06.5 +2.7
NJ2 S **S** **10 17 37.0 -2.5**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,30nm,5.5s
NJ2 LR LR
comp=N,2µm,26.7s
NJ2 LR LR
comp=E,2µm,31.9s
NJ2 LR LR
comp=Z,710nm,17.8s
MATP Matopo 54.54 212 P **P** **10 10 03.1 -0.8**
comp=Z,10nm,0.9s,mb4.8,baz=29,slow=8.3,SNR=8.1
KBS Kingsbay 54.82 351 *e*P **P** **10 10 05.6 -0.4**
comp=Z,64nm,1.0s,mb5.6
KBS Kingsbay 54.82 351 *e*P **P** **10 10 05.6 -0.4**
comp=Z,64nm,1.0s,mb5.6
KBS Kingsbay 54.82 351 *e*P **P** **10 10 05.6 -0.4**
KBS pmax pmax
comp=Z,64nm,1.0s,mb5.6
OUK Oukaimeden 54.84 290 *i*P **P** **10 10 06.0 -0.1**
DL2 Dalian 55.18 60 *e*P **P** **10 10 10.5 +1.9**
DL2 *e*S **S** **10 17 55.8 +4.0**
DL2 AMB AMB
comp=Z,30nm,1.3s,mb5.2
DL2 AMB AMB
comp=Z,150nm,4.9s
DL2 LR LR
comp=N,530nm,17.4s,MS4.8
DL2 LR LR
comp=E,420nm,17.4s,MS4.8
DL2 LR LR
comp=Z,590nm,17.1s,MS4.7
SNY Shenyang 56.20 56 ⇓P **P** **10 10 15.5 -0.4**
SNY AMB AMB
comp=Z,25nm,1.4s,mb5.0
SSE Sheshan 56.43 69 *e*P **P** **10 10 15.5 -2.0**
SSE AP pP 10 10 22.0 +1.3
SSE XP sP 10 10 24.8 +2.9
SSE PCP PcP 10 11 13.8 -0.7

SSE S **S** **10 18 04.8 -3.6**
SSE SCS ScS 10 20 02.5 -4.4
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,128nm,6.5s
SSE LR LR
comp=N,1μm,21.0s,MS4.9
SSE LR LR
comp=E,222nm,21.1s,MS4.9
SSE LR LR
comp=Z,1μm,23.9s,MS5.0
CN2 Changchun 57.28 54 *e*P **P** **10 10 23.5 -0.1**
CN2 *e*XP sP 10 10 33.5 +5.5
CN2 *e*S **S** **10 18 16.8 -2.8**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,14.0s,MS5.4
CN2 LR LR
comp=E,900nm,14.0s,MS5.4
CN2 LR LR
comp=Z,1μm,14.0s,MS5.2
YHNB Yeheng 58.39 77 *e*P **P** **10 10 32.8 +1.4**
YHNB Yeheng 58.39 77 *e*P **P** **10 10 32.8 +1.5**
YAK Yakutsk 58.52 32 *i* P **P** **10 10 30.7 -1.6**
comp=Z,62nm,1.7s,mb5.4
YAK Yakutsk 58.52 32⇑ *i*P **P** **10 10 30.7 -1.6**
YAK pmax pmax
comp=Z,62nm,1.7s,mb5.4
TIXI Tiksi 58.75 21 *e*P **P** **10 10 31.7 -2.2**
comp=Z,32nm,1.1s,mb5.3
TIXI Tiksi 58.75 21 *e*P **P** **10 10 31.7 -2.2**
TIXI *e*S **S** **10 18 29.8 -9.1**
TIXI pmax pmax
comp=Z,32nm,1.1s,mb5.3
TSUM Tsumeb 59.41 223 *e*P **P** **10 10 37.3 -1.2**
comp=Z,10.0nm,0.7s,mb5.0
TSUM Tsumeb 59.41 223 *e*P **P** **10 10 37.3 -1.2**
comp=Z,10.0nm,0.7s,mb5.0
DAG Danmarks Havn 59.76 345⇓ *i*P **P** **10 10 40.5 -0.4**
comp=Z,13nm,0.6s,mb5.1
DAG Danmarks Havn 59.76 345⇓ *i*P **P** **10 10 40.5 -0.4**
DAG pmax pmax
comp=Z,13nm,0.6s,mb5.1
LBTB Lobatse 59.83 212 *e*P **P** **10 10 39.5 -1.9**
comp=Z,9.1nm,0.7s,mb4.9
LBTB Lobatse 59.83 212 *e*P **P** **10 10 39.5 -1.9**
comp=Z,9.1nm,0.7s,mb4.9
LBTB Lobatse 59.83 212 *e*P **P** **10 10 39.5 -1.9**
LBTB pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
MDJ Mudanjiang 60.08 52 P **P** **10 10 42.8 -0.3**
MDJ S **S** **10 18 52.5 -3.6**
MDJ AMB AMB
comp=Z,19nm,1.3s,mb5.0
MDJ AMB AMB
comp=Z,155nm,3.7s
MDJ LR LR
comp=E,1μm,28.1s
MDJ LR LR
comp=Z,684nm,21.8s
SCO Scoresbysund 60.14 338 *i* P **P** **10 10 44.7 +1.2**
comp=Z,12nm,0.8s,mb5.0
SCO Scoresbysund 60.14 338 *e*P **P** **10 10 44.7 +1.2**
comp=Z,12nm,0.8s,mb5.0
SCO Scoresbysund 60.14 338 *e*P **P** **10 10 44.7 +1.2**
SCO pmax pmax
comp=Z,12nm,0.8s,mb5.0
KLR Kul'dur 60.75 47 *e*P **P** **10 10 43.8 -3.9**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,78nm,1.8s,mb5.5
DBIC Dimbokro 60.91 262 P **P** **10 10 48.1 -0.7**
comp=Z,30nm,0.9s,mb5.4,baz=51,slow=7.8,SNR=12
DBIC Dimbokro 60.91 262 *e*P **P** **10 10 48.0 -0.7**
comp=Z,31nm,0.9s,mb5.4
DBIC Dimbokro 60.91 262 *e*P **P** **10 10 48.0 -0.7**
comp=Z,31nm,0.9s,mb5.4
DBIC Dimbokro 60.91 262 *e*P **P** **10 10 48.0 -0.7**
DBIC pmax pmax
comp=Z,31nm,0.9s
LIC Lamto 61.27 262⇑ *i*P **P** **10 10 50.4 -0.8**
comp=Z,44nm,0.9s,mb5.3
LIC Lamto 61.27 262⇑ *i*P **P** **10 10 50.4 -0.8**
comp=Z,22nm,0.9s,mb5.3
HABR Khabarovsk 63.04 47 *e*P **P** **10 11 01.9 -1.1**
HABR *e*S **S** **10 19 30.0 -3.6**
HABR pmax pmax
comp=Z,78nm,1.7s,mb5.6
HABR MLR MLR
comp=Z,1μm,18.5s,MS5.1
JNU Nakatsue 63.80 65 P **P** **10 11 07.5 -0.6**
comp=Z,22nm,0.9s,mb5.2,baz=339,slow=6.4,SNR=7.6
SUMG Summit 65.16 341 *e*P **P** **10 11 17.7 +0.7**
SUMG Summit 65.16 341 *e*P **P** **10 11 17.7 +0.7**
ALE Alert 66.29 353 P **P** **10 11 24.0 -0.3**
comp=Z,252nm,1.0s,mb6.2,SNR=13
YSS Yuzh-Sakhalins 68.45 47 *e*P **P** **10 11 38.2 +0.2**
comp=Z,70nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 68.45 47 *e*P **P** **10 11 37.2 -0.8**
comp=Z,35nm,0.8s,mb5.4
YSS Yuzh-Sakhalins 68.45 47⇑ *e*P **P** **10 11 38.2 +0.2**
YSS *e* 10 11 45.6
YSS *e* 10 12 03.2
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
MAJO Matsushiro 68.49 59 *e*P **P** **10 11 37.0 -1.2**
comp=Z,38nm,1.0s,mb5.4
MAJO Matsushiro 68.49 59 *e*P **P** **10 11 37.0 -1.2**
comp=Z,38nm,1.0s,mb5.4
MAJO Matsushiro 68.49 59 *e*P **P** **10 11 37.0 -1.2**
MAJO pmax pmax
comp=Z,38nm,1.0s,mb5.4
MAT Matsushiro 68.49 59 P **P** **10 11 37.1 -1.1**
MAT *e*S S 10 20 41.0 +0.9
MAT Matsushiro 68.49 59 *e*P **P** **10 11 37.0 -1.2**
comp=Z,27nm,1.0s,mb5.2
MAT S S 10 20 41.0 +0.9
MAT Matsushiro 68.49 59 *e*P **P** **10 11 37.0 -1.2**
MAT S S 10 20 41.0 +0.9
MAT pmax pmax
comp=Z,27nm,1.0s,mb5.2
MJAR Matsushiro Arr 68.49 59 P **P** **10 11 37.4 -0.8**
comp=Z,18nm,1.1s,mb5.0,baz=290,slow=9.0,SNR=31
SEY Seymchan 68.73 29 *i* P **P** **10 11 39.8 +0.1**
MA2 Magadan 69.08 33 *i* P **P** **10 11 41.2 -0.7**
comp=Z,30nm,1.7s,mb5.0
MA2 Magadan 69.08 33 *e*P **P** **10 11 40.2 -1.6**
MA2 Magadan 69.08 33*c i*P **P** **10 11 41.2 -0.7**
MA2 pmax pmax
comp=Z,30nm,1.7s,mb5.0
BILL Bilibino 71.94 22 *i* P **P** **10 11 59.9 +0.5**
PET Petropavlovsk 75.68 37 *e*S S 10 22 00.6 -2.1
comp=Z,1μm,19.0s
PET Petropavlovsk 75.68 37 *e*P **P** **10 12 25.0 +3.7**
PET *e*S S 10 22 00.6 -2.1
PET *e*SS SS 10 26 52.7 -1.2
PET MLR MLR
comp=Z,1μm,19.0s,MS5.2
RES Resolute Bay 76.18 352 *e*P **P** **10 12 23.4 -0.7**
comp=Z,17nm,1.3s,mb4.8
RES Resolute Bay 76.18 352 *e*P **P** **10 12 23.4 -0.8**
comp=Z,17nm,1.3s,mb4.8
RES Resolute Bay 76.18 352 *e*P **P** **10 12 23.4 -0.7**
RES pmax pmax
comp=Z,17nm,1.3s,mb4.8
TNA Tin City 81.26 17 *e*P **P** **10 12 51.4 -0.7**
comp=Z,14nm,0.8s,mb4.9
TNA Tin City 81.26 17 *e*P **P** **10 12 51.4 -0.6**
comp=Z,14nm,0.8s,mb4.9
FITZ Fitzroy Crossi 81.52 115 *e*P **P** **10 12 53.2 -0.3**
comp=Z,16nm,0.9s,mb5.0
INK Inuvik 84.13 3 *e*P **P** **10 13 06.4 -0.6**
SCHQ Schefferville 84.28 331 P **P** **10 13 07.2 -0.6**
comp=Z,25nm,1.1s,mb5.3,baz=54,slow=4.8,SNR=14
SCHQ Schefferville 84.28 331 *e*P **P** **10 13 07.1 -0.7**
comp=Z,18nm,0.8s,mb5.3
SCHQ Schefferville 84.28 331 *e*P **P** **10 13 07.1 -0.6**
comp=Z,18nm,0.8s,mb5.3
KAKA Kakadu 84.37 107 *e*P **P** **10 13 07.8 -0.4**
comp=Z,22nm,0.6s,mb5.5
COLA College 86.01 10 *e*P **P** **10 13 15.4 -1.1**
comp=Z,19nm,1.0s,mb5.3
COLA College 86.01 10 *e*P **P** **10 13 15.4 -1.1**
comp=Z,19nm,1.0s,mb5.3
COLA College 86.01 10 *e*P **P** **10 13 15.4 -1.1**
COLA pmax pmax
comp=Z,19nm,1.0s,mb5.3
ILAR Eielson Array 86.25 10 P **P** **10 13 16.4 -1.2**
comp=Z,6.8nm,0.8s,mb5.0,baz=321,slow=4.5,SNR=23
ILAR PP PP 10 16 38.8 +0.4
comp=Z,1.2nm,1.0s,baz=332,slow=5.5,SNR=4.9
MCK McKinley 86.91 11 *e*P **P** **10 13 19.9 -1.0**
comp=Z,29nm,1.1s,mb5.4
MCK McKinley 86.91 11 *e*P **P** **10 13 19.9 -1.0**
MCK pmax pmax
comp=Z,29nm,1.1s,mb5.4
DAWY Dawson 87.86 7 *e*P **P** **10 13 25.0 -0.5**
DAWY Dawson 87.86 7 *e*P **P** **10 13 25.0 -0.4**
SML Sawmill 88.81 11 *e*P **P** **10 13 29.3 -0.6**
PMR Palmer 88.87 12 *e*P **P** **10 13 27.3 -2.9**
WRA Warramunga Arr 89.51 113 P **P** **10 13 32.6 -0.7**
comp=Z,13nm,1.0s,mb5.2,baz=316,slow=4.0,SNR=25
WRA PKKPbc PKKPbc 10 31 07.2 -0.4
comp=Z,1.8nm,1.1s,baz=115,slow=2.9,SNR=6.6
WRA Warramunga Arr 89.51 113 *i* P **P** **10 13 32.7 -0.6**
comp=Z,13nm,1.0s,mb5.2
WRA Warramunga Arr 89.51 113 *i* P **P** **10 13 32.7 -0.6**
WRA pmax pmax
comp=Z,13nm,1.0s
WRAB Tennant Creek 89.52 113 P **P** **10 13 33.3 0.0**
comp=Z,100nm,1.0s,mb6.1,SNR=6.1
WRAB Tennant Creek 89.52 113 *e*P **P** **10 13 32.6 -0.7**
comp=Z,26nm,1.0s,mb5.5
WRAB Tennant Creek 89.52 113 *e*P **P** **10 13 32.6 -0.7**
comp=Z,26nm,1.0s,mb5.5
WRAB Tennant Creek 89.52 113 *e*P **P** **10 13 32.6 -0.7**
WRAB pmax pmax
comp=Z,26nm,1.0s,mb5.5
WB2 Warramunga Arr 89.52 113 *e*P **P** **10 13 32.8 -0.5**
SLKM Skilak Lake 89.67 13 *e*P **P** **10 13 31.7 -2.3**
YKW3 Yellowknife Ar 89.81 356 *e*P **P** **10 13 34.2 -0.5**
YKW3 Yellowknife Ar 89.81 356 *e*P **P** **10 13 34.2 -0.4**
YKA Yellowknife Ar 89.88 356 P **P** **10 13 34.6 -0.3**
comp=Z,8.4nm,0.9s,mb5.1,baz=2.9,slow=4.9,SNR=22
YKA PP PP 10 17 03.1 -4.4
comp=Z,2.0nm,1.0s,baz=7.4,slow=7.4,SNR=3.8
YKA PKKPbc PKKPbc 10 31 02.8 -3.9
comp=Z,0.4nm,0.8s,baz=173,slow=2.1,SNR=9.3
YKA Yellowknife Ar 89.88 356 *i* P **P** **10 13 34.5 -0.5**
comp=Z,8.0nm,0.9s,mb5.0
YKA Yellowknife Ar 89.88 356 PP PP 10 17 03.1 -4.4
YKA Yellowknife Ar 89.88 356⇑ *i*P **P** **10 13 34.5 -0.5**
YKA pmax pmax
comp=Z,8.0nm,0.9s
FORT Forrest 90.17 125 *e*P **P** **10 13 35.9 -0.4**
comp=Z,29nm,0.9s,mb5.6
ASAR Alice Springs 91.00 116 P **P** **10 13 39.5 -0.7**
comp=Z,5.9nm,0.9s,mb4.9,baz=304,slow=4.7,SNR=18
ASAR PKKPbc PKKPbc 10 31 03.0 -0.9
comp=Z,0.5nm,0.8s,baz=123,slow=3.7,SNR=4.2
FFC Flin Flon 95.79 347 P **P** **10 14 01.5 -0.7**
comp=Z,48nm,1.2s,mb5.8,SNR=5.2
NEW Newport 104.20 355 PP PP 10 18 58.0 +0.2
comp=Z,2.1nm,1.0s,baz=334,slow=6.8,SNR=4.1
PDAR Pinedale Array 108.67 349 PKiKP PKiKP 10 19 04.0 -1.0
comp=Z,0.5nm,0.6s,baz=53,slow=3.7,SNR=4.2
PDAR PKKP PKKPbc 10 30 24.9 +11
comp=Z,1.2nm,0.8s,baz=178,slow=6.1,SNR=8.0
NVAR Mina Array Bea 114.07 355 PKP PKiKP 10 19 15.4 +0.2
comp=Z,1.5nm,0.7s,baz=186,slow=1.5,SNR=7.0
NVAR PKKPbc PKKPbc 10 29 55.8 -0.2
comp=Z,0.3nm,0.4s,baz=203,slow=6.1,SNR=3.8
QSPA South Pole Qui 117.45 180 *e*P pPKPdf 10 19 30.7 +5.6
CPUP Villa Florida 121.01 254 PKP PKPdf 10 19 28.2 -0.3
comp=Z,0.4nm,0.3s,baz=22,slow=5.4,SNR=2.8
LPAZ La Paz 127.10 270 PKP PKPdf 10 19 40.9 +0.6
comp=Z,2.2nm,1.0s,baz=15,slow=9.0,SNR=5.0
OTAV Otavalo 128.06 294 *e*PKPdf PKPdf 10 19 43.0 +0.9
RAO Raoul Island 133.15 105 *e*PKPdf PKPdf 10 19 56.3 +4.6
AFI Afiamalu 133.81 83 *e*PKPdf PKPdf 10 19 48.8 -4.1

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*OMAN **25** 10:09:09.3±44.0, 2994N×5507E, h31km, Error ellipse: s-maj=15.1km s-min=2.9km az=352.0*
*CSEM **25** 10:09:36.9±0.1, 2753N×5551E, h10km, mb4.5/4, Error ellipse: s-maj=3.7km s-min=2.5km az=78.0*
*ISCJB **25** 10:09:37.7±0.3, 2755N±003×5547E±006, h10km, mb4.0/21, Error ellipse: s-maj=7.9km s-min=4.2km az=163.9*
*IDC **25** 10:09:38.1±1.9, 2751N×5559E, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.9/26, mbtmp3.9/16, Error ellipse: s-maj=39.6km s-min=18.8km az=164.0*
*THR **25** 10:09:43.2±0.8, 2764N×5624E, h14km±8km, ML3.7*
*NEIC **25** 10:09:43.2, 2764N×5624E, h14km, mb4.3/7, ML3.7(THR), After THR.*

ISC 25 10:09:39.7±0.3, 2760N±003×5552E±006, h10km, n54, σ1°35/58, mb4.0/21, 6C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.61**	**109**	*e*PG	**Pg**	**10 09 48.6**	**-3.0**
BNDS				AML	AML	10 09 57.0	
	comp=E,7μm,0.2s						
BNDS	**Bandar-Abbas**	**0.61**	**109**	Pg	**Pg**	**10 09 48.0**	**-3.6**
BANOM	**Banah**	**1.81**	**157**	⇑S	**Sn**	**10 10 35.6**	**+1.8**
GHIR	**Ghir-Karzin**	**2.34**	**288**	*e*PN	**Pg**	**10 10 31.7**	**+7.2**
GHIR				AML	AML	10 11 30.4	
	comp=E,222nm,0.2s						
GHIR				AML	AML	10 11 33.0	
	comp=N,213nm,1.1s						
GHIR	**Ghir-Karzin**	**2.34**	**288**	Pn	**Pg**	**10 10 31.0**	**+6.4**
KRBR	**Kerman**	**2.62**	**24**	*e*PN	**Pn**	**10 10 24.4**	**+2.4**
KRBR				*e*SG	**Sb**	**10 10 58.0**	**-0.8**
KRBR				AML	AML	10 11 06.9	
	comp=N,792nm,0.3s						
KRBR				AML	AML	10 11 11.0	
	comp=E,448nm,0.5s						
KRBR	**Kerman**	**2.62**	**24**	Pn	**Pn**	**10 10 24.0**	**+2.0**
KRBR				*e*Sg	**Sb**	**10 10 58.0**	**-0.8**
	comp=E,448nm,0.5s,SNR=90						
ASHO	**Ashiyiah**	**2.94**	**170**	⇓P	**Pn**	**10 10 26.9**	**+0.4**
	SNR=12						
ASHO				⇓S	**Sn**	**10 11 02.6**	**+0.8**
HOQ	**Hoqain**	**4.31**	**158**	⇑P	**Pn**	**10 10 43.9**	**-1.4**
ARQ	**Araqi**	**4.34**	**168**	⇓P	**Pn**	**10 10 46.5**	**+0.8**
ARQ				⇑S	**Sn**	**10 11 38.1**	**+1.9**
ARQ	**Araqi**	**4.34**	**168**	S	**Sn**	**10 11 38.1**	**+1.8**
BIDO	**Bidbid**	**4.69**	**149**	⇓P	**Pn**	**10 10 49.3**	**-1.3**
WBK	**Wadi Bani Khal**	**5.87**	**147**	⇑P	**Pn**	**10 11 05.4**	**-1.3**
	SNR=7.0						
SHAO	**Shalim**	**9.53**	**179**	⇑P	**Pn**	**10 11 56.5**	**-0.4**
	SNR=7.5						
WHFO	**Wadi Hawf**	**9.77**	**190**	⇓P	**Pn**	**10 11 59.7**	**-0.4**
RBK	**Rabkut**	**10.12**	**187**	⇑P	**Pn**	**10 12 04.4**	**-0.6**
ABTO	**Aybut**	**10.40**	**192**	⇓P	**Pn**	**10 12 08.2**	**-0.6**
	SNR=12						
GNI	**Garni**	**15.37**	**327**	Pn	**Pn**	**10 13 25.4**	**+8.8**
	comp=E,1.4nm,0.3s,baz=250,slow=3.4,SNR=6.6						
GNI	**Garni**	**15.37**	**327**	*e*Pn	**Pn**	**10 13 23.2**	**+6.6**
BR131	**Keskin Array S**	**21.80**	**309**	P	**P**	**10 14 36.5**	**+4.7**
	comp=E,3.7nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**21.80**	**309**	P	**P**	**10 14 34.1**	**+2.3**
	comp=E,4.0nm,0.9s,mb3.9,baz=137,slow=14,SNR=7.7						
AKTK	**Aktyubinsk**	**22.89**	**4**	P	**P**	**10 14 45.8**	**+2.4**
AKTO	**Aktyubinsk**	**22.89**	**4**	P	**P**	**10 14 45.8**	**+2.4**
	comp=E,1.6nm,0.4s,mb3.8,baz=166,slow=13,SNR=4.7						
BVAR	**Borovoye Array**	**27.70**	**19**	P	**P**	**10 15 27.9**	**-0.1**
	comp=E,0.9nm,0.5s,mb3.7,baz=224,slow=4.8,SNR=4.1						
MKAR	**Makanchi Array**	**28.45**	**41**	P	**P**	**10 15 34.5**	**-0.1**
	comp=E,0.7nm,0.7s,mb3.4,baz=229,slow=8.4,SNR=6.0						
MLR	**Muntele Rosu**	**29.48**	**315**	P	**P**	**10 15 45.8**	**+2.0**
	comp=E,2.0nm,0.5s,mb4.1,baz=108,slow=20,SNR=2.9						
AKASG	**Malin Array Be**	**30.50**	**326**	P	**P**	**10 15 52.8**	**-0.1**
	comp=E,1.0nm,0.5s,mb3.9,baz=134,slow=8.4,SNR=7.2						
ZAL	**Zalesovo**	**33.97**	**31**	P	**P**	**10 16 22.6**	**-0.7**
	comp=E,2.4nm,0.6s,mb4.3,baz=228,slow=9.4,SNR=9.4						
ZAL	**Zalesovo**	**33.97**	**31**	P	**P**	**10 16 22.5**	**-0.8**
GERES	**GERESS Array B**	**38.47**	**315**	P	**P**	**10 17 01.5**	**-0.3**
	comp=E,0.6nm,0.6s,mb3.5,baz=96,slow=6.0,SNR=3.8						
KHC	**Kasperske Hory**	**38.64**	**315**	*e*P	**P**	**10 17 04.0**	**+0.8**
FINES	**FINESS Array B**	**39.15**	**338**	P	**P**	**10 17 07.7**	**+0.2**
	comp=E,0.9nm,0.7s,mb3.6,baz=140,slow=9.5,SNR=5.5						
MBDF	**Montbardon**	**42.24**	**307**	*e*P	**P**	**10 17 31.1**	**-1.9**
	comp=E,9.1nm,0.8s,mb4.2						
MBDF	**Montbardon**	**42.24**	**307**	*e*P	**P**	**10 17 31.1**	**-1.9**
	comp=E,4.6nm,0.8s,mb4.2						
LPG	**La Plagne**	**42.35**	**308**	*e*P	**P**	**10 17 31.2**	**-2.7**
	comp=E,7.1nm,0.7s,mb4.1						
LPG	**La Plagne**	**42.35**	**308**	*e*P	**P**	**10 17 31.2**	**-2.7**
	comp=E,3.5nm,0.7s,mb4.1						
CDF	**Champ du Feu**	**42.49**	**313**	*e*P	**P**	**10 17 31.6**	**-3.4**
CABF	**La Chapelle**	**42.97**	**310**	*e*P	**P**	**10 17 37.5**	**-1.4**
HFS	**Hagfors**	**43.12**	**331**	P	**P**	**10 17 40.5**	**+0.3**
	comp=E,1.2nm,0.4s,mb4.0,baz=126,slow=7.5,SNR=5.0						
SONM	**Songino Array**	**44.13**	**49**	P	**P**	**10 17 49.2**	**+0.9**
	comp=E,0.4nm,0.8s,mb3.2,baz=241,slow=4.8,SNR=3.0						
SMF	**Signal de Mont**	**44.51**	**310**	*e*P	**P**	**10 17 49.3**	**-2.0**
	comp=E,6.4nm,0.7s,mb4.3						
SMF	**Signal de Mont**	**44.51**	**310**	*e*P	**P**	**10 17 49.3**	**-2.0**
	comp=E,3.2nm,0.7s,mb4.3						
NB2	**NORSAR Subarra**	**44.63**	**331**	P	**P**	**10 17 52.3**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.7,baz=114,slow=7.9						
NOA	**NORSAR Array B**	**44.63**	**331**	P	**P**	**10 17 51.8**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.7,baz=117,slow=7.9,SNR=4.0						
SSF	**Saint Saulge**	**44.78**	**310**	*e*P	**P**	**10 17 51.7**	**-1.8**
	comp=Z,25nm,1.3s,mb4.6						
SSF	**Saint Saulge**	**44.78**	**310**	*e*P	**P**	**10 17 51.7**	**-1.8**
	comp=Z,13nm,1.3s,mb4.6						
BGF	**Bois d'Agland**	**45.18**	**309**	*e*P	**P**	**10 17 54.6**	**-2.0**
	comp=Z,14nm,0.7s,mb4.6						
BGF	**Bois d'Agland**	**45.18**	**309**	*e*P	**P**	**10 17 54.6**	**-2.0**
	comp=Z,6.8nm,0.7s,mb4.6						
ARCES	**ARCESS Array B**	**45.44**	**346**	P	**P**	**10 18 00.1**	**+1.4**
	comp=Z,4.2nm,0.9s,mb4.3,baz=145,slow=9.7,SNR=6.3						
MDT	**Midelt**	**51.63**	**291**	P	**P**	**10 18 48.2**	**+1.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=19,slow=5.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**52.09**	**265**	P	**P**	**10 18 50.6**	**+0.8**
	comp=Z,2.3nm,0.7s,mb4.2,baz=64,slow=7.4,SNR=13						
YKA	**Yellowknife Ar**	**89.88**	**355**	P	**P**	**10 22 39.0**	**+0.2**
	comp=Z,0.3nm,1.0s,mb3.6,baz=358,slow=5.0,SNR=4.1						
YKA	**Yellowknife Ar**	**89.88**	**355**	P	**P**	**10 22 39.0**	**+0.2**
YKA	**Yellowknife Ar**	**89.88**	**355**	P	**P**	**10 22 39.0**	**+0.2**

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*SZGRF **25** 10:09:53.0, 2104S×17480W, h33km, Tonga Islands*
*ISCJB **25** 10:10:02.4±1.6, 1983S±005×17540W±007, h94km±14km, mb4.5/36, Error ellipse: s-maj=12.6km s-min=6.1km az=67.0*
*NEIC **25** 10:10:04.0±1.2, 1982S×17536W, h96km±11km, mb4.7/23, Error ellipse: s-maj=9.5km s-min=4.8km az=125.0*
*IDC **25** 10:10:13.5±2.5, 1987S×17543W, h183km±22km, mb4.1/17, mb1 4.3/18, mb1mx4.2/23, mbtmp4.6/18, MS3.6/1, Ms1 3.6/1, ms1mx2.9/22, Error ellipse: s-maj=18.5km s-min=9.0km az=142.0*

ISC 25 10:10:03.6±1.3, 1987S±005×17532W±007, h92km±12km, n133, σ0°97/94, mb4.5/36, 2C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.83**	**30**	P	**Pn**	**10 11 41.4**	**+0.4**
	113nm,0.3s,baz=203,slow=4.0,SNR=149						
AFI				S	**Sn**	**10 12 50.4**	**-6.8**
	106nm,0.3s,baz=46,slow=23,SNR=8.9						
AFI	**Afiamalu**	**6.83**	**30**	*e*Pn	**Pn**	**10 11 41.5**	**+0.5**
	257nm,0.4s						
AFI				*e*Sn	**Sn**	**10 12 52.6**	**-4.7**
RAO	**Raoul Island**	**9.63**	**194**	S	**Sn**	**10 14 04.3**	**-1.3**
	96nm,0.3s,baz=72,slow=24,SNR=6.2						
RAR	**Rarotonga**	**14.63**	**98**	P	**Pn**	**10 13 27.4**	**+1.6**
	3.0nm,0.3s,baz=260,slow=11,SNR=7.6						
RAR				S	**Sn**	**10 15 58.2**	**-8.6**
	2.9nm,0.3s,baz=307,slow=20,SNR=3.8						
DZM	**Mont Dzumac**	**17.17**	**259**	P	**Pn**	**10 14 05.1**	**+7.4**
	2.2nm,0.3s,baz=71,slow=18,SNR=32						
DZM				LR	LR	10 18 51.7	
	comp=Z,191nm,18.7s,baz=36,slow=30						
WIZ	**White Island**	**18.77**	**199**	P	**Pn**	**10 14 17.7**	**+0.9**
PUZ	**Puketiti**	**18.98**	**196**	PN	**Pn**	**10 14 17.9**	**-1.5**
PUZ	**Puketiti**	**18.98**	**196**	*e*P	**Pn**	**10 14 17.9**	**-1.4**
URZ	**Urewera**	**19.47**	**198**	P	**Pn**	**10 14 24.8**	**-0.3**
	34nm,0.3s,baz=14,slow=2.2,SNR=181						
URZ				S	**S**	**10 17 44.9**	**-13**
	0.4nm,0.3s,baz=244,slow=17,SNR=3.6						
BKZ	**Black Stump Fm**	**20.49**	**198**	PN	**P**	**10 14 32.9**	**-1.1**
BKZ	**Black Stump Fm**	**20.49**	**198**	*e*P	**P**	**10 14 33.4**	**-0.6**
PXZ	**Pawanui**	**21.19**	**197**	PN	**P**	**10 14 41.8**	**+0.3**
BFZ	**Birch Farm**	**21.96**	**197**	PN	**P**	**10 14 50.2**	**+0.4**
BFZ	**Birch Farm**	**21.96**	**197**	*e*P	**P**	**10 14 50.3**	**+0.5**
MRZ	**Mangatainoka R**	**22.14**	**199**	PN	**P**	**10 14 50.7**	**-0.9**
MRZ	**Mangatainoka R**	**22.14**	**199**	*e*P	**P**	**10 14 50.7**	**-0.9**
KIW	**Kapiti Island**	**22.53**	**200**	P	**P**	**10 14 55.0**	**-0.7**
MTW	**Mount Morrison**	**22.62**	**198**	P	**P**	**10 14 55.1**	**-1.6**
CAW	**Cannon Point**	**22.70**	**199**	P	**P**	**10 14 56.3**	**-1.3**
SNZO	**South Karori**	**23.00**	**200**	P	**P**	**10 15 01.7**	**+1.2**
QRZ	**Quartz Range**	**23.33**	**204**	*e*PN	**P**	**10 15 03.4**	**-0.1**
QRZ	**Quartz Range**	**23.33**	**204**	*e*P	**P**	**10 15 03.6**	**+0.1**
TUWZ	**Tuamarina**	**23.35**	**201**	PN	**P**	**10 15 02.8**	**-1.0**
NNZ	**Nelson**	**23.36**	**202**	*e*P	**P**	**10 15 02.7**	**-1.1**
THZ	**Tophouse**	**24.01**	**202**	PN	**P**	**10 15 09.1**	**-0.6**
THZ	**Tophouse**	**24.01**	**202**	*e*P	**P**	**10 15 10.1**	**+0.4**
KHZ	**Kahutara**	**24.37**	**200**	*e*P	**P**	**10 15 14.2**	**+1.2**
DSZ	**Denniston Nort**	**24.39**	**204**	PN	**P**	**10 15 14.8**	**+1.5**
DSZ	**Denniston Nort**	**24.39**	**204**	*e*P	**P**	**10 15 15.0**	**+1.8**
LTZ	**Lake Taylor**	**25.13**	**202**	*e*P	**P**	**10 15 19.3**	**-0.6**
RPZ	**Rata Peaks**	**26.37**	**203**	P	**P**	**10 15 32.6**	**+1.4**
	82nm,0.4s,mb5.5,baz=357,slow=1.9,SNR=108						
RPZ	**Rata Peaks**	**26.37**	**203**	PN	**P**	**10 15 32.5**	**+1.4**
RPZ	**Rata Peaks**	**26.37**	**203**	*e*P	**P**	**10 15 34.0**	**+2.8**
FOZ	**Fox Glacier**	**26.76**	**205**	*e*P	**P**	**10 15 33.8**	**-0.8**
JCZ	**Jackson Bay**	**27.56**	**205**	PN	**P**	**10 15 42.0**	**+0.2**
JCZ	**Jackson Bay**	**27.56**	**205**	*e*P	**P**	**10 15 42.1**	**+0.3**
WKZ	**Wanaka**	**28.08**	**204**	*e*P	**P**	**10 15 47.3**	**+0.8**
ARMA	**Armidale**	**31.61**	**244**	*e*P	**P**	**10 16 19.7**	**+2.1**
CTA	**Charters Tower**	**36.06**	**263**	*e*P	**P**	**10 16 58.0**	**+1.8**
	12nm,0.4s,mb5.2						
CTAO	**Charters Tower**	**36.06**	**263**	*e*P	**P**	**10 16 57.4**	**+1.3**
	16nm,0.6s,mb5.1						
PMG	**Port Moresby**	**37.68**	**281**	P	**P**	**10 17 11.7**	**+1.8**
	14nm,0.8s,mb4.8,baz=118,slow=4.3,SNR=8.3						
PMG	**Port Moresby**	**37.68**	**281**	*e*P	**P**	**10 17 09.9**	**0.0**
	11nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**40.33**	**244**	*e*P	**P**	**10 17 30.8**	**-1.2**
	4.3nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**40.33**	**244**	P	**P**	**10 17 30.9**	**-1.1**
	4.3nm,0.5s,mb4.5,baz=90,slow=8.4,SNR=17						
ASAR	**Alice Springs**	**47.11**	**256**	P	**P**	**10 18 26.9**	**+0.6**
	11nm,0.8s,mb4.7,baz=88,slow=8.3,SNR=85						
ASAR				pP	pP	10 19 04.4	+16
	3.4nm,0.9s,baz=95,slow=7.7,SNR=2.0						
ASAR				S	**S**	**10 25 03.6**	**-8.1**
	0.7nm,0.8s,baz=98,slow=14,SNR=4.3						
WB2	**Warramunga Arr**	**47.17**	**261**	*e*P	**P**	**10 18 26.8**

5.8nm,0.8s,mb4.5
WVOR Wild Horse Val 81.05 39 *e*P **P 10 22 08.4 0.0**
9.0nm,1.1s,mb4.5
SLKM Skilak Lake 82.64 12 *e*P **P 10 22 16.0 -0.7**
BBB Bella Bella 82.68 27 P **P 10 22 16.4 -0.5**
8.4nm,1.0s,mb4.5,baz=239,slow=6.1,SNR=4.3
MSU Marysvale 82.87 45 *e*P **P 10 22 19.3 +1.4**
TMUT Trail Mountain 83.93 45 *e*P **P 10 22 24.4 +1.0**
DIV Divide 84.15 14 *e*P **P 10 22 23.3 -1.2**
18nm,0.8s,mb5.0
HLID Hailey 84.22 40 *e*P **P 10 22 25.2 +0.4**
12nm,1.2s,mb4.6
SRU San Rafael 84.29 45 *e*P **P 10 22 25.4 +0.2**
22nm,1.1s,mb4.9
TCUT Toone Canyon 84.76 43 *e*P **P 10 22 28.1 +0.6**
ANMO Albuquerque 85.06 50 P **P 10 22 29.6 +0.5**
13nm,0.9s,mb4.8,baz=232,slow=5.7,SNR=35
ANMO Albuquerque 85.06 50 *e*P **P 10 22 29.7 +0.6**
18nm,1.1s,mb4.9
TNA Tin City 85.35 3 *e*P **P 10 22 29.8 -0.7**
2.7nm,0.8s,mb4.2
NEW Newport 85.41 35 P **P 10 22 30.1 -0.7**
2.6nm,0.7s,mb4.2,baz=234,slow=4.5,SNR=7.0
MCK McKinley 85.84 11 *e*P **P 10 22 31.7 -1.2**
9.8nm,0.9s,mb4.7
DLBC Dease Lake 86.51 22 P **P 10 22 35.0 -1.2**
3.5nm,1.0s,mb4.2,baz=192,slow=4.5,SNR=6.0
SMCO Snowmass 86.71 46 *e*P **P 10 22 37.2 +0.1**
10.0nm,1.0s,mb4.7
PDAR Pinedale Array 86.79 42 P **P 10 22 37.0 -0.5**
0.9nm,0.6s,mb3.9,baz=219,slow=3.9,SNR=8.1
COLA College 87.08 11 *e*P **P 10 22 37.4 -1.6**
9.1nm,1.1s,mb4.6
ILAR Eielson Array 87.16 12 P **P 10 22 37.9 -1.5**
1.5nm,0.5s,mb4.2,baz=219,slow=5.1,SNR=28
SYO Syowa Base 87.88 192⇓*e*X PP 10 26 15.2 +5.3
SYO Syowa Base 87.88 192⇓*e*PKiKP PKiKP 10 27 42.3 -2.6
DAWY Dawson 88.18 15 P **P 10 22 43.4 -0.9**
INK Inuvik 93.33 14 P **P 10 23 05.3 -1.5**
2.1nm,1.0s,mb4.4,baz=229,slow=3.3,SNR=8.8
YKA Yellowknife Ar 94.90 24 P **P 10 23 14.0 -1.4**
1.2nm,0.7s,mb4.4,baz=238,slow=4.5,SNR=23
YKA Yellowknife Ar 94.90 24 P **P 10 23 14.0 -1.4**
GKN Gorkha 107.63 294 *e*P PKiKP 10 28 23.0 +3.2
49nm,0.9s
MKAR Makanchi Array 112.60 313 PKiKP PKiKP 10 28 27.1 -2.0
0.4nm,0.6s,baz=95,slow=1.3,SNR=4.5
ARCES ARCESS Array B 128.73 351 PKP PKPdf 10 28 58.2 -1.9
2.4nm,0.7s,baz=1.0,slow=0.9,SNR=14
FINES FINESS Array B 135.84 345 PKP PKPdf 10 29 13.3 -0.2
1.3nm,0.7s,baz=29,slow=4.4,SNR=4.9
FINES FINESS Array B 135.84 345 PKP PKPdf 10 29 13.3 -0.2
NOA NORSAR Array B 138.61 355 PKP PKPdf 10 29 18.5 -0.1
0.9nm,0.7s,baz=13,slow=4.1,SNR=3.3
HFS Hagfors 139.27 353 PKhKP 10 29 09.8
1.6nm,0.8s,baz=106,slow=5.4,SNR=5.1
HFS PKP PKPdf 10 29 18.2 -1.6
1.3nm,0.7s,baz=116,slow=3.4,SNR=3.3
EKA Eskdalemuir Ar 144.10 8 PKP PKPdf 10 29 24.6 -3.9
9.4nm,1.2s,baz=351,slow=2.4,SNR=6.2
BSEG Bad Segeberg 145.72 354 *e*PKPbc PKPbc 10 29 31.6 -0.2
BSEG Bad Segeberg 145.72 354 *e*PKPbc PKPbc 10 29 31.6 -0.2
RUE Ruedersdorf 146.69 350 *e*PKPbc PKPbc 10 29 34.1 -0.6
CLZ Clausthal 147.78 353 *e*PKPbc PKPbc 10 29 37.5 -0.2
CLZ Clausthal 147.78 353 *e*PKPbc PKPbc 10 29 37.5 -0.2
CLL Collm 147.95 350⇓*i*PKPbc PKPbc 10 29 37.3 -0.9
comp=Z,16nm,1.0s
CLL *e*PKPab PKPab 10 29 40.2 -0.8
comp=Z,10.0nm,0.8s
CLL Collm 147.95 350⇓*i*PKPbc PKPbc 10 29 37.4 -0.8
comp=Z,16nm,1.0s
CLL ⇑*i*PKPab PKPab 10 29 40.2 -0.8
comp=Z,10.0nm,0.8s
CLL *e*pPKPbc pPKPbc 10 29 57.0 -6.4
BRG Berggiesshubel 148.21 349 *e*PKPbc PKPbc 10 29 38.6 -0.2
BRG Berggiesshubel 148.21 349 *i* PKP PKPbc 10 29 38.4 -0.4
comp=Z,5.0nm,1.0s
MOX Moxa 148.80 351 *e*PKPbc PKPbc 10 29 40.0 -0.4
VRAC Vranov 149.12 345 PKPbc PKPbc 10 29 40.0 -1.2
comp=Z,2.5nm,0.5s,baz=63,slow=7.7,SNR=3.8
TNS Taunus Mts 149.57 355 *e*PKPbc PKPbc 10 29 42.0 -0.3
TNS Taunus Mts 149.57 355 *e*PKPbc PKPbc 10 29 42.0 -0.3
GRA1 Grafenberg Arr 149.79 352 *e*PKPbc PKPbc 10 29 42.5 -0.3
GRF Grafenberg Arr 149.79 352 *e*PKPbc PKPbc 10 29 42.5 -0.3
DOU Dourbes 149.84 0 PKP PKPdf 10 29 36.8 -1.3
DOU PKPbc PKPbc 10 29 42.5 -0.5
DOU PKPab PKPab 10 29 48.8 +0.1
WET Wettzell 150.06 349 *e*PKPbc PKPbc 10 29 42.3 -1.2
WET Wettzell 150.06 349 *e*PKPbc PKPbc 10 29 42.3 -1.2
GEC2 GERESS Array S 150.19 348 *e*PKPbc PKPbc 10 29 43.6 -0.2
GEC2 GERESS Array S 150.19 348 *e*PKPbc PKPbc 10 29 43.6 -0.2
GERES GERESS Array B 150.19 348 PKPbc PKPbc 10 29 43.1 -0.7
comp=Z,6.4nm,0.9s,baz=38,slow=2.4,SNR=31
WLF Walferdange 150.25 358 PKP PKPdf 10 29 37.5 -1.2
WLF PKPbc PKPbc 10 29 43.7 -0.2
WLF PKPab PKPab 10 29 49.8 -0.5
WLF Walferdange 150.25 358 XP 10 30 10.8
FUR Furstenfeldbru 151.27 351 *e*PKPbc PKPbc 10 29 46.2 -0.1
FUR Furstenfeldbru 151.27 351 *e*PKPbc PKPbc 10 29 46.2 -0.1
BFO Black Forest 151.46 355 *e*PKPbc PKPbc 10 29 46.3 -0.4
BFO Black Forest 151.46 355 *e*PKPbc PKPbc 10 29 46.3 -0.4
PERS Pernice 151.97 345 *e*PKPbc PKPbc 10 29 47.0 -0.9
CRES Cresnjev 152.63 343 *e*PKPbc PKPbc 10 29 48.2 -1.2
LJU Ljubljana 152.66 345 *e*PKPbc PKPbc 10 29 49.0 -0.5
VISS Visnje 152.81 344 *i* PKPbc PKPbc 10 29 49.0 -0.8
DAVOX Davos 152.82 352 PKPbc PKPbc 10 29 49.3 -0.5
comp=Z,4.0nm,0.5s,baz=207,slow=6.8,SNR=7.9
BOJS Bojanci 152.98 343 *i* PKPbc PKPbc 10 29 49.9 -0.3
MDT Midelt 164.66 31 PKPab PKPab 10 30 52.2 -0.2
comp=Z,0.6nm,0.4s,baz=339,slow=8.6,SNR=3.9
TORD Torodi Ar. Bea 172.73 156 PKPab PKPab 10 31 27.1 -1.0
comp=Z,1.4nm,1.0s,baz=212,slow=2.8,SNR=4.0

*IDC **25** 10:12:52.4±1.5,3561N×4601E,h0km,mb4.0/9,*
mb1 4.0/10,mb1mx3.9/20,mbtmp3.9/10,ML3.9/1,Error
ellipse: s-maj=30.3km s-min=20.9km az=101.0
*CSEM **25** 10:12:53.6±0.1,3577N×4605E,h18km,mb4.7/6,Error*
ellipse: s-maj=3.7km s-min=2.0km az=33.0
*ISCJB **25** 10:12:53.2±0.3,3572N±003×4609E±004,h10km,*
mb4.2/19,Error ellipse: s-maj=5.8km s-min=2.8km
az=85.7
*MOS **25** 10:12:54.7±1.6,3536N×4598E,h33km,mb4.7/6,Error*
ellipse: s-maj=15.7km s-min=6.7km az=128.0
*NEIC **25** 10:12:57.7,3570N×4644E,h14km,mb4.5/8,ML4.2(THR),*
MN4.2(TEH),After THR.
*THR **25** 10:12:58.3±0.3,3569N×4646E,h18km±5km,ML4.2*
*TEH **25** 10:12:59.3,3556N×4619E,h18km,Mn4.2*
ISC 25 10:12:54.9±0.3,3572N±003×4609E±004,h10km,n98,
σ1§24/121,mb4.2/19,5C-3D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**1.04**	**167**	*e*Pg	**Pg**	**10 13 13.9**	**-1.1**
IDHR				*e*Sg	**Sg**	**10 13 29.8**	**+1.3**
IDHR				*e*Sg	**Sg**	**10 13 30.0**	**+1.5**
IDHR	**Dehrash**	**1.04**	**167**	*e*Pg	**Pg**	**10 13 13.9**	**-1.1**
IDHR				*e*Sg	**Sg**	**10 13 29.8**	**+1.3**
SNGE	**Sanandaj**	**1.20**	**121**	*e*PG	**Pn**	**10 13 16.1**	**-1.6**
SNGE				*e*SG	**Sn**	**10 13 29.1**	**-5.0**
SNGE				AML	AML	10 13 39.5	
	comp=E,11μm,0.2s						
SNGE				AML	AML	10 13 40.8	
	comp=N,6μm,0.3s						
SNGE	**Sanandaj**	**1.20**	**121**	*e*PG	**Pb**	**10 13 15.8**	**-1.9**
SNGE				AML	AML	10 13 39.4	
	comp=E,11μm,0.7s						
SNGE	**Sanandaj**	**1.20**	**121**	*e*Pg	**Pb**	**10 13 15.8**	**-1.9**
	SNR=143						
SNGE				*e*Sg	**Sb**	**10 13 29.1**	**-4.1**
	SNR=93						
SNGE	**Sanandaj**	**1.20**	**121**	Pg	**Pb**	**10 13 16.0**	**-1.7**
SNGE				Sg	**Sb**	**10 13 29.0**	**-4.2**
IGHG	**Ghaleghazi**	**1.44**	**164**	*e*Pg	**Pg**	**10 13 22.4**	**-0.1**
IGHG				*e*Sg	**Sg**	**10 13 39.9**	**-1.3**
IGHG				*e*Sg	**Sg**	**10 13 43.4**	**+2.2**
IGHG	**Ghaleghazi**	**1.44**	**164**	*e*Pg	**Pg**	**10 13 22.4**	**-0.1**
IGHG				*e*Sg	**Sg**	**10 13 39.9**	**-1.3**
IGHG	**Ghaleghazi**	**1.44**	**164**	Pg	**Pg**	**10 13 22.3**	**-0.2**
IGHG				Sg	**Sg**	**10 13 39.8**	**-1.4**
IGHG				Sg	**Sg**	**10 13 43.4**	**+2.2**
IKOM	**Komasi**	**1.93**	**142**	*e*Pn	**Pn**	**10 13 30.2**	**+2.4**
IKOM				*e*Sn	**Sn**	**10 13 49.9**	**-2.2**
IKOM				*e*Lg		10 14 00.1	
IKOM	**Komasi**	**1.93**	**142**	*e*Pn	**Pn**	**10 13 30.2**	**+2.4**
IKOM				*e*Sn	**Sn**	**10 13 49.9**	**-2.2**
IKOM	**Komasi**	**1.93**	**142**	Pn	**Pn**	**10 13 30.1**	**+2.3**
IKOM				Sn	**Sn**	**10 13 49.8**	**-2.3**
IKOM				Lg		10 14 00.0	
MSL	**Mosul**	**2.50**	**284**	*ex*	x	10 13 39.0	
MSL				*ex*	x	10 14 18.0	
CUKT	**Cukurca**	**2.52**	**308**	P	**Pn**	**10 13 37.0**	**+1.2**
HKR	**Hakkari**	**2.65**	**315**	P	**Pn**	**10 13 39.7**	**+2.1**
BHD	**Baghdad**	**2.82**	**211**	*ex*	x	10 14 16.0	
BHD				*ex*	x	10 15 15.0	
IRAZ	**Razeghan**	**3.14**	**95**	*e*Pn	**Pn**	**10 13 51.5**	**+7.1**
IRAZ				*e*Sn	**Sn**	**10 14 21.4**	**-0.6**
IRAZ				*e*Sn	**Sn**	**10 14 21.4**	**-0.6**
IRAZ	**Razeghan**	**3.14**	**95**	*e*Sn	**Sn**	**10 14 21.4**	**-0.6**
IRAZ	**Razeghan**	**3.14**	**95**	Pn	**Pn**	**10 13 51.5**	**+7.1**
IRAZ				Sn	**Sn**	**10 14 21.3**	**-0.7**
IRAZ				Sn	**Sn**	**10 14 21.4**	**-0.6**
ASAO	**Ashtian**	**3.43**	**109**	*e*Pn	**Pn**	**10 13 49.2**	**+0.9**
ASAO				AML	AML	10 14 59.1	
	comp=N,454nm,1.1s						
ASAO	**Ashtian**	**3.43**	**109**	*e*PN	**Pn**	**10 13 49.3**	**+1.0**
ASAO				AML	AML	10 14 58.8	
	comp=N,462nm,0.8s						
ASAO	**Ashtian**	**3.43**	**109**	Pn	**Pn**	**10 13 49.0**	**+0.7**
VANB	**Van**	**3.59**	**324**	*e*P	**Pn**	**10 13 54.6**	**+4.0**
IMHD	**Mahdasht**	**3.72**	**89**	*e*Pn	**Pn**	**10 13 54.6**	**+2.2**
IMHD				*e*Sn	**Sn**	**10 14 35.6**	**-0.7**
IMHD				*e*Sn	**Sn**	**10 14 35.7**	**-0.6**
IMHD	**Mahdasht**	**3.72**	**89**	*e*Pn	**Pn**	**10 13 54.6**	**+2.2**
IMHD				*e*Sn	**Sn**	**10 14 35.7**	**-0.6**
IMHD	**Mahdasht**	**3.72**	**89**	Pn	**Pn**	**10 13 54.5**	**+2.1**
IMHD				Sn	**Sn**	**10 14 35.6**	**-0.7**
CLDR	**Caldiran**	**3.83**	**334**	*e*P	**Pn**	**10 14 01.1**	**+7.2**
CHTH	**Charan**	**4.09**	**86**	*e*PN	**Pn**	**10 13 58.3**	**+0.8**
CHTH	**Charan**	**4.09**	**86**	*e*Pn	**Pn**	**10 14 01.2**	**+3.6**
SHGR	**Shooshtar-Gavs**	**4.25**	**147**	*e*PN	**Pn**	**10 14 01.6**	**+2.1**
SHGR				AML	AML	10 15 02.7	
	comp=N,303nm,0.9s						
SHGR				AML	AML	10 15 05.3	
	comp=E,410nm,0.2s						
SHGR	**Shooshtar-Gavs**	**4.25**	**147**	*e*PN	**Pn**	**10 14 02.1**	**+2.5**
SHGR				*e*SG	**Sn**	**10 14 49.4**	**+0.2**
SHGR				AML	AML	10 15 02.7	
	comp=N,292nm,0.6s						
SHGR				AML	AML	10 15 05.0	
	comp=E,415nm,0.0s						
SHGR	**Shooshtar-Gavs**	**4.25**	**147**	*e*P	**Pn**	**10 14 01.0**	**+1.4**
SHGR	**Shooshtar-Gavs**	**4.25**	**147**	*e*Pn	**Pn**	**10 14 01.6**	**+2.0**
	SNR=52						
GNI	**Garni**	**4.55**	**347**	*e*P	**Pb**	**10 14 14.2**	**-0.7**
GNI	**Garni**	**4.55**	**347**	Pn	**Pn**	**10 14 10.2**	**+6.5**
	comp=E,1.2nm,0.3s,baz=97,slow=8.2,SNR=4.1						
GNI				Pg	**Pg**	**10 14 17.7**	**-4.3**
	comp=E,1.1nm,0.3s,baz=185,slow=8.0,SNR=6.0						
GNI				Lg		10 15 21.3	
	comp=E,0.4nm,0.3s,baz=18,slow=20,SNR=2.2						
GNI	**Garni**	**4.55**	**347**	Pn	**Pn**	**10 14 10.2**	**+6.4**
GNI				Pg	**Pg**	**10 14 17.7**	**-4.3**
GNI				Lg		10 15 21.3	
IVRN	**Varamin**	**4.66**	**97**	*e*Pn	**Pn**	**10 14 08.7**	**+3.4**
IVRN				*e*Lg		10 15 25.2	
IVRN	**Varamin**	**4.66**	**97**	Pn	**Pn**	**10 14 08.6**	**+3.3**
IVRN				Lg		10 15 25.2	
ISFB	**Sefidab**	**5.22**	**103**	*e*Pn	**Pn**	**10 14 14.4**	**+1.4**
ISFB	**Sefidab**	**5.22**	**103**	Pn	**Pn**	**10 14 14.3**	**+1.3**
NASN	**Na'in**	**6.28**	**116**	*e*Pn	**Pn**	**10 14 28.1**	**+0.6**
MALT	**Malatya**	**6.66**	**295**	*e*Pn	**Pn**	**10 14 33.5**	**+0.8**
KIV	**Kislovodsk**	**8.63**	**343**	*e*P	**Pn**	**10 15 07.4**	**+7.6**
KIV				pmax	pmax		
	comp=Z,33nm,1.2s						
BRTR	**Keskin Array B**	**10.64**	**296**	Pn	**Pn**	**10 15 31.8**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=3.4						
IDI	**Anoyia**	**17.27**	**275**	P	**Pn**	**10 16 57.8**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=116,slow=12,SNR=3.8						
VOIR		**18.65**	**308**	⇓P	**Pn**	**10 17 15.0**	**+1.9**
AKASG	**Malin Array Be**	**19.31**	**326**	P	**Pn**	**10 17 20.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=130,slow=12,SNR=3.3						
BURAR	**Bucovina Array**	**19.54**	**314**	⇑P	**Pn**	**10 17 24.3**	**+0.5**
BURAR	**Bucovina Array**	**19.54**	**314**	⇑P	**Pn**	**10 17 24.3**	**+0.5**
OBN	**Obninsk**	**20.48**	**344**	*e*P	**P**	**10 17 32.5**	**-0.3**
	comp=Z,17nm,1.0s						
OBN	**Obninsk**	**20.48**	**344**⇑	*e*P	**P**	**10 17 32.5**	**-0.3**
OBN				pmax	pmax		
	comp=Z,17nm,1.0s						
DRGR		**20.69**	**309**	⇑P	**P**	**10 17 35.8**	**+0.7**
KOLS	**Kolonicke sedl**	**21.90**	**314**	*e*P	**P**	**10 17 48.7**	**+0.6**
KOLS				*e*SP	sP	10 17 55.4	+3.2
PKSM	**Moragy**	**23.12**	**305**	⇓P	**P**	**10 18 01.8**	**+0.7**
VYHS	**Vyhne**	**23.77**	**311**	*e*P	**P**	**10 18 07.1**	**-0.5**
VYHS				*e*	*e*	10 29 41.5	
BVAR	**Borovoye Array**	**24.33**	**37**	P	**P**	**10 18 16.2**	**+3.6**
	comp=Z,1.5nm,0.7s,mb3.5,baz=238,slow=8.5,SNR=5.7						
ZST	**Bratislava**	**24.74**	**309**	*e*P	**P**	**10 18 17.7**	**+1.2**
ZST				*e*		10 29 43.4	
VRAC	**Vranov**	**25.45**	**311**	P	**P**	**10 18 23.1**	**+0.2**
	comp=Z,2.4nm,0.5s,mb4.0,baz=113,slow=9.0,SNR=2.5						
ARSA	**Arzberg**	**25.47**	**306**⇓	*i*P	**P**	**10 18 24.9**	**+1.8**
	comp=Z,8.6nm,0.8s,mb4.3						
KBA	**Koelnbreinsper**	**26.87**	**305**⇑	*i*P	**P**	**10 18 40.3**	**+4.6**
	comp=Z,11nm,0.8s,mb4.4						
GERES	**GERESS Array B**	**27.09**	**309**	P	**P**	**10 18 37.2**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.3,baz=102,slow=9.1,SNR=3.5						
FINES	**FINESS Array B**	**28.70**	**340**	P	**P**	**10 18 51.0**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.0,baz=144,slow=9.0,SNR=8.2						
FINES	**FINESS Array B**	**28.70**	**340**	P	**P**	**10 18 51.0**	**-1.1**
MKAR	**Makanchi Array**	**29.13**	**56**	P	**P**	**10 18 57.3**	**+1.4**
	comp=Z,0.4nm,0.6s,mb3.3,baz=282,slow=6.9,SNR=3.3						
KAF	**Kangasniemi**	**29.19**	**341**	*e*p	**P**	**10 18 49.6**	**-6.9**
	comp=Z,1.8nm,0.7s,mb3.9,baz=144,slow=9.5						
KAF	**Kangasniemi**	**29.19**	**341**	*e*P	**P**	**10 18 49.6**	**-6.9**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
PGF	**Pioggiola**	**29.40**	**295**	*e*P	**P**	**10 18 58.0**	**-0.3**
	comp=Z,21nm,0.9s,mb4.5						
PGF	**Pioggiola**	**29.40**	**295**	*e*P	**P**	**10 18 58.0**	**-0.3**
	comp=Z,10nm,0.9s,mb4.6						
PGF	**Pioggiola**	**29.40**	**295**	*e*P	**P**	**10 18 58.0**	**-0.3**
PGF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
SBF	**Sospel**	**30.57**	**297**	*e*P	**P**	**10 19 08.4**	**-0.3**
	comp=Z,40nm,0.8s,mb5.0						
SBF	**Sospel**	**30.57**	**297**	*e*P	**P**	**10 19 08.4**	**-0.3**
	comp=Z,20nm,0.8s,mb5.0						
SBF	**Sospel**	**30.57**	**297**	*e*P	**P**	**10 19 08.4**	**-0.3**
SBF				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
MBDF	**Montbardon**	**31.09**	**299**	*e*P	**P**	**10 19 13.7**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.2						
MBDF	**Montbardon**	**31.09**	**299**	*e*P	**P**	**10 19 13.7**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.2						
MBDF	**Montbardon**	**31.09**	**299**	*e*P	**P**	**10 19 13.7**	**+0.4**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
FRF	**La Foret Royal**	**31.14**	**297**	*e*P	**P**	**10 19 12.9**	**-0.8**
LPG	**La Plagne**	**31.15**	**300**	*e*P	**P**	**10 19 13.4**	**-0.4**
LPL	**La Plagne**	**31.17**	**301**	*e*P	**P**	**10 19 13.4**	**-0.5**
CABF	**La Chapelle**	**31.71**	**303**	*e*P	**P**	**10 19 17.8**	**-0.9**
	comp=Z,58nm,1.4s,mb4.9						
CABF	**La Chapelle**	**31.71**	**303**	*e*P	**P**	**10 19 17.8**	**-0.9**
	comp=Z,29nm,1.4s,mb4.9						
CABF	**La Chapelle**	**31.71**	**303**	*e*P	**P**	**10 19 17.8**	**-0.9**
CABF				pmax	pmax		
	comp=Z,29nm,1.4s,mb4.9						
ORIF	**Oris-en-Rattie**	**31.73**	**299**	*e*P	**P**	**10 19 17.9**	**-1.0**
HFS	**Hagfors**	**32.11**	**330**	P	**P**	**10 19 20.5**	**-1.7**
	comp=Z,5.0nm,0.7s,mb4.5,baz=134,slow=11,SNR=6.6						
VIVF	**Saint-Julien-l**	**32.59**	**299**	*e*P	**P**	**10 19 24.8**	**-1.6**
	comp=Z,7.2nm,0.7s,mb4.4						
VIVF	**Saint-Julien-l**	**32.59**	**299**	*e*P	**P**	**10 19 24.8**	**-1.6**
	comp=Z,3.6nm,0.7s,mb4.4						
VIVF	**Saint-Julien-l**	**32.59**	**299**	*e*P	**P**	**10 19 24.8**	**-1.6**
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LOR	**Lormes**	**33.29**	**303**	*e*P	**P**	**10 19 31.3**	**-1.3**
BAIF	**Baives**	**33.40**	**309**	*e*P	**P**	**10 19 33.1**	**-0.4**
SSF	**Saint Saulge**	**33.51**	**303**	*e*P	**P**	**10 19 34.1**	**-0.4**
	comp=Z,24nm,1.3s,mb4.7						
SSF	**Saint Saulge**	**33.51**	**303**	*e*P	**P**	**10 19 34.1**	**-0.4**
	comp=Z,12nm,1.3s,mb4.7						
SSF	**Saint Saulge**	**33.51**	**303**	*e*P	**P**	**10 19 34.1**	**-0.4**
SSF				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
NB2	**NORSAR Subarra**	**33.63**	**330**	P	**P**	**10 19 33.9**	**-1.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=118,slow=8.6						
NB2	**NORSAR Subarra**	**33.63**	**330**	P	**P**	**10 19 33.9**	**-1.6**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**33.63**	**330**	P	**P**	**10 19 33.7**	**-1.9**
	comp=Z,1.9nm,1.1s,mb4.0,baz=125,slow=8.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**45.75**	**252**	P	**P**	**10 21 15.5**	**-0.9**
	comp=Z,1.9nm,1.0s,mb4.0,baz=45,slow=7.8,SNR=4.0						
DBIC	**Dimbokro**	**54.81**	**251**	P	**P**	**10 22 23.6**	**-1.4**
	comp=Z,3.8nm,0.7s,mb4.5,baz=25,slow=9.1,SNR=4.1						
DBIC	**Dimbokro**	**54.81**	**251**	P	**P**	**10 22 23.5**	**-1.5**
YKA	**Yellowknife Ar**	**80.90**	**351**	P	**P**	**10 25 07.4**	**-1.9**
	comp=Z,0.6nm,0.9s,mb3.5,baz=11,slow=5.8,SNR=4.2						

IDC 25 10:13:02.2±3.2,2715N×5584E,h0km,mb3.9/3,mb1 3.9/3,
mb1mx3.5/20,mbtmp3.9/3,Error ellipse: s-maj=65.6km
s-min=36.4km az=149.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**22.30**	**310**	P	P	10 18 01.3	+0.1
	1.3nm,0.8s,baz=132,slow=10,SNR=5.2						
AKASG	**Malin Array Be**	**31.03**	**326**	P	P	10 19 21.6	0.0
	1.4nm,0.5s,baz=133,slow=8.6,SNR=7.3						
ZAL	**Zalesovo**	**34.21**	**31**	P	P	10 19 49.2	-0.2
	baz=253,slow=8.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**52.34**	**266**	P	P	10 22 16.2	+0.4
	1.3nm,0.5s,baz=64,slow=7.3,SNR=7.0						

*PRE **25** 10:19:08.1±1.2,2067S×3279E,h5km,ML5.1*
*ISCJB **25** 10:19:09.2±0.6,2104S±005×3307E±006,h10km,mb4.3/8,*
Error ellipse: s-maj=8.5km s-min=6.6km az=66.2
*IDC **25** 10:19:09.8±0.8,2106S×3313E,h0km,mb4.2/8,*
mb1 4.5/13,mb1mx4.2/27,mbtmp4.4/13,ML4.6/4,MS3.1/1,
Ms1 3.1/1,ms1mx3.0/29,Error ellipse: s-maj=21.2km
s-min=15.5km az=21.0
*NEIC **25** 10:19:11.3±0.6,2105S×3313E,h10km,mb4.5/2,Error*
ellipse: s-maj=14.7km s-min=13.0km az=114.0
ISC 25 10:19:10.6±0.5,2101S±005×3315E±005,h10km,n39,
σ1§31/49,mb4.3/8,1D,Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**4.39**	**277**	Pn	**Pn**	**10 20 18.8**	**+1.5**
	13nm,0.3s,baz=91,slow=14,SNR=112						
MATP				Pg	**Pg**	**10 20 31.4**	**-3.3**
	44nm,0.3s,baz=90,slow=16,SNR=25						
MATP				Sn	**Sn**	**10 21 09.2**	**+0.6**
	56nm,0.3s,baz=33,slow=20,SNR=5.8						
MATP				Lg		10 21 26.5	
	166nm,0.3s,baz=350,slow=22,SNR=11						
MATP				LR	LR	10 21 40.6	
	comp=Z,230nm,22.0s,baz=47,slow=34						
MATP	**Matopo**	**4.39**	**277**	Pn	**Pn**	**10 20 18.8**	**+1.5**
MATP				Pg	**Pg**	**10 20 31.4**	**-3.3**
MATP				Sn	**Sn**	**10 21 09.2**	**+0.6**
MATP				Lg		10 21 26.5	
MATP				LR	LR	10 21 40.6	
BFT	**Belfast (SA)**	**5.46**	**211**	*e*P	**Pn**	**10 20 33.5**	**+1.5**
BFT				*e*S	**Sn**	**10 21 34.9**	**0.0**
BFT				AML	AML	10 22 11.5	
	comp=Z,316nm,0.5s						
SLR	**Silverton**	**6.49**	**223**	*e*P	**Pn**	**10 20 46.2**	**0.0**
SLR				*e*S	**Sn**	**10 21 56.9**	**-3.3**
SLR				AML	AML	10 22 37.8	
	comp=Z,512nm,0.5s						
LSZ	**Lusaka**	**7.40**	**320**	Pn	**Pn**	**10 20 57.9**	**-0.6**
	comp=Z,20nm,0.3s,baz=150,slow=13,SNR=120						
LSZ				Sn	**Sn**	**10 22 18.0**	**-4.6**
	comp=Z,27nm,0.3s,baz=228,slow=22,SNR=11						
LSZ				Lg		10 23 01.2	
	comp=Z,86nm,0.3s,baz=219,slow=19,SNR=16						
LSZ	**Lusaka**	**7.40**	**320**	*e*Pn	**Pn**	**10 20 58.0**	**-0.6**
	comp=Z,76nm,0.6s						
LSZ				*e*Sn	**Sn**	**10 22 16.5**	**-6.0**
LBTB	**Lobatse**	**8.02**	**239**	Pn	**Pn**	**10 21 08.2**	**+1.1**
	comp=Z,9.1nm,0.3s,baz=66,slow=13,SNR=80						
LBTB				Sn	**Sn**	**10 22 39.0**	**+1.1**
	comp=Z,14nm,0.3s,baz=6.4,slow=6.0,SNR=8.1						
LBTB				Lg		10 23 16.1	
	comp=Z,15nm,0.3s,baz=345,slow=19,SNR=5.5						
**L

CSEM **25** *10:22:50.7±0.1,2738N×5556E,h20km,mb4.9/69,Error ellipse: s-maj=1.9km s-min=1.6km az=71.0*
MOS **25** *10:22:51.1±0.8,2751N×5558E,h19km,mb5.0/74, MS4.4/6,Error ellipse: s-maj=6.2km s-min=3.5km az=118.7*
SZGRF **25** *10:22:53.7,2800N×5641E,h33km,mb4.8,Southern Iran*
TEH **25** *10:22:53.9,2735N×5550E,h18km,ML4.7*
BJI **25** *10:22:53.2,2793N×5517E,h39km,mB5.3,mb4.8,Ms4.9, Msz4.5*
THR **25** *10:22:55.5±0.4,2763N×5586E,h14km±7km,ML4.2*
NEIC **25** *10:22:55.5,2763N×5586E,h14km,mb4.8/79, ML4.3(THR),MN4.7(TEH),After THR.*
OMAN **25** *10:22:56.4±1.2,2734N×5518E,h31km,Error ellipse: s-maj=2.5km s-min=1.5km az=332.0*
IDC **25** *10:22:57.1±5.0,2759N×5560E,h50km±47km,mb4.3/30, mb1 4.4/30,mb1mx4.4/33,mbtmp4.6/30,MS4.2/6, Ms1 4.2/6,ms1mx3.8/36,Error ellipse: s-maj=18.4km s-min=12.2km az=166.0*
ISC 25 10:22:52.1±0.1,2752N±002×5556E±002,h10km, (h26km±2.5km:pP-P),n452,σ1§09/498,mb4.8/139, MS4.5/17,23C-32D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BNDS	**Bandar-Abbas**	**0.56**	**103**	*e*PG	**Pg**	**10 23 03.0**	**0.0**
BNDS				AML	AML	10 23 20.9	
	comp=E,19μm,0.7s						
BNDS				AML	AML	10 23 23.0	
	comp=N,17μm,0.3s						
BNDS	**Bandar-Abbas**	**0.56**	**103**	Pg	**Pg**	**10 23 02.0**	**-1.0**
BANOM	**Banah**	**1.73**	**157**	⇓P	**Pn**	**10 23 23.5**	**+1.3**
	SNR=86						
BANOM				⇑S	**Sn**	**10 23 49.2**	**+5.0**
GHIR	**Ghir-Karzin**	**2.40**	**289**	*e*PN	**Pb**	**10 23 39.5**	**+4.1**
GHIR	**Ghir-Karzin**	**2.40**	**289**	Pn	**Pb**	**10 23 39.0**	**+3.7**
KRBR	**Kerman**	**2.67**	**23**	*e*PN	**Pn**	**10 23 37.8**	**+2.7**
KRBR				*e*SG	**Sg**	**10 24 13.2**	**-4.6**
KRBR				AML	AML	10 24 26.6	
	comp=N,1μm,0.6s						
KRBR				AML	AML	10 24 26.7	
	comp=E,2μm,0.5s						
KRBR	**Kerman**	**2.67**	**23**	Pn	**Pn**	**10 23 37.0**	**+1.9**
KRBR				Sg	**Sg**	**10 24 13.0**	**-4.8**
ASHO	**Ashiyiah**	**2.86**	**171**	⇓P	**Pn**	**10 23 40.2**	**+2.4**
	SNR=148						
ASHO				⇓S	**Sn**	**10 24 17.1**	**+4.8**
IMOK	**Mook**	**2.93**	**302**	*e*Pn	**Pn**	**10 23 40.3**	**+1.6**
IMOK				*e*Lg		10 24 35.9	
IMOK				*e*Lg		10 24 40.4	
IMOK	**Mook**	**2.93**	**302**	Pn	**Pn**	**10 23 40.3**	**+1.6**
IMOK				Lg		10 24 35.9	
IMOK				Lg		10 24 40.3	
IPAR	**Pars**	**3.19**	**317**	*e*Pn	**Pn**	**10 23 45.0**	**+2.7**
IPAR				*e*Sn	**Sn**	**10 24 21.8**	**+1.4**
IPAR	**Pars**	**3.19**	**317**	Pn	**Pn**	**10 23 44.9**	**+2.6**
IPAR				*e*Sn	**Sn**	**10 24 21.8**	**+1.4**
SHI	**Shiraz**	**3.41**	**309**	*e*Pn	**Pg**	**10 24 00.2**	**+2.8**
SHI	**Shiraz**	**3.41**	**309**	*e*Pn	**Pn**	**10 23 48.6**	**+3.3**
IMEH	**Mehriz**	**3.94**	**348**	*e*Pn	**Pn**	**10 23 55.8**	**+3.2**
IMEH				*e*Sn	**Sn**	**10 24 41.3**	**+2.5**
IBAF	**Bafgh**	**4.05**	**0**	*e*Pn	**Pn**	**10 23 56.5**	**+2.4**
IBAF	**Bafgh**	**4.05**	**0**	Pn	**Pn**	**10 23 56.4**	**+2.3**
ARQ	**Araqi**	**4.26**	**168**	⇑P	**Pn**	**10 23 59.3**	**+2.3**
	SNR=12						
BIDO	**Bidbid**	**4.61**	**149**	⇑P	**Pn**	**10 24 02.0**	**+0.1**
	SNR=18						
ISAD	**Sadrabad**	**4.67**	**340**	*e*Sn	**Sn**	**10 24 57.8**	**+1.0**
ISAD				*e*Sn	**Sn**	**10 24 57.9**	**+1.1**
ISAD	**Sadrabad**	**4.67**	**340**	*e*Pn	**Pn**	**10 24 06.0**	**+3.4**
ISAD				*e*Sn	**Sn**	**10 24 57.9**	**+1.1**
ICHK	**Chekchek**	**4.81**	**348**	*e*Pn	**Pn**	**10 24 07.0**	**+2.5**
ICHK				*e*Sn	**Sn**	**10 25 01.5**	**+1.2**
BSY	**Bisya**	**4.99**	**162**	⇑P	**Pn**	**10 24 09.6**	**+2.6**
	SNR=21						
IGAR	**Garneh**	**5.53**	**329**	*e*Pn	**Pn**	**10 24 20.0**	**+5.5**
IGAR				*e*Sn	**Sn**	**10 25 22.2**	**+4.0**
IGAR				*e*Sn	**Sn**	**10 25 22.5**	**+4.3**
IGAR	**Garneh**	**5.53**	**329**	*e*Pn	**Pn**	**10 24 18.2**	**+3.7**
JMDO	**Jabal Madar**	**5.63**	**155**	⇑P	**Pn**	**10 24 17.6**	**+1.8**
	SNR=9.6						
IBRJ	**Borojen**	**5.64**	**320**	*e*Pn	**Pn**	**10 24 20.0**	**+4.0**
WBK	**Wadi Bani Khal**	**5.79**	**147**	⇑P	**Pn**	**10 24 18.7**	**+0.7**
	SNR=6.7						
IZEF	**Zefreh**	**6.04**	**333**	*e*Pn	**Pn**	**10 24 22.9**	**+1.5**
IZEF	**Zefreh**	**6.04**	**333**	Pn	**Pn**	**10 24 22.8**	**+1.4**
IPIR	**Pirpir**	**6.54**	**323**	*e*Pn	**Pn**	**10 24 29.7**	**+1.4**
IPIR				*e*Sn	**Sn**	**10 25 41.1**	**-1.8**
IPIR				*e*Sn	**Sn**	**10 25 41.3**	**-1.6**
IPIR	**Pirpir**	**6.54**	**323**	*e*Pn	**Pn**	**10 24 29.7**	**+1.4**
IPIR				*e*Sn	**Sn**	**10 25 41.3**	**-1.6**
IKLH	**Kalahroud**	**6.72**	**330**	*e*Pn	**Pn**	**10 24 32.5**	**+1.7**
IKLH				*e*Sn	**Sn**	**10 25 45.7**	**-1.7**
IKLH				*e*Sn	**Sn**	**10 25 46.0**	**-1.4**
IKLH	**Kalahroud**	**6.72**	**330**	Pn	**Pn**	**10 24 32.4**	**+1.6**
IKLH				*e*Sn	**Sn**	**10 25 46.0**	**-1.4**
IKLH	**Kalahroud**	**6.72**	**330**	Pn	**Pn**	**10 24 32.4**	**+1.6**
IKLH				Sn	**Sn**	**10 25 45.7**	**-1.7**
IKLH				Sn	**Sn**	**10 25 46.0**	**-1.4**
ISFB	**Sefidab**	**7.38**	**338**	*e*Pn	**Pn**	**10 24 41.8**	**+1.9**
ISFB	**Sefidab**	**7.38**	**338**	Pn	**Pn**	**10 24 41.7**	**+1.8**
IANJ	**Anjiloo**	**8.04**	**350**	*e*Pn	**Pn**	**10 24 52.3**	**+3.4**
IVRN	**Varamin**	**8.14**	**337**	*e*Pn	**Pn**	**10 24 52.1**	**+1.9**
IVRN				*e*Sn	**Sn**	**10 26 20.2**	**-2.0**
IVRN	**Varamin**	**8.14**	**337**	Pn	**Pn**	**10 24 52.0**	**+1.8**
IVRN				*e*Sn	**Sn**	**10 26 20.2**	**-2.0**
IVRN	**Varamin**	**8.14**	**337**	Pn	**Pn**	**10 24 52.0**	**+1.8**
IVRN				Sn	**Sn**	**10 26 20.1**	**-2.1**
ILAS	**Lasjerd**	**8.14**	**345**	*e*Pn	**Pn**	**10 24 54.1**	**+3.8**
IFIR	**Firoozkooh**	**8.44**	**344**	*e*Pn	**Pn**	**10 24 55.8**	**+1.4**
IFIR				*e*Sn	**Sn**	**10 26 27.4**	**-2.2**
IFIR				*e*Sn	**Sn**	**10 26 28.1**	**-1.5**
IFIR	**Firoozkooh**	**8.44**	**344**	*e*Pn	**Pn**	**10 24 55.8**	**+1.4**
IFIR				*e*Sn	**Sn**	**10 26 27.4**	**-2.2**
IFIR	**Firoozkooh**	**8.44**	**344**	Pn	**Pn**	**10 24 55.8**	**+1.4**
IFIR				Sn	**Sn**	**10 26 27.3**	**-2.3**
IFIR				Sn	**Sn**	**10 26 28.0**	**-1.6**
ISHM	**Shahmirzad**	**8.48**	**347**	*e*Pn	**Pn**	**10 24 58.0**	**+3.1**
IAFJ	**Afjeh**	**8.93**	**339**	*e*Pn	**Pn**	**10 25 03.0**	**+1.9**
IMHD	**Mahdasht**	**9.14**	**334**	*e*Pn	**Pn**	**10 25 05.5**	**+1.5**
IMOG	**Moghan**	**9.14**	**20**	*e*Pn	**Pn**	**10 25 07.2**	**+3.2**
IRAZ	**Razeghan**	**9.21**	**330**	*e*Pn	**Pn**	**10 25 11.3**	**+6.4**
IRAZ				*e*Sn	**Sn**	**10 26 44.8**	**-3.8**
IRAZ	**Razeghan**	**9.21**	**330**	*e*Sn	**Sn**	**10 26 44.8**	**-3.8**
IRAZ	**Razeghan**	**9.21**	**330**	Pn	**Pn**	**10 25 11.2**	**+6.3**
IRAZ				Sn	**Sn**	**10 26 44.8**	**-3.8**
IPAY	**Payeh**	**9.37**	**17**	*e*Pn	**Pn**	**10 25 10.2**	**+3.1**
SHAO	**Shalim**	**9.46**	**180**	⇓P	**Pn**	**10 25 09.0**	**+0.6**
	SNR=27						
WHFO	**Wadi Hawf**	**9.70**	**190**	⇑P	**Pn**	**10 25 12.3**	**+0.6**
	SNR=47						
WHFO				⇑S	**Sn**	**10 26 54.0**	**-6.6**
RBK	**Rabkut**	**10.05**	**187**	⇑P	**Pn**	**10 25 16.9**	**+0.4**
	SNR=34						
RBK				⇑S	**Sn**	**10 27 03.4**	**-5.9**
IGHG	**Ghaleghazi**	**10.27**	**314**	*e*Pn	**Pn**	**10 25 20.5**	**+1.0**
ABTO	**Aybut**	**10.34**	**192**	⇓P	**Pn**	**10 25 19.8**	**-0.6**
	SNR=47						
ABTO				⇓S	**Sn**	**10 27 08.5**	**-7.7**
IDHR	**Dehrash**	**10.62**	**315**	*e*Pn	**Pn**	**10 25 24.5**	**+0.2**
IDHR				*e*Sn	**Sn**	**10 27 16.6**	**-6.7**
IDHR				*e*Sn	**Sn**	**10 27 17.2**	**-6.1**
IDHR	**Dehrash**	**10.62**	**315**	Pn	**Pn**	**10 25 24.4**	**+0.1**
IDHR				Sn	**Sn**	**10 27 16.6**	**-6.7**
IDHR				Sn	**Sn**	**10 27 17.1**	**-6.2**
BHD	**Baghdad**	**11.22**	**303**	*ex*	x	10 25 31.0	
BHD				*ex*	x	10 27 38.0	
BHD				*ex*	x	10 29 17.0	
BHD				*ex*	x	10 29 42.0	
JASL	**Jaisalmer**	**13.67**	**89**	*e*P	**Pn**	**10 26 02.2**	**-3.8**
MUKL	**Al Mukalla**	**14.33**	**206**	⇓*e*P	**Pn**	**10 26 13.3**	**-1.8**
GNI	**Garni**	**15.45**	**327**	P	**Pn**	**10 26 36.2**	**+6.2**
	comp=E,7.0nm,0.3s,baz=19,slow=1.5,SNR=21						
GNI				LR	LR	10 33 47.7	
	comp=E,434nm,22.0s,baz=331,slow=42						
GNI	**Garni**	**15.45**	**327**	P	**Pn**	**10 26 33.8**	**+3.7**
	comp=E,90nm,0.8s						
GNI	**Garni**	**15.45**	**327**	Pn	**Pn**	**10 26 33.8**	**+3.7**
	comp=E,90nm,0.8s						
GNI				*e*		10 26 37.6	
GNI	**Garni**	**15.45**	**327**	P	**Pn**	**10 26 33.8**	**+3.7**
GNI				pmax	pmax		
	comp=Z,90nm,0.8s						
BDHA	**Al Bayda'**	**16.39**	**217**	⇓*e*P	**Pn**	**10 26 40.7**	**-1.4**
BDHA				AMb	AMB	10 26 43.0	
	comp=Z,62nm,1.3s						
BDHA	**Al Bayda'**	**16.39**	**217**	⇓*e*P	**Pn**	**10 26 40.7**	**-1.5**
	comp=Z,31nm,1.3s						
DHBB	**Dhamar BB**	**16.56**	**221**	⇓*e*P	**Pn**	**10 26 43.2**	**-1.1**
DHBB				*i* S	**Sn**	**10 29 50.7**	**+2.5**
DHBB	**Dhamar BB**	**16.56**	**221**	⇓*e*P	**Pn**	**10 26 43.2**	**-1.2**
LBOS		**16.64**	**217**	⇓*e*P	**Pn**	**10 26 44.1**	**-1.3**
LBOS				AMb	AMB	10 26 46.3	
	comp=Z,138nm,2.0s						
LBOS				*i* S	**Sn**	**10 29 52.8**	**+2.6**
MAK	**Makhachkala**	**16.73**	**339**	*e*P	**Pn**	**10 26 50.6**	**+4.0**
ZEI	**Tsey**	**17.92**	**331**	*i* P	**Pn**	**10 27 03.4**	**+2.0**
KHET	**Khetri**	**17.93**	**84**	*e*P	**Pn**	**10 27 01.5**	**0.0**
KHET				AMb	AMB	10 27 07.0	
	comp=Z,16nm,0.6s						
MALT	**Malatya**	**17.93**	**311**	*e*P	**Pn**	**10 27 01.1**	**-0.4**
	comp=Z,23nm,0.8s						
MALT	**Malatya**	**17.93**	**311**	*e*P	**Pn**	**10 27 01.1**	**-0.4**
	comp=Z,23nm,0.8s						
MALT	**Malatya**	**17.93**	**311**	*e*P	**Pn**	**10 27 01.1**	**-0.4**
MALT				pmax	pmax		
	comp=Z,23nm,0.8s						
RTK	**Rohtak**	**18.43**	**80**	*e*P	**Pn**	**10 27 06.1**	**-1.5**
RTK				AMb	AMB	10 27 13.7	
	comp=Z,44nm,0.2s						
POO	**Poona**	**19.05**	**114**	*e*P	**Pn**	**10 27 18.5**	**+3.4**
KIV	**Kislovodsk**	**19.40**	**331**	*e*P	**Pn**	**10 27 20.4**	**+1.0**
	comp=Z,400nm,18.0s						
KIV	**Kislovodsk**	**19.40**	**331**	*e*P	**Pn**	**10 27 20.6**	**+1.2**
	comp=Z,91nm,0.8s						
KIV	**Kislovodsk**	**19.40**	**331**	*ce*P	**Pn**	**10 27 20.4**	**+1.0**
KIV				pmax	pmax		
	comp=Z,163nm,1.7s						
KIV				MLR	MLR		
	comp=Z,400nm,18.0s						
KK31	**Karatay Array**	**19.71**	**34**	*i* P	**Pn**	**10 27 21.4**	**-1.7**
	comp=Z,55nm,1.2s						
KK31	**Karatay Array**	**19.71**	**34**	*i* P	**Pn**	**10 27 21.4**	**-1.7**
KK31				pmax	pmax		
	comp=Z,55nm,1.2s						
KKAR	**Karatay Array**	**19.71**	**34**	P	**Pn**	**10 27 21.4**	**-1.7**
	comp=Z,66nm,1.2s						
KKAR	**Karatay Array**	**19.71**	**34**	P	**Pn**	**10 27 21.4**	**-1.7**
KKAR				pmax	pmax		
	comp=Z,66nm,1.2s						
ATD	**Arta Tunnel**	**19.89**	**219**	P	**Pn**	**10 27 29.7**	**+4.5**
	comp=Z,0.8nm,0.3s,baz=30,slow=8.1,SNR=3.7						
ATD				LR	LR	10 36 34.5	
	comp=Z,488nm,19.0s,baz=23,slow=41						
ATD	**Arta Tunnel**	**19.89**	**219**	P	**Pn**	**10 27 29.7**	**+4.5**
ATD				LR	LR	10 36 34.5	
KLP	**Kalpa**	**20.14**	**73**	*e*P	**P**	**10 27 27.8**	**+1.5**
KLP				AMb	AMB	10 27 37.4	
	comp=Z,40nm,0.8s						
GOF	**Gofitskoye**	**20.16**	**334**	*e*P	**P**	**10 27 26.5**	**0.0**
	comp=Z,80nm,1.3s						
GOF	**Gofitskoye**	**20.16**	**334**	*e*P	**P**	**10 27 26.5**	**0.0**
GOF				pmax	pmax		
	comp=Z,80nm,1.3s						
CSS	**Prodhromos**	**20.37**	**297**	*e*P	**P**	**10 27 31.5**	**+2.7**
	comp=Z,36nm,0.8s						
CSS	**Prodhromos**	**20.37**	**297**	*e*P	**P**	**10 27 31.5**	**+2.6**
	comp=Z,36nm,0.8s						
SOC	**Sochi**	**20.50**	**326**	*e*P	**P**	**10 27 31.4**	**+1.1**
	comp=Z,130nm,1.5s						
SOC				*e*S	**S**	**10 31 17.5**	**-2.2**
	comp=Z,1μm,15.0s						
SOC	**Sochi**	**20.50**	**326**	*e*P	**P**	**10 27 31.4**	**+1.1**
SOC				*e*		10 27 35.9	
SOC				*e*		10 27 58.3	
SOC				*e*S	**S**	**10 31 17.5**	**-2.2**
SOC				*e*SS		10 31 52.3	
SOC				pmax	pmax		
	comp=Z,130nm,1.5s						
SOC				MLR	MLR		
	comp=Z,1μm,15.0s,MS4.4						
KSH	**Kashi**	**20.75**	**50**	P	**P**	**10 27 32.0**	**-0.9**
KSH				AP		10 27 40.0	
KSH				XP	sP	10 27 45.3	+8.2
KSH				PP		10 27 53.5	
KSH				PPP		10 28 02.3	
KSH				S	**S**	**10 31 15.8**	**-8.7**
KSH				XS	sS	10 31 29.5	+0.4
KSH				PCP	PcP	10 31 43.0	+0.8
KSH				SS		10 31 46.3	
KSH				SCP	ScP	10 35 14.0	-4.8
KSH				PCS	PcS	10 35 18.5	-1.5
KSH				SCS	ScS	10 38 56.3	-5.8
KSH				AMB	AMB		
	comp=Z,41nm,0.9s						
KSH				AMB	AMB		
	comp=Z,279nm,5.8s						
KSH				LR	LR		
	comp=N,1μm,9.1s						
KSH				LR	LR		
	comp=E,2μm,8.6s						
KSH				LR	LR		
	comp=Z,2μm,11.3s,MS4.8						
AML	**Almayashu**	**20.77**	**41**	P	**P**	**10 27 33.1**	**0.0**
	SNR=43						
EKS2	**Erkin-Say**	**21.15**	**40**	P	**P**	**10 27 38.0**	**+0.7**
	SNR=38						
UCH	**Uchtor**	**21.31**	**42**	P	**P**	**10 27 39.0**	**0.0**
	SNR=14						
AAK	**Ala-Archa**	**21.55**	**41**	P	**P**	**10 27 41.9**	**+0.4**
	SNR=13						
KZA	**Kyzart**	**21.66**	**43**	P	**P**	**10 27 43.5**	**+0.8**
	SNR=19						
FRU	**Bishkek**	**21.74**	**40**	*e*P	**P**	**10 27 43.5**	**-0.1**
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb4.7						
KBK	**Karagaybulak**	**21.82**	**41**	P	**P**	**10 27 45.9**	**+1.4**
	SNR=11						
BR131	**Keskin Array S**	**21.87**	**309**	*e*P	**P**	**10 27 45.6**	**+0.6**
	comp=Z,7.5nm,0.6s,mb4.3						
BR131	**Keskin Array S**	**21.87**	**309**	*e*P	**P**	**10 27 45.6**	**+0.6**
	comp=Z,7.5nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**21.87**	**309**	P	**P**	**10 27 45.5**	**+0.6**
	comp=Z,11nm,0.8s,mb4.3,baz=135,slow=13,SNR=25						
BRTR	**Keskin Array B**	**21.87**	**309**	P	**P**	**10 27 45.5**	**+0.5**
USP	**Ospenovka**	**21.95**	**39**	P	**P**	**10 27 48.9**	**+3.0**
	SNR=12						
AB31	**Akbulak array**	**21.96**	**8**	P	**P**	**10 27 45.3**	**-0.6**
AB31				S	**S**	**10 31 49.7**	**+1.4**
AB31				pmax	pmax		
	comp=Z,130nm,1.2s,mb5.2						
AB31				smax			
	comp=Z,41nm,1.5s						
ULHL	**Ulahol**	**22.36**	**44**	P	**P**	**10 27 51.2**	**+1.0**
	SNR=11						
TKM2	**Tokmak 2**	**22.37**	**41**	P	**P**	**10 27 50.8**	**+0.5**
	SNR=8.3						
TKM2	**Tokmak 2**	**22.37**	**41**	*i* P	**P**	**10 27 50.4**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.5						
ANTO	**Ankara**	**22.52**	**309**	*e*P	**P**	**10 27 53.3**	**+1.4**
	comp=Z,27nm,0.8s,mb4.7						
ANTO	**Ankara**	**22.52**	**309**	*e*P	**P**	**10 27 53.3**	**+1.4**
	comp=Z,27nm,0.8s,mb4.7						
ANTO	**Ankara**	**22.52**	**309**	*e*P	**P**	**10 27 53.3**	**+1.4**
ANTO				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.7						
ANN	**Anapa**	**22.53**	**325**	*e*P	**P**	**10 27 51.3**	**-0.7**
ANN				pmax	pmax		
	comp=Z,65nm,1.0s,mb5.0						
AKTK	**Aktyubinsk**	**22.96**	**4**	P	**P**	**10 27 56.6**	**+0.1**
AKTK	**Aktyubinsk**	**22.96**	**4**	P	**P**	**10 27 56.6**	**+0.1**
AKTK				LR	LR	10 39 01.3	
AKTO	**Aktyubinsk**	**22.96**	**4**	P	**P**	**10 27 56.6**	**0.0**
	comp=Z,69nm,1.1s,mb5.0,baz=178,slow=9.2,SNR=29						
AKTO				LR	LR	10 39 01.3	
	comp=Z,548nm,18.2s,MS4.0,baz=0.0,slow=42						
AKTO	**Aktyubinsk**	**22.96**	**4**	*i* P	**P**	**10 27 56.2**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.3						
ISP	**Isparta**	**23.39**	**302**	⇑*e*P	**P**	**10 27 59.1**	**-2.0**
HYB	**Hyderabad**	**23.47**	**111**	*i* P	**P**	**10 28 06.5**	**+4.5**
HYB	**Hyderabad**	**23.47**	**111**	*e*P	**P**	**10 28 06.5**	**+4.5**
SIM	**Simferopol'**	**24.40**	**321**	P	**P**	**10 28 11.2**	**+0.6**
SIM				pmax	pmax		
	comp=Z,31nm,0.9s,mb4.7						
DANN	**Dangsing**	**24.91**	**81**	*e*P	**P**	**10 28 16.8**	**+1.6**
DMN	**Daman**	**26.17**	**83**	*e*P	**P**	**10 28 27.9**	**+1.3**
	comp=Z,66nm,1.0s,mb5.1						
KKN	**Kakani**	**26.30**	**82**	*e*P	**P**	**10 28 29.2**	**+1.4**
	comp=Z,120nm,1.1s,mb5.3						
KKN	**Kakani**	**26.30**	**82**	*e*P	**P**	**10 28 29.2**	**+1.4**
KKN				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.0						
PKI	**Pulchoki**	**26.44**	**83**	*e*P	**P**	**10 28 29.8**	**+0.7**
	comp=Z,51nm,0.7s,mb5.1						
PKI	**Pulchoki**	**26.44**	**83**	*e*P	**P**	**10 28 29.8**	**+0.7**
PKI				pmax	pmax		
	comp=Z,25nm,0.7s,mb4.8						
VORD	**Divnogorie**	**26.46**	**337**	*e*P	**P**	**10 28 28.6**	**-0.7**
VORD				pmax	pmax		
	comp=Z,30nm,1.6s,mb4.6						
VORD				pmax	pmax		
	comp=E,30nm,0.9s						
GUN	**Gumba**	**26.82**	**82**	*e*P	**P**	**10 28 33.4**	**+0.9**
	comp=E,96nm,0.9s,mb5.3						
JIRN	**Jiri**	**27.12**	**83**	*e*P	**P**	**10 28 36.0**	**+0.8**
	comp=E,76nm,0.9s,mb5.2						
IDI	**Anoyia**	**27.22**	**294**	P	**P**	**10 28 36.4**	**+0.3**
	comp=E,15nm,0.6s,mb4.7,baz=108,slow=11,SNR=10						
ZRNK	**Zerenda**	**27.30**	**18**	*e*P	**P**	**10 28 36.2**	**-0.6**
	comp=E,17nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**27.30**	**18**	*e*P	**P**	**10 28 36.2**	**-0.6**
	comp=E,17nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**27.30**	**18**	*e*P	**P**	**10 28 36.2**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5						
VOSK	**Vostochnaya**	**27.68**	**20**	P	**P**	**10 28 39.4**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,84nm,2.3s,mb5.0						
BRVK	**Borovoye**	**27.76**	**19**	*e*P	**P**	**10 28 40.6**	**-0.3**
	comp=Z,12nm,0.9s,mb4.5						
BRVK	**Borovoye**	**27.76**	**19**	*e*P	**P**	**10 28 40.6**	**-0.3**
	comp=Z,12nm,0.9s,mb4.5						
BRVK	**Borovoye**	**27.76**	**19**	*e*P	**P**	**10 28 40.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
BVA0	**Borovoye Array**	**27.76**	**19**	*i* P	**P**	**10 28 40.3**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**27.76**	**19**	P	**P**	**10 28 40.3**	**-0.7**
	comp=Z,24nm,0.9s,mb4.8,baz=201,slow=7.9,SNR=32						
BVAR				PcP	PcP	10 31 56.9	-0.4
	comp=Z,0.7nm,0.4s,baz=209,slow=3.0,SNR=4.3						
BVAR	**Borovoye Array**	**27.76**	**19**	PcP	PcP	10 31 56.9	-0.5
HARR	**Harsova**	**27.94**	**315**	⇓P	**P**	**10 28 41.5**	**-1.1**
CFR	**Carcaliu**	**28.05**	**316**	⇓P	**P**	**10 28 45.2**	**+1.7**
CHKZ	**Chkalovo**	**28.39**	**19**	*e*P	**P**	**10 28 46.4**	**-0.2**
	comp=Z,18nm,1.4s,mb4.5						
CHKZ	**Chkalovo**	**28.39**	**19**	*e*P	**P**	**10 28 46.4**	**-0.2**
	comp=Z,18nm,1.4s,mb4.5						
CHKZ	**Chkalovo**	**28.39**	**19**	*e*P	**P**	**10 28 46.4**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.5						
MK31	**Makanchi Array**	**28.48**	**40**	*i* P	**P**	**10 28 46.5**	**-0.9**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
MKAR	**Makanchi Array**	**28.48**	**40**	P	**P**	**10 28 46.8**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.1,baz=229,slow=8.8,SNR=19						
MKAR				LR	LR	10 42 02.4	
	comp=Z,692nm,19.1s,MS4.3,baz=98,slow=40						
MKAR	**Makanchi Array**	**28.48**	**40**	*i* P	**P**	**10 28 46.5**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARU	**Arti**	**28.97**	**3**	⇓*e*P	**P**	**10 28 52.4**	**+0.7**
ARU				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.1						
KURK	**Kurchatov**	**29.04**	**31**	*e*P	**P**	**10 28 51.4**	**-0.9**
	comp=Z,14nm,1.0s,mb4.7						
KURK	**Kurchatov**	**29.04**	**31**	*e*P	**P**	**10 28 51.4**	**-0.9**
KURK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
VRI	**Vrincioaia**	**29.25**	**316**	⇓P	**P**	**10 28 55.4**	**+1.2**
MLR	**Muntele Rosu**	**29.56**	**315**	P	**P**	**10 28 57.5**	**+0.6**
	comp=Z,6.0nm,0.5s,mb4.6,baz=29,slow=9.8,SNR=11						
MLR	**Muntele Rosu**	**29.56**	**315**	⇓P	**P**	**10 28 59.3**	**+2.4**
VOIR		**30.10**	**315**	⇑P	**P**	**10 29 02.9**	**+1.2**
WMQ	**Urumqi**	**30.52**	**49**	*e*P	**P**	**10 29 06.3**	**+0.9**
WMQ				AP	pP	10 29 15.8	+7.3
WMQ				XP	sP	10 29 19.8	+10
WMQ				PP	PP	10 30 07.5	-6.7
WMQ				AMB	AMB		
	comp=Z,19

CRES Cresnjev 36.52 311 *eP* **P 10 29 57.9 +0.2**
CRES Cresnjev 36.52 311 *eP* **P 10 29 57.9 +0.2**
CRES Cresnjev 36.52 311 *eP* **P 10 29 57.9 +0.2**
MORC Moravsky Berou 36.52 318 *eP* **P 10 29 57.0 -0.7**
comp=Z,9.3nm,0.8s,mb4.7
MORC Moravsky Berou 36.52 318 *eP* **P 10 29 57.0 -0.7**
comp=Z,9.3nm,0.8s,mb4.7
MORC Moravsky Berou 36.52 318 *eP* **P 10 29 57.0 -0.7**
MORC pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
BOJS Bojanci 36.57 310 *eP* **P 10 29 58.2 +0.1**
BOJS Bojanci 36.57 310 *eP* **P 10 29 58.2 +0.1**
VSU Vasula 36.87 335⇑ *eP* **P 10 30 00.9 +0.3**
VRAC Vranov 36.92 317 P **P 10 30 01.1 0.0**
comp=Z,9.6nm,0.5s,mb4.9,baz=91,slow=7.6,SNR=11
VRAC Vranov 36.92 317 ⇓P **P 10 30 01.8 +0.8**
PERS Pernice 36.98 312 *eP* **P 10 30 01.2 -0.3**
PERS Pernice 36.98 312 *eP* **P 10 30 01.2 -0.3**
DPC Dobruska-Polom 37.47 318 *eP* **P 10 30 05.1 -0.7**
DPC *ep*P pP 10 30 10.0 +1.2
KSP Ksiaz 37.68 319 *eP* **P 10 30 07.7 +0.2**
KSP *ep*P pP 10 30 12.6 +2.0
UPC Upice 37.72 318 *eP* **P 10 30 07.6 -0.2**
UPC *ep*P pP 10 30 12.6 +1.7
MOA Molln 37.89 314⇑ *iP* **P 10 30 09.1 -0.1**
comp=Z,12nm,0.7s,mb4.8,SNR=11
KBA Koelnbreinsper 38.27 312⇑ *iP* **P 10 30 12.6 +0.1**
comp=Z,9.9nm,0.6s,mb4.7,SNR=9.4
PRU Pruhonice 38.41 317 *eP* **P 10 30 11.8 -1.8**
GTA Gaotai 38.42 60 *eP* **P 10 30 15.0 +1.2**
GTA AP pP 10 30 24.0 +7.1
GTA XP sP 10 30 28.3 +10
GTA PP PP 10 31 48.5 +6.8
GTA PPP 10 32 11.5
GTA PCP PcP 10 32 31.0 +4.0
GTA S **S 10 36 10.0 +1.2**
GTA SCP ScP 10 36 11.8 -3.2
GTA PCS PcS 10 36 15.0 -1.2
GTA XS sS 10 36 24.5 +11
GTA SS SS 10 38 50.5 -6.7
GTA SCS ScS 10 40 20.3 -4.7
GTA AMB AMB
comp=Z,15nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,465nm,7.3s
GTA LR LR
comp=N,538nm,19.1s,MS4.5
GTA LR LR
comp=E,478nm,18.3s,MS4.5
GTA LR LR
comp=Z,385nm,14.9s,MS4.3
GERES GERESS Array B 38.55 315 P **P 10 30 14.8 -0.1**
comp=Z,4.1nm,0.7s,mb4.3,baz=107,slow=7.6,SNR=26
KHC Kasperske Hory 38.72 315 *eP* **P 10 30 15.9 -0.3**
JOF Joensuu 38.80 343 *ep* **P 10 30 17.5 +0.5**
comp=Z,3.7nm,0.4s,mb4.5
BRG Berggiesshubel 39.08 318 *eP* **P 10 30 19.0 -0.2**
comp=Z,14nm,1.6s,mb4.5
BRG Berggiesshubel 39.08 318 *eP* **P 10 30 19.0 -0.2**
BRG pmax pmax
comp=Z,14nm,1.6s,mb4.4
FINES FINESS Array B 39.23 338 P **P 10 30 20.4 -0.1**
comp=Z,5.5nm,0.6s,mb4.5,baz=141,slow=11,SNR=28
FINES FINESS Array B 39.23 338 *i* P **P 10 30 20.3 -0.2**
FINES pmax pmax
comp=Z,6.0nm,0.6s
WTTA Wattenberg 39.44 312 ⇓*i*P **P 10 30 22.2 -0.1**
comp=Z,17nm,0.5s,mb5.0,SNR=9.7
WATA Walderalm 39.50 312 ⇓*i*P **P 10 30 22.5 -0.3**
comp=Z,10nm,0.6s,mb4.8
KAF Kangasniemi 39.64 339 *ep* **P 10 30 22.7 -1.3**
comp=Z,0.9nm,0.4s,mb3.9
KAF Kangasniemi 39.64 339 *eP* **P 10 30 22.7 -1.3**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
SQTA Sankt Quirin 39.72 312⇑ *iP* **P 10 30 24.3 -0.3**
comp=Z,33nm,0.7s,mb5.2,SNR=16
NKC Novy Kostel 39.76 317 *eP* **P 10 30 24.1 -0.9**
CLL Collm 39.78 318⇑ *iP* **P 10 30 25.1 -0.1**
comp=Z,28nm,1.3s,mb4.8
CLL *ep*P pP 10 30 32.0 +3.7
CLL Collm 39.78 318⇑ *iP* **P 10 30 25.1 -0.1**
CLL *e**PP pP 10 30 32.0 +3.7
CLL pmax pmax
comp=Z,28nm,1.3s,mb4.8
MOTA Moosalm 39.81 312⇑ *iP* **P 10 30 24.7 -0.7**
comp=Z,8.7nm,0.5s,mb4.7,SNR=9.2
MOTA Moosalm 39.81 312 P **P 10 30 24.7 -0.7**
comp=Z,8.7nm,0.5s,mb4.7,SNR=9.2
GRA1 Grafenberg Arr 40.35 315 *eP* **P 10 30 29.7 -0.2**
comp=Z,31nm,1.6s,mb4.8
GRF Grafenberg Arr 40.35 315 *eP* **P 10 30 29.7 -0.2**
comp=Z,31nm,1.6s,mb4.8
GRF Grafenberg Arr 40.35 315 *eP* **P 10 30 29.7 -0.2**
GRF pmax pmax
comp=Z,31nm,1.6s,mb4.8
GRF Grafenberg Arr 40.35 315 *eP* **P 10 30 29.7 -0.2**
GRF pmax pmax
comp=Z,31nm,1.6s,mb4.8
PGF Pioggiola 40.45 304 *eP* **P 10 30 30.3 -0.4**
comp=Z,17nm,0.9s,mb4.5
PGF Pioggiola 40.45 304 *eP* **P 10 30 30.3 -0.4**
comp=Z,8.6nm,0.9s,mb4.5
PGF Pioggiola 40.45 304 *eP* **P 10 30 30.3 -0.4**
PGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
DAVOX Davos 40.50 311 P **P 10 30 31.2 +0.1**
comp=Z,9.4nm,0.5s,mb4.7,baz=129,slow=8.1,SNR=16
DAVA Damuels 40.61 312 ⇓*i*P **P 10 30 31.3 -0.7**
comp=Z,41nm,0.5s,mb5.3,SNR=14
DAVA Damuels 40.61 312 P **P 10 30 31.3 -0.7**
comp=Z,41nm,0.5s,mb5.3,SNR=14
LZH Lanzhou 41.56 66 *eP* **P 10 30 41.0 +1.1**
LZH AP pP 10 30 51.0 +8.0
LZH XP sP 10 30 54.0 +10
LZH PP PP 10 32 22.0 +6.1
LZH *e*S **S 10 36 57.0 +1.2**
LZH XS sS 10 37 15.0 +14
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,240nm,4.2s
LZH LR LR
comp=N,790nm,14.0s
LZH LR LR
comp=Z,2μm,16.0s,MS5.0
SBF Sospel 41.73 306 *eP* **P 10 30 40.7 -0.6**
comp=Z,40nm,0.8s,mb4.8
SBF Sospel 41.73 306 *eP* **P 10 30 40.7 -0.6**
comp=Z,20nm,0.8s,mb4.8
SBF Sospel 41.73 306 *eP* **P 10 30 40.7 -0.6**
SBF pmax pmax
comp=Z,20nm,0.8s,mb4.8
CD2 Chengdu 41.95 73 *eP* **P 10 30 41.0 -2.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 AMB AMB
comp=Z,60nm,5.7s
KMI Kunming 42.16 82 P **P 10 30 45.5 +0.7**
KMI AP pP 10 30 54.0 +6.1
KMI XP sP 10 30 58.3 +9.2
KMI AMB AMB
comp=Z,15nm,1.2s,mb4.5
FRF La Foret Royal 42.27 305 *eP* **P 10 30 45.9 +0.3**
MBDF Montbardon 42.31 307 *eP* **P 10 30 45.9 -0.1**
comp=Z,18nm,0.6s,mb4.6
MBDF Montbardon 42.31 307 *eP* **P 10 30 45.9 -0.1**
comp=Z,8.8nm,0.6s,mb4.6
MBDF Montbardon 42.31 307 *eP* **P 10 30 45.9 -0.1**
MBDF pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
LMR La Mourre 42.35 305 *eP* **P 10 30 46.2 -0.1**
comp=Z,40nm,1.2s,mb4.6
LMR La Mourre 42.35 305 *eP* **P 10 30 46.2 -0.1**
comp=Z,20nm,1.2s,mb4.6
LMR La Mourre 42.35 305 *eP* **P 10 30 46.2 -0.1**
LMR pmax pmax
comp=Z,20nm,1.2s,mb4.6
LPG La Plagne 42.43 308 *eP* **P 10 30 46.0 -0.9**
comp=Z,23nm,0.6s,mb4.7
LPG La Plagne 42.43 308 *eP* **P 10 30 46.0 -0.9**
comp=Z,12nm,0.6s,mb4.7
LPG La Plagne 42.43 308 *eP* **P 10 30 46.0 -0.9**
LPG pmax pmax
comp=Z,12nm,0.6s,mb4.7
LPL La Plagne 42.44 308 *eP* **P 10 30 46.1 -0.9**
comp=Z,19nm,0.7s,mb4.6
LPL La Plagne 42.44 308 *eP* **P 10 30 46.1 -0.9**
comp=Z,9.6nm,0.7s,mb4.5
LPL La Plagne 42.44 308 *eP* **P 10 30 46.1 -0.9**
LPL pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
CDF Champ du Feu 42.56 313 *eP* **P 10 30 46.6 -1.4**
ZAK Zakamensk 42.64 44 *eP* **P 10 30 48.8 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.8s,mb4.2
HINF Hinteralfeld 42.73 312 *eP* **P 10 30 48.2 -1.2**
ORIF Oris-en-Rattie 42.96 307 *eP* **P 10 30 50.6 -0.7**
CABF La Chapelle 43.04 310 *eP* **P 10 30 51.4 -0.5**
comp=Z,40nm,0.8s,mb4.9
CABF La Chapelle 43.04 310 *eP* **P 10 30 51.4 -0.5**
comp=Z,20nm,0.8s,mb4.9
CABF La Chapelle 43.04 310 *eP* **P 10 30 51.4 -0.5**
CABF pmax pmax
comp=Z,20nm,0.8s,mb4.9
SMRF Simiane la Rot 43.08 306 *eP* **P 10 30 51.8 -0.5**
HAU Haudompre 43.09 312 *eP* **P 10 30 52.1 -0.2**
comp=Z,15nm,0.7s,mb4.5
HAU Haudompre 43.09 312 *eP* **P 10 30 52.1 -0.2**
comp=Z,7.6nm,0.7s,mb4.5
HAU Haudompre 43.09 312 *eP* **P 10 30 52.1 -0.2**
HAU pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
TLY Talaya 43.19 43 ⇓*iP* **P 10 30 52.4 -0.7**
TLY pmax pmax
comp=Z,3.0nm,1.4s,mb3.8
HFS Hagfors 43.20 331 P **P 10 30 52.8 -0.4**
comp=Z,10nm,0.7s,mb4.7,baz=128,slow=9.6,SNR=23
HFS LR LR 10 51 11.3
comp=Z,375nm,18.5s,MS4.3,baz=352,slow=39
WLF Walferdange 43.54 314 P **P 10 30 55.9 -0.1**
WLF E pP 10 30 59.5 +0.4
WLF AP pP 10 31 04.6 +5.5
WLF Walferdange 43.54 314 *eP* **P 10 30 55.5 -0.4**
comp=Z,7.8nm,0.5s,mb4.7
WLF Walferdange 43.54 314 *eP* **P 10 30 55.5 -0.4**
comp=Z,7.8nm,0.5s,mb4.7
WLF Walferdange 43.54 314 *eP* **P 10 30 55.5 -0.4**
WLF pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
VIVF Saint-Julien-l 43.81 307 *eP* **P 10 30 56.7 -1.4**
comp=Z,31nm,1.1s,mb4.6
VIVF Saint-Julien-l 43.81 307 *eP* **P 10 30 56.7 -1.4**
comp=Z,15nm,1.1s,mb4.7
VIVF Saint-Julien-l 43.81 307 *eP* **P 10 30 56.7 -1.4**
VIVF pmax pmax
comp=Z,15nm,1.1s,mb4.6
MEM Membach 43.83 316 AP pP 10 31 06.5 +5.1
MEZF Maizieres J'vi 44.03 312 *eP* **P 10 30 59.3 -0.6**
comp=Z,29nm,0.7s,mb4.8
MEZF Maizieres J'vi 44.03 312 *eP* **P 10 30 59.3 -0.6**
comp=Z,29nm,0.7s,mb5.1
SONM Songino Array 44.15 49 P **P 10 31 00.7 -0.1**
comp=Z,1.8nm,0.9s,mb3.8,baz=267,slow=9.8,SNR=13
SONM PP PP 10 32 42.3 -1.3
comp=Z,0.8nm,0.8s,baz=220,slow=11,SNR=3.0
LASF Ste Croix 44.33 306 *eP* **P 10 31 01.6 -0.7**
comp=Z,64nm,1.5s,mb4.8
GIVF Givet 44.47 315 *eP* **P 10 31 03.5 +0.1**
SMF Signal de Mont 44.58 310 *eP* **P 10 31 03.3 -1.0**
comp=Z,23nm,0.7s,mb4.8
SMF Signal de Mont 44.58 310 *eP* **P 10 31 03.3 -1.0**
comp=Z,11nm,0.7s,mb4.8
SMF Signal de Mont 44.58 310 *eP* **P 10 31 03.3 -1.0**
SMF pmax pmax
comp=Z,11nm,0.7s,mb4.8
ULN Ulaanbaatar 44.59 49 *eP* **P 10 31 04.1 -0.3**
comp=Z,2.4nm,0.6s,mb4.2
ULN Ulaanbaatar 44.59 49 *eP* **P 10 31 04.1 -0.2**
comp=Z,2.4nm,0.6s,mb4.2
ULN Ulaanbaatar 44.59 49 *eP* **P 10 31 04.1 -0.3**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
DOU Dourbes 44.61 315 ⇑P **P 10 31 03.8 -0.7**
DOU AP pP 10 31 09.5 +1.9
LOR Lormes 44.65 310 *eP* **P 10 31 03.7 -1.1**
comp=Z,18nm,0.8s,mb4.6
LOR Lormes 44.65 310 *eP* **P 10 31 03.7 -1.1**
comp=Z,9.1nm,0.8s,mb4.7
LOR Lormes 44.65 310 *eP* **P 10 31 03.7 -1.1**
LOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
NB2 NORSAR Subarra 44.71 331 P **P 10 31 03.8 -1.5**
comp=Z,7.8nm,0.7s,mb4.7,baz=118,slow=7.9
NB2 NORSAR Subarra 44.71 331 P **P 10 31 03.8 -1.5**
comp=Z,7.8nm,0.7s,mb4.7
NB2 NORSAR Subarra 44.71 331 P **P 10 31 03.8 -1.5**
NB2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
NOA NORSAR Array B 44.71 331 P **P 10 31 04.0 -1.3**
comp=Z,6.7nm,0.7s,mb4.6,baz=117,slow=7.9,SNR=18
NOA PP PP 10 32 49.4 -0.3
comp=Z,1.1nm,0.7s,baz=126,slow=8.4,SNR=3.3
NOA NORSAR Array B 44.71 331 PP PP 10 32 49.3 -0.3
NAO01 NORSAR Array S 44.76 331 *eP* **P 10 31 05.2 -0.5**
comp=Z,4.7nm,0.6s,mb4.5
NAO01 NORSAR Array S 44.76 331 *eP* **P 10 31 05.2 -0.5**
comp=Z,4.7nm,0.6s,mb4.5
KONO Kongsberg 44.80 329 *eP* **P 10 31 05.4 -0.7**
comp=Z,8.5nm,0.7s,mb4.7
KONO Kongsberg 44.80 329 *eP* **P 10 31 05.5 -0.6**
comp=Z,8.5nm,0.7s,mb4.7
KONO Kongsberg 44.80 329 *eP* **P 10 31 05.5 -0.6**
KONO pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
BAIF Baives 44.85 314 *eP* **P 10 31 06.7 +0.3**
comp=Z,43nm,0.8s,mb5.0
BAIF Baives 44.85 314 *eP* **P 10 31 06.7 +0.3**
comp=Z,22nm,0.8s,mb5.0
BAIF Baives 44.85 314 *eP* **P 10 31 06.7 +0.3**
BAIF pmax pmax
comp=Z,22nm,0.8s,mb5.0
SSF Saint Saulge 44.86 310 *eP* **P 10 31 05.7 -0.8**
comp=Z,21nm,0.7s,mb4.8
SSF Saint Saulge 44.86 310 *eP* **P 10 31 05.7 -0.8**
comp=Z,11nm,0.7s,mb4.8
SSF Saint Saulge 44.86 310 *eP* **P 10 31 05.7 -0.8**
SSF pmax pmax
comp=Z,11nm,0.7s,mb4.8
SNF Seneffe 44.88 315 P **P 10 31 07.0 +0.3**
SNF AP pP 10 31 11.3 +1.5
SNF XP sP 10 31 20.7 +10
AVF Avril sur Loir 44.93 310 *eP* **P 10 31 06.0 -1.1**
comp=Z,12nm,0.7s,mb4.5
AVF Avril sur Loir 44.93 310 *eP* **P 10 31 06.0 -1.1**
comp=Z,5.9nm,0.7s,mb4.5
AVF Avril sur Loir 44.93 310 *eP* **P 10 31 06.0 -1.1**
AVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
BGF Bois d'Agland 45.25 309 *eP* **P 10 31 08.8 -0.8**
comp=Z,23nm,0.6s,mb4.9
BGF Bois d'Agland 45.25 309 *eP* **P 10 31 08.8 -0.8**
comp=Z,12nm,0.6s,mb4.9
BGF Bois d'Agland 45.25 309 *eP* **P 10 31 08.8 -0.8**
BGF pmax pmax
comp=Z,12nm,0.6s,mb4.9
KEV Kevo 45.37 346 *eP* **P 10 31 10.7 +0.1**
comp=Z,17nm,1.0s,mb4.8
KEV Kevo 45.37 346 *eP* **P 10 31 10.7 +0.1**
comp=Z,17nm,1.0s,mb4.8
KEV Kevo 45.37 346 *eP* **P 10 31 10.7 +0.1**
KEV pmax pmax
comp=Z,17nm,1.0s,mb4.8
HYF Humbligny 45.47 310 *eP* **P 10 31 11.2 -0.2**
MTLF Montolieu 45.47 305 *eP* **P 10 31 11.3 -0.1**
comp=Z,16nm,0.8s,mb4.6
MTLF Montolieu 45.47 305 *eP* **P 10 31 11.3 -0.1**
comp=Z,8.1nm,0.8s,mb4.6
MTLF Montolieu 45.47 305 *eP* **P 10 31 11.3 -0.1**
MTLF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
ARCES ARCESS Array B 45.52 346 P **P 10 31 11.6 -0.1**
comp=Z,3.9nm,0.9s,mb4.3,baz=138,slow=9.3,SNR=11
CAF Calviac 45.66 307 *eP* **P 10 31 12.5 -0.4**
comp=Z,31nm,0.9s,mb5.0
CAF Calviac 45.66 307 *eP* **P 10 31 12.5 -0.4**
comp=Z,15nm,0.9s,mb5.0
CAF Calviac 45.66 307 *eP* **P 10 31 12.5 -0.4**
CAF pmax pmax
comp=Z,15nm,0.9s,mb4.9
TCF Toulx Ste Croi 45.67 309 *eP* **P 10 31 12.3 -0.6**
comp=Z,19nm,0.6s,mb4.9
TCF Toulx Ste Croi 45.67 309 *eP* **P 10 31 12.3 -0.6**
comp=Z,9.6nm,0.6s,mb4.9
TCF Toulx Ste Croi 45.67 309 *eP* **P 10 31 12.3 -0.6**
TCF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
EMIR Miracle 45.95 303 P **P 10 31 14.9 -0.3**
comp=Z,463nm,2.9s
EMIR Miracle 45.95 303 P **P 10 31 14.9 -0.3**
comp=Z,463nm,2.9s
RJF Les Rejaudoux 46.08 308 *eP* **P 10 31 16.0 -0.1**
comp=Z,26nm,0.7s,mb5.0
RJF Les Rejaudoux 46.08 308 *eP* **P 10 31 16.0 -0.1**
comp=Z,13nm,0.7s,mb5.0
RJF Les Rejaudoux 46.08 308 *eP* **P 10 31 16.0 -0.1**
RJF pmax pmax
comp=Z,13nm,0.7s,mb5.0
EPOB Poblet 46.29 302 P **P 10 31 17.6 -0.2**
comp=Z,217nm,2.4s,mb5.7
EPOB Poblet 46.29 302 P **P 10 31 17.6 -0.2**
comp=Z,217nm,2.4s,mb5.7
OPO Ambohidratompo 46.53 191 P **P 10 31 21.0 +1.2**
comp=Z,4.3nm,0.8s,mb4.4,baz=48,slow=7.8,SNR=5.6
LFF La Frestale 46.60 307 *eP* **P 10 31 20.1 -0.2**
comp=Z,36nm,0.8s,mb5.0
LFF La Frestale 46.60 307 *eP* **P 10 31 20.1 -0.2**
comp=Z,18nm,0.8s,mb5.0
LFF La Frestale 46.60 307 *eP* **P 10 31 20.1 -0.2**
LFF pmax pmax
comp=Z,18nm,0.8s,mb5.0
EBR Ebro Roquetas 46.74 301 *eP* **P 10 31 21.2 -0.2**
EPF Esparros 46.84 304 *eP* **P 10 31 21.4 -0.7**
EGRA Graus 46.85 303 P **P 10 31 22.9 +0.6**
comp=Z,15nm,0.7s,mb5.0
EGRA Graus 46.85 303 P **P 10 31 22.9 +0.7**
comp=Z,15nm,0.7s,mb5.0
ERTA Horta de San J 46.86 302 P **P 10 31 22.3 0.0**
comp=Z,74nm,1.4s,mb5.4
ERTA Horta de San J 46.86 302 P **P 10 31 22.3 0.0**
comp=Z,74nm,1.4s,mb5.4
MFF Saint Martin d 47.31 309 *eP* **P 10 31 25.3 -0.5**
ESAC San Caprasio 47.45 303 P **P 10 31 27.2 +0.3**
comp=Z,53nm,1.1s,mb5.4
ESAC San Caprasio 47.45 303 P **P 10 31 27.2 +0.3**
comp=Z,53nm,1.1s,mb5.4
LDF La Druitiere 47.45 312 *eP* **P 10 31 25.6 -1.3**
comp=Z,14nm,0.5s,mb4.8
LDF La Druitiere 47.45 312 *eP* **P 10 31 25.6 -1.3**
comp=Z,7.1nm,0.5s,mb4.8
LDF La Druitiere 47.45 312 *eP* **P 10 31 25.6 -1.3**
LDF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
HHC Hu-ho-hao-te 47.45 59 *eP* **P 10 31 27.8 +0.9**
HHC AP pP 10 31 37.5 +7.4
HHC XP sP 10 31 41.5 +10
HHC PCP PcP 10 32 58.0 +0.8
HHC PP PP 10 33 18.5 +0.3
HHC S **S 10 38 19.0 -2.4**
HHC XS sS 10 38 36.0 +9.5
HHC SCS ScS 10 41 16.0 -5.0
HHC SS SS 10 41 41.0 -8.1
HHC AMB AMB
comp=Z,11nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,231nm,3.7s
HHC LR LR
comp=N,296nm,12.7s
HHC LR LR
comp=E,335nm,9.3s
HHC LR LR
comp=Z,338nm,15.2s,MS4.4
ETSF Etsaut 47.50 304 *eP* **P 10 31 27.3 0.0**
comp=Z,9.6nm,0.5s,mb4.7
ETSF Etsaut 47.50 304 *eP* **P 10 31 27.3 0.0**
comp=Z,4.8nm,0.5s,mb4.7
ETSF Etsaut 47.50 304 *eP* **P 10 31 27.3 0.0**
ETSF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
FLN La Foliniere 47.71 312 *eP* **P 10 31 27.7 -1.2**
comp=Z,25nm,0.8s,mb5.0
FLN La Foliniere 47.71 312 *eP* **P 10 31 27.7 -1.2**
comp=Z,13nm,0.8s,mb5.0
FLN La Foliniere 47.71 312 *eP* **P 10 31 27.7 -1.2**
FLN pmax pmax
comp=Z,13nm,0.8s,mb5.0
ECHE Chera 47.91 300 P **P 10 31 31.4 +0.9**
comp=Z,4.0nm,0.6s,mb4.6
ECHE Chera 47.91 300 P **P 10 31 31.4 +0.9**
comp=Z,4.0nm,0.6s,mb4.6
ECHE Chera 47.91 300 P **P 10 31 31.4 +0.9**
ECHE pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
GRR Gorron 47.92 312 *eP* **P 10 31 29.7 -0.9**
SJPF Ste Jean 47.99 304 *eP* **P 10 31 30.8 -0.3**
comp=Z,22nm,0.6s,mb5.1
SJPF Ste Jean 47.99 304 *eP* **P 10 31 30.8 -0.3**
comp=Z,11nm,0.6s,mb5.1
SJPF Ste Jean 47.99 304 *eP* **P 10 31 30.8 -0.3**
SJPF pmax pmax
comp=Z,11nm,0.6s,mb5.1
ETOB Tobarra 48.43 298 P **P 10 31 35.0 +0.5**
comp=Z,76nm,1.7s,mb5.5
ETOB Tobarra 48.43 298 P **P 10 31 35.0 +0.6**
comp=Z,76nm,1.7s,mb5.5
SGMF Saint Gilles 49.05 311 *eP* **P 10 31 38.6 -0.6**
EVIA Vianos 49.17 299 P **P 10 31 40.2 0.0**
comp=Z,4.7nm,0.5s,mb4.8
EVIA Vianos 49.17 299 P **P 10 31 40.2 0.0**
comp=Z,4.7nm,0.5s,mb4.8
EVIA Vianos 49.17 299 P **P 10 31 40.2 0.0**
EVIA pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
QUIF Quistinic 49.44 311 *eP* **P 10 31 41.0 -1.2**
comp=Z,14nm,0.6s,mb4.8
QUIF Quistinic 49.44 311 *eP* **P 10 31 41.0 -1.2**
comp=Z,6.8nm,0.6s,mb4.8
QUIF Quistinic 49.44 311 *eP* **P 10 31 41.0 -1.2**
QUIF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
ROSF Rostrenen 49.53 311 *eP* **P 10 31 41.8 -1.1**
ELAN Lanestosa 49.60 305 P **P 10 31 43.2 -0.3**
comp=Z,76nm,2.0s,mb5.4
ELAN Lanestosa 49.60 305 P **P 10 31 43.2 -0.2**
comp=Z,76nm,2.0s,mb5.4
EQES Quesada 49.70 298 P **P 10 31 45.4 +1.2**
comp=Z,265nm,2.4s,mb5.8
EQES Quesada 49.70 298 P **P 10 31 45.4 +1.1**
comp=Z,265nm,2.4s,mb5.8
EKA Eskdalemuir Ar 50.15 321 P **P 10 31 46.9 -0.8**
comp=Z,2.9nm,0.8s,mb4.4,baz=97,slow=7.4,SNR=4.6
ESDC Sonseca Array 50.21 300 P **P 10 31 47.9 -0.2**
comp=Z,2.0nm,0.5s,mb4.4,baz=72,slow=7.2,SNR=12
ESLA Sonseca Array 50.21 300 *eP* **P 10 31 47.5 -0.6**
comp=Z,0.8nm,0.6s,mb3.9
ESLA Sonseca Array 50.21 300 *eP* **P 10 31 47.5 -0.6**
comp=Z,0.8nm,0.6s,mb3.9
ERON Agron 50.37 297 P **P 10 31 50.0 +0.7**
comp=Z,5.7nm,0.6s,mb4.8
ERON Agron 50.37 297 P **P 10 31 50.0 +0.6**
comp=Z,5.7nm,0.6s,mb4.8
BOD Bodaibo 50.43 36 *eP* **P 10 31 48.2 -1.6**
comp=Z,26nm,0.9s,mb5.3
BOD Bodaibo 50.43 36 *eP* **P 10 31 48.2 -1.6**
BOD pmax pmax
comp=Z,26nm,0.9s,mb5.3
ELOJ Sierra Loja 50.63 297 P **P 10 31 51.2 -0.1**
comp=Z,3.0nm,0.5s,mb4.5
ELOJ Sierra Loja 50.63 297 P **P 10 31 51.2 -0.1**
ELOJ pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ECAB El Cabril 51.51 298 P **P 10 31 58.4 +0.5**
comp=Z,8.7nm,0.6s,mb4.9
ECAB El Cabril 51.51 298 P **P 10 31 58.4 +0.5**
comp=Z,8.7nm,0.6s,mb4.9
MDT Midelt 51.69 291 P **P 10 32 00.1 +0.9**
comp=Z,6.4nm,0.9s,mb4.6,baz=80,slow=10.0,SNR=14
TORD Torodi Ar. Bea 52.12 265 P **P 10 32 02.6 +0.2**
comp=Z,13nm,0.5s,mb5.2,baz=63,slow=7.3,SNR=103
HIA Hailar 53.08 48⇑ *eP* **P 10 32 10.1 +0.5**
ELOB Lobios 53.10 303 P **P 10 32 10.0 +0.3**
comp=Z,7.4nm,0.7s,mb4.7
NJ2 Nanjing 54.43 69 *eP* **P 10 32 20.5 +1.0**
NJ2 AP pP 10 32 30.5 +7.8
NJ2 XP sP 10 32 34.5 +11
NJ2 PP PP 10 34 24.5 +3.0
NJ2 S **S 10 39 54.0 -4.0**
NJ2 XS sS 10 40 11.0 +7.7

NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,490nm,10.1s
NJ2 LR LR
comp=N,430nm,16.3s,MS4.8
NJ2 LR LR
comp=E,490nm,14.5s,MS4.8
NJ2 LR LR
comp=Z,230nm,27.2s
SSE Sheshan 56.59 69 *e*P **P 10 32 33.5 -1.5**
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,321nm,12.0s
CN2 Changchun 57.44 54 *e*P **P 10 32 40.8 -0.2**
CN2 *e*XP sP 10 32 55.0 +10
CN2 *e*S **S 10 40 33.8 -4.3**
CN2 *e*SS SS 10 44 24.8 -2.9
CN2 LR LR
comp=Z,500nm,18.0s,MS4.7
YAK Yakutsk 58.67 32⇓*e*P **P 10 32 48.9 -0.8**
YAK pmax pmax
comp=Z,19nm,0.8s,mb5.2
YAK MLR MLR
comp=Z,700nm,16.0s,MS4.9
TIXI Tiksi 58.88 21 *i*P **P 10 32 50.3 -0.8**
comp=Z,600nm,20.0s
TIXI Tiksi 58.88 21⇓*i*P **P 10 32 50.3 -0.8**
TIXI pmax pmax
comp=Z,18nm,1.7s,mb4.8
TIXI MLR MLR
comp=Z,600nm,20.0s,MS4.7
TSUM Tsumeb 59.25 223 P **P 10 32 51.1 -2.5**
comp=Z,8.8nm,1.0s,mb4.7
LBTB Lobatse 59.68 212 P **P 10 32 52.3 -4.4**
comp=Z,8.3nm,1.0s,mb4.7
LBTB Lobatse 59.68 212 P **P 10 32 52.3 -4.3**
LBTB pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MDJ Mudanjiang 60.25 52 P **P 10 32 59.0 -1.5**
MDJ AMB AMB
comp=Z,7.0nm,1.2s,mb4.6
DBIC Dimbokro 60.75 262 P **P 10 33 04.1 +0.2**
comp=Z,3.0nm,0.3s,mb4.8,baz=49,slow=11,SNR=8.4
DBIC Dimbokro 60.75 262 *e*P **P 10 33 03.8 -0.2**
comp=Z,8.2nm,0.8s,mb4.9
DBIC Dimbokro 60.75 262 *e*P **P 10 33 03.8 -0.1**
comp=Z,8.2nm,0.8s,mb4.9
DBIC Dimbokro 60.75 262 *e*P **P 10 33 03.8 -0.2**
DBIC pmax pmax
comp=Z,8.0nm,0.8s
KLR Kul'dur 60.92 47 *e*P **P 10 33 03.7 -1.4**
LIC Lamto 61.11 262 *e*P **P 10 33 06.5 +0.1**
comp=Z,7.3nm,0.5s,mb4.7
LIC Lamto 61.11 262 *e*P **P 10 33 06.5 +0.1**
comp=Z,3.7nm,0.5s,mb4.7
HABR Khabarovsk 63.20 47 *e*P **P 10 33 17.9 -2.5**
HABR S **S 10 41 51.3 -0.6**
SUMG Summit 65.19 341 *e*P **P 10 33 33.0 -0.5**
comp=Z,9.1nm,0.7s,mb4.9
YSS Yuzh-Sakhalins 68.62 47 *e*P **P 10 33 54.5 -0.8**
comp=Z,15nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 68.62 47 *e*P **P 10 33 54.5 -0.8**
comp=Z,15nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 68.62 47 *e*P **P 10 33 54.5 -0.8**
YSS pmax pmax
comp=Z,15nm,0.8s,mb5.0
MJAR Matsushiro Arr 68.66 59 P **P 10 33 55.2 -0.4**
comp=Z,3.2nm,0.8s,mb4.3,baz=290,slow=5.9,SNR=8.9
SEY Seymchan 68.87 29 *e*P **P 10 33 56.9 0.0**
MA2 Magadan 69.23 33 *e*P **P 10 33 58.8 -0.3**
comp=Z,5.8nm,0.8s,mb4.6
MA2 Magadan 69.23 33 *e*P **P 10 33 58.8 -0.3**
comp=Z,5.8nm,0.8s,mb4.6
MA2 Magadan 69.23 33 *e*P **P 10 33 58.8 -0.3**
MA2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ASAJ Asahikawa 69.40 50 P **P 10 33 59.7 -0.4**
comp=Z,7.7nm,1.0s,mb4.6,baz=246,slow=10.0,SNR=3.1
BILL Bilibino 72.08 22 *i*P **P 10 34 16.6 +0.1**
comp=Z,300nm,14.0s
BILL Bilibino 72.08 22 *e*P **P 10 34 15.7 -0.8**
BILL Bilibino 72.08 22*d i*P **P 10 34 16.6 +0.1**
BILL pmax pmax
comp=Z,23nm,1.9s,mb4.8
BILL MLR MLR
comp=Z,300nm,14.0s,MS4.7
INK Inuvik 84.22 3 P **P 10 35 22.3 -1.5**
comp=Z,3.2nm,0.8s,mb4.5,baz=291,slow=3.2,SNR=13
INK Inuvik 84.22 3 *e*P **P 10 35 22.1 -1.7**
comp=Z,7.0nm,1.1s,mb4.7
INK Inuvik 84.22 3 *e*P **P 10 35 22.1 -1.7**
comp=Z,6.9nm,1.1s,mb4.7
INK Inuvik 84.22 3 *e*P **P 10 35 22.1 -1.7**
INK pmax pmax
comp=Z,7.0nm,1.1s
SCHQ Schefferville 84.28 331 P **P 10 35 22.6 -1.5**
comp=Z,2.0nm,0.5s,mb4.5,baz=48,slow=5.5,SNR=18
COLA College 86.12 10 *e*P **P 10 35 31.6 -1.7**
ILAR Eielson Array 86.36 9 P **P 10 35 32.6 -1.9**
comp=Z,2.5nm,0.8s,mb4.5,baz=321,slow=4.7,SNR=30
TTA Tatalina 86.41 14 P **P 10 35 33.7 -1.0**
MCK McKinley 87.02 11 *e*P **P 10 35 36.6 -1.1**
comp=Z,8.5nm,1.1s,mb4.9
MCK McKinley 87.02 11 *e*P **P 10 35 36.6 -1.1**
comp=Z,8.5nm,1.1s,mb4.9
MCK McKinley 87.02 11 *e*P **P 10 35 36.6 -1.1**
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
DAWY Dawson 87.96 7 *e*P **P 10 35 41.7 -0.5**
DAWY Dawson 87.96 7 *e*P **P 10 35 41.7 -0.6**
WRA Warramunga Arr 89.62 113 P **P 10 35 49.5 -0.5**
comp=Z,1.0nm,0.7s,mb4.3,baz=315,slow=4.1,SNR=7.6
WRAB Tennant Creek 89.62 113 P **P 10 35 50.5 +0.4**
comp=Z,4.4nm,0.9s,mb4.8
WRAB Tennant Creek 89.62 113 P **P 10 35 50.5 +0.4**
comp=Z,4.4nm,0.9s,mb4.8
WRAB Tennant Creek 89.62 113 P **P 10 35 50.5 +0.4**
WRAB pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SLKM Skilak Lake 89.79 12 *e*P **P 10 35 50.1 -0.7**
YKA Yellowknife Ar 89.95 355 P **P 10 35 51.3 -0.2**
comp=Z,2.2nm,0.8s,mb4.5,baz=7.1,slow=5.3,SNR=24
YKA Yellowknife Ar 89.95 355 P **P 10 35 51.3 -0.3**
ASAR Alice Springs 91.09 116 P **P 10 35 56.4 -0.5**
comp=Z,0.5nm,0.7s,mb4.0,baz=302,slow=4.7,SNR=5.9

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*ISCJB **25** 10:23:58.6±0.3, 4936N±001×685E±003, h0km, Error ellipse: s-maj=2.8km s-min=2.0km az=1.8*
*NEIC **25** 10:23:59.9, 4937N×688E, h1km, ML2.4(STR), ML2.7(LDG), After STR.*
*CSEM **25** 10:24:00.3±0.1, 4938N×689E, h1km, ML2.7/9, Error ellipse: s-maj=1.5km s-min=1.1km az=93.0*
*LDG **25** 10:24:00.4±0.1, 4938N×689E, h1km, Md2.7/2, Ml2.7/9, Error ellipse: s-maj=1.9km s-min=1.5km az=96.0, Suspected Mining induced.*
*BGR **25** 10:24:00.4±0.4, 4936N×688E, h1km, ML1.9/3, Error ellipse: s-maj=7.8km s-min=4.4km az=33.0*
*BNS **25** 10:24:01.8±1.0, 4944N×685E, h1km, ML1.4*
ISC 25 10:23:59.7±0.3**, 4937N**±001×**686E**±003**, h0km, n40,** σ0°**73/70, 1C, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**21**	Pg	**Pg**	**10 24 06.7**	**+0.1**
WLF	**Walferdange**	**0.55**	**303**	*e*Pg	**Pg**	**10 24 11.9**	**+1.6**
WLF	SNR=2.7			*e*Sg	**Sg**	**10 24 17.4**	**0.0**
WLF	**Walferdange**	**0.55**	**303**	⇑P	**Pg**	**10 24 11.8**	**+1.5**
WLF	**Walferdange**	**0.55**	**303**	*e*Pg	**Pg**	**10 24 10.1**	**-0.2**
BGG	**Burgeitz**	**0.89**	**20**	*e*Pg	**Pg**	**10 24 17.8**	**+0.9**
BGG				*e*Sg	**Sg**	**10 24 28.9**	**+0.4**
	12nm,0.4s						
HILG	**Hillesheim**	**0.93**	**353**	*e*Sg	**Sg**	**10 24 30.3**	**+0.6**
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**10 24 19.5**	**-1.4**
CDF				*e*Sg	**Sg**	**10 24 31.9**	**+0.2**
	11nm,0.2s						
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**10 24 19.5**	**-1.4**
CDF				*e*Sg	**Sg**	**10 24 31.9**	**+0.2**
	5.6nm,0.2s						
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pg	**Pg**	**10 24 18.8**	**0.0**
CDF				*e*Pn	**Pn**	**10 24 19.5**	**-1.4**
CDF				*e*Sg	**Sg**	**10 24 31.9**	**+0.2**
WLS	**Welschbruch**	**1.01**	**161**	Pg	**Pg**	**10 24 19.8**	**+0.7**
WLS				Sg	**Sg**	**10 24 33.7**	**+1.6**
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**10 24 22.9**	**+0.8**
ECH				Sg	**Sg**	**10 24 37.5**	**+0.2**
RFYF	**Reffroy**	**1.18**	**232**	*e*Pg	**Pg**	**10 24 23.3**	**+1.0**
STB	**Steinbach**	**1.23**	**359**	*e*Sg	**Sg**	**10 24 40.0**	**+0.8**
THEF	**They Montfort**	**1.28**	**207**	Pg	**Pg**	**10 24 24.1**	**-0.2**
THEF				Sg	**Sg**	**10 24 41.2**	**+0.3**
TOD	**Tromm**	**1.29**	**79**	Pg	**Pg**	**10 24 23.8**	**-0.6**
TOD				Sg	**Sg**	**10 24 41.1**	**0.0**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**10 24 24.7**	**-0.5**
KLL				*e*Sg	**Sg**	**10 24 41.2**	**-1.3**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**10 24 25.2**	**-0.2**
TNS	SNR=2.9			*e*Sg	**Sg**	**10 24 42.6**	**-0.1**
MEM	**Membach**	**1.36**	**336**	P	**Pg**	**10 24 26.3**	**+0.5**
MEM	**Membach**	**1.36**	**336**	P	**Pg**	**10 24 26.2**	**+0.4**
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**10 24 27.6**	**+0.9**
HAU				*e*Sg	**Sg**	**10 24 46.0**	**+1.1**
	27nm,0.4s						
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**10 24 27.6**	**+0.9**
HAU				*e*Sg	**Sg**	**10 24 46.0**	**+1.1**
	13nm,0.4s						
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	**Pg**	**10 24 27.2**	**+0.2**
BFO	SNR=5.7			*e*Sg	**Sg**	**10 24 44.4**	**-1.0**
BFO	**Black Forest**	**1.42**	**136**	*e*Pn	**Pn**	**10 24 25.9**	**-0.9**
BFO				*e*Sn	**Sn**	**10 24 45.5**	**-0.7**
BFO	**Black Forest**	**1.42**	**136**	*e*Pn	**Pn**	**10 24 25.9**	**-0.9**
BFO				*e*Sn	**Sn**	**10 24 45.5**	**-0.6**
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**10 24 27.9**	**-0.1**
MEZF				*e*Sg	**Sg**	**10 24 47.4**	**+0.2**
	15nm,0.4s						
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**10 24 27.9**	**-0.1**
MEZF				*e*Sg	**Sg**	**10 24 47.4**	**+0.2**
	7.5nm,0.4s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**10 24 28.9**	**+0.1**
GIVF				*e*Sg	**Sg**	**10 24 48.6**	**+0.2**
	20nm,0.5s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**10 24 28.9**	**+0.1**
GIVF				*e*Sg	**Sg**	**10 24 48.6**	**+0.2**
	9.9nm,0.5s						
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**10 24 29.3**	**+0.3**
MOF				Sg	**Sg**	**10 24 49.3**	**+0.5**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**10 24 29.5**	**0.0**
HINF				*e*Sg	**Sg**	**10 24 49.7**	**+0.1**
	46nm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**10 24 29.5**	**0.0**
HINF				*e*Sg	**Sg**	**10 24 49.7**	**+0.1**
	23nm,0.3s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	**Pn**	**10 24 29.6**	**-0.7**
SFTF				*e*Sg	**Sg**	**10 24 53.4**	**-0.2**
	15nm,0.4s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	**Pn**	**10 24 29.6**	**-0.7**
SFTF				*e*Sg	**Sg**	**10 24 53.4**	**-0.2**
	7.4nm,0.4s						
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	**10 24 35.5**	**+0.1**
CABF	**La Chapelle**	**2.81**	**191**	*e*Sg	**Sg**	**10 25 29.9**	**0.0**
	3.8nm,0.4s						
CABF	**La Chapelle**	**2.81**	**191**	*e*Sg	**Sg**	**10 25 29.9**	**0.0**
	1.9nm,0.4s						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**10 24 46.2**	**-1.0**
	baz=49						
LOR				*e*Sn	**Sn**	**10 25 20.3**	**-2.5**
LOR				*e*Sg	**Sg**	**10 25 32.3**	**-0.7**
	6.4nm,0.5s						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**10 24 46.2**	**-1.0**
LOR				*e*Sn	**Sn**	**10 25 20.3**	**-2.5**
LOR				*e*Sg	**Sg**	**10 25 32.3**	**-0.7**
	3.2nm,0.5s						
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	**Pn**	**10 24 52.8**	**-1.2**
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn	**Pn**	**10 25 09.3**	**-0.2**
	SNR=3.5						

IDC 25 10:25:44.0±7.9**, 1727S**×**17811W, h425**km±80km**, mb3.4**/6**, mb1 3.6**/6**, mb1mx3.3**/15**, mbtmp4.2**/6**, Error ellipse: s-maj=43.8km s-min=26.1km az=26.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.33**	**190**	P	P	10 29 58.5	-0.4
	3.6nm,0.3s,baz=357,slow=18,SNR=8.6						
STKA	**Stephens Creek**	**39.19**	**241**	P	P	10 32 32.8	-0.6
	2.3nm,0.4s,baz=100,slow=11,SNR=10						
WRA	**Warramunga Arr**	**45.03**	**259**	P	P	10 33 20.1	+0.3
	1.0nm,0.6s,baz=93,slow=7.6,SNR=42						
WRA				PcP	PcP	10 34 52.1	-0.1
	0.7nm,0.6s,baz=95,slow=3.3,SNR=6.2						
ASAR	**Alice Springs**	**45.24**	**254**	P	P	10 33 22.4	+1.0
	9.5nm,0.5s,baz=89,slow=7.8,SNR=273						
ASAR				PcP	PcP	10 34 52.8	-0.1
	1.1nm,0.5s,baz=102,slow=4.0,SNR=11						
VNDA	**Vanda**	**61.10**	**185**	P	P	10 35 15.5	+0.3
	1.0nm,0.9s,baz=36,slow=5.7,SNR=2.2						
PDAR	**Pinedale Array**	**86.69**	**43**	P	P	10 37 41.7	+0.4
	0.3nm,0.7s,baz=337,slow=2.1,SNR=3.7						

IDC 25 10:32:45.7±3.1**, 2724N**×**5588E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.4**/23**, mbtmp3.7**/5**, Error ellipse: s-maj=71.3km s-min=28.7km az=145.0, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**22.27**	**310**	P	P	10 37 44.8	+0.5
	1.2nm,0.7s,baz=124,slow=13,SNR=6.0						
AKTO	**Aktyubinsk**	**23.21**	**3**	P	P	10 37 53.8	-0.6
	0.7nm,0.4s,baz=174,slow=9.2,SNR=2.6						
BVAR	**Borovoye Array**	**27.93**	**19**	P	P	10 38 37.7	+0.2
	0.6nm,0.7s,baz=194,slow=12,SNR=2.4						
ZAL	**Zalesovo**	**34.11**	**31**	P	P	10 39 31.9	-0.1
	0.7nm,0.4s,baz=221,slow=9.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	**52.38**	**266**	P	P	10 41 59.9	+0.3
	0.5nm,0.5s,baz=61,slow=7.5,SNR=8.0						

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*ISCJB **25** 10:33:38.0±1.6, 272N±02×556E±01, h10km, mb3.5/14, Error ellipse: s-maj=35.7km s-min=16.3km az=155.3*
*IDC **25** 10:33:38.1±1.9, 2719N×5566E, h0km, mb3.6/14, mb1 3.7/14, mb1mx3.7/25, mbtmp3.6/14, Error ellipse: s-maj=42.2km s-min=20.8km az=166.0*
ISC 25 10:33:39.8±1.6**, 272N**±02×**557E**±01**, h10**km**, n16,** σ0°**63/16, mb3.5**/14**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**15.73**	**328**	Pn	**Pn**	**10 37 28.7**	**+7.3**
	0.3nm,0.3s,baz=163,slow=19,SNR=2.4						
BRTR	**Keskin Array B**	**22.11**	**310**	P	**P**	**10 38 36.2**	**+0.9**
	0.8nm,0.8s,mb3.2,baz=129,slow=13,SNR=2.5						
AKTO	**Aktyubinsk**	**23.23**	**4**	P	**P**	**10 38 47.9**	**+0.7**
	1.5nm,0.6s,mb3.6,baz=174,slow=8.8,SNR=3.7						
BVAR	**Borovoye Array**	**28.00**	**19**	P	**P**	**10 39 30.9**	**+0.1**
	0.2nm,0.3s,mb3.2,baz=202,slow=7.2,SNR=1.8						
MKAR	**Makanchi Array**	**28.65**	**40**	P	**P**	**10 39 37.0**	**+0.4**
	0.3nm,0.6s,mb3.2,baz=243,slow=9.4,SNR=2.9						
ZAL	**Zalesovo**	**34.22**	**31**	P	**P**	**10 40 23.9**	**-1.7**
	1.3nm,0.5s,mb4.2,baz=250,slow=9.2,SNR=4.1						
GERES	**GERESS Array B**	**38.81**	**315**	P	**P**	**10 41 04.9**	**+0.2**
	0.6nm,0.8s,mb3.4,baz=134,slow=13,SNR=2.5						
KHC	**Kasperske Hory**	**38.98**	**316**	*e*P	**P**	**10 41 05.0**	**-1.1**
FINES	**FINESS Array B**	**39.52**	**338**	P	**P**	**10 41 10.5**	**-0.2**
	1.0nm,0.9s,mb3.5,baz=149,slow=11,SNR=2.7						
HFS	**Hagfors**	**43.49**	**331**	P	**P**	**10 41 43.0**	**-0.2**
	1.0nm,0.7s,mb3.7,baz=147,slow=13,SNR=2.9						
SONM	**Songino Array**	**44.28**	**48**	P	**P**	**10 41 50.1**	**+0.6**
	0.2nm,0.7s,mb3.0,baz=260,slow=8.6,SNR=2.7						
NOA	**NORSAR Array B**	**45.00**	**331**	P	**P**	**10 41 55.0**	**-0.3**
	1.1nm,0.9s,mb3.7,baz=99,slow=5.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**52.17**	**266**	P	**P**	**10 42 50.6**	**+0.1**
	0.8nm,0.6s,mb3.9,baz=69,slow=7.1,SNR=2.7						
INK	**Inuvik**	**84.50**	**3**	P	**P**	**10 46 13.0**	**+0.1**
	0.6nm,1.0s,mb3.7,baz=0.0,slow=7.1,SNR=2.7						
ILAR	**Eielson Array**	**86.63**	**9**	P	**P**	**10 46 23.8**	**+0.3**
	0.4nm,0.7s,mb3.7,baz=321,slow=3.8,SNR=5.8						
YKA	**Yellowknife Ar**	**90.24**	**355**	P	**P**	**10 46 40.7**	**+0.1**
	0.1nm,0.7s,mb3.2,baz=3.5,slow=5.1,SNR=2.7						

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*TEH **25** 10:36:47.5, 2805N×5598E, h18km, ML4.2*
*ISCJB **25** 10:36:55.9±0.2, 2753N±003×5560E±003, h10km, mb4.4/75, MS4.3/1, Error ellipse: s-maj=4.1km s-min=3.3km az=74.5*
*IDC **25** 10:36:55.1±0.8, 2747N×5569E, h0km, mb4.3/26, mb1 4.4/26, mb1mx4.3/30, mbtmp4.3/26, Error ellipse: s-maj=20.8km s-min=14.4km az=179.0*
*CSEM **25** 10:36:57.8±0.1, 2738N×5562E, h35km, mb4.6/39, Error ellipse: s-maj=2.1km s-min=2.0km az=94.0*
*BJI **25** 10:36:58.2, 2761N×5550E, h35km, mB5.0, mb4.9, Ms4.7, Msz4.3*
*MOS **25** 10:36:59.1±1.0, 2758N×5567E, h33km, mb4.8/32, Error ellipse: s-maj=8.2km s-min=4.6km az=118.3*
*THR **25** 10:37:00.8±0.6, 2765N×5594E, h17km±5km, ML4.0*
*NEIC **25** 10:37:00.8, 2765N×5594E, h18km, mb4.6/24, ML4.0(THR), MN4.2(TEH), After THR.*
*OMAN **25** 10:37:03.6±2.0, 2719N×5517E, h30km, Error ellipse: s-maj=3.2km s-min=1.5km az=339.0*
*SZGRF **25** 10:37:03.0, 2773N×5551E, h33km, mb4.4, Southern Iran*
ISC 25 10:36:57.8±0.2**, 2759N**±002×**5563E**±003**, h10**km**, (h18**km±5.8km**: pP-P), n242,** σ1°**15**/251**, mb4.4**/75**, MS4.3**/1**, 18C-18D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.51**	**111**	*e*PG	**Pg**	**10 37 07.8**	**0.0**
BNDS				AML	AML	10 37 25.4	
	comp=E,16μm,0.5s						
BNDS				AML	AML	10 37 29.4	
	comp=N,12μm,0.5s						
BNDS	**Bandar-Abbas**	**0.51**	**111**	Pg	**Pg**	**10 37 07.0**	**-0.8**
BANOM	**Banah**	**1.76**	**160**	⇓P	**Pn**	**10 37 29.5**	**+1.2**
BANOM				⇓S	**Sn**	**10 37 52.3**	**+1.5**
GHIR	**Ghir-Karzin**	**2.44**	**287**	*e*PN	**Pg**	**10 37 45.5**	**+0.9**
GHIR				AML	AML	10 38 37.8	
	comp=E,939nm,0.0s						
GHIR				AML	AML	10 38 42.0	
	comp=N,714nm,0.5s						
GHIR	**Ghir-Karzin**	**2.44**	**287**	Pn	**Pg**	**10 37 45.0**	**+0.3**
KRBR	**Kerman**	**2.58**	**22**	*e*PN	**Pn**	**10 37 41.8**	**+2.1**
KRBR				*e*SG	**Sg**	**10 38 17.4**	**-3.4**
KRBR				AML	AML	10 38 20.6	
	comp=N,1μm,0.3s						
KRBR				AML	AML	10 38 22.1	
	comp=E,763nm,0.6s						
KRBR	**Kerman**	**2.58**	**22**	Pn	**Pn**	**10 37 41.0**	**+1.3**
KRBR				Sg	**Sb**	**10 38 17.0**	**+1.0**
ASHO	**Ashiyiah**	**2.92**	**172**	P	**Pn**	**10 37 45.9**	**+1.6**
	SNR=22						
IMOK	**Mook**	**2.96**	**300**	*e*Pn	**Pb**	**10 37 49.6**	**-1.0**
IMOK				*e*Lg		10 38 46.6	
IMOK				*e*Lg		10 38 47.4	
IMOK	**Mook**	**2.96**	**300**	Pn	**Pb**	**10 37 49.5**	**-1.1**
IMOK				Lg		10 38 46.6	
IMOK				Lg		10 38 47.3	
IPAR	**Pars**	**3.19**	**315**	*e*Pn	**Pn**	**10 37 49.8**	**+1.7**
IPAR				*e*Lg		10 38 54.7	
IPAR				*e*Lg		10 38 55.3	
IPAR	**Pars**	**3.19**	**315**	Pn	**Pn**	**10 37 49.7**	**+1.6**
IPAR				Lg		10 38 54.6	
IPAR				Lg		10 38 55.3	
IMEH	**Mehriz**	**3.89**	**347**	*e*Pn	**Pn**	**10 38 01.3**	**+3.6**
IMEH	**Mehriz**	**3.89**	**347**	*e*Pn	**Pn**	**10 38 01.0**	**+3.3**
IBAF	**Bafgh**	**3.99**	**359**	*e*Pn	**Pn**	**10 37 56.0**	**-3.0**
IBAF				*e*Sn	**Sn**	**10 38 36.2**	**-10**
IBAF	**Bafgh**	**3.99**	**359**	*e*Pn	**Pn**	**10 38 01.6**	**+2.6**
HOQ	**Hoqain**	**4.26**	**159**	⇑P	**Pn**	**10 38 01.6**	**-1.2**
ARQ	**Araqi**	**4.31**	**169**	⇑P	**Pn**	**10 38 04.5**	**+1.2**
BIDO	**Bidbid**	**4.63**	**150**	⇑P	**Pn**	**10 38 08.2**	**+0.4**
	SNR=7.0						
ISAD	**Sadrabad**	**4.63**	**339**	*e*Sn	**Sn**	**10 38 54.8**	**-6.9**
ISAD				*e*Sn	**Sn**	**10 38 55.0**	**-6.7**
ISAD	**Sadrabad**	**4.63**	**339**	*e*Pn	**Pn**	**10 38 11.5**	**+3.6**
ISAD				*e*Sn	**Sn**	**10 38 54.8**	**-6.9**
ICHK	**Chekchek**	**4.76**	**347**	*e*Pn	**Pn**	**10 38 12.6**	**+3.0**
ICHK	**Chekchek**	**4.76**	**347**	*e*Pn	**Pn**	**10 38 12.5**	**+2.9**
ZHSF	**Zahedan**	**4.95**	**65**	*e*Pn	**Pn**	**10 38 13.2**	**+1.0**
ZHSF	**Zahedan**	**4.95**	**65**	P	**Pn**	**10 38 13.0**	**+0.8**
BSY	**Bisya**	**5.03**	**163**	⇓P	**Pn**	**10 38 15.6**	**+2.4**
IGAR	**Garneh**	**5.52**	**328**	*e*Pn	**Pn**	**10 38 25.7**	**+5.7**
IGAR				*e*Sn	**Sn**	**10 39 23.1**	**-0.4**
IGAR				*e*Lg		10 39 30.7	
IGAR	**Garneh**	**5.52**	**328**	*e*Sn	**Sn**	**10 39 23.1**	**-0.4**
JMDO	**Jabal Madar**	**5.66**	**156**	P	**Pn**	**10 38 25.0**	**+3.1**
	SNR=6.5						
WBK	**Wadi Bani Khal**	**5.80**	**148**	⇓P	**Pn**	**10 38 23.5**	**-0.4**
IZEF	**Zefreh**	**6.01**	**332**	*e*Pn	**Pn**	**10 38 28.5**	**+1.7**
IZEF				*e*Sn	**Sn**	**10 39 28.9**	**-6.8**
IZEF	**Zefreh**	**6.01**	**332**	Pn	**Pn**	**10 38 28.4**	**+1.6**
IZEF				Sn	**Sn**	**10 39 28.8**	**-6.9**
IPIR	**Pirpir**	**6.53**	**322**	*e*Lg		10 39 49.3	
IPIR				*e*Lg		10 39 50.0	
KBD	**Kabd**	**7.17**	**285**	*e*P	**Pn**	**10 38 43.6**	**+0.9**
UMR	**Umm Al-Rimmam**	**7.23**	**288**	*e*P	**Pn**	**10 38 44.1**	**+0.6**
UMR				AML	AML	10 40 03.6	
	comp=Z,29nm,0.5s						
RDF	**Al-Radifah**	**7.25**	**282**	*e*P	**Pn**	**10 38 44.0**	**+0.1**
RDF				AML	AML	10 40 06.6	
	comp=Z,35nm,0.6s						
NAY	**Al-Naaiem**	**7.57**	**285**	*e*P	**Pn**	**10 38 48.9**	**+0.7**
NAY				AML	AML	10 40 14.9	
	comp=Z,13nm,0.4s						
MIB	**Mutribah**	**7.61**	**289**	*e*P	**Pn**	**10 38 50.4**	**+1.6**
MIB				AML	AML	10 40 16.8	
	comp=Z,37nm,0.5s						
IANJ	**Anjiloo**	**7.99**	**350**	*e*Pn	**Pn**	**10 38 57.8**	**+3.8**
IVRN	**Varamin**	**8.11**	**337**	*e*Pn	**Pn**	**10 38 59.0**	**+3.4**
ISHM	**Shahmirzad**	**8.44**	**347**	*e*Pn	**Pn**	**10 39 03.7**	**+3.7**
IAFJ	**Afjeh**	**8.89**	**339**	*e*Pn	**Pn**	**10 39 10.0**	**+3.6**
IMOG	**Moghan**	**9.06**	**19**	*e*Pn	**Pn**	**10 39 12.5**	**+3.9**
IRAZ	**Razeghan**	**9.19**	**329**	*e*Sn	**Sn**	**10 40 50.0**	**-3.8**
IPAY	**Payeh**	**9.29**	**17**	*e*Pn	**Pn**	**10 39 14.8**	**+3.1**
IMYA	**Miamay**	**9.52**	**22**	*e*Pn	**Pn**	**10 39 19.4**	**+4.5**
SHAO	**Shalim**	**9.52**	**180**	⇑P	**Pn**	**10 39 15.4**	**+0.5**
	SNR=23						
WHFO	**Wadi Hawf**	**9.77**	**191**	⇑P	**Pn**	**10 39 16.4**	**-2.0**
WHFO				⇓S	**Sn**	**10 40 58.8**	**-9.4**
RBK	**Rabkut**	**10.12**	**188**	⇓P	**Pn**	**10 39 21.3**	**-1.8**
	SNR=7.8

comp=Z,7.9nm,0.8s,mb4.2
BR131 Keskin Array S 21.89 309 *e*P **P 10 41 53.1 +2.2**
comp=Z,7.9nm,0.8s,mb4.2
BRTR Keskin Array B 21.89 309 P **P 10 41 51.6 +0.8**
comp=Z,11nm,1.0s,mb4.2,baz=131,slow=13,SNR=15
AB31 Akbulak array 21.89 8 P **P 10 41 49.8 -1.1**
comp=Z,12nm,0.7s,mb4.4
AB31 Akbulak array 21.89 8 P **P 10 41 49.8 -1.1**
AB31 pmax pmax
comp=Z,12nm,0.7s,mb4.4
AKTK Aktyubinsk 22.89 4 *i* P **P 10 42 01.7 +0.1**
comp=Z,3.0nm,0.8s,mb3.8
AKTK Aktyubinsk 22.89 4 P **P 10 42 01.9 +0.3**
AKTO Aktyubinsk 22.89 4 P **P 10 42 01.9 +0.3**
comp=Z,10.0nm,0.7s,mb4.4,baz=197,slow=8.7,SNR=20
AKTO Aktyubinsk 22.89 4 *i* P **P 10 42 01.7 +0.1**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
KOLN Koldanda 24.75 83 *e*P **P 10 42 20.3 +0.9**
comp=Z,25nm,0.9s,mb4.7
GKN Gorkha 25.64 82 *e*P **P 10 42 27.9 +0.4**
DMN Daman 26.09 83 *e*P **P 10 42 32.7 +1.1**
comp=Z,20nm,0.9s,mb4.6
KKN Kakani 26.23 83 *e*P **P 10 42 33.7 +0.9**
PKI Pulchoki 26.36 83 *e*P **P 10 42 34.8 +0.7**
comp=Z,28nm,0.8s,mb4.8
GUN Gumba 26.74 82 *e*P **P 10 42 38.8 +1.3**
comp=Z,56nm,1.0s,mb5.0
JIRN Jiri 27.04 83 *e*P **P 10 42 41.4 +1.2**
comp=Z,23nm,0.8s,mb4.8
VOSK Vostochnaya 27.59 20 P **P 10 42 44.9 -0.3**
comp=Z,4.0nm,0.9s,mb4.0
VOSK Vostochnaya 27.59 20 P **P 10 42 44.9 -0.3**
VOSK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
BVA0 Borovoye Array 27.68 19 *i* P **P 10 42 45.4 -0.5**
comp=Z,1.0nm,0.9s,mb3.5
BVA0 Borovoye Array 27.68 19 *i* P **P 10 42 45.4 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
BVAR Borovoye Array 27.68 19 P **P 10 42 45.7 -0.2**
comp=Z,6.3nm,0.8s,mb4.3,baz=201,slow=7.9,SNR=23
BVAR PcP PcP 10 46 00.4 -2.5
comp=Z,0.8nm,0.5s,baz=211,slow=1.7,SNR=4.4
BVAR Borovoye Array 27.68 19 PcP PcP 10 46 00.4 -2.5
CHKZ Chkalovo 28.32 19 *i* P **P 10 42 51.2 -0.4**
comp=Z,7.0nm,1.6s,mb4.0
CHKZ Chkalovo 28.32 19 *i* P **P 10 42 51.2 -0.4**
CHKZ pmax pmax
comp=Z,7.0nm,1.6s,mb4.0
MK31 Makanchi Array 28.39 40 *i* P **P 10 42 52.4 +0.1**
comp=Z,2.0nm,0.7s,mb3.9
MK31 Makanchi Array 28.39 40 *i* P **P 10 42 52.4 +0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
MKAR Makanchi Array 28.39 40 P **P 10 42 52.5 +0.2**
comp=Z,1.1nm,0.7s,mb3.6,baz=231,slow=7.7,SNR=11
MKAR Makanchi Array 28.39 40 *i* P **P 10 42 52.4 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 28.90 3 *i* P **P 10 42 56.1 -0.7**
comp=Z,23nm,0.8s,mb5.0
ARU *e*S **S 10 47 45.4 -1.8**
ARU Arti 28.90 3⇑*i*P **P 10 42 56.1 -0.7**
ARU *e* 10 43 47.8
ARU *e*PPP 10 43 56.7
ARU *e*S **S 10 47 45.4 -1.8**
ARU *e*SS SS 10 49 08.4 -41
ARU pmax pmax
comp=Z,23nm,0.8s,mb5.0
KURK Kurchatov 28.95 31 *i* P **P 10 42 57.5 +0.2**
MLR Muntele Rosu 29.57 315 P **P 10 43 04.3 +1.6**
comp=Z,5.0nm,0.8s,mb4.3,baz=73,slow=11,SNR=5.6
MLR Muntele Rosu 29.57 315 ⇓P **P 10 43 05.5 +2.8**
VOIR 30.11 314 ⇑P **P 10 43 08.7 +1.2**
AKASG Malin Array Be 30.57 326 P **P 10 43 10.5 -1.1**
comp=Z,5.0nm,0.5s,mb4.6,baz=134,slow=8.5,SNR=19
OBN Obninsk 30.80 338 *e*P **P 10 43 15.6 +2.0**
comp=Z,15nm,1.0s,mb4.8
OBN Obninsk 30.80 338 *e*P **P 10 43 15.6 +2.0**
OBN pmax pmax
comp=Z,15nm,1.0s,mb4.8
BURAR Bucovina Array 31.01 318 ⇓P **P 10 43 16.0 +0.5**
BURAR Bucovina Array 31.01 318 ⇓P **P 10 43 16.0 +0.5**
DRGR 32.16 315 ⇓P **P 10 43 26.4 +0.8**
BZS Buzias 32.38 313 ⇓P **P 10 43 30.3 +2.7**
NVS Novosibirsk 33.83 29 *e*P **P 10 43 38.6 -1.6**
ZAL Zalesovo 33.93 31 P **P 10 43 40.0 -1.1**
comp=Z,8.0nm,0.5s,mb4.9,baz=215,slow=7.3,SNR=25
PKSM Moragy 34.54 313 ⇓P **P 10 43 42.4 -3.9**
KLMR Klimovskoe 35.01 346 *e*P **P 10 43 49.7 -0.7**
comp=Z,30nm,1.9s,mb4.9
KLMR Klimovskoe 35.01 346 *e*P **P 10 43 49.7 -0.7**
KLMR pmax pmax
comp=Z,30nm,1.9s,mb4.9
OKC Ostrava-Krasne 36.19 318 *e*P **P 10 43 59.6 -1.0**
MORC Moravsky Berou 36.53 318 *e*P **P 10 44 03.1 -0.3**
comp=Z,7.2nm,1.0s,mb4.5
MORC Moravsky Berou 36.53 318 *e*P **P 10 44 03.1 -0.3**
comp=Z,7.2nm,1.0s,mb4.5
MORC Moravsky Berou 36.53 318 *e*P **P 10 44 03.1 -0.3**
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VSU Vasula 36.84 335 *e*P **P 10 44 08.1 +2.0**
VRAC Vranov 36.92 317 P **P 10 44 06.4 -0.3**
comp=Z,8.6nm,0.7s,mb4.7,baz=100,slow=8.3,SNR=6.2
VRAC Vranov 36.92 317 ⇓P **P 10 44 07.3 +0.5**
DPC Dobruska-Polom 37.47 318 *e*P **P 10 44 11.3 -0.2**
UPC Upice 37.72 318 *e*P **P 10 44 12.6 -0.9**
KBA Koelnbreinsper 38.28 312⇑*i*P **P 10 44 18.4 +0.1**
comp=Z,8.2nm,0.7s,mb4.6
GTA Gaotai 38.34 61 *e*P **P 10 44 19.8 +1.0**
GTA AP pP 10 44 24.0 +2.1
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.4
PRU Pruhonice 38.41 317 *e*P **P 10 44 21.1 +1.7**
GERES GERESS Array B 38.55 315 P **P 10 44 20.0 -0.6**
comp=Z,1.7nm,0.6s,mb4.0,baz=114,slow=7.2,SNR=14
KHC Kasperske Hory 38.72 315 *e*P **P 10 44 21.9 -0.1**
KHC Kasperske Hory 38.72 315⇓*e*P **P 10 44 22.4 +0.4**
JOF Joensuu 38.76 342 *e*p **P 10 44 22.7 +0.3**
comp=Z,3.8nm,1.0s,mb4.1
BRG Berggiesshubel 39.08 318 *e*P **P 10 44 24.7 -0.3**
comp=Z,1.4nm,0.8s,mb3.7
BRG *e* pP 10 44 28.1 +0.1
comp=Z,4.1nm,0.9s
FINES FINESS Array B 39.20 338 P **P 10 44 25.3 -0.7**
comp=Z,2.3nm,0.8s,mb4.0,baz=123,slow=9.5,SNR=16
FINES FINESS Array B 39.20 338 *i* P **P 10 44 27.1 +1.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
WTTA Wattenberg 39.45 312⇑*i*P **P 10 44 27.6 -0.5**
comp=Z,17nm,0.6s,mb4.9
SQTA Sankt Quirin 39.73 312⇑*i*P **P 10 44 29.7 -0.7**
comp=Z,6.7nm,0.7s,mb4.5
NKC Novy Kostel 39.76 317 *e*P **P 10 44 30.2 -0.5**
CLL Collm 39.78 318 *i* P **P 10 44 33.6 +2.7**
comp=Z,12nm,1.1s,mb4.5
CLL Collm 39.78 318 *i* P **P 10 44 33.6 +2.7**
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.5
MOTA Moosalm 39.82 312⇑*i*P **P 10 44 30.9 -0.4**
comp=Z,11nm,1.2s,mb4.5
GRA1 Grafenberg Arr 40.36 315 *e*P **P 10 44 36.0 +0.4**
comp=Z,9.0nm,0.9s,mb4.5
GRF Grafenberg Arr 40.36 315 *e*P **P 10 44 36.0 +0.4**
comp=Z,9.0nm,0.9s,mb4.5
GRF Grafenberg Arr 40.36 315 *e*P **P 10 44 36.0 +0.4**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
PGF Pioggiola 40.47 304 *e*P **P 10 44 35.9 -0.7**
comp=Z,24nm,1.2s,mb4.5
PGF Pioggiola 40.47 304 *e*P **P 10 44 35.9 -0.7**
comp=Z,12nm,1.2s,mb4.5
PGF Pioggiola 40.47 304 *e*P **P 10 44 35.9 -0.7**
PGF pmax pmax
comp=Z,12nm,1.2s,mb4.5
DAVOX Davos 40.52 311 P **P 10 44 36.3 -0.6**
comp=Z,7.9nm,0.7s,mb4.5,baz=126,slow=14,SNR=11
DAVA Damuels 40.62 311⇑*i*P **P 10 44 37.1 -0.7**
comp=Z,28nm,0.6s,mb5.1
SBF Sospel 41.76 306 *e*P **P 10 44 46.4 -0.8**
comp=Z,23nm,0.7s,mb4.6
SBF Sospel 41.76 306 *e*P **P 10 44 46.4 -0.8**
comp=Z,11nm,0.7s,mb4.6
SBF Sospel 41.76 306 *e*P **P 10 44 46.4 -0.8**
SBF pmax pmax
comp=Z,11nm,0.7s,mb4.6
MBDF Montbardon 42.33 307 *e*P **P 10 44 50.7 -1.1**
comp=Z,14nm,1.0s,mb4.3
MBDF Montbardon 42.33 307 *e*P **P 10 44 50.7 -1.1**
comp=Z,7.1nm,1.0s,mb4.3
MBDF Montbardon 42.33 307 *e*P **P 10 44 50.7 -1.1**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
LMR La Mourre 42.37 305 *e*P **P 10 44 51.1 -1.1**
LPG La Plagne 42.44 308 *e*P **P 10 44 53.5 +0.7**
comp=Z,9.7nm,0.8s,mb4.2
LPG La Plagne 42.44 308 *e*P **P 10 44 53.5 +0.7**
comp=Z,4.8nm,0.8s,mb4.2
LPG La Plagne 42.44 308 *e*P **P 10 44 53.5 +0.7**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
LPL La Plagne 42.46 308 *e*P **P 10 44 53.9 +1.0**
HINF Hinteralfeld 42.74 312 *e*P **P 10 44 53.9 -1.3**
comp=Z,6.5nm,0.6s,mb4.3
HINF Hinteralfeld 42.74 312 *e*P **P 10 44 53.9 -1.3**
comp=Z,3.2nm,0.6s,mb4.2
HINF Hinteralfeld 42.74 312 *e*P **P 10 44 53.9 -1.3**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
CABF La Chapelle 43.06 310 *e*P **P 10 44 56.9 -0.8**
comp=Z,14nm,0.8s,mb4.4
CABF La Chapelle 43.06 310 *e*P **P 10 44 56.9 -0.8**
comp=Z,7.2nm,0.8s,mb4.4
CABF La Chapelle 43.06 310 *e*P **P 10 44 56.9 -0.8**
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
HAU Haudompre 43.10 312 *e*P **P 10 44 57.5 -0.6**
HFS Hagfors 43.18 331 P **P 10 44 58.0 -0.7**
comp=Z,3.1nm,0.5s,mb4.3,baz=128,slow=9.6,SNR=16
WLF Walferdange 43.54 314 *e*P **P 10 45 05.1 +3.4**
SONM Songino Array 44.06 49 P **P 10 45 06.0 +0.2**
comp=Z,1.1nm,0.8s,mb3.6,baz=260,slow=9.6,SNR=8.1
LASF Ste Croix 44.35 306 *e*P **P 10 45 07.2 -0.9**
comp=Z,29nm,1.2s,mb4.6
LASF Ste Croix 44.35 306 *e*P **P 10 45 07.2 -0.9**
comp=Z,15nm,1.2s,mb4.6
GIVF Givet 44.47 315 *e*P **P 10 45 09.3 +0.2**
ULN Ulaanbaatar 44.50 49 *e*P **P 10 45 08.4 -0.9**
SMF Signal de Mont 44.59 310 *e*P **P 10 45 09.0 -1.1**
comp=Z,28nm,0.9s,mb4.8
SMF Signal de Mont 44.59 310 *e*P **P 10 45 09.0 -1.1**
comp=Z,14nm,0.9s,mb4.8
SMF Signal de Mont 44.59 310 *e*P **P 10 45 09.0 -1.1**
SMF pmax pmax
comp=Z,14nm,0.9s,mb4.8
DOU Dourbes 44.62 315 ⇑P **P 10 45 14.0 +3.7**
LOR Lormes 44.66 310 *e*P **P 10 45 09.3 -1.3**
comp=Z,8.0nm,0.8s,mb4.3
LOR Lormes 44.66 310 *e*P **P 10 45 09.3 -1.3**
comp=Z,4.0nm,0.8s,mb4.3
LOR Lormes 44.66 310 *e*P **P 10 45 09.3 -1.3**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
NOA NORSAR Array B 44.69 331 P **P 10 45 09.6 -1.3**
comp=Z,1.3nm,0.5s,mb4.0,baz=118,slow=7.6,SNR=6.4
NOA PP PP 10 46 51.6 -3.5
comp=Z,0.9nm,0.8s,baz=111,slow=3.6,SNR=3.3
NOA NORSAR Array B 44.69 331 PcP PcP 10 46 51.7 -1.6
BAIF Baives 44.85 314 *e*P **P 10 45 12.4 +0.2**
comp=Z,40nm,1.1s,mb4.9
BAIF Baives 44.85 314 *e*P **P 10 45 12.4 +0.2**
comp=Z,20nm,1.1s,mb4.9
BAIF Baives 44.85 314 *e*P **P 10 45 12.4 +0.2**
BAIF pmax pmax
comp=Z,20nm,1.1s,mb4.9
SSF Saint Saulge 44.87 310 *e*P **P 10 45 11.3 -1.0**
comp=Z,28nm,1.0s,mb4.8
SSF Saint Saulge 44.87 310 *e*P **P 10 45 11.3 -1.0**
comp=Z,14nm,1.0s,mb4.8
SSF Saint Saulge 44.87 310 *e*P **P 10 45 11.3 -1.0**
SSF pmax pmax
comp=Z,14nm,1.0s,mb4.8
AVF Avril sur Loir 44.95 310 *e*P **P 10 45 11.7 -1.2**
BGF Bois d'Agland 45.27 309 *e*P **P 10 45 14.5 -1.0**
ARCES ARCESS Array B 45.48 346 P **P 10 45 17.0 -0.1**
comp=Z,5.2nm,1.0s,mb4.3,baz=146,slow=12,SNR=4.0
MTLF Montolieu 45.49 305 *e*P **P 10 45 17.1 -0.2**
comp=Z,23nm,1.0s,mb4.6
MTLF Montolieu 45.49 305 *e*P **P 10 45 17.1 -0.2**
comp=Z,11nm,1.0s,mb4.6
MTLF Montolieu 45.49 305 *e*P **P 10 45 17.1 -0.2**
MTLF pmax pmax
comp=Z,11nm,1.0s,mb4.6
TCF Toulx Ste Croi 45.68 309 *e*P **P 10 45 17.9 -0.8**
comp=Z,24nm,1.0s,mb4.8
TCF Toulx Ste Croi 45.68 309 *e*P **P 10 45 17.9 -0.8**
comp=Z,12nm,1.0s,mb4.8
TCF Toulx Ste Croi 45.68 309 *e*P **P 10 45 17.9 -0.8**
TCF pmax pmax
comp=Z,12nm,1.0s,mb4.8
CAF Calviac 45.68 307 *e*P **P 10 45 18.5 -0.3**
comp=Z,14nm,0.9s,mb4.6
CAF Calviac 45.68 307 *e*P **P 10 45 18.5 -0.3**
comp=Z,6.8nm,0.9s,mb4.6
CAF Calviac 45.68 307 *e*P **P 10 45 18.5 -0.3**
CAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RJF Les Rejaudoux 46.09 307 *e*P **P 10 45 21.6 -0.4**
comp=Z,38nm,1.1s,mb4.9
RJF Les Rejaudoux 46.09 307 *e*P **P 10 45 21.6 -0.4**
comp=Z,19nm,1.1s,mb4.9
RJF Les Rejaudoux 46.09 307 *e*P **P 10 45 21.6 -0.4**
RJF pmax pmax
comp=Z,19nm,1.1s,mb4.9
LFF La Frestale 46.62 307 *e*P **P 10 45 25.8 -0.4**
comp=Z,15nm,0.8s,mb4.7
LFF La Frestale 46.62 307 *e*P **P 10 45 25.8 -0.4**
comp=Z,7.7nm,0.8s,mb4.7
LFF La Frestale 46.62 307 *e*P **P 10 45 25.8 -0.4**
LFF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
HHC Hu-ho-hao-te 47.37 59 *e*P **P 10 45 31.5 -0.5**
HHC AP pP 10 45 41.5 +6.4
HHC XP sP 10 45 45.3 +9.0
HHC AMB AMB
comp=Z,7.0nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,106nm,4.9s
HHC LR LR
comp=N,332nm,19.1s
HHC LR LR
comp=E,189nm,6.4s
HHC LR LR
comp=Z,249nm,16.2s,MS4.3
SJPF Ste Jean 48.01 304 *e*P **P 10 45 36.9 -0.1**
comp=Z,15nm,0.8s,mb4.8
SJPF Ste Jean 48.01 304 *e*P **P 10 45 36.9 -0.1**
comp=Z,7.4nm,0.8s,mb4.8
SJPF Ste Jean 48.01 304 *e*P **P 10 45 36.9 -0.1**
SJPF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ROSF Rostrenen 49.54 311 *e*P **P 10 45 47.4 -1.3**
BOD Bodaibo 50.34 36 *e*P **P 10 45 53.1 -1.7**
comp=Z,8.0nm,0.9s,mb4.8
BOD Bodaibo 50.34 36 *e*P **P 10 45 53.1 -1.7**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MDT Midelt 51.73 291 P **P 10 46 05.1 -0.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=79,slow=5.2,SNR=3.0
TORD Torodi Ar. Bea 52.19 265 P **P 10 46 08.2 -0.5**
comp=Z,3.7nm,0.6s,mb4.5,baz=66,slow=7.7,SNR=20
SSE Sheshan 56.51 69 *e*P **P 10 46 35.8 -4.3**
SSE AMB AMB
comp=Z,15nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,99nm,9.7s
YAK Yakutsk 58.59 32 *e*P **P 10 46 53.0 -1.8**
comp=Z,7.0nm,0.8s,mb4.7
YAK Yakutsk 58.59 32⇑*e*P **P 10 46 53.0 -1.8**
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TIXI Tiksi 58.80 21 *i* P **P 10 46 55.3 -1.0**
comp=Z,2.0nm,0.7s,mb4.3
TIXI Tiksi 58.80 21⇓*i*P **P 10 46 55.3 -1.0**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
DBIC Dimbokro 60.83 262 P **P 10 47 10.4 +0.2**
comp=Z,2.0nm,0.7s,mb4.4,baz=14,slow=8.3,SNR=3.2
DBIC Dimbokro 60.83 262 P **P 10 47 10.4 +0.2**
SUMG Summit 65.16 341 *e*P **P 10 47 38.6 -0.4**
comp=Z,12nm,1.0s,mb4.9
SUMG Summit 65.16 341 *e*P **P 10 47 38.6 -0.4**
comp=Z,12nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 68.52 47 *i* P **P 10 47 59.2 -1.2**
comp=Z,12nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 68.52 47⇑*i*P **P 10 47 59.2 -1.2**
YSS pmax pmax
comp=Z,12nm,1.0s,mb4.8
MJAR Matsushiro Arr 68.56 59 P **P 10 47 59.5 -1.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=277,slow=7.9,SNR=4.4
SEY Seymchan 68.78 29 *e*P **P 10 48 01.8 -0.3**
FRB Frobisher Bay 79.00 338 P **P 10 49 01.1 -0.8**
comp=Z,3.7nm,0.7s,mb4.4,baz=55,slow=6.1,SNR=8.9
FRB Frobisher Bay 79.00 338 P **P 10 49 01.1 -0.8**
INK Inuvik 84.16 3 P **P 10 49 28.1 -1.0**
comp=Z,1.6nm,1.0s,mb4.1,baz=33,slow=12,SNR=7.6
INK Inuvik 84.16 3 P **P 10 49 28.1 -1.1**
SCHQ Schefferville 84.26 331 P **P 10 49 28.9 -0.8**
comp=Z,2.3nm,0.9s,mb4.3,baz=27,slow=3.7,SNR=4.6
SCHQ Schefferville 84.26 331 P **P 10 49 28.9 -0.8**
COLA College 86.05 10⇓*i*P **P 10 49 37.0 -1.6**
ILAR Eielson Array 86.29 9 P **P 10 49 38.5 -1.3**
comp=Z,0.9nm,0.6s,mb4.2,baz=322,slow=4.7,SNR=32
WRA Warramunga Arr 89.58 113 P **P 10 49 54.4 -1.2**
comp=Z,0.5nm,0.7s,mb4.0,baz=316,slow=4.1,SNR=6.5
WRA Warramunga Arr 89.58 113 *i* P **P 10 49 57.2 +1.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 89.90 355 P **P 10 49 56.7 -0.3**
comp=Z,1.4nm,1.0s,mb4.3,baz=3.1,slow=4.9,SNR=13
YKA PP PP 10 53 26.7 -2.9
comp=Z,0.2nm,0.8s,baz=6.8,slow=8.0,SNR=4.0
YKA Yellowknife Ar 89.90 355 PP PP 10 53 26.8 -2.8
YKA Yellowknife Ar 89.90 355 P **P 10 49 56.7 -0.4**
YKA 10 53 26.8
ASAR Alice Springs 91.06 116 P **P 10 50 01.6 -0.8**
comp=Z,0.6nm,0.9s,mb3.9,baz=310,slow=4.8,SNR=5.2
ASAR Alice Springs 91.06 116 P **P 10 50 01.6 -0.8**

MOS ***25*** *10:42:30.4±2.7,2294S×17697W,h83km,mb5.3/9,Error ellipse: s-maj=13.2km s-min=11.5km az=151.2*
ISCJB ***25*** *10:42:33.2±1.6,2315S±006×17702W±007,h120km±15km, mb4.8/32,Error ellipse: s-maj=12.0km s-min=8.3km az=83.2*
NEIC ***25*** *10:42:35.2±1.6,2313S×17694W,h128km±14km,mb5.1/18, Error ellipse: s-maj=8.6km s-min=5.8km az=152.0*
HRVD ***25*** *10:42:35.2±0.8,2352S×17657W,h146km±10km, MW4.9/61,Centroid moment Tensor Solution. LP body waves: s1,c1;Mantle waves: s61,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.23±.22; $M_{\theta\theta}$1.61±.25; $M_{\phi\phi}$-1.38±.26; $M_{r\theta}$-1.19±.16; $M_{\theta\phi}$2.18±.32; $M_{\phi r}$-1.49±.17; Best double couple: M=3.19700×10^{16} NP1:ϕ_s=290.00000°,δ57.00000°,λ4.00000°. NP2: ϕ_s=198.00000°,δ87.00000°,λ147.00000°. Principal axes: T 3.5790, Plg25.0000°, Azm149.0000°; N -0.7690, Plg57.0000°, Azm13.0000°; P -2.8150, Plg20.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***25*** *10:42:35.2,23.10S×17690W,h127km,mB5.5,mb4.9*
IDC ***25*** *10:42:35.5±1.8,2304S×17696W,h127km±14km,mb4.1/16, mb1 4.4/17,mb1mx4.3/19,mbtmp4.5/17,Error ellipse: s-maj=15.2km s-min=13.1km az=137.0*

ISC 25 10:42:35.0±1.8,2315S±007×17693W±007,h125km±16km, n156,σ1$00/81,mb4.8/32,14C-6D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.14**	**188**	S	**Sn**	**10 45 11.8**	**-0.4**
	73nm,0.3s,baz=75,slow=20,SNR=2.7						
AFI	**Afiamalu**	**10.41**	**29**	P	**Pn**	**10 44 53.4**	**-7.4**
	5.4nm,0.3s,baz=233,slow=20,SNR=2.2						
AFI				S	**Sn**	**10 46 39.2**	**-16**
	10nm,0.3s,baz=87,slow=16,SNR=4.3						
AFI	**Afiamalu**	**10.41**	**29**	*e*P	**Pn**	**10 44 52.8**	**-7.9**
DZM	**Mont Dzumac**	**15.40**	**271**	P	**Pn**	**10 46 11.0**	**+5.6**
	1.1nm,0.3s,baz=77,slow=17,SNR=18						
URZ	**Urewera**	**15.90**	**197**	P	**Pn**	**10 46 10.0**	**-1.7**
	4.7nm,0.3s,baz=337,slow=3.2,SNR=26						
URZ				S	**S**	**10 48 54.2**	**-19**
	0.9nm,0.3s,baz=270,slow=20,SNR=5.9						
URZ	**Urewera**	**15.90**	**197**	*e*PN	**Pn**	**10 46 08.5**	**-3.2**
RAR	**Rarotonga**	**16.00**	**86**	P	**Pn**	**10 46 13.7**	**+0.8**
	13nm,0.3s,baz=257,slow=8.2,SNR=24						
RAR				S	**S**	**10 48 54.9**	**-21**
	7.7nm,0.3s,baz=99,slow=22,SNR=5.9						
KHZ	**Kahutara**	**20.79**	**200**	PN	**P**	**10 47 02.6**	**-3.5**
RPZ	**Rata Peaks**	**22.79**	**203**	P	**P**	**10 47 26.9**	**0.0**
	8.9nm,0.4s,mb4.5,baz=258,slow=1.1,SNR=9.2						
RPZ				S	**S**	**10 51 21.2**	**-5.0**
	3.1nm,0.7s,baz=0.0,slow=20,SNR=3.2						
FOZ	**Fox Glacier**	**23.17**	**205**	*e*PN	**P**	**10 47 28.0**	**-2.4**
HNR	**Honiara**	**26.00**	**298**	P	**P**	**10 47 56.2**	**+0.1**
	61nm,0.6s,mb5.2,baz=107,slow=0.4,SNR=9.3						
HNR	**Honiara**	**26.00**	**298**	*e*P	**P**	**10 47 57.1**	**+1.0**
	95nm,1.1s,mb5.1						
HNR	**Honiara**	**26.00**	**298**	*e*P	**P**	**10 47 57.1**	**+1.0**
HNR				pmax	pmax		
	comp=Z,95nm,1.1s,mb5.1						
ARMA	**Armidale**	**28.93**	**249**	*e*P	**P**	**10 48 25.0**	**+2.8**
CTA	**Charters Tower**	**34.31**	**268**⇑*i*P		**P**	**10 49 11.6**	**+2.3**
	comp=Z,57nm,0.6s,mb5.6						
CTA	**Charters Tower**	**34.31**	**268**⇑*i*P		**P**	**10 49 11.6**	**+2.3**
CTA				pmax	pmax		
	comp=Z,57nm,0.6s						
CTAO	**Charters Tower**	**34.31**	**268**	*e*P	**P**	**10 49 09.9**	**+0.5**
	comp=Z,63nm,0.6s,mb5.6						
CTAO	**Charters Tower**	**34.31**	**268**	*e*P	**P**	**10 49 09.9**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,63nm,0.6s,mb5.6						
PMG	**Port Moresby**	**36.96**	**286**	P	**P**	**10 49 33.4**	**+1.4**
	comp=Z,92nm,0.8s,mb5.8,baz=103,slow=5.0,SNR=47						
PMG	**Port Moresby**	**36.96**	**286**	*e*P	**P**	**10 49 33.2**	**+1.2**
	comp=Z,99nm,0.8s,mb5.8						
PMG	**Port Moresby**	**36.96**	**286**	*e*P	**P**	**10 49 33.2**	**+1.2**
PMG				pmax	pmax		
	comp=Z,99nm,0.8s						
STKA	**Stephens Creek**	**37.62**	**247**	*e*P	**P**	**10 49 37.0**	**-0.5**
	comp=Z,5.3nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**37.62**	**247**	P	**P**	**10 49 36.9**	**-0.6**
	comp=Z,5.3nm,0.6s,mb4.6,baz=102,slow=11,SNR=11						
STKA				ScP	ScP	10 55 28.8	+0.5
	comp=Z,2.2nm,0.8s,baz=321,slow=6.5,SNR=3.7						
ASAR	**Alice Springs**	**44.94**	**259**	P	**P**	**10 50 38.0**	**+0.7**
	comp=Z,20nm,0.9s,mb4.8,baz=92,slow=8.1,SNR=104						
ASAR				PcP	PcP	10 52 17.1	+0.5
	comp=Z,2.6nm,0.5s,baz=110,slow=4.0,SNR=11						
ASAR				ScP	ScP	10 55 57.5	+0.2
	comp=Z,1.0nm,0.8s,baz=110,slow=4.6,SNR=4.2						
ASAR				S	**S**	**10 57 03.9**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=104,slow=15,SNR=3.8						
ASAR	**Alice Springs**	**44.94**	**259**	P	**P**	**10 50 38.0**	**+0.7**
ASAR				PcP	PcP	10 52 17.1	+0.5
ASAR				ScP	ScP	10 55 57.5	+0.2
ASAR				S	**S**	**10 57 03.9**	**-2.1**
ASAR	**Alice Springs**	**44.94**	**259**	P	**P**	**10 50 38.1**	**+0.8**
ASAR						10 52 17.1	
ASAR				S	**S**	**10 57 03.9**	**-2.2**
WB2	**Warramunga Arr**	**45.27**	**264**	*e*P	**P**	**10 50 39.5**	**-0.4**
WB2				*e*S	**S**	**10 57 05.9**	**-4.9**
WRAB	**Tennant Creek**	**45.27**	**264**	P	**P**	**10 50 40.6**	**+0.7**
	comp=Z,320nm,0.7s,SNR=15						
WRAB	**Tennant Creek**	**45.27**	**264**	*e*P	**P**	**10 50 40.0**	**+0.1**
	comp=Z,57nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**45.27**	**264**	*e*P	**P**	**10 50 40.0**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.3						
WRA	**Warramunga Arr**	**45.28**	**264**	P	**P**	**10 50 40.1**	**+0.1**
	comp=Z,32nm,0.7s,mb5.2,baz=101,slow=8.5,SNR=272						
WRA				PcP	PcP	10 52 19.2	+1.5
	comp=Z,3.3nm,0.9s,baz=99,slow=3.5,SNR=4.0						
WRA				S	**S**	**10 57 06.1**	**-4.8**
	comp=Z,1.8nm,0.9s,baz=98,slow=14,SNR=8.4						
KAKA	**Kakadu**	**49.07**	**273**	*e*P	**P**	**10 51 09.3**	**-0.1**
	comp=Z,23nm,0.6s,mb5.3						
FORT	**Forrest**	**49.21**	**249**	*e*P	**P**	**10 51 10.0**	**-0.5**
	comp=Z,37nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**53.71**	**264**	*e*P	**P**	**10 51 44.2**	**+0.3**
	comp=Z,37nm,0.8s,mb5.5						
SBA	**Scott Base**	**55.31**	**184**	*e*P	**P**	**10 51 55.8**	**+0.3**
	comp=Z,8.0nm,0.7s,mb4.9						
SBA	**Scott Base**	**55.31**	**184**	*e*P	**P**	**10 51 55.8**	**+0.3**
SBA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						

VNDA	**Vanda**	**55.38 185**	P	**P**		**10 51 57.4**	**+1.4**
	comp=Z,2.1nm,0.8s,mb4.2,baz=338,slow=5.9,SNR=8.7						
VNDA			PcP	PcP		10 52 55.1	+0.2
	comp=Z,0.9nm,0.7s,baz=0.0,slow=8.1,SNR=3.2						
VNDA	**Vanda**	**55.38 185**	*e*P	**P**		**10 51 56.7**	**+0.7**
	comp=Z,3.6nm,1.0s,mb4.4						
VNDA	**Vanda**	**55.38 185**	*e*P	**P**		**10 51 56.7**	**+0.7**
VNDA			pmax	pmax			
	comp=Z,4.0nm,1.0s						
KLBR	**Kellerberrin**	**57.88 246**	*e*P	**P**		**10 52 13.4**	**-0.2**
	comp=Z,15nm,0.7s,mb5.1						
MBWA	**Marble Bar**	**58.28 259**	*e*P	**P**		**10 52 16.3**	**-0.2**
	comp=Z,13nm,0.6s,mb5.1						
MUN	**Mundaring**	**59.11 246**	*e*P	**P**		**10 52 22.1**	**-0.1**
QSPA	**South Pole Qui**	**66.93 180**	*e*P	**P**		**10 53 14.4**	**+0.5**
QSPA			*e*P			10 53 15.0	
MJAR	**Matsushiro Arr**	**72.92 324**	P	**P**		**10 53 50.4**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.1,baz=155,slow=5.4,SNR=7.6						
UNV	**Unalaska Valle**	**77.20 6**	*e*P	**P**		**10 54 14.0**	**-1.0**
	comp=Z,23nm,0.6s,mb5.1						
MAW	**Mawson**	**79.42 200**	P	**P**		**10 54 28.6**	**+1.4**
	comp=Z,6.1nm,0.6s,mb4.6,baz=145,slow=9.7,SNR=15						
NVAR	**Mina Array Bea**	**82.27 43**	P	**P**		**10 54 43.6**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=209,slow=7.4,SNR=3.6						
SYO	**Syowa Base**	**84.37 192**⇓	*e*P	**P**		**10 54 54.1**	**+0.9**
SYO	**Syowa Base**	**84.37 192**⇓	*es*P	pP		10 55 22.0	-3.0
CN2	**Changchun**	**85.00 322**	*e*P	**P**		**10 54 59.0**	**+2.7**
CN2			AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8						
PSI	**Prapat**	**85.72 275**	P	**P**		**10 55 00.3**	**+0.4**
	comp=Z,4.7nm,0.7s,mb4.5,baz=131,slow=10,SNR=3.7						
SLKM	**Skilak Lake**	**86.15 13**	*e*P	**P**		**10 55 01.7**	**-0.3**
PLCA	**Paso Flores**	**86.74 133**	P	**P**		**10 55 05.7**	**+0.8**
	comp=Z,6.2nm,1.1s,mb4.5,baz=194,slow=6.3,SNR=5.8						
TTA	**Tatalina**	**87.38 9**	*e*P	**P**		**10 55 07.0**	**-1.0**
	comp=Z,4.2nm,0.6s,mb4.5						
TTA	**Tatalina**	**87.38 9**	*e*P	**P**		**10 55 07.0**	**-1.0**
TTA			pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5						
DIV	**Divide**	**87.68 15**	*e*P	**P**		**10 55 09.0**	**-0.4**
	comp=Z,13nm,0.6s,mb5.1						
ANMO	**Albuquerque**	**88.29 51**	P	**P**		**10 55 13.7**	**+1.4**
	comp=Z,0.7nm,0.7s,mb3.8,baz=227,slow=6.8,SNR=3.5						
ANMO	**Albuquerque**	**88.29 51**⇑	*e*P	**P**		**10 55 14.1**	**+1.8**
SEY	**Seymchan**	**89.17 346**⇑	*e*P	**P**		**10 55 15.5**	**-0.9**
MCK	**McKinley**	**89.34 12**	*e*P	**P**		**10 55 16.8**	**-0.4**
	comp=Z,9.3nm,0.9s,mb4.8						
MCK	**McKinley**	**89.34 12**	*e*P	**P**		**10 55 16.8**	**-0.4**
MCK			pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8						
DLBC	**Dease Lake**	**90.09 23**	P	**P**		**10 55 20.8**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.3,baz=32,slow=27,SNR=5.1						
PDAR	**Pinedale Array**	**90.21 43**	P	**P**		**10 55 21.3**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=243,slow=3.0,SNR=4.3						
COLA	**College**	**90.57 12**	*e*P	**P**		**10 55 21.9**	**-1.0**
	comp=Z,10nm,0.8s,mb5.0						
COLA	**College**	**90.57 12**	*e*P	**P**		**10 55 21.9**	**-1.1**
COLA			pmax	pmax			
	comp=Z,10.0nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**90.67 12**	P	**P**		**10 55 22.4**	**-1.1**
	comp=Z,3.9nm,0.7s,mb4.7,baz=227,slow=5.3,SNR=55						
ILAR			PP	PP		10 59 02.3	+2.1
	comp=Z,1.3nm,0.9s,baz=222,slow=7.7,SNR=6.6						
ILAR			PKKPbc	PKKPbc		11 12 58.9	+10
	comp=Z,0.2nm,0.5s,baz=344,slow=3.4,SNR=5.5						
ILAR	**Eielson Array**	**90.67 12**	P	**P**		**10 55 22.4**	**-1.0**
ILAR						10 59 02.3	
DAWY	**Dawson**	**91.73 16**	*e*P	**P**		**10 55 28.4**	**+0.1**
BILL	**Bilibino**	**91.76 354**	*e*P	**P**		**10 55 27.4**	**-1.1**
BILL			pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**91.91 314**	*e*P	**P**		**10 55 34.3**	**+5.2**
HHC			AMB	AMB			
	comp=Z,5.0nm,0.3s,mb5.2						
HHC			AMB	AMB			
	comp=Z,176nm,5.6s						
INK	**Inuvik**	**96.56 15**	P	**P**		**10 55 49.3**	**-1.1**
	comp=Z,1.2nm,0.7s,mb4.4,baz=196,slow=5.2,SNR=16						
YKA	**Yellowknife Ar**	**98.49 25**	P	**P**		**10 55 58.2**	**-1.0**
	comp=Z,0.3nm,0.9s,mb3.8,baz=244,slow=3.9,SNR=6.3						
YKA			PKKPbc	PKKPbc		11 12 27.2	-1.0
	comp=Z,0.1nm,0.5s,baz=41,slow=2.3,SNR=4.3						
YKA	**Yellowknife Ar**	**98.49 25**	P	**P**		**10 55 58.2**	**-1.0**
YKA			PKKPbc	PKKPbc		11 12 27.2	-1.0
ZAL	**Zalesovo**	**113.18 320**	PKiKP	PKiKP		11 00 56.1	-1.5
	comp=Z,0.8nm,0.6s,baz=170,slow=3.8,SNR=3.8						
MKAR	**Makanchi Array**	**113.73 313**	PKiKP	PKiKP		11 00 57.4	-1.2
	comp=Z,0.6nm,0.4s,baz=132,slow=1.4,SNR=12						
BVAR	**Borovoye Array**	**121.73 319**	PKP	PKPdf		11 01 12.8	-1.2
	comp=Z,2.2nm,0.4s,baz=168,slow=1.3,SNR=15						
ZRNK	**Zerenda**	**122.57 319**	*e*PKPdf	PKPdf		11 01 14.1	-1.6
AKTK	**Aktyubinsk**	**129.69 317**	PKP	PKPdf		11 01 28.7	-0.6
AKTO	**Aktyubinsk**	**129.69 317**	PKP	PKPdf		11 01 28.7	-0.6
	comp=Z,1.9nm,0.6s,baz=52,slow=5.0,SNR=8.5						
ARCES	**ARCESS Array B**	**131.69 350**	PKP	PKPdf		11 01 32.1	-0.9
	comp=Z,4.3nm,0.7s,baz=64,slow=1.3,SNR=12						
JOF	**Joensuu**	**135.95 342**	*e*p	PKPdf		11 01 40.7	-0.3
	comp=Z,2.5nm,0.6s						
KAF	**Kangasniemi**	**137.96 344**	*e*p			11 01 35.5	
	comp=Z,0.7nm,0.4s						
FINES	**FINESS Array B**	**138.59 344**	PKhKP			11 01 34.8	
	comp=Z,0.9nm,0.6s,baz=25,slow=3.8,SNR=8.7						
FINES			PKP	PKPdf		11 01 46.4	+0.5
	comp=Z,1.5nm,0.5s,baz=116,slow=1.5,SNR=8.3						
FINES			SKPbc	SKPbc		11 05 06.8	-2.2
	comp=Z,2.3nm,1.0s,baz=48,slow=2.8,SNR=3.7						
FINES	**FINESS Array B**	**138.59 344**	PKHKP			11 01 34.8	
FINES						11 01 46.4	
NB2	**NORSAR Subarra**	**141.72 354**	PKPa			11 01 44.6	
	comp=Z,1.1nm,0.7s,baz=11,slow=3.6						
NB2	**NORSAR Subarra**	**141.72 354**	PKPab	PKPdf		11 01 44.6	-7.0
NOA	**NORSAR Array B**	**141.72 354**	PKhKP			11 01 44.8	
	comp=Z,0.9nm,0.6s,baz=330,slow=2.5,SNR=6.2						
HFS	**Hagfors**	**142.30 351**	PKhKP			11 01 46.2	
	comp=Z,1.5nm,0.4s,baz=72,slow=4.8,SNR=18						
SUW	**Suwalki**	**145.66 339**	*e*PX			11 01 58.8	
AKASG	**Malin Array Be**	**145.80 330**	PKPbc	PKPbc		11 01 58.1	-1.3
	comp=Z,13nm,0.4s,baz=42,slow=4.0,SNR=89						
AKASG			SKPbc	SKPbc		11 05 26.8	-0.2
	comp=Z,0.6nm,0.5s,baz=48,slow=2.9,SNR=4.1						
MALT	**Malatya**	**146.29 305**	*e*PKPbc	PKPbc		11 02 02.5	+1.6
LVV	**L'vov**	**148.71 334**	*e*PKiKP	PKPdf		11 02 05.5	+1.9
BR131	**Keskin Array S**	**149.32 310**	*e*PKPbc	PKPbc		11 02 09.4	+0.4
BR131			*e*PKPab	PKPab		11 02 13.8	-0.2
BRTR	**Keskin Array B**	**149.32 310**	PKPbc	PKPbc		11 02 09.2	+0.2
	comp=Z,6.2nm,0.6s,baz=138,slow=4.6,SNR=36						
KWP	**Kalwaria**	**149.39 335**	*e*PX	PKPbc		11 02 09.6	+0.4
BURAR	**Bucovina Array**	**149.85 329**	⇑P	PKPbc		11 02 12.2	+1.9
BURAR	**Bucovina Array**	**149.85 329**	⇑P	PKPbc		11 02 12.2	+2.0
ANTO	**Ankara**	**149.86 311**	*e*PKPbc	PKPbc		11 02 11.0	+0.7
ANTO			*e*PKPab	PKPab		11 02 15.9	-0.4
CFR	**Carcaliu**	**150.00 323**	⇑P	PKPbc		11 02 11.3	+0.6
KOLS	**Kolonicke sedl**	**150.12 334**	*e*PKP	PKPdf		11 02 08.6	+2.8
KOLS			*e*			11 02 12.0	
STHS	**Stebnicka Huta**	**150.13 336**	*e*PKP	PKPbc		11 02 11.9	+0.9
STHS			*e*			11 02 18.4	
TIRR	**Tirgusor**	**150.29 322**	⇑P	PKPbc		11 02 11.9	+0.5
VRI	**Vrincioaia**	**150.31 326**	⇑P	PKPbc		11 02 11.9	+0.5
HARR	**Harsova**	**150.42 323**	⇑P	PKPbc		11 02 12.5	+0.8
CRVS	**Cervenica-Dubn**	**150.47 335**	*e*PKP	PKPbc		11 02 14.8	+3.0
NIE	**Niedzica**	**150.47 337**	*e*PX	PKPbc		11 02 12.9	+1.1
KSP	**Ksiaz**	**150.50 343**	*e*PX	PKPbc		11 02 12.6	+0.7
OKC	**Ostrava-Krasne**	**150.85 340**	*e*PKP	PKPbc		11 02 13.3	+0.6
OKC			*ex*	x		11 02 20.5	
CLL	**Collm**	**150.86 347**⇓	*i*PKPbc	PKPbc		11 02 13.0	+0.3
	comp=Z,27nm,0.6s						
CLL			*e*PKPab	PKPab		11 02 19.9	-0.4
	comp=Z,31nm,0.8s						
CLL			*es*PKPab			11 02 46.9	
CLL	**Collm**	**150.86 347**⇓	*i*PKPbc	PKPbc		11 02 13.0	+0.3
	comp=Z,26nm,0.6s						
CLL			⇑*i*PKPab	PKPab		11 02 19.9	-0.4
	comp=Z,31nm,0.8s						
CLL			*i* pPKPab	pPKPab		11 02 49.1	-3.8
CLL	**Collm**	**150.86 347**⇓	*i*PKIKP	PKPbc		11 02 13.0	+0.3
CLL			*i*			11 02 19.9	
CLL			*i*			11 02 49.1	
UPC	**Upice**	**150.88 343**	*e*PKP	PKPbc		11 02 13.3	+0.5
UPC			*ex*	x		11 02 18.8	
DPC	**Dobruska-Polom**	**150.94 342**	*e*PKP	PKPbc		11 02 13.6	+0.7
DPC			*ex*	x		11 02 19.5	
MLR	**Muntele Rosu**	**150.97 326**	PKPbc	PKPbc		11 02 13.3	+0.3
	comp=Z,8.8nm,0.6s,baz=148,slow=8.0,SNR=5.3						
MLR	**Muntele Rosu**	**150.97 326**	⇓P	PKPbc		11 02 13.7	+0.7
BRG	**Berggiesshubel**	**151.06 346**	*i* PKP	PKPbc		11 02 13.7	+0.5
	comp=Z,14nm,0.6s						
BRG			*i*			11 02 20.6	
	comp=Z,6.6nm,0.7s						
MORC	**Moravsky Berou**	**151.09 340**	*e*PKPbc	PKPbc		11 02 13.8	+0.5
KECS	**Kecovo**	**151.18 336**	*e*PKP	PKPbc		11 02 14.9	+1.5
KECS			*e*			11 02 22.0	
PRU	**Pruhonice**	**151.74 344**	*e*PKP	PKPbc		11 02 15.1	+0.4
PRU			*ex*	x		11 02 20.6	
VYHS	**Vyhne**	**151.78 338**	*e*PKP	PKPbc		11 02 15.4	+0.6
VYHS			*e*			11 02 24.5	
VRAC	**Vranov**	**151.80 341**	⇑P	PKPbc		11 02 15.5	+0.6
NKC	**Novy Kostel**	**151.99 347**	*e*PKP	PKPbc		11 02 15.7	+0.4
NKC			*ex*	x		11 02 24.3	
MEM	**Membach**	**152.50 356**	PKPbc	PKPbc		11 02 16.5	+0.1
MEM			APKP			11 02 28.1	
SNF	**Seneffe**	**152.68 358**	PKPab	PKPab		11 02 25.1	-2.9
SNF			APKP			11 02 27.8	
GRA2	**Grafenberg Arr**	**152.75 348**	*e*PKP	PKPab		11 02 28.4	+0.1
KHC	**Kasperske Hory**	**152.77 345**	*e*PKP	PKPbc		11 02 17.4	+0.4
KHC			*ex*	x		11 02 23.2	
BZS	**Buzias**	**152.99 331**	⇓P	PKPbc		11 02 17.7	+0.2
GERES	**GERESS Array B**	**153.01 344**	PKPbc	PKPbc		11 02 17.4	-0.2
	comp=Z,2.5nm,0.7s,baz=26,slow=2.2,SNR=14						
GERES			PKPab	PKPab		11 02 28.7	-0.6
	comp=Z,1.3nm,0.6s,baz=35,slow=4.9,SNR=5.9						
DOU	**Dourbes**	**153.08 358**	PKPbc	PKPbc		11 02 18.0	+0.3
DOU			PKPab	PKPab		11 02 29.1	-0.5
PKSM	**Moragy**	**153.77 335**	⇑P	PKPbc		11 02 24.3	+5.1
FLN	**La Foliniere**	**154.28 5**	*e*PKP2	PKPab		11 02 34.1	-0.7
	comp=Z,16nm,0.7s						
LDF	**La Druitiere**	**154.48 5**	*e*PKP2	PKPab		11 02 34.8	-0.8
SGMF	**Saint Gilles**	**154.55 9**	*e*PKP2	PKPab		11 02 35.7	-0.2
CDF	**Champ du Feu**	**154.57 353**	*e*PKP2	PKPab		11 02 35.8	-0.2
	comp=Z,13nm,0.8s						
GRR	**Gorron**	**154.62 6**	*e*PKP2	PKPab		11 02 35.7	-0.5
	comp=Z,11nm,0.7s						
MEZF	**Maizieres J'vi**	**154.65 357**	*e*PKP2	PKPab		11 02 36.2	-0.1
	comp=Z,10nm,0.7s						
HAU	**Haudompre**	**155.06 355**	*e*PKP2	PKPab		11 02 38.8	+0.7
	comp=Z,25nm,0.9s						
HINF	**Hinteralfeld**	**155.20 354**	*e*PKP2	PKPab		11 02 38.3	-0.4
DAVOX	**Davos**	**155.79 349**	PKPbc	PKPdf		11 02 26.7	+13
	comp=Z,3.4nm,0.7s,baz=20,slow=21,SNR=4.3						
DAVOX			PKPab	PKPab		11 02 41.3	0.0
	comp=Z,3.1nm,0.5s,baz=186,slow=0.9,SNR=4.0						
LOR	**Lormes**	**155.93 359**	*e*PKP2	PKPab		11 02 41.4	-0.4
	comp=Z,5.0nm,0.6s						
SSF	**Saint Saulge**	**156.14 359**	*e*PKP2	PKPab		11 02 42.6	-0.1
	comp=Z,10nm,0.8s						
AVF	**Avril sur Loir**	**156.41 360**	*e*PKP2	PKPab		11 02 43.5	-0.4
CABF	**La Chapelle**	**156.47 355**	*e*PKP2	PKPab		11 02 44.2	+0.1
SMF	**Signal de Mont**	**156.55 359**	*e*PKP2	PKPab		11 02 44.2	-0.3
	comp=Z,31nm,1.0s						
BGF	**Bois d'Agland**	**156.65 0**	*e*PKP2	PKPab		11 02 44.5	-0.4
TCF	**Toulx Ste Croi**	**156.91 2**	*e*PKP2	PKPab		11 02 45.8	-0.2
LPL	**La Plagne**	**157.49 353**	*e*PKP2	PKPab		11 02 49.3	+0.8
LPG	**La Plagne**	**157.51 353**	*e*PKP2	PKPab		11 02 49.6	+1.0
	comp=Z,20nm,0.9s						
ORIF	**Oris-en-Rattie**	**158.16 355**	*e*PKP2	PKPab		11 02 52.0	+0.5
	comp=Z,13nm,0.7s						
MBDF	**Montbardon**	**158.26 353**	*e*PKP2	PKPab		11 02 52.1	+0.2
	comp=Z,14nm,0.9s						
VIVF	**Saint-Julien-l**	**158.31 357**	*e*PKP2	PKPab		11 02 52.2	+0.1
SBF	**Sospel**	**159.03 351**	*e*PKP2	PKPab		11 02 54.7	-0.5
	comp=Z,26nm,0.9s						
FRF	**La Foret Royal**	**159.43 353**	*e*PKP2	PKPab		11 02 56.7	-0.3
	comp=Z,16nm,0.8s						
MTLF	**Montolieu**	**159.85 2**	*e*PKP2	PKPab		11 02 59.0	+0.2
ESDC	**Sonseca Array**	**162.48 18**	PKPab	PKPab		11 03 08.6	-1.7
	comp=Z,1.3nm,0.7s,baz=335,slow=2.4,SNR=6.5						
TORD	**Torodi Ar. Bea**	**169.97 172**	PKP	PKPdf		11 02 28.5	+0.8
	comp=Z,0.5nm,0.7s,baz=348,slow=1.1,SNR=4.3						
TORD			PKPab	PKPab		11 03 44.0	+0.6
	comp=Z,4.7nm,1.0s,baz=184,slow=4.0,SNR=11						
TORD			PP	PP		11 07 43.4	+10
	comp=Z,1.0nm,1.0s,baz=151,slow=5.1,SNR=3.6						

ISCJB ***25*** *10:43:56.6±2.1, 7833N±007×79E±06, h10km, Error ellipse: s-maj=18.2km s-min=9.5km az=15.9*
BER ***25*** *10:43:58.8±2.1, 7836N×799E, h0km±31km, MD2.1, ML2.5, ML2.5(NAO)*
NAO ***25*** *10:43:59.2±4.8, 7865N×757E, h20km±37km, ML2.5*
ISC 25 10:43:57.9±2.5, 784N±01×81E±07, h9km±17km, n6, σ0§69/10, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.94**	**52**	Pn	**Pn**	**10 44 16.4**	**-0.8**
KBS				Lg		10 44 28.2	
KBS	**Kingsbay**	**0.94**	**52**	*e*P	**Pg**	**10 44 16.2**	**+0.2**
KBS				*e*S	**Sg**	**10 44 27.9**	**-0.3**
KBS				AML	AML	10 44 30.5	
	comp=Z,156nm,0.4s						
SPA0	**Spitsbergen Ar**	**1.71**	**93**	Pn	**Pn**	**10 44 28.7**	**+0.9**
	baz=274,slow=14						
SPA0				Sn	**Sn**	**10 44 50.3**	**+0.7**
HSP	**Hornsund**	**2.11**	**127**	*e*P	**Pn**	**10 44 32.6**	**-0.7**
HSP				*e*S	**Sn**	**10 44 58.8**	**-0.9**
HSP	**Hornsund**	**2.11**	**127**	P	**Pn**	**10 44 32.6**	**-0.7**
HSP				S	**Sn**	**10 44 58.8**	**-0.8**
ARA0	**ARCESS Array S**	**10.04**	**143**	Pn	**Pn**	**10 46 22.8**	**+0.7**
	baz=346,slow=14						

ISCJB ***25*** *10:47:09.5±0.6, 3648N±004×2886E±004, h5km, Error ellipse: s-maj=6.2km s-min=4.2km az=139.0*
CSEM ***25*** *10:47:09.3±0.1, 3653N×2885E, h5km, MD3.3, Error ellipse: s-maj=3.0km s-min=1.9km az=13.0*
ISK ***25*** *10:47:09.2, 3652N×2884E, h15km, MD3.1*
NEIC ***25*** *10:47:10.8, 3641N×2886E, h9km, MD3.3(ATH), After ATH.*
ATH ***25*** *10:47:10.8, 3641N×2886E, h9km±4km, MD3.3/4*
ISC 25 10:47:09.6±0.8, 3646N±004×2886E±004, h6km±7km, n17, σ1§21/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.64**	**248**	*e*PB	**Pb**	**10 47 22.8**	**-0.4**
ARG				*e*SB	**Sb**	**10 47 31.8**	**-0.7**
KSL	**Kastellorizon**	**0.66**	**118**	*e*PB	**Pb**	**10 47 23.0**	**-0.5**
YER	**Yerkesik**	**0.82**	**326**	PG	**Pg**	**10 47 24.2**	**-1.2**
ELL	**Elmali**	**0.89**	**71**	PG	**Pg**	**10 47 26.8**	**+0.1**
GOLH	**Golhisar**	**0.96**	**36**	*i* P	**Pg**	**10 47 28.1**	**+0.1**
GOLH				*i* S	**Sg**	**10 47 42.8**	**+2.4**
DAT	**Datca**	**1.07**	**285**	PG	**Pg**	**10 47 29.1**	**-1.0**
DAT				SG	**Sg**	**10 47 44.9**	**+0.9**
MLSB	**Milas**	**1.21**	**314**	*e*PN	**Pn**	**10 47 31.8**	**-1.2**
BODT	**Bodrum**	**1.38**	**296**	*e*PN	**Pn**	**10 47 34.3**	**-1.2**
AYDN	**Tasoluk**	**1.44**	**327**	*i* P	**Pn**	**10 47 35.9**	**-0.3**
AYDN				*i* S	**Sb**	**10 47 54.8**	**-0.5**
AYDN	**Tasoluk**	**1.44**	**327**	*i* P	**Pn**	**10 47 35.8**	**-0.4**
AYDN				*i* S	**Sb**	**10 47 54.8**	**-0.5**
KARP	**Karpathos**	**1.65**	**237**	*e*PB	**Pb**	**10 47 41.2**	**+0.7**
KARP				*e*SB	**Sb**	**10 48 04.0**	**+2.5**
BCK	**Bucak**	**1.71**	**54**	*e*PN	**Pn**	**10 47 38.4**	**-1.5**
KHL	**Karahalli**	**1.93**	**16**	*e*PN	**Pn**	**10 47 41.8**	**-1.2**
TKTP	**Tekketepe**	**1.96**	**36**	*i* P	**Pn**	**10 47 45.8**	**+2.4**
TKTP				*i* S	**Sn**	**10 48 13.5**	**+5.2**
MANT	**Manisa**	**2.04**	**353**	*i* P	**Pn**	**10 47 54.3**	**+10**
MANT				*i* S	**Sn**	**10 48 20.7**	**+10**
SMG	**Samos**	**2.04**	**308**	*e*PN	**Pn**	**10 47 48.0**	**+3.5**
KDAG	**Bornova**	**2.32**	**327**	*i* P	**Pn**	**10 47 48.8**	**+0.5**
KDAG				*i* S	**Sn**	**10 48 18.3**	**+1.1**

IDC ***25*** *10:48:01.9±1.8, 2743N×5573E, h0km, mb3.8/17, mb1 3.9/17, mb1mx3.8/26, mbtmp3.8/17, Error ellipse: s-maj=39.1km s-min=19.4km az=165.0*
CSEM ***25*** *10:48:04.5±0.5, 2745N×5569E, h30km±3km, ML3.5, Error ellipse: s-maj=11.4km s-min=11.2km az=33.0*
ISCJB ***25*** *10:48:05.2±1.6, 273N±02×5582E±010, h44km±9km, mb3.7/17, Error ellipse: s-maj=28.2km s-min=13.6km az=155.5*
NEIC ***25*** *10:48:05.4, 2752N×5572E, h14km, ML3.5(THR), After THR.*
THR ***25*** *10:48:05.4±0.4, 2752N×5572E, h14km±7km, ML3.5*
ISC 25 10:48:06.0±1.4, 274N±02×558E±01, h31km±10km, n30, σ0§94/32, mb3.7/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.33**	**84**	*e*PG	**Pb**	**10 48 14.0**	**0.0**
BNDS				AML	AML	10 48 32.1	
	comp=E,5μm,0.1s						
BNDS				AML	AML	10 48 36.3	
	comp=N,5μm,0.0s						
BNDS	**Bandar-Abbas**	**0.33**	**84**	Pg	**Pb**	**10 48 13.0**	**-1.0**
GHIR	**Ghir-Karzin**	**2.66**	**291**	*e*PN	**Pn**	**10 48 48.2**	**+1.6**
GHIR				AML	AML	10 49 35.5	
	comp=E,212nm,1.0s						
GHIR				AML	AML	10 49 46.3	
	comp=N,156nm,0.8s						
GHIR	**Ghir-Karzin**	**2.66**	**291**	Pn	**Pn**	**10 48 48.0**	**+1.4**
KRBR	**Kerman**	**2.74**	**18**	*e*PN	**Pn**	**10 48 49.7**	**+1.9**
KRBR				AML	AML	10 49 27.0	
	comp=N,327nm,0.5s						
KRBR				*e*SG	**Sn**	**10 49 27.5**	**+7.7**
KRBR				AML	AML	10 49 30.6	
	comp=E,271nm,0.1s						
KRBR	**Kerman**	**2.74**	**18**	Pn	**Pn**	**10 48 49.0**	**+1.2**
KRBR				Sg	**Sn**	**10 49 27.0**	**+7.2**
GNI	**Garni**	**15.70**	**327**	Pn	**Pn**	**10 51 50.0**	**+5.2**
	comp=E,0.7nm,0.3s,baz=63,slow=6.8,SNR=3.9						
GNI	**Garni**	**15.70**	**327**	Pn	**Pn**	**10 51 50.0**	**+5.2**
BRTR	**Keskin Array B**	**22.14**	**309**	P	**Pn**	**10 52 58.7**	**-0.3**
	comp=E,1.7nm,0.6s,mb3.6,baz=127,slow=14,SNR=10.0						
AKTK	**Aktyubinsk**	**23.10**	**4**	P	**P**	**10 53 08.9**	**-0.2**
AKTK	**Aktyubinsk**	**23.10**	**4**	P	**P**	**10 53 08.9**	**-0.3**
AKTO	**Aktyubinsk**	**23.10**	**4**	P	**P**	**10 53 08.9**	**-0.3**
	comp=E,2.4nm,0.6s,mb3.8,baz=190,slow=14,SNR=6.2						
BVAR	**Borovoye Array**	**27.84**	**19**	P	**P**	**10 53 52.5**	**0.0**
	comp=E,1.6nm,0.7s,mb3.8,baz=208,slow=9.2,SNR=12						
BVAR	**Borovoye Array**	**27.84**	**19**	P	**P**	**10 53 52.5**	**0.0**
MKAR	**Makanchi Array**	**28.46**	**40**	P	**P**	**10 53 58.6**	**+0.5**
	comp=E,0.2nm,0.4s,mb3.1,baz=218,slow=8.6,SNR=5.2						
AKASG	**Malin Array Be**	**30.83**	**326**	P	**P**	**10 54 17.7**	**-1.4**
	comp=E,1.3nm,0.5s,mb4.0,baz=132,slow=8.6,SNR=7.2						
AKASG	**Malin Array Be**	**30.83**	**326**	P	**P**	**10 54 17.7**	**-1.4**
ZAL	**Zalesovo**	**34.04**	**31**	P	**P**	**10 54 46.9**	**-0.3**
	comp=E,2.6nm,0.5s,mb4.4,baz=219,slow=4.6,SNR=6.7						
ZAL	**Zalesovo**	**34.04**	**31**	P	**P**	**10 54 46.8**	**-0.4**
GERES	**GERESS Array B**	**38.81**	**315**	P	**P**	**10 55 29.5**	**+1.6**
	comp=E,0.4nm,0.5s,mb3.4,baz=107,slow=8.5,SNR=5.8						
FINES	**FINESS Array B**	**39.46**	**338**	P	**P**	**10 55 33.8**	**+0.5**
	comp=E,0.5nm,0.5s,mb3.5,baz=133,slow=13,SNR=8.2						
DAVOX	**Davos**	**40.77**	**311**	P	**P**	**10 55 43.6**	**-0.6**
	comp=E,2.2nm,0.6s,mb4.0,baz=169,slow=12,SNR=4.1						
HFS	**Hagfors**	**43.44**	**331**	P	**P**	**10 56 04.6**	**-1.4**
	comp=E,0.7nm,0.4s,mb3.7,baz=132,slow=10,SNR=7.3						
SONM	**Songino Array**	**44.09**	**48**	P	**P**	**10 56 12.4**	**+1.2**
	comp=E,0.1nm,0.3s,mb3.0,baz=262,slow=8.4,SNR=3.4						
NOA	**NORSAR

IMEH Sn **Sn** **11 04 42.8 +0.5**
IBAF Bafgh 4.02 359 *e*Pn **Pn** **11 03 59.5 +1.9**
IBAF *e*Lg 11 05 05.6
IBAF *e*Lg 11 05 07.6
IBAF Bafgh 4.02 359 *e*Pn **Pn** **11 03 59.4 +1.8**
IBAF Bafgh 4.02 359 Pn **Pn** **11 03 59.4 +1.8**
IBAF Lg 11 05 05.5
IBAF Lg 11 05 07.5
HOQ Hoqain 4.23 159 ⇓P **Pn** **11 04 00.7 +0.2**
SNR=15
ARQ Araqi 4.27 169 ⇓P **Pn** **11 04 02.9 +1.8**
SNR=28
BIDO Bidbid 4.60 150 ⇑P **Pn** **11 04 05.7 +0.2**
SNR=38
ISAD Sadrabad 4.67 339 *e*Pn **Pn** **11 04 09.8 +3.4**
ISAD *e*Sn **Sn** **11 04 59.8 -0.8**
ISAD Sadrabad 4.67 339 *e*Pn **Pn** **11 04 05.8 -0.6**
ISAD Sn **Sn** **11 04 59.7 -0.9**
ISAD Sadrabad 4.67 339 Pn **Pn** **11 04 09.8 +3.4**
ISAD Sn **Sn** **11 04 59.7 -0.9**
ICHK Chekchek 4.79 347 *e*Pn **Pn** **11 04 08.2 0.0**
ZHSF Zahedan 4.95 64 *e*Pn **Pn** **11 04 12.1 +1.8**
ZHSF Zahedan 4.95 64 *i*P **Pn** **11 04 12.0 +1.7**
BSY Bisya 4.99 163 ⇑P **Pn** **11 04 12.7 +1.8**
SNR=19
BSYO Bisya 5.01 163 P **Pn** **11 04 12.7 +1.5**
SNR=19
IGAR Garneh 5.55 328 *e*Pn **Pn** **11 04 24.2 +5.6**
IGAR *e*Sn **Sn** **11 05 24.2 +1.8**
IGAR *e*Sn **Sn** **11 05 24.8 +2.4**
JMDO Jabal Madar 5.62 156 ⇓P **Pn** **11 04 21.1 +1.6**
SNR=22
WBK Wadi Bani Khal 5.77 148 ⇑P **Pn** **11 04 21.5 -0.1**
SNR=11
NASN Na'in 5.78 335 *i*P **Pn** **11 04 23.0 +1.3**
IZEF Zefreh 6.05 332 *e*Pn **Pn** **11 04 26.5 +1.1**
IZEF *e*Sn **Sn** **11 05 32.1 -2.5**
IZEF Zefreh 6.05 332 *e*Pn **Pn** **11 04 26.3 +0.9**
IZEF *e*Sn **Sn** **11 05 32.1 -2.5**
IZEF Zefreh 6.05 332 Pn **Pn** **11 04 26.5 +1.1**
IZEF Sn **Sn** **11 05 32.0 -2.6**
IPIR Pirpir 6.56 322 *e*Pn **Pn** **11 04 33.7 +1.2**
IPIR *e*Sn **Sn** **11 05 43.7 -3.7**
IPIR *e*Sn **Sn** **11 05 45.0 -2.4**
IPIR Pirpir 6.56 322 *e*Pn **Pn** **11 04 33.1 +0.6**
IPIR *e*Sn **Sn** **11 05 45.0 -2.4**
IKLH Kalahroud 6.73 330 *e*Pn **Pn** **11 04 37.8 +3.0**
IKLH Kalahroud 6.73 330 *e*Pn **Pn** **11 04 35.8 +1.0**
QRN Al-Qurain 6.93 282 *e*P **Pn** **11 04 38.0 +0.5**
QRN AML AML 11 05 57.0
comp=Z,172nm,0.4s
KBD Kabd 7.19 285 *e*P **Pn** **11 04 42.2 +1.0**
UMR Umm Al-Rimmam 7.26 288 *e*P **Pn** **11 04 42.8 +0.8**
UMR AML AML 11 06 11.2
comp=Z,113nm,0.4s
RDF Al-Radifah 7.28 283 *e*P **Pn** **11 04 42.2 -0.1**
NAY Al-Naaiem 7.59 285 *e*P **Pn** **11 04 47.3 +0.6**
MIB Mutribah 7.64 289 *e*P **Pn** **11 04 47.8 +0.6**
IANJ Anjiloo 8.03 350 *e*Pn **Pn** **11 04 54.9 +2.3**
IVRN Varamin 8.14 337 *e*Pn **Pn** **11 04 56.7 +2.6**
IVRN *e*Sn **Sn** **11 06 22.2 -4.0**
IVRN Varamin 8.14 337 *e*Pn **Pn** **11 04 56.1 +2.0**
IVRN Sn **Sn** **11 06 22.1 -4.1**
IVRN Varamin 8.14 337 Pn **Pn** **11 04 56.6 +2.5**
IVRN Sn **Sn** **11 06 22.1 -4.1**
IFIR Firoozkooh 8.43 344 *e*Pn **Pn** **11 05 00.0 +1.9**
IFIR *e*Sn **Sn** **11 06 29.1 -4.2**
ISHM Shahmirzad 8.47 347 *e*Pn **Pn** **11 05 02.1 +3.5**
ISHM *e*Sn **Sn** **11 06 30.7 -3.5**
ISHM Shahmirzad 8.47 347 Sn **Sn** **11 06 30.6 -3.6**
ISHM Shahmirzad 8.47 347 Pn **Pn** **11 05 02.0 +3.4**
ISHM Sn **Sn** **11 06 30.6 -3.6**
IKIA Kiasar 8.79 350 *e*Pn **Pn** **11 05 05.2 +2.2**
IAFJ Afjeh 8.93 339 *e*Pn **Pn** **11 05 07.2 +2.3**
IAFJ Afjeh 8.93 339 *e*Pn **Pn** **11 05 06.6 +1.7**
IMHD Mahdasht 9.15 334 *e*Pn **Pn** **11 05 09.0 +1.0**
IRAZ Razeghan 9.22 329 *e*Sn **Sn** **11 06 47.0 -5.7**
IRAZ *e*Sn **Sn** **11 06 48.3 -4.4**
IRAZ Razeghan 9.22 329 *e*Sn **Sn** **11 06 48.3 -4.4**
SHAO Shalim 9.49 180 ⇓P **Pn** **11 05 13.5 +0.8**
SNR=74
WHFO Wadi Hawf 9.75 191 ⇑P **Pn** **11 05 15.7 -0.5**
SNR=116
WHFO ⇑S **Sn** **11 06 55.9 -10**
RBK Rabkut 10.09 188 ⇑P **Pn** **11 05 20.0 -0.9**
SNR=49
RBK ⇑S **Sn** **11 07 06.5 -7.7**
ABTO Aybut 10.38 193 ⇓P **Pn** **11 05 24.0 -0.9**
SNR=129
ABKT Ailbek 10.55 11 Pn **Pn** **11 05 30.6 +3.4**
comp=Z,213nm,1.2s,SNR=7.1
IDHR Dehrash 10.66 314 *e*Pn **Pn** **11 05 28.5 -0.2**
IDHR *e*Sn **Sn** **11 07 20.6 -7.4**
IDHR *e*Sn **Sn** **11 07 21.5 -6.5**
IDHR Dehrash 10.66 314 Pn **Pn** **11 05 28.4 -0.3**
IDHR Sn **Sn** **11 07 20.6 -7.4**
IDHR Sn **Sn** **11 07 21.4 -6.6**
BHD Baghdad 11.27 303 *ex* x 11 05 33.0
BHD *i* x x 11 07 41.0
BHD *i* x x 11 09 21.0
BHD *i* x x 11 09 45.0
BHD *i* x x 11 13 03.0
BHJ Bhuj 13.36 106 *e*P **Pn** **11 06 06.0 +0.4**
JASL Jaisalmer 13.59 89 *e*P **Pn** **11 06 04.6 -4.0**
MSL Mosul 13.76 312 *ex* x 11 06 09.0
MSL *ex* x 11 08 38.0
TVAN Van 14.99 320 *i*P **Pn** **11 06 26.7 -1.1**
GNI Garni 15.47 327 P **Pn** **11 06 38.8 +4.7**
comp=Z,2.6nm,0.3s,baz=277,slow=1.6,SNR=16
GNI LR LR 11 13 09.5
comp=Z,1μm,18.0s,baz=134,slow=39
GNI Garni 15.47 327 *e*P **Pn** **11 06 39.0 +4.8**
comp=Z,145nm,1.0s
GNI Garni 15.47 327⇑*e*P **Pn** **11 06 38.0 +3.8**
GNI pmax pmax
comp=Z,59nm,1.0s
MARD Mardin 15.87 312 *i*P **Pn** **11 06 43.5 +4.1**
DIGO Kars 16.35 325 *i*P **Pn** **11 06 54.1 +8.6**
ARTV Artvin 17.66 324 *i*P **Pn** **11 07 06.5 +4.5**
KHET Khetri 17.84 84 *e*P **Pn** **11 07 02.8 -1.4**
KHET AMb AMB 11 07 09.7
comp=Z,55nm,0.9s
ZEI Tsey 17.93 331 *i*P **Pn** **11 07 06.5 +1.1**
MALT Malatya 17.97 311 *e*P **Pn** **11 07 06.2 +0.3**
comp=Z,34nm,1.0s
MALT Malatya 17.97 311 *e*P **Pn** **11 07 06.2 +0.3**
comp=Z,34nm,1.0s
MALT Malatya 17.97 311 *e*P **Pn** **11 07 06.2 +0.3**
MALT pmax pmax
comp=Z,34nm,1.0s
GZT Gaziantep 18.10 307 *i*P **Pn** **11 07 10.9 +3.5**
PONG Pong 18.16 71 *e*P **Pn** **11 07 09.0 +0.9**
PONG *ex* x 11 08 13.0
COBT Iskenderun 18.69 303 *i*P **Pn** **11 07 15.7 +1.1**
SDNR Sundarnagar 18.96 73 *ex* x 11 07 07.0
SDNR *ex* x 11 07 33.5
AYAN Aya Nagar 18.98 82 *e*P **Pn** **11 07 18.9 +0.8**
AYAN AMb AMB 11 07 22.4
comp=Z,52nm,0.9s
POO Poona 18.99 114 *e*P **Pn** **11 07 19.0 +0.8**
NDI New Delhi 19.06 82 *e*P **Pn** **11 07 17.0 -2.1**
KIV Kislovodsk 19.41 331 Pn **Pn** **11 07 25.9 +2.5**
comp=Z,509nm,0.9s,SNR=5.5
KIV Kislovodsk 19.41 331 *i*P **Pn** **11 07 24.8 +1.4**
comp=Z,48nm,1.0s
KIV Kislovodsk 19.41 331 *e*P **Pn** **11 07 24.9 +1.6**
comp=Z,95nm,1.0s
KIV Kislovodsk 19.41 331*d*P **Pn** **11 07 24.8 +1.4**
KIV pmax pmax
comp=Z,48nm,1.0s
GRSN GIRESUNGRSN 19.56 317 *i*P **Pn** **11 07 26.9 +1.9**
KK31 Karatay Array 19.64 34 *i*P **Pn** **11 07 25.3 -0.8**
comp=Z,31nm,0.9s
KK31 Karatay Array 19.64 34 *i*P **Pn** **11 07 25.3 -0.8**
KK31 pmax pmax
comp=Z,31nm,0.9s
KKAR Karatay Array 19.64 34 *i*P **Pn** **11 07 25.3 -0.8**
comp=Z,28nm,0.9s
KKAR Karatay Array 19.64 34 *i*P **Pn** **11 07 25.3 -0.8**
KKAR pmax pmax
comp=Z,28nm,0.9s
ATD Arta Tunnel 19.96 220 P **Pn** **11 07 29.7 -0.2**
comp=Z,1.2nm,0.3s,baz=44,slow=7.4,SNR=12

ATD LR LR 11 15 28.2
comp=Z,780nm,20.2s,baz=26,slow=37
KLP Kalpa 20.05 73 *e*P **P** **11 07 30.5 +1.4**
KLP AMb AMB 11 07 33.5
comp=Z,38nm,0.5s
GOF Gofitskoye 20.17 333 *e*P **P** **11 07 32.9 +2.5**
comp=Z,200nm,1.3s
GOF Gofitskoye 20.17 333 *e*P **P** **11 07 32.9 +2.5**
GOF pmax pmax
comp=Z,200nm,1.3s
SOC Sochi 20.53 325 *e*P **P** **11 07 35.7 +1.4**
comp=Z,87nm,1.0s
SOC Sochi 20.53 325 *e*P **P** **11 07 35.7 +1.4**
SOC *e**PP 11 07 46.8
SOC *e* 11 07 57.3
SOC *e*S **S** **11 11 21.6 -2.3**
SOC *e*SS 11 11 53.5
SOC pmax pmax
comp=Z,87nm,1.0s
SOC MLR MLR
comp=Z,748nm,22.0s,MS4.0
KSH Kashi 20.67 50 P **P** **11 07 36.3 +0.5**
KSH AP 11 07 40.8
KSH XP sP 11 07 43.5 +3.3
KSH PP 11 07 57.8
KSH PPP 11 08 06.5
KSH S **S** **11 11 19.8 -6.9**
KSH AMB AMB
comp=Z,43nm,0.6s
KSH AMB AMB
comp=Z,154nm,3.7s
KSH LR LR
comp=N,1μm,10.4s
KSH LR LR
comp=E,1μm,6.5s
KSH LR LR
comp=Z,588nm,9.6s
AML Almayashu 20.69 41 P **P** **11 07 36.6 +0.5**
SNR=30
EKS2 Erkin-Say 21.08 40 P **P** **11 07 41.4 +1.1**
SNR=15
UCH Uchtor 21.23 42 P **P** **11 07 42.5 +0.6**
SNR=12
CDAG Cicekdag 21.37 310 *i*P **P** **11 07 46.1 +2.7**
AAK Ala-Archa 21.47 41 P **P** **11 07 45.7 +1.1**
SNR=11
KZA Kyzart 21.58 43 P **P** **11 07 50.5 +4.8**
SNR=27
FRU Bishkek 21.66 40 *e*P **P** **11 07 50.0 +3.4**
FRU *i* 11 08 05.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb4.7
KBK Karagaybulak 21.75 41 P **P** **11 07 48.7 +1.2**
SNR=7.6
USP Ospenovka 21.87 39 P **P** **11 07 54.2 +5.4**
SNR=5.8
BR131 Keskin Array S 21.92 309 *e*P **P** **11 07 50.1 +0.8**
comp=Z,32nm,0.9s,mb4.8
BR131 Keskin Array S 21.92 309 *e*P **P** **11 07 50.1 +0.8**
comp=Z,32nm,0.9s,mb4.8
BRTR Keskin Array B 21.92 309 P **P** **11 07 50.0 +0.7**
comp=Z,24nm,0.8s,mb4.7,baz=129,slow=13,SNR=37
BRTR Keskin Array B 21.92 309 P **P** **11 07 50.0 +0.7**
AB31 Akbulak array 21.92 8 *i*P **P** **11 07 49.0 -0.3**
AB31 pmax pmax
comp=Z,87nm,1.0s,mb5.1
BOYT Boyabat 21.92 314 *i*P **P** **11 07 53.7 +4.4**
ULHL Ulahol 22.28 44 P **P** **11 07 54.7 +1.6**
SNR=9.4
TKM2 Tokmak 2 22.29 41 *i*P **P** **11 07 53.5 +0.2**
TKM2 pmax pmax
comp=Z,22nm,1.0s,mb4.5
ELDT Eldivan 22.41 311 *i*P **P** **11 07 56.0 +1.3**
KDHN Kadinhani 22.50 305 *i*P **P** **11 08 01.5 +6.0**
ANTO Ankara 22.56 309 *e*P **P** **11 07 58.5 +2.3**
comp=Z,95nm,1.2s,mb5.1
ANTO Ankara 22.56 309 *e*P **P** **11 07 58.5 +2.3**
ANTO pmax pmax
comp=Z,95nm,1.2s,mb5.1
AKTK Aktyubinsk 22.92 4 P **P** **11 08 00.8 +0.8**
AKTK Aktyubinsk 22.92 4 P **P** **11 08 00.8 +0.8**
AKTK LR LR 11 18 45.4
AKTO Aktyubinsk 22.92 4 P **P** **11 08 00.8 +0.8**
comp=Z,28nm,0.8s,mb4.8,baz=198,slow=9.6,SNR=43
AKTO LR LR 11 18 45.4
comp=Z,933nm,19.8s,MS4.2,baz=0.0,slow=41
SGKT Sivrigoynuk 23.38 310 *i*P **P** **11 08 06.1 +1.2**
HYB Hyderabad 23.41 111 ⇓*i*P **P** **11 08 05.0 -0.1**
comp=Z,50nm,1.0s,mb4.9
HYB Hyderabad 23.41 111⇓*e*P **P** **11 08 05.0 -0.1**
comp=Z,50nm,1.0s,mb4.9
HYB Hyderabad 23.41 111⇓*e*P **P** **11 08 05.0 -0.1**
HYB pmax pmax
comp=Z,50nm,1.0s,mb4.9
TKTP Tekketepe 23.65 303 *i*P **P** **11 08 08.1 +0.5**
HENT Hendek 24.28 309 *i*P **P** **11 08 13.9 +0.7**
SIM Simferopol' 24.43 321 *e*P **P** **11 08 13.5 -1.2**
SIM pmax pmax
comp=Z,35nm,1.0s,mb4.7
KOLN Koldanda 24.74 83 *e*P **P** **11 08 18.9 +1.4**
comp=Z,61nm,1.0s,mb5.1
DANN Dangsing 24.82 82 *e*P **P** **11 08 20.3 +2.1**
ULDT Uludag 25.24 307 *i*P **P** **11 08 23.4 +1.4**
GKN Gorkha 25.63 82 *e*P **P** **11 08 26.5 +1.0**
comp=Z,80nm,0.9s,mb5.3
VRHR Novokhopersk 25.80 339 *e*P **P** **11 08 27.7 +0.6**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb4.6
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
DMN Daman 26.08 83 *e*P **P** **11 08 30.9 +1.2**
comp=E,68nm,0.9s,mb5.2
KKN Kakani 26.21 83 *e*P **P** **11 08 32.1 +1.2**
comp=E,113nm,0.9s,mb5.4
KKN Kakani 26.21 83 *e*P **P** **11 08 32.1 +1.2**
KKN pmax pmax
comp=Z,57nm,0.9s,mb5.1
PKI Pulchoki 26.35 83 *e*P **P** **11 08 33.4 +1.3**
comp=Z,126nm,0.9s,mb5.4
PKI Pulchoki 26.35 83 *e*P **P** **11 08 33.4 +1.3**
PKI pmax pmax
comp=Z,63nm,0.9s,mb5.2
VORD Divnogorie 26.47 336 *e*P **P** **11 08 34.5 +1.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
VORD pmax pmax
comp=E,30nm,0.8s
GUN Gumba 26.73 82 *e*P **P** **11 08 37.0 +1.5**
comp=E,264nm,1.1s,mb5.7
JIRN Jiri 27.03 83 *e*P **P** **11 08 39.4 +1.2**
comp=E,112nm,0.9s,mb5.4
ZRNK Zerenda 27.25 18 *e*P **P** **11 08 39.9 -0.2**
comp=E,20nm,1.1s,mb4.6
ZRNK Zerenda 27.25 18 *e*P **P** **11 08 39.9 -0.3**
comp=E,20nm,1.1s,mb4.6
ZRNK Zerenda 27.25 18 *e*P **P** **11 08 39.9 -0.2**
ZRNK pmax pmax
comp=Z,20nm,1.1s,mb4.6
IDI Anoyia 27.28 294 P **P** **11 08 41.7 +1.2**
comp=Z,7.8nm,0.4s,mb4.6,baz=134,slow=5.3,SNR=7.6
BOK Bokaro 27.47 91 *e*P **P** **11 08 44.3 +2.1**
BOK AMb AMB 11 08 45.1
comp=Z,24nm,1.1s,mb4.7
TIRR Tirgusor 27.57 315 ⇓P **P** **11 08 43.3 +0.3**
TIRR Tirgusor 27.57 315 *e*P **P** **11 08 43.4 +0.4**
VOSK Vostochnaya 27.62 20 P **P** **11 08 42.8 -0.7**
VOSK pmax pmax
comp=Z,19nm,1.0s,mb4.7
BRVK Borovoye 27.70 19 P **P** **11 08 44.8 +0.6**
comp=Z,117nm,0.9s,mb5.5,SNR=13
BRVK Borovoye 27.70 19 *e*P **P** **11 08 43.8 -0.4**
comp=Z,31nm,1.4s,mb4.7
BRVK Borovoye 27.70 19 *e*P **P** **11 08 43.8 -0.4**
comp=Z,31nm,1.4s,mb4.7
BRVK Borovoye 27.70 19 *e*P **P** **11 08 43.8 -0.4**
BRVK pmax pmax
comp=Z,31nm,1.4s,mb4.8
BVA0 Borovoye Array 27.70 19 P **P** **11 08 43.8 -0.4**
BVA0 pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
BVAR Borovoye Array 27.70 19 P **P** **11 08 43.8 -0.4**
comp=Z,16nm,0.7s,mb4.8,baz=203,slow=7.9,SNR=40
BVAR PcP PcP 11 12 00.0 -1.0
comp=Z,1.4nm,0.5s,baz=220,slow=4.2,SNR=2.5

BVAR Borovoye Array 27.70 19 PcP PcP 11 12 00.0 -1.0
HARR Harsova 27.98 315 ⇑P **P** **11 08 47.3 +0.6**
CFR Carcaliu 28.09 316 ⇓P **P** **11 08 47.4 -0.3**
CHKZ Chkalovo 28.34 19 *e*P **P** **11 08 50.3 +0.4**
comp=Z,14nm,1.2s,mb4.5
CHKZ Chkalovo 28.34 19 *e*P **P** **11 08 50.3 +0.4**
comp=Z,14nm,1.2s,mb4.5
CHKZ Chkalovo 28.34 19 *e*P **P** **11 08 50.3 +0.4**
CHKZ pmax pmax
comp=Z,14nm,1.2s,mb4.5
MK31 Makanchi Array 28.41 40 *i*P **P** **11 08 50.5 0.0**
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
MKAR Makanchi Array 28.41 40 P **P** **11 08 50.4 -0.1**
comp=Z,3.6nm,0.7s,mb4.1,baz=224,slow=9.1,SNR=16
MKAR Makanchi Array 28.41 40 *i*P **P** **11 08 52.2 +1.7**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 28.93 3⇑*i*P **P** **11 08 54.6 -0.6**
ARU *e* 11 09 46.1
ARU *e*PPP 11 09 54.7
ARU *e*S **S** **11 13 44.0 -1.7**
ARU *e*SS SS 11 15 11.7 -36
ARU *e*SSS 11 15 32.2
ARU pmax pmax
comp=Z,28nm,1.0s,mb5.0
KURK Kurchatov 28.97 31 P **P** **11 08 56.4 +0.9**
comp=Z,57nm,1.2s,mb5.2,SNR=6.2
KURK Kurchatov 28.97 31 *e*P **P** **11 08 55.8 +0.3**
comp=Z,9.2nm,0.9s,mb4.5
KURK Kurchatov 28.97 31 *e*P **P** **11 08 55.8 +0.2**
comp=Z,9.2nm,0.9s,mb4.5
KURK Kurchatov 28.97 31 *e*P **P** **11 08 55.8 +0.3**
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
VRI Vrincioaia 29.29 316 ⇓P **P** **11 09 04.1 +5.7**
SVE Sverdlovsk 29.47 6 *e*P **P** **11 09 00.0 0.0**
MLR Muntele Rosu 29.60 315 P **P** **11 09 02.4 +1.3**
comp=Z,34nm,0.9s,mb5.0,baz=74,slow=2.5,SNR=15
MLR LR LR 11 23 03.4
comp=Z,350nm,18.3s,MS4.0,baz=352,slow=41
MLR Muntele Rosu 29.60 315 ⇓P **P** **11 09 04.6 +3.5**
VOIR 30.14 314 ⇓P **P** **11 09 06.9 +1.0**
VAY Valandovo 30.34 306 *e*P **P** **11 09 06.6 -1.1**
WMQ Urumqi 30.43 49 *e*P **P** **11 09 08.5 0.0**
WMQ PP PP 11 10 08.0 -9.1
WMQ PPP 11 10 22.5
WMQ PCP PcP 11 12 08.3 +0.4
WMQ *e*S **S** **11 14 07.5 -1.8**
WMQ AMB AMB
comp=Z,25nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,175nm,4.6s
WMQ LR LR
comp=N,2μm,24.0s,MS4.8
WMQ LR LR
comp=E,2μm,26.0s,MS4.8
WMQ LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 30.60 326 P **P** **11 09 09.4 -0.6**
comp=Z,11nm,0.5s,mb5.0,baz=134,slow=8.4,SNR=41
AKASG PcP PcP 11 12 07.8 -0.5
comp=Z,1.6nm,0.6s,baz=88,slow=2.1,SNR=3.3
AKASG Malin Array Be 30.60 326 PcP PcP 11 12 07.8 -0.6
AKASG Malin Array Be 30.60 326 P **P** **11 09 09.4 -0.6**
AKASG PcP PcP 11 12 07.8 -0.5
OBN Obninsk 30.83 338 *e*P **P** **11 09 12.3 +0.3**
comp=Z,17nm,0.6s,mb5.1
OBN Obninsk 30.83 338 *e*P **P** **11 09 12.3 +0.3**
comp=Z,17nm,0.6s,mb5.1
OBN Obninsk 30.83 338*d*P **P** **11 09 12.4 +0.4**
OBN *i* 11 09 18.3
OBN pmax pmax
comp=Z,22nm,0.8s,mb5.0
OBN MLR MLR
comp=Z,200nm,16.0s,MS3.9
MOS Moscow 31.02 340 *e*P **P** **11 09 12.6 -1.1**
MOS *e* 11 10 34.1
BURAR Bucovina Array 31.04 318 ⇓P **P** **11 09 14.5 +0.6**
BURAR Bucovina Array 31.04 318 ⇓P **P** **11 09 14.5 +0.6**
OHR Ohrid 31.58 304 *e*P **P** **11 09 17.2 -1.4**
SOKR Solikamsk 32.01 1⇓*i*P **P** **11 09 23.4 +1.0**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.2
SOKR MLR MLR
comp=Z,840nm,27.0s,MS4.3
DRGR 32.19 315 ⇑P **P** **11 09 24.8 +0.8**
BZS Buzias 32.42 313 ⇓P **P** **11 09 26.4 +0.4**
KOLS Kolonicke sedl 33.40 319 *e*P **P** **11 09 36.0 +1.4**
KOLS *e* pP 11 09 38.7 +0.9
KWP Kalwaria 33.48 320 *e*P **P** **11 09 36.3 +1.0**
KMBO Kilima Mbogo 33.56 215 P **P** **11 09 36.0 +0.1**
comp=Z,6.3nm,1.0s,mb4.5,baz=42,slow=13,SNR=8.4
KMBO LR LR 11 23 19.6
comp=Z,165nm,19.7s,MS3.8,baz=92,slow=36
KMBO Kilima Mbogo 33.56 215 *e*P **P** **11 09 38.1 +2.1**
comp=Z,7.1nm,1.0s,mb4.5
KMBO Kilima Mbogo 33.56 215 *e*P **P** **11 09 38.1 +2.1**
comp=Z,7.1nm,1.0s,mb4.5
KMBO Kilima Mbogo 33.56 215 *e*P **P** **11 09 38.1 +2.1**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
NVS Novosibirsk 33.84 29 *e*P **P** **11 09 36.7 -1.7**
NVS *e*S **S** **11 15 00.3 -2.2**
NVS pmax pmax
comp=N,38nm,1.6s
NVS pmax pmax
comp=E,13nm,1.6s
NVS pmax pmax
comp=Z,41nm,1.6s,mb5.1
NVS pmax pmax
comp=E,13nm,1.6s
NVS smax
comp=N,31nm,1.4s
NVS smax
comp=E,18nm,1.3s
CRVS Cervenica-Dubn 33.86 318 *e*P **P** **11 09 40.9 +2.3**
ZAL Zalesovo 33.94 31 P **P** **11 09 38.4 -0.9**
comp=E,9.7nm,0.5s,mb5.0,baz=237,slow=9.2,SNR=42
ZAL LR LR 11 26 39.6
comp=E,411nm,18.9s,MS4.2,baz=334,slow=42
STHS Stebnicka Huta 34.22 319 *e*P **P** **11 09 43.4 +1.7**
KECS Kecovo 34.27 317 *i*P **P** **11 09 43.0 +0.9**
KECS *e* pP 11 09 46.2 +0.9
KECS *e* 11 10 43.2
PSZ Piszkesteto 34.40 316⇓*e* **P** **11 09 43.6 +0.4**
PKSM Moragy 34.57 313⇓*i*P **P** **11 09 45.0 +0.3**
BUD Budapest 34.77 315 *e* **P** **11 09 50.0 +3.5**
RHK1 Bakonya 34.90 312⇑*e*P **P** **11 09 36.2 -11**
KLMR Klimovskoe 35.04 346*d*P **P** **11 09 48.3 -0.5**
KLMR pmax pmax
comp=Z,80nm,1.5s,mb5.4
PKSG 35.14 314⇑*e*P **P** **11 09 50.8 +1.1**
SRO2 Moca 35.27 315 *e*P **P** **11 09 51.6 +0.8**
VYHS Vyhne 35.27 316 *i*P **P** **11 09 50.8 0.0**
VYHS *e* 11 10 06.4
LIKS Likavka 35.33 317 *e*P **P** **11 09 54.1 +2.8**
SRO Srobarova 35.34 315 *e*P **P** **11 09 52.1 +0.7**
SRO *e* 11 10 55.7
SRO1 Iza 35.37 315 *e*P **P** **11 09 53.0 +1.3**
OJC Ojcow 35.42 320 *e*P **P** **11 09 52.0 -0.1**
SUW Suwalki 35.55 327 *e*P **P** **11 09 53.6 +0.4**
SMOL Smolenice 36.15 316 *e*P **P** **11 09 58.9 +0.6**
SMOL *e* 11 10 08.7
OKC Ostrava-Krasne 36.22 318 *e*P **P** **11 09 58.0 -0.9**
ZST Bratislava 36.24 315 *e*P **P** **11 09 59.1 0.0**
ZST *e* 11 11 06.7
MORC Moravsky Berou 36.56 318 *e*P **P** **11 10 01.5 -0.3**
comp=Z,18nm,0.8s,mb5.0
MORC Moravsky Berou 36.56 318 *e*P **P** **11 10 01.5 -0.3**
comp=Z,18nm,0.8s,mb5.0
MORC Moravsky Berou 36.56 318 *e*P **P** **11 10 01.5 -0.3**
MORC pmax pmax
comp=Z,18nm,0.8s,mb5.0
BOJS Bojanci 36.62 310 *e*P **P** **11 10 02.3 -0.1**
VSU Vasula 36.87 335⇑*i*P **P** **11 10 03.6 -0.9**
ARSA Arzberg 36.93 313⇑*i*P **P** **11 10 05.2 +0.2**
comp=Z,18nm,1.1s,mb4.8
VRAC Vranov 36.95 317 ⇓P **P** **11 10 05.7 +0.5**
VISS Visnje 36.98 311 *e*P **P** **11 10 05.7 +0.3**
LJU Ljubljana 37.25 311 *e*P **P** **11 10 08.2 +0.5**
DPC Dobruska-Polom 37.51 318 *e*P **P** **11 10 09.4 -0.5**
JAVS Javornik 37.52 310 *e*P **P** **11 10 09.6 -0.4**
VOY Vojsko 37.67 311 *e*P **P** **11 10 11.5 +0.2**

VOY e pP 11 10 14.3 -0.2
KSP Ksiaz 37.71 319 eP **P 11 10 11.8 +0.2**
KSP Ksiaz 37.71 319 eP **P 11 10 11.6 0.0**
KSP epP pP 11 10 13.8 -1.1
UPC Upice 37.75 318 eP **P 11 10 11.8 -0.1**
MOA Molln 37.93 314⇑ iP **P 11 10 13.3 -0.1**
comp=Z,28nm,0.8s,mb5.0,SNR=22
KBA Koelnbreinsper 38.31 312 i P **P 11 10 16.8 +0.1**
comp=Z,49nm,1.1s,mb5.2,SNR=20
GTA Gaotai 38.34 60 eP **P 11 10 17.8 +0.9**
GTA AP pP 11 10 22.0 +1.8
GTA XP sP 11 10 24.8 +3.3
GTA AMB AMB
comp=Z,10.0nm,1.3s,mb4.4
GTA AMB AMB
comp=Z,174nm,5.7s
GTA LR LR
comp=N,266nm,18.7s,MS4.2
GTA LR LR
comp=E,225nm,14.9s,MS4.2
GTA LR LR
comp=Z,214nm,16.8s,MS4.0
PRU Pruhonice 38.44 317 eP **P 11 10 16.7 -1.1**
GERES GERESS Array B 38.59 315 P **P 11 10 18.5 -0.4**
comp=Z,12nm,0.9s,mb4.6,baz=117,slow=7.9,SNR=26
GERES LR LR 11 28 53.8
comp=Z,237nm,20.1s,MS4.0,baz=105,slow=40
KHC Kasperske Hory 38.75 315 eP **P 11 10 20.2 -0.2**
KHC x x 11 10 22.5
JOF Joensuu 38.80 342 ep **P 11 10 19.8 -0.9**
comp=Z,9.8nm,0.8s,mb4.6
BRG Berggiesshubel 39.11 318 i P **P 11 10 22.9 -0.5**
comp=Z,18nm,1.1s,mb4.7
BRG Berggiesshubel 39.11 318 i P **P 11 10 22.9 -0.5**
BRG pmax pmax
comp=Z,18nm,1.1s,mb4.7
FINES FINESS Array B 39.23 338 P **P 11 10 24.0 -0.4**
comp=Z,4.1nm,0.7s,mb4.3,baz=138,slow=9.6,SNR=24
FINES LR LR 11 30 15.1
comp=Z,139nm,18.1s,MS3.8,baz=24,slow=42
FINES FINESS Array B 39.23 338 P **P 11 10 24.0 -0.4**
FINES LR LR 11 30 15.1
FINES FINESS Array B 39.23 338 i P **P 11 10 26.3 +1.9**
FINES pmax pmax
comp=Z,4.0nm,0.7s
WTTA Wattenberg 39.48 312 i P **P 11 10 26.4 -0.1**
comp=Z,59nm,0.7s,mb5.4,SNR=20
WATA Walderalm 39.54 312⇓ iP **P 11 10 26.5 -0.5**
comp=Z,50nm,1.2s,mb5.1
KAF Kangasniemi 39.65 339 ep **P 11 10 22.4 -5.4**
SQTA Sankt Quirin 39.76 312 i P **P 11 10 28.5 -0.3**
comp=Z,20nm,0.7s,mb4.9,SNR=30
NKC Novy Kostel 39.79 317 eP **P 11 10 29.1 0.0**
CLL Collm 39.81 318⇓ iP **P 11 10 29.5 +0.3**
comp=Z,18nm,1.0s,mb4.8
CLL i pP pP 11 10 31.8 -0.7
comp=Z,35nm,1.0s
CLL ex x 11 10 46.0
CLL Collm 39.81 318⇓ eP **P 11 10 29.0 -0.2**
comp=Z,18nm,1.0s,mb4.8
CLL i pP 11 10 31.8 -0.7
CLL e 11 10 46.0
CLL Collm 39.81 318⇓ eP **P 11 10 29.0 -0.2**
CLL e 11 10 46.0
CLL pmax pmax
comp=Z,18nm,1.0s,mb4.8
MOTA Moosalm 39.85 312⇓ iP **P 11 10 28.6 -1.0**
comp=Z,33nm,1.0s,mb5.0,SNR=26
GRA1 Grafenberg Arr 40.39 315 eP **P 11 10 33.9 -0.1**
comp=Z,48nm,1.1s,mb5.1
GRF Grafenberg Arr 40.39 315 eP **P 11 10 33.9 -0.1**
comp=Z,48nm,1.1s,mb5.1
GRF Grafenberg Arr 40.39 315 eP **P 11 10 33.9 -0.1**
GRF pmax pmax
comp=Z,48nm,1.1s,mb5.1
GRF Grafenberg Arr 40.39 315 eP **P 11 10 33.9 -0.1**
GRF pmax pmax
comp=Z,48nm,1.1s,mb5.1
MOX Moxa 40.43 317 eP **P 11 10 34.6 +0.3**
comp=Z,27nm,1.4s,mb4.8
MOX Moxa 40.43 317 eP **P 11 10 34.6 +0.3**
MOX pmax pmax
comp=Z,27nm,1.4s,mb4.8
PGF Pioggiola 40.50 304 eP **P 11 10 34.0 -0.9**
comp=Z,38nm,1.0s,mb4.7
PGF Pioggiola 40.50 304 eP **P 11 10 34.0 -0.9**
comp=Z,19nm,1.0s,mb4.7
PGF Pioggiola 40.50 304 eP **P 11 10 34.0 -0.9**
PGF pmax pmax
comp=Z,19nm,1.0s,mb4.7
DAVOX Davos 40.55 311 P **P 11 10 35.3 0.0**
comp=Z,29nm,0.8s,mb5.0,baz=108,slow=5.9,SNR=25
DAVA Damuels 40.65 312 i P **P 11 10 35.8 -0.4**
comp=Z,64nm,0.6s,mb5.5,SNR=20
LZH Lanzhou 41.48 66 eP **P 11 10 44.0 +1.0**
LZH PP PP 11 12 25.0 +6.3
LZH eS **S 11 16 54.0 -4.2**
LZH AMB AMB
comp=Z,30nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,150nm,5.7s
LZH LR LR
comp=N,1μm,15.0s
LZH LR LR
comp=Z,2μm,15.6s,MS5.0
SBF Sospel 41.78 306 eP **P 11 10 44.6 -0.9**
comp=Z,132nm,1.2s,mb5.2
SBF Sospel 41.78 306 eP **P 11 10 44.6 -0.9**
comp=Z,66nm,1.2s,mb5.2
SBF Sospel 41.78 306 eP **P 11 10 44.6 -0.9**
SBF pmax pmax
comp=Z,66nm,1.2s,mb5.1
CD2 Chengdu 41.86 73 eP **P 11 10 44.3 -1.8**
CD2 PP PP 11 12 25.5 +2.6
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,80nm,5.9s
CD2 LR LR
comp=N,270nm,20.4s
CD2 LR LR
comp=Z,120nm,16.8s,MS3.9
FELD Feldberg 42.02 312 eP **P 11 10 48.5 +1.1**
KMI Kunming 42.08 82 P **P 11 10 49.0 +1.1**
KMI AMB AMB
comp=Z,17nm,1.2s,mb4.5
KMI LR LR
comp=Z,131nm,20.1s,MS3.8
APA Apatity 42.24 348⇑ iP **P 11 10 49.6 +0.3**
APA eS **S 11 17 10.0 +0.4**
APA pmax pmax
comp=Z,65nm,1.0s,mb5.2
BBS Basel-Blauen 42.27 311 eP **P 11 10 49.3 -0.1**
FRF La Foret Royal 42.32 305 eP **P 11 10 48.5 -1.4**
comp=Z,46nm,1.3s,mb4.7
FRF La Foret Royal 42.32 305 eP **P 11 10 48.5 -1.4**
comp=Z,23nm,1.3s,mb4.7
FRF La Foret Royal 42.32 305 eP **P 11 10 48.5 -1.4**
FRF pmax pmax
comp=Z,23nm,1.3s,mb4.7
MBDF Montbardon 42.36 307 eP **P 11 10 48.9 -1.3**
comp=Z,36nm,0.9s,mb4.7
MBDF Montbardon 42.36 307 eP **P 11 10 48.9 -1.3**
comp=Z,18nm,0.9s,mb4.7
MBDF Montbardon 42.36 307 eP **P 11 10 48.9 -1.3**
MBDF pmax pmax
comp=Z,18nm,0.9s,mb4.7
LMR La Mourre 42.40 305 eP **P 11 10 49.1 -1.4**
LPG La Plagne 42.47 308 eP **P 11 10 50.0 -1.1**
comp=Z,64nm,1.0s,mb4.9
LPG La Plagne 42.47 308 eP **P 11 10 50.0 -1.1**
comp=Z,32nm,1.0s,mb4.9
LPG La Plagne 42.47 308 eP **P 11 10 50.0 -1.1**
LPG pmax pmax
comp=Z,32nm,1.0s,mb4.9
LPL La Plagne 42.49 308 eP **P 11 10 50.0 -1.2**
comp=Z,87nm,1.1s,mb5.0
LPL La Plagne 42.49 308 eP **P 11 10 50.0 -1.2**
comp=Z,43nm,1.1s,mb5.0
LPL La Plagne 42.49 308 eP **P 11 10 50.0 -1.2**
LPL pmax pmax
comp=Z,43nm,1.1s,mb5.0
ZAK Zakamensk 42.56 44 eP **P 11 10 52.2 +0.4**
ZAK e 11 12 41.8
ZAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.3
ZAK pmax pmax
comp=Z,12nm,1.8s,mb4.3
MOF Molkenrain 42.59 312 eP **P 11 10 53.6 +1.5**
CDF Champ du Feu 42.60 313 eP **P 11 10 50.3 -1.9**
comp=Z,37nm,1.2s,mb4.7
CDF Champ du Feu 42.60 313 eP **P 11 10 50.3 -1.9**
comp=Z,18nm,1.2s,mb4.7
CDF Champ du Feu 42.60 313 eP **P 11 10 50.3 -1.9**
CDF pmax pmax
comp=Z,18nm,1.2s,mb4.7
ECH Echery 42.64 312 eP **P 11 10 51.2 -1.3**
LOMF Lomont 42.70 311 eP **P 11 10 52.1 -0.9**
HINF Hinteralfeld 42.77 312 eP **P 11 10 51.6 -1.9**
comp=Z,41nm,1.0s,mb4.8
HINF Hinteralfeld 42.77 312 eP **P 11 10 51.6 -1.9**
comp=Z,20nm,1.0s,mb4.8
HINF Hinteralfeld 42.77 312 eP **P 11 10 51.6 -1.9**
HINF pmax pmax
comp=Z,20nm,1.0s,mb4.8
ORIF Oris-en-Rattie 43.01 307 eP **P 11 10 54.5 -1.0**
comp=Z,30nm,1.1s,mb4.6
ORIF eR
comp=Z,397nm,21.2s
ORIF Oris-en-Rattie 43.01 307 eP **P 11 10 54.5 -1.0**
comp=Z,15nm,1.1s,mb4.6
ORIF Oris-en-Rattie 43.01 307 eP **P 11 10 54.5 -1.0**
ORIF pmax pmax
comp=Z,15nm,1.1s,mb4.6
CABF La Chapelle 43.09 310 eP **P 11 10 54.9 -1.2**
comp=Z,61nm,1.0s,mb5.0
CABF La Chapelle 43.09 310 eP **P 11 10 54.9 -1.2**
comp=Z,31nm,1.0s,mb5.0
CABF La Chapelle 43.09 310 eP **P 11 10 54.9 -1.2**
CABF pmax pmax
comp=Z,31nm,1.0s,mb5.0
TLY Talaya 43.11 43 i P **P 11 10 56.0 -0.3**
SMRF Simiane la Rot 43.13 306 eP **P 11 10 55.5 -1.0**
comp=Z,32nm,1.1s,mb4.7
SMRF Simiane la Rot 43.13 306 eP **P 11 10 55.5 -1.0**
comp=Z,32nm,1.1s,mb5.0
HAU Haudompre 43.14 312 eP **P 11 10 55.3 -1.2**
comp=Z,36nm,1.0s,mb4.8
HAU eR
comp=Z,257nm,21.2s
HAU Haudompre 43.14 312 eP **P 11 10 55.3 -1.2**
comp=Z,18nm,1.0s,mb4.8
HAU LR LR
comp=Z,260nm,21.3s,MS4.1
HAU Haudompre 43.14 312 eP **P 11 10 55.3 -1.2**
HAU pmax pmax
comp=Z,18nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,260nm,21.3s,MS4.1
HFS Hagfors 43.21 331 LR LR 11 30 12.1
comp=Z,259nm,19.7s,MS4.1,baz=120,slow=38
WLF Walferdange 43.58 314 P **P 11 10 59.8 -0.3**
WLF AP pP 11 11 02.5 -0.9
WLF XP sP 11 11 05.3 +0.6
WLF Walferdange 43.58 314 eP **P 11 10 59.6 -0.5**
comp=Z,36nm,1.0s,mb5.1
WLF Walferdange 43.58 314 eP **P 11 10 59.6 -0.5**
WLF pmax pmax
comp=Z,36nm,1.0s,mb5.1
WTSB Winterswijk 43.70 318⇑ eP **P 11 11 02.2 +1.2**
VIVF Saint-Julien-l 43.86 307 eP **P 11 11 00.9 -1.4**
comp=Z,44nm,1.1s,mb4.8
VIVF Saint-Julien-l 43.86 307 eP **P 11 11 00.9 -1.4**
comp=Z,22nm,1.1s,mb4.8
VIVF Saint-Julien-l 43.86 307 eP **P 11 11 00.9 -1.4**
VIVF pmax pmax
comp=Z,22nm,1.1s,mb4.8
MEM Membach 43.87 316 P **P 11 11 02.7 +0.3**
MEM AP pP 11 11 05.5 -0.2
MEM XP sP 11 11 16.0 +9.0
HGN Heimansgroeve 43.95 316 eP **P 11 11 06.1 +3.1**
comp=Z,49nm,1.3s,mb5.1
SONM Songino Array 44.06 49 P **P 11 11 03.9 -0.1**
comp=Z,5.3nm,1.1s,mb4.2,baz=258,slow=6.5,SNR=11
SONM LR LR 11 31 43.9
comp=Z,382nm,20.6s,MS4.3,baz=261,slow=39
MEZF Maizieres J'vi 44.07 312 eP **P 11 11 03.0 -1.1**
comp=Z,131nm,1.1s,mb5.3
MEZF Maizieres J'vi 44.07 312 eP **P 11 11 03.0 -1.1**
comp=Z,131nm,1.1s,mb5.6
LASF Ste Croix 44.38 306 eP **P 11 11 05.4 -1.1**
comp=Z,49nm,1.0s,mb4.9
GIVF Givet 44.51 315 eP **P 11 11 07.5 0.0**
comp=Z,114nm,1.1s,mb5.3
GIVF Givet 44.51 315 eP **P 11 11 07.5 0.0**
comp=Z,57nm,1.1s,mb5.3
GIVF Givet 44.51 315 eP **P 11 11 07.5 0.0**
GIVF pmax pmax
comp=Z,57nm,1.1s,mb5.3
ULN Ulaanbaatar 44.51 49 eP **P 11 11 07.4 -0.1**
comp=Z,5.7nm,0.8s,mb4.5
ULN Ulaanbaatar 44.51 49 eP **P 11 11 07.4 -0.1**
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SMF Signal de Mont 44.62 310 eP **P 11 11 07.2 -1.3**
comp=Z,127nm,1.0s,mb5.4
SMF Signal de Mont 44.62 310 eP **P 11 11 07.2 -1.3**
comp=Z,64nm,1.0s,mb5.4
SMF Signal de Mont 44.62 310 eP **P 11 11 07.2 -1.3**
SMF pmax pmax
comp=Z,64nm,1.0s,mb5.4
DOU Dourbes 44.65 315 ⇓P **P 11 11 09.3 +0.7**
DOU AP pP 11 11 12.0 0.0
LOR Lormes 44.69 310 eP **P 11 11 07.6 -1.4**
comp=Z,37nm,1.1s,mb4.8
LOR eR
comp=Z,272nm,18.0s
LOR Lormes 44.69 310 eP **P 11 11 07.6 -1.4**
comp=Z,18nm,1.1s,mb4.8
LOR LR LR
comp=Z,270nm,18.0s,MS4.2
LOR Lormes 44.69 310 eP **P 11 11 07.6 -1.4**
LOR pmax pmax
comp=Z,19nm,1.1s,mb4.8
LOR MLR MLR
comp=Z,270nm,18.0s,MS4.2
PLDF La Plantade 44.70 309 eP **P 11 11 09.2 +0.1**
NB2 NORSAR Subarra 44.72 331 P **P 11 11 08.0 -1.2**
comp=Z,21nm,1.1s,mb4.9,baz=116,slow=7.9
NB2 NORSAR Subarra 44.72 331 P **P 11 11 08.0 -1.2**
NB2 pmax pmax
comp=Z,21nm,1.1s,mb4.9
NOA NORSAR Array B 44.72 331 P **P 11 11 08.2 -1.0**
comp=Z,11nm,0.9s,mb4.7,baz=118,slow=8.0,SNR=18
NOA LR LR 11 32 43.2
comp=Z,169nm,19.0s,MS4.0,baz=105,slow=40
NAO01 NORSAR Array S 44.77 331 eP **P 11 11 09.0 -0.6**
comp=Z,20nm,1.0s,mb4.9
KONO Kongsberg 44.82 329 P **P 11 11 10.8 +0.8**
comp=Z,11nm,0.8s,mb4.7
KONO Kongsberg 44.82 329 P **P 11 11 10.8 +0.8**
comp=Z,11nm,0.8s,mb4.7
KONO Kongsberg 44.82 329 P **P 11 11 10.8 +0.8**
KONO pmax pmax
comp=Z,11nm,0.8s,mb4.7
BAIF Baives 44.89 314 eP **P 11 11 10.6 0.0**
comp=Z,147nm,1.1s,mb5.4
BAIF Baives 44.89 314 eP **P 11 11 10.6 0.0**
comp=Z,74nm,1.1s,mb5.4
BAIF Baives 44.89 314 eP **P 11 11 10.6 0.0**
BAIF pmax pmax
comp=Z,74nm,1.1s,mb5.4
LBL Lubilhac 44.90 308 eP **P 11 11 12.9 +2.2**
SSF Saint Saulge 44.90 310 eP **P 11 11 09.6 -1.1**
comp=Z,98nm,1.1s,mb5.3
SSF Saint Saulge 44.90 310 eP **P 11 11 09.6 -1.1**
comp=Z,49nm,1.1s,mb5.2
SSF Saint Saulge 44.90 310 eP **P 11 11 09.6 -1.1**
SSF pmax pmax
comp=Z,49nm,1.1s,mb5.2
SNF Seneffe 44.92 315 P **P 11 11 11.6 +0.7**
SNF AP pP 11 11 13.8 -0.3
SNF XP sP 11 11 19.8 +4.3
AVF Avril sur Loir 44.98 310 eP **P 11 11 09.7 -1.6**
comp=Z,51nm,1.2s,mb4.9
AVF Avril sur Loir 44.98 310 eP **P 11 11 09.7 -1.6**
comp=Z,26nm,1.2s,mb4.9
AVF Avril sur Loir 44.98 310 eP **P 11 11 09.7 -1.6**
AVF pmax pmax
comp=Z,26nm,1.2s,mb4.9
EJON La Jonquera 45.00 304 P **P 11 11 11.2 -0.3**
comp=Z,202nm,3.1s
AGO Saint Agoulin 45.05 309 eP **P 11 11 11.5 -0.4**
GYA Guiyang 45.20 79 P **P 11 11 10.3 -2.7**
GYA XP sP 11 11 18.0 +0.3
GYA PP PP 11 12 55.5 -3.2
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,90nm,3.9s
GYA LR LR
comp=N,490nm,17.9s,MS4.7
GYA LR LR
comp=E,540nm,18.0s,MS4.7
GYA LR LR
comp=Z,470nm,18.2s,MS4.5
BGF Bois d'Agland 45.30 309 eP **P 11 11 12.7 -1.1**
comp=Z,70nm,1.1s,mb5.1
BGF Bois d'Agland 45.30 309 eP **P 11 11 12.7 -1.1**
comp=Z,35nm,1.1s,mb5.1
BGF Bois d'Agland 45.30 309 eP **P 11 11 12.7 -1.1**
BGF pmax pmax
comp=Z,35nm,1.1s,mb5.1
ARCES ARCESS Array B 45.51 346 P **P 11 11 14.3 -1.2**
comp=Z,12nm,0.9s,mb4.8,baz=120,slow=7.2,SNR=14
ARCES LR LR 11 31 58.1
comp=Z,180nm,19.8s,MS4.0,baz=154,slow=38
HYF Humbligny 45.51 310 eP **P 11 11 14.6 -0.9**
MTLF Montolieu 45.52 305 eP **P 11 11 15.2 -0.4**
comp=Z,55nm,1.0s,mb5.1
MTLF Montolieu 45.52 305 eP **P 11 11 15.2 -0.4**
comp=Z,27nm,1.0s,mb5.1
MTLF Montolieu 45.52 305 eP **P 11 11 15.2 -0.4**
MTLF pmax pmax
comp=Z,27nm,1.0s,mb5.1
TCF Toulx Ste Croi 45.71 309 eP **P 11 11 16.2 -0.9**
comp=Z,80nm,1.2s,mb5.2
TCF Toulx Ste Croi 45.71 309 eP **P 11 11 16.2 -0.9**
comp=Z,40nm,1.2s,mb5.2
TCF Toulx Ste Croi 45.71 309 eP **P 11 11 16.2 -0.9**
TCF pmax pmax
comp=Z,40nm,1.2s,mb5.2
CAF Calviac 45.71 307 eP **P 11 11 16.3 -0.8**
comp=Z,80nm,1.1s,mb5.3
CAF Calviac 45.71 307 eP **P 11 11 16.3 -0.8**
comp=Z,40nm,1.1s,mb5.3
CAF Calviac 45.71 307 eP **P 11 11 16.3 -0.8**
CAF pmax pmax
comp=Z,40nm,1.1s,mb5.3
EMIR Miracle 46.01 303 P **P 11 11 20.0 +0.6**
comp=Z,516nm,3.1s
RJF Les Rejaudoux 46.12 307 eP **P 11 11 19.8 -0.5**
comp=Z,73nm,1.0s,mb5.3
RJF eR
comp=Z,366nm,22.2s
RJF Les Rejaudoux 46.12 307 eP **P 11 11 19.8 -0.5**
comp=Z,36nm,1.0s,mb5.3
RJF LR LR
comp=Z,370nm,22.3s,MS4.3
RJF Les Rejaudoux 46.12 307 eP **P 11 11 19.8 -0.5**
RJF pmax pmax
comp=Z,37nm,1.0s,mb5.3
RJF MLR MLR
comp=Z,370nm,22.3s,MS4.3
EPOB Poblet 46.34 302 P **P 11 11 22.1 0.0**
comp=Z,142nm,1.7s,mb5.6
EPOB Poblet 46.34 302 P **P 11 11 22.1 0.0**
comp=Z,142nm,1.7s,mb5.6
LFF La Frestale 46.65 307 eP **P 11 11 23.9 -0.6**
comp=Z,79nm,1.1s,mb5.3
LFF La Frestale 46.65 307 eP **P 11 11 23.9 -0.6**
comp=Z,40nm,1.0s,mb5.3
LFF La Frestale 46.65 307 eP **P 11 11 23.9 -0.6**
LFF pmax pmax
comp=Z,39nm,1.0s,mb5.3
EBR Ebro Roquetas 46.80 301 eP **P 11 11 28.5 +2.9**
EPF Esparros 46.89 304 eP **P 11 11 25.2 -1.2**
EGRA Graus 46.91 303 P **P 11 11 27.0 +0.5**
comp=Z,20nm,0.8s,mb5.1
EGRA Graus 46.91 303 P **P 11 11 26.9 +0.5**
comp=Z,20nm,0.8s,mb5.1
ERTA Horta de San J 46.91 301 P **P 11 11 25.7 -0.8**
comp=Z,143nm,1.5s,mb5.7
ERTA Horta de San J 46.91 301 P **P 11 11 25.7 -0.8**
comp=Z,143nm,1.5s,mb5.7
EBIE Bielsa 47.03 304 P **P 11 11 26.3 -1.2**
comp=Z,140nm,2.4s,mb5.5
EBIE Bielsa 47.03 304 P **P 11 11 26.3 -1.2**
comp=Z,140nm,2.4s,mb5.5
MFF Saint Martin d 47.36 309 eP **P 11 11 28.7 -1.3**
comp=Z,26nm,1.0s,mb4.8
MFF Saint Martin d 47.36 309 eP **P 11 11 28.7 -1.3**
comp=Z,13nm,1.0s,mb4.8
MFF Saint Martin d 47.36 309 eP **P 11 11 28.7 -1.3**
MFF pmax pmax
comp=Z,13nm,1.0s,mb4.8
HHC Hu-ho-hao-te 47.37 59 eP **P 11 11 29.5 -0.6**
HHC PCP PcP 11 13 00.0 -0.8
HHC PP PP 11 13 21.8 +0.6
HHC AMB AMB
comp=Z,123nm,7.7s
HHC LR LR
comp=N,230nm,13.7s
HHC LR LR
comp=E,196nm,4.9s
HHC LR LR
comp=Z,123nm,5.7s
LDF La Druitiere 47.49 312 eP **P 11 11 29.6 -1.5**
comp=Z,59nm,1.0s,mb5.2
LDF La Druitiere 47.49 312 eP **P 11 11 29.6 -1.5**
comp=Z,29nm,1.0s,mb5.2
LDF La Druitiere 47.49 312 eP **P 11 11 29.6 -1.5**
LDF pmax pmax
comp=Z,29nm,1.0s,mb5.2
EMOS Mosqueruela 47.55 301 P **P 11 11 31.6 +0.1**
comp=Z,87nm,1.6s,mb5.5
ETSF Etsaut 47.55 304 eP **P 11 11 31.2 -0.3**
comp=Z,52nm,1.0s,mb5.2
ETSF Etsaut 47.55 304 eP **P 11 11 31.2 -0.3**
comp=Z,26nm,1.0s,mb5.2
ETSF Etsaut 47.55 304 eP **P 11 11 31.2 -0.3**
ETSF pmax pmax
comp=Z,26nm,1.0s,mb5.2
FLN La Foliniere 47.75 312 eP **P 11 11 31.7 -1.3**
comp=Z,83nm,1.1s,mb5.4
FLN eR
comp=Z,385nm,20.0s
FLN La Foliniere 47.75 312 eP **P 11 11 31.7 -1.3**
comp=Z,42nm,1.1s,mb5.4
FLN LR LR
comp=Z,380nm,20.0s,MS4.4
FLN La Foliniere 47.75 312 eP **P 11 11 31.7 -1.3**
FLN pmax pmax
comp=Z,42nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,380nm,20.0s,MS4.4
LARF Larrau 47.86 304 eP **P 11 11 34.0 +0.1**
GRR Gorron 47.97 312 eP **P 11 11 33.4 -1.3**
ECHE Chera 47.97 300 P **P 11 11 34.7 0.0**
comp=Z,16nm,1.3s,mb4.9
ECHE Chera 47.97 300 P **P 11 11 34.7 -0.1**
comp=Z,16nm,1.3s,mb4.9
ECHE Chera 47.97 300 P **P 11 11 34.7 0.0**
ECHE pmax pmax
comp=Z,16nm,1.3s,mb4.9
SJPF Ste Jean 48.04 304 eP **P 11 11 35.0 -0.3**
comp=Z,18nm,0.7s,mb4.9
SJPF Ste Jean 48.04 304 eP **P 11 11 35.0 -0.3**
comp=Z,9.1nm,0.7s,mb4.9
SJPF Ste Jean 48.04 304 eP **P 11 11 35.0 -0.3**
SJPF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ETOB Tobarra 48.48 298 P **P 11 11 37.7 -1.0**
comp=Z,409nm,2.9s,mb6.0
ETOB Tobarra 48.48 298 P **P 11 11 37.7 -1.1**
comp=Z,409nm,2.9s,mb6.0
SGMF Saint Gilles 49.09 311 eP **P 11 11 42.1 -1.3**
comp=Z,113nm,1.3s,mb5.5
SGMF Saint Gilles 49.09 311 eP **P 11 11 42.1 -1.3**
comp=Z,57nm,1.3s,mb5.4
SGMF Saint Gilles 49.09 311 eP **P 11 11 42.1 -1.3**
SGMF pmax pmax
comp=Z,57nm,1.3s,mb5.4
EVIA Vianos 49.23 299 P **P 11 11 46.2 +1.7**
comp=Z,18nm,0.6s,mb5.3
EVIA Vianos 49.23 299 P **P 11 11 46.2 +1.7**
comp=Z,18nm,0.6s,mb5.3
EVIA Vianos 49.23 299 P **P 11 11 46.2 +1.7**
EVIA pmax pmax

comp=Z,18nm,0.6s,mb5.3
QUIF Quistinic 49.48 311 *e*P **P 11 11 45.1 -1.3**
comp=Z,125nm,1.2s,mb5.5
QUIF Quistinic 49.48 311 *e*P **P 11 11 45.1 -1.3**
comp=Z,63nm,1.2s,mb5.5
QUIF Quistinic 49.48 311 *e*P **P 11 11 45.1 -1.3**
QUIF pmax pmax
comp=Z,63nm,1.2s,mb5.5
ROSF Rostrenen 49.57 311 *e*P **P 11 11 45.8 -1.3**
ELAN Lanestosa 49.65 305 P **P 11 11 47.7 0.0**
comp=Z,54nm,1.3s,mb5.4
ELAN Lanestosa 49.65 305 P **P 11 11 47.7 0.0**
comp=Z,54nm,1.3s,mb5.4
EBER Berja 49.72 296 P **P 11 11 48.3 +0.1**
comp=Z,107nm,1.5s,mb5.7
EBER Berja 49.72 296 P **P 11 11 48.3 +0.1**
comp=Z,107nm,1.5s,mb5.7
EQES Quesada 49.76 298 P **P 11 11 48.5 0.0**
comp=Z,95nm,1.4s,mb5.6
EQES Quesada 49.76 298 P **P 11 11 48.5 0.0**
comp=Z,95nm,1.4s,mb5.6
QIZ Qiongzhong 50.17 88 P **P 11 11 49.8 -1.8**
QIZ S **S 11 19 02.8 -0.5**
QIZ LR LR
comp=Z,267nm,20.4s,MS4.2
ESK Eskdalemuir 50.20 320 *e*P **P 11 11 51.7 -0.2**
comp=Z,57nm,1.4s,mb5.4
ESK Eskdalemuir 50.20 320 *e*P **P 11 11 51.7 -0.2**
comp=Z,57nm,1.4s,mb5.4
ESK Eskdalemuir 50.20 320 *e*P **P 11 11 51.7 -0.2**
ESK pmax pmax
comp=Z,57nm,1.4s,mb5.4
ECOG Cogollos-Vega 50.21 297 P **P 11 11 51.7 -0.2**
comp=Z,4.5nm,0.8s,mb4.5
ECOG Cogollos-Vega 50.21 297 P **P 11 11 51.7 -0.2**
comp=Z,4.5nm,0.8s,mb4.5
ECOG Cogollos-Vega 50.21 297 P **P 11 11 51.7 -0.2**
ECOG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LSZ Lusaka 50.22 215 P **P 11 11 55.5 +3.4**
comp=Z,11nm,1.4s,mb4.7
LSZ Lusaka 50.22 215 P **P 11 11 55.5 +3.5**
LSZ pmax pmax
comp=Z,11nm,1.4s,mb4.7
ESDC Sonseca Array 50.27 300 P **P 11 11 51.9 -0.5**
comp=Z,3.4nm,0.7s,mb4.5,baz=79,slow=7.2,SNR=9.5
ESLA Sonseca Array 50.27 300 *e*P **P 11 11 52.4 0.0**
comp=Z,0.5nm,0.6s
ESLA Sonseca Array 50.27 300 *e*P **P 11 11 52.4 0.0**
comp=Z,0.5nm,0.6s
EBAN Banos Encina 50.28 298 P **P 11 11 51.8 -0.7**
comp=Z,15nm,1.3s,mb4.8
EBAN Banos Encina 50.28 298 P **P 11 11 51.9 -0.6**
comp=Z,15nm,1.3s,mb4.8
EBAN Banos Encina 50.28 298 P **P 11 11 51.9 -0.6**
EBAN pmax pmax
comp=Z,15nm,1.3s,mb4.9
GUD Guadarrama 50.33 301 P **P 11 11 51.9 -0.9**
comp=Z,2.5nm,0.7s,mb4.3
GUD Guadarrama 50.33 301 P **P 11 11 51.9 -1.0**
comp=Z,2.5nm,0.7s,mb4.3
GUD Guadarrama 50.33 301 P **P 11 11 51.9 -0.9**
GUD pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BOD Bodaibo 50.36 36 *e*P **P 11 11 51.5 -1.5**
BOD pmax pmax
comp=Z,20nm,1.0s,mb5.1
ERON Agron 50.43 297 P **P 11 11 53.4 -0.2**
comp=Z,26nm,1.0s,mb5.2
ERON Agron 50.43 297 P **P 11 11 53.4 -0.2**
comp=Z,26nm,1.0s,mb5.2
ELUQ Luque 50.73 297 P **P 11 11 55.3 -0.6**
comp=Z,4.9nm,0.5s,mb4.7
ELUQ Luque 50.73 297 P **P 11 11 55.3 -0.6**
ELUQ pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
EADA Adamuz 50.90 298 P **P 11 11 57.1 0.0**
comp=Z,21nm,1.0s,mb5.0
EADA Adamuz 50.90 298 P **P 11 11 57.1 0.0**
comp=Z,21nm,1.0s,mb5.0
EARI Arriondas 50.94 305 P **P 11 11 55.0 -2.5**
comp=Z,218nm,2.5s,mb5.6
EMIJ Mijas 51.26 296 P **P 11 11 59.4 -0.5**
comp=Z,17nm,0.8s,mb5.0
EMIJ Mijas 51.26 296 P **P 11 11 59.4 -0.5**
comp=Z,17nm,0.8s,mb5.0
ECAB El Cabril 51.57 298 P **P 11 12 01.2 -1.0**
comp=Z,28nm,0.9s,mb5.2
ECAB El Cabril 51.57 298 P **P 11 12 01.2 -1.0**
comp=Z,28nm,0.9s,mb5.2
MDT Midelt 51.76 291 P **P 11 12 04.2 +0.6**
comp=Z,10nm,1.0s,mb4.7,baz=75,slow=7.2,SNR=12
EJIF Jimena Fronter 51.83 296 P **P 11 12 03.5 -0.6**
comp=Z,5.3nm,1.0s,mb4.4
EJIF Jimena Fronter 51.83 296 P **P 11 12 03.5 -0.7**
comp=Z,5.3nm,1.0s,mb4.4
EJIF Jimena Fronter 51.83 296 P **P 11 12 03.5 -0.6**
EJIF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ESPR Espera 52.08 297 P **P 11 12 04.8 -1.2**
comp=Z,12nm,0.7s,mb4.9
ECAL Calabor 52.16 303 P **P 11 12 04.9 -1.7**
comp=Z,20nm,0.9s,mb5.0
ECAL Calabor 52.16 303 P **P 11 12 04.9 -1.7**
comp=Z,20nm,0.9s,mb5.0
PBRG Braganca 52.18 303 *e*P **P 11 12 04.4 -2.3**
comp=Z,27nm,1.8s,mb4.9
TORD Torodi Ar. Bea 52.20 265 P **P 11 12 06.5 -0.4**
comp=Z,7.6nm,0.4s,mb5.0,baz=62,slow=8.2,SNR=102
EMIN Mina Concepcio 52.59 298 P **P 11 12 08.5 -1.3**
comp=Z,28nm,1.6s,mb4.9
EMIN Mina Concepcio 52.59 298 P **P 11 12 08.5 -1.3**
comp=Z,28nm,1.6s,mb4.9
PVRL Vila Real 52.96 302 *e*P **P 11 12 12.8 +0.3**
comp=Z,39nm,1.6s,mb5.1
HIA Hailar 53.00 48 *d i*P **P 11 12 12.8 0.0**
PVIS Viseu 53.16 302 *e*P **P 11 12 14.5 +0.6**
comp=Z,59nm,1.5s,mb5.3
PBEJ Beja 53.49 298 *e*P **P 11 12 15.2 -1.2**
PTOM Tomar 53.69 300 *e*P **P 11 12 15.6 -2.2**
NJ2 Nanjing 54.34 69 *e*P **P 11 12 24.0 +1.3**
NJ2 AP pP 11 12 28.8 +2.8
NJ2 XP sP 11 12 31.0 +3.7
NJ2 PP PP 11 14 27.5 +2.9
NJ2 S **S 11 19 59.0 -1.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,140nm,5.2s
NJ2 LR LR
comp=N,510nm,19.3s,MS4.7
NJ2 LR LR
comp=E,360nm,19.2s,MS4.7
NJ2 LR LR
comp=Z,270nm,23.5s,MS4.2
JMIC Jan Mayen 55.84 339 LR LR 11 39 41.1
comp=Z,122nm,19.2s,MS4.0,baz=304,slow=39
SSE Sheshan 56.50 69 *e*P **P 11 12 37.8 -0.4**
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,107nm,8.2s
SSE LR LR
comp=N,138nm,28.0s,MS4.0
SSE LR LR
comp=E,88nm,28.0s,MS4.0
SSE LR LR
comp=Z,172nm,24.4s,MS4.1
CN2 Changchun 57.36 54 *e*P **P 11 12 43.8 -0.5**
CN2 *e*S **S 11 20 32.3 -8.4**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 LR LR
comp=N,700nm,18.0s,MS4.9
CN2 LR LR
comp=E,500nm,18.0s,MS4.9
CN2 LR LR
comp=Z,500nm,19.0s,MS4.6
YAK Yakutsk 58.60 32⇑ *e*P **P 11 12 52.5 -0.5**
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
TIXI Tiksi 58.82 21 *e*P **P 11 12 52.6 -1.9**
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,166nm,15.0s,MS4.3
TSUM Tsumeb 59.33 223 *e*P **P 11 12 59.8 +1.8**
comp=Z,18nm,1.3s,mb4.9
LBTB Lobatse 59.75 212 P **P 11 13 02.2 +1.2**
comp=Z,6.4nm,1.0s,mb4.6
LBTB Lobatse 59.75 212 P **P 11 13 02.2 +1.3**
comp=Z,6.4nm,1.0s,mb4.6
LBTB Lobatse 59.75 212 P **P 11 13 02.2 +1.2**
LBTB pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
DAG Danmarks Havn 59.79 345⇑ *i*P **P 11 13 00.8 -0.4**
comp=Z,6.8nm,0.7s,mb4.8
DAG Danmarks Havn 59.79 345⇑ *e*P **P 11 13 00.8 -0.4**
comp=Z,6.8nm,0.7s,mb4.8
DAG Danmarks Havn 59.79 345⇑ *e*P **P 11 13 00.8 -0.4**
DAG pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
MDJ Mudanjiang 60.17 52 P **P 11 13 02.8 -1.0**
MDJ S **S 11 21 15.3 -1.9**
MDJ AMB AMB
comp=Z,16nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,61nm,3.1s
MDJ LR LR
comp=N,166nm,25.1s,MS4.1
MDJ LR LR
comp=E,125nm,29.6s,MS4.1
MDJ LR LR
comp=Z,171nm,25.1s,MS4.1
KLR Kul'dur 60.84 47 *e*P **P 11 13 04.2 -4.2**
DBIC Dimbokro 60.84 262 P **P 11 13 08.3 0.0**
comp=Z,5.6nm,0.7s,mb4.8,baz=47,slow=4.6,SNR=8.7
DBIC LR LR 11 38 09.0
comp=Z,101nm,19.5s,MS4.0,baz=44,slow=35
DBIC Dimbokro 60.84 262 *e*P **P 11 13 08.3 -0.1**
comp=Z,6.9nm,0.8s,mb4.8
DBIC Dimbokro 60.84 262 *e*P **P 11 13 08.3 -0.1**
comp=Z,6.9nm,0.8s,mb4.8
DBIC Dimbokro 60.84 262 *e*P **P 11 13 08.3 -0.1**
DBIC pmax pmax
comp=Z,7.0nm,0.8s
LIC Lamto 61.20 262 *e*P **P 11 13 09.8 -1.0**
comp=Z,26nm,1.0s,mb5.0
LIC Lamto 61.20 262 *e*P **P 11 13 09.8 -1.0**
comp=Z,13nm,1.0s,mb5.0
HABR Khabarovsk 63.12 47 *e*P **P 11 13 21.5 -2.2**
HABR *e*S **S 11 21 50.1 -4.6**
HABR pmax pmax
comp=Z,42nm,1.5s,mb5.3
HABR MLR MLR
comp=Z,557nm,19.5s,MS4.7
SUMG Summit 65.19 341 *e*P **P 11 13 38.0 +0.7**
comp=Z,49nm,1.0s,mb5.5
ALE Alert 66.33 353 P **P 11 13 44.0 -0.7**
comp=Z,115nm,1.2s,mb5.8,SNR=13
YSS Yuzh-Sakhalins 68.53 47 *e*P **P 11 13 57.8 -0.8**
comp=Z,13nm,0.3s,mb5.3
YSS Yuzh-Sakhalins 68.53 47⇓ *e*P **P 11 13 58.0 -0.6**
YSS *e* 11 14 04.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
MAJO Matsushiro 68.57 59 *e*P **P 11 13 57.9 -0.9**
comp=Z,11nm,0.9s,mb4.8
MAJO Matsushiro 68.57 59 *e*P **P 11 13 57.9 -0.9**
comp=Z,11nm,0.9s,mb4.8
MAJO Matsushiro 68.57 59 *e*P **P 11 13 57.9 -0.9**
MAJO pmax pmax
comp=Z,11nm,0.9s,mb4.8
MAT Matsushiro 68.57 59 P **P 11 13 57.8 -1.0**
MAT Matsushiro 68.57 59 *e*P **P 11 13 58.0 -0.8**
comp=Z,7.6nm,0.9s,mb4.6
MAT Matsushiro 68.57 59 *e*P **P 11 13 58.0 -0.8**
MAT pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MJAR Matsushiro Arr 68.57 59 P **P 11 13 58.2 -0.6**
comp=Z,3.6nm,0.9s,mb4.3,baz=286,slow=8.1,SNR=8.8
SEY Seymchan 68.80 29 *e*P **P 11 14 00.6 +0.3**
SEY *e* 11 14 24.9
SEY *e* 11 16 34.0
SEY *e*S S 11 23 01.0 -2.9
SEY *e* 11 23 58.9
SEY *e*SSS 11 30 31.1
SEY pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SEY smax
comp=N,100nm,16.1s
SEY smax
comp=E,58nm,17.3s
SEY MLR MLR
comp=E,450nm,19.0s,MS4.8
SEY MLR MLR
comp=Z,917nm,19.0s,MS5.0
SEY MLR MLR
comp=N,50nm,16.0s,MS4.8
MA2 Magadan 69.16 33 *e*P **P 11 14 01.6 -0.9**
comp=N,4.5nm,0.8s,mb4.5
MA2 Magadan 69.16 33 *e*P **P 11 14 01.6 -0.9**
comp=N,4.5nm,0.8s,mb4.5
MA2 Magadan 69.16 33⇓ *e*P **P 11 14 01.4 -1.1**
MA2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BILL Bilibino 72.02 22 *e*P **P 11 14 19.6 -0.3**
comp=Z,6.6nm,0.6s,mb4.7
BILL Bilibino 72.02 22 *e*P **P 11 14 19.6 -0.3**
comp=Z,6.6nm,0.6s,mb4.7
BILL Bilibino 72.02 22⇑ *e*P **P 11 14 19.3 -0.6**
BILL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.4
RES Resolute Bay 76.22 352 *e*P **P 11 14 43.6 -0.9**
comp=Z,4.7nm,1.1s,mb4.3
RES Resolute Bay 76.22 352 *e*P **P 11 14 43.6 -0.9**
comp=Z,4.7nm,1.1s,mb4.3
RES Resolute Bay 76.22 352 *e*P **P 11 14 43.6 -0.9**
RES pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
FITZ Fitzroy Crossi 81.55 115 LR LR 11 51 58.6
comp=Z,53nm,19.3s,MS3.9,baz=182,slow=36
INK Inuvik 84.19 3 P **P 11 15 25.2 -2.2**
comp=Z,4.9nm,0.9s,mb4.7,baz=10,slow=7.0,SNR=16
INK Inuvik 84.19 3 *e*P **P 11 15 26.5 -0.9**
comp=Z,6.1nm,0.9s,mb4.7
INK Inuvik 84.19 3 *e*P **P 11 15 26.5 -0.9**
comp=Z,6.1nm,0.9s,mb4.7
INK Inuvik 84.19 3 *e*P **P 11 15 26.5 -0.9**
INK pmax pmax
comp=Z,6.0nm,0.9s
SCHQ Schefferville 84.29 331 P **P 11 15 27.1 -0.8**
comp=Z,6.3nm,0.9s,mb4.7,baz=67,slow=4.2,SNR=10
SCHQ LR LR 11 51 53.4
comp=Z,110nm,20.1s,MS4.2,baz=25,slow=35
SCHQ Schefferville 84.29 331 *e*P **P 11 15 27.4 -0.6**
comp=Z,8.1nm,0.9s,mb4.8
SCHQ Schefferville 84.29 331 *e*P **P 11 15 27.4 -0.6**
comp=Z,8.1nm,0.9s,mb4.8
COLA College 86.07 10 *e*P **P 11 15 35.8 -1.1**
comp=Z,4.5nm,0.9s,mb4.7
COLA College 86.07 10 *e*P **P 11 15 35.8 -1.1**
COLA pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
ILAR Eielson Array 86.31 9 P **P 11 15 36.7 -1.4**
comp=Z,2.4nm,0.8s,mb4.5,baz=321,slow=4.4,SNR=27
ILAR PP PP 11 19 00.1 +1.2
comp=Z,1.0nm,1.0s,baz=338,slow=7.4,SNR=4.6
ILAR LR LR 11 59 46.8
comp=Z,135nm,19.6s,MS4.3,baz=90,slow=40
ILAR Eielson Array 86.31 9 P **P 11 15 36.7 -1.4**
ILAR 11 19 00.2
TTA Tatalina 86.36 14 *e*P **P 11 15 38.0 -0.3**
comp=Z,58nm,2.0s,mb5.5
TTA Tatalina 86.36 14 *e*P **P 11 15 38.0 -0.3**
comp=Z,58nm,2.0s,mb5.5
TTA Tatalina 86.36 14 *e*P **P 11 15 38.0 -0.3**
TTA pmax pmax
comp=Z,58nm,2.0s,mb5.5
MCK McKinley 86.97 11 *e*P **P 11 15 39.9 -1.4**
comp=Z,8.2nm,1.1s,mb4.9
MCK McKinley 86.97 11 *e*P **P 11 15 39.9 -1.4**
comp=Z,8.2nm,1.1s,mb4.9
MCK McKinley 86.97 11 *e*P **P 11 15 39.9 -1.4**
MCK pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
DAWY Dawson 87.92 7 *e*P **P 11 15 45.2 -0.7**
DAWY Dawson 87.92 7 *e*P **P 11 15 45.2 -0.7**
DAWY *e*pP pP 11 15 58.4 +9.0
PMR Palmer 88.93 12 *e*P sP 11 16 06.0 +11
WRA Warramunga Arr 89.55 113 P **P 11 15 53.0 -0.6**
comp=Z,2.7nm,1.0s,mb4.5,baz=315,slow=4.2,SNR=6.7
WRA Warramunga Arr 89.55 113 *i* P **P 11 15 53.4 -0.2**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRAB Tennant Creek 89.56 113 *e*P **P 11 15 52.0 -1.6**
comp=Z,17nm,1.4s,mb5.2
WRAB Tennant Creek 89.56 113 *e*P **P 11 15 52.0 -1.5**
comp=Z,17nm,1.4s,mb5.2
WRAB Tennant Creek 89.56 113 *e*P **P 11 15 52.1 -1.5**
WRAB pmax pmax
comp=Z,17nm,1.4s,mb5.2
YKW3 Yellowknife Ar 89.86 356 *e*P **P 11 15 54.2 -0.8**
YKW3 Yellowknife Ar 89.86 356 *e*P **P 11 15 54.2 -0.8**
YKA Yellowknife Ar 89.93 355 P **P 11 15 54.9 -0.4**
comp=Z,5.0nm,0.9s,mb4.8,baz=3.1,slow=4.7,SNR=43
YKA LR LR 11 59 58.7
comp=Z,122nm,20.9s,MS4.3,baz=60,slow=38
FCC Fort Churchill 90.40 345 *e*P **P 11 15 56.5 -1.0**
ASAR Alice Springs 91.03 116 P **P 11 15 59.8 -0.6**
comp=Z,1.0nm,0.8s,mb4.2,baz=310,slow=4.7,SNR=5.8
DLBC Dease Lake 94.21 3 *e*P **P 11 16 13.4 -1.7**
ULM Lac du Bonnet 98.52 342 LR LR 12 04 10.1
comp=Z,116nm,21.3s,MS4.3,baz=311,slow=37

IDC ***25*** *11:08:18.2±1.0, 295S×14830E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.3/16, mbtmp4.2/10, ML2.5/1, MS4.0/9, Ms1 4.0/9, ms1mx3.7/24, Error ellipse: s-maj=41.5km s-min=17.5km az=112.0*
ISCJB ***25*** *11:08:22.8±0.7, 287S±006×1480E±02, h33km, mb4.2/10, MS4.1/7, Error ellipse: s-maj=25.0km s-min=8.3km az=20.3*
NEIC ***25*** *11:08:25.9±4.1, 291S×14795E, h45km±43km, mb4.5/4, Error ellipse: s-maj=41.1km s-min=19.6km az=130.0*
ISC 25 11:08:24.7±0.7, 282S±007×1480E±02, h35km, n25, σ1°34/19, mb4.2/10, MS4.1/7, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.59**	**187**	Pn	**Pn**	**11 09 56.5**	**-2.6**
	0.6nm,0.3s,baz=32,slow=4.4,SNR=6.7						
PMG				Sn	**Sn**	**11 11 14.4**	**+1.4**
	0.7nm,0.3s,baz=216,slow=21,SNR=3.3						
PMG				LR	LR	11 11 52.1	
	comp=Z,437nm,21.7s,baz=8.7,slow=33						
PMG	**Port Moresby**	**6.59**	**187**	*e*Pn	**Pn**	**11 09 58.5**	**-0.7**
	24nm,0.8s						
CTA	**Charters Tower**	**17.24**	**186**	*e*P	**Pn**	**11 12 24.6**	**+1.9**
	11nm,1.3s						
CTA	**Charters Tower**	**17.24**	**186**	LR	LR	11 18 41.1	
	comp=Z,434nm,19.7s,baz=13,slow=36						
KAKA	**Kakadu**	**18.25**	**237**	*e*P	**Pn**	**11 12 30.4**	**-4.8**
	15nm,0.7s						
WRAB	**Tennant Creek**	**21.60**	**217**	*e*P	**P**	**11 13 10.6**	**-0.9**
	32nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**21.61**	**217**	*e*P	**P**	**11 13 10.7**	**-0.9**
WRA	**Warramunga Arr**	**21.61**	**217**	P	**P**	**11 13 09.8**	**-1.8**
	15nm,1.0s,mb4.4,baz=41,slow=11,SNR=52						
ASAR	**Alice Springs**	**24.80**	**212**	P	**P**	**11 13 42.8**	**-0.6**
	8.2nm,0.9s,mb4.2,baz=43,slow=7.4,SNR=39						
DZM	**Mont Dzumac**	**26.22**	**138**	LR	LR	11 22 26.2	
	comp=Z,531nm,19.4s,MS4.1,baz=269,slow=33						
FITZ	**Fitzroy Crossi**	**26.65**	**234**	*e*P	**P**	**11 14 01.9**	**+1.7**
	49nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	**26.65**	**234**	P	**P**	**11 14 01.0**	**+0.9**
	30nm,1.0s,mb4.8,baz=79,slow=9.8,SNR=23						
FITZ				LR	LR	11 25 03.8	
	comp=Z,285nm,18.1s,MS3.9,baz=62,slow=38						
STKA	**Stephens Creek**	**29.52**	**191**	LR	LR	11 27 09.3	
	comp=Z,342nm,18.6s,MS4.0,baz=18,slow=38						
NWAO	**Narrogin (SRO)**	**41.55**	**220**	LR	LR	11 34 12.9	
	comp=Z,356nm,20.7s,MS4.2,baz=45,slow=37						
URZ	**Urewera**	**44.19**	**147**	LR	LR	11 31 31.6	
	comp=Z,321nm,21.1s,MS4.2,baz=286,slow=32						
SONM	**Songino Array**	**62.15**	**330**	P	**P**	**11 18 44.4**	**+2.0**
	0.3nm,0.3s,mb3.9,baz=134,slow=5.7,SNR=4.3						
MKAR	**Makanchi Array**	**75.70**	**320**	P	**P**	**11 20 07.1**	**+0.5**
	0.4nm,0.7s,mb3.5,baz=95,slow=5.4,SNR=4.7						
MKAR				LR	LR	11 54 48.9	
	comp=Z,79nm,18.4s,MS4.0,baz=307,slow=37						
ZAL	**Zalesovo**	**76.88**	**327**	LR	LR	11 54 29.7	
	comp=Z,116nm,18.7s,MS4.2,baz=3.3,slow=36						
MCK	**McKinley**	**80.94**	**24**	*e*P	**P**	**11 20 36.9**	**+1.4**
ILAR	**Eielson Array**	**82.19**	**23**	P	**P**	**11 20 41.0**	**-1.0**
	1.3nm,1.0s,mb3.8,baz=264,slow=5.0,SNR=5.5						
BVAR	**Borovoye Array**	**84.80**	**324**	P	**P**	**11 20 55.5**	**0.0**
	0.4nm,0.5s,mb3.8,baz=122,slow=5.6,SNR=4.8						
NVAR	**Mina Array Bea**	**94.65**	**52**	P	**P**	**11 21 39.5**	**-2.6**
	0.7nm,0.8s,mb4.2,baz=271,slow=5.9,SNR=3.9						
YKA	**Yellowknife Ar**	**95.92**	**28**	P	**P**	**11 21 47.8**	**-0.1**
	0.8nm,1.0s,mb4.1,baz=280,slow=4.4,SNR=7.1						
YKA	**Yellowknife Ar**	**95.92**	**28**	P	**P**	**11 21 47.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**145.13**	**289**	PKPbc	PKPbc	11 27 58.2	+0.3
	4.1nm,1.0s,baz=79,slow=3.4,SNR=9.2						

MAN 25 11:13:43.7, 1166N×12529E, h31km, mb1.4, ML3.4, MS7.5, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.16**	**111**	*e*P	Pb	11 13 51.1	+1.5
BESP				*e*S	Sb	11 13 55.8	+2.1
PLP	**Palo**	**0.57**	**212**	*i* P	Pb	11 13 55.9	+0.5
PLP				*i* S	Sb	11 14 04.2	+0.9
CNP	**Catarman**	**1.04**	**324**	*e*P	Pn	11 14 02.2	0.0
CNP				*e*S	Sn	11 14 15.2	-0.4

IDC ***25*** *11:13:53.8±2.0, 2456S×17595W, h0km, mb3.7/3, mb1 4.2/6, mb1mx4.0/16, mbtmp4.2/6, ML3.8/3, Error ellipse: s-maj=55.8km s-min=29.3km az=142.0*
ISCJB ***25*** *11:13:55.9±0.8, 246S±01×1759W±01, h33km, mb3.8/3, Error ellipse: s-maj=22.3km s-min=12.4km az=97.8*
ISC 25 11:13:58.5±0.8, 246S±01×1759W±01, h35km, n9, σ1°24/12, mb3.8/3, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.34**	**21**	Pn	**Pn**	**11 16 37.2**	**-0.7**
	6.2nm,0.3s,baz=42,slow=2.4,SNR=12						
AFI				Sn	**Sn**	**11 18 30.6**	**-13**
	2.0nm,0.3s,baz=155,slow=20,SNR=3.5						
URZ	**Urewera**	**14.85**	**202**	Pn	**Pn**	**11 17 24.2**	**-1.5**
	0.3nm,0.3s,baz=278,slow=7.1,SNR=2.5						
URZ				Sn	**Sn**	**11 19 57.5**	**-11**
	1.0nm,0.3s,baz=192,slow=22,SNR=6.1						
RAR	**Rarotonga**	**15.20**	**80**	Pn	**Pn**	**11 17 30.7**	**+0.2**
	3.8nm,0.3s,baz=238,slow=6.0,SNR=8.0						
RAR				Sn	**Sn**	**11 20 04.1**	**-13**
	1.3nm,0.3s,baz=109,slow=15,SNR=3.9						
STKA	**Stephens Creek**	**37.98**	**249**	P	**P**	**11 21 14.4**	**+1.5**
	1.7nm,1.0s,mb3.7,baz=108,slow=13,SNR=3.5						
ASAR	**Alice Springs**	**45.65**	**260**	P	**P**	**11 22 15.8**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=93,slow=6.3,SNR=9.0						
WRA	**Warramunga Arr**	**46.13**	**265**	P	**P**	**11 22 18.6**	**-0.7**
	0.9nm,0.6s,mb3.9,baz=104,slow=8.1,SNR=15						
SNAA	**Sanae**	**83.84**	**178**	*e*	**P**	**11 26 27.8**	**+3.5**
SNAA				*e*		11 26 32.2	
SNAA				*e*		11 26 48.9	
VNA3	**Neumayer Olymp**	**83.90**	**176**	*e*	**P**	**11 26 28.1**	**+3.4**
VNA3				*e*		11 26 32.7	
VNA3				*e*		11 26 49.6	
VNA2	**Neumayer--Watz**	**84.36**	**176**	*e*	**P**	**11 26 30.5**	**+3.5**
	baz=200,slow=4.7						
VNA2				*e*		11 26 35.4	
VNA2				*e*		11 26 52.3	

TEH ***25*** *11:15:52.9, 2755N×5553E, h28km, ML4.1*
IDC ***25*** *11:16:16.8±0.9, 2756N×5558E, h0km, mb4.1/20, mb1 4.2/20, mb1mx4.1/26, mbtmp4.1/20, MS3.3/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=20.7km s-min=17.2km az=167.0*
ISCJB ***25*** *11:16:17.3±0.2, 2751N±002×5547E±003, h10km, mb4.3/41, Error ellipse: s-maj=4.2km s-min=3.1km az=122.5*
SZGRF ***25*** *11:16:18.6, 2750N×5619E, h33km, mb4.3, Southern Iran*
MOS ***25*** *11:16:18.3±0.8, 2756N×5548E, h20km, mb4.7/15, Error ellipse: s-maj=10.6km s-min=5.6km az=124.1*
THR ***25*** *11:16:22.3±0.8, 2764N×5586E, h14km±9km, ML4.0*
NEIC ***25*** *11:16:22.2, 2763N×5587E, h14km, mb4.5/20, ML3.9(THR), MN4.1(TEH), After THR.*

*OMAN **25** 11:16:27.7±2.5,2704N×5538E,h30km,Error ellipse: s-maj=3.6km s-min=1.7km az=336.0*

ISC 25 11:16:19.2±0.2,2757N±002×5550E±003,h10km,n147, σ1♀30/171,mb4.3/41,11C-6D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.62**	**106**	*e*PG	**Pg**	**11 16 29.6**	**-1.6**
BNDS	**Bandar-Abbas**	**0.62**	**106**	Pg	**Pg**	**11 16 29.0**	**-2.2**
BANOM	**Banah**	**1.79**	**156**	⇓P	**Pn**	**11 16 50.3**	**+0.1**
BANOM	SNR=106			⇑S	**Sn**	**11 17 14.2**	**+1.2**
GHIR	**Ghir-Karzin**	**2.34**	**288**	*e*PN	**Pg**	**11 17 06.3**	**+2.2**
GHIR				AML	AML	11 18 08.5	
	comp=N,910nm,0.8s						
GHIR	**Ghir-Karzin**	**2.34**	**288**	Pn	**Pg**	**11 17 06.0**	**+2.0**
KRBR	**Kerman**	**2.64**	**24**	*e*PN	**Pn**	**11 17 04.6**	**+2.7**
KRBR				*e*SG	**Sb**	**11 17 39.7**	**+0.5**
KRBR				AML	AML	11 17 47.6	
	comp=E,576nm,0.3s						
KRBR				AML	AML	11 17 53.0	
	comp=N,452nm,0.6s						
KRBR	**Kerman**	**2.64**	**24**	Pn	**Pn**	**11 17 04.0**	**+2.1**
KRBR				Sg	**Sb**	**11 17 39.0**	**-0.2**
IMOK	**Mook**	**2.86**	**302**	Pn	**Pn**	**11 17 06.3**	**+1.4**
ASHO	**Ashiyiah**	**2.92**	**170**	⇓P	**Pn**	**11 17 07.2**	**+1.5**
	SNR=102						
IPAR	**Pars**	**3.12**	**317**	*e*Pn	**Pn**	**11 17 12.0**	**+3.5**
IPAR				*e*Sn	**Sn**	**11 17 47.4**	**+1.5**
IPAR				*e*Sn	**Sn**	**11 17 48.1**	**+2.2**
IPAR	**Pars**	**3.12**	**317**	Pn	**Pn**	**11 17 11.9**	**+3.4**
IPAR				Sn	**Sn**	**11 17 47.3**	**+1.4**
IMEH	**Mehriz**	**3.88**	**349**	*e*Pn	**Pn**	**11 17 22.3**	**+3.3**
IMEH				*e*Sn	**Sn**	**11 18 04.9**	**+0.3**
IMEH	**Mehriz**	**3.88**	**349**	Pn	**Pn**	**11 17 22.2**	**+3.2**
IMEH				Sn	**Sn**	**11 18 04.9**	**+0.3**
IBAF	**Bafgh**	**4.01**	**1**	*e*Pn	**Pn**	**11 17 23.3**	**+2.7**
IBAF				*e*Sn	**Sn**	**11 18 07.4**	**-0.2**
IBAF				*e*Sn	**Sn**	**11 18 07.5**	**-0.1**
IBAF	**Bafgh**	**4.01**	**1**	Pn	**Pn**	**11 17 23.3**	**+2.7**
IBAF				Sn	**Sn**	**11 18 07.3**	**-0.3**
IBAF				Sn	**Sn**	**11 18 07.5**	**-0.1**
ARQ	**Araqi**	**4.32**	**167**	⇓P	**Pn**	**11 17 26.8**	**+1.9**
	SNR=6.5						
ISAD	**Sadrabad**	**4.61**	**340**	*e*Sn	**Sn**	**11 18 22.2**	**-0.3**
ISAD				*e*Sn	**Sn**	**11 18 22.6**	**+0.1**
BIDO	**Bidbid**	**4.68**	**149**	⇓P	**Pn**	**11 17 29.2**	**-0.6**
ICHK	**Chekchek**	**4.75**	**349**	*e*Pn	**Pn**	**11 17 33.6**	**+2.7**
ICHK	**Chekchek**	**4.75**	**349**	Pn	**Pn**	**11 17 33.5**	**+2.6**
BSY	**Bisya**	**5.04**	**162**	⇑P	**Pn**	**11 17 36.5**	**+1.6**
ZHSF	**Zahedan**	**5.06**	**65**	*e*Pn	**Pn**	**11 17 36.1**	**+0.9**
IGAR	**Garneh**	**5.47**	**329**	*e*Pn	**Pn**	**11 17 47.2**	**+6.4**
IGAR				*e*Sn	**Sn**	**11 18 47.2**	**+3.5**
IGAR				*e*Sn	**Sn**	**11 18 47.2**	**+3.5**
IBRJ	**Borojen**	**5.57**	**320**	Pn	**Pn**	**11 17 47.0**	**+4.8**
JMDO	**Jabal Madar**	**5.69**	**155**	⇑P	**Pn**	**11 17 44.7**	**+0.9**
WBK	**Wadi Bani Khal**	**5.85**	**147**	⇓P	**Pn**	**11 17 45.4**	**-0.6**
	SNR=9.6						
IZEF	**Zefreh**	**5.97**	**333**	*e*Pn	**Pn**	**11 17 49.9**	**+2.2**
IZEF				*e*Sn	**Sn**	**11 18 54.5**	**-1.7**
IPIR	**Pirpir**	**6.47**	**323**	*e*Pn	**Pn**	**11 17 56.9**	**+2.3**
IPIR				*e*Sn	**Sn**	**11 19 06.3**	**-2.2**
IPIR				*e*Sn	**Sn**	**11 19 06.7**	**-1.8**
IPIR	**Pirpir**	**6.47**	**323**	Pn	**Pn**	**11 17 56.9**	**+2.3**
IPIR				Sn	**Sn**	**11 19 06.3**	**-2.2**
IPIR				Sn	**Sn**	**11 19 06.6**	**-1.9**
IKLH	**Kalahroud**	**6.66**	**330**	*e*Pn	**Pn**	**11 17 59.8**	**+2.8**
IKLH				*e*Sn	**Sn**	**11 19 10.4**	**-2.5**
IKLH				*e*Sn	**Sn**	**11 19 11.0**	**-1.9**
IKLH	**Kalahroud**	**6.66**	**330**	Pn	**Pn**	**11 17 59.7**	**+2.7**
IKLH				Sn	**Sn**	**11 19 10.4**	**-2.5**
QRN	**Al-Qurain**	**6.80**	**282**	*e*P	**Pn**	**11 17 60.0**	**+0.9**
QRN				AML	AML	11 19 19.2	
	comp=Z,92nm,0.4s						
KBD	**Kabd**	**7.06**	**285**	*e*P	**Pn**	**11 18 04.5**	**+1.9**
KBD				AML	AML	11 19 24.3	
	comp=Z,75nm,0.5s						
UMR	**Umm Al-Rimmam**	**7.13**	**288**	*e*P	**Pn**	**11 18 05.0**	**+1.4**
UMR				AML	AML	11 19 27.8	
	comp=Z,42nm,0.4s						
RDF	**Al-Radifah**	**7.14**	**283**	*e*P	**Pn**	**11 18 04.5**	**+0.8**
RDF				AML	AML	11 19 27.3	
	comp=Z,30nm,0.4s						
NAY	**Al-Naaiem**	**7.46**	**285**	*e*P	**Pn**	**11 18 09.6**	**+1.4**
NAY				AML	AML	11 19 35.0	
	comp=Z,16nm,0.6s						
MIB	**Mutribah**	**7.51**	**289**	*e*P	**Pn**	**11 18 09.8**	**+1.1**
MIB				AML	AML	11 19 32.3	
	comp=Z,50nm,0.7s						
IANJ	**Anjiloo**	**7.99**	**351**	Pn	**Pn**	**11 18 17.9**	**+2.6**
IGLO	**Galoogah**	**8.88**	**349**	Pn	**Pn**	**11 18 30.9**	**+3.4**
IMOG	**Moghan**	**9.11**	**20**	Pn	**Pn**	**11 18 34.4**	**+3.6**
SHAO	**Shalim**	**9.50**	**179**	⇑P	**Pn**	**11 18 36.3**	**+0.2**
	SNR=11						
IMYA	**Miamay**	**9.57**	**23**	Pn	**Pn**	**11 18 40.7**	**+3.6**
WHFO	**Wadi Hawf**	**9.74**	**190**	⇑P	**Pn**	**11 18 38.5**	**-0.9**
	SNR=21						
WHFO				⇑S	**Sn**	**11 20 19.6**	**-9.1**
RBK	**Rabkut**	**10.09**	**187**	⇓P	**Pn**	**11 18 43.4**	**-0.8**
	SNR=9.5						
RBK				⇑S	**Sn**	**11 20 29.7**	**-7.7**
ABTO	**Aybut**	**10.37**	**192**	P	**Pn**	**11 18 47.1**	**-0.9**
	SNR=28						
GNI	**Garni**	**15.39**	**327**	Pn	**Pn**	**11 20 02.2**	**+5.8**
	comp=Z,2.1nm,0.3s,baz=325,slow=4.6,SNR=8.0						
GNI	**Garni**	**15.39**	**327**	*e*P	**Pn**	**11 20 03.7**	**+7.3**
	comp=Z,46nm,0.9s						
GNI	**Garni**	**15.39**	**327**	*e*P	**Pn**	**11 20 03.7**	**+7.3**
GNI				pmax	pmax		
	comp=Z,46nm,0.9s						
ZEI	**Tsey**	**17.86**	**331**	*i* P	**Pn**	**11 20 28.6**	**+0.9**
KIV	**Kislovodsk**	**19.34**	**331**	*e*P	**Pn**	**11 20 49.0**	**+3.3**
	comp=Z,43nm,0.9s						
KIV	**Kislovodsk**	**19.34**	**331**	⇑*i*P	**Pn**	**11 20 49.3**	**+3.6**
KIV				pmax	pmax		
	comp=Z,25nm,1.0s						
KKAR	**Karatay Array**	**19.70**	**34**	*i* P	**Pn**	**11 20 49.0**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ATD	**Arta Tunnel**	**19.89**	**219**	LR	LR	11 29 43.0	
	comp=Z,88nm,18.4s,baz=42,slow=40						
GOF	**Gofitskoye**	**20.09**	**334**	*e*P	**P**	**11 20 55.2**	**+2.3**
BR131	**Keskin Array S**	**21.80**	**309**	*e*P	**P**	**11 21 12.9**	**+1.4**
	comp=Z,10.0nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**21.80**	**309**	P	**P**	**11 21 12.8**	**+1.4**
	comp=Z,3.8nm,0.8s,mb3.9,baz=130,slow=14,SNR=6.9						
AB31	**Akbulak array**	**21.92**	**8**	*e*P	**P**	**11 21 12.0**	**-0.7**
AB31				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6						
AKTK	**Aktyubinsk**	**22.91**	**4**	P	**P**	**11 21 22.7**	**-0.5**
AKTO	**Aktyubinsk**	**22.91**	**4**	P	**P**	**11 21 22.7**	**-0.5**
	comp=Z,12nm,0.9s,mb4.3,baz=184,slow=9.8,SNR=15						
AKTO	**Aktyubinsk**	**22.91**	**4**	P	**P**	**11 21 23.0**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
KOLN	**Koldanda**	**24.87**	**83**	*e*P	**P**	**11 21 42.3**	**+0.4**
GKN	**Gorkha**	**25.75**	**82**	*e*P	**P**	**11 21 50.2**	**+0.2**
	comp=Z,19nm,1.0s,mb4.6						
DMN	**Daman**	**26.21**	**83**	*e*P	**P**	**11 21 56.2**	**+2.1**
	comp=Z,15nm,0.8s,mb4.6						
KKN	**Kakani**	**26.34**	**83**	*e*P	**P**	**11 21 55.7**	**+0.4**
	comp=Z,22nm,0.8s,mb4.7						
KKN	**Kakani**	**26.34**	**83**	*e*P	**P**	**11 21 55.7**	**+0.4**
KKN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
PKI	**Pulchoki**	**26.48**	**83**	*e*P	**P**	**11 21 57.5**	**+0.9**
	comp=Z,22nm,0.9s,mb4.7						
PKI	**Pulchoki**	**26.48**	**83**	*e*P	**P**	**11 21 57.5**	**+0.9**
PKI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
GUN	**Gumba**	**26.86**	**82**	*e*P	**P**	**11 22 00.7**	**+0.7**
	comp=Z,30nm,1.0s,mb4.8						
JIRN	**Jiri**	**27.16**	**83**	*e*P	**P**	**11 22 05.1**	**+2.4**
BVA0	**Borovoye Array**	**27.73**	**19**	*i* P	**P**	**11 22 07.2**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.6						
BVAR	**Borovoye Array**	**27.73**	**19**	P	**P**	**11 22 07.2**	**-0.6**
	comp=Z,5.6nm,0.8s,mb4.2,baz=202,slow=9.0,SNR=15						
CHKZ	**Chkalovo**	**28.37**	**19**	P	**P**	**11 22 13.1**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,22nm,2.3s,mb4.4						
MKAR	**Makanchi Array**	**28.48**	**40**	P	**P**	**11 22 13.2**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.5,baz=226,slow=8.2,SNR=8.6						
MKAR	**Makanchi Array**	**28.48**	**40**	*i* P	**P**	**11 22 13.7**	**-0.8**
AKASG	**Malin Array Be**	**30.52**	**326**	P	**P**	**11 22 31.1**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.2,baz=136,slow=8.5,SNR=12						
BURAR	**Bucovina Array**	**30.95**	**318**	⇑P	**P**	**11 22 37.3**	**+1.0**
DRGR		**32.09**	**316**	⇑P	**P**	**11 22 47.2**	**+0.9**
KMBO	**Kilima Mbogo**	**33.50**	**215**	P	**P**	**11 22 59.1**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=58,slow=19,SNR=2.1						
ZAL	**Zalesovo**	**34.00**	**31**	P	**P**	**11 23 01.9**	**-1.2**
	comp=Z,5.1nm,0.5s,mb4.7,baz=227,slow=7.6,SNR=24						
PKSM	**Moragy**	**34.46**	**313**	⇑P	**P**	**11 23 07.5**	**+0.4**
OKC	**Ostrava-Krasne**	**36.12**	**318**	*e*P	**P**	**11 23 21.4**	**0.0**
MORC	**Moravsky Berou**	**36.46**	**318**	*e*P	**P**	**11 23 23.8**	**-0.5**
	comp=Z,4.7nm,1.0s,mb4.4						
MORC	**Moravsky Berou**	**36.46**	**318**	*e*P	**P**	**11 23 23.8**	**-0.5**
MORC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
VRAC	**Vranov**	**36.85**	**317**	P	**P**	**11 23 27.6**	**-0.1**
	comp=Z,5.3nm,0.8s,mb4.4,baz=78,slow=11,SNR=3.6						
DPC	**Dobruska-Polom**	**37.41**	**318**	*e*P	**P**	**11 23 32.5**	**+0.2**
UPC	**Upice**	**37.65**	**318**	*e*P	**P**	**11 23 34.1**	**-0.3**
GERES	**GERESS Array B**	**38.48**	**315**	P	**P**	**11 23 40.0**	**-1.5**
	comp=Z,0.9nm,0.5s,mb3.7,baz=105,slow=7.7,SNR=9.5						
KHC	**Kasperske Hory**	**38.65**	**315**	*e*P	**P**	**11 23 42.7**	**-0.1**
KHC				x	x	11 23 47.5	
FINES	**FINESS Array B**	**39.17**	**338**	P	**P**	**11 23 46.7**	**-0.5**
	comp=Z,1.4nm,0.5s,mb3.9,baz=139,slow=12,SNR=9.1						
CLL	**Collm**	**39.72**	**318**	*e*P	**P**	**11 23 50.0**	**-1.7**
CLL				*ex*	x	11 23 58.0	
GRA1	**Grafenberg Arr**	**40.29**	**315**	*e*P	**P**	**11 23 56.4**	**-0.1**
	comp=Z,6.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**40.29**	**315**	*e*P	**P**	**11 23 56.4**	**-0.1**
	comp=Z,6.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**40.29**	**315**	*e*P	**P**	**11 23 56.4**	**-0.1**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
PGF	**Pioggiola**	**40.38**	**304**	*e*P	**P**	**11 23 56.1**	**-1.2**
DAVOX	**Davos**	**40.44**	**311**	P	**P**	**11 23 57.3**	**-0.4**
	comp=Z,3.5nm,0.4s,mb4.4,baz=131,slow=10,SNR=8.1						
SBF	**Sospel**	**41.67**	**306**	*e*P	**P**	**11 24 06.6**	**-1.3**
	comp=Z,42nm,1.1s,mb4.7						
MBDF	**Montbardon**	**42.24**	**307**	*e*P	**P**	**11 24 11.2**	**-1.4**
	comp=Z,9.4nm,0.6s,mb4.3						
MBDF	**Montbardon**	**42.24**	**307**	*e*P	**P**	**11 24 11.2**	**-1.4**
	comp=Z,4.7nm,0.6s,mb4.3						
MBDF	**Montbardon**	**42.24**	**307**	*e*P	**P**	**11 24 11.2**	**-1.4**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
LPG	**La Plagne**	**42.36**	**308**	*e*P	**P**	**11 24 13.0**	**-0.5**
	comp=Z,13nm,0.8s,mb4.3						
LPG	**La Plagne**	**42.36**	**308**	*e*P	**P**	**11 24 13.0**	**-0.5**
	comp=Z,6.7nm,0.8s,mb4.3						
LPG	**La Plagne**	**42.36**	**308**	*e*P	**P**	**11 24 13.0**	**-0.5**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
LPL	**La Plagne**	**42.38**	**308**	*e*P	**P**	**11 24 12.8**	**-0.8**
HINF	**Hinteralfeld**	**42.66**	**312**	*e*P	**P**	**11 24 13.9**	**-2.1**
ORIF	**Oris-en-Rattie**	**42.90**	**307**	*e*P	**P**	**11 24 16.2**	**-1.7**
CABF	**La Chapelle**	**42.98**	**310**	*e*P	**P**	**11 24 18.4**	**-0.1**
HAU	**Haudompre**	**43.03**	**312**	*e*P	**P**	**11 24 17.7**	**-1.2**
HFS	**Hagfors**	**43.13**	**331**	P	**P**	**11 24 19.2**	**-0.6**
	comp=Z,1.3nm,0.5s,mb3.9,baz=134,slow=8.5,SNR=7.2						
MEZF	**Maizieres J'vi**	**43.97**	**312**	*e*P	**P**	**11 24 25.4**	**-1.1**
	comp=Z,11nm,0.7s,mb4.4						
MEZF	**Maizieres J'vi**	**43.97**	**312**	*e*P	**P**	**11 24 25.4**	**-1.1**
	comp=Z,11nm,0.7s,mb4.7						
SONM	**Songino Array**	**44.15**	**49**	P	**P**	**11 24 26.7**	**-1.3**
	comp=Z,0.4nm,0.3s,mb3.6,baz=264,slow=7.2,SNR=6.5						
SMF	**Signal de Mont**	**44.52**	**310**	*e*P	**P**	**11 24 29.5**	**-1.4**
	comp=Z,15nm,0.7s,mb4.6						
SMF	**Signal de Mont**	**44.52**	**310**	*e*P	**P**	**11 24 29.5**	**-1.4**
	comp=Z,7.4nm,0.7s,mb4.6						
SMF	**Signal de Mont**	**44.52**	**310**	*e*P	**P**	**11 24 29.5**	**-1.4**
SMF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
LOR	**Lormes**	**44.58**	**310**	*e*P	**P**	**11 24 29.6**	**-1.8**
NB2	**NORSAR Subarra**	**44.65**	**331**	P	**P**	**11 24 30.8**	**-1.1**
	comp=Z,1.9nm,0.7s,mb4.0,baz=116,slow=7.9						
NB2	**NORSAR Subarra**	**44.65**	**331**	P	**P**	**11 24 30.8**	**-1.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
NOA	**NORSAR Array B**	**44.65**	**331**	P	**P**	**11 24 30.2**	**-1.7**
	comp=Z,1.3nm,0.7s,mb3.9,baz=118,slow=7.9,SNR=5.8						
BAIF	**Baives**	**44.78**	**314**	*e*P	**P**	**11 24 31.8**	**-1.2**
	comp=Z,62nm,1.3s,mb5.0						
BAIF	**Baives**	**44.78**	**314**	*e*P	**P**	**11 24 31.8**	**-1.2**
	comp=Z,31nm,1.3s,mb5.0						
BAIF	**Baives**	**44.78**	**314**	*e*P	**P**	**11 24 31.8**	**-1.2**
BAIF				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.0						
SSF	**Saint Saulge**	**44.79**	**310**	*e*P	**P**	**11 24 31.6**	**-1.5**
	comp=Z,19nm,1.1s,mb4.6						
SSF	**Saint Saulge**	**44.79**	**310**	*e*P	**P**	**11 24 31.6**	**-1.5**
	comp=Z,9.6nm,1.0s,mb4.6						
SSF	**Saint Saulge**	**44.79**	**310**	*e*P	**P**	**11 24 31.6**	**-1.5**
SSF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
AVF	**Avril sur Loir**	**44.87**	**310**	*e*P	**P**	**11 24 32.6**	**-1.1**
BGF	**Bois d'Agland**	**45.19**	**309**	*e*P	**P**	**11 24 34.8**	**-1.5**
	comp=Z,9.9nm,0.6s,mb4.5						
BGF	**Bois d'Agland**	**45.19**	**309**	*e*P	**P**	**11 24 34.8**	**-1.5**
	comp=Z,4.9nm,0.6s,mb4.5						
BGF	**Bois d'Agland**	**45.19**	**309**	*e*P	**P**	**11 24 34.8**	**-1.5**
BGF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
MTLF	**Montolieu**	**45.41**	**305**	*e*P	**P**	**11 24 36.8**	**-1.2**
CAF	**Calviac**	**45.60**	**307**	*e*P	**P**	**11 24 38.5**	**-1.0**
TCF	**Toulx Ste Croi**	**45.60**	**309**	*e*P	**P**	**11 24 38.1**	**-1.4**
	comp=Z,6.6nm,0.6s,mb4.5						
TCF	**Toulx Ste Croi**	**45.60**	**309**	*e*P	**P**	**11 24 38.1**	**-1.4**
	comp=Z,3.3nm,0.6s,mb4.4						
TCF	**Toulx Ste Croi**	**45.60**	**309**	*e*P	**P**	**11 24 38.1**	**-1.4**
TCF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LFF	**La Frestale**	**46.54**	**307**	*e*P	**P**	**11 24 47.2**	**+0.3**
LDF	**La Druitiere**	**47.39**	**312**	*e*P	**P**	**11 24 52.8**	**-0.8**
ETSF	**Etsaut**	**47.43**	**304**	*e*P	**P**	**11 24 54.4**	**+0.5**
SJPF	**Ste Jean**	**47.92**	**304**	*e*P	**P**	**11 24 58.1**	**+0.4**
	comp=Z,7.9nm,0.6s,mb4.6						
SJPF	**Ste Jean**	**47.92**	**304**	*e*P	**P**	**11 24 58.1**	**+0.4**
	comp=Z,4.0nm,0.6s,mb4.6						
SJPF	**Ste Jean**	**47.92**	**304**	*e*P	**P**	**11 24 58.1**	**+0.4**
SJPF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
TORD	**Torodi Ar. Bea**	**52.07**	**265**	P	**P**	**11 25 29.2**	**0.0**
	comp=Z,3.8nm,0.5s,mb4.6,baz=64,slow=7.4,SNR=27						
TIXI	**Tiksi**	**58.86**	**21**	*e*P	**P**	**11 26 20.8**	**+2.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
SCHQ	**Schefferville**	**84.22**	**331**	P	**P**	**11 28 50.1**	**-0.7**
	comp=Z,1.0nm,0.7s,mb4.0,baz=55,slow=9.2,SNR=5.9						
ILAR	**Eielson Array**	**86.32**	**9**	P	**P**	**11 28 59.5**	**-1.9**
	comp=Z,0.5nm,0.7s,mb3.9,baz=323,slow=4.6,SNR=11						
WRA	**Warramunga Arr**	**89.68**	**113**	P	**P**	**11 29 16.5**	**-1.0**
	comp=Z,0.4nm,0.9s,mb3.8,baz=312,slow=4.3,SNR=2.7						
YKA	**Yellowknife Ar**	**89.90**	**355**	P	**P**	**11 29 18.5**	**0.0**
	comp=Z,0.5nm,0.7s,mb4.0,baz=4.7,slow=5.1,SNR=10						
YKA				PP	PP	11 32 51.5	+0.5
	comp=Z,0.1nm,0.5s,baz=356,slow=8.5,SNR=3.9						
YKA	**Yellowknife Ar**	**89.90**	**355**	P	**P**	**11 29 18.6**	**+0.1**
YKA						11 32 51.5	
ASAR	**Alice Springs**	**91.15**	**116**	P	**P**	**11 29 23.6**	**-0.8**
	comp=Z,0.4nm,0.9s,mb3.7,baz=327,slow=4.9,SNR=3.2						

IDC 25 11:20:10.5±3.2,1215S×16711E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.8/13,mbtmp3.7/5,Error ellipse: s-maj=152.9km s-min=27.0km az=141.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.38**	**252**	P	P	11 26 42.3	+0.5
	0.5nm,0.8s,baz=83,slow=8.7,SNR=8.1						
ASAR	**Alice Springs**	**33.52**	**245**	P	P	11 26 52.0	+0.3
	0.4nm,0.6s,baz=73,slow=9.6,SNR=9.1						
ILAR	**Eielson Array**	**84.14**	**18**	P	P	11 32 43.5	+0.2
	1.7nm,0.7s,baz=230,slow=5.1,SNR=30						
MKAR	**Makanchi Array**	**95.23**	**317**	P	P	11 33 35.9	-0.1
	0.2nm,0.5s,baz=84,slow=4.5,SNR=4.8						
YKA	**Yellowknife Ar**	**95.34**	**27**	P	P	11 33 35.5	-1.0
	0.1nm,0.5s,baz=257,slow=4.5,SNR=5.9						

*ISCJB **25** 11:38:18.8±0.8, 1624S±008×175.15W±007, h273km±8km, mb4.6/50, Error ellipse: s-maj=15.9km s-min=6.4km az=108.6*

*MOS **25** 11:38:18.8±1.7, 1612S×17524W, h263km, mb4.6/15, Error ellipse: s-maj=19.0km s-min=10.5km az=146.8*

*BJI **25** 11:38:20.8, 1620S×17520W, h283km, mB5.1, mb4.6*

*IDC **25** 11:38:20.2±1.5, 1617S×175.16W, h275km±15km, mb4.2/15, mb1 4.3/17, mb1mx4.2/21, mbtmp4.8/17, Error ellipse: s-maj=15.6km s-min=9.9km az=139.0*

*NEIC **25** 11:38:21.0±0.7, 1618S×175.18W, h284km±7km, mb4.6/32, Error ellipse: s-maj=10.6km s-min=4.0km az=143.0*

ISC 25 11:38:20.0±0.8,1624S±008×17510W±007,h270km±7km, n123,σ0♀87/86,mb4.6/50,1C-1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.96**	**55**	P	**Pn**	**11 39 25.5**	**+1.3**
	90nm,0.3s,baz=36,slow=2.4,SNR=105						
AFI				S	**S**	**11 40 13.9**	**-1.4**
	60nm,0.3s,baz=39,slow=22,SNR=4.6						
AFI	**Afiamalu**	**3.96**	**55**	*e*P	**Pn**	**11 39 25.8**	**+1.6**
DZM	**Mont Dzumac**	**18.37**	**249**	P	**P**	**11 42 15.8**	**+0.5**
	0.6nm,0.3s,baz=70,slow=20,SNR=11						
URZ	**Urewera**	**22.99**	**196**	P	**P**	**11 43 00.2**	**-1.0**
	46nm,0.6s,mb5.0,baz=16,slow=3.9,SNR=26						
HNR	**Honiara**	**25.24**	**282**	P	**P**	**11 43 24.1**	**+2.5**
	43nm,0.9s,mb4.9						
HNR	**Honiara**	**25.24**	**282**	P	**P**	**11 43 24.1**	**+2.5**
HNR				pmax	pmax		
	comp=Z,43nm,0.9s,mb4.9						
RPZ	**Rata Peaks**	**29.81**	**200**	P	**P**	**11 44 02.9**	**+0.8**
	comp=Z,13nm,0.6s,mb4.6,baz=77,slow=4.0,SNR=8.5						
ARMA	**Armidale**	**33.51**	**239**	*e*P	**P**	**11 44 34.7**	**+0.4**
CTA	**Charters Tower**	**36.87**	**258**	*e*P	**P**	**11 45 02.3**	**-0.5**
	comp=Z,8.0nm,0.9s,mb4.2						
CTA	**Charters Tower**	**36.87**	**258**	P	**P**	**11 45 01.9**	**-0.9**
	comp=Z,8.1nm,0.7s,mb4.2,baz=75,slow=7.5,SNR=6.7						
CTA	**Charters Tower**	**36.87**	**258**	*e*P	**P**	**11 45 02.3**	**-0.5**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CNB	**Canberra Magne**	**36.95**	**232**	*e*P	**P**	**11 45 03.9**	**+0.4**
	comp=Z,55nm,0.9s,mb5.0						
PMG	**Port Moresby**	**37.38**	**276**	P	**P**	**11 45 07.7**	**+0.6**
	comp=Z,24nm,0.9s,mb4.6,baz=71,slow=6.4,SNR=12						
PMG	**Port Moresby**	**37.38**	**276**	*e*P	**P**	**11 45 08.2**	**+1.2**
	comp=Z,26nm,0.9s,mb4.7						
PMG	**Port Moresby**	**37.38**	**276**	*e*P	**P**	**11 45 08.2**	**+1.1**
PMG				pmax	pmax		
	comp=Z,25nm,0.9s						
TOO	**Toolangi**	**40.67**	**231**	*e*P	**P**	**11 45 34.9**	**+0.6**
	comp=Z,31nm,0.7s,mb4.7						
TOO	**Toolangi**	**40.67**	**231**	*e*P	**P**	**11 45 34.9**	**+0.6**
TOO				pmax	pmax		
	comp=Z,31nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**42.20**	**240**	*e*P	**P**	**11 45 44.7**	**-1.9**
	comp=Z,19nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**42.20**	**240**	P	**P**	**11 45 45.0**	**-1.6**
	comp=Z,28nm,0.9s,mb4.5,baz=86,slow=8.9,SNR=44						
WB2	**Warramunga Arr**	**48.05**	**258**	*e*P	**P**	**11 46 31.6**	**-0.8**
WRAB	**Tennant Creek**	**48

PDAR	**Pinedale Array**	83.98	42	P	P	11 50 19.8	-0.2
	comp=Z,5.1nm,0.7s,mb4.5,baz=215,slow=3.3,SNR=46						
SMCO	**Snowmass**	84.07	46	*e*P	P	11 50 20.6	+0.2
	comp=Z,8.1nm,1.0s,mb4.5						
LKWY	**Lake**	84.31	40	*e*P	P	11 50 23.1	+1.4
	comp=Z,6.9nm,1.0s,mb4.4						
LKWY	**Lake**	84.31	40	*e*P	P	11 50 23.1	+1.4
LKWY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
HRY	**Holter Researc**	84.51	38	*e*P	P	11 50 22.2	-0.4
BILL	**Bilibino**	85.13	353	*e*P	P	11 50 23.5	-2.2
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
JCT	**Junction City**	85.97	57	P	P	11 50 29.5	-0.3
	comp=Z,4.0nm,0.8s,mb4.3						
JCT	**Junction City**	85.97	57	P	P	11 50 29.5	-0.4
JCT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
MAW	**Mawson**	86.48	199	P	P	11 50 31.6	-0.7
	comp=Z,4.1nm,0.7s,mb4.4,baz=144,slow=8.7,SNR=3.7						
HHC	**Hu-ho-hao-te**	88.40	313	*e*P	P	11 50 42.3	+0.9
HHC				AP	pP	11 51 50.3	+4.0
HHC				XP	sP	11 52 20.8	+6.3
HHC				PP	PP	11 54 17.0	+3.7
HHC				SKS		12 00 42.5	
HHC				S		12 01 02.0	
HHC				XS	sS	12 03 03.0	+5.6
HHC				SS	SS	12 07 03.5	+3.5
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,129nm,4.5s						
HHC				LR	LR		
	comp=N,124nm,5.1s						
HHC				LR	LR		
	comp=E,210nm,3.9s						
HHC				LR	LR		
	comp=Z,63nm,5.1s						
CD2	**Chengdu**	90.86	302	*e*P	P	11 50 51.3	-1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
YKA	**Yellowknife Ar**	91.51	24	P	P	11 50 54.6	-1.3
	comp=Z,0.7nm,0.8s,mb3.6,baz=233,slow=4.6,SNR=13						
LZH	**Lanzhou**	92.41	307	*e*P	P	11 51 00.3	+0.3
LZH				AP	pP	11 52 09.3	+4.2
LZH				XP	sP	11 52 39.0	+5.8
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.9						
KURK	**Kurchatov**	112.69	319	*e*PKPdf	PKiKP	11 56 22.2	-2.1
ARCES	**ARCESS Array B**	125.20	351	PKP	PKPdf	11 56 46.0	-2.3
	comp=Z,4.7nm,0.9s,baz=356,slow=3.6,SNR=6.7						
KMBO	**Kilima Mbogo**	143.70	245	PKP	PKPdf	11 57 21.7	-1.0
	comp=Z,3.3nm,0.8s,baz=77,slow=5.0,SNR=7.8						
KMBO	**Kilima Mbogo**	143.70	245	*e*PKIKP	PKPdf	11 57 22.2	-0.5
MEM	**Membach**	145.70	359	PKPbc	PKPbc	11 57 25.5	-1.5
MEM				APKP		11 57 36.7	
BRTR	**Keskin Array B**	145.74	319	PKPbc	PKPbc	11 57 26.5	-0.7
	comp=Z,2.5nm,1.0s,baz=48,slow=1.8,SNR=4.5						
SNF	**Seneffe**	145.81	1	PKPab	PKPab	11 57 27.6	-0.7
GIVF	**Givet**	146.22	0	*e*PKP1	PKPbc	11 57 28.2	-0.4
DOU	**Dourbes**	146.23	0	PKPab	PKPab	11 57 28.2	-1.7
GRA1	**Grafenberg Arr**	146.24	353	*e*PKP	PKPdf	11 57 29.3	+2.3
GRF	**Grafenberg Arr**	146.24	353	*e*PKP2	PKPab	11 57 29.3	-0.7
BAIF	**Baives**	146.26	1	*e*PKP1	PKPbc	11 57 28.2	-0.5
	comp=Z,16nm,0.9s						
KHC	**Kasperske Hory**	146.44	350	*e*PKP	PKPdf	11 57 29.0	+1.6
KHC	**Kasperske Hory**	146.44	350	⇑*e*PKP2	PKPab	11 57 29.7	-1.0
WLF	**Walferdange**	146.64	359	PKPab	PKPab	11 57 30.2	-1.3
GERES	**GERESS Array B**	146.69	349	PKPbc	PKPbc	11 57 29.2	-0.7
	comp=Z,0.8nm,0.7s,baz=33,slow=3.7,SNR=6.9						
FLN	**La Foliniere**	147.26	7	*e*PKP1	PKPbc	11 57 30.9	-0.6
ROSF	**Rostrenen**	147.29	10	*e*PKP1	PKPbc	11 57 30.6	-1.0
	comp=Z,25nm,0.9s						
LDF	**La Druitiere**	147.47	6	*e*PKP1	PKPbc	11 57 31.1	-0.9
SGMF	**Saint Gilles**	147.49	9	*e*PKP1	PKPbc	11 57 31.3	-0.8
	comp=Z,26nm,0.9s						
GRR	**Gorron**	147.59	7	*e*PKP1	PKPbc	11 57 31.6	-0.8
	comp=Z,10nm,0.5s						
QUIF	**Quistinic**	147.72	10	*e*PKP1	PKPbc	11 57 31.7	-1.0
CDF	**Champ du Feu**	147.85	357	*e*PKP1	PKPbc	11 57 33.1	0.0
	comp=Z,6.5nm,0.6s						
LOR	**Lormes**	149.05	1	*e*PKP1	PKPbc	11 57 36.0	-0.1
	comp=Z,2.8nm,0.5s						
SSF	**Saint Saulge**	149.24	2	*e*PKP1	PKPbc	11 57 36.5	-0.1
	comp=Z,13nm,0.9s						
CABF	**La Chapelle**	149.70	358	*e*PKP1	PKPbc	11 57 38.1	+0.4
	comp=Z,20nm,1.0s						
LPG	**La Plagne**	150.79	357	*e*PKP1	PKPbc	11 57 40.7	+0.4
	comp=Z,4.5nm,0.7s						
CAF	**Calviac**	151.30	4	*e*PKP1	PKPbc	11 57 41.3	-0.1
	comp=Z,11nm,0.8s						
ORIF	**Oris-en-Rattie**	151.40	359	*e*PKP1	PKPbc	11 57 42.0	+0.3
VIVF	**Saint-Julien-l**	151.47	0	*e*PKP1	PKPbc	11 57 42.0	+0.2
MBDF	**Montbardon**	151.56	357	*e*PKP1	PKPbc	11 57 41.9	-0.1
	comp=Z,8.2nm,0.8s						
LASF	**Ste Croix**	152.24	2	*e*PKP1	PKPbc	11 57 43.5	-0.1
	comp=Z,25nm,1.2s						
SMRF	**Simiane la Rot**	152.34	359	*e*PKP1	PKPbc	11 57 44.2	+0.4
SBF	**Sospel**	152.38	356	*e*PKP1	PKPbc	11 57 44.6	+0.7
MTLF	**Montolieu**	152.89	4	*e*PKP1	PKPbc	11 57 44.8	-0.2
	comp=Z,8.9nm,1.0s						
ETSF	**Etsaut**	153.02	9	*e*PKP1	PKPbc	11 57 45.4	+0.1
ESDC	**Sonseca Array**	155.40	17	PKPab	PKPab	11 58 07.9	-0.1
	comp=Z,0.1nm,0.3s,baz=347,slow=4.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	175.63	134	PKPab	PKPab	11 59 37.9	+0.9
	comp=Z,1.8nm,0.9s,baz=263,slow=5.2,SNR=7.3						

IDC 25 11:46:49.1±6.0, 359N×12492E, h382km±71km, mb3.1/8, mb1 3.2/8, mb1mx3.1/20, mbtmp3.8/8, Error ellipse: s-maj=83.4km s-min=16.7km az=72.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	21.56	178	P	P	11 51 09.2	+0.3
	1.0nm,0.3s,baz=0.0,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	25.15	159	P	P	11 51 41.0	-0.3
	0.3nm,0.3s,baz=334,slow=11,SNR=8.5						
ASAR	**Alice Springs**	28.47	163	P	P	11 52 11.2	+0.5
	0.1nm,0.4s,baz=338,slow=7.6,SNR=2.8						
SONM	**Songino Array**	46.88	343	P	P	11 54 43.1	+0.5
	0.6nm,0.9s,baz=158,slow=8.1,SNR=8.7						
MKAR	**Makanchi Array**	56.65	326	P	P	11 55 53.9	-0.1
	2.8nm,0.3s,baz=122,slow=7.8,SNR=107						
BVAR	**Borovoye Array**	66.46	328	P	P	11 56 58.8	0.0
	0.3nm,0.4s,baz=146,slow=10,SNR=3.0						
AKTO	**Aktyubinsk**	72.65	322	P	P	11 57 36.0	-0.2
	1.7nm,0.6s,baz=102,slow=10.0,SNR=3.9						
FINES	**FINESS Array B**	91.10	332	P	P	11 59 10.1	-1.3
	0.5nm,0.5s,baz=49,slow=5.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	121.24	288	PKP	PKPdf	12 04 58.9	+1.7
	0.2nm,0.3s,baz=74,slow=1.7,SNR=5.5						

*IDC **25** 11:50:02.1±2.1, 2742N×5571E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/23, mbtmp3.6/8, MS4.0/1, Ms1 4.0/1, ms1mx2.8/30, Error ellipse: s-maj=57.6km s-min=25.2km az=152.0*
*ISCJB **25** 11:50:03.9±1.4, 2753N±003×5560E±010, h17km±11km, mb3.5/8, MS4.0/1, Error ellipse: s-maj=14.3km s-min=5.7km az=5.5*
*CSEM **25** 11:50:05.9±0.1, 2756N×5571E, h25km, ML3.6, Error ellipse: s-maj=5.4km s-min=3.7km az=82.0*
*NEIC **25** 11:50:08.9, 2767N×5602E, h14km, ML3.7(THR), After THR.*
*THR **25** 11:50:08.1±1.3, 2762N×5606E, h14km±10km, ML3.6*
*OMAN **25** 11:50:11.1±1.9, 2719N×5531E, h30km, Error ellipse: s-maj=3.1km s-min=1.8km az=342.0*

ISC 25 11:50:04.9±1.0, 2757N±003×5572E±006, h9km±7km, n32, σ1§13/40, mb3.5/8, MS4.0/1, 8C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	0.44	113	*e*Pg	Pg	11 50 13.3	-0.1
BNDS				*e*Sg	Sg	11 50 17.5	-1.8
BNDS				AML	AML	11 50 32.2	
	comp=E,12μm,0.9s						
BNDS				AML	AML	11 50 32.7	
	comp=N,12μm,0.5s						
BNDS	**Bandar-Abbas**	0.44	113	Pg	Pg	11 50 15.0	+1.5
BNDS				*e*Sg	Sg	11 50 17.5	-1.8
	comp=N,12μm,0.5s,SNR=107						
BANOM	**Banah**	1.72	162	⇑P	Pn	11 50 35.4	+0.4
	SNR=22						
BANOM				⇓S	Sn	11 50 58.1	+1.1
GHIR	**Ghir-Karzin**	2.52	287	*e*PN	Pg	11 50 54.6	+1.4
GHIR				AML	AML	11 51 44.7	
	comp=E,134nm,0.0s						
GHIR	**Ghir-Karzin**	2.52	287	Pn	Pg	11 50 54.0	+0.8
KRBR	**Kerman**	2.57	21	*e*PN	Pb	11 50 50.1	-1.1
KRBR				*e*SG	Sb	11 51 24.1	+1.2
KRBR				AML	AML	11 51 27.5	
	comp=E,285nm,0.8s						
KRBR				AML	AML	11 51 31.6	
	comp=N,493nm,0.7s						
KRBR	**Kerman**	2.57	21	*e*Pn	Pb	11 50 50.1	-1.1
	SNR=52						
KRBR				Sg	Sb	11 51 24.0	+1.1
KRBR	**Kerman**	2.57	21	Pn	Pb	11 50 50.0	-1.2
KRBR				Sg	Sb	11 51 24.0	+1.1
ASHO	**Ashiyiah**	2.89	174	⇑P	Pn	11 50 51.8	+0.8
	SNR=23						
ASHO	**Ashiyiah**	2.89	174	P	Pn	11 50 51.8	+0.7
	SNR=23						
ARQ	**Araqi**	4.28	170	⇓P	Pn	11 51 10.9	+0.8
ARQ	**Araqi**	4.28	170	P	Pn	11 51 10.9	+0.8
BIDO	**Bidbid**	4.58	151	⇑P	Pn	11 51 12.8	-1.5
ZHSF	**Zahedan**	4.89	64	*e*Pn	Pn	11 51 20.1	+1.5
BSY	**Bisya**	4.99	164	⇑P	Pn	11 51 21.7	+1.7
BSYO	**Bisya**	5.01	164	P	Pn	11 51 21.7	+1.5
JMDO	**Jabal Madar**	5.61	157	⇓P	Pn	11 51 29.2	+0.7
SHAO	**Shalim**	9.50	181	⇑P	Pn	11 52 22.2	+0.3
WHFO	**Wadi Hawf**	9.77	191	⇑P	Pn	11 52 24.3	-1.2
	SNR=12						
WHFO				⇑S	Sn	11 54 08.2	-7.2
WHFO	**Wadi Hawf**	9.77	191	P	Pn	11 52 24.3	-1.3
	SNR=12						
WHFO				S	Sn	11 54 08.2	-7.2
RBK	**Rabkut**	10.12	188	⇑P	Pn	11 52 29.2	-1.1
	SNR=7.4						
RBK				⇓S	Sn	11 54 16.8	-7.0
ABTO	**Aybut**	10.41	193	⇓P	Pn	11 52 32.6	-1.7
	SNR=15						
BRTR	**Keskin Array B**	21.95	309	P	P	11 54 59.4	+0.6
	comp=N,1.1nm,1.0s,mb3.2,baz=124,slow=13,SNR=3.7						
AKTK	**Aktyubinsk**	22.90	4	P	P	11 55 09.0	+0.1
AKTO	**Aktyubinsk**	22.90	4	P	P	11 55 09.0	+0.1
	comp=N,0.7nm,0.4s,mb3.4,baz=152,slow=6.2,SNR=3.4						
BVAR	**Borovoye Array**	27.67	19	P	P	11 55 52.6	-0.4
	comp=N,0.4nm,0.5s,mb3.3,baz=171,slow=10,SNR=2.9						
ZAL	**Zalesovo**	33.90	31	P	P	11 56 47.3	-0.7
	comp=N,1.1nm,0.5s,mb4.1,baz=266,slow=8.9,SNR=5.3						
HFS	**Hagfors**	43.23	331	LR	LR	12 16 36.4	
	comp=N,197nm,21.3s,MS4.0,baz=253,slow=37						
SONM	**Songino Array**	44.01	49	P	P	11 58 13.7	+1.1
	comp=N,0.3nm,0.8s,mb3.1,baz=274,slow=5.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	52.26	265	P	P	11 59 15.4	-1.0
	comp=N,0.6nm,0.4s,mb3.9,baz=65,slow=7.6,SNR=12						
ILAR	**Eielson Array**	86.29	10	P	P	12 02 45.2	-1.8
	comp=N,0.2nm,0.7s,mb3.5,baz=323,slow=4.8,SNR=5.0						
YKA	**Yellowknife Ar**	89.92	356	P	P	12 03 02.9	-1.5
	comp=N,0.3nm,0.9s,mb3.6,baz=4.8,slow=4.0,SNR=5.4						

*IDC **25** 11:54:19.4±4.9, 1905S×16929E, h138km±56km, mb3.2/4, mb1 3.5/5, mb1mx3.4/13, mbtmp3.7/5, Error ellipse: s-maj=116.6km s-min=33.9km az=147.0*
*ISCJB **25** 11:54:20.8±2.4, 191S±01×169.1E±03, h163km±11km, mb3.3/4, Error ellipse: s-maj=48.9km s-min=12.7km az=33.7*

ISC 25 11:54:20.5±2.5, 191S±01×1693E±03, h151km±13km, n6, σ1§00/8, mb3.3/4, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	1.80	325	⇑*i*P	Pn	11 54 54.2	+0.9
BKM				S	Sn	11 55 18.0	-0.5
DZM	**Mont Dzumac**	3.97	222	P	Pn	11 55 21.0	+0.6
	16nm,0.3s,baz=42,slow=18,SNR=176						
DZM				S	Sn	11 56 06.1	-0.8
	11nm,0.3s,baz=62,slow=17,SNR=4.2						
STKA	**Stephens Creek**	27.97	238	P	P	11 59 57.6	+0.7
	0.6nm,0.5s,mb3.6,baz=98,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	32.95	263	P	P	12 00 40.4	-0.3
	0.1nm,0.4s,mb2.9,baz=88,slow=6.4,SNR=4.9						
ASAR	**Alice Springs**	33.23	256	P	P	12 00 43.6	+0.5
	1.2nm,0.4s,mb3.9,baz=82,slow=8.6,SNR=41						
ILAR	**Eielson Array**	90.11	17	P	P	12 07 02.4	-1.0
	0.1nm,0.7s,mb2.9,baz=242,slow=5.8,SNR=5.7						

*TEH **25** 11:57:25.0, 2761N×5581E, h18km, ML4.0*
*MOS **25** 11:57:26.2±2.0, 2641N×5568E, h33km, mb4.0/2, Error ellipse: s-maj=23.9km s-min=11.2km az=110.1*
*ISCJB **25** 11:57:29.9±0.6, 2732N±006×5567E±004, h10km, mb3.7/15, Error ellipse: s-maj=8.0km s-min=4.7km az=0.1*
*IDC **25** 11:57:30.0±1.9, 2745N×5563E, h0km, mb3.7/15, mb1 3.9/15, mb1mx3.8/24, mbtmp3.8/15, Error ellipse: s-maj=41.9km s-min=21.2km az=164.0*
*CSEM **25** 11:57:31.4±0.1, 2733N×5570E, h25km, ML3.8*
*THR **25** 11:57:34.3±0.6, 2747N×5648E, h16km±5km, ML3.8*
*NEIC **25** 11:57:34.3, 2747N×5648E, h16km, mb4.0/2, ML3.8(THR), MN4.0(TEH), After THR.*

ISC 25 11:57:32.2±0.5, 2741N±005×5574E±004, h10km, n58, σ1§35/71, mb3.7/15, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	0.38	92	*e*PG	Pg	11 57 40.5	+0.8
BNDS				*e*SG	Sg	11 57 45.3	+0.6
BNDS				AML	AML	11 57 57.0	
	comp=E,6μm,0.6s						
BNDS				AML	AML	11 57 58.2	
	comp=N,6μm,0.6s						
BNDS	**Bandar-Abbas**	0.38	92	*e*Pg	Pg	11 57 40.5	+0.8
	SNR=108						
BNDS				*e*Sg	Sg	11 57 45.3	+0.6
	comp=N,6μm,0.6s,SNR=108						
BNDS	**Bandar-Abbas**	0.38	92	Pg	Pg	11 57 40.0	+0.3
BNDS				Sg	Sg	11 57 45.0	+0.3
GHIR	**Ghir-Karzin**	2.59	290	*e*PN	Pg	11 58 26.0	+4.2
GHIR				AML	AML	11 59 09.6	
	comp=N,685nm,0.6s						
GHIR				AML	AML	11 59 09.8	
	comp=E,767nm,0.4s						
GHIR	**Ghir-Karzin**	2.59	290	Pn	Pg	11 58 26.0	+4.2
KRBR	**Kerman**	2.71	19	*e*PN	Pn	11 58 17.1	+1.4
KRBR				*e*SG	Sb	11 58 53.5	-0.6
KRBR				AML	AML	11 58 57.5	
	comp=E,253nm,0.5s						
KRBR				AML	AML	11 59 08.9	
	comp=N,324nm,1.5s						
KRBR	**Kerman**	2.71	19	Pn	Pn	11 58 17.0	+1.2
KRBR				Sg	Sb	11 58 53.0	-1.0
IMOK	**Mook**	3.13	302	*e*Pn	Pn	11 58 25.8	+4.3
IMOK	**Mook**	3.13	302	Pn	Pn	11 58 21.4	-0.1
IPAR	**Pars**	3.38	316	*e*Sn	Sn	11 59 04.8	-0.5
IPAR	**Pars**	3.38	316	*e*Pn	Pn	11 58 25.8	+0.8
IPAR				*e*Sn	Sn	11 59 04.8	-0.5
SHI	**Shiraz**	3.61	309	*e*Pn	Pn	11 58 24.7	-3.4
IMEH	**Mehriz**	4.08	346	*e*Pn	Pn	11 58 36.9	+2.3
IMEH	**Mehriz**	4.08	346	Pn	Pn	11 58 36.7	+2.1
IBAF	**Bafgh**	4.16	358	*e*Pn	Pn	11 58 37.4	+1.6
IBAF				*e*Sn	Sn	11 59 21.2	-3.3
IBAF				*e*Sn	Sn	11 59 21.3	-3.2
IBAF	**Bafgh**	4.16	358	Pn	Pn	11 58 37.2	+1.4
ISAD	**Sadrabad**	4.83	339	*e*Sn	Sn	11 59 37.9	-2.9
ISAD				*e*Sn	Sn	11 59 37.9	-2.9
ISAD	**Sadrabad**	4.83	339	*e*Pn	Pn	11 58 47.4	+2.5
ISAD				*e*Sn	Sn	11 59 37.9	-2.9
ICHK	**Chekchek**	4.95	347	*e*Pn	Pn	11 58 47.8	+1.2
IGAR	**Garneh**	5.71	328	*e*Sn	Sn	12 00 04.3	+1.6
IGAR				*e*Sn	Sn	12 00 04.6	+1.9
IBRJ	**Borojen**	5.83	319	Pn	Pn	11 59 02.0	+3.3
IZEF	**Zefreh**	6.21	332	*e*Pn	Pn	11 59 04.2	+0.3
IZEF				*e*Sn	Sn	12 00 11.5	-3.4
IPIR	**Pirpir**	6.73	322	*e*Pn	Pn	11 59 11.1	+0.1
IPIR				*e*Lg		12 00 23.7	
IPIR				*e*Lg		12 00 24.3	
IKLH	**Kalahroud**	6.90	330	*e*Sn	Sn	12 00 27.5	-4.3
IKLH				*e*Sn	Sn	12 00 27.5	-4.3
QRN	**Al-Qurain**	7.04	283	*e*P	Pn	11 59 15.3	0.0
QRN				AML	AML	12 00 32.9	
	comp=Z,55nm,0.6s						
KBD	**Kabd**	7.31	286	*e*P	Pn	11 59 19.6	+0.6
KBD				AML	AML	12 00 40.3	
	comp=Z,58nm,0.3s						
KBD	**Kabd**	7.31	286	*e*P	Pn	11 59 20.5	+1.5
RDF	**Al-Radifah**	7.39	284	*e*P	Pn	11 59 20.3	+0.2
RDF				AML	AML	12 00 41.1	
	comp=Z,18nm,0.5s						
NAY	**Al-Naaiem**	7.71	286	*e*P	Pn	11 59 25.0	+0.5
NAY				AML	AML	12 00 49.5	
	comp=Z,11nm,0.6s						
MIB	**Mutribah**	7.76	290	*e*P	Pn	11 59 25.9	+0.8
MIB				AML	AML	12 00 51.8	
	comp=Z,28nm,0.5s						
IANJ	**Anjiloo**	8.18	349	Pn	Pn	11 59 32.5	+1.6
IVRN	**Varamin**	8.30	337	*e*Pn	Pn	11 59 32.5	-0.1
IMOG	**Moghan**	9.19	19	Pn	Pn	11 59 49.2	+4.4
IMYA	**Miamay**	9.64	21	*e*P	Pn	11 59 56.0	+5.1
GNI	**Garni**	15.63	327	Pn	Pn	12 01 17.0	+4.5
	comp=Z,1.0nm,0.3s,baz=350,slow=8.3,SNR=5.7						
GNI	**Garni**	15.63	327	*e*P	Pn	12 01 18.4	+5.9
	comp=Z,30nm,1.0s						
GNI	**Garni**	15.63	327	*e*P	Pn	12 01 18.4	+5.9
GNI				pmax	pmax		
	comp=Z,30nm,1.0s						
KIV	**Kislovodsk**	19.58	331	⇑*e*P	Pn	12 02 04.2	+2.7
KIV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BRTR	**Keskin Array B**	22.07	309	P	P	12 02 26.7	-0.5
	comp=Z,2.5nm,0.8s,mb3.7,baz=124,slow=11,SNR=8.1						
AKTK	**Aktyubinsk**	23.05	4	P	P	12 02 37.7	+0.1
AKTK	**Aktyubinsk**	23.05	4	P	P	12 02 37.7	0.0
AKTO	**Aktyubinsk**	23.05	4	P	P	12 02 37.7	0.0
	comp=Z,5.0nm,0.9s,mb3.9,baz=188,slow=8.9,SNR=7.8						
BVAR	**Borovoye Array**	27.81	19	P	P	12 03 19.8	-1.6
	comp=Z,1.3nm,0.7s,mb3.7,baz=179,slow=7.3,SNR=7.1						
MKAR	**Makanchi Array**	28.46	40	P	P	12 03 27.4	+0.1
	comp=Z,0.4nm,0.7s,mb3.1,baz=233,slow=10.0,SNR=4.4						
AKASG	**Malin Array Be**	30.76	326	P	P	12 03 44.6	-3.1
	comp=Z,1.1nm,0.5s,mb3.9,baz=106,slow=6.2,SNR=5.0						
ZAL	**Zalesovo**	34.02	31	P	P	12 04 16.3	+0.1
	comp=Z,2.0nm,0.5s,mb4.3,baz=227,slow=8.4,SNR=9.5						
GERES	**GERESS Array B**	38.74	315	P	P	12 04 55.9	-0.7
	comp=Z,0.2nm,0.5s,mb3.1,baz=111,slow=14,SNR=3.2						
KHC	**Kasperske Hory**	38.91	315	*e*P	P	12 04 57.0	-0.9
FINES	**FINESS Array B**	39.39	338	P	P	12 04 60.0	-2.0
	comp=Z,0.8nm,0.7s,mb3.6,baz=178,slow=5.7,SNR=4.2						
HFS	**Hagfors**	43.37	331	P	P	12 05 33.8	-0.9
	comp=Z,1.3nm,0.7s,mb3.7,baz=120,slow=8.7,SNR=3.7						
SONM	**Songino Array**	44.10	48	P	P	12 05 41.2	+0.7
	comp=Z,0.6nm,1.1s,mb3.3,baz=233,slow=0.7,SNR=3.3						
NB2	**NORSAR Subarra**	44.88	331	P	P	12 05 44.5	-2.3
	comp=Z,0.6nm,0.7s,mb3.5,baz=118,slow=7.9						
NB2	**NORSAR Subarra**	44.88	331	P	P	12 05 44.5	-2.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
NOA	**NORSAR Array B**	44.88	331	P	P	12 05 44.5	-2.3
	comp=Z,1.5nm,0.9s,mb3.8,baz=118,slow=8.1,SNR=3.9						
ARCES	**ARCESS Array B**	45.67	346	P	P	12 05 52.6	-0.4
	comp=Z,1.3nm,0.9s,mb3.9,baz=120,slow=7.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	52.27	266	P	P	12 06 43.2	-0.5
	comp=Z,1.6nm,0.8s,mb4.0,baz=62,slow=7.3,SNR=9.0						
ILAR	**Eielson Array**	86.44	10	P	P	12 10 12.8	-2.1
	comp=Z,0.2nm,0.6s,mb3.5,baz=324,slow=4.8,SNR=5.9						
YKA	**Yellowknife Ar**	90.07	356	P	P	12 10 30.3	-1.9
	comp=Z,0.3nm,0.9s,mb3.6,baz=0.8,slow=4.3,SNR=4.6						

*NEIC **25** 11:59:17.9, 3158S×7196W, h6km, ML3.7(GUC), After GUC.*

GUC 25 11:59:17.9±0.7, 3158S×7196W, h6km±2km, MD3.6, ML3.7, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	0.49	128	⇑*i*P	Pg	11 59 28.1	+0.7
CHNG				*i*S	Sg	11 59 35.6	+1.8
CMCH	**Combarbala**	0.91	64	⇓*i*P	Pg	11 59 35.0	-0.4
CMCH				*i*S	Sg	11 59 48.5	+1.3
CMCH				AMP		11 59 55.4	
	comp=E,5μm,0.5s						
CMCH	**Combarbala**	0.91	64	⇓*i*P	Pg	11 59 35.0	-0.4
CMCH				*i*S	Sg	11 59 48.5	+1.3
OVCH	**Ovalle**	1.17	34	⇑*i*P	Pg	11 59 39.4	-0.9
OVCH				*i*S	Sg	11 59 55.5	+0.2
OVCH				AMP		12 00 04.9	
	comp=E,2μm,0.7s						
OVCH	**Ovalle**	1.17	34	⇑*i*P	Pg	11 59 39.4	-0.9
OVCH				*i*S

1.2nm,0.8s,mb3.5
BVAR Borovoye Array 27.94 19 P P 12 18 35.5 +1.0
1.3nm,0.7s,mb3.6,baz=195,slow=11,SNR=6.8
MKAR Makanchi Array 28.50 40 P P 12 18 40.1 +0.7
0.2nm,0.5s,mb3.1,baz=234,slow=8.5,SNR=2.9
AKASG Malin Array Be 31.04 326 P P 12 19 00.1 -1.7
1.1nm,0.5s,mb4.0,baz=132,slow=8.5,SNR=6.9
GERES GERESS Array B 39.02 315 P P 12 20 09.3 -1.4
0.9nm,0.9s,mb3.5,baz=120,slow=4.8,SNR=4.9
FINES FINESS Array B 39.66 338 P P 12 20 14.4 -1.5
0.7nm,0.6s,mb3.6,baz=50,slow=4.3,SNR=3.8
NOA NORSAR Array B 45.16 331 P P 12 20 58.7 -2.0
1.0nm,0.8s,mb3.7,baz=117,slow=7.9,SNR=3.4
TORD Torodi Ar. Bea 52.44 266 P P 12 21 57.4 +0.7
1.6nm,0.7s,mb4.0,baz=62.slow=8.1,SNR=14
ILAR Eielson Array 86.61 10 P P 12 25 27.9 +0.3
0.3nm,0.6s,mb3.7.baz=316,slow=4.4,SNR=7.1
YKA Yellowknife Ar 90.30 356 P P 12 25 45.8 +0.8
0.2nm,0.8s,mb3.5,baz=3.9,slow=4.7,SNR=6.7

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*BJI **25** 12:13:40.6,2784N×5456E,h40km,mB5.0,mb4.9,Ms4.7, Msz4.5*
*MOS **25** 12:13:41.8±0.9,2756N×5557E,h15km,mb5.0/70,Error ellipse: s-maj=6.3km s-min=3.7km az=118.2*
*IDC **25** 12:13:41.3±0.6,2759N×5562E,h0km,mb4.5/28, mb1 4.6/29,mb1mx4.6/31,mbtmp4.5/29,ML2.2/1,MS3.8/4, Ms1 3.8/4,ms1mx3.5/14,Error ellipse: s-maj=15.0km s-min=13.6km az=156.0*
*ISCJB **25** 12:13:42.6±0.2,2757N±003×5552E±002,h18km, mb4.7/138,MS4.0/17,Error ellipse: s-maj=4.1km s-min=2.6km az=15.1*
*CSEM **25** 12:13:42.1±0.1,2743N×5557E,h22km,mb4.8/96,Ms3.8, Mw4.9,Error ellipse: s-maj=3.2km s-min=1.7km az=172.0*
*NEIC **25** 12:13:42.5±0.3,2744N×5551E,h10km,mb4.9/83, MS3.9/3,ML4.6(THR),MN4.6(TEH),Error ellipse: s-maj=5.9km s-min=3.6km az=9.0*
*HRVD **25** 12:13:42.5±0.7,2744N×5536E,h19km±1km,MW4.9/64, Centroid moment Tensor Solution. LP body waves: s21,c25;Mantle waves: s64,c92; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.11±.18; Mθθ-2.31±.14; Mφφ0.19±.12; Mrθ1.13±.27; Mθφ0.20±.09; Mφr-0.99±.31; Best double couple: M0=2.68600×10^16 NP1:φs256.00000°,δ34.00000°,λ57.00000°. NP2: φs114.00000°,δ62.00000°,λ110.00000°. Principal axes: T 2.7220, Plg67.0000°, Azm61.0000°; N -0.0780, Plg17.0000°, Azm284.0000°; P -2.6500, Plg15.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*TEH **25** 12:13:46.1,2751N×5553E,h11km,Mn4.6*
*THR **25** 12:13:47.1±0.3,2766N×5598E,h15km±3km,ML4.5*
*SZGRF **25** 12:13:50.6,2822N×5554E,h26km,mb4.6,Southern Iran*
ISC 25 12:13:44.7±0.2,2763N±003×5556E±002,h18km, h18km±2.1km:pP-P,n466,σ1§10/494,mb4.7/138,MS4.0/17, 19C-17D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.59**	**112**	*e*PG	**Pg**	**12 13 53.8**	**-2.6**
BNDS				AML	AML	12 14 08.8	
	comp=N,35μm,0.4s						
BNDS				AML	AML	12 14 14.5	
	comp=E,46μm,0.7s						
BNDS	**Bandar-Abbas**	**0.59**	**112**	*e*Pg	**Pg**	**12 13 55.0**	**-1.4**
GHIR	**Ghir-Karzin**	**2.37**	**287**	*e*Pn	**Pg**	**12 14 32.4**	**+2.2**
GHIR				AML	AML	12 15 32.5	
	comp=N,4μm,1.4s						
KRBR	**Kerman**	**2.57**	**24**	*e*Pn	**Pb**	**12 14 28.3**	**-2.1**
KRBR				*e*SG	**Sb**	**12 15 03.0**	**+1.4**
KRBR				AML	AML	12 15 16.9	
	comp=N,2μm,0.6s						
KRBR				AML	AML	12 15 28.9	
	comp=E,2μm,0.8s						
KRBR	**Kerman**	**2.57**	**24**	*e*Pn	**Pb**	**12 14 29.0**	**-1.4**
KRBR				*e*Sg	**Sb**	**12 15 03.0**	**+1.3**
IMOK	**Mook**	**2.88**	**300**	*e*Pn	**Pn**	**12 14 32.1**	**+2.4**
IPAR	**Pars**	**3.12**	**316**	*e*Pn	**Pn**	**12 14 36.4**	**+3.3**
SHI	**Shiraz**	**3.35**	**308**	*e*Pn	**Pn**	**12 14 40.7**	**+4.5**
IMEH	**Mehriz**	**3.84**	**348**	*e*Pn	**Pn**	**12 14 46.5**	**+3.5**
IBAF	**Bafgh**	**3.95**	**0**	*e*Pn	**Pn**	**12 14 47.6**	**+3.1**
ISAD	**Sadrabad**	**4.58**	**340**	*e*Pn	**Pn**	**12 14 57.0**	**+4.0**
ICHK	**Chekchek**	**4.71**	**348**	*e*Pn	**Pn**	**12 14 58.0**	**+3.1**
ZHSF	**Zahedan**	**4.99**	**65**	*e*Pn	**Pn**	**12 14 59.0**	**+0.3**
ZHSF	**Zahedan**	**4.99**	**65**	*e*Pn	**Pn**	**12 14 59.0**	**+0.2**
	SNR=52						
ZHSF	**Zahedan**	**4.99**	**65**	*e*Pn	**Pn**	**12 15 00.0**	**+1.2**
IGAR	**Garneh**	**5.45**	**328**	*e*Pn	**Pn**	**12 15 10.3**	**+5.2**
IGAR				*e*Sn	**Sn**	**12 16 12.9**	**+5.6**
IGAR	**Garneh**	**5.45**	**328**	*e*Pn	**Pn**	**12 15 07.9**	**+2.8**
IZEF	**Zefreh**	**5.95**	**333**	*e*Pn	**Pn**	**12 15 14.1**	**+2.2**
IZEF				*e*Sn	**Sn**	**12 16 19.1**	**-0.5**
IZEF	**Zefreh**	**5.95**	**333**	Pn	**Pn**	**12 15 14.0**	**+2.1**
IZEF				Sn	**Sn**	**12 16 19.0**	**-0.6**
IPIR	**Pirpir**	**6.46**	**322**	*e*Pn	**Pn**	**12 15 21.1**	**+2.1**
IPIR				*e*Sn	**Sn**	**12 16 31.9**	**-0.3**
IPIR				*e*Sn	**Sn**	**12 16 32.0**	**-0.2**
IPIR	**Pirpir**	**6.46**	**322**	*e*Pn	**Pn**	**12 15 20.0**	**+1.0**
IPIR	**Pirpir**	**6.46**	**322**	Pn	**Pn**	**12 15 21.0**	**+2.0**
IPIR				Sn	**Sn**	**12 16 31.9**	**-0.3**
IKLH	**Kalahroud**	**6.63**	**330**	*e*Pn	**Pn**	**12 15 23.1**	**+1.8**
IKLH				*e*Sn	**Sn**	**12 16 36.1**	**-0.4**
IKLH				*e*Sn	**Sn**	**12 16 36.3**	**-0.2**
QRN	**Al-Qurain**	**6.84**	**281**	*e*P	**Pn**	**12 15 25.0**	**+0.8**
QRN				AML	AML	12 16 43.8	
	comp=Z,385nm,0.6s						
KBD	**Kabd**	**7.10**	**284**	*e*P	**Pn**	**12 15 28.6**	**+0.9**
KBD				AML	AML	12 16 48.6	
	comp=Z,262nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.16**	**287**	*e*P	**Pn**	**12 15 29.2**	**+0.6**
UMR				AML	AML	12 16 52.1	
	comp=Z,95nm,0.3s						
RDF	**Al-Radifah**	**7.18**	**282**	*e*P	**Pn**	**12 15 29.7**	**+0.8**
RDF				AML	AML	12 16 53.4	
	comp=Z,159nm,0.4s						
NAY	**Al-Naaiem**	**7.50**	**284**	*e*P	**Pn**	**12 15 34.1**	**+0.9**
NAY				AML	AML	12 17 00.5	
	comp=Z,151nm,0.7s						
MIB	**Mutribah**	**7.54**	**289**	*e*P	**Pn**	**12 15 34.5**	**+0.7**
MIB				AML	AML	12 16 56.5	
	comp=Z,119nm,0.6s						
IANJ	**Anjiloo**	**7.94**	**350**	*e*Pn	**Pn**	**12 15 41.7**	**+2.4**
IANJ				*e*Sn	**Sn**	**12 17 07.5**	**-1.2**
IANJ	**Anjiloo**	**7.94**	**350**	*e*Pn	**Pn**	**12 15 42.1**	**+2.8**
IANJ				Sn	**Sn**	**12 17 07.4**	**-1.3**
IANJ	**Anjiloo**	**7.94**	**350**	Pn	**Pn**	**12 15 41.6**	**+2.3**
IANJ				Sn	**Sn**	**12 17 07.4**	**-1.3**
ILAS	**Lasjerd**	**8.05**	**345**	*e*Pn	**Pn**	**12 15 43.4**	**+2.7**
ILAS	**Lasjerd**	**8.05**	**345**	*e*Pn	**Pn**	**12 15 44.7**	**+4.0**
IVRN	**Varamin**	**8.05**	**337**	*e*Pn	**Pn**	**12 15 43.0**	**+2.3**
IVRN				*e*Sn	**Sn**	**12 17 09.7**	**-1.5**
IVRN	**Varamin**	**8.05**	**337**	*e*Pn	**Pn**	**12 15 43.1**	**+2.4**
IFIR	**Firoozkooh**	**8.34**	**344**	*e*Pn	**Pn**	**12 15 46.7**	**+1.9**
ISHM	**Shahmirzad**	**8.38**	**347**	*e*Pn	**Pn**	**12 15 48.0**	**+2.7**
ISHM				*e*Sn	**Sn**	**12 17 17.5**	**-2.0**
ISHM				*e*Sn	**Sn**	**12 17 18.4**	**-1.1**
ISHM	**Shahmirzad**	**8.38**	**347**	*e*Pn	**Pn**	**12 15 48.4**	**+3.1**
ISHM	**Shahmirzad**	**8.38**	**347**	Pn	**Pn**	**12 15 47.9**	**+2.6**
ISHM				Sn	**Sn**	**12 17 17.5**	**-2.0**
ISHM				Sn	**Sn**	**12 17 18.4**	**-1.1**
IKIA	**Kiasar**	**8.70**	**350**	*e*Pn	**Pn**	**12 15 52.7**	**+3.0**
IMOG	**Moghan**	**9.05**	**20**	*e*Pn	**Pn**	**12 15 56.6**	**+2.2**
IMOG	**Moghan**	**9.05**	**20**	*e*Pn	**Pn**	**12 15 58.4**	**+4.0**
IMHD	**Mahdasht**	**9.05**	**334**	*e*Pn	**Pn**	**12 15 56.1**	**+1.6**
IRAZ	**Razeghan**	**9.12**	**330**	*e*Pn	**Pn**	**12 16 05.0**	**+10**
IRAZ				*e*Sn	**Sn**	**12 17 34.7**	**-3.0**
IRAZ	**Razeghan**	**9.12**	**330**	Pn	**Pn**	**12 16 04.9**	**+9.4**
IRAZ				Sn	**Sn**	**12 17 34.7**	**-3.0**
IPAY	**Payeh**	**9.27**	**17**	*e*Pn	**Pn**	**12 16 01.3**	**+3.8**
MHI	**Mashhad**	**9.27**	**20**	*e*Pn	**Pn**	**12 16 01.4**	**+3.9**
IKOM	**Komasi**	**9.51**	**315**	*e*Pn	**Pn**	**12 16 01.8**	**+1.1**
IKOM	**Komasi**	**9.51**	**315**	Pn	**Pn**	**12 16 01.7**	**+1.0**
IMYA	**Miamay**	**9.51**	**23**	*e*Pn	**Pn**	**12 16 03.1**	**+2.4**
IMYA				*e*Sn	**Sn**	**12 17 44.4**	**-2.7**
IMYA				*e*Sn	**Sn**	**12 17 44.9**	**-2.2**
IMYA	**Miamay**	**9.51**	**23**	Sn	**Sn**	**12 17 44.3**	**-2.8**
IMYA	**Miamay**	**9.51**	**23**	Pn	**Pn**	**12 16 03.1**	**+2.4**
IMYA				Sn	**Sn**	**12 17 44.3**	**-2.8**
IMYA				Sn	**Sn**	**12 17 44.9**	**-2.2**
IGHG	**Ghaleghazi**	**10.21**	**313**	*e*Pn	**Pn**	**12 16 11.1**	**+0.8**
IDHR	**Dehrash**	**10.55**	**314**	*e*Pn	**Pn**	**12 16 08.8**	**-6.3**
IDHR				*e*Sn	**Sn**	**12 18 07.9**	**-4.9**
IDHR				*e*Sn	**Sn**	**12 18 08.5**	**-4.3**
IDHR	**Dehrash**	**10.55**	**314**	*e*Pn	**Pn**	**12 16 18.4**	**+3.3**
IDHR	**Dehrash**	**10.55**	**314**	Pn	**Pn**	**12 16 08.7**	**-6.4**
IDHR				Sn	**Sn**	**12 18 07.9**	**-4.9**
IDHR				Sn	**Sn**	**12 18 08.4**	**-4.4**
BHD	**Baghdad**	**11.17**	**303**	*e*x	x	12 16 20.0	
BHD				*i* x	x	12 18 28.5	
BHD				*i* x	x	12 20 06.0	
BHD				*i* x	x	12 20 34.0	
BHD				*i* x	x	12 21 57.0	
BHD				*i* x	x	12 26 41.0	
MSL	**Mosul**	**13.65**	**312**	*e*x	x	12 16 55.0	
MSL				*e*x	x	12 19 29.0	
JASL	**Jaisalmer**	**13.66**	**89**	*e*P	**Pn**	**12 16 53.3**	**-4.3**
GNI	**Garni**	**15.37**	**327**	Pn	**Pn**	**12 17 24.0**	**+3.3**
	comp=Z,2.4nm,0.3s,baz=84,slow=1.3,SNR=15						
GNI	**Garni**	**15.37**	**327**	*e*Pn	**Pn**	**12 17 24.2**	**+3.6**
	comp=Z,153nm,0.9s						
GNI	**Garni**	**15.37**	**327**	*e*Pn	**Pn**	**12 17 24.2**	**+3.6**
	comp=Z,153nm,0.9s						
GNI	**Garni**	**15.37**	**327**	⇑*e*P	**Pn**	**12 17 24.4**	**+3.8**
GNI				pmax	pmax		
	comp=Z,59nm,0.7s						
AJM	**Ajmer**	**17.04**	**89**	AMb	AMB	12 17 33.7	
	comp=Z,5.7nm,0.3s						
ZEI	**Tsey**	**17.84**	**331**	*e*P	**Pn**	**12 17 54.4**	**+2.4**
MALT	**Malatya**	**17.87**	**311**	*e*P	**Pn**	**12 17 52.2**	**-0.1**
	comp=Z,21nm,0.9s						
MALT				*e*Sn	**Sn**	**12 21 22.0**	**+11**
MALT	**Malatya**	**17.87**	**311**	*e*Pn	**Pn**	**12 17 52.2**	**-0.1**
	comp=Z,21nm,0.9s						
MALT				*e*Sn	**Sn**	**12 21 22.0**	**+11**
MALT	**Malatya**	**17.87**	**311**	*e*P	**Pn**	**12 17 52.2**	**-0.1**
MALT				pmax	pmax		
	comp=Z,21nm,0.9s						
KHET	**Khetri**	**17.91**	**84**	*e*P	**Pn**	**12 17 51.1**	**-1.8**
KHET				AMb	AMB	12 17 58.9	
	comp=Z,18nm,1.0s						
AYAN	**Aya Nagar**	**19.05**	**82**	*e*P	**Pn**	**12 18 06.6**	**-0.2**
AYAN				AMb	AMB	12 18 12.7	
	comp=Z,22nm,0.8s						
POO	**Poona**	**19.09**	**114**	*e*P	**Pn**	**12 18 09.0**	**+1.8**
KIV	**Kislovodsk**	**19.32**	**331**	*e*Pn	**Pn**	**12 18 10.9**	**+1.0**
	comp=Z,155nm,1.0s						
KIV	**Kislovodsk**	**19.32**	**331**	*i* P	**Pn**	**12 18 11.5**	**+1.6**
	comp=Z,106nm,1.3s						
KIV	**Kislovodsk**	**19.32**	**331**	*e*Pn	**Pn**	**12 18 10.9**	**+1.0**
	comp=Z,155nm,1.0s						
KIV	**Kislovodsk**	**19.32**	**331**	*c i*P	**Pn**	**12 18 11.5**	**+1.6**
KIV				pmax	pmax		
	comp=Z,106nm,1.3s						
KK31	**Karatay Array**	**19.63**	**34**	*i* P	**Pn**	**12 18 12.0**	**-1.7**
	comp=Z,60nm,1.3s						
KK31	**Karatay Array**	**19.63**	**34**	*i* P	**Pn**	**12 18 12.0**	**-1.7**
KK31				pmax	pmax		
	comp=Z,60nm,1.3s						
KKAR	**Karatay Array**	**19.63**	**34**	P	**Pn**	**12 18 12.0**	**-1.7**
	comp=Z,78nm,1.3s						
KKAR	**Karatay Array**	**19.63**	**34**	P	**Pn**	**12 18 12.0**	**-1.7**
KKAR				pmax	pmax		
	comp=Z,78nm,1.3s						
AGRA	**Agra**	**19.87**	**86**	*e*P	**Pn**	**12 18 16.4**	**-0.2**
ATD	**Arta Tunnel**	**19.97**	**219**	P	**Pn**	**12 18 19.9**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=311,slow=13,SNR=6.6						
ATD				LR	LR	12 26 14.6	
	comp=Z,398nm,19.6s,baz=53,slow=38						
ATD	**Arta Tunnel**	**19.97**	**219**	P	**Pn**	**12 18 19.9**	**+2.2**
ATD				LR	LR	12 26 14.6	
GOF	**Gofitskoye**	**20.07**	**333**	*e*P	**P**	**12 18 18.9**	**+1.8**
	comp=Z,200nm,1.3s						
GOF	**Gofitskoye**	**20.07**	**333**	*e*P	**P**	**12 18 18.9**	**+1.8**
GOF				pmax	pmax		
	comp=Z,200nm,1.3s						
KLP	**Kalpa**	**20.11**	**73**	*e*P	**P**	**12 18 18.5**	**+1.0**
KLP				AML	AML	12 18 21.4	
	comp=Z,17nm,0.0s						
BHPL	**Bhopal**	**20.21**	**98**	*e*P	**P**	**12 18 20.5**	**+1.8**
BHPL				AMb	AMB	12 18 26.9	
	comp=Z,30nm,1.5s						
CSS	**Prodhromos**	**20.33**	**297**	P	**P**	**12 18 20.2**	**+0.3**
	comp=Z,35nm,1.1s						
CSS	**Prodhromos**	**20.33**	**297**	P	**P**	**12 18 20.2**	**+0.3**
	comp=Z,35nm,1.1s						
SOC	**Sochi**	**20.43**	**325**	*e*P	**P**	**12 18 21.4**	**+0.5**
	comp=Z,80nm,1.2s						
SOC				*e*S	**S**	**12 22 04.5**	**-4.5**
	comp=Z,423nm,16.0s						
SOC	**Sochi**	**20.43**	**325**	*e*P	**P**	**12 18 21.4**	**+0.5**
SOC				*e*S	**S**	**12 22 04.5**	**-4.5**
SOC				*e*SS		12 22 48.6	
SOC				pmax	pmax		
	comp=Z,80nm,1.2s						
SOC				MLR	MLR		
	comp=Z,423nm,16.0s,MS3.9						
KSH	**Kashi**	**20.68**	**50**	P	**P**	**12 18 22.5**	**-1.2**
KSH				PCP	PcP	12 22 34.8	+1.4
KSH				PCS	PcS	12 26 10.5	-0.7
KSH				AMB	AMB		
	comp=Z,36nm,0.8s						
KSH				AMB	AMB		
	comp=Z,114nm,3.5s						
KSH				LR	LR		
	comp=N,998nm,10.3s						
KSH				LR	LR		
	comp=E,925nm,6.8s						
KSH				LR	LR		
	comp=Z,921nm,10.5s,MS4.4						
AML	**Almayashu**	**20.69**	**41**	P	**P**	**12 18 24.6**	**+0.8**
	SNR=24						
EKS2	**Erkin-Say**	**21.07**	**40**	P	**P**	**12 18 29.3**	**+1.4**
	SNR=20						
UCH	**Uchtor**	**21.23**	**42**	P	**P**	**12 18 30.0**	**+0.3**
	SNR=8.7						
AAK	**Ala-Archa**	**21.47**	**41**	P	**P**	**12 18 33.5**	**+1.3**
	SNR=8.2						
KZA	**Kyzart**	**21.58**	**43**	P	**P**	**12 18 34.4**	**+1.0**
	SNR=7.8						
FRU	**Bishkek**	**21.66**	**41**	*e*P	**P**	**12 18 35.5**	**+1.2**
	comp=Z,160nm,3.0s						
FRU	**Bishkek**	**21.66**	**41**	*e*P	**P**	**12 18 35.5**	**+1.2**
FRU				*i*		12 18 44.0	
FRU				pmax	pmax		
	comp=Z,160nm,3.0s						
BR131	**Keskin Array S**	**21.81**	**309**	*e*P	**P**	**12 18 36.0**	**+0.1**
	comp=Z,28nm,0.8s,mb4.7						
BR131	**Keskin Array S**	**21.81**	**309**	*e*P	**P**	**12 18 36.0**	**+0.1**
	comp=Z,28nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**21.81**	**309**	P	**P**	**12 18 37.0**	**+1.2**
	comp=Z,17nm,0.8s,mb4.5,baz=134,slow=12,SNR=27						
AB31	**Akbulak array**	**21.86**	**8**	*e*P	**P**	**12 18 35.7**	**-0.7**
	comp=Z,20nm,0.6s,mb4.7						
AB31	**Akbulak array**	**21.86**	**8**	*e*P	**P**	**12 18 35.7**	**-0.7**
AB31				S	**S**	**12 22 41.1**	**+3.9**
AB31				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.7						
AB31				smax			
	comp=Z,42nm,1.3s						
USP	**Ospenovka**	**21.87**	**40**	P	**P**	**12 18 37.6**	**+1.1**
	SNR=6.3						
ULHL	**Ulahol**	**22.28**	**44**	P	**P**	**12 18 40.8**	**-0.1**
	SNR=5.5						
TKM2	**Tokmak 2**	**22.29**	**42**	*i* P	**P**	**12 18 40.8**	**-0.2**
	comp=Z,24nm,1.5s,mb4.4						
TKM2	**Tokmak 2**	**22.29**	**42**	*i* P	**P**	**12 18 40.8**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.4						
ANN	**Anapa**	**22.45**	**325**	*e*P	**P**	**12 18 49.0**	**+6.3**
ANN				pmax	pmax		
	comp=Z,71nm,0.8s,mb5.2						
ANTO	**Ankara**	**22.46**	**309**	*e*P	**P**	**12 18 44.4**	**+1.6**
	comp=Z,43nm,0.8s,mb4.9						
ANTO	**Ankara**	**22.46**	**309**	*e*P	**P**	**12 18 44.4**	**+1.6**
	comp=Z,43nm,0.8s,mb4.9						
ANTO				⇑P		12 18 49.1	
ANTO	**Ankara**	**22.46**	**309**	*e*P	**P**	**12 18 44.4**	**+1.6**
ANTO						12 18 49.2	
ANTO				pmax	pmax		
	comp=Z,43nm,0.8s,mb4.9						
AKTK	**Aktyubinsk**	**22.86**	**4**	*i* P	**P**	**12 18 47.1**	**+0.1**
	comp=Z,9.0nm,1.0s,mb4.2						
AKTK	**Aktyubinsk**	**22.86**	**4**	P	**P**	**12 18 47.5**	**+0.5**
AKTO	**Aktyubinsk**	**22.86**	**4**	P	**P**	**12 18 47.5**	**+0.5**
	comp=Z,36nm,0.9s,mb4.8,baz=193,slow=10.0,SNR=20						
AKTO	**Aktyubinsk**	**22.86**	**4**	*i* P	**P**	**12 18 47.1**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
ISP	**Isparta**	**23.34**	**302**	P	**P**	**12 18 51.5**	**-0.7**
	comp=Z,13nm,0.7s,mb4.5						
ISP	**Isparta**	**23.34**	**302**	P	**P**	**12 18 51.5**	**-0.6**
ISP				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
HYB	**Hyderabad**	**23.50**	**111**	*i* P	**P**	**12 18 58.0**	**+4.2**
HYB	**Hyderabad**	**23.50**	**111**	*e*P	**P**	**12 18 58.0**	**+4.2**
SIM	**Simferopol'**	**24.33**	**321**	*e*P	**P**	**12 19 01.5**	**+0.1**
	comp=Z,27nm,0.9s,mb4.7						
SIM	**Simferopol'**	**24.33**	**321**	*e*P	**P**	**12 19 01.5**	**+0.1**
SIM				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.7						
KOLN	**Koldanda**	**24.81**	**83**	*e*P	**P**	**12 19 06.9**	**+1.2**
	comp=Z,31nm,0.9s,mb4.8						
DANN	**Dangsing**	**24.89**	**82**	*e*P	**P**	**12 19 08.5**	**+2.0**
GKN	**Gorkha**	**25.70**	**82**	*e*P	**P**	**12 19 14.5**	**+0.7**
	comp=Z,46nm,1.0s,mb5.0						
DMN	**Daman**	**26.15**	**83**	*e*P	**P**	**12 19 18.8**	**+0.9**
	comp=Z,61nm,1.0s,mb5.1						
KKN	**Kakani**	**26.29**	**83**	*e*P	**P**	**12 19 20.2**	**+1.1**
	comp=Z,48nm,0.7s,mb5.1						
KKN	**Kakani**	**26.29**	**83**	*e*P	**P**	**12 19 20.2**	**+1.1**
KKN				pmax	pmax		
	comp=Z,24nm,0.7s,mb4.8						
PKI	**Pulchoki**	**26.43**	**83**	*e*P	**P**	**12 19 21.2**	**+0.8**
	comp=Z,52nm,0.9s,mb5.1						
PKI	**Pulchoki**	**26.43**	**83**	*e*P	**P**	**12 19 21.2**	**+0.8**
PKI				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.8						
GUN	**Gumba**	**26.80**	**82**	*e*P	**P**	**12 19 24.9**	**+1.2**
	comp=Z,85nm,1.0s,mb5.2						
JIRN	**Jiri**	**27.10**	**83**	*e*P	**P**	**12 19 27.5**	**+1.0**
	comp=Z,63nm,0.9s,mb5.2						
IDI	**Anoyia**	**27.18**	**294**	P	**P**	**12 19 28.1**	**+0.9**
	comp=Z,13nm,0.9s,mb4.5,baz=95,slow=6.6,SNR=4.5						
ZRNK	**Zerenda**	**27.20**	**18**	*i* P	**P**	**12 19 27.3**	**-0.1**
	comp=Z,12nm,1.3s,mb4.3						
ZRNK	**Zerenda**	**27.20**	**18**	*e*P	**P**	**12 19 26.8**	**-0.6**
	comp=Z,7.6nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**27.20**	**18**	*i* P	**P**	**12 19 27.3**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.3						
VOSK	**Vostochnaya**	**27.58**	**20**	P	**P**	**12 19 30.2**	**-0.6**
	comp=Z,15nm,1.2s,mb4.5						
VOSK	**Vostochnaya**	**27.58**	**20**	P	**P**	**12 19 30.2**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.5						
BRVK	**Borovoye**	**27.66**	**19**	*e*P	**P**	**12 19 31.4**	**-0.1**
	comp=Z,9.2nm,1.0s,mb4.4						
BRVK	**Borovoye**	**27.66**	**19**	*e*P	**P**	**12 19 31.4**	**-0.1**
	comp=Z,9.2nm,1.0s,mb4.4						
BRVK	**Borovoye**	**27.66**	**19**	*e*P	**P**	**12 19 31.4**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
BVA0	**Borovoye Array**	**27.66**	**19**	*i* P	**P**	**12 19 31.5**	**0.0**
	comp=Z,3.0nm,0.9s,mb3.9						
BVA0	**Borovoye Array**	**27.66**	**19**	*i* P	**P**	**12 19 31.5**	**0.0**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**27.66**	**19**	P	**P**	**12 19 31.5**	**0.0**
	comp=Z,14nm,0.8s,mb4.7,baz=202,slow=8.5,SNR=30						
HARR	**Harsova**	**27.88**	**315**	⇑P	**P**	**12 19 34.2**	**+0.8**
CFR	**Carcaliu**	**27.98**	**316**	⇑P	**P**	**12 19 33.5**	**-0.9**
CHKZ	**Chkalovo**	**28.30**	**19**	*i* P	**P**	**12 19 36.9**	**-0.3**
	comp=Z,9.0nm,1.6s,mb4.2						
CHKZ	**Chkalovo**	**28.30**	**19**	*e*P	**P**	**12 19 35.4**	**-1.8**
	comp=Z,4.6nm,0.9s,mb4.1						
CHKZ	**Chkalovo**	**28.30**	**19**	*i* P	**P**	**12 19 36.9**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.2						
MK31	**Makanchi Array**	**28.41**	**41**	*i* P	**P**	**12 19 37.8**	**-0.3**
	comp=Z,3.0nm,0.5s,mb4.2						
MK31	**Makanchi Array**	**28.41**	**41**	*i* P	**P**	**12 19 37.8**	**-0.3**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**28.41**	**41**	P	**P**	**12 19 38.4**	**+0.2**
	comp=Z,2.6nm,0.8s,mb3.9,baz=226,slow=8.2,SNR=19						
MKAR	**Makanchi Array**	**28.41**	**41**	*i* P	**P**	**12 19 37.8**	**-0.3**
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**28.41**	**41**	*i* P	**P**	**12 19 37.8**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARU	**Arti**	**28.87**	**3**	*i* P	**P**	**12 19 42.2**	**0.0**
KURK	**Kurchatov**	**28.95**	**31**	*i* P	**P**	**12 19 43.1**	**+0.1**
KURK	**Kurchatov**	**28.95**	**31**	*e*P	**P**	**12 19 43.0**	**0.0**
	comp=Z,29nm,

STHS Stebnicka Huta 34.12 319 *es*P sP 12 20 34.7 -1.4
KECS Kecovo 34.16 317 *e*P **P** **12 20 29.5 +0.7**
KECS *e* pP 12 20 36.1 +1.8
PSZ Piszkesteto 34.29 316 *e*P **P** **12 20 28.7 -1.2**
comp=E,12nm,0.9s,mb4.8
PSZ Piszkesteto 34.29 316 *e*P **P** **12 20 28.7 -1.3**
comp=E,12nm,0.9s,mb4.8
PSZ Piszkesteto 34.29 316 *e*P **P** **12 20 28.7 -1.2**
PSZ pmax pmax
comp=Z,12nm,0.9s,mb4.8
PKSM Moragy 34.47 313 P **P** **12 20 31.7 +0.3**
KLMR Klimovskoe 34.95 346 *e*P **P** **12 20 34.3 -1.3**
comp=Z,50nm,1.5s,mb5.2
KLMR Klimovskoe 34.95 346 *e*P **P** **12 20 34.3 -1.3**
KLMR pmax pmax
comp=Z,50nm,1.5s,mb5.2
VYHS Vyhne 35.17 316 *i* P **P** **12 20 38.1 +0.6**
VYHS *es*P sP 12 20 42.7 -2.5
LIKS Likavka 35.23 317 *e*P **P** **12 20 38.6 +0.6**
SRO Srobarova 35.24 315 *e*P **P** **12 20 38.8 +0.7**
SRO1 Iza 35.27 315 *e*P **P** **12 20 39.8 +1.4**
OJC Ojcow 35.32 319 *e*P **P** **12 20 38.9 +0.1**
SUW Suwalki 35.45 327 *e*P **P** **12 20 40.2 +0.2**
KOGS Kog 36.11 312 *e*P **P** **12 20 45.9 +0.3**
OKC Ostrava-Krasne 36.12 318 *e*P **P** **12 20 41.0 -4.7**
OKC *ex* x 12 20 45.6
ZST Bratislava 36.13 315 *e*P **P** **12 20 43.4 -2.4**
MORC Moravsky Berou 36.45 318 *e*P **P** **12 20 48.5 0.0**
comp=Z,13nm,0.9s,mb4.9
MORC Moravsky Berou 36.45 318 *e*P **P** **12 20 48.5 0.0**
MORC pmax pmax
comp=Z,13nm,0.9s,mb4.9
BOJS Bojanci 36.51 310 *e*P **P** **12 20 49.5 +0.5**
VSU Vasula 36.78 335 *i* P **P** **12 20 51.8 +0.5**
VRAC Vranov 36.85 317 P **P** **12 20 52.4 +0.5**
comp=Z,18nm,0.8s,mb4.9,baz=119,slow=8.0,SNR=11
VRAC Vranov 36.85 317 *e*P **P** **12 20 52.5 +0.6**
DPC Dobruska-Polom 37.40 318 *e*P **P** **12 20 56.5 -0.1**
DPC *ex* x 12 21 02.5
JAVS Javornik 37.42 310 *e*P **P** **12 20 57.0 +0.2**
KSP Ksiaz 37.61 319 *e*P **P** **12 20 59.0 +0.7**
KSP Ksiaz 37.61 319 *e*P **P** **12 20 58.8 +0.5**
UPC Upice 37.65 318 *e*P **P** **12 20 58.6 0.0**
UPC *ex* x 12 21 04.6
MOA Molln 37.82 314⇑ *i*P **P** **12 21 00.4 +0.3**
comp=Z,13nm,0.8s,mb4.7
KBA Koelnbreinsper 38.20 312 *i* P **P** **12 21 03.6 +0.3**
comp=Z,13nm,0.8s,mb4.7,SNR=14
PRU Pruhonice 38.34 317 *e*P **P** **12 21 04.3 -0.2**
PRU *ex* x 12 21 08.4
GTA Gaotai 38.37 61 *e*P **P** **12 21 05.5 +0.7**
GTA PP PP 12 22 41.0 +8.4
GTA PPP 12 23 02.8
GTA PCP PcP 12 23 18.3 +0.1
GTA S **S** **12 26 54.5 -4.1**
GTA PCS PcS 12 27 06.5 -0.8
GTA AMB AMB
comp=Z,12nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,117nm,6.1s
GTA LR LR
comp=N,209nm,14.5s,MS4.2
GTA LR LR
comp=E,176nm,16.8s,MS4.2
GTA LR LR
comp=Z,216nm,15.7s,MS4.1
DGAR Diego Garcia 38.47 152 P **P** **12 21 09.2 +3.6**
comp=Z,397nm,1.7s
DGAR Diego Garcia 38.47 152 P **P** **12 21 09.2 +3.5**
comp=Z,397nm,1.7s
DGAR Diego Garcia 38.47 152 P **P** **12 21 09.2 +3.6**
DGAR pmax pmax
comp=Z,397nm,1.7s
GERES GERESS Array B 38.48 315 P **P** **12 21 05.5 -0.2**
comp=Z,2.9nm,0.7s,mb4.1,baz=117,slow=7.8,SNR=14
GERES LR LR 12 38 19.9
comp=Z,130nm,19.6s,MS3.8,baz=97,slow=38
KHC Kasperske Hory 38.65 315 *e*P **P** **12 21 10.0 +2.9**
KHC Kasperske Hory 38.65 315 *e*P **P** **12 21 07.0 -0.1**
KHC *ex* x 12 21 11.1
KHC Kasperske Hory 38.65 315 *i* P **P** **12 21 07.0 -0.1**
KHC Kasperske Hory 38.65 315 *c* P **P** **12 21 07.0 -0.1**
JOF Joensuu 38.71 343 *ep* **P** **12 21 07.5 -0.1**
comp=Z,3.8nm,0.5s,mb4.4
BRG Berggiesshubel 39.00 318 *i* P **P** **12 21 10.2 +0.1**
comp=Z,12nm,1.2s,mb4.5
BRG *i* pP 12 21 13.4 -2.2
comp=Z,6.0nm,0.9s
FINES FINESS Array B 39.14 338 P **P** **12 21 10.3 -0.9**
comp=Z,3.6nm,0.6s,mb4.3,baz=111,slow=9.2,SNR=9.9
WTTA Wattenberg 39.38 312 *i* P **P** **12 21 13.0 -0.2**
comp=Z,36nm,0.8s,mb5.2,SNR=8.0
WATA Walderalm 39.44 312⇑ *i*P **P** **12 21 13.1 -0.6**
comp=Z,14nm,0.9s,mb4.7
KAF Kangasniemi 39.55 339 *ep* **P** **12 21 16.3 +1.6**
comp=Z,3.2nm,0.8s,mb4.1
KAF Kangasniemi 39.55 339 *e*P **P** **12 21 16.3 +1.6**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
SQTA Sankt Quirin 39.65 312 *i* P **P** **12 21 15.2 -0.3**
comp=Z,8.4nm,0.8s,mb4.5,SNR=15
CLL Collm 39.71 318⇑ *i*P **P** **12 21 15.9 -0.1**
comp=Z,23nm,1.1s,mb4.8
CLL *i* pP pP 12 21 19.5 -2.0
CLL *i* sP sP 12 21 21.7 -2.0
CLL Collm 39.71 318⇑ *i*P **P** **12 21 15.9 -0.1**
CLL *i* pP 12 21 21.7 +0.2
CLL pmax pmax
comp=Z,23nm,1.1s,mb4.8
MOTA Moosalm 39.75 312⇑ *i*P **P** **12 21 15.5 -0.8**
comp=Z,15nm,1.0s,mb4.7,SNR=8.2
GRA1 Grafenberg Arr 40.28 315 *e*P **P** **12 21 20.8 +0.1**
comp=Z,16nm,1.0s,mb4.7
GRA1 *ep*P pP 12 21 27.6 +1.3
GRF Grafenberg Arr 40.28 315 *e*P **P** **12 21 20.8 +0.1**
comp=Z,16nm,1.0s,mb4.7
GRF *ep*P pP 12 21 27.6 +1.3
comp=Z,16nm,1.0s
GRF Grafenberg Arr 40.28 315 *e*P **P** **12 21 20.8 +0.1**
GRF *e**PP pP 12 21 27.6 +1.3
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.7
PGF Pioggiola 40.40 304 *e*P **P** **12 21 21.4 -0.3**
DAVOX Davos 40.44 311 P **P** **12 21 22.0 0.0**
comp=Z,10nm,0.6s,mb4.7,baz=114,slow=6.6,SNR=13
DAVOX LR LR 12 37 45.7
comp=Z,100nm,21.5s,MS3.6,baz=79,slow=36
DAVA Damuels 40.55 311 *i* P **P** **12 21 22.5 -0.4**
comp=Z,37nm,0.7s,mb5.2,SNR=14
LZH Lanzhou 41.52 66 *e*P **P** **12 21 32.0 +1.1**
LZH AMB AMB
comp=Z,28nm,1.5s,mb4.7
MOY Mondy 41.53 42 *e*P **P** **12 21 33.1 +2.1**
SBF Sospel 41.68 306 *e*P **P** **12 21 32.0 -0.2**
comp=Z,64nm,0.9s,mb4.9
SBF Sospel 41.68 306 *e*P **P** **12 21 32.0 -0.2**
comp=Z,32nm,0.9s,mb4.9
SBF Sospel 41.68 306 *e*P **P** **12 21 32.0 -0.2**
SBF pmax pmax
comp=Z,32nm,0.9s,mb5.0
CD2 Chengdu 41.92 74 *e*P **P** **12 21 33.5 -0.7**
CD2 PP PP 12 23 14.8 +3.6
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.3s
CD2 LR LR
comp=N,150nm,15.6s
CD2 LR LR
comp=Z,100nm,13.2s,MS3.9
KMI Kunming 42.15 82 P **P** **12 21 36.5 +0.5**
KMI PP PP 12 23 18.8 +5.1
KMI PPP 12 23 54.3
KMI S **S** **12 27 51.8 -3.2**
KMI AMB AMB
comp=Z,14nm,1.2s,mb4.5
KMI LR LR
comp=N,107nm,7.6s
KMI LR LR
comp=E,110nm,8.2s
KMI LR LR
comp=Z,90nm,7.1s
APA Apatity 42.16 348 *i* P **P** **12 21 36.0 -0.2**
comp=Z,26nm,1.0s,mb4.8
APA Apatity 42.16 348⇑ *i*P **P** **12 21 36.0 -0.2**
APA pmax pmax
comp=Z,26nm,1.0s,mb4.8
MBDF Montbardon 42.25 307 *e*P **P** **12 21 36.2 -0.7**
comp=Z,25nm,1.0s,mb4.5
MBDF Montbardon 42.25 307 *e*P **P** **12 21 36.2 -0.7**
comp=Z,12nm,1.0s,mb4.5
MBDF Montbardon 42.25 307 *e*P **P** **12 21 36.2 -0.7**
MBDF pmax pmax
comp=Z,13nm,1.0s,mb4.5
LPG La Plagne 42.37 308 *e*P **P** **12 21 37.4 -0.5**
comp=Z,34nm,0.8s,mb4.7
LPG La Plagne 42.37 308 *e*P **P** **12 21 37.4 -0.5**
comp=Z,17nm,0.8s,mb4.7
LPG La Plagne 42.37 308 *e*P **P** **12 21 37.4 -0.5**
LPG pmax pmax
comp=Z,17nm,0.8s,mb4.7
LPL La Plagne 42.38 308 *e*P **P** **12 21 37.4 -0.6**
comp=Z,40nm,1.0s,mb4.7
LPL La Plagne 42.38 308 *e*P **P** **12 21 37.4 -0.6**
comp=Z,20nm,1.0s,mb4.7
LPL La Plagne 42.38 308 *e*P **P** **12 21 37.4 -0.6**
LPL pmax pmax
comp=Z,20nm,1.0s,mb4.7
CDF Champ du Feu 42.50 313 *e*P **P** **12 21 37.6 -1.3**
comp=Z,9.0nm,0.7s,mb4.2
CDF Champ du Feu 42.50 313 *e*P **P** **12 21 37.6 -1.3**
comp=Z,4.5nm,0.7s,mb4.2
CDF Champ du Feu 42.50 313 *e*P **P** **12 21 37.6 -1.3**
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
ZAK Zakamensk 42.57 44 *e*P **P** **12 21 39.6 +0.1**
comp=Z,8.0nm,1.6s,mb4.2
ZAK Zakamensk 42.57 44 *e*P **P** **12 21 39.6 +0.1**
ZAK *e* 12 23 25.8
ZAK pmax pmax
comp=Z,8.0nm,1.6s,mb4.2
ZAK pmax pmax
comp=Z,8.0nm,1.6s,mb4.2
HINF Hinteralfeld 42.66 312 *e*P **P** **12 21 39.2 -1.1**
comp=Z,9.7nm,0.8s,mb4.3
HINF Hinteralfeld 42.66 312 *e*P **P** **12 21 39.2 -1.1**
comp=Z,4.8nm,0.8s,mb4.3
HINF Hinteralfeld 42.66 312 *e*P **P** **12 21 39.2 -1.1**
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
ORIF Oris-en-Rattie 42.91 307 *e*P **P** **12 21 41.7 -0.5**
ORIF *e*R
comp=Z,192nm,22.2s
CABF La Chapelle 42.98 310 *e*P **P** **12 21 41.8 -1.0**
comp=Z,26nm,0.8s,mb4.7
CABF La Chapelle 42.98 310 *e*P **P** **12 21 41.8 -1.0**
comp=Z,13nm,0.8s,mb4.7
CABF La Chapelle 42.98 310 *e*P **P** **12 21 41.8 -1.0**
CABF pmax pmax
comp=Z,13nm,0.8s,mb4.7
HAU Haudompre 43.03 312 *e*P **P** **12 21 43.0 -0.2**
comp=Z,20nm,1.0s,mb4.5
HAU *e*R
comp=Z,126nm,17.0s
HAU Haudompre 43.03 312 *e*P **P** **12 21 43.0 -0.2**
comp=Z,9.8nm,1.0s,mb4.5
HAU LR LR
comp=Z,130nm,17.0s,MS3.9
HAU Haudompre 43.03 312 *e*P **P** **12 21 43.0 -0.2**
HAU pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
HAU MLR MLR
comp=Z,130nm,17.0s,MS3.9
TLY Talaya 43.12 43 *e*P **P** **12 21 44.4 +0.5**
WLF Walferdange 43.47 314⇑⇑P **P** **12 21 46.2 -0.6**
comp=Z,7.9nm,0.9s,mb4.4
WLF AP pP 12 21 49.9 -2.5
WLF Walferdange 43.47 314 P **P** **12 21 46.1 -0.7**
WLF Walferdange 43.47 314 P **P** **12 21 45.7 -1.1**
comp=Z,13nm,0.8s,mb4.7
WLF Walferdange 43.47 314 P **P** **12 21 45.7 -1.1**
WLF pmax pmax
comp=Z,13nm,0.8s,mb4.7
VIVF Saint-Julien-l 43.75 307 *e*P **P** **12 21 48.0 -1.1**
MEM Membach 43.76 315 P **P** **12 21 50.1 +1.0**
HGN Heimatfsgroeve 43.84 316 *e*P **P** **12 21 50.3 +0.5**
comp=Z,21nm,1.1s,mb4.8
MEZF Maizieres J'vi 43.97 312 *e*P **P** **12 21 50.4 -0.4**
comp=Z,34nm,0.8s,mb4.8
MEZF Maizieres J'vi 43.97 312 *e*P **P** **12 21 50.4 -0.4**
comp=Z,17nm,0.8s,mb4.8
SONM Songino Array 44.08 49 P **P** **12 21 51.5 -0.2**
comp=Z,2.0nm,0.9s,mb3.9,baz=262,slow=9.1,SNR=10
LASF Ste Croix 44.27 306 *e*P **P** **12 21 52.6 -0.6**
comp=Z,34nm,1.0s,mb4.7
LASF Ste Croix 44.27 306 *e*P **P** **12 21 52.6 -0.6**
comp=Z,17nm,1.0s,mb4.7
GIVF Givet 44.40 315 *e*P **P** **12 21 54.5 +0.2**
SMF Signal de Mont 44.52 310 *e*P **P** **12 21 54.3 -0.9**
comp=Z,60nm,1.0s,mb5.1
SMF Signal de Mont 44.52 310 *e*P **P** **12 21 54.3 -0.9**
comp=Z,30nm,1.0s,mb5.1
SMF Signal de Mont 44.52 310 *e*P **P** **12 21 54.3 -0.9**
SMF pmax pmax
comp=Z,30nm,1.0s,mb5.1
ULN Ulaanbaatar 44.52 49 *i* P **P** **12 21 55.3 +0.1**
ULN Ulaanbaatar 44.52 49 *e*P **P** **12 21 55.2 -0.1**
comp=Z,13nm,1.5s,mb4.5
DOU Dourbes 44.54 315⇓⇓P **P** **12 21 56.1 +0.7**
DOU AP pP 12 21 59.8 -1.2
DOU XP sP 12 22 02.5 -0.7
comp=Z,9.3nm,0.9s
LOR Lormes 44.58 310 *e*P **P** **12 21 54.9 -0.8**
comp=Z,17nm,0.8s,mb4.6
LOR *e*R
comp=Z,123nm,21.5s
LOR Lormes 44.58 310 *e*P **P** **12 21 54.9 -0.8**
comp=Z,8.5nm,0.8s,mb4.6
LOR LR LR
comp=Z,120nm,21.5s,MS3.8
LOR Lormes 44.58 310 *e*P **P** **12 21 54.9 -0.8**
LOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
LOR MLR MLR
comp=Z,120nm,21.5s,MS3.8
NB2 NORSAR Subarra 44.62 331 P **P** **12 21 54.9 -1.1**
comp=Z,14nm,1.1s,mb4.7,baz=118,slow=8.6
NB2 NORSAR Subarra 44.62 331 P **P** **12 21 54.9 -1.1**
NB2 pmax pmax
comp=Z,14nm,1.1s,mb4.7
NOA NORSAR Array B 44.62 331 P **P** **12 21 55.1 -1.0**
comp=Z,4.2nm,0.8s,mb4.3,baz=116,slow=7.9,SNR=13
NOA PP PP 12 23 38.0 -2.2
comp=Z,2.3nm,0.8s,baz=109,slow=11,SNR=4.2
NOA NORSAR Array B 44.62 331 PcP PcP 12 23 38.0 -0.7
NAO01 NORSAR Array S 44.67 331 *e*P **P** **12 21 55.1 -1.4**
NAO01 NORSAR Array S 44.67 331 *e*P **P** **12 21 55.1 -1.3**
BAIF Baives 44.78 314 *e*P **P** **12 21 57.7 +0.4**
comp=Z,76nm,1.1s,mb5.2
BAIF Baives 44.78 314 *e*P **P** **12 21 57.7 +0.4**
comp=Z,38nm,1.1s,mb5.2
BAIF Baives 44.78 314 *e*P **P** **12 21 57.7 +0.4**
BAIF pmax pmax
comp=Z,38nm,1.1s,mb5.1
SSF Saint Saulge 44.80 310 *e*P **P** **12 21 56.9 -0.5**
comp=Z,59nm,1.0s,mb5.1
SSF Saint Saulge 44.80 310 *e*P **P** **12 21 56.9 -0.5**
comp=Z,30nm,1.0s,mb5.1
SSF Saint Saulge 44.80 310 *e*P **P** **12 21 56.9 -0.5**
SSF pmax pmax
comp=Z,30nm,1.0s,mb5.1
SNF Seneffe 44.82 315⇓⇓P **P** **12 21 58.1 +0.5**
SNF AP pP 12 22 01.1 -2.1
SNF XP sP 12 22 03.3 -2.0
comp=Z,9.6nm,1.1s
UCC Uccle 44.83 315 XP sP 12 22 04.2 -1.2
AVF Avril sur Loir 44.87 310 *e*P **P** **12 21 57.0 -1.0**
comp=Z,17nm,0.9s,mb4.6
AVF Avril sur Loir 44.87 310 *e*P **P** **12 21 57.0 -1.0**
comp=Z,8.4nm,0.9s,mb4.6
AVF Avril sur Loir 44.87 310 *e*P **P** **12 21 57.0 -1.0**
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BGF Bois d'Agland 45.19 309 *e*P **P** **12 21 59.9 -0.7**
comp=Z,34nm,0.9s,mb4.9
BGF Bois d'Agland 45.19 309 *e*P **P** **12 21 59.9 -0.7**
comp=Z,17nm,0.9s,mb4.9
BGF Bois d'Agland 45.19 309 *e*P **P** **12 21 59.9 -0.7**
BGF pmax pmax
comp=Z,17nm,0.9s,mb4.9
KEV Kevo 45.28 346 *ep* **P** **12 22 00.2 -1.1**
comp=Z,13nm,0.9s,mb4.8
KEV Kevo 45.28 346 *e*P **P** **12 22 00.2 -1.1**
KEV pmax pmax
comp=Z,13nm,0.9s,mb4.8
HYF Humbligny 45.41 310 *e*P **P** **12 22 02.3 0.0**
MTLF Montolieu 45.42 305 *e*P **P** **12 22 02.1 -0.3**
comp=Z,33nm,1.0s,mb4.8
MTLF Montolieu 45.42 305 *e*P **P** **12 22 02.1 -0.3**
comp=Z,16nm,1.0s,mb4.8
MTLF Montolieu 45.42 305 *e*P **P** **12 22 02.1 -0.3**
MTLF pmax pmax
comp=Z,16nm,1.0s,mb4.8
ARCES ARCESS Array B 45.42 346 P **P** **12 22 02.5 0.0**
comp=Z,4.8nm,0.8s,mb4.4,baz=152,slow=8.2,SNR=6.9
ARE0 ARCESS Array S 45.42 346 P **P** **12 22 03.9 +1.5**
ARE0 ARCESS Array S 45.42 346 P **P** **12 22 03.9 +1.5**
TCF Toulx Ste Croi 45.61 309 *e*P **P** **12 22 03.4 -0.5**
comp=Z,40nm,1.0s,mb5.0
TCF Toulx Ste Croi 45.61 309 *e*P **P** **12 22 03.4 -0.5**
comp=Z,20nm,1.0s,mb5.0
TCF Toulx Ste Croi 45.61 309 *e*P **P** **12 22 03.4 -0.5**
TCF pmax pmax
comp=Z,20nm,1.0s,mb5.0
CAF Calviac 45.61 307 *e*P **P** **12 22 03.7 -0.2**
comp=Z,24nm,0.8s,mb4.8
CAF Calviac 45.61 307 *e*P **P** **12 22 03.7 -0.2**
comp=Z,12nm,0.8s,mb4.8
CAF Calviac 45.61 307 *e*P **P** **12 22 03.7 -0.2**
CAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
EMIR Miracle 45.90 303 P **P** **12 22 06.0 -0.2**
comp=Z,38nm,1.1s,mb5.2
EMIR Miracle 45.90 303 P **P** **12 22 06.0 -0.2**
comp=Z,38nm,1.1s,mb5.2
RJF Les Rejaudoux 46.02 307 *e*P **P** **12 22 07.0 -0.1**
comp=Z,50nm,1.1s,mb5.1
RJF *e*R
comp=Z,174nm,22.0s
RJF Les Rejaudoux 46.02 307 *e*P **P** **12 22 07.0 -0.1**
comp=Z,25nm,1.1s,mb5.1
RJF LR LR
comp=Z,170nm,22.0s,MS4.0
RJF Les Rejaudoux 46.02 307 *e*P **P** **12 22 07.0 -0.1**
RJF pmax pmax
comp=Z,25nm,1.1s,mb5.1
RJF MLR MLR
comp=Z,170nm,22.0s,MS4.0
EPOB Poblet 46.24 302 P **P** **12 22 08.1 -0.8**
comp=Z,42nm,1.7s,mb5.1
EPOB Poblet 46.24 302 P **P** **12 22 08.1 -0.8**
comp=Z,42nm,1.7s,mb5.1
LFF La Frestale 46.55 307 *e*P **P** **12 22 10.9 -0.4**
comp=Z,24nm,0.7s,mb4.9
LFF La Frestale 46.55 307 *e*P **P** **12 22 10.9 -0.4**
comp=Z,12nm,0.7s,mb4.9
LFF La Frestale 46.55 307 *e*P **P** **12 22 10.9 -0.4**
LFF pmax pmax
comp=Z,12nm,0.7s,mb4.9
OPO Ambohidratompo 46.63 191 P **P** **12 22 13.4 +1.4**
comp=Z,2.9nm,0.7s,mb4.3,baz=45,slow=9.0,SNR=5.6
EBR Ebro Roquetas 46.69 301 *e*P **P** **12 22 13.2 +0.8**
EPF Esparros 46.79 304 *e*P **P** **12 22 12.1 -1.0**
comp=Z,6.7nm,0.8s,mb4.3
EPF Esparros 46.79 304 *e*P **P** **12 22 12.1 -1.0**
comp=Z,3.3nm,0.8s,mb4.3
EPF Esparros 46.79 304 *e*P **P** **12 22 12.1 -1.0**
EPF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
EGRA Graus 46.80 303 P **P** **12 22 13.1 -0.2**
comp=Z,12nm,0.7s,mb5.0
EGRA Graus 46.80 303 P **P** **12 22 13.1 -0.1**
comp=Z,12nm,0.7s,mb5.0
ERTA Horta de San J 46.81 301 P **P** **12 22 11.1 -2.2**
comp=Z,77nm,1.5s,mb5.4
ERTA Horta de San J 46.81 301 P **P** **12 22 11.1 -2.2**
comp=Z,77nm,1.5s,mb5.4
MFF Saint Martin d 47.25 309 *e*P **P** **12 22 15.7 -1.1**
comp=Z,27nm,1.0s,mb4.8
MFF Saint Martin d 47.25 309 *e*P **P** **12 22 15.7 -1.1**
comp=Z,14nm,1.0s,mb4.8
MFF Saint Martin d 47.25 309 *e*P **P** **12 22 15.7 -1.1**
MFF pmax pmax
comp=Z,14nm,1.0s,mb4.8
LDF La Druitiere 47.39 312 *e*P **P** **12 22 16.6 -1.3**
comp=Z,25nm,0.9s,mb4.8
LDF La Druitiere 47.39 312 *e*P **P** **12 22 16.6 -1.3**
comp=Z,12nm,0.9s,mb4.8
LDF La Druitiere 47.39 312 *e*P **P** **12 22 16.6 -1.3**
LDF pmax pmax
comp=Z,12nm,0.9s,mb4.8
ESAC San Caprasio 47.40 302 P **P** **12 22 17.2 -0.7**
comp=Z,92nm,1.0s,mb5.7
ESAC San Caprasio 47.40 302 P **P** **12 22 17.2 -0.7**
comp=Z,92nm,1.0s,mb5.7
HHC Hu-ho-hao-te 47.40 59 *e*P **P** **12 22 17.8 -0.1**
HHC PCP PcP 12 23 47.8 -0.6
HHC PP PP 12 24 10.5 +1.3
HHC S **S** **12 29 03.0 -8.2**
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,71nm,5.5s
HHC LR LR
comp=Z,121nm,7.3s
ETSF Etsaut 47.45 304 *e*P **P** **12 22 18.5 +0.2**
comp=Z,59nm,1.0s,mb5.2
ETSF Etsaut 47.45 304 *e*P **P** **12 22 18.5 +0.2**
comp=Z,29nm,1.0s,mb5.2
ETSF Etsaut 47.45 304 *e*P **P** **12 22 18.5 +0.2**
ETSF pmax pmax
comp=Z,29nm,1.0s,mb5.2
FLN La Foliniere 47.64 312 *e*P **P** **12 22 18.7 -1.1**
comp=Z,44nm,0.9s,mb5.2
FLN *e*R
comp=Z,156nm,20.8s
FLN La Foliniere 47.64 312 *e*P **P** **12 22 18.7 -1.1**
comp=Z,22nm,0.9s,mb5.2
FLN LR LR
comp=Z,160nm,20.8s,MS4.0
FLN La Foliniere 47.64 312 *e*P **P** **12 22 18.7 -1.1**
FLN pmax pmax
comp=Z,22nm,0.9s,mb5.2
FLN MLR MLR
comp=Z,160nm,20.8s,MS4.0
GRR Gorron 47.86 312 *e*P **P** **12 22 20.7 -0.8**
SJPF Ste Jean 47.93 304 *e*P **P** **12 22 22.2 +0.1**
comp=Z,20nm,0.7s,mb5.0
SJPF Ste Jean 47.93 304 *e*P **P** **12 22 22.2 +0.1**
comp=Z,9.9nm,0.7s,mb5.0
SJPF Ste Jean 47.93 304 *e*P **P** **12 22 22.2 +0.1**
SJPF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ETOB Tobarra 48.38 298 P **P** **12 22 25.4 -0.1**
comp=Z,119nm,1.8s,mb5.6
ECRI Cripan 48.89 304 P **P** **12 22 29.0 -0.4**
comp=Z,14nm,0.8s,mb5.0
ECRI Cripan 48.89 304 P **P** **12 22 29.0 -0.4**
comp=Z,14nm,0.8s,mb5.0
ECRI Cripan 48.89 304 P **P** **12 22 29.0 -0.4**
ECRI pmax pmax
comp=Z,14nm,0.8s,mb5.0
SGMF Saint Gilles 48.98 311 *e*P **P** **12 22 29.4 -0.8**
EVIA Vianos 49.13 298 P **P** **12 22 30.5 -0.8**
comp=Z,18nm,1.2s,mb5.0
EVIA Vianos 49.13 298 P **P** **12 22 30.5 -0.7**
comp=Z,18nm,1.2s,mb5.0
EVIA Vianos 49.13 298 P **P** **12 22 30.5 -0.8**
EVIA pmax pmax
comp=Z,18nm,1.2s,mb5.0
QUIF Quistinic 49.37 311 *e*P **P** **12 22 32.1 -1.1**
ROSF Rostrenen 49.47 311 *e*P **P** **12 22 32.9 -0.9**
ELAN Lanestosa 49.55 305 P **P** **12 22 33.8 -0.7**
comp=Z,137nm,2.1s,mb5.6
ELAN Lanestosa 49.55 305 P **P** **12 22 33.8 -0.7**
comp=Z,137nm,2.1s,mb5.6
EQES Quesada 49.66 297 P **P** **12 22 33.0 -2.3**
comp=Z,22nm,1.1s,mb5.1
EKA Eskdalemuir Ar 50.08 320 P **P** **12 22 36.9 -1.7**
comp=Z,2.4nm,0.8s,mb4.3,baz=111,slow=9.0,SNR=4.3
ESDC Sonseca Array 50.16 300 P **P** **12 22 37.8 -1.4**
comp=Z,1.3nm,0.5s,mb4.2,baz=64,slow=7.8,SNR=10
ESDC Sonseca Array 50.16 300 P **P** **12 22 38.7 -0.5**
comp=Z,1.5nm,0.5s,mb4.3
ESDC Sonseca Array 50.16 300 P **P** **12 22 38.7 -0.5**
comp=Z,1.5nm,0.5s,mb4.3
ESLA Sonseca Array 50.16 300 *e*P **P** **12 22 39.1 -0.1**
comp=Z,0.3nm,0.5s
ESLA Sonseca Array 50.16 300 *e*P **P** **12 22 39.1 0.0**

comp=Z,0.3nm,0.5s
EBAN Banos Encina 50.18 298 P **P 12 22 39.2 -0.1**
comp=Z,13nm,0.7s,mb5.1
EBAN Banos Encina 50.18 298 P **P 12 22 39.2 -0.1**
comp=Z,13nm,0.7s,mb5.1
EBAN Banos Encina 50.18 298 P **P 12 22 39.2 -0.1**
EBAN pmax pmax
comp=Z,13nm,0.7s,mb5.1
LSZ Lusaka 50.23 215 *e*P **P 12 22 40.0 +0.3**
BOD Bodaibo 50.35 36 *e*P **P 12 22 38.2 -2.4**
comp=Z,16nm,1.0s,mb5.0
BOD Bodaibo 50.35 36 *e*P **P 12 22 38.2 -2.4**
BOD pmax pmax
comp=Z,16nm,1.0s,mb5.0
ELOJ Sierra Loja 50.59 297 P **P 12 22 40.8 -1.6**
comp=Z,4.9nm,0.7s,mb4.5
ELOJ Sierra Loja 50.59 297 P **P 12 22 40.8 -1.6**
comp=Z,4.9nm,0.7s,mb4.5
ELOJ Sierra Loja 50.59 297 P **P 12 22 40.8 -1.6**
ELOJ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ELUQ Luque 50.63 297 P **P 12 22 41.7 -1.0**
comp=Z,3.8nm,0.6s,mb4.5
ELUQ Luque 50.63 297 P **P 12 22 41.7 -1.0**
comp=Z,3.8nm,0.6s,mb4.5
ELUQ Luque 50.63 297 P **P 12 22 41.7 -1.0**
ELUQ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EADA Adamuz 50.80 298 P **P 12 22 43.0 -1.0**
comp=Z,10nm,0.9s,mb4.8
EADA Adamuz 50.80 298 P **P 12 22 43.0 -1.0**
comp=Z,10nm,0.9s,mb4.8
EMIJ Mijas 51.16 296 P **P 12 22 45.3 -1.4**
comp=Z,19nm,1.4s,mb4.8
EMIJ Mijas 51.16 296 P **P 12 22 45.3 -1.4**
comp=Z,19nm,1.4s,mb4.8
ECAB El Cabril 51.47 298 P **P 12 22 46.9 -2.1**
comp=Z,17nm,0.8s,mb5.0
ECAB El Cabril 51.47 298 P **P 12 22 46.9 -2.1**
comp=Z,17nm,0.8s,mb5.0
TORD Torodi Ar. Bea 52.13 265 P **P 12 22 53.5 -0.4**
comp=Z,9.8nm,0.7s,mb4.9,baz=60,slow=7.0,SNR=32
HIA Hailar 53.01 48 *e*P **P 12 22 59.6 -0.9**
NJ2 Nanjing 54.39 69 *e*P **P 12 23 11.8 +1.2**
NJ2 PP PP 12 25 15.0 +2.4
NJ2 S **S 12 30 48.0 -0.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,40nm,5.7s
NJ2 LR LR
comp=N,210nm,21.3s,MS4.5
NJ2 LR LR
comp=E,410nm,19.5s,MS4.5
NJ2 LR LR
comp=Z,230nm,23.3s,MS4.2
SSE Sheshan 56.55 69 *e*P **P 12 23 25.5 -0.6**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,29nm,6.0s
YAK Yakutsk 58.59 32 *e*P **P 12 23 40.7 +0.3**
comp=Z,15nm,1.3s,mb4.9
YAK Yakutsk 58.59 32⇑*e*P **P 12 23 40.7 +0.3**
YAK pmax pmax
comp=Z,15nm,1.3s,mb4.9
TIXI Tiksi 58.79 21 *e*P **P 12 23 40.2 -1.6**
comp=Z,240nm,14.0s
TIXI Tiksi 58.79 21 *e*P **P 12 23 40.2 -1.6**
TIXI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,240nm,14.0s,MS4.5
TSUM Tsumeb 59.32 223 *e*P **P 12 23 46.2 +0.6**
comp=Z,11nm,1.0s,mb4.8
TSUM Tsumeb 59.32 223 *e*P **P 12 23 46.2 +0.7**
comp=Z,11nm,1.0s,mb4.8
DAG Danmarks Havn 59.71 345⇓*i*P **P 12 23 47.5 -0.7**
comp=Z,2.0nm,0.6s,mb4.3
DAG Danmarks Havn 59.71 345⇓*e*P **P 12 23 47.5 -0.7**
comp=Z,2.0nm,0.6s,mb4.3
DAG Danmarks Havn 59.71 345⇓*e*P **P 12 23 47.5 -0.7**
DAG pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LBTB Lobatse 59.77 212 *e*P **P 12 23 50.4 +1.7**
comp=Z,3.8nm,0.9s,mb4.4
LBTB Lobatse 59.77 212 *e*P **P 12 23 50.4 +1.8**
LBTB pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MDJ Mudanjiang 60.19 52 P **P 12 23 50.0 -1.5**
MDJ S **S 12 32 03.5 -0.8**
MDJ SS SS 12 36 01.3 -0.1
MDJ AMB AMB
comp=Z,15nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,169nm,3.1s
MDJ LR LR
comp=N,109nm,25.6s
MDJ LR LR
comp=E,52nm,20.5s
MDJ LR LR
comp=Z,107nm,23.1s,MS3.9
DBIC Dimbokro 60.77 262 P **P 12 23 54.8 -0.7**
comp=Z,2.9nm,0.5s,mb4.7,baz=23,slow=5.0,SNR=7.9
DBIC Dimbokro 60.77 262 *e*P **P 12 23 54.2 -1.3**
comp=Z,9.3nm,1.1s,mb4.8
DBIC Dimbokro 60.77 262 *e*P **P 12 23 54.1 -1.3**
comp=Z,9.3nm,1.1s,mb4.8
DBIC Dimbokro 60.77 262 *e*P **P 12 23 54.2 -1.3**
DBIC pmax pmax
comp=Z,9.0nm,1.1s
LIC Lamto 61.13 261 *e*P **P 12 23 58.4 +0.5**
comp=Z,18nm,0.9s,mb4.9
LIC Lamto 61.13 261 *e*P **P 12 23 58.4 +0.5**
comp=Z,9.1nm,0.9s,mb4.9
SUMG Summit 65.10 341 *e*P **P 12 24 25.0 +0.7**
comp=Z,25nm,1.1s,mb5.2
SUMG Summit 65.10 341 *e*PP PP 12 26 44.9 -2.6
SUMG Summit 65.10 341 *e*P **P 12 24 25.0 +0.7**
comp=Z,25nm,1.1s,mb5.2
SUMG *e*PP PP 12 26 44.9 -2.5
YSS Yuzh-Sakhalins 68.55 47 *e*P **P 12 24 44.6 -1.6**
comp=Z,17nm,1.3s,mb4.8
YSS Yuzh-Sakhalins 68.55 47⇑*e*P **P 12 24 44.6 -1.6**
YSS pmax pmax
comp=Z,17nm,1.3s,mb4.8
MAT Matsushiro 68.60 59 P **P 12 24 45.0 -1.6**
MJAR Matsushiro Arr 68.60 59 P **P 12 24 44.6 -2.0**
comp=Z,1.7nm,0.8s,mb4.0,baz=285,slow=6.7,SNR=5.5
SEY Seymchan 68.78 29*d i*P **P 12 24 47.6 -0.1**
BILL Bilibino 71.98 22 *e*P **P 12 25 07.0 -0.3**
comp=Z,100nm,15.0s
BILL Bilibino 71.98 22 *e*P **P 12 25 06.9 -0.4**
comp=Z,8.3nm,1.1s,mb4.6
BILL Bilibino 71.98 22⇓*e*P **P 12 25 07.0 -0.3**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BILL MLR MLR
comp=Z,100nm,15.0s,MS4.2
INK Inuvik 84.12 3 P **P 12 26 13.6 -1.0**
comp=Z,2.8nm,0.8s,mb4.5,baz=0.7,slow=8.7,SNR=10.0
SCHQ Schefferville 84.19 331 P **P 12 26 14.2 -0.8**
comp=Z,5.6nm,1.0s,mb4.6,baz=38,slow=3.9,SNR=6.6
COLA College 86.02 10 *e*P **P 12 26 22.1 -2.0**
comp=Z,4.3nm,1.0s,mb4.6
COLA College 86.02 10 *e*P **P 12 26 22.1 -2.0**
comp=Z,4.3nm,1.0s,mb4.6
COLA College 86.02 10 *e*P **P 12 26 22.1 -2.0**
COLA pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
ILAR Eielson Array 86.26 9 P **P 12 26 23.9 -1.4**
comp=Z,2.2nm,0.9s,mb4.4,baz=321,slow=4.3,SNR=17
ILAR PP PP 12 29 47.5 +1.4
comp=Z,0.6nm,0.9s,baz=330,slow=5.2,SNR=4.6
TTA Tatalina 86.31 14 *e*P **P 12 26 24.8 -0.8**
comp=Z,8.2nm,1.2s,mb4.8
TTA Tatalina 86.31 14 *e*P **P 12 26 24.8 -0.8**
comp=Z,8.2nm,1.2s,mb4.8
TTA Tatalina 86.31 14 *e*P **P 12 26 24.8 -0.8**
TTA pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
MCK McKinley 86.92 11 *e*P **P 12 26 27.6 -0.9**
comp=Z,7.6nm,1.1s,mb4.8
MCK McKinley 86.92 11 *e*P **P 12 26 27.6 -0.9**
comp=Z,7.6nm,1.1s,mb4.8
MCK McKinley 86.92 11 *e*P **P 12 26 27.6 -0.9**
MCK pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
DAWY Dawson 87.86 7 *e*P **P 12 26 32.4 -0.7**
DAWY Dawson 87.86 7 *e*P **P 12 26 32.4 -0.7**
WRA Warramunga Arr 89.65 113 P **P 12 26 41.0 -0.5**
comp=Z,0.7nm,0.6s,mb4.2,baz=315,slow=4.1,SNR=5.6
WRA PKKPbc PKKPbc 12 44 15.4 +0.5
comp=Z,0.1nm,0.4s,baz=107,slow=3.4,SNR=4.9
WRAB Tennant Creek 89.66 113 *i*P **P 12 26 42.1 +0.6**
WB2 Warramunga Arr 89.66 113 *e*P **P 12 26 41.1 -0.5**
YKA Yellowknife Ar 89.85 355 P **P 12 26 42.0 -0.5**
comp=Z,2.4nm,0.8s,mb4.6,baz=5.8,slow=5.3,SNR=22
YKA PP PP 12 30 16.9 +1.9
comp=Z,0.3nm,0.7s,baz=7.2,slow=8.1,SNR=3.8
ASAR Alice Springs 91.13 116 P **P 12 26 47.5 -1.0**
comp=Z,0.5nm,0.5s,mb4.1,baz=298,slow=4.9,SNR=4.0
VNA2 Neumayer--Watz 107.63 198⇓*i*PKiKP PKiKP 12 32 21.1 +10
VNA3 Neumayer Olymp 108.43 198⇓*i*PKiKP PKiKP 12 32 18.3 +6.2

IDC ***25*** *12:13:50.0±1.1, 308S×12999E, h0km, mb4.1/5, mb1 4.1/8, mb1mx4.0/20, mbtmp4.1/8, ML3.3/1, MS3.7/1, Ms1 3.6/1, ms1mx2.6/23, Error ellipse: s-maj=51.5km s-min=19.4km az=61.0*
ISCJB ***25*** *12:13:50.7±3.0, 3.17S±007×1300E±0.1, h15km±19km, mb4.2/8, Error ellipse: s-maj=20.5km s-min=9.3km az=141.0*
NEIC ***25*** *12:13:56.7±0.6, 322S×13002E, h50km, mb4.2/7, Error ellipse: s-maj=17.5km s-min=9.0km az=65.0*
ISC 25 12:13:54.2±3.7, 317S±008×1300E±01, h26km±27km, n21, σ0§86/24, mb4.2/8, Seram
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAKA Kakadu 9.79 166 *e*P **Pn 12 16 12.8 -0.4**
3.3nm,0.2s
FITZ Fitzroy Crossi 15.44 196 *e*P **Pn 12 17 35.3 +5.1**
8.0nm,0.6s
FITZ Fitzroy Crossi 15.44 196 Pn **Pn 12 17 30.0 -0.1**
0.1nm,0.3s,baz=276,slow=22,SNR=4.2
WRAB Tennant Creek 17.20 166 *e*Pn **Pn 12 17 52.0 -0.6**
7.8nm,0.5s
WRAB *e*Sn **Sn 12 20 52.1 -11**
WRA Warramunga Arr 17.20 166 P **Pn 12 17 51.4 -1.3**
0.2nm,0.3s,baz=350,slow=12,SNR=25
WRA S **Sn 12 20 59.4 -3.8**
0.3nm,0.3s,baz=354,slow=23,SNR=4.2
WB2 Warramunga Arr 17.21 166 *e*P **Pn 12 17 52.2 -0.5**
PMG Port Moresby 18.15 111 P **Pn 12 18 04.0 -0.3**
0.2nm,0.3s,baz=266,slow=15,SNR=2.1
MBWA Marble Bar 20.48 208 P **P 12 18 31.9 +2.0**
9.5nm,1.1s
ASAR Alice Springs 20.73 170 P **P 12 18 34.0 +1.4**
9.0nm,0.6s,baz=349,slow=9.7,SNR=76
ASAR S **S 12 22 21.6 -1.1**
2.1nm,0.8s,baz=352,slow=21,SNR=8.1
CTA Charters Tower 23.12 138 P **P 12 18 58.7 +0.5**
3.0nm,0.7s,mb3.9,baz=315,slow=8.6,SNR=5.6
CTA Charters Tower 23.12 138 P **P 12 18 58.7 +0.5**
CTAO Charters Tower 23.12 138 *e*P **P 12 18 59.0 +0.8**
14nm,0.9s,mb4.4
HNR Honiara 30.40 103 P **P 12 20 05.4 +1.3**
STKA Stephens Creek 30.57 160 P **P 12 19 59.6 -6.0**
2.3nm,0.8s,mb4.1,baz=340,slow=11,SNR=4.4
STKA LR LR 12 33 07.6
comp=Z,145nm,21.1s,baz=208,slow=38
MKAR Makanchi Array 65.05 326 P **P 12 24 31.6 -0.6**
1.4nm,0.8s,mb4.0,baz=126,slow=6.2,SNR=5.4
KURK Kurchatov 69.27 328 *e*P **P 12 24 58.8 -0.2**
7.9nm,1.0s,mb4.6
KURK *e* pP 12 25 07.8 +0.5
BVAR Borovoye Array 74.84 327 P **P 12 25 32.2 -0.1**
1.3nm,0.8s,mb3.9,baz=126,slow=7.5,SNR=4.5
ZRNK Zerenda 75.56 327 *e*P **P 12 25 35.9 -0.6**
3.2nm,0.9s,mb4.2
AKTK Aktyubinsk 81.06 322 P **P 12 26 06.6 -0.2**
AKTO Aktyubinsk 81.06 322 P **P 12 26 06.6 -0.2**
1.3nm,0.7s,mb4.0,baz=89,slow=5.5,SNR=3.7
QSPA South Pole Qui 86.78 180 P **P 12 26 36.8 +0.8**
2.8nm,1.0s,mb4.5

WEL 25 12:16:08.4±0.3, 3819S×17643E, h145km±3km, ML3.5/12, Error ellipse: s-maj=3.7km s-min=3.2km az=90.0, North Island
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 0.54 98 PN Pn 12 16 29.3 -0.1
URZ SN Sn 12 16 45.1 -0.1
MWZ Matawai 0.88 100 PN Pn 12 16 32.1 +0.5
MWZ SN Sn 12 16 49.6 +0.4
BKZ Black Stump Fm 0.98 177 PN Pn 12 16 32.6 +0.2
BKZ SN Sn 12 16 50.7 0.0
TUVZ Tukino 1.24 209 PN Pn 12 16 35.0 +0.2
FWVZ Far West T-bar 1.27 213 PN Pn 12 16 35.4 +0.3
WNVZ Wahianoa 1.31 210 PN Pn 12 16 35.7 +0.1
MOVZ Moawhango 1.33 203 PN Pn 12 16 35.3 -0.4
PUZ Puketiti 1.44 86 PN Pn 12 16 36.8 -0.2
PUZ SN Sn 12 16 58.0 -0.8
TSZ Takapari Road 1.90 191 PN Pn 12 16 41.3 -0.7
MRZ Mangatainoka R 2.56 195 PN Pn 12 16 48.3 -1.6
KIW Kapiti Island 2.92 203 PN Pn 12 16 52.1 -2.4
MTW Mount Morrison 3.05 193 PN Pn 12 16 53.6 -2.5
CAW Cannon Point 3.10 199 PN Pn 12 16 54.3 -2.4
MRW Makara Radio 3.32 203 PN Pn 12 16 56.8 -2.8
TCW Tory Channel 3.45 208 PN Pn 12 16 58.2 -3.0
TUWZ Tuamarina 3.76 210 PN Pn 12 17 01.9 -3.4
THZ Tophouse 4.48 216 PN Pn 12 17 11.3 -3.4
THZ SN Sn 12 18 02.5 -4.0
KHZ Kahutara 4.77 207 PN Pn 12 17 14.9 -3.7
LTZ Lake Taylor 5.58 213 PN Pn 12 17 25.1 -4.3

IDC ***25*** *12:27:11.4±1.9, 8.18S×12492E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=119.8km s-min=28.2km az=66.0*
ISCJB ***25*** *12:27:20.3±1.3, 858S±009×1250E±0.1, h100km, mb3.3/1, Error ellipse: s-maj=19.6km s-min=11.4km az=128.3*
ISC 25 12:27:22.4±1.3, 858S±009×1251E±01, h100km, n7, σ1§14/10, mb3.3/1, Timor region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAKA Kakadu 8.28 120 *e*P **Pn 12 29 21.5 +1.9**
5.6nm,0.4s
FITZ Fitzroy Crossi 9.47 177 *e*P **Pn 12 29 36.5 +0.7**
4.8nm,0.8s
FITZ Fitzroy Crossi 9.47 177 Pn **Pn 12 29 35.6 -0.3**
0.2nm,0.3s,baz=353,slow=16,SNR=7.1
FITZ Sn **Sn 12 31 20.8 +0.3**
0.2nm,0.3s,baz=203,slow=6.2,SNR=3.0
WRA Warramunga Arr 14.39 143 Pn **Pn 12 30 40.7 -0.5**
0.4nm,0.3s,baz=315,slow=14,SNR=36
WRA Sn **Sn 12 33 19.1 -0.7**
0.2nm,0.3s,baz=322,slow=25,SNR=5.1
WB2 Warramunga Arr 14.40 143 *e*P **Pn 12 30 41.8 +0.5**
WB2 *e*S **Sn 12 33 18.6 -1.4**
ASAR Alice Springs 17.20 152 P **Pn 12 31 19.5 +3.2**
0.2nm,0.3s,baz=323,slow=10,SNR=14
MKAR Makanchi Array 67.01 330 P **P 12 38 03.4 -1.2**
0.3nm,0.6s,mb3.3,baz=132,slow=9.5,SNR=3.6

IDC 25 12:46:31.0±3.5, 1129S×16931E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.6/4, Error ellipse: s-maj=139.9km s-min=29.5km az=136.0, Santa Cruz Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 34.70 251 P P 12 53 23.6 +1.1
0.5nm,0.3s,baz=85,slow=8.6,SNR=14
ASAR Alice Springs 35.84 245 P P 12 53 32.2 -0.1
1.0nm,0.5s,baz=71,slow=9.6,SNR=28
SONM Songino Array 80.96 323 P P 12 58 46.7 -0.6
0.2nm,0.5s,baz=134,slow=4.0,SNR=2.2
ILAR Eielson Array 82.67 17 P P 12 58 56.5 +0.1
0.3nm,0.8s,baz=236,slow=5.5,SNR=8.0

CSEM ***25*** *12:49:28.9, 2661N×5324E, h39km, ML3.4, After THR*
THR ***25*** *12:49:28.9±0.4, 2661N×5324E, h39km±6km, ML3.4*
IDC ***25*** *12:49:30.3±2.0, 2699N×5353E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/22, mbtmp3.8/9, Error ellipse: s-maj=50.2km s-min=22.9km az=148.0*
ISCJB ***25*** *12:49:35.1±1.9, 270N±02×535E±0.1, h51km±14km, mb3.8/8, Error ellipse: s-maj=25.3km s-min=15.6km az=9.8*
ISC 25 12:49:36.7±1.9, 270N±02×536E±01, h47km±14km, n14, σ0§55/16, mb3.8/8, Southern Iran
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GHIR Ghir-Karzin 1.36 338 *e*PG **Pn 12 49 59.3 0.0**
GHIR *e*SG **Sn 12 50 21.7 +5.5**
GHIR AML AML 12 50 26.1
comp=E,496nm,0.5s
GHIR Ghir-Karzin 1.36 338 *e*Pg **Pn 12 49 59.3 0.0**
SNR=98
GHIR *e*Sg **Sn 12 50 21.7 +5.5**
comp=E,496nm,0.5s,SNR=98
BNDS Bandar-Abbas 2.36 80 *e*PN **Pn 12 50 12.3 -0.7**
BNDS AML AML 12 51 05.6
comp=E,137nm,0.4s
KRBR Kerman 4.09 43 *e*PN **Pn 12 50 37.6 +0.9**
KRBR AML AML 12 51 44.9
comp=N,25nm,0.3s
NASN Na'in 5.80 354 *e*PN **Pn 12 51 00.0 -0.2**
BRTR Keskin Array B 20.86 312 P **P 12 54 14.4 -0.1**
comp=N,1.1nm,0.7s,baz=126,slow=11,SNR=6.0
BVAR Borovoye Array 28.86 21 P **P 12 55 30.9 +0.2**
comp=N,0.3nm,0.5s,mb3.3,baz=216,slow=8.9,SNR=2.7
MKAR Makanchi Array 30.04 41 P **P 12 55 41.6 +0.5**
comp=N,1.0nm,0.6s,mb3.8,baz=215,slow=7.8,SNR=3.6
ZAL Zalesovo 35.38 32 P **P 12 56 27.4 -0.5**
comp=N,1.5nm,0.5s,mb4.2,baz=174,slow=7.6,SNR=6.1
FINES FINESS Array B 39.06 339 P **P 12 56 58.2 -0.7**
comp=N,0.9nm,0.3s,mb3.9,baz=144,slow=8.7,SNR=24
ARCES ARCESS Array B 45.59 347 P **P 12 57 51.7 -0.3**
comp=N,1.5nm,0.8s,mb4.0,baz=150,slow=9.1,SNR=3.6
TORD Torodi Ar. Bea 50.30 265 P **P 12 58 28.4 0.0**
comp=N,0.3nm,0.6s,mb3.5,baz=78,slow=9.0,SNR=3.3
DBIC Dimbokro 58.91 261 P **P 12 59 31.5 +0.6**
comp=N,2.0nm,0.6s,mb4.3,baz=24,slow=10.0,SNR=4.5
YKA Yellowknife Ar 90.30 355 P **P 13 02 32.8 +0.2**
comp=N,0.1nm,0.6s,mb3.4,baz=7.3,slow=5.0,SNR=4.8

IDC ***25*** *12:55:35.3±1.0, 2750N×5573E, h0km, mb4.1/20, mb1 4.2/20, mb1mx4.2/25, mbtmp4.1/20, MS3.6/14, Ms1 3.6/14, ms1mx3.4/32, Error ellipse: s-maj=22.6km s-min=16.1km az=171.0*
ISCJB ***25*** *12:55:35.3±0.2, 2747N±002×5565E±002, h10km, mb4.2/58, MS3.5/13, Error ellipse: s-maj=3.7km s-min=2.9km az=65.0*
BJI ***25*** *12:55:35.6, 2666N×5646E, h6km, mB4.9, mb4.6*
MOS ***25*** *12:55:37.5±0.9, 2764N×5568E, h22km, mb4.5/29, Error ellipse: s-maj=9.2km s-min=5.9km az=100.9*
NEIC ***25*** *12:55:38.0, 2730N×5588E, h18km, mb4.4/27, ML4.1(THR), MN4.1(TEH), After TEH.*
CSEM ***25*** *12:55:38.4±0.1, 2740N×5559E, h35km, mb4.4/33, Error ellipse: s-maj=2.6km s-min=1.9km az=25.0*
TEH ***25*** *12:55:38.0, 2730N×5588E, h18km, Mn4.1*
THR ***25*** *12:55:39.4±1.9, 2749N×5625E, h29km±9km, ML4.2*
OMAN ***25*** *12:55:41.1±7.0, 2738N×5531E, h30km, Error ellipse: s-maj=6.0km s-min=2.3km az=3.0*
ISC 25 12:55:37.5±0.2, 2752N±002×5571E±002, h10km, n218, σ1§37/236, mb4.2/58, MS3.5/13, 5C-8D, Southern Iran
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BNDS Bandar-Abbas 0.43 107 *e*PG **Pg 12 55 44.4 -1.5**
BNDS *e*Sg **Sg 12 55 49.2 -2.3**
BNDS AML AML 12 55 54.8
comp=E,32μm,0.7s
BNDS Bandar-Abbas 0.43 107 *e*Pg **Pg 12 55 44.4 -1.5**
SNR=155
BNDS *e*Sg **Sg 12 55 49.2 -2.3**
comp=E,32μm,0.7s,SNR=155
BNDS Bandar-Abbas 0.43 107 *e*Pg **Pg 12 55 44.0 -1.9**
BANOM Banah 1.68 162 P **Pn 12 56 08.9 +2.0**
SNR=72
BANOM ⇑S **Sn 12 56 30.0 +1.5**
GHIR Ghir-Karzin 2.53 288 *e*Pn **Pg 12 56 26.4 +0.5**
GHIR *e*Sg **Sg 12 57 10.9 +12**
GHIR AML AML 12 57 20.2
comp=E,815nm,0.0s
GHIR AML AML 12 57 34.2
comp=N,608nm,0.3s
GHIR Ghir-Karzin 2.53 288 *e*Pn **Pg 12 56 26.4 +0.4**
SNR=54
GHIR *e*Sg **Sg 12 57 10.9 +12**
comp=N,608nm,0.3s,SNR=92
GHIR Ghir-Karzin 2.53 288 *e*Pn **Pg 12 56 28.0 +2.0**
KRBR Kerman 2.62 20 *e*PN **Pn 12 56 21.7 +1.9**
KRBR *e*SG **Sb 12 56 56.5 -0.1**
KRBR AML AML 12 56 58.0
comp=N,1μm,0.7s
KRBR AML AML 12 57 01.0
comp=E,992nm,0.0s
KRBR Kerman 2.62 20 *e*Pn **Pn 12 56 21.7 +1.9**
SNR=54
KRBR *e*Sg **Sb 12 56 56.5 -0.1**
SNR=93
KRBR Kerman 2.62 20 *e*Pn **Pn 12 56 21.0 +1.2**
KRBR *e*Sg **Sb 12 56 56.0 -0.6**
ASHO Ashiyiah 2.85 174 P **Pn 12 56 25.0 +2.0**
SNR=55
IMOK Mook 3.05 301 *e*Pn **Pn 12 56 27.9 +2.2**
IPAR Pars 3.29 315 *e*Pn **Pn 12 56 32.0 +3.0**
IPAR Pars 3.29 315 *e*Pn **Pn 12 56 31.4 +2.4**
SHI Shiraz 3.52 308 *e*Pn **Pn 12 56 34.7 +2.5**
IMEH Mehriz 3.97 346 *e*Pn **Pn 12 56 41.3 +2.9**
IMEH Mehriz 3.97 346 *e*Pn **Pn 12 56 41.2 +2.8**
IBAF Bafgh 4.05 358 *e*Pn **Pn 12 56 41.9 +2.3**
IBAF Bafgh 4.05 358 *e*Pn **Pn 12 56 41.5 +1.9**
IBAF Bafgh 4.05 358 Pn **Pn 12 56 41.8 +2.2**
ARQ Araqi 4.23 170⇓P **Pn 12 56 42.6 +0.6**
BIDO Bidbid 4.54 151⇓P **Pn 12 56 45.9 -0.4**
ISAD Sadrabad 4.72 339 *e*Sn **Sn 12 57 44.9 +1.5**
ISAD *e*Sn **Sn 12 57 46.4 +3.0**
ISAD Sadrabad 4.72 339 *e*Pn **Pn 12 56 51.2 +2.5**
ICHK Chekchek 4.84 347 *e*Pn **Pn 12 56 52.7 +2.3**
ZHSF Zahedan 4.91 64 *e*Pn **Pn 12 56 50.0 -1.4**
BSY Bisya 4.95 164⇓P **Pn 12 56 53.8 +1.9**
BSYO Bisya 4.97 163 P **Pn 12 56 53.8 +1.6**
JMDO Jabal Madar 5.57 157⇑P **Pn 12 57 01.0 +0.6**
IGAR Garneh 5.61 328 *e*Sn **Sn 12 58 11.4 +6.0**
IGAR *e*Sn **Sn 12 58 11.8 +6.4**
IGAR Garneh 5.61 328 *e*Pn **Pn 12 57 03.5 +2.6**
IZEF Zefreh 6.10 332 *e*Pn **Pn 12 57 09.2 +1.5**
IZEF *e*Sn **Sn 12 58 18.6 +1.0**
IZEF Zefreh 6.10 332 *e*Pn **Pn 12 57 07.6 -0.1**
IZEF Zefreh 6.10 332 Pn **Pn 12 57 09.1 +1.4**
IZEF Sn **Sn 12 58 18.5 +0.9**
IPIR Pirpir 6.62 322 *e*Sn **Sn 12 58 30.3 -0.1**
IPIR *e*Sn **Sn 12 58 30.9 +0.5**
IPIR Pirpir 6.62 322 *e*Pn **Pn 12 57 14.4 -0.5**
IKLH Kalahroud 6.79 329 *e*Pn **Pn 12 57 20.2 +3.0**
IKLH *e*Sn **Sn 12 58 35.0 +0.5**
IKLH *e*Sn **Sn 12 58 35.0 +0.5**
IKLH Kalahroud 6.79 329 *e*Pn **Pn 12 57 17.0 -0.2**
IKLH Kalahroud 6.79 329 Pn **Pn 12 57 20.1 +2.9**
IKLH Sn **Sn 12 58 35.0 +0.5**
QRN Al-Qurain 6.99 282 *e*P **Pn 12 57 20.9 +1.0**
QRN AML AML 12 58 38.7
comp=Z,25nm,0.3s
KBD Kabd 7.26 285 *e*P **Pn 12 57 24.4 +0.9**
KBD AML AML 12 58 46.2
comp=Z,102nm,0.4s
KBD Kabd 7.26 285 *e*P **Pn 12 57 24.5 +0.9**
KBD *e*S **Sn 12 58 45.2 -0.8**
UMR Umm Al-Rimmam 7.32 288 *e*P **Pn 12 57 25.4 +1.0**
UMR AML AML 12 58 45.6
comp=Z,24nm,0.4s
UMR Umm Al-Rimmam 7.32 288 *e*P **Pn 12 57 25.4 +1.0**
UMR *e*S **Sn 12 58 45.8 -1.7**
RDF Al-Radifah 7.34 283 *e*P **Pn 12 57 25.0 +0.3**
RDF AML AML 12 58 46.6
comp=Z,19nm,0.4s
RDF Al-Radifah 7.34 283 *e*P **Pn 12 57 25.0 +0.3**
RDF *e*S **Sn 12 58 46.2 -1.8**
NAY Al-Naaiem 7.66 285 *e*P **Pn 12 57 29.6 +0.5**
NAY AML AML 12 58 54.7

comp=Z,14nm,0.5s
NAY Al-Naaiem 7.66 285 *e*P **Pn 12 57 29.6 +0.5**
NAY *e*S **Sn 12 58 54.7 -1.2**
IANJ Anjiloo 8.07 349 *e*Pn **Pn 12 57 36.8 +2.1**
IANJ Anjiloo 8.07 349 *e*Pn **Pn 12 57 37.7 +3.0**
IANJ Anjiloo 8.07 349 Pn **Pn 12 57 36.7 +2.0**
IVRN Varamin 8.19 336 *e*Pn **Pn 12 57 37.7 +1.3**
IVRN Varamin 8.19 336 *e*Pn **Pn 12 57 40.0 +3.6**
IVRN *e*Sn **Sn 12 59 07.1 -1.9**
IFIR Firoozkooh 8.48 343 *e*Pn **Pn 12 57 43.2 +2.9**
ISHM Shahmirzad 8.51 347 *e*Pn **Pn 12 57 43.0 +2.2**
ISHM *e*Sn **Sn 12 59 15.6 -1.3**
ISHM Shahmirzad 8.51 347 *e*Pn **Pn 12 57 43.9 +3.1**
ISHM Shahmirzad 8.51 347 Pn **Pn 12 57 42.9 +2.1**
ISHM Sn **Sn 12 59 15.6 -1.3**
IAFJ Afjeh 8.98 339 *e*Pn **Pn 12 57 49.5 +2.3**
IAFJ Afjeh 8.98 339 *e*Pn **Pn 12 57 49.8 +2.6**
IRAZ Razeghan 9.28 329 *e*Pn **Pn 12 58 02.1 +11**
IRAZ Razeghan 9.28 329 *e*Sn **Sn 12 59 32.2 -3.5**
MHI Mashhad 9.32 19 *e*Pn **Pn 12 57 58.1 +6.2**
IPAY Payeh 9.32 17 *e*Pn **Pn 12 57 54.6 +2.7**
IPAY Payeh 9.32 17 *e*Pn **Pn 12 57 55.0 +3.1**
IPAY Payeh 9.32 17 Pn **Pn 12 57 54.5 +2.6**
SHAO Shalim 9.46 181 ⇓P **Pn 12 57 54.1 +0.4**
SNR=18
IMYA Miamay 9.55 22 *e*Pn **Pn 12 57 58.0 +3.0**
IMYA Miamay 9.55 22 *e*Pn **Pn 12 57 59.5 +4.5**
WHFO Wadi Hawf 9.73 191 ⇑P **Pn 12 57 56.9 -0.5**
SNR=42
RBK Rabkut 10.07 188 ⇓P **Pn 12 58 01.4 -0.8**
ABTO Aybut 10.37 193 ⇓P **Pn 12 58 05.1 -1.1**
SNR=44
GNI Garni 15.53 327 Pn **Pn 12 59 22.9 +6.4**
comp=Z,2.8nm,0.3s,baz=283,slow=4.5,SNR=7.4
GNI LR LR 13 06 03.0
comp=Z,201nm,18.8s,baz=92,slow=40
GNI Garni 15.53 327 *e*Pn **Pn 12 59 23.3 +6.9**
comp=Z,39nm,1.2s
GNI Garni 15.53 327 *e*P **Pn 12 59 23.3 +6.8**
GNI pmax pmax
comp=Z,39nm,1.2s
ZEI Tsey 17.99 331 *i* P **Pn 12 59 50.0 +2.4**
MALT Malatya 18.04 311 *e*P **Pn 12 59 50.4 +2.2**
comp=Z,5.0nm,0.8s
MALT Malatya 18.04 311 *e*Pn **Pn 12 59 50.4 +2.2**
comp=Z,5.5nm,0.8s
MALT Malatya 18.04 311 *e*P **Pn 12 59 50.4 +2.2**
MALT pmax pmax
comp=Z,5.0nm,0.8s
ANR Andizhan 19.04 42 *e*P **Pn 13 00 03.0 +2.6**
KIV Kislovodsk 19.47 331 *e*P **Pn 13 00 04.1 -1.5**
comp=Z,22nm,1.7s
KIV Kislovodsk 19.47 331 *e*P **Pn 13 00 05.0 -0.5**
comp=Z,30nm,1.2s
KIV Kislovodsk 19.47 331⇑*e*P **Pn 13 00 04.1 -1.5**
KIV pmax pmax
comp=Z,22nm,1.7s
KK31 Karatay Array 19.64 34 *i* P **Pn 13 00 06.8 -0.8**
comp=Z,3.0nm,0.4s
KK31 Karatay Array 19.64 34 *i* P **Pn 13 00 06.8 -0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 19.64 34 P **Pn 13 00 06.8 -0.8**
comp=Z,1.0nm,0.5s
KKAR Karatay Array 19.64 34 P **Pn 13 00 06.8 -0.8**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
DDI Dehra Dun 19.75 77 *ex* x 13 00 14.0
ATD Arta Tunnel 19.98 220 LR LR 13 08 11.4
comp=Z,176nm,20.0s,baz=97,slow=38
GOF Gofitskoye 20.22 333 *e*P **P 13 00 16.2 +3.6**
CSS Prodhromos 20.50 297 P **P 13 00 14.8 -0.8**
comp=Z,16nm,0.9s
CSS Prodhromos 20.50 297 P **P 13 00 14.8 -0.8**
comp=Z,16nm,0.9s
SOC Sochi 20.58 325 *e*P **P 13 00 20.0 +3.5**
SOC *e*S **S 13 04 05.9 -0.8**
SOC *e*SS 13 04 18.2
SOC pmax pmax
comp=Z,61nm,1.6s
SOC MLR MLR
comp=Z,145nm,15.0s,MS3.5
FRU Bishkek 21.65 40 *e*P **P 13 00 31.0 +2.9**
comp=Z,20nm,1.8s,mb4.2
FRU Bishkek 21.65 40 *e*P **P 13 00 31.0 +2.9**
FRU pmax pmax
comp=Z,20nm,1.8s,mb4.2
AB31 Akbulak array 21.94 7 *e*P **P 13 00 30.1 -1.1**
comp=Z,25nm,1.1s,mb4.6
AB31 Akbulak array 21.94 7 *e*P **P 13 00 30.1 -1.1**
AB31 pmax pmax
comp=Z,25nm,1.1s,mb4.6
BRTR Keskin Array B 21.98 309 P **P 13 00 32.2 +0.6**
comp=Z,2.4nm,0.8s,mb3.7,baz=131,slow=14,SNR=11
BR131 Keskin Array S 21.98 309 *e*P **P 13 00 32.0 +0.4**
comp=Z,7.1nm,0.7s,mb4.2
BR131 Keskin Array S 21.98 309 *e*P **P 13 00 32.0 +0.4**
comp=Z,7.1nm,0.7s,mb4.2
TKM2 Tokmak 2 22.27 41 *i* P **P 13 00 37.2 +2.5**
comp=Z,14nm,1.3s,mb4.2
TKM2 Tokmak 2 22.27 41 *i* P **P 13 00 37.2 +2.5**
TKM2 pmax pmax
comp=Z,14nm,1.3s,mb4.2
AKTK Aktyubinsk 22.95 4 *i* P **P 13 00 41.6 -0.2**
comp=Z,3.0nm,1.2s,mb3.6
AKTK Aktyubinsk 22.95 4 P **P 13 00 42.1 +0.2**
AKTK LR LR 13 11 14.8
AKTO Aktyubinsk 22.95 4 P **P 13 00 42.1 +0.2**
comp=Z,1.9nm,0.3s,mb3.9,baz=184,slow=7.2,SNR=9.1
AKTO LR LR 13 11 14.8
comp=Z,193nm,20.8s,MS3.5,baz=0.0,slow=41
AKTO Aktyubinsk 22.95 4 *i* P **P 13 00 41.6 -0.2**
AKTO pmax pmax
comp=Z,3.0nm,1.2s,mb3.6
GKN Gorkha 25.58 82 *e*P **P 13 01 07.4 +0.7**
comp=Z,31nm,1.2s,mb4.7
VRHR Novokhopersk 25.85 339 *e*P **P 13 01 08.5 -0.6**
comp=Z,50nm,1.5s,mb4.8
VRHR Novokhopersk 25.85 339 *e*P **P 13 01 08.5 -0.6**
VRHR pmax pmax
comp=Z,8.0nm,0.4s,mb4.6
VRHR pmax pmax
comp=N,50nm,1.5s
VRHR pmax pmax
comp=E,7.0nm,0.4s
DMN Daman 26.03 83 *e*P **P 13 01 11.8 +1.0**
comp=E,44nm,1.3s,mb4.8
KKN Kakani 26.16 82 *e*P **P 13 01 12.9 +0.9**
comp=E,14nm,0.6s,mb4.7
KKN Kakani 26.16 82 *e*P **P 13 01 12.9 +0.9**
KKN pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
PKI Pulchoki 26.30 83 *e*P **P 13 01 14.2 +1.0**
GUN Gumba 26.68 82 *e*P **P 13 01 17.6 +1.0**
comp=Z,46nm,1.0s,mb5.0
ZRNK Zerenda 27.26 18 *e*P **P 13 01 20.9 -0.9**
comp=Z,4.6nm,1.1s,mb3.9
ZRNK Zerenda 27.26 18 *e*P **P 13 01 20.9 -1.0**
comp=Z,4.6nm,1.1s,mb3.9
ZRNK Zerenda 27.26 18 *e*P **P 13 01 20.9 -0.9**
ZRNK pmax pmax
comp=Z,5.0nm,1.1s,mb4.0
IDI Anoyia 27.34 294 P **P 13 01 23.3 +0.7**
comp=Z,5.7nm,0.7s,mb4.2,baz=235,slow=7.9,SNR=6.1
VOSK Vostochnaya 27.63 20 P **P 13 01 23.8 -1.4**
comp=Z,9.0nm,1.3s,mb4.2
VOSK Vostochnaya 27.63 20 P **P 13 01 23.8 -1.4**
VOSK pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
BRVK Borovoye 27.71 19 *e*P **P 13 01 24.3 -1.6**
comp=Z,13nm,1.4s,mb4.3
BRVK Borovoye 27.71 19 *e*P **P 13 01 24.3 -1.6**
BRVK pmax pmax
comp=Z,13nm,1.4s,mb4.4
BVA0 Borovoye Array 27.71 19 *i* P **P 13 01 23.6 -2.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.3s,mb3.8
BVAR Borovoye Array 27.71 19 P **P 13 01 24.9 -1.0**
comp=Z,2.2nm,0.7s,mb3.9,baz=207,slow=7.8,SNR=8.6
CHKZ Chkalovo 28.35 19 *i* P **P 13 01 31.1 -0.5**
comp=Z,6.0nm,1.6s,mb4.0
CHKZ Chkalovo 28.35 19 P **P 13 01 28.3 -3.3**
comp=Z,9.3nm,1.3s,mb4.2
CHKZ Chkalovo 28.35 19 *i* P **P 13 01 31.1 -0.5**
CHKZ pmax pmax
comp=Z,6.0nm,1.6s,mb4.0

MK31 Makanchi Array 28.39 40 *i* P **P 13 01 31.9 -0.1**
comp=Z,1.0nm,0.3s,mb3.9
MK31 Makanchi Array 28.39 40 *i* P **P 13 01 31.9 -0.1**
MK31 pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
MKAR Makanchi Array 28.39 40 P **P 13 01 31.3 -0.7**
comp=Z,0.6nm,0.4s,mb3.5,baz=222,slow=9.3,SNR=8.2
MKAR Makanchi Array 28.39 40 P **P 13 01 31.3 -0.7**
MKAR Makanchi Array 28.39 40 P **P 13 01 31.9 -0.1**
KURK Kurchatov 28.97 31 *e*P **P 13 01 36.1 -1.0**
comp=Z,2.5nm,0.8s,mb4.0
KURK Kurchatov 28.97 31 *e*P **P 13 01 36.1 -1.0**
comp=Z,2.5nm,0.8s,mb4.0
KURK Kurchatov 28.97 31 *e*P **P 13 01 36.1 -1.0**
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
MLR Muntele Rosu 29.66 315 P **P 13 01 44.5 +1.3**
comp=Z,3.1nm,0.6s,mb4.2,baz=159,slow=8.6,SNR=4.2
MLR LR LR 13 14 41.5
comp=Z,90nm,18.4s,MS3.4,baz=135,slow=39
AKASG Malin Array Be 30.66 326 P **P 13 01 50.8 -1.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=135,slow=8.4,SNR=13
AKASG Malin Array Be 30.66 326 *i* P **P 13 01 51.2 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 30.88 338 *e*P **P 13 01 53.1 -0.9**
comp=Z,5.0nm,0.6s,mb4.5
OBN Obninsk 30.88 338 *e*P **P 13 01 53.1 -0.9**
OBN pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
KMBO Kilima Mbogo 33.57 215 LR LR 13 16 30.4
comp=Z,59nm,18.2s,MS3.3,baz=93,slow=37
NVS Novosibirsk 33.84 29 *e*P **P 13 02 16.1 -3.9**
NVS pmax pmax
comp=Z,21nm,2.2s,mb4.7
NVS pmax pmax
comp=N,14nm,1.8s
NVS pmax pmax
comp=E,6.0nm,1.9s
ZAL Zalesovo 33.94 31 P **P 13 02 19.3 -1.6**
comp=E,3.4nm,0.5s,mb4.6,baz=215,slow=7.8,SNR=20
ZAL LR LR 13 18 58.6
comp=E,98nm,19.3s,MS3.5,baz=340,slow=41
KLMR Klimovskoe 35.08 346 *e*P **P 13 02 28.7 -2.0**
comp=E,50nm,2.5s,mb5.0
KLMR Klimovskoe 35.08 346 *e*P **P 13 02 28.7 -2.0**
KLMR pmax pmax
comp=Z,50nm,2.5s,mb5.0
MORC Moravsky Berou 36.62 318 P **P 13 02 43.6 -0.3**
comp=Z,2.9nm,0.8s,mb4.2
MORC Moravsky Berou 36.62 318 P **P 13 02 43.6 -0.3**
comp=Z,2.9nm,0.8s,mb4.2
MORC Moravsky Berou 36.62 318 P **P 13 02 43.6 -0.3**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
VSU Vasula 36.93 335 *e*P **P 13 02 45.6 -0.9**
DPC Dobruska-Polom 37.56 318 *e*P **P 13 02 52.3 +0.3**
GTA Gaotai 38.30 60 *e*P **P 13 02 58.0 -0.2**
GTA AP pP 13 03 03.5 +2.2
GTA XP sP 13 03 06.5 +4.0
GTA AMB AMB
comp=Z,5.0nm,1.8s,mb3.9
GERES GERESS Array B 38.65 315 P **P 13 03 00.6 -0.5**
comp=Z,0.8nm,0.5s,mb3.7,baz=110,slow=7.2,SNR=6.7
KHC Kasperske Hory 38.81 315 *e*P **P 13 03 01.9 -0.6**
KHC Kasperske Hory 38.81 315⇓*i*P **P 13 03 02.4 -0.1**
JOF Joensuu 38.84 342 *ep* **P 13 03 02.9 +0.2**
comp=Z,1.1nm,0.4s,mb3.9
FINES FINESS Array B 39.28 338 P **P 13 03 05.8 -0.6**
comp=Z,1.1nm,0.4s,mb3.9,baz=138,slow=10,SNR=19
FINES LR LR 13 21 41.5
comp=Z,60nm,19.5s,MS3.4,baz=200,slow=40
KAF Kangasniemi 39.69 339 *ep* **P 13 03 08.9 -0.9**
comp=Z,0.6nm,0.4s,mb3.7
KAF Kangasniemi 39.69 339 *e*P **P 13 03 08.9 -0.9**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
PGF Pioggiola 40.56 304 *e*P **P 13 03 16.0 -1.1**
comp=Z,68nm,1.4s,mb4.8
PGF Pioggiola 40.56 304 *e*P **P 13 03 16.0 -1.1**
comp=Z,34nm,1.4s,mb4.8
PGF Pioggiola 40.56 304 *e*P **P 13 03 16.0 -1.1**
PGF pmax pmax
comp=Z,34nm,1.4s,mb4.8
KMI Kunming 42.02 82 P **P 13 03 25.5 -3.6**
KMI AP pP 13 03 28.3 -3.9
KMI AMB AMB
comp=Z,8.0nm,0.6s,mb4.5
MBDF Montbardon 42.42 307 *e*P **P 13 03 31.1 -1.2**
comp=Z,11nm,0.7s,mb4.3
MBDF Montbardon 42.42 307 *e*P **P 13 03 31.1 -1.2**
comp=Z,5.4nm,0.7s,mb4.3
MBDF Montbardon 42.42 307 *e*P **P 13 03 31.1 -1.2**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
LPG La Plagne 42.53 308 *e*P **P 13 03 32.1 -1.1**
comp=Z,7.8nm,0.8s,mb4.2
LPG La Plagne 42.53 308 *e*P **P 13 03 32.1 -1.1**
comp=Z,3.9nm,0.8s,mb4.2
LPG La Plagne 42.53 308 *e*P **P 13 03 32.1 -1.1**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
LPL La Plagne 42.55 308 *e*P **P 13 03 32.1 -1.2**
CDF Champ du Feu 42.66 313 *e*P **P 13 03 32.4 -1.9**
ORIF Oris-en-Rattie 43.07 307 *e*P **P 13 03 36.6 -1.0**
HFS Hagfors 43.27 331 LR LR 13 21 40.6
comp=Z,101nm,19.2s,MS3.7,baz=250,slow=36
SONM Songino Array 44.04 49 P **P 13 03 45.5 +0.1**
comp=Z,0.8nm,0.9s,mb3.4,baz=261,slow=9.9,SNR=7.6
SONM LR LR 13 24 22.3
comp=Z,78nm,19.1s,MS3.6,baz=234,slow=39
ULN Ulaanbaatar 44.49 49 P **P 13 03 47.2 -1.7**
comp=Z,4.7nm,1.3s,mb4.1
ULN Ulaanbaatar 44.49 49 P **P 13 03 47.2 -1.8**
comp=Z,4.7nm,1.3s,mb4.1
ULN Ulaanbaatar 44.49 49 P **P 13 03 47.2 -1.7**
ULN pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
LOR Lormes 44.75 310 *e*P **P 13 03 50.0 -1.1**
comp=Z,3.7nm,0.5s,mb4.1
LOR Lormes 44.75 310 *e*P **P 13 03 50.0 -1.1**
comp=Z,1.9nm,0.5s,mb4.2
LOR Lormes 44.75 310 *e*P **P 13 03 50.0 -1.1**
LOR pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
NB2 NORSAR Subarra 44.78 331 P **P 13 03 49.6 -1.7**
comp=Z,1.5nm,0.5s,mb4.1,baz=114,slow=7.9
NB2 NORSAR Subarra 44.78 331 P **P 13 03 49.6 -1.7**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
NOA NORSAR Array B 44.78 331 P **P 13 03 49.5 -1.8**
comp=Z,1.5nm,0.6s,mb4.0,baz=117,slow=7.9,SNR=9.5
NOA LR LR 13 25 47.8
comp=Z,31nm,18.2s,MS3.3,baz=275,slow=40
SSF Saint Saulge 44.97 310 *e*P **P 13 03 51.6 -1.2**
comp=Z,16nm,1.1s,mb4.5
SSF Saint Saulge 44.97 310 *e*P **P 13 03 51.6 -1.2**
comp=Z,7.8nm,1.1s,mb4.5
SSF Saint Saulge 44.97 310 *e*P **P 13 03 51.6 -1.2**
SSF pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
BGF Bois d'Agland 45.36 309 *e*P **P 13 03 54.7 -1.2**
comp=Z,9.5nm,0.7s,mb4.5
BGF Bois d'Agland 45.36 309 *e*P **P 13 03 54.7 -1.2**
comp=Z,4.8nm,0.7s,mb4.5
BGF Bois d'Agland 45.36 309 *e*P **P 13 03 54.7 -1.2**
BGF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
KEV Kevo 45.41 346 *ep* **P 13 03 54.7 -1.6**
ARCES ARCESS Array B 45.55 346 P **P 13 03 56.8 -0.7**
comp=Z,4.0nm,0.9s,mb4.4,baz=143,slow=10,SNR=7.1
SJPF Ste Jean 48.10 304 *e*P **P 13 04 17.0 -0.4**
comp=Z,7.5nm,0.6s,mb4.6
SJPF Ste Jean 48.10 304 *e*P **P 13 04 17.0 -0.4**
comp=Z,3.8nm,0.6s,mb4.6
SJPF Ste Jean 48.10 304 *e*P **P 13 04 17.0 -0.4**
SJPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LSZ Lusaka 50.23 215 LR LR 13 27 03.5
comp=Z,77nm,21.1s,MS3.7,baz=26,slow=38
ESDC Sonseca Array 50.33 300 P **P 13 04 34.1 -0.3**
comp=Z,0.4nm,0.3s,mb3.9,baz=83,slow=7.5,SNR=4.0
ESLA Sonseca Array 50.33 300 P **P 13 04 31.2 -3.2**
comp=Z,21nm,1.8s,mb4.9
BOD Bodaibo 50.35 36 *e*P **P 13 04 30.7 -3.9**
BOD pmax pmax
comp=Z,3.0nm,1.5s,mb4.1

TORD Torodi Ar. Bea 52.25 265 P **P 13 04 48.0 -0.8**
comp=Z,2.0nm,0.5s,mb4.3,baz=61,slow=7.1,SNR=26
JMIC Jan Mayen 55.89 339 LR LR 13 31 33.4
comp=Z,72nm,18.7s,MS3.8,baz=242,slow=39
SSE Sheshan 56.46 69 *e*P **P 13 05 20.0 +0.5**
SSE AMB AMB
comp=Z,35nm,0.7s
SSE AMB AMB
comp=Z,55nm,3.9s
YAK Yakutsk 58.60 32 *e*P **P 13 05 34.7 +0.1**
comp=Z,5.0nm,0.5s,mb4.8
YAK Yakutsk 58.60 32⇓*e*P **P 13 05 34.7 +0.1**
YAK pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
TIXI Tiksi 58.83 21 *e*P **P 13 05 34.8 -1.4**
comp=Z,6.0nm,1.7s,mb4.3
TIXI Tiksi 58.83 21⇑*e*P **P 13 05 34.8 -1.4**
TIXI pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
DBIC Dimbokro 60.89 262 P **P 13 05 49.8 -0.5**
comp=Z,1.4nm,0.5s,mb4.3,baz=274,slow=9.0,SNR=5.0
DBIC LR LR 13 32 39.4
comp=Z,30nm,18.6s,MS3.5,baz=292,slow=36
DBIC Dimbokro 60.89 262 P **P 13 05 49.8 -0.5**
DBIC LR LR 13 32 39.4
SUMG Summit 65.24 341 P **P 13 06 18.9 -0.3**
comp=Z,6.2nm,0.8s,mb4.7
SUMG Summit 65.24 341 P **P 13 06 18.9 -0.3**
comp=Z,6.2nm,0.8s,mb4.7
YSS Yuzh-Sakhalins 68.51 47 *i* P **P 13 06 41.7 +1.6**
INK Inuvik 84.21 3 *e*P **P 13 08 07.9 -1.3**
comp=Z,7.6nm,1.5s,mb4.6
INK Inuvik 84.21 3 *e*P **P 13 08 07.9 -1.2**
comp=Z,7.6nm,1.5s,mb4.6
INK Inuvik 84.21 3 *e*P **P 13 08 07.9 -1.3**
INK pmax pmax
comp=Z,8.0nm,1.5s
SCHQ Schefferville 84.35 331 P **P 13 08 08.9 -0.9**
comp=Z,1.7nm,0.9s,mb4.2,baz=64,slow=7.2,SNR=4.1
SCHQ Schefferville 84.35 331 P **P 13 08 08.9 -0.9**
WRA Warramunga Arr 89.49 113 P **P 13 08 34.5 -0.4**
comp=Z,0.6nm,0.9s,mb3.9,baz=310,slow=4.9,SNR=5.2
YKA Yellowknife Ar 89.96 356 P **P 13 08 36.5 -0.5**
comp=Z,0.7nm,0.9s,mb4.0,baz=3.2,slow=5.1,SNR=9.4
YKA LR LR 13 54 15.2
comp=Z,38nm,18.0s,MS3.9,baz=140,slow=39
YKA Yellowknife Ar 89.96 356 P **P 13 08 36.5 -0.6**
YKA Yellowknife Ar 89.96 356 P **P 13 08 36.5 -0.5**
YKA LR LR 13 54 15.2
ASAR Alice Springs 90.97 116 P **P 13 08 42.3 +0.6**
comp=Z,0.3nm,0.7s,mb3.7,baz=301,slow=4.6,SNR=4.3

SZGRF ***25*** *13:14:14.4,2660N×58.13E,h33km,mb4.3,Southern Iran*
IDC ***25*** *13:14:26.6±0.9,2747N×5579E,h0km,mb4.2/24,*
mb1 4.3/24,mb1mx4.3/28,mbtmp4.2/24,MS3.3/6,
Ms1 3.3/6,ms1mx3.1/31,Error ellipse: s-maj=22.5km
s-min=15.0km az=7.0
ISCJB ***25*** *13:14:26.7±0.3,2745N±003×5571E±003,h10km,*
mb4.3/66,MS3.3/5,Error ellipse: s-maj=5.0km
s-min=3.8km az=25.4
MOS ***25*** *13:14:28.1±1.1,2756N×5571E,h19km,mb4.6/31,Error*
ellipse: s-maj=8.3km s-min=5.2km az=109.5
CSEM ***25*** *13:14:29.0±0.1,2740N×5568E,h30km,mb4.4/37,Error*
ellipse: s-maj=2.5km s-min=2.3km az=5.0
THR ***25*** *13:14:29.2±0.9,2755N×5593E,h14km±13km,ML4.0*
BJI ***25*** *13:14:30.3,2749N×5523E,h56km,mB4.7,mb4.6,Ms5.0,*
Msz4.5
NEIC ***25*** *13:14:32.0,2740N×5577E,h32km,mb4.4/29,*
ML4.0(THR),MN4.1(TEH),After TEH.
TEH ***25*** *13:14:32.9,2740N×5577E,h32km,Mn4.1*
ISC 25 13:14:28.8±0.3,2751N±003×5572E±003,h10km,n242,
σ1§37/276,mb4.3/66,MS3.3/5,5C-7D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.42**	**106**	*e*PG	**Pg**	**13 14 35.1**	**-2.0**
BNDS				AML	AML	13 14 52.9	
	comp=E,19μm,0.3s						
BNDS				AML	AML	13 14 56.2	
	comp=N,20μm,0.7s						
BNDS	**Bandar-Abbas**	**0.42**	**106**	*e*Pg	**Pg**	**13 14 35.0**	**-2.0**
GHIR	**Ghir-Karzin**	**2.53**	**288**	*e*PN	**Pb**	**13 15 14.2**	**-0.1**
GHIR				AML	AML	13 16 11.5	
	comp=E,593nm,0.6s						
GHIR				AML	AML	13 16 11.9	
	comp=N,453nm,0.8s						
GHIR	**Ghir-Karzin**	**2.53**	**288**	*e*Pn	**Pb**	**13 15 14.0**	**-0.3**
KRBR	**Kerman**	**2.63**	**20**	*e*PN	**Pn**	**13 15 12.5**	**+1.3**
KRBR				*e*SG	**Sb**	**13 15 48.5**	**+0.3**
KRBR				AML	AML	13 15 49.7	
	comp=N,1μm,0.4s						
KRBR				AML	AML	13 15 55.0	
	comp=E,898nm,1.3s						
KRBR	**Kerman**	**2.63**	**20**	*e*Pn	**Pn**	**13 15 12.5**	**+1.3**
	SNR=52						
KRBR				*e*Sg	**Sb**	**13 15 48.5**	**+0.3**
	comp=E,898nm,1.3s,SNR=90						
KRBR	**Kerman**	**2.63**	**20**	*e*Pn	**Pn**	**13 15 12.0**	**+0.8**
KRBR				*e*Sg	**Sb**	**13 15 48.0**	**-0.2**
IMOK	**Mook**	**3.06**	**301**	*e*Pn	**Pn**	**13 15 16.0**	**-1.1**
IMOK	**Mook**	**3.06**	**301**	Pn	**Pn**	**13 15 15.9**	**-1.2**
IPAR	**Pars**	**3.30**	**315**	*e*Pn	**Pn**	**13 15 23.8**	**+3.4**
IPAR	**Pars**	**3.30**	**315**	Pn	**Pn**	**13 15 23.7**	**+3.3**
IMEH	**Mehriz**	**3.98**	**346**	*e*Pn	**Pn**	**13 15 33.1**	**+3.3**
IMEH	**Mehriz**	**3.98**	**346**	*e*Pn	**Pn**	**13 15 32.4**	**+2.6**
IMEH	**Mehriz**	**3.98**	**346**	Pn	**Pn**	**13 15 33.0**	**+3.2**
IBAF	**Bafgh**	**4.07**	**358**	*e*Pn	**Pn**	**13 15 33.5**	**+2.5**
IBAF				*e*Sn	**Sn**	**13 16 19.0**	**+0.4**
IBAF				*e*Sn	**Sn**	**13 16 19.1**	**+0.5**
IBAF	**Bafgh**	**4.07**	**358**	*e*Pn	**Pn**	**13 15 33.3**	**+2.3**
IBAF	**Bafgh**	**4.07**	**358**	Pn	**Pn**	**13 15 33.4**	**+2.4**
IBAF				Sn	**Sn**	**13 16 19.0**	**+0.4**
ISAD	**Sadrabad**	**4.73**	**339**	*e*Sn	**Sn**	**13 16 34.2**	**-0.7**
ISAD				*e*Sn	**Sn**	**13 16 34.4**	**-0.5**
ISAD	**Sadrabad**	**4.73**	**339**	*e*Pn	**Pn**	**13 15 43.3**	**+3.2**
ISAD				Sn	**Sn**	**13 16 34.1**	**-0.8**
ISAD	**Sadrabad**	**4.73**	**339**	Sn	**Sn**	**13 16 34.1**	**-0.8**
ICHK	**Chekchek**	**4.85**	**347**	*e*Pn	**Pn**	**13 15 44.2**	**+2.4**
ICHK				*e*Sn	**Sn**	**13 16 37.6**	**-0.4**
ICHK	**Chekchek**	**4.85**	**347**	*e*Pn	**Pn**	**13 15 44.4**	**+2.6**
ICHK				Sn	**Sn**	**13 16 37.5**	**-0.5**
ICHK	**Chekchek**	**4.85**	**347**	Pn	**Pn**	**13 15 44.2**	**+2.4**
ICHK				Sn	**Sn**	**13 16 37.5**	**-0.5**
IGAR	**Garneh**	**5.62**	**328**	*e*Pn	**Pn**	**13 15 57.6**	**+5.3**
IGAR				*e*Sn	**Sn**	**13 17 00.6**	**+3.7**
IGAR				*e*Sn	**Sn**	**13 17 00.9**	**+4.0**
IGAR	**Garneh**	**5.62**	**328**	*e*Pn	**Pn**	**13 15 55.7**	**+3.4**
IBRJ	**Borojen**	**5.74**	**319**	*e*Pn	**Pn**	**13 15 56.0**	**+2.0**
IZEF	**Zefreh**	**6.11**	**332**	*e*Pn	**Pn**	**13 16 00.4**	**+1.3**
IZEF				*e*Sn	**Sn**	**13 17 06.8**	**-2.3**
IZEF	**Zefreh**	**6.11**	**332**	*e*Pn	**Pn**	**13 15 59.2**	**+0.1**
IZEF				Sn	**Sn**	**13 17 06.7**	**-2.4**
IZEF	**Zefreh**	**6.11**	**332**	Pn	**Pn**	**13 16 00.3**	**+1.2**
IZEF				Sn	**Sn**	**13 17 06.7**	**-2.4**
IPIR	**Pirpir**	**6.63**	**322**	*e*Pn	**Pn**	**13 16 08.1**	**+1.8**
IPIR				*e*Sn	**Sn**	**13 17 19.4**	**-2.5**
IPIR				*e*Sn	**Sn**	**13 17 20.1**	**-1.8**
IPIR	**Pirpir**	**6.63**	**322**	*e*Pn	**Pn**	**13 16 07.1**	**+0.8**
IPIR	**Pirpir**	**6.63**	**322**	Pn	**Pn**	**13 16 08.1**	**+1.8**
IPIR				Sn	**Sn**	**13 17 19.4**	**-2.5**
IKLH	**Kalahroud**	**6.80**	**329**	*e*Pn	**Pn**	**13 16 11.4**	**+2.8**
IKLH				*e*Sn	**Sn**	**13 17 23.6**	**-2.4**
IKLH				*e*Sn	**Sn**	**13 17 23.8**	**-2.2**
IKLH	**Kalahroud**	**6.80**	**329**	*e*Pn	**Pn**	**13 16 08.8**	**+0.2**
KBD	**Kabd**	**7.26**	**285**	*e*P	**Pn**	**13 16 15.8**	**+0.9**
KBD				AML	AML	13 17 38.9	
	comp=Z,121nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.32**	**288**	*e*P	**Pn**	**13 16 16.7**	**+1.0**
UMR				AML	AML	13 17 39.6	
	comp=Z,37nm,0.6s						
RDF	**Al-Radifah**	**7.34**	**283**	*e*P	**Pn**	**13 16 17.0**	**+1.0**
RDF				AML	AML	13 17 40.2	
	comp=Z,28nm,0.3s						
NAY	**Al-Naaiem**	**7.66**	**285**	*e*P	**Pn**	**13 16 21.5**	**+1.1**
NAY				AML	AML	13 17 49.7	
	comp=Z,31nm,0.5s						
MIB	**Mutribah**	**7.70**	**289**	*e*P	**Pn**	**13 16 21.9**	**+0.9**
MIB				AML	AML	13 17 51.6	
	comp=Z,94nm,0.7s						
IANJ	**Anjiloo**	**8.08**	**349**	*e*Pn	**Pn**	**13 16 29.0**	**+2.9**

IANJ Anjiloo 8.08 349 eP Pn Pn 13 16 27.3 +1.2
IANJ Anjiloo 8.08 349 Pn Pn 13 16 28.9 +2.8
ILAS Lasjerd 8.19 344 eP Pn Pn 13 16 28.7 +1.1
ILAS eSn Sn 13 17 56.4 -3.8
ILAS eSn Sn 13 17 56.6 -3.6
ILAS Lasjerd 8.19 344 eP Pn Pn 13 16 30.5 +2.9
IVRN Varamin 8.20 336 eP Pn Pn 13 16 30.5 +2.7
IVRN Varamin 8.20 336 eP Pn Pn 13 16 29.3 +1.5
IVRN eSn Sn 13 17 57.7 -2.8
IVRN Varamin 8.20 336 Pn Pn 13 16 30.4 +2.6
ISHM Shahmirzad 8.52 347 eP Pn Pn 13 16 35.8 +3.6
ISHM Shahmirzad 8.52 347 eP Pn Pn 13 16 35.0 +2.8
ISHM Shahmirzad 8.52 347 Pn Pn 13 16 35.7 +3.5
IKIA Kiasar 8.84 349 eP Pn Pn 13 16 38.5 +2.0
IGLO Galoogah 8.97 348 eP Pn Pn 13 16 43.4 +5.1
IGLO eSn Sn 13 18 17.2 -2.2
IGLO eSn Sn 13 18 18.3 -1.1
IGLO Galoogah 8.97 348 Pn Pn 13 16 43.3 +5.0
IGLO Sn Sn 13 18 18.3 -1.1
IAFJ Afjeh 8.99 339 eP Pn Pn 13 16 40.3 +1.7
IAFJ Afjeh 8.99 339 eP Pn Pn 13 16 41.1 +2.5
IAFJ Afjeh 8.99 339 Pn Pn 13 16 40.2 +1.6
IPRN Paran-Amol 9.19 342 eP Pn Pn 13 16 43.5 +2.2
IPRN eSn Sn 13 18 20.0 -4.8
IPRN eSn Sn 13 18 20.4 -4.4
IPRN Paran-Amol 9.19 342 Pn Pn 13 16 43.5 +2.2
IPRN Sn Sn 13 18 19.9 -4.9
IRAZ Razeghan 9.29 329 eP Pn Pn 13 16 54.2 +12
IRAZ eSn Sn 13 18 22.4 -4.8
IRAZ eSn Sn 13 18 23.2 -4.0
IRAZ Razeghan 9.29 329 eSn Sn 13 18 22.9 -4.3
IRAZ Razeghan 9.29 329 Pn Pn 13 16 54.2 +12
IRAZ Sn Sn 13 18 22.3 -4.9
IMYA Miamay 9.56 22 eP Pn Pn 13 16 49.1 +2.7
GNI Garni 15.54 327 Pn Pn 13 18 15.0 +7.1
comp=Z,2.0nm,0.3s,baz=328,slow=4.9,SNR=7.6
GNI LR LR 13 25 09.2
comp=Z,52nm,20.3s,baz=153,slow=41
GNI Garni 15.54 327 eP Pn Pn 13 18 14.2 +6.4
comp=Z,34nm,1.0s
GNI Garni 15.54 327⇑eP Pn 13 18 11.7 +3.9
GNI pmax pmax
comp=Z,28nm,1.0s
ZEI Tsey 18.00 331 i P Pn 13 18 39.4 +0.4
MALT Malatya 18.04 311 eP Pn 13 18 41.2 +1.6
comp=Z,7.0nm,0.8s
MALT Malatya 18.04 311 ePn Pn 13 18 41.2 +1.7
comp=Z,6.9nm,0.8s
MALT Malatya 18.04 311 eP Pn 13 18 41.2 +1.6
MALT pmax pmax
comp=Z,7.0nm,0.8s
KIV Kislovodsk 19.48 331 eP Pn 13 18 58.2 +1.2
comp=Z,35nm,1.7s
KIV Kislovodsk 19.48 331 ePn Pn 13 18 57.8 +0.8
comp=Z,20nm,0.8s
KIV Kislovodsk 19.48 331 deP Pn 13 18 58.2 +1.2
KIV pmax pmax
comp=Z,35nm,1.7s
KK31 Karatay Array 19.64 34 i P Pn 13 18 56.9 -2.0
comp=Z,8.0nm,0.8s
KK31 Karatay Array 19.64 34 i P Pn 13 18 56.9 -2.0
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 19.64 34 i P Pn 13 18 56.9 -2.0
comp=Z,6.0nm,0.8s
KKAR Karatay Array 19.64 34 i P Pn 13 18 56.9 -2.0
KKAR pmax pmax
comp=Z,6.0nm,0.8s
GOF Gofitskoye 20.23 333 eP P 13 19 00.5 -3.5
SOC Sochi 20.59 325 eP P 13 19 13.4 +5.5
SOC pmax pmax
comp=Z,41nm,1.2s
AML Almayashu 20.69 41 P P 13 19 09.0 +0.1
SNR=19
EKS2 Erkin-Say 21.07 40 P P 13 19 13.9 +0.8
SNR=14
AAK Ala-Archa 21.46 40 P P 13 19 18.1 +0.8
SNR=9.1
KZA Kyzart 21.57 43 P P 13 19 22.6 +4.1
SNR=15
FRU Bishkek 21.66 40 eP P 13 19 21.5 +2.1
FRU e 13 19 43.0
AB31 Akbulak array 21.95 7 eP P 13 19 22.1 -0.4
comp=Z,8.0nm,0.6s,mb4.3
AB31 Akbulak array 21.95 7 eP P 13 19 22.1 -0.4
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
BRTR Keskin Array B 21.99 309 P P 13 19 24.4 +1.5
comp=Z,10nm,0.7s,mb4.3,baz=116,slow=11,SNR=21
BRTR Keskin Array B 21.99 309 i P P 13 19 26.3 +3.4
BRTR pmax pmax
comp=Z,10.0nm,0.7s
BR131 Keskin Array S 21.99 309 eP P 13 19 23.1 +0.2
comp=Z,8.7nm,0.7s,mb4.3
BR131 Keskin Array S 21.99 309 eP P 13 19 23.1 +0.2
comp=Z,8.7nm,0.7s,mb4.3
TKM2 Tokmak 2 22.28 41 P P 13 19 29.8 +3.8
SNR=5.9
ANN Anapa 22.62 324 eP P 13 19 33.5 +3.9
ANN pmax pmax
comp=Z,143nm,1.7s,mb5.1
AKTK Aktyubinsk 22.96 4 P P 13 19 33.0 -0.2
AKTK LR LR 13 30 06.7
AKTO Aktyubinsk 22.96 4 P P 13 19 33.0 -0.2
comp=Z,8.9nm,0.8s,mb4.2,baz=191,slow=11,SNR=14
AKTO LR LR 13 30 06.7
comp=Z,106nm,18.5s,MS3.3,baz=0.0,slow=41
KOLN Koldanda 24.69 83 eP P 13 19 50.9 +1.1
GKN Gorkha 25.58 82 eP P 13 19 58.6 +0.7
KKN Kakani 26.16 82 eP P 13 20 04.3 +1.1
comp=Z,24nm,0.9s,mb4.7
KKN Kakani 26.16 82 eP P 13 20 04.3 +1.1
KKN pmax pmax
comp=Z,12nm,0.9s,mb4.4
PKI Pulchoki 26.30 83 eP P 13 20 05.7 +1.2
GUN Gumba 26.68 82 eP P 13 20 09.2 +1.3
comp=Z,40nm,0.9s,mb5.0
JIRN Jiri 26.98 83 eP P 13 20 11.0 +0.4
ZRNK Zerenda 27.27 18 eP P 13 20 12.2 -1.0
comp=Z,5.2nm,1.0s,mb4.0
ZRNK Zerenda 27.27 18 eP P 13 20 12.2 -1.0
comp=Z,5.2nm,1.0s,mb4.0
ZRNK Zerenda 27.27 18 eP P 13 20 12.2 -1.0
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
VOSK Vostochnaya 27.64 20 P P 13 20 15.8 -0.7
comp=Z,12nm,1.4s,mb4.3
VOSK Vostochnaya 27.64 20 P P 13 20 15.8 -0.7
VOSK pmax pmax
comp=Z,12nm,1.4s,mb4.3
BRVK Borovoye 27.72 19 eP P 13 20 16.4 -0.9
comp=Z,6.8nm,1.3s,mb4.1
BRVK Borovoye 27.72 19 eP P 13 20 16.4 -0.8
comp=Z,6.8nm,1.3s,mb4.1
BRVK Borovoye 27.72 19 eP P 13 20 16.4 -0.9
BRVK pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
BVA0 Borovoye Array 27.72 19 i P P 13 20 17.0 -0.3
comp=Z,1.0nm,1.0s,mb3.4
BVA0 Borovoye Array 27.72 19 i P P 13 20 17.0 -0.3
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.4
BVAR Borovoye Array 27.72 19 P P 13 20 16.8 -0.5
comp=Z,3.6nm,0.8s,mb4.0,baz=201,slow=7.9,SNR=14
BVAR PcP PcP 13 23 33.8 -0.2
comp=Z,0.4nm,0.4s,baz=198,slow=3.5,SNR=4.0
CHKZ Chkalovo 28.36 19 i P P 13 20 24.1 +1.1
MKAR Makanchi Array 28.40 40 P P 13 20 22.6 -0.7
comp=Z,1.1nm,0.7s,mb3.6,baz=221,slow=7.2,SNR=9.5
MKAR Makanchi Array 28.40 40 i P P 13 20 26.3 +3.0
MKAR pmax pmax
comp=Z,1.0nm,0.7s
ARU Arti 28.97 3 i P P 13 20 26.9 -1.5
comp=Z,48nm,1.0s,mb5.2
ARU Arti 28.97 3d iP P 13 20 26.9 -1.5
ARU pmax pmax
comp=Z,48nm,1.0s,mb5.2
KURK Kurchatov 28.98 31 eP P 13 20 26.0 -2.4
comp=Z,4.7nm,1.1s,mb4.1
KURK Kurchatov 28.98 31 eP P 13 20 26.0 -2.4
KURK pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
MLR Muntele Rosu 29.67 315 P P 13 20 37.3 +2.8
comp=Z,7.0nm,0.9s,mb4.4,baz=5.0,slow=3.6,SNR=6.8
MLR Muntele Rosu 29.67 315 ⇓P P 13 20 39.2 +4.6

AKASG Malin Array Be 30.67 326 P P 13 20 43.0 -0.4
comp=Z,2.3nm,0.6s,mb4.2,baz=128,slow=7.7,SNR=15
AKASG Malin Array Be 30.67 326 i P P 13 20 45.5 +2.1
AKASG pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 30.89 338 eP P 13 20 47.3 +1.9
comp=Z,10.0nm,0.6s,mb4.8
OBN Obninsk 30.89 338 eP P 13 20 47.3 +1.9
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
BURAR Bucovina Array 31.11 318 ⇑P P 13 20 51.2 +3.9
BURAR Bucovina Array 31.11 318 ⇑P P 13 20 51.1 +3.8
DRGR 32.26 315 ⇑P P 13 20 58.4 +1.0
NVS Novosibirsk 33.85 29 eP P 13 21 09.5 -1.9
NVS eS S 13 26 30.6 -4.9
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
NVS pmax pmax
comp=E,7.0nm,1.7s
NVS smax
comp=N,6.0nm,1.5s
NVS smax
comp=E,12nm,2.1s
ZAL Zalesovo 33.95 31 P P 13 21 11.2 -1.0
comp=E,4.5nm,0.7s,mb4.5,baz=232,slow=8.4,SNR=20
ZAL LR LR 13 37 18.0
comp=E,45nm,18.0s,MS3.2,baz=117,slow=40
ZAL Zalesovo 33.95 31 i P P 13 21 11.5 -0.7
ZAL pmax pmax
comp=Z,5.0nm,0.7s
PKSM Moragy 34.64 313 ⇓P P 13 21 21.1 +3.0
IDID Didziasalis 34.80 331 e P 13 21 21.6 +2.1
IIGN Ignalina 35.04 331 eP P 13 21 21.9 +0.2
KLMR Klimovskoe 35.09 346 eP P 13 21 19.8 -2.3
comp=Z,40nm,1.6s,mb5.1
KLMR Klimovskoe 35.09 346 eP P 13 21 19.8 -2.3
KLMR pmax pmax
comp=Z,40nm,1.6s,mb5.1
ISAL Salakas 35.23 331 e P 13 21 21.8 -1.5
MORC Moravsky Berou 36.63 318 eP P 13 21 34.8 -0.4
comp=Z,9.6nm,1.3s,mb4.5
MORC Moravsky Berou 36.63 318 eP P 13 21 34.8 -0.4
comp=Z,9.6nm,1.3s,mb4.5
MORC Moravsky Berou 36.63 318 eP P 13 21 34.8 -0.4
MORC pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
VSU Vasula 36.94 335 i P P 13 21 36.6 -1.3
VRAC Vranov 37.02 317 P P 13 21 39.1 +0.5
comp=Z,6.5nm,0.8s,mb4.5,baz=128,slow=5.0,SNR=6.2
VRAC Vranov 37.02 317 ⇓P P 13 21 41.1 +2.5
DPC Dobruska-Polom 37.57 318 eP P 13 21 45.5 +2.2
UPC Upice 37.82 318 eP P 13 21 46.2 +0.9
GTA Gaotai 38.31 60 eP P 13 21 50.0 +0.5
GTA AMB AMB 13 21 52.0
comp=Z,3.0nm,0.7s,mb4.1
GERES GERESS Array B 38.66 315 P P 13 21 52.2 -0.3
comp=Z,0.9nm,0.5s,mb3.8,baz=110,slow=7.7,SNR=5.5
KHC Kasperske Hory 38.82 315 P P 13 21 56.0 +2.2
KHC Kasperske Hory 38.82 315 eP P 13 21 51.7 -2.1
KHC e pP 13 21 56.0 -0.9
JOF Joensuu 38.85 342 ep P 13 21 54.5 +0.4
comp=Z,3.9nm,0.8s,mb4.2
BRG Berggiesshubel 39.18 318 eP P 13 21 57.7 +0.9
comp=Z,0.8nm,0.5s,mb3.7
BRG Berggiesshubel 39.18 318 eP P 13 21 57.7 +0.9
BRG pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
FINES FINESS Array B 39.29 338 P P 13 21 57.5 -0.3
comp=Z,1.9nm,0.5s,mb4.1,baz=134,slow=9.9,SNR=18
KAF Kangasniemi 39.70 339 ep P 13 21 59.9 -1.3
comp=Z,1.6nm,0.8s,mb3.8
KAF Kangasniemi 39.70 339 eP P 13 21 59.9 -1.3
KAF pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
CLL Collm 39.88 318 eP P 13 22 05.0 +2.3
GRA1 Grafenberg Arr 40.46 315 eP P 13 22 07.3 -0.1
comp=Z,7.0nm,1.1s,mb4.3
GRF Grafenberg Arr 40.46 315 eP P 13 22 07.3 -0.1
comp=Z,7.0nm,1.1s,mb4.3
GRF Grafenberg Arr 40.46 315 eP P 13 22 07.3 -0.1
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
PGF Pioggiola 40.57 304 eP P 13 22 06.6 -1.8
DAVOX Davos 40.62 311 P P 13 22 08.5 -0.3
comp=Z,4.5nm,0.7s,mb4.2,baz=111,slow=9.5,SNR=5.1
DAVOX LR LR 13 43 04.9
comp=Z,52nm,18.5s,MS3.4,baz=61,slow=42
KMI Kunming 42.03 82 P P 13 22 22.0 +1.7
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
MBDF Montbardon 42.43 307 eP P 13 22 23.2 -0.4
comp=Z,7.8nm,0.6s,mb4.2
MBDF Montbardon 42.43 307 eP P 13 22 23.2 -0.4
comp=Z,3.9nm,0.6s,mb4.2
MBDF Montbardon 42.43 307 eP P 13 22 23.2 -0.4
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
LPG La Plagne 42.54 308 eP P 13 22 23.4 -1.1
comp=Z,7.7nm,0.7s,mb4.2
LPG La Plagne 42.54 308 eP P 13 22 23.4 -1.1
comp=Z,3.8nm,0.7s,mb4.2
LPG La Plagne 42.54 308 eP P 13 22 23.4 -1.1
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
LPL La Plagne 42.56 308 eP P 13 22 23.5 -1.2
comp=Z,9.7nm,0.6s,mb4.4
LPL La Plagne 42.56 308 eP P 13 22 23.5 -1.2
comp=Z,4.8nm,0.6s,mb4.4
LPL La Plagne 42.56 308 eP P 13 22 23.5 -1.2
LPL pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
CABF La Chapelle 43.16 310 eP P 13 22 28.9 -0.6
comp=Z,14nm,0.8s,mb4.4
CABF La Chapelle 43.16 310 eP P 13 22 28.9 -0.6
comp=Z,6.8nm,0.8s,mb4.4
CABF La Chapelle 43.16 310 eP P 13 22 28.9 -0.6
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
HAU Haudompre 43.21 312 eP P 13 22 28.7 -1.2
HFS Hagfors 43.28 331 P P 13 22 29.9 -0.6
comp=Z,2.3nm,0.4s,mb4.2,baz=127,slow=11,SNR=8.7
HFS LR LR 13 41 04.2
comp=Z,44nm,19.0s,MS3.4,baz=68,slow=37
SONM Songino Array 44.05 49 P P 13 22 37.2 +0.5
comp=Z,0.7nm,0.6s,mb3.5,baz=265,slow=9.4,SNR=6.3
SONM LR LR 13 40 59.3
comp=Z,42nm,19.9s,MS3.4,baz=32,slow=36
MEZF Maizieres J'vi 44.14 312 eP P 13 22 36.6 -0.9
comp=Z,8.7nm,0.6s,mb4.4
MEZF Maizieres J'vi 44.14 312 eP P 13 22 36.6 -0.9
comp=Z,4.3nm,0.6s,mb4.4
LASF Ste Croix 44.45 306 eP P 13 22 38.5 -1.4
ULN Ulaanbaatar 44.49 49 P P 13 22 39.8 -0.5
comp=Z,3.8nm,1.1s,mb4.0
ULN Ulaanbaatar 44.49 49 P P 13 22 39.8 -0.5
comp=Z,3.8nm,1.1s,mb4.0
ULN Ulaanbaatar 44.49 49 P P 13 22 39.8 -0.5
ULN pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
SMF Signal de Mont 44.70 310 eP P 13 22 40.5 -1.4
comp=Z,11nm,0.7s,mb4.5
SMF Signal de Mont 44.70 310 eP P 13 22 40.5 -1.4
comp=Z,5.4nm,0.7s,mb4.5
SMF Signal de Mont 44.70 310 eP P 13 22 40.5 -1.4
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LOR Lormes 44.76 310 eP P 13 22 40.5 -1.9
comp=Z,12nm,1.0s,mb4.4
LOR Lormes 44.76 310 eP P 13 22 40.5 -1.9
comp=Z,5.8nm,1.0s,mb4.4
LOR Lormes 44.76 310 eP P 13 22 40.5 -1.9
LOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
NB2 NORSAR Subarra 44.79 331 P P 13 22 41.4 -1.2
comp=Z,1.5nm,0.5s,mb4.1,baz=118,slow=7.4
NB2 NORSAR Subarra 44.79 331 P P 13 22 41.4 -1.2
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
NOA NORSAR Array B 44.79 331 P P 13 22 41.7 -0.9
comp=Z,2.9nm,0.7s,mb4.2,baz=117,slow=7.9,SNR=9.9
BAIF Baives 44.96 314 eP P 13 22 43.9 -0.1
SSF Saint Saulge 44.97 310 eP P 13 22 42.2 -1.9
comp=Z,19nm,0.9s,mb4.6
SSF Saint Saulge 44.97 310 eP P 13 22 42.2 -1.9

comp=Z,9.5nm,0.9s,mb4.6
SSF Saint Saulge 44.97 310 eP P 13 22 42.2 -1.9
SSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
AVF Avril sur Loir 45.05 310 eP P 13 22 43.5 -1.2
BGF Bois d'Agland 45.37 309 eP P 13 22 46.1 -1.1
comp=Z,7.9nm,0.4s,mb4.6
BGF Bois d'Agland 45.37 309 eP P 13 22 46.1 -1.1
comp=Z,4.0nm,0.4s,mb4.6
ARCES ARCESS Array B 45.56 346 P P 13 22 48.8 0.0
comp=Z,6.9nm,0.8s,mb4.6,baz=99,slow=7.5,SNR=8.0
MTLF Montolieu 45.59 305 eP P 13 22 48.7 -0.3
TCF Toulx Ste Croi 45.78 309 eP P 13 22 49.5 -1.0
CAF Calviac 45.78 307 eP P 13 22 49.4 -1.1
RJF Les Rejaudoux 46.19 308 eP P 13 22 53.2 -0.5
comp=Z,9.7nm,0.8s,mb4.5
RJF Les Rejaudoux 46.19 308 eP P 13 22 53.2 -0.5
comp=Z,4.8nm,0.8s,mb4.5
RJF Les Rejaudoux 46.19 308 eP P 13 22 53.2 -0.5
RJF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LFF La Frestale 46.72 307 eP P 13 22 57.1 -0.8
LDF La Druitiere 47.56 312 eP P 13 23 02.7 -1.8
FLN La Foliniere 47.82 312 eP P 13 23 04.4 -2.0
comp=Z,10nm,0.7s,mb4.7
FLN La Foliniere 47.82 312 eP P 13 23 04.4 -2.0
comp=Z,5.2nm,0.7s,mb4.7
FLN La Foliniere 47.82 312 eP P 13 23 04.4 -2.0
FLN pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SJPF Ste Jean 48.11 304 eP P 13 23 09.2 +0.5
comp=Z,10nm,0.7s,mb4.7
SJPF Ste Jean 48.11 304 eP P 13 23 09.2 +0.5
comp=Z,5.2nm,0.7s,mb4.7
SJPF Ste Jean 48.11 304 eP P 13 23 09.2 +0.5
SJPF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ESDC Sonseca Array 50.34 300 P P 13 23 25.4 -0.3
comp=Z,0.6nm,0.4s,mb3.9,baz=69,slow=7.6,SNR=5.5
ESLA Sonseca Array 50.34 300 P P 13 23 27.9 +2.2
comp=Z,1.0nm,1.0s,mb3.8
ESLA Sonseca Array 50.34 300 P P 13 23 27.9 +2.2
comp=Z,1.0nm,1.0s,mb3.8
BOD Bodaibo 50.36 36 eP P 13 23 24.2 -1.7
comp=Z,4.0nm,1.5s,mb4.2
BOD Bodaibo 50.36 36 eP P 13 23 24.2 -1.7
BOD pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
MDT Midelt 51.82 291 P P 13 23 38.2 +1.3
comp=Z,1.6nm,0.8s,mb4.0,baz=73,slow=11,SNR=4.1
TORD Torodi Ar. Bea 52.25 265 P P 13 23 40.2 +0.1
comp=Z,2.5nm,0.6s,mb4.4,baz=61,slow=7.6,SNR=15
SSE Sheshan 56.47 69 eP P 13 24 08.5 -2.3
SSE AMB AMB
comp=Z,13nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,59nm,4.0s
TIXI Tiksi 58.84 21 eP P 13 24 26.3 -1.2
comp=Z,7.0nm,1.7s,mb4.4
TIXI Tiksi 58.84 21⇓eP P 13 24 26.3 -1.2
TIXI pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
KLR Kul'dur 60.82 47 eP P 13 24 37.2 -3.9
SUMG Summit 65.25 341 eP P 13 25 10.4 -0.1
comp=Z,11nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 68.52 47 eP P 13 25 32.3 +0.9
comp=Z,20nm,1.7s,mb4.8
YSS Yuzh-Sakhalins 68.52 47⇑eP P 13 25 32.3 +0.9
YSS pmax pmax
comp=Z,20nm,1.7s,mb4.8
MAJO Matsushiro 68.54 59 P P 13 25 32.9 +1.4
comp=Z,5.0nm,1.0s,mb4.4
MAJO Matsushiro 68.54 59 P P 13 25 32.9 +1.4
MAJO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MJAR Matsushiro Arr 68.54 59 P P 13 25 30.7 -0.8
comp=Z,1.6nm,0.8s,mb4.0,baz=279,slow=5.9,SNR=6.7
SEY Seymchan 68.81 29 eP P 13 25 31.7 -1.5
BILL Bilibino 72.03 22 eP P 13 25 52.5 -0.4
comp=Z,6.0nm,2.0s,mb4.2
BILL Bilibino 72.03 22⇓eP P 13 25 52.5 -0.4
BILL pmax pmax
comp=Z,6.0nm,2.0s,mb4.2
INK Inuvik 84.22 3 P P 13 26 59.7 -0.8
comp=Z,0.9nm,0.8s,mb4.0,baz=322,slow=5.0,SNR=6.7
SCHQ Schefferville 84.36 331 P P 13 27 00.3 -0.8
comp=Z,3.4nm,1.0s,mb4.4,baz=36,slow=8.7,SNR=3.9
SCHQ Schefferville 84.36 331 P P 13 27 00.3 -0.8
COLA College 86.11 10 eP P 13 27 11.0 +1.1
ILAR Eielson Array 86.35 10 P P 13 27 10.1 -1.0
comp=Z,1.3nm,0.8s,mb4.2,baz=333,slow=3.9,SNR=15
WRA Warramunga Arr 89.48 113 P P 13 27 26.0 0.0
comp=Z,0.5nm,0.9s,mb3.9,baz=314,slow=4.2,SNR=3.8
YKA Yellowknife Ar 89.97 356 P P 13 27 28.3 -0.1
comp=Z,0.6nm,0.8s,mb4.0,baz=1.4,slow=4.8,SNR=12
ASAR Alice Springs 90.96 116 P P 13 27 32.2 -0.7
comp=Z,0.4nm,0.7s,mb3.8,baz=308,slow=4.5,SNR=3.8
ASAR Alice Springs 90.96 116 P P 13 27 32.2 -0.8

*ATH **25** 13:16:31.3,3571N×2181E,h3km±2km,MD4.1/16,ML4.2*
*NEIC **25** 13:16:31.3,3571N×2181E,h3km,ML4.2(ATH),After ATH.*
*ISCJB **25** 13:16:32.1±0.4,3576N±003×2196E±004,h10km,mb3.7/7, Error ellipse: s-maj=5.2km s-min=2.9km az=104.4*
*CSEM **25** 13:16:33.2±0.1,3572N×2193E,h2km,ML4.2,Error ellipse: s-maj=3.7km s-min=2.1km az=52.0*
*IDC **25** 13:16:37.3±2.9,3616N×2207E,h35km±29km,mb3.5/7, mb1 3.6/9,mb1mx3.4/25,mbtmp3.7/9,ML3.3/2,Error ellipse: s-maj=27.1km s-min=17.4km az=9.0*
*THE **25** 13:16:38.3,3604N×2196E,h25km,ML3.9*
*HLW **25** 13:16:40.1,3589N×2230E,h52km,Mb3.8*
ISC 25 13:16:33.8±1.1,3582N±003×2201E±005,h2km±7km,n76, σ1§31/91,**mb3.7**/7,**4C-3D,Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.95	61	ePB	Pg	13 16 53.0	+1.0
VLI	Veliai	1.17	39	ePB	Pg	13 16 56.2	0.0
ITM	Ithomi	1.36	357	ePG	Pg	13 16 58.6	-1.3
ITM				eSB	Sb	13 17 19.9	+2.1
VAM	Vamos	1.83	102	ePG	Pg	13 17 08.4	-0.4
VAM				eSN	Sg	13 17 33.9	+1.4
RLS	Riolos of Patr	2.28	349	ePN	Pn	13 17 13.3	+0.9
RLS				eSN	Sn	13 17 44.3	+3.3
MGER	Gerania Oros	2.38	24	ePN	Pn	13 17 16.5	+2.7
IDI	Anoyia	2.41	102	Pn	Pn	13 17 14.4	+0.3
IDI	1.7nm,0.3s,baz=301,slow=17,SNR=16			Pg	Pg	13 17 22.7	+2.9
IDI	3.6nm,0.3s,baz=283,slow=17,SNR=15			Lg		13 17 56.6	
	12nm,0.3s,baz=46,slow=21,SNR=4.0						
SIVA	Sivas	2.42	108	ePn	Pb	13 17 17.9	-0.2
KVR	Kavouri	2.45	35	ePN	Pb	13 17 17.8	-0.7
ATH	Athens Observa	2.55	32	ePN	Pn	13 17 17.5	+1.4
ATH				eSN	Sn	13 17 52.3	+4.7
VLS	Valsamata	2.62	335	ePB	Pn	13 17 16.6	-0.4
PTL	Penteli	2.68	33	ePB	Pb	13 17 20.5	-1.9
MPAR	Parnis Oros	2.71	30	ePN	Pn	13 17 20.0	+1.7
SANT	Santorini	2.84	78	ePn	Pn	13 17 19.2	-0.9
SANT	Santorini	2.84	78	ePn	Pn	13 17 19.2	-1.0
LAST	Lasithi	2.90	102	ePn	Pb	13 17 24.4	-1.9
LKR	Lokris	2.94	15	ePN	Pn	13 17 22.5	+1.1
LKR				eSN	Sn	13 18 02.2	+5.0
NPS	Neapolis	2.99	100	ePN	Pn	13 17 23.7	+1.6
EVR	Evrytania	3.10	357	ePN	Pn	13 17 25.5	+1.9
EVR				eSN	Sn	13 18 03.8	+2.6
APE	Apeiranthos	3.10	65	ePB	Pb	13 17 27.1	-2.5
APE	Apeiranthos	3.10	65	ePn	Pn	13 17 24.6	+0.9
APE	Apeiranthos	3.10	65	ePn	Pn	13 17 24.5	+0.9
AGG	Agios Georgios	3.21	4	ePn	Pn	13 17 25.6	+0.4
ZKR	Zakros	3.50	100	ePn	Pn	13 17 31.7	+2.5
AOS	Alonnisos	3.66	23	ePn	Pn	13 17 31.5	+0.1
XOR	Xorichti	3.66	14	ePn	Pn	13 17 31.0	-0.4
IGT	Igoumenitsa	3.94	341	ePn	Pn	13 17 33.9	-1.3
IGT				eSn	Sn	13 18 17.3	-4.7
JAN	Janina	3.94	347	ePN	Pn	13 17 35.7	+0.5
KEK	Kerkira	4.27	336	ePN	Pn	13 17 39.8	+0.1
KEK				eSN	Sn	13 18 30.1	+0.1
LIT	Litokhoron	4.29	5	ePn	Pn	13 17 39.1	-0.9
PAIG	Paliouri	4.31	17	ePn	Pn	13 17 39.0	-1.2
PAIG	Paliouri	4.31	17	ePn	Pn	13 17 39.0	-1.3
KZN	Kozani	4.49	358	ePN	Pn	13 17 44.0	+1.3

PLG	**Polygyros**	**4.69**	**14**	*e*PN	**Pn**	**13 17 47.2**	**+1.7**
FNA	**Florina**	**4.98**	**354**	*e*Pn	**Pn**	**13 17 48.7**	**-0.8**
FNA				*e*Sn	**Sn**	**13 18 42.1**	**-5.6**
SLUM		**5.07**	**147**	⇑P	**Pn**	**13 17 52.3**	**+1.5**
SLUM				S	**Sn**	**13 18 45.3**	**-4.6**
SOH	**Sokhos**	**5.11**	**12**	*e*Pn	**Pn**	**13 17 50.8**	**-0.5**
GRG	**Griva**	**5.14**	**3**	*e*Pn	**Pn**	**13 17 50.7**	**-1.0**
BIA	**Bitola**	**5.22**	**354**	*e*Pn	**Pn**	**13 17 50.9**	**-1.9**
OHR	**Ohrid**	**5.37**	**350**	*e*Pn	**Pn**	**13 17 53.3**	**-1.5**
KNT	**Kendrikon**	**5.38**	**7**	*e*Pn	**Pn**	**13 17 54.2**	**-0.8**
SRS	**Serrai**	**5.43**	**13**	*e*Pn	**Pn**	**13 17 54.1**	**-1.6**
VAY	**Valandovo**	**5.51**	**4**	*e*Pn	**Pn**	**13 17 55.3**	**-1.5**
VAY	**Valandovo**	**5.51**	**4**	*e*Pn	**Pn**	**13 17 54.9**	**-1.9**
MMB	**Musomiste**	**5.92**	**13**	*i* P	**Pn**	**13 18 02.0**	**-0.4**
KKB	**Krupnik**	**6.10**	**8**	*i* P	**Pn**	**13 18 05.0**	**+0.1**
PE1	**Pezze di Greco**	**6.15**	**325**	*e*Pn	**Pn**	**13 18 05.2**	**-0.4**
RZN	**Rozhen**	**6.23**	**19**	*e*P	**Pn**	**13 18 08.0**	**+1.3**
VAE	**Valguarnera**	**6.33**	**287**	Pn	**Pn**	**13 18 09.7**	**+1.7**
	3.1nm,0.3s,baz=215,slow=4.0,SNR=4.9						
VAE				Sn	**Sn**	**13 19 21.1**	**+0.2**
	4.0nm,0.3s,baz=65,slow=5.6,SNR=5.4						
VAE	**Valguarnera**	**6.33**	**287**	Pn	**Pn**	**13 18 09.7**	**+1.7**
VAE				Sn	**Sn**	**13 19 21.1**	**+0.2**
HMAT	**Matruh**	**6.34**	**137**	⇑P	**Pn**	**13 18 08.4**	**+0.2**
HMAT				S	**Sn**	**13 19 14.3**	**-6.9**
SG1	**Sgolgore (BA)**	**6.54**	**322**	*e*Pn	**Pn**	**13 18 10.5**	**-0.4**
VTS	**Vitosha**	**6.83**	**7**	*e*P	**Pn**	**13 18 16.0**	**+1.1**
CDT	**Castel del Mon**	**6.92**	**321**	*e*Pn	**Pn**	**13 18 14.5**	**-1.6**
SWA2		**7.17**	**155**	⇑P	**Pn**	**13 18 20.6**	**+1.0**
SWA2		**7.17**	**155**	P	**Pn**	**13 18 20.6**	**+1.0**
SWA1		**7.24**	**153**	⇓P	**Pn**	**13 18 21.7**	**+1.1**
SWA1				S	**Sn**	**13 19 37.2**	**-6.2**
DIVS	**Divcibare**	**8.41**	**350**	*e*Pn	**Pn**	**13 18 33.1**	**-3.5**
KOT	**Kottamia**	**10.13**	**123**	P	**Pn**	**13 18 59.0**	**-1.2**
HFRF	**Wahat Farafira**	**10.18**	**146**	⇓P	**Pn**	**13 19 00.6**	**-0.2**
GLL	**Jalalah**	**10.27**	**125**	P	**Pn**	**13 19 01.1**	**-0.9**
HHAG	**Hagoal**	**10.30**	**122**	P	**Pn**	**13 19 01.4**	**-1.0**
SUZ		**10.88**	**120**	⇑P	**Pn**	**13 19 09.5**	**-0.9**
HNKL	**Nakhl**	**11.64**	**117**	P	**Pn**	**13 19 19.5**	**-1.4**
HDK1	**Dakhla**	**12.05**	**146**	⇓P	**Pn**	**13 19 26.1**	**-0.4**
AKRG	**Al Kharijah**	**12.60**	**142**	P	**Pn**	**13 19 33.9**	**-0.1**
GTR	**Jabal at Tayr**	**12.63**	**142**	P	**Pn**	**13 19 34.2**	**-0.1**
GERES	**GERESS Array B**	**14.38**	**337**	Pn	**Pn**	**13 19 59.1**	**+0.8**
	0.1nm,0.3s,baz=162,slow=13,SNR=2.8						
KHC	**Kasperske Hory**	**14.67**	**338**	*e*P	**Pn**	**13 20 05.5**	**+3.2**
HFS	**Hagfors**	**24.92**	**350**	P	**P**	**13 21 53.6**	**-4.5**
	1.0nm,0.4s,mb3.7,baz=155,slow=11,SNR=12						
EKA	**Eskdalemuir Ar**	**26.05**	**326**	P	**P**	**13 22 04.3**	**-4.0**
	1.7nm,0.8s,mb3.6,baz=123,slow=10,SNR=3.6						
NOA	**NORSAR Array B**	**26.17**	**348**	P	**P**	**13 22 05.0**	**-4.4**
	0.7nm,0.8s,mb3.3,baz=155,slow=8.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**29.06**	**224**	P	**P**	**13 22 36.5**	**+1.2**
	0.5nm,0.6s,mb3.5,baz=25,slow=7.7,SNR=3.8						
ARCES	**ARCESS Array B**	**33.83**	**2**	P	**P**	**13 23 13.8**	**-3.6**
	1.1nm,0.6s,mb4.0,baz=193,slow=8.4,SNR=6.3						
MKAR	**Makanchi Array**	**45.56**	**57**	P	**P**	**13 24 51.3**	**-3.6**
	1.0nm,0.5s,mb4.0,baz=282,slow=7.4,SNR=7.1						
SONM	**Songino Array**	**61.05**	**50**	P	**P**	**13 26 45.7**	**-3.1**
	0.3nm,0.7s,mb3.6,baz=305,slow=5.1,SNR=3.1						

*IDC **25** 13:29:57.9±1.2,3868N×2174E,h0km,mb3.6/6,mb1 3.6/7, mb1mx3.5/22,mbtmp3.6/7,ML3.2/1,MS2.7/1,Ms1 2.7/1, ms1mx2.3/28,Error ellipse: s-maj=32.6km s-min=21.0km az=92.0*
*CSEM **25** 13:29:59.3±0.1,3858N×2179E,h2km,ML3.4,Error ellipse: s-maj=2.1km s-min=1.8km az=74.0*
*ATH **25** 13:29:59.9,3861N×2181E,h22km±1km,MD3.6/12,ML3.4*
*NEIC **25** 13:29:59.9,3861N×2181E,h23km,ML3.1(THE), ML3.4(ATH),After ATH.*
*ISCJB **25** 13:29:59.4±0.8,3858N±002×2183E±004,h11km±5km, mb3.5/6,Error ellipse: s-maj=5.7km s-min=3.7km az=23.1*
*THE **25** 13:30:01.1,3857N×2188E,h11km,ML3.2*
*SKO **25** 13:30:03.2,3885N×2206E,h0km*

ISC 25 13:30:00.5±0.5,3858N±002×2185E±004,h12km±3km,n53, σ1§04/66,mb3.5/6,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.33**	**355**	*e*PB			**Pg**	**13 30 06.8**	**-0.4**
EVR				*e*SB			**Sg**	**13 30 11.7**	**0.0**
AGG	**Agios Georgios**	**0.58**	**41**	*e*Pg			**Pg**	**13 30 11.8**	**0.0**
AGG				*e*Sg			**Sg**	**13 30 20.8**	**+1.4**
RLS	**Riolos of Patr**	**0.60**	**210**	*e*PN			**Pg**	**13 30 12.2**	**0.0**
RLS				*e*SN			**Sg**	**13 30 21.8**	**+1.6**
LKR	**Lokris**	**0.91**	**85**	*e*PN			**Pn**	**13 30 18.2**	**-0.8**
VLS	**Valsamata**	**1.07**	**248**	*e*PN			**Pn**	**13 30 19.6**	**-1.6**
VLS				*e*SN			**Sn**	**13 30 34.5**	**-1.4**
MGER	**Gerania Oros**	**1.26**	**118**	*e*PN			**Pn**	**13 30 24.5**	**+0.6**
NEO	**Neokhori**	**1.29**	**56**	*e*PN			**Pn**	**13 30 24.2**	**-0.1**
XOR	**Xorichti**	**1.31**	**53**	*e*Pg			**Pg**	**13 30 24.6**	**-1.0**
XOR				*e*Sg			**Sg**	**13 30 43.0**	**+0.4**
JAN	**Janina**	**1.32**	**324**	*e*PN			**Pn**	**13 30 24.9**	**+0.2**
JAN				*e*SN			**Sn**	**13 30 42.4**	**+0.2**
ITM	**Ithomi**	**1.40**	**177**	*e*PN			**Pn**	**13 30 27.0**	**+1.2**
MPAR	**Parnis Oros**	**1.55**	**106**	*e*PN			**Pn**	**13 30 28.7**	**+0.9**
ATH	**Athens Observa**	**1.59**	**112**	*e*PN			**Pn**	**13 30 28.9**	**+0.5**
LIT	**Litokhoron**	**1.59**	**18**	*e*Pg			**Pn**	**13 30 28.0**	**-0.4**
LIT				*e*Sg			**Sg**	**13 30 50.5**	**-1.3**
PTL	**Penteli**	**1.68**	**108**	*e*PN			**Pn**	**13 30 30.0**	**+0.5**
AOS	**Alonnisos**	**1.69**	**69**	*e*Pb			**Pb**	**13 30 30.1**	**-1.4**
AOS	**Alonnisos**	**1.69**	**69**	*e*Pb			**Pb**	**13 30 30.0**	**-1.5**
KZN	**Kozani**	**1.72**	**358**	*e*PN			**Pn**	**13 30 30.6**	**+0.4**
KEK	**Kerkira**	**1.95**	**306**	*e*PN			**Pn**	**13 30 33.8**	**+0.5**
PAIG	**Paliouri**	**1.96**	**46**	*e*Pb			**Pb**	**13 30 32.8**	**-3.2**
PAIG				*e*Sb			**Sb**	**13 30 58.0**	**-2.3**
VLI	**Veliai**	**2.05**	**155**	*e*PB			**Pb**	**13 30 35.7**	**-1.9**
PLG	**Polygyros**	**2.17**	**34**	*e*PN			**Pn**	**13 30 35.8**	**-0.6**
THE	**Thessaloniki**	**2.22**	**23**	*e*Pn			**Pn**	**13 30 37.7**	**+0.6**
FNA	**Florina**	**2.23**	**351**	*e*Pn			**Pn**	**13 30 38.0**	**+0.9**
FNA				*e*Sn			**Sn**	**13 31 05.9**	**+1.4**
OUR	**Ouranopolis**	**2.41**	**43**	*e*Pn			**Pn**	**13 30 39.2**	**-0.4**
GRG	**Griva**	**2.41**	**10**	*e*Pn			**Pn**	**13 30 39.6**	**0.0**
GRG				*e*Sn			**Sn**	**13 31 09.9**	**+0.9**
BIA	**Bitola**	**2.47**	**351**	*e*Pn			**Pn**	**13 30 40.9**	**+0.5**
BIA	**Bitola**	**2.47**	**351**	*e*Pn			**Pn**	**13 30 41.3**	**+0.9**
BIA	**Bitola**	**2.47**	**351**	*e*Pn			**Pn**	**13 30 41.2**	**+0.8**
KYTH	**Kithira**	**2.49**	**157**	*e*PN			**Pn**	**13 30 42.0**	**+1.3**
SOH	**Sokhos**	**2.52**	**27**	*e*Pn			**Pn**	**13 30 40.9**	**-0.3**
SOH				*e*Sn			**Sn**	**13 31 13.3**	**+1.6**
SOH	**Sokhos**	**2.52**	**27**	*e*Pn			**Pn**	**13 30 40.8**	**-0.4**
SOH				*e*Sn			**Sn**	**13 31 13.3**	**+1.5**
OHR	**Ohrid**	**2.65**	**343**	*e*Pn			**Pn**	**13 30 44.4**	**+1.4**
KNT	**Kendrikon**	**2.70**	**17**	*e*Pn			**Pn**	**13 30 43.9**	**+0.2**
KNT				*e*Sn			**Sn**	**13 31 16.7**	**+0.6**
VAY	**Valandovo**	**2.79**	**11**	*e*Pn			**Pn**	**13 30 45.6**	**+0.8**
VAY	**Valandovo**	**2.79**	**11**	*e*Pn			**Pn**	**13 30 45.8**	**+0.9**
VAY	**Valandovo**	**2.79**	**11**	*e*Pn			**Pn**	**13 30 45.7**	**+0.8**
SRS	**Serrai**	**2.87**	**27**	*e*Pn			**Pn**	**13 30 45.5**	**-0.4**
STIP	**Stip**	**3.12**	**5**	*e*Pn			**Pn**	**13 30 49.6**	**+0.2**
NVR	**Nevrokopi**	**3.17**	**29**	*e*PN			**Pn**	**13 30 50.9**	**+0.8**
MMB	**Musomiste**	**3.33**	**25**	*i* P			**Pn**	**13 30 51.8**	**-0.5**
KKB	**Krupnik**	**3.41**	**16**	*i* P			**Pn**	**13 30 54.0**	**+0.6**
RZN	**Rozhen**	**3.80**	**34**	*e*P			**Pn**	**13 30 59.0**	**+0.2**
RDO	**Rodhopi**	**3.82**	**47**	*e*PN			**Pn**	**13 30 59.4**	**+0.3**
IDI	**Anoyia**	**4.09**	**143**	Pn			**Pn**	**13 31 03.7**	**+0.9**
	1.4nm,0.3s,baz=311,slow=11,SNR=8.1								
VTS	**Vitosha**	**4.14**	**14**	*i* P			**Pn**	**13 31 05.0**	**+1.6**
MLR	**Muntele Rosu**	**7.54**	**23**	Pn			**Pn**	**13 31 54.8**	**+4.6**
	0.3nm,0.3s,baz=181,slow=5.1,SNR=3.8								
MLR				LR			LR	13 34 15.0	
	comp=Z,55nm,21.1s,baz=204,slow=34								
HFS	**Hagfors**	**22.18**	**349**	P			**P**	**13 34 54.3**	**-2.0**
	1.9nm,0.7s,mb3.6,baz=152,slow=11,SNR=8.1								
FINES	**FINESS Array B**	**23.04**	**5**	P			**P**	**13 35 03.2**	**-2.2**
	0.5nm,0.5s,mb3.2,baz=173,slow=7.9,SNR=5.7								
NB2	**NORSAR Subarra**	**23.44**	**347**	P			**P**	**13 35 07.6**	**-2.1**
	comp=Z,3.3nm,0.9s,mb3.8,baz=160,slow=9.3								
NOA	**NORSAR Array B**	**23.44**	**347**	P			**P**	**13 35 07.5**	**-2.1**
	comp=Z,1.6nm,0.8s,mb3.5,baz=156,slow=9.8,SNR=3.7								
TORD	**Torodi Ar. Bea**	**31.01**	**221**	P			**P**	**13 36 17.4**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.3,baz=37,slow=9.4,SNR=4.0								
ARCES	**ARCESS Array B**	**31.07**	**2**	P			**P**	**13 36 16.5**	**-1.8**
	comp=Z,2.9nm,0.8s,mb4.1,baz=195,slow=9.8,SNR=6.6								
MKAR	**Makanchi Array**	**44.20**	**59**	P			**P**	**13 38 08.6**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.4,baz=276,slow=7.5,SNR=13								

*OMAN **25** 13:32:13.7,3299N×5523E,h0km*
*ISCJB **25** 13:33:28.6±1.0,2763N±005×563E±02,h10km,Error ellipse: s-maj=20.9km s-min=6.8km az=19.2*
*CSEM **25** 13:33:30.6±0.2,2755N×5614E,h18km,ML3.1,Error ellipse: s-maj=11.9km s-min=6.1km az=89.0*
*THR **25** 13:33:30.2±0.8,2757N×5613E,h14km±8km,ML3.1*

ISC 25 13:33:29.9±1.3,2757N±006×563E±02,h10km±11km,n8, σ1§20/10,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.21**	**215**	*e*Pg			**Pg**	**13 33 34.6**	**+0.4**
BNDS					AML		AML	13 33 47.6	
	comp=E,2μm,0.5s								
BANOM	**Banah**	**1.64**	**180**	P			**Pn**	**13 33 59.1**	**+0.4**
	SNR=11								
KRBR	**Kerman**	**2.44**	**9**	*e*Pn			**Pn**	**13 34 12.6**	**+2.9**
KRBR				*e*SG			**Sg**	**13 34 47.5**	**-0.6**
KRBR					AML		AML	13 34 48.2	
	comp=N,191nm,0.7s								
KRBR					AML		AML	13 34 49.2	
	comp=E,144nm,0.4s								
KRBR	**Kerman**	**2.44**	**9**	*e*Pn			**Pn**	**13 34 12.6**	**+2.9**
	SNR=52								
KRBR				*e*Sg			**Sg**	**13 34 47.5**	**-0.6**
	SNR=90								
ASHO	**Ashiyiah**	**2.88**	**184**	P			**Pn**	**13 34 15.8**	**0.0**
	SNR=9.3								
GHIR	**Ghir-Karzin**	**3.02**	**284**	*e*Pn			**Pn**	**13 34 17.6**	**-0.1**
GHIR					AML		AML	13 35 07.9	
	comp=E,82nm,0.4s								
GHIR					AML		AML	13 35 15.8	
	comp=N,56nm,0.7s								
WHFO	**Wadi Hawf**	**9.88**	**194**	P			**Pn**	**13 35 48.7**	**-3.2**
	SNR=8.1								
ABTO	**Aybut**	**10.54**	**196**	P			**Pn**	**13 35 56.6**	**-4.3**
	SNR=11								

*IDC **25** 13:45:06.0±4.0,2350S×17488W,h0km,mb4.1/3, mb1 4.2/3,mb1mx3.9/14,mbtmp4.1/3,Error ellipse: s-maj=182.7km s-min=44.1km az=146.0*
*NEIC **25** 13:45:08.5±0.6,2270S×17470W,h35km,mb4.6/3,Error ellipse: s-maj=19.1km s-min=11.1km az=156.0*
*ISCJB **25** 13:45:12.0±3.8,225S±02×174.19W±008,h121km±44km, mb4.2/6,Error ellipse: s-maj=25.4km s-min=12.6km az=13.1*

ISC 25 13:45:15.0±2.9,224S±02×1744W±01,h119km±36km,n13, σ1§16/14,mb4.2/6,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.81**	**17**	Pn			**Pn**	**13 47 21.7**	**+2.3**
	1.4nm,0.3s,baz=53,slow=20,SNR=4.7								
AFI				Sn			**Sn**	**13 48 56.6**	**-0.3**
	1.1nm,0.3s,baz=108,slow=17,SNR=2.5								
AFI	**Afiamalu**	**8.81**	**17**	*e*Pn			**Pn**	**13 47 17.7**	**-1.7**
AFI				Sn			**Sn**	**13 48 56.6**	**-0.3**
RAR	**Rarotonga**	**13.61**	**88**	Pn			**Pn**	**13 48 24.1**	**+1.0**
	1.0nm,0.3s,baz=272,slow=9.5,SNR=8.8								
RAR				Sn			**Sn**	**13 50 45.5**	**-7.5**
	0.9nm,0.3s,baz=114,slow=18,SNR=2.5								
DZM	**Mont Dzumac**	**17.77**	**267**	P			**Pn**	**13 49 15.0**	**+0.3**
	0.1nm,0.3s,baz=81,slow=15,SNR=3.7								
CTAO	**Charters Tower**	**36.70**	**266**	P			**P**	**13 52 10.6**	**+0.3**
	7.9nm,0.9s,mb4.6								
STKA	**Stephens Creek**	**40.07**	**247**	P			**P**	**13 52 36.0**	**-2.6**
	1.8nm,1.0s,mb3.9,baz=96,slow=10,SNR=2.4								
ASAR	**Alice Springs**	**47.40**	**258**	P			**P**	**13 53 37.4**	**+0.2**
	3.3nm,0.8s,mb4.1,baz=102,slow=6.7,SNR=22								
WB2	**Warramunga Arr**	**47.69**	**263**	*e*P			**P**	**13 53 39.6**	**+0.2**
WRA	**Warramunga Arr**	**47.70**	**263**	P			**P**	**13 53 39.7**	**+0.2**
	1.6nm,0.8s,mb3.9,baz=103,slow=7.3,SNR=25								
VNDA	**Vanda**	**56.34**	**186**	*e*P			**P**	**13 54 42.4**	**-1.0**
	3.7nm,1.3s,mb4.2								
MBWA	**Marble Bar**	**60.74**	**258**	*e*P			**P**	**13 55 15.4**	**+1.4**
	6.1nm,0.9s,mb4.6								
AKASG	**Malin Array Be**	**146.29**	**333**	PKPbc			PKPbc	14 04 49.9	+8.3
	1.7nm,0.8s,baz=40,slow=3.9,SNR=4.7								
BRTR	**Keskin Array B**	**150.62**	**312**	PKPbc			PKPbc	14 05 00.8	+7.9
	0.8nm,0.7s,baz=48,slow=3.8,SNR=3.7								

*ISCJB **25** 13:52:49.3±1.1,2765N±005×566E±02,h14km,Error ellipse: s-maj=19.5km s-min=6.9km az=15.0*
*CSEM **25** 13:52:52.9,2767N×5614E,h14km,ML3.1,After THR*
*THR **25** 13:52:52.9±0.5,2767N×5614E,h14km±5km,ML3.1*
*OMAN **25** 13:53:08.0,2627N×5690E,h20km*

ISC 25 13:52:50.9±1.0,2761N±005×565E±01,h14km,n7, σ0§55/10,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.37**	**235**	*e*PG			**Pg**	**13 52 58.9**	**+0.5**
BNDS					AML		AML	13 53 18.2	
	comp=E,2μm,0.7s								
BANOM	**Banah**	**1.69**	**186**	P			**Pn**	**13 53 20.6**	**+0.5**
	SNR=11								
BANOM				S			**Sn**	**13 53 30.0**	**-12**
	SNR=9.1								
KRBR	**Kerman**	**2.37**	**5**	*e*PN			**Pn**	**13 53 33.7**	**+4.3**
KRBR				*e*SG			**Sg**	**13 54 07.2**	**+0.1**
KRBR					AML		AML	13 54 10.8	
	comp=N,107nm,0.4s								
KRBR					AML		AML	13 54 20.1	
	comp=E,105nm,0.5s								
KRBR	**Kerman**	**2.37**	**5**	*e*Pn			**Pn**	**13 53 33.7**	**+4.4**
	SNR=52								
KRBR				*e*Sg			**Sg**	**13 54 07.2**	**+0.1**
	comp=E,105nm,0.5s,SNR=90								
ASHO	**Ashiyiah**	**2.95**	**188**	P			**Pn**	**13 53 37.4**	**+0.2**
	SNR=10								
GHIR	**Ghir-Karzin**	**3.19**	**283**	*e*PN			**Pn**	**13 53 40.1**	**-0.5**
GHIR					AML		AML	13 54 23.1	
	comp=E,107nm,0.7s								
GHIR					AML		AML	13 54 32.9	
	comp=N,101nm,0.5s								
SHAO	**Shalim**	**9.58**	**185**	P			**Pn**	**13 55 07.5**	**-0.9**
	SNR=9.7								

IDC 25 13:54:50.9±7.5,3219S×5825E,h0km,mb3.6/2,mb1 3.8/3, mb1mx3.4/19,mbtmp3.5/3,ML4.0/1,Error ellipse: s-maj=448.1km s-min=36.1km az=35.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.83**	**321**	Pn			Pn	13 58 48.0	+0.1
	0.5nm,0.3s,baz=94,slow=18,SNR=3.9								
ASAR	**Alice Springs**	**66.16**	**104**	P			P	14 05 40.8	+0.6
	0.3nm,0.7s,baz=241,slow=6.9,SNR=4.8								
WRA	**Warramunga Arr**	**68.19**	**100**	P			P	14 05 53.3	+0.3
	0.7nm,1.0s,baz=244,slow=5.4,SNR=6.4								
YKA	**Yellowknife Ar**	**149.34**	**353**	PKPbc			PKPbc	14 14 40.4	-1.2
	0.2nm,0.6s,baz=4.4,slow=2.3,SNR=9.3								

IDC 25 14:02:23.0±1.9,286N×12771E,h0km,mb3.3/4,mb1 3.5/4, mb1mx3.4/17,mbtmp3.3/4,Error ellipse: s-maj=134.8km s-min=25.3km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**164**	P			P	14 07 35.4	0.0
	0.5nm,0.4s,baz=344,slow=11,SNR=16								
ASAR	**Alice Springs**	**27.04**	**167**	P			P	14 08 06.8	-0.2
	0.2nm,0.4s,baz=348,slow=7.3,SNR=5.8								
STKA	**Stephens Creek**	**36.98**	**160**	P			P	14 09 34.8	+0.8
	0.3nm,0.3s,baz=343,slow=14,SNR=3.8								
MKAR	**Makanchi Array**	**58.83**	**325**	P			P	14 12 23.4	+0.1
	0.1nm,0.4s,baz=118,slow=8.3,SNR=4.4								

*ISCJB **25** 14:42:36.9±1.0,1616N±004×9893W±003,h8km±6km, mb4.4/50,MS3.6/8,Error ellipse: s-maj=6.6km s-min=3.8km az=43.1*
*MEX **25** 14:42:38.6±1.1,1595N×9905W,h20km±39km,MD4.6*
*NEIC **25** 14:42:42.7±0.4,1639N×9871W,h25km,mb4.4/47,Error ellipse: s-maj=8.5km s-min=5.6km az=34.0*
*BJI **25** 14:42:42.6,1640N×9870W,h25km,mB5.3,Ms4.7,Msz4.4*
*IDC **25** 14:42:45.7±5.7,1623N×9887W,h60km±51km,mb4.1/12, mb1 4.2/14,mb1mx4.0/26,mbtmp4.4/14,ML4.1/2,MS3.6/9, Ms1 3.6/9,ms1mx3.3/33,Error ellipse: s-maj=33.7km s-min=13.7km az=53.0*

ISC 25 14:42:38.3±1.2,1625N±004×9887W±003,h0km±7km,n130, σ1§16/127,mb4.5/50,MS3.6/8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.72**	**78**	*i* P			**Pg**	**14 42 53.9**	**+1.7**
PNIG				*i* S			**Sg**	**14 43 05.5**	**+3.9**
ACX	**Acapulco**	**1.18**	**302**	*i* P			**Pg**	**14 42 56.4**	**-4.6**
ACX				*i* S			**Sg**	**14 43 13.0**	**-3.3**
CAIG	**El Cayaco**	**1.56**	**301**	*e*P			**Pn**	**14 43 03.2**	**-4.1**
CAIG				*i* S			**Sn**	**14 43 23.4**	**-4.9**
MEIG	**Mezcala**	**1.82**	**337**	*i* P			**Pn**	**14 43 09.6**	**-1.3**
MEIG				*i* S			**Sn**	**14 43 31.6**	**-3.0**
UTMO	**Huajuapan**	**1.87**	**33**	*e*P			**Pn**	**14 43 11.9**	**+0.3**
UTMO				*i* S			**Sn**	**14 43 37.4**	**+1.4**
VHO	**Vista Hermosa**	**2.20**	**68**	*i* P			**Pn**	**14 43 16.4**	**+0.2**
VHO				*i* S			**Sn**	**14 43 44.5**	**+0.5**
OXX	**Oaxaca**	**2.21**	**68**	*e*P			**Pn**	**14 43 16.3**	**0.0**
PLIG	**Platanillo**	**2.22**	**344**	*e*P			**Pn**	**14 43 15.9**	**-0.4**
PLIG				*i* S			**Sn**	**14 43 45.4**	**+0.9**
YAIG	**Yautepec**	**2.61**	**356**	*e*P			**Pn**	**14 43 21.2**	**-0.6**
YAIG				*i* S			**Sn**	**14 43 55.9**	**+1.8**
HUIG	**Huatulco**	**2.69**	**100**	*e*P			**Pn**	**14 43 21.5**	**-1.4**
HUIG				*i* S			**Sn**	**14 43 51.6**	**-4.6**
PPM	**Popocatepetl**	**2.81**	**5**	*e*P			**Pn**	**14 43 24.6**	**0.0**
PPM				*e*P				14 43 25.1	
PPM				*e*P				14 43 25.2	
PPM				*i* S			**Sn**	**14 44 04.5**	**+5.3**
ZIIG	**Zihuatanejo**	**2.83**	**299**	*e*P			**Pn**	**14 43 22.6**	**-2.2**
ZIIG				*i* S			**Sn**	**14 43 53.3**	**-6.3**
CHVM	**Chichinautzin**	**2.84**	**355**	*e*P			**Pn**	**14 43 27.6**	**+2.7**
CIVM	**Cilcuayo**	**2.84**	**358**	*e*P			**Pn**	**14 43 25.1**	**+0.1**
UNM	**Universidad Na**	**3.08**	**354**	*e*P			**Pn**	**14 43 28.6**	**+0.4**
UNM				*i* P				14 43 32.4	
UNM				*i* S			**Sn**	**14 44 07.3**	**+1.6**
SZVM	**Salazar**	**3.10**	**351**	*e*P			**Pn**	**14 43 28.6**	**+0.2**
PTVM	**Pico Tres Padr**	**3.34**	**356**	*e*P			**Pn**	**14 43 31.6**	**-0.1**
CMIG	**Matias Romero**	**3.91**	**77**	*i* P			**Pn**	**14 43 38.5**	**-1.0**
CMIG				*i* S			**Sn**	**14 44 24.6**	**-1.6**
MOIG	**Morelia**	**4.07**	**327**	*e*P			**Pn**	**14 43 40.1**	**-1.6**
MOIG				*i* S			**Sn**	**14 44 29.3**	**-0.8**
LVIG	**Laguna Verde**	**4.17**	**34**	*e*P			**Pn**	**14 43 40.9**	**-2.3**
CCIG	**Comitan**	**6.46**	**89**	*i* S			**Sn**	**14 45 31.2**	**+2.1**
LNIG	**Linares**	**8.63**	**356**	*i* P			**Pn**	**14 44 48.6**	**+4.2**
TEIG	**Tepich**	**10.81**	**67**	*e*Pn			**Pn**	**14 45 14.4**	**+0.1**
TEIG				*e*Sn			**Sn**	**14 47 03.4**	**-13**
LTX	**Lajitas**	**13.76**	**342**	Pn			**Pn**	**14 45 53.0**	**-1.6**
	7.9nm,1.1s								
JCT	**Junction City**	**14.19**	**357**	*e*Pn			**Pn**	**14 46 00.3**	**-0.2**
	19nm,0.9s								
JTS	**JuntasAbangare**	**14.78**	**112**	P			**Pn**	**14 46 11.8**	**+3.3**
	0.9nm,0.3s,baz=292,slow=19,SNR=2.8								
JTS	**JuntasAbangare**	**14.78**	**112**	*e*Pn			**Pn**	**14 46 11.8**	**+3.3**
	15nm,0.9s								
NATX	**Nacogdoches**	**15.91**	**13**	*e*Pn			**

2.0nm,0.6s,mb4.2,baz=218,slow=11,SNR=5.0
ULM Lac du Bonnet 34.00 3 P P 14 49 23.1 -0.7
9.5nm,1.0s,mb4.7,baz=189,slow=8.3,SNR=20
ULM LR LR 15 04 15.7
comp=Z,52nm,19.2s,MS3.3,baz=347,slow=38
WALA Waterton Lakes 34.95 343 *e*P **P 14 49 32.1 +0.1**
4.3nm,1.0s,mb4.3
NEW Newport 35.27 339 *e*P **P 14 49 34.5 -0.3**
3.8nm,1.0s,mb4.3
FFC Flin Flon 38.48 357 *e*P **P 14 50 01.5 -0.5**
7.9nm,0.8s,mb4.5
FCC Fort Churchill 42.59 4 *e*P **P 14 50 35.1 -1.0**
11nm,1.3s,mb4.4
FCC *e*PcP PcP 14 52 26.7 -1.7
SAML Samuel 43.29 123 P **P 14 50 43.2 +1.5**
2.3nm,1.0s,mb3.9
SCHQ Schefferville 45.74 25 P **P 14 51 01.1 -0.2**
6.8nm,0.8s,mb4.7,baz=230,slow=6.3,SNR=14
SCHQ Schefferville 45.74 25 *e*P **P 14 51 00.2 -1.1**
7.7nm,0.9s,mb4.7
YKA Yellowknife Ar 47.51 350 P **P 14 51 14.2 -0.9**
2.8nm,0.9s,mb4.4,baz=158,slow=7.3,SNR=41
YKA PcP PcP 14 52 44.2 -1.2
0.5nm,0.8s,baz=146,slow=3.5,SNR=5.1
YKA PP PP 14 53 07.7 +1.3
1.0nm,0.9s,baz=152,slow=9.8,SNR=5.6
YKA LR LR 15 14 27.6
comp=Z,51nm,19.2s,MS3.5,baz=115,slow=40
YKA Yellowknife Ar 47.51 350 P **P 14 51 14.2 -0.9**
YKA PcP PcP 14 52 44.2 -1.2
YKA PP PP 14 53 07.7 +1.3
YKA LR LR 15 14 27.6
TAOE Nuku Hiva Isla 47.87 242 *e*T 15 42 25.3
38nm,0.2s
DLBC Dease Lake 48.02 339 *e*P **P 14 51 20.6 +1.4**
SIV San Ignacio 49.16 129 P **P 14 51 27.0 -0.9**
1.3nm,0.7s,mb4.0,baz=308,slow=7.6,SNR=6.1
RKT Rikitea 52.70 223 *e*LR LR 15 06 52.1
146nm,27.0s
RKT Rikitea 52.70 223 *e*T 15 48 24.7
7.2nm,0.3s
INK Inuvik 56.51 345 *e*P **P 14 52 21.4 -0.9**
7.9nm,1.0s,mb4.7
PMR Palmer 57.47 334 P **P 14 52 29.6 +0.6**
ILAR Eielson Array 58.23 338 P **P 14 52 34.0 -0.3**
5.5nm,1.0s,mb4.5,baz=141,slow=4.4,SNR=42
ILAR PcP PcP 14 53 24.6 -1.2
0.9nm,0.8s,baz=162,slow=2.9,SNR=5.1
MCK McKinley 58.44 336 *e*P **P 14 52 35.7 -0.2**
3.0nm,0.8s,mb4.4
RES Resolute Bay 58.49 1 *e*P **P 14 52 34.2 -2.0**
RES *e*PcP PcP 14 53 24.8 -2.0
COLA College 58.63 338 *e*P **P 14 52 36.5 -0.7**
4.0nm,0.9s,mb4.5
BDFB Brasilia 59.35 120 P **P 14 52 42.2 0.0**
2.4nm,0.5s,mb4.5,baz=291,slow=5.6,SNR=5.3
PPT Papeete 60.21 238 *e*LR LR 15 10 26.0
52nm,22.2s
PPT Papeete 60.21 238 LR LR 15 10 25.2
comp=Z,74nm,21.2s,MS3.8,baz=190,slow=28
TTA Tatalina 60.95 334 *e*P **P 14 52 52.0 -1.1**
21nm,1.5s,mb5.0
PLCA Paso Flores 62.49 156 P **P 14 53 02.9 -0.6**
1.9nm,1.0s,mb4.3,baz=0.0,slow=12,SNR=2.8
TBI Tubuai 63.20 233 *e*LR LR 15 11 47.4
71nm,27.2s
TBI Tubuai 63.20 233 *e*T 16 01 32.4
36nm,0.3s
SUMG Summit 65.92 17 *e*P **P 14 53 25.5 -0.5**
7.9nm,0.9s,mb4.9
JMIC Jan Mayen 74.89 20 LR LR 15 33 46.6
comp=Z,64nm,18.1s,MS4.0,baz=67,slow=41
ESLA Sonseca Array 83.49 51 P **P 14 55 06.8 -1.1**
1.4nm,1.0s,mb4.2
MDT Midelt 84.84 57 P **P 14 55 15.4 +0.6**
3.5nm,1.0s,mb4.5,baz=294,slow=6.3,SNR=5.3
ARCES ARCESS Array B 86.01 17 LR LR 15 35 54.9
comp=Z,26nm,21.7s,MS3.6,baz=159,slow=37
FINES FINESS Array B 91.18 23 LR LR 15 39 49.7
comp=Z,30nm,20.4s,MS3.7,baz=8.0,slow=38
HHC Hu-ho-hao-te 116.56 335 *e*PKP PKPdf 15 01 22.8 -1.4
HHC PKS 15 04 58.3
HHC SKS SKSdf 15 08 30.0 -7.6
HHC PP PP
comp=Z,128nm,4.9s
HHC LR LR
comp=N,79nm,3.4s
HHC LR LR
comp=E,129nm,4.6s
HHC LR LR
comp=Z,79nm,4.9s
SSE Sheshan 119.20 321 *e*PKP PKPdf 15 01 28.3 -1.0
SSE PP PP
comp=Z,31nm,4.1s
NJ2 Nanjing 119.89 323 *e*PKP PKPdf 15 01 31.0 +0.3
WMQ Urumqi 119.93 355 *e*PKP PKPdf 15 01 31.5 +0.8
CD2 Chengdu 128.31 335 *e*PKP PKPdf 15 01 44.5 -2.3
WRA Warramunga Arr 129.46 257 PKP PKPdf 15 01 46.7 -2.3
comp=Z,0.5nm,0.7s,baz=77,slow=2.5,SNR=7.2
HYB Hyderabad 146.45 4 *i* PKP PKPdf 15 02 21.0 +1.0
HYB Hyderabad 146.45 4 *e*P PKPdf 15 02 21.0 +1.0

MEX 25 14:58:05.3±0.5,1641N×9856W,h30km±15km,MD3.9,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**92**	*i* P	Pb	14 58 12.8	-1.6
PNIG				*i* S	Sb	14 58 18.8	-1.7
UTMO	**Huajuapan**	**1.59**	**27**	*e*P	Pn	14 58 30.8	-0.6
MEIG	**Mezcala**	**1.82**	**326**	*i* S	Sn	14 58 54.6	-2.0
VHO	**Vista Hermosa**	**1.87**	**69**	*i* P	Pn	14 58 31.2	-4.0
VHO				*i* S	Sn	14 58 55.7	-2.1
OXX	**Oaxaca**	**1.88**	**69**	*e*P	Pn	14 58 34.0	-1.4
YAIG	**Yautepec**	**2.49**	**349**	*i* S	Sn	14 59 10.9	-2.2
PPM	**Popocatepetl**	**2.65**	**359**	*i* S	Sn	14 59 14.1	-3.0
CMIG	**Matias Romero**	**3.58**	**79**	*i* P	Pn	14 59 00.2	+1.4
CMIG				*i* S	Sn	14 59 37.1	-3.0

TEH ***25*** *14:57:48.0,2767N×5554E,h16km,ML4.1*
IDC ***25*** *14:58:28.2±0.8,2747N×5580E,h0km,mb4.2/23, mb1 4.4/23,mb1mx4.4/26,mbtmp4.3/23,MS3.2/4, Ms1 3.2/4,ms1mx2.9/32,Error ellipse: s-maj=20.6km s-min=14.2km az=176.0*
CSEM ***25*** *14:58:28.9±0.1,2759N×5573E,h11km,mb4.7/48,Error ellipse: s-maj=2.3km s-min=1.6km az=44.0*
NEIC ***25*** *14:58:29.7±0.4,2736N×5573E,h10km,mb4.7/44, ML4.4(THR),MN4.1(TEH),Error ellipse: s-maj=9.2km s-min=4.5km az=11.0*
BJI ***25*** *14:58:29.6,2740N×5570E,h10km,mB5.2,mb4.7,Ms5.0, Msz4.8*
ISCJB ***25*** *14:58:29.2±0.2,2754N±003×5571E±003,h12km, mb4.5/77,MS3.4/5,Error ellipse: s-maj=4.0km s-min=2.8km az=75.9*
MOS ***25*** *14:58:30.0±0.9,2766N×5578E,h16km,mb4.8/43,Error ellipse: s-maj=7.9km s-min=4.6km az=117.9*
THR ***25*** *14:58:31.6±0.7,2746N×5580E,h14km±12km,ML4.4*
SZGRF ***25*** *14:58:37.8,2806N×5557E,h12km,mb4.3,Southern Iran*
OMAN ***25*** *14:58:41.1±2.9,2687N×5548E,h30km,Error ellipse: s-maj=3.9km s-min=1.9km az=333.0*
ISC 25 14:58:31.1±0.2,2755N±002×5574E±003,h12km, h12km±.8km:pP-P,n278,σ1º15/314,mb4.5/77,MS3.4/5, 12C-15D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.41**	**112**	*e*PG	**Pg**	**14 58 38.6**	**-0.6**
BNDS				*e*SG	**Sg**	**14 58 43.9**	**-0.8**
BNDS				AML	AML	14 58 45.8
	comp=N,27μm,0.2s					
BNDS				AML	AML	14 58 45.8
	comp=E,30μm,0.2s					
BNDS	**Bandar-Abbas**	**0.41**	**112**	*e*Pg	**Pg**	**14 58 38.6**	**-0.6**
	SNR=93					
BNDS				*e*Sg	**Sg**	**14 58 43.9**	**-0.8**
	comp=E,30μm,0.2s,SNR=93					
BNDS	**Bandar-Abbas**	**0.41**	**112**	*e*Pg	**Pg**	**14 58 38.0**	**-1.2**
BNDS				*e*Sg	**Sg**	**14 58 43.0**	**-1.7**
BANOM	**Banah**	**1.70**	**163**	⇑P	**Pn**	**14 59 01.3**	**+0.8**
	SNR=117					
BANOM				⇓S	**Sn**	**14 59 23.8**	**+1.7**

GHIR	**Ghir-Karzin**	**2.55 287**	*e*PN	**Pn**	**14 59 15.7**	**+3.5**
GHIR	**Ghir-Karzin**	**2.55 287**	*e*Pn	**Pn**	**14 59 15.0**	**+2.8**
KRBR	**Kerman**	**2.58 20**	*e*PN	**Pn**	**14 59 16.0**	**+3.4**
KRBR			AML	AML	14 59 53.2
	comp=E,2μm,0.4s				
KRBR			AML	AML	14 59 53.6
	comp=N,2μm,1.1s				
KRBR	**Kerman**	**2.58 20**	*e*Pn	**Pn**	**14 59 15.0**	**+2.4**
ASHO	**Ashiyiah**	**2.87 174**	⇓P	**Pn**	**14 59 18.4**	**+1.8**
	SNR=160					
IMOK	**Mook**	**3.06 300**	*e*Pn	**Pn**	**14 59 21.6**	**+2.4**
IMOK			*e*Sn	**Sn**	**14 59 54.9**	**-0.8**
IMOK	**Mook**	**3.06 300**	*e*Sn	**Sn**	**14 59 54.9**	**-0.8**
IMOK	**Mook**	**3.06 300**	Pn	**Pn**	**14 59 21.5**	**+2.3**
IMOK			Sn	**Sn**	**14 59 54.8**	**-0.9**
IPAR	**Pars**	**3.29 315**	*e*Pn	**Pn**	**14 59 25.7**	**+3.3**
IPAR	**Pars**	**3.29 315**	Pn	**Pn**	**14 59 25.6**	**+3.2**
IMEH	**Mehriz**	**3.95 346**	*e*Pn	**Pn**	**14 59 34.7**	**+3.3**
IMEH	**Mehriz**	**3.95 346**	Pn	**Pn**	**14 59 34.6**	**+3.2**
IBAF	**Bafgh**	**4.03 358**	*e*Pn	**Pn**	**14 59 35.2**	**+2.7**
IBAF			*e*Sn	**Sn**	**15 00 19.8**	**+0.2**
IBAF			*e*Sn	**Sn**	**15 00 20.1**	**+0.5**
IBAF	**Bafgh**	**4.03 358**	*e*Sn	**Sn**	**15 00 19.8**	**+0.2**
IBAF	**Bafgh**	**4.03 358**	Pn	**Pn**	**14 59 35.2**	**+2.7**
IBAF			Sn	**Sn**	**15 00 19.8**	**+0.2**
IBAF			Sn	**Sn**	**15 00 20.0**	**+0.4**
ARQ	**Araqi**	**4.26 170**	⇑P	**Pn**	**14 59 36.2**	**+0.5**
	SNR=12					
BIDO	**Bidbid**	**4.55 151**	⇓P	**Pn**	**14 59 38.9**	**-0.9**
ISAD	**Sadrabad**	**4.70 338**	*e*Sn	**Sn**	**15 00 34.5**	**-1.7**
ISAD			*e*Sn	**Sn**	**15 00 34.7**	**-1.5**
ICHK	**Chekchek**	**4.82 346**	*e*Pn	**Pn**	**14 59 46.1**	**+2.7**
ICHK	**Chekchek**	**4.82 346**	Pn	**Pn**	**14 59 46.0**	**+2.6**
ZHSF	**Zahedan**	**4.88 64**	*e*PN	**Pn**	**14 59 47.3**	**+3.1**
ZHSF			*e*SG	**Sg**	**15 01 02.5**	**-5.1**
ZHSF	**Zahedan**	**4.88 64**	*e*Pn	**Pn**	**14 59 47.0**	**+2.8**
ZHSF			*e*Sg	**Sg**	**15 01 02.0**	**-5.7**
BSY	**Bisya**	**4.97 164**	⇓P	**Pn**	**14 59 46.5**	**+1.1**
BSYO	**Bisya**	**4.99 164**	P	**Pn**	**14 59 46.5**	**+0.8**
IGAR	**Garneh**	**5.60 327**	*e*Pn	**Pn**	**14 59 59.8**	**+5.7**
IGAR			*e*Sn	**Sn**	**15 01 00.2**	**+1.9**
IGAR			*e*Sn	**Sn**	**15 01 00.3**	**+2.0**
WBK	**Wadi Bani Khal**	**5.72 149**	⇑P	**Pn**	**14 59 55.9**	**0.0**
	SNR=9.5					
IZEF	**Zefreh**	**6.09 332**	*e*Pn	**Pn**	**15 00 02.6**	**+1.7**
IZEF			*e*Sn	**Sn**	**15 01 06.9**	**-3.5**
IZEF			*e*Sn	**Sn**	**15 01 07.1**	**-3.3**
IZEF	**Zefreh**	**6.09 332**	Pn	**Pn**	**15 00 02.5**	**+1.6**
IZEF			*e*Sn	**Sn**	**15 01 06.9**	**-3.5**
IZEF	**Zefreh**	**6.09 332**	Pn	**Pn**	**15 00 02.5**	**+1.6**
IZEF			Sn	**Sn**	**15 01 06.9**	**-3.5**
IZEF			Sn	**Sn**	**15 01 07.1**	**-3.3**
IPIR	**Pirpir**	**6.62 322**	*e*Pn	**Pn**	**15 00 10.0**	**+1.9**
IPIR			*e*Sn	**Sn**	**15 01 19.3**	**-4.2**
IPIR			*e*Sn	**Sn**	**15 01 19.5**	**-4.0**
IPIR	**Pirpir**	**6.62 322**	*e*Sn	**Sn**	**15 01 19.3**	**-4.2**
IPIR	**Pirpir**	**6.62 322**	Pn	**Pn**	**15 00 10.0**	**+1.9**
IPIR			Sn	**Sn**	**15 01 19.2**	**-4.3**
IPIR			Sn	**Sn**	**15 01 19.4**	**-4.1**
IKLH	**Kalahroud**	**6.78 329**	*e*Pn	**Pn**	**15 00 11.9**	**+1.6**
IKLH			*e*Sn	**Sn**	**15 01 22.4**	**-5.0**
IKLH			*e*Sn	**Sn**	**15 01 23.0**	**-4.4**
KBD	**Kabd**	**7.28 285**	*e*P	**Pn**	**15 00 17.9**	**+0.8**
KBD			AML	AML	15 01 40.0
	comp=Z,94nm,0.3s				
UMR	**Umm Al-Rimmam**	**7.34 288**	*e*P	**Pn**	**15 00 18.1**	**+0.1**
UMR			AML	AML	15 01 35.4
	comp=Z,34nm,0.5s				
UMR	**Umm Al-Rimmam**	**7.34 288**	*e*P	**Pn**	**15 00 18.1**	**+0.1**
UMR			*e*S	**Sn**	**15 01 40.5**	**-0.6**
RDF	**Al-Radifah**	**7.36 283**	*e*P	**Pn**	**15 00 18.7**	**+0.5**
RDF			AML	AML	15 01 41.6
	comp=Z,28nm,0.3s				
ISFB	**Sefidab**	**7.42 337**	*e*Sn	**Sn**	**15 01 38.8**	**-4.3**
NAY	**Al-Naaiem**	**7.68 285**	*e*P	**Pn**	**15 00 22.7**	**0.0**
IVRN	**Varamin**	**8.18 336**	*e*Pn	**Pn**	**15 00 32.1**	**+2.6**
IVRN	**Varamin**	**8.18 336**	Pn	**Pn**	**15 00 32.0**	**+2.5**
ISHM	**Shahmirzad**	**8.49 346**	*e*Pn	**Pn**	**15 00 37.0**	**+3.2**
ISHM			*e*Sn	**Sn**	**15 02 04.5**	**-5.0**
ISHM			*e*Sn	**Sn**	**15 02 04.6**	**-4.9**
ISHM	**Shahmirzad**	**8.49 346**	*e*Sn	**Sn**	**15 02 04.5**	**-5.0**
ISHM	**Shahmirzad**	**8.49 346**	Pn	**Pn**	**15 00 36.9**	**+3.1**
ISHM			Sn	**Sn**	**15 02 04.4**	**-5.1**
ISHM			Sn	**Sn**	**15 02 04.6**	**-4.9**
IRAZ	**Razeghan**	**9.27 329**	*e*Pn	**Pn**	**15 00 58.3**	**+14**
IRAZ			*e*Sn	**Sn**	**15 02 22.0**	**-6.6**
IRAZ			*e*Sn	**Sn**	**15 02 22.6**	**-6.0**
IRAZ	**Razeghan**	**9.27 329**	*e*Sn	**Sn**	**15 02 22.0**	**-6.6**
IRAZ	**Razeghan**	**9.27 329**	Pn	**Pn**	**15 00 58.2**	**+14**
IRAZ			Sn	**Sn**	**15 02 21.9**	**-6.7**
IRAZ			Sn	**Sn**	**15 02 22.5**	**-6.1**
SHAO	**Shalim**	**9.49 181**	⇓P	**Pn**	**15 00 47.6**	**+0.1**
	SNR=15					
WHFO	**Wadi Hawf**	**9.76 191**	⇓P	**Pn**	**15 00 50.4**	**-0.8**
	SNR=72					
WHFO			⇓S	**Sn**	**15 02 30.8**	**-10**
RBK	**Rabkut**	**10.10 188**	⇑P	**Pn**	**15 00 54.5**	**-1.4**
	SNR=38					
RBK			⇓S	**Sn**	**15 02 40.6**	**-8.5**
ABTO	**Aybut**	**10.40 193**	⇑P	**Pn**	**15 00 58.6**	**-1.4**
	SNR=69					
GNI	**Garni**	**15.52 327**	Pn	**Pn**	**15 02 16.3**	**+6.6**
	comp=Z,2.6nm,0.3s,baz=324,slow=1.7,SNR=14					
GNI			LR	LR	15 08 20.3
	comp=Z,44nm,20.3s,baz=192,slow=38					
GNI	**Garni**	**15.52 327**	*e*Pn	**Pn**	**15 02 16.4**	**+6.8**
	comp=Z,67nm,1.0s					
GNI	**Garni**	**15.52 327**	⇑*e*P	**Pn**	**15 02 13.4**	**+3.8**
ZEI	**Tsey**	**17.98 331**	*i* P	**Pn**	**15 02 38.8**	**-2.0**
MALT	**Malatya**	**18.04 311**	*e*P	**Pn**	**15 02 42.4**	**+0.9**
	comp=Z,9.0nm,0.9s					
MALT	**Malatya**	**18.04 311**	*e*Pn	**Pn**	**15 02 42.4**	**+0.9**
	comp=Z,9.5nm,0.9s					
MALT	**Malatya**	**18.04 311**	*e*P	**Pn**	**15 02 42.4**	**+0.9**
MALT			pmax	pmax	
	comp=Z,9.0nm,0.9s					
KIV	**Kislovodsk**	**19.46 331**	*e*P	**Pn**	**15 02 58.3**	**-0.4**
	comp=Z,34nm,0.9s					
KIV	**Kislovodsk**	**19.46 331**	*e*Pn	**Pn**	**15 02 58.3**	**-0.4**
	comp=Z,34nm,0.9s					
KIV	**Kislovodsk**	**19.46 331**	*e*P	**Pn**	**15 02 58.3**	**-0.4**
KIV			pmax	pmax	
	comp=Z,34nm,0.9s					
KK31	**Karatay Array**	**19.60 34**	*i* P	**Pn**	**15 02 58.6**	**-1.8**
	comp=Z,10.0nm,0.8s					
KK31	**Karatay Array**	**19.60 34**	*i* P	**Pn**	**15 02 58.6**	**-1.8**
KK31			pmax	pmax	
	comp=Z,10.0nm,0.8s					
KKAR	**Karatay Array**	**19.60 34**	*e*P	**Pn**	**15 02 58.6**	**-1.8**
	comp=Z,8.0nm,0.8s					
KKAR	**Karatay Array**	**19.60 34**	*e*P	**Pn**	**15 02 58.6**	**-1.8**
KKAR			pmax	pmax	
	comp=Z,8.0nm,0.8s					
GOF	**Gofitskoye**	**20.21 333**	*e*P	**P**	**15 03 02.9**	**-2.8**
SOC	**Sochi**	**20.58 325**	*e*P	**P**	**15 03 14.6**	**+4.9**
SOC			*e*S	**S**	**15 07 01.2**	**+1.6**
SOC			pmax	pmax	
	comp=Z,38nm,1.1s					
SOC			MLR	MLR	
	comp=Z,120nm,13.0s,MS3.5					
AML	**Almayashu**	**20.64 41**	P	**P**	**15 03 11.0**	**+0.6**
	SNR=34					
EKS2	**Erkin-Say**	**21.03 40**	P	**P**	**15 03 15.0**	**+0.5**
	SNR=36					
UCH	**Uchtor**	**21.18 41**	P	**P**	**15 03 16.6**	**+0.4**
	SNR=16					
AAK	**Ala-Archa**	**21.42 41**	P	**P**	**15 03 19.7**	**+0.9**
	SNR=13					
KZA	**Kyzart**	**21.53 43**	P	**P**	**15 03 20.9**	**+0.9**
	SNR=16					
FRU	**Bishkek**	**21.61 40**	*e*P	**P**	**15 03 25.0**	**+4.1**
KBK	**Karagaybulak**	**21.70 41**	P	**P**	**15 03 23.1**	**+1.3**
	SNR=8.8					
AB31	**Akbulak array**	**21.91 7**	*e*P	**P**	**15 03 24.0**	**-0.1**
	comp=Z,29nm,0.8s,mb4.8					
AB31	**Akbulak array**	**21.91 7**	*e*P	**P**	**15 03 24.0**	**-0.1**
AB31			pmax	pmax	
	comp=Z,29nm,0.8s,mb4.8					
BR131	**Keskin Array S**	**21.98 309**	*e*P	**P**	**15 03 27.8**	**+2.9**
	comp=Z,9.9nm,0.8s,mb4.3					
BRTR	**Keskin Array B**	**21.98 309**	P	**P**	**15 03 25.6**	**+0.7**
	comp=Z,7.6nm,0.8s,mb4.2,baz=122,slow=14,SNR=26					
BRTR	**Keskin Array B**	**21.98 309**	P	**P**	**15 03 25.5**	**+0.7**

ULHL	**Ulahol**	**22.22 43**	P	**P**	**15 03 28.6**	**+1.1**
	SNR=6.7					
TKM2	**Tokmak 2**	**22.23 41**	P	**P**	**15 03 27.6**	**+0.1**
	SNR=5.8					
ANN	**Anapa**	**22.60 324**	*e*P	**P**	**15 03 30.6**	**-0.8**
	comp=Z,73nm,1.2s,mb5.0					
ANN	**Anapa**	**22.60 324**	*e*P	**P**	**15 03 30.6**	**-0.8**
ANN			pmax	pmax	
	comp=Z,73nm,1.2s,mb5.0					
ANTO	**Ankara**	**22.63 309**	*e*P	**P**	**15 03 33.7**	**+2.0**
	comp=Z,16nm,0.8s,mb4.5					
ANTO	**Ankara**	**22.63 309**	*e*P	**P**	**15 03 33.7**	**+2.0**
ANTO			pmax	pmax	
	comp=Z,16nm,0.8s,mb4.5					
AKTK	**Aktyubinsk**	**22.92 4**	P	**P**	**15 03 35.1**	**+0.3**
AKTK	**Aktyubinsk**	**22.92 4**	P	**P**	**15 03 35.1**	**+0.3**
AKTK			LR	LR	15 14 07.3
AKTO	**Aktyubinsk**	**22.92 4**	P	**P**	**15 03 35.1**	**+0.3**
	comp=Z,16nm,0.8s,mb4.5,baz=187,slow=10,SNR=24					
AKTO			LR	LR	15 14 07.3
	comp=Z,122nm,18.6s,MS3.4,baz=0.0,slow=41					
KOLN	**Koldanda**	**24.66 83**	*e*P	**P**	**15 03 52.0**	**+0.5**
GKN	**Gorkha**	**25.55 82**	*e*P	**P**	**15 04 00.6**	**+1.0**
	comp=Z,28nm,1.0s,mb4.8					
VRHR	**Novokhopersk**	**25.83 339**	*e*P	**P**	**15 04 02.2**	**0.0**
	comp=Z,8.0nm,0.6s,mb4.4					
VRHR	**Novokhopersk**	**25.83 339**	*e*P	**P**	**15 04 02.2**	**0.0**
VRHR			pmax	pmax	
	comp=Z,10.0nm,0.5s,mb4.6					
VRHR			pmax	pmax	
	comp=N,8.0nm,0.6s					
VRHR			pmax	pmax	
	comp=E,10.0nm,1.1s					
DMN	**Daman**	**26.00 83**	*e*P	**P**	**15 04 05.1**	**+1.4**
	comp=E,24nm,0.8s,mb4.8					
KKN	**Kakani**	**26.13 83**	*e*P	**P**	**15 04 06.4**	**+1.5**
	comp=E,49nm,1.0s,mb5.0					
KKN	**Kakani**	**26.13 83**	*e*P	**P**	**15 04 06.4**	**+1.5**
KKN			pmax	pmax	
	comp=Z,25nm,1.0s,mb4.7					
PKI	**Pulchoki**	**26.27 83**	*e*P	**P**	**15 04 07.5**	**+1.3**
	comp=Z,44nm,0.9s,mb5.0					
PKI	**Pulchoki**	**26.27 83**	*e*P	**P**	**15 04 07.5**	**+1.3**
PKI			pmax	pmax	
	comp=Z,22nm,0.9s,mb4.7					
GUN	**Gumba**	**26.65 82**	*e*P	**P**	**15 04 11.0**	**+1.4**
	comp=Z,84nm,0.9s,mb5.3					
JIRN	**Jiri**	**26.95 83**	*e*P	**P**	**15 04 13.4**	**+1.1**
	comp=Z,54nm,1.0s,mb5.0					
ZRNK	**Zerenda**	**27.22 18**	*e*P	**P**	**15 04 14.4**	**-0.4**
	comp=Z,8.7nm,1.0s,mb4.2					
ZRNK	**Zerenda**	**27.22 18**	*e*P	**P**	**15 04 14.4**	**-0.4**
	comp=Z,8.7nm,1.0s,mb4.2					
ZRNK	**Zerenda**	**27.22 18**	*e*P	**P**	**15 04 14.4**	**-0.4**
ZRNK			pmax	pmax	
	comp=Z,9.0nm,1.0s,mb4.2					
IDI	**Anoyia**	**27.36 294**	P	**P**	**15 04 16.5**	**+0.6**
	comp=Z,7.0nm,0.7s,mb4.3,baz=90,slow=19,SNR=4.2					
BRVK	**Borovoye**	**27.68 19**	*e*P	**P**	**15 04 16.5**	**-2.3**
	comp=Z,7.4nm,1.0s,mb4.3					
BRVK	**Borovoye**	**27.68 19**	*e*P	**P**	**15 04 16.5**	**-2.3**
	comp=Z,7.4nm,1.0s,mb4.3					
BRVK	**Borovoye**	**27.68 19**	*e*P	**P**	**15 04 16.5**	**-2.3**
BRVK			pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.2					
BVA0	**Borovoye Array**	**27.68 19**	*i* P	**P**	**15 04 18.4**	**-0.4**
	comp=Z,2.0nm,1.0s,mb3.7					
BVA0	**Borovoye Array**	**27.68 19**	*i* P	**P**	**15 04 18.4**	**-0.4**
BVA0			pmax	pmax	
	comp=Z,2.0nm,1.0s,mb3.7					
BVAR	**Borovoye Array**	**27.68 19**	P	**P**	**15 04 18.4**	**-0.4**
	comp=Z,3.1nm,0.7s,mb4.0,baz=203,slow=6.6,SNR=18					
CHKZ	**Chkalovo**	**28.31 19**	*e*P	**P**	**15 04 23.4**	**-1.1**
	comp=Z,7.8nm,1.3s,mb4.2					
CHKZ	**Chkalovo**	**28.31 19**	*e*P	**P**	**15 04 23.4**	**-1.1**
CHKZ			pmax	pmax	
	comp=Z,8.0nm,1.3s,mb4.2					
MK31	**Makanchi Array**	**28.35 40**	*i* P	**P**	**15 04 24.0**	**-0.9**
	comp=Z,2.0nm,0.6s,mb3.9					
MK31	**Makanchi Array**	**28.35 40**	*i* P	**P**	**15 04 24.0**	**-0.9**
MK31			pmax	pmax	
	comp=Z,2.0nm,0.6s,mb3.9					
MKAR	**Makanchi Array**	**28.35 40**	P	**P**	**15 04 24.3**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.6,baz=219,slow=9.5,SNR=15					
MKAR	**Makanchi Array**	**28.35 40**	P	**P**	**15 04 24.3**	**-0.6**
MKAR	**Makanchi Array**	**28.35 40**	P	**P**	**15 04 24.0**	**-0.9**
MKAR			pmax	pmax	
	comp=Z,1.0nm,0.6s					
KURK	**Kurchatov**	**28.93 31**	*e*P	**P**	**15 04 30.1**	**+0.1**
	comp=Z,5.0nm,0.9s,mb4.2					
KURK	**Kurchatov**	**28.93 31**	*e*P	**P**	**15 04 30.1**	**+0.1**
	comp=Z,5.0nm,0.9s,mb4.2					
KURK	**Kurchatov**	**28.93 31**	*e*P	**P**	**15 04 30.1**	**+0.1**
KURK			pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.2					
PLOR	**Plostina**	**29.39 316**	⇓P	**P**	**15 04 35.9**	**+1.8**
MLR	**Muntele Rosu**	**29.66 315**	P	**P**	**15 04 36.9**	**+0.4**
	comp=Z,6.6nm,0.5s,mb4.3,baz=185,slow=11,SNR=6.9					
MLR			LR	LR	15 17 58.2
	comp=Z,54nm,20.4s,MS3.2,baz=320,slow=39					
MLR	**Muntele Rosu**	**29.66 315**	⇑P	**P**	**15 04 40.0**	**+3.5**
VOIR		**30.20 314**	⇓P	**P**	**15 04 42.6**	**+1.4**
AKASG	**Malin Array Be**	**30.65 326**	P	**P**	**15 04 44.8**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.2,baz=129,slow=7.8,SNR=14					
AKASG			PcP	PcP	15 07 42.5 -0.8
	comp=Z,1.2nm,0.7s,baz=107,slow=2.1,SNR=5.2					
AKASG	**Malin Array Be**	**30.65 326**	PcP	PcP	15 07 42.5 -0.8
OBN	**Obninsk**	**30.86 338**	*e*P	**P**	**15 04 47.2**	**+0.1**
	comp=Z,19nm,1.6s,mb4.7					
OBN	**Obninsk**	**30.86 338**	⇓*e*P	**P**	**15 04 47.2**	**+0.1**
OBN			pmax	pmax	
	comp=Z,19nm,1.6s,mb4.7					
MOS	**Moscow**	**31.05 340**	*e*P	**P**	**15 04 53.7**	**+4.9**
BURAR	**Bucovina Array**	**31.10 318**	⇓P	**P**	**15 04 55.5**	**+6.3**
BURAR	**Bucovina Array**	**31.10 318**	⇓P	**P**	**15 04 55.5**	**+6.3**
DRGR

UPC	Upice	37.80	318	eP	P	15 05 45.5	-1.7
GTA	Gaotai	38.27	60	eP	P	15 05 52.0	+0.9
GTA				AP	pP	15 05 56.8	+1.9
GTA				XP	sP	15 05 59.0	+2.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
PRU	Pruhonice	38.50	317	eP	P	15 05 56.9	+3.8
GERES	GERESS Array B	38.65	315	P	P	15 05 54.3	0.0
	comp=Z,2.3nm,0.9s,mb3.9,baz=116,slow=6.2,SNR=11						
KHC	Kasperske Hory	38.81	315	eP	P	15 05 55.4	-0.3
KHC				ex	x	15 05 58.8	
JOF	Joensuu	38.82	342	ep	P	15 05 56.2	+0.4
	comp=Z,4.6nm,0.9s,mb4.2						
BRG	Berggiesshubel	39.16	318	eP	P	15 05 59.1	+0.5
BRG				e	pP	15 06 02.0	-0.5
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
BRG	Berggiesshubel	39.16	318	eP	P	15 05 59.1	+0.5
	comp=Z,2.5nm,1.1s,mb3.9						
BRG				e	pP	15 06 02.0	-0.5
	comp=Z,0.9nm,0.6s						
FINES	FINES Array B	39.27	338	P	P	15 05 59.1	-0.4
	comp=Z,2.0nm,0.6s,mb4.0,baz=143,slow=8.7,SNR=14						
FINES	FINES Array B	39.27	338	i P	P	15 05 58.5	-1.0
	comp=Z,2.0nm,0.6s,mb4.0						
FINES	FINES Array B	39.27	338	i P	P	15 05 58.5	-1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KAF	Kangasniemi	39.68	339	ep	P	15 05 57.8	-5.1
	comp=Z,3.6nm,1.0s,mb4.1						
KAF	Kangasniemi	39.68	339	eP	P	15 05 57.8	-5.1
KAF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
NKC	Novy Kostel	39.85	317	eP	P	15 06 05.8	+1.4
CLL	Collm	39.87	318	i P	P	15 06 04.1	-0.4
GRA1	Grafenberg Arr	40.45	315	eP	P	15 06 09.0	-0.3
	comp=Z,9.0nm,1.1s,mb4.4						
GRA1				epP	pP	15 06 12.4	-0.8
GRF	Grafenberg Arr	40.45	315	eP	P	15 06 09.0	-0.3
	comp=Z,9.0nm,1.1s,mb4.4						
GRF				epP	pP	15 06 12.4	-0.8
GRF	Grafenberg Arr	40.45	315	eP	P	15 06 09.0	-0.3
GRF				e*PP	pP	15 06 12.4	-0.8
GRF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
PGF	Pioggiola	40.57	304	eP	P	15 06 09.8	-0.5
SBF	Sospel	41.85	306	eP	P	15 06 20.5	-0.4
	comp=Z,47nm,1.0s,mb4.8						
SBF	Sospel	41.85	306	eP	P	15 06 20.5	-0.4
	comp=Z,24nm,1.0s,mb4.8						
SBF	Sospel	41.85	306	eP	P	15 06 20.5	-0.4
SBF				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.8						
KMI	Kunming	41.99	82	P	P	15 06 23.5	+1.5
KMI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
APA	Apatity	42.26	347⇑	iP	P	15 06 14.8	-9.4
APA				i		15 06 24.4	
APA				pmax	pmax		
	comp=Z,32nm,1.2s,mb4.8						
MBDF	Montbardon	42.43	307	eP	P	15 06 25.3	-0.3
	comp=Z,32nm,1.2s,mb4.5						
MBDF	Montbardon	42.43	307	eP	P	15 06 25.3	-0.3
	comp=Z,16nm,1.2s,mb4.5						
MBDF	Montbardon	42.43	307	eP	P	15 06 25.3	-0.3
MBDF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.5						
LPG	La Plagne	42.54	308	eP	P	15 06 26.3	-0.2
	comp=Z,16nm,0.9s,mb4.4						
LPG	La Plagne	42.54	308	eP	P	15 06 26.3	-0.2
	comp=Z,7.8nm,0.9s,mb4.4						
LPG	La Plagne	42.54	308	eP	P	15 06 26.3	-0.2
LPG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
LPL	La Plagne	42.55	308	eP	P	15 06 26.4	-0.2
	comp=Z,24nm,1.0s,mb4.6						
LPL	La Plagne	42.55	308	eP	P	15 06 26.4	-0.2
	comp=Z,12nm,1.0s,mb4.6						
LPL	La Plagne	42.55	308	eP	P	15 06 26.4	-0.2
LPL				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
CDF	Champ du Feu	42.66	313	eP	P	15 06 26.7	-0.8
ORIF	Oris-en-Rattie	43.08	307	eP	P	15 06 30.2	-0.6
CABF	La Chapelle	43.15	310	eP	P	15 06 30.7	-0.7
	comp=Z,35nm,1.1s,mb4.7						
CABF	La Chapelle	43.15	310	eP	P	15 06 30.7	-0.7
	comp=Z,18nm,1.1s,mb4.7						
CABF	La Chapelle	43.15	310	eP	P	15 06 30.7	-0.7
CABF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
HAU	Haudompre	43.20	312	eP	P	15 06 31.3	-0.5
VIVF	Saint-Julien-l	43.93	307	eP	P	15 06 37.6	-0.1
SONM	Songino Array	44.00	49	P	P	15 06 38.5	+0.2
	comp=Z,1.2nm,0.7s,mb3.7,baz=267,slow=9.6,SNR=9.1						
LASF	Ste Croix	44.45	306	eP	P	15 06 41.4	-0.4
	comp=Z,26nm,1.1s,mb4.6						
LASF	Ste Croix	44.45	306	eP	P	15 06 41.4	-0.4
	comp=Z,13nm,1.1s,mb4.6						
ULN	Ulaanbaatar	44.45	49	eP	P	15 06 41.5	-0.4
	comp=Z,1.4nm,0.6s,mb3.9						
ULN	Ulaanbaatar	44.45	49	eP	P	15 06 41.5	-0.3
	comp=Z,1.4nm,0.6s,mb3.9						
ULN	Ulaanbaatar	44.45	49	eP	P	15 06 41.6	-0.3
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
GIVF	Givet	44.57	315	eP	P	15 06 42.4	-0.4
SMF	Signal de Mont	44.69	310	eP	P	15 06 42.4	-1.4
	comp=Z,43nm,1.2s,mb4.9						
SMF	Signal de Mont	44.69	310	eP	P	15 06 42.4	-1.4
	comp=Z,21nm,1.2s,mb4.9						
SMF	Signal de Mont	44.69	310	eP	P	15 06 42.4	-1.4
SMF				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.8						
DOU	Dourbes	44.71	315	⇓P	P	15 06 44.2	+0.2
	comp=Z,4.6nm,1.4s,mb4.1						
DOU				AP	pP	15 06 47.4	-0.4
LOR	Lormes	44.75	310	eP	P	15 06 43.9	-0.4
	comp=Z,24nm,1.3s,mb4.6						
LOR	Lormes	44.75	310	eP	P	15 06 43.9	-0.4
	comp=Z,12nm,1.3s,mb4.6						
LOR	Lormes	44.75	310	eP	P	15 06 43.9	-0.4
LOR				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.6						
NB2	NORSAR Subarra	44.77	331	P	P	15 06 43.2	-1.2
	comp=Z,4.3nm,0.8s,mb4.3,baz=116,slow=7.9						
NB2	NORSAR Subarra	44.77	331	P	P	15 06 43.2	-1.2
NB2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
NOA	NORSAR Array B	44.77	331	P	P	15 06 43.3	-1.1
	comp=Z,4.1nm,0.8s,mb4.3,baz=118,slow=8.0,SNR=14						
BAIF	Baives	44.95	314	eP	P	15 06 45.4	-0.5
	comp=Z,56nm,1.3s,mb4.9						
BAIF	Baives	44.95	314	eP	P	15 06 45.4	-0.5
	comp=Z,28nm,1.3s,mb4.9						
BAIF	Baives	44.95	314	eP	P	15 06 45.4	-0.5
BAIF				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.9						
SSF	Saint Saulge	44.97	310	eP	P	15 06 44.7	-1.3
	comp=Z,24nm,1.0s,mb4.7						
SSF	Saint Saulge	44.97	310	eP	P	15 06 44.7	-1.3
	comp=Z,12nm,1.0s,mb4.7						
SSF	Saint Saulge	44.97	310	eP	P	15 06 44.7	-1.3
SSF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
BGF	Bois d'Agland	45.36	309	eP	P	15 06 48.4	-0.8
KEV	Kevo	45.38	346	ep	P	15 06 48.0	-1.3
	comp=Z,14nm,0.8s,mb4.8						
KEV	Kevo	45.38	346	eP	P	15 06 48.0	-1.3
KEV				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
ARCES	ARCESS Array B	45.53	346	P	P	15 06 50.5	+0.1
	comp=Z,5.7nm,0.9s,mb4.5,baz=140,slow=9.3,SNR=11						
ARCES	ARCESS Array B	45.53	346	P	P	15 06 50.5	0.0
MTLF	Montolieu	45.59	305	eP	P	15 06 50.4	-0.6
TCF	Toulx Ste Croi	45.78	309	eP	P	15 06 51.4	-1.0
	comp=Z,37nm,1.1s,mb4.9						
TCF	Toulx Ste Croi	45.78	309	eP	P	15 06 51.4	-1.0
	comp=Z,18nm,1.1s,mb4.9						
TCF	Toulx Ste Croi	45.78	309	eP	P	15 06 51.4	-1.0
TCF				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
CAF	Calviac	45.78	307	eP	P	15 06 51.8	-0.7
RJF	Les Rejaudoux	46.19	307	eP	P	15 06 55.2	-0.5
	comp=Z,36nm,1.2s,mb4.9						
RJF	Les Rejaudoux	46.19	307	eP	P	15 06 55.2	-0.5
	comp=Z,18nm,1.2s,mb4.9						
RJF	Les Rejaudoux	46.19	307	eP	P	15 06 55.2	-0.5
RJF				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
LFF	La Frestale	46.72	307	eP	P	15 06 59.1	-0.7
LDF	La Druitiere	47.56	312	eP	P	15 07 05.8	-0.6
ETSF	Etsaut	47.62	304	eP	P	15 07 07.2	+0.3
FLN	La Foliniere	47.81	312	eP	P	15 07 08.0	-0.3
	comp=Z,132nm,1.5s,mb5.5						
FLN	La Foliniere	47.81	312	eP	P	15 07 08.0	-0.3
	comp=Z,66nm,1.5s,mb5.5						
FLN	La Foliniere	47.81	312	eP	P	15 07 08.0	-0.3
FLN				pmax	pmax		
	comp=Z,66nm,1.5s,mb5.4						
SJPF	Ste Jean	48.11	304	eP	P	15 07 10.3	-0.3
	comp=Z,13nm,0.7s,mb4.8						
SJPF	Ste Jean	48.11	304	eP	P	15 07 10.3	-0.3
	comp=Z,6.4nm,0.7s,mb4.8						
SJPF	Ste Jean	48.11	304	eP	P	15 07 10.3	-0.3
SJPF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
BOD	Bodaibo	50.31	36	eP	P	15 07 25.1	-2.4
	comp=Z,7.0nm,1.0s,mb4.7						
BOD	Bodaibo	50.31	36	eP	P	15 07 25.1	-2.4
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ESDC	Sonseca Array	50.34	300	P	P	15 07 26.5	-1.2
	comp=Z,0.5nm,0.4s,mb3.9,baz=83,slow=7.5,SNR=5.5						
MDT	Midelt	51.83	291	P	P	15 07 39.3	+0.3
	comp=Z,2.4nm,0.8s,mb4.2,baz=98,slow=12,SNR=2.8						
TORD	Torodi Ar. Bea	52.28	265	P	P	15 07 42.2	-0.1
	comp=Z,4.6nm,0.6s,mb4.6,baz=62,slow=7.8,SNR=34						
TIXI	Tiksi	58.80	211⇑	iP	P	15 08 26.5	-2.6
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,81nm,12.0s,MS4.1						
DBIC	Dimbokro	60.92	262	P	P	15 08 43.7	-0.1
	comp=Z,2.0nm,0.7s,mb4.3,baz=8.1,slow=7.1,SNR=3.8						
DBIC	Dimbokro	60.92	262	eP	P	15 08 43.5	-0.2
	comp=Z,13nm,1.4s,mb4.9						
DBIC	Dimbokro	60.92	262	eP	P	15 08 43.5	-0.3
	comp=Z,13nm,1.4s,mb4.9						
DBIC	Dimbokro	60.92	262	eP	P	15 08 43.5	-0.2
DBIC				pmax	pmax		
	comp=Z,13nm,1.4s						
SUMG	Summit	65.22	341	eP	P	15 09 13.0	+0.7
	comp=Z,17nm,0.9s,mb5.1						
SUMG	Summit	65.22	341	eP	P	15 09 13.0	+0.7
	comp=Z,17nm,0.9s,mb5.1						
YSS	Yuzh-Sakhalins	68.47	47	eP	P	15 09 31.2	-1.8
	comp=Z,9.8nm,0.8s,mb4.9						
YSS	Yuzh-Sakhalins	68.47	47	eP	P	15 09 31.2	-1.9
	comp=Z,9.8nm,0.8s,mb4.9						
YSS	Yuzh-Sakhalins	68.47	47⇑	eP	P	15 09 32.3	-0.7
YSS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
MAJO	Matsushiro	68.50	59	eP	P	15 09 32.0	-1.2
	comp=Z,6.8nm,0.8s,mb4.7						
MAJO	Matsushiro	68.50	59	eP	P	15 09 31.9	-1.2
	comp=Z,6.8nm,0.8s,mb4.7						
MAJO	Matsushiro	68.50	59	eP	P	15 09 32.0	-1.2
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
MJAR	Matsushiro Arr	68.50	59	P	P	15 09 31.1	-2.1
	comp=Z,2.4nm,1.0s,mb4.2,baz=288,slow=7.3,SNR=5.5						
SEY	Seymchan	68.77	29	eP	P	15 09 33.9	-0.9
BILL	Bilibino	71.99	22	i P	P	15 09 53.7	-0.9
	comp=Z,3.0nm,1.0s,mb4.2						
BILL	Bilibino	71.99	22	eP	P	15 09 54.0	-0.5
	comp=Z,2.9nm,0.8s,mb4.3						
BILL	Bilibino	71.99	22⇑	iP	P	15 09 53.7	-0.9
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
SCHQ	Schefferville	84.34	331	P	P	15 11 00.7	-2.3
	comp=Z,2.7nm,1.1s,mb4.3,baz=27,slow=9.0,SNR=2.4						
COLA	College	86.06	10	eP	P	15 11 11.4	-0.2
	comp=Z,6.1nm,1.3s,mb4.7						
COLA	College	86.06	10	eP	P	15 11 11.4	-0.2
	comp=Z,6.1nm,1.3s,mb4.7						
COLA	College	86.06	10	eP	P	15 11 11.4	-0.2
COLA				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.7						
ILAR	Eielson Array	86.30	10	P	P	15 11 11.3	-1.5
	comp=Z,1.3nm,0.8s,mb4.2,baz=323,slow=4.5,SNR=18						
MCK	McKinley	86.96	11	eP	P	15 11 14.5	-1.5
	comp=Z,1.6nm,0.3s,mb4.7						
MCK	McKinley	86.96	11	eP	P	15 11 14.5	-1.5
	comp=Z,1.6nm,0.3s,mb4.7						
MCK	McKinley	86.96	11	eP	P	15 11 14.5	-1.5
MCK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.8						
WRA	Warramunga Arr	89.47	113	P	P	15 11 27.7	-0.2
	comp=Z,0.7nm,0.8s,mb4.0,baz=318,slow=4.1,SNR=7.2						
WRA	Warramunga Arr	89.47	113	i P	P	15 11 30.3	+2.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	89.94	356	P	P	15 11 30.4	+0.3
	comp=Z,1.4nm,0.9s,mb4.3,baz=2.6,slow=4.6,SNR=14						
ASAR	Alice Springs	90.95	116	P	P	15 11 34.5	-0.4
	comp=Z,0.8nm,0.8s,mb4.1,baz=305,slow=4.7,SNR=12						

IDC 25 15:07:52.9±4.8, 918N×4048W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, MS3.5/16, Ms1 3.5/16, ms1mx3.4/35, Error ellipse: s-maj=166.2km s-min=27.0km az=21.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	25.77	197	LR	LR	LR	15 23 12.1	
	comp=Z,86nm,19.7s,baz=99,slow=36							
SJG	San Juan	26.45	292	LR	LR	LR	15 22 11.3	
	comp=Z,135nm,19.3s,baz=116,slow=32							
SDV	Santo Domingo	29.78	272	LR	LR	LR	15 26 36.0	
	comp=Z,54nm,19.0s,baz=24,slow=38							
ROSC	El Rosal	33.86	265	LR	LR	LR	15 28 33.7	
	comp=Z,112nm,18.5s,baz=24,slow=37							
DBIC	Dimbokro	35.36	91	P	P	P	15 14 50.0	0.0
	6.4nm,1.0s,baz=254,slow=8.6,SNR=4.1							
DBIC				LR	LR	LR	15 26 10.8	
	comp=Z,72nm,18.9s,baz=76,slow=31							
LPAZ	La Paz	37.27	227	LR	LR	LR	15 32 02.4	
	comp=Z,38nm,20.7s,baz=65,slow=39							
CPUP	Villa Florida	38.91	204	LR	LR	LR	15 32 45.3	
	comp=Z,64nm,19.3s,baz=163,slow=38							
MDT	Midelt	40.60	49	LR	LR	LR	15 28 26.6	
	comp=Z,54nm,20.9s,baz=291,slow=30							
TORD	Torodi Ar. Bea	41.53	81	P	P	P	15 15 42.7	+0.8
	2.6nm,0.8s,baz=272,slow=8.3,SNR=12							
SADO	Sadowa	48.67	324	LR	LR	LR	15 32 57.1	
	comp=Z,47nm,18.6s,baz=159,slow=31							
SCHQ	Schefferville	50.12	340	LR	LR	LR	15 34 35.8	
	comp=Z,71nm,18.4s,baz=126,slow=32							
PLCA	Paso Flores	56.88	207	LR	LR	LR	15 40 52.1	
	comp=Z,62nm,20.6s,baz=0.4,slow=35							
GERES	GERESS Array B	59.95	38	LR	LR	LR	15 39 36.1	
	comp=Z,70nm,19.0s,baz=291,slow=32							
ULM	Lac du Bonnet	61.22	323	P	P	P	15 18 09.1	-0.4
	0.5nm,0.3s,baz=131,slow=9.3,SNR=3.4							
ULM				LR	LR	LR	15 41 12.2	
	comp=Z,37nm,18.1s,baz=117,slow=33							
IDI	Anoyia	64.67	55	LR	LR	LR	15 46 16.4	
	comp=Z,29nm,19.1s,baz=294,slow=36							
MLR	Muntele Rosu	67.02	44	LR	LR	LR	15 43 59.6	
	comp=Z,35nm,19.7s,baz=350,slow=32							
PDAR	Pinedale Array	68.48	312	LR	LR	LR	15 44 54.6	
	comp=Z,62nm,20.3s,baz=323,slow=32							
AKASG	Malin Array Be	70.12	39	P	P	P	15 19 06.8	-0.2
	0.3nm,0.4s,baz=259,slow=4.3,SNR=3.3							
YKA	Yellowknife Ar	74.59	332	P	P	P	15 19 34.0	+0.3
	0.3nm,0.8s,baz=102,slow=5.8,SNR=7.1							

MEX 25 15:07:57.4±0.5, 1606N×9899W, h23km±24km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.90	68	i P	Pb	Pb	15 08 11.4	-2.8
PNIG				i S	Sb	Sb	15 08 22.6	-3.2
MEIG	Mezcala	1.95	342	i P	Pn	Pn	15 08 27.0	-2.0
MEIG				i S	Sn	Sn	15 08 49.1	-3.6
UTMO	Huajuapan	2.09	33	eP	Pn	Pn	15 08 29.3	-1.7
PLIG	Platanillo	2.37	348	i S	Sn	Sn	15 09 01.3	-1.8
VHO	Vista Hermosa	2.39	65	i S	Sn	Sn	15 09 02.0	-1.6
OXX	Oaxaca	2.40	65	eP	Pn	Pn	15 08 32.5	-2.8
YAIG	Yautepec	2.78	359	i S	Sn	Sn	15 09 09.9	-3.5
PPM	Popocatepetl	3.01	7	i S	Sn	Sn	15 09 15.6	-3.3

ISCJB ***25*** *15:18:02.9±4.8, 54S×03×152.1E±0.1, h93km±33km, mb4.1/8, Error ellipse: s-maj=50.4km s-min=22.4km az=2.5*
IDC ***25*** *15:18:02.9±5.8, 533S×152.11E, h84km±42km, mb3.9/6, mb1 4.0/7, mb1mx3.7/16, mbtmp4.2/7, Error ellipse: s-maj=44.5km s-min=25.0km az=9.0*
NEIC ***25*** *15:18:04.0±5.5, 540S×15209E, h92km±25km, mb4.4/5, Error ellipse: s-maj=73.4km s-min=17.1km az=191.0*
ISC 25 15:18:04.2±4.3, 54S±03×1521E±01, h92km±28km, n17, σ0°65/19, mb4.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.31	231	P	Pn	Pn	15 19 35.0	+0.4
	2.9nm,0.3s,baz=51,slow=5.7,SNR=17							
PMG				S	Sn	Sn	15 20 45.9	+0.6
	4.4nm,0.3s,baz=114,slow=12,SNR=8.3							
PMG	Port Moresby	6.31	231	P	Pn	Pn	15 19 35.0	+0.4
PMG				eSn	Sn	Sn	15 20 44.1	-1.2
PMG				S	Sn	Sn	15 20 45.9	+0.6
KAKA	Kakadu	20.72	248	eP	P	P	15 22 36.6	-0.6
	13nm,0.5s							
DZM	Mont Dzumac	21.61	141	P	P	P	15 22 46.3	-0.4
	7.1nm,0.8s,mb4.0,baz=354,slow=10,SNR=5.5							
WRAB	Tennant Creek	22.51	229	eP	P	P	15 22 55.9	-0.4
	10nm,0.8s,mb4.2							
WB2	Warramunga Arr	22.52	229	eP	P	P	15 22 56.3	0.0
WRA	Warramunga Arr	22.52	229	P	P	P	15 22 56.4	0.0
	3.9nm,0.4s,mb4.1,baz=53,slow=9.9,SNR=84							
ASAR	Alice Springs	25.24	222	P	P	P	15 23 22.3	+0.8
	3.4nm,0.4s,mb4.2,baz=58,slow=9.6,SNR=59							
STKA	Stephens Creek	28.11	199	eP	P	P	15 23 46.3	-1.0
	1.5nm,0.6s,mb3.7							
STKA	Stephens Creek	28.11	199	P	P	P	15 23 46.1	-1.2
	2.2nm,0.7s,mb3.8,baz=15,slow=14,SNR=8.4							
STKA	Stephens Creek	28.11	199	eP	P	P	15 23 46.0	-1.4
FITZ	Fitzroy Crossi	28.76	242	eP	P	P	15 23 52.8	-0.3
	16nm,1.9s,mb4.3							
FITZ	Fitzroy Crossi	28.76	242	P	P	P	15 23 52.7	-0.4
	1.7nm,0.6s,mb3.9,baz=42,slow=12,SNR=7.1							
FORT	Forrest	33.88	219	eP	P	P	15 24 38.7	+0.6
	7.3nm,0.6s,mb4.7							
VNDA	Vanda	72.25	178	P	P	P	15 29 20.7	+1.2
	2.0nm,1.0s,mb3.9,baz=339,slow=6.9,SNR=7.1							
VNDA	Vanda	72.25	178	eP	P	P	15 29 20.3	+0.8
	1.3nm,0.7s,mb3.9							
TORD	Torodi Ar. Bea	149.83	287	PKPbc	PKPbc	PKPbc	15 37 43.8	+0.2
	1.0nm,0.4s,baz=86,slow=2.1,SNR=14							

IDC 25 15:19:12.2±5.0, 2980S×17754W, h43km±42km, mb3.1/2, mb1 3.4/2, mb1mx3.3/12, mbtmp3.4/2, MS3.7/1, Ms1 3.7/1, ms1mx3.3/6, Error ellipse: s-maj=73.2km s-min=57.1km az=20.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.64	329	P	Pn	Pn	15 19 25.5	+0.7
	162nm,0.3s,baz=101,slow=24,SNR=5.9							
RAO				S	Sn	Sn	15 19 35.6	+1.7
	188nm,0.3s,baz=93,slow=20,SNR=5.5							
RPZ	Rata Peaks	16.60	210	LR	LR	LR	15 29 03.2	
	comp=Z,257nm,18.2s,baz=300,slow=36							
ASAR	Alice Springs	43.55	266	P	P	P	15 27 11.9	+0.3
	0.2nm,0.4s,baz=106,slow=7.2,SNR=4.7							
WRA	Warramunga Arr	44.48	271	P	P	P	15 27 19.2	+0.1
	0.4nm,0.5s,baz=110,slow=8.1,SNR=5.8							
FINES	FINESS Array B	144.72	341	PKP	PKPdf	PKPdf	15 38 42.8	-1.3
	0.7nm,0.4s,baz=67,slow=5.0,SNR=6.4							

ISCJB ***25*** *15:20:23.9±0.8, 2205S×0.10×6374W±009, h527km±10km, mb3.3/4, Error ellipse: s-maj=15.4km s-min=13.6km az=3.8*
IDC ***25*** *15:20:24.1±1.0, 2200S×6376W, h518km±11km, mb2.9/3, mb1 3.1/8, mb1mx3.0/19, mbtmp3.7/8, Error ellipse: s-maj=20.7km s-min=16.1km az=173.0*
NEIC ***25*** *15:20:24.6±0.7, 2206S×6372W, h527km±8km, mb3.9/1, Error ellipse: s-maj=18.0km s-min=14.0km az=199.0*
ISC 25 15:20:24.6±0.8, 2199S±010×6374W±009, h522km±10km, n13, σ0°93/16, mb3.3/4, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	4.83	262	P	P	P	15 21 51.4	+0.1
	4.6nm,0.3s,baz=72,slow=6.3,SNR=67							
LVC				S	S	S	15 23 00.4	-1.6
	7.5nm,0.3s,baz=258,slow=21,SNR=20							
LVC	Limon Verde	4.83	262	eP	P	P	15 21 51.2	-0.1
LVC				eS	S	S	15 22 47.1	-15
SIV	San Ignacio	6.48	23	P	P	P	15 22 07.6	+1.2
	0.4nm,0.3s,baz=207,slow=13,SNR=6.2							
SIV				S	S	S	15 23 29.0	-0.7
	0.1nm,0.3s,baz=247,slow=22,SNR=4.5							
LPAZ	La Paz	7.03	323	P	P	P	15 22 13.9	+2.1
	0.4nm,0.3s,baz=133,slow=8.5,SNR=5.8							
LPAZ				S	S	S	15 23 38.9	-0.6
	0.2nm,0.3s,baz=25,slow=14,SNR=3.3						

CAW	Cannon Point	1.57 251	P*	Pb	15 21 00.3	-0.7
CAW			S*	Sb	15 21 19.7	-1.2
CAW	Cannon Point	1.57 251	P	Pn	15 20 59.3	-0.5
MSWZ	Moikau Station	1.57 238	P*	Pb	15 21 00.5	-0.5
MSWZ	Moikau Station	1.57 238	P	Pn	15 20 59.5	-0.3
KIW	Kapiti Island	1.63 260	PN	Pn	15 21 01.1	+0.5
KIW	Kapiti Island	1.63 260	P	Pn	15 21 01.1	+0.5
KNZ	Kokohu	1.66 18	PN	Pn	15 21 00.7	-0.2
KNZ	Kokohu	1.66 18	eP	Pn	15 21 00.8	-0.2
WNVZ	Wahianoa	1.69 319	PN	Pn	15 21 01.5	+0.1
WNVZ	Wahianoa	1.69 319	P	Pn	15 21 00.5	-0.9
TUVZ	Tukino	1.70 321	PN	Pn	15 21 01.9	+0.3
TUVZ	Tukino	1.70 321	P	Pn	15 21 01.2	-0.4
MTVZ	Mangateitei	1.71 315	PN	Pn	15 21 01.8	+0.2
TRVZ	Turoa	1.73 318	PN	Pn	15 21 02.4	+0.4
DRZ	Dome Shelter	1.74 319	PN	Pn	15 21 03.3	+1.2
DRZ	Dome Shelter	1.74 319	P	Pn	15 21 02.3	+0.2
FWVZ	Far West T-bar	1.76 319	PN	Pn	15 21 02.6	+0.2
FWVZ	Far West T-bar	1.76 319	eP	Pn	15 21 01.8	-0.6
OTVZ	Oturere	1.78 323	PN	Pn	15 21 02.8	+0.1
WAZ	Wanganui	1.78 298	PN	Pn	15 21 03.2	+0.6
WAZ	Wanganui	1.78 298	P	Pn	15 21 03.3	+0.6
NGZ	Ngauruhoe	1.80 322	PN	Pn	15 21 04.0	+1.1
NGZ	Ngauruhoe	1.80 322	P	Pn	15 21 03.0	0.0
WPVZ	Whakapapa	1.81 320	PN	Pn	15 21 03.8	+0.8
WPVZ	Whakapapa	1.81 320	P	Pn	15 21 02.8	-0.2
BHW	Baring Head	1.82 243	PN	Pn	15 21 03.7	+0.4
BHW	Baring Head	1.82 243	P	Pn	15 21 02.6	-0.6
WEL	Wellington	1.84 248	PN	Pn	15 21 04.0	+0.5
WEL	Wellington	1.84 248	P	Pn	15 21 03.1	-0.4
PKVZ	Pokaka	1.84 315	PN	Pn	15 21 04.0	+0.5
WTVZ	West Tongariro	1.85 323	PN	Pn	15 21 03.9	+0.2
WTVZ	West Tongariro	1.85 323	P	Pn	15 21 02.9	-0.8
HATZ	Hinemaiaia	1.86 337	PN	Pn	15 21 03.3	-0.4
HATZ	Hinemaiaia	1.86 337	P	Pn	15 21 03.3	-0.4
RITZ	Rihia Road	1.86 331	P	Pn	15 21 00.5	-3.2
MRW	Makara Radio	1.87 250	PN	Pn	15 21 04.2	+0.3
MRW	Makara Radio	1.87 250	P	Pn	15 21 04.2	+0.3
SNZO	South Karori	1.90 247	PN	Pn	15 21 04.5	+0.3
SNZO	South Karori	1.90 247	P	Pn	15 21 04.6	+0.3
KATZ	Kakaramea	1.93 327	PN	Pn	15 21 05.3	+0.6
KATZ	Kakaramea	1.93 327	P	Pn	15 21 05.3	+0.6
TWVZ	Taurewa	1.96 321	PN	Pn	15 21 05.8	+0.6
TWVZ	Taurewa	1.96 321	P	Pn	15 21 04.3	-0.9
RATZ	Rangitukua	1.99 330	P	Pn	15 21 06.3	+0.8
WHTZ	Whakaora	2.11 336	PN	Pn	15 21 06.9	-0.2
WHTZ	Whakaora	2.11 336	P	Pn	15 21 06.9	-0.2
WATZ	Wairara	2.14 332	PN	Pn	15 21 07.8	+0.1
WATZ	Wairara	2.14 332	P	Pn	15 21 08.4	+0.8
TCW	Tory Channel	2.17 253	PN	Pn	15 21 08.3	+0.2
TCW	Tory Channel	2.17 253	P	Pn	15 21 08.4	+0.3
VRZ	Vera Road	2.29 309	PN	Pn	15 21 10.1	+0.5
VRZ	Vera Road	2.29 309	eP	Pn	15 21 10.2	+0.5
MWZ	Matawai	2.30 10	PN	Pn	15 21 08.7	-1.1
MWZ	Matawai	2.30 10	eP	Pn	15 21 08.8	-1.0
URZ	Urewera	2.34 2	Pn	Pn	15 21 09.4	-1.0
	49nm,0.3s,baz=228,slow=7.1,SNR=320					
URZ			LR	LR	15 21 33.2	
	comp=Z,739nm,22.0s,baz=40,slow=27					
URZ			Sn	Sn	15 21 36.1	-3.2
	68nm,0.3s,baz=356,slow=18,SNR=8.8					
URZ	Urewera	2.34 2	PN	Pn	15 21 09.4	-1.0
URZ	Urewera	2.34 2	P	Pn	15 21 09.4	-1.0
DUWZ	D'Urville Isla	2.37 264	PN	Pn	15 21 11.1	+0.3
TAZ	Tarawera	2.40 350	PN	Pn	15 21 10.7	-0.5
RAEZ	Rainy Point	2.42 302	PN	Pn	15 21 12.4	+1.0
RAEZ	Rainy Point	2.42 302	P	Pn	15 21 12.4	+1.0
TUWZ	Tuamarina	2.48 250	PN	Pn	15 21 11.9	-0.3
NEZ	North Egmont	2.62 300	PN	Pn	15 21 15.2	+0.9
NEZ	North Egmont	2.62 300	P	Pn	15 21 15.2	+1.0
BSWZ	Blackbirch Sta	2.63 244	PN	Pn	15 21 14.3	0.0
BSWZ	Blackbirch Sta	2.63 244	P	Pn	15 21 13.3	-1.0
HIZ	Hauiti	2.68 320	PN	Pn	15 21 14.8	-0.2
NRZ	Ngariki Road	2.70 297	PN	Pn	15 21 16.7	+1.4
NRZ	Ngariki Road	2.70 297	P	Pn	15 21 16.7	+1.4
PUZ	Puketiti	2.70 21	PN	Pn	15 21 14.2	-1.2
PUZ	Puketiti	2.70 21	eP	Pn	15 21 14.2	-1.1
PKE	Pukeiti	2.73 300	P	Pn	15 21 17.2	+1.4
NWEZ	Newall Road	2.77 298	P	Pn	15 21 17.5	+1.2
NNZ	Nelson	2.83 256	PN	Pn	15 21 17.4	+0.2
NNZ	Nelson	2.83 256	P	Pn	15 21 17.4	+0.2
KHZ	Kahutara	3.19 234	PN	Pn	15 21 21.8	-0.2
KHZ	Kahutara	3.19 234	eP	Pn	15 21 21.8	-0.2
MXZ	Matakaoa Point	3.20 18	PN	Pn	15 21 21.5	-0.6
MXZ	Matakaoa Point	3.20 18	eP	Pn	15 21 21.5	-0.6
THZ	Tophouse	3.32 248	PN	Pn	15 21 23.4	-0.5
THZ	Tophouse	3.32 248	P	Pn	15 21 23.4	-0.5
QRZ	Quartz Range	3.43 265	PN	Pn	15 21 25.0	-0.3
QRZ	Quartz Range	3.43 265	eP	Pn	15 21 25.1	-0.2
DSZ	Denniston Nort	4.11 252	PN	Pn	15 21 33.9	-0.7
DSZ	Denniston Nort	4.11 252	eP	Pn	15 21 33.9	-0.8
LTZ	Lake Taylor	4.18 237	PN	Pn	15 21 35.0	-0.6
LTZ	Lake Taylor	4.18 237	eP	Pn	15 21 35.0	-0.6
CRLZ	Canterbury Las	4.42 226	eP	Pn	15 21 40.4	+1.4
MQZ	McQueen's Vall	4.50 225	eP	Pn	15 21 39.4	-0.6
WVZ	Waitaha Valley	5.31 240	eP	Pn	15 21 49.5	-1.7
RPZ	Rata Peaks	5.42 233	Pn	Pn	15 21 52.7	0.0
	3.2nm,0.3s,baz=155,slow=0.3,SNR=20					
RPZ			Sn	Sn	15 22 50.8	-4.4
	15nm,0.3s,baz=348,slow=22,SNR=22					
RPZ	Rata Peaks	5.42 233	PN	Pn	15 21 52.7	0.0
RPZ	Rata Peaks	5.42 233	eP	Pn	15 21 52.8	+0.1
FOZ	Fox Glacier	6.21 239	PN	Pn	15 22 00.9	-2.7
FOZ	Fox Glacier	6.21 239	eP	Pn	15 21 59.9	-3.7
LBZ	Lake Benmore	6.32 231	PN	Pn	15 22 05.0	0.0
LBZ	Lake Benmore	6.32 231	eP	Pn	15 22 05.0	0.0
ODZ	Otahua Downs	6.46 225	eP	Pn	15 22 08.3	+1.3
JCZ	Jackson Bay	7.04 238	PN	Pn	15 22 13.4	-1.6
JCZ	Jackson Bay	7.04 238	eP	Pn	15 22 13.4	-1.6
WKZ	Wanaka	7.25 232	eP	Pn	15 22 16.4	-1.5
EAZ	Earnscleugh	7.31 228	PN	Pn	15 22 18.3	-0.4
EAZ	Earnscleugh	7.31 228	eP	Pn	15 22 17.5	-1.2
TUZ	Tuapeka	7.60 223	PN	Pn	15 22 23.6	+1.0
TUZ	Tuapeka	7.60 223	eP	Pn	15 22 24.4	+1.8
DZM	Mont Dzumac	20.54 331	P	P	15 25 12.0	+1.6
	8.4nm,0.6s,baz=135,slow=19,SNR=4.5					
STKA	Stephens Creek	29.72 276	P	P	15 26 37.8	-0.3
	2.4nm,0.6s,mb4.1,baz=96,slow=10,SNR=9.5					
STKA			LR	LR	15 36 00.7	
	comp=Z,98nm,18.2s,MS3.5,baz=204,slow=32					
STKA	Stephens Creek	29.72 276	eP	P	15 26 37.3	-0.8
CTA	Charters Tower	33.26 299	LR	LR	15 38 26.1	
	comp=Z,97nm,19.8s,MS3.5,baz=234,slow=32					
CTAO	Charters Tower	33.26 299	P	P	15 27 10.2	+0.9
	16nm,1.2s,mb4.8					
HNR	Honiara	34.55 329	LR	LR	15 38 01.9	
	comp=Z,124nm,20.2s,MS3.6,baz=358,slow=31					
HNR	Honiara	34.55 329	eP	P	15 27 21.0	+0.5
	40nm,1.1s,mb5.3					
ASAR	Alice Springs	39.80 282	P	P	15 28 04.8	-0.3
	5.6nm,0.7s,mb4.4,baz=134,slow=9.4,SNR=72					
ASAR			PcP	PcP	15 30 12.0	+0.8
	1.3nm,1.0s,baz=118,slow=3.6,SNR=4.3					
PMG	Port Moresby	40.83 311	P	P	15 28 14.9	+1.4
	13nm,0.9s,mb4.6,baz=158,slow=5.9,SNR=5.3					
PMG	Port Moresby	40.83 311	eP	P	15 28 14.3	+0.7
	22nm,1.0s,mb4.7					
WB2	Warramunga Arr	41.72 287	eP	P	15 28 20.9	-0.1
WRAB	Tennant Creek	41.73 287	eP	P	15 28 20.9	-0.2
	21nm,0.6s,mb5.0					
WRA	Warramunga Arr	41.73 287	P	P	15 28 21.0	0.0
	9.2nm,0.4s,mb4.7,baz=126,slow=8.1,SNR=187					
CASY	Casey	44.30 212	P	P	15 28 43.0	+1.2
	7.4nm,1.0s,mb4.4					
NWAO	Narrogin (SRO)	47.71 259	P	P	15 29 08.8	+0.1
	8.8nm,0.8s,mb4.8,baz=102,slow=14,SNR=4.7					
NWAO	Narrogin (SRO)	47.71 259	eP	P	15 29 08.8	+0.1
	32nm,1.3s,mb5.2					
KLBR	Kellerberrin	47.94 261	eP	P	15 29 11.2	+0.7
	7.1nm,0.5s,mb5.0					
MUN	Mundaring	48.92 260	eP	P	15 29 14.8	-3.3
FITZ	Fitzroy Crossi	49.30 281	eP	P	15 29 21.4	+0.4
	11nm,1.5s,mb4.7					
FITZ	Fitzroy Crossi	49.30 281	P	P	15 29 21.2	+0.3
	2.1nm,0.4s,mb4.5,baz=126,slow=7.7,SNR=15					
QSPA	South Pole Qui	49.52 180	eP	P	15 29 23.0	+0.4
	13nm,1.3s,mb4.8					
SYO	Syowa Base	66.25 195⇑	eP	pP	15 31 23.1	0.0
SYO	Syowa Base	66.25 195⇓	eP	cP	15 31 49.9	-0.3
KKM	Kota Kinabalu	72.46 294	P	P	15 31 57.9	-0.6
JHJ	Hachijo jima 2	81.02 329	LR	LR	16 00 19.8	
	comp=Z,622nm,21.5s,MS4.9,baz=184,slow=30					
MJAR	Matsushiro Arr	84.64 330	P	P	15 33 06.0	+0.3
	0.4nm,0.6s,mb3.7,baz=158,slow=5.5,SNR=4.4					
YKA	Yellowknife Ar	116.35 29	PKP	PKPdf	15 39 16.4	+0.8
	0.1nm,0.3s,baz=264,slow=1.6,SNR=5.3					
YKA	Yellowknife Ar	116.35 29	PKP	PKPdf	15 39 16.4	+0.7
MKAR	Makanchi Array	120.95 307	PKP	PKPdf	15 39 25.4	+0.9
	1.0nm,0.5s,baz=180,slow=2.1,SNR=11					
MKAR	Makanchi Array	120.95 307	PKP	PKPdf	15 39 25.4	+0.9
BVAR	Borovoye Array	130.42 311	PKP	PKPdf	15 39 44.4	+1.8
	0.9nm,0.6s,baz=335,slow=2.1,SNR=5.6					
ARCES	ARCESS Array B	147.38 342	PKPbc	PKPbc	15 40 16.4	+0.6
	12nm,0.6s,baz=49,slow=3.5,SNR=41					
JOF	Joensuu	149.81 329	ep	PKPdf	15 40 15.4	-2.0
	7.6nm,0.6s					
BRTR	Keskin Array B	152.13 280	PKPbc	PKPbc	15 40 28.9	+1.3
	3.1nm,0.7s,baz=138,slow=5.2,SNR=16					
KAF	Kangasniemi	152.18 330	ep		15 40 26.8	
	5.1nm,0.7s					
TORD	Torodi Ar. Bea	152.34 190	PKPbc	PKPbc	15 40 31.3	+3.3
	1.5nm,0.6s,baz=160,slow=3.4,SNR=8.0					
FINES	FINESS Array B	152.67 329	PKPbc	PKPbc	15 40 29.4	+0.6
	3.5nm,0.7s,baz=34,slow=4.4,SNR=14					

*ISCJB **25** 15:24:20.9±0.9, 4059S×003×17706E±007, h24km±5km, mb4.7/11, Error ellipse: s-maj=9.3km s-min=3.9km az=39.9*
*NEIC **25** 15:24:20.9, 4056S×17697E, h6km, mb4.9/7, ML4.5(WEL), After WEL.*
*IDC **25** 15:24:21.4±1.1, 4048S×17671E, h0km, mb4.5/7, mb1 4.5/9, mb1mx4.3/17, mbtmp4.5/9, ML3.8/2, Error ellipse: s-maj=29.5km s-min=24.0km az=136.0*
*WEL **25** 15:24:23.0±0.2, 4050S×17686E, h12km, ML4.7/29, Error ellipse: s-maj=2.2km s-min=0.9km az=90.0*
WEL Felt from Hawke's Bay to Wellington, maximum reported intensity MM 4.
*MOS **25** 15:24:25.2±2.0, 4018S×17602E, h10km, mb5.1/5, Error ellipse: s-maj=20.6km s-min=19.3km az=16.1*

ISC 25 15:24:21.1±1.1, 4056S±003×17699E±007, h12km±6km, n117, σ0°86/115, mb4.7/11, 8C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	Pawanui	0.54	350	PG	Pg	15 24 32.6	+1.1
PXZ				SG	Sg	15 24 39.4	+0.8
TSZ	Takapari Road	0.93	302	P*	Pb	15 24 38.6	-0.5
TSZ				SG	Sg	15 24 48.8	-2.3
TSZ	Takapari Road	0.93	302	P	Pg	15 24 38.6	-0.4
TSZ				S	Sg	15 24 49.3	-1.8
MRZ	Mangatainoka R	1.08	264	P*	Pb	15 24 42.2	+0.5
MRZ				SG	Sg	15 24 56.1	+0.3
MTW	Mount Morrison	1.27	241	P*	Pb	15 24 45.3	+0.2
MTW	Mount Morrison	1.27	241	P	Pn	15 24 44.3	-0.4
TRWZ	Traveller	1.29	229	P*	Pb	15 24 45.7	+0.3
PAWZ	Paruwai Farm	1.44	235	P*	Pb	15 24 47.8	-0.1
PAWZ	Paruwai Farm	1.44	235	P	Pn	15 24 46.8	-0.2
BKZ	Black Stump Fm	1.44	345	PN	Pn	15 24 46.5	-0.5
MOVZ	Moawhango	1.49	320	PN	Pn	15 24 47.3	-0.4
MOVZ				SN	Sn	15 25 04.4	-2.6
MOVZ	Moawhango	1.49	320	⇑P	Pn	15 24 46.3	-1.4
CAW	Cannon Point	1.56	249	⇑P*	Pb	15 24 48.9	-0.9
CAW	Cannon Point	1.56	249	⇑P	Pn	15 24 47.9	-0.7
MSWZ	Moikau Station	1.57	236	PN	Pn	15 24 49.2	+0.4
MSWZ	Moikau Station	1.57	236	P	Pn	15 24 48.2	-0.6
KIW	Kapiti Island	1.61	258	⇑PN	Pn	15 24 49.8	+0.5
KNZ	Kokohu	1.62	19	PN	Pn	15 24 49.2	-0.4
WNVZ	Wahianoa	1.63	319	PN	Pn	15 24 49.6	0.0
WNVZ	Wahianoa	1.63	319	P	Pn	15 24 48.6	-1.0
TUVZ	Tukino	1.65	321	PN	Pn	15 24 50.1	+0.3
TUVZ	Tukino	1.65	321	P	Pn	15 24 49.1	-0.8
MTVZ	Mangateitei	1.65	315	PN	Pn	15 24 50.8	+0.8
TRVZ	Turoa	1.67	318	PN	Pn	15 24 50.5	+0.3
DRZ	Dome Shelter	1.69	319	PN	Pn	15 24 51.4	+1.1
DRZ	Dome Shelter	1.69	319	P	Pn	15 24 50.7	+0.3
FWVZ	Far West T-bar	1.71	319	PN	Pn	15 24 50.8	+0.2
FWVZ	Far West T-bar	1.71	319	P	Pn	15 24 49.8	-0.9
OTVZ	Oturere	1.72	323	PN	Pn	15 24 50.8	-0.1
WAZ	Wanganui	1.73	297	PN	Pn	15 24 50.8	-0.3
NGZ	Ngauruhoe	1.74	322	PN	Pn	15 24 51.2	0.0
NGZ	Ngauruhoe	1.74	322	P	Pn	15 24 50.2	-1.0
WPVZ	Whakapapa	1.75	320	PN	Pn	15 24 52.6	+1.3
WPVZ	Whakapapa	1.75	320	P	Pn	15 24 51.7	+0.4
PKVZ	Pokaka	1.79	315	PN	Pn	15 24 52.3	+0.5
WTVZ	West Tongariro	1.80	323	PN	Pn	15 24 52.8	+0.9
WTVZ	West Tongariro	1.80	323	P	Pn	15 24 52.3	+0.4
HATZ	Hinemaiaia	1.80	337	PN	Pn	15 24 51.9	-0.1
RITZ	Rihia Road	1.80	331	P	Pn	15 24 52.6	+0.6
BHW	Baring Head	1.81	241	PN	Pn	15 24 52.1	0.0
BHW	Baring Head	1.81	241	P	Pn	15 24 51.1	-1.0
WEL	Wellington	1.83	246	PN	Pn	15 24 52.7	+0.3
WEL	Wellington	1.83	246	P	Pn	15 24 51.7	-0.7
MRW	Makara Radio	1.86	248	PN	Pn	15 24 52.9	+0.1
MRW	Makara Radio	1.86	248	P	Pn	15 24 52.9	+0.1
SNZO	South Karori	1.88	246	PN	Pn	15 24 53.2	+0.1
SNZO	South Karori	1.88	246	ePn	Pn	15 24 53.1	-0.1
TWVZ	Taurewa	1.91	321	ePN	Pn	15 24 54.5	+1.1
TWVZ	Taurewa	1.91	321	P	Pn	15 24 52.8	-0.6
RATZ	Rangitukua	1.93	331	ePN	Pn	15 24 54.2	+0.5
RATZ	Rangitukua	1.93	331	P	Pn	15 24 54.6	+0.8
WHTZ	Whakaora	2.05	337	ePN	Pn	15 24 55.0	-0.3
WHTZ	Whakaora	2.05	337	P	Pn	15 24 55.3	-0.1
TCW	Tory Channel	2.16	251	PN	Pn	15 24 56.8	-0.1
TCW	Tory Channel	2.16	251	P	Pn	15 24 56.8	-0.1
VRZ	Vera Road	2.23	309	ePN	Pn	15 24 57.8	-0.2
MWZ	Matawai	2.26	11	PN	Pn	15 24 57.2	-1.0
URZ	Urewera	2.30	2	Pn	Pn	15 24 58.0	-0.8
	76nm,0.3s,baz=226,slow=7.2,SNR=32						
URZ				Sn	Sn	15 25 25.7	-1.3
	108nm,0.3s,baz=22,slow=22,SNR=8.6						
URZ	Urewera	2.30	2	PN	Pn	15 24 57.4	-1.4
DUWZ	D'Urville Isla	2.34	263	PN	Pn	15 24 59.7	+0.3
RAEZ	Rainy Point	2.36	302	P	Pn	15 25 00.9	+1.2
TUWZ	Tuamarina	2.46	248	PN	Pn	15 25 00.7	-0.4
NEZ	North Egmont	2.57	299	PN	Pn	15 25 04.2	+1.7
BSWZ	Blackbirch Sta	2.62	243	PN	Pn	15 25 03.0	-0.2
BSWZ	Blackbirch Sta	2.62	243	P	Pn	15 25 02.0	-1.2
NRZ	Ngariki Road	2.65	296	eP	Pn	15 25 05.2	+1.6
PUZ	Puketiti	2.67	22	PN	Pn	15 25 02.7	-1.2
PKE	Pukeiti	2.68	300	P	Pn	15 25 05.6	+1.5
NWEZ	Newall Road	2.72	297	P	Pn	15 25 06.3	+1.7
NNZ	Nelson	2.81	255	PN	Pn	15 25 05.5	-0.4
MXZ	Matakaoa Point	3.16	19	PN	Pn	15 25 10.1	-0.6
MXZ	Matakaoa Point	3.16	19	P	Pn	15 25 10.1	-0.6
THZ	Tophouse	3.31	247	PN	Pn	15 25 11.9	-0.8
QRZ	Quartz Range	3.40	264	PN	Pn	15 25 13.8	-0.2
DSZ	Denniston Nort	4.09	251	PN	Pn	15 25 22.7	-0.8
DSZ	Denniston Nort	4.09	251	eP	Pn	15 25 22.7	-0.7
CRLZ	Canterbury Las	4.43	226	PN	Pn	15 25 27.7	-0.5
MQZ	McQueen's Vall	4.50	224	PN	Pn	15 25 29.5	+0.3
RPZ	Rata Peaks	5.42	232	Pn	Pn	15 25 41.3	-0.4
	1.1nm,0.3s,baz=69,slow=8.6,SNR=8.7						
RPZ				Sn	Sn	15 26 39.1	-5.0
	9.8nm,0.3s,baz=338,slow=11,SNR=12						
LBZ	Lake Benmore	6.32	231	PN	Pn	15 25 53.8	-0.2
LBZ	Lake Benmore	6.32	231	eP	Pn	15 25 53.8	-0.3
ODZ	Otahua Downs	6.47	224	PN	Pn	15 25 55.9	-0.3
ODZ	Otahua Downs	6.47	224	eP	Pn	15 25 55.9	-0.2
JCZ	Jackson Bay	7.04	237	eP	Pn	15 26 02.4	-1.5
DZM	Mont Dzumac	20.48	331	P	P	15 29 00.6	+1.8
	9.1nm,0.8s,baz=149,slow=14,SNR=5.8						
STKA	Stephens Creek	29.68	276	eP	P	15 30 26.5	-0.2
	2.8nm,0.9s,mb4.0						
STKA	Stephens Creek	29.68	276	P	P	15 30 26.5	-0.3
	2.4nm,0.7s,mb4.1,baz=109,slow=12,SNR=5.6						
CTAO	Charters Tower	33.21	299	eP	P	15 30 54.9	-2.9
	26nm,1.3s,mb5.0						
CTAO	Charters Tower	33.21	299	eP	P	15 30 54.9	-2.9
CTAO				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
HNR	Honiara	34.49	329	P	P	15 31 08.9	0.0
	comp=Z,39nm,1.2s,mb5.2						
HNR	Honiara	34.49	329	P	P	15 31 09.0	0.0
HNR				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.2						
ASAR	Alice Springs	39.76	282	P	P	15 31 54.0	+0.3
	comp=Z,2.9nm,0.5s,mb4.3,baz=117,slow=6.2,SNR=53						
PMG	Port Moresby	40.77	311	P	P	15 32 03.1	+1.0
	comp=Z,8.1nm,0.8s,mb4.4,baz=128,slow=9.8,SNR=3.8						
PMG	Port Moresby	40.77	311	eP	P	15 32 03.4	+1.4
	comp=Z,11nm,0.9s,mb4.5						
PMG	Port Moresby	40.77	311	eP	P	15 32 03.4	+1.3
PMG				pmax	pmax		
	comp=Z,11nm,0.9s						
WB2	Warramunga Arr	41.68	287⇑	iP	P	15 32 09.5	0.0
WRAB	Tennant Creek	41.68	287	eP	P	15 32 09.7	+0.1
	comp=Z,20nm,0.6s,mb4.9						
WRAB	Tennant Creek	41.68	287	eP	P	15 32 09.7	+0.1
WRAB				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.9						
WRA	Warramunga Arr	41.69	287	P	P	15 32 09.9	+0.3
	comp=Z,9.9nm,0.4s,mb4.8,baz=125,slow=8.2,SNR=119						
CASY	Casey	44.32	212	P	P	15 32 33.9	+3.0
	comp=Z,8.0nm,1.1s,mb4.4						
NWAO	Narrogin (SRO)	47.69	259	P	P	15 32 57.9	+0.4
	comp=Z,9.7nm,0.9s,mb4.8,baz=170,slow=11,SNR=3.6						
KLBR	Kellerberrin	47.91	261	eP	P	15 32 59.9	+0.7
	comp=Z,16nm,1.1s,mb5.0						
MUN	Mundaring	48.89	260	eP	P	15 33 08.0	+1.2
FITZ	Fitzroy Crossi	49.26	281	eP	P	15 33 10.2	+0.6
	comp=Z,2.9nm,0.3s,mb4.8						
FITZ	Fitzroy Crossi	49.26	281	P	P	15 33 10.3	+0.7
	comp=Z,2.5nm,0.5s,mb4.5,baz=106,slow=13,SNR=18						
SYO	Syowa Base	66.29	195⇑	eP	P	15 35 09.3	0.0
VNA3	Neumayer Olymp	68.40	178⇑	i	P	15 35 31.5	+8.8
VNA2	Neumayer--Watz	68.78	178⇑	i	P	15 35 31.5	+6.4
	baz=180,slow=3.0						
TIXI	Tiksi	116.95	345	i	PKIKP	PKPdf	15 43 04.9	-0.9
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR	Makanchi Array	120.89	307	PKP	PKPdf	15 43 13.9	+0.5
	comp=Z,0.8nm,0.5s,baz=220,slow=2.0,SNR=13						
BVAR	Borovoye Array	130.36	311	PKP	PKPdf	15 43 33.1	+1.6
	comp=Z,0.7nm,0.6s,baz=90,slow=1.9,SNR=5.7						
ARCES	ARCESS Array B	147.33	342	PKPbc	PKPbc	15 44 05.1	+0.5
	comp=Z,9.9nm,0.6s,baz=53,slow=3.7,SNR=51						
JOF	Joensuu	149.75	329	ep		15 44 11.1	
	comp=Z,6.5nm,0.5s						
BRTR	Keskin Array B	152.09	280	PKPbc	PKPbc	15 44 18.1	+1.7
	comp=Z,2.1nm,0.7s,baz=142,slow=5.8,SNR=9.4						
KAF	Kangasniemi	152.13	330	ep		15 44 15.9	
	comp=Z,3.7nm,0.6s						
TORD	Torodi Ar. Bea	152.38	190	PKPbc	PKPbc	15 44 20.1	+3.1
	comp=Z,1.1nm,0.6s,baz=162,slow=3.3,SNR=9.6						
FINES	FINESS Array B	152.62	329	PKPbc	PKPbc	15 44 18.0	+0.4
	comp=Z,2.1nm,0.6s,baz=25,slow=5.0,SNR=17						

MEX 25 15:26:30.7±0.7, 1619N×9896W, h14km±18km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.82	76	iP	Pg	15 26 43.1	-3.5
PNIG				iS	Sg	15 26 52.9	-4.5
CAIG	El Cayaco	1.52	304	iP	Pn	15 26 53.6	-3.9
CAIG				iS	Sn	15 27 13.9	-3.2
MEIG	Mezcala	1.84	340	iP	Pn	15 26 58.5	-3.4
MEIG				iS	Sn	15 27 20.2	-4.8
UTMO	Huajuapan	1.97	34	iP	Pn	15 27 01.0	-2.7
UTMO				iS	Sn	15 27 25.0	-3.2
PLIG	Platanillo	2.25	347	eP	Pn	15 27 04.4	-3.2
PLIG				i

ellipse: s-maj=9.8km s-min=6.4km az=110.3
*BJI **25** 15:29:39.4,2765N×5596E,h38km,mb4.4*
*NEIC **25** 15:29:40.0,2768N×5617E,h27km,mb4.3/21,*
ML3.8(THR),MN4.0(TEH),After TEH.
ISC 25 15:29:34.3±1.0,2739N±005×5577E±004,h13km±6km,
n162,σ1§15/174,mb4.1/53,5C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.35**	**88**	*e*Pg	**Pg**	**15 29 40.4**	**-1.0**
BNDS				AML	AML	15 29 51.4	
	comp=E,10μm,0.3s						
BNDS	**Bandar-Abbas**	**0.35**	**88**	*e*Pg	**Pg**	**15 29 40.0**	**-1.4**
GHIR	**Ghir-Karzin**	**2.62**	**291**	*e*Pn	**Pg**	**15 30 23.8**	**-0.8**
GHIR				AML	AML	15 31 12.7	
	comp=N,224nm,0.2s						
GHIR				AML	AML	15 31 15.5	
	comp=E,401nm,0.2s						
GHIR	**Ghir-Karzin**	**2.62**	**291**	*e*Pn	**Pg**	**15 30 23.0**	**-1.6**
KRBR	**Kerman**	**2.73**	**18**	*e*Pn	**Pn**	**15 30 19.2**	**+1.5**
KRBR				*e*Sg	**Sn**	**15 30 53.6**	**+3.1**
KRBR				AML	AML	15 30 57.5	
	comp=N,1μm,0.3s						
KRBR				AML	AML	15 31 00.1	
	comp=E,784nm,0.3s						
KRBR	**Kerman**	**2.73**	**18**	*e*Pn	**Pn**	**15 30 19.2**	**+1.4**
	SNR=52						
KRBR				*e*Sg	**Sn**	**15 30 53.6**	**+3.0**
	SNR=90						
KRBR	**Kerman**	**2.73**	**18**	*e*Pn	**Pn**	**15 30 17.0**	**-0.8**
KRBR				*e*Sg	**Sn**	**15 30 52.0**	**+1.4**
IMOK	**Mook**	**3.16**	**302**	*e*Pn	**Pn**	**15 30 25.1**	**+1.3**
IPAR	**Pars**	**3.42**	**316**	*e*Pn	**Pb**	**15 30 32.7**	**-2.1**
IPAR				*e*Sn	**Sn**	**15 31 10.5**	**+2.7**
IPAR	**Pars**	**3.42**	**316**	*e*Pn	**Pn**	**15 30 29.0**	**+1.7**
IMEH	**Mehriz**	**4.12**	**346**	*e*Pn	**Pn**	**15 30 38.1**	**+1.3**
IBAF	**Bafgh**	**4.19**	**358**	*e*Pn	**Pn**	**15 30 38.2**	**+0.3**
IBAF				*e*Sn	**Sn**	**15 31 20.8**	**-5.9**
IBAF				*e*Sn	**Sn**	**15 31 21.4**	**-5.3**
IBAF	**Bafgh**	**4.19**	**358**	*e*Pn	**Pn**	**15 30 38.6**	**+0.7**
IBAF	**Bafgh**	**4.19**	**358**	Pn	**Pn**	**15 30 38.2**	**+0.3**
IBAF				Sn	**Sn**	**15 31 20.8**	**-5.9**
IBAF				Sn	**Sn**	**15 31 21.3**	**-5.4**
ISAD	**Sadrabad**	**4.86**	**339**	*e*Pn	**Pn**	**15 30 48.9**	**+1.8**
ISAD				*e*Sn	**Sn**	**15 31 41.4**	**-1.9**
ISAD	**Sadrabad**	**4.86**	**339**	*e*Pn	**Pn**	**15 30 48.6**	**+1.5**
ISAD				Sn	**Sn**	**15 31 41.3**	**-2.0**
ISAD	**Sadrabad**	**4.86**	**339**	Pn	**Pn**	**15 30 48.9**	**+1.8**
ISAD				Sn	**Sn**	**15 31 41.3**	**-2.0**
ZHSF	**Zahedan**	**4.93**	**62**	*e*Pn	**Pn**	**15 30 48.1**	**+0.1**
ICHK	**Chekchek**	**4.98**	**347**	*e*Pn	**Pn**	**15 30 49.5**	**+0.7**
ICHK	**Chekchek**	**4.98**	**347**	*e*Pn	**Pn**	**15 30 49.4**	**+0.6**
IGAR	**Garneh**	**5.75**	**328**	*e*Pn	**Pn**	**15 31 01.3**	**+2.0**
IZEF	**Zefreh**	**6.25**	**332**	*e*Pn	**Pn**	**15 31 05.7**	**-0.4**
IPIR	**Pirpir**	**6.76**	**322**	*e*Pn	**Pn**	**15 31 12.0**	**-1.2**
IKLH	**Kalahroud**	**6.93**	**330**	*e*Pn	**Pn**	**15 31 14.9**	**-0.7**
QRN	**Al-Qurain**	**7.07**	**283**	*e*P	**Pn**	**15 31 18.1**	**+0.6**
QRN				AML	AML	15 32 38.5	
	comp=Z,79nm,0.6s						
KBD	**Kabd**	**7.34**	**286**	*e*P	**Pn**	**15 31 21.4**	**+0.2**
KBD				AML	AML	15 32 42.5	
	comp=Z,53nm,0.3s						
ISFB	**Sefidab**	**7.58**	**337**	*e*Pn	**Pn**	**15 31 25.0**	**+0.6**
ISFB				*e*Sn	**Sn**	**15 32 44.3**	**-5.9**
ISFB				*e*Sn	**Sn**	**15 32 44.4**	**-5.8**
ISFB	**Sefidab**	**7.58**	**337**	*e*Pn	**Pn**	**15 31 24.9**	**+0.5**
MIB	**Mutribah**	**7.79**	**290**	*e*P	**Pn**	**15 31 28.1**	**+0.7**
MIB				AML	AML	15 32 54.3	
	comp=Z,27nm,0.4s						
IANJ	**Anjiloo**	**8.21**	**349**	*e*Pn	**Pn**	**15 31 34.9**	**+1.8**
IVRN	**Varamin**	**8.34**	**336**	*e*Pn	**Pn**	**15 31 35.9**	**+1.1**
IVRN	**Varamin**	**8.34**	**336**	*e*Pn	**Pn**	**15 31 35.3**	**+0.5**
IFIR	**Firoozkooh**	**8.62**	**343**	*e*Pn	**Pn**	**15 31 39.2**	**+0.5**
IFIR	**Firoozkooh**	**8.62**	**343**	*e*Pn	**Pn**	**15 31 39.0**	**+0.3**
IFIR	**Firoozkooh**	**8.62**	**343**	Pn	**Pn**	**15 31 39.1**	**+0.4**
ISHM	**Shahmirzad**	**8.65**	**346**	*e*Pn	**Pn**	**15 31 40.2**	**+1.0**
ISHM	**Shahmirzad**	**8.65**	**346**	*e*Pn	**Pn**	**15 31 40.8**	**+1.6**
IAFJ	**Afjeh**	**9.12**	**339**	*e*Pn	**Pn**	**15 31 46.7**	**+1.1**
IAFJ	**Afjeh**	**9.12**	**339**	*e*Pn	**Pn**	**15 31 46.8**	**+1.2**
IMHD	**Mahdasht**	**9.35**	**334**	*e*Pn	**Pn**	**15 31 49.2**	**+0.5**
GNI	**Garni**	**15.67**	**327**	Pn	**Pn**	**15 33 19.3**	**+4.6**
	comp=Z,1.8nm,0.3s,baz=242,slow=1.8,SNR=6.4						
GNI	**Garni**	**15.67**	**327**	*e*Pn	**Pn**	**15 33 19.8**	**+5.1**
	comp=Z,28nm,1.0s						
GNI	**Garni**	**15.67**	**327**	*e*P	**Pn**	**15 33 19.8**	**+5.1**
GNI				pmax	pmax		
	comp=Z,28nm,1.0s						
MALT	**Malatya**	**18.16**	**311**	*e*P	**Pn**	**15 33 48.8**	**+2.6**
	comp=Z,6.0nm,0.9s						
MALT	**Malatya**	**18.16**	**311**	*e*Pn	**Pn**	**15 33 48.8**	**+2.6**
	comp=Z,5.9nm,0.9s						
MALT	**Malatya**	**18.16**	**311**	*e*P	**Pn**	**15 33 48.8**	**+2.6**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV	**Kislovodsk**	**19.61**	**331**	*e*P	**Pn**	**15 34 05.0**	**+1.3**
	comp=Z,12nm,1.0s						
KIV	**Kislovodsk**	**19.61**	**331**	*e*Pn	**Pn**	**15 34 03.1**	**-0.6**
KIV	**Kislovodsk**	**19.61**	**331**	*e*P	**Pn**	**15 34 05.0**	**+1.3**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KKAR	**Karatay Array**	**19.72**	**34**	*i* P	**Pn**	**15 34 04.6**	**-0.4**
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**19.72**	**34**	*i* P	**Pn**	**15 34 04.6**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AB31	**Akbulak array**	**22.07**	**7**	*i* P	**P**	**15 34 27.5**	**-1.4**
	comp=Z,5.0nm,0.6s,mb4.1						
AB31	**Akbulak array**	**22.07**	**7**	*i* P	**P**	**15 34 27.5**	**-1.4**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
BR131	**Keskin Array S**	**22.11**	**309**	*e*P	**P**	**15 34 29.0**	**-0.3**
	comp=Z,3.1nm,0.6s,mb3.9						
BR131	**Keskin Array S**	**22.11**	**309**	*e*P	**P**	**15 34 29.0**	**-0.3**
	comp=Z,3.1nm,0.6s,mb3.9						
BRTR	**Keskin Array B**	**22.11**	**309**	P	**P**	**15 34 29.8**	**+0.5**
	comp=Z,2.8nm,0.7s,mb3.8,baz=131,slow=14,SNR=13						
TKM2	**Tokmak 2**	**22.34**	**41**	P	**P**	**15 34 32.8**	**+1.0**
	comp=Z,2.0nm,0.7s,mb3.7						
TKM2	**Tokmak 2**	**22.34**	**41**	P	**P**	**15 34 32.8**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
AKTK	**Aktyubinsk**	**23.08**	**4**	P	**P**	**15 34 38.9**	**-0.7**
	comp=Z,1.0nm,1.0s,mb3.2						
AKTK	**Aktyubinsk**	**23.08**	**4**	P	**P**	**15 34 38.5**	**-1.0**
AKTO	**Aktyubinsk**	**23.08**	**4**	P	**P**	**15 34 38.5**	**-1.0**
	comp=Z,3.7nm,0.5s,mb4.1,baz=179,slow=10,SNR=15						
AKTO	**Aktyubinsk**	**23.08**	**4**	P	**P**	**15 34 38.9**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.2						
GKN	**Gorkha**	**25.54**	**82**	*e*P	**P**	**15 35 04.0**	**+1.3**
	comp=Z,5.8nm,0.6s,mb4.3						
DMN	**Daman**	**26.00**	**83**	*e*P	**P**	**15 35 08.7**	**+1.9**
KKN	**Kakani**	**26.13**	**82**	*e*P	**P**	**15 35 09.6**	**+1.6**
	comp=Z,12nm,0.6s,mb4.6						
KKN	**Kakani**	**26.13**	**82**	*e*P	**P**	**15 35 09.6**	**+1.6**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
PKI	**Pulchoki**	**26.27**	**83**	*e*P	**P**	**15 35 10.7**	**+1.5**
GUN	**Gumba**	**26.64**	**82**	*e*P	**P**	**15 35 14.5**	**+1.8**
	comp=Z,23nm,0.8s,mb4.8						
JIRN	**Jiri**	**26.95**	**82**	*e*P	**P**	**15 35 17.0**	**+1.6**
	comp=Z,10nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**27.37**	**18**	*e*P	**P**	**15 35 16.3**	**-2.9**
	comp=Z,1.7nm,0.7s,mb3.7						
ZRNK	**Zerenda**	**27.37**	**18**	*e*P	**P**	**15 35 16.3**	**-2.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
IDI	**Anoyia**	**27.45**	**294**	P	**P**	**15 35 20.2**	**+0.4**
	comp=Z,3.7nm,0.4s,mb4.2,baz=77,slow=18,SNR=4.2						
BRVK	**Borovoye**	**27.82**	**19**	*e*P	**P**	**15 35 22.1**	**-1.1**
BVA0	**Borovoye Array**	**27.82**	**19**	*i* P	**P**	**15 35 21.6**	**-1.6**
	comp=Z,1.0nm,1.0s,mb3.4						
BVA0	**Borovoye Array**	**27.82**	**19**	*i* P	**P**	**15 35 21.6**	**-1.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
BVAR	**Borovoye Array**	**27.82**	**19**	P	**P**	**15 35 22.4**	**-0.8**
	comp=Z,1.5nm,0.5s,mb3.9,baz=198,slow=5.4,SNR=9.8						
BVAR				PcP	PcP	15 38 38.5	-0.7
	comp=Z,0.5nm,0.4s,baz=200,slow=2.5,SNR=6.3						
BVAR	**Borovoye Array**	**27.82**	**19**	PcP	PcP	15 38 38.5	-0.7
MKAR	**Makanchi Array**	**28.46**	**40**	P	**P**	**15 35 28.5**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=222,slow=9.0,SNR=12						
MKAR				PcP	PcP	15 38 39.8	-0.9
	comp=Z,0.2nm,0.5s,baz=205,slow=1.5,SNR=3.9						
KURK	**Kurchatov**	**29.06**	**31**	*e*P	**P**	**15 35 31.5**	**-2.7**
	comp=Z,2.7nm,0.9s,mb4.0						
KURK	**Kurchatov**	**29.06**	**31**	*e*P	**P**	**15 35 31.5**	**-2.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
MLR	**Muntele Rosu**	**29.79**	**315**	P	**P**	**15 35 40.7**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.0,baz=84,slow=9.2,SNR=2.8						
MLR	**Muntele Rosu**	**29.79**	**315**	⇑P	**P**	**15 35 42.4**	**+1.7**
AKASG	**Malin Array Be**	**30.80**	**326**	P	**P**	**15 35 48.2**	**-1.5**
	comp=Z,2.0nm,0.5s,mb4.2,baz=135,slow=8.5,SNR=11						
AKASG	**Malin Array Be**	**30.80**	**326**	P	**P**	**15 35 48.2**	**-1.5**
BURAR	**Bucovina Array**	**31.24**	**318**	⇑P	**P**	**15 35 53.3**	**-0.2**
BURAR	**Bucovina Array**	**31.24**	**318**	⇑P	**P**	**15 35 53.3**	**-0.2**
DRGR		**32.38**	**316**	⇑P	**P**	**15 36 03.5**	**-0.1**
ZAL	**Zalesovo**	**34.03**	**31**	P	**P**	**15 36 16.8**	**-1.2**
	comp=Z,3.7nm,0.5s,mb4.6,baz=228,slow=8.2,SNR=14						
MORC	**Moravsky Berou**	**36.76**	**318**	P	**P**	**15 36 38.4**	**-3.0**
	comp=Z,2.4nm,0.9s,mb4.0						
MORC	**Moravsky Berou**	**36.76**	**318**	P	**P**	**15 36 38.4**	**-3.0**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
GTA	**Gaotai**	**38.33**	**60**	*e*P	**P**	**15 36 55.5**	**+0.8**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.0						
GERES	**GERESS Array B**	**38.78**	**315**	P	**P**	**15 36 57.3**	**-1.2**
	comp=Z,1.1nm,0.8s,mb3.7,baz=108,slow=8.6,SNR=7.6						
KHC	**Kasperske Hory**	**38.95**	**315**	*e*P	**P**	**15 36 59.0**	**-0.9**
JOF	**Joensuu**	**38.99**	**342**	*e*p	**P**	**15 37 00.0**	**-0.3**
	comp=Z,0.9nm,0.3s,mb4.0						
FINES	**FINESS Array B**	**39.43**	**338**	P	**P**	**15 37 02.7**	**-1.2**
	comp=Z,1.0nm,0.4s,mb3.9,baz=137,slow=10.0,SNR=18						
KAF	**Kangasniemi**	**39.84**	**339**	*e*p	**P**	**15 37 02.0**	**-5.4**
	comp=Z,0.6nm,0.5s,mb3.6						
KAF	**Kangasniemi**	**39.84**	**339**	*e*P	**P**	**15 37 02.0**	**-5.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
GRA1	**Grafenberg Arr**	**40.58**	**316**	*e*P	**P**	**15 37 13.2**	**-0.3**
	comp=Z,8.0nm,1.3s,mb4.2						
GRF	**Grafenberg Arr**	**40.58**	**316**	*e*P	**P**	**15 37 13.2**	**-0.3**
	comp=Z,8.0nm,1.3s,mb4.2						
GRF	**Grafenberg Arr**	**40.58**	**316**	*e*P	**P**	**15 37 13.2**	**-0.3**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
PGF	**Pioggiola**	**40.69**	**304**	*e*P	**P**	**15 37 13.9**	**-0.5**
	comp=Z,32nm,1.1s,mb4.5						
PGF	**Pioggiola**	**40.69**	**304**	*e*P	**P**	**15 37 13.9**	**-0.5**
	comp=Z,16nm,1.1s,mb4.5						
SBF	**Sospel**	**41.97**	**306**	*e*P	**P**	**15 37 24.7**	**-0.2**
KMI	**Kunming**	**41.99**	**82**	P	**P**	**15 37 28.8**	**+3.7**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2						
APA	**Apatity**	**42.43**	**347**	*i* P	**P**	**15 37 29.0**	**+0.3**
	comp=Z,9.0nm,0.7s,mb4.5						
APA	**Apatity**	**42.43**	**347**	⇑*i*P	**P**	**15 37 29.0**	**+0.3**
APA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.5						
MBDF	**Montbardon**	**42.55**	**307**	*e*P	**P**	**15 37 29.5**	**-0.1**
	comp=Z,8.8nm,0.7s,mb4.3						
MBDF	**Montbardon**	**42.55**	**307**	*e*P	**P**	**15 37 29.5**	**-0.1**
	comp=Z,4.4nm,0.7s,mb4.3						
MBDF	**Montbardon**	**42.55**	**307**	*e*P	**P**	**15 37 29.5**	**-0.1**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
LPG	**La Plagne**	**42.66**	**308**	*e*P	**P**	**15 37 31.2**	**+0.6**
	comp=Z,5.7nm,0.6s,mb4.2						
LPG	**La Plagne**	**42.66**	**308**	*e*P	**P**	**15 37 31.2**	**+0.6**
	comp=Z,2.8nm,0.6s,mb4.2						
LPG	**La Plagne**	**42.66**	**308**	*e*P	**P**	**15 37 31.2**	**+0.6**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
LPL	**La Plagne**	**42.68**	**308**	*e*P	**P**	**15 37 31.0**	**+0.3**
CDF	**Champ du Feu**	**42.80**	**313**	*e*P	**P**	**15 37 32.3**	**+0.7**
ORIF	**Oris-en-Rattie**	**43.20**	**307**	*e*P	**P**	**15 37 34.4**	**-0.5**
CABF	**La Chapelle**	**43.28**	**310**	*e*P	**P**	**15 37 35.9**	**+0.4**
HFS	**Hagfors**	**43.41**	**331**	P	**P**	**15 37 35.2**	**-1.4**
	comp=Z,2.7nm,0.4s,mb4.3,baz=131,slow=10,SNR=29						
SONM	**Songino Array**	**44.09**	**48**	P	**P**	**15 37 42.1**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.4,baz=255,slow=5.5,SNR=3.1						
ULN	**Ulaanbaatar**	**44.54**	**49**	P	**P**	**15 37 44.4**	**-1.3**
	comp=Z,1.5nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**44.54**	**49**	P	**P**	**15 37 44.4**	**-1.3**
	comp=Z,1.5nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**44.54**	**49**	P	**P**	**15 37 44.4**	**-1.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
LASF	**Ste Croix**	**44.56**	**306**	*e*P	**P**	**15 37 46.2**	**+0.3**
	comp=Z,27nm,1.2s,mb4.6						
LASF	**Ste Croix**	**44.56**	**306**	*e*P	**P**	**15 37 46.2**	**+0.3**
	comp=Z,14nm,1.2s,mb4.6						
SMF	**Signal de Mont**	**44.82**	**310**	*e*P	**P**	**15 37 48.2**	**+0.3**
	comp=Z,12nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**44.82**	**310**	*e*P	**P**	**15 37 48.2**	**+0.3**
	comp=Z,6.2nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**44.82**	**310**	*e*P	**P**	**15 37 48.2**	**+0.3**
SMF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
LOR	**Lormes**	**44.88**	**311**	*e*P	**P**	**15 37 49.0**	**+0.6**
	comp=Z,9.2nm,0.8s,mb4.4						
LOR	**Lormes**	**44.88**	**311**	*e*P	**P**	**15 37 49.0**	**+0.6**
	comp=Z,4.6nm,0.8s,mb4.4						
LOR	**Lormes**	**44.88**	**311**	*e*P	**P**	**15 37 49.0**	**+0.6**
LOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
NB2	**NORSAR Subarra**	**44.92**	**331**	P	**P**	**15 37 46.7**	**-2.0**
	comp=Z,1.1nm,0.5s,mb3.9,baz=114,slow=7.9						
NB2	**NORSAR Subarra**	**44.92**	**331**	P	**P**	**15 37 46.7**	**-2.0**
	comp=Z,1.1nm,0.5s,mb3.9,baz=114,slow=7.7,SNR=7.9						
NB2	**NORSAR Subarra**	**44.92**	**331**	P	**P**	**15 37 46.7**	**-2.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
NOA	**NORSAR Array B**	**44.92**	**331**	P	**P**	**15 37 47.0**	**-1.8**
	comp=Z,1.1nm,0.5s,mb4.0,baz=118,slow=7.6,SNR=8.6						
SSF	**Saint Saulge**	**45.09**	**310**	*e*P	**P**	**15 37 50.5**	**+0.4**
	comp=Z,15nm,1.1s,mb4.5						
SSF	**Saint Saulge**	**45.09**	**310**	*e*P	**P**	**15 37 50.5**	**+0.4**
	comp=Z,7.7nm,1.1s,mb4.5						
SSF	**Saint Saulge**	**45.09**	**310**	*e*P	**P**	**15 37 50.5**	**+0.4**
SSF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
AVF	**Avril sur Loir**	**45.17**	**310**	*e*P	**P**	**15 37 51.1**	**+0.4**
	comp=Z,13nm,1.1s,mb4.4						
AVF	**Avril sur Loir**	**45.17**	**310**	*e*P	**P**	**15 37 51.1**	**+0.4**
	comp=Z,6.6nm,1.1s,mb4.4						
AVF	**Avril sur Loir**	**45.17**	**310**	*e*P	**P**	**15 37 51.1**	**+0.4**
AVF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**45.70**	**346**	P	**P**	**15 37 53.8**	**-1.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=111,slow=6.6,SNR=6.7						
MTLF	**Montolieu**	**45.71**	**305**	*e*P	**P**	**15 37 55.4**	**+0.4**
	comp=Z,30nm,1.3s,mb4.8						
MTLF	**Montolieu**	**45.71**	**305**	*e*P	**P**	**15 37 55.4**	**+0.4**
	comp=Z,15nm,1.3s,mb4.8						
MTLF	**Montolieu**	**45.71**	**305**	*e*P	**P**	**15 37 55.4**	**+0.4**
MTLF				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
CAF	**Calviac**	**45.90**	**307**	*e*P	**P**	**15 37 55.4**	**-1.1**
	comp=Z,22nm,1.0s,mb4.8						
CAF	**Calviac**	**45.90**	**307**	*e*P	**P**	**15 37 55.4**	**-1.1**
	comp=Z,11nm,1.0s,mb4.8						
TCF	**Toulx Ste Croi**	**45.90**	**309**	*e*P	**P**	**15 37 56.6**	**+0.1**
	comp=Z,7.9nm,0.7s,mb4.5						
TCF	**Toulx Ste Croi**	**45.90**	**309**	*e*P	**P**	**15 37 56.6**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.5						
TCF	**Toulx Ste Croi**	**45.90**	**309**	*e*P	**P**	**15 37 56.6**	**+0.1**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ETSF	**Etsaut**	**47.73**	**304**	*e*P	**P**	**15 38 11.6**	**+0.8**
SJPF	**Ste Jean**	**48.22**	**305**	*e*P	**P**	**15 38 14.4**	**-0.2**
	comp=Z,14nm,0.7s,mb4.8						
SJPF	**Ste Jean**	**48.22**	**305**	*e*P	**P**	**15 38 14.4**	**-0.2**
	comp=Z,6.9nm,0.7s,mb4.8						
BOD	**Bodaibo**	**50.43**	**36**	*e*P	**P**	**15 38 29.7**	**-1.8**
ESDC	**Sonseca Array**	**50.45**	**300**	P	**P**	**15 38 31.6**	**0.0**
	comp=Z,0.5nm,0.3s,mb4.0,baz=68,slow=7.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**52.30**	**266**	P	**P**	**15 38 45.5**	**+0.1**
	comp=Z,2.5nm,0.4s,mb4.5,baz=62,slow=7.1,SNR=11						
TIXI	**Tiksi**	**58.94**	**21**	*e*P	**P**	**15 39 34.7**	**+1.5**
	comp=Z,1.0nm,0.7s,mb4.0						
TIXI	**Tiksi**	**58.94**	**21**	*e*P	**P**	**15 39 34.7**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
INK	**Inuvik**	**84.35**	**3**	P	**P**	**15 42 04.4**	**-1.7**
	comp=Z,1.3nm,0.9s,mb4.1,baz=335,slow=2.7,SNR=6.5						
SCHQ	**Schefferville**	**84.49**	**331**	P	**P**	**15 42 05.2**	**-1.7**
	comp=Z,1.3nm,0.7s,mb4.2,baz=18,slow=3.2,SNR=4.2						
ILAR	**Eielson Array**	**86.46**	**10**	P	**P**	**15 42 14.9**	**-1.7**
	comp=Z,0.8nm,0.8s,mb4.0,baz=332,slow=3.9,SNR=7.2						
WRA	**Warramunga Arr**	**89.39**	**113**	P	**P**	**15 42 30.4**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.9,baz=314,slow=4.0,SNR=4.8						
YKA	**Yellowknife Ar**	**90.10**	**356**	P	**P**	**15 42 33.9**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.9,baz=1.7,slow=5.0,SNR=7.4						
ASAR	**Alice Springs**	**90.86**	**116**	P	**P**	**15 42 37.9**	**+0.4**
	comp=Z,0.5nm,0.8s,mb3.9,baz=301,slow=4.5,SNR=5.7						

*IDC **25** 15:37:55.1±3.0,2723N×5577E,h0km,mb3.6/6,mb1 3.7/6,*
mb1mx3.5/23,mbtmp3.6/6,Error ellipse: s-maj=63.8km
s-min=27.6km az=147.0
*ISCJB **25** 15:37:57.7±1.3,2768N±007×5570E±008,h3km±10km,*
mb3.5/6,Error ellipse: s-maj=12.9km s-min=10.8km
az=61.5
*THR **25** 15:38:01.8±0.7,2761N×5598E,h14km±9km,ML3.1*
*CSEM **25** 15:38:01.8,2761N×5598E,h14km,ML3.1,After THR*
ISC 25 15:37:58.8±1.2,2762N±007×5573E±008,h8km±9km,n10,
σ1§29/12,mb3.5/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.45**	**119**	*e*PG	**Pg**	**15 38 07.8**	**+0.2**
BNDS				AML	AML	15 38 27.9	
	comp=E,2μm,1.2s						
GHIR	**Ghir-Karzin**	**2.52**	**286**	*e*PN	**Pg**	**15 38 47.2**	**+0.2**
GHIR				AML	AML	15 39 31.4	
	comp=E,108nm,0.7s						
GHIR				AML	AML	15 39 42.8	
	comp=N,94nm,0.3s						
KRBR	**Kerman**	**2.52**	**21**	*e*PN	**Pb**	**15 38 44.1**	**-0.2**
KRBR				*e*SG	**Sg**	**15 39 19.2**	**-0.6**
KRBR				AML	AML	15 39 20.9	
	comp=E,70nm,0.3s						
KRBR				AML	AML	15 39 28.4	
	comp=N,83nm,0.7s						
KRBR	**Kerman**	**2.52**	**21**	*e*Pn	**Pb**	**15 38 44.1**	**-0.2**
	SNR=52						
KRBR				*e*Sg	**Sg**	**15 39 19.2**	**-0.6**
	comp=N,83nm,0.7s,SNR=90						
BRTR	**Keskin Array B**	**21.93**	**309**	P	**P**	**15 42 53.9**	**+1.3**
	comp=N,0.6nm,0.7s,mb3.1,baz=130,slow=17,SNR=3.4						
AKTO	**Aktyubinsk**	**22.85**	**4**	P	**P**	**15 43 04.5**	**+2.0**
	comp=N,1.2nm,0.5s,mb3.6,baz=198,slow=7.3,SNR=5.1						
BVAR	**Borovoye Array**	**27.62**	**19**	P	**P**	**15 43 49.0**	**+2.2**
	comp=N,0.8nm,0.8s,mb3.4,baz=191,slow=7.1,SNR=4.9						
AKASG	**Malin Array Be**	**30.59**	**326**	P	**P**	**15 44 11.8**	**-1.3**
	comp=N,0.2nm,0.3s,mb3.5,baz=138,slow=8.4,SNR=4.5						
ZAL	**Zalesovo**	**33.85**	**31**	P	**P**	**15 44 40.4**	**-1.4**
	comp=N,0.9nm,0.5s,mb4.0,baz=203,slow=5.7,SNR=5.3						
**

KBA	**Koelnbreinsper**	4.48 330	⇑*i*Pn	Pn	15 39 51.9	0.0
KBA			⇓*i*Sn	Sn	15 40 44.2	-0.1
CTI	**Castel Tesino**	4.52 310	Pn	Pn	15 39 51.9	-0.3
	37nm,0.3s					
BRES	**Bressanone**	4.89 317	Pn	Pn	15 39 57.4	0.0
	78nm,1.6s					
MOA	**Molln**	4.90 341	⇑*i*Sn	Sn	15 40 54.2	-0.5
MOA	**Molln**	4.90 341	⇑*i*Pn	Pn	15 39 58.1	+0.5
	SNR=21					
MOA			⇑*i*Sn	Sn	15 40 54.2	-0.5
APPI	**Appiano**	5.01 312	Pn	Pn	15 39 58.6	-0.5
APPI			Sn	Sn	15 40 55.0	-2.3
	50nm,0.4s					
APPI	**Appiano**	5.01 312	Sn	Sn	15 40 55.0	-2.3
	50nm,0.4s					
WTTA	**Wattenberg**	5.34 321	⇑*i*Sn	Sn	15 41 06.7	+1.2
WTTA	**Wattenberg**	5.34 321	⇓*i*Pn	Pn	15 40 04.2	+0.6
WTTA			⇑*i*Sn	Sn	15 41 06.7	+1.2
SQTA	**Sankt Quirin**	5.51 318	⇑*i*Sn	Sn	15 41 11.3	+1.6
SQTA	**Sankt Quirin**	5.51 318	⇑*i*Pn	Pn	15 40 06.6	+0.7
SQTA			⇑*i*Sn	Sn	15 41 11.3	+1.6
DRGR		5.62 48	⇑P	Pn	15 40 09.1	+1.7
DRGR			S	Sn	15 41 11.5	-0.7
DRGR		5.62 48	⇑P	Pn	15 40 09.2	+1.8
DRGR			S	Sn	15 41 11.5	-0.7
MOTA	**Moosalm**	5.65 319	⇓*i*Sn	Sn	15 41 14.5	+1.3
MOTA	**Moosalm**	5.65 319	⇑*i*Pn	Pn	15 40 08.4	+0.5
MOTA			⇓*i*Sn	Sn	15 41 14.5	+1.3
GEC2	**GERESS Array S**	5.97 341	*e*Pn	Pn	15 40 13.0	+0.8
GEC2			*e*Sn	Sn	15 41 19.3	-1.7
VRAC	**Vranov**	6.08 0	*e*Pn	Pn	15 40 09.1	-4.7
KHC	**Kasperske Hory**	6.26 342	*e*PN	Pn	15 40 17.0	+0.7
KHC			*e*SN	Sn	15 41 27.7	-0.6
KHC			x	x	15 41 54.0	
WET	**Wettzell**	6.46 338	*e*Pn	Pn	15 40 17.3	-1.6
WET			*e*Sn	Sn	15 41 30.9	-2.0
MORC	**Moravsky Berou**	6.59 5	⇓P	Pn	15 40 21.4	+0.7
MORC			S	Sn	15 41 35.9	-0.3
MORC	**Moravsky Berou**	6.59 5	⇓P	Pn	15 40 21.4	+0.7
MORC			S	Sn	15 41 35.9	-0.3

ISCJB ***25*** *15:42:31.6±2.9, 372N±02×712E±02, h33km, Error ellipse: s-maj=29.2km s-min=20.6km az=68.6*
NNC ***25*** *15:42:37.7±14.0, 3763N×7052E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=111.6km s-min=95.5km az=157.0*
ISC 25 15:42:32.5±3.0, 371N±02×712E±02, h35km, n7, σ9ₛ97/9, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	5.35	20	P	Pn	15 43 50.3	+0.4
	SNR=81						
UCH	**Uchtor**	5.70	26	P	Pn	15 43 54.4	-0.2
	SNR=16						
KZA	**Kyzart**	5.84	31	P	Pn	15 43 55.3	-1.4
	SNR=8.0						
EKS2	**Erkin-Say**	5.87	19	P	Pn	15 43 57.6	+0.6
	SNR=12						
KK31	**Karatay Array**	5.99 355	⇓P		Pn	15 44 00.8	+2.2
	1.3nm,0.3s,baz=185,slow=14,SNR=3.8						
KK31			⇓S		Sn	15 45 05.6	-0.4
	7.2nm,0.5s,baz=176,slow=23,SNR=20						
AAK	**Ala-Archa**	6.05	24	P	Pn	15 43 59.5	0.0
	SNR=9.6						
AB31	**Akbulak array**	14.62 330	⇑P		Pn	15 45 55.8	-1.0
	0.2nm,0.2s,baz=133,slow=14,SNR=17						
AB31			⇑S		Sn	15 48 29.8	-7.7
	0.5nm,0.5s,baz=154,slow=22,SNR=5.0						

IDC ***25*** *15:47:13.1±3.0, 2734N×5591E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/22, mbtmp3.7/5, Error ellipse: s-maj=62.1km s-min=30.4km az=148.0*
ISCJB ***25*** *15:47:17.0±1.1, 2747N±008×5577E±009, h30km±8km, mb3.6/5, Error ellipse: s-maj=14.7km s-min=12.1km az=118.2*
CSEM ***25*** *15:47:18.8, 2761N×5590E, h15km, ML3.3, After THR*
THR ***25*** *15:47:18.8±1.1, 2761N×5590E, h15km, ML3.3*
ISC 25 15:47:17.3±1.5, 2752N±009×5575E±009, h15km±13km, n10, σ1ₛ21/12, mb3.6/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	0.39 107		*e*PG	Pg	15 47 25.3	0.0
BNDS				AML	AML	15 47 45.1	
	comp=E,3μm,0.7s						
GHIR	**Ghir-Karzin**	2.56 288		*e*PN	Pb	15 48 03.3	+0.4
GHIR				AML	AML	15 49 11.2	
	comp=E,118nm,0.8s						
KRBR	**Kerman**	2.61 20		*e*PN	Pb	15 48 01.0	-2.8
KRBR				*e*SG	Sb	15 48 36.4	+0.8
KRBR				AML	AML	15 48 39.7	
	comp=N,193nm,0.8s						
KRBR				AML	AML	15 48 40.3	
	comp=E,141nm,0.6s						
KRBR	**Kerman**	2.61 20		*e*Pn	Pb	15 48 01.0	-2.8
	SNR=52						
KRBR				*e*Sg	Sb	15 48 36.4	+0.7
	comp=E,141nm,0.6s,SNR=90						
ZHSF	**Zahedan**	4.89 64		*e*Pn	Pn	15 48 32.7	+2.5
BRTR	**Keskin Array B**	22.01 309		P	P	15 52 13.2	+1.5
	comp=E,1.3nm,0.8s,mb3.4,baz=127,slow=11,SNR=7.1						
AKTO	**Aktyubinsk**	22.95 4		P	P	15 52 20.6	-0.3
	comp=E,1.4nm,0.8s,mb3.5,baz=202,slow=10.0,SNR=4.4						
AKASG	**Malin Array Be**	30.68 326		P	P	15 53 30.6	-0.7
	comp=E,0.6nm,0.5s,mb3.7,baz=134,slow=8.7,SNR=6.4						
ZAL	**Zalesovo**	33.93 31		P	P	15 53 58.5	-1.2
	comp=E,0.7nm,0.6s,mb3.8,baz=216,slow=8.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	52.28 266		P	P	15 56 27.6	-0.4
	comp=E,1.1nm,0.8s,mb3.8,baz=57,slow=7.3,SNR=5.9						

IDC ***25*** *16:08:25.0±1.8, 2750N×5570E, h0km, mb3.9/16, mb1 4.1/16, mb1mx4.0/25, mbtmp4.0/16, MS3.4/10, Ms1 3.4/10, ms1mx3.2/34, Error ellipse: s-maj=39.5km s-min=18.9km az=167.0*
ISCJB ***25*** *16:08:25.9±0.4, 2752N±004×5572E±004, h10km, mb4.1/32, MS3.4/9, Error ellipse: s-maj=6.4km s-min=4.5km az=46.2*
BJI ***25*** *16:08:26.0, 2750N×5580E, h8km, mB4.9, mb4.5, Ms5.1, Msz4.9*
CSEM ***25*** *16:08:27.1±0.1, 2743N×5567E, h25km, mb4.3/9, Error ellipse: s-maj=2.8km s-min=1.7km az=23.0*
MOS ***25*** *16:08:28.6±1.3, 2780N×5574E, h21km, mb4.4/10, Error ellipse: s-maj=11.8km s-min=7.6km az=90.7*
TEH ***25*** *16:08:29.2, 2752N×5580E, h8km, Mn3.8*
NEIC ***25*** *16:08:29.0, 2752N×5580E, h8km, mb4.2/12, ML4.0(THR), MN3.8(TEH), After TEH.*
THR ***25*** *16:08:30.5±0.6, 2762N×5626E, h14km±6km, ML4.0*
ISC 25 16:08:27.9±0.4, 2754N±004×5578E±004, h10km, n99, σ1ₛ36/102, mb4.1/32, MS3.4/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	0.38 112		*e*Pg	Pg	16 08 35.8	+0.6
BNDS				AML	AML	16 08 46.4	
	comp=N,25μm,0.4s						
BNDS				AML	AML	16 08 53.4	
	comp=E,27μm,0.4s						
KRBR	**Kerman**	2.58 19		*e*Pn	Pn	16 09 11.7	+2.1
KRBR				*e*SG	Sb	16 09 45.6	-0.3
KRBR				AML	AML	16 09 48.0	
	comp=N,898nm,0.5s						
KRBR				AML	AML	16 09 49.1	
	comp=E,656nm,0.1s						
KRBR	**Kerman**	2.58 19		*e*Pn	Pn	16 09 11.7	+2.1
	SNR=52						
KRBR				*e*Sg	Sb	16 09 45.6	-0.3
	SNR=90						
GHIR	**Ghir-Karzin**	2.58 287		*e*Pn	Pg	16 09 19.3	+2.0
GHIR				AML	AML	16 10 09.3	
	comp=E,311nm,0.3s						
IMOK	**Mook**	3.09 300		Pn	Pn	16 09 17.5	+0.8
IMOK				Sn	Sn	16 09 55.0	+1.3
IPAR	**Pars**	3.32 314		Pn	Pn	16 09 21.8	+2.0
IMEH	**Mehriz**	3.97 345		*e*Pn	Pn	16 09 30.9	+2.2
IMEH	**Mehriz**	3.97 345		Pn	Pn	16 09 30.9	+2.1
IBAF	**Bafgh**	4.04 357		Pn	Pn	16 09 31.0	+1.3
IBAF				Sn	Sn	16 10 16.8	-0.2
ISAD	**Sadrabad**	4.72 338		*e*Pn	Pn	16 09 41.3	+2.2
ISAD				Sn	Sn	16 10 32.3	-1.6
ISAD	**Sadrabad**	4.72 338		Sn	Sn	16 10 32.3	-1.6
ICHK	**Chekchek**	4.83 346		Pn	Pn	16 09 41.7	+1.0
IGAR	**Garneh**	5.62 327		*e*Pn	Pn	16 09 51.9	+0.4
IZEF	**Zefreh**	6.11 332		Pn	Pn	16 09 58.1	-0.1
IZEF				Sn	Sn	16 11 05.0	-3.2
IPIR	**Pirpir**	6.65 322		*e*Pn	Pn	16 10 04.6	-0.9
IPIR	**Pirpir**	6.65 322		Pn	Pn	16 10 05.8	+0.3
IKLH	**Kalahroud**	6.80 329		Pn	Pn	16 10 09.2	+1.5
UMR	**Umm Al-Rimmam**	7.37 288		*e*P	Pn	16 10 15.0	-0.5
UMR				AML	AML	16 11 35.6	
	comp=Z,19nm,0.4s						
RDF	**Al-Radifah**	7.39 283		*e*P	Pn	16 10 15.3	-0.4
RDF				AML	AML	16 11 39.7	
	comp=Z,20nm,0.4s						
NAY	**Al-Naaiem**	7.71 285		*e*P	Pn	16 10 19.7	-0.5
NAY				AML	AML	16 11 48.1	
	comp=Z,16nm,0.6s						
IANJ	**Anjiloo**	8.06 349		*e*Pn	Pn	16 10 25.7	+0.8
IVRN	**Varamin**	8.20 336		*e*Pn	Pn	16 10 28.5	+1.6
IFIR	**Firoozkooh**	8.48 343		*e*Pn	Pn	16 10 31.8	+1.1
ISHM	**Shahmirzad**	8.51 346		*e*Pn	Pn	16 10 32.8	+1.7
IAFJ	**Afjeh**	8.98 338		*e*Pn	Pn	16 10 39.7	+2.1
IMHD	**Mahdasht**	9.21 333		*e*Pn	Pn	16 10 42.2	+1.5
IRAZ	**Razeghan**	9.29 329		*e*Sn	Sn	16 12 21.7	-4.7
GNI	**Garni**	15.54 327		Pn	Pn	16 12 12.8	+5.8
	comp=Z,1.2nm,0.3s,baz=339,slow=0.4,SNR=7.4						
GNI				LR	LR	16 18 03.4	
	comp=Z,69nm,19.6s,baz=196,slow=37						
GNI	**Garni**	15.54 327		*e*Pn	Pn	16 12 12.4	+5.4
	comp=Z,9.7nm,0.7s						
GNI	**Garni**	15.54 327		*e*P	Pn	16 12 12.4	+5.4
GNI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MALT	**Malatya**	18.07 311		*e*P	Pn	16 12 37.0	-2.0
	comp=Z,4.0nm,0.8s						
MALT	**Malatya**	18.07 311		*e*Pn	Pn	16 12 37.0	-2.0
	comp=Z,3.6nm,0.8s						
MALT	**Malatya**	18.07 311		*e*P	Pn	16 12 37.0	-2.0
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIV	**Kislovodsk**	19.48 331		*e*P	Pn	16 12 55.3	-0.8
	comp=Z,18nm,0.9s						
KIV	**Kislovodsk**	19.48 331		*e*Pn	Pn	16 12 55.3	-0.8
	comp=Z,18nm,0.9s						
KIV	**Kislovodsk**	19.48 331		*e*Pn	Pn	16 12 55.3	-0.8
KIV				pmax	pmax		
	comp=Z,18nm,0.9s						
KKAR	**Karatay Array**	19.59 34		P	Pn	16 12 55.1	-2.2
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ATD	**Arta Tunnel**	20.03 220		LR	LR	16 21 00.4	
	comp=Z,100nm,18.8s,MS3.2,baz=90,slow=38						
FRU	**Bishkek**	21.60 40		*e*P	P	16 13 21.0	+3.2
AB31	**Akbulak array**	21.92 7		*e*P	P	16 13 19.6	-1.6
	comp=Z,15nm,0.9s,mb4.4						
AB31	**Akbulak array**	21.92 7		*e*P	P	16 13 19.6	-1.6
AB31				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
BR131	**Keskin Array S**	22.01 309		*e*P	P	16 13 22.1	-0.2
	comp=Z,5.8nm,0.8s,mb4.1						
BRTR	**Keskin Array B**	22.01 309		P	P	16 13 22.4	+0.1
	comp=Z,6.3nm,0.8s,mb4.1,baz=125,slow=9.9,SNR=15						
TKM2	**Tokmak 2**	22.22 41		P	P	16 13 23.5	-1.0
	comp=Z,9.0nm,1.1s,mb4.1						
TKM2	**Tokmak 2**	22.22 41		P	P	16 13 23.5	-1.0
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
AKTK	**Aktyubinsk**	22.92 4		P	P	16 13 31.6	-0.3
AKTK	**Aktyubinsk**	22.92 4		P	P	16 13 31.6	-0.3
AKTK				LR	LR	16 24 03.5	
AKTO	**Aktyubinsk**	22.92 4		P	P	16 13 31.6	-0.3
	comp=Z,5.9nm,1.0s,mb4.0,baz=173,slow=13,SNR=7.5						
AKTO				LR	LR	16 24 03.5	
	comp=Z,127nm,18.7s,MS3.4,baz=0.0,slow=41						
AKTO	**Aktyubinsk**	22.92 4		P	P	16 13 31.1	-0.8
AKTO				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.6						
GKN	**Gorkha**	25.51 82		*e*P	P	16 13 56.7	+0.3
	comp=Z,5.3nm,0.2s,mb4.6						
DMN	**Daman**	25.97 83		*e*P	P	16 14 01.0	+0.4
KKN	**Kakani**	26.10 83		*e*P	P	16 14 02.5	+0.7
PKI	**Pulchoki**	26.24 83		*e*P	P	16 14 03.6	+0.6
	comp=Z,11nm,0.7s,mb4.5						
PKI	**Pulchoki**	26.24 83		*e*P	P	16 14 03.6	+0.6
PKI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
GUN	**Gumba**	26.62 82		*e*P	P	16 14 07.1	+0.7
	comp=Z,54nm,1.3s,mb4.9						
JIRN	**Jiri**	26.92 83		*e*P	P	16 14 09.5	+0.4
	comp=Z,31nm,1.2s,mb4.7						
ZRNK	**Zerenda**	27.22 18		P	P	16 14 11.3	-0.6
	comp=Z,14nm,1.7s,mb4.2						
ZRNK	**Zerenda**	27.22 18		*e*P	P	16 14 10.7	-1.1
	comp=Z,4.2nm,1.1s,mb3.9						
ZRNK	**Zerenda**	27.22 18		P	P	16 14 11.3	-0.6
ZRNK				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.2						
IDI	**Anoyia**	27.39 294		P	P	16 14 14.3	+0.9
	comp=Z,16nm,1.2s,mb4.4,baz=346,slow=8.3,SNR=4.1						
BRVK	**Borovoye**	27.67 19		*e*P	P	16 14 14.1	-1.8
	comp=Z,8.8nm,1.4s,mb4.2						
BRVK	**Borovoye**	27.67 19		*e*P	P	16 14 14.1	-1.8
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.2						
BVA0	**Borovoye Array**	27.68 19		*i*P	P	16 14 16.5	+0.6
	comp=Z,1.0nm,1.0s,mb3.4						
BVA0	**Borovoye Array**	27.68 19		*i*P	P	16 14 16.5	+0.6
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
BVAR	**Borovoye Array**	27.68 19		P	P	16 14 15.2	-0.7
	comp=Z,1.8nm,0.8s,mb3.8,baz=188,slow=5.5,SNR=7.3						
MKAR	**Makanchi Array**	28.34 40		P	P	16 14 21.2	-0.7
	comp=Z,0.4nm,0.5s,mb3.4,baz=225,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	28.34 40		P	P	16 14 22.4	+0.5
	comp=Z,7.0nm,1.4s,mb4.1						
MKAR	**Makanchi Array**	28.34 40		P	P	16 14 21.2	-0.7
MKAR	**Makanchi Array**	28.34 40		P	P	16 14 22.4	+0.5
MKAR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KURK	**Kurchatov**	28.92 31		*e*P	P	16 14 26.0	-1.0
MLR	**Muntele Rosu**	29.69 315		P	P	16 14 35.8	+1.9
	comp=Z,3.3nm,0.8s,mb4.1,baz=151,slow=12,SNR=2.9						
MLR				LR	LR	16 26 34.4	
	comp=Z,71nm,19.7s,MS3.3,baz=335,slow=37						
AKASG	**Malin Array Be**	30.68 326		P	P	16 14 41.2	-1.4
	comp=Z,1.9nm,0.6s,mb4.1,baz=136,slow=8.5,SNR=9.7						
AKASG	**Malin Array Be**	30.68 326		P	P	16 14 41.2	-1.4
KMBO	**Kilima Mbogo**	33.62 215		LR	LR	16 28 31.1	
	comp=Z,65nm,18.3s,MS3.4,baz=91,slow=36						
NVS	**Novosibirsk**	33.80 29		*e*P	P	16 15 06.9	-3.1
NVS				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.4						
NVS				pmax	pmax		
	comp=N,11nm,1.9s						
ZAL	**Zalesovo**	33.90 31		P	P	16 15 09.0	-1.8
	comp=N,2.5nm,0.6s,mb4.3,baz=225,slow=7.9,SNR=11						
ZAL				LR	LR	16 31 15.5	
	comp=N,93nm,18.7s,MS3.5,baz=9.5,slow=40						
GERES	**GERESS Array B**	38.68 315		P	P	16 15 50.0	-1.7
	comp=N,0.3nm,0.5s,mb3.3,baz=110,slow=6.4,SNR=4.8						
GERES				LR	LR	16 32 52.1	
	comp=N,45nm,18.5s,MS3.3,baz=247,slow=38						
JOF	**Joensuu**	38.84 342		*ep*	P	16 15 52.6	-0.5
	comp=N,1.0nm,0.4s,mb3.9						
KHC	**Kasperske Hory**	38.84 315		*e*P	P	16 15 51.5	-1.6
KHC				x	x	16 16 04.0	
KHC	**Kasperske Hory**	38.84 315		*e*P	P	16 15 51.5	-1.6
KHC				*e*		16 16 04.0	
FINES	**FINESS Array B**	39.29 338		P	P	16 15 55.4	-1.4
	comp=N,0.9nm,0.4s,mb3.8,baz=139,slow=10,SNR=11						
FINES				LR	LR	16 33 09.3	
	comp=N,40nm,18.4s,MS3.3,baz=105,slow=38						
DAVOX	**Davos**	40.64 311		P	P	16 16 06.6	-1.4
	comp=N,2.0nm,0.7s,mb3.9,baz=70,slow=15,SNR=3.7						
KMI	**Kunming**	41.96 82		P	P	16 16 20.5	+1.6
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.1						
HFS	**Hagfors**	43.28 331		P	P	16 16 27.8	-1.7
	comp=Z,3.0nm,0.6s,mb4.2,baz=134,slow=10,SNR=16						
SONM	**Songino Array**	43.99 49		P	P	16 16 36.5	+1.2
	comp=Z,0.5nm,0.6s,mb3.4,baz=268,slow=8.2,SNR=3.0						
ULN	**Ulaanbaatar**	44.43 49		*e*P	P	16 16 40.4	+1.5
	comp=Z,1.4nm,0.7s,mb3.8						
ULN	**Ulaanbaatar**	44.43 49		*e*P	P	16 16 40.4	+1.6
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
NB2	**NORSAR Subarra**	44.79 331		P	P	16 16 39.2	-2.5
	comp=Z,1.4nm,0.7s,mb3.9,baz=117,slow=7.9						
NB2	**NORSAR Subarra**	44.79 331		P	P	16 16 39.2	-2.5
NB2	comp=Z,1.4nm,0.7s,mb3.9						
NB2	**NORSAR Subarra**	44.79 331		P	P	16 16 39.2	-2.5
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
NOA	**NORSAR Array B**	44.79 331		P	P	16 16 39.4	-2.3
	comp=Z,1.5nm,0.7s,mb3.9,baz=117,slow=8.0,SNR=7.2						
ARCES	**ARCESS Array B**	45.55 346		P	P	16 16 46.4	-1.4
	comp=Z,5.2nm,0.9s,mb4.5,baz=112,slow=7.0,SNR=4.7						
ARCES				LR	LR	16 38 22.1	
	comp=Z,34nm,20.1s,MS3.3,baz=281,slow=39						
PSI	**Prapat**	47.98 113		LR	LR	16 36 45.4	
	comp=Z,50nm,19.1s,MS3.5,baz=356,slow=35						
TORD	**Torodi Ar. Bea**	52.32 265		P	P	16 17 38.2	-1.4
	comp=Z,1.5nm,0.5s,mb4.1,baz=59,slow=7.1,SNR=11						
TIXI	**Tiksi**	58.79 21		*e*P	P	16 18 22.7	-3.6
TIXI				*e*		16 20 33.8	
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,98nm,19.0s,MS4.0						
ILAR	**Eielson Array**	86.31 10		P	P	16 21 07.7	-2.3
	comp=Z,0.4nm,0.7s,mb3.8,baz=313,slow=4.5,SNR=8.6						
WRAB	**Tennant Creek**	89.44 113		*e*P	P	16 21 26.7	+1.8
	comp=Z,8.5nm,0.7s						
WRAB	**Tennant Creek**	89.44 113		*e*P	P	16 21 26.7	+1.7
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YKA	**Yellowknife Ar**	89.95 356		P	P	16 21 26.3	-1.0
	comp=Z,0.1nm,0.3s,mb3.6,baz=2.1,slow=5.2,SNR=5.8						

WEL 25 16:11:48.0±0.2, 3847S×17690E, h58km±2km, ML3.5/5, 1C, Error ellipse: s-maj=1.1km s-min=1.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	0.27	38	⇑P*	Pn	16 11 57.1	-0.5
URZ				S*	Sn	16 12 04.2	-0.4
MWZ	**Matawai**	0.51	75	P*	Pn	16 11 59.6	-0.2
MWZ				S*	Sn	16 12 08.9	+0.4
MARZ	**Manawahe**	0.52	340	P*	Pn	16 11 59.8	-0.1
BKZ	**Black Stump Fm**	0.77	204	P*	Pn	16 12 03.0	+0.1
BKZ				S*	Sn	16 12 14.3	+0.5
KNZ	**Kokohu**	0.82	132	PN	Pn	16 12 03.5	0.0
RITZ	**Rihia Road**	0.96	238	P*	Pn	16 12 05.5	+0.1
PUZ	**Puketiti**	1.14	70	PN	Pn	16 12 07.7	-0.1
PUZ				SN	Sn	16 12 22.8	+0.3
OTVZ	**Oturere**	1.19	234	P*	Pn	16 12 08.5	+0.1
TUVZ	**Tukino**	1.26	230	P*	Pn	16 12 09.3	0.0
MOVZ	**Moawhango**	1.29	223	P*	Pn	16 12 09.6	-0.2
FWVZ	**Far West T-bar**	1.31	233	P*	Pn	16 12 10.2	+0.1
WNVZ	**Wahianoa**	1.33	229	P*	Pn	16 12 10.3	0.0
TRVZ	**Turoa**	1.34	231	P*	Pn	16 12 10.5	0.0
MXZ	**Matakaoa Point**	1.43	51	P*	Pn	16 12 11.9	+0.1
MTVZ	**Mangateitei**	1.44	230	P*	Pn	16 12 11.8	0.0
PKVZ	**Pokaka**	1.46	235	P*	Pn	16 12 12.1	0.0
PXZ	**Pawanui**	1.56	181	PN	Pn	16 12 12.3	-1.1
HIZ	**Hauiti**	1.60	268	PN	Pn	16 12 14.0	0.0
VRZ	**Vera Road**	1.80	248	P*	Pn	16 12 16.9	+0.3
WAZ	**Wanganui**	1.97	229	PN	Pn	16 12 19.5	+0.6
MRZ	**Mangatainoka R**	2.42	205	PN	Pn	16 12 22.8	-2.2
KIW	**Kapiti Island**	2.84	212	PN	Pn	16 12 28.6	-2.3
MTW	**Mount Morrison**	2.89	201	PN	Pn	16 12 28.5	-3.0
CAW	**Cannon Point**	2.99	208	PN	Pn	16 12 30.3	-2.6
SNZO	**South Karori**	3.30	210	PN	Pn	16 12 33.6	-3.5
QRZ	**Quartz Range**	4.11	234	PN	Pn	16 12 45.8	-2.5
THZ	**Tophouse**	4.49	222	PN	Pn	16 12 49.2	-4.3

IDC ***25*** *16:13:12.7±1.0, 3010S×17740W, h0km, mb4.3/5, mb1 4.5/7, mb1mx4.2/16, mbtmp4.3/7, ML3.6/2, MS3.8/4, Ms1 3.7/4, ms1mx3.3/25, Error ellipse: s-maj=25.6km s-min=21.0km az=113.0*
ISCJB ***25*** *16:13:13.6±1.0, 3024S±005×1776W±02, h10km, mb4.5/7, MS3.7/3, Error ellipse: s-maj=21.9km s-min=6.8km az=18.1*
NEIC ***25*** *16:13:15.1±1.2, 3012S×17748W, h10km, mb4.7/5, Error ellipse: s-maj=25.4km s-min=14.3km az=89.0*
ISC 25 16:13:15.3±3.6, 3013S±005×1776W±02, h11km±23km, n34, σ1ₛ15/24, mb4.5/7, MS3.7/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	0.91	344	Pn	Pn	16 13 33.0	-0.9
	2μm,0.3s,baz=103,slow=2.9,SNR=70						
RAO				Sn	Sn	16 13 45.4	-1.7
	2μm,0.3s,baz=30,slow=20,SNR=19						
RAO	**Raoul Island**	0.91	344	*e*Pn	Pn	16 13 33.0	-1.0
MWZ	**Matawai**	9.12	205	PN	Pn	16 15 25.7	-1.0
MWZ				SN	Sn	16 17 08.3	-0.9
URZ	**Urewera**	9.21	207	Pn	Pn	16 15 27.7	-0.3
	0.2nm,0.3s,baz=270,slow=6.1,SNR=4.1						
URZ				Sn	Sn	16 17 10.7	-

*JMA **25** 16:14:33.7±0.2,3097N×14281E,h53km,M4.0*
*ISCJB **25** 16:14:34.1±2.0,3104N±005×1428E±0.1,h30km±16km, mb3.7/8,Error ellipse: s-maj=16.6km s-min=5.9km az=130.0*
*NEIC **25** 16:14:36.6±0.7,3106N×14306E,mb4.2/2,Error ellipse: s-maj=21.1km s-min=9.8km az=70.0*
*IDC **25** 16:14:36.5±0.9,3099N×143.10E,h29km±6km,mb3.4/6, mb1 3.7/9,mb1mx3.5/22,mbtmp3.7/9,ML3.6/3,Error ellipse: s-maj=28.3km s-min=16.2km az=91.0*
ISC 25 16:14:35.4±2.1,3098N±004×1428E±01,h25km±17km, h31km±.4km:pP-P,n22,σ1§22/34,mb3.7/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.29**	**311**	P	**Pn**	**16 15 25.2**	**-0.1**
JHJ2				S	**Sn**	**16 16 03.1**	**-0.5**
JHJ	**Hachijo jima 2**	**3.32**	**311**	Pn	**Pn**	**16 15 26.9**	**+1.2**
	12nm,0.3s,baz=270,slow=20,SNR=3.2						
JHJ				Sn	**Sn**	**16 16 03.3**	**-1.0**
	23nm,0.3s,baz=62,slow=21,SNR=6.4						
CBIJ	**Chichi jima**	**3.91**	**188**	Pn	**Pn**	**16 15 33.0**	**-0.8**
	5.7nm,0.3s,baz=288,slow=20,SNR=3.4						
CBIJ				Sn	**Sn**	**16 16 15.3**	**-3.5**
	44nm,0.3s,baz=285,slow=21,SNR=14						
CBIJ	**Chichi jima**	**3.91**	**188**	P	**Pn**	**16 15 32.8**	**-1.0**
CBIJ				S	**Sn**	**16 16 15.1**	**-3.7**
BSO1	**Boso 1**	**3.96**	**338**	P	**Pn**	**16 15 34.0**	**-0.5**
BSO1				S	**Sn**	**16 16 19.5**	**-0.7**
JHHJ	**Haha-jima-NKT**	**4.37**	**187**	S	**Sn**	**16 16 28.1**	**-2.1**
BSO4	**Boso 4**	**4.49**	**334**	P	**Pn**	**16 15 41.1**	**-0.7**
BSO4				S	**Sn**	**16 16 32.9**	**-0.3**
JOD2	**Odawara 2**	**5.27**	**325**	P	**Pn**	**16 15 52.7**	**+0.2**
JOD2				S	**Sn**	**16 16 51.4**	**-1.1**
JRY	**Ryogami san**	**5.97**	**328**	P	**Pn**	**16 16 02.3**	**+0.1**
JRY				S	**Sn**	**16 17 08.4**	**-1.4**
MJAR	**Matsushiro Arr**	**6.72**	**327**	Pn	**Pn**	**16 16 13.6**	**+1.1**
	1.7nm,0.3s,baz=156,slow=10,SNR=18						
MJAR				Sn	**Sn**	**16 17 29.0**	**+0.8**
	0.7nm,0.3s,baz=121,slow=10,SNR=4.6						
MAJO	**Matsushiro**	**6.72**	**327**	*e*Pn	**Pn**	**16 16 13.0**	**+0.5**
	5.5nm,0.3s						
MAT	**Matsushiro**	**6.72**	**327**	P	**Pn**	**16 16 13.7**	**+1.2**
MAT				S	**Sn**	**16 17 29.1**	**+0.8**
MAT	**Matsushiro**	**6.72**	**327**	*e*P	**Pn**	**16 16 14.0**	**+1.5**
MAT				*e*S	**Sn**	**16 17 29.0**	**+0.7**
JMK	**Ichinoseki**	**8.05**	**351**	P	**Pn**	**16 16 28.5**	**-2.2**
JMK				S	**Sn**	**16 17 53.0**	**-8.0**
SONM	**Songino Array**	**32.40**	**312**	P	**P**	**16 21 06.1**	**+3.1**
	1.4nm,0.9s,mb3.8,baz=90,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**48.48**	**307**	P	**P**	**16 23 18.8**	**+2.8**
	0.5nm,0.5s,mb3.8,baz=84,slow=10.0,SNR=9.7						
WRAB	**Tennant Creek**	**51.26**	**190**	*e*P	**P**	**16 23 38.4**	**+1.3**
	2.9nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**51.27**	**190**	P	**P**	**16 23 38.5**	**+1.3**
	1.2nm,0.4s,mb4.2,baz=9.1,slow=7.7,SNR=11						
WRA				pP	pP	16 23 47.4	+2.5
	1.6nm,0.5s,baz=9.2,slow=7.8,SNR=7.6						
ILAR	**Eielson Array**	**54.08**	**30**	P	**P**	**16 23 56.9**	**-1.1**
	0.5nm,1.1s,mb3.4,baz=264,slow=5.6,SNR=4.3						
ASAR	**Alice Springs**	**55.00**	**190**	P	**P**	**16 24 05.6**	**+1.0**
	0.3nm,0.6s,mb3.5,baz=5.5,slow=5.7,SNR=4.7						
ASAR				pP	pP	16 24 14.5	+2.1
	0.2nm,0.4s,baz=3.0,slow=5.2,SNR=2.5						
ZRNK	**Zerenda**	**56.42**	**316**	P	**P**	**16 24 16.8**	**+2.0**
	1.3nm,0.9s,mb4.0						
ZRNK				*e*	pP	16 24 25.5	+2.9
YKA	**Yellowknife Ar**	**68.50**	**29**	P	**P**	**16 25 34.6**	**-0.9**
	0.1nm,0.6s,mb3.1,baz=294,slow=6.3,SNR=5.4						
YKA				pP	pP	16 25 44.1	+0.6
	0.3nm,0.7s,baz=295,slow=6.4,SNR=2.7						

*ROM **25** 16:15:12.5±2.0,4348N×1693E,h10km,Md3.2/7,Ml2.6/2, Error ellipse: s-maj=36.7km s-min=7.2km az=127.0*
*ISCJB **25** 16:15:16.5±0.3,4326N±002×1658E±003,h10km,Error ellipse: s-maj=3.8km s-min=2.5km az=76.2*
*NEIC **25** 16:15:17.8,4321N×1687E,h10km,MD2.9(PDG), ML2.6(ROM),After PDG.*
*PDG **25** 16:15:17.8±0.3,4321N×1687E,h10km±1km*
*CSEM **25** 16:15:18.2±0.1,4334N×1643E,h20km,MD3.2/7,Error ellipse: s-maj=2.3km s-min=1.6km az=83.0*
ISC 25 16:15:17.3±0.3,4323N±002×1661E±003,h10km,n45, σ1§25/73,13C-10D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.88**	**113**	*i* Pg	**Pg**	**16 15 30.8**	**-3.4**
STON				*i* Sg	**Sg**	**16 15 44.6**	**-1.1**
TREB	**Trebinje**	**1.38**	**111**	P	**Pn**	**16 15 39.8**	**-2.8**
TREB				S	**Sb**	**16 16 01.0**	**+0.2**
BRY	**Bratogost**	**1.46**	**102**	*e*Pg	**Pn**	**16 15 40.9**	**-2.8**
BRY				*e*Sg	**Sn**	**16 16 01.6**	**-1.2**
BLY	**Banja Luka**	**1.58**	**15**	P	**Pn**	**16 15 43.8**	**-1.5**
BLY				S	**Sn**	**16 16 06.7**	**+0.9**
FGMS	**Monte Sant'Ang**	**1.59**	**198**	Pn	**Pn**	**16 15 46.1**	**+0.6**
HCY	**Herceg Novi**	**1.59**	**119**	⇑*i*Pg	**Pg**	**16 15 43.9**	**-4.0**
HCY				*e*Sg	**Sg**	**16 16 06.8**	**-1.8**
MS1	**Monte Sant'Ang**	**1.60**	**198**	*e*Pn	**Pn**	**16 15 46.0**	**+0.4**
UPM	**Unac-Piva**	**1.69**	**90**	⇓*i*Pg	**Pg**	**16 15 45.0**	**-4.6**
UPM				*e*Sg	**Sg**	**16 16 08.8**	**-2.7**
UPM	**Unac-Piva**	**1.69**	**90**	*e*Sg	**Sg**	**16 16 08.8**	**-2.7**
RGNG	**Rignano Grg**	**1.72**	**206**	Pn	**Pn**	**16 15 47.3**	**0.0**
NKY	**Niksic**	**1.80**	**102**	*e*Pn	**Pn**	**16 15 47.6**	**-0.8**
NKY				*e*Sn	**Sn**	**16 16 12.7**	**+1.4**
NVLJ	**Novalja**	**1.83**	**317**	⇑*i*Pn	**Pn**	**16 15 48.7**	**-0.1**
NVLJ				*i* Sn	**Sn**	**16 16 13.3**	**+1.2**
BUM	**Brajici-Budva**	**1.93**	**118**	⇑*i*Pn	**Pn**	**16 15 49.5**	**-0.6**
BUM				*e*Sn	**Sn**	**16 16 16.3**	**+1.9**
BUM	**Brajici-Budva**	**1.93**	**118**	⇑*i*Pn	**Pn**	**16 15 49.5**	**-0.6**
BUM				*e*Sn	**Sn**	**16 16 16.3**	**+1.9**
PLE	**Pljevlja**	**2.04**	**86**	*e*Pn	**Pn**	**16 15 51.5**	**-0.2**
PLE				*e*Sn	**Sn**	**16 16 18.9**	**+1.7**
TTG	**Podgorica**	**2.11**	**111**	*e*Pn	**Pn**	**16 15 52.6**	**0.0**
TTG				*e*Sn	**Sn**	**16 16 20.7**	**+1.8**
BBLS	**Bajina Basta -**	**2.14**	**72**	*i* Pn	**Pn**	**16 15 54.9**	**+1.9**
BBLS				Sg	**Sg**	**16 16 24.0**	**-2.0**
CII	**Carovilli**	**2.27**	**229**	Pn	**Pn**	**16 15 55.1**	**+0.3**
	48nm,0.8s						
SGTA	**Sant Agata di**	**2.28**	**204**	Pn	**Pn**	**16 15 55.9**	**+0.9**
	59nm,0.7s						
AMUR	**Altamura**	**2.32**	**180**	Pn	**Pn**	**16 15 54.7**	**-0.8**
	17nm,0.8s						
ULC	**Ulcinj**	**2.33**	**122**	*e*Pn	**Pn**	**16 15 56.1**	**+0.5**
ULC				*e*Sn	**Sn**	**16 16 25.7**	**+1.4**
SG1	**Sgolgore (BA)**	**2.38**	**179**	*e*Pn	**Pn**	**16 15 54.0**	**-2.4**
IVA	**Berane**	**2.44**	**97**	*e*Pn	**Pn**	**16 15 58.0**	**+0.8**
IVA				*e*Sn	**Sn**	**16 16 28.4**	**+1.3**
PVY	**Plav**	**2.55**	**103**	*e*Pn	**Pn**	**16 15 59.2**	**+0.4**
PVY				*e*Sn	**Sn**	**16 16 30.7**	**+0.9**
DIVS	**Divcibare**	**2.61**	**69**	*i* Pn	**Pn**	**16 16 00.2**	**+0.7**
DIVS				Sn	**Sn**	**16 16 31.7**	**+0.5**
SNTG	**Esanatoglia**	**2.68**	**272**	Pn	**Pn**	**16 15 58.9**	**-1.6**
	8.0nm,0.5s						
ARV	**Arcevia**	**2.69**	**277**	Pn	**Pn**	**16 15 59.9**	**-0.7**
	3.0nm,0.3s						
RHK1	**Bakonya**	**3.05**	**20**	⇑*e*P	**Pn**	**16 15 53.1**	**-13**
RHK1				*e*S	**Sn**	**16 16 30.7**	**-12**
GRUS	**Gruza**	**3.06**	**76**	*e*Pn	**Pn**	**16 16 06.4**	**+0.7**
PKSM	**Moragy**	**3.32**	**25**	⇑P	**Pn**	**16 16 08.6**	**-0.7**
PKSM				S	**Sn**	**16 16 48.8**	**0.0**
PKSM	**Moragy**	**3.32**	**25**	⇑P	**Pn**	**16 16 08.6**	**-0.7**
PKSM				S	**Sn**	**16 16 48.8**	**0.0**
VOY	**Vojsko**	**3.41**	**326**	*e*Pn	**Pn**	**16 16 10.3**	**+0.2**
OBKA	**Obir**	**3.59**	**337**	⇑*i*Sn	**Sn**	**16 16 55.8**	**+0.2**
OBKA	**Obir**	**3.59**	**337**	⇑*i*Pn	**Pn**	**16 16 13.5**	**+0.5**
OBKA				⇑*i*Sn	**Sn**	**16 16 55.8**	**+0.2**
ARSA	**Arzberg**	**4.10**	**350**	⇓*i*Sn	**Sn**	**16 17 06.7**	**-1.3**
ARSA	**Arzberg**	**4.10**	**350**	*i* Pn	**Pn**	**16 16 19.6**	**-0.3**
	SNR=13						
ARSA				⇓*i*Sn	**Sn**	**16 17 06.7**	**-1.3**
BZS	**Buzias**	**4.31**	**55**	⇑P	**Pn**	**16 16 22.4**	**-0.5**
BZS				S	**Sn**	**16 17 15.7**	**+2.4**
BZS	**Buzias**	**4.31**	**55**	⇑P	**Pn**	**16 16 22.4**	**-0.5**
BZS				S	**Sn**	**16 17 15.7**	**+2.4**
MOA	**Molln**	**4.91**	**341**	⇓*i*Sn	**Sn**	**16 17 28.0**	**0.0**
MOA	**Molln**	**4.91**	**341**	⇑*i*Pn	**Pn**	**16 16 31.1**	**0.0**
	SNR=9.4						
MOA				⇓*i*Sn	**Sn**	**16 17 28.0**	**0.0**
WTTA	**Wattenberg**	**5.35**	**321**	⇓*i*Sn	**Sn**	**16 17 41.0**	**+2.2**
WTTA	**Wattenberg**	**5.35**	**321**	⇓*i*Pn	**Pn**	**16 16 38.4**	**+1.3**
WTTA				⇓*i*Sn	**Sn**	**16 17 41.0**	**+2.2**
KHC	**Kasperske Hory**	**6.27**	**341**	*e*SN	**Sn**	**16 18 00.0**	**-1.5**
MORC	**Moravsky Berou**	**6.58**	**5**	⇓P	**Pn**	**16 16 55.4**	**+1.2**
MORC				S	**Sn**	**16 18 06.8**	**-2.5**
MORC	**Moravsky Berou**	**6.58**	**5**	⇓P	**Pn**	**16 16 55.4**	**+1.2**
MORC				S	**Sn**	**16 18 06.8**	**-2.5**

*NEIC **25** 16:20:58.1±2.7,2315S×17974W,h528km±32km,mb4.0/5, Error ellipse: s-maj=25.7km s-min=14.2km az=215.0*
*IDC **25** 16:20:58.9±8.6,2318S×17969W,h536km±74km,mb3.3/6, mb1 3.4/7,mb1mx3.2/17,mbtmp4.3/7,Error ellipse: s-maj=113.5km s-min=21.2km az=48.0*
*ISCJB **25** 16:20:60.0±4.0,2325S±02×1798W±02,h564km±49km, mb3.9/10,Error ellipse: s-maj=36.9km s-min=20.2km az=75.6*
ISC 25 16:20:58.6±3.7,2325S±02×1797W±02,h533km±43km,n14, σ0§57/14,mb3.9/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.24**	**190**	P	**P**	**16 24 10.5**	**-0.2**
	1.1nm,0.3s,baz=295,slow=13,SNR=7.3						
CTA	**Charters Tower**	**31.75**	**269**	P	**P**	**16 26 40.0**	**+1.0**
	7.0nm,0.4s,mb4.6,baz=89,slow=11,SNR=30						
PMG	**Port Moresby**	**34.54**	**288**	P	**P**	**16 27 03.2**	**+0.7**
	8.7nm,0.8s,mb4.3,baz=114,slow=4.1,SNR=4.3						
PMG	**Port Moresby**	**34.54**	**288**	*e*P	**P**	**16 27 02.6**	**+0.1**
	12nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**42.42**	**260**	P	**P**	**16 28 06.5**	**+0.2**
	1.2nm,0.6s,mb3.6,baz=92,slow=7.7,SNR=29						
WB2	**Warramunga Arr**	**42.72**	**265**	*e*P	**P**	**16 28 08.5**	**-0.2**
WRAB	**Tennant Creek**	**42.72**	**265**	*e*P	**P**	**16 28 08.1**	**-0.6**
	4.1nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**42.73**	**265**	P	**P**	**16 28 08.3**	**-0.5**
	0.8nm,0.3s,mb3.7,baz=96,slow=8.4,SNR=67						
KAKA	**Kakadu**	**46.53**	**274**	*e*P	**P**	**16 28 37.5**	**-0.5**
	6.2nm,1.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**51.16**	**265**	P	**P**	**16 29 13.1**	**+0.8**
	4.6nm,1.2s,mb3.7,baz=90,slow=20,SNR=6.1						
VNDA	**Vanda**	**55.08**	**185**	P	**P**	**16 29 39.9**	**-0.3**
	0.7nm,0.8s,mb2.9,baz=38,slow=7.7,SNR=3.6						
MBWA	**Marble Bar**	**55.76**	**260**	P	**P**	**16 29 44.1**	**-0.8**
QSPA	**South Pole Qui**	**66.86**	**180**	P	**P**	**16 30 58.4**	**+0.8**
	3.6nm,0.9s,mb3.9						
CMB	**Columbia Colle**	**82.52**	**43**	P	**P**	**16 32 25.3**	**-0.2**
	4.3nm,1.1s,mb3.9						

*BJI **25** 16:23:11.9,2249N×9291E,h8km,mB4.6,mb4.2,ML3.9*
*ISCJB **25** 16:23:12.6±0.7,2258N±006×9264E±005,h10km,mb3.9/6, Error ellipse: s-maj=9.4km s-min=5.6km az=50.9*
*IDC **25** 16:23:12.5±2.1,2261N×9302E,h0km,mb3.9/5,mb1 4.1/5, mb1mx3.7/20,mbtmp3.9/5,Error ellipse: s-maj=98.6km s-min=20.2km az=66.0*
*NEIC **25** 16:23:13.7±0.6,2245N×9281E,h10km,mb3.9/2,Error ellipse: s-maj=14.4km s-min=6.9km az=212.0*
ISC 25 16:23:15.0±0.6,2262N±005×9271E±005,h10km,n24, σ1§50/37,mb3.9/6,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.03**	**346**	*e*PN	**Pn**	**16 24 04.0**	**+1.0**
SHL				*e*PB	**Pb**	**16 24 10.0**	**+0.9**
SHL				*e*SN	**Sn**	**16 24 38.0**	**-1.3**
SHL				*e*S	**Sn**	**16 24 40.0**	**+0.7**
SHL				AML	AML	16 24 41.7	
	comp=E,7μm,0.6s						
SHL				AML	AML	16 24 44.2	
	comp=N,2μm,0.2s						
BOK	**Bokaro**	**6.39**	**282**	*e*P	**Pn**	**16 24 51.1**	**+2.0**
BOK				*e*S	**Sn**	**16 26 02.5**	**+0.4**
BOK				AML	AML	16 26 03.9	
	comp=E,19nm,0.5s						
BOK				AML	AML	16 26 03.9	
	comp=N,37nm,0.5s						
LSA	**Lhasa**	**7.19**	**349**	P	**Pn**	**16 25 03.0**	**+2.9**
LSA				Smax			
	comp=N,20nm,0.7s						
LSA				Smax			
	comp=E,30nm,0.6s						
LSA	**Lhasa**	**7.19**	**349**	*e*Pn	**Pn**	**16 25 02.8**	**+2.6**
	comp=E,23nm,0.4s						
LSA				*e*Sn	**Sn**	**16 26 20.6**	**-1.2**
JIRN	**Jiri**	**7.75**	**312**	*e*Pn	**Pn**	**16 25 10.1**	**+2.2**
JIRN				*e*Sn	**Sn**	**16 26 35.5**	**-0.2**
	comp=E,112nm,0.4s						
GUN	**Gumba**	**8.12**	**312**	*e*Pn	**Pn**	**16 25 15.1**	**+2.2**
GUN				*e*Sn	**Sn**	**16 26 43.5**	**-1.3**
	comp=E,116nm,0.6s						
PKI	**Pulchoki**	**8.25**	**308**	*e*Pn	**Pn**	**16 25 16.2**	**+1.5**
PKI				*e*Sn	**Sn**	**16 26 46.3**	**-1.7**
	comp=E,55nm,0.6s						
KKN	**Kakani**	**8.47**	**309**	*e*Pn	**Pn**	**16 25 19.8**	**+2.1**
KKN				*e*Sn	**Sn**	**16 26 51.9**	**-1.5**
	comp=E,39nm,0.4s						
DMN	**Daman**	**8.49**	**307**	*e*Pn	**Pn**	**16 25 19.8**	**+1.8**
DMN				*e*Sn	**Sn**	**16 26 52.5**	**-1.5**
	comp=E,53nm,0.6s						
GKN	**Gorkha**	**9.06**	**308**	*e*Pn	**Pn**	**16 25 26.8**	**+1.0**
GKN				*e*Sn	**Sn**	**16 27 04.0**	**-3.8**
	comp=E,78nm,0.4s						
KOLN	**Koldanda**	**9.71**	**304**	*e*Pn	**Pn**	**16 25 35.6**	**+0.8**
KOLN				*e*Sn	**Sn**	**16 27 20.9**	**-3.0**
	comp=E,64nm,0.4s						
NGP	**Nagpur**	**12.77**	**266**	*e*P	**Pn**	**16 26 08.6**	**-7.9**
NGP				*e*S	**Sn**	**16 28 22.4**	**-16**
NGP				AML	AML	16 28 27.4	
	comp=E,17nm,0.3s						
NGP				AML	AML	16 28 28.6	
	comp=N,29nm,0.5s						
BHPL	**Bhopal**	**14.10**	**275**	*e*P	**Pn**	**16 26 35.9**	**+1.1**
KLP	**Kalpa**	**15.63**	**308**	*e*P	**Pn**	**16 26 55.2**	**-0.1**
KLP				*e*S	**Sn**	**16 29 39.4**	**-9.2**
KHET	**Khetri**	**16.21**	**293**	AMb	AMB	16 27 02.5	
	comp=Z,3.8nm,0.4s						
KHET				*e*P		16 27 04.7	
LZH	**Lanzhou**	**16.54**	**33**	*e*P	**Pn**	**16 27 09.0**	**+2.0**
LZH				AP	pP	16 27 15.0	+2.6
LZH				XP	sP	16 27 18.0	+4.3
LZH				AMB	AMB		
	comp=Z,22nm,1.0s						
ENH	**Enshi**	**16.83**	**60**	*e*Pn	**Pn**	**16 27 11.0**	**+0.3**
	comp=Z,5.3nm,0.5s						
MKAR	**Makanchi Array**	**25.55**	**343**	P	**P**	**16 28 43.8**	**-0.1**
	comp=Z,2.0nm,0.7s,mb3.8,baz=156,slow=10,SNR=28						
SONM	**Songino Array**	**27.45**	**20**	P	**P**	**16 28 59.7**	**-1.2**
	comp=Z,0.5nm,0.6s,mb3.2,baz=188,slow=8.7,SNR=2.7						
ZAL	**Zalesovo**	**31.84**	**351**	P	**P**	**16 29 39.3**	**-0.6**
	comp=Z,0.8nm,0.4s,mb3.9,baz=301,slow=7.6,SNR=3.5						
ZRNK	**Zerenda**	**35.28**	**335**	P	**P**	**16 30 08.8**	**-1.1**
	comp=Z,1.6nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**58.66**	**133**	P	**P**	**16 33 10.3**	**-2.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=321,slow=7.4,SNR=25						
WB2	**Warramunga Arr**	**58.67**	**133**	*e*P	**P**	**16 33 10.5**	**-2.0**
ASAR	**Alice Springs**	**60.99**	**136**	P	**P**	**16 33 26.7**	**-1.8**
	comp=Z,1.0nm,0.5s,mb4.2,baz=316,slow=6.8,SNR=56						

*ISCJB **25** 16:44:00.7±1.5,154S±0.1×179.1W±0.1,h389km±17km, mb4.0/13,Error ellipse: s-maj=22.1km s-min=14.2km az=122.5*
*NEIC **25** 16:44:01.9±1.3,1536S×17905W,h394km±14km,mb4.1/5, Error ellipse: s-maj=18.3km s-min=10.5km az=144.0*
*IDC **25** 16:44:02.2±2.1,1547S×17895W,h395km±23km,mb3.6/10, mb1 3.8/11,mb1mx3.7/18,mbtmp4.4/11,Error ellipse: s-maj=23.3km s-min=12.7km az=143.0*
ISC 25 16:44:02.5±1.4,154S±01×1790W±01,h397km±16km,n50, σ0§87/24,mb4.0/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.18**	**79**	P	**Pn**	**16 45 47.7**	**-0.3**
	7.4nm,0.3s,baz=88,slow=3.0,SNR=11						
DZM	**Mont Dzumac**	**15.26**	**242**	P	**P**	**16 47 22.3**	**+4.5**
	0.9nm,0.3s,baz=116,slow=15,SNR=11						
URZ	**Urewera**	**23.01**	**188**	P	**P**	**16 48 32.8**	**-1.7**
	6.1nm,0.7s,mb4.1,baz=307,slow=5.1,SNR=4.1						
RPZ	**Rata Peaks**	**29.45**	**195**	P	**P**	**16 49 31.6**	**+0.1**
	6.0nm,0.7s,mb4.0,baz=52,slow=4.6,SNR=5.0						
CTA	**Charters Tower**	**33.34**	**257**	*e*P	**P**	**16 50 06.9**	**+1.7**
	3.4nm,0.6s,mb3.9						
CTA	**Charters Tower**	**33.34**	**257**	P	**P**	**16 50 06.4**	**+1.2**
	4.4nm,0.7s,mb3.9,baz=90,slow=9.1,SNR=5.0						
CTAO	**Charters Tower**	**33.34**	**257**	P	**P**	**16 50 04.5**	**-0.7**
	6.4nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**39.36**	**238**	*e*P	**P**	**16 50 54.8**	**-0.6**
	3.1nm,0.8s,mb3.7						
STKA	**Stephens Creek**	**39.36**	**238**	P	**P**	**16 50 54.7**	**-0.8**
	4.3nm,0.8s,mb3.8,baz=61,slow=9.7,SNR=7.0						
STKA	**Stephens Creek**	**39.36**	**238**	*e*P	**P**	**16 50 54.4**	**-1.1**
WB2	**Warramunga Arr**	**44.53**	**257**	*e*P	**P**	**16 51 37.1**	**+0.4**
WRAB	**Tennant Creek**	**44.53**	**257**	*e*P	**P**	**16 51 36.1**	**-0.6**
	5.7nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**44.54**	**257**	P	**P**	**16 51 37.2**	**+0.5**
	0.6nm,0.3s,mb3.4,baz=95,slow=7.3,SNR=40						
WRA				PcP	PcP	16 53 12.9	+1.0
	0.3nm,0.4s,baz=89,slow=3.5,SNR=6.8						
WRA				S	**S**	**16 57 38.0**	**-3.9**
	0.2nm,0.6s,baz=89,slow=15,SNR=3.8						
ASAR	**Alice Springs**	**44.94**	**252**	P	**P**	**16 51 40.9**	**+1.0**
	11nm,0.5s,mb4.4,baz=84,slow=8.5,SNR=451						
ASAR				PcP	PcP	16 53 14.3	+1.0
	1.2nm,0.8s,baz=99,slow=4.2,SNR=5.9						
ASAR				S	**S**	**16 57 45.7**	**-1.8**
	0.4nm,0.7s,baz=82,slow=16,SNR=3.8						
CASY	**Casey**	**68.14**	**204**	*e*P	**P**	**16 54 21.7**	**+0.5**
	6.3nm,0.9s,mb4.2						
QSPA	**South Pole Qui**	**74.63**	**180**	*e*P	**P**	**16 55 00.6**	**+1.1**
	12nm,0.6s,mb4.7						
NVAR	**Mina Array Bea**	**78.06**	**44**	P	**P**	**16 55 19.2**	**+0.7**
	1.1nm,0.7s,mb3.6,baz=223,slow=7.4,SNR=4.3						
ILAR	**Eielson Array**	**83.61**	**13**	P	**P**	**16 55 46.0**	**-1.5**
	2.3nm,0.5s,mb4.1,baz=231,slow=5.5,SNR=66						
PDAR	**Pinedale Array**	**85.97**	**44**	P	**P**	**16 55 59.3**	**+0.1**
	0.9nm,0.5s,mb3.7,baz=185,slow=2.1,SNR=9.9						
MAW	**Mawson**	**85.99**	**200**	P	**P**	**16 55 59.6**	**+0.4**
	3.6nm,0.6s,mb4.3,baz=153,slow=4.5,SNR=4.7						
VNA3	**Neumayer Olymp**	**93.25**	**177**	*e*	**P**	**16 56 32.9**	**-0.2**
VNA2	**Neumayer-Watz**	**93.69**	**177**	*e*	**P**	**16 56 35.3**	**+0.2**
	baz=212,slow=3.8						
ARCES	**ARCESS Array B**	**123.77**	**350**	PKP	PKPdf	17 02 12.7	-1.2
	3.1nm,0.6s,baz=72,slow=0.4,SNR=8.2						
FINES	**FINESS Array B**	**130.64**	**344**	PKP	PKPdf	17 02 26.1	-0.8
	2.4nm,1.0s,baz=332,slow=2.4,SNR=3.3						
BRTR	**Keskin Array B**	**142.58**	**317**	PKP	PKPdf	17 02 47.2	-1.7
	0.6nm,0.6s,baz=3.8,slow=3.7,SNR=4.2						
SMOL	**Smolenice**	**144.32**	**341**	*e*PKP	PKPdf	17 02 52.0	0.0
KHC	**Kasperske Hory**	**144.82**	**346**	*e*PKP	PKPdf	17 02 53.0	+0.2
GERES	**GERESS Array B**	**145.06**	**345**	PKPbc	PKPbc	17 02 53.5	-0.2
	1.7nm,0.6s,baz=18,slow=3.3,SNR=19						
BAIF	**Baives**	**145.34**	**356**	*e*PKP1	PKPbc	17 02 53.9	-0.6
	5.0nm,0.6s						
CDF	**Champ du Feu**	**146.69**	**352**	*e*PKP1	PKPbc	17 02 58.0	-0.4
	17nm,0.8s						
FLN	**La Foliniere**	**146.72**	**2**	*e*PKP1	PKPbc	17 02 57.4	-1.1
LDF	**La Druitiere**	**146.90**	**1**	*e*PKP1	PKPbc	17 02 57.8	-1.1
GRR	**Gorron**	**147.08**	**2**	*e*PKP1	PKPbc	17 02 58.6	-0.8
SGMF	**Saint Gilles**	**147.12**	**4**	*e*PKP1	PKPbc	17 02 58.5	-1.1
HAU	**Haudompre**	**147.20**	**353**	*e*PKP1	PKPbc	17 03 00.4	+0.7
LOR	**Lormes**	**148.15**	**356**	*e*PKP1	PKPbc	17 03 01.8	-0.4
	7.9nm,0.7s						
SSF	**Saint Saulge**	**148.38**	**357**	*e*PKP1	PKPbc	17 03 03.1	+0.3
	2.9nm,0.4s						
CABF	**La Chapelle**	**148.60**	**353**	*e*PKP1	PKPbc	17 03 03.6	+0.2
AVF	**Avril sur Loir**	**148.65**	**357**	*e*PKP1	PKPbc	17 03 02.7	-0.8
SMF	**Signal de Mont**	**148.77**	**356**	*e*PKP1	PKPbc	17 03 03.3	-0.5
BGF	**Bois d'Agland**	**148.91**	**357**	*e*PKP1	PKPbc	17 03 03.8	-0.3
	4.6nm,0.5s						
LPL	**La Plagne**	**149.60**	**352**	*e*PKP1	PKPbc

NOA	NORSAR Array B	74.47	337	P	P		17 03 27.0	-0.3
	comp=Z,1.8nm,0.8s,mb4.0,baz=40,slow=5.9,SNR=5.8							

MDD 25 17:26:42.5±4.3, 3833N×1625W, h0km, mb3.7/5, Error ellipse: s-maj=40.0km s-min=30.7km az=150.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	Loures	5.59	82	eSn	Sn	17 29 07.3	-4.4
PTEO	Sao Teotonio	6.00	95	eSn	Sn	17 29 15.1	-6.8
MOE	Montemor	6.21	86	eSn	Sn	17 29 21.9	-5.0
PTOM	Tomar	6.24	76	eSn	Sn	17 29 23.2	-4.7
PTOM	4.0nm,0.1s						
PTOM	Tomar	6.24	76	Sn	Sn	17 29 23.2	-4.7
	2.0nm,0.1s						
PBEJ	Beja	6.61	90	eSn	Sn	17 29 30.6	-6.4
EGRO	El Granado	6.97	94	P	Pn	17 28 24.8	-1.1
EGRO	0.3nm,0.1s,SNR=7.9						
	0.7nm,0.1s,SNR=7.9			S	Sn	17 29 38.5	-7.4
EGRO	El Granado	6.97	94	P	Pn	17 28 24.8	-1.1
EGRO	0.3nm,0.1s,SNR=7.9						
	0.7nm,0.1s,SNR=7.9			S	Sn	17 29 38.5	-7.4
PCBR	Castelo Branco	6.99	75	eSn	Sn	17 29 40.3	-5.9
ELOB	Lobios	7.20	58	S	Sn	17 29 44.8	-6.7
ELOB	0.3nm,0.1s,SNR=7.9						
	Lobios	7.20	58	S	Sn	17 29 44.8	-6.7
	0.3nm,0.1s,SNR=7.9						
EBAD	Badajoz	7.25	84	P	Pn	17 28 27.8	-1.9
EBAD	0.4nm,0.1s,SNR=7.9						
	0.7nm,0.1s,SNR=7.9			S	Sn	17 29 45.9	-6.8
EBAD	Badajoz	7.25	84	P	Pn	17 28 27.8	-1.9
EBAD	0.4nm,0.1s,SNR=7.9						
	0.7nm,0.1s,SNR=7.9			S	Sn	17 29 45.9	-6.8
EMIN	Mina Concepcio	7.58	91	P	Pn	17 28 33.2	-1.0
EMIN	0.3nm,0.2s,SNR=7.9						
	0.2nm,0.1s,SNR=7.9			S	Sn	17 29 53.2	-7.5
EMIN	Mina Concepcio	7.58	91	P	Pn	17 28 33.2	-1.0
EMIN	0.3nm,0.2s,SNR=7.9						
	0.2nm,0.1s,SNR=7.9			S	Sn	17 29 53.2	-7.6
ECAL	Calabor	8.13	61	S	Sn	17 30 08.0	-6.3
ECAL	0.9nm,0.2s,SNR=7.9						
	Calabor	8.13	61	S	Sn	17 30 08.0	-6.3
	0.9nm,0.2s,SNR=7.9						
EPON	Pontenova	8.51	51	S	Sn	17 30 14.6	-9.2
EPON	0.4nm,0.1s,SNR=7.9						
	Pontenova	8.51	51	S	Sn	17 30 14.6	-9.1
	0.4nm,0.1s,SNR=7.9						
ECAB	El Cabril	8.53	88	P	Pn	17 28 46.2	-1.0
ECAB	0.2nm,0.1s,SNR=7.9						
	0.1nm,0.1s,SNR=7.9			S	Sn	17 30 17.5	-6.7
ECAB	El Cabril	8.53	88	P	Pn	17 28 46.2	-1.0
ECAB	0.2nm,0.1s,SNR=7.9						
	0.1nm,0.1s,SNR=7.9			S	Sn	17 30 17.5	-6.7
EADA	Adamuz	9.19	87	P	Pn	17 28 55.3	-0.9
EADA	0.2nm,0.2s,SNR=7.9						
	SNR=7.9			S	Sn	17 30 34.0	-6.3
EADA	Adamuz	9.19	87	P	Pn	17 28 55.3	-0.9
EADA	0.2nm,0.2s,SNR=7.9						
	0.1nm,0.1s,SNR=7.9			S	Sn	17 30 34.0	-6.3

*ISCJB **25** 17:31:17.3±1.6, 4095N±008×738E±0.1, h10km, Error ellipse: s-maj=11.5km s-min=11.0km az=29.0*
*KNET **25** 17:31:17.5±0.5, 4109N×7408E, h0km±2km, ml2.4, Error ellipse: s-maj=3.0km s-min=2.8km az=47.0*
*NNC **25** 17:31:22.4±3.1, 41.14N×7396E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=35.9km s-min=10.5km az=158.0*
ISC 25 17:31:17.7±1.7, 4098N±008×737E±01, h10km, n12, σ1§46/22, 11C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	1.15	359	⇓P	Pb	17 31 37.9	-1.8
AML	29nm,0.1s,SNR=118						
	32nm,0.2s			⇑S	Sb	17 31 54.4	-0.3
UCH	Uchtor	1.38	25	⇑P	Pn	17 31 40.4	-2.6
UCH	28nm,0.2s,SNR=99						
	35nm,0.2s			⇓S	Sb	17 31 58.7	-2.5
KZA	Kyzart	1.58	46	⇓P	Pn	17 31 42.9	-2.9
KZA	8.4nm,0.1s,SNR=34						
	28nm,0.2s			⇓S	Sn	17 32 03.0	-3.3
EKS2	Erkin-Say	1.68	1	⇓P	Pn	17 31 47.2	0.0
AAK	10.0nm,0.2s,SNR=46						
	Ala-Archa	1.75	19	⇑P	Pn	17 31 48.0	-0.1
AAK	18nm,0.3s,SNR=41						
	21nm,0.2s			⇑S	Sn	17 32 10.6	+0.2
KBK	Karagaybulak	1.91	28	⇑P	Pn	17 31 50.0	-0.2
KBK	19nm,0.1s,SNR=42						
	83nm,0.3s			⇑S	Sn	17 32 14.9	+0.6
CHMS	Chumysh	2.16	20	⇓P	Pn	17 31 54.3	+0.6
CHMS	14nm,0.3s,SNR=8.2						
	34nm,0.5s			⇑S	Sn	17 32 22.3	+1.8
ULHL	Ulahol	2.27	55	⇓P	Pn	17 31 55.3	0.0
ULHL	10nm,0.2s,SNR=24						
	30nm,0.2s			⇑S	Sn	17 32 22.9	-0.3
USP	Ospenovka	2.36	14	⇑P	Pn	17 31 58.4	+1.9
USP	20nm,0.2s,SNR=32						
	23nm,0.3s			⇑S	Sn	17 32 30.0	+4.6
TKM2	Tokmak 2	2.39	35	⇓P	Pn	17 31 58.3	+1.4
TKM2	8.9nm,0.3s,SNR=9.1						
	34nm,0.3s			⇓S	Sn	17 32 28.5	+2.3
TKM2	Tokmak 2	2.39	35	⇓P	Pn	17 31 59.4	+2.5
TKM2	0.8nm,0.7s						
	3.2nm,0.6s			⇑S	Sn	17 32 28.7	+2.4
KK31	Karatay Array	3.20	313	⇓Pn	Pn	17 32 17.4	+9.4
KK31	1.7nm,0.6s,baz=121,slow=16,SNR=8.9						
	5.1nm,0.5s,baz=124,slow=28,SNR=17			⇓Lg		17 33 02.6	

*NIED **25** 17:38:00, 2990N×14160E, h14km, Mw4.4 Best double couple: M0=4.10000×10^15 NP1:φs=188.00000°, δ49.00000°, λ-70.00000°. NP2:φs=339.00000°, δ45.00000°, λ-112.00000°.*
*IDC **25** 17:38:31.7±0.6, 2962N×14001E, h0km, mb4.0/13, mb1 4.3/14, mb1mx4.1/22, mbtmp4.1/14, ML4.6/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/28, Error ellipse: s-maj=24.1km s-min=16.2km az=76.0*
*ISCJB **25** 17:38:35.3±0.7, 2949N±004×140.13E±009, h40km±7km, mb4.2/25, MS3.6/4, Error ellipse: s-maj=14.1km s-min=5.3km az=136.3*
*MOS **25** 17:38:38.9±0.8, 2959N×13995E, h71km, mb4.7/10, Error ellipse: s-maj=20.9km s-min=7.9km az=93.3*
*NEIC **25** 17:38:41.0±1.0, 2960N×13993E, h71km±8km, mb4.4/13, Error ellipse: s-maj=10.8km s-min=7.4km az=105.0*
ISC 25 17:38:37.6±0.6, 2950N±004×14018E±009, h45km±6km, n68, σ1§12/64, mb4.2/25, MS3.6/4, 1C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.97	143	Pn	Pn	17 39 22.0	-0.2
CBIJ	82nm,0.3s,baz=300,slow=22,SNR=78						
				Sn	Sn	17 39 55.0	-1.6
CBIJ	360nm,0.3s,baz=296,slow=22,SNR=23						
				LR	LR	17 40 38.1	
CBIJ	comp=Z,727nm,19.6s,baz=327,slow=40						
CBIJ	Chichi jima	2.97	143	P	Pn	17 39 21.9	-0.3
CBIJ				eS	Sn	17 39 55.9	-0.7
JHHJ	Haha-jima-NKT	3.36	148	P	Pn	17 39 27.3	-0.2
JHHJ				eS	Sn	17 40 05.6	-0.5
JMY	Miyakejima3	4.60	353	P	Pn	17 39 43.3	-1.2
JMY				eS	Sn	17 40 30.4	-6.2
JOD2	Odawara 2	5.82	351	P	Pn	17 40 02.8	+1.4
JNY	Yasuok	6.17	342	P	Pn	17 40 09.9	+3.8
JAO	Obara	6.26	338	P	Pn	17 40 12.2	+4.8
JHU	Hanno	6.38	353	P	Pn	17 40 09.0	0.0
JRY	Ryogami san	6.59	351	P	Pn	17 40 13.1	+1.2
JAG	Ashikaga	6.94	355	P	Pn	17 40 15.5	-1.1
JHO	Hitachi	7.10	3	P	Pn	17 40 17.0	-1.9
MJAR	Matsushiro Arr	7.22	347	Pn	Pn	17 40 22.6	+2.1
	0.6nm,0.3s,baz=135,slow=16,SNR=11						
MJAR				LR	LR	17 42 58.9	
	comp=Z,348nm,19.0s,baz=155,slow=38						
MAJO	Matsushiro	7.22	347	ePn	Pn	17 40 21.9	+1.4
	20nm,1.0s						
MAJO	Matsushiro	7.22	347	ePn	Pn	17 40 22.0	+1.5
MAJO				pmax	pmax		
	comp=Z,20nm,1.0s						
MAT	Matsushiro	7.22	347	P	Pn	17 40 22.5	+2.0
MAT	Matsushiro	7.22	347	eP	Pn	17 40 23.0	+2.5
JNU	Nakatsue	8.74	297	Pn	Pn	17 40 39.9	-1.5
	comp=Z,0.8nm,0.3s,baz=68,slow=7.9,SNR=3.7						
JNU				LR	LR	17 43 45.7	
	comp=Z,434nm,19.1s,baz=273,slow=37						
JOW	Kunigami	10.84	259	LR	LR	17 45 05.2	
	comp=Z,264nm,18.4s,baz=81,slow=37						
GUMO	Guam	16.41	164	LR	LR	17 48 19.0	
	comp=Z,98nm,19.8s,baz=25,slow=35						
YHNB	Yeheng	17.42	258	P	Pn	17 42 47.1	+10
YSS	Yuzh-Sakhalins	17.55	6	eP	Pn	17 42 36.3	-2.5
	comp=Z,18nm,0.9s						
YSS	Yuzh-Sakhalins	17.55	6	⇑eP	Pn	17 42 38.9	+0.1
ENH	Enshi	26.59	279	P	P	17 44 15.8	+4.3
	comp=Z,8.1nm,1.0s,mb4.2						
MA2	Magadan	30.93	10	eP	P	17 44 49.7	-0.3
	comp=Z,9.2nm,0.8s,mb4.7						
MA2	Magadan	30.93	10	eP	P	17 44 49.7	-0.4
MA2				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
SONM	Songino Array	31.77	315	P	P	17 44 57.6	+0.1
	comp=Z,0.3nm,0.4s,mb3.4,baz=103,slow=6.4,SNR=2.1						
SONM				LR	LR	17 58 39.1	
	comp=Z,47nm,18.7s,MS3.2,baz=13,slow=38						
BILL	Bilibino	41.55	14	eP	P	17 46 19.8	-0.9
	comp=Z,2.4nm,0.7s,mb3.9						
BILL	Bilibino	41.55	14	eP	P	17 46 19.8	-0.8
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
ZAL	Zalesovo	46.54	318	LR	LR	18 07 29.5	
	comp=Z,69nm,20.0s,MS3.6,baz=145,slow=38						
MKAR	Makanchi Array	47.60	308	P	P	17 47 07.5	-1.4
	comp=Z,0.4nm,0.8s,mb3.5,baz=96,slow=11,SNR=4.6						
WRAB	Tennant Creek	49.46	187	eP	P	17 47 24.6	+1.4
	comp=Z,13nm,0.9s,mb5.0						
WRAB	Tennant Creek	49.46	187	eP	P	17 47 24.6	+1.4
WRAB				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
WB2	Warramunga Arr	49.47	187	eP	P	17 47 24.6	+1.3
WRA	Warramunga Arr	49.47	187	P	P	17 47 24.7	+1.4
	comp=Z,8.1nm,0.8s,mb4.8,baz=6.4,slow=7.9,SNR=102						
ASAR	Alice Springs	53.20	187	P	P	17 47 52.2	+1.1
	comp=Z,1.2nm,0.7s,mb4.0,baz=358,slow=5.2,SNR=25						
BVAR	Borovoye Array	55.09	316	P	P	17 48 03.7	-1.3
	comp=Z,0.9nm,0.7s,mb3.9,baz=94,slow=8.3,SNR=9.0						
BVAR				PcP	PcP	17 49 05.0	-0.9
	comp=Z,0.9nm,0.9s,baz=112,slow=6.6,SNR=4.5						
PMR	Palmer	55.38	33	eP	P	17 48 12.1	+5.0
MCK	McKinley	55.55	31	eP	P	17 48 08.4	+0.2
	comp=Z,3.2nm,1.1s,mb4.3						
MCK	McKinley	55.55	31	eP	P	17 48 08.5	+0.2
MCK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
SML	Sawmill	55.77	33	eP	P	17 48 09.5	-0.4
ZRNK	Zerenda	55.93	316	eP	P	17 48 10.1	-0.9
	comp=Z,0.7nm,0.6s,mb3.9						
ZRNK	Zerenda	55.93	316	eP	P	17 48 10.1	-0.9
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ILAR	Eielson Array	56.48	29	P	P	17 48 14.6	-0.3
	comp=Z,2.6nm,1.0s,mb4.2,baz=275,slow=6.1,SNR=26						
INK	Inuvik	61.60	25	P	P	17 48 50.6	+0.3
	comp=Z,1.2nm,1.0s,mb4.0,baz=289,slow=8.1,SNR=4.3						
INK	Inuvik	61.60	25	eP	P	17 48 50.1	-0.2
	comp=Z,2.7nm,1.0s,mb4.3						
INK	Inuvik	61.60	25	eP	P	17 48 50.1	-0.3
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKTO	Aktyubinsk	63.09	315	LR	LR	18 18 09.8	
	comp=Z,60nm,18.6s,MS3.8,baz=0.0,slow=38						
RES	Resolute Bay	70.15	13	eP	P	17 49 45.3	-0.1
	comp=Z,22nm,1.7s,mb4.8						
RES	Resolute Bay	70.15	13	eP	P	17 49 45.3	0.0
RES				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.8						
ARCES	ARCESS Array B	70.70	340	P	P	17 49 47.8	-0.9
	comp=Z,12nm,1.2s,mb4.7,baz=70,slow=8.2,SNR=7.0						
YKA	Yellowknife Ar	70.88	28	P	P	17 49 50.2	+0.4
	comp=Z,1.9nm,0.7s,mb4.1,baz=295,slow=6.1,SNR=40						
JOF	Joensuu	72.15	333	ep	P	17 49 56.8	-0.7
	comp=Z,3.2nm,0.8s,mb4.3						
KAF	Kangasniemi	74.55	334	ep	P	17 50 09.7	-1.9
	comp=Z,2.8nm,0.7s,mb4.3,baz=54,slow=5.5						
KAF	Kangasniemi	74.55	334	eP	P	17 50 09.7	-1.9
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
FINES	FINESS Array B	75.02	333	P	P	17 50 13.6	-0.7
	comp=Z,1.7nm,0.6s,mb4.2,baz=72,slow=6.5,SNR=18						
NEW	Newport	76.33	42	eP	P	17 50 23.5	+1.8
	comp=Z,8.5nm,1.0s,mb4.6						
NEW	Newport	76.33	42	eP	P	17 50 23.5	+1.7
NEW				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FFC	Flin Flon	80.63	31	eP	P	17 50 45.7	+0.2
	comp=Z,1.8nm,0.8s,mb4.0						
FFC	Flin Flon	80.63	31	eP	P	17 50 45.7	+0.2
FFC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	NORSAR Array B	80.73	337	P	P	17 50 45.8	-0.2
	comp=Z,1.1nm,0.8s,mb3.8,baz=44,slow=5.6,SNR=3.3						
BRTR	Keskin Array B	83.09	312	P	P	17 50 58.6	+0.2
	comp=Z,1.3nm,0.8s,mb4.0,baz=131,slow=3.4,SNR=5.1						
PDAR	Pinedale Array	83.74	44	P	P	17 51 02.3	+0.5
	comp=Z,0.8nm,0.9s,mb3.8,baz=321,slow=1.9,SNR=4.5						
SRU	San Rafael	85.20	47	eP	P	17 51 10.7	+1.5
	comp=Z,5.7nm,0.7s,mb4.8						
SRU	San Rafael	85.20	47	eP	P	17 51 10.7	+1.5
SRU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
GERES	GERESS Array B	88.55	328	LR	LR	18 33 53.1	
	comp=Z,47nm,18.6s,MS3.9,baz=294,slow=38						
SAML	Samuel	150.04	52	ePKPbc	PKPbc	17 58 24.6	+1.5
LPAZ	La Paz	150.88	69	PKPbc	PKPbc	17 58 28.4	+3.3
	comp=Z,3.2nm,0.9s,baz=333,slow=2.3,SNR=9.7						
PLCA	Paso Flores	152.61	122	PKPbc	PKPbc	17 58 31.4	+2.3
	comp=Z,3.5nm,0.7s,baz=232,slow=3.1,SNR=11						

*BJI **25** 17:48:20.6, 2803N×5504E, h18km, mB4.9, mb4.3, Ms4.8, Msz4.6*
*ISCJB **25** 17:48:21.9±0.3, 2746N±003×5548E±003, h10km, mb4.3/59, Error ellipse: s-maj=4.8km s-min=3.8km az=38.7*
*IDC **25** 17:48:21.6±0.8, 2744N×5551E, h0km, mb4.1/20, mb1 4.3/20, mb1mx4.2/24, mbtmp4.1/20, MS2.9/2, Ms1 2.9/2, ms1mx2.4/29, Error ellipse: s-maj=19.0km s-min=16.9km az=3.0*
*CSEM **25** 17:48:23.0±0.1, 2736N×5544E, h20km, mb4.5/28, Error ellipse: s-maj=2.1km s-min=1.6km az=30.0*
*MOS **25** 17:48:23.0±1.7, 2748N×5543E, h19km, mb4.6/30, Error ellipse: s-maj=8.6km s-min=5.7km az=107.7*
*THR **25** 17:48:25.2±1.4, 2763N×5569E, h15km, ML4.0*
*NEIC **25** 17:48:26.0, 2748N×5563E, h18km, mb4.4/24, ML4.0(THR), MN4.0(TEH), After TEH.*
*TEH **25** 17:48:26.6, 2748N×5563E, h18km, Mn4.0*
ISC 25 17:48:23.9±0.3, 2748N±003×5552E±003, h10km, n197, σ1§46/228, mb4.3/59, 7C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.59	98	ePg	Pg	17 48 34.7	-0.5
BNDS				AML	AML	17 48 55.4	
	comp=E,9μm,0.4s						
BNDS				AML	AML	17 48 58.1	
	comp=N,7μm,0.6s						
GHIR	Ghir-Karzin	2.38	290	ePn	Pb	17 49 07.0	+0.2
GHIR				AML	AML	17 50 06.3	
	comp=N,712nm,0.6s						
GHIR				AML	AML	17 50 09.3	
	comp=E,796nm,0.3s						
KRBR	Kerman	2.72	23	ePn	Pn	17 49 08.9	+1.2
KRBR				eSG	Sb	17 49 44.3	-1.9
KRBR				AML	AML	17 49 45.3	
	comp=E,686nm,0.7s						
KRBR				AML	AML	17 49 47.2	
	comp=N,776nm,0.4s						
IMOK	Mook	2.92	303	ePn	Pn	17 49 12.8	+2.4
IMOK				eSn	Sn	17 49 46.9	+1.3
IMOK				eSn	Sn	17 49 47.8	+2.2
IMOK	Mook	2.92	303	Pn	Pn	17 49 12.7	+2.3
IMOK				Sn	Sn	17 49 46.8	+1.2
IMOK	Mook	2.92	303	Pn	Pn	17 49 12.7	+2.3
IMOK				Sn	Sn	17 49 46.8	+1.2
IMOK				Sn	Sn	17 49 47.7	+2.1
IPAR	Pars	3.20	318	ePn	Pn	17 49 16.9	+2.6
IPAR	Pars	3.20	318	Pn	Pn	17 49 16.8	+2.5
IMEH	Mehriz	3.98	349	ePn	Pn	17 49 26.8	+1.9
IMEH				eSn	Sn	17 50 11.4	-0.2
IMEH	Mehriz	3.98	349	ePn	Pn	17 49 26.9	+2.0
IBAF	Bafgh	4.10	1	ePn	Pn	17 49 27.6	+1.0
IBAF				eSn	Sn	17 50 13.1	-1.5
IBAF				eSn	Sn	17 50 13.8	-0.8
IBAF	Bafgh	4.10	1	ePn	Pn	17 49 27.2	+0.6
IBAF				Sn	Sn	17 50 13.0	-1.6
IBAF	Bafgh	4.10	1	Pn	Pn	17 49 27.6	+1.0
IBAF				Sn	Sn	17 50 13.0	-1.6
IBAF				Sn	Sn	17 50 13.7	-0.9
ISAD	Sadrabad	4.70	341	eSn	Sn	17 50 28.3	-1.1
ISAD				eSn	Sn	17 50 29.4	0.0
ISAD	Sadrabad	4.70	341	ePn	Pn	17 49 37.5	+2.7
ICHK	Chekchek	4.85	349	ePn	Pn	17 49 38.0	+1.1
ICHK	Chekchek	4.85	349	ePn	Pn	17 49 38.5	+1.6
IGAR	Garneh	5.56	330	ePn	Pn	17 49 51.1	+4.5
IGAR				eSn	Sn	17 50 53.8	+3.3
IGAR				eSn	Sn	17 50 54.0	+3.5
IGAR	Garneh	5.56	330	ePn	Pn	17 49 48.5	+1.9
NASN	Na'in	5.80	337	ePn	Pn	17 49 51.7	+1.8
IZEF	Zefreh	6.06	334	ePn	Pn	17 49 54.4	+0.8
IZEF				eSn	Sn	17 51 00.4	-2.6
IZEF				eSn	Sn	17 51 01.0	-2.0
IZEF	Zefreh	6.06	334	ePn	Pn	17 49 54.4	+0.8
IZEF				eSn	Sn	17 51 00.4	-2.6
IZEF	Zefreh	6.06	334	Pn	Pn	17 49 54.4	+0.8
IZEF				Sn	Sn	17 51 00.4	-2.6
IZEF				Sn	Sn	17 51 00.9	-2.1
IPIR	Pirpir	6.56	323	ePn	Pn	17 50 01.4	+1.1
IPIR				eSn	Sn	17 51 12.6	-2.5
IPIR				eSn	Sn	17 51 13.2	-1.9
IPIR	Pirpir	6.56	323	ePn	Pn	17 50 01.4	+1.1
IPIR				eSn	Sn	17 51 12.6	-2.5
IPIR	Pirpir	6.56	323	Pn	Pn	17 50 01.3	+1.0
IPIR				Sn	Sn	17 51 12.6	-2.5
IPIR				Sn	Sn	17 51 13.1	-2.0
IKLH	Kalahroud	6.74	331	ePn	Pn	17 50 04.4	+1.5
IKLH				eSn	Sn	17 51 17.1	-2.6
IKLH				eSn	Sn	17 51 17.2	-2.5
IKLH	Kalahroud	6.74	331	Pn	Pn	17 50 04.3	+1.4
IKLH				eSn	Sn	17 51 17.1	-2.6
IKLH	Kalahroud	6.74	331	Pn	Pn	17 50 04.3	+1.4
IKLH				Sn	Sn	17 51 17.1	-2.6
IKLH				Sn	Sn	17 51 17.2	-2.5
QRN	Al-Qurain	6.83	282	eP	Pn	17 50 05.7	+1.6
QRN				AML	AML	17 51 23.6	
	comp=Z,63nm,0.5s						
KBD	Kabd	7.10	286	eP	Pn	17 50 09.0	+1.2
KBD				AML	AML	17 51 29.6	
	comp=Z,79nm,0.4s						
UMR	Umm Al-Rimmam	7.17	289	eP	Pn	17 50 10.0	+1.3
UMR				AML	AML	17 51 30.0	
	comp=Z,16nm,0.4s						
RDF	Al-Radifah	7.18	283	eP	Pn	17 50 09.3	+0.4
RDF				AML	AML	17 51 31.5	
	comp=Z,17nm,0.4s						
NAY	Al-Naaiem	7.50	286	eP	Pn	17 50 14.2	+0.9
NAY				AML	AML	17 51 36.4	
	comp=Z,6.8nm,0.5s						
MIB	Mutribah	7.55	290	eP	Pn	17 50 14.8	+0.8
MIB				AML	AML	17 51 40.5	
	comp=Z,20nm,0.3s						
IANJ	Anjiloo	8.08	351	ePn	Pn	17 50 22.1	+0.8
IANJ	Anjiloo	8.08	351	ePn	Pn	17 50 22.9	+1.6
IANJ	Anjiloo	8.08	351	Pn	Pn	17 50 22.0	+0.7
IVRN	Varamin	8.17	338	ePn	Pn	17 50 23.3	+0.9
IVRN	Varamin	8.17	338	ePn	Pn	17 50 23.5	+1.1
IVRN	Varamin	8.17	338	Pn	Pn	17 50 23.2	+0.8
ISHM	Shahmirzad	8.52	348	ePn	Pn	17 50 28.6	+1.3
ISHM				eSn	Sn	17 51 58.5	-4.9
ISHM				eSn	Sn	17 51 58.7	-4.7
ISHM	Shahmirzad	8.52	348	ePn	Pn	17 50 29.2	+1.9
ISHM				eSn	Sn	17 51 58.7	-4.7
IAFJ	Afjeh	8.96	340	ePn	Pn	17 50 34.5	+1.2
IAFJ	Afjeh	8.96	340	Pn	Pn	17 50 34.4	+1.1
IMOG	Moghan	9.20	20	ePn	Pn	17 50 38.8	+2.2
IRAZ	Razeghan	9.23	330	ePn	Pn	17 50 37.5	+0.5
IRAZ				eSn	Sn	17 52 14.7	-6.2
IMYA	Miamay	9.66	23	ePn	Pn	17 50 45.0	+2.1
GNI	Garni	15.47	328	Pn	Pn	17 52 08.6	+6.5
	comp=Z,1.4nm,0.3s,baz=111,slow=0.8,SNR=6.5						
GNI	Garni	15.47	328	ePn	Pn	17 52 07.8	+5.7
	comp=Z,24nm,0.9s						
GNI	Garni	15.47	328	dePn	Pn	17 52 07.7	+5.6
GNI				pmax	pmax		
	comp=Z,31nm,1.3s						
LBOS		16.59	217	⇑eP	Pn	17 52 19.0	+2.5
MALT	Malatya	17.93	311	eP	Pn	17 52 34.6	+1.3
	comp=Z,3.0nm,0.6s						
MALT	Malatya	17.93	311	ePn	Pn	17 52 34.5	+1.2
	comp=Z,2.9nm,0.6s						
MALT	Malatya	17.93	311	eP	Pn	17 52 34.6	+1.3
MALT				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZEI	Tsey	17.95	331	eP	Pn	17 52 37.8	+4.3
KIV	Kislovodsk	19.42	331	ePn	Pn	17 52 51.4	0.0
	comp=Z,23nm,0.7s						
KIV	Kislovodsk	19.42	331	eP	Pn	17 52 53.8	+2.4
	comp=Z,31nm,1.7s						
KIV	Kislovodsk	19.42	331	ePn	Pn	17 52

KOLN Koldanda 24.86 83 *eP* **P 17 53 47.6 +1.0**
comp=Z,19nm,1.0s,mb4.6
GKN Gorkha 25.75 82 *eP* **P 17 53 55.3 +0.6**
VRHR Novokhopersk 25.83 340 *eP* **P 17 53 57.3 +1.9**
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb4.6
VRHR pmax pmax
comp=E,10.0nm,0.7s
DMN Daman 26.21 83 *eP* **P 17 53 59.6 +0.8**
KKN Kakani 26.34 82 *eP* **P 17 54 00.8 +0.8**
comp=E,25nm,1.0s,mb4.7
KKN Kakani 26.34 82 *eP* **P 17 54 00.8 +0.8**
KKN pmax pmax
comp=Z,13nm,1.0s,mb4.4
PKI Pulchoki 26.48 83 *eP* **P 17 54 02.0 +0.8**
comp=Z,21nm,0.7s,mb4.8
PKI Pulchoki 26.48 83 *eP* **P 17 54 02.0 +0.8**
PKI pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
GUN Gumba 26.86 82 *eP* **P 17 54 05.5 +0.9**
comp=Z,25nm,0.9s,mb4.7
JIRN Jiri 27.16 82 *eP* **P 17 54 07.5 +0.2**
ZRNK Zerenda 27.36 18 *eP* **P 17 54 09.1 0.0**
comp=Z,3.3nm,0.9s,mb3.9
ZRNK Zerenda 27.36 18 *eP* **P 17 54 09.1 0.0**
comp=Z,3.3nm,0.9s,mb3.9
ZRNK Zerenda 27.36 18 *eP* **P 17 54 09.1 0.0**
ZRNK pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
BRVK Borovoye 27.81 19 *eP* **P 17 54 11.1 -2.1**
comp=Z,1.9nm,0.8s,mb3.8
BRVK Borovoye 27.81 19 *eP* **P 17 54 11.1 -2.1**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
BVA0 Borovoye Array 27.81 19 *i P* **P 17 54 11.7 -1.5**
comp=Z,1.0nm,0.9s,mb3.5
BVA0 Borovoye Array 27.81 19 *i P* **P 17 54 11.7 -1.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
BVAR Borovoye Array 27.81 19 P **P 17 54 12.5 -0.7**
comp=Z,5.6nm,0.7s,mb4.3,baz=203,slow=8.5,SNR=22
MK31 Makanchi Array 28.54 40 *i P* **P 17 54 19.3 -0.4**
comp=Z,1.0nm,0.3s,mb4.0
MK31 Makanchi Array 28.54 40 *i P* **P 17 54 19.3 -0.4**
MK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
MKAR Makanchi Array 28.54 40 P **P 17 54 19.2 -0.5**
comp=Z,1.5nm,0.6s,mb3.9,baz=226,slow=8.2,SNR=12
KURK Kurchatov 29.10 31 *eP* **P 17 54 22.2 -2.4**
comp=Z,4.0nm,1.0s,mb4.1
KURK Kurchatov 29.10 31 *eP* **P 17 54 22.2 -2.4**
KURK pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
MLR Muntele Rosu 29.57 315 P **P 17 54 29.4 +0.6**
comp=Z,1.7nm,0.5s,mb4.0,baz=191,slow=10,SNR=2.8
AKASG Malin Array Be 30.60 326 P **P 17 54 36.5 -1.5**
comp=Z,3.6nm,0.5s,mb4.5,baz=129,slow=8.0,SNR=6.9
AKASG Malin Array Be 30.60 326 P **P 17 54 36.5 -1.5**
OBN Obninsk 30.86 339 *eP* **P 17 54 38.5 -1.7**
comp=Z,6.0nm,0.4s,mb4.8
OBN Obninsk 30.86 339⇑ *eP* **P 17 54 38.5 -1.7**
OBN pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
MOS Moscow 31.05 340 *eP* **P 17 54 39.0 -2.9**
MOS *e* 17 55 40.1
NVS Novosibirsk 33.97 29 *eP* **P 17 55 07.6 +0.1**
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,6.0nm,1.5s
NVS pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
ZAL Zalesovo 34.07 31 P **P 17 55 07.0 -1.4**
comp=Z,6.2nm,0.5s,mb4.8,baz=227,slow=7.5,SNR=26
ZAL Zalesovo 34.07 31 *i P* **P 17 55 10.5 +2.1**
ZAL pmax pmax
comp=Z,6.0nm,0.5s
KLMR Klimovskoe 35.09 346 *eP* **P 17 55 19.7 +2.5**
comp=Z,30nm,2.5s,mb4.8
KLMR Klimovskoe 35.09 346 *eP* **P 17 55 19.7 +2.5**
KLMR pmax pmax
comp=Z,30nm,2.5s,mb4.8
OKC Ostrava-Krasne 36.20 318 *eP* **P 17 55 31.4 +4.7**
MORC Moravsky Berou 36.54 318 *eP* **P 17 55 29.4 -0.2**
comp=Z,5.0nm,0.8s,mb4.4
MORC Moravsky Berou 36.54 318 *eP* **P 17 55 29.4 -0.2**
comp=Z,5.0nm,0.8s,mb4.4
MORC Moravsky Berou 36.54 318 *eP* **P 17 55 29.4 -0.2**
MORC pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
DPC Dobruska-Polom 37.48 318 *eP* **P 17 55 37.1 -0.6**
UPC Upice 37.73 318 *eP* **P 17 55 42.6 +2.9**
PRU Pruhonice 38.42 317 *eP* **P 17 55 46.7 +1.2**
GTA Gaotai 38.48 60 *eP* **P 17 55 46.3 +0.3**
GTA AP pP 17 55 50.5 +1.4
GTA XP sP 17 55 53.5 +3.1
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.1
GERES GERESS Array B 38.56 315 P **P 17 55 45.7 -1.0**
comp=Z,0.8nm,0.4s,mb3.8,baz=99,slow=8.2,SNR=7.7
KHC Kasperske Hory 38.72 315 *eP* **P 17 55 47.2 -0.9**
KHC x x 17 55 52.5
KHC Kasperske Hory 38.72 315 *eP* **P 17 55 47.2 -0.9**
KHC *e* 17 55 52.5
JOF Joensuu 38.84 343 *ep* **P 17 55 50.8 +1.8**
comp=Z,1.4nm,0.5s,mb4.0
BRG Berggiesshubel 39.09 318 *eP* **P 17 55 55.8 +4.6**
comp=Z,2.5nm,0.7s,mb4.0
BRG Berggiesshubel 39.09 318 *eP* **P 17 55 55.8 +4.7**
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
BRG Berggiesshubel 39.09 318 *eO* **P 17 55 55.8 +4.6**
comp=Z,2.5nm,0.7s,mb4.1
FINES FINESS Array B 39.26 338 P **P 17 55 51.5 -1.0**
comp=Z,1.3nm,0.5s,mb3.9,baz=137,slow=8.8,SNR=18
FINES FINESS Array B 39.26 338 *i P* **P 17 55 51.5 -1.1**
FINES FINESS Array B 39.26 338 *i P* **P 17 55 53.4 +0.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
WTTA Wattenberg 39.45 312⇑ *i P* **P 17 55 53.6 -0.6**
comp=Z,9.5nm,0.6s,mb4.7
SQTA Sankt Quirin 39.72 312⇑ *i P* **P 17 55 55.7 -0.7**
comp=Z,4.9nm,0.7s,mb4.4
CLL Collm 39.79 318 *es*P sP 17 56 02.0 +0.6
MOTA Moosalm 39.82 312⇑ *i P* **P 17 55 56.0 -1.2**
comp=Z,4.0nm,0.8s,mb4.2
PGF Pioggiola 40.45 304 *eP* **P 17 56 02.0 -0.5**
DAVA Damuels 40.62 312⇑ *i P* **P 17 56 03.2 -0.7**
comp=Z,20nm,0.6s,mb4.9
SBF Sospel 41.73 306 *eP* **P 17 56 13.0 -0.1**
KMI Kunming 42.20 82 P **P 17 56 17.3 +0.4**
KMI AMB AMB
comp=Z,4.0nm,0.7s,mb4.2
FRF La Foret Royal 42.27 306 *eP* **P 17 56 13.6 -3.8**
comp=Z,45nm,1.2s,mb4.7
MBDF Montbardon 42.31 307 *eP* **P 17 56 15.6 -2.2**
comp=Z,9.1nm,0.8s,mb4.2
MBDF Montbardon 42.31 307 *eP* **P 17 56 15.6 -2.2**
comp=Z,4.6nm,0.8s,mb4.2
MBDF Montbardon 42.31 307 *eP* **P 17 56 15.6 -2.2**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
LPG La Plagne 42.43 308 *eP* **P 17 56 16.4 -2.3**
comp=Z,21nm,1.0s,mb4.4
LPG La Plagne 42.43 308 *eP* **P 17 56 16.4 -2.3**
comp=Z,10nm,1.0s,mb4.4
LPG La Plagne 42.43 308 *eP* **P 17 56 16.4 -2.3**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
CABF La Chapelle 43.05 310 *eP* **P 17 56 20.8 -2.9**
SMF Signal de Mont 44.58 310 *eP* **P 17 56 33.5 -2.6**
comp=Z,13nm,0.8s,mb4.5
SMF Signal de Mont 44.58 310 *eP* **P 17 56 33.5 -2.6**
comp=Z,6.6nm,0.8s,mb4.5
SMF Signal de Mont 44.58 310 *eP* **P 17 56 33.5 -2.6**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ULN Ulaanbaatar 44.65 49 P **P 17 56 38.1 +1.5**
comp=Z,1.5nm,0.8s,mb3.9
ULN Ulaanbaatar 44.65 49 P **P 17 56 38.1 +1.5**
comp=Z,1.5nm,0.8s,mb3.9
ULN Ulaanbaatar 44.65 49 P **P 17 56 38.1 +1.5**
ULN pmax pmax
comp=Z,1.0nm,0.8s,mb3.7

LOR Lormes 44.65 311 *eP* **P 17 56 33.6 -3.0**
NB2 NORSAR Subarra 44.73 331 P **P 17 56 35.5 -1.8**
comp=Z,2.8nm,0.9s,mb4.1,baz=114,slow=7.9
NB2 NORSAR Subarra 44.73 331 P **P 17 56 35.5 -1.8**
NB2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
NOA NORSAR Array B 44.73 331 P **P 17 56 35.6 -1.7**
comp=Z,2.0nm,0.9s,mb4.0,baz=118,slow=7.6,SNR=5.8
SSF Saint Saulge 44.86 310 *eP* **P 17 56 35.8 -2.5**
BGF Bois d'Agland 45.26 309 *eP* **P 17 56 39.0 -2.5**
comp=Z,11nm,0.8s,mb4.4
BGF Bois d'Agland 45.26 309 *eP* **P 17 56 39.0 -2.5**
comp=Z,5.6nm,0.8s,mb4.4
BGF Bois d'Agland 45.26 309 *eP* **P 17 56 39.0 -2.5**
BGF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
KEV Kevo 45.41 347 *ep* **P 17 56 44.7 +2.0**
ARCES ARCESS Array B 45.55 346 P **P 17 56 43.7 -0.2**
comp=Z,4.7nm,0.9s,mb4.4,baz=146,slow=8.9,SNR=7.2
CAF Calviac 45.66 307 *eP* **P 17 56 42.5 -2.2**
comp=Z,19nm,1.1s,mb4.6
CAF Calviac 45.66 307 *eP* **P 17 56 42.5 -2.2**
comp=Z,9.3nm,1.1s,mb4.6
CAF Calviac 45.66 307 *eP* **P 17 56 42.5 -2.2**
CAF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
RJF Les Rejaudoux 46.08 308 *eP* **P 17 56 46.1 -1.9**
comp=Z,26nm,1.1s,mb4.8
RJF Les Rejaudoux 46.08 308 *eP* **P 17 56 46.1 -1.9**
comp=Z,13nm,1.1s,mb4.8
RJF Les Rejaudoux 46.08 308 *eP* **P 17 56 46.1 -1.9**
RJF pmax pmax
comp=Z,13nm,1.1s,mb4.8
SJPF Ste Jean 47.98 304 *eP* **P 17 57 01.4 -1.5**
comp=Z,7.6nm,0.6s,mb4.6
SJPF Ste Jean 47.98 304 *eP* **P 17 57 01.4 -1.5**
comp=Z,3.8nm,0.6s,mb4.6
SJPF Ste Jean 47.98 304 *eP* **P 17 57 01.4 -1.5**
SJPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SGMF Saint Gilles 49.05 311 *eP* **P 17 57 08.7 -2.4**
ROSF Rostrenen 49.53 311 *eP* **P 17 57 12.2 -2.5**
ESDC Sonseca Array 50.20 300 P **P 17 57 19.3 -0.6**
comp=Z,0.4nm,0.4s,mb3.8,baz=73,slow=6.6,SNR=4.6
BOD Bodaibo 50.49 36 *eP* **P 17 57 26.2 +4.2**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TORD Torodi Ar. Bea 52.08 265 P **P 17 57 33.1 -0.8**
comp=Z,4.6nm,0.6s,mb4.6,baz=62,slow=7.8,SNR=32
SSE Sheshan 56.64 69 *eP* **P 17 58 05.0 -2.2**
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,80nm,6.2s
YAK Yakutsk 58.73 32 *eP* **P 17 58 22.9 +1.0**
comp=Z,5.0nm,0.5s,mb4.8
YAK Yakutsk 58.73 32⇑ *eP* **P 17 58 22.9 +1.0**
YAK pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
TIXI Tiksi 58.94 21⇓ *eP* **P 17 58 21.5 -1.8**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
DBIC Dimbokro 60.71 262 *eP* **P 17 58 35.2 -0.2**
comp=Z,2.4nm,0.6s,mb4.5,baz=63,slow=5.8,SNR=3.3
DBIC Dimbokro 60.71 262 *eP* **P 17 58 34.8 -0.7**
comp=Z,8.4nm,1.0s,mb4.8
DBIC Dimbokro 60.71 262 *eP* **P 17 58 34.8 -0.7**
comp=Z,8.4nm,1.0s,mb4.8
DBIC Dimbokro 60.71 262 *eP* **P 17 58 34.8 -0.7**
DBIC pmax pmax
comp=Z,8.0nm,1.0s
JNU Nakatsue 64.02 65 LR LR 18 30 17.5
comp=Z,3μm,18.3s,baz=0.5,slow=39
YSS Yuzh-Sakhalins 68.67 47 *i P* **P 17 59 27.3 -0.2**
MAJO Matsushiro 68.71 59 P **P 17 59 29.2 +1.5**
comp=Z,9.5nm,1.1s,mb4.6
MAJO Matsushiro 68.71 59 P **P 17 59 29.2 +1.5**
comp=Z,9.5nm,1.1s,mb4.6
MAJO Matsushiro 68.71 59 P **P 17 59 29.2 +1.5**
MAJO pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MJAR Matsushiro Arr 68.71 59 P **P 17 59 29.0 +1.3**
comp=Z,0.9nm,0.8s,mb3.7,baz=274,slow=5.9,SNR=3.1
INK Inuvik 84.27 3 P **P 18 00 56.7 +0.9**
comp=Z,0.7nm,0.5s,mb4.1,baz=18,slow=3.2,SNR=5.0
ILAR Eielson Array 86.41 9 P **P 18 01 04.7 -1.9**
comp=Z,1.0nm,0.7s,mb4.2,baz=321,slow=4.4,SNR=22
MCK McKinley 87.07 11 P **P 18 01 02.5 -7.2**
WRA Warramunga Arr 89.63 113 P **P 18 01 21.1 -0.8**
comp=Z,0.3nm,0.6s,mb3.8,baz=310,slow=4.2,SNR=6.6
WRA Warramunga Arr 89.63 113 *i P* **P 18 01 22.8 +0.9**
YKA Yellowknife Ar 90.00 355 P **P 18 01 22.8 -0.8**
comp=Z,0.5nm,0.7s,mb4.0,baz=7.7,slow=5.6,SNR=11
YKA Yellowknife Ar 90.00 355 P **P 18 01 22.8 -0.8**
ASAR Alice Springs 91.10 116 P **P 18 01 28.1 -0.7**
comp=Z,0.4nm,0.7s,mb3.9,baz=303,slow=4.5,SNR=4.9
ASAR Alice Springs 91.10 116 P **P 18 01 28.0 -0.7**
MAW Mawson 94.95 177 P **P 18 01 45.6 -0.9**
comp=Z,5.4nm,0.2s,baz=38,slow=8.2,SNR=25

OMAN ***25*** *17:59:15.3,2838N×5076E,h120km*
CSEM ***25*** *17:59:18.9±0.1,2783N×5136E,h16km,ML3.8, Error ellipse: s-maj=2.4km s-min=1.6km az=92.0*
IDC ***25*** *17:59:19.5±2.4,2802N×5116E,h0km,mb3.5/7,mb1 3.6/8, mb1mx3.5/22,mbtmp3.5/8,ML3.0/1,MS3.0/4,Ms1 3.0/4, ms1mx2.7/22,Error ellipse: s-maj=53.5km s-min=26.6km az=149.0*
ISCJB ***25*** *17:59:21.1±0.7,2781N±004×5121E±005,h33km±9km, mb3.5/7,MS3.2/2,Error ellipse: s-maj=7.1km s-min=6.8km az=76.1*
TEH ***25*** *17:59:22.3,2786N×5128E,h18km,Mn3.8*
NEIC ***25*** *17:59:22.3,2786N×5128E,h18km,ML3.6(THR), MN3.7(TEH),After TEH.*
KISR ***25*** *17:59:26.3±1.2,2854N×4355E,h33km,ML4.1*
THR ***25*** *17:59:31.5±0.6,2902N×5215E,h14km±13km,ML3.5*
ISC 25 17:59:21.0±1.0,2792N±004×5124E±003,h14km±7km,n44, σ1°21/47,mb3.5/7,MS3.2/2,Persian Gulf

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.58**	**76**	*e*Pg		**ISC**	**17 59 50.8**	**-0.5**
GHIR				AML		AML	18 00 16.2	
comp=E,2μm,0.1s								
GHIR				AML		AML	18 00 17.7	
comp=N,815nm,0.6s								
GHIR	**Ghir-Karzin**	**1.58**	**76**	*e*Pg		**Pg**	**17 59 51.0**	**-0.4**
IMOK	**Mook**	**1.71**	**49**	*e*Pn		**Pn**	**17 59 51.5**	**+1.1**
IMOK				*e*Sn		**Sn**	**18 00 13.0**	**+0.8**
IMOK	**Mook**	**1.71**	**49**	Pn		**Pn**	**17 59 51.4**	**+1.0**
KBD	**Kabd**	**3.37**	**293**	*eP*		**Pg**	**18 00 24.3**	**-1.2**
KBD				AML		AML	18 01 19.6	
comp=Z,431nm,0.5s								
RDF	**Al-Radifah**	**3.41**	**288**	*eP*		**Pg**	**18 00 23.0**	**-3.2**
RDF				*e*S		**Sb**	**18 01 04.2**	**+1.8**
RDF				AML		AML	18 01 22.0	
comp=Z,177nm,0.4s								
NAY	**Al-Naaiem**	**3.76**	**292**	*eP*		**Pn**	**18 00 19.7**	**+1.1**
NAY				AML		AML	18 01 25.1	
comp=Z,2μm,0.6s								
MIB	**Mutribah**	**3.91**	**300**	*eP*		**Pn**	**18 00 22.0**	**+1.4**
MIB				*e*S		**Sn**	**18 01 05.1**	**-1.2**
MIB				AML		AML	18 01 38.0	
comp=Z,78nm,0.5s								
MIB	**Mutribah**	**3.91**	**300**	*eP*		**Pn**	**18 00 21.7**	**+1.1**
ISAD	**Sadrabad**	**4.51**	**27**	*e*Sn		**Sn**	**18 01 19.9**	**-1.3**
IMEH	**Mehriz**	**4.54**	**39**	*eP*		**Pn**	**18 00 31.8**	**+2.6**
IMEH	**Mehriz**	**4.54**	**39**	Pn		**Pn**	**18 00 31.7**	**+2.5**
IPIR	**Pirpir**	**4.76**	**356**	*e*Pn		**Pn**	**18 00 33.0**	**+0.7**
IPIR	**Pirpir**	**4.76**	**356**	Pn		**Pn**	**18 00 32.9**	**+0.6**
BANOM	**Banah**	**4.93**	**113**	P		**Pn**	**18 00 35.3**	**+0.7**
SNR=5.1								
IZEF	**Zefreh**	**5.05**	**10**	*e*Pn		**Pn**	**18 00 37.7**	**+1.4**
IZEF				*e*Sn		**Sn**	**18 01 33.2**	**-1.2**
ICHK	**Chekchek**	**5.11**	**32**	*e*Pn		**Pn**	**18 00 38.3**	**+1.2**
ICHK	**Chekchek**	**5.11**	**32**	Pn		**Pn**	**18 00 38.2**	**+1.1**
IBAF	**Bafgh**	**5.25**	**45**	*e*Pn		**Pn**	**18 00 40.1**	**+1.1**
IBAF				*e*Sn		**Sn**	**18 01 36.7**	**-2.6**
IBAF	**Bafgh**	**5.25**	**45**	Pn		**Pn**	**18 00 40.0**	**+1.0**
KRBR	**Kerman**	**5.25**	**66**	*e*Pn		**Pn**	**18 00 36.8**	**-2.3**
KRBR				*e*Sg		**Sn**	**18 01 39.7**	**+0.3**
KRBR	**Kerman**	**5.25**	**66**	*e*Pn		**Pn**	**18 00 36.0**	**-3.1**
KRBR				*e*			18 01 39.0	

IKLH Kalahroud 5.39 3 *e*Pn **Pn 18 00 41.9 +0.9**
IKLH *e*Sn **Sn 18 01 41.2 -1.7**
ASAO Ashtian 6.69 351 *e*Pn **Pn 18 00 59.4 +0.5**
ASAO AML AML 18 02 18.0
comp=N,16nm,1.1s
ASAO Ashtian 6.69 351 *e*Pn **Pn 18 00 58.0 -0.9**
WHFO Wadi Hawf 10.22 166 P **Pn 18 01 46.6 -0.6**
SNR=24
SHAO Shalim 10.64 157 P **Pn 18 01 52.9 -0.2**
SNR=26
ABTO Aybut 10.68 169 P **Pn 18 01 52.5 -1.1**
SNR=13
RBK Rabkut 10.72 165 P **Pn 18 01 53.4 -0.7**
SNR=12
GNI Garni 13.33 338 LR LR 18 08 50.3
comp=N,29nm,21.2s,baz=8.8,slow=43
ATD Arta Tunnel 18.10 207 LR LR 18 11 21.7
comp=N,45nm,20.6s,baz=50,slow=40
BRTR Keskin Array B 18.74 313 P **Pn 18 03 39.7 -0.1**
comp=N,0.1nm,0.3s,baz=124,slow=12,SNR=3.7
BRTR Keskin Array B 18.74 313 P **Pn 18 03 39.7 -0.1**
AKTK Aktyubinsk 23.07 11 P **P 18 04 27.2 +1.1**
AKTK Aktyubinsk 23.07 11 P **P 18 04 27.2 +1.1**
AKTO Aktyubinsk 23.07 11 P **P 18 04 27.2 +1.1**
comp=N,0.4nm,0.3s,mb3.3,baz=166,slow=12,SNR=2.7
BVAR Borovoye Array 28.82 24 P **P 18 05 19.1 +0.4**
comp=N,0.5nm,0.5s,mb3.5,baz=220,slow=7.1,SNR=6.4
MKAR Makanchi Array 30.76 44 P **P 18 05 35.7 -0.2**
comp=N,0.4nm,0.7s,mb3.4,baz=228,slow=7.3,SNR=3.0
ZAL Zalesovo 35.74 34 LR LR 18 23 44.6
comp=N,26nm,20.1s,MS3.0,baz=49,slow=41
FINES FINESS Array B 37.51 340 P **P 18 06 32.8 -1.5**
comp=N,0.4nm,0.5s,mb3.4,baz=134,slow=9.9,SNR=7.7
NOA NORSAR Array B 42.55 332 P **P 18 07 14.6 -1.7**
comp=N,0.8nm,0.8s,mb3.5,baz=123,slow=9.0,SNR=3.0
TORD Torodi Ar. Bea 48.35 263 P **P 18 08 03.1 +0.9**
comp=N,0.3nm,0.6s,mb3.5,baz=63,slow=6.6,SNR=4.8
PSI Prapat 51.85 110 LR LR 18 30 15.4
comp=N,45nm,20.3s,MS3.5,baz=13,slow=36
YKA Yellowknife Ar 89.19 353 P **P 18 12 16.4 +0.1**
comp=N,0.3nm,0.7s,mb3.8,baz=10,slow=4.8,SNR=7.6

ISCJB ***25*** *18:10:46.7±4.9,361N±007×1267E±01,h30km±36km, mb4.4/27,MS3.5/5,Error ellipse: s-maj=23.8km s-min=9.1km az=135.3*
NEIC ***25*** *18:10:49.6±1.8,358N×12671E,h42km±17km,mb4.5/17, Error ellipse: s-maj=18.9km s-min=6.3km az=68.0*
BJI ***25*** *18:10:50.8,391N×12650E,h35km,mB5.2,mb4.7,Ms4.6, Msz4.4*
IDC ***25*** *18:10:53.8±11.0,356N×12670E,h80km±106km,mb3.9/12, mb1 4.0/12,mb1mx3.9/21,mbtmp4.2/12,MS3.5/5, Ms1 3.5/5,ms1mx3.0/30,Error ellipse: s-maj=64.3km s-min=20.2km az=61.0*
ISC 25 18:10:50.4±2.2,360N±007×1267E±01,h45km±21km,n41, σ0°87/38,mb4.4/27,MS3.5/5,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.72**	**283**	*e*Pn		**Pn**	**18 13 21.1**	**-0.2**
KAKA	**Kakadu**	**17.18**	**161**	*eP*		**Pn**	**18 14 44.5**	**-2.6**
5.8nm,0.4s								
YHNB	**Yeheng**	**21.56**	**347**	*eP*		**P**	**18 15 35.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.59**	**183**	*eP*		**P**	**18 15 37.9**	**+1.6**
14nm,1.5s,mb4.2								
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P		**P**	**18 15 37.3**	**+1.1**
1.8nm,0.5s,mb3.8,baz=13,slow=12,SNR=14								
PMG	**Port Moresby**	**24.14**	**122**	LR		LR	18 26 21.3	
comp=Z,154nm,18.1s,MS3.5,baz=163,slow=38								
WRAB	**Tennant Creek**	**24.57**	**162**	*eP*		**P**	**18 16 06.2**	**+0.2**
21nm,0.8s,mb4.7								
WRA	**Warramunga Arr**	**24.57**	**162**	P		**P**	**18 16 06.0**	**0.0**
13nm,0.8s,mb4.5,baz=334,slow=11,SNR=53								
WB2	**Warramunga Arr**	**24.58**	**162⇑**	*i P*		**P**	**18 16 06.1**	**+0.1**
WB2				*e*S		**S**	**18 20 28.1**	**+4.3**
MBWA	**Marble Bar**	**25.54**	**195**	*eP*		**P**	**18 16 18.0**	**+3.2**
6.4nm,0.9s,mb4.2								
ASAR	**Alice Springs**	**28.00**	**166**	P		**P**	**18 16 37.4**	**+0.5**
0.7nm,0.5s,mb3.6,baz=346,slow=7.8,SNR=19								
ENH	**Enshi**	**31.12**	**330**	*eP*		**P**	**18 17 04.2**	**-0.4**
12nm,1.3s,mb4.6								
JHJ	**Hachijo jima 2**	**31.82**	**21**	LR		LR	18 27 53.7	
comp=Z,59nm,19.1s,MS3.3,baz=307,slow=32								
KS15	**Wonju Array Si**	**33.70**	**2**	*eP*		**P**	**18 17 27.4**	**+0.4**
HNR	**Honiara**	**35.58**	**112**	LR		LR	18 30 49.4	
comp=Z,98nm,19.4s,MS3.6,baz=178,slow=34								
BJT	**Baijiatuau**	**37.48**	**347**	*eP*		**P**	**18 18 00.6**	**+1.0**
18nm,0.8s,mb5.0								
BJI	**Beijing**	**37.50**	**347**	*eP*		**P**	**18 18 00.5**	**+0.8**
BJI				AMB		AMB		
comp=Z,22nm,0.8s,mb4.9								
STKA	**Stephens Creek**	**38.02**	**159**	*eP*		**P**	**18 18 01.0**	**-3.1**
comp=Z,3.7nm,0.6s,mb4.3								
STKA	**Stephens Creek**	**38.02**	**159**	P		**P**	**18 18 03.3**	**-0.8**
comp=Z,4.6nm,0.4s,mb4.5,baz=331,slow=9.0,SNR=27								
MDJ	**Mudanjiang**	**40.93**	**3**	*eP*		**P**	**18 18 29.1**	**+0.8**
comp=Z,18nm,1.1s,mb4.6								
LSA	**Lhasa**	**42.50**	**312**	*eP*		**P**	**18 18 41.9**	**+0.7**
comp=Z,4.3nm,0.6s,mb4.3								
HIA	**Hailar**	**45.88**	**354**	P		**P**	**18 19 10.8**	**+2.6**
comp=Z,6.4nm,0.6s,mb4.7								
ULN	**Ulaanbaatar**	**47.23**	**342**	*eP*		**P**	**18 19 18.9**	**+0.1**
comp=Z,2.2nm,0.7s,mb4.2								
SONM	**Songino Array**	**47.41**	**341**	P		**P**	**18 19 20.1**	**-0.1**
comp=Z,1.7nm,0.6s,mb4.2,baz=152,slow=5.8,SNR=6.5								
MKAR	**Makanchi Array**	**57.64**	**325**	P		**P**	**18 20 36.0**	**+0.1**
comp=Z,1.9nm,0.4s,mb4.5,baz=119,slow=6.8,SNR=40								
MKAR				LR		LR	18 49 05.2	
comp=Z,32nm,18.4s,MS3.5,baz=306,slow=40								
MKAR	**Makanchi Array**	**57.64**	**325**	P		**P**	**18 20 36.0**	**+0.1**
MKAR				LR		LR	18 49 05.2	
YAK	**Yakutsk**	**58.34**	**2**	P		**P**	**18 20 40.0**	**-0.7**
comp=Z,6.2nm,0.6s,mb4.8								
MA2	**Magadan**	**58.84**	**14**	P		**P**	**18 20 44.5**	**+0.3**
comp=Z,3.6nm,0.8s,mb4.5								
ZAL	**Zalesovo**	**60.69**	**333**	LR		LR	18 53 03.7	
comp=Z,28nm,18.9s,MS3.4,baz=190,slow=42								
KURK	**Kurchatov**	**61.83**	**328**	*eP*		**P**	**18 21 04.8**	**+0.1**
comp=Z,9.6nm,0.6s,mb5.1								
BVAR	**Borovoye Array**	**67.41**	**327**	P		**P**	**18 21 41.0**	**0.0**
comp=Z,1.8nm,0.6s,mb4.3,baz=119,slow=8.6,SNR=10								
BRVK	**Borovoye**	**67.48**	**327**	P		**P**	**18 21 40.8**	**-0.7**
comp=Z,4.9nm,0.9s,mb4.5								
CHKZ	**Chkalovo**	**67.57**	**328**	*eP*		**P**	**18 21 41.0**	**-1.1**
comp=Z,2.4nm,0.8s,mb4.3								
ZRNK	**Zerenda**	**68.13**	**327**	*eP*		**P**	**18 21 45.2**	**-0.4**
comp=Z,4.8nm,0.8s,mb4.6								
AKTK	**Aktyubinsk**	**73.74**	**322**	P		**P**	**18 22 19.5**	**-0.1**
AKTO	**Aktyubinsk**	**73.74**	**322**	P		**P**	**18 22 19.5**	**-0.1**
comp=Z,1.7nm,0.6s,mb4.2,baz=96,slow=9.1,SNR=9.5								
ILAR	**Eielson Array**	**85.23**	**25**	P		**P**	**18 23 22.0**	**-0.1**
comp=Z,0.3nm,0.6s,mb3.6,baz=265,slow=4.3,SNR=5.3								
ARCES	**ARCESS Array B**	**90.56**	**340**	P		**P**	**18 23 47.3**	**-0.3**
comp=Z,3.9nm,0.9s,mb4.8,baz=82,slow=6.1,SNR=9.3								
FINES	**FINESS Array B**	**91.93**	**332**	P		**P**	**18 23 53.0**	**-0.9**
comp=Z,0.5nm,0.5s,mb4.1,baz=36,slow=10,SNR=3.8								
AKASG	**Malin Array Be**	**91.97**	**321**	P		**P**	**18 23 53.5**	**-0.7**
comp=Z,0.3nm,0.4s,mb4.0,baz=70,slow=4.3,SNR=5.2								
AKASG	**Malin Array Be**	**91.97**	**321**	P		**P**	**18 23 53.5**	**-0.7**

ISCJB ***25*** *18:15:49.4±2.1,772S±009×7434W±009,h120km±22km, mb4.0/7,Error ellipse: s-maj=17.6km s-min=11.5km az=98.1*
NEIC ***25*** *18:15:49.1±2.4,776S×7443W,h106km±25km,mb4.2/4, Error ellipse: s-maj=27.4km s-min=13.4km az=72.0*
IDC ***25*** *18:15:55.6±4.2,799S×7423W,h158km±39km,mb3.8/5, mb

2.5nm,0.3s,baz=301,slow=11,SNR=47
SIV S **S** **18 22 08.3 -11**
0.4nm,0.3s,baz=222,slow=22,SNR=3.0
LVC Limon Verde 15.70 161 P **Pn** **18 19 26.5 +1.4**
0.4nm,0.3s,baz=307,slow=10,SNR=4.6
LVC Limon Verde 15.70 161 *e*Pn **Pn** **18 19 23.4 -1.8**
5.4nm,0.7s
SDV Santo Domingo 16.91 13 P **Pn** **18 19 45.7 +5.6**
0.8nm,0.3s,baz=213,slow=14,SNR=3.4
SDV Santo Domingo 16.91 13 *e*P **Pn** **18 19 39.2 -0.9**
CPUP Villa Florida 24.57 141 P **P** **18 20 58.7 -1.3**
2.0nm,0.5s,mb3.8,baz=298,slow=8.2,SNR=6.2
CPUP Villa Florida 24.57 141 P **P** **18 20 58.7 -1.3**
BDFB Brasilia 26.92 109 P **P** **18 21 21.1 -0.1**
2.1nm,0.5s,mb4.0,baz=275,slow=12,SNR=3.4
MIAR Mount Ida 45.81 338 P **P** **18 24 00.2 -0.9**
4.0nm,1.0s,mb4.1
HWUT Hardware Ranch 59.77 328 P **P** **18 25 43.5 -0.3**
1.5nm,0.8s,mb4.1
DBIC Dimbokro 70.75 80 P **P** **18 26 55.4 +0.8**
5.5nm,0.4s,mb4.7,baz=245,slow=5.8,SNR=17
YKA Yellowknife Ar 76.54 342 P **P** **18 27 29.3 +0.9**
0.1nm,0.3s,mb3.0,baz=140,slow=5.5,SNR=3.8
YKA Yellowknife Ar 76.54 342 P **P** **18 27 29.3 +0.9**
TORD Torodi Ar. Bea 78.29 75 P **P** **18 27 38.3 +0.1**
1.0nm,0.3s,mb4.1,baz=263,slow=5.4,SNR=24

IDC 25 18:19:37.1±2.8,566S×13236E,h0km,mb3.3/1,mb1 3.7/4, mb1mx3.6/13,mbtmp3.5/4,ML3.6/2,MS3.3/1,Ms1 3.3/1, ms1mx2.5/15,Error ellipse: s-maj=118.6km s-min=28.6km az=80.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.00**	**207**	Pn	Pn	18 22 56.7	+0.1
	0.2nm,0.3s,baz=35,slow=16,SNR=8.8						
FITZ				Sn	Sn	18 25 23.0	-10
	0.4nm,0.3s,baz=70,slow=22,SNR=6.1						
WRA	**Warramunga Arr**	**14.32**	**172**	Pn	Pn	18 23 00.8	-0.3
	0.3nm,0.3s,baz=352,slow=13,SNR=16						
WRA				Sn	Sn	18 25 33.4	-7.3
	0.4nm,0.3s,baz=359,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.96**	**175**	P	Pn	18 23 49.0	+0.8
	0.2nm,0.3s,baz=356,slow=14,SNR=18						
ASAR				S	Sn	18 27 03.3	-5.7
	0.1nm,0.3s,baz=1.8,slow=28,SNR=5.9						
CBIJ	**Chichi jima**	**33.92**	**16**	LR	LR	18 37 33.5	
	comp=Z,45nm,19.6s,baz=119,slow=32						
MKAR	**Makanchi Array**	**68.43**	**325**	P	P	18 30 40.9	+0.1
	0.1nm,0.4s,baz=116,slow=7.5,SNR=3.6						

FUNV ***25*** *18:46:21.4,664N×7321W,h170km,MW3.5*
ISCJB ***25*** *18:46:22.4±0.8,687N±008×73.1W±0.1,h172km±9km, mb3.0/1,Error ellipse: s-maj=21.9km s-min=7.6km az=68.8*
IDC ***25*** *18:46:26.3±6.8,671N×7563W,h138km±85km,mb2.8/1, mb1 3.2/2,mb1mx2.9/20,mbtmp3.3/2,Error ellipse: s-maj=205.4km s-min=37.5km az=81.0*

ISC 25 18:46:23.5±0.8,686N±008×730W±01,h167km±9km,n11, σ0°64/14,mb3.0/1,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**36⇑**	*i*P	**Pn**	**18 46 52.6**	**+0.8**
CAPV				*e*S	**Sn**	**18 47 14.3**	**+0.7**
ROSC	**El Rosal**	**2.36**	**213**	P	**Pn**	**18 47 04.4**	**+0.5**
	13nm,0.3s,baz=267,slow=17,SNR=36						
ROSC				S	**Sn**	**18 47 34.1**	**-0.9**
	13nm,0.3s,baz=90,slow=17,SNR=9.6						
VIGV	**El Vigia**	**2.58**	**40**	*e*P	**Pn**	**18 47 06.6**	**+0.2**
VIGV				*e*S	**Sn**	**18 47 40.1**	**+0.6**
SOCV	**Socops**	**2.59**	**57**	*e*P	**Pn**	**18 47 06.8**	**+0.3**
VIRV	**Villa del Rosa**	**3.68**	**10**	*e*P	**Pn**	**18 47 19.8**	**-0.2**
VIRV				*e*S	**Sn**	**18 48 03.1**	**-1.0**
CURV	**Curarigua**	**4.37**	**44**	*e*P	**Pn**	**18 47 28.9**	**-0.1**
CURV				*e*S	**Sn**	**18 48 19.5**	**-0.6**
SIQV	**Siquisique**	**4.94**	**40**	*e*P	**Pn**	**18 47 35.9**	**-0.5**
BAUV	**El Baul**	**5.37**	**67**	*e*P	**Pn**	**18 47 41.1**	**-0.9**
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**18 56 35.0**	**+0.8**
	0.1nm,0.4s,mb3.0,baz=133,slow=6.9,SNR=4.4						
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	PKPbc	19 05 52.9	+0.7
	0.4nm,0.5s,baz=105,slow=4.0,SNR=5.8						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	19 05 56.0	+0.9
	0.4nm,0.5s,baz=108,slow=2.6,SNR=8.9						

IDC ***25*** *18:53:45.5±0.7,334S×12761E,h0km,mb4.3/8, mb1 4.5/10,mb1mx4.3/17,mbtmp4.3/10,ML3.2/1,MS3.2/2, Ms1 3.2/2,ms1mx2.6/28,Error ellipse: s-maj=50.9km s-min=11.9km az=74.0*
MOS ***25*** *18:53:48.1±1.2,344S×12747E,h33km,mb4.7/10,Error ellipse: s-maj=32.1km s-min=9.6km az=111.2*
ISCJB ***25*** *18:53:49.5±3.7,35S±01×1276E±01,h46km±39km, mb4.5/25,Error ellipse: s-maj=26.3km s-min=16.6km az=92.5*
NEIC ***25*** *18:53:55.1±1.6,363S×12763E,h90km±18km,mb4.5/13, Error ellipse: s-maj=15.1km s-min=8.7km az=58.0*
BJI ***25*** *18:53:55.1,360S×12760E,h90km,mB5.4,mb4.8,Ms5.3, Msz5.0*

ISC 25 18:53:54.5±2.7,36S±01×1277E±01,h81km±29km,n45, σ0°88/44,mb4.4/25,1C,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.22**	**153**	*e*P	**Pn**	**18 56 18.1**	**-0.2**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.59**	**188**	Pn	**Pn**	**18 57 16.9**	**+0.2**
	0.1nm,0.3s,baz=0.0,slow=18,SNR=2.3						
FITZ				LR	LR	19 04 04.1	
	comp=Z,86nm,18.3s,baz=351,slow=42						
WRAB	**Tennant Creek**	**17.52**	**159**	*e*Pn	**Pn**	**18 57 53.6**	**+0.3**
	20nm,0.8s						
WRAB	**Tennant Creek**	**17.52**	**159**	*e*P	**Pn**	**18 57 53.6**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**17.52**	**159**	P	**Pn**	**18 57 52.8**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=338,slow=12,SNR=40						
WB2	**Warramunga Arr**	**17.52**	**159**	*e*P	**Pn**	**18 57 53.0**	**-0.4**
ASAR	**Alice Springs**	**20.87**	**164**	P	**P**	**18 58 33.7**	**+3.9**
	comp=Z,20nm,0.8s,baz=344,slow=11,SNR=256						
ASAR				S	**S**	**19 02 28.8**	**+11**
	comp=Z,2.9nm,1.1s,baz=343,slow=21,SNR=6.3						
GUMO	**Guam**	**24.09**	**45**	LR	LR	19 06 46.6	
	comp=Z,47nm,18.9s,baz=89,slow=32						
STKA	**Stephens Creek**	**31.05**	**157**	P	**P**	**19 00 06.9**	**+2.3**
	comp=Z,2.4nm,0.8s,mb4.0,baz=328,slow=9.1,SNR=6.6						
STKA	**Stephens Creek**	**31.05**	**157**	*e*P	**P**	**19 00 04.0**	**-0.7**
ENH	**Enshi**	**37.89**	**334**	*e*P	**P**	**19 01 04.0**	**+0.4**
	comp=Z,3.3nm,0.6s,mb4.3						
MJAR	**Matsushiro Arr**	**41.08**	**13**	P	**P**	**19 01 29.6**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.0,baz=184,slow=9.3,SNR=9.0						
LZH	**Lanzhou**	**45.32**	**333**	*e*P	**P**	**19 02 10.5**	**+6.2**
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.8						
LSA	**Lhasa**	**48.15**	**316**	*e*P	**P**	**19 02 27.0**	**+0.6**
	comp=Z,6.0nm,1.0s,mb4.4						
LSA	**Lhasa**	**48.15**	**316**	*e*P	**P**	**19 02 27.0**	**+0.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
GTA	**Gaotai**	**49.88**	**332**	*e*P	**P**	**19 02 40.3**	**+0.7**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.0						
JIRN	**Jiri**	**50.63**	**310**	*e*P	**P**	**19 02 45.6**	**+0.4**
GUN	**Gumba**	**50.99**	**311**	*e*P	**P**	**19 02 48.5**	**+0.5**
	comp=Z,16nm,0.7s,mb5.2						
PKI	**Pulchoki**	**51.18**	**310**	*e*P	**P**	**19 02 49.4**	**0.0**
KKN	**Kakani**	**51.38**	**310**	*e*P	**P**	**19 02 51.1**	**+0.2**
DMN	**Daman**	**51.43**	**310**	*e*P	**P**	**19 02 51.5**	**+0.3**
	comp=Z,7.8nm,0.6s,mb4.9						
GKN	**Gorkha**	**51.98**	**310**	*e*P	**P**	**19 02 55.5**	**+0.1**
	comp=Z,10.0nm,0.6s,mb5.0						
KOLN	**Koldanda**	**52.67**	**309**	*e*P	**P**	**19 03 00.8**	**+0.4**
	comp=Z,13nm,0.6s,mb5.1						
ULN	**Ulaanbaatar**	**54.32**	**343**	*e*P	**P**	**19 03 13.1**	**+0.6**
	comp=Z,4.2nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**54.32**	**343**	*e*P	**P**	**19 03 13.1**	**+0.6**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
SONM	**Songino Array**	**54.49**	**342**	P	**P**	**19 03 14.1**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.2,baz=168,slow=15,SNR=3.3						
BOD	**Bodaibo**	**62.17**	**352**	*e*P	**P**	**19 04 06.5**	**-0.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**64.12**	**327**	P	**P**	**19 04 20.1**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.3,baz=131,slow=8.3,SNR=34						
MKAR				PcP	PcP	19 04 55.9	+1.3
	comp=Z,1.5nm,0.7s,baz=131,slow=5.2,SNR=6.0						
YAK	**Yakutsk**	**65.42**	**1**	*e*P	**P**	**19 04 29.6**	**+1.0**
	comp=Z,19nm,0.8s,mb5.0						
YAK	**Yakutsk**	**65.42**	**1**	*e*P	**P**	**19 04 29.6**	**+1.0**
YAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.0						
ZAL	**Zalesovo**	**67.51**	**334**	P	**P**	**19 04 41.2**	**-0.7**
	comp=Z,1.8nm,0.9s,mb3.9,baz=356,slow=4.6,SNR=8.0						
KURK	**Kurchatov**	**68.41**	**329**	*e*P	**P**	**19 04 47.1**	**-0.5**
	comp=Z,9.7nm,1.0s,mb4.6						
KURK	**Kurchatov**	**68.41**	**329**	*e*P	**P**	**19 04 47.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
NVS	**Novosibirsk**	**68.80**	**334**	*e*P	**P**	**19 04 46.9**	**-3.1**
NVS				pmax	pmax		
	comp=N,4.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.4						
NVS				pmax	pmax		
	comp=E,5.0nm,1.3s						
SEY	**Seymchan**	**68.90**	**12**	*e*P	**P**	**19 04 53.2**	**+2.6**
SEY				*e*		19 18 22.9	
SEY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**74.03**	**328**	*e*P	**P**	**19 05 19.8**	**-1.7**
	comp=Z,3.7nm,1.3s,mb4.0						
BRVK	**Borovoye**	**74.03**	**328**	*e*P	**P**	**19 05 19.8**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
CHKZ	**Chkalovo**	**74.16**	**329**	*e*P	**P**	**19 05 21.3**	**-0.9**
	comp=Z,2.5nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**74.16**	**329**	*e*P	**P**	**19 05 21.3**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**74.66**	**328**	*e*P	**P**	**19 05 24.2**	**-0.9**
	comp=Z,7.0nm,1.1s,mb4.3						
ZRNK				*e*		19 05 32.7	
ZRNK	**Zerenda**	**74.66**	**328**	*e*P	**P**	**19 05 24.2**	**-0.9**
ZRNK				*e*		19 05 32.7	
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
TIXI	**Tiksi**	**75.07**	**0⇑**	*i*P	**P**	**19 05 26.2**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**91.23**	**25**	P	**P**	**19 06 51.8**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.8,baz=242,slow=5.3,SNR=13						
ARCES	**ARCESS Array B**	**97.58**	**340**	P	**P**	**19 07 19.7**	**-0.1**
	comp=Z,3.1nm,0.7s,mb4.9,baz=85,slow=2.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**125.85**	**284**	PKP	PKPdf	19 12 50.1	+3.2
	comp=Z,0.8nm,0.9s,baz=75,slow=1.2,SNR=3.8						

CSEM ***25*** *19:14:31.4,2796N×5744E,h14km,ML3.6,After THR*

THR 25 19:14:31.4±0.5,2796N×5744E,h14km±6km,ML3.6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.26**	**244**	*e*Pg	Pg	19 14 54.7	-0.9
BNDS				AML	AML	19 15 36.5	
	comp=N,964nm,1.0s						
BNDS				AML	AML	19 15 38.9	
	comp=E,1μm,0.1s						
KRBR	**Kerman**	**2.10**	**344**	*e*Pg	Pg	19 15 09.7	-1.9
KRBR				*e*Sg	Sg	19 15 37.7	-1.1
KRBR				AML	AML	19 15 39.9	
	comp=N,459nm,0.2s						
KRBR				AML	AML	19 15 39.9	
	comp=E,634nm,0.3s						
KRBR	**Kerman**	**2.10**	**344**	*e*Pg	Pg	19 15 09.7	-1.9
	SNR=90						
KRBR				*e*Sg	Sg	19 15 37.7	-1.1
	comp=E,459nm,0.2s,SNR=90						
GHIR	**Ghir-Karzin**	**3.94**	**276**	*e*Pn	Pn	19 15 33.9	+2.4
GHIR				AML	AML	19 16 40.8	
	comp=E,62nm,0.9s						
GHIR				AML	AML	19 16 53.6	
	comp=N,52nm,0.5s						
GHIR	**Ghir-Karzin**	**3.94**	**276**	*e*Pn	Pn	19 15 33.8	+2.3
	SNR=52						

CASC 25 19:23:12.9±2.1,1316N×9047W,h20km±10km,MD3.5, 1C-1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.01**	**1⇑**	*e*P	Pb	19 23 31.2	-0.6
IXG				*e*S	Sb	19 23 45.6	+1.0
SBLS	**San Blas**	**1.07**	**50**	*e*P	Pb	19 23 39.9	+7.3
SBLS				*e*S	Sb	19 23 55.4	+9.3
SNJE	**San Jose**	**1.10**	**50**	*e*P	Pn	19 23 40.0	+6.9
SNJE				*e*S	Sb	19 23 55.0	+7.9
BOQS	**Boqueron**	**1.29**	**63**	*e*P	Pn	19 23 43.0	+7.2
BOQS				*e*S	Sn	19 24 01.2	+8.7
FUG	**Fuego 3**	**1.34**	**344**	*e*P	Pn	19 23 38.8	+2.4
NBG	**Las Nubes**	**1.43**	**5**	*e*P	Pn	19 23 38.1	+0.5
NBG				*e*S	Sn	19 23 59.0	+3.2
LFRS	**El Faro**	**1.45**	**71**	*e*P	Pn	19 23 44.9	+7.0
LFRS				*e*S	Sn	19 24 03.4	+7.2
LCBS	**La Ceiba**	**1.53**	**71**	*e*P	Pn	19 23 45.6	+6.5
LCBS				*e*S	Sn	19 24 05.6	+7.2
TP2	**Tecpan 2**	**1.71**	**342⇓**	*e*P	Pn	19 23 42.1	+0.6
TP2				*e*S	Sn	19 24 04.5	+1.8

IDC 25 19:39:25.0±2.0,317S×12787E,h0km,mb3.6/2,mb1 3.9/3, mb1mx3.6/15,mbtmp3.7/3,ML3.2/1,Error ellipse: s-maj=134.9km s-min=27.2km az=67.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.83**	**160**	P	Pn	19 43 33.3	-1.2
	0.1nm,0.3s,baz=338,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.20**	**165**	P	P	19 44 13.6	+1.5
	3.3nm,0.9s,baz=344,slow=12,SNR=27						
MKAR	**Makanchi Array**	**63.88**	**327**	P	P	19 49 59.4	-0.1
	0.5nm,0.8s,baz=119,slow=8.4,SNR=4.5						

IDC 25 19:59:36.9±2.2,3057N×14089E,h0km,mb3.6/2, mb1 3.7/5,mb1mx3.5/22,mbtmp3.7/5,ML3.3/3,Error ellipse: s-maj=123.4km s-min=18.4km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.71**	**340**	Pn	Pn	20 00 22.5	+0.8
	4.9nm,0.3s,baz=90,slow=20,SNR=4.5						
CBIJ	**Chichi jima**	**3.65**	**162**	Pn	Pn	20 00 34.1	-0.5
	6.0nm,0.3s,baz=287,slow=20,SNR=3.1						
CBIJ				Sn	Sn	20 01 18.5	+0.2
	9.6nm,0.3s,baz=288,slow=20,SNR=3.1						
MJAR	**Matsushiro Arr**	**6.36**	**340**	Pn	Pn	20 01 10.3	-1.6
	0.6nm,0.3s,baz=155,slow=10,SNR=13						
MJAR				Sn	Sn	20 02 25.7	+0.5
	baz=110,slow=35,SNR=3.0						
MAT	**Matsushiro**	**6.36**	**340**	P	Pn	20 01 10.7	-1.2
MAT				*e*S	Sn	20 02 24.9	-0.3
WRA	**Warramunga Arr**	**50.62**	**188**	P	P	20 08 37.8	+0.1
	0.5nm,0.3s,baz=4.8,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**54.34**	**188**	P	P	20 09 05.5	+0.2
	0.4nm,0.7s,baz=3.8,slow=5.7,SNR=11						

LDG ***25*** *20:13:24.4±0.2,2332N×9343E,h10km,Mb5.1/35,Ms4.2/8, Error ellipse: s-maj=10.9km s-min=9.2km az=147.0*
SZGRF ***25*** *20:13:24.5,2286N×9430E,h33km,mb5.3,MS4.6, Myanmar*
MOS ***25*** *20:13:26.8±0.8,2317N×9385E,h41km,mb5.3/77, MS4.4/10,Error ellipse: s-maj=7.7km s-min=3.6km az=121.2*
ISCJB ***25*** *20:13:29.2±0.1,2315N±002×9376E±002,h61km, mb5.0/179,Error ellipse: s-maj=3.5km s-min=2.7km az=22.7*
BJI ***25*** *20:13:29.5,2331N×9374E,h58km,mB5.0,mb4.9,ML5.2, Ms4.6,Msz4.3*
HRVD ***25*** *20:13:30.7±0.3,2333N×9391E,h46km±1km,MW5.1/73, Centroid moment Tensor Solution. LP body waves: s29,c40;Mantle waves: s73,c123; Half duration: 0*
Moment tensor: Scale 10^16Nm; M_{rr}-0.70±.21; $M_{\theta\theta}$-5.17±.18; $M_{\phi\phi}$5.88±.18; $M_{r\theta}$-1.21±.17; $M_{\theta\phi}$1.28±.15; $M_{\phi r}$-0.71±.17; Best double couple: $M_0$5.85500×10^16 NP1:φ=142.00000°,δ76.00000°,λ-176.00000°. NP2: φ=51.00000°,δ86.00000°,λ-14.00000°. Principal axes: T 6.1320, Plg7.0000°, Azm97.0000°; N -0.5490, Plg75.0000°, Azm215.0000°; P -5.5780, Plg13.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC ***25*** *20:13:30.7±0.1,2318N×9385E,mb5.0/91 Error ellipse: s-maj=5.3km s-min=3.4km az=216.0*
IDC ***25*** *20:13:30.8±0.4,2319N×9393E,h63km±3km,mb4.6/34, mb1 4.7/34,mb1mx4.7/36,mbtmp4.9/34,MS4.1/12, Ms1 4.1/12,ms1mx3.9/23,Error ellipse: s-maj=11.3km s-min=6.6km az=56.0*

ISC 25 20:13:31.5±0.1,2322N±002×9381E±002,h63km, h63km±1.5km:pP-P,n467,σ1°04/514,mb5.0/179,29C-26D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**2.44**	**286**	*i* P	**Pn**	**20 14 09.0**	**0.0**
AGT				*i* x	x	20 15 05.0	
SHL	**Shillong**	**2.93**	**323**	*e*PN	**Pn**	**20 14 16.0**	**+0.4**
SHL				*e*SN	**Sn**	**20 14 47.0**	**-2.6**
CAL	**Calcutta**	**5.10**	**263**	*e*P	**Pn**	**20 14 43.2**	**-2.1**
CAL				*e*S	**Sn**	**20 15 40.0**	**-2.9**
GTK	**Gangtok**	**6.24**	**312**	*e*PN	**Pn**	**20 14 56.0**	**-4.9**
GTK				*e*SN	**Sn**	**20 15 58.0**	**-13**
CHRT	**Chiangrai**	**6.48**	**120**	PG	**Pn**	**20 15 04.0**	**-0.1**
CHRT				SG	Sn	20 17 05.0	+48
LSA	**Lhasa**	**6.88**	**340**	P	**Pn**	**20 15 11.0**	**+1.3**
LSA				S	**Sn**	**20 16 28.0**	**+1.4**
LSA				Smax			
	comp=N,310nm,0.8s						
LSA				Smax			
	comp=E,540nm,0.8s						
LSA	**Lhasa**	**6.88**	**340⇓**	*i*Pn	**Pn**	**20 15 10.3**	**+0.6**
	comp=E,475nm,0.7s						
LSA				*e*Sn	**Sn**	**20 16 26.6**	**0.0**
LSA	**Lhasa**	**6.88**	**340⇓**	*i*P	**Pn**	**20 15 10.3**	**+0.6**
LSA				*e*		20 16 26.6	
LSA				pmax	pmax		
	comp=Z,475nm,0.7s						
BOK	**Bokaro**	**7.30**	**276⇑**	*i*P	**Pn**	**20 15 14.0**	**-1.4**
BOK	**Bokaro**	**7.30**	**276**	*e*P	**Pn**	**20 15 12.6**	**-2.8**
BOK				*e*S	**Sn**	**20 16 30.3**	**-6.5**
JIRN	**Jiri**	**8.19**	**304**	*e*Sn	**Sn**	**20 16 51.9**	**-6.6**
	comp=Z,4μm,0.8s						
JIRN	**Jiri**	**8.19**	**304**	*e*Pn	**Pn**	**20 15 26.0**	**-1.5**
JIRN				*e*Sn	**Sn**	**20 16 51.9**	**-6.6**
KMI	**Kunming**	**8.37**	**75**	P	**Pn**	**20 15 33.0**	**+3.0**
KMI				S	**Sn**	**20 17 07.3**	**+4.3**
KMI				AMB	AMB		
	comp=Z,149nm,0.9s						
KMI				AMB	AMB		
	comp=Z,687nm,4.9s						
KMI				LR	LR		
	comp=N,2μm,7.7s						
KMI				LR	LR		
	comp=E,3μm,9.8s						
KMI				LR	LR		
	comp=Z,4μm,11.0s						
PKI	**Pulchoki**	**8.75**	**301**	*e*Pn	**Pn**	**20 15 33.1**	**-2.1**
PKI				*e*Sn	**Sn**	**20 17 04.6**	**-7.7**
	comp=Z,1μm,0.5s						
KKN	**Kakani**	**8.95**	**302**	*e*Sn	**Sn**	**20 17 09.5**	**-7.8**
	comp=Z,1μm,0.5s						
KKN	**Kakani**	**8.95**	**302**	*e*Pn	**Pn**	**20 15 35.6**	**-2.4**
KKN				*e*Sn	**Sn**	**20 17 09.5**	**-7.8**
DMN	**Daman**	**9.00**	**301**	*e*Pn	**Pn**	**20 15 36.4**	**-2.3**
DMN				*e*Sn	**Sn**	**20 17 10.6**	**-7.9**
	comp=Z,1μm,0.7s						
GKN	**Gorkha**	**9.55**	**302**	*e*Sn	**Sn**	**20 17 23.3**	**-8.7**
	comp=Z,2μm,0.4s						
GKN	**Gorkha**	**9.55**	**302**	*e*Pn	**Pn**	**20 15 43.6**	**-2.6**
GKN				*e*Sn	**Sn**	**20 17 23.3**	**-8.7**
NST	**Nakhon Sawan**	**9.58**	**140**	P	**Pn**	**20 15 47.5**	**+0.9**
	comp=Z,104nm,0.5s						
KOLN	**Koldanda**	**10.28**	**298**	*e*Pn	**Pn**	**20 15 52.9**	**-3.2**
KOLN				*e*Sn	**Sn**	**20 17 39.9**	**-10**
	comp=Z,1μm,0.6s						
KKTK	**Khon Kaen**	**10.89**	**127**	P	**Pn**	**20 16 06.0**	**+1.5**
VIS	**Vishakhapatnam**	**11.24**	**243**	*e*P	**Pn**	**20 16 00.1**	**-9.2**
VIS				*e*S	**Sn**	**20 17 58.6**	**-15**
PBA	**Port Blair**	**11.54**	**185**	*e*x	x	20 16 47.8	
	comp=N,147nm,1.0s						
PBA				*e*x	x	20 16 50.3	
	comp=E,132nm,0.7s						
CD2	**Chengdu**	**11.71**	**47**	P	**Pn**	**20 16 14.0**	**-1.6**
CD2				AP		20 16 21.0	
CD2				PP		20 16 23.5	
CD2				S	**Sn**	**20 18 23.0**	**-1.6**
CD2				XS		20 18 34.5	
CD2				SS		20 18 37.5	
CD2				AMB	AMB		
	comp=Z,20nm,1.0s						
CD2				AMB	AMB		
	comp=Z,80nm,5.1s						
CD2				LR	LR		
	comp=E,1μm,10.8s						
CD2				LR	LR		
	comp=Z,690nm,10.8s						
NNT	**Nongplab**	**11.97**	**151**	P	**Pn**	**20 16 23.0**	**+3.8**
GYA	**Guiyang**	**12.11**	**72⇑**	*i*P	**Pn**	**20 16 22.5**	**+1.4**
GYA				AP		20 16 29.8	
GYA				XP		20 16 34.5	
GYA				PPP		20 16 40.0	
GYA				S	**Sn**	**20 18 33.3**	**-1.0**
GYA				XS		20 18 43.3	
GYA				AMB	AMB		
	comp=Z,30nm,1.2s						
GYA				AMB	AMB		
	comp=Z,120nm,3.6s						
GYA				LR	LR		
	comp=N,3μm,12.6s						
GYA				LR	LR		
	comp=E,2μm,12.1s						
GYA				LR	LR		
	comp=Z,2μm,10.2s						
JBP	**Jabalpur**	**12.72**	**272**	*e*x	x	20 16 32.4	
	comp=Z,331nm,0.7s						
NGP	**Nagpur**	**13.83**	**264⇑**	*e*P	**Pn**	**20 16 33.2**	**-11**
NGP				*e*x	x	20 16 36.4	
	comp=Z,251nm,1.1s						
NGP				*e*S	Sn	20 18 53.4	-23
BHPL	**Bhopal**	**15.07**	**273**	*e*P	**Pn**	**20 16 56.5**	**-4.1**
BHPL				*e*S	S	20 19 31

comp=Z,2μm,12.1s
QIZ Qiongzhong 15.52 103 *e*Pn **Pn 20 17 04.0 -2.4**
comp=Z,140nm,1.1s
ENH Enshi 15.66 60 *e*Pn **Pn 20 17 07.1 -1.0**
comp=Z,107nm,0.8s
ENH *e*Sn **Sn 20 20 07.9 +7.3**
DDI Dehra Dun 15.74 300 *e*P **Pn 20 17 05.3 -3.9**
DDI *e*S S 20 19 45.8 -28
NDI New Delhi 15.88 294 *e*P **Pn 20 17 06.5 -4.5**
NDI *e*x x 20 19 56.0
LATR Latur 16.82 257 *e*P **Pn 20 17 20.2 -2.5**
GTA Gaotai 16.93 16 *e*P **Pn 20 17 20.5 -3.6**
GTA PP 20 17 34.5
GTA S S 20 20 17.0 -21
GTA PCP PcP 20 22 11.3 +3.8
GTA SCP ScP 20 25 37.0 +0.2
GTA PCS PcS 20 25 46.8 +3.3
GTA SCS ScS 20 29 15.8 -0.5
GTA AMB AMB
comp=Z,217nm,4.6s
GTA LR LR
comp=N,494nm,13.0s
GTA LR LR
comp=E,561nm,16.0s
GTA LR LR
comp=Z,616nm,19.1s
XAN Xi'an 17.07 47 P **Pn 20 17 24.5 -1.3**
XAN S **S 20 20 23.5 -18**
XAN AMB AMB
comp=Z,22nm,0.8s
XAN LR LR
comp=N,913nm,13.1s
XAN LR LR
comp=E,437nm,8.5s
XAN LR LR
comp=Z,827nm,11.3s
SNG Songkhla 17.24 157 P **Pn 20 17 33.0 +5.1**
AJM Ajmer 17.70 285 *e*P **Pn 20 17 29.2 -4.3**
AJM *e*S S 20 20 31.3 -23
GZH Guangzhou 17.96 87 P **Pn 20 17 39.0 +2.2**
GZH S **S 20 21 00.0 +0.6**
GZH LR LR
comp=N,987nm,11.7s
GZH LR LR
comp=E,2μm,14.6s
GZH LR LR
comp=Z,3μm,9.7s
DLH Dalhousie 18.29 304 *e*P **Pn 20 17 43.0 +2.3**
KULM Kulim 19.00 159 *e*Pn **Pn 20 17 47.8 -1.5**
POO Poona 19.23 260⇓*i*P **Pn 20 17 50.0 -1.9**
comp=Z,182nm,1.2s
POO *i* x x 20 18 05.0
POO *i* x x 20 18 14.0
POO *i* S **S 20 21 08.0 -17**
POO *i* x x 20 21 31.0
POO *i* x x 20 21 44.0
POO *i* x x 20 22 27.0
KAD Karad 19.32 256 *e*P **Pn 20 17 49.6 -3.5**
WHN Wuhan 19.70 64 *e*P **Pn 20 17 58.0 +0.5**
IPM Ipoh 19.89 158 P **Pn 20 17 59.0 -0.7**
BOM Bombay 20.06 262⇓*e*P **P 20 18 00.7 +1.2**
BOM *e*x x 20 18 03.9
comp=Z,216nm,1.4s
BOM *e*x x 20 21 28.6
PALK Pallekele 20.25 221 *e*Pn **P 20 18 02.9 +1.4**
comp=Z,25nm,1.0s
PALK *e*Sn **S 20 21 30.4 -15**
PSI Prapat 20.89 166 P **P 20 18 13.1 +4.7**
comp=Z,46nm,0.9s,baz=339,slow=12,SNR=20
PSI S **S 20 21 57.1 -0.7**
comp=Z,2.8nm,0.4s,baz=75,slow=20,SNR=2.6
PSI LR LR 20 27 21.1
comp=Z,372nm,20.0s,baz=333,slow=40
PSI Prapat 20.89 166 P **P 20 18 13.1 +4.7**
PSI S **S 20 21 57.1 -0.7**
WMQ Urumqi 21.16 348⇓*i*P **P 20 18 12.3 +0.9**
WMQ AP 20 18 21.3
WMQ XP sP 20 18 25.5 -7.3
WMQ PP 20 18 36.0
WMQ PPP 20 18 45.3
WMQ S **S 20 22 01.0 -2.1**
WMQ PCP PcP 20 22 17.3 +2.4
WMQ SS 20 22 35.5
WMQ AMB AMB
comp=Z,237nm,0.8s,mb5.6
WMQ AMB AMB
comp=Z,1μm,4.0s
WMQ LR LR
comp=N,977nm,5.5s
WMQ LR LR
comp=E,902nm,8.0s
WMQ LR LR
comp=Z,936nm,6.0s
BTO Baotou 22.07 34 *e*P **P 20 18 16.5 -4.6**
BTO S **S 20 22 12.0 -8.8**
BHJ Bhuj 22.20 275 *e*P **P 20 18 27.4 +5.0**
BHJ AMb AMB 20 18 40.2
comp=Z,145nm,1.1s,mb5.3
KSH Kashi 22.21 321 P **P 20 18 23.5 +1.0**
KSH AP 20 18 33.0
KSH XP sP 20 18 36.5 -7.6
KSH PP 20 18 50.3
KSH PPP 20 19 00.3
KSH S **S 20 22 20.8 -2.6**
KSH XS sS 20 22 35.5 -11
KSH SS 20 23 01.0
KSH SCP ScP 20 25 53.0 +4.1
KSH AMB AMB
comp=Z,88nm,0.8s,mb5.2
KSH LR LR
comp=N,904nm,6.9s
KSH LR LR
comp=E,1μm,4.3s
KSH LR LR
comp=Z,671nm,11.4s
KGM Kluang 23.00 155 P **P 20 18 32.1 +1.2**
HHC Hu-ho-hao-te 23.06 36 *e*P **P 20 18 30.5 -1.1**
HHC AP 20 18 39.8
HHC PP 20 19 01.0
HHC PCP PcP 20 22 20.5 +1.8
HHC S **S 20 22 35.0 -2.5**
HHC SS 20 23 19.8
HHC AMB AMB
comp=Z,4.0nm,0.3s,mb4.3
HHC AMB AMB
comp=Z,161nm,4.5s
HHC LR LR
comp=N,538nm,10.8s
HHC LR LR
comp=E,640nm,8.8s
HHC LR LR
comp=Z,561nm,23.5s
NJ2 Nanjing 23.82 63 *e*P **P 20 18 37.3 -1.3**
NJ2 PP 20 19 10.8
NJ2 S **S 20 22 44.0 -5.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
NJ2 AMB AMB
comp=Z,40nm,5.1s
NJ2 LR LR
comp=N,3μm,20.4s
NJ2 LR LR
comp=E,1μm,20.5s
NJ2 LR LR
comp=Z,450nm,10.0s
TIA Tai'an 23.96 52 *e*P **P 20 18 42.3 +2.5**
ULHL Ulahol 23.97 327 P **P 20 18 41.6 +1.7**
SNR=41
KZA Kyzart 24.36 325 P **P 20 18 45.3 +1.8**
SNR=25
TKM2 Tokmak 2 24.79 327 P **P 20 18 48.9 +1.6**
SNR=86
TKM2 Tokmak 2 24.79 327 *i* P **P 20 18 48.3 +1.0**
TKM2 pmax pmax
comp=Z,132nm,1.1s,mb5.4
UCH Uchtor 24.86 324 P **P 20 18 49.9 +1.9**
SNR=36
KBK Karagaybulak 24.93 326 P **P 20 18 50.6 +2.0**
SNR=81
AAK Ala-Archa 25.15 325 P **P 20 18 52.7 +2.0**
SNR=72
FRU Bishkek 25.23 325⇓*e*P **P 20 18 53.0 +1.7**
FRU *e* pP 20 19 09.0 +2.5
FRU pmax pmax
comp=Z,80nm,1.8s,mb5.0
AML Almayashu 25.24 323 P **P 20 18 53.4 +2.0**
SNR=88
BJI Beijing 25.26 43 P **P 20 18 53.5 +1.8**
BJI XP sP 20 19 13.3 -1.1
BJI S **S 20 23 13.3 +0.4**
BJI XS sS 20 23 38.5 -0.5
BJI AMB AMB
comp=Z,28nm,1.0s,mb4.8
BJI LR LR
comp=N,613nm,13.4s
BJI LR LR
comp=E,249nm,13.7s
BJI LR LR
comp=Z,272nm,23.7s
CHMS Chumysh 25.27 326 P **P 20 18 52.9 +1.2**
SNR=20
MK31 Makanchi Array 25.29 341 *i* P **P 20 18 52.7 +0.8**
MK31 pmax pmax
comp=Z,157nm,0.6s,mb5.7
MKAR Makanchi Array 25.29 341 P **P 20 18 52.9 +0.9**
comp=Z,143nm,0.7s,mb5.6,baz=150,slow=10,SNR=1178
MKAR S **S 20 23 13.2 -0.1**
comp=Z,0.9nm,0.8s,baz=176,slow=26,SNR=2.1
MKAR LR LR 20 30 42.9
comp=Z,362nm,20.1s,baz=163,slow=41
MKAR Makanchi Array 25.29 341 P **P 20 18 52.9 +1.0**
MKAR S **S 20 23 13.3 0.0**
SSE Sheshan 25.54 66 *e*P **P 20 18 53.0 -1.2**
SSE AP pP 20 19 04.3 -5.1
SSE PCP PcP 20 22 23.5 -0.6
SSE S **S 20 23 16.8 -0.5**
SSE XS sS 20 23 35.8 -7.6
SSE AMB AMB
comp=Z,25nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,65nm,3.9s
SSE LR LR
comp=N,1μm,19.2s
SSE LR LR
comp=E,223nm,19.2s
SSE LR LR
comp=Z,680nm,21.8s
EKS2 Erkin-Say 25.55 324 P **P 20 18 55.9 +1.6**
SNR=91
USP Ospenovka 25.59 326 P **P 20 18 55.8 +1.2**
SNR=40
SONM Songino Array 26.54 19 P **P 20 19 04.1 +0.8**
comp=Z,36nm,0.6s,mb5.1,baz=201,slow=9.4,SNR=106
SONM S **S 20 23 31.7 -1.3**
comp=Z,1.2nm,0.6s,baz=230,slow=11,SNR=2.3
SONM ScP ScP 20 26 00.8 -0.1
comp=Z,2.3nm,0.7s,baz=194,slow=4.3,SNR=4.1
SONM Songino Array 26.54 19 P **P 20 19 04.1 +0.9**
SONM S **S 20 23 31.7 -1.4**
ULN Ulaanbaatar 26.77 20⇓*i*P **P 20 19 05.4 +0.1**
comp=Z,37nm,0.6s,mb5.1
ULN Ulaanbaatar 26.77 20⇓*i*P **P 20 19 05.4 +0.1**
ULN pmax pmax
comp=Z,37nm,0.6s,mb5.1
KKM Kota Kinabalu 27.52 125 P **P 20 19 13.3 +1.4**
KK31 Karatay Array 27.66 321 *i* P **P 20 19 13.5 +0.2**
KK31 pmax pmax
comp=Z,40nm,1.8s,mb4.8
KKAR Karatay Array 27.66 321 *i* P **P 20 19 13.5 +0.2**
KKAR pmax pmax
comp=Z,72nm,1.8s,mb5.0
SJMP San Jose 28.05 108 *e*P **P 20 19 17.2 +0.4**
ZAK Zakamensk 28.11 13 *e*P **P 20 19 18.0 +0.8**
ZAK pmax pmax
comp=Z,27nm,1.9s,mb4.5
ZAK pmax pmax
comp=Z,56nm,1.9s,mb4.9
DL2 Dalian 28.35 50 *e*P **P 20 19 21.5 +2.1**
DL2 *e*S **S 20 24 09.8 +8.2**
DL2 SS SS 20 25 29.8 -34
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
DL2 AMB AMB
comp=Z,110nm,3.7s
DL2 LR LR
comp=N,290nm,16.7s
DL2 LR LR
comp=E,260nm,16.7s
DL2 LR LR
comp=Z,280nm,18.1s
MOY Mondy 28.94 9 *e*P **P 20 19 25.7 +1.1**
TLY Talaya 29.41 13*c i*P **P 20 19 30.7 +1.9**
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
KURK Kurchatov 29.89 340 P **P 20 19 33.3 +0.2**
comp=Z,482nm,0.8s,SNR=69
KURK Kurchatov 29.89 340⇓*i*P **P 20 19 33.3 +0.3**
comp=Z,54nm,0.8s,mb5.3
KURK Kurchatov 29.89 340⇓*i*P **P 20 19 33.3 +0.2**
KURK pmax pmax
comp=Z,54nm,0.8s,mb5.3
TSM Tawau 29.90 125 P **P 20 19 33.7 +0.5**
IRK Irkutsk 30.07 13 *e*P **P 20 19 33.2 -1.5**
IRK *e* pP 20 19 49.0 -1.1
IRK *e* 20 20 38.8
IRK pmax pmax
comp=Z,38nm,1.3s,mb5.0
JOW Kunigami 31.38 76 P **P 20 19 44.8 -1.4**
comp=Z,6.0nm,0.3s,mb4.9,baz=243,slow=2.3,SNR=7.9
ZAL Zalesovo 31.42 350 P **P 20 19 47.2 +0.6**
comp=Z,54nm,0.5s,mb5.6,baz=309,slow=7.6,SNR=221
ZAL S **S 20 24 50.0 +0.3**
comp=Z,3.0nm,1.1s,baz=152,slow=17,SNR=3.6
ZAL ScS ScS 20 30 08.7 -5.3
comp=Z,0.9nm,0.7s,baz=135,slow=21,SNR=3.1
ZAL LR LR 20 33 20.5
comp=Z,163nm,18.3s,baz=300,slow=38
ZAL Zalesovo 31.42 350 P **P 20 19 47.2 +0.6**
ZAL S **S 20 24 50.0 +0.3**
ZAL 20 30 08.7
MSLP Maasin 32.37 108 *e*P **P 20 20 01.0 +6.1**
CIT Chita 32.51 23 *e*P **P 20 19 56.1 -0.1**
CIT *e* 20 25 07.0
CIT pmax pmax
comp=Z,70nm,1.4s,mb5.4
NVS Novosibirsk 32.56 349⇓*i*P **P 20 19 55.7 -0.8**
NVS *e*S **S 20 25 04.5 -2.9**
NVS pmax pmax
comp=N,62nm,0.6s
NVS pmax pmax
comp=E,43nm,0.6s
NVS pmax pmax
comp=Z,76nm,0.6s,mb5.8
NVS smax
comp=N,58nm,1.4s
NVS smax
comp=E,57nm,1.4s
HIA Hailar 33.05 32 *e*P **P 20 20 01.2 +0.3**
comp=E,7.1nm,0.7s,mb4.7
HIA Hailar 33.05 32 *e*P **P 20 20 01.2 +0.3**
HIA pmax pmax
comp=Z,7.0nm,0.7s
CN2 Changchun 33.12 44 *e*P **P 20 20 07.5 +6.0**
CN2 *e*XP sP 20 20 19.8 -4.5
CN2 *e*S **S 20 25 23.3 +7.1**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,500nm,21.0s
CN2 LR LR
comp=E,300nm,21.0s
CN2 LR LR
comp=Z,200nm,16.0s
ABKT Ailbek 33.82 304 P **P 20 20 09.5 +1.9**
comp=Z,64nm,1.3s,mb5.4,SNR=6.5
VOSK Vostochnaya 34.22 335 P **P 20 20 11.7 +0.7**
VOSK pmax pmax
comp=Z,19nm,0.8s,mb5.1
BVA0 Borovoye Array 34.69 335 *i* P **P 20 20 15.0 0.0**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 34.69 335 P **P 20 20 15.4 +0.4**
comp=Z,11nm,0.6s,mb5.0,baz=141,slow=10,SNR=85
BRVK Borovoye 34.75 335 P **P 20 20 16.4 +0.8**
comp=Z,159nm,0.7s,SNR=21
BRVK Borovoye 34.75 335 *e*P **P 20 20 15.7 +0.1**
comp=Z,32nm,1.2s,mb5.1
BRVK Borovoye 34.75 335 *e*P **P 20 20 15.7 +0.1**
BRVK pmax pmax
comp=Z,32nm,1.2s,mb5.1
CHKZ Chkalovo 35.10 336⇓*i*P **P 20 20 19.3 +0.7**
comp=Z,95nm,0.9s,mb5.7
CHKZ Chkalovo 35.10 336 *i* P **P 20 20 19.2 +0.6**
CHKZ pmax pmax
comp=Z,84nm,1.0s,mb5.6
ZRNK Zerenda 35.18 334⇓*i*P **P 20 20 19.6 +0.3**
comp=Z,35nm,0.6s,mb5.5
ZRNK Zerenda 35.18 334⇓*i*P **P 20 20 19.6 +0.3**
ZRNK pmax pmax
comp=Z,35nm,0.6s,mb5.5
MDJ Mudanjiang 36.16 45 P **P 20 20 26.8 -0.9**
MDJ PP PP 20 21 50.3 -0.5
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,63nm,3.1s
MDJ LR LR
comp=N,289nm,26.2s
MDJ LR LR
comp=E,190nm,26.2s
MDJ LR LR
comp=Z,149nm,20.7s
VLA Vladivostok 37.14 48 *e*P **P 20 20 43.6 +7.6**
VLA pmax pmax
comp=Z,69nm,1.7s,mb5.2
VLA MLR MLR
comp=Z,500nm,16.2s
AB31 Akbulak array 37.19 323 *i* P **P 20 20 37.4 +0.9**
AB31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
BOD Bodaibo 37.51 18⇑*i*P **P 20 20 39.3 +0.1**
AKTK Aktyubinsk 38.87 323 P **P 20 20 51.5 +0.8**
AKTK pP pP 20 21 07.5 +1.2
AKTK LR LR 20 38 38.1
AKTO Aktyubinsk 38.87 323 P **P 20 20 51.5 +0.8**
comp=Z,17nm,0.7s,mb4.9,baz=115,slow=11
AKTO pP pP 20 21 07.5 +1.2
comp=Z,18nm,0.9s,baz=135,slow=8.9,SNR=2.8
AKTO LR LR 20 38 38.1
comp=Z,239nm,19.5s,baz=101,slow=39
AKTO Aktyubinsk 38.87 323 *i* P **P 20 20 48.9 -1.7**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
KLR Kul'dur 39.50 39 *e*P **P 20 20 52.8 -3.0**
MAJO Matsushiro 40.38 60 *e*P **P 20 21 01.3 -1.8**
comp=Z,15nm,0.8s,mb4.8
MAJO *e*pP pP 20 21 11.3 -7.6
MAJO *e*sP sP 20 21 14.6 -12
MAJO *e* 20 25 20.7
MAJO Matsushiro 40.38 60 *e*P **P 20 21 01.3 -1.8**
MAJO *e**PP pP 20 21 11.3 -7.6
MAJO *e**SP sP 20 21 14.6 -12
MAJO pmax pmax
comp=Z,15nm,0.8s,mb4.8
MAT Matsushiro 40.38 60 P **P 20 21 01.5 -1.6**
MAT *e*S **S 20 27 08.0 +1.4**
MAT Matsushiro 40.38 60 *e*P **P 20 21 02.0 -1.1**
comp=Z,5.2nm,0.8s,mb4.3
MAT S **S 20 27 08.0 +1.4**
MAT Matsushiro 40.38 60 *e*P **P 20 21 02.0 -1.1**
MAT S **S 20 27 08.0 +1.4**
MAT pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
MJAR Matsushiro Arr 40.38 60 P **P 20 21 01.4 -1.7**
comp=Z,2.8nm,0.8s,mb4.1,baz=274,slow=9.8,SNR=11
MJAR PcP PcP 20 23 04.6 -0.7
comp=Z,2.0nm,0.7s,baz=241,slow=1.7,SNR=4.5
MJAR ScP ScP 20 26 47.4 -1.6
comp=Z,3.4nm,1.0s,baz=277,slow=4.0,SNR=4.8
MJAR LR LR 20 40 11.1
comp=Z,257nm,18.8s,baz=255,slow=40
MJAR Matsushiro Arr 40.38 60 P **P 20 21 01.4 -1.7**
MJAR 20 23 04.6
CLNS Chul'man 40.49 26 *e*P **P 20 21 03.9 -0.1**
CLNS pmax pmax
comp=Z,16nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS pmax pmax
comp=E,14nm,1.0s
SVE Sverdlovsk 41.35 333 *e*P **P 20 21 11.5 +0.4**
SVE *e* 20 23 16.0
SVE pmax pmax
comp=Z,336nm,1.2s,mb5.8
SVE MLR MLR
comp=N,300nm,14.0s
SVE MLR MLR
comp=E,200nm,14.0s
SVE MLR MLR
comp=Z,400nm,14.0s
JHJ Hachijo jima 2 41.43 66 LR LR 20 38 46.7
comp=Z,277nm,20.8s,baz=278,slow=37
UMR Umm Al-Rimmam 41.57 289 *e*P **P 20 21 13.2 +0.3**
UMR AMb AMB 20 21 32.6
comp=Z,47nm,0.7s,mb5.2
RDF Al-Radifah 41.74 288 *e*P **P 20 21 14.7 +0.4**
RDF AMb AMB 20 21 36.7
comp=Z,95nm,0.9s,mb5.4
MIB Mutribah 41.88 289 *e*P **P 20 21 15.7 +0.2**
MIB AMb AMB 20 21 34.2
comp=Z,98nm,0.9s,mb5.5
ARU Arti 41.99 331 *e*P **P 20 21 16.4 0.0**
comp=Z,82nm,1.1s,mb5.3
ARU Arti 41.99 331*d i*P **P 20 21 16.6 +0.3**
ARU pmax pmax
comp=Z,51nm,1.0s,mb5.1
NAY Al-Naaiem 41.99 288 *e*P **P 20 21 16.7 +0.3**
NAY AMb AMB 20 21 34.5
comp=Z,55nm,1.2s,mb5.1
GNI Garni 44.46 304⇓*i*P **P 20 21 37.4 +1.1**
GNI pmax pmax
comp=Z,21nm,1.7s
SOKR Solikamsk 44.66 334*c i*P **P 20 21 39.0 +1.1**
SOKR pmax pmax
comp=Z,70nm,0.8s,mb5.5
SOKR MLR MLR
comp=Z,700nm,31.0s
ZEI Tsey 45.46 308 *i* P **P 20 21 45.5 +1.3**
ZEI pmax pmax
comp=Z,28nm,1.4s,mb4.9
YSS Yuzh-Sakhalins 45.61 46 P **P 20 21 43.9 -1.5**
YSS Yuzh-Sakhalins 45.61 46⇓*i*P **P 20 21 46.2 +0.8**
YSS pmax pmax
comp=Z,40nm,1.8s,mb5.0
YAK Yakutsk 45.80 23 *e*P **P 20 21 46.1 -0.8**
comp=Z,54nm,0.8s,mb5.5
YAK Yakutsk 45.80 23*d i*P **P 20 21 46.2 -0.7**
YAK *e* 20 23 18.3
YAK *e* 20 23 38.0
YAK *e*PPP 20 24 11.0
YAK *e*S **S 20 28 25.2 -0.8**
YAK pmax pmax
comp=Z,26nm,0.9s,mb5.2
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
YAK smax
comp=E,12nm,1.0s
YAK smax
comp=Z,4.0nm,1.6s
YAK smax
comp=N,11nm,1.5s
GOF Gofitskoye 46.46 311 *e*P **P 20 21 51.9 -0.2**
KIV Kislovodsk 46.52 309 *e*P **P 20 21 52.9 +0.4**
comp=N,40nm,1.0s,mb5.3
KIV *e* 20 26 02.0
KIV Kislovodsk 46.52 309 *e*P **P 20 21 52.9 +0.4**
KIV pmax pmax
comp=Z,40nm,1.0s,mb5.3
MALT Malatya 49.23 301 *e*P **P 20 22 13.7 +0.3**
comp=Z,4.0nm,0.8s,mb4.5
MALT Malatya 49.23 301 *e*P **P 20 22 13.7 +0.3**
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ATD Arta Tunnel 49.78 266 LR LR 20 42 52.4
comp=Z,100nm,21.7s,baz=341,slow=35
FITZ Fitzroy Crossi 51.51 140⇑*i*P **P 20 22 30.2 -0.5**
comp=Z,20nm,1.1s,mb5.0
FITZ Fitzroy Crossi 51.51 140 P **P 20 22 30.3 -0.4**
comp=Z,7.9nm,0.8s,mb4.7,baz=317,slow=5.8,SNR=13
KAKA Kakadu 52.00 129 *e*P **P 20 22 32.7 -1.6**

comp=Z,5.9nm,0.9s,mb4.5
MOS Moscow 52.21 324 *e*P **P** **20 22 34.9 -1.0**
MOS *e*S **S** **20 29 52.5 -3.4**
MOS pmax pmax
comp=Z,45nm,0.9s,mb5.4
TIXI Tiksi 52.39 13 *e*P **P** **20 22 30.8 -6.4**
TIXI *e*S **S** **20 29 55.4 -2.9**
TIXI pmax pmax
comp=Z,52nm,0.7s,mb5.6
TIXI MLR MLR
comp=Z,290nm,17.0s
OBN Obninsk 52.64 323⇑*i*P **P** **20 22 39.1 0.0**
OBN *i* pP 20 22 58.9 +3.4
OBN pmax pmax
comp=Z,77nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,200nm,19.0s
KLMR Klimovskoe 52.80 330*d i*P **P** **20 22 40.0 -0.2**
KLMR *e* 20 24 39.8
KLMR pmax pmax
comp=Z,80nm,1.3s,mb5.5
KLMR pmax pmax
comp=Z,130nm,5.1s
BR131 Keskin Array S 52.96 303 P **P** **20 22 43.2 +1.8**
comp=Z,2.5nm,0.7s,mb4.2
BRTR Keskin Array B 52.96 303 P **P** **20 22 41.9 +0.4**
comp=Z,1.4nm,0.9s,mb3.9,baz=99,slow=9.2,SNR=6.3
MA2 Magadan 53.65 32 *e*P **P** **20 22 45.7 -0.8**
comp=Z,23nm,1.1s,mb5.0
MA2 Magadan 53.65 32 *e*P **P** **20 22 45.6 -0.9**
MA2 S **S** **20 30 15.2 -0.3**
MA2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MA2 pmax pmax
comp=E,2.0nm,0.7s
MA2 MLR MLR
comp=Z,300nm,22.0s
SEY Seymchan 55.39 28 *e*P **P** **20 22 58.5 -0.6**
SEY 20 24 06.1
SEY *e* 20 25 03.3
SEY *e*S **S** **20 30 39.4 +0.5**
SEY *e* 20 32 45.2
SEY pmax pmax
comp=Z,13nm,1.0s,mb4.9
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=E,6.0nm,0.8s
SEY smax
comp=N,70nm,4.9s
SEY smax
comp=E,47nm,5.3s
SEY MLR MLR
comp=Z,206nm,22.0s
SEY MLR MLR
comp=N,100nm,26.0s
AKASG Malin Array Be 56.39 316 P **P** **20 23 05.1 -1.2**
comp=N,3.9nm,0.4s,mb4.8,baz=84,slow=6.5,SNR=38
AKASG pP pP 20 23 21.1 -1.7
comp=N,7.9nm,0.7s,baz=83,slow=6.6,SNR=6.0
CFR Carcaliu 56.97 311⇑P **P** **20 23 10.7 +0.3**
JOF Joensuu 57.12 331 *ep* **P** **20 23 08.9 -2.5**
comp=N,14nm,0.6s,mb5.2
LVZ Lovozero 57.23 337 *e*P **P** **20 23 11.6 -0.6**
LVZ pmax pmax
comp=Z,63nm,1.1s,mb5.6
LVZ pmax pmax
comp=N,11nm,1.3s
LVZ pmax pmax
comp=E,11nm,1.1s
APA Apatity 57.57 337⇓*i*P **P** **20 23 14.9 +0.3**
APA pmax pmax
comp=Z,16nm,0.7s,mb5.2
VRI Vrincioaia 57.95 311⇑P **P** **20 23 18.5 +1.3**
PLOR Plostina 58.00 311⇑P **P** **20 23 19.0 +1.4**
WRA Warramunga Arr 58.33 134 P **P** **20 23 19.8 -0.1**
comp=Z,22nm,0.7s,mb5.3,baz=320,slow=7.6,SNR=416
WRA ScP ScP 20 28 03.0 -2.1
comp=Z,1.4nm,0.7s,baz=321,slow=4.7,SNR=6.7
WRA S **S** **20 31 14.8 -2.9**
comp=Z,1.4nm,1.1s,baz=295,slow=16,SNR=2.9
WRA PKP2bc 20 53 25.7
comp=Z,1.1nm,1.1s,baz=142,slow=2.2,SNR=4.7
WRA Warramunga Arr 58.33 134 P **P** **20 23 19.8 -0.1**
WRA ScP ScP 20 28 03.0 -2.1
WRA S **S** **20 31 14.8 -2.9**
WRA ⇑*e* 20 53 25.7
WRA Warramunga Arr 58.33 134 P **P** **20 23 19.8 -0.1**
WRA S **S** **20 31 14.8 -2.9**
WRAB Tennant Creek 58.33 134 P **P** **20 23 20.9 +1.0**
comp=Z,225nm,0.6s,SNR=15
WRAB Tennant Creek 58.33 134 *e*P **P** **20 23 19.6 -0.3**
comp=Z,39nm,0.8s,mb5.5
WRAB Tennant Creek 58.33 134 *e*P **P** **20 23 19.6 -0.3**
WRAB pmax pmax
comp=Z,39nm,0.8s,mb5.5
WB2 Warramunga Arr 58.34 134 *e*P **P** **20 23 18.7 -1.3**
MLR Muntele Rosu 58.51 310 P **P** **20 23 22.6 +1.4**
comp=Z,24nm,1.0s,mb5.2,baz=111,slow=3.4,SNR=29
VSU Vasula 58.55 325⇑*e*P **P** **20 23 21.4 0.0**
MUN Mundaring 58.92 158 *e*P **P** **20 23 23.5 -0.5**
BURAR Bucovina Array 58.95 313⇑P **P** **20 23 24.7 +0.5**
BURAR Bucovina Array 58.95 313⇑P **P** **20 23 24.7 +0.5**
KLBR Kellerberrin 59.12 156 *e*P **P** **20 23 24.6 -0.8**
comp=Z,39nm,1.5s,mb5.2
KAF Kangasniemi 59.24 330 *ep* **P** **20 23 24.7 -1.5**
baz=97,slow=6.8
FINES FINESS Array B 59.25 329 P **P** **20 23 26.2 -0.1**
comp=Z,13nm,0.7s,mb5.1,baz=101,slow=8.4,SNR=78
LVV L'vov 59.70 315 *e*P **P** **20 23 27.9 -1.5**
LVV *e* pP 20 23 44.7 -1.4
KMBO Kilima Mbogo 60.05 254 P **P** **20 23 32.4 +0.5**
comp=Z,3.2nm,0.9s,mb4.3,baz=42,slow=10,SNR=11
KMBO pP pP 20 23 48.3 -0.2
comp=Z,6.9nm,1.0s,baz=42,slow=9.6,SNR=8.1
KMBO LR LR 20 48 11.7
comp=Z,157nm,21.0s,baz=90,slow=35
KMBO Kilima Mbogo 60.05 254 P **P** **20 23 32.4 +0.6**
KMBO *PP pP 20 23 48.3 -0.2
NWAO Narrogin (SRO) 60.14 157 P **P** **20 23 31.5 -0.9**
comp=Z,4.0nm,0.3s,mb4.9,baz=7.6,slow=5.1,SNR=10
SUW Suwalki 60.23 320 *e*P **P** **20 23 32.9 -0.1**
SUW *ep*P pP 20 23 41.0 -8.8
SUW *e*S **S** **20 31 47.2 +5.0**
SUW L 20 53 33.0
comp=Z,0.3nm,23.8s
SUW Suwalki 60.23 320 *e*P **P** **20 23 32.9 -0.1**
SUW *e**PP pP 20 23 41.0 -8.8
SUW *e*S **S** **20 31 47.2 +5.0**
KEV Kevo 60.42 338 *ep* **P** **20 23 31.1 -3.3**
KWP Kalwaria 60.56 315 *e*P **P** **20 23 36.0 +0.7**
KWP *ep*P pP 20 23 44.4 -7.6
KWP L 20 52 02.2
comp=Z,0.4nm,28.8s
KWP Kalwaria 60.56 315 *e*P **P** **20 23 36.0 +0.7**
KWP *e**PP pP 20 23 44.4 -7.6
VTS Vitosha 60.67 307⇑P **P** **20 23 36.8 +0.8**
ASAR Alice Springs 60.73 137 P **P** **20 23 36.8 +0.3**
comp=Z,22nm,0.6s,mb5.5,baz=320,slow=6.8,SNR=424
ASAR pP pP 20 23 52.6 -0.5
comp=Z,7.8nm,0.8s,baz=316,slow=6.8,SNR=5.5
ASAR S **S** **20 31 46.7 -1.9**
comp=Z,0.9nm,1.0s,baz=310,slow=10,SNR=6.1
ASAR ScS ScS 20 33 17.0 -4.8
comp=Z,2.0nm,1.1s,baz=319,slow=8.3,SNR=5.2
ASAR PKP2bc 20 53 02.2
comp=Z,0.6nm,0.8s,baz=146,slow=2.3,SNR=5.1
ASAR Alice Springs 60.73 137 P **P** **20 23 36.8 +0.3**
ASAR pP pP 20 23 52.6 -0.5
ASAR S **S** **20 31 46.7 -1.9**
ASAR ScS ScS 20 33 17.0 -4.8
ASAR ⇑*e* 20 53 02.2
ASAR Alice Springs 60.73 137 P **P** **20 23 36.8 +0.3**
ASAR *PP pP 20 23 52.7 -0.5
ASAR S **S** **20 31 46.7 -1.9**
ASAR 20 33 17.0
ARCES ARCESS Array B 60.89 338 P **P** **20 23 37.6 +0.1**
comp=Z,7.3nm,0.6s,mb5.0,baz=101,slow=6.5,SNR=20
VAY Valandovo 61.27 306 *i* P **P** **20 23 38.2 -1.9**
CRVS Cervenica-Dubn 61.41 314 *e*P **P** **20 23 41.7 +0.7**
CRVS *e* 20 23 49.1
CRVS *e* 20 26 48.3
PMG Port Moresby 61.43 116 P **P** **20 23 41.4 +0.2**
comp=Z,8.6nm,0.7s,mb5.0,baz=157,slow=3.6,SNR=3.6
STHS Stebnicka Huta 61.52 315 *i* P **P** **20 23 42.0 +0.2**
STHS *ep*P pP 20 23 56.2 -2.4
BZS Buzias 61.53 311⇓P **P** **20 23 42.3 +0.4**
KTK1 Kautokeino 61.58 337 *e*P **P** **20 23 42.6 +0.4**
OPO Ambohidratompo 61.63 232 P **P** **20 23 43.1 +0.6**
comp=Z,2.7nm,0.8s,mb4.4,baz=44,slow=11,SNR=4.8
OPO pP pP 20 23 58.6 -0.6
comp=Z,5.2nm,0.9s,baz=42,slow=7.2,SNR=4.8
KECS Kecovo 62.08 314 *e*P **P** **20 23 45.7 +0.2**
BILL Bilibino 62.13 24⇓*i*P **P** **20 23 45.2 -0.7**
BILL *i* pP 20 24 03.8 +1.1
BILL *e*S **S** **20 32 13.6 +7.3**
BILL pmax pmax
comp=Z,30nm,1.2s,mb5.3
NIE Niedzica 62.13 315 *e*P **P** **20 23 46.8 +0.9**
NIE *e* 20 26 40.9
NIE Niedzica 62.13 315 *e*P **P** **20 23 46.8 +0.9**
NIE *e* 20 26 40.9
OJC Ojcow 62.41 316 *e*P **P** **20 23 47.5 -0.2**
OHR Ohrid 62.62 306 *e*P **P** **20 23 46.8 -2.4**
FORT Forrest 62.94 147 *e*P **P** **20 23 51.6 +0.3**
comp=Z,13nm,0.7s,mb5.2
VYHS Vyhne 63.17 314 *e*P **P** **20 23 52.8 0.0**
TRO Tromso 63.18 338 *e*P **P** **20 23 51.8 -1.1**
TRO Tromso 63.18 338 *e*P **P** **20 23 51.4 -1.5**
OKC Ostrava-Krasne 63.50 315 *e*P **P** **20 23 55.4 +0.4**
OKC *ep*P pP 20 24 12.2 +0.4
OKC *e*PP PP 20 26 34.5 +19
OKC Ostrava-Krasne 63.50 315 *e*P **P** **20 23 55.4 +0.4**
OKC *e* pP 20 24 12.2 +0.4
PKSM Moragy 63.54 311⇑*i*P **P** **20 23 55.4 +0.1**
MORC Moravsky Berou 63.90 315⇑P **P** **20 23 58.2 +0.6**
ZST Bratislava 64.36 314 *e*P **P** **20 24 00.9 +0.3**
VRAC Vranov 64.56 315 P **P** **20 24 02.6 +0.7**
comp=Z,22nm,0.9s,mb5.2,baz=86,slow=6.4,SNR=21
VRAC pP pP 20 24 19.5 +0.7
comp=Z,15nm,0.8s,baz=77,slow=6.4,SNR=4.7
VRAC Vranov 64.56 315⇓P **P** **20 24 02.8 +0.9**
KSP Ksiaz 64.59 317 *e*P **P** **20 24 03.0 +0.9**
KSP *ep*P pP 20 24 11.8 -7.2
KSP *e*PP PP 20 26 28.3 +3.6
KSP *e*S **S** **20 32 51.3 +14**
KSP L 20 54 55.9
comp=Z,0.5nm,23.2s
KSP Ksiaz 64.59 317 *e*P **P** **20 24 01.8 -0.3**
KSP *e**PP pP 20 24 11.7 -7.3
KSP *e* 20 26 27.6
DPC Dobruska-Polom 64.62 316 *e*P **P** **20 24 02.7 +0.4**
DPC *ep*P pP 20 24 18.5 -0.7
DPC *e*PP PP 20 26 27.9 +2.9
MOR8 Moi Rana 64.72 334 *e*P **P** **20 24 01.7 -1.3**
MOR8 AMb AMB 20 24 03.1
comp=Z,42nm,1.1s,mb5.4
UPC Upice 64.80 316 *e*P **P** **20 24 03.9 +0.4**
UPC *ep*P pP 20 24 20.3 -0.1
UPC *e*PP PP 20 26 28.6 +2.0
LOF Lofoten 65.06 336 *e*P **P** **20 24 05.7 +0.5**
HFS Hagfors 65.27 327 P **P** **20 24 06.2 -0.4**
comp=Z,24nm,0.7s,mb5.3,baz=107,slow=5.0,SNR=60
HFS pP pP 20 24 22.5 -0.9
comp=Z,12nm,0.6s,baz=76,slow=6.3,SNR=8.1
ARSA Arzberg 65.53 313⇑*i*P **P** **20 24 08.6 +0.3**
comp=Z,6.2nm,0.8s,mb4.7
GROS Grobnik 65.67 312 *e*P **P** **20 24 09.1 0.0**
PVCC Panska Ves 65.71 317 *e*P **P** **20 24 09.7 +0.3**
PVCC *ep*P pP 20 24 27.8 +1.5
PVCC *e*PP PP 20 26 25.6 -9.0
PVCC Panska Ves 65.71 317 *e*P **P** **20 24 09.7 +0.3**
PVCC *e* pP 20 24 27.8 +1.5
PRU Pruhonice 65.80 316 *e*P **P** **20 24 10.4 +0.4**
PRU *ep*P pP 20 24 27.4 +0.5
PRU *e*PP PP 20 26 28.5 -6.8
PRU Pruhonice 65.80 316 *e*P **P** **20 24 10.4 +0.4**
PRU *e* pP 20 24 27.4 +0.5
NSS Namsos 65.81 332 *e*P **P** **20 24 08.7 -1.3**
RUE Ruedersdorf 65.95 319 *e*P **P** **20 24 11.4 +0.5**
comp=Z,34nm,0.8s,mb5.4
BOJS Bojanci 65.99 311 *e*P **P** **20 24 11.4 +0.2**
BRG Berggiesshubel 66.06 317 *e*P **P** **20 24 11.5 -0.1**
comp=Z,16nm,0.9s,mb5.0
BRG Berggiesshubel 66.06 317 *e*P **P** **20 24 11.9 +0.3**
BRG *e* pP 20 24 29.4 +0.8
BRG pmax pmax
comp=Z,19nm,1.4s,mb4.9
BRG Berggiesshubel 66.06 317 *e*P **P** **20 24 11.9 +0.3**
comp=Z,19nm,1.4s,mb4.9
BRG *e* pP 20 24 29.4 +0.8
comp=Z,6.3nm,0.9s
MOA Molln 66.29 314⇑*i*P **P** **20 24 12.8 -0.3**
comp=Z,14nm,0.8s,mb5.0
LJU Ljubljana 66.40 312 *i* P **P** **20 24 14.2 +0.5**
LJU *e*PcP PcP 20 24 32.5 -11
NB2 NORSAR Subarra 66.42 328 P **P** **20 24 12.8 -1.1**
comp=Z,14nm,0.8s,mb5.0,baz=84,slow=6.5
NB2 NORSAR Subarra 66.42 328 P **P** **20 24 12.8 -1.1**
NB2 pmax pmax
comp=Z,14nm,0.8s,mb5.0
NOA NORSAR Array B 66.42 328 P **P** **20 24 13.1 -0.8**
comp=Z,9.2nm,0.8s,mb4.9,baz=85,slow=6.4,SNR=31
NOA pP pP 20 24 29.7 -1.2
comp=Z,6.2nm,0.7s,baz=85,slow=6.4,SNR=7.8
GEC2 GERESS Array S 66.51 315 *e*P **P** **20 24 14.4 -0.1**
comp=Z,21nm,1.0s,mb5.1
GEC2 GERESS Array S 66.51 315 *e*P **P** **20 24 14.4 -0.1**
GEC2 pmax pmax
comp=Z,21nm,1.0s,mb5.1
GERES GERESS Array B 66.51 315 P **P** **20 24 14.9 +0.4**
comp=Z,10nm,0.7s,mb5.0,baz=77,slow=5.9,SNR=113
GERES pP pP 20 24 31.5 0.0
comp=Z,8.0nm,0.7s,baz=76,slow=5.7,SNR=8.6
KHC Kasperske Hory 66.54 315 *e*P **P** **20 24 14.7 0.0**
KHC x x 20 25 05.5
KHC *e*PP PP 20 26 39.6 -2.2
CLL Collm 66.59 318 *e*P **P** **20 24 14.6 -0.4**
comp=Z,21nm,1.1s,mb5.1
CLL Collm 66.59 318 *i* P **P** **20 24 14.1 -0.9**
comp=Z,21nm,1.1s,mb5.1
CLL *i* x x 20 24 18.3
CLL *e*(sP) sP 20 24 35.0 -4.0
CLL *i* PcP PcP 20 24 46.4 +2.5
CLL *e*x x 20 24 54.0
CLL Collm 66.59 318 *i* P **P** **20 24 14.1 -0.9**
comp=Z,21nm,1.1s,mb5.1
CLL *i* 20 24 18.3
CLL Collm 66.59 318 *i* P **P** **20 24 14.1 -0.9**
CLL pmax pmax
comp=Z,21nm,1.1s,mb5.1
JAVS Javornik 66.74 312 *e*P **P** **20 24 15.9 -0.1**
CTA Charters Tower 66.84 126 *e*P **P** **20 24 16.1 -0.5**
comp=Z,9.4nm,0.7s,mb4.9
CTA Charters Tower 66.84 126 P **P** **20 24 16.3 -0.3**
comp=Z,12nm,0.7s,mb5.1,baz=296,slow=8.8,SNR=14
CTA Charters Tower 66.84 126 *e*P **P** **20 24 16.1 -0.5**
CTA pmax pmax
comp=Z,9.0nm,0.7s
CADS Cadrg 66.91 312 *e*P **P** **20 24 16.6 -0.5**
WET Wettzell 67.00 315 *e*P **P** **20 24 17.1 -0.5**
comp=Z,23nm,1.4s,mb5.0
WET Wettzell 67.00 315 *e*P **P** **20 24 17.1 -0.5**
WET pmax pmax
comp=Z,23nm,1.4s,mb5.0
KBA Koelnbreinsper 67.03 313⇑*i*P **P** **20 24 17.8 0.0**
comp=Z,5.8nm,0.7s,mb4.7
NKC Novy Kostel 67.10 316 *e*P **P** **20 24 18.7 +0.4**
NKC *e*x x 20 24 35.9
MOX Moxa 67.56 317 *e*P **P** **20 24 20.6 -0.5**
comp=Z,15nm,1.0s,mb5.0
MOX Moxa 67.56 317 *e*P **P** **20 24 21.5 +0.4**
comp=Z,22nm,1.2s,mb5.1
MOX Moxa 67.56 317 *e*P **P** **20 24 21.5 +0.4**
MOX pmax pmax
comp=Z,22nm,1.2s,mb5.1
BSEG Bad Segeberg 67.81 321 *e*P **P** **20 24 22.5 -0.2**
comp=Z,36nm,0.9s,mb5.4
MOL Molde 67.97 330 *e*P **P** **20 24 24.0 +0.3**
MOL AMb AMB 20 24 26.5
comp=Z,74nm,1.7s,mb5.4
MOL Molde 67.97 330 *e*P **P** **20 24 24.0 +0.3**
comp=Z,74nm,1.7s,mb5.4
GRA1 Grafenberg Arr 67.97 316 *e*P **P** **20 24 24.5 +0.8**
comp=Z,37nm,1.2s,mb5.3
GRA1 LR LR
comp=Z,300nm,18.5s
GRF Grafenberg Arr 67.97 316 *e*P **P** **20 24 24.5 +0.8**
comp=Z,37nm,1.2s,mb5.3
GRF *e*L 21 03 58.6
comp=Z,311nm,18.5s
GRF Grafenberg Arr 67.97 316 *e*P **P** **20 24 24.5 +0.8**
GRF pmax pmax
comp=Z,37nm,1.2s,mb5.3
GRF MLR MLR
comp=Z,300nm,18.5s
GRF Grafenberg Arr 67.97 316 *e*P **P** **20 24 24.5 +0.8**
GRF pmax pmax
comp=Z,37nm,1.2s,mb5.3
GRF MLR MLR
comp=Z,300nm,18.5s
CLZ Clausthal 68.12 318 *e*P **P** **20 24 24.7 0.0**
comp=Z,47nm,1.4s,mb5.3
CLZ Clausthal 68.12 318 *e*P **P** **20 24 24.7 0.0**
CLZ pmax pmax
comp=Z,47nm,1.4s,mb5.3
WTTA Wattenberg 68.14 313⇓*i*P **P** **20 24 24.5 -0.3**
comp=Z,23nm,1.3s,mb5.0
FUR Furstenfeldbru 68.21 314 *e*P **P** **20 24 25.3 0.0**
comp=Z,31nm,1.3s,mb5.2
FUR Furstenfeldbru 68.21 314 *e*P **P** **20 24 25.3 0.0**
FUR pmax pmax
comp=Z,31nm,1.3s,mb5.2
SQTA Sankt Quirin 68.44 313⇑*i*P **P** **20 24 26.2 -0.5**
comp=Z,12nm,1.2s,mb4.8
MOTA Moosalm 68.48 314⇑*i*P **P** **20 24 26.7 -0.3**
comp=Z,14nm,1.0s,mb4.9
UBBA Unterbreizbach 68.54 317 *e*P **P** **20 24 27.0 -0.3**
comp=Z,10.0nm,1.3s,mb4.6
DAVA Damuels 69.31 314⇑*i*P **P** **20 24 32.2 +0.1**
comp=Z,28nm,1.4s,mb5.0
DAVOX Davos 69.42 313 P **P** **20 24 32.1 -0.7**
comp=Z,12nm,0.9s,mb4.8,baz=111,slow=10,SNR=13
STU Stuttgart 69.45 315 *e*P **P** **20 24 33.2 +0.2**
comp=Z,27nm,1.1s,mb5.1
IBBN Ibbenburen 69.62 319 *e*P **P** **20 24 33.7 -0.3**
comp=Z,18nm,1.0s,mb5.0
TNS Taunus Mts 69.63 317 *e*P **P** **20 24 33.9 -0.1**
comp=Z,29nm,1.0s,mb5.2
TNS Taunus Mts 69.63 317 *e*P **P** **20 24 33.9 -0.1**
TNS pmax pmax
comp=Z,29nm,1.0s,mb5.2
BUG Bochum--Univer 70.10 318 *e*P **P** **20 24 36.7 -0.2**
comp=Z,24nm,1.0s,mb5.1
BFO Black Forest 70.11 315 *e*P **P** **20 24 36.8 -0.2**
comp=Z,7.0nm,1.0s,mb4.5
BFO Black Forest 70.11 315 *e*P **P** **20 24 36.8 -0.2**
BFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CDF Champ du Feu 70.77 315 *e*P **P** **20 24 40.7 -0.3**
comp=Z,43nm,1.2s,mb5.0
CDF Champ du Feu 70.77 315 *e*P **P** **20 24 40.7 -0.3**
comp=Z,21nm,1.2s,mb5.0
CDF Champ du Feu 70.77 315 *e*P **P** **20 24 40.7 -0.3**
CDF pmax pmax
comp=Z,21nm,1.2s,mb4.9
PGF Pioggiola 71.00 309 *e*P **P** **20 24 42.3 -0.1**
MEM Membach 71.06 318 P **P** **20 24 43.4 +0.5**
comp=Z,5.8nm,0.0s
HINF Hinteralfeld 71.19 315 *e*P **P** **20 24 43.0 -0.6**
WLF Walferdange 71.20 317 P **P** **20 24 44.2 +0.6**
comp=Z,24nm,1.0s,mb5.1
WLF Walferdange 71.20 317 *e*P **P** **20 24 44.5 +0.9**
comp=Z,56nm,1.0s,mb5.5
WLF Walferdange 71.20 317 *e*P **P** **20 24 44.5 +0.9**
WLF pmax pmax
comp=Z,57nm,1.0s,mb5.5
STKA Stephens Creek 71.34 138 *e*P **P** **20 24 41.9 -2.6**
comp=Z,7.1nm,0.8s,mb4.7
STKA Stephens Creek 71.34 138 P **P** **20 24 42.1 -2.4**
comp=Z,9.7nm,0.8s,mb4.8,baz=316,slow=7.7,SNR=14
STKA pP pP 20 25 01.5 -0.1
comp=Z,18nm,1.1s,baz=323,slow=4.6,SNR=4.5
HAU Haudompre 71.47 315 *e*P **P** **20 24 45.9 +0.6**
comp=Z,31nm,1.0s,mb4.9
HAU *e*R
comp=Z,245nm,17.0s
HAU Haudompre 71.47 315 *e*P **P** **20 24 45.9 +0.6**
comp=Z,15nm,1.0s,mb4.9
HAU LR LR
comp=Z,240nm,17.0s
HAU Haudompre 71.47 315 *e*P **P** **20 24 45.9 +0.6**
HAU pmax pmax
comp=Z,15nm,1.0s,mb4.9
HAU MLR MLR
comp=Z,240nm,17.0s
SBF Sospel 71.78 311 *e*P **P** **20 24 46.9 -0.2**
comp=Z,61nm,1.3s,mb5.1
SBF Sospel 71.78 311 *e*P **P** **20 24 46.9 -0.2**
comp=Z,30nm,1.3s,mb5.1
SBF Sospel 71.78 311 *e*P **P** **20 24 46.9 -0.2**
SBF pmax pmax
comp=Z,30nm,1.3s,mb5.1
LPG La Plagne 71.83 312 *e*P **P** **20 24 47.8 +0.4**
comp=Z,36nm,0.9s,mb5.0
LPG La Plagne 71.83 312 *e*P **P** **20 24 47.8 +0.4**
comp=Z,18nm,0.9s,mb5.0
LPG La Plagne 71.83 312 *e*P **P** **20 24 47.8 +0.4**
LPG pmax pmax
comp=Z,18nm,0.9s,mb5.0
LPL La Plagne 71.84 312 *e*P **P** **20 24 47.9 +0.4**
comp=Z,29nm,0.7s,mb5.0
LPL La Plagne 71.84 312 *e*P **P** **20 24 47.9 +0.4**
comp=Z,15nm,0.7s,mb5.0
LPL La Plagne 71.84 312 *e*P **P** **20 24 47.9 +0.4**
LPL pmax pmax
comp=Z,15nm,0.7s,mb5.0
GIVF Givet 71.92 317 *e*P **P** **20 24 47.9 -0.1**
comp=Z,62nm,1.2s,mb5.1
GIVF Givet 71.92 317 *e*P **P** **20 24 47.9 -0.1**
comp=Z,31nm,1.2s,mb5.1
GIVF Givet 71.92 317 *e*P **P** **20 24 47.9 -0.1**
GIVF pmax pmax
comp=Z,31nm,1.2s,mb5.1
CABF La Chapelle 72.00 314 *e*P **P** **20 24 48.5 +0.1**
MBDF Montbardon 72.02 312 *e*P **P** **20 24 47.9 -0.6**
comp=Z,16nm,0.7s,mb4.8
MBDF Montbardon 72.02 312 *e*P **P** **20 24 47.9 -0.6**
comp=Z,8.2nm,0.7s,mb4.8
MBDF Montbardon 72.02 312 *e*P **P** **20 24 47.9 -0.6**
MBDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
DOU Dourbes 72.07 317⇑P **P** **20 24 49.4 +0.5**
comp=Z,4.9nm,1.5s,mb4.2
DOU AP pP 20 25 00.1 -5.9
SNF Seneffe 72.15 318 P **P** **20 24 49.6 +0.2**
comp=Z,5.9nm,1.2s,mb4.4
SNF AP pP 20 25 01.3 -5.2
SNF XP sP 20 25 07.8 -5.7
MEZF Maizieres J'vi 72.19 316 *e*P **P** **20 24 49.6 0.0**
comp=Z,46nm,0.8s,mb5.2
MEZF Maizieres J'vi 72.19 316 *e*P **P** **20 24 49.6 0.0**
comp=Z,46nm,0.8s,mb5.5
BAIF Baives 72.32 317 *e*P **P** **20 24 50.4 +0.1**
comp=Z,39nm,1.1s,mb5.0
BAIF Baives 72.32 317 *e*P **P** **20 24 50.4 +0.1**
comp=Z,20nm,1.1s,mb5.0
BAIF Baives 72.32 317 *e*P **P** **20 24 50.4 +0.1**
BAIF pmax pmax
comp=Z,20nm,1.1s,mb5.0
HNR Honiara 72.33 109 LR LR 20 58 14.1
comp=Z,245nm,18.8s,baz=357,slow=37
FRF La Foret Royal 72.41 310 *e*P **P** **20 24 50.7 -0.2**
comp=Z,48nm,1.0s,mb5.1
FRF La Foret Royal 72.41 310 *e*P **P** **20 24 50.7 -0.2**
comp=Z,24nm,1.0s,mb5.1
FRF La Foret Royal 72.41 310 *e*P **P** **20 24 50.7 -0.2**
FRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
TNA Tin City 72.46 26 *e*P **P** **20 24 50.5 -0.7**
comp=Z,3.8nm,1.1s,mb4.2
LMR La Mourre 72.57 310 *e*P **P** **20 24 51.7 -0.1**
comp=Z,52nm,1.1s,mb5.1
LMR La Mourre 72.57 310 *e*P **P** **20 24 51.7 -0.1**
comp=Z,26nm,1.1s,mb5.1
LMR La Mourre 72.57 310 *e*P **P** **20 24 51.7 -0.1**
LMR pmax pmax
comp=Z,26nm,1.1s,mb5.1
ORIF Oris-en-Rattie 72.58 312 *e*P **P** **20 24 52.1 +0.2**
comp=Z,7.8nm,0.7s,mb4.4
ORIF *e*R
comp=Z,366nm,21.0s
ORIF Oris-en-Rattie 72.58 312 *e*P **P** **20 24 52.1 +0.2**
comp=Z,3.9nm,0.7s,mb4.5
ORIF Oris-en-Rattie 72.58 312 *e*P **P** **20 24 52.1 +0.2**
ORIF pmax pmax

comp=Z,4.0nm,0.7s,mb4.5
SMRF Simiane la Rot 73.05 311 *e*P **P 20 24 54.9 +0.2**
comp=Z,24nm,1.1s,mb4.8
SMRF Simiane la Rot 73.05 311 *e*P **P 20 24 54.9 +0.2**
comp=Z,24nm,1.1s,mb5.0
LOR Lormes 73.29 315 *e*P **P 20 24 55.6 -0.5**
comp=Z,9.6nm,0.8s,mb4.5
LOR *e*R
comp=Z,343nm,17.0s
LOR Lormes 73.29 315 *e*P **P 20 24 55.6 -0.5**
comp=Z,4.8nm,0.8s,mb4.5
LOR LR LR
comp=Z,340nm,17.0s
LOR Lormes 73.29 315 *e*P **P 20 24 55.6 -0.5**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LOR MLR MLR
comp=Z,340nm,17.0s
VIVF Saint-Julien-l 73.42 312 *e*P **P 20 24 56.7 -0.2**
comp=Z,48nm,1.2s,mb5.0
VIVF Saint-Julien-l 73.42 312 *e*P **P 20 24 56.7 -0.2**
comp=Z,24nm,1.2s,mb5.0
VIVF Saint-Julien-l 73.42 312 *e*P **P 20 24 56.7 -0.2**
VIVF pmax pmax
comp=Z,24nm,1.2s,mb5.0
SMF Signal de Mont 73.48 314 *e*P **P 20 24 56.8 -0.4**
comp=Z,44nm,0.9s,mb5.1
SMF Signal de Mont 73.48 314 *e*P **P 20 24 56.8 -0.4**
comp=Z,22nm,0.9s,mb5.1
SMF Signal de Mont 73.48 314 *e*P **P 20 24 56.8 -0.4**
SMF pmax pmax
comp=Z,22nm,0.9s,mb5.1
SSF Saint Saulge 73.58 315 *e*P **P 20 24 57.5 -0.3**
comp=Z,72nm,1.1s,mb5.2
SSF Saint Saulge 73.58 315 *e*P **P 20 24 57.5 -0.3**
comp=Z,36nm,1.1s,mb5.2
SSF Saint Saulge 73.58 315 *e*P **P 20 24 57.5 -0.3**
SSF pmax pmax
comp=Z,36nm,1.1s,mb5.2
AVF Avril sur Loir 73.76 314 *e*P **P 20 24 58.6 -0.2**
comp=Z,25nm,0.9s,mb4.8
AVF Avril sur Loir 73.76 314 *e*P **P 20 24 58.6 -0.2**
comp=Z,12nm,0.9s,mb4.8
AVF Avril sur Loir 73.76 314 *e*P **P 20 24 58.6 -0.2**
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.8
ALE Alert 73.86 357 P **P 20 24 59.9 +0.5**
comp=Z,79nm,0.7s,mb5.8,SNR=5.8
HYF Humbligny 74.09 315 *e*P **P 20 25 01.2 +0.4**
BGF Bois d'Agland 74.16 314 *e*P **P 20 25 00.9 -0.3**
LASF Ste Croix 74.20 311 *e*P **P 20 25 01.7 +0.2**
comp=Z,45nm,1.1s,mb5.0
TCF Toulx Ste Croi 74.66 314 *e*P **P 20 25 04.3 +0.2**
comp=Z,60nm,1.1s,mb5.1
TCF Toulx Ste Croi 74.66 314 *e*P **P 20 25 04.3 +0.2**
comp=Z,30nm,1.1s,mb5.1
TCF Toulx Ste Croi 74.66 314 *e*P **P 20 25 04.3 +0.2**
TCF pmax pmax
comp=Z,30nm,1.1s,mb5.1
LSZ Lusaka 74.70 246 *e*P **P 20 25 06.0 +1.6**
comp=Z,17nm,0.8s,mb5.0
LSZ *e*PcP PcP 20 25 20.7 +2.4
LSZ Lusaka 74.70 246 *e*P **P 20 25 06.0 +1.6**
LSZ *e* pP 20 25 20.7 -0.9
LSZ pmax pmax
comp=Z,17nm,0.8s,mb5.0
EKA Eskdalemuir Ar 75.06 324 P **P 20 25 05.1 -1.3**
comp=Z,7.4nm,0.8s,mb4.7,baz=78,slow=6.0,SNR=11
EKA pP pP 20 25 23.1 -0.5
comp=Z,7.0nm,0.8s,baz=64,slow=5.8,SNR=6.2
CAF Calviac 75.17 313 *e*P **P 20 25 07.4 +0.3**
comp=Z,35nm,1.1s,mb4.9
CAF Calviac 75.17 313 *e*P **P 20 25 07.4 +0.3**
comp=Z,18nm,1.0s,mb5.0
CAF Calviac 75.17 313 *e*P **P 20 25 07.4 +0.3**
CAF pmax pmax
comp=Z,18nm,1.0s,mb5.0
RJF Les Rejaudoux 75.42 313 *e*P **P 20 25 09.1 +0.6**
comp=Z,56nm,1.1s,mb5.1
RJF *e*R
comp=Z,488nm,21.8s
RJF Les Rejaudoux 75.42 313 *e*P **P 20 25 09.1 +0.6**
comp=Z,28nm,1.1s,mb5.1
RJF LR LR
comp=Z,490nm,21.8s
RJF Les Rejaudoux 75.42 313 *e*P **P 20 25 09.1 +0.6**
RJF pmax pmax
comp=Z,28nm,1.1s,mb5.1
RJF MLR MLR
comp=Z,490nm,21.8s
LDF La Druitiere 75.45 317 *e*P **P 20 25 08.4 -0.3**
comp=Z,21nm,0.8s,mb4.8
LDF La Druitiere 75.45 317 *e*P **P 20 25 08.4 -0.3**
comp=Z,10nm,0.8s,mb4.8
LDF La Druitiere 75.45 317 *e*P **P 20 25 08.4 -0.3**
LDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MTLF Montolieu 75.56 311 *e*P **P 20 25 09.3 0.0**
comp=Z,26nm,0.9s,mb4.8
MTLF Montolieu 75.56 311 *e*P **P 20 25 09.3 0.0**
comp=Z,13nm,0.9s,mb4.9
MTLF Montolieu 75.56 311 *e*P **P 20 25 09.3 0.0**
MTLF pmax pmax
comp=Z,13nm,0.9s,mb4.9
GRR Gorron 75.98 317 *e*P **P 20 25 11.4 -0.3**
LFF La Frestale 76.06 313 *e*P **P 20 25 12.5 +0.4**
comp=Z,23nm,0.7s,mb4.9
LFF La Frestale 76.06 313 *e*P **P 20 25 12.5 +0.4**
comp=Z,12nm,0.7s,mb4.9
LFF La Frestale 76.06 313 *e*P **P 20 25 12.5 +0.4**
LFF pmax pmax
comp=Z,12nm,0.7s,mb4.9
MFF Saint Martin d 76.11 315 *e*P **P 20 25 12.2 -0.2**
EPF Esparros 76.96 311 *e*P **P 20 25 17.2 0.0**
SGMF Saint Gilles 77.09 317 *e*P **P 20 25 17.9 -0.1**
comp=Z,30nm,0.8s,mb5.0
SGMF Saint Gilles 77.09 317 *e*P **P 20 25 17.9 -0.1**
comp=Z,15nm,0.8s,mb5.0
SGMF Saint Gilles 77.09 317 *e*P **P 20 25 17.9 -0.1**
SGMF pmax pmax
comp=Z,15nm,0.8s,mb5.0
EBIE Bielsa 77.21 311 P **P 20 25 18.9 +0.2**
comp=Z,5.3nm,0.8s,mb4.5
EGRA Graus 77.26 310 P **P 20 25 20.1 +1.2**
comp=Z,7.3nm,0.7s,mb4.7
ROSF Rostrenen 77.51 317 *e*P **P 20 25 20.1 -0.2**
comp=Z,20nm,0.7s,mb4.9
ROSF Rostrenen 77.51 317 *e*P **P 20 25 20.1 -0.2**
comp=Z,10nm,0.7s,mb4.9
ROSF Rostrenen 77.51 317 *e*P **P 20 25 20.1 -0.2**
ROSF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
QUIF Quistinic 77.59 317 *e*P **P 20 25 20.3 -0.5**
comp=Z,53nm,1.1s,mb5.1
QUIF Quistinic 77.59 317 *e*P **P 20 25 20.3 -0.5**
comp=Z,26nm,1.1s,mb5.1
QUIF Quistinic 77.59 317 *e*P **P 20 25 20.3 -0.5**
QUIF pmax pmax
comp=Z,26nm,1.1s,mb5.1
ETSF Etsaut 77.63 311 *e*P **P 20 25 21.4 +0.5**
comp=Z,22nm,0.9s,mb4.8
ETSF Etsaut 77.63 311 *e*P **P 20 25 21.4 +0.5**
comp=Z,11nm,0.9s,mb4.8
ETSF Etsaut 77.63 311 *e*P **P 20 25 21.4 +0.5**
ETSF pmax pmax
comp=Z,11nm,0.9s,mb4.8
SJPF Ste Jean 78.01 312 *e*P **P 20 25 23.6 +0.5**
comp=Z,34nm,1.2s,mb4.9
SJPF Ste Jean 78.01 312 *e*P **P 20 25 23.6 +0.5**
comp=Z,17nm,1.2s,mb4.9
SJPF Ste Jean 78.01 312 *e*P **P 20 25 23.6 +0.5**
SJPF pmax pmax
comp=Z,17nm,1.2s,mb4.8
EALK Alkurruntz 78.17 312 P **P 20 25 24.2 +0.2**
comp=Z,28nm,1.1s,mb5.1
CNB Canberra Magne 78.46 137 *e*P **P 20 25 25.4 -0.2**
comp=Z,10nm,0.7s,mb4.9
ECRI Cripan 79.07 312 P **P 20 25 29.8 +0.8**
comp=Z,10nm,0.8s,mb4.8
ECRI Cripan 79.07 312 P **P 20 25 29.8 +0.9**
ECRI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SUMG Summit 79.20 347 *e*P **P 20 25 29.3 -0.3**
comp=Z,30nm,1.2s,mb5.1
SUMG *e*PcP PcP 20 25 38.7 +1.0
ELAN Lanestosa 79.47 312 P **P 20 25 32.0 +0.9**
comp=Z,20nm,0.9s,mb5.0
ETOB Tobarra 79.84 308 P **P 20 25 32.8 -0.3**
comp=Z,8.6nm,0.8s,mb4.7
COLA College 80.33 22⇑*i*P **P 20 25 35.6 -0.1**
EVIA Vianos 80.53 308 P **P 20 25 36.5 -0.4**
MCK McKinley 80.58 24 *e*P **P 20 25 37.1 0.0**
comp=Z,68nm,1.0s,mb5.5
MCK McKinley 80.58 24 *e*P **P 20 25 37.1 0.0**
MCK pmax pmax
comp=Z,68nm,1.0s,mb5.5
ILAR Eielson Array 80.72 22 P **P 20 25 36.5 -1.3**
comp=Z,6.3nm,0.9s,mb4.5,baz=294,slow=5.2,SNR=44
ILAR pP pP 20 25 53.8 -1.5
comp=Z,3.1nm,0.8s,baz=306,slow=4.9,SNR=4.5
ILAR PP PP 20 28 41.7 -0.7
comp=Z,3.6nm,0.9s,baz=299,slow=7.6,SNR=8.5
ILAR LR LR 21 05 23.5
comp=Z,100nm,19.3s,baz=182,slow=39
ILAR Eielson Array 80.72 22 P **P 20 25 36.5 -1.3**
ILAR *PP pP 20 25 53.8 -1.5
ILAR 20 28 41.7
ENIJ Nijar 80.94 306 P **P 20 25 38.6 -0.4**
comp=Z,11nm,0.9s,mb4.8
ENIJ Nijar 80.94 306 P **P 20 25 38.6 -0.4**
ENIJ pmax pmax
comp=Z,11nm,0.9s,mb4.8
GUD Guadarrama 80.95 310 P **P 20 25 40.1 +1.1**
comp=Z,7.8nm,0.5s,mb4.9
GUD Guadarrama 80.95 310 P **P 20 25 40.1 +1.1**
GUD pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
ESDC Sonseca Array 81.19 309 P **P 20 25 40.3 -0.1**
comp=Z,3.6nm,0.8s,mb4.3,baz=56,slow=5.5,SNR=12
ESDC Sonseca Array 81.19 309 P **P 20 25 41.1 +0.7**
comp=Z,3.4nm,0.8s,mb4.3
ESLA Sonseca Array 81.19 309 *e*P **P 20 25 40.9 +0.6**
comp=Z,2.6nm,1.1s,mb4.1
EQES Quesada 81.26 307 P **P 20 25 40.8 +0.1**
comp=Z,14nm,1.0s,mb4.8
EBER Berja 81.48 306 P **P 20 25 43.7 +1.9**
comp=Z,6.9nm,0.7s,mb4.7
LBTB Lobatse 81.67 238 *e*P **P 20 25 43.8 +0.9**
comp=Z,7.9nm,0.7s,mb4.8
LBTB *e*PcP PcP 20 25 49.2 +0.7
LBTB Lobatse 81.67 238 *e*P **P 20 25 43.8 +1.0**
LBTB pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SML Sawmill 81.90 25 *e*P **P 20 25 44.1 0.0**
EPON Pontenova 81.93 314 P **P 20 25 42.6 -1.6**
RES Resolute Bay 82.17 2 *e*P **P 20 25 45.6 +0.1**
comp=Z,21nm,1.0s,mb5.0
RES Resolute Bay 82.17 2 *e*P **P 20 25 45.6 +0.1**
RES pmax pmax
comp=Z,21nm,1.0s,mb5.0
EADA Adamuz 82.22 308 P **P 20 25 46.4 +0.7**
comp=Z,6.3nm,0.9s,mb4.5
ELUQ Luque 82.23 307 P **P 20 25 44.4 -1.4**
ELOJ Sierra Loja 82.31 307 P **P 20 25 46.2 0.0**
KDAK Kodiak Island 82.32 30 P **P 20 25 44.2 -2.0**
comp=Z,7.1nm,0.7s,mb4.7,baz=283,slow=1.6,SNR=8.2
KDAK Kodiak Island 82.32 30 P **P 20 25 44.2 -2.0**
INK Inuvik 82.41 16 P **P 20 25 46.5 -0.3**
comp=Z,17nm,0.7s,mb5.1,baz=337,slow=4.9,SNR=58
INK Inuvik 82.41 16 *e*P **P 20 25 46.3 -0.4**
comp=Z,26nm,0.9s,mb5.2
INK Inuvik 82.41 16 *e*P **P 20 25 46.3 -0.4**
INK pmax pmax
comp=Z,26nm,0.9s
EMIJ Mijas 83.00 307 P **P 20 25 47.5 -2.3**
PVIS Viseu 83.52 311 *e*P **P 20 25 52.9 +0.4**
comp=Z,31nm,1.2s,mb5.3
PCBR Castelo Branco 83.60 311 *e*P **P 20 25 54.0 +1.1**
comp=Z,22nm,1.6s,mb5.0
EYAK Cordova Ski Ar 83.66 25 *e*P **P 20 25 53.2 0.0**
DAWY Dawson 83.70 21 *e*P **P 20 25 53.4 0.0**
EBAD Badajoz 83.73 309 P **P 20 25 54.2 +0.7**
comp=Z,8.3nm,0.9s,mb4.9
PTOM Tomar 84.35 311 *e*P **P 20 25 57.1 +0.4**
comp=Z,32nm,1.3s,mb5.3
MDT Midelt 84.38 303 P **P 20 25 57.1 +0.2**
comp=Z,1.8nm,0.8s,mb4.3,baz=105,slow=7.6,SNR=6.5
PBEJ Beja 84.64 309 *e*P **P 20 25 59.4 +1.2**
comp=Z,13nm,1.0s,mb5.0
TORD Torodi Ar. Bea 86.82 283 P **P 20 26 10.3 +1.4**
comp=Z,6.4nm,0.9s,mb4.8,baz=58,slow=4.6,SNR=33
TORD pP pP 20 26 26.3 -0.3
comp=Z,9.0nm,0.9s,baz=55,slow=4.0,SNR=8.2
DLBC Dease Lake 90.90 21 P **P 20 26 28.9 +0.7**
comp=Z,5.1nm,1.1s,mb4.8,baz=326,slow=4.9,SNR=4.7
DLBC pP pP 20 26 46.2 +0.3
comp=Z,1.3nm,0.8s,baz=270,slow=4.0,SNR=3.6
DLBC Dease Lake 90.90 21 P **P 20 26 28.9 +0.7**
DLBC pP pP 20 26 46.2 +0.3
YKA Yellowknife Ar 91.63 13 P **P 20 26 31.1 -0.5**
comp=Z,3.8nm,0.7s,mb4.8,baz=330,slow=4.3,SNR=56
YKA PP PP 20 30 06.8 -3.7
comp=Z,1.0nm,0.8s,baz=333,slow=7.9,SNR=7.0
YKA Yellowknife Ar 91.63 13 P **P 20 26 31.1 -0.5**
YKA 20 30 06.8
FRB Frobisher Bay 92.23 352 P **P 20 26 32.9 -1.4**
comp=Z,1.5nm,0.5s,mb4.5,baz=17,slow=6.4,SNR=4.2
DBIC Dimbokro 95.31 280 LR LR 21 16 09.9
comp=Z,115nm,18.2s,baz=353,slow=39
DBIC Dimbokro 95.31 280 P **P 20 26 49.1 +0.6**
comp=Z,7.3nm,1.1s,mb5.0
DBIC Dimbokro 95.31 280 P **P 20 26 49.1 +0.6**
DBIC pmax pmax
comp=Z,7.0nm,1.1s
AFI Afiamalu 99.34 101 LR LR 21 06 07.8
comp=Z,98nm,20.9s,baz=101,slow=32
SYO Syowa Base 99.89 197⇓*e*Pdiff Pdif 20 27 08.1 -1.1
SYO Syowa Base 99.89 197⇓*e*PDdiff 20 27 20.6
SYO Syowa Base 99.89 197⇓*e*PP PP 20 31 14.3 -0.2
DAU Daniels Canyon 112.53 21 *e*PKPdf PKiKP 20 32 00.6 +0.1
JCT Junction City 125.03 14 *e*PKPdf PKPdf 20 32 25.0 +0.5
BDFB Brasilia 143.31 275 PKP PKPdf 20 32 58.9 +0.4
comp=Z,2.5nm,0.9s,baz=72,slow=6.4,SNR=3.0
ROSC El Rosal 149.79 336 PKPbc PKPbc 20 33 16.8 +2.6
comp=Z,25nm,0.7s,baz=32,slow=2.5,SNR=4.7
CPUP Villa Florida 153.64 257 PKP PKPdf 20 33 16.1 +0.9
comp=Z,1.2nm,0.7s,baz=52,slow=1.8,SNR=2.9
CPUP PKPbc PKPbc 20 33 22.2 -0.8
comp=Z,0.8nm,0.5s,baz=206,slow=2.7,SNR=4.2
CPUP PKPab PKPab 20 33 36.2 +0.4
comp=Z,3.1nm,0.6s,baz=70,slow=3.0,SNR=3.0

MOS ***25*** *20:14:04.5±1.2, 4194N×12598W, h10km, mb5.2/25, Error ellipse: s-maj=6.3km s-min=5.5km az=32.3*
IDC ***25*** *20:14:04.2±0.8, 4193N×12597W, h0km, mb4.5/18, mb1 4.6/23, mb1mx4.5/31, mbtmp4.5/23, ML3.7/4, MS4.2/20, Ms1 4.2/20, ms1mx4.1/35, Error ellipse: s-maj=17.7km s-min=8.5km az=27.0*
ISCJB ***25*** *20:14:05.5±0.3, 4200N±004×12592W±004, h10km, mb4.8/66, MS4.2/18, Error ellipse: s-maj=5.6km s-min=2.9km az=61.9*
BJI ***25*** *20:14:05.0, 4200N×12590W, h10km, mB5.2, mb4.9, Ms5.2, Msz4.7*
SZGRF ***25*** *20:14:05.0, 4089N×12708W, h33km, mb5.1, Off coast of northern California, United States*
NEIC ***25*** *20:14:06.8±0.4, 4198N×12590W, h10km, mb5.0/40, Error ellipse: s-maj=8.1km s-min=3.8km az=210.0*
HRVD ***25*** *20:14:06.8±0.3, 4173N×12630W, h16km±1km, MW5.0/84, Centroid moment Tensor Solution. LP body waves: s32,c39;Mantle waves: s84,c148; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.45±.13; Mθθ-3.50±.11; Mφφ3.95±.13; Mrθ0.57±.30; Mrφ-0.30±.09; Mθφ0.40±.31; Best double couple: M∅3.80800×1016 NP1:∅s313.00000°, δ79.00000°, λ-176.00000°. NP2: ∅s222.00000°, δ86.00000°, λ-11.00000°. Principal axes: T 3.9950, Plg5.0000°, Azm268.0000°; N -0.3740, Plg78.0000°, Azm23.0000°; P -3.6210, Plg11.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 25 20:14:05.9±1.8, 4198N±004×12605W±005, h6km±10km, h15km±1.2km; pP-P, n244, σ1§25/238, mb4.8/66, MS4.2/18, 41C-5D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.38**	**80**	⇑*i*Pn	**Pn**	**20 14 28.9**	**-2.8**
KEBM	**Edson Butte**	**1.55**	**54**	⇑*i*Pn	**Pn**	**20 14 31.9**	**-2.2**
KTRM	**Thompson Ridge**	**2.00**	**91**	⇑P	**Pn**	**20 14 37.2**	**-3.0**
HUMO	**Hull Mountain**	**2.38**	**74**	⇑*i*Pn	**Pn**	**20 14 43.1**	**-2.4**
YBH	**Yreka Blue Hor**	**2.51**	**95**	Pn	**Pn**	**20 14 45.6**	**-1.6**
	61nm,0.3s,baz=275,slow=12,SNR=1140						
YBH				Sn	**Sn**	**20 15 18.1**	**0.0**
	20nm,0.3s,baz=269,slow=10,SNR=3.7						
YBH	**Yreka Blue Hor**	**2.51**	**95**	⇑*i*P	**Pn**	**20 14 45.2**	**-2.0**
RNO	**Roman Nose**	**2.57**	**40**	⇑P	**Pn**	**20 14 47.2**	**-0.9**
BBOR	**Butler Butte**	**2.66**	**69**	⇓P	**Pn**	**20 14 48.0**	**-1.3**
HSO	**Harness Mounta**	**2.67**	**54**	P	**Pn**	**20 14 48.2**	**-1.3**
BUOR	**Burton Butte**	**2.85**	**83**	⇓P	**Pn**	**20 14 51.1**	**-0.8**
LHEM	**Herd Peak**	**2.89**	**96**	⇑P	**Pn**	**20 14 51.2**	**-1.2**
KIPM	**Iron Peak**	**2.91**	**137**	*e*Pn	**Pn**	**20 14 47.8**	**-5.1**
WDC	**Whiskeytown Da**	**2.99**	**117**	⇑*i*Pn	**Pn**	**20 14 50.7**	**-3.2**
HOG	**Hogback Mounta**	**3.24**	**84**	P	**Pn**	**20 14 56.3**	**-1.0**
COR	**Corvallis**	**3.29**	**37**	*e*Pn	**Pn**	**20 14 57.2**	**-0.7**
HBO	**Huckleberry Mo**	**3.31**	**55**	P	**Pn**	**20 14 57.9**	**-0.5**
IRO	**Indian Ridge**	**3.44**	**53**	⇑P	**Pn**	**20 14 59.4**	**-0.7**
FRIS	**Frissel Point**	**3.65**	**51**	P	**Pn**	**20 15 02.6**	**-0.4**
HOPS	**Hopland**	**3.75**	**142**	*e*Pn	**Pn**	**20 14 58.7**	**-5.6**
MOD	**Modoc**	**4.29**	**89**	⇑*e*Pn	**Pn**	**20 15 09.6**	**-2.1**
WVOR	**Wild Horse Val**	**5.53**	**83**	⇑*e*Pn	**Pn**	**20 15 26.0**	**-2.7**
	120nm,0.9s						
WVOR	**Wild Horse Val**	**5.53**	**83**	⇑*e*P	**Pn**	**20 15 26.0**	**-2.7**
WVOR				pmax	pmax		
	comp=Z,120nm,0.9s						
CMB	**Columbia Colle**	**5.87**	**130**	⇑*e*P	**Pn**	**20 15 31.2**	**-2.2**
	comp=Z,26nm,0.7s						
CMB	**Columbia Colle**	**5.87**	**130**	⇑*e*P	**Pn**	**20 15 31.2**	**-2.2**
CMB				pmax	pmax		
	comp=Z,26nm,0.7s						
OCWA	**Octopus Mounta**	**5.92**	**12**	⇑*e*Pn	**Pn**	**20 15 35.5**	**+1.3**
	comp=Z,88nm,0.9s						
SAO	**San Andreas Ge**	**6.31**	**144**	*e*Pn	**Pn**	**20 15 34.0**	**-5.5**
	comp=Z,18nm,0.8s						
SAO	**San Andreas Ge**	**6.31**	**144**	*e*P	**Pn**	**20 15 34.0**	**-5.5**
SAO				pmax	pmax		
	comp=Z,18nm,0.8s						
HAWA	**Hanford**	**6.43**	**45**	*e*Pn	**Pn**	**20 15 40.8**	**-0.4**
	comp=Z,2.9nm,0.7s						
BMN	**Battle Mountai**	**6.84**	**100**	*e*Pn	**Pn**	**20 15 46.2**	**-0.5**
	comp=Z,40nm,1.0s						
BMN	**Battle Mountai**	**6.84**	**100**	*e*P	**Pn**	**20 15 46.2**	**-0.5**
BMN				pmax	pmax		
	comp=Z,40nm,1.0s						
NVAR	**Mina Array Bea**	**6.91**	**118**	Pn	**Pn**	**20 15 46.1**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=284,slow=14,SNR=8.0						
NVAR				Sn	**Sn**	**20 17 05.6**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=286,slow=24,SNR=2.7						
NVAR	**Mina Array Bea**	**6.91**	**118**	Pn	**Pn**	**20 15 46.1**	**-1.6**
NVAR				Sn	**Sn**	**20 17 05.6**	**-1.1**
PGC	**Sidney**	**6.92**	**14**	⇑*e*Pn	**Pn**	**20 15 49.1**	**+1.2**
	comp=Z,175nm,1.0s						
BMO	**Blue Mountains**	**6.99**	**63**	⇑*e*Pn	**Pn**	**20 15 47.7**	**-1.0**
	comp=Z,30nm,0.8s						
BMO	**Blue Mountains**	**6.99**	**63**	⇑*e*P	**Pn**	**20 15 47.7**	**-1.1**
BMO				pmax	pmax		
	comp=Z,30nm,0.8s						
MNV	**Mina**	**7.00**	**118**	*e*Pn	**Pn**	**20 15 46.4**	**-2.6**
	comp=Z,19nm,0.8s						
MNV	**Mina**	**7.00**	**118**	*e*P	**Pn**	**20 15 46.4**	**-2.6**
MNV				pmax	pmax		
	comp=Z,19nm,0.8s						
ELK	**Elko**	**8.23**	**95**	⇑*i*Pn	**Pn**	**20 16 06.4**	**+0.6**
	comp=Z,63nm,0.9s						
ELK	**Elko**	**8.23**	**95**	⇑*i*P	**Pn**	**20 16 06.4**	**+0.6**
ELK				pmax	pmax		
	comp=Z,63nm,0.9s						
DAC	**Darwin (Calif)**	**8.69**	**128**	*e*Pn	**Pn**	**20 16 16.8**	**+4.6**
	comp=Z,9.0nm,0.9s						
DAC				*e*Sn	**Sn**	**20 17 53.1**	**+2.5**
DAC	**Darwin (Calif)**	**8.69**	**128**	*e*P	**Pn**	**20 16 16.8**	**+4.6**
DAC				*e*		20 17 53.1	
DAC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HLID	**Hailey**	**8.71**	**76**	*e*Pn	**Pn**	**20 16 11.9**	**-0.5**
	comp=Z,21nm,0.7s						
NEW	**Newport**	**8.90**	**42**	Pn	**Pn**	**20 16 15.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=210,slow=9.5,SNR=13						
NEW				LR	LR	20 19 51.1	
	comp=Z,3μm,18.3s,baz=230,slow=39						
NEW	**Newport**	**8.90**	**42**	*e*Pn	**Pn**	**20 16 15.5**	**+0.4**
	comp=Z,14nm,1.0s						
NEW	**Newport**	**8.90**	**42**	*e*P	**Pn**	**20 16 15.5**	**+0.4**
NEW				pmax	pmax		
	comp=Z,15nm,1.0s						
BGU	**Big Grassy Mou**	**9.84**	**92**	⇑*e*Pn	**Pn**	**20 16 33.5**	**+5.6**
HVU	**Hansel Valley**	**9.91**	**87**	⇑*e*Pn	**Pn**	**20 16 29.6**	**+0.7**
	comp=Z,212nm,1.5s						
HVU	**Hansel Valley**	**9.91**	**87**	⇑*e*P	**Pn**	**20 16 29.6**	**+0.8**
HVU				pmax	pmax		
	comp=Z,212nm,1.5s						
MSO	**Missoula**	**9.93**	**57**	*e*Pn	**Pn**	**20 16 29.3**	**+0.2**
	comp=Z,13nm,0.8s						
MWC	**Mount Wilson**	**9.97**	**138**	Pn	**Pn**	**20 16 27.8**	**-2.0**
MCMT	**McKenzie Canyo**	**10.02**	**69**	⇑*i*Pn	**Pn**	**20 16 31.0**	**+0.6**
DUG	**Dugway**	**10.15**	**96**	⇑*i*Pn	**Pn**	**20 16 32.9**	**+0.7**
	comp=Z,85nm,1.0s						
DUG	**Dugway**	**10.15**	**96**	⇑*i*P	**Pn**	**20 16 32.9**	**+0.7**
DUG				pmax	pmax		
	comp=Z,85nm,1.0s						
SPUT	**South Promonto**	**10.21**	**89**	⇑*i*Pn	**Pn**	**20 16 33.9**	**+1.0**
BBB	**Bella Bella**	**10.31**	**353**	Pn	**Pn**	**20 16 36.9**	**+2.6**
	comp=Z,1.6nm,0.3s,baz=180,slow=14,SNR=16						
BBB				LR	LR	20 19 47.3	
	comp=Z,2μm,20.2s,baz=164,slow=33						
DLMT	**Dillon**	**10.32**	**66**	⇓*i*Pn	**Pn**	**20 16 35.4**	**+0.9**
	comp=Z,48nm,1.1s						
CHMT	**Chamberlain Mo**	**10.39**	**57**	⇓*e*Pn	**Pn**	**20 16 35.6**	**+0.1**
ARUT	**Antelope Range**	**10.55**	**109**	*e*Pn	**Pn**	**20 16 38.5**	**+0.8**
NOQ	**North Oquirrh**	**10.57**	**93**	⇑*e*Pn	**Pn**	**20 16 38.8**	**+1.0**
	comp=Z,275nm,1.3s						
CCUT	**Cedar City**	**10.72**	**110**	*e*Pn	**Pn**	**20 16 40.5**	**+0.5**
NLU	**North Lily Min**	**10.76**	**96**	⇑*i*Pn	**Pn**	**20 16 37.3**	**-3.2**
NEN	**Nelson**	**10.78**	**122**	Pn	**Pn**	**20 16 44.2**	**+3.4**
HWUT	**Hardware Ranch**	**10.83**	**87**	⇑*i*Pn	**Pn**	**20 16 42.4**	**+1.0**
	comp=Z,231nm,1.6s						
TCUT	**Toone Canyon**	**11.01**	**90**	⇑*e*Pn	**Pn**	**20 16 45.1**	**+1.1**
QLMT	**Earthquake Lak**	**11.01**	**70**	*e*Pn	**Pn**	**20 16 44.6**	**+0.6**
BOZ	**Bozeman (W)**	**11.05**	**66**	*e*Pn	**Pn**	**20 16 44.6**	**+0.2**
	comp=Z,26nm,0.9s						
BOZ	**Bozeman (W)**	**11.05**	**66**	*e*P	**Pn**	**20 16 44.6**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,26nm,0.9s						
WALA	**Waterton Lakes**	**11.07**	**46**	⇑*e*Pn	**Pn**	**20 16 46.0**	**+1.3**
	comp=Z,19nm,0.9s						
MPU	**Maple Canyon**	**11.07**	**95**	*e*Pn	**Pn**	**20 16 46.1**	**+1.2**
	comp=Z,25nm,1.0s						
AHID	**Auburn Hatcher**	**11.09**	**81**	*e*Pn	**Pn**	**20 16 45.8**	**+0.7**
	comp=Z,86nm,1.3s						
MSU	**Marysvale**	**11.15**	**103**	*e*Pn	**Pn**	**20 16 47.2**	**+1.2**
TPAW	**Teton Pass**	**11.21**	**77**	⇑*e*Pn	**Pn**	**20 16 48.0**	**+1.3**
	comp=Z,197nm,1.7s						
TPAW				*e*		20 21 03.6	
HRY	**Holter Researc**	**11.22**	**60**	Pn	**Pn**	**20 16 48.3**	**+1.4**
DAU	**Daniels Canyon**	**11.26**	**93**	*e*Pn	**Pn**	**20 16 45.1**	**-2.2**
REDW	**Red Top Meadow**	**11.28**	**78**	*e*Pn	**Pn**	**20 16 49.1**	**+1.5**
	comp=Z,94nm,1.4s						
REDW				Sn	**Sn**	**20 18 36.5**	**-18**
REDW				*e*		20 21 07.2	
YMR	**Madison River**	**11.31**	**71**	*e*Pn	**Pn**	**20 16 48.4**	**+0.2**
	comp=Z,31nm,1.0s						
SNOW	**Snow King Moun**	**11.35**	**77**	*e*Pn	**Pn**	**20 16 49.0**	**+0.3**
	comp=Z,125nm,1.5s						
MOOW	**Moose Ponds**	**11.38**	**76**	*e*Pn	**Pn**	**20 16 50.0**	**+1.1**
	comp=Z,66nm,1.4s						
MOOW				Sn	**Sn**	**20 18 47.5**	**-8.8**
YFT	**Old Faithful**	**11.38**	**72**	*e*Pn	**Pn**	**20 16 51.2**	**+2.2**
FLWY	**Flagg Ranch**	**11.43**	**74**	*e*Pn	**Pn**	**20 16 51.3**	**+1.5**
	comp=Z,89nm,1.3s						
LOHW	**Long Hollow**	**11.47**	**77**	⇑*i*Pn	**Pn**	**20 16 51.3**	**+1.0**
	comp=Z,78nm,1.5s						
TMUT

comp=Z,108nm,1.5s
PV10 Paradox Valley 13.50 100 *e*Pn **Pn 20 17 18.8 +0.8**
PV01 Paradox Valley 13.93 100 *e*Pn **Pn 20 17 24.4 +0.6**
RWWY Rawlins 14.05 85 *e*Pn **Pn 20 17 23.6 -1.9**
comp=Z,76nm,1.4s
EDM Edmonton 14.11 33 *e*Pn **Pn 20 17 25.2 -1.1**
LAO LASA Array 14.94 65 *e*Pn **Pn 20 17 45.2 +7.6**
comp=Z,84nm,1.1s
PHWY Pilot Hill 15.41 86 *e*Pn **Pn 20 17 41.2 -2.7**
TUC Tucson 15.51 124 *e*Pn **Pn 20 17 46.0 +0.7**
comp=Z,19nm,1.2s
TUC Tucson 15.51 124 *e*P **Pn 20 17 46.0 +0.8**
TUC pmax pmax
comp=Z,19nm,1.2s
ISCO Idaho Springs 15.61 91 *e*Pn **Pn 20 17 45.1 -1.3**
comp=Z,20nm,0.8s
ISCO Idaho Springs 15.61 91 *e*P **Pn 20 17 45.2 -1.3**
ISCO pmax pmax
comp=Z,20nm,0.8s
RSSD Black Hills 16.23 75 *e*Pn **Pn 20 17 50.4 -4.2**
SDCO Great Sand Dun 16.33 98 P **Pn 20 17 57.3 +1.6**
comp=Z,61nm,0.7s
DLBC Dease Lake 16.67 353 Pn **Pn 20 18 02.5 +2.4**
comp=Z,0.2nm,0.3s,baz=178,slow=11,SNR=19
DLBC LR LR 20 23 37.7
comp=Z,807nm,19.4s,baz=143,slow=34
DGMT Dagmar 16.68 60 *e*Pn **Pn 20 17 58.9 -1.3**
comp=Z,39nm,1.0s
ANMO Albuquerque 16.85 108 Pn **Pn 20 18 02.7 +0.2**
comp=Z,0.4nm,0.3s,baz=308,slow=11,SNR=18
ANMO LR LR 20 24 36.9
comp=Z,662nm,19.4s,baz=86,slow=38
ANMO Albuquerque 16.85 108 Pn **Pn 20 18 02.7 +0.2**
ANMO LR LR 20 24 36.9
MNTX Cornudas Mount 19.42 115 *e*P **Pn 20 18 34.0 0.0**
comp=Z,21nm,1.1s
CBKS Cedar Bluff 20.26 90 *e*P **P 20 18 42.1 +0.1**
comp=Z,168nm,1.5s
CBKS Cedar Bluff 20.26 90 *e*P **P 20 18 42.1 0.0**
CBKS pmax pmax
comp=Z,168nm,1.5s
FFC Flin Flon 20.33 43 Pn **P 20 18 43.8 +1.0**
comp=Z,608nm,0.9s,SNR=31
FFC Flin Flon 20.33 43 *e*P **P 20 18 43.0 +0.2**
comp=Z,92nm,0.9s
FFC Flin Flon 20.33 43 *e*P **P 20 18 43.0 +0.2**
FFC pmax pmax
comp=Z,92nm,0.9s
YKA Yellowknife Ar 21.64 14 P **P 20 18 56.4 -0.6**
comp=Z,12nm,1.0s,mb4.3,baz=202,slow=10,SNR=34
YKA LR LR 20 27 15.8
comp=Z,640nm,20.8s,MS4.0,baz=200,slow=36
YKW3 Yellowknife Ar 21.70 14 *e*P **P 20 18 56.8 -0.8**
LTX Lajitas 22.06 118 *e*P **P 20 19 03.0 +1.5**
comp=Z,96nm,1.5s,mb5.0
LTX Lajitas 22.06 118 *e*P **P 20 19 03.0 +1.6**
LTX pmax pmax
comp=Z,96nm,1.5s,mb5.0
ULM Lac du Bonnet 22.37 58 P **P 20 19 04.3 -0.4**
comp=Z,24nm,0.8s,mb4.7,baz=266,slow=11,SNR=53
ULM LR LR 20 28 00.4
comp=Z,507nm,21.2s,MS3.9,baz=77,slow=37
KSU1 Kansas State U 22.51 87 *e*P **P 20 19 05.0 -1.2**
WMOK Wichita Mounta 22.51 100 *e*P **P 20 19 02.8 -3.4**
comp=Z,61nm,1.0s,mb5.0
WMOK Wichita Mounta 22.51 100 *e*P **P 20 19 02.8 -3.5**
WMOK pmax pmax
comp=Z,61nm,1.0s,mb5.0
DIV Divide 22.59 335 *e*P **P 20 19 07.4 +0.3**
comp=Z,295nm,1.4s,mb5.5
KDAK Kodiak Island 23.07 322 P **P 20 19 12.3 +0.1**
comp=Z,24nm,1.0s,mb4.6,baz=123,slow=7.6,SNR=4.6
KDAK LR LR 20 25 54.3
comp=Z,893nm,20.2s,MS4.2,baz=131,slow=31
KDAK Kodiak Island 23.07 322 P **P 20 19 12.3 +0.1**
KDAK LR LR 20 25 54.3
MENT Mentasta 23.43 340 *e*P **P 20 19 17.1 +1.1**
DAWY Dawson 23.44 345 *e*P **P 20 19 16.6 +0.6**
SLKM Skilak Lake 23.70 330 *e*P **P 20 19 19.2 +0.6**
SML Sawmill 23.92 334 *e*P **P 20 19 21.0 +0.3**
JCT Junction City 23.99 110 *e*P **P 20 19 21.1 -0.2**
comp=Z,38nm,1.0s,mb4.8
JCT Junction City 23.99 110 *e*P **P 20 19 21.1 -0.1**
JCT pmax pmax
comp=Z,38nm,1.0s,mb4.8
PMR Palmer 24.04 333 *e*P **P 20 19 22.5 +0.8**
comp=Z,41nm,1.0s,mb4.8
PMR Palmer 24.04 333 *e*P **P 20 19 22.5 +0.8**
PMR pmax pmax
comp=Z,41nm,1.0s,mb4.8
EYMN Ely 25.02 64 *e*P **P 20 19 29.7 -1.0**
comp=Z,66nm,1.3s,mb5.0
MCK McKinley 25.52 336 *e*P **P 20 19 35.6 +0.4**
comp=Z,14nm,1.0s,mb4.5
MCK McKinley 25.52 336 *e*P **P 20 19 35.7 +0.5**
MCK pmax pmax
comp=Z,15nm,1.0s,mb4.5
ILAR Eielson Array 25.75 339 P **P 20 19 37.0 -0.2**
comp=Z,8.9nm,0.9s,mb4.3,baz=157,slow=7.7,SNR=48
ILAR PcP PcP 20 23 05.9 -1.3
comp=Z,1.1nm,0.8s,baz=166,slow=1.7,SNR=5.4
ILAR LR LR 20 28 12.2
comp=Z,527nm,20.9s,MS4.0,baz=166,slow=33
ILAR Eielson Array 25.75 339 P **P 20 19 37.0 -0.2**
ILAR PcP PcP 20 23 05.9 -1.3
ILAR LR LR 20 28 12.2
ILAR Eielson Array 25.75 339 P **P 20 19 37.1 -0.2**
ILAR 20 23 05.9
FCC Fort Churchill 26.05 39 *e*P **P 20 19 40.0 -0.1**
comp=Z,48nm,1.2s,mb4.9
FCC Fort Churchill 26.05 39 *e*P **P 20 19 40.0 0.0**
FCC pmax pmax
comp=Z,48nm,1.2s,mb4.9
COLA College 26.08 339 *e*P **P 20 19 40.1 -0.2**
comp=Z,12nm,0.9s,mb4.4
COLA College 26.08 339 *e*P **P 20 19 40.1 -0.2**
COLA pmax pmax
comp=Z,12nm,0.9s,mb4.4
SVW2 Sparrevohn 26.15 327 *e*P **P 20 19 41.0 +0.1**
MIAR Mount Ida 26.45 96 *e*P **P 20 19 43.7 +0.2**
comp=Z,110nm,1.5s,mb5.2
MIAR Mount Ida 26.45 96 *e*P **P 20 19 43.7 +0.1**
MIAR pmax pmax
comp=Z,110nm,1.5s,mb5.2
INK Inuvik 26.69 354 P **P 20 19 44.7 -1.1**
comp=Z,6.8nm,1.0s,mb4.1,baz=168,slow=9.8,SNR=13
INK LR LR 20 29 53.7
comp=Z,999nm,18.7s,MS4.4,baz=169,slow=36
NATX Nacogdoches 26.97 102 *e*P **P 20 19 49.0 +0.7**
comp=Z,111nm,1.4s,mb5.2
HKT Hockley 27.10 106 *e*P **P 20 19 50.2 +0.7**
comp=Z,42nm,1.3s,mb4.8
HKT Hockley 27.10 106 *e*P **P 20 19 50.2 +0.7**
HKT pmax pmax
comp=Z,42nm,1.3s,mb4.8
FVM French Village 27.46 86 *e*P **P 20 19 52.2 -0.5**
comp=Z,44nm,1.4s,mb4.8
FVM French Village 27.46 86 *e*P **P 20 19 52.3 -0.4**
FVM pmax pmax
comp=Z,44nm,1.4s,mb4.8
UNV Unalaska Valle 29.19 308 *e*P **P 20 20 09.0 +0.9**
comp=Z,150nm,0.9s,mb5.7
OXF Oxford 29.56 92 *e*P **P 20 20 11.8 +0.4**
comp=Z,163nm,1.1s,mb5.7
OXF Oxford 29.56 92 *e*P **P 20 20 11.8 +0.4**
OXF pmax pmax
comp=Z,163nm,1.1s,mb5.7
BLO Bloomington 29.97 82 *e*P **P 20 20 14.8 -0.3**
comp=Z,48nm,0.8s,mb5.3
BLO Bloomington 29.97 82 *e*P **P 20 20 14.8 -0.3**
BLO pmax pmax
comp=Z,48nm,0.8s,mb5.3
PLAL Pickwick Lake 30.35 91 *e*P **P 20 20 17.1 -1.3**
comp=Z,54nm,1.1s,mb5.2
WCI Wyandotte Cave 30.45 84 *e*P **P 20 20 18.1 -1.2**
comp=Z,26nm,0.9s,mb5.0
WCI Wyandotte Cave 30.45 84 *e*P **P 20 20 18.1 -1.2**
WCI pmax pmax
comp=Z,26nm,0.9s,mb5.0
LRAL Lakeview Retre 32.01 93 *e*P **P 20 20 32.8 -0.2**
comp=Z,29nm,1.0s,mb5.1
ACSO Alum Creek Sta 32.25 78 *e*P **P 20 20 34.6 -0.6**
comp=Z,34nm,1.1s,mb5.1
CPCT Cooper Cave 32.81 88 *e*P **P 20 20 40.0 -0.1**
TNA Tin City 33.18 330 *e*P **P 20 20 43.3 0.0**
comp=Z,5.2nm,1.0s,mb4.4
MCWV Mont Chateau 34.72 78 *e*P **P 20 20 58.5 +1.8**
comp=Z,48nm,1.4s,mb5.2
FWV Forest Hill 34.73 82 *e*P **P 20 20 58.6 +1.8**
BLA Blacksburg 35.16 82 *e*P **P 20 20 59.9 -0.6**
comp=Z,3.9nm,1.0s,mb4.3
BLA Blacksburg 35.16 82 *e*P **P 20 20 59.9 -0.6**
BLA pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
RES Resolute Bay 35.71 14 *e*P **P 20 21 04.7 -0.5**
comp=Z,22nm,1.5s,mb4.9
RES Resolute Bay 35.71 14 *e*P **P 20 21 04.7 -0.5**
RES pmax pmax
comp=Z,22nm,1.5s,mb4.9
JSC Jenkinsville 35.73 87 *e*P **P 20 21 06.3 +1.0**
BINY Binghamton 36.72 72 *e*P **P 20 21 13.3 -0.5**
comp=Z,32nm,1.0s,mb5.1
CBN Corbin 37.03 79 P **P 20 21 18.6 +2.1**
comp=Z,83nm,1.0s,mb5.5
MIV Mineville/With 37.91 69 P **P 20 21 21.5 -2.4**
TEIG Tepich 38.51 113 *e*P **P 20 21 31.3 +2.3**
comp=Z,18nm,1.4s,mb4.6
FRB Frobisher Bay 39.20 36 P **P 20 21 34.6 -0.1**
comp=Z,9.4nm,0.9s,mb4.5,baz=276,slow=8.4,SNR=11
SCHQ Schefferville 40.16 50 P **P 20 21 41.2 -1.5**
comp=Z,5.5nm,0.9s,mb4.3,baz=272,slow=6.1,SNR=6.9
SCHQ LR LR 20 37 17.9
comp=Z,224nm,20.6s,MS4.0,baz=295,slow=35
BILL Bilibino 43.62 330 *e*P **P 20 22 09.4 -1.7**
comp=Z,17nm,1.0s,mb4.7
BILL Bilibino 43.62 330 ⇑*i*P **P 20 22 08.9 -2.2**
BILL *i* 20 22 16.1
BILL pmax pmax
comp=Z,21nm,1.2s,mb4.7
ALE Alert 45.25 10 P **P 20 22 23.0 -1.1**
comp=Z,85nm,1.0s,mb5.5,SNR=7.0
SEY Seymchan 50.02 324 ⇑*i*P **P 20 22 58.4 -2.7**
TAOE Nuku Hiva Isla 52.21 198 *e*LR LR 20 37 37.2
comp=Z,2μm,30.8s
ROSC El Rosal 58.91 114 LR LR 20 48 54.2
comp=Z,123nm,21.9s,MS4.0,baz=172,slow=36
PPT Papeete 63.11 205 *e*LQ 20 40 05.7
comp=Z,584nm,33.0s
PPT *e*LR LR 20 42 38.3
comp=Z,524nm,26.0s,baz=18
PPT Papeete 63.11 205 LR LR 20 44 21.4
comp=Z,269nm,20.9s,MS4.4,baz=114,slow=29
RKT Rikitea 65.29 189 *e*LR LR 20 43 37.7
comp=Z,505nm,27.0s
KLR Kul'dur 66.43 316 *e*P **P 20 25 02.0 +6.0**
TBI Tubuai 68.51 203 *e*LQ 20 42 15.3
comp=Z,220nm,31.8s
TBI *e*LR LR 20 45 09.0
comp=Z,460nm,28.8s,baz=11
BOD Bodaibo 68.67 330 *e*P **P 20 25 07.5 -2.7**
BOD pmax pmax
comp=Z,11nm,1.7s,mb4.5
AFI Afiamalu 69.74 228 LR LR 20 48 21.4
comp=Z,146nm,18.9s,MS4.2,baz=86,slow=30
RAR Rarotonga 70.19 213 LR LR 20 50 29.2
comp=Z,193nm,18.3s,MS4.4,baz=346,slow=31
MJAR Matsushiro Arr 70.43 302 P **P 20 25 20.8 -0.3**
comp=Z,5.1nm,1.0s,mb4.4,baz=34,slow=4.7,SNR=6.9
MJAR LR LR 20 51 09.2
comp=Z,124nm,19.3s,MS4.2,baz=210,slow=32
MAT Matsushiro 70.43 302 P **P 20 25 20.7 -0.3**
MAT *e*S S 20 34 37.0 +2.7
MAT Matsushiro 70.43 302 *e*P **P 20 25 21.0 0.0**
comp=Z,13nm,1.1s,mb4.8
MAT S S 20 34 37.0 +2.7
MAT Matsushiro 70.43 302 *e*P **P 20 25 21.0 0.0**
MAT S S 20 34 37.0 +2.7
MAT pmax pmax
comp=Z,13nm,1.1s,mb4.8
MDJ Mudanjiang 70.47 313 P **P 20 25 21.5 +0.3**
MDJ S S 20 34 34.3 -0.4
MDJ SCS ScS 20 35 24.5 -0.4
MDJ AMB AMB
comp=Z,12nm,3.4s
MDJ AMB AMB
comp=Z,100nm,4.3s
MDJ LR LR
comp=N,92nm,28.9s,MS4.1
MDJ LR LR
comp=E,130nm,26.0s,MS4.1
MDJ LR LR
comp=Z,105nm,27.0s,MS4.0
RPN Rapa Nui 70.47 164 LR LR 20 47 49.6
comp=Z,207nm,20.7s,MS4.4,baz=188,slow=29
NB2 NORSAR Subarra 71.61 20 P **P 20 25 27.8 -0.4**
comp=Z,12nm,0.9s,mb4.8,baz=327,slow=5.9
NB2 NORSAR Subarra 71.61 20 P **P 20 25 27.8 -0.4**
comp=Z,12nm,0.9s,mb4.8
NB2 NORSAR Subarra 71.61 20 P **P 20 25 27.8 -0.4**
NB2 pmax pmax
comp=Z,13nm,0.9s,mb4.9
NOA NORSAR Array B 71.61 20 P **P 20 25 28.4 +0.2**
comp=Z,4.9nm,0.9s,mb4.4,baz=329,slow=6.0,SNR=5.4
HFS Hagfors 73.02 20 P **P 20 25 36.6 0.0**
comp=Z,12nm,0.9s,mb4.8,baz=345,slow=5.1,SNR=3.3
KAF Kangasniemi 73.89 13 *e*p **P 20 25 40.7 -1.0**
comp=Z,11nm,0.9s,mb4.8
KAF Kangasniemi 73.89 13 *e*P **P 20 25 40.7 -1.0**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.8
JOF Joensuu 73.89 11 *e*p **P 20 25 40.1 -1.6**
comp=Z,12nm,0.9s,mb4.8
FINES FINESS Array B 74.47 13 P **P 20 25 43.8 -1.3**
comp=Z,7.9nm,0.9s,mb4.6,baz=347,slow=7.8,SNR=7.8
IRK Irkutsk 76.54 331 *e*P **P 20 25 49.9 -7.1**
IRK pmax pmax
comp=Z,30nm,1.6s,mb5.0
LPAZ La Paz 78.78 124 P **P 20 26 08.9 -0.6**
comp=Z,2.4nm,0.8s,mb4.2,baz=276,slow=3.2,SNR=8.3
SONM Songino Array 79.27 327 P **P 20 26 10.8 -1.3**
comp=Z,6.2nm,0.9s,mb4.5,baz=32,slow=8.5,SNR=5.6
NVS Novosibirsk 80.36 343 *e*P **P 20 26 15.7 -2.4**
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,20nm,1.4s
NVS pmax pmax
comp=Z,40nm,1.4s,mb5.2
CLL Collm 80.49 25 *e*P **P 20 26 20.0 +1.2**
comp=Z,12nm,1.2s,mb4.7
CLL *i* (sP) sP 20 26 23.3 +1.9
CLL *i* x x 20 26 28.1
BJI Beijing 80.78 317 *e*P **P 20 26 22.8 +2.5**
BJI S S 20 36 26.0 -2.8
BJI AMB AMB
comp=Z,7.0nm,1.7s,mb4.3
BJI LR LR
comp=Z,77nm,23.6s,MS4.0
ZAL Zalesovo 80.86 342 P **P 20 26 19.8 -0.9**
comp=Z,1.1nm,0.8s,mb3.8,baz=76,slow=7.9,SNR=3.2
ZAL LR LR 21 05 09.1
comp=Z,124nm,18.3s,MS4.3,baz=83,slow=38
BRG Berggiesshubel 81.16 24 *e*P **P 20 26 23.5 +1.1**
BRG *i* 20 26 28.0
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BRG Berggiesshubel 81.16 24 *e*P **P 20 26 23.4 +1.1**
comp=Z,7.5nm,1.1s,mb4.5
BRG *i* 20 26 28.0
comp=Z,19nm,1.2s
GRA1 Grafenberg Arr 81.32 26 *e*P **P 20 26 23.7 +0.5**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 81.32 26 *e*P **P 20 26 23.7 +0.5**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 81.32 26 *e*P **P 20 26 23.7 +0.5**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
MOS Moscow 81.67 9 *e*P **P 20 26 32.5 +7.4**
MOS pmax pmax
comp=Z,66nm,1.4s,mb5.4
OBN Obninsk 82.15 10 ⇑*e*P **P 20 26 26.2 -1.4**
OBN *i* 20 26 32.1
OBN pmax pmax
comp=Z,49nm,1.5s,mb5.2
HHC Hu-ho-hao-te 82.46 320 *e*P **P 20 26 28.0 -1.2**
HHC AP pP 20 26 33.0 +1.9
HHC PP PP 20 29 38.5 +0.3
HHC S S 20 36 41.5 -4.7
HHC SKS 20 36 44.0
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,103nm,3.9s
HHC LR LR
comp=N,119nm,5.7s
HHC LR LR
comp=E,178nm,4.7s
HHC LR LR
comp=Z,72nm,5.7s
ESDC Sonseca Array 83.22 41 P **P 20 26 34.9 +1.7**
comp=Z,6.0nm,1.0s,mb4.6,baz=318,slow=3.9,SNR=10.0
VRAC Vranov 83.35 24 P **P 20 26 33.6 -0.2**
comp=Z,14nm,1.1s,mb4.9,baz=332,slow=5.3,SNR=4.2
WTTA Wattenberg 83.55 27 ⇑*i*P **P 20 26 38.4 +3.5**
comp=Z,21nm,1.2s,mb5.1
KBA Koelnbreinsper 84.29 27 ⇑*i*P **P 20 26 40.0 +1.3**
comp=Z,20nm,1.4s,mb5.0
BRVK Borovoye 84.30 350 *e*P **P 20 26 37.7 -1.0**
BRVK *e*PcP PcP 20 26 44.1 +1.6
SMOL Smolenice 84.30 23 *e*P **P 20 26 40.8 +2.1**
BVAR Borovoye Array 84.31 350 P **P 20 26 38.0 -0.7**
comp=Z,9.8nm,0.9s,mb4.9,baz=19,slow=5.0,SNR=12
ZST Bratislava 84.49 24 *e*P **P 20 26 41.5 +1.8**
ZST *es*P sP 20 26 45.8 +3.5
ZST *e* 20 26 50.3
SSE Sheshan 84.55 307 *e*P **P 20 26 38.3 -1.7**
SSE AMB AMB
comp=Z,47nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,43nm,3.5s
STHS Stebnicka Huta 84.56 21 *e*P **P 20 26 41.8 +1.8**
STHS *ep*P pP 20 26 45.4 +3.5
STHS *e* 20 26 50.7
VYHS Vyhne 84.73 23 *e*P **P 20 26 41.2 +0.3**
VYHS *e* 20 26 51.3
ARSA Arzberg 84.84 25 ⇑*i*P **P 20 26 42.0 +0.5**
comp=Z,17nm,1.1s,mb5.1
LVV L'vov 84.89 19 *e*P **P 20 26 41.7 0.0**
LVV *i* 20 26 50.5
CADS Cadrg 85.16 27 *e*P **P 20 26 43.5 +0.4**
KECS Kecovo 85.20 22 *e*P **P 20 26 43.3 0.0**
KECS *es*P sP 20 26 48.6 +2.7
KECS *e* 20 26 53.6
AKASG Malin Array Be 85.21 15 P **P 20 26 42.1 -1.1**
comp=Z,4.6nm,0.8s,mb4.7,baz=336,slow=4.4,SNR=23
SRO1 Iza 85.22 23 *e*P **P 20 26 46.0 +2.7**
SRO1 *e* 20 26 54.3
NJ2 Nanjing 85.22 309 *e*P **P 20 26 46.3 +3.0**
NJ2 AP pP 20 26 51.0 +5.8
NJ2 XP sP 20 26 53.3 +7.4
NJ2 PP PP 20 30 06.0 +5.3
NJ2 S 20 37 15.0
NJ2 XS sS 20 37 23.5 +6.4
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,300nm,10.9s
NJ2 LR LR
comp=N,200nm,21.0s,MS4.7
NJ2 LR LR
comp=E,280nm,21.9s,MS4.7
NJ2 LR LR
comp=Z,160nm,23.3s,MS4.3
PERS Pernice 85.26 26 *e*P **P 20 26 44.5 +0.9**
PERS *e* 20 26 48.8
PERS *e* 20 26 53.5
KOLS Kolonicke sedl 85.27 20 *e* **P 20 26 50.2 +6.6**
PSZ Piszkesteto 85.56 22 *e*P **P 20 26 47.1 +2.1**
JAVS Javornik 85.57 27 *i* P **P 20 26 43.1 -2.0**
BOJS Bojanci 86.30 26 *e*P **P 20 26 49.9 +1.2**
MKAR Makanchi Array 88.09 341 P **P 20 26 56.8 -0.6**
comp=Z,2.2nm,1.0s,mb4.3,baz=50,slow=6.5,SNR=5.1
MKAR LR LR 21 07 12.3
comp=Z,115nm,21.2s,MS4.3,baz=0.7,slow=36
BDFB Brasilia 91.70 109 LR LR 21 12 10.8
comp=Z,150nm,20.3s,MS4.4,baz=54,slow=38
QSPA South Pole Qui 131.78 180 *e*P PKPdf 20 33 23.8 +3.8
SYO Syowa Base 151.87 169‖*e*PKiKP PKiKP 20 34 03.8 +1.7

IDC ***25*** *20:21:22.9±2.4,2701N×5602E,h0km,mb3.9/13, mb1 4.1/14,mb1mx3.9/25,mbtmp4.0/14,ML1.9/1,Error ellipse: s-maj=46.3km s-min=27.2km az=151.0*
KISR ***25*** *20:21:23.6±0.5,2787N×5587E,h34km,ML4.0*
CSEM ***25*** *20:21:29.3±0.2,2754N×5586E,h29km±7km,ML3.7,Error ellipse: s-maj=17.5km s-min=7.1km az=120.0*
ISCJB ***25*** *20:21:29.7±0.8,2765N±005×5543E±005,h10km, mb3.8/13,Error ellipse: s-maj=7.9km s-min=5.3km az=98.7*
THR ***25*** *20:21:31.3±0.6,2761N×5603E,h14km±8km,ML3.7*
TEH ***25*** *20:21:32.1,2761N×5569E,h9km,Mn3.7*
ISC 25 20:21:30.3±0.8**,2761N**±005×**5558E**±005**,h10**km**,n32,**
σ1**38/44,mb3.9/**13**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.57**	**112**	*e*Pg	**Pg**	**Pg**	**20 21 36.7**	**-4.5**
BNDS					AML	AML	20 21 54.8	
	comp=E,6μm,0.7s							
GHIR	**Ghir-Karzin**	**2.39**	**287**	*e*PN	**Pg**	**Pg**	**20 22 17.3**	**+1.2**
GHIR					AML	AML	20 23 14.1	
	comp=N,343nm,0.5s							
GHIR					AML	AML	20 23 20.6	
	comp=E,401nm,0.4s							
KRBR	**Kerman**	**2.58**	**23**	*e*PN	**Pn**	**Pn**	**20 22 13.3**	**+1.2**
KRBR				*e*Sg	**Sb**	**Sb**	**20 22 48.2**	**-0.2**
KRBR					AML	AML	20 22 56.7	
	comp=N,358nm,0.7s							
KRBR					AML	AML	20 22 58.0	
	comp=E,338nm,1.6s							
KRBR	**Kerman**	**2.58**	**23**	*e*Pn	**Pn**	**Pn**	**20 22 13.3**	**+1.2**
	SNR=52							
KRBR				*e*Sg	**Sb**	**Sb**	**20 22 48.2**	**-0.2**
	SNR=90							
IMOK	**Mook**	**2.90**	**300**	*e*Pn	**Pn**	**Pn**	**20 22 19.9**	**+3.4**
IMEH	**Mehriz**	**3.86**	**348**	*e*Pn	**Pn**	**Pn**	**20 22 31.8**	**+2.1**
IMEH				*e*Sn	**Sn**	**Sn**	**20 23 15.5**	**+0.4**
IBAF	**Bafgh**	**3.97**	**360**	*e*Pn	**Pn**	**Pn**	**20 22 32.5**	**+1.4**
IBAF				*e*Sn	**Sn**	**Sn**	**20 23 17.1**	**-0.6**
ISAD	**Sadrabad**	**4.59**	**339**	*e*Sn	**Sn**	**Sn**	**20 23 32.6**	**-0.6**
ICHK	**Chekchek**	**4.73**	**348**	*e*Pn	**Pn**	**Pn**	**20 22 43.1**	**+1.5**
ICHK				*e*Sn	**Sn**	**Sn**	**20 23 35.1**	**-1.4**
IGAR	**Garneh**	**5.47**	**328**	*e*Pn	**Pn**	**Pn**	**20 22 57.0**	**+5.2**
IGAR				*e*Sn	**Sn**	**Sn**	**20 23 59.0**	**+4.2**
IZEF	**Zefreh**	**5.97**	**333**	*e*Pn	**Pn**	**Pn**	**20 22 59.8**	**+1.1**
IZEF				*e*Sn	**Sn**	**Sn**	**20 24 06.0**	**-1.1**
IPIR	**Pirpir**	**6.48**	**322**	*e*Pn	**Pn**	**Pn**	**20 23 07.2**	**+1.5**
IPIR				*e*Sn	**Sn**	**Sn**	**20 24 18.3**	**-1.4**
IKLH	**Kalahroud**	**6.66**	**330**	*e*Pn	**Pn**	**Pn**	**20 23 09.8**	**+1.7**
IKLH				*e*Sn	**Sn**	**Sn**	**20 24 22.2**	**-1.8**
QRN	**Al-Qurain**	**6.86**	**281**	*e*P	**Pn**	**Pn**	**20 23 09.9**	**-0.9**
QRN				*e*S	**Sn**	**Sn**	**20 24 29.2**	**+0.3**
KBD	**Kabd**	**7.12**	**285**	*e*P	**Pn**	**Pn**	**20 23 13.3**	**-1.2**
KBD				*e*S	**Sn**	**Sn**	**20 24 35.5**	**+0.1**
KBD				AML	AML	AML	20 24 40.0	
	comp=Z,35nm,0.4s							
NAY	**Al-Naaiem**	**7.52**	**284**	*e*P	**Pn**	**Pn**	**20 23 18.6**	**-1.4**
NAY				*e*S	**Sn**	**Sn**	**20 24 45.5**	**+0.2**
NAY				AML	AML	AML	20 24 48.1	
	comp=Z,8.9nm,0.6s							
NAY	**Al-Naaiem**	**7.52**	**284**	*e*P	**Pn**	**Pn**	**20 23 20.3**	**+0.3**
GNI	**Garni**	**15.39**	**327**	Pn	**Pn**	**Pn**	**20 25 13.7**	**+6.3**
	comp=Z,1.1nm,0.3s,baz=46,slow=9.1,SNR=9.4							
BRTR	**Keskin Array B**	**21.83**	**309**	P	**P**	**P**	**20 26 25.1**	**+2.3**
	comp=Z,3.3nm,0.8s,mb3.8,baz=123,slow=11,SNR=7.5							
AKTO	**Aktyubinsk**	**22.87**	**4**	P	**P**	**P**	**20 26 35.3**	**+1.5**
	comp=Z,3.9nm,0.6s,mb4.0,baz=178,slow=8.9,SNR=5.9							
MLR	**Muntele Rosu**	**29.51**	**315**	P	**P**	**P**	**20 27 35.9**	**+1.2**
	comp=Z,5.0nm,0.9s,mb4.2,baz=156,slow=10.0,SNR=2.4							
AKASG	**Malin Array Be**	**30.52**	**326**	P	**P**	**P**	**20 27 43.6**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.8,baz=133,slow=8.4,SNR=8.9							
ZAL	**Zalesovo**	**33.93**	**31**	P	**P**	**P**	**20 28 10.7**	**-2.9**
	comp=Z,1.4nm,0.6s,mb4.1,baz=268,slow=2.0,SNR=4.1							
GERES	**GERESS Array B**	**38.50**	**315**	P	**P**	**P**	**20 28 52.7**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.5,baz=110,slow=7.5,SNR=8.3							
KHC	**Kasperske Hory**	**38.67**	**315**	*e*P	**P**	**P**	**20 28 56.0**	**+2.0**
FINES	**FINESS Array B**	**39.16**	**338**	P	**P**	**P**	**20 28 57.6**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.5,baz=122,slow=9.3,SNR=5.4							
HFS	**Hagfors**	**43.13**	**331**	P	**P**	**P**	**20 29 28.8**	**-2.0**
	comp=Z,2.0nm,0.8s,mb3.9,baz=116,slow=10,SNR=4.5							
NOA	**NORSAR Array B**	**44.64**	**331**	P	**P**	**P**	**20 29 42.9**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.7,baz=120,slow=8.2,SNR=3.5							
ARCES	**ARCESS Array B**	**45.44**	**346**	P	**P**	**P**	**20 29 48.4**	**-0.9**
	comp=Z,3.9nm,1.0s,mb4.2,baz=141,slow=9.2,SNR=3.7							
ESDC	**Sonseca Array**	**50.19**	**300**	P	**P**	**P**	**20 30 24.4**	**-1.7**

comp=Z,0.2nm,0.4s,mb3.5,baz=73,slow=6.9,SNR=4.3
TORD Torodi Ar. Bea 52.14 265 P **P 20 30 38.7 -2.1**
comp=Z,2.5nm,0.8s,mb4.2,baz=62,slow=7.2,SNR=9.1
ILAR Eielson Array 86.27 9 P **P 20 34 08.3 -3.9**
comp=Z,0.2nm,0.5s,mb3.6,baz=322,slow=4.5,SNR=4.5

*IDC **25** 20:35:39.2±3.9, 2531S×17863E, h546km±32km, mb3.6/3, mb1 3.7/4, mb1mx3.4/13, mbtmp4.6/4, Error ellipse: s-maj=46.8km s-min=36.5km az=149.0*
*NEIC **25** 20:35:40.1±4.0, 2539S×17869E, h570km±34km, mb4.4/9, Error ellipse: s-maj=54.6km s-min=26.2km az=138.0*
ISC 25 20:35:34.8±6.7, **2545**N±04×**1793**E±09, **h550**km, **n23**, σ0**55**/14, **mb4.2**/10, **1C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.22**	**283**	P	**P**	**20 38 15.8**	**+0.2**
	1.1nm,0.3s,baz=93,slow=14,SNR=11						
CTA	**Charters Tower**	**30.87**	**273**	⇑*i*P	**P**	**20 41 07.0**	**+0.3**
	5.5nm,0.6s,mb4.3						
CTAO	**Charters Tower**	**30.87**	**273**	*e*P	**P**	**20 41 07.0**	**+0.3**
	5.1nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**33.60**	**250**	*e*P	**P**	**20 41 29.0**	**-0.8**
	3.2nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**33.60**	**250**	P	**P**	**20 41 29.2**	**-0.6**
	2.5nm,0.3s,mb4.2,baz=88,slow=8.7,SNR=32						
PMG	**Port Moresby**	**34.40**	**292**	P	**P**	**20 41 36.2**	**-0.3**
	8.0nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**41.18**	**262**	P	**P**	**20 42 32.2**	**+0.5**
	2.5nm,0.4s,mb4.1,baz=90,slow=6.5,SNR=41						
WB2	**Warramunga Arr**	**41.68**	**268**	*e*P	**P**	**20 42 35.1**	**-0.5**
WRAB	**Tennant Creek**	**41.68**	**268**	*e*P	**P**	**20 42 35.3**	**-0.4**
	6.3nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**41.69**	**268**	P	**P**	**20 42 35.5**	**-0.2**
	4.5nm,0.3s,mb4.4,baz=99,slow=6.8,SNR=173						
WRA				ScP	ScP	20 47 21.2	+4.0
	1.0nm,0.8s,baz=103,slow=3.7,SNR=6.2						
FORT	**Forrest**	**45.21**	**251**	*e*P	**P**	**20 43 03.2**	**+0.1**
	17nm,0.6s,mb4.7						
KAKA	**Kakadu**	**45.82**	**277**	*e*P	**P**	**20 43 07.1**	**-0.6**
	5.2nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**50.09**	**267**	*e*P	**P**	**20 43 40.9**	**+1.4**
	8.8nm,0.6s,mb4.4						
MBWA	**Marble Bar**	**54.50**	**261**	*e*P	**P**	**20 44 11.2**	**+0.1**
	1.4nm,0.5s,mb3.5						
ARCES	**ARCESS Array B**	**133.18**	**348**	PKP	PKPdf	20 53 52.5	+4.3
	5.6nm,1.0s,baz=77,slow=3.9,SNR=3.1						
FINES	**FINESS Array B**	**139.61**	**340**	PKhKP		20 53 56.2	
	0.8nm,0.9s,baz=38,slow=3.4,SNR=4.5						
FINES				PKP	PKPdf	20 54 04.1	+4.0
	2.8nm,1.1s,baz=55,slow=2.7,SNR=4.9						
FINES	**FINESS Array B**	**139.61**	**340**	PKP	PKPdf	20 53 56.2	-3.9
FINES				PKP	PKPdf	20 54 04.1	+4.0
NB2	**NORSAR Subarra**	**143.42**	**350**	PKPa	PKPdf	20 54 08.4	+1.5
	comp=Z,0.9nm,0.6s,baz=15,slow=3.2						
NB2	**NORSAR Subarra**	**143.42**	**350**	PKPab	PKPdf	20 54 08.4	+1.5
NOA	**NORSAR Array B**	**143.42**	**350**	PKP	PKPdf	20 54 08.6	+1.7
	comp=Z,2.0nm,0.8s,baz=16,slow=5.0,SNR=6.2						
NOA	**NORSAR Array B**	**143.42**	**350**	PKP	PKPdf	20 54 08.6	+1.7
AKASG	**Malin Array Be**	**145.83**	**326**	PKPbc	PKPbc	20 54 15.2	+2.5
	comp=Z,0.1nm,0.3s,baz=48,slow=4.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**167.64**	**191**	PKPab	PKPab	20 55 53.6	+5.3
	comp=Z,0.5nm,0.9s,baz=168,slow=4.6,SNR=5.3						

*BJI **25** 21:14:04.7, 3660N×7070E, h150km, mb4.6*
*IDC **25** 21:14:05.2±4.2, 3638N×7097E, h209km±37km, mb3.8/13, mb1 3.9/16, mb1mx3.6/25, mbtmp4.3/16, Error ellipse: s-maj=19.4km s-min=14.2km az=177.0*
*ISCJB **25** 21:14:05.5±0.5, 3652N±003×7079E±007, h218km±6km, mb4.0/16, Error ellipse: s-maj=9.2km s-min=3.7km az=147.9*
*MOS **25** 21:14:07.2±1.1, 3667N×7089E, h231km, mb4.0/11, Error ellipse: s-maj=14.8km s-min=6.9km az=100.5*
*NEIC **25** 21:14:08.1±1.0, 3662N×7094E, h227km±11km, mb4.3/16, Error ellipse: s-maj=12.2km s-min=5.1km az=56.0*
*NNC **25** 21:14:11.3±2.1, 3700N×7081E, h199km±15km, mb2.8, mpv3.8, Error ellipse: s-maj=18.0km s-min=14.5km az=29.0*
ISC 25 21:14:07.6±0.6, **3661N**±003×**7088E**±007, **h223**km±6km, **n89**, σ0**96**/100, **mb4.0**/16, **10C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.96**	**53**	*i*P	**Pn**	**21 15 23.0**	**+1.0**
KSH				S	**S**	**21 16 19.8**	**-1.2**
KSH				Smax			
	comp=N,159nm,0.6s						
KSH				Smax			
	comp=E,238nm,0.9s						
DLH	**Dalhousie**	**5.84**	**133**	*e*P	**Pn**	**21 15 34.0**	**+0.9**
DLH				*e*S	**S**	**21 16 42.0**	**+0.9**
AML	**Almayashu**	**5.93**	**21**	P	**Pn**	**21 15 34.5**	**+0.3**
	SNR=307						
UCH	**Uchtor**	**6.28**	**26**	P	**Pn**	**21 15 39.2**	**+0.5**
	SNR=142						
KZA	**Kyzart**	**6.43**	**30**	P	**Pn**	**21 15 40.5**	**-0.1**
	SNR=43						
EKS2	**Erkin-Say**	**6.45**	**19**	P	**Pn**	**21 15 40.9**	**+0.1**
	SNR=63						
KK31	**Karatay Array**	**6.49**	**358**	P	**Pn**	**21 15 40.9**	**-0.5**
	comp=E,25nm,0.8s,baz=179,slow=12,SNR=320						
KK31				⇑S	**S**	**21 16 49.7**	**-6.5**
	comp=E,7.0nm,0.4s,baz=186,slow=21,SNR=7.3						
KKAR	**Karatay Array**	**6.49**	**358**	*e*Pn	**Pn**	**21 15 40.9**	**-0.5**
	comp=E,3.0nm,0.3s						
KKAR	**Karatay Array**	**6.49**	**358**	*e*PN	**Pn**	**21 15 40.9**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK	**Ala-Archa**	**6.63**	**24**	P	**Pn**	**21 15 43.7**	**+0.4**
	SNR=75						
KBK	**Karagaybulak**	**6.81**	**26**	P	**Pn**	**21 15 46.1**	**+0.6**
	SNR=8.8						
ULHL	**Ulahol**	**6.99**	**35**	P	**Pn**	**21 15 47.7**	**-0.1**
	SNR=48						
CHMS	**Chumysh**	**7.04**	**24**	P	**Pn**	**21 15 48.3**	**-0.2**
	SNR=16						
USP	**Ospenovka**	**7.21**	**22**	P	**Pn**	**21 15 51.0**	**+0.4**
	SNR=8.7						
TKM2	**Tokmak 2**	**7.28**	**29**	P	**Pn**	**21 15 51.8**	**+0.3**
	SNR=40						
TKM2	**Tokmak 2**	**7.28**	**29**	⇑P	**Pn**	**21 15 51.5**	**+0.1**
	comp=Z,1.1nm,0.5s						
TKM2				⇑S	**S**	**21 17 11.1**	**-3.4**
	comp=Z,1.8nm,0.7s						
KLP	**Kalpa**	**7.94**	**127**	*e*P	**Pn**	**21 15 57.3**	**-2.7**
KLP				*e*S	**S**	**21 17 22.4**	**-7.6**
KLP				AML	AML	21 17 28.0	
	comp=N,197nm,0.6s						
KLP				AML	AML	21 18 10.3	
	comp=E,859nm,1.2s						
KHET	**Khetri**	**9.47**	**153**	*e*S	**S**	**21 17 59.1**	**-7.1**
KHET				AML	AML	21 18 02.9	
	comp=E,48nm,0.6s						
KHET				AML	AML	21 18 03.3	
	comp=N,26nm,0.6s						
NDI	**New Delhi**	**9.54**	**144**	*e*P	**Pn**	**21 16 19.5**	**-1.0**
NDI				*e*x	x	21 17 53.0	
JASL	**Jaisalmer**	**9.65**	**180**	*e*P	**Pn**	**21 16 18.9**	**-3.1**
JASL				*e*S	**S**	**21 18 02.6**	**-7.8**
AYAN	**Aya Nagar**	**9.66**	**145**	*e*P	**Pn**	**21 16 21.7**	**-0.5**
AYAN				*e*S	**S**	**21 18 00.2**	**-10**
SONA	**Sohna**	**9.84**	**146**	*e*P	**Pn**	**21 16 23.5**	**-0.9**
SONA				*e*S	**S**	**21 18 07.4**	**-7.5**
SONA				AML	AML	21 18 12.3	
	comp=E,28nm,0.9s						
SONA				AML	AML	21 18 20.2	
	comp=N,15nm,0.5s						
AGRA	**Agra**	**11.11**	**145**	*e*P	**Pn**	**21 16 39.6**	**-0.8**
AGRA				*e*S	**S**	**21 18 39.0**	**-5.7**
MK31	**Makanchi Array**	**13.26**	**36**	P	**Pn**	**21 17 07.4**	**-0.1**
	comp=N,1.5nm,0.5s,baz=226,slow=12,SNR=35						
MKAR	**Makanchi Array**	**13.26**	**36**	P	**Pn**	**21 17 07.6**	**+0.2**
	comp=N,0.4nm,0.3s,baz=223,slow=13,SNR=18						
KOLN	**Koldanda**	**13.91**	**126**	*e*P	**Pn**	**21 17 15.3**	**-0.1**
	comp=N,42nm,0.8s						
GKN	**Gorkha**	**14.45**	**123**	*e*P	**Pn**	**21 17 22.2**	**+0.2**
	comp=N,40nm,0.4s						
BHPL	**Bhopal**	**14.47**	**155**	*e*P	**Pn**	**21 17 22.7**	**+0.4**
BHPL				AMb	AMB	21 17 27.1	
	comp=Z,64nm,0.7s						
AB31	**Akbulak array**	**14.94**	**331**	P	**Pn**	**21 17 27.1**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=146,slow=13,SNR=77						
AB31				⇓S	**S**	**21 20 13.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=154,slow=24,SNR=5.0						
DMN	**Daman**	**15.02**	**123**	*e*P	**Pn**	**21 17 29.2**	**+0.3**
	comp=Z,24nm,0.5s						
KKN	**Kakani**	**15.02**	**122**	*e*P	**Pn**	**21 17 29.0**	**0.0**
	comp=Z,24nm,0.6s						
KKN	**Kakani**	**15.02**	**122**	*e*P	**Pn**	**21 17 29.0**	**0.0**
KKN				pmax	pmax		
	comp=Z,12nm,0.6s						
KURK	**Kurchatov**	**15.16**	**19**	⇑P	**Pn**	**21 17 30.3**	**-0.3**
	comp=Z,1.9nm,0.7s						
KURK	**Kurchatov**	**15.16**	**19**	*e*P	**Pn**	**21 17 29.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PKI	**Pulchoki**	**15.24**	**122**	*e*P	**Pn**	**21 17 31.9**	**+0.2**
	comp=Z,47nm,0.7s						
PKI	**Pulchoki**	**15.24**	**122**	*e*P	**Pn**	**21 17 31.9**	**+0.2**
PKI				pmax	pmax		
	comp=Z,23nm,0.7s						
GUN	**Gumba**	**15.36**	**120**	*e*P	**Pn**	**21 17 33.3**	**+0.2**
	comp=Z,29nm,0.5s						
JIRN	**Jiri**	**15.73**	**120**	*e*P	**Pn**	**21 17 37.2**	**-0.3**
	comp=Z,47nm,0.5s						
VOSK	**Vostochnaya**	**16.11**	**0**	⇑P	**P**	**21 17 41.9**	**+0.7**
	comp=Z,3.6nm,0.5s						
ZRNK	**Zerenda**	**16.39**	**356**	⇓P	**P**	**21 17 45.4**	**+1.2**
	comp=Z,3.5nm,0.8s						
ZRNK	**Zerenda**	**16.39**	**356**	*e*P	**P**	**21 17 45.3**	**+1.0**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BVA0	**Borovoye Array**	**16.42**	**359**	P	**P**	**21 17 46.1**	**+1.5**
	comp=Z,0.8nm,0.9s,baz=153,slow=11,SNR=32						
BVA0				⇓S	**S**	**21 20 45.5**	**+0.6**
	comp=Z,2.2nm,1.6s,baz=170,slow=25,SNR=12						
BVAR	**Borovoye Array**	**16.42**	**359**	P	**P**	**21 17 45.2**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=158,slow=14,SNR=26						
BVAR				S	**S**	**21 20 42.4**	**-2.4**
	baz=176,slow=25,SNR=2.5						
BRVK	**Borovoye**	**16.45**	**359**	*e*P	**P**	**21 17 43.3**	**-1.6**
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**16.45**	**359**	*e*P	**P**	**21 17 43.3**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKTK	**Aktyubinsk**	**16.64**	**330**	P	**P**	**21 17 47.7**	**+0.8**
AKTO	**Aktyubinsk**	**16.64**	**330**	⇓P	**P**	**21 17 48.2**	**+1.2**
	comp=Z,0.1nm,0.5s						
AKTO				⇑S	**S**	**21 20 46.5**	**-2.7**
	comp=Z,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**P**	**21 17 47.7**	**+0.8**
	comp=Z,2.8nm,0.3s,baz=137,slow=10,SNR=40						
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**P**	**21 17 47.7**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CHKZ	**Chkalovo**	**17.07**	**359**	⇑P	**P**	**21 17 52.0**	**+0.3**
	comp=Z,0.9nm,0.3s						
CHKZ				⇑S	**S**	**21 20 57.8**	**-0.1**
	comp=Z,9.0nm,1.2s						
CHKZ	**Chkalovo**	**17.07**	**359**	*e*P	**P**	**21 17 52.2**	**+0.5**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BOK	**Bokaro**	**18.17**	**130**	*e*P	**P**	**21 18 05.1**	**+1.5**
BOK				*e*x	x	21 18 05.7	
BOK				AMb	AMB	21 18 06.8	
	comp=Z,15nm,0.8s						
LSA	**Lhasa**	**18.30**	**106**	*e*P	**P**	**21 18 07.2**	**+2.1**
	comp=Z,3.9nm,0.6s						
LSA	**Lhasa**	**18.30**	**106**	*e*P	**P**	**21 18 07.2**	**+2.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL	**Zalesovo**	**19.84**	**25**	P	**P**	**21 18 21.2**	**-0.4**
	comp=Z,5.0nm,0.5s,baz=253,slow=7.0,SNR=19						
NVS	**Novosibirsk**	**20.12**	**21**	*e*P	**P**	**21 18 24.1**	**-0.4**
	comp=Z,6.0nm,0.7s						
NVS				*e*		21 21 56.0	
NVS	**Novosibirsk**	**20.12**	**21**	*e*P	**P**	**21 18 24.1**	**-0.4**
NVS				*e*		21 21 56.0	
NVS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,9.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
HYB	**Hyderabad**	**20.29**	**158**	*i*P	**P**	**21 18 29.0**	**+2.7**
HYB	**Hyderabad**	**20.29**	**158**	*e*P	**P**	**21 18 29.0**	**+2.7**
BRTR	**Keskin Array B**	**29.31**	**288**	P	**P**	**21 19 51.3**	**+2.0**
	comp=E,0.5nm,0.6s,mb3.3,baz=105,slow=8.7,SNR=3.2						
PBA	**Port Blair**	**31.71**	**136**	*e*x	x	21 18 47.2	
	comp=E,31nm,0.7s						
PBA				*e*x	x	21 18 50.6	
	comp=N,20nm,0.3s						
JOF	**Joensuu**	**35.73**	**330**	*e*p	**P**	**21 20 46.1**	**+1.1**
	comp=N,6.5nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**37.34**	**326**	P	**P**	**21 20 59.1**	**+0.5**
	comp=N,2.8nm,0.4s,mb4.2,baz=116,slow=9.6,SNR=68						
KAF	**Kangasniemi**	**37.48**	**327**	*e*p	**P**	**21 20 59.1**	**-0.7**
	comp=N,1.9nm,0.5s,mb3.9						
KAF	**Kangasniemi**	**37.48**	**327**	*e*P	**P**	**21 20 59.1**	**-0.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
KEV	**Kevo**	**40.66**	**338**	*e*p	**P**	**21 21 25.9**	**-0.2**
	comp=Z,3.7nm,0.4s,mb4.2						
KEV	**Kevo**	**40.66**	**338**	*e*P	**P**	**21 21 25.9**	**-0.2**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**41.01**	**338**	P	**P**	**21 21 29.9**	**+1.0**
	comp=Z,5.6nm,0.4s,mb4.3,baz=115,slow=8.0,SNR=68						
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**21 21 54.7**	**-0.1**
	comp=Z,2.0nm,0.5s,mb3.7,baz=94,slow=7.9						
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**21 21 54.7**	**-0.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**21 21 54.9**	**+0.1**
	comp=Z,2.5nm,0.6s,mb3.7,baz=96,slow=7.7,SNR=13						
TIXI	**Tiksi**	**45.71**	**22**	⇑*i*P	**P**	**21 22 05.4**	**-1.0**
	comp=Z,4.0nm,0.9s,mb3.8						
TIXI	**Tiksi**	**45.71**	**22**	⇑*i*P	**P**	**21 22 05.4**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.8						
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**21 24 26.9**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.1,baz=50,slow=5.9,SNR=72						
INK	**Inuvik**	**73.81**	**9**	P	**P**	**21 25 18.1**	**+0.5**
	comp=Z,3.1nm,0.6s,mb4.1,baz=356,slow=6.2,SNR=25						
INK	**Inuvik**	**73.81**	**9**	P	**P**	**21 25 18.1**	**+0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
DBIC	**Dimbokro**	**74.61**	**267**	P	**P**	**21 25 21.7**	**-0.4**
	comp=Z,1.7nm,0.6s,mb3.9,baz=308,slow=5.8,SNR=3.9						
DBIC	**Dimbokro**	**74.61**	**267**	P	**P**	**21 25 21.7**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**74.70**	**16**	P	**P**	**21 25 22.3**	**-0.4**
	comp=Z,1.2nm,0.9s,mb3.5,baz=313,slow=4.9,SNR=14						
ILAR	**Eielson Array**	**74.70**	**16**	P	**P**	**21 25 22.3**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KDAK	**Kodiak Island**	**79.14**	**22**	P	**P**	**21 25 47.9**	**+0.4**
	comp=Z,9.2nm,0.9s,mb4.4,baz=330,slow=2.0,SNR=3.1						
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**21 25 57.9**	**-0.2**
	comp=Z,1.0nm,0.4s,mb3.8,baz=349,slow=5.3,SNR=34						
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**21 25 57.9**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**82.13**	**122**	P	**P**	**21 26 02.1**	**-1.2**
	comp=Z,2.6nm,1.0s,mb3.8,baz=324,slow=5.0,SNR=30						
WRA	**Warramunga Arr**	**82.13**	**122**	P	**P**	**21 26 02.1**	**-1.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ASAR	**Alice Springs**	**84.40**	**125**	P	**P**	**21 26 13.7**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.7,baz=312,slow=4.8,SNR=20						
ASAR	**Alice Springs**	**84.40**	**125**	P	**P**	**21 26 13.7**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PLCA	**Paso Flores**	**149.77**	**250**	PKPbc	PKPbc	21 33 29.1	-1.9
	comp=Z,1.9nm,0.9s,baz=45,slow=5.7,SNR=3.6						
PLCA	**Paso Flores**	**149.77**	**250**	PKHKP	PKPbc	21 33 29.1	-1.9
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*IDC **25** 21:23:20.0±2.3, 2734N×5557E, h0km, mb3.7/11, mb1 3.8/11, mb1mx3.7/23, mbtmp3.7/11, MS2.6/1, Ms1 2.6/1, ms1mx2.2/31, Error ellipse: s-maj=48.0km s-min=21.2km az=156.0*
*ISCJB **25** 21:23:22.2±0.3, 2755N±002×5544E±004, h10km, mb3.8/19, Error ellipse: s-maj=5.4km s-min=2.9km az=141.1*
*OMAN **25** 21:23:23.4±2.3, 2766N×5529E, h30km, Error ellipse: s-maj=3.5km s-min=2.3km az=0.0*
*CSEM **25** 21:23:24.7±0.7, 2749N×5547E, h30km, mb4.1/10, Error ellipse: s-maj=2.4km s-min=1.3km az=52.0*
*MOS **25** 21:23:25.6±1.0, 2765N×5550E, h33km, mb4.3/4, Error ellipse: s-maj=18.4km s-min=11.5km az=105.7*
*NEIC **25** 21:23:26.2, 2768N×5579E, h14km, mb4.2/8, ML3.6(THR), After THR.*
*TEH **25** 21:23:26.4, 2766N×5548E, h0km, Mn3.7*
*THR **25** 21:23:26.3±1.0, 2764N×5577E, h15km, ML3.6*
ISC 25 21:23:24.1±0.3, **2757N**±002×**5549E**±004, **h10**km, **n69**, σ1**19**/80, **mb3.8**/19, **5C-8D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.63**	**106**	*e*Pg	**Pg**	**21 23 34.9**	**-1.4**
BNDS				AML	AML	21 23 47.6	
	comp=N,5μm,0.6s						
BNDS	**Bandar-Abbas**	**0.63**	**106**	*e*Pg	**Pg**	**21 23 35.0**	**-1.3**
BANOM	**Banah**	**1.79**	**156**	⇓P	**Pn**	**21 23 55.9**	**+0.8**
	SNR=11						
BANOM				⇓S	**Sn**	**21 24 18.8**	**+0.9**
GHIR	**Ghir-Karzin**	**2.33**	**288**	*e*Pn	**Pg**	**21 24 09.0**	**+0.3**
GHIR				AML	AML	21 24 55.3	
	comp=N,291nm,0.3s						
GHIR				AML	AML	21 25 01.4	
	comp=E,383nm,0.7s						
GHIR	**Ghir-Karzin**	**2.33**	**288**	*e*Pn	**Pg**	**21 24 09.0**	**+0.3**
KRBR	**Kerman**	**2.65**	**25**	*e*Pn	**Pn**	**21 24 09.0**	**+2.2**
KRBR				*e*SG	**Sb**	**21 24 44.2**	**+0.1**
KRBR				AML	AML	21 24 47.8	
	comp=E,260nm,0.8s						
KRBR				AML	AML	21 24 54.8	
	comp=N,269nm,1.2s						
KRBR	**Kerman**	**2.65**	**25**	*e*Pn	**Pn**	**21 24 08.0**	**+1.2**
KRBR				*e*Sg	**Sb**	**21 24 44.2**	**0.0**
	SNR=90						
KRBR	**Kerman**	**2.65**	**25**	*e*Pn	**Pn**	**21 24 08.0**	**+1.2**
KRBR				*e*Sg	**Sb**	**21 24 43.0**	**-1.2**
IMOK	**Mook**	**2.85**	**302**	*e*Pn	**Pn**	**21 24 12.3**	**+2.7**
ASHO	**Ashiyiah**	**2.92**	**170**	⇑P	**Pn**	**21 24 12.1**	**+1.5**
	SNR=35						
IPAR	**Pars**	**3.12**	**317**	*e*Pn	**Pn**	**21 24 15.2**	**+1.9**
IMEH	**Mehriz**	**3.88**	**349**	*e*Pn	**Pn**	**21 24 25.7**	**+1.9**
IMEH				*e*Sn	**Sn**	**21 25 09.1**	**-0.3**
IBAF	**Bafgh**	**4.01**	**1**	*e*Pn	**Pn**	**21 24 26.9**	**+1.4**
IBAF				*e*Sn	**Sn**	**21 25 12.3**	**-0.2**
HOQ	**Hoqain**	**4.30**	**157**	⇓P	**Pn**	**21 24 28.5**	**-1.0**
ARQ	**Araqi**	**4.32**	**167**	⇑P	**Pn**	**21 24 30.2**	**+0.4**
	SNR=5.7						
ARQ				⇓S	**Sn**	**21 25 20.1**	**-0.1**
ISAD	**Sadrabad**	**4.60**	**341**	*e*Sn	**Sn**	**21 25 26.2**	**-1.0**
BIDO	**Bidbid**	**4.68**	**149**	⇓P	**Pn**	**21 24 33.7**	**-1.1**
	SNR=9.7						
ICHK	**Chekchek**	**4.75**	**349**	*e*Pn	**Pn**	**21 24 37.5**	**+1.8**
ICHK				*e*Sn	**Sn**	**21 25 30.1**	**-0.8**
BSY	**Bisya**	**5.05**	**162**	⇑P	**Pn**	**21 24 40.8**	**+1.0**
	SNR=8.1						
SMDO	**Samad**	**5.05**	**152**	⇓P	**Pn**	**21 24 39.4**	**-0.5**
ZHSF	**Zahedan**	**5.07**	**65**	*e*Pn	**Pn**	**21 24 41.2**	**+1.1**
BSYO	**Bisya**	**5.07**	**161**	P	**Pn**	**21 24 40.8**	**+0.7**
	SNR=8.1						
JMDO	**Jabal Madar**	**5.70**	**155**	⇑P	**Pn**	**21 24 48.6**	**-0.1**
WBK	**Wadi Bani Khal**	**5.86**	**147**	⇓P	**Pn**	**21 24 48.8**	**-2.2**
IZEF	**Zefreh**	**5.97**	**334**	*e*Pn	**Pn**	**21 24 53.5**	**+1.0**
IZEF				*e*Sn	**Sn**	**21 25 58.8**	**-2.1**
IPIR	**Pirpir**	**6.47**	**323**	*e*Pn	**Pn**	**21 25 00.1**	**+0.8**
IPIR				*e*Sn	**Sn**	**21 26 10.7**	**-2.4**
IKLH	**Kalahroud**	**6.65**	**330**	*e*Pn	**Pn**	**21 25 03.1**	**+1.3**
IKLH				*e*Sn	**Sn**	**21 26 15.2**	**-2.4**
RDF	**Al-Radifah**	**7.13**	**283**	*e*P	**Pn**	**21 25 09.9**	**+1.4**
RDF				AML	AML	21 26 30.4	
	comp=Z,11nm,0.3s						
NAY	**Al-Naaiem**	**7.45**	**285**	*e*P	**Pn**	**21 25 13.3**	**+0.5**
NAY				AML	AML	21 26 35.8	
	comp=Z,4.9nm,0.6s						
MIB	**Mutribah**	**7.50**	**289**	*e*P	**Pn**	**21 25 14.6**	**+1.2**
MIB				AML	AML	21 26 35.4	
	comp=Z,11nm,0.6s						
IAFJ	**Afjeh**	**8.86**	**340**	*e*Pn	**Pn**	**21 25 33.4**	**+1.2**
IRAZ	**Razeghan**	**9.14**	**330**	*e*Sn	**Sn**	**21 27 14.6**	**-4.2**
SHAO	**Shalim**	**9.50**	**179**	⇑P	**Pn**	**21 25 40.1**	**-0.8**
	SNR=48						
WHFO	**Wadi Hawf**	**9.74**	**190**	⇓P	**Pn**	**21 25 42.5**	**-1.7**
	SNR=22						
RBK	**Rabkut**	**10.09**	**187**	P	**Pn**	**21 25 47.3**	**-1.7**
	SNR=16						
GNI	**Garni**	**15.38**	**327**	Pn	**Pn**	**21 27 08.4**	**+7.3**
	comp=Z,

*IDC **25** 21:25:00.8±2.9, 2707N×5615E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/23, mbtmp3.7/6, ML1.3/1, Error ellipse: s-maj=62.3km s-min=29.2km az=154.0*

NEIC 25 21:24:58.4±3.6, 2656N×5619E, h10km, mb3.7/1, Error ellipse: s-maj=66.6km s-min=21.0km az=180.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**16.57**	**328**	Pn	Pn	21 28 51.3	+0.5
	0.3nm,0.3s,baz=225,slow=1.4,SNR=3.6						
GNI	**Garni**	**16.57**	**328**	*e*Pn	Pn	21 28 51.0	+0.2
	4.7nm,0.8s						
BRTR	**Keskin Array B**	**22.93**	**311**	P	P	21 30 02.6	+0.1
	1.3nm,0.8s,baz=138,slow=15,SNR=4.1						
BVAR	**Borovoye Array**	**28.49**	**18**	P	P	21 30 54.0	+0.2
	0.9nm,0.8s,baz=222,slow=5.8,SNR=2.6						
ZAL	**Zalesovo**	**34.56**	**30**	P	P	21 31 46.8	-0.4
	0.8nm,0.5s,baz=276,slow=9.2,SNR=2.9						
GERES	**GERESS Array B**	**39.63**	**316**	P	P	21 32 30.5	+0.3
	0.2nm,0.6s,baz=97,slow=4.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**52.61**	**266**	P	P	21 34 16.9	+4.4
	0.5nm,0.5s,baz=63,slow=7.5,SNR=5.5						

*ISCJB **25** 21:42:14.3±0.2, 4654N±001×876E±002, h3km±2km, Error ellipse: s-maj=2.5km s-min=1.9km az=130.9*
*CSEM **25** 21:42:15.2±0.1, 4647N×880E, h8km, ML2.7/23, Error ellipse: s-maj=1.2km s-min=0.9km az=143.0*
*NEIC **25** 21:42:15.3, 4651N×880E, h10km, MD2.6(ROM), ML2.3(STR), ML2.6(LDG), ML2.7(SZGRF), After ROM.*
*ROM **25** 21:42:15.3±0.3, 4651N×880E, h10km, Md2.6/9, Ml1.8/3, Error ellipse: s-maj=4.4km s-min=2.2km az=157.0*
*LDG **25** 21:42:15.1±0.1, 4651N×881E, h5km, Md2.6/2, Ml2.6/19, Error ellipse: s-maj=1.5km s-min=1.2km az=107.0*
*ZUR **25** 21:42:15.1, 4651N×882E, h2km, ML2.4/28*
*STR **25** 21:42:22.9±1.0, 4688N×854E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 25 21:42:15.1±0.2, 4652N±001×874E±002, h4km±2km, n145, σ1§28/233, 23C-21D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSIO	**Fusio**	**0.08**	**220**	*i* Sg	Pg	21 42 17.8	+0.9
	7μm,0.2s						
FUSIO	**Fusio**	**0.08**	**220**	*i* Pg	Sg	21 42 19.6	+1.6
	7μm,0.2s						
FUSIO	**Fusio**	**0.08**	**220**	*i* Pg	Sg	21 42 19.6	+1.6
	7μm,0.2s						
LLS	**Linth-Limmern**	**0.38**	**29**	⇑*i*Pg	Pg	21 42 22.8	+0.4
	183nm,0.1s						
BNALP	**Bannalp**	**0.41**	**328**	*i* Pg	Pg	21 42 24.3	+1.2
	580nm,0.4s						
TUE	**Stuetta**	**0.42**	**96**	⇑*i*Pg	Pg	21 42 22.7	-0.6
TUE				Sg	Sg	21 42 28.3	-0.5
	92nm,0.3s						
MUO	**Muotathal**	**0.46**	**351**	⇑*i*Pg	Pg	21 42 25.0	+1.1
	397nm,0.4s						
HASLI	**Hasliberg**	**0.47**	**301**	*i* Sg	Pg	21 42 25.5	+1.3
	344nm,0.5s						
HASLI	**Hasliberg**	**0.47**	**301**	⇓*i*Pg	Sg	21 42 32.9	+2.6
	344nm,0.5s						
VDL	**Val di Lei**	**0.51**	**93**	*i* Pg	Pg	21 42 24.0	-0.9
	254nm,0.2s						
VDL	**Val di Lei**	**0.51**	**93**	*i* P	Pg	21 42 23.9	-1.0
MUGIO	**Muggio**	**0.63**	**161**	Pg	Pg	21 42 27.1	-0.2
MUGIO				Sg	Sg	21 42 35.2	-0.3
MUGIO	**Muggio**	**0.63**	**161**	⇓*i*Pg	Pg	21 42 27.4	+0.1
	236nm,0.2s						
MUGIO				Sg	Sg	21 42 35.2	-0.3
VAI	**Varese**	**0.65**	**178**	Pg	Pg	21 42 28.0	+0.3
VAI				Sg	Sg	21 42 37.5	+1.4
	60nm,0.2s						
PLONS	**Plons**	**0.69**	**39**	⇑*i*Pg	Pg	21 42 28.2	-0.2
	174nm,0.2s						
MMK	**Mattmark**	**0.71**	**229**	⇓*i*Pg	Pg	21 42 29.3	+0.5
	192nm,0.2s						
MMK	**Mattmark**	**0.71**	**229**	Pg	Pg	21 42 29.4	+0.6
MMK				Sg	Sg	21 42 38.9	+0.9
MCGN	**Macugnaga**	**0.77**	**223**	Pg	Pg	21 42 30.3	+0.4
MCGN				Sg	Sg	21 42 40.9	+1.1
LKBD	**Leukerbad**	**0.78**	**261**	⇓*i*Pg	Pg	21 42 31.6	+1.5
	94nm,0.3s						
LKBD	**Leukerbad**	**0.78**	**261**	⇓*i*P	Pg	21 42 31.0	+0.9
WIMIS	**Wimmis**	**0.78**	**281**	*e*Pg	Pg	21 42 31.3	+1.1
	120nm,0.7s						
WIMIS	**Wimmis**	**0.78**	**281**	*e*P	Pg	21 42 31.5	+1.3
DAVOX	**Davos**	**0.83**	**71**	⇑*i*Pg	Pg	21 42 30.0	-1.0
	121nm,0.3s						
DAVOX	**Davos**	**0.83**	**71**	Pg	Pg	21 42 30.3	-0.7
ZUR	**Zurich**	**0.86**	**353**	*e*Pg	Pg	21 42 32.9	+1.3
	658nm,0.3s						
BERNI	**Berninapass**	**0.89**	**96**	*e*Pg	Pg	21 42 31.5	-0.8
	112nm,0.3s						
BERNI	**Berninapass**	**0.89**	**96**	*e*P	Pg	21 42 31.0	-1.3
WILA	**Wila**	**0.90**	**7**	⇑*i*Pg	Pg	21 42 33.2	+0.7
	709nm,0.2s						
WILA	**Wila**	**0.90**	**7**	⇑*i*P	Pg	21 42 33.6	+1.1
LIENZ	**Alp Oberkamor**	**0.93**	**33**	⇑*i*Pg	Pg	21 42 33.6	+0.6
	163nm,0.3s						
LIENZ	**Alp Oberkamor**	**0.93**	**33**	⇑*i*P	Pg	21 42 33.2	+0.2
MDI	**Monti di Nese**	**1.00**	**137**	Pg	Pg	21 42 34.6	+0.2
SENIN	**Lac Senin**	**1.01**	**262**	⇓*i*Pg	Pg	21 42 35.8	+1.3
	129nm,0.4s						
SENIN	**Lac Senin**	**1.01**	**262**	⇓*i*P	Pg	21 42 35.1	+0.6
DIX	**Grande Dixence**	**1.02**	**245**	Pg	Pg	21 42 35.9	+1.2
DIX	**Grande Dixence**	**1.02**	**245**	*e*Pg	Pg	21 42 39.4	+4.7
	98nm,0.5s						
WEIN	**Weingarten**	**1.02**	**9**	⇑*i*Pg	Pg	21 42 34.8	0.0
	331nm,0.3s						
WEIN	**Weingarten**	**1.02**	**9**	⇑*i*P	Pg	21 42 35.8	+1.0
FUORN	**Ofenpass**	**1.06**	**84**	⇑*i*Pg	Pg	21 42 34.1	-1.3
	112nm,0.5s						
BALST	**Balsthal**	**1.09**	**319**	*e*P	Pg	21 42 35.8	-0.2
	674nm,0.6s						
BALST	**Balsthal**	**1.09**	**319**	*e*P	Pg	21 42 37.3	+1.3
DAVA	**Damuels**	**1.10**	**45**	⇓*i*Sg	Sg	21 42 50.7	+0.3
	comp=N,49nm,0.2s						
DAVA	**Damuels**	**1.10**	**45**	⇑*i*Pg	Pg	21 42 36.0	-0.2
DAVA				⇓*i*Sg	Sg	21 42 50.7	+0.3
	49nm,0.2s						
SULZ	**Sulz-Cheisache**	**1.10**	**337**	*e*P	Pg	21 42 35.9	-0.3
	593nm,0.6s						
SULZ	**Sulz-Cheisache**	**1.10**	**337**	*e*P	Pg	21 42 37.6	+1.4
BRMO	**Bormio**	**1.13**	**92**	Pg	Pg	21 42 35.4	-1.4
	33nm,1.2s						
TRULL	**Truellikon**	**1.13**	**358**	*e*P	Pg	21 42 37.6	+0.8
	210nm,0.3s						
TRULL	**Truellikon**	**1.13**	**358**	*e*P	Pg	21 42 37.9	+1.1
TORNY	**Torny**	**1.25**	**282**	⇑*i*P	Pg	21 42 37.9	-1.3
	170nm,0.9s						
TORNY	**Torny**	**1.25**	**282**	*i* P	Pg	21 42 40.9	+1.7
SLE	**Schleitheim**	**1.26**	**352**	⇑*i*P	Pg	21 42 37.9	-1.4
	473nm,0.3s						
SLE	**Schleitheim**	**1.26**	**352**	⇑*i*P	Pg	21 42 40.0	+0.7
BBS	**Basel-Blauen**	**1.27**	**319**	Pg	Pg	21 42 40.9	+1.5
MABI	**Malga Bissina**	**1.31**	**110**	Pg	Pg	21 42 39.0	-1.4
	11nm,0.4s						
FELD	**Feldberg**	**1.45**	**340**	Pg	Pg	21 42 43.0	+0.1
LOMF	**Lomont**	**1.55**	**303**	Pg	Pg	21 42 45.1	+0.2
LOMF				Sg	Sg	21 43 05.7	+0.7
SPAK	**Spaichingen**	**1.58**	**1**	Pg	Pg	21 42 46.5	+1.0
SPAK				Sg	Sg	21 43 03.7	-2.3
BRANT	**Les Verrieres**	**1.61**	**286**	*e*P	Pn	21 42 40.0	-4.4
	154nm,0.6s						
BRANT	**Les Verrieres**	**1.61**	**286**	*e*P	Pn	21 42 46.6	+2.2
LPG	**La Plagne**	**1.72**	**234**	*e*Pg	Pg	21 42 47.8	-0.3
	SNR=1.0						
LPG				*e*Sg	Sg	21 43 10.3	-0.2
	18nm,0.4s						
LPG	**La Plagne**	**1.72**	**234**	*e*Pg	Pg	21 42 47.8	-0.3
	SNR=1.0						
LPG				*e*Sg	Sg	21 43 10.3	-0.2
	9.2nm,0.4s						
LPL	**La Plagne**	**1.72**	**235**	*e*Pg	Pg	21 42 48.0	-0.1
	SNR=1.0						
LPL				*e*Sg	Sg	21 43 09.7	-0.7
	19nm,0.4s						
LPL	**La Plagne**	**1.72**	**235**	*e*Pg	Pg	21 42 48.0	-0.1
	SNR=1.0						
LPL				*e*Sg	Sg	21 43 09.7	-0.7
	9.5nm,0.4s						
MOF	**Molkenrain**	**1.73**	**321**	Pg	Pg	21 42 47.5	-0.7
MOF				Sg	Sg	21 43 08.1	-2.5
MOTA	**Moosalm**	**1.82**	**62**	⇓*i*Sg	Sg	21 43 14.4	+0.8
	comp=Z,8.9nm,0.2s						
MOTA	**Moosalm**	**1.82**	**62**	⇓*i*Pg	Pg	21 42 49.5	-0.5
MOTA				⇓*i*Sg	Sg	21 43 14.4	+0.8
	8.9nm,0.2s						
HINF	**Hinteralfeld**	**1.83**	**316**	*e*P	Pn	21 42 48.6	+1.3
HINF				*e*Sn	Sn	21 43 09.0	-1.9
	SNR=1.0						
HINF				*e*Sg	Sg	21 43 14.5	+0.6
	23nm,0.4s						
HINF	**Hinteralfeld**	**1.83**	**316**	*e*P	Pn	21 42 48.6	+1.3
HINF				*e*Sn	Sn	21 43 09.0	-1.9
	SNR=1.0						
HINF				*e*Sg	Sg	21 43 14.5	+0.6
	11nm,0.4s						
HINF	**Hinteralfeld**	**1.83**	**316**	*e*Pn	Pn	21 42 46.1	-1.2
HINF				*e*P		21 42 48.6	
HINF				*e*Sn	Sn	21 43 09.0	-1.9
HINF				*e*Sg	Sg	21 43 14.5	+0.6
CABF	**La Chapelle**	**1.83**	**274**	*e*Pg	Pg	21 42 49.7	-0.6
	SNR=1.0						
CABF				*e*Sg	Sg	21 43 13.9	-0.1
	15nm,0.5s						
CABF	**La Chapelle**	**1.83**	**274**	*e*Pg	Pg	21 42 49.7	-0.6
	SNR=1.0						
CABF				*e*Sg	Sg	21 43 13.9	-0.1
	7.7nm,0.5s						
CABF	**La Chapelle**	**1.83**	**274**	*e*P	Pn	21 42 46.5	-0.9
CABF				*e*Pg	Pg	21 42 49.7	-0.6
CABF				*e*Sg	Sg	21 43 13.9	-0.1
BFO	**Black Forest**	**1.83**	**351**	*e*Pn	Pn	21 42 48.2	+0.8
BFO				*e*Sn	Sn	21 43 09.1	-2.0
SQTA	**Sankt Quirin**	**1.83**	**67**	⇓*i*Sg	Sg	21 43 14.5	+0.5
	comp=Z,16nm,0.3s						
SQTA	**Sankt Quirin**	**1.83**	**67**	⇓*i*Pg	Pg	21 42 50.2	-0.1
SQTA				⇓*i*Sg	Sg	21 43 14.5	+0.5
	16nm,0.3s						
ECH	**Echery**	**2.01**	**328**	Pn	Pn	21 42 50.9	+1.1
ECH				Sg	Sg	21 43 15.2	-4.5
SCE	**Schlegeis**	**2.11**	**75**	⇑*i*Pn	Pn	21 42 54.3	+3.1
WATA	**Walderalm**	**2.11**	**66**	⇓*i*Sg	Sg	21 43 23.7	+0.8
	comp=Z,4.7nm,0.3s						
WATA	**Walderalm**	**2.11**	**66**	⇑*i*Pg	Pg	21 42 55.3	-0.3
WATA				⇓*i*Sg	Sg	21 43 23.7	+0.8
	4.7nm,0.3s						
WLS	**Welschbruch**	**2.12**	**334**	Pn	Pn	21 42 52.1	+0.8
WTTA	**Wattenberg**	**2.12**	**68**	⇑*i*Sg	Sg	21 43 24.5	+1.2
	comp=E,15nm,0.5s						
WTTA	**Wattenberg**	**2.12**	**68**	⇑*i*Pg	Pg	21 42 55.2	-0.6
WTTA				⇑*i*Sg	Sg	21 43 24.5	+1.2
	15nm,0.5s						
WTTA	**Wattenberg**	**2.12**	**68**	Pg	Pg	21 42 55.2	-0.6
WTTA				Sg	Sg	21 43 24.5	+1.2
	15nm,0.5s						
CDF	**Champ du Feu**	**2.14**	**333**	*e*P	Pn	21 42 52.8	+1.2
CDF				*e*Sn	Sn	21 43 16.4	-2.2
	11nm,0.3s,SNR=1.0						
CDF				*e*Sg	Sg	21 43 22.9	-1.0
CDF	**Champ du Feu**	**2.14**	**333**	*e*P	Pn	21 42 52.8	+1.2
CDF				*e*Sn	Sn	21 43 16.4	-2.2
	5.4nm,0.3s,SNR=1.0						
CDF				*e*Sg	Sg	21 43 22.9	-1.0
CDF	**Champ du Feu**	**2.14**	**333**	*e*Pn	Pn	21 42 50.4	-1.2
CDF				*e*P		21 42 52.8	
CDF				*e*Sn	Sn	21 43 16.4	-2.2
CDF				*e*Sg	Sg	21 43 22.9	-1.0
HAU	**Haudompre**	**2.21**	**313**	*e*Pg	Pg	21 42 56.4	-1.0
	SNR=1.0						
HAU				*e*Sn	Sn	21 43 17.3	-3.0
	SNR=1.0						
HAU				*e*Sg	Sg	21 43 25.5	-0.5
	16nm,0.3s						
HAU	**Haudompre**	**2.21**	**313**	*e*Pg	Pg	21 42 56.4	-1.0
	SNR=1.0						
HAU				*e*Sn	Sn	21 43 17.3	-3.0
	SNR=1.0						
HAU				*e*Sg	Sg	21 43 25.5	-0.5
	7.8nm,0.3s						
HAU	**Haudompre**	**2.21**	**313**	*e*P	Pn	21 42 54.1	+1.6
HAU				*e*Pg	Pg	21 42 56.4	-1.0
HAU				*e*Sn	Sn	21 43 17.3	-3.0
HAU				*e*Sg	Sg	21 43 25.5	-0.5
MBDF	**Montbardon**	**2.26**	**218**	*e*P	Pn	21 42 54.5	+1.2
MBDF	**Montbardon**	**2.26**	**218**	*e*Pg	Pg	21 42 57.6	-0.9
	SNR=1.0						
MBDF				*e*Sg	Sg	21 43 26.1	-1.7
	9.2nm,0.4s						
MBDF	**Montbardon**	**2.26**	**218**	*e*P	Pn	21 42 54.5	+1.2
MBDF	**Montbardon**	**2.26**	**218**	*e*Pg	Pg	21 42 57.6	-0.9
	SNR=1.0						
MBDF				*e*Sg	Sg	21 43 26.1	-1.7
	4.6nm,0.4s						
MBDF	**Montbardon**	**2.26**	**218**	*e*Pn	Pn	21 42 52.1	-1.2
MBDF				*e*P		21 42 54.5	
MBDF				*e*Pg	Pg	21 42 57.6	-0.9
MBDF				*e*Sg	Sg	21 43 26.1	-1.7
ORIF	**Oris-en-Rattie**	**2.56**	**232**	*e*Pg	Pg	21 43 03.1	-1.2
	SNR=1.0						
ORIF				*e*Sg	Sg	21 43 36.5	-1.0
	9.8nm,0.5s						
ORIF	**Oris-en-Rattie**	**2.56**	**232**	*e*Pg	Pg	21 43 03.1	-1.2
	SNR=1.0						
ORIF				*e*Sg	Sg	21 43 36.5	-1.0
	4.9nm,0.5s						
ORIF	**Oris-en-Rattie**	**2.56**	**232**	*e*Pn	Pn	21 42 56.8	-0.7
ORIF				*e*Pg	Pg	21 43 03.1	-1.2
ORIF				*e*Sg	Sg	21 43 36.5	-1.0
SBF	**Sospel**	**2.81**	**200**	*e*Pg	Pg	21 43 07.0	-2.0
	SNR=1.0						
SBF				*e*Sg	Sg	21 43 43.1	-2.4
	4.4nm,0.3s						
SBF	**Sospel**	**2.81**	**200**	*e*Pg	Pg	21 43 07.0	-2.0
	SNR=1.0						
SBF				*e*Sg	Sg	21 43 43.1	-2.4
	2.2nm,0.3s						
SBF	**Sospel**	**2.81**	**200**	*e*P	Pn	21 43 02.0	+1.1
SBF				*e*Pg	Pg	21 43 07.0	-2.0
SBF				*e*Sg	Sg	21 43 43.1	-2.4
SFTF	**Sexfontaines**	**3.03**	**305**	*e*Pn	Pn	21 43 02.8	-1.1
	baz=119						
SFTF	**Sexfontaines**	**3.03**	**305**	*e*P	Pn	21 43 05.5	+1.6
	baz=125						
SFTF				*e*Sg	Sg	21 43 51.1	-1.4
	1.8nm,0.3s						
SFTF	**Sexfontaines**	**3.03**	**305**	*e*P	Pn	21 43 05.5	+1.6
SFTF				*e*Sg	Sg	21 43 51.1	-1.4
	0.9nm,0.3s						
SFTF	**Sexfontaines**	**3.03**	**305**	*e*Pn	Pn	21 43 02.8	-1.1
SFTF				*e*P		21 43 05.5	
SFTF				*e*Sg	Sg	21 43 51.1	-1.4
MEZF	**Maizieres J'vi**	**3.19**	**310**	*e*Pn	Pn	21 43 04.9	-1.2
MEZF				*e*Sg	Sg	21 43 56.5	-1.2
	6.2nm,0.4s						
MEZF	**Maizieres J'vi**	**3.19**	**310**	*e*Pn	Pn	21 43 04.9	-1.2
MEZF				*e*Sg	Sg	21 43 56.5	-1.2
	3.1nm,0.4s						
KBA	**Koelnbreinsper**	**3.21**	**78**	⇓*i*Sn	Sn	21 43 45.0	-0.1
KBA	**Koelnbreinsper**	**3.21**	**78**	⇓*i*Pn	Pn	21 43 06.0	-0.4
KBA				⇓*i*Sn	Sn	21 43 45.0	-0.1
VIVF	**Saint-Julien-l**	**3.30**	**241**	*e*P	Pn	21 43 09.7	+2.1
VIVF				*e*Sg	Sg	21 43 59.7	-1.5
	1.9nm,0.3s						
VIVF	**Saint-Julien-l**	**3.30**	**241**	*e*P	Pn	21 43 09.7	+2.1
VIVF				*e*Sg	Sg	21 43 59.7	-1.5
	0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**3.30**	**241**	*e*Pn	Pn	21 43 06.1	-1.5
VIVF				*e*P		21 43 09.7	
VIVF				*e*Sg	Sg	21 43 59.7	-1.5
FRF	**La Foret Royal**	**3.31**	**207**	*e*P	Pn	21 43 09.4	+1.7
FRF				*e*Sg	Sg	21 43 59.1	-2.4
	0.6nm,0.2s						
FRF	**La Foret Royal**	**3.31**	**207**	*e*P	Pn	21 43 09.4	+1.7
FRF				*e*Sg	Sg	21 43 59.1	-2.4
	0.3nm,0.2s						
FRF	**La Foret Royal**	**3.31**	**207**	*e*Pn	Pn	21 43 05.9	-1.8
FRF				*e*P		21 43 09.4	
FRF				*e*Sg	Sg	21 43 59.1	-2.4
SMF	**Signal de Mont**	**3.38**	**274**	*e*P	Pn	21 43 10.6	+1.9
SMF				*e*Sg	Sg	21 44 03.0	-0.7
	6.4nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.38**	**274**	*e*P	Pn	21 43 10.6	+1.9
SMF				*e*Sg	Sg	21 44 03.0	-0.7
	3.2nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.38**	**274**	*e*Pn	Pn	21 43 07.2	-1.5
SMF				*e*P		21 43 10.6	
SMF				*e*Sg	Sg	21 44 03.0	-0.7
SMRF	**Simiane la Rot**	**3.38**	**222**	*e*P	Pn	21 43 11.6	+2.8
LOR	**Lormes**	**3.43**	**284**	*e*P	Pn	21 43 11.2	+1.8
	baz=107						
LOR	**Lormes**	**3.43**	**284**	*e*Pg	Pg	21 43 19.4	-1.5
	baz=106,SNR=1.0						
LOR				*e*Sg	Sg	21 44 03.9	-1.4
	3.8nm,0.3s,SNR=1.0						
LOR	**Lormes**	**3.43**	**284**	*e*P	Pn	21 43 11.2	+1.8
LOR	**Lormes**	**3.43**	**284**	*e*Pg	Pg	21 43 19.4	-1.5
	SNR=1.0						
LOR				*e*Sg	Sg	21 44 03.9	-1.4
	1.9nm,0.3s,SNR=1.0						
LOR	**Lormes**	**3.43**	**284**	*e*Pn	Pn	21 43 08.1	-1.3
LOR				*e*P		21 43 11.2	
LOR				*e*Pg	Pg	21 43 19.4	-1.5
LOR				*e*Sg	Sg	21 44 03.9	-1.4
SSF	**Saint Saulge**	**3.64**	**280**	*e*P	Pn	21 43 14.5	+2.3
AVF	**Avril sur Loir**	**3.72**	**276**	*e*P	Pn	21 43 15.1	+1.7
AVF				*e*Sg	Sg	21 44 12.7	-1.9
	2.0nm,0.4s						
AVF	**Avril sur Loir**	**3.72**	**276**	*e*P	Pn	21 43 15.1	+1.7
AVF				*e*Sg	Sg	21 44 12.7	-1.9
	1.0nm,0.4s						
MOA	**Molln**	**4.00**	**69**	⇑*i*Sn	Sn	21 44 03.4	-1.1
MOA	**Molln**	**4.00**	**69**	⇓*i*Pn	Pn	21 43 17.1	-0.1
MOA				⇑*i*Sn	Sn	21 44 03.4	-1.1
BGF	**Bois d'Agland**	**4.07**	**273**	*e*P	Pn	21 43 20.1	+2.0
BGF				*e*Sg	Sg	21 44 23.8	-2.0
	4.8nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**4.07**	**273**	*e*P	Pn	21 43 20.1	+2.0
BGF				*e*Sg	Sg	21 44 23.8	-2.0
	2.4nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**4.07**	**273**	*e*Pn	Pn	21 43 17.2	-0.9
BGF				*e*P		21 43 20.1	
BGF				*e*Sg	Sg	21 44 23.8	-2.0
KHC	**Kasperske Hory**	**4.18**	**50**	*e*PN	Pn	21 43 19.9	+0.3
KHC				*e*x	x	21 43 27.3	
KHC				*e*SN	Sn	21 44 07.3	-1.6
KHC				*e*SG	Sg	21 44 24.1	-5.2
KHC	**Kasperske Hory**	**4.18**	**50**	*e*Pg	Pb	21 43 27.3	-1.9
KHC				*e*Sn	Sn	21 44 07.3	-1.6
KHC				*e*Sg	Sg	21 44 24.1	-5.2
LASF	**Ste Croix**	**4.22**	**236**	*e*P	Pn	21 43 22.4	+2.1
LASF				*e*Sn	Sn	21 44 06.2	-3.8
	1.2nm,0.3s						
LASF	**Ste Croix**	**4.22**	**236**	*e*P	Pn	21 43 22.4	+2.1
LASF				*e*Sn	Sn	21 44 06.2	-3.8
	0.6nm,0.3s						
HYF	**Humbligny**	**4.25**	**282**	*e*P	Pn	21 43 23.1	+2.5
NKC	**Novy Kostel**	**4.46**	**32**	*e*SN	Sn	21 44 15.3	-0.6
NKC				*e*SG	Sg	21 44 39.7	+1.2
TCF	**Toulx Ste Croi**	**4.52**	**269**	*e*P	Pn	21 43 26.7	+2.3
CAF	**Calviac**	**4.94**	**254**	*e*P	Pn	21 43 32.2	+2.1
CAF	**Calviac**	**4.94**	**254**	*e*P	Pn	21 43 32.2	+2.1
CAF	**Calviac**	**4.94**	**254**	*e*Pn	Pn	21 43 28.4	-1.7
CAF				*e*P		21 43 32.2	
RJF	**Les Rejaudoux**	**5.18**	**259**	*e*P	Pn	21 43 35.9	+2.4
MTLF	**Montolieu**	**5.62**	**238**	*e*P	Pn	21 43 41.9	+2.5
MTLF	**Montolieu**	**5.62**	**238**	*e*P	Pn	21 43 41.9	+2.5
MTLF	**Montolieu**	**5.62**	**238**	*e*Pn	Pn	21 43 37.7	-1.7
MTLF				*e*P		21 43 41.9	

*NEIC **25** 21:53:18.7±1.3, 378S×1515E, h35km, mb3.9/1, Error ellipse: s-maj=55.7km s-min=16.9km az=116.0*

IDC 25 21:53:20.8±6.2, 384S×15147E, h52km±54km, mb3.6/5, mb1 3.8/6, mb1mx3.6/14, mbtmp3.9/6, ML2.8/1, Error ellipse: s-maj=66.4km s-min=30.8km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.99**	**218**	P	Pn	21 55 01.6	+1.0
	1.0nm,0.3s,baz=45,slow=8.7,SNR=6.2						
WRAB	**Tennant Creek**	**23.12**	**225**	*e*P	P	21 58 22.2	-0.2
	4.0nm,0.9s						
WRA	**Warramunga Arr**	**23.13**	**225**	P	P	21 58 21.6	-0.9
	1.9nm,0.7s,baz=49,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.00**	**219**	P	P	21 58 49.9	+1.1
	1.5nm,0.7s,baz=52,slow=8.9,SNR=16						
STKA	**Stephens Creek**	**29.39**	**197**	P	P	21 59 18.7	-0.4
	1.6nm,0.8s,baz=20,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**78.73**	**319**	P	P	22 05 17.6	0.0
	0.6nm,0.8s,baz=118,slow=4.4,SNR=5.4						
ILAR	**Eielson Array**	**81.78**	**22**	P	P	22 05 33.8	-0.2
	0.6nm,0.7s,baz=247,slow=5.0,SNR=9.7						
TORD	**Torodi Ar. Bea**	**148.74**	**289**	PKPbc	PKPbc	22 13 03.5	+1.2
	1.0nm,0.8s,baz=85,slow=2.5,SNR=8.6						

*IDC **25** 21:54:12.4±2

IPIR *e*Sn **Sn** **21 57 14.3 -4.7**
IKLH Kalahroud 7.04 319 *e*Pn **Pn** **21 55 58.4 -0.3**
WHFO Wadi Hawf 10.57 197 ⇑P **Pn** **21 56 44.7 -2.4**
SNR=12
RBK Rabkut 10.87 195 ⇑P **Pn** **21 56 48.1 -3.0**
MALT Malatya 18.61 308 *e*P **Pn** **21 58 33.5 +0.1**
comp=E,2.3nm,0.8s
MALT Malatya 18.61 308 *e*P **Pn** **21 58 33.5 +0.2**
comp=E,2.3nm,0.8s
AKTK Aktyubinsk 22.32 2 P **P** **21 59 13.6 +0.2**
AKTO Aktyubinsk 22.32 2 P **P** **21 59 13.6 +0.2**
comp=E,1.1nm,0.5s,mb3.6,baz=174,slow=9.4,SNR=5.5
BR131 Keskin Array S 22.59 307 *e*P **P** **21 59 16.3 +0.1**
BR131 Keskin Array S 22.59 307 *e*P **P** **21 59 16.3 +0.1**
comp=E,1.5nm,0.7s,mb3.5
BRTR Keskin Array B 22.59 307 P **P** **21 59 16.2 0.0**
comp=E,1.9nm,0.9s,mb3.5,baz=117,slow=11,SNR=9.3
BVAR Borovoye Array 26.79 18 P **P** **21 59 56.3 +0.5**
comp=E,1.5nm,0.7s,mb3.6,baz=242,slow=3.1,SNR=3.6
MKAR Makanchi Array 27.18 40 P **P** **22 00 00.0 +0.7**
comp=E,0.1nm,0.4s,mb2.7,baz=232,slow=11,SNR=4.1
ZAL Zalesovo 32.84 30 P **P** **22 00 49.5 +0.1**
comp=E,2.2nm,0.3s,mb4.6,baz=264,slow=5.2,SNR=10
FINES FINESS Array B 39.23 337 P **P** **22 01 42.7 -1.4**
comp=E,0.4nm,0.5s,mb3.4,baz=122,slow=9.3,SNR=6.9
TORD Torodi Ar. Bea 53.51 266 P **P** **22 03 34.0 -2.3**
comp=E,0.5nm,0.5s,mb3.7,baz=63,slow=7.5,SNR=16

ISCJB ***25*** *21:59:26.9±0.8, 1989S±005×690W±0.1, h122km±11km, mb3.7/2, Error ellipse: s-maj=20.0km s-min=9.0km az=179.1*
NEIC ***25*** *21:59:27.7±1.0, 1989S×6900W, h100km, mb3.8/2, Error ellipse: s-maj=21.5km s-min=13.1km az=75.0*
IDC ***25*** *21:59:28.8±1.5, 1999S×6885W, h124km±16km, mb3.6/2, mb1 3.6/6, mb1mx3.3/18, mbtmp3.9/6, Error ellipse: s-maj=31.8km s-min=15.2km az=102.0*
ISC 25 21:59:28.2±0.8, 1989S±005×690W±01, h117km±11km, n12, σ1°07/15, mb3.7/2, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.71**	**178**	P	**Pn**	**22 00 11.1**	**+0.5**
	9.1nm,0.3s,baz=357,slow=9.8,SNR=36						
LVC				S	**Sn**	**22 00 42.8**	**-0.4**
	19nm,0.3s,baz=316,slow=14,SNR=16						
LVC	**Limon Verde**	**2.71**	**178**	*e*Pn	**Pn**	**22 00 11.3**	**+0.8**
LVC				*e*Sn	**Sn**	**22 00 39.1**	**-4.0**
LPAZ	**La Paz**	**3.68**	**13**	P	**Pn**	**22 00 26.0**	**+2.7**
	1.1nm,0.3s,baz=194,slow=8.2,SNR=35						
LPAZ	**La Paz**	**3.68**	**13**	*e*Pn	**Pn**	**22 00 25.8**	**+2.6**
LPAZ				*e*Sn	**Sn**	**22 01 06.3**	**+0.3**
ARE	**Arequipa**	**4.15**	**325**	P	**Pn**	**22 00 28.0**	**-1.6**
SIV	**San Ignacio**	**8.48**	**64**	P	**Pn**	**22 01 26.8**	**-1.4**
	1.8nm,0.3s,baz=262,slow=10.0,SNR=39						
CPUP	**Villa Florida**	**12.50**	**123**	P	**Pn**	**22 02 21.8**	**-0.1**
	0.8nm,0.3s,baz=280,slow=9.2,SNR=5.3						
CPUP	**Villa Florida**	**12.50**	**123**	*e*P	**Pn**	**22 02 21.7**	**-0.2**
	7.8nm,1.0s						
TRQA	**Tornquist**	**19.10**	**163**	P	**P**	**22 03 42.3**	**+0.5**
	0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.90**	**71**	P	**P**	**22 11 07.2**	**-0.3**
	0.6nm,0.4s,mb3.7,baz=254,slow=5.4,SNR=21						
YKA	**Yellowknife Ar**	**89.65**	**341**	P	**P**	**22 12 13.0**	**+0.2**
	0.5nm,0.6s,mb3.8,baz=134,slow=4.8,SNR=13						
YKA	**Yellowknife Ar**	**89.65**	**341**	P	**P**	**22 12 13.0**	**+0.2**

IDC 25 22:17:35.0±10.0, 3639S×8003E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, MS3.6/2, Ms1 3.6/2, ms1mx3.2/22, Error ellipse: s-maj=337.4km s-min=49.2km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**30.67**	**95**	LR	LR	22 33 21.9	
	comp=Z,214nm,21.9s,baz=73,slow=31						
PSI	**Prapat**	**42.78**	**28**	LR	LR	22 40 37.9	
	comp=Z,45nm,21.8s,baz=357,slow=32						
ASAR	**Alice Springs**	**47.78**	**90**	P	P	22 26 13.5	-0.5
	1.2nm,1.0s,baz=241,slow=7.3,SNR=5.4						
WRA	**Warramunga Arr**	**49.97**	**86**	P	P	22 26 31.7	+0.9
	1.5nm,0.9s,baz=238,slow=7.8,SNR=6.8						
MKAR	**Makanchi Array**	**82.83**	**2**	P	P	22 30 00.7	-0.5
	0.3nm,0.9s,baz=163,slow=7.2,SNR=3.4						

ISCJB ***25*** *22:43:25.0±0.6, 3382N±003×25.1E±0.1, h33km, Error ellipse: s-maj=12.5km s-min=4.8km az=166.7*
CSEM ***25*** *22:43:25.1±0.1, 3379N×2506E, h40km, MD3.5, Error ellipse: s-maj=4.3km s-min=2.0km az=70.0*
ATH ***25*** *22:43:25.8, 3403N×2504E, h18km±5km, MD3.5/4*
NEIC ***25*** *22:43:25.8, 3403N×2504E, h18km, MD3.5(ATH), After ATH.*
HLW ***25*** *22:43:25.7, 3384N×2497E, h75km, Mb3.2*
ISC 25 22:43:26.2±0.6, 3382N±003×250E±01, h35km, n13, σ0°95/17, 3C-3D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**1.19**	**27**	*e*PN	**Pn**	**22 43 45.0**	**-1.3**
GVD	**Gavdhos**	**1.28**	**323**	*e*PN	**Pn**	**22 43 47.0**	**-0.6**
NPS	**Neapolis**	**1.52**	**18**	*e*PN	**Pn**	**22 43 51.0**	**+0.2**
NPS				*e*SN	**Sn**	**22 44 08.1**	**-1.2**
VAM	**Vamos**	**1.72**	**337**	*e*PN	**Pn**	**22 43 54.9**	**+1.2**
SLUM		**2.33**	**176**	⇓P	**Pn**	**22 44 02.3**	**+0.2**
SLUM				S	**Sn**	**22 44 29.1**	**-0.3**
KARP	**Karpathos**	**2.46**	**45**	*e*PB	**Pn**	**22 44 04.5**	**+0.7**
HMAT	**Matruh**	**3.23**	**147**	⇑P	**Pn**	**22 44 14.5**	**+0.1**
HMAT				S	**Sn**	**22 44 51.1**	**-0.6**
DABA	**Dabaa**	**3.93**	**135**	⇑P	**Pn**	**22 44 24.7**	**+0.7**
SWA2		**4.58**	**175**	⇑P	**Pn**	**22 44 33.3**	**+0.3**
SWA1		**4.58**	**173**	⇓P	**Pn**	**22 44 33.5**	**+0.5**
SWA1				S	**Sn**	**22 45 22.8**	**-2.2**
AWBH		**6.41**	**148**	⇓P	**Pn**	**22 44 57.2**	**-0.9**
HSAF	**As Saff**	**6.96**	**125**	P	**Pn**	**22 45 07.0**	**+1.4**
HDK1	**Dakhla**	**9.08**	**154**	P	**Pn**	**22 45 36.1**	**+1.4**

IDC 25 23:12:14.1±2.0, 310S×12806E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=136.6km s-min=27.0km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.82**	**160**	P	Pn	23 16 22.8	-0.7
	0.2nm,0.3s,baz=339,slow=12,SNR=18						
WB2	**Warramunga Arr**	**17.83**	**160**	*e*P	Pn	23 16 25.7	+2.2
ASAR	**Alice Springs**	**21.21**	**165**	P	P	23 17 02.5	+1.2
	3.7nm,0.6s,baz=344,slow=12,SNR=60						
MKAR	**Makanchi Array**	**63.93**	**327**	P	P	23 22 48.8	-0.1
	0.5nm,0.6s,baz=131,slow=8.3,SNR=5.0						

IDC ***25*** *23:23:51.7±1.2, 4375N×12805W, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.9/25, mbtmp3.8/14, ML3.8/3, MS3.8/16, Ms1 3.8/16, ms1mx3.6/34, Error ellipse: s-maj=26.5km s-min=13.3km az=40.0*
ISCJB ***25*** *23:23:53.0±0.4, 4380N±004×12807W±005, h10km, mb4.4/26, MS4.1/13, Error ellipse: s-maj=6.1km s-min=4.5km az=69.0*
NEIC ***25*** *23:23:55.5±0.9, 4386N×12807W, h10km, mb4.5/16, Error ellipse: s-maj=11.4km s-min=6.9km az=72.0*
BJI ***25*** *23:23:55.5, 4460N×12865W, h10km, mB5.1, mb4.7, Ms4.8, Msz4.5*
ISC 25 23:23:54.2±0.4, 4380N±004×12817W±005, h10km, (h15km±8km:pP-P), n110, σ1°12/108, mb4.4/26, MS4.1/13, 1C-1D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**3.59**	**76**	*e*Pn	**Pn**	**23 24 48.7**	**-1.1**
HSO	**Harness Mounta**	**3.70**	**92**	⇓P	**Pn**	**23 24 49.5**	**-1.8**
HUMO	**Hull Mountain**	**3.99**	**106**	*e*Pn	**Pn**	**23 24 53.7**	**-1.7**
HUMO				*e*Sn	**Sn**	**23 25 40.4**	**-1.9**
NLO	**Nicolai Mounta**	**4.06**	**54**	P	**Pn**	**23 24 55.5**	**-0.8**
BBOR	**Butler Butte**	**4.11**	**101**	P	**Pn**	**23 24 55.3**	**-1.7**
HBO	**Huckleberry Mo**	**4.23**	**87**	P	**Pn**	**23 24 57.6**	**-1.1**
IRO	**Indian Ridge**	**4.28**	**85**	P	**Pn**	**23 24 57.8**	**-1.5**
FRIS	**Frissel Point**	**4.40**	**82**	P	**Pn**	**23 24 59.8**	**-1.1**
BMW	**Boistfort Moun**	**4.41**	**51**	P	**Pn**	**23 24 59.8**	**-1.3**
PGO	**Gresham**	**4.41**	**66**	P	**Pn**	**23 25 01.0**	**-0.1**
RVW	**Rose Valley**	**4.51**	**57**	P	**Pn**	**23 25 01.9**	**-0.6**
YBH	**Yreka Blue Hor**	**4.52**	**115**	Pn	**Pn**	**23 25 01.1**	**-1.5**
	0.7nm,0.3s,baz=289,slow=14,SNR=13						
YBH				Sn	**Sn**	**23 25 53.1**	**-2.1**
	0.8nm,0.3s,baz=82,slow=19,SNR=3.3						
YBH				LR	LR	23 26 04.3	
	comp=Z,155nm,18.8s,baz=297,slow=30						
HUOR	**Husband**	**4.58**	**84**	P	**Pn**	**23 25 02.5**	**-0.9**
LVP	**Lakeview Peak**	**4.68**	**59**	P	**Pn**	**23 25 04.6**	**-0.2**
VLMM	**Larch Mountain**	**4.71**	**66**	P	**Pn**	**23 25 05.0**	**-0.2**
MTMW	**Mount Mitchell**	**4.78**	**60**	P	**Pn**	**23 25 06.2**	**0.0**
TDH	**Tom, Dick, Har**	**4.80**	**70**	P	**Pn**	**23 25 06.4**	**-0.1**
OCWA	**Octopus Mounta**	**4.84**	**34**	*e*Pn	**Pn**	**23 25 07.2**	**+0.1**
JLK	**June Lake**	**4.87**	**59**	P	**Pn**	**23 25 07.4**	**-0.1**
VLL	**Laurance Lake**	**4.92**	**68**	P	**Pn**	**23 25 08.2**	**+0.1**
CDFW	**Cedar Flats**	**4.93**	**60**	P	**Pn**	**23 25 08.3**	**+0.1**
TDL	**Tradedollar La**	**4.93**	**57**	P	**Pn**	**23 25 08.5**	**+0.3**
KOSW	**Kosmos**	**5.00**	**56**	P	**Pn**	**23 25 09.0**	**-0.2**
VFP	**Flag Point**	**5.03**	**70**	P	**Pn**	**23 25 09.4**	**-0.2**
ASR	**Mount Adams--S**	**5.23**	**61**	P	**Pn**	**23 25 12.6**	**+0.2**
HDW	**Hoodsport**	**5.26**	**41**	P	**Pn**	**23 25 12.9**	**+0.1**
LON	**Longmire**	**5.37**	**54**	P	**Pn**	**23 25 14.4**	**0.0**
REMR	**Mount Rainier-**	**5.39**	**54**	P	**Pn**	**23 25 14.6**	**0.0**
RCM	**Mount Rainier-**	**5.46**	**54**	P	**Pn**	**23 25 15.7**	**+0.1**
WPW	**White Pass**	**5.50**	**56**	P	**Pn**	**23 25 16.3**	**+0.2**
FMW	**Mount Fremont**	**5.55**	**53**	P	**Pn**	**23 25 16.7**	**0.0**
GSM	**Grass Mountain**	**5.63**	**51**	P	**Pn**	**23 25 17.9**	**+0.1**
RMW	**Rattlesnake Mo**	**5.77**	**48**	P	**Pn**	**23 25 19.9**	**0.0**
JCW	**Jim Creek**	**6.18**	**42**	P	**Pn**	**23 25 25.9**	**+0.4**
WRW	**Wenatchee Ridg**	**6.51**	**49**	P	**Pn**	**23 25 30.2**	**+0.2**
RPW	**Rockport**	**6.56**	**42**	P	**Pn**	**23 25 31.1**	**+0.4**
ETW	**Entiat**	**6.68**	**53**	P	**Pn**	**23 25 32.6**	**+0.3**
VDB	**Vedder Mountai**	**6.70**	**37**	P	**Pn**	**23 25 33.6**	**+0.9**
GBL	**Gable Mountain**	**6.76**	**62**	P	**Pn**	**23 25 34.0**	**+0.6**
EPH	**Ephrata**	**6.99**	**56**	P	**Pn**	**23 25 36.4**	**-0.2**
BMO	**Blue Mountains**	**7.86**	**79**	*e*Pn	**Pn**	**23 25 47.4**	**-1.2**
	8.5nm,0.9s						
BBB	**Bella Bella**	**8.39**	**0**	Pn	**Pn**	**23 25 59.5**	**+3.6**
	0.2nm,0.3s,baz=163,slow=17,SNR=2.6						
NEW	**Newport**	**8.89**	**56**	Pn	**Pn**	**23 26 02.1**	**-0.5**
	0.5nm,0.3s,baz=249,slow=8.3,SNR=9.6						
NEW				LR	LR	23 29 26.2	
	comp=Z,1μm,20.1s,baz=239,slow=38						
NEW	**Newport**	**8.89**	**56**	⇑*e*Pn	**Pn**	**23 26 01.8**	**-0.8**
	11nm,0.9s						
NVAR	**Mina Array Bea**	**9.17**	**122**	Pn	**Pn**	**23 26 06.8**	**+0.3**
	0.5nm,0.3s,baz=297,slow=12,SNR=7.9						
NVAR				LR	LR	23 29 27.4	
	comp=Z,476nm,18.8s,baz=170,slow=37						
NVAR	**Mina Array Bea**	**9.17**	**122**	Pn	**Pn**	**23 26 06.8**	**+0.3**
NVAR				LR	LR	23 29 27.4	
MNV	**Mina**	**9.26**	**122**	*e*Pn	**Pn**	**23 26 09.6**	**+1.9**
	15nm,1.1s						
HLID	**Hailey**	**9.97**	**87**	*e*Pn	**Pn**	**23 26 19.5**	**+2.1**
	3.7nm,0.8s						
MSO	**Missoula**	**10.47**	**68**	*e*Pn	**Pn**	**23 26 23.6**	**-0.7**
	6.9nm,1.0s						
CHMT	**Chamberlain Mo**	**10.95**	**68**	*e*Pn	**Pn**	**23 26 30.8**	**-0.1**
CHMT				*e*		23 27 29.6	
MCMT	**McKenzie Canyo**	**11.03**	**79**	*e*Pn	**Pn**	**23 26 33.4**	**+1.4**
TPNV	**Topopah Spring**	**11.37**	**123**	*e*Pn	**Pn**	**23 26 42.1**	**+5.5**
	50nm,1.4s						
QLMT	**Earthquake Lak**	**12.04**	**79**	*e*Pn	**Pn**	**23 26 48.4**	**+2.7**
HWUT	**Hardware Ranch**	**12.41**	**94**	*e*Pn	**Pn**	**23 26 51.6**	**+0.7**
	15nm,1.3s						
TPAW	**Teton Pass**	**12.48**	**85**	*e*Pn	**Pn**	**23 26 53.9**	**+2.1**
	37nm,1.6s						
FLWY	**Flagg Ranch**	**12.60**	**83**	*e*Pn	**Pn**	**23 26 56.2**	**+2.7**
	51nm,1.5s						
CCUT	**Cedar City**	**12.85**	**114**	*e*Pn	**Pn**	**23 27 00.1**	**+3.3**
TMUT	**Trail Mountain**	**13.47**	**104**	*e*P	Px	23 27 17.0	
EDM	**Edmonton**	**13.59**	**41**	Pn	**Pn**	**23 27 10.6**	**+3.6**
PDAR	**Pinedale Array**	**13.60**	**88**	Pn	**Pn**	**23 27 07.7**	**+0.6**
	0.1nm,0.3s,baz=280,slow=12,SNR=11						
PDAR				LR	LR	23 32 36.2	
	comp=Z,682nm,19.0s,baz=295,slow=39						
PDAR	**Pinedale Array**	**13.60**	**88**	Pn	**Pn**	**23 27 07.7**	**+0.6**
PDAR				LR	LR	23 32 36.1	
SRU	**San Rafael**	**14.03**	**103**	*e*P	**Pn**	**23 27 22.0**	**+9.0**
	19nm,0.9s						
DLBC	**Dease Lake**	**14.71**	**356**	Pn	**Pn**	**23 27 25.3**	**+3.1**
	0.1nm,0.3s,baz=170,slow=12,SNR=5.4						
DLBC				LR	LR	23 32 20.2	
	comp=Z,402nm,19.4s,baz=13,slow=34						
DLBC	**Dease Lake**	**14.71**	**356**	Pn	**Pn**	**23 27 25.3**	**+3.1**
DLBC				LR	LR	23 32 20.2	
WUAZ	**Wupatki**	**15.33**	**117**	Pn	**Pn**	**23 27 34.2**	**+3.7**
	29nm,1.1s						
SMCO	**Snowmass**	**16.53**	**99**	*e*P	**Pn**	**23 27 49.4**	**+3.3**
	13nm,1.2s						
DGMT	**Dagmar**	**17.24**	**66**	*e*P	**Pn**	**23 27 57.9**	**+3.0**
	15nm,1.0s						
ISCO	**Idaho Springs**	**17.27**	**96**	*e*P	**Pn**	**23 27 55.1**	**-0.3**
	17nm,1.2s						
RSSD	**Black Hills**	**17.37**	**81**	*e*P	**Pn**	**23 27 59.0**	**+2.4**
TUC	**Tucson**	**17.82**	**124**	*e*P	**Pn**	**23 28 03.6**	**+1.5**
	13nm,1.3s						
ANMO	**Albuquerque**	**18.93**	**110**	P	**Pn**	**23 28 15.8**	**+0.1**
	0.1nm,0.3s,baz=302,slow=15,SNR=3.5						
ANMO				LR	LR	23 34 57.3	
	comp=Z,130nm,21.1s,baz=81,slow=35						
ANMO	**Albuquerque**	**18.93**	**110**	*e*P	**Pn**	**23 28 16.3**	**+0.6**
	9.7nm,1.1s						
ANMO				LR	LR	23 34 57.3	
FFC	**Flin Flon**	**20.17**	**48**	*e*P	**P**	**23 28 29.4**	**+0.7**
	34nm,1.1s						
YKA	**Yellowknife Ar**	**20.34**	**18**	P	**P**	**23 28 30.4**	**-0.1**
	1.5nm,0.7s,baz=207,slow=11,SNR=27						
YKA				LR	LR	23 35 00.8	
	comp=Z,112nm,18.6s,baz=135,slow=33						
KDAK	**Kodiak Island**	**20.68**	**321**	LR	LR	23 34 29.7	
	comp=Z,546nm,19.7s,MS3.9,baz=122,slow=31						
MNTX	**Cornudas Mount**	**21.61**	**116**	*e*P	**P**	**23 28 45.5**	**+1.2**
	13nm,1.2s,mb4.2						
ULM	**Lac du Bonnet**	**22.82**	**62**	P	**P**	**23 28 55.5**	**-1.6**
	14nm,0.9s,mb4.4,baz=272,slow=10,SNR=24						
ULM				LR	LR	23 38 02.1	
	comp=Z,394nm,18.0s,MS3.9,baz=274,slow=37						
ILAR	**Eielson Array**	**23.50**	**340**	P	**P**	**23 29 04.2**	**-0.2**
	1.1nm,0.9s,mb3.3,baz=170,slow=5.0,SNR=7.6						
ILAR				LR	LR	23 36 41.6	
	comp=Z,293nm,21.1s,MS3.7,baz=174,slow=33						
KSU1	**Kansas State U**	**24.03**	**90**	*e*P	**P**	**23 29 08.7**	**-0.6**
LTX	**Lajitas**	**24.29**	**118**	*e*P	**P**	**23 29 13.0**	**+1.4**
	22nm,1.2s,mb4.5						
WMOK	**Wichita Mounta**	**24.38**	**102**	*e*P	**P**	**23 29 13.1**	**+0.7**
	19nm,1.0s,mb4.5						
INK	**Inuvik**	**24.73**	**355**	P	**P**	**23 29 15.2**	**-0.5**
	2.2nm,1.0s,mb3.6,baz=172,slow=9.8,SNR=6.0						
INK				LR	LR	23 38 12.4	
	comp=Z,197nm,19.6s,MS3.6,baz=63,slow=35						
FCC	**Fort Churchill**	**25.69**	**42**	*e*P	**P**	**23 29 24.6**	**+0.3**
	14nm,1.1s,mb4.4						
JCT	**Junction City**	**26.09**	**111**	P	**P**	**23 29 28.9**	**+1.0**
	19nm,0.9s,mb4.6						
MIAR	**Mount Ida**	**28.20**	**97**	*e*P	**P**	**23 29 47.2**	**+0.3**
	11nm,1.1s,mb4.4						
OXF	**Oxford**	**31.21**	**94**	*e*P	**P**	**23 30 13.9**	**+0.3**
	53nm,1.0s,mb5.3						
OXF				*e*		23 30 20.0	
PLAL	**Pickwick Lake**	**31.95**	**92**	*e*P	**P**	**23 30 19.8**	**-0.3**
	8.7nm,0.9s,mb4.6						
ELN	**Prospectdale**	**36.24**	**84**	*e*P	**P**	**23 30 56.5**	**-0.8**
JSC	**Jenkinsville**	**37.22**	**88**	*e*P	**P**	**23 31 05.4**	**-0.3**
JSC				*e*		23 31 10.8	
SCHQ	**Schefferville**	**40.23**	**52**	P	**P**	**23 31 28.7**	**-2.2**
	1.7nm,0.9s,mb3.8,baz=247,slow=7.7,SNR=2.4						
SCHQ				LR	LR	23 48 15.6	
	comp=Z,157nm,18.3s,MS3.9,baz=350,slow=36						
HRV	**Harvard--Oak R**	**40.63**	**71**	P	**P**	**23 31 34.9**	**+0.6**
	9.6nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**65.33**	**10**	LR	LR	00 02 34.9	
	comp=Z,54nm,18.1s,MS3.8,baz=250,slow=36						
MDJ	**Mudanjiang**	**68.09**	**311**	P	**P**	**23 34 53.8**	**-0.3**
MDJ				AP	pP	23 34 56.8	-0.5
MDJ				S	S	23 43 47.3	-6.5
MDJ				SS	SS	23 48 12.8	-3.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,3.0s						
MDJ				AMB	AMB		
	comp=Z,172nm,4.0s						
MDJ				LR	LR		
	comp=N,119nm,20.3s,MS4.3						
MDJ				LR	LR		
	comp=E,167nm,19.8s,MS4.3						
MDJ				LR	LR		
	comp=Z,105nm,30.9s						
NOA	**NORSAR Array B**	**70.43**	**20**	LR	LR	00 04 56.5	
	comp=Z,38nm,18.9s,MS3.7,baz=345,slow=35						
CN2	**Changchun**	**70.86**	**313**	*e*P	**P**	**23 35 07.0**	**-4.2**
FINES	**FINESS Array B**	**73.06**	**13**	P	**P**	**23 35 24.4**	**+0.1**
	comp=Z,1.5nm,0.9s,mb3.9,baz=26,slow=4.9,SNR=3.6						
FINES				LR	LR	00 07 39.8	
	comp=Z,34nm,18.0s,MS3.7,baz=14,slow=36						
FINES	**FINESS Array B**	**73.06**	**13**	P	**P**	**23 35 24.4**	**+0.1**
FINES				LR	LR	00 07 39.8	
SONM	**Songino Array**	**76.89**	**326**	P	**P**	**23 35 44.8**	**-1.7**
	comp=Z,0.7nm,0.9s,mb3.6,baz=32,slow=3.8,SNR=3.3						
CLL	**Collm**	**79.47**	**24**	*e*(P)	**P**	**23 36 04.0**	**+3.2**
HHC	**Hu-ho-hao-te**	**80.07**	**318**	*e*P	**P**	**23 36 03.5**	**-0.6**
HHC				AP	pP	23 36 08.0	+0.6
HHC				XP	sP	23 36 10.5	+1.9
HHC				PP	PP	23 39 05.5	-0.5
HHC				S	S	23 46 04.8	-3.6
HHC				XS	sS	23 46 12.5	-1.4
HHC				SKS		23 46 15.0	
HHC				SCS	ScS	23 46 24.0	-5.1
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,116nm,5.1s						
HHC				LR	LR		
	comp=N,290nm,12.3s,MS4.9						
HHC				LR	LR		
	comp=E,173nm,10.3s,MS4.9						
HHC				LR	LR		
	comp=Z,352nm,12.6s,MS4.9						
BRG	**Berggiesshubel**	**80.13**	**23**	*e*P	**P**	**23 36 06.8**	**+2.4**
	comp=Z,1.3nm,0.9s,mb3.9						
LPAZ	**La Paz**	**81.08**	**123**	P	**P**	**23 36 08.9**	**-0.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=358,slow=6.9,SNR=6.8						
GERES	**GERESS Array B**	**81.87**	**24**	P	**P**	**23 36 13.0**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=297,slow=3.9,SNR=4.6						
GERES				LR	LR	00 14 28.9	
	comp=Z,56nm,18.3s,MS4.0,baz=287,slow=37						
SSE	**Sheshan**	**82.22**	**306**	*e*P	**P**	**23 36 14.8**	**-0.7**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,33nm,3.5s						
NJ2	**Nanjing**	**82.87**	**308**	*e*P	**P**	**23 36 21.0**	**+2.1**
NJ2				AP	pP	23 36 26.0	+3.8
NJ2				XP	sP	23 36 28.0	+4.6
NJ2				S	S	23 46 37.0	-0.4
NJ2				XS	sS	23 46 45.0	+2.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,320nm,8.9s						
NJ2				LR	LR		
	comp=N,670nm,11.5s						
NJ2				LR	LR		
	comp=E,1μm,13.6s						
NJ2				LR	LR		
	comp=Z,570nm,10.4s,MS5.2						
AKASG	**Malin Array Be**	**83.85**	**14**	P	**P**	**23 36 23.2**	**-0.7**
	comp=Z,0.1nm,0.2s,mb3.5,baz=180,slow=2.6,SNR=2.3						
GTA	**Gaotai**	**86.53**	**325**	*e*P	**P**	**23 36 36.0**	**-1.3**
GTA				AP	pP	23 36 40.5	-0.2
GTA				XP	sP	23 36 43.5	+1.6
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.3						
WMQ	**Urumqi**	**87.07**	**335**	*e*P	**P**	**23 36 40.5**	**+0.5**
WMQ				AP	pP	23 36 45.3	+1.9
WMQ				XP	sP	23 36 47.5	+3.0
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,51nm,4.5s						
WMQ				LR	LR		
	comp=N,171nm,19.0s,MS4.5						
WMQ				LR	LR		
	comp=E,122nm,22.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,160nm,18.9s,MS4.5						
LZH	**Lanzhou**	**87.51**	**320**	*e*P	**P**	**23 36 41.5**	**-0.6**
LZH				AP	pP	23 36 46.5	+1.0
LZH				XP	sP	23 36 48.5	+1.8
LZH				PP	PP	23 40 07.5	+0.6
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb5.2						
CD2	**Chengdu**	**91.79**	**317**	*e*P	**P**	**23 37 00.8**	**-1.4**
CD2				AP	pP	23 37 05.5	-0.1
CD2				PP	PP	23 40 41.0	0.0
CD2				SKS		23 47 31.0	
CD2				S		23 47 57.0	
CD2				XS	sS	23 48 05.0	-3.8
CD2				SS	SS	23 54 06.0	-4.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				A

NAH1 Naha 0.94 276 P Pb 23 54 41.8 -0.2
NAH1 eS Sb 23 54 54.6 +0.5
JIH Iheya 1.15 324 P Pn 23 54 45.1 -0.4
JAGN Aguni-jima 1.42 290 P Pn 23 54 49.0 -0.2
JAGN eS Sn 23 55 07.0 -0.4
JTK Tokunoshima 1.68 7 P Pn 23 54 52.9 +0.1
JTK eS Sn 23 55 12.1 -1.8
JKE Kume jima 2 1.76 278 P Pn 23 54 53.0 -0.9
JMZ Minamidaito 2 2.26 97 P Pn 23 55 00.9 +0.1
JMZ eS Sn 23 55 26.5 -1.7
JAM Amami Oshima 2.42 19 P Pn 23 55 03.0 0.0
JAM eS Sn 23 55 31.9 -0.3
JOGS Gusukube 3.29 247 eS **Sn 23 55 55.5 +1.9**
JMJ Miyako jima 2 3.36 248 eS **Sn 23 55 54.4 -0.9**
JNN Nakanoshima 3.85 15 P Pn 23 55 23.7 +1.0
JTJ Tarama 3.92 249 P Pn 23 55 22.8 -0.8
JTJ eS Sn 23 56 06.3 -2.9
JIJ Ishigaki jima 4.50 248 P Pn 23 55 31.7 +0.1
TATO Taipei 6.64 262 ePn **Pn 23 55 58.9 -2.0**
NACB Ninganchiao 6.75 255 ePn **Pn 23 56 00.2 -2.2**
NACB eSn Sn 23 57 23.3 +4.5
YHNB Yeheng 6.80 259 ePn **Pn 23 56 03.1 -0.1**
JNU Nakatsue 7.24 14 Pn **Pn 23 56 11.2 +2.1**
0.9nm,0.3s,baz=180,slow=18,SNR=4.9
JNU Sn **Sn 23 57 30.0 -0.8**
0.6nm,0.3s,baz=346,slow=19,SNR=2.0
CBIJ Chichi jima 12.08 82 Sn **Sn 23 59 39.0 +9.2**
27nm,0.3s,baz=288,slow=23,SNR=7.1
LZH Lanzhou 23.46 301 eP **P 23 59 31.5 -1.4**
LZH AP 23 59 36.0
LZH XP sP 23 59 40.0 -0.4
LZH AMB AMB
comp=Z,30nm,1.2s,mb4.6
ULN Ulaanbaatar 27.60 328 eP **P 00 00 12.2 +1.7**
comp=Z,5.8nm,1.0s,mb4.2
ULN e 00 00 21.2
SONM Songino Array 27.90 327 P **P 00 00 12.2 -0.9**
comp=Z,3.6nm,0.8s,mb4.0,baz=138,slow=9.4,SNR=19
GUN Gumba 38.08 283 eP **P 00 01 42.6 +0.7**
comp=Z,16nm,0.8s,mb4.8
PKI Pulchoki 38.54 282 eP **P 00 01 46.1 +0.4**
comp=Z,18nm,0.9s,mb4.8
KKN Kakani 38.62 283 eP **P 00 01 46.9 +0.5**
comp=Z,30nm,1.1s,mb5.0
DMN Daman 38.80 282 eP **P 00 01 48.6 +0.7**
comp=Z,14nm,0.7s,mb4.8
GKN Gorkha 39.16 283 eP **P 00 01 51.4 +0.5**
comp=Z,19nm,0.8s,mb4.9
KOLN Koldanda 40.10 283 eP **P 00 01 59.5 +0.8**
MKAR Makanchi Array 41.95 312 P **P 00 02 13.3 -0.6**
comp=Z,1.5nm,0.6s,mb3.8,baz=104,slow=8.0,SNR=17
BVAR Borovoye Array 50.66 318 P **P 00 03 22.7 +0.2**
comp=Z,0.9nm,0.4s,mb4.0,baz=94,slow=8.9,SNR=6.9
ILAR Eielson Array 64.33 28 P **P 00 04 59.6 +0.8**
comp=Z,0.5nm,0.9s,mb3.6,baz=262,slow=5.1,SNR=6.1
JOF Joensuu 70.36 331 ep **P 00 05 37.4 +0.4**
comp=Z,3.9nm,1.5s,mb4.1
KAF Kangasniemi 72.82 331 ep **P 00 05 52.2 +0.4**
FINES FINESS Array B 73.19 331 P **P 00 05 54.3 +0.3**
comp=Z,2.1nm,0.9s,mb4.1,baz=65,slow=5.5,SNR=15
AKASG Malin Array Be 75.92 320 P **P 00 06 09.6 -0.3**
comp=Z,1.1nm,0.5s,mb4.1,baz=62,slow=6.4,SNR=7.3
BRTR Keskin Array B 77.46 308 P **P 00 06 19.7 +1.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=6.1,SNR=11
YKA Yellowknife Ar 78.45 25 P **P 00 06 25.4 +1.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=302,slow=5.2,SNR=9.2
NB2 NORSAR Subarra 79.62 334 P **P 00 06 29.6 -0.9**
comp=Z,0.8nm,0.6s,mb3.8,baz=51,slow=5.6
NOA NORSAR Array B 79.62 334 P **P 00 06 30.6 +0.1**
comp=Z,1.3nm,0.7s,mb3.9,baz=52,slow=5.5,SNR=5.4
GERES GERESS Array B 85.57 323 P **P 00 07 02.5 +1.0**
comp=Z,0.3nm,0.6s,mb3.7,baz=54,slow=3.4,SNR=3.7

IDC 25 23:58:14.2±1.3, 2950N×13994E, h0^{km}, mb3.6/3, mb1 3.7/5, mb1mx3.4/20, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=54.9km s-min=24.6km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.11**	**140**	Pn	Pn	23 59 04.9	+0.4
	22nm,0.3s,baz=297,slow=22,SNR=15						
MJAR	**Matsushiro Arr**	**7.17**	**349**	Pn	Pn	00 00 01.1	+0.8
	0.1nm,0.3s,baz=42,slow=46,SNR=2.8						
WRA	**Warramunga Arr**	**49.45**	**187**	P	P	00 07 06.2	+0.2
	0.5nm,0.6s,baz=5.5,slow=8.9,SNR=3.1						
YKA	**Yellowknife Ar**	**70.97**	**28**	P	P	00 09 33.2	-0.4
	0.3nm,0.6s,baz=293,slow=6.0,SNR=6.7						
FINES	**FINESS Array B**	**74.92**	**333**	P	P	00 09 56.5	-0.5
	0.7nm,0.9s,baz=60,slow=6.6,SNR=3.2						

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*IDC **25** 23:58:59.5±0.5, 2960N×13996E, h0^{km}, mb4.3/21, mb1 4.5/23, mb1mx4.4/27, mbtmp4.4/23, ML4.9/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/22, Error ellipse: s-maj=18.3km s-min=15.1km az=81.0*
*NIED **25** 23:59:00, 2940N×13980E, h29^{km}, Mw4.5 Best double couple: M$_0$6.93000×10^{15} NP1:φ$_s$231.00000°, δ57.00000°, λ-77.00000°. NP2:φ$_s$28.00000°, δ35.00000°, λ-109.00000°.*
*ISCJB **25** 23:59:01.6±1.4, 2952N±003×14000E±006, h26^{km}±10^{km}, mb4.4/39, MS3.9/4, Error ellipse: s-maj=8.7km s-min=4.8km az=129.2*
*JMA **25** 23:59:02.3±0.2, 2942N×13983E, h76^{km}, M4.2*
*NEIC **25** 23:59:04.3±0.4, 2949N×13997E, mb4.5/17, MW4.5(NIED), Error ellipse: s-maj=10.3km s-min=8.8km az=71.0*
*MOS **25** 23:59:05.8±0.9, 2957N×13987E, h59^{km}, mb4.7/19, Error ellipse: s-maj=15.6km s-min=6.5km az=95.4*
ISC 25 23:59:04.3±1.6, 2952N±003×14005E±006, h32^{km}±11^{km}, h32^{km}±1.9^{km}: pP-P, n103, σ1§18/103, mb4.4/39, MS3.9/4, 7C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.06**	**142**	Pn	Pn	23 59 49.9	-0.7
	171nm,0.3s,baz=298,slow=22,SNR=34						
CBIJ				Sn	Sn	00 00 24.9	-1.1
	140nm,0.3s,baz=272,slow=18,SNR=3.6						
CBIJ	**Chichi jima**	**3.06**	**142**	P	Pn	23 59 49.9	-0.6
CBIJ				eS	Sn	00 00 24.7	-1.3
JHHJ	**Haha-jima-NKT**	**3.44**	**146**	P	Pn	23 59 55.5	-0.2
JHHJ				S	Sn	00 00 34.7	-0.6
JHJ	**Hachijo jima 2**	**3.59**	**356**	Pn	Pn	23 59 57.2	-0.6
	6.9nm,0.3s,baz=87,slow=19,SNR=2.2						
BSO1	**Boso 1**	**5.18**	**8**	P	Pn	00 00 18.6	-1.0
JIM2	**Oshima 3**	**5.21**	**354**	P	Pn	00 00 21.7	+1.7
JIZS	**Izushimoda**	**5.28**	**349**	P	Pn	00 00 22.7	+1.8
BSO3	**Boso 3**	**5.28**	**4**	P	Pn	00 00 19.5	-1.5
JWZ	**Kozaga**	**5.45**	**318**	P	Pn	00 00 21.3	-2.0
JWZ				eS	Sn	00 01 19.9	-5.0
BSO4	**Boso 4**	**5.46**	**2**	P	Pn	00 00 21.7	-1.7
BSO4				eS	Sn	00 01 21.7	-3.4
TATJ	**Tateyama 2**	**5.50**	**359**	P	Pn	00 00 25.2	+1.2
TATJ				eS	Sn	00 01 27.2	+1.1
JIE	**Ise**	**5.63**	**331**	eS	Sn	00 01 26.3	-3.0
HMMJ	**Hamamatsu 2**	**5.67**	**340**	P	Pn	00 00 31.7	+5.3
JOD2	**Odawara 2**	**5.78**	**352**	P	Pn	00 00 30.0	+2.1
JAG	**Ashikaga**	**6.90**	**356**	P	Pn	00 00 43.5	+0.2
JNG	**Nsakai**	**7.06**	**347**	P	Pn	00 00 49.6	+4.2
JHO	**Hitachi**	**7.08**	**3**	P	Pn	00 00 44.5	-1.3
JHO				eS	Sn	00 02 04.6	-0.6
MJAR	**Matsushiro Arr**	**7.17**	**348**	Pn	Pn	00 00 49.6	+2.6
	2.3nm,0.3s,baz=136,slow=16,SNR=20						
MAJO	**Matsushiro**	**7.17**	**348**	ePn	Pn	00 00 50.4	+3.4
	22nm,0.6s						
MAJO				eSn	Sn	00 01 44.8	-23
MAJO	**Matsushiro**	**7.17**	**348**	eP	Pn	00 00 50.4	+3.4
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s						
MAT	**Matsushiro**	**7.17**	**348**	P	Pn	00 00 50.0	+3.0
MAT	**Matsushiro**	**7.17**	**348**	eP	Pn	00 00 50.0	+3.0
JNU	**Nakatsue**	**8.63**	**297**	Pn	Pn	00 01 06.6	-0.4
	comp=Z,1.0nm,0.3s,baz=125,slow=4.8,SNR=3.2						
JNU				Sn	Sn	00 02 44.2	+1.0
	comp=Z,2.2nm,0.3s,baz=291,slow=2.0,SNR=3.8						
JNU				LR	LR	00 04 04.3	
	comp=Z,758nm,21.6s,baz=198,slow=36						
JOW	**Kunigami**	**10.73**	**258**	LR	LR	00 05 13.6	
	comp=Z,543nm,21.4s,baz=110,slow=35						
VLA	**Vladivostok**	**15.07**	**336**	eP	Pn	00 02 38.5	+3.6
VLA				pmax	pmax		
	comp=Z,25nm,1.3s						
GUMO	**Guam**	**16.47**	**163**	LR	LR	00 07 53.2	
	comp=Z,143nm,21.2s,baz=34,slow=32						
YSS	**Yuzh-Sakhalins**	**17.53**	**6**	ePn	Pn	00 03 02.9	-3.4
	comp=Z,14nm,0.6s						
YSS	**Yuzh-Sakhalins**	**17.53**	**6**	eP	Pn	00 03 06.5	+0.2
YSS				pmax	pmax		
	comp=Z,61nm,2.2s						
KLR	**Kul'dur**	**20.68**	**344**	eP	P	00 03 42.2	+0.6
BJT	**Baijiatuan**	**22.18**	**305**	P	P	00 03 55.8	-1.9
	comp=Z,5.7nm,0.5s,mb4.3						
BJT	**Baijiatuan**	**22.18**	**305**	P	P	00 03 55.8	-1.9
BJT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HIA	**Hailar**	**25.06**	**328**	eP	P	00 04 29.6	+3.8
MA2	**Magadan**	**30.92**	**11**	eP	P	00 05 18.1	-0.1
	comp=Z,12nm,0.8s,mb4.8						
MA2				epP	pP	00 05 26.9	-0.5
MA2	**Magadan**	**30.92**	**11**	eP	P	00 05 18.1	-0.1
MA2				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**31.28**	**315**	eP	P	00 05 22.3	+1.0
	comp=Z,2.8nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**31.28**	**315**	eP	P	00 05 22.3	+1.0
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
SONM	**Songino Array**	**31.67**	**315**	P	P	00 05 22.8	-1.9
	comp=Z,0.4nm,0.5s,mb3.5,baz=94,slow=4.5,SNR=2.4						
SONM				LR	LR	00 18 49.9	
	comp=Z,126nm,19.9s,MS3.6,baz=56,slow=38						
YAK	**Yakutsk**	**33.22**	**351**	eP	P	00 05 38.4	0.0
YAK				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.1						
SEY	**Seymchan**	**34.37**	**10**	iP	P	00 05 48.8	+0.5
BILL	**Bilibino**	**41.55**	**15**	eP	P	00 06 49.1	+0.2
	comp=Z,1.8nm,0.4s,mb4.0						
BILL				epP	pP	00 06 59.6	+1.3
BILL				esP	sP	00 07 03.8	+1.7
BILL	**Bilibino**	**41.55**	**15**	eP	P	00 06 49.1	+0.2
BILL				e*SP	sP	00 07 03.8	+1.7
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
TIXI	**Tiksi**	**42.62**	**355**	eP	P	00 06 56.5	-1.1
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.2						
MKAR	**Makanchi Array**	**47.50**	**308**	P	P	00 07 36.0	-0.4
	comp=Z,0.3nm,0.6s,mb3.4,baz=106,slow=8.9,SNR=4.1						
WRAB	**Tennant Creek**	**49.47**	**187**	eP	P	00 07 52.5	+0.9
	comp=Z,18nm,0.9s,mb5.1						
WRAB	**Tennant Creek**	**49.47**	**187**	eP	P	00 07 52.5	+0.9
WRAB				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
WB2	**Warramunga Arr**	**49.48**	**187**	eP	P	00 07 52.8	+1.2
WRA	**Warramunga Arr**	**49.48**	**187**	P	P	00 07 52.6	+0.9
	comp=Z,9.7nm,0.8s,mb4.9,baz=7.3,slow=8.1,SNR=34						
CTA	**Charters Tower**	**49.68**	**172**	LR	LR	00 26 32.9	
	comp=Z,104nm,18.6s,MS3.9,baz=228,slow=33						
KURK	**Kurchatov**	**49.96**	**313**	eP	P	00 07 58.0	+2.8
ASAR	**Alice Springs**	**53.21**	**187**	P	P	00 08 20.4	+0.9
	comp=Z,1.4nm,0.7s,mb4.0,baz=353,slow=4.7,SNR=16						
KDAK	**Kodiak Island**	**53.58**	**38**	P	P	00 08 22.3	0.0
	comp=Z,11nm,1.0s,mb4.7,baz=284,slow=7.9,SNR=5.5						
KDAK	**Kodiak Island**	**53.58**	**38**	P	P	00 08 22.3	0.0
CHKZ	**Chkalovo**	**54.82**	**317**	eP	P	00 08 30.3	-1.0
BVAR	**Borovoye Array**	**54.99**	**316**	P	P	00 08 32.1	-0.5
	comp=Z,1.3nm,0.6s,mb4.2,baz=97,slow=7.8,SNR=14						
BVAR				PcP	PcP	00 09 32.4	-1.6
	comp=Z,1.1nm,0.8s,baz=70,slow=4.9,SNR=4.3						
MCK	**McKinley**	**55.58**	**31**	eP	P	00 08 35.9	-0.9
	comp=Z,3.9nm,1.0s,mb4.4						
MCK				epP	pP	00 08 45.4	-1.1
MCK				esP	sP	00 08 50.0	-0.2
MCK	**McKinley**	**55.58**	**31**	eP	P	00 08 35.9	-0.9
MCK				e*SP	sP	00 08 50.0	-0.2
MCK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
SML	**Sawmill**	**55.81**	**33**	eP	P	00 08 36.8	-1.7
SML				e		00 13 10.4	
COLA	**College**	**56.10**	**29**	eP	P	00 08 40.8	+0.3
	comp=Z,3.4nm,0.6s,mb4.5						
COLA				epP	pP	00 08 48.7	-1.5
COLA	**College**	**56.10**	**29**	eP	P	00 08 40.8	+0.3
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**56.51**	**29**	P	P	00 08 42.9	-0.6
	comp=Z,2.7nm,0.7s,mb4.4,baz=269,slow=5.0,SNR=32						
INK	**Inuvik**	**61.62**	**25**	P	P	00 09 17.6	-1.3
	comp=Z,1.1nm,0.4s,mb4.3,baz=288,slow=8.6,SNR=11						
INK	**Inuvik**	**61.62**	**25**	eP	P	00 09 18.7	-0.2
	comp=Z,1.2nm,0.4s,mb4.4						
INK	**Inuvik**	**61.62**	**25**	eP	P	00 09 18.7	-0.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DLBC	**Dease Lake**	**65.32**	**35**	P	P	00 09 42.6	-0.7
	comp=Z,3.3nm,1.1s,mb4.3,baz=254,slow=12,SNR=4.1						
RES	**Resolute Bay**	**70.15**	**13**	eP	P	00 10 13.4	-0.3
	comp=Z,15nm,1.3s,mb4.8						
RES	**Resolute Bay**	**70.15**	**13**	eP	P	00 10 13.4	-0.3
RES				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
ARCES	**ARCESS Array B**	**70.64**	**340**	P	P	00 10 15.9	-0.8
	comp=Z,2.7nm,0.6s,mb4.4,baz=69,slow=9.5,SNR=17						
YKA	**Yellowknife Ar**	**70.91**	**28**	P	P	00 10 18.2	-0.1
	comp=Z,2.6nm,0.7s,mb4.3,baz=294,slow=6.3,SNR=50						
JOF	**Joensuu**	**72.08**	**333**	ep	P	00 10 23.4	-2.0
	comp=Z,5.6nm,0.7s,mb4.6						
OBN	**Obninsk**	**73.47**	**324**	P	P	00 10 34.0	+0.3
OBN						00 10 51.0	
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
KAF	**Kangasniemi**	**74.48**	**333**	ep	P	00 10 37.9	-1.7
	comp=Z,4.0nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**74.48**	**333**	eP	P	00 10 37.9	-1.7
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**74.94**	**333**	P	P	00 10 41.7	-0.5
	comp=Z,3.6nm,0.6s,mb4.5,baz=65,slow=6.4,SNR=48						
KIV	**Kislovodsk**	**75.03**	**312**	eP	P	00 10 42.9	+0.2
KIV				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
KIV				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.1						
YBH	**Yreka Blue Hor**	**75.94**	**50**	P	P	00 10 48.5	+0.6
	comp=Z,4.6nm,1.0s,mb4.4,baz=258,slow=0.4,SNR=5.1						
EDM	**Edmonton**	**76.00**	**36**	eP	P	00 10 48.8	+0.5
NEW	**Newport**	**76.38**	**42**	P	P	00 10 51.2	+0.7
	comp=Z,8.3nm,0.9s,mb4.7,baz=300,slow=4.2,SNR=19						
NEW	**Newport**	**76.38**	**42**	eP	P	00 10 51.4	+0.9
	comp=Z,8.4nm,0.9s,mb4.7						
NEW	**Newport**	**76.38**	**42**	eP	P	00 10 51.4	+0.9
NEW				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WALA	**Waterton Lakes**	**77.83**	**40**	eP	P	00 11 00.3	+1.7
	comp=Z,7.7nm,0.6s,mb4.8						
WALA				ePcP	PcP	00 11 07.3	-1.1
BMO	**Blue Mountains**	**77.94**	**45**	eP	P	00 11 00.9	+1.6
	comp=Z,19nm,1.7s,mb4.7						
BMO	**Blue Mountains**	**77.94**	**45**	eP	P	00 11 00.9	+1.7
BMO				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
AKASG	**Malin Array Be**	**79.56**	**323**	P	P	00 11 07.0	-1.1
	comp=Z,1.2nm,0.5s,mb4.1,baz=50,slow=5.7,SNR=8.6						
AKASG	**Malin Array Be**	**79.56**	**323**	P	P	00 11 07.0	-1.1
AKASG	**Malin Array Be**	**79.56**	**323**	iP	P	00 11 07.3	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**80.49**	**51**	P	P	00 11 13.4	+0.2
	comp=Z,1.6nm,0.5s,mb4.2,baz=304,slow=4.0,SNR=5.9						
NB2	**NORSAR Subarra**	**80.66**	**337**	P	P	00 11 13.7	-0.4
	comp=Z,0.8nm,0.6s,mb3.8,baz=45,slow=5.9						
NB2	**NORSAR Subarra**	**80.66**	**337**	P	P	00 11 13.7	-0.4
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**80.66**	**337**	P	P	00 11 13.6	-0.5
	comp=Z,1.2nm,0.6s,mb4.0,baz=44,slow=5.5,SNR=11						
FCC	**Fort Churchill**	**81.24**	**25**	eP	P	00 11 18.4	+1.2
	comp=Z,1.0nm,0.7s,mb3.9						
FCC	**Fort Churchill**	**81.24**	**25**	eP	P	00 11 18.4	+1.2
FCC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BRTR	**Keskin Array B**	**82.99**	**312**	P	P	00 11 26.2	-0.1
	comp=Z,1.6nm,0.9s,mb4.0,baz=130,slow=3.7,SNR=5.7						
PDAR	**Pinedale Array**	**83.80**	**44**	P	P	00 11 30.8	+0.3
	comp=Z,1.0nm,0.9s,mb4.0,baz=270,slow=3.7,SNR=5.4						
FRB	**Frobisher Bay**	**84.33**	**12**	P	P	00 11 33.2	0.0
	comp=Z,10nm,0.6s,mb5.1,baz=341,slow=6.8,SNR=32						
SRU	**San Rafael**	**85.27**	**47**	eP	P	00 11 39.3	+1.4
	comp=Z,4.3nm,0.7s,mb4.7						
SRU	**San Rafael**	**85.27**	**47**	eP	P	00 11 39.3	+1.4
SRU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
ANMO	**Albuquerque**	**90.33**	**49**	P	P	00 12 04.0	+1.7
	comp=Z,0.4nm,0.4s,mb4.1,baz=278,slow=7.1,SNR=3.7						
SCHQ	**Schefferville**	**92.86**	**15**	P	P	00 12 13.9	-0.1
	comp=Z,1.8nm,0.9s,mb4.5,baz=287,slow=8.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**121.58**	**311**	PKP	PKPdf	00 17 54.6	-0.1
	comp=Z,0.4nm,0.8s,baz=39,slow=1.3,SNR=8.4						
SAML	**Samuel**	**150.12**	**51**	ePKPdf	PKPdf	00 18 53.1	+6.3
SAML				ePKPbc	PKPbc	00 19 00.1	+8.3
LPAZ	**La Paz**	**150.98**	**69**	PKPbc	PKPbc	00 18 56.2	+2.4
	comp=Z,4.6nm,0.9s,baz=29,slow=1.0,SNR=12						
LPAZ	**La Paz**	**150.98**	**69**	ePKIKP	PKPbc	00 18 56.7	+2.8
PLCA	**Paso Flores**	**152.72**	**122**	PKPbc	PKPbc	00 18 58.8	+0.9
	comp=Z,3.9nm,0.6s,baz=213,slow=2.9,SNR=15						

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*ISCJB **26** 00:01:31.7±0.6, 165N±008×9707E±008, h26^{km}, mb4.3/26, MS4.0/1, Error ellipse: s-maj=13.8km s-min=8.9km az=86.6*
*NEIC **26** 00:01:33.5±0.4, 169N×9704E, mb4.4/11, Error ellipse: s-maj=9.5km s-min=6.8km az=48.0*
*IDC **26** 00:01:33.6±0.6, 168N×9708E, h25^{km}±3^{km}, mb4.1/14, mb1 4.1/15, mb1mx4.0/22, mbtmp4.2/15, ML3.0/1, Error ellipse: s-maj=25.5km s-min=11.8km az=48.0*
*BJI **26** 00:01:38.0, 248N×9735E, h25^{km}, mB5.0, mb4.8, Ms4.1, Msz3.9*
ISC 26 00:01:34.1±0.6, 168N±008×9707E±008, h28^{km}, h28^{km}±.6^{km}: pP-P, n40, σ0§87/36, mb4.3/26, MS4.0/1, 3C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.16**	**59**	Pn	Pn	00 02 08.4	+0.1
	4.5nm,0.3s,baz=254,slow=7.8,SNR=14						
KULM	**Kulim**	**5.06**	**45**	ePn	Pn	00 02 48.8	+0.6
QIZ	**Qiongzhong**	**21.30**	**35**	eP	P	00 06 18.5	-0.1
	4.7nm,0.6s,mb4.0						
LSA	**Lhasa**	**28.43**	**349**	eP	P	00 07 25.8	-0.7
	2.7nm,0.4s,mb4.2						
ENH	**Enshi**	**30.78**	**21**	eP	P	00 07 45.8	-1.5
	4.2nm,0.4s,mb4.6						
ENH				pP	pP	00 07 53.5	-1.9
GTA	**Gaotai**	**37.64**	**3**	eP	P	00 08 46.5	-0.1
GTA				AP	pP	00 08 55.5	+0.7
GTA				XP	sP	00 09 00.0	+1.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
GTA				LR	LR		
	comp=N,177nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=E,165nm,20.9s,MS4.0						
GTA				LR	LR		
	comp=Z,210nm,19.4s,MS4.0						
BJT	**Baijiatuan**	**41.92**	**22**	eP	P	00 09 21.2	-1.1
	comp=Z,13nm,0.6s,mb4.7						
BJT				e		00 09 36.9	
BJI	**Beijing**	**41.95**	**22**	P	P	00 09 23.8	+1.3
BJI				AMB	AMB		
	comp=Z,24nm,0.8s,mb4.9						
BJI				AMB	AMB		
	comp=Z,185nm,4.5s						
WRA	**Warramunga Arr**	**42.40**	**122**	P	P	00 09 26.7	+0.6
	comp=Z,1.9nm,0.7s,mb3.8,baz=302,slow=9.1,SNR=5.6						
WRA				pP	pP	00 09 34.2	-0.2
	comp=Z,2.2nm,0.5s,baz=303,slow=9.1,SNR=7.4						
WRAB	**Tennant Creek**	**42.40**	**122**	eP	P	00 09 27.3	+1.2
	comp=Z,7.7nm,1.2s,mb4.2						
WRAB				epP	pP	00 09 34.6	+0.1
WRAB				esP	sP	00 09 39.5	+1.7
ASAR	**Alice Springs**	**43.78**	**127**	P	P	00 09 37.9	+0.5
	comp=Z,0.5nm,0.8s,mb3.3,baz=304,slow=7.7,SNR=5.2						
ASAR				pP	pP	00 09 45.1	-0.5
	comp=Z,2.4nm,1.2s,baz=302,slow=7.5,SNR=4.0						
UCH	**Uchtor**	**45.16**	**336**	P	P	00 09 50.1	+1.8
	SNR=5.7						
TKM2	**Tokmak 2**	**45.33**	**338**	P	P	00 09 50.8	+1.1
	SNR=5.9						
KBK	**Karagaybulak**	**45.35**	**337**	P	P	00 09 51.9	+2.0
	SNR=6.4						
EKS2	**Erkin-Say**	**45.82**	**336**	P	P	00 09 54.8	+1.2
	SNR=6.0						
USP	**Ospenovka**	**46.05**	**337**	P	P	00 09 56.2	+0.9
	SNR=12						
SONM	**Songino Array**	**46.68**	**9**	P	P	00 10 00.7	+0.3
	comp=Z,4.4nm,0.5s,mb4.6,baz=190,slow=9.7,SNR=38						
SONM				PcP	PcP	00 11 34.2	+0.5
	comp=Z,0.9nm,0.5s,baz=175,slow=4.1,SNR=4.7						
MKAR	**Makanchi Array**	**46.75**	**346**	P	P	00 10 01.3	+0.4
	comp=Z,9.7nm,0.6s,mb4.9,baz=159,slow=9.4,SNR=68						
MKAR				pP	pP	00 10 09.2	-0.1
	comp=Z,1.6nm,0.5s,baz=151,slow=9.6,SNR=4.4						
ULN	**Ulaanbaatar**	**46.81**	**9**	eP	P	00 10 01.3	-0.1
	comp=Z,2.6nm,0.5s,mb4.4						
PMG	**Port Moresby**	**51.09**	**103**	P	P	00 10 33.7	-0.4
	comp=Z,2.5nm,0.4s,mb4.5,baz=281,slow=9.3,SNR=4.3						
PMG	**Port Mo

NVR	**Nevrokopi**	**1.28 257**	*e*PN	**Pn**	**00 27 43.3**	**-1.6**
NVR			*e*SN	**Sn**	**00 28 00.1**	**-1.9**
SRS	**Serrai**	**1.54 250**	*e*Pb	**Pb**	**00 27 48.6**	**-1.0**
SRS			*e*Sb	**Sb**	**00 28 09.6**	**+0.4**
OUR	**Ouranopolis**	**1.75 222**	*e*Pb	**Pb**	**00 27 51.7**	**-1.6**
OUR			*e*Sb	**Sb**	**00 28 14.7**	**-0.6**
LIA	**Limnos Island**	**1.77 188**	*e*PN	**Pn**	**00 27 51.5**	**-0.1**
SOH	**Sokhos**	**1.83 244**	*e*Pb	**Pb**	**00 27 52.8**	**-1.7**
SOH			*e*Sb	**Sb**	**00 28 17.3**	**-0.1**
VTS	**Vitosha**	**1.96 299**	*e*Pn	**Pn**	**00 27 55.3**	**+1.1**
VTS			*e*Sn	**Sn**	**00 28 20.4**	**+1.7**
KNT	**Kendrikon**	**2.03 257**	*e*Pn	**Pn**	**00 27 57.2**	**+2.0**
KNT			*e*Sn	**Sn**	**00 28 22.9**	**+2.4**
PAIG	**Paliouri**	**2.21 220**	*e*Pn	**Pn**	**00 27 57.4**	**-0.4**
GRG	**Griva**	**2.45 255**	*e*Pn	**Pn**	**00 28 02.3**	**+1.4**

NIED ***26*** *00:44:00, 3700N×13690E, h11km, Mw3.6 Best double couple: M0 3.02000×10^14 NP1:φs 351.00000°, δ58.00000°, λ69.00000°. NP2:φs 207.00000°, δ38.00000°, λ120.00000°.*
IDC ***26*** *00:44:18.2±1.4, 3699N×13681E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/20, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/26, Error ellipse: s-maj=21.3km s-min=16.8km az=9.0*
ISCJB ***26*** *00:44:19.9±0.6, 3703N±004×13683E±005, h25km±4km, mb3.6/3, Error ellipse: s-maj=7.4km s-min=6.1km az=51.7*
NEIC ***26*** *00:44:20.9, 3702N×13689E, h13km, MG4.1(JMA), After JMA.*
JMA ***26*** *00:44:20.9, 3702N×13689E, h13km±1km, M3.9*
JMA Felt III J1.

ISC 26 00:44:20.3±0.6, 3702N±003×13687E±005, h17km±4km, n17, σ0§64/24, mb3.6/3, 2C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.12**	**218**	⇑P	**Pg**	**00 44 24.2**	**+0.1**
JJH				S	**Sg**	**00 44 26.7**	**+0.1**
JTT	**Ttatey**	**0.56**	**138**	⇓P	**Pg**	**00 44 31.3**	**-0.1**
JTT				S	**Sg**	**00 44 39.4**	**+0.6**
JSZ	**Suzu**	**0.58**	**42**	P	**Pg**	**00 44 31.7**	**-0.1**
JSZ				S	**Sg**	**00 44 39.8**	**+0.2**
JHG	**Hegura jima**	**0.83**	**3**	P	**Pb**	**00 44 36.3**	**+0.1**
JKG	**Kaga**	**0.86**	**211**	⇑P	**Pb**	**00 44 37.1**	**+0.3**
JKG				S	**Sb**	**00 44 48.6**	**+0.6**
JGN	**Niukaw**	**0.87**	**156**	⇓P	**Pb**	**00 44 36.6**	**-0.4**
JGN				S	**Sb**	**00 44 47.8**	**-0.5**
MAJO	**Matsushiro**	**1.17**	**114**	*e*P	**Pn**	**00 44 39.9**	**-2.0**
MAJO				*e*S	**Sb**	**00 44 57.2**	**+0.2**
MAT	**Matsushiro**	**1.17**	**114**	P	**Pn**	**00 44 41.5**	**-0.4**
MAT				S	**Sb**	**00 44 58.3**	**+1.3**
MAT	**Matsushiro**	**1.17**	**114**	*e*P	**Pn**	**00 44 42.0**	**+0.1**
MAT				*e*S	**Sb**	**00 44 58.0**	**+1.0**
MJAR	**Matsushiro Arr**	**1.17**	**114**	Pg	**Pg**	**00 44 42.3**	**-0.8**
	60nm,0.3s,baz=297,slow=17,SNR=330						
MJAR				Lg		00 44 58.4	
	52nm,0.3s,baz=291,slow=20,SNR=21						
MJAR	**Matsushiro Arr**	**1.17**	**114**	Pg	**Pg**	**00 44 42.3**	**-0.8**
MJAR				Lg		00 44 58.4	
JNU	**Nakatsue**	**6.27**	**233**	LR	LR	00 48 29.1	
	comp=Z,300nm,19.2s,baz=16,slow=40						
NACB	**Ninganchiao**	**18.32**	**230**	*e*Pn	**Pn**	**00 48 32.9**	**-0.7**
WRA	**Warramunga Arr**	**56.70**	**183**	P	**P**	**00 54 02.9**	**0.0**
	0.6nm,0.5s,mb3.9,baz=360,slow=7.9,SNR=8.2						
ASAR	**Alice Springs**	**60.42**	**183**	P	**P**	**00 54 29.4**	**+0.6**
	0.5nm,0.8s,mb3.6,baz=12,slow=13,SNR=6.4						
YKA	**Yellowknife Ar**	**65.61**	**29**	P	**P**	**00 55 04.1**	**+0.8**
	0.2nm,0.7s,mb3.2,baz=314,slow=6.3,SNR=4.5						
YKA	**Yellowknife Ar**	**65.61**	**29**	P	**P**	**00 55 04.1**	**+0.8**

CASC 26 00:58:32.8±1.7, 1347N×9013W, h30km±6km, MD3.3, ML3.5, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.62**	**53**	*e*P	Pb	00 58 55.2	+10
SBLS				*e*S	Sb	00 59 04.3	+11
SNJE	**San Jose**	**0.65**	**52**	*e*P	Pb	00 58 55.8	+10
SNJE				*e*S	Sb	00 59 05.5	+11
IXG	**Ixpaco**	**0.77**	**336**	*e*P	Pn	00 58 47.1	-0.5
IXG				*e*S	Sb	00 58 58.5	+0.7
IXG				AML	AML	00 58 59.9	
	comp=E,7μm,0.3s						
RBDL	**Robledal**	**0.77**	**34**	*e*P	Pn	00 58 57.0	+9.3
RBDL				*e*S	Sb	00 59 09.1	+11
BOQS	**Boqueron**	**0.87**	**72**	*e*P	Pn	00 58 57.8	+8.8
BOQS				*e*S	Sb	00 59 10.4	+10
LFRS	**El Faro**	**1.05**	**81**	*e*P	Pn	00 59 00.8	+9.3
LFRS				*e*S	Sn	00 59 15.4	+10
LBRS	**Las Brisas**	**1.09**	**76**	*e*P	Pn	00 59 01.4	+9.3
LBRS				*e*S	Sn	00 59 17.4	+11
LCBS	**La Ceiba**	**1.14**	**80**	*e*P	Pn	00 59 02.3	+10
LCBS				*e*S	Sn	00 59 17.1	+10
FUG	**Fuego 3**	**1.19**	**325**	*e*P	Pn	00 58 54.1	+0.7
FUG				*e*S	Sn	00 59 09.7	+1.0
SNVI	**San Vicente**	**1.27**	**83**	*e*P	Pn	00 59 03.9	+9.5
SNVI				*e*S	Sn	00 59 21.0	+10
TP2	**Tecpan 2**	**1.57**	**327**	⇑*e*P	Pn	00 58 59.0	+0.4
TP2				*e*S	Sn	00 59 20.1	+2.2
TP2				AML	AML	00 59 21.2	
	comp=E,182nm,0.5s						

ISCJB ***26*** *01:08:56.5±0.3, 5702N±003×13693W±005, h10km, mb3.7/4, Error ellipse: s-maj=5.3km s-min=2.3km az=97.0*
IDC ***26*** *01:08:58.2±1.1, 5702N×137.13W, h0km, mb3.6/4, mb1 4.1/10, mb1mx3.8/23, mbtmp3.9/10, ML4.0/6, MS2.9/2, Ms1 2.9/2, ms1mx2.6/18, Error ellipse: s-maj=18.7km s-min=9.9km az=44.0*
NEIC ***26*** *01:09:01.0, 5702N×13697W, h15km, mb3.4/1, ML3.8(AEIC), ML3.9(PGC), After AEIC.*
PGC ***26*** *01:09:00.8, 5706N×13658W, h5km, ML3.9/8, 76km northwest of Sitka, Ak Off coast of southeastern Alaska.*

ISC 26 01:08:58.9±0.3, 5702N±002×13692W±005, h10km, n86, σ1§40/144, mb3.7/4, 4D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIT	**Sitka**	**0.87**	**87**	P	**Pg**	**01 09 16.6**	**+0.9**
SIT				S	**Sg**	**01 09 27.6**	**+0.6**
BESE	**Bessie Mountai**	**1.91**	**34**	P	**Pn**	**01 09 31.7**	**+0.2**
CRAG	**Craig**	**2.63**	**125**	P	**Pn**	**01 09 41.7**	**+0.3**
CRAG				S	**Sn**	**01 10 11.6**	**-1.7**
PNL	**Peninsula**	**2.96**	**335**	P	**Pn**	**01 09 45.3**	**-0.5**
PNL				S	**Sn**	**01 10 16.1**	**-5.3**
WHY	**Whitehorse**	**3.80**	**15**	⇓Pn	**Pn**	**01 09 58.3**	**+0.8**
WHY				Sn	**Sn**	**01 10 39.6**	**-2.5**
WHY				Sg	**Sg**	**01 10 57.5**	**-3.3**
WHY				Trac		01 11 07.5	
	comp=Z,139nm,0.6s						
WHY	**Whitehorse**	**3.80**	**15**	⇓Pn	**Pn**	**01 09 58.3**	**+0.8**
WHY				*e*Sn	**Sn**	**01 10 39.6**	**-2.5**
WHY				*e*Sg	**Sg**	**01 10 57.5**	**-3.3**
NDB	**Naden**	**3.82**	**142**	Pn	**Pn**	**01 09 58.5**	**+0.8**
NDB				Sn	**Sn**	**01 10 41.4**	**-1.3**
NDB				Trac		01 10 46.3	
	comp=Z,111nm,0.2s						
NDB	**Naden**	**3.82**	**142**	Pn	**Pn**	**01 09 58.5**	**+0.8**
NDB				*e*Sn	**Sn**	**01 10 41.4**	**-1.3**
HYT	**Haines Junctio**	**3.83**	**356**	Pn	**Pn**	**01 09 58.2**	**+0.5**
HYT				Sn	**Sn**	**01 10 41.0**	**-1.8**
HYT				Trac		01 10 47.5	
	comp=Z,127nm,0.5s						
HYT	**Haines Junctio**	**3.83**	**356**	Pn	**Pn**	**01 09 58.2**	**+0.5**
HYT				*e*Sn	**Sn**	**01 10 41.0**	**-1.8**
DLBC	**Dease Lake**	**3.96**	**66**	Pn	**Pn**	**01 10 01.5**	**+1.9**
	4.4nm,0.3s,baz=242,slow=14,SNR=112						
DLBC				Sn	**Sn**	**01 10 45.6**	**-0.5**
	9.3nm,0.3s,baz=1.7,slow=27,SNR=10						
DLBC	**Dease Lake**	**3.96**	**66**	Pn	**Pn**	**01 10 00.8**	**+1.2**
DLBC				Sn	**Sn**	**01 10 42.1**	**-3.9**
DLBC				Sg	**Sg**	**01 10 58.4**	**-7.6**
DLBC				Trac		01 11 04.0	
	comp=Z,138nm,0.7s						
DLBC	**Dease Lake**	**3.96**	**66**	*e*Pn	**Pn**	**01 10 00.7**	**+1.1**
DLBC				*e*Sn	**Sn**	**01 10 46.9**	**+0.8**
VIB	**Van Inlet**	**4.54**	**145**	Pn	**Pn**	**01 10 08.1**	**+0.5**
VIB				Sn	**Sn**	**01 10 58.0**	**-2.4**
VIB				Trac		01 11 01.1	
	comp=Z,58nm,0.2s						
VIB	**Van Inlet**	**4.54**	**145**	*e*Pn	**Pn**	**01 10 08.1**	**+0.5**
VIB				*e*Sn	**Sn**	**01 10 58.0**	**-2.4**
RUBB	**Prince Rupert**	**4.64**	**123**	Pn	**Pn**	**01 10 09.1**	**0.0**
RUBB				Sn	**Sn**	**01 11 01.7**	**-1.3**
RUBB				Sg	**Sg**	**01 11 19.9**	**-8.0**
RUBB				Trac		01 11 37.3	
	comp=Z,112nm,0.7s						
RUBB	**Prince Rupert**	**4.64**	**123**	*e*Pn	**Pn**	**01 10 09.1**	**0.0**
RUBB				*e*Sn	**Sn**	**01 11 01.7**	**-1.3**
RUBB				*e*Sg	**Sg**	**01 11 19.9**	**-8.0**
MOBC	**Moresby Island**	**4.80**	**141**	Pn	**Pn**	**01 10 12.1**	**+0.9**
MOBC				Sn	**Sn**	**01 11 04.8**	**-2.0**
MOBC				Trac		01 11 09.4	
	comp=Z,43nm,0.2s						
MOBC	**Moresby Island**	**4.80**	**141**	Pn	**Pn**	**01 10 12.1**	**+0.9**
MOBC				*e*Sn	**Sn**	**01 11 04.8**	**-2.0**
BNAB	**Bonilla**	**5.04**	**132**	⇓Pn	**Pn**	**01 10 15.7**	**+1.1**
BNAB				Sn	**Sn**	**01 11 11.2**	**-1.7**
BNAB				Trac		01 11 12.7	
	comp=Z,16nm,0.2s						
BNAB	**Bonilla**	**5.04**	**132**	Pn	**Pn**	**01 10 15.7**	**+1.1**
BNAB				*e*Sn	**Sn**	**01 11 11.2**	**-1.7**
BNB	**Barry Inlet**	**5.37**	**144**	Pn	**Pn**	**01 10 19.1**	**+0.1**
BNB				Sn	**Sn**	**01 11 19.2**	**-1.6**
BNB				Trac		01 11 22.1	
	comp=Z,2μm,0.4s						
BNB	**Barry Inlet**	**5.37**	**144**	*e*Pn	**Pn**	**01 10 19.1**	**+0.1**
BNB				*e*Sn	**Sn**	**01 11 19.2**	**-1.6**
BMRM	**Bremner River**	**5.60**	**318**	P	**Pn**	**01 10 21.3**	**-0.9**
EYAK	**Cordova Ski Ar**	**5.79**	**311**	*e*Pn	**Pn**	**01 10 25.1**	**+0.3**
DIV	**Divide**	**6.14**	**316**	*e*Pn	**Pn**	**01 10 29.7**	**0.0**
DIV				*e*Sn	**Sn**	**01 11 34.6**	**-5.4**
MENT	**Mentasta**	**6.84**	**333**	*e*P	**Pn**	**01 10 40.8**	**+1.6**
BBB	**Bella Bella**	**7.04**	**130**	Pn	**Pn**	**01 10 43.4**	**+1.3**
	7.0nm,0.3s,baz=312,slow=10,SNR=168						
BBB				Sn	**Sn**	**01 12 01.0**	**-1.2**
	7.1nm,0.3s,baz=69,slow=19,SNR=13						
BBB	**Bella Bella**	**7.04**	**130**	⇓Pn	**Pn**	**01 10 43.5**	**+1.5**
BBB				Sn	**Sn**	**01 12 00.8**	**-1.3**
BBB				Trac		01 12 04.1	
	comp=Z,33nm,0.5s						
BBB	**Bella Bella**	**7.04**	**130**	Pn	**Pn**	**01 10 43.5**	**+1.5**
BBB				*e*Sn	**Sn**	**01 12 00.8**	**-1.3**
DAWY	**Dawson**	**7.17**	**351**	Pn	**Pn**	**01 10 45.0**	**+1.3**
DAWY				Sn	**Sn**	**01 12 00.8**	**-4.4**
DAWY				Sg	**Sg**	**01 12 43.7**	**-5.3**
DAWY				Trac		01 12 54.3	
	comp=Z,16nm,0.6s						
DAWY	**Dawson**	**7.17**	**351**	*e*Pn	**Pn**	**01 10 45.0**	**+1.3**
DAWY				*e*Sn	**Sn**	**01 12 00.8**	**-4.4**
DAWY				*e*Sg	**Sg**	**01 12 43.7**	**-5.3**
SML	**Sawmill**	**7.54**	**314**	P	**Pn**	**01 10 49.4**	**+0.6**
FSB	**Fort Saint Jam**	**7.55**	**104**	Pn	**Pn**	**01 10 51.7**	**+2.8**
FSB				Sg	**Sg**	**01 12 51.8**	**-9.4**
FSB				Trac		01 13 09.7	
	comp=Z,7.0nm,0.7s						
FSB	**Fort Saint Jam**	**7.55**	**104**	*e*Pn	**Pn**	**01 10 51.7**	**+2.8**
FSB				*e*Sg	**Sg**	**01 12 51.8**	**-9.4**
FNBB	**Fort Nelson**	**7.63**	**70**	Pn	**Pn**	**01 10 52.5**	**+2.4**
FNBB				Sn	**Sn**	**01 12 14.5**	**-2.1**
FNBB				Sg	**Sg**	**01 12 52.9**	**-11**
FNBB				Trac		01 13 08.4	
	comp=Z,8.0nm,0.8s						
FNBB	**Fort Nelson**	**7.63**	**70**	*e*Pn	**Pn**	**01 10 52.5**	**+2.4**
FNBB				*e*Sn	**Sn**	**01 12 14.5**	**-2.1**
FNBB				*e*Sg	**Sg**	**01 12 52.9**	**-11**
PMR	**Palmer**	**7.74**	**311**	P	**Pn**	**01 10 51.2**	**-0.4**
SLKM	**Skilak Lake**	**7.74**	**302**	*e*Pn	**Pn**	**01 10 50.1**	**-1.5**
SLKM				*e*Sn	**Sn**	**01 12 17.2**	**-2.1**
GHO	**Glory Hole Cre**	**7.75**	**313**	P	**Pn**	**01 10 51.3**	**-0.5**
RC01	**Rabbit Creek A**	**7.76**	**307**	P	**Pn**	**01 10 50.5**	**-1.3**
BMBC	**Bull Mountain**	**8.23**	**91**	Pn	**Pn**	**01 11 02.1**	**+3.7**
BMBC				Sg	Sn	01 13 15.1	+44
BMBC				Trac		01 13 30.6	
	comp=Z,7.0nm,0.7s						
BMBC	**Bull Mountain**	**8.23**	**91**	*e*Pn	**Pn**	**01 11 02.1**	**+3.7**
BMBC				*e*Sg	Sn	01 13 30.6	+59
HOLB	**Holberg**	**8.23**	**137**	Pn	**Pn**	**01 10 59.1**	**+0.8**
HOLB				Sn	**Sn**	**01 12 28.6**	**-2.8**
HOLB				Trac		01 12 33.0	
	comp=Z,11nm,0.4s						
HOLB	**Holberg**	**8.23**	**137**	*e*Pn	**Pn**	**01 10 59.1**	**+0.8**
HOLB				*e*Sn	**Sn**	**01 12 28.6**	**-2.8**
PHC	**Port Hardy**	**8.45**	**134**	Pn	**Pn**	**01 11 01.5**	**+0.2**
PHC				Sn	**Sn**	**01 12 33.2**	**-3.5**
PHC				Trac		01 12 38.6	
	comp=Z,8.0nm,0.5s						
PHC	**Port Hardy**	**8.45**	**134**	*e*Pn	**Pn**	**01 11 01.5**	**+0.2**
PHC				*e*Sn	**Sn**	**01 12 33.2**	**-3.5**
KDAK	**Kodiak Island**	**8.49**	**282**	Pn	**Pn**	**01 11 00.8**	**-1.1**
	8.0nm,0.3s,baz=85,slow=7.6,SNR=70						
KDAK				Sn	**Sn**	**01 12 28.3**	**-10**
	0.4nm,0.3s,baz=252,slow=20,SNR=3.4						
KDAK	**Kodiak Island**	**8.49**	**282**	P	**Pn**	**01 10 60.0**	**-1.9**
BPBC	**Brooks Peninsu**	**8.76**	**138**	P	**Pn**	**01 11 07.0**	**+1.4**
BPBC				Sn	**Sn**	**01 12 42.5**	**-2.0**
BPBC				Trac		01 12 46.0	
	comp=Z,10.0nm,0.3s						
BPBC	**Brooks Peninsu**	**8.76**	**138**	*e*P	**Pn**	**01 11 07.0**	**+1.4**
BPBC				*e*Sn	**Sn**	**01 12 42.5**	**-2.0**
MAYB	**Maynard**	**8.79**	**135**	Pn	**Pn**	**01 11 06.9**	**+0.9**
MAYB				Sn	**Sn**	**01 12 44.2**	**-0.9**
MAYB				Trac		01 12 50.5	
	comp=Z,7.0nm,0.4s						
MAYB	**Maynard**	**8.79**	**135**	*e*Pn	**Pn**	**01 11 06.9**	**+0.9**
MAYB				*e*Sn	**Sn**	**01 12 44.2**	**-0.9**
MCK	**McKinley**	**8.97**	**324**	P	**Pn**	**01 11 08.3**	**-0.2**
IL1	**Eielson Array**	**9.15**	**332**	P	**Pn**	**01 11 11.2**	**+0.2**
ILAR	**Eielson Array**	**9.15**	**332**	Pn	**Pn**	**01 11 11.3**	**+0.4**
	0.4nm,0.3s,baz=155,slow=13,SNR=80						
ILAR				Sn	**Sn**	**01 12 50.2**	**-3.8**
	0.1nm,0.3s,baz=141,slow=21,SNR=5.2						
ILAR				LR	LR	01 14 38.1	
	comp=Z,49nm,19.6s,baz=328,slow=37						
WOSB	**Woss**	**9.22**	**134**	P	**Pn**	**01 11 14.2**	**+2.3**
WOSB				Sn	**Sn**	**01 12 51.9**	**-3.8**
WOSB				Trac		01 13 02.1	
	comp=Z,6.0nm,0.7s						
WOSB	**Woss**	**9.22**	**134**	*e*P	**Pn**	**01 11 14.2**	**+2.3**
WOSB				*e*Sn	**Sn**	**01 12 51.9**	**-3.8**
NCRB	**Newcastle Ridg**	**9.24**	**131**	P	**Pn**	**01 11 15.0**	**+2.9**
NCRB				Sn	**Sn**	**01 12 56.4**	**+0.4**
NCRB				Trac		01 13 04.7	
	comp=Z,2.0nm,0.4s						
NCRB	**Newcastle Ridg**	**9.24**	**131**	*e*P	**Pn**	**01 11 15.0**	**+2.9**
NCRB				*e*Sn	**Sn**	**01 12 56.4**	**+0.4**
TRF	**Thorofare Moun**	**9.24**	**320**	P	**Pn**	**01 11 13.2**	**+1.0**
KTH	**Kantishna Hill**	**9.53**	**319**	P	**Pn**	**01 11 16.7**	**+0.6**
BTB	**Buttle Lake**	**10.18**	**133**	P	**Pn**	**01 11 28.6**	**+3.6**
BTB				Trac		01 13 23.8	
	comp=Z,7.0nm,0.8s						
BTB	**Buttle Lake**	**10.18**	**133**	*e*P	**Pn**	**01 11 28.6**	**+3.6**
SVW2	**Sparrevohn**	**10.43**	**301**	*e*P	**Pn**	**01 11 28.3**	**-0.1**
TXB	**Texada**	**10.45**	**129**	*e*P	**Pn**	**01 11 32.6**	**+3.9**
WSLR	**Whistler**	**10.80**	**124**	*e*P	**Pn**	**01 11 38.4**	**+4.9**
MGB	**Mount Grey**	**10.89**	**132**	P	**Pn**	**01 11 37.5**	**+2.8**
LLLB	**Lillooet**	**10.95**	**120**	*e*P	**Pn**	**01 11 40.0**	**+4.4**
TTA	**Tatalina**	**11.22**	**310**	*e*P	**Pn**	**01 11 38.2**	**-1.1**
INK	**Inuvik**	**11.43**	**6**	Pn	**Pn**	**01 11 42.6**	**+0.5**
	0.1nm,0.3s,baz=193,slow=14,SNR=13						
INK	**Inuvik**	**11.43**	**6**	P	**Pn**	**01 11 43.6**	**+1.5**
INK				Sn	**Sn**	**01 13 43.3**	**-6.6**
INK				Trac		01 15 13.9	
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**11.43**	**6**	*e*P	**Pn**	**01 11 43.6**	**+1.4**
INK				*e*Sn	**Sn**	**01 13 39.8**	**-10**
MNB	**Mounoet Dainar**	**11.77**	**106**	P	**Pn**	**01 11 50.8**	**+4.1**
DOWB	**Downie Slide**	**12.07**	**109**	P	**Pn**	**01 11 54.5**	**+3.6**
YKA	**Yelloknife Ar**	**12.47**	**55**	Pn	**Pn**	**01 11 57.0**	**+0.7**
	baz=254,slow=13,SNR=23						
YKA	**Yellowknife Ar**	**12.47**	**55**	Pn	**Pn**	**01 11 57.0**	**+0.7**
YKW3	**Yellowknife Ar**	**12.49**	**54**	Pn	**Pn**	**01 11 50.8**	**-5.8**
YKW3				Sn	**Sn**	**01 14 09.9**	**-5.8**
YKW3				Trac		01 15 38.5	
	comp=Z,2.0nm,0.9s						
NEW	**Newport**	**14.83**	**118**	LR	LR	01 18 13.5	
	comp=Z,54nm,19.9s,baz=169,slow=37						
TNA	**Tin City**	**16.99**	**313**	*e*Pn	**Pn**	**01 12 58.0**	**+1.4**
	3.2nm,0.9s						
TNA				*e*		01 17 01.7	
CHMT	**Chamberlain Mo**	**17.66**	**115**	*e*Pn	**Pn**	**01 13 07.7**	**+2.8**
NVAR	**Mina Array Bea**	**22.29**	**139**	P	**P**	**01 13 56.0**	**-0.2**
	1.2nm,0.5s,mb3.6,baz=312,slow=11,SNR=2.4						
PDAR	**Pinedale Array**	**22.47**	**118**	P	**P**	**01 14 01.7**	**+3.5**
	1.0nm,0.8s,mb3.3,baz=322,slow=12,SNR=8.6						
RES	**Resolute Bay**	**23.78**	**26**	P	**P**	**01 14 12.1**	**+0.4**
ARCES	**ARCESS Array B**	**53.10**	**8**	P	**P**	**01 18 17.9**	**+1.4**
	4.5nm,0.8s,mb4.4,baz=356,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**71.51**	**333**	P	**P**	**01 20 20.2**	**+0.4**
	0.3nm,0.7s,mb3.3,baz=27,slow=3.5,SNR=2.4						

IDC ***26*** *01:11:16.5±0.8, 5971S×26.41W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/15, mbtmp4.0/5, ML3.9/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/15, Error ellipse: s-maj=41.7km s-min=25.9km az=76.0*
ISCJB ***26*** *01:11:20.1±0.7, 598S±0.1×260W±0.3, h35km, mb4.0/7, MS3.6/2, Error ellipse: s-maj=25.9km s-min=10.2km az=121.6*
NEIC ***26*** *01:11:21.8±0.6, 5970S×2593W, h35km, mb4.0/5, Error ellipse: s-maj=27.7km s-min=13.7km az=55.0*

ISC 26 01:11:19.4±9.2, 598S±02×260W±03, h16km±59km, n20, σ0§52/14, mb4.0/7, MS3.6/2, 2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.15**	**153**	⇓*i*P	**Pn**	**01 14 25.7**	**+0.2**
VNA1				*e*		01 14 32.9	
VNA1				*e*		01 14 35.1	
VNA3	**Neumayer Olymp**	**13.31**	**157**	*e*P	**Pn**	**01 14 27.5**	**-0.1**
VNA3				*e*		01 14 34.7	
VNA3				*e*		01 14 37.8	
VNA2	**Neumayer--Watz**	**13.55**	**153**	*e*P	**Pn**	**01 14 31.1**	**+0.1**
	baz=312,slow=14						
VNA2				*e*		01 14 39.1	
VNA2				*e*		01 14 41.2	
SNAA	**Sanae**	**15.13**	**151**	Pn	**Pn**	**01 14 51.7**	**-0.8**
	0.5nm,0.3s,baz=322,slow=15,SNR=28						
SNAA	**Sanae**	**15.13**	**151**	⇓*i*P	**Pn**	**01 14 52.4**	**-0.1**
SNAA				*e*		01 14 59.4	
SNAA				*e*		01 15 01.7	
USHA	**Ushuaia**	**23.12**	**263**	LR	LR	01 21 58.3	
	comp=Z,52nm,19.5s,MS3.0,baz=225,slow=28						
VNDA	**Vanda**	**42.89**	**183**	P	**P**	**01 19 17.3**	**+0.2**
	1.4nm,0.9s,mb3.7,baz=241,slow=8.1,SNR=5.6						
VNDA	**Vanda**	**42.89**	**183**	*e*P	**P**	**01 19 18.4**	**+1.3**
	1.3nm,0.8s,mb3.7						
LVC	**Limon Verde**	**47.74**	**302**	P	**P**	**01 19 56.2**	**+0.6**
	2.6nm,0.8s,mb4.3						
LPAZ	**La Paz**	**53.05**	**306**	P	**P**	**01 20 34.9**	**-0.8**
	0.8nm,0.6s,mb3.9,baz=107,slow=5.6,SNR=3.9						
LPAZ	**La Paz**	**53.05**	**306**	*e*P	**P**	**01 20 36.0**	**+0.3**
	0.8nm,0.5s,mb3.9						
SAML	**Samuel**	**57.87**	**315**	*e*P	**P**	**01 21 09.7**	**-0.7**
	0.5nm,0.6s,mb3.7						
LSZ	**Lusaka**	**59.24**	**66**	*e*P	**P**	**01 21 20.1**	**+0.1**
	2.8nm,1.0s,mb4.2						
TORD	**Torodi Ar. Bea**	**76.02**	**28**	P	**P**	**01 23 06.2**	**+0.4**
	0.9nm,0.5s,mb4.0,baz=197,slow=6.1,SNR=24						
NWAO	**Narrogin (SRO)**	**82.80**	**150**	LR	LR	01 54 17.0	
	comp=Z,93nm,19.1s,MS4.2,baz=16,slow=31						
ASAR	**Alice Springs**	**95.27**	**162**	P	**P**	**01 24 41.8**	**-0.7**
	0.5nm,0.7s,mb4.0,baz=184,slow=4.1,SNR=6.4						
FINES	**FINESS Array B**	**127.36**	**28**	PKP	PKPdf	01 30 21.0	-2.4
	0.4nm,0.6s,baz=169,slow=1.9,SNR=4.1						
INK	**Inuvik**	**149.00**	**316**	PKPbc	PKPbc	01 31 02.9	-3.8
	1.3nm,0.9s,baz=66,slow=0.3,SNR=5.0						
SONM	**Songino Array**	**150.16**	**92**	PKPbc	PKPbc	01 31 08.3	-1.2
	1.6nm,0.8s,baz=226,slow=2.0,SNR=9.6						
ILAR	**Eielson Array**	**152.93**	**306**	PKPbc	PKPbc	01 31 12.4	-3.5
	0.4nm,0.8s,baz=157,slow=1.3,SNR=4.5						

ISCJB ***26*** *01:26:23.3±3.1, 380N±02×720E±02, h33km, Error ellipse: s-maj=31.0km s-min=19.1km az=57.2*
NNC ***26*** *01:26:28.8±20.0, 3833N×7168E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=442.6km s-min=146.6km az=87.0*

ISC 26 01:26:24.4±3.2, 379N±02×720E±02, h35km, n7, σ0§99/8, 1C, Afghanistan-Tajikistan border region

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

comp=Z,21nm,1.4s,mb4.5
BJT Baijiatuan 46.88 350 P **P 01 34 23.5 -1.0**
comp=Z,4.5nm,0.6s,mb4.2
LSA Lhasa 48.59 319 *e*P **P 01 34 38.3 +0.9**
comp=Z,12nm,0.6s,mb4.6
JIRN Jiri 50.71 314 *e*P **P 01 34 53.4 +0.5**
comp=Z,19nm,0.4s,mb4.8
GUN Gumba 51.08 314 *e*P **P 01 34 56.0 +0.4**
comp=Z,48nm,0.4s,mb5.2
PKI Pulchoki 51.22 313 *e*P **P 01 34 56.8 +0.1**
comp=Z,42nm,0.4s,mb5.1
GTA Gaotai 51.26 335 *e*P **P 01 34 57.8 +0.8**
GTA AMB AMB
comp=Z,8.0nm,0.6s,mb4.2
KKN Kakani 51.44 313 *e*P **P 01 34 58.4 +0.1**
comp=Z,26nm,0.4s,mb4.9
DMN Daman 51.46 313 *e*P **P 01 34 58.7 +0.3**
comp=Z,24nm,0.4s,mb4.9
GKN Gorkha 52.03 313 *e*P **P 01 35 02.6 +0.1**
comp=Z,108nm,0.3s
KOLN Koldanda 52.66 312 *e*P **P 01 35 07.4 +0.4**
comp=Z,26nm,0.2s,mb5.1
YSS Yuzh-Sakhalins 55.25 14 P **P 01 35 21.2 -4.0**
comp=Z,3.8nm,0.4s,mb4.0
SNZO South Karori 55.98 136 P **P 01 35 29.4 -1.0**
comp=Z,165nm,1.3s,mb5.1
ULN Ulaanbaatar 56.31 345 *e*P **P 01 35 33.0 +0.4**
comp=Z,7.4nm,1.1s,mb3.8
SONM Songino Array 56.45 345 P **P 01 35 33.8 +0.2**
comp=Z,1.5nm,0.5s,mb3.5,baz=162,slow=7.4,SNR=17
CASY Casey 60.74 187 P **P 01 36 02.8 +0.3**
comp=Z,4.8nm,0.9s,mb3.8
MKAR Makanchi Array 65.19 329 P **P 01 36 31.1 0.0**
comp=Z,6.9nm,0.6s,mb4.3,baz=128,slow=7.0,SNR=84
KURK Kurchatov 69.58 330 *e*P **P 01 36 57.5 -0.6**
comp=Z,8.5nm,1.1s,mb4.2
VNDA Vanda 73.71 172 P **P 01 37 21.9 -0.2**
comp=Z,0.5nm,0.6s,baz=331,slow=9.1,SNR=5.3
VNDA Vanda 73.71 172 *e*P **P 01 37 21.8 -0.2**
comp=Z,0.7nm,0.7s
CHKZ Chkalovo 75.31 330 *e*P **P 01 37 30.4 -0.7**
comp=Z,6.8nm,0.9s,mb4.1
ZRNK Zerenda 75.74 329 *e*P **P 01 37 33.0 -0.4**
comp=Z,9.7nm,0.7s,mb4.3
TORD Torodi Ar. Bea 124.14 282 PKP PKPdf 01 44 41.4 +1.0
comp=Z,0.6nm,1.0s,baz=54,slow=2.8,SNR=5.3
PLCA Paso Flores 130.95 164 PKP PKPdf 01 44 54.2 +0.8
comp=Z,1.0nm,1.0s,baz=2.2,slow=1.4,SNR=2.9
PLCA Paso Flores 130.95 164 PKP PKPdf 01 44 54.2 +0.8

SKO ***26*** *01:30:51.2, 40.11N×1959E, h0km*
TIR ***26*** *01:30:52.9, 40.10N×1995E, h12km*
ROM ***26*** *01:30:53.7±0.3, 4002N×1982E, h10km, Md3.1/3, Ml3.0/6, Error ellipse: s-maj=5.3km s-min=3.6km az=94.0*
THE ***26*** *01:30:53.1, 4008N×1974E, h10km, ML3.1*
ATH ***26*** *01:30:53.5, 4009N×1979E, h17km±1km, MD3.7/5*
PDG ***26*** *01:30:53.1±0.9, 4001N×1985E, h9km±3km*
ISCJB ***26*** *01:30:53.7±0.3, 4005N±002×1978E±002, h10km, Error ellipse: s-maj=2.7km s-min=2.1km az=92.4*
NEIC ***26*** *01:30:53.5, 4009N×1979E, h17km, MD3.1(PDG), MD3.7(ATH), After ATH.*
CSEM ***26*** *01:30:55.0±0.2, 4002N×1987E, h0km±1km, MD3.1/3, Error ellipse: s-maj=4.0km s-min=1.8km az=147.0*

ISC 26 01:30:54.4±0.3, 4006N±002×1978E±002, h10km, n75,
σ1°§11/109, 9D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.25**	**136**	*i* Pg		**Pg**	**01 30 57.8**	**-1.7**
SRN				*i* Sg		**Sg**	**01 31 02.5**	**-0.4**
TPE	**Tepelena**	**0.30**	**37**	*e*Pg		**Pg**	**01 30 57.3**	**-3.1**
TPE				*i* Sg		**Sg**	**01 31 00.9**	**-3.5**
KEK	**Kerkira**	**0.34**	**177**	Pg		**Pg**	**01 31 00.6**	**-0.7**
	1μm,0.2s							
KEK	**Kerkira**	**0.34**	**177**	*e*Pb		**Pg**	**01 31 01.0**	**-0.3**
KEK				*e*Sb		**Sg**	**01 31 07.1**	**+1.2**
VLO	**Vlora**	**0.46**	**332**	*i* Pg		**Pg**	**01 31 03.2**	**-0.3**
LSK	**Leskovik**	**0.64**	**81**	*i* Pg		**Pg**	**01 31 03.3**	**-3.5**
LSK				*i* Sg		**Sg**	**01 31 12.7**	**-2.5**
IGT	**Igoumenitsa**	**0.68**	**141**	*e*Pg		**Pg**	**01 31 06.0**	**-1.6**
IGT				*e*Sg		**Sg**	**01 31 17.0**	**+0.6**
IGT	**Igoumenitsa**	**0.68**	**141**	*e*Pg		**Pg**	**01 31 05.9**	**-1.6**
IGT				*e*Sg		**Sg**	**01 31 17.0**	**+0.6**
JAN	**Janina**	**0.92**	**116**	*e*PN		**Pg**	**01 31 10.6**	**-1.5**
JAN				*e*SN		**Sg**	**01 31 23.6**	**-0.5**
KBN	**Korca**	**0.96**	**53**	*i* Pg		**Pg**	**01 31 09.4**	**-3.5**
KBN				*i* Sg		**Sg**	**01 31 24.0**	**-1.3**
SCTE	**Santa Cesarea**	**1.00**	**271**	Pg		**Pg**	**01 31 13.7**	**-0.1**
	420nm,0.2s							
TIR	**Tirane**	**1.29**	**3**	Pg		**Pg**	**01 31 18.3**	**-0.9**
	399nm,0.6s							
LCI	**Lecce**	**1.30**	**283**	Pg		**Pg**	**01 31 18.4**	**-1.1**
	171nm,0.5s							
OHR	**Ohrid**	**1.31**	**36**	*e*Pg		**Pn**	**01 31 16.8**	**-2.0**
OHR				*e*Sg		**Sg**	**01 31 37.5**	**+0.9**
OHR	**Ohrid**	**1.31**	**36**	*i* Pn		**Pn**	**01 31 16.6**	**-2.2**
OHR	**Ohrid**	**1.31**	**36**	*i* Pn		**Pn**	**01 31 16.5**	**-2.3**
OHR	**Ohrid**	**1.31**	**36**	*e*Pg		**Pn**	**01 31 16.8**	**-2.0**
OHR				*e*Sg		**Sg**	**01 31 37.5**	**+0.9**
FNA	**Florina**	**1.42**	**59**	*e*Pg		**Pn**	**01 31 19.0**	**-1.3**
FNA				*e*Sg		**Sg**	**01 31 41.2**	**+1.0**
BIA	**Bitola**	**1.52**	**50**	*e*Pg		**Pn**	**01 31 20.1**	**-1.6**
BIA				*e*Sg		**Sg**	**01 31 43.2**	**-0.1**
BIA	**Bitola**	**1.52**	**50**	*i* Pn		**Pn**	**01 31 20.0**	**-1.7**
BIA	**Bitola**	**1.52**	**50**	*i* Pn		**Pn**	**01 31 19.9**	**-1.8**
BIA	**Bitola**	**1.52**	**50**	*e*Pg		**Pn**	**01 31 20.1**	**-1.6**
BIA				*e*Sg		**Sg**	**01 31 43.2**	**-0.2**
KZN	**Kozani**	**1.55**	**80**	*e*PN		**Pn**	**01 31 22.4**	**+0.3**
KZN				*e*SN		**Sn**	**01 31 43.2**	**+1.0**
EVR	**Evrytania**	**1.94**	**125**	*e*PN		**Pn**	**01 31 28.8**	**+1.3**
ULC	**Ulcinj**	**1.95**	**348**	*e*Pn		**Pn**	**01 31 27.2**	**-0.3**
ULC				*e*Sn		**Sb**	**01 31 55.9**	**+1.6**
ULC	**Ulcinj**	**1.95**	**348**	*e*Pn		**Pn**	**01 31 27.2**	**-0.3**
ULC				*e*Sn		**Sb**	**01 31 55.9**	**+1.6**
VLS	**Valsamata**	**1.98**	**161**	*e*PN		**Pn**	**01 31 28.8**	**+0.8**
PUK	**Puka**	**1.98**	**2**	*i* Pn		**Pn**	**01 31 27.9**	**-0.2**
PUK				*i* Sn		**Sb**	**01 31 55.9**	**+0.5**
LIT	**Litokhoron**	**2.08**	**88**	*e*Pn		**Pn**	**01 31 29.5**	**+0.1**
LIT				*e*Sn		**Sn**	**01 31 56.3**	**+0.9**
BRT	**Bari-Castellan**	**2.13**	**293**	Pg		**Pn**	**01 31 30.4**	**+0.4**
	58nm,0.2s							
GRG	**Griva**	**2.19**	**65**	*e*Pn		**Pn**	**01 31 31.3**	**+0.3**
NOCI	**Noci**	**2.20**	**290**	Pg		**Pn**	**01 31 30.4**	**-0.6**
	247nm,0.3s							
AGG	**Agios Georgios**	**2.23**	**117**	*e*Pn		**Pn**	**01 31 32.2**	**+0.8**
AGG				*e*Sn		**Sb**	**01 32 01.8**	**-0.6**
SKO	**Skopje**	**2.29**	**33**	*i* Pn		**Pn**	**01 31 31.0**	**-1.3**
SKO	**Skopje**	**2.29**	**33**	*i* Pn		**Pn**	**01 31 30.9**	**-1.4**
BUM	**Brajici-Budva**	**2.34**	**344**	⇓*i*Pn		**Pn**	**01 31 33.6**	**+0.7**
BUM				*e*Sn		**Sb**	**01 32 05.4**	**-0.2**
RLS	**Riolos of Patr**	**2.39**	**146**	*e*PB		**Pn**	**01 31 34.3**	**+0.6**
TTG	**Podgorica**	**2.40**	**351**	⇓*i*Pn		**Pn**	**01 31 35.1**	**+1.3**
TTG				*e*Sn		**Sb**	**01 32 06.7**	**-0.7**
STIP	**Stip**	**2.45**	**47**	*i* Pn		**Pn**	**01 31 33.7**	**-0.7**
VAY	**Valandovo**	**2.47**	**58**	*e*Pn		**Pn**	**01 31 35.0**	**+0.3**
VAY	**Valandovo**	**2.47**	**58**	*i* Pn		**Pn**	**01 31 35.0**	**+0.2**
THE	**Thessaloniki**	**2.50**	**76**	*e*Pn		**Pn**	**01 31 35.7**	**+0.5**
THE				*e*Sn		**Sn**	**01 32 06.9**	**+1.1**
PVY	**Plav**	**2.54**	**3**	⇓*i*Pn		**Pn**	**01 31 36.3**	**+0.6**
PVY				*e*Sn		**Sn**	**01 32 09.4**	**+2.7**
AMUR	**Altamura**	**2.56**	**290**	Pg		**Pn**	**01 31 35.7**	**-0.3**
	30nm,0.4s							
HCY	**Herceg Novi**	**2.58**	**338**	⇓*i*Pn		**Pn**	**01 31 36.9**	**+0.7**
HCY				*e*Sn		**Sb**	**01 32 11.4**	**-1.0**
CRAC	**Craco**	**2.58**	**278**	Pg		**Pn**	**01 31 37.5**	**+1.3**
SERS	**Sersale**	**2.60**	**248**	Pg		**Pn**	**01 31 36.7**	**+0.2**
	28nm,0.7s							
KNT	**Kendrikon**	**2.62**	**64**	*e*Pn		**Pn**	**01 31 36.7**	**-0.1**
XOR	**Xorichti**	**2.72**	**104**	*e*Pn		**Pn**	**01 31 38.7**	**+0.4**
IVA	**Berane**	**2.81**	**2**	⇓*i*Pn		**Pn**	**01 31 39.7**	**+0.2**
IVA				*e*Sn		**Sn**	**01 32 15.9**	**+2.4**
NKY	**Niksic**	**2.81**	**348**	⇓*i*Pn		**Pn**	**01 31 40.4**	**+0.9**
NKY				*e*Sn		**Sn**	**01 32 16.8**	**+3.3**
PLG	**Polygyros**	**2.83**	**82**	*e*PN		**Pn**	**01 31 40.3**	**+0.7**
SOH	**Sokhos**	**2.83**	**73**	*e*Pn		**Pn**	**01 31 39.4**	**-0.4**
SOH				*e*Sn		**Sn**	**01 32 15.2**	**+1.2**
BRY	**Bratogost**	**2.99**	**342**	*e*Pn		**Pn**	**01 31 42.9**	**+1.0**
BRY				*e*Sn		**Sn**	**01 32 21.4**	**+3.7**
BRY	**Bratogost**	**2.99**	**342**	*e*Pn		**Pn**	**01 31 42.8**	**+0.9**
BRY				*e*Sn		**Sn**	**01 32 21.4**	**+3.7**
PAIG	**Paliouri**	**3.00**	**91**	*e*Pn		**Pn**	**01 31 41.4**	**-0.6**
PAIG				*e*Sn		**Sn**	**01 32 19.4**	**+1.3**
SRS	**Serrai**	**3.09**	**69**	*e*Pn		**Pn**	**01 31 43.9**	**+0.6**
UPM	**Unac-Piva**	**3.21**	**349**	⇓*i*Pn		**Pn**	**01 31 45.7**	**+0.8**
UPM				*e*Sn		**Sn**	**01 32 26.8**	**+3.6**
STON	**Ston**	**3.22**	**332**	*i* Pn		**Pn**	**01 31 42.8**	**-2.2**
STON				*i* Sn		**Sn**	**01 32 21.1**	**-2.2**
OUR	**Ouranopolis**	**3.23**	**84**	*e*Pn		**Pn**	**01 31 44.9**	**-0.4**
OUR	**Ouranopolis**	**3.23**	**84**	*e*Pn		**Pn**	**01 31 44.8**	**-0.4**
PLE	**Pljevlja**	**3.28**	**355**	⇓*i*Pn		**Pn**	**01 31 46.4**	**+0.4**
PLE				*e*Sn		**Sn**	**01 32 28.6**	**+3.6**
PLE	**Pljevlja**	**3.28**	**355**	⇓*i*Pn		**Pn**	**01 31 46.3**	**+0.4**
PLE				*e*Sn		**Sn**	**01 32 28.6**	**+3.6**
AOS	**Alonnisos**	**3.29**	**104**	*e*Pn		**Pn**	**01 31 46.0**	**0.0**
ITM	**Ithomi**	**3.33**	**149**	*e*PN		**Pn**	**01 31 47.5**	**+0.9**
FGMS	**Monte Sant'Ang**	**3.33**	**301**	Pg		**Pn**	**01 31 46.2**	**-0.4**
	19nm,0.4s							
NVR	**Nevrokopi**	**3.36**	**66**	*e*PN		**Pn**	**01 31 47.4**	**+0.4**
SGO	**Sicignano**	**3.46**	**280**	Pg		**Pn**	**01 31 49.1**	**+0.8**
	7.0nm,0.4s							
RGNG	**Rignano Grg**	**3.56**	**298**	Pg		**Pn**	**01 31 49.4**	**-0.4**
FG2	**Serracapriola**	**3.91**	**298**	Pg		**Pn**	**01 31 54.4**	**-0.1**
	103nm,1.0s							
DIVS	**Divcibare**	**4.04**	**2**	*e*Pn		**Pn**	**01 31 55.2**	**-1.2**
CII	**Carovilli**	**4.47**	**294**	Pg		**Pn**	**01 32 03.7**	**+1.5**
	5.0nm,0.3s							
BOJS	**Bojanci**	**6.38**	**330**	*i* Pn		**Pn**	**01 32 27.5**	**-1.0**
CRES	**Cresnjev**	**6.58**	**333**	*i* Pn		**Pn**	**01 32 29.7**	**-1.5**
VOJS	**Vojsko**	**7.37**	**326**	*i* Pn		**Pn**	**01 32 40.4**	**-1.7**

ISCJB ***26*** *01:47:00.3±0.7, 3484N±004×13477E±005, h14km±4km, Error ellipse: s-maj=7.3km s-min=6.4km az=101.4*
JMA ***26*** *01:47:00.6, 3485N×13478E, h12km, M3.7 Broadband fault plane solution: P waves. NP1:φ0±233.00000°, δ42.00000°, λ161.00000°. NP2:φ0±338.00000°, δ77.00000°, λ50.00000°. Principal axes: T Plg43.0000°, Azm209.0000°; N Plg39.0000°, Azm348.0000°; P Plg22.0000°, Azm97.0000°;*
JMA Felt II J1.
NIED ***26*** *01:47:00, 3490N×13480E, h17km, Mw3.2 Best double couple: M0 8.05000×10^13 NP1:φ0±142.00000°, δ90.00000°, λ-34.00000°. NP2:φ0±232.00000°, δ56.00000°, λ-180.00000°.*

ISC 26 01:47:00.8±0.7, 3485N±004×13477E±004, h8km±6km, n6,
σ0°§45/12, 2C-3D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JKS	**Kasai**	**0.15**	**25**	⇑P		**Pg**	**01 47 04.2**	**+0.2**
JKS				S		**Sg**	**01 47 06.6**	**+0.4**
JMIK	**Miki**	**0.24**	**100**	⇓P		**Pg**	**01 47 05.7**	**+0.1**
JMIK				S		**Sg**	**01 47 09.1**	**+0.3**
JAJ2	**Tsuna**	**0.44**	**167**	⇑P		**Pg**	**01 47 09.2**	**-0.2**
JAJ2				S		**Sg**	**01 47 15.1**	**-0.1**
JAD	**Aida**	**0.50**	**281**	⇓P		**Pg**	**01 47 10.3**	**-0.3**
JAD				S		**Sg**	**01 47 17.2**	**0.0**
JWT	**Wachi**	**0.68**	**50**	⇓P		**Pg**	**01 47 13.4**	**-0.5**
JWT				S		**Sg**	**01 47 22.0**	**-0.7**
MAT	**Matsushiro**	**3.27**	**58**	P		**Pn**	**01 47 53.4**	**+1.1**
MAT				*e*S		**Sn**	**01 48 31.0**	**-0.4**

BJI ***26*** *01:56:34.6, 4066N×12423W, h19km, mB5.0, mb4.4, Ms4.8, Msz4.5*
ISCJB ***26*** *01:56:36.7±1.0, 4026N±003×12440W±006, h30km±7km, mb3.7/6, MS3.7/11, Error ellipse: s-maj=7.3km s-min=4.1km az=155.3*
IDC ***26*** *01:56:36.7±1.4, 4040N×124.12W, h0km, mb3.6/4, mb1 3.9/8, mb1mx3.7/24, mbtmp3.7/8, ML3.8/4, MS3.6/11, Ms1 3.6/11, ms1mx3.4/31, Error ellipse: s-maj=15.4km s-min=11.6km az=78.0*
NEIC ***26*** *01:56:38.0, 4027N×12441W, h23km, mb4.1/4, MW4.6(BRK), After NCEDC.*
NEIC Felt [IV] at Ferndale, Fortuna, Loleta, Myers Flat, Petrolia and Rio Dell; [III] at Carlotta, Garberville, Hydesville and Whitethorn; [II] at Arcata and Eureka. Also felt at Bayside, Blue Lake, Kneeland, McKinleyville, Redcrest, Redway and Smith River.

ISC 26 01:56:37.2±1.0, 4026N±003×12442W±006, h21km±7km,
h18km±2.2km: pP-P, n71, σ1°§39/77, mb3.7/6, MS3.7/11,
4C-2D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.81**	**40**	⇑*i*Pg		**Pb**	**01 56 52.1**	**-0.4**
KHMM				*e*Sg		**Sb**	**01 57 02.1**	**-0.9**
KIPM	**Iron Peak**	**0.85**	**122**	*e*Pg		**Pb**	**01 56 53.0**	**-0.2**
KCPM	**Cahto Peak**	**0.86**	**132**	⇓*i*Pg		**Pb**	**01 56 51.5**	**-1.9**
KCPM				*e*Sg		**Sb**	**01 57 04.6**	**+0.2**
WDC	**Whiskeytown Da**	**1.47**	**77**	⇑*i*Pn		**Pn**	**01 57 01.1**	**-1.3**
WDC				*e*Sn		**Sn**	**01 57 19.9**	**-1.0**
HOPS	**Hopland**	**1.63**	**140**	⇓*i*Pn		**Pn**	**01 57 03.5**	**-1.2**
KBO	**Bosley Butte**	**1.96**	**4**	*e*Pn		**Pn**	**01 57 07.5**	**-1.6**
KBO				*e*Sn		**Sn**	**01 57 27.9**	**-5.1**
YBH	**Yreka Blue Hor**	**1.96**	**41**	Pn		**Pn**	**01 57 08.3**	**-0.8**
	190nm,0.3s,baz=256,slow=11,SNR=1336							
YBH				Lg			01 57 29.6	
	266nm,0.3s,baz=81,slow=15,SNR=17							
YBH	**Yreka Blue Hor**	**1.96**	**41**	⇑*i*Pn		**Pn**	**01 57 08.2**	**-0.9**
YBH				*e*Sn		**Sn**	**01 57 29.9**	**-3.1**
MCCM	**Marconi Confer**	**2.42**	**150**	⇑*i*Pn		**Pn**	**01 57 14.8**	**-0.7**
MCCM				*e*Sn		**Sn**	**01 57 37.4**	**-7.2**
OHCM	**Honcut**	**2.44**	**111**	*e*Pn		**Pn**	**01 57 14.2**	**-1.5**
OHCM				*e*Sn		**Sn**	**01 57 43.2**	**-1.7**
HUMO	**Hull Mountain**	**2.59**	**25**	*e*Pn		**Pn**	**01 57 17.2**	**-0.6**
HUMO				*e*Sn		**Sn**	**01 57 47.1**	**-1.5**
KEBM	**Edson Butte**	**2.61**	**1**	*e*Pn		**Pn**	**01 57 19.0**	**+0.9**
SAC	**San Andreas**	**3.09**	**149**	*e*Pn		**Pn**	**01 57 23.7**	**-1.1**
SAC				*e*			01 57 26.5	
SAC				Sn		**Sn**	**01 57 57.5**	**-3.6**
CMB	**Columbia Colle**	**3.84**	**124**	*e*Pn		**Pn**	**01 57 36.2**	**+1.2**
SAO	**San Andreas Ge**	**4.19**	**145**	*e*Pn		**Pn**	**01 57 38.4**	**-1.4**
SAO				*e*Sn		**Sn**	**01 58 30.0**	**+1.8**
WVOR	**Wild Horse Val**	**4.86**	**62**	*e*Pn		**Pn**	**01 57 47.8**	**-1.3**
NVAR	**Mina Array Bea**	**5.08**	**109**	Pn		**Pn**	**01 57 53.1**	**+1.1**
	11nm,0.3s,baz=290,slow=15,SNR=116							
NVAR				Lg			01 59 07.7	
	4.1nm,0.3s,baz=293,slow=32,SNR=3.6							
MNV	**Mina**	**5.18**	**109**	*e*Pn		**Pn**	**01 57 54.2**	**+0.8**
	28nm,0.8s							
BMN	**Battle Mountai**	**5.50**	**86**	*e*Pn		**Pn**	**01 57 57.2**	**-0.6**
	13nm,0.6s							
PTRM	**Twissleman Ran**	**5.67**	**143**	*e*Pn		**Pn**	**01 57 59.6**	**-0.6**
DAC	**Darwin (Calif)**	**6.68**	**124**	*e*Pn		**Pn**	**01 58 17.6**	**+3.6**
	3.0nm,0.5s							
DAC				*e*S		**Sb**	**01 59 51.5**	**-0.4**
BMO	**Blue Mountains**	**6.97**	**46**	*e*Pn		**Pn**	**01 58 19.2**	**+1.2**
	13nm,0.6s							
HAWA	**Hanford**	**7.09**	**29**	*e*Pn		**Pn**	**01 58 21.1**	**+1.5**
MWC	**Mount Wilson**	**7.87**	**138**	*e*Pn		**Pn**	**01 58 31.6**	**+1.3**
HLID	**Hailey**	**8.15**	**63**	*e*Pn		**Pn**	**01 58 34.4**	**+0.1**
PGC	**Sidney**	**8.42**	**4**	*e*Pn		**Pn**	**01 58 38.3**	**+0.4**
PGC				*e*Sn		**Sn**	**02 00 07.1**	**-5.1**
DUG	**Dugway**	**8.88**	**87**	*e*Pn		**Pn**	**01 58 46.2**	**+2.1**
PFO	**Pinyon Flat Ob**	**9.20**	**134**	*e*Pn		**Pn**	**01 58 49.7**	**+1.1**
NEW	**Newport**	**9.56**	**31**	Pn		**Pn**	**01 58 56.7**	**+3.2**
	0.3nm,0.3s,baz=226,slow=13,SNR=5.2							
NEW				LR		LR	02 02 34.8	
	comp=Z,259nm,20.6s,baz=219,slow=38							
NEW	**Newport**	**9.56**	**31**	Pn		**Pn**	**01 58 56.7**	**+3.2**
NEW				LR		LR	02 02 34.8	
MSO	**Missoula**	**10.04**	**46**	*e*Pn		**Pn**	**01 59 02.4**	**+2.3**
CHMT	**Chamberlain Mo**	**10.47**	**47**	*e*Pn		**Pn**	**01 59 08.1**	**+2.1**
TPAW	**Teton Pass**	**10.55**	**68**	*e*Pn		**Pn**	**01 59 10.9**	**+3.8**
REDW	**Red Top Meadow**	**10.59**	**69**	*e*Pn		**Pn**	**01 59 09.9**	**+2.2**
IMW	**Indian Meadow**	**10.66**	**66**	*e*Pn		**Pn**	**01 59 11.7**	**+3.2**
MOOW	**Moose Ponds**	**10.75**	**67**	*e*Pn		**Pn**	**01 59 13.3**	**+3.4**
LOHW	**Long Hollow**	**10.82**	**67**	*e*Pn		**Pn**	**01 59 14.2**	**+3.4**
FLWY	**Flagg Ranch**	**10.87**	**65**	*e*Pn		**Pn**	**01 59 14.6**	**+3.1**
HRY	**Holter Researc**	**11.18**	**51**	*e*Pn		**Pn**	**01 59 16.1**	**+0.4**
PDAR	**Pinedale Array**	**11.42**	**72**	Pn		**Pn**	**01 59 23.2**	**+4.3**
	0.2nm,0.3s,baz=264,slow=13,SNR=19							
WALA	**Waterton Lakes**	**11.54**	**37**	*e*Pn		**Pn**	**01 59 22.8**	**+2.2**
PV01	**Paradox Valley**	**12.48**	**95**	*e*Pn		**Pn**	**01 59 36.8**	**+3.4**
ISCO	**Idaho Springs**	**14.42**	**86**	*e*Pn		**Pn**	**02 00 01.7**	**+1.8**
	9.8nm,1.3s							
EDM	**Edmonton**	**15.00**	**26**	*e*Pn		**Pn**	**02 00 06.7**	**-1.1**
RSSD	**Black Hills**	**15.59**	**69**	*e*Pn		**Pn**	**02 00 14.6**	**-0.9**
	4.4nm,0.6s							
DGMT	**Dagmar**	**16.59**	**54**	*e*Pn		**Pn**	**02 00 26.8**	**-1.6**
	14nm,0.8s							
DLBC	**Dease Lake**	**18.55**	**351**	P		**Pn**	**02 00 52.2**	**-0.5**
	0.0nm,0.3s,baz=158,slow=19,SNR=2.1							
DLBC	**Dease Lake**	**18.55**	**351**	P		**Pn**	**02 00 52.2**	**-0.5**
FFC	**Flin Flon**	**20.83**	**39**	*e*P		**P**	**02 01 15.8**	**-1.5**
	6.2nm,0.6s							
KSU1	**Kansas State U**	**21.40**	**84**	*e*P		**P**	**02 01 25.9**	**+2.4**
ULM	**Lac du Bonnet**	**22.31**	**54**	P		**P**	**02 01 31.2**	**-2.0**
	5.6nm,0.7s,mb4.1,baz=261,slow=9.0,SNR=10							
ULM				LR		LR	02 11 25.7	
	comp=Z,165nm,18.0s,MS3.5,baz=256,slow=40							
YKA	**Yellowknife Ar**	**23.04**	**12**	P		**P**	**02 01 41.6**	**+0.7**
	0.3nm,0.6s,mb2.9,baz=200,slow=11,SNR=6.9							
YKA				LR		LR	02 11 28.9	
	comp=Z,146nm,18.2s,MS3.5,baz=140,slow=39							
YKW3	**Yellowknife Ar**	**23.10**	**12**	P		**P**	**02 01 41.5**	**-0.1**
EYMN	**Ely**	**24.71**	**61**	P		**P**	**02 01 56.2**	**-0.6**
FCC	**Fort Churchill**	**26.67**	**36**	*e*P		**P**	**02 02 14.9**	**+0.4**
	3.4nm,0.6s,mb4.0							
ILAR	**Eielson Array**	**27.79**	**339**	P		**P**	**02 02 26.4**	**+1.8**
	0.2nm,0.6s,mb2.9,baz=149,slow=8.5,SNR=5.8							
ILAR				LR		LR	02 11 35.5	
	comp=Z,51nm,20.0s,MS3.1,baz=360,slow=32							
INK	**Inuvik**	**28.54**	**353**	LR		LR	02 14 00.2	
	comp=Z,94nm,19.1s,MS3.4,baz=187,slow=37							
SADO	**Sadowa**	**33.34**	**67**	LR		LR	02 17 28.6	
	comp=Z,110nm,19.3s,MS3.6,baz=33,slow=38							
SCHQ	**Schefferville**	**40.33**	**49**	P		**P**	**02 04 12.1**	**-0.9**
	2.1nm,0.7s,mb4.0,baz=257,slow=8.8,SNR=7.6							
SCHQ				LR		LR	02 21 35.1	
	comp=Z,162nm,18.2s,MS3.9,baz=52,slow=37							
ARCES	**ARCESS Array B**	**68.31**	**11**	LR		LR	02 39 32.8	
	comp=Z,49nm,20.1s,MS3.7,baz=150,slow=38							
MDJ	**Mudanjiang**	**72.54**	**314**	P		**P**	**02 08 02.0**	**-0.5**
MDJ				PP		PP	02 10 42.5	-1.4
MDJ				AMB		AMB		
	comp=Z,68nm,3.8s							
NOA	**NORSAR Array B**	**72.78**	**21**	LR		LR	02 38 31.1	
	comp=Z,53nm,18.2s,MS3.9,baz=280,slow=35							
CN2	**Changchun**	**75.33**	**315**	*e*P		**P**	**02 08 19.8**	**+1.0**
SNY	**Shenyang**	**77.68**	**315**	*e*P		**P**	**02 08 31.3**	**-0.8**
SNY				AMB		AMB		
	comp=Z,5.0nm,0.2s							
GERES	**GERESS Array B**	**83.87**	**26**	LR		LR	02 45 39.4	
	comp=Z,45nm,18.3s,MS3.9,baz=286,slow=35							
HHC	**Hu-ho-hao-te**	**84.57**	**321**	*e*P		**P**	**02 09 07.5**	**-1.3**
HHC				AP		pP	02 09 12.5	-3.4
HHC				XP		sP	02 09 14.5	-3.9
HHC				PP		PP	02 12 24.5	+0.1
HHC				SKS			02 19 27.0	
HHC				S			02 19 32.0	
HHC				SS		SS	02 25 04.8	-0.8
HHC				AMB		AMB		
	comp=Z,142nm,4.6s							
HHC				LR		LR		
	comp=N,200nm,6.1s							
HHC				LR		LR		
	comp=E,152nm,5.1s							
HHC				LR		LR		
	comp=Z,77nm,5.7s							
SSE	**Sheshan**	**86.58**	**308**	P		**P**	**02 09 17.3**	**-1.5**
SSE				AMB		AMB		
	comp=Z,52nm,3.5s							
NJ2	**Nanjing**	**87.27**	**311**	*e*P		**P**	**02 09 24.0**	**+1.9**
NJ2				AP		pP	02 09 31.8	+2.6

STMA eS Sn 02 15 35.9 +0.2
AGPR Aguadilla, PR 2.22 250⇓eP Pn 02 15 12.5 +1.0
SABT Saba 2.26 135 eP Pn 02 15 12.4 +0.4
SABT eS Sn 02 15 41.7 +1.7
LSP Las Mesas 2.31 243⇑iP Pn 02 15 13.3 +0.5
MGP Maguayo 2.40 240⇓iP Pn 02 15 14.3 +0.4
CRPR Cabo Rojo, PR 2.42 240⇑eP Pn 02 15 14.6 +0.4
CPB Codrington 3.33 118 eP Pn 02 15 26.5 -0.3
BPA Boggy Peak 3.63 126 eP Pn 02 15 29.5 -1.4
BPA eS Sn 02 16 09.8 -4.0
LZG Guadaloupe-1 4.29 135 eP Pn 02 15 39.7 -0.3
SEG Port Louis 4.30 130 eP Pn 02 15 38.8 -1.2
SCG Saint Claude 4.43 136 eP Pn 02 15 43.0 +1.0
TBG Guadaloupe-3 4.59 137 eP Pn 02 15 44.8 +0.7
MGG Marie-Galante 4.76 133 eP Pn 02 15 46.1 -0.3
BBL Barber's Block 4.94 138 eP Pn 02 15 48.8 -0.1
MASC Masc 8.83 278 ePG Pn 02 16 41.2 -1.1
baz=130
MASC eSG Sn 02 18 13.7 -8.2
comp=N,1.1nm,0.5s
MASC e
comp=E,1.2nm,0.4s
HLGC Holguin 10.61 281 eP Pn 02 17 05.6 -1.0
SDV Santo Domingo 11.69 209 Pn Pn 02 17 23.5 +2.0
comp=E,2.0nm,0.3s,baz=57,slow=10,SNR=16
SDV Sn Sn 02 19 32.6 +0.5
comp=E,1.3nm,0.3s,baz=351,slow=18,SNR=4.0
SDV LR LR 02 22 25.6
comp=E,483nm,18.1s,baz=45,slow=40
SDV Santo Domingo 11.69 209 ePn Pn 02 17 25.7 +4.3
comp=E,38nm,0.8s
SDV eSn Sn 02 19 22.0 -10
ROSC El Rosal 16.99 214 P Pn 02 18 35.0 +2.6
comp=E,0.9nm,0.3s,baz=97,slow=18,SNR=7.9
NHSC New Hope 19.42 318 ePn Pn 02 19 06.9 +4.7
JTS JuntasAbangare 21.30 248 P P 02 19 24.4 +2.9
comp=E,6.2nm,0.7s,mb4.0,baz=305,slow=22,SNR=3.8
OTAV Otavalo 23.08 217 eP P 02 19 40.5 0.0
comp=E,30nm,1.3s,mb4.6
MYNC Murphy 23.20 317 eP P 02 19 42.5 +0.9
comp=E,7.3nm,0.4s,mb4.5
WVT Waverly 26.26 315 eP P 02 20 11.1 +1.1
comp=E,14nm,1.5s,mb4.3
WVT S S 02 24 57.1 +15
SAML Samuel 28.06 176 eP P 02 20 24.9 -1.3
comp=E,10nm,1.2s,mb4.3
SADO Sadowa 28.09 338 LR LR 02 31 39.1
comp=E,143nm,18.1s,MS3.6,baz=196,slow=37
LPAZ La Paz 35.44 185 P P 02 21 32.9 +1.9
comp=E,0.7nm,0.4s,mb4.0,baz=26,slow=16,SNR=1.8
LPAZ La Paz 35.44 185 P P 02 21 32.9 +1.9
SCHQ Schefferville 35.56 358 LR LR 02 33 21.8
comp=E,82nm,20.9s,MS3.5,baz=167,slow=32
ULM Lac du Bonnet 39.53 329 P P 02 22 03.7 -2.0
comp=E,0.5nm,0.3s,mb3.7,baz=153,slow=7.5,SNR=3.7
ULM Lac du Bonnet 39.53 329 P P 02 22 03.7 -2.0
ANMO Albuquerque 39.86 302 P P 02 22 08.9 +0.6
comp=E,0.8nm,0.8s,mb3.5,baz=98,slow=17,SNR=3.3
PV01 Paradox Valley 42.23 306 eP P 02 22 28.4 +0.5
PDAR Pinedale Array 44.23 312 P P 02 22 43.7 -0.3
comp=E,1.3nm,0.8s,mb3.7,baz=109,slow=8.3,SNR=11
TMUT Trail Mountain 44.51 307 eP P 02 22 46.9 +0.6
MOOW Moose Ponds 45.35 313 eP P 02 22 53.7 +0.7
comp=E,3.6nm,1.0s,mb4.2
TPAW Teton Pass 45.42 313 eP P 02 22 54.8 +1.3
comp=E,3.5nm,0.8s,mb4.2
CPUP Villa Florida 45.89 171 P P 02 22 57.2 -0.1
comp=E,0.9nm,0.5s,mb4.0,baz=356,slow=8.1,SNR=4.8
MCMT McKenzie Canyo 47.11 314 eP P 02 23 05.4 -1.5
NEW Newport 50.91 317 P P 02 23 35.2 -0.8
comp=E,3.1nm,1.0s,mb4.2,baz=111,slow=8.6,SNR=7.2
YKA Yellowknife Ar 54.98 334 P P 02 24 03.0 -3.0
comp=E,0.3nm,0.6s,mb3.5,baz=109,slow=7.5,SNR=6.6
PLCA Paso Flores 59.89 185 P P 02 24 41.0 +0.3
comp=E,1.8nm,0.9s,mb4.1,baz=16,slow=7.4,SNR=2.7
TORD Torodi Ar. Bea 63.93 324 P P 02 25 07.4 -0.5
comp=E,0.3nm,0.7s,mb3.5,baz=298,slow=6.1,SNR=4.8
ILAR Eielson Array 69.36 333 P P 02 25 42.6 +0.1
comp=E,1.1nm,0.6s,mb4.0,baz=100,slow=4.2,SNR=6.3
FINES FINESS Array B 73.78 30 LR LR 02 54 28.2
comp=E,71nm,18.6s,MS4.0,baz=212,slow=32
SUR Sutherland 96.60 122 LR LR 03 02 20.3
comp=E,169nm,21.4s,MS4.5,baz=327,slow=30
LBTB Lobatse 98.36 114 LR LR 03 02 28.1
comp=E,116nm,20.9s,MS4.3,baz=3.9,slow=29
WMQ Urumqi 112.41 21 ePKP PKiKP 02 33 09.8 -1.1
HHC Hu-ho-hao-te 120.13 3 ePKP PKPdf 02 33 24.3 -1.5
HHC PP PP 02 34 52.5 +1.8
HHC PKS 02 36 59.3
HHC SKS SKSdf 02 40 31.5 -6.5
HHC SKKS SKKSac 02 41 42.0 -8.9
HHC LR LR
comp=Z,86nm,5.5s
LZH Lanzhou 123.96 11 ePKP PKPdf 02 33 31.8 -1.3
LZH XPKP 02 33 46.5
NJ2 Nanjing 128.88 356 ePKP PKPdf 02 33 41.5 -1.0
SSE Sheshan 129.62 353 PKP PKPdf 02 33 42.5 -1.4

*ISCJB **26** 02:17:03.0±2.4, 3595N±005×6778E±006, h7km±16km, mb3.8/14, Error ellipse: s-maj=9.1km s-min=7.2km az=81.8*
*IDC **26** 02:17:03.3±1.1, 3585N×6797E, h0km, mb3.8/10, mb1 4.0/13, mb1mx3.8/23, mbtmp3.8/13, ML3.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=25.3km s-min=19.2km az=167.0*
*MOS **26** 02:17:06.5±1.4, 3601N×6794E, h33km, mb4.4/5, Error ellipse: s-maj=13.2km s-min=6.3km az=86.2*
*NNC **26** 02:17:07.5±4.2, 3631N×6764E, h0km±31km, mb4.2, mpv4.0, Error ellipse: s-maj=33.0km s-min=27.7km az=151.0*
*NEIC **26** 02:17:08.4±0.6, 3600N×6809E, h35km, mb3.8/7, Error ellipse: s-maj=12.8km s-min=7.0km az=49.0*
*BJI **26** 02:17:10.6, 3623N×6815E, h34km, mB4.7, mb4.3, ML3.9*
ISC 26 02:17:06.7±2.4, 3598N±005×6772E±006, h20km±16km, n64, σ1°47/68, mb3.8/14, 6C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**7.43**	**59**	⇑iP	**Pn**	**02 18 57.0**	**+2.9**
KSH				S	**Sn**	**02 20 18.5**	**+0.7**
KSH				Smax			
comp=N,61nm,0.5s							
KSH				Smax			
comp=E,60nm,0.4s							
KK31	**Karatay Array**	**7.44**	**16**	⇑Pn	**Pn**	**02 18 53.5**	**-0.6**
comp=E,5.6nm,0.5s,baz=197,slow=13,SNR=80							
KK31				⇓Sn	**Sn**	**02 20 16.1**	**-1.8**
comp=E,4.9nm,0.4s,baz=200,slow=26,SNR=4.0							
KK31				⇑Lg		02 20 54.3	
comp=E,18nm,0.6s,baz=196,slow=29,SNR=5.0							
KK31	**Karatay Array**	**7.44**	**16**	⇑Pn	**Pn**	**02 18 53.5**	**-0.6**
comp=E,5.6nm,0.5s							
KK31				Sn	**Sn**	**02 20 16.1**	**-1.8**
KK31				Lg		02 20 54.3	
KK31	**Karatay Array**	**7.44**	**16**	⇑P	**Pn**	**02 18 53.5**	**-0.6**
KK31						02 20 16.1	
KK31				pmax	pmax		
comp=Z,6.0nm,0.5s							
KKAR	**Karatay Array**	**7.44**	**16**	P	**Pn**	**02 18 54.1**	**0.0**
KKAR						02 20 12.9	
KKAR				pmax	pmax		
comp=Z,1.0nm,0.2s							
KKAR				smax			
comp=Z,3.0nm,0.3s							
AML	**Almayashu**	**7.71**	**35**	P	**Pn**	**02 19 00.2**	**+2.4**
SNR=13							
EKS2	**Erkin-Say**	**8.16**	**33**	P	**Pn**	**02 19 05.4**	**+1.4**
SNR=13							
UCH	**Uchtor**	**8.18**	**38**	P	**Pn**	**02 19 05.5**	**+1.2**
SNR=97							
KZA	**Kyzart**	**8.45**	**42**	P	**Pn**	**02 19 08.6**	**+0.6**
SNR=12							
AAK	**Ala-Archa**	**8.47**	**36**	P	**Pn**	**02 19 10.9**	**+2.6**
SNR=33							
FRU	**Bishkek**	**8.68**	**36**	eP	**Pn**	**02 19 12.8**	**+1.6**
FRU				e		02 20 45.0	
FRU				pmax	pmax		
comp=Z,38nm,1.8s							
KBK	**Karagaybulak**	**8.71**	**38**	P	**Pn**	**02 19 14.5**	**+2.9**
SNR=6.6							
CHMS	**Chumysh**	**8.87**	**36**	P	**Pn**	**02 19 15.5**	**+1.7**
SNR=13							
SDNR	**Sundarnagar**	**8.90**	**117**	eP	**Pn**	**02 19 15.5**	**+1.3**
USP	**Ospenovka**	**8.96**	**34**	P	**Pn**	**02 19 13.8**	**-1.3**
SNR=6.8							
ULHL	**Ulahol**	**9.11**	**44**	P	**Pn**	**02 19 18.3**	**+1.2**
SNR=32							
TKM2	**Tokmak 2**	**9.23**	**39**	P	**Pn**	**02 19 20.3**	**+1.6**
SNR=18							
AB31	**Akbulak array**	**14.44**	**339**	⇓P	**Pn**	**02 20 27.5**	**-2.4**
comp=Z,2.2nm,0.5s,baz=156,slow=13,SNR=47							
AB31	**Akulak array**	**14.44**	**339**	⇓P	**Pn**	**02 20 27.5**	**-2.4**
comp=Z,2.2nm,0.4s							
AB31	**Akbulak array**	**14.44**	**339**	P	**Pn**	**02 20 27.9**	**-2.0**
AB31				pmax	pmax		
comp=Z,1.0nm,0.5s							
MK31	**Makanchi Array**	**15.35**	**41**	⇓P	**Pn**	**02 20 40.6**	**-1.6**
comp=Z,9.3nm,0.8s,baz=231,slow=11,SNR=37							
MK31	**Makanchi Array**	**15.35**	**41**	⇓P	**Pn**	**02 20 40.6**	**-1.6**
comp=Z,9.3nm,0.8s							
MK31	**Makanchi Array**	**15.35**	**41**	⇓P	**Pn**	**02 20 40.6**	**-1.6**
MK31				pmax	pmax		
comp=Z,9.0nm,0.8s							
MKAR	**Makanchi Array**	**15.35**	**41**	Pn	**Pn**	**02 20 38.9**	**-3.2**
comp=Z,0.4nm,0.3s,baz=225,slow=14,SNR=53							
MKAR	**Makanchi Array**	**15.35**	**41**	Pn	**Pn**	**02 20 38.9**	**-3.2**
MKAR	**Makanchi Array**	**15.35**	**41**	*i* P	**Pn**	**02 20 39.3**	**-2.9**
MKAR				pmax	pmax		
comp=Z,5.0nm,0.7s							
KOLN	**Koldanda**	**15.77**	**117**	eP	**Pn**	**02 20 45.9**	**-1.7**
AKTK	**Aktyubinsk**	**16.07**	**337**	Pn	**Pn**	**02 20 50.1**	**-1.3**
AKTO	**Aktyubinsk**	**16.07**	**337**	Pn	**Pn**	**02 20 50.1**	**-1.3**
comp=Z,0.3nm,0.3s,baz=148,slow=11,SNR=5.3							
GKN	**Gorkha**	**16.39**	**114**	eP	**Pn**	**02 20 55.5**	**-0.2**
comp=Z,19nm,0.5s							
KURK	**Kurchatov**	**16.70**	**25**	P	**Pn**	**02 20 58.3**	**-1.2**
comp=Z,3.1nm,0.7s							
KURK	**Kurchatov**	**16.70**	**25**	P	**Pn**	**02 20 58.3**	**-1.3**
KURK				pmax	pmax		
comp=Z,3.0nm,0.7s							
DMN	**Daman**	**16.96**	**115**	eP	**Pn**	**02 20 58.0**	**-4.8**
comp=Z,16nm,0.7s							
KKN	**Kakani**	**16.99**	**114**	eP	**Pn**	**02 21 00.0**	**-3.1**
comp=Z,12nm,0.5s							
ZRNK	**Zerenda**	**17.00**	**3**	⇓P	**Pn**	**02 21 03.0**	**-0.3**
comp=Z,8.3nm,1.5s							
ZRNK	**Zerenda**	**17.00**	**3**	ePn	**Pn**	**02 21 00.3**	**-2.9**
comp=Z,3.8nm,0.4s							
ZRNK				eSn	**Sn**	**02 24 00.5**	**-11**
ZRNK	**Zerenda**	**17.00**	**3**	eP	**Pn**	**02 21 00.3**	**-3.0**
ZRNK				e		02 24 00.5	
ZRNK				pmax	pmax		
comp=Z,4.0nm,0.4s							
BVA0	**Borovoye Array**	**17.15**	**5**	⇓P	**Pn**	**02 21 05.8**	**+0.7**
comp=Z,0.9nm,0.8s,baz=234,slow=41,SNR=30							
BVA0	**Borovoye Array**	**17.15**	**5**	⇓P	**Pn**	**02 21 05.8**	**+0.6**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**17.15**	**5**	Pn	**Pn**	**02 21 02.7**	**-2.5**
comp=Z,0.8nm,0.3s,baz=192,slow=9.5,SNR=15							
BRVK	**Borovoye**	**17.18**	**5**	eP	**Pn**	**02 21 05.0**	**-0.4**
comp=Z,5.9nm,0.9s							
BRVK	**Borovoye**	**17.18**	**5**	eP	**Pn**	**02 21 05.0**	**-0.5**
BRVK				pmax	pmax		
comp=Z,6.0nm,0.9s							
WMQ	**Urumqi**	**17.19**	**57**	eP	**Pn**	**02 21 05.5**	**-0.2**
WMQ				AP	pP	02 21 15.5	+2.8
WMQ				XP	sP	02 21 19.5	+4.3
WMQ				AMB	AMB		
comp=Z,14nm,1.0s							
WMQ				AMB	AMB		
comp=Z,99nm,4.3s							
PKI	**Pulchoki**	**17.20**	**114**	eP	**Pn**	**02 21 01.7**	**-4.1**
GUN	**Gumba**	**17.37**	**112**	eP	**Pn**	**02 21 06.5**	**-1.4**
comp=Z,30nm,0.9s							
JIRN	**Jiri**	**17.74**	**113**	eP	**Pn**	**02 21 08.4**	**-4.1**
comp=Z,21nm,0.6s							
CHKZ	**Chkalovo**	**17.82**	**6**	⇑P	**Pn**	**02 21 13.0**	**-0.4**
comp=Z,3.2nm,0.8s							
NVS	**Novosibirsk**	**21.69**	**25**	eP	**P**	**02 21 56.8**	**+0.5**
NVS				pmax	pmax		
comp=N,11nm,1.1s							
NVS				pmax	pmax		
comp=E,10.0nm,1.1s							
NVS				pmax	pmax		
comp=Z,13nm,1.1s,mb4.3							
GTA	**Gaotai**	**25.56**	**73**	eP	**P**	**02 22 36.8**	**+2.6**
GTA				AP	pP	02 22 46.5	+6.3
GTA				XP	sP	02 22 49.8	+7.1
GTA				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.0							
BRTR	**Keskin Array B**	**27.07**	**288**	P	**P**	**02 22 50.0**	**+2.1**
comp=Z,1.0nm,1.1s,mb3.3,baz=75,slow=8.0,SNR=3.0							
ZAK	**Zakamensk**	**29.34**	**49**	eP	**P**	**02 23 16.3**	**+8.1**
ZAK				pmax	pmax		
comp=Z,6.0nm,2.1s,mb4.0							
SONM	**Songino Array**	**30.82**	**55**	P	**P**	**02 23 18.6**	**-2.6**
comp=Z,0.3nm,0.5s,mb3.3,baz=265,slow=13,SNR=2.7							
SONM				LR	LR	02 37 30.9	
comp=Z,67nm,18.3s,baz=19,slow=40							
FINES	**FINESS Array B**	**36.47**	**328**	P	**P**	**02 24 11.5**	**+1.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=117,slow=9.4,SNR=9.5							
ARCES	**ARCESS Array B**	**40.64**	**339**	P	**P**	**02 24 46.0**	**+0.6**
comp=Z,5.4nm,1.1s,mb4.1,baz=95,slow=8.6,SNR=4.2							
ARCES	**ARCESS Array B**	**40.64**	**339**	P	**P**	**02 24 46.0**	**+0.6**
ARCES				pmax	pmax		
comp=Z,5.0nm,1.1s							
GERES	**GERESS Array B**	**41.07**	**306**	P	**P**	**02 24 50.2**	**+1.3**
comp=Z,0.8nm,1.1s,mb3.3,baz=81,slow=6.1,SNR=2.2							
NB2	**NORSAR Subarra**	**43.21**	**324**	P	**P**	**02 25 06.3**	**-0.1**
comp=Z,2.2nm,0.9s,mb3.9,baz=100,slow=8.6							
NB2	**NORSAR Subarra**	**43.21**	**324**	P	**P**	**02 25 06.3**	**-0.1**
NB2				pmax	pmax		
comp=Z,2.0nm,0.9s,mb3.9							
NOA	**NORSAR Array B**	**43.21**	**324**	P	**P**	**02 25 06.7**	**+0.2**
comp=Z,1.4nm,0.8s,mb3.7,baz=100,slow=8.1,SNR=4.1							
TIXI	**Tiksi**	**47.26**	**22**	eP	**P**	**02 25 38.4**	**-0.1**
TIXI				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
TORD	**Torodi Ar. Bea**	**63.04**	**267**	P	**P**	**02 27 33.6**	**+1.2**
comp=Z,1.3nm,0.6s,mb4.3,baz=46,slow=5.5,SNR=30							
INK	**Inuvik**	**74.82**	**8**	P	**P**	**02 28 45.9**	**+0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=349,slow=4.9,SNR=4.1							
YKA	**Yellowknife Ar**	**81.86**	**1**	P	**P**	**02 29 24.2**	**-0.4**
comp=Z,0.2nm,0.6s,mb3.2,baz=353,slow=5.3,SNR=6.5							
ASAR	**Alice Springs**	**86.17**	**123**	P	**P**	**02 29 46.7**	**+0.1**
comp=Z,0.8nm,0.9s,mb3.9,baz=314,slow=4.5,SNR=5.5							

*ISCJB **26** 02:20:34.6±1.2, 1933N±006×6483W±005, h24km±9km, Error ellipse: s-maj=9.8km s-min=7.9km az=7.2*
*NEIC **26** 02:20:35.6, 1938N×6476W, h10km, MD3.5(RSPR), After RSPR.*
*RSPR **26** 02:20:35.6, 1938N×6476W, h10km±3km, MD3.5/16, MD3.5/16*
ISC 26 02:20:34.9±1.2, 1928N±006×6485W±005, h13km±7km, n71, σ0°69/90, 34C-10D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.89**	**165**	⇑eP	**Pg**	**02 20 51.8**	**-0.4**
TBVI	**Tortola**	**0.89**	**165**	eS	**Sg**	**02 21 05.2**	**+1.3**
TBVI	**Tortola**	**0.89**	**165**	⇑eP	**Pg**	**02 20 51.5**	**-0.7**
TBVI	**Tortola**	**0.89**	**165**	eS	**Sg**	**02 21 03.3**	**-0.6**
TBVI	**Tortola**	**0.89**	**165**	⇑eP	**Pg**	**02 20 51.5**	**-0.7**
TBVI				eS	**Sg**	**02 21 03.3**	**-0.6**
STVI	**Saint Thomas**	**0.93**	**187**	⇑eP	**Pg**	**02 20 53.2**	**+0.4**
STVI	**Saint Thomas**	**0.93**	**187**	eS	**Sg**	**02 21 06.5**	**+1.6**
STVI	**Saint Thomas**	**0.93**	**187**	⇓eP	**Pg**	**02 20 52.2**	**-0.6**
STVI	**Saint Thomas**	**0.93**	**187**	eS	**Sg**	**02 21 05.4**	**+0.5**
STVI	**Saint Thomas**	**0.93**	**187**	⇓eP	**Pg**	**02 20 52.2**	**-0.6**
STVI				eS	**Sg**	**02 21 05.4**	**+0.5**
MTP	**Monte Pirata**	**1.35**	**210**	⇑eP	**Pn**	**02 20 59.0**	**-0.5**
MTP	**Monte Pirata**	**1.35**	**210**	eS	**Sn**	**02 21 18.0**	**+0.7**
MTP	**Monte Pirata**	**1.35**	**210**	⇓eP	**Pn**	**02 20 58.8**	**-0.8**
MTP	**Monte Pirata**	**1.35**	**210**	eS	**Sn**	**02 21 16.7**	**-0.6**
MTP	**Monte Pirata**	**1.35**	**210**	⇓eP	**Pn**	**02 20 58.8**	**-0.8**
MTP				eS	**Sn**	**02 21 16.7**	**-0.6**
CBYP	**Canovanas**	**1.38**	**224**	⇑eP	**Pn**	**02 20 59.4**	**-0.5**
CBYP	**Canovanas**	**1.38**	**224**	eS	**Sn**	**02 21 18.2**	**+0.2**
CBYP	**Canovanas**	**1.38**	**224**	⇑eP	**Pn**	**02 20 59.5**	**-0.4**
CBYP	**Canovanas**	**1.38**	**224**	eS	**Sn**	**02 21 16.8**	**-1.3**
CBYP	**Canovanas**	**1.38**	**224**	⇑eP	**Pn**	**02 20 59.5**	**-0.4**
CBYP				eS	**Sn**	**02 21 16.8**	**-1.3**
HUMP	**Col San Antoni**	**1.47**	**220**	⇑eP	**Pn**	**02 21 01.1**	**0.0**
HUMP	**Col San Antoni**	**1.47**	**220**	eS	**Sn**	**02 21 20.9**	**+0.6**
HUMP	**Col San Antoni**	**1.47**	**220**	⇓eP	**Pn**	**02 21 00.3**	**-0.8**
HUMP	**Col San Antoni**	**1.47**	**220**	⇓eP	**Pn**	**02 21 19.9**	**-0.4**
HUMP	**Col San Antoni**	**1.47**	**220**	eS	**Sn**	**02 21 00.3**	**-0.8**
HUMP				eS	**Sn**	**02 21 19.9**	**-0.4**
CDVI	**St. Croix**	**1.52**	**177**	eS	**Sn**	**02 21 21.6**	**+0.1**
CDVI	**St. Croix**	**1.52**	**177**	eS	**Sn**	**02 21 21.5**	**+0.1**
CDVI	**St. Croix**	**1.52**	**177**	⇑eP	**Pn**	**02 21 02.5**	**+0.7**
CDVI				eS	**Sn**	**02 21 21.6**	**+0.1**
CPD	**Cerro la Pandu**	**1.59**	**219**	⇑eP	**Pn**	**02 21 02.9**	**+0.1**
CPD	**Cerro la Pandu**	**1.59**	**219**	eS	**Sn**	**02 21 23.8**	**+0.6**
CPD	**Cerro la Pandu**	**1.59**	**219**	⇑eP	**Pn**	**02 21 02.2**	**-0.6**
CPD	**Cerro la Pandu**	**1.59**	**219**	eS	**Sn**	**02 21 22.4**	**-0.8**
CPD	**Cerro la Pandu**	**1.59**	**219**	⇑eP	**Pn**	**02 21 02.2**	**-0.6**
CPD				eS	**Sn**	**02 21 22.4**	**-0.8**
SJG	**San Juan**	**1.69**	**227**	eS	**Sn**	**02 21 26.6**	**+1.0**
SJG	**San Juan**	**1.69**	**227**	⇑eP	**Pn**	**02 21 03.9**	**-0.2**
SJG	**San Juan**	**1.69**	**227**	⇑eP	**Pn**	**02 21 03.9**	**-0.2**
SJG				eS	**Sn**	**02 21 26.2**	**+0.6**
SJG	**San Juan**	**1.69**	**227**	eS	**Sn**	**02 21 24.1**	**-1.5**
SJG	**San Juan**	**1.69**	**227**	⇑eP	**Pn**	**02 21 03.0**	**-1.1**
SJG	**San Juan**	**1.69**	**227**	⇓eP	**Pn**	**02 21 04.2**	**+0.1**
SJG				eS	**Sn**	**02 21 24.1**	**-1.5**
SJG	**San Juan**	**1.69**	**227**	⇑eP	**Pn**	**02 21 03.0**	**-1.1**
SJG				eS	**Sn**	**02 21 24.1**	**-1.5**
AOPR	**Arecibo Observ**	**2.02**	**243**	eS	**Sn**	**02 21 34.5**	**+0.7**
AOPR	**Arecibo Observ**	**2.02**	**243**	⇑eP	**Pn**	**02 21 09.0**	**+0.3**
AOPR	**Arecibo Observ**	**2.02**	**243**	eS	**Sn**	**02 21 33.2**	**-0.6**
AOPR	**Arecibo Observ**	**2.02**	**243**	⇑eP	**Pn**	**02 21 08.5**	**-0.3**
AOPR	**Arecibo Observ**	**2.02**	**243**	⇑eP	**Pn**	**02 21 08.5**	**-0.3**
AOPR				eS	**Sn**	**02 21 33.2**	**-0.6**
CELP	**Cerrillos**	**2.03**	**234**	⇑eP	**Pn**	**02 21 08.6**	**-0.2**
CELP				eS	**Sn**	**02 21 35.0**	**+1.0**
CELP	**Cerrillos**	**2.03**	**234**	⇑eP	**Pn**	**02 21 08.5**	**-0.3**
OBIP	**Obispado Ponce**	**2.07**	**234**	eS	**Sn**	**02 21 36.0**	**+1.1**
OBIP	**Obispado Ponce**	**2.07**	**234**	⇑eP	**Pn**	**02 21 09.7**	**+0.3**
OBIP	**Obispado Ponce**	**2.07**	**234**	eS	**Sn**	**02 21 33.9**	**-1.1**
OBIP	**Obispado Ponce**	**2.07**	**234**	⇓eP	**Pn**	**02 21 09.5**	**+0.1**
OBIP	**Obispado Ponce**	**2.07**	**234**	⇓eP	**Pn**	**02 21 09.5**	**+0.1**
OBIP				eS	**Sn**	**02 21 33.9**	**-1.1**
ICM	**Isla Caja Muer**	**2.10**	**229**	⇑eP	**Pn**	**02 21 10.2**	**+0.5**
ICM	**Isla Caja Muer**	**2.10**	**229**	eS	**Sn**	**02 21 36.4**	**+0.7**
ICM	**Isla Caja Muer**	**2.10**	**229**	eS	**Sn**	**02 21 34.5**	**-1.2**
ICM	**Isla Caja Muer**	**2.10**	**229**	⇑eP	**Pn**	**02 21 10.0**	**+0.2**
ICM	**Isla Caja Muer**	**2.10**	**229**	⇑eP	**Pn**	**02 21 10.0**	**+0.2**
ICM				eS	**Sn**	**02 21 34.5**	**-1.2**
LRS	**Lares**	**2.13**	**243**	⇓iP	**Pn**	**02 21 10.1**	**0.0**
LRS				eS	**Sn**	**02 21 36.8**	**+0.3**
LRS	**Lares**	**2.13**	**243**	⇑eP	**Pn**	**02 21 10.4**	**+0.2**
LSP	**Las Mesas**	**2.38**	**243**	eS	**Sn**	**02 21 43.4**	**+0.7**
LSP	**Las Mesas**	**2.38**	**243**	⇑eP	**Pn**	**02 21 14.9**	**+1.2**
LSP	**Las Mesas**	**2.38**	**243**	⇑eP	**Pn**	**02 21 14.0**	**+0.3**
LSP				eS	**Sn**	**02 21 43.4**	**+0.7**
MGP	**Maguayo**	**2.47**	**240**	⇑eP	**Pn**	**02 21 15.3**	**+0.4**
MGP				eS	**Sn**	**02 21 45.8**	**+1.0**
MGP	**Maguayo**	**2.47**	**240**	⇑eP	**Pn**	**02 21 14.6**	**-0.3**
MGP	**Maguayo**	**2.47**	**240**	⇑eP	**Pn**	**02 21 14.6**	**-0.3**
MGP				eS	**Sn**	**02 21 45.8**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.49**	**240**	eS	**Sn**	**02 21 46.0**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.49**	**240**	⇑eP	**Pn**	**02 21 15.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.49**	**240**	eS	**Sn**	**02 21 44.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.49**	**240**	⇑eP	**Pn**	**02 21 15.1**	**0.0**
CRPR				eS	**Sn**	**02 21 46.0**	**+0.7**
LZG	**Guadaloupe-1**	**4.28**	**136**	eP	**Pn**	**02 21 40.6**	**+0.9**
SEG	**Port Louis**	**4.28**	**131**	eP	**Pn**	**02 21 39.6**	**-0.2**

IDC 26 02:22:27.8±6.7, 363N×12449E, h422km±79km, mb2.9/6, mb1 3.0/6, mb1mx2.8/18, mbtmp3.7/6, Error ellipse: s-maj=57.2km s-min=22.1km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.62**	**177**	P	P	02 26 45.5	0.0
1.2nm,0.3s,baz=347,slow=14,SNR=6.7							
WRA	**Warramunga Arr**	**25.34**	**158**	P	P	02 27 18.7	-0.3
0.5nm,0.3s,baz=335,slow=10,SNR=9.7							
ASAR	**Alice Springs**	**28.64**	**162**	P	P	02 27 49.5	+1.5
0.1nm,0.3s,baz=342,slow=7.3,SNR=4.7							
NWAO	**Narrogin (SRO)**	**37.00**	**190**	P	P	02 28 59.6	+0.2
3.9nm,0.9s,baz=36,slow=18,SNR=3.5							
STKA	**Stephens Creek**	**38.88**	**157**	P	P	02 29 14.6	-0.3
0.4nm,0.4s,baz=342,slow=13,SNR=2.6							
MKAR	**Makanchi Array**	**56.38**	**326**	P	P	02 31 27.3	0.0
0.5nm,0.5s,baz=133,slow=8.0,SNR=8.4							
TORD	**Torodi Ar. Bea**	**120.82**	**288**	PKP	PKPdf	02 40 31.7	+0.9
0.1nm,0.3s,baz=72,slow=1.5,SNR=6.8							

*ISCJB **26** 02:24:34.2±2.1, 4.18N±004×7858W±006, h24km±15km, mb4.5/46, MS3.9/8, Error ellipse: s-maj

comp=Z,188nm,19.1s,MS3.9,baz=179,slow=38
MNTX Cornudas Mount 37.20 321 *eP* **P 02 31 44.5 -1.1**
4.9nm,1.0s,mb4.3
ANMO Albuquerque 40.06 323 *eP* **P 02 32 10.2 +0.6**
19nm,1.5s,mb4.6
SADO Sadowa 40.44 359 P **P 02 32 13.1 +0.4**
9.0nm,1.0s,mb4.5,baz=195,slow=6.6,SNR=4.1
TUC Tucson 41.15 317 *eP* **P 02 32 19.0 +0.4**
6.4nm,1.2s,mb4.1
TUC *e* pP 02 32 29.6 -0.1
SMCO Snowmass 43.33 327 *eP* **P 02 32 36.0 -0.4**
15nm,1.5s,mb4.5
WUAZ Wupatki 43.47 320 *eP* **P 02 32 38.6 +1.1**
25nm,1.3s,mb4.8
PV01 Paradox Valley 43.48 325 *eP* **P 02 32 37.4 -0.2**
PV10 Paradox Valley 43.92 325 *eP* **P 02 32 41.4 +0.4**
TRQA Tornquist 44.74 161 *eP* **P 02 32 47.9 +0.2**
15nm,1.2s,mb4.7
SRU San Rafael 45.27 325 *eP* **P 02 32 51.7 -0.1**
19nm,1.1s,mb4.8
PLCA Paso Flores 45.28 171 P **P 02 32 53.0 +1.1**
16nm,0.9s,mb4.8,baz=348,slow=8.7,SNR=37
PLCA Paso Flores 45.28 171 *eP* **P 02 32 53.2 +1.2**
25nm,1.1s,mb5.0
RSSD Black Hills 45.68 334 *eP* **P 02 32 55.3 +0.2**
34nm,1.4s,mb5.1
BW06 Boulder Array 47.27 329 *eP* **P 02 33 07.9 +0.3**
14nm,1.3s,mb4.8
PDAR Pinedale Array 47.27 329 P **P 02 33 07.8 +0.2**
4.4nm,1.0s,mb4.3,baz=110,slow=13,SNR=20
PDAR LR LR 02 54 04.8
comp=Z,75nm,20.4s,MS3.6,baz=138,slow=37
DUG Dugway 47.31 324 *eP* **P 02 33 05.6 -2.3**
8.5nm,1.4s,mb4.5
HWUT Hardware Ranch 47.53 326 *eP* **P 02 33 09.2 -0.4**
12nm,1.3s,mb4.8
ULM Lac du Bonnet 48.19 345 P **P 02 33 14.1 -0.6**
7.5nm,0.9s,mb4.7,baz=154,slow=8.6,SNR=17
ULM LR LR 02 53 53.9
comp=Z,81nm,18.3s,MS3.7,baz=206,slow=36
REDW Red Top Meadow 48.36 329 *eP* **P 02 33 15.8 -0.3**
31nm,1.3s,mb5.2
REDW *e* 02 33 23.5
SNOW Snow King Moun 48.38 329 *eP* **P 02 33 16.8 +0.7**
18nm,1.1s,mb5.0
LOHW Long Hollow 48.41 329 *eP* **P 02 33 16.7 +0.3**
18nm,1.3s,mb5.0
TPAW Teton Pass 48.50 329 *eP* **P 02 33 18.3 +1.2**
5.0nm,0.9s,mb4.5
MOOW Moose Ponds 48.58 329 *eP* **P 02 33 17.1 -0.6**
8.8nm,1.0s,mb4.7
FLWY Flagg Ranch 48.79 329 *eP* **P 02 33 21.1 +1.8**
10nm,1.1s,mb4.8
GCMT Greycliff 49.52 332 *eP* **P 02 33 25.1 +0.2**
NVAR Mina Array Bea 49.67 319 P **P 02 33 26.9 +0.9**
2.8nm,0.7s,mb4.4,baz=126,slow=8.0,SNR=12
BMN Battle Mountai 50.11 322 *eP* **P 02 33 29.6 +0.2**
8.0nm,0.9s,mb4.8
SCHQ Schefferville 51.41 9 P **P 02 33 38.9 -0.2**
3.7nm,0.9s,mb4.3,baz=162,slow=3.1,SNR=6.6
YBH Yreka Blue Hor 54.29 320 LR LR 02 57 48.3
comp=Z,62nm,20.3s,MS3.7,baz=272,slow=37
NEW Newport 54.90 329 LR LR 02 58 48.2
comp=Z,90nm,18.4s,MS3.9,baz=286,slow=37
NEW Newport 54.90 329 *eP* **P 02 34 03.8 -1.0**
20nm,1.8s,mb4.8
EDM Edmonton 56.61 336 *eP* **P 02 34 16.1 -0.9**
YKA Yellowknife Ar 64.00 342 P **P 02 35 06.1 -1.4**
2.0nm,0.8s,mb4.2,baz=133,slow=6.5,SNR=30
YKA Yellowknife Ar 64.00 342 P **P 02 35 06.1 -1.4**
DLBC Dease Lake 67.15 333 *eP* **P 02 35 27.6 -0.4**
SUMG Summit 72.63 12 *eP* **P 02 36 01.5 -0.1**
12nm,0.8s,mb4.9
DBIC Dimbokro 73.38 84 P **P 02 36 06.7 +0.6**
6.3nm,0.9s,mb4.5,baz=226,slow=8.1,SNR=5.4
DBIC Dimbokro 73.38 84 *eP* **P 02 36 06.5 +0.5**
12nm,1.0s,mb4.8
INK Inuvik 73.74 342 P **P 02 36 07.2 -1.0**
3.0nm,1.0s,mb4.2,baz=94,slow=6.0,SNR=9.3
DAWY Dawson 73.82 336 *eP* **P 02 36 09.9 +1.3**
ESDC Sonseca Array 75.52 50 P **P 02 36 18.6 +0.2**
1.5nm,0.8s,mb4.0,baz=264,slow=4.9,SNR=6.8
ILAR Eielson Array 77.10 336 P **P 02 36 25.7 -1.7**
2.1nm,1.0s,mb4.0,baz=109,slow=4.1,SNR=14
TORD Torodi Ar. Bea 79.61 77 P **P 02 36 41.8 +0.5**
1.9nm,0.6s,mb4.2,baz=281,slow=6.8,SNR=30
MEM Membach 83.37 40 ||P **P 02 37 00.0 -1.1**
MEM AP pP 02 37 08.3 -5.0
WLF Walferdange 83.44 41 ||P **P 02 37 02.4 +0.9**
WLF Walferdange 83.44 41 *eP* **P 02 37 01.5 -0.1**
5.1nm,0.6s,mb4.7
NB2 NORSAR Subarra 86.29 29 P **P 02 37 14.3 -1.5**
comp=Z,5.4nm,1.1s,mb4.7,baz=272,slow=4.8
NOA NORSAR Array B 86.29 29 P **P 02 37 15.1 -0.8**
comp=Z,2.2nm,0.9s,mb4.4,baz=271,slow=4.6,SNR=4.4
VNA3 Neumayer Olymp 87.26 162 *eP* **P 02 37 21.0 +0.4**
VNA3 *e* 02 37 22.9
VNA3 *e* 02 37 25.1
VNA3 *e* pP 02 37 32.5 -0.3
VNA3 *e* 02 37 35.7
CLL Collm 87.77 39 *eP* **P 02 37 24.0 +0.9**
VNA2 Neumayer--Watz 87.84 162 *eP* **P 02 37 24.1 +0.7**
baz=302,slow=5.2
VNA2 *e* 02 37 25.8
VNA2 *e* 02 37 28.5
VNA2 *e* pP 02 37 34.5 -1.1
VNA2 *e* pP 02 37 38.5 +2.9
GERES GERESS Array B 88.40 41 P **P 02 37 26.8 +0.8**
comp=Z,1.1nm,0.8s,mb4.1,baz=274,slow=3.9,SNR=8.2
SNAA Sanae 89.47 162 *eP* **P 02 37 30.9 -0.2**
comp=Z,4.5nm,0.8s,mb4.8
ZRNK Zerenda 116.88 21 *e*PKPdf PKPdf 02 43 18.3 -0.2
KURK Kurchatov 121.93 17 *e*PKPdf PKPdf 02 43 28.6 +0.4
MKAR Makanchi Array 126.52 16 PKP PKPdf 02 43 36.9 -0.1
comp=Z,1.2nm,0.8s,baz=327,slow=2.0,SNR=9.9
ULN Ulaanbaatar 127.95 355 *e*PKPdf PKPdf 02 43 39.8 +0.1
SONM Songino Array 128.04 356 PKP PKPdf 02 43 39.9 0.0
comp=Z,3.1nm,0.9s,baz=336,slow=2.1,SNR=19
SNY Shenyang 129.97 338 *e*PKP PKPdf 02 43 43.3 -0.3
WMQ Urumqi 130.66 13 *e*PKP PKPdf 02 43 45.0 +0.1
WMQ LR LR
comp=N,141nm,22.0s
WMQ LR LR
comp=Z,157nm,22.0s,MS4.7
STKA Stephens Creek 133.33 229 PKP PKPdf 02 43 48.4 -1.6
comp=Z,1.9nm,0.6s,baz=35,slow=3.4,SNR=7.4
STKA Stephens Creek 133.33 229 *e*PKPdf PKPdf 02 43 49.1 -0.8
HHC Hu-ho-hao-te 134.25 349 *e*PKP PKPdf 02 43 52.3 +0.7
HHC PP PP 02 46 27.5 +4.3
HHC PKS 02 47 26.5
HHC SKS SKSdf 02 50 57.8 -1.8
HHC SKKS SKKSac 02 53 14.5 -1.1
HHC SS SS 03 04 10.8 +1.0
HHC LR LR
comp=Z,124nm,5.3s
GTA Gaotai 136.62 2 *e*PKP PKPdf 02 43 57.5 +1.5
LZH Lanzhou 139.90 357 *e*PKP PKPdf 02 44 02.5 +0.4
LZH XPKP 02 44 17.0
SSE Sheshan 140.19 333 PKP PKPdf 02 44 03.0 +0.4
NJ2 Nanjing 140.35 336 *e*PKP PKPdf 02 43 59.5 -3.4
NJ2 PKS 02 47 34.0
NJ2 SKS SKSdf 02 51 04.0 -6.0
NJ2 SKKS SKKSac 02 53 47.0 -4.9
NJ2 PP PP
comp=Z,40nm,10.2s
NJ2 LR LR
comp=N,360nm,34.6s
NJ2 LR LR
comp=E,460nm,20.3s
NJ2 LR LR
comp=Z,210nm,22.7s
ASAR Alice Springs 143.15 235 PKhKP 02 44 04.5
comp=Z,2.7nm,0.7s,baz=121,slow=3.7,SNR=32
GKN Gorkha 144.16 26 *eP* PKPdf 02 44 08.2 -1.5
comp=Z,13nm,0.8s
WB2 Warramunga Arr 144.29 241 ||*eP* PKPdf 02 44 08.5 -1.4
WRAB Tennant Creek 144.30 241 *e*PKPdf PKPdf 02 44 08.6 -1.3
WRA Warramunga Arr 144.30 241 PKP PKPdf 02 44 08.6 -1.4
comp=Z,11nm,0.9s,baz=108,slow=3.1,SNR=51
KKN Kakani 144.62 25 *eP* PKPdf 02 44 10.3 -0.2
DMN Daman 144.71 26 *eP* PKPdf 02 44 10.5 -0.1
comp=Z,37nm,0.9s
GUN Gumba 144.77 24 *eP* PKPdf 02 44 11.1 +0.4
comp=Z,83nm,1.1s
PKI Pulchoki 144.87 25 *eP* PKPdf 02 44 10.8 -0.1
CD2 Chengdu 145.05 356 PKP PKPdf 02 44 11.3 +0.1

JIRN Jiri 145.12 24 *eP* PKPbc 02 44 11.9 +1.0
comp=Z,48nm,1.2s
NWAO Narrogin (SRO) 147.79 205 PKPbc PKPbc 02 44 18.6 -0.1
comp=Z,20nm,1.1s,baz=137,slow=4.6,SNR=4.5
KAKA Kakadu 148.19 253 *eP* PKPbc 02 44 20.3 +0.5
comp=Z,14nm,0.7s
KLBR Kellerberrin 148.69 208 *eP* PKPbc 02 44 21.1 0.0
comp=Z,8.3nm,0.7s
MUN Mundaring 149.04 205 *eP* PKPbc 02 44 22.6 +0.6
FITZ Fitzroy Crossi 152.55 238 *eP* PKPbc 02 44 29.9 -0.4
comp=Z,6.4nm,0.6s
FITZ Fitzroy Crossi 152.55 238 PKPbc PKPbc 02 44 30.3 0.0
comp=Z,3.1nm,0.6s,baz=212,slow=8.1,SNR=9.4

IDC ***26*** *02:31:47.0±0.7, 1060N×8494W, h70km±40km, mb3.6/5, mb1 3.7/5, mb1mx3.4/20, mbtmp3.8/5, Error ellipse: s-maj=79.8km s-min=43.6km az=167.0*
NEIC ***26*** *02:31:47.7±1.1, 1054N×8489W, h83km±13km, MD3.9(HDC), Error ellipse: s-maj=49.7km s-min=31.0km az=105.0*
NEIC Felt [III] at Tilaran. Also felt at Monteverde.
ISCJB ***26*** *02:31:49.6±0.3, 1036N±004×8501W±004, h74km, mb3.8/5, Error ellipse: s-maj=8.0km s-min=2.1km az=80.6*
CASC ***26*** *02:31:49.6±2.3, 1037N×8499W, h74km±4km, MD3.9, ML4.0*
ISC 26 02:31:50.0±0.3, 1034N±005×8502W±004, h74km, n45, σ0983/72, mb3.8/5, 18C-13D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**0.08**	**126**	P	**Pn**	**02 32 00.2**	**-0.6**
	baz=4.8,slow=12						
JTS				S	**Sn**	**02 32 08.6**	**0.0**
	2μm,0.3s,baz=323,slow=20,SNR=28						
JTS	**JuntasAbangare**	**0.08**	**126**	⇑*eP*	**Pn**	**02 32 00.2**	**-0.6**
JTS	**JuntasAbangare**	**0.08**	**126**	*eP*	**Pn**	**02 32 00.2**	**-0.5**
JTS				*eS*	**Sn**	**02 32 09.1**	**+0.4**
VACR	**Volcan Arenal**	**0.36**	**68**	⇑*eP*	**Pn**	**02 32 01.7**	**-0.4**
LIM1	**Limonal**	**0.43**	**327**	⇓*eP*	**Pn**	**02 32 01.8**	**-0.9**
LIM1				*eS*	**Sn**	**02 32 11.7**	**-0.3**
EPA	**Esparza**	**0.54**	**130**	⇓*eP*	**Pn**	**02 32 03.2**	**-0.4**
EPA				*eS*	**Sn**	**02 32 13.3**	**-0.3**
RIN3	**Volcan Rincon**	**0.58**	**322**	⇓*eP*	**Pn**	**02 32 02.9**	**-1.1**
RIN3				*eS*	**Sn**	**02 32 17.1**	**+2.8**
CGA2	**Cerro Gallo 2**	**0.63**	**120**	⇑*eP*	**Pn**	**02 32 04.3**	**-0.2**
CGA2				*eS*	**Sn**	**02 32 15.5**	**+0.3**
CAO	**Cobano**	**0.64**	**188**	⇑*eP*	**Pn**	**02 32 04.0**	**-0.5**
CAO				*eS*	**Sn**	**02 32 18.9**	**+3.6**
VCR	**Vista de Mar**	**0.64**	**251**	⇑*eP*	**Pn**	**02 32 03.9**	**-0.7**
VCR				*eS*	**Sn**	**02 32 16.6**	**+1.2**
POA2	**Poas 2**	**0.77**	**102**	⇑*eP*	**Pn**	**02 32 06.0**	**0.0**
POA2				*eS*	**Sn**	**02 32 18.8**	**+0.9**
PRS1	**Puriscal**	**0.78**	**117**	⇓*eP*	**Pn**	**02 32 06.2**	**+0.1**
VPS2	**Volcan Poas 2**	**0.78**	**101**	⇑*eP*	**Pn**	**02 32 06.1**	**-0.1**
VPS2				*eS*	**Sn**	**02 32 18.2**	**0.0**
LAJ	**Bijagual**	**1.00**	**118**	⇑*eP*	**Pn**	**02 32 05.9**	**-2.8**
LAJ				*eS*	**Sn**	**02 32 19.1**	**-3.6**
SJS	**Escuela Geolog**	**1.02**	**113**	⇓*eP*	**Pn**	**02 32 09.0**	**0.0**
SJS				*eS*	**Sn**	**02 32 23.6**	**+0.3**
OCM	**Ochomogo**	**1.13**	**113**	⇑*eP*	**Pn**	**02 32 09.9**	**-0.4**
OCM				*eS*	**Sn**	**02 32 25.6**	**+0.1**
OCM				AML	AML	02 32 27.1	
	comp=N,4μm,0.8s						
LCR2	**La Lucha 2**	**1.16**	**121**	⇑*eP*	**Pn**	**02 32 10.4**	**-0.3**
LCR2				*eS*	**Sn**	**02 32 26.2**	**0.0**
IRZ2	**Volcan Irazu 2**	**1.16**	**108**	⇑*eP*	**Pn**	**02 32 10.6**	**-0.2**
IRZ2				*eS*	**Sn**	**02 32 27.9**	**+1.7**
MADN	**Villa Maderas**	**1.18**	**335**	⇓*eP*	**Pn**	**02 32 10.9**	**-0.1**
ICR	**Volcan Irazu**	**1.22**	**107**	⇓*eP*	**Pn**	**02 32 11.3**	**-0.1**
SSNN	**San Juan del S**	**1.25**	**319**	⇓*eP*	**Pn**	**02 32 12.1**	**+0.2**
SSNN				*eS*	**Sn**	**02 32 28.3**	**0.0**
URSC	**Urasca**	**1.32**	**112**	⇑*eP*	**Pn**	**02 32 12.8**	**+0.1**
URSC				*eS*	**Sn**	**02 32 30.2**	**+0.4**
CONN	**Concepcion**	**1.36**	**334**	⇓*eP*	**Pn**	**02 32 12.7**	**-0.6**
BUS	**Buena Vista**	**1.46**	**122**	⇑*eP*	**Pn**	**02 32 14.8**	**+0.2**
BUS				*eS*	**Sn**	**02 32 33.6**	**+0.5**
APON	**Apoyo**	**1.88**	**327**	⇑*eP*	**Pn**	**02 32 20.0**	**-0.2**
TICN	**Ticuantepe**	**2.07**	**325**	*eP*	**Pn**	**02 32 22.6**	**0.0**
WILN	**Americas 2**	**2.15**	**326**	⇓*eP*	**Pn**	**02 32 23.6**	**-0.1**
WILN				*eS*	**Sn**	**02 32 49.3**	**-0.2**
MGAN	**Managua**	**2.17**	**326**	*eP*	**Pn**	**02 32 23.8**	**-0.2**
MGAN				*eS*	**Sn**	**02 32 51.3**	**+1.3**
MGAN				*i*		02 32 52.3	
	comp=N,292nm,0.3s						
XAVN	**Gruta Xavier**	**2.21**	**325**	*eP*	**Pn**	**02 32 24.5**	**-0.1**
XAVN				*eS*	**Sn**	**02 32 51.3**	**+0.3**
APYN	**Apoyeque**	**2.30**	**325**	*eP*	**Pn**	**02 32 25.5**	**-0.2**
COPN	**Copaltepe**	**2.40**	**320**	⇑*eP*	**Pn**	**02 32 27.1**	**-0.1**
COPN				*eS*	**Sn**	**02 32 54.2**	**-1.3**
MOMJ	**Momotombo**	**2.54**	**324**	⇓*eP*	**Pn**	**02 32 28.8**	**-0.3**
MOMJ				*eS*	**Sn**	**02 33 00.4**	**+1.3**
CTCR	**Cotoan**	**2.65**	**123**	⇑*eP*	**Pn**	**02 32 30.4**	**0.0**
MIRN	**Miramar**	**2.67**	**322**	⇑*eP*	**Pn**	**02 32 31.0**	**+0.2**
MIRN				*eS*	**Sn**	**02 33 00.9**	**-1.2**
CNGN	**Cerro Negro**	**2.71**	**323**	*eP*	**Pn**	**02 32 31.8**	**+0.4**
CNGN				*eS*	**Sn**	**02 33 02.5**	**-0.6**
LEON	**Leon**	**2.77**	**319**	⇓*eP*	**Pn**	**02 32 32.5**	**+0.4**
LEON				*eS*	**Sn**	**02 33 05.5**	**+1.0**
TEL3	**Telica 3**	**2.86**	**321**	⇑*eP*	**Pn**	**02 32 33.8**	**+0.5**
TELN	**Telica**	**2.87**	**322**	*eP*	**Pn**	**02 32 34.4**	**+0.9**
TELN				*eS*	**Sn**	**02 33 06.1**	**-0.9**
CRIN	**San Cristobal**	**3.08**	**320**	⇓*eP*	**Pn**	**02 32 37.0**	**+0.6**
CRIN				*eS*	**Sn**	**02 33 14.9**	**+2.8**
SADO	**Sadowa**	**34.68**	**7**	P	**P**	**02 38 28.5**	**-4.0**
	comp=N,3.2nm,0.6s,mb4.3,baz=209,slow=7.8,SNR=5.4						
ULM	**Lac du Bonnet**	**40.79**	**349**	P	**P**	**02 39 18.1**	**-5.9**
	comp=N,1.3nm,0.6s,mb3.9,baz=172,slow=6.5,SNR=4.8						
NVAR	**Mina Array Bea**	**40.86**	**319**	P	**P**	**02 39 22.1**	**-2.4**
	comp=N,0.7nm,0.5s,mb3.8,baz=117,slow=8.1,SNR=5.7						
SCHQ	**Schefferville**	**46.66**	**14**	P	**P**	**02 40 06.2**	**-4.9**
	comp=N,1.0nm,0.5s,mb3.8,baz=226,slow=9.4,SNR=6.5						
YKA	**Yellowknife Ar**	**56.28**	**344**	P	**P**	**02 41 17.5**	**-5.3**
	comp=N,0.2nm,0.6s,mb3.3,baz=131,slow=8.3,SNR=7.0						
ASAR	**Alice Springs**	**140.63**	**245**	PKP	PKPdf	02 51 08.9	-2.0
	comp=N,0.3nm,0.6s,baz=117,slow=1.8,SNR=5.8						

IDC 26 02:34:09.4±40.0, 562S×10498E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=707.2km s-min=198.7km az=135.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.89**	**119**	P	P	02 40 36.6	+0.2
	0.4nm,0.3s,baz=294,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**33.12**	**126**	P	P	02 40 47.8	+0.7
	0.6nm,0.5s,baz=299,slow=7.8,SNR=14						
STKA	**Stephens Creek**	**43.05**	**132**	P	P	02 42 11.0	+0.1
	1.5nm,0.5s,baz=315,slow=6.9,SNR=5.0						

NEIC ***26*** *02:37:42.9, 3679N×1127W, h7km, MN2.6(MDD), After MDD.*
INMG ***26*** *02:37:44.9±0.8, 3667N×1132W, h31km, ML2.0, Error ellipse: s-maj=5.8km s-min=3.8km az=70.0*
IGIL ***26*** *02:37:44.1, 3660N×1130W, h31km, ML2.3*
CSEM ***26*** *02:37:46.3±0.6, 3701N×1099W, h40km, ML2.0, Error ellipse: s-maj=10.8km s-min=6.8km az=50.0*
MDD 26 02:37:43.7±1.8, 3681N×1112W, h0km, mbLg2.6/8, Error ellipse: s-maj=15.4km s-min=11.4km az=62.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**2.04**	**75**	*eP*	Pn	02 38 18.0	-1.3
MORF				*eS*	Sn	02 38 42.0	-3.4
MORF				*eS*	Sn	02 38 42.0	-3.4
MORF				AML	AML	02 38 44.6	
	comp=N,17nm,0.5s						
MORF	**Marmelete**	**2.04**	**75**	P	Pn	02 38 18.0	-1.3
MORF				S	Sn	02 38 42.0	-3.4
MORF	**Marmelete**	**2.04**	**75**	*eP*	Pn	02 38 18.0	-1.3
MORF				*eS*	Sn	02 38 42.0	-3.4
PTEO	**Sao Teotonio**	**2.05**	**68**	*e*Pn	Pn	02 38 18.3	-1.1
PTEO				*e*Sn	Sn	02 38 43.8	-1.9
PTEO							
	comp=N,6.3nm,0.3s						
PTEO	**Sao Teotonio**	**2.05**	**68**	*eP*	Pn	02 38 18.3	-1.1
PTEO				*e*S	Sn	02 38 43.8	-1.9
	comp=N,6.3nm,0.3s						
PLOU	**Loures**	**2.59**	**36**	*e*Pn	Pn	02 38 25.6	-1.3
PLOU				*e*Sn	Sn	02 38 56.7	-2.4
PLOU							
	comp=N,5.0nm,0.2s						
MOE	**Montemor**	**2.79**	**51**	*e*Sn	Sn	02 39 02.0	-1.9
PBEJ	**Beja**	**2.86**	**64**	*e*Pn	Pn	02 38 29.8	-0.8
PBEJ				*e*Sn	Sn	02 39 02.8	-3.0
PBEJ							
	comp=N,1.5nm,0.1s						
EGRO	**El Granado**	**3.00**	**75**	P	Pn	02 38 31.2	-1.2
	comp=N,2.4nm,0.8s,SNR=7.2						
EGRO				S	Sn	02 39 05.9	-3.2
	comp=N,3.9nm,0.2s,SNR=7.3						
EGRO	**El Granado**	**3.00**	**75**	P	Pn	02 38 31.2	-1.2
	comp=N,2.4nm,0.8s,SNR=7.2						
EGRO				S	Sn	02 39 06.1	-2.9
EGRO	**El Granado**	**3.00**	**75**	P	Pn	02 38 31.2	-1.2
EGRO				S	Sn	02 39 06.1	-2.9
PTOM	**Tomar**	**3.53**	**36**	*e*Sn	Sn	02 39 19.6	-2.5
PTOM							
	comp=N,3.0nm,0.2s						
PTOM	**Tomar**	**3.53**	**36**	Sn	Sn	02 39 19.6	-2.5
	comp=N,1.5nm,0.2s						
EMIN	**Mina Concepcio**	**3.68**	**74**	P	Pn	02 38 40.4	-1.4
	comp=N,4.0nm,1.1s,SNR=18						
EMIN				S	Sn	02 39 22.1	-3.7
	comp=N,2.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.68**	**74**	P	Pn	02 38 40.7	-1.1
EMIN				S	Sn	02 39 22.1	-3.7
	comp=N,2.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.68**	**74**	P	Pn	02 38 40.7	-1.1
EMIN				S	Sn	02 39 23.2	-2.6
EBAD	**Badajoz**	**3.79**	**58**	P	Pn	02 38 42.4	-0.9
	comp=N,2.1nm,0.8s,SNR=12						
EBAD				S	Sn	02 39 25.9	-2.8
	comp=N,3.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.79**	**58**	P	Pn	02 38 42.4	-1.0
	comp=N,2.1nm,0.8s,SNR=12						
EBAD				S	Sn	02 39 25.9	-2.8
	comp=N,3.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.79**	**58**	P	Pn	02 38 42.8	-0.6
EBAD				S	Sn	02 39 25.9	-2.8
PCBR	**Castelo Branco**	**4.17**	**42**	*e*Pn	Pn	02 38 47.8	-0.8
PCBR				*e*Sn	Sn	02 39 35.2	-2.8
PCBR							
	comp=N,1.3nm,0.3s						
ESPR	**Espera**	**4.22**	**88**	P	Pn	02 38 47.9	-1.4
	comp=N,1.0nm,0.3s,SNR=6.7						
ESPR				S	Sn	02 39 34.4	-5.0
	comp=N,5.0nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.22**	**88**	P	Pn	02 38 47.9	-1.4
	comp=N,1.0nm,0.3s,SNR=6.7						
ESPR				S	Sn	02 39 34.4	-5.0
	comp=N,5.0nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.22**	**88**	P	Pn	02 38 47.8	-1.5
ESPR				S	Sn	02 39 34.4	-5.0
ESPR				S	Sn	02 39 34.7	-4.7
MTE	**Manteigas**	**4.55**	**37**	*e*Sn	Sn	02 39 44.2	-3.2
MTE							
	comp=N,2.1nm,0.4s						
MTE	**Manteigas**	**4.55**	**37**	Sn	Sn	02 39 44.2	-3.2
	comp=N,1.1nm,0.4s						
PVIS	**Viseu**	**4.65**	**32**	*e*Pn	Pn	02 38 53.6	-1.5
PVIS				*e*Sn	Sn	02 39 45.6	-4.1
PVIS							
	comp=N,2.2nm,0.1s						
EMIJ	**Mijas**	**5.11**	**91**	P	Pn	02 39 00.6	-0.9
	comp=N,0.5nm,0.3s,SNR=5.0						
EMIJ				S	Sn	02 39 58.2	-3.0
	comp=N,2.0nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**5.19**	**30**	*e*Sn	Sn	02 39 59.2	-3.9
PVRL							
	comp=N,3.4nm,0.4s						
PVRL	**Vila Real**	**5.19**	**30**	Sn	Sn	02 39 59.2	-3.9
	comp=N,1.7nm,0.4s						
EADA	**Adamuz**	**5.38**	**73**	P	Pn	02 39 04.2	-1.0
	comp=N,0.5nm,0.3s,SNR=10						
EADA				S	Sn	02 40 03.5	-4.4
	comp=N,2.1nm,0.2s,SNR=6.1						
EADA	**Adamuz**	**5.38**	**73**	P	Pn	02 39 04.2	-1.0
	comp=N,0.5nm,0.3s,SNR=10						
EADA				S	Sn	02 40 04.1	-3.7
EADA	**Adamuz**	**5.38**	**73**	P	Pn	02 39 04.2	-1.0
EADA				S	Sn	02 40 04.1	-3.7
ELUQ	**Luque**	**5.53**	**80**	P	Pn	02 39 07.0	-0.2
	comp=N,0.1nm,0.1s,SNR=7.9						
ELUQ				S	Sn	02 40 05.3	-6.1
	comp=N,0.6nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**5.53**	**80**	P	Pn	02 39 06.9	-0.3
ELUQ				S	Sn	02 40 05.3	-6.1
	comp=N,0.6nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**5.53**	**80**	P	Pn	02 39 06.9	-0.3
ELUQ				S	Sn	02 40 05.3	-6.1
ELUQ				S	Sn	02 40 08.2	-3.2
ELOB	**Lobios**	**5.58**	**24**	P	Pn	02 39 06.9	-1.1
	comp=N,0.6nm,0.3s,SNR=7.9						
ELOB				S	Sn	02 40 07.6	-5.2
	comp=N,4.0nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**5.58**	**24**	P	Pn	02 39 07.0	-1.0
ELOB				S	Sn	02 40 08.1	-4.7
ELOB	**Lobios**	**5.58**	**24**	P	Pn	02 39 07.0	-1.0
ELOB				S	Sn	02 40 08.1	-4.7
EBAN	**Banos Encina**	**5.99**	**75**	P	Pn	02 39 12.6	-1.0
	comp=N,1.1nm,0.2s,SNR=7.9						
EBAN				S	Sn	02 40 18.4	-4.5
	comp=N,0.8nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**5.99**	**75**	P	Pn	02 39 12.6	-1.0
	comp=N,1.1nm,0.2s,SNR=7.9						
EBAN				S	Sn	02 40 18.9	-4.0
EBAN	**Banos Encina**	**5.99**	**75**	P	Pn	02 39 12.6	-1.0
EBAN				S	Sn	02 40 18.9	-3.9
PBRG	**Braganca**	**6.04**	**33**	*e*Sn	Sn	02 40 18.1	-5.9
ECAL	**Calabor**	**6.15**	**32**	P	Pn	02 39 13.7	-2.0
	comp=N,0.7nm,0.5s,SNR=7.9						
ECAL				S	Sn	02 40 22.8	-3.9
	comp=N,4.5nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.15**	**32**	P	Pn	02 39 13.7	-2.1
	comp=N,0.7nm,0.5s,SNR=7.9						
ECAL				S	Sn	02 40 22.8	-4.0
	comp=N,4.5nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**6.32**	**61**	P	Pn	02 39 16.7	-1.4
	comp=N,0.4nm,0.2s,baz=247,slow=13,SNR=5.8						
ESDC				S	Sn	02 40 25.9	-5.1
	comp=N,1.1nm,0.3s,baz=245,slow=23,SNR=8.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.43**	**254**	*i* P	Pg	02 43 39.1	-0.6
HUIG				*i* S	Sg	02 43 45.8	+0.3
CMIG	**Matias Romero**	**1.41**	**32**	*i* P	Pn	02 43 53.5	-3.5
CMIG				*i* S	Sn	02 44 10.5	-5.1
VHO	**Vista Hermosa**	**1.55**	**319**	*i* P	Pn	02 43 55.4	-3.4
VHO				*i* S	Sn	02 44 14.1	-4.9
OXX	**Oaxaca**	**1.55**	**320**	*i* P	Pn	02 43 55.5	-3.4
OXX				*i* S	Sn	02 44 15.0	-4.0
UTMO	**Huajuapan**	**2.80**	**314**	*i* P	Pn	02 44 13.2	-2.9

MEX 26 02:49:14.7±0.9, 1711N×9928W, h58km±23km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.65**	**249**	*i* P	Pn	02 49 26.5	-1.7
ACX				*i* S	Sn	02 49 37.0	-1.0
MEIG	**Mezcala**	**0.88**	**339**	*i* P	Pn	02 49 29.3	-1.8
MEIG				*i* S	Sn	02 49 41.1	-2.0
PLIG	**Platanillo**	**1.30**	**351**	*i* P	Pn	02 49 35.4	-1.2
PLIG				*i* S	Sn	02 49 51.0	-2.0
UTMO	**Huajuapan**	**1.59**	**63**	*i* P	Pn	02 49 39.1	-1.4
UTMO				*i* S	Sn	02 49 58.4	-1.5
YAIG	**Yautepec**	**1.76**	**7**	*i* P	Pn	02 49 42.0	-0.8
YAIG				*i* S	Sn	02 50 03.5	-0.7

*NEIC **26** 03:13:22.6, 3146S×6934W, h154km, MD3.5(GUC), After GUC.*

GUC 26 03:13:22.6±0.7, 3146S×6934W, h154km±8km, MD3.5, ML3.7, 11C-7D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.45**	**281**	⇑*i* P	Pn	03 13 52.6	+0.7
CMCH				*i* S	Sn	03 14 15.2	+0.8
CMCH				AMP		03 14 17.3	
	comp=E,2μm,0.6s						
CMCH	**Combarbala**	**1.45**	**281**	⇑*i* P	Pn	03 13 52.6	+0.7
CMCH				*i* S	Sn	03 14 15.2	+0.8
JACH	**Jahuel**	**1.62**	**221**	⇓*i* P	Pn	03 13 54.4	+0.8
JACH				*i* S	Sn	03 14 18.2	+0.8
TLL	**Tololo Astrono**	**1.80**	**315**	⇑*i* P	Pn	03 13 56.9	+1.2
TLL				*i* S	Sn	03 14 22.2	+1.2
TLL				AMP		03 14 28.7	
	comp=N,616nm,0.4s						
TLL	**Tololo Astrono**	**1.80**	**315**	⇑*i* P	Pn	03 13 56.9	+1.2
TLL				*i* S	Sn	03 14 22.2	+1.2
OVCH	**Ovalle**	**1.81**	**298**	*i* P	Pn	03 13 56.5	+0.8
OVCH				*i* S	Sn	03 14 21.7	+0.5
OVCH				AMP		03 14 23.6	
	comp=N,499nm,0.2s						
OVCH	**Ovalle**	**1.81**	**298**	*i* P	Pn	03 13 56.5	+0.8
OVCH				*i* S	Sn	03 14 21.7	+0.5
CHNG	**Los Chungos**	**1.89**	**257**	⇑*i* P	Pn	03 13 57.1	+0.4
CHNG				*i* S	Sn	03 14 23.2	+0.4
FCH	**Farellones**	**2.03**	**203**	⇓*i* P	Pn	03 13 59.3	+1.0
FCH				*i* S	Sn	03 14 27.7	+2.0
FCH				AMP		03 14 34.5	
	comp=E,249nm,0.3s						
PEL	**Peldehue**	**2.03**	**214**	⇑*i* P	Pn	03 13 58.6	+0.3
PEL				*i* S	Sn	03 14 26.0	+0.3
PEL				AMP		03 14 28.4	
	comp=N,539nm,0.3s						
PEL	**Peldehue**	**2.03**	**214**	⇑*i* P	Pn	03 13 58.6	+0.3
PEL				*i* S	Sn	03 14 26.0	+0.3
ROCH	**El Roble**	**2.07**	**223**	⇑*i* P	Pn	03 13 59.8	+1.1
ROCH				*i* S	Sn	03 14 27.9	+1.4
CLCH	**Cerro Calan**	**2.18**	**207**	⇑*i* P	Pn	03 14 00.5	+0.5
CLCH				*i* S	Sn	03 14 29.6	+0.8
CLCH				AMP		03 14 38.1	
	comp=E,280nm,0.4s						
LSCH	**La Serena**	**2.25**	**313**	⇓*i* P	Pn	03 14 01.3	+0.4
LSCH				*i* S	Sn	03 14 30.3	-0.1
LSCH				AMP		03 14 30.9	
	comp=N,885nm,0.2s						
ANTU	**Antumapu**	**2.37**	**207**	AMP		03 14 36.1	
	comp=E,180nm,0.3s						
PCH	**Pirque**	**2.37**	**204**	⇑*i* P	Pn	03 14 03.1	+0.9
PCH				*i* S	Sn	03 14 34.0	+1.1
RCDM	**Rinconada Maip**	**2.37**	**211**	⇓*i* P	Pn	03 14 02.9	+0.6
RCDM				*i* S	Sn	03 14 33.9	+0.9
RCDM				AMP		03 14 37.9	
	comp=E,375nm,0.1s						
RCDM	**Rinconada Maip**	**2.37**	**211**	⇓*i* P	Pn	03 14 02.9	+0.6
RCDM				*i* S	Sn	03 14 33.9	+0.9
LMEL	**Las Melosas**	**2.49**	**197**	AMP		03 14 44.4	
	comp=N,202nm,0.2s						
TACH	**Talagante**	**2.57**	**211**	⇓*i* P	Pn	03 14 04.9	+0.2
TACH				*i* S	Sn	03 14 37.7	+0.5
CHCH	**Chadas Angostu**	**2.70**	**204**	⇑*i* P	Pn	03 14 07.0	+0.6
CHCH				*i* S	Sn	03 14 40.9	+0.7
LCCH	**Las Cruces**	**2.75**	**223**	*i* P	Pn	03 14 07.9	+0.9
LCCH				⇓*i* S	Sn	03 14 41.3	0.0

IDC 26 03:15:49.3±9.7, 199S×12802E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=141.7km s-min=97.2km az=141.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.18**	**188**	Pn	Pn	03 19 37.4	-0.6
	0.1nm,0.3s,baz=24,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**18.88**	**161**	P	Pn	03 20 11.1	-0.6
	0.5nm,0.3s,baz=341,slow=12,SNR=25						
WB2	**Warramunga Arr**	**18.89**	**161**	*eP*	Pn	03 20 12.0	+0.3
ASAR	**Alice Springs**	**22.29**	**166**	P	P	03 20 48.5	+0.3
	2.2nm,0.6s,baz=347,slow=12,SNR=32						
STKA	**Stephens Creek**	**32.37**	**158**	P	P	03 22 21.2	+0.7
	5.1nm,1.3s,baz=339,slow=14,SNR=3.1						

PRE 26 03:22:39.7±2.2, 2201S×3342E, h5km, ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**4.79**	**219**	*eP*	Pn	03 23 55.0	+2.5
BFT				*eS*	Sn	03 24 47.1	-1.3
BFT				AML	AML	03 25 36.5	
	comp=Z,82nm,0.5s						
SLR	**Silverton**	**5.99**	**231**	*eP*	Pn	03 24 10.4	+1.5
SLR				*eS*	Sn	03 25 15.6	-2.3
SLR				AML	AML	03 26 04.1	
	comp=Z,101nm,0.5s						
KSR	**Koster**	**7.08**	**236**	*eP*	Pn	03 24 25.2	+1.2
LBTB	**Lobatse**	**7.77**	**246**	*eP*	Pn	03 24 34.7	+1.2
LBTB				*eS*	Sn	03 25 58.5	-3.3
LBTB				AML	AML	03 26 54.6	
	comp=Z,42nm,0.5s						
SWZ	**Schweizer**	**8.98**	**233**	*eP*	Pn	03 24 51.0	+1.0
SWZ				*eS*	Sn	03 26 27.8	-3.7
SWZ				AML	AML	03 27 39.1	
	comp=Z,24nm,0.7s						
PKA	**Prieska**	**12.26**	**229**	*eP*	Pn	03 25 35.7	+0.9
SUR	**Sutherland**	**15.23**	**225**	*eP*	Pn	03 26 16.1	+0.6

*ISCJB **26** 03:27:06.7±0.8, 1974S±006×689W±0.1, h114km±11km, mb3.8/5, Error ellipse: s-maj=18.1km s-min=9.9km az=2.1*
*NEIC **26** 03:27:07.8±0.9, 1974S×6885W, h105km±12km, mb3.7/3, Error ellipse: s-maj=14.4km s-min=9.9km az=85.0*
*IDC **26** 03:27:08.3±1.4, 1982S×6892W, h117km±15km, mb3.6/6, mb1 3.7/9, mb1mx3.6/19, mbtmp4.1/9, Error ellipse: s-maj=26.4km s-min=13.4km az=99.0*

ISC 26 03:27:08.2±0.8, 1976S±006×689W±01, h109km±10km, n17, σ1§02/20, mb3.8/5, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.84**	**181**	P	**Pn**	**03 27 52.1**	**0.0**
	37nm,0.3s,baz=4.3,slow=13,SNR=228						
LVC				S	**Sn**	**03 28 25.7**	**-0.1**
	35nm,0.3s,baz=270,slow=20,SNR=12						
LVC	**Limon Verde**	**2.84**	**181**	P	**Pn**	**03 27 52.1**	**0.0**
LVC				S	**Sn**	**03 28 25.7**	**-0.1**
LPAZ	**La Paz**	**3.52**	**12**	P	**Pn**	**03 28 04.5**	**+3.4**
	20nm,0.3s,baz=200,slow=7.1,SNR=184						
LPAZ	**La Paz**	**3.52**	**12**	⇑*i* Pn	**Pn**	**03 28 04.4**	**+3.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**4.12**	**322**	*eP*	**Pn**	**03 28 09.0**	**-0.1**
ARE				*eS*	**Sn**	**03 28 50.0**	**-6.2**
SIV	**San Ignacio**	**8.32**	**64**	P	**Pn**	**03 29 05.9**	**0.0**
	4.3nm,0.3s,baz=262,slow=9.7,SNR=151						
SAML	**Samuel**	**12.07**	**28**	*ePn*	**Pn**	**03 29 54.3**	**-2.2**
	1.3nm,0.6s						
TRQA	**Tornquist**	**19.20**	**163**	*eP*	**P**	**03 31 23.2**	**-0.2**
	1.9nm,0.6s						
BDFB	**Brasilia**	**20.28**	**82**	P	**P**	**03 31 36.4**	**+1.2**
	1.1nm,0.3s,baz=279,slow=19,SNR=3.7						
PLCA	**Paso Flores**	**20.96**	**184**	P	**P**	**03 31 42.2**	**-0.1**
	2.2nm,0.8s,baz=21,slow=8.6,SNR=4.4						
OTAV	**Otavalo**	**21.98**	**334**	*eP*	**P**	**03 31 55.8**	**+2.5**
	2.4nm,0.8s,mb3.6						
SDV	**Santo Domingo**	**28.51**	**356**	P	**P**	**03 32 52.4**	**-0.9**
	0.8nm,0.3s,mb3.8,baz=153,slow=12,SNR=3.4						
SDV	**Santo Domingo**	**28.51**	**356**	P	**P**	**03 32 52.4**	**-0.9**
DBIC	**Dimbokro**	**68.21**	**74**	P	**P**	**03 37 57.3**	**+0.4**
	1.9nm,0.6s,mb4.1,baz=203,slow=12,SNR=8.4						
TORD	**Torodi Ar. Bea**	**76.74**	**71**	P	**P**	**03 38 47.4**	**-0.1**
	0.8nm,0.4s,mb3.8,baz=254,slow=5.5,SNR=55						
YKA	**Yellowknife Ar**	**89.56**	**341**	P	**P**	**03 39 52.7**	**-0.6**
	0.6nm,0.7s,mb3.8,baz=133,slow=4.8,SNR=15						
YKA	**Yellowknife Ar**	**89.56**	**341**	P	**P**	**03 39 52.7**	**-0.6**

*CSEM **26** 03:34:21.6±0.8, 6761N×3391E, h1km, ML2.0, Error ellipse: s-maj=18.1km s-min=8.9km az=71.0, Mining explosion.*
*NAO **26** 03:34:22.4±1.2, 6766N×3382E, ML2.0*
*IDC **26** 03:34:25.5±2.8, 6771N×3356E, h0km, mb1 3.2/4, mb1mx2.9/20, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=32.8km s-min=10.8km az=70.0*

HEL 26 03:34:23.5±0.3, 6770N×3377E, h0km, ML2.5, ML2.0(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.31**	**253**	*i* P	Pg	03 34 29.0	-0.5
APA0				*i* S		03 34 33.2	
APA0				*e*RG		03 34 34.4	
APA0	**Apatity Array**	**0.31**	**253**	Pg	Pg	03 34 29.0	-0.5
	baz=81,slow=16						
APA0				Lg		03 34 33.2	
	baz=80,slow=37						
APA0				Rg		03 34 34.4	
	baz=80,slow=37						
KU4	**Liikasenvaara**	**2.12**	**233**	*eP*	Pn	03 35 00.8	+0.6
KU4				*eS*	Sn	03 35 28.6	+1.3
KU4	**Liikasenvaara**	**2.12**	**233**	P	Pn	03 35 00.7	+0.5
KU4				S	Sn	03 35 28.5	+1.2
SGF	**Sodankyl**	**2.79**	**268**	*eP*	Pn	03 35 09.0	-0.4
SGF				*eS*	Sn	03 35 42.6	-1.1
SGF				*e*SG	Sg	03 35 49.2	-4.0
SGF				MSG		03 35 49.9	
	comp=Z,7.1nm,0.3s						
SGF	**Sodankyl**	**2.79**	**268**	P	Pn	03 35 09.0	-0.4
SGF				S	Sn	03 35 42.6	-1.2
SGF				Sg	Sg	03 35 49.2	-4.0
KEV	**Kevo**	**3.22**	**313**	*eP*	Pn	03 35 15.9	+0.6
KEV				*eS*	Sn	03 35 54.4	+0.1
KEV				*e*SB	Sb	03 36 00.8	-0.4
KEV				MSG		03 36 09.2	
	comp=Z,18nm,0.3s						
KEV	**Kevo**	**3.22**	**313**	P	Pn	03 35 15.9	+0.6
KEV				S	Sn	03 35 54.4	+0.1
ARA0	**ARCESS Array S**	**3.55**	**305**	*eP*	Pn	03 35 19.8	0.0
ARA0				*e*PG	Pg	03 35 27.6	-3.9
ARA0				*eS*	Sn	03 36 00.6	-1.8
ARA0				*e*SG	Sg	03 36 11.2	-6.2
ARA0	**ARCESS Array S**	**3.55**	**305**	Pn	Pn	03 35 19.8	0.0
	baz=122,slow=16						
ARA0				Pg	Pg	03 35 27.6	-3.9
	baz=124,slow=16						
ARA0				Sn	Sn	03 36 00.6	-1.8
	baz=120,slow=28						
ARA0				Lg		03 36 11.2	
	baz=127,slow=28						
ARA0	**ARCESS Array S**	**3.55**	**305**	Pg	Pg	03 35 27.6	-3.9
	SNR=90						
ARA0				Sn	Sn	03 36 00.6	-1.8
	SNR=50						
ARCES	**ARCESS Array B**	**3.55**	**305**	Pn	Pn	03 35 19.7	-0.1
	comp=Z,1.7nm,0.3s,baz=113,slow=14,SNR=216						
ARCES				Pg	Pg	03 35 27.7	-3.8
	comp=Z,1.4nm,0.3s,baz=118,slow=15,SNR=13						
ARCES				Sn	Sn	03 36 00.5	-1.9
	comp=Z,1.8nm,0.3s,baz=120,slow=27,SNR=8.9						
ARCES				Lg		03 36 13.4	
	comp=Z,3.3nm,0.3s,baz=123,slow=32,SNR=9.7						
OUL	**Oulu**	**4.11**	**234**	*eP*	Pn	03 35 28.5	+1.0
OUL				*e*SB	Sb	03 36 25.2	-1.8
KTK1	**Kautokeino**	**4.12**	**294**	*eP*	Pn	03 35 27.9	+0.2
KTK1				*e*SG	Sg	03 36 29.6	-6.3
KTK1	**Kautokeino**	**4.12**	**294**	*eP*	Pn	03 35 27.9	+0.2
KTK1				*e*Sg	Sg	03 36 29.6	-6.3
KTK1				AML	AML	03 36 36.6	
	comp=Z,9.6nm,0.3s						
KJN	**Kajaani**	**4.40**	**217**	*eP*	Pn	03 35 31.5	0.0
KJN				*eS*	Sn	03 36 21.3	-2.1
KJN				MSN		03 36 23.3	
	comp=Z,4.4nm,0.2s						
KJN				*e*SG	Sg	03 36 37.4	-7.4
KJN	**Kajaani**	**4.40**	**217**	P	Pn	03 35 31.5	0.0
KJN				S	Sn	03 36 21.3	-2.1
	comp=Z,4.4nm,0.2s						
KJN				Sg	Sg	03 36 37.3	-7.5
JOF	**Joensuu**	**4.91**	**193**	*eP*	Pn	03 35 37.7	-0.9
JOF				*eS*	Sn	03 36 33.5	-2.5
JOF				*e*SG	Sg	03 36 54.7	-6.5
JOF	**Joensuu**	**4.91**	**193**	P	Pn	03 35 37.6	-0.9
JOF				S	Sn	03 36 33.5	-2.5
JOF				Sg	Sg	03 36 54.7	-6.5
KIF	**Kilpisjarvi**	**4.98**	**291**	*eP*	Pn	03 35 39.5	0.0
KIF				*eS*	Sn	03 36 35.2	-2.6
TRO	**Tromso**	**5.75**	**297**	*eS*	Sn	03 36 52.6	-4.2
TRO				AML	AML	03 36 57.6	
	comp=Z,2.8nm,1.0s						
SUF	**Sumiainen**	**5.94**	**216**	*eS*	Sn	03 36 60.0	-1.3
SUF				*e*SG	Sg	03 37 26.3	-7.8
SUF	**Sumiainen**	**5.94**	**216**	S	Sn	03 36 59.9	-1.4
KAF	**Kangasniemi**	**6.44**	**213**	*eS*	Sn	03 37 09.9	-3.9
KAF				*e*SG	Sg	03 37 42.6	-7.7
KEF	**Keuruu**	**6.71**	**218**	*eP*	Pn	03 36 02.1	-1.2
KEF				*eS*	Sn	03 37 17.7	-2.7
FIA0	**FINESS Array S**	**7.09**	**211**	Pn	Pn	03 36 04.9	-3.6
	baz=27,slow=14						
FIA0				Sn	Sn	03 37 22.8	-7.1
	baz=27,slow=22						
FIA0				Lg		03 37 57.6	
	baz=27,slow=28						
FIA0	**FINESS Array S**	**7.09**	**211**	*eS*	Sn	03 37 25.8	-4.0
FIA0				*e*SG	Sg	03 38 00.7	-11
FINES	**FINESS Array B**	**7.09**	**211**	Pn	Pn	03 36 06.2	-2.4
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=5.4						
FINES				Sn	Sn	03 37 30.6	+0.8
	comp=Z,0.2nm,0.3s,baz=32,slow=23,SNR=3.4						
FINES				Lg		03 37 58.3	
	comp=Z,0.5nm,0.3s,baz=32,slow=25,SNR=7.3						
HFS	**Hagfors**	**11.59**	**239**	Pn	Pn	03 37 07.2	-2.9
	comp=Z,0.1nm,0.3s,baz=31,slow=17,SNR=3.0						
SPA0	**Spitsbergen Ar**	**11.61**	**342**	Pn	Pn	03 37 04.9	-5.6
	baz=145,slow=14						
SPA0	**Spitsbergen Ar**	**11.61**	**342**	*eP*	Pn	03 37 04.9	-5.6
NOA	**NORSAR Array B**	**11.77**	**246**	Pn	Pn	03 37 11.4	-1.2
	comp=Z,0.1nm,0.3s,baz=50,slow=17,SNR=2.6						

IDC 26 03:59:10.3±5.0, 2165S×17806W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/13, mbtmp4.0/2, Error ellipse: s-maj=292.7km s-min=68.3km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.21**	**258**	P	P	04 07 20.9	-0.2
	0.3nm,0.3s,baz=94,slow=7.0,SNR=15						
WB2	**Warramunga Arr**	**44.38**	**263**	*eP*	P	04 07 24.1	+1.7
WRA	**Warramunga Arr**	**44.39**	**263**	P	P	04 07 23.3	+0.8
	2.9nm,0.6s,baz=100,slow=7.2,SNR=47						
HFS	**Hagfors**	**140.66**	**351**	PKP	PKPdf	04 18 38.8	-2.9
	1.2nm,0.5s,baz=74,slow=5.2,SNR=9.4						
AKASG	**Malin Array Be**	**143.98**	**330**	PKP	PKPdf	04 18 48.3	+0.6
	1.1nm,0.5s,baz=43,slow=4.3,SNR=9.2						

*NIED **26** 04:05:00, 3320N×141.10E, h38km, Mw3.6 Best double couple: M0:2.74000×10^14 NP1:φ=4.00000°, δ88.00000°, λ60.00000°. NP2:φ=272.00000°, δ30.00000°, λ177.00000°.*
*JMA **26** 04:05:42.3±0.2, 3322N×141.11E, h59km, M3.5*
*IDC **26** 04:05:42.7±1.6, 3257N×13883E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.5/19, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=40.3km s-min=11.3km az=135.0*

ISC 26 04:05:43.4±1.4, 3321N±007×1411E±01, h49km±18km, n14, σ0§76/19, mb3.8/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.08**	**265**	P	**Pn**	**04 06 01.9**	**-0.3**
JHJ2				*eS*	**Sn**	**04 06 16.6**	**+0.5**
JHJ	**Hachijo jima 2**	**1.11**	**265**	Pg	**Pn**	**04 06 02.0**	**-0.6**
	235nm,0.3s,baz=106,slow=5.4,SNR=47						
JHJ				Lg		04 06 16.1	
	333nm,0.3s,baz=234,slow=23,SNR=21						
BSO1	**Boso 1**	**1.44**	**356**	P	**Pn**	**04 06 06.8**	**-0.3**
BSO3	**Boso 3**	**1.66**	**343**	P	**Pn**	**04 06 09.6**	**-0.5**
JKO	**Kozu shima**	**1.90**	**301**	P	**Pn**	**04 06 13.6**	**+0.2**
JKO				*eS*	**Sn**	**04 06 36.3**	**+0.2**
NJJJ	**Nii jima 2**	**1.92**	**309**	P	**Pn**	**04 06 13.8**	**+0.1**
JIM2	**Oshima 3**	**2.04**	**318**	P	**Pn**	**04 06 14.9**	**-0.4**
JIZS	**Izushimoda**	**2.38**	**310**	P	**Pn**	**04 06 20.4**	**+0.5**
KTJJ	**Kamata 2**	**2.40**	**316**	P	**Pn**	**04 06 19.9**	**-0.3**
KTJJ				S	**Sn**	**04 06 47.0**	**-1.4**
JOD2	**Odawara 2**	**2.64**	**321**	P	**Pn**	**04 06 23.2**	**-0.3**
JOD2				S	**Sn**	**04 06 52.9**	**-1.3**
MJAR	**Matsushiro Arr**	**4.08**	**325**	Pn	**Pn**	**04 06 44.5**	**+1.2**
	3.0nm,0.3s,baz=153,slow=12,SNR=27						
MAT	**Matsushiro**	**4.08**	**325**	P	**Pn**	**04 06 44.7**	**+1.4**
MAT				S	**Sn**	**04 07 31.4**	**+1.6**
WRA	**Warramunga Arr**	**53.25**	**188**	P	**P**	**04 14 56.8**	**-0.2**
	1.0nm,0.5s,mb4.0,baz=4.1,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**56.98**	**188**	P	**P**	**04 15 23.8**	**0.0**
	0.3nm,0.5s,mb3.5,baz=3.8,slow=6.6,SNR=7.2						

MEX 26 04:08:25.6±0.6, 1831N×9516W, h17km±999km, MD3.9, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.24**	**168**	*i* P	Pn	04 08 44.5	-3.6
CMIG				*i* S	Sb	04 08 59.8	-4.5
VHO	**Vista Hermosa**	**1.94**	**231**	*i* P	Pn	04 08 55.3	-2.5
VHO				*i* S	Sn	04 09 17.4	-4.4
UTMO	**Huajuapan**	**2.56**	**260**	*eP*	Pn	04 09 03.2	-3.1
UTMO				*i* S	Sn	04 09 33.3	-3.8
YAIG	**Yautepec**	**3.75**	**279**	*i* S	Sn	04 10 00.3	-6.1

*IDC **26** 04:48:06.3±1.0, 3797N×9313E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/23, mbtmp3.7/11, ML3.0/1, Error ellipse: s-maj=31.2km s-min=22.2km az=38.0*
*ISCJB **26** 04:48:07.6±0.7, 378N±0.1×9273E±006, h15km, mb3.7/14, Error ellipse: s-maj=15.1km s-min=5.9km az=27.1*
*NEIC **26** 04:48:07.8±0.8, 3794N×9311E, h10km, mb3.5/4, Error ellipse: s-maj=17.3km s-min=11.2km az=202.0*
*BJI **26** 04:48:07.8, 3785N×9287E, h15km, mB4.4, mb4.4, ML4.0, Ms3.6, Msz3.7*
*MOS **26** 04:48:08.6±1.7, 3778N×9267E, h27km, mb3.7/4, Error ellipse: s-maj=21.0km s-min=10.3km az=110.9*

ISC 26 04:48:12.4±2.3, 381N±02×931E±01, h36km±19km, n28, σ1§04/31, mb3.7/14, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**5.43**	**74**	P	**Pn**	**04 49 29.0**	**-1.8**
GTA				S	**Sn**	**04 50 41.8**	**+10**
GTA				Smax			
	comp=N,31nm,1.3s						
GTA				Smax			
	comp=E,20nm,0.8s						
LZH	**Lanzhou**	**8.84**	**100**	*eP*	**Pn**	**04 50 22.5**	**+4.9**
LZH				AP		04 50 25.5	
LZH				XP		04 50 28.5	
LZH				*eS*	**Sn**	**04 52 03.3**	**+7.4**
LZH				XS		04 52 07.8	
LZH				AMB	AMB		
	comp=Z,19nm,1.6s						
LZH				AMB	AMB		
	comp=Z,70nm,4.6s						
LZH				Smax			
	comp=N,30nm,1.4s						
LZH				Smax			
	comp=E,20nm,1.5s						
LZH				LR	LR		
	comp=N,190nm,5.8s						
LZH				LR	LR		
	comp=Z,290nm,6.6s						
MKAR	**Makanchi Array**	**11.78**	**321**	Pn	**Pn**	**04 50 57.4**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=134,slow=14,SNR=64						
MKAR				Sn	**Sn**	**04 53 03.3**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=2.6						
SONM	**Songino Array**	**13.76**	**41**	Pn	**Pn**	**04 51 24.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=3.2						
ULN	**Ulaanbaatar**	**14.12**	**42**	*ePn*	**Pn**	**04 51 37.1**	**+7.2**
	comp=Z,4.6nm,0.8s						
ULN	**Ulaanbaatar**	**14.12**	**42**	*eP*	**Pn**	**04 51 37.1**	**+7.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAK	**Zakamensk**	**14.28**	**27**	*eP*	**Pn**	**04 51 36.3**	**+4.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KURK	**Kurchatov**	**16.27**	**326**	*eP*	**Pn**	**04 51 58.0**	**-0.1**
	comp=Z,4.8nm,1.1s						
KURK	**Kurchatov**	**16.27**	**326**	*eP*	**Pn**	**04 51 58.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BVAR	**Borovoye Array**	**21.67**	**321**	P	**P**	**04 53 00.1**	**+0.3**
	comp=Z,1.3nm,0.6s,mb3.5,baz=127,slow=9.4,SNR=8.8						
BRVK	**Borovoye**	**21.74**	**321**	*eP*	**P**	**04 53 00.1**	**-0.5**
	comp=Z,1.5nm,0.8s,mb3.5						
BRVK	**Borovoye**	**21.74**	**321**	*eP*	**P**	**04 53 00.1**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.3						
**NJ

*IDC **26** 04:58:55.3±2.5, 40.39N×62.96E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.2/22, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=33.0km s-min=22.8km az=27.0*

ISC 26 04:58:57.2±5.8, 406N±02×634E±02, h19km±42km, n7, σ0:86/9, mb3.4/2, 2C-3D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.88**	**62**	⇓Pn	**Pn**	**05 00 23.0**	**-0.3**
	0.3nm,0.3s,baz=247,slow=13,SNR=16						
KK31				⇓Lg		05 02 04.0	
	8.3nm,0.7s,baz=248,slow=25						
AB31	**Akbulak array**	**9.01**	**345**	⇑Pn	**Pn**	**05 01 04.6**	**-1.7**
	0.1nm,0.2s						
AB31				⇑Sn	**Sn**	**05 02 41.4**	**-5.8**
	0.3nm,0.3s						
AB31				⇓Lg		05 03 33.4	
	2.0nm,0.5s,baz=180,slow=32						
AKTO	**Aktyubinsk**	**10.55**	**341**	Pn	**Pn**	**05 01 27.9**	**+0.6**
	0.2nm,0.3s,baz=165,slow=12,SNR=4.1						
AKTO				Sn	**Sn**	**05 03 24.8**	**-0.2**
	0.2nm,0.3s,baz=200,slow=21,SNR=2.9						
BVAR	**Borovoye Array**	**13.33**	**19**	Pn	**Pn**	**05 02 06.9**	**+1.6**
	0.2nm,0.3s,baz=192,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**14.99**	**59**	Pn	**Pn**	**05 02 27.6**	**-0.5**
	0.2nm,0.3s,baz=250,slow=15,SNR=7.4						
FINES	**FINESS Arrgy B**	**30.76**	**325**	P	**P**	**05 05 11.8**	**+0.5**
	0.2nm,0.4s,mb3.3,baz=124,slow=11,SNR=6.8						
NOA	**NORSAR Array B**	**37.50**	**321**	P	**P**	**05 06 09.7**	**-0.1**
	0.4nm,0.5s,mb3.4,baz=91,slow=7.6,SNR=2.4						

IDC 26 05:00:22.6±1.8, 2833N×9199E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/20, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=200.9km s-min=23.8km az=56.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.76**	**182**	*e*Pg	Pg	05 00 55.7	-20
SHL				*e*SG	Sg	05 01 12.2	-39
MKAR	**Makanchi Array**	**19.94**	**340**	P	Pn	05 04 56.4	-1.3
	0.2nm,0.3s,baz=133,slow=15,SNR=5.7						
NOA	**NORSAR Array B**	**61.24**	**327**	P	P	05 10 39.1	-0.3
	1.4nm,1.1s,baz=148,slow=6.8,SNR=2.7						
WRA	**Warramunga Arr**	**63.07**	**135**	P	P	05 10 52.0	+0.3
	0.2nm,0.4s,baz=325,slow=7.0,SNR=5.4						
ASAR	**Alice Springs**	**65.60**	**138**	P	P	05 11 08.7	+0.4
	0.3nm,0.6s,baz=316,slow=6.7,SNR=6.0						

*IDC **26** 05:05:55.8±1.2, 38.03N×93.10E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=34.4km s-min=25.3km az=56.0*

*BJI **26** 05:05:59.1, 37.94N×92.94E, h29km, mb4.5, ML3.7, Ms3.2, Msz3.4*

*ISCJB **26** 05:06:00.0±0.9, 38.3N±0.1×93.05E±0.07, h33km, mb3.7/5, Error ellipse: s-maj=16.7km s-min=6.2km az=40.8*

ISC 26 05:06:02.3±0.9, 382N±01×9299E±007, h35km, n9, σ0:91/13, mb3.7/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**5.46**	**75**	P	**Pn**	**05 07 21.5**	**+0.4**
GTA				PG	**Pn**	**05 07 37.0**	**+16**
GTA				S	**Sn**	**05 08 21.5**	**-1.2**
GTA				Smax			
	comp=N,12nm,1.4s						
GTA				Smax			
	comp=E,7.0nm,1.0s						
LZH	**Lanzhou**	**8.92**	**100**	*e*P	**Pn**	**05 08 09.3**	**+0.7**
LZH				AP		05 08 12.5	
LZH				XP		05 08 15.5	
LZH				*e*S	**Sn**	**05 09 49.5**	**+1.7**
LZH				AMB	AMB		
	comp=Z,21nm,1.4s						
LZH				Smax			
	comp=N,26nm,1.4s						
LZH				Smax			
	comp=E,28nm,1.5s						
LZH				LR	LR		
	comp=E,100nm,8.1s						
LZH				LR	LR		
	comp=Z,210nm,9.6s						
MKAR	**Makanchi Array**	**11.65**	**321**	Pn	**Pn**	**05 08 46.8**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=135,slow=13,SNR=26						
MKAR				Sn	**Sn**	**05 10 55.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=133,slow=30,SNR=2.6						
SONM	**Songino Array**	**13.72**	**41**	Pn	**Pn**	**05 09 13.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=330,slow=16,SNR=2.6						
SONM				Lg		05 13 12.3	
	comp=Z,0.1nm,0.3s,baz=230,slow=32,SNR=6.7						
BVAR	**Borovoye Array**	**21.54**	**321**	P	**P**	**05 10 48.4**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.1,baz=162,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**46.48**	**322**	P	**P**	**05 14 25.6**	**-0.4**
	comp=Z,1.3nm,0.9s,mb3.9,baz=67,slow=7.8,SNR=5.2						
ARCES	**ARCESS Array B**	**46.95**	**334**	P	**P**	**05 14 29.7**	**+0.1**
	comp=Z,3.7nm,0.9s,mb4.3,baz=90,slow=8.1,SNR=5.6						
ASAR	**Alice Springs**	**72.54**	**141**	P	**P**	**05 17 23.6**	**-2.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=316,slow=5.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**83.00**	**281**	P	**P**	**05 18 23.9**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=50,slow=4.2,SNR=10						

IDC 26 05:11:41.1±3.1, 2956S×17769W, h52km±22km, mb3.4/2, mb1 3.7/2, mb1mx3.4/12, mbtmp3.7/2, Error ellipse: s-maj=61.4km s-min=41.7km az=176.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.36**	**327**	P	Pn	05 11 52.2	+1.2
	304nm,0.3s,baz=104,slow=11,SNR=36						
RAO				S	Sn	05 12 00.8	+2.6
	2μm,0.3s,baz=95,slow=23,SNR=35						
ASAR	**Alice Springs**	**43.43**	**266**	P	P	05 19 38.6	-0.1
	0.4nm,0.6s,baz=106,slow=7.8,SNR=5.1						
WRA	**Warramunga Arr**	**44.34**	**271**	P	P	05 19 46.4	+0.4
	1.3nm,0.7s,baz=110,slow=7.8,SNR=10						
FINES	**FINESS Array B**	**144.45**	**341**	PKP	PKPdf	05 31 09.7	-1.7
	1.2nm,0.8s,baz=46,slow=3.8,SNR=8.9						
HFS	**Hagfors**	**148.48**	**349**	PKPbc	PKPbc	05 31 21.0	-0.9
	2.8nm,1.0s,baz=22,slow=8.2,SNR=4.5						

*LDG **26** 05:13:06.5±0.1, 42.30N×126E, h4km, Md2.5/2, Ml2.4/12, Error ellipse: s-maj=1.4km s-min=1.1km az=16.0*

*CSEM **26** 05:13:06.8±0.1, 42.30N×126E, h10km, ML2.5/11, Error ellipse: s-maj=1.2km s-min=1.2km az=94.0*

*STR **26** 05:13:07.0±0.3, 42.31N×126E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 26 05:13:06.9±0.2, 4229N×127E, h4km±3km, mbLg1.9/25, Error ellipse: s-maj=1.8km s-min=1.3km az=57.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORG	**Organya**	**0.07**	**149**	Pg	Pg	05 13 06.6	-1.8
CORG				Lg		05 13 08.2	
	118nm,0.0s						
CSOR	**Sort**	**0.13**	**310**	Pg	Pg	05 13 09.0	-0.6
CSOR				Lg		05 13 11.5	
	80nm,0.1s						
EMIR	**Miracle**	**0.42**	**153**	Pg	Pg	05 13 14.7	-0.3
	3.0nm,0.1s,SNR=16						
EMIR				Lg		05 13 20.8	
	24nm,0.1s,SNR=29						
EMIR	**Miracle**	**0.42**	**153**	Pg	Pg	05 13 14.7	-0.3
	3.0nm,0.1s,SNR=16						
SALF	**Salau**	**0.47**	**353**	Pg	Pg	05 13 15.7	-0.3
SALF				Sg	Sg	05 13 22.4	+0.2
CLLI	**Llivia**	**0.56**	**70**	Pg	Pg	05 13 17.3	-0.3
CLLI				Lg		05 13 25.2	
	7.1nm,0.2s						
CAVN	**Les Avellanes**	**0.56**	**224**	Pg	Pg	05 13 17.2	-0.5
CAVN				Lg		05 13 24.8	
	57nm,0.2s						
VALF	**Valcebollere**	**0.56**	**78**	Pg	Pg	05 13 17.8	0.0
VALF				Sg	Sg	05 13 26.0	+0.9
GRBF	**Gourbit**	**0.59**	**20**	Pg	Pg	05 13 17.8	-0.4
GRBF				Lg		05 13 25.9	
MLS	**Moulis**	**0.68**	**349**	Pg	Pg	05 13 19.6	-0.4
MELF	**Melles**	**0.69**	**327**	P	Pg	05 13 19.8	-0.5
MELF				S	Sg	05 13 29.2	-0.1
EGRA	**Graus**	**0.71**	**263**	Pg	Pg	05 13 21.2	+0.6
	0.5nm,0.1s,SNR=9.6						
EGRA				Lg		05 13 30.7	
	2.6nm,0.2s,SNR=11						
CARF	**Carcanieres**	**0.75**	**55**	Pg	Pg	05 13 20.9	-0.4
CARF				Sg	Sg	05 13 31.3	+0.2
EBIE	**Bielsa**	**0.92**	**296**	Pg	Pg	05 13 24.1	-0.5
	0.1nm,0.1s,SNR=12						
EBIE				Lg		05 13 37.2	
	3.0nm,0.1s,SNR=15						
EBIE	**Bielsa**	**0.92**	**296**	Pg	Pg	05 13 24.1	-0.5
	0.1nm,0.1s,SNR=12						
EPOB	**Poblet**	**0.95**	**189**	Pg	Pg	05 13 24.3	-0.8
	0.8nm,0.1s,SNR=22						
EPOB				Lg		05 13 36.8	
	11nm,0.2s,SNR=10						
EPOB	**Poblet**	**0.95**	**189**	Pg	Pg	05 13 24.3	-0.8
	0.8nm,0.1s,SNR=22						
EPF	**Esparros**	**1.01**	**318**	*e*Pg	Pg	05 13 25.0	-1.3
EPF	**Esparros**	**1.01**	**318**	*e*Pn	Pn	05 13 25.7	-2.1
EPF				*e*Sg	Sg	05 13 38.6	-0.8
	8.0nm,0.2s						
EPF	**Esparros**	**1.01**	**318**	Pg	Pg	05 13 25.0	-1.3
EPF				Lg		05 13 38.6	
	4.0nm,0.2s						
EPF	**Esparros**	**1.01**	**318**	*e*Pn	Pn	05 13 25.7	-2.1
EPF				*e*Sg	Sg	05 13 38.6	-0.8
	4.0nm,0.2s						
CFON	**Fontmartina**	**1.02**	**121**	Pg	Pg	05 13 26.1	-0.3
CFON				Lg		05 13 39.7	
	25nm,0.2s						
EJON	**La Jonquera**	**1.21**	**82**	Pg	Pg	05 13 30.4	+0.3
	2.3nm,0.2s,SNR=9.3						
EJON				Lg		05 13 46.7	
	5.3nm,0.2s,SNR=6.6						
EJON	**La Jonquera**	**1.21**	**82**	Pg	Pg	05 13 30.4	+0.3
	2.3nm,0.2s,SNR=9.3						
MTLF	**Montolieu**	**1.26**	**33**	*e*Pn	Pn	05 13 29.1	-2.2
MTLF	**Montolieu**	**1.26**	**33**	*e*Pg	Pg	05 13 30.7	-0.4
MTLF				*e*Sg	Sg	05 13 45.9	-1.6
	11nm,0.2s						
MTLF	**Montolieu**	**1.26**	**33**	*e*Pg	Pg	05 13 30.7	-0.4
MTLF				*e*Sg	Sg	05 13 45.9	-1.6
	5.3nm,0.2s						
ESAC	**San Caprasio**	**1.42**	**247**	Pg	Pg	05 13 33.8	-0.2
	3.6nm,0.1s,SNR=11						
ESAC				Lg		05 13 52.7	
	31nm,0.2s,SNR=12						
ESAC	**San Caprasio**	**1.42**	**247**	Pg	Pg	05 13 33.8	-0.2
	3.6nm,0.1s,SNR=11						
ETSF	**Etsaut**	**1.48**	**295**	*e*Pn	Pn	05 13 32.3	-2.0
ETSF	**Etsaut**	**1.48**	**295**	*e*Pg	Pg	05 13 34.1	-1.2
ETSF				*e*Sn	Sn	05 13 50.8	-3.3
ETSF				*e*Sg	Sg	05 13 53.5	-1.0
	6.8nm,0.2s						
ETSF	**Etsaut**	**1.48**	**295**	Pn	Pn	05 13 32.3	-2.0
ETSF				Pg	Pg	05 13 34.1	-1.2
ETSF				Sn	Sn	05 13 50.8	-3.3
ETSF				Lg		05 13 53.5	
	3.4nm,0.2s						
ETSF	**Etsaut**	**1.48**	**295**	*e*Pg	Pg	05 13 34.1	-1.2
ETSF				*e*Sn	Sn	05 13 50.8	-3.3
ETSF				*e*Sg	Sg	05 13 53.5	-1.0
	3.4nm,0.2s						
ERTA	**Horta de San J**	**1.51**	**208**	Pg	Pg	05 13 34.6	-1.2
	1.3nm,0.2s,SNR=19						
ERTA				Lg		05 13 55.0	
	17nm,0.3s,SNR=5.0						
ERTA	**Horta de San J**	**1.51**	**208**	Pg	Pg	05 13 34.6	-1.2
	1.3nm,0.2s,SNR=19						
EBR	**Ebro Roquetas**	**1.58**	**202**	*e*SN	Sn	05 13 57.5	+1.0
SJPF	**Ste Jean**	**2.02**	**295**	*e*Pn	Pn	05 13 39.1	-2.5
SJPF	**Ste Jean**	**2.02**	**295**	*e*Pg	Pg	05 13 43.7	-1.8
SJPF				*e*Sg	Sg	05 14 10.2	-1.5
	3.4nm,0.3s						
SJPF	**Ste Jean**	**2.02**	**295**	Pn	Pn	05 13 39.1	-2.5
SJPF				Pg	Pg	05 13 43.7	-1.8
SJPF				Lg		05 14 10.2	
	1.7nm,0.3s						
SJPF	**Ste Jean**	**2.02**	**295**	*e*Pg	Pg	05 13 43.7	-1.8
SJPF				*e*Sg	Sg	05 14 10.2	-1.5
	1.7nm,0.3s						
IUNC	**Unciti**	**2.10**	**284**	Lg		05 14 15.1	
	1.8nm,0.2s,SNR=4.0						
EARA	**Aranguren**	**2.16**	**284**	Lg		05 14 17.1	
	3.7nm,0.2s,SNR=4.0						
IUSE	**Utxeti**	**2.18**	**288**	Lg		05 14 18.4	
	1.0nm,0.1s,SNR=4.0						
ELIZ	**Elizondo**	**2.24**	**294**	Pg	Pg	05 13 48.5	-1.4
	0.6nm,0.2s,SNR=7.9						
ELIZ				Lg		05 14 20.5	
	1.2nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.25**	**295**	Lg		05 14 17.7	
	4.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.33**	**215**	Pg	Pg	05 13 49.0	-2.5
	0.3nm,0.2s,SNR=7.9						
EMOS				Lg		05 14 19.8	
	2.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.33**	**215**	Pg	Pg	05 13 49.0	-2.6
	0.3nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.60**	**46**	*e*Pn	Pn	05 13 46.5	-3.2
LASF	**Ste Croix**	**2.60**	**46**	*e*P	Pn	05 13 49.4	-0.3
LASF	**Ste Croix**	**2.60**	**46**	*e*Pg	Pg	05 13 53.6	-3.2
LASF				*e*Sn	Sn	05 14 17.1	-4.6
LASF				*e*Sg	Sg	05 14 27.3	-3.2
	4.4nm,0.3s						
LASF	**Ste Croix**	**2.60**	**46**	Pn	Pn	05 13 46.5	-3.2
LASF				Pg	Pg	05 13 53.6	-3.2
LASF				Sn	Sn	05 14 17.1	-4.6
LASF				Lg		05 14 27.3	
	2.2nm,0.3s						
LASF	**Ste Croix**	**2.60**	**46**	*e*P	Pn	05 13 49.4	-0.3
LASF	**Ste Croix**	**2.60**	**46**	*e*Pg	Pg	05 13 53.6	-3.2
LASF				*e*Sn	Sn	05 14 17.1	-4.6
LASF				*e*Sg	Sg	05 14 27.3	-3.2
	2.2nm,0.3s						
LFF	**La Frestale**	**2.68**	**352**	*e*Pn	Pn	05 13 48.3	-2.5
LFF	**La Frestale**	**2.68**	**352**	*e*P	Pn	05 13 51.1	+0.3
LFF	**La Frestale**	**2.68**	**352**	*e*Pg	Pg	05 13 55.8	-2.4
LFF				*e*Sn	Sn	05 14 19.6	-4.0
LFF				*e*Sg	Sg	05 14 30.0	-2.9
	6.1nm,0.4s						
LFF	**La Frestale**	**2.68**	**352**	Pn	Pn	05 13 48.3	-2.5
LFF				Pg	Pg	05 13 55.8	-2.4
LFF				Sn	Sn	05 14 19.6	-4.0
LFF				Lg		05 14 30.0	
	3.0nm,0.4s						
LFF	**La Frestale**	**2.68**	**352**	*e*P	Pn	05 13 51.1	+0.3
LFF	**La Frestale**	**2.68**	**352**	*e*Pg	Pg	05 13 55.8	-2.4
LFF				*e*Sn	Sn	05 14 19.6	-4.0
LFF				*e*Sg	Sg	05 14 30.0	-2.9
	3.0nm,0.4s						
CAF	**Calviac**	**2.70**	**12**	*e*Pn	Pn	05 13 48.3	-2.7
CAF	**Calviac**	**2.70**	**12**	*e*P	Pn	05 13 51.3	+0.3
CAF	**Calviac**	**2.70**	**12**	*e*Pg	Pg	05 13 56.1	-2.5
CAF				*e*Sn	Sn	05 14 19.9	-4.2
CAF				*e*Sg	Sg	05 14 31.2	-2.4
	3.2nm,0.3s						
CAF	**Calviac**	**2.70**	**12**	Pn	Pn	05 13 48.3	-2.7
CAF				Pg	Pg	05 13 56.1	-2.5
CAF				Sn	Sn	05 14 19.9	-4.2
CAF				Lg		05 14 31.2	
	1.6nm,0.3s						
CAF	**Calviac**	**2.70**	**12**	*e*P	Pn	05 13 51.3	+0.3
CAF	**Calviac**	**2.70**	**12**	*e*Pg	Pg	05 13 56.1	-2.5
CAF				*e*Sn	Sn	05 14 19.9	-4.2
CAF				*e*Sg	Sg	05 14 31.2	-2.4
	1.6nm,0.3s						
ETOS	**Mallorca**	**2.78**	**155**	Sn	Sn	05 14 23.0	-3.1
	SNR=7.9						
ETOS	**Mallorca**	**2.78**	**155**	Sn	Sn	05 14 23.0	-3.1
	SNR=7.9						
ECRI	**Cripan**	**2.82**	**278**	Lg		05 14 36.2	
	1.5nm,0.2s,SNR=4.0						
RJF	**Les Rejaudoux**	**3.02**	**3**	*e*Pn	Pn	05 13 53.7	-1.8
RJF	**Les Rejaudoux**	**3.02**	**3**	*e*P	Pn	05 13 57.2	+1.7
RJF	**Les Rejaudoux**	**3.02**	**3**	*e*Pg	Pg	05 14 02.4	-2.4
RJF				*e*Sn	Sn	05 14 28.3	-3.7
RJF				*e*Sg	Sg	05 14 42.0	-1.9
	2.6nm,0.2s						
RJF	**Les Rejaudoux**	**3.02**	**3**	Pn	Pn	05 13 53.7	-1.8
RJF				Pg	Pg	05 14 02.4	-2.4
RJF				Sn	Sn	05 14 28.3	-3.7
RJF				Lg		05 14 42.0	
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**3.02**	**3**	*e*P	Pn	05 13 57.2	+1.7
RJF	**Les Rejaudoux**	**3.02**	**3**	*e*Pg	Pg	05 14 02.4	-2.4
RJF				*e*Sn	Sn	05 14 28.3	-3.7
RJF				*e*Sg	Sg	05 14 42.0	-1.9
	1.3nm,0.2s						
ECHE	**Chera**	**3.19**	**213**	Lg		05 14 47.6	
	0.7nm,0.2s,SNR=4.0						
VIVF	**Saint-Julien-l**	**3.56**	**43**	*e*Pn	Pn	05 14 00.2	-2.7
VIVF	**Saint-Julien-l**	**3.56**	**43**	*e*Pg	Pg	05 14 11.6	-3.6
VIVF				*e*Sg	Sg	05 14 57.5	-3.9
	1.9nm,0.3s						
VIVF	**Saint-Julien-l**	**3.56**	**43**	*e*Pg	Pg	05 14 11.6	-3.6
VIVF				*e*Sg	Sg	05 14 57.5	-3.9
	0.9nm,0.3s						
BGF	**Bois d'Agland**	**4.41**	**14**	*e*Pn	Pn	05 14 11.5	-3.1
BGF				*e*Sg	Sg	05 15 24.2	-4.5
	6.5nm,0.5s						
BGF	**Bois d'Agland**	**4.41**	**14**	*e*Pn	Pn	05 14 11.5	-3.1
BGF				*e*Sg	Sg	05 15 24.2	-4.5
	3.2nm,0.5s						
MFF	**Saint Martin d**	**4.43**	**347**	*e*Pn	Pn	05 14 12.2	-2.6
MFF				*e*Sn	Sn	05 15 01.5	-5.3
	1.2nm,0.4s						
MFF	**Saint Martin d**	**4.43**	**347**	*e*Pn	Pn	05 14 12.2	-2.6
MFF				*e*Sn	Sn	05 15 01.5	-5.3
	0.6nm,0.4s						
GRR	**Gorron**	**6.28**	**347**	*e*Pn	Pn	05 14 37.3	-3.0
LDF	**La Druitiere**	**6.38**	**352**	*e*Pn	Pn	05 14 38.5	-3.1
QUIF	**Quistinic**	**6.44**	**332**	*e*Pn	Pn	05 14 39.6	-2.9

*IDC **26** 05:14:49.0±0.6, 1346S×7696W, h0km, mb4.4/14, mb1 4.4/19, mb1mx4.4/23, mbtmp4.3/19, ML3.3/5, MS3.9/13, Ms1 3.9/13, ms1mx3.8/19, Error ellipse: s-maj=21.6km s-min=12.4km az=63.0*

*ISCJB **26** 05:14:51.2±0.3, 1349S±005×7694W±007, h27km, mb4.6/33, MS4.2/12, Error ellipse: s-maj=11.3km s-min=5.6km az=110.7*

*MOS **26** 05:14:52.6±1.2, 1345S×7688W, h33km, mb4.8/15, Error ellipse: s-maj=19.7km s-min=9.7km az=129.4*

*NEIC **26** 05:14:53.0±0.2, 1351S×7695W, mb4.7/24, Error ellipse: s-maj=8.3km s-min=4.2km az=53.0*

*BJI **26** 05:14:53.0, 1350S×7690W, h26km, mB5.0, Ms5.2, Msz5.1*

ISC 26 05:14:53.3±0.3, 1353S±005×7693W±007, h28km, h28km±.4km: pP-P, n97, σ0:81/79, mb4.6/33, MS4.2/12, 3D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**6.01**	**120**	*e*P	**Pn**	**05 16 20.0**	**-0.3**
ARE				*e*		05 16 44.0	
LPAZ	**La Paz**	**8.94**	**109**	Pn	**Pn**	**05 17 02.9**	**+2.4**
	0.2nm,0.3s,baz=287,slow=15,SNR=5.5						
LPAZ				Lg		05 19 32.6	
	0.0nm,0.3s,baz=162,slow=19,SNR=1.5						
LPAZ				LR	LR	05 20 03.7	
	comp=Z,265nm,18.6s,baz=291,slow=35						
LPAZ	**La Paz**	**8.94**	**109**	*e*Pn	**Pn**	**05 17 03.9**	**+3.5**
	26nm,1.0s						
LPAZ	**La Paz**	**8.94**	**109**	*e*P	**Pn**	**05 17 03.9**	**+3.4**
LPAZ				pmax	pmax		
	comp=Z,26nm,1.0s						
LVC	**Limon Verde**	**11.82**	**141**	Pn	**Pn**	**05 17 40.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=304,slow=10,SNR=9.5						
LVC				Sn	**Sn**	**05 19 48.4**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=243,slow=23,SNR=2.6						
LVC				Lg		05 20 51.3	
	comp=Z,0.2nm,0.3s,baz=199,slow=18,SNR=8.3						
LVC				LR	LR	05 22 36.1	
	comp=Z,738nm,20.6s,baz=311,slow=39						
LVC	**Limon Verde**	**11.82**	**141**	*e*Pn	**Pn**	**05 17 39.6**	**-0.3**
	comp=Z,26nm,1.0s						
OTAV	**Otavalo**	**13.76**	**354**	*e*Pn	**Pn**	**05 18 06.9**	**+0.4**
	comp=Z,25nm,1.0s						
SAML	**Samuel**	**14.23**	**73**	*e*Pn	**Pn**	**05 18 14.1**	**+1.2**
	comp=Z,12nm,0.9s						
SIV	**San Ignacio**	**15.53**	**101**	Pn	**Pn**	**05 18 29.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=273,slow=14,SNR=7.2						
SIV				Lg		05 22 54.2	
	comp=Z,0.1nm,0.3s,baz=324,slow=14,SNR=3.3						
ROSC	**El Rosal**	**18.45**	**8**	P	**Pn**	**05 19 07.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=105,slow=20,SNR=2.8						
ROSC				LR	LR	05 27 08.2	
	comp=Z,748nm,20.9s,baz=195,slow=40						
CFAA	**Coronel Fontan**	**19.68**	**157**	P	**Pn**	**05 19 21.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=335,slow=12,SNR=14						
CFAA				LR	LR	05 25 28.5	
	comp=Z,33nm,21.6s,baz=347,slow=32						
CPUP	**Villa Florida**	**22.36**	**128**	P	**P**	**05 19 50.8**	**+1.8**
	comp=Z,9.5nm,1.0s,mb4.2,baz=287,slow=10.0,SNR=7.0						
CPUP				LR	LR	05 30 21.2	
	comp=Z,581nm,19.9s,MS4.0,baz=293,slow=42						
CPUP	**Villa Florida**	**22.36**	**128**	*e*P	**P**	**05 19 48.8**	**-0.2**
	comp=Z,64nm,1.3s,mb4.9						
CPUP	**Villa Florida**	**22.36**	**128**	*e*P	**P**	**05 19 48.8**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,64nm,1.3s						
SDV	**Santo Domingo**	**23.13**	**16**	P	**P**	**05 19 57.4**	**+0.3**
	comp=Z,10nm,0.7s,mb4.3,baz=217,slow=7.6,SNR=19						
SDV	**Santo Domingo**	**23.13**	**16**	*e*P	**P**	**05 19 56.9**	**-0.3**
	comp=Z,15nm,0.8s,mb4.5						
JTS	**JuntasAbangare**	**24.97**	**341**	LR	LR	05 28 14.3	
	comp=Z,265nm,21.0s,MS3.7,baz=0.0,slow=32						
PLCA	**Paso Flores**	**27.67**	**170**	P	**P**	**05 20 39.0**	**+0.3**
	comp=Z,10nm,1.2s,mb4.3,baz=7.7,slow=5.8,SNR=5.5						
PLCA				LR	LR	05 29 18.9	
	comp=Z,112nm,20.7s,MS3.4,baz=337,slow=31						
PLCA	**Paso Flores**	**27.67**	**170**	*e*P	**P**	**05 20 38.9**	**+0.1**
	comp=Z,12nm,1.4s,mb4.3						
PLCA	**Paso Flores**	**27.67**	**170**	*e*P	**P**	**05 20 38.9**	**+0

ELK	**Elko**	**64.61**	**329**	*e*P	**P**	**05 25 29.2**	**+1.0**
	comp=Z,3.0nm,1.0s,mb4.3						
ELK				*e*pP	pP	05 25 37.2	+0.1
ELK	**Elko**	**64.61**	**329**	*e*P	**P**	**05 25 29.2**	**+1.0**
ELK				*e**PP	pP	05 25 37.2	+0.2
ELK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LOHW	**Long Hollow**	**64.65**	**334**	*e*P	**P**	**05 25 28.3**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.4						
LOHW				*e*pP	pP	05 25 36.9	-0.4
FLWY	**Flagg Ranch**	**65.07**	**334**	*e*P	**P**	**05 25 32.1**	**+1.0**
	comp=Z,15nm,1.0s,mb5.0						
FLWY				*e*pP	pP	05 25 40.4	+0.4
ULM	**Lac du Bonnet**	**65.65**	**347**	P	**P**	**05 25 34.0**	**-0.9**
	comp=Z,6.0nm,0.9s,mb4.6,baz=153,slow=5.3,SNR=14						
ULM	**Lac du Bonnet**	**65.65**	**347**	P	**P**	**05 25 34.0**	**-0.9**
GCMT	**Greycliff**	**66.02**	**336**	*e*P	**P**	**05 25 37.8**	**+0.5**
GCMT				*e*pP	pP	05 25 45.5	-0.7
HLID	**Hailey**	**66.33**	**331**	*e*P	**P**	**05 25 40.0**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.2						
MCMT	**McKenzie Canyo**	**66.60**	**333**	P	**P**	**05 25 40.6**	**-0.3**
MCMT				*e*pP	pP	05 25 49.8	0.0
BOZ	**Bozeman (W)**	**66.72**	**334**	*e*P	**P**	**05 25 40.9**	**-0.9**
	comp=Z,6.0nm,1.1s,mb4.5						
BOZ				*e*pP	pP	05 25 49.6	-1.0
BOZ	**Bozeman (W)**	**66.72**	**334**	*e*P	**P**	**05 25 40.9**	**-0.8**
BOZ				*e**PP	pP	05 25 49.6	-1.0
BOZ				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
SCHQ	**Schefferville**	**68.63**	**6**	P	**P**	**05 25 53.5**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.3,baz=192,slow=5.8,SNR=7.1						
SCHQ				LR	LR	05 53 54.1	
	comp=Z,129nm,20.6s,MS4.1,baz=145,slow=34						
TBI	**Tubuai**	**68.91**	**250**	*e*LR	LR	05 46 44.0	
	comp=Z,240nm,25.5s						
PPT	**Papeete**	**69.73**	**256**	*e*LR	LR	05 47 00.9	
	comp=Z,159nm,25.2s						
VNA3	**Neumayer Olymp**	**70.03**	**161**	⇓*i*P	**P**	**05 26 03.3**	**+0.9**
VNA3				*e*		05 26 17.9	
VNA1	**Neumayer--Stat**	**70.30**	**161**	⇓*i*P	**P**	**05 26 05.1**	**+1.0**
VNA1				*e*		05 26 18.7	
VNA1				*e*		05 26 29.8	
VNA2	**Neumayer--Watz**	**70.65**	**161**	*e*P	**P**	**05 26 07.1**	**+0.8**
	baz=300,slow=4.2						
VNA2				*e*		05 26 21.1	
VNA2				*e*		05 26 31.8	
FFC	**Flin Flon**	**71.23**	**345**	*e*P	**P**	**05 26 09.1**	**-0.7**
	comp=Z,7.1nm,1.2s,mb4.5						
FFC				*e*pP	pP	05 26 17.5	-1.2
FFC	**Flin Flon**	**71.23**	**345**	*e*P	**P**	**05 26 09.1**	**-0.6**
FFC				*e**PP	pP	05 26 17.5	-1.2
FFC				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
SNAA	**Sanae**	**72.25**	**161**	⇓*i*P	**P**	**05 26 16.4**	**+0.5**
SNAA				*e*		05 26 31.0	
SNAA	**Sanae**	**72.25**	**161**	*e*P	**P**	**05 26 15.5**	**-0.4**
	comp=Z,12nm,1.1s,mb4.7						
SNAA	**Sanae**	**72.25**	**161**	*e*P	**P**	**05 26 15.5**	**-0.4**
SNAA				pmax	pmax		
	comp=Z,12nm,1.1s						
FCC	**Fort Churchill**	**73.38**	**351**	*e*P	**P**	**05 26 21.9**	**-0.7**
	comp=Z,15nm,1.2s,mb4.8						
FCC				*e*pP	pP	05 26 30.1	-1.5
FCC	**Fort Churchill**	**73.38**	**351**	*e*P	**P**	**05 26 21.9**	**-0.7**
FCC				*e**PP	pP	05 26 30.2	-1.4
FCC				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
EDM	**Edmonton**	**73.45**	**338**	*e*P	**P**	**05 26 22.1**	**-0.9**
EDM				*e*pP	pP	05 26 30.9	-1.1
DBIC	**Dimbokro**	**74.30**	**79**	P	**P**	**05 26 28.9**	**+0.9**
	comp=Z,7.1nm,1.1s,mb4.5,baz=236,slow=8.5,SNR=4.4						
DBIC				LR	LR	05 57 40.8	
	comp=Z,293nm,18.3s,MS4.6,baz=221,slow=35						
DBIC	**Dimbokro**	**74.30**	**79**	*e*P	**P**	**05 26 28.8**	**+0.8**
	comp=Z,17nm,1.3s,mb4.8						
DBIC				*e*pP	pP	05 26 36.9	-0.1
DBIC	**Dimbokro**	**74.30**	**79**	*e*P	**P**	**05 26 28.8**	**+0.8**
DBIC				*e**PP	pP	05 26 36.9	-0.1
DBIC				pmax	pmax		
	comp=Z,17nm,1.3s						
FRB	**Frobisher Bay**	**77.30**	**4**	P	**P**	**05 26 44.4**	**-0.8**
	comp=Z,6.1nm,1.0s,mb4.5,baz=200,slow=6.9,SNR=9.4						
YKA	**Yellowknife Ar**	**81.28**	**343**	P	**P**	**05 27 06.1**	**-0.8**
	comp=Z,2.0nm,0.9s,mb4.1,baz=140,slow=5.6,SNR=31						
YKA				LR	LR	06 09 22.9	
	comp=Z,78nm,18.9s,MS4.1,baz=180,slow=40						
YKA	**Yellowknife Ar**	**81.28**	**343**	P	**P**	**05 27 06.1**	**-0.8**
YKA				LR	LR	06 09 22.9	
YKW3	**Yellowknife Ar**	**81.34**	**343**	*e*P	**P**	**05 27 06.5**	**-0.6**
YKW3				*e*pP	pP	05 27 14.8	-1.5
TORD	**Torodi Ar. Bea**	**82.28**	**75**	P	**P**	**05 27 13.2**	**+1.1**
	comp=Z,20nm,1.0s,mb5.0,baz=262,slow=4.5,SNR=75						
VNDA	**Vanda**	**83.27**	**191**	P	**P**	**05 27 18.6**	**+1.4**
	comp=Z,2.0nm,1.0s,mb4.1,baz=146,slow=3.9,SNR=7.4						
VNDA	**Vanda**	**83.27**	**191**	*e*P	**P**	**05 27 18.0**	**+0.8**
	comp=Z,3.0nm,1.0s,mb4.3						
VNDA	**Vanda**	**83.27**	**191**	*e*P	**P**	**05 27 18.0**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
RES	**Resolute Bay**	**88.75**	**355**	*e*P	**P**	**05 27 43.5**	**-0.8**
	comp=Z,3.5nm,1.1s,mb4.6						
RES				*e*pP	pP	05 27 51.9	-1.6
RES	**Resolute Bay**	**88.75**	**355**	*e*P	**P**	**05 27 43.5**	**-0.8**
RES				*e**PP	pP	05 27 51.9	-1.6
RES				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
SUMG	**Summit**	**89.55**	**11**	*e*P	**P**	**05 27 48.5**	**+0.4**
	comp=Z,23nm,1.1s,mb5.4						
SUMG				*e*pP	pP	05 27 56.7	-0.6
DAWY	**Dawson**	**90.63**	**337**	*e*P	**P**	**05 27 52.3**	**-0.8**
DAWY				*e*pP	pP	05 28 00.8	-1.5
INK	**Inuvik**	**90.95**	**342**	*e*P	**P**	**05 27 54.1**	**-0.5**
	comp=Z,14nm,1.2s,mb5.2						
INK				*e*pP	pP	05 28 02.8	-1.0
INK	**Inuvik**	**90.95**	**342**	*e*P	**P**	**05 27 54.1**	**-0.5**
INK				*e**PP	pP	05 28 02.8	-1.0
INK				pmax	pmax		
	comp=Z,13nm,1.2s						
COLA	**College**	**94.27**	**336**	*e*P	**P**	**05 28 09.3**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.7						
COLA				*e*pP	pP	05 28 18.0	-1.1
COLA	**College**	**94.27**	**336**	*e*P	**P**	**05 28 09.3**	**-0.6**
COLA				*e**PP	pP	05 28 18.0	-1.1
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.7						
ARU	**Arti**	**125.35**	**29**	*i* PKIKP	PKPdf	05 33 52.1	+0.7
AKTK	**Aktyubinsk**	**128.18**	**35**	PKP	PKPdf	05 33 57.0	+0.2
AKTO	**Aktyubinsk**	**128.18**	**35**	PKP	PKPdf	05 33 57.0	+0.2
	comp=Z,0.9nm,0.8s,baz=342,slow=3.2,SNR=4.4						
ZRNK	**Zerenda**	**132.26**	**27**	*e*PKPdf	PKPdf	05 34 05.3	+0.8
ASAR	**Alice Springs**	**132.30**	**219**	PKP	PKPdf	05 34 04.5	-0.1
	comp=Z,0.8nm,0.9s,baz=156,slow=3.4,SNR=4.7						
WRA	**Warramunga Arr**	**134.69**	**223**	PKP	PKPdf	05 34 10.1	+1.0
	comp=Z,1.2nm,0.8s,baz=137,slow=1.8,SNR=8.6						
MDJ	**Mudanjiang**	**141.65**	**329**	PKP	PKPdf	05 34 22.3	+0.4
MKAR	**Makanchi Array**	**142.53**	**24**	PKhKP		05 34 20.4	
	comp=Z,0.9nm,0.9s,baz=321,slow=3.3,SNR=4.6						
ULN	**Ulaanbaatar**	**145.61**	**355**	*e*PKPbc	PKPbc	05 34 30.0	+0.9
ULN				*ep*PKPdf	pPKPdf	05 34 38.4	+0.1
SONM	**Songino Array**	**145.69**	**356**	PKPbc	PKPbc	05 34 30.4	+1.0
	comp=Z,11nm,1.0s,baz=342,slow=1.9,SNR=49						
WMQ	**Urumqi**	**147.05**	**21**	*e*PKP	PKPdf	05 34 30.3	-1.0
WMQ				LR	LR		
	comp=N,98nm,24.0s						
WMQ				LR	LR		
	comp=Z,101nm,24.0s,MS4.5						
BJI	**Beijing**	**151.19**	**339**	PKP	PKPbc	05 34 42.8	-1.1
HHC	**Hu-ho-hao-te**	**151.78**	**346**	*e*PKP	PKPdf	05 34 37.5	-1.3
HHC				APKP		05 34 47.5	
HHC				XPKP		05 34 52.0	
HHC				PKS		05 38 11.0	
HHC				PP	PP	05 38 27.0	+1.5
HHC				SKS	SKSdf	05 41 40.0	-4.3
HHC				SKKS	SKKSac	05 45 10.8	-3.5
HHC				LR	LR		
	comp=N,128nm,5.7s						
HHC				LR	LR		
	comp=E,214nm,5.1s						
HHC				LR	LR		
	comp=Z,137nm,4.9s						
SSE	**Sheshan**	**155.84**	**319**	PKP	PKPdf	05 34 47.3	+2.7
NJ2	**Nanjing**	**156.57**	**324**	*e*PKP	PKPdf	05 34 44.0	-1.6
NJ2				APKP		05 34 54.8	
NJ2				XPKP		05 34 58.5	
NJ2				PKP2	PKPab	05 35 15.3	+0.8
NJ2				PKS		05 38 16.0	
NJ2				PP	PP	05 38 54.0	+1.6
NJ2				SKS	SKSdf	05 41 45.0	-4.7
NJ2				SKKS	SKKSac	05 45 38.0	-2.0
NJ2				PP	PP		
	comp=Z,60nm,7.6s						
NJ2				LR	LR		
	comp=N,360nm,25.4s,MS5.2						
NJ2				LR	LR		
	comp=E,220nm,24.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,25.3s						
LZH	**Lanzhou**	**157.53**	**358**	*e*PKP	PKPdf	05 34 45.3	-1.5
LZH				APKP		05 34 56.3	
LZH				XPKP		05 35 00.0	
LZH				LR	LR		
	comp=N,156nm,18.9s						
LZH				LR	LR		
	comp=Z,342nm,20.1s,MS5.2						

MAN ***26*** *05:49:53.7, 1851N×12227E, h1km, mb4.4, ML5.3, MS1.6*
ISCJB ***26*** *05:49:54.8±0.7, 1856N±003×12240E±004, h35km±5km, mb4.6/58, MS4.0/23, Error ellipse: s-maj=6.7km s-min=5.0km az=8.3*
BJI ***26*** *05:49:54.7, 1864N×12238E, h21km, mB5.0, mb4.7, Ms4.4, Msz4.1*
MOS ***26*** *05:49:55.3±1.0, 1858N×12232E, h36km, mb5.0/34, Error ellipse: s-maj=11.6km s-min=5.9km az=109.2*
NEIC ***26*** *05:49:56.5±0.7, 1853N×12237E, h38km±6km, mb4.8/26, Error ellipse: s-maj=7.4km s-min=5.1km az=91.0*
IDC ***26*** *05:49:57.0±2.7, 1850N×12240E, h42km±26km, mb4.2/13, mb1 4.4/15, mb1mx4.3/20, mbtmp4.5/15, ML4.3/2, MS3.9/14, Ms1 3.9/14, ms1mx3.6/37, Error ellipse: s-maj=25.0km s-min=14.9km az=83.0*
ISC 26 05:49:57.0±0.6, 1858N±003×12235E±004, h39km±4km, h22km±8.6km:pP-P, n189, σ1§09/190, mb4.6/58, MS4.0/23, 13C-8D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.01**	**210**	⇑*i*P	**Pn**	**05 50 12.0**	**-2.6**
CVP				*i* S	**Sn**	**05 50 37.0**	**+9.4**
PIP	**Pasuquin**	**1.66**	**262**	⇓*i*P	**Pn**	**05 50 22.8**	**-0.9**
PIP				*e*S	**Sn**	**05 50 44.3**	**+0.5**
BCPH	**Baguio City Da**	**2.76**	**218**	⇓*e*P	**Pn**	**05 50 39.9**	**+1.2**
BCPH				*e*S	**Sn**	**05 51 17.9**	**+7.0**
LQP	**Lukban**	**4.51**	**190**	*e*P	**Pn**	**05 51 07.6**	**+4.9**
GQP	**Guinayangan**	**4.65**	**179**	*e*P	**Pn**	**05 51 05.5**	**+0.8**
GQP				*i* S	**Sn**	**05 51 58.4**	**+1.0**
TGY	**Tagaytay City**	**4.65**	**197**	P	**Pn**	**05 51 05.2**	**+0.5**
	36nm,0.3s,baz=60,slow=4.7,SNR=6.8						
TGY	**Tagaytay City**	**4.65**	**197**	*e*P	**Pn**	**05 51 11.0**	**+6.2**
NACB	**Ninganchiao**	**5.61**	**353**	*e*Pn	**Pn**	**05 51 16.6**	**-1.4**
NACB				*e*S	**Sn**	**05 52 17.9**	**-3.3**
YHNB	**Yeheng**	**6.13**	**352**	*e*Pn	**Pn**	**05 51 25.6**	**+0.6**
TATO	**Taipei**	**6.42**	**353**	*e*Pn	**Pn**	**05 51 28.9**	**-0.1**
QZH	**Quanzhou**	**7.23**	**332**	P	**Pn**	**05 51 38.0**	**-2.2**
QZH				S	**Sn**	**05 53 00.0**	**-1.0**
QZH				LR	LR		
	comp=N,3μm,16.1s						
QZH				LR	LR		
	comp=E,910nm,8.4s						
QZH				LR	LR		
	comp=Z,2μm,15.1s						
JOW	**Kunigami**	**9.87**	**33**	P	**Pn**	**05 52 16.8**	**+0.5**
	comp=Z,3.8nm,0.3s,baz=199,slow=13,SNR=9.8						
JOW				LR	LR	05 55 38.5	
	comp=Z,510nm,18.1s,baz=230,slow=34						
JOW	**Kunigami**	**9.87**	**33**	P	**Pn**	**05 52 16.8**	**+0.5**
JOW				LR	LR	05 55 38.5	
QIZ	**Qiongzhong**	**11.86**	**274**	P	**Pn**	**05 52 41.8**	**-1.7**
QIZ				S	**Sn**	**05 54 54.8**	**+0.4**
QIZ				LR	LR		
	comp=N,683nm,13.2s						
QIZ				LR	LR		
	comp=E,675nm,17.6s						
QIZ				LR	LR		
	comp=Z,941nm,16.7s						
SSE	**Sheshan**	**12.51**	**355**	P	**Pn**	**05 52 53.3**	**+0.9**
SSE				XP		05 53 01.5	
SSE				S	**Sn**	**05 55 15.3**	**+4.9**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s						
SSE				AMB	AMB		
	comp=Z,51nm,6.7s						
SSE				LR	LR		
	comp=N,106nm,17.9s						
SSE				LR	LR		
	comp=E,253nm,17.9s						
SSE				LR	LR		
	comp=Z,178nm,17.4s						
NJ2	**Nanjing**	**13.78**	**347**	*e*P	**Pn**	**05 53 12.3**	**+2.5**
NJ2				AP		05 53 16.8	
NJ2				XP		05 53 20.5	
NJ2				PP		05 53 23.5	
NJ2				S	**Sn**	**05 55 47.0**	**+5.5**
NJ2				XS		05 55 54.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,80nm,10.1s						
NJ2				LR	LR		
	comp=N,800nm,25.0s						
NJ2				LR	LR		
	comp=E,1μm,11.3s						
NJ2				LR	LR		
	comp=Z,250nm,13.4s						
ENH	**Enshi**	**16.50**	**317**	*e*P	**Pn**	**05 53 46.1**	**+0.6**
	comp=Z,17nm,0.8s						
KMI	**Kunming**	**19.32**	**293**	P	**Pn**	**05 54 22.3**	**+2.2**
KMI				AP	pP	05 54 26.8	-1.8
KMI				XP	sP	05 54 29.3	-4.2
KMI				PP		05 54 39.8	
KMI				PPP		05 54 48.5	
KMI				S	**S**	**05 57 53.5**	**-1.9**
KMI				XS	sS	05 58 00.8	-10
KMI				SS		05 58 19.5	
KMI				SSS		05 58 32.8	
KMI				AMB	AMB		
	comp=Z,29nm,1.2s						
KMI				AMB	AMB		
	comp=Z,350nm,4.6s						
KMI				LR	LR		
	comp=N,551nm,12.8s						
KMI				LR	LR		
	comp=E,815nm,14.3s						
KMI				LR	LR		
	comp=Z,758nm,14.9s						
XAN	**Xi'an**	**19.51**	**325**	P	**Pn**	**05 54 22.0**	**-0.4**
XAN				S	**S**	**05 57 50.0**	**-9.2**
XAN				AMB	AMB		
	comp=Z,20nm,1.3s						
XAN				AMB	AMB		
	comp=Z,227nm,9.5s						
XAN				LR	LR		
	comp=N,384nm,18.3s						
XAN				LR	LR		
	comp=E,292nm,16.1s						
XAN				LR	LR		
	comp=Z,566nm,18.3s						
CBIJ	**Chichi jima**	**20.13**	**62**	LR	LR	06 00 34.2	
	comp=Z,133nm,18.9s,MS3.3,baz=221,slow=32						
KSM	**Kuching**	**20.70**	**216**	*e*P	**P**	**05 54 32.7**	**-1.1**
CD2	**Chengdu**	**20.84**	**310**	P	**P**	**05 54 37.0**	**+1.7**
BJT	**Baijiatuau**	**22.02**	**347**	*e*P	**P**	**05 54 47.2**	**-0.8**
	comp=Z,16nm,0.8s,mb4.5						
BJT	**Baijiatuau**	**22.02**	**347**	*e*P	**P**	**05 54 47.2**	**-0.8**
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJI	**Beijing**	**22.04**	**347**	P	**P**	**05 54 47.3**	**-0.9**
BJI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.4						
BJI				LR	LR		
	comp=N,316nm,14.2s,MS3.9						
BJI				LR	LR		
	comp=E,177nm,15.9s,MS3.9						
BJI				LR	LR		
	comp=Z,156nm,22.4s						
GUMO	**Guam**	**22.19**	**100**	LR	LR	06 01 25.9	
	comp=Z,322nm,19.1s,MS3.8,baz=258,slow=31						
MAJO	**Matsushiro**	**22.70**	**35**	*e*P	**P**	**05 54 54.6**	**-0.6**
	comp=Z,75nm,1.8s,mb4.8						
MAJO	**Matsushiro**	**22.70**	**35**	*e*P	**P**	**05 54 54.6**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,75nm,1.8s,mb4.8						
MAT	**Matsushiro**	**22.70**	**35**	P	**P**	**05 54 56.0**	**+0.8**
MAT				S	**S**	**05 59 05.0**	**+3.9**
MAT	**Matsushiro**	**22.70**	**35**	*e*P	**P**	**05 54 56.0**	**+0.8**
	comp=Z,21nm,1.4s,mb4.4						
MAT				*e*S	**S**	**05 59 05.0**	**+3.9**
MAT	**Matsushiro**	**22.70**	**35**	*e*P	**P**	**05 54 56.0**	**+0.8**
MAT				*e*S	**S**	**05 59 05.0**	**+3.9**
MAT				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.4						
MJAR	**Matsushiro Arr**	**22.70**	**35**	P	**P**	**05 54 55.2**	**+0.1**
	comp=Z,6.5nm,1.0s,mb4.0,baz=223,slow=9.1,SNR=11						
SNY	**Shenyang**	**23.20**	**2**	⇑P	**P**	**05 55 00.5**	**0.0**
SNY				AP		05 55 04.8	
SNY				XP	sP	05 55 12.0	-3.3
SNY				S	**S**	**05 59 12.8**	**+3.5**
SNY				XS	sS	05 59 20.5	-6.5
SNY				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.3						
SNY				AMB	AMB		
	comp=Z,199nm,4.8s						
SNY				LR	LR		
	comp=E,861nm,15.2s						
SNY				LR	LR		
	comp=Z,327nm,15.1s,MS3.9						
LZH	**Lanzhou**	**23.89**	**321**	*e*P	**P**	**05 55 09.0**	**+2.0**
LZH				AP		05 55 15.5	
LZH				XP	sP	05 55 18.0	-4.4
LZH				*e*S	**S**	**05 59 25.0**	**+4.4**
LZH				AMB	AMB		
	comp=Z,70nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,280nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,11.0s						
LZH				LR	LR		
	comp=Z,2μm,12.2s,MS4.8						
HHC	**Hu-ho-hao-te**	**24.05**	**340**	*e*P	**P**	**05 55 09.0**	**+0.5**
HHC				AP		05 55 14.5	
HHC				XP	sP	05 55 17.8	-6.1
HHC				PP		05 55 43.8	
HHC				PCP	PcP	05 58 50.5	+1.2
HHC				S	**S**	**05 59 23.5**	**+0.4**
HHC				XS	sS	05 59 32.8	-8.1
HHC				SS		06 00 16.5	
HHC				SCS	ScS	06 06 12.3	+0.5
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb4.8						
HHC				LR	LR		
	comp=N,359nm,16.2s,MS4.4						
HHC				LR	LR		
	comp=E,976nm,17.2s,MS4.4						
HHC				LR	LR		
	comp=Z,294nm,15.5s,MS3.9						
BTO	**Baotou**	**24.38**	**337**	*e*P	**P**	**05 55 11.0**	**-0.5**
CN2	**Changchun**	**25.28**	**5**	*e*P	**P**	**05 55 23.0**	**+3.3**
CN2				*e*XP	sP	05 55 30.0	-5.1
CN2				*e*S	**S**	**05 59 46.5**	**+3.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s,MS4.0						
CN2				LR	LR		
	comp=E,300nm,15.0s,MS4.0						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.0						
MDJ	**Mudanjiang**	**26.66**	**12**	P	**P**	**05 55 32.5**	**+0.4**
MDJ				S	**S**	**06 00 11.5**	**+6.9**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,163nm,4.8s						
MDJ				LR	LR		
	comp=N,79nm,27.6s,MS3.7						
MDJ				LR	LR		
	comp=E,254nm,24.6s,MS3.7						
MDJ				LR	LR		
	comp=Z,114nm,18.7s						
PSI	**Prapat**	**27.79**	**238**	LR	LR	06 05 02.5	
	comp=Z,214nm,20.9s,MS3.7,baz=232,slow=32						
GTA	**Gaotai**	**28.48**	**321**	P	**P**	**05 55 55.0**	**+6.5**
GTA				AP	pP	05 56 00.5	+1.3
GTA				XP	sP	05 56 04.0	+0.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.0						
GTA				AMB	AMB		
	comp=Z,118nm,4.2s						
GTA				LR	LR		
	comp=N,262nm,15.2s,MS4.0						
GTA				LR	LR		
	comp=E,218nm,17.5s,MS4.0						
GTA				LR	LR		
	comp=Z,300nm,16.0s,MS4.0						
ASAJ	**Asahikawa**	**30.61**	**29**	LR	LR	06 08 56.0	
	comp=Z,48nm,20.1s,MS3.1,baz=189,slow=37						
KLR	**Kul'dur**	**31.50**	**12**	*e*P	**P**	**05 56 12.8**	**-2.4**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.8						
ULN	**Ulaanbaatar**	**31.77**	**340**	*e*P	**P**	**05 56 17.3**	**-0.2**
	comp=Z,5.1nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**31.77**	**340**	*e*P	**P**	**05 56 17.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**31.95**	**340**	P	**P**	**05 56 19.6**	**+0.5**
	comp=Z,4.1nm,0.9s,mb4.3,baz=157,slow=8.8,SNR=18						
SONM				PcP	PcP	05 59 09.1	+0.5
	comp=Z,2.2nm,1.1s,baz=147,slow=3.5,SNR=4.7						
ZAK	**Zakamensk**	**35.19**	**339**	*e*P	**P**	**05 56 46.6**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.3						
IRK	**Irkutsk**	**36.47**	**341**	*e*P	**P**	**05 56 53.6**	**-4.6**
IRK				pmax	pmax		
	comp=Z,23nm,2.6s,mb4.7						
MOY	**Mondy**	**37.07**	**338**	*e*P	**P**	**05 57 03.9**	**+0.6**
WMQ	**Urumqi**	**38.44**	**319**	*e*P	**P**	**05 57 17.0**	**+2.1**
WMQ				AP	pP	05 57 23.0	-2.9
WMQ				XP	sP	05 57 26.0	-4.5
WMQ				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,99nm,4.6s						
WMQ				LR	LR		
	comp=N,1μm,21.4s						
WMQ				LR	LR		
	comp=Z,1μm,22.0s,MS4.6						
MBWA	**Marble Bar**	**39.57**	**184**	*e*P	**P**	**05 57 22.4**	**-2.0**
	comp=Z,34nm,1.3s,mb4.9						
WRAB	**Tennant Creek**	**40.04**	**162**	*e*P	**P**	**05 57 27.9**	**-0.4**
	comp=Z,9.2nm,1.0s,mb4.5						
WRAB	**Tennant Creek**	**40.04**	**162**	*e*P	**P**	**05 57 27.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**40.05**	**162**	P	**P**	**05 57 26.9**	**-1.4**
	comp=Z,6.6nm,1.1s,mb4.3,baz=345,slow=8.9,SNR=11						
WRA	**Warramunga Arr**	**40.05**	**162**	*i* P

KURK Kurchatov 47.14 323 *e*P **P 05 58 25.4 0.0**
KURK pmax pmax
comp=Z,39nm,1.1s,mb5.2
SEY Seymchan 48.91 18 *e*P **P 05 58 40.5 +1.4**
BRVK Borovoye 52.81 323 *e*P **P 05 59 08.5 +0.1**
comp=Z,8.5nm,0.9s,mb4.7
BRVK Borovoye 52.81 323 *e*P **P 05 59 08.5 +0.1**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CHKZ Chkalovo 52.84 324 *e*P **P 05 59 08.7 0.0**
comp=Z,18nm,1.1s,mb4.9
CHKZ Chkalovo 52.84 324 *e*P **P 05 59 08.7 0.0**
CHKZ pmax pmax
comp=Z,19nm,1.1s,mb4.9
TIXI Tiksi 53.21 3⇑*e*P **P 05 59 09.4 -2.0**
TIXI pmax pmax
comp=Z,19nm,1.4s,mb4.8
ZRNK Zerenda 53.51 323 *e*P **P 05 59 13.1 -0.4**
comp=Z,23nm,1.0s,mb5.1
ZRNK Zerenda 53.51 323 *e*P **P 05 59 13.1 -0.4**
ZRNK pmax pmax
comp=Z,23nm,1.0s,mb5.1
BILL Bilibino 56.60 18*de*P **P 05 59 38.5 +2.6**
BILL pmax pmax
comp=Z,14nm,2.0s,mb4.7
DZM Mont Dzumac 59.09 131 LR LR 06 23 32.3
comp=Z,157nm,18.7s,MS4.2,baz=83,slow=34
KBD Kabd 68.10 295 *e*P **P 06 00 53.2 +0.4**
MIB Mutribah 68.30 295 *e*P **P 06 00 54.1 +0.1**
MIB AMb AMB 06 00 54.9
comp=Z,28nm,0.8s,mb5.3
NAY Al-Naaiem 68.47 295 *e*P **P 06 00 55.3 +0.2**
NAY AMb AMB 06 00 56.0
comp=Z,22nm,0.8s,mb5.2
GNI Garni 68.94 307 LR LR 06 36 46.6
comp=Z,54nm,20.1s,MS3.8,baz=168,slow=41
GNI Garni 68.94 307 *i* P **P 06 00 58.1 +0.1**
GNI pmax pmax
comp=Z,13nm,1.2s
GNI MLR MLR
comp=Z,100nm,21.0s
KIV Kislovodsk 70.01 311 *e*P **P 06 01 05.5 +0.9**
comp=Z,14nm,1.0s,mb4.9
KIV Kislovodsk 70.01 311 *d i*P **P 06 01 05.2 +0.6**
KIV pmax pmax
comp=Z,20nm,1.1s,mb5.0
KLMR Klimovskoe 70.48 329 *e*P **P 06 01 06.3 -1.2**
KLMR *e* 06 03 40.4
KLMR pmax pmax
comp=Z,30nm,1.5s,mb5.0
VRSR Storozhevoye 71.50 319 *e*P **P 06 01 13.7 0.0**
VRSR pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
VRSR pmax pmax
comp=N,1.0nm,1.0s
VRSR pmax pmax
comp=E,2.0nm,0.9s
OBN Obninsk 72.59 323⇑*e*P **P 06 01 20.0 -0.2**
OBN pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
APA Apatity 72.59 336⇓*e*P **P 06 01 20.4 +0.1**
APA pmax pmax
comp=Z,16nm,1.0s,mb4.9
MCK McKinley 72.96 28 *e*P **P 06 01 22.3 -0.1**
comp=Z,14nm,1.3s,mb4.7
MCK McKinley 72.96 28 *e*P **P 06 01 22.3 -0.1**
MCK pmax pmax
comp=Z,14nm,1.3s,mb4.7
PMR Palmer 73.15 30 *e*P **P 06 01 22.8 -0.8**
comp=Z,5.5nm,0.8s,mb4.5
PMR Palmer 73.15 30 *e*P **P 06 01 22.8 -0.8**
PMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
COLA College 73.27 26 *e*P **P 06 01 21.2 -3.1**
comp=Z,9.4nm,1.4s,mb4.5
COLA College 73.27 26 *e*P **P 06 01 21.2 -3.1**
COLA pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
SML Sawmill 73.50 30 *e*P **P 06 01 25.1 -0.5**
ANN Anapa 73.61 312 *e*P **P 06 01 23.2 -3.1**
ANN *e*S S 06 10 43.9 -10
ANN pmax pmax
comp=Z,67nm,1.1s,mb5.5
ILAR Eielson Array 73.70 27 P **P 06 01 26.4 -0.3**
comp=Z,0.5nm,0.7s,mb3.6,baz=276,slow=4.6,SNR=5.5
MALT Malatya 74.07 306 *e*P **P 06 01 30.0 +1.0**
comp=Z,8.7nm,0.9s,mb4.7
MALT Malatya 74.07 306 *e*P **P 06 01 30.0 +1.1**
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
JOF Joensuu 74.12 332 *e*p **P 06 01 29.0 -0.2**
comp=Z,2.4nm,0.7s,mb4.2
KEV Kevo 74.57 339 *e*p **P 06 01 30.5 -1.3**
comp=Z,11nm,0.9s,mb4.8
KEV Kevo 74.57 339 *e*P **P 06 01 30.5 -1.3**
KEV pmax pmax
comp=Z,11nm,0.9s,mb4.8
ARCES ARCESS Array B 75.13 339 P **P 06 01 34.9 -0.2**
comp=Z,4.0nm,0.9s,mb4.4,baz=64,slow=10,SNR=7.1
URZ Urewera 76.37 139 LR LR 06 30 59.5
comp=Z,141nm,20.2s,MS4.3,baz=200,slow=32
KAF Kangasniemi 76.56 331 *e*p **P 06 01 40.4 -2.8**
comp=Z,6.9nm,1.3s,mb4.4
KAF Kangasniemi 76.56 331 *e*P **P 06 01 40.4 -2.8**
KAF pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ATD Arta Tunnel 76.57 278 LR LR 06 34 08.2
comp=Z,63nm,19.9s,MS3.9,baz=50,slow=35
FINES FINESS Array B 76.83 331 P **P 06 01 44.6 -0.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=51,slow=5.8,SNR=17
FINES LR LR 06 38 06.7
comp=Z,104nm,18.4s,MS4.2,baz=122,slow=38
DAWY Dawson 77.03 27 *e*P **P 06 01 46.1 +0.2**
BRTR Keskin Array B 77.41 308 P **P 06 01 48.4 +0.4**
comp=Z,1.6nm,0.7s,mb4.1,baz=86,slow=7.4,SNR=4.2
AKASG Malin Array Be 77.79 319 P **P 06 01 49.1 -1.1**
comp=Z,4.7nm,0.9s,mb4.4,baz=62,slow=5.1,SNR=16
AKASG Malin Array Be 77.79 319 *i* P **P 06 01 49.0 -1.2**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 78.00 22 *e*P **P 06 01 50.8 -0.5**
comp=Z,10nm,1.1s,mb4.7
INK Inuvik 78.00 22 *e*P **P 06 01 50.8 -0.5**
INK pmax pmax
comp=Z,10.0nm,1.1s
CFR Carcaliu 79.95 314⇑P **P 06 02 03.4 +1.4**
TIRR Tirgusor 79.96 313⇑P **P 06 02 03.0 +0.9**
HARR Harsova 80.22 314⇑P **P 06 02 05.3 +1.8**
SUW Suwalki 80.42 324 *e*P **P 06 02 04.4 -0.1**
VRI Vrincioaia 80.70 315⇑P **P 06 02 07.5 +1.5**
PLOR Plostina 80.76 315⇑P **P 06 02 08.4 +2.1**
PRD Provadia 81.02 312 *e*P **P 06 02 09.0 +1.3**
BURAR Bucovina Array 81.17 317⇓P **P 06 02 06.4 -2.2**
MLR Muntele Rosu 81.34 315⇑P **P 06 02 10.1 +0.7**
VOIR 81.95 315⇑P **P 06 02 19.0 +6.3**
DAG Danmarks Havn 82.05 352 *i* P **P 06 02 11.0 -2.2**
DAG Danmarks Havn 82.05 352 *e*P **P 06 02 11.0 -2.2**
DRGR 83.05 317⇑P **P 06 02 19.4 +1.0**
STHS Stebnicka Huta 83.08 320 *e*P **P 06 02 18.7 +0.1**
STHS *e* pP 06 02 31.9 +1.4
DLBC Dease Lake 83.21 30 *e*P **P 06 02 21.0 +1.8**
RZN Rozhen 83.37 312 *e*P **P 06 02 20.0 -0.1**
NIE Niedzica 83.65 320 *e*P **P 06 02 22.2 +0.7**
OJC Ojcow 83.67 321 *e*P **P 06 02 21.8 +0.2**
NB2 NORSAR Subarra 83.67 333 P **P 06 02 20.2 -1.4**
comp=Z,14nm,1.2s,mb5.0,baz=64,slow=5.6
NB2 NORSAR Subarra 83.67 333 P **P 06 02 20.2 -1.4**
NB2 pmax pmax
comp=Z,14nm,1.2s,mb5.0
NOA NORSAR Array B 83.67 333 P **P 06 02 20.5 -1.1**
comp=Z,4.8nm,0.9s,mb4.6,baz=64,slow=5.1,SNR=8.5
NOA LR LR 06 43 10.4
comp=Z,135nm,18.3s,MS4.4,baz=170,slow=38
KECS Kecovo 83.88 319 *e*P **P 06 02 23.7 +1.0**
RES Resolute Bay 83.99 9 *e*P **P 06 02 22.7 -0.6**
comp=Z,13nm,1.3s,mb4.9
RES Resolute Bay 83.99 9 *e*P **P 06 02 22.7 -0.5**
RES pmax pmax
comp=Z,13nm,1.3s,mb4.9
MMB Musomiste 84.10 312 *e*P **P 06 02 24.0 +0.2**
VTS Vitosha 84.13 313 *e*P **P 06 02 25.0 +1.1**
VTS Vitosha 84.13 313⇑P **P 06 02 25.5 +1.6**
PSZ Piszkesteto 84.45 319 *e*P **P 06 02 25.1 -0.5**
comp=Z,13nm,1.3s,mb4.9
PSZ Piszkesteto 84.45 319 *e*P **P 06 02 25.1 -0.5**
PSZ pmax pmax
comp=Z,13nm,1.3s,mb4.9
KKB Krupnik 84.47 312 *e*P **P 06 02 25.0 -0.6**
OKC Ostrava-Krasne 84.80 321 *e*P **P 06 02 26.6 -0.7**
VYHS Vyhne 84.89 320 *e*P **P 06 02 28.1 +0.3**
VAY Valandovo 85.01 312 *e*P **P 06 02 27.7 -0.7**
STIP Stip 85.16 312 *e*P **P 06 02 28.1 -1.0**
MORC Moravsky Berou 85.19 321 *e*P **P 06 02 29.2 -0.1**
comp=Z,5.4nm,0.9s,mb4.7
MORC Moravsky Berou 85.19 321 *e*P **P 06 02 29.2 -0.1**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
KSP Ksiaz 85.50 322 *e*P **P 06 02 31.7 +0.9**
KSP Ksiaz 85.50 322 *e*P **P 06 02 31.9 +1.1**
SKO Skopje 85.58 313 *e*P **P 06 02 30.7 -0.5**
DPC Dobruska-Polom 85.68 322 *e*P **P 06 02 27.7 -4.0**
KMBO Kilima Mbogo 85.71 267 P **P 06 02 32.6 +0.8**
comp=Z,1.0nm,0.5s,mb4.3,baz=56,slow=21,SNR=4.9
KMBO Kilima Mbogo 85.71 267 *e*P **P 06 02 32.4 +0.6**
comp=Z,2.3nm,1.3s,mb4.2
KMBO Kilima Mbogo 85.71 267 *i* P **P 06 02 33.4 +1.5**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
SMOL Smolenice 85.75 320 *e*P **P 06 02 34.3 +2.2**
UPC Upice 85.80 322 *e*P **P 06 02 32.2 -0.1**
RAR Rarotonga 85.87 114 LR LR 06 38 47.5
comp=Z,282nm,18.1s,MS4.7,baz=350,slow=34
PKSM Moragy 85.89 317⇓P **P 06 02 32.9 +0.1**
VRAC Vranov 85.94 321⇓P **P 06 02 33.6 +0.6**
BIA Bitola 86.00 312 *e*P **P 06 02 32.4 -0.9**
OHR Ohrid 86.34 312 *e*P **P 06 02 34.3 -0.6**
PVCC Panska Ves 86.62 322 *e*P **P 06 02 36.5 +0.1**
CLL Collm 87.18 324 *e*P **P 06 02 38.0 -1.1**
CLL *i* x x 06 02 43.0
comp=Z,5.0nm,0.8s
YKW3 Yellowknife Ar 87.64 23 *e*P **P 06 02 41.5 +0.2**
YKA Yellowknife Ar 87.69 23 P **P 06 02 41.5 0.0**
comp=Z,16nm,1.0s,mb5.2,baz=306,slow=4.5,SNR=110
YKA Yellowknife Ar 87.69 23 P **P 06 02 41.5 0.0**
KHC Kasperske Hory 87.81 322 *e*P **P 06 02 42.4 +0.3**
GERES GERESS Array B 87.86 321 P **P 06 02 42.8 +0.4**
comp=Z,1.9nm,0.8s,mb4.4,baz=66,slow=3.3,SNR=9.5
CDF Champ du Feu 91.82 323 *e*P **P 06 03 00.6 -0.2**
HINF Hinteralfeld 92.36 322 *e*P **P 06 03 03.0 -0.4**
HAU Haudompre 92.56 323 *e*P **P 06 03 04.3 0.0**
LPG La Plagne 93.62 321 *e*P **P 06 03 09.8 +0.6**
comp=Z,15nm,0.9s,mb5.1
LPG La Plagne 93.62 321 *e*P **P 06 03 09.8 +0.6**
comp=Z,7.3nm,0.9s,mb5.1
LPG La Plagne 93.62 321 *e*P **P 06 03 09.8 +0.6**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
LPL La Plagne 93.62 321 *e*P **P 06 03 09.7 +0.5**
comp=Z,13nm,1.1s,mb5.0
LPL La Plagne 93.62 321 *e*P **P 06 03 09.7 +0.5**
comp=Z,6.4nm,1.1s,mb5.0
LPL La Plagne 93.62 321 *e*P **P 06 03 09.7 +0.5**
LPL pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
PPT Papeete 93.70 107 *e*LR LR 06 33 15.9
comp=Z,150nm,26.2s
PPT Papeete 93.70 107 LR LR 06 41 17.5
comp=Z,53nm,20.6s,MS4.0,baz=300,slow=33
LOR Lormes 94.38 323 *e*P **P 06 03 12.1 -0.5**
SSF Saint Saulge 94.69 323 *e*P **P 06 03 13.0 -1.1**
BGF Bois d'Agland 95.35 323 *e*P **P 06 03 16.6 -0.5**
TBI Tubuai 95.58 113 *e*LR LR 06 34 07.9
comp=Z,99nm,34.8s
NVAR Mina Array Bea 99.73 44 LR LR 06 40 23.1
comp=Z,32nm,20.3s,MS3.8,baz=320,slow=30
RKT Rikitea 108.38 109 *e*LR LR 06 40 03.8
comp=Z,79nm,25.8s
SDV Santo Domingo 149.85 26 *e*PKPdf PKPdf 06 09 39.0 +1.0
SDV *e*PKPbc PKPbc 06 09 44.1 +1.2
SAML Samuel 169.02 30 *e*PKPdf PKPdf 06 10 00.9 +1.1
SAML *e*PKPab PKPab 06 11 13.2 +1.8
LPAZ La Paz 169.74 79 PKP PKPdf 06 10 03.5 +3.2
comp=Z,1.5nm,0.8s,baz=219,slow=10,SNR=5.0
LPAZ La Paz 169.74 79 *e*PKIKP PKPdf 06 10 02.1 +1.8

NIED ***26*** *06:08:00, 24.00N×123.20E, h20km, Mw3.9 Best double couple: M0 7.32000×10^14 NP1:φs 298.00000°, δ84.00000°, λ-109.00000°. NP2:φs 190.00000°, δ20.00000°, λ-19.00000°.*
IDC ***26*** *06:08:08.8±5.8, 24.14N×123.38E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=157.0km s-min=35.7km az=12.0*
ISCJB ***26*** *06:08:13.2±1.2, 2394N±009×123.17E±003, h32km±5km, mb3.3/4, Error ellipse: s-maj=15.4km s-min=5.1km az=7.4*
NEIC ***26*** *06:08:14.2, 2399N×123.21E, h32km, MG3.8(JMA), After JMA.*
JMA ***26*** *06:08:14.2±0.2, 2399N×123.21E, h32km±3km, M3.5*
ISC 26 06:08:13.2±1.2, 2393N±009×12317E±004, h25km±6km, n15, σ0 95/23, mb3.3/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.55**	**345**	P	**Pb**	**06 08 24.6**	**+0.3**
YOJ				S	**Sb**	**06 08 31.8**	**+0.1**
HATJ	**Hateruma jima**	**0.59**	**78**	P	**Pb**	**06 08 24.9**	**-0.1**
HATJ				*e*S	**Sb**	**06 08 33.6**	**+0.6**
IRIF	**Iriomote-Funau**	**0.65**	**52**	P	**Pb**	**06 08 25.7**	**-0.2**
IRIF				S	**Sb**	**06 08 33.8**	**-0.8**
JKRS	**Kuro-shima**	**0.82**	**68**	P	**Pb**	**06 08 28.9**	**0.0**
JKRS				S	**Sb**	**06 08 39.8**	**+0.2**
JIJ	**Ishigaki jima**	**0.99**	**64**	P	**Pn**	**06 08 30.9**	**-0.6**
JIJ				S	**Sb**	**06 08 42.8**	**-1.4**
NACB	**Ninganchiao**	**1.46**	**280**	*e*Pn	**Pn**	**06 08 38.6**	**+0.6**
JTJ	**Tarama**	**1.57**	**63**	P	**Pn**	**06 08 40.6**	**+1.2**
JTJ				*e*S	**Sn**	**06 08 59.2**	**+0.3**
TATO	**Taipei**	**1.85**	**304**	*e*Pn	**Pn**	**06 08 44.5**	**+1.1**
TATO				*e*Sn	**Sn**	**06 09 06.9**	**+0.9**
JMJ	**Miyako jima 2**	**2.13**	**65**	*e*S	**Sn**	**06 09 14.3**	**+1.6**
JOGS	**Gusukube**	**2.20**	**67**	P	**Pn**	**06 08 49.7**	**+1.6**
JOGS				*e*S	**Sn**	**06 09 14.5**	**0.0**
CBIJ	**Chichi jima**	**17.45**	**76**	P	**Pn**	**06 12 09.6**	**-5.2**
	3.5nm,0.3s,baz=71,slow=23,SNR=2.0						
SONM	**Songino Array**	**27.34**	**335**	P	**P**	**06 13 54.5**	**-1.6**
	0.3nm,0.5s,mb3.0,baz=141,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**39.79**	**315**	P	**P**	**06 15 43.1**	**-1.0**
	0.2nm,0.4s,mb3.2,baz=99,slow=8.7,SNR=6.9						
FINES	**FINESS Array B**	**72.58**	**330**	P	**P**	**06 19 36.6**	**-1.6**
	0.3nm,0.4s,mb3.6,baz=53,slow=7.1,SNR=7.3						
YKA	**Yellowknife Ar**	**82.49**	**23**	P	**P**	**06 20 32.5**	**-1.1**
	0.4nm,0.8s,mb3.4,baz=302,slow=5.6,SNR=9.3						

IDC 26 06:13:16.3±1.9, 1895S×17756W, h501km±24km, mb3.1/3, mb1 3.3/4, mb1mx3.0/15, mbtmp4.0/4, Error ellipse: s-maj=30.7km s-min=20.5km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.47**	**49**	P	P	06 15 08.1	+0.8
	0.6nm,0.3s,baz=30,slow=22,SNR=2.4						
AFI				S	S	06 16 38.3	0.0
	6.6nm,0.3s,baz=145,slow=22,SNR=6.1						
WB2	**Warramunga Arr**	**45.23**	**260**	*e*P	P	06 20 48.3	+0.2
WRA	**Warramunga Arr**	**45.24**	**260**	P	P	06 20 48.4	+0.2
	1.1nm,0.3s,baz=97,slow=7.4,SNR=61						
WRA				PcP	PcP	06 22 18.1	+0.4
	0.5nm,0.7s,baz=96,slow=3.5,SNR=4.2						
ASAR	**Alice Springs**	**45.30**	**255**	P	P	06 20 49.0	+0.4
	4.8nm,1.0s,baz=94,slow=6.8,SNR=40						
ASAR				PcP	PcP	06 22 18.1	+0.3
	0.6nm,0.7s,baz=98,slow=4.1,SNR=5.5						
VNDA	**Vanda**	**59.49**	**185**	P	P	06 22 30.0	-0.5
	0.5nm,0.9s,baz=270,slow=3.0,SNR=3.0						
MKAR	**Makanchi Array**	**110.43**	**314**	PKiKP	PKiKP	06 30 50.4	-0.8
	0.1nm,0.4s,baz=247,slow=0.9,SNR=5.1						
FINES	**FINESS Array B**	**134.40**	**344**	PKP	PKPdf	06 31 33.8	-3.1
	0.4nm,0.4s,baz=52,slow=4.6,SNR=11						
GERES	**GERESS Array B**	**148.82**	**346**	PKPbc	PKPbc	06 32 07.4	+0.5
	0.5nm,0.6s,baz=8.5,slow=2.7,SNR=5.9						

NEIC ***26*** *06:22:25.0, 3706N×540E, h0km, MG3.7(MDD), After MDD.*

MDD 26 06:22:24.2±3.5, 3700N×536E, h0km, mb3.5/6, Error ellipse: s-maj=32.5km s-min=29.7km az=79.0, PRXIMO, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**3.41**	**325**	P	Pn	06 23 17.2	-1.3
	SNR=14						
ETOS				S	Sn	06 23 54.6	-5.0
	2.5nm,0.3s,SNR=5.0						
ETOS	**Mallorca**	**3.41**	**325**	P	Pn	06 23 17.2	-1.3
	1.3nm,0.1s,SNR=14						
ETOS				S	Sn	06 23 54.6	-5.1
	2.5nm,0.3s,SNR=5.0						
ETOS	**Mallorca**	**3.41**	**325**	P	Pn	06 23 17.2	-1.3
ETOS				P		06 23 17.6	
ETOS				S	Sn	06 23 54.6	-5.0
ETOS				S	Sn	06 23 55.2	-4.4
EIBI	**Ibiza**	**3.76**	**304**	P	Pn	06 23 21.4	-1.9
	0.6nm,0.1s,SNR=9.6						
EIBI				S	Sn	06 24 05.9	-2.4
	0.9nm,0.2s						
EIBI	**Ibiza**	**3.76**	**304**	P	Pn	06 23 21.4	-2.0
	0.6nm,0.1s,SNR=9.6						
EIBI				S	Sn	06 24 05.9	-2.4
	0.9nm,0.2s						
EIBI	**Ibiza**	**3.76**	**304**	P	Pn	06 23 21.4	-1.9
EIBI				P		06 23 21.6	
EIBI				S	Sn	06 24 05.9	-2.4
EIBI				S	Sn	06 24 06.7	-1.7
EBEN	**Beniarda**	**4.73**	**293**	P	Pn	06 23 35.9	-0.8
	0.1nm,0.1s,SNR=4.0						
EBEN				S	Sn	06 24 28.3	-4.0
	0.1nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**4.73**	**293**	P	Pn	06 23 35.9	-0.9
	0.1nm,0.1s,SNR=4.0						
EBEN				S	Sn	06 24 28.3	-4.0
	0.1nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**4.73**	**293**	P	Pn	06 23 35.9	-0.8
EBEN				P		06 23 37.6	
EBEN				S	Sn	06 24 28.3	-4.0
EPOB	**Poblet**	**5.47**	**324**	P	Pn	06 23 45.1	-1.8
	0.4nm,0.1s,SNR=6.8						
EPOB				S	Sn	06 24 45.5	-5.0
	1.2nm,0.3s						
EPOB	**Poblet**	**5.47**	**324**	P	Pn	06 23 45.1	-1.8
	0.4nm,0.1s,SNR=6.8						
EPOB				S	Sn	06 24 45.5	-5.0
	1.2nm,0.3s						
EPOB	**Poblet**	**5.47**	**324**	P	Pn	06 23 45.1	-1.8
EPOB				P		06 23 45.4	
EPOB				S	Sn	06 24 45.5	-5.0
EPOB				S	Sn	06 24 46.7	-3.8
EMOS	**Mosqueruela**	**5.66**	**308**	P	Pn	06 23 48.6	-0.9
	0.1nm,0.1s,SNR=7.9						
EMOS				S	Sn	06 24 50.8	-4.4
	0.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.66**	**308**	P	Pn	06 23 48.6	-0.9
	0.1nm,0.1s,SNR=7.9						
EMOS				S	Sn	06 24 50.8	-4.4
	0.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.66**	**308**	P	Pn	06 23 48.6	-0.9
EMOS				P		06 23 49.5	
EMOS				S	Sn	06 24 50.9	-4.4
EMIR	**Miracle**	**5.73**	**330**	P	Pn	06 23 50.0	-0.5
	0.4nm,0.1s,SNR=7.9						
EMIR				S	Sn	06 24 53.5	-3.4
	5.7nm,0.3s,SNR=4.9						
EMIR	**Miracle**	**5.73**	**330**	P	Pn	06 23 50.0	-0.5
	0.4nm,0.1s,SNR=7.9						
EMIR				S	Sn	06 24 53.5	-3.4
	5.7nm,0.3s,SNR=4.9						
EMIR	**Miracle**	**5.73**	**330**	P	Pn	06 23 50.0	-0.5
EMIR				P		06 23 50.6	
EMIR				S	Sn	06 24 53.5	-3.4
EMIR				S	Sn	06 24 55.4	-1.5
EJON	**La Jonquera**	**5.76**	**341**	S	Sn	06 24 52.9	-4.9
	2.4nm,0.3s,SNR=6.3						
EJON	**La Jonquera**	**5.76**	**341**	S	Sn	06 24 52.9	-4.8
	2.4nm,0.3s,SNR=6.3						
EGRA	**Graus**	**6.48**	**325**	P	Pn	06 24 00.9	+0.1
	0.5nm,0.2s,SNR=4.0						
EGRA	**Graus**	**6.48**	**325**	P	Pn	06 24 00.9	+0.1
EGRA				P		06 24 01.0	

IDC 26 06:24:01.9±13.0, 1434S×16746E, h195km±115km, mb3.5/7, mb1 3.7/7, mb1mx3.5/14, mbtmp4.0/7, Error ellipse: s-maj=66.5km s-min=43.2km az=114.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.04**	**251**	P	P	06 28 32.7	+2.2
	2.2nm,0.6s,baz=77,slow=14,SNR=3.4						
STKA	**Stephens Creek**	**29.39**	**229**	*e*P	P	06 29 47.0	+0.3
	1.6nm,0.4s						
STKA	**Stephens Creek**	**29.39**	**229**	P	P	06 29 46.9	+0.1
	2.0nm,0.5s,baz=57,slow=7.7,SNR=11						
WB2	**Warramunga Arr**	**32.09**	**255**	*e*P	P	06 30 10.4	-0.1
WRA	**Warramunga Arr**	**32.10**	**255**	P	P	06 30 10.2	-0.4
	1.8nm,0.5s,baz=86,slow=9.5,SNR=36						
ASAR	**Alice Springs**	**32.98**	**249**	P	P	06 30 17.9	-0.3
	1.4nm,0.4s,baz=77,slow=9.2,SNR=43						
SONM	**Songino Array**	**82.29**	**323**	P	P	06 36 01.3	-0.2
	0.3nm,0.4s,baz=133,slow=5.4,SNR=5.5						
ILAR	**Eielson Array**	**86.10**	**18**	P	P	06 36 19.9	-0.8
	0.4nm,0.8s,baz=231,slow=5.1,SNR=6.8						
MKAR	**Makanchi Array**	**97.05**	**316**	P	P	06 37 12.1	+0.6
	0.6nm,0.7s,baz=92,slow=6.0,SNR=5.8						
ARCES	**ARCESS Array B**	**119.92**	**346**	PKP	PKPdf	06 42 28.7	-0.3
	1.6nm,0.9s,baz=56,slow=1.6,SNR=8.3						
FINES	**FINESS Array B**	**125.43**	**338**	PKP	PKPdf	06 42 39.5	0.0
	0.7nm,0.8s,baz=122,slow=6.7,SNR=3.6						

LDG ***26*** *06:59:04.7±0.1, 3435N×7331E, h10km, Mb4.4/6, Ms3.1/1, Error ellipse: s-maj=14.3km s-min=2.5km az=31.0*
ISCJB ***26*** *06:59:06.7±0.2, 3462N±003×7330E±004, h10km, mb4.2/28, Error ellipse: s-maj=5.6km s-min=3.0km az=107.3*
IDC ***26*** *06:59:06.6±0.6, 3462N×7339E, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.1/22, mbtmp4.0/18, ML4.1/3, Error ellipse: s-maj=18.5km s-min=15.0km az=16.0*
BJI ***26*** *06:59:07.3, 3460N×7340E, h10km, mb4.3, ML4.2*
NEIC ***26*** *06:59:07.8±0.3, 3462N×7341E, h10km, mb4.1/10, Error ellipse: s-maj=8.5km s-min=4.4km az=216.0*
MOS ***26*** *06:59:07.1±1.1, 3463N×7343E, h19km, mb4.3/12, Error ellipse: s-maj=12.0km s-min=6.2km az=115.6*
NDI ***26*** *06:59:08.2±5.5, 3467N×7304E, h10km, ML3.8, mb4.1(NEIC)*
NNC ***26*** *06:59:19.0±4.0, 3503N×7310E, h75km±34km, mb3.6, mpv4.0, Error ellipse: s-maj=31.3km s-min=26.2km az=38.0*
ISC 26 06:59:08.4±0.2, 3467N±003×7333E±004, h10km, n112, σ1 9/17/123, mb4.2/28, 6C-6D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.01**	**183**	⇓P	**Pg**	**06 59 27.4**	**-0.4**
CEP	**Cherat**	**1.45**	**235**	⇑P	**Pn**	**06 59 35.2**	**+0.6**
DLH	**Dalhousie**	**3.06**	**133**	*e*PB	**Pb**	**07 00 03.0**	**+0.1**
DLH				*e*SB	**Sg**	**07 00 48.0**	**+1.4**
PONG	**Pong**	**3.49**	**140**	*e*P	**Pn**	**07 00 06.0**	**+3.3**
PONG				*ex*	x	07 00 59.0	
SDNR	**Sundarnagar**	**4.40**	**135**	*e*P	**Pn**	**07 00 17.0**	**+1.8**
SDNR				*ex*	x	07 00 27.0	
SMLA	**Simla**	**4.78**	**137**	*e*P	**Pn**	**07 00 20.8**	**+0.3**
SMLA				*e*S	**Sn**	**07 01 14.1**	**-1.9**
KLP	**Kalpa**	**5.18**	**126**	*e*P	**Pn**	**07 00 28.6**	**+2.6**
KLP				*e*S	**Sn**	**07 01 26.9**	**+1.1**
KLP				AML	AML	07 02 00.8	
	comp=E,1μm,0.8s						
KLP				AML	AML	07 02 01.4	
	comp=N,644nm,0.8s						
KSH	**Kashi**	**5.28**	**23**	*e*PG	**Pg**	**07 00 41.0**	**-8.5**
KSH				S	**Sn**	**07 01 35.5**	**+7.3**
KSH				Smax			
	comp=N,151nm,0.8s						
KSH				Smax			
	comp=E,240nm,1.3s						
DDI	**Dehra Dun**	**5.89**	**136**	*e*P	**Pn**	**07 00 39.5**	**+3.8**
DDI				*ex*	x	07 02 18.0	

NDI	**New Delhi**	**6.83**	**150**	*e*P		**Pn**	**07 00 50.0 +1.5**
NDI				*e*S		**Sn**	**07 02 02.0 -4.3**
KALG	**Kalgarh**	**6.90**	**137**	*ex*		x	07 01 11.6
KHET	**Khetri**	**6.91**	**161**	*e*PN		**Pn**	**07 00 49.8 +0.1**
KHET				*i* PG		**Pg**	**07 01 17.6 -3.1**
KHET				*e*S		**Sn**	**07 02 04.9 -3.4**
KHET				AML		AML	07 03 02.6
	comp=N,23nm,0.2s						
KHET				AML		AML	07 03 04.0
	comp=E,38nm,0.7s						
AYAN	**Aya Nagar**	**6.97**	**151**	*e*P		**Pn**	**07 00 52.9 +2.4**
AYAN				*ex*		x	07 02 10.2
SONA	**Sohna**	**7.16**	**152**	*i* P		**Pn**	**07 00 54.1 +1.0**
SONA				AMb		AMB	07 00 56.1
	comp=Z,7.6nm,0.1s						
SONA				*ex*		x	07 02 13.2
SONA				AML		AML	07 03 06.9
	comp=N,51nm,0.6s						
SONA				AML		AML	07 03 11.9
	comp=E,55nm,0.6s						
AML	**Almayashu**	**7.46**	**2**	P		**Pn**	**07 01 01.4 +4.2**
	SNR=23						
KZA	**Kyzart**	**7.55**	**11**	P		**Pn**	**07 01 02.2 +3.7**
	SNR=16						
UCH	**Uchtor**	**7.60**	**7**	P		**Pn**	**07 01 03.0 +3.8**
	SNR=19						
LGTI	**Lohaghat**	**7.84**	**130**	*e*P		**Pn**	**07 01 03.7 +1.2**
LGTI				*ex*		x	07 02 34.3
ULHL	**Ulahol**	**7.90**	**16**	P		**Pn**	**07 01 06.9 +3.6**
	SNR=5.2						
EKS2	**Erkin-Say**	**7.99**	**2**	P		**Pn**	**07 01 08.2 +3.8**
	SNR=12						
JASL	**Jaisalmer**	**8.00**	**196**	*ex*		x	07 02 53.3
AAK	**Ala-Archa**	**8.00**	**6**	P		**Pn**	**07 01 08.8 +4.1**
	SNR=9.8						
AJM	**Ajmer**	**8.24**	**172**	*i* P		**Pn**	**07 01 08.0 0.0**
AJM				*i* S		**Sn**	**07 02 38.0 -3.2**
TKM2	**Tokmak 2**	**8.43**	**11**	P		**Pn**	**07 01 15.2 +4.7**
	SNR=11						
TKM2	**Tokmak 2**	**8.43**	**11**	⇑P		**Pn**	**07 01 15.0 +4.5**
	comp=E,0.4nm,0.5s						
TKM2				⇓S		**Sn**	**07 02 44.7 -1.0**
	comp=E,1.5nm,0.6s						
KK31	**Karatay Array**	**8.70**	**346**	⇓P		**Pn**	**07 01 16.5 +2.2**
	comp=E,24nm,0.3s,baz=154,slow=11,SNR=1137						
KK31				⇑S		**Sn**	**07 02 51.1 -1.4**
	comp=E,25nm,0.7s						
KOLN	**Koldanda**	**11.16**	**125**	*e*Pn		**Pn**	**07 01 47.8 -0.1**
GKN	**Gorkha**	**11.72**	**121**	*e*Pn		**Pn**	**07 01 54.8 -0.9**
GKN				*e*Sn		**Sn**	**07 04 00.5 -6.1**
	comp=E,82nm,0.8s						
DMN	**Daman**	**12.29**	**122**	*e*Pn		**Pn**	**07 02 02.5 -1.0**
KKN	**Kakani**	**12.31**	**121**	*e*Pn		**Pn**	**07 02 01.5 -2.2**
KKN				*e*Sn		**Sn**	**07 04 13.8 -7.1**
	comp=E,30nm,0.6s						
PKI	**Pulchoki**	**12.53**	**121**	*e*Pn		**Pn**	**07 02 04.5 -2.2**
PKI				*e*Sn		**Sn**	**07 04 20.1 -6.2**
	comp=E,32nm,0.6s						
GUN	**Gumba**	**12.67**	**119**	*e*Pn		**Pn**	**07 02 05.9 -2.7**
MK31	**Makanchi Array**	**13.87**	**27**	⇓P		**Pn**	**07 02 27.6 +2.5**
	comp=E,3.1nm,0.8s,baz=206,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**13.87**	**27**	Pn		**Pn**	**07 02 25.4 +0.4**
	comp=E,0.1nm,0.3s,baz=209,slow=12,SNR=8.1						
KURK	**Kurchatov**	**16.49**	**12**	*e*P		**Pn**	**07 02 57.0 -2.8**
	comp=E,7.0nm,1.0s						
KURK	**Kurchatov**	**16.49**	**12**	*e*P		**Pn**	**07 02 57.0 -2.8**
KURK				pmax		pmax	
	comp=Z,7.0nm,1.0s						
AB31	**Akbulak array**	**17.61**	**330**	⇑P		**Pn**	**07 03 13.1 -0.7**
	comp=Z,1.9nm,0.5s,baz=141,slow=11,SNR=40						
AB31				⇑S		**Sn**	**07 06 22.6 -7.4**
	comp=Z,3.4nm,0.9s,baz=140,slow=24,SNR=5.8						
VOSK	**Vostochnaya**	**18.12**	**355**	⇓P		**Pn**	**07 03 20.5 +0.3**
	comp=Z,5.4nm,1.2s						
BVA0	**Borovoye Array**	**18.47**	**354**	P		**Pn**	**07 03 25.0 +0.6**
	comp=Z,0.4nm,0.6s,baz=163,slow=9.9,SNR=25						
BVAR	**Borovoye Array**	**18.47**	**354**	P		**Pn**	**07 03 25.2 +0.8**
	comp=Z,1.1nm,0.3s,baz=158,slow=9.0,SNR=27						
BRVK	**Borovoye**	**18.51**	**354**	*e*P		**Pn**	**07 03 25.5 +0.6**
	comp=Z,2.3nm,0.6s						
BRVK	**Borovoye**	**18.51**	**354**	*e*P		**Pn**	**07 03 25.5 +0.6**
BRVK				pmax		pmax	
	comp=Z,2.0nm,0.6s						
ZRNK	**Zerenda**	**18.53**	**352**	⇑P		**Pn**	**07 03 25.0 -0.2**
	comp=Z,3.4nm,0.5s						
ZRNK	**Zerenda**	**18.53**	**352**	*e*P		**Pn**	**07 03 24.4 -0.8**
	comp=Z,5.1nm,0.4s						
ZRNK	**Zerenda**	**18.53**	**352**	*e*P		**Pn**	**07 03 24.4 -0.8**
ZRNK				pmax		pmax	
	comp=Z,5.0nm,0.4s						
CHKZ	**Chkalovo**	**19.10**	**355**	⇓P		**Pn**	**07 03 32.4 +0.4**
	comp=Z,2.1nm,0.8s						
CHKZ	**Chkalovo**	**19.10**	**355**	*e*P		**Pn**	**07 03 31.2 -0.8**
	comp=Z,2.3nm,0.6s						
CHKZ	**Chkalovo**	**19.10**	**355**	*e*P		**Pn**	**07 03 31.2 -0.8**
CHKZ				pmax		pmax	
	comp=Z,2.0nm,0.6s						
AKTK	**Aktyubinsk**	**19.32**	**329**	P		**Pn**	**07 03 34.4 -0.2**
AKTO	**Aktyubinsk**	**19.32**	**329**	P		**Pn**	**07 03 34.4 -0.2**
	comp=Z,1.8nm,0.3s,baz=132,slow=9.9,SNR=19						
AKTO	**Aktyubinsk**	**19.32**	**329**	P		**Pn**	**07 03 34.4 -0.2**
AKTO				pmax		pmax	
	comp=Z,2.0nm,0.3s						
NVS	**Novosibirsk**	**21.32**	**16**	*e*P		**P**	**07 03 53.1 -2.3**
NVS				*e*			07 07 49.1
NVS				pmax		pmax	
	comp=N,3.0nm,0.4s						
NVS				pmax		pmax	
	comp=E,1.0nm,0.4s						
NVS				pmax		pmax	
	comp=Z,4.0nm,0.4s,mb4.1						
GTA	**Gaotai**	**21.63**	**70**	*e*P		**P**	**07 04 00.0 +1.3**
GTA				AP			07 04 05.3
GTA				XP		sP	07 04 09.0 +6.1
GTA				AMB		AMB	
	comp=Z,6.0nm,0.7s,mb4.1						
MIB	**Mutribah**	**22.49**	**265**	*e*P		**P**	**07 04 08.9 +1.0**
MIB				AMb		AMB	07 04 14.9
	comp=Z,55nm,0.6s,mb5.2						
RDF	**Al-Radifah**	**22.62**	**262**	*e*P		**P**	**07 04 09.5 +0.3**
RDF				AMb		AMB	07 04 13.5
	comp=Z,38nm,0.7s,mb4.9						
NAY	**Al-Naaiem**	**22.75**	**264**	*e*P		**P**	**07 04 11.2 +0.5**
NAY				AMb		AMB	07 04 14.9
	comp=Z,20nm,0.9s,mb4.5						
ZAK	**Zakamensk**	**26.85**	**45**	*e*P		**P**	**07 04 54.4 +5.4**
ZAK				pmax		pmax	
	comp=Z,3.0nm,1.8s,mb3.5						
SONM	**Songino Array**	**27.89**	**52**	P		**P**	**07 04 59.4 +1.0**
	comp=Z,0.5nm,0.7s,mb3.3,baz=256,slow=8.4,SNR=5.0						
BRTR	**Keskin Array B**	**31.83**	**291**	P		**P**	**07 05 34.5 +1.2**
	comp=Z,0.8nm,0.7s,mb3.7,baz=102,slow=8.1,SNR=5.1						
AKASG	**Malin Array Be**	**35.57**	**310**	P		**P**	**07 06 04.9 -0.9**
	comp=Z,1.4nm,0.4s,mb4.2,baz=83,slow=7.8,SNR=15						
JOF	**Joensuu**	**38.40**	**330**	*ep*		**P**	**07 06 31.4 +1.5**
	comp=Z,9.4nm,0.4s,mb4.9						
FINES	**FINESS Array B**	**40.05**	**327**	P		**P**	**07 06 43.9 +0.1**
	comp=Z,1.1nm,0.3s,mb4.0,baz=120,slow=11,SNR=26						
KAF	**Kangasniemi**	**40.19**	**328**	*ep*		**P**	**07 06 44.5 -0.3**
KEV	**Kevo**	**43.20**	**338**	*ep*		**P**	**07 07 08.1 -1.4**
	comp=Z,29nm,1.3s,mb4.8						
ARCES	**ARCESS Array B**	**43.55**	**338**	P		**P**	**07 07 12.8 +0.5**
	comp=Z,5.3nm,0.5s,mb4.5,baz=113,slow=8.2,SNR=47						
ARCES	**ARCESS Array B**	**43.55**	**338**	P		**P**	**07 07 12.8 +0.5**
NB2	**NORSAR Subarra**	**46.98**	**324**	P		**P**	**07 07 38.7 -0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=96,slow=7.9						
NB2	**NORSAR Subarra**	**46.98**	**324**	P		**P**	**07 07 38.7 -0.8**
NB2				pmax		pmax	
	comp=Z,1.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**46.98**	**324**	P		**P**	**07 07 38.8 -0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=96,slow=7.7,SNR=5.7						
JNU	**Nakatsue**	**47.23**	**75**	P		**P**	**07 07 40.8 -0.7**
	comp=Z,52nm,0.4s,baz=78,slow=0.3,SNR=19						
KMBO	**Kilima Mbogo**	**49.08**	**231**	P		**P**	**07 07 57.4 +1.6**
	comp=Z,0.4nm,0.3s,mb3.9,baz=40,slow=14,SNR=3.7						
CDF	**Champ du Feu**	**49.82**	**307**	*e*P		**P**	**07 08 01.2 -0.3**
HINF	**Hinteralfeld**	**50.21**	**306**	*e*P		**P**	**07 08 04.0 -0.4**
HAU	**Haudompre**	**50.51**	**307**	*e*P		**P**	**07 08 06.4 -0.2**
SBF	**Sospel**	**50.62**	**301**	*e*P		**P**	**07 08 07.6 +0.1**
LPG	**La Plagne**	**50.73**	**304**	*e*P		**P**	**07 08 08.7 +0.3**
	comp=Z,12nm,1.0s,mb4.5						
LPG	**La Plagne**	**50.73**	**304**	*e*P		**P**	**07 08 08.7 +0.3**
	comp=Z,5.8nm,1.0s,mb4.5						
LPG	**La Plagne**	**50.73**	**304**	*e*P		**P**	**07 08 08.7 +0.3**
LPG				pmax		pmax	
	comp=Z,6.0nm,1.0s,mb4.5						
LPL	**La Plagne**	**50.74**	**304**	*e*P		**P**	**07 08 08.7 +0.3**
MBDF	**Montbardon**	**50.89**	**303**	*e*P		**P**	**07 08 09.5 0.0**
CABF	**La Chapelle**	**50.95**	**305**	*e*P		**P**	**07 08 10.0 0.0**
FRF	**La Foret Royal**	**51.24**	**301**	*e*P		**P**	**07 08 12.2 0.0**
SMF	**Signal de Mont**	**52.45**	**306**	*e*P		**P**	**07 08 21.0 -0.2**
	comp=Z,4.3nm,0.7s,mb4.2						
SMF	**Signal de Mont**	**52.45**	**306**	*e*P		**P**	**07 08 21.0 -0.2**
	comp=Z,2.2nm,0.6s,mb4.3						
SMF	**Signal de Mont**	**52.45**	**306**	*e*P		**P**	**07 08 21.0 -0.2**
SMF				pmax		pmax	
	comp=Z,2.0nm,0.6s,mb4.2						
SSF	**Saint Saulge**	**52.58**	**306**	*e*P		**P**	**07 08 21.8 -0.4**
AVF	**Avril sur Loir**	**52.75**	**306**	*e*P		**P**	**07 08 22.1 -1.3**
BGF	**Bois d'Agland**	**53.14**	**306**	*e*P		**P**	**07 08 26.0 -0.3**
TCF	**Toulx Ste Croi**	**53.63**	**305**	*e*P		**P**	**07 08 30.0 +0.1**
CAF	**Calviac**	**54.08**	**304**	*e*P		**P**	**07 08 33.0 -0.2**
MTLF	**Montolieu**	**54.41**	**302**	*e*P		**P**	**07 08 35.4 -0.2**
	comp=Z,7.0nm,0.8s,mb4.3						
MTLF	**Montolieu**	**54.41**	**302**	*e*P		**P**	**07 08 35.4 -0.2**
	comp=Z,3.5nm,0.8s,mb4.3						
MTLF	**Montolieu**	**54.41**	**302**	*e*P		**P**	**07 08 35.4 -0.2**
MTLF				pmax		pmax	
	comp=Z,4.0nm,0.8s,mb4.4						
LFF	**La Frestale**	**54.99**	**304**	*e*P		**P**	**07 08 39.5 -0.3**
ETSF	**Etsaut**	**56.49**	**302**	*e*P		**P**	**07 08 50.7 +0.1**
	comp=Z,13nm,0.5s,mb4.9						
ESDC	**Sonseca Array**	**60.00**	**300**	P		**P**	**07 09 15.1 0.0**
	comp=Z,0.3nm,0.3s,mb3.8,baz=55,slow=7.3,SNR=12						
TORD	**Torodi Ar. Bea**	**67.61**	**271**	P		**P**	**07 10 05.2 0.0**
	comp=Z,3.8nm,0.6s,mb4.6,baz=46,slow=5.7,SNR=44						
INK	**Inuvik**	**75.39**	**10**	P		**P**	**07 10 51.9 -0.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=11,slow=7.6,SNR=21						
INK	**Inuvik**	**75.39**	**10**	*e*P		**P**	**07 10 52.0 -0.2**
	comp=Z,1.6nm,0.9s,mb4.0						
INK	**Inuvik**	**75.39**	**10**	*e*P		**P**	**07 10 52.0 -0.2**
INK				pmax		pmax	
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**76.00**	**17**	P		**P**	**07 10 54.9 -0.9**
	comp=Z,0.7nm,0.9s,mb3.6,baz=308,slow=5.5,SNR=8.9						
ILAR	**Eielson Array**	**76.00**	**17**	P		**P**	**07 10 54.9 -0.8**
ILAR				pmax		pmax	
	comp=Z,1.0nm,0.9s						
DBIC	**Dimbokro**	**76.53**	**269**	P		**P**	**07 10 59.2 +0.5**
	comp=Z,1.6nm,0.5s,mb4.2,baz=68,slow=9.4,SNR=6.3						
DBIC	**Dimbokro**	**76.53**	**269**	P		**P**	**07 10 59.2 +0.5**
DBIC				pmax		pmax	
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**79.41**	**123**	P		**P**	**07 11 14.9 +0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=323,slow=5.0,SNR=14						
WRA	**Warramunga Arr**	**79.41**	**123**	P		**P**	**07 11 14.9 +0.2**
WRA				pmax		pmax	
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**81.65**	**126**	P		**P**	**07 11 26.9 +0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=310,slow=5.1,SNR=16						
ASAR	**Alice Springs**	**81.65**	**126**	P		**P**	**07 11 26.9 +0.2**
ASAR				pmax		pmax	
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**82.96**	**4**	P		**P**	**07 11 33.1 -0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=348,slow=5.3,SNR=19						
YKA	**Yellowknife Ar**	**82.96**	**4**	P		**P**	**07 11 33.1 -0.5**
YKA				pmax		pmax	
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**92.17**	**128**	P		**P**	**07 12 15.4 -2.8**
	comp=Z,1.6nm,0.3s,mb4.8,baz=320,slow=8.0,SNR=18						
LVC	**Limon Verde**	**144.95**	**280**	PKPbc		PKPdf	07 18 46.2 +0.4

*ISCJB **26** 07:17:48.7±0.3, 1093N±003×6244W±003, h119km±3km, mb3.6/9, Error ellipse: s-maj=5.6km s-min=3.8km az=99.7*
*FUNV **26** 07:17:48.9, 1102N×6223W, h104km, MW3.6*
*IDC **26** 07:17:50.2±1.8, 1105N×6264W, h114km±14km, mb3.4/9, mb1 3.5/10, mb1mx3.3/24, mbtmp3.7/10, Error ellipse: s-maj=20.4km s-min=13.1km az=137.0*
*TRN **26** 07:17:50.8, 1097N×6238W, h115km, MD3.6*
*NEIC **26** 07:17:51.0, 1095N×6240W, h106km, MD3.6(TRN), After TRN.*

ISC 26 07:17:49.8±0.3, 1092N±003×6245W±003, h113km±3km, n37, σ1°11/59, mb3.6/9, 6C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.35**	**142**	↑*i*P	**Pn**	**07 18 04.7**	**-1.4**
GUIV				*e*S	**Sn**	**07 18 14.8**	**-3.5**
ITEV	**Isla Los Testi**	**0.80**	**303**	*e*P	**Pn**	**07 18 07.7**	**-1.5**
GUNV	**Guanoco**	**0.90**	**213**	*e*P	**Pn**	**07 18 10.4**	**+0.2**
GUNV				*e*S	**Sn**	**07 18 26.5**	**+0.9**
TRN	**Trinidad (W)**	**1.06**	**105**	↑*i*P	**Pn**	**07 18 12.4**	**+0.6**
TRN				*e*S	**Sn**	**07 18 26.4**	**-2.0**
TPP	**Pointe-a-Pierr**	**1.15**	**122**	*e*P	**Pn**	**07 18 14.0**	**+1.3**
TPP				*e*S	**Sn**	**07 18 29.8**	**-0.3**
TBH	**Brigand Hill**	**1.42**	**108**	↑*i*P	**Pn**	**07 18 16.7**	**+0.9**
TBH				*e*S	**Sn**	**07 18 36.4**	**+0.8**
GRW	**Mount Saint Ca**	**1.45**	**32**	*e*P	**Pn**	**07 18 17.6**	**+1.4**
GRW				*e*S	**Sn**	**07 18 32.5**	**-3.6**
GRHS	**Sauteurs**	**1.51**	**31**	↑*i*P	**Pn**	**07 18 17.1**	**+0.2**
GRHS				*e*S	**Sn**	**07 18 36.0**	**-1.5**
GRSS	**Sisters**	**1.59**	**31**	*e*P	**Pn**	**07 18 18.0**	**+0.2**
GRSS				*e*S	**Sn**	**07 18 39.5**	**+0.3**
GRIC	**Isle de Caille**	**1.59**	**32**	*e*P	**Pn**	**07 18 18.2**	**+0.4**
GRIC				*e*S	**Sn**	**07 18 38.5**	**-0.8**
TPR	**Prospect**	**1.66**	**81**	↑*i*P	**Pn**	**07 18 19.4**	**+0.8**
TPR				*e*S	**Sn**	**07 18 39.5**	**-1.2**
BOT	**Bacolet**	**1.71**	**82**	↑*i*P	**Pn**	**07 18 19.9**	**+0.6**
BOT				*e*S	**Sn**	**07 18 40.0**	**-1.8**
BOT				*e*S	**Sn**	**07 18 41.5**	**-0.3**
GRCU	**Cariacou**	**1.82**	**32**	*e*P	**Pn**	**07 18 20.5**	**-0.1**
GRCU				*e*S	**Sn**	**07 18 43.8**	**-0.4**
ORIV	**Oritupano**	**2.07**	**207**	*e*P	**Pn**	**07 18 24.4**	**+0.6**
ORIV				*e*S	**Sn**	**07 18 50.0**	**+0.2**
IBAV	**Isla La Blanqu**	**2.27**	**293**	*e*P	**Pn**	**07 18 26.9**	**+0.5**
IBAV				*e*S	**Sn**	**07 18 54.3**	**0.0**
PCRV	**Puerto La Cruz**	**2.28**	**251**	*e*P	**Pn**	**07 18 27.7**	**+1.3**
PCRV				*e*S	**Sn**	**07 18 55.3**	**+0.8**
SVB	**Belmont**	**2.61**	**26**	*e*P	**Pn**	**07 18 30.8**	**+0.1**
SVB				*e*S	**Sn**	**07 19 05.7**	**+3.5**
SSV	**Crater Summit**	**2.68**	**27**	*e*P	**Pn**	**07 18 32.0**	**+0.3**
SSV				*e*S	**Sn**	**07 19 08.8**	**+4.9**
GURV	**El Guri**	**3.21**	**191**	*e*P	**Pn**	**07 18 38.2**	**-0.4**
CUPV	**Cœpira**	**3.40**	**256**	*e*P	**Pn**	**07 18 42.3**	**+1.2**
CUPV				*e*S	**Sn**	**07 19 21.9**	**+1.1**
FDF	**Fort de France**	**3.99**	**18**	⇓*i*P	**Pn**	**07 18 48.5**	**-0.5**
CRM	**Caravelle**	**4.09**	**21**	*e*P	**Pn**	**07 18 50.3**	**-0.1**
CRM				*e*S	**Sn**	**07 19 39.1**	**+1.8**
MERV	**Las Mercedes**	**4.14**	**247**	*e*P	**Pn**	**07 18 51.4**	**+0.4**
SCG	**Saint Claude**	**5.13**	**8**	*e*P	**Pn**	**07 19 05.7**	**+1.3**
LUEV	**Luepa**	**5.14**	**169**	*e*P	**Pn**	**07 19 02.8**	**-1.7**
DEG	**La Desirade**	**5.52**	**14**	*e*P	**Pn**	**07 19 10.7**	**+1.0**
BAUV	**El Baul**	**5.85**	**251**	*e*P	**Pn**	**07 19 13.4**	**-0.7**
BAUV				*e*S	**Sn**	**07 20 17.3**	**-2.6**
SDV	**Santo Domingo**	**8.32**	**257**	P	**Pn**	**07 19 46.5**	**-1.0**
	0.4nm,0.3s,baz=18,slow=7.5,SNR=14						
SDV				S	**Sn**	**07 21 16.2**	**-3.5**
	4.1nm,0.3s,baz=45,slow=15,SNR=17						
SIV	**San Ignacio**	**26.78**	**177**	P	**P**	**07 23 21.4**	**+2.4**
	0.7nm,0.9s,mb3.2,baz=347,slow=7.2,SNR=3.8						
SCHQ	**Schefferville**	**43.94**	**356**	P	**P**	**07 25 45.3**	**-0.1**
	0.6nm,0.5s,mb3.6,baz=192,slow=5.7,SNR=6.3						
ULM	**Lac du Bonnet**	**47.89**	**332**	P	**P**	**07 26 14.6**	**-1.9**
	1.0nm,0.4s,mb4.0,baz=108,slow=4.8,SNR=3.6						
PDAR	**Pinedale Array**	**51.71**	**317**	P	**P**	**07 26 45.0**	**-0.3**
	2.1nm,0.6s,mb4.4,baz=113,slow=9.6,SNR=24						
FRB	**Frobisher Bay**	**52.92**	**357**	P	**P**	**07 26 53.5**	**-0.7**
	0.5nm,0.3s,mb4.0,baz=156,slow=10.0,SNR=6.1						
TORD	**Torodi Ar. Bea**	**62.62**	**81**	P	**P**	**07 28 03.6**	**+1.5**
	0.2nm,0.3s,mb3.5,baz=282,slow=6.7,SNR=6.3						
YKA	**Yellowknife Ar**	**63.48**	**336**	P	**P**	**07 28 05.7**	**-2.1**
	0.2nm,0.3s,mb3.5,baz=108,slow=7.3,SNR=5.7						
ILAR	**Eielson Array**	**77.83**	**334**	P	**P**	**07 29 33.5**	**-1.3**
	0.1nm,0.4s,mb2.9,baz=100,slow=3.9,SNR=7.4						
FINES	**FINESS Array B**	**79.79**	**29**	P	**P**	**07 29 46.1**	**+0.6**
	1.1nm,0.9s,mb3.7,baz=270,slow=2.8,SNR=4.5						

*TEH **26** 07:21:05.6, 2752N×5559E, h18km, ML4.0*
*BJI **26** 07:21:23.1, 2663N×5522E, h18km, mB4.9, mb4.5, Ms4.5, Msz4.1*
*ISCJB **26** 07:21:28.6±0.2, 2745N±003×5560E±003, h10km, mb4.3/62, MS3.6/3, Error ellipse: s-maj=4.7km s-min=3.3km az=80.4*
*IDC **26** 07:21:28.6±1.6, 2746N×5569E, h0km, mb4.2/22, mb1 4.3/22, mb1mx4.2/29, mbtmp4.2/22, MS3.3/4, Ms1 3.3/4, ms1mx3.0/29, Error ellipse: s-maj=36.3km s-min=17.5km az=164.0*
*CSEM **26** 07:21:29.5±0.1, 2743N×5559E, h20km, mb4.4/34, Ms3.4, Error ellipse: s-maj=2.6km s-min=1.7km az=69.0*
*MOS **26** 07:21:31.5±1.0, 2738N×5557E, h33km, mb4.7/29, Error ellipse: s-maj=12.0km s-min=5.0km az=128.3*
*THR **26** 07:21:32.6±0.7, 2754N×5591E, h18km±7km, ML3.9*
*NEIC **26** 07:21:32.5, 2755N×5591E, h18km, mb4.4/25, ML3.9(THR), MN4.0(TEH), After THR.*
*OMAN **26** 07:21:41.7±3.5, 2681N×5550E, h30km, Error ellipse: s-maj=4.3km s-min=1.8km az=334.0*

ISC 26 07:21:30.8±0.2, 2752N±003×5558E±003, h10km, n217, σ1°07/234, mb4.3/62, MS3.6/3, 22C-10D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.54**	**103**	*e*PG	**Pg**	**07 21 38.5**	**-2.7**
BNDS				*e*SG	**Sg**	**07 21 43.4**	**-4.9**
BNDS				AML	AML	07 21 58.0	
	comp=E,22μm,0.6s						
BNDS				AML	AML	07 21 59.6	
	comp=N,18μm,0.4s						
BNDS	**Bandar-Abbas**	**0.54**	**103**	*e*Pg	**Pg**	**07 21 38.5**	**-2.8**
	SNR=114						
BNDS				*e*Sg	**Sg**	**07 21 43.4**	**-5.0**
	comp=N,18μm,0.4s,SNR=114						
BNDS	**Bandar-Abbas**	**0.54**	**103**	Pg	**Pg**	**07 21 38.0**	**-3.3**
BNDS				Sg	**Sg**	**07 21 43.0**	**-5.4**
BANOM	**Banah**	**1.72**	**158**	P	**Pn**	**07 22 01.4**	**+0.7**
	SNR=54						
BANOM				⇑S	**Sn**	**07 22 24.4**	**+1.6**
GHIR	**Ghir-Karzin**	**2.42**	**289**	*e*Pn	**Pg**	**07 22 17.1**	**-0.1**
GHIR				*e*SG	**Sg**	**07 22 56.8**	**+8.3**
GHIR				AML	AML	07 23 12.7	
	comp=N,526nm,0.6s						
GHIR				AML	AML	07 23 25.1	
	comp=E,428nm,0.6s						
GHIR	**Ghir-Karzin**	**2.42**	**289**	*e*Pn	**Pg**	**07 22 17.0**	**-0.2**
	SNR=52						
GHIR				*e*Sg	**Sg**	**07 22 56.8**	**+8.3**
	comp=E,428nm,0.6s,SNR=91						
GHIR	**Ghir-Karzin**	**2.42**	**289**	Pn	**Pg**	**07 22 16.0**	**-1.2**
GHIR				Sg	**Sg**	**07 22 56.0**	**+7.5**
KRBR	**Kerman**	**2.66**	**23**	*e*PN	**Pn**	**07 22 15.2**	**+1.5**
KRBR	**Kerman**	**2.66**	**23**	Pn	**Pn**	**07 22 15.0**	**+1.3**
ASHO	**Ashiyiah**	**2.86**	**171**	P	**Pn**	**07 22 18.7**	**+2.2**
	SNR=21						
IMEH	**Mehriz**	**3.94**	**348**	*e*Pn	**Pn**	**07 22 34.1**	**+2.7**
IMEH	**Mehriz**	**3.94**	**348**	Pn	**Pn**	**07 22 34.0**	**+2.6**
IBAF	**Bafgh**	**4.05**	**360**	*e*Pn	**Pn**	**07 22 34.8**	**+1.9**
HOQ	**Hoqain**	**4.22**	**158**	⇑P	**Pn**	**07 22 35.1**	**-0.1**
ARQ	**Araqi**	**4.25**	**168**	⇑P	**Pn**	**07 22 37.4**	**+1.8**
ISAD	**Sadrabad**	**4.68**	**340**	*e*Sn	**Sn**	**07 23 35.1**	**-0.6**
ISAD				*e*Sn	**Sn**	**07 23 35.8**	**+0.1**
ICHK	**Chekchek**	**4.81**	**348**	*e*Pn	**Pn**	**07 22 45.6**	**+2.3**
ICHK	**Chekchek**	**4.81**	**348**	Pn	**Pn**	**07 22 45.5**	**+2.2**
BSY	**Bisya**	**4.98**	**163**	⇑P	**Pn**	**07 22 46.2**	**+0.6**
BSYO	**Bisya**	**5.00**	**162**	P	**Pn**	**07 22 46.2**	**+0.3**
ZHSF	**Zahedan**	**5.02**	**64**	*e*Pn	**Pn**	**07 22 46.1**	**0.0**
IGAR	**Garneh**	**5.55**	**329**	*e*Sn	**Sn**	**07 24 00.4**	**+3.2**
JMDO	**Jabal Madar**	**5.62**	**155**	⇓P	**Pn**	**07 22 53.3**	**-1.0**
WBK	**Wadi Bani Khal**	**5.78**	**147**	⇓P	**Pn**	**07 22 52.8**	**-3.8**

comp=E,7.1nm,0.9s,mb4.2,baz=29,slow=8.3,SNR=4.0
ZRNK Zerenda 27.30 18 *e*P **P 07 27 17.0 +1.5**
comp=E,7.0nm,1.0s,mb4.2
ZRNK Zerenda 27.30 18 *e*P **P 07 27 17.0 +1.5**
comp=E,6.5nm,1.0s,mb4.1
ZRNK Zerenda 27.30 18 *e*P **P 07 27 17.0 +1.5**
ZRNK pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
TIRR Tirgusor 27.55 315 ⇓P **P 07 27 17.2 -0.5**
BVAR Borovoye Array 27.75 19 P **P 07 27 18.9 -0.7**
comp=Z,4.2nm,0.9s,mb4.1,baz=201,slow=7.9,SNR=14
HARR Harsova 27.96 315 ⇑P **P 07 27 22.0 +0.6**
MKAR Makanchi Array 28.47 40 P **P 07 27 26.8 +0.8**
comp=Z,0.6nm,0.5s,mb3.5,baz=224,slow=6.4,SNR=6.6
MKAR Makanchi Array 28.47 40 *i* P **P 07 27 26.7 +0.7**
comp=Z,1.0nm,0.5s,mb3.7
MKAR Makanchi Array 28.47 40 P **P 07 27 26.8 +0.8**
MKAR Makanchi Array 28.47 40 *i* P **P 07 27 26.7 +0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 29.03 31 *e*P **P 07 27 30.4 -0.5**
comp=Z,4.0nm,1.0s,mb4.1
KURK Kurchatov 29.03 31 *e*P **P 07 27 30.4 -0.6**
comp=Z,4.2nm,1.0s,mb4.1
KURK Kurchatov 29.03 31 *e*P **P 07 27 30.4 -0.5**
KURK pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
PLOR Plostina 29.31 316 ⇑P **P 07 27 34.1 +0.7**
MLR Muntele Rosu 29.58 315 P **P 07 27 38.2 +2.4**
comp=Z,4.7nm,0.7s,mb4.3,baz=49,slow=11,SNR=8.6
MLR Muntele Rosu 29.58 315 ⇑P **P 07 27 39.1 +3.3**
VOIR 30.12 315 ⇓P **P 07 27 41.8 +1.2**
AKASG Malin Array Be 30.59 326 P **P 07 27 44.3 -0.5**
comp=Z,1.9nm,0.5s,mb4.2,baz=135,slow=8.5,SNR=16
AKASG Malin Array Be 30.59 326 *i* P **P 07 27 46.5 +1.7**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
OBN Obninsk 30.84 339 P **P 07 27 49.0 +2.1**
comp=Z,9.0nm,0.7s,mb4.7
OBN Obninsk 30.84 339 P **P 07 27 49.0 +2.1**
OBN pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
BURAR Bucovina Array 31.03 318 ⇓P **P 07 27 49.0 +0.4**
BURAR Bucovina Array 31.03 318 ⇓P **P 07 27 49.0 +0.4**
MOS Moscow 31.03 340 *e*P **P 07 27 54.5 +5.9**
MOS pmax pmax
comp=Z,40nm,1.2s,mb5.1
DRGR 32.17 316 ⇑P **P 07 27 59.5 +0.8**
DRGR 32.17 316 ⇑P **P 07 27 59.5 +0.8**
BZS Buzias 32.39 313 ⇑P **P 07 27 59.9 -0.7**
BZS Buzias 32.39 313 ⇑P **P 07 27 59.9 -0.7**
KOLS Kolonicke sedl 33.38 319 *e*P **P 07 28 09.5 +0.2**
KECS Kecovo 34.25 317 *e*P **P 07 28 15.6 -1.2**
PKSM Moragy 34.55 313 P **P 07 28 19.5 +0.1**
KLMR Klimovskoe 35.05 346 *e*P **P 07 28 21.8 -2.0**
comp=Z,10.0nm,1.4s,mb4.5
KLMR Klimovskoe 35.05 346 *e*P **P 07 28 21.8 -2.0**
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
VYHS Vyhne 35.26 316 *e*P **P 07 28 29.0 +3.5**
MORC Moravsky Berou 36.54 318 P **P 07 28 37.0 +0.5**
VRAC Vranov 36.93 317 P **P 07 28 39.9 0.0**
comp=Z,4.1nm,0.8s,mb4.3,baz=116,slow=9.1,SNR=6.5
VRAC Vranov 36.93 317 *e*P **P 07 28 40.2 +0.3**
VRAC Vranov 36.93 317 ⇓P **P 07 28 40.6 +0.7**
KBA Koelnbreinsper 38.28 312 ⇑*i*P **P 07 28 51.6 +0.2**
comp=Z,5.8nm,1.1s,mb4.2
GTA Gaotai 38.41 60 *e*P **P 07 28 55.3 +3.0**
GTA AP pP 07 29 00.0 +4.6
GTA XP sP 07 29 02.5 +5.8
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.3
GERES GERESS Array B 38.57 315 P **P 07 28 53.5 -0.2**
comp=Z,1.0nm,0.6s,mb3.8,baz=101,slow=6.9,SNR=8.9
GERES LR LR 07 45 52.8
comp=Z,48nm,18.3s,MS3.4,baz=307,slow=38
KHC Kasperske Hory 38.73 315 *e*P **P 07 28 55.0 -0.1**
JOF Joensuu 38.81 343 *e*p **P 07 28 56.3 +0.6**
FINES FINESS Array B 39.24 338 P **P 07 28 58.9 -0.5**
comp=Z,1.7nm,0.7s,mb3.9,baz=126,slow=9.7,SNR=7.5
FINES FINESS Array B 39.24 338 P **P 07 28 58.8 -0.5**
FINES FINESS Array B 39.24 338 *i* P **P 07 29 00.8 +1.5**
FINES pmax pmax
comp=Z,2.0nm,0.7s
WTTA Wattenberg 39.46 312 ⇑*i*P **P 07 29 00.9 -0.2**
comp=Z,9.6nm,1.0s,mb4.5
WATA Walderalm 39.52 312 ⇓*i*P **P 07 29 01.4 -0.3**
comp=Z,4.2nm,1.0s,mb4.1
KAF Kangasniemi 39.65 339 *e*p **P 07 28 57.0 -5.8**
comp=Z,5.0nm,1.5s,mb4.0
KAF Kangasniemi 39.65 339 *e*P **P 07 28 57.0 -5.8**
KAF pmax pmax
comp=Z,5.0nm,1.5s,mb4.0
SQTA Sankt Quirin 39.73 312 ⇑*i*P **P 07 29 02.9 -0.6**
comp=Z,2.8nm,0.7s,mb4.1
CLL Collm 39.80 318 *e*P **P 07 29 04.0 0.0**
CLL e(pP) pP 07 29 08.0 +0.9
MOTA Moosalm 39.83 312 ⇓*i*P **P 07 29 03.7 -0.5**
comp=Z,4.6nm,0.9s,mb4.2
PGF Pioggiola 40.47 304 *e*P **P 07 29 09.9 +0.3**
DAVOX Davos 40.52 311 P **P 07 29 09.9 0.0**
comp=Z,2.1nm,0.5s,mb4.0,baz=111,slow=14,SNR=7.1
DAVOX Davos 40.52 311 P **P 07 29 09.9 -0.1**
DAVA Damuels 40.63 312 ⇑*i*P **P 07 29 10.5 -0.4**
comp=Z,22nm,1.0s,mb4.7
SBF Sospel 41.75 306 *e*P **P 07 29 19.9 -0.2**
comp=Z,29nm,0.9s,mb4.6
SBF Sospel 41.75 306 *e*P **P 07 29 19.9 -0.2**
comp=Z,15nm,0.9s,mb4.6
SBF Sospel 41.75 306 *e*P **P 07 29 19.9 -0.2**
SBF pmax pmax
comp=Z,15nm,0.9s,mb4.6
FRF La Foret Royal 42.29 305 *e*P **P 07 29 24.2 -0.3**
MBDF Montbardon 42.33 307 *e*P **P 07 29 24.3 -0.5**
comp=Z,10nm,0.8s,mb4.2
MBDF Montbardon 42.33 307 *e*P **P 07 29 24.3 -0.5**
comp=Z,5.1nm,0.8s,mb4.2
MBDF Montbardon 42.33 307 *e*P **P 07 29 24.3 -0.5**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
LPG La Plagne 42.44 308 *e*P **P 07 29 25.2 -0.6**
comp=Z,7.1nm,0.7s,mb4.1
LPG La Plagne 42.44 308 *e*P **P 07 29 25.2 -0.6**
comp=Z,3.5nm,0.7s,mb4.1
LPG La Plagne 42.44 308 *e*P **P 07 29 25.2 -0.6**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
LPL La Plagne 42.46 308 *e*P **P 07 29 25.2 -0.7**
CDF Champ du Feu 42.58 313 *e*P **P 07 29 25.7 -1.2**
HINF Hinteralfeld 42.74 312 *e*P **P 07 29 27.3 -0.9**
comp=Z,4.1nm,0.6s,mb4.0
HINF Hinteralfeld 42.74 312 *e*P **P 07 29 27.3 -0.9**
comp=Z,2.0nm,0.6s,mb4.0
HINF Hinteralfeld 42.74 312 *e*P **P 07 29 27.3 -0.9**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
CABF La Chapelle 43.06 310 *e*P **P 07 29 30.5 -0.3**
comp=Z,12nm,0.9s,mb4.3
CABF La Chapelle 43.06 310 *e*P **P 07 29 30.5 -0.3**
comp=Z,6.1nm,0.9s,mb4.3
CABF La Chapelle 43.06 310 *e*P **P 07 29 30.5 -0.3**
CABF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
SMRF Simiane la Rot 43.10 306 *e*P **P 07 29 30.7 -0.4**
HAU Haudompre 43.11 312 *e*P **P 07 29 31.0 -0.2**
comp=Z,9.3nm,0.8s,mb4.3
HAU Haudompre 43.11 312 *e*P **P 07 29 31.0 -0.2**
comp=Z,4.7nm,0.8s,mb4.3
HAU Haudompre 43.11 312 *e*P **P 07 29 31.0 -0.2**
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
HFS Hagfors 43.21 331 P **P 07 29 31.3 -0.7**
comp=Z,3.9nm,0.8s,mb4.2,baz=134,slow=8.5,SNR=7.8
VIVF Saint-Julien-l 43.83 307 *e*P **P 07 29 35.0 -2.0**
MEZF Maizieres J'vi 44.05 312 *e*P **P 07 29 38.7 0.0**
SONM Songino Array 44.13 49 P **P 07 29 38.9 -0.5**
comp=Z,0.9nm,0.8s,mb3.6,baz=273,slow=8.9,SNR=6.1
LASF Ste Croix 44.35 306 *e*P **P 07 29 40.7 -0.4**
comp=Z,15nm,1.0s,mb4.4
LASF Ste Croix 44.35 306 *e*P **P 07 29 40.7 -0.4**
comp=Z,7.6nm,1.0s,mb4.4
SMF Signal de Mont 44.60 310 *e*P **P 07 29 42.5 -0.6**
comp=Z,9.8nm,0.8s,mb4.4
SMF Signal de Mont 44.60 310 *e*P **P 07 29 42.5 -0.6**
comp=Z,4.9nm,0.8s,mb4.4
SMF Signal de Mont 44.60 310 *e*P **P 07 29 42.5 -0.6**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
LOR Lormes 44.66 310 *e*P **P 07 29 43.4 -0.2**
NB2 NORSAR Subarra 44.72 331 P **P 07 29 42.7 -1.4**
comp=Z,1.2nm,0.7s,mb3.8,baz=117,slow=7.9
NB2 NORSAR Subarra 44.72 331 P **P 07 29 42.7 -1.4**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
NOA NORSAR Array B 44.72 331 P **P 07 29 43.0 -1.1**
comp=Z,1.7nm,0.7s,mb4.0,baz=117,slow=7.9,SNR=6.7
BAIF Baives 44.87 314 *e*P **P 07 29 45.9 +0.6**
comp=Z,31nm,1.1s,mb4.7
BAIF Baives 44.87 314 *e*P **P 07 29 45.9 +0.6**
comp=Z,15nm,1.1s,mb4.7
BAIF Baives 44.87 314 *e*P **P 07 29 45.9 +0.6**
BAIF pmax pmax
comp=Z,15nm,1.1s,mb4.7
SSF Saint Saulge 44.88 310 *e*P **P 07 29 44.8 -0.6**
comp=Z,15nm,0.9s,mb4.5
SSF Saint Saulge 44.88 310 *e*P **P 07 29 44.8 -0.6**
comp=Z,7.4nm,0.9s,mb4.5
SSF Saint Saulge 44.88 310 *e*P **P 07 29 44.8 -0.6**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
AVF Avril sur Loir 44.95 310 *e*P **P 07 29 45.6 -0.3**
comp=Z,4.7nm,0.7s,mb4.1
AVF Avril sur Loir 44.95 310 *e*P **P 07 29 45.6 -0.3**
comp=Z,2.3nm,0.7s,mb4.1
AVF Avril sur Loir 44.95 310 *e*P **P 07 29 45.6 -0.3**
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
BGF Bois d'Agland 45.27 309 *e*P **P 07 29 47.7 -0.8**
comp=Z,17nm,0.9s,mb4.6
BGF Bois d'Agland 45.27 309 *e*P **P 07 29 47.7 -0.8**
comp=Z,8.4nm,0.9s,mb4.6
BGF Bois d'Agland 45.27 309 *e*P **P 07 29 47.7 -0.8**
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MTLF Montolieu 45.49 305 *e*P **P 07 29 50.6 +0.4**
comp=Z,6.6nm,0.8s,mb4.2
MTLF Montolieu 45.49 305 *e*P **P 07 29 50.6 +0.4**
comp=Z,3.3nm,0.8s,mb4.2
MTLF Montolieu 45.49 305 *e*P **P 07 29 50.6 +0.4**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
ARCES ARCESS Array B 45.53 346 P **P 07 29 50.5 0.0**
comp=Z,3.3nm,0.9s,mb4.2,baz=143,slow=9.1,SNR=4.2
CAF Calviac 45.68 307 *e*P **P 07 29 51.7 -0.1**
comp=Z,9.0nm,0.8s,mb4.5
CAF Calviac 45.68 307 *e*P **P 07 29 51.7 -0.1**
comp=Z,4.5nm,0.8s,mb4.5
CAF Calviac 45.68 307 *e*P **P 07 29 51.7 -0.1**
CAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TCF Toulx Ste Croi 45.68 309 *e*P **P 07 29 51.4 -0.4**
comp=Z,14nm,0.9s,mb4.6
TCF Toulx Ste Croi 45.68 309 *e*P **P 07 29 51.4 -0.4**
comp=Z,6.8nm,0.9s,mb4.6
TCF Toulx Ste Croi 45.68 309 *e*P **P 07 29 51.4 -0.4**
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RJF Les Rejaudoux 46.09 308 *e*P **P 07 29 55.1 +0.1**
comp=Z,28nm,1.1s,mb4.8
RJF Les Rejaudoux 46.09 308 *e*P **P 07 29 55.1 +0.1**
comp=Z,14nm,1.1s,mb4.8
RJF Les Rejaudoux 46.09 308 *e*P **P 07 29 55.1 +0.1**
RJF pmax pmax
comp=Z,14nm,1.1s,mb4.8
LFF La Frestale 46.62 307 *e*P **P 07 29 58.7 -0.5**
comp=Z,13nm,0.6s,mb4.7
LFF La Frestale 46.62 307 *e*P **P 07 29 58.7 -0.5**
comp=Z,6.3nm,0.6s,mb4.7
LFF La Frestale 46.62 307 *e*P **P 07 29 58.7 -0.5**
LFF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
EPF Esparros 46.86 304 *e*P **P 07 29 59.9 -1.1**
LDF La Druitiere 47.47 312 *e*P **P 07 30 04.7 -1.1**
ETSF Etsaut 47.52 304 *e*P **P 07 30 06.3 +0.2**
FLN La Foliniere 47.72 312 *e*P **P 07 30 06.8 -0.9**
SJPF Ste Jean 48.01 304 *e*P **P 07 30 10.3 +0.4**
comp=Z,10nm,0.6s,mb4.8
SJPF Ste Jean 48.01 304 *e*P **P 07 30 10.3 +0.4**
comp=Z,5.2nm,0.6s,mb4.8
SJPF Ste Jean 48.01 304 *e*P **P 07 30 10.3 +0.4**
SJPF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
QUIF Quistinic 49.45 311 *e*P **P 07 30 20.1 -1.0**
ROSF Rostrenen 49.55 311 *e*P **P 07 30 21.4 -0.4**
ESDC Sonseca Array 50.23 300 P **P 07 30 27.3 +0.3**
comp=Z,0.8nm,0.4s,mb4.1,baz=74,slow=7.2,SNR=8.3
BOD Bodaibo 50.42 36 *e*P **P 07 30 25.5 -2.9**
comp=Z,6.0nm,1.1s,mb4.5
BOD Bodaibo 50.42 36 *e*P **P 07 30 25.5 -2.9**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
MDT Midelt 51.71 291 P **P 07 30 39.2 +1.1**
comp=Z,2.9nm,0.9s,mb4.2,baz=80,slow=9.2,SNR=5.5
TORD Torodi Ar. Bea 52.14 265 P **P 07 30 41.4 +0.1**
comp=Z,6.0nm,0.8s,mb4.6,baz=59,slow=7.0,SNR=32
NJ2 Nanjing 54.41 69 *e*P **P 07 30 58.0 0.0**
NJ2 PP PP 07 33 02.0 +1.9
NJ2 S **S** **07 38 32.0 -4.5**
NJ2 XS sS 07 38 51.0 +9.3
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,90nm,5.3s
NJ2 LR LR
comp=N,170nm,11.1s,MS4.5
NJ2 LR LR
comp=E,240nm,15.2s,MS4.5
NJ2 LR LR
comp=Z,130nm,16.7s,MS4.1
SNY Shenyang 56.35 56 *e*P **P 07 31 11.5 -0.5**
SNY AMB AMB
comp=Z,11nm,0.5s,mb5.1
SSE Sheshan 56.57 69 P **P 07 31 09.5 -4.1**
SSE AMB AMB
comp=Z,123nm,8.5s
TIXI Tiksi 58.88 21 *e*P **P 07 31 28.1 -1.7**
comp=Z,3.0nm,0.9s,mb4.3
TIXI Tiksi 58.88 21 *e*P **P 07 31 28.1 -1.7**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
HABR Khabarovsk 63.19 47 *e*P **P 07 31 55.1 -3.9**
FRB Frobisher Bay 79.04 338 P **P 07 33 34.5 -0.6**
comp=Z,3.9nm,0.8s,mb4.4,baz=31,slow=3.7,SNR=12
SCHQ Schefferville 84.29 331 P **P 07 34 01.9 -1.0**
comp=Z,0.6nm,0.5s,mb4.0,baz=349,slow=5.2,SNR=4.2
ILAR Eielson Array 86.36 9 P **P 07 34 11.6 -1.6**
comp=Z,0.4nm,0.5s,mb3.9,baz=322,slow=5.0,SNR=12
MCK McKinley 87.01 11 *e*P **P 07 34 14.6 -1.8**
comp=Z,1.0nm,0.7s,mb4.2
MCK McKinley 87.01 11 *e*P **P 07 34 14.6 -1.8**
MCK pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
YKA Yellowknife Ar 89.95 355 P **P 07 34 30.1 -0.2**
comp=Z,0.6nm,0.9s,mb3.9,baz=1.5,slow=4.8,SNR=8.2

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*IDC **26** 07:23:45.9±1.3, 1039N×9446E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/20, mbtmp3.9/7, MS2.8/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=103.7km s-min=17.4km az=53.0*
*NEIC **26** 07:23:47.6±1.0, 1054N×9471E, h10km, mb4.7/3, Error ellipse: s-maj=62.5km s-min=9.5km az=52.0*
*ISCJB **26** 07:23:50.8±3.2, 113N±02×958E±0.1, h33km±33km, mb4.1/10, Error ellipse: s-maj=37.1km s-min=8.4km az=76.0*
ISC 26 07:23:54.3±2.5, 113N±02×957E±01, h39km±28km, n15, σ1§36/15, mb4.1/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.94**	**278**	*e*P	**Pn**	**07 24 43.0**	**+4.5**
PBA				*e*S	**Sn**	**07 25 13.1**	**+0.4**
PBA				*e*x	x	07 25 14.8	
PBA	comp=N,346nm,0.5s			*e*x	x	07 25 15.5	
	comp=E,184nm,0.4s						
KULM	**Kulim**	**7.69**	**140**	*e*Pn	**Pn**	**07 25 40.4**	**-3.4**
KULM				Sn	**Sn**	**07 27 09.4**	**-0.1**
PSI	**Prapat**	**9.00**	**159**	LR	LR	07 29 48.4	
	comp=E,66nm,21.2s,baz=39,slow=41						
MKAR	**Makanchi Array**	**37.19**	**345**	P	**P**	**07 31 03.8**	**+2.1**
	comp=E,1.5nm,0.7s,mb3.9,baz=160,slow=8.0,SNR=8.9						
KURK	**Kurchatov**	**41.76**	**344**	*e*P	**P**	**07 31 40.8**	**+1.0**
	comp=E,4.4nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**46.34**	**339**	P	**P**	**07 32 15.5**	**-1.0**
	comp=E,0.6nm,0.5s,mb3.8,baz=134,slow=10,SNR=4.9						
CHKZ	**Chkalovo**	**46.80**	**340**	*e*P	**P**	**07 32 18.5**	**-1.5**
	comp=E,7.5nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**49.07**	**129**	P	**P**	**07 32 38.4**	**+0.8**
	comp=E,1.8nm,0.7s,mb4.2,baz=305,slow=8.6,SNR=20						
WB2	**Warramunga Arr**	**49.08**	**129**	*e*P	**P**	**07 32 38.6**	**+1.0**
ASAR	**Alice Springs**	**50.99**	**133**	P	**P**	**07 32 52.9**	**+0.7**
	comp=E,1.3nm,0.6s,mb4.0,baz=310,slow=6.7,SNR=19						
PMG	**Port Moresby**	**55.12**	**110**	*e*P	**P**	**07 33 26.0**	**+3.4**
	comp=E,11nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**61.38**	**136**	P	**P**	**07 34 04.8**	**-1.5**
	comp=E,1.3nm,0.7s,mb4.2,baz=330,slow=8.1,SNR=4.3						
FINES	**FINESS Array B**	**70.47**	**331**	P	**P**	**07 35 03.9**	**-0.9**
	comp=E,1.3nm,0.7s,mb4.0,baz=108,slow=8.9,SNR=2.5						
GERES	**GERESS Array B**	**76.36**	**318**	P	**P**	**07 35 36.2**	**-3.2**
	comp=E,0.1nm,0.4s,mb3.1,baz=99,slow=6.4,SNR=2.5						
MSU	**Marysvale**	**124.04**	**26**	*e*PKPdf	PKPdf	07 42 49.6	+1.2

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*NEIC **26** 07:45:17.4±3.1, 5166N×1624E, h5km, ML2.2(CLL), ML2.7(SZGRF), Error ellipse: s-maj=38.7km s-min=12.7km az=216.0*
*PRU **26** 07:45:19.9, 5146N×1610E, h0km*
*WAR **26** 07:45:19.8, 5153N×1609E, ML2.3, Mining Induced*
*ISCJB **26** 07:45:19.9±0.9, 5140N±004×1595E±005, h0km, Error ellipse: s-maj=6.4km s-min=3.8km az=59.2*
*IPEC **26** 07:45:20.0±0.3, 5148N×1648E, h0km, ML1.7/3, Error ellipse: s-maj=3.2km s-min=1.9km az=94.0*
*CSEM **26** 07:45:20.2±0.3, 5147N×1607E, h1km, ML3.1/5, Error ellipse: s-maj=5.6km s-min=3.2km az=30.0*
*VIE **26** 07:45:21.7±0.5, 5130N×1625E, h0km, mb1.8/2, ML2.5/3, Error ellipse: s-maj=3.7km s-min=3.2km az=65.0 58 km WNW of Breslau Suspected Mining induced.*
ISC 26 07:45:19.1±0.9, 5149N±004×1607E±005, h0km, n22, σ0§91/47, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**168**	*e*Pg	**Pg**	**07 45 32.6**	**+0.7**
KSP				*e*Sg	**Sg**	**07 45 41.9**	**+1.4**
KSP	**Ksiaz**	**0.67**	**168**	*e*Pg	**Pg**	**07 45 32.6**	**+0.7**
KSP				*e*Sg	**Sg**	**07 45 41.2**	**+0.7**
UPC	**Upice**	**0.99**	**182**	*e*PG	**Pg**	**07 45 38.4**	**+0.4**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG	**Pg**	**07 45 41.5**	**+0.3**
DPC				*e*SG	**Sg**	**07 45 57.0**	**+0.8**
	20nm,0.7s						
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*Pg	**Pg**	**07 45 41.3**	**+0.1**
DPC				*e*Sg	**Sg**	**07 45 55.8**	**-0.4**
PVCC	**Panska Ves**	**1.35**	**225**	*e*PG	**Pg**	**07 45 45.6**	**+0.6**
BRG	**Berggiesshubel**	**1.47**	**246**	Pg	**Pg**	**07 45 47.5**	**+0.1**
BRG	**Berggiesshubel**	**1.47**	**246**	PN	**Pn**	**07 45 47.1**	**+0.2**
BRG				PG	**Pg**	**07 45 47.5**	**+0.1**
BRG				SG	**Sg**	**07 46 07.8**	**+1.4**
	31nm,0.3s						
PRU	**Pruhonice**	**1.79**	**213**	*e*PN	**Pn**	**07 45 50.9**	**-0.4**
PRU				*e*PG	**Pg**	**07 45 52.7**	**-0.7**
PRU				*e*SG	**Sg**	**07 46 17.0**	**+0.4**
	14nm,0.3s						
PRU	**Pruhonice**	**1.79**	**213**	*e*Pg	**Pg**	**07 45 52.7**	**-0.7**
PRU				*e*Sg	**Sg**	**07 46 17.0**	**+0.4**
	14nm,0.3s						
CLL	**Collm**	**1.93**	**266**	*i* Pn	**Pn**	**07 45 52.2**	**-1.0**
CLL				*i* Pg	**Pg**	**07 45 55.0**	**-1.1**
CLL				*i* x	x	07 45 56.3	
CLL				*i* x	x	07 45 59.4	
CLL				*i* Sg	**Sg**	**07 46 21.0**	**-0.1**
	comp=Z,13nm,0.7s						
CLL	**Collm**	**1.93**	**266**	*i* Pg	**Pg**	**07 45 55.0**	**-1.1**
CLL				*i* Sg	**Sg**	**07 46 21.0**	**-0.1**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**07 45 53.1**	**-0.5**
MORC				*e*Sg	**Sg**	**07 46 17.7**	**-4.3**
MORC				*e*Sn	**Sn**	**07 46 19.6**	**+0.8**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**07 45 52.8**	**-0.7**
MORC				*e*Sn	**Sn**	**07 46 19.6**	**+0.8**
VRAC	**Vranov**	**2.21**	**171**	*e*Pn	**Pn**	**07 45 58.0**	**+0.9**
VRAC				*e*Sg	**Sg**	**07 46 28.2**	**-2.0**
	comp=Z,6.2nm,0.2s						
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**07 46 00.4**	**+0.2**
KRUC				*e*Sg	**Sg**	**07 46 35.2**	**-2.4**
	comp=Z,2.4nm,0.2s						
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**07 46 02.9**	**+0.3**
NKC				*e*PG	**Pg**	**07 46 08.7**	**-0.6**
NKC				*e*SG	**Sg**	**07 46 43.3**	**+0.1**
	comp=Z,36nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**243**	*e*Pg	**Pg**	**07 46 08.7**	**-0.6**
NKC				*e*Sg	**Sg**	**07 46 43.3**	**+0.1**
	comp=Z,36nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	**Pn**	**07 46 06.0**	**+0.2**
KHC				*e*PG	**Pg**	**07 46 11.6**	**-2.2**
KHC				*e*SG	**Sg**	**07 46 50.4**	**-0.3**
KHC	**Kasperske Hory**	**2.85**	**215**	*e*Pg	**Pg**	**07 46 11.6**	**-2.2**
KHC				*e*Sg	**Sg**	**07 46 50.4**	**-0.3**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**07 46 09.9**	**+1.3**
GEC2				*e*Sg	**Sg**	**07 46 56.9**	**-0.4**
MOA	**Molln**	**3.83**	**198**	⇑*i*Pn	**Pn**	**07 46 19.8**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**07 47 23.4**	**+1.3**
	comp=Z,2.4nm,0.4s						

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*ISCJB **26** 07:54:44.0±0.8, 2742N±006×5565E±005, h10km, Error ellipse: s-maj=8.6km s-min=5.7km az=42.1*
*THR **26** 07:54:45.4±0.4, 2748N×5577E, h14km±4km, ML3.0*
*CSEM **26** 07:54:45.4, 2748N×5577E, h14km, ML3.0, After THR*
*OMAN **26** 07:54:53.9±8.4, 2626N×5776E, h30km, Error ellipse: s-maj=6.6km s-min=2.5km az=34.0*
ISC 26 07:54:45.8±0.7, 2744N±006×5571E±005, h10km, n9, σ1§35/14, 2C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.41**	**96**	*e*PG	**Pg**	**07 54 52.9**	**-0.9**
BNDS				*e*SG	**Sg**	**07 54 58.7**	**-0.6**
BNDS				AML	AML	07 55 16.0	
	comp=E,2µm,0.6s						
BNDS	**Bandar-Abbas**	**0.41**	**96**	*e*Pg	**Pg**	**07 54 52.9**	**-1.0**
	SNR=91						
BNDS				*e*Sg	**Sg**	**07 54 58.7**	**-0.6**
	comp=E,2µm,0.6s,SNR=91						
BANOM	**Banah**	**1.60**	**161**	⇑P	**Pn**	**07 55 16.7**	**+2.6**
	SNR=16						
BANOM				⇓S	**Sn**	**07 55 34.3**	**-0.6**
GHIR	**Ghir-Karzin**	**2.56**	**290**	*e*PN	**Pn**	**07 55 29.0**	**+1.7**
GHIR				*e*SG	**Sg**	**07 56 06.5**	**-1.4**
GHIR				AML	AML	07 56 21.8	
	comp=N,64nm,0.6s						
GHIR				AML	AML	07 56 29.4	
	comp=E,76nm,0.6s						
GHIR	**Ghir-Karzin**	**2.56**	**290**	*e*Pn	**Pn**	**07 55 29.0**	**+1.7**
	SNR=52						
GHIR				*e*Sg	**Sg**	**07 56 06.5**	**-1.5**
	comp=E,76nm,0.6s,SNR=90						
KRBR	**Kerman**	**2.69**	**20**	*e*PN	**Pn**	**07 55 29.8**	**+0.6**
KRBR				AML	AML	07 56 20.9	
	comp=E,75nm,0.4s						
ASHO	**Ashiyiah**	**2.76**	**173**	P	**Pn**	**07 55 32.4**	**+2.3**
	SNR=7.8						
WHFO	**Wadi Hawf**	**9.64**	**191**	⇑P	**Pn**	**07 57 03.5**	**-1.2**
ABTO	**Aybut**	**10.28**	**193**	⇓P	**Pn**	**07 57 12.5**	**-0.9**
	SNR=7.4						

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*NEIC **26** 07:56:53.9, 1915N×6474W, h76km, MD3.6(RSPR), After RSPR.*
RSPR 26 07:56:53.9, 1915N×6474W, h76km±7km, MD3.6/8, MD3.6/8, 8C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.74**	**170**	*e*S	Sn	07 57 21.1	-0.3
TBVI	**Tortola**	**0.74**	**170**	⇑*e*P	Pn	07 57 09.2	-0.5
TBVI				*e*S	Sn	07 57 21.1	-0.3
STVI	**Saint Thomas**	**0.81**	**195**	*e*S	Sn	07 57 21.6	-1.2
STVI	**Saint Thomas**	**0.81**	**195**	⇑*e*P	Pn	07 57 09.3	-1.2
STVI				*e*S	Sn	07 57 21.6	-1.2
MTP	**Monte Pirata**	**1.30**	**217**	*e*S	Sn	07 57 33.0	-0.4
MTP	**Monte Pirata**	**1.30**	**217**	⇑*e*P	Pn	07 57 16.3	-0.1
MTP				*

CBYP	**Canovanas**	**1.37 231**	⇑*eP*	Pn	07 57 16.3	-1.1
CBYP			*e*S	Sn	07 57 34.8	-0.2
HUMP	**Col San Antoni**	**1.45 227**	*e*S	Sn	07 57 36.5	-0.3
HUMP	**Col San Antoni**	**1.45 227**	⇑*eP*	Pn	07 57 17.7	-0.6
HUMP			*e*S	Sn	07 57 36.5	-0.3
CPD	**Cerro la Pandu**	**1.56 226**	*e*S	Sn	07 57 40.0	+0.4
CPD	**Cerro la Pandu**	**1.56 226**	⇑*eP*	Pn	07 57 19.0	-0.9
CPD			*e*S	Sn	07 57 40.0	+0.4
SJG	**San Juan**	**1.69 233**	*e*S	Sn	07 57 41.3	-1.1
SJG	**San Juan**	**1.69 233**	⇑*eP*	Pn	07 57 20.8	-0.7
SJG			*e*S	Sn	07 57 41.3	-1.1
CRPR	**Cabo Rojo, PR**	**2.52 244**	⇑*eP*	Pn	07 57 32.6	0.0

IDC 26 08:10:00.0±2.4, 678S×13099E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.4/12, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=137.2km s-min=32.1km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.48**	**166**	Pn	Pn	08 13 12.2	-0.4
	0.1nm,0.3s,baz=350,slow=13,SNR=2.6						
ASAR	**Alice Springs**	**17.02**	**171**	P	Pn	08 14 00.2	+0.8
	0.1nm,0.3s,baz=350,slow=9.8,SNR=9.8						
MKAR	**Makanchi Array**	**68.58**	**326**	P	P	08 21 04.8	+0.2
	0.2nm,0.3s,baz=113,slow=7.0,SNR=6.6						

BUC 26 08:12:50.2±0.3, 4533N×2776E, h6km±3km, MD2.4/2, 2C-1D, Error ellipse: s-maj=5.0km s-min=1.7km az=60.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.31**	**119**	⇑*iP*	Pg	08 12 56.5	+0.3
CFR				*i*S	Sg	08 12 59.8	-0.5
CFR	**Carcaliu**	**0.31**	**119**	S	Sg	08 12 59.8	-0.5
HARR	**Harsova**	**0.65**	**169**	*i*S	Sg	08 13 13.3	+2.1
ISR	**Istrita**	**0.88**	**257**	⇑*iP*	Pg	08 13 13.5	+6.4
ISR				*i*S	Sg	08 13 30.8	+12
TIRR	**Tirgusor**	**0.99**	**152**	⇓*iP*	Pg	08 13 09.9	+0.7
TIRR				*i*S	Sg	08 13 21.9	-0.1

*ISCJB **26** 08:37:42.0±0.7, 930N±004×6157W±005, h93km±11km, Error ellipse: s-maj=9.5km s-min=4.9km az=86.1*
*FUNV **26** 08:37:42.3, 929N×6139W, h27km, MW3.4*
*NEIC **26** 08:37:43.2, 926N×6145W, h71km, MD3.9(TRN), After TRN.*
*TRN **26** 08:37:43.4, 926N×6142W, h62km, MD3.9*
ISC 26 08:37:43.3±0.7, 928N±004×6155W±005, h71km±16km, n24, σ0$95/43, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**1.03**	**6**	⇑*eP*	Pn	08 38 03.3	+1.1
TPP				*e*S	Sn	08 38 15.4	-0.9
TBH	**Brigand Hill**	**1.29**	**22**	⇑*iP*	Pn	08 38 05.8	+0.3
TBH				*e*S	Sn	08 38 17.1	-5.0
TRN	**Trinidad (W)**	**1.37**	**6**	*e*P	Pn	08 38 06.0	-0.4
TRN				*e*S	Sn	08 38 23.7	-0.2
GUIV	**Guiria**	**1.51**	**334**	⇑*iP*	Pn	08 38 07.8	-0.5
GUIV				*e*S	Sn	08 38 26.6	-0.7
GUNV	**Guanoco**	**1.63**	**303**	*e*P	Pn	08 38 10.8	+0.9
GUNV				*e*S	Sn	08 38 31.5	+1.4
ORIV	**Oritupano**	**1.84**	**264**	*e*P	Pn	08 38 13.4	+0.6
TPR	**Prospect**	**2.04**	**22**	*e*P	Pn	08 38 15.4	0.0
TPR				*e*S	Sn	08 38 38.8	-1.2
BOT	**Bacolet**	**2.04**	**24**	⇓*iP*	Pn	08 38 15.5	0.0
BOT				*e*S	Sn	08 38 39.3	-0.8
CRUV	**Carupano**	**2.16**	**310**	*e*P	Pn	08 38 16.8	-0.2
GRW	**Mount Saint Ca**	**2.86**	**358**	*e*P	Pn	08 38 27.1	+0.5
GRW				*e*S	Sn	08 39 01.8	+1.8
GRHS	**Sauteurs**	**2.92**	**358**	*e*P	Pn	08 38 28.7	+1.2
GRHS				*e*S	Sn	08 39 01.9	+0.4
GRIC	**Isle de Caille**	**2.98**	**359**	*e*P	Pn	08 38 29.9	+1.6
GRSS	**Sisters**	**3.00**	**359**	*e*P	Pn	08 38 29.9	+1.5
GRSS				*e*S	Sn	08 39 03.4	+0.2
GRCU	**Cariacou**	**3.17**	**2**	*e*P	Pn	08 38 32.2	+1.4
GRCU				*e*S	Sn	08 39 07.7	+0.2
LUEV	**Luepa**	**3.42**	**178**	*e*P	Pn	08 38 33.2	-0.9
SVB	**Belmont**	**3.98**	**4**	*e*P	Pn	08 38 42.0	+0.2
SVB				*e*S	Sn	08 39 24.5	-2.7
SVV	**Soufriere Volc**	**4.03**	**5**	*e*P	Pn	08 38 42.4	-0.1
SVV				*e*S	Sn	08 39 26.9	-1.5
SSV	**Crater Summit**	**4.04**	**5**	*e*P	Pn	08 38 42.4	-0.2
SSV				*e*S	Sn	08 39 27.4	-1.1
CUPV	**Cœpira**	**4.25**	**281**	*e*P	Pn	08 38 46.3	+0.9
CUPV				*e*S	Sn	08 39 33.1	-0.7
MERV	**Las Mercedes**	**4.68**	**270**	*e*P	Pn	08 38 52.0	+0.6
MERV				*e*S	Sn	08 39 43.7	-0.8
FDF	**Fort de France**	**5.43**	**4**	*e*P	Pn	08 39 01.8	+0.1
FDF				*e*S	Sn	08 40 03.1	+0.3
CRM	**Caravelle**	**5.47**	**6**	*e*P	Pn	08 39 02.0	-0.3
BAUV	**El Baul**	**6.42**	**268**	*e*Pn	Pn	08 39 14.6	-0.6
BAUV				*e*S	Sn	08 40 23.7	-3.2
SDV	**Santo Domingo**	**8.98**	**268**	*e*Pn	Pn	08 39 48.9	-1.2
	9.6nm,0.4s						
SDV				*e*Sn	Sn	08 41 23.8	-5.8

*NNC **26** 08:58:22.0±1.4, 4313N×7778E, h0km, mb2.3, mpv2.4, Error ellipse: s-maj=17.8km s-min=6.6km az=170.0*
*ISCJB **26** 08:58:24.2±0.9, 4324N±009×7776E±008, h10km, Error ellipse: s-maj=14.2km s-min=5.3km az=116.3*
*KNET **26** 08:58:25.9±0.5, 4312N×7754E, h17km±3km, ml2.7, Error ellipse: s-maj=3.6km s-min=3.0km az=105.0*
ISC 26 08:58:25.3±0.9, 4320N±009×7773E±008, h10km, n10, σ1$35/17, 9C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.56**	**272**	⇓P	Pg	08 58 33.5	-2.6
	12nm,0.4s						
KNDC				⇓S	Sg	08 58 42.3	-1.1
	83nm,0.7s						
ULHL	**Ulahol**	**1.45**	**229**	⇓P	Pn	08 58 49.9	-1.7
	8.4nm,0.1s,SNR=54						
ULHL				⇑S	Sn	08 59 08.7	-1.9
	38nm,0.2s						
TKM2	**Tokmak 2**	**1.59**	**261**	⇑P	Pn	08 58 52.4	-1.1
	10nm,0.1s,SNR=14						
TKM2				⇑S	Sn	08 59 13.3	-0.7
	236nm,0.1s						
TKM2	**Tokmak 2**	**1.59**	**261**	⇑P	Pn	08 58 52.3	-1.1
	0.2nm,0.3s						
TKM2				⇑S	Sn	08 59 13.3	-0.7
	5.3nm,0.5s						
KBK	**Karagaybulak**	**2.11**	**256**	⇓P	Pn	08 59 01.7	+1.1
	15nm,0.2s,SNR=9.1						
KZA	**Kyzart**	**2.15**	**239**	⇓P	Pn	08 59 02.1	+1.0
	6.2nm,0.2s,SNR=14						
KZA				⇓S	Sn	08 59 30.1	+2.4
	41nm,0.3s						
CHMS	**Chumysh**	**2.19**	**266**	⇓P	Pn	08 59 01.9	+0.2
	4.5nm,0.1s,SNR=5.3						
CHMS				⇓S	Sn	08 59 30.7	+1.8
	64nm,0.2s						
AAK	**Ala-Archa**	**2.44**	**258**	⇓P	Pn	08 59 06.3	+1.1
	8.4nm,0.2s,SNR=9.9						
MK31	**Makanchi Array**	**4.83**	**40**	⇑Pn	Pn	08 59 38.4	+0.4
	0.1nm,0.1s,baz=218,slow=15,SNR=13						
MK31				⇑Sn	Sn	09 00 33.6	-0.5
	0.3nm,0.2s,baz=217,slow=27,SNR=7.0						
MK31				⇑Lg		09 00 56.6	
	1.3nm,0.4s,baz=220,slow=30						
KK31	**Karatay Array**	**5.28**	**271**	⇑Pg	Pb	08 59 58.8	+1.2
	0.2nm,0.3s,baz=220,slow=30,SNR=5.6						
KK31				Lg		09 01 10.2	
	5.5nm,0.6s,baz=220,slow=30,SNR=9.4						

*IDC **26** 09:00:50.4±0.9, 2415N×12273E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/20, mbtmp3.5/7, ML2.7/1, Error ellipse: s-maj=20.9km s-min=18.4km az=145.0*
*NEIC **26** 09:00:52.0±0.8, 2412N×12284E, h10km, MG3.3(JMA), Error ellipse: s-maj=17.6km s-min=11.8km az=192.0*
*ISCJB **26** 09:00:54.7±0.7, 2402N±008×12258E±004, h33km, mb3.4/6, Error ellipse: s-maj=11.0km s-min=5.2km az=169.8*
*JMA **26** 09:00:55.5±0.2, 2410N×12260E, h42km, M3.3*

ISC 26 09:00:55.6±1.3, 2403N±008×12264E±004, h30km±9km, n16, σ0$97/23, mb3.4/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.55**	**38**	P	Pb	09 01 06.5	-0.3
YOJ				S	Sb	09 01 14.1	-0.3
NACB	**Ninganchiao**	**0.97**	**279**	*e*Pg	Pn	09 01 12.9	-0.3
IRIF	**Iriomote-Funau**	**1.04**	**73**	P	Pn	09 01 14.0	-0.2
IRIF				S	Sn	09 01 28.8	+1.1
HATJ	**Hateruma jima**	**1.07**	**88**	P	Pn	09 01 14.6	+0.1
HATJ				S	Sn	09 01 29.1	+0.8
JKRS	**Kuro-shima**	**1.27**	**80**	P	Pn	09 01 17.6	+0.3
JKRS				*e*S	Sn	09 01 34.3	+1.0
TATO	**Taipei**	**1.41**	**312**	*e*Pn	Pn	09 01 21.0	+1.7
TATO				*e*Sn	Sn	09 01 39.3	+2.4
JIJ	**Ishigaki jima**	**1.41**	**76**	P	Pn	09 01 19.2	-0.1
JIJ				S	Sn	09 01 36.7	-0.2
JTJ	**Tarama**	**1.98**	**72**	P	Pn	09 01 27.5	+0.4
JMJ	**Miyako jima 2**	**2.54**	**72**	*e*S	Sn	09 02 04.9	+0.1
JOW	**Kunigami**	**5.81**	**60**	Pn	Pn	09 02 15.1	-4.7
	0.5nm,0.3s,baz=302,slow=9.9,SNR=2.8						
JOW				Sn	Sn	09 03 23.9	-1.5
	0.8nm,0.3s,baz=134,slow=28,SNR=1.9						
SONM	**Songino Array**	**27.04**	**336**	P	P	09 06 33.6	-1.7
	0.8nm,0.9s,mb3.2,baz=150,slow=9.7,SNR=5.4						
MKAR	**Makanchi Array**	**39.38**	**315**	P	P	09 08 22.0	-0.4
	0.4nm,0.6s,mb3.3,baz=112,slow=9.4,SNR=4.8						
MKAR				PcP	PcP	09 10 29.5	-0.9
	0.1nm,0.4s,baz=129,slow=1.7,SNR=4.4						
WRA	**Warramunga Arr**	**45.17**	**164**	P	P	09 09 09.3	-0.3
	0.4nm,0.9s,mb3.2,baz=346,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**48.65**	**166**	P	P	09 09 37.5	+0.6
	0.2nm,0.5s,mb3.4,baz=348,slow=8.8,SNR=6.9						
FINES	**FINESS Array B**	**72.25**	**330**	P	P	09 12 16.4	-1.6
	0.4nm,0.6s,mb3.5,baz=53,slow=9.8,SNR=4.1						
YKA	**Yellowknife Ar**	**82.59**	**23**	P	P	09 13 14.3	-1.5
	0.3nm,0.8s,mb3.4,baz=315,slow=4.8,SNR=9.1						

WEL 26 09:08:04.7±0.2, 3994S×17679E, h54km±3km, ML3.8/5, 2C, Error ellipse: s-maj=2.0km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.11**	**150**	⇑PN	Pn	09 08 13.3	+0.2
PXZ				SN	Sn	09 08 19.5	+0.5
TSZ	**Takapari Road**	**0.65**	**259**	PN	Pn	09 08 17.4	-0.6
TSZ				SN	Sn	09 08 26.6	-1.0
BKZ	**Black Stump Fm**	**0.80**	**343**	PN	Pn	09 08 19.2	-0.8
BKZ				SN	Sn	09 08 29.4	-1.7
MOVZ	**Moawhango**	**0.96**	**303**	PN	Pn	09 08 21.6	-0.4
MOVZ				SN	Sn	09 08 33.5	-1.3
TUVZ	**Tukino**	**1.10**	**307**	PN	Pn	09 08 24.2	+0.3
TUVZ				SN	Sn	09 08 37.7	-0.5
WNVZ	**Wahianoa**	**1.10**	**303**	PN	Pn	09 08 24.2	+0.3
WNVZ				SN	Sn	09 08 37.7	-0.5
KNZ	**Kokohu**	**1.14**	**37**	PN	Pn	09 08 24.4	0.0
KNZ				SN	Sn	09 08 39.2	+0.1
TRVZ	**Turoa**	**1.15**	**303**	PN	Pn	09 08 25.0	+0.5
MTVZ	**Mangateitei**	**1.16**	**298**	PN	Pn	09 08 24.9	+0.3
OTVZ	**Oturere**	**1.16**	**311**	PN	Pn	09 08 24.7	0.0
FWVZ	**Far West T-bar**	**1.17**	**305**	PN	Pn	09 08 25.1	+0.3
MRZ	**Mangatainoka R**	**1.18**	**232**	PN	Pn	09 08 24.7	-0.2
MRZ				SN	Sn	09 08 40.0	+0.2
RITZ	**Rihia Road**	**1.20**	**323**	PN	Pn	09 08 25.3	+0.1
WPVZ	**Whakapapa**	**1.21**	**307**	PN	Pn	09 08 25.7	+0.4
WAZ	**Wanganui**	**1.40**	**277**	PN	Pn	09 08 28.8	+0.9
WHTZ	**Whakaora**	**1.42**	**333**	PN	Pn	09 08 28.2	-0.1
WATZ	**Wairara**	**1.48**	**326**	PN	Pn	09 08 28.2	-0.7
MTW	**Mount Morrison**	**1.57**	**218**	PN	Pn	09 08 29.4	-0.7
TRWZ	**Traveller**	**1.68**	**210**	PN	Pn	09 08 31.2	-0.5
URZ	**Urewera**	**1.69**	**9**	PN	Pn	09 08 31.0	-0.9
MWZ	**Matawai**	**1.70**	**20**	⇑PN	Pn	09 08 31.2	-0.8
TAZ	**Tarawera**	**1.72**	**353**	PN	Pn	09 08 32.0	-0.2

IDC 26 09:10:52.1±5.7, 664S×15652E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=163.6km s-min=43.9km az=110.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.27**	**236**	P	P	09 16 20.6	+0.7
	1.6nm,0.7s,baz=62,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**27.55**	**230**	P	P	09 16 40.4	-0.2
	0.3nm,0.8s,baz=60,slow=9.6,SNR=6.3						
MKAR	**Makanchi Array**	**84.14**	**318**	P	P	09 23 25.5	+0.4
	0.5nm,0.8s,baz=103,slow=6.5,SNR=3.8						

*ISCJB **26** 09:13:47.2±0.5, 4934N±002×685E±004, h0km, Error ellipse: s-maj=3.8km s-min=3.5km az=1.5*
*BGR **26** 09:13:48.9±0.4, 4935N×684E, h1km, ML1.8/2, Error ellipse: s-maj=7.8km s-min=4.4km az=35.0*
*NEIC **26** 09:13:49.0, 4938N×693E, h1km, ML2.5(LDG), After LDG.*
*CSEM **26** 09:13:49.3±0.1, 4936N×690E, h1km, ML2.4/5, Error ellipse: s-maj=1.5km s-min=1.4km az=147.0*
*LDG **26** 09:13:49.0±0.1, 4938N×693E, h1km, Md2.5/1, Ml2.5/7, Error ellipse: s-maj=3.1km s-min=2.5km az=88.0, Suspected Mining induced.*
ISC 26 09:13:48.3±0.5, 4936N±002×685E±004, h0km, n24, σ0$85/44, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.55**	**304**	*e*Pg	Pg	09 13 59.9	+1.1
	SNR=2.5						
WLF				*e*Sg	Sg	09 14 05.6	-0.4
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pn	Pn	09 14 08.3	-1.1
CDF				*e*Sg	Sg	09 14 20.7	+0.6
	6.9nm,0.2s						
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pn	Pn	09 14 08.3	-1.1
CDF				*e*Sg	Sg	09 14 20.7	+0.6
	3.5nm,0.2s						
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pg	Pg	09 14 07.5	+0.3
CDF				*e*Pn	Pn	09 14 08.3	-1.1
CDF				*e*Sg	Sg	09 14 20.7	+0.6
TNS	**Taunus Mts**	**1.35**	**49**	*e*Pg	Pg	09 14 14.5	+0.4
	SNR=1.6						
TNS				*e*Sg	Sg	09 14 31.7	+0.1
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	Pg	09 14 16.4	+1.3
HAU				*e*Sg	Sg	09 14 34.7	+1.5
	8.3nm,0.2s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	Pg	09 14 16.4	+1.3
HAU				*e*Sg	Sg	09 14 34.7	+1.5
	4.2nm,0.2s						
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	Pg	09 14 15.8	+0.3
	SNR=3.3						
BFO				*e*Sg	Sg	09 14 32.8	-1.1
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	Pg	09 14 14.7	-0.8
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	Pg	09 14 16.7	+0.3
	baz=55						
MEZF				*e*Sg	Sg	09 14 36.1	+0.7
	6.3nm,0.4s						
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	Pg	09 14 16.7	+0.3
MEZF				*e*Sg	Sg	09 14 36.1	+0.7
	3.2nm,0.4s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	Pg	09 14 18.0	+0.7
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	Pg	09 14 18.1	+0.2
HINF				*e*Sg	Sg	09 14 38.5	+0.6
	19nm,0.2s						
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	Pg	09 14 18.1	+0.2
HINF				*e*Sg	Sg	09 14 38.5	+0.6
	9.7nm,0.2s						
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pn	Pn	09 14 18.5	-0.2
	baz=59						
SFTF				*e*Sn	Sn	09 14 39.4	-1.4
BAIF	**Baives**	**1.85**	**293**	*e*Pg	Pg	09 14 24.3	+0.4
CABF	**La Chapelle**	**2.80**	**191**	*e*Sg	Sg	09 15 18.7	+0.5
	0.9nm,0.2s						
CABF	**La Chapelle**	**2.80**	**191**	*e*Sg	Sg	09 15 18.7	+0.5
	0.4nm,0.2s						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	Pn	09 14 34.5	-1.1
	baz=56						
LOR	**Lormes**	**2.89**	**225**	*e*Pg	Pg	09 14 43.4	-0.4
	baz=43						
LOR				*e*Sn	Sn	09 15 08.8	-2.3
LOR				*e*Sg	Sg	09 15 21.2	-0.1
	2.3nm,0.3s						
LOR	**Lormes**	**2.89**	**225**	*e*Pg	Pg	09 14 43.4	-0.4
LOR				*e*Sn	Sn	09 15 08.8	-2.3
LOR	**Lormes**	**2.89**	**225**	*e*Pn	Pn	09 14 34.5	-1.1
LOR				*e*Pg	Pg	09 14 43.4	-0.4
LOR				*e*Sn	Sn	09 15 08.8	-2.3
LOR				*e*Sg	Sg	09 15 21.2	-0.1
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	Pn	09 14 41.5	-0.9
GEC2	**GÉRESS Array S**	**4.53**	**94**	*e*Pn	Pn	09 14 58.1	0.0
	SNR=4.2						

*TEH **26** 09:17:20.7, 3506N×4697E, h33km, Mn3.7*
*CSEM **26** 09:17:22.4±0.2, 3497N×4688E, h16km, ML3.5, Error ellipse: s-maj=6.6km s-min=2.3km az=148.0*
*ISCJB **26** 09:17:23.6±1.0, 3479N±007×4697E±008, h10km, Error ellipse: s-maj=11.3km s-min=7.8km az=100.4*
*KISR **26** 09:17:26.3±1.2, 3448N×4647E, h13km±999km, ML2.7*
ISC 26 09:17:24.5±1.1, 3485N±007×4695E±008, h10km, n12, σ1$20/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.48**	**252**	*e*Pg	Pg	09 17 32.3	-1.6
IGHG	**Ghaleghazi**	**0.60**	**211**	*e*Pg	Pg	09 17 35.9	-0.3
IKOM	**Komasi**	**0.82**	**145**	*e*Pg	Pg	09 17 39.2	-1.0
IRAZ	**Razeghan**	**2.51**	**76**	*e*Sg	Sg	09 18 42.0	-3.1
IVRN	**Varamin**	**3.93**	**86**	*e*Pn	Pn	09 18 25.0	+0.1
ISFB	**Sefidab**	**4.39**	**95**	*e*Pn	Pn	09 18 32.0	+0.8
IFIR	**Firoozkooh**	**4.82**	**79**	*e*Pn	Pn	09 18 36.8	-0.3
MIB	**Mutribah**	**5.04**	**176**	*e*P	Pn	09 18 41.9	+1.8
MIB				AML	AML	09 19 36.6	
	comp=Z,6.6nm,0.4s						
MIB				*e*S	Sn	09 19 37.6	-0.8
UMR	**Umm Al-Rimmam**	**5.32**	**173**	*e*P	Pn	09 18 45.5	+1.6
UMR				AML	AML	09 19 46.2	
	comp=Z,8.1nm,0.3s						
NAY	**Al-Naaiem**	**5.59**	**177**	*e*P	Pn	09 18 48.6	+1.0
NAY				*e*S	Sn	09 19 50.5	-1.3
NAY				AML	AML	09 19 52.2	
	comp=Z,1.6nm,0.4s						
NAY	**Al-Naaiem**	**5.59**	**177**	*e*P	Pn	09 18 48.6	+1.0
NAY				*e*S	Sn	09 19 50.5	-1.4
KBD	**Kabd**	**5.69**	**173**	*e*P	Pn	09 18 50.2	+1.2

*MOS **26** 09:21:57.7±1.0, 726S×12850E, h120km, mb4.5/10, Error ellipse: s-maj=18.8km s-min=8.7km az=119.5*
*ISCJB **26** 09:21:58.9±1.4, 740S±006×12859E±008, h136km±14km, mb4.5/37, Error ellipse: s-maj=13.8km s-min=7.6km az=123.9*
*BJI **26** 09:21:59.2, 709S×12908E, h138km, mB5.0, mb5.0*
*IDC **26** 09:21:59.9±3.0, 728S×12852E, h125km±28km, mb4.2/12, mb1 4.3/16, mb1mx4.3/19, mbtmp4.6/16, MS4.0/3, Ms1 4.0/3, ms1mx3.1/26, Error ellipse: s-maj=22.2km s-min=12.2km az=60.0*
*NEIC **26** 09:22:01.6±1.3, 740S×12849E, h144km±14km, mb4.7/13, Error ellipse: s-maj=13.9km s-min=7.2km az=225.0*
ISC 26 09:22:00.2±1.4, 737S±007×12864E±008, h130km±15km, n88, σ1$07/82, mb4.5/37, 6C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.49**	**145**	⇓*iP*	Pn	09 23 36.9	+3.7
	286nm,0.3s						
KAKA				*e*S	Sn	09 24 44.2	-1.7
FITZ	**Fitzroy Crossi**	**11.06**	**195**	*e*P	Pn	09 24 34.7	+0.2
	20nm,0.3s						
FITZ				*e*S	Sn	09 26 26.5	-10
FITZ	**Fitzroy Crossi**	**11.06**	**195**	P	Pn	09 24 35.1	+0.6
	5.1nm,0.3s,baz=32,slow=12,SNR=72						
FITZ				S	Sn	09 26 32.7	-3.7
	8.2nm,0.3s,baz=101,slow=20,SNR=5.9						
WRAB	**Tennant Creek**	**13.66**	**157**	*e*Pn	Pn	09 25 08.5	+0.1
	134nm,0.6s						
WRAB				*e*Sn	Sn	09 27 31.1	-8.1
WRAB	**Tennant Creek**	**13.66**	**157**	*e*P	Pn	09 25 08.5	+0.1
WRAB				*e*		09 27 31.1	
WRAB				pmax	pmax		
	comp=Z,134nm,0.6s						
WRA	**Warramunga Arr**	**13.66**	**157**	P	Pn	09 25 08.5	0.0
	comp=Z,5.1nm,0.3s,baz=339,slow=13,SNR=154						
WRA				S	Sn	09 27 32.4	-6.8
	comp=Z,14nm,0.3s,baz=334,slow=22,SNR=12						
WB2	**Warramunga Arr**	**13.66**	**157**	*e*P	Pn	09 25 08.2	-0.3
WB2				*i*		09 25 15.8	
WB2				*e*S	Sn	09 27 28.1	-11
ASAR	**Alice Springs**	**16.97**	**163**	P	Pn	09 25 51.9	+2.2
	comp=Z,6.1nm,0.3s,baz=336,slow=8.5,SNR=61						
ASAR				S	S	09 28 50.5	-8.1
	comp=Z,4.0nm,0.3s,baz=77,slow=16,SNR=7.5						
KKM	**Kota Kinabalu**	**18.20**	**317**	P	P	09 26 03.4	+0.4
PMG	**Port Moresby**	**18.43**	**98**	P	P	09 26 07.7	+2.3
	comp=Z,0.8nm,0.3s,baz=279,slow=13,SNR=5.1						
PMG	**Port Moresby**	**18.43**	**98**	P	P	09 26 07.8	+2.3
PMG				*e*P		09 26 12.3	
KSM	**Kuching**	**20.29**	**295**	*e*P	P	09 26 25.1	-0.5
CTA	**Charters Tower**	**21.24**	**128**	*e*P	P	09 26 38.9	+3.1
	comp=Z,13nm,0.7s,mb4.4						
CTA	**Charters Tower**	**21.24**	**128**	P	P	09 26 39.1	+3.3
	comp=Z,16nm,0.6s,mb4.5,baz=300,slow=12,SNR=23						
CTA	**Charters Tower**	**21.24**	**128**	*e*P	P	09 26 38.9	+3.1
CTA				pmax	pmax		
	comp=Z,13nm,0.7s						
CTAO	**Charters Tower**	**21.24**	**128**	*e*P	P	09 26 38.9	+3.1
	comp=Z,20nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**21.24**	**128**	*e*P	P	09 26 38.9	+3.1
CTAO				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.21**	**155**	*e*P	P	09 27 31.2	-0.5
	comp=Z,4.3nm,0.6s,mb4.3						
STKA

```
LSA                                  pmax    pmax
     comp=Z,11nm,0.6s,mb4.7
RPZ  Rata Peaks          51.77 141   P       P       09 30 56.5 +2.1
     comp=Z,12nm,0.9s,mb4.5,baz=20,slow=15,SNR=6.7
URZ  Urewera             53.39 133   LR      LR      09 51 03.5
     comp=Z,788nm,20.2s,baz=42,slow=33
GTA  Gaotai              53.66 332⇑ i P       P       09 31 09.0 +0.7
GTA                                  AMB     AMB
     comp=Z,32nm,0.7s,mb5.2
GUN  Gumba               54.19 312  eP       P       09 31 12.3 +0.1
     comp=Z,39nm,0.6s,mb5.3
KKN  Kakani              54.57 312  eP       P       09 31 14.6 -0.3
     comp=Z,18nm,0.6s,mb5.0
DMN  Daman               54.60 311  eP       P       09 31 14.9 -0.2
     comp=Z,17nm,0.7s,mb4.9
GKN  Gorkha              55.16 312  eP       P       09 31 18.9 -0.2
     comp=Z,37nm,0.7s,mb5.2
KOLN Koldanda            55.81 311  eP       P       09 31 23.7 -0.1
     comp=Z,33nm,0.7s,mb5.2
ULN  Ulaanbaatar         58.21 343  eP       P       09 31 41.2 +0.5
     comp=Z,13nm,1.0s,mb4.7
ULN  Ulaanbaatar         58.21 343  eP       P       09 31 41.2 +0.5
ULN                                  pmax    pmax
     comp=Z,13nm,1.0s,mb4.7
SONM Songino Array       58.38 343   P       P       09 31 42.2 +0.3
     comp=Z,6.8nm,0.7s,mb4.6,baz=167,slow=7.1,SNR=50
AFI  Afiamalu            58.79 102   LR      LR      09 54 54.0
     comp=Z,259nm,19.9s,baz=198,slow=34
ZAK  Zakamensk           61.59 342  eP       P       09 32 00.2 -3.5
ZAK                                  pmax    pmax
     comp=Z,7.0nm,2.0s,mb4.1
WMQ  Urumqi              62.98 328  eP       P       09 32 13.0  0.0
BOD  Bodaibo             66.05 351  eP       P       09 32 32.3 -0.7
BOD                                  pmax    pmax
     comp=Z,4.0nm,1.8s,mb4.0
MKAR Makanchi Array      67.81 328   P       P       09 32 44.1  0.0
     comp=Z,7.0nm,0.5s,mb4.7,baz=117,slow=8.5,SNR=154
KZA  Kyzart              69.19 320   P       P       09 32 53.8 +1.1
     SNR=8.3
YAK  Yakutsk             69.20   1⇑ eP       P       09 32 52.3 -0.4
YAK                                  pmax    pmax
     comp=Z,17nm,0.7s,mb4.9
TKM2 Tokmak 2            69.42 321   P       P       09 32 54.9 +0.8
     SNR=9.3
UCH  Uchtor              69.74 320   P       P       09 32 57.3 +1.3
     SNR=10
AAK  Ala-Archa           69.96 320   P       P       09 32 58.2 +0.8
     SNR=11
AML  Almayashu           70.21 320   P       P       09 33 00.0 +1.1
     SNR=16
USP  Ospenovka           70.29 321   P       P       09 32 59.9 +0.5
     SNR=18
EKS2 Erkin-Say           70.43 320   P       P       09 33 01.6 +1.4
     SNR=6.0
KURK Kurchatov           72.14 329  eP       P       09 33 10.2 -0.4
     comp=Z,9.0nm,0.6s,mb4.7
KURK Kurchatov           72.14 329  eP       P       09 33 10.2 -0.3
KURK                                 pmax    pmax
     comp=Z,9.0nm,0.6s,mb4.7
VNDA Vanda               72.24 173   P       P       09 33 11.5 +0.3
     comp=Z,0.7nm,0.7s,mb3.5,baz=328,slow=4.4,SNR=3.6
SEY  Seymchan            72.42  11⇑ i P       P       09 33 11.9 -0.3
BVAR Borovoye Array      77.67 328   P       P       09 33 41.8 -0.5
     comp=Z,2.6nm,0.4s,mb4.2,baz=127,slow=9.0,SNR=17
CHKZ Chkalovo            77.88 329  eP       P       09 33 42.5 -1.0
     comp=Z,4.9nm,0.7s,mb4.2
CHKZ Chkalovo            77.88 329  eP       P       09 33 42.5 -1.0
CHKZ                                 pmax    pmax
     comp=Z,5.0nm,0.7s,mb4.2
ZRNK Zerenda             78.36 328  eP       P       09 33 45.3 -0.8
     comp=Z,5.1nm,0.5s,mb4.4
ZRNK Zerenda             78.36 328  eP       P       09 33 45.3 -0.8
ZRNK                                 pmax    pmax
     comp=Z,5.0nm,0.5s,mb4.4
TIXI Tiksi               78.86   0  eP       P       09 33 47.5 -1.4
TIXI                                 pmax    pmax
     comp=Z,3.0nm,0.6s,mb4.1
SYO  Syowa Base          82.83 201⇑ eP       P       09 34 07.8 -2.1
AKTK Aktyubinsk          83.55 323   P       P       09 34 12.9 -0.7
AKTO Aktyubinsk          83.55 323   P       P       09 34 12.9 -0.7
     comp=Z,5.4nm,0.8s,mb4.3,baz=110,slow=6.1,SNR=13
KMBO Kilima Mbogo        91.24 269   P       P       09 34 50.7 +0.1
     comp=Z,0.3nm,0.3s,mb3.8,baz=54,slow=24,SNR=3.9
KMBO Kilima Mbogo        91.24 269⇑ eP       P       09 34 53.0 +2.3
ILAR Eielson Array       94.26  25   P       P       09 35 03.2 -1.4
     comp=Z,0.4nm,0.9s,mb3.5,baz=249,slow=7.0,SNR=4.7
MALT Malatya             94.68 308   P       P       09 35 05.2 -1.4
     comp=Z,2.8nm,0.6s,mb4.7
MALT Malatya             94.68 308   P       P       09 35 05.2 -1.4
MALT                                 pmax    pmax
     comp=Z,3.0nm,0.6s,mb4.7
ANN  Anapa               96.00 314  eP       P       09 35 18.7 +6.2
ANN                                  pmax    pmax
     comp=Z,128nm,1.6s
FINES FINESS Array B     102.44 331  PKiKP    PKiKP   09 40 01.8 -0.4
     comp=Z,0.6nm,0.6s,baz=102,slow=4.8,SNR=4.4
YKA  Yellowknife Ar      108.67  26  PKiKP    PKiKP   09 40 12.6 -1.1
     comp=Z,0.3nm,0.6s,baz=302,slow=1.8,SNR=7.7
GERES GERESS Array B     111.84 320  PKiKP    PKiKP   09 40 19.1 -0.6
     comp=Z,0.7nm,0.5s,baz=52,slow=2.2,SNR=8.0
PDAR Pinedale Array      118.11  45  PKP      PKPdf   09 40 30.9 -0.8
     comp=Z,0.2nm,0.6s,baz=162,slow=0.5,SNR=4.0
TORD Torodi Ar. Bea      127.56 281  PKP      PKPdf   09 40 50.0 +0.1
     comp=Z,2.3nm,0.7s,baz=76,slow=1.7,SNR=14
SCHQ Schefferville       131.07  12  PKP      PKPdf   09 40 56.0 -0.5
     comp=Z,1.4nm,0.6s,baz=35,slow=9.1,SNR=4.5
DBIC Dimbokro            133.86 272  PKP      PKPdf   09 41 03.5 +1.7
     comp=Z,2.2nm,0.7s,baz=134,slow=5.2,SNR=4.4
LVC  Limon Verde         145.60 150  PKPbc    PKPbc   09 41 26.9 +3.5
     comp=Z,2.2nm,0.5s,baz=303,slow=4.2,SNR=5.1
CPUP Villa Florida       146.00 170  PKPbc    PKPbc   09 41 26.5 +1.9
     comp=Z,0.7nm,0.3s,baz=170,slow=3.4,SNR=4.7
SIV  San Ignacio         154.87 158  PKPab    PKPab   09 42 03.5 +1.6
     comp=Z,0.7nm,0.5s,baz=244,slow=4.9,SNR=6.4
SDV  Santo Domingo       160.86  84  PKP      PKPdf   09 41 45.7 +0.9
     comp=Z,1.0nm,0.4s,baz=245,slow=13,SNR=6.1
```

MEX 26 09:28:14.5±0.8, 1885N×10418W, h24km±132km, MD3.7, Near coast of Jalisco

```
Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
CJM  Chamela             1.04 308  i P   Pn   09 28 31.0 -2.6
CJM                                i S   Sb   09 28 43.0 -4.0
SFJM Santa Fe            1.95  33  eP   Pn   09 28 44.0 -2.1
MOIG Morelia             2.94  73  i P   Pn   09 28 56.0 -3.7
MOIG                               i S   Sn   09 29 32.4 -1.9
ZAIG Zacatecas           4.18  21  i P   Pn   09 29 16.3 -0.5
ZAIG                               i S   Sn   09 30 02.8 -2.0
```

*NEIC **26** 09:37:48.0, 1869N×6866W, h180km, MD3.9(RSPR), After RSPR.*

RSPR 26 09:37:48.0, 1869N×6866W, h180km±1km, MD4.0/15, MD4.0/15, 14C-1D, Mona Passage

```
Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
AGPR Aguadilla, PR       1.48  98  eS   Sn   09 38 44.9 +0.7
AGPR Aguadilla, PR       1.48  98⇑ eP   Pn   09 38 19.7  0.0
AGPR                               eS   Sn   09 38 44.9 +0.7
LSP  Las Mesas           1.58 109  eS   Sn   09 38 46.3 +0.5
LSP  Las Mesas           1.58 109⇑ eP   Pn   09 38 20.8 +0.1
LSP                                eS   Sn   09 38 46.3 +0.5
CRPR Cabo Rojo, PR       1.62 115  eS   Sn   09 38 47.0 +0.4
CRPR Cabo Rojo, PR       1.62 115⇑ eP   Pn   09 38 21.1  0.0
CRPR                               eS   Sn   09 38 47.0 +0.4
MGP  Maguayo             1.64 114⇑ eP   Pn   09 38 21.4 +0.2
MGP                                eS   Sn   09 38 47.0 +0.1
LRS  Lares               1.77 103⇑ eP   Pn   09 38 22.7 +0.2
LRS                                eS   Sn   09 38 50.1 +0.8
AOPR Arecibo Observ      1.84 100  eS   Sn   09 38 51.4 +0.7
AOPR Arecibo Observ      1.84 100⇑ eP   Pn   09 38 23.6 +0.3
AOPR                               eS   Sn   09 38 51.4 +0.7
OBIP Obispado Ponce      2.05 108  eS   Sn   09 38 55.2 +0.6
OBIP Obispado Ponce      2.05 108⇑ eP   Pn   09 38 25.8 +0.2
OBIP                               eS   Sn   09 38 55.2 +0.6
CELP Cerrillos           2.07 107⇑ eP   Pn   09 38 25.6 -0.1
CELP                               eS   Sn   09 38 55.6 +0.7
SJG  San Juan            2.45 103⇓ eP   Pn   09 38 30.9 +0.8
SJG                                eS   Sn   09 39 03.8 +1.1
SJG  San Juan            2.45 103⇑ eP   Pn   09 38 30.4 +0.4
SJG                                eS   Sn   09 39 03.7 +1.0
CPD  Cerro la Pandu      2.68 104  eS   Sn   09 39 09.0 +1.4
CPD  Cerro la Pandu      2.68 104⇑ eP   Pn   09 38 33.3 +0.5
CPD                                eS   Sn   09 39 09.0 +1.4
CBYP Canovanas           2.69  98  eS   Sn   09 39 08.7 +0.9
CBYP Canovanas           2.69  98⇑ eP   Pn   09 38 33.8 +0.9
CBYP                               eS   Sn   09 39 08.7 +0.9
HUMP Col San Antoni      2.72 101  eS   Sn   09 39 09.8 +1.4
HUMP Col San Antoni      2.72 101⇑ eP   Pn   09 38 33.9 +0.7
HUMP                               eS   Sn   09 39 09.8 +1.4
MTP  Monte Pirata        3.00 101  eS   Sn   09 39 16.2 +1.7
MTP  Monte Pirata        3.00 101⇑ eP   Pn   09 38 37.7 +1.1
MTP                                eS   Sn   09 39 16.2 +1.7
STVI Saint Thomas        3.52  95  eS   Sn   09 39 27.2 +1.3
STVI Saint Thomas        3.52  95⇑ eP   Pn   09 38 43.5 +0.5
STVI                               eS   Sn   09 39 27.2 +1.3
TBVI Tortola             3.85  94  eS   Sn   09 39 34.5 +1.2
```

*TEH **26** 09:37:43.8, 2751N×5575E, h23km, ML4.3*
*IDC **26** 09:37:55.2±0.9, 2754N×5582E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.3/25, mbtmp4.3/20, ML1.5/1, MS3.7/14, Ms1 3.7/14, ms1mx3.5/35, Error ellipse: s-maj=19.1km s-min=14.9km az=122.0*
*ISCJB **26** 09:37:55.2±0.2, 2748N±002×5573E±003, h10km, mb4.5/88, MS3.7/20, Error ellipse: s-maj=3.9km s-min=2.9km az=76.5*
*CSEM **26** 09:37:55.2±0.1, 2744N×5576E, h15km, mb4.6/51, Ms3.4, Error ellipse: s-maj=2.7km s-min=1.8km az=70.0*
*NEIC **26** 09:37:56.9±1.4, 2727N×5581E, h22km±8km, mb4.7/50, ML4.2(THR), MN4.1(TEH), Error ellipse: s-maj=10.7km s-min=5.4km az=182.0*
*BJI **26** 09:37:56.0, 2730N×5540E, h40km, mB5.0, mb4.8, Ms4.7, Msz4.1*
*MOS **26** 09:37:58.5±1.0, 2753N×5567E, h33km, mb4.8/46, Error ellipse: s-maj=8.6km s-min=4.3km az=121.2*
*THR **26** 09:37:58.6±0.3, 2747N×5605E, h18km±3km, ML4.1*
*OMAN **26** 09:38:02.7±2.2, 2721N×5549E, h30km, Error ellipse: s-maj=3.4km s-min=2.0km az=348.0*
*SZGRF **26** 09:38:07.3, 2879N×5588E, h33km, mb4.7, Southern Iran*

ISC 26 09:37:57.2±0.2, 2751N±002×5571E±003, h10km, (h16km±2.9km: pP-P), n302, σ1§28/331, mb4.5/88, MS3.7/20, 20C-17D, Southern Iran

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Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
BNDS Bandar-Abbas        0.43 104  ePg   Pg   09 38 02.8 -2.8
BNDS                               AML   AML  09 38 14.3
     comp=N,37μm,0.8s
BNDS                               AML   AML  09 38 21.9
     comp=E,33μm,0.5s
BNDS Bandar-Abbas        0.43 104  ePg   Pg   09 38 03.0 -2.5
BNDS                               eSg   Sg   09 38 07.0 -4.2
BANOM Banah              1.66 161   P    Pn   09 38 27.2 +0.8
     SNR=85
BANOM                              ⇓S    Sn   09 38 47.3 -0.5
BANOM Banah              1.66 161   S    Sn   09 38 47.3 -0.5
GHIR Ghir-Karzin         2.53 289  ePn   Pn   09 38 45.0 +6.7
GHIR                               eSg   Sg   09 39 27.1 +8.6
GHIR                               AML   AML  09 39 42.0
     comp=E,1μm,0.5s
GHIR                               AML   AML  09 39 47.9
     comp=N,854nm,0.6s
GHIR Ghir-Karzin         2.53 289  ePn   Pn   09 38 43.0 +4.7
GHIR                               eSg   Sg   09 39 22.0 +3.5
KRBR Kerman              2.64  20  ePn   Pn   09 38 41.7 +1.9
KRBR Kerman              2.64  20  ePn   Pn   09 38 41.0 +1.2
ASHO Ashiyiah            2.83 174   P    Pn   09 38 44.6 +2.2
     SNR=57
IMOK Mook                3.05 301  ePn   Pn   09 38 48.1 +2.6
IMOK Mook                3.05 301   Pn   Pn   09 38 48.0 +2.5
IPAR Pars                3.30 316  ePn   Pn   09 38 51.7 +2.8
IPAR Pars                3.30 316   Pn   Pn   09 38 51.6 +2.7
IMEH Mehriz              3.99 346  ePn   Pn   09 39 00.8 +2.4
IMEH Mehriz              3.99 346   Pn   Pn   09 39 00.7 +2.3
IBAF Bafgh               4.07 358  ePn   Pn   09 39 01.6 +2.1
IBAF                               eSn   Sn   09 39 46.6 -0.7
IBAF Bafgh               4.07 358   Pn   Pn   09 39 01.5 +2.0
IBAF                               eSn   Sn   09 39 46.6 -0.7
HOQ  Hoqain              4.17 159  ⇓P    Pn   09 39 01.1 +0.3
ARQ  Araqi               4.21 170  ⇑P    Pn   09 39 03.8 +2.3
ISAD Sadrabad            4.73 339  ePn   Pn   09 39 10.5 +1.9
ISAD                               eSn   Sn   09 40 02.3 -1.2
ISAD                               eSn   Sn   09 40 02.5 -1.0
ISAD Sadrabad            4.73 339   Pn   Pn   09 39 10.4 +1.8
ISAD                               eSn   Sn   09 40 02.5 -1.0
ISAD Sadrabad            4.73 339   Pn   Pn   09 39 10.4 +1.8
ISAD                               Sn    Sn   09 40 02.2 -1.3
ISAD                               Sn    Sn   09 40 02.4 -1.1
ICHK Chekchek            4.86 347  ePn   Pn   09 39 12.4 +2.1
ICHK Chekchek            4.86 347   Pn   Pn   09 39 12.3 +2.0
ZHSF Zahedan             4.93  64  ePn   Pn   09 39 12.0 +0.7
BSY  Bisya               4.93 164  ⇓P    Pn   09 39 13.8 +2.5
JMDO Jabal Madar         5.56 156  ⇑P    Pn   09 39 20.9 +0.9
IGAR Garneh              5.62 328  ePn   Pn   09 39 25.8 +5.0
IGAR                               eSn   Sn   09 40 28.5 +3.1
IGAR                               eSn   Sn   09 40 28.5 +3.1
IGAR Garneh              5.62 328  ePn   Pn   09 39 22.5 +1.7
WBK  Wadi Bani Khal      5.70 148  ⇓P    Pn   09 39 21.8 -0.1
IZEF Zefreh              6.12 332  ePn   Pn   09 39 29.2 +1.6
IZEF                               eSn   Sn   09 40 35.2 -2.4
IZEF Zefreh              6.12 332   Pn   Pn   09 39 29.1 +1.5
IZEF                               eSn   Sn   09 40 35.2 -2.4
IZEF Zefreh              6.12 332   Pn   Pn   09 39 29.1 +1.5
IZEF                               Sn    Sn   09 40 35.1 -2.5
IPIR Pirpir              6.64 322  ePn   Pn   09 39 36.9 +2.1
IPIR                               eSn   Sn   09 40 47.8 -2.6
IPIR                               eSn   Sn   09 40 47.8 -2.6
IPIR Pirpir              6.64 322   Pn   Pn   09 39 36.8 +2.0
IPIR                               eSn   Sn   09 40 47.8 -2.6
IPIR Pirpir              6.64 322   Pn   Pn   09 39 36.8 +2.0
IPIR                               Sn    Sn   09 40 47.7 -2.7
IKLH Kalahroud           6.80 329  ePn   Pn   09 39 39.1 +2.1
IKLH                               eSn   Sn   09 40 51.6 -2.9
IKLH                               eSn   Sn   09 40 51.6 -2.9
IKLH Kalahroud           6.80 329   Pn   Pn   09 39 39.0 +2.0
IKLH                               eSn   Sn   09 40 51.6 -2.9
IKLH Kalahroud           6.80 329   Pn   Pn   09 39 39.0 +2.0
IKLH                               Sn    Sn   09 40 51.5 -3.0
IVRN Varamin             8.21 336  ePn   Pn   09 39 58.1 +1.8
IRAZ Razeghan            9.29 329  eSn   Sn   09 41 50.3 -5.4
SHAO Shalim              9.44 180  ⇓P    Pn   09 40 13.2  0.0
     SNR=20
WHFO Wadi Hawf           9.71 191  ⇓P    Pn   09 40 16.9  0.0
     SNR=41
WHFO                               ⇑S    Sn   09 42 01.9 -4.1
RBK  Rabkut             10.05 188  ⇑P    Pn   09 40 21.2 -0.4
     SNR=15
RBK                                ⇑S    Sn   09 42 08.4 -5.9
ABTO Aybut              10.35 193   P    Pn   09 40 25.1 -0.5
     SNR=73
BHD  Baghdad            11.34 303  ex    x    09 40 34.0
BHD                                ex    x    09 43 30.0
MSL  Mosul              13.83 312  ex    x    09 41 27.0
GNI  Garni              15.54 327   Pn   Pn   09 41 38.6 +2.3
     comp=N,0.5nm,0.3s,baz=165,slow=20,SNR=2.9
GNI                                LR    LR   09 48 23.1
     comp=N,267nm,18.1s,baz=344,slow=40
GNI  Garni              15.54 327  eP    Pn   09 41 40.0 +3.7
     comp=N,51nm,0.9s
GNI  Garni              15.54 327  eP    Pn   09 41 40.0 +3.7
GNI                                pmax  pmax
     comp=Z,51nm,0.9s
ZEI  Tsey               18.00 331  i P   Pn   09 42 06.5 -1.0
MALT Malatya            18.04 311  eP    Pn   09 42 09.2 +1.2
     comp=Z,12nm,0.9s
MALT Malatya            18.04 311  eP    Pn   09 42 09.2 +1.2
     comp=Z,12nm,0.9s
MALT Malatya            18.04 311  eP    Pn   09 42 09.2 +1.2
MALT                               pmax  pmax
     comp=Z,12nm,0.9s
EIL  Elat               18.36 282  eP    Pn   09 42 14.2 +2.3
     comp=Z,85nm,0.7s
KIV  Kislovodsk         19.48 331   P    Pn   09 42 25.2 -0.3
     comp=Z,27nm,0.8s
KIV  Kislovodsk         19.48 331  eP    Pn   09 42 26.6 +1.1
KIV                                pmax  pmax
     comp=Z,53nm,1.2s
KIV                                MLR   MLR
     comp=Z,74nm,10.0s
KKAR Karatay Array      19.66  34  i P   Pn   09 42 29.2 +1.7
KKAR                               pmax  pmax
     comp=Z,11nm,0.8s
ATD  Arta Tunnel        19.96 220  LR    LR   09 50 32.1
     comp=Z,163nm,20.1s,baz=10,slow=38
GOF  Gofitskoye         20.23 333  eP    P    09 42 33.7 +1.3
     comp=Z,50nm,1.5s
GOF  Gofitskoye         20.23 333  eP    P    09 42 33.7 +1.3
GOF                                i     i    09 43 08.7
GOF                                pmax  pmax
     comp=Z,50nm,1.5s
SOC  Sochi              20.60 325  eP    P    09 42 35.8 -0.6
     comp=Z,61nm,1.2s
SOC  Sochi              20.60 325  eP    P    09 42 35.8 -0.6
SOC                                e     e    09 42 50.4
SOC                                eS    S    09 46 26.0 -0.6
SOC                                eSS   eSS  09 46 49.0
SOC                                eSSS  eSSS 09 47 10.7
SOC                                pmax  pmax
     comp=Z,61nm,1.2s
SOC                                MLR   MLR
     comp=Z,121nm,11.0s,MS3.5
KSH  Kashi              20.66  49  P     P    09 42 37.3 +0.2
KSH                                PP    PP   09 42 57.5
KSH                                S     S    09 46 20.5 -7.4
KSH                                PCP   PcP  09 46 49.0 +1.9
KSH                                PCS   PcS  09 50 25.8 +0.9
KSH                                AMB   AMB
     comp=Z,89nm,1.5s
KSH                                LR    LR
     comp=N,311nm,6.9s
KSH                                LR    LR
     comp=E,327nm,6.2s
KSH                                LR    LR
     comp=Z,212nm,5.4s
AML  Almayashu          20.70  41  P     P    09 42 37.2 -0.3
     SNR=23
EKS2 Erkin-Say          21.08  39  P     P    09 42 42.0 +0.3
     SNR=21
UCH  Uchtor             21.24  41  P     P    09 42 43.0 -0.3
     SNR=18
AAK  Ala-Archa          21.48  40  P     P    09 42 48.5 +2.7
     SNR=11
KZA  Kyzart             21.58  43  P     P    09 42 48.0 +1.0
     SNR=18
FRU  Bishkek            21.67  40  eP    P    09 42 49.0 +1.0
KBK  Karagaybulak       21.75  41  P     P    09 42 51.6 +2.8
     SNR=7.6
USP  Ospenovka          21.88  39  P     P    09 42 54.5 +4.3
     SNR=14
AB31 Akbulak array      21.96   7  i P   P    09 42 49.7 -1.4
     comp=Z,50nm,1.2s,mb4.8
AB31 Akbulak array      21.96   7  i P   P    09 42 49.7 -1.4
AB31                               pmax  pmax
     comp=Z,50nm,1.2s,mb4.8
BR131 Keskin Array S    21.99 309  eP    P    09 42 52.5 +1.2
     comp=Z,16nm,0.8s,mb4.5
BR131 Keskin Array S    21.99 309  eP    P    09 42 52.5 +1.1
     comp=Z,16nm,0.8s,mb4.5
BRTR Keskin Array B     21.99 309   P    P    09 42 52.5 +1.1
     comp=Z,18nm,0.9s,mb4.5,baz=125,slow=10,SNR=32
ULHL Ulahol             22.28  43  P     P    09 42 57.2 +2.7
     SNR=11
TKM2 Tokmak 2           22.29  41  P     P    09 42 56.7 +2.1
     SNR=9.3
ANN  Anapa              22.62 325  eP    P    09 43 05.7 +7.6
ANTO Ankara             22.63 309  eP    P    09 43 00.4 +2.2
     comp=Z,14nm,0.8s,mb4.4
ANTO Ankara             22.63 309  eP    P    09 43 00.4 +2.1
     comp=Z,14nm,0.8s,mb4.4
ANTO Ankara             22.63 309  eP    P    09 43 00.4 +2.2
ANTO                               pmax  pmax
     comp=Z,14nm,0.8s,mb4.4
AKTK Aktyubinsk         22.97   4  P     P    09 43 01.5 -0.3
AKTK Aktyubinsk         22.97   4  P     P    09 43 01.5 -0.2
AKTK                               S     S    09 47 12.2 +0.1
AKTK                               LR    LR   09 53 35.4
AKTO Aktyubinsk         22.97   4  P     P    09 43 01.5 -0.2
     comp=Z,13nm,0.9s,mb4.4,baz=202,slow=7.4,SNR=11
AKTO                               S     S    09 47 12.2 +0.1
     comp=Z,0.5nm,0.5s,baz=221,slow=20,SNR=3.2
AKTO                               LR    LR   09 53 35.3
     comp=Z,228nm,20.5s,MS3.6,baz=0.0,slow=41
AKTO Aktyubinsk         22.97   4  P     P    09 43 02.0 +0.2
AKTO                               pmax  pmax
     comp=Z,19nm,1.5s,mb4.3
HYB  Hyderabad          23.34 111  i P   P    09 43 07.0 +1.3
HYB  Hyderabad          23.34 111  eP    P    09 43 07.0 +1.3
ZRNK Zerenda            27.28  18  P     P    09 43 41.7  0.0
     comp=Z,25nm,2.0s,mb4.4
ZRNK Zerenda            27.28  18  eP    P    09 43 40.8 -0.9
     comp=Z,11nm,1.1s,mb4.3
ZRNK Zerenda            27.28  18  P     P    09 43 41.7  0.0
ZRNK                               pmax  pmax
     comp=Z,25nm,2.0s,mb4.4
TIRR Tirgusor           27.64 315  ⇑P    P    09 43 44.2 -0.7
TIRR Tirgusor           27.64 315  eP    P    09 43 44.4 -0.5
VOSK Vostochnaya        27.65  20  P     P    09 43 43.9 -1.1
     comp=Z,17nm,1.4s,mb4.5
VOSK Vostochnaya        27.65  20  P     P    09 43 43.9 -1.1
VOSK                               pmax  pmax
     comp=Z,17nm,1.4s,mb4.5
BRVK Borovoye           27.73  19  eP    P    09 43 44.6 -1.2
     comp=Z,16nm,1.3s,mb4.5
BRVK Borovoye           27.73  19  eP    P    09 43 44.6 -1.2
BRVK                               pmax  pmax
     comp=Z,16nm,1.3s,mb4.5
BVA0 Borovoye Array     27.73  19  i P   P    09 43 45.4 -0.4
     comp=Z,9.0nm,1.4s,mb4.2
BVA0 Borovoye Array     27.73  19  i P   P    09 43 45.4 -0.4
BVA0                               pmax  pmax
     comp=Z,9.0nm,1.4s,mb4.2
BVAR Borovoye Array     27.73  19  P     P    09 43 44.9 -0.9
     comp=Z,4.5nm,0.8s,mb4.2,baz=198,slow=8.9,SNR=17
HARR Harsova            28.05 315  ⇓P    P    09 43 50.3 +1.7
CFR  Carcaliu           28.16 316  ⇓P    P    09 43 50.1 +0.5
CHKZ Chkalovo           28.37  19  eP    P    09 43 50.3 -1.2
     comp=Z,13nm,1.5s,mb4.3
CHKZ Chkalovo           28.37  19  eP    P    09 43 50.3 -1.2
     comp=Z,13nm,1.5s,mb4.3
CHKZ Chkalovo           28.37  19  eP    P    09 43 50.3 -1.2
CHKZ                               pmax  pmax
     comp=Z,13nm,1.5s,mb4.3
MKAR Makanchi Array     28.41  40  P     P    09 43 51.8 -0.1
     comp=Z,2.0nm,0.8s,mb3.8,baz=221,slow=9.4,SNR=11
MKAR                               LR    LR   09 55 20.9
     comp=Z,80nm,21.4s,MS3.3,baz=217,slow=37
MKAR Makanchi Array     28.41  40  i P   P    09 43 52.5 +0.6
KURK Kurchatov          28.99  31  eP    P    09 43 56.4 -0.6
     comp=Z,4.0nm,0.9s,mb4.2
KURK Kurchatov          28.99  31  eP    P    09 43 56.4 -0.5
     comp=Z,4.2nm,0.9s,mb4.2
KURK Kurchatov          28.99  31  eP    P    09 43 56.4 -0.6
KURK                               pmax  pmax
     comp=Z,4.0nm,0.9s,mb4.2
VRI  Vrincioaia         29.36 316  ⇓P    P    09 44 06.0 +5.7
PLOR Plostina           29.40 316  ⇑P    P    09 44 04.3 +3.7
MLR  Muntele Rosu       29.67 315   P    P    09 44 06.2 +3.2
     comp=Z,12nm,0.8s,mb4.6,baz=36,slow=4.6,SNR=13
MLR                                LR    LR   09 58 35.4
     comp=Z,90nm,18.6s,MS3.4,baz=119,slow=42
MLR  Muntele Rosu       29.67 315  ⇑P    P    09 44 06.3 +3.3
WMQ  Urumqi             30.43  49  eP    P    09 44 11.0 +1.3
WMQ                                PP    PP   09 45 10.5 -7.9
WMQ                                PPP   PPP  09 45 24.8
WMQ                                AMB   AMB
     comp=Z,15nm,1.0s,mb4.7
WMQ                                AMB   AMB
     comp=Z,101nm,4.2s
WMQ                                LR    LR
     comp=N,1μm,22.0s,MS4.7
WMQ                                LR    LR
     comp=E,1μm,22.0s,MS4.7
WMQ                                LR    LR
     comp=Z,1μm,22.0s,MS4.5
AKASG Malin Array Be    30.67 326   P    P    09 44 11.2 -0.7
     comp=Z,5.1nm,0.7s,mb4.5,baz=132,slow=7.9,SNR=16
OBN  Obninsk            30.89 338   P    P    09 44 15.0 +1.1
OBN                                e     e    09 44 24.0
OBN                                       ,    09 45 16.0
OBN                                e     e    09 51 18.3
BURAR Bucovina Array    31.11 318  ⇓P    P    09 44 18.7 +2.9
BURAR Bucovina Array    31.11 318  ⇓P    P    09 44 18.7 +2.9
OHR  Ohrid              31.65 304  eP    P    09 44 19.7 -0.8
DRGR                    32.26 315  ⇑P    P    09 44 26.5 +0.6
BZS  Buzias             32.49 313  ⇓P    P    09 44 28.5 +0.6
KOLS Kolonicke sedl     33.47 319  eP    P    09 44 37.4 +0.9
KOLS                               e     e    09 45 23.2
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KMBO Kilima Mbogo 33.55 215 P **P 09 44 38.9 +1.7**
comp=Z,0.7nm,0.5s,mb3.9,baz=53,slow=20,SNR=2.1
KMBO LR LR 09 59 23.8
comp=Z,72nm,19.3s,MS3.4,baz=84,slow=38
KMBO Kilima Mbogo 33.55 215 P **P 09 44 38.8 +1.7**
CRVS Cervenica-Dubn 33.94 318 *e*P **P 09 44 41.0 +0.5**
CRVS *e* 09 45 20.3
KECS Kecovo 34.34 317 *e*P **P 09 44 45.1 +1.1**
PKSM Moragy 34.64 313 ⇑P **P 09 44 45.8 -0.8**
KLMR Klimovskoe 35.10 346 *e*P **P 09 44 50.0 -0.6**
KLMR pmax pmax
comp=Z,40nm,1.4s,mb5.2
VYHS Vyhne 35.34 316 *e*P **P 09 44 55.4 +2.7**
OJC Ojcow 35.49 320 *e*P **P 09 44 54.0 +0.1**
SMOL Smolenice 36.22 316 *e*P **P 09 44 59.7 -0.5**
OKC Ostrava-Krasne 36.29 318 *e*P **P 09 45 00.3 -0.5**
MORC Moravsky Berou 36.63 318 *e*P **P 09 45 03.3 -0.4**
comp=Z,14nm,1.3s,mb4.6
MORC Moravsky Berou 36.63 318 *e*P **P 09 45 03.4 -0.3**
comp=Z,14nm,1.3s,mb4.6
MORC Moravsky Berou 36.63 318 *e*P **P 09 45 03.4 -0.3**
MORC pmax pmax
comp=Z,14nm,1.3s,mb4.6
BOJS Bojanci 36.69 310 *e*P **P 09 45 04.5 +0.3**
PDKS Podkum 37.01 311 *i*P **P 09 45 07.5 +0.6**
DPC Dobruska-Polom 37.58 318 *e*P **P 09 45 13.2 +1.5**
UPC Upice 37.82 318 *e*P **P 09 45 15.9 +2.1**
MOA Molln 38.00 314⇑*i*P **P 09 45 15.3 0.0**
comp=Z,9.4nm,0.8s,mb4.6
MOA Molln 38.00 314 P **P 09 45 15.3 0.0**
comp=Z,9.4nm,0.8s,mb4.6
GTA Gaotai 38.32 60 *e*P **P 09 45 18.3 +0.3**
GTA AP pP 09 45 24.5 +3.4
GTA PCP PcP 09 47 34.5 +2.7
GTA S **S 09 51 14.3 +2.0**
GTA SS SS 09 53 55.5 -5.2
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.1
GTA AMB AMB
comp=Z,61nm,5.7s
GTA LR LR
comp=N,130nm,15.6s,MS4.1
GTA LR LR
comp=E,180nm,14.5s,MS4.1
GTA LR LR
comp=Z,51nm,14.1s,MS3.5
KBA Koelnbreinsper 38.38 312⇑*i*P **P 09 45 18.7 +0.2**
comp=Z,8.0nm,0.8s,mb4.5
PRU Pruhonice 38.51 317 *e*P **P 09 45 21.2 +1.6**
GERES GERESS Array B 38.66 315 P **P 09 45 20.4 -0.5**
comp=Z,2.5nm,0.9s,mb4.0,baz=111,slow=7.4,SNR=15
GERES LR LR 10 05 38.8
comp=Z,73nm,18.2s,MS3.5,baz=342,slow=43
PVCC Panska Ves 38.68 318 *e*P **P 09 45 19.9 -1.2**
KHC Kasperske Hory 38.82 315 *e*P **P 09 45 22.1 -0.2**
KHC pP pP 09 45 25.0 -0.4
JOF Joensuu 38.86 342 *e*p **P 09 45 23.0 +0.4**
comp=Z,8.3nm,1.2s,mb4.3
BRG Berggiesshubel 39.18 318 *e*P **P 09 45 25.0 -0.2**
comp=Z,3.9nm,1.0s,mb4.1
BRG Berggiesshubel 39.18 318 *e*P **P 09 45 25.0 -0.2**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
FINES FINESS Array B 39.30 338 P **P 09 45 25.7 -0.5**
comp=Z,1.7nm,0.5s,mb4.0,baz=131,slow=9.5,SNR=19
FINES LR LR 10 03 47.6
comp=Z,49nm,19.8s,MS3.3,baz=106,slow=40
WTTA Wattenberg 39.55 312⇑*i*P **P 09 45 27.9 -0.5**
comp=Z,17nm,0.8s,mb4.8
WATA Walderalm 39.61 312⇑*i*P **P 09 45 28.1 -0.7**
comp=Z,8.6nm,1.0s,mb4.4
KAF Kangasniemi 39.71 339 *e*p **P 09 45 30.3 +0.6**
comp=Z,3.9nm,0.9s,mb4.1
KAF Kangasniemi 39.71 339 *e*P **P 09 45 30.3 +0.6**
KAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
SQTA Sankt Quirin 39.83 312⇓*i*P **P 09 45 30.1 -0.6**
comp=Z,6.9nm,0.8s,mb4.4
NKC Novy Kostel 39.87 317 *e*P **P 09 45 30.1 -0.9**
CLL Collm 39.89 318⇓*i*P **P 09 45 31.4 +0.3**
comp=Z,26nm,1.7s,mb4.7
CLL *es*P sP 09 45 36.0 +0.5
CLL Collm 39.89 318⇓*i*P **P 09 45 31.4 +0.3**
CLL pmax pmax
comp=Z,26nm,1.7s,mb4.7
MOTA Moosalm 39.93 312⇑*i*P **P 09 45 33.2 +1.7**
comp=Z,10nm,1.1s,mb4.5
MOTA Moosalm 39.93 312⇓*i*P **P 09 45 30.4 -1.1**
comp=Z,10nm,1.1s,mb4.5
GRA1 Grafenberg Arr 40.46 315 *e*P **P 09 45 35.9 0.0**
comp=Z,20nm,0.9s,mb4.8
GRF Grafenberg Arr 40.46 315 *e*P **P 09 45 35.9 0.0**
comp=Z,20nm,0.9s,mb4.8
GRF Grafenberg Arr 40.46 315 *e*P **P 09 45 35.9 0.0**
GRF pmax pmax
comp=Z,20nm,0.9s,mb4.8
GRF Grafenberg Arr 40.46 315 *e*P **P 09 45 35.9 0.0**
GRF pmax pmax
comp=Z,20nm,0.9s,mb4.8
PGF Pioggiola 40.57 304 *e*P **P 09 45 34.9 -1.9**
comp=Z,18nm,1.0s,mb4.3
PGF Pioggiola 40.57 304 *e*P **P 09 45 34.9 -1.9**
comp=Z,8.9nm,1.0s,mb4.3
PGF Pioggiola 40.57 304 *e*P **P 09 45 34.9 -1.9**
PGF pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
DAVA Damuels 40.72 312⇑*i*P **P 09 45 37.5 -0.6**
comp=Z,29nm,0.8s,mb5.0
LZH Lanzhou 41.45 66 *e*P **P 09 45 42.0 -2.0**
LZH PP PP 09 47 20.5 +0.8
LZH AMB AMB
comp=Z,21nm,1.5s,mb4.5
MOY Mondy 41.53 42 *e*P **P 09 45 47.4 +2.7**
SBF Sospel 41.85 306 *e*P **P 09 45 46.3 -1.1**
comp=Z,32nm,1.0s,mb4.6
SBF Sospel 41.85 306 *e*P **P 09 45 46.3 -1.1**
comp=Z,16nm,1.0s,mb4.6
SBF Sospel 41.85 306 *e*P **P 09 45 46.3 -1.1**
SBF pmax pmax
comp=Z,16nm,1.0s,mb4.6
KMI Kunming 42.03 82 P **P 09 45 46.8 -2.0**
KMI AMB AMB
comp=Z,16nm,1.4s,mb4.5
KMI LR LR
comp=Z,77nm,22.3s,MS3.5
APA Apatity 42.30 348⇑*i*P **P 09 45 53.7 +2.7**
APA pmax pmax
comp=Z,22nm,0.9s,mb4.8
FRF La Foret Royal 42.39 305 *e*P **P 09 45 49.8 -1.9**
MBDF Montbardon 42.43 307 *e*P **P 09 45 50.8 -1.3**
comp=Z,9.3nm,0.7s,mb4.2
MBDF Montbardon 42.43 307 *e*P **P 09 45 50.8 -1.3**
comp=Z,4.7nm,0.7s,mb4.2
MBDF Montbardon 42.43 307 *e*P **P 09 45 50.8 -1.3**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
LPG La Plagne 42.54 308 *e*P **P 09 45 53.7 +0.7**
comp=Z,14nm,0.9s,mb4.4
LPG La Plagne 42.54 308 *e*P **P 09 45 53.7 +0.7**
comp=Z,7.2nm,0.9s,mb4.4
LPG La Plagne 42.54 308 *e*P **P 09 45 53.7 +0.7**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
LPL La Plagne 42.56 308 *e*P **P 09 45 53.9 +0.8**
comp=Z,14nm,0.7s,mb4.5
LPL La Plagne 42.56 308 *e*P **P 09 45 53.9 +0.8**
comp=Z,6.8nm,0.7s,mb4.5
LPL La Plagne 42.56 308 *e*P **P 09 45 53.9 +0.8**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ZAK Zakamensk 42.56 44 *e*P **P 09 45 52.9 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.0
CDF Champ du Feu 42.67 313 *e*P **P 09 45 52.6 -1.4**
HINF Hinteralfeld 42.84 312 *e*P **P 09 45 53.8 -1.6**
ORIF Oris-en-Rattie 43.08 307 *e*P **P 09 45 55.8 -1.6**
comp=Z,12nm,1.0s,mb4.3
ORIF Oris-en-Rattie 43.08 307 *e*P **P 09 45 55.8 -1.6**
comp=Z,5.8nm,1.0s,mb4.3
ORIF Oris-en-Rattie 43.08 307 *e*P **P 09 45 55.8 -1.6**
ORIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
CABF La Chapelle 43.16 310 *e*P **P 09 45 57.1 -0.9**
comp=Z,40nm,1.1s,mb4.8
CABF La Chapelle 43.16 310 *e*P **P 09 45 57.1 -0.9**
comp=Z,20nm,1.1s,mb4.8
CABF La Chapelle 43.16 310 *e*P **P 09 45 57.1 -0.9**
CABF pmax pmax
comp=Z,20nm,1.1s,mb4.8
HAU Haudompre 43.21 312 *e*P **P 09 45 58.1 -0.3**
comp=Z,35nm,1.3s,mb4.6
HAU Haudompre 43.21 312 *e*P **P 09 45 58.1 -0.3**
comp=Z,18nm,1.3s,mb4.6
HAU Haudompre 43.21 312 *e*P **P 09 45 58.1 -0.3**
HAU pmax pmax
comp=Z,18nm,1.3s,mb4.6
HFS Hagfors 43.28 331 P **P 09 45 58.2 -0.8**
comp=Z,6.3nm,0.7s,mb4.4,baz=138,slow=9.7,SNR=15
WLF Walferdange 43.65 314⇓⇓P **P 09 46 03.3 +1.4**
VIVF Saint-Julien-I 43.93 307 *e*P **P 09 46 02.7 -1.5**
comp=Z,17nm,1.1s,mb4.4
VIVF Saint-Julien-I 43.93 307 *e*P **P 09 46 02.7 -1.5**
comp=Z,8.7nm,1.1s,mb4.4
VIVF Saint-Julien-I 43.93 307 *e*P **P 09 46 02.7 -1.5**
VIVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
SONM Songino Array 44.06 49 P **P 09 46 04.2 -1.1**
comp=Z,0.6nm,0.7s,baz=248,slow=7.6,SNR=5.4
SONM LR LR 10 06 20.9
comp=Z,74nm,21.2s,MS3.6,baz=240,slow=39
MEZF Maizieres J'vi 44.15 312 *e*P **P 09 46 04.9 -1.0**
comp=Z,37nm,1.1s,mb4.7
MEZF Maizieres J'vi 44.15 312 *e*P **P 09 46 04.9 -1.0**
comp=Z,18nm,1.1s,mb4.7
LASF Ste Croix 44.45 306 *e*P **P 09 46 07.1 -1.2**
comp=Z,20nm,1.1s,mb4.5
LASF Ste Croix 44.45 306 *e*P **P 09 46 07.1 -1.2**
comp=Z,10nm,1.1s,mb4.5
ULN Ulaanbaatar 44.50 49 *e*P **P 09 46 09.0 +0.2**
ULN Ulaanbaatar 44.50 49 *e*P **P 09 46 09.0 +0.2**
ULN Ulaanbaatar 44.50 49 *e*P **P 09 46 07.8 -1.0**
GIVF Givet 44.58 315 *e*P **P 09 46 09.1 -0.3**
SMF Signal de Mont 44.70 310 *e*P **P 09 46 09.0 -1.3**
comp=Z,34nm,1.1s,mb4.8
SMF Signal de Mont 44.70 310 *e*P **P 09 46 09.0 -1.3**
comp=Z,17nm,1.1s,mb4.8
SMF Signal de Mont 44.70 310 *e*P **P 09 46 09.0 -1.3**
SMF pmax pmax
comp=Z,17nm,1.1s,mb4.8
DOU Dourbes 44.72 315⇑P **P 09 46 10.4 -0.1**
LOR Lormes 44.76 310 *e*P **P 09 46 09.4 -1.4**
comp=Z,13nm,1.0s,mb4.4
LOR Lormes 44.76 310 *e*P **P 09 46 09.4 -1.4**
comp=Z,6.7nm,1.0s,mb4.4
LOR Lormes 44.76 310 *e*P **P 09 46 09.4 -1.4**
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
NOA NORSAR Array B 44.79 331 P **P 09 46 09.9 -1.2**
comp=Z,3.3nm,0.7s,mb4.3,baz=117,slow=7.9,SNR=11
NOA LR LR 10 07 54.3
comp=Z,48nm,20.5s,MS3.4,baz=230,slow=40
BAIF Baives 44.96 314 *e*P **P 09 46 12.3 -0.1**
comp=Z,41nm,1.1s,mb4.8
BAIF Baives 44.96 314 *e*P **P 09 46 12.3 -0.1**
comp=Z,20nm,1.1s,mb4.8
BAIF Baives 44.96 314 *e*P **P 09 46 12.3 -0.1**
BAIF pmax pmax
comp=Z,20nm,1.1s,mb4.9
SSF Saint Saulge 44.97 310 *e*P **P 09 46 11.3 -1.2**
comp=Z,46nm,1.4s,mb4.8
SSF Saint Saulge 44.97 310 *e*P **P 09 46 11.3 -1.2**
comp=Z,23nm,1.4s,mb4.8
SSF Saint Saulge 44.97 310 *e*P **P 09 46 11.3 -1.2**
SSF pmax pmax
comp=Z,23nm,1.4s,mb4.8
AVF Avril sur Loir 45.05 310 *e*P **P 09 46 11.6 -1.5**
BGF Bois d'Agland 45.37 309 *e*P **P 09 46 14.3 -1.4**
comp=Z,24nm,0.9s,mb4.7
BGF Bois d'Agland 45.37 309 *e*P **P 09 46 14.3 -1.4**
comp=Z,12nm,0.9s,mb4.7
BGF Bois d'Agland 45.37 309 *e*P **P 09 46 14.3 -1.4**
BGF pmax pmax
comp=Z,12nm,0.9s,mb4.7
KEV Kevo 45.42 346 *e*p **P 09 46 14.8 -1.3**
comp=Z,17nm,0.6s,mb5.0
KEV Kevo 45.42 346 *e*P **P 09 46 14.8 -1.3**
KEV pmax pmax
comp=Z,17nm,0.6s,mb5.0
ARCES ARCESS Array B 45.57 346 P **P 09 46 17.5 +0.2**
comp=Z,6.2nm,0.8s,mb4.6,baz=114,slow=6.0,SNR=8.2
ARCES LR LR 10 09 08.8
comp=Z,49nm,18.4s,MS3.5,baz=342,slow=41
MTLF Montolieu 45.59 305 *e*P **P 09 46 17.1 -0.4**
comp=Z,16nm,1.0s,mb4.6
MTLF Montolieu 45.59 305 *e*P **P 09 46 17.1 -0.4**
comp=Z,7.8nm,1.0s,mb4.6
MTLF Montolieu 45.59 305 *e*P **P 09 46 17.1 -0.4**
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TCF Toulx Ste Croi 45.78 309 *e*P **P 09 46 17.9 -1.0**
comp=Z,14nm,1.0s,mb4.6
TCF Toulx Ste Croi 45.78 309 *e*P **P 09 46 17.9 -1.0**
comp=Z,6.9nm,1.0s,mb4.6
TCF Toulx Ste Croi 45.78 309 *e*P **P 09 46 17.9 -1.0**
TCF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CAF Calviac 45.78 307 *e*P **P 09 46 18.1 -0.9**
comp=Z,16nm,0.9s,mb4.7
CAF Calviac 45.78 307 *e*P **P 09 46 18.1 -0.9**
comp=Z,7.9nm,0.9s,mb4.7
CAF Calviac 45.78 307 *e*P **P 09 46 18.1 -0.9**
CAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
EMIR Miracle 46.08 303 P **P 09 46 25.4 +4.2**
comp=Z,14nm,0.8s,mb4.9
RJF Les Rejaudoux 46.19 308 *e*P **P 09 46 21.6 -0.6**
comp=Z,27nm,1.0s,mb4.8
RJF Les Rejaudoux 46.19 308 *e*P **P 09 46 21.6 -0.6**
comp=Z,14nm,1.0s,mb4.8
RJF Les Rejaudoux 46.19 308 *e*P **P 09 46 21.6 -0.6**
RJF pmax pmax
comp=Z,14nm,1.0s,mb4.8
EPOB Poblet 46.41 302 P **P 09 46 24.0 +0.1**
comp=Z,6.3nm,0.8s,mb4.6
EPOB Poblet 46.41 302 P **P 09 46 23.9 0.0**
comp=Z,6.3nm,0.8s,mb4.6
LFF La Frestale 46.72 307 *e*P **P 09 46 25.5 -0.8**
EPF Esparros 46.96 304 *e*P **P 09 46 27.0 -1.2**
ERTA Horta de San J 46.98 302 P **P 09 46 28.3 -0.1**
comp=Z,7.4nm,1.0s,mb4.6
ERTA Horta de San J 46.98 302 P **P 09 46 28.3 0.0**
comp=Z,7.4nm,1.0s,mb4.6
HHC Hu-ho-hao-te 47.35 59 *e*P **P 09 46 30.0 -1.3**
HHC PCP PcP 09 48 02.0 0.0
HHC PP PP 09 48 20.5 -1.9
HHC PCS PcS 09 51 55.5 -1.7
HHC S **S 09 53 21.5 -3.5**
HHC SCS ScS 09 56 21.0 -4.4
HHC SS SS 09 56 41.3 -11
HHC AMB AMB
comp=Z,7.0nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,86nm,4.2s
HHC LR LR
comp=N,128nm,5.3s
HHC LR LR
comp=E,115nm,6.7s
HHC LR LR
comp=Z,137nm,5.9s
LDF La Druitiere 47.57 312 *e*P **P 09 46 31.2 -1.7**
ETSF Etsaut 47.62 304 *e*P **P 09 46 32.9 -0.4**
comp=Z,14nm,0.9s,mb4.7
ETSF Etsaut 47.62 304 *e*P **P 09 46 32.9 -0.4**
comp=Z,7.2nm,0.9s,mb4.7
ETSF Etsaut 47.62 304 *e*P **P 09 46 32.9 -0.4**
ETSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
FLN La Foliniere 47.82 312 *e*P **P 09 46 33.3 -1.6**
GRR Gorron 48.04 312 *e*P **P 09 46 35.0 -1.6**
SJPF Ste Jean 48.11 304 *e*P **P 09 46 36.7 -0.4**
comp=Z,9.0nm,0.7s,mb4.6
SJPF Ste Jean 48.11 304 *e*P **P 09 46 36.7 -0.4**
comp=Z,4.5nm,0.7s,mb4.6
SJPF Ste Jean 48.11 304 *e*P **P 09 46 36.7 -0.4**
SJPF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ETOB Tobarra 48.55 299 P **P 09 46 45.6 +5.0**
comp=Z,3.1nm,0.8s,mb4.4
QUIF Quistinic 49.55 311 *e*P **P 09 46 46.5 -1.7**
ROSF Rostrenen 49.64 311 *e*P **P 09 46 47.4 -1.5**
comp=Z,33nm,1.0s,mb5.0
ROSF Rostrenen 49.64 311 *e*P **P 09 46 47.4 -1.5**
comp=Z,16nm,1.0s,mb5.0
ROSF Rostrenen 49.64 311 *e*P **P 09 46 47.4 -1.5**
ROSF pmax pmax
comp=Z,17nm,1.0s,mb5.0
EBER Berja 49.79 296 P **P 09 46 50.9 +0.9**
comp=Z,8.5nm,1.0s,mb4.7
EBER Berja 49.79 296 P **P 09 46 50.9 +0.9**
comp=Z,8.5nm,1.0s,mb4.7
EQES Quesada 49.83 298 P **P 09 46 50.4 +0.1**
comp=Z,8.2nm,0.8s,mb4.8
EQES Quesada 49.83 298 P **P 09 46 50.4 +0.1**
comp=Z,8.2nm,0.8s,mb4.8
ESDC Sonseca Array 50.34 300 P **P 09 46 54.2 0.0**
comp=Z,0.8nm,0.5s,mb4.0,baz=62,slow=7.7,SNR=8.2
ESDC Sonseca Array 50.34 300 P **P 09 46 57.1 +2.9**
comp=Z,1.3nm,0.8s,mb4.0
EBAN Banos Encina 50.35 298 P **P 09 46 57.4 +3.1**
comp=Z,10nm,0.9s,mb4.8
EBAN Banos Encina 50.35 298 P **P 09 46 57.4 +3.1**
EBAN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BOD Bodaibo 50.37 36 *e*P **P 09 46 50.8 -3.6**
BOD pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
EADA Adamuz 50.97 298 P **P 09 46 59.5 +0.6**
comp=Z,7.5nm,1.0s,mb4.6
EADA Adamuz 50.97 298 P **P 09 46 59.5 +0.6**
comp=Z,7.5nm,1.0s,mb4.6
MDT Midelt 51.82 291 P **P 09 47 06.4 +1.1**
comp=Z,2.8nm,0.8s,mb4.2,baz=85,slow=8.2,SNR=7.4
TORD Torodi Ar. Bea 52.25 265 P **P 09 47 08.5 0.0**
comp=Z,4.8nm,0.7s,mb4.5,baz=57,slow=6.8,SNR=24
NJ2 Nanjing 54.32 69 *e*P **P 09 47 25.5 +1.8**
NJ2 AP pP 09 47 30.0 +3.1
NJ2 PP PP 09 49 28.8 +3.2
NJ2 S **S 09 55 00.0 -1.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,40nm,6.4s
NJ2 LR LR
comp=N,150nm,18.1s,MS4.1
NJ2 LR LR
comp=E,80nm,22.0s,MS4.1
NJ2 LR LR
comp=Z,180nm,28.2s
SNY Shenyang 56.27 56 *e*P **P 09 47 37.3 -0.5**
SNY AMB AMB
comp=Z,8.0nm,0.5s,mb5.0
SSE Sheshan 56.47 69 P **P 09 47 37.5 -1.8**
SSE PP PP 09 49 42.5 -2.4
SSE S **S 09 55 25.0 -5.4**
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,51nm,4.5s
SSE LR LR
comp=N,42nm,18.9s,MS3.8
SSE LR LR
comp=E,52nm,18.8s,MS3.8
SSE LR LR
comp=Z,102nm,21.1s,MS3.9
CN2 Changchun 57.35 54 *e*P **P 09 47 46.3 +0.8**
TIXI Tiksi 58.85 21⇑*e*P **P 09 47 54.3 -1.7**
TIXI pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
TIXI MLR MLR
comp=Z,100nm,20.0s,MS3.9
MDJ Mudanjiang 60.16 52 P **P 09 48 04.5 -0.5**
MDJ AMB AMB
comp=Z,85nm,4.9s
MDJ LR LR
comp=N,25nm,31.1s,MS3.6
MDJ LR LR
comp=E,56nm,27.4s,MS3.6
MDJ LR LR
comp=Z,55nm,25.3s,MS3.6
SUMG Summit 65.25 341 *e*P **P 09 48 39.5 +0.4**
comp=Z,17nm,0.9s,mb5.1
MJAR Matsushiro Arr 68.55 59 LR LR 10 23 12.4
comp=Z,148nm,21.1s,MS4.2,baz=160,slow=40
SEY Seymchan 68.82 29⇑*e*P **P 09 49 00.9 -0.8**
BILL Bilibino 72.04 22 P **P 09 49 24.0 +2.6**
BILL *e* 09 49 30.3
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
SCHQ Schefferville 84.36 331 P **P 09 50 28.8 -0.8**
comp=Z,2.2nm,0.9s,mb4.3,baz=75,slow=8.5,SNR=3.9
SCHQ Schefferville 84.36 331 P **P 09 50 28.8 -0.8**
ILAR Eielson Array 86.36 9 P **P 09 50 37.9 -1.7**
comp=Z,1.0nm,0.8s,mb4.1,baz=333,slow=4.3,SNR=12
MCK McKinley 87.01 11 *e*P **P 09 50 41.2 -1.5**
comp=Z,12nm,1.7s,mb4.9
MCK McKinley 87.01 11 *e*P **P 09 50 41.3 -1.5**
MCK pmax pmax
comp=Z,13nm,1.7s,mb4.9
DAWY Dawson 87.97 7 *e*P **P 09 50 46.7 -0.6**
YKA Yellowknife Ar 89.98 356 P **P 09 50 56.2 -0.7**
comp=Z,0.9nm,0.9s,mb4.1,baz=3.0,slow=4.6,SNR=14
YKA LR LR 10 41 09.8
comp=Z,67nm,18.1s,MS4.1,baz=245,slow=42
YKA Yellowknife Ar 89.98 356 P **P 09 50 56.2 -0.7**
YKA LR LR 10 41 09.8
ASAR Alice Springs 90.96 116 P **P 09 51 00.0 -1.4**
comp=Z,0.5nm,0.9s,mb3.9,baz=309,slow=4.7,SNR=7.1
ULM Lac du Bonnet 98.59 342 LR LR 10 43 05.5
comp=Z,110nm,18.1s,MS4.4,baz=238,slow=40

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*ISCJB **26** 09:43:55.5±3.2,2908S±005×177.1W±0.1,h12km±19km, mb4.9/29,MS4.3/17,Error ellipse: s-maj=17.5km s-min=7.6km az=28.0*
*IDC **26** 09:43:55.2±0.7,2851S×17707W,h0km,mb4.4/9, mb1 4.6/10,mb1mx4.5/13,mbtmp4.4/10,ML2.5/1,MS4.3/15, Ms1 4.3/15,ms1mx4.0/35,Error ellipse: s-maj=27.1km s-min=14.6km az=128.0*
*MOS **26** 09:43:58.3±1.2,2864S×17686W,h33km,mb5.2/6,Error ellipse: s-maj=14.5km s-min=12.6km az=71.3*
*HRVD **26** 09:43:59.9±0.5,2875S×17663W,h30km±1km,MW4.9/51, Centroid moment Tensor Solution. LP body waves: s25,c31;Mantle waves: s51,c77; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr2.71±.23; Mθθ-0.07±.16; Mφφ-2.64±.15; Mrθ0.60±.26; Mθφ-0.21±.12; Mφr1.52±.18; Best double couple: M0 3.14100×1016 NP1:φs177.00000°,δ30.00000°,λ76.00000°. NP2: φs13.00000°,δ61.00000°,λ98.00000°. Principal axes: T 3.1960, Plg73.0000°, Azm303.0000°; N -0.1090, Plg7.0000°, Azm189.0000°; P -3.0850, Plg15.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 09:43:59.9±2.6,2900S×17682W,h43km±21km,mb4.9/12 Error ellipse: s-maj=21.7km s-min=18.2km az=146.0*
*BJI **26** 09:43:59.2,2925S×17682W,h46km,mB5.4,mb5.3,Ms5.1, Msz4.6*

ISC 26 09:43:54.4±3.2,2909S±005×17675W±008,h2km±19km, h51km±2.5km:pP-P,n107,σ1°28/67,mb4.9/29,MS4.3/17, 3C-4D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.03**	**261**	Pn	**Pn**	**09 44 18.5**	**+2.7**
2μm,0.3s,baz=321,slow=2.9,SNR=57							
RAO				Sn	**Sn**	**09 44 32.2**	**+1.4**
3μm,0.3s,baz=36,slow=19,SNR=14							
RAO	**Raoul Island**	**1.03**	**261**	*e*Pn	**Pn**	**09 44 18.5**	**+2.6**
RAO				*e*Sn	**Sn**	**09 44 31.7**	**+0.8**
MWZ	**Matawai**	**10.38**	**206**	PN	**Pn**	**09 46 24.3**	**+0.1**
MWZ				SN	**Sn**	**09 48 21.0**	**0.0**
MWZ				SN	**Sn**	**09 48 21.3**	**+0.2**
URZ	**Urewera**	**10.48**	**208**	Pn	**Pn**	**09 46 23.7**	**-1.8**
0.4nm,0.3s,baz=262,slow=6.0,SNR=5.6							
URZ				Sn	**Sn**	**09 48 21.0**	**-2.5**
4.2nm,0.3s,baz=254,slow=14,SNR=6.0							
URZ	**Urewera**	**10.48**	**208**	PN	**Pn**	**09 46 24.0**	**-1.6**
KHZ	**Kahutara**	**15.44**	**208**	PN	**Pn**	**09 47 34.0**	**+0.7**
AFI	**Afiamalu**	**15.79**	**18**	Pn	**Pn**	**09 47 32.5**	**-5.3**
1.2nm,0.3s,baz=53,slow=20,SNR=2.6							
AFI				Sn	Sn	09 50 12.9	-20
1.2nm,0.3s,baz=336,slow=20,SNR=3.3							
LTZ	**Lake Taylor**	**16.28**	**210**	PN	**Pn**	**09 47 44.6**	**+0.5**
LTZ				SN	**Sn**	**09 50 34.7**	**-11**
LTZ				SN	**Sn**	**09 50 35.6**	**-10**

DZM Mont Dzumac 16.68 291 Pn **Pn 09 47 55.0 +5.8**
0.3nm,0.3s,baz=118,slow=15,SNR=9.8
DZM LR LR 09 52 40.9
comp=Z,1μm,22.0s,baz=119,slow=32
RAR Rarotonga 17.25 67 LR LR 09 52 55.0
comp=Z,619nm,20.5s,baz=282,slow=31
RPZ Rata Peaks 17.56 211 P **Pn 09 47 59.7 -0.6**
1.5nm,0.3s,baz=15,slow=10,SNR=9.2
JCZ Jackson Bay 18.91 214 PN **Pn 09 48 14.9 -1.9**
TBI Tubuai 25.11 83 *e*LQ 09 54 15.0
253nm,24.5s
TBI *e*LR LR 09 55 20.9
902nm,28.5s
PPT Papeete 27.39 71 *e*LQ 09 55 03.6
577nm,23.9s
PPT *e*LR LR 09 56 18.9
1μm,26.2s
PPT Papeete 27.39 71 LR LR 09 56 57.6
comp=Z,445nm,20.1s,MS4.0,baz=280,slow=28
ARMA Armidale 27.44 259 *e*P **P 09 49 44.1 +2.5**
CNB Canberra Magne 29.24 249 *e*P **P 09 50 00.3 +2.7**
6.8nm,0.6s,mb4.5
HNR Honiara 29.32 307 P **P 09 49 56.7 -1.7**
112nm,1.0s,mb5.5
HNR Honiara 29.32 307 P **P 09 49 56.7 -1.6**
HNR pmax pmax
comp=Z,112nm,1.0s,mb5.5
CTA Charters Tower 34.69 276 *e*P **P 09 50 46.8 +1.3**
comp=Z,6.7nm,0.8s,mb4.6
CTA Charters Tower 34.69 276 LR LR 10 03 22.4
comp=Z,943nm,19.0s,MS4.5,baz=51,slow=34
CTA Charters Tower 34.69 276 *e*P **P 09 50 46.8 +1.3**
CTA pmax pmax
comp=Z,7.0nm,0.8s
CTAO Charters Tower 34.69 276 *e*P **P 09 50 45.4 -0.1**
comp=Z,10.0nm,0.8s,mb4.8
CTAO Charters Tower 34.69 276 *e*P **P 09 50 45.4 -0.1**
CTAO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
STKA Stephens Creek 35.85 255 *e*P **P 09 50 54.4 -1.0**
comp=Z,7.7nm,0.7s,mb4.7
STKA Stephens Creek 35.85 255 P **P 09 50 54.5 -1.0**
comp=Z,8.7nm,0.9s,mb4.7,baz=84,slow=8.4,SNR=14
STKA LR LR 10 04 45.9
comp=Z,636nm,18.1s,MS4.4,baz=288,slow=35
RKT Rikitea 37.84 91 *e*LR LR 10 01 14.7
comp=Z,478nm,27.5s
PMG Port Moresby 39.06 293 LR LR 10 03 45.7
comp=Z,439nm,19.4s,MS4.3,baz=190,slow=31
ASAR Alice Springs 44.28 265 P **P 09 52 05.3 -0.1**
comp=Z,7.5nm,0.9s,mb4.4,baz=104,slow=7.8,SNR=51
WB2 Warramunga Arr 45.14 270⇓ *i*P **P 09 52 11.8 -0.5**
WRAB Tennant Creek 45.15 270 *e*P **P 09 52 12.1 -0.3**
comp=Z,14nm,0.8s,mb4.8
WRAB Tennant Creek 45.15 270 *e*P **P 09 52 12.1 -0.3**
WRAB pmax pmax
comp=Z,14nm,0.8s,mb4.8
WRA Warramunga Arr 45.16 270 P **P 09 52 12.1 -0.3**
comp=Z,11nm,0.8s,mb4.7,baz=108,slow=7.8,SNR=34
WRA PcP PcP 09 53 53.0 +0.2
comp=Z,4.2nm,1.0s,baz=114,slow=3.7,SNR=5.4
FORT Forrest 47.44 254 *e*P **P 09 52 29.1 -1.3**
comp=Z,15nm,0.6s,mb5.1
SBA Scott Base 49.42 185 *e*P **P 09 52 49.3 +3.6**
comp=Z,30nm,1.2s,mb5.2
SBA Scott Base 49.42 185 *e*P **P 09 52 49.3 +3.6**
SBA pmax pmax
comp=Z,30nm,1.2s,mb5.2
VNDA Vanda 49.51 186 P **P 09 52 50.8 +4.5**
comp=Z,2.1nm,1.1s,mb4.1,baz=9.9,slow=6.9,SNR=4.5
VNDA LR LR 10 09 46.3
comp=Z,213nm,21.8s,MS4.1,baz=192,slow=31
VNDA Vanda 49.51 186 *e*P **P 09 52 49.9 +3.6**
comp=Z,6.6nm,1.4s,mb4.5
VNDA Vanda 49.51 186 *e*P **P 09 52 49.9 +3.6**
VNDA pmax pmax
comp=Z,7.0nm,1.4s
FITZ Fitzroy Crossi 53.46 268 *e*P **P 09 53 15.5 -0.5**
comp=Z,14nm,0.9s,mb4.9
FITZ Fitzroy Crossi 53.46 268 LR LR 10 15 50.9
comp=Z,447nm,18.1s,MS4.6,baz=280,slow=36
GUMO Guam 56.34 314 LR LR 10 15 16.5
comp=Z,126nm,19.1s,MS4.0,baz=67,slow=34
CASY Casey 56.80 207 *e*P **P 09 53 41.1 +1.0**
MBWA Marble Bar 57.46 262 *e*P **P 09 53 43.8 -0.9**
comp=Z,9.3nm,0.8s,mb4.9
MAW Mawson 73.91 200 P **P 09 55 34.9 +4.0**
comp=Z,5.0nm,0.8s,mb4.5,baz=63,slow=7.6,SNR=3.3
MAW LR LR 10 27 55.5
comp=Z,571nm,20.1s,MS4.9,baz=252,slow=36
MJAR Matsushiro Arr 77.80 324 P **P 09 55 50.5 -2.6**
comp=Z,6.5nm,0.8s,mb4.6,baz=160,slow=5.1,SNR=16
MAT Matsushiro 77.80 324 P **P 09 55 51.4 -1.7**
MAT Matsushiro 77.80 324 *e*P **P 09 55 51.0 -2.1**
comp=Z,92nm,2.2s,mb5.3
MAT Matsushiro 77.80 324 *e*P **P 09 55 51.0 -2.1**
MAT pmax pmax
comp=Z,92nm,2.2s,mb5.3
SYO Syowa Base 78.63 193⇑ *e*P **P 09 55 57.9 +0.1**
VNA3 Neumayer Olymp 79.53 176 *e*P **P 09 56 05.3 +2.6**
VNA3 *e* 09 56 12.3
VNA3 *e* 09 56 16.9
VNA3 *e* 09 56 20.9
VNA3 *e* 09 56 24.0
VNA3 *e* 09 56 27.0
VNA3 *e* 09 56 33.2
VNA3 *e* 09 56 58.2
VNA2 Neumayer--Watz 79.98 176 *e*P **P 09 56 08.0 +2.9**
VNA2 *e* 09 56 14.7
VNA2 *e* 09 56 20.0
VNA2 *e* 09 56 24.1
VNA2 *e* 09 56 27.4
VNA2 *e* 09 56 31.2
VNA2 *e* 09 56 36.0
VNA2 *e* 09 57 00.9
PLCA Paso Flores 82.60 133 LR LR 10 27 25.8
comp=Z,91nm,18.1s,MS4.2,baz=82,slow=31
YSS Yuzh-Sakhalins 84.05 333 *i* P **P 09 56 26.3 -0.2**
YSS pmax pmax
comp=Z,17nm,0.8s,mb5.2
SSE Sheshan 84.07 310 P **P 09 56 27.3 +0.7**
SSE AP pP 09 56 43.8 +16
SSE XP sP 09 56 50.0 +22
SSE PP PP 09 59 39.5 -1.0
SSE S 10 06 44.0
SSE XS sS 10 07 13.0 +20
SSE AMB AMB
comp=Z,21nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,69nm,4.0s
SSE LR LR
comp=N,41nm,20.5s,MS4.0
SSE LR LR
comp=E,45nm,20.5s,MS4.0
SSE LR LR
comp=Z,90nm,22.1s,MS4.1
NJ2 Nanjing 86.23 310 *e*P **P 09 56 38.5 +1.1**
NJ2 AP pP 09 56 52.0 +14
NJ2 XP sP 09 56 57.3 +19
NJ2 PP PP 10 00 00.0 +2.0
NJ2 S 10 07 06.0
NJ2 XS sS 10 07 28.0 +13
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.8
NJ2 AMB AMB
comp=Z,50nm,3.6s
NJ2 LR LR
comp=N,150nm,24.5s,MS4.9
NJ2 LR LR
comp=E,580nm,24.3s,MS4.9
NJ2 LR LR
comp=Z,60nm,24.6s,MS3.9
NVAR Mina Array Bea 86.54 42 P **P 09 56 39.5 +0.5**
comp=Z,1.4nm,1.0s,mb4.1,baz=215,slow=5.8,SNR=6.4
NVAR Mina Array Bea 86.54 42 P **P 09 56 39.5 +0.5**
MDJ Mudanjiang 88.17 325 P **P 09 56 47.0 +0.2**
MDJ AP pP 09 57 01.5 +14
MDJ XP sP 09 57 07.5 +20
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,73nm,4.6s
HABR Khabarovsk 88.44 330 *e*P **P 09 56 48.5 +0.4**
SNY Shenyang 89.48 320⇓ *e*P **P 09 56 54.0 +1.0**
SNY AMB AMB
comp=Z,10.0nm,0.4s,mb5.5
CN2 Changchun 89.76 322 *e*P **P 09 56 54.0 -0.3**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.4
ENH Enshi 91.77 304 P **P 09 57 03.5 -0.2**
comp=Z,7.2nm,0.8s,mb5.0
KMI Kunming 94.21 296 P **P 09 57 16.3 +1.4**
KMI AP pP 09 57 30.8 +15
KMI XP sP 09 57 37.8 +22
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb5.1
KMI AMB AMB
comp=Z,42nm,3.4s
KMI LR LR
comp=N,185nm,18.6s,MS4.7
KMI LR LR
comp=E,208nm,20.9s,MS4.7
KMI LR LR
comp=Z,127nm,13.9s
PDAR Pinedale Array 94.44 43 P **09 57 16.7 +0.7**
comp=Z,0.4nm,0.9s,mb3.8,baz=222,slow=2.0,SNR=3.4
PDAR LR LR 10 36 28.4
comp=Z,121nm,18.8s,MS4.4,baz=260,slow=34
SEY Seymchan 94.95 346⇑ *e*P **P 09 57 17.0 -1.3**
DLBC Dease Lake 95.49 23 LR LR 10 30 13.0
comp=Z,72nm,21.1s,MS4.1,baz=291,slow=29
HHC Hu-ho-hao-te 96.11 314 *e*P **P 09 57 24.5 +0.9**
HHC AP pP 09 57 41.5 +17
HHC XP sP 09 57 48.3 +24
HHC PP PP 10 01 19.5 +3.3
HHC SKS 10 07 54.0
HHC S 10 08 34.5
HHC XS sS 10 09 03.8 +19
HHC SS SS 10 15 08.5 -6.1
HHC AMB AMB
comp=Z,11nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,58nm,5.3s
HHC LR LR
comp=N,131nm,5.9s
HHC LR LR
comp=E,131nm,5.3s
HHC LR LR
comp=Z,78nm,6.5s
CD2 Chengdu 96.31 302 *e*P **P 09 57 22.5 -2.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,50nm,5.9s
ILAR Eielson Array 96.41 12 P **P 09 57 23.7 -1.3**
comp=Z,0.6nm,0.9s,mb4.0,baz=213,slow=5.6,SNR=4.7
ILAR LR LR 10 40 55.5
comp=Z,84nm,18.2s,MS4.3,baz=1.5,slow=36
LPAZ La Paz 97.68 113 LR LR 10 33 04.7
comp=Z,51nm,19.2s,MS4.0,baz=30,slow=30
LZH Lanzhou 98.81 306 *e*P **P 09 57 36.0 +0.2**
LZH AP pP 09 57 53.3 +17
LZH XP sP 09 58 00.0 +23
LZH PP PP 10 01 39.8 +2.8
LZH AMB AMB
comp=Z,22nm,1.4s,mb5.5
YAK Yakutsk 100.45 337 *i* P Pdif 09 57 41.3 -1.8
WMQ Urumqi 113.27 308 *e*PKP PKiKP 10 02 33.0 -0.6
WMQ LR LR
comp=N,184nm,22.0s
WMQ LR LR
comp=Z,85nm,18.0s,MS4.4
MKAR Makanchi Array 117.76 310 PKP PKPdf 10 02 41.5 -0.8
comp=Z,2.2nm,0.8s,baz=64,slow=2.8,SNR=19
KURK Kurchatov 120.92 314⇑ *i*PKIKP PKPdf 10 02 46.5 -1.8
CHKZ Chkalovo 126.09 317 *e*PKPdf PKPdf 10 02 57.1 -1.2
BVAR Borovoye Array 126.22 316 PKP PKPdf 10 02 57.8 -0.7
comp=Z,5.6nm,0.8s,baz=95,slow=1.6,SNR=22
ZRNK Zerenda 127.05 316 *e*PKPdf PKPdf 10 02 59.1 -1.0
AKTK Aktyubinsk 134.00 313 PKP PKPdf 10 03 12.4 -0.9
AKTO Aktyubinsk 134.00 313 PKP PKPdf 10 03 12.4 -0.9
comp=Z,2.8nm,0.7s,baz=5.7,slow=0.7,SNR=11
ARCES ARCESS Array B 137.53 349 PKP PKPdf 10 03 17.2 -2.6
comp=Z,3.0nm,0.8s,baz=66,slow=2.2,SNR=3.9
JOF Joensuu 141.58 340 *e*p PKPdf 10 03 25.6 -1.6
comp=Z,9.0nm,1.7s
KAF Kangasniemi 143.66 342 *e*p PKPdf 10 03 26.9 -4.0
comp=Z,3.0nm,1.0s
FINES FINESS Array B 144.27 341 PKP PKPdf 10 03 28.6 -3.3
comp=Z,2.5nm,0.8s,baz=62,slow=4.1,SNR=13
OBN Obninsk 144.69 327⇓ *i*PKIKP PKPdf 10 03 30.5 -2.2
OBN *e* 10 26 06.3
OBN pmax pmax
comp=Z,10.0nm,0.8s
ZEI Tsey 144.71 304 *i* PKIKP PKPdf 10 03 30.3 -2.4
BHD Baghdad 144.72 287 *ex* x 10 03 28.0
GOF Gofitskoye 144.87 308 *e*PKIKP PKPdf 10 03 29.9 -3.1
VRSR Storozhevoye 145.25 320 *e*PKIKP PKPdf 10 03 32.2 -1.5
VRSR pmax pmax
comp=Z,2.0nm,0.8s
VRSR pmax pmax
comp=N,2.0nm,1.3s
VRSR pmax pmax
comp=E,1.0nm,0.9s
KIV Kislovodsk 145.36 306 *i* PKIKP PKPdf 10 03 32.7 -1.1
KIV pmax pmax
comp=Z,14nm,1.0s
VSU Vasula 146.45 338⇓ *i*PKP2 PKPab 10 03 34.9 -3.0
NB2 NORSAR Subarra 147.60 353 PKPa PKPdf 10 03 38.9 +1.3
comp=Z,2.6nm,0.8s,baz=18,slow=4.0
NOA NORSAR Array B 147.60 353 PKPbc PKPbc 10 03 39.2 -1.1
comp=Z,5.3nm,0.9s,baz=16,slow=4.6,SNR=12
ANN Anapa 148.77 310 *i* PKP2 PKPab 10 03 44.5 -2.6
ANN pmax pmax
comp=Z,73nm,1.0s
MALT Malatya 149.47 297 *e*PKPbc PKPbc 10 03 46.7 +1.5
MALT *e*PKPab PKPab 10 03 51.7 +1.7
AKASG Malin Array Be 150.88 325 PKPbc PKPbc 10 03 47.6 -0.9
comp=Z,17nm,0.8s,baz=46,slow=2.7,SNR=52
SUW Suwalki 151.17 335 *e*PKP PKPbc 10 03 48.5 -0.7
EIL Elat 152.41 279 *e*PKPbc PKPbc 10 03 53.4 +1.3
EIL *e*PKPab PKPab 10 04 02.0 -0.2
BR131 Keskin Array S 152.89 301 *e*PKPbc PKPbc 10 03 53.6 +0.5
BR131 *e*PKPab PKPab 10 04 02.2 -2.0
BRTR Keskin Array B 152.89 301 PKPbc PKPbc 10 03 53.4 +0.3
comp=Z,3.3nm,0.9s,baz=114,slow=3.0,SNR=12
BRTR PKPab PKPab 10 04 02.2 -2.0
comp=Z,2.8nm,0.8s,baz=144,slow=5.1,SNR=8.6
UPC Upice 156.53 339 *e*PKPab PKPab 10 04 19.4 -0.3
DPC Dobruska-Polom 156.57 339 *e*PKPab PKPab 10 04 20.0 +0.1
PRU Pruhonice 157.43 341 *e*PKPab PKPab 10 04 28.2 +4.6
KHC Kasperske Hory 158.48 341 *e*PKPab PKPab 10 04 27.9 -0.2
GERES GERESS Array B 158.70 341 PKPab PKPab 10 04 28.1 -1.0
comp=Z,0.9nm,0.8s,baz=35,slow=4.9,SNR=6.5
TORD Torodi Ar. Bea 164.07 174 PKPab PKPab 10 04 55.3 +2.8
comp=Z,2.4nm,1.0s,baz=216,slow=1.1,SNR=6.6

*NEIC **26** 09:47:52.7, 4068N×14268E, h23km, MG3.5(JMA), After JMA.*
*JMA **26** 09:47:52.6±0.2, 4068N×14268E, h23km±4km, M3.5*
*ISCJB **26** 09:47:54.1±0.9, 4069N±005×1426E±01, h53km±9km, mb3.5/4, Error ellipse: s-maj=14.4km s-min=6.2km az=61.7*
*IDC **26** 09:47:56.4±4.3, 4068N×14275E, h67km±22km, mb3.3/4, mb1 3.3/6, mb1mx3.1/22, mbtmp3.5/6, Error ellipse: s-maj=77.3km s-min=18.5km az=106.0*
ISC 26 09:47:54.8±0.9, 4069N±006×1426E±01, h46km±10km, n19, σ0§96/23, mb3.5/4, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JANG	**Nango**	**0.90**	**250**	⇓P		**Pn**	**09 48 09.9**	**-1.2**
JTH	**Tanohata**	**0.95**	**218**	⇓P		**Pn**	**09 48 10.3**	**-1.4**
JTM	**Tenmabayashi**	**1.18**	**275**	⇓P		**Pn**	**09 48 14.3**	**-0.6**
JTM				S		**Sn**	**09 48 29.7**	**-0.1**
JOT	**Ohata**	**1.37**	**301**	⇓P		**Pn**	**09 48 16.6**	**-0.9**
JEM	**Erimo**	**1.39**	**17**	P		**Pn**	**09 48 17.1**	**-0.6**
JEM				*e*S		**Sn**	**09 48 35.1**	**+0.3**
JOM	**Ohasama**	**1.58**	**220**	P		**Pn**	**09 48 20.2**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.59**	**4**	P		**Pn**	**09 48 20.5**	**0.0**
JAH	**Hinai**	**1.59**	**252**	⇓P		**Pn**	**09 48 21.1**	**+0.6**
JAH				*e*S		**Sn**	**09 48 40.9**	**+1.0**
JKB	**Kayabe**	**1.69**	**316**	⇑P		**Pn**	**09 48 21.3**	**-0.6**
ASAJ	**Asahikawa**	**3.42**	**360**	P		**Pn**	**09 48 46.0**	**+0.3**
ASAJ				S		**Sn**	**09 49 27.9**	**+2.8**
MAJO	**Matsushiro**	**5.39**	**221**	*e*Pn		**Pn**	**09 49 13.6**	**+0.9**
MAT	**Matsushiro**	**5.39**	**221**	P		**Pn**	**09 49 16.6**	**+3.9**
MAT	**Matsushiro**	**5.39**	**221**	*e*P		**Pn**	**09 49 17.0**	**+4.3**
MJAR	**Matsushiro Arr**	**5.39**	**221**	P		**Pn**	**09 49 15.5**	**+2.9**
SONM	**Songino Array**	**26.72**	**298**	P		**P**	**09 53 30.2**	**+0.4**
MKAR	**Makanchi Array**	**43.07**	**299**	P		**P**	**09 55 50.0**	**-0.2**
BVAR	**Borovoye Array**	**48.87**	**310**	P		**P**	**09 56 35.9**	**0.0**
FINES	**FINESS Array B**	**66.03**	**332**	P		**P**	**09 58 35.9**	**-0.8**
FINES	**FINESS Array B**	**66.03**	**332**	P		**P**	**09 58 35.9**	**-0.8**

*MAN **26** 10:00:26.8, 1138N×12449E, h19km, mb4.1, ML5.1, MS1.5*
*ISCJB **26** 10:00:27.9±0.3, 1136N±003×12451E±003, h39km±4km, mb4.2/21, MS3.9/4, Error ellipse: s-maj=5.1km s-min=4.5km az=125.4*
*BJI **26** 10:00:36.7, 1146N×12470E, h123km, mB4.9, mb4.6*
*IDC **26** 10:00:37.5±3.7, 1133N×12460E, h113km±33km, mb3.7/11, mb1 3.9/12, mb1mx3.8/19, mbtmp4.1/12, MS3.9/3, Ms1 3.9/3, ms1mx3.3/29, Error ellipse: s-maj=49.5km s-min=13.1km az=68.0*
*NEIC **26** 10:00:38.8±1.4, 1125N×12445E, h128km±13km, mb4.1/8, Error ellipse: s-maj=23.0km s-min=7.8km az=66.0*
ISC 26 10:00:27.9±0.6, 1139N±003×12452E±003, h24km±5km, n54, σ0§86/63, mb4.2/21, MS3.9/4, 5C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.35**	**166**	*e*P		**Pb**	**10 00 34.9**	**-0.7**
PLP	**Palo**	**0.50**	**116**	*e*P		**Pb**	**10 00 37.7**	**-0.4**
PLP				*i* S		**Sb**	**10 00 45.9**	**+0.9**
BESP	**Borongan**	**0.92**	**77**	*e*P		**Pb**	**10 00 44.5**	**-0.7**
BESP				*e*S		**Sb**	**10 00 58.4**	**+1.3**
CNP	**Cataraman**	**1.12**	**7**	*e*P		**Pn**	**10 00 47.4**	**-0.7**
CNP				*e*S		**Sn**	**10 01 03.5**	**+0.7**
LLP	**Lapu-Lapu**	**1.20**	**207**⇑	*i*P		**Pn**	**10 01 01.9**	**+13**
LLP				*i* S		**Sn**	**10 01 19.1**	**+14**
MSLP	**Maasin**	**1.29**	**165**	*e*P		**Pn**	**10 00 51.0**	**+0.6**
MMPH	**Masbate**	**1.30**	**318**	*i* P		**Pn**	**10 00 49.2**	**-1.4**
MMPH				*i* S		**Sn**	**10 01 07.8**	**+0.5**
RCP	**Roxas**	**1.75**	**276**⇓	*e*P		**Pn**	**10 00 56.1**	**-0.7**
RCP				*e*S		**Sn**	**10 01 17.6**	**-0.7**
TBP	**Tagbilaran**	**1.81**	**201**⇑	*e*P		**Pn**	**10 00 56.6**	**-0.9**
TBP				*e*S		**Sn**	**10 01 23.6**	**+3.9**
GUIM	**Jordan**	**2.04**	**248**	*e*P		**Pn**	**10 01 00.5**	**-0.3**
GUIM				*e*S		**Sn**	**10 01 27.6**	**+2.1**
KALP	**Kalibo**	**2.16**	**278**⇑	*e*P		**Pn**	**10 01 06.5**	**+4.2**
PVCP	**Virac**	**2.22**	**351**	*e*P		**Pn**	**10 01 03.0**	**-0.3**
PVCP				*e*S		**Sn**	**10 01 31.0**	**+1.1**
SNPH	**Sibulan**	**2.40**	**212**⇑	*e*P		**Pn**	**10 01 05.3**	**-0.3**
OTRP	**Odiongan**	**2.63**	**292**	*e*P		**Pn**	**10 01 07.8**	**-1.1**
AUQP	**San Andres**	**2.64**	**317**	*e*P		**Pn**	**10 01 11.0**	**+2.1**
AUQP				*e*S		**Sn**	**10 01 47.5**	**+7.3**
BUTP	**Butuan**	**2.64**	**156**	*e*P		**Pn**	**10 01 13.0**	**+4.0**
CGP	**Cagayan de Oro**	**2.92**	**177**⇓	*e*P		**Pn**	**10 01 11.7**	**-1.2**
DCPH	**Dipolog City**	**3.02**	**203**⇑	*e*P		**Pn**	**10 01 13.5**	**-0.6**
DCPH				*e*S		**Sn**	**10 01 51.4**	**+1.8**
BOAC	**Boac**	**3.33**	**308**	*e*P		**Pn**	**10 01 12.9**	**-5.5**
CUYO	**Cuyo Island**	**3.48**	**261**	*e*P		**Pn**	**10 01 20.4**	**-0.1**
SJMP	**San Jose**	**3.50**	**288**	*e*P		**Pn**	**10 01 21.1**	**+0.3**
BUKP	**Musuan**	**3.53**	**171**	*e*P		**Pn**	**10 01 23.4**	**+2.3**
PAGZ	**Pagadian**	**3.69**	**198**	*e*P		**Pn**	**10 01 23.8**	**+0.3**
BUSP	**Coron**	**4.28**	**279**	*e*P		**Pn**	**10 01 31.4**	**-0.1**
TGY	**Tagaytay City**	**4.42**	**308**	P		**Pb**	**10 01 44.9**	**+0.2**
LUBP	**Lubang**	**4.78**	**300**	*e*P		**Pn**	**10 01 38.0**	**-0.4**
ENPP	**El Nido**	**5.00**	**268**	*e*P		**Pn**	**10 01 41.8**	**+0.3**
BALP	**Baler**	**5.19**	**327**	*e*P		**Pn**	**10 01 49.0**	**+5.0**
ENH	**Enshi**	**23.41**	**326**	*e*P		**P**	**10 05 36.1**	**+0.9**
XAN	**Xi'an**	**26.67**	**330**	P		**P**	**10 06 05.0**	**+0.1**
XAN				AMB		AMB		
WRA	**Warramunga Arr**	**32.60**	**163**	P		**P**	**10 06 56.4**	**-1.1**
GTA	**Gaotai**	**35.49**	**326**	*e*P		**P**	**10 07 23.0**	**+0.4**
GTA				PP		PP	10 08 43.8	+0.5
GTA				S		**S**	**10 12 56.8**	**+0.3**
GTA				SS		SS	10 15 14.5	-17
GTA				AMB		AMB		
GTA				AMB		AMB		
GTA				LR		LR		
GTA				LR		LR		
GTA				LR		LR		
ASAR	**Alice Springs**	**36.03**	**165**	P		**P**	**10 07 27.8**	**+0.6**
ASAR				PcP		PcP	10 09 53.6	+0.4
ULN	**Ulaanbaatar**	**39.21**	**341**	*e*P		**P**	**10 07 54.7**	**+0.7**
SONM	**Songino Array**	**39.39**	**341**	P		**P**	**10 07 56.2**	**+0.6**
HNR	**Honiara**	**40.85**	**119**	LR		LR	10 22 23.1	
STKA	**Stephens Creek**	**46.02**	**160**	P		**P**	**10 08 48.9**	**-0.6**
STKA	**Stephens Creek**	**46.02**	**160**	*e*P		**P**	**10 08 48.5**	**-0.9**
MKAR	**Makanchi Array**	**50.10**	**323**	P		**P**	**10 09 21.8**	**+0.8**
KURK	**Kurchatov**	**54.18**	**326**	*e*P		**P**	**10 09 51.4**	**+0.2**
BRVK	**Borovoye**	**59.85**	**325**	*e*P		**P**	**10 10 31.2**	**-0.2**
CHKZ	**Chkalovo**	**59.91**	**326**	*e*P		**P**	**10 10 31.5**	**-0.3**
ZRNK	**Zerenda**	**60.52**	**325**	*e*P		**P**	**10 10 35.7**	**-0.3**
AKTO	**Aktyubinsk**	**66.37**	**320**	LR		LR	10 42 21.7	
MCK	**McKinley**	**78.34**	**27**	*e*P		**P**	**10 12 25.7**	**-0.5**
ILAR	**Eielson Array**	**79.19**	**26**	P		**P**	**10 12 30.0**	**-0.8**
ARCES	**ARCESS Array B**	**82.55**	**339**	P		**P**	**10 12 47.8**	**-0.9**
INK	**Inuvik**	**83.88**	**21**	*e*P		**P**	**10 12 55.2**	**-0.4**
FINES	**FINESS Array B**	**84.09**	**331**	P		**P**	**10 12 55.9**	**-0.8**
AKASG	**Malin Array Be**	**84.61**	**321**	P		**P**	**10 12 58.7**	**-0.6**
AKASG	**Malin Array Be**	**84.61**	**321**	P		**P**	**10 12 58.7**	**-0.7**
NOA	**NORSAR Array B**	**91.00**	**333**	LR		LR	10 56 40.7	
YKA	**Yellowknife Ar**	**93.43**	**24**	P		**P**	**10 13 40.9**	**-0.4**
GERES	**GERESS Array B**	**94.76**	**322**	P		**P**	**10 13 46.9**	**-0.4**

MAN 26 10:07:26.6, 1123N×12459E, h25km, mb1.7, ML3.5, MS2.1, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PLP	**Palo**	**0.38**	**99**	*e*P		Pb	10 07 36.5	+1.6
PLP				*e*S		Sb	10 07 44.4	+3.9

*ISCJB **26** 10:15:45.5±1.0, 2941N±006×1402E±0.1, h57km±9km, mb4.0/14, Error ellipse: s-maj=21.4km s-min=7.5km az=135.5*
*IDC **26** 10:15:46.1±1.6, 2944N×14021E, h45km±16km, mb3.6/11, mb1 3.9/14, mb1mx3.7/22, mbtmp3.9/14, ML3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/21, Error ellipse: s-maj=23.8km s-min=11.4km az=68.0*
*MOS **26** 10:15:47.9±0.8, 2950N×14007E, h80km, mb4.7/3, Error ellipse: s-maj=34.6km s-min=10.5km az=93.5*
*NEIC **26** 10:15:50.2±1.4, 2951N×14004E, h81km±12km, mb4.5/4, Error ellipse: s-maj=18.5km s-min=10.4km az=98.0*
ISC 26 10:15:47.6±0.9, 2942N±006×1403E±01, h59km±9km, n28, σ1§07/27, mb4.0/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.87**	**143**	P	**Pn**	**10 16 29.9**	**-0.9**
	41nm,0.3s,baz=339,slow=3.1,SNR=50						
CBIJ				S	**Sn**	**10 17 03.5**	**-0.6**
	187nm,0.3s,baz=291,slow=21,SNR=23						
JHJ	**Hachijo jima 2**	**3.71**	**354**	P	**Pn**	**10 16 42.0**	**-0.4**
	6.5nm,0.3s,baz=66,slow=19,SNR=4.1						
MJAR	**Matsushiro Arr**	**7.31**	**347**	P	**Pn**	**10 17 31.2**	**-0.5**
	0.5nm,0.3s,baz=144,slow=15,SNR=9.8						
MAJO	**Matsushiro**	**7.31**	**347**	*e*Pn	**Pn**	**10 17 33.2**	**+1.5**
	11nm,0.7s						
MAJO	**Matsushiro**	**7.31**	**347**	*e*P	**Pn**	**10 17 33.2**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,11nm,0.7s						
MAT	**Matsushiro**	**7.31**	**347**	P	**Pn**	**10 17 33.3**	**+1.6**
MAT	**Matsushiro**	**7.31**	**347**	*e*P	**Pn**	**10 17 33.0**	**+1.3**
JOW	**Kunigami**	**10.89**	**259**	LR	LR	10 22 12.9	
	comp=Z,229nm,21.0s,baz=131,slow=36						
MDJ	**Mudanjiang**	**17.37**	**334**	*e*P	**Pn**	**10 19 45.3**	**-0.6**
	comp=Z,11nm,0.5s						
PET	**Petropavlovsk**	**27.18**	**25**	*e*P	**P**	**10 21 26.4**	**+0.9**
	comp=Z,99nm,1.3s,mb5.2						
PET	**Petropavlovsk**	**27.18**	**25**	*e*P	**P**	**10 21 26.4**	**+0.9**
PET				pmax	pmax		
	comp=Z,99nm,1.3s,mb5.2						
MA2	**Magadan**	**30.99**	**10**	*e*P	**P**	**10 21 57.9**	**-1.4**
	comp=Z,3.6nm,1.0s,mb4.2						
MA2	**Magadan**	**30.99**	**10**	*e*P	**P**	**10 21 57.9**	**-1.4**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**31.88**	**315**	P	**P**	**10 22 06.9**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=108,slow=9.3,SNR=2.6						
WRAB	**Tennant Creek**	**49.39**	**187**	*e*P	**P**	**10 24 32.1**	**+0.8**
	comp=Z,6.7nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**49.39**	**187**	*e*P	**P**	**10 24 32.1**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**49.40**	**187**	P	**P**	**10 24 32.1**	**+0.8**
	comp=Z,2.2nm,0.8s,mb4.2,baz=3.8,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**53.13**	**187**	P	**P**	**10 25 00.1**	**+0.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=3.5,slow=4.1,SNR=4.9						
ILAR	**Eielson Array**	**56.51**	**29**	P	**P**	**10 25 22.9**	**-0.7**
	comp=Z,1.6nm,1.1s,mb4.0,baz=266,slow=5.3,SNR=10						
ARCES	**ARCESS Array B**	**70.80**	**340**	P	**P**	**10 26 56.0**	**-1.8**
	comp=Z,6.0nm,1.0s,mb4.5,baz=72,slow=7.9,SNR=5.3						
YKA	**Yellowknife Ar**	**70.91**	**28**	P	**P**	**10 26 57.6**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.7,baz=294,slow=6.1,SNR=15						
FINES	**FINESS Array B**	**75.12**	**333**	P	**P**	**10 27 21.7**	**-1.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=72,slow=6.2,SNR=10						
NEW	**Newport**	**76.33**	**42**	P	**P**	**10 27 31.6**	**+1.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=313,slow=5.0,SNR=4.1						
NVAR	**Mina Array Bea**	**80.41**	**51**	P	**P**	**10 27 54.4**	**+1.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=294,slow=4.3,SNR=4.6						
NVAR	**Mina Array Bea**	**80.41**	**51**	P	**P**	**10 27 54.4**	**+1.7**
NOA	**NORSAR Array B**	**80.83**	**337**	P	**P**	**10 27 54.0**	**-1.0**
	comp=Z,2.1nm,1.2s,mb4.0,baz=205,slow=6.0,SNR=3.1						
PDAR	**Pinedale Array**	**83.74**	**44**	P	**P**	**10 28 11.1**	**+0.9**
	comp=Z,0.3nm,0.7s,mb3.5,baz=339,slow=2.2,SNR=3.9						
LPAZ	**La Paz**	**150.84**	**70**	PKPbc	PKPbc	10 35 36.3	+3.0
	comp=Z,1.3nm,0.7s,baz=345,slow=10,SNR=5.9						

IDC 26 10:21:15.9±4.4, 808N×9181E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=160.0km s-min=30.1km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.67**	**14**	*e*P	Pn	10 23 00.7	+47
PBA				*e*S	Sn	10 23 09.4	+12
PBA				*e*x	x	10 23 14.0	
	comp=N,79nm,0.4s						
PBA				*e*x	x	10 23 14.2	
	comp=E,77nm,0.5s						
MKAR	**Makanchi Array**	**39.42**	**350**	P	P	10 28 47.6	0.0
	comp=E,0.4nm,0.4s,baz=166,slow=8.7,SNR=7.6						
SONM	**Songino Array**	**41.51**	**15**	P	P	10 29 04.8	0.0
	comp=E,0.4nm,0.6s,baz=206,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	**50.27**	**124**	P	P	10 30 14.4	+0.4
	comp=E,0.3nm,0.3s,baz=303,slow=8.6,SNR=8.1						

*PRE **26** 10:21:36.8±1.7, 2099S×3284E, h5km, ML4.7*
*ISCJB **26** 10:21:37.4±0.7, 2129S±005×3313E±007, h10km, mb3.9/5, Error ellipse: s-maj=9.4km s-min=6.7km az=45.0*
*IDC **26** 10:21:39.5±1.5, 2099S×3375E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.9/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/20, Error ellipse: s-maj=64.5km s-min=36.9km az=31.0*
*NEIC **26** 10:21:39.1±0.6, 2131S×3325E, h10km, mb4.2/2, Error ellipse: s-maj=15.1km s-min=10.6km az=145.0*

ISC 26 11:21:39.1±0.7, 2129S±005×3322E±007, h10km, n18, σ0§99/23, mb3.9/5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.50**	**280**	LR	LR	10 24 32.8	
	comp=Z,112nm,20.4s,baz=98,slow=35						
BFT	**Belfast (SA)**	**5.25**	**213**	*e*P	**Pn**	**10 22 58.5**	**+0.8**
BFT				*e*S	**Sn**	**10 23 57.4**	**-0.9**
BFT				AML	AML	10 24 28.4	
	comp=Z,338nm,0.5s						
SLR	**Silverton**	**6.33**	**225**	*e*P	**Pn**	**10 23 11.5**	**-1.0**
SLR				*e*S	**Sn**	**10 24 19.7**	**-5.1**
SLR				AML	AML	10 25 02.7	
	comp=Z,179nm,0.6s						
LSZ	**Lusaka**	**7.66**	**321**	*e*Pn	**Pn**	**10 23 32.2**	**+1.6**
	comp=Z,27nm,0.6s						
LSZ				*e*Sn	**Sn**	**10 24 55.6**	**-1.9**
LSZ				*e*Sg	**Sg**	**10 25 39.2**	**-5.6**
LBTB	**Lobatse**	**7.93**	**241**	*e*Pn	**Pn**	**10 23 35.4**	**+1.0**
	comp=Z,30nm,0.7s						
LBTB				*e*Sn	**Sn**	**10 25 04.6**	**+0.4**
LBTB				*e*Sg	Sn	10 25 52.0	+48
SWZ	**Schweizer**	**9.28**	**229**	*e*P	**Pn**	**10 23 52.8**	**-0.1**
SWZ				*e*S	**Sn**	**10 25 30.6**	**-6.7**
SWZ				AML	AML	10 26 46.2	
	comp=Z,48nm,0.5s						
PKA	**Prieska**	**12.60**	**226**	*e*P	**Pn**	**10 24 37.3**	**-1.0**
TSUM	**Tsumeb**	**14.82**	**275**	*e*Pn	**Pn**	**10 25 08.3**	**-0.4**
	comp=Z,10nm,0.9s						
TSUM				*e*Sn	**Sn**	**10 27 53.7**	**+0.7**
SUR	**Sutherland**	**15.62**	**222**	*e*P	**Pn**	**10 25 19.1**	**-0.2**
SUR				*e*S	**Sn**	**10 28 03.6**	**-8.8**
SUR	**Sutherland**	**15.62**	**222**	*e*Pn	**Pn**	**10 25 19.7**	**+0.4**
	comp=Z,13nm,0.7s						
SUR				*e*Sn	**Sn**	**10 28 03.6**	**-8.9**
TORD	**Torodi Ar. Bea**	**46.15**	**315**	P	**P**	**10 30 06.5**	**+2.8**
	comp=Z,0.9nm,0.5s,mb3.9,baz=125,slow=6.7,SNR=10						
ZRNK	**Zerenda**	**80.19**	**21**	*e*P	**P**	**10 33 49.2**	**-0.5**
	comp=Z,1.9nm,1.0s,mb4.0						
BVAR	**Borovoye Array**	**80.73**	**22**	P	**P**	**10 33 52.0**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=193,slow=6.1,SNR=5.8						
MKAR	**Makanchi Array**	**80.94**	**32**	P	**P**	**10 33 53.2**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=212,slow=4.3,SNR=5.3						
ASAR	**Alice Springs**	**90.83**	**116**	P	**P**	**10 34 43.5**	**+0.8**
	comp=Z,1.0nm,0.8s,mb4.2,baz=242,slow=3.9,SNR=8.9						
YKA	**Yellowknife Ar**	**133.33**	**340**	PKP	PKPdf	10 40 55.5	+0.2
	comp=Z,0.2nm,0.6s,baz=36,slow=2.1,SNR=8.4						
YKA	**Yellowknife Ar**	**133.33**	**340**	PKP	PKPdf	10 40 55.5	+0.2
NVAR	**Mina Array Bea**	**150.14**	**311**	PKPbc	PKPbc	10 41 34.2	+4.1
	comp=Z,0.8nm,0.7s,baz=68,slow=3.9,SNR=5.9						

*ISCJB **26** 10:30:15.1±3.8, 23N±01×9257E±008, h15km±28km, mb4.0/13, MS3.9/2, Error ellipse: s-maj=21.4km s-min=10.2km az=61.4*
*IDC **26** 10:30:15.6±1.4, 224N×9249E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/22, mbtmp3.9/9, ML4.0/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/15, Error ellipse: s-maj=52.5km s-min=17.3km az=48.0*
*NEIC **26** 10:30:19.1±0.5, 221N×9252E, mb4.2/5, Error ellipse: s-maj=15.0km s-min=6.9km az=212.0*

ISC 26 10:30:20.8±3.6, 237N±010×9266E±005, h30km±26km, h24km±2.1km: pP-P, n22, σ1§06/25, mb4.0/13, MS3.9/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.27**	**86**	P	**Pn**	**10 31 52.9**	**+1.6**
	3.3nm,0.3s,baz=266,slow=6.7,SNR=15						
PSI				Sn	**Sn**	**10 32 59.8**	**-2.1**
	0.8nm,0.3s,baz=320,slow=19,SNR=2.6						
PSI				LR	LR	10 34 32.9	
	comp=Z,333nm,19.1s,baz=51,slow=40						
KULM	**Kulim**	**8.48**	**70**	*e*Pn	**Pn**	**10 32 22.3**	**+0.7**
KULM				*ep*Pn		10 32 31.1	
KULM				*e*Sn	**Sn**	**10 33 55.1**	**-1.2**
PALK	**Pallekele**	**12.87**	**293**	*e*Pn	**Pn**	**10 33 19.9**	**-1.8**
VIS	**Vishakhapatnam**	**17.79**	**330**	*e*P	**Pn**	**10 34 32.5**	**+6.4**
HYB	**Hyderabad**	**20.39**	**318**	*i* P	**P**	**10 34 54.0**	**-1.1**
HYB				*e*S	**S**	**10 38 31.0**	**-11**
HYB	**Hyderabad**	**20.39**	**318**	*e*P	**P**	**10 34 54.0**	**-1.1**
HYB				*e*S	**S**	**10 38 31.0**	**-11**
FITZ	**Fitzroy Crossi**	**38.32**	**123**	P	**P**	**10 37 38.7**	**-0.1**
	4.1nm,0.9s,mb4.2,baz=209,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**45.16**	**350**	P	**P**	**10 38 34.1**	**-0.6**
	1.5nm,0.6s,mb4.0,baz=162,slow=8.8,SNR=16						
WRA	**Warramunga Arr**	**46.52**	**120**	P	**P**	**10 38 45.8**	**+0.3**
	1.8nm,0.7s,mb4.1,baz=301,slow=8.5,SNR=30						
WRAB	**Tennant Creek**	**46.52**	**120**	*e*P	**P**	**10 38 45.4**	**-0.1**
	2.7nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**46.53**	**120**	*e*P	**P**	**10 38 45.4**	**-0.1**
SONM	**Songino Array**	**46.82**	**13**	P	**P**	**10 38 49.2**	**+1.4**
	0.3nm,0.5s,mb3.5,baz=199,slow=9.2,SNR=4.7						
SONM				LR	LR	10 59 33.0	
	comp=Z,75nm,18.2s,MS3.7,baz=34,slow=37						
ULN	**Ulaanbaatar**	**47.00**	**13**	*e*P	**P**	**10 38 50.8**	**+1.6**
	1.4nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**47.74**	**125**	P	**P**	**10 38 54.9**	**-0.1**
	0.5nm,0.7s,mb3.7,baz=297,slow=7.3,SNR=5.3						
KURK	**Kurchatov**	**49.62**	**348**	*e*P	**P**	**10 39 11.6**	**+2.2**
	2.6nm,0.9s,mb4.3						
KURK				*ep*P	pP	10 39 17.2	-1.1
BVAR	**Borovoye Array**	**53.75**	**344**	P	**P**	**10 39 39.3**	**-0.9**
	0.8nm,0.6s,mb3.8,baz=131,slow=8.0,SNR=4.9						
ZRNK	**Zerenda**	**54.09**	**343**	P	**P**	**10 39 42.3**	**-0.4**
	1.4nm,0.7s,mb4.0						
ZRNK				*ep*P	pP	10 39 49.8	-2.0
CHKZ	**Chkalovo**	**54.27**	**344**	*e*P	**P**	**10 39 43.5**	**-0.5**
	3.5nm,0.8s,mb4.3						
CHKZ				*ep*P	pP	10 39 51.4	-1.6
AKTK	**Aktyubinsk**	**56.13**	**334**	P	**P**	**10 39 58.0**	**+0.6**
AKTO	**Aktyubinsk**	**56.13**	**334**	P	**P**	**10 39 58.0**	**+0.6**
	0.3nm,0.5s,mb3.5,baz=195,slow=20,SNR=1.8						
GERES	**GERESS Array B**	**80.95**	**319**	P	**P**	**10 42 32.3**	**0.0**
	0.9nm,0.9s,mb3.7,baz=98,slow=4.0,SNR=4.5						
DBIC	**Dimbokro**	**97.19**	**277**	LR	LR	11 24 05.9	
	comp=Z,68nm,18.8s,MS4.2,baz=96,slow=33						

MAN 26 10:31:07.9, 1136N×12550E, h20km, mb3.3, ML4.6, MS2.5, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.25**	**346**	*e*P	Pb	10 31 15.7	+1.9
BESP				*e*S	Sb	10 31 22.1	+4.3
PLP	**Palo**	**0.54**	**250**	*i* P	Pb	10 31 18.6	-0.2
PLP				*i* S	Sb	10 31 26.0	-0.1
MSLP	**Maasin**	**1.37**	**207**	*e*P	Pn	10 31 32.6	+0.7
MSLP				*e*S	Sn	10 31 51.0	+1.6
CNP	**Catarman**	**1.41**	**325**	*e*P	Pn	10 31 32.5	+0.1
SCPH	**Surigao**	**1.56**	**180**	*e*P	Pn	10 31 33.7	-0.9
SCPH				*e*S	Sn	10 31 51.2	-3.1
PVCP	**Virac**	**2.58**	**330**	*e*P	Pn	10 31 49.4	+0.8
PVCP				*e*S	Sn	10 32 27.0	+7.6
GUIM	**Jordan**	**2.95**	**256**	*e*P	Pn	10 31 54.5	+0.9

WEL 26 10:31:50.1±0.3, 3743S×17656E, h188km±3km, ML3.6/13, Error ellipse: s-maj=5.1km s-min=4.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.93**	**152**	PN	Pn	10 32 18.3	+0.1
URZ				SN	Sn	10 32 40.0	+0.2
MWZ	**Matawai**	**1.18**	**140**	PN	Pn	10 32 20.1	+0.1
MWZ				SN	Sn	10 32 42.7	-0.3
MXZ	**Matakaoa Point**	**1.40**	**96**	PN	Pn	10 32 21.8	0.0
MXZ				SN	Sn	10 32 46.4	+0.2
BKZ	**Black Stump Fm**	**1.73**	**182**	PN	Pn	10 32 24.9	0.0
BKZ				SN	Sn	10 32 52.1	+0.2
KNZ	**Kokohu**	**1.81**	**151**	PN	Pn	10 32 26.0	+0.3
MOVZ	**Moawhango**	**2.07**	**198**	PN	Pn	10 32 28.9	+0.4
PXZ	**Pawanui**	**2.61**	**175**	PN	Pn	10 32 34.0	-0.4
WAZ	**Wanganui**	**2.63**	**208**	PN	Pn	10 32 35.1	+0.4
BFZ	**Birch Farm**	**3.25**	**184**	PN	Pn	10 32 40.7	-1.5
MRZ	**Mangatainoka R**	**3.31**	**193**	PN	Pn	10 32 41.1	-1.8
KIW	**Kapiti Island**	**3.66**	**200**	PN	Pn	10 32 45.1	-2.1
MTW	**Mount Morrison**	**3.81**	**192**	PN	Pn	10 32 46.3	-2.7
CAW	**Cannon Point**	**3.85**	**197**	PN	Pn	10 32 47.1	-2.5
TRWZ	**Traveller**	**4.02**	**189**	PN	Pn	10 32 49.3	-2.4
PAWZ	**Paruwai Farm**	**4.04**	**192**	PN	Pn	10 32 48.9	-3.0

*IDC **26** 11:19:08.4±0.8, 2961N×13996E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.8/19, mbtmp4.0/8, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/29, Error ellipse: s-maj=37.6km s-min=18.0km az=88.0*
*ISCJB **26** 11:19:11.4±0.6, 2957N±007×140.1E±0.1, h33km, mb4.0/12, Error ellipse: s-maj=19.8km s-min=8.4km az=136.7*
*NEIC **26** 11:19:13.3±4.6, 2964N×13985E, h31km±32km, mb4.2/5, Error ellipse: s-maj=21.9km s-min=9.9km az=98.0*

ISC 26 11:19:10.1±5.5, 2960N±008×1400E±02, h10km±35km, n19, σ0§94/17, mb4.0/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.13**	**142**	Pn	**Pn**	**11 19 59.1**	**-0.3**
	30nm,0.3s,baz=109,slow=21,SNR=18						
CBIJ				Sn	**Sn**	**11 20 33.4**	**-3.5**
	124nm,0.3s,baz=272,slow=22,SNR=21						
MJAR	**Matsushiro Arr**	**7.09**	**348**	Pn	**Pn**	**11 20 53.7**	**-0.1**
	0.1nm,0.3s,baz=161,slow=11,SNR=2.1						
JOW	**Kunigami**	**10.73**	**258**	LR	LR	11 24 57.3	
	comp=Z,100nm,21.7s,baz=232,slow=33						
WRAB	**Tennant Creek**	**49.55**	**187**	*e*P	**P**	**11 28 01.7**	**+0.7**
	3.8nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**49.56**	**187**	P	**P**	**11 28 01.7**	**+0.6**
	2.5nm,0.8s,mb4.3,baz=4.8,slow=7.8,SNR=26						
ASAR	**Alice Springs**	**53.28**	**187**	P	**P**	**11 28 29.3**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=360,slow=5.7,SNR=6.4						
CHKZ	**Chkalovo**	**54.75**	**317**	*e*P	**P**	**11 28 38.8**	**-1.0**
	0.6nm,0.6s,mb3.8						
COLA	**College**	**56.04**	**29**	P	**P**	**11 28 48.6**	**-0.5**
	2.2nm,1.0s,mb4.1						
ILAR	**Eielson Array**	**56.45**	**29**	P	**P**	**11 28 52.0**	**0.0**
	0.9nm,1.0s,mb3.8,baz=274,slow=6.2,SNR=6.9						
RES	**Resolute Bay**	**70.08**	**13**	*e*P	**P**	**11 30 22.5**	**+0.2**
	1.3nm,0.8s,mb3.9						
ARCES	**ARCESS Array B**	**70.56**	**340**	P	**P**	**11 30 23.6**	**-1.7**
	4.9nm,1.0s,mb4.4,baz=70,slow=14,SNR=3.8						
YKA	**Yellowknife Ar**	**70.85**	**28**	P	**P**	**11 30 26.7**	**-0.3**
	0.8nm,0.8s,mb3.7,baz=293,slow=6.2,SNR=16						
YKA	**Yellowknife Ar**	**70.85**	**28**	P	**P**	**11 30 26.7**	**-0.3**
FINES	**FINESS Array B**	**74.87**	**333**	P	**P**	**11 30 50.7**	**-0.1**
	1.0nm,0.7s,mb3.9,baz=73,slow=6.6,SNR=8.5						
FINES	**FINESS Array B**	**74.87**	**333**	P	**P**	**11 30 50.7**	**-0.1**
NEW	**Newport**	**76.33**	**42**	*e*P	**P**	**11 31 00.3**	**+1.1**
	2.4nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**80.45**	**51**	P	**P**	**11 31 23.9**	**+1.9**
	0.8nm,0.8s,mb3.7,baz=295,slow=6.8,SNR=4.0						
LPAZ	**La Paz**	**150.97**	**69**	PKPbc	PKPbc	11 39 04.0	+1.0
	1.4nm,0.9s,baz=353,slow=9.7,SNR=3.6						
PLCA	**Paso Flores**	**152.77**	**122**	PKPbc	PKPbc	11 39 06.5	-0.6
	1.2nm,0.7s,baz=248,slow=20,SNR=3.5						

*NEIC **26** 11:19:53.2, 4452S×16809E, h88km, ML3.7(WEL), After WEL.*

WEL 26 11:19:59.5±0.2, 4457S×16814E, h82km±2km, ML3.6/9, Error ellipse: s-maj=2.1km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.18**	**234**	*e*Pn	Pn	11 20 11.6	+0.2
MSZ				SN	Sn	11 20 19.7	-0.6
MSZ				SN	Sn	11 20 19.8	-0.5
MSZ	**Milford Sound**	**0.18**	**234**	*e*P	Pn	11 20 10.6	-0.9
MSZ				S	Sn	11 20 20.7	+0.4
JCZ	**Jackson Bay**	**0.66**	**42**	PN	Pn	11 20 15.7	+0.8
JCZ				SN	Sn	11 20 27.3	+0.9
JCZ	**Jackson Bay**	**0.66**	**42**	P	Pn	11 20 14.9	-0.1
JCZ				S	Sn	11 20 26.6	+0.2
WKZ	**Wanaka**	**0.68**	**113**	PN	Pn	11 20 15.5	+0.4
WKZ				SN	Sn	11 20 26.2	-0.5
WKZ	**Wanaka**	**0.68**	**113**	P	Pn	11 20 14.6	-0.5
WKZ				S	Sn	11 20 25.2	-1.5
MLZ	**Mavora Lakes**	**0.78**	**178**	PN	Pn	11 20 16.4	+0.2
MLZ				SN	Sn	11 20 29.4	+0.8
MLZ	**Mavora Lakes**	**0.78**	**178**	P	Pn	11 20 16.4	+0.2
EAZ	**Earnscleugh**	**1.07**	**129**	PN	Pn	11 20 19.5	0.0
EAZ				SN	Sn	11 20 33.1	-1.3
EAZ	**Earnscleugh**	**1.07**	**129**	*e*P	Pn	11 20 18.5	-0.9
DCZ	**Deep Cove**	**1.15**	**217**	PN	Pn	11 20 19.9	-0.6
DCZ				SN	Sn	11 20 35.4	-0.7
DCZ	**Deep Cove**	**1.15**	**217**	P	Pn	11 20 18.9	-1.5
DCZ				S	Sn	11 20 36.4	+0.3
WHZ	**Wether Hill Ro**	**1.33**	**186**	PN	Pn	11 20 22.8	0.0
WHZ				SN	Sn	11 20 39.9	-0.4
WHZ	**Wether Hill Ro**	**1.33**	**186**	P	Pn	11 20 22.8	0.0
LBZ	**Lake Benmore**	**1.48**	**84**	PN	Pn	11 20 24.4	-0.1
LBZ	**Lake Benmore**	**1.48**	**84**	P	Pn	11 20 23.4	-1.2
FOZ	**Fox Glacier**	**1.50**	**49**	PN	Pn	11 20 25.9	+1.0
FOZ				SN	Sn	11 20 44.9	+0.8
FOZ	**Fox Glacier**	**1.50**	**49**	*e*P	Pn	11 20 24.9	0.0
TUZ	**Tuapeka**	**1.75**	**143**	PN	Pn	11 20 28.1	0.0
TUZ	**Tuapeka**	**1.75**	**143**	*e*P	Pn	11 20 28.1	0.0
ODZ	**Otahua Downs**	**1.85**	**106**	PN	Pn	11 20 29.1	-0.3
ODZ	**Otahua Downs**	**1.85**	**106**	P	Pn	11 20 29.1	-0.3
RPZ	**Rata Peaks**	**2.27**	**69**	PN	Pn	11 20 34.2	-0.7
RPZ	**Rata Peaks**	**2.27**	**69**	P	Pn	11 20 34.2	-0.8
WVZ	**Waitaha Valley**	**2.40**	**53**	PN	Pn	11 20 35.9	-0.8
WVZ	**Waitaha Valley**	**2.40**	**53**	*e*P	Pn	11 20 35.9	-0.8
MQZ	**McQueen's Vall**	**3.36**	**77**	*e*P	Pn	11 20 48.1	-1.6
LTZ	**Lake Taylor**	**3.49**	**61**	PN	Pn	11 20 49.8	-1.6
LTZ	**Lake Taylor**	**3.49**	**61**	*e*P	Pn	11 20 49.8	-1.6
DSZ	**Denniston Nort**	**3.89**	**45**	PN	Pn	11 20 56.4	-0.5
DSZ	**Denniston Nort**	**3.89**	**45**	*e*P	Pn	11 20 56.4	-0.5
THZ	**Tophouse**	**4.47**	**53**	PN	Pn	11 21 03.4	-1.4
TSZ	**Takapari Road**	**7.34**	**55**	P	Pn	11 21 37.3	-6.6
WPVZ	**Whakapapa**	**7.70**	**48**	P	Pn	11 21 56.6	+7.8
WPVZ				S		11 22 03.2	

*MDD **26** 11:26:31.8±1.9, 3674N×547E, h0km, mb4.1/10, Error ellipse: s-maj=19.1km s-min=11.3km az=148.0, PRXIMO*
*NEIC **26** 11:26:32.2, 3669N×528E, h0km, MG4.0(MDD), After MDD.*
*CSEM **26** 11:26:33.2±0.3, 3688N×516E, h10km, ML2.9/3, Error ellipse: s-maj=6.0km s-min=2.6km az=153.0*
*LDG **26** 11:26:33.2±0.3, 3657N×552E, h25km, Ml3.0/9, Error ellipse: s-maj=6.3km s-min=3.8km az=146.0*
*ISCJB **26** 11:26:34.4±1.0, 37.15N±005×534E±005, h10km, Error ellipse: s-maj=8.2km s-min=5.0km az=123.9*

ISC 26 11:26:35.9±1.0, 3708N±005×534E±005, h10km, n54, σ1§10/99, 3D, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**3.34**	**324**	||P	**Pn**	**11 27 28.6**	**+0.4**
	6.1nm,0.2s,SNR=18						
ETOS				S	**Sn**	**11 28 08.9**	**+1.1**
	2.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.34**	**324**	P	**Pn**	**11 27 28.6**	**+0.4**
	6.1nm,0.2s,SNR=18						
ETOS				S	**Sn**	**11 28 08.9**	**+1.0**
	2.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.34**	**324**	||P	**Pn**	**11 27 28.6**	**+0.4**
ETOS				||P		11 27 28.7
ETOS				S	**Sn**	**11 28 08.9**	**+1.1**
ETOS				S	**Sn**	**11 28 09.9**	**+2.0**
EIBI	**Ibiza**	**3.71**	**303**	P	**Pn**	**11 27 31.8**	**-1.4**
	2.8nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**11 28 16.8**	**-0.2**
	5.1nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.71**	**303**	P	**Pn**	**11 27 32.1**	**-1.1**
EIBI				S	**Sn**	**11 28 16.8**	**-0.2**
	5.1nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.71**	**303**	P	**Pn**	**11 27 31.8**	**-1.4**
EIBI				P		11 27 32.1	
EIBI				S

FRF				*e*Sn	**Sn**	**11 29 26.1**	**-0.9**
	1.8nm,0.2s						
FRF	**La Foret Royal**	**6.55**	**8**	*e*Pn	**Pn**	**11 28 12.9**	**+0.6**
FRF				*e*Sn	**Sn**	**11 29 26.1**	**-0.9**
	0.9nm,0.2s						
MTLF	**Montolieu**	**6.70**	**340**	*e*Pn	**Pn**	**11 28 15.0**	**+0.7**
MTLF				*e*Sn	**Sn**	**11 29 30.0**	**-0.6**
	1.9nm,0.3s						
MTLF	**Montolieu**	**6.70**	**340**	Pn	**Pn**	**11 28 15.0**	**+0.7**
MTLF				Sn	**Sn**	**11 29 30.0**	**-0.6**
	0.9nm,0.3s						
EQES	**Quesada**	**6.74**	**279**	P	**Pn**	**11 28 13.3**	**-1.5**
	2.7nm,0.5s,SNR=4.0						
EQES	**Quesada**	**6.74**	**279**	P	**Pn**	**11 28 13.3**	**-1.5**
	2.7nm,0.5s,SNR=4.0						
EQES	**Quesada**	**6.74**	**279**	P	**Pn**	**11 28 13.3**	**-1.5**
EQES				P		11 28 14.2	
EBIE	**Bielsa**	**6.88**	**326**	P	**Pn**	**11 28 19.1**	**+2.3**
	1.6nm,0.4s,SNR=4.0						
EBIE	**Bielsa**	**6.88**	**326**	P	**Pn**	**11 28 19.1**	**+2.3**
	1.6nm,0.4s,SNR=4.0						
SMRF	**Simiane la Rot**	**6.89**	**1**	*e*Pn	**Pn**	**11 28 17.9**	**+0.9**
SMRF				*e*Sn	**Sn**	**11 29 35.3**	**-0.1**
	0.6nm,0.2s						
SMRF	**Simiane la Rot**	**6.89**	**1**	Pn	**Pn**	**11 28 17.9**	**+0.9**
SMRF				Sn	**Sn**	**11 29 35.3**	**-0.1**
	0.6nm,0.2s						
SBF	**Sospel**	**6.96**	**13**	*e*Pn	**Pn**	**11 28 17.8**	**-0.1**
SBF				*e*Sn	**Sn**	**11 29 35.8**	**-1.3**
EPF	**Esparros**	**7.07**	**329**	*e*Pn	**Pn**	**11 28 21.0**	**+1.5**
EPF				*e*Sn	**Sn**	**11 29 39.3**	**-0.6**
	1.0nm,0.3s						
EPF	**Esparros**	**7.07**	**329**	Pn	**Pn**	**11 28 21.0**	**+1.5**
EPF				Sn	**Sn**	**11 29 39.3**	**-0.6**
	0.5nm,0.3s						
LASF	**Ste Croix**	**7.08**	**351**	*e*Pn	**Pn**	**11 28 19.6**	**0.0**
LASF				*e*Sn	**Sn**	**11 29 40.2**	**+0.1**
	1.1nm,0.3s						
LASF	**Ste Croix**	**7.08**	**351**	Pn	**Pn**	**11 28 19.6**	**0.0**
LASF				Sn	**Sn**	**11 29 40.2**	**+0.1**
	0.6nm,0.3s						
ETSF	**Etsaut**	**7.37**	**324**	*e*Pn	**Pn**	**11 28 24.8**	**+1.3**
ETSF				*e*Sn	**Sn**	**11 29 47.2**	**0.0**
	0.8nm,0.3s						
ETSF	**Etsaut**	**7.37**	**324**	Pn	**Pn**	**11 28 24.8**	**+1.3**
ETSF				Sn	**Sn**	**11 29 47.2**	**0.0**
	0.4nm,0.3s						
VIVF	**Saint-Julien-l**	**7.79**	**356**	*e*Pn	**Pn**	**11 28 29.3**	**0.0**
VIVF				*e*Sn	**Sn**	**11 29 55.2**	**-2.2**
	2.7nm,0.4s						
VIVF	**Saint-Julien-l**	**7.79**	**356**	*e*Pn	**Pn**	**11 28 29.3**	**0.0**
VIVF				*e*Sn	**Sn**	**11 29 55.2**	**-2.2**
	1.4nm,0.4s						
SJPF	**Ste Jean**	**7.85**	**322**	*e*Pn	**Pn**	**11 28 30.5**	**+0.4**
LFF	**La Frestale**	**8.59**	**338**	*e*Pn	**Pn**	**11 28 41.7**	**+1.4**

ISCJB ***26*** *11:48:08.4±2.5, 487N±02×1529E±02, h190km±28km, mb3.5/11, Error ellipse: s-maj=28.4km s-min=16.9km az=127.5*
NEIC ***26*** *11:48:08.9±3.9, 4868N×15289E, h177km±41km, mb3.7/4, Error ellipse: s-maj=16.7km s-min=9.8km az=151.0*
IDC ***26*** *11:48:09.4±3.6, 4868N×15289E, h182km±37km, mb3.1/7, mb1 3.3/9, mb1mx3.1/22, mbtmp3.6/9, Error ellipse: s-maj=24.7km s-min=16.3km az=141.0*

ISC 26 11:48:09.0±2.4, 487N±02×1529E±02, h180km±27km, n15, σ0946/15, mb3.5/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.46**	**241**	P	**Pn**	**11 50 08.4**	**+0.2**
	0.6nm,0.3s,baz=357,slow=7.7,SNR=5.3						
MJAR	**Matsushiro Arr**	**16.22**	**227**	P	**Pn**	**11 51 46.4**	**-0.4**
	0.3nm,0.3s,baz=13,slow=11,SNR=3.5						
MJAR	**Matsushiro Arr**	**16.22**	**227**	P	**Pn**	**11 51 46.4**	**-0.4**
ULN	**Ulaanbaatar**	**30.17**	**286**	P	**P**	**11 54 02.3**	**+0.2**
	0.6nm,0.4s,mb3.7						
COLA	**College**	**34.72**	**40**	*e*P	**P**	**11 54 41.4**	**-0.3**
	1.9nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**35.14**	**40**	P	**P**	**11 54 44.9**	**-0.4**
	0.5nm,0.5s,mb3.4,baz=261,slow=5.4,SNR=22						
INK	**Inuvik**	**40.10**	**34**	*e*P	**P**	**11 55 27.2**	**+0.4**
	0.4nm,0.4s,mb3.4						
MKAR	**Makanchi Array**	**45.94**	**296**	P	**P**	**11 56 14.2**	**+0.5**
	0.4nm,0.5s,mb3.3,baz=70,slow=6.2,SNR=4.9						
CHKZ	**Chkalovo**	**49.08**	**309**	*e*P	**P**	**11 56 37.8**	**-0.1**
	1.0nm,0.5s,mb3.7						
YKA	**Yellowknife Ar**	**49.46**	**38**	P	**P**	**11 56 40.8**	**+0.1**
	0.2nm,0.5s,mb3.0,baz=299,slow=7.0,SNR=14						
BVAR	**Borovoye Array**	**49.53**	**308**	P	**P**	**11 56 41.6**	**+0.3**
	0.4nm,0.3s,mb3.5,baz=53,slow=7.6,SNR=5.7						
FINES	**FINESS Array B**	**62.22**	**334**	P	**P**	**11 58 10.3**	**-1.1**
	0.3nm,0.4s,mb3.5,baz=33,slow=6.6,SNR=8.6						
FINES	**FINESS Array B**	**62.22**	**334**	P	**P**	**11 58 10.3**	**-1.1**
PDAR	**Pinedale Array**	**63.73**	**55**	P	**P**	**11 58 22.1**	**+0.8**
	0.3nm,0.9s,mb3.1,baz=117,slow=0.7,SNR=4.1						
ASAR	**Alice Springs**	**74.01**	**198**	P	**P**	**11 59 24.7**	**-0.1**
	0.5nm,0.8s,mb3.3,baz=19,slow=5.2,SNR=7.7						

ISCJB ***26*** *12:55:32.8±4.5, 799N±03×234E±08, h10km, Error ellipse: s-maj=48.1km s-min=14.9km az=31.9*
CSEM ***26*** *12:55:32.8±0.4, 8009N×2254E, h2km, ML2.7, Error ellipse: s-maj=8.9km s-min=4.2km az=31.0*
BER ***26*** *12:55:35.2±2.0, 7990N×2327E, h0km±12km, MD3.1, ML2.8, ML2.7(NAO)*
NAO ***26*** *12:55:37.7±3.6, 7995N×2137E, h20km±17km, ML2.7*

ISC 26 12:55:33.3±4.0, 800N±03×230E±07, h10km, n8, σ1922/15, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.23**	**218**	Pn	**Pn**	**12 56 09.9**	**-0.3**
	baz=39,slow=14						
SPA0				Pg	**Pg**	**12 56 14.6**	**-1.3**
	baz=32,slow=14						
SPA0				Lg		12 56 41.8	
SPA0	**Spitsbergen Ar**	**2.23**	**218**	Pg	**Pg**	**12 56 14.6**	**-1.3**
	SNR=0.3						
KBS	**Kingsbay**	**2.30**	**247**	Pn	**Pn**	**12 56 09.4**	**-1.8**
KBS				Pg	**Pg**	**12 56 14.4**	**-2.9**
KBS				Lg		12 56 40.8	
KBS	**Kingsbay**	**2.30**	**247**	*e*P	**Pn**	**12 56 11.6**	**+0.4**
KBS				*e*S	**Sn**	**12 56 41.0**	**+1.5**
KBS				AML	AML	12 56 41.5	
	comp=Z,101nm,0.3s						
KBS	**Kingsbay**	**2.30**	**247**	*e*P	**Pn**	**12 56 11.6**	**+0.4**
	SNR=50						
KBS				*e*S	**Sn**	**12 56 41.0**	**+1.5**
	comp=Z,101nm,0.3s,SNR=50						
HSP	**Hornsund**	**3.36**	**210**	*e*P	**Pn**	**12 56 26.8**	**+1.0**
HSP				*e*S	**Sn**	**12 57 17.1**	**+11**
HSP	**Hornsund**	**3.36**	**210**	P	**Pn**	**12 56 26.8**	**+1.0**
HSP				S	**Sn**	**12 57 17.1**	**+11**
ARA0	**ARCESS Array S**	**10.55**	**175**	Pn	**Pn**	**12 58 04.9**	**+0.4**
	baz=358,slow=14						
ARA0				Sn	**Sn**	**12 59 55.2**	**-7.5**
	baz=2.5,slow=22						

NIED ***26*** *13:02:00, 2980N×14120E, h11km, Mw4.7 Best double couple: M0 1.19000×10^16 NP1:φs193.00000°, δ58.00000°, λ-71.00000°. NP2:φs340.00000°, δ37.00000°, λ-117.00000°.*
BJI ***26*** *13:02:51.1, 2940N×14051E, h48km, mB4.6, mb4.1, Ms4.2, Msz3.8*
ISCJB ***26*** *13:02:52.4±0.6, 2946N±003×14015E±004, h41km±5km, mb4.2/36, MS4.0/21, Error ellipse: s-maj=6.5km s-min=4.4km az=121.5*
JMA ***26*** *13:02:53.5, 2977N×14123E, h25km, M4.1*
IDC ***26*** *13:02:53.3±4.2, 2953N×14000E, h33km±32km, mb3.8/17, mb1 4.1/20, mb1mx4.0/24, mbtmp4.1/20, ML4.4/3, MS3.9/18, Ms1 3.9/18, ms1mx3.7/35, Error ellipse: s-maj=19.9km s-min=13.3km az=81.0*
NEIC ***26*** *13:02:53.6±0.3, 2949N×14007E, h35km, mb4.5/13, MW4.7(NIED), Error ellipse: s-maj=11.5km s-min=6.8km az=91.0*
MOS ***26*** *13:02:54.3±1.1, 2960N×13992E, h59km, mb4.9/9, Error ellipse: s-maj=18.9km s-min=7.2km az=90.9*

ISC 26 13:02:54.5±0.5, 2948N±003×14021E±005, h45km±4km, h35km±.5km: pP-P, n104, σ1927/108, mb4.2/36, MS4.0/21, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.94**	**143**	Pn	**Pn**	**13 03 38.2**	**-0.5**
	287nm,0.3s,baz=12,slow=5.0,SNR=174						
CBIJ				Sn	**Sn**	**13 04 12.2**	**-0.7**
	650nm,0.3s,baz=164,slow=23,SNR=24						
CBIJ				LR	LR	13 04 54.1	
	comp=Z,2μm,19.2s,baz=321,slow=39						
CBIJ	**Chichi jima**	**2.94**	**143**	P	**Pn**	**13 03 38.2**	**-0.6**
CBIJ				S	**Sn**	**13 04 11.4**	**-1.5**
JHHJ	**Haha-jima-NKT**	**3.33**	**148**	P	**Pn**	**13 03 43.8**	**-0.3**
JHHJ				S	**Sn**	**13 04 22.1**	**-0.2**
JHJ2	**Mitsune**	**3.64**	**355**	P	**Pn**	**13 03 49.4**	**+1.1**
JHJ	**Hachijo jima 2**	**3.65**	**354**	Pn	**Pn**	**13 03 47.0**	**-1.4**
	19nm,0.3s,baz=222,slow=15,SNR=12						
JHJ				LR	LR	13 04 59.5	
	comp=Z,483nm,21.4s,baz=297,slow=35						
JKO	**Kozu shima**	**4.78**	**349**	P	**Pn**	**13 04 05.8**	**+1.8**
BSO1	**Boso 1**	**5.20**	**7**	P	**Pn**	**13 04 07.5**	**-2.2**
JIM2	**Oshima 3**	**5.26**	**353**	P	**Pn**	**13 04 10.7**	**+0.1**
JHMK	**Hamakita**	**5.71**	**339**	P	**Pn**	**13 04 20.6**	**+3.8**
HMMJ	**Hamamatsu 2**	**5.76**	**339**	P	**Pn**	**13 04 21.7**	**+4.2**
JOD2	**Odawara 2**	**5.84**	**351**	P	**Pn**	**13 04 20.3**	**+1.7**
JOD2				*e*S	**Sn**	**13 05 27.8**	**+3.5**
JNY	**Yasuok**	**6.19**	**342**	P	**Pn**	**13 04 24.5**	**+1.2**
JHU	**Hanno**	**6.40**	**353**	P	**Pn**	**13 04 26.6**	**+0.3**
JRY	**Ryogami san**	**6.61**	**351**	P	**Pn**	**13 04 29.7**	**+0.6**
JAG	**Ashikaga**	**6.96**	**355**	P	**Pn**	**13 04 31.9**	**-1.9**
JHO	**Hitachi**	**7.12**	**2**	P	**Pn**	**13 04 34.2**	**-1.9**
JHO				*e*S	**Sn**	**13 05 52.7**	**-2.9**
MJAR	**Matsushiro Arr**	**7.24**	**347**	Pn	**Pn**	**13 04 37.1**	**-0.6**
	1.1nm,0.3s,baz=135,slow=16,SNR=16						
MJAR				LR	LR	13 07 15.4	
	comp=Z,654nm,19.7s,baz=170,slow=37						
MAJO	**Matsushiro**	**7.24**	**347**	*e*Pn	**Pn**	**13 04 38.0**	**+0.3**
	20nm,0.8s						
MAJO	**Matsushiro**	**7.24**	**347**	*e*P	**Pn**	**13 04 38.0**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**7.24**	**347**	P	**Pn**	**13 04 38.4**	**+0.6**
MAT				*e*S	**Sn**	**13 06 01.6**	**+2.9**
MAT	**Matsushiro**	**7.24**	**347**	*e*P	**Pn**	**13 04 38.0**	**+0.2**
JOW	**Kunigami**	**10.86**	**259**	LR	LR	13 09 02.0	
	comp=Z,767nm,21.4s,baz=329,slow=34						
ERM	**Erimo**	**12.73**	**10**	P	**Pn**	**13 05 54.3**	**+1.4**
GUMO	**Guam**	**16.39**	**164**	LR	LR	13 12 35.0	
	comp=Z,216nm,18.3s,baz=265,slow=35						
SSE	**Sheshan**	**16.52**	**280**	P	**Pn**	**13 06 41.0**	**-1.9**
SSE				XP	sP	13 06 59.0	-2.2
SSE				S	**S**	**13 09 41.0**	**-14**
SSE				XS	sS	13 10 08.5	-3.6
SSE				AMB	AMB		
	comp=Z,24nm,0.7s						
SSE				AMB	AMB		
	comp=Z,72nm,4.3s						
SSE				LR	LR		
	comp=N,35nm,21.1s						
SSE				LR	LR		
	comp=E,228nm,21.1s						
SSE				LR	LR		
	comp=Z,262nm,23.0s						
MDJ	**Mudanjiang**	**17.30**	**334**	P	**Pn**	**13 06 52.0**	**-0.7**
MDJ				AP	pP	13 07 01.3	-2.9
MDJ				XP	sP	13 07 05.5	-4.4
MDJ				S	**S**	**13 10 06.8**	**-4.5**
MDJ				SS		13 10 30.8	
MDJ				SCP	ScP	13 15 06.5	+1.8
MDJ				PCS	PcS	13 15 10.3	+0.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,101nm,5.4s						
MDJ				LR	LR		
	comp=N,177nm,20.0s						
MDJ				LR	LR		
	comp=E,168nm,18.9s						
MDJ				LR	LR		
	comp=Z,168nm,25.0s						
DL2	**Dalian**	**17.99**	**306**	P	**Pn**	**13 07 03.0**	**+1.8**
DL2				XP	sP	13 07 13.5	-4.1
DL2				S	**S**	**13 10 28.0**	**+2.6**
DL2				AMB	AMB		
	comp=Z,140nm,5.7s						
DL2				LR	LR		
	comp=N,230nm,14.7s						
DL2				LR	LR		
	comp=E,260nm,14.7s						
DL2				LR	LR		
	comp=Z,480nm,18.9s						
SNY	**Shenyang**	**18.25**	**317**	⇓P	**Pn**	**13 07 05.0**	**+0.6**
SNY				AP	pP	13 07 13.0	-1.8
SNY				XP	sP	13 07 17.5	-2.9
SNY				PP		13 07 20.0	
SNY				S	**S**	**13 10 28.8**	**-1.8**
SNY				SS		13 10 47.8	
SNY				AMB	AMB		
	comp=Z,13nm,1.6s						
SNY				AMB	AMB		
	comp=Z,254nm,4.1s						
SNY				LR	LR		
	comp=N,423nm,11.1s						
SNY				LR	LR		
	comp=E,168nm,9.0s						
SNY				LR	LR		
	comp=Z,200nm,12.6s						
NJ2	**Nanjing**	**18.53**	**283**	*e*P	**Pn**	**13 07 07.3**	**-0.5**
NJ2				AP	pP	13 07 15.0	-2.8
NJ2				XP	sP	13 07 19.8	-3.7
NJ2				PP		13 07 22.8	
NJ2				S	**S**	**13 10 28.0**	**-8.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,90nm,4.0s						
NJ2				LR	LR		
	comp=N,510nm,12.1s						
NJ2				LR	LR		
	comp=E,410nm,20.3s						
NJ2				LR	LR		
	comp=Z,260nm,12.0s						
QZH	**Quanzhou**	**19.75**	**262**	P	**Pn**	**13 07 22.5**	**+0.2**
QZH				S	**S**	**13 11 07.5**	**+6.9**
QZH				LR	LR		
	comp=Z,530nm,18.0s						
KLR	**Kul'dur**	**20.75**	**344**	*e*P	**P**	**13 07 30.3**	**-1.2**
BJI	**Beijing**	**22.32**	**305**	P	**P**	**13 07 49.5**	**+1.3**
BJI				S	**S**	**13 11 53.5**	**+2.3**
BJI				AMB	AMB		
	comp=Z,12nm,1.6s,mb4.1						
BJI				AMB	AMB		
	comp=Z,94nm,3.9s						
BJI				LR	LR		
	comp=N,453nm,18.5s,MS4.0						
BJI				LR	LR		
	comp=E,273nm,19.6s,MS4.0						
BJI				LR	LR		
	comp=Z,402nm,21.8s,MS3.8						
HHC	**Hu-ho-hao-te**	**25.91**	**304**	*e*P	**P**	**13 08 22.8**	**+0.5**
HHC				AP	pP	13 08 32.0	-2.1
HHC				XP	sP	13 08 36.0	-3.5
HHC				PP		13 09 03.5	
HHC				PCP	PcP	13 11 52.5	+2.3
HHC				S	**S**	**13 12 47.5**	**-1.8**
HHC				SS		13 13 53.0	
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,63nm,4.3s						
HHC				LR	LR		
	comp=N,200nm,8.8s						
HHC				LR	LR		
	comp=E,1μm,21.1s						
HHC				LR	LR		
	comp=Z,454nm,19.3s,MS4.0						
QIZ	**Qiongzhong**	**29.50**	**256**	P	**P**	**13 08 54.0**	**-0.4**
QIZ				S	**S**	**13 13 44.5**	**-1.3**
QIZ				LR	LR		
	comp=E,189nm,21.9s						
QIZ				LR	LR		
	comp=Z,185nm,19.1s,MS3.7						
MA2	**Magadan**	**30.94**	**10**	*e*P	**P**	**13 09 06.0**	**-1.2**
	comp=Z,8.8nm,0.8s,mb4.6						
MA2	**Magadan**	**30.94**	**10**	*e*P	**P**	**13 09 06.0**	**-1.2**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**31.41**	**315**	*i*P	**P**	**13 09 17.9**	**+6.6**
CD2	**Chengdu**	**31.45**	**282**	*e*P	**P**	**13 09 11.0**	**-0.7**
CD2				AP	pP	13 09 20.5	-3.1
CD2				PP	PP	13 10 19.0	-4.2
CD2				S	**S**	**13 14 21.5**	**+5.0**
CD2				XS	sS	13 14 37.3	+0.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,40nm,5.3s						
CD2				LR	LR		
	comp=E,170nm,14.4s						
CD2				LR	LR		
	comp=Z,160nm,16.8s,MS3.8						
SONM	**Songino Array**	**31.80**	**315**	P	**P**	**13 09 15.0**	**+0.3**
	comp=Z,0.7nm,0.9s,mb3.5,baz=116,slow=6.6,SNR=4.8						
SONM				LR	LR	13 22 55.6	
	comp=Z,132nm,18.5s,MS3.6,baz=109,slow=38						
KMI	**Kunming**	**33.48**	**272**	P	**P**	**13 09 30.8**	**+1.3**
KMI				AP	pP	13 09 40.5	-0.9
KMI				XP	sP	13 09 44.3	-2.4
KMI				PP	PP	13 10 42.0	-3.7
KMI				PPP		13 10 59.0	
KMI				S	**S**	**13 14 47.0**	**-1.1**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,105nm,5.6s						
KMI				LR	LR		
	comp=N,126nm,13.9s,MS4.0						
KMI				LR	LR		
	comp=E,155nm,13.9s,MS4.0						
KMI				LR	LR		
	comp=Z,168nm,17.6s,MS3.8						
SEY	**Seymchan**	**34.38**	**10**	*e*P	**P**	**13 09 34.7**	**-2.6**
GTA	**Gaotai**	**34.51**	**298**	*e*P	**P**	**13 09 38.0**	**-0.4**
GTA				AP	pP	13 09 48.0	-2.4
GTA				XP	sP	13 09 52.8	-2.9
GTA				PP	PP	13 10 57.3	+0.2
GTA				S	**S**	**13 15 06.5**	**+2.6**
GTA				XS	sS	13 15 23.5	-0.5
GTA				SS	SS	13 17 24.0	-11
GTA				AMB	AMB		
	comp=Z,4.0nm,2.1s,mb4.0						
GTA				AMB	AMB		
	comp=Z,106nm,4.2s						
GTA				LR	LR		
	comp=N,182nm,15.6s,MS4.1						
GTA				LR	LR		
	comp=E,221nm,16.4s,MS4.1						
GTA				LR	LR		
	comp=Z,307nm,20.9s,MS4.0						
BILL	**Bilibino**	**41.56**	**14**	P	**P**	**13 10 37.0**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.1						
BILL	**Bilibino**	**41.56**	**14**	P	**P**	**13 10 37.0**	**-0.7**
BILL				pmax	pmax		
	comp=Z,13nm,1.8s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.8						
TIXI	**Tiksi**	**42.68**	**355**	*e*P	**P**	**13 10 42.8**	**-4.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.9						
WMQ	**Urumqi**	**43.79**	**304**	*e*P	**P**	**13 10 56.5**	**+0.7**
WMQ				AP	pP	13 11 06.3	-1.8
WMQ				XP	sP	13 11 10.3	-3.0
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,89nm,4.3s						
WMQ				LR	LR		
	comp=N,552nm,21.0s						
WMQ				LR	LR		
	comp=Z,564nm,20.0s,MS4.5						
PSI	**Prapat**	**47.30**	**244**	LR	LR	13 28 10.2	
	comp=Z,64nm,18.9s,MS3.6,baz=213,slow=32						
MKAR	**Makanchi Array**	**47.63**	**308**	P	**P**	**13 11 24.8**	**-1.3**
	comp=Z,0.3nm,0.8s,mb3.4,baz=97,slow=6.5,SNR=3.5						
MKAR				LR	LR	13 32 25.3	
	comp=Z,246nm,18.7s,MS4.2,baz=101,slow=37						
TNA	**Tin City**	**47.99**	**26**	*e*P	**P**	**13 11 29.0**	**+0.1**
	comp=Z,3.2nm,1.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**49.35**	**198**	*e*P	**P**	**13 11 41.6**	**+2.3**
	comp=Z,11nm,1.4s,mb4.7						
WRAB	**Tennant Creek**	**49.45**	**187**	*e*P	**P**	**13 11 41.1**	**+1.0**
	comp=Z,20nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**49.45**	**187**	*e*P	**P**	**13 11 41.1**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
WB2	**Warramunga Arr**	**49.46**	**187**	*e*P	**P**	**13 11 41.1**	**+0.9**
WRA	**Warramunga Arr**	**49.46**	**187**	P	**P**	**13 11 40.9**	**+0.7**
	comp=Z,5.7nm,0.6s,mb4.8,baz=7,2,slow=8.0,SNR=52						
ASAR	**Alice Springs**	**53.19**	**187**	P	**P**	**13 12 08.8**	**+0.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=357,slow=4.6,SNR=28						
CHKZ	**Chkalovo**	**54.94**	**317**	*e*P	**P**	**13 12 19.2**	**-1.7**
BVAR	**Borovoye Array**	**55.12**	**316**	P	**P**	**13 12 20.4**	**-1.8**
	comp=Z,0.8nm,0.6s,mb4.0,baz=111,slow=8.1,SNR=6.4						
MCK	**McKinley**	**55.55**	**31**	*e*P	**P**	**13 12 24.7**	**-0.6**
	comp=Z,10nm,1.7s,mb4.6						
MCK	**McKinley**	**55.55**	**31**	*e*P	**P**	**13 12 24.7**	**-0.6**
MCK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.6						
COLA	**College**	**56.07**	**29**	*e*P	**P**	**13 12 29.5**	**+0.5**
ILAR	**Eielson Array**	**56.48**	**29**	P	**P**	**13 12 31.1**	**-0.9**
	comp=Z,2.1nm,0.7s,mb4.2,baz=276,slow=5.8,SNR=29						
STKA	**Stephens Creek**	**61.03**	**179**	P	**P**	**13 13 02.8**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.1,baz=151,slow=19,SNR=3.5						
STKA				LR	LR	13 38 57.1	
	comp=Z,148nm,20.2s,MS4.1,baz=205,slow=35						
STKA	**Stephens Creek**	**61.03**	**179**	*e*P	**P**	**13 13 02.0**	**-1.5**
INK	**Inuvik**	**61.60**	**25**	P	**P**	**13 13 07.5**	**+0.1**
	comp=Z,0.6nm,0.5s,mb4.0,baz=266,slow=4.6,SNR=14						
INK	**Inuvik**	**61.60**	**25**	*e*P	**P**	**13 13 06.8**	**-0.6**
	comp=Z,0.6nm,0.5s,mb4.0						
INK	**Inuvik**	**61.60**	**25**	*e*P	**P**	**13 13 06.8**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**63.12**	**315**	LR	LR	13 42 25.9	
	comp=Z,132nm,18.4s,MS4.2,baz=115,slow=38						
DLBC	**Dease Lake**	**65.27**	**35**	P	**P**	**13 13 32.9**	**+1.2**
	comp=Z,1.6nm,1.0s,mb4.0,baz=57,slow=3.4,SNR=3.5						
RES	**Resolute Bay**	**70.16**	**13**	*e*P	**P**	**13 14 01.7**	**-0.7**
	comp=Z,3.8nm,0.8s,mb4.4						
RES	**Resolute Bay**	**70.16**	**13**	*e*P	**P**	**13 14 01.7**	**-0.7**
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**70.72**	**340**	P	**P**	**13 14 04.4**	**-1.5**
	comp=Z,3.6nm,0.7s,mb4.4,baz=69,slow=9.0,SNR=11						
ARCES				LR	LR	13 48 28.3	
	comp=Z,62nm,19.6s,MS3.9,baz=238,slow=39						
YKW3	**Yellowknife Ar**	**70.84**	**28**	*e*P	**P**	**13 14 05.7**	**-0.9**
YKA	**Yellowknife Ar**	**70.88**	**28**	P	**P**	**13 14 06.4**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.2,baz=294,slow=6.1,SNR=50						
FINES	**FIN

FCC	Fort Churchill	81.22	25	eP	P	13 15 04.0	-1.7
PPT	Papeete	82.26	115	eLR	LR	13 40 35.0	
	comp=Z,81nm,21.0s						
PPT	Papeete	82.26	115	LR	LR	13 46 37.8	
	comp=Z,114nm,19.0s,MS4.3,baz=314,slow=32						
TPNV	Topopah Spring	82.56	52	eP	P	13 15 13.9	+1.2
	comp=Z,5.4nm,0.8s,mb4.6						
TPNV	Topopah Spring	82.56	52	eP	P	13 15 13.9	+1.2
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BRTR	Keskin Array B	83.12	312	P	P	13 15 15.3	-0.2
	comp=Z,1.4nm,0.8s,mb4.0,baz=83,slow=4.1,SNR=6.1						
PDAR	Pinedale Array	83.73	44	P	P	13 15 19.9	+1.1
	comp=Z,0.7nm,0.8s,mb3.8,baz=345,slow=4.6,SNR=5.9						
PDAR				LR	LR	13 53 22.2	
	comp=Z,54nm,18.3s,MS4.0,baz=259,slow=36						
MSU	Marysvale	84.45	49	eP	P	13 15 24.6	+2.1
SRU	San Rafael	85.19	47	eP	P	13 15 27.9	+1.7
	comp=Z,5.8nm,0.7s,mb4.8						
SRU	San Rafael	85.19	47	eP	P	13 15 27.9	+1.8
SRU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
TBI	Tubuai	85.59	120	eLR	LR	13 42 07.5	
	comp=Z,159nm,30.2s						
PV10	Paradox Valley	86.57	47	eP	P	13 15 33.7	+0.8
PV01	Paradox Valley	87.01	47	eP	P	13 15 35.6	+0.5
GERES	GERESS Array B	88.58	328	LR	LR	13 59 02.9	
	comp=Z,117nm,19.6s,MS4.3,baz=329,slow=38						
RKT	Rikitea	96.81	113	eLR	LR	13 47 19.6	
	comp=Z,106nm,33.0s						
SAML	Samuel	150.03	52	ePKPbc	PKPbc	13 22 40.6	+0.5
SAML				ePKPab	PKPab	13 22 48.1	+2.1
LPAZ	La Paz	150.87	69	PKPbc	PKPbc	13 22 45.4	+3.2
	comp=Z,2.6nm,0.8s,baz=8.4,slow=5.3,SNR=7.8						
LPAZ	La Paz	150.87	69	ePKIKP	PKPbc	13 22 43.6	+1.5
PLCA	Paso Flores	152.58	122	PKPbc	PKPbc	13 22 47.7	+1.7
	comp=Z,1.8nm,0.6s,baz=230,slow=3.8,SNR=7.0						

NIED ***26*** *13:16:00, 2960N×14080E, h14km, Mw4.1 Best double couple: M0 1.78000×10^15 NP1:ϕs191.00000°, δ83.00000°, λ-115.00000°. NP2:ϕs85.00000°, δ26.00000°, λ-17.00000°.*

IDC ***26*** *13:16:14.5±1.0, 2960N×14003E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, ML4.4/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/36, Error ellipse: s-maj=45.6km s-min=20.2km az=93.0*

ISCJB ***26*** *13:16:19.3±1.5, 2949N±009×1402E±02, h49km±15km, mb3.6/5, MS3.1/1, Error ellipse: s-maj=36.5km s-min=9.7km az=138.3*

ISC 26 13:16:21.2±1.3, 2951N±009×1403E±02, h48km±14km, n11, σ0°61/9, mb3.6/5, MS3.1/1, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.92	145	Pn	Pn	13 17 04.4	-0.7
	60nm,0.3s,baz=112,slow=23,SNR=39						
CBIJ				Sn	Sn	13 17 39.1	+0.2
	96nm,0.3s,baz=290,slow=22,SNR=30						
CBIJ				LR	LR	13 18 21.1	
	comp=Z,275nm,20.3s,baz=97,slow=40						
JHJ	Hachijo jima 2	3.63	353	Pn	Pn	13 17 15.3	+0.5
	7.7nm,0.3s,baz=61,slow=13,SNR=4.1						
MJAR	Matsushiro Arr	7.23	346	Pn	Pn	13 18 04.2	0.0
	0.1nm,0.3s,baz=184,slow=14,SNR=2.8						
JNU	Nakatsue	8.83	296	LR	LR	13 21 45.4	
	comp=Z,273nm,18.9s,baz=70,slow=39						
JOW	Kunigami	10.95	259	LR	LR	13 22 26.8	
	comp=Z,189nm,21.1s,baz=115,slow=35						
SONM	Songino Array	31.84	315	LR	LR	13 36 41.4	
	comp=Z,36nm,18.2s,MS3.1,baz=292,slow=39						
WRA	Warramunga Arr	49.50	187	P	P	13 25 07.2	+0.4
	1.2nm,0.6s,mb4.1,baz=6.5,slow=8.0,SNR=31						
ASAR	Alice Springs	53.23	187	P	P	13 25 35.2	+0.6
	0.2nm,0.6s,mb3.2,baz=360,slow=5.0,SNR=8.5						
ILAR	Eielson Array	56.41	29	P	P	13 25 58.0	+0.3
	0.2nm,0.6s,mb3.4,baz=277,slow=8.1,SNR=6.0						
YKA	Yellowknife Ar	70.81	28	P	P	13 27 32.8	+0.2
	0.3nm,0.7s,mb3.3,baz=296,slow=6.4,SNR=8.2						
FINES	FINESS Array B	75.06	333	P	P	13 27 56.4	-1.4
	0.7nm,0.6s,mb3.7,baz=42,slow=6.2,SNR=6.6						

IDC 26 13:20:22.1±1.7, 2957N×14007E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/19, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=67.7km s-min=25.7km az=96.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.09	142	Pn	Pn	13 21 12.1	0.0
	34nm,0.3s,baz=291,slow=23,SNR=8.1						
CBIJ				Sn	Sn	13 21 45.8	-3.8
	63nm,0.3s,baz=287,slow=22,SNR=16						
JHJ	Hachijo jima 2	3.55	356	Pn	Pn	13 21 25.8	+7.4
	8.3nm,0.3s,baz=62,slow=14,SNR=3.9						
WRA	Warramunga Arr	49.53	187	P	P	13 29 14.6	+0.1
	1.7nm,0.8s,baz=5.5,slow=7.9,SNR=10						
ILAR	Eielson Array	56.46	29	P	P	13 30 05.3	-0.3
	0.8nm,1.1s,baz=283,slow=7.2,SNR=4.8						
YKA	Yellowknife Ar	70.86	28	P	P	13 31 40.4	-0.3
	0.2nm,0.6s,baz=295,slow=6.4,SNR=5.9						

IDC ***26*** *13:24:17.3±8.7, 703S×12432E, h608km±139km, mb2.7/2, mb1 2.9/5, mb1mx2.7/15, mbtmp3.8/5, Error ellipse: s-maj=216.4km s-min=31.3km az=50.0*

NEIC ***26*** *13:24:17.1±2.2, 708S×124.14E, h601km±30km, mb4.1/5, Error ellipse: s-maj=24.7km s-min=19.0km az=209.0*

ISCJB ***26*** *13:24:18.6±2.9, 72S±02×124.1E±02, h653km±48km, mb3.6/3, Error ellipse: s-maj=37.3km s-min=29.6km az=2.9*

ISC 26 13:24:17.2±3.0, 71S±02×1241E±02, h602km±41km, n13, σ0°49/13, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.05	172	eP	P	13 26 46.2	-0.2
	5.3nm,0.3s						
FITZ	Fitzroy Crossi	11.05	172	P	P	13 26 46.4	-0.1
	1.1nm,0.3s,baz=1.1,slow=13,SNR=33						
MBWA	Marble Bar	14.63	196	eP	P	13 27 21.6	-0.2
	4.5nm,0.4s						
WRAB	Tennant Creek	16.18	143	eP	P	13 27 36.4	+0.4
	2.6nm,0.5s						
WRA	Warramunga Arr	16.18	143	P	P	13 27 35.9	-0.1
	0.5nm,0.3s,baz=320,slow=8.8,SNR=54						
WB2	Warramunga Arr	16.18	143	eP	P	13 27 36.3	+0.2
ASAR	Alice Springs	18.98	151	P	P	13 28 02.2	+0.7
	0.4nm,0.3s,baz=339,slow=15,SNR=25						
KLBR	Kellerberrin	25.11	193	eP	P	13 28 56.4	+0.2
	16nm,1.3s,mb4.5						
MUN	Mundaring	25.85	196	eP	P	13 29 02.9	+0.2
STKA	Stephens Creek	29.57	149	eP	P	13 29 33.8	-1.2
	2.2nm,1.3s,mb3.6						
STKA	Stephens Creek	29.57	149	P	P	13 29 33.7	-1.4
	1.9nm,1.0s,mb3.7,baz=326,slow=11,SNR=8.5						
MKAR	Makanchi Array	65.22	330	P	P	13 34 00.5	0.0
	0.4nm,0.6s,mb3.0,baz=136,slow=8.0,SNR=4.9						
MKAR	Makanchi Array	65.22	330	P	P	13 34 00.5	0.0

IDC 26 13:24:30.6±1.9, 142N×10034E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=80.9km s-min=21.5km az=46.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.97	314	Pg	Pg	13 25 05.2	-3.2
	0.9nm,0.3s,baz=209,slow=4.3,SNR=3.5						
PSI				Lg		13 25 20.1	
	1.2nm,0.3s,baz=203,slow=19,SNR=3.7						
WRA	Warramunga Arr	39.52	124	P	P	13 32 03.4	+0.4
	0.2nm,0.5s,baz=305,slow=8.8,SNR=3.3						
ASAR	Alice Springs	41.06	130	P	P	13 32 16.1	+0.3
	0.4nm,0.8s,baz=301,slow=8.2,SNR=4.1						
SONM	Songino Array	46.53	6	P	P	13 33 00.1	+0.3
	0.2nm,0.6s,baz=205,slow=6.4,SNR=3.3						

MAN 26 13:30:09.7, 1633N×12056E, h8km, mb2.5, ML4.1, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.05	20	⇓iP	Pg	13 30 13.0	+1.5
BCPH				iS	Sg	13 30 15.4	+2.7

IDC ***26*** *13:31:54.7±6.1, 3702N×7209E, h194km±51km, mb3.2/5, mb1 3.3/8, mb1mx3.0/22, mbtmp3.7/8, Error ellipse: s-maj=46.3km s-min=29.9km az=148.0*

ISCJB ***26*** *13:31:57.3±0.9, 3729N±006×7221E±0.1, h223km±12km, mb3.3/5, Error ellipse: s-maj=19.5km s-min=8.0km az=143.0*

NNC ***26*** *13:32:05.8±4.0, 3797N×7220E, h233km±29km, mb2.6, mpv3.5, Error ellipse: s-maj=47.4km s-min=19.7km az=30.0*

ISC 26 13:31:58.2±0.9, 3729N±006×721E±02, h220km±12km, n26, σ0°70/29, mb3.3/5, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.98	14	P	Pn	13 33 13.0	+0.1
	SNR=260						
UCH	Uchtor	5.26	20	P	Pn	13 33 16.8	+0.4
	SNR=77						
KZA	Kyzart	5.36	26	P	Pn	13 33 17.4	-0.1
	SNR=64						
EKS2	Erkin-Say	5.51	13	P	Pn	13 33 19.4	-0.1
	SNR=37						
AAK	Ala-Archa	5.64	18	P	Pn	13 33 21.7	+0.6
	SNR=31						
DLH	Dalhousie	5.69	145	eP	Pn	13 33 22.0	+0.2
DLH				eS	S	13 34 28.0	-0.2
KBK	Karagaybulak	5.78	21	P	Pn	13 33 24.0	+1.0
	SNR=22						
ULHL	Ulahol	5.88	31	P	Pn	13 33 24.3	+0.1
	SNR=16						
KK31	Karatay Array	5.94	348	P	Pn	13 33 23.9	-1.1
	3.2nm,0.2s,baz=158,slow=11,SNR=139						
KK31				⇑S	S	13 34 28.0	-5.9
	5.0nm,0.3s						
CHMS	Chumysh	6.05	19	P	Pn	13 33 26.3	0.0
	SNR=13						
TKM2	Tokmak 2	6.22	24	P	Pn	13 33 29.0	+0.4
	SNR=44						
TKM2	Tokmak 2	6.22	24	⇓P	Pn	13 33 28.9	+0.3
	1.5nm,0.5s						
USP	Ospenovka	6.24	16	P	Pn	13 33 28.2	-0.6
	SNR=10						
MK31	Makanchi Array	12.12	35	⇑P	Pn	13 34 43.9	-0.2
	1.7nm,0.8s,baz=216,slow=8.5,SNR=9.8						
MKAR	Makanchi Array	12.12	35	P	Pn	13 34 44.3	+0.2
	0.2nm,0.3s,baz=235,slow=8.4,SNR=9.4						
AB31	Akbulak array	14.87	327	P	Pn	13 35 19.1	+1.2
	0.6nm,0.5s,baz=151,slow=11,SNR=14						
AB31				S	S	13 37 56.3	-6.3
	0.6nm,0.4s,baz=146,slow=22,SNR=5.4						
VOSK	Vostochnaya	15.45	357	⇑P	Pn	13 35 22.5	-2.5
	3.7nm,1.4s						
BVA0	Borovoye Array	15.78	356	P	Pn	13 35 28.0	-1.0
	baz=0.0,slow=0.1,SNR=7.7						
BVAR	Borovoye Array	15.78	356	P	Pn	13 35 28.6	-0.4
	0.4nm,0.3s,baz=157,slow=11,SNR=7.5						
ZRNK	Zerenda	15.81	353	⇑P	Pn	13 35 29.2	-0.1
	1.6nm,0.6s						
AKTO	Aktyubinsk	16.58	327	P	P	13 35 38.2	+1.1
	0.2nm,0.3s,baz=125,slow=11,SNR=3.4						
FINES	FINESS Array B	37.34	325	P	P	13 38 49.8	+0.2
	0.4nm,0.4s,mb3.4,baz=109,slow=11,SNR=7.5						
ARCES	ARCESS Array B	40.77	337	P	P	13 39 18.4	+0.6
	2.6nm,0.9s,mb3.7,baz=118,slow=8.5,SNR=9.7						
NOA	NORSAR Array B	44.30	322	P	P	13 39 45.9	-0.3
	0.8nm,0.7s,mb3.1,baz=95,slow=7.7,SNR=2.7						
TORD	Torodi Ar. Bea	66.64	269	P	P	13 42 24.5	-0.6
	0.2nm,0.4s,mb3.1,baz=50,slow=5.9,SNR=11						
YKA	Yellowknife Ar	80.41	3	P	P	13 43 45.6	+0.4
	0.3nm,0.5s,mb3.2,baz=350,slow=5.4,SNR=14						

IDC 26 13:45:40.2±2.0, 079N×12577E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=171.2km s-min=26.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.25	158	P	P	13 50 37.5	-1.1
	2.3nm,0.7s,baz=336,slow=11,SNR=12						
WB2	Warramunga Arr	22.25	158	eP	P	13 50 37.8	-0.9
ASAR	Alice Springs	25.56	162	P	P	13 51 12.1	+1.3
	0.5nm,0.3s,baz=346,slow=12,SNR=19						
MKAR	Makanchi Array	59.44	327	P	P	13 55 44.8	0.0
	0.1nm,0.3s,baz=136,slow=9.7,SNR=4.3						

ISCJB ***26*** *13:47:43.0±1.3, 255S±02×1782W±02, h150km, mb3.8/5, Error ellipse: s-maj=39.3km s-min=10.4km az=90.3*

NEIC ***26*** *13:47:44.1±1.1, 2558S×178.11W, mb4.3/1, Error ellipse: s-maj=52.5km s-min=15.2km az=148.0*

IDC ***26*** *13:47:49.9±10.0, 2688S×17781W, h227km±82km, mb3.4/4, mb1 3.7/5, mb1mx3.5/13, mbtmp4.1/5, MS3.5/2, Ms1 3.5/2, ms1mx3.0/11, Error ellipse: s-maj=77.1km s-min=34.4km az=145.0*

ISC 26 13:47:44.8±1.3, 254S±02×1782W±02, h150km, n16, σ1°19/9, mb3.8/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.94	29	ePn	Pn	13 50 43.5	+0.5
AFI				eS	Sn	13 53 04.7	-1.4
DZM	Mont Dzumac	14.48	280	P	Pn	13 51 13.3	+11
	0.1nm,0.3s,baz=71,slow=15,SNR=3.7						
HNR	Honiara	26.18	304	LR	LR	14 01 08.3	
	comp=Z,77nm,19.3s,baz=178,slow=29						
CTA	Charters Tower	33.17	272	LR	LR	14 06 57.2	
	comp=Z,74nm,18.9s,baz=237,slow=34						
ASAR	Alice Springs	43.45	262	P	P	13 55 31.6	-1.1
	1.0nm,0.6s,mb3.6,baz=94,slow=6.7,SNR=16						
ASAR				pP	pP	13 56 06.9	+0.9
	0.8nm,0.8s,baz=110,slow=8.6,SNR=5.4						
WRAB	Tennant Creek	43.97	267	eP	P	13 55 37.2	+0.3
WRA	Warramunga Arr	43.98	267	P	P	13 55 36.8	-0.2
	0.9nm,0.6s,mb3.6,baz=108,slow=7.5,SNR=8.6						
WRA				pP	pP	13 56 11.1	+0.7
	2.5nm,0.8s,baz=106,slow=7.7,SNR=8.4						
MJAR	Matsushiro Arr	74.10	325	P	P	13 59 08.1	+3.8
	1.9nm,0.8s,mb3.9,baz=153,slow=6.2,SNR=7.0						
NVAR	Mina Array Bea	84.71	43	P	P	14 00 02.5	+0.7
	1.0nm,1.0s,mb3.5,baz=210,slow=7.0,SNR=5.1						
MNTX	Cornudas Mount	89.72	55	eP	P	14 00 25.2	-0.7
	5.6nm,1.7s,mb4.2						
NOA	NORSAR Array B	143.83	352	PKPbc	PKPdf	14 06 59.5	-2.5
	1.2nm,0.9s,baz=14,slow=2.7,SNR=3.5						
NOA	NORSAR Array B	143.83	352	PKPbc	PKPdf	14 06 59.5	-2.5
HFS	Hagfors	144.35	350	PKPbc	PKPdf	14 07 00.9	-2.0
	1.0nm,0.4s,baz=85,slow=3.7,SNR=8.0						
AKASG	Malin Array Be	147.15	327	PKPbc	PKPbc	14 07 10.3	+0.2
	0.6nm,0.5s,baz=46,slow=3.8,SNR=5.4						
AKASG	Malin Array Be	147.15	327	PKPbc	PKPbc	14 07 10.3	+0.2
BRTR	Keskin Array B	149.82	306	PKPbc	PKPbc	14 07 14.6	-2.4
	0.6nm,0.6s,baz=158,slow=4.0,SNR=2.9						
BRTR				PKPab	PKPab	14 07 24.9	+2.0
	1.9nm,0.7s,baz=109,slow=3.7,SNR=8.5						

NIED ***26*** *13:53:00, 2480N×12190E, h5km, Mw4.6 Best double couple: M0 8.70000×10^15 NP1:ϕs65.00000°, δ60.00000°, λ-80.00000°. NP2:ϕs225.00000°, δ32.00000°, λ-107.00000°.*

JMA ***26*** *13:53:06.8±0.4, 2482N×12188E, h32km, M4.5*

ISCJB ***26*** *13:53:08.3±0.6, 2478N±003×12194E±003, h28km±5km, mb4.2/23, MS4.1/17, Error ellipse: s-maj=5.8km s-min=3.7km az=28.9*

NEIC ***26*** *13:53:08.5±1.1, 2476N×12191E, h17km±7km, mb4.4/8, ML4.5(TAP), Error ellipse: s-maj=10.4km s-min=7.2km az=87.0*

NEIC Recorded [3 TAP] in I-lan and [2 TAP] in T'ai-pei Counties.

BJI ***26*** *13:53:12.9, 2541N×12156E, h10km, mB4.7, mb4.2, ML4.5, Ms4.4, Msz4.3*

IDC ***26*** *13:53:15.9±3.9, 2486N×122.18E, h81km±37km, mb3.7/12, mb1 3.9/14, mb1mx3.8/22, mbtmp4.0/14, MS4.0/14, Ms1 4.0/14, ms1mx3.7/29, Error ellipse: s-maj=26.2km s-min=13.6km az=68.0*

MOS ***26*** *13:53:18.2±0.8, 2494N×12221E, h125km, mb4.1/11, MS4.0/4, Error ellipse: s-maj=21.6km s-min=10.3km az=103.9*

ISC 26 13:53:08.2±0.8, 2478N±003×12198E±003, h15km±5km, n79, σ1°21/84, mb4.2/23, MS4.1/17, 7C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	Taipei	0.48	294	⇑iP	Pg	13 53 16.8	-1.0
YHNB	Yeheng	0.56	259	⇑eP	Pg	13 53 18.3	-0.9
NACB	Ninganchiao	0.69	210	⇑eP	Pg	13 53 20.9	-0.8
NACB				eS	Sg	13 53 31.5	+0.5
YOJ	Yonaguni jima	0.99	108	P	Pb	13 53 26.2	-0.9
YOJ				S	Sb	13 53 40.3	+0.4
IRIF	Iriomote-Funau	1.66	105	P	Pn	13 53 35.5	-1.2
IRIF				S	Sn	13 53 56.6	-1.1
HATJ	Hateruma jima	1.82	113	P	Pn	13 53 38.6	-0.3
JKRS	Kuro-shima	1.93	106	P	Pn	13 53 40.0	-0.4
JKRS				S	Sn	13 54 04.6	+0.2
JIJ	Ishigaki jima	2.02	101	P	Pn	13 53 40.8	-0.8
JIJ				S	Sn	13 54 06.7	+0.2
JTJ	Tarama	2.48	93	P	Pn	13 53 48.3	+0.3
QZH	Quanzhou	3.08	274	⇑P	Pn	13 53 56.3	+0.1
QZH				S	Sn	13 54 30.5	-2.2
QZH				Smax			
	comp=N,1μm,1.0s						
QZH				Smax			
	comp=E,600nm,0.8s						
JOGS	Gusukube	3.12	90	P	Pn	13 53 56.8	0.0
JKE	Kume jima 2	4.61	69	P	Pn	13 54 20.6	+3.3
JAGN	Aguni-jima	5.08	68	P	Pn	13 54 26.9	+3.1
JIH	Iheya	5.84	66	P	Pn	13 54 37.4	+3.2
JOW	Kunigami	6.04	69	P	Pn	13 54 40.2	+3.4
	comp=E,4.6nm,0.3s,baz=332,slow=24,SNR=7.5						
JOW				LR	LR	13 57 08.1	
	comp=E,346nm,20.2s,baz=342,slow=40						
JOW	Kunigami	6.04	69	P	Pn	13 54 40.1	+3.3
JTK	Tokunoshima	6.94	63	P	Pn	13 54 53.0	+3.7
NJ2	Nanjing	7.75	340	eP	Pn	13 55 00.5	+0.1
NJ2				AP		13 55 03.5	
NJ2				XP		13 55 06.5	
NJ2				S	Sn	13 56 27.3	-0.6
NJ2				XS		13 56 32.3	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,20nm,3.5s						
NJ2				Smax			
	comp=N,780nm,1.0s						
NJ2				Smax			
	comp=E,860nm,1.1s						
NJ2				LR	LR		
	comp=N,4μm,10.7s						
NJ2				LR	LR		
	comp=E,3μm,8.4s						
NJ2				LR	LR		
	comp=Z,2μm,11.5s						
GZH	Guangzhou	8.07	260	P	Pn	13 55 06.0	+1.2
GZH				S	Sn	13 56 42.5	+6.7
GZH				Smax			
	comp=N,165nm,1.1s						
GZH				Smax			
	comp=E,108nm,1.0s						
GZH				LR	LR		
	comp=N,2μm,10.1s						
GZH				LR	LR		
	comp=E,1μm,8.8s						
GZH				LR	LR		
	comp=Z,2μm,9.2s						
QIZ	Qiongzhong	12.63	245	P	Pn	13 56 13.8	+6.6
QIZ				S	Sn	13 58 40.3	+13
QIZ				LR	LR		
	comp=N,850nm,15.9s						
QIZ				LR	LR		
	comp=E,561nm,16.4s						
QIZ				LR	LR		
	comp=Z,425nm,10.1s						
KS15	Wonju Array Si	13.60	20	eP	Pn	13 56 21.7	+1.3
SNY	Shenyang	17.06	4	⇑P	Pn	13 57 06.5	+0.5
SNY				AP	pP	13 57 14.3	+2.2
SNY				XP	sP	13 57 18.8	+4.7
SNY				S	Sn	14 00 13.0	-2.4
SNY				AMB	AMB		
	comp=Z,8.0nm,0.4s						
SNY				AMB	AMB		
	comp=Z,207nm,8.1s						
SNY				LR	LR		
	comp=N,452nm,17.8s						
SNY				LR	LR		
	comp=E,2μm,15.1s						
SNY				LR	LR		
	comp=Z,869nm,11.7s						
CD2	Chengdu	17.22	295	⇑iP	Pn	13 57 09.0	+0.9
CD2				AP	pP	13 57 16.8	+2.9
CD2				PP		13 57 23.8	
CD2				S	Sn	14 00 19.8	+0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CD2				AMB	AMB		
	comp=Z,30nm,4.5s						
CD2				LR	LR		
	comp=N,580nm,11.4s						
CD2				LR	LR		
	comp=Z,570nm,13.2s						
JHJ	Hachijo jima 2	17.65	58	P	Pn	13 57 16.9	+3.5
	comp=Z,3.4nm,0.3s,baz=233,slow=21,SNR=3.7						
MJAR	Matsushiro Arr	18.21	46	P	Pn	13 57 21.2	+0.9
	comp=Z,0.0nm,0.3s,baz=247,slow=11,SNR=8.6						
MJAR				LR	LR	14 04 38.6	
	comp=Z,149nm,20.1s,baz=270,slow=38						
BTO	Baotou	18.69	331	eP	Pn	13 57 29.3	+3.2
CN2	Changchun	19.19	8	eP	Pn	13 57 34.3	+2.1
CN2				eS	Sn	14 00 56.8	-10
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s						
CN2				LR	LR		
	comp=E,900nm,16.0s						
CN2				LR	LR		
	comp=Z,900nm,13.0s						
MDJ	Mudanjiang	20.74	16	P	P	13 57 49.0	+0.8
MDJ				AMB	AMB		
	comp=Z,23nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,49nm,4.0s						
MDJ				LR	LR		
	comp=N,123nm,17.3s,MS3.9						
MDJ				LR	LR		
	comp=E,457nm,17.3s,MS3.9						
MDJ				LR	LR		
	comp=Z,134nm,21.6s,MS3.3						
MDJ	Mudanjiang	20.74	16	eP	P	13 57 49.3	+1.1
	comp=Z,44nm,1.3s						
GTA	Gaotai	23.69	313	eP	P	13 58 21.0	+1.6
GTA				AP		13 58 27.8	
GTA				XP	sP	13 58 31.5	+5.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.7						
GTA				AMB	AMB		
	comp=Z,94nm,4.6s						
GTA				LR	LR		
	comp=N,429nm,12.9s,MS4.3						
GTA				LR	LR		
	comp=E,482nm,13.7s,MS4.3						
GTA				LR	LR		
	comp=Z,667nm,13.3s,MS4.3						
GUMO	Guam	24.28	113	LR	LR	14 07 09.9	
	comp=Z,99nm,20.0s,MS3.3,baz=239,slow=34						
KLR	Kul'dur	25.58	15	eP	P	13 58 34.2	-2.4
KLR				MLR	MLR		
	comp=N,500nm,16.0s,MS4.6						
KLR				MLR	MLR		
	comp=E,2μm,16.0s,MS4.6						
KLR				ML

ULN Ulaanbaatar 25.90 337 *eP* **P 13 58 40.1 +0.7**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
SONM Songino Array 26.11 336 P **P 13 58 42.1 +0.7**
comp=Z,7.9nm,0.8s,mb4.3,baz=153,slow=8.5,SNR=40
SONM LR LR 14 10 10.9
comp=Z,716nm,18.3s,MS4.2,baz=184,slow=39
SONM Songino Array 26.11 336 P **P 13 58 42.1 +0.7**
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM MLR MLR
comp=Z,716nm,18.3s
YSS Yuzh-Sakhalins 27.65 32 *i* P **P 13 58 54.0 -1.2**
YSS pmax pmax
comp=Z,34nm,1.5s,mb4.8
YSS MLR MLR
comp=Z,200nm,15.0s,MS3.8
ZAK Zakamensk 29.38 335 *eP* **P 13 59 10.5 -0.1**
ZAK *e* 13 59 53.4
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.0
TLY Talaya 30.30 337 *c i* P **P 13 59 19.3 +0.5**
PSI Prapat 31.16 229 LR LR 14 11 48.9
comp=Z,142nm,18.6s,MS3.7,baz=26,slow=35
MKAR Makanchi Array 38.42 315 P **P 14 00 29.8 +0.7**
comp=Z,1.2nm,0.6s,mb3.8,baz=110,slow=11,SNR=13
MKAR LR LR 14 17 32.9
comp=Z,292nm,18.2s,MS4.1,baz=90,slow=38
MKAR Makanchi Array 38.42 315 P **P 14 00 29.8 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,292nm,18.2s
PMG Port Moresby 41.92 141 LR LR 14 18 44.2
comp=Z,135nm,19.2s,MS3.8,baz=179,slow=36
KURK Kurchatov 42.11 319 *eP* **P 14 01 00.0 +0.4**
MBWA Marble Bar 45.71 183 *eP* **P 14 01 27.7 -0.8**
WRAB Tennant Creek 46.04 164 *eP* **P 14 01 31.6 +0.5**
comp=Z,31nm,1.1s,mb5.1
WRAB Tennant Creek 46.04 164 *eP* **P 14 01 31.6 +0.4**
WRAB pmax pmax
comp=Z,31nm,1.1s,mb5.2
WRA Warramunga Arr 46.05 164 P **P 14 01 31.5 +0.3**
comp=Z,7.5nm,0.7s,mb4.8,baz=346,slow=8.5,SNR=23
WRA Warramunga Arr 46.05 164 P **P 14 01 31.5 +0.3**
WRA pmax pmax
comp=Z,8.0nm,0.7s
WB2 Warramunga Arr 46.05 164 *eP* **P 14 01 31.3 +0.1**
TIXI Tiksi 47.07 3 ⇓ *iP* **P 14 01 36.3 -2.9**
TIXI pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BVAR Borovoye Array 47.68 320 P **P 14 01 44.1 +0.2**
comp=Z,2.0nm,0.7s,mb4.2,baz=90,slow=7.4,SNR=11
BVAR Borovoye Array 47.68 320 P **P 14 01 44.1 +0.2**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
CHKZ Chkalovo 47.73 321 *eP* **P 14 01 43.9 -0.4**
comp=Z,4.2nm,0.7s,mb4.6
CHKZ Chkalovo 47.73 321 *eP* **P 14 01 43.9 -0.4**
CHKZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BRVK Borovoye 47.75 320 *eP* **P 14 01 45.3 +0.8**
comp=Z,2.3nm,0.9s,mb4.2
BRVK Borovoye 47.75 320 *eP* **P 14 01 45.3 +0.8**
BRVK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
ZRNK Zerenda 48.47 320 *eP* **P 14 01 49.6 -0.5**
comp=Z,2.5nm,0.7s,mb4.3
ZRNK Zerenda 48.47 320 *eP* **P 14 01 49.6 -0.4**
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ASAR Alice Springs 49.52 166 P **P 14 02 00.1 +1.9**
comp=Z,0.7nm,0.5s,mb3.9,baz=20,slow=12,SNR=23
ASAR Alice Springs 49.52 166 P **P 14 02 00.1 +1.9**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
BILL Bilibino 50.88 20 *eP* **P 14 02 07.1 -1.4**
BILL pmax pmax
comp=Z,10.0nm,2.1s,mb4.4
BILL MLR MLR
comp=Z,100nm,15.0s,MS4.0
STKA Stephens Creek 59.37 161 *eP* **P 14 03 07.9 -1.9**
comp=Z,2.2nm,0.8s,mb4.2
STKA Stephens Creek 59.37 161 P **P 14 03 08.1 -1.7**
comp=Z,2.6nm,0.8s,mb4.3,baz=346,slow=9.3,SNR=5.2
DZM Mont Dzumac 63.51 133 LR LR 14 26 07.2
comp=Z,175nm,19.2s,MS4.2,baz=108,slow=31
COLA College 67.93 27 P **P 14 04 04.2 -2.0**
ILAR Eielson Array 68.36 27 P **P 14 04 07.4 -1.5**
comp=Z,0.7nm,0.8s,mb3.7,baz=288,slow=6.9,SNR=13
ARCES ARCESS Array B 69.26 338 LR LR 14 39 30.4
comp=Z,121nm,18.2s,MS4.2,baz=276,slow=40
FINES FINESS Array B 71.30 330 P **P 14 04 26.7 -0.3**
comp=Z,0.9nm,0.8s,mb3.7,baz=84,slow=7.9,SNR=3.8
FINES LR LR 14 39 03.7
comp=Z,182nm,19.4s,MS4.3,baz=40,slow=38
FINES FINESS Array B 71.30 330 P **P 14 04 26.7 -0.4**
FINES LR LR 14 39 03.7
INK Inuvik 72.41 22 *eP* **P 14 04 32.2 -1.4**
comp=Z,3.3nm,1.0s,mb4.2
BRTR Keskin Array B 73.40 306 P **P 14 04 41.0 +1.4**
comp=Z,0.4nm,0.5s,mb3.6,baz=60,slow=5.9,SNR=4.2
NOA NORSAR Array B 78.04 332 P **P 14 05 05.4 -0.7**
comp=Z,1.0nm,0.7s,mb3.9,baz=60,slow=5.7,SNR=3.8
NOA LR LR 14 43 15.2
comp=Z,196nm,18.1s,MS4.5,baz=55,slow=38
YKA Yellowknife Ar 82.14 23 P **P 14 05 26.7 -1.6**
comp=Z,1.0nm,0.9s,mb3.8,baz=313,slow=4.9,SNR=18
YKA Yellowknife Ar 82.14 23 P **P 14 05 26.7 -1.6**
GERES GERESS Array B 82.84 321 P **P 14 05 32.7 +0.8**
comp=Z,0.7nm,0.8s,mb3.8,baz=132,slow=2.0,SNR=4.6
GERES LR LR 14 46 07.4
comp=Z,95nm,20.5s,MS4.2,baz=316,slow=38
PPT Papeete 95.83 107 LR LR 14 50 31.8
comp=Z,134nm,18.2s,MS4.5,baz=90,slow=36

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*ISCJB **26** 13:57:12.6±1.2, 2482N±006×12203E±004, h8km±10km, mb3.5/4, Error ellipse: s-maj=10.7km s-min=6.8km az=179.8*
*IDC **26** 13:57:12.4±1.3, 2489N×12257E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=40.0km s-min=25.6km az=60.0*
*JMA **26** 13:57:13.7±0.2, 2490N×12196E, h52km, M3.0*
*NEIC **26** 13:57:14.2±1.1, 2475N×12196E, h10km, MG3.0(JMA), Error ellipse: s-maj=15.0km s-min=13.3km az=91.0*
ISC 26 13:57:12.9±1.3, 2483N±008×12205E±007, h5km±12km, n15, σ0§84/19, mb3.5/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TATO	**Taipei**	**0.53**	**286**	*eP*		**Pg 13 57 22.9**	**-0.3**
YHNB	**Yeheng**	**0.63**	**256**	*eP*		**Pg 13 57 24.1**	**-1.0**
NACB	**Ninganchiao**	**0.77**	**213**	*eP*		**Pg 13 57 27.6**	**-0.1**
NACB				*eS*		**Sg 13 57 38.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.95**	**112**	P		**Pb 13 57 32.3**	**+0.5**
YOJ				S		**Sb 13 57 46.0**	**+1.4**
IRIF	**Iriomote-Funau**	**1.60**	**107**	P		**Pn 13 57 41.6**	**-0.3**
IRIF				*eS*		**Sn 13 58 02.4**	**-0.6**
HATJ	**Hateruma jima**	**1.77**	**115**	P		**Pn 13 57 43.9**	**-0.3**
JKRS	**Kuro-shima**	**1.88**	**108**	P		**Pn 13 57 45.9**	**+0.3**
JIJ	**Ishigaki jima**	**1.96**	**103**	P		**Pn 13 57 46.5**	**-0.3**
JIJ				*eS*		**Sn 13 58 10.4**	**-1.3**
JOW	**Kunigami**	**5.95**	**69**	Pn		**Pn 13 58 34.9**	**-6.8**
	1.2nm,0.3s,baz=136,slow=27,SNR=3.5						
SONM	**Songino Array**	**26.10**	**336**	P		**P 14 02 48.8**	**+1.3**
	2.2nm,0.9s,mb3.7,baz=144,slow=7.8,SNR=9.2						
MKAR	**Makanchi Array**	**38.44**	**315**	P		**P 14 04 38.2**	**+2.8**
	0.5nm,0.8s,mb3.3,baz=122,slow=13,SNR=4.5						
MKAR	**Makanchi Array**	**38.44**	**315**	P		**P 14 04 38.2**	**+2.8**
WRA	**Warramunga Arr**	**46.08**	**164**	P		**P 14 05 37.6**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=346,slow=8.9,SNR=4.0						
YKA	**Yellowknife Ar**	**82.07**	**23**	P		**P 14 09 33.8**	**-0.5**
	0.4nm,1.0s,mb3.3,baz=316,slow=4.7,SNR=4.2						
YKA	**Yellowknife Ar**	**82.07**	**23**	P		**P 14 09 33.8**	**-0.5**

PRE 26 14:02:30.5±2.6, 2038S×3297E, h5km, ML4.4, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFT	**Belfast (SA)**	**5.93**	**206**	*eP*		Pn 14 04 01.3	+2.3
BFT				*eS*		Sn 14 05 05.0	-2.3
BFT				AML	AML	14 05 37.1	
	comp=Z,60nm,0.7s						
SLR	**Silverton**	**6.86**	**218**	*eS*		Sn 14 05 24.6	-5.5
SLR				AML	AML	14 06 11.6	
	comp=Z,75nm,0.6s						
LBTB	**Lobatse**	**8.22**	**234**	*eP*		Pn 14 04 32.3	+1.9
LBTB				*eS*		Sn 14 05 59.7	-3.9
LBTB				AML	AML	14 07 01.8	
	comp=Z,35nm,0.6s						
SWZ	**Schweizer**	**9.73**	**224**	*eP*		Pn 14 04 52.6	+1.5
SWZ				*eS*		Sn 14 06 36.9	-3.9
SWZ				AML	AML	14 07 47.6	
	comp=Z,18nm,0.7s						
PKA	**Prieska**	**13.08**	**223**	*eP*		Pn 14 05 38.7	+1.7
SUR	**Sutherland**	**16.16**	**220**	*eP*		Pn 14 06 19.4	+1.1

IDC 26 14:23:22.2±7.7, 3171S×17986E, h442km±95km, mb2.9/3, mb1 3.2/4, mb1mx3.0/13, mbtmp3.9/4, Error ellipse: s-maj=101.2km s-min=36.6km az=5.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**6.89**	**195**	PN		P 14 25 06.8	+1.3
MWZ				SN		S 14 26 30.1	0.0
MWZ				SN		S 14 26 30.6	+0.6
URZ	**Urewera**	**6.92**	**198**	P		P 14 25 06.3	+0.5
	9.2nm,0.3s,baz=305,slow=2.7,SNR=71						
URZ				S		S 14 26 30.3	-0.4
	6.6nm,0.3s,baz=58,slow=23,SNR=18						
URZ	**Urewera**	**6.92**	**198**	PN		P 14 25 06.1	+0.3
URZ				SN		S 14 26 28.9	-1.8
URZ				SN		S 14 26 29.9	-0.7
BKZ	**Black Stump Fm**	**7.94**	**199**	PN		P 14 25 16.9	+0.1
STKA	**Stephens Creek**	**32.41**	**259**	P		P 14 29 14.0	+0.2
	5.1nm,1.2s,baz=118,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**41.23**	**269**	P		P 14 30 27.1	+0.3
	0.4nm,0.6s,baz=109,slow=7.7,SNR=7.4						
WRA	**Warramunga Arr**	**42.34**	**275**	P		P 14 30 35.7	0.0
	0.3nm,0.3s,baz=111,slow=8.1,SNR=5.9						
JOF	**Joensuu**	**142.92**	**337**	*ep*	PKPdf	14 42 00.3	-4.1
	4.3nm,1.3s						
KAF	**Kangasniemi**	**145.12**	**339**	*ep*	PKPdf	14 42 02.4	-5.8
FINES	**FINESS Array B**	**145.70**	**338**	PKPbc	PKPbc	14 42 08.9	-1.6
	1.4nm,0.5s,baz=39,slow=3.9,SNR=21						

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*ISCJB **26** 14:30:40.0±0.7, 2219S×006×672W±0.1, h165km±17km, mb3.9/1, Error ellipse: s-maj=21.8km s-min=9.4km az=3.8*
*IDC **26** 14:30:40.3±0.9, 2216S×6727W, h162km±19km, mb3.8/1, mb1 3.9/4, mb1mx3.4/15, mbtmp4.3/4, Error ellipse: s-maj=26.3km s-min=14.6km az=102.0*
*NEIC **26** 14:30:40.7±0.9, 2219S×6716W, h126km±38km, mb3.7/1, Error ellipse: s-maj=24.9km s-min=12.2km az=109.0*
ISC 26 14:30:41.1±0.7, 2218S±006×672W±01, h156km±17km, n9, σ1§12/15, mb3.9/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.67**	**255**	P		**Pn 14 31 10.8**	**-2.1**
	2.3nm,0.3s,baz=96,slow=8.8,SNR=12						
LVC				S		**Sn 14 31 36.3**	**-1.0**
	9.3nm,0.3s,baz=289,slow=21,SNR=72						
LVC	**Limon Verde**	**1.67**	**255**	*e*Pn		**Pn 14 31 10.2**	**-2.7**
LVC				*e*		14 31 14.7	
LVC				*e*S		**Sn 14 31 39.5**	**+2.2**
LPAZ	**La Paz**	**5.93**	**351**	P		**Pn 14 32 08.3**	**+1.4**
	11nm,0.3s,baz=160,slow=7.4,SNR=140						
LPAZ				S		**Sn 14 33 14.3**	**+0.2**
	0.2nm,0.3s,baz=19,slow=24,SNR=2.6						
LPAZ	**La Paz**	**5.93**	**351**	*e*Pn		**Pn 14 32 07.9**	**+1.0**
LPAZ				*e*S		**Sn 14 33 14.5**	**+0.5**
SIV	**San Ignacio**	**8.43**	**44**	P		**Pn 14 32 39.2**	**-1.0**
	24nm,0.3s,baz=231,slow=11,SNR=267						
SIV				S		**Sn 14 34 08.6**	**-5.4**
	3.3nm,0.3s,baz=132,slow=24,SNR=6.1						
CFAA	**Coronel Fontan**	**9.44**	**186**	P		**Pn 14 32 54.4**	**+0.9**
	0.1nm,0.3s,baz=2.1,slow=12,SNR=9.6						
CFAA				S		**Sn 14 34 33.6**	**-4.6**
	0.1nm,0.3s,baz=234,slow=20,SNR=6.0						
CPUP	**Villa Florida**	**9.88**	**117**	P		**Pn 14 32 60.0**	**+0.5**
	0.2nm,0.3s,baz=315,slow=10.0,SNR=2.6						
TRQA	**Tornquist**	**16.44**	**165**	*eP*		**Pn 14 34 23.1**	**+0.2**
	2.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.07**	**69**	P		**P 14 42 10.8**	**-0.6**
	1.3nm,0.5s,mb3.9,baz=254,slow=5.5,SNR=17						

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*IDC **26** 14:37:05.9±0.8, 1218N×14391E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.8/20, mbtmp3.7/10, Error ellipse: s-maj=30.1km s-min=17.2km az=112.0*
*ISCJB **26** 14:37:06.9±5.6, 122N±01×1438E±02, h16km±40km, mb3.7/10, Error ellipse: s-maj=31.0km s-min=12.7km az=59.8*
*NEIC **26** 14:37:07.5±0.6, 1217N×14387E, h10km, Error ellipse: s-maj=24.3km s-min=13.4km az=112.0*
ISC 26 14:37:08.6±6.7, 122N±01×1439E±02, h17km±41km, n14, σ1§00/16, mb3.7/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.68**	**34**	Pn		**Pn 14 37 37.1**	**-0.2**
	80nm,0.3s,baz=215,slow=6.2,SNR=33						
GUMO				Sn		**Sn 14 37 59.2**	**+0.7**
	73nm,0.3s,baz=172,slow=23,SNR=13						
GUMO	**Guam**	**1.68**	**34**	*e*Pn		**Pn 14 37 37.5**	**+0.2**
GUMO				*e*S		**Sn 14 37 57.7**	**-0.8**
WRA	**Warramunga Arr**	**33.28**	**197**	P		**P 14 43 44.4**	**-0.8**
	0.5nm,0.6s,mb3.6,baz=19,slow=9.7,SNR=6.2						
ASAR	**Alice Springs**	**36.95**	**195**	P		**P 14 44 17.4**	**+0.6**
	0.2nm,0.6s,mb3.1,baz=23,slow=11,SNR=4.3						
SONM	**Songino Array**	**47.35**	**326**	P		**P 14 45 41.7**	**+0.1**
	0.2nm,0.7s,mb3.2,baz=123,slow=7.1,SNR=2.8						
MKAR	**Makanchi Array**	**61.85**	**317**	P		**P 14 47 27.8**	**+0.9**
	0.2nm,0.5s,mb3.5,baz=111,slow=7.9,SNR=3.1						
ILAR	**Eielson Array**	**70.23**	**25**	P		**P 14 48 19.2**	**-1.5**
	0.3nm,0.6s,mb3.4,baz=256,slow=5.6,SNR=8.1						
BVAR	**Borovoye Array**	**70.45**	**322**	P		**P 14 48 22.5**	**+0.5**
	0.5nm,0.3s,mb3.9,baz=108,slow=7.9,SNR=13						
YKA	**Yellowknife Ar**	**84.53**	**27**	P		**P 14 49 40.9**	**+0.1**
	0.3nm,0.6s,mb3.6,baz=290,slow=5.4,SNR=6.6						
ARCES	**ARCESS Array B**	**88.12**	**342**	P		**P 14 49 58.4**	**0.0**
	3.6nm,1.0s,mb4.5,baz=76,slow=7.7,SNR=5.4						
ARCES	**ARCESS Array B**	**88.12**	**342**	P		**P 14 49 58.4**	**0.0**
NVAR	**Mina Array Bea**	**88.53**	**51**	P		**P 14 50 02.8**	**+2.5**
	0.7nm,0.7s,mb4.1,baz=258,slow=7.5,SNR=5.5						
FINES	**FINESS Array B**	**92.03**	**335**	P		**P 14 50 15.0**	**-1.6**
	0.4nm,0.5s,mb4.0,baz=65,slow=4.4,SNR=6.6						
FINES	**FINESS Array B**	**92.03**	**335**	P		**P 14 50 15.0**	**-1.6**

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*ISCJB **26** 14:41:08.4±0.6, 053S±008×1302E±03, h10km, mb4.0/10, MS3.0/1, Error ellipse: s-maj=38.8km s-min=9.1km az=155.0*
*IDC **26** 14:41:09.4±0.9, 047S×130.15E, h0km, mb3.9/7, mb1 4.1/9, mb1mx4.0/17, mbtmp3.9/9, ML4.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/25, Error ellipse: s-maj=62.3km s-min=15.5km az=77.0*
*NEIC **26** 14:41:10.7±0.5, 048S×130.19E, h10km, mb4.3/6, Error ellipse: s-maj=30.7km s-min=7.3km az=77.0*
ISC 26 14:41:10.4±0.6, 054S±008×1302E±03, h10km, n18, σ0§92/17, mb4.0/10, MS3.0/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**12.29**	**170**	*eP*		**Pn 14 44 03.7**	**-1.7**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.02**	**194**	*eP*		**Pn 14 45 21.6**	**+0.7**
	16nm,1.6s						
FITZ	**Fitzroy Crossi**	**18.02**	**194**	P		**Pn 14 45 20.4**	**-0.6**
	0.2nm,0.3s,baz=55,slow=15,SNR=4.0						
WRAB	**Tennant Creek**	**19.69**	**168**	*eP*		**Pn 14 45 40.6**	**-0.5**
	27nm,1.2s						
WRA	**Warramunga Arr**	**19.70**	**168**	P		**Pn 14 45 40.6**	**-0.6**
	0.6nm,0.3s,baz=350,slow=12,SNR=23						
WB2	**Warramunga Arr**	**19.70**	**168**	*eP*		**Pn 14 45 40.9**	**-0.3**
GUMO	**Guam**	**20.19**	**45**	LR	LR	14 52 16.4	
	comp=Z,66nm,19.0s,MS3.0,baz=65,slow=33						
ASAR	**Alice Springs**	**23.26**	**171**	P		**P 14 46 19.8**	**+1.7**
	7.0nm,0.6s,mb4.3,baz=353,slow=8.5,SNR=43						
STKA	**Stephens Creek**	**32.97**	**162**	*eP*		**P 14 47 45.9**	**+0.6**
	2.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**32.97**	**162**	P		**P 14 47 46.0**	**+0.7**
	1.1nm,0.5s,mb4.1,baz=339,slow=10,SNR=5.6						
MJAR	**Matsushiro Arr**	**37.63**	**11**	P		**P 14 48 24.9**	**-0.5**
	1.6nm,1.0s,mb3.7,baz=182,slow=8.2,SNR=4.5						
SONM	**Songino Array**	**52.46**	**340**	P		**P 14 50 24.0**	**+0.7**
	0.2nm,0.5s,mb3.3,baz=157,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**63.03**	**325**	P		**P 14 51 37.6**	**0.0**
	1.3nm,0.7s,mb4.2,baz=123,slow=9.5,SNR=10						
KURK	**Kurchatov**	**67.20**	**327**	*eP*		**P 14 52 04.4**	**-0.3**
	3.0nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**72.78**	**327**	P		**P 14 52 38.9**	**-0.1**
	2.2nm,1.0s,mb4.0,baz=126,slow=7.5,SNR=7.9						
BRVK	**Borovoye**	**72.86**	**327**	*eP*		**P 14 52 39.1**	**-0.4**
	2.9nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**73.51**	**326**	*eP*		**P 14 52 42.7**	**-0.6**
	5.4nm,1.1s,mb4.4						
VNDA	**Vanda**	**78.79**	**173**	P		**P 14 53 15.7**	**+2.3**
	0.9nm,0.8s,mb3.8,baz=304,slow=6.5,SNR=2.5						

MEX 26 14:41:38.7±0.9, 1841N×10312W, h5km, MD4.2, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COLM	**Colima**	**0.94**	**325**	*i* P		Pg 14 41 53.5	-3.2
SFJM	**Santa Fe**	**2.07**	**2**	*i* P		Pn 14 42 11.5	-2.6
SFJM				*i* S		Sn 14 42 34.5	-5.7
CJM	**Chamela**	**2.12**	**301**	*i* P		Pn 14 42 10.7	-4.0
CJM				*i* S		Sn 14 42 37.5	-3.8
MOIG	**Morelia**	**2.22**	**55**	*eP*		Pn 14 42 13.9	-2.3
MOIG				*i* S		Sn 14 42 39.8	-4.3
CAIG	**El Cayaco**	**3.04**	**116**	*i* P		Pn 14 42 23.6	-3.9
CAIG				*i* S		Sn 14 43 02.0	-2.2
MEIG	**Mezcala**	**3.37**	**98**	*i* S		Sn 14 43 10.7	-1.6
PLIG	**Platanillo**	**3.44**	**90**	*eP*		Pn 14 42 35.8	+2.8
PLIG				*i* S		Sn 14 43 09.8	-4.3
PPM	**Popocatepetl**	**4.31**	**81**	*eP*		Pn 14 42 46.6	+1.7
PPM				*i* S		Sn 14 43 31.5	-4.1
ZAIG	**Zacatecas**	**4.37**	**7**	*i* P		Pn 14 42 45.6	-0.1
ZAIG				*i* S		Sn 14 43 33.3	-3.7
UTMO	**Huajuapan**	**5.09**	**96**	*i* S		Sn 14 43 53.9	-0.9

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*IDC **26** 14:49:36.7±5.4, 31.16N×14193E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/19, mbtmp3.2/5, ML3.1/1, Error ellipse: s-maj=203.8km s-min=22.7km az=70.0*
*JMA **26** 14:49:41.8±0.6, 3182N×14229E, h28km, M3.6*
*ISCJB **26** 14:49:42.1±1.5, 3189N±007×14231E±009, h33km, mb3.2/4, Error ellipse: s-maj=11.8km s-min=9.1km az=87.2*
ISC 26 14:49:43.8±1.5, 3182N±007×14230E±009, h35km, n17, σ1§04/22, mb3.2/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.46**	**302**	S		**Sn 14 50 50.3**	**0.0**
JHJ	**Hachijo jima 2**	**2.49**	**302**	Sn		**Sn 14 50 49.6**	**-1.3**
	16nm,0.3s,baz=86,slow=19,SNR=7.7						
JOD2	**Odawara 2**	**4.36**	**323**	P		**Pn 14 50 48.2**	**+0.7**
JHU	**Hanno**	**4.74**	**329**	P		**Pn 14 50 53.5**	**+0.8**
JHO	**Hitachi**	**4.99**	**344**	P		**Pn 14 50 56.2**	**0.0**
JHO				*e*S		**Sn 14 51 53.3**	**+0.7**
JRY	**Ryogami san**	**5.05**	**327**	P		**Pn 14 50 58.5**	**+1.5**
JAG	**Ashikaga**	**5.16**	**334**	P		**Pn 14 50 59.2**	**+0.6**
JAG				*e*S		**Sn 14 51 58.8**	**+1.9**
JFK	**Kawauchi**	**5.66**	**348**	P		**Pn 14 51 03.7**	**-1.6**
JFK				S		**Sn 14 52 07.6**	**-1.4**
MJAR	**Matsushiro Arr**	**5.80**	**325**	Pn		**Pn 14 51 06.9**	**-0.5**
	0.5nm,0.3s,baz=146,slow=11,SNR=6.9						
JWZ	**Kozaga**	**5.81**	**289**	*e*S		**Sn 14 52 12.4**	**-0.4**
JFT	**Otama**	**5.91**	**345**	P		**Pn 14 51 09.1**	**+0.3**
JFT				*e*S		**Sn 14 52 15.6**	**+0.3**
JMM	**Marumori**	**6.16**	**349**	P		**Pn 14 51 11.9**	**-0.3**
JMM				*e*S		**Sn 14 52 21.5**	**+0.1**
JMK	**Ichinoseki**	**7.17**	**353**	*e*S		**Sn 14 52 45.0**	**-1.3**
SONM	**Songino Array**	**31.54**	**311**	P		**P 14 56 04.1**	**+1.5**
	0.1nm,0.6s,mb2.8,baz=121,slow=8.9,SNR=2.1						
MKAR	**Makanchi Array**	**47.65**	**306**	P		**P 14 58 14.8**	**-1.8**
	0.2nm,0.5s,mb3.4,baz=107,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**52.03**	**190**	P		**P 14 58 42.8**	**-7.1**
	0.3nm,0.4s,mb3.5,baz=5.2,slow=7.7,SNR=9.2						
ASAR	**Alice Springs**	**55.75**	**189**	P		**P 14 59 09.9**	**-7.2**
	0.1nm,0.5s,mb3.1,baz=9.4,slow=6.3,SNR=5.4						

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*IDC **26** 14:50:04.2±3.3, 3278S×17859W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.6/13, mbtmp3.5/3, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/13, Error ellipse: s-maj=74.2km s-min=36.9km az=112.0*
*ISCJB **26** 14:50:05.8±3.2, 329S±01×1784W±05, h33km, mb3.2/2, Error ellipse: s-maj=62.2km s-min=12.9km az=26.0*
ISC 26 14:50:07.7±3.1, 329S±01×1783W±05, h35km, n8, σ0§36/11, mb3.2/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**6.41**	**211**	PN		**Pn 14 51 40.2**	**+0.5**
MWZ				SN		**Sn 14 52 51.9**	**+0.3**
MWZ				SN		**Sn 14 52 52.0**	**+0.4**
URZ	**Urewera**	**6.54**	**213**	Pn		**Pn 14 51 41.2**	**-0.2**
	1.7nm,0.3s,baz=161,slow=16,SNR=18						
URZ				Sn		**Sn 14 52 54.8**	**+0.1**
	1.6nm,0.3s,baz=123,slow=17,SNR=6.3						
URZ	**Urewera**	**6.54**	**213**	PN		**Pn 14 51 41.3**	**-0.1**
URZ				SN		**Sn 14 52 54.1**	**-0.6**
URZ				SN		**Sn 14 52 54.4**	**-0.3**
BKZ	**Black Stump Fm**	**7.56**	**212**	PN		**Pn 14 51 54.8**	**-0.6**
AFI	**Afiamalu**	**19.80**	**19**	LR	LR	15 00 42.0	
	comp=Z,65nm,19.0s,baz=89,slow=32						
ASAR	**Alice Springs**	**42.77**	**270**	P		**P 14 58 01.9**	**+0.1**
	0.4nm,0.8s,mb3.2,baz=108,slow=7.6,SNR=5.3						
WRA	**Warramunga Arr**	**43.98**	**275**	P		**P 14 58 11.5**	**0.0**
	0.2nm,0.4s,mb3.2,baz=114,slow=7.8,SNR=7.8						
FINES	**FINESS Array B**	**147.36**	**338**	PKPbc	PKPbc	15 09 47.6	0.0
	0.6nm,0.8s,baz=96,slow=1.4,SNR=3.5						

MEX 26 15:55:50.1±0.7, 1596N×9544W, h16km±10km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.67**	**253**	*i* P		Pg 15 56 00.8	-2.4
HUIG				*i* S	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.46**	**221**	*e*P	**Pg**	**16 14 04.8**	**-0.9**
SGCP				*e*S	**Sg**	**16 14 10.5**	**-1.3**
CVP	**Callao Caves**	**1.02**	**210**	⇑*i*P	**Pb**	**16 14 14.0**	**-2.3**
CVP				*i* S	**Sb**	**16 14 32.0**	**+2.4**
APYP	**Conner**	**1.29**	**236**	*e*P	**Pn**	**16 14 18.1**	**-2.5**
APYP				*e*S	**Sb**	**16 14 35.1**	**-2.3**
PALP	**Palanan**	**1.52**	**178**	*e*P	**Pn**	**16 14 24.0**	**+0.3**
PALP				*e*S	**Sn**	**16 14 49.3**	**+6.0**
PIP	**Pasuquin**	**1.68**	**261**	⇓*i*P	**Pn**	**16 14 27.0**	**+1.1**
PIP				*e*S	**Sn**	**16 14 47.6**	**+0.3**
CAUP	**Cauayan**	**1.71**	**198**	*e*P	**Pn**	**16 14 27.7**	**+1.3**
ABRA	**Dolores**	**1.83**	**240**	*e*P	**Pn**	**16 14 26.7**	**-1.3**
ABRA				*e*S	**Sn**	**16 14 50.4**	**-0.6**
BCPH	**Baguio City Da**	**2.78**	**218**	⇓*e*P	**Pn**	**16 14 42.3**	**+1.3**
BCPH				*e*S	**Sn**	**16 15 20.3**	**+5.8**
BALP	**Baler**	**2.93**	**195**	*e*P	**Pn**	**16 14 43.5**	**+0.4**
BALP				*e*S	**Sn**	**16 15 19.5**	**+1.3**
BOLP	**Bolinao**	**3.21**	**227**	*e*P	**Pn**	**16 14 47.1**	**+0.1**
BOLP				*e*S	**Sn**	**16 15 27.1**	**+2.0**
PCPH	**Palayan**	**3.24**	**202**	⇓*e*P	**Pn**	**16 14 49.1**	**+1.7**
PCPH				*e*S	**Sn**	**16 15 31.6**	**+5.7**
SCZP	**Santa Cruz**	**3.65**	**220**	*e*P	**Pn**	**16 14 53.3**	**+0.3**
SCZP				*e*S	**Sn**	**16 15 43.9**	**+8.0**
POLP	**Polilio Island**	**3.86**	**186**	*e*P	**Pn**	**16 14 56.3**	**+0.4**
POLP				*e*S	**Sn**	**16 15 37.2**	**-3.9**
LQP	**Lukban**	**4.52**	**190**	*e*P	**Pn**	**16 15 02.6**	**-2.4**
GQP	**Guinayangan**	**4.66**	**179**	*e*P	**Pn**	**16 15 09.0**	**+2.1**
GQP				*i* S	**Sn**	**16 16 01.6**	**+0.8**
TGY	**Tagaytay City**	**4.66**	**197**	Pn	**Pn**	**16 15 10.1**	**+3.2**
	21nm,0.3s,baz=246,slow=7.9,SNR=3.2						
BOAC	**Boac**	**5.12**	**186**	*e*P	**Pn**	**16 15 14.7**	**+1.4**
LUBP	**Lubang**	**5.24**	**203**	*e*P	**Pn**	**16 15 19.0**	**+4.1**
AUQP	**San Andres**	**5.24**	**177**	*e*P	**Pn**	**16 15 24.3**	**+9.3**
PVCP	**Virac**	**5.25**	**161**	*e*P	**Pn**	**16 15 16.1**	**+1.0**
PVCP				*e*S	**Sn**	**16 16 13.7**	**-1.8**
NACB	**Ninganchiao**	**5.61**	**353**	*e*Pn	**Pn**	**16 15 19.0**	**-0.9**
NACB				*e*Sn	**Sn**	**16 16 18.2**	**-6.0**
YHNB	**Yeheng**	**6.12**	**352**	*e*Pn	**Pn**	**16 15 28.4**	**+1.4**
YHNB				*e*Sn	**Sn**	**16 16 34.9**	**-2.0**
SJMP	**San Jose**	**6.21**	**191**	*e*P	**Pn**	**16 15 30.9**	**+2.7**
TATO	**Taipei**	**6.41**	**353**	*e*Pn	**Pn**	**16 15 33.2**	**+2.3**
JOW	**Kunigami**	**9.85**	**33**	Pn	**Pn**	**16 16 18.1**	**-0.1**
	4.0nm,0.3s,baz=282,slow=26,SNR=5.8						
JOW				Sn	**Sn**	**16 18 01.1**	**-7.6**
	2.4nm,0.3s,baz=270,slow=26,SNR=4.1						
QIZ	**Qiongzhong**	**11.87**	**274**	P	**Pn**	**16 16 46.0**	**+0.3**
QIZ				S	**Sn**	**16 18 57.8**	**-0.3**
QIZ				LR	LR		
	comp=N,199nm,14.1s						
QIZ				LR	LR		
	comp=E,199nm,17.6s						
QIZ				LR	LR		
	comp=Z,240nm,16.1s						
QIZ	**Qiongzhong**	**11.87**	**274**	*e*Pn	**Pn**	**16 16 44.3**	**-1.5**
QIZ				*e*Sn	**Sn**	**16 18 54.2**	**-3.8**
SSE	**Sheshan**	**12.50**	**355**	P	**Pn**	**16 16 58.0**	**+3.6**
SSE				XP		16 17 04.8	
SSE				S	**Sn**	**16 19 20.5**	**+6.9**
SSE				AMB	AMB		
	comp=Z,14nm,0.7s						
SSE				AMB	AMB		
	comp=Z,66nm,6.3s						
NJ2	**Nanjing**	**13.78**	**347**	*e*P	**Pn**	**16 17 15.5**	**+3.7**
NJ2				AP		16 17 20.0	
NJ2				XP		16 17 23.8	
NJ2				PP		16 17 26.5	
NJ2				S	**Sn**	**16 19 48.0**	**+3.3**
NJ2				XS		16 19 55.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,40nm,4.2s						
KMI	**Kunming**	**19.33**	**293**	P	**Pn**	**16 18 27.8**	**+4.9**
KMI				AP	pP	16 18 33.5	+8.3
KMI				XP	sP	16 18 35.8	+9.0
KMI				PP		16 18 40.5	
KMI				S	**Sn**	**16 21 53.3**	**-6.2**
KMI				XS	sS	16 22 02.8	-2.6
KMI				SS		16 22 19.0	
KMI				AMB	AMB		
	comp=Z,11nm,1.1s						
KMI				AMB	AMB		
	comp=Z,133nm,4.7s						
KMI				LR	LR		
	comp=N,228nm,18.3s						
KMI				LR	LR		
	comp=E,219nm,16.7s						
KMI				LR	LR		
	comp=Z,195nm,19.1s						
KS15	**Wonju Array Si**	**19.40**	**13**	*e*P	**Pn**	**16 18 24.0**	**+0.3**
XAN	**Xi'an**	**19.51**	**325**	P	**Pn**	**16 18 26.0**	**+0.9**
XAN				AMB	AMB		
	comp=Z,17nm,1.2s						
KSM	**Kuching**	**20.71**	**216**	*e*P	**P**	**16 18 35.1**	**-1.8**
CD2	**Chengdu**	**20.84**	**310**	⇓*i*P	**P**	**16 18 39.8**	**+1.5**
CD2				PP		16 19 01.8	
CD2				S	**S**	**16 22 29.8**	**-0.8**
CD2				SS		16 23 01.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=E,90nm,13.2s						
CD2				LR	LR		
	comp=Z,120nm,9.6s						
BJI	**Beijing**	**22.04**	**347**	P	**P**	**16 18 51.0**	**-0.1**
BJI				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.6						
BJI				AMB	AMB		
	comp=Z,78nm,5.4s						
GUMO	**Guam**	**22.18**	**100**	LR	LR	16 25 18.5	
	comp=Z,84nm,20.6s,MS3.1,baz=23,slow=31						
MAT	**Matsushiro**	**22.68**	**35**	P	**P**	**16 18 59.7**	**+1.7**
MAT				*e*S	**S**	**16 23 08.0**	**+1.5**
MAT	**Matsushiro**	**22.68**	**35**	*e*P	**P**	**16 19 02.0**	**+4.0**
MAT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
MJAR	**Matsushiro Arr**	**22.68**	**35**	P	**P**	**16 18 58.7**	**+0.7**
	comp=Z,2.7nm,0.7s,mb3.8,baz=214,slow=9.0,SNR=11						
SNY	**Shenyang**	**23.19**	**2**	⇓P	**P**	**16 19 03.3**	**-0.1**
SNY				AP		16 19 05.5	
SNY				PP		16 19 35.0	
SNY				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.2						
SNY				AMB	AMB		
	comp=Z,152nm,4.9s						
SNY				LR	LR		
	comp=E,275nm,14.3s						
SNY				LR	LR		
	comp=Z,124nm,11.8s,MS3.6						
LZH	**Lanzhou**	**23.90**	**321**	⇑P	**P**	**16 19 11.5**	**+1.2**
LZH				AP		16 19 16.0	
LZH				XP	sP	16 19 18.0	+2.6
LZH				PP		16 19 45.5	
LZH				AMB	AMB		
	comp=Z,60nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,312nm,5.0s						
HHC	**Hu-ho-hao-te**	**24.05**	**340**	*e*P	**P**	**16 19 13.0**	**+1.3**
HHC				AP		16 19 17.0	
HHC				XP	sP	16 19 20.0	+3.2
HHC				PP		16 19 47.5	
HHC				S	**S**	**16 23 28.3**	**-0.4**
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.6						
HHC				LR	LR		
	comp=N,171nm,9.3s						
HHC				LR	LR		
	comp=E,242nm,12.8s						
HHC				LR	LR		
	comp=Z,164nm,6.3s						
BTO	**Baotou**	**24.38**	**337**	*e*P	**P**	**16 19 14.8**	**+0.1**
KULM	**Kulim**	**24.97**	**241**	P	**P**	**16 19 21.8**	**+1.7**
CN2	**Changchun**	**25.27**	**5**	*e*P	**P**	**16 19 23.5**	**+0.7**
MDJ	**Mudanjiang**	**26.65**	**12**	P	**P**	**16 19 37.0**	**+1.7**
MDJ				S	**S**	**16 24 14.3**	**+4.2**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.7s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,108nm,4.4s						
PSI	**Prapat**	**27.80**	**238**	LR	LR	16 29 41.0	
	comp=Z,60nm,18.9s,MS3.2,baz=285,slow=34						
GATA	**Gaotai**	**28.48**	**321**	*e*P	**P**	**16 19 53.5**	**+1.8**
GTA				AP	pP	16 19 56.5	+1.1
GTA				XP	sP	16 19 58.8	+1.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb3.8						
LSA	**Lhasa**	**30.46**	**297**	P	**P**	**16 20 11.0**	**+1.7**
ULN	**Ulaanbaatar**	**31.76**	**340**	*e*P	**P**	**16 20 20.9**	**+0.1**
	comp=Z,7.7nm,1.3s,mb4.4						
ULN	**Ulaanbaatar**	**31.76**	**340**	*e*P	**P**	**16 20 20.9**	**+0.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.4						
SONM	**Songino Array**	**31.95**	**339**	P	**P**	**16 20 22.7**	**+0.3**
	comp=Z,2.7nm,0.7s,mb4.2,baz=159,slow=9.6,SNR=18						
SONM				PcP	PcP	16 23 11.2	-1.2
	comp=Z,0.6nm,0.7s,baz=188,slow=1.7,SNR=3.8						
SONM				LR	LR	16 34 29.2	
	comp=Z,67nm,20.3s,MS3.3,baz=356,slow=39						
SONM	**Songino Array**	**31.95**	**339**	P	**P**	**16 20 22.7**	**+0.3**
SONM						16 23 11.2	
JIRN	**Jiri**	**34.37**	**292**	*e*P	**P**	**16 20 44.2**	**+0.7**
	comp=Z,11nm,0.7s,mb4.9						
GUN	**Gumba**	**34.67**	**292**	*e*P	**P**	**16 20 46.6**	**+0.5**
KKN	**Kakani**	**35.19**	**292**	*e*P	**P**	**16 20 50.5**	**-0.1**
	comp=Z,8.2nm,0.8s,mb4.7						
ZAK	**Zakamensk**	**35.19**	**339**	*e*P	**P**	**16 20 50.5**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb4.2						
DMN	**Daman**	**35.32**	**292**	*e*P	**P**	**16 20 52.1**	**+0.4**
GKN	**Gorkha**	**35.77**	**292**	*e*P	**P**	**16 20 54.4**	**-1.2**
	comp=Z,6.7nm,0.7s,mb4.7						
TLY	**Talaya**	**36.17**	**340**	*e*P	**P**	**16 20 59.2**	**+0.1**
KOLN	**Koldanda**	**36.66**	**292**	*e*P	**P**	**16 21 02.6**	**-0.6**
	comp=Z,8.1nm,0.9s,mb4.5						
MOY	**Mondy**	**37.06**	**338**	*e*P	**P**	**16 21 08.0**	**+1.4**
WMQ	**Urumqi**	**38.44**	**319**	*e*P	**P**	**16 21 19.5**	**+1.2**
WMQ				AP	pP	16 21 24.0	+2.0
WMQ				XP	sP	16 21 26.5	+3.0
WMQ				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,144nm,4.8s						
WMQ				LR	LR		
	comp=N,905nm,22.0s						
WMQ				LR	LR		
	comp=Z,949nm,22.0s,MS4.6						
MBWA	**Marble Bar**	**39.58**	**184**	*e*P	**P**	**16 21 25.2**	**-2.6**
	comp=Z,11nm,0.9s,mb4.6						
BOD	**Bodaibo**	**39.66**	**353**	*e*P	**P**	**16 21 26.2**	**-2.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
WRAB	**Tennant Creek**	**40.05**	**162**	*e*P	**P**	**16 21 31.1**	**-0.6**
	comp=Z,4.5nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**40.05**	**162**	*e*P	**P**	**16 21 31.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**40.05**	**162**	P	**P**	**16 21 29.4**	**-2.3**
	comp=Z,2.0nm,0.7s,mb4.0,baz=343,slow=9.3,SNR=11						
WRA				PcP	PcP	16 23 36.1	-0.4
	comp=Z,0.9nm,1.0s,baz=346,slow=3.6,SNR=4.5						
WB2	**Warramunga Arr**	**40.05**	**162**	*e*P	**P**	**16 21 30.1**	**-1.7**
MKAR	**Makanchi Array**	**43.21**	**320**	P	**P**	**16 21 58.7**	**+1.1**
	comp=Z,10nm,0.7s,mb4.7,baz=118,slow=10.0,SNR=127						
MKAR				PcP	PcP	16 23 46.9	+0.1
	comp=Z,1.3nm,0.8s,baz=122,slow=5.4,SNR=4.1						
ASAR	**Alice Springs**	**43.48**	**165**	P	**P**	**16 21 58.4**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=342,slow=6.7,SNR=23						
YAK	**Yakutsk**	**43.70**	**5**	⇑*e*P	**P**	**16 22 00.6**	**-1.0**
YAK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
KURK	**Kurchatov**	**47.14**	**323**	*e*P	**P**	**16 22 29.1**	**+0.3**
	comp=Z,23nm,1.1s,mb5.0						
KURK	**Kurchatov**	**47.14**	**323**	*e*P	**P**	**16 22 29.1**	**+0.2**
KURK				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
SEY	**Seymchan**	**48.90**	**18**	⇓*i*P	**P**	**16 22 43.2**	**+0.8**
BRVK	**Borovoye**	**52.81**	**323**	*e*P	**P**	**16 23 11.5**	**-0.4**
	comp=Z,10nm,1.2s,mb4.6						
BRVK	**Borovoye**	**52.81**	**323**	*e*P	**P**	**16 23 11.5**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CHKZ	**Chkalovo**	**52.84**	**324**	*e*P	**P**	**16 23 11.8**	**-0.3**
	comp=Z,16nm,1.2s,mb4.8						
CHKZ	**Chkalovo**	**52.84**	**324**	*e*P	**P**	**16 23 11.8**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
TIXI	**Tiksi**	**53.20**	**3**	⇑*e*P	**P**	**16 23 13.5**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**53.46**	**160**	P	**P**	**16 23 16.0**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.1,baz=343,slow=11,SNR=2.9						
ZRNK	**Zerenda**	**53.51**	**323**	*e*P	**P**	**16 23 16.9**	**-0.1**
	comp=Z,14nm,1.3s,mb4.7						
ZRNK	**Zerenda**	**53.51**	**323**	*e*P	**P**	**16 23 16.9**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
BILL	**Bilibino**	**56.59**	**18**	⇓*e*P	**P**	**16 23 38.6**	**-0.8**
BILL				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.5						
TTA	**Tatalina**	**69.82**	**29**	P	**P**	**16 25 08.1**	**+1.0**
KIV	**Kislovodsk**	**70.01**	**311**	*e*P	**P**	**16 25 07.6**	**-0.7**
	comp=Z,7.0nm,0.6s,mb4.8						
KIV	**Kislovodsk**	**70.01**	**311**	*e*P	**P**	**16 25 07.8**	**-0.5**
KIV				*e*S	S	16 34 07.9	-11
KIV				*e*SS	SS	16 38 41.9	-5.9
KIV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
KLMR	**Klimovskoe**	**70.48**	**329**	*e*P	**P**	**16 25 07.9**	**-3.3**
KLMR				pmax	pmax		
	comp=Z,40nm,2.2s,mb5.0						
VOR	**Voronezh**	**71.44**	**319**	*e*P	**P**	**16 25 15.0**	**-2.0**
VOR				*e*		16 25 36.0	
VOR				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.4						
KDAK	**Kodiak Island**	**71.86**	**34**	P	**P**	**16 25 19.8**	**+0.3**
	comp=Z,3.3nm,0.5s,mb4.5,baz=180,slow=3.0,SNR=5.9						
KDAK	**Kodiak Island**	**71.86**	**34**	P	**P**	**16 25 19.8**	**+0.3**
SOC	**Sochi**	**72.19**	**311**	*e*P	**P**	**16 25 21.2**	**-0.3**
SOC				*e*		16 25 45.0	
SOC				*e*		16 28 04.9	
SOC				*e*S	S	16 34 29.3	-15
SOC				*e*		16 35 27.4	
SOC				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
OBN	**Obninsk**	**72.59**	**323**	P	**P**	**16 25 23.0**	**-0.9**
OBN				*e*		16 25 47.1	
OBN				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
COLA	**College**	**73.26**	**26**	*e*P	**P**	**16 25 27.3**	**-0.5**
	comp=Z,3.8nm,1.1s,mb4.2						
COLA	**College**	**73.26**	**26**	*e*P	**P**	**16 25 27.3**	**-0.6**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
ILAR	**Eielson Array**	**73.69**	**27**	P	**P**	**16 25 29.4**	**-0.9**
	comp=Z,1.0nm,0.9s,mb3.8,baz=262,slow=4.4,SNR=10						
MALT	**Malatya**	**74.07**	**306**	*e*P	**P**	**16 25 33.6**	**+1.0**
	comp=Z,4.5nm,0.8s,mb4.5						
MALT	**Malatya**	**74.07**	**306**	*e*P	**P**	**16 25 33.6**	**+1.0**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
JOF	**Joensuu**	**74.11**	**332**	*e*p	**P**	**16 25 32.0**	**-0.9**
KEV	**Kevo**	**74.56**	**339**	*e*p	**P**	**16 25 33.5**	**-2.0**
	comp=Z,16nm,1.2s,mb4.8						
KEV	**Kevo**	**74.56**	**339**	*e*P	**P**	**16 25 33.5**	**-2.0**
KEV				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
ARCES	**ARCESS Array B**	**75.12**	**339**	P	**P**	**16 25 38.1**	**-0.6**
	comp=Z,3.8nm,0.8s,mb4.4,baz=34,slow=8.8,SNR=4.7						
KAF	**Kangasniemi**	**76.55**	**331**	*e*p	**P**	**16 25 44.1**	**-2.8**
	comp=Z,3.1nm,0.8s,mb4.3,baz=72,slow=4.6						
KAF	**Kangasniemi**	**76.55**	**331**	*e*P	**P**	**16 25 44.1**	**-2.8**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**76.82**	**331**	P	**P**	**16 25 47.5**	**-0.9**
	comp=Z,1.7nm,0.7s,mb4.1,baz=52,slow=6.0,SNR=23						
DAWY	**Dawson**	**77.01**	**27**	*e*P	**P**	**16 25 49.5**	**0.0**
BRTR	**Keskin Array B**	**77.41**	**308**	P	**P**	**16 25 51.6**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=68,slow=3.9,SNR=6.3						
AKASG	**Malin Array Be**	**77.79**	**319**	P	**P**	**16 25 52.5**	**-1.3**
	comp=Z,2.8nm,0.8s,mb4.3,baz=65,slow=5.3,SNR=9.3						
INK	**Inuvik**	**77.99**	**22**	P	**P**	**16 25 54.0**	**-0.9**
	comp=Z,2.5nm,0.7s,mb4.3,baz=297,slow=6.8,SNR=11						
SUW	**Suwalki**	**80.42**	**324**	*e*P	**P**	**16 26 07.4**	**-0.8**
BURAR	**Bucovina Array**	**81.17**	**317**	⇓P	**P**	**16 26 12.5**	**+0.2**
BURAR	**Bucovina Array**	**81.17**	**317**	⇓P	**P**	**16 26 12.5**	**+0.2**
MLR	**Muntele Rosu**	**81.34**	**315**	⇑P	**P**	**16 26 13.7**	**+0.6**
KWP	**Kalwaria**	**82.11**	**320**	*e*P	**P**	**16 26 17.1**	**-0.1**
DRGR		**83.06**	**317**	⇑P	**P**	**16 26 22.6**	**+0.5**
DLBC	**Dease Lake**	**83.19**	**30**	P	**P**	**16 26 24.1**	**+1.3**
	comp=Z,2.6nm,0.9s,mb4.3,baz=209,slow=4.5,SNR=5.9						
OJC	**Ojcow**	**83.67**	**321**	*e*P	**P**	**16 26 25.2**	**-0.1**
NB2	**NORSAR Subarra**	**83.67**	**333**	P	**P**	**16 26 23.9**	**-1.4**
	comp=Z,8.1nm,1.2s,mb4.7,baz=63,slow=5.3						
NB2	**NORSAR Subarra**	**83.67**	**333**	P	**P**	**16 26 23.9**	**-1.4**
NB2				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.7						
NOA	**NORSAR Array B**	**83.67**	**333**	P	**P**	**16 26 24.0**	**-1.3**
	comp=Z,3.4nm,1.0s,mb4.4,baz=64,slow=5.3,SNR=4.5						
NOA				LR	LR	17 07 12.5	
	comp=Z,42nm,18.5s,MS3.9,baz=305,slow=38						
VTS	**Vitosha**	**84.14**	**313**	⇑P	**P**	**16 26 28.4**	**+0.8**
OKC	**Ostrava-Krasne**	**84.80**	**321**	*e*P	**P**	**16 26 31.0**	**0.0**
MORC	**Moravsky Berou**	**85.19**	**321**	⇑P	**P**	**16 26 32.9**	**0.0**
KSP	**Ksiaz**	**85.50**	**322**	*e*P	**P**	**16 26 34.9**	**+0.4**
CLL	**Collm**	**87.18**	**324**	*i* P	**P**	**16 26 42.2**	**-0.6**
	comp=Z,7.0nm,1.0s,mb4.8						
CLL	**Collm**	**87.18**	**324**	*i* P	**P**	**16 26 42.2**	**-0.6**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
YKW3	**Yellowknife Ar**	**87.63**	**23**	*e*P	**P**	**16 26 44.8**	**-0.2**
YKA	**Yellowknife Ar**	**87.68**	**23**	P	**P**	**16 26 45.1**	**-0.1**
	comp=Z,7.3nm,0.8s,mb5.0,baz=308,slow=4.6,SNR=199						
KHC	**Kasperske Hory**	**87.81**	**322**	*e*P	**P**	**16 26 39.9**	**-5.9**
GERES	**GERESS Array B**	**87.86**	**321**	P	**P**	**16 26 45.5**	**-0.6**
	comp=Z,1.3nm,0.7s,mb4.2,baz=46,slow=5.8,SNR=14						
SDV	**Santo Domingo**	**149.84**	**26**	PKP	PKPdf	16 33 43.0	+1.1
	comp=Z,3.3nm,0.7s,baz=16,slow=3.3,SNR=8.8						
SDV	**Santo Domingo**	**149.84**	**26**	PKP	PKPdf	16 33 43.0	+1.1
LPAZ	**La Paz**	**169.73**	**79**	PKP	PKPdf	16 34 06.7	+2.5
	comp=Z,0.9nm,0.8s,baz=256,slow=4.2,SNR=3.6						

IDC 26 16:38:50.4±7.8, 1020N×9346E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/19, mbtmp3.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/15, Error ellipse: s-maj=421.3km s-min=28.9km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.61**	**334**	*e*P	Pn	16 39 42.4	+22
PBA				*e*S	Sn	16 40 13.0	+31
PBA				*e*x	x	16 40 36.4	
	comp=N,284nm,1.2s						
PBA				*e*x	x	16 40 38.1	
	comp=E,391nm,0.6s						
PSI	**Prapat**	**9.13**	**143**	LR	LR	16 44 19.0	
	comp=E,72nm,18.6s,baz=154,slow=36						
MKAR	**Makanchi Array**	**37.69**	**347**	P	P	16 46 07.4	0.0
	comp=E,0.6nm,0.9s,baz=170,slow=8.8,SNR=4.4						
WRA	**Warramunga Arr**	**50.16**	**127**	P	P	16 47 47.8	+0.2
	comp=E,1.4nm,1.0s,baz=306,slow=8.8,SNR=6.5						
ASAR	**Alice Springs**	**51.92**	**131**	P	P	16 48 01.4	+0.6
	comp=E,1.5nm,0.8s,baz=312,slow=6.9,SNR=17						

JMA 26 17:09:02.7±0.4, 3188N×14243E, h30km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.53**	**300**	P	Pn	17 09 43.0	+1.3
JHJ2				*e*S	Sn	17 10 13.6	+2.2
BSO1	**Boso 1**	**3.02**	**337**	P	Pn	17 09 50.2	+1.7
BSO3	**Boso 3**	**3.33**	**332**	P	Pn	17 09 54.5	+1.8
BSO4	**Boso 4**	**3.56**	**331**	P	Pn	17 09 58.8	+2.9
JOD2	**Odawara 2**	**4.38**	**321**	P	Pn	17 10 08.9	+1.8
JHU	**Hanno**	**4.75**	**327**	P	Pn	17 10 14.8	+2.6
JHO	**Hitachi**	**4.96**	**342**	P	Pn	17 10 16.2	+1.0
JHO				S	Sn	17 11 12.9	+1.4
JRY	**Ryogami san**	**5.06**	**326**	P	Pn	17 10 19.1	+2.6
JAG	**Ashikaga**	**5.16**	**332**	P	Pn	17 10 19.8	+1.9
JFK	**Kawauchi**	**5.62**	**347**	P	Pn	17 10 24.9	+0.7
MAT	**Matsushiro**	**5.82**	**324**	P	Pn	17 10 29.7	+2.8
JMK	**Ichinoseki**	**7.12**	**352**	P	Pn	17 10 45.4	+0.6

*IDC **26** 17:34:13.2±1.4, 2730N×5572E, h0km, mb3.7/13, mb1 3.9/13, mb1mx3.7/23, mbtmp3.7/13, MS3.5/2, Ms1 3.5/2, ms1mx2.9/34, Error ellipse: s-maj=28.9km s-min=23.4km az=3.0*

*MOS **26** 17:34:16.8±1.8, 2738N×5575E, h33km, mb4.2/1, Error ellipse: s-maj=26.2km s-min=12.7km az=112.6*

*ISCJB **26** 17:34:16.4±0.3, 2755N±003×5554E±005, h17km, mb3.6/14, MS4.2/1, Error ellipse: s-maj=7.0km s-min=3.4km az=134.8*

*NEIC **26** 17:34:17.6, 2766N×5569E, h15km, ML3.6(THR), MN3.5(TEH), After THR.*

*CSEM **26** 17:34:18.4±0.1, 2759N×5570E, h35km, ML3.6, Error ellipse: s-maj=2.9km s-min=1.6km az=63.0*

*THR **26** 17:34:18.0±0.7, 2768N×5568E, h17km±4km, ML3.6*

*TEH **26** 17:34:20.3, 2758N×5554E, h18km, Mn3.5*

*OMAN **26** 17:34:26.9±3.0, 2692N×5544E, h30km, Error ellipse: s-maj=3.9km s-min=1.4km az

SNR=10
SMDO Samad 5.02 153 P **Pn 17 35 33.3 +0.6**
SNR=10
BSY Bisya 5.03 163 ⇑P **Pn 17 35 33.6 +0.8**
BSYO Bisya 5.05 163 P **Pn 17 35 33.6 +0.4**
IGAR Garneh 5.51 328 *e*Pn **Pn 17 35 42.3 +2.9**
JMDO Jabal Madar 5.66 156 ⇓P **Pn 17 35 42.3 +0.7**
NASN Na'in 5.73 336 *e*PN **Pn 17 35 44.4 +1.9**
NASN Na'in 5.73 336 Pn **Pn 17 35 44.0 +1.5**
WBK Wadi Bani Khal 5.81 148 P **Pn 17 35 43.6 0.0**
SNR=6.5
IZEF Zefreh 6.00 333 *e*Pn **Pn 17 35 46.6 +0.4**
IZEF *e*Sn **Sn 17 36 51.8 -2.8**
IPIR Pirpir 6.52 322 Pn **Pn 17 35 53.9 +0.6**
IPIR *e*Sn **Sn 17 37 02.6 -4.6**
IKLH Kalahroud 6.69 330 *e*Pn **Pn 17 35 56.5 +0.9**
IKLH Sn **Sn 17 37 07.8 -3.7**
IKLH Kalahroud 6.69 330 Pn **Pn 17 35 56.9 +1.3**
IKLH Sn **Sn 17 37 07.8 -3.7**
SHAO Shalim 9.51 180 P **Pn 17 36 34.7 +0.3**
SNR=16
WHFO Wadi Hawf 9.76 190 ⇑P **Pn 17 36 36.3 -1.6**
WHFO ⇑S **Sn 17 38 18.3 -8.7**
RBK Rabkut 10.11 188 ⇑P **Pn 17 36 41.2 -1.4**
SNR=6.3
ABTO Aybut 10.40 192 P **Pn 17 36 44.6 -1.9**
SNR=27
ABTO ⇓S **Sn 17 38 32.5 -10**
GNI Garni 15.43 327 Pn **Pn 17 38 03.5 +8.5**
comp=N,0.5nm,0.3s,baz=18,slow=10,SNR=5.9
GNI LR LR 17 44 52.9
comp=N,42nm,19.4s,baz=336,slow=41
GNI Garni 15.43 327 Pn **Pn 17 38 03.5 +8.5**
GNI LR LR 17 44 52.9
GOF Gofitskoye 20.12 333 *e*P **P 17 38 56.3 +5.1**
BRTR Keskin Array B 21.87 309 P **P 17 39 11.4 +1.3**
comp=N,0.8nm,0.6s,mb3.4,baz=138,slow=14,SNR=5.6
AKTK Aktyubinsk 22.90 4 P **P 17 39 22.1 +1.1**
AKTK Aktyubinsk 22.90 4 P **P 17 39 22.1 +1.1**
AKTO Aktyubinsk 22.90 4 P **P 17 39 22.1 +1.1**
comp=N,6.5nm,0.9s,mb4.0,baz=189,slow=10,SNR=11
BVAR Borovoye Array 27.69 19 P **P 17 40 04.1 -1.2**
comp=N,3.3nm,1.1s,mb3.9,baz=205,slow=6.6,SNR=7.8
MKAR Makanchi Array 28.41 40 P **P 17 40 11.2 -0.6**
comp=N,0.4nm,0.7s,mb3.2,baz=215,slow=8.2,SNR=5.5
MLR Muntele Rosu 29.55 315 P **P 17 40 21.0 -0.9**
comp=N,0.5nm,0.5s,mb3.5,baz=199,slow=18,SNR=1.9
AKASG Malin Array Be 30.56 326 P **P 17 40 29.6 -1.2**
comp=N,1.2nm,0.5s,mb4.0,baz=134,slow=8.5,SNR=11
GERES GERESS Array B 38.54 315 P **P 17 41 41.4 +1.6**
comp=N,0.7nm,0.7s,mb3.5,baz=108,slow=8.6,SNR=5.4
KHC Kasperske Hory 38.70 315 *e*P **P 17 41 38.5 -2.7**
KHC x x 17 41 46.0
KHC Kasperske Hory 38.70 315 *e*P **P 17 41 38.5 -2.7**
KHC *e* 17 41 46.0
FINES FINESS Array B 39.19 338 P **P 17 41 44.6 -0.6**
comp=N,0.1nm,0.3s,mb3.0,baz=326,slow=37,SNR=2.8
NOA NORSAR Array B 44.68 331 P **P 17 42 31.8 +1.7**
comp=N,0.8nm,0.8s,mb3.6,baz=125,slow=7.5,SNR=3.5
ARCES ARCESS Array B 45.47 346 P **P 17 42 35.2 -1.2**
comp=N,1.8nm,0.9s,mb3.9,baz=142,slow=9.1,SNR=3.1
BOD Bodaibo 50.36 36 *e*P **P 17 43 11.0 -3.2**
BOD pmax pmax
comp=Z,3.0nm,1.6s,mb4.1
TORD Torodi Ar. Bea 52.16 265 P **P 17 43 26.0 -1.7**
comp=Z,0.7nm,0.6s,mb3.8,baz=62,slow=8.0,SNR=6.6
SUR Sutherland 56.33 315 LR LR 18 14 55.7
comp=Z,148nm,18.9s,MS4.2,baz=166,slow=36
YKA Yellowknife Ar 89.90 355 P **P 17 47 15.0 -1.3**
comp=Z,0.2nm,0.7s,mb3.6,baz=7.0,slow=4.8,SNR=6.4
ASAR Alice Springs 91.08 116 P **P 17 47 19.3 -2.5**
comp=Z,0.2nm,0.8s,mb3.5,baz=306,slow=4.8,SNR=3.8

ISCJB ***26*** *18:09:01.4±0.7, 123S±02×149W±02, h10km, mb4.0/15, MS3.6/5, Error ellipse: s-maj=41.5km s-min=12.4km az=82.9*
IDC ***26*** *18:09:01.4±0.9, 1232S×1484W, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.1/23, mbtmp4.0/14, MS3.6/5, Ms1 3.6/5, ms1mx3.4/22, Error ellipse: s-maj=46.3km s-min=18.1km az=131.0*
NEIC ***26*** *18:09:02.8±0.4, 1238S×1483W, h10km, mb4.6/2, Error ellipse: s-maj=26.2km s-min=9.5km az=128.0*
ISC 26 18:09:03.1±0.7, 123S±02×149W±02, h10km, n24, σ0.55/19, mb4.0/15, MS3.6/5, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**21.33**	**28**	P	**P**	**18 13 50.4**	**+0.2**
	6.0nm,1.0s,mb3.9,baz=182,slow=14,SNR=3.5						
DBIC				LR	LR	18 20 02.7	
	comp=Z,114nm,19.0s,MS3.3,baz=168,slow=31						
DBIC	**Dimbokro**	**21.33**	**28**	*e*P	**P**	**18 13 51.1**	**+0.9**
	35nm,1.6s,mb4.4						
TORD	**Torodi Ar. Bea**	**30.16**	**34**	P	**P**	**18 15 12.5**	**-0.8**
	0.7nm,0.5s,mb3.6,baz=214,slow=10,SNR=8.3						
BDFB	**Brasilia**	**32.32**	**260**	LR	LR	18 25 42.9	
	comp=Z,141nm,21.9s,MS3.6,baz=117,slow=31						
CPUP	**Villa Florida**	**42.23**	**244**	P	**P**	**18 16 57.0**	**+0.7**
	2.6nm,0.8s,mb3.9,baz=72,slow=4.0,SNR=3.8						
CPUP				LR	LR	18 31 19.6	
	comp=Z,74nm,20.0s,MS3.6,baz=72,slow=32						
TRQA	**Tornquist**	**49.07**	**230**	*e*P	**P**	**18 17 50.0**	**-0.5**
	8.1nm,1.0s,mb4.7						
LPAZ	**La Paz**	**51.66**	**259**	LR	LR	18 37 23.4	
	comp=Z,55nm,21.3s,MS3.6,baz=74,slow=33						
CFAA	**Coronel Fontan**	**52.56**	**240**	P	**P**	**18 18 16.4**	**-0.4**
	0.2nm,0.6s,mb3.2,baz=73,slow=8.9,SNR=6.0						
PLCA	**Paso Flores**	**56.19**	**229**	LR	LR	18 37 53.1	
	comp=Z,97nm,19.5s,MS3.9,baz=184,slow=31						
IDI	**Anoyia**	**60.48**	**37**	P	**P**	**18 19 14.1**	**+1.0**
	5.2nm,0.6s,mb4.8,baz=216,slow=8.0,SNR=8.8						
GERES	**GERESS Array B**	**65.93**	**20**	P	**P**	**18 19 49.2**	**-0.1**
	0.8nm,0.8s,mb3.8,baz=208,slow=4.5,SNR=6.4						
GERES	**GERESS Array B**	**65.93**	**20**	P	**P**	**18 19 49.2**	**-0.1**
MLR	**Muntele Rosu**	**68.31**	**30**	P	**P**	**18 20 04.4**	**0.0**
	1.4nm,0.5s,mb4.3,baz=182,slow=9.4,SNR=3.3						
BRTR	**Keskin Array B**	**68.63**	**38**	P	**P**	**18 20 05.6**	**-0.8**
	0.6nm,0.9s,mb3.5,baz=230,slow=8.6,SNR=3.0						
AKASG	**Malin Array Be**	**73.58**	**27**	P	**P**	**18 20 35.4**	**-1.0**
	0.8nm,0.5s,mb3.9,baz=226,slow=6.5,SNR=11						
NOA	**NORSAR Array B**	**76.00**	**13**	P	**P**	**18 20 50.5**	**+0.1**
	0.9nm,0.7s,mb3.8,baz=204,slow=6.3,SNR=3.7						
SCHQ	**Schefferville**	**79.90**	**332**	P	**P**	**18 21 12.1**	**0.0**
	2.1nm,0.8s,mb4.2,baz=90,slow=4.2,SNR=9.5						
FINES	**FINESS Array B**	**80.28**	**19**	P	**P**	**18 21 14.4**	**+0.2**
	1.9nm,0.6s,mb4.2,baz=207,slow=3.8,SNR=4.7						
AKTK	**Aktyubinsk**	**88.80**	**38**	P	**P**	**18 21 57.6**	**+0.4**
AKTO	**Aktyubinsk**	**88.80**	**38**	P	**P**	**18 21 57.6**	**+0.4**
	1.2nm,0.8s,mb4.2,baz=234,slow=9.5,SNR=3.1						
VNDA	**Vanda**	**90.30**	**179**	P	**P**	**18 22 04.5**	**+0.2**
	0.7nm,0.8s,mb4.0,baz=180,slow=4.0,SNR=3.3						
VNDA	**Vanda**	**90.30**	**179**	P	**P**	**18 22 04.5**	**+0.2**
ASAR	**Alice Springs**	**132.96**	**139**	PKP	PKPdf	18 28 19.4	+0.7
	0.2nm,0.5s,baz=219,slow=1.2,SNR=7.4						
WRA	**Warramunga Arr**	**135.87**	**136**	PKP	PKPdf	18 28 23.8	-0.3
	0.4nm,0.6s,baz=241,slow=2.3,SNR=7.0						

IDC ***26*** *18:15:40.0±1.8, 3686N×498W, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.2/25, mbtmp3.3/4, ML3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/28, Error ellipse: s-maj=38.2km s-min=14.4km az=96.0*
INMG ***26*** *18:15:41.9±1.1, 3696N×497W, h1km±2km, ML3.5, Error ellipse: s-maj=1.6km s-min=1.2km az=178.0*
NEIC ***26*** *18:15:42.4, 3692N×494W, h10km, MN3.5(MDD), After MDD.*
NEIC Felt [III] at Ardales and Canete la Real; [II] at Teba; [I] at Cuevas del Becerro, Spain.
CSEM ***26*** *18:15:42.8±0.1, 3694N×495W, h8km, ML3.9/18, Error ellipse: s-maj=1.2km s-min=1.0km az=171.0*
SFS ***26*** *18:15:42.0, 3692N×496W, h0km, ML3.1*
LDG ***26*** *18:15:43.3±0.1, 3691N×497W, h10km, Ml4.0/6*
IGIL ***26*** *18:15:43.4, 3690N×480W, h30km, ML3.7*
CNRM ***26*** *18:15:47.7, 3690N×491W, h30km, MD3.8*
MDD 26 18:15:42.5±0.2, 3692N×494W, h10km, mbLg3.5/37, 14C-7D, Error ellipse: s-maj=1.9km s-min=1.6km az=8.0, PRXIMO II TEBA I CUEVAS DEL BECERRO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.37**	**269**	⇑P	Pg	18 15 49.5	-0.4
LIJA	**Lijar**	**0.37**	**269**	*i* P	Pg	18 15 49.5	-0.3
EMIJ	**Mijas**	**0.38**	**159**	⇑Pg	Pg	18 15 49.3	-0.6
	SNR=18						
EMIJ				Lg		18 15 55.3	
	6μm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**0.38**	**159**	Pg	Pg	18 15 49.3	-0.6
	365nm,0.4s,SNR=18						
EMIJ				Lg		18 15 55.3	
	6μm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**0.38**	**159**	Pg	Pg	18 15 48.7	-1.2
EMIJ				Lg		18 15 55.3	
EMAL	**Malaga-Limoner**	**0.44**	**111**	⇑Pg	Pg	18 15 50.0	-1.0
	214nm,0.4s,SNR=18						
EMAL				Lg		18 15 53.3	
	1μm,0.3s,SNR=7.9						
REAL	**Reales**	**0.48**	**207**	⇑P	Pg	18 15 51.7	-0.2
EJIF	**Jimena Fronter**	**0.63**	**223**	⇑Pg	Pg	18 15 54.8	+0.1
	432nm,0.6s,SNR=18						
EJIF				Lg		18 16 02.4	
	273nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.63**	**223**	⇑Pg	Pg	18 15 54.8	+0.1
EJIF				Lg		18 16 02.4	
ELOJ	**Sierra Loja**	**0.67**	**70**	⇓Pg	Pg	18 15 54.8	-0.7
	145nm,0.4s,SNR=18						
ELOJ				Lg		18 16 03.9	
	496nm,0.5s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.67**	**70**	⇓Pg	Pg	18 15 54.8	-0.7
ELOJ				Lg		18 16 04.4	
ESPR	**Espera**	**0.74**	**267**	⇓Pg	Pg	18 15 57.1	+0.3
	479nm,0.7s,SNR=18						
ESPR				Lg		18 16 04.5	
	964nm,0.4s,SNR=7.9						
ESPR	**Espera**	**0.74**	**267**	Pg	Pg	18 15 56.8	+0.1
ESPR	**Espera**	**0.74**	**267**	Pg	Pg	18 15 56.8	+0.1
ESPR				Lg		18 16 05.3	
GIBL	**Gibalbin**	**0.83**	**264**	*e*P	Pg	18 15 59.4	+0.9
GIBL				*e*S	Sg	18 16 14.2	+4.9
ELUQ	**Luque**	**0.84**	**40**	⇑Pg	Pg	18 15 57.7	-1.0
	210nm,0.2s,SNR=18						
ELUQ				Lg		18 16 09.3	
	234nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**0.84**	**40**	Pg	Pg	18 15 57.8	-0.8
ELUQ	**Luque**	**0.84**	**40**	Pg	Pg	18 15 57.8	-0.8
ELUQ				Lg		18 16 09.3	
MOMI	**Momias**	**0.86**	**227**	P	Pg	18 16 00.5	+1.5
MOMI	**Momias**	**0.86**	**227**	*e*P	Pg	18 16 00.5	+1.5
ERON	**Agron**	**0.91**	**83**	Pg	Pg	18 15 59.5	-0.6
	186nm,0.7s,SNR=207						
ERON				Lg		18 16 13.7	
	210nm,0.5s,SNR=31						
SCRT	**Cerro San Cris**	**1.03**	**255**	*i* P	Pg	18 16 03.5	+1.2
CNIL	**Conil**	**1.05**	**239**	P	Pg	18 16 04.4	+1.7
CNIL	**Conil**	**1.05**	**239**	*e*P	Pg	18 16 04.4	+1.7
SFS	**San Fernando**	**1.11**	**247**	*e*P	Pb	18 16 06.0	+2.2
SFS	**San Fernando**	**1.11**	**247**	*e*P	Pb	18 16 06.0	+2.3
ECOG	**Cogollos-Vega**	**1.15**	**71**	⇑Pg	Pg	18 16 04.3	-0.3
	105nm,0.4s,SNR=18						
ECOG				Lg		18 16 19.2	
	633nm,0.6s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.15**	**71**	Pg	Pg	18 16 04.3	-0.3
ECOG				Lg		18 16 20.1	
ECAB	**El Cabril**	**1.22**	**342**	⇑Pg	Pg	18 16 03.1	-2.7
	392nm,0.4s,SNR=18						
ECAB				Lg		18 16 20.0	
	539nm,0.3s,SNR=26						
ECAB	**El Cabril**	**1.22**	**342**	Pg	Pg	18 16 03.7	-2.2
ECAB	**El Cabril**	**1.22**	**342**	Pg	Pg	18 16 03.7	-2.1
ECAB				Lg		18 16 20.8	
EQUE	**Quentar**	**1.23**	**76**	Pg	Pg	18 16 04.9	-1.2
	158nm,0.4s,SNR=148						
EQUE				Lg		18 16 23.5	
	762nm,0.6s,SNR=17						
EADA	**Adamuz**	**1.28**	**13**	⇑Pg	Pg	18 16 04.9	-2.2
	386nm,0.4s,SNR=18						
EADA				Lg		18 16 21.8	
	790nm,0.4s,SNR=12						
EADA	**Adamuz**	**1.28**	**13**	Pg	Pg	18 16 04.9	-2.2
	386nm,0.4s,SNR=18						
EADA	**Adamuz**	**1.28**	**13**	⇑Pg	Pg	18 16 04.9	-2.2
EADA				Lg		18 16 23.2	
EMIN	**Mina Concepcio**	**1.62**	**302**	⇑Pn	Pn	18 16 09.2	-1.8
	19nm,0.2s,SNR=18						
EMIN				Pg	Pg	18 16 12.5	-1.1
	63nm,0.1s,SNR=7.9						
EMIN				Lg		18 16 32.3	
	190nm,0.3s,SNR=18						
EMIN	**Mina Concepcio**	**1.62**	**302**	Pn	Pn	18 16 09.2	-1.9
	19nm,0.2s,SNR=18						
EMIN	**Mina Concepcio**	**1.62**	**302**	Pn	Pn	18 16 09.2	-1.8
EMIN				Pg	Pg	18 16 12.5	-1.1
EMIN				Lg		18 16 32.7	
EBER	**Berja**	**1.64**	**90**	Pn	Pn	18 16 11.6	+0.3
	12nm,0.3s,SNR=169						
EBER				Pg	Pg	18 16 14.2	+0.2
	218nm,0.4s,SNR=15						
EBER				Lg		18 16 38.6	
	1μm,0.7s,SNR=5.8						
EBER	**Berja**	**1.64**	**90**	Pn	Pn	18 16 11.6	+0.3
	12nm,0.3s,SNR=169						
EBER	**Berja**	**1.64**	**90**	Pg	Pg	18 16 14.2	+0.2
	218nm,0.4s,SNR=15						
EBER	**Berja**	**1.64**	**90**	Pn	Pn	18 16 11.6	+0.3
EBER				Pg	Pg	18 16 14.2	+0.2
EBER				Lg		18 16 35.7	
EQES	**Quesada**	**1.73**	**59**	Pn	Pn	18 16 12.1	-0.5
	7.6nm,0.4s,SNR=80						
EQES				Pg	Pg	18 16 14.8	-0.8
	83nm,0.2s,SNR=7.9						
EQES				Lg		18 16 38.4	
	1μm,0.6s,SNR=29						
EQES	**Quesada**	**1.73**	**59**	Pn	Pn	18 16 12.1	-0.4
	7.6nm,0.4s,SNR=80						
EQES	**Quesada**	**1.73**	**59**	Pg	Pg	18 16 14.8	-0.9
	83nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.73**	**59**	Pn	Pn	18 16 12.4	-0.2
EQES				Pg	Pg	18 16 14.8	-0.8
EQES				Sn	Sn	18 16 34.0	-0.7
EQES				Lg		18 16 38.1	
EALB	**Alboran**	**1.82**	**122**	⇓Pn	Pn	18 16 12.1	-1.6
	41nm,0.4s,SNR=18						
EALB				Pg	Pg	18 16 15.0	-2.3
	129nm,0.5s,SNR=4.0						
EALB				Sn	Sn	18 16 35.1	-1.7
	25nm,0.2s,SNR=7.9						
EALB				Lg		18 16 39.2	
	499nm,0.9s,SNR=7.9						
EALB	**Alboran**	**1.82**	**122**	Pn	Pn	18 16 13.6	-0.2
EALB	**Alboran**	**1.82**	**122**	Pg	Pg	18 16 16.1	-1.2
EALB				Sn	Sn	18 16 35.1	-1.7
	25nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.82**	**122**	Pn	Pn	18 16 13.6	-0.1
EALB				Pg	Pg	18 16 16.1	-1.2
EALB				Sn	Sn	18 16 36.4	-0.4
EALB				Lg		18 16 39.2	
MPAL	**Palemas**	**1.87**	**154**	*i* S	Sn	18 16 39.0	+0.9
EHUE	**Huescar**	**2.07**	**64**	Pn	Pn	18 16 16.6	-0.6
	9.4nm,0.2s,SNR=7.9						
EHUE				Pg	Pg	18 16 21.0	-1.3
	25nm,0.2s,SNR=4.0						
EHUE				Lg		18 16 48.3	
	91nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**2.07**	**64**	Pg	Pg	18 16 21.0	-1.2
	25nm,0.2s,SNR=4.0						
EGRO	**El Granado**	**2.12**	**288**	⇓Pn	Pn	18 16 16.2	-1.8
	17nm,0.2s,SNR=18						
EGRO				Pg	Pg	18 16 21.5	-1.7
	44nm,0.3s,SNR=4.0						
EGRO				Sn	Sn	18 16 41.6	-2.7
	89nm,0.3s,SNR=7.9						
EGRO				Lg		18 16 48.5	
	676nm,0.7s,SNR=11						
EGRO	**El Granado**	**2.12**	**288**	Pn	Pn	18 16 16.2	-1.7
	17nm,0.2s,SNR=18						
EGRO				Sn	Sn	18 16 41.7	-2.6
	89nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**2.12**	**288**	⇓Pn	Pn	18 16 16.2	-1.8
EGRO				Pg	Pg	18 16 21.5	-1.7
EGRO				Sn	Sn	18 16 43.2	-1.2
EGRO				Lg		18 16 49.2	
TOU	**Touzarine**	**2.17**	**153**	P	Pn	18 16 21.0	+2.4
TOU				S	Sn	18 16 46.0	+0.4
TOU	**Touzarine**	**2.17**	**153**	*i* S	Sn	18 16 46.0	+0.4
ENIJ	**Nijar**	**2.19**	**88**	Pn	Pn	18 16 18.4	-0.4
	9.1nm,0.3s,SNR=7.9						
ENIJ				Pg	Pg	18 16 23.1	-1.3
	78nm,0.4s,SNR=7.9						
ENIJ				Lg		18 16 50.7	
	134nm,0.7s,SNR=7.9						
ENIJ	**Nijar**	**2.19**	**88**	Pg	Pg	18 16 23.1	-1.3
	78nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**2.46**	**319**	⇑Pn	Pn	18 16 20.8	-1.8
	20nm,0.3s,SNR=18						
EBAD				Pg	Pg	18 16 27.6	-2.1
	53nm,0.3s,SNR=22						
EBAD				Sn	Sn	18 16 51.0	-1.8
	73nm,0.2s,SNR=7.9						
EBAD				Lg		18 16 57.5	
	255nm,0.2s,SNR=10						
EBAD	**Badajoz**	**2.46**	**319**	Pn	Pn	18 16 20.8	-1.8
	20nm,0.3s,SNR=18						
EBAD	**Badajoz**	**2.46**	**319**	Pg	Pg	18 16 27.6	-2.1
	53nm,0.3s,SNR=22						
EBAD				Sn	Sn	18 16 51.0	-1.7
	73nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**2.58**	**296**	*e*Pn	Pn	18 16 23.0	-1.2
PBEJ				*e*Sn	Sn	18 16 54.1	-1.5
PBEJ				*e*Sg	Sg	18 17 02.8	-2.6
PBEJ							
	122nm,0.4s						
PBEJ	**Beja**	**2.58**	**296**	*e*Pn	Pn	18 16 23.0	-1.2
PBEJ				*e*Sn	Sn	18 16 54.1	-1.5
PBEJ				*e*Sg	Sg	18 17 02.8	-2.6
	122nm,0.4s						
EVIA	**Vianos**	**2.58**	**48**	Pn	Pn	18 16 23.1	-1.2
	14nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**2.58**	**48**	Pn	Pn	18 16 23.9	-0.4
ZAI	**Zaio**	**2.63**	**137**	P	Pn	18 16 26.0	+1.0
ZAI				S	Sn	18 16 54.0	-2.9
ZAI	**Zaio**	**2.63**	**137**	*i* P	Pn	18 16 26.0	+1.0
ESLA	**Sonseca Array**	**2.86**	**15**	*e*Pg	Pg	18 16 35.6	-1.7
ESLA	**Sonseca Array**	**2.86**	**15**	*e*Pn	Pn	18 16 27.5	-0.6
ESLA				*e*Pg	Pg	18 16 35.6	-1.6
ESLA				*e*Sg	Sg	18 17 11.6	-2.7
ESDC	**Sonseca Array**	**2.86**	**15**	Pn	Pn	18 16 27.3	-0.8
	8.3nm,0.3s,baz=196,slow=12,SNR=72						
ESDC				Pg	Pg	18 16 35.2	-2.1
	20nm,0.3s,baz=197,slow=18,SNR=52						
ESDC				Lg		18 17 12.1	
	76nm,0.3s,baz=197,slow=30,SNR=18						
ESDC	**Sonseca Array**	**2.86**	**15**	Pn	Pn	18 16 27.2	-0.9
	12nm,0.2s,baz=196,slow=12,SNR=81						
ESDC				Pg	Pg	18 16 34.5	-2.7
	29nm,0.2s,baz=199,slow=17,SNR=9.8						
ESDC				Sn	Sn	18 17 00.9	-1.6
	20nm,0.3s,baz=198,slow=21,SNR=7.9						
ESDC				Lg		18 17 08.6	
	145nm,0.5s,baz=196,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**2.86**	**15**	Pn	Pn	18 16 27.2	-0.9
	12nm,0.2s,SNR=81						
ESDC	**Sonseca Array**	**2.86**	**15**	Pg	Pg	18 16 34.5	-2.8
	29nm,0.2s,SNR=9.8						
ESDC				Sn	Sn	18 17 00.9	-1.6
	20nm,0.3s,SNR=7.9						
MORF	**Marmelete**	**2.99**	**279**	*e*P	Pn	18 16 28.9	-1.0
MORF				*e*S	Sn	18 17 02.5	-3.3
MORF				*e*S	Sn	18 17 02.5	-3.3
MORF				AML	AML	18 17 06.7	
	comp=N,181nm,0.1s						
MORF	**Marmelete**	**2.99**	**279**	*e*P	Pn	18 16 28.9	-1.0
MORF				*e*S	Sn	18 17 02.5	-3.3
PTEO	**Sao Teotonio**	**3.09**	**283**	*e*Pn	Pn	18 16 29.7	-1.5
PTEO				*e*Sn	Sn	18 17 06.4	-1.7
PTEO				*e*Sg	Sg	18 17 19.3	-2.3
PTEO							
	comp=N,166nm,0.5s						
PTEO	**Sao Teotonio**	**3.09**	**283**	Pn	Pn	18 16 29.7	-1.5
PTEO				Sn	Sn	18 17 06.4	-1.7
PTEO				Lg		18 17 19.3	
	comp=N,83nm,0.5s						
PTEO	**Sao Teotonio**	**3.09**	**283**	*e*Sn	Sn	18 17 06.4	-1.7
PTEO				*e*Sg	Sg	18 17 19.3	-2.3
	comp=N,166nm,0.5s						
EMUR	**La Murta**	**3.09**	**71**	Pn	Pn	18 16 30.8	-0.3
	comp=N,9.1nm,0.3s,SNR=22						
EMUR				Pg	Pg	18 16 37.8	-3.8
	comp=N,64nm,0.5s,SNR=21						
EMUR				Sn	Sn	18 17 05.3	-2.8
	comp=N,57nm,0.5s,SNR=6.2						
EMUR				Lg		18 17 19.7	
	comp=N,147nm,0.6s,SNR=7.9						
EMUR	**La Murta**	**3.09**	**71**	Pn	Pn	18 16 30.8	-0.4
	comp=N,9.1nm,0.3s,SNR=22						
EMUR	**La Murta**	**3.09**	**71**	Pg	Pg	18 16 37.8	-3.8
	comp=N,64nm,0.5s,SNR=21						
EMUR				Sn	Sn	18 17 05.3	-2.8
	comp=N,57nm,0.5s,SNR=6.2						
MOE	**Montemor**	**3.15**	**302**	*e*Pn	Pn	18 16 31.5	-0.5
MOE				*e*Sn	Sn	18 17 07.6	-2.0
MOE				*e*Sg	Sg	18 17 21.8	-1.7
ETOB	**Tobarra**	**3.19**	**56**	Pn	Pn	18 16 31.8	-0.8
	comp=N,3.7nm,0.3s,SNR=22						
ETOB				Pg	Pg	18 16 41.6	-2.0
	comp=N,32nm,0.3s,SNR=13						
ETOB				Lg		18 17 23.4	
	comp=N,262nm,0.6s,SNR=10						
ETOB	**Tobarra**	**3.19**	**56**	Pn	Pn	18 16 31.8	-0.8
	comp=N,3.7nm,0.3s,SNR=22						
ETOB	**Tobarra**	**3.19**	**56**	Pg	Pg	18 16 41.6	-2.0
	comp=N,32nm,0.3s,SNR=13						
CART	**Cartagena**	**3.21**	**77**	*e*Pn	Pn	18 16 31.6	-1.3
CART	**Cartagena**	**3.21**	**77**	*e*Pg	Pg	18 16 41.5	-2.5
CART	**Cartagena**	**3.21**	**77**	*e*Pn	Pn	18 16 31.6	-1.3
CART				*e*Pg	Pg	18 16 41.5	-2.6
CART				*e*Sg	Sg	18 17 25.0	-0.6
PCBR	**Castelo Branco**	**3.54**	**326**	*e*Pn	Pn	18 16 36.3	-1.1
PCB

MTE eSn Sn 18 17 27.9 -3.5
MTE eSg Sg 18 17 46.9 -5.1
MTE
comp=N,149nm,0.5s
MTE Manteigas 4.03 330 Pn Pn 18 16 42.9 -1.3
MTE Sn Sn 18 17 27.9 -3.5
MTE Lg 18 17 46.9
comp=N,74nm,0.5s
MTE Manteigas 4.03 330 ePn Pn 18 16 42.8 -1.4
MTE eSn Sn 18 17 27.9 -3.5
MTE eSg Sg 18 17 46.9 -5.1
comp=N,149nm,0.5s
MTE Manteigas 4.03 330 ePn Pn 18 16 42.8 -1.4
MTE Sn Sn 18 17 31.1 -0.4
MTE eSg Sg 18 17 47.6 -4.3
MDT Midelt 4.10 176 Pn Pn 18 16 45.0 -0.1
comp=N,0.7nm,0.3s,baz=0.6,slow=13,SNR=33
MDT Sn Sn 18 17 31.7 -1.4
comp=N,3.4nm,0.3s,baz=145,slow=15,SNR=7.4
ECHE Chera 4.11 48 ⇓Pn Pn 18 16 44.2 -1.1
comp=N,6.9nm,0.5s,SNR=18
ECHE Pg Pg 18 16 58.0 -3.2
comp=N,27nm,0.5s,SNR=13
ECHE Lg 18 17 53.6
comp=N,79nm,0.6s,SNR=7.9
ECHE Chera 4.11 48 Pg Pg 18 16 58.0 -3.2
comp=N,27nm,0.5s,SNR=13
ECHE Chera 4.11 48 Pn Pn 18 16 44.4 -0.9
ECHE Pg Pg 18 16 58.0 -3.2
ECHE Lg 18 17 53.6
EBEN Beniarda 4.14 63 Pn Pn 18 16 44.5 -1.2
comp=N,2.0nm,0.2s,SNR=16
EBEN Pg Pg 18 16 58.6 -3.2
comp=N,11nm,0.4s,SNR=4.0
EBEN Sn Sn 18 17 31.1 -2.9
comp=N,23nm,0.5s,SNR=4.0
EBEN Lg 18 17 53.5
comp=N,45nm,0.6s,SNR=7.9
EBEN Beniarda 4.14 63 Pn Pn 18 16 45.3 -0.3
EBEN Beniarda 4.14 63 Pg Pg 18 16 58.6 -3.1
comp=N,11nm,0.4s,SNR=4.0
EBEN Sn Sn 18 17 31.1 -2.9
comp=N,23nm,0.5s,SNR=4.0
EBEN Beniarda 4.14 63 Pn Pn 18 16 45.3 -0.3
EBEN Pg Pg 18 16 58.6 -3.1
EBEN Sn Sn 18 17 31.1 -2.9
EBEN Lg 18 17 54.6
PVIS Viseu 4.44 330 ePn Pn 18 16 49.2 -0.6
PVIS eSn Sn 18 17 38.0 -3.5
PVIS
comp=N,58nm,0.4s
PVIS Viseu 4.44 330 ePn Pn 18 16 49.2 -0.6
PVIS eSn Sn 18 17 38.0 -3.5
comp=N,58nm,0.4s
PVRL Vila Real 4.86 334 ePn Pn 18 16 54.2 -1.4
PVRL eSn Sn 18 17 47.6 -4.3
PVRL eSg Sg 18 18 15.3 -3.2
PVRL
comp=N,36nm,0.4s
PVRL Vila Real 4.86 334 Pn Pn 18 16 54.2 -1.4
PVRL Sn Sn 18 17 47.6 -4.3
PVRL Lg 18 18 15.3
comp=N,18nm,0.4s
EMOS Mosqueruela 4.91 44 Pn Pn 18 16 55.7 -0.5
comp=N,20nm,0.7s,SNR=8.0
EMOS Pg Pg 18 17 12.7 -3.8
comp=N,30nm,0.7s,SNR=7.9
EMOS Lg 18 18 16.7
comp=N,121nm,0.8s,SNR=7.9
EMOS Mosqueruela 4.91 44 Pn Pn 18 16 55.9 -0.3
EMOS Mosqueruela 4.91 44 Pg Pg 18 17 12.7 -3.7
comp=N,30nm,0.7s,SNR=7.9
EMOS Mosqueruela 4.91 44 Pn Pn 18 16 55.9 -0.3
EMOS Pg Pg 18 17 12.7 -3.8
EMOS Sn Sn 18 17 50.3 -2.7
EMOS Lg 18 18 19.1
PBRG Braganca 5.08 345 ePn Pn 18 16 57.3 -1.3
PBRG eSn Sn 18 17 52.7 -4.5
PBRG eSg Sg 18 18 20.5 -5.0
PBRG
comp=N,52nm,0.6s
PBRG Braganca 5.08 345 Pn Pn 18 16 57.3 -1.3
PBRG Sn Sn 18 17 52.7 -4.5
PBRG Lg 18 18 20.5
comp=N,26nm,0.6s
ECAL Calabor 5.21 345 Pn Pn 18 16 59.2 -1.1
comp=N,6.0nm,0.3s,SNR=7.9
ECAL Sn Sn 18 17 55.9 -4.5
comp=N,28nm,0.6s,SNR=7.9
ECAL Lg 18 18 25.5
comp=N,170nm,0.8s,SNR=7.9
ECAL Calabor 5.21 345 Pn Pn 18 16 59.2 -1.2
comp=N,6.0nm,0.3s,SNR=7.9
ECAL Sn Sn 18 17 56.6 -3.8
ECAL Calabor 5.21 345 Pn Pn 18 16 59.2 -1.1
ECAL Sn Sn 18 17 56.6 -3.8
ECAL Lg 18 18 25.5
EIBI Ibiza 5.39 65 Pn Pn 18 17 01.8 -1.0
comp=N,7.0nm,0.3s,SNR=7.9
EIBI Sn Sn 18 18 01.3 -3.6
comp=N,6.4nm,0.4s,SNR=7.9
EIBI Ibiza 5.39 65 Pn Pn 18 17 02.2 -0.7
EIBI Sn Sn 18 18 01.5 -3.5
EIBI Ibiza 5.39 65 Pn Pn 18 17 02.2 -0.7
EIBI Sn Sn 18 18 01.6 -3.4
ELOB Lobios 5.50 335 Pn Pn 18 17 02.8 -1.6
comp=N,2.1nm,0.3s,SNR=5.6
ELOB Sn Sn 18 18 02.9 -4.8
comp=N,9.8nm,0.3s,SNR=7.9
ELOB Lg 18 18 34.9
comp=N,99nm,0.5s,SNR=7.4
ELOB Lobios 5.50 335 Pn Pn 18 17 03.1 -1.3
ELOB Sn Sn 18 18 03.1 -4.6
ELOB Lobios 5.50 335 Pn Pn 18 17 03.1 -1.3
ELOB Sn Sn 18 18 03.1 -4.6
ELOB Lg 18 18 34.9
ERUA La Rua 5.73 343 Pn Pn 18 17 06.2 -1.3
comp=N,3.8nm,0.4s,SNR=7.9
ERUA Sn Sn 18 18 08.5 -4.8
comp=N,3.2nm,0.2s,SNR=7.9
ERUA Lg 18 18 44.9
comp=N,95nm,0.8s,SNR=7.9
ERUA La Rua 5.73 343 Pn Pn 18 17 06.2 -1.3
comp=N,3.8nm,0.4s,SNR=7.9
ERUA Sn Sn 18 18 08.5 -4.7
comp=N,3.2nm,0.2s,SNR=7.9
ERUA La Rua 5.73 343 Pn Pn 18 17 06.2 -1.3
ERUA Sn Sn 18 18 08.5 -4.8
ERUA Lg 18 18 44.1
EBR Ebro Roquetas 5.76 46 ePN Pn 18 17 06.8 -1.1
EBR eS*S* 18 18 41.5
ERTA Horta de San J 5.76 44 Pn Pn 18 17 06.6 -1.4
comp=N,4.7nm,0.6s,SNR=7.9
ERTA Sn Sn 18 18 09.6 -4.4
comp=N,16nm,0.7s,SNR=7.9
ERTA Lg 18 18 45.2
comp=N,30nm,0.6s,SNR=7.9
ERTA Horta de San J 5.76 44 Pn Pn 18 17 08.0 +0.1
ERTA Sn Sn 18 18 11.5 -2.5
ERTA Horta de San J 5.76 44 Pn Pn 18 17 08.0 +0.1
ERTA Sn Sn 18 18 11.5 -2.5
ERTA Lg 18 18 45.2
ESAC San Caprasio 5.92 34 Pn Pn 18 17 09.5 -0.6
comp=N,9.3nm,0.2s,SNR=7.9
ESAC Sn Sn 18 18 11.5 -6.5
comp=N,37nm,0.4s,SNR=7.9
ESAC Lg 18 18 49.9
comp=N,111nm,0.4s,SNR=7.9
ESAC San Caprasio 5.92 34 Pn Pn 18 17 09.5 -0.6
comp=N,9.3nm,0.2s,SNR=7.9
ESAC Sn Sn 18 18 14.8 -3.1
ESAC San Caprasio 5.92 34 Pn Pn 18 17 10.2 0.0
ESAC Sn Sn 18 18 14.8 -3.2
ESAC Lg 18 18 49.9
EZAM Zamans 5.98 332 Pn Pn 18 17 09.9 -1.0
comp=N,12nm,0.6s,SNR=7.9
EZAM Sn Sn 18 18 13.1 -6.3
comp=N,3.6nm,0.3s,SNR=7.9
EZAM Lg 18 18 50.9
comp=N,27nm,0.6s,SNR=7.9
EZAM Zamans 5.98 332 Pn Pn 18 17 10.2 -0.7
EZAM Sn Sn 18 18 14.1 -5.3
EZAM Zamans 5.98 332 Pn Pn 18 17 10.2 -0.7
EZAM Sn Sn 18 18 14.1 -5.4
EZAM Lg 18 18 50.9

ECRI Cripan 5.99 17 Pn Pn 18 17 10.0 -1.0
comp=N,3.6nm,0.2s,SNR=7.9
ECRI Lg 18 18 52.7
comp=N,23nm,0.6s,SNR=7.9
ECRI Cripan 5.99 17 Pn Pn 18 17 10.8 -0.2
ECRI Cripan 5.99 17 Pn Pn 18 17 10.8 -0.2
ECRI Lg 18 18 52.7
ECRI Lg 18 18 53.4
EARI Arriondas 6.38 358 Pn Pn 18 17 15.7 -0.8
comp=N,2.0nm,0.4s,SNR=7.9
EARI Sn Sn 18 18 22.4 -6.9
comp=N,2.9nm,0.3s,SNR=7.9
EARI Lg 18 19 03.3
comp=N,27nm,0.7s,SNR=7.9
EARI Arriondas 6.38 358 Pn Pn 18 17 15.9 -0.6
EARI Arriondas 6.38 358 Pn Pn 18 17 15.9 -0.5
EARI Sn Sn 18 18 23.4 -5.9
EARI Lg 18 19 03.3
ELAN Lanestosa 6.41 10 Pn Pn 18 17 16.4 -0.5
comp=N,1.1nm,0.2s,SNR=7.9
ELAN Sn Sn 18 18 25.4 -4.8
comp=N,10nm,0.5s,SNR=7.9
ELAN Lg 18 19 04.5
comp=N,17nm,0.6s,SNR=7.9
ELAN Lanestosa 6.41 10 Pn Pn 18 17 16.7 -0.2
ELAN Sn Sn 18 18 25.7 -4.4
ELAN Lanestosa 6.41 10 Pn Pn 18 17 16.7 -0.2
ELAN Sn Sn 18 18 25.7 -4.4
ELAN Lg 18 19 04.5
EPOB Poblet 6.44 45 Pn Pn 18 17 16.2 -1.1
comp=N,3.7nm,0.5s,SNR=7.9
EPOB Lg 18 19 05.4
comp=N,2.9nm,0.4s,SNR=7.9
EPOB Poblet 6.44 45 Pn Pn 18 17 17.0 -0.3
EPOB Lg 18 19 05.4
IPRE Itoiz 6.50 24 Lg 18 19 09.8
comp=N,4.9nm,0.4s,SNR=7.9
IUSE Utxeti 6.56 22 Lg 18 19 10.0
comp=N,14nm,0.6s,SNR=7.9
STS Santiago 6.58 336 Lg 18 19 09.9
comp=N,41nm,0.7s,SNR=7.9
EPON Pontenova 6.62 346 Pn Pn 18 17 19.4 -0.4
comp=N,4.6nm,0.2s,SNR=12
EPON Sn Sn 18 18 29.6 -5.7
comp=N,3.8nm,0.3s,SNR=7.9
EPON Lg 18 19 12.9
comp=N,51nm,0.7s,SNR=7.9
EPON Pontenova 6.62 346 Pn Pn 18 17 19.4 -0.4
comp=N,4.6nm,0.2s,SNR=12
EPON Sn Sn 18 18 29.6 -5.7
comp=N,3.8nm,0.3s,SNR=7.9
EGRA Graus 6.65 36 Pn Pn 18 17 19.2 -1.0
comp=N,0.9nm,0.2s,SNR=7.9
EGRA Sn Sn 18 18 31.1 -4.9
comp=N,6.6nm,0.6s,SNR=7.9
EGRA Lg 18 19 14.8
comp=N,32nm,0.7s,SNR=7.9
EGRA Graus 6.65 36 Pn Pn 18 17 19.2 -1.0
comp=N,0.9nm,0.2s,SNR=7.9
EGRA Sn Sn 18 18 31.1 -4.9
comp=N,6.6nm,0.6s,SNR=7.9
ETOS Mallorca 6.72 63 Pn Pn 18 17 21.1 -0.1
comp=N,1.9nm,0.4s,SNR=7.9
ETOS Sn Sn 18 18 33.2 -4.6
comp=N,2.8nm,0.6s,SNR=7.9
ETOS Mallorca 6.72 63 Pn Pn 18 17 21.1 -0.1
comp=N,1.9nm,0.4s,SNR=7.9
ETOS Sn Sn 18 18 33.2 -4.6
ELIZ Elizondo 6.76 22 Lg 18 19 18.8
comp=N,16nm,0.7s,SNR=4.0
SJPF Ste Jean 6.81 24 ePn Pn 18 17 21.2 -1.2
SJPF eSn Sn 18 18 33.8 -6.2
SJPF eSg Sg 18 19 16.0 -5.1
comp=N,52nm,0.9s
SJPF Ste Jean 6.81 24 ePn Pn 18 17 21.2 -1.2
SJPF eSg Sg 18 19 16.0 -5.1
comp=N,26nm,0.9s
EALK Alkurruntz 6.82 22 Pn Pn 18 17 21.8 -0.8
comp=N,18nm,0.5s,SNR=6.8
EALK Alkurruntz 6.82 22 Pn Pn 18 17 22.7 +0.2
EALK Alkurruntz 6.82 22 Pn Pn 18 17 22.7 +0.2
ETSF Etsaut 6.86 28 ePn Pn 18 17 21.5 -1.5
ETSF eSn Sn 18 18 34.8 -6.3
ETSF eSg Sg 18 19 18.0 -4.5
comp=N,108nm,1.4s
ETSF Etsaut 6.86 28 eSg Sg 18 19 18.0 -4.5
comp=N,54nm,1.4s
EBIE Bielsa 6.96 33 Pn Pn 18 17 24.3 -0.1
comp=N,3.7nm,0.4s,SNR=19
EBIE Pg Pg 18 17 48.4 -7.4
comp=N,3.3nm,0.4s,SNR=7.9
EBIE Sn Sn 18 18 38.0 -5.7
comp=N,7.6nm,0.4s,SNR=7.9
EBIE Lg 18 19 24.3
comp=N,8.7nm,0.5s,SNR=5.0
EBIE Bielsa 6.96 33 Pn Pn 18 17 24.9 +0.4
EBIE Bielsa 6.96 33 Pg Pg 18 17 48.7 -7.1
EBIE Bielsa 6.96 33 Pn Pn 18 17 24.9 +0.5
EBIE Pg Pg 18 17 48.7 -7.1
EBIE Sn Sn 18 18 38.6 -5.0
EBIE Lg 18 19 20.9
EMIR Miracle 7.07 43 Pn Pn 18 17 24.6 -1.3
comp=N,2.2nm,0.3s,SNR=7.9
EMIR Lg 18 19 22.2
comp=N,27nm,0.7s,SNR=7.9
EMIR Miracle 7.07 43 Pn Pn 18 17 26.1 +0.2
EMIR Miracle 7.07 43 Pn Pn 18 17 26.1 +0.2
EMIR Lg 18 19 22.2
EPF Esparros 7.33 32 ePn Pn 18 17 28.8 -0.7
EPF eSn Sn 18 18 47.5 -5.2
EPF eSg Sg 18 19 32.6 -5.0
comp=N,36nm,0.7s
EPF Esparros 7.33 32 ePn Pn 18 17 28.8 -0.7
EPF eSn Sn 18 18 47.5 -5.2
EPF eSg Sg 18 19 32.6 -5.0
comp=N,18nm,0.7s
EJON La Jonquera 8.18 45 Lg 18 20 02.7
comp=N,8.7nm,0.7s,SNR=7.9
MTLF Montolieu 8.44 38 ePn Pn 18 17 42.6 -2.1
MTLF eSn Sn 18 19 12.7 -7.2
MTLF eSg Sn 18 20 07.4 +47
comp=N,21nm,1.0s
MTLF Montolieu 8.44 38 ePn Pn 18 17 42.6 -2.1
MTLF eSn Sn 18 19 12.7 -7.2
MTLF eSg Sn 18 20 07.4 +47
comp=N,10nm,1.0s
LFF La Frestale 9.09 26 ePn Pn 18 17 53.0 -0.7
CAF Calviac 9.59 31 ePn Pn 18 17 59.6 -0.9
LASF Ste Croix 9.79 40 ePn Pn 18 18 01.0 -2.3
MFF Saint Martin d 10.32 19 ePn Pn 18 18 09.3 -1.1
QUIF Quistinic 11.07 6 ePn Pn 18 18 18.8 -2.0
QUIF eSn Sn 18 20 16.2 -8.4
comp=N,12nm,0.7s
QUIF Quistinic 11.07 6 ePn Pn 18 18 18.8 -2.0
QUIF eSn Sn 18 20 16.2 -8.4
comp=N,6.1nm,0.7s
BGF Bois d'Agland 11.25 29 ePn Pn 18 18 21.6 -1.6
SGMF Saint Gilles 11.46 8 ePn Pn 18 18 23.9 -2.3
ROSF Rostrenen 11.48 6 ePn Pn 18 18 24.0 -2.4
ROSF eSn Sn 18 20 24.9 -10
comp=N,3.5nm,0.5s
ROSF Rostrenen 11.48 6 ePn Pn 18 18 24.0 -2.4
ROSF eSn Sn 18 20 24.9 -10
comp=N,1.8nm,0.5s
SMF Signal de Mont 11.71 31 ePn Pn 18 18 27.9 -1.7
GRR Gorron 11.85 13 ePn Pn 18 18 29.1 -2.3
LDF La Druitiere 12.19 15 ePn Pn 18 18 33.4 -2.7
FLN La Foliniere 12.28 14 ePn Pn 18 18 34.8 -2.5
GERES GERESS Array B 18.07 43 P Pn 18 19 52.8 -0.8
comp=N,0.1nm,0.3s,baz=231,slow=6.2,SNR=3.6
GERES LR LR 18 26 49.8
comp=N,73nm,19.2s,baz=292,slow=37
TORD Torodi Ar. Bea 24.40 164 P P 18 20 59.2 -1.7
comp=N,0.8nm,0.6s,baz=348,slow=9.9,SNR=6.9

NIED ***26*** *18:21:00,3240N×14180E,h5km,Mw4.5 Best double couple: M0 5.39000×10^15 NP1:φs 350.00000°, δ48.00000°, λ96.00000°. NP2:φs 161.00000°, δ42.00000°, λ84.00000°.*
BJI ***26*** *18:21:55.2,3227N×14203E,h31km,mB4.7,mb4.5,Ms4.2, Msz4.0*
JMA ***26*** *18:21:55.6±0.4,3243N×14183E,h0km,M4.1*
IDC ***26*** *18:21:55.3±0.6,3231N×14181E,h0km,mb4.2/19, mb1 4.4/22,mb1mx4.3/27,mbtmp4.2/22,ML4.1/3,MS3.7/9, Ms1 3.7/9,ms1mx3.4/35,Error ellipse: s-maj=18.7km s-min=12.9km az=78.0*
ISCJB ***26*** *18:21:56.4±1.1,3226N±0.003×14180E±0.004,h20km±7km, mb4.6/59,MS3.9/13,Error ellipse: s-maj=6.2km s-min=4.4km az=128.1*
NEIC ***26*** *18:21:56.6±0.3,3228N×14174E,h10km,mb4.8/25, MW4.4(NIED),Error ellipse: s-maj=8.8km s-min=6.3km az=66.0*
MOS ***26*** *18:21:58.7±1.1,3232N×14167E,h33km,mb4.9/28,Error ellipse: s-maj=15.4km s-min=5.3km az=115.3*
ISC 26 18:21:59.3±1.1,3229N±0.003×14178E±0.004,h28km±7km, **h42**km±3.6km:**pP-P,n184,**σ1§**11**/197,**mb4.6**/59,**MS3.9**/13, **9C-9D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.85**	**297**	P	**Pn**	**18 22 28.9**	**-0.2**
JHJ2				S	**Sn**	**18 22 53.2**	**+1.7**
JHJ	**Hachijo jima 2**	**1.88**	**297**	Pn	**Pn**	**18 22 28.9**	**-0.6**
	116nm,0.3s,baz=150,slow=9.0,SNR=170						
JHJ				LR	LR	18 23 13.0	
	comp=Z,1μm,19.9s,baz=8.4,slow=42						
BSO1	**Boso 1**	**2.45**	**344**	P	**Pn**	**18 22 36.0**	**-1.4**
BSO1				S	**Sn**	**18 23 06.2**	**-0.2**
BSO2	**Boso 2**	**2.60**	**341**	S	**Sn**	**18 23 11.0**	**+0.9**
BSO3	**Boso 3**	**2.72**	**337**	P	**Pn**	**18 22 40.4**	**-0.7**
JKO	**Kozu shima**	**2.92**	**311**	P	**Pn**	**18 22 43.8**	**0.0**
JKO				S	**Sn**	**18 23 19.0**	**+1.2**
BSO4	**Boso 4**	**2.95**	**336**	P	**Pn**	**18 22 45.2**	**+1.0**
BSO4				S	**Sn**	**18 23 20.3**	**+1.6**
JIM2	**Oshima 3**	**3.12**	**322**	P	**Pn**	**18 22 47.0**	**+0.5**
JOD2	**Odawara 2**	**3.72**	**324**	P	**Pn**	**18 22 54.6**	**-0.2**
JYN	**Shimob**	**4.18**	**321**	P	**Pn**	**18 23 03.7**	**+2.5**
JRY	**Ryogami san**	**4.42**	**328**	P	**Pn**	**18 23 05.3**	**+0.9**
JRY				S	**Sn**	**18 23 54.4**	**-0.5**
JAG	**Ashikaga**	**4.55**	**336**	P	**Pn**	**18 23 05.5**	**-0.8**
JAG				S	**Sn**	**18 23 56.3**	**-1.9**
JIE	**Ise**	**4.74**	**298**	P	**Pn**	**18 23 09.8**	**+1.0**
MJAR	**Matsushiro Arr**	**5.17**	**326**	Pn	**Pn**	**18 23 14.1**	**-0.6**
	1.9nm,0.3s,baz=143,slow=11,SNR=31						
MJAR				Sn	**Sn**	**18 24 15.8**	**+2.3**
	2.0nm,0.3s,baz=154,slow=14,SNR=4.2						
MAJO	**Matsushiro**	**5.17**	**326**	*e*P	**Pn**	**18 23 13.9**	**-0.8**
	42nm,0.9s						
MAJO				*e*S	**Sn**	**18 24 10.6**	**-2.8**
MAJO	**Matsushiro**	**5.17**	**326**	*e*P	**Pn**	**18 23 14.0**	**-0.7**
MAJO				*e*S	**Sn**	**18 24 10.6**	**-2.9**
MAJO				pmax	pmax		
	comp=Z,42nm,0.9s						
MAT	**Matsushiro**	**5.17**	**326**	P	**Pn**	**18 23 15.0**	**+0.3**
MAT	**Matsushiro**	**5.17**	**326**	P	**Pn**	**18 23 14.4**	**-0.3**
MAT				S	**Sn**	**18 24 15.6**	**+2.1**
MAT	**Matsushiro**	**5.17**	**326**	*e*P	**Pn**	**18 23 14.0**	**-0.7**
	comp=Z,15nm,1.0s						
MAT				*e*S	**Sn**	**18 24 16.0**	**+2.5**
MAT	**Matsushiro**	**5.17**	**326**	*e*P	**Pn**	**18 23 14.0**	**-0.7**
MAT				*e*S	**Sn**	**18 24 16.0**	**+2.5**
MAT				pmax	pmax		
	comp=Z,15nm,1.0s						
CBIJ	**Chichi jima**	**5.19**	**176**	Pn	**Pn**	**18 23 16.0**	**+1.0**
	comp=Z,30nm,0.3s,baz=301,slow=16,SNR=22						
CBIJ				Sn	**Sn**	**18 24 12.5**	**-1.4**
	comp=Z,45nm,0.3s,baz=294,slow=21,SNR=6.3						
CBIJ				LR	LR	18 25 16.6	
	comp=Z,642nm,18.5s,baz=84,slow=39						
JWZ	**Kozaga**	**5.25**	**285**	P	**Pn**	**18 23 17.5**	**+1.6**
JMM	**Marumori**	**5.62**	**352**	P	**Pn**	**18 23 19.1**	**-1.9**
JMM				S	**Sn**	**18 24 17.7**	**-6.9**
JMK	**Ichinoseki**	**6.66**	**356**	P	**Pn**	**18 23 33.3**	**-2.0**
JMK				S	**Sn**	**18 24 44.1**	**-6.1**
JNU	**Nakatsue**	**9.23**	**278**	LR	LR	18 27 55.4	
	comp=Z,379nm,18.0s,baz=186,slow=39						
ASAJ	**Asahikawa**	**11.83**	**3**	Pn	**Pn**	**18 24 43.8**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=29,slow=34,SNR=7.6						
ASAJ	**Asahikawa**	**11.83**	**3**	P	**Pn**	**18 24 43.8**	**-2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOW	**Kunigami**	**12.95**	**249**	LR	LR	18 30 11.6	
	comp=Z,426nm,18.4s,baz=109,slow=38						
YSS	**Yuzh-Sakhalins**	**14.66**	**3**	P	**Pn**	**18 25 25.0**	**+0.2**
MDJ	**Mudanjiang**	**15.55**	**326**	P	**Pn**	**18 25 35.5**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,12nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,73nm,4.6s						
MDJ				LR	LR		
	comp=N,153nm,20.8s						
MDJ				LR	LR		
	comp=E,131nm,19.7s						
MDJ				LR	LR		
	comp=Z,179nm,18.1s						
MDJ	**Mudanjiang**	**15.55**	**326**	P	**Pn**	**18 25 37.2**	**+0.6**
	comp=Z,7.6nm,0.8s						
HABR	**Khabarovsk**	**16.95**	**344**	*e*P	**Pn**	**18 25 56.1**	**+1.8**
HABR				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2	**Changchun**	**17.22**	**317**	*e*P	**Pn**	**18 26 02.0**	**+4.3**
CN2				*e*XP	sP	18 26 08.0	-2.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,14.0s						
CN2				LR	LR		
	comp=E,600nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
SNY	**Shenyang**	**17.34**	**308**	⇑P	**Pn**	**18 26 00.3**	**+1.1**
SNY				AP	pP	18 26 03.5	-4.4
SNY				XP	sP	18 26 07.0	-4.5
SNY				PP		18 26 15.0	
SNY				XS	sS	18 29 25.8	-5.5
SNY				AMB	AMB		
	comp=Z,13nm,0.9s						
SNY				LR	LR		
	comp=N,256nm,14.7s						
SNY				LR	LR		
	comp=E,402nm,16.5s						
SNY				LR	LR		
	comp=Z,304nm,16.2s						
SSE	**Sheshan**	**17.57**	**272**	P	**Pn**	**18 26 01.3**	**-0.8**
SSE				S	**Sn**	**18 29 14.3**	**-2.6**
SSE				XS	sS	18 29 27.8	-8.1
SSE				AMB	AMB		
	comp=Z,21nm,0.7s						
SSE				AMB	AMB		
	comp=Z,38nm,4.4s						
SSE				LR	LR		
	comp=N,53nm,21.0s						
SSE				LR	LR		
	comp=E,120nm,21.0s						
SSE				LR	LR		
	comp=Z,131nm,18.9s						
KLR	**Kul'dur**	**18.52**	**339**	*e*P	**Pn**	**18 26 10.2**	**-3.5**
GUMO	**Guam**	**18.83**	**171**	LR	LR	18 32 21.1	
	comp=Z,87nm,18.3s,baz=26,slow=33						
NJ2	**Nanjing**	**19.41**	**275**	*e*P	**Pn**	**18 26 26.0**	**+1.6**
NJ2				AP	pP	18 26 29.5	-1.2
NJ2				XP	sP	18 26 33.0	-1.3
NJ2				PP		18 26 43.5	
NJ2				S	**Sn**	**18 29 58.0**	**-3.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,130nm,5.0s						
NJ2				LR	LR		
	comp=N,500nm,22.6s						
NJ2				LR	LR		
	comp=E,340nm,16.4s						
NJ2				LR	LR		
	comp=Z,190nm,26.8s						
HIA	**Hailar**	**23.66**	**322**	*e*P	**P**	**18 27 06.6**	**-1.8**
	comp=Z,11nm,0.9s,mb4.3						
HIA	**Hailar**	**23.66**	**322**	*e*P	**P**	**18 27 06.6**	**-1.8**
HIA				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC	**Hu-ho-hao-te**	**25.63**	**298**	*e*P	**P**	**18 27 25.5**	**-0.9**
HHC				AP	pP	18 27 29.5	-5.0
HHC				PP		18 28 05.0	
HHC				PCP	PcP	18 30 57.0	+0.4
HHC				S	**S**	**18 31 50.5**	**-2.3**
HHC				SS		18 32 53.5	
HHC				AMB	AMB		

comp=Z,10.0nm,0.5s,mb4.6
HHC AMB AMB
comp=Z,146nm,6.1s
HHC LR LR
comp=N,301nm,15.2s,MS4.0
HHC LR LR
comp=E,224nm,17.2s,MS4.0
HHC LR LR
comp=Z,191nm,16.8s,MS3.7
CLNS Chul'man 27.18 340 *e*P **P 18 27 39.2 -1.1**
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,19nm,0.9s,mb4.6
CLNS pmax pmax
comp=E,2.0nm,0.7s
CIT Chita 28.47 322 *e*P **P 18 27 54.4 +2.6**
CIT *e* 18 28 08.3
CIT pmax pmax
comp=Z,38nm,1.9s,mb4.7
ULN Ulaanbaatar 30.49 311 *e*P **P 18 28 10.7 +1.0**
comp=Z,19nm,0.8s,mb4.9
ULN Ulaanbaatar 30.49 311 *e*P **P 18 28 10.7 +1.0**
ULN pmax pmax
comp=Z,19nm,0.8s,mb4.9
YAK Yakutsk 30.77 349 *e*P **P 18 28 11.2 -1.0**
comp=Z,3.2nm,0.5s,mb4.4
YAK *e* 18 28 24.6
YAK Yakutsk 30.77 349 *e*P **P 18 28 11.2 -1.0**
YAK *e* 18 28 24.6
YAK pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
SONM Songino Array 30.90 311 P **P 18 28 14.8 +1.4**
comp=Z,7.6nm,0.9s,mb4.5,baz=111,slow=7.2,SNR=49
SONM LR LR 18 40 11.7
comp=Z,78nm,20.4s,MS3.4,baz=215,slow=36
SEY Seymchan 31.40 9 *i*P **P 18 28 15.9 -1.8**
LZH Lanzhou 31.48 288 *e*P **P 18 28 17.8 -0.7**
LZH PP PP 18 29 21.0 -8.8
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.8
QIZ Qiongzhong 31.54 253 P **P 18 28 17.5 -1.5**
QIZ S **S 18 33 23.0 -2.8**
QIZ LR LR
comp=N,180nm,18.7s
QIZ LR LR
comp=Z,205nm,18.3s,MS3.8
BOD Bodaibo 31.77 332 *e*P **P 18 28 19.8 -1.3**
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
CD2 Chengdu 32.31 278 *e*P **P 18 28 25.8 0.0**
CD2 PP PP 18 29 31.0 -8.0
CD2 S **S 18 33 35.5 -2.2**
CD2 SS SS 18 35 29.3 -28
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=E,210nm,14.4s
CD2 LR LR
comp=Z,220nm,15.6s,MS4.0
ZAK Zakamensk 33.62 314 *e*P **P 18 28 38.2 +1.0**
ZAK pmax pmax
comp=Z,13nm,1.5s,mb4.6
TLY Talaya 33.82 316 *i*P **P 18 28 39.4 +0.4**
GTA Gaotai 34.51 294 *e*P **P 18 28 44.5 -0.5**
GTA PP PP 18 30 00.8 -2.6
GTA S **S 18 34 12.0 +0.1**
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
GTA AMB AMB
comp=Z,66nm,4.9s
GTA LR LR
comp=N,227nm,17.9s,MS4.1
GTA LR LR
comp=E,198nm,17.1s,MS4.1
GTA LR LR
comp=Z,210nm,15.6s,MS4.0
KMI Kunming 34.84 268 P **P 18 28 49.5 +1.7**
KMI AP pP 18 28 54.0 -2.1
KMI S **S 18 34 20.0 +3.1**
KMI AMB AMB
comp=Z,4.0nm,0.6s,mb4.5
KMI LR LR
comp=N,158nm,15.5s,MS4.0
KMI LR LR
comp=E,148nm,14.0s,MS4.0
KMI LR LR
comp=Z,141nm,17.1s,MS3.8
BILL Bilibino 38.51 15 P **P 18 29 20.0 +1.0**
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.8
TIXI Tiksi 40.03 354⇑*e*P **P 18 29 31.1 -0.6**
TIXI pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
WMQ Urumqi 43.41 301 *e*P **P 18 29 59.5 +0.1**
WMQ AMB AMB
comp=Z,15nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,106nm,4.2s
WMQ LR LR
comp=N,662nm,21.0s
WMQ LR LR
comp=Z,558nm,22.0s,MS4.4
MK31 Makanchi Array 47.02 306 *i*P **P 18 30 28.1 0.0**
MK31 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MKAR Makanchi Array 47.02 306 P **P 18 30 28.6 +0.5**
comp=Z,4.7nm,0.7s,mb4.5,baz=98,slow=9.1,SNR=49
MKAR LR LR 18 49 33.3
comp=Z,59nm,21.7s,MS3.5,baz=92,slow=35
MKAR Makanchi Array 47.02 306 *i*P **P 18 30 28.1 0.0**
MKAR pmax pmax
comp=Z,19nm,1.0s
JIRN Jiri 47.93 280 *e*P **P 18 30 35.1 0.0**
comp=Z,17nm,0.7s,mb5.2
GUN Gumba 48.11 280 *e*P **P 18 30 36.3 -0.2**
comp=Z,38nm,1.0s,mb5.4
KKN Kakani 48.65 280 *e*P **P 18 30 40.4 -0.3**
comp=Z,21nm,1.0s,mb5.1
GKN Gorkha 49.11 281 *e*P **P 18 30 43.8 -0.4**
comp=Z,2.2nm,0.2s,mb4.9
KURK Kurchatov 49.20 311 *e*P **P 18 30 44.1 -0.8**
comp=Z,13nm,0.8s,mb5.0
KURK Kurchatov 49.20 311 P **P 18 30 43.3 -1.6**
KURK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
KOLN Koldanda 50.05 281 *e*P **P 18 30 50.7 -0.7**
comp=Z,20nm,1.1s,mb5.1
WRAB Tennant Creek 52.41 189 *e*P **P 18 31 09.4 +0.4**
comp=Z,25nm,0.8s,mb5.2
WRAB *e* 18 31 19.7
WRAB Tennant Creek 52.41 189 *e*P **P 18 31 09.5 +0.4**
WRAB *e* 18 31 19.7
WRAB pmax pmax
comp=Z,25nm,0.8s,mb5.2
WB2 Warramunga Arr 52.42 189 *e*P **P 18 31 09.4 +0.3**
WB2 *e* 18 31 22.5
WB2 Warramunga Arr 52.42 189 *e*P **P 18 31 09.4 +0.3**
WB2 *e* 18 31 22.5
WRA Warramunga Arr 52.42 189 P **P 18 31 09.8 +0.7**
comp=Z,8.3nm,0.7s,mb4.8,baz=6.1,slow=7.6,SNR=92
FITZ Fitzroy Crossi 52.44 199 P **P 18 31 09.9 +0.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=273,slow=20,SNR=5.1
ILAR Eielson Array 53.38 30 P **P 18 31 15.8 -0.5**
comp=Z,1.9nm,1.0s,mb4.0,baz=275,slow=6.2,SNR=12
VOSK Vostochnaya 53.75 315 P **P 18 31 17.6 -1.3**
VOSK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CHKZ Chkalovo 53.85 316 *e*P **P 18 31 18.8 -0.9**
comp=Z,7.0nm,0.8s,mb4.6
CHKZ Chkalovo 53.85 316 *i*P **P 18 31 17.6 -2.0**
CHKZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BVA0 Borovoye Array 54.06 315 *i*P **P 18 31 20.4 -0.8**
BVA0 pmax pmax
comp=Z,7.0nm,1.8s,mb4.3
BVAR Borovoye Array 54.06 315 P **P 18 31 21.4 +0.1**
comp=Z,4.3nm,0.7s,mb4.5,baz=92,slow=7.6,SNR=17
BRVK Borovoye 54.12 315 *e*P **P 18 31 21.4 -0.2**
comp=Z,3.4nm,0.8s,mb4.3
BRVK Borovoye 54.12 315 *e*P **P 18 31 21.5 -0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ZRNK Zerenda 54.90 315 *e*P **P 18 31 26.7 -0.6**
comp=Z,4.2nm,0.8s,mb4.5
ZRNK Zerenda 54.90 315 *i*P **P 18 31 26.4 -0.9**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KK31 Karatay Array 55.87 303 *i*P **P 18 31 33.5 -0.8**
KK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KKAR Karatay Array 55.87 303 *i*P **P 18 31 33.5 -0.8**
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ASAR Alice Springs 56.15 189 P **P 18 31 37.0 +0.7**
comp=Z,2.1nm,1.0s,mb4.1,baz=23,slow=9.6,SNR=21
INK Inuvik 58.49 26 P **P 18 31 53.4 +0.6**
comp=Z,1.9nm,1.0s,mb4.1,baz=286,slow=10,SNR=4.3
INK Inuvik 58.49 26 *e*P **P 18 31 53.5 +0.7**
comp=Z,3.1nm,1.0s,mb4.3
INK Inuvik 58.49 26 *e*P **P 18 31 53.5 +0.7**
INK pmax pmax
comp=Z,3.0nm,1.0s
AB31 Akbulak array 61.29 312 *i*P **P 18 32 11.6 -0.4**
AKTK Aktyubinsk 62.13 314 P **P 18 32 16.9 -0.8**
AKTO Aktyubinsk 62.13 314 P **P 18 32 16.9 -0.8**
comp=Z,3.3nm,1.0s,mb4.4,baz=72,slow=9.3,SNR=8.9
AKTO Aktyubinsk 62.13 314 *i*P **P 18 32 15.7 -2.0**
AKTO pmax pmax
comp=Z,3.0nm,1.6s,mb4.2
STKA Stephens Creek 63.82 180 P **P 18 32 27.7 -1.2**
comp=Z,3.0nm,1.0s,mb4.3,baz=61,slow=7.3,SNR=3.1
AFI Afiamalu 63.91 128 LR LR
comp=Z,83nm,20.8s,MS3.9,baz=178,slow=31 18 54 52.0
YKA Yellowknife Ar 67.77 29 P **P 18 32 53.5 -0.9**
comp=Z,1.2nm,1.0s,mb3.9,baz=296,slow=6.1,SNR=11
YKA Yellowknife Ar 67.77 29 *i*P **P 18 32 54.5 +0.1**
YKA pmax pmax
comp=Z,1.0nm,1.0s
DAG Danmarks Havn 70.52 355⇑*i*P **P 18 33 11.7 +0.3**
comp=Z,4.1nm,0.7s,mb4.5
DAG Danmarks Havn 70.52 355⇑*i*P **P 18 33 11.7 +0.3**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
OBN Obninsk 72.10 324 P **P 18 33 20.0 -1.0**
OBN *e* 18 33 32.3
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
FINES FINESS Array B 73.16 333 P **P 18 33 27.0 -0.3**
comp=Z,2.9nm,0.9s,mb4.2,baz=85,slow=8.0,SNR=5.9
FINES FINESS Array B 73.16 333 P **P 18 33 27.0 -0.3**
FINES FINESS Array B 73.16 333 *i*P **P 18 33 26.5 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.9s
GOF Gofitskoye 73.52 313 *e*P **P 18 33 29.2 -0.2**
KIV Kislovodsk 74.28 312 *e*P **P 18 33 35.3 +1.5**
comp=Z,21nm,1.1s,mb5.0
KIV Kislovodsk 74.28 312⇓*i*P **P 18 33 34.3 +0.5**
KIV pmax pmax
comp=Z,16nm,1.5s,mb4.7
GNI Garni 74.82 308⇑*e*P **P 18 33 38.2 +1.2**
GNI pmax pmax
comp=Z,10.0nm,1.5s
GOF Gofitskoye 73.52 313 *e*P **P 18 33 29.2 -0.2**
KIV Kislovodsk 74.28 312 *e*P **P 18 33 35.3 +1.5**
comp=Z,21nm,1.1s,mb5.0
KIV Kislovodsk 74.28 312⇓*i*P **P 18 33 34.3 +0.5**
KIV pmax pmax
comp=Z,16nm,1.5s,mb4.7
GNI Garni 74.82 308⇑*e*P **P 18 33 38.2 +1.2**
GNI pmax pmax
comp=Z,10.0nm,1.5s
HLID Hailey 77.40 46 *e*P **P 18 33 52.1 +0.5**
NVAR Mina Array Bea 77.61 52 P **P 18 33 55.3 +2.4**
comp=Z,0.5nm,0.6s,mb3.6,baz=294,slow=4.5,SNR=3.6
NVAR LR LR 19 05 49.5
comp=Z,80nm,19.4s,MS4.1,baz=0.0,slow=34
AKASG Malin Array Be 78.25 323 P **P 18 33 56.1 -0.2**
comp=Z,1.7nm,0.6s,mb4.1,baz=46,slow=5.4,SNR=14
NB2 NORSAR Subarra 78.68 338 P **P 18 33 58.0 -0.8**
comp=Z,2.4nm,0.8s,mb4.2,baz=42,slow=5.6
NB2 NORSAR Subarra 78.68 338 P **P 18 33 58.0 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
NOA NORSAR Array B 78.68 338 P **P 18 33 58.4 -0.4**
comp=Z,4.6nm,0.9s,mb4.4,baz=41,slow=5.3,SNR=11
MALT Malatya 79.96 309⇑⇑P **P 18 34 07.7 +2.0**
PDAR Pinedale Array 80.79 45 P **P 18 34 10.9 +0.8**
comp=Z,0.2nm,0.5s,baz=249,slow=4.6,SNR=2.6
BURAR Bucovina Array 82.23 322⇓⇓P **P 18 34 19.1 +1.3**
BURAR Bucovina Array 82.23 322⇓⇓P **P 18 34 19.1 +1.2**
BR131 Keskin Array S 82.24 312 *e*P **P 18 34 18.9 +1.0**
comp=Z,2.5nm,0.8s,mb4.2
BRTR Keskin Array B 82.24 312 P **P 18 34 19.1 +1.2**
comp=Z,2.5nm,0.8s,mb4.2,baz=101,slow=5.0,SNR=13
PPT Papeete 82.25 116 LR LR 19 06 33.2
comp=Z,166nm,20.9s,MS4.4,baz=277,slow=33
TIRR Tirgusor 82.50 318⇑⇑P pP 18 34 32.2 +4.0
VRI Vrincioaia 82.55 320⇓⇓P **P 18 34 11.6 -7.9**
KOLS Kolonicke sedl 82.85 325 *e*P **P 18 34 21.8 +0.8**
KOLS *e* 18 34 39.3
STHS Stebnicka Huta 83.02 325 *e*P **P 18 34 23.3 +1.4**
OJC Ojcow 83.15 327 *e*P **P 18 34 23.1 +0.5**
MLR Muntele Rosu 83.21 320 P **P 18 34 24.7 +1.8**
comp=Z,1.5nm,0.8s,mb4.1,baz=337,slow=13,SNR=3.5
MLR Muntele Rosu 83.21 320⇓⇓P **P 18 34 25.2 +2.3**
MLR Muntele Rosu 83.21 320⇓⇓P **P 18 34 25.2 +2.3**
MLR Muntele Rosu 83.21 320 P **P 18 34 24.7 +1.8**
MLR pmax pmax
comp=Z,2.0nm,0.8s
NIE Niedzica 83.46 326 *e*P **P 18 34 25.6 +1.4**
PV10 Paradox Valley 83.69 48 P **P 18 34 26.2 +0.9**
KECS Kecovo 84.02 325 *e*P **P 18 34 27.4 +0.3**
KECS *e* 18 34 39.4
OKC Ostrava-Krasne 84.18 327 *e*P **P 18 34 28.6 +0.7**
MORC Moravsky Berou 84.50 327⇑⇑P **P 18 34 30.2 +0.7**
DPC Dobruska-Polom 84.64 328 *e*P **P 18 34 31.3 +1.1**
DPC *e*pP pP 18 34 44.5 +5.3
UPC Upice 84.67 329 *e*P **P 18 34 31.2 +0.9**
UPC *e*pP pP 18 34 44.2 +4.8
VYHS Vyhne 84.81 326 *e*P **P 18 34 31.8 +0.7**
VRAC Vranov 85.27 328 P **P 18 34 33.9 +0.5**
comp=Z,7.6nm,1.1s,mb4.8,baz=59,slow=5.0,SNR=5.7
VRAC Vranov 85.27 328⇑P **P 18 34 34.7 +1.3**
VRAC Vranov 85.27 328 P **P 18 34 33.9 +0.5**
VRAC pmax pmax
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 85.29 330 P **P 18 34 33.7 +0.2**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
BRG Berggiesshubel 85.29 330 *e*(P) **P 18 34 33.6 +0.2**
comp=Z,2.1nm,0.8s,mb4.3
CLL Collm 85.36 331 *i* (P) pP 18 34 47.1 +4.2
comp=Z,13nm,1.1s
CLL Collm 85.36 331⇓*i*P **P 18 34 33.9 +0.1**
comp=Z,13nm,1.0s,mb5.0
CLL *i* 18 34 47.1
CLL Collm 85.36 331⇓*i*P **P 18 34 33.9 +0.1**
CLL *i* 18 34 47.1
CLL pmax pmax
comp=Z,13nm,1.0s,mb5.0
PRU Pruhonice 85.69 329 *e*P **P 18 34 36.2 +0.7**
PRU *e*pP pP 18 34 49.3 +4.8
TREC Trest 85.78 328 *e*P **P 18 34 33.4 -2.5**
VTS Vitosha 86.60 319⇓P **P 18 34 42.3 +2.3**
GIVF Givet 89.54 334 *e*P **P 18 34 53.9 -0.1**
LOR Lormes 92.23 333 *e*P **P 18 35 06.1 -0.4**
LPL La Plagne 92.49 330 *e*P **P 18 35 07.8 +0.1**
LPG La Plagne 92.50 330 *e*P **P 18 35 07.9 +0.2**
comp=Z,7.1nm,0.8s,mb4.8
LPG La Plagne 92.50 330 *e*P **P 18 35 07.9 +0.2**
comp=Z,3.5nm,0.8s,mb4.7
LPG La Plagne 92.50 330 *e*P **P 18 35 07.9 +0.2**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
SSF Saint Saulge 92.53 333 *e*P **P 18 35 07.7 -0.2**
comp=Z,14nm,1.1s,mb5.0
SSF Saint Saulge 92.53 333 *e*P **P 18 35 07.7 -0.2**
comp=Z,7.0nm,1.1s,mb5.0
SSF Saint Saulge 92.53 333 *e*P **P 18 35 07.7 -0.2**
SSF pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
AVF Avril sur Loir 92.82 333 *e*P **P 18 35 09.0 -0.2**
comp=Z,16nm,1.1s,mb5.1
AVF Avril sur Loir 92.82 333 *e*P **P 18 35 09.0 -0.2**
comp=Z,8.0nm,1.1s,mb5.1
AVF Avril sur Loir 92.82 333 *e*P **P 18 35 09.0 -0.2**
AVF pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
MBDF Montbardon 93.11 330 *e*P **P 18 35 09.8 -0.7**
comp=Z,9.9nm,1.0s,mb4.9
MBDF Montbardon 93.11 330 *e*P **P 18 35 09.8 -0.7**
comp=Z,4.9nm,1.0s,mb4.9
MBDF Montbardon 93.11 330 *e*P **P 18 35 09.8 -0.7**
MBDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
ORIF Oris-en-Rattie 93.33 330 *e*P **P 18 35 11.4 -0.1**
comp=Z,7.7nm,0.8s,mb4.9
ORIF Oris-en-Rattie 93.33 330 *e*P **P 18 35 11.4 -0.1**
ORIF pmax pmax
comp=Z,3.8nm,0.8s,mb4.9
ORIF Oris-en-Rattie 93.33 330 *e*P **P 18 35 11.4 -0.1**
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
SBF Sospel 93.51 329 *e*P **P 18 35 11.4 -1.0**
comp=Z,9.3nm,0.7s,mb5.0
SBF Sospel 93.51 329 *e*P **P 18 35 11.4 -1.0**
comp=Z,4.7nm,0.7s,mb5.0
SBF Sospel 93.51 329 *e*P **P 18 35 11.4 -1.0**
SBF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
TCF Toulx Ste Croi 93.67 333 *e*P **P 18 35 13.0 -0.1**
PGF Pioggiola 93.84 327 *e*P **P 18 35 13.2 -0.7**
comp=Z,19nm,0.9s,mb5.2
PGF Pioggiola 93.84 327 *e*P **P 18 35 13.2 -0.7**
comp=Z,9.3nm,0.9s,mb5.2
PGF Pioggiola 93.84 327 *e*P **P 18 35 13.2 -0.7**
PGF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
VIVF Saint-Julien-I 93.88 331 *e*P **P 18 35 13.9 -0.2**
comp=Z,11nm,0.9s,mb5.0
VIVF Saint-Julien-I 93.88 331 *e*P **P 18 35 13.9 -0.2**
comp=Z,5.7nm,0.9s,mb5.0
VIVF Saint-Julien-I 93.88 331 *e*P **P 18 35 13.9 -0.2**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
LMR La Mourre 94.33 329 *e*P **P 18 35 15.4 -0.8**
LASF Ste Croix 94.86 331 *e*P **P 18 35 18.2 -0.4**
MTLF Montolieu 96.13 332 *e*P **P 18 35 22.8 -1.6**
SAML Samuel 147.22 50 *e*PKPbc PKPbc 18 41 40.4 +0.6
LPAZ La Paz 148.56 67 PKPbc PKPbc 18 41 45.9 +2.4
comp=Z,1.1nm,0.9s,baz=27,slow=7.6,SNR=3.9

ISCJB ***26*** *18:34:26.7±1.2, 8.16N×007×83.12W±008, h26km±9km, mb3.6/3, Error ellipse: s-maj=15.9km s-min=8.9km az=94.9*
CASC ***26*** *18:34:27.9±2.7, 835N×82.86W, h50km±22km, MD4.3, ML4.3*
NEIC ***26*** *18:34:32.9±1.2, 870N×83.14W, h56km±14km, Error ellipse: s-maj=24.8km s-min=12.7km az=221.0*
IDC ***26*** *18:34:34.8±4.2, 887N×8301W, h61km±25km, mb3.5/3, mb1 3.8/5, mb1mx3.4/21, mbtmp3.9/5, ML4.0/2, Error ellipse: s-maj=99.6km s-min=20.1km az=25.0*

ISC 26 18:34:27.2±1.3, 820N±008×8304W±010, h23km±10km, n31, σ1§13/41, mb3.6/3, 11C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.47**	**344**⇑	*i*P	**Pb**	**Pb**	**18 34 37.4**	**+0.6**
CTCR	**Cotoan**	**0.74**	**22**⇓	*i*P	**Pb**	**Pb**	**18 34 41.4**	**-0.1**
BUS	**Buena Vista**	**1.52**	**332**⇑	*i*P	**Pn**	**Pn**	**18 34 51.6**	**-1.5**
LCR2	**La Lucha 2**	**1.80**	**328**⇑	*i*P	**Pn**	**Pn**	**18 34 55.6**	**-1.3**
OCM	**Ochomogo**	**1.91**	**332**⇑	*i*P	**Pn**	**Pn**	**18 34 57.2**	**-1.2**
OCM				*e*S	**Sn**	**Sn**	**18 35 22.4**	**+0.7**
OCM				AML	AML	AML	18 35 24.4	
	comp=N,6μm,0.5s							
ICR	**Volcan Irazu**	**1.93**	**336**⇑	*e*P	**Pn**	**Pn**	**18 34 57.9**	**-0.8**
VTU	**Volcan Turrial**	**1.94**	**339**⇓	*i*P	**Pn**	**Pn**	**18 34 58.6**	**-0.2**
VTU				*e*S	**Sn**	**Sn**	**18 35 22.0**	**-0.5**
IRZ2	**Volcan Irazu 2**	**1.95**	**334**⇑	*e*P	**Pn**	**Pn**	**18 34 58.3**	**-0.6**
PICA	**Picada**	**1.96**	**338**⇓	*i*P	**Pn**	**Pn**	**18 34 58.4**	**-0.6**
PICA				*e*S	**Sn**	**Sn**	**18 35 24.4**	**+1.5**
LAJ	**Bijagual**	**1.97**	**327**⇓	*e*P	**Pn**	**Pn**	**18 35 00.8**	**+1.7**
SJS	**Escuela Geolog**	**2.00**	**330**	*e*P	**Pn**	**Pn**	**18 34 58.0**	**-1.5**
SJS				*e*S	**Sn**	**Sn**	**18 35 22.6**	**-1.2**
PRS1	**Puriscal**	**2.17**	**325**⇓	*i*P	**Pn**	**Pn**	**18 35 00.8**	**-1.2**
CGA2	**Cerro Gallo 2**	**2.29**	**322**	*e*P	**Pn**	**Pn**	**18 35 03.5**	**0.0**
CGA2				*e*S	**Sn**	**Sn**	**18 35 30.9**	**-0.2**
POA2	**Poas 2**	**2.30**	**329**	*i* P	**Pn**	**Pn**	**18 35 03.9**	**+0.2**
POA2				*e*S	**Sn**	**Sn**	**18 35 30.8**	**-0.5**
VPS2	**Volcan Poas 2**	**2.30**	**329**⇑	*i*P	**Pn**	**Pn**	**18 35 04.8**	**+1.1**
VPS2				*e*S	**Sn**	**Sn**	**18 35 31.8**	**+0.5**
EPA	**Esparza**	**2.35**	**319**⇑	*e*P	**Pn**	**Pn**	**18 35 04.6**	**+0.2**
CAO	**Cobano**	**2.53**	**306**⇑	*e*P	**Pn**	**Pn**	**18 35 06.0**	**-0.8**
VACR	**Volcan Arenal**	**2.78**	**324**	*e*P	**Pn**	**Pn**	**18 35 10.7**	**+0.4**
VACR				*e*S	**Sn**	**Sn**	**18 35 45.4**	**+2.3**
JTS	**JuntasAbangare**	**2.81**	**318**	P	**Pn**	**Pn**	**18 35 10.2**	**-0.5**
	comp=N,136nm,0.3s,baz=120,slow=12,SNR=211							
JTS				S	**Sn**	**Sn**	**18 35 40.8**	**-3.0**
	comp=N,64nm,0.3s,baz=298,slow=20,SNR=6.7							
JTS	**JuntasAbangare**	**2.81**	**318**	*e*P	**Pn**	**Pn**	**18 35 10.4**	**-0.3**
JTS	**JuntasAbangare**	**2.81**	**318**	*e*Pn	**Pn**	**Pn**	**18 35 10.1**	**-0.5**
JTS				Sn	**Sn**	**Sn**	**18 35 40.4**	**-3.4**
VCR	**Vista de Mar**	**3.20**	**307**⇑	*e*P	**Pn**	**Pn**	**18 35 16.7**	**+0.7**
VCR				*e*S	**Sn**	**Sn**	**18 35 56.8**	**+3.4**
MADN	**Villa Maderas**	**4.03**	**323**	*e*P	**Pn**	**Pn**	**18 35 29.3**	**+1.9**
COPN	**Copaltepe**	**5.28**	**319**⇑	*e*P	**Pn**	**Pn**	**18 35 46.3**	**+1.7**
MOMJ	**Momotombo**	**5.42**	**321**	*e*P	**Pn**	**Pn**	**18 35 47.3**	**+0.7**
OTAV	**Otavalo**	**9.14**	**150**	*e*Pn	**Pn**	**Pn**	**18 36 48.8**	**+11**
	comp=N,4.8nm,1.0s							
SDV	**Santo Domingo**	**12.29**	**86**	P	**Pn**	**Pn**	**18 37 26.5**	**+5.8**
	comp=N,0.2nm,0.3s,baz=342,slow=5.5,SNR=5.8							
ULM	**Lac du Bonnet**	**43.26**	**348**	P	**P**	**P**	**18 42 23.0**	**-3.8**
	comp=N,0.7nm,0.5s,mb3.6,baz=139,slow=9.3,SNR=3.4							
YKA	**Yellowknife Ar**	**58.86**	**344**	P	**P**	**P**	**18 44 22.7**	**-1.3**
	comp=N,0.3nm,0.6s,mb3.5,baz=140,slow=6.8,SNR=9.3							
ESDC	**Sonseca Array**	**76.41**	**51**	P	**P**	**P**	**18 46 16.5**	**+1.7**
	comp=N,0.5nm,0.6s,mb3.6,baz=285,slow=5.7,SNR=6.4							
ASAR	**Alice Springs**	**141.44**	**242**	PKP	PKPdf		18 53 59.1	+2.8
	comp=N,0.2nm,0.6s,baz=109,slow=2.9,SNR=5.5							

MAN 26 18:38:04.8, 1858N×12076E, h8km, mb2.7, ML4.1, MS2.5, Luzon

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NEIC ***26*** *18:38:10.4±1.7, 3657N×557E, h10km, MG4.1(MDD), Error ellipse: s-maj=20.8km s-min=5.5km az=148.0*
MDD ***26*** *18:38:14.3±1.8, 3668N×548E, h22km±31km, mb4.2/11, Error ellipse: s-maj=33.4km s-min=9.3km az=149.0, PRXIMO*
ISCJB ***26*** *18:38:15.5±0.8, 37.15N±004×522E±005, h10km, Error ellipse: s-maj=6.8km s-min=4.6km az=119.0*
LDG ***26*** *18:38:15.9±0.3, 3667N×547E, h25km, Ml3.3/12, Error ellipse: s-maj=6.4km s-min=3.6km az=151.0*
CSEM ***26*** *18:38:18.6±0.3, 37.10N×486E, h10km, ML3.4/4, Error ellipse: s-maj=5.1km s-min=3.0km az=135.0*

ISC 26 18:38:17.0±0.8, 3706N±004×521E±004, h10km, n73, σ1§30/132, 2D, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**3.29**	**326**	⇓P	**Pn**	**Pn**	**18 39 09.7**	**+1.1**
	23nm,0.3s,SNR=18							
ETOS				S	**Sn**	**Sn**	**18 39 49.8**	**+2.1**
	7.0nm,0.2s,SNR=4.0							
ETOS				T			18 42 10.8	
	SNR=13							
ETOS	**Mallorca**	**3.29**	**326**	P	**Pn**	**Pn**	**18 39 09.6**	**+1.0**
	23nm,0.3s,SNR=18							
ETOS				S	**Sn**	**Sn**	**18 39 49.8**	**+2.0**
	7.0nm,0.2s,SNR=4.0							
ETOS	**Mallorca**	**3.29**	**326**	⇓P	**Pn**	**Pn**	**18 39 09.7**	**+1.1**
ETOS				S	**Sn**	**Sn**	**18 39 49.8**	**+2.1**
EIBI	**Ibiza**	**3.63**	**304**	P	**Pn**	**Pn**	**18 39 13.6**	**+0.4**
	7.1nm,0.2s,SNR=16							
EIBI				S	**Sn**	**Sn**	**18 39 56.7**	**+0.6**
	2.4nm,0.2s							
EIBI	**Ibiza**	**3.63**	**304**	P	**Pn**	**Pn**	**18 39 13.6**	**+0.4**
	7.1nm,0.2s,SNR=16							
EIBI				S	**Sn**	**Sn**	**18 39 56.7**	**+0.7**
	2.4nm,0.2s							
EBEN	**Beniarda**	**4.60**	**293**	P	**Pn**	**Pn**	**18 39 25.4**	**-1.2**
	1.4nm,0.3s,SNR=7.0							
EBEN				S	**Sn**	**Sn**	**18 40 18.9**	**-1.2**
	0.2nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**4.60**	**293**	P	**Pn**	**Pn**	**18 39 25.4**	**-1.2**
	1.4nm,0.3s,SNR=7.0							
EBEN				S	**Sn**	**Sn**	**18 40 18.9**	**-1.1**
	0.2nm,0.3s,SNR=7.9							
CART	**Cartagena**	**4.98**	**278**	*e*P	**Pn**	**Pn**	**18 39 30.0**	**-1.7**
	14nm,0.6s							
CART	**Cartagena**	**4.98**	**278**	*e*P	**Pn**	**Pn**	**18 39 30.1**	**-1.7**
	14nm,0.6s							
EMUR	**La Murta**	**5.19**	**281**	P	**Pn**	**Pn**	**18 39 33.6**	**-1.1**
	4.0nm,0.4s,SNR=6.8							
EMUR				S	**Sn**	**Sn**	**18 40 31.5**	**-3.1**
	0.3nm,0.2s,SNR=4.0							
EMUR	**La Murta**	**5.19**	**281**	P	**Pn**	**Pn**	**18 39 33.6**	**-1.1**
	4.0nm,0.4s,SNR=6.8							

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMUR				S	Sn	18 40 31.5	-3.1
	0.3nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**5.19**	**281**	P	**Pn**	18 39 33.6	-1.1
EMUR				S	Sn	18 40 31.4	-3.1
EPOB	**Poblet**	**5.35**	**324**	P	**Pn**	18 39 37.6	+0.7
	2.0nm,0.2s,SNR=8.0						
EPOB				S	Sn	18 40 37.9	-0.7
	0.1nm,0.1s						
EPOB	**Poblet**	**5.35**	**324**	P	**Pn**	18 39 37.9	+1.0
EPOB				S	Sn	18 40 37.9	-0.7
	0.1nm,0.1s						
EPOB	**Poblet**	**5.35**	**324**	P	**Pn**	18 39 37.9	+1.0
EPOB				S	Sn	18 40 37.9	-0.7
ERTA	**Horta de San J**	**5.43**	**317**	P	**Pn**	18 39 39.6	+1.6
	0.8nm,0.3s,SNR=7.9						
ERTA				S	Sn	18 40 39.2	-1.4
	0.3nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**5.43**	**317**	P	**Pn**	18 39 39.6	+1.6
	0.8nm,0.3s,SNR=7.9						
ERTA				S	Sn	18 40 39.9	-0.7
ERTA	**Horta de San J**	**5.43**	**317**	P	**Pn**	18 39 39.6	+1.6
ERTA				S	Sn	18 40 39.9	-0.7
ECHE	**Chera**	**5.47**	**299**	P	**Pn**	18 39 39.0	+0.4
	1.7nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.53**	**308**	P	**Pn**	18 39 40.2	+0.9
	1.6nm,0.3s,SNR=6.7						
EMOS				S	Sn	18 40 41.6	-1.4
	0.2nm,0.2s						
EMOS	**Mosqueruela**	**5.53**	**308**	P	**Pn**	18 39 40.2	+0.8
	1.6nm,0.3s,SNR=6.7						
EMOS				S	Sn	18 40 42.4	-0.6
EMOS	**Mosqueruela**	**5.53**	**308**	P	**Pn**	18 39 40.2	+0.9
EMOS				S	Sn	18 40 42.4	-0.6
ETOB	**Tobarra**	**5.57**	**289**	P	**Pn**	18 39 41.0	+1.1
	1.6nm,0.2s,SNR=7.9						
ETOB				S	Sn	18 40 42.5	-1.5
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.57**	**289**	P	**Pn**	18 39 40.3	+0.3
ETOB				S	Sn	18 40 42.5	-1.6
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.57**	**289**	P	**Pn**	18 39 40.4	+0.4
ETOB				S	Sn	18 40 42.5	-1.5
EMIR	**Miracle**	**5.62**	**331**	P	**Pn**	18 39 42.1	+1.5
	3.0nm,0.1s,SNR=16						
EMIR				S	Sn	18 40 46.4	+1.2
	0.4nm,0.1s						
EMIR	**Miracle**	**5.62**	**331**	P	**Pn**	18 39 41.9	+1.3
EMIR				S	Sn	18 40 46.4	+1.2
	0.4nm,0.1s						
EMIR	**Miracle**	**5.62**	**331**	P	**Pn**	18 39 41.9	+1.3
EMIR				S	Sn	18 40 46.7	+1.5
EJON	**La Jonquera**	**5.67**	**342**	P	**Pn**	18 39 40.7	-0.5
	0.9nm,0.2s,SNR=7.9						
EJON				S	Sn	18 40 47.0	+0.6
	1.0nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**5.67**	**342**	P	**Pn**	18 39 40.7	-0.6
	0.9nm,0.2s,SNR=7.9						
EJON				S	Sn	18 40 47.0	+0.6
	1.0nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**5.67**	**342**	P	**Pn**	18 39 40.7	-0.5
EJON				S	Sn	18 40 47.3	+0.9
PGF	**Pioggiola**	**6.21**	**27**	*e*Pn	**Pn**	18 39 46.4	-2.3
PGF				*e*Sn	Sn	18 40 55.2	-4.5
	11nm,0.5s						
PGF	**Pioggiola**	**6.21**	**27**	Pn	**Pn**	18 39 46.4	-2.3
PGF				Sn	Sn	18 40 55.2	-4.5
	5.7nm,0.5s						
PGF	**Pioggiola**	**6.21**	**27**	*e*Sn	Sn	18 40 55.2	-4.5
	5.7nm,0.5s						
LMR	**La Mourre**	**6.34**	**9**	*e*Pn	**Pn**	18 39 49.3	-1.2
LMR				*e*Sn	Sn	18 41 01.6	-1.5
	4.1nm,0.3s						
LMR	**La Mourre**	**6.34**	**9**	Pn	**Pn**	18 39 49.3	-1.2
LMR				Sn	Sn	18 41 01.6	-1.5
	2.0nm,0.3s						
LMR	**La Mourre**	**6.34**	**9**	*e*Sn	Sn	18 41 01.6	-1.5
	2.0nm,0.3s						
EGRA	**Graus**	**6.37**	**325**	P	**Pn**	18 39 52.5	+1.6
	1.7nm,0.3s,SNR=5.6						
EGRA				S	Sn	18 41 04.2	+0.6
	0.3nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**6.40**	**318**	P	**Pn**	18 39 53.4	+2.0
	3.5nm,0.2s,SNR=4.2						
ESAC				S	Sn	18 41 06.3	+1.8
	3.0nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**6.40**	**318**	P	**Pn**	18 39 53.4	+2.1
	3.5nm,0.2s,SNR=4.2						
EBER	**Berja**	**6.48**	**271**	P	**Pn**	18 39 50.4	-2.1
	0.6nm,0.2s,SNR=7.9						
EBER				S	Sn	18 41 02.4	-4.1
	1.6nm,0.4s,SNR=7.9						
EBER	**Berja**	**6.48**	**271**	P	**Pn**	18 39 50.4	-2.0
	0.6nm,0.2s,SNR=7.9						
EBER				S	Sn	18 41 02.4	-4.1
	SNR=7.9						
FRF	**La Foret Royal**	**6.58**	**9**	*e*Pn	**Pn**	18 39 52.8	-1.0
FRF				*e*Sn	Sn	18 41 07.2	-1.8
	5.3nm,0.3s						
FRF	**La Foret Royal**	**6.58**	**9**	Pn	**Pn**	18 39 52.8	-1.0
FRF				Sn	Sn	18 41 07.2	-1.8
	2.7nm,0.3s						
FRF	**La Foret Royal**	**6.58**	**9**	*e*Sn	Sn	18 41 07.2	-1.8
	2.7nm,0.3s						
EQES	**Quesada**	**6.63**	**279**	P	**Pn**	18 39 54.5	0.0
	5.4nm,0.4s,SNR=9.8						
EQES				S	Sn	18 41 08.1	-1.9
	0.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.63**	**279**	P	**Pn**	18 39 54.5	+0.1
	5.4nm,0.4s,SNR=9.8						
EQES				S	Sn	18 41 08.1	-1.9
EQES	**Quesada**	**6.63**	**279**	P	**Pn**	18 39 53.2	-1.2
EQES				S	Sn	18 41 08.2	-1.9
MTLF	**Montolieu**	**6.68**	**341**	*e*Pn	**Pn**	18 39 55.2	+0.1
MTLF				*e*Sn	Sn	18 41 10.9	-0.3
	2.8nm,0.3s						
MTLF	**Montolieu**	**6.68**	**341**	Pn	**Pn**	18 39 55.2	+0.1
MTLF				Sn	Sn	18 41 10.9	-0.3
	1.4nm,0.3s						
EBIE	**Bielsa**	**6.83**	**327**	P	**Pn**	18 39 59.2	+2.0
	1.6nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**6.83**	**327**	P	**Pn**	18 39 59.2	+1.9
SMRF	**Simiane la Rot**	**6.91**	**2**	*e*Pn	**Pn**	18 39 58.8	+0.4
SMRF				*e*Sn	Sn	18 41 16.3	-0.8
	1.9nm,0.4s						
SMRF	**Simiane la Rot**	**6.91**	**2**	Pn	**Pn**	18 39 58.8	+0.4
SMRF				Sn	Sn	18 41 16.3	-0.8
	1.9nm,0.4s						
SBF	**Sospel**	**7.00**	**13**	*e*Pn	**Pn**	18 39 58.9	-0.7
SBF				*e*Sn	Sn	18 41 16.9	-2.4
	5.8nm,0.3s						
SBF	**Sospel**	**7.00**	**13**	Pn	**Pn**	18 39 58.9	-0.7
SBF				Sn	Sn	18 41 16.9	-2.4
	2.9nm,0.3s						
SBF	**Sospel**	**7.00**	**13**	*e*Sn	Sn	18 41 16.9	-2.4
	2.9nm,0.3s						
EPF	**Esparros**	**7.03**	**329**	*e*Pn	**Pn**	18 40 02.4	+2.4
EPF				*e*Sn	Sn	18 41 20.3	+0.3
	2.1nm,0.3s						
EPF	**Esparros**	**7.03**	**329**	Pn	**Pn**	18 40 02.4	+2.4
EPF				Sn	Sn	18 41 20.3	+0.3
	1.1nm,0.3s						
LASF	**Ste Croix**	**7.08**	**352**	*e*Pn	**Pn**	18 40 00.5	-0.2
LASF				*e*Sn	Sn	18 41 21.0	-0.2
	5.8nm,0.3s						
LASF	**Ste Croix**	**7.08**	**352**	Pn	**Pn**	18 40 00.5	-0.2
LASF				Sn	Sn	18 41 21.0	-0.2
	2.9nm,0.3s						
MBDF	**Montbardon**	**7.75**	**8**	*e*Pn	**Pn**	18 40 10.7	+0.9
MBDF				*e*Sn	Sn	18 41 32.5	-5.1
	1.5nm,0.3s						
MBDF	**Montbardon**	**7.75**	**8**	Pn	**Pn**	18 40 10.7	+0.9
MBDF				Sn	Sn	18 41 32.5	-5.1
	0.8nm,0.3s						
SJPF	**Ste Jean**	**7.80**	**323**	*e*Pn	**Pn**	18 40 12.0	+1.5
SJPF				*e*Sn	Sn	18 41 38.6	-0.2
	0.5nm,0.3s						
SJPF	**Ste Jean**	**7.80**	**323**	Pn	**Pn**	18 40 12.0	+1.5
SJPF				Sn	Sn	18 41 38.6	-0.2
	0.2nm,0.3s						
VIVF	**Saint-Julien-l**	**7.80**	**357**	*e*Pn	**Pn**	18 40 09.8	-0.7
VIVF				*e*Sn	Sn	18 41 36.2	-2.6
	2.9nm,0.3s						
VIVF	**Saint-Julien-l**	**7.80**	**357**	Pn	**Pn**	18 40 09.8	-0.7
VIVF				Sn	Sn	18 41 36.2	-2.6
	1.4nm,0.3s						
CAF	**Calviac**	**8.21**	**344**	*e*Pn	**Pn**	18 40 17.3	+1.2
LPG	**La Plagne**	**8.51**	**7**	*e*Pn	**Pn**	18 40 21.1	+0.9
LPL	**La Plagne**	**8.53**	**7**	*e*Pn	**Pn**	18 40 22.0	+1.5
LFF	**La Frestale**	**8.56**	**338**	*e*Pn	**Pn**	18 40 22.9	+1.9
LFF				*e*Sn	Sn	18 41 56.4	-1.2
	1.1nm,0.3s						
LFF	**La Frestale**	**8.56**	**338**	Pn	**Pn**	18 40 22.9	+1.9
LFF				Sn	Sn	18 41 56.4	-1.2
	0.6nm,0.3s						
RJF	**Les Rejaudoux**	**8.69**	**343**	*e*Pn	**Pn**	18 40 23.7	+0.9

ISCJB ***26*** *18:38:37.2±2.6, 43S±0.1×1425E±0.1, h104km±27km, mb3.7/5, Error ellipse: s-maj=25.6km s-min=12.8km az=96.3*
NEIC ***26*** *18:38:43.8±3.0, 453S×1428.5E, h162km±32km, mb4.3/3, Error ellipse: s-maj=30.3km s-min=14.0km az=131.0*
IDC ***26*** *18:38:46.1±3.6, 470S×1429.3E, h191km±38km, mb3.3/6, mb1 3.4/8, mb1mx3.3/15, mbtmp3.8/8, Error ellipse: s-maj=34.3km s-min=17.3km az=118.0*
ISC 26 18:38:42.9±1.9, 46S±01×1427E±01, h152km±19km, n14, σ1§11/16, mb3.6/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.55**	**137**	P	**Pn**	18 40 16.4	-0.5
	0.6nm,0.3s,baz=290,slow=15,SNR=3.9						
PMG	**Port Moresby**	**6.55**	**137**	*e*Pn	**Pn**	18 40 17.0	+0.1
KAKA	**Kakadu**	**12.93**	**231**	*e*P	**Pn**	18 41 39.5	-1.6
	7.1nm,0.4s						
KAKA				*e*S	**Sn**	18 43 59.3	-4.9
WRAB	**Tennant Creek**	**17.28**	**207**	*e*P	**Pn**	18 42 35.2	+0.4
	10nm,0.6s						
WB2	**Warramunga Arr**	**17.28**	**207**	*e*P	**Pn**	18 42 35.4	+0.4
WRA	**Warramunga Arr**	**17.29**	**207**	P	**Pn**	18 42 35.1	0.0
	1.2nm,0.3s,baz=25,slow=12,SNR=63						
WRA				S	**S**	18 45 45.2	-1.0
	0.1nm,0.3s,baz=28,slow=25,SNR=3.6						
ASAR	**Alice Springs**	**20.77**	**203**	P	**P**	18 43 13.6	+1.8
	1.1nm,0.6s,baz=34,slow=11,SNR=31						
FITZ	**Fitzroy Crossi**	**21.40**	**230**	*e*P	**P**	18 43 21.9	+3.4
	12nm,1.2s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.40**	**230**	P	**P**	18 43 19.9	+1.4
	3.1nm,0.8s,mb3.7,baz=54,slow=17,SNR=4.3						
STKA	**Stephens Creek**	**27.17**	**182**	*e*P	**P**	18 44 13.6	+1.6
	1.4nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**27.17**	**182**	P	**P**	18 44 10.6	-1.5
	2.4nm,0.8s,mb3.9,baz=349,slow=9.3,SNR=5.8						
MKAR	**Makanchi Array**	**73.68**	**322**	P	**P**	18 50 00.4	+0.5
	0.5nm,0.7s,mb3.4,baz=122,slow=7.2,SNR=5.9						
BVAR	**Borovoye Array**	**83.10**	**325**	P	**P**	18 50 51.9	+0.3
	0.4nm,0.5s,mb3.4,baz=104,slow=6.1,SNR=4.2						
ILAR	**Eielson Array**	**85.91**	**24**	P	**P**	18 51 04.1	-1.5
	0.8nm,0.6s,mb3.6,baz=262,slow=4.7,SNR=20						

MAN 26 18:41:07.1, 1776N×12128E, h11km, mb2.0, ML3.7, MS4.2, Luzon

ISCJB ***26*** *18:52:02.3±0.9, 669S±003×12736E±005, h413km±11km, mb4.4/62, Error ellipse: s-maj=8.4km s-min=4.5km az=136.3*
MOS ***26*** *18:52:02.3±0.8, 665S×12730E, h412km, mb4.5/23, Error ellipse: s-maj=13.3km s-min=6.9km az=113.8*
BJI ***26*** *18:52:02.3, 685S×12754E, h436km, mB4.5, mb4.4*
NEIC ***26*** *18:52:03.8±0.6, 666S×12733E, h415km±8km, mb4.4/23, Error ellipse: s-maj=7.4km s-min=4.3km az=55.0*
IDC ***26*** *18:52:05.0±1.3, 676S×12741E, h427km±14km, mb3.9/14, mb1 3.9/17, mb1mx3.9/20, mbtmp4.7/17, Error ellipse: s-maj=12.0km s-min=7.2km az=60.0*
ISC 26 18:52:04.6±0.8, 676S±004×12739E±005, h424km±10km, h413km±2.2km: pP-P, n161, σ1§01/158, mb4.4/62, 15C-8D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.73**	**140**	*e*P	**P**	18 53 56.7	+0.1
	206nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.40**	**188**	⇑*i*P	**P**	18 54 38.0	+0.9
	7.0nm,0.3s						
FITZ				*i* S	**S**	18 56 58.0	+15
FITZ	**Fitzroy Crossi**	**11.40**	**188**	P	**P**	18 54 38.0	+0.9
	1.2nm,0.3s,baz=299,slow=22,SNR=64						
FITZ				S	**S**	18 56 43.3	+0.3
	1.1nm,0.3s,baz=162,slow=23,SNR=2.7						
WRAB	**Tennant Creek**	**14.73**	**153**	⇓*i*P	**P**	18 55 13.6	+0.2
	275nm,1.1s						
WRAB				*e*S	**S**	18 57 48.0	-1.5
WRAB	**Tennant Creek**	**14.73**	**153**	⇓*i*P	**P**	18 55 13.6	+0.2
WRAB				*e*S	**S**	18 57 48.0	-1.5
WRAB				pmax	pmax		
	comp=Z,275nm,1.1s						
WRA	**Warramunga Arr**	**14.74**	**153**	P	**P**	18 55 13.9	+0.4
	comp=Z,21nm,0.3s,baz=334,slow=11,SNR=1614						
WRA				S	**S**	18 57 47.4	-2.2
	comp=Z,8.0nm,0.3s,baz=325,slow=18,SNR=9.9						
WRA	**Warramunga Arr**	**14.74**	**153**	P	**P**	18 55 13.9	+0.5
WRA				S	**S**	18 57 47.4	-2.2
WRA				pmax	pmax		
	comp=Z,21nm,0.3s						
WRA				smax			
	comp=N,8.0nm,0.3s						
WB2	**Warramunga Arr**	**14.74**	**153**	⇓*i*P	**P**	18 55 13.6	+0.1
WB2				*e*S	**S**	18 57 47.4	-2.3
MBWA	**Marble Bar**	**16.12**	**207**	*e*P	**P**	18 55 28.4	+0.1
	comp=N,93nm,1.4s						
MBWA				*e*S	**S**	18 58 15.9	-0.7
KKM	**Kota Kinabalu**	**16.92**	**319**	*e*P	**P**	18 55 37.4	+0.7
ASAR	**Alice Springs**	**17.94**	**160**	P	**P**	18 55 48.0	+0.6
	comp=N,6.2nm,0.3s,baz=338,slow=12,SNR=474						
ASAR				S	**S**	18 58 49.9	-1.7
	comp=N,4.7nm,0.3s,baz=332,slow=17,SNR=16						
ASAR				ScP	ScP	19 02 56.0	+1.7
	baz=338,slow=1.5,SNR=6.9						
ASAR	**Alice Springs**	**17.94**	**160**	P	**P**	18 55 48.1	+0.7
ASAR				S	**S**	18 58 49.9	-1.7
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAR				smax			
	comp=N,5.0nm,0.3s						
KSM	**Kuching**	**18.91**	**295**	*e*P	**P**	18 55 55.4	-2.1
PMG	**Port Moresby**	**19.75**	**99**	P	**P**	18 56 05.5	+0.4
	comp=N,5.8nm,0.3s,baz=325,slow=2.7,SNR=39						
PMG	**Port Moresby**	**19.75**	**99**	*e*P	**P**	18 56 05.6	+0.5
	comp=N,32nm,0.6s						
PMG	**Port Moresby**	**19.75**	**99**	*e*P	**P**	18 56 05.6	+0.5
PMG				pmax	pmax		
	comp=Z,32nm,0.6s						
CTA	**Charters Tower**	**22.59**	**128**	⇑*i*P	**P**	18 56 33.1	+2.1
	comp=Z,6.7nm,0.7s,mb4.2						
CTA	**Charters Tower**	**22.59**	**128**	P	**P**	18 56 32.8	+1.8
	comp=Z,8.0nm,0.6s,mb4.3,baz=318,slow=11,SNR=11						
CTA	**Charters Tower**	**22.59**	**128**	⇑*i*P	**P**	18 56 33.1	+2.1
CTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTAO	**Charters Tower**	**22.59**	**128**	*e*P	**P**	18 56 32.8	+1.8
FORT	**Forrest**	**23.90**	**179**	⇑*i*P	**P**	18 56 43.4	+0.6
	comp=Z,25nm,1.2s,mb4.5						
KLBR	**Kellerberrin**	**26.30**	**199**	*e*P	**P**	18 57 04.5	+0.5
	comp=Z,12nm,0.3s,mb4.8						
MUN	**Mundaring**	**27.18**	**201**	*e*P	**P**	18 57 12.2	+0.4
NWAO	**Narrogin (SRO)**	**27.70**	**199**	P	**P**	18 57 17.1	+0.7
	comp=Z,3.9nm,0.3s,mb4.2,baz=36,slow=8.7,SNR=17						
NWAO	**Narrogin (SRO)**	**27.70**	**199**	*e*P	**P**	18 57 16.9	+0.5
	comp=Z,3.4nm,0.4s,mb4.0						
NWAO	**Narrogin (SRO)**	**27.70**	**199**	P	**P**	18 57 17.1	+0.7
NWAO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
STKA	**Stephens Creek**	**28.29**	**154**	*e*P	**P**	18 57 20.4	-1.2
	comp=Z,11nm,0.6s,mb4.4						
STKA				*i* S	**S**	19 01 34.2	-2.4
STKA	**Stephens Creek**	**28.29**	**154**	P	**P**	18 57 20.6	-1.0
	comp=Z,12nm,0.5s,mb4.5,baz=326,slow=8.5,SNR=63						
STKA				S	**S**	19 01 34.3	-2.3
	comp=Z,1.6nm,0.5s,baz=201,slow=23,SNR=2.2						
KULM	**Kulim**	**29.25**	**294**	*e*P	**P**	18 57 29.9	-0.1
PSI	**Prapat**	**29.96**	**288**	P	**P**	18 57 35.3	-1.0
	comp=Z,26nm,0.8s,mb4.6,baz=141,slow=4.0,SNR=18						
PSI				S	**S**	19 02 05.9	+3.3
	comp=Z,1.3nm,0.4s,baz=347,slow=21,SNR=5.3						
PSI	**Prapat**	**29.96**	**288**	P	**P**	18 57 35.3	-1.0
PSI				S	**S**	19 02 05.9	+3.2
PSI				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.6						
PSI				smax			
	comp=N,1.0nm,0.4s						
HNR	**Honiara**	**32.33**	**97**	P	**P**	18 57 57.2	+0.5
	comp=N,24nm,0.4s,mb4.8,baz=270,slow=3.1,SNR=5.5						
HNR	**Honiara**	**32.33**	**97**	P	**P**	18 57 57.2	+0.5
HNR				pmax	pmax		
	comp=Z,24nm,0.4s,mb4.9						
ARMA	**Armidale**	**32.73**	**139**	*e*P	**P**	18 58 02.6	+2.4
TOO	**Toolangi**	**34.81**	**154**	*e*P	**P**	18 58 20.8	+3.0
	comp=Z,8.7nm,1.0s,mb4.0						
TOO	**Toolangi**	**34.81**	**154**	*e*P	**P**	18 58 20.8	+3.0
TOO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
CNB	**Canberra Magne**	**34.86**	**148**	*e*P	**P**	18 58 20.6	+2.3
	comp=Z,16nm,1.1s,mb4.3						
BDT	**Bhumibol Dam**	**36.83**	**311**	P	**P**	18 58 33.0	-1.7
CHRT	**Chiangrai**	**37.93**	**315**	⇑P	**P**	18 58 44.0	+0.2
	comp=Z,116nm,0.9s,mb5.2						
GYA	**Guiyang**	**38.66**	**329**	⇓*i*P	**P**	18 58 49.0	-0.8
GYA				AP	pP	19 00 08.3	-0.8
GYA				S	**S**	19 04 15.3	+0.7
GYA				SCS	ScS	19 08 10.5	-0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
NJ2	**Nanjing**	**39.44**	**349**	*e*P	**P**	18 58 56.0	-0.2
NJ2				AP	pP	19 00 15.5	-0.3
NJ2				PP	PP	19 00 39.3	+1.3
NJ2				XP	sP	19 01 01.5	-2.7
NJ2				S	**S**	19 04 27.0	+0.8
NJ2				XS	sS	19 06 48.0	-3.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,40nm,4.2s						
KMI	**Kunming**	**39.75**	**324**	P	**P**	18 58 59.3	+0.6
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.2						
DZM	**Mont Dzumac**	**40.62**	**116**	P	**P**	18 59 06.7	+1.1
	comp=Z,3.7nm,0.7s,mb3.8,baz=291,slow=18,SNR=6.6						
ENH	**Enshi**	**40.63**	**336**	*e*P	**P**	18 59 04.3	-1.5
	comp=Z,4.8nm,0.6s,mb4.0						
CD2	**Chengdu**	**43.76**	**330**	⇑*i*P	**P**	18 59 29.5	-1.1
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
XAN	**Xi'an**	**44.19**	**338**	P	**P**	18 59 32.5	-1.5
XAN				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**44.25**	**13**	*e*P	**P**	18 59 32.9	-1.6
	comp=Z,3.5nm,0.4s,mb4.0						
MAJO	**Matsushiro**	**44.25**	**13**	*e*P	**P**	18 59 32.9	-1.6
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
MAT	**Matsushiro**	**44.25**	**13**	P	**P**	18 59 33.1	-1.4
MAT	**Matsushiro**	**44.25**	**13**	*e*P	**P**	18 59 33.0	-1.5
	comp=Z,4.9nm,0.5s,mb4.1						
MAT	**Matsushiro**	**44.25**	**13**	*e*P	**P**	18 59 33.0	-1.5
MAT				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.1						
MJAR	**Matsushiro Arr**	**44.25**	**13**	P	**P**	18 59 33.1	-1.3
	comp=Z,6.7nm,0.6s,mb4.2,baz=190,slow=9.1,SNR=28						
MJAR	**Matsushiro Arr**	**44.25**	**13**	P	**P**	18 59 33.2	-1.3
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJI	**Beijing**	**47.70**	**348**	P	**P**	19 00 00.0	-1.0
BJI				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.1						
LZH	**Lanzhou**	**48.02**	**334**	*e*P	**P**	19 00 03.5	+0.2
LZH				AP	pP	19 01 26.0	-0.8
LZH				PP	PP	19 02 01.5	+1.2
LZH				AMB	AMB		
	comp=Z,42nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,171nm,4.6s						
SNY	**Shenyang**	**48.48**	**356**	⇓P	**P**	19 00 08.8	+2.0
SNY				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.6						
PALK	**Pallekele**	**48.61**	**286**	*e*P	**P**	19 00 08.2	+0.4
HHC	**Hu-ho-hao-te**	**49.56**	**344**	*e*P	**P**	19 00 17.0	+2.1
HHC				PCP	PcP	19 01 31.0	+1.8
HHC				AP	pP	19 01 40.0	+1.0
HHC				PP	PP	19 02 18.0	+3.8
HHC				XP	sP	19 02 24.8	-1.3
HHC				S	**S**	19 06 53.0	+2.9
HHC				SCS	ScS	19 09 20.8	+0.3
HHC				XS	sS	19 09 21.8	+0.4
HHC				SS	SS	19 10 31.0	+2.5
HHC				AMB	AMB		
	comp=Z,3.0nm,0.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,48nm,3.9s						
LSA	**Lhasa**	**50.26**	**318**	P	**P**	19 00 21.3	+1.2
LSA	**Lhasa**	**50.26**	**318**	*e*P	**P**	19 00 21.2	+1.1
	comp=Z,18nm,0.6s,mb4.6						
LSA				*e*		19 00 25.1	
LSA	**Lhasa**	**50.26**	**318**	*e*P	**P**	19 00 21.2	+1.1
LSA				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.6						
MDJ	**Mudanjiang**	**51.18**	**2**	P	**P**	19 00 25.3	-1.5
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,137nm,6.0s						
JIRN	**Jiri**	**52.50**	**313**	*e*P	**P**	19 00 36.0	-0.4
	comp=Z,41nm,

TLY	**Talaya**	**61.67 343**	⇑*i*P	**P**	**19 01 40.0 +0.3**
WMQ	**Urumqi**	**61.81 328**	*e*P	**P**	**19 01 41.0 +0.4**
MOY	**Mondy**	**62.45 342**	*e*P	**P**	**19 01 45.7 +0.9**
BOD	**Bodaibo**	**65.27 352**	⇑*i*P	**P**	**19 02 02.4 -0.5**
BOD			pmax	pmax	
	comp=Z,12nm,1.1s,mb4.4				
MK31	**Makanchi Array**	**66.63 328**	*i* P	**P**	**19 02 11.0 -0.5**
MK31			pmax	pmax	
	comp=Z,15nm,0.8s,mb4.7				
MKAR	**Makanchi Array**	**66.63 328**	P	**P**	**19 02 11.5 0.0**
	comp=Z,6.2nm,0.6s,mb4.4,baz=130,slow=8.8,SNR=79				
MKAR			PcP	PcP	19 02 37.1 +0.1
	comp=Z,4.1nm,0.7s,baz=144,slow=5.2,SNR=9.7				
MKAR			S	S	19 10 27.3 -1.0
	comp=Z,0.9nm,1.0s,baz=143,slow=14,SNR=4.0				
MKAR	**Makanchi Array**	**66.63 328**	P	**P**	**19 02 11.5 0.0**
MKAR					19 02 37.1
MKAR			S	S	19 10 27.3 -1.0
MKAR			pmax	pmax	
	comp=Z,6.0nm,0.6s				
MKAR			pmax	pmax	
	comp=Z,4.0nm,0.7s				
MKAR			smax		
	comp=N,1.0nm,1.0s				
KZA	**Kyzart**	**67.93 321**	P	**P**	**19 02 20.8 +1.3**
	SNR=11				
TKM2	**Tokmak 2**	**68.17 322**	P	**P**	**19 02 21.7 +0.7**
	SNR=9.2				
KBK	**Karagaybulak**	**68.43 321**	P	**P**	**19 02 23.7 +1.2**
	SNR=7.1				
UCH	**Uchtor**	**68.48 320**	P	**P**	**19 02 23.9 +1.1**
	SNR=11				
YAK	**Yakutsk**	**68.61 1**	*e*P	**P**	**19 02 22.9 -0.7**
	comp=N,34nm,0.8s,mb5.0				
YAK	**Yakutsk**	**68.61 1**	*e*P	**P**	**19 02 22.9 -0.8**
YAK			pmax	pmax	
	comp=Z,34nm,0.8s,mb5.0				
MA2	**Magadan**	**68.70 13**	*e*P	**P**	**19 02 24.3 +0.1**
	comp=Z,11nm,1.0s,mb4.4				
MA2	**Magadan**	**68.70 13**	⇓*i*P	**P**	**19 02 24.0 -0.2**
MA2			pmax	pmax	
	comp=Z,22nm,1.8s,mb4.5				
AAK	**Ala-Archa**	**68.70 321**	P	**P**	**19 02 25.5 +1.2**
	SNR=13				
AML	**Almayashu**	**68.95 320**	P	**P**	**19 02 27.1 +1.4**
	SNR=15				
USP	**Ospenovka**	**69.03 321**	P	**P**	**19 02 27.0 +0.8**
	SNR=10				
EKS2	**Erkin-Say**	**69.17 321**	P	**P**	**19 02 27.9 +0.8**
	SNR=15				
KURK	**Kurchatov**	**70.98 330**	*e*P	**P**	**19 02 37.4 -0.6**
	comp=Z,47nm,1.0s,mb5.0				
KURK	**Kurchatov**	**70.98 330**	*e*P	**P**	**19 02 37.4 -0.5**
KURK			pmax	pmax	
	comp=Z,47nm,1.0s,mb5.0				
KK31	**Karatay Array**	**71.47 320**	*i* P	**P**	**19 02 40.4 -0.4**
KK31			pmax	pmax	
	comp=Z,9.0nm,0.9s,mb4.3				
KKAR	**Karatay Array**	**71.47 320**	*i* P	**P**	**19 02 40.4 -0.4**
KKAR			pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.2				
SEY	**Seymchan**	**72.07 12**	⇑*e*P	**P**	**19 02 44.5 +0.2**
WBK	**Wadi Bani Khal**	**72.97 296**	⇓P	**P**	**19 02 49.8 +0.2**
VNDA	**Vanda**	**73.01 173**	P	**P**	**19 02 49.6 -0.2**
	comp=Z,0.8nm,0.3s,mb3.7,baz=334,slow=6.5,SNR=19				
VNDA	**Vanda**	**73.01 173**	*e*P	**P**	**19 02 49.6 -0.2**
	comp=Z,0.8nm,0.3s,mb3.7				
VNDA	**Vanda**	**73.01 173**	P	**P**	**19 02 49.6 -0.2**
VNDA			pmax	pmax	
	comp=Z,1.0nm,0.3s				
SMDO	**Samad**	**73.91 296**	P	**P**	**19 02 55.7 +0.8**
	SNR=5.6				
SBA	**Scott Base**	**73.92 172**	*e*P	**P**	**19 02 55.4 +0.4**
BIDO	**Bidbid**	**73.96 297**	P	**P**	**19 02 56.3 +1.0**
	SNR=9.8				
MAW	**Mawson**	**74.23 201**	P	**P**	**19 02 57.3 +0.5**
	comp=Z,7.5nm,0.9s,mb4.3,baz=17,slow=9.9,SNR=4.1				
MAW	**Mawson**	**74.23 201**	P	**P**	**19 02 57.3 +0.5**
MAW			pmax	pmax	
	comp=Z,8.0nm,0.9s				
BSY	**Bisya**	**74.59 296**	⇑P	**P**	**19 02 59.0 +0.1**
HOQ	**Hoqain**	**74.70 297**	P	**P**	**19 03 00.4 +0.9**
	SNR=6.8				
SHAO	**Shalim**	**74.95 291**	⇑P	**P**	**19 02 59.9 -0.9**
ARQ	**Araqi**	**75.34 296**	⇓P	**P**	**19 03 03.2 +0.1**
VOSK	**Vostochnaya**	**76.03 329**	P	**P**	**19 03 05.7 -1.2**
VOSK			pmax	pmax	
	comp=Z,9.0nm,0.9s,mb4.4				
ASHO	**Ashiyiah**	**76.08 297**	P	**P**	**19 03 07.3 +0.2**
	SNR=7.5				
RBK	**Rabkut**	**76.16 290**	⇑P	**P**	**19 03 07.0 -0.7**
BANOM	**Banah**	**76.17 299**	⇑P	**P**	**19 03 08.6 +0.9**
BVA0	**Borovoye Array**	**76.50 329**	*i* P	**P**	**19 03 08.9 -0.6**
BVA0			pmax	pmax	
	comp=Z,12nm,1.4s,mb4.3				
WHFO	**Wadi Hawf**	**76.65 290**	P	**P**	**19 03 10.6 +0.2**
	SNR=7.4				
CHKZ	**Chkalovo**	**76.72 329**	*e*P	**P**	**19 03 09.8 -0.9**
	comp=Z,17nm,1.1s,mb4.6				
CHKZ	**Chkalovo**	**76.72 329**	*e*P	**P**	**19 03 09.8 -0.9**
CHKZ			pmax	pmax	
	comp=Z,17nm,1.1s,mb4.6				
ABTO	**Aybut**	**76.98 289**	P	**P**	**19 03 12.9 +0.7**
	SNR=5.7				
ZRNK	**Zerenda**	**77.18 328**	*e*P	**P**	**19 03 12.3 -0.9**
	comp=Z,28nm,1.1s,mb4.8				
ZRNK	**Zerenda**	**77.18 328**	*e*P	**P**	**19 03 12.3 -1.0**
ZRNK			pmax	pmax	
	comp=Z,28nm,1.1s,mb4.8				
TIXI	**Tiksi**	**78.25 0**	*i* P	**P**	**19 03 18.6 -0.5**
TIXI			*i* *PP	pP	19 04 49.3 -3.8
TIXI			pmax	pmax	
	comp=Z,15nm,1.0s,mb4.6				
BILL	**Bilibino**	**79.49 14**	P	**P**	**19 03 28.0 +2.3**
AB31	**Akbulak array**	**80.72 322**	*i* P	**P**	**19 03 31.5 -0.7**
AB31			pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.1				
AKTO	**Aktyubinsk**	**82.31 323**	*i* P	**P**	**19 03 39.6 -0.8**
AKTO			pmax	pmax	
	comp=Z,2.0nm,0.9s,mb3.9				
SVE	**Sverdlovsk**	**83.23 329**	*e*P	**P**	**19 03 44.7 -0.4**
SVE			pmax	pmax	
	comp=Z,40nm,1.8s,mb4.8				
KMBO	**Kilima Mbogo**	**90.01 269**	P	**P**	**19 04 17.4 -0.2**
	comp=Z,0.6nm,0.3s,mb3.9,baz=50,slow=24,SNR=5.0				
KMBO	**Kilima Mbogo**	**90.01 269**	P	**P**	**19 04 17.4 -0.1**
KMBO			pmax	pmax	
	comp=Z,1.0nm,0.3s				
KIV	**Kislovodsk**	**90.84 314**	⇑*e*P	**P**	**19 04 17.3 -4.1**
KIV			pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.5				
ILAR	**Eielson Array**	**94.24 25**	P	**P**	**19 04 34.8 -2.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=241,slow=5.4,SNR=6.9				
OBN	**Obninsk**	**95.97 325**	P	**P**	**19 04 43.3 -1.5**
OBN			pmax	pmax	
	comp=Z,20nm,1.7s,mb5.0				
ARCES	**ARCESS Array B 100.45 340**		Pdiff	Pdif	19 05 00.9 -3.9
	comp=Z,3.5nm,0.9s,baz=61,slow=8.5,SNR=4.2				
ARCES	**ARCESS Array B 100.45 340**		P	Pdif	19 05 01.0 -3.9
ARCES			pmax	pmax	
	comp=Z,4.0nm,0.9s				
YKA	**Yellowknife Ar**	**108.67 26**	PKiKP	PKiKP	19 09 43.4 -0.7
	comp=Z,0.3nm,0.6s,baz=302,slow=1.8,SNR=8.5				
YKA			PKKPbc	PKKPbc	19 20 53.8 -0.1
	comp=Z,0.3nm,0.4s,baz=108,slow=3.2,SNR=7.4				
YKA	**Yellowknife Ar**	**108.67 26**	PKPdf	PKiKP	19 09 43.4 -0.7
YKA			PKKPbc	PKKPbc	19 20 53.8 -0.1
GERES	**GERESS Array B 110.57 320**		PKiKP	PKiKP	19 09 47.8 +0.1
	comp=Z,0.6nm,0.6s,baz=90,slow=2.7,SNR=7.9				
GERES	**GERESS Array B 110.57 320**		*i* PKIKP	PKiKP	19 09 47.8 +0.1
GERES			pmax	pmax	
	comp=Z,1.0nm,0.6s				
NVAR	**Mina Array Bea 113.17 51**		PKKPbc	PKKPbc	19 20 42.0 +2.7
	comp=Z,0.3nm,0.5s,baz=146,slow=5.0,SNR=2.5				
NVAR			PKKPab	PKKPab	19 20 49.1 +0.7
	comp=Z,0.7nm,0.9s,baz=116,slow=6.6,SNR=4.2				
PDAR	**Pinedale Array 118.55 45**		PKP	PKPdf	19 10 03.7 +0.7
	comp=Z,0.6nm,0.8s,baz=343,slow=1.2,SNR=4.8				
ULM	**Lac du Bonnet 123.64 32**		PKP	PKPdf	19 10 11.9 -0.8
	comp=Z,0.6nm,0.3s,baz=312,slow=2.0,SNR=6.6				
TORD	**Torodi Ar. Bea 126.22 281**		PKP	PKPdf	19 10 19.0 +1.3
	comp=Z,3.0nm,0.6s,baz=54,slow=2.2,SNR=25				
SCHQ	**Schefferville 130.72 11**		PKP	PKPdf	19 10 26.4 +0.1
	comp=Z,0.9nm,0.6s,baz=294,slow=4.0,SNR=5.4				
DBIC	**Dimbokro 132.59 273**		PKP	PKPdf	19 10 31.2 +1.4
	comp=Z,6.9nm,1.0s,baz=93,slow=2.6,SNR=5.5				
DBIC	**Dimbokro 132.59 273**		PKP	PKPdf	19 10 31.2 +1.4
DBIC	**Dimbokro 132.59 273**		PKIKP	PKPdf	19 10 31.2 +1.4
DBIC			pmax	pmax	
	comp=Z,7.0nm,1.0s				
SADO	**Sadowa 135.64 27**		SKP		19 13 27.6
	comp=Z,2.1nm,0.6s,baz=0.0,slow=2.0,SNR=3.3				
LVC	**Limon Verde 146.73 152**		*e*PKPbc	PKPbc	19 11 00.3 +2.6
CPUP	**Villa Florida 146.79 172**		PKPbc	PKPbc	19 10 59.2 +1.3
	comp=Z,2.6nm,0.5s,baz=175,slow=2.1,SNR=11				
CPUP	**Villa Florida 146.79 172**		*e*PKP2	PKPab	19 10 59.0 -1.3
LPAZ	**La Paz 152.42 146**		PKP	PKPdf	19 11 06.9 +2.7
	comp=Z,1.0nm,0.5s,baz=54,slow=1.7,SNR=3.6				
LPAZ			PKPbc	PKPbc	19 11 13.7 +2.2
	comp=Z,1.7nm,0.4s,baz=55,slow=3.5,SNR=6.5				
LPAZ			PKPab	PKPab	19 11 27.1 +3.4
	comp=Z,3.2nm,0.8s,baz=146,slow=4.9,SNR=9.6				
LPAZ	**La Paz 152.42 146**		PKP	PKPdf	19 11 06.9 +2.7
LPAZ			*e*PKPbc	PKPbc	19 11 13.7 +2.2
LPAZ			*e*PKPab	PKPab	19 11 26.8 +3.1
LPAZ			PKPab	PKPab	19 11 27.1 +3.4
LPAZ	**La Paz 152.42 146**		PKIKP	PKPdf	19 11 06.9 +2.7
LPAZ			pmax	pmax	
	comp=Z,1.0nm,0.5s				
LPAZ			pmax	pmax	
	comp=Z,2.0nm,0.4s				
LPAZ			pmax	pmax	
	comp=Z,3.0nm,0.8s				

MAN 26 18:53:55.0,997N×12524E,h8km,mb3.5,ML4.7,MS2.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.31**	**128**	*e*P	Pg	18 54 01.7	+0.6
SCPH				*i* S	Sg	18 54 08.3	+3.1
MSLP	**Maasin**	**0.41**	**293**	*e*P	Pg	18 54 03.7	+0.7
MSLP				*e*S	Sg	18 54 11.9	+3.5
BUTP	**Butuan**	**1.06**	**160**	*e*P	Pg	18 54 15.4	0.0
BUTP				*e*S	Sg	18 54 36.5	+7.2
PLP	**Palo**	**1.21**	**348**	*e*P	Pb	18 54 16.3	-1.9
PLP				*e*S	Sb	18 54 33.2	-0.9
OCLP	**Ormoc**	**1.24**	**330**	*e*P	Pn	18 54 18.2	-0.5
OCLP				*e*S	Sb	18 54 40.0	+5.2
TBP	**Tagbilaran**	**1.39**	**259**	*e*P	Pn	18 54 19.1	-1.6
TBP				*e*S	Sb	18 54 39.6	+0.5
BESP	**Borongan**	**1.63**	**7**	*e*P	Pn	18 54 23.0	-1.0
BESP				*e*S	Sn	18 54 46.6	+1.4
BUKP	**Musuan**	**2.09**	**185**	*e*P	Pn	18 54 30.6	+0.3
BUKP				*e*S	Sn	18 55 00.3	+3.8
CNP	**Catarman**	**2.59**	**347**	*e*P	Pn	18 54 37.2	+0.1
CNP				*e*S	Sn	18 55 11.4	+2.7
GUIM	**Jordan**	**2.69**	**284**	*e*P	Pn	18 54 40.1	+1.5
GUIM				*e*S	Sn	18 55 12.1	+0.7

*ISCJB **26** 19:13:13.9±0.5,4370N±004×10520W±007,h0km,mb4.1/2, Error ellipse: s-maj=7.3km s-min=5.0km az=42.6*
*IDC **26** 19:13:14.6±1.8,4372N×10548W,h0km,mb3.9/2, mb1 3.8/6,mb1mx3.5/24,mbtmp3.5/6,ML3.5/4,Error ellipse: s-maj=52.4km s-min=8.1km az=149.0*
*NEIC **26** 19:13:15.9±0.6,4371N×105.19W,h0km,ML3.2,Error ellipse: s-maj=9.1km s-min=7.0km az=145.0,Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.

ISC 26 19:13:15.5±0.5,4371N±004×10521W±006,h0km,n35, σ1s27/43,mb4.1/2,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**64**	*e*Pg	**Pg**	**19 13 34.2**	**+0.7**
PHWY	**Pilot Hill**	**2.42**	**184**	*e*Pn	**Pn**	**19 13 57.1**	**+0.8**
PHWY				*e*Sg	**Sg**	**19 14 30.8**	**-2.3**
RWWY	**Rawlins**	**2.50**	**217**	*e*Pn	**Pn**	**19 13 58.6**	**+1.2**
RWWY				*e*Sn	**Sn**	**19 14 28.4**	**-0.3**
LAO	**LASA Array**	**3.06**	**347**	*e*Pn	**Pn**	**19 14 07.0**	**+1.9**
PDAR	**Pinedale Array**	**3.31**	**255**	Pn	**Pn**	**19 14 08.2**	**-0.3**
	3.1nm,0.3s,baz=78,slow=14,SNR=96						
PDAR				Lg		19 14 51.8	
	12nm,0.3s,baz=75,slow=34,SNR=6.4						
GCMT	**Greycliff**	**3.79**	**305**	*e*Pn	**Pn**	**19 14 13.2**	**-2.0**
LKWY	**Lake**	**3.83**	**285**	*e*Pn	**Pn**	**19 14 18.3**	**+2.6**
LKWY				*e*Pg	**Pg**	**19 14 26.3**	**-2.6**
LOHW	**Long Hollow**	**3.92**	**270**	*e*Pn	**Pn**	**19 14 17.5**	**+0.7**
ISCO	**Idaho Springs**	**3.92**	**185**	*e*Pn	**Pn**	**19 14 17.9**	**+1.0**
ISCO				*e*Sg	**Sg**	**19 15 15.9**	**-5.6**
FLWY	**Flagg Ranch**	**3.98**	**277**	*e*Pn	**Pn**	**19 14 18.0**	**+0.2**
FLWY				*e*Pg	**Pg**	**19 14 28.7**	**-3.2**
MOOW	**Moose Ponds**	**4.01**	**272**	*e*Pn	**Pn**	**19 14 19.3**	**+1.2**
SNOW	**Snow King Moun**	**4.04**	**268**	*e*P	**Pn**	**19 14 22.7**	**+4.2**
REDW	**Red Top Meadow**	**4.12**	**267**	*e*Pn	**Pn**	**19 14 19.8**	**+0.2**
TPAW	**Teton Pass**	**4.18**	**269**	*e*Pn	**Pn**	**19 14 20.7**	**+0.3**
YMR	**Madison River**	**4.25**	**285**	*e*P	**Pn**	**19 14 25.8**	**+4.3**
AHID	**Auburn Hatcher**	**4.41**	**260**	*e*Pn	**Pn**	**19 14 24.0**	**+0.4**
AHID				Pg	**Pg**	**19 14 36.4**	**-3.5**
QLMT	**Earthquake Lak**	**4.61**	**286**	*e*Pg	**Pg**	**19 14 38.6**	**-5.1**
SMCO	**Snowmass**	**4.72**	**197**	*e*Pg	**Pg**	**19 14 42.0**	**-4.0**
DGMT	**Dagmar**	**4.81**	**8**	*e*Pn	**Pn**	**19 14 30.8**	**+1.6**
BOZ	**Bozeman (W)**	**4.97**	**295**	*e*Pn	**Pn**	**19 14 30.0**	**-1.3**
BOZ				*e*Sg	**Sg**	**19 15 47.7**	**-7.5**
HWUT	**Hardware Ranch**	**5.14**	**248**	*e*Pn	**Pn**	**19 14 33.1**	**-0.5**
	8.4nm,0.4s						
TCUT	**Toone Canyon**	**5.27**	**243**	*e*Pn	**Pn**	**19 14 36.4**	**+0.9**
DLMT	**Dillon**	**5.53**	**290**	*e*Pn	**Pn**	**19 14 40.1**	**+1.1**
	6.2nm,0.7s						
DAU	**Daniels Canyon**	**5.58**	**236**	*e*Pn	**Pn**	**19 14 40.3**	**+0.6**
MPU	**Maple Canyon**	**6.05**	**235**	*e*Pg	**Pg**	**19 15 03.6**	**-7.9**
SRU	**San Rafael**	**6.09**	**223**	*e*Pn	**Pn**	**19 14 45.8**	**-0.9**
	7.9nm,0.4s						
PV01	**Paradox Valley**	**6.12**	**206**	*e*Pn	**Pn**	**19 14 48.2**	**+1.0**
PV01				*e*Sg	**Sg**	**19 16 21.9**	**-10**
DUG	**Dugway**	**6.67**	**241**	*e*Pn	**Pn**	**19 14 54.6**	**0.0**
	2.6nm,0.4s						
MSO	**Missoula**	**6.90**	**300**	*e*Pn	**Pn**	**19 14 58.1**	**+0.2**
MSU	**Marysvale**	**7.39**	**228**	*e*Pn	**Pn**	**19 15 05.3**	**+0.7**
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**19 15 27.1**	**-1.4**
	3.0nm,0.3s,baz=232,slow=13,SNR=20						
ULM				Lg		19 17 59.8	
	0.4nm,0.3s,baz=229,slow=20,SNR=3.3						
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	**Pn**	**19 15 57.3**	**+0.4**
	0.1nm,0.3s,baz=52,slow=13,SNR=2.5						
YKA	**Yellowknife Ar**	**19.60**	**347**	P	**Pn**	**19 17 45.0**	**-1.5**
	baz=158,slow=12,SNR=4.5						
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**	**19 23 31.5**	**-2.1**
	1.0nm,0.6s,mb4.2,baz=331,slow=7.3,SNR=10						
FINES	**FINESS Array B**	**68.04**	**23**	P	**P**	**19 24 15.7**	**-1.0**
	0.8nm,0.8s,mb4.0,baz=328,slow=6.8,SNR=4.3						

*BJI **26** 19:20:37.6,3391N×10438E,h12km,mB4.8,mb4.5,ML4.7, Ms4.8,Msz4.6*
*IDC **26** 19:20:37.2±0.6,3406N×10457E,h0km,mb4.3/15, mb1 4.5/16,mb1mx4.4/22,mbtmp4.3/16,ML3.2/1,MS3.9/11, Ms1 3.9/11,ms1mx3.6/36,Error ellipse: s-maj=22.6km s-min=13.3km az=51.0*
*ISCJB **26** 19:20:38.3±0.2,3391N±002×10452E±003,h10km, mb4.6/65,MS4.0/20,Error ellipse: s-maj=3.7km s-min=2.8km az=52.8*
*NEIC **26** 19:20:39.8±0.3,3385N×10441E,h10km,mb4.7/42, MS4.3/2,Error ellipse: s-maj=8.3km s-min=7.1km az=191.0*
*MOS **26** 19:20:40.4±1.0,3400N×10475E,h25km,mb4.9/45, MS4.2/9,Error ellipse: s-maj=9.5km s-min=5.3km az=115.9*
*SZGRF **26** 19:20:47.8,3482N×105.12E,h33km,mb5.2,Gansu, China*

ISC 26 19:20:40.3±0.2,3396N±002×10453E±003,h10km,n233, σ1s27/256,mb4.6/65,MS4.0/20,18C-5D,Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.20**	**345**	P	**Pn**	**19 21 15.8**	**-1.1**
LZH				PG	**Pg**	**19 21 18.3**	**-4.2**
LZH				SG	**Sg**	**19 21 44.8**	**-6.2**
LZH				Smax			
	comp=N,8μm,0.5s						
LZH				LR	LR		
	comp=E,16μm,5.6s						
LZH				LR	LR		
	comp=Z,19μm,8.0s						
CD2	**Chengdu**	**3.11**	**192**	⇑*i*PG	**Pn**	**19 21 31.5**	**+2.1**
CD2				Smax			
	comp=E,1μm,0.7s						
CD2				LR	LR		
	comp=N,2μm,6.6s						
CD2				LR	LR		
	comp=Z,13μm,5.4s						
XAN	**Xi'an**	**3.65**	**87**	P	**Pn**	**19 21 37.0**	**+0.2**
XAN				PG	**Pg**	**19 21 46.5**	**-3.8**
XAN				S	**Sn**	**19 22 19.8**	**-0.1**
XAN				SG	**Sg**	**19 22 36.0**	**-1.5**
XAN				Smax			
	comp=N,5μm,1.0s						
XAN				Smax			
	comp=E,4μm,1.0s						
ENH	**Enshi**	**5.58**	**130**	*e*Pn	**Pn**	**19 22 04.5**	**+1.0**
	comp=E,298nm,0.8s						
ENH				*e*Pg	**Pg**	**19 22 21.6**	**-5.7**
ENH				Sg	**Sg**	**19 23 38.4**	**-1.2**
GTA	**Gaotai**	**6.63**	**327**	P	**Pn**	**19 22 15.0**	**-2.8**
GTA				PG	**Pg**	**19 22 36.3**	**-11**
GTA				S	**Sn**	**19 23 29.5**	**-3.9**
GTA				SG	**Sg**	**19 24 02.5**	**-11**
GTA				Smax			
	comp=N,147nm,1.3s						
GTA				Smax			
	comp=E,134nm,1.0s						
GTA				LR	LR		
	comp=N,5μm,8.8s						
GTA				LR	LR		
	comp=E,3μm,8.7s						
GTA				LR	LR		
	comp=Z,7μm,9.9s						
GYA	**Guiyang**	**7.70**	**166**	⇑*i*P	**Pn**	**19 22 33.8**	**+1.3**
GYA				S	**Sn**	**19 24 01.5**	**+1.8**
GYA				LR	LR		
	comp=N,1μm,7.4s						
GYA				LR	LR		
	comp=E,2μm,6.8s						
GYA				LR	LR		
	comp=Z,1μm,6.9s						
BTO	**Baotou**	**7.95**	**32**	*e*P	**Pn**	**19 22 37.0**	**+1.1**
BTO				Smax			
	comp=N,202nm,1.2s						
BTO				Smax			
	comp=E,120nm,0.9s						
HHC	**Hu-ho-hao-te**	**8.87**	**37**	*e*P	**Pn**	**19 22 49.3**	**+0.8**
HHC				S	**Sn**	**19 24 32.5**	**+4.1**
HHC				LG1		19 25 17.0	
HHC				LG2		19 25 31.8	
HHC				AMB	AMB		
	comp=Z,17nm,0.5s						
HHC				LR	LR		
	comp=N,2μm,7.4s						
HHC				LR	LR		
	comp=E,3μm,8.9s						
HHC				LR	LR		
	comp=Z,2μm,10.4s						
KMI	**Kunming**	**8.94**	**190**	⇑P	**Pn**	**19 22 49.3**	**-0.2**
KMI				S	**Sn**	**19 24 28.5**	**-1.7**
KMI				AMB	AMB		
	comp=Z,38nm,0.8s						
KMI				LR	LR		
	comp=N,2μm,11.3s						
KMI				LR	LR		
	comp=E,6μm,12.1s						
KMI				LR	LR		
	comp=Z,1μm,10.0s						
WHN	**Wuhan**	**8.98**	**110**	P	**Pn**	**19 22 50.5**	**+0.4**
WHN				S	**Sn**	**19 24 32.0**	**+0.7**
WHN				Smax			
	comp=N,2μm,1.3s						
WHN				Smax			
	comp=E,2μm,1.4s						
WHN				LR	LR		
	comp=Z,8μm,9.2s						
TIA	**Tai'an**	**10.56**	**74**	*e*P	**Pn**	**19 23 16.3**	**+4.6**
TIA				LG		19 25 57.0	
TIA				LR	LR		
	comp=N,16μm,10.0s						
BJT	**Baijiatuau**	**11.10**	**54**	Pn	**Pn**	**19 23 19.2**	**+0.1**
BJT				*e*Pg	Px	19 24 03.0	
LSA	**Lhasa**	**12.14**	**253**	P	**Pn**	**19 23 30.0**	**-3.3**
LSA				AP		19 23 39.0	
LSA				XP		19 23 43.3	
LSA				AMB	AMB		
	comp=Z,10.0nm,1.9s						
LSA	**Lhasa**	**12.14**	**253**	*e*P	**Pn**	**19 23 31.5**	**-1.8**
	comp=Z,7.1nm,0.8s						
LSA	**Lhasa**	**12.14**	**253**	*e*P	**Pn**	**19 23 31.5**	**-1.8**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NJ2	**Nanjing**	**12.18**	**95**	*e*P	**Pn**	**19 23 36.5**	**+2.7**
NJ2				AP		19 23 40.0	
NJ2				XP		19 23 43.0	
NJ2				PP		19 23 46.8	
NJ2				S	**Sn**	**19 25 54.0**	**+4.4**
NJ2				XS		19 26 00.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,150nm,3.5s						
NJ2				LR	LR		
	comp=N,3μm,16.4s						
NJ2				LR	LR		
	comp=E,4μm,19.0s						
NJ2				LR	LR		
	comp=Z,1μm,19.4s						
SONM	**Songjino Array**	**13.94**	**5**	Pn	**Pn**	**19 23 54.0**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=178,slow=13,SNR=9.5						
SONM				Lg		19 27 56.1	
	comp=Z,0.2nm,0.3s,baz=188,slow=27,SNR=3.9						
SONM				LR	LR	19 29 55.4	
	comp=Z,426nm,18.8s,baz=188,slow=40						
ULN	**Ulaanbaatar**	**14.02**	**7**	*e*P	**Pn**	**19 23 57.5**	**-1.6**
	comp=Z,13nm,1.0s						
ULN				*e*S	**Sn**	**19 26 26.6**	**-8.1**
ULN	**Ulaanbaatar**	**14.02**	**7**	*e*P	**Pn**	**19 23 57.5**	**-1.5**
ULN				*e*S	**Sn**	**19 26 26.6**	**-8.1**
ULN				pmax	pmax		
	comp=Z,13nm,1.0s						
SSE	**Sheshan**	**14.34**	**97**	P	**Pn**	**19 24 03.0**	**-0.4**
SSE				XP	sP	19 24 10.0	-4.6
SSE				S	**Sn**	**19 26 43.8**	**+1.3**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s						
SSE				AMB	AMB		
	comp=Z,24nm,4.6s						
SSE				LR	LR		
	comp=N,1μm,10.9s						
SSE				LR	LR		
	comp=E,1μm,10.8s						
SSE				LR	LR		
	comp=Z,1μm,10.9s						
QZH	**Quanzhou**	**15.18**	**123**	*e*P	**Pn**	**19 24 14.3**	**-0.4**
QZ

ZAK *e* 19 27 37.2
ZAK pmax pmax
comp=Z,13nm,1.5s
ZAK pmax pmax
comp=Z,12nm,1.7s
ZAK pmax pmax
comp=Z,125nm,1.8s
SNY Shenyang 16.94 57 ⇓P Pn 19 24 39.0 +1.6
SNY XP sP 19 24 44.3 +0.8
SNY PP 19 24 53.8
SNY AMB AMB
comp=Z,13nm,1.4s
SNY AMB AMB
comp=Z,154nm,3.2s
SNY LR LR
comp=N,611nm,10.1s
SNY LR LR
comp=E,966nm,10.4s
SNY LR LR
comp=Z,556nm,10.7s
JIRN Jiri 16.95 253 *e*P Pn 19 24 33.4 -4.1
comp=Z,34nm,0.9s
BDT Bhumibol Dam 17.37 198 P Pn 19 24 43.0 +0.3
KKTK Khon Kaen 17.61 185 P Pn 19 24 44.0 -1.8
PKI Pulchoki 17.61 254 *e*P Pn 19 24 41.7 -4.1
comp=Z,41nm,0.9s
KKN Kakani 17.62 255 *e*P Pn 19 24 41.8 -4.1
comp=Z,65nm,1.2s
DMN Daman 17.84 254 *e*P Pn 19 24 44.8 -3.8
comp=Z,74nm,1.0s
MOY Mondy 17.89 353 *e*P Pn 19 24 50.8 +1.6
MOY pmax pmax
comp=Z,19nm,2.3s
GKN Gorkha 18.05 256 *e*P Pn 19 24 48.6 -2.6
comp=Z,85nm,0.9s
IRK Irkutsk 18.28 359 *e*P Pn 19 24 53.8 -0.2
IRK pmax pmax
comp=Z,39nm,2.0s
CN2 Changchun 18.98 53 *e*P Pn 19 25 02.3 -0.2
CN2 *e*XP sP 19 25 08.0 +2.0
CN2 *e*S **Sn 19 28 31.5 -3.5**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,10.0s
CN2 LR LR
comp=E,900nm,10.0s
CN2 LR LR
comp=Z,1μm,12.0s
KOLN Koldanda 18.98 257 *e*P Pn 19 24 58.8 -3.8
comp=Z,33nm,0.8s
HIA Hailar 19.00 32 *e*P Pn 19 25 05.0 +2.2
comp=Z,13nm,1.0s
HIA Hailar 19.00 32 *e*P Pn 19 25 05.0 +2.2
HIA pmax pmax
comp=Z,13nm,1.0s
CIT Chita 19.20 17 *e*P Pn 19 25 01.4 -3.7
CIT pmax pmax
comp=Z,33nm,1.7s
KS15 Wonju Array Si 19.27 73 *e*P Pn 19 25 08.9 +2.9
MKAR Makanchi Array 21.16 314 P P 19 25 22.9 -2.7
comp=Z,7.2nm,0.7s,mb4.1,baz=108,slow=14,SNR=29
MKAR Lg 19 31 48.6
comp=Z,0.3nm,0.4s,baz=137,slow=31,SNR=2.7
MKAR LR LR 19 34 28.5
comp=Z,398nm,19.5s,MS3.8,baz=89,slow=39
JOW Kunigami 21.65 103 LR LR 19 34 35.5
comp=Z,427nm,18.0s,MS3.9,baz=107,slow=39
MDJ Mudanjiang 22.04 54 P P 19 25 35.0 -0.1
MDJ PP 19 26 04.3
MDJ S **S 19 29 42.3 +4.1**
MDJ AMB AMB
comp=Z,12nm,1.2s,mb4.2
MDJ AMB AMB
comp=Z,46nm,5.2s
MDJ Mudanjiang 22.04 54 *e*P P 19 25 34.1 -1.0
comp=Z,18nm,1.0s,mb4.5
KSH Kashi 23.50 292 P P 19 25 50.5 0.0
KSH S **S 19 30 00.3 -3.5**
KSH SS 19 30 46.5
KSH PCS PcS 19 33 16.0 +0.7
KSH SCS ScS 19 37 01.3 +0.8
KSH AMB AMB
comp=Z,20nm,0.6s,mb4.7
KSH AMB AMB
comp=Z,156nm,6.1s
KSH LR LR
comp=N,617nm,10.7s
KSH LR LR
comp=E,1μm,7.1s
KSH LR LR
comp=Z,616nm,11.8s,MS4.3
TKM2 Tokmak 2 24.27 300 P **P 19 25 59.4 +1.8**
SNR=5.1
KZA Kyzart 24.36 298 P **P 19 26 00.5 +2.0**
SNR=9.0
KBK Karagaybulak 24.69 299 P **P 19 26 03.0 +1.7**
SNR=12
BOD Bodaibo 24.71 12 *e*P P 19 25 57.3 -4.3
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb3.9
UCH Uchtor 24.93 298 P **P 19 26 02.5 -1.1**
SNR=12
FRU Bishkek 24.96 300 *e*P P 19 26 02.5 -1.4
AAK Ala-Archa 25.01 299 P **P 19 26 04.8 +0.4**
SNR=10
USP Ospenovka 25.13 301 P **P 19 26 06.7 +1.3**
SNR=11
KURK Kurchatov 25.25 319 *e*P P 19 26 03.8 -2.8
comp=Z,49nm,0.9s,mb5.0
KURK Kurchatov 25.25 319 *e*P P 19 26 03.8 -2.7
KURK pmax pmax
comp=Z,49nm,0.9s,mb5.0
KLR Kul'dur 25.26 45 *e*P P 19 26 04.8 -1.8
AML Almayashu 25.52 298 P **P 19 26 12.8 +3.9**
SNR=15
EKS2 Erkin-Say 25.54 299 P **P 19 26 10.3 +1.2**
SNR=6.5
HABR Khabarovsk 26.94 48 *e*P P 19 26 17.9 -3.9
MAT Matsushiro 27.55 75 P **P 19 26 26.5 -0.7**
MAT *e*S **S 19 31 22.0 +14**
MAT Matsushiro 27.55 75 *e*P P 19 26 27.0 -0.2
MAT *e*S **S 19 31 23.0 +15**
MJAR Matsushiro Arr 27.55 75 P **P 19 26 26.1 -1.2**
comp=Z,2.3nm,0.9s,mb3.8,baz=275,slow=7.4,SNR=4.7
MJAR LR LR 19 38 45.4
comp=Z,176nm,18.0s,MS3.7,baz=170,slow=40
JHJ Hachijo jima 2 29.31 82 LR LR 19 39 12.4
comp=Z,203nm,18.7s,MS3.8,baz=187,slow=38
KKM Kota Kinabalu 29.81 156 P **P 19 26 47.8 +0.4**
BVAR Borovoye Array 30.84 319 P **P 19 26 54.5 -2.0**
comp=Z,3.2nm,0.9s,mb4.2,baz=102,slow=3.4,SNR=18
BVAR PcP PcP 19 29 54.1 +0.7
comp=Z,1.9nm,0.7s,baz=119,slow=2.3,SNR=6.4
BRVK Borovoye 30.91 319 *e*P P 19 26 57.0 -0.1
comp=Z,2.0nm,0.7s,mb4.1
BRVK Borovoye 30.91 319 *e*P P 19 26 57.0 -0.1
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
CHKZ Chkalovo 30.99 320 *e*P P 19 26 56.1 -1.7
comp=Z,4.2nm,0.8s,mb4.3
CHKZ Chkalovo 30.99 320 *e*P P 19 26 56.1 -1.7
CHKZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ASAJ Asahikawa 31.02 60 LR LR 19 39 20.3
comp=Z,122nm,20.3s,MS3.6,baz=359,slow=36
ZRNK Zerenda 31.57 318 *e*P P 19 27 00.2 -2.7
comp=Z,5.5nm,0.8s,mb4.4
ZRNK Zerenda 31.57 318 *e*P P 19 27 00.2 -2.8
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
YAK Yakutsk 32.32 22 P **P 19 27 10.1 +0.5**
comp=Z,5.2nm,0.5s,mb4.6
YAK Yakutsk 32.32 22 P **P 19 27 10.1 +0.5**
YAK pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
SVE Sverdlovsk 37.47 321 *e*P P 19 27 55.0 +1.1
SVE pmax pmax
comp=Z,80nm,2.3s,mb5.1
MA2 Magadan 39.54 35 *e*P P 19 28 09.5 -1.9
MA2 *e* 19 30 24.3
MA2 *e*S **S 19 34 06.2 -7.6**
MA2 *e*SS SS 19 37 34.2 +26
MA2 pmax pmax
comp=Z,3.0nm,1.4s,mb3.8
MA2 MLR MLR
comp=Z,100nm,20.0s,MS3.6
TIXI Tiksi 39.89 12⇑*e*P P 19 28 14.1 -0.2
TIXI pmax pmax
comp=Z,9.0nm,1.6s,mb4.2
TIXI MLR MLR
comp=Z,100nm,15.0s,MS3.8
SOKR Solikamsk 40.26 324⇑*i*P P 19 28 17.0 -0.4
SOKR pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
SOKR MLR MLR
comp=Z,470nm,29.0s,MS4.2
SEY Seymchan 41.45 31 *i*P P 19 28 25.9 -1.3
GUMO Guam 41.77 109 LR LR 19 44 39.5
comp=Z,112nm,19.1s,MS3.8,baz=266,slow=34
GNI Garni 47.34 296 *e*P P 19 29 16.8 +2.5
comp=Z,3.3nm,0.7s,mb4.4
GNI Garni 47.34 296 *e*P P 19 29 16.3 +2.0
GNI pmax pmax
comp=Z,17nm,1.8s
KIV Kislovodsk 48.10 301 *e*P P 19 29 20.4 +0.2
comp=Z,10nm,1.0s,mb4.8
KIV Kislovodsk 48.10 301⇑*e*P P 19 29 21.8 +1.6
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BILL Bilibino 48.46 26 *e*P P 19 29 24.2 +1.2
comp=Z,6.7nm,1.0s,mb4.6
BILL Bilibino 48.46 26 P **P 19 29 25.0 +2.0**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
BILL MLR MLR
comp=Z,100nm,12.0s,MS4.0
KLMR Klimovskoe 48.95 324*d i*P P 19 29 26.5 -0.3
KLMR *e* 19 31 20.0
KLMR pmax pmax
comp=Z,30nm,1.0s,mb5.3
KLMR MLR MLR
comp=Z,220nm,8.0s
VRSR Storozhevoye 49.43 311 *e*P P 19 29 29.6 -0.8
VRSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=N,4.0nm,2.7s
VRSR pmax pmax
comp=E,2.0nm,0.9s
MOS Moscow 49.99 317 *e*P P 19 29 34.1 -0.6
SOC Sochi 50.28 301 *e*P P 19 29 33.7 -3.2
SOC *e* 19 31 34.8
SOC *e*S **S 19 36 43.7 -5.7**
SOC pmax pmax
comp=Z,37nm,0.8s,mb5.5
SOC MLR MLR
comp=Z,278nm,16.0s,MS4.4
OBN Obninsk 50.64 316⇑*e*P P 19 29 38.0 -1.6
OBN *e* 19 29 45.9
OBN 19 30 56.0
OBN pmax pmax
comp=Z,25nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.3
ANN Anapa 51.63 303 *e*P P 19 29 42.3 -4.7
ANN pmax pmax
comp=Z,41nm,1.5s,mb5.1
ANN MLR MLR
comp=N,412nm,21.0s
ANN MLR MLR
comp=Z,316nm,21.0s,MS4.3
MALT Malatya 52.55 295 *e*P P 19 29 54.6 +0.7
comp=Z,3.2nm,0.8s,mb4.3
MALT Malatya 52.55 295 *e*P P 19 29 54.6 +0.8
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
JOF Joensuu 52.83 327 *e*p P 19 29 56.1 +0.1
comp=Z,14nm,1.0s,mb4.8
KEV Kevo 54.29 335 *e*p P 19 30 03.6 -3.1
comp=Z,14nm,0.9s,mb4.9
KEV Kevo 54.29 335 *e*P P 19 30 03.6 -3.1
KEV pmax pmax
comp=Z,14nm,0.9s,mb4.9
ARCES ARCESS Array B 54.82 335 P **P 19 30 10.6 +0.1**
comp=Z,9.4nm,0.8s,mb4.9,baz=80,slow=7.4,SNR=15
ARCES LR LR 19 56 42.4
comp=Z,90nm,18.1s,MS3.9,baz=232,slow=40
KAF Kangasniemi 55.22 326 *e*p P 19 30 10.5 -2.9
comp=Z,8.7nm,0.9s,mb4.8,baz=82,slow=7.0
KAF Kangasniemi 55.22 326 *e*P P 19 30 10.5 -2.9
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
FINES FINESS Array B 55.42 325 P **P 19 30 12.5 -2.3**
comp=Z,13nm,0.8s,mb5.0,baz=84,slow=7.9,SNR=38
FINES LR LR 19 55 48.7
comp=Z,162nm,19.7s,MS4.1,baz=277,slow=38
FINES FINESS Array B 55.42 325 P **P 19 30 12.5 -2.3**
FINES LR LR 19 55 48.7
FINES FINESS Array B 55.42 325 *i*P P 19 30 15.1 +0.2
FINES pmax pmax
comp=Z,13nm,0.8s
BR131 Keskin Array S 55.68 298 *e*P P 19 30 16.9 +0.2
comp=Z,2.3nm,0.7s,mb4.3
BRTR Keskin Array B 55.68 298 P **P 19 30 14.7 -2.0**
comp=Z,3.4nm,0.9s,mb4.4,baz=101,slow=7.8,SNR=17
AKASG Malin Array Be 55.73 312 P **P 19 30 14.4 -2.7**
comp=Z,1.9nm,0.6s,mb4.3,baz=68,slow=6.7,SNR=14
CFR Carcaliu 57.90 306 ⇑P P 19 30 34.8 +2.3
HARR Harsova 58.19 305 ⇓P P 19 30 36.0 +1.5
VRI Vrincioaia 58.64 307 ⇑P P 19 30 39.1 +1.4
PLOR Plostina 58.70 307 ⇓P P 19 30 39.2 +1.2
BURAR Bucovina Array 59.09 309 ⇑P P 19 30 41.8 +1.0
BURAR Bucovina Array 59.09 309 ⇑P P 19 30 41.8 +1.0
LVV L'vov 59.17 312 *e*P P 19 30 42.1 +0.7
LVV *e*S **S 19 39 00.1 +11**
MLR Muntele Rosu 59.28 307 ⇑P P 19 30 43.3 +1.2
MLR Muntele Rosu 59.28 307 ⇑P P 19 30 43.4 +1.3
KWP Kalwaria 60.05 312 *e*P P 19 30 47.9 +0.5
KOLS Kolonicke sedl 60.54 311 *e*P P 19 30 51.4 +0.6
WRAB Tennant Creek 60.66 148 *e*P P 19 30 50.8 -0.8
comp=Z,14nm,1.0s,mb5.1
WRAB *e* pP 19 30 55.1 +0.3
WRAB Tennant Creek 60.66 148 *e*P P 19 30 50.8 -0.8
WRAB *e* pP 19 30 55.1 +0.3
WRAB pmax pmax
comp=Z,14nm,1.0s,mb5.0
WRA Warramunga Arr 60.66 148 P **P 19 30 50.6 -1.0**
comp=Z,6.1nm,0.8s,mb4.8,baz=341,slow=7.3,SNR=30
WRA Warramunga Arr 60.66 148 *i*P P 19 30 51.0 -0.6
WRA pmax pmax
comp=Z,6.0nm,0.8s
WB2 Warramunga Arr 60.66 148 *e*P P 19 30 51.1 -0.5
DRGR 60.97 309 ⇑P P 19 30 54.1 +0.4
STHS Stebnicka Huta 61.02 312 *i*P P 19 30 54.8 +0.8
STHS *e* 19 31 18.3
NIE Niedzica 61.59 312 *e*P P 19 30 59.7 +1.8
OJC Ojcow 61.63 313 *e*P P 19 30 58.8 +0.6
KECS Kecovo 61.81 311 *e*P P 19 30 58.3 -1.1
KECS *e* 19 31 13.1
BZS Buzias 62.09 308 ⇑P P 19 31 02.2 +0.9
VTS Vitosha 62.13 304 ⇑P P 19 31 03.0 +1.5
NB2 NORSAR Subarra 62.47 327 P **P 19 31 03.1 -0.7**
comp=Z,2.0nm,0.7s,mb4.4,baz=69,slow=6.9
NB2 NORSAR Subarra 62.47 327 P **P 19 31 03.1 -0.7**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
NOA NORSAR Array B 62.47 327 P **P 19 31 01.0 -2.7**
comp=Z,4.5nm,0.9s,mb4.6,baz=70,slow=6.7,SNR=8.2
NOA LR LR 20 00 05.3
comp=Z,90nm,18.2s,MS4.0,baz=60,slow=38
OKC Ostrava-Krasne 62.76 313 *e*P P 19 31 06.8 +1.0
VYHS Vyhne 62.83 312 *e*P P 19 31 07.0 +0.8
MORC Moravsky Berou 63.15 313 *e*P P 19 31 07.8 -0.5
comp=Z,9.0nm,0.9s,mb4.9
MORC Moravsky Berou 63.15 313 *e*P P 19 31 07.8 -0.5
MORC pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
DPC Dobruska-Polom 63.67 314 *e*P P 19 31 13.3 +1.5
ASAR Alice Springs 63.75 150 P **P 19 31 12.0 -0.3**
comp=Z,3.0nm,0.7s,mb4.4,baz=332,slow=6.5,SNR=38
UPC Upice 63.79 315 *e*P P 19 31 12.8 +0.2
PKSM Moragy 63.80 309 ⇑P P 19 31 13.2 +0.6
VRAC Vranov 63.90 313 ⇓P P 19 31 14.8 +1.5
TREC Trest 64.57 314 *e*P P 19 31 19.1 +1.4
PRU Pruhonice 64.86 315 *e*P P 19 31 20.7 +1.1
BRG Berggiesshubel 64.87 316 *e*P P 19 31 19.5 -0.1
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRG Berggiesshubel 64.87 316 *e*P P 19 31 19.5 -0.1
comp=Z,3.7nm,0.9s,mb4.4
CLL Collm 65.23 316 *i*P P 19 31 21.5 -0.5
comp=Z,8.0nm,1.0s,mb4.7
CLL Collm 65.23 316 *i*P P 19 31 21.5 -0.5
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KHC Kasperske Hory 65.79 314 *e*P P 19 31 26.3 +0.7
GERES GERESS Array B 65.83 314 P **P 19 31 24.8 -1.1**
comp=Z,3.8nm,0.9s,mb4.4,baz=52,slow=6.9,SNR=24
GERES LR LR 20 05 41.5
comp=Z,113nm,18.4s,MS4.1,baz=107,slow=41
PDKS Podkum 66.19 310 *e*P P 19 31 28.2 +0.1
BOJS Bojanci 66.26 310 *i*P P 19 31 29.7 +1.0
COLA College 66.71 26 *e*P P 19 31 29.4 -2.1
comp=Z,5.9nm,0.9s,mb4.6
COLA College 66.71 26 *e*P P 19 31 29.4 -2.1
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
JAVS Javornik 66.85 311 *e*P P 19 31 32.5 +0.1
GRA1 Grafenberg Arr 66.94 315 *e*P P 19 31 34.4 +1.4
comp=Z,18nm,1.1s,mb5.0
GRF Grafenberg Arr 66.94 315 *e*P P 19 31 34.4 +1.4
comp=Z,18nm,1.1s,mb5.0
GRF Grafenberg Arr 66.94 315 *e*P P 19 31 34.4 +1.4
GRF pmax pmax
comp=Z,18nm,1.1s,mb5.0
GRF Grafenberg Arr 66.94 315 *e*P P 19 31 34.4 +1.4
GRF pmax pmax
comp=Z,18nm,1.1s,mb5.0
ILAR Eielson Array 67.12 26 P **P 19 31 31.1 -3.0**
comp=Z,1.9nm,1.0s,mb4.1,baz=286,slow=6.5,SNR=11
INK Inuvik 69.35 20 P **P 19 31 45.8 -2.3**
comp=Z,5.7nm,1.0s,mb4.5,baz=323,slow=6.3,SNR=13
INK Inuvik 69.35 20 *e*P P 19 31 46.1 -2.0
comp=Z,8.2nm,1.1s,mb4.6
INK Inuvik 69.35 20 *e*P P 19 31 46.1 -2.0
INK pmax pmax
comp=Z,8.0nm,1.1s
MEM Membach 69.51 318 P **P 19 31 49.6 +0.5**
CDF Champ du Feu 69.84 315 *e*P P 19 31 50.9 -0.2
comp=Z,6.1nm,0.9s,mb4.2
CDF Champ du Feu 69.84 315 *e*P P 19 31 50.9 -0.2
comp=Z,3.0nm,0.9s,mb4.2
CDF Champ du Feu 69.84 315 *e*P P 19 31 50.9 -0.2
CDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
WLF Walferdange 69.88 317 ⇑P P 19 31 52.4 +1.0
HINF Hinteralfeld 70.37 315 *e*P P 19 31 54.0 -0.4
HAU Haudompre 70.58 315 *e*P P 19 31 56.1 +0.4
HAU *e*R
comp=Z,148nm,18.8s
HAU Haudompre 70.58 315 *e*P P 19 31 56.1 +0.4
HAU MLR MLR
comp=Z,150nm,18.8s,MS4.3
BAIF Baives 70.79 318 *e*P P 19 31 57.0 +0.1
comp=Z,12nm,1.0s,mb4.5
BAIF Baives 70.79 318 *e*P P 19 31 57.0 +0.1
comp=Z,6.1nm,1.0s,mb4.5
BAIF Baives 70.79 318 *e*P P 19 31 57.0 +0.1
BAIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MEZF Maizieres J'vi 71.09 316 *e*P P 19 31 58.1 -0.6
CABF La Chapelle 71.42 314 *e*P P 19 32 00.6 -0.2
comp=Z,25nm,1.3s,mb4.7
CABF La Chapelle 71.42 314 *e*P P 19 32 00.6 -0.2
comp=Z,13nm,1.3s,mb4.7
CABF La Chapelle 71.42 314 *e*P P 19 32 00.6 -0.2
CABF pmax pmax
comp=Z,13nm,1.3s,mb4.7
LPG La Plagne 71.57 313 *e*P P 19 32 02.5 +0.8
comp=Z,28nm,0.8s,mb4.9
LPG La Plagne 71.57 313 *e*P P 19 32 02.5 +0.8
comp=Z,14nm,0.8s,mb4.9
LPG La Plagne 71.57 313 *e*P P 19 32 02.5 +0.8
LPG pmax pmax
comp=Z,14nm,0.8s,mb4.9
LPL La Plagne 71.58 313 *e*P P 19 32 02.4 +0.7
comp=Z,28nm,0.9s,mb4.9
LPL La Plagne 71.58 313 *e*P P 19 32 02.4 +0.7
comp=Z,14nm,0.9s,mb4.9
LPL La Plagne 71.58 313 *e*P P 19 32 02.4 +0.7
LPL pmax pmax
comp=Z,14nm,0.9s,mb4.9
PGF Pioggiola 71.62 309 *e*P P 19 32 02.4 +0.5
comp=Z,40nm,1.0s,mb5.0
PGF Pioggiola 71.62 309 *e*P P 19 32 02.4 +0.5
comp=Z,20nm,1.0s,mb5.0
PGF Pioggiola 71.62 309 *e*P P 19 32 02.4 +0.5
PGF pmax pmax
comp=Z,20nm,1.0s,mb5.0
KMBO Kilima Mbogo 71.93 256 *i*P P 19 32 07.0 +3.2
KMBO pmax pmax
comp=Z,1.0nm,0.2s
MBDF Montbardon 71.94 312 *e*P P 19 32 04.4 +0.5
comp=Z,9.8nm,0.8s,mb4.5
MBDF Montbardon 71.94 312 *e*P P 19 32 04.4 +0.5
comp=Z,4.9nm,0.8s,mb4.5
MBDF Montbardon 71.94 312 *e*P P 19 32 04.4 +0.5
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SBF Sospel 71.96 311 *e*P P 19 32 04.0 0.0
comp=Z,25nm,0.8s,mb4.9
SBF Sospel 71.96 311 *e*P P 19 32 04.0 0.0
comp=Z,13nm,0.8s,mb4.9
SBF Sospel 71.96 311 *e*P P 19 32 04.0 0.0
SBF pmax pmax
comp=Z,13nm,0.8s,mb4.9
ORIF Oris-en-Rattie 72.40 313 *e*P P 19 32 06.8 +0.2
comp=Z,14nm,0.8s,mb4.7
ORIF *e*R
comp=Z,173nm,17.0s
ORIF Oris-en-Rattie 72.40 313 *e*P P 19 32 06.8 +0.2
comp=Z,7.3nm,0.8s,mb4.7
ORIF Oris-en-Rattie 72.40 313 *e*P P 19 32 06.8 +0.2
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LOR Lormes 72.40 315 *e*P P 19 32 06.6 -0.1
LOR *e*R
comp=Z,167nm,18.0s
LOR Lormes 72.40 315 *e*P P 19 32 06.6 -0.1
LOR MLR MLR
comp=Z,170nm,18.0s,MS4.4
FRF La Foret Royal 72.61 311 *e*P P 19 32 07.4 -0.5
comp=Z,15nm,0.9s,mb4.6
FRF La Foret Royal 72.61 311 *e*P P 19 32 07.4 -0.5
comp=Z,7.7nm,0.9s,mb4.6
FRF La Foret Royal 72.61 311 *e*P P 19 32 07.4 -0.5
FRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SSF Saint Saulge 72.72 315 *e*P P 19 32 08.0 -0.5
comp=Z,8.1nm,1.0s,mb4.3
SSF Saint Saulge 72.72 315 *e*P P 19 32 08.0 -0.5
comp=Z,4.1nm,1.0s,mb4.3
SSF Saint Saulge 72.72 315 *e*P P 19 32 08.0 -0.5
SSF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
SMF Signal de Mont 72.74 315 *e*P P 19 32 08.3 -0.4
comp=Z,13nm,0.8s,mb4.6
SMF Signal de Mont 72.74 315 *e*P P 19 32 08.3 -0.4
comp=Z,6.6nm,0.8s,mb4.6
SMF Signal de Mont 72.74 315 *e*P P 19 32 08.3 -0.4
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LMR La Mourre 72.81 311 *e*P P 19 32 09.0 -0.1
comp=Z,13nm,1.0s,mb4.5
LMR La Mourre 72.81 311 *e*P P 19 32 09.0 -0.1
comp=Z,6.5nm,1.0s,mb4.5
LMR La Mourre 72.81 311 *e*P P 19 32 09.0 -0.1
LMR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AVF Avril sur Loir 72.95 315 *e*P P 19 32 09.6 -0.3
comp=Z,13nm,0.9s,mb4.5
AVF Avril sur Loir 72.95 315 *e*P P 19 32 09.6 -0.3
comp=Z,6.3nm,0.9s,mb4.5
AVF Avril sur Loir 72.95 315 *e*P P 19 32 09.6 -0.3
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 73.17 313 *e*P P 19 32 11.1 -0.1
comp=Z,4.7nm,0.7s,mb4.2
VIVF Saint-Julien-l 73.17 313 *e*P P 19 32 11.1 -0.1
comp=Z,2.3nm,0.7s,mb4.2
VIVF Saint-Julien-l 73.17 313 *e*P P 19 32 11.1 -0.1
VIVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BGF Bois d'Agland 73.37 315 *e*P P 19 32 12.0 -0.4

TCF	**Toulx Ste Croi**	**73.88**	**315**	*e*P	**P**	**19 32 15.4**	**0.0**
	comp=Z,24nm,1.1s,mb4.7						
TCF	**Toulx Ste Croi**	**73.88**	**315**	*e*P	**P**	**19 32 15.4**	**0.0**
	comp=Z,12nm,1.1s,mb4.7						
TCF	**Toulx Ste Croi**	**73.88**	**315**	*e*P	**P**	**19 32 15.4**	**0.0**
TCF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
LASF	**Ste Croix**	**74.07**	**313**	*e*P	**P**	**19 32 16.8**	**+0.3**
	comp=Z,30nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**74.21**	**148**	*e*P	**P**	**19 32 14.8**	**-2.5**
	comp=Z,4.8nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**74.21**	**148**	P	**P**	**19 32 14.8**	**-2.5**
	comp=Z,5.8nm,0.9s,mb4.5,baz=341,slow=9.3,SNR=7.6						
MFF	**Saint Martin d**	**75.08**	**316**	*e*P	**P**	**19 32 22.5**	**+0.1**
	comp=Z,27nm,0.9s,mb4.9						
MFF	**Saint Martin d**	**75.08**	**316**	*e*P	**P**	**19 32 22.5**	**+0.1**
	comp=Z,14nm,0.9s,mb4.9						
MFF	**Saint Martin d**	**75.08**	**316**	*e*P	**P**	**19 32 22.5**	**+0.1**
MFF				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
YKA	**Yellowknife Ar**	**78.87**	**17**	P	**P**	**19 32 41.2**	**-2.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=324,slow=5.3,SNR=15						
ESDC	**Sonseca Array**	**81.37**	**312**	P	**P**	**19 32 58.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=36,slow=5.5,SNR=4.1						
FRB	**Frobisher Bay**	**82.47**	**357**	P	**P**	**19 33 03.6**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.0,baz=14,slow=8.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**93.11**	**288**	P	**P**	**19 33 54.0**	**-0.5**
	comp=Z,2.3nm,0.9s,mb4.6,baz=44,slow=4.7,SNR=16						
OTAV	**Otavalo**	**145.87**	**5**	*e*PKP	PKPdf	19 40 19.4	+0.1
SAML	**Samuel**	**152.66**	**333**	*e*PKPbc	PKPbc	19 40 38.7	+1.5

MAN 26 19:26:55.9, 1007N×12529E, h24km, mb2.2, ML3.8, MS3.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.35**	**145**	*e*P	Pb	19 27 04.1	+0.6
SCPH				*i* S	Sb	19 27 10.8	+2.1
MSLP	**Maasin**	**0.42**	**279**	*e*P	Pb	19 27 06.1	+1.3
MSLP				*e*S	Sb	19 27 14.6	+3.8
BUTP	**Butuan**	**1.14**	**163**	*e*P	Pn	19 27 16.8	+0.5
BUTP				*e*S	Sn	19 27 31.4	+0.1
BESP	**Borongan**	**1.53**	**6**	*e*P	Pn	19 27 21.6	-0.1

*ISK **26** 19:29:29.6, 3831N×2651E, h23km, MD3.3*
*CSEM **26** 19:29:30.5±0.1, 3814N×2660E, h10km, MD3.3, Error ellipse: s-maj=2.4km s-min=2.0km az=84.0*
*ATH **26** 19:29:30.6, 3814N×2679E, h54km±21km, MD3.4/3*
*ISCJB **26** 19:29:31.4±0.6, 3816N±002×2658E±004, h12km±4km, Error ellipse: s-maj=5.5km s-min=3.7km az=137.3*

ISC 26 19:29:31.6±0.6, 3816N±002×2658E±004, h12km±4km, n24, σ0§94/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**3**	*i* P	**Pg**	**19 29 36.1**	**0.0**
URLA				*i* S	**Sg**	**19 29 39.8**	**+0.7**
SMG	**Samos**	**0.49**	**156**	*e*P	**Pg**	**19 29 41.2**	**-0.1**
SMG				*e*S	**Sg**	**19 29 50.6**	**+2.8**
IZM	**Izmir**	**0.59**	**66**	PG	**Pg**	**19 29 42.7**	**-0.4**
IZM				SG	**Sg**	**19 29 50.8**	**0.0**
KDAG	**Bornova**	**0.59**	**65**	*i* P	**Pg**	**19 29 42.8**	**-0.4**
KDAG				*i* S	**Sg**	**19 29 50.7**	**-0.3**
PRK	**Paraskevi**	**1.11**	**347**	*e*P	**Pb**	**19 29 52.5**	**-0.3**
PRK				*e*S	**Sb**	**19 30 07.1**	**-0.2**
PRK	**Paraskevi**	**1.11**	**347**	*e*Pn	**Pn**	**19 29 52.9**	**-0.2**
PRK				*e*Sn	**Sn**	**19 30 08.2**	**-0.1**
AYDN	**Tasoluk**	**1.14**	**115**	*i* P	**Pb**	**19 29 52.7**	**-0.6**
AYDN				*i* S	**Sb**	**19 30 07.9**	**-0.1**
AYVA	**Ayvalik**	**1.15**	**4**	*i* P	**Pb**	**19 29 53.8**	**+0.3**
AYVA				*i* S	**Sb**	**19 30 09.9**	**+1.5**
BODT	**Bodrum**	**1.23**	**152**	PN	**Pn**	**19 29 53.8**	**-0.9**
BODT				SN	**Sn**	**19 30 12.6**	**+1.3**
MLSB	**Milas**	**1.28**	**132**	PN	**Pn**	**19 29 54.9**	**-0.4**
APE	**Apeiranthos**	**1.37**	**218**	PN	**Pn**	**19 29 55.0**	**-1.6**
APE				SN	**Sn**	**19 30 13.9**	**-0.7**
APE	**Apeiranthos**	**1.37**	**218**	*e*P	**Pn**	**19 29 56.0**	**-0.6**
APE	**Apeiranthos**	**1.37**	**218**	*e*Pn	**Pn**	**19 29 55.5**	**-1.1**
APE				*e*Sn	**Sn**	**19 30 13.9**	**-0.7**
MANT	**Manisa**	**1.59**	**77**	*i* P	**Pn**	**19 30 01.3**	**+1.7**
MANT				*i* S	**Sn**	**19 30 20.5**	**+0.5**
DAT	**Datca**	**1.63**	**151**	PN	**Pn**	**19 30 00.8**	**+0.7**
YER	**Yerkesik**	**1.69**	**127**	PN	**Pn**	**19 30 00.7**	**-0.3**
YER				SN	**Sn**	**19 30 23.2**	**+0.7**
BALB	**Balikesir**	**1.79**	**34**	*e*PN	**Pn**	**19 29 58.9**	**-3.5**
DENT	**Denizli**	**1.98**	**101**	*e*PN	**Pn**	**19 30 03.3**	**-1.6**
LIA	**Limnos Island**	**2.05**	**328**	*e*PG	**Pn**	**19 30 06.6**	**+0.7**
DST	**Dursunbey**	**2.15**	**47**	*e*PN	**Pn**	**19 30 04.1**	**-3.2**
KHL	**Karahalli**	**2.32**	**85**	*e*PN	**Pn**	**19 30 08.7**	**-0.9**
SART	**Tekirdag**	**2.57**	**10**	*i* P	**Pg**	**19 30 17.4**	**-3.5**
SART				*i* S	**Sg**	**19 30 53.9**	**-0.4**
RDO	**Rodhopi**	**3.09**	**345**	*e*PB	**Pn**	**19 30 21.0**	**+0.7**
NVR	**Nevrokopi**	**3.82**	**328**	*e*PB	**Pn**	**19 30 31.2**	**+1.0**

*ISCJB **26** 19:40:43.3±2.0, 63S±01×15439E±007, h79km±18km, mb3.9/7, Error ellipse: s-maj=23.5km s-min=11.4km az=175.7*
*NEIC **26** 19:40:45.6±1.4, 635S×15440E, h86km±14km, mb4.1/3, Error ellipse: s-maj=17.3km s-min=11.3km az=186.0*
*IDC **26** 19:40:45.4±2.9, 630S×15438E, h93km±25km, mb3.8/5, mb1 3.9/8, mb1mx3.7/17, mbtmp4.2/8, MS2.9/3, Ms1 2.9/3, ms1mx2.7/23, Error ellipse: s-maj=25.9km s-min=18.7km az=178.0*

ISC 26 19:40:45.7±1.7, 64S±01×15442E±007, h86km±15km, n17, σ0§68/17, mb3.9/7, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.25**	**119**	P	**Pn**	**19 42 15.6**	**+0.3**
	2.8nm,0.3s,baz=264,slow=10,SNR=4.2						
HNR				LR	LR	19 44 40.3	
	comp=Z,122nm,18.9s,baz=354,slow=37						
HNR	**Honiara**	**6.25**	**119**	P	**Pn**	**19 42 15.5**	**+0.3**
HNR				LR	LR	19 44 40.4	
PMG	**Port Moresby**	**7.79**	**247**	P	**Pn**	**19 42 36.6**	**+0.4**
	2.9nm,0.3s,baz=43,slow=12,SNR=19						
PMG				S	**Sn**	**19 44 02.3**	**-0.5**
	1.6nm,0.3s,baz=172,slow=24,SNR=3.2						
PMG				LR	LR	19 45 37.9	
	comp=Z,71nm,20.4s,baz=182,slow=38						
PMG	**Port Moresby**	**7.79**	**247**	*e*Pn	**Pn**	**19 42 36.5**	**+0.3**
PMG				S	**Sn**	**19 44 02.3**	**-0.5**
PMG				LR	LR	19 45 37.9	
DZM	**Mont Dzumac**	**19.43**	**144**	P	**Pn**	**19 45 06.5**	**-0.6**
	0.4nm,0.3s,baz=162,slow=22,SNR=4.6						
DZM				LR	LR	19 49 57.2	
	comp=Z,51nm,21.4s,baz=193,slow=28						
KAKA	**Kakadu**	**22.55**	**252**	*e*P	pP	19 45 52.6	-3.3
	6.9nm,0.4s						
WRAB	**Tennant Creek**	**23.68**	**233**	*e*P	**P**	**19 45 49.9**	**+0.5**
	5.7nm,0.4s,mb4.2						
WB2	**Warramunga Arr**	**23.69**	**233**	*e*P	**P**	**19 45 49.9**	**+0.4**
WRA	**Warramunga Arr**	**23.70**	**233**	P	**P**	**19 45 50.2**	**+0.6**
	3.1nm,0.4s,mb4.0,baz=57,slow=10.0,SNR=46						
ASAR	**Alice Springs**	**26.15**	**227**	P	**P**	**19 46 12.3**	**+0.5**
	1.8nm,0.5s,mb3.8,baz=56,slow=9.1,SNR=63						
ASAR				PcP	PcP	19 49 36.6	-0.3
	0.7nm,0.5s,baz=59,slow=2.4,SNR=12						
STKA	**Stephens Creek**	**28.04**	**204**	⇑*i*P	**P**	**19 46 27.1**	**-1.6**
	3.5nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**28.04**	**204**	P	**P**	**19 46 27.1**	**-1.6**
	3.4nm,0.6s,mb4.0,baz=40,slow=12,SNR=12						
FITZ	**Fitzroy Crossi**	**30.38**	**245**	P	**P**	**19 46 49.4**	**-0.1**
	4.1nm,0.8s,mb4.1,baz=60,slow=16,SNR=5.2						
ULN	**Ulaanbaatar**	**68.20**	**328**	P	**P**	**19 51 37.2**	**+0.3**
	1.4nm,0.9s,mb3.8						
SONM	**Songino Array**	**68.53**	**327**	P	**P**	**19 51 37.9**	**-1.0**
	0.3nm,0.5s,mb3.4,baz=132,slow=7.2,SNR=5.6						
VNDA	**Vanda**	**71.19**	**178**	*e*P	**P**	**19 51 56.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**152.32**	**286**	PKPbc	PKPbc	20 00 29.9	-1.7
	0.5nm,0.6s,baz=54,slow=1.7,SNR=10						

MAN 26 19:56:07.5, 998N×12536E, h2km, mb3.5, ML4.7, MS3.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.52**	**287**	*e*P	Pg	19 56 17.6	+0.2
MSLP				*e*S	Sg	19 56 25.5	+1.3
BUTP	**Butuan**	**1.04**	**166**	*e*P	Pg	19 56 28.6	+1.2
PLP	**Palo**	**1.24**	**342**	*e*P	Pg	19 56 30.5	-0.6
PLP				*e*S	Sg	19 56 45.2	-2.0
OCLP	**Ormoc**	**1.30**	**325**	*e*P	Pg	19 56 31.9	-0.4
OCLP				*e*S	Sg	19 56 51.5	+2.3
LLP	**Lapu-Lapu**	**1.42**	**284**	*e*P	Pn	19 56 46.7	+12
LLP				*e*S	Sg	19 57 04.5	+11
TBP	**Tagbilaran**	**1.51**	**259**	*e*P	Pn	19 56 33.5	-1.9
TBP				*e*S	Sn	19 56 53.3	-2.4
BESP	**Borongan**	**1.61**	**3**	*e*P	Pn	19 56 35.7	-1.2
BESP				*e*S	Sn	19 57 00.5	+2.2
BUKP	**Musuan**	**2.11**	**188**	*e*P	Pn	19 56 43.8	0.0
CNP	**Catarman**	**2.61**	**345**	*e*P	Pn	19 56 51.9	+1.3
CNP				*e*S	Sn	19 57 27.3	+4.5
GUIM	**Jordan**	**2.81**	**283**	*e*P	Pn	19 56 51.1	-2.2
PAGZ	**Pagadian**	**2.88**	**223**	*e*P	Pn	19 56 55.2	+0.8

*IDC **26** 20:16:46.2±3.2, 5123N×17945E, h19km±19km, mb4.4/27, mb1 4.6/28, mb1mx4.5/32, mbtmp4.6/28, ML4.8/1, MS4.3/18, Ms1 4.3/18, ms1mx4.1/34, Error ellipse: s-maj=18.4km s-min=10.5km az=166.0*
*ISCJB **26** 20:16:48.9±0.2, 5128N±006×17943E±003, h50km, mb5.0/113, MS4.4/41, Error ellipse: s-maj=7.9km s-min=2.8km az=177.0*
*MOS **26** 20:16:48.3±1.6, 5132N×17947E, h49km, mb5.3/50, MS4.3/13, Error ellipse: s-maj=7.9km s-min=5.3km az=98.3*
*BJI **26** 20:16:48.3, 5144N×179.14E, h42km, mB5.2, mb5.0, Ms4.8, Msz4.4*
*NEIC **26** 20:16:50.8±0.3, 5140N×17939E, mb5.0/58, ML4.5(AEIC), Error ellipse: s-maj=10.9km s-min=4.3km az=182.0*
*HRVD **26** 20:16:50.8±0.3, 5103N×17939E, h21km, MW5.1/76, Centroid moment Tensor Solution. LP body waves: s67,c103;Mantle waves: s76,c136; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.23±.17; $M_{\theta\theta}$-4.00±.12; $M_{\phi\phi}$-0.23±.10; $M_{r\theta}$3.03±.21; $M_{\theta\phi}$-0.82±.08; $M_{\phi r}$1.21±.20; Best double couple: $M_0$5.31800×10^{16} NP1:ϕ_s264.00000°, δ27.00000°, λ101.00000°. NP2: ϕ_s72.00000°, δ64.00000°, λ85.00000°. Principal axes: T 5.3710, Plg71.0000°, Azm331.0000°; N -0.1080, Plg5.0000°, Azm75.0000°; P -5.2640, Plg19.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 20:16:50.9±0.2, 5134N±005×17944E±003, h52km, h52km±1.1km: pP-P, n319, σ1§07/325, mb5.0/113, MS4.4/41, 19C-10D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**3.58**	**295**	P	**Pn**	**20 17 44.8**	**+0.8**
ATKA	**Atka Island**	**4.05**	**75**	P	**Pn**	**20 17 49.7**	**-0.6**
FX1	**Attu Island--F**	**4.17**	**294**	Pn	**Pn**	**20 17 50.8**	**-1.2**
	38nm,0.3s,baz=186,slow=2.4,SNR=55						
FX1				Sn	**Sn**	**20 18 46.9**	**+7.5**
	baz=246,slow=20,SNR=3.0						
FX1				LR	LR	20 19 23.0	
	comp=Z,170nm,19.0s,baz=333,slow=37						
FX1	**Attu Island--F**	**4.17**	**294**	*e*P	**Pn**	**20 17 52.4**	**+0.5**
FX1	**Attu Island--F**	**4.17**	**294**	P	**Pn**	**20 17 50.8**	**-1.2**
FX1						20 18 46.9	
FX1				pmax	pmax		
	comp=Z,38nm,0.3s						
FX1				MLR	MLR		
	comp=Z,170nm,19.0s						
UNV	**Unalaska Valle**	**8.92**	**68**	P	**Pn**	**20 18 57.7**	**+0.6**
PET	**Petropavlovsk**	**12.87**	**286**	*e*P	**Pn**	**20 19 50.7**	**-0.3**
PET				pmax	pmax		
	comp=Z,200nm,20.9s						
TNA	**Tin City**	**15.67**	**20**	*e*P	**Pn**	**20 20 31.3**	**+3.1**
	comp=Z,101nm,1.6s						
SVW2	**Sparrevohn**	**16.88**	**45**	*e*P	**Pn**	**20 20 45.4**	**+2.0**
KDAK	**Kodiak Island**	**17.37**	**57**	P	**Pn**	**20 20 46.8**	**-2.8**
	comp=Z,3.3nm,0.3s,baz=275,slow=21,SNR=30						
KDAK				S	**S**	**20 23 54.3**	**-14**
	comp=Z,0.1nm,0.3s,baz=342,slow=19,SNR=3.6						
TTA	**Tatalina**	**17.53**	**39**	*e*P	**Pn**	**20 20 53.2**	**+1.7**
BILL	**Bilibino**	**17.95**	**344**	*e*P	**Pn**	**20 20 58.9**	**+2.2**
	comp=Z,46nm,1.0s						
BILL	**Bilibino**	**17.95**	**344**	⇑*e*P	**Pn**	**20 20 58.6**	**+2.0**
BILL				pmax	pmax		
	comp=Z,52nm,1.4s						
BILL				MLR	MLR		
	comp=Z,1μm,18.0s						
MA2	**Magadan**	**18.11**	**308**	P	**Pn**	**20 20 57.2**	**-1.4**
	comp=Z,5.3nm,0.8s						
MA2	**Magadan**	**18.11**	**308**	*e*P	**Pn**	**20 20 58.8**	**+0.2**
MA2				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MA2				MLR	MLR		
	comp=Z,1μm,17.0s						
SEY	**Seymchan**	**18.55**	**319**	*e*P	**Pn**	**20 21 07.1**	**+3.2**
SEY				pmax	pmax		
	comp=Z,13nm,1.2s						
SEY				pmax	pmax		
	comp=E,12nm,1.3s						
SLKM	**Skilak Lake**	**19.15**	**50**	*e*P	**Pn**	**20 21 10.9**	**-0.3**
MCK	**McKinley**	**20.75**	**41**	*e*P	**P**	**20 21 27.1**	**-0.1**
	comp=E,22nm,1.2s						
MCK				*e*S	**S**	**20 25 14.3**	**-1.7**
MCK	**McKinley**	**20.75**	**41**	*e*P	**P**	**20 21 27.1**	**-0.1**
MCK				*e*S	**S**	**20 25 14.3**	**-1.7**
MCK				pmax	pmax		
	comp=Z,22nm,1.2s						
COLA	**College**	**21.63**	**39**	⇓*i*P	**P**	**20 21 36.6**	**0.0**
ILAR	**Eielson Array**	**21.97**	**39**	P	**P**	**20 21 38.8**	**-1.5**
	comp=Z,2.7nm,0.6s,baz=241,slow=8.5,SNR=35						
ILAR				PcP	PcP	20 25 36.1	-1.1
	comp=Z,0.5nm,0.5s,baz=292,slow=3.3,SNR=6.2						
ILAR				ScP	ScP	20 29 12.1	+2.0
	comp=Z,0.3nm,0.8s,baz=269,slow=4.5,SNR=3.3						
ILAR	**Eielson Array**	**21.97**	**39**	P	**P**	**20 21 38.8**	**-1.5**
ILAR						20 25 36.1	
MENT	**Mentasta**	**22.76**	**45**	*e*P	**P**	**20 21 49.6**	**+1.0**
YSS	**Yuzh-Sakhalins**	**24.22**	**274**	*e*P	**P**	**20 22 02.1**	**-0.6**
	comp=Z,139nm,1.4s,mb5.2						
YSS	**Yuzh-Sakhalins**	**24.22**	**274**	*e*P	**P**	**20 22 03.0**	**+0.3**
YSS				*e*		20 22 20.0	
YSS				S	**S**	**20 26 18.0**	**+0.5**
YSS				pmax	pmax		
	comp=Z,50nm,1.2s,mb4.8						
YSS				MLR	MLR		
	comp=Z,800nm,18.0s,MS4.2						
YSS				MLR	MLR		
	comp=N,500nm,17.0s,MS4.2						
YSS				MLR	MLR		
	comp=E,600nm,18.0s,MS4.2						
ASAJ	**Asahikawa**	**25.60**	**268**	P	**P**	**20 22 14.9**	**-0.2**
	comp=E,55nm,1.0s,mb5.0,baz=108,slow=4.0,SNR=11						
ASAJ				LR	LR	20 32 22.9	
	comp=E,397nm,18.9s,MS4.0,baz=9.0,slow=37						
ASAJ	**Asahikawa**	**25.60**	**268**	P	**P**	**20 22 15.0**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,55nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,397nm,18.9s						
INK	**Inuvik**	**28.13**	**35**	P	**P**	**20 22 36.4**	**-1.5**
	comp=Z,3.7nm,0.5s,mb4.3,baz=261,slow=10,SNR=8.3						
INK				PcP	PcP	20 25 51.1	+0.2
	comp=Z,2.3nm,0.6s,baz=287,slow=4.1,SNR=6.4						
HABR	**Khabarovsk**	**28.41**	**282**	*e*P	**P**	**20 22 40.3**	**-0.1**
HABR				*e*S	**S**	**20 27 26.7**	**+3.0**
HABR				pmax	pmax		
	comp=Z,42nm,1.4s,mb4.9						
HABR				MLR	MLR		
	comp=Z,359nm,15.7s,MS4.1						
YAK	**Yakutsk**	**28.62**	**311**	*e*P	**P**	**20 22 41.3**	**-1.0**
	comp=Z,12nm,0.6s,mb4.8						
YAK				*e*pP	pP	20 22 55.3	-0.3
YAK	**Yakutsk**	**28.62**	**311**	*e*P	**P**	**20 22 41.4**	**-0.8**
YAK				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.6						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,16nm,1.7s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
YAK				pmax	pmax		
	comp=N,3.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,390nm,16.0s,MS4.1						
YAK				MLR	MLR		
	comp=N,254nm,17.0s,MS4.1						
YAK				MLR	MLR		
	comp=E,291nm,14.0s,MS4.1						
DLBC	**Dease Lake**	**29.30**	**56**	P	**P**	**20 22 48.1**	**-0.2**
	comp=E,1.0nm,0.8s,baz=270,slow=19,SNR=2.3						
DLBC				LR	LR	20 35 15.5	
	comp=E,806nm,20.1s,MS4.3,baz=271,slow=38						
KLR	**Kul'dur**	**30.13**	**285**	*e*P	**P**	**20 22 52.0**	**-3.6**
KLR				pmax	pmax		
	comp=E,74nm,1.6s						
KLR				pmax	pmax		
	comp=Z,170nm,1.6s,mb5.5						
TIXI	**Tiksi**	**30.14**	**331**	*e*P	**P**	**20 22 52.2**	**-3.5**
TIXI				*e**PP	pP	20 23 04.8	-4.3
TIXI				*e*S	**S**	**20 27 54.7**	**+3.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
TIXI				smax			
	comp=N,164nm,21.4s						
TIXI				smax			
	comp=E,220nm,18.7s						
TIXI				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.5						
MAJO	**Matsushiro**	**32.69**	**259**	*e*P	**P**	**20 23 17.3**	**-0.9**
	comp=Z,61nm,1.5s,mb5.3						
MAJO	**Matsushiro**	**32.69**	**259**	*e*P	**P**	**20 23 17.3**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,61nm,1.5s,mb5.3						
MAT	**Matsushiro**	**32.69**	**259**	P	**P**	**20 23 17.3**	**-0.9**
MAT				S	**S**	**20 28 33.0**	**+2.2**
MAT	**Matsushiro**	**32.69**	**259**	*e*P	**P**	**20 23 17.0**	**-1.2**
	comp=Z,63nm,1.6s,mb5.3						
MAT				*e*S	**S**	**20 28 33.0**	**+2.2**
MAT				LR	LR		
	comp=Z,360nm,21.0s,MS4.0						
MAT	**Matsushiro**	**32.69**	**259**	*e*P	**P**	**20 23 17.0**	**-1.2**
MAT				*e*S	**S**	**20 28 33.0**	**+2.2**
MAT				pmax	pmax		
	comp=Z,63nm,1.6s,mb5.3						
MAT				MLR	MLR		
	comp=Z,360nm,21.0s,MS4.0						
MJAR	**Matsushiro Arr**	**32.69**	**259**	P	**P**	**20 23 17.2**	**-0.9**
	comp=Z,6.6nm,1.1s,mb4.5,baz=54,slow=7.8,SNR=15						
MJAR				LR	LR	20 35 50.1	
	comp=Z,314nm,18.2s,MS4.0,baz=55,slow=35						
MJAR	**Matsushiro Arr**	**32.69**	**259**	P	**P**	**20 23 17.2**	**-0.9**
MJAR				LR	LR	20 35 50.1	
VLA	**Vladivostok**	**32.81**	**274**	*i* P	**P**	**20 23 20.2**	**+1.0**
MDJ	**Mudanjiang**	**33.49**	**278**	P	**P**	**20 23 24.0**	**-1.1**
MDJ				AP	pP	20 23 35.0	-3.6
MDJ				XP	sP	20 23 40.0	-4.8
MDJ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,94nm,6.5s						
MDJ				LR	LR		
	comp=E,350nm,23.7s						
MDJ				LR	LR		
	comp=Z,481nm,23.0s,MS4.2						
JHJ	**Hachijo jima 2**	**34.02**	**253**	LR	LR	20 34 31.4	
	comp=Z,203nm,20.4s,MS3.8,baz=77,slow=31						
YKW3	**Yellowknife Ar**	**36.04**	**46**	*e*P	**P**	**20 23 45.1**	**-2.0**
YKW3				*e*pP	pP	20 24 00.6	0.0
YKA	**Yellowknife Ar**	**36.06**	**46**	P	**P**	**20 23 45.5**	**-1.7**
	comp=Z,4.0nm,0.5s,mb4.6,baz=281,slow=8.0,SNR=92						
YKA				PcP	PcP	20 26 12.1	-0.4
	comp=Z,0.8nm,0.5s,baz=290,slow=3.3,SNR=6.9						
YKA				ScP	ScP	20 29 57.3	+3.0
	comp=Z,0.3nm,0.7s,baz=295,slow=3.3,SNR=5.9						
YKA	**Yellowknife Ar**	**36.06**	**46**	P	**P**	**20 23 45.5**	**-1.7**
YKA				PcP	PcP	20 26 12.2	-0.4
YKA				ScP	ScP	20 29 57.4	+3.0
YKA	**Yellowknife Ar**	**36.06**	**46**	P	**P**	**20 23 45.5**	**-1.8**
YKA						20 26 12.2	
CN2	**Changchun**	**36.47**	**280**	*e*P	**P**	**20 23 49.8**	**-1.0**
CN2				*e*XP	sP	20 24 03.0	-7.5
CN2				*e*S	**S**	**20 29 27.0**	**-2.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,19.0s,MS4.6						
CN2				LR	LR		
	comp=E,700nm,19.0s,MS4.6						
CN2				LR	LR		
	comp=Z,800nm,21.0s,MS4.5						
CMW	**Cultus Mountai**	**36.91**	**71**	P	**P**	**20 23 55.6**	**+1.1**
BOD	**Bodaibo**	**37.12**	**306**	⇓*i*P	**P**	**20 23 54.9**	**-1.4**
BOD				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.0						
HIA	**Hailar**	**37.27**	**291**	*e*P	**P**	**20 23 57.1**	**-0.5**
	comp=Z,54nm,1.3s,mb5.2						
HIA	**Hailar**	**37.27**	**291**	*e*P	**P**	**20 23 57.1**	**-0.5**
HIA				pmax	pmax		
	comp=Z,54nm,1.3s						
RMW	**Rattlesnake Mo**	**37.55**	**72**	P	**P**	**20 24 00.9**	**+1.0**
FMW	**Mount Fremont**	**37.88**	**73**	P	**P**	**20 24 03.3**	**+0.5**
RCM	**Mount Rainier-**	**37.89**	**73**	P	**P**	**20 24 04.4**	**+1.5**
NLW	**Nelson Butte**	**38.13**	**71**	P	**P**	**20 24 05.7**	**+0.9**
ASR	**Mount Adams--S**	**38.31**	**74**	P	**P**	**20 24 06.5**	**+0.1**
ETW	**Entiat**	**38.36**	**71**	P	**P**	**20 24 06.9**	**+0.1**
WTV	**Waterville**	**38.54**	**71**	P	**P**	**20 24 08.5**	**+0.2**
EBG	**Ellensburg**	**38.55**	**72**	P	**P**	**20 24 09.0**	**+0.5**
KS15	**Wonju Array Si**	**38.57**	**269**	*e*P	**P**	**20 24 08.7**	**+0.1**
SNY	**Shenyang**	**38.69**	**278**	⇑P	**P**	**20 24 09.8**	**+0.2**
SNY				AP	pP	20 24 23.8	+0.6
SNY			

MSO *e*pP pP 20 24 53.7 -1.2
ALE Alert 42.86 10 P **P 20 24 44.2 +0.3**
comp=Z,78nm,1.4s,mb5.2,SNR=8.3
CHMT Chamberlain Mo 42.87 68 *e*P **P 20 24 43.5 -0.5**
PAHR Pah Rah Range 43.21 81 *e*P **P 20 24 47.3 +0.6**
comp=Z,15nm,1.1s,mb4.6
PAHR *e*pP pP 20 25 00.3 -0.3
PAHR *e*sP sP 20 25 05.7 -1.0
HLID Hailey 44.01 73 *e*P **P 20 24 53.2 +0.1**
comp=Z,35nm,1.3s,mb4.9
DLMT Dillon 44.09 70 *e*P **P 20 24 53.0 -0.8**
comp=Z,26nm,1.4s,mb4.8
BMN Battle Mountai 44.11 79 *e*P **P 20 24 53.9 -0.1**
comp=Z,19nm,1.3s,mb4.7
BMN *e*pP pP 20 25 09.2 +1.3
BMN Battle Mountai 44.11 79 *e*P **P 20 24 53.9 -0.1**
BMN *e**PP pP 20 25 09.2 +1.3
BMN pmax pmax
comp=Z,19nm,1.3s,mb4.7
MCMT McKenzie Canyo 44.24 71 *e*P **P 20 24 54.6 -0.4**
MCMT *e*pP pP 20 25 08.6 -0.3
BJI Beijing 44.30 281 P **P 20 24 55.8 +0.3**
BJI PP PP 20 26 43.0 +3.5
BJI AMB AMB
comp=Z,17nm,1.0s,mb4.7
BJI AMB AMB
comp=Z,181nm,5.8s
BJI LR LR
comp=N,127nm,17.9s,MS4.5
BJI LR LR
comp=E,517nm,17.8s,MS4.5
BJI LR LR
comp=Z,438nm,19.7s,MS4.4
BOZ Bozeman (W) 44.50 69 *e*P **P 20 24 57.0 -0.2**
comp=Z,40nm,1.1s,mb5.2
BOZ Bozeman (W) 44.50 69 *e*P **P 20 24 57.0 -0.1**
BOZ pmax pmax
comp=Z,40nm,1.1s,mb5.2
IRK Irkutsk 44.53 302 *e*P **P 20 24 56.6 -0.7**
IRK *e* 20 27 30.0
IRK pmax pmax
comp=Z,31nm,2.9s,mb4.6
NVAR Mina Array Bea 44.65 82 P **P 20 24 58.6 +0.4**
comp=Z,3.1nm,0.7s,mb4.2,baz=303,slow=6.2,SNR=20
QLMT Earthquake Lak 45.07 70 *e*P **P 20 25 02.1 +0.4**
MTUM Tungsten Hills 45.15 83 *e*P **P 20 25 02.7 +0.4**
MTUM *e*pP pP 20 25 15.6 -0.5
YMR Madison River 45.44 70 *e*P **P 20 25 04.0 -0.5**
comp=Z,62nm,1.3s,mb5.3
YFT Old Faithful 45.64 70 *e*P **P 20 25 07.3 +1.2**
YFT *e*pP pP 20 25 20.9 +0.9
SONM Songino Array 45.68 296 P **P 20 25 06.9 +0.5**
comp=Z,3.6nm,0.6s,mb4.5,baz=61,slow=7.1,SNR=42
SONM LR LR 20 46 03.5
comp=Z,991nm,18.3s,MS4.8,baz=53,slow=38
FLWY Flagg Ranch 45.93 70 *e*P **P 20 25 09.4 +1.0**
comp=Z,54nm,1.4s,mb5.3
FLWY *e*pP pP 20 25 21.0 -1.3
HVU Hansel Valley 46.03 74 *e*P **P 20 25 09.0 -0.1**
comp=Z,5.7nm,0.8s,mb4.5
HVU *e*pP pP 20 25 22.8 -0.3
HVU Hansel Valley 46.03 74 *e*P **P 20 25 09.0 -0.2**
HVU *e**PP pP 20 25 22.8 -0.3
HVU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ZAK Zakamensk 46.03 300⇑ *i*P **P 20 25 09.6 +0.4**
ZAK *e* 20 26 45.5
ZAK pmax pmax
comp=Z,41nm,1.7s,mb5.1
ZAK pmax pmax
comp=Z,19nm,1.6s,mb4.8
TIA Tai'an 46.07 276 *e*P **P 20 25 09.0 -0.5**
REDW Red Top Meadow 46.25 71 *e*P **P 20 25 11.3 +0.4**
comp=Z,25nm,1.3s,mb5.0
REDW *e*pP pP 20 25 24.6 -0.2
AHID Auburn Hatcher 46.45 72 *e*P **P 20 25 12.6 0.0**
comp=Z,9.7nm,0.8s,mb4.8
MOY Mondy 46.57 303 *e*P **P 20 25 13.6 +0.2**
HHC Hu-ho-hao-te 46.64 285 *e*P **P 20 25 14.5 +0.5**
HHC AP pP 20 25 27.0 -0.9
HHC XP sP 20 25 32.5 -1.5
HHC PCP PcP 20 26 48.5 +1.4
HHC PP PP 20 27 04.3 +0.1
HHC PCS PcS 20 30 43.0 +1.0
HHC S **S 20 31 58.8 -0.6**
HHC XS sS 20 32 19.8 -3.0
HHC SCS ScS 20 35 03.0 -1.1
HHC SS SS 20 35 17.8 -8.1
HHC AMB AMB
comp=Z,16nm,0.5s,mb5.2
HHC LR LR
comp=N,407nm,18.6s,MS4.5
HHC LR LR
comp=E,314nm,17.6s,MS4.5
HHC LR LR
comp=Z,323nm,21.4s,MS4.2
TPNV Topopah Spring 46.85 82 *e*P **P 20 25 15.3 -0.2**
comp=Z,12nm,0.8s,mb4.9
TPNV *e*pP pP 20 25 30.0 +0.4
TPNV Topopah Spring 46.85 82 *e*P **P 20 25 15.4 -0.2**
TPNV *e**PP pP 20 25 30.0 +0.4
TPNV pmax pmax
comp=Z,11nm,0.8s,mb4.8
SSE Sheshan 46.89 268 P **P 20 25 15.3 -0.7**
SSE AP pP 20 25 28.8 -1.1
SSE PP PP 20 27 05.0 -1.8
SSE S **S 20 32 00.3 -2.7**
SSE XS sS 20 32 22.8 -3.7
SSE AMB AMB
comp=Z,36nm,0.9s,mb5.3
SSE AMB AMB
comp=Z,50nm,3.4s
SSE LR LR
comp=N,101nm,24.5s,MS3.8
SSE LR LR
comp=E,69nm,24.5s,MS3.8
SSE LR LR
comp=Z,124nm,22.0s,MS3.8
DUG Dugway 46.95 76 *e*P **P 20 25 16.9 +0.5**
comp=Z,33nm,1.2s,mb5.1
DUG *e*pP pP 20 25 30.6 +0.2
DUG Dugway 46.95 76 *e*P **P 20 25 16.9 +0.5**
DUG *e**PP pP 20 25 30.6 +0.2
DUG pmax pmax
comp=Z,33nm,1.2s,mb5.1
PDAR Pinedale Array 47.37 71 P **P 20 25 19.6 -0.1**
comp=Z,14nm,0.5s,mb5.1,baz=309,slow=3.2,SNR=143
PDAR LR LR 20 46 24.9
comp=Z,267nm,18.1s,MS4.2,baz=315,slow=38
MWC Mount Wilson 47.47 86 *e*P **P 20 25 20.4 -0.1**
NJ2 Nanjing 47.71 271 *e*P **P 20 25 23.8 +1.5**
NJ2 XP sP 20 25 41.5 -0.9
NJ2 PP PP 20 27 15.0 +0.7
NJ2 S **S 20 32 15.0 +0.4**
NJ2 XS sS 20 32 37.0 -1.1
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
NJ2 AMB AMB
comp=Z,150nm,4.4s
NJ2 LR LR
comp=N,470nm,19.3s,MS4.7
NJ2 LR LR
comp=E,620nm,21.1s,MS4.7
NJ2 LR LR
comp=Z,230nm,16.3s,MS4.2
BTO Baotou 47.72 286 *e*P **P 20 25 22.8 +0.4**
DAU Daniels Canyon 47.77 75 *e*P **P 20 25 24.0 +1.2**
DAU *e*pP pP 20 25 33.8 -2.9
MSU Marysvale 48.38 77 *e*P **P 20 25 28.3 +0.8**
MSU *e*pP pP 20 25 40.7 -0.8
TMUT Trail Mountain 48.48 76 *e*P **P 20 25 29.2 +1.0**
NEN Nelson 48.55 82 *e*P **P 20 25 28.7 -0.1**
NEN *e*pP pP 20 25 42.5 -0.4
BAR Barrett 49.36 86 *e*P **P 20 25 33.7 -1.3**
BAR *e* pP 20 25 46.7 -2.3
GLA Glamis 50.26 85 *e*P **P 20 25 41.1 -0.7**
PV10 Paradox Valley 50.38 75 *e*P **P 20 25 43.7 +1.0**
ULM Lac du Bonnet 50.62 56 P **P 20 25 45.0 +0.4**
comp=Z,1.9nm,0.4s,mb4.4,baz=301,slow=7.6,SNR=6.1
ULM PcP PcP 20 27 00.8 -0.7
comp=Z,1.9nm,0.6s,baz=339,slow=5.5,SNR=3.5
ULM LR LR 20 47 22.9
comp=Z,453nm,21.5s,MS4.5,baz=326,slow=36
ULM Lac du Bonnet 50.62 56 P **P 20 25 45.0 +0.4**
ULM PcP PcP 20 27 00.8 -0.7
ULM LR LR 20 47 22.9
WUAZ Wupatki 50.78 80 *e*P **P 20 25 45.7 -0.1**
comp=Z,26nm,1.2s,mb5.0
PV01 Paradox Valley 50.81 75 *e*P **P 20 25 45.9 -0.2**
PV01 *e*pP pP 20 26 00.5 +0.4
WHN Wuhan 51.56 273 *e*P **P 20 25 50.5 -1.1**
DAG Danmarks Havn 51.65 5⇑ *i*P **P 20 25 48.3 -4.0**
comp=Z,5.2nm,0.8s,mb4.5
DAG Danmarks Havn 51.65 5⇑ *e*P **P 20 25 48.3 -4.0**
comp=Z,5.2nm,0.8s,mb4.5
DAG Danmarks Havn 51.65 5⇑ *e*P **P 20 25 48.3 -4.0**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TUC Tucson 53.28 82 *e*P **P 20 26 03.0 -1.4**
comp=Z,11nm,1.4s,mb4.6
TUC *e* pP 20 26 17.3 -1.3
TUC Tucson 53.28 82 *e*P **P 20 26 03.0 -1.3**
TUC *e* pP 20 26 17.3 -1.2
TUC pmax pmax
comp=Z,11nm,1.4s,mb4.6
SUMG Summit 53.60 13 *e*P **P 20 26 06.9 +0.2**
comp=Z,28nm,1.3s,mb5.0
SUMG *e*pP pP 20 26 21.4 +0.6
ANMO Albuquerque 54.18 77 *e*P **P 20 26 10.7 -0.2**
LZH Lanzhou 54.33 285 *e*P **P 20 26 12.5 +0.5**
LZH AP pP 20 26 27.5 +1.2
LZH PP PP 20 28 17.0 +2.7
LZH *e*S **S 20 33 44.0 -2.2**
LZH XS sS 20 34 07.0 -3.1
LZH *e*SS SS 20 37 27.0 -1.7
LZH AMB AMB
comp=Z,100nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,450nm,6.2s
LZH LR LR
comp=N,2μm,16.0s
LZH LR LR
comp=Z,2μm,17.0s,MS5.2
GTA Gaotai 54.55 291 *e*P **P 20 26 14.0 +0.4**
GTA AP pP 20 26 26.8 -1.1
GTA XP sP 20 26 32.3 -1.6
GTA PP PP 20 28 19.3 +3.0
GTA S **S 20 33 52.0 +2.9**
GTA XS sS 20 34 03.8 -9.2
GTA AMB AMB
comp=Z,19nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,174nm,4.2s
GTA LR LR
comp=N,339nm,15.2s,MS4.8
GTA LR LR
comp=E,476nm,16.3s,MS4.8
GTA LR LR
comp=Z,620nm,16.0s,MS4.8
CBKS Cedar Bluff 55.65 69 *e*P **P 20 26 21.3 -0.2**
comp=Z,43nm,1.2s,mb5.3
CBKS Cedar Bluff 55.65 69 *e*P **P 20 26 21.3 -0.2**
CBKS pmax pmax
comp=Z,43nm,1.2s,mb5.3
CD2 Chengdu 57.90 281⇑ *i*P **P 20 26 37.0 -0.5**
CD2 AP pP 20 26 49.5 -2.3
CD2 XP sP 20 26 55.0 -2.8
CD2 PP PP 20 28 47.0 +0.8
CD2 S **S 20 34 31.0 -2.5**
CD2 XS sS 20 34 52.5 -5.1
CD2 SS SS 20 38 23.5 -1.4
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CD2 AMB AMB
comp=Z,50nm,5.9s
CD2 LR LR
comp=E,150nm,19.2s
CD2 LR LR
comp=Z,140nm,18.0s,MS4.1
ARCES ARCESS Array B 57.94 349 P **P 20 26 36.9 -0.9**
comp=Z,3.6nm,0.8s,mb4.5,baz=26,slow=8.7,SNR=7.5
ARCES LR LR 20 56 36.6
comp=Z,323nm,18.1s,MS4.5,baz=1.5,slow=41
KURK Kurchatov 58.25 313 P **P 20 26 40.0 +0.1**
comp=Z,189nm,0.6s,SNR=27
KURK Kurchatov 58.25 313⇑ *i*P **P 20 26 39.7 -0.2**
comp=Z,71nm,1.3s,mb5.5
KURK Kurchatov 58.25 313⇑ *i*P **P 20 26 39.7 -0.2**
KURK pmax pmax
comp=Z,71nm,1.3s,mb5.5
WMQ Urumqi 58.43 302 *e*P **P 20 26 42.0 +0.8**
WMQ AP pP 20 26 54.8 -0.8
WMQ XP sP 20 27 00.0 -1.6
WMQ PCP PcP 20 27 32.0 +0.6
WMQ PP PP 20 28 53.5 +2.6
WMQ PPP 20 30 17.5
WMQ *e*S **S 20 34 40.5 +0.1**
WMQ SCS ScS 20 36 24.0 -2.4
WMQ SS SS 20 38 35.0 +1.7
WMQ AMB AMB
comp=Z,19nm,0.7s,mb5.2
WMQ AMB AMB
comp=Z,164nm,4.3s
WMQ LR LR
comp=N,605nm,18.6s,MS4.8
WMQ LR LR
comp=E,409nm,19.2s,MS4.8
WMQ LR LR
comp=Z,775nm,19.6s,MS4.8
MKAR Makanchi Array 59.19 307 P **P 20 26 45.9 -0.6**
comp=Z,4.5nm,0.4s,mb4.8,baz=56,slow=4.8,SNR=114
MKAR LR LR 20 53 49.0
comp=Z,425nm,19.3s,MS4.6,baz=90,slow=38
CHKZ Chkalovo 59.64 319⇑ *i*P **P 20 26 49.4 -0.2**
comp=Z,73nm,1.4s,mb5.5
CHKZ Chkalovo 59.64 319⇑ *i*P **P 20 26 49.4 -0.1**
CHKZ pmax pmax
comp=Z,73nm,1.4s,mb5.5
BVAR Borovoye Array 60.20 319 P **P 20 26 53.9 +0.5**
comp=Z,20nm,0.6s,mb5.3,baz=49,slow=6.8,SNR=141
BRVK Borovoye 60.22 319 P **P 20 26 54.9 +1.3**
comp=Z,240nm,0.7s,SNR=21
BRVK Borovoye 60.22 319 *e*P **P 20 26 54.2 +0.7**
comp=Z,46nm,1.2s,mb5.4
BRVK Borovoye 60.22 319 *e*P **P 20 26 54.2 +0.6**
BRVK pmax pmax
comp=Z,46nm,1.2s,mb5.4
SCHQ Schefferville 60.72 37 P **P 20 26 55.6 -1.3**
comp=Z,4.4nm,1.0s,mb4.6,baz=334,slow=6.9,SNR=12
SCHQ LR LR 20 55 40.9
comp=Z,366nm,19.3s,MS4.5,baz=127,slow=38
ZRNK Zerenda 60.83 320 *e*P **P 20 26 57.6 0.0**
comp=Z,30nm,0.8s,mb5.5
ZRNK Zerenda 60.83 320 *e*P **P 20 26 57.6 -0.1**
ZRNK pmax pmax
comp=Z,30nm,0.8s,mb5.5
SVE Sverdlovsk 61.03 327 *e*P **P 20 27 00.0 +0.9**
SVE *e* pP 20 27 16.0 +2.5
SVE pmax pmax
comp=Z,72nm,1.6s,mb5.5
SVE MLR MLR
comp=N,400nm,14.0s,MS4.8
SVE MLR MLR
comp=E,200nm,14.0s,MS4.8
SVE MLR MLR
comp=Z,400nm,14.0s,MS4.7
ARU Arti 62.05 327⇓ *i*P **P 20 27 06.1 +0.2**
ARU *e* 20 27 44.0
ARU *e* 20 29 21.8
ARU *e*S **S 20 35 31.6 +4.8**
ARU *e*SS SS 20 39 34.7 +4.7
ARU pmax pmax
comp=Z,31nm,1.6s,mb5.2
ARU MLR MLR
comp=N,400nm,20.0s,MS4.7
ARU MLR MLR
comp=Z,500nm,20.0s,MS4.7
ARU MLR MLR
comp=E,300nm,18.0s,MS4.7
MIAR Mount Ida 62.17 69 *e*P **P 20 27 06.5 -0.2**
comp=E,73nm,1.4s,mb5.6
MIAR *e*pP pP 20 27 22.5 +1.3
MIAR Mount Ida 62.17 69 *e*P **P 20 27 06.6 -0.1**
MIAR *e**PP pP 20 27 22.5 +1.3
MIAR pmax pmax
comp=Z,73nm,1.4s,mb5.6
KMI Kunming 62.64 277 P **P 20 27 08.5 -1.4**
KMI AMB AMB
comp=Z,8.0nm,1.4s,mb4.7
QIZ Qiongzhong 62.66 267 P **P 20 27 11.3 +1.3**
QIZ S **S 20 35 40.8 +6.4**
QIZ LR LR
comp=N,147nm,20.0s
QIZ LR LR
comp=Z,184nm,20.8s,MS4.2
JOF Joensuu 63.35 344 *e*p **P 20 27 14.4 -0.2**
comp=Z,3.6nm,0.6s,mb4.7
WVT Waverly 64.34 64 *e*P **P 20 27 20.6 -0.5**
comp=Z,6.2nm,0.8s,mb4.7
WVT Waverly 64.34 64 *e*P **P 20 27 20.6 -0.5**
WVT pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
OXF Oxford 64.61 66 *e*P **P 20 27 22.3 -0.5**
comp=Z,111nm,1.2s,mb5.8
OXF *e*pP pP 20 27 37.5 +0.1
OXF Oxford 64.61 66 *e*P **P 20 27 22.3 -0.5**
OXF *e**PP pP 20 27 37.5 +0.1
OXF pmax pmax
comp=Z,111nm,1.2s,mb5.8
KAF Kangasniemi 64.90 346 *e*p **P 20 27 23.4 -1.4**
comp=Z,7.7nm,1.3s,mb4.6
KAF Kangasniemi 64.90 346 *e*P **P 20 27 23.4 -1.4**
KAF pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
TKM2 Tokmak 2 65.28 308 P **P 20 27 28.0 +0.8**
SNR=11
ULHL Ulahol 65.46 307 P **P 20 27 29.4 +1.1**
SNR=7.0
USP Ospenovka 65.56 309 P **P 20 27 29.9 +0.9**
SNR=19
FINES FINESS Array B 65.58 346 P **P 20 27 28.0 -1.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=32,slow=8.3,SNR=12
FINES LR LR 20 56 00.1
comp=Z,182nm,20.6s,MS4.3,baz=174,slow=36
FINES FINESS Array B 65.58 346 P **P 20 27 28.0 -1.1**
FINES LR LR 20 56 00.1
CHMS Chumysh 65.64 309 P **P 20 27 30.8 +1.2**
SNR=6.1
KBK Karagaybulak 65.80 308 P **P 20 27 31.5 +1.0**
SNR=16
FRU Bishkek 65.83 309 *e*P **P 20 27 31.5 +0.7**
FRU pmax pmax
comp=Z,43nm,1.5s,mb5.3
AAK Ala-Archa 66.04 309 P **P 20 27 33.1 +1.0**
SNR=14
KZA Kyzart 66.08 308 P **P 20 27 33.6 +1.2**
SNR=12
UCH Uchtor 66.33 308 P **P 20 27 35.6 +1.7**
SNR=10.0
EKS2 Erkin-Say 66.37 309 P **P 20 27 35.3 +1.1**
SNR=18
LSA Lhasa 66.41 288 P **P 20 27 36.3 +1.8**
LSA Lhasa 66.41 288 *e*P **P 20 27 35.8 +1.3**
comp=Z,14nm,0.8s,mb5.0
LSA *e*pP pP 20 27 51.6 +2.5
LSA Lhasa 66.41 288 *e*P **P 20 27 35.8 +1.3**
LSA *e**PP pP 20 27 51.6 +2.5
LSA pmax pmax
comp=Z,14nm,0.8s,mb5.0
AML Almayashu 66.81 309 P **P 20 27 37.6 +0.6**
SNR=24
AKTK Aktyubinsk 67.08 324 P **P 20 27 38.6 -0.1**
AKTO Aktyubinsk 67.08 324 P **P 20 27 38.6 -0.1**
comp=Z,21nm,0.7s,mb5.3,baz=48,slow=6.2,SNR=62
AKTO Aktyubinsk 67.08 324 P **P 20 27 38.7 0.0**
AKTO pmax pmax
comp=Z,21nm,0.7s,mb5.3
NB2 NORSAR Subarra 67.58 354 P **P 20 27 41.4 -0.5**
comp=Z,25nm,1.1s,mb5.2,baz=6.6,slow=6.5
NB2 NORSAR Subarra 67.58 354 P **P 20 27 41.4 -0.5**
NB2 pmax pmax
comp=Z,25nm,1.1s,mb5.2
NOA NORSAR Array B 67.58 354 P **P 20 27 41.7 -0.2**
comp=Z,11nm,1.0s,mb4.9,baz=8.3,slow=6.3,SNR=21
NOA LR LR 20 58 30.9
comp=Z,110nm,18.1s,MS4.1,baz=5.0,slow=37
NOA NORSAR Array B 67.58 354 P **P 20 27 41.7 -0.2**
NOA LR LR 20 58 30.9
HFS Hagfors 68.29 352 P **P 20 27 45.7 -0.7**
comp=Z,4.6nm,0.6s,mb4.7,baz=29,slow=3.4,SNR=22
OBN Obninsk 69.51 338⇓ *e*P **P 20 27 53.6 -0.3**
OBN pmax pmax
comp=Z,19nm,1.1s,mb4.9
OBN MLR MLR
comp=Z,600nm,16.0s,MS4.9
JIRN Jiri 70.85 290 *e*P **P 20 28 03.3 +1.2**
comp=Z,85nm,0.8s,mb5.7
KKN Kakani 71.29 291 *e*P **P 20 28 05.5 +0.7**
comp=Z,31nm,0.5s,mb5.5
PKI Pulchoki 71.38 291 *e*P **P 20 28 06.0 +0.7**
comp=Z,125nm,1.1s,mb5.7
GKN Gorkha 71.50 292 *e*P **P 20 28 06.6 +0.5**
comp=Z,63nm,0.8s,mb5.6
DMN Daman 71.52 291 *e*P **P 20 28 07.0 +0.8**
KOLN Koldanda 72.28 292 *e*P **P 20 28 11.2 +0.5**
comp=Z,57nm,1.2s,mb5.4
DDI Dehra Dun 73.50 298 *e*x x 20 28 16.3
EKA Eskdalemuir Ar 73.68 2 P **P 20 28 19.2 +0.2**
comp=Z,7.3nm,1.0s,mb4.6,baz=356,slow=4.5,SNR=11
PPT Papeete 73.77 149 *e*LR LR 20 50 18.4
comp=Z,550nm,25.8s
PPT Papeete 73.77 149 LR LR 20 53 35.5
comp=Z,377nm,19.4s,MS4.7,baz=349,slow=30
AKASG Malin Array Be 75.24 341 P **P 20 28 27.1 -1.0**
comp=Z,2.9nm,0.4s,mb4.5,baz=20,slow=6.3,SNR=20
AKASG Malin Array Be 75.24 341 *i* P **P 20 28 27.2 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
GOF Gofitskoye 76.86 330 *e*P **P 20 28 36.9 -0.4**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.2
OJC Ojcow 77.35 347 *e*P **P 20 28 40.3 +0.3**
ABKT Ailbek 77.36 316 P **P 20 28 41.8 +1.7**
comp=Z,102nm,1.2s,mb5.6,SNR=9.6
KWP Kalwaria 77.47 345 *e*P **P 20 28 41.2 +0.5**
comp=Z,48nm,1.3s,mb5.3
KWP Kalwaria 77.47 345 *e*P **P 20 28 41.2 +0.5**
KWP pmax pmax
comp=Z,48nm,1.3s,mb5.3
DPC Dobruska-Polom 77.68 349 *e*P **P 20 28 43.0 +1.1**
STHS Stebnicka Huta 77.92 346 *e*P **P 20 28 43.3 +0.1**
OKC Ostrava-Krasne 77.95 348 *e*P **P 20 28 44.4 +1.0**
KIV Kislovodsk 77.96 330 *e*P **P 20 28 43.8 +0.4**
KIV pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
KIV MLR MLR
comp=Z,267nm,19.0s,MS4.6
KOLS Kolonicke sedl 78.22 345 *e*P **P 20 28 42.6 -2.3**
CRVS Cervenica-Dubn 78.38 345 *e*P **P 20 28 50.5 +4.7**
ZEI Tsey 78.63 328 *i* P **P 20 28 47.2 +0.1**
ZEI pmax pmax
comp=Z,15nm,1.1s,mb4.8
VRAC Vranov 78.67 349⇓ P **P 20 28 47.6 +0.2**
GIVF Givet 78.84 356 *e*P **P 20 28 45.0 -3.3**
BAIF Baives 78.90 357 *e*P **P 20 28 45.3 -3.3**
KECS Kecovo 78.94 346 *e*P **P 20 28 49.4 +0.6**
BURAR Bucovina Array 78.98 343⇑ P **P 20 28 49.9 +0.9**
BURAR Bucovina Array 78.98 343⇑ P **P 20 28 49.9 +0.9**
VYHS Vyhne 79.17 347 *e*P **P 20 28 50.2 +0.1**
KHC Kasperske Hory 79.19 351 *e*P **P 20 28 50.4 +0.2**
KHC Kasperske Hory 79.19 351⇑ *e*P **P 20 28 51.1 +0.9**
TBI Tubuai 79.23 151 *e*LR LR 20 52 50.5
comp=Z,571nm,22.0s,baz=335
SMOL Smolenice 79.34 348 *e*P **P 20 28 52.1 +1.1**
GERES GERESS Array B 79.46 350 P **P 20 28 51.7 0.0**
comp=Z,0.8nm,0.8s,baz=358,slow=4.0,SNR=8.5
GERES LR LR 21 08 55.1
comp=Z,232nm,19.2s,MS4.5,baz=197,slow=39
SRO Srobarova 79.91 347 *e*P **P 20 28 55.1 +1.0**
DRGR 80.22 344⇑ P **P 20 28 56.1 +0.3**
FLN La Foliniere 80.28 360 *e*P **P 20 28 52.7 -3.4**
comp=Z,129nm,1.6s,mb5.3
FLN *e*R
comp=Z,274nm,17.5s
FLN La Foliniere 80.28 360 *e*P **P 20 28 52.7 -3.4**
comp=Z,64nm,1.6s,mb5.3
FLN LR LR
comp=Z,270nm,17.5s,MS4.7
FLN La Foliniere 80.28 360 *e*P **P 20 28 52.7 -3.4**
FLN pmax pmax
comp=Z,65nm,1.6s,mb5.3
FLN MLR MLR
comp=Z,270nm,17.5s,MS4.7
VRI Vrincioaia 80.36 341⇓ P **P 20 28 53.1 -3.4**
PLOR Plostina 80.39 341⇓ P **P 20 29 02.1 +5.4**

CDF Champ du Feu 80.41 355 *e*P **P 20 28 53.0 -3.8**
comp=Z,13nm,1.1s,mb4.5
CDF Champ du Feu 80.41 355 *e*P **P 20 28 53.0 -3.8**
comp=Z,6.6nm,1.1s,mb4.5
CDF Champ du Feu 80.41 355 *e*P **P 20 28 53.0 -3.8**
CDF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MEZF Maizieres J'vi 80.43 356 *e*P **P 20 28 53.7 -3.2**
comp=Z,87nm,1.5s,mb5.2
MEZF Maizieres J'vi 80.43 356 *e*P **P 20 28 53.7 -3.2**
comp=Z,87nm,1.5s,mb5.5
LDF La Druitiere 80.45 360 *e*P **P 20 28 53.4 -3.6**
comp=Z,123nm,1.8s,mb5.2
LDF La Druitiere 80.45 360 *e*P **P 20 28 53.4 -3.6**
comp=Z,61nm,1.8s,mb5.2
LDF La Druitiere 80.45 360 *e*P **P 20 28 53.4 -3.6**
LDF pmax pmax
comp=Z,61nm,1.8s,mb5.2
GRR Gorron 80.66 0 *e*P **P 20 28 55.1 -3.0**
GNI Garni 80.68 326 LR LR 21 07 32.8
comp=Z,177nm,21.5s,MS4.4,baz=24,slow=38
GNI Garni 80.68 326 *e*P **P 20 28 60.0 +1.7**
comp=Z,22nm,1.5s,mb4.9
GNI Garni 80.68 326 *e*P **P 20 29 00.0 +1.7**
GNI pmax pmax
comp=Z,22nm,1.5s
ROSF Rostrenen 80.68 2 *e*P **P 20 28 54.6 -3.7**
comp=Z,294nm,1.8s,mb5.6
ROSF Rostrenen 80.68 2 *e*P **P 20 28 54.6 -3.7**
comp=Z,147nm,1.8s,mb5.6
ROSF Rostrenen 80.68 2 *e*P **P 20 28 54.6 -3.7**
ROSF pmax pmax
comp=Z,147nm,1.8s,mb5.6
SGMF Saint Gilles 80.78 1 *e*P **P 20 28 55.0 -3.8**
HAU Haudompre 80.86 355 *e*P **P 20 28 55.6 -3.6**
comp=Z,42nm,1.5s,mb4.8
HAU *e*R
comp=Z,248nm,18.0s
HAU Haudompre 80.86 355 *e*P **P 20 28 55.6 -3.6**
comp=Z,21nm,1.5s,mb4.8
HAU LR LR
comp=Z,250nm,18.0s,MS4.6
HAU Haudompre 80.86 355 *e*P **P 20 28 55.6 -3.6**
HAU pmax pmax
comp=Z,21nm,1.5s,mb4.8
HAU MLR MLR
comp=Z,250nm,18.0s,MS4.6
MLR Muntele Rosu 80.87 341 ⇑P **P 20 29 01.2 +1.9**
HINF Hinteralfeld 81.02 355 *e*P **P 20 28 57.1 -3.0**
VOIR 81.02 342 ⇓P **P 20 29 01.6 +1.1**
QUIF Quistinic 81.10 2 *e*P **P 20 28 56.9 -3.6**
WRA Warramunga Arr 81.23 222 P **P 20 28 58.6 -2.6**
comp=Z,6.2nm,1.1s,mb4.5,baz=36,slow=6.0,SNR=15
PERS Pernice 81.48 349 *e*P **P 20 29 02.8 +0.3**
BZS Buzias 81.55 344 ⇓P **P 20 29 03.4 +0.5**
GROS Grobnik 81.61 349 *e*P **P 20 29 03.8 +0.7**
LOR Lormes 81.70 357 *e*P **P 20 29 00.4 -3.3**
comp=Z,64nm,1.7s,mb5.0
LOR *e*R
comp=Z,238nm,19.5s
LOR Lormes 81.70 357 *e*P **P 20 29 00.4 -3.3**
comp=Z,32nm,1.7s,mb5.0
LOR LR LR
comp=Z,240nm,19.5s,MS4.6
LOR Lormes 81.70 357 *e*P **P 20 29 00.4 -3.3**
LOR pmax pmax
comp=Z,32nm,1.7s,mb5.0
LOR MLR MLR
comp=Z,240nm,19.5s,MS4.6
SSF Saint Saulge 81.92 357 *e*P **P 20 29 01.7 -3.1**
comp=Z,48nm,1.5s,mb4.9
SSF Saint Saulge 81.92 357 *e*P **P 20 29 01.7 -3.1**
comp=Z,24nm,1.5s,mb4.9
SSF Saint Saulge 81.92 357 *e*P **P 20 29 01.7 -3.1**
SSF pmax pmax
comp=Z,24nm,1.5s,mb4.9
AVF Avril sur Loir 82.20 357 *e*P **P 20 29 02.5 -3.8**
comp=Z,81nm,1.7s,mb5.1
AVF Avril sur Loir 82.20 357 *e*P **P 20 29 02.5 -3.8**
comp=Z,40nm,1.7s,mb5.1
AVF Avril sur Loir 82.20 357 *e*P **P 20 29 02.5 -3.8**
AVF pmax pmax
comp=Z,40nm,1.7s,mb5.1
CABF La Chapelle 82.27 355 *e*P **P 20 29 03.7 -2.9**
SMF Signal de Mont 82.33 357 *e*P **P 20 29 03.7 -3.3**
comp=Z,70nm,1.5s,mb5.1
SMF Signal de Mont 82.33 357 *e*P **P 20 29 03.7 -3.3**
comp=Z,35nm,1.5s,mb5.1
SMF Signal de Mont 82.33 357 *e*P **P 20 29 03.7 -3.3**
SMF pmax pmax
comp=Z,35nm,1.5s,mb5.1
BGF Bois d'Agland 82.44 358 *e*P **P 20 29 03.4 -4.2**
comp=Z,31nm,1.2s,mb4.8
BGF Bois d'Agland 82.44 358 *e*P **P 20 29 03.4 -4.2**
comp=Z,16nm,1.2s,mb4.8
BGF Bois d'Agland 82.44 358 *e*P **P 20 29 03.4 -4.2**
BGF pmax pmax
comp=Z,16nm,1.2s,mb4.8
TCF Toulx Ste Croi 82.73 358 *e*P **P 20 29 06.0 -3.0**
comp=Z,46nm,1.5s,mb5.0
TCF Toulx Ste Croi 82.73 358 *e*P **P 20 29 06.0 -3.0**
comp=Z,23nm,1.5s,mb5.0
TCF Toulx Ste Croi 82.73 358 *e*P **P 20 29 06.0 -3.0**
TCF pmax pmax
comp=Z,23nm,1.5s,mb5.0
HYB Hyderabad 83.19 289 ⇑*i*P **P 20 29 11.0 -0.4**
HYB Hyderabad 83.19 289 ⇑*e*P **P 20 29 11.0 -0.4**
LPG La Plagne 83.34 355 *e*P **P 20 29 09.6 -2.6**
comp=Z,43nm,1.5s,mb4.9
LPG La Plagne 83.34 355 *e*P **P 20 29 09.6 -2.6**
comp=Z,22nm,1.5s,mb5.0
LPG La Plagne 83.34 355 *e*P **P 20 29 09.6 -2.6**
LPG pmax pmax
comp=Z,22nm,1.5s,mb5.0
VIVF Saint-Julien-l 84.08 356 *e*P **P 20 29 13.2 -2.8**
LFF La Frestale 84.10 359 *e*P **P 20 29 11.7 -4.4**
VTS Vitosha 84.20 343 ⇑P **P 20 29 13.9 -2.6**
RKT Rikitea 84.25 139 *e*LR LR 20 55 12.2
comp=Z,352nm,24.8s,baz=334
MALT Malatya 84.42 330 ⇓P **P 20 29 19.2 +1.5**
BR131 Keskin Array S 84.52 334 *e*P **P 20 29 18.2 0.0**
comp=Z,2.6nm,0.6s,mb4.5
BRTR Keskin Array B 84.52 334 P **P 20 29 18.9 +0.7**
comp=Z,3.2nm,0.7s,mb4.5,baz=41,slow=2.5,SNR=19
ASAR Alice Springs 84.72 221 P **P 20 29 17.2 -2.0**
comp=Z,10nm,1.3s,mb4.8,baz=39,slow=4.1,SNR=14
SBF Sospel 84.93 354 *e*P **P 20 29 16.7 -3.6**
comp=Z,35nm,1.1s,mb5.1
SBF Sospel 84.93 354 *e*P **P 20 29 16.7 -3.6**
comp=Z,17nm,1.1s,mb5.1
SBF Sospel 84.93 354 *e*P **P 20 29 16.7 -3.6**
SBF pmax pmax
comp=Z,17nm,1.1s,mb5.1
LMR La Mourre 85.51 355 *e*P **P 20 29 20.1 -3.1**
comp=Z,103nm,1.8s,mb5.5
LMR La Mourre 85.51 355 *e*P **P 20 29 20.1 -3.1**
comp=Z,51nm,1.8s,mb5.5
LMR La Mourre 85.51 355 *e*P **P 20 29 20.1 -3.1**
LMR pmax pmax
comp=Z,51nm,1.8s,mb5.5
MIB Mutribah 88.88 320 *e*P **P 20 29 39.5 0.0**
MIB AMb AMB 20 29 40.5
comp=Z,47nm,0.9s,mb5.8
STKA Stephens Creek 89.30 211 LR LR 21 07 55.5
comp=Z,360nm,20.3s,MS4.8,baz=26,slow=34
NAY Al-Naaiem 89.41 320 *e*P **P 20 29 41.8 -0.2**
NAY AMb AMB 20 29 42.8
comp=Z,25nm,1.1s,mb5.5
RDF Al-Radifah 89.57 319 *e*P **P 20 29 42.8 +0.1**
RDF AMb AMB 20 29 43.8
comp=Z,59nm,1.0s,mb5.9
CPD Cerro la Pandu 90.53 60 *e*P **P 20 29 48.1 +0.9**
ROSC El Rosal 96.27 74 LR LR 21 17 38.3
comp=Z,56nm,18.0s,MS4.1,baz=355,slow=38
TORD Torodi Ar. Bea 115.76 358 PKP PKPdf 20 35 26.9 -0.5
comp=Z,0.4nm,0.5s,baz=354,slow=1.9,SNR=7.5
DBIC Dimbokro 122.11 5 PKP PKPdf 20 35 38.5 -1.1
comp=Z,1.1nm,0.5s,baz=63,slow=4.5,SNR=4.7
TSUM Tsumeb 144.88 329 *e*PKP PKPdf 20 36 21.6 -0.4
LBTB Lobatse 146.97 313 *e*PKPbc PKPbc 20 36 27.9 +0.3
BOSA Boshof 150.17 310 PKPbc PKPbc 20 36 36.0 +0.1
comp=Z,6.7nm,0.8s,baz=3.6,slow=6.9,SNR=15

IDC 26 20:20:12.9±9.2,257S×12914E,h0km,mb3.6/2,mb1 3.7/3, mb1mx3.4/15,mbtmp3.5/3,ML3.3/1,Error ellipse: s-maj=170.6km s-min=124.1km az=90.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.00**	**164**	P	Pn	20 24 23.4	-1.2
	0.1nm,0.3s,baz=346,slow=12,SNR=16						
ASAR	**Alice Springs**	**21.48**	**168**	P	P	20 25 05.2	+2.2
	0.9nm,0.7s,baz=352,slow=11,SNR=14						
STKA	**Stephens Creek**	**31.43**	**159**	P	P	20 26 35.0	-0.8
	1.7nm,1.0s,baz=319,slow=11,SNR=3.7						

BJI 26 20:21:10.6,3412N×10459E,h20km,ML3.5,Ms3.8, Msz3.6,Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.06**	**343**	PG	Pn	20 21 46.5	+2.5
LZH				SG	Sn	20 22 11.5	+2.5
LZH				Smax			
	comp=N,850nm,0.3s						
LZH				Smax			
	comp=E,1μm,0.4s						
LZH				LR	LR		
	comp=N,836nm,5.4s						
LZH				LR	LR		
	comp=Z,1μm,6.9s						
CD2	**Chengdu**	**3.28**	**193**	PG	Pn	20 22 08.3	+7.5
CD2				SG	Sn	20 22 51.8	+13
CD2				Smax			
	comp=N,116nm,1.0s						
CD2				Smax			
	comp=E,55nm,0.8s						
GTA	**Gaotai**	**6.52**	**325**	P	Pn	20 22 46.0	+0.6
GTA				PG	Pn	20 23 07.5	+22
GTA				S	Sn	20 23 59.0	-0.2
GTA				SG	Sn	20 24 35.0	+36
GTA				Smax			
	comp=N,7.0nm,1.0s						
GTA				Smax			
	comp=E,7.0nm,0.8s						
GYA	**Guiyang**	**7.84**	**166**	P	Pn	20 23 04.0	+0.5
GYA				S	Sn	20 24 28.3	-3.4
GYA				LR	LR		
	comp=N,280nm,5.1s						
GYA				LR	LR		
	comp=E,270nm,5.1s						
GYA				LR	LR		
	comp=Z,290nm,5.2s						
NJ2	**Nanjing**	**12.14**	**96**	*e*P	Pn	20 24 05.5	+3.1

*IDC **26** 20:42:58.9±3.3,484S×10238E,h0km,mb3.9/5,mb1 4.0/5, mb1mx3.7/16,mbtmp3.9/5,Error ellipse: s-maj=141.4km s-min=20.0km az=57.0*
*ISCJB **26** 20:43:00.5±1.3,50S±03×102.1E±04,h33km,mb4.1/10, Error ellipse: s-maj=66.6km s-min=11.6km az=108.7*
*NEIC **26** 20:43:03.7±0.9,487S×10231E,h35km,mb4.2/5,Error ellipse: s-maj=48.6km s-min=7.6km az=54.0*
ISC 26 20:43:03.0±1.2,51S±03×1020E±04,h35km,n14,σ0°62/14, mb4.1/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**31.14**	**155**	*e*P	**P**	**20 49 15.0**	**-3.2**
WRA	**Warramunga Arr**	**34.73**	**118**	P	**P**	**20 49 49.2**	**-0.4**
	0.5nm,0.5s,mb3.7,baz=290,slow=9.5,SNR=18						
WRAB	**Tennant Creek**	**34.73**	**118**	*e*P	**P**	**20 49 49.4**	**-0.2**
	1.6nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**35.84**	**124**	P	**P**	**20 49 60.0**	**+0.8**
	0.4nm,0.4s,mb3.7,baz=299,slow=7.9,SNR=15						
LSA	**Lhasa**	**36.11**	**344**	*e*P	**P**	**20 50 01.5**	**0.0**
	0.9nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**45.61**	**131**	P	**P**	**20 51 19.8**	**+0.1**
	1.5nm,0.6s,mb4.1,baz=306,slow=6.2,SNR=6.8						
SONM	**Songino Array**	**52.81**	**4**	P	**P**	**20 52 14.3**	**-0.5**
	2.4nm,0.6s,mb4.3,baz=185,slow=8.9,SNR=35						
MKAR	**Makanchi Array**	**54.52**	**343**	P	**P**	**20 52 27.7**	**+0.4**
	0.8nm,0.4s,mb4.1,baz=148,slow=8.7,SNR=28						
MKAR	**Makanchi Array**	**54.52**	**343**	P	**P**	**20 52 27.7**	**+0.4**
TAU	**Tasmania Unive**	**54.94**	**140**	*e*P	**P**	**20 52 31.1**	**+0.8**
KURK	**Kurchatov**	**59.11**	**343**	*e*P	**P**	**20 52 59.7**	**-0.2**
	1.3nm,0.3s,mb4.4						
BRVK	**Borovoye**	**63.81**	**339**	P	**P**	**20 53 31.6**	**-0.1**
ZRNK	**Zerenda**	**64.18**	**339**	*e*P	**P**	**20 53 34.1**	**+0.1**
	0.3nm,0.3s,mb3.8						
CHKZ	**Chkalovo**	**64.20**	**340**	*e*P	**P**	**20 53 34.4**	**+0.2**
	0.9nm,0.4s,mb4.2						

*INMG **26** 20:45:13.7±1.0,3694N×495W,h7km±2km,ML2.5,Error ellipse: s-maj=1.7km s-min=1.5km az=17.0*
*CSEM **26** 20:45:13.7±0.1,3695N×491W,h2km,ML2.9/10,Error ellipse: s-maj=1.7km s-min=1.2km az=6.0*
*SFS **26** 20:45:14.0,3694N×498W,h0km,ML2.3*
MDD 26 20:45:13.7±0.3,3693N×495W,h11km,mbLg2.5/23,1C, Error ellipse: s-maj=2.9km s-min=2.2km az=177.0, PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.37**	**267**	P	Pg	20 45 21.1	+0.2
LIJA				S	Sg	20 45 30.2	+4.4
LIJA	**Lijar**	**0.37**	**267**	*i* P	Pg	20 45 21.1	+0.1
EMIJ	**Mijas**	**0.39**	**159**	Pg	Pg	20 45 20.7	-0.7
	112nm,0.3s,SNR=4.0						
EMIJ				Lg		20 45 26.4	
	266nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**0.39**	**159**	Pg	Pg	20 45 20.7	-0.7
	112nm,0.3s,SNR=4.0						
EMIJ				Lg		20 45 26.5	
	266nm,0.3s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.45**	**112**	Lg		20 45 26.5	
	184nm,0.2s,SNR=4.0						
EMAL	**Malaga-Limoner**	**0.45**	**112**	Lg		20 45 26.5	
	184nm,0.2s,SNR=4.0						
REAL	**Reales**	**0.49**	**205**	⇑P	Pg	20 45 22.8	-0.5
REAL				S	Sg	20 45 32.5	+2.7
REAL	**Reales**	**0.49**	**205**	*i* P	Pg	20 45 22.8	-0.5
EJIF	**Jimena Fronter**	**0.63**	**222**	Lg		20 45 34.1	
	27nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.67**	**71**	Lg		20 45 36.5	
	31nm,0.4s,SNR=7.9						
ESPR	**Espera**	**0.73**	**266**	Lg		20 45 37.7	
	68nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**0.83**	**41**	Pg	Pg	20 45 28.9	-0.9
	4.4nm,0.2s,SNR=7.9						
ELUQ				Lg		20 45 40.2	
	59nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**0.83**	**41**	Pg	Pg	20 45 28.9	-0.9
	4.4nm,0.2s,SNR=7.9						
ELUQ				Lg		20 45 32.0	
	32nm,0.2s,SNR=7.9						
MOMI	**Momias**	**0.86**	**226**	*e*P	Pg	20 45 32.8	+2.5
ERON	**Agron**	**0.92**	**84**	Pg	Pg	20 45 30.2	-1.2
	2.3nm,0.2s,SNR=4.0						
ERON				Lg		20 45 43.1	
	14nm,0.2s,SNR=7.9						
ERON	**Agron**	**0.92**	**84**	Pg	Pg	20 45 30.2	-1.2
	2.3nm,0.2s,SNR=4.0						
SCRT	**Cerro San Cris**	**1.03**	**254**	*e*P	Pg	20 45 35.1	+1.6
ECOG	**Cogollos-Vega**	**1.16**	**72**	Pg	Pg	20 45 35.4	-0.6
	12nm,0.2s,SNR=7.9						
ECOG				Lg		20 45 51.9	
	22nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.16**	**72**	Pg	Pg	20 45 35.4	-0.6
	12nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.24**	**77**	Pg	Pg	20 45 36.6	-0.9
	10.0nm,0.2s,SNR=7.9						
EQUE				Lg		20 45 53.1	
	22nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.27**	**13**	Pg	Pg	20 45 35.7	-2.5
	13nm,0.1s,SNR=7.9						
EADA				Lg		20 45 52.7	
	54nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.27**	**13**	Pg	Pg	20 45 35.7	-2.5
	13nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.61**	**302**	Pn	Pn	20 45 39.7	-2.4
	6.5nm,0.3s,SNR=16						
EMIN				Pg	Pg	20 45 43.4	-1.2
	3.6nm,0.1s,SNR=7.9						
EMIN				Lg		20 46 03.3	
	14nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.61**	**302**	Pn	Pn	20 45 39.7	-2.4
	6.5nm,0.3s,SNR=16						
EMIN	**Mina Concepcio**	**1.61**	**302**	Pg	Pg	20 45 43.4	-1.2
	3.6nm,0.1s,SNR=7.9						
EBER	**Berja**	**1.65**	**90**	Pg	Pg	20 45 43.7	-1.7
	10nm,0.4s,SNR=7.9						
EBER				Lg		20 46 07.1	
	35nm,0.5s,SNR=7.9						
EBER	**Berja**	**1.65**	**90**	Pg	Pg	20 45 43.7	-1.7
	10nm,0.4s,SNR=7.9						
EQES	**Quesada**	**1.73**	**59**	Pg	Pg	20 45 45.1	-1.8
	4.3nm,0.2s,SNR=7.9						
EQES				Sn	Sn	20 46 03.9	-2.0
	4.5nm,0.2s,SNR=7.9						
EQES				Lg		20 46 08.6	
	43nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.73**	**59**	Pg	Pg	20 45 45.1	-1.8
	4.3nm,0.2s,SNR=7.9						
EQES				Sn	Sn	20 46 03.9	-2.0
	4.5nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.83**	**122**	Pn	Pn	20 45 44.3	-0.8
	5.9nm,0.2s,SNR=7.9						
EALB				Sn	Sn	20 46 07.7	-0.7
	6.6nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.83**	**122**	Pn	Pn	20 45 44.3	-0.8
	5.9nm,0.2s,SNR=7.9						
EALB				Sn	Sn	20 46 07.7	-0.6
	6.6nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.08**	**64**	Pg	Pg	20 45 50.6	-2.9
	3.9nm,0.2s,SNR=7.9						
EHUE				Sn	Sn	20 46 11.6	-2.7
	1.5nm,0.2s,SNR=7.9						
EHUE				Lg		20 46 19.7	
	4.1nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.08**	**64**	Pg	Pg	20 45 50.6	-2.9
	3.9nm,0.2s,SNR=7.9						
EHUE				Sn	Sn	20 46 11.6	-2.7
	1.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.11**	**287**	Pn	Pn	20 45 46.9	-2.1
	1.9nm,0.3s,SNR=7.9						
EGRO				Lg		20 46 17.6	
	12nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.11**	**287**	Pn	Pn	20 45 46.9	-2.1
	1.9nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.20**	**88**	Pg	Pg	20 45 54.3	-1.5
	1.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.45**	**319**	Pn	Pn	20 45 51.3	-2.3
	2.2nm,0.1s,SNR=7.9						
EBAD				Pg	Pg	20 45 56.9	-3.8
	2.2nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	20 46 20.8	-2.8
	10.0nm,0.2s,SNR=7.9						
EBAD				Lg		20 46 29.0	
	12nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.45**	**319**	Pn	Pn	20 45 51.3	-2.4
	2.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.45**	**319**	Pg	Pg	20 45 56.9	-3.8
	2.2nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	20 46 20.8	-2.8
	10.0nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**2.57**	**296**	*e*Pn	Pn	20 45 54.7	-0.6
PBEJ				*e*Sn	Sn	20 46 25.4	-1.1
PBEJ				*e*Sg	Sg	20 46 36.3	+0.1
PBEJ							
	8.6nm,0.3s						
PBEJ	**Beja**	**2.57**	**296**	*e*Pn	Pn	20 45 54.7	-0.6
PBEJ				*e*Sn	Sn	20 46 25.4	-1.1
PBEJ				*e*Sg	Sg	20 46 36.3	+0.1
	8.6nm,0.3s						
EVIA	**Vianos**	**2.58**	**48**	Pn	Pn	20 45 55.0	-0.5
	SNR=7.9						
EVIA				Pg	Pg	20 46 00.0	-3.2
	9.8nm,0.4s,SNR=4.8						
EVIA	**Vianos**	**2.58**	**48**	Pg	Pg	20 46 00.0	-3.2
	9.8nm,0.4s,SNR=4.8						
ESDC	**Sonseca Array**	**2.85**	**15**	Pn	Pn	20 45 58.2	-1.0
	0.2nm,0.2s,baz=196,slow=12,SNR=7.9						
ESDC				Pg	Pg	20 46 05.3	-3.1
	0.1nm,0.2s,baz=195,slow=13,SNR=9.6						
ESDC				Lg		20 46 39.8	
	13nm,0.4s,baz=195,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**2.85**	**15**	Pn	Pn	20 45 58.2	-0.9
	0.2nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.85**	**15**	Pg	Pg	20 46 05.3	-3.0
	0.1nm,0.2s,SNR=9.6						
PTEO	**Sao Teotonio**	**3.08**	**283**	*e*Sn	Sn	20 46 37.4	-1.7
PTEO				*e*Sg	Sg	20 46 49.9	-2.6
PTEO							
	19nm,0.8s						
PTEO	**Sao Teotonio**	**3.08**	**283**	*e*Sn	Sn	20 46 37.4	-1.7
PTEO				*e*Sg	Sg	20 46 49.9	-2.6
	19nm,0.8s						
EMUR	**La Murta**	**3.09**	**72**	Pn	Pn	20 46 02.0	-0.5
	1.2nm,0.3s,SNR=7.9						
EMUR				Pg	Pg	20 46 10.4	-2.6
	2.6nm,0.6s,SNR=7.9						
EMUR				Lg		20 46 51.4	
	7.6nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**3.09**	**72**	Pn	Pn	20 46 02.0	-0.5
	1.2nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.09**	**72**	Pg	Pg	20 46 10.4	-2.5
	2.6nm,0.6s,SNR=7.9						
MOE	**Montemor**	**3.13**	**302**	*e*Sn	Sn	20 46 38.6	-1.8
MOE				*e*Sg	Sg	20 46 52.8	-1.5
ETOB	**Tobarra**	**3.19**	**57**	Pn	Pn	20 46 02.5	-1.3
	SNR=7.9						
ETOB				Pg	Pg	20 46 12.4	-2.5
	0.6nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	20 46 40.4	-1.5
	1.6nm,0.2s,SNR=7.9						
ETOB				Lg		20 46 53.9	
	13nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.19**	**57**	Pn	Pn	20 46 02.5	-1.4
	SNR=7.9						
ETOB	**Tobarra**	**3.19**	**57**	Pg	Pg	20 46 12.4	-2.5
	0.6nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	20 46 40.4	-1.5
	1.6nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.52**	**326**	*e*Pn	Pn	20 46 07.5	-0.9
PCBR				*e*Sn	Sn	20 46 45.4	-4.7
PCBR				*e*Sg	Sg	20 47 05.2	-1.6
PCBR							
	6.7nm,0.5s						
PCBR	**Castelo Branco**	**3.52**	**326**	*e*Pn	Pn	20 46 07.5	-0.9
PCBR				*e*Sn	Sn	20 46 45.4	-4.7
PCBR				*e*Sg	Sg	20 47 05.2	-1.6
	6.7nm,0.5s						
GUD	**Guadarrama**	**3.76**	**9**	Pn	Pn	20 46 10.7	-1.0
	SNR=7.9						
GUD				Lg		20 47 11.0	
	5.0nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.83**	**316**	*e*Pn	Pn	20 46 11.6	-1.0
PTOM				*e*Sn	Sn	20 46 55.3	-2.3
PTOM							
	10nm,0.5s						
PTOM	**Tomar**	**3.83**	**316**	*e*Pn	Pn	20 46 11.6	-1.0
PTOM				*e*Sn	Sn	20 46 55.3	-2.3
	10nm,0.5s						
MTE	**Manteigas**	**4.02**	**330**	*e*Sg	Sg	20 47 21.7	-1.1
MTE							
	15nm,0.7s						
MTE	**Manteigas**	**4.02**	**330**	Lg		20 47 21.7	
	7.7nm,0.7s						
ECHE	**Chera**	**4.11**	**48**	Pn	Pn	20 46 15.3	-1.1
	SNR=7.9						
ECHE				Lg		20 47 22.9	
	3.6nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.14**	**63**	Pn	Pn	20 46 16.6	-0.3
	SNR=4.0						
EBEN	**Beniarda**	**4.14**	**63**	Pn	Pn	20 46 16.6	-0.3
	SNR=4.0						
PVRL	**Vila Real**	**4.85**	**334**	*e*Pn	Pn	20 46 26.1	-0.5
EMOS	**Mosqueruela**	**4.90**	**44**	Sn	Sn	20 47 21.4	-2.7
	0.5nm,0.3s,SNR=7.9						
EMOS				Lg		20 47 47.1	
	7.0nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**4.90**	**44**	Sn	Sn	20 47 21.4	-2.7
	0.5nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**5.07**	**345**	*e*Pn	Pn	20 46 29.3	-0.3
PBRG				*e*Sn	Sn	20 47 23.4	-4.7
ECAL	**Calabor**	**5.20**	**345**	Lg		20 47 58.9	
	9.5nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.75**	**44**	Lg		20 48 14.5	
	1.0nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**5.91**	**35**	Lg		20 48 19.9	
	11nm,0.3s,SNR=7.9						

*IDC **26**

Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=25.0km s-min=15.8km az=74.0
*MOS **26** 20:57:59.8±1.0, 2421N×12303E, h33km, mb4.2/14, Error ellipse: s-maj=25.4km s-min=10.2km az=115.6*
*ISCJB **26** 20:57:59.5±0.3, 2400N±004×12287E±002, h28km, mb4.2/26, MS3.8/2, Error ellipse: s-maj=6.4km s-min=3.0km az=161.3*
*BJI **26** 20:58:00.2, 2428N×123.12E, h15km, mB4.7, mb4.2, ML3.9, Ms3.9, Msz3.8*
*NIED **26** 20:58:00, 2400N×12290E, h17km, Mw4.1 Best double couple: Mo1.85000×10^15 NP1:φs=341.00000°, δ63.00000°, λ-112.00000°. NP2:φs=203.00000°, δ34.00000°, λ-53.00000°.*
*JMA **26** 20:58:01.6, 2400N×12295E, h28km±1km, M4.4*
*NEIC **26** 20:58:02.8±0.9, 2408N×12295E, h45km±8km, mb4.1/9, Error ellipse: s-maj=9.0km s-min=7.4km az=50.0*

ISC 26 20:58:01.4±0.3, 2402N±004×12293E±002, h28km, n76, σ1§19/87, mb4.2/26, MS3.8/2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**10**	P	**Pb**	**20 58 11.1**	**+0.2**
YOJ				S	**Sb**	**20 58 17.8**	**+0.4**
IRIF	**Iriomote-Funau**	**0.80**	**66**	P	**Pb**	**20 58 16.3**	**-0.4**
IRIF				S	**Sb**	**20 58 27.0**	**-0.1**
HATJ	**Hateruma jima**	**0.80**	**87**	P	**Pb**	**20 58 16.2**	**-0.5**
HATJ				eS	**Sb**	**20 58 26.4**	**-0.8**
JKRS	**Kuro-shima**	**1.01**	**77**	P	**Pn**	**20 58 19.6**	**-0.1**
JKRS				eS	**Sn**	**20 58 32.5**	**-0.5**
JIJ	**Ishigaki jima**	**1.16**	**72**	P	**Pn**	**20 58 21.7**	**0.0**
JIJ				S	**Sn**	**20 58 36.9**	**+0.2**
NACB	**Ninganchiao**	**1.23**	**278**	eP	**Pn**	**20 58 22.8**	**+0.1**
NACB				eS	**Sn**	**20 58 33.0**	**-5.4**
YHNB	**Yeheng**	**1.56**	**295**	eP	**Pn**	**20 58 28.7**	**+1.5**
YHNB				eS	**Sn**	**20 58 49.2**	**+2.7**
TATO	**Taipei**	**1.62**	**306**	ePn	**Pn**	**20 58 29.4**	**+1.3**
TATO				eS	**Sn**	**20 58 53.9**	**+5.8**
JTJ	**Tarama**	**1.73**	**69**	P	**Pn**	**20 58 30.5**	**+0.9**
JTJ				eS	**Sn**	**20 58 51.8**	**+1.0**
JMJ	**Miyako jima 2**	**2.30**	**69**	P	**Pn**	**20 58 38.4**	**+1.0**
JMJ				eS	**Sn**	**20 59 06.7**	**+2.0**
JOGS	**Gusukube**	**2.38**	**71**	P	**Pn**	**20 58 40.2**	**+1.7**
JOGS				eS	**Sn**	**20 59 07.7**	**+1.0**
QZH	**Quanzhou**	**4.06**	**284**	P	**Pn**	**20 59 02.3**	**+0.7**
QZH				Smax			
	comp=N,270nm,0.9s						
QZH				Smax			
	comp=E,210nm,0.9s						
JKE	**Kume jima 2**	**4.18**	**56**	P	**Pn**	**20 59 03.7**	**+0.4**
JKE				eS	**Sn**	**20 59 50.7**	**-0.6**
JAGN	**Aguni-jima**	**4.67**	**56**	P	**Pn**	**20 59 11.8**	**+1.8**
JOW	**Kunigami**	**5.59**	**59**	Pn	**Pn**	**20 59 22.1**	**-0.6**
	comp=E,2.8nm,0.3s,baz=0.0,slow=5.1,SNR=6.5						
JOW				Sn	**Sn**	**21 00 26.5**	**+0.6**
	comp=E,2.7nm,0.3s,baz=137,slow=19,SNR=2.2						
JTK	**Tokunoshima**	**6.59**	**54**	P	**Pn**	**20 59 34.8**	**-1.6**
INCN	**Inchon**	**13.79**	**12**	eP	**Pn**	**21 01 23.1**	**+8.1**
	comp=E,21nm,0.7s						
KS15	**Wonju Array Si**	**14.04**	**16**	ePn	**Pn**	**21 01 25.7**	**+7.3**
JHJ	**Hachijo jima 2**	**17.34**	**55**	LR	LR	21 07 57.7	
	comp=E,110nm,20.6s,baz=203,slow=35						
CD2	**Chengdu**	**18.33**	**296**	P	**Pn**	**21 02 16.0**	**+2.5**
CN2	**Changchun**	**19.84**	**5**	eP	**Pn**	**21 02 31.5**	**-0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GTA	**Gaotai**	**24.84**	**314**	eP	**P**	**21 03 21.5**	**+0.2**
GTA				PP		21 04 00.0	
GTA				PCP	PcP	21 06 57.8	+0.9
GTA				S	**S**	**21 07 37.0**	**-5.4**
GTA				SS		21 08 38.5	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.8						
GTA				AMB	AMB		
	comp=Z,137nm,5.3s						
GTA				LR	LR		
	comp=N,135nm,14.1s,MS3.8						
GTA				LR	LR		
	comp=E,156nm,15.2s,MS3.8						
GTA				LR	LR		
	comp=Z,205nm,14.4s,MS3.8						
KLR	**Kul'dur**	**26.11**	**13**	eP	**P**	**21 03 25.8**	**-7.0**
ULN	**Ulaanbaatar**	**26.94**	**336**	eP	**P**	**21 03 38.0**	**-2.3**
	comp=Z,1.1nm,0.5s,mb3.6						
ULN	**Ulaanbaatar**	**26.94**	**336**	eP	**P**	**21 03 38.0**	**-2.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
SONM	**Songino Array**	**27.17**	**335**	P	**P**	**21 03 41.2**	**-1.2**
	comp=Z,2.2nm,0.9s,mb3.7,baz=150,slow=8.9,SNR=16						
SONM	**Songino Array**	**27.17**	**335**	P	**P**	**21 03 41.2**	**-1.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LSA	**Lhasa**	**28.86**	**288**	eP	**P**	**21 03 59.9**	**+2.5**
	comp=Z,5.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**28.86**	**288**	eP	**P**	**21 03 59.9**	**+2.5**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
JIRN	**Jiri**	**33.19**	**284**	eP	**P**	**21 04 36.9**	**+1.3**
	comp=Z,9.0nm,0.8s,mb4.8						
GUN	**Gumba**	**33.45**	**285**	eP	**P**	**21 04 37.5**	**-0.4**
KKN	**Kakani**	**33.99**	**285**	eP	**P**	**21 04 43.5**	**+1.0**
	comp=Z,17nm,1.0s,mb4.9						
DMN	**Daman**	**34.15**	**284**	eP	**P**	**21 04 44.9**	**+0.9**
	comp=Z,7.5nm,0.7s,mb4.7						
GKN	**Gorkha**	**34.55**	**285**	eP	**P**	**21 04 48.0**	**+0.6**
	comp=Z,8.3nm,0.7s,mb4.8						
KOLN	**Koldanda**	**35.48**	**285**	eP	**P**	**21 04 56.2**	**+0.8**
	comp=Z,9.5nm,0.9s,mb4.7						
YAK	**Yakutsk**	**38.28**	**5**	eP	**P**	**21 05 18.6**	**-0.7**
MKAR	**Makanchi Array**	**39.57**	**315**	P	**P**	**21 05 29.5**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.6,baz=112,slow=9.6,SNR=9.5						
MKAR	**Makanchi Array**	**39.57**	**315**	P	**P**	**21 05 29.5**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**43.25**	**320**	eP	**P**	**21 05 58.9**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.6						
KURK	**Kurchatov**	**43.25**	**320**	eP	**P**	**21 05 58.9**	**-1.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
MBWA	**Marble Bar**	**45.01**	**184**	eP	**P**	**21 06 14.3**	**0.0**
WRAB	**Tennant Creek**	**45.08**	**165**	eP	**P**	**21 06 15.6**	**+0.7**
	comp=Z,7.4nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**45.08**	**165**	eP	**P**	**21 06 15.6**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**45.08**	**165**	P	**P**	**21 06 15.7**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.2,baz=346,slow=8.8,SNR=22						
WRA	**Warramunga Arr**	**45.08**	**165**	P	**P**	**21 06 15.7**	**+0.8**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WB2	**Warramunga Arr**	**45.09**	**165**	eP	**P**	**21 06 15.5**	**+0.6**
TIXI	**Tiksi**	**47.78**	**3**	eP	**P**	**21 06 32.6**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,76nm,16.0s,MS3.8						
ASAR	**Alice Springs**	**48.58**	**167**	P	**P**	**21 06 43.5**	**+1.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=352,slow=7.0,SNR=28						
ASAR	**Alice Springs**	**48.58**	**167**	P	**P**	**21 06 43.6**	**+1.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**48.82**	**320**	PcP	PcP	21 08 07.7	-0.8
	comp=Z,0.8nm,0.5s,baz=128,slow=3.0,SNR=5.6						
CHKZ	**Chkalovo**	**48.86**	**321**	eP	**P**	**21 06 42.4**	**-2.0**
	comp=Z,0.8nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**48.86**	**321**	eP	**P**	**21 06 42.4**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**48.89**	**320**	P	**P**	**21 06 43.7**	**-1.0**
ZRNK	**Zerenda**	**49.61**	**320**	eP	**P**	**21 06 48.2**	**-1.9**
	comp=Z,1.3nm,0.7s,mb4.1						
ZRNK	**Zerenda**	**49.61**	**320**	eP	**P**	**21 06 48.2**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
NWAO	**Narrogin (SRO)**	**56.88**	**186**	eP	**P**	**21 07 41.6**	**-2.0**
STKA	**Stephens Creek**	**58.37**	**161**	eP	**P**	**21 07 51.9**	**-2.2**
	comp=Z,4.1nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**58.37**	**161**	P	**P**	**21 07 52.4**	**-1.7**
	comp=Z,4.2nm,0.7s,mb4.5,baz=353,slow=7.4,SNR=6.4						
ILAR	**Eielson Array**	**68.63**	**27**	P	**P**	**21 09 00.4**	**-1.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=269,slow=5.1,SNR=14						
JOF	**Joensuu**	**69.64**	**331**	ep	**P**	**21 09 06.7**	**-1.4**
	comp=Z,3.0nm,0.9s,mb4.2						
KEV	**Kevo**	**69.72**	**338**	ep	pP	21 09 19.5	+2.0
	comp=Z,24nm,1.5s						
KAF	**Kangasniemi**	**72.09**	**331**	ep	**P**	**21 09 20.4**	**-2.6**
FINES	**FINESS Array B**	**72.39**	**330**	P	**P**	**21 09 23.4**	**-1.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=60,slow=6.2,SNR=10						
FINES	**FINESS Array B**	**72.39**	**330**	P	**P**	**21 09 23.4**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DLBC	**Dease Lake**	**78.28**	**31**	P	**P**	**21 09 59.6**	**+1.0**
	comp=Z,3.8nm,0.9s,mb4.3,baz=295,slow=9.3						
NB2	**NORSAR Subarra**	**79.11**	**333**	P	**P**	**21 10 01.2**	**-2.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=58,slow=5.6						
NB2	**NORSAR Subarra**	**79.11**	**333**	P	**P**	**21 10 01.2**	**-2.1**
	comp=Z,0.7nm,0.6s,mb3.8						
NB2	**NORSAR Subarra**	**79.11**	**333**	P	**P**	**21 10 01.2**	**-2.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**79.11**	**333**	P	**P**	**21 10 01.5**	**-1.8**
	comp=Z,1.7nm,0.9s,mb4.0,baz=58,slow=5.7,SNR=4.3						
NOA	**NORSAR Array B**	**79.11**	**333**	P	**P**	**21 10 01.5**	**-1.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKW3	**Yellowknife Ar**	**82.45**	**23**	eP	**P**	**21 10 20.5**	**-0.7**
YKA	**Yellowknife Ar**	**82.50**	**23**	P	**P**	**21 10 20.6**	**-0.7**
	comp=Z,4.4nm,0.7s,mb4.6,baz=311,slow=5.1,SNR=90						
GERES	**GERESS Array B**	**83.98**	**321**	P	**P**	**21 10 28.4**	**-0.6**
	comp=Z,0.8nm,0.7s,mb4.0,baz=39,slow=5.1,SNR=7.6						
GERES	**GERESS Array B**	**83.98**	**321**	P	**P**	**21 10 28.4**	**-0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**95.46**	**44**	P	**P**	**21 11 24.0**	**+0.6**
	comp=Z,0.4nm,0.6s,mb4.0,baz=294,slow=6.8,SNR=2.8						
NVAR	**Mina Array Bea**	**95.46**	**44**	P	**P**	**21 11 24.0**	**+0.6**

*NEIC **26** 21:03:17.4, 1269N×6077W, h26km, MD3.5(TRN), After TRN.*

TRN 26 21:03:17.1, 1270N×6076W, h26km, MD3.5, 2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCV	**Fort Charlotte**	**0.66**	**314**	eP	Pb	21 03 32.0	+1.9
FCV				eS	Sb	21 03 42.6	+3.8
GRCU	**Cariacou**	**0.71**	**252**	eP	Pb	21 03 33.2	+2.3
GRCU				eS	Sb	21 03 44.8	+4.4
SVB	**Belmont**	**0.75**	**320**	eP	Pb	21 03 32.7	+1.1
SVB				eS	Sb	21 03 44.8	+3.4
SSV	**Crater Summit**	**0.76**	**326**	eP	Pb	21 03 32.6	+0.9
SSV				eS	Sb	21 03 45.2	+3.6
SVV	**Soufriere Volc**	**0.76**	**324**	eP	Pb	21 03 32.8	+1.1
SVV				eS	Sb	21 03 45.5	+3.7
GRIC	**Isle de Caille**	**0.90**	**243**	eP	Pn	21 03 35.3	+1.2
GRIC				eS	Sb	21 03 48.7	+2.9
GRSS	**Sisters**	**0.92**	**245**	eP	Pn	21 03 35.4	+1.0
GRSS				eS	Sb	21 03 49.0	+2.7
GRHS	**Sauteurs**	**0.98**	**242**	eP	Pn	21 03 35.9	+0.8
GRHS				eS	Sb	21 03 49.2	+1.2
GRW	**Mount Saint Ca**	**1.03**	**239**	eP	Pn	21 03 36.5	+0.6
GRW				eS	Sb	21 03 50.5	+1.1
TPR	**Prospect**	**1.50**	**181**	eP	Pn	21 03 43.9	+1.6
TPR				eS	Sn	21 03 59.4	-1.6
MVM	**Montagne Vaucl**	**1.85**	**356**	eP	Pn	21 03 45.5	-1.6
CRM	**Caravelle**	**2.05**	**356**	||eP	Pn	21 03 48.2	-1.7
CRM				eS	Sn	21 04 11.6	-3.1
FDF	**Fort de France**	**2.06**	**349**	||eP	Pn	21 03 48.0	-2.1
FDF				eS	Sn	21 04 11.5	-3.3
TRN	**Trinidad (W)**	**2.13**	**197**	eP	Pn	21 03 52.6	+1.6
TRN				eS	Sn	21 04 14.4	-2.1
TRN				eS	Sn	21 04 18.3	+1.8
TRN	**Trinidad (W)**	**2.13**	**197**	eP	Pn	21 03 52.6	+1.6
TRN				eS	Sn	21 04 14.4	-2.1
TBH	**Brigand Hill**	**2.22**	**188**	eP	Pn	21 03 54.5	+2.3
TBH				eS	Sn	21 04 16.1	-2.6
LZG	**Guadaloupe-1**	**3.56**	**344**	eP	Pn	21 04 08.9	-1.8
SEG	**Port Louis**	**3.76**	**349**	eP	Pn	21 04 12.1	-1.3

*ISCJB **26** 21:05:14.7±0.6, 3247S±005×17962E±009, h292km±6km, mb3.9/10, Error ellipse: s-maj=13.2km s-min=6.9km az=48.8*
*NEIC **26** 21:05:15.8±0.9, 3253S×17986E, h300km±9km, mb4.0/6, Error ellipse: s-maj=17.9km s-min=11.6km az=108.0*
*IDC **26** 21:05:15.6±0.9, 3228S×17971E, h294km±9km, mb3.6/7, mb1 3.9/9, mb1mx3.8/14, mbtmp4.3/9, Error ellipse: s-maj=14.7km s-min=11.0km az=130.0*

ISC 26 21:05:15.5±0.6, 3246S±005×17973E±009, h292km±6km, n76, σ1§33/81, mb3.9/10, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.78**	**33**	P	**Pn**	**21 06 18.0**	**-0.9**
	145nm,0.3s,baz=64,slow=22,SNR=10						
RAO				S	**S**	**21 07 06.3**	**-3.2**
	85nm,0.3s,baz=73,slow=19,SNR=1.9						
RAO	**Raoul Island**	**3.78**	**33**	P	**Pn**	**21 06 18.0**	**-0.9**
RAO				S	**S**	**21 07 06.3**	**-3.2**
RAO				eS	**S**	**21 07 08.6**	**-0.9**
MXZ	**Matakaoa Point**	**5.22**	**193**	PN	**Pn**	**21 06 39.6**	**+4.3**
MXZ				SN	**S**	**21 07 42.7**	**+3.3**
MXZ	**Matakaoa Point**	**5.22**	**193**	eP	**Pn**	**21 06 39.1**	**+3.8**
MXZ				S	**S**	**21 07 39.7**	**+0.3**
PUZ	**Puketiti**	**5.73**	**192**	PN	**Pn**	**21 06 43.8**	**+2.5**
PUZ				SN	**S**	**21 07 51.9**	**+1.6**
PUZ	**Puketiti**	**5.73**	**192**	eP	**Pn**	**21 06 44.6**	**+3.3**
PUZ				S	**S**	**21 07 51.9**	**+1.6**
MWZ	**Matawai**	**6.13**	**196**	PN	**Pn**	**21 06 47.9**	**+1.8**
MWZ				SN	**S**	**21 08 01.1**	**+2.0**
MWZ	**Matawai**	**6.13**	**196**	eP	**Pn**	**21 06 46.9**	**+0.8**
URZ	**Urewera**	**6.17**	**200**	P	**Pn**	**21 06 47.5**	**+0.9**
	5.3nm,0.3s,baz=356,slow=1.7,SNR=43						
URZ				S	**S**	**21 08 02.2**	**+2.2**
	51nm,0.3s,baz=277,slow=23,SNR=23						
URZ	**Urewera**	**6.17**	**200**	SN	**S**	**21 08 02.0**	**+2.1**
URZ	**Urewera**	**6.17**	**200**	eP	**Pn**	**21 06 48.2**	**+1.6**
KNZ	**Kokohu**	**6.76**	**194**	PN	**Pn**	**21 06 54.3**	**+0.6**
KNZ	**Kokohu**	**6.76**	**194**	eP	**Pn**	**21 06 54.3**	**+0.6**
BKZ	**Black Stump Fm**	**7.19**	**201**	PN	**Pn**	**21 07 00.3**	**+1.3**
BKZ	**Black Stump Fm**	**7.19**	**201**	eP	**Pn**	**21 07 00.3**	**+1.3**
FWVZ	**Far West T-bar**	**7.58**	**205**	PN	**Pn**	**21 07 04.7**	**+0.9**
FWVZ	**Far West T-bar**	**7.58**	**205**	eP	**Pn**	**21 07 04.7**	**+0.9**
MRZ	**Mangatainoka R**	**8.84**	**201**	PN	**Pn**	**21 07 17.7**	**-1.6**
MRZ	**Mangatainoka R**	**8.84**	**201**	eP	**Pn**	**21 07 17.7**	**-1.6**
KIW	**Kapiti Island**	**9.23**	**203**	P	**Pn**	**21 07 23.8**	**-0.4**
CAW	**Cannon Point**	**9.40**	**202**	PN	**Pn**	**21 07 24.2**	**-2.0**
CAW	**Cannon Point**	**9.40**	**202**	P	**Pn**	**21 07 23.7**	**-2.6**
MSWZ	**Moikau Station**	**9.63**	**201**	P	**Pn**	**21 07 28.2**	**-0.8**
MRW	**Makara Radio**	**9.63**	**203**	P	**Pn**	**21 07 28.1**	**-1.0**
BHW	**Baring Head**	**9.74**	**202**	P	**Pn**	**21 07 28.2**	**-2.2**
TCW	**Tory Channel**	**9.77**	**205**	SN	**S**	**21 09 16.4**	**-4.5**
TCW	**Tory Channel**	**9.77**	**205**	P	**Pn**	**21 07 29.1**	**-1.6**
TUWZ	**Tuamarina**	**10.08**	**206**	ePN	**Pn**	**21 07 32.7**	**-1.9**
NNZ	**Nelson**	**10.11**	**208**	PN	**Pn**	**21 07 33.8**	**-1.2**
NNZ	**Nelson**	**10.11**	**208**	eP	**Pn**	**21 07 35.3**	**+0.3**
QRZ	**Quartz Range**	**10.15**	**213**	eP	**Pn**	**21 07 35.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**10.35**	**205**	eP	**Pn**	**21 07 38.0**	**+0.1**
THZ	**Tophouse**	**10.76**	**208**	ePN	**Pn**	**21 07 41.4**	**-1.6**
THZ	**Tophouse**	**10.76**	**208**	eP	**Pn**	**21 07 42.2**	**-0.8**
KHZ	**Kahutara**	**11.09**	**205**	ePN	**Pn**	**21 07 45.9**	**-1.1**
KHZ				SN	**S**	**21 09 44.7**	**-6.3**
KHZ	**Kahutara**	**11.09**	**205**	eP	**Pn**	**21 07 40.1**	**-6.9**
LTZ	**Lake Taylor**	**11.88**	**208**	ePN	**Pn**	**21 07 54.0**	**-2.6**
LTZ				SN	**S**	**21 10 00.6**	**-8.2**
LTZ	**Lake Taylor**	**11.88**	**208**	eP	**Pn**	**21 07 55.5**	**-1.1**
MQZ	**McQueen's Vall**	**12.53**	**204**	eP	**Pn**	**21 08 03.2**	**-1.3**
RPZ	**Rata Peaks**	**13.14**	**209**	P	**Pn**	**21 08 09.6**	**-2.3**
	1.5nm,0.3s,baz=328,slow=0.8,SNR=4.4						
RPZ				S	**S**	**21 10 28.3**	**-9.1**
	7.1nm,0.3s,baz=340,slow=3.2,SNR=14						
RPZ	**Rata Peaks**	**13.14**	**209**	ePN	**Pn**	**21 08 09.3**	**-2.7**
RPZ	**Rata Peaks**	**13.14**	**209**	eP	**Pn**	**21 08 11.1**	**-0.8**
ODZ	**Otahua Downs**	**14.41**	**207**	eP	**Pn**	**21 08 26.9**	**-0.3**
JCZ	**Jackson Bay**	**14.43**	**213**	ePN	**Pn**	**21 08 24.8**	**-2.6**
JCZ				SN	**S**	**21 10 56.7**	**-8.6**
JCZ	**Jackson Bay**	**14.43**	**213**	eP	**Pn**	**21 08 24.6**	**-2.8**
DZM	**Mont Dzumac**	**15.69**	**308**	P	**Pn**	**21 08 44.2**	**+1.9**
	0.2nm,0.3s,baz=142,slow=19,SNR=4.2						
STKA	**Stephens Creek**	**32.18**	**261**	eP	**P**	**21 11 17.7**	**+1.2**
	3.1nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**32.18**	**261**	P	**P**	**21 11 17.1**	**+0.6**
	3.7nm,0.8s,mb4.0,baz=116,slow=12,SNR=6.1						
CTA	**Charters Tower**	**32.31**	**284**	eP	**P**	**21 11 21.4**	**+3.7**
	6.7nm,1.1s,mb4.1						
CTA	**Charters Tower**	**32.31**	**284**	P	**P**	**21 11 18.7**	**+1.0**
	5.3nm,0.7s,mb4.2,baz=131,slow=6.9,SNR=5.3						
ASAR	**Alice Springs**	**41.12**	**270**	P	**P**	**21 12 32.6**	**+1.1**
	2.3nm,0.7s,mb3.5,baz=105,slow=7.5,SNR=33						
ASAR				S	**S**	**21 18 20.5**	**-1.6**
	0.5nm,0.9s,baz=118,slow=16,SNR=4.6						
WB2	**Warramunga Arr**	**42.29**	**276**	eP	**P**	**21 12 41.6**	**+0.7**
WRAB	**Tennant Creek**	**42.30**	**276**	eP	**P**	**21 12 41.9**	**+0.9**
	2.6nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**42.30**	**276**	P	**P**	**21 12 41.8**	**+0.8**
	1.7nm,0.3s,mb3.8,baz=113,slow=8.1,SNR=72						
WRA				S	**S**	**21 18 36.6**	**-2.8**
	1.8nm,0.9s,baz=109,slow=14,SNR=6.0						
SBA	**Scott Base**	**45.85**	**184**	eP	**P**	**21 13 11.7**	**+2.7**
VNDA	**Vanda**	**45.86**	**185**	P	**P**	**21 13 10.5**	**+1.4**
	1.2nm,0.8s,mb3.3,baz=1.3,slow=5.4,SNR=6.2						
VNDA	**Vanda**	**45.86**	**185**	eP	**P**	**21 13 10.6**	**+1.5**
	0.9nm,0.6s,mb3.3						
CASY	**Casey**	**52.41**	**209**	eP	**P**	**21 13 58.3**	**-0.1**
	3.1nm,0.6s,mb3.8						
SNAA	**Sanae**	**76.14**	**179**	⇑i	**P**	**21 16 31.1**	**-0.4**
SNAA				e		21 16 33.1	
SNAA	**Sanae**	**76.14**	**179**	eP	**P**	**21 16 31.5**	**0.0**
	6.2nm,0.6s,mb4.4						
VNA3	**Neumayer Olymp**	**76.37**	**177**	⇑i	**P**	**21 16 32.7**	**-0.1**
VNA3				e		21 16 35.2	
VNA3				e		21 16 41.0	
VNA2	**Neumayer--Watz**	**76.78**	**178**	⇑i	**P**	**21 16 35.1**	**0.0**
	baz=182,slow=5.8						
VNA2				e		21 16 37.1	
VNA2				e		21 16 43.2	
VNA1	**Neumayer--Stat**	**77.02**	**177**	⇑i	**P**	**21 16 36.4**	**-0.1**
PLCA	**Paso Flores**	**82.50**	**134**	P	**P**	**21 17 06.5**	**+0.8**
	2.1nm,1.0s,mb3.9,baz=261,slow=7.9,SNR=3.2						
GLA	**Glamis**	**89.70**	**50**	eP	**P**	**21 17 40.7**	**0.0**
NVAR	**Mina Array Bea**	**91.06**	**44**	P	**P**	**21 17 47.1**	**+0.1**
	1.2nm,0.8s,mb3.8,baz=226,slow=8.0,SNR=7.9						
JOF	**Joensuu**	**143.57**	**336**	epkp	PKPdf	21 24 11.2	-4.3
KAF	**Kangasniemi**	**145.78**	**338**	epkp	PKPdf	21 24 17.2	-2.1
FINES	**FINESS Array B**	**146.35**	**337**	PKPbc	PKPbc	21 24 19.5	-2.6
	8.6nm,0.8s,baz=66,slow=4.6,SNR=28						
NB2	**NORSAR Subarra**	**150.44**	**349**	PKPa	PKPdf	21 24 29.8	+2.9
	comp=Z,1.1nm,0.6s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**150.44**	**349**	PKPab	PKPdf	21 24 29.8	+2.9
NOA	**NORSAR Array B**	**150.44**	**349**	PKPbc	PKPbc	21 24 30.2	-2.3
	comp=Z,1.5nm,0.6s,baz=16,slow=4.2,SNR=8.3						
NOA	**NORSAR Array B**	**150.44**	**349**	PKPbc	PKPbc	21 24 30.2	-2.3
AKASG	**Malin Array Be**	**151.66**	**319**	PKPbc	PKPbc	21 24 34.1	-1.2
	comp=Z,1.1nm,0.6s,baz=54,slow=2.8,SNR=8.0						
BRTR	**Keskin Array B**	**151.78**	**295**	PKPbc	PKPbc	21 24 35.5	-0.1
	comp=Z,0.6nm,0.5s,baz=150,slow=2.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**160.69**	**186**	PKPab	PKPab	21 25 23.9	-0.2
	comp=Z,2.5nm,0.8s,baz=172,slow=3.2,SNR=13						

*IDC **26** 21:31:29.6±0.8, 5115N×17937E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.0/15, ML4.4/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/33, Error ellipse: s-maj=24.9km s-min=16.5km az=162.0*
*BJI **26** 21:31:31.7, 5108N×17923E, h25km, mB4.9, mb4.5, Ms4.5, Msz4.2*
*MOS **26** 21:31:34.6±1.3, 5109N×17959E, h49km, mb4.7/10, Error ellipse: s-maj=14.4km s-min=8.6km az=100.8*
*ISCJB **26** 21:31:35.0±1.3, 5111N±0.1×17957E±006, h52km±9km, mb4.5/38, MS3.7/9, Error ellipse: s-maj=17.3km s-min=6.5km az=172.0*
*NEIC **26** 21:31:35.2±0.5, 5111N×17947E, h35km, mb4.4/12, ML3.8(AEIC), Error ellipse: s-maj=14.7km s-min=5.8km az=169.0*

**ISC 26 21:31:36.9±1.1, 5111N±01×17956E±007, h55km±9km

BOD	**Bodaibo**	**37.30**	**306**	*e*P	**P**	**21 38 41.6**	**-2.0**
BOD				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.6							
NVAR	**Mina Array Bea**	**44.61**	**81**	P	**P**	**21 39 45.6**	**+1.8**
comp=Z,0.7nm,0.7s,mb3.6,baz=298,slow=6.2,SNR=5.2							
ULN	**Ulaanbaatar**	**45.44**	**296⇑**	*e*P	**P**	**21 39 50.8**	**+0.5**
SONM	**Songino Array**	**45.83**	**296**	P	**P**	**21 39 53.9**	**+0.5**
comp=Z,1.6nm,0.7s,mb4.0,baz=60,slow=8.5,SNR=15							
SONM				LR	LR	22 00 50.6	
comp=Z,96nm,18.1s,MS3.8,baz=265,slow=38							
ZAK	**Zakamensk**	**46.19**	**300**	*e*P	**P**	**21 39 56.4**	**+0.1**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.9s,mb4.1							
GUMO	**Guam**	**46.76**	**229**	LR	LR	21 57 24.6	
comp=Z,44nm,19.8s,MS3.4,baz=70,slow=33							
HHC	**Hu-ho-hao-te**	**46.76**	**285**	*e*P	**P**	**21 39 58.8**	**-1.9**
HHC				AP	pP	21 40 08.5	-6.6
HHC				XP	sP	21 40 12.5	-8.9
HHC				PCP	PcP	21 41 32.3	-1.0
HHC				PP	PP	21 41 48.5	-2.8
HHC				S	**S**	**21 46 46.8**	**+0.1**
HHC				XS	sS	21 47 03.0	-8.0
HHC				SCS	ScS	21 49 47.8	-2.6
HHC				SS	SS	21 50 05.0	-8.6
HHC				AMB	AMB		
comp=Z,11nm,0.4s,mb5.1							
HHC				AMB	AMB		
comp=Z,107nm,6.8s							
HHC				LR	LR		
comp=N,118nm,7.4s							
HHC				LR	LR		
comp=E,215nm,14.2s							
HHC				LR	LR		
comp=Z,81nm,5.5s							
PDAR	**Pinedale Array**	**47.37**	**71**	P	**P**	**21 40 06.7**	**+1.2**
comp=Z,6.1nm,0.6s,mb4.7,baz=306,slow=3.5,SNR=49							
NJ2	**Nanjing**	**47.78**	**271**	*e*P	**P**	**21 40 07.0**	**-1.7**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.1							
GTA	**Gaotai**	**54.70**	**291**	*e*P	**P**	**21 41 01.0**	**+0.6**
GTA				AP	pP	21 41 06.0	-9.1
GTA				XP	sP	21 41 09.5	-12
GTA				AMB	AMB		
comp=Z,5.0nm,1.0s,mb4.5							
CD2	**Chengdu**	**58.01**	**281**	*e*P	**P**	**21 41 21.0**	**-3.0**
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0							
ARCES	**ARCESS Array B**	**58.16**	**350**	P	**P**	**21 41 23.6**	**-1.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=30,slow=7.6,SNR=3.6							
KURK	**Kurchatov**	**58.44**	**313**	*e*P	**P**	**21 41 26.1**	**-0.9**
comp=Z,4.5nm,0.6s,mb4.7							
KURK	**Kurchatov**	**58.44**	**313⇑**	*e*P	**P**	**21 41 27.1**	**+0.1**
WMQ	**Urumqi**	**58.60**	**302**	*e*P	**P**	**21 41 29.5**	**+1.3**
WMQ				AP	pP	21 41 39.8	-3.2
WMQ				XP	sP	21 41 43.5	-5.7
WMQ				AMB	AMB		
comp=Z,6.0nm,1.0s,mb4.6							
WMQ				AMB	AMB		
comp=Z,45nm,4.6s							
WMQ				LR	LR		
comp=N,352nm,22.0s							
WMQ				LR	LR		
comp=Z,332nm,22.0s,MS4.4							
MKAR	**Makanchi Array**	**59.37**	**308**	P	**P**	**21 41 32.7**	**-0.8**
comp=Z,1.8nm,0.6s,mb4.3,baz=56,slow=4.7,SNR=34							
MKAR				LR	LR	22 08 24.5	
comp=Z,43nm,19.0s,MS3.6,baz=270,slow=37							
MKAR	**Makanchi Array**	**59.37**	**308**	P	**P**	**21 41 32.7**	**-0.8**
MKAR				LR	LR	22 08 24.5	
CHKZ	**Chkalovo**	**59.84**	**319**	*e*P	**P**	**21 41 36.3**	**-0.4**
comp=Z,15nm,1.3s,mb4.9							
CHKZ				*e*	pP	21 41 48.5	-3.1
CHKZ	**Chkalovo**	**59.84**	**319**	*e*P	**P**	**21 41 36.3**	**-0.4**
CHKZ				*e*	pP	21 41 48.5	-3.1
CHKZ				pmax	pmax		
comp=Z,15nm,1.3s,mb4.9							
BRVK	**Borovoye**	**60.42**	**319**	*e*P	**P**	**21 41 40.8**	**0.0**
comp=Z,4.0nm,0.6s,mb4.6							
BRVK	**Borovoye**	**60.42**	**319**	*e*P	**P**	**21 41 40.8**	**+0.1**
BRVK				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.6							
ZRNK	**Zerenda**	**61.03**	**320**	*e*P	**P**	**21 41 44.8**	**0.0**
comp=Z,12nm,1.0s,mb5.0							
ZRNK	**Zerenda**	**61.03**	**320**	*e*P	**P**	**21 41 44.8**	**0.0**
ZRNK				pmax	pmax		
comp=Z,12nm,1.0s,mb5.0							
FINES	**FINESS Array B**	**65.79**	**346**	P	**P**	**21 42 14.0**	**-2.2**
comp=Z,1.0nm,0.8s,mb3.9,baz=27,slow=7.8,SNR=3.6							
FINES				LR	LR	22 13 52.4	
comp=Z,42nm,18.1s,MS3.7,baz=299,slow=39							
PMG	**Port Moresby**	**66.49**	**215**	LR	LR	22 07 08.4	
comp=Z,86nm,18.6s,MS4.0,baz=9.0,slow=32							
LSA	**Lhasa**	**66.55**	**289**	*e*P	**P**	**21 42 23.1**	**+2.1**
comp=Z,3.1nm,0.6s,mb4.5							
LSA	**Lhasa**	**66.55**	**289**	*e*P	**P**	**21 42 23.2**	**+2.1**
LSA				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
NB2	**NORSAR Subarra**	**67.79**	**354**	P	**P**	**21 42 28.1**	**-0.9**
comp=Z,2.1nm,0.7s,mb4.3,baz=6.6,slow=6.2							
NB2	**NORSAR Subarra**	**67.79**	**354**	P	**P**	**21 42 28.1**	**-0.9**
NB2				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3							
NOA	**NORSAR Array B**	**67.79**	**354**	P	**P**	**21 42 28.4**	**-0.5**
comp=Z,3.2nm,0.8s,mb4.4,baz=8.2,slow=6.3,SNR=10							
OBN	**Obninsk**	**69.73**	**338⇓**	*e*P	**P**	**21 42 40.2**	**-0.8**
OBN				pmax	pmax		
comp=Z,26nm,2.3s,mb4.8							
OBN				MLR	MLR		
comp=Z,100nm,17.0s,MS4.1							
GUN	**Gumba**	**70.98**	**291**	*e*P	**P**	**21 42 50.0**	**+1.3**
comp=Z,42nm,0.9s,mb5.3							
JIRN	**Jiri**	**70.99**	**291**	*e*P	**P**	**21 42 50.1**	**+1.4**
comp=Z,35nm,1.0s,mb5.2							
KKN	**Kakani**	**71.43**	**291**	*e*P	**P**	**21 42 52.4**	**+1.0**
comp=Z,11nm,0.6s,mb5.0							
PKI	**Pulchoki**	**71.52**	**291**	*e*P	**P**	**21 42 52.4**	**+0.5**
GKN	**Gorkha**	**71.64**	**292**	*e*P	**P**	**21 42 53.4**	**+0.7**
comp=Z,11nm,0.7s,mb4.9							
DMN	**Daman**	**71.67**	**291**	*e*P	**P**	**21 42 53.8**	**+1.0**
comp=Z,12nm,0.8s,mb4.9							
KOLN	**Koldanda**	**72.42**	**292**	*e*P	**P**	**21 42 57.7**	**+0.3**
comp=Z,8.0nm,0.9s,mb4.7							
AKASG	**Malin Array Be**	**75.46**	**341**	P	**P**	**21 43 14.3**	**-0.8**
comp=Z,0.6nm,0.5s,mb3.8,baz=17,slow=5.4,SNR=4.2							
GOF	**Gofitskoye**	**77.07**	**330**	*e*P	**P**	**21 43 19.8**	**-4.4**
WRAB	**Tennant Creek**	**81.11**	**223**	P	**P**	**21 43 39.4**	**-6.9**
WRA	**Warramunga Arr**	**81.12**	**223**	P	**P**	**21 43 45.6**	**-0.8**
comp=Z,0.9nm,0.7s,mb3.8,baz=33,slow=6.3,SNR=7.8							
ASAR	**Alice Springs**	**84.61**	**221**	P	**P**	**21 44 03.9**	**-0.5**
comp=Z,0.6nm,0.8s,mb3.8,baz=28,slow=5.8,SNR=4.6							
BR131	**Keskin Array S**	**84.73**	**334**	*e*P	**P**	**21 44 05.6**	**+0.5**
BRTR	**Keskin Array B**	**84.73**	**334**	P	**P**	**21 44 05.7**	**+0.7**
comp=Z,1.4nm,0.7s,mb4.2,baz=54,slow=2.4,SNR=11							
BOSA	**Boshof**	**150.36**	**310**	PKPbc	PKPbc	21 51 22.2	+0.1
comp=Z,4.4nm,1.0s,baz=58,slow=9.5,SNR=4.4							

FUNV ***26*** *21:40:49.9, 65.6N×73.13W, h169km, MW4.2*
ISCJB ***26*** *21:40:50.2±0.5, 682N±004×7295W±006, h174km±5km, mb3.8/6, Error ellipse: s-maj=10.1km s-min=5.9km az=63.9*
IDC ***26*** *21:40:50.7±0.7, 674N×7298W, h164km±7km, mb3.5/6, mb1 3.7/8, mb1mx3.3/23, mbtmp4.0/8, Error ellipse: s-maj=17.4km s-min=7.6km az=125.0*
NEIC ***26*** *21:40:51.5±0.6, 678N×7300W, h170km±7km, mb3.6/3, Error ellipse: s-maj=9.5km s-min=7.2km az=78.0*

ISC 26 21:40:51.4±0.5, 684N±004×7297W±006, h166km±5km, n29, σ1§03/37, mb3.8/6, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**33⇑**	*i*P	**Pn**	**21 41 20.2**	**+0.8**
CAPV				*e*S	**Sn**	**21 41 42.0**	**+1.0**
ROSC	**El Rosal**	**2.39**	**215**	P	**Pn**	**21 41 31.9**	**-0.1**
99nm,0.3s,baz=100,slow=20,SNR=166							
ROSC				S	**Sn**	**21 42 01.8**	**-1.5**
149nm,0.3s,baz=105,slow=21,SNR=7.6							
SOCV	**Socops**	**2.54**	**55⇑**	*i*P	**Pn**	**21 41 34.9**	**+1.2**
SOCV				*e*S	**Sn**	**21 42 07.1**	**+0.5**
VIGV	**El Vigia**	**2.55**	**39**	*e*P	**Pn**	**21 41 34.7**	**+0.9**
SDV	**Santo Domingo**	**3.08**	**49**	P	**Pn**	**21 41 41.6**	**+1.2**
69nm,0.3s,baz=244,slow=6.0,SNR=398							
SDV				S	**Sn**	**21 42 19.4**	**+1.0**
65nm,0.3s,baz=251,slow=23,SNR=23							
SDV	**Santo Domingo**	**3.08**	**49**	P	**Pn**	**21 41 41.6**	**+1.2**
SDV				S	**Sn**	**21 42 19.4**	**+1.0**
VIRV	**Villa del Rosa**	**3.68**	**9**	*e*P	**Pn**	**21 41 47.0**	**-0.9**
VIRV				*e*S	**Sn**	**21 42 30.8**	**-1.2**
QARV	**Quebrada Arrib**	**4.13**	**36⇑**	*i*P	**Pn**	**21 41 54.5**	**+0.8**
SANV	**Sanarito**	**4.31**	**52**	*e*P	**Pn**	**21 41 56.5**	**+0.5**
DABV	**Dabajuro**	**4.67**	**29**	*e*P	**Pn**	**21 42 01.2**	**+0.6**
DABV				*e*S	**Sn**	**21 42 53.6**	**-1.2**
SIQV	**Siquisique**	**4.91**	**39**	*e*P	**Pn**	**21 42 04.0**	**+0.2**
SIQV				*e*S	**Sn**	**21 42 58.9**	**-1.6**
BAUV	**El Baul**	**5.31**	**66**	*e*P	**Pn**	**21 42 08.2**	**-0.9**
BAUV				*e*S	**Sn**	**21 43 06.8**	**-3.2**
MONV	**Montecano**	**5.88**	**30**	*e*P	**Pn**	**21 42 16.1**	**-0.5**
MONV				*e*S	**Sn**	**21 43 20.9**	**-2.6**
JTS	**JuntasAbangare**	**12.33**	**287**	*e*Pn	**Pn**	**21 43 41.9**	**+0.5**
SJG	**San Juan**	**13.03**	**30**	P	**Pn**	**21 43 50.9**	**+0.6**
SAML	**Samuel**	**18.47**	**148**	*e*P	**P**	**21 44 54.3**	**-0.2**
5.4nm,0.7s							
SAML				*e*pP		21 45 22.1	
TEIG	**Tepich**	**19.94**	**313**	*e*P	**P**	**21 45 10.9**	**+0.6**
0.5nm,0.6s							
LPAZ	**La Paz**	**23.47**	**168**	P	**P**	**21 45 43.8**	**-2.0**
0.9nm,0.6s,mb3.4,baz=352,slow=12,SNR=5.5							
LPAZ	**La Paz**	**23.47**	**168**	*e*P	**P**	**21 45 47.0**	**+1.2**
1.1nm,0.6s,mb3.5							
SIV	**San Ignacio**	**25.56**	**153**	P	**P**	**21 46 04.1**	**-0.7**
1.7nm,1.1s,mb3.6,baz=324,slow=9.7,SNR=6.0							
BDFB	**Brasilia**	**33.32**	**132**	P	**P**	**21 47 14.5**	**+1.2**
1.3nm,0.5s,mb3.9,baz=295,slow=14,SNR=3.0							
TRQA	**Tornquist**	**45.82**	**168**	*e*P	**P**	**21 48 55.4**	**-1.1**
ULM	**Lac du Bonnet**	**47.32**	**340**	P	**P**	**21 49 08.0**	**-0.2**
1.5nm,0.4s,mb4.0,baz=133,slow=6.5,SNR=5.9							
ULM	**Lac du Bonnet**	**47.32**	**340**	P	**P**	**21 49 08.0**	**-0.2**
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**21 49 15.3**	**+1.0**
0.7nm,0.4s,mb3.7,baz=58,slow=6.9,SNR=6.9							
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**21 51 02.4**	**+0.1**
1.0nm,0.5s,mb3.9,baz=132,slow=6.7,SNR=35							
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**21 51 02.4**	**+0.1**
ASAR	**Alice Springs**	**149.24**	**234**	PKPbc	PKPbc	22 00 20.0	-0.2
1.9nm,0.7s,baz=121,slow=3.6,SNR=24							
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	22 00 23.3	+0.1
1.2nm,0.5s,baz=110,slow=2.5,SNR=32							

IDC 26 21:48:48.9±2.0, 500S×12817E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/18, Error ellipse: s-maj=118.7km s-min=30.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.25**	**191**	LR	LR	21 57 22.8	
comp=Z,46nm,20.8s,baz=87,slow=39							
WRA	**Warramunga Arr**	**16.02**	**159**	Pn	Pn	21 52 37.5	+2.1
0.2nm,0.3s,baz=337,slow=12,SNR=13							
ASAR	**Alice Springs**	**19.36**	**164**	P	Pn	21 53 15.5	-1.5
0.3nm,0.3s,baz=344,slow=10,SNR=14							
MKAR	**Makanchi Array**	**65.57**	**327**	P	P	21 59 34.6	+0.2
0.2nm,0.6s,baz=133,slow=8.4,SNR=4.2							

IDC 26 21:48:59.8±39.0, 1578N×9079W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.6/3, MS2.6/1, Ms1 2.6/1, ms1mx2.6/24, Error ellipse: s-maj=787.4km s-min=58.4km az=173.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**7.88**	**133**	LR	LR	21 54 36.5	
comp=Z,45nm,20.4s,baz=43,slow=43							
NVAR	**Mina Array Bea**	**33.08**	**318**	P	P	21 55 37.9	+0.8
0.5nm,0.7s,baz=139,slow=10,SNR=3.4							
SCHQ	**Schefferville**	**43.16**	**20**	P	P	21 57 02.3	+0.2
1.4nm,0.8s,baz=225,slow=8.5,SNR=5.2							
YKA	**Yellowknife Ar**	**49.58**	**346**	P	P	21 57 51.8	-0.8
0.3nm,0.6s,baz=147,slow=7.5,SNR=12							

ISCJB ***26*** *22:13:06.5±0.9, 2336N±008×368E±0.1, h10km, mb3.8/6, Error ellipse: s-maj=17.1km s-min=12.1km az=12.1*
IDC ***26*** *22:13:06.7±1.7, 2330N×3686E, h0km, mb3.7/5, mb1 3.6/6, mb1mx3.4/20, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=52.0km s-min=22.7km az=148.0*
CSEM ***26*** *22:13:08.4, 2338N×3680E, h10km, mb4.7/1, After NEIC*
NEIC ***26*** *22:13:08.4±1.1, 2338N×3680E, h10km, mb4.1/2, Error ellipse: s-maj=19.2km s-min=15.3km az=138.0*

ISC 26 22:13:08.3±0.9, 2333N±009×369E±01, h10km, n17, σ0§64/19, mb3.8/6, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**6.54**	**345**	*e*Pn	**Pn**	**22 14 43.8**	**-0.7**
EIL				Sn	**Sn**	**22 15 59.8**	**+0.7**
EIL	**Elat**	**6.54**	**345**	*e*Pn	**Pn**	**22 14 43.9**	**-0.6**
EIL				Sn	**Sn**	**22 15 59.8**	**+0.7**
MALT	**Malatya**	**15.00**	**5**	*e*P	**Pn**	**22 16 44.3**	**+4.1**
10.0nm,1.6s							
MALT	**Malatya**	**15.00**	**5**	*e*P	**Pn**	**22 16 44.4**	**+4.1**
10.0nm,1.6s							
BRTR	**Keskin Array B**	**16.57**	**351**	Pn	**Pn**	**22 17 00.7**	**0.0**
0.0nm,0.3s,baz=173,slow=11,SNR=5.4							
BRTR	**Keskin Array B**	**16.57**	**351**	Pn	**Pn**	**22 17 00.6**	**-0.1**
GNI	**Garni**	**18.05**	**20**	*e*Pn	**Pn**	**22 17 18.2**	**-0.9**
2.3nm,0.6s							
GNI	**Garni**	**18.05**	**20**	*e*Pn	**Pn**	**22 17 18.2**	**-0.8**
2.3nm,0.6s							
STU	**Stuttgart**	**33.50**	**326**	*e*P	**P**	**22 19 46.9**	**-0.9**
2.6nm,0.3s,mb4.6							
TORD	**Torodi Ar. Bea**	**34.81**	**259**	P	**P**	**22 19 59.4**	**+0.3**
0.5nm,0.8s,mb3.5,baz=71,slow=8.4,SNR=8.0							
ARU	**Arti**	**36.69**	**20**	*e*P	**P**	**22 20 15.8**	**+0.5**
ARU	**Arti**	**36.69**	**20**	*e*P	**P**	**22 20 15.8**	**+0.5**
NOA	**NORSAR Array B**	**41.64**	**342**	P	**P**	**22 20 56.7**	**0.0**
0.9nm,0.8s,mb3.5,baz=128,slow=7.9,SNR=2.9							
MKAR	**Makanchi Array**	**43.17**	**46**	P	**P**	**22 21 10.2**	**+1.0**
0.4nm,0.7s,mb3.3,baz=249,slow=7.5,SNR=5.5							
MKAR	**Makanchi Array**	**43.17**	**46**	P	**P**	**22 21 10.1**	**+1.0**
DBIC	**Dimbokro**	**43.36**	**254**	P	**P**	**22 21 10.9**	**+0.2**
2.6nm,0.8s,mb4.0,baz=73,slow=9.5,SNR=4.7							
SONM	**Songino Array**	**59.51**	**47**	P	**P**	**22 23 11.2**	**-0.4**
0.6nm,0.9s,mb3.6,baz=261,slow=7.3,SNR=5.6							

ISCJB ***26*** *22:17:17.7±1.0, 7632N±007×23.1E±02, h10km, Error ellipse: s-maj=10.4km s-min=6.4km az=27.9*
CSEM ***26*** *22:17:20.5±0.8, 7634N×2345E, h12km, ML2.5, Error ellipse: s-maj=40.4km s-min=10.1km az=65.0*
BER ***26*** *22:17:22.4±3.1, 7641N×2383E, h31km±21km, MD2.3, ML2.7, ML2.5(NAO)*
NAO ***26*** *22:17:22.1±1.7, 7601N×2002E, h16km±13km, ML2.5*

ISC 26 22:17:19.3±0.9, 7636N±007×232E±02, h10km, n7, σ0§76/15, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPEN	**Hopen**	**0.46**	**70⇑**	*i*P	**Pg**	**22 17 28.7**	**+0.5**
HOPEN				*e*S	**Sg**	**22 17 34.0**	**-0.2**
HOPEN				AML	AML	22 17 34.8	
comp=N,644nm,0.2s							
HSP	**Hornsund**	**1.88**	**294**	*e*P	**Pn**	**22 17 52.6**	**+1.1**
HSP				*e*S	**Sn**	**22 18 20.9**	**+5.7**
SPA0	**Spitsbergen Ar**	**2.37**	**324**	Pn	**Pn**	**22 17 59.1**	**+0.9**
baz=143,slow=16							
SPA0				Pg	**Pg**	**22 18 04.4**	**-0.2**
baz=141,slow=18							
SPA0				Sn	**Sn**	**22 18 27.2**	**0.0**
baz=144,slow=22							
SPA0				Lg		22 18 35.5	
baz=129,slow=28							
SPA0	**Spitsbergen Ar**	**2.37**	**324**	Pg	**Pg**	**22 18 04.4**	**-0.2**
SNR=4.6							
SPA0				Sn	**Sn**	**22 18 27.2**	**0.0**
SNR=3.5							
KBS	**Kingsbay**	**3.52**	**322**	Pn	**Pn**	**22 18 14.1**	**+0.1**
KBS				Sn	**Sn**	**22 18 54.3**	**-1.4**
KBS				Lg		22 19 11.6	
KBS	**Kingsbay**	**3.52**	**322**	Pn	**Pn**	**22 18 14.1**	**+0.1**
KBS				Sn	**Sn**	**22 18 54.3**	**-1.5**
ARA0	**ARCESS Array S**	**6.90**	**173**	Pn	**Pn**	**22 18 59.6**	**-0.8**
baz=1.2,slow=10							
ARA0				Sn	**Sn**	**22 20 10.8**	**-8.2**
baz=350,slow=18							

WEL 26 22:28:24.1±0.2, 3597S×17792E, h273km±7km, ML3.5/2, Error ellipse: s-maj=12.2km s-min=8.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**2.37**	**196**	PN	Pn	22 29 12.1	+0.2
URZ				SN	S	22 29 49.3	-0.4
MWZ	**Matawai**	**2.38**	**188**	PN	Pn	22 29 12.3	+0.4
MWZ				SN	S	22 29 49.4	-0.5
KNZ	**Kokohu**	**3.05**	**184**	PN	Pn	22 29 18.6	0.0

WEL 26 22:35:45.6±0.5, 3686S×17800E, h61km±6km, ML3.5/4, Error ellipse: s-maj=3.5km s-min=3.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**161**	P*	Pn	22 36 00.2	-0.3
MXZ				S*	Sn	22 36 11.0	-0.3
MXZ				S*	Sn	22 36 11.1	-0.2
WIZ	**White Island**	**0.93**	**224**	P*	Pn	22 36 03.0	+0.3
PUZ	**Puketiti**	**1.23**	**170**	PN	Pn	22 36 07.0	+0.4
PUZ				SN	Sn	22 36 22.4	0.0
PUZ				SN	Sn	22 36 22.8	+0.4
MWZ	**Matawai**	**1.52**	**194**	P*	Pn	22 36 10.4	-0.1
MWZ				S*	Sn	22 36 29.3	-0.1
URZ	**Urewera**	**1.56**	**207**	P*	Pn	22 36 11.2	0.0
URZ				S*	Sn	22 36 30.4	0.0

MAN 26 22:39:34.3, 1119N×12199E, h33km, mb2.5, ML4.0, MS1.4, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALP	**Kalibo**	**0.59**	**36⇑**	*e*P	Pb	22 39 47.5	+1.0
KALP				*e*S	Sb	22 39 55.4	+0.7
GUIM	**Jordan**	**0.82**	**133**	*e*P	Pn	22 39 50.1	+0.5
GUIM				*e*S	Sn	22 40 02.1	+1.6
RCP	**Roxas**	**0.83**	**64⇓**	*e*P	Pn	22 39 50.0	+0.4
RCP				*e*S	Sn	22 40 05.5	+4.7
CUYO	**Cuyo Island**	**1.01**	**250**	*e*P	Pn	22 39 52.4	+0.3
CUYO				*e*S	Sn	22 40 06.8	+1.6
OTRP	**Odiongan**	**1.16**	**2**	*e*P	Pn	22 39 55.1	+0.8
OTRP				*e*S	Sn	22 40 12.4	+3.4
SJMP	**San Jose**	**1.52**	**326**	*e*P	Pn	22 39 59.9	+0.7
BUSP	**Coron**	**1.93**	**295**	*e*P	Pn	22 40 05.2	+0.4
BUSP				*e*S	Sn	22 40 34.9	+7.1
ENPP	**El Nido**	**2.51**	**271**	*e*P	Pn	22 40 13.3	+0.5
ENPP				*e*S	Sn	22 40 42.9	+0.6
LUBP	**Lubang**	**3.04**	**326**	*e*P	Pn	22 40 21.0	+0.9
IPIL	**Ipil**	**3.43**	**170**	*e*P	Pn	22 40 26.9	+1.4
IPIL				*e*S	Sn	22 41 04.2	-0.8
PAGZ	**Pagadian**	**3.60**	**157**	*e*P	Pn	22 40 31.5	+3.8

ISCJB ***26*** *22:41:16.5±0.7, 34.10N±004×2505E±005, h10km, mb3.8/9, Error ellipse: s-maj=6.5km s-min=5.9km az=110.3*
NEIC ***26*** *22:41:17.9, 34.15N×2505E, h3km, mb4.1/2, MD3.8(ATH), After ATH.*
ATH ***26*** *22:41:19.2, 3424N×2504E, h6km±4km, MD3.8/8*
CSEM ***26*** *22:41:21.4±0.3, 3425N×2528E, h60km, MD3.8, Error ellipse: s-maj=9.6km s-min=6.7km az=163.0*
IDC ***26*** *22:41:23.0±2.4, 3441N×2486E, h40km±21km, mb3.6/8, mb1 3.7/11, mb1mx3.5/24, mbtmp3.8/11, ML4.0/3, Error ellipse: s-maj=29.9km s-min=16.8km az=129.0*

ISC 26 22:41:18.8±0.7, 3419N±004×2503E±005, h10km, n33, σ1§50/43, mb3.8/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.88**	**38**	*e*PB	**Pg**	**22 41 35.0**	**-0.7**
XRY				*e*SB	**Sg**	**22 41 46.0**	**-1.2**
GVD	**Gavdhos**	**1.01**	**310**	*e*PB	**Pg**	**22 41 38.0**	**-0.3**
GVD				*e*SB	**Sg**	**22 41 52.0**	**+0.5**
IDI	**Anoyia**	**1.10**	**354**	P	**Pb**	**22 41 38.6**	**-1.4**
37nm,0.3s,baz=176,slow=18,SNR=460							
IDI				S	**Sg**	**22 41 55.2**	**+0.9**
65nm,0.3s,baz=280,slow=17,SNR=10							
NPS	**Neapolis**	**1.18**	**24**	*e*PN	**Pb**	**22 41 40.3**	**-0.9**
NPS				*e*SB	**Sb**	**22 41 56.0**	**-0.5**
NPS	**Neapolis**	**1.18**	**24**	*e*Pb	**Pb**	**22 41 40.3**	**-0.9**
NPS				*e*Sb	**Sb**	**22 41 56.5**	**+0.1**
VAM	**Vamos**	**1.40**	**331**	*e*PG	**Pg**	**22 41 44.1**	**-1.5**
VAM				*e*SB	**Sb**	**22 42 03.0**	**+0.2**
VAM	**Vamos**	**1.40**	**331**	*e*Sb	**Sb**	**22 42 05.0**	**+2.2**
VAM	**Vamos**	**1.40**	**331**	*e*Pg	**Pg**	**22 41 44.1**	**-1.5**
VAM				*e*Sb	**Sb**	**22 42 05.0**	**+2.2**
SANT	**Santorini**	**2.21**	**9**	*e*Pn	**Pn**	**22 41 56.9**	**+1.4**
SANT				*e*Sn	**Sn**	**22 42 24.3**	**+1.5**
SANT	**Santorini**	**2.21**	**9**	*e*Pn	**Pn**	**22 41 56.9**	**+1.4**
SANT				*e*Sn	**Sn**	**22 42 24.3**	**+1.5**
KARP	**Karpathos**	**2.22**	**52**	*e*PN	**Pn**	**22 41 58.2**	**+2.6**
KYTH	**Kithira**	**2.65**	**323**	*e*PN	**Pn**	**22 42 05.0**	**+3.4

67nm,0.3s,baz=254,slow=23,SNR=28
SDV Santo Domingo 3.09 47 ||/Pn **Pn 22 55 56.2 +1.1**
SDV *e*Sn **Sn 22 56 32.2 -0.9**
VIRV Villa del Rosa 3.73 8 *e*S **Sn 22 56 46.2 -1.4**
QARV Quebrada Arrib 4.15 35 ||/P **Pn 22 56 09.3 +0.6**
QARV *e*S **Sn 22 56 57.5 +0.1**
SANV Sanarito 4.31 51 *e*P **Pn 22 56 11.1 +0.3**
CURV Curarigua 4.35 42 *e*P **Pn 22 56 11.6 +0.4**
CURV *e*S **Sn 22 57 02.0 0.0**
DABV Dabajuro 4.69 29 *e*P **Pn 22 56 16.3 +0.6**
TEPV Terepaima 4.86 49 *e*P **Pn 22 56 18.4 +0.5**
BAUV El Baul 5.30 66 *e*P **Pn 22 56 22.8 -0.8**
BAUV *e*S **Sn 22 57 22.5 -1.8**
MONV Montecano 5.91 29 *e*P **Pn 22 56 31.0 -0.7**
MONV *e*S **Sn 22 57 36.8 -2.0**
CAOV Caicara del Or 6.58 85 *e*P **Pn 22 56 38.8 -1.8**
CAOV *e*S **Sn 22 57 50.0 -4.8**
OTAV Otavalo 8.52 220 *e*Pn **Pn 22 57 06.2 -0.2**
2.2nm,0.6s
OTAV *e*Sn **Sn 22 58 41.1 -0.3**
JTS JuntasAbangare 12.39 287 P **Pn 22 58 02.8 +5.9**
1.8nm,0.3s,baz=60,slow=20,SNR=6.0
JTS JuntasAbangare 12.39 287 Pn **Pn 22 58 00.4 +3.4**
SAML Samuel 18.41 148 *e*P **P 22 59 09.4 +0.6**
2.6nm,0.4s
SAML *e* 22 59 37.1
TEIG Tepich 20.00 313 *e*P **P 22 59 26.8 +0.8**
1.3nm,0.5s
LPAZ La Paz 23.41 168 P **P 23 00 01.9 +1.5**
0.5nm,0.4s,mb3.3,baz=347,slow=18,SNR=3.9
SIV San Ignacio 25.50 153 P **P 23 00 18.2 -1.0**
1.9nm,1.1s,mb3.5,baz=310,slow=9.6,SNR=5.7
BDFB Brasilia 33.25 132 P **P 23 01 28.9 +1.2**
2.8nm,0.5s,mb4.3,baz=311,slow=11,SNR=6.0
ULM Lac du Bonnet 47.38 340 P **P 23 03 22.6 -1.1**
1.3nm,0.3s,mb4.0,baz=142,slow=7.0,SNR=5.4
SCHQ Scheffer ville 48.16 5 P **P 23 03 30.2 +0.5**
3.1nm,0.6s,mb4.1,baz=186,slow=6.7,SNR=18
PDAR Pinedale Array 48.21 324 P **P 23 03 30.1 0.0**
0.6nm,0.6s,mb3.4,baz=132,slow=9.7,SNR=4.2
NVAR Mina Array Bea 51.64 315 P **P 23 03 56.5 +0.5**
0.5nm,0.7s,mb3.3,baz=125,slow=8.8,SNR=4.9
NVAR Mina Array Bea 51.64 315 P **P 23 03 56.5 +0.5**
YKA Yellowknife Ar 63.36 340 P **P 23 05 17.1 -0.8**
0.5nm,0.4s,mb3.7,baz=133,slow=6.6,SNR=25
YKA pP pP 23 05 55.4 -1.0
0.4nm,0.6s,baz=125,slow=6.9,SNR=4.5
DBIC Dimbokro 67.55 86 P **P 23 05 45.0 +0.2**
3.2nm,0.7s,mb4.2,baz=248,slow=4.6,SNR=8.6
TORD Torodi Ar. Bea 73.56 78 P **P 23 06 20.9 -0.3**
0.3nm,0.4s,mb3.3,baz=282,slow=6.1,SNR=13
NOA NORSAR Array B 81.27 29 P **P 23 07 04.2 +0.2**
0.8nm,0.8s,mb3.4,baz=262,slow=6.5,SNR=3.0
ARCES ARCESS Array B 86.64 20 P **P 23 07 30.2 -0.9**
3.0nm,1.0s,mb4.1,baz=319,slow=6.8,SNR=5.0
MKAR Makanchi Array 122.29 20 PKP PKPdf 23 13 41.2 -0.4
0.3nm,0.4s,baz=300,slow=3.9,SNR=9.7
SONM Songino Array 125.61 1 PKP PKPdf 23 13 48.7 +0.7
0.5nm,0.5s,baz=331,slow=1.1,SNR=5.9
ASAR Alice Springs 149.24 234 PKP PKPdf 23 14 31.6 +0.7
1.0nm,0.5s,baz=121,slow=3.7,SNR=10
ASAR PKPbc PKPbc 23 14 35.1 -0.2
1.0nm,0.5s,baz=120,slow=3.6,SNR=17
WB2 Warramunga Arr 150.47 241 *e*P PKPdf 23 14 37.7 +4.9
WRA Warramunga Arr 150.49 241 PKPbc PKPbc 23 14 38.1 -0.3
1.2nm,0.6s,baz=109,slow=2.5,SNR=27

*ISCJB **26** 22:57:14.8±1.5, 1927S±007×1687E±0.1, h52km±11km, mb4.4/17, MS3.5/5, Error ellipse: s-maj=18.4km s-min=10.4km az=26.1*
*NEIC **26** 22:57:16.8±2.8, 1922S×16867E, h54km±23km, mb4.5/7, Error ellipse: s-maj=22.2km s-min=13.6km az=221.0*
*BJI **26** 22:57:16.8, 1920S×16870E, h54km, mB4.7, mb4.8, Ms4.8, Msz4.5*
*IDC **26** 22:57:16.0±4.5, 1921S×16867E, h52km±38km, mb3.9/9, mb1 4.1/10, mb1mx4.0/16, mbtmp4.2/10, ML3.8/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/28, Error ellipse: s-maj=27.9km s-min=21.3km az=58.0*
ISC 26 22:57:15.7±1.5, 1921S±007×1688E±01, h46km±12km, n46, σ1°06/27, mb4.4/17, MS3.5/5, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.61**	**342**	||/P		**Pn**	**22 57 41.5**	**-0.2**
DZM	**Mont Dzumac**	**3.57**	**217**	P			**Pn**	**22 58 08.8**	**+0.3**
	9.1nm,0.3s,baz=56,slow=16,SNR=121								
DZM				S			**Sn**	**22 58 49.1**	**-0.4**
	71nm,0.3s,baz=135,slow=23,SNR=15								
DZM				LR		LR	LR	22 58 54.8	
	comp=Z,274nm,21.2s,baz=27,slow=28								
DZM	**Mont Dzumac**	**3.57**	**217**	*e*P			**Pn**	**22 58 08.7**	**+0.1**
DZM				*e*S			**Sn**	**22 58 48.5**	**-1.1**
HNR	**Honiara**	**12.93**	**318**	LR		LR	LR	23 04 37.8	
	comp=Z,130nm,20.4s,baz=178,slow=34								
RAO	**Raoul Island**	**15.72**	**132**	LR		LR	LR	23 05 33.7	
	comp=Z,278nm,18.9s,baz=340,slow=32								
AFI	**Afiamalu**	**19.39**	**77**	LR		LR	LR	23 07 37.0	
	comp=Z,201nm,20.9s,baz=52,slow=32								
URZ	**Urewera**	**20.32**	**161**	P			**P**	**23 01 49.1**	**+1.3**
	11nm,0.7s,baz=0.0,slow=2.0,SNR=2.9								
CTA	**Charters Tower**	**21.21**	**264**	*e*P			**P**	**23 01 59.2**	**+1.8**
	10nm,0.8s,mb4.2								
CTA	**Charters Tower**	**21.21**	**264**	P			**P**	**23 01 59.2**	**+1.8**
	5.5nm,0.7s,mb4.0,baz=73,slow=14,SNR=4.7								
CTA				LR		LR	LR	23 09 26.5	
	comp=Z,86nm,19.7s,MS3.1,baz=48,slow=35								
CTAO	**Charters Tower**	**21.21**	**264**	*e*P			**P**	**23 02 00.0**	**+2.6**
	12nm,0.7s,mb4.3								
PMG	**Port Moresby**	**23.06**	**292**	P			**P**	**23 02 17.1**	**+0.1**
	5.3nm,0.5s,mb4.2,baz=135,slow=11,SNR=4.1								
CNB	**Canberra Magne**	**23.48**	**223**	*e*P			**P**	**23 02 23.0**	**+1.9**
	27nm,0.7s,mb4.8								
STKA	**Stephens Creek**	**27.47**	**237**	*e*P			**P**	**23 02 56.6**	**-0.8**
	4.0nm,1.1s,mb3.9								
STKA	**Stephens Creek**	**27.47**	**237**	P			**P**	**23 02 56.4**	**-1.0**
	1.7nm,0.4s,mb3.9,baz=73,slow=11,SNR=7.8								
STKA				LR		LR	LR	23 13 22.3	
	comp=Z,80nm,20.8s,MS3.3,baz=198,slow=35								
WB2	**Warramunga Arr**	**32.39**	**263**	*e*P			**P**	**23 03 39.7**	**-1.2**
WRAB	**Tennant Creek**	**32.40**	**263**	*e*P			**P**	**23 03 40.6**	**-0.3**
	5.3nm,0.6s,mb4.5								
WRA	**Warramunga Arr**	**32.40**	**263**	P			**P**	**23 03 40.3**	**-0.7**
	1.8nm,0.6s,mb4.0,baz=90,slow=8.3,SNR=30								
ASAR	**Alice Springs**	**32.69**	**256**	P			**P**	**23 03 43.3**	**-0.2**
	8.8nm,0.6s,mb4.9,baz=84,slow=8.7,SNR=103								
PPT	**Papeete**	**39.51**	**95**	*e*LR			LR	23 15 48.9	
	132nm,25.5s								
PPT	**Papeete**	**39.51**	**95**	LR			LR	23 17 18.2	
	comp=Z,49nm,18.8s,MS3.4,baz=42,slow=30								
GUMO	**Guam**	**40.20**	**322**	LR			LR	23 18 54.6	
	comp=Z,50nm,18.4s,MS3.4,baz=85,slow=32								
FITZ	**Fitzroy Crossi**	**40.79**	**264**	*e*P			**P**	**23 04 52.5**	**+0.1**
	13nm,0.6s,mb4.7								
VNDA	**Vanda**	**58.44**	**182**	P			**P**	**23 07 05.9**	**-0.8**
	0.7nm,0.8s,mb3.8,baz=344,slow=7.7,SNR=4.4								
NJ2	**Nanjing**	**69.87**	**316**	*e*P			**P**	**23 08 26.0**	**+4.4**
NJ2				AMB			AMB		
	comp=Z,10.0nm,0.5s,mb5.0								
CD2	**Chengdu**	**79.86**	**308**	*e*P			**P**	**23 09 20.3**	**+1.0**
CD2				AMB			AMB		
	comp=Z,10.0nm,0.8s,mb4.8								
HHC	**Hu-ho-hao-te**	**79.91**	**320**	*e*P			**P**	**23 09 22.5**	**+3.0**
HHC				S			S	23 19 23.0	+3.4
HHC				SKS				23 19 27.8	
HHC				AMB			AMB		
	comp=Z,6.0nm,0.3s,mb5.0								
HHC				AMB			AMB		
	comp=Z,139nm,6.1s								
HHC				LR			LR		
	comp=N,82nm,6.5s								
HHC				LR			LR		
	comp=E,125nm,5.1s								
HHC				LR			LR		
	comp=Z,122nm,5.5s								
SONM	**Songino Array**	**86.93**	**323**	P			**P**	**23 09 55.8**	**+0.2**
	comp=Z,0.6nm,1.0s,mb3.8,baz=139,slow=3.9,SNR=4.1								
BILL	**Bilibino**	**87.02**	**359**	P			**P**	**23 09 55.5**	**-0.6**
	comp=Z,3.2nm,0.8s,mb4.6								
SNAA	**Sanae**	**89.17**	**183**	P			**P**	**23 10 05.8**	**-0.5**
	comp=Z,0.4nm,0.4s,mb4.1,baz=225,slow=9.5,SNR=12								
ILAR	**Eielson Array**	**90.34**	**17**	P			**P**	**23 10 09.4**	**-2.3**
	comp=Z,0.4nm,0.6s,mb3.9,baz=237,slow=4.8,SNR=8.5								
NEW	**Newport**	**94.05**	**40**	LR		LR	LR	23 45 07.2	
	comp=Z,83nm,20.6s,MS4.2,baz=73,slow=30								
WMQ	**Urumqi**	**96.86**	**314**	*e*P			**P**	**23 10 42.0**	**+0.3**
WMQ				AMB			AMB		
	comp=Z,2.0nm,1.0s,mb4.5								
WMQ				AMB			AMB		
	comp=Z,12nm,4.8s								
YKA	**Yellowknife Ar**	**100.86**	**27**	P		Pdif		23 10 59.5	0.0
	comp=Z,0.3nm,0.7s,baz=256,slow=4.6,SNR=7.7								
YKA	**Yellowknife Ar**	**100.86**	**27**	P		Pdif		23 10 59.5	0.0
ARCES	**ARCESS Array B**	**124.93**	**345**	PKP		PKPdf		23 16 08.6	-1.9
	comp=Z,3.3nm,0.8s,baz=62,slow=2.9,SNR=6.6								
GERES	**GERESS Array B**	**144.25**	**332**	PKP		PKPdf		23 16 45.7	-0.7
	comp=Z,0.8nm,0.8s,baz=7.6,slow=2.0,SNR=5.9								
CDF	**Champ du Feu**	**147.24**	**337**	*e*PKP1		PKPbc		23 16 53.8	0.0
	comp=Z,5.1nm,0.7s								
DAVOX	**Davos**	**147.50**	**333**	PKPbc		PKPbc		23 16 54.7	+0.1
	comp=Z,2.2nm,0.4s,baz=125,slow=4.3,SNR=11								
DAVOX	**Davos**	**147.50**	**333**	PKPbc		PKPbc		23 16 54.7	+0.1
CABF	**La Chapelle**	**149.19**	**336**	*e*PKP1		PKPbc		23 16 58.9	-0.1
FLN	**La Foliniere**	**149.27**	**346**	*e*PKP1		PKPbc		23 16 59.6	+0.4
LOR	**Lormes**	**149.41**	**340**	*e*PKP1		PKPbc		23 16 59.0	-0.5
	comp=Z,5.6nm,0.7s								
SSF	**Saint Saulge**	**149.71**	**340**	*e*PKP1		PKPbc		23 16 59.8	-0.5
	comp=Z,14nm,1.0s								
ORIF	**Oris-en-Rattie**	**150.67**	**335**	*e*PKP1		PKPbc		23 17 02.2	-0.4
TCF	**Toulx Ste Croi**	**150.81**	**341**	*e*PKP1		PKPbc		23 17 02.1	-0.8
TORD	**Torodi Ar. Bea**	**166.19**	**246**	PKPab		PKPab		23 18 17.1	+0.6
	comp=Z,0.8nm,1.0s,baz=134,slow=4.1,SNR=3.6								

*ISCJB **26** 23:44:55.0±3.7, 18.1S±09×1777W±08, h500km, mb3.6/5, Error ellipse: s-maj=151.0km s-min=27.8km az=100.2*
*NEIC **26** 23:44:55.4±2.5, 18.16S×17759W, h500km, mb3.9/1, Error ellipse: s-maj=123.0km s-min=19.9km az=142.0*
*IDC **26** 23:44:57.5±12.0, 18.41S×17751W, h527km±109km, mb3.1/4, mb1 3.3/4, mb1mx3.0/14, mbtmp4.0/4, Error ellipse: s-maj=141.6km s-min=41.6km az=131.0*
ISC 26 23:44:54.8±3.8, 183S±09×1774W±08, h500km, n7, σ0°60/5, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.29**	**242**	*e*P			**P**	**23 51 39.6**	**-0.2**
	3.4nm,1.1s,mb3.7,baz=38,slow=12,SNR=3.0								
WRAB	**Tennant Creek**	**45.49**	**260**	*e*P			**P**	**23 52 28.2**	**-0.4**
	1.7nm,0.4s,mb3.8								
WRA	**Warramunga Arr**	**45.50**	**260**	P			**P**	**23 52 28.5**	**-0.2**
	1.0nm,0.4s,mb3.6,baz=94,slow=7.0,SNR=52								
WRA				PcP		PcP		23 53 56.6	-0.6
	0.2nm,0.3s,baz=90,slow=3.7,SNR=8.7								
ASAR	**Alice Springs**	**45.61**	**255**	P			**P**	**23 52 30.4**	**+0.8**
	3.0nm,0.6s,mb3.9,baz=89,slow=8.2,SNR=37								
ASAR				PcP		PcP		23 53 57.5	-0.1
	0.6nm,0.5s,baz=100,slow=4.2,SNR=8.2								
ILAR	**Eielson Array**	**86.03**	**13**	P			**P**	**23 56 41.9**	**0.0**
	0.2nm,0.5s,mb3.0,baz=227,slow=4.7,SNR=5.5								
BRTR	**Keskin Array B**	**145.71**	**315**	PKPbc		PKPbc		00 03 37.2	-0.1
	0.6nm,0.6s,baz=121,slow=4.8,SNR=5.2								
GERES	**GERESS Array B**	**148.20**	**346**	PKPbc		PKPbc		00 03 44.7	+0.7
	0.4nm,0.4s,baz=29,slow=3.0,SNR=6.0								

*IDC **27** 00:04:39.4±0.6, 16.15S×17253W, h0km, mb4.4/13, mb1 4.7/13, mb1mx4.5/20, mbtmp4.5/13, MS4.4/20, Ms1 4.4/20, ms1mx4.3/33, Error ellipse: s-maj=28.8km s-min=16.0km az=133.0*
*ISCJB **27** 00:04:43.9±0.3, 1625S±007×1724.5W±005, h36km, mb4.8/52, MS4.6/26, Error ellipse: s-maj=10.4km s-min=6.7km az=129.0*
*NEIC **27** 00:04:45.8±0.3, 16.10S×17256W, h35km, mb4.9/28, Error ellipse: s-maj=14.8km s-min=7.3km az=141.0*
*BJI **27** 00:04:45.5, 1553S×17196W, h38km, mB5.5, mb5.0, Ms5.1, Msz4.8*
*SZGRF **27** 00:04:47.0, 16.14S×17556W, h33km, Tonga Islands*
*MOS **27** 00:04:48.0±1.4, 15.15S×17261W, h33km, mb5.2/14, Error ellipse: s-maj=19.3km s-min=10.5km az=64.9*
ISC 27 00:04:45.9±0.3, 1623S±007×17243W±005, h38km, h38km±.6km: pP-P, n199, σ1°13/100, mb4.8/52, MS4.6/26, 7C-10D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AFI	**Afiamalu**	**2.39**	**15**	Pn			**Pn**	**00 05 14.0**	**-8.5**
	27nm,0.3s,baz=269,slow=1.8,SNR=42								
AFI				LR		LR	LR	00 05 42.6	
	comp=Z,1μm,20.1s,baz=208,slow=27								
AFI				Sn			**Sn**	**00 05 43.9**	**-6.7**
	153nm,0.3s,baz=3.0,slow=22,SNR=8.1								
RAR	**Rarotonga**	**12.97**	**114**	Pn			**Pn**	**00 07 40.4**	**-7.2**
	5.3nm,0.3s,baz=132,slow=4.3,SNR=5.5								
RAR				LR		LR	LR	00 12 13.8	
	comp=Z,2μm,18.5s,baz=345,slow=35								
RAO	**Raoul Island**	**13.91**	**200**	LR		LR	LR	00 11 58.5	
	comp=Z,378nm,18.3s,baz=4.8,slow=32								
DZM	**Mont Dzumac**	**20.78**	**250**	P			**P**	**00 09 22.0**	**-1.7**
	3.6nm,0.7s,baz=71,slow=21,SNR=5.1								
DZM				LR		LR	LR	00 15 24.2	
	comp=Z,672nm,21.2s,MS4.0,baz=208,slow=31								
PPT	**Papeete**	**21.91**	**97**	*e*LQ				00 13 44.0	
	1μm,24.8s								
PPT				*e*LR		LR	LR	00 14 23.8	
	3μm,26.0s,baz=261								
PPT	**Papeete**	**21.91**	**97**	LR		LR	LR	00 16 21.2	
	comp=Z,1μm,20.5s,MS4.3,baz=249,slow=32								
TVO	**Taravao**	**22.22**	**97**	*e*P			**P**	**00 09 38.5**	**-0.6**
	196nm,1.5s,mb5.3								
TBI	**Tubuai**	**22.73**	**112**	*e*LR		LR	LR	00 14 54.4	
	4μm,26.2s,baz=287								
PMOR	**Pomariorio Ree**	**23.66**	**90**	*e*P			**P**	**00 09 53.4**	**-0.5**
	79nm,1.4s,mb5.0								
URZ	**Urewera**	**23.80**	**201**	P			**P**	**00 09 55.0**	**-0.1**
	17nm,0.5s,mb4.8,baz=324,slow=16,SNR=16								
ARMA	**Armidale**	**35.73**	**240**	*e*P			**P**	**00 11 39.2**	**-1.7**
RKT	**Rikitea**	**35.85**	**107**	*e*S			**S**	**00 17 17.2**	**0.0**
	89nm,27.8s								
RKT				*e*LR		LR	LR	00 20 55.6	
	2μm,26.5s,baz=277								
PMG	**Port Moresby**	**39.93**	**275**	*e*P			**P**	**00 12 17.5**	**+1.1**
MIDW	**Midway**	**44.44**	**354**	P			**P**	**00 12 50.8**	**-2.3**
STKA	**Stephens Creek**	**44.44**	**241**	*e*P			**P**	**00 12 49.7**	**-3.4**
	11nm,0.9s,mb4.6								
STKA	**Stephens Creek**	**44.44**	**241**	P			**P**	**00 12 49.0**	**-4.1**
	12nm,0.9s,mb4.6,baz=59,slow=8.4,SNR=10								
STKA				LR		LR	LR	00 30 25.4	
	comp=Z,1μm,19.1s,MS4.8,baz=49,slow=35								
WB2	**Warramunga Arr**	**50.56**	**257**	*e*P			**P**	**00 13 39.8**	**-0.8**
WRAB	**Tennant Creek**	**50.56**	**257**	*e*P			**P**	**00 13 40.4**	**-0.2**
	3.6nm,0.7s,mb4.4								
WRAB	**Tennant Creek**	**50.56**	**257**	*e*P			**P**	**00 13 40.4**	**-0.3**
WRAB				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
WRA	**Warramunga Arr**	**50.57**	**257**	P			**P**	**00 13 38.2**	**-2.5**
	comp=Z,2.7nm,0.8s,mb4.3,baz=97,slow=6.7,SNR=22								
ASAR	**Alice Springs**	**50.75**	**253**	P			**P**	**00 13 40.2**	**-1.8**
	comp=Z,15nm,0.7s,mb5.1,baz=88,slow=8.1,SNR=82								
KAKA	**Kakadu**	**53.37**	**266**	*e*P			**P**	**00 14 01.3**	**-0.3**
	comp=Z,6.5nm,0.9s,mb4.6								
FORT	**Forrest**	**55.88**	**244**	*e*P			**P**	**00 14 19.5**	**-0.3**
	comp=Z,21nm,0.8s,mb5.2								
RPN	**Rapa Nui**	**59.11**	**112**	LR		LR	LR	00 32 52.1	
	comp=Z,320nm,20.0s,MS4.5,baz=285,slow=29								
SBA	**Scott Base**	**62.51**	**185**	*e*P			**P**	**00 15 06.9**	**+1.3**
	comp=Z,2.7nm,0.7s,mb4.5								
VNDA	**Vanda**	**62.65**	**186**	P			**P**	**00 15 06.6**	**0.0**
	comp=Z,2.1nm,1.0s,mb4.2,baz=348,slow=5.7,SNR=3.8								
VNDA				LR		LR	LR	00 37 46.8	
	comp=Z,169nm,21.3s,MS4.2,baz=24,slow=32								
VNDA	**Vanda**	**62.65**	**186**	P			**P**	**00 15 07.1**	**+0.6**
MBWA	**Marble Bar**	**64.03**	**254**	*e*P			**P**	**00 15 18.6**	**+2.9**
KLBR	**Kellerberrin**	**64.68**	**242**	*e*P			**P**	**00 15 18.8**	**-1.2**
	comp=Z,16nm,0.8s,mb5.1								
JHJ	**Hachijo jima 2**	**67.01**	**318**	LR		LR	LR	00 42 05.3	
	comp=Z,177nm,18.1s,MS4.3,baz=70,slow=34								
MJAR	**Matsushiro Arr**	**70.17**	**319**	P			**P**	**00 15 54.1**	**-0.5**
	comp=Z,3.4nm,0.9s,mb4.3,baz=162,slow=6.0,SNR=4.3								
MJAR				LR		LR	LR	00 40 57.2	
	comp=Z,271nm,20.2s,MS4.5,baz=95,slow=31								
JOW	**Kunigami**	**71.72**	**306**	LR		LR	LR	00 41 00.7	
	comp=Z,283nm,20.7s,MS4.5,baz=138,slow=30								
ASAJ	**Asahikawa**	**72.73**	**328**	LR		LR	LR	00 41 09.6	
	comp=Z,201nm,21.6s,MS4.4,baz=140,slow=30								
CMB	**Columbia Colle**	**72.77**	**41**	*e*P			**P**	**00 16 10.2**	**-0.1**
	comp=Z,7.3nm,0.9s,mb4.6								
CMB				*e*pP		pP	pP	00 16 20.9	-1.0
CMB	**Columbia Colle**	**72.77**	**41**	*e*P			**P**	**00 16 10.2**	**-0.1**
CMB				*e**PP		pP	pP	00 16 20.9	-1.0
CMB				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
PET	**Petropavlovsk**	**73.34**	**342**	*e*P			**P**	**00 16 15.8**	**+2.1**
PET				*e*PS				00 26 14.6	
PET				pmax		pmax			
	comp=Z,100nm,14.1s								
PET				MLR		MLR			
	comp=Z,600nm,14.0s,MS5.0								
MTUM	**Tungsten Hills**	**73.52**	**42**	*e*P			**P**	**00 16 14.4**	**-0.4**
MTUM				*e*		pP	pP	00 16 26.3	0.0
DAC	**Darwin (Calif)**	**73.53**	**44**	*e*P			**P**	**00 16 15.1**	**+0.2**
	comp=Z,31nm,1.9s,mb4.9								
DAC				*e*pP		pP	pP	00 16 25.3	-1.0
DAC	**Darwin (Calif)**	**73.53**	**44**	*e*P			**P**	**00 16 15.1**	**+0.3**
DAC				*e**PP		pP	pP	00 16 25.3	-1.1
DAC				pmax		pmax			
	comp=Z,31nm,1.9s,mb4.9								
YBH	**Yreka Blue Hor**	**73.70**	**37**	*e*P			**P**	**00 16 16.2**	**+0.4**
	comp=Z,9.6nm,1.0s,mb4.7								
YBH				*e*pP		pP	pP	00 16 27.1	-0.2
YBH	**Yreka Blue Hor**	**73.70**	**37**	*e*P			**P**	**00 16 16.2**	**+0.4**
YBH				*e**PP		pP	pP	00 16 27.1	-0.2
YBH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
QSPA	**South Pole Qui**	**73.82**	**180**	*e*P			**P**	**00 16 16.6**	**+0.1**
	comp=Z,7.8nm,1.0s,mb4.6								
NVAR	**Mina Array Bea**	**74.32**	**41**	P			**P**	**00 16 19.6**	**+0.2**
	comp=Z,5.6nm,0.9s,mb4.5,baz=221,slow=7.3,SNR=28								
NVAR				LR		LR	LR	00 45 15.6	
	comp=Z,572nm,18.4s,MS4.9,baz=280,slow=33								
MNV	**Mina**	**74.42**	**41**	*e*P			**P**	**00 16 19.8**	**-0.3**
	comp=Z,48nm,1.7s,mb5.2								
MNV				*e*pP		pP	pP	00 16 31.4	-0.2
MNV	**Mina**	**74.42**	**41**	*e*P			**P**	**00 16 19.8**	**-0.2**
MNV				*e**PP		pP	pP	00 16 31.4	-0.2
MNV				pmax		pmax			
	comp=Z,48nm,1.7s,mb5.2								
NEN	**Nelson**	**75.03**	**45**	*e*P			**P**	**00 16 23.8**	**+0.2**
NEN				*e*pP		pP	pP	00 16 35.5	+0.3
KDAK	**Kodiak Island**	**75.55**	**11**	P			**P**	**00 16 26.4**	**-0.2**
	comp=Z,8.8nm,0.9s,mb4.7,baz=273,slow=1.9,SNR=3.7								
TUC	**Tucson**	**76.20**	**50**	*e*P			**P**	**00 16 30.4**	**+0.1**
	comp=Z,16nm,1.1s,mb4.9								
TUC				*e*pP		pP	pP	00 16 41.7	-0.1
TUC	**Tucson**	**76.20**	**50**	*e*P			**P**	**00 16 30.4**	**+0.2**
TUC				*e**PP		pP	pP	00 16 41.7	-0.1
TUC				pmax		pmax			
	comp=Z,16nm,1.1s,mb4.9								
KS15	**Wonju Array Si**	**77.42**	**315**	*e*P			**P**	**00 16 37.2**	**+0.1**
MSU	**Marysvale**	**78.36**	**44**	*e*P			**P**	**00 16 43.5**	**+1.1**
SLKM	**Skilak Lake**	**78.54**	**11**	*e*P			**P**	**00 16 41.4**	**-1.9**
DUG	**Dugway**	**78.83**	**42**	*e*P			**P**	**00 16 44.8**	**-0.1**
	comp=Z,6.0nm,1.0s,mb4.5								
DUG				*e*pP		pP	pP	00 16 56.1	-0.5
DUG	**Dugway**	**78.83**	**42**	*e*P			**P**	**00 16 44.8**	**-0.2**
DUG				*e**PP		pP	pP	00 16 56.1	-0.5
DUG				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
SSE	**Sheshan**	**79.20**	**307**	P			**P**	**00 16 48.0**	**+1.0**
SSE				AP		pP	pP	00 17 00.8	+2.2
SSE				XP		sP	sP	00 17 04.8	+1.9
SSE				PP		PP	PP	00 19 45.0	-1.7
SSE				S		S	S	00 26 42.0	-2.1
SSE				XS		sS	sS	00 27 03.3	-0.1
SSE				SS		SS	SS	00 31 47.3	-3.6
SSE				AMB		AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3								
SSE				AMB		AMB	AMB		
	comp=Z,90nm,4.1s								
SSE				LR		LR	LR		
	comp=N,126nm,23.8s,MS4.3								
SSE				LR		LR	LR		
	comp=E,140nm,23.9s,MS4.3								
SSE				LR		LR	LR		
	comp=Z,208nm,25.7s,MS4.4								
TMUT	**Trail Mountain**	**79.42**	**44**	*e*P			**P**	**00 16 48.9**	**+0.7**
TMUT				*e*pP		pP	pP	00 17 00.4	+0.6
PMR	**Palmer

comp=Z,471nm,18.4s,MS4.9,baz=250,slow=34
CN2 Changchun 82.32 320 *e*P **P 00 17 04.5 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,21.0s,MS4.6
YMR Madison River 82.36 39 *e*P **P 00 17 05.0 +1.2**
comp=Z,45nm,1.6s,mb5.2
YMR *e*pP pP 00 17 16.7 +1.1
COLA College 83.00 10 *e*P **P 00 17 05.8 -1.4**
comp=Z,44nm,1.4s,mb5.3
COLA *e*pP pP 00 17 16.9 -2.0
COLA College 83.00 10 *e*P **P 00 17 05.8 -1.4**
COLA *e**PP pP 00 17 16.9 -2.0
COLA pmax pmax
comp=Z,44nm,1.4s,mb5.3
WALA Waterton Lakes 83.06 34 *e*P **P 00 17 08.2 +0.8**
comp=Z,25nm,1.6s,mb5.0
ILAR Eielson Array 83.08 11 P **P 00 17 06.0 -1.6**
comp=Z,3.4nm,0.7s,mb4.5,baz=229,slow=6.1,SNR=46
ILAR LR LR 00 51 01.7
comp=Z,204nm,18.9s,MS4.5,baz=360,slow=34
DAWY Dawson 83.99 14 *e*P **P 00 17 11.8 -0.4**
QIZ Qiongzhong 84.08 292 P **P 00 17 16.8 +4.1**
QIZ S 00 27 35.5
QIZ LR LR
comp=E,224nm,26.3s
QIZ LR LR
comp=Z,319nm,22.4s,MS4.7
USHA Ushuaia 84.71 146 LR LR 00 49 06.7
comp=Z,458nm,19.0s,MS4.9,baz=207,slow=31
BILL Bilibino 85.45 352 *e*P **P 00 17 18.6 -1.0**
comp=Z,20nm,1.4s,mb5.1
BILL *e*pP pP 00 17 29.0 -2.3
BILL Bilibino 85.45 352 *e*P **P 00 17 18.6 -1.0**
BILL *e**PP pP 00 17 29.0 -2.3
BILL pmax pmax
comp=Z,20nm,1.4s,mb5.0
RSSD Black Hills 86.44 42 *e*P **P 00 17 26.1 +1.6**
BJT Baijiatuao 86.71 313 *e*P **P 00 17 26.6 +0.8**
comp=Z,6.4nm,0.7s,mb5.0
BJT Baijiatuao 86.71 313 *e*P **P 00 17 26.6 +0.8**
BJT pmax pmax
comp=Z,6.0nm,0.7s
BJI Beijing 86.71 313 P **P 00 17 26.5 +0.7**
BJI XP sP 00 17 41.0 -0.9
BJI S 00 28 02.3
BJI AMB AMB
comp=Z,19nm,1.9s,mb5.0
BJI AMB AMB
comp=Z,391nm,5.4s
BJI LR LR
comp=N,104nm,18.8s,MS4.6
BJI LR LR
comp=E,185nm,18.4s,MS4.6
BJI LR LR
comp=Z,170nm,25.5s
ENH Enshi 88.15 302 P **P 00 17 34.3 +1.5**
PLCA Paso Flores 88.27 132 LR LR 00 50 16.6
comp=Z,402nm,19.1s,MS4.8,baz=287,slow=31
HIA Hailar 88.42 323 P **P 00 17 33.5 -0.6**
INK Inuvik 88.85 14 P **P 00 17 34.0 -2.0**
comp=Z,1.7nm,0.8s,mb4.4,baz=224,slow=6.6,SNR=7.1
INK Inuvik 88.85 14 *e*P **P 00 17 34.6 -1.4**
comp=Z,30nm,1.7s,mb5.3
INK *e*pP pP 00 17 45.3 -2.6
INK Inuvik 88.85 14 *e*P **P 00 17 34.6 -1.5**
INK *e**PP pP 00 17 45.3 -2.5
INK pmax pmax
comp=Z,30nm,1.7s
GYA Guiyang 89.25 298⇑*i*P **P 00 17 39.5 +1.5**
GYA AP pP 00 17 50.0 +0.3
GYA XP sP 00 17 54.0 0.0
GYA SKS 00 28 00.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,210nm,5.6s
PSI Prapat 89.47 273 P **P 00 17 39.7 +0.7**
comp=Z,4.9nm,0.8s,mb4.9,baz=123,slow=20,SNR=4.5
XAN Xi'an 89.87 305 P **P 00 17 42.0 +1.2**
XAN AP pP 00 17 52.3 -0.3
XAN AMB AMB
comp=Z,10.0nm,2.0s,mb4.8
HHC Hu-ho-hao-te 90.27 313 *e*P **P 00 17 45.0 +2.3**
HHC AP pP 00 17 55.5 +1.0
HHC XP sP 00 17 59.5 +0.7
HHC PP PP 00 21 20.0 +3.2
HHC SKS 00 28 11.0
HHC S 00 28 32.5
HHC XS sS 00 28 50.3 -3.4
HHC SS SS 00 34 33.0 -1.0
HHC AMB AMB
comp=Z,14nm,0.3s,mb5.8
HHC AMB AMB
comp=Z,173nm,4.0s
HHC LR LR
comp=N,91nm,4.5s
HHC LR LR
comp=E,199nm,4.5s
HHC LR LR
comp=Z,143nm,5.5s
YKA Yellowknife Ar 90.48 23 P **P 00 17 41.7 -2.0**
comp=Z,1.3nm,1.0s,mb4.2,baz=236,slow=4.3,SNR=15
YKA Yellowknife Ar 90.48 23 P **P 00 17 41.7 -2.0**
KMI Kunming 92.22 295 P **P 00 17 53.3 +1.5**
KMI AP pP 00 18 05.0 +1.4
KMI XP sP 00 18 09.0 +1.2
KMI AMB AMB
comp=Z,12nm,0.8s,mb5.3
KMI AMB AMB
comp=Z,102nm,3.1s
KMI LR LR
comp=N,136nm,16.1s,MS4.6
KMI LR LR
comp=E,127nm,20.1s,MS4.6
KMI LR LR
comp=Z,176nm,17.4s,MS4.6
CD2 Chengdu 93.04 301 *e*P **P 00 17 56.0 +0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
CD2 AMB AMB
comp=Z,30nm,5.3s
CFAA Coronel Fontan 93.22 124 LR LR 00 51 43.0
comp=Z,57nm,19.2s,MS4.0,baz=300,slow=30
ULM Lac du Bonnet 93.99 39 LR LR 00 58 02.2
comp=Z,352nm,18.5s,MS4.9,baz=255,slow=34
LZH Lanzhou 94.47 306 *e*P **P 00 18 04.0 +1.9**
LZH AP pP 00 18 14.0 +0.1
LZH XP sP 00 18 18.5 +0.3
LZH PP PP 00 21 53.5 +3.7
LZH *e*SKS 00 28 35.0
LZH *e*S 00 29 09.5
LZH XS sS 00 29 27.3 -4.0
LZH *e*SS SS 00 35 34.0 -0.2
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,105nm,6.5s
LZH LR LR
comp=N,436nm,18.9s
LZH LR LR
comp=Z,756nm,19.7s,MS5.2
SONM Songino Array 96.08 318 LR LR 00 55 28.5
comp=Z,168nm,20.1s,MS4.5,baz=49,slow=32
ARU Arti 124.53 328 *e*PKPdf PKPdf 00 23 42.3 +1.2
ARU Arti 124.53 328 *e*PKIKP PKPdf 00 23 42.3 +1.2
LVV L'vov 143.94 342 *e*PKIKP PKPdf 00 24 20.1 +2.9
CLZ Clausthal 144.40 357 *e*PKPbc PKPdf 00 24 15.7 -2.3
KWP Kalwaria 144.49 343 *e*PKPdf PKPdf 00 24 16.4 -1.8
OJC Ojcow 144.68 346 *e*PKP PKPdf 00 24 16.7 -1.8
CLL Collm 144.74 354 *e*PKPbc PKPdf 00 24 15.5 -3.1
CLL Collm 144.74 354 *ep*PKPdf pPKPdf 00 24 31.0 +0.2
comp=Z,13nm,1.3s
KSP Ksiaz 144.77 350 *e*PKPdf PKPdf 00 24 17.5 -1.1
STHS Stebnicka Huta 145.08 344 *e*PKP PKPdf 00 24 18.3 -0.9
STHS *e* 00 24 28.8
MALT Malatya 145.11 315⇑P PKPbc 00 24 20.2 +1.4
UPC Upice 145.14 351 *e*PKP PKPdf 00 24 18.7 -0.6
UPC *ex* x 00 24 42.9
DPC Dobruska-Polom 145.24 350 *e*PKP PKPdf 00 24 19.6 +0.1
DPC *ep*PKP pPKPdf 00 24 28.8 -2.8
DPC *ex* x 00 24 43.5
DPC Dobruska-Polom 145.24 350 *e*PKIKP PKPdf 00 24 19.6 +0.1
DPC *e* 00 24 28.8
KOLS Kolonicke sedl 145.24 343 *e*PKP PKPdf 00 24 20.4 +0.9
KOLS *e* 00 24 30.0
OKC Ostrava-Krasne 145.40 348 *e*PKP PKPdf 00 24 19.6 -0.1
OKC *ep*PKP pPKPdf 00 24 30.0 -1.9
OKC *ex* x 00 24 44.0
OKC Ostrava-Krasne 145.40 348 *e*PKIKP PKPdf 00 24 19.6 -0.1
OKC *e* 00 24 30.0
BURAR Bucovina Array 145.48 339⇓P PKPdf 00 24 20.3 +0.4
BURAR Bucovina Array 145.48 339⇓P PKPdf 00 24 20.3 +0.4
CRVS Cervenica-Dubn 145.49 344 *e*PKP PKPdf 00 24 21.9 +2.0
MOX Moxa 145.52 355 *e*PKPbc PKPbc 00 24 19.5 -0.6
MOX Moxa 145.52 355 *e*PKP PKPdf 00 24 19.8 -0.1
comp=Z,36nm,1.6s
MOX
comp=Z,600nm,17.0s
MORC Moravsky Berou 145.57 349⇓P PKPdf 00 24 20.1 +0.1
WERD Werda 145.66 355 *e*PKPbc PKPbc 00 24 20.5 0.0
MEM Membach 145.68 2 PKP PKPdf 00 24 19.7 -0.5
MEM APKP 00 24 31.1
SNF Seneffe 145.70 4 PKP PKPdf 00 24 20.5 +0.2
SNF APKP 00 24 31.1
NKC Novy Kostel 145.85 354 *e*PKP PKPdf 00 24 20.6 +0.1
NKC *ex* x 00 24 44.3
PRU Pruhonice 145.86 352 *e*PKP PKPdf 00 24 20.7 +0.2
PRU *ep*PKP pPKPdf 00 24 30.9 -1.8
PRU *ex* x 00 24 45.1
PRU Pruhonice 145.86 352 *e*PKIKP PKPdf 00 24 20.7 +0.2
PRU *e* 00 24 30.9
KMBO Kilima Mbogo 146.00 242 PKP PKPdf 00 24 20.1 -0.7
comp=Z,1.7nm,0.9s,baz=63,slow=1.4,SNR=8.3
KMBO Kilima Mbogo 146.00 242 PKP PKPdf 00 24 20.1 -0.7
KMBO *e*PKPdf PKPdf 00 24 21.6 +0.8
TNS Taunus Mts 146.09 359 *e*PKPbc PKPbc 00 24 22.6 +0.8
MANZ Manzenberg 146.13 355 *e*PKPbc PKPbc 00 24 21.9 -0.1
DOU Dourbes 146.13 3 PKP PKPdf 00 24 23.2 +2.3
KECS Kecovo 146.13 345 *e*PKP PKPdf 00 24 22.9 +1.9
KECS *e* 00 24 34.1
KECS *e* 00 24 47.3
GIVF Givet 146.14 3 *e*PKP1 PKPbc 00 24 20.5 -1.5
BAIF Baives 146.15 4 *e*PKP1 PKPbc 00 24 20.9 -1.1
VRAC Vranov 146.20 349⇓P PKPdf 00 24 22.3 +1.2
ROTZ Rotzenmuhle 146.34 355 *e*PKPbc PKPbc 00 24 21.9 -0.7
GRA1 Grafenberg Arr 146.49 356 *e*PKPbc PKPbc 00 24 22.8 -0.2
GRF Grafenberg Arr 146.49 356 *e*PKPbc PKPbc 00 24 22.8 -0.2
VYHS Vyhne 146.52 346 *e*PKP PKPdf 00 24 23.0 +1.4
WLF Walferdange 146.63 2 *e*PKPbc PKPbc 00 24 25.1 +1.7
WLF Walferdange 146.63 2 PKP PKPdf 00 24 25.1 +3.3
SMOL Smolenice 146.80 348 *e*PKP PKPdf 00 24 24.9 +2.8
KHC Kasperske Hory 146.82 353 *e*PKP PKPdf 00 24 23.3 +1.1
KHC *ex* x 00 24 46.7
HARR Harsova 146.83 333⇑P PKPdf 00 24 25.3 +3.1
WET Wettzell 146.89 354 *e*PKPbc PKPbc 00 24 25.1 +0.9
MLR Muntele Rosu 147.00 336⇑P PKPdf 00 24 25.1 +2.6
DRGR 147.03 341⇓P PKPdf 00 24 24.6 +2.1
GERES GERESS Array B 147.09 353 PKPbc PKPbc 00 24 24.0 -0.7
comp=Z,1.9nm,0.8s,baz=20,slow=4.3,SNR=14
ZST Bratislava 147.17 348 *e*PKP PKPdf 00 24 25.4 +2.7
BR131 Keskin Array S 147.39 321 *e*PKPdf PKPdf 00 24 25.2 +2.1
BRTR Keskin Array B 147.39 321 PKPbc PKPbc 00 24 25.4 -0.2
comp=Z,3.1nm,1.0s,baz=111,slow=2.8,SNR=14
VOIR 147.39 337⇓P PKPbc 00 24 28.4 +2.8
MEZF Maizieres J'vi 147.75 3 *e*PKP1 PKPbc 00 24 23.6 -3.0
comp=Z,86nm,1.6s
ANTO Ankara 147.80 322⇑P PKPbc 00 24 27.6 +0.9
CDF Champ du Feu 147.91 0 *e*PKP1 PKPbc 00 24 23.3 -3.7
comp=Z,80nm,1.7s
BFO Black Forest 147.98 359 *e*PKPbc PKPbc 00 24 27.3 +0.1
FUR Furstenfeldbru 148.01 355 *e*PKPbc PKPbc 00 24 26.9 -0.4
BZS Buzias 148.42 341⇓P PKPbc 00 24 28.5 +0.2
HINF Hinteralfeld 148.50 1 *e*PKP1 PKPbc 00 24 24.3 -4.2
PKSM Moragy 148.71 345⇑P PKPbc 00 24 29.3 +0.2
KBA Koenbreinsper 148.87 352⇓*i*P PKPbc 00 24 31.3 +1.9
comp=Z,13nm,1.8s
WTTA Wattenberg 148.87 355⇓*i*P PKPbc 00 24 30.2 +0.7
comp=Z,17nm,1.7s
LOR Lormes 148.90 5 *e*PKP1 PKPbc 00 24 27.5 -2.1
comp=Z,46nm,1.4s
DAVA Damuels 148.97 357⇑*i*P PKPbc 00 24 31.8 +2.0
comp=Z,27nm,1.8s
MFF Saint Martin d 149.04 10 *e*PKP1 PKPbc 00 24 27.7 -2.2
comp=Z,140nm,1.7s
SSF Saint Saulge 149.07 5 *e*PKP1 PKPbc 00 24 27.9 -2.1
comp=Z,86nm,1.5s
AVF Avril sur Loir 149.33 6 *e*PKP1 PKPbc 00 24 28.0 -2.6
BGF Bois d'Agland 149.51 6 *e*PKP1 PKPbc 00 24 28.8 -2.3
comp=Z,37nm,1.3s
SMF Signal de Mont 149.51 5 *e*PKP1 PKPbc 00 24 28.6 -2.5
comp=Z,97nm,1.6s
CABF La Chapelle 149.68 2 *e*PKP1 PKPbc 00 24 28.0 -3.5
comp=Z,99nm,1.4s
TCF Toulx Ste Croi 149.70 7 *e*PKP1 PKPbc 00 24 29.2 -2.4
comp=Z,76nm,1.5s
LJU Ljubljana 149.71 350 *e*PKPbc PKPbc 00 24 32.7 +1.1
LJU *e* 00 24 56.1
JAVS Javornik 149.93 351 *e*PKPbc PKPbc 00 24 31.6 -0.5
BOJS Bojanci 150.11 349 *e*PKPbc PKPbc 00 24 32.0 -0.5
BOJS *e* 00 24 57.4
VTS Vitosha 150.51 336⇓P PKPab 00 24 41.7 +1.5
LPL La Plagne 150.79 1 *e*PKP1 PKPbc 00 24 31.5 -2.7
LFF La Frestale 150.81 10 *e*PKP1 PKPbc 00 24 32.1 -2.1
LPG La Plagne 150.81 1 *e*PKP1 PKPbc 00 24 31.5 -2.7
ORIF Oris-en-Rattie 151.37 3 *e*PKP1 PKPbc 00 24 33.5 -2.0
comp=Z,104nm,1.9s
EIL Eiat 151.55 303 *e*PKPdf PKPdf 00 24 32.5 +2.8
MBDF Montbardon 151.58 1 *e*PKP1 PKPbc 00 24 34.3 -1.7
comp=Z,43nm,1.6s
SMRF Simiane la Rot 152.29 3 *e*PKP1 PKPbc 00 24 36.0 -1.6
comp=Z,54nm,1.4s
ESDC Sonseca Array 154.56 21 PKPab PKPab 00 24 55.5 -1.7
comp=Z,1.2nm,0.8s,baz=330,slow=2.8,SNR=6.6
TORD Torodi Ar. Bea 173.54 118 PKP PKPdf 00 24 50.1 -1.1
comp=Z,0.5nm,0.8s,baz=225,slow=1.1,SNR=3.7
TORD PKPab PKPab 00 26 20.1 -0.3
comp=Z,1.2nm,1.0s,baz=256,slow=2.8,SNR=4.4

IDC ***27*** *00:07:36.5±0.7, 2956N×13997E, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, ML4.6/1, Error ellipse: s-maj=29.4km s-min=18.1km az=67.0*
ISCJB ***27*** *00:07:38.5±2.7, 2995N±0.1×1400E±02, h33km±27km, mb3.7/10, Error ellipse: s-maj=29.1km s-min=16.4km az=130.4*
ISC 27 00:07:40.9±6.5, 295N±01×1402E±02, h32km±47km, n14, σ0§88/14, mb3.7/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.02**	**143**	Pn	**Pn**	**00 08 26.7**	**+0.3**
	97nm,0.3s,baz=44,slow=5.2,SNR=20						
CBIJ				Sn	**Sn**	**00 09 00.0**	**-1.4**
	65nm,0.3s,baz=280,slow=22,SNR=19						
MJAR	**Matsushiro Arr**	**7.18**	**347**	Pn	**Pn**	**00 09 29.9**	**+6.3**
	0.5nm,0.3s,baz=161,slow=16,SNR=4.2						
SONM	**Songino Array**	**31.73**	**315**	P	**P**	**00 14 01.9**	**+0.1**
	0.3nm,0.8s,mb3.2,baz=110,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**47.56**	**308**	P	**P**	**00 16 12.4**	**-1.0**
	0.1nm,0.3s,mb3.3,baz=99,slow=8.9,SNR=3.1						
WB2	**Warramunga Arr**	**49.50**	**187**	*e*P	**P**	**00 16 29.4**	**+1.1**
WRA	**Warramunga Arr**	**49.50**	**187**	P	**P**	**00 16 29.0**	**+0.7**
	3.2nm,0.8s,mb4.4,baz=7.8,slow=8.0,SNR=17						
ASAR	**Alice Springs**	**53.23**	**187**	P	**P**	**00 16 56.2**	**0.0**
	0.8nm,0.9s,mb3.6,baz=15,slow=13,SNR=4.0						
BVAR	**Borovoye Array**	**55.05**	**316**	P	**P**	**00 17 08.7**	**-0.8**
	0.4nm,0.6s,mb3.6,baz=95,slow=8.9,SNR=5.6						
ARCES	**ARCESS Array B**	**70.66**	**340**	P	**P**	**00 18 52.8**	**-0.6**
	5.7nm,1.1s,mb4.4,baz=36,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**70.86**	**28**	P	**P**	**00 18 54.9**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=294,slow=6.2,SNR=11						
FINES	**FINESS Array B**	**74.98**	**333**	P	**P**	**00 19 17.9**	**-1.0**
	1.6nm,0.8s,mb4.0,baz=72,slow=6.2,SNR=9.5						
NVAR	**Mina Array Bea**	**80.42**	**51**	P	**P**	**00 19 51.0**	**+1.7**
	0.4nm,0.8s,mb3.4,baz=274,slow=6.0,SNR=4.3						
BRTR	**Keskin Array B**	**83.04**	**312**	P	**P**	**00 20 03.7**	**+0.5**
	0.4nm,0.7s,mb3.6,baz=123,slow=6.1,SNR=4.9						
LPAZ	**La Paz**	**150.90**	**69**	PKPbc	PKPbc	00 27 33.7	+3.5
	1.3nm,0.8s,baz=358,slow=5.4,SNR=5.9						

IDC ***27*** *00:09:38.1±0.7, 2962N×14007E, h0km, mb3.9/10, mb1 4.2/11, mb1mx4.0/18, mbtmp4.0/11, ML4.6/1, MS3.8/7, Ms1 3.8/7, ms1mx3.4/36, Error ellipse: s-maj=26.4km s-min=17.5km az=71.0*
ISCJB ***27*** *00:09:44.3±1.0, 2948N±006×1402E±01, h57km±11km, mb4.0/17, MS3.9/4, Error ellipse: s-maj=19.8km s-min=7.3km az=140.2*
MOS ***27*** *00:09:46.7±1.4, 2955N×14003E, h80km, mb4.6/4, Error ellipse: s-maj=26.4km s-min=9.3km az=99.3*
NEIC ***27*** *00:09:49.1±1.9, 2957N×140.16E, h84km±16km, mb4.3/5, Error ellipse: s-maj=18.6km s-min=12.4km az=88.0*
ISC 27 00:09:46.3±0.9, 2951N±006×1404E±01, h57km±10km, n44, σ1§36/40, mb4.0/17, MS3.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.89**	**146**	Pn	**Pn**	**00 10 29.3**	**-0.6**
	103nm,0.3s,baz=112,slow=23,SNR=11						
CBIJ				Sn	**Sn**	**00 11 03.0**	**-0.4**
	135nm,0.3s,baz=281,slow=22,SNR=17						
CBIJ				LR	LR	00 11 45.1	
	comp=Z,860nm,19.6s,baz=275,slow=41						
JHJ	**Hachijo jima 2**	**3.63**	**352**	Pn	**Pn**	**00 10 39.1**	**-0.8**
	7.7nm,0.3s,baz=74,slow=18,SNR=2.9						
MJAR	**Matsushiro Arr**	**7.24**	**346**	Pn	**Pn**	**00 11 29.1**	**-0.3**
	0.5nm,0.3s,baz=157,slow=10,SNR=6.6						
MAJO	**Matsushiro**	**7.24**	**346**	*e*Pn	**Pn**	**00 11 40.7**	**+11**
	46nm,1.1s						
MAJO	**Matsushiro**	**7.24**	**346**	*e*P	**Pn**	**00 11 40.7**	**+11**
MAJO				pmax	pmax		
	comp=Z,45nm,1.1s						
MAT	**Matsushiro**	**7.24**	**346**	P	**Pn**	**00 11 32.7**	**+3.3**
MAT	**Matsushiro**	**7.24**	**346**	P	**Pn**	**00 11 32.0**	**+2.6**
	comp=Z,50nm,1.8s						
MAT	**Matsushiro**	**7.24**	**346**	P	**Pn**	**00 11 32.0**	**+2.6**
MAT				pmax	pmax		
	comp=Z,50nm,1.8s						
JNU	**Nakatsue**	**8.88**	**296**	LR	LR	00 14 52.8	
	comp=Z,816nm,19.7s,baz=185,slow=37						
JOW	**Kunigami**	**11.00**	**259**	LR	LR	00 15 52.2	
	comp=Z,551nm,21.2s,baz=302,slow=35						
GUMO	**Guam**	**16.39**	**164**	LR	LR	00 19 34.7	
	comp=Z,106nm,18.3s,baz=334,slow=36						
YSS	**Yuzh-Sakhalins**	**17.51**	**5**	*e*P	**Pn**	**00 13 47.0**	**+0.6**
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**17.51**	**5**	*e*P	**Pn**	**00 13 47.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
NACB	**Ninganchiao**	**17.57**	**257**	P	**Pn**	**00 13 56.6**	**+10**
KLR	**Kul'dur**	**20.76**	**344**	*e*P	**P**	**00 14 22.2**	**-0.1**
BJI	**Beijing**	**22.41**	**304**	P	**P**	**00 14 41.6**	**+1.7**
	comp=Z,14nm,1.7s,mb4.1						
BJI				S	**S**	**00 18 33.1**	**-10**
BJI				LR	LR		
	comp=Z,240nm,18.5s,MS3.6						
MA2	**Magadan**	**30.88**	**10**	*e*P	**P**	**00 15 57.9**	**+0.7**
	comp=Z,7.0nm,0.8s,mb4.5						
MA2	**Magadan**	**30.88**	**10**	*e*P	**P**	**00 15 57.9**	**+0.7**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**31.48**	**315**	*e*P	**P**	**00 16 02.2**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.6						
ULN	**Ulaanbaatar**	**31.48**	**315**	*e*P	**P**	**00 16 02.2**	**-0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
SONM	**Songino Array**	**31.87**	**315**	P	**P**	**00 16 03.3**	**-2.6**
	0.2nm,0.3s,mb3.1,baz=101,slow=24,SNR=3.5						
SONM				LR	LR	00 29 56.2	
	comp=Z,84nm,19.2s,MS3.4,baz=135,slow=38						
BILL	**Bilibino**	**41.49**	**14**	*e*P	**P**	**00 17 18.7**	**-9.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
LSA	**Lhasa**	**42.52**	**283**	*e*P	**P**	**00 17 39.3**	**+3.2**
MKAR	**Makanchi Array**	**47.72**	**308**	P	**P**	**00 18 14.3**	**-2.9**
	comp=Z,0.2nm,0.7s,mb3.2,baz=116,slow=5.6,SNR=2.3						
MKAR				LR	LR	00 39 16.4	
	comp=Z,153nm,18.8s,MS4.0,baz=89,slow=38						
WRAB	**Tennant Creek**	**49.50**	**187**	*e*P	**P**	**00 18 32.1**	**+1.1**
	comp=Z,4.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**49.50**	**187**	*e*P	**P**	**00 18 32.1**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**49.51**	**187**	*e*P	**P**	**00 18 31.7**	**+0.7**
WRA	**Warramunga Arr**	**49.51**	**187**	P	**P**	**00 18 31.2**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.4,baz=3.0,slow=7.6,SNR=22						
KURK	**Kurchatov**	**50.16**	**313**	P	**P**	**00 18 34.7**	**-1.3**
ASAR	**Alice Springs**	**53.24**	**187**	P	**P**	**00 18 58.9**	**0.0**
	comp=Z,0.9nm,1.0s,mb3.6,baz=23,slow=11,SNR=4.5						
BRVK	**Borovoye**	**55.25**	**316**	P	**P**	**00 19 17.2**	**+3.6**
ILAR	**Eielson Array**	**56.38**	**29**	P	**P**	**00 19 19.7**	**-2.0**
	comp=Z,2.1nm,1.0s,mb4.1,baz=267,slow=7.0,SNR=5.5						
RES	**Resolute Bay**	**70.09**	**13**	*e*P	**P**	**00 20 53.7**	**+1.3**
	comp=Z,710nm,1.6s						
RES	**Resolute Bay**	**70.09**	**13**	*e*P	**P**	**00 20 53.7**	**+1.3**
RES				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.8						
ARCES	**ARCESS Array B**	**70.74**	**340**	P	**P**	**00 20 55.6**	**-0.7**
	comp=Z,5.7nm,1.1s,mb4.4,baz=67,slow=9.3,SNR=6.0						
YKA	**Yellowknife Ar**	**70.78**	**28**	P	**P**	**00 20 57.2**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=295,slow=6.1,SNR=13						
FINES	**FINESS Array B**	**75.08**	**333**	P	**P**	**00 21 19.1**	**-2.9**
	comp=Z,3.6nm,1.1s,mb4.2,baz=69,slow=3.6,SNR=5.7						
AKASG	**Malin Array Be**	**79.73**	**323**	P	**P**	**00 21 46.0**	**-2.0**
	comp=Z,0.1nm,0.3s,mb3.2,baz=47,slow=5.5,SNR=6.4						
NVAR	**Mina Array Bea**	**80.28**	**51**	P	**P**	**00 21 52.5**	**+1.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=298,slow=4.8,SNR=4.5						
PPT	**Papeete**	**82.15**	**115**	LR	LR	00 52 53.7	
	comp=Z,139nm,20.5s,MS4.3,baz=298,slow=32						
BRTR	**Keskin Array B**	**83.19**	**312**	P	**P**	**00 22 05.5**	**-0.8**
	comp=Z,0.8nm,0.8s,mb3.8,baz=128,slow=2.0,SNR=5.7						
PV10	**Paradox Valley**	**86.44**	**47**	P	**P**	**00 22 26.4**	**+3.8**
LPAZ	**La Paz**	**150.73**	**70**	PKPbc	PKPbc	00 29 33.4	+1.4
	comp=Z,1.1nm,1.0s,baz=345,slow=5.2,SNR=5.6						
PLCA	**Paso Flores**	**152.48**	**122**	PKPbc	PKPbc	00 29 36.0	-0.1
	comp=Z,1.3nm,0.8s,baz=297,slow=6.8,SNR=2.8						

IDC ***27*** *00:13:03.5±1.0, 2906N×14163E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/33, Error ellipse: s-maj=44.5km s-min=22.1km az=97.0*
ISCJB ***27*** *00:13:06.7±0.8, 291N±01×1415E±02, h33km, mb3.7/7, Error ellipse: s-maj=22.6km s-min=16.6km az=28.1*
NEIC ***27*** *00:13:08.6±0.9, 2925N×14099E, h35km, mb4.1/2, Error ellipse: s-maj=41.1km s-min=19.1km az=92.0*
ISC 27 00:13:09.0±0.8, 291N±01×1415E±02, h35km, n10, σ0§75/9, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**4.26**	**340**	LR	LR	00 15 20.6	
	comp=Z,116nm,20.3s,baz=175,slow=32						
YHNB	**Yeheng**	**18.51**	**261**	*e*P	**Pn**	**00 17 21.8**	**-0.7**
	4.5nm,0.4s						
ULN	**Ulaanbaatar**	**32.48**	**315**	*e*P	**P**	**00 19 30.6**	**-5.4**
SONM	**Songino Array**	**32.87**	**314**	P	**P**	**00 19 40.6**	**+1.1**
	0.2nm,0.5s,mb3.3,baz=125,slow=4.0,SNR=3.6						
WRAB	**Tennant Creek**	**49.25**	**189**	*e*P	**P**	**00 21 55.5**	**+1.5**
	2.1nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**49.26**	**189**	P	**P**	**00 21 53.7**	**-0.4**
	1.9nm,0.8s,mb4.2,baz=5.5,slow=7.9,SNR=11						
ASAR	**Alice Springs**	**52.99**	**189**	P	**P**	**00 22 21.6**	**-0.5**
	0.4nm,0.7s,mb3.5,baz=11,slow=14,SNR=4.2						
ILAR	**Eielson Array**	**56.23**	**29**	P	**P**	**00 22 45.0**	**-0.6**
	0.6nm,0.9s,mb3.6,baz=265,slow=4.5,SNR=5.1						
YKA	**Yellowknife Ar**	**70.65**	**29**	P	**P**	**00 24 20.9**	**0.0**
	0.5nm,0.7s,mb3.5,baz=295,slow=6.2,SNR=9.4						
FINES	**FINESS Array B**	**75.89**	**333**	P	**P**	**00 24 51.6**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=61,slow=9.0,SNR=6.1						

IDC ***27*** *00:16:03.5±0.5, 2959N×13998E, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.2/22, mbtmp4.1/18, ML4.6/1, Error ellipse: s-maj=20.3km s-min=13.8km az=84.0*
ISCJB ***27*** *00:16:07.0±1.3, 2946N±005×1400E±01, h37km±12km, mb4.1/27, Error ellipse: s-maj=16.1km s-min=8.1km az=146.2*
MOS ***27*** *00:16:08.6±0.8, 2955N×13989E, h49km, mb4.2/5, Error ellipse: s-maj=22.6km s-min=10.1km az=98.0*
NEIC ***27*** *00:16:11.1±1.5, 2955N×13993E

101nm,0.3s,baz=283,slow=20,SNR=12
CBIJ Sn **Sn** **00 17 26.9 -3.4**
215nm,0.3s,baz=290,slow=22,SNR=21
MJAR Matsushiro Arr 7.20 348 Pn **Pn** **00 17 52.7 +0.3**
0.2nm,0.3s,baz=101,slow=41,SNR=3.0
MAT Matsushiro 7.20 348 P **Pn** **00 17 55.5 +3.1**
MA2 Magadan 30.94 11 *e*P **P** **00 22 22.7 +0.3**
MA2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
SONM Songino Array 31.70 315 P **P** **00 22 29.3 +0.2**
comp=Z,0.4nm,0.6s,mb3.4,baz=130,slow=9.0,SNR=3.2
BILL Bilibino 41.57 14 *e*P **P** **00 23 53.5 +0.5**
comp=Z,2.0nm,0.9s,mb3.8
BILL Biiibino 41.57 14 *e*P **P** **00 23 53.5 +0.5**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
MKAR Makanchi Array 47.52 308 P **P** **00 24 40.1 -0.5**
comp=Z,0.2nm,0.6s,mb3.4,baz=98,slow=10.0,SNR=2.4
FITZ Fitzroy Crossi 49.33 198 P **P** **00 24 55.9 +1.5**
comp=Z,2.9nm,0.8s,mb4.4,baz=274,slow=19,SNR=3.0
WRAB Tennant Creek 49.45 187 *e*P **P** **00 24 56.7 +1.4**
comp=Z,6.4nm,0.8s,mb4.7
WRAB Tennant Creek 49.45 187 *e*P **P** **00 24 56.7 +1.3**
WRAB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WRA Warramunga Arr 49.46 187 P **P** **00 24 56.5 +1.0**
comp=Z,7.4nm,0.8s,mb4.8,baz=5.8,slow=7.9,SNR=41
KURK Kurchatov 49.98 313 *e*P **P** **00 25 03.5 +4.1**
KURK pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ASAR Alice Springs 53.19 187 P **P** **00 25 23.9 +0.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=13,slow=14,SNR=12
MBWA Marble Bar 54.04 204 *e*P **P** **00 25 29.5 -0.1**
CHKZ Chkalovo 54.85 317 *e*P **P** **00 25 34.6 -0.8**
CHKZ pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BVAR Borovoye Array 55.02 316 P **P** **00 25 35.1 -1.7**
comp=Z,0.8nm,0.5s,mb4.0,baz=83,slow=6.4,SNR=5.3
ZRNK Zerenda 55.86 316 *e*P **P** **00 25 42.8 0.0**
ZRNK pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ILAR Eielson Array 56.52 29 P **P** **00 25 46.3 -1.2**
comp=Z,1.0nm,0.7s,mb4.0,baz=275,slow=5.5,SNR=16
STKA Stephens Creek 61.05 179 P **P** **00 26 18.4 -0.6**
comp=Z,6.1nm,1.1s,mb4.7,baz=98,slow=6.1,SNR=3.7
STKA Stephens Creek 61.05 179 *e*P **P** **00 26 18.0 -0.9**
INK Inuvik 61.63 25 P **P** **00 26 22.9 +0.1**
comp=Z,1.0nm,0.8s,mb4.0,baz=231,slow=7.3,SNR=8.0
NWAO Narrogin (SRO) 65.75 201 P **P** **00 26 50.6 +0.7**
ARCES ARCESS Array B 70.66 340 P **P** **00 27 20.2 -0.5**
comp=Z,1.8nm,0.6s,mb4.2,baz=70,slow=10,SNR=12
YKA Yellowknife Ar 70.92 28 P **P** **00 27 21.8 -0.4**
comp=Z,1.1nm,0.7s,mb3.9,baz=295,slow=6.3,SNR=24
YKA Yellowknife Ar 70.92 28 P **P** **00 27 21.8 -0.5**
JOF Joensuu 72.11 333 *e*p **P** **00 27 29.2 -0.2**
comp=Z,2.0nm,0.6s,mb4.2
KAF Kangasniemi 74.50 333 *e*p **P** **00 27 42.9 -0.7**
comp=Z,1.6nm,0.5s,mb4.2,baz=54,slow=5.5
KAF Kangasniemi 74.50 333 *e*P **P** **00 27 42.9 -0.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B 74.97 333 P **P** **00 27 45.7 -0.6**
comp=Z,1.9nm,0.6s,mb4.2,baz=65,slow=5.5,SNR=22
NEW Newport 76.39 42 P **P** **00 27 55.8 +1.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=292,slow=3.1,SNR=4.2
AKASG Malin Array Be 79.58 323 P **P** **00 28 11.0 -1.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=49,slow=5.5,SNR=6.8
NVAR Mina Array Bea 80.49 51 P **P** **00 28 17.3 +0.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=317,slow=4.6,SNR=7.2
NVAR Mina Array Bea 80.49 51 P **P** **00 28 17.3 +0.3**
NOA NORSAR Array B 80.69 337 P **P** **00 28 17.1 -1.0**
comp=Z,1.0nm,0.6s,mb3.9,baz=44,slow=5.5,SNR=3.6
BRTR Keskin Array B 83.01 312 P **P** **00 28 29.9 -0.4**
comp=Z,1.6nm,1.0s,mb4.0,baz=86,slow=4.0,SNR=5.5
PDAR Pinedale Array 83.80 44 P **P** **00 28 35.5 +1.2**
comp=Z,0.5nm,1.0s,mb3.6,baz=356,slow=1.9,SNR=3.0
SRU San Rafael 85.27 47 *e*P **P** **00 28 42.6 +0.8**
comp=Z,4.4nm,0.7s,mb4.7
SRU San Rafael 85.27 47 *e*P **P** **00 28 42.6 +0.9**
SRU pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
TORD Torodi Ar. Bea 121.61 311 PKP PKPdf 00 34 57.6 -0.8
comp=Z,0.2nm,0.7s,baz=66,slow=1.6,SNR=4.5
LPAZ La Paz 150.97 69 PKPbc PKPbc 00 36 00.8 +3.2
comp=Z,2.0nm,0.9s,baz=352,slow=7.6,SNR=5.9
PLCA Paso Flores 152.69 122 PKPbc PKPbc 00 36 03.0 +1.5
comp=Z,1.9nm,0.7s,baz=262,slow=3.7,SNR=5.8

IDC 27 00:30:33.3±17.0, 2984S×17950W, h334km±140km, mb3.2/2, mb1 3.6/3, mb1mx3.3/13, mbtmp4.3/3, Error ellipse: s-maj=226.6km s-min=26.3km az=151.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**17.39**	**26**	P		P	00 34 14.6	+0.2
	4.5nm,0.3s,baz=172,slow=7.3,SNR=6.4							
ASAR	**Alice Springs**	**41.84**	**267**	P		P	00 37 51.2	-0.3
	0.8nm,0.5s,baz=105,slow=7.1,SNR=12							
WRA	**Warramunga Arr**	**42.78**	**272**	P		P	00 37 59.6	+0.6
	0.8nm,0.3s,baz=112,slow=8.0,SNR=18							
FINES	**FINESS Array B**	**144.17**	**339**	PKP		PKPdf	00 49 28.1	-1.4
	0.7nm,0.6s,baz=57,slow=5.1,SNR=8.3							

*ISCJB **27** 00:31:46.6±0.5, 3244S±009×1391W±008, h10km, mb4.2/13, MS4.0/7, Error ellipse: s-maj=12.8km s-min=9.8km az=1.6*
*IDC **27** 00:31:46.6±0.8, 3240S×1396W, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/23, mbtmp4.2/10, MS4.1/7, Ms1 4.0/7, ms1mx3.9/21, Error ellipse: s-maj=22.4km s-min=16.2km az=164.0*
*NEIC **27** 00:31:48.4±0.4, 3247S×1392W, h10km, mb4.2/5, Error ellipse: s-maj=13.8km s-min=9.4km az=179.0*
ISC 27 00:31:48.4±0.4, 3255S±006×1388W±008, h10km, n30, σ1°07/25, mb4.2/13, MS4.0/7, 1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**4.69**	**164**	*e*Pn		**Pn**	**00 32 59.5**	**+0.3**
TRIS				*e*Sn		**Sn**	**00 33 52.0**	**-1.7**
SUR	**Sutherland**	**29.20**	**99**	LR		LR	00 46 42.8	
	comp=Z,419nm,19.4s,MS4.1,baz=2.5,slow=31							
TSUM	**Tsumeb**	**31.15**	**73**	*e*P		**P**	**00 38 07.7**	**+0.4**
	3.6nm,0.8s,mb4.2							
RCBR	**Riachuelo**	**33.59**	**318**	P		**P**	**00 38 26.9**	**-1.9**
BOSA	**Boshof**	**33.80**	**94**	LR		LR	00 49 53.8	
	comp=Z,346nm,18.3s,MS4.1,baz=252,slow=32							
BDFB	**Brasilia**	**35.21**	**290**	P		**P**	**00 38 40.9**	**-1.8**
	5.2nm,0.6s,mb4.6,baz=152,slow=5.6,SNR=11							
BDFB				LR		LR	00 50 24.1	
	comp=Z,358nm,20.7s,MS4.1,baz=153,slow=32							
LBTB	**Lobatse**	**35.26**	**88**	P		**P**	**00 38 44.1**	**+1.0**
CPUP	**Villa Florida**	**38.14**	**268**	LR		LR	00 52 27.9	
	comp=Z,255nm,19.7s,MS4.0,baz=113,slow=33							
TRQA	**Tornquist**	**39.29**	**248**	P		**P**	**00 39 18.8**	**+1.5**
MATP	**Matopo**	**39.57**	**83**	P		**P**	**00 39 20.0**	**+0.3**
	5.6nm,1.0s,mb4.3,baz=235,slow=7.1,SNR=8.8							
MATP	**Matopo**	**39.57**	**83**	P		**P**	**00 39 20.0**	**+0.3**
DBIC	**Dimbokro**	**39.94**	**14**	P		**P**	**00 39 21.1**	**-1.7**
	4.3nm,0.9s,mb4.2,baz=121,slow=9.5,SNR=4.1							
DBIC				LR		LR	00 51 39.0	
	comp=Z,64nm,21.5s,MS3.4,baz=34,slow=30							
DBIC	**Dimbokro**	**39.94**	**14**	P		**P**	**00 39 22.6**	**-0.1**
LSZ	**Lusaka**	**41.82**	**76**	P		**P**	**00 39 39.0**	**+0.7**
	1.2nm,0.4s,mb3.9,baz=193,slow=8.0,SNR=6.6							
LSZ	**Lusaka**	**41.82**	**76**	*e*P		**P**	**00 39 39.2**	**+0.9**
	4.4nm,1.0s,mb4.0							
PLCA	**Paso Flores**	**45.52**	**243**	P		**P**	**00 40 07.7**	**-0.3**
	2.7nm,0.9s,mb4.2,baz=90,slow=5.1,SNR=2.5							
CFAA	**Coronel Fontan**	**45.64**	**256**	P		**P**	**00 40 08.9**	**-0.1**
	0.3nm,0.6s,mb3.4,baz=33,slow=9.8,SNR=4.0							
SIV	**San Ignacio**	**45.68**	**280**	P		**P**	**00 40 10.2**	**+0.8**
	2.5nm,0.8s,mb4.2,baz=122,slow=8.4,SNR=10							
SYO	**Syowa Base**	**47.11**	**157**	‖*e*P		**P**	**00 40 20.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**47.82**	**21**	P		**P**	**00 40 24.6**	**-1.5**
	4.1nm,0.9s,mb4.5,baz=212,slow=3.4,SNR=20							
LVC	**Limon Verde**	**49.31**	**267**	P		**P**	**00 40 40.1**	**+2.5**
SAML	**Samuel**	**51.18**	**286**	*e*P		**P**	**00 40 52.3**	**+0.6**
	2.3nm,0.7s,mb4.2							
LPAZ	**La Paz**	**51.45**	**275**	P		**P**	**00 40 53.0**	**-0.7**
	1.0nm,0.8s,mb3.8,baz=213,slow=6.2,SNR=3.5							
LPAZ	**La Paz**	**51.45**	**275**	*e*P		**P**	**00 40 53.5**	**-0.3**
	0.7nm,0.7s,mb3.7							
MAW	**Mawson**	**55.34**	**153**	LR		LR	01 01 03.9	
	comp=Z,312nm,19.5s,MS4.4,baz=58,slow=32							
SDV	**Santo Domingo**	**67.95**	**297**	*e*P		**P**	**00 42 47.9**	**+0.5**
	3.4nm,0.6s,mb4.5							
VNDA	**Vanda**	**70.16**	**179**	LR		LR	01 10 42.6	
	comp=Z,144nm,20.0s,MS4.2,baz=182,slow=33							
VNDA	**Vanda**	**70.16**	**179**	P		**P**	**00 43 08.1**	**+6.9**
MLR	**Muntele Rosu**	**85.66**	**27**	P		**P**	**00 44 27.4**	**0.0**
	0.9nm,0.4s,mb4.4,baz=217,slow=2.0,SNR=4.3							
ILAR	**Eielson Array**	**136.94**	**333**	PKP		PKPdf	00 51 09.2	-2.2
	0.1nm,0.6s,baz=57,slow=2.5,SNR=4.6							

IDC 27 00:42:01.6±5.6, 2135N×14317E, h495km±66km, mb2.9/6, mb1 3.2/7, mb1mx2.9/21, mbtmp3.9/7, Error ellipse: s-maj=52.4km s-min=16.3km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**16.01**	**320**	P		P	00 45 23.4	+1.0
	3.8nm,0.3s,baz=125,slow=0.8,SNR=11							
WRA	**Warramunga Arr**	**41.94**	**192**	P		P	00 49 07.8	-0.4
	0.6nm,0.4s,baz=14,slow=9.0,SNR=23							
ASAR	**Alice Springs**	**45.65**	**192**	P		P	00 49 37.9	+0.9
	0.4nm,0.9s,baz=8.9,slow=6.6,SNR=3.7							
BVAR	**Borovoye Array**	**62.93**	**320**	P		P	00 51 37.9	-0.9
	0.6nm,0.3s,baz=102,slow=8.2,SNR=7.1							
YKA	**Yellowknife Ar**	**76.76**	**28**	P		P	00 53 01.0	-0.5
	0.3nm,0.7s,baz=292,slow=5.8,SNR=4.8							
ARCES	**ARCESS Array B**	**79.25**	**342**	P		P	00 53 15.3	+0.4
	2.3nm,0.8s,baz=44,slow=8.0,SNR=3.8							
FINES	**FINESS Array B**	**83.49**	**334**	P		P	00 53 36.4	-0.3
	0.5nm,0.6s,baz=66,slow=6.5,SNR=5.1							

*IDC **27** 00:46:14.8±3.1, 1688S×167.12E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=66.0km s-min=31.8km az=89.0*
*LDG **27** 00:46:16.5±0.5, 1678S×16682E, h10km, Error ellipse: s-maj=79.6km s-min=9.6km az=87.0*
*ISCJB **27** 00:46:17.1±3.7, 1698S±009×1673E±0.1, h32km±30km, mb4.0/5, Error ellipse: s-maj=23.9km s-min=14.1km az=26.0*
*NEIC **27** 00:46:20.3±0.7, 17.19S×16727E, h35km, mb4.4/2, Error ellipse: s-maj=27.3km s-min=16.0km az=116.0*
ISC 27 00:46:16.7±5.9, 1690S±008×16733E±009, h18km±39km, n22, σ1°01/15, mb4.0/5, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.16**	**131**	‖*i*P		**Pn**	**00 46 37.7**	**-0.3**
BKM				S		**Sb**	**00 46 53.4**	**+0.6**
DZM	**Mont Dzumac**	**5.21**	**189**	Pn		**Pn**	**00 47 34.0**	**+0.3**
	3.8nm,0.3s,baz=60,slow=13,SNR=42							
DZM				Sn		**Sn**	**00 48 33.7**	**+0.4**
	3.2nm,0.3s,baz=293,slow=23,SNR=8.0							
DZM	**Mont Dzumac**	**5.21**	**189**	*e*P		**Pn**	**00 47 31.0**	**-2.8**
DZM				Pn		**Pn**	**00 47 34.0**	**+0.3**
DZM				*e*S		**Sn**	**00 48 30.3**	**-3.1**
DZM				Sn		**Sn**	**00 48 33.7**	**+0.4**
STKA	**Stephens Creek**	**27.68**	**233**	P		**P**	**00 52 04.7**	**+1.0**
TAU	**Tasmania Unive**	**31.03**	**209**	*e*P		**P**	**00 52 32.3**	**-1.1**
WRAB	**Tennant Creek**	**31.41**	**259**	*e*P		**P**	**00 52 38.8**	**+2.1**
	4.1nm,1.0s,mb4.2							
WRA	**Warramunga Arr**	**31.42**	**259**	P		**P**	**00 52 36.0**	**-0.8**
	0.3nm,0.5s,mb3.4,baz=86,slow=8.4,SNR=6.2							
ASAR	**Alice Springs**	**32.02**	**252**	P		**P**	**00 52 41.8**	**-0.3**
	1.9nm,0.6s,mb4.1,baz=80,slow=8.5,SNR=25							
SONM	**Songino Array**	**84.27**	**324**	P		**P**	**00 58 47.9**	**+0.6**
	0.8nm,0.9s,mb3.8,baz=150,slow=4.6,SNR=5.1							
BILL	**Bilibino**	**84.70**	**360**	*e*P		**P**	**00 58 48.7**	**-0.9**
	1.7nm,0.3s,mb4.7							
CDF	**Champ du Feu**	**144.59**	**337**	*e*PKP1		PKPdf	01 05 50.6	-1.6
	7.4nm,0.8s							
HINF	**Hinteralfeld**	**145.25**	**337**	*e*PKP1		PKPbc	01 05 52.4	-0.6
	6.3nm,0.6s							
HAU	**Haudompre**	**145.28**	**337**	*e*PKP1		PKPbc	01 05 53.8	+0.7
	20nm,0.8s							
MEZF	**Maizieres J'vi**	**145.31**	**339**	*e*PKP1		PKPbc	01 05 53.4	+0.2
	21nm,0.9s							
FLN	**La Foliniere**	**146.70**	**345**	*e*PKP1		PKPbc	01 05 56.7	-0.7
	9.9nm,0.6s							
LDF	**La Druitiere**	**146.77**	**345**	*e*PKP1		PKPbc	01 05 57.5	-0.1
	9.6nm,0.7s							
LOR	**Lormes**	**146.79**	**339**	*e*PKP1		PKPbc	01 05 58.5	+0.8
	6.9nm,0.8s							
SSF	**Saint Saulge**	**147.09**	**339**	*e*PKP1		PKPbc	01 05 58.7	+0.2
GRR	**Gorron**	**147.14**	**345**	*e*PKP1		PKPbc	01 05 59.1	+0.4
LPL	**La Plagne**	**147.18**	**334**	*e*PKP1		PKPbc	01 05 59.1	+0.3
	4.4nm,0.8s							
LPG	**La Plagne**	**147.19**	**334**	*e*PKP1		PKPbc	01 05 59.2	+0.4
	6.6nm,0.8s							
PGF	**Pioggiola**	**148.44**	**329**	*e*PKP1		PKPbc	01 06 02.0	-0.2
	8.3nm,0.7s							

MAN 27 00:52:40.7, 977N×12624E, h1km, mb2.5, ML4.1, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.00**	**218**	*e*P		Pg	00 53 00.2	+0.2
BUTP				*e*S		Sg	00 53 16.7	+3.6
MSLP	**Maasin**	**1.41**	**285**	*e*P		Pn	00 53 06.6	-0.9
BUKP	**Musuan**	**2.21**	**212**	*e*P		Pn	00 53 19.1	+0.5
BUKP				*e*S		Sn	00 53 49.9	+3.4

*NEIC **27** 00:58:28.6, 37.18N×13.10W, h0km, MN2.8(MDD), After MDD.*
*INMG **27** 00:58:30.5±0.6, 3685N×1341W, h10km, ML2.0, Error ellipse: s-maj=6.4km s-min=4.6km az=116.0*
*CSEM **27** 00:58:31.1±0.7, 3638N×1242W, h10km, ML2.0, Error ellipse: s-maj=15.5km s-min=13.6km az=168.0*
MDD 27 00:58:29.2±2.7, 3707N×1304W, h0km, mb3.4/4, Error ellipse: s-maj=24.9km s-min=22.4km az=126.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.48**	**81**	*e*Pn		Pn	00 59 23.1	-1.4
PLOU	**Loures**	**3.57**	**58**	*e*Pn		Pn	00 59 24.7	-1.1
PLOU				*e*Sn		Sn	01 00 05.6	-3.1
PLOU								
	7.1nm,0.3s							
PLOU	**Loures**	**3.57**	**58**	*e*Pn		Pn	00 59 24.7	-1.1
PLOU				*e*Sn		Sn	01 00 05.6	-3.1
MOE	**Montemor**	**3.99**	**67**	*e*Pn		Pn	00 59 30.5	-1.1
MOE				*e*Sn		Sn	01 00 14.7	-4.3
PBEJ	**Beja**	**4.22**	**75**	*e*Pn		Pn	00 59 33.9	-0.9
PBEJ				*e*Sn		Sn	01 00 21.3	-3.5
PBEJ								
	0.8nm,0.1s							
PTOM	**Tomar**	**4.44**	**54**	*e*Pn		Pn	00 59 37.2	-0.6
PTOM				*e*Sn		Sn	01 00 26.7	-3.5
PTOM								
	3.2nm,0.1s							
PTOM	**Tomar**	**4.44**	**54**	*e*Pn		Pn	00 59 37.2	-0.6
PTOM				*e*Sn		Sn	01 00 26.7	-3.5
EGRO	**El Granado**	**4.46**	**82**	P		Pn	00 59 36.5	-1.5
	0.2nm,0.1s,SNR=7.9							
EGRO				S		Sn	01 00 25.9	-4.7
	1.1nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**4.46**	**82**	P		Pn	00 59 36.5	-1.5
	0.2nm,0.1s,SNR=7.9							
EGRO				S		Sn	01 00 25.9	-4.7
	1.1nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**5.06**	**69**	P		Pn	00 59 44.6	-1.6
	0.3nm,0.1s,SNR=7.9							
EBAD				S		Sn	01 00 39.6	-5.8
	0.9nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**5.06**	**69**	P		Pn	00 59 44.6	-1.6
	0.3nm,0.1s,SNR=7.9							
EBAD				S		Sn	01 00 39.6	-5.7
	0.9nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.12**	**80**	P		Pn	00 59 45.6	-1.5
	0.2nm,0.1s,SNR=7.9							
EMIN				S		Sn	01 00 41.7	-5.2
	0.3nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.12**	**80**	P		Pn	00 59 45.6	-1.5
	0.2nm,0.1s,SNR=7.9							
EMIN				S		Sn	01 00 41.7	-5.2
	0.3nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**5.17**	**56**	*e*Pn		Pn	00 59 47.0	-0.8
PCBR				*e*Sn		Sn	01 00 44.3	-3.9
PVIS	**Viseu**	**5.42**	**46**	*e*Pn		Pn	00 59 50.1	-1.2
PVIS				*e*Sn		Sn	01 00 49.9	-4.4
PVIS								
	1.5nm,0.1s							
ESPR	**Espera**	**5.76**	**90**	S		Sn	01 00 59.7	-2.9
	4.2nm,0.3s,SNR=7.9							
PVRL	**Vila Real**	**5.90**	**43**	*e*Sn		Sn	01 01 01.1	-5.0
PVRL								
	1.1nm,0.1s							
PVRL	**Vila Real**	**5.90**	**43**	Sn		Sn	01 01 01.1	-5.0
	0.6nm,0.1s							
ELOB	**Lobios**	**6.15**	**37**	S		Sn	01 01 05.5	-6.8
	1.5nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.81**	**78**	P		Pn	01 00 08.9	-1.4
	0.1nm,0.1s,SNR=7.9							
EADA				S		Sn	01 01 23.2	-5.3
	0.6nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.81**	**78**	P		Pn	01 00 08.9	-1.4
	0.1nm,0.1s,SNR=7.9							
EADA				S		Sn	01 01 23.2	-5.3

MAN 27 01:06:06.4, 945N×12610E, h1km, mb1.8, ML3.6, MS4.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.67**	**224**	*e*P		Pg	01 06 19.0	-0.3
BUTP				*e*S		Sg	01 06 34.3	+6.3
SCPH	**Surigao**	**0.68**	**299**	*e*P		Pg	01 06 19.3	-0.1
SCPH				*i* S		Sg	01 06 32.9	+4.6
BUKP	**Musuan**	**1.87**	**213**	*e*P		Pn	01 06 40.2	+0.7
BUKP				*e*S		Sn	01 07 07.1	+3.4

*IDC **27** 01:07:07.2±0.8, 0.98N×126.12E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/16, mbtmp4.1/7, ML3.8/1, Error ellipse: s-maj=59.2km s-min=16.2km az=75.0*
*ISCJB **27** 01:07:10.8±4.8, 10N±01×126.1E±02, h39km±45km, mb4.3/13, Error ellipse: s-maj=32.2km s-min=10.7km az=127.0*
*NEIC **27** 01:07:12.4±0.4, 0.99N×126.12E, h35km, mb4.6/8, Error ellipse: s-maj=16.5km s-min=6.8km az=68.0*
*MOS **27** 01:07:12.0±0.7, 101N×12609E, h49km, mb4.6/4, Error ellipse: s-maj=65.5km s-min=15.7km az=107.8*
ISC 27 01:07:13.7±3.1, 095N±009×1261E±02, h47km±30km, n25, σ0°68/25, mb4.3/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**15.78**	**272**	*e*Pn		**Pn**	**01 10 52.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.94**	**181**	*e*P		**Pn**	**01 11 31.5**	**-0.2**
	7.1nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.94**	**181**	P		**Pn**	**01 11 31.2**	**-0.5**
	0.2nm,0.3s,baz=6.4,slow=14,SNR=4.8							
WRAB	**Tennant Creek**	**22.28**	**159**	*e*P		**P**	**01 12 07.6**	**+0.8**
	25nm,0.9s,mb4.7							
WRAB	**Tennant Creek**	**22.28**	**159**	*e*P		**P**	**01 12 07.6**	**+0.8**
WRAB				pmax		pmax		
	comp=Z,25nm,0.9s,mb4.6							
WRA	**Warramunga Arr**	**22.29**	**159**	P		**P**	**01 12 06.0**	**-0.8**
	comp=Z,4.4nm,0.6s,mb4.1,baz=337,slow=11,SNR=35							
WRA				S		**S**	**01 16 08.8**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=328,slow=19,SNR=7.3							
WB2	**Warramunga Arr**	**22.29**	**159**	*e*P		**P**	**01 12 06.9**	**0.0**
ASAR	**Alice Springs**	**25.62**	**163**	P		**P**	**01 12 39.9**	**+1.2**
	comp=Z,2.9nm,0.5s,mb4.1,baz=345,slow=11,SNR=30							
FORT	**Forrest**	**31.61**	**177**	*e*P		**P**	**01 13 33.2**	**+1.2**
	comp=Z,12nm,0.8s,mb4.8							
ENH	**Enshi**	**33.15**	**333**	*e*P		**P**	**01 13 45.7**	**+0.2**
	comp=Z,14nm,1.5s,mb4.7							
STKA	**Stephens Creek**	**35.81**	**157**	*e*P		**P**	**01 14 07.3**	**-1.1**
	comp=Z,3.2nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**35.81**	**157**	P		**P**	**01 14 07.1**	**-1.4**
	comp=Z,5.3nm,1.1s,mb4.4,baz=337,slow=12,SNR=5.2							
MJAR	**Matsushiro Arr**	**37.15**	**16**	P		**P**	**01 14 20.1**	**+0.3**
	comp=Z,1.0nm,0.2s,mb4.2,baz=179,slow=11,SNR=5.4							
SONM	**Songino Array**	**49.72**	**343**	P		**P**	**01 16 00.6**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=141,slow=7.5,SNR=4.3							
SONM				PcP		PcP	01 17 22.0	+0.4
	comp=Z,0.4nm,0.7s,baz=167,slow=3.0,SNR=3.7							
BOD	**Bodaibo**	**57.51**	**352**	*e*P		**P**	**01 16 57.4**	**-0.7**
BOD				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
MKAR	**Makanchi Array**	**59.48**	**326**	P		**P**	**01 17 12.1**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=130,slow=9.0,SNR=12							
KURK	**Kurchatov**	**63.74**	**329**	*e*P		**P**	**01 17 41.1**	**+0.6**
	comp=Z,6.5nm,0.3s,mb5.1							
KURK	**Kurchatov**	**63.74**	**329**	*e*P		**P**	**01 17 41.1**	**+0.6**
KURK				pmax		pmax		
	comp=Z,6.0nm,0.3s,mb5.1							
CHKZ	**Chkalovo**	**69.48**	**328**	P		**P**	**01 18 17.6**	**+0.5**
ZRNK	**Zerenda**	**70.00**	**327**	*e*P		**P**	**01 18 20.2**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.2							
ZRNK	**Zerenda**	**70.00**	**327**	*e*P		**P**	**01 18 20.2**	**-0.2**
ZRNK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
ARU	**Arti**	**76.93**	**328**	*e*P		**P**	**01 18 56.8**	**-4.3**
	comp=Z,6.2nm,0.8s,mb4.6							
ARU	**Arti**	**76.93**	**328**	*e*P

comp=Z,5.6nm,0.7s,mb4.4,baz=253,slow=9.8,SNR=9.8
DBIC LR LR 01 25 09.3
comp=Z,891nm,19.9s,MS4.4,baz=249,slow=30
MTP Monte Pirata 32.45 293 *eP* **P 01 17 02.8 0.0**
CPD Cerro la Pandu 32.76 292 *eP* **P 01 17 05.6 0.0**
CPD *e*PP PP 01 18 18.0 -1.5
SJG San Juan 32.99 292 P **P 01 17 06.4 -1.2**
comp=Z,37nm,0.7s,mb5.5,baz=89,slow=6.7,SNR=14
SJG LR LR 01 27 38.9
comp=Z,2μm,21.1s,MS4.7,baz=116,slow=31
SAML Samuel 33.01 242 *eP* **P 01 17 08.2 +0.4**
comp=Z,3.4nm,1.4s,mb4.1
SIV San Ignacio 35.15 229 P **P 01 17 26.8 +0.5**
comp=Z,63nm,0.9s,mb5.5,baz=69,slow=10,SNR=94
TORD Torodi Ar. Bea 35.80 77 P **P 01 17 31.0 -0.9**
comp=Z,13nm,0.8s,mb4.9,baz=272,slow=9.0,SNR=62
TORD PcP PcP 01 20 00.6 +1.1
comp=Z,1.3nm,0.8s,baz=259,slow=3.1,SNR=3.7
SDV Santo Domingo 36.13 275 P **P 01 17 34.4 -0.3**
comp=Z,22nm,0.9s,mb5.1,baz=91,slow=5.3,SNR=18
SDV LR LR 01 32 38.6
comp=Z,559nm,19.3s,MS4.3,baz=292,slow=37
SDV Santo Domingo 36.13 275 ⇓ *iP* **P 01 17 34.7 0.0**
comp=Z,30nm,1.0s,mb5.2
MDT Midelt 37.52 43 P **P 01 17 47.2 +0.6**
comp=Z,6.7nm,0.9s,mb4.4,baz=245,slow=7.5,SNR=15
MDT LR LR 01 31 13.0
comp=Z,2μm,18.4s,MS4.8,baz=236,slow=33
EJIF Jimena Fronter 39.24 38 P **P 01 18 03.5 +2.4**
comp=Z,8.4nm,0.6s,mb4.7
EJIF Jimena Fronter 39.24 38 P **P 01 18 03.5 +2.5**
EJIF pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
EMIJ Mijas 39.74 38 P **P 01 18 04.9 -0.3**
comp=Z,11nm,0.7s,mb4.7
PTOM Tomar 39.78 32 *eP* **P 01 18 06.0 +0.4**
comp=Z,81nm,1.4s,mb5.3
EBAD Badajoz 39.91 34 P **P 01 18 05.2 -1.4**
comp=Z,14nm,1.2s,mb4.5
ROSC El Rosal 39.98 269 P **P 01 18 08.4 +1.1**
comp=Z,34nm,0.7s,mb5.2,baz=348,slow=4.9,SNR=14
ROSC LR LR 01 33 26.6
comp=Z,1μm,20.5s,MS4.8,baz=71,slow=34
CPUP Villa Florida 40.12 213 P **P 01 18 08.7 +0.2**
comp=Z,11nm,1.0s,mb4.5,baz=25,slow=9.1,SNR=8.6
CPUP LR LR 01 34 16.9
comp=Z,2μm,19.1s,MS5.0,baz=29,slow=36
CPUP Villa Florida 40.12 213 *eP* **P 01 18 08.8 +0.3**
comp=Z,63nm,1.1s,mb5.3
CPUP Villa Florida 40.12 213 *eP* **P 01 18 08.8 +0.4**
CPUP pmax pmax
comp=Z,63nm,1.1s
ELOJ Sierra Loja 40.49 38 P **P 01 18 12.4 +0.9**
comp=Z,5.3nm,0.8s,mb4.3
ELOJ Sierra Loja 40.49 38 P **P 01 18 12.4 +0.9**
ELOJ pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
ELUQ Luque 40.69 37 P **P 01 18 14.0 +0.9**
comp=Z,4.2nm,0.6s,mb4.2
ELUQ Luque 40.69 37 P **P 01 18 14.0 +0.9**
ELUQ pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
LPAZ La Paz 40.86 235 P **P 01 18 15.7 +1.2**
LPAZ La Paz 40.86 235 P **P 01 18 15.3 +0.8**
comp=Z,17nm,0.7s,mb4.8,baz=55,slow=7.3,SNR=60
LPAZ LR LR 01 34 39.8
comp=Z,1μm,18.8s,MS4.8,baz=249,slow=35
LPAZ La Paz 40.86 235 ⇑ *eP* **P 01 18 15.7 +1.2**
comp=Z,49nm,0.9s,mb5.1
LPAZ La Paz 40.86 235 ⇑ *eP* **P 01 18 15.7 +1.2**
LPAZ pmax pmax
comp=Z,49nm,0.9s
ECOG Cogollos-Vega 40.93 38 P **P 01 18 15.9 +0.8**
comp=Z,5.1nm,0.7s,mb4.3
ECOG Cogollos-Vega 40.93 38 P **P 01 18 15.9 +0.8**
ECOG pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
EBER Berja 41.12 39 P **P 01 18 21.8 +5.2**
comp=Z,9.9nm,0.8s,mb4.5
EQES Quesada 41.57 38 P **P 01 18 20.0 -0.4**
comp=Z,7.1nm,0.7s,mb4.4
ENIJ Nijar 41.59 40 P **P 01 18 21.2 +0.7**
comp=Z,14nm,0.9s,mb4.6
ENIJ Nijar 41.59 40 P **P 01 18 21.2 +0.7**
ENIJ pmax pmax
comp=Z,14nm,0.9s,mb4.6
EHUE Huescar 41.87 38 P **P 01 18 22.7 -0.2**
ESDC Sonseca Array 42.26 35 P **P 01 18 24.4 -1.6**
comp=Z,4.2nm,1.1s,mb4.0,baz=235,slow=8.9,SNR=10
ESDC Sonseca Array 42.26 35 P **P 01 18 26.5 +0.5**
comp=Z,2.8nm,1.0s
CART Cartagena 42.73 40 *eP* **P 01 18 29.1 -0.7**
comp=Z,18nm,0.9s,mb4.8
GUD Guadarrama 42.81 34 P **P 01 18 30.6 +0.1**
comp=Z,9.1nm,0.8s,mb4.6
GUD Guadarrama 42.81 34 P **P 01 18 30.6 +0.1**
GUD pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ARE Arequipa 43.72 237 *eP* **P 01 18 36.0 -1.8**
OTAV Otavalo 44.67 263 *eP* **P 01 18 46.0 +0.5**
comp=Z,11nm,0.9s,mb4.7
LVC Limon Verde 45.04 228 *eP* **P 01 18 47.7 -0.7**
comp=Z,30nm,1.0s,mb5.1
LVC *e*PcP PcP 01 20 27.2 -2.0
ECRI Cripan 45.05 33 P **P 01 18 50.1 +1.7**
comp=Z,5.5nm,0.6s,mb4.6
ECRI Cripan 45.05 33 P **P 01 18 50.1 +1.7**
ECRI pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
SJPF Ste Jean 46.09 34 *eP* **P 01 18 57.0 +0.3**
comp=Z,36nm,1.0s,mb4.9
SJPF Ste Jean 46.09 34 *eP* **P 01 18 57.0 +0.3**
comp=Z,18nm,1.0s,mb5.0
SJPF Ste Jean 46.09 34 *eP* **P 01 18 57.0 +0.3**
SJPF pmax pmax
comp=Z,18nm,1.0s,mb5.0
ETSF Etsaut 46.31 34 *eP* **P 01 18 59.4 +0.9**
comp=Z,31nm,0.9s,mb5.0
ETSF Etsaut 46.31 34 *eP* **P 01 18 59.4 +0.9**
comp=Z,16nm,0.9s,mb4.9
ETSF Etsaut 46.31 34 *eP* **P 01 18 59.4 +0.9**
ETSF pmax pmax
comp=Z,16nm,0.9s,mb5.0
EGRA Graus 46.36 36 P **P 01 19 00.7 +1.9**
EBIE Bielsa 46.57 35 P **P 01 19 02.3 +1.8**
comp=Z,18nm,1.1s,mb4.9
EPF Esparros 46.90 35 *eP* **P 01 19 04.6 +1.5**
comp=Z,135nm,1.5s,mb5.3
EPF Esparros 46.90 35 *eP* **P 01 19 04.6 +1.5**
comp=Z,67nm,1.5s,mb5.3
EPF Esparros 46.90 35 *eP* **P 01 19 04.6 +1.5**
EPF pmax pmax
comp=Z,67nm,1.5s,mb5.3
MTLF Montolieu 48.17 36 *eP* **P 01 19 12.8 -0.1**
comp=Z,58nm,1.2s,mb5.2
MTLF Montolieu 48.17 36 *eP* **P 01 19 12.8 -0.1**
comp=Z,29nm,1.2s,mb5.2
MTLF Montolieu 48.17 36 *eP* **P 01 19 12.8 -0.1**
MTLF pmax pmax
comp=Z,29nm,1.2s,mb5.2
HRV Harvard--Oak R 48.24 323 *eP* **P 01 19 14.0 +0.5**
comp=Z,61nm,1.1s,mb5.5
HRV Harvard--Oak R 48.24 323 *eP* **P 01 19 14.0 +0.5**
HRV pmax pmax
comp=Z,61nm,1.1s,mb5.5
LFF La Frestale 48.35 33 *eP* **P 01 19 15.0 +0.7**
comp=Z,88nm,1.2s,mb5.4
LFF La Frestale 48.35 33 *eP* **P 01 19 15.0 +0.7**
comp=Z,44nm,1.2s,mb5.4
LFF La Frestale 48.35 33 *eP* **P 01 19 15.0 +0.7**
LFF pmax pmax
comp=Z,44nm,1.2s,mb5.4
QUIF Quistinic 48.46 28 *eP* **P 01 19 16.3 +1.2**
comp=Z,123nm,1.2s,mb5.5
QUIF Quistinic 48.46 28 *eP* **P 01 19 16.3 +1.2**
comp=Z,61nm,1.2s,mb5.5
QUIF Quistinic 48.46 28 *eP* **P 01 19 16.3 +1.2**
QUIF pmax pmax
comp=Z,61nm,1.2s,mb5.5
ROSF Rostrenen 48.72 27 *eP* **P 01 19 17.3 +0.2**
comp=Z,84nm,1.1s,mb5.4
ROSF Rostrenen 48.72 27 *eP* **P 01 19 17.3 +0.2**
comp=Z,42nm,1.1s,mb5.4
ROSF Rostrenen 48.72 27 *eP* **P 01 19 17.3 +0.2**
ROSF pmax pmax
comp=Z,42nm,1.1s,mb5.4
PAL Palisades 48.84 320 *eP* **P 01 19 18.2 0.0**
comp=Z,23nm,0.7s,mb5.3
PAL Palisades 48.84 320 *eP* **P 01 19 18.2 +0.1**
PAL pmax pmax
comp=Z,23nm,0.7s,mb5.3
FFD Franklin Falls 48.87 324 *eP* **P 01 19 18.7 +0.4**
comp=Z,59nm,1.1s,mb5.5
SGMF Saint Gilles 48.98 28 *eP* **P 01 19 19.5 +0.3**
comp=Z,256nm,1.6s,mb5.7
SGMF Saint Gilles 48.98 28 *eP* **P 01 19 19.5 +0.3**
comp=Z,128nm,1.6s,mb5.7
SGMF Saint Gilles 48.98 28 *eP* **P 01 19 19.5 +0.3**
SGMF pmax pmax
comp=Z,128nm,1.6s,mb5.7
MFF Saint Martin d 48.99 31 *eP* **P 01 19 19.6 +0.3**
comp=Z,59nm,1.2s,mb5.2
MFF Saint Martin d 48.99 31 *eP* **P 01 19 19.6 +0.3**
comp=Z,29nm,1.2s,mb5.2
MFF Saint Martin d 48.99 31 *eP* **P 01 19 19.6 +0.3**
MFF pmax pmax
comp=Z,29nm,1.2s,mb5.2
RJF Les Rejaudoux 49.01 33 *eP* **P 01 19 19.4 0.0**
comp=Z,37nm,1.1s,mb5.0
RJF *e*R
comp=Z,2μm,22.0s
RJF Les Rejaudoux 49.01 33 *eP* **P 01 19 19.4 0.0**
comp=Z,19nm,1.1s,mb5.0
RJF LR LR
comp=Z,2μm,22.0s,MS5.0
RJF Les Rejaudoux 49.01 33 *eP* **P 01 19 19.4 0.0**
RJF pmax pmax
comp=Z,19nm,1.1s,mb5.0
RJF MLR MLR
comp=Z,2μm,22.0s,MS5.0
CAF Calviac 49.07 34 *eP* **P 01 19 19.9 +0.1**
comp=Z,62nm,1.0s,mb5.3
CAF Calviac 49.07 34 *eP* **P 01 19 19.9 +0.1**
comp=Z,31nm,1.0s,mb5.3
CAF Calviac 49.07 34 *eP* **P 01 19 19.9 +0.1**
CAF pmax pmax
comp=Z,31nm,1.0s,mb5.3
LASF Ste Croix 49.56 36 *eP* **P 01 19 24.2 +0.6**
comp=Z,162nm,1.6s,mb5.5
NHSC New Hope 49.79 308 *eP* **P 01 19 25.9 +0.5**
comp=Z,135nm,1.2s,mb5.8
GRR Gorron 49.87 29 *eP* **P 01 19 26.5 +0.5**
MVL Millersville 49.92 318 *eP* **P 01 19 26.7 +0.4**
TCF Toulx Ste Croi 50.01 32 *eP* **P 01 19 27.1 +0.1**
comp=Z,73nm,1.6s,mb5.2
TCF Toulx Ste Croi 50.01 32 *eP* **P 01 19 27.1 +0.1**
comp=Z,37nm,1.6s,mb5.2
TCF Toulx Ste Croi 50.01 32 *eP* **P 01 19 27.1 +0.1**
TCF pmax pmax
comp=Z,37nm,1.6s,mb5.2
JTS JuntasAbangare 50.24 277 LR LR 01 40 24.7
comp=Z,353nm,20.3s,MS4.4,baz=123,slow=36
COW Cow Castle Cre 50.30 308 *eP* **P 01 19 29.7 +0.5**
FLN La Foliniere 50.31 28 *eP* **P 01 19 29.6 +0.3**
comp=Z,114nm,1.4s,mb5.4
FLN *e*R
comp=Z,1μm,20.5s
FLN La Foliniere 50.31 28 *eP* **P 01 19 29.6 +0.3**
comp=Z,57nm,1.4s,mb5.4
FLN LR LR
comp=Z,1μm,20.5s,MS4.9
FLN La Foliniere 50.31 28 *eP* **P 01 19 29.6 +0.3**
FLN pmax pmax
comp=Z,57nm,1.4s,mb5.4
FLN MLR MLR
comp=Z,1μm,20.5s,MS4.9
LDF La Druitiere 50.37 29 *eP* **P 01 19 30.3 +0.6**
VIVF Saint-Julien-l 50.49 35 *eP* **P 01 19 31.4 +0.7**
comp=Z,96nm,1.4s,mb5.3
VIVF Saint-Julien-l 50.49 35 *eP* **P 01 19 31.4 +0.7**
comp=Z,48nm,1.4s,mb5.3
VIVF Saint-Julien-l 50.49 35 *eP* **P 01 19 31.4 +0.7**
VIVF pmax pmax
comp=Z,48nm,1.4s,mb5.3
SMRF Simiane la Rot 50.51 37 *eP* **P 01 19 30.4 -0.4**
BGF Bois d'Agland 50.52 33 *eP* **P 01 19 31.2 +0.3**
comp=Z,62nm,1.1s,mb5.2
BGF Bois d'Agland 50.52 33 *eP* **P 01 19 31.2 +0.3**
comp=Z,31nm,1.1s,mb5.2
BGF Bois d'Agland 50.52 33 *eP* **P 01 19 31.2 +0.3**
BGF pmax pmax
comp=Z,31nm,1.1s,mb5.2
LMR La Mourre 50.71 38 *eP* **P 01 19 32.2 -0.2**
BINY Binghamton 50.80 320 *eP* **P 01 19 33.3 +0.3**
comp=Z,42nm,1.3s,mb5.2
HYF Humbligny 50.87 32 *eP* **P 01 19 33.8 +0.3**
FRF La Foret Royal 50.92 38 *eP* **P 01 19 33.7 -0.2**
AVF Avril sur Loir 50.94 33 *eP* **P 01 19 34.3 +0.2**
comp=Z,27nm,0.9s,mb4.9
AVF Avril sur Loir 50.94 33 *eP* **P 01 19 34.3 +0.2**
comp=Z,14nm,0.9s,mb4.9
AVF Avril sur Loir 50.94 33 *eP* **P 01 19 34.3 +0.2**
AVF pmax pmax
comp=Z,14nm,0.9s,mb4.9
JSC Jenkinsville 51.05 309 *eP* **P 01 19 35.2 +0.3**
SMF Signal de Mont 51.11 33 *eP* **P 01 19 35.6 +0.2**
SSF Saint Saulge 51.19 32 *eP* **P 01 19 36.4 +0.4**
comp=Z,34nm,1.2s,mb4.9
SSF Saint Saulge 51.19 32 *eP* **P 01 19 36.4 +0.4**
comp=Z,17nm,1.2s,mb4.9
SSF Saint Saulge 51.19 32 *eP* **P 01 19 36.4 +0.4**
SSF pmax pmax
comp=Z,17nm,1.2s,mb4.8
ORIF Oris-en-Rattie 51.23 36 *eP* **P 01 19 36.7 +0.5**
comp=Z,24nm,1.1s,mb4.7
ORIF *e*R
comp=Z,1μm,21.0s
ORIF Oris-en-Rattie 51.23 36 *eP* **P 01 19 36.7 +0.5**
comp=Z,12nm,1.1s,mb4.7
ORIF Oris-en-Rattie 51.23 36 *eP* **P 01 19 36.7 +0.5**
ORIF pmax pmax
comp=Z,12nm,1.1s,mb4.7
LOR Lormes 51.51 32 *eP* **P 01 19 38.2 -0.1**
comp=Z,27nm,0.8s,mb4.9
LOR *e*R
comp=Z,1μm,19.2s
LOR Lormes 51.51 32 *eP* **P 01 19 38.2 -0.1**
comp=Z,14nm,0.8s,mb4.9
LOR LR LR
comp=Z,1μm,19.3s,MS5.0
LOR Lormes 51.51 32 *eP* **P 01 19 38.2 -0.1**
LOR pmax pmax
comp=Z,14nm,0.8s,mb4.9
LOR MLR MLR
comp=Z,1μm,19.3s,MS5.0
BLA Blacksburg 51.53 313 *eP* **P 01 19 38.8 +0.3**
comp=Z,7.4nm,1.3s,mb4.5
BLA Blacksburg 51.53 313 *eP* **P 01 19 38.8 +0.3**
BLA pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
SBF Sospel 51.57 38 *eP* **P 01 19 39.2 +0.4**
comp=Z,56nm,0.9s,mb5.2
SBF Sospel 51.57 38 *eP* **P 01 19 39.2 +0.4**
comp=Z,28nm,0.9s,mb5.2
SBF Sospel 51.57 38 *eP* **P 01 19 39.2 +0.4**
SBF pmax pmax
comp=Z,28nm,0.9s,mb5.2
MBDF Montbardon 51.64 37 *eP* **P 01 19 39.6 +0.3**
comp=Z,47nm,1.0s,mb5.1
MBDF Montbardon 51.64 37 *eP* **P 01 19 39.6 +0.3**
comp=Z,24nm,1.0s,mb5.1
MBDF Montbardon 51.64 37 *eP* **P 01 19 39.6 +0.3**
MBDF pmax pmax
comp=Z,23nm,1.0s,mb5.1
ELN Prospectdale 51.78 312 *eP* **P 01 19 40.7 +0.4**
PGF Pioggiola 51.85 40 *eP* **P 01 19 40.9 0.0**
comp=Z,74nm,1.4s,mb5.1
PGF Pioggiola 51.85 40 *eP* **P 01 19 40.9 0.0**
comp=Z,37nm,1.4s,mb5.1
PGF Pioggiola 51.85 40 *eP* **P 01 19 40.9 0.0**
PGF pmax pmax
comp=Z,37nm,1.4s,mb5.1
TRQA Tornquist 51.87 208 *eP* **P 01 19 41.1 +0.1**
comp=Z,100nm,1.8s,mb5.5
FWV Forest Hill 51.96 313 *eP* **P 01 19 41.6 -0.1**
LPL La Plagne 52.06 36 *eP* **P 01 19 42.9 +0.4**
comp=Z,45nm,1.2s,mb5.0
LPL La Plagne 52.06 36 *eP* **P 01 19 42.9 +0.4**
comp=Z,22nm,1.2s,mb5.0
LPL La Plagne 52.06 36 *eP* **P 01 19 42.9 +0.4**
LPL pmax pmax
comp=Z,22nm,1.2s,mb5.0
LPG La Plagne 52.06 36 *eP* **P 01 19 43.5 +1.0**
comp=Z,40nm,1.3s,mb4.9
LPG La Plagne 52.06 36 *eP* **P 01 19 43.5 +1.0**
LPG pmax pmax
comp=Z,20nm,1.3s,mb4.9
LPG La Plagne 52.06 36 *eP* **P 01 19 43.5 +1.0**
comp=Z,20nm,1.3s,mb4.9
MCWV Mont Chateau 52.15 316 *eP* **P 01 19 43.0 0.0**
comp=Z,65nm,1.5s,mb5.3
CABF La Chapelle 52.33 34 *eP* **P 01 19 45.1 +0.7**
FCH Farellones 52.84 218 *eP* **P 01 19 48.4 +0.1**
MEZF Maizieres J'vi 52.91 32 *eP* **P 01 19 48.5 -0.2**
comp=Z,32nm,0.8s,mb5.0
MEZF Maizieres J'vi 52.91 32 *eP* **P 01 19 48.5 -0.2**
comp=Z,32nm,0.8s,mb5.3
HAU Haudompre 53.29 33 *eP* **P 01 19 52.1 +0.5**
comp=Z,27nm,1.0s,mb4.8
HAU *e*R
comp=Z,928nm,23.0s
HAU Haudompre 53.29 33 *eP* **P 01 19 52.1 +0.5**
comp=Z,13nm,1.0s,mb4.8
HAU LR LR
comp=Z,930nm,23.0s,MS4.8
HAU Haudompre 53.29 33 *eP* **P 01 19 52.1 +0.5**
HAU pmax pmax
comp=Z,13nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,930nm,23.0s,MS4.8
ERPA Erie 53.35 318 *eP* **P 01 19 51.7 -0.3**
comp=Z,113nm,1.5s,mb5.6
BAIF Baives 53.46 30 *eP* **P 01 19 52.3 -0.5**
comp=Z,38nm,0.9s,mb5.0
BAIF Baives 53.46 30 *eP* **P 01 19 52.3 -0.5**
comp=Z,19nm,0.9s,mb5.0
BAIF Baives 53.46 30 *eP* **P 01 19 52.3 -0.5**
BAIF pmax pmax
comp=Z,19nm,0.9s,mb5.0
HINF Hinteralfeld 53.46 33 *eP* **P 01 19 52.3 -0.5**
TZTN Tazewell 53.60 311 *eP* **P 01 19 54.4 +0.6**
DOU Dourbes 53.67 30 P **P 01 19 50.0 -4.4**
DOU AP pP 01 19 54.2 -3.3
DOU XP sP 01 19 56.7 -2.1
GIVF Givet 53.79 30 *eP* **P 01 19 54.8 -0.4**
comp=Z,47nm,1.1s,mb5.0
GIVF Givet 53.79 30 *eP* **P 01 19 54.8 -0.4**
comp=Z,24nm,1.1s,mb5.0
GIVF Givet 53.79 30 *eP* **P 01 19 54.8 -0.4**
GIVF pmax pmax
comp=Z,24nm,1.1s,mb5.0
CPCT Cooper Cave 53.97 309 *eP* **P 01 19 56.2 -0.3**
CDF Champ du Feu 54.04 33 *eP* **P 01 19 57.4 +0.4**
WLF Walferdange 54.19 31 *eP* **P 01 19 48.6 -10**
comp=Z,15nm,1.3s,mb4.8
SCHQ Schefferville 54.28 337 P **P 01 19 57.9 -0.9**
comp=Z,12nm,0.8s,mb4.9,baz=138,slow=5.9,SNR=22
SCHQ LR LR 01 39 02.8
comp=Z,657nm,20.0s,MS4.7,baz=169,slow=32
BFO Black Forest 54.56 34 *eP* **P 01 19 59.0 -1.8**
comp=Z,42nm,1.7s,mb5.2
BFO Black Forest 54.56 34 *eP* **P 01 19 59.0 -1.8**
BFO pmax pmax
comp=Z,42nm,1.7s,mb5.2
ACSO Alum Creek Sta 54.58 315 *eP* **P 01 20 00.6 -0.4**
comp=Z,44nm,1.0s,mb5.4
MEM Membach 54.70 30 P **P 01 20 01.5 -0.3**
MEM AP pP 01 20 04.6 -0.5
MEM E 01 20 11.1
DAVA Damuels 54.86 35 ⇑ *iP* **P 01 20 02.5 -0.5**
comp=Z,18nm,0.8s,mb5.1
SWET Sewanee 54.99 308 *eP* **P 01 20 04.0 0.0**
LRAL Lakeview Retre 55.21 305 *eP* **P 01 20 05.7 +0.2**
comp=Z,51nm,1.1s,mb5.5
LRAL *e*PcP PcP 01 21 06.2 -0.3
SQTA Sankt Quirin 55.59 36 ⇓ *iP* **P 01 20 07.8 -0.5**
comp=Z,21nm,1.1s,mb5.1
MOTA Moosalm 55.59 36 ⇑ *iP* **P 01 20 07.2 -1.1**
comp=Z,58nm,2.0s,mb5.2
TNS Taunus Mts 55.72 32 *eP* **P 01 20 10.7 +1.5**
comp=Z,10.0nm,1.1s,mb4.8
TNS Taunus Mts 55.72 32 *eP* **P 01 20 10.7 +1.5**
TNS pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
BUG Bochum--Univer 55.84 30 *eP* **P 01 20 09.5 -0.6**
comp=Z,11nm,0.9s,mb4.9
WTTA Wattenberg 55.86 36 ⇑ *iP* **P 01 20 08.1 -2.1**
comp=Z,23nm,1.1s,mb5.1
WATA Walderalm 55.87 36 ⇑ *iP* **P 01 20 09.3 -0.9**
comp=Z,14nm,1.1s,mb4.9
FUR Furstenfeldbru 56.12 35 *eP* **P 01 20 12.0 -0.1**
comp=Z,27nm,1.1s,mb5.2
FUR Furstenfeldbru 56.12 35 *eP* **P 01 20 12.0 -0.1**
FUR pmax pmax
comp=Z,27nm,1.1s,mb5.2
WCI Wyandotte Cave 56.23 312 *eP* **P 01 20 13.1 +0.2**
comp=Z,23nm,0.8s,mb5.3
WCI Wyandotte Cave 56.23 312 *eP* **P 01 20 13.1 +0.2**
WCI pmax pmax
comp=Z,23nm,0.8s,mb5.3
PLAL Pickwick Lake 56.60 307 *eP* **P 01 20 15.3 -0.2**
comp=Z,89nm,1.4s,mb5.6
VOJS Vojsko 56.61 38 *eP* **P 01 20 15.2 -0.4**
CADS Cadrg 56.61 38 *eP* **P 01 20 15.3 -0.3**
BLO Bloomington 56.72 313 *eP* **P 01 20 16.5 +0.2**
comp=Z,19nm,0.8s,mb5.2
BLO Bloomington 56.72 313 *eP* **P 01 20 16.5 +0.2**
BLO pmax pmax
comp=Z,19nm,0.8s,mb5.2
WVT Waverly 56.74 309 *eP* **P 01 20 15.9 -0.5**
comp=Z,54nm,1.1s,mb5.5
WVT *e*PcP PcP 01 21 12.4 0.0
WVT Waverly 56.74 309 *eP* **P 01 20 15.9 -0.6**
WVT *e* 01 21 12.4
WVT pmax pmax
comp=Z,54nm,1.1s,mb5.5
KBA Koelnbreinsper 56.78 37 ⇑ *iP* **P 01 20 14.7 -2.1**
comp=Z,12nm,0.8s,mb4.9
GRA1 Grafenberg Arr 56.90 34 *eP* **P 01 20 17.3 -0.3**
comp=Z,56nm,1.5s,mb5.4
GRA1 LR LR
comp=Z,500nm,21.8s,MS4.6
GRF Grafenberg Arr 56.90 34 *eP* **P 01 20 17.3 -0.3**
comp=Z,56nm,1.5s,mb5.4
GRF *e*L 01 39 38.9
comp=Z,536nm,21.8s
GRF Grafenberg Arr 56.90 34 *eP* **P 01 20 17.3 -0.3**
GRF pmax pmax
comp=Z,56nm,1.5s,mb5.4
GRF MLR MLR
comp=Z,500nm,21.8s,MS4.6
GRF Grafenberg Arr 56.90 34 *eP* **P 01 20 17.3 -0.3**
GRF pmax pmax
comp=Z,56nm,1.5s,mb5.4
GRF MLR MLR
comp=Z,500nm,21.8s,MS4.6
LJU Ljubljana 57.02 39 *eP* **P 01 20 18.6 +0.1**
BOJS Bojanci 57.23 39 *eP* **P 01 20 19.8 -0.1**
OBKA Obir 57.24 38 ⇓ *iP* **P 01 20 20.4 +0.3**
comp=Z,28nm,1.0s,mb5.2
ROTZ Rotzenmuhle 57.48 34 *eP* **P 01 20 21.4 -0.4**
comp=Z,7.0nm,1.0s,mb4.7
OXF Oxford 57.53 306 *eP* **P 01 20 20.9 -1.2**
comp=Z,71nm,1.2s,mb5.6
OXF Oxford 57.53 306 *eP* **P 01 20 20.9 -1.2**
OXF pmax pmax
comp=Z,71nm,1.2s,mb5.6
WET Wettzell 57.54 35 *eP* **P 01 20 23.4 +1.3**
comp=Z,10.0nm,1.2s,mb4.7
WET Wettzell 57.54 35 *eP* **P 01 20 23.4 +1.3**
WET pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MANZ Manzenberg 57.55 34 *eP* **P 01 20 23.0 +0.8**
comp=Z,9.0nm,1.2s,mb4.7
MOX Moxa 57.63 33 *eP* **P 01 20 22.2 -0.6**
comp=Z,13nm,1.3s,mb4.8
CLZ Clausthal 57.64 31 *eP* **P 01 20 21.7 -1.2**
comp=Z,12nm,1.5s,mb4.7
CLZ Clausthal 57.64 31 *eP* **P 01 20 21.7 -1.2**
CLZ pmax pmax
comp=Z,12nm,1.5s,mb4.7
MOA Molln 57.70 37 ⇓ *iP* **P 01 20 22.5 -0.8**
comp=Z,22nm,1.1s,mb5.1
HALT Halls 57.85 308 *eP* **P 01 20 23.3 -1.0**
GERES GERESS Array B 57.86 35 P **P 01 20 23.5 -0.9**
comp=Z,1.3nm,0.8s,mb4.0,baz=246,slow=5.7,SNR=9.9
GERES LR LR 01 42 06.3
comp=Z,1μm,20.6s,MS4.9,baz=262,slow=33
NKC Novy Kostel 57.86 33 *eP* **P 01 20 24.5 +0.1**
NKC x x 01 20 35.5

NKC *e*S **S** **01 28 31.2 +7.2**
WERD Werda 57.90 33 *e*P **P** **01 20 25.6 +0.9**
comp=Z,9.0nm,1.0s,mb4.8
GLAT Glass 57.91 309 *e*P **P** **01 20 24.2 -0.5**
KHC Kasperske Hory 57.93 35 *e*P **P** **01 20 24.1 -0.8**
KHC *e*S **S** **01 28 34.2 +9.3**
KHC AMS AMS 01 39 00.0
comp=Z,1μm,32.2s
ARSA Arzberg 58.18 38⇑ *i*P **P** **01 20 25.7 -1.0**
comp=Z,9.6nm,0.8s,mb4.9
PLCA Paso Flores 58.18 212 P **P** **01 20 25.9 -0.7**
comp=Z,12nm,1.2s,mb4.8,baz=36,slow=11,SNR=6.7
PLCA LR LR 01 45 56.8
comp=Z,5μm,18.3s,MS5.6,baz=51,slow=36
BORG Borgarnes 58.25 6 LR LR 01 38 21.0
comp=Z,777nm,21.9s,MS4.8,baz=163,slow=29
CLL Collm 58.73 33 *e*P **P** **01 20 30.9 +0.5**
comp=Z,3.0nm,0.9s,mb4.3
CLL *e*S **S** **01 28 38.6 +3.3**
CLL *e*(SSS) 01 35 03.7
CLL *e*LR LR 01 37 48.7
CLL *e*L 01 42 10.0
comp=Z,696nm,20.0s
CLL Collm 58.73 33 *e*P **P** **01 20 31.0 +0.6**
CLL *e*x x 01 20 47.0
CLL *e*S **S** **01 28 40.0 +4.7**
HBAR Harrisburg 58.79 307 *e*P **P** **01 20 30.4 -0.5**
BSEG Bad Segeberg 58.82 29 *e*P **P** **01 20 29.5 -1.6**
comp=Z,38nm,1.1s,mb5.3
PRU Pruhonice 58.90 35 *e*P **P** **01 20 31.2 -0.5**
PRU *e*S **S** **01 28 39.6 +2.1**
PRU AMS AMS 01 38 20.0
comp=Z,1μm,29.0s
BRG Berggiesshubel 59.01 33 *e*P **P** **01 20 30.8 -1.6**
comp=Z,18nm,1.5s,mb4.9
BRG Berggiesshubel 59.01 33 *i* (P) **S** **01 28 45.0 +6.0**
BRG
comp=N,410nm,18.4s
BRG
comp=E,304nm,16.4s
BRG
comp=Z,445nm,14.4s
TREC Trest 59.10 36 *e*P **P** **01 20 32.2 -0.9**
FVM French Village 59.26 310 *e*P **P** **01 20 33.1 -1.0**
comp=Z,31nm,1.1s,mb5.2
FVM French Village 59.26 310 *e*P **P** **01 20 33.2 -0.9**
FVM pmax pmax
comp=Z,31nm,1.1s,mb5.2
ZST Bratislava 59.55 37 *i* P **P** **01 20 36.2 0.0**
BIA Bitola 59.62 46 *e*P **P** **01 20 32.3 -4.4**
RUE Ruedersdorf 59.75 32 *e*P **P** **01 20 37.5 0.0**
comp=Z,27nm,0.6s,mb5.5
SMOL Smolenice 59.89 37 *e*P **P** **01 20 37.3 -1.2**
UALR University of 59.95 306 *e*P **P** **01 20 38.1 -0.8**
comp=Z,48nm,0.9s,mb5.5
UPC Upice 59.98 35 *e*P **P** **01 20 38.8 -0.3**
SRO1 Iza 60.05 38 *e*P **P** **01 20 40.3 +0.7**
DPC Dobruska-Polom 60.08 35 *e*P **P** **01 20 40.4 +0.6**
SRO Srobarova 60.12 38 *e*P **P** **01 20 39.9 -0.2**
KSP Ksiaz 60.29 34 *e*P **P** **01 20 41.7 +0.4**
KSP *e*S **S** **01 29 01.2 +5.7**
KSP *e* 01 35 41.4
KSP LR LR
comp=Z,2μm,40.6s,MS5.0
KSP Ksiaz 60.29 34 *e*P **P** **01 20 41.7 +0.4**
KSP *e*S **S** **01 29 01.2 +5.7**
KSP MLR MLR
comp=Z,2μm,40.6s,MS5.0
STIP Stip 60.45 46 *e*P **P** **01 20 38.3 -4.0**
MORC Moravsky Berou 60.51 36 *e*P **P** **01 20 43.1 +0.3**
comp=Z,19nm,1.4s,mb5.0
MORC Moravsky Berou 60.51 36 *e*P **P** **01 20 43.1 +0.3**
MORC pmax pmax
comp=Z,19nm,1.4s,mb5.0
VAY Valandovo 60.61 46 *e*P **P** **01 20 39.3 -4.2**
VYHS Vyhne 60.73 38 *e*P **P** **01 20 44.1 -0.1**
SFJD Kangerlussuaq 60.84 353 P **P** **01 20 45.1 +0.1**
comp=Z,11nm,0.9s,mb5.0,baz=243,slow=4.5,SNR=3.3
SFJD Kangerlussuaq 60.84 353 *i* P **P** **01 20 46.3 +1.3**
comp=Z,13nm,0.9s,mb5.0
SFJD *e* 01 29 06.9
SFJD *i* 01 35 47.0
SFJD
comp=Z,460nm,20.0s
SFJD Kangerlussuaq 60.84 353 *i* P **P** **01 20 46.3 +1.3**
SFJD *e* 01 29 06.9
SFJD pmax pmax
comp=Z,13nm,0.9s,mb5.1
SFJD MLR MLR
comp=Z,470nm,20.0s,MS4.6
OKC Ostrava-Krasne 60.89 36 *e*P **P** **01 20 42.7 -2.7**
PSZ Piszkesteto 61.14 38⇓ *i*P **P** **01 20 47.6 +0.6**
KKB Krupnik 61.14 46 *e*P **P** **01 20 48.0 +0.9**
NATX Nacogdoches 61.25 302 *e*P **P** **01 20 47.2 -0.6**
comp=Z,133nm,1.1s,mb6.0
MMB Musomiste 61.52 46 *e*P **P** **01 20 50.0 +0.4**
FRB Frobisher Bay 61.67 343 P **P** **01 20 49.1 -1.6**
comp=Z,22nm,0.9s,mb5.3,baz=132,slow=6.2,SNR=15
FRB LR LR 01 43 32.9
comp=Z,908nm,20.0s,MS4.9,baz=170,slow=32
OJC Ojcow 62.02 36 *e*P **P** **01 20 53.5 +0.5**
RZN Rozhen 62.26 46 *e*P **P** **01 20 56.0 +1.4**
STHS Stebnicka Huta 62.55 37 *e*P **P** **01 20 56.9 +0.4**
KOLS Kolonicke sedl 62.99 38 *e*P **P** **01 21 01.2 +1.7**
NB2 NORSAR Subarra 63.47 23 P **P** **01 21 01.7 -1.0**
comp=Z,15nm,1.0s,mb5.1,baz=233,slow=6.9
NB2 NORSAR Subarra 63.47 23 P **P** **01 21 01.7 -1.0**
NB2 pmax pmax
comp=Z,15nm,1.0s,mb5.1
NOA NORSAR Array B 63.47 23 P **P** **01 21 00.5 -2.2**
comp=Z,7.0nm,0.9s,mb4.8,baz=232,slow=6.7,SNR=10
NOA LR LR 01 44 32.8
comp=Z,846nm,20.1s,MS4.9,baz=245,slow=32
SCO Scoresbysund 63.78 5 *i* P **P** **01 21 07.7 +3.0**
comp=Z,7.7nm,0.9s,mb4.7
SCO Scoresbysund 63.78 5 *e*P **P** **01 21 07.7 +3.0**
comp=Z,7.7nm,0.9s,mb4.7
SCO Scoresbysund 63.78 5 *e*P **P** **01 21 07.7 +3.0**
SCO pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LVV L'vov 64.38 38 *e*P **P** **01 21 02.7 -6.0**
LVV *e* 01 23 36.7
LVV *e*S **S** **01 29 36.1 -11**
LVV *e* 01 30 55.5
LVV MLR MLR
comp=Z,200nm,16.0s,MS4.4
PSN Preselentsi 65.25 45 *e*P **P** **01 21 24.0 +10**
JCT Junction City 65.43 300 *e*P **P** **01 21 14.8 -0.7**
comp=Z,47nm,1.2s,mb5.4
JCT Junction City 65.43 300 *e*P **P** **01 21 14.8 -0.7**
JCT pmax pmax
comp=Z,47nm,1.2s,mb5.4
SUMG Summit 65.45 359 *e*P **P** **01 21 16.2 +0.6**
comp=Z,35nm,1.0s,mb5.3
SUW Suwalki 65.47 33 *e*P **P** **01 21 15.2 -0.5**
comp=Z,78nm,1.0s,mb5.7
SUW Suwalki 65.47 33 *e*P **P** **01 21 15.2 -0.5**
SUW pmax pmax
comp=Z,78nm,1.0s,mb5.7
LSZ Lusaka 65.67 110 *e*P **P** **01 21 19.2 +2.1**
comp=Z,8.1nm,1.0s,mb4.7
LSZ Lusaka 65.67 110 *e*P **P** **01 21 19.2 +2.2**
LSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ISP Isparta 65.73 52 *e*P **P** **01 21 18.0 +0.6**
comp=Z,27nm,1.4s,mb5.1
ISP Isparta 65.73 52 *i* P **P** **01 21 17.2 -0.2**
JMIC Jan Mayen 65.83 9 LR LR 01 42 07.5
comp=Z,346nm,19.9s,MS4.6,baz=181,slow=29
KIS Kishinev 66.54 42 *e*P **P** **01 21 21.0 -1.6**
KIS *e* pP 01 21 25.0 -0.9
KIS *e* 01 21 52.0
KIS MLR MLR
comp=Z,500nm,15.0s,MS4.8
KIS MLR MLR
comp=Z,500nm,16.0s
CBKS Cedar Bluff 66.57 309 *e*P **P** **01 21 22.2 -0.6**
comp=Z,95nm,1.1s,mb5.7
CBKS Cedar Bluff 66.57 309 *e*P **P** **01 21 22.2 -0.6**
CBKS pmax pmax
comp=Z,95nm,1.1s,mb5.7
ULM Lac du Bonnet 66.64 322 P **P** **01 21 20.8 -2.5**
comp=Z,10nm,0.9s,mb4.8,baz=110,slow=6.3,SNR=22
ULM LR LR 01 44 54.5
comp=Z,619nm,21.6s,MS4.8,baz=299,slow=31

BOSA Boshof 67.36 125 P **P** **01 21 28.5 +0.7**
comp=Z,16nm,1.1s,mb5.0,baz=301,slow=5.5,SNR=6.4
BOSA LR LR 01 44 32.6
comp=Z,730nm,21.7s,MS4.9,baz=288,slow=30
AKASG Malin Array Be 67.82 38 P **P** **01 21 29.4 -1.3**
comp=Z,6.1nm,0.8s,mb4.7,baz=253,slow=6.8,SNR=25
ANTO Ankara 67.83 50 *e*P **P** **01 21 31.1 +0.2**
comp=Z,27nm,1.4s,mb5.1
ANTO Ankara 67.83 50 *e*P **P** **01 21 31.1 +0.3**
ANTO pmax pmax
comp=Z,27nm,1.4s,mb5.1
MNK Minsk 68.19 34 *e*P **P** **01 21 30.0 -3.1**
EIL Elat 68.39 61 *e*P **P** **01 21 35.2 +0.9**
comp=Z,624nm,1.4s
BR131 Keskin Array S 68.45 50 *e*P **P** **01 21 34.6 -0.1**
comp=Z,15nm,1.1s,mb4.9
BRTR Keskin Array B 68.45 50 P **P** **01 21 35.1 +0.4**
comp=Z,7.9nm,1.0s,mb4.7,baz=251,slow=3.8,SNR=29
SIM Simferopol' 69.68 45 P **P** **01 21 43.0 +0.6**
SIM *e*S S 01 30 52.0 +1.0
SIM pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SIM MLR MLR
comp=Z,570nm,18.7s,MS4.8
FINES FINESS Array B 69.85 26 P **P** **01 21 41.5 -1.9**
comp=Z,6.9nm,0.9s,mb4.6,baz=302,slow=3.6,SNR=10
FINES LR LR 01 48 10.6
comp=Z,582nm,19.2s,MS4.8,baz=51,slow=32
FINES FINESS Array B 69.85 26 P **P** **01 21 41.5 -1.9**
FINES LR LR 01 48 10.6
DAG Danmarks Havn 70.13 4⇓ *i*P **P** **01 21 47.2 +2.1**
comp=Z,4.2nm,0.9s,mb4.4
DAG Danmarks Havn 70.13 4⇓ *e*P **P** **01 21 47.2 +2.1**
comp=Z,4.2nm,0.9s,mb4.4
DAG Danmarks Havn 70.13 4⇓ *e*P **P** **01 21 47.2 +2.1**
DAG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KAF Kangasniemi 70.22 26 *e*p **P** **01 21 43.5 -2.1**
comp=Z,2.8nm,0.8s,mb4.2,baz=272,slow=8.0
KAF Kangasniemi 70.22 26 *e*P **P** **01 21 43.5 -2.1**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MNTX Cornudas Mount 70.31 301 *e*P **P** **01 21 44.9 -1.3**
comp=Z,16nm,1.1s,mb4.9
ISCO Idaho Springs 71.22 310 *e*P **P** **01 21 52.2 +0.5**
comp=Z,35nm,1.3s,mb5.1
ISCO Idaho Springs 71.22 310 *e*P **P** **01 21 52.3 +0.6**
ISCO pmax pmax
comp=Z,35nm,1.3s,mb5.1
ANMO Albuquerque 71.44 304 P **P** **01 21 53.5 +0.5**
comp=Z,8.9nm,1.1s,mb4.6,baz=126,slow=11,SNR=7.9
FFC Flin Flon 71.47 325 P **P** **01 21 52.9 -0.4**
comp=Z,118nm,1.1s,mb5.7,SNR=12
FFC Flin Flon 71.47 325 *e*P **P** **01 21 51.9 -1.4**
comp=Z,14nm,0.9s,mb4.9
FFC *e*PcP PcP 01 22 12.7 0.0
FFC Flin Flon 71.47 325 *e*P **P** **01 21 51.9 -1.4**
FFC *e* 01 22 12.7
FFC pmax pmax
comp=Z,14nm,0.9s,mb4.9
DGMT Dagmar 71.48 319 *e*P **P** **01 21 53.3 -0.1**
comp=Z,33nm,0.8s,mb5.3
KMBO Kilima Mbogo 71.73 94 LR LR 01 51 24.9
comp=Z,482nm,19.2s,MS4.8,baz=95,slow=34
MALT Malatya 71.98 52 *e*P **P** **01 21 56.9 +0.6**
comp=Z,16nm,1.4s,mb4.8
MALT *e*PcP PcP 01 22 14.9 -0.1
MALT Malatya 71.98 52 *e*P **P** **01 21 56.9 +0.6**
MALT *e* 01 22 14.9
MALT pmax pmax
comp=Z,16nm,1.4s,mb4.8
ANN Anapa 71.99 45 *e*P **P** **01 22 05.3 +8.9**
ANN *e* 01 22 21.5
ANN pmax pmax
comp=Z,42nm,1.0s,mb5.3
ANN MLR MLR
comp=Z,335nm,18.0s,MS4.7
JOF Joensuu 72.67 26 *e*p **P** **01 22 00.0 -0.5**
comp=Z,2.7nm,0.5s,mb4.4
ARCES ARCESS Array B 73.06 19 P **P** **01 22 01.7 -1.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=250,slow=3.5,SNR=9.0
ARCES LR LR 01 47 18.9
comp=Z,437nm,21.3s,MS4.7,baz=240,slow=30
ARCES ARCESS Array B 73.06 19 P **P** **01 22 01.7 -1.1**
ARCES LR LR 01 47 18.9
OBN Obninsk 73.22 35⇑ *e*P **P** **01 22 03.6 -0.1**
OBN *e* 01 22 19.5
OBN *e*SS SS 01 36 14.6 +1.3
OBN pmax pmax
comp=Z,27nm,1.3s,mb5.0
PV01 Paradox Valley 73.36 308 *e*P **P** **01 22 05.7 +1.2**
PV01 *e*PcP PcP 01 22 23.5 +2.7
SOC Sochi 73.47 47 *e*P **P** **01 22 03.9 -1.3**
SOC *e* 01 24 44.3
SOC *e*PPP 01 26 42.3
SOC *e*S S 01 31 30.6 -4.1
SOC *e* 01 32 06.2
SOC pmax pmax
comp=Z,29nm,1.1s,mb5.1
SOC MLR MLR
comp=Z,401nm,20.0s,MS4.7
KEV Kevo 73.63 19 *e*p **P** **01 22 08.7 +2.6**
comp=Z,0.4nm,0.4s
PV10 Paradox Valley 73.75 308 *e*P **P** **01 22 07.8 +1.0**
MOS Moscow 73.94 34 *e*P **P** **01 22 11.0 +3.1**
MOS *e*S S 01 31 47.0 +7.0
MOS pmax pmax
comp=Z,100nm,1.4s,mb5.5
MOS pmax pmax
comp=Z,65nm,1.5s,mb5.3
VRSR Storozhevoye 74.08 39 *e*P **P** **01 22 08.0 -0.8**
VRSR pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=E,4.0nm,1.0s
VOR Voronezh 74.17 38 P **P** **01 22 09.0 -0.3**
VOR pmax pmax
comp=Z,80nm,1.9s,mb5.3
VOR pmax pmax
comp=Z,110nm,1.9s,mb5.5
PDAR Pinedale Array 74.47 312 P **P** **01 22 10.3 -0.7**
comp=Z,8.2nm,0.8s,mb4.7,baz=95,slow=6.8,SNR=26
PDAR LR LR 01 50 05.6
comp=Z,670nm,21.8s,MS4.9,baz=118,slow=32
PDAR Pinedale Array 74.47 312 P **P** **01 22 10.3 -0.7**
PDAR LR LR 01 50 05.6
TUC Tucson 74.92 301 *e*P **P** **01 22 14.0 +0.4**
comp=Z,12nm,1.0s,mb4.8
TUC *e*PcP PcP 01 22 28.2 +0.7
TUC Tucson 74.92 301 *e*P **P** **01 22 14.0 +0.4**
TUC *e* 01 22 28.2
TUC pmax pmax
comp=Z,12nm,1.0s,mb4.8
SRU San Rafael 74.95 308 *e*P **P** **01 22 14.4 +0.6**
comp=Z,23nm,1.1s,mb5.0
SRU *e*PcP PcP 01 22 29.1 +1.5
SRU San Rafael 74.95 308 *e*P **P** **01 22 14.4 +0.6**
SRU *e* 01 22 29.2
SRU pmax pmax
comp=Z,23nm,1.1s,mb5.0
FLWY Flagg Ranch 75.40 314 *e*P **P** **01 22 17.1 +0.7**
comp=Z,57nm,1.1s,mb5.4
REDW Red Top Meadow 75.46 313 *e*P **P** **01 22 16.3 -0.4**
comp=Z,52nm,1.3s,mb5.3
WUAZ Wupatki 75.48 305 *e*P **P** **01 22 17.8 +0.9**
comp=Z,45nm,1.1s,mb5.3
WUAZ *e*PcP PcP 01 22 31.9 +2.0
YFT Old Faithful 75.53 314 *e*P **P** **01 22 18.2 +1.1**
TPAW Teton Pass 75.54 313 *e*P **P** **01 22 17.6 +0.4**
comp=Z,106nm,1.6s,mb5.5
IMW Indian Meadow 75.56 313 *e*P **P** **01 22 17.5 +0.2**
comp=Z,46nm,1.2s,mb5.3
MSL Mosul 75.57 54 *e*x x 01 22 19.0
DAU Daniels Canyon 75.58 310 *e*P **P** **01 22 18.4 +1.0**
YMR Madison River 75.63 314 *e*P **P** **01 22 18.9 +1.2**
comp=Z,47nm,0.9s,mb5.4
YMR *e*PcP PcP 01 22 31.7 +1.1
KIV Kislovodsk 75.64 47 *e*P **P** **01 22 18.9 +1.1**
comp=Z,46nm,1.3s,mb5.2
KIV Kislovodsk 75.64 47⇑ *e*P **P** **01 22 18.1 +0.3**
KIV pmax pmax
comp=Z,27nm,1.4s,mb5.0
TCUT Toone Canyon 75.73 311 *e*P **P** **01 22 18.8 +0.5**
HWUT Hardware Ranch 75.88 311 *e*P **P** **01 22 19.3 +0.2**

comp=Z,28nm,0.9s,mb5.2
KLMR Klimovskoe 75.90 29 *c i*P **P** **01 22 18.5 -0.8**
KLMR pmax pmax
comp=Z,80nm,1.6s,mb5.4
GOF Gofitskoye 75.97 45 *e*P **P** **01 22 19.4 -0.3**
GOF pmax pmax
comp=Z,50nm,1.2s,mb5.3
QLMT Earthquake Lak 75.97 314 *e*P **P** **01 22 20.6 +0.9**
MSU Marysvale 76.22 308 *e*P **P** **01 22 22.2 +1.1**
HRY Holter Researc 76.39 316 *e*P **P** **01 22 21.8 -0.2**
ZEI Tsey 76.46 48 *i* P **P** **01 22 20.2 -2.2**
ZEI pmax pmax
comp=Z,17nm,1.2s,mb4.8
BHD Baghdad 76.58 58 *e*x x 01 22 24.5
DUG Dugway 76.76 310 *e*P **P** **01 22 24.1 -0.1**
comp=Z,40nm,1.5s,mb5.1
DUG Dugway 76.76 310 *e*P **P** **01 22 24.1 -0.1**
DUG pmax pmax
comp=Z,40nm,1.5s,mb5.1
DLMT Dillon 76.83 315 *e*P **P** **01 22 24.7 +0.1**
comp=Z,39nm,1.2s,mb5.2
BGU Big Grassy Mou 76.95 310 *e*P **P** **01 22 30.5 +5.2**
MCMT McKenzie Canyo 76.98 314 *e*P **P** **01 22 26.0 +0.6**
GNI Garni 76.99 51 *e*P **P** **01 22 24.0 -1.5**
comp=Z,25nm,1.3s,mb5.0
GNI Garni 76.99 51 *e*P **P** **01 22 24.0 -1.4**
GNI pmax pmax
comp=Z,25nm,1.3s
CCUT Cedar City 77.13 307 *e*P **P** **01 22 27.0 +0.8**
ARUT Antelope Range 77.19 307 *e*P **P** **01 22 27.3 +0.7**
CHMT Chamberlain Mo 77.37 316 *e*P **P** **01 22 26.6 -1.0**
EDM Edmonton 77.85 323 *e*P **P** **01 22 29.6 -0.7**
WALA Waterton Lakes 77.93 319 *e*P **P** **01 22 31.2 +0.5**
comp=Z,36nm,1.4s,mb5.1
HLID Hailey 78.06 313 *e*P **P** **01 22 30.6 -0.8**
comp=Z,17nm,1.1s,mb4.9
NEN Nelson 78.31 305 *e*P **P** **01 22 33.1 +0.2**
YKA Yellowknife Ar 79.30 332 P **P** **01 22 36.1 -2.2**
comp=Z,9.7nm,0.9s,mb4.8,baz=95,slow=5.5,SNR=54
YKA LR LR 01 52 47.6
comp=Z,643nm,21.1s,MS4.9,baz=90,slow=32
YKW3 Yellowknife Ar 79.31 332 *e*P **P** **01 22 36.5 -1.8**
TPNV Topopah Spring 79.43 306 *e*P **P** **01 22 40.1 +1.1**
VNA1 Neumayer--Stat 79.54 171 *e*P **P** **01 22 44.1 +4.5**
VNA1 *e* pP 01 22 48.2 +5.3
VNA1 *e* 01 22 52.1
VNA1 *e* 01 23 00.3
VNA1 *e* 01 23 05.5
VNA1 *e* 01 23 22.2
VNA3 Neumayer Olymp 79.88 172 *e*P **P** **01 22 45.2 +3.8**
VNA3 *e* pP 01 22 49.2 +4.5
VNA3 *e* 01 22 53.1
VNA3 *e* 01 23 01.7
VNA3 *e* 01 23 06.6
VNA2 Neumayer--Watz 79.92 171 *e*P **P** **01 22 45.6 +4.0**
VNA2 *e* pP 01 22 46.6 +1.7
VNA2 *e* pP 01 22 49.5 +4.6
VNA2 *e* 01 22 53.1
VNA2 *e* 01 23 01.7
VNA2 *e* 01 23 06.8
VNA2 *e* 01 23 23.3
VNA2 *e* 01 23 52.3
BMN Battle Mountai 80.14 310 *e*P **P** **01 22 43.3 +0.5**
comp=Z,23nm,1.2s,mb5.0
BMN Battle Mountai 80.14 310 *e*P **P** **01 22 43.3 +0.5**
BMN pmax pmax
comp=Z,23nm,1.2s,mb5.0
NVAR Mina Array Bea 81.02 308 P **P** **01 22 47.8 +0.3**
comp=Z,2.4nm,0.8s,mb4.2,baz=101,slow=6.2,SNR=7.8
NVAR LR LR 01 54 22.9
comp=Z,383nm,21.9s,MS4.7,baz=85,slow=32
WVOR Wild Horse Val 81.16 312 *e*P **P** **01 22 48.7 +0.5**
comp=Z,22nm,1.4s,mb4.9
WVOR Wild Horse Val 81.16 312 *e*P **P** **01 22 48.7 +0.4**
WVOR pmax pmax
comp=Z,22nm,1.4s,mb4.9
SNAA Sanae 81.29 170 *e*P **P** **01 22 52.8 +3.8**
SNAA *e* pP 01 22 54.0 +1.7
SNAA *e* pP 01 22 56.2 +3.9
SNAA *e* 01 23 00.7
SNAA *e* 01 23 07.7
SNAA *e* 01 23 15.8
SNAA Sanae 81.29 170 *e*P **P** **01 22 52.0 +3.0**
comp=Z,15nm,1.1s,mb4.8
SNAA Sanae 81.29 170 *e*P **P** **01 22 52.0 +3.0**
SNAA pmax pmax
comp=Z,15nm,1.1s
MOD Modoc 82.41 311 *e*P **P** **01 22 54.8 -0.1**
comp=Z,7.9nm,0.8s,mb4.7
NVL N'lazarevskaya 83.55 166⇓ *i*P **P** **01 23 01.7 +0.9**
NVL pmax pmax
comp=Z,14nm,1.0s,mb5.0
YBH Yreka Blue Hor 84.22 311 P **P** **01 23 04.7 +0.5**
comp=Z,1.8nm,0.8s,mb4.2,baz=330,slow=3.5,SNR=3.1
SOKR Solikamsk 84.42 31⇑ *i*P **P** **01 23 08.5 +3.3**
SOKR *e* 01 33 35.7
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
ARU Arti 85.65 34 P **P** **01 23 11.2 -0.2**
comp=Z,86nm,1.0s,mb5.9,SNR=5.7
ARU Arti 85.65 34 *e*P **P** **01 23 11.4 0.0**
comp=Z,15nm,1.0s,mb5.2
ARU Arti 85.65 34⇑ *i*P **P** **01 23 11.8 +0.4**
ARU *e* 01 26 31.0
ARU *e*PPP 01 28 21.8
ARU *e*S 01 33 33.9
ARU *e*SS SS 01 39 20.6 +1.0
ARU pmax pmax
comp=Z,17nm,1.1s,mb5.2
ARU MLR MLR
comp=Z,600nm,19.0s,MS5.0
ARU MLR MLR
comp=N,100nm,18.0s,MS5.0
ARU MLR MLR
comp=E,500nm,19.0s,MS5.0
INK Inuvik 86.88 338 LR LR 02 00 18.8
comp=E,556nm,18.9s,MS5.0,baz=78,slow=34
INK Inuvik 86.88 338 *e*P **P** **01 23 15.5 -1.9**
comp=E,14nm,1.1s,mb5.1
INK Inuvik 86.88 338 *e*P **P** **01 23 15.5 -2.0**
INK pmax pmax
comp=Z,14nm,1.1s
DLBC Dease Lake 87.05 328 LR LR 01 59 59.4
comp=Z,491nm,18.4s,MS5.0,baz=92,slow=34
DLBC Dease Lake 87.05 328 *e*P **P** **01 23 18.8 +0.5**
DAWY Dawson 90.23 335 *e*P **P** **01 23 32.7 -0.6**
CHKZ Chkalovo 92.97 35 *e*P **P** **01 23 46.1 +0.1**
comp=Z,12nm,1.4s,mb5.1
CHKZ Chkalovo 92.97 35 *e*P **P** **01 23 46.1 +0.1**
CHKZ pmax pmax
comp=Z,12nm,1.4s,mb5.1
ILAR Eielson Array 93.04 337 P **P** **01 23 44.8 -1.5**
comp=Z,4.9nm,1.0s,mb4.9,baz=50,slow=3.6,SNR=15
ILAR PP PP 01 27 27.1 -2.1
comp=Z,1.3nm,1.0s,baz=68,slow=7.1,SNR=4.8
ILAR LR LR 02 02 54.7
comp=Z,606nm,19.7s,MS5.1,baz=317,slow=34
ILAR Eielson Array 93.04 337 P **P** **01 23 44.8 -1.5**
ILAR 01 27 27.1
MID Middleton Isla 94.91 332 *e*P **P** **01 23 54.1 -0.8**
MAW Mawson 99.23 157 LR LR 02 02 15.3
comp=Z,333nm,18.5s,MS4.9,baz=60,slow=31
MKAR Makanchi Array 102.39 39 P Pdif 01 24 27.2 -1.3
comp=Z,0.1nm,0.4s,baz=346,slow=0.6,SNR=2.8
RKT Rikitea 102.66 248 *e*SS SS 01 43 22.0 -0.3
comp=Z,174nm,25.5s
RKT *e*LQ 01 53 30.5
comp=Z,851nm,32.0s
RKT *e*LR LR 01 58 15.8
comp=Z,488nm,38.5s
BILL Bilibino 103.64 352 *e*P Pdif 01 24 33.3 -0.8
BILL *e*S SKSac 01 35 13.9 -0.2
BILL pmax pmax
comp=Z,3.0nm,1.6s
SONM Songino Array 115.19 28 PKP PKiKP 01 29 11.6 -2.5
comp=Z,0.1nm,0.3s,baz=270,slow=1.2,SNR=2.5
SONM PP PP 01 30 11.9 -2.2
comp=Z,0.9nm,0.9s,baz=318,slow=4.1,SNR=4.1
TBI Tubuai 115.97 248 *e*SS SS 01 46 31.3 +10
comp=Z,250nm,32.0s
TBI *e*LR LR 02 04 22.3
comp=Z,404nm,28.8s
PPT Papeete 116.29 254 *e*SS SS 01 46 25.8 +0.3
comp=Z,289nm,31.0s
PPT *e*LR LR 02 04 54.7

comp=Z,366nm,23.2s
LZH Lanzhou 121.70 40 *e*PKP PKPdf 01 29 23.5 -3.1
LZH PP PP 01 31 00.5 +1.3
LZH SKS SKSdf 01 36 30.5 -8.2
LZH PP PP
comp=Z,86nm,6.2s
LZH LR LR
comp=N,356nm,19.6s
LZH LR LR
comp=Z,451nm,20.8s,MS5.1
HHC Hu-ho-hao-te 122.83 31 *e*PKP PKPdf 01 29 30.8 +2.0
HHC PP PP 01 31 12.3 +5.4
HHC PKS 01 33 06.5
HHC SKS SKSdf 01 36 41.3 +0.5
HHC SKKS SKKSac 01 38 04.0 -2.2
HHC SS SS 01 47 52.0 +2.2
HHC LR LR
comp=N,341nm,9.4s
HHC LR LR
comp=E,171nm,6.7s
HHC LR LR
comp=Z,536nm,22.5s,MS5.2
CD2 Chengdu 124.78 45 *e*PKP PKPdf 01 29 33.0 +0.5
BJI Beijing 125.69 28 PKP PKPdf 01 29 38.5 +4.2
BJI PP PP 01 31 35.0 +8.9
BJI LR LR
comp=N,385nm,19.4s,MS5.1
BJI LR LR
comp=E,176nm,19.4s,MS5.1
BJI LR LR
comp=Z,421nm,20.5s,MS5.1
CN2 Changchun 126.07 18 *e*PKP PKPdf 01 29 37.0 +2.0
CN2 PP PP 01 31 34.0 +5.4
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,300nm,20.0s,MS5.0
CN2 LR LR
comp=E,200nm,20.0s,MS5.0
CN2 LR LR
comp=Z,300nm,21.0s,MS4.9
MDJ Mudanjiang 126.47 14 PKP PKPdf 01 29 35.5 -0.3
MDJ PS PS 01 41 32.5 -2.0
MDJ SS SS 01 48 33.5 -2.2
MDJ PP PP
comp=Z,41nm,4.1s
MDJ LR LR
comp=N,70nm,25.7s,MS4.7
MDJ LR LR
comp=E,176nm,27.1s,MS4.7
MDJ LR LR
comp=Z,203nm,25.7s,MS4.7
KMI Kunming 127.24 51 PKP PKPdf 01 29 33.0 -4.2
KMI XPKP 01 29 42.0
KMI SS SS 01 48 46.3 +1.0
KMI LR LR
comp=Z,288nm,44.1s,MS4.6
GYA Guiyang 129.45 47 PKP PKPdf 01 29 45.8 +4.4
GYA PKS 01 33 20.8
GYA PP PP
comp=Z,120nm,7.4s
GYA LR LR
comp=N,970nm,20.8s,MS5.6
GYA LR LR
comp=E,740nm,21.0s,MS5.6
GYA LR LR
comp=Z,840nm,20.6s,MS5.4
NJ2 Nanjing 133.32 32 *e*PKP PKPdf 01 29 46.0 -2.8
NJ2 PP PP 01 32 19.0 +3.1
NJ2 PKS 01 33 21.0
NJ2 SKS SKSdf 01 36 52.0 -8.1
NJ2 PP PP
comp=Z,70nm,5.6s
NJ2 LR LR
comp=N,180nm,22.7s,MS4.9
NJ2 LR LR
comp=E,210nm,21.4s,MS4.9
NJ2 LR LR
comp=Z,320nm,21.0s,MS5.0
SSE Sheshan 135.29 31 PKP PKPdf 01 29 54.5 +2.1
SSE PP PP 01 32 33.8 +5.5
SSE SS SS 01 50 26.3 +2.6
SSE LR LR
comp=N,171nm,22.0s,MS4.8
SSE LR LR
comp=E,63nm,22.1s,MS4.8
SSE LR LR
comp=Z,192nm,23.4s,MS4.8
CNB Canberra Magne 151.75 186 *e*P pPKPbc 01 30 31.2 +0.5
comp=Z,14nm,0.7s

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*ISCJB **27** 01:16:04.6±0.9, 1871N±009×10649W±004, h10km, mb4.0/10, MS4.2/4, Error ellipse: s-maj=13.3km s-min=6.0km az=10.1*
*MEX **27** 01:16:04.9±0.7, 1876N×10672W, h10km, MD4.4*
*IDC **27** 01:16:07.0±5.2, 1926N×10594W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.6/4, MS4.3/5, Ms1 4.3/5, ms1mx3.9/25, Error ellipse: s-maj=164.9km s-min=30.1km az=43.0*
*NEIC **27** 01:16:13.4±3.7, 1883N×10645W, h72km±29km, mb4.1/9, Error ellipse: s-maj=33.8km s-min=13.1km az=216.0*
ISC 27 01:16:07.1±1.0, 1876N±010×10648W±005, h10km, n35, σ1°28/35, mb4.0/9, MS4.2/4, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.54**	**61**	*i* P	**Pn**	**01 16 31.4**	**-3.2**
CJM				*i* S	**Sn**	**01 16 52.7**	**-1.9**
SFJM	**Santa Fe**	**3.67**	**61**	*i* P	**Pn**	**01 17 03.3**	**-0.5**
SFJM				*i* S	**Sn**	**01 17 48.0**	**+0.9**
MAIG	**Mazatlaan**	**4.41**	**1**	*i* P	**Pn**	**01 17 10.1**	**-3.9**
MAIG				*i* S	**Sn**	**01 17 59.1**	**-6.2**
MOIG	**Morelia**	**5.08**	**79**	*i* P	**Pn**	**01 17 23.2**	**0.0**
MOIG				*i* S	**Sn**	**01 18 24.0**	**+2.1**
LNIG	**Linares**	**8.93**	**46**	*i* P	**Pn**	**01 18 15.8**	**-0.3**
LTX	**Lajitas**	**10.84**	**13**	*e*Pn	**Pn**	**01 18 45.7**	**+3.5**
5.1nm,1.0s							
JCT	**Junction City**	**13.15**	**26**	*e*Pn	**Pn**	**01 19 18.1**	**+4.3**
78nm,1.5s							
TUC	**Tucson**	**14.04**	**345**	*e*Pn	**Pn**	**01 19 26.5**	**+0.5**
6.6nm,1.2s							
HKT	**Hockley**	**14.76**	**39**	*e*Pn	**Pn**	**01 19 36.3**	**+0.5**
12nm,1.4s							
ANMO	**Albuquerque**	**16.13**	**0**	LR	LR	01 25 59.4	
comp=Z,947nm,18.7s,baz=0.0,slow=38							
ANMO	**Albuquerque**	**16.13**	**0**	*e*P	**Pn**	**01 20 00.1**	**+6.3**
2.4nm,1.1s							
TEIG	**Tepich**	**17.22**	**82**	*e*Pn	**Pn**	**01 19 59.2**	**-8.5**
WMOK	**Wichita Mounta**	**17.32**	**22**	*e*P	**Pn**	**01 20 08.9**	**-0.1**
11nm,1.3s							
NEN	**Nelson**	**18.38**	**338**	*e*Pn	**Pn**	**01 20 23.3**	**+1.4**
MIAR	**Mount Ida**	**19.47**	**34**	*e*Pn	**Pn**	**01 20 34.3**	**-0.9**
15nm,1.0s							
DAC	**Darwin (Calif)**	**20.02**	**333**	*e*P	**P**	**01 20 38.8**	**-1.1**
MSU	**Marysvale**	**20.30**	**347**	*e*P	**P**	**01 20 43.6**	**+0.6**
ISCO	**Idaho Springs**	**20.98**	**2**	*e*Pn	**P**	**01 20 51.9**	**+1.5**
14nm,1.3s							
DAU	**Daniels Canyon**	**21.97**	**350**	*e*P	**P**	**01 21 01.5**	**+0.5**
KSU1	**Kansas State U**	**22.00**	**21**	*e*Pn	**P**	**01 21 06.2**	**+4.8**
DUG	**Dugway**	**22.05**	**347**	*e*P	**P**	**01 21 02.1**	**+0.2**
8.4nm,1.2s,mb4.0							
NVAR	**Mina Array Bea**	**22.14**	**335**	P	**P**	**01 21 02.0**	**-0.8**
1.5nm,0.9s,mb3.4,baz=153,slow=11,SNR=11							
NVAR				LR	LR	01 29 01.1	
comp=Z,736nm,20.3s,MS4.1,baz=175,slow=35							
PDAR	**Pinedale Array**	**24.07**	**354**	P	**P**	**01 21 20.1**	**-2.5**
1.0nm,0.8s,mb3.3,baz=162,slow=11,SNR=4.9							
PDAR				LR	LR	01 30 28.1	
comp=Z,442nm,21.4s,MS3.9,baz=189,slow=36							
REDW	**Red Top Meadow**	**24.80**	**352**	*e*P	**P**	**01 21 30.2**	**+1.0**
8.3nm,1.1s,mb4.2							
SNOW	**Snow King Moun**	**24.89**	**353**	*e*P	**P**	**01 21 29.7**	**-0.2**
14nm,1.1s,mb4.4							
MOOW	**Moose Ponds**	**25.17**	**353**	*e*P	**P**	**01 21 30.5**	**-2.0**
31nm,1.3s,mb4.7							
MOD	**Modoc**	**25.90**	**336**	*e*P	**P**	**01 21 41.7**	**+2.6**
9.2nm,1.3s,mb4.2							
YBH	**Yreka Blue Hor**	**26.76**	**332**	LR	LR	01 31 49.5	
comp=Z,636nm,19.6s,MS4.2,baz=170,slow=36							
OTAV	**Otavalo**	**33.10**	**121**	*e*P	**P**	**01 22 44.5**	**+1.4**
SDV	**Santo Domingo**	**36.09**	**101**	P	**P**	**01 23 07.6**	**-1.4**
1.0nm,0.3s,mb4.2,baz=353,slow=8.8,SNR=2.2							
RKT	**Rikitea**	**50.07**	**215**	*e*S	**S**	**01 32 20.4**	**+7.2**
63nm,23.0s							
RKT				*e*LR	LR	01 38 52.0	
619nm,27.2s,baz=31							
ILAR	**Eielson Array**	**53.27**	**340**	P	**P**	**01 25 25.1**	**-0.9**
1.6nm,1.0s,mb3.9,baz=144,slow=5.0,SNR=5.4							
PPT	**Papeete**	**55.66**	**232**	*e*S	**S**	**01 33 37.3**	**+7.9**
95nm,24.8s							
PPT				*e*LR	LR	01 41 21.9	
738nm,27.0s,baz=50							
PPT	**Papeete**	**55.66**	**232**	LR	LR	01 42 53.9	
comp=Z,364nm,19.2s,MS4.5,baz=300,slow=28							
TBI	**Tubuai**	**59.26**	**227**	*e*LR	LR	01 42 58.8	
610nm,27.2s,baz=48							

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*NEIC **27** 01:24:25.4±2.3, 720S×12905E, h110km±25km, mb4.4/8, Error ellipse: s-maj=17.8km s-min=12.2km az=200.0*
*ISCJB **27** 01:24:28.0±1.6, 740S±006×12929E±008, h169km±17km, mb4.6/12, Error ellipse: s-maj=14.4km s-min=9.3km az=136.1*
*IDC **27** 01:24:29.1±6.0, 736S×12898E, h151km±63km, mb3.7/4, mb1 3.9/7, mb1mx3.7/15, mbtmp4.4/7, Error ellipse: s-maj=38.5km s-min=22.8km az=45.0*
ISC 27 01:24:31.1±1.3, 768S±006×12916E±008, h183km±14km, n25, σ1°15/33, mb4.6/12, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.95**	**147**	*e*P	**Pn**	**01 25 58.4**	**+1.0**
259nm,0.4s							
KAKA				*e*S	**Sn**	**01 27 04.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**10.91**	**198**	*e*P	**Pn**	**01 27 04.4**	**+2.1**
18nm,0.4s							
FITZ				*e*S	**Sn**	**01 29 01.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**10.91**	**198**	P	**Pn**	**01 27 04.2**	**+1.9**
3.3nm,0.3s,baz=28,slow=12,SNR=57							
FITZ				S	**Sn**	**01 29 01.6**	**-2.0**
2.9nm,0.3s,baz=46,slow=20,SNR=9.1							
WRAB	**Tennant Creek**	**13.18**	**158**	*e*Pn	**Pn**	**01 27 32.4**	**+1.1**
51nm,0.4s							
WRAB				*e*Sn	**Sn**	**01 29 57.7**	**-0.2**
WRA	**Warramunga Arr**	**13.18**	**158**	P	**Pn**	**01 27 32.1**	**+0.8**
6.1nm,0.3s,baz=330,slow=14,SNR=172							
WRA				S	**Sn**	**01 29 55.7**	**-2.3**
8.0nm,0.3s,baz=334,slow=23,SNR=11							
WB2	**Warramunga Arr**	**13.19**	**158**	⇓*i*P	**Pn**	**01 27 32.2**	**+0.8**
WB2				*e*S	**Sn**	**01 29 56.1**	**-2.0**
MBWA	**Marble Bar**	**16.20**	**213**	*e*Pn	**Pn**	**01 28 12.0**	**+3.4**
2.4nm,0.4s							
MBWA				*e*S	**S**	**01 31 09.3**	**+1.0**
ASAR	**Alice Springs**	**16.53**	**165**	P	**Pn**	**01 28 17.3**	**+4.8**
0.6nm,0.3s,baz=338,slow=11,SNR=26							
ASAR				S	**S**	**01 31 15.3**	**0.0**
0.8nm,0.3s,baz=324,slow=19,SNR=4.9							
PMG	**Port Moresby**	**17.88**	**97**	P	**Pn**	**01 28 29.6**	**+1.1**
0.7nm,0.3s,baz=282,slow=5.6,SNR=5.0							
CTA	**Charters Tower**	**20.65**	**128**	P	**P**	**01 29 01.1**	**+4.7**
8.4nm,0.9s,baz=326,slow=12,SNR=5.0							
CTAO	**Charters Tower**	**20.65**	**128**	*e*P	**P**	**01 29 00.1**	**+3.6**
7.2nm,0.8s							
FORT	**Forrest**	**23.00**	**182**	*e*P	**P**	**01 29 26.4**	**+6.6**
9.6nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**26.72**	**156**	*e*P	**P**	**01 29 55.9**	**+2.6**
2.7nm,0.6s,mb4.0							
STKA	**Stephens Creek**	**26.72**	**156**	P	**P**	**01 29 57.2**	**+3.9**
3.3nm,0.6s,mb4.2,baz=335,slow=8.4,SNR=10							
JIRN	**Jiri**	**54.41**	**312**	*e*P	**P**	**01 33 38.7**	**-0.4**
19nm,0.8s,mb4.9							
GUN	**Gumba**	**54.78**	**312**	*e*P	**P**	**01 33 41.5**	**-0.3**
25nm,0.6s,mb5.1							
PKI	**Pulchoki**	**54.94**	**311**	*e*P	**P**	**01 33 42.0**	**-0.9**
13nm,0.6s,mb4.8							
KKN	**Kakani**	**55.16**	**312**	*e*P	**P**	**01 33 44.5**	**0.0**
13nm,0.6s,mb4.9							
DMN	**Daman**	**55.19**	**311**	*e*P	**P**	**01 33 44.8**	**+0.1**
8.6nm,0.5s,mb4.7							
GKN	**Gorkha**	**55.75**	**311**	*e*P	**P**	**01 33 48.3**	**-0.4**
23nm,0.7s,mb5.2							
KOLN	**Koldanda**	**56.40**	**311**	*e*P	**P**	**01 33 53.0**	**-0.3**
32nm,1.0s,mb5.1							
SONM	**Songino Array**	**58.83**	**342**	P	**P**	**01 34 08.4**	**-1.8**
0.7nm,0.6s,mb3.6,baz=152,slow=5.9,SNR=6.4							
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**01 35 12.4**	**-0.1**
2.5nm,0.5s,mb4.2,baz=130,slow=8.0,SNR=32							
KURK	**Kurchatov**	**72.67**	**329**	*e*P	**P**	**01 35 38.5**	**-0.1**
4.8nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**78.41**	**329**	*e*P	**P**	**01 36 11.4**	**+0.1**

JMA 27 01:36:11.1±0.3, 2604N×12448E, h177km, M3.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**1.41**	**172**	P	Pn	01 36 42.2	+0.3
JTJ				S	Sn	01 37 04.8	-0.9
JMJ	**Miyako jima 2**	**1.43**	**149**	P	Pn	01 36 42.5	+0.4
JMJ				*e*S	Sn	01 37 06.0	0.0
JOGS	**Gusukube**	**1.52**	**146**	P	Pn	01 36 43.8	+0.8
JOGS				*e*S	Sn	01 37 07.2	-0.5
JIJ	**Ishigaki jima**	**1.70**	**190**	P	Pn	01 36 44.2	-0.5
JIJ				S	Sn	01 37 08.5	-2.2
IRIF	**Iriomote-Funau**	**1.83**	**202**	P	Pn	01 36 45.9	-0.2
IRIF				*e*S	Sn	01 37 12.9	-0.2
JKRS	**Kuro-shima**	**1.84**	**193**	P	Pn	01 36 46.0	-0.3
JKRS				S	Sn	01 37 11.8	-1.6
YOJ	**Yonaguni jima**	**2.06**	**221**	P	Pn	01 36 49.5	+0.9
YOJ				S	Sn	01 37 19.5	+1.9
HATJ	**Hateruma jima**	**2.07**	**197**	P	Pn	01 36 48.5	-0.2
HATJ				S	Sn	01 37 16.3	-1.4
JKE	**Kume jima 2**	**2.09**	**82**	P	Pn	01 36 49.2	+0.3
JKE				*e*S	Sn	01 37 17.6	-0.6
JAGN	**Aguni-jima**	**2.54**	**77**	P	Pn	01 36 53.8	-0.2
JAGN				*e*S	Sn	01 37 25.6	-1.8
NAH1	**Naha**	**2.89**	**86**	*e*S	Sn	01 37 32.4	-2.5
JJT2	**Tamagusuku 2**	**2.94**	**87**	P	Pn	01 36 59.3	+0.5
JJT2				*e*S	Sn	01 37 34.2	-1.8
JIH	**Iheya**	**3.28**	**72**	P	Pn	01 37 02.7	-0.3
JIH				*e*S	Sn	01 37 40.4	-3.0
JOW	**Kunigami**	**3.49**	**76**	P	Pn	01 37 04.7	-1.0
JOW				*e*S	Sn	01 37 43.8	-4.4
JTK	**Tokunoshima**	**4.35**	**65**	P	Pn	01 37 15.1	-1.5
JTK				*e*S	Sn	01 38 03.1	-4.7
JAM	**Amami Oshima**	**5.14**	**61**	P	Pn	01 37 24.9	-1.8
JAM				*e*S	Sn	01 38 22.4	-3.7

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*ISCJB **27** 01:38:03.1±1.1, 5135N±009×17942W±006, h50km±8km, mb4.4/45, Error ellipse: s-maj=15.8km s-min=6.2km az=2.3*
*MOS **27** 01:38:03.3±1.1, 5136N×17944W, h53km, mb4.7/13, Error ellipse: s-maj=12.8km s-min=7.6km az=83.4*
*NEIC **27** 01:38:04.3, 5133N×17922W, h38km, mb4.5/22, ML4.3(AEIC), After AEIC.*
*IDC **27** 01:38:05.5±2.3, 5146N×17951W, h61km±18km, mb3.8/20, mb1 4.0/21, mb1mx4.0/26, mbtmp4.1/21, Error ellipse: s-maj=21.6km s-min=13.0km az=175.0*
*BJI **27** 01:38:09.2, 5130N×17920W, h38km, mB4.8, mb4.8, Ms4.5, Msz4.1*
ISC 27 01:38:05.5±1.0, 5145N±010×17944W±006, h57km±7km, n112, σ1°02/111, mb4.4/45, 2C-2D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**3.34**	**75**	P	**Pn**	**01 38 54.5**	**-0.7**
ATKA				S	**Sn**	**01 39 34.0**	**+0.3**
SMY	**Shemya**	**4.18**	**290**	P	**Pn**	**01 39 06.0**	**-0.7**
FX1	**Attu Island--F**	**4.77**	**290**	P	**Pn**	**01 39 15.4**	**+0.6**
8.0nm,0.3s,baz=274,slow=15,SNR=28							
FX1				S	**Sn**	**01 40 15.8**	**+7.0**
12nm,0.3s,baz=279,slow=22,SNR=3.0							
FX1	**Attu Island--F**	**4.77**	**290**	*e*Pn	**Pn**	**01 39 15.4**	**+0.6**
FX1				*e*Sn	**Sn**	**01 40 13.5**	**+4.7**
FX1	**Attu Island--F**	**4.77**	**290**	P	**Pn**	**01 39 15.4**	**+0.6**
FX1				S	**Sn**	**01 40 15.8**	**+7.0**
FX1				pmax	pmax		
comp=Z,8.0nm,0.3s							
FX1				smax			
comp=N,12nm,0.3s							
UNV	**Unalaska Valle**	**8.23**	**68**	P	**Pn**	**01 40 02.3**	**+0.2**
TNA	**Tin City**	**15.34**	**18**	*e*Pn	**Pn**	**01 41 41.6**	**+3.3**
comp=N,6.9nm,1.0s							
KDAK	**Kodiak Island**	**16.73**	**57**	P	**Pn**	**01 41 52.4**	**-3.5**
comp=N,5.2nm,0.3s,baz=151,slow=21,SNR=46							
KDAK				S	**S**	**01 44 52.0**	**-17**
comp=N,0.2nm,0.3s,baz=191,slow=16,SNR=4.6							
TTA	**Tatalina**	**17.01**	**38**	*e*Pn	**Pn**	**01 42 01.7**	**+2.3**
comp=N,18nm,1.2s							
TTA	**Tatalina**	**17.01**	**38**	*e*P	**Pn**	**01 42 01.7**	**+2.3**
TTA				pmax	pmax		
comp=Z,18nm,1.2s							
BILL	**Bilibino**	**18.05**	**343**	*e*P	**Pn**	**01 42 14.9**	**+2.8**
comp=Z,24nm,1.1s							
BILL	**Bilibino**	**18.05**	**343**	*e*P	**Pn**	**01 42 14.9**	**+2.8**
BILL				pmax	pmax		
comp=Z,24nm,1.1s							
SLKM	**Skilak Lake**	**18.55**	**49**	*e*S	**Pn**	**01 42 11.0**	**-7.3**
SML	**Sawmill**	**19.80**	**46**	*e*P	**Pn**	**01 42 31.9**	**-1.2**
MCK	**McKinley**	**20.21**	**41**	*e*P	**P**	**01 42 35.1**	**-0.5**
comp=Z,2.2nm,0.6s							
MCK	**McKinley**	**20.21**	**41**	*e*P	**P**	**01 42 35.1**	**-0.5**
MCK				pmax	pmax		
comp=Z,2.0nm,0.6s							
DIV	**Divide**	**20.82**	**49**	*e*P	**P**	**01 42 44.9**	**+2.8**
comp=Z,43nm,0.5s							
COLA	**College**	**21.11**	**38**	*e*P	**P**	**01 42 46.0**	**+0.8**
comp=Z,12nm,0.9s,mb4.2							
COLA	**College**	**21.11**	**38**	*e*P	**P**	**01 42 46.0**	**+0.7**
COLA				pmax	pmax		
comp=Z,12nm,0.9s,mb4.2							
ILAR	**Eielson Array**	**21.44**	**39**	P	**P**	**01 42 46.7**	**-2.2**
comp=Z,1.5nm,0.5s,mb3.6,baz=245,slow=8.9,SNR=36							
ILAR				PcP	PcP	01 46 48.0	-2.2
comp=Z,0.2nm,0.4s,baz=265,slow=3.1,SNR=6.0							
ILAR				ScP	ScP	01 50 20.6	-1.8
comp=Z,0.4nm,0.6s,baz=283,slow=2.8,SNR=8.1							
ILAR	**Eielson Array**	**21.44**	**39**	P	**P**	**01 42 46.7**	**-2.2**
ILAR						01 46 48.0	
DAWY	**Dawson**	**24.33**	**43**	*e*P	**P**	**01 43 17.1**	**-0.7**
INK	**Inuvik**	**27.64**	**35**	P	**P**	**01 43 46.5**	**-1.2**
comp=Z,0.9nm,0.3s,mb3.8,baz=246,slow=7.4,SNR=8.3							
INK				PcP	PcP	01 47 01.6	-2.2
comp=Z,1.4nm,0.7s,baz=261,slow=2.7,SNR=4.8							
DLBC	**Dease Lake**	**28.66**	**56**	P	**P**	**01 43 56.2**	**-0.5**
comp=Z,0.7nm,0.8s,mb3.4,baz=156,slow=18,SNR=2.9							
KLR	**Kul'dur**	**30.77**	**285**	*e*P	**P**	**01 44 11.3**	**-4.2**
YKW3	**Yellowknife Ar**	**35.46**	**46**	*e*P	**P**	**01 44 55.3**	**-1.0**
YKA	**Yellowknife Ar**	**35.48**	**46**	*e*P	**P**	**01 44 55.5**	**-1.0**
comp=Z,2.5nm,0.6s,mb4.3,baz=282,slow=7.9,SNR=68							
YKA				PcP	PcP	01 47 24.1	-0.8
comp=Z,0.5nm,0.5s,baz=288,slow=3.0,SNR=9.3							
YKA				ScP	ScP	01 51 03.5	-2.4
comp=Z,0.7nm,0.6s,baz=294,slow=3.4,SNR=20							
YKA	**Yellowknife Ar**	**35.48**	**46**	P	**P**	**01 44 55.5**	**-1.0**
YKA				PcP	PcP	01 47 24.1	-0.8
YKA				ScP	ScP	01 51 03.5	-2.4
YKA	**Yellowknife Ar**	**35.48**	**46**	P	**P**	**01 44 55.5**	**-1.0**
YKA						01 47 24.1	
CN2	**Changchun**	**37.14**	**280**	*e*P	pP	01 45 20.3	-4.7
BOD	**Bodaibo**	**37.61**	**306**	*e*P	**P**	**01 45 13.4**	**-1.3**
BOD				pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.0							
EDM	**Edmonton**	**39.13**	**61**	*e*P	**P**	**01 45 25.4**	**-2.0**
YBH	**Yreka Blue Hor**	**39.27**	**81**	P	**P**	**01 45 30.1**	**+1.5**
comp=Z,2.7nm,0.6s,mb4.1,baz=4.7,slow=5.1,SNR=8.1							
MOD	**Modoc**	**40.66**	**80**	*e*P	**P**	**01 45 40.4**	**+0.4**
comp=Z,4.2nm,0.6s,mb4.2							
MCMT	**McKenzie Canyo**	**43.54**	**71**	*e*P	**P**	**01 46 02.9**	**-0.6**
MCMT				*e*pP	pP	01 46 14.1	-4.1
BOZ	**Bozeman (W)**	**43.81**	**70**	*e*P	**P**	**01 46 05.4**	**-0.3**
comp=Z,4.3nm,0.7s,mb4.3							
BOZ	**Bozeman (W)**	**43.81**	**70**	*e*P	**P**	**01 46 05.4**	**-0.3**
BOZ				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.3							
NVAR	**Mina Array Bea**	**43.94**	**82**	P	**P**	**01 46 07.0**	**+0.3**
comp=Z,2.4nm,0.8s,mb4.0,baz=287,slow=7.6,SNR=14							
FLWY	**Flagg Ranch**	**45.23**	**71**	*e*P	**P**	**01 46 18.4**	**+1.3**
comp=Z,3.1nm,0.5s,mb4.4							
FLWY				*e*pP	pP	01 46 27.8	-4.0
TPNV	**Topopah Spring**	**46.14**	**83**	*e*P	**P**	**01 46 24.9**	**+0.8**
comp=Z,6.5nm,0.9s,mb4.6							
TPNV	**Topopah Spring**	**46.14**	**83**	*e*P	**P**	**01 46 25.0**	**+0.8**
TPNV				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.6							
DUG	**Dugway**	**46.25**	**77**	*e*P	**P**	**01 46 25.1**	**+0.1**
comp=Z,11nm,0.9s,mb4.8							
DUG	**Dugway**	**46.25**	**77**	*e*P	**P**	**01 46 25.2**	**+0.2**
DUG				pmax	pmax		
comp=Z,11nm,0.9s,mb4.8							
SONM	**Songino Array**	**46.26**	**296**	P	**P**	**01 46 24.8**	**-0.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=59,slow=8.6,SNR=5.9							
ZAK	**Zakamensk**	**46.58**	**301**	*e*P	**P**	**01 46 28.4**	**+0.8**
ZAK				pmax	pmax		
comp=Z,6.0nm,2.0s,mb4.2							
PDAR	**Pinedale Array**	**46.67**	**72**	P	**P**	**01 46 28.3**	**-0.1**
comp=Z,6.5nm,0.5s,mb4.8,baz=324,slow=3.3,SNR=101							
DAU	**Daniels Canyon**	**47.06**	**76**	*e*P	**P**	**01 46 31.9**	**+0.5**
MSU	**Marysvale**	**47.67**	**78**	*e*P	**P**	**01 46 36.6**	**+0.5**
SRU	**San Rafael**	**48.31**	**76**	*e*P	**P**	**01 46 42.6**	**+1.6**
comp=Z,7.5nm,0.5s,mb5.0							
SRU	**San Rafael**	**48.31**	**76**	*e*P	**P**	**01 46 42.6**	**+1.6**
SRU				pmax	pmax		
comp=Z,7.0nm,0.5s,mb5.0							
NJ2	**Nanjing**	**48.41**	**271**	*e*P	pP	01 46 52.8	-3.9
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.1							
PV10	**Paradox Valley**	**49.67**	**76**	*e*P	**P**	**01 46 53.8**	**+2.3**
PV01	**Paradox Valley**	**50.11**	**76**	*e*P	**P**	**01 46 54.8**	**0.0**
FRB	**Frobisher Bay**	**53.18**	**31**	P	**P**	**01 47 16.6**	**-1.1**
comp=Z,2.4nm,0.3s,mb4.6,baz=320,slow=7.7,SNR=15							
ARCES	**ARCESS Array B**	**57.96**	**350**	P	**P**	**01 47 50.9**	**-1.1**
comp=Z,3.6nm,0.8s,mb4.4,baz=24,slow=7.2,SNR=9.4							
MKAR	**Makanchi Array**	**59.68**	**308**	P	**P**	**01 48 02.7**	**-1.2**
comp=Z,0.7nm,0.3s,mb4.2,baz=48,slow=4.9,SNR=26							
SCHQ	**Schefferville**	**60.20**	**38**	P	**P**	**01 48 06.1**	**-1.4**
comp=Z,3.9nm,0.7s,mb4.5,baz=328,slow=6.5,SNR=17							
OXF	**Oxford**	**63.92**	**67**	*e*P	**P**	**01 48 31.6**	**-0.9**
comp=Z,32nm,0.9s,mb5.3							
OXF	**Oxford**	**63.92**	**67**	*e*P	**P**	**01 48 31.6**	**-0.9**
OXF				pmax	pmax		
comp=Z,32nm,0.9s,mb5.3							
PLAL	**Pickwick Lake**	**64.35**	**66**	*e*P	**P**	**01 48 34.5**	**-0.8**
comp=Z,7.6nm,0.6s,mb4.9							
FINES	**FINESS Array B**	**65.63**	**347**	P	**P**	**01 48 42.5**	**-1.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=4.2,slow=8.2,SNR=16							
NB2	**NORSAR Subarra**	**67.54**	**354**	P	**P**	**01 48 55.0**	**-0.8**
comp=Z,1.7nm,0.6s,mb4.2,baz=6.5,slow=6.5							
NB2	**NORSAR Subarra**	**67.54**	**354**	P	**P**	**01 48 55.0**	**-0.8**
NB2				pmax	pmax		
comp=Z,2.0nm,0.6

comp=Z,3.6nm,0.8s,mb4.3
AVF Avril sur Loir 82.11 358 *e*P **P 01 50 20.6 +0.7**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SMF Signal de Mont 82.25 358 *e*P **P 01 50 20.3 -0.3**
TCF Toulx Ste Croi 82.64 359 *e*P **P 01 50 22.4 -0.2**
LPL La Plagne 83.27 356 *e*P **P 01 50 26.8 +0.9**
LPG La Plagne 83.29 356 *e*P **P 01 50 26.6 +0.6**
ORIF Oris-en-Rattie 83.91 356 *e*P **P 01 50 30.0 +0.8**
comp=Z,3.6nm,0.5s,mb4.5
ORIF Oris-en-Rattie 83.91 356 *e*P **P 01 50 30.0 +0.8**
comp=Z,1.8nm,0.5s,mb4.5
ORIF Oris-en-Rattie 83.91 356 *e*P **P 01 50 30.0 +0.8**
ORIF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
MBDF Montbardon 84.06 356 *e*P **P 01 50 30.5 +0.6**
comp=Z,8.5nm,0.7s,mb4.7
MBDF Montbardon 84.06 356 *e*P **P 01 50 30.5 +0.6**
comp=Z,4.3nm,0.7s,mb4.7
MBDF Montbardon 84.06 356 *e*P **P 01 50 30.5 +0.6**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
BRTR Keskin Array B 84.72 335 P **P 01 50 31.8 -1.5**
comp=Z,1.2nm,0.7s,mb4.1,baz=52,slow=1.9,SNR=9.7
ASAR Alice Springs 85.27 222 P **P 01 50 34.8 -1.3**
comp=Z,0.7nm,1.0s,mb3.8,baz=26,slow=6.0,SNR=4.1
SJPF Ste Jean 85.81 1 *e*P **P 01 50 39.2 +0.5**
comp=Z,5.9nm,0.6s,mb4.7
SJPF Ste Jean 85.81 1 *e*P **P 01 50 39.2 +0.5**
comp=Z,3.0nm,0.6s,mb4.7
SJPF Ste Jean 85.81 1 *e*P **P 01 50 39.2 +0.5**
SJPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
ETSF Etsaut 86.03 1 *e*P **P 01 50 40.3 +0.5**
PGF Pioggiola 86.10 354 *e*P **P 01 50 40.0 -0.2**
comp=Z,7.5nm,0.6s,mb4.8
PGF Pioggiola 86.10 354 *e*P **P 01 50 40.0 -0.2**
comp=Z,3.8nm,0.6s,mb4.8
PGF Pioggiola 86.10 354 *e*P **P 01 50 40.0 -0.2**
PGF pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
ESDC Sonseca Array 89.17 3 P **P 01 50 54.1 -0.8**
comp=Z,0.6nm,0.5s,mb4.2,baz=345,slow=4.2,SNR=5.3
TORD Torodi Ar. Bea 115.67 359 PKP PKPdf 01 56 40.0 -1.2
comp=Z,0.5nm,0.5s,baz=350,slow=2.4,SNR=20
DBIC Dimbokro 121.93 6 PKP PKPdf 01 56 52.5 -0.8
comp=Z,1.9nm,0.5s,baz=252,slow=0.8,SNR=19
LBTB Lobatse 147.40 315 *e*PKP PKPdf 01 57 43.7 +3.4
BOSA Boshof 150.63 311 PKPbc PKPbc 01 57 51.4 +0.4
comp=Z,3.5nm,0.7s,baz=65,slow=5.9,SNR=8.9

IDC ***27*** *02:23:50.1±1.0,5083N×17927E,h0km,mb3.8/11, mb1 4.1/13,mb1mx3.9/26,mbtmp3.9/13,ML4.0/2,MS3.5/1, Ms1 3.5/1,ms1mx2.5/31,Error ellipse: s-maj=24.7km s-min=14.6km az=177.0*
MOS ***27*** *02:23:53.9±0.7,5096N×179.14E,h33km,mb4.7/1,Error ellipse: s-maj=24.8km s-min=14.4km az=106.4*
NEIC ***27*** *02:23:54.8,5132N×17892E,h4km,mb4.7/1,ML3.6(AEIC), After AEIC.*
ISCJB ***27*** *02:23:56.2±1.6,510N±0.1×17908E±007,h52km±12km, mb4.0/13,Error ellipse: s-maj=21.7km s-min=7.3km az=2.5*
ISC 27 02:23:51.4±4.5,509N±01×17923E±009,h7km±28km,n28, σ0°79/31,mb4.0/13,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**3.68**	**302**	P	**Pn**	**02 24 48.7**	**0.0**
SMY				S	**Sn**	**02 25 33.0**	**+0.7**
FX1	**Attu Island--F**	**4.26**	**300**	Pn	**Pn**	**02 24 56.5**	**-0.1**
	27nm,0.3s,baz=162,slow=6.0,SNR=55						
FX1				Sn	**Sn**	**02 25 51.4**	**+4.9**
	28nm,0.3s,baz=86,slow=22,SNR=9.4						
FX1	**Attu Island--F**	**4.26**	**300**	P	**Pn**	**02 24 57.5**	**+0.9**
FX1				S	**Sn**	**02 25 46.4**	**-0.2**
FX1	**Attu Island--F**	**4.26**	**300**	P	**Pn**	**02 24 56.5**	**-0.1**
FX1						02 25 51.4	
FX1				pmax	pmax		
	comp=Z,27nm,0.3s						
FX1				smax			
	comp=N,28nm,0.3s						
ATKA	**Atka Island**	**4.32**	**70**	P	**Pn**	**02 25 03.1**	**+5.8**
ATKA				S	**Sn**	**02 25 53.5**	**+5.6**
KDAK	**Kodiak Island**	**17.74**	**56**	P	**Pn**	**02 27 58.7**	**-0.1**
	comp=N,0.8nm,0.3s,baz=278,slow=5.7,SNR=14						
KDAK	**Kodiak Island**	**17.74**	**56**	P	**Pn**	**02 27 58.7**	**-0.1**
BILL	**Bilibino**	**18.36**	**344**	*e*P	**Pn**	**02 28 07.0**	**+0.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**22.41**	**39**	P	**P**	**02 28 49.4**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.3,baz=234,slow=8.0,SNR=23						
DAWY	**Dawson**	**25.32**	**43**	*e*P	**P**	**02 29 19.6**	**+0.9**
INK	**Inuvik**	**28.58**	**35**	P	**P**	**02 29 48.8**	**+0.8**
	comp=Z,1.1nm,0.5s,mb3.9,baz=168,slow=6.6,SNR=6.7						
DLBC	**Dease Lake**	**29.67**	**55**	LR	LR	02 42 25.4	
	comp=Z,95nm,19.5s,baz=8.0,slow=38						
YKA	**Yellowknife Ar**	**36.48**	**46**	P	**P**	**02 30 56.9**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=283,slow=8.1,SNR=8.2						
SONM	**Songino Array**	**45.76**	**296**	P	**P**	**02 32 12.1**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=64,slow=7.6,SNR=8.6						
PDAR	**Pinedale Array**	**47.65**	**71**	P	**P**	**02 32 28.6**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=295,slow=3.7,SNR=9.5						
MKAR	**Makanchi Array**	**59.36**	**308**	P	**P**	**02 33 52.3**	**-1.9**
	comp=Z,0.3nm,0.4s,mb3.7,baz=54,slow=6.1,SNR=7.6						
BVAR	**Borovoye Array**	**60.46**	**319**	P	**P**	**02 34 00.9**	**-0.8**
	comp=Z,1.6nm,0.4s,mb4.4,baz=51,slow=6.8,SNR=9.1						
AKTK	**Aktyubinsk**	**67.36**	**324**	P	**P**	**02 34 46.6**	**-0.6**
AKTO	**Aktyubinsk**	**67.36**	**324**	P	**P**	**02 34 46.6**	**-0.6**
	comp=Z,2.2nm,0.5s,mb4.5,baz=65,slow=8.7,SNR=15						
AKTO	**Aktyubinsk**	**67.36**	**324**	P	**P**	**02 34 46.6**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
GUN	**Gumba**	**70.88**	**291**	*e*P	**P**	**02 35 10.1**	**+1.1**
JIRN	**Jiri**	**70.88**	**290**	*e*P	**P**	**02 35 10.0**	**+1.0**
	comp=Z,6.8nm,0.6s,mb4.8						
KKN	**Kakani**	**71.33**	**291**	*e*P	**P**	**02 35 11.8**	**+0.1**
	comp=Z,8.8nm,0.5s,mb4.9						
GKN	**Gorkha**	**71.55**	**292**	*e*P	**P**	**02 35 13.3**	**+0.3**
DMN	**Daman**	**71.56**	**291**	*e*P	**P**	**02 35 12.6**	**-0.5**
WRA	**Warramunga Arr**	**80.80**	**222**	P	**P**	**02 36 05.1**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=5.9,SNR=7.7						
ASAR	**Alice Springs**	**84.28**	**221**	P	**P**	**02 36 25.1**	**+1.2**
	comp=Z,0.4nm,0.6s,mb3.7,baz=19,slow=5.2,SNR=4.6						
BRTR	**Keskin Array B**	**84.87**	**334**	P	**P**	**02 36 26.2**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.8,baz=48,slow=2.9,SNR=4.5						

ISCJB ***27*** *02:31:42.8±0.3,3625N±003×2850E±005,h79km±7km, Error ellipse: s-maj=6.9km s-min=4.7km az=0.4*
CSEM ***27*** *02:31:42.9±0.1,3622N×2855E,h69km±2km,ML3.9,Error ellipse: s-maj=3.0km s-min=2.0km az=96.0*
NEIC ***27*** *02:31:44.3,3651N×2862E,h39km,MD3.2(ATH),After ATH.*
ATH ***27*** *02:31:44.3,3651N×2862E,h39km±1km,MD3.2/3*
HLW ***27*** *02:31:51.4,3570N×2872E,h52km,Mb3.9*
ISC 27 02:31:44.3±0.4,3629N±003×2850E±005,h71km±8km,n45, σ0°60/55,15C-4D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.31**	**256**	⇓*i*PB	**Pn**	**02 31 55.9**	**+0.2**
ARG				*e*SB	**Sn**	**02 32 03.5**	**-0.5**
YER	**Yerkesik**	**0.86**	**348**	*i* PG	**Pn**	**02 32 01.5**	**+0.4**
YER				*i* SG	**Sn**	**02 32 12.9**	**-0.7**
DAT	**Datca**	**0.86**	**301**	*i* PG	**Pn**	**02 32 01.5**	**+0.4**
DAT				*i* SG	**Sn**	**02 32 14.1**	**+0.5**
KSL	**Kastellorizon**	**0.89**	**99**	*e*PN	**Pn**	**02 32 01.0**	**-0.4**
MLSB	**Milas**	**1.16**	**330**	PG	**Pn**	**02 32 05.5**	**+0.7**
ELL	**Elmali**	**1.22**	**68**	PN	**Pn**	**02 32 06.2**	**+0.6**
BODT	**Bodrum**	**1.23**	**309**	*i* PN	**Pn**	**02 32 06.0**	**+0.3**
GOLH	**Golhisar**	**1.27**	**42**	*i* P	**Pn**	**02 32 07.4**	**+1.1**
GOLH				*i* S	**Sn**	**02 32 23.6**	**+0.8**
AYDN	**Tasoluk**	**1.46**	**340**	*i* P	**Pn**	**02 32 09.5**	**+0.9**
AYDN				*i* S	**Sn**	**02 32 26.1**	**-1.0**
AYDN	**Tasoluk**	**1.46**	**340**	*i* P	**Pn**	**02 32 09.5**	**+0.8**
AYDN				*i* S	**Sn**	**02 32 26.0**	**-1.0**
DENT	**Denizli**	**1.52**	**16**	PN	**Pn**	**02 32 09.2**	**-0.3**
SMG	**Samos**	**1.94**	**317**	*e*PN	**Pn**	**02 32 15.8**	**+0.6**
SMG				*e*SN	**Sn**	**02 32 38.0**	**-0.7**
BCK	**Bucak**	**2.04**	**54**	PN	**Pn**	**02 32 17.3**	**+0.8**
KHL	**Karahalli**	**2.19**	**22**	PN	**Pn**	**02 32 18.0**	**-0.4**
MANT	**Manisa**	**2.20**	**1**	*i* P	**Pn**	**02 32 18.5**	**-0.1**
MANT				*i* S	**Sn**	**02 32 41.7**	**-3.1**
ISP	**Isparta**	**2.23**	**45**	*e*PN	**Pn**	**02 32 18.9**	**-0.2**
ISP	**Isparta**	**2.23**	**45**	*e*P	**Pn**	**02 32 19.3**	**+0.2**
ISP				*e*Sn	**Sn**	**02 32 34.2**	**-11**
TKTP	**Tekketepe**	**2.27**	**39**	*i* P	**Pn**	**02 32 19.9**	**+0.3**
TKTP				*i* S	**Sn**	**02 32 46.5**	**-0.1**
IZM	**Izmir**	**2.32**	**335**	*e*PN	**Pn**	**02 32 20.3**	**0.0**
AKS	**Akhisar**	**2.64**	**348**	*e*PN	**Pn**	**02 32 24.2**	**-0.4**
DST	**Dursunbey**	**3.31**	**2**	*e*PN	**Pn**	**02 32 33.4**	**-0.3**
DABA	**Dabaa**	**5.27**	**182**	P	**Pn**	**02 33 00.2**	**-0.2**
SLUM		**5.51**	**211**	⇑P	**Pn**	**02 33 05.7**	**+1.9**
HMYD	**Mayadein**	**6.76**	**163**	P	**Pn**	**02 33 19.8**	**-1.0**
SQR		**6.78**	**160**	⇑P	**Pn**	**02 33 20.4**	**-0.7**
AMAG	**Maghara**	**6.87**	**144**	P	**Pn**	**02 33 22.0**	**-0.3**
HNAT	**Natroun**	**6.87**	**164**	P	**Pn**	**02 33 22.2**	**-0.2**
FYM	**Al Fayyum**	**6.92**	**161**	⇑P	**Pn**	**02 33 23.1**	**+0.1**
KOT	**Kottamia**	**6.93**	**155**	⇑P	**Pn**	**02 33 22.7**	**-0.5**
AYT	**Al 'Ayyat**	**6.94**	**161**	⇑P	**Pn**	**02 33 23.0**	**-0.2**
HHAG	**Hagoal**	**7.00**	**153**	⇑P	**Pn**	**02 33 24.2**	**0.0**
HSAF	**As Saff**	**7.13**	**158**	⇑P	**Pn**	**02 33 25.6**	**-0.3**
GLL	**Jalalah**	**7.22**	**157**	⇓P	**Pn**	**02 33 26.8**	**-0.3**
SUZ		**7.39**	**149**	⇑P	**Pn**	**02 33 29.1**	**-0.2**
SUZ		**7.39**	**149**	P	**Pn**	**02 33 29.1**	**-0.3**
HBNS	**Bani Suwayf**	**7.67**	**162**	⇑P	**Pn**	**02 33 33.3**	**+0.1**
ZAF		**7.78**	**153**	⇑P	**Pn**	**02 33 34.6**	**-0.1**
ZNM		**7.81**	**151**	⇑P	**Pn**	**02 33 35.5**	**+0.2**
AWBH		**7.96**	**177**	⇑P	**Pn**	**02 33 36.8**	**-0.4**
GRB	**Gharib**	**8.78**	**154**	⇑P	**Pn**	**02 33 48.5**	**0.0**
HKAT	**Jabal Katrina**	**9.03**	**148**	⇓P	**Pn**	**02 33 52.1**	**+0.3**
TR2		**9.03**	**149**	⇓P	**Pn**	**02 33 51.6**	**-0.2**
HFRF	**Wahat Farafira**	**9.12**	**181**	⇑P	**Pn**	**02 33 53.3**	**+0.3**
ASUT		**9.24**	**163**	⇑P	**Pn**	**02 33 54.7**	**0.0**
HDK1	**Dakhla**	**10.74**	**176**	P	**Pn**	**02 34 15.6**	**+0.4**

ISCJB ***27*** *02:31:59.3±2.3,34.11N±0.10×250E±0.1,h4km±14km, mb3.3/2,MS3.3/1,Error ellipse: s-maj=16.8km s-min=14.3km az=23.8*
IDC ***27*** *02:32:00.1±1.7,34.16N×2520E,h0km,mb3.5/2,mb1 3.5/3, mb1mx3.3/20,mbtmp3.4/3,MS3.4/1,Ms1 3.4/1, ms1mx2.7/23,Error ellipse: s-maj=35.2km s-min=15.1km az=86.0*
CSEM ***27*** *02:32:00.4,34.12N×2506E,h25km,MD3.4/4,After ATH*
ATH ***27*** *02:32:00.4,34.12N×2506E,h25km±1km,MD3.3/4*
NEIC ***27*** *02:32:00.4,34.12N×2506E,h25km,MD3.3(ATH),After ATH.*
ISC 27 02:32:01.5±2.5,342N±01×250E±01,h8km±15km,n9, σ0°86/10,mb3.3/2,MS3.3/1,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.88**	**40**	*e*PN	**Pg**	**02 32 18.0**	**-0.4**
XRY				*e*SN	**Sg**	**02 32 31.0**	**+1.1**
GVD	**Gavdhos**	**0.99**	**310**	*e*PN	**Pn**	**02 32 21.0**	**-0.8**
GVD				*e*SN	**Sn**	**02 32 36.0**	**0.0**
IDI	**Anoyia**	**1.09**	**355**	Pg	**Pg**	**02 32 21.8**	**-0.7**
	6.4nm,0.3s,baz=177,slow=16,SNR=168						
IDI				Lg		02 32 38.5	
	23nm,0.3s,baz=294,slow=22,SNR=13						
NPS	**Neapolis**	**1.17**	**25**	*e*PN	**Pn**	**02 32 23.5**	**-0.7**
VAM	**Vamos**	**1.38**	**331**	*e*PN	**Pn**	**02 32 27.2**	**+0.2**
GERES	**GERESS Array B**	**16.88**	**333**	Pn	**Pn**	**02 35 59.6**	**+1.5**
	0.1nm,0.3s,baz=138,slow=10,SNR=5.1						
FINES	**FINESS Array B**	**27.27**	**1**	LR	LR	02 48 44.1	
	comp=Z,72nm,18.6s,MS3.3,baz=96,slow=37						
TORD	**Torodi Ar. Bea**	**29.78**	**231**	P	**P**	**02 38 09.7**	**+1.0**
	0.2nm,0.4s,mb3.2,baz=34,slow=7.6,SNR=8.0						
MKAR	**Makanchi Array**	**44.41**	**56**	P	**P**	**02 40 11.6**	**-1.1**
	0.4nm,0.6s,mb3.4,baz=276,slow=7.8,SNR=3.8						

IDC ***27*** *02:39:50.4±1.9,2744N×5564E,h0km,mb3.7/11, mb1 3.9/12,mb1mx3.7/26,mbtmp3.8/12,Error ellipse: s-maj=39.9km s-min=22.1km az=140.0*
ISCJB ***27*** *02:39:51.1±1.3,2733N±006×557E±0.1,h20km±13km, mb3.6/11,Error ellipse: s-maj=16.5km s-min=9.0km az=36.5*
CSEM ***27*** *02:39:51.8±0.1,2731N×5583E,h30km,ML3.4,Error ellipse: s-maj=4.0km s-min=3.4km az=116.0*
OMAN ***27*** *02:39:52.8±7.9,2761N×5518E,h30km,Error ellipse: s-maj=6.4km s-min=2.8km az=9.0*
MOS ***27*** *02:39:52.8±1.6,2736N×5566E,h33km,mb3.7/1,Error ellipse: s-maj=29.6km s-min=13.2km az=117.1*
NEIC ***27*** *02:39:53.3,2745N×5580E,h14km,mb3.6/1,ML3.4(THR), MN3.4(TEH),After THR.*
THR ***27*** *02:39:54.1±0.5,2746N×5587E,h16km±3km,ML3.4*
ISC 27 02:39:52.3±1.0,2749N±004×5573E±005,h10km±7km,n31, σ1°29/38,mb3.6/11,1C-3D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.41**	**103**	*e*PG	**Pg**	**02 40 00.3**	**0.0**
BNDS				AML	AML	02 40 18.9	
	comp=N,2μm,0.6s						
BNDS	**Bandar-Abbas**	**0.41**	**103**	*e*Pg	**Pg**	**02 40 00.0**	**-0.3**
BNDS				*e*Sg	**Sg**	**02 40 05.0**	**-0.7**
BANOM	**Banah**	**1.65**	**162**	⇓P	**Pn**	**02 40 23.7**	**+2.5**
	SNR=28						
BANOM				⇓S	**Sn**	**02 40 47.9**	**+5.5**
GHIR	**Ghir-Karzin**	**2.55**	**289**	*e*Pn	**Pn**	**02 40 38.5**	**+4.9**
GHIR				*e*SG	**Sg**	**02 41 17.9**	**+3.7**
GHIR				AML	AML	02 41 23.8	
	comp=E,162nm,0.6s						
GHIR				AML	AML	02 41 39.3	
	comp=N,143nm,0.6s						
GHIR	**Ghir-Karzin**	**2.55**	**289**	*e*Pn	**Pn**	**02 40 37.0**	**+3.3**
GHIR				*e*Sg	**Sg**	**02 41 15.0**	**+0.8**
KRBR	**Kerman**	**2.64**	**20**	*e*PN	**Pn**	**02 40 38.0**	**+3.1**
KRBR				*e*SG	**Sg**	**02 41 16.7**	**-0.5**
KRBR				AML	AML	02 41 20.7	
	comp=E,182nm,0.4s						
KRBR				AML	AML	02 41 43.1	
	comp=N,238nm,0.6s						
KRBR	**Kerman**	**2.64**	**20**	*e*Pn	**Pn**	**02 40 38.0**	**+3.0**
	SNR=52						
KRBR				*e*Sg	**Sg**	**02 41 16.7**	**-0.5**
	SNR=91						
KRBR	**Kerman**	**2.64**	**20**	*e*Pn	**Pn**	**02 40 38.0**	**+3.0**
KRBR				*e*Sg	**Sg**	**02 41 16.0**	**-1.2**
ASHO	**Ashiyiah**	**2.81**	**174**	⇑P	**Pn**	**02 40 39.0**	**+1.7**
	SNR=30						
ZHSF	**Zahedan**	**4.92**	**63**	*e*PN	**Pn**	**02 41 08.6**	**+2.3**
ZHSF	**Zahedan**	**4.92**	**63**	*e*Pn	**Pn**	**02 41 08.0**	**+1.8**
WHFO	**Wadi Hawf**	**9.70**	**191**	P	**Pn**	**02 42 11.9**	**+0.1**
	SNR=15						
RBK	**Rabkut**	**10.04**	**188**	⇓P	**Pn**	**02 42 14.4**	**-2.1**
ABTO	**Aybut**	**10.34**	**193**	P	**Pn**	**02 42 19.4**	**-1.2**
	SNR=8.6						
GNI	**Garni**	**15.56**	**327**	Pn	**Pn**	**02 43 34.7**	**+3.1**
	comp=N,1.0nm,0.3s,baz=19,slow=5.2,SNR=6.1						
ZEI	**Tsey**	**18.02**	**331**	*e*P	**Pn**	**02 44 01.6**	**-1.2**
BRTR	**Keskin Array B**	**22.01**	**309**	P	**P**	**02 44 46.9**	**+0.3**
	comp=N,1.6nm,0.8s,mb3.5,baz=135,slow=13,SNR=12						
BR131	**Keskin Array S**	**22.01**	**309**	*e*P	**P**	**02 44 47.3**	**+0.7**
BR131	**Keskin Array S**	**22.01**	**309**	*e*P	**P**	**02 44 47.3**	**+0.6**
	comp=N,1.9nm,0.8s,mb3.6						
AKTK	**Aktyubinsk**	**22.98**	**4**	P	**P**	**02 44 57.1**	**+0.1**
AKTO	**Aktyubinsk**	**22.98**	**4**	P	**P**	**02 44 57.1**	**+0.1**
	comp=N,2.1nm,0.7s,mb3.7,baz=182,slow=9.2,SNR=8.2						
BVAR	**Borovoye Array**	**27.74**	**19**	P	**P**	**02 45 41.0**	**0.0**
	comp=N,0.9nm,0.6s,mb3.6,baz=226,slow=36,SNR=4.7						
MKAR	**Makanchi Array**	**28.41**	**40**	P	**P**	**02 45 47.5**	**+0.5**
	comp=N,0.1nm,0.4s,mb2.8,baz=226,slow=7.7,SNR=3.7						
MLR	**Muntele Rosu**	**29.69**	**315**	P	**P**	**02 45 59.1**	**+0.8**
	comp=N,0.7nm,0.5s,mb3.6,baz=293,slow=15,SNR=2.4						
AKASG	**Malin Array Be**	**30.69**	**326**	P	**P**	**02 46 05.9**	**-1.2**
	comp=N,1.0nm,0.5s,mb3.9,baz=136,slow=8.5,SNR=6.5						
KHC	**Kasperske Hory**	**38.84**	**315**	*e*P	**P**	**02 47 16.5**	**-1.0**
FINES	**FINESS Array B**	**39.31**	**338**	P	**P**	**02 47 20.3**	**-1.2**
	comp=N,1.3nm,1.1s,mb3.6,baz=189,slow=35,SNR=4.0						
HFS	**Hagfors**	**43.30**	**331**	P	**P**	**02 47 52.4**	**-1.8**
	comp=N,0.4nm,0.3s,mb3.6,baz=178,slow=40,SNR=4.0						
TORD	**Torodi Ar. Bea**	**52.26**	**266**	P	**P**	**02 49 02.8**	**-0.9**
	comp=N,1.0nm,0.6s,mb4.0,baz=61,slow=7.6,SNR=25						
DBIC	**Dimbokro**	**60.90**	**262**	P	**P**	**02 50 04.8**	**-0.4**
	comp=N,1.3nm,0.7s,mb4.1,baz=67,slow=7.7,SNR=3.1						
YKA	**Yellowknife Ar**	**90.00**	**356**	P	**P**	**02 52 52.6**	**+0.6**
	comp=N,0.2nm,0.8s,mb3.5,baz=8.3,slow=4.2,SNR=4.8						

NIED ***27*** *02:50:00,3260N×13220E,h35km,Mw5.5 Best double couple: M0=2.12000×10^17 NP1:φ0=206.00000°,δ88.00000°, λ-88.00000°. NP2:φ0=341.00000°,δ4.00000°, λ-135.00000°.*
BJI ***27*** *02:50:22.3,3236N×13246E,h44km,mB5.6,mb5.2,Ms5.5, Msz5.3*
MOS ***27*** *02:50:24.5±1.1,3257N×13177E,h34km,mb5.4/71, MS5.6/20,Error ellipse: s-maj=7.2km s-min=4.0km az=106.4*
ISCJB ***27*** *02:50:25.8±0.1,3257N±002×13195E±002,h45km, mb5.2/151,MS5.3/56,Error ellipse: s-maj=3.1km s-min=2.2km az=149.4*
CSEM ***27*** *02:50:25.1,3254N×13176E,h40km,ML5.5*
NEIC ***27*** *02:50:26.4,3260N×13216E,h35km,mb5.3/74,MS5.7/3, MW5.5(NIED),After JMA.*
NEIC Felt on Kyushu and Shikoku and in southwestern Honshu. Recorded [5L JMA] in Oita; [4 JMA] in Miyazaki; [3 JMA] in Fukuoka, Kumamoto and Saga; [2 JMA] in Nagasaki; [1 JMA] in Kagoshima Prefectures. Recorded [4 JMA] in Kochi, [3 JMA] in Ehime, [2 JMA] in Kagawa and [1 JMA] in Tokushima Prefectures, Shikoku. Recorded [2 JMA] in Hiroshima, Okiyama, Shimane and Yamaguchi; [1 JMA] in Hyogo and Tottori Prefectures, Honshu.
JMA ***27*** *02:50:26.3,3260N×13216E,h35km±1km,M5.5 Broadband fault plane solution: P waves. NP1: φs=20.00000°,δ33.00000°,λ-101.00000°. NP2: φs=213.00000°,δ58.00000°,λ-83.00000°. Principal axes: T Plg13.0000°, Azm298.0000°; N Plg6.0000°, Azm29.0000°; P Plg76.0000°, Azm143.0000°;*
HRVD ***27*** *02:50:26.4±0.2,3270N×13202E,h22km±1km,MW5.5/87, Centroid moment Tensor Solution. LP body waves: s69,c115;Mantle waves: s87,c174; Half duration: 1§4 Moment tensor: Scale 10^17Nm; Mrr-0.09±.03; Mθθ-0.15±.02; Mφφ0.24±.02; Mrθ1.12±.09; Mφφ-0.03±.02; Mφr1.99±.15; Best double couple: M0=2.29300×10^17 NP1:φs=315.00000°,δ5.00000°,λ-164.00000°. NP2: φs=209.00000°,δ89.00000°,λ-85.00000°. Principal axes: T 2.3090, Plg44.0000°, Azm295.0000°; N -0.0310, Plg5.0000°, Azm29.0000°; P -2.2780, Plg46.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***27*** *02:50:27.3±0.4,3265N×132.19E,h49km±3km,mb4.7/26, mb1 4.8/31,mb1mx4.8/33,mbtmp5.0/31,MS5.0/26, Ms1 5.0/26,ms1mx4.8/38 Error ellipse: s-maj=10.0km s-min=5.2km az=18.0*
SZGRF ***27*** *02:50:27.9,3323N×13320E,h48km,mb5.2,MS5.8, Shikoku, Japan*
ISC 27 02:50:27.8±0.1,3263N±002×13194E±002,h47km, h47km±1.1km:pP-P,n599,σ1°17/581,mb5.2/151,MS5.3/56, 41C-32D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKIT	**Kitakata**	**0.41**	**269**	⇑P	**Pn**	**02 50 38.1**	**+0.3**
JKIT				S	**Sn**	**02 50 46.9**	**+2.1**
JUS	**Usuki**	**0.46**	**340**	⇑P	**Pn**	**02 50 37.9**	**-0.4**
JUS				S	**Sn**	**02 50 46.3**	**+0.4**
JTSN	**Tsuno**	**0.53**	**224**	⇑P	**Pn**	**02 50 38.9**	**-0.3**
JTSN				S	**Sn**	**02 50 48.2**	**+0.8**
OIT2	**Oita 2**	**0.76**	**328**	⇑P	**Pn**	**02 50 42.8**	**+0.6**
JTO	**Tosashimizu**	**0.76**	**73**	⇓P	**Pn**	**02 50 38.2**	**-4.0**
JTO				S	**Sn**	**02 50 47.0**	**-5.7**
UWA2	**Uwa jima 2**	**0.82**	**45**	⇓P	**Pn**	**02 50 39.8**	**-3.2**
UWA2				S	**Sn**	**02 50 49.2**	**-4.8**
JIU2	**Izumi 2**	**0.95**	**265**	⇑P	**Pn**	**02 50 46.5**	**+1.7**
JIU2				S	**Sn**	**02 51 02.4**	**+5.2**
JNU	**Nakatsue**	**1.02**	**299**	P	**Pn**	**02 50 47.4**	**+1.7**
	6μm,0.3s,baz=108,slow=15,SNR=5090						
JNU				S	**Sn**	**02 51 04.0**	**+5.2**
	10μm,0.3s,baz=356,slow=37,SNR=32						
JTZ	**Takazaki**	**1.02**	**225**	⇑P	**Pn**	**02 50 46.3**	**+0.5**
JKI	**Kunimi**	**1.04**	**343**	⇑P	**Pn**	**02 50 46.5**	**+0.5**
JKU	**Kubokawa**	**1.16**	**54**	⇓P	**Pn**	**02 50 44.3**	**-3.3**
JZO	**Okuchi**	**1.23**	**247**	⇑P	**Pn**	**02 50 50.3**	**+1.7**
JKD	**Kudamatsu**	**1.42**	**358**	⇑P	**Pn**	**02 50 50.8**	**-0.3**
JFA	**Akaike**	**1.44**	**319**	⇑P	**Pn**	**02 50 52.6**	**+1.2**
JFI	**Itaya**	**1.52**	**302**	⇑P	**Pn**	**02 50 54.5**	**+2.0**
JHD	**Hondo**	**1.53**	**264**	⇑P	**Pn**	**02 50 54.3**	**+1.7**
JHM	**Kurahashi**	**1.58**	**18**	⇑P	**Pn**	**02 50 51.9**	**-1.4**
JTY	**Toyota**	**1.78**	**336**	⇑P	**Pn**	**02 50 56.8**	**+0.7**
NGSJ	**Nagasakinomoza**	**1.81**	**271**	⇑P	**Pn**	**02 50 57.7**	**+1.3**
JHIK	**Hikimi**	**1.89**	**360**	⇑P	**Pn**	**02 50 57.8**	**+0.2**
JMN	**Monobe**	**1.96**	**56**	⇓P	**Pn**	**02 50 55.1**	**-3.4**
MRT2	**Murotomisaki 2**	**2.00**	**67**	P	**Pn**	**02 50 54.6**

DL2 LR LR
comp=Z,14μm,14.2s
CBIJ Chichi jima 10.46 119 P **Pn 02 52 52.5 -2.7**
comp=Z,21nm,0.3s,baz=262,slow=16,SNR=5.2
CBIJ S **Sn 02 54 42.3 -8.6**
comp=Z,9.2nm,0.3s,baz=259,slow=19,SNR=2.6
CBIJ LR LR 02 56 18.7
comp=Z,12μm,20.2s,baz=344,slow=34
VLA Vladivostok 10.47 360*d iP* **Pn 02 52 58.8 +3.6**
VLA *e* 02 55 03.5
VLA pmax pmax
comp=Z,106nm,0.9s
VLA MLR MLR
comp=Z,10μm,17.2s
NJ2 Nanjing 11.08 271 *e*P **Pn 02 53 08.0 +4.4**
NJ2 PP 02 53 17.5
NJ2 XP 02 53 22.8
NJ2 S **Sn 02 55 11.0 +4.9**
NJ2 SS 02 55 25.0
NJ2 AMB AMB
comp=Z,150nm,1.0s
NJ2 AMB AMB
comp=Z,2μm,4.0s
NJ2 LR LR
comp=N,17μm,20.1s
NJ2 LR LR
comp=E,20μm,21.5s
NJ2 LR LR
comp=Z,12μm,15.7s
MDJ Mudanjiang 12.10 352 P **Pn 02 53 22.5 +5.0**
MDJ AP 02 53 30.5
MDJ XP 02 53 36.3
MDJ S **Sn 02 55 35.0 +4.0**
MDJ SS 02 55 53.3
MDJ AMB AMB
comp=Z,66nm,1.2s
MDJ AMB AMB
comp=Z,675nm,3.5s
MDJ LR LR
comp=N,7μm,17.4s
MDJ LR LR
comp=E,4μm,16.6s
MDJ LR LR
comp=Z,8μm,17.4s
CN2 Changchun 12.26 337 *e*P **Pn 02 53 23.0 +3.4**
CN2 *e*S **Sn 02 55 47.8 +13**
CN2 AMB AMB
comp=Z,20nm,1.3s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,10μm,12.0s
CN2 LR LR
comp=E,9μm,12.0s
CN2 LR LR
comp=Z,10μm,12.0s
NACB Ninganchiao 12.40 230 *e*Pn **Pn 02 53 23.5 +1.9**
TIA Tai'an 12.74 290 ⇑P **Pn 02 53 29.8 +3.6**
TIA AMB AMB
comp=Z,141nm,1.6s
TIA AMB AMB
comp=Z,2μm,8.0s
TIA LR LR
comp=N,18μm,12.0s
TIA LR LR
comp=E,14μm,12.0s
QZH Quanzhou 13.98 240⇑ *i*P **Pn 02 53 43.5 +0.4**
QZH S **Sn 02 56 23.0 +6.3**
QZH LR LR
comp=N,6μm,9.5s
QZH LR LR
comp=E,10μm,10.3s
QZH LR LR
comp=Z,16μm,14.6s
ASAJ Asahikawa 14.17 33 P **Pn 02 53 42.8 -3.0**
comp=Z,0.7nm,0.3s,baz=242,slow=30,SNR=4.9
ASAJ Asahikawa 14.17 33 P **Pn 02 53 42.8 -3.0**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
BJI Beijing 14.69 305 P **Pn 02 53 55.0 +2.5**
BJI XP sP 02 54 10.3 -4.3
BJI S **Sn 02 56 34.0 0.0**
BJI AMB AMB
comp=Z,247nm,1.4s
BJI AMB AMB
comp=Z,3μm,3.8s
BJI LR LR
comp=N,9μm,17.7s
BJI LR LR
comp=E,18μm,14.9s
BJI LR LR
comp=Z,14μm,17.8s
WHN Wuhan 15.13 267 *e*P **Pn 02 54 04.3 +5.9**
WHN LR LR
comp=Z,43μm,12.2s
YUK Yuzh-Kuril'sk 15.75 40 P **Pn 02 54 08.0 +1.6**
YUK S **S 02 57 12.0 -0.7**
YUK smax
comp=E,2μm,8.0s
YUK MLR MLR
comp=Z,4μm,20.0s
YUK MLR MLR
comp=N,3μm,17.0s
YUK MLR MLR
comp=E,3μm,17.0s
HABR Khabarovsk 16.00 8⇓ *i*P **Pn 02 54 15.5 +6.0**
HABR pmax pmax
comp=Z,306nm,1.8s
HABR MLR MLR
comp=Z,5μm,15.8s
YSS Yuzh-Sakhalins 16.52 27 Pn **Pn 02 54 18.4 +2.4**
YSS Yuzh-Sakhalins 16.52 27⇓ *e*P **Pn 02 54 18.7 +2.6**
YSS S **S 02 57 23.7 -4.6**
YSS MLR MLR
comp=N,3μm,14.0s
YSS MLR MLR
comp=E,2μm,14.0s
YSS MLR MLR
comp=Z,2μm,14.0s
KLR Kul'dur 16.58 360 *e*P **Pn 02 54 15.2 -1.7**
KLR pmax pmax
comp=E,170nm,1.6s
KLR pmax pmax
comp=Z,900nm,1.6s
KLR pmax pmax
comp=N,1μm,11.0s
KLR pmax pmax
comp=Z,2μm,11.0s
KLR MLR MLR
comp=N,4μm,13.0s
KLR MLR MLR
comp=Z,28μm,13.0s
HHC Hu-ho-hao-te 18.24 302 *e*P **Pn 02 54 39.0 +1.6**
HHC AP pP 02 54 48.5 +0.4
HHC XP sP 02 54 54.8 +0.8
HHC S **S 02 57 57.5 -5.9**
HHC PCP PcP 02 59 11.0 +3.1
HHC AMB AMB
comp=Z,42nm,1.2s
HHC AMB AMB
comp=Z,3μm,6.7s
HHC LR LR
comp=N,7μm,14.9s
HHC LR LR
comp=E,15μm,15.9s
HHC LR LR
comp=Z,18μm,15.9s
HKC Hong Kong 18.80 241 P **Pn 02 54 46.0 +1.9**
HIA Hailar 18.96 335 *e*P **Pn 02 54 45.9 -0.1**
comp=Z,1μm,2.0s
HIA Hailar 18.96 335 *e*P **Pn 02 54 45.9 -0.1**
HIA pmax pmax
comp=Z,1μm,2.0s
BTO Baotou 19.28 301 *e*P **Pn 02 54 49.8 0.0**
BTO S **S 02 58 34.0 +10**
BTO LR LR
comp=N,3μm,4.7s
BTO LR LR
comp=E,6μm,14.0s
XAN Xi'an 19.28 280 P **Pn 02 54 49.0 -0.9**
XAN S **S 02 58 26.8 +2.6**
XAN AMB AMB
comp=Z,59nm,1.9s
XAN AMB AMB
comp=Z,2μm,11.3s
XAN LR LR
comp=N,7μm,12.0s
XAN LR LR
comp=E,7μm,17.0s
XAN LR LR
comp=Z,7μm,17.0s
ENH Enshi 19.30 269 *e*P **Pn 02 54 49.1 -0.9**
comp=Z,399nm,1.1s
ENH *e*S S 02 58 00.5 -24
TGY Tagaytay City 21.00 211 P **P 02 55 08.5 +1.3**
comp=Z,257nm,0.3s,baz=134,slow=9.4,SNR=2.9
GUMO Guam 22.34 145 P **P 02 55 19.9 -1.5**
comp=Z,152nm,1.0s,mb5.4,baz=274,slow=5.8,SNR=5.1
GUMO LR LR 03 03 13.4
comp=Z,2μm,19.4s,MS4.6,baz=169,slow=34
GUMO Guam 22.34 145 P **P 02 55 21.2 -0.3**
GUMO Guam 22.34 145 P **P 02 55 19.9 -1.6**
GUMO pmax pmax
comp=Z,152nm,1.0s,mb5.4
GUMO MLR MLR
comp=Z,2μm,19.4s,MS4.6
GYA Guiyang 22.80 261⇑ *i*P **P 02 55 25.0 -1.4**
GYA AP 02 55 36.5
GYA XP sP 02 55 42.0 -1.5
GYA PP 02 55 58.5
GYA S **S 02 59 33.0 +0.7**
GYA XS sS 02 59 50.3 -1.5
GYA SCS ScS 03 06 31.5 -4.4
GYA AMB AMB
comp=Z,40nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,510nm,4.2s
GYA LR LR
comp=N,4μm,12.0s,MS5.3
GYA LR LR
comp=E,6μm,12.0s,MS5.3
GYA LR LR
comp=Z,8μm,12.8s,MS5.3
LZH Lanzhou 23.41 286 *e*P **P 02 55 32.3 -0.3**
LZH AP 02 55 44.8
LZH XP sP 02 55 50.3 +0.3
LZH PP 02 56 10.0
LZH S **S 02 59 46.0 +3.8**
LZH XS sS 03 00 05.0 +2.4
LZH AMB AMB
comp=Z,180nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,1μm,5.4s
LZH LR LR
comp=E,12μm,11.3s
LZH LR LR
comp=Z,18μm,11.7s,MS5.8
CIT Chita 23.55 331 *e*P **P 02 55 33.3 -0.5**
CIT *e* 02 55 50.5
CIT *e* 02 56 11.8
CIT *e* 02 59 33.0
CIT pmax pmax
comp=Z,272nm,2.0s,mb5.3
CD2 Chengdu 23.99 273⇑ *i*P **P 02 55 37.3 -0.6**
CD2 AP 02 55 49.0
CD2 XP sP 02 55 56.3 +0.5
CD2 PP 02 56 12.8
CD2 PPP 02 56 17.5
CD2 S **S 02 59 47.5 -4.1**
CD2 XS sS 03 00 08.0 -4.0
CD2 AMB AMB
comp=Z,50nm,0.7s,mb5.0
CD2 AMB AMB
comp=Z,780nm,7.2s
CD2 LR LR
comp=N,9μm,12.0s
CD2 LR LR
comp=Z,11μm,12.4s,MS5.5
QIZ Qiongzhong 24.00 241 P **P 02 55 38.5 +0.5**
QIZ XP sP 02 55 56.3 +0.5
QIZ S **S 02 59 48.0 -3.7**
QIZ XS sS 03 00 05.0 -7.1
QIZ AMB AMB
comp=Z,335nm,10.5s
QIZ LR LR
comp=N,2μm,16.9s,MS4.9
QIZ LR LR
comp=E,3μm,14.5s,MS4.9
QIZ LR LR
comp=Z,4μm,15.1s,MS5.0
ULN Ulaanbaatar 24.19 316 *e*P **P 02 55 39.3 -0.4**
comp=Z,281nm,1.2s,mb5.6
ULN Ulaanbaatar 24.19 316 *e*P **P 02 55 39.3 -0.4**
ULN pmax pmax
comp=Z,281nm,1.2s,mb5.6
NRGR Nerungri 24.54 350 *e*P **P 02 55 41.0 -1.9**
NRGR S S 02 59 27.2 -33
NRGR pmax pmax
comp=Z,12nm,0.2s,mb5.1
SONM Songino Array 24.56 316 P **P 02 55 43.2 +0.1**
comp=Z,41nm,0.9s,mb4.9,baz=129,slow=9.1,SNR=86
SONM pP 02 55 55.7
comp=Z,121nm,0.9s,baz=128,slow=7.4,SNR=31
SONM LR LR 03 06 41.6
comp=Z,14μm,18.5s,MS5.5,baz=119,slow=39
SONM Songino Array 24.56 316 P **P 02 55 43.2 +0.1**
SONM *PP 02 55 55.7
CLNS Chul'man 24.69 351 *e*P **P 02 55 43.4 -0.9**
CLNS *e**PP 02 55 49.8
CLNS *e*PPP 02 56 23.6
CLNS *e* 02 59 19.1
CLNS *e*S **S 03 00 03.5 +0.8**
CLNS *e*SS 03 01 05.2
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=Z,16nm,0.8s,mb4.6
CLNS pmax pmax
comp=Z,25nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS smax
comp=E,244nm,11.6s
CLNS smax
comp=Z,181nm,9.8s
CLNS smax
comp=N,84nm,10.9s
CLNS MLR MLR
comp=N,800nm,16.0s,MS4.9
CLNS MLR MLR
comp=Z,4μm,16.0s,MS5.0
CLNS MLR MLR
comp=E,3μm,13.0s,MS4.9
KMI Kunming 26.58 261 P **P 02 56 01.5 +0.1**
KMI AP pP 02 56 13.5 -0.2
KMI XP sP 02 56 20.0 +0.7
KMI PP 02 56 42.8
KMI S **S 03 00 33.3 +0.5**
KMI XS sS 03 00 55.8 +2.4
KMI AMB AMB
comp=Z,18nm,1.0s,mb4.6
KMI AMB AMB
comp=Z,232nm,7.5s
KMI LR LR
comp=N,3μm,11.6s,MS5.5
KMI LR LR
comp=E,8μm,13.3s,MS5.5
KMI LR LR
comp=Z,9μm,15.1s,MS5.4
ZAK Zakamensk 27.59 318 *e*P **P 02 56 11.5 +1.1**
ZAK pmax pmax
comp=Z,87nm,1.2s,mb5.3
ZAK pmax pmax
comp=E,61nm,2.0s
BOD Bodaibo 28.00 339 *e*P **P 02 56 10.8 -3.3**
BOD *e* pP 02 56 26.8 +0.4
BOD pmax pmax
comp=Z,23nm,1.0s,mb4.8
BOD pmax pmax
comp=Z,26nm,1.0s,mb4.8
PET Petropavlovsk 28.00 35 P **P 02 56 14.3 +0.2**
comp=Z,88nm,1.3s,mb5.2
PET Petropavlovsk 28.00 35 *e*P **P 02 56 13.7 -0.4**
PET *e**PP pP 02 56 25.5 -0.9
PET *e*S **S 03 00 49.0 -6.0**
PET *e**SS sS 03 01 10.3 -5.4
PET pmax pmax
comp=Z,45nm,1.5s,mb4.9
PET pmax pmax
comp=Z,100nm,11.2s
PET pmax pmax
comp=Z,300nm,4.4s
PET pmax pmax
comp=Z,73nm,0.9s,mb5.3
PET smax
comp=N,600nm,15.7s
PET MLR MLR
comp=Z,2μm,15.0s,MS4.8
PET MLR MLR
comp=Z,2μm,18.0s
IRK Irkutsk 28.02 323 *e*P **P 02 56 13.4 -1.0**
IRK *e* 02 57 10.8
IRK pmax pmax
comp=Z,88nm,2.1s,mb5.0
YAK Yakutsk 29.45 358 *e*P **P 02 56 27.2 +0.2**
comp=Z,71nm,0.9s,mb5.4
YAK Yakutsk 29.45 358 *e*P **P 02 56 25.1 -1.9**
YAK *e* 02 57 20.6
YAK *e* 02 59 28.9
YAK *e*S **S 03 01 19.1 +1.2**
YAK *e*SS SS 03 02 50.5 -34
YAK *e* 03 03 12.1
YAK pmax pmax
comp=Z,21nm,1.1s,mb4.8
YAK pmax pmax
comp=N,18nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,2.0s,mb4.2
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK smax
comp=N,45nm,2.3s
YAK smax
comp=E,19nm,1.8s
YAK MLR MLR
comp=N,2μm,18.0s,MS4.9
YAK MLR MLR
comp=Z,2μm,18.0s,MS4.9
YAK MLR MLR
comp=E,1μm,13.0s,MS4.9
MOY Mondy 29.47 319 *e*P **P 02 56 28.5 +1.3**
MA2 Magadan 29.72 19 *e*P **P 02 56 29.3 -0.2**
comp=E,32nm,0.9s,mb5.1
MA2 *e*pP pP 02 56 39.8 -2.0
MA2 *e*sP sP 02 56 44.8 -2.6
MA2 Magadan 29.72 19 *e*P **P 02 56 29.5 +0.1**
MA2 *e*S **S 03 01 24.5 +2.3**
MA2 pmax pmax
comp=Z,20nm,1.3s,mb4.7
MA2 MLR MLR
comp=Z,2μm,17.5s,MS4.8
SEY Seymchan 32.97 17 *e*P **P 02 56 58.9 +0.9**
SEY 02 58 13.8
SEY *e* 02 59 48.8
SEY *e*S **S 03 02 15.1 +2.1**
SEY *e*SS SS 03 04 45.5 +9.2
SEY pmax pmax
comp=N,10.0nm,1.0s
SEY pmax pmax
comp=Z,24nm,1.0s,mb5.1
SEY pmax pmax
comp=E,6.0nm,0.7s
SEY smax
comp=N,270nm,6.3s
SEY smax
comp=E,311nm,6.3s
SEY MLR MLR
comp=Z,2μm,21.0s,MS4.8
SEY MLR MLR
comp=N,910nm,19.0s,MS4.7
SEY MLR MLR
comp=E,775nm,16.0s,MS4.7
LSA Lhasa 34.88 276 P **P 02 57 15.0 +0.5**
WMQ Urumqi 36.12 301 P **P 02 57 24.5 -0.7**
WMQ AP pP 02 57 36.8 -0.9
WMQ XP sP 02 57 42.0 -1.2
WMQ PP PP 02 58 47.8 -0.1
WMQ PPP 02 59 08.0
WMQ PCP PcP 02 59 50.3 0.0
WMQ S **S 03 03 00.3 -1.1**
WMQ SCS ScS 03 07 35.8 -2.6
WMQ AMB AMB
comp=Z,81nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,562nm,4.6s
WMQ LR LR
comp=N,2μm,18.0s,MS5.3
WMQ LR LR
comp=E,5μm,20.5s,MS5.3
WMQ LR LR
comp=Z,6μm,20.0s,MS5.3
TIXI Tiksi 39.11 358 P **P 02 57 49.9 -0.6**
TIXI Tiksi 39.11 358 *e*P **P 02 57 47.0 -3.5**
TIXI *e* 02 59 20.3
TIXI *e* 03 03 49.4
TIXI *e*S SS 03 06 39.6 -1.0
TIXI pmax pmax
comp=Z,12nm,0.9s,mb4.6
TIXI pmax pmax
comp=Z,229nm,16.5s
TIXI pmax pmax
comp=N,153nm,13.0s
TIXI pmax pmax
comp=E,33nm,10.2s
TIXI smax
comp=N,265nm,22.2s
TIXI smax
comp=E,1μm,24.6s
TIXI MLR MLR
comp=Z,4μm,15.0s,MS5.4
JIRN Jiri 39.64 275 *e*P **P 02 57 54.7 -0.2**
comp=Z,210nm,1.3s,mb5.7
GUN Gumba 39.82 276 *e*P **P 02 57 56.1 -0.3**
comp=Z,236nm,0.8s,mb6.0
KULM Kulim 39.90 234 *e*P **P 02 57 56.8 -0.3**
MK31 Makanchi Array 40.06 306 *i* P **P 02 57 57.2 -1.2**
MK31 pmax pmax
comp=Z,78nm,0.8s,mb5.5
MKAR Makanchi Array 40.06 306 P **P 02 57 57.9 -0.5**
comp=Z,7.5nm,0.8s,mb4.5,baz=98,slow=8.7,SNR=52
MKAR pP pP 02 58 10.2 -0.9
comp=Z,34nm,0.7s,baz=106,slow=8.7,SNR=37
MKAR ScP ScP 03 03 46.6 -1.0
comp=Z,4.1nm,1.0s,baz=96,slow=3.9,SNR=3.3
MKAR LR LR 03 15 50.6
comp=Z,5μm,19.8s,MS5.4,baz=94,slow=38
MKAR PKKP 03 21 51.2
comp=Z,0.2nm,0.8s,baz=225,slow=1.0,SNR=1.9
MKAR Makanchi Array 40.06 306 P **P 02 57 57.9 -0.5**
MKAR pP pP 02 58 10.2 -0.9
MKAR ScP ScP 03 03 46.6 -1.0
MKAR LR LR 03 15 50.6
MKAR PKKP 03 21 51.2
MKAR Makanchi Array 40.06 306 P **P 02 57 57.9 -0.5**
MKAR *PP pP 02 58 10.2 -0.8
PKI Pulchoki 40.32 275 *e*P **P 02 57 59.7 -0.9**
comp=Z,130nm,1.1s,mb5.6
KKN Kakani 40.36 276 *e*P **P 02 58 00.0 -0.9**
comp=Z,76nm,0.7s,mb5.5
NVS Novosibirsk 40.55 318 *e*P **P 02 57 59.2 -3.2**
NVS *i* 02 59 37.7
NVS *e*S **S 03 04 00.0 -8.3**
NVS pmax pmax
comp=Z,32nm,1.4s,mb4.8
NVS pmax pmax
comp=E,40nm,1.3s
NVS pmax pmax
comp=Z,136nm,2.6s,mb5.1
NVS pmax pmax
comp=N,35nm,1.8s
NVS pmax pmax
comp=E,99nm,2.5s
NVS smax
comp=N,20nm,1.7s
NVS smax
comp=E,21nm,1.5s
DMN Daman 40.56 276 *e*P **P 02 58 02.4 -0.2**
comp=E,83nm,1.0s,mb5.3
BILL Bilibino 40.59 19 *e*P **P 02 58 03.3 +0.5**
comp=E,68nm,1.1s,mb5.2
BILL *e*pP pP 02 58 13.8 -1.6

BILL *es*P sP 02 58 20.1 -0.9
BILL Bilibino 40.59 19 *e*P **P** **02 58 03.3 +0.5**
BILL *e**PP pP 02 58 13.8 -1.6
BILL *e**SP sP 02 58 20.1 -0.9
BILL pmax pmax
comp=Z,68nm,1.1s,mb5.2
GKN Gorkha 40.83 276 *e*P **P** **02 58 04.0 -0.8**
comp=Z,90nm,0.9s,mb5.4
BOK Bokaro 41.26 270 *e*P **P** **02 58 07.1 -1.2**
BOK AMb AMB 02 58 13.2
comp=Z,23nm,0.7s,mb5.0
DANN Dangsing 41.46 277 *e*P **P** **02 58 08.7 -1.2**
KOLN Koldanda 41.78 276 *e*P **P** **02 58 11.7 -0.8**
comp=Z,223nm,1.3s,mb5.7
KURK Kurchatov 42.72 311 P **P** **02 58 18.7 -1.5**
comp=Z,139nm,1.2s,mb5.6,SNR=12
KURK Kurchatov 42.72 311 P **P** **02 58 18.6 -1.6**
KURK Kurchatov 42.72 311⇑ *e*P **P** **02 58 18.7 -1.5**
PSI Prapat 42.88 233 LR LR 03 15 40.8
comp=Z,1μm,21.9s,MS4.8,baz=40,slow=35
PMG Port Moresby 44.26 158 P **P** **02 58 31.4 -1.1**
ULHL Ulahol 44.55 299 P **P** **02 58 34.7 -0.3**
SNR=23
TKM2 Tokmak 2 44.95 300 P **P** **02 58 38.5 +0.4**
SNR=22
KAKA Kakadu 45.09 179⇓ *i*P **P** **02 58 38.0 -1.2**
comp=Z,18nm,0.6s,mb5.1
KSH Kashi 45.13 295 P **P** **02 58 41.5 +1.9**
KSH AP pP 02 58 53.8 +1.4
KSH XP sP 02 58 59.0 +1.2
KSH PCP PcP 03 00 21.8 +2.4
KSH PP PP 03 00 29.0 +3.3
KSH PPP 03 01 10.5
KSH SCP ScP 03 04 08.3 +0.3
KSH PCS PcS 03 04 14.5 +1.3
KSH S **S** **03 05 17.5 +1.9**
KSH XS sS 03 05 39.0 +2.0
KSH SCS ScS 03 08 31.0 -1.4
KSH AMB AMB
comp=Z,20nm,0.6s,mb5.1
KSH AMB AMB
comp=Z,395nm,5.6s
KSH LR LR
comp=N,2μm,10.5s,MS5.5
KSH LR LR
comp=E,3μm,11.5s,MS5.5
KSH LR LR
comp=Z,3μm,15.0s,MS5.3
KZA Kyzart 45.31 299 P **P** **02 58 41.9 +1.0**
SNR=39
KBK Karagaybulak 45.46 300 P **P** **02 58 42.1 0.0**
SNR=17
CHMS Chumysh 45.56 300 P **P** **02 58 42.8 -0.2**
SNR=11
FRU Bishkek 45.68 300 *e*P **P** **02 58 44.0 +0.1**
FRU *i* pP 02 59 00.0 +3.3
FRU pmax pmax
comp=Z,160nm,1.8s,mb5.7
FRU MLR MLR
comp=Z,4μm,16.0s,MS5.4
USP Ospenovka 45.71 301 P **P** **02 58 43.6 -0.6**
SNR=18
AAK Ala-Archa 45.79 300 P **P** **02 58 44.6 -0.2**
SNR=28
UCH Uchtor 45.83 299 P **P** **02 58 45.9 +0.8**
SNR=47
EKS2 Erkin-Say 46.31 300 P **P** **02 58 48.8 -0.1**
SNR=18
AML Almayashu 46.45 299 P **P** **02 58 50.3 +0.4**
SNR=70
VOSK Vostochnaya 47.53 314 P **P** **02 58 56.0 -2.4**
VOSK pmax pmax
comp=Z,26nm,1.0s,mb5.2
CHKZ Chkalovo 47.76 315 P **P** **02 58 58.2 -1.9**
comp=Z,16nm,0.7s,mb5.2
CHKZ Chkalovo 47.76 315 P **P** **02 58 58.3 -1.8**
CHKZ pmax pmax
comp=Z,16nm,0.7s,mb5.2
BVA0 Borovoye Array 47.89 314 *i* P **P** **02 58 59.4 -1.8**
BVA0 pmax pmax
comp=Z,16nm,1.3s,mb4.9
BVAR Borovoye Array 47.89 314 P **P** **02 59 00.4 -0.8**
comp=Z,16nm,0.6s,mb5.2,baz=99,slow=9.0,SNR=42
BVAR pP pP 02 59 13.6 -0.4
comp=Z,31nm,0.7s,baz=103,slow=8.8,SNR=14
BVAR ScP ScP 03 04 19.0 -0.5
comp=Z,2.6nm,0.8s,baz=98,slow=4.3,SNR=2.5
BVAR Borovoye Array 47.89 314 P **P** **02 59 00.4 -0.8**
BVAR *PP pP 02 59 13.6 -0.4
BRVK Borovoye 47.96 314 P **P** **02 59 00.0 -1.7**
comp=Z,221nm,0.6s,SNR=8.3
BRVK Borovoye 47.96 314 P **P** **02 59 00.4 -1.3**
comp=Z,475nm,0.8s,SNR=16
TNA Tin City 48.48 29 P **P** **02 59 06.5 +0.8**
comp=Z,34nm,0.9s,mb5.4
BHPL Bhopal 48.61 273 *e*P **P** **02 59 05.0 -1.8**
BHPL AMb AMB 02 59 10.4
comp=Z,30nm,0.9s,mb5.3
KK31 Karatay Array 48.62 301 *i* P **P** **02 59 05.8 -1.0**
KK31 pmax pmax
comp=Z,176nm,1.0s,mb6.0
KKAR Karatay Array 48.62 301 *i* P **P** **02 59 05.8 -1.0**
KKAR pmax pmax
comp=Z,176nm,1.0s,mb6.0
ZRNK Zerenda 48.73 314 P **P** **02 59 06.3 -1.3**
AJM Ajmer 49.71 279 *e*P **P** **02 59 13.5 -1.6**
AJM AMb AMB 02 59 17.2
comp=Z,34nm,1.3s,mb5.2
HYB Hyderabad 50.20 266 *i* P **P** **02 59 19.0 +0.2**
HYB *e* pP 02 59 30.0 -1.8
HYB Hyderabad 50.20 266 *e*P **P** **02 59 19.0 +0.2**
HYB *e* pP 02 59 30.0 -1.8
FITZ Fitzroy Crossi 50.80 188⇓ *i*P **P** **02 59 23.5 +0.1**
comp=Z,39nm,0.6s,mb5.5
FITZ Fitzroy Crossi 50.80 188 P **P** **02 59 23.2 -0.1**
comp=Z,33nm,0.8s,mb5.3,baz=19,slow=8.0,SNR=50
WRAB Tennant Creek 52.32 177 P **P** **02 59 34.0 -0.7**
comp=Z,475nm,0.8s,SNR=16
WRAB Tennant Creek 52.32 177 P **P** **02 59 34.1 -0.6**
WRA Warramunga Arr 52.33 177 P **P** **02 59 34.2 -0.6**
comp=Z,65nm,0.8s,mb5.6,baz=353,slow=8.1,SNR=202
WB2 Warramunga Arr 52.33 177⇓ *i*P **P** **02 59 34.2 -0.6**
SVE Sverdlovsk 53.34 320 *e*P **P** **02 59 41.3 -0.9**
SVE *e* pP 02 59 52.7 -2.6
SVE *e* 03 01 38.0
SVE *e*S **S** **03 07 24.0 +13**
SVE *e* 03 09 24.0
SVE MLR MLR
comp=N,200nm,14.0s,MS5.3
SVE MLR MLR
comp=E,2μm,14.0s,MS5.3
SVE MLR MLR
comp=Z,2μm,14.0s,MS5.4
TTA Tatalina 53.40 33 *e*P **P** **02 59 43.2 +0.5**
POO Poona 53.65 270 *ex* x 02 59 51.5
SVW2 Sparrevohn 53.67 35 *e*P **P** **02 59 45.5 +0.9**
PALK Pallekele 53.73 254 P **P** **02 59 46.8 +1.7**
comp=Z,192nm,0.8s,mb6.1,SNR=5.9
PALK Pallekele 53.73 254 P **P** **02 59 45.0 -0.1**
comp=Z,27nm,0.9s,mb5.2
KAD Karad 53.93 268 *e*P **P** **02 59 44.8 -1.7**
KAD AMb AMB 02 59 48.8
comp=Z,36nm,1.7s,mb5.0
CTA Charters Tower 54.18 163⇓ *i*P **P** **02 59 48.1 -0.3**
comp=Z,27nm,0.7s,mb5.3
CTA Charters Tower 54.18 163 P **P** **02 59 47.9 -0.5**
comp=Z,37nm,0.7s,mb5.4,baz=344,slow=8.1,SNR=31
CTA Charters Tower 54.18 163 P **P** **02 59 47.9 -0.5**
CTA pmax pmax
comp=Z,37nm,0.7s
CTAO Charters Tower 54.18 163 P **P** **02 59 48.2 -0.2**
ARU Arti 54.52 319 P **P** **02 59 49.0 -1.8**
ARU Arti 54.52 319⇑ *i*P **P** **02 59 48.9 -2.0**
ARU *e* 03 00 49.6
ARU *e* 03 01 47.3
ARU *e*PPP 03 03 00.1
ARU *e*S **S** **03 07 26.8 +0.2**
ARU *e*SS SS 03 11 07.4 -2.2
ARU *e*SSS 03 13 13.4
ARU pmax pmax
comp=Z,11nm,0.8s,mb4.9
ARU MLR MLR
comp=Z,2μm,16.0s,MS5.3
ARU MLR MLR
comp=N,600nm,18.0s,MS5.2
ARU MLR MLR

comp=E,2μm,16.0s,MS5.2
AB31 Akbulak array 54.81 310 *i* P **P** **02 59 51.3 -1.6**
AB31 pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
SOKR Solikamsk 55.11 323⇑ *i*P pP 03 00 07.3 -0.9
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.4
SOKR MLR MLR
comp=Z,8μm,22.0s,MS5.8
AKTK Aktyubinsk 55.80 312 P **P** **02 59 59.4 -0.7**
AKTK LR LR 03 27 41.2
AKTO Aktyubinsk 55.80 312 P **P** **02 59 59.4 -0.7**
comp=Z,8.0nm,0.8s,mb4.8,baz=81,slow=10.0,SNR=24
AKTO LR LR 03 27 41.2
comp=Z,1μm,18.1s,MS5.0,baz=304,slow=40
AKTO Aktyubinsk 55.80 312 *i* P **P** **03 00 01.3 +1.2**
AKTO pmax pmax
comp=Z,13nm,1.4s,mb4.8
ASAR Alice Springs 56.01 178 P **P** **03 00 01.4 -0.2**
comp=Z,36nm,0.8s,mb5.5,baz=5.2,slow=6.5,SNR=262
TRD Trivandrum 56.09 257 *e*P **P** **02 59 58.8 -3.4**
FIB Fire Island 56.27 35 P **P** **03 00 04.4 +1.0**
FIB pP pP 03 00 16.8 +0.2
SLKM Skilak Lake 56.34 36 *e*P **P** **03 00 06.5 +2.6**
MCK McKinley 56.53 32 P **P** **03 00 05.7 +0.4**
PMR Palmer 56.72 34 *e*P **P** **03 00 05.9 -0.7**
comp=Z,22nm,1.1s,mb5.1
PMR Palmer 56.72 34 *e*P **P** **03 00 05.9 -0.7**
PMR pmax pmax
comp=Z,22nm,1.1s,mb5.1
COLA College 56.87 30 *e*P **P** **03 00 08.1 +0.4**
comp=Z,37nm,0.8s,mb5.5
COLA *e*pP pP 03 00 20.2 -0.7
COLA *e*sP sP 03 00 26.5 +0.2
COLA College 56.87 30 *e*P **P** **03 00 08.1 +0.4**
COLA *e**PP pP 03 00 20.2 -0.6
COLA *e**SP sP 03 00 26.5 +0.3
COLA pmax pmax
comp=Z,37nm,0.8s,mb5.5
SML Sawmill 57.06 34 *e*P **P** **03 00 09.1 +0.1**
SML *e*pP pP 03 00 21.1 -1.1
SML *e*sP sP 03 00 27.9 +0.3
ILAR Eielson Array 57.29 30 P **P** **03 00 09.8 -0.9**
comp=Z,3.0nm,0.6s,mb4.5,baz=263,slow=6.9,SNR=68
ILAR pP pP 03 00 22.2 -1.6
comp=Z,21nm,0.8s,baz=271,slow=6.4,SNR=20
ILAR LR LR 03 26 05.9
comp=Z,344nm,19.6s,MS4.5,baz=135,slow=37
ILAR Eielson Array 57.29 30 P **P** **03 00 09.8 -0.9**
ILAR *PP pP 03 00 22.3 -1.5
DIV Divide 58.39 34 P **P** **03 00 18.6 +0.3**
EYAK Cordova Ski Ar 58.51 35 *e*P **P** **03 00 19.1 -0.1**
MENT Mentasta 58.98 32 *e*P **P** **03 00 22.7 +0.2**
DAWY Dawson 60.62 30 P **P** **03 00 34.4 +0.6**
INK Inuvik 61.75 25 P **P** **03 00 40.9 -0.5**
comp=Z,17nm,0.9s,mb5.2,baz=299,slow=6.7,SNR=108
INK pP pP 03 00 52.8 -1.9
comp=Z,24nm,0.8s,baz=284,slow=7.9,SNR=13
INK Inuvik 61.75 25 P **P** **03 00 41.5 +0.2**
comp=Z,22nm,0.9s,mb5.3
INK Inuvik 61.75 25 P **P** **03 00 40.9 -0.5**
INK *PP pP 03 00 52.8 -1.9
INK pmax pmax
comp=Z,17nm,0.9s
INK pmax pmax
comp=Z,24nm,0.8s
FORT Forrest 63.17 184 *e*P **P** **03 00 50.5 -0.4**
comp=Z,54nm,0.7s,mb5.8
KLMR Klimovskoe 63.22 327 *e*P **P** **03 00 50.8 -0.4**
KLMR *e* 03 03 18.4
KLMR pmax pmax
comp=Z,50nm,1.6s,mb5.4
KLMR MLR MLR
comp=Z,5μm,18.0s,MS5.8
APA Apatity 63.41 335⇑ *e*P **P** **03 00 53.5 +1.0**
APA *e* 03 09 40.0
KBS Kingsbay 63.58 349 P **P** **03 00 52.3 -1.3**
comp=Z,14nm,0.8s,mb5.0
KBS Kingsbay 63.58 349⇑ *e*P **P** **03 00 52.6 -1.0**
DZM Mont Dzumac 63.61 144 LR LR 03 25 23.6
comp=Z,2μm,21.9s,MS5.2,baz=21,slow=33
DZM Mont Dzumac 63.61 144 *e*P **P** **03 00 53.3 -0.4**
NOU Noumea 63.81 144⇑ *e*P **P** **03 00 53.6 -1.5**
SIT Sitka 64.69 37 *e*P **P** **03 01 01.0 +0.1**
comp=Z,76nm,1.3s,mb5.6
SIT Sitka 64.69 37 *e*P **P** **03 01 01.0 +0.1**
SIT pmax pmax
comp=Z,77nm,1.3s,mb5.6
KEV Kevo 64.69 338 *ep* **P** **03 00 56.0 -4.9**
comp=Z,13nm,0.8s,mb5.0
KEV Kevo 64.69 338 *e*P **P** **03 00 58.8 -2.1**
comp=Z,40nm,0.8s,mb5.5
KEV *e*pP pP 03 01 11.5 -2.8
KEV Kevo 64.69 338 *e*P **P** **03 00 58.8 -2.1**
KEV *e**PP pP 03 01 11.5 -2.8
KEV pmax pmax
comp=Z,40nm,0.8s,mb5.5
STKA Stephens Creek 64.81 171⇓ *i*P **P** **03 00 59.7 -1.9**
comp=Z,61nm,0.8s,mb5.7
STKA Stephens Creek 64.81 171 P **P** **03 01 00.0 -1.6**
comp=Z,71nm,0.7s,mb5.8,baz=344,slow=6.8,SNR=114
STKA LR LR 03 29 26.1
comp=Z,770nm,19.8s,MS4.9,baz=6.3,slow=36
ALE Alert 64.87 2 P **P** **03 01 01.0 -1.0**
comp=Z,255nm,0.9s,mb6.2,SNR=26
KKH Kailua Kona 64.87 82 P **P** **03 00 59.8 -2.3**
MAK Makhachkala 64.88 306 *c* *i*P **P** **03 00 57.1 -5.0**
MAK *e* 03 01 33.3
MAK *e*S **S** **03 09 36.7 -3.2**
MAK *e* 03 10 47.5
MAK pmax pmax
comp=Z,247nm,1.3s,mb6.1
MAK pmax pmax
comp=Z,396nm,1.4s,mb6.2
MAK MLR MLR
comp=Z,3μm,13.0s,MS5.6
BANOM Banah 65.05 286 P **P** **03 01 03.7 +0.5**
SNR=7.0
ARCES ARCESS Array B 65.26 338 P **P** **03 01 02.9 -1.7**
comp=Z,6.9nm,0.8s,mb4.7,baz=62,slow=10,SNR=15
ARCES pP pP 03 01 15.0 -2.9
comp=Z,12nm,0.8s,baz=61,slow=7.0,SNR=5.8
ARCES LR LR 03 34 18.5
comp=Z,2μm,19.6s,MS5.4,baz=64,slow=40
ARCES ARCESS Array B 65.26 338 P **P** **03 01 02.9 -1.7**
ARCES pP pP 03 01 15.0 -2.9
ARCES LR LR 03 34 18.5
ARCES ARCESS Array B 65.26 338 P **P** **03 01 02.9 -1.7**
ARCES *PP pP 03 01 15.0 -3.0
KLBR Kellerberrin 65.27 193 *e*P **P** **03 01 03.5 -1.1**
comp=Z,14nm,0.7s,mb5.1
ARMA Armidale 65.42 161⇓ *i*P **P** **03 01 05.8 +0.2**
ASHO Ashiyiah 65.79 285 P **P** **03 01 07.8 -0.2**
SNR=12
MOS Moscow 66.00 322 *e*P **P** **03 01 06.7 -2.6**
MOS *e* 03 03 40.0
MOS pmax pmax
comp=Z,39nm,1.3s,mb5.3
MOS MLR MLR
comp=Z,5μm,15.0s,MS5.8
MOS MLR MLR
comp=N,4μm,16.0s,MS6.0
MOS MLR MLR
comp=E,5μm,15.0s,MS6.0
ARQ Araqi 66.00 283 ⇓P **P** **03 01 05.7 -3.6**
JOF Joensuu 66.05 331 *ep* **P** **03 01 05.6 -4.0**
comp=E,9.2nm,0.7s,mb4.9
NWAO Narrogin (SRO) 66.67 193 P **P** **03 01 11.8 -1.8**
comp=E,18nm,0.9s,mb5.1
NWAO Narrogin (SRO) 66.67 193 P **P** **03 01 11.8 -1.8**
NWAO pmax pmax
comp=Z,18nm,0.9s
DLBC Dease Lake 66.77 35 P **P** **03 01 15.5 +1.3**
OBN Obninsk 66.80 322 P **P** **03 01 14.8 +0.3**
comp=Z,6.0nm,0.3s,mb5.1
OBN pP pP 03 01 29.5 +1.6
OBN Obninsk 66.80 322⇑ *e*P **P** **03 01 12.8 -1.7**
OBN *e* pP 03 01 29.5 +1.6
OBN *e* 03 03 41.3
OBN *e*S S 03 09 59.3 -4.1
OBN pmax pmax
comp=Z,15nm,1.3s,mb4.9
OBN MLR MLR
comp=Z,4μm,18.0s,MS5.7
VRSR Storozhevoye 66.93 317 *e*P **P** **03 01 13.6 -1.7**

VRSR pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
VRSR pmax pmax
comp=N,3.0nm,1.0s
VRSR pmax pmax
comp=E,3.0nm,0.9s
GOF Gofitskoye 67.04 310 *e*P **P** **03 01 13.4 -2.6**
GOF pmax pmax
comp=Z,50nm,0.9s,mb5.5
ADE Adelaide 67.54 174 *e*P **P** **03 01 19.6 +0.5**
KIV Kislovodsk 67.72 309 P **P** **03 01 19.1 -1.1**
comp=Z,290nm,0.9s,mb6.3,SNR=9.2
KIV Kislovodsk 67.72 309 P **P** **03 01 19.9 -0.3**
KIV Kislovodsk 67.72 309 P **P** **03 01 19.9 -0.3**
GNI Garni 67.89 304 P **P** **03 01 21.4 +0.1**
comp=Z,4.0nm,0.3s,mb4.9,baz=322,slow=7.6,SNR=12
GNI Garni 67.89 304 P **P** **03 01 21.6 +0.3**
comp=Z,38nm,1.1s,mb5.3
GNI Garni 67.89 304 P **P** **03 01 21.6 +0.2**
GNI pmax pmax
comp=Z,38nm,1.1s
KAF Kangasniemi 68.48 331 *ep* **P** **03 01 22.3 -2.8**
comp=Z,8.4nm,0.8s,mb4.8
KAF Kangasniemi 68.48 331 *e*P **P** **03 01 22.3 -2.8**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
RES Resolute Bay 68.66 12 P **P** **03 01 25.7 -0.4**
FINES FINESS Array B 68.91 330 P **P** **03 01 25.4 -2.3**
comp=Z,2.8nm,0.4s,mb4.5,baz=69,slow=5.8,SNR=39
FINES LR LR 03 36 22.1
comp=Z,1μm,18.3s,MS5.1,baz=68,slow=40
FINES FINESS Array B 68.91 330 P **P** **03 01 25.4 -2.3**
FINES LR LR 03 36 22.1
DAG Danmarks Havn 69.33 353⇓ *i*P **P** **03 01 28.4 -1.9**
comp=Z,97nm,1.1s,mb5.7
DAG Danmarks Havn 69.33 353⇓ *i*P **P** **03 01 28.4 -1.9**
DAG pmax pmax
comp=Z,97nm,1.1s,mb5.7
SOC Sochi 69.82 309 *c* *i*P **P** **03 01 33.2 -0.1**
SOC *e**PP pP 03 01 41.3 -5.6
SOC *e* 03 01 51.9
SOC *e* 03 04 04.3
SOC *e*PPP 03 05 45.2
SOC *e*S S 03 10 40.6 +1.3
SOC *e* 03 11 29.3
SOC pmax pmax
comp=Z,22nm,0.9s,mb5.1
SOC MLR MLR
comp=Z,4μm,19.0s,MS5.7
UMR Umm Al-Rimmam 70.28 293 *e*P **P** **03 01 35.0 -1.2**
UMR AMb AMB 03 01 49.0
comp=Z,98nm,0.6s,mb5.9
MIB Mutribah 70.46 293 *e*P **P** **03 01 36.0 -1.3**
MIB AMb AMB 03 01 50.0
comp=Z,87nm,0.6s,mb5.9
RBK Rabkut 70.64 279 ⇓P **P** **03 01 36.0 -2.3**
RDF Al-Radifah 70.70 292 *e*P **P** **03 01 37.4 -1.3**
RDF AMb AMB 03 01 54.2
comp=Z,120nm,0.9s,mb5.8
MSL Mosul 70.73 301 *ex* x 03 01 37.5
ANN Anapa 70.75 311 *e*P **P** **03 01 33.8 -5.2**
ANN *i* *PP pP 03 01 44.2 -8.3
ANN *e* 03 01 54.5
ANN *e* 03 04 11.4
ANN *e*S S 03 10 44.4 -5.7
ANN pmax pmax
comp=Z,30nm,1.0s,mb5.2
ANN MLR MLR
comp=Z,2μm,19.0s,MS5.5
NAY Al-Naaiem 70.79 293 *e*P **P** **03 01 37.8 -1.4**
NAY AMb AMB 03 01 56.6
comp=Z,83nm,0.8s,mb5.7
WHFO Wadi Hawf 70.80 279 P **P** **03 01 38.1 -1.2**
SNR=22
AFI Afiamalu 70.94 121 LR LR 03 29 22.7
comp=Z,371nm,18.5s,MS4.7,baz=304,slow=33
TOO Toolangi 70.98 169⇓ *i*P **P** **03 01 41.1 +0.7**
comp=Z,28nm,0.8s,mb5.2
TOO Toolangi 70.98 169⇓ *i*P **P** **03 01 41.1 +0.7**
TOO pmax pmax
comp=Z,28nm,0.8s,mb5.2
BHD Baghdad 71.15 298 *ex* x 03 01 36.5
YKW3 Yellowknife Ar 71.33 27 P **P** **03 01 42.7 +0.1**
YKA Yellowknife Ar 71.38 27 P **P** **03 01 42.2 -0.6**
comp=Z,13nm,0.8s,mb4.9,baz=306,slow=5.9,SNR=246
YKA pP pP 03 01 55.1 -1.2
comp=Z,38nm,0.9s,baz=302,slow=5.5,SNR=16
YKA LR LR 03 37 35.1
comp=Z,350nm,18.9s,MS4.6,baz=285,slow=40
YKA Yellowknife Ar 71.38 27 P **P** **03 01 42.2 -0.6**
YKA pP pP 03 01 55.1 -1.2
YKA LR LR 03 37 35.1
YKA Yellowknife Ar 71.38 27 P **P** **03 01 42.2 -0.6**
YKA *PP pP 03 01 55.2 -1.1
ABTO Aybut 71.47 279 P **P** **03 01 42.5 -0.8**
SNR=8.5
SIM Simferopol' 72.76 313 P **P** **03 01 50.0 -1.1**
SIM pmax pmax
comp=Z,20nm,1.0s,mb5.0
SIM MLR MLR
comp=Z,2μm,16.6s,MS5.4
AKASG Malin Array Be 72.78 320 P **P** **03 01 49.1 -2.1**
comp=Z,4.9nm,0.6s,mb4.6,baz=55,slow=6.2,SNR=21
JMIC Jan Mayen 72.92 347 LR LR 03 36 34.3
comp=Z,357nm,18.8s,MS4.7,baz=79,slow=38
MALT Malatya 73.10 305 ⇓P **P** **03 01 53.6 +0.5**
MALT Malatya 73.10 305 P **P** **03 01 53.4 +0.3**
comp=Z,23nm,0.8s,mb5.2
SUW Suwalki 74.15 324 *e*P pP 03 02 12.4 -0.5
SUW L 03 38 21.2
comp=Z,8.3nm,16.6s
SUMG Summit 74.86 357 P **P** **03 02 03.0 -0.4**
PGC Sidney 74.90 42 P **P** **03 02 04.6 +1.0**
comp=Z,51nm,0.8s,mb5.5
KIS Kishinev 74.92 316 *e*P **P** **03 02 03.0 -0.7**
KIS *e* pP 03 02 19.0 +1.6
KIS MLR MLR
comp=N,2μm,17.0s,MS5.8
KIS MLR MLR
comp=E,4μm,17.0s,MS5.8
KIS MLR MLR
comp=Z,5μm,17.0s,MS5.9
KIS MLR MLR
comp=Z,5μm,17.0s
OCWA Octopus Mounta 74.97 43 P **P** **03 02 05.8 +1.8**
OCWA pP pP 03 02 20.4 +2.8
NB2 NORSAR Subarra 74.99 334 P **P** **03 02 01.8 -2.3**
comp=Z,45nm,1.7s,mb5.1,baz=45,slow=5.9
NB2 NORSAR Subarra 74.99 334 P **P** **03 02 01.8 -2.3**
NB2 pmax pmax
comp=Z,45nm,1.7s,mb5.1
NOA NORSAR Array B 74.99 334 P **P** **03 02 02.9 -1.2**
comp=Z,3.6nm,0.7s,mb4.4,baz=48,slow=5.8,SNR=12
NOA LR LR 03 39 31.2
comp=Z,1μm,18.4s,MS5.2,baz=45,slow=39
VDB Vedder Mountai 75.44 41 P **P** **03 02 06.8 0.0**
SCO Scoresbysund 75.47 351 *i* P **P** **03 02 06.6 -0.3**
comp=Z,6.2nm,0.8s,mb4.6
SCO Scoresbysund 75.47 351 *e*P **P** **03 02 06.6 -0.3**
comp=Z,6.2nm,0.8s,mb4.6
SCO Scoresbysund 75.47 351 *e*P **P** **03 02 06.6 -0.3**
SCO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BR131 Keskin Array S 75.66 308 P **P** **03 02 07.1 -0.9**
BRTR Keskin Array B 75.66 308 P **P** **03 02 07.7 -0.3**
comp=Z,17nm,0.8s,mb5.0,baz=89,slow=4.9,SNR=55
BRTR PcP PcP 03 02 19.6 -1.1
comp=Z,36nm,0.8s,baz=98,slow=3.5,SNR=21
BRTR pP pP 03 02 22.2 +0.6
comp=Z,36nm,0.8s,baz=103,slow=4.4,SNR=19
CMW Cultus Mountai 75.77 41 P **P** **03 02 09.7 +1.1**
GNW Green Mountain 75.84 42 P **P** **03 02 10.4 +1.4**
GNW pP pP 03 02 22.7 0.0
JCW Jim Creek 76.00 41 P **P** **03 02 10.6 +0.7**
LVV L'vov 76.06 321 *e*P **P** **03 02 09.7 -0.6**
LVV *e* pP 03 02 25.5 +1.6
LVV *e* 03 04 59.9
LVV *e*S S 03 11 49.3 -0.9
LVV *e*PS 03 12 14.9
LVV MLR MLR
comp=N,900nm,17.0s,MS5.4
LVV MLR MLR
comp=E,2μm,17.0s,MS5.4
LVV MLR MLR
comp=Z,2μm,17.0s,MS5.5

ANTO Ankara 76.14 308 ⇑P P 03 02 10.1 -0.6
ANTO Ankara 76.14 308 ⇑P P 03 02 10.2 -0.5
CFR Carcaliu 76.29 315 ⇓P P 03 02 10.3 -1.3
TIRR Tirgusor 76.51 314 ⇓P P 03 02 11.6 -1.2
BURAR Bucovina Array 76.65 318 ⇓P P 03 02 12.9 -0.7
BURAR Bucovina Array 76.65 318 ⇓P P 03 02 12.9 -0.7
RVC Mount Rainier- 76.66 43 P P 03 02 14.6 +0.9
VRI Vrincioaia 76.75 316 ⇑P P 03 02 14.3 +0.2
VRI Vrincioaia 76.75 316 P P 03 02 14.4 +0.3
PLOR Plostina 76.80 316 ⇑P P 03 02 14.5 0.0
KWP Kalwaria 76.88 321 eP P 03 02 14.7 -0.2
KWP L 03 38 34.8
comp=Z,3.1nm,20.3s
NLW Nelson Butte 76.95 41 P P 03 02 16.1 +0.8
MPOR Mary's Peak 77.08 45 P P 03 02 17.7 +1.7
COR Corvallis 77.18 45 P P 03 02 17.1 +0.5
COR pP pP 03 02 32.5 +2.2
BSD Bornholm Skovb 77.35 328 i P PcP 03 02 27.0 -0.9
comp=Z,36nm,0.9s
BSD i 03 13 06.6
BSD
comp=Z,3µm,18.0s
BSD Bornholm Skovb 77.35 328 i P PcP 03 02 27.0 -0.9
BSD i 03 13 06.6
BSD
comp=Z,36nm,0.9s,mb5.3
BSD pmax pmax
BSD MLR MLR
comp=Z,3µm,18.0s,MS5.6
WTV Waterville 77.38 41 P P 03 02 17.9 +0.2
MLR Muntele Rosu 77.41 316 P P 03 02 17.7 -0.1
comp=Z,2.6nm,0.6s,mb4.3,baz=22,slow=5.2,SNR=7.1
MLR Muntele Rosu 77.41 316 ⇑P P 03 02 17.1 -0.8
MLR Muntele Rosu 77.41 316 ⇑P P 03 02 17.1 -0.8
MLR Muntele Rosu 77.41 316 P P 03 02 17.7 -0.2
MLR pmax pmax
comp=Z,3.0nm,0.6s
EBG Ellensburg 77.48 42 P P 03 02 19.0 +0.7
EDM Edmonton 77.48 34 P P 03 02 18.6 +0.4
KEBM Edson Butte 77.49 47 P P 03 02 20.5 +2.2
KOLS Kolonicke sedl 77.51 321 eP P 03 02 17.8 -0.6
KOLS esP sP 03 02 32.4 -5.0
VLL Laurance Lake 77.66 44 P P 03 02 20.2 +0.9
HOOD Mount Hood Mea 77.75 44 P P 03 02 21.1 +1.3
EPH Ephrata 77.77 41 P P 03 02 20.1 +0.2
STHS Stebnicka Huta 77.78 321 eP P 03 02 19.7 -0.2
STHS e pP 03 02 32.4 -1.2
RAO Raoul Island 77.78 137 LR LR 03 35 29.6
comp=Z,585nm,18.1s,MS5.0,baz=344,slow=35
PRD Provadia 77.81 314 i P P 03 02 20.0 -0.1
VFP Flag Point 77.86 44 P P 03 02 21.3 +0.9
CRVS Cervenica-Dubn 77.97 321 eP P 03 02 21.5 +0.5
CRVS esP sP 03 02 35.1 -4.8
OJC Ojcow 78.05 323 eP P 03 02 20.6 -0.8
COP Copenhagen 78.06 330 i P pP 03 02 35.3 +0.1
comp=Z,42nm,0.9s
COP
comp=Z,820nm,21.0s
OD2 Odessa Site #2 78.24 41 ⇓P P 03 02 22.7 +0.2
NIE Niedzica 78.27 322 eP P 03 02 22.6 0.0
HAWA Hanford 78.36 42 P P 03 02 23.7 +0.6
HUMO Hull Mountain 78.48 47 P P 03 02 25.1 +1.3
DRGR 78.52 319 ⇑P P 03 02 23.2 -0.8
DRGR 78.52 319 P P 03 02 25.3 +1.3
NEW Newport 78.59 40 P P 03 02 24.8 +0.3
comp=Z,25nm,0.8s,mb5.2
NEW Newport 78.59 40 P P 03 02 24.8 +0.4
NEW pmax pmax
comp=Z,25nm,0.8s
SZH Strazhica 78.66 314 i P P 03 02 23.5 -1.3
JMB Yambol 78.72 313 eP P 03 02 24.9 -0.2
ISP Isparta 78.73 308 P P 03 02 23.7 -1.5
comp=Z,26nm,1.0s,mb5.1
ISP Isparta 78.73 308 P P 03 02 24.4 -0.8
KECS Kecovo 78.74 321 eP P 03 02 24.5 -0.7
KECS epP pP 03 02 35.3 -3.6
MUD Monsted U'grnd 78.88 332 i P pP 03 02 39.4 -0.3
comp=Z,23nm,0.8s
MUD
comp=Z,2µm,17.0s
YBH Yreka Blue Hor 79.12 47 P P 03 02 27.8 +0.4
OKC Ostrava-Krasne 79.13 323 eP P 03 02 28.2 +0.8
OKC epP pP 03 02 40.6 -0.5
OKC AMS AMS 03 41 40.0
comp=Z,4µm,14.6s
PSZ Piszkesteto 79.39 321 ⇓eP P 03 02 28.4 -0.4
PSZ Piszkesteto 79.39 321 P P 03 02 29.1 +0.3
KSP Ksiaz 79.43 324 eP P 03 02 28.4 -0.6
KSP epP pP 03 02 40.3 -2.4
KSP eS S 03 12 26.3 -0.2
KSP eSS SS 03 17 56.1 +22
KSP Ksiaz 79.43 324 eP P 03 02 28.4 -0.6
KSP e*PP pP 03 02 40.3 -2.4
KSP eS S 03 12 26.3 -0.2
MORC Moravsky Berou 79.47 323 ⇓P P 03 02 28.2 -1.1
MORC Moravsky Berou 79.47 323 P P 03 02 28.3 -0.9
LHEM Herd Peak 79.49 47 P P 03 02 30.3 +1.0
DIM Dimitrovgrad 79.59 313 i P P 03 02 30.0 +0.1
VYHS Vyhne 79.60 322 eP P 03 02 30.1 +0.2
VYHS esP sP 03 02 44.8 -4.1
DPC Dobruska-Polom 79.72 324 eP P 03 02 30.2 -0.4
DPC AMS AMS 03 41 50.0
comp=Z,6µm,16.7s
UPC Upice 79.78 324 eP P 03 02 31.9 +1.0
UPC epP pP 03 02 44.9 +0.3
WALA Waterton Lakes 79.80 38 P P 03 02 31.7 +0.7
BZS Buzias 79.83 318 ⇑P P 03 02 30.3 -0.9
BZS Buzias 79.83 318 P P 03 02 30.5 -0.7
WDC Whiskeytown Da 79.88 48 P P 03 02 32.4 +0.9
EIL Elat 79.92 299 P P 03 02 31.2 -0.5
ALN Alexandroupoli 79.93 312 eP P 03 02 30.6 -1.1
BSMT Bassoo Peak 80.09 39 P P 03 02 33.6 +1.0
BSEG Bad Segeberg 80.14 329 eP P 03 02 33.1 +0.2
comp=Z,16nm,1.1s,mb4.9
BSEG epP pP 03 02 47.1 +0.5
VRAC Vranov 80.25 323 ⇑P P 03 02 33.2 -0.2
SRO2 Moca 80.29 321 eP P 03 02 32.9 -0.7
SRO Srobarova 80.30 321 eP P 03 02 31.2 -2.5
SRO esP sP 03 02 48.5 -4.2
RZN Rozhen 80.30 313 i P P 03 02 33.0 -0.7
SMOL Smolenice 80.32 322 eP P 03 02 35.3 +1.5
SMOL epP pP 03 02 45.4 -2.2
MOD Modoc 80.51 46 P P 03 02 35.5 +0.7
BMO Blue Mountains 80.53 42 P P 03 02 35.5 +0.5
comp=Z,26nm,1.1s,mb5.1
BRG Berggiesshubel 80.55 325 eP P 03 02 35.4 +0.4
BRG Berggiesshubel 80.55 325 eP P 03 02 35.6 +0.5
comp=Z,4.1nm,0.9s,mb4.4
BRG e pP 03 02 48.7 -0.1
BRG e 03 05 55.7
BRG S S 03 12 40.0 +1.7
BRG SS SS 03 18 02.0 +11
BRG LR LR
comp=Z,4µm,15.5s,MS5.9
BRG Berggiesshubel 80.55 325 eP P 03 02 35.6 +0.6
BRG e pP 03 02 48.7 -0.1
BRG S S 03 12 40.0 +1.7
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRG MLR MLR
comp=Z,4µm,15.5s,MS5.9
BRG Berggiesshubel 80.55 325 eP P 03 02 35.6 +0.5
comp=Z,4.1nm,0.9s,mb4.3
BRG e pP 03 02 48.7 -0.1
comp=Z,5.2nm,0.9s
BRG e 03 05 55.7
comp=Z,15nm,1.6s
BRG S S 03 12 40.0 +1.7
BRG SS SS 03 18 02.0 +11
BRG
comp=N,2µm,16.1s
BRG
comp=E,2µm,15.6s
BRG
comp=Z,4µm,15.5s
SFJD Kangerlussuaq 80.67 1 i P P 03 02 41.5 +5.8
comp=Z,52nm,1.1s,mb5.4
SFJD Kangerlussuaq 80.67 1 eP P 03 02 41.5 +5.8
comp=Z,52nm,1.1s,mb5.4
SFJD Kangerlussuaq 80.67 1 eP P 03 02 41.5 +5.8
SFJD pmax pmax
comp=Z,52nm,1.1s,mb5.4
VTS Vitosha 80.69 315 i P P 03 02 35.0 -0.8
VTS Vitosha 80.69 315 eP P 03 02 36.2 +0.4
VTS Vitosha 80.69 315 ⇓P P 03 02 35.5 -0.3
VTS Vitosha 80.69 315 P P 03 02 36.0 +0.2
ZST Bratislava 80.69 322 esP sP 03 02 49.3 -5.5
CLL Collm 80.70 326 eP P 03 02 34.8 -1.1
comp=Z,21nm,1.2s,mb4.9
CLL epP pP 03 02 49.9 +0.3
CLL ePP PP 03 05 42.8 +2.6
CLL eS S 03 12 44.2 +4.3
CLL e(SS) 03 17 51.4
CLL eLR LR 03 29 39.0
CLL eL 03 40 53.5
comp=Z,3µm,22.0s
CLL Collm 80.70 326 ⇓i P P 03 02 34.8 -1.1
comp=Z,21nm,1.2s,mb4.9
CLL i (PcP) PcP 03 02 43.6 +1.1
CLL i pP pP 03 02 49.5 -0.1
CLL i sP sP 03 02 54.9 0.0
CLL ePP 03 05 53.0
CLL Collm 80.70 326 ⇓i P P 03 02 34.8 -1.1
comp=Z,21nm,1.2s,mb4.9
CLL i PcP 03 02 43.6 +1.1
CLL i pP pP 03 02 49.5 -0.1
CLL i sP sP 03 02 54.9 0.0
CLL LR LR
comp=Z,3µm,14.6s,MS5.8
CLL Collm 80.70 326 ⇓i P P 03 02 34.8 -1.1
CLL i pP 03 02 43.6 -6.0
CLL i *PP pP 03 02 49.5 -0.1
CLL pmax pmax
comp=Z,21nm,1.2s,mb4.9
CLL MLR MLR
comp=Z,3µm,14.6s,MS5.8
TREC Trest 80.82 324 eP P 03 02 36.0 -0.5
PRU Pruhonice 80.83 325 eP P 03 02 35.3 -1.3
PRU epP pP 03 02 47.7 -2.6
PRU AMS AMS 03 42 30.0
comp=Z,4µm,15.8s
MMB Musomiste 80.96 314 i P P 03 02 36.0 -1.3
LOS Limnos 81.08 312 eP P 03 02 37.2 -0.7
PKSM Moragy 81.12 320 P P 03 02 38.5 +0.4
MSO Missoula 81.18 39 P P 03 02 38.5 +0.1
MSO pP pP 03 02 51.4 -0.8
KKB Krupnik 81.19 314 i P P 03 02 37.5 -1.0
WVOR Wild Horse Val 81.20 45 eP P 03 02 39.3 +0.8
comp=Z,14nm,0.8s,mb4.9
WVOR Wild Horse Val 81.20 45 eP P 03 02 39.3 +0.8
WVOR pmax pmax
comp=Z,13nm,0.8s,mb4.9
FCC Fort Churchill 81.22 22 P P 03 02 38.5 -0.1
comp=Z,17nm,0.8s,mb5.0
FCC Fort Churchill 81.22 22 P P 03 02 38.5 -0.1
FCC pmax pmax
comp=Z,17nm,0.8s,mb5.0
OHCM Honcut 81.25 49 P P 03 02 38.9 +0.1
SRS Serrai 81.32 313 eP P 03 02 37.4 -1.8
FFC Flin Flon 81.44 28 P P 03 02 39.0 -0.8
comp=Z,115nm,1.0s,mb5.8,SNR=11
FFC Flin Flon 81.44 28 P P 03 02 39.5 -0.3
CHMT Chamberlain Mo 81.49 39 P P 03 02 40.4 +0.4
OUR Ouranopolis 81.54 313 eP P 03 02 39.1 -1.2
CLZ Clausthal 81.56 328 eP P 03 02 41.0 +0.6
comp=Z,15nm,1.0s,mb4.9
CLZ Clausthal 81.56 328 eP P 03 02 41.0 +0.6
CLZ pmax pmax
comp=Z,15nm,1.0s,mb4.9
WERD Werda 81.61 326 epP pP 03 02 56.3 +1.8
DIVS Divcibare 81.67 318 eP P 03 02 39.8 -1.2
NKC Novy Kostel 81.69 326 eP P 03 02 38.9 -2.2
NKC epP pP 03 02 55.3 +0.4
NKC AMS AMS 03 43 40.0
comp=Z,6µm,13.6s
MOX Moxa 81.80 326 eP P 03 02 35.2 -6.5
comp=Z,46nm,2.1s,mb5.0
MOX e 03 02 55.7
MOX
comp=Z,2µm,20.0s
MOX Moxa 81.80 326 eP P 03 02 35.2 -6.5
MOX pmax pmax
comp=Z,46nm,2.1s,mb5.0
MOX MLR MLR
comp=Z,2µm,20.0s,MS5.3
VAY Valandovo 81.82 314 eP P 03 02 40.2 -1.7
VAY Valandovo 81.82 314 eP P 03 02 33.5 -8.3
STIP Stip 81.83 315 eP P 03 02 33.6 -8.3
KHC Kasperske Hory 81.87 324 eP P 03 02 40.8 -1.3
KHC epP pP 03 02 55.5 -0.3
KHC AMS AMS 03 43 00.0
comp=Z,6µm,16.4s
PAIG Paliouri 81.96 312 eP P 03 02 41.6 -1.0
GERES GERESS Array B 82.00 324 P P 03 02 42.3 -0.4
comp=Z,2.2nm,0.8s,mb4.2,baz=35,slow=4.9,SNR=19
GERES PKKPbc PKKPbc 03 21 10.0 -1.9
comp=Z,1.1nm,0.8s,baz=169,slow=2.7,SNR=8.3
GERES LR LR 03 43 25.2
comp=Z,5µm,18.5s,MS5.9,baz=56,slow=39
MANZ Manzenberg 82.01 326 epP pP 03 02 57.4 +0.8
URZ Urewera 82.11 146 LR LR 03 33 25.7
comp=Z,615nm,20.4s,MS5.0,baz=307,slow=31
SKO Skopje 82.11 315 eP P 03 02 35.1 -8.3
ROTZ Rotzenmuhle 82.11 325 epP pP 03 02 58.4 +1.3
ARSA Arzberg 82.12 322 ⇑i P P 03 02 44.2 +0.8
comp=Z,10nm,1.1s,mb4.7
GRG Griva 82.14 314 eP P 03 02 41.1 -2.4
PAHR Pah Rah Range 82.36 48 eP P 03 02 45.2 +0.6
comp=Z,44nm,1.0s,mb5.3
PAHR e pP 03 03 01.6 +3.2
HRY Holter Researc 82.37 39 P P 03 02 45.5 +0.8
LIT Litokhoron 82.60 313 eP P 03 02 44.3 -1.6
LRM Limekiln Ridge 82.61 39 P P 03 02 46.7 +0.7
GRA1 Grafenberg Arr 82.63 326 eP P 03 02 47.1 +1.0
comp=Z,35nm,1.4s,mb5.2
GRA1 epP pP 03 03 00.9 +1.0
GRA1 LR LR
comp=Z,4µm,19.8s,MS5.8
GRF Grafenberg Arr 82.63 326 eP P 03 02 47.1 +1.0
comp=Z,35nm,1.4s,mb5.2
GRF epP pP 03 03 00.9 +1.0
GRF eL 03 42 58.4
comp=Z,4µm,19.8s
GRF Grafenberg Arr 82.63 326 eP P 03 02 47.1 +1.0
GRF e*PP pP 03 03 00.9 +1.0
GRF pmax pmax
comp=Z,35nm,1.4s,mb5.2
GRF MLR MLR
comp=Z,4µm,19.8s,MS5.8
GRF Grafenberg Arr 82.63 326 eP P 03 02 47.1 +1.0
GRF e*PP pP 03 03 00.9 +1.0
GRF pmax pmax
comp=Z,35nm,1.4s,mb5.2
GRF MLR MLR
comp=Z,4µm,19.8s,MS5.8
CMB Columbia Colle 82.70 49 P P 03 02 47.1 +0.7
comp=Z,18nm,0.9s,mb5.1
CMB Columbia Colle 82.70 49 P P 03 02 47.1 +0.7
CMB pmax pmax
comp=Z,18nm,0.9s,mb5.1
PERS Pernice 82.73 322 eP P 03 02 47.1 +0.6
BIA Bitola 82.76 314 eP P 03 02 38.5 -8.2
DLMT Dillon 82.83 40 eP P 03 02 47.9 +0.8
comp=Z,42nm,0.9s,mb5.5
DLMT e pP 03 03 00.3 -0.6
LCCM Lewis and Clar 82.91 39 P P 03 02 48.1 +0.6
HLID Hailey 82.96 42 P P 03 02 48.8 +1.0
comp=Z,19nm,0.9s,mb5.1
OHR Ohrid 83.02 315 eP P 03 02 39.8 -8.2
WAKR Walker 83.03 49 P P 03 02 49.6 +1.5
MCMT McKenzie Canyo 83.03 40 eP P 03 02 48.1 0.0
CRES Cresnjev 83.08 321 eP P 03 02 49.1 +0.7
BOZ Bozeman (W) 83.17 39 P P 03 02 49.8 +1.0
BUG Bochum--Univer 83.22 329 eP P 03 02 49.0 -0.1
comp=Z,16nm,1.2s,mb4.9
BMN Battle Mountai 83.25 46 P P 03 02 50.3 +1.0
comp=Z,25nm,0.8s,mb5.3
BMN Battle Mountai 83.25 46 P P 03 02 50.3 +1.1
BMN pmax pmax
comp=Z,25nm,0.8s,mb5.3
AGG Agios Georgios 83.34 312 eP P 03 02 47.0 -2.8
LJU Ljubljana 83.42 322 eP P 03 02 50.7 +0.6
TNS Taunus Mts 83.56 327 eP P 03 02 51.2 +0.4
FUR Furstenfeldbru 83.65 325 eP P 03 02 52.1 +0.8
comp=Z,152nm,2.2s,mb5.7
FUR Furstenfeldbru 83.65 325 eP P 03 02 52.1 +0.8
FUR pmax pmax
comp=Z,152nm,2.2s,mb5.7
STON Ston 83.73 318 i P P 03 02 51.4 0.4
VOY Vojsko 83.76 322 eP P 03 02 50.8 -1.1
VOY e pP 03 03 05.2 -0.5
VOY e pP 03 03 09.1 +3.4
JAVS Javornik 83.77 322 eP P 03 02 50.2 -1.7
NVAR Mina Array Bea 83.79 48 P P 03 02 52.5 +0.4
comp=Z,20nm,0.7s,mb5.4,baz=302,slow=4.8,SNR=177
NVAR pP pP 03 03 05.5 -0.4
comp=Z,27nm,0.9s,baz=308,slow=4.3,SNR=13
QLMT Earthquake Lak 83.80 40 P P 03 02 53.5 +1.4
MNV Mina 83.88 48 P P 03 02 53.2 +0.8
comp=Z,19nm,0.8s,mb5.3
MNV Mina 83.88 48 P P 03 02 53.3 +0.8
MNV pmax pmax
comp=Z,19nm,0.8s,mb5.3
IDI Anoyia 83.90 308 P P 03 02 52.5 0.0
comp=Z,16nm,1.0s,mb5.1,baz=32,slow=8.5,SNR=6.1
RPZ Rata Peaks 83.97 153 LR LR 03 35 27.2
comp=Z,864nm,21.0s,MS5.1,baz=249,slow=32
WTTA Wattenberg 84.09 324 ⇓i P P 03 02 54.4 +0.9
comp=Z,14nm,1.3s,mb4.9
GCMT Greycliff 84.11 38 eP P 03 02 54.5 +0.8
YMR Madison River 84.16 40 eP P 03 02 55.4 +1.5
comp=Z,14nm,0.4s,mb5.5
STU Stuttgart 84.23 326 eP P 03 02 54.6 +0.3
comp=Z,22nm,1.2s,mb5.2
STU epP pP 03 03 08.8 +0.7
STU Stuttgart 84.23 326 P P 03 02 53.8 -0.4
comp=Z,7.7nm,0.3s,mb5.3
STU pP pP 03 03 10.4 +2.3
STU Stuttgart 84.23 326 P P 03 02 53.8 -0.5
STU *PP pP 03 03 10.4 +2.3
STU pmax pmax
comp=Z,8.0nm,0.3s,mb5.3
MTUM Tungsten Hills 84.27 49 P P 03 02 55.7 +1.2
RAR Rarotonga 84.36 119 LR LR 03 31 48.4
comp=Z,1µm,21.6s,MS5.3,baz=167,slow=30
YFT Old Faithful 84.37 40 P P 03 02 56.7 +1.7
LKWY Lake 84.53 39 P P 03 02 58.4 +2.7
comp=Z,18nm,1.0s,mb5.2
LKWY Lake 84.53 39 P P 03 02 58.4 +2.6
LKWY pmax pmax
comp=Z,18nm,1.0s,mb5.2
IMW Indian Meadow 84.68 40 P P 03 02 58.2 +1.7
FLWY Flagg Ranch 84.69 40 eP P 03 02 58.0 +1.4
comp=Z,50nm,1.3s,mb5.5
MOOW Moose Ponds 84.88 40 P P 03 02 58.8 +1.3
TPAW Teton Pass 84.94 41 P P 03 02 59.6 +1.8
BFO Black Forest 84.95 326 eP P 03 02 58.2 +0.3
comp=Z,29nm,1.5s,mb5.2
BFO epP pP 03 03 12.3 +0.6
BFO Black Forest 84.95 326 eP P 03 02 58.2 +0.3
BFO e*PP pP 03 03 12.3 +0.6
BFO pmax pmax
comp=Z,29nm,1.5s,mb5.2
DGMT Dagmar 84.97 34 P P 03 02 58.0 0.0
DGMT pP pP 03 03 12.4 +0.5
WLF Walferdange 84.99 328 epP pP 03 03 12.7 +0.8
WLF Walferdange 84.99 328 AP pP 03 03 06.2 -5.7
WLF XP sP 03 03 13.8 -3.4
WLF Walferdange 84.99 328 pP pP 03 03 11.6 -0.3
HVU Hansel Valley 85.03 43 P P 03 02 59.9 +1.6
LOHW Long Hollow 85.05 40 P P 03 02 59.9 +1.5
SNOW Snow King Moun 85.07 40 P P 03 00 00.3 +1.8
SNOW pP pP 03 03 14.1 +1.8
REDW Red Top Meadow 85.08 41 P P 03 00 00.0 +1.5
SNF Seneffe 85.19 330 XP sP 03 03 15.1 -3.1
LAO LASA Array 85.25 36 P P 03 00 00.3 +1.0
comp=Z,23nm,0.9s,mb5.3
LAO pP pP 03 03 13.2 0.0
ISA Isabella 85.35 50 P P 03 02 59.8 -0.1
comp=Z,16nm,0.9s,mb5.2
ISA Isabella 85.35 50 P P 03 02 59.8 -0.1
ISA pmax pmax
comp=Z,16nm,0.9s,mb5.2
CDF Champ du Feu 85.38 327 eP P 03 03 00.3 +0.2
comp=Z,51nm,1.1s,mb5.3
CDF Champ du Feu 85.38 327 eP P 03 03 00.3 +0.2
comp=Z,25nm,1.1s,mb5.3
CDF Champ du Feu 85.38 327 eP P 03 03 00.3 +0.2
CDF pmax pmax
comp=Z,25nm,1.1s,mb5.3
BGU Big Grassy Mou 85.43 44 eP P 03 03 05.9 +5.6
DAC Darwin (Calif) 85.54 49 P P 03 03 00.6 -0.2
comp=Z,22nm,0.9s,mb5.4
DAC Darwin (Calif) 85.54 49 P P 03 03 00.6 -0.2
DAC pmax pmax
comp=Z,22nm,0.9s,mb5.4
HWUT Hardware Ranch 85.83 42 P P 03 03 03.4 +1.1
TPNV Topopah Spring 85.98 48 P P 03 03 03.7 +0.7
HINF Hinteralfeld 86.01 326 eP P 03 03 03.0 -0.2
comp=Z,35nm,1.3s,mb5.1
HINF Hinteralfeld 86.01 326 eP P 03 03 03.0 -0.2
comp=Z,18nm,1.3s,mb5.1
HINF Hinteralfeld 86.01 326 eP P 03 03 03.0 -0.2
HINF pmax pmax
comp=Z,18nm,1.3s,mb5.1
NOQ North Oquirrh 86.13 43 P P 03 03 04.2 +0.4
BW06 Boulder Array 86.18 40 P P 03 03 04.3 +0.3
comp=Z,16nm,1.3s,mb5.1
PDAR Pinedale Array 86.18 40 P P 03 03 04.2 +0.2
comp=Z,5.0nm,0.8s,mb4.8,baz=300,slow=1.1,SNR=48
PDAR pP pP 03 03 18.0 +0.1
comp=Z,4.1nm,0.7s,baz=231,slow=1.3,SNR=9.3
PDAR PKKPbc PKKPbc 03 21 00.7 -1.5
comp=Z,0.4nm,0.8s,baz=127,slow=3.9,SNR=3.8
TCUT Toone Canyon 86.24 43 P P 03 03 05.3 +1.0
MWC Mount Wilson 86.49 51 P P 03 03 05.9 +0.4
MWC pP pP 03 03 19.3 -0.1
NLU North Lily Min 86.61 44 P P 03 03 03.2 -2.9
GSC Goldstone 86.64 50 P P 03 03 06.8 +0.5
DAU Daniels Canyon 86.79 43 P P 03 03 08.0 +1.0
MPU Maple Canyon 86.83 44 P P 03 03 08.4 +1.2
SHPR Sheep Range 86.94 48 P P 03 03 08.8 +1.1
ARUT Antelope Range 87.19 46 eP P 03 03 09.4 +0.5
ARUT ePP PP 03 06 33.2 +0.1
ULM Lac du Bonnet 87.27 28 P P 03 03 08.4 -0.9
comp=Z,14nm,0.9s,mb5.2,baz=318,slow=5.4,SNR=37
ULM pP pP 03 03 21.9 -1.3
comp=Z,37nm,1.0s,baz=309,slow=5.6,SNR=15
ULM LR LR 03 45 49.0
comp=Z,331nm,18.2s,MS4.8,baz=338,slow=38
ULM Lac du Bonnet 87.27 28 P P 03 03 08.4 -0.9
ULM pP pP 03 03 21.9 -1.3
ULM LR LR 03 45 49.0
MVU Marysvale 87.47 45 pP pP 03 03 20.1 -4.2
MSU Marysvale 87.49 45 P P 03 03 12.0 +1.6
TMUT Trail Mountain 87.55 44 P P 03 03 12.1 +1.5
NEN Nelson 87.68 49 eP P 03 03 12.0 +0.7
NEN epP pP 03 03 22.0 -3.2
NEN esP sP 03 03 27.1 -3.4
LPL La Plagne 87.73 325 eP P 03 03 10.8 -0.7
comp=Z,26nm,1.0s,mb5.1
LPL La Plagne 87.73 325 eP P 03 03 10.8 -0.7
comp=Z,13nm,1.0s,mb5.1
LPL La Plagne 87.73 325 eP P 03 03 10.8 -0.7
LPL pmax pmax
comp=Z,13nm,1.0s,mb5.1
LPG La Plagne 87.73 325 eP P 03 03 10.9 -0.7
comp=Z,25nm,0.8s,mb5.2
LPG La Plagne 87.73 325 eP P 03 03 10.9 -0.7
comp=Z,12nm,0.8s,mb5.2
LPG La Plagne 87.73 325 eP P 03 03 10.9 -0.7
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.2
LOR Lormes 87.79 328 eP P 03 03 11.7 -0.1
LOR eR
comp=Z,2µm,18.0s
LOR Lormes 87.79 328 eP P 03 03 11.7 -0.1
LOR MLR MLR
comp=Z,2µm,18.0s,MS5.6
LDFC Landfair 87.87 49 eP P 03 03 12.8 +0.6
LDFC epP pP 03 03 22.6 -3.5
LDFC esP sP 03 03 28.0 -3.3
PFO Pinyon Flat Ob 87.92 51 P P 03 03 13.0 +0.6
comp=Z,87nm,0.8s,mb6.0,SNR=7.2
PFO Pinyon Flat Ob 87.92 51 P P 03 03 12.7 +0.3
comp=Z,15nm,1.0s,mb5.2
PFO Pinyon Flat Ob 87.92 51 P P 03 03 12.7 +0.3
PFO pmax pmax
comp=Z,15nm,1.0s,mb5.2
SRU San Rafael 88.07 44 P P 03 03 14.2 +1.0
SSF Saint Saulge 88.10 328 eP P 03 03 13.4 +0.1
comp=Z,22nm,1.1s,mb5.0

SSF	**Saint Saulge**	**88.10**	**328**	*e*P	**P**	**03 03 13.4**	**+0.1**
	comp=Z,11nm,1.1s,mb5.0						
SSF	**Saint Saulge**	**88.10**	**328**	*e*P	**P**	**03 03 13.4**	**+0.1**
SSF				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.0						
RSSD	**Black Hills**	**88.15**	**37**	P	**P**	**03 03 14.2**	**+0.7**
	comp=Z,38nm,1.4s,mb5.4						
RSSD				pP	pP	03 03 27.9	+0.5
RSSD	**Black Hills**	**88.15**	**37**	P	**P**	**03 03 14.2**	**+0.7**
RSSD				*PP	pP	03 03 27.9	+0.4
RSSD				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.4						
RWWY	**Rawlins**	**88.19**	**40**	P	**P**	**03 03 14.7**	**+1.0**
RWWY				pP	pP	03 03 28.7	+1.1
SMF	**Signal de Mont**	**88.26**	**327**	*e*P	**P**	**03 03 14.0**	**-0.1**
MBDF	**Montbardon**	**88.28**	**324**	*e*P	**P**	**03 03 14.4**	**+0.2**
	comp=Z,22nm,0.9s,mb5.1						
MBDF	**Montbardon**	**88.28**	**324**	*e*P	**P**	**03 03 14.4**	**+0.2**
	comp=Z,11nm,0.9s,mb5.1						
MBDF	**Montbardon**	**88.28**	**324**	*e*P	**P**	**03 03 14.4**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.1						
BAR	**Barrett**	**88.35**	**52**	P	**P**	**03 03 15.5**	**+1.1**
AVF	**Avril sur Loir**	**88.38**	**327**	*e*P	**P**	**03 03 14.6**	**0.0**
ORIF	**Oris-en-Rattie**	**88.58**	**325**	*e*P	**P**	**03 03 15.2**	**-0.4**
	comp=Z,70nm,1.6s,mb5.4						
ORIF				*e*R			
	comp=Z,3μm,20.0s						
ORIF	**Oris-en-Rattie**	**88.58**	**325**	*e*P	**P**	**03 03 15.2**	**-0.4**
	comp=Z,35nm,1.6s,mb5.4						
ORIF	**Oris-en-Rattie**	**88.58**	**325**	*e*P	**P**	**03 03 15.2**	**-0.4**
ORIF				pmax	pmax		
	comp=Z,35nm,1.6s,mb5.4						
TCF	**Toulx Ste Croi**	**89.27**	**328**	*e*P	**P**	**03 03 18.4**	**-0.4**
GLA	**Glamis**	**89.33**	**51**	P	**P**	**03 03 20.1**	**+1.0**
PHWY	**Pilot Hill**	**89.41**	**39**	P	**P**	**03 03 20.9**	**+1.5**
PV10	**Paradox Valley**	**89.42**	**43**	*e*P	**P**	**03 03 21.1**	**+1.6**
PV01	**Paradox Valley**	**89.86**	**43**	P	**P**	**03 03 22.9**	**+1.3**
WUAZ	**Wupatki**	**89.93**	**47**	P	**P**	**03 03 23.5**	**+1.7**
PMOR	**Pomariorio Ree**	**89.93**	**108**	*e*P	**P**	**03 03 24.3**	**+2.4**
	comp=Z,26nm,0.9s,mb5.6						
PPT	**Papeete**	**90.02**	**111**	*e*P	**P**	**03 03 24.2**	**+1.9**
	comp=Z,22nm,1.2s,mb5.4						
PPT	**Papeete**	**90.02**	**111**	*e*PP	PP	03 06 55.3	-0.4
	comp=Z,118nm,26.5s						
PPT	**Papeete**	**90.02**	**111**	*e*SS	SS	03 20 16.2	+5.6
	comp=Z,237nm,25.0s						
PPT				*e*LR	LR	03 31 42.1	
	comp=Z,1μm,23.0s,baz=304						
PPT	**Papeete**	**90.02**	**111**	LR	LR	03 39 08.3	
	comp=Z,656nm,19.2s,MS5.1,baz=261,slow=32						
SMCO	**Snowmass**	**90.06**	**42**	*e*P	**P**	**03 03 23.8**	**+1.3**
	comp=Z,48nm,1.4s,mb5.6						
SMCO				*e*pP	pP	03 03 37.5	+1.1
ISCO	**Idaho Springs**	**90.38**	**41**	P	**P**	**03 03 25.6**	**+1.7**
	comp=Z,8.0nm,0.9s,mb5.0						
ISCO	**Idaho Springs**	**90.38**	**41**	P	**P**	**03 03 25.6**	**+1.6**
ISCO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
TVO	**Taravao**	**90.39**	**111**	*e*P	**P**	**03 03 26.1**	**+2.0**
	comp=Z,72nm,0.9s,mb6.0						
EYMN	**Ely**	**90.84**	**28**	P	**P**	**03 03 26.7**	**+0.6**
SCHQ	**Schefferville**	**91.40**	**11**	P	**P**	**03 03 27.2**	**-1.5**
	comp=Z,6.6nm,1.0s,mb4.9,baz=0.2,slow=5.3,SNR=8.1						
SCHQ				pP	pP	03 03 41.3	-1.4
	comp=Z,15nm,0.9s,baz=347,slow=4.4,SNR=10						
SCHQ				PKKPbc	PKKPbc	03 20 47.5	-1.9
	comp=Z,1.7nm,0.9s,baz=326,slow=7.3,SNR=4.8						
SCHQ				LR	LR	03 46 25.9	
	comp=Z,859nm,19.6s,MS5.2,baz=201,slow=37						
TUC	**Tucson**	**92.41**	**49**	P	**P**	**03 03 34.4**	**+1.0**
	comp=Z,15nm,0.9s,mb5.3						
TUC	**Tucson**	**92.41**	**49**	P	**P**	**03 03 34.4**	**+1.0**
TUC				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.3						
ANMO	**Albuquerque**	**93.28**	**44**	P	**P**	**03 03 39.2**	**+1.8**
	comp=Z,18nm,1.2s,mb5.4						
ANMO	**Albuquerque**	**93.28**	**44**	P	**P**	**03 03 39.2**	**+1.8**
ANMO				pmax	pmax		
	comp=Z,18nm,1.2s						
TBI	**Tubuai**	**93.34**	**116**	*e*PP	PP	03 07 21.3	-0.6
	comp=Z,90nm,25.5s						
TBI	**Tubuai**	**93.34**	**116**	*e*PS	PS	03 16 02.6	+2.3
	comp=Z,506nm,26.8s						
TBI	**Tubuai**	**93.34**	**116**	*e*SKSac	SKSac	03 14 08.4	+0.3
	comp=Z,310nm,28.8s						
TBI				*e*SS	SS	03 21 03.7	+5.4
	comp=Z,138nm,27.0s						
TBI				*e*LR	LR	03 33 23.2	
	comp=Z,2μm,26.5s,baz=310						
KMBO	**Kilima Mbogo**	**94.55**	**272**	P	**P**	**03 03 44.4**	**+1.1**
	comp=Z,0.6nm,0.5s,mb4.3,baz=55,slow=23,SNR=2.4						
KMBO				LR	LR	03 50 39.7	
	comp=Z,499nm,19.8s,MS5.0,baz=91,slow=38						
KMBO	**Kilima Mbogo**	**94.55**	**272**	*e*P	**P**	**03 03 46.1**	**+2.9**
	comp=Z,6.5nm,1.4s,mb4.9						
KMBO				*e*pP	pP	03 03 56.0	-1.2
KMBO				LR	LR	03 50 39.7	
KMBO	**Kilima Mbogo**	**94.55**	**272**	*e*P	**P**	**03 03 46.1**	**+2.8**
KMBO				*e**PP	pP	03 03 56.0	-1.2
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KSU1	**Kansas State U**	**95.60**	**36**	pP	pP	03 04 04.1	+2.1
MNTX	**Cornudas Mount**	**96.19**	**46**	P	**P**	**03 03 51.7**	**+1.0**
MNTX				pP	pP	03 04 05.2	+0.5
LTX	**Lajitas**	**98.90**	**47**	P	**P**	**03 04 04.0**	**+1.1**
RKT	**Rikitea**	**104.56**	**108**	*e*PP	PP	03 08 47.9	+0.4
	comp=Z,70nm,28.2s						
RKT	**Rikitea**	**104.56**	**108**	*e*PS	PS	03 17 57.9	-3.2
	comp=Z,383nm,31.8s						
RKT	**Rikitea**	**104.56**	**108**	*e*SKSac	SKSac	03 15 06.5	+2.3
	comp=Z,139nm,29.5s						
RKT				*e*SS	SS	03 23 49.0	+14
	comp=Z,426nm,41.2s						
RKT				*e*LR	LR	03 38 28.4	
	comp=Z,2μm,26.0s,baz=305						
TORD	**Torodi Ar. Bea**	**114.19**	**305**	PKP	PKiKP	03 09 02.3	+0.3
	comp=Z,1.1nm,0.8s,baz=54,slow=1.4,SNR=18						
TORD				PKKPbc	PKKPbc	03 19 42.2	+0.1
	comp=Z,1.6nm,0.8s,baz=231,slow=3.7,SNR=8.5						
BOSA	**Boshof**	**117.95**	**252**	PKP	PKPdf	03 09 09.1	-0.1
	comp=Z,5.0nm,0.9s,baz=52,slow=5.3,SNR=5.8						
DBIC	**Dimbokro**	**123.30**	**306**	PKP	PKPdf	03 09 20.1	+0.7
	comp=Z,6.2nm,0.8s,baz=78,slow=5.1,SNR=9.3						
LIC	**Lamto**	**123.74**	**305**	*e*PKIKP	PKPdf	03 09 21.1	+0.8
	comp=Z,25nm,1.0s						
LIC				*e*R			
	comp=Z,846nm,22.2s						
LIC	**Lamto**	**123.74**	**305**	*e*PKPdf	PKPdf	03 09 21.1	+0.8
LIC				LR	LR		
	comp=Z,420nm,22.3s,MS5.0						
JTS	**JuntasAbangare**	**124.67**	**46**	PKP	PKPdf	03 09 20.7	-1.4
	comp=Z,3.0nm,0.3s,baz=277,slow=23,SNR=3.8						
CPD	**Cerro la Pandu**	**126.80**	**21**	*e*PKPdf	PKPdf	03 09 26.3	+0.1
CPD				*e*pPKPdf	pPKPdf	03 09 37.7	-2.9
SDV	**Santo Domingo**	**133.44**	**31**	PKP	PKPdf	03 09 38.7	0.0
	comp=Z,13nm,0.7s,baz=297,slow=3.0,SNR=19						
SNAA	**Sanae**	**134.20**	**198**	*e*PKPdf	PKPdf	03 09 39.6	-0.6
SNAA				*e*		03 09 51.0	
SNAA				*e*		03 09 57.1	
VNA2	**Neumayer--Watz**	**135.83**	**198**	*e*PKPdf	PKPdf	03 09 44.2	+1.0
	baz=87,slow=1.3						
VNA2				*e*		03 09 55.4	
VNA2				*e*		03 10 01.7	
VNA2				*e*		03 10 10.0	
VNA2				*e*		03 10 21.9	
VNA3	**Neumayer Olymp**	**136.20**	**197**	*e*PKPdf		03 10 03.0	
VNA3				*e*		03 10 13.6	
VNA3				*e*		03 10 20.9	
VNA3				*e*		03 10 39.2	
VNA1	**Neumayer--Stat**	**136.23**	**198**	*e*PKPdf	PKPdf	03 09 48.1	+4.1
VNA1				*e*		03 10 00.2	
VNA1				*e*		03 10 06.2	
RCBR	**Riachuelo**	**151.02**	**334**	*e*PKPbc	PKPbc	03 10 17.4	+1.9
SAML	**Samuel**	**152.59**	**34**	*e*PKPdf	PKPdf	03 10 12.6	+0.6
SAML				*e*PKPbc	PKPbc	03 10 19.0	0.0
LPAZ	**La Paz**	**155.61**	**53**	PKPdf	PKPdf	03 10 18.2	+1.9
LPAZ	**La Paz**	**155.61**	**53**	PKP	PKPdf	03 10 16.8	+0.6
	comp=Z,3.1nm,1.0s,baz=344,slow=8.0,SNR=6.8						
LVC	**Limon Verde**	**159.04**	**67**	PKPab	PKPab	03 10 57.1	-0.1
	comp=Z,11nm,0.9s,baz=330,slow=6.8,SNR=7.2						
SIV	**San Ignacio**	**159.66**	**39**	PKP	PKPdf	03 10 21.8	+0.6
	comp=Z,2.7nm,0.8s,baz=289,slow=1.0,SNR=14						
SIV				PKPab	PKPab	03 10 59.0	-1.0
	comp=Z,8.1nm,0.9s,baz=305,slow=3.1,SNR=6.3						
SIV				pPKPab	pPKPab	03 11 14.0	0.0
	comp=Z,13nm,0.9s,baz=21,slow=3.9,SNR=5.5						
PLCA	**Paso Flores**	**160.27**	**121**	PKPab	PKPab	03 11 02.2	-0.4
	comp=Z,9.8nm,0.9s,baz=235,slow=5.3,SNR=12						
PLCA	**Paso Flores**	**160.27**	**121**	PKP2	PKPab	03 11 02.2	-0.4
PLCA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CFAA	**Coronel Fontan**	**162.88**	**92**	PKPab	PKPab	03 11 13.3	-0.7
	comp=Z,1.2nm,1.0s,baz=245,slow=5.3,SNR=7.9						
BDFB	**Brasilia**	**163.08**	**360**	PKP	PKPdf	03 10 24.2	-0.6
	comp=Z,3.4nm,0.9s,baz=180,slow=5.0,SNR=4.2						
BDFB				PKPab	PKPab	03 11 15.8	+0.9
	comp=Z,6.2nm,0.8s,baz=275,slow=4.1,SNR=4.3						

NEIC ***27*** *03:03:17.1, 32.71S×71.70W, h28km, ML2.8(GUC), After GUC.*

GUC 27 03:03:17.1±0.9, 32.71S×71.70W, h28km±5km, MD3.6, ML2.8, 6C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.32**	**171**	⇑*i*P	Pb	03 03 24.4	-0.1
IHA				*i* S	Sb	03 03 29.5	-0.1
ROCH	**El Roble**	**0.63**	**114**	⇑*i*P	Pb	03 03 29.6	0.0
ROCH				*i* S	Sb	03 03 38.9	+0.8
LCCH	**Las Cruces**	**0.77**	**172**	⇑*i*P	Pb	03 03 30.9	-1.0
LCCH				*i* S	Sb	03 03 42.3	+0.3
CHNG	**Los Chungos**	**0.84**	**11**	⇓*i*P	Pn	03 03 32.4	-0.7
CHNG				*i* S	Sb	03 03 43.9	-0.2
CHNG				AMP		03 03 45.6	
	comp=N,206nm,0.2s						
JACH	**Jahuel**	**0.93**	**88**	*e*P	Pn	03 03 34.1	-0.2
JACH				*i* S	Sb	03 03 47.0	+0.4
PEL	**Peldehue**	**0.95**	**117**	⇑*i*P	Pn	03 03 34.8	+0.1
PEL				*e*S	Sb	03 03 47.3	+0.1
PEL				AMP		03 03 50.0	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**0.95**	**117**	⇑*i*P	Pn	03 03 34.8	+0.1
PEL				*e*S	Sb	03 03 47.3	+0.1
RCDM	**Rinconada Maip**	**1.08**	**136**	*e*P	Pn	03 03 36.1	-0.2
RCDM				*i* S	Sn	03 03 49.9	-0.5
RCDM				AMP		03 03 56.4	
	comp=N,534nm,0.1s						
RCDM	**Rinconada Maip**	**1.08**	**136**	*e*P	Pn	03 03 36.1	-0.2
RCDM				*i* S	Sn	03 03 49.9	-0.5
TACH	**Talagante**	**1.13**	**146**	*e*P	Pn	03 03 37.0	-0.1
SAN	**Santiago**	**1.14**	**131**	*i* P	Pn	03 03 37.2	0.0
SAN				*i* S	Sn	03 03 52.5	+0.6
SAN				AMP		03 03 55.5	
	comp=E,399nm,0.5s						
SAN	**Santiago**	**1.14**	**131**	*i* P	Pn	03 03 37.2	0.0
SAN				*i* S	Sn	03 03 52.5	+0.6
STL	**Santa Lucia**	**1.14**	**129**	⇑*i*P	Pn	03 03 37.3	0.0
STL				*i* S	Sn	03 03 52.3	+0.3
STL				AMP		03 03 54.5	
	comp=E,117nm,0.3s						
DSCH	**Colegio Aleman**	**1.17**	**126**	*i* P	Pn	03 03 37.1	-0.5
DSCH				*i* S	Sn	03 03 53.0	+0.4
DSCH				AMP		03 03 57.5	
	comp=N,52nm,0.2s						
DSCH	**Colegio Aleman**	**1.17**	**126**	*i* P	Pn	03 03 37.1	-0.5
DSCH				*i* S	Sn	03 03 53.0	+0.4
CLCH	**Cerro Calan**	**1.19**	**125**	⇓*i*P	Pn	03 03 38.3	+0.4
CLCH				*i* S	Sn	03 03 53.9	+0.7
CLCH				AMP		03 04 01.1	
	comp=E,381nm,0.3s						
ANTU	**Antumapu**	**1.23**	**134**	*e*P	Pn	03 03 39.1	+0.6
ANTU				*i* S	Sn	03 03 55.0	+0.7
ANTU				AMP		03 04 01.1	
	comp=E,416nm,0.3s						
ANTU	**Antumapu**	**1.23**	**134**	*e*P	Pn	03 03 39.1	+0.6
ANTU				*i* S	Sn	03 03 55.0	+0.7
FSR	**Penalolen**	**1.24**	**128**	*e*P	Pn	03 03 38.5	-0.1
FSR				*i* S	Sn	03 03 55.7	+1.2
FSR				AMP		03 04 01.1	
	comp=N,332nm,0.2s						
FSR	**Penalolen**	**1.24**	**128**	*e*P	Pn	03 03 38.5	-0.1
FSR				*i* S	Sn	03 03 55.7	+1.2
LNV	**Longovilo**	**1.26**	**169**	*i* P	Pn	03 03 39.0	+0.1
FCH	**Farellones**	**1.33**	**118**	⇓*i*P	Pn	03 03 40.7	+0.8
FCH				*i* S	Sn	03 03 58.6	+2.0
PCH	**Pirque**	**1.34**	**133**	*e*P	Pn	03 03 40.7	+0.7
SJCH	**San Jose de Ma**	**1.46**	**130**	*e*P	Pn	03 03 41.9	+0.3
SJCH				*i* S	Sn	03 04 01.4	+1.7
SJCH				AMP		03 04 04.2	
	comp=N,158nm,0.5s						
SJCH	**San Jose de Ma**	**1.46**	**130**	*e*P	Pn	03 03 41.9	+0.3
SJCH				*i* S	Sn	03 04 01.4	+1.7
CHCH	**Chadas Angostu**	**1.50**	**145**	⇓*i*P	Pn	03 03 43.4	+1.2
CMCH	**Combarbala**	**1.65**	**21**	⇓*i*P	Pn	03 03 44.9	+0.7
CMCH				*i* S	Sn	03 04 06.7	+2.3
CMCH				AMP		03 04 11.0	
	comp=N,684nm,0.4s						
CMCH	**Combarbala**	**1.65**	**21**	⇓*i*P	Pn	03 03 44.9	+0.7
CMCH				*i* S	Sn	03 04 06.7	+2.3
CACH	**El Canelo**	**1.67**	**147**	⇓*i*P	Pn	03 03 46.6	+2.0
CACH				*i* S	Sn	03 04 09.3	+4.2
LMEL	**Las Melosas**	**1.69**	**133**	*e*P	Pn	03 03 46.5	+1.8
LMEL				*i* S	Sn	03 04 08.7	+3.3
LMEL				AMP		03 04 11.2	
	comp=N,479nm,0.2s						
LMEL	**Las Melosas**	**1.69**	**133**	*e*P	Pn	03 03 46.5	+1.8
LMEL				*i* S	Sn	03 04 08.7	+3.3
CICH	**Cipreses**	**1.93**	**147**	*e*P	Pn	03 03 49.6	+1.6
SFDO	**San Fernando**	**1.98**	**163**	*e*P	Pn	03 03 49.6	+0.8

SKO ***27*** *03:07:40.5, 39.52N×20.79E, h0km*
THE ***27*** *03:07:43.9, 39.65N×20.97E, h1km, ML2.6*
ATH ***27*** *03:07:44.0, 39.64N×20.92E, h22km±1km, MD3.2/9*
ISCJB ***27*** *03:07:44.6±0.4, 39.64N±0.03×20.90E±0.03, h19km±4km, Error ellipse: s-maj=4.8km s-min=4.4km az=150.7*
NEIC ***27*** *03:07:44.0, 39.64N×20.92E, h22km, MD3.2(ATH), After ATH.*
CSEM ***27*** *03:07:44.9±0.1, 39.75N×20.88E, h20km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.5km az=2.0*

ISC 27 03:07:44.2±0.4, 39.66N±0.03×20.93E±0.03, h13km±3km, n31, σ1§08/48, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.06**	**263**	*e*PB	**Pg**	**03 07 47.7**	**+0.9**
JAN				*e*SB	**Sg**	**03 07 51.1**	**+2.5**
IGT	**Igoumenitsa**	**0.48**	**254**	*e*Pg	**Pg**	**03 07 52.9**	**-0.8**
IGT				*e*Sg	**Sg**	**03 08 01.0**	**+1.0**
LSK	**Leskovik**	**0.55**	**333**	*e*Pg	**Pg**	**03 07 54.1**	**-0.9**
LSK				*i* Sg	**Sg**	**03 08 03.5**	**+1.3**
KEK	**Kerkira**	**0.87**	**274**	*e*PB	**Pb**	**03 08 00.2**	**-1.0**
KEK				*e*SN	**Sn**	**03 08 13.5**	**-1.2**
KZN	**Kozani**	**0.91**	**45**	*e*PN	**Pn**	**03 08 01.6**	**-1.2**
KZN				*e*SN	**Sn**	**03 08 15.2**	**-0.6**
EVR	**Evrytania**	**1.01**	**137**	*e*PN	**Pn**	**03 08 02.9**	**-1.2**
FNA	**Florina**	**1.17**	**17**	*e*Pg	**Pg**	**03 08 05.9**	**-0.9**
FNA				*e*Sg	**Sg**	**03 08 22.8**	**+0.8**
AGG	**Agios Georgios**	**1.26**	**120**	*e*Pg	**Pg**	**03 08 06.9**	**-1.6**
AGG				*e*Sg	**Sg**	**03 08 24.9**	**-0.1**
LIT	**Litokhoron**	**1.28**	**70**	*e*Pg	**Pg**	**03 08 08.0**	**-0.9**
LIT				*e*Sg	**Sg**	**03 08 25.1**	**-0.4**
LIT	**Litokhoron**	**1.28**	**70**	*e*Pg	**Pg**	**03 08 07.9**	**-1.0**
LIT				*e*Sg	**Sg**	**03 08 25.1**	**-0.4**
BIA	**Bitola**	**1.39**	**13**	*e*Pg	**Pg**	**03 08 09.8**	**-1.1**
BIA				*e*Sg	**Sg**	**03 08 29.3**	**+0.3**
BIA	**Bitola**	**1.39**	**13**	*i* Pn	**Pn**	**03 08 08.3**	**-1.0**
BIA				*e*Sg	**Sg**	**03 08 28.8**	**-0.2**
BIA	**Bitola**	**1.39**	**13**	*i* Pn	**Pn**	**03 08 08.2**	**-1.1**
BIA	**Bitola**	**1.39**	**13**	*e*Pg	**Pg**	**03 08 09.8**	**-1.1**
BIA				*e*Sg	**Sg**	**03 08 29.3**	**+0.3**
OHR	**Ohrid**	**1.45**	**356**	*e*Pg	**Pg**	**03 08 10.4**	**-1.7**
OHR				*e*Sg	**Sg**	**03 08 31.7**	**+0.8**
OHR	**Ohrid**	**1.45**	**356**	*i* Pn	**Pn**	**03 08 10.4**	**+0.2**
OHR				*e*Sg	**Sg**	**03 08 31.3**	**+0.3**
OHR	**Ohrid**	**1.45**	**356**	*i* Pn	**Pn**	**03 08 10.3**	**+0.2**
OHR				*e*Sg	**Sg**	**03 08 31.7**	**+0.8**
VLS	**Valsamata**	**1.51**	**190**	*e*PN	**Pn**	**03 08 11.4**	**+0.5**
RLS	**Riolos of Patr**	**1.66**	**165**	*e*PN	**Pn**	**03 08 14.0**	**+1.0**
GRG	**Griva**	**1.71**	**41**	*e*Pb	**Pb**	**03 08 14.0**	**-1.6**
XOR	**Xorichti**	**1.78**	**99**	*e*Pb	**Pb**	**03 08 14.6**	**-2.1**
NEO	**Neokhori**	**1.81**	**101**	*e*PN	**Pn**	**03 08 16.2**	**+1.1**
LKR	**Lokris**	**1.90**	**121**	*e*PN	**Pn**	**03 08 17.6**	**+1.2**
PLG	**Polygyros**	**2.06**	**69**	*e*PN	**Pn**	**03 08 19.3**	**+0.8**
VAY	**Valandovo**	**2.08**	**37**	*e*Pn	**Pn**	**03 08 19.2**	**+0.5**
KNT	**Kendrikon**	**2.12**	**45**	*e*Pn	**Pn**	**03 08 19.6**	**+0.2**
PAIG	**Paliouri**	**2.14**	**82**	*e*Pn	**Pn**	**03 08 19.6**	**0.0**
PAIG				*e*Sn	**Sn**	**03 08 47.7**	**+1.7**
SOH	**Sokhos**	**2.19**	**57**	*e*Sn	**Sn**	**03 08 48.7**	**+1.5**
STIP	**Stip**	**2.24**	**25**	*i* Pn	**Pn**	**03 08 21.9**	**+0.9**
SRS	**Serrai**	**2.50**	**54**	*e*Pn	**Pn**	**03 08 24.7**	**+0.1**
SRS				*e*Sn	**Sn**	**03 08 56.7**	**+1.8**
LOS	**Limnos**	**3.21**	**84**	*e*Pn	**Pn**	**03 08 34.6**	**+0.3**

IDC 27 03:19:09.3±66.0, 1773S×17851E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/13, mbtmp4.2/3, Error ellipse: s-maj=1181.0km s-min=138.7km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.16**	**240**	P	P	03 26 13.6	+0.3
	1.6nm,0.4s,baz=80,slow=8.7,SNR=9.2						
WRA	**Warramunga Arr**	**41.77**	**260**	P	P	03 27 00.5	+0.2
	0.4nm,0.3s,baz=95,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**42.01**	**254**	P	P	03 27 02.6	+0.4
	4.1nm,0.4s,baz=88,slow=8.0,SNR=64						

ISCJB ***27*** *03:38:05.7±0.4, 66.27N±0.03×141.84W±0.08, h10km, mb3.7/3, MS4.7/1, Error ellipse: s-maj=4.7km s-min=4.2km az=78.1*
NEIC ***27*** *03:38:07.7, 66.29N×142.24W, h10km, ML3.5(AEIC), After AEIC.*
IDC ***27*** *03:38:07.7±1.0, 66.38N×142.16W, h0km, mb3.8/3, mb1 4.1/7, mb1mx3.6/22, mbtmp3.7/7, ML3.5/4, MS3.8/2, Ms1 4.0/2, ms1mx3.1/32, Error ellipse: s-maj=15.0km s-min=10.2km az=164.0*
PGC ***27*** *03:38:09.4, 66.26N×141.95W, h1km, ML3.6/2, 271km northwest of Dawson, Yt Eastern Alaska.*

ISC 27 03:38:07.5±0.4, 66.31N±0.03×142.01W±0.07, h10km, n37, σ1§45/55, mb3.7/3, MS4.7/1, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.52**	**319**	P	**Pn**	**03 38 34.0**	**-0.7**
BM3				S	**Sn**	**03 38 55.6**	**+1.0**
DAWY	**Dawson**	**2.50**	**153**	Pn	**Pn**	**03 38 49.1**	**+0.8**
DAWY				Sn	**Sn**	**03 39 20.7**	**+1.8**
DAWY				Sg	**Sg**	**03 39 25.4**	**-2.6**
DAWY				Trac		03 39 31.4	
	comp=Z,127nm,0.3s						
DAWY	**Dawson**	**2.50**	**153**	P	**Pn**	**03 38 48.9**	**+0.6**
IL1	**Eielson Array**	**2.55**	**235**	P	**Pn**	**03 38 48.0**	**-0.9**
ILAR	**Eielson Array**	**2.55**	**235**	Pn	**Pn**	**03 38 48.0**	**-0.9**
	2.2nm,0.3s,baz=45,slow=13,SNR=251						
ILAR				Pg	**Pg**	**03 38 54.0**	**-2.4**
	7.4nm,0.3s,baz=44,slow=16,SNR=72						
ILAR				Lg		03 39 23.4	
	44nm,0.3s,baz=49,slow=30,SNR=23						
DOT	**Dot Lake**	**2.81**	**199**	P	**Pn**	**03 38 52.6**	**+0.1**
COLA	**College**	**2.82**	**242**	P	**Pn**	**03 38 52.4**	**-0.2**
COLD	**Coldfoot**	**3.38**	**290**	P	**Pn**	**03 39 00.7**	**+0.3**
MENT	**Mentasta**	**3.46**	**193**	*e*P	**Pn**	**03 39 02.8**	**+1.4**
PAX	**Paxson**	**3.66**	**206**	P	**Pn**	**03 39 05.7**	**+1.5**
INK	**Inuvik**	**3.85**	**55**	Pn	**Pn**	**03 39 08.5**	**+1.7**
	1.3nm,0.3s,baz=239,slow=17,SNR=70						
INK				Pg	**Pg**	**03 39 20.1**	**-1.3**
	4.1nm,0.3s,baz=236,slow=14,SNR=28						
INK				Sn	**Sn**	**03 39 53.6**	**+1.4**
	4.2nm,0.3s,baz=142,slow=24,SNR=12						
INK				Lg		03 40 10.3	
	8.2nm,0.3s,baz=302,slow=27,SNR=5.7						
INK				LR	LR	03 41 18.0	
	comp=Z,226nm,19.1s,baz=218,slow=49						
INK	**Inuvik**	**3.85**	**55**	Pn	**Pn**	**03 39 08.3**	**+1.4**
INK				Sn	**Sn**	**03 39 53.6**	**+1.4**
INK				Sg	**Sg**	**03 40 09.5**	**-1.8**
INK				Trac		03 40 15.6	
	comp=Z,76nm,0.6s						
INK	**Inuvik**	**3.85**	**55**	*e*Pn	**Pn**	**03 39 08.3**	**+1.4**
INK				*e*Sn	**Sn**	**03 39 53.8**	**+1.6**
MCK	**McKinley**	**3.91**	**232**	P	**Pn**	**03 39 07.6**	**

BSO1 *e*S **S** **04 30 48.5 -0.8**
JHU Hanno 3.69 18 P **Pn** **04 29 59.6 +0.7**
JHU *e*S **S** **04 30 51.3 -2.0**
JRY Ryogami san 3.76 12 P **Pn** **04 30 01.3 +1.6**
JRY *e*S **S** **04 30 56.0 +1.3**
MJAR Matsushiro Arr 4.20 3 P **Pn** **04 30 04.3 +0.3**
1.9nm,0.3s,baz=191,slow=7.7,SNR=15
MJAR S **S** **04 31 03.1 +0.5**
0.3nm,0.3s,baz=174,slow=18,SNR=4.7
MAT Matsushiro 4.21 3 P **Pn** **04 30 04.7 +0.7**
MAT S **S** **04 31 01.6 -1.0**
MAT Matsushiro 4.21 3 *e*P **Pn** **04 30 05.0 +1.0**
MAT *e*S **S** **04 31 02.0 -0.6**
JAG Ashikaga 4.27 17 P **Pn** **04 30 04.1 -0.6**
JAG *e*S **S** **04 31 01.1 -2.8**
JHO Hitachi 4.79 26 P **Pn** **04 30 09.7 -0.4**
JHO *e*S **S** **04 31 09.7 -4.0**
SONM Songino Array 28.41 312 P **Pn** **04 34 12.5 -0.8**
0.3nm,0.5s,mb2.8,baz=109,slow=6.2,SNR=4.6
MKAR Makanchi Array 44.34 306 P **P** **04 36 24.8 -1.5**
0.4nm,0.6s,mb2.8,baz=105,slow=7.9,SNR=5.5
WRA Warramunga Arr 52.09 184 P **P** **04 37 23.8 -1.0**
0.1nm,0.4s,mb2.5,baz=360,slow=7.6,SNR=7.8
ILAR Eielson Array 55.00 30 P **P** **04 37 44.7 -0.9**
0.4nm,0.6s,mb2.9,baz=269,slow=5.6,SNR=8.9
YKA Yellowknife Ar 69.31 28 P **P** **04 39 20.0 +0.4**
0.4nm,0.6s,mb3.3,baz=304,slow=6.2,SNR=14
NVAR Mina Array Bea 80.15 51 P **P** **04 40 23.1 +2.0**
0.2nm,0.5s,mb3.1,baz=286,slow=6.5,SNR=3.5

IDC 27 04:30:52.2±31.0, 039N×10143E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=585.5km s-min=230.8km az=146.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.05**	**124**	P	P	04 38 13.7	+1.4
0.8nm,0.4s,baz=304,slow=9.3,SNR=15							
ASAR	**Alice Springs**	**39.58**	**129**	P	P	04 38 23.6	-1.5
0.2nm,0.3s,baz=302,slow=8.3,SNR=4.9							
STKA	**Stephens Creek**	**49.72**	**134**	P	P	04 39 46.7	+0.6
1.3nm,0.4s,baz=316,slow=8.4,SNR=6.8							

*NEIC **27** 05:16:28.2, 38.11N×20.15E, h15km, MD3.6(ATH), After ATH.*
*CSEM **27** 05:16:28.2, 38.11N×20.15E, h15km, MD3.6/4, After ATH*
ATH 27 05:16:28.2, 3811N×2015E, h15km±4km, MD3.6/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.35**	**79**	*e*PB	Pg	05 16 35.7	+0.3
RLS	**Riolos of Patr**	**1.04**	**92**	*e*PN	Pn	05 16 48.2	0.0
RLS				*e*SN	Sn	05 17 02.1	-0.4
EVR	**Evrytania**	**1.53**	**58**	*e*PN	Pn	05 16 57.4	+2.4
EVR				*e*SN	Sn	05 17 18.0	+3.4
KEK	**Kerkira**	**1.62**	**350**	*e*PN	Pn	05 16 58.2	+1.9
JAN	**Janina**	**1.64**	**19**	*e*PN	Pn	05 16 58.7	+2.2

*MOS **27** 05:23:56.8±1.1, 2075S×6947W, h47km, mb5.4/28, Error ellipse: s-maj=16.5km s-min=6.4km az=114.4*
*ISCJB **27** 05:23:57.8±0.2, 2081S±003×6949W±004, h57km, mb5.2/90, MS4.3/13, Error ellipse: s-maj=5.8km s-min=4.0km az=164.3*
*NEIC **27** 05:23:59.7±0.2, 2080S×6947W, mb5.2/79, Error ellipse: s-maj=6.9km s-min=4.1km az=62.0*
NEIC Felt [IV] at Alto Hospicio and Iquique; [III] at Huara, Pica, Pisagua, Pozo Almonte and Tocopilla; [II] at Rio Loa.
*HRVD **27** 05:23:59.7±0.3, 2103S×6981W, h67km±2km, MW5.2/81, Centroid moment Tensor Solution. LP body waves: s56,c78;Mantle waves: s81,c135; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.03±.03; $M_{\theta\theta}$-0.78±.03; $M_{\phi\phi}$0.75±.04; $M_{r\theta}$0.26±.02; $M_{\theta\phi}$0.17±.03; $M_{\phi r}$0.24±.03; Best double couple: $M_0$0.86200×10^{17} NP1:ϕ_s321.00000°, δ66.00000°, λ178.00000°. NP2: ϕ_s52.00000°, δ88.00000°, λ24.00000°. Principal axes: T 0.8600, Plg18.0000°, Azm279.0000°; N 0.0030, Plg66.0000°, Azm56.0000°; P -0.8630, Plg16.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **27** 05:23:59.9, 2080S×6950W, h57km, mB5.2, Ms5.7, Msz5.3*
*IDC **27** 05:23:59.9±0.4, 2078S×6954W, h61km±3km, mb4.6/15, mb1 4.7/18, mb1mx4.7/20, mbtmp4.9/18, MS4.2/14, Ms1 4.2/14, ms1mx4.2/18, Error ellipse: s-maj=15.0km s-min=5.7km az=73.0*
ISC 27 05:23:59.8±0.2, 2085S±003×6953W±004, h59km, h59km±4km: pP-P, n269, σ1s00/232, mb5.2/90, MS4.3/13, 11C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.85**	**162**	P	**Pn**	**05 24 31.3**	**+2.1**
5μm,0.3s,baz=343,slow=9.2							
LVC				S	**Sn**	**05 24 54.3**	**+2.8**
3μm,0.3s,baz=181,slow=20,SNR=33							
LVC				LR	LR	05 25 28.9	
comp=Z,8μm,21.4s,baz=2.2,slow=46							
LVC	**Limon Verde**	**1.85**	**162**	⇓*i*Pn	**Pn**	**05 24 31.1**	**+1.9**
LVC				*e*Sn	**Sn**	**05 24 54.2**	**+2.7**
CEN1	**Los Morros**	**2.61**	**194**	*e*P	**Pn**	**05 24 38.8**	**-0.7**
CEN1				*i* S	**Sn**	**05 25 16.2**	**+6.2**
CEN1				AMP		05 25 22.7	
comp=N,11μm,0.6s							
ANCH	**Antofagasta**	**2.94**	**196**	⇑*i*P	**Pn**	**05 24 38.9**	**-5.1**
ANCH				*i* S	**Sn**	**05 25 18.2**	**+0.1**
CPN1	**Cerro Paranal**	**3.85**	**192**	*e*P	**Pn**	**05 24 53.4**	**-3.1**
CPN1				*i* S	**Sn**	**05 25 45.1**	**+4.6**
LPAZ	**La Paz**	**4.72**	**16**	P	**Pn**	**05 25 13.7**	**+5.1**
comp=N,72nm,0.3s,baz=202,slow=7.3,SNR=922							
LPAZ				S	**Sn**	**05 26 08.0**	**+6.0**
comp=N,13nm,0.3s,baz=174,slow=20,SNR=1.6							
LPAZ	**La Paz**	**4.72**	**16**	⇓*i*P	**Pn**	**05 25 13.6**	**+5.1**
ARE	**Arequipa**	**4.74**	**337**	*e*P	**Pn**	**05 25 08.0**	**-0.8**
ARE				*i*		05 25 09.2	
ARE				*e*		05 25 15.0	
ARE				*e*S	**Sn**	**05 26 00.0**	**-2.4**
CRCH	**Chaqaral**	**5.56**	**190**	*e*P	**Pn**	**05 25 15.8**	**-4.3**
CRCH	**Chaqaral**	**5.56**	**190**	*e*P	**Pn**	**05 25 15.5**	**-4.5**
CPCH	**Copiapo**	**6.53**	**186**	*i* P	**Pn**	**05 25 27.3**	**-5.9**
CPCH	**Copiapo**	**6.53**	**186**	⇑*i*P	**Pn**	**05 25 27.5**	**-5.6**
TLL	**Tololo Astrono**	**9.35**	**187**	*e*P	**Pn**	**05 26 07.2**	**-4.7**
SIV	**San Ignacio**	**9.36**	**60**	P	**Pn**	**05 26 12.7**	**+0.6**
comp=N,31nm,0.3s,baz=254,slow=11,SNR=400							
SIV				S	**Sn**	**05 27 57.5**	**+1.8**
baz=174,slow=19,SNR=2.5							
CFAA	**Coronel Fontan**	**10.78**	**174**	P	**Pn**	**05 26 27.0**	**-4.3**
comp=N,1.3nm,0.3s,baz=344,slow=13,SNR=104							
CFAA				LR	LR	05 30 20.3	
comp=N,107nm,21.2s,baz=341,slow=35							
CFAA	**Coronel Fontan**	**10.78**	**174**	P	**Pn**	**05 26 27.0**	**-4.3**
CFAA				LR	LR	05 30 20.3	
MDZ	**Mendoza**	**12.00**	**177**	*e*P	**Pn**	**05 26 43.0**	**-5.1**
MDZ				*i* S	**Sn**	**05 28 56.4**	**-3.9**
PEL	**Peldehue**	**12.29**	**185**	*e*P	**Pn**	**05 26 44.9**	**-7.1**
CPUP	**Villa Florida**	**12.44**	**118**	P	**Pn**	**05 26 53.8**	**-0.2**
comp=N,1.6nm,0.3s,baz=283,slow=11,SNR=11							
CPUP				LR	LR	05 32 35.6	
comp=N,1μm,18.8s,baz=282,slow=41							
CPUP	**Villa Florida**	**12.44**	**118**	*e*Pn	**Pn**	**05 26 53.6**	**-0.4**
comp=N,78nm,0.6s							
CPUP				*e*		05 30 07.8	
CPUP	**Villa Florida**	**12.44**	**118**	*e*P	**Pn**	**05 26 53.6**	**-0.4**
CPUP				pmax	pmax		
comp=Z,78nm,0.6s							
FCH	**Farellones**	**12.45**	**183**	*e*P	**Pn**	**05 26 49.3**	**-4.8**
CLCH	**Cerro Calan**	**12.53**	**184**	*e*P	**Pn**	**05 26 49.7**	**-5.6**
SAML	**Samuel**	**13.32**	**28**	*e*Pn	**Pn**	**05 27 05.2**	**-0.7**
comp=Z,33nm,0.7s							
SAML				*e*Sn	**Sn**	**05 29 31.0**	**-1.3**
TRQA	**Tornquist**	**18.35**	**161**	*e*P	**Pn**	**05 28 08.1**	**-2.0**
comp=Z,85nm,0.8s							
TRQA				*e*		05 28 28.9	
PLCA	**Paso Flores**	**19.84**	**182**	P	**Pn**	**05 28 25.4**	**-2.4**
comp=Z,2.1nm,0.3s,baz=0.8,slow=12,SNR=76							
PLCA				LR	LR	05 36 09.1	
comp=Z,751nm,20.4s,baz=0.3,slow=37							
PLCA	**Paso Flores**	**19.84**	**182**	*e*P	**Pn**	**05 28 25.4**	**-2.4**
comp=Z,143nm,1.1s							
PLCA	**Paso Flores**	**19.84**	**182**	*e*P	**Pn**	**05 28 25.5**	**-2.3**
PLCA				pmax	pmax		
comp=Z,143nm,1.1s							
BDFB	**Brasilia**	**21.07**	**79**	P	**P**	**05 28 40.0**	**+1.0**
comp=Z,14nm,0.5s,mb4.6,baz=258,slow=11,SNR=30							
OTAV	**Otavalo**	**22.70**	**336**	*e*P	**P**	**05 28 57.5**	**+1.1**
comp=Z,144nm,1.4s,mb5.2							
ROSC	**El Rosal**	**25.98**	**349**	P	**P**	**05 29 28.5**	**+1.6**
comp=Z,14nm,0.5s,mb4.8,baz=99,slow=8.4,SNR=10							
ROSC				pP	pP	05 29 41.6	+0.2
comp=Z,30nm,0.8s,baz=96,slow=6.7,SNR=5.6							
SDV	**Santo Domingo**	**29.57**	**358**	P	**P**	**05 29 58.3**	**-0.7**
comp=Z,7.9nm,0.4s,mb4.8,baz=184,slow=2.3,SNR=39							
SDV				LR	LR	05 42 53.3	
comp=Z,1μm,18.6s,MS4.6,baz=205,slow=38							
SDV	**Santo Domingo**	**29.57**	**358**	*e*P	**P**	**05 29 58.2**	**-0.8**
comp=Z,58nm,1.1s,mb5.2							
EFI	**East Falkland**	**32.05**	**167**	*e*P	**P**	**05 30 20.3**	**-0.5**
comp=Z,125nm,1.0s,mb5.7							
EFI	**East Falkland**	**32.05**	**167**	*e*P	**P**	**05 30 20.3**	**-0.5**
EFI				pmax	pmax		
comp=Z,125nm,1.0s,mb5.7							
USHA	**Ushuaia**	**33.94**	**179**	P	**P**	**05 30 36.5**	**-0.8**
comp=Z,14nm,0.6s,mb5.1,baz=349,slow=6.9,SNR=10.0							
JTS	**JuntasAbangare**	**34.46**	**332**	*e*P	**P**	**05 30 41.5**	**-0.3**
RCBR	**Riachuelo**	**35.85**	**70**	*e*P	**P**	**05 30 54.4**	**+0.7**
comp=Z,12nm,0.6s,mb5.0							
RPN	**Rapa Nui**	**36.79**	**252**	LR	LR	05 42 39.8	
comp=Z,186nm,19.8s,MS3.9,baz=254,slow=30							
CPD	**Cerro la Pandu**	**38.81**	**5**	*e*P	**P**	**05 31 16.6**	**-2.2**
CPD				*e*pP	pP	05 31 31.8	-2.0
SJG	**San Juan**	**38.86**	**5**	P	**P**	**05 31 17.4**	**-1.8**
comp=Z,14nm,0.4s,mb5.1,baz=106,slow=7.8,SNR=12							
SJG	**San Juan**	**38.86**	**5**	*e*P	**P**	**05 31 17.4**	**-1.9**
comp=Z,40nm,0.7s,mb5.2							
SJG				*e*pP	pP	05 31 32.4	-1.8
SJG	**San Juan**	**38.86**	**5**	*e*P	**P**	**05 31 17.4**	**-1.8**
SJG				*e**PP	pP	05 31 32.4	-1.8
SJG				pmax	pmax		
comp=Z,40nm,0.7s							
MTP	**Monte Pirata**	**38.89**	**6**	*e*P	**P**	**05 31 17.4**	**-2.1**
MTP				*e*pP	pP	05 31 32.3	-2.2
MTP				*e*sP	sP	05 31 39.0	-2.5
HLGC	**Holguin**	**41.97**	**351**	*e*P	pP	05 31 57.5	-2.5
SOR	**Soroa**	**45.32**	**342**	*e*P	**P**	**05 32 10.8**	**-1.0**
DWPF	**Disney**	**50.01**	**346**	*e*P	**P**	**05 32 48.2**	**0.0**
comp=Z,82nm,1.2s,mb5.6							
NHSC	**New Hope**	**54.61**	**349**	*e*P	**P**	**05 33 21.7**	**-0.5**
comp=Z,290nm,1.1s,mb6.2							
NHSC				*e*pP	pP	05 33 37.8	-0.1
NHSC				*e*sP	sP	05 33 44.7	+0.1
COW	**Cow Castle Cre**	**54.97**	**349**	P	**P**	**05 33 25.0**	**+0.2**
COW				*e*pP	pP	05 33 40.5	-0.1
JSC	**Jenkinsville**	**55.95**	**348**	*e*P	**P**	**05 33 31.3**	**-0.6**
JSC				*e*pP	pP	05 33 46.9	-0.7
LRAL	**Lakeview Retre**	**56.12**	**342**	*e*P	**P**	**05 33 31.9**	**-1.1**
comp=Z,26nm,1.3s,mb5.1							
LRAL				*e*pP	pP	05 33 47.1	-1.8
LRAL				*e*sP	sP	05 33 54.0	-1.5
HKT	**Hockley**	**56.50**	**333**	*e*P	**P**	**05 33 35.1**	**-0.7**
comp=Z,54nm,1.6s,mb5.3							
HKT				*e*pP	pP	05 33 51.4	-0.1
HKT				*e*sP	sP	05 33 57.9	-0.4
HKT	**Hockley**	**56.50**	**333**	*e*P	**P**	**05 33 35.1**	**-0.7**
HKT				*e**PP	pP	05 33 51.4	-0.2
HKT				pmax	pmax		
comp=Z,54nm,1.6s,mb5.3							
NATX	**Nacogdoches**	**57.59**	**335**	*e*P	**P**	**05 33 44.1**	**+0.6**
comp=Z,57nm,1.0s,mb5.6							
NATX				*e*pP	pP	05 33 59.6	+0.3
NATX				*e*sP	sP	05 34 06.1	+0.1
SWET	**Sewanee**	**57.89**	**344**	*e*P	**P**	**05 33 44.6**	**-1.1**
SWET				*e*pP	pP	05 33 59.9	-1.5
SWET				*e*sP	sP	05 34 07.4	-0.8
OXF	**Oxford**	**58.21**	**341**	*e*P	**P**	**05 33 46.3**	**-1.6**
comp=Z,38nm,1.1s,mb5.3							
OXF				*e*pP	pP	05 34 01.6	-2.1
OXF				*e*sP	sP	05 34 09.6	-0.8
OXF	**Oxford**	**58.21**	**341**	*e*P	**P**	**05 33 46.3**	**-1.6**
OXF				*e**PP	pP	05 34 01.6	-2.1
OXF				*e**SP	sP	05 34 09.6	-0.8
OXF				pmax	pmax		
comp=Z,38nm,1.1s,mb5.3							
PLAL	**Pickwick Lake**	**58.25**	**342**	*e*P	**P**	**05 33 46.4**	**-1.8**
comp=Z,3.1nm,0.8s,mb4.4							
PLAL				*e*pP	pP	05 34 02.2	-1.7
BLA	**Blacksburg**	**58.65**	**350**	*e*P	**P**	**05 33 50.9**	**0.0**
comp=Z,3.5nm,1.2s,mb4.3							
BLA				*e*pP	pP	05 34 06.5	-0.3
BLA				sP	sP	05 34 13.3	-0.2
BLA	**Blacksburg**	**58.65**	**350**	*e*P	**P**	**05 33 50.9**	**0.0**
BLA				*e**PP	pP	05 34 06.5	-0.3
BLA				*SP	sP	05 34 13.3	-0.2
BLA				pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.3							
ELN	**Prospectdale**	**58.72**	**350**	*e*P	**P**	**05 33 51.4**	**0.0**
ELN				*e*pP	pP	05 34 06.8	-0.4
JCT	**Junction City**	**58.75**	**329**	*e*P	**P**	**05 33 51.0**	**-0.7**
comp=Z,19nm,0.8s,mb5.2							
JCT				*e*PcP	PcP	05 34 43.1	+2.3
JCT	**Junction City**	**58.75**	**329**	*e*P	**P**	**05 33 51.0**	**-0.6**
JCT				*e*		05 34 43.1	
JCT				pmax	pmax		
comp=Z,19nm,0.8s,mb5.2							
CBN	**Corbin**	**59.20**	**353**	*e*P	**P**	**05 33 54.3**	**-0.4**
comp=Z,83nm,1.3s,mb5.6							
CBN				*e*pP	pP	05 34 09.7	-0.9
CBN				*e*sP	sP	05 34 17.2	-0.1
WVT	**Waverly**	**59.26**	**343**	*e*P	**P**	**05 33 53.0**	**-2.1**
comp=Z,30nm,1.2s,mb5.2							
WVT				*e*pP	pP	05 34 09.0	-2.0
WVT	**Waverly**	**59.26**	**343**	*e*P	**P**	**05 33 53.1**	**-2.0**
WVT				*e**PP	pP	05 34 09.0	-2.0
WVT				pmax	pmax		
comp=Z,30nm,1.2s,mb5.2							
UALR	**University of**	**59.41**	**338**	*e*P	**P**	**05 33 55.4**	**-0.9**
comp=Z,14nm,1.0s,mb4.9							
UALR				*e*pP	pP	05 34 10.6	-1.5
UALR				*e*sP	sP	05 34 18.8	+0.1
MIAR	**Mount Ida**	**59.65**	**337**	⇑*e*P	**P**	**05 33 56.8**	**-1.0**
MIAR				*e*pP	pP	05 34 12.9	-0.8
MIAR				*e*sP	sP	05 34 19.5	-0.9
MIAR				PP	PP	05 36 09.5	-0.4
MIAR	**Mount Ida**	**59.65**	**337**	⇑*e*P	**P**	**05 33 56.8**	**-1.0**
MIAR				*e**PP	pP	05 34 12.9	-0.8
MIAR						05 36 09.5	
UTMT	**University of**	**59.75**	**342**	P	**P**	**05 33 57.0**	**-1.5**
comp=Z,144nm,1.2s,mb5.9							
UTMT				*e*pP	pP	05 34 13.2	-1.2
UTMT				*e*sP	sP	05 34 19.9	-1.2
LTX	**Lajitas**	**59.77**	**325**	*e*P	**P**	**05 33 58.6**	**0.0**
PVMO	**Portageville**	**60.06**	**341**	*e*P	**P**	**05 34 00.3**	**-0.4**
PVMO				*e*pP	pP	05 34 15.9	-0.6
PVMO				*e*sP	sP	05 34 23.6	+0.4
RKT	**Rikitea**	**60.27**	**255**	*e*LR	LR	05 51 45.8	
comp=Z,467nm,30.8s							
MVL	**Millersville**	**60.86**	**354**	*e*P	**P**	**05 34 06.1**	**-0.1**
MVL				*e*pP	pP	05 34 21.5	-0.6
MVL				*e*sP	sP	05 34 28.6	-0.1
VNA3	**Neumayer Olymp**	**60.88**	**161**	*e*P	**P**	**05 34 06.3**	**+0.1**
VNA3				*e*	pP	05 34 22.0	-0.1
VNA3				*e*		05 34 32.4	
VNA3				*e*		05 34 49.4	
MCWV	**Mont Chateau**	**60.96**	**351**	*e*P	**P**	**05 34 06.4**	**-0.4**
comp=Z,34nm,0.8s,mb5.5							
MCWV				*e*pP	pP	05 34 22.1	-0.6
VNA1	**Neumayer--Stat**	**61.09**	**160**	*e*P	**P**	**05 34 08.1**	**+0.4**
VNA1				*e*	pP	05 34 23.0	-0.6
VNA1				*e*		05 34 28.8	
SIUC	**Southern Illin**	**61.13**	**342**	*e*P	**P**	**05 34 06.7**	**-1.2**
comp=Z,19nm,0.7s,mb5.3							
SIUC				*e*pP	pP	05 34 22.5	-1.3
SIUC				*e*sP	sP	05 34 29.8	-0.7
VNA2	**Neumayer--Watz**	**61.45**	**161**	*e*P	**P**	**05 34 10.0**	**-0.1**
VNA2				*e*	pP	05 34 24.5	-1.6
VNA2				*e*		05 34 32.6	
VNA2				*e*		05 34 37.4	
VNA2				*e*		05 34 50.9	
FVM	**French Village**	**61.73**	**341**	*e*P	**P**	**05 34 10.7**	**-1.3**
comp=Z,49nm,1.0s,mb5.6							
FVM				*e*pP	pP	05 34 26.5	-1.4
FVM				*e*sP	sP	05 34 34.8	+0.2
FVM	**French Village**	**61.73**	**341**	*e*P	**P**	**05 34 10.7**	**-1.3**
FVM				*e**PP	pP	05 34 26.5	-1.4
FVM				pmax	pmax		
comp=Z,49nm,1.0s,mb5.6							
BLO	**Bloomington**	**61.79**	**345**	*e*P	**P**	**05 34 10.1**	**-2.3**
comp=Z,9.0nm,0.6s,mb5.1							
BLO	**Bloomington**	**61.79**	**345**	*e*P	**P**	**05 34 10.1**	**-2.3**
BLO				pmax	pmax		
comp=Z,9.0nm,0.6s,mb5.1							
WMOK	**Wichita Mounta**	**61.88**	**333**	*e*P	**P**	**05 34 11.8**	**-1.2**
comp=Z,4.7nm,0.8s,mb4.7							
WMOK				*e*pP	pP	05 34 27.0	-1.9
WMOK				*e*sP	sP	05 34 35.3	-0.3
WMOK	**Wichita Mounta**	**61.88**	**333**	*e*P	**P**	**05 34 11.8**	**-1.2**
WMOK				*e**PP	pP	05 34 27.0	-1.9
WMOK				*e**SP	sP	05 34 35.3	-0.3
WMOK				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.7							
ACSO	**Alum Creek Sta**	**62.04**	**348**	*e*P	**P**	**05 34 12.8**	**-1.3**
comp=Z,39nm,1.1s,mb5.5							
ACSO				*e*pP	pP	05 34 28.6	-1.4
ACSO				sP	sP	05 34 35.7	-1.0
MNTX	**Cornudas Mount**	**62.54**	**326**	*e*P	**P**	**05 34 16.4**	**-1.0**
comp=Z,19nm,0.8s,mb5.3							
MNTX				*e*pP	pP	05 34 34.6	+1.3
MNTX				*e*sP	sP	05 34 39.6	-0.4
BINY	**Binghamton**	**63.01**	**355**	*e*P	**P**	**05 34 20.9**	**+0.3**
comp=Z,92nm,1.2s,mb5.8							
BINY				*e*pP	pP	05 34 35.9	-0.7
BINY				*e*sP	sP	05 34 43.1	-0.1
HRV	**Harvard--Oak R**	**63.06**	**358**	*e*P	**P**	**05 34 20.8**	**0.0**
comp=Z,40nm,1.1s,mb5.5							
HRV				*e*pP	pP	05 34 36.9	0.0
HRV				*e*sP	sP	05 34 43.4	-0.2
HRV	**Harvard--Oak R**	**63.06**	**358**	*e*P	**P**	**05 34 20.8**	**-0.1**
HRV				*e**PP	pP	05 34 36.9	0.0
HRV				pmax	pmax		
comp=Z,40nm,1.1s,mb5.5							
SNAA	**Sanae**	**63.08**	**161**	*e*P	**P**	**05 34 20.8**	**-0.2**
SNAA				*e*	pP	05 34 36.8	-0.2
SNAA				*e*		05 34 43.1	
SNAA	**Sanae**	**63.08**	**161**	*e*P	**P**	**05 34 20.5**	**-0.5**
comp=Z,51nm,1.3s,mb5.5							
SNAA				*e*pP	pP	05 34 37.0	0.0
SNAA				*e*sP	sP	05 34 43.4	-0.2
SNAA	**Sanae**	**63.08**	**161**	*e*P	**P**	**05 34 20.5**	**-0.5**
SNAA				*e**PP	pP	05 34 37.0	0.0
SNAA				pmax	pmax		
comp=Z,51nm,1.3s							
ERPA	**Erie**	**63.39**	**351**	*e*P	**P**	**05 34 23.0**	**-0.1**
comp=Z,58nm,0.9s,mb5.7							
ERPA				*e*pP	pP	05 34 38.7	-0.4
ERPA				*e*sP	sP	05 34 45.4	-0.4
NCB	**Newcomb**	**64.64**	**356**	*e*P	**P**	**05 34 31.3**	**+0.1**
comp=Z,49nm,1.5s,mb5.3							
NCB				*e*pP	pP	05 34 46.7	-0.6
NCB				*e*sP	sP	05 34 54.1	+0.1
MIV	**Mineville/With**	**64.70**	**357**	P	**P**	**05 34 31.6**	**0.0**
MIV				*e*pP	pP	05 34 47.1	-0.6
MIV				*e*sP	sP	05 34 54.1	-0.2
LONY	**Lake Ozonia**	**65.31**	**356**	*e*P	**P**	**05 34 35.5**	**0.0**
LONY				*e*pP	pP	05 34 50.9	-0.8
LONY				*e*sP	sP	05 34 58.5	+0.2
ANMO	**Albuquerque**	**65.64**	**327**	P	**P**	**05 34 38.3**	**+0.5**
comp=Z,6.6nm,0.7s,mb4.8,baz=137,slow=7.1,SNR=31							
ANMO	**Albuquerque**	**65.64**	**327**	*e*P	**P**	**05 34 38.0**	**+0.3**
comp=Z,15nm,1.1s,mb4.9							
ANMO				*e*pP	pP	05 34 54.2	+0.4
ANMO				*e*sP	sP	05 35 00.8	+0.3
ANMO	**Albuquerque**	**65.64**	**327**	*e*P	**P**	**05 34 38.0**	**+0.2**
ANMO				*e**PP	pP	05 34 54.3	+0.4
ANMO				pmax	pmax		
comp=Z,15nm,1.1s							
CBKS	**Cedar Bluff**	**65.76**	**334**	*e*P	**P**	**05 34 38.1**	**-0.3**
comp=Z,98nm,1.1s,mb5.8							
CBKS				*e*pP	pP	05 34 54.0	-0.6
CBKS				*e*sP	sP	05 35 00.7	-0.5
CBKS	**Cedar Bluff**	**65.76**	**334**	*e*P	**P**	**05 34 38.1**	**-0.4**
CBKS				*e**PP	pP	05 34 54.0	-0.6
CBKS				*e**SP	sP	05 35 00.7	-0.5
CBKS				pmax	pmax		
comp=Z,98nm,1.1s,mb5.8							
TUC	**Tucson**	**65.97**	**322**	*e*P	**P**	**05 34 40.6**	**+0.7**
comp=Z,38nm,1.5s,mb5.2							
TUC				*e*pP	pP	05 34 54.5	-1.4
TUC				*e*sP	sP	05 35 03.4	+0.8
TUC	**Tucson**	**65.97**	**322**	*e*P	**P**	**05 34 40.6**	**+0.8**
TUC				*e**PP	pP	05 34 54.5	-1.5
TUC				*e**SP	sP	05 35 03.4	+0.8
TUC				pmax	pmax		
comp=Z,38nm,1.5s,mb5.2							
NVL	**N'lazarevskaya**	**67.64**	**159**	*c i*P	**P**	**05 34 51.1**	**+0.6**
NVL				*e*		05 35 17.2	
NVL				pmax	pmax		
comp=Z,57nm,1.4s,mb5.4							
WUAZ	**Wupatki**	**68.67**	**324**	*e*P	**P**	**05 34 57.9**	**+1.0**
comp=Z,50nm,1.1s,mb5.4							
WUAZ				*e*pP	pP	05 35 12.3	-0.8
WUAZ				*e*sP	sP	05 35 19.9	+0.2
ISCO	**Idaho Springs**	**69.10**	**331**	*e*P	**P**	**05 35 00.1**	**+0.5**
comp=Z,30nm,1.3s,mb5.1							
ISCO				*e*pP	pP	05 35 15.7	-0.1
ISCO	

MVU Marysvale 71.33 326 *eP* **P 05 35 22.5 +9.3**
comp=Z,34nm,0.9s,mb5.3
MVU *epP* pP 05 35 38.3 +8.8
MVU *esP* sP 05 35 45.3 +9.2
TMUT Trail Mountain 71.41 327 *eP* **P 05 35 14.4 +0.8**
TMUT *epP* pP 05 35 30.6 +0.6
TMUT *esP* sP 05 35 38.1 +1.6
ARUT Antelope Range 71.46 325 *eP* **P 05 35 15.6 +1.6**
ARUT *epP* pP 05 35 31.8 +1.5
ARUT *esP* sP 05 35 38.2 +1.3
MWC Mount Wilson 71.63 319 *eP* **P 05 35 16.0 +1.0**
MWC *epP* pP 05 35 33.3 +1.9
MWC *esP* sP 05 35 38.9 +1.0
RSSD Black Hills 71.96 335 *eP* **P 05 35 17.3 +0.3**
comp=Z,5.0nm,0.6s,mb4.6
RSSD *epP* pP 05 35 31.0 -2.3
RSSD *esP* sP 05 35 40.1 +0.2
RSSD Black Hills 71.96 335 *eP* **P 05 35 17.3 +0.3**
RSSD *e*PP* pP 05 35 31.0 -2.3
RSSD *e*SP* sP 05 35 40.1 +0.2
RSSD pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MPU Maple Canyon 72.16 327 *eP* **P 05 35 19.1 +0.9**
comp=Z,46nm,1.2s,mb5.3
MPU *epP* pP 05 35 35.3 +0.8
MPU *esP* sP 05 35 41.9 +0.8
DAU Daniels Canyon 72.27 328 *eP* **P 05 35 20.0 +1.1**
DAU *epP* pP 05 35 35.3 +0.1
DAU *esP* sP 05 35 42.2 +0.4
NLU North Lily Min 72.34 327 *eP* **P 05 35 16.7 -2.5**
NLU *epP* pP 05 35 32.4 -3.2
NLU *esP* sP 05 35 39.6 -2.6
TPNV Topopah Spring 72.43 322 *eP* **P 05 35 21.0 +1.2**
comp=Z,28nm,1.0s,mb5.2
TPNV *epP* pP 05 35 36.7 +0.6
TPNV *esP* sP 05 35 42.5 -0.2
TPNV Topopah Spring 72.43 322 *eP* **P 05 35 21.0 +1.2**
TPNV *e*PP* pP 05 35 36.7 +0.6
TPNV *e*SP* sP 05 35 42.5 -0.2
TPNV pmax pmax
comp=Z,28nm,1.0s,mb5.2
DAC Darwin (Calif) 72.74 321 *eP* **P 05 35 22.7 +1.1**
comp=Z,29nm,1.1s,mb5.1
DAC *epP* pP 05 35 39.2 +1.2
DAC *esP* sP 05 35 45.5 +0.9
DAC Darwin (Calif) 72.74 321 *eP* **P 05 35 22.7 +1.0**
DAC *e*PP* pP 05 35 39.2 +1.2
DAC *e*SP* sP 05 35 45.5 +0.9
DAC pmax pmax
comp=Z,29nm,1.1s,mb5.1
ISA Isabella 72.85 320 *eP* **P 05 35 23.5 +1.1**
comp=Z,49nm,1.1s,mb5.3
ISA *epP* pP 05 35 39.4 +0.8
ISA *esP* sP 05 35 45.6 +0.3
ISA Isabella 72.85 320 *eP* **P 05 35 23.5 +1.2**
ISA *e*PP* pP 05 35 39.4 +0.8
ISA *e*SP* sP 05 35 45.6 +0.4
ISA pmax pmax
comp=Z,49nm,1.1s,mb5.3
TCUT Toone Canyon 72.88 328 *eP* **P 05 35 22.5 0.0**
DUG Dugway 72.90 327 *eP* **P 05 35 23.4 +0.9**
comp=Z,30nm,1.1s,mb5.1
DUG *epP* pP 05 35 39.3 +0.4
DUG *esP* sP 05 35 46.5 +1.0
DUG Dugway 72.90 327 *eP* **P 05 35 23.4 +0.8**
DUG *e*PP* pP 05 35 39.3 +0.4
DUG *e*SP* sP 05 35 46.6 +1.1
DUG pmax pmax
comp=Z,30nm,1.1s,mb5.1
TBI Tubuai 73.16 251 *e*LR LR 05 57 44.4
comp=Z,173nm,27.8s
PDAR Pinedale Array 73.26 330 P **P 05 35 24.6 -0.1**
comp=Z,3.2nm,0.5s,mb4.5,baz=134,slow=7.3,SNR=39
PDAR sP sP 05 35 48.0 +0.4
comp=Z,2.4nm,0.6s,baz=142,slow=8.9,SNR=4.5
PDAR LR LR 06 08 35.7
comp=Z,178nm,18.1s,MS4.4,baz=137,slow=37
HWUT Hardware Ranch 73.33 328 *eP* **P 05 35 25.2 +0.1**
SPUT South Promonto 73.54 328 *eP* **P 05 35 26.7 +0.3**
BGU Big Grassy Mou 73.55 327 *eP* **P 05 35 31.7 +5.3**
BGU *epP* pP 05 35 48.2 +5.4
BGU *esP* sP 05 35 56.0 +6.7
AHID Auburn Hatcher 73.98 329 *eP* **P 05 35 29.0 0.0**
comp=Z,35nm,0.9s,mb5.3
MTUM Tungsten Hills 74.05 321 *eP* **P 05 35 30.6 +1.3**
MTUM *epP* pP 05 35 47.0 +1.3
MTUM *esP* sP 05 35 53.5 +1.3
HVU Hansel Valley 74.06 328 *eP* **P 05 35 29.5 +0.1**
comp=Z,28nm,1.1s,mb5.1
HVU *epP* pP 05 35 45.9 +0.2
HVU *esP* sP 05 35 52.7 +0.3
HVU Hansel Valley 74.06 328 *eP* **P 05 35 29.5 +0.1**
HVU *e*PP* pP 05 35 45.9 +0.1
HVU *e*SP* sP 05 35 52.7 +0.4
HVU pmax pmax
comp=Z,28nm,1.1s,mb5.1
REDW Red Top Meadow 74.32 330 *eP* **P 05 35 31.4 +0.4**
comp=Z,37nm,1.1s,mb5.2
REDW *epP* pP 05 35 48.0 +0.6
REDW *esP* sP 05 35 54.3 +0.4
SNOW Snow King Moun 74.35 330 *eP* **P 05 35 31.5 +0.4**
comp=Z,24nm,0.8s,mb5.2
LOHW Long Hollow 74.40 330 *eP* **P 05 35 31.8 +0.4**
comp=Z,28nm,1.0s,mb5.2
LOHW pP pP 05 35 48.1 +0.3
LOHW *esP* sP 05 35 54.6 +0.3
TPAW Teton Pass 74.47 330 *eP* **P 05 35 32.5 +0.7**
comp=Z,49nm,1.3s,mb5.3
TPAW *epP* pP 05 35 49.6 +1.5
TPAW *esP* sP 05 35 55.6 +0.9
ULM Lac du Bonnet 74.52 343 P **P 05 35 30.8 -1.4**
comp=Z,4.9nm,0.5s,mb4.7,baz=146,slow=6.1,SNR=21
ULM LR LR 06 09 11.4
comp=Z,165nm,18.9s,MS4.3,baz=201,slow=36
MNV Mina 74.54 322 *eP* **P 05 35 33.1 +0.8**
comp=Z,35nm,1.4s,mb5.1
MNV *epP* pP 05 35 49.2 +0.6
MNV *esP* sP 05 35 55.7 +0.5
MNV Mina 74.54 322 *eP* **P 05 35 33.1 +0.9**
MNV *e*PP* pP 05 35 49.2 +0.6
MNV *e*SP* sP 05 35 55.7 +0.5
MNV pmax pmax
comp=Z,35nm,1.4s,mb5.1
ELK Elko 74.56 326 *eP* **P 05 35 32.6 +0.3**
comp=Z,25nm,1.4s,mb5.0
ELK *epP* pP 05 35 49.3 +0.6
ELK *esP* sP 05 35 56.8 +1.5
ELK Elko 74.56 326 *eP* **P 05 35 32.6 +0.3**
ELK *e*PP* pP 05 35 49.3 +0.6
ELK pmax pmax
comp=Z,25nm,1.4s
NVAR Mina Array Bea 74.63 322 P **P 05 35 33.4 +0.7**
comp=Z,10nm,0.8s,mb4.8,baz=141,slow=7.5,SNR=48
NVAR pP pP 05 35 49.5 +0.4
comp=Z,10nm,1.0s,baz=131,slow=6.9,SNR=8.1
NVAR sP sP 05 35 56.5 +0.9
comp=Z,7.0nm,0.9s,baz=137,slow=7.7,SNR=4.6
NVAR LR LR 06 06 10.5
comp=Z,81nm,20.0s,MS4.0,baz=105,slow=34
NVAR Mina Array Bea 74.63 322 P **P 05 35 33.4 +0.7**
NVAR pP pP 05 35 49.5 +0.4
NVAR sP sP 05 35 56.5 +0.9
NVAR LR LR 06 06 10.5
IMW Indian Meadow 74.77 330 *eP* **P 05 35 34.2 +0.7**
comp=Z,47nm,1.1s,mb5.3
IMW *epP* pP 05 35 50.7 +0.7
IMW *esP* sP 05 35 57.1 +0.6
FLWY Flagg Ranch 74.81 331 *eP* **P 05 35 34.7 +0.9**
comp=Z,59nm,0.8s,mb5.6
FLWY *epP* pP 05 35 48.4 -1.8
FLWY *esP* sP 05 35 57.6 +0.9
PPT Papeete 74.91 257 *e*LR LR 05 58 32.7
comp=Z,232nm,27.8s
PPT Papeete 74.91 257 LR LR 05 58 28.5
comp=Z,106nm,21.1s,MS4.1,baz=114,slow=28
LAO LASA Array 74.95 335 *eP* **P 05 35 34.0 -0.6**
comp=Z,46nm,1.1s,mb5.3
LAO *e*PcP PcP 05 35 46.1 -2.0
LAO *epP* pP 05 35 50.8 -0.2
LAO *esP* sP 05 35 57.5 -0.1
LKWY Lake 75.04 331 *eP* **P 05 35 36.7 +1.6**
comp=Z,27nm,0.9s,mb5.2
LKWY *esP* sP 05 35 59.0 +1.0
LKWY Lake 75.04 331 *eP* **P 05 35 36.7 +1.6**
LKWY *e*SP* sP 05 35 59.0 +0.9
LKWY pmax pmax
comp=Z,27nm,0.9s,mb5.2
YFT Old Faithful 75.15 331 *eP* **P 05 35 37.5 +1.8**
YMR Madison River 75.38 331 *eP* **P 05 35 38.4 +1.4**
comp=Z,59nm,1.2s,mb5.4
YMR *epP* pP 05 35 53.8 +0.3
YMR *esP* sP 05 36 01.2 +1.2
SCHQ Schefferville 75.40 2 P **P 05 35 36.6 -0.6**
comp=Z,4.9nm,0.6s,mb4.7,baz=202,slow=6.0,SNR=20
SCHQ pP pP 05 35 52.6 -1.0
comp=Z,16nm,1.0s,baz=162,slow=3.7,SNR=11
SCHQ LR LR 06 10 49.0
comp=Z,201nm,21.2s,MS4.4,baz=256,slow=37
CMB Columbia Colle 75.58 321 *eP* **P 05 35 38.2 0.0**
comp=Z,37nm,1.6s,mb5.1
CMB *epP* pP 05 35 55.0 +0.4
CMB *esP* sP 05 36 02.4 +1.2
CMB Columbia Colle 75.58 321 *eP* **P 05 35 38.2 0.0**
CMB *e*PP* pP 05 35 55.0 +0.4
CMB pmax pmax
comp=Z,37nm,1.6s,mb5.1
DGMT Dagmar 75.65 337⇑ *eP* **P 05 35 38.8 +0.2**
comp=Z,8.8nm,0.5s,mb5.0
GCMT Greycliff 75.67 332 *eP* **P 05 35 39.1 +0.4**
GCMT *epP* pP 05 35 55.0 -0.2
GCMT *esP* sP 05 36 01.9 +0.2
QLMT Earthquake Lak 75.71 331 *eP* **P 05 35 40.1 +1.2**
QLMT *epP* pP 05 35 55.9 +0.5
QLMT *esP* sP 05 36 03.0 +1.1
PAHR Pah Rah Range 76.11 323 *eP* **P 05 35 42.5 +1.3**
comp=Z,45nm,0.8s,mb5.5
PAHR *epP* pP 05 35 58.1 +0.5
PAHR *esP* sP 05 36 02.8 -1.4
HLID Hailey 76.19 328 *eP* **P 05 35 42.6 +0.9**
HLID *epP* pP 05 35 58.4 +0.3
HLID *esP* sP 05 36 05.5 +0.9
MCMT McKenzie Canyo 76.37 330 *eP* **P 05 35 43.7 +1.0**
MCMT *epP* pP 05 35 59.8 +0.7
MCMT *esP* sP 05 36 06.2 +0.5
DLMT Dillon 76.66 330 *eP* **P 05 35 45.0 +0.7**
comp=Z,26nm,1.1s,mb5.1
DLMT *epP* pP 05 36 01.5 +0.8
DLMT *esP* sP 05 36 07.9 +0.6
OHCM Honcut 77.08 321 *eP* **P 05 35 47.4 +0.7**
OHCM *epP* pP 05 36 03.7 +0.5
OHCM *esP* sP 05 36 10.7 +1.1
SYO Syowa Base 77.31 160⇑ *eP* **P 05 35 45.7 -2.3**
SYO Syowa Base 77.31 160⇑ *esP* sP 05 36 10.9 -0.1
HRY Holter Researc 77.33 332 *eP* **P 05 35 48.6 +0.5**
HRY *epP* pP 05 36 04.9 +0.3
HRY *esP* sP 05 36 11.6 +0.4
VNDA Vanda 77.39 190 P **P 05 35 48.8 +0.4**
comp=Z,2.5nm,1.0s,mb4.1,baz=128,slow=5.8,SNR=3.8
VNDA LR LR 06 05 54.1
comp=Z,148nm,19.6s,MS4.3,baz=140,slow=32
VNDA Vanda 77.39 190 *eP* **P 05 35 49.0 +0.6**
comp=Z,2.7nm,0.8s,mb4.2
VNDA *epP* pP 05 36 05.6 +0.7
VNDA Vanda 77.39 190 *eP* **P 05 35 49.0 +0.6**
VNDA *e*PP* pP 05 36 05.6 +0.7
VNDA pmax pmax
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 77.68 71 P **P 05 35 50.3 +0.2**
comp=Z,4.9nm,0.4s,mb4.8,baz=254,slow=5.4,SNR=135
MOD Modoc 78.11 324 *eP* **P 05 35 52.4 0.0**
comp=Z,68nm,1.7s,mb5.3
MOD *e*PcP PcP 05 36 00.2 -1.6
MOD *epP* pP 05 36 08.9 0.0
MOD *esP* sP 05 36 15.1 -0.4
CHMT Chamberlain Mo 78.12 331 *eP* **P 05 35 52.9 +0.4**
CHMT *epP* pP 05 36 08.6 -0.4
CHMT *esP* sP 05 36 16.1 +0.5
WDC Whiskeytown Da 78.50 322 *eP* **P 05 35 53.4 -1.2**
comp=Z,19nm,1.1s,mb5.0
WDC *e*PcP PcP 05 36 01.9 -1.7
WDC *epP* pP 05 36 09.5 -1.6
WDC *esP* sP 05 36 16.8 -0.9
WDC Whiskeytown Da 78.50 322 *eP* **P 05 35 53.4 -1.2**
WDC *e* PcP 05 36 01.9 -1.6
WDC *e*PP* pP 05 36 09.5 -1.6
WDC *e*SP* sP 05 36 16.8 -0.8
WDC pmax pmax
comp=Z,19nm,1.1s,mb4.9
BMO Blue Mountains 78.56 327 *eP* **P 05 35 55.0 +0.1**
BMO *epP* pP 05 36 09.1 -2.3
BMO *esP* sP 05 36 17.0 -1.0
LHEM Herd Peak 79.00 323 ⇑P **P 05 35 57.8 +0.5**
SUR Sutherland 79.40 121 P **P 05 36 00.4 +0.9**
comp=Z,5.7nm,0.7s,mb4.6
WALA Waterton Lakes 80.03 332 *eP* **P 05 36 02.8 -0.1**
comp=Z,22nm,1.0s,mb5.0
WALA *epP* pP 05 36 19.5 +0.1
WALA *esP* sP 05 36 26.2 +0.2
HUMO Hull Mountain 80.05 323 *eP* **P 05 36 02.7 -0.3**
comp=Z,17nm,1.4s,mb4.8
HUMO *e*PcP PcP 05 36 08.0 -2.3
FFC Flin Flon 80.23 342 P **P 05 36 03.7 -0.3**
comp=Z,58nm,1.3s,mb5.3,SNR=5.7
FRIS Frissel Point 80.62 325 P **P 05 36 06.4 +0.3**
H2OWA Water 80.70 328 P **P 05 36 07.1 +0.6**
HAWA Hanford 80.75 328 *eP* **P 05 36 07.0 +0.3**
comp=Z,2.5nm,1.1s,mb4.1
HAWA *epP* pP 05 36 23.1 -0.2
HAWA *esP* sP 05 36 30.5 +0.6
TSUM Tsumeb 80.78 107 *eP* **P 05 36 08.4 +1.4**
comp=Z,42nm,1.1s,mb5.3
TSUM *epP* pP 05 36 24.9 +1.4
TSUM *esP* sP 05 36 31.6 +1.5
GBL Gable Mountain 80.86 328 P **P 05 36 07.7 +0.3**
SNIWA Snively Ranch 80.86 327 P **P 05 36 08.1 +0.7**
NEW Newport 80.90 330 *eP* **P 05 36 06.9 -0.7**
comp=Z,9.7nm,1.1s,mb4.7
NEW *epP* pP 05 36 23.4 -0.8
NEW Newport 80.90 330 *eP* **P 05 36 06.9 -0.7**
NEW *e*PP* pP 05 36 23.4 -0.7
NEW pmax pmax
comp=Z,10.0nm,1.1s
VFP Flag Point 81.02 326 P **P 05 36 08.8 +0.6**
WAH2 Wahluke Slope 81.02 328 P **P 05 36 08.5 +0.3**
OD2 Odessa Site #2 81.04 329 P **P 05 36 08.6 +0.3**
MPOR Mary's Peak 81.60 324 P **P 05 36 12.6 +1.2**
TBM Table Mountain 81.82 328 P **P 05 36 13.1 +0.6**
WTV Waterville 81.86 328 P **P 05 36 12.9 +0.2**
FCC Fort Churchill 81.87 347 *eP* **P 05 36 11.8 -1.0**
comp=Z,20nm,0.9s,mb5.0
FCC *epP* pP 05 36 27.4 -1.9
FCC *esP* sP 05 36 33.9 -2.0
FCC Fort Churchill 81.87 347 *eP* **P 05 36 11.8 -0.9**
FCC *e*PP* pP 05 36 27.4 -1.9
FCC *e*SP* sP 05 36 33.9 -1.9
FCC pmax pmax
comp=Z,20nm,0.9s,mb5.0
ETW Entiat 81.98 328 P **P 05 36 13.7 +0.4**
EDM Edmonton 82.93 335 *eP* **P 05 36 16.7 -1.5**
EDM *epP* pP 05 36 33.2 -1.6
EDM *esP* sP 05 36 40.2 -1.2
EDM Edmonton 82.93 335 *eP* **P 05 36 16.7 -1.5**
EDM *e*PP* pP 05 36 33.3 -1.6
CMW Cultus Mountai 83.42 328 P **P 05 36 20.3 -0.5**
PGC Sidney 84.24 327 *eP* **P 05 36 24.6 -0.3**
comp=Z,77nm,1.3s,mb5.7
PGC *epP* pP 05 36 40.8 -0.8
PGC *esP* sP 05 36 48.1 -0.1
BOSA Boshof 84.26 118 P **P 05 36 25.4 +0.3**
comp=Z,18nm,0.9s,mb5.2,baz=257,slow=5.4,SNR=8.5
BOSA LR LR 06 07 46.9
comp=Z,134nm,19.4s,MS4.3,baz=70,slow=31
MAW Mawson 85.12 163 LR LR 06 12 15.5
comp=Z,282nm,19.6s,MS4.7,baz=358,slow=34
ESDC Sonseca Array 85.77 45 pP pP 05 36 50.8 +1.4
comp=Z,1.1nm,0.6s,baz=246,slow=5.2,SNR=3.6
LBTB Lobatse 85.81 115 *eP* **P 05 36 34.0 +1.2**
comp=Z,30nm,1.1s,mb5.4
LBTB *epP* pP 05 36 47.8 -1.7
LBTB *esP* sP 05 36 56.0 0.0
LBTB Lobatse 85.81 115 *eP* **P 05 36 34.0 +1.2**
LBTB *e*PP* pP 05 36 47.8 -1.7
LBTB *e*SP* sP 05 36 56.0 0.0
LBTB pmax pmax
comp=Z,30nm,1.1s,mb5.4
YKA Yellowknife Ar 90.38 341 P **P 05 36 53.6 -1.0**
comp=Z,10nm,0.8s,mb5.2,baz=134,slow=4.5,SNR=230
YKA pP pP 05 37 10.5 -0.9
comp=Z,6.8nm,0.8s,baz=134,slow=4.6,SNR=12
YKA sP sP 05 37 18.0 +0.1
comp=Z,12nm,0.8s,baz=135,slow=4.3,SNR=9.2
YKA LR LR 06 22 37.9
comp=Z,99nm,18.4s,MS4.3,baz=95,slow=39
YKA Yellowknife Ar 90.38 341 P **P 05 36 53.7 -0.9**
YKA *PP pP 05 37 10.6 -0.8
YKW3 Yellowknife Ar 90.44 341 *eP* **P 05 36 53.7 -1.1**
YKW3 *epP* pP 05 37 10.7 -1.0
YKW3 *esP* sP 05 37 17.2 -1.0
DLBC Dease Lake 93.36 333 *eP* **P 05 37 07.8 -0.6**
DLBC *epP* pP 05 37 24.6 -0.6
DLBC *esP* sP 05 37 31.4 -0.3
ESK Eskdalemuir 94.33 32 *eP* **P 05 37 11.4 -1.4**
comp=Z,38nm,1.4s,mb5.6
ESK Eskdalemuir 94.33 32 *eP* **P 05 37 11.4 -1.5**
ESK pmax pmax
comp=Z,38nm,1.4s,mb5.6
INK Inuvik 100.13 340 P Pdif 05 37 37.6 -1.5
comp=Z,1.3nm,0.8s,baz=120,slow=4.5,SNR=9.9
INK sP 05 38 01.7
comp=Z,2.4nm,0.9s,baz=110,slow=8.2,SNR=5.4
INK Inuvik 100.13 340 *e*Pdif Pdif 05 37 37.8 -1.3
comp=Z,1.7nm,0.9s
INK Inuvik 100.13 340 *eP* Pdif 05 37 37.8 -1.2
INK pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 103.41 335 Pdiff Pdif 05 37 51.0 -2.6
comp=Z,0.5nm,1.0s,baz=161,slow=4.0,SNR=5.6
APA Apatity 114.02 24⇑ *e*PKIKP PKiKP 05 42 39.6 +7.4
OBN Obninsk 116.01 38 *e*PKIKP PKPdf 05 42 32.4 -3.6
OBN *e*SS SS 05 59 40.2 +1.7
OBN pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 121.71 339 *e*PKIKP PKPdf 05 42 47.2 +0.3
BILL *e* 05 42 57.5
BILL *e* 05 44 16.9
BILL *e* 05 49 41.6
BILL *e*SS SS 06 00 53.2 +1.1
BILL pmax pmax
comp=Z,2.0nm,1.3s
SEY Seymchan 129.28 337 *i* PKIKP PKPdf 05 43 01.2 -0.2
ASAR Alice Springs 130.22 209 PKP PKPdf 05 43 03.4 +0.1
comp=Z,1.7nm,0.8s,baz=139,slow=2.4,SNR=15
ASAR pPKP pPKPdf 05 43 21.5 +0.9
comp=Z,1.7nm,0.8s,baz=152,slow=2.6,SNR=5.9
ASAR SKPbc SKPbc 05 46 21.1 0.0
comp=Z,1.5nm,1.1s,baz=151,slow=2.1,SNR=4.7
ASAR Alice Springs 130.22 209 PKIKP PKPdf 05 43 03.4 +0.2
ASAR 05 43 21.5
WRA Warramunga Arr 133.22 211 PKP PKPdf 05 43 08.5 -0.4
comp=Z,1.4nm,0.6s,baz=157,slow=1.6,SNR=18
WRA pPKP pPKPdf 05 43 27.4 +1.1
comp=Z,1.7nm,0.6s,baz=156,slow=1.8,SNR=5.9
ZRNK Zerenda 134.89 34 *e*PKPdf PKPdf 05 43 12.3 +0.3
BOD Bodaibo 142.98 357 *e*PKIKP PKPdf 05 43 21.6 -5.2
BOD pmax pmax
comp=Z,5.0nm,1.1s
ASAJ Asahikawa 144.68 319 PKP PKPdf 05 43 29.2 -0.6
comp=Z,8.8nm,0.8s,baz=333,slow=1.5,SNR=3.1
KSH Kashi 145.13 50 *e*PKP PKPdf 05 43 31.8 +1.3
KSH PP PP 05 46 48.8 -0.7
KSH SKS SKSdf 05 50 35.8 +1.2
KSH SKKS SKKSac 05 53 33.5 -3.3
KSH LR LR
comp=N,301nm,5.1s
KSH LR LR
comp=E,348nm,5.0s
KSH LR LR
comp=Z,258nm,5.5s
MKAR Makanchi Array 145.44 35 PKPbc PKPbc 05 43 31.3 +0.2
comp=Z,7.2nm,0.6s,baz=302,slow=3.2,SNR=129
MKAR pPKPbc pPKPbc 05 43 48.2 -0.2
comp=Z,9.5nm,0.9s,baz=339,slow=6.5,SNR=6.7
MKAR Makanchi Array 145.44 35 *i* PKIKP PKPdf 05 43 31.4 +0.3
MKAR pmax pmax
comp=Z,4.0nm,0.5s
POO Poona 145.48 87 *eP* PKPdf 05 43 32.0 +0.9
KLR Kul'dur 146.99 334 *e*PKIKP PKPdf 05 43 31.6 -2.1
KLR pmax pmax
comp=Z,25nm,1.2s
MOY Mondy 148.36 11 *e*PKP2 PKPab 05 43 40.7 -2.1
CIT Chita 148.79 356 *e*PKP2 PKPab 05 43 41.5 -3.0
CIT pmax pmax
comp=Z,45nm,1.8s
NDI New Delhi 148.88 69 *eP* PKPdf 05 43 36.5 -0.3
ZAK Zakamensk 149.98 9 *e*PKP2 PKPab 05 43 43.9 -5.5
ZAK pmax pmax
comp=Z,18nm,1.4s
ZAK pmax pmax
comp=Z,22nm,1.8s
ZAK pmax pmax
comp=Z,7.0nm,1.7s
WMQ Urumqi 150.26 34 *e*PKP PKPdf 05 43 36.3 -2.7
WMQ LR LR
comp=N,565nm,24.0s
WMQ LR LR
comp=Z,591nm,24.2s,MS5.3
MJAR Matsushiro Arr 151.22 309 PKPbc PKPbc 05 43 45.9 -0.5
comp=Z,2.6nm,0.6s,baz=77,slow=1.4,SNR=7.2
MJAR PKPab PKPab 05 43 54.2 -0.3
comp=Z,4.6nm,0.9s,baz=79,slow=1.5,SNR=9.5
MAT Matsushiro 151.22 309 PKP PKPdf 05 43 46.4 +5.9
MDJ Mudanjiang 151.50 331 PKP PKPdf 05 43 41.0 +0.1
SONM Songino Array 152.88 6 PKP PKPdf 05 43 43.2 +0.3
comp=Z,0.7nm,0.7s,baz=310,slow=1.2,SNR=5.1
SONM PKPbc PKPbc 05 43 50.4 +0.2
comp=Z,2.2nm,0.7s,baz=309,slow=1.4,SNR=12
SONM PKPab PKPab 05 44 00.7 -0.7
comp=Z,2.0nm,0.8s,baz=320,slow=2.1,SNR=4.9
SONM pPKPbc pPKPbc 05 44 07.6 0.0
comp=Z,1.9nm,0.6s,baz=312,slow=2.0,SNR=4.8
SONM pPKPab pPKPab 05 44 17.7 -0.7
comp=Z,5.5nm,0.9s,baz=331,slow=3.3,SNR=6.6
SONM Songino Array 152.88 6 PKIKP PKPdf 05 43 43.2 +0.2
SONM 05 44 00.7
CN2 Changchun 153.93 335 *e*PKP PKPdf 05 43 47.5 +3.0
GTA Gaotai 159.36 24 PKP PKPdf 05 43 52.8 +1.3
GTA APKP 05 44 05.5
HHC Hu-ho-hao-te 160.04 358 *e*PKP PKPdf 05 43 54.3 +2.1
HHC APKP 05 44 13.3
HHC PKS 05 47 26.8
HHC PP PP 05 48 18.5 +4.3
HHC SKS SKSdf 05 50 51.8 -0.6
HHC SKKS SKKSac 05 54 59.5 +1.8
HHC SS SS 06 08 19.0 +0.2
HHC LR LR
comp=N,79nm,4.9s
HHC LR LR
comp=E,259nm,5.4s
HHC LR LR
comp=Z,179nm,5.3s
BJI Beijing 160.26 347 PKP PKPdf 05 43 54.5 +2.0
BJI LR LR
comp=Z,116nm,33.0s
LZH Lanzhou 163.74 20 *e*PKP PKPdf 05 43 58.0 +2.0
LZH APKP 05 44 09.0
LZH PP PP 05 48 38.8 +4.9
LZH *e*SKKS SKKSac 05 55 21.0 +4.2
LZH SS SS 06 09 01.5 +4.1
LZH PP PP
comp=Z,145nm,6.5s
LZH LR LR
comp=N,236nm,19.8s
LZH LR LR
comp=Z,452nm,20.3s
SSE Sheshan 165.98 319 PKP PKPdf 05 43 52.5 -5.5
SSE PP PP
comp=Z,51nm,6.2s
NJ2 Nanjing 166.56 328 *e*PKP PKPdf 05 44 01.5 +3.1
NJ2 APKP 05 44 12.5
NJ2 PKP2 PKPab 05 45 05.8 +4.9
NJ2 PKS 05 47 33.0
NJ2 PP PP 05 48 52.0 +3.4
NJ2 PP PP
comp=Z,60nm,11.2s
NJ2 LR LR
comp=N,2μm,26.1s
NJ2 LR LR
comp=E,670nm,34.6s
NJ2 LR LR
comp=Z,380nm,30.3s
KMI Kunming 171.70 58 PKP PKPdf 05 43 59.5 -2.1

GYA	**Guiyang**	**173.41**	**31**	PKP	PKPdf	05 44 04.3	+2.0
GYA				APKP		05 44 15.0	
GYA				PP	PP	05 49 23.0	0.0
GYA				SKKS	SKKSac	05 56 05.0	+0.6
GYA				SS	SS	06 10 28.0	-6.1
GYA				PP	PP		
	comp=Z,130nm,9.4s						
GYA				LR	LR		
	comp=N,670nm,20.6s						
GYA				LR	LR		
	comp=E,870nm,21.4s						
GYA				LR	LR		
	comp=Z,640nm,20.6s						

*ISCJB **27** 05:27:58.0±0.6, 1354N±007×91.12W±004, h65km±16km, Error ellipse: s-maj=12.9km s-min=4.2km az=51.8*
*CASC **27** 05:27:59.3±3.0, 1366N×9104W, h66km±24km, MD4.1, ML4.3*
*MEX **27** 05:27:59.4±0.5, 1334N×9139W, h19km±17km, MD4.4*
ISC 27 05:27:59.6±0.7, 1357N±007×9110W±004, h53km±46km, n36, σ1°21/37, 5C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.87**	**46⇑**	*e*P	**Pn**	**05 28 13.8**	**-1.9**
IXG				*e*S	**Sn**	**05 28 28.2**	**+0.8**
IXG				AML	AML	05 28 33.4	
	comp=E,49μm,0.4s						
JAT	**Jato**	**0.91**	**325⇓**	*e*P	**Pn**	**05 28 15.9**	**-0.2**
JAT				*e*S	**Sn**	**05 28 30.5**	**+2.2**
FUG	**Fuego 3**	**0.91**	**16⇑**	*i*P	**Pn**	**05 28 15.3**	**-0.9**
PCG	**Pacaya**	**0.95**	**30**	*e*P	**Pn**	**05 28 16.0**	**-0.7**
GCG	**Guatemala City**	**1.15**	**29⇑**	*e*P	**Pn**	**05 28 18.3**	**-1.1**
TP2	**Tecpan 2**	**1.21**	**4⇑**	*e*P	**Pn**	**05 28 19.1**	**-1.1**
TP2				*e*S	**Sn**	**05 28 34.4**	**-1.1**
TP2				AML	AML	05 28 40.1	
	comp=E,4μm,0.3s						
NBG	**Las Nubes**	**1.25**	**36⇓**	*e*P	**Pn**	**05 28 20.9**	**+0.2**
NBG				*e*S	**Sn**	**05 28 37.5**	**+1.0**
SNJE	**San Jose**	**1.49**	**78⇓**	*e*P	Px	05 28 44.7	
SNJE				*e*S	Sx	05 29 03.3	
BOQS	**Boqueron**	**1.78**	**84**	*e*P	Px	05 28 48.9	
BOQS				*e*S	Sx	05 29 11.1	
MTO2	**Montecristo 2**	**1.88**	**64**	*e*P	Px	05 28 50.2	
MTO2				*e*S	Sx	05 29 13.5	
LFU	**La Fuente**	**1.94**	**85**	*e*P	Px	05 28 51.7	
LFU				*e*S	Sx	05 29 15.2	
LBRS	**Las Brisas**	**2.01**	**85**	*e*P	Px	05 28 52.5	
LBRS				*e*S	Sx	05 29 16.8	
MRL	**Marmol**	**2.02**	**42⇑**	*i*P	**Pn**	**05 28 31.1**	**-0.1**
MRL				*e*S	**Sn**	**05 28 55.9**	**+0.5**
MRL				AML	AML	05 29 01.0	
	comp=E,942nm,0.6s						
LCBS	**La Ceiba**	**2.07**	**87**	*e*P	Px	05 28 53.2	
LCBS				*e*S	Sx	05 29 18.2	
SNVI	**San Vicente**	**2.20**	**89**	*e*P	Px	05 28 55.6	
SNVI				*e*S	Sx	05 29 22.4	
VSM	**San Miguel**	**2.76**	**93**	*e*P	Px	05 29 03.5	
VSM				*e*S	Sx	05 29 36.4	
BLLM	**Bellamira**	**2.79**	**92**	*e*P	Px	05 29 03.5	
BLLM				*e*S	Sx	05 29 36.4	
CCIG	**Comitan**	**2.88**	**340**	*i*P	**Pn**	**05 28 43.8**	**+0.9**
CCIG				*i*S	**Sn**	**05 29 20.1**	**+3.8**
CNCH	**Conchagua**	**3.19**	**95**	*e*P	Px	05 29 08.7	
CNCH				*e*S	Sx	05 29 46.9	
SCX	**San Cristobal**	**3.48**	**335**	*e*P	**Pn**	**05 28 52.8**	**+1.6**
CRIN	**San Cristobal**	**4.04**	**102**	*e*P	**Pn**	**05 28 59.1**	**+0.1**
CRIN				*e*S	**Sn**	**05 29 46.4**	**+1.5**
LEON	**Leon**	**4.26**	**105**	*e*P	**Pn**	**05 29 01.3**	**-0.6**
LEON				*e*S	**Sn**	**05 29 47.9**	**-2.5**
TEL3	**Telica 3**	**4.27**	**103**	*e*S	**Sn**	**05 29 50.7**	**+0.2**
MIRN	**Miramar**	**4.43**	**104**	*e*P	**Pn**	**05 29 03.0**	**-1.2**
COPN	**Copaltepe**	**4.61**	**107**	*e*P	**Pn**	**05 29 06.8**	**+0.1**
APYN	**Apoyeque**	**4.82**	**105**	*e*P	**Pn**	**05 29 08.9**	**-0.7**
APYN				*e*S	**Sn**	**05 30 04.5**	**+0.3**
MGAN	**Managua**	**4.94**	**106**	*e*P	**Pn**	**05 29 10.2**	**-1.1**
CMIG	**Matias Romero**	**5.05**	**314**	*e*P	**Pn**	**05 29 12.2**	**-0.6**
CMIG				*i*S	**Sn**	**05 30 08.3**	**-1.5**
OXX	**Oaxaca**	**6.45**	**303**	*e*P	**Pn**	**05 29 32.8**	**+0.9**
VHO	**Vista Hermosa**	**6.45**	**303**	*i*P	**Pn**	**05 29 30.6**	**-1.3**
VHO				*i*S	**Sn**	**05 30 44.1**	**-0.1**
PRS1	**Puriscal**	**7.54**	**117**	*e*P	**Pn**	**05 29 50.3**	**+3.4**
LCR2	**La Lucha 2**	**7.93**	**118⇓**	*e*P	**Pn**	**05 29 55.9**	**+3.7**
URSC	**Urasca**	**8.08**	**117⇓**	*e*P	**Pn**	**05 29 57.4**	**+3.2**
BUS	**Buena Vista**	**8.23**	**118**	*e*P	**Pn**	**05 29 59.8**	**+3.5**
PPM	**Popocatepetl**	**9.06**	**308**	*e*P	**Pn**	**05 30 11.2**	**+3.6**
MEIG	**Mezcala**	**9.27**	**299**	*e*P	**Pn**	**05 30 11.3**	**+0.7**

*ISCJB **27** 05:31:47.9±0.5, 3044N±006×1389E±01, h422km±6km, mb3.9/21, Error ellipse: s-maj=16.4km s-min=8.4km az=159.4*
*NEIC **27** 05:31:47.9±0.7, 3035N×13873E, h400km, mb4.0/10, Error ellipse: s-maj=15.5km s-min=8.1km az=118.0*
*JMA **27** 05:31:48.3±0.2, 3051N×13918E, h440km, M3.8*
*IDC **27** 05:31:48.3±0.8, 3046N×13891E, h409km±14km, mb3.3/8, mb1 3.4/11, mb1mx3.1/21, mbtmp4.1/11, Error ellipse: s-maj=42.2km s-min=11.3km az=71.0*
ISC 27 05:31:48.9±0.5, 3047N±006×1391E±01, h422km±7km, n46, σ0°88/53, mb3.9/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.71**	**13**	P	**P**	**05 32 49.5**	**-2.0**
	11nm,0.3s,baz=297,slow=14,SNR=4.8						
JHJ				S	**S**	**05 33 40.6**	**-1.7**
	68nm,0.3s,baz=78,slow=23,SNR=10						
CBIJ	**Chichi jima**	**4.34**	**140**	P	**P**	**05 33 06.3**	**+0.9**
	31nm,0.3s,baz=300,slow=15,SNR=11						
CBIJ				S	**S**	**05 34 06.8**	**-0.9**
	100nm,0.3s,baz=284,slow=23,SNR=21						
CBIJ	**Chichi jima**	**4.34**	**140**	P	**P**	**05 33 06.1**	**+0.7**
CBIJ				*e*S	**S**	**05 34 06.7**	**-1.0**
JIE	**Ise**	**4.39**	**334**	P	**P**	**05 33 07.4**	**+1.6**
JKN2	**Miekihoku**	**4.43**	**329**	P	**P**	**05 33 07.4**	**+1.1**
BSO1	**Boso 1**	**4.48**	**21**	P	**P**	**05 33 07.8**	**+1.1**
BSO1				*e*S	**S**	**05 34 08.6**	**-1.5**
BSO3	**Boso 3**	**4.49**	**15**	P	**P**	**05 33 07.9**	**+1.0**
BSO3				*e*S	**S**	**05 34 09.4**	**-0.9**
BSO4	**Boso 4**	**4.64**	**13**	P	**P**	**05 33 09.7**	**+1.4**
BSO4				*e*S	**S**	**05 34 12.5**	**-0.4**
JNY	**Yasuok**	**4.98**	**349**	P	**P**	**05 33 13.4**	**+1.8**
JAO	**Obara**	**5.02**	**343**	P	**P**	**05 33 13.8**	**+1.8**
JHU	**Hanno**	**5.37**	**2**	P	**P**	**05 33 15.4**	**-0.2**
JHU				*e*S	**S**	**05 34 21.2**	**-5.1**
JRY	**Ryogami san**	**5.53**	**359**	P	**P**	**05 33 17.7**	**+0.4**
JYT	**Yasato**	**5.82**	**9**	*e*S	**S**	**05 34 31.0**	**-3.9**
JAG	**Ashikaga**	**5.95**	**3**	P	**P**	**05 33 20.9**	**-0.7**
MJAR	**Matsushiro Arr**	**6.10**	**354**	P	**P**	**05 33 23.2**	**+0.1**
	3.9nm,0.3s,baz=201,slow=7.2,SNR=18						
MAJO	**Matsushiro**	**6.10**	**354**	*e*P	**P**	**05 33 23.4**	**+0.2**
	24nm,0.3s						
MAT	**Matsushiro**	**6.10**	**354**	P	**P**	**05 33 23.0**	**-0.2**
MAT	**Matsushiro**	**6.10**	**354**	*e*P	**P**	**05 33 23.0**	**-0.2**
	14nm,0.5s						
JHO	**Hitachi**	**6.25**	**11**	P	**P**	**05 33 25.6**	**+0.7**
JFK	**Kawauchi**	**7.04**	**12**	P	**P**	**05 33 34.1**	**+0.7**
NACB	**Ninganchiao**	**16.73**	**252**	P	**P**	**05 35 14.7**	**-4.3**
ENH	**Enshi**	**25.48**	**277**	*e*P	**P**	**05 36 39.7**	**-1.5**
	11nm,0.3s,mb4.8						
ULN	**Ulaanbaatar**	**30.00**	**314**	*e*P	**P**	**05 37 20.6**	**-0.4**
	1.7nm,0.4s,mb3.7						
SONM	**Songino Array**	**30.39**	**314**	P	**P**	**05 37 24.2**	**-0.2**
	0.8nm,0.4s,mb3.4,baz=124,slow=8.3,SNR=9.6						
JIRN	**Jiri**	**45.95**	**280**	*e*P	**P**	**05 39 32.3**	**+0.3**
	17nm,0.3s,mb4.9						
GUN	**Gumba**	**46.14**	**281**	*e*P	**P**	**05 39 33.7**	**+0.2**
	21nm,0.7s,mb4.6						
MKAR	**Makanchi Array**	**46.23**	**307**	P	**P**	**05 39 33.7**	**-0.5**
	1.5nm,0.5s,mb3.5,baz=97,slow=9.9,SNR=29						
MKAR				PcP	PcP	05 41 01.3	-0.3
	0.5nm,0.6s,baz=81,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**46.23**	**307**	P	**P**	**05 39 33.7**	**-0.5**
MKAR				PcP	PcP	05 41 01.3	-0.3
PKI	**Pulchoki**	**46.64**	**280**	*e*P	**P**	**05 39 36.6**	**-0.7**
KKN	**Kakani**	**46.68**	**281**	*e*P	**P**	**05 39 37.4**	**-0.2**
	5.8nm,0.3s,mb4.5						
DMN	**Daman**	**46.88**	**281**	*e*P	**P**	**05 39 38.9**	**-0.3**
GKN	**Gorkha**	**47.17**	**281**	*e*P	**P**	**05 39 40.9**	**-0.4**
	5.8nm,0.3s,mb4.5						
KOLN	**Koldanda**	**48.11**	**281**	*e*P	**P**	**05 39 48.3**	**-0.2**
	15nm,0.9s,mb4.3						
KURK	**Kurchatov**	**48.68**	**313**	*e*P	**P**	**05 39 51.9**	**-0.8**
	5.5nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**50.32**	**186**	P	**P**	**05 40 05.7**	**+0.7**
	0.2nm,0.4s,mb2.8,baz=2.3,slow=7.9,SNR=5.5						
CHKZ	**Chkalovo**	**53.54**	**317**	*e*P	**P**	**05 40 27.7**	**-0.6**
	2.3nm,0.8s,mb3.5						
BRVK	**Borovoye**	**53.77**	**316**	*e*P	**P**	**05 40 30.0**	**0.0**
	2.4nm,0.9s,mb3.4						
ZRNK	**Zerenda**	**54.55**	**316**	*e*P	**P**	**05 40 34.9**	**-0.6**
	1.1nm,0.4s,mb3.4						
ARCES	**ARCESS Array B**	**69.45**	**340**	P	**P**	**05 42 13.7**	**+0.5**
	1.9nm,0.6s,mb3.9,baz=75,slow=6.9,SNR=14						
JOF	**Joensuu**	**70.84**	**333**	*e*p	**P**	**05 42 22.2**	**+0.7**
	0.6nm,0.3s,mb3.6						
KAF	**Kangasniemi**	**73.24**	**333**	*e*p	**P**	**05 42 35.5**	**-0.1**
	0.8nm,0.3s,mb3.7						
FINES	**FINESS Array B**	**73.71**	**333**	P	**P**	**05 42 38.3**	**+0.1**
	1.5nm,0.5s,mb3.9,baz=74,slow=5.3,SNR=19						
AKASG	**Malin Array Be**	**78.28**	**322**	P	**P**	**05 43 03.1**	**-0.6**
	1.2nm,0.4s,mb3.9,baz=52,slow=5.4,SNR=10						
NB2	**NORSAR Subarra**	**79.46**	**337**	P	**P**	**05 43 10.2**	**+0.2**
	comp=Z,0.1nm,0.6s,mb2.6,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**79.46**	**337**	P	**P**	**05 43 10.2**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.6,baz=44,slow=5.1,SNR=4.5						
BRTR	**Keskin Array B**	**81.71**	**311**	P	**P**	**05 43 22.6**	**+0.9**
	comp=Z,1.7nm,0.8s,mb3.8,baz=92,slow=3.7,SNR=9.0						

IDC 27 05:38:12.7±5.5, 2196S×17566W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=214.4km s-min=52.5km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.16**	**246**	P	P	05 45 41.2	-0.8
	1.5nm,0.8s,baz=80,slow=6.1,SNR=3.7						
ASAR	**Alice Springs**	**46.33**	**258**	P	P	05 46 41.1	+0.9
	1.6nm,0.7s,baz=97,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**46.57**	**263**	P	P	05 46 43.0	+0.8
	0.5nm,0.6s,baz=96,slow=8.4,SNR=5.4						
AKASG	**Malin Array Be**	**145.34**	**332**	PKPbc	PKPbc	05 57 51.2	-1.1
	0.4nm,0.4s,baz=41,slow=4.0,SNR=5.9						

*ISCJB **27** 05:44:55.5±1.2, 3246N±008×1419E±01, h51km, mb3.6/3, Error ellipse: s-maj=13.7km s-min=11.8km az=24.4*
*JMA **27** 05:44:55.9±0.5, 3244N×14169E, h106km, M3.4*
*IDC **27** 05:44:59.6±1.7, 3216N×14156E, h50km±10km, mb3.4/3, mb1 3.5/3, mb1mx3.1/19, mbtmp3.6/3, Error ellipse: s-maj=52.2km s-min=12.0km az=46.0*
ISC 27 05:44:58.0±1.2, 3253N±008×1419E±01, h53km, h53km±2.4km: pP-P, n11, σ1°05/14, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.80**	**289**	P	**Pn**	**05 45 25.8**	**-0.9**
JHJ	**Hachijo jima 2**	**1.83**	**289**	P	**Pn**	**05 45 26.1**	**-1.0**
	18nm,0.3s,baz=102,slow=20,SNR=4.0						
JHJ				S	**Sn**	**05 45 49.1**	**0.0**
	34nm,0.3s,baz=94,slow=19,SNR=4.4						
BSO1	**Boso 1**	**2.24**	**341**	P	**Pn**	**05 45 32.7**	**+0.1**
BSO1				*e*S	**Sn**	**05 46 02.7**	**+3.7**
BSO3	**Boso 3**	**2.52**	**334**	P	**Pn**	**05 45 36.8**	**+0.3**
JHO	**Hitachi**	**4.20**	**346**	P	**Pn**	**05 45 59.5**	**0.0**
JAG	**Ashikaga**	**4.36**	**334**	P	**Pn**	**05 46 02.3**	**+0.6**
JFK	**Kawauchi**	**4.89**	**351**	P	**Pn**	**05 46 08.1**	**-0.8**
JMM	**Marumori**	**5.39**	**351**	P	**Pn**	**05 46 15.8**	**0.0**
JMM				S	**Sn**	**05 47 15.3**	**-1.3**
SONM	**Songino Array**	**30.78**	**310**	P	**P**	**05 51 11.1**	**+2.7**
	0.3nm,0.3s,mb3.6,baz=108,slow=9.3,SNR=4.2						
SONM				pP	pP	05 51 25.3	+3.4
	0.8nm,0.7s,baz=100,slow=8.3,SNR=3.7						
MKAR	**Makanchi Array**	**46.93**	**306**	P	**P**	**05 53 24.6**	**+1.4**
	0.4nm,0.6s,mb3.5,baz=98,slow=7.4,SNR=4.6						
MKAR				pP	pP	05 53 38.3	+1.0
	1.2nm,0.7s,baz=97,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**52.67**	**189**	P	**P**	**05 54 06.2**	**-0.7**
	0.9nm,0.8s,mb3.8,baz=5.5,slow=7.6,SNR=6.6						
WRA				pP	pP	05 54 19.1	-2.1
	0.5nm,0.4s,baz=5.7,slow=7.6,SNR=4.7						

*NEIC **27** 06:28:13.7, 3825S×17625E, h149km, MG3.8(WEL), After WEL.*
WEL 27 06:28:15.1±0.3, 3829S×17631E, h143km±2km, ML3.7/15, 1C-1D, Error ellipse: s-maj=3.4km s-min=2.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.63**	**88**	⇓PN	Pn	06 28 36.2	-0.2
URZ				SN	Sn	06 28 52.9	+0.3
URZ	**Urewera**	**0.63**	**88**	*e*P	Pn	06 28 36.2	-0.2
BKZ	**Black Stump Fm**	**0.89**	**171**	⇑PN	Pn	06 28 38.6	+0.3
BKZ				SN	Sn	06 28 56.0	+0.1
BKZ	**Black Stump Fm**	**0.89**	**171**	P	Pn	06 28 38.6	+0.3
BKZ				S	Sn	06 28 56.0	+0.1
MWZ	**Matawai**	**0.96**	**93**	PN	Pn	06 28 39.1	+0.3
MWZ				SN	Sn	06 28 56.6	-0.3
MWZ	**Matawai**	**0.96**	**93**	*e*P	Pn	06 28 38.1	-0.8
WNVZ	**Wahianoa**	**1.18**	**208**	PN	Pn	06 28 41.1	+0.3
WNVZ	**Wahianoa**	**1.18**	**208**	P	Pn	06 28 40.1	-0.8
MOVZ	**Moawhango**	**1.20**	**201**	PN	Pn	06 28 40.9	-0.2
MOVZ	**Moawhango**	**1.20**	**201**	P	Pn	06 28 39.9	-1.2
MTVZ	**Mangateitei**	**1.28**	**211**	PN	Pn	06 28 42.0	+0.2
KNZ	**Kokohu**	**1.29**	**125**	PN	Pn	06 28 42.0	0.0
TSZ	**Takapari Road**	**1.79**	**189**	PN	Pn	06 28 46.8	-0.5
TSZ				SN	Sn	06 29 11.9	-0.2
TSZ	**Takapari Road**	**1.79**	**189**	P	Pn	06 28 46.8	-0.6
PXZ	**Pawanui**	**1.79**	**166**	PN	Pn	06 28 47.3	-0.1
BFZ	**Birch Farm**	**2.39**	**181**	PN	Pn	06 28 53.4	-1.2
BFZ	**Birch Farm**	**2.39**	**181**	*e*P	Pn	06 28 53.4	-1.1
MRZ	**Mangatainoka R**	**2.44**	**193**	PN	Pn	06 28 53.6	-1.5
MRZ	**Mangatainoka R**	**2.44**	**193**	P	Pn	06 28 53.6	-1.5
KIW	**Kapiti Island**	**2.79**	**202**	PN	Pn	06 28 57.3	-2.2
KIW	**Kapiti Island**	**2.79**	**202**	P	Pn	06 28 56.3	-3.2
MTW	**Mount Morrison**	**2.93**	**192**	PN	Pn	06 28 58.9	-2.4
MTW	**Mount Morrison**	**2.93**	**192**	P	Pn	06 28 57.9	-3.5
CAW	**Cannon Point**	**2.98**	**198**	PN	Pn	06 28 59.5	-2.3
CAW	**Cannon Point**	**2.98**	**198**	P	Pn	06 28 58.5	-3.4
DUWZ	**D'Urville Isla**	**3.12**	**216**	PN	Pn	06 29 01.5	-2.2
TRWZ	**Traveller**	**3.14**	**189**	PN	Pn	06 29 01.6	-2.4
PAWZ	**Paruwai Farm**	**3.16**	**192**	PN	Pn	06 29 01.7	-2.6
PAWZ	**Paruwai Farm**	**3.16**	**192**	P	Pn	06 29 00.7	-3.6
PAWZ				S	Sn	06 29 37.6	-4.7
MRW	**Makara Radio**	**3.19**	**202**	PN	Pn	06 29 02.0	-2.6
MRW	**Makara Radio**	**3.19**	**202**	P	Pn	06 29 01.0	-3.6
MSWZ	**Moikau Station**	**3.23**	**194**	PN	Pn	06 29 02.3	-2.8
MSWZ	**Moikau Station**	**3.23**	**194**	P	Pn	06 29 01.3	-3.8
SNZO	**South Karori**	**3.26**	**202**	PN	Pn	06 29 02.6	-2.9
SNZO	**South Karori**	**3.26**	**202**	P	Pn	06 29 02.6	-2.9
TCW	**Tory Channel**	**3.31**	**208**	PN	Pn	06 29 03.4	-2.8
TCW	**Tory Channel**	**3.31**	**208**	P	Pn	06 29 02.4	-3.8
TUWZ	**Tuamarina**	**3.63**	**209**	PN	Pn	06 29 06.5	-3.8
NNZ	**Nelson**	**3.70**	**217**	*e*P	Pn	06 29 08.5	-2.7
BSWZ	**Blackbirch Sta**	**3.90**	**208**	P	Pn	06 29 09.9	-4.0
THZ	**Tophouse**	**4.34**	**216**	*e*P	Pn	06 29 16.9	-2.8
KHZ	**Kahutara**	**4.64**	**206**	*e*P	Pn	06 29 20.0	-3.6
MQZ	**McQueen's Vall**	**6.08**	**206**	*e*P	Pn	06 29 37.3	-5.5

*ISCJB **27** 06:29:46.0±3.3, 6.1S±01×1545E±01, h76km±28km, mb4.5/13, Error ellipse: s-maj=19.8km s-min=15.0km az=91.2*
*IDC **27** 06:29:46.8±4.3, 6.11S×15446E, h71km, 36km, mb3.6/6, mb1 3.8/9, mb1mx3.7/17, mbtmp4.0/9, ML3.7/3, MS3.6/5, Ms1 3.6/5, ms1mx3.3/21, Error ellipse: s-maj=26.5km s-min=22.7km az=77.0*
*NEIC **27** 06:29:50.4±3.0, 6.14S×15424E, h93km±21km, mb4.5/5, Error ellipse: s-maj=29.6km s-min=11.6km az=80.0*
*BJI **27** 06:29:50.3, 6.105×15420E, h92km, mB4.9, mb4.8*
ISC 27 06:29:47.8±2.5, 62S±01×1545E±01, h77km±21km, n34, σ0°87/32, mb4.5/13, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.97**	**246**	P	**Pn**	**06 31 40.9**	**0.0**
	2.8nm,0.3s,baz=45,slow=8.7,SNR=6.2						
PMG				S	**Sn**	**06 33 09.1**	**-0.3**
	5.1nm,0.3s,baz=50,slow=17,SNR=18						
PMG				LR	LR	06 34 23.9	
	comp=Z,127nm,19.1s,baz=73,slow=35						
PMG	**Port Moresby**	**7.97**	**246**	*e*Pn	**Pn**	**06 31 40.6**	**-0.2**
	20nm,0.6s						
PMG				*e*Sn	**Sn**	**06 33 10.1**	**+0.7**
CTA	**Charters Tower**	**15.99**	**209**	*e*P	**Pn**	**06 33 32.5**	**+4.6**
	4.3nm,0.8s						
CTA	**Charters Tower**	**15.99**	**209**	P	**Pn**	**06 33 26.7**	**-1.2**
	0.2nm,0.3s,baz=99,slow=6.4,SNR=2.6						
CTA				LR	LR	06 38 43.3	
	comp=Z,96nm,18.8s,baz=229,slow=34						
CTAO	**Charters Tower**	**15.99**	**209**	*e*P	**Pn**	**06 33 30.5**	**+2.6**
	3.7nm,0.6s						
DZM	**Mont Dzumac**	**19.54**	**145**	P	**Pn**	**06 34 11.4**	**+0.3**
	0.7nm,0.3s,baz=317,slow=12,SNR=8.2						
DZM				LR	LR	06 40 39.5	
	comp=Z,143nm,18.3s,baz=18,slow=33						
WRAB	**Tennant Creek**	**23.90**	**233**	*e*P	**P**	**06 34 54.1**	**-0.2**
	5.1nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**23.90**	**233**	*e*P	**P**	**06 34 54.4**	**+0.1**
WRA	**Warramunga Arr**	**23.91**	**233**	P	**P**	**06 34 54.5**	**+0.1**
	3.2nm,0.5s,mb3.9,baz=56,slow=10.0,SNR=35						
WRA				PcP	PcP	06 38 36.6	+1.5
	1.9nm,0.5s,baz=56,slow=2.5,SNR=11						
ASAR	**Alice Springs**	**26.37**	**227**	P	**P**	**06 35 16.1**	**-0.7**
	0.8nm,0.4s,mb3.5,baz=56,slow=9.0,SNR=14						
ASAR				PcP	PcP	06 38 42.1	+1.5
	2.9nm,0.5s,baz=59,slow=2.5,SNR=27						
STKA	**Stephens Creek**	**28.27**	**204**	P	**P**	**06 35 32.1**	**-1.6**
	1.6nm,0.9s,mb3.5,baz=28,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**28.27**	**204**	*e*P	**P**	**06 35 34.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**30.57**	**245**	*e*P	**P**	**06 35 53.1**	**-0.9**
	7.0nm,0.7s,mb4.5						
RPZ	**Rata Peaks**	**40.10**	**161**	LR	LR	06 51 51.7	
	comp=Z,231nm,19.6s,baz=190,slow=33						
NJ2	**Nanjing**	**51.00**	**320**	*e*P	**P**	**06 38 43.8**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
KULM	**Kulim**	**54.99**	**281**	*e*P	**P**	**06 39 10.1**	**-0.9**
ENH	**Enshi**	**56.36**	**313**	*e*P	**P**	**06 39 19.6**	**-1.3**
KMI	**Kunming**	**59.19**	**304**	P	**P**	**06 39 40.5**	**-0.2**
KMI				AP	pP	06 40 06.8	+6.5
KMI				XP	sP	06 40 17.8	+8.9
KMI				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.0						
KMI				AMB	AMB		
	comp=Z,95nm,3.6s						
CD2	**Chengdu**	**60.95**	**310⇓**	*i*P	**P**	**06 39 53.0**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
SONM	**Songino Array**	**68.41**	**327**	P	**P**	**06 40 40.9**	**-0.3**
	comp=Z,0.8nm,0.4s,mb3.9,baz=142,slow=5.3,SNR=15						
LSA	**Lhasa**	**70.44**	**304**	*e*P	**P**	**06 40 54.8**	**+1.1**
	comp=Z,9.4nm,0.6s,mb4.8						
SBA	**Scott Base**	**71.91**	**177**	*e*P	**P**	**06 41 04.0**	**+1.4**
JIRN	**Jiri**	**73.98**	**301**	*e*P	**P**	**06 41 15.4**	**+0.5**
	comp=Z,12nm,0.4s,mb5.0						
GUN	**Gumba**	**74.31**	**301**	*e*P	**P**	**06 41 17.4**	**+0.6**
	comp=Z,50nm,0.8s,mb5.3						
PKI	**Pulchoki**	**74.62**	**301**	*e*P	**P**	**06 41 18.9**	**+0.3**
KKN	**Kakani**	**74.79**	**301**	*e*P	**P**	**06 41 19.9**	**+0.3**
	comp=Z,28nm,0.7s,mb5.1						
DMN	**Daman**	**74.89**	**301**	*e*P	**P**	**06 41 20.7**	**+0.6**
	comp=Z,53nm,0.7s						
GKN	**Gorkha**	**75.39**	**301**	*e*P	**P**	**06 41 23.1**	**+0.1**
	comp=Z,59nm,0.9s						
KOLN	**Koldanda**	**76.22**	**300**	*e*P	**P**	**06 41 27.8**	**0.0**
	comp=Z,48nm,0.8s						
MKAR	**Makanchi Array**	**82.50**	**319**	P	**P**	**06 42 01.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=109,slow=8.8,SNR=7.6						
ILAR	**Eielson Array**	**82.80**	**22**	P	**P**	**06 42 01.3**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=249,slow=5.9,SNR=5.4						
ILAR				LR	LR	07 14 59.4	
	comp=Z,78nm,18.7s,baz=181,slow=33						
SYO	**Syowa Base**	**92.93**	**199⇑**	*e*PcP	PcP	06 42 54.0	+1.1
TORD	**Torodi Ar. Bea**	**152.36**	**287**	PKPb

ICHK Chekchek 4.78 344 *e*Pn **Pn 07 21 12.8 +0.5**
IGAR Garneh 5.64 325 *e*Sn **Sn 07 22 28.7 -0.6**
IZEF Zefreh 6.11 330 *e*Pn **Pn 07 21 29.6 -1.0**
IZEF *e*Sn **Sn 07 22 35.3 -5.7**
IPIR Pirpir 6.68 320 *e*Pn **Pn 07 21 37.1 -1.3**

IDC ***27*** *07:21:45.1±0.7,2959N×14007E,h0km,mb3.8/9,*
mb1 4.0/11,mb1mx3.9/21,mbtmp3.8/11,ML4.2/2,MS3.3/7,
Ms1 3.3/7,ms1mx3.0/42,Error ellipse: s-maj=28.5km
s-min=17.3km az=80.0
ISCJB ***27*** *07:21:50.4±1.8,2946N±009×1402E±02,h54km±18km,*
mb3.7/9,MS3.6/2,Error ellipse: s-maj=27.1km
s-min=11.7km az=140.4
ISC 27 07:21:47.6±5.3,2959N±008×1402E±02,h17km±33km,n19,
σ0°81/14,mb3.7/9,MS3.6/2,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.02 145**		Pn	**Pn**	**07 22 35.4**	**+0.7**
	90nm,0.3s,baz=180,slow=19,SNR=38						
CBIJ				Sn	**Sn**	**07 23 09.2**	**-1.2**
	181nm,0.3s,baz=267,slow=20,SNR=11						
CBIJ				LR	LR	07 23 50.8	
	comp=Z,545nm,18.9s,baz=14,slow=41						
JHJ	**Hachijo jima 2**	**3.54 354**		LR	LR	07 23 21.7	
	comp=Z,258nm,19.9s,baz=359,slow=27						
MJAR	**Matsushiro Arr**	**7.13 347**		Pn	**Pn**	**07 23 29.6**	**-1.5**
	0.4nm,0.3s,baz=156,slow=10,SNR=3.0						
MJAR				LR	LR	07 25 51.2	
	comp=Z,78nm,19.8s,baz=190,slow=35						
MAT	**Matsushiro**	**7.14 347**		P	**Pn**	**07 23 37.7**	**+6.5**
JOW	**Kunigami**	**10.90 258**		LR	LR	07 27 57.7	
	comp=Z,251nm,21.1s,baz=76,slow=35						
GUMO	**Guam**	**16.49 164**		LR	LR	07 30 24.4	
	comp=Z,37nm,20.2s,baz=64,slow=31						
SONM	**Songino Array**	**31.73 314**		P	**P**	**07 28 11.1**	**+0.6**
	0.2nm,0.5s,mb3.2,baz=109,slow=12,SNR=2.2						
ZAL	**Zalesovo**	**46.50 318**		LR	LR	07 50 51.8	
	comp=Z,63nm,18.9s,MS3.6,baz=182,slow=38						
MKAR	**Makanchi Array**	**47.58 308**		LR	LR	07 51 21.1	
	comp=Z,73nm,18.5s,MS3.7,baz=0.0,slow=37						
WB2	**Warramunga Arr**	**49.57 187**		*e*P	**P**	**07 30 38.0**	**+0.4**
WRA	**Warramunga Arr**	**49.57 187**		P	**P**	**07 30 37.8**	**+0.2**
	1.3nm,0.6s,mb4.1,baz=6.8,slow=8.0,SNR=19						
ASAR	**Alice Springs**	**53.30 187**		P	**P**	**07 31 05.3**	**-0.2**
	0.5nm,0.7s,mb3.6,baz=2.5,slow=5.3,SNR=6.9						
ILAR	**Eielson Array**	**56.37 29**		P	**P**	**07 31 28.2**	**+0.5**
	1.1nm,1.0s,mb3.8,baz=276,slow=6.4,SNR=8.4						
ARCES	**ARCESS Array B**	**70.62 340**		P	**P**	**07 33 01.7**	**-0.3**
	7.9nm,1.2s,mb4.5,baz=74,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**70.77 28**		P	**P**	**07 33 02.8**	**-0.1**
	0.6nm,0.9s,mb3.5,baz=295,slow=5.9,SNR=6.9						
FINES	**FINESS Array B**	**74.95 333**		P	**P**	**07 33 27.1**	**-0.6**
	0.9nm,0.6s,mb3.9,baz=89,slow=5.7,SNR=7.3						
NVAR	**Mina Array Bea**	**80.32 51**		P	**P**	**07 33 59.5**	**+1.8**
	0.1nm,0.3s,mb3.2,baz=282,slow=4.5,SNR=4.1						
BRTR	**Keskin Array B**	**83.06 312**		P	**P**	**07 34 12.0**	**-0.1**
	0.6nm,0.8s,mb3.7,baz=26,slow=3.7,SNR=5.7						
LPAZ	**La Paz**	**150.81 69**		PKPbc	PKPbc	07 41 41.3	+2.3
	1.6nm,0.9s,baz=8.8,slow=4.8,SNR=5.4						
LPAZ				PKPab	PKPab	07 41 49.1	+3.0
	1.4nm,0.9s,baz=6.8,slow=3.1,SNR=4.3						

IDC ***27*** *08:04:40.4±1.0,4419N×1088E,h0km,mb3.8/6,*
mb1 4.0/11,mb1mx3.8/24,mbtmp3.8/11,ML4.0/5,MS3.2/1,
Ms1 3.2/1,ms1mx2.4/33,Error ellipse: s-maj=21.5km
s-min=15.3km az=128.0
ZUR ***27*** *08:04:44.4,4432N×1120E,h10km,ML3.6/1*
ISCJB ***27*** *08:04:45.9±0.1,4430N±001×1103E±001,h79km±2km,*
mb3.8/9,Error ellipse: s-maj=1.8km s-min=1.4km
az=170.8
MOS ***27*** *08:04:45.2±0.9,4439N×1107E,h28km,mb4.2/4,Error*
ellipse: s-maj=4.2km s-min=3.2km az=123.4
GEN ***27*** *08:04:46.8,4427N×1103E,h75km,ML3.0*
CSEM ***27*** *08:04:46.5±0.0,4428N×1104E,h56km,mb3.9/2,ML4.3/35,*
Error ellipse: s-maj=0.8km s-min=0.7km az=176.0
PDG ***27*** *08:04:46.8±0.6,4429N×1104E,h66km±2km*
LDG ***27*** *08:04:46.9±0.1,4435N×1116E,h25km,Ml4.2/33,Error*
ellipse: s-maj=2.4km s-min=1.9km az=26.0
NEIC ***27*** *08:04:47.5,4426N×1101E,h59km,mb4.0/1,MD4.1(PDG),*
After ROM.
ROM ***27*** *08:04:47.5±0.1,4426N×1101E,h59km±2km,Md3.1/10,*
Ml3.8/46,Error ellipse: s-maj=2.1km s-min=1.4km
az=136.0
PRU ***27*** *08:04:48.4,4461N×1135E,h0km,M4.0*
SZGRF ***27*** *08:04:49.8,4464N×1104E,h10km,mb4.0,Northern Italy*
STR ***27*** *08:04:52.8±0.6,4464N×1026E,h10km±1km,Ml4.1,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 27 08:04:47.4±0.1,4431N±001×1104E±001,h61km±2km,
n419,σ1°14/578,mb3.9/9,75C-58D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCCA	**Zocca**	**0.07 314**		Pg	**Pn**	**08 04 56.7**	**+0.3**
ZCCA				Sg	**Sn**	**08 05 04.6**	**+1.7**
	5μm,0.5s						
FNVD	**Fontana Vidola**	**0.15 157**		⇑*i*Pg	**Pn**	**08 04 56.1**	**-0.6**
FNVD				Sg	**Sn**	**08 05 02.3**	**-1.1**
	19μm,0.6s						
PZZT	**Monte Pizzetto**	**0.22 217**		⇓*i*Pg	**Pn**	**08 04 56.7**	**-0.3**
PZZT				Sg	**Sn**	**08 05 03.1**	**-0.9**
	49μm,0.4s						
GSCL	**Gusciola**	**0.33 278**		⇓*i*Pg	**Pn**	**08 04 58.2**	**+0.4**
SEI	**Scarperia**	**0.34 138**		⇓*i*Pg	**Pn**	**08 04 57.8**	**-0.1**
	542nm,0.2s						
BDI	**Bagni Di Lucca**	**0.40 233**		⇓*i*Pg	**Pn**	**08 04 58.2**	**-0.2**
BDI				Sg	**Sn**	**08 05 05.9**	**-0.5**
	10μm,0.4s						
RAVA	**Ravarino**	**0.45 7**		Pg	**Pn**	**08 05 00.8**	**+1.9**
	16μm,0.4s						
FIU	**Minerbio Fiu**	**0.46 44**		⇓*i*Pg	**Pn**	**08 05 00.1**	**+1.1**
FIU				Sg	**Sn**	**08 05 10.6**	**+3.1**
	25μm,0.2s						
ERBM	**Eremo**	**0.47 284**		⇓*i*Pg	**Pn**	**08 05 00.2**	**+1.1**
	6μm,0.6s						
SARO	**Sassorosso**	**0.48 255**		P	**Pn**	**08 04 59.2**	**0.0**
VLC	**Villacollemand**	**0.49 253**		⇓*i*Pg	**Pn**	**08 04 59.6**	**+0.3**
VLC				Sg	**Sn**	**08 05 08.8**	**+0.8**
VMG	**Vicchio**	**0.50 133**		⇓*i*Pg	**Pn**	**08 04 59.4**	**0.0**
MAIM		**0.56 226**		P	**Pn**	**08 04 59.3**	**-0.7**
VALM		**0.57 275**		P	**Pn**	**08 05 01.0**	**+0.8**
VALM				S	**Sn**	**08 05 09.5**	**0.0**
VINC	**Vinca**	**0.66 256**		P	**Pn**	**08 05 01.3**	**+0.1**
VINC				S	**Sn**	**08 05 10.9**	**-0.4**
PII	**Pisa**	**0.69 213**		⇓*i*Pg	**Pn**	**08 05 01.1**	**-0.5**
BACM		**0.70 268**		P	**Pn**	**08 05 02.7**	**+1.1**
BACM				S	**Sn**	**08 05 12.9**	**+0.8**
SFI	**Santa Sofia**	**0.71 124**		⇑*i*Pg	**Pn**	**08 05 02.1**	**+0.3**
GRAM		**0.72 285**		P	**Pn**	**08 05 02.9**	**+0.9**
GRAM				S	**Sn**	**08 05 13.5**	**+0.9**
BRSN	**Barisano**	**0.74 91**		Pg	**Pn**	**08 05 03.8**	**+1.6**
SBPO	**S.Benedetto Po**	**0.75 353**		⇑*i*Pg	**Pn**	**08 05 03.7**	**+1.4**
	5μm,0.6s						
CSNT	**Castellina Chi**	**0.85 168**		⇑*i*Pg	**Pn**	**08 05 03.3**	**-0.3**
CSNT				Sg	**Sn**	**08 05 13.9**	**-1.6**
	2μm,0.4s						
CODM		**0.86 276**		P	**Pn**	**08 05 05.0**	**+1.4**
CODM				S	**Sn**	**08 05 16.2**	**+0.6**
CRE	**Caprese Michel**	**0.95 136**		Pg	**Pn**	**08 05 05.1**	**+0.3**
CRE				Sg	**Sn**	**08 05 18.0**	**+0.3**
	3μm,0.3s						
RSM	**Repubblica di**	**1.08 110**		Pg	**Pn**	**08 05 08.1**	**+1.6**
SC2M	**Scurtabr**	**1.09 276**		P	**Pn**	**08 05 07.9**	**+1.3**
SC2M				S	**Sn**	**08 05 21.5**	**+0.7**
TEOL	**Teolo**	**1.15 23**		⇓*i*Pg	**Pn**	**08 05 07.0**	**-0.3**
GRFL	**Gerfalco**	**1.16 182**		Pg	**Pn**	**08 05 07.2**	**-0.3**
	144nm,0.4s						
BADI	**Badiali**	**1.18 132**		Pg	**Pn**	**08 05 07.9**	**+0.1**
BADI				Sg	**Sn**	**08 05 22.8**	**-0.2**
	1μm,0.3s						
GROG	**Isola di Gorgo**	**1.21 224**		⇑*i*Pg	**Pn**	**08 05 08.1**	**-0.1**
GROG				Sg	**Sn**	**08 05 22.6**	**-1.2**
	3μm,0.8s						
BOB	**Bobbio (Coli)**	**1.23 293**		⇑*i*Pg	**Pn**	**08 05 09.8**	**+1.3**
	2μm,0.6s						
PESA	**Pesaro**	**1.35 105**		Pg	**Pn**	**08 05 10.6**	**+0.6**
	2μm,0.3s						
SALO	**Salr**	**1.36 345**		Pg	**Pn**	**08 05 10.9**	**+0.7**
	2μm,0.5s						
ARCI	**Arcidosso**	**1.49 168**		⇓*i*Pg	**Pn**	**08 05 11.6**	**-0.3**
	213nm,0.7s						
GENL	**Genova Univers**	**1.49 275**		P	**Pn**	**08 05 11.3**	**-0.6**
MURB	**Monte Urbino**	**1.50 134**		Pg	**Pn**	**08 05 12.1**	**0.0**
MURB				Sg	**Sn**	**08 05 30.1**	**-0.5**
	4μm,0.3s						
SACS	**San Casciano d**	**1.59 156**		⇓*i*Pg	**Pn**	**08 05 13.3**	**0.0**
SACS				Sg	**Sn**	**08 05 33.4**	**+0.6**
	747nm,0.6s						
ARV	**Arcevia**	**1.59 120**		Pg	**Pn**	**08 05 14.1**	**+0.8**
ARVD	**Arcevia**	**1.59 120**		Pg	**Pn**	**08 05 14.9**	**+1.6**
	949nm,0.9s						
CGRP	**Cima Grappa**	**1.66 19**		⇓*i*Pg	**Pn**	**08 05 13.9**	**-0.3**
CGRP				*e*Sg	**Sn**	**08 05 34.1**	**-0.5**
CGRP	**Cima Grappa**	**1.66 19**		*i*Pg	**Pn**	**08 05 13.9**	**-0.4**
CGRP				*e*Sg	**Sn**	**08 05 34.1**	**-0.5**
MTLO	**Montello**	**1.68 26**		⇓*i*Pg	**Pn**	**08 05 14.4**	**-0.2**
SNTG	**Esanatoglia**	**1.73 127**		Pg	**Pn**	**08 05 16.1**	**+0.9**
	520nm,0.7s						
MDI	**Monti di Nese**	**1.75 328**		Pg	**Pn**	**08 05 15.8**	**+0.4**
	646nm,0.3s						
MABI	**Malga Bissina**	**1.79 348**		Pg	**Pn**	**08 05 16.5**	**+0.5**
CTI	**Castel Tesino**	**1.79 14**		Pg	**Pn**	**08 05 16.0**	**-0.1**
	2μm,0.2s						
PCP	**Pian Castagno**	**1.80 278**		P	**Pn**	**08 05 15.9**	**-0.3**
PCP				S	**Sn**	**08 05 34.8**	**-3.2**
CING	**Cingoli**	**1.81 120**		⇓*i*Pg	**Pn**	**08 05 17.3**	**+1.0**
	559nm,0.6s						
MAON	**Monte Argentar**	**1.88 178**		Pg	**Pn**	**08 05 16.2**	**-1.0**
	169nm,0.2s						
CAE	**Caneva**	**1.97 30**		⇓*i*Pn	**Pn**	**08 05 17.9**	**-0.5**
CAE				*e*Sn	**Sn**	**08 05 41.5**	**-0.5**
AOI	**Ancona**	**2.00 111**		⇓*i*Pg	**Pn**	**08 05 19.2**	**+0.4**
	323nm,0.3s						
FAU	**Forcella Aurin**	**2.04 19**		*e*Pn	**Pn**	**08 05 19.3**	**0.0**
FIN	**Finale Ligure**	**2.04 268**		P	**Pn**	**08 05 18.5**	**-0.9**
FIN	**Finale Ligure**	**2.04 268**		⇑*i*Pg	**Pn**	**08 05 19.5**	**+0.1**
FIN				S	**Sn**	**08 05 39.5**	**-4.2**
FIN				Sg	**Sn**	**08 05 44.2**	**+0.5**
	409nm,0.3s						
NRCA	**Norcia**	**2.11 134**		Pg	**Pn**	**08 05 20.5**	**+0.2**
MUGIO	**Muggio**	**2.15 319**		⇑*i*Pg	**Pn**	**08 05 21.0**	**+0.1**
MUGIO	**Muggio**	**2.15 319**		⇑*i*Pn	**Pn**	**08 05 09.8**	**-11**
	1μm,0.4s						
RORO		**2.15 266**		P	**Pn**	**08 05 19.9**	**-1.0**
RORO				S	**Sn**	**08 05 41.9**	**-4.5**
MLNI	**Malnisio**	**2.15 30**		⇓*i*Pn	**Pn**	**08 05 20.5**	**-0.4**
MLNI				*e*Sn	**Sn**	**08 05 46.4**	**-0.1**
CSO	**Casso**	**2.17 24**		⇑*e*Pn	**Pn**	**08 05 20.8**	**-0.3**
CSO				*e*Sn	**Sn**	**08 05 45.9**	**-1.0**
APPI	**Appiano**	**2.18 3**		Pg	**Pn**	**08 05 22.2**	**+0.9**
	792nm,0.3s						
TLI	**Talmassons**	**2.18 41**		⇓*i*Pn	**Pn**	**08 05 20.8**	**-0.4**
BRMO	**Bormio**	**2.22 348**		Pg	**Pn**	**08 05 23.5**	**+1.6**
	162nm,0.3s						
BERNI	**Berninapass**	**2.23 342**		*e*Pn	**Pn**	**08 05 29.8**	**+7.9**
	576nm,0.3s						
BERNI	**Berninapass**	**2.23 342**		*e*P	**Pn**	**08 05 23.1**	**+1.2**
VAI	**Varese**	**2.24 315**		⇑*i*Pg	**Pn**	**08 05 22.5**	**+0.3**
MNS	**Montasola**	**2.26 148**		Pg	**Pn**	**08 05 22.9**	**+0.5**
	132nm,0.5s						
ROB	**Roburent**	**2.28 271**		P	**Pn**	**08 05 22.2**	**-0.4**
ROB				S	**Sn**	**08 05 45.4**	**-4.1**
PGF	**Pioggiola**	**2.30 221**		*e*Pn	**Pn**	**08 05 23.0**	**0.0**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**08 05 48.7**	**-1.5**
	547nm,0.3s						
PGF	**Pioggiola**	**2.30 221**		*e*Pn	**Pn**	**08 05 23.0**	**0.0**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**08 05 48.7**	**-1.5**
	274nm,0.3s						
IMI	**Imperia**	**2.31 261**		P	**Pn**	**08 05 22.4**	**-0.6**
IMI	**Imperia**	**2.31 261**		⇑*i*Pg	**Pn**	**08 05 22.9**	**-0.1**
IMI				S	**Sn**	**08 05 45.7**	**-4.5**
IMI				Sg	**Sn**	**08 05 50.0**	**-0.2**
	494nm,0.5s						
TOLF	**Tolfa**	**2.35 162**		Pg	**Pn**	**08 05 23.8**	**+0.2**
	110nm,1.0s						
AFL	**Alpe Faloria**	**2.36 19**		⇓*e*Pn	**Pn**	**08 05 25.5**	**+1.7**
MPRI	**Monte Prat**	**2.37 35**		⇓*i*Pn	**Pn**	**08 05 23.9**	**0.0**
MPRI				*e*Sn	**Sn**	**08 05 52.1**	**+0.2**
MONE	**Monesi**	**2.38 266**		P	**Pn**	**08 05 23.4**	**-0.6**
MONE				S	**Sn**	**08 05 48.2**	**-3.7**
FUORN	**Ofenpass**	**2.38 347**		Pg	**Pn**	**08 05 25.9**	**+1.9**
FUORN	**Ofenpass**	**2.38 347**		⇓*i*Pn	**Pn**	**08 05 15.8**	**-8.2**
	562nm,0.6s						
BUA	**Buia**	**2.41 37**		⇓*i*Pn	**Pn**	**08 05 24.5**	**+0.1**
BUA				*e*Sn	**Sn**	**08 05 52.6**	**-0.2**
BRES	**Bressanone**	**2.44 11**		Pg	**Pn**	**08 05 26.2**	**+1.3**
	507nm,0.2s						
VDL	**Val di Lei**	**2.44 334**		⇑*i*Pn	**Pn**	**08 05 21.1**	**-3.8**
	816nm,0.2s						
VDL	**Val di Lei**	**2.44 334**		*i*P	**Pn**	**08 05 26.4**	**+1.5**
VDL	**Val di Lei**	**2.44 334**		⇑*i*P	**Pn**	**08 05 26.4**	**+1.5**
NEGI	**Negi**	**2.45 260**		P	**Pn**	**08 05 23.9**	**-1.1**
COLI	**Coloredo**	**2.46 41**		⇓*i*Pn	**Pn**	**08 05 24.9**	**-0.3**
COLI				*e*Sn	**Sn**	**08 05 53.5**	**-0.6**
CAMP	**Campotosto**	**2.47 135**		Pg	**Pn**	**08 05 25.8**	**+0.5**
	230nm,0.5s						
TUE	**Stuetta**	**2.47 332**		⇑*i*Pg	**Pn**	**08 05 26.6**	**+1.3**
	294nm,0.2s						
BAD	**Bernadia**	**2.48 38**		⇓*i*Pn	**Pn**	**08 05 25.1**	**-0.3**
BAD				*e*Sn	**Sn**	**08 05 53.8**	**-0.6**
CSMI	**Casera Mimoias**	**2.48 27**		*i*Pn	**Pn**	**08 05 25.5**	**+0.1**
CSMI				*e*Sn	**Sn**	**08 05 54.8**	**+0.3**
BOO	**Bordano**	**2.48 35**		⇓*i*Pn	**Pn**	**08 05 25.2**	**-0.2**
GMNA	**Gemona**	**2.50 37**		⇓*i*Pg	**Pn**	**08 05 25.1**	**-0.6**
	821nm,0.6s						
TERO	**Teramo**	**2.51 131**		Pg	**Pn**	**08 05 27.0**	**+1.2**
	343nm,0.5s						
SAOF	**Saorge**	**2.53 264**		P	**Pn**	**08 05 26.6**	**+0.5**
FIAM	**Fiamignano**	**2.54 143**		Pg	**Pn**	**08 05 27.2**	**+1.0**
	282nm,0.6s						
ORO	**Oropa**	**2.54 302**		Pg	**Pn**	**08 05 25.9**	**-0.3**
	367nm,0.2s						
ORX	**Oropa**	**2.54 302**		P	**Pn**	**08 05 25.8**	**-0.5**
ORX				S	**Sn**	**08 05 52.1**	**-4.0**
SEST	**Monte Rota**	**2.58 18**		Pg	**Pn**	**08 05 28.3**	**+1.6**
SEST				Sg	**Sn**	**08 05 58.1**	**+1.2**
	345nm,0.5s						
FVI	**Forni Avoltri**	**2.60 28**		Pg	**Pn**	**08 05 27.3**	**+0.3**
	343nm,0.2s						
AQU	**L'Aquila**	**2.60 138**		Pg	**Pn**	**08 05 28.9**	**+1.8**
	159nm,0.6s						
ENR	**Entracque**	**2.60 270**		P	**Pn**	**08 05 27.1**	**0.0**
ENR				S	**Sn**	**08 05 53.4**	**-4.1**
DAVOX	**Davos**	**2.61 342**		Pg	**Pn**	**08 05 29.3**	**+2.2**
	41nm,0.3s,baz=171,slow=16,SNR=155						
DAVOX				Lg		08 05 58.0	
	33nm,0.3s,baz=312,slow=20,SNR=12						
DAVOX	**Davos**	**2.61 342**		*e*Pn	**Pn**	**08 05 23.1**	**-4.0**
	751nm,0.5s						
DAVOX	**Davos**	**2.61 342**		Pg	**Pn**	**08 05 29.3**	**+2.2**
ROBS	**Robic**	**2.61 41**		*i*Sn	**Sn**	**08 05 56.5**	**-1.1**
ROBS							
	comp=Z,186nm,0.1s						
ROBS	**Robic**	**2.61 41**		*i*Sn	**Sn**	**08 05 56.5**	**-1.1**
	comp=Z,186nm,0.1s						
AUTN	**L'Aution**	**2.62 264**		P	**Pn**	**08 05 28.5**	**+1.2**
DRE	**Drenchia**	**2.62 44**		⇓*i*Pn	**Pn**	**08 05 26.9**	**-0.4**
DRE				*e*Sn	**Sn**	**08 05 57.3**	**-0.6**
ZOU	**Zoufplan**	**2.63 30**		⇓*e*Pn	**Pn**	**08 05 27.5**	**+0.1**
TRAV		**2.63 298**		P	**Pn**	**08 05 26.6**	**-0.9**
SBF	**Sospel**	**2.64 262**		*e*Pn	**Pn**	**08 05 27.7**	**+0.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**08 05 57.7**	**-0.6**
	comp=Z,583nm,0.3s,SNR=1.0						
SBF	**Sospel**	**2.64 262**		*e*Pn	**Pn**	**08 05 27.7**	**+0.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**08 05 57.7**	**-0.6**
	comp=Z,292nm,0.3s,SNR=1.0						
VOJS	**Vojsko**	**2.65 48**		*i*Pn	**Pn**	**08 05 27.2**	**-0.5**
VOY	**Vojsko**	**2.65 48**		⇓*i*Pn	**Pn**	**08 05 27.2**	**-0.6**
VOY				*e*Sn	**Sn**	**08 05 57.8**	**-1.0**
VOY	**Vojsko**	**2.65 48**		*e*Sn	**Sn**	**08 05 57.8**	**-1.0**
PTCC	**Patocco-Chiusa**	**2.66 37**		⇓*i*Pg	**Pn**	**08 05 27.5**	**-0.3**
PTCC				Sg	**Sn**	**08 05 58.4**	**-0.4**
JAVS	**Javornik**	**2.67 52**		*i*Pn	**Pn**	**08 05 27.1**	**-0.8**
JAVS							
	comp=Z,88nm,0.1s						
JAVS	**Javornik**	**2.67 52**		*i*Pn	**Pn**	**08 05 27.1**	**-0.8**
	comp=Z,88nm,0.1s						
KNDS	**Knezji Dol**	**2.67 62**		*i*Pn	**Pn**	**08 05 27.2**	**-0.8**
KNDS				*i*Sn	**Sn**	**08 05 57.5**	**-1.6**
KNDS							
	comp=Z,128nm,0.1s						
KNDS	**Knezji Dol**	**2.67 62**		*i*Pn	**Pn**	**08 05 27.2**	**-0.8**
KNDS				*i*Sn	**Sn**	**08 05 57.5**	**-1.6**
	comp=Z,128nm,0.1s						
STV2	**Anna di Valdie**	**2.67 270**		P	**Pn**	**08 05 27.3**	**-0.7**
STV	**Sta Anna Valdi**	**2.67 270**		P	**Pn**	**08 05 27.7**	**-0.3**
STV				S	**Sn**	**08 05 54.9**	**-4.3**
PLRO	**Paularo**	**2.69 33**		⇓*e*Pn	**Pn**	**08 05 28.2**	**0.0**
REVF	**Revere**	**2.71 259**		P	**Pn**	**08 05 29.1**	**+0.6**
MCGN	**Macugnaga**	**2.72 308**		Pg	**Pn**	**08 05 28.1**	**-0.6**
	comp=Z,120nm,0.4s						
FUSIO	**Fusio**	**2.73 323**		⇑*i*Pn	**Pn**	**08 05 28.3**	**-0.4**
	comp=Z,736nm,0.3s						
FUSIO	**Fusio**	**2.73 323**		⇑*i*Pn	**Pn**	**08 05 28.3**	**-0.4**
	comp=Z,736nm,0.3s						
FUSIO	**Fusio**	**2.73 323**		⇑*i*P	**Pn**	**08 05 29.3**	**+0.6**
FUSIO	**Fusio**	**2.73 323**		⇑*i*P	**Pn**	**08 05 29.3**	**+0.6**
DOI	**San Damiano**	**2.73 275**		Pg	**Pn**	**08 05 28.8**	**0.0**
	comp=Z,135nm,0.3s						
CERT	**Cerreto**	**2.75 148**		Pg	**Pn**	**08 05 29.7**	**+0.6**
	comp=Z,194nm,0.7s						
NVLJ	**Novalja**	**2.75 83**		⇓*i*Pn	**Pn**	**08 05 28.9**	**-0.3**
NVLJ				*i*Sn	**Sn**	**08 05 58.6**	**-2.6**
FAGN	**Fagnano**	**2.76 137**		Pg	**Pn**	**08 05 30.5**	**+1.3**
	comp=Z,467nm,0.5s						
SCE	**Schlegeis**	**2.77 10**		⇑*i*Pn	**Pn**	**08 05 31.0**	**+1.6**
LSR	**Lussari**	**2.79 38**		⇓*i*Pn	**Pn**	**08 05 29.6**	**+0.1**
LSR	**Lussari**	**2.79 38**		*i*Pn	**Pn**	**08 05 29.6**	**0.0**
MMK	**Mattmark**	**2.79 310**		*e*Pn	**Pn**	**08 05 28.5**	**-1.1**
	comp=Z,473nm,0.2s						
MMK	**Mattmark**	**2.79 310**		Pg	**Pn**	**08 05 29.2**	**-0.4**
RSP	**Reno Superiore**	**2.83 289**		P	**Pn**	**08 05 28.6**	**-1.5**
MVIF	**Mont Vial**	**2.83 263**		P	**Pn**	**08 05 31.4**	**+1.2**
PZZ	**Prazzo**	**2.83 275**		P	**Pn**	**08 05 29.9**	**-0.3**
PTQR	**Pietraquaria**	**2.86 142**		Pg	**Pn**	**08 05 32.3**	**+1.7**
LLS	**Linth-Limmern**	**2.92 331**		⇑*i*Pn	**Pn**	**08 05 28.6**	**-2.7**
	comp=Z,348nm,0.3s						
LLS				*e*Sn	**Pn**	**08 05 28.6**	**-2.7**
	comp=Z,348nm,0.3s						
LLS	**Linth-Limmern**	**2.92 331**		⇑*i*P	**Pn**	**08 05 32.7**	**+1.4**
SQTA	**Sankt Quirin**	**2.92 2**		⇑*i*Sn	**Sn**	**08 06 06.4**	**+1.1**
SQTA	**Sankt Quirin**	**2.92 2**		⇓*e*Pn	**Pn**	**08 05 33.4**	**+2.1**
	SNR=40						
SQTA				⇑*i*Sn	**Sn**	**08 06 06.4**	**+1.1**
FENE	**Fenestrelle**	**2.93 286**		P	**Pn**	**08 05 29.8**	**-1.7**
PLONS	**Plons**	**2.98 338**		⇑*i*Pn	**Pn**	**08 05 29.2**	**-3.0**
	comp=Z,674nm,0.3s						
PLONS	**Plons**	**2.98 338**		⇑*i*P	**Pn**	**08 05 34.7**	**+2.5**
PLONS	**Plons**	**2.98 338**		⇑*i*P	**Pn**	**08 05 34.7**	**+2.5**
WTTA	**Wattenberg**	**2.99 8**		⇑*e*Pn	**Pn**	**08 05 33.9**	**+1.5**
	SNR=75						
WTTA	**Wattenberg**	**2.99 8**		⇓*i*Sn	**Sn**	**08 06 08.1**	**+1.1**
WTTA	**Wattenberg**	**2.99 8**		⇑*i*Pn	**Pn**	**08 05 33.9**	**+1.5**
	SNR=75						
WTTA				⇓*i*Sn	**Sn**	**08 06 08.1**	**+1.1**
WTTA	**Wattenberg**	**2.99 8**		*e*Pn	**Pn**	**08 05 33.9**	**+1.6**
WTTA				*e*Sn	**Sn**	**08 06 04.1**	**-2.8**
LJU	**Ljubljana**	**3.02 54**		⇓*i*Pn	**Pn**	**08 05 32.5**	**-0.2**
LJU				*i*Pg	**Pn**	**08 05 40.4**	**+7.7**
LJU				*i*Sn	**Sn**	**08 06 14.5**	**+6.9**
LJU				*i*		08 07 14.5	
LJU	**Ljubljana**	**3.02 54**		⇓*i*Pn

LMR *e*Sn **Sn** **08 06 14.8 -2.8**
comp=Z,243nm,0.3s
LMR La Mourre 3.42 255 *e*Pn **Pn** **08 05 37.8 -0.4**
SNR=1.0
LMR *e*Sn **Sn** **08 06 14.8 -2.8**
comp=Z,122nm,0.3s
WILA Wila 3.45 335⇑*i*Pn **Pn** **08 05 35.4 -3.2**
comp=Z,2μm,0.3s
WILA Wila 3.45 335⇑*i*P **Pn** **08 05 40.0 +1.4**
WILA Wila 3.45 335⇑*i*P **Pn** **08 05 40.0 +1.4**
AIGLE Aigle 3.53 307⇑*i*Pn **Pn** **08 05 35.5 -4.2**
comp=Z,634nm,0.2s
AIGLE Aigle 3.53 307⇑*i*P **Pn** **08 05 41.6 +1.9**
AIGLE Aigle 3.53 307⇑*i*P **Pn** **08 05 41.6 +1.9**
FRES Fresagrandinar 3.53 130 Pg **Pn** **08 05 39.6 -0.2**
comp=Z,99nm,0.5s
MIDA Miranda 3.56 137 Pg **Pn** **08 05 40.7 +0.6**
comp=Z,54nm,0.4s
OG25 Le Caire 3.56 273 P **Pn** **08 05 41.7 +1.5**
BGLD Berchtesgaden 3.62 22⇑*i*Pn **Pn** **08 05 42.7 +1.8**
TAVF Tavernes 3.66 261 P **Pn** **08 05 42.5 +0.9**
FLACH Flaach 3.69 333⇑*i*P **Pn** **08 05 42.9 +0.9**
STOF St-Etienne Org 3.71 267 P **Pn** **08 05 44.7 +2.5**
VAGA Valle Agricola 3.72 140 Pg **Pn** **08 05 43.2 +0.8**
ORIF Oris-en-Rattie 3.74 281 *e*Pn **Pn** **08 05 42.6 0.0**
SNR=1.0
ORIF *e*Sn **Sn** **08 06 22.4 -2.9**
comp=Z,83nm,0.4s
ORIF Oris-en-Rattie 3.74 281 *e*Pn **Pn** **08 05 42.6 0.0**
SNR=1.0
ORIF *e*Sn **Sn** **08 06 22.4 -2.9**
comp=Z,42nm,0.4s
TORNY Torny 3.78 312⇑*i*Pn **Pn** **08 05 36.2 -7.0**
TORNY Torny 3.78 312⇑*i*P **Pn** **08 05 44.4 +1.2**
SGG Gregorio Mates 3.81 139 Pg **Pn** **08 05 45.1 +1.5**
comp=Z,58nm,0.7s
SULZ Sulz-Cheisache 3.81 329⇑*i*Pn **Pn** **08 05 37.0 -6.6**
SULZ Sulz-Cheisache 3.81 329⇑*i*P **Pn** **08 05 44.1 +0.5**
BALST Balsthal 3.83 324⇑*i*Pn **Pn** **08 05 38.4 -5.4**
comp=Z,477nm,0.2s
BALST Balsthal 3.83 324⇑*i*P **Pn** **08 05 44.4 +0.6**
BALST Balsthal 3.83 324⇑*i*P **Pn** **08 05 44.4 +0.6**
VILF Villemus 3.87 265 P **Pn** **08 05 45.7 +1.4**
SLE Schleitheim 3.89 334⇑*i*Pn **Pn** **08 05 39.4 -5.2**
SLE Schleitheim 3.89 334 *i* P **Pn** **08 05 44.9 +0.3**
SLE Schleitheim 3.89 334⇑*i*P **Pn** **08 05 44.9 +0.3**
FG2 Serracapriola 3.92 128 Pg **Pn** **08 05 45.0 -0.1**
comp=Z,154nm,0.3s
PUYF Puyloubier 3.94 261 P **Pn** **08 05 46.2 +0.9**
SMRF Simiane la Rot 3.95 267 *e*Pn **Pn** **08 05 46.0 +0.5**
SNR=1.0
SMRF *e*Sn **Sn** **08 06 28.4 -2.1**
comp=Z,107nm,0.4s,SNR=1.0
SMRF Simiane la Rot 3.95 267 *e*Pn **Pn** **08 05 46.0 +0.5**
SNR=1.0
SMRF *e*Sn **Sn** **08 06 28.4 -2.1**
comp=Z,54nm,0.4s,SNR=1.0
BERF Bertagne 4.00 257 P **Pn** **08 05 47.0 +0.9**
BBS Basel-Blauen 4.01 323 P **Pn** **08 05 46.5 +0.2**
BBS S **Sn** **08 06 28.0 -3.9**
GIMEL Gimel 4.03 305⇑*i*Pn **Pn** **08 05 40.0 -6.6**
GIMEL Gimel 4.03 305⇑*i*P **Pn** **08 05 47.7 +1.1**
BOURR Bourrignon 4.08 321⇑*i*Pn **Pn** **08 05 41.6 -5.6**
BOURR Bourrignon 4.08 321⇑*i*P **Pn** **08 05 47.7 +0.5**
BOURR Bourrignon 4.08 321⇑*i*P **Pn** **08 05 47.7 +0.5**
OCF Saint Nazaire 4.12 276 P **Pn** **08 05 49.1 +1.3**
OG26 St.-Nazaire-De 4.12 276 P **Pn** **08 05 49.1 +1.3**
DGI Dorgali Grotta 4.12 195 Pg **Pn** **08 05 49.1 +1.2**
comp=Z,27nm,0.5s
FELD Feldberg 4.15 330 P **Pn** **08 05 48.3 +0.1**
GELF Grande-Étoile 4.16 259 P **Pn** **08 05 49.3 +0.9**
CABF La Chapelle 4.18 305 *e*Pn **Pn** **08 05 49.1 +0.5**
SNR=1.0
CABF *e*Sn **Sn** **08 06 32.9 -3.2**
comp=Z,48nm,0.4s,SNR=1.0
CABF La Chapelle 4.18 305 *e*Pn **Pn** **08 05 49.1 +0.5**
SNR=1.0
CABF *e*Sn **Sn** **08 06 32.9 -3.2**
comp=Z,24nm,0.4s,SNR=1.0
MOA Molln 4.19 31⇓*i*Sn **Sn** **08 06 36.3 -0.2**
MOA Molln 4.19 31⇓*i*Pn **Pn** **08 05 49.8 +1.0**
SNR=64
MOA ⇓*i*Sn **Sn** **08 06 36.3 -0.2**
MOA Molln 4.19 31 *e*Pn **Pn** **08 05 49.8 +1.0**
MOA *e*Sn **Sn** **08 06 36.2 -0.3**
LOMF Lomont 4.24 317 P **Pn** **08 05 49.9 +0.5**
RGNG Rignano Grg 4.25 127 Pg **Pn** **08 05 48.8 -0.7**
ARSA Arzberg 4.30 45⇓*i*Sn **Sn** **08 06 37.2 -1.9**
ARSA Arzberg 4.30 45 *i* Pn **Pn** **08 05 50.2 -0.1**
SNR=65
ARSA ⇓*i*Sn **Sn** **08 06 37.2 -1.9**
ARSA Arzberg 4.30 45 *e*Sn **Sn** **08 06 37.6 -1.6**
BLY Banja Luka 4.42 82 P **Pn** **08 05 52.0 +0.2**
BLY S **Sn** **08 06 40.3 -1.6**
FGMS Monte Sant'Ang 4.44 124 Pg **Pn** **08 05 51.3 -0.9**
comp=Z,31nm,0.3s
BFO Black Forest 4.44 336 *e*Pn **Pn** **08 05 52.3 +0.1**
BFO *e*Sn **Sn** **08 06 38.4 -4.2**
MOF Molkenrain 4.47 324 P **Pn** **08 05 52.7 +0.1**
MOF S **Sn** **08 06 40.7 -2.6**
LIBD Limburg 4.53 329 P **Pn** **08 05 53.9 +0.5**
HINF Hinteralfeld 4.56 322 *e*Pn **Pn** **08 05 53.8 -0.1**
SNR=1.0
HINF *e*Sn **Sn** **08 06 40.9 -4.7**
comp=Z,134nm,0.3s
HINF Hinteralfeld 4.56 322 *e*Pn **Pn** **08 05 53.8 -0.1**
SNR=1.0
HINF *e*Sn **Sn** **08 06 40.9 -4.7**
comp=Z,67nm,0.3s
VIVF Saint-Julien-I 4.58 279 *e*Pn **Pn** **08 05 54.1 -0.1**
SNR=1.0
VIVF *e*Sn **Sn** **08 06 43.0 -3.1**
comp=Z,20nm,0.3s,SNR=1.0
VIVF Saint-Julien-I 4.58 279 *e*Pn **Pn** **08 05 54.1 -0.1**
SNR=1.0
VIVF *e*Sn **Sn** **08 06 43.0 -3.1**
comp=Z,10nm,0.3s,SNR=1.0
STU Stuttgart 4.64 345 *e*Sn **Sn** **08 06 43.5 -4.1**
ECH Echery 4.75 327 P **Pn** **08 05 56.4 0.0**
WLS Welschbruch 4.84 329 P **Pn** **08 05 57.7 +0.1**
CDF Champ du Feu 4.86 329 *e*Pn **Pn** **08 05 56.8 -1.2**
SNR=1.0
CDF *e*Sn **Sn** **08 06 48.1 -4.9**
comp=Z,180nm,0.5s
CDF Champ du Feu 4.86 329 *e*Pn **Pn** **08 05 56.8 -1.2**
SNR=1.0
CDF *e*Sn **Sn** **08 06 48.1 -4.9**
comp=Z,90nm,0.5s
GERES GERESS Array B 4.90 21 Pn **Pn** **08 05 58.4 0.0**
comp=Z,4.2nm,0.3s,baz=195,slow=13,SNR=54
GERES Sn **Sn** **08 06 51.7 -2.1**
comp=Z,16nm,0.3s,baz=199,slow=23,SNR=25
HAU Haudompre 4.93 320 *e*Pn **Pn** **08 05 59.8 +0.9**
SNR=1.0
HAU *e*Sn **Sn** **08 06 50.4 -4.2**
comp=Z,207nm,0.3s
HAU Haudompre 4.93 320 *e*Pn **Pn** **08 05 59.8 +0.9**
SNR=1.0
HAU *e*Sn **Sn** **08 06 50.4 -4.2**
comp=Z,104nm,0.3s
VSL Villasalto 4.96 195 Pg **Pn** **08 06 01.1 +1.7**
comp=Z,33nm,0.3s
STON Ston 5.04 104 *i* Pn **Pn** **08 06 00.1 -0.3**
STON *i* Sn **Sn** **08 06 54.6 -2.8**
KHC Kasperske Hory 5.13 19 *e*PN **Pn** **08 06 01.7 0.0**
KHC *e*SN **Sn** **08 06 56.6 -2.9**
LASF Ste Croix 5.17 270 *e*Pn **Pn** **08 06 02.1 -0.1**
SNR=1.0
LASF *e*Sn **Sn** **08 06 57.5 -3.0**
comp=Z,29nm,0.5s,SNR=1.0
LASF Ste Croix 5.17 270 *e*Pn **Pn** **08 06 02.1 -0.1**
SNR=1.0
LASF *e*Sn **Sn** **08 06 57.5 -3.0**
comp=Z,14nm,0.5s,SNR=1.0
LANF Langenberg 5.18 336 P **Pn** **08 06 02.6 +0.3**
THEF They Montfort 5.26 320 P **Pn** **08 06 03.7 +0.3**
AMUR Altamura 5.33 128⇓*i*Pg **Pn** **08 06 03.4 -0.9**
comp=Z,12nm,0.5s
MGR Morigerati 5.34 140 Pg **Pn** **08 06 09.8 +2.2**
GRF Grafenberg Arr 5.39 1 *e*Sn **Sn** **08 07 02.7 -3.2**
SG1 Sgolgore (BA) 5.42 128 *e*Pn **Pn** **08 06 04.6 -0.9**
PLDF La Plantade 5.51 290 P **Pn** **08 06 06.2 -0.6**
TOD Tromm 5.52 345 P **Pn** **08 06 07.0 0.0**
ROTZ Rotzenmuhle 5.52 8⇑*i*Pn **Pn** **08 06 06.4 -0.6**
TREB Trebinje 5.55 104 P **Pn** **08 06 07.1 -0.3**

SMF Signal de Mont 5.58 297 *e*Pn **Pn** **08 06 07.3 -0.5**
SNR=1.0
SMF *e*Sn **Sn** **08 07 06.8 -3.7**
comp=Z,60nm,0.4s
SMF Signal de Mont 5.58 297 *e*Pn **Pn** **08 06 07.3 -0.5**
SNR=1.0
SMF *e*Sn **Sn** **08 07 06.8 -3.7**
comp=Z,30nm,0.4s
BRY Bratogost 5.63 102⇑*i*Pn **Pn** **08 06 08.6 +0.1**
BRY *e*Sn **Sn** **08 07 10.6 -1.1**
LBL Lubilhac 5.63 282 P **Pn** **08 06 08.5 +0.1**
PKSM Moragy 5.69 68⇓P **Pn** **08 06 07.7 -1.7**
SFTF Sexfontaines 5.70 315 *e*Pn **Pn** **08 06 09.7 +0.2**
SFTF *e*Sn **Sn** **08 07 09.4 -4.2**
comp=Z,47nm,0.4s
SFTF Sexfontaines 5.70 315 *e*Pn **Pn** **08 06 09.7 +0.2**
SFTF *e*Sn **Sn** **08 07 09.4 -4.2**
comp=Z,24nm,0.4s
ZST Bratislava 5.73 45 *e*PN **Pn** **08 06 09.6 -0.2**
ZST *e*SN **Sn** **08 07 09.0 -5.1**
HCY Herceg Novi 5.74 106⇑*i*Pn **Pn** **08 06 09.8 -0.3**
HCY *e*Sn **Sn** **08 07 12.8 -1.7**
RFYF Reffroy 5.79 320 *e*Pn **Pn** **08 06 09.9 -0.7**
RFYF *e*Sn **Sn** **08 07 10.9 -4.7**
comp=Z,65nm,0.2s
RFYF Reffroy 5.79 320 *e*Pn **Pn** **08 06 09.9 -0.7**
RFYF *e*Sn **Sn** **08 07 10.9 -4.7**
comp=Z,32nm,0.2s
UPM Unac-Piva 5.80 98⇑*i*Pn **Pn** **08 06 11.8 +0.9**
UPM *e*Sn **Sn** **08 07 14.6 -1.5**
LOR Lormes 5.83 303 *e*Pn **Pn** **08 06 10.4 -0.8**
SNR=1.0
LOR *e*Sn **Sn** **08 07 12.2 -4.5**
comp=Z,133nm,0.4s,SNR=1.0
LOR Lormes 5.83 303 *e*Pn **Pn** **08 06 10.4 -0.8**
SNR=1.0
LOR *e*Sn **Sn** **08 07 12.2 -4.5**
comp=Z,66nm,0.4s,SNR=1.0
TREC Trest 5.85 30 *e*PN **Pn** **08 06 11.3 -0.2**
AGO Saint Agoulin 5.86 290 P **Pn** **08 06 10.8 -0.8**
PE1 Pezze di Greco 5.87 124 *e*Pn **Pn** **08 06 10.7 -1.1**
PYM Petit Puy Mans 5.87 287 P **Pn** **08 06 11.3 -0.5**
MEZF Maizieres J'vi 5.89 317 *e*Pn **Pn** **08 06 11.4 -0.7**
SNR=1.0
MEZF *e*Sn **Sn** **08 07 14.1 -4.2**
comp=Z,30nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 5.89 317 *e*Pn **Pn** **08 06 11.4 -0.7**
SNR=1.0
MEZF *e*Sn **Sn** **08 07 14.1 -4.2**
comp=Z,15nm,0.3s,SNR=1.0
AVF Avril sur Loir 5.94 297 *e*Pn **Pn** **08 06 11.3 -1.5**
SNR=1.0
AVF *e*Sn **Sn** **08 07 15.1 -4.4**
comp=Z,10.0nm,0.3s,SNR=1.0
AVF Avril sur Loir 5.94 297 *e*Pn **Pn** **08 06 11.3 -1.5**
SNR=1.0
AVF *e*Sn **Sn** **08 07 15.1 -4.4**
comp=Z,5.0nm,0.3s,SNR=1.0
SSF Saint Saulge 5.96 300 *e*Pn **Pn** **08 06 12.4 -0.5**
SNR=1.0
SSF *e*Sn **Sn** **08 07 15.1 -4.6**
comp=Z,49nm,0.4s
SSF Saint Saulge 5.96 300 *e*Pn **Pn** **08 06 12.4 -0.5**
SNR=1.0
SSF *e*Sn **Sn** **08 07 15.1 -4.6**
comp=Z,24nm,0.4s
NKY Niksic 5.97 102⇑*i*Pn **Pn** **08 06 13.7 +0.5**
NKY *e*Sn **Sn** **08 07 18.4 -1.8**
NKC Novy Kostel 6.01 9 *e*PN **Pn** **08 06 12.9 -0.7**
NKC *e*SN **Sn** **08 07 15.9 -5.1**
RUP Ruppelstein 6.04 335 P **Pn** **08 06 14.9 +0.7**
ABH Alteburg 6.07 338 P **Pn** **08 06 15.1 +0.6**
BUM Brajici-Budva 6.07 107⇑*i*Pn **Pn** **08 06 14.3 -0.3**
BUM *e*Sn **Sn** **08 07 20.7 -2.0**
SMOL Smolenice 6.10 44 *e*PN **Pn** **08 06 14.7 -0.2**
SMOL *e*SN **Sn** **08 07 20.8 -2.5**
PLE Pljevlja 6.12 96⇑*i*Pn **Pn** **08 06 15.9 +0.7**
PLE *e*Sn **Sn** **08 07 22.3 -1.6**
PRU Pruhonice 6.17 22 *e*PN **Pn** **08 06 15.2 -0.6**
PRU *e*SN **Sn** **08 07 21.4 -3.5**
TNS Taunus Mts 6.18 344 *e*Pn **Pn** **08 06 16.5 +0.5**
TNS *e*Sn **Sn** **08 07 19.6 -5.6**
BGF Bois d'Agland 6.19 294 *e*Pn **Pn** **08 06 15.4 -0.8**
SNR=1.0
BGF *e*Sn **Sn** **08 07 20.1 -5.4**
comp=Z,54nm,0.4s,SNR=1.0
BGF Bois d'Agland 6.19 294 *e*Pn **Pn** **08 06 15.4 -0.8**
SNR=1.0
BGF *e*Sn **Sn** **08 07 20.1 -5.4**
comp=Z,27nm,0.4s,SNR=1.0
EJON La Jonquera 6.22 255 P **Pn** **08 06 17.5 +0.9**
EJON La Jonquera 6.22 255 P **Pn** **08 06 17.5 +0.8**
EJON S **Sn** **08 07 24.2 -2.2**
TTG Podgorica 6.28 105⇑*i*Pn **Pn** **08 06 17.2 -0.1**
TTG *e*Sn **Sn** **08 07 25.5 -2.2**
VRAC Vranov 6.29 35 Pn **Pn** **08 06 16.3 -1.2**
comp=Z,1.8nm,0.3s,baz=230,slow=14,SNR=5.1
VRAC Sn **Sn** **08 07 23.1 -4.9**
comp=Z,2.2nm,0.3s,baz=299,slow=10.0,SNR=6.1
WLF Walferdange 6.32 330 *e*Sn **Sn** **08 07 26.4 -2.2**
MOX Moxa 6.35 3 *e*PN **Pn** **08 06 18.2 -0.2**
MOX *e*SN **Sn** **08 07 24.5 -5.0**
CAF Calviac 6.44 279 *e*Pn **Pn** **08 06 19.6 +0.1**
CAF *e*Sn **Sn** **08 07 29.1 -2.5**
comp=Z,9.3nm,0.6s,SNR=1.0
ULC Ulcinj 6.45 108⇑*i*Pn **Pn** **08 06 19.0 -0.7**
ULC *e*Sn **Sn** **08 07 29.4 -2.4**
MTLF Montolieu 6.46 264 *e*Pn **Pn** **08 06 20.5 +0.7**
SNR=1.0
MTLF *e*Sn **Sn** **08 07 29.2 -2.9**
comp=Z,19nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 6.54 291 *e*Pn **Pn** **08 06 20.4 -0.5**
SNR=1.0
TCF *e*Sn **Sn** **08 07 29.6 -4.4**
comp=Z,32nm,0.4s
TCF Toulx Ste Croi 6.54 291 *e*Pn **Pn** **08 06 20.4 -0.5**
SNR=1.0
TCF *e*Sn **Sn** **08 07 29.6 -4.4**
comp=Z,16nm,0.4s
HYF Humbligny 6.58 300 *e*Pn **Pn** **08 06 20.9 -0.6**
HYF *e*Sn **Sn** **08 07 30.4 -4.7**
IVA Berane 6.59 99⇑*i*Pn **Pn** **08 06 22.5 +0.9**
IVA *e*Sn **Sn** **08 07 32.9 -2.4**
CARF Carcanieres 6.69 259 P **Pn** **08 06 23.9 +0.9**
PVY Plav 6.72 102⇑*i*Pn **Pn** **08 06 24.5 +1.1**
PVY *e*Sn **Sn** **08 07 36.9 -1.7**
VYHS Vyhne 6.82 49 *e*PN **Pn** **08 06 24.0 -0.8**
VYHS *e*SN **Sn** **08 07 34.4 -6.7**
VALF Valcebollere 6.85 257 P **Pn** **08 06 26.5 +1.3**
RJF Les Rejaudoux 6.85 282 *e*Pn **Pn** **08 06 25.4 +0.2**
SNR=1.0
BRG Berggiesshubel 6.86 16 Pg **Pn** **08 06 24.8 -0.5**
comp=Z,7.0nm,1.1s
BRG *i* 08 07 38.0
BRG Berggiesshubel 6.86 16 P **Pn** **08 06 24.8 -0.5**
BRG *i* 08 07 38.1
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 6.86 16 PG **Pn** **08 06 24.8 -0.5**
BRG *i* 08 07 38.0
comp=Z,7.0nm,1.1s
MORC Moravsky Berou 7.05 37 *e*Pn **Pn** **08 06 27.4 -0.5**
MORC *e*Sn **Sn** **08 07 40.6 -5.9**
UPC Upice 7.06 27 *e*PN **Pn** **08 06 27.3 -0.8**
UPC *e*SN **Sn** **08 07 41.6 -5.3**
CLL Collm 7.13 10 *i* Pn **Pn** **08 06 28.5 -0.5**
CLL *e*Sn **Sn** **08 07 44.0 -4.6**
CLL *i* x x 08 07 57.8
CLL *e*Sb Sn 08 08 24.0 +35
CLL Collm 7.13 10 *i* Pn **Pn** **08 06 28.5 -0.5**
CLL *e*Sn **Sn** **08 07 44.0 -4.6**
PSZ Piszkesteto 7.13 56 *e*Pn **Pn** **08 06 28.5 -0.6**
GIVF Givet 7.18 326 *e*Pn **Pn** **08 06 29.2 -0.5**
SNR=1.0
GIVF *e*Sn **Sn** **08 07 44.2 -5.6**
comp=Z,18nm,0.5s,SNR=1.0
GIVF Givet 7.18 326 *e*Pn **Pn** **08 06 29.2 -0.5**
SNR=1.0
GIVF *e*Sn **Sn** **08 07 44.2 -5.6**
comp=Z,8.9nm,0.5s,SNR=1.0
EMIR Miracle 7.36 254 P **Pn** **08 06 34.3 +2.1**
EMIR Miracle 7.36 254 P **Pn** **08 06 34.3 +2.1**
EMIR S **Sn** **08 07 52.9 -1.4**
BAIF Baives 7.40 323 *e*Pn **Pn** **08 06 31.8 -0.9**
SNR=1.0
BAIF *e*Sn **Sn** **08 07 50.3 -4.9**
comp=Z,6.9nm,0.3s
BAIF Baives 7.40 323 *e*Pn **Pn** **08 06 31.8 -0.9**
SNR=1.0
BAIF *e*Sn **Sn** **08 07 50.3 -4.9**
comp=Z,3.5nm,0.3s
KSP Ksiaz 7.44 27 *e*Pn **Pn** **08 06 32.2 -1.1**
KSP *e*Sn **Sn** **08 07 51.4 -4.8**
ETOS Mallorca 7.62 236 P **Pn** **08 06 37.5 +1.8**
ETOS Mallorca 7.62 236 P **Pn** **08 06 37.5 +1.8**
ETOS S **Sn** **08 07 55.6 -4.9**
KECS Kecovo 7.75 54 *e*PN **Pn** **08 06 36.9 -0.6**
KECS *e*SN **Sn** **08 07 59.5 -4.3**
OHR Ohrid 7.86 111 *e*Pn **Pn** **08 06 37.8 -1.2**
EPF Esparros 7.86 264 *e*Pn **Pn** **08 06 37.9 -1.2**
EPOB Poblet 7.89 251 P **Pn** **08 06 41.6 +2.1**
EPOB Poblet 7.89 251 P **Pn** **08 06 41.6 +2.1**
EPOB S **Sn** **08 08 04.5 -2.9**
SKO Skopje 7.95 103 *e*Pn **Pn** **08 06 40.7 +0.4**
SKO Skopje 7.95 103 *e*Pn **Pn** **08 06 40.6 +0.3**
EBIE Bielsa 8.09 262 P **Pn** **08 06 45.6 +3.5**
EBIE Bielsa 8.09 262 P **Pn** **08 06 45.6 +3.5**
EBIE S **Sn** **08 08 12.0 0.0**
EGRA Graus 8.11 259 P **Pn** **08 06 45.0 +2.6**
EGRA Graus 8.11 259 P **Pn** **08 06 45.0 +2.6**
EGRA S **Sn** **08 08 10.0 -2.6**
MFF Saint Martin d 8.19 290 *e*Pn **Pn** **08 06 43.0 -0.6**
SNR=1.0
BIA Bitola 8.26 110 *e*Pn **Pn** **08 06 44.3 -0.1**
ETSF Etsaut 8.54 265 *e*P **Pn** **08 06 51.6 +3.3**
ETSF Etsaut 8.54 265 *e*P **Pn** **08 06 51.6 +3.3**
ETSF Etsaut 8.54 265 *e*Pn **Pn** **08 06 47.1 -1.2**
ETSF *e*P 08 06 51.6
DRGR 8.56 69⇑P **Pn** **08 06 49.5 +0.9**
STIP Stip 8.57 104 *e*Pn **Pn** **08 06 48.0 -0.8**
STIP Stip 8.57 104 *e*Pn **Pn** **08 06 47.9 -0.9**
STHS Stebnicka Huta 8.66 50 *e*PN **Pn** **08 06 51.2 +1.3**
LDF La Druitiere 8.82 303 *e*Pn **Pn** **08 06 51.1 -1.0**
SNR=1.0
ESAC San Caprasio 8.82 257 P **Pn** **08 06 54.4 +2.2**
EIBI Ibiza 8.97 237 P **Pn** **08 06 56.5 +2.3**
EIBI Ibiza 8.97 237 P **Pn** **08 06 56.5 +2.3**
EIBI S **Sn** **08 08 28.4 -5.3**
VAY Valandovo 8.98 105 *e*Pn **Pn** **08 06 52.2 -2.2**
VTS Vitosha 9.02 97 *i* P **Pn** **08 06 54.6 -0.2**
VTS Vitosha 9.02 97 P **Pn** **08 06 55.1 +0.3**
KKB Krupnik 9.14 101 *i* P **Pn** **08 06 57.3 +0.7**
GRR Gorron 9.19 301 *e*Pn **Pn** **08 06 55.5 -1.6**
SNR=1.0
GRR *e*Sn **Sn** **08 08 34.3 -4.7**
comp=Z,16nm,0.4s,SNR=1.0
GRR Gorron 9.19 301 *e*Pn **Pn** **08 06 55.5 -1.6**
SNR=1.0
GRR *e*Sn **Sn** **08 08 34.3 -4.7**
comp=Z,8.1nm,0.4s,SNR=1.0
KWP Kalwaria 9.59 52 *e*Pn **Pn** **08 07 02.6 0.0**
MMB Musomiste 9.69 102 *i* P **Pn** **08 07 06.0 +1.9**
SGMF Saint Gilles 10.21 298 *e*Pn **Pn** **08 07 09.7 -1.4**
SNR=1.0
RZN Rozhen 10.36 100 *i* P **Pn** **08 07 13.5 +0.4**
BURAR Bucovina Array 10.41 66⇑P **Pn** **08 07 15.6 +1.7**
BURAR Bucovina Array 10.41 66⇑P **Pn** **08 07 15.6 +1.8**
MLR Muntele Rosu 10.64 78 LR LR 08 11 30.1
comp=Z,112nm,18.6s,baz=275,slow=38
ESDC Sonseca Array 12.08 253 Pn **Pn** **08 07 33.5 -3.2**
comp=Z,0.4nm,0.3s,baz=46,slow=13,SNR=4.5
EKA Eskdalemuir Ar 14.31 325 Pn **Pn** **08 08 04.8 -1.9**
comp=Z,0.3nm,0.3s,baz=138,slow=14,SNR=4.5
BRTR Keskin Array B 17.39 97 P **Pn** **08 08 46.0 +0.2**
comp=Z,0.1nm,0.3s,baz=282,slow=8.7,SNR=3.9
OBN Obninsk 19.62 48 *e*P **Pn** **08 09 08.9 -3.8**
OBN *e*S **S** **08 12 50.6 +1.7**
OBN pmax pmax
comp=Z,10.0nm,2.0s
OBN MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 22.65 80 *e*P **P** **08 09 48.9 +5.6**
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.2
ZEI Tsey 23.79 82 *i* P **P** **08 09 56.2 +1.8**
comp=Z,4.0nm,0.8s,mb3.9
ZEI Tsey 23.79 82 *i* P **P** **08 09 56.2 +1.8**
ZEI pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
GNI Garni 25.19 88 *i* P **P** **08 10 11.2 +4.0**
ARE0 ARCESS Array S 26.35 11 *e*P **P** **08 10 19.8 +2.1**
ARE0 ARCESS Array S 26.35 11 *e*P **P** **08 10 19.8 +2.1**
TORD Torodi Ar. Bea 32.07 197 P **P** **08 11 08.0 -0.4**
comp=Z,0.6nm,0.6s,mb3.6,baz=8.8,slow=8.9,SNR=6.4
ZRNK Zerenda 38.31 56 *e*P **P** **08 12 04.2 +2.1**
comp=Z,1.8nm,0.9s,mb3.8
ZRNK Zerenda 38.31 56 *e*P **P** **08 12 04.2 +2.1**
comp=Z,1.8nm,0.9s,mb3.8
ZRNK Zerenda 38.31 56 *e*P **P** **08 12 04.2 +2.1**
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
MKAR Makanchi Array 48.37 61 P **P** **08 13 24.8 +1.7**
comp=Z,1.3nm,0.6s,mb4.2,baz=279,slow=8.1,SNR=20
MKAR pP pP 08 13 39.6 +0.8
comp=Z,0.4nm,0.6s,baz=289,slow=7.6,SNR=3.8
MKAR Makanchi Array 48.37 61 *i* P **P** **08 13 24.7 +1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 62.02 49 P **P** **08 15 03.2 +1.9**
comp=Z,0.6nm,0.9s,mb3.7,baz=292,slow=9.4,SNR=4.3
YKA Yellowknife Ar 65.03 335 P **P** **08 15 22.4 +1.2**
comp=Z,0.5nm,0.6s,mb3.8,baz=40,slow=6.1,SNR=24
YKA pP pP 08 15 39.5 +2.0
comp=Z,0.4nm,0.8s,baz=40,slow=6.0,SNR=5.3
YKA Yellowknife Ar 65.03 335 P **P** **08 15 22.4 +1.2**
YKA pP pP 08 15 39.5 +2.0
ULM Lac du Bonnet 66.45 318 P **P** **08 15 30.8 +0.5**
comp=Z,2.7nm,0.4s,mb4.6,baz=55,slow=6.2,SNR=12
ULM Lac du Bonnet 66.45 318 P **P** **08 15 30.8 +0.4**
PDAR Pinedale Array 78.36 320 P **P** **08 16 42.0 +0.8**
comp=Z,0.3nm,0.6s,mb3.4,baz=54,slow=7.5,SNR=3.7

IDC 27 08:29:11.9±1.9, 313N×12525E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=193.1km s-min=24.8km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.61**	**159**			P	P	08 34 34.7	+0.9
	0.4nm,0.5s,baz=337,slow=11,SNR=5.8								
ASAR	**Alice Springs**	**27.94**	**163**			P	P	08 35 05.3	+1.4
	0.2nm,0.5s,baz=339,slow=7.2,SNR=3.3								
STKA	**Stephens Creek**	**38.13**	**157**			P	P	08 36 31.1	-1.6
	2.3nm,0.9s,baz=322,slow=11,SNR=3.1								
MKAR	**Makanchi Array**	**57.21**	**326**			P	P	08 39 00.8	0.0
	0.2nm,0.4s,baz=128,slow=7.1,SNR=6.6								

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*ISCJB **27** 09:06:06.8±0.3, 354S±004×135 44E±006, h43km, mb4.9/69, MS4.1/19, Error ellipse: s-maj=8.5km s-min=5.0km az=164.4*

*MOS **27** 09:06:06.3±0.7, 339S×135 39E, h33km, mb5.1/25, Error ellipse: s-maj=14.8km s-min=7.0km az=111.5*

*BJI **27** 09:06:07.4, 330S×135 62E, h43km, mB5.1, mb5.1, Ms4.9, Msz4.4*

*HRVD **27** 09:06:09.1±0.5, 345S×135 39E, h37km±1km, MW4.8/36, Centroid moment Tensor Solution. LP body waves: s30,c35;Mantle waves: s36,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.76±.17; $M_{\theta\theta}$-1.34±.10; $M_{\phi\phi}$-0.41±.16; $M_{r\theta}$0.56±.07; $M_{\theta\phi}$0.44±.14; $M_{\phi r}$0.45±.12; Best double couple: $M_0$1.76500×10^{16} NP1:ϕ_s305.00000°, δ41.00000°, λ114.00000°. NP2: ϕ_s95.00000°, δ54.00000°, λ71.00000°. Principal axes: T 1.9740, Plg73.0000°, Azm311.0000°; N -0.4090, Plg15.0000°, Azm107.0000°; P -1.5560, Plg7.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **27** 09:06:09.3±0.6, 337S×135 40E, h43km±4km, mb4.5/13, mb1 4.6/15, mb1mx4.5/18, mbtmp4.8/15, ML4.2/2, MS3.9/11, Ms1 4.0/11, ms1mx3.7/25 Error ellipse: s-maj=21.9km s-min=13.6km az=70.0*

*NEIC **27** 09:06:09.1±0.2, 343S×135 42E, mb4.9/25, Error ellipse: s-maj=8.1km s-min=5.3km az=79.0*

ISC 27 09:06:08.8±0.3,**352S**±004×**13553E**±006,**h45**km,
h45km±1.0km:**pP-P,n129,**σ1♀**04**/124,**mb4.9**/69,**MS4.1**/19,
5C-5D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.63**	**198⇑**	*i*P	**Pn**	**09 08 24.7**	**0.0**
	302nm,0.6s						
PMG	**Port Moresby**	**12.95**	**117**	P	**Pn**	**09 09 12.4**	**+2.3**
	2.3nm,0.3s,baz=328,slow=5.7,SNR=15						
PMG				LR	LR	09 14 51.8	
	comp=Z,319nm,18.9s,baz=129,slow=40						
PMG	**Port Moresby**	**12.95**	**117**	*e*Pn	**Pn**	**09 09 12.7**	**+2.6**
	27nm,0.7s						
PMG	**Port Moresby**	**12.95**	**117**	*e*P	**Pn**	**09 09 12.7**	**+2.6**
PMG				pmax	pmax		
	comp=Z,27nm,0.7s						
WRAB	**Tennant Creek**	**16.35**	**184**	*e*P	**Pn**	**09 09 52.7**	**-2.5**
	comp=Z,184nm,0.9s						
WRAB				*e*		09 09 59.8	
WRAB	**Tennant Creek**	**16.35**	**184**	*e*P	**Pn**	**09 09 52.7**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,184nm,0.9s						
WB2	**Warramunga Arr**	**16.36**	**184⇓**	*i*P	**Pn**	**09 09 52.5**	**-2.8**
WB2				*e*S	S	09 12 44.8	-22
WB2	**Warramunga Arr**	**16.36**	**184**	*e*P	PKiKP	09 22 32.5	-7.1
WRA	**Warramunga Arr**	**16.36**	**184**	P	**Pn**	**09 09 52.1**	**-3.2**
	comp=Z,1.8nm,0.3s,baz=0.5,slow=13,SNR=98						
WRA				S	**S**	**09 12 47.2**	**-19**
	comp=Z,1.5nm,0.3s,baz=3.5,slow=22,SNR=7.1						
FITZ	**Fitzroy Crossi**	**17.43**	**213⇓**	*i*P	**Pn**	**09 10 07.0**	**-1.6**
	comp=Z,64nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.43**	**213**	P	**Pn**	**09 10 06.0**	**-2.5**
	comp=Z,3.4nm,0.3s,baz=39,slow=15,SNR=40						
FITZ				LR	LR	09 17 39.1	
	comp=Z,264nm,20.0s,baz=36,slow=40						
GUMO	**Guam**	**19.36**	**28**	LR	LR	09 16 30.8	
	comp=Z,166nm,21.9s,baz=229,slow=32						
CTA	**Charters Tower**	**19.51**	**148⇓**	*i*P	**Pn**	**09 10 36.0**	**+2.2**
	comp=Z,9.1nm,0.6s						
CTA	**Charters Tower**	**19.51**	**148**	P	**Pn**	**09 10 35.6**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=321,slow=13,SNR=21						
CTA				LR	LR	09 18 52.0	
	comp=Z,670nm,19.1s,baz=142,slow=39						
CTA	**Charters Tower**	**19.51**	**148⇓**	*i*P	**Pn**	**09 10 36.0**	**+2.2**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CTAO	**Charters Tower**	**19.51**	**148**	*e*P	**Pn**	**09 10 36.0**	**+2.3**
	comp=Z,46nm,1.1s						
CTAO	**Charters Tower**	**19.51**	**148**	*e*P	**Pn**	**09 10 36.1**	**+2.3**
CTAO				pmax	pmax		
	comp=Z,47nm,1.1s						
ASAR	**Alice Springs**	**20.09**	**184**	P	**P**	**09 10 40.9**	**+2.4**
	comp=Z,49nm,0.8s,baz=8.0,slow=12,SNR=198						
KKM	**Kota Kinabalu**	**21.50**	**296**	*e*P	**P**	**09 10 54.0**	**+0.3**
LUBP	**Lubang**	**22.89**	**319**	*e*P	**P**	**09 11 06.5**	**-2.0**
MBWA	**Marble Bar**	**23.31**	**220**	*e*P	**P**	**09 11 13.6**	**+0.7**
	comp=Z,279nm,2.0s,mb5.3						
KSM	**Kuching**	**25.69**	**281**	*e*P	**P**	**09 11 35.0**	**+0.4**
FORT	**Forrest**	**28.02**	**194**	*e*P	**P**	**09 11 56.8**	**+1.3**
	comp=Z,19nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**28.78**	**169⇑**	*i*P	**P**	**09 12 01.4**	**-0.9**
	comp=Z,5.1nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**28.78**	**169**	P	**P**	**09 12 01.1**	**-1.2**
	comp=Z,5.1nm,0.6s,mb4.4,baz=353,slow=7.3,SNR=17						
STKA				LR	LR	09 24 46.3	
	comp=Z,489nm,18.5s,MS4.2,baz=25,slow=39						
JOW	**Kunigami**	**30.98**	**347**	LR	LR	09 22 12.1	
	comp=Z,147nm,20.0s,MS3.6,baz=225,slow=31						
KLBR	**Kellerberrin**	**32.55**	**209**	*e*P	**P**	**09 12 36.9**	**+1.4**
	comp=Z,8.6nm,0.9s,mb4.7						
QIZ	**Qiongzhong**	**33.78**	**312**	P	**P**	**09 12 46.8**	**+0.5**
QIZ				S	**S**	**09 18 09.0**	**+2.2**
QIZ				LR	LR		
	comp=Z,146nm,23.6s,MS3.6						
JNU	**Nakatsue**	**36.71**	**353**	P	**P**	**09 13 11.1**	**-0.3**
	comp=Z,22nm,0.7s,mb5.1,baz=176,slow=13,SNR=5.7						
SSE	**Sheshan**	**37.04**	**339**	P	**P**	**09 13 14.8**	**+0.5**
SSE				AP	pP	09 13 28.0	+1.6
SSE				XP	sP	09 13 35.0	+3.3
SSE				S	**S**	**09 18 58.3**	**+1.4**
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,66nm,4.3s						
SSE				LR	LR		
	comp=Z,99nm,22.3s,MS3.5						
PSI	**Prapat**	**37.12**	**279**	P	**P**	**09 13 12.8**	**-2.2**
	comp=Z,5.9nm,0.6s,mb4.6,baz=87,slow=6.5,SNR=5.1						
NJ2	**Nanjing**	**38.76**	**337**	*e*P	**P**	**09 13 32.5**	**+3.7**
NJ2				AP	pP	09 13 44.5	+3.5
NJ2				XP	sP	09 13 49.8	+3.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,100nm,4.2s						
NJ2				LR	LR		
	comp=N,220nm,16.0s,MS4.1						
NJ2				LR	LR		
	comp=E,90nm,13.9s,MS4.1						
NJ2				LR	LR		
	comp=Z,540nm,20.2s						
MAJO	**Matsushiro**	**39.93**	**3**	*e*P	**P**	**09 13 37.2**	**-1.4**
	comp=Z,10nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**39.93**	**3**	*e*P	**P**	**09 13 37.2**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
MAT	**Matsushiro**	**39.93**	**3**	P	**P**	**09 13 37.5**	**-1.1**
MAT	**Matsushiro**	**39.93**	**3**	*e*P	**P**	**09 13 38.0**	**-0.6**
	comp=Z,8.4nm,0.9s,mb4.5						
MAT	**Matsushiro**	**39.93**	**3**	*e*P	**P**	**09 13 38.0**	**-0.6**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
MJAR	**Matsushiro Arr**	**39.93**	**3**	P	**P**	**09 13 37.4**	**-1.2**
	comp=Z,6.2nm,0.7s,mb4.5,baz=180,slow=8.5,SNR=20						
MJAR				pP	pP	09 13 49.6	-1.1
	comp=Z,5.4nm,1.0s,baz=187,slow=8.7,SNR=4.6						
MJAR				LR	LR	09 26 36.5	
	comp=Z,231nm,20.7s,MS4.0,baz=160,slow=31						
MJAR	**Matsushiro Arr**	**39.93**	**3**	P	**P**	**09 13 37.4**	**-1.2**
MJAR				*PP	pP	09 13 49.6	-1.2
GYA	**Guiyang**	**40.84**	**319⇑**	*i*P	**P**	**09 13 45.8**	**-0.2**
GYA				AP	pP	09 13 58.0	-0.2
GYA				XP	sP	09 14 03.5	0.0
GYA				PP	PP	09 15 23.5	+2.8
GYA				PCP	PcP	09 15 48.0	+1.8
GYA				SCP	ScP	09 19 32.5	+0.4
GYA				S	**S**	**09 19 52.0**	**-2.0**
GYA				XS	sS	09 20 11.3	-3.1
GYA				SS	SS	09 22 47.8	-8.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
GYA				AMB	AMB		
	comp=Z,110nm,3.8s						
GYA				LR	LR		
	comp=N,640nm,17.9s,MS4.6						
GYA				LR	LR		
	comp=E,510nm,18.0s,MS4.6						
GYA				LR	LR		
	comp=Z,680nm,18.2s,MS4.5						
KS15	**Wonju Array Si**	**41.37**	**351**	*e*P	**P**	**09 13 50.1**	**-0.3**
ENH	**Enshi**	**41.82**	**325**	*e*P	**P**	**09 13 52.4**	**-1.7**
	comp=Z,14nm,1.1s,mb4.5						
KMI	**Kunming**	**42.70**	**314**	P	**P**	**09 14 00.3**	**-1.0**
KMI				XP	sP	09 14 15.8	-3.0
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
KMI				AMB	AMB		
	comp=Z,57nm,3.3s						
KMI				LR	LR		
	comp=N,86nm,24.1s,MS3.8						
KMI				LR	LR		
	comp=E,115nm,25.5s,MS3.8						
KMI				LR	LR		
	comp=Z,103nm,25.1s,MS3.6						
XAN	**Xi'an**	**45.00**	**328**	P	**P**	**09 14 19.0**	**-0.7**
XAN				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.6						
CD2	**Chengdu**	**45.72**	**321**	*e*P	**P**	**09 14 25.3**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
BJT	**Baijiatuau**	**46.83**	**340**	*e*P	**P**	**09 14 34.3**	**+0.1**
	comp=Z,67nm,1.2s,mb5.5						
BJT	**Baijiatuau**	**46.83**	**340**	*e*P	**P**	**09 14 34.3**	**+0.1**
BJT				pmax	pmax		
	comp=Z,67nm,1.2s						
BJI	**Beijing**	**46.85**	**340**	P	**P**	**09 14 33.8**	**-0.5**
BJI				XP	sP	09 14 50.3	-1.7
BJI				S	**S**	**09 21 21.3**	**-0.4**
BJI				XS	sS	09 21 44.8	+2.4
BJI				AMB	AMB		
	comp=Z,46nm,0.8s,mb5.5						
BJI				AMB	AMB		
	comp=Z,159nm,3.2s						
BJI				LR	LR		
	comp=Z,123nm,24.2s,MS3.8						
ASAJ	**Asahikawa**	**47.84**	**7**	P	**P**	**09 14 42.0**	**-0.1**
	comp=Z,15nm,0.8s,mb5.0,baz=204,slow=5.0,SNR=6.6						
ASAJ				pP	pP	09 14 55.0	+0.5
	comp=Z,17nm,0.8s,baz=258,slow=9.5,SNR=4.0						
ASAJ				LR	LR	09 32 42.0	
	comp=Z,110nm,21.1s,MS3.8,baz=12,slow=33						
CN2	**Changchun**	**47.97**	**350**	*e*P	**P**	**09 14 42.5**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
MDJ	**Mudanjiang**	**48.21**	**354**	P	**P**	**09 14 44.8**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,55nm,3.4s						
MDJ	**Mudanjiang**	**48.21**	**354**	*e*P	**P**	**09 14 44.5**	**-0.4**
	comp=Z,18nm,0.7s,mb5.2						
MDJ				*e*pP	pP	09 14 58.0	+0.6
LZH	**Lanzhou**	**49.29**	**326**	*e*P	**P**	**09 14 54.3**	**+1.2**
LZH				AP	pP	09 15 07.5	+1.9
LZH				XP	sP	09 15 11.3	+0.4
LZH				PP	PP	09 16 50.0	+2.7
LZH				*e*S	**S**	**09 21 56.8**	**+0.6**
LZH				XS	sS	09 22 18.0	+1.0
LZH				*e*SS	SS	09 25 25.0	-3.0
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,149nm,5.0s						
LZH				LR	LR		
	comp=N,656nm,14.6s						
LZH				LR	LR		
	comp=Z,852nm,15.3s,MS4.9						
HHC	**Hu-ho-hao-te**	**49.29**	**336**	*e*P	**P**	**09 14 53.8**	**+0.6**
HHC				AP	pP	09 15 06.3	+0.6
HHC				XP	sP	09 15 11.5	+0.6
HHC				PCP	PcP	09 16 15.8	+0.4
HHC				PP	PP	09 16 48.5	+1.2
HHC				S	**S**	**09 21 56.3**	**+0.1**
HHC				XS	sS	09 22 17.3	+0.2
HHC				SCS	ScS	09 24 38.5	-2.7
HHC				SS	SS	09 25 24.3	-3.8
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.4						
HHC				LR	LR		
	comp=N,89nm,4.8s						
HHC				LR	LR		
	comp=E,142nm,3.7s						
HHC				LR	LR		
	comp=Z,187nm,6.7s						
YSS	**Yuzh-Sakhalins**	**50.66**	**6**	*e*P	**P**	**09 15 02.0**	**-1.5**
YSS	**Yuzh-Sakhalins**	**50.66**	**6⇑**	*i*P	**P**	**09 15 05.0**	**+1.5**
YSS				*e*	pP	09 15 18.0	+1.9
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
HABR	**Khabarovsk**	**51.78**	**360**	*e*P	**P**	**09 15 11.9**	**0.0**
HABR				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.1						
KLR	**Kul'dur**	**52.64**	**357**	*e*P	**P**	**09 15 15.4**	**-2.9**
KLR				*e*	pP	09 15 27.0	-3.9
LSA	**Lhasa**	**53.80**	**311**	*e*P	**P**	**09 15 28.0**	**+1.2**
	comp=Z,8.0nm,0.6s,mb4.8						
LSA				*e*pP	pP	09 15 41.6	+2.2
LSA	**Lhasa**	**53.80**	**311**	*e*P	**P**	**09 15 28.0**	**+1.2**
LSA				*e*PP	pP	09 15 41.6	+2.2
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
GTA	**Gaotai**	**53.89**	**326**	⇑P	**P**	**09 15 28.5**	**+1.0**
GTA				AP	pP	09 15 40.5	+0.4
GTA				XP	sP	09 15 45.8	+0.5
GTA				PP	PP	09 17 30.8	+1.8
GTA				S	**S**	**09 23 01.5**	**+2.0**
GTA				XS	sS	09 23 21.5	+0.9
GTA				SS	SS	09 26 42.0	+1.0
GTA				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.0						
GTA				AMB	AMB		
	comp=Z,66nm,4.2s						
GTA				LR	LR		
	comp=N,142nm,21.7s,MS4.3						
GTA				LR	LR		
	comp=E,211nm,19.0s,MS4.3						
GTA				LR	LR		
	comp=Z,87nm,15.6s,MS3.9						
JIRN	**Jiri**	**56.72**	**306**	*e*P	**P**	**09 15 48.6**	**+0.7**
	comp=Z,56nm,0.8s,mb5.6						
ULN	**Ulaanbaatar**	**56.93**	**337**	*e*P	**P**	**09 15 50.1**	**+0.8**
	comp=Z,14nm,0.7s,mb5.1						
ULN				*e*pP	pP	09 15 59.9	-2.2
ULN	**Ulaanbaatar**	**56.93**	**337**	*e*P	**P**	**09 15 50.1**	**+0.8**
ULN				*e*PP	pP	09 15 59.9	-2.1
ULN				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
GUN	**Gumba**	**57.08**	**307**	*e*P	**P**	**09 15 51.3**	**+0.9**
	comp=Z,95nm,0.8s,mb5.9						
SONM	**Songino Array**	**57.16**	**337**	P	**P**	**09 15 51.6**	**+0.7**
	comp=Z,8.8nm,0.7s,mb4.9,baz=154,slow=7.2,SNR=51						
SONM				pP	pP	09 16 03.8	+0.1
	comp=Z,4.7nm,0.6s,baz=154,slow=6.0,SNR=8.2						
SONM				LR	LR	09 39 02.6	
	comp=Z,104nm,18.2s,MS4.0,baz=308,slow=35						
SONM	**Songino Array**	**57.16**	**337**	P	**P**	**09 15 51.6**	**+0.6**
SONM				*PP	pP	09 16 03.8	+0.1
PKI	**Pulchoki**	**57.31**	**306**	*e*P	**P**	**09 15 52.5**	**+0.4**
	comp=Z,52nm,1.0s,mb5.5						
KKN	**Kakani**	**57.51**	**306**	*e*P	**P**	**09 15 54.0**	**+0.6**
	comp=Z,66nm,0.9s,mb5.7						
DMN	**Daman**	**57.57**	**306**	*e*P	**P**	**09 15 54.8**	**+0.9**
	comp=Z,100nm,0.9s,mb5.8						
GKN	**Gorkha**	**58.11**	**306**	*e*P	**P**	**09 15 58.3**	**+0.6**
	comp=Z,94nm,0.9s,mb5.8						
KOLN	**Koldanda**	**58.86**	**305**	*e*P	**P**	**09 16 03.9**	**+1.0**
	comp=Z,100nm,0.9s,mb5.9						
ZAK	**Zakamensk**	**60.42**	**337**	*e*P	**P**	**09 16 13.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.2						
CLNS	**Chul'man**	**60.78**	**353**	*e*P	pP	09 16 28.0	-0.9
CLNS				pmax	pmax		
	comp=N,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.3						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
MOY	**Mondy**	**62.33**	**337**	*e*P	**P**	**09 16 27.5**	**+1.0**
MOY				pmax	pmax		
	comp=Z,37nm,2.5s,mb5.1						
BOD	**Bodaibo**	**63.55**	**347**	*e*P	**P**	**09 16 34.2**	**-0.4**
BOD				*e*	pP	09 16 47.1	-0.4
BOD				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
BOD				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
WMQ	**Urumqi**	**63.71**	**323**	P	**P**	**09 16 36.5**	**+0.8**
WMQ				AP	pP	09 16 49.5	+0.9
WMQ				XP	sP	09 16 54.8	+1.1
WMQ				PCP	PcP	09 17 12.5	+1.0
WMQ				AMB	AMB		
	comp=Z,17nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,106nm,4.2s						
WMQ				LR	LR		
	comp=N,592nm,22.0s						
WMQ				LR	LR		
	comp=Z,621nm,22.0s,MS4.8						
MA2	**Magadan**	**64.05**	**9**	*e*P	**P**	**09 16 38.4**	**+0.5**
MA2				*e*		09 18 54.4	
MA2				*e*S	**S**	**09 25 12.2**	**+1.1**
MA2				*e*PS		09 25 36.2	
MA2				*e*SS	SS	09 29 15.2	-5.2
MA2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
DDI	**Dehra Dun**	**64.31**	**306**	*e*P	**P**	**09 16 39.2**	**-0.4**
YAK	**Yakutsk**	**65.52**	**357⇓**	*e*P	**P**	**09 16 47.5**	**0.0**
YAK				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
SEY	**Seymchan**	**67.50**	**8**	*e*P	**P**	**09 17 01.2**	**+1.1**
SEY						09 17 19.1	
SEY						09 19 27.4	
SEY				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
SEY				pmax	pmax		
	comp=E,2.0nm,0.6s						
SEY				MLR	MLR		
	comp=Z,51nm,18.0s,MS3.8						
SEY				MLR	MLR		
	comp=N,40nm,16.0s						
MK31	**Makanchi Array**	**68.52**	**324**	*i*P	**P**	**09 17 07.1**	**+0.6**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**68.52**	**324**	P	**P**	**09 17 06.8**	**+0.3**
	comp=Z,5.6nm,0.5s,mb4.7,baz=120,slow=7.3,SNR=87						
MKAR				pP	pP	09 17 19.4	-0.1
	comp=Z,11nm,0.7s,baz=115,slow=7.9,SNR=21						
ZAL	**Zalesovo**	**71.07**	**331**	P	**P**	**09 17 21.5**	**-0.7**
	comp=Z,4.6nm,1.0s,mb4.3,baz=10,slow=5.3,SNR=22						
NVS	**Novosibirsk**	**72.34**	**331**	*e*P	**P**	**09 17 28.3**	**-1.5**
NVS				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
NVS				pmax	pmax		
	comp=N,12nm,1.4s						
NVS				pmax	pmax		
	comp=E,15nm,1.5s						
KURK	**Kurchatov**	**72.58**	**326**	*e*P	**P**	**09 17 31.3**	**0.0**
	comp=E,8.9nm,0.8s,mb4.8						
KURK				*e*pP	pP	09 17 41.5	-2.9
KURK	**Kurchatov**	**72.58**	**326**	*e*P	**P**	**09 17 31.3**	**0.0**
KURK				*e*PP	pP	09 17 41.5	-2.9
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KK31	**Karatay Array**	**74.50**	**316**	*i*P	**P**	**09 17 42.8**	**+0.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KKAR	**Karatay Array**	**74.50**	**316**	*i*P	**P**	**09 17 42.8**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BILL	**Bilibino**	**74.56**	**12**	*e*P	**P**	**09 17 43.4**	**+0.5**
BILL				*e*		09 20 31.2	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
TIXI	**Tiksi**	**75.16**	**358**	*e*P	**P**	**09 17 44.0**	**-2.3**
TIXI				*e*	pP	09 17 58.8	-0.7
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,115nm,19.0s,MS4.2						
VNDA	**Vanda**	**75.28**	**174**	P	**P**	**09 17 48.3**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=309,slow=6.8,SNR=3.2						
VNDA				LR	LR	09 49 49.4	
	comp=Z,222nm,19.7s,MS4.5,baz=292,slow=35						
BVA0	**Borovoye Array**	**78.18**	**326**	*i*P	**P**	**09 18 03.3**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BVAR	**Borovoye Array**	**78.18**	**326**	P	**P**	**09 18 03.3**	**-0.1**
	comp=Z,10nm,0.9s,mb4.7,baz=120,slow=6.0,SNR=27						
BVAR				pP	pP	09 18 16.0	-0.7
	comp=Z,10nm,0.9s,baz=116,slow=6.8,SNR=8.9						
BRVK	**Borovoye**	**78.25**	**326**	*e*P	**P**	**09 18 03.7**	**-0.1**
	comp=Z,6.6nm,0.9s,mb4.6						
BRVK				*e*pP	pP	09 18 13.3	-3.7
BRVK	**Borovoye**	**78.25**	**326**	*e*P	**P**	**09 18 03.7**	**-0.1**
BRVK				*e*PP	pP	09 18 13.4	-3.6
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**78.30**	**327**	*e*P	**P**	**09 18 03.5**	**-0.6**
	comp=Z,15nm,1.2s,mb4.8						
CHKZ				*e*pP	pP	09 18 15.8	-1.5
CHKZ	**Chkalovo**	**78.30**	**327**	*e*P	**P**	**09 18 03.5**	**-0.6**
CHKZ				*e*PP	pP	09 18 15.8	-1.5
CHKZ				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
ZRNK	**Zerenda**	**78.93**	**326**	*e*P	**P**	**09 18 07.3**	**-0.2**
	comp=Z,6.2nm,0.7s,mb4.7						
ZRNK				*e*pP	pP	09 18 19.9	-0.8
ZRNK	**Zerenda**	**78.93**	**326**	*e*P	**P**	**09 18 07.3**	**-0.2**
ZRNK				*e*PP	pP	09 18 19.9	-0.9
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
AB31	**Akbulak array**	**83.30**	**320**	*i*P	**P**	**09 18 30.9**	**+0.2**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KDAK	**Kodiak Island**	**83.41**	**31**	P	**P**	**09 18 31.2**	**-0.1**
	comp=Z,5.8nm,0.6s,mb4.8,baz=248,slow=6.0,SNR=8.0						
KDAK				pP	pP	09 18 45.2	+0.5
	comp=Z,7.0nm,0.7s,baz=132,slow=23,SNR=2.0						
TTA	**Tatalina**	**83.49**	**25**	*e*P	**P**	**09 18 32.1**	**+0.3**
	comp=Z,30nm,1.4s,mb5.1						
TTA				*e*pP	pP	09 18 45.2	+0.2
TTA	**Tatalina**	**83.49**	**25**	*e*P	**P**	**09 18 32.1**	**+0.4**
TTA				*e*PP	pP	09 18 45.2	+0.1
TTA				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
SVE	**Sverdlovsk**	**84.72**	**328**	*e*P	**P**	**09 18 38.3**	**+0.3**
SVE				*e*	pP	09 18 49.5	-1.8
SVE				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.3						
AKTK	**Aktyubinsk**	**84.77**	**321**	P	**P**	**09 18 38.0**	**-0.2**
AKTK				pP	pP	09 18 50.8	-0.8
AKTO	**Aktyubinsk**	**84.77**	**321**	P	**P**	**09 18 38.0**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.7,baz=91,slow=6.0,SNR=12						
AKTO				pP	pP	09 18 50.8	-0.8
	comp=Z,5.8nm,0.9s,baz=84,slow=3.9,SNR=8.7						
SLKM	**Skilak Lake**	**85.35**	**29**	*e*P	**P**	**09 18 40.8**	**-0.4**
SLKM				*e*pP	pP	09 18 53.1	-1.4
QSPA	**South Pole Qui**	**86.43**	**180**	*e*P	**P**	**09 18 47.5**	**+1.0**
	comp=Z,8.7nm,1.0s,mb4.9						
SML	**Sawmill**	**86.57**	**28**	*e*P	**P**	**09 18 47.0**	**-0.2**
SML				*e*pP	pP	09 18 60.0	-0.6
MCK	**McKinley**	**86.77**	**26**	*e*P	**P**	**09 18 47.7**	**-0.5**
	comp=Z,5.7nm,0.7s,mb4.9						
MCK				*e*pP	pP	09 19 00.3	-1.3
MCK	**McKinley**	**86.77**	**26**	*e*P	**P**	**09 18 47.7**	**-0.5**
MCK				*e*PP	pP	09 19 00.3	-1.3
MCK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
COLA	**College**	**87.51**	**25**	*e*P	**P**	**09 18 50.9**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.7						
COLA				*e*pP	pP	09 19 03.9	-1.2
COLA	**College**	**87.51**	**25**	*e*P	**P**	**09 18 50.9**	**-0.8**
COLA				*e*PP	pP	09 19 03.9	-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	150.19	86	PKPbc	PKPbc	09 25 57.5	+2.8
	comp=Z,4.9nm,0.5s,baz=93,slow=20,SNR=5.4						

IDC 27 09:07:06.3±2.0, 4000N×12236E, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.6/22, mbtmp3.5/5, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/15, Error ellipse: s-maj=52.3km s-min=30.6km az=24.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	9.69	132	Pn	Pn	09 09 26.8	-0.3
SONM	Songino Array	13.90	310	Pn	Pn	09 10 22.6	-2.0
	0.3nm,0.3s,baz=133,slow=13,SNR=3.1						
MKAR	Makanchi Array	29.65	297	P	P	09 13 14.0	+0.5
	0.2nm,0.6s,baz=97,slow=10,SNR=3.7						
ILAR	Eielson Array	54.96	32	P	P	09 16 38.9	-0.3
	0.5nm,1.1s,baz=291,slow=5.7,SNR=4.8						
FITZ	Fitzroy Crossi	57.88	176	LR	LR	09 44 09.9	
	comp=Z,48nm,20.2s,baz=101,slow=38						
YKA	Yellowknife Ar	68.12	25	P	P	09 18 07.6	-0.5
	0.3nm,0.8s,baz=314,slow=6.4,SNR=6.4						

IDC 27 09:08:37.1±1.7, 3427N×2500E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/22, mbtmp3.4/4, ML3.8/2, Error ellipse: s-maj=31.4km s-min=20.4km az=106.0
HLW 27 09:08:37.8, 3446N×2510E, h51km, Mb3.3
ISCJB 27 09:08:39.6±0.5, 3418N±004×2516E±008, h33km, mb3.2/2, Error ellipse: s-maj=10.5km s-min=4.3km az=145.1

ISC 27 09:08:41.3±0.5, 3423N±004×2512E±009, h35km, n19, σ0°78/22, mb3.2/2, 3C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.80	36	eP	Pn	09 08 55.3	-0.7
GVD	Gavdhos	1.05	306	eP	Pn	09 08 57.8	-1.6
IDI	Anoyia	1.07	350	Pn	Pn	09 08 58.2	-1.6
	15nm,0.3s,baz=176,slow=16,SNR=59						
IDI				Sn	Sn	09 09 13.9	+0.5
	31nm,0.3s,baz=68,slow=21,SNR=11						
NPS	Neapolis	1.11	21	eP	Pn	09 09 00.5	+0.2
VAM	Vamos	1.40	327	eP	Pn	09 09 04.0	-0.3
SLUM		2.73	178	⇓P	Pn	09 09 22.9	+0.3
HMAT	Matruh	3.54	151	⇑P	Pn	09 09 33.1	-0.6
HMAT				S	Sn	09 10 13.7	-0.6
SWA2		4.98	177	⇓P	Pn	09 09 53.6	+0.1
SWA2				S	Sn	09 10 49.7	0.0
AYT	Al 'Ayyat	6.83	130	P	Pn	09 10 18.2	-0.6
AYT	Al 'Ayyat	6.83	130	P	Pn	09 10 18.2	-0.6
GLL	Jalalah	7.27	128	P	Pn	09 10 24.8	-0.1
SUZ		7.87	122	⇑P	Pn	09 10 33.2	0.0
TR2		9.38	126	⇑P	Pn	09 10 53.6	-0.3
HDK1	Dakhla	9.42	156	⇓P	Pn	09 10 55.3	+0.9
GTR	Jabal at Tayr	9.89	150	⇓P	Pn	09 11 01.5	+0.7
AKASG	Malin Array Be	16.73	9	Pn	Pn	09 12 33.3	+0.4
	0.4nm,0.3s,baz=201,slow=11,SNR=3.3						
GERES	GERESS Array B	16.89	333	Pn	Pn	09 12 36.5	+1.6
	0.1nm,0.3s,baz=147,slow=12,SNR=8.4						
TORD	Torodi Ar. Bea	29.87	231	P	P	09 14 45.9	+0.5
	0.3nm,0.5s,mb3.3,baz=33,slow=9.0,SNR=6.7						
MKAR	Makanchi Array	44.32	56	P	P	09 16 49.0	+1.2
	0.3nm,0.6s,mb3.2,baz=268,slow=8.4,SNR=4.9						

NEIC 27 09:16:20.8, 1894N×6460W, h5km, MD3.5(RSPR), After RSPR.

RSPR 27 09:16:20.8, 1894N×6460W, h5km±31km, MD3.5/17, MD3.5/17, 13C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.53	181	⇑iP	Pg	09 16 30.5	-0.5
STVI	Saint Thomas	0.68	210	eS	Sg	09 16 43.6	+1.0
STVI	Saint Thomas	0.68	210	⇓iP	Pg	09 16 33.2	-0.6
STVI				eS	Sg	09 16 43.6	+1.0
CDVI	St. Croix	1.19	187	eS	Sg	09 16 56.9	-2.3
CDVI	St. Croix	1.19	187	⇑iP	Pg	09 16 41.4	-2.2
CDVI				eS	Sg	09 16 56.9	-2.3
MTP	Monte Pirata	1.23	227	eS	Sg	09 16 58.1	-2.4
MTP	Monte Pirata	1.23	227	⇑eP	Pg	09 16 41.7	-2.8
MTP				eS	Sg	09 16 58.1	-2.4
HUMP	Col San Antoni	1.42	236	eS	Sb	09 17 01.6	-4.6
HUMP	Col San Antoni	1.42	236	⇑eP	Pn	09 16 44.3	-3.0
HUMP				eS	Sb	09 17 01.6	-4.6
CPD	Cerro la Pandu	1.53	234	eS	Sn	09 17 05.9	-3.2
CPD	Cerro la Pandu	1.53	234	⇑eP	Pn	09 16 46.1	-2.8
CPD				eS	Sn	09 17 05.9	-3.2
SJG	San Juan	1.68	241	eS	Sn	09 17 08.7	-4.1
SJG	San Juan	1.68	241	⇑eP	Pn	09 16 48.2	-2.7
SJG				eS	Sn	09 17 09.6	-3.2
SJG	San Juan	1.68	241	⇑eP	Pn	09 16 48.3	-2.5
SJG				eS	Sn	09 17 08.7	-4.1
CELP	Cerrillos	2.06	246	⇑eP	Pn	09 16 53.7	-2.4
CELP				eS	Sn	09 17 18.6	-3.6
ICM	Isla Caja Muer	2.10	241	eS	Sn	09 17 19.2	-3.8
ICM	Isla Caja Muer	2.10	241	⇑eP	Pn	09 16 54.3	-2.2
ICM				eS	Sn	09 17 19.2	-3.8
OBIP	Obispado Ponce	2.10	245	eS	Sn	09 17 19.6	-3.5
OBIP	Obispado Ponce	2.10	245	⇓eP	Pn	09 16 54.4	-2.2
OBIP				eS	Sn	09 17 19.6	-3.5
AOPR	Arecibo Observ	2.12	254	eS	Sn	09 17 19.6	-4.0
AOPR	Arecibo Observ	2.12	254	⇑eP	Pn	09 16 54.5	-2.4
AOPR				eS	Sn	09 17 19.6	-4.0
LRS	Lares	2.22	254	⇑eP	Pn	09 16 55.9	-2.4
LRS				eS	Sn	09 17 22.2	-3.9
AGPR	Aguadilla, PR	2.42	259	eS	Sn	09 17 27.0	-4.0
AGPR	Aguadilla, PR	2.42	259	⇑eP	Pn	09 16 58.2	-2.8
AGPR				eS	Sn	09 17 27.0	-4.0
LSP	Las Mesas	2.47	253	eS	Sn	09 17 29.0	-3.4
LSP	Las Mesas	2.47	253	⇑eP	Pn	09 16 59.9	-1.9
LSP				eS	Sn	09 17 29.0	-3.4
MGP	Maguayo	2.54	249	⇓eP	Pn	09 17 00.5	-2.1
MGP				eS	Sn	09 17 30.6	-3.2
CRPR	Cabo Rojo, PR	2.55	249	eS	Sn	09 17 31.1	-3.2
CRPR	Cabo Rojo, PR	2.55	249	⇑eP	Pn	09 17 00.7	-2.2
CRPR				eS	Sn	09 17 31.1	-3.2

IDC 27 09:33:59.1±27.0, 1916S×17375W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/16, mbtmp4.1/4, Error ellipse: s-maj=506.1km s-min=162.5km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.63	262	P	P	09 41 16.5	+0.8
	1.5nm,0.3s,baz=91,slow=13,SNR=5.8						
STKA	Stephens Creek	41.97	243	P	P	09 41 51.1	-0.7
	2.8nm,1.1s,baz=91,slow=12,SNR=3.5						
ASAR	Alice Springs	48.73	255	P	P	09 42 46.2	+0.8
	2.3nm,0.6s,baz=95,slow=8.2,SNR=42						
WRA	Warramunga Arr	48.77	260	P	P	09 42 45.8	+0.1
	0.5nm,0.3s,baz=96,slow=7.4,SNR=38						

IDC 27 09:49:33.5±1.2, 4212N×7309E, h0km, mb3.7/7, mb1 3.9/11, mb1mx3.7/26, mbtmp3.8/11, ML3.5/4, Error ellipse: s-maj=18.0km s-min=13.0km az=170.0
KNET 27 09:49:34.7±0.7, 4216N×7331E, h11km±2km, ml3.2, Error ellipse: s-maj=4.1km s-min=2.9km az=78.0
ISCJB 27 09:49:35.4±1.2, 4248N±005×7300E±004, h13km±8km, mb3.7/8, Error ellipse: s-maj=8.7km s-min=5.1km az=15.7
MOS 27 09:49:36.6±1.1, 4256N×7304E, h13km, mb4.3/1, Error ellipse: s-maj=13.7km s-min=8.4km az=99.3
NNC 27 09:49:36.7±1.2, 4242N×7309E, h8km±4km, mb3.9, mpv3.7, Error ellipse: s-maj=12.8km s-min=5.4km az=7.0
NEIC 27 09:49:37.4±1.0, 4242N×7305E, h10km, mb4.0/1, Error ellipse: s-maj=15.2km s-min=8.5km az=158.0

ISC 27 09:49:35.8±1.1, 4239N±005×7308E±004, h6km±7km, n48, σ1°22/71, mb3.7/8, 28C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.53	119	P	Pg	09 49 40.7	-5.2
	931nm,0.2s,SNR=1246						
AML				⇓S	Sg	09 49 46.0	-6.8
	2μm,0.3s						
EKS2	Erkin-Say	0.58	62	⇓P	Pg	09 49 46.6	-0.5
	254nm,0.5s,SNR=98						
EKS2				⇓S	Sg	09 49 56.2	+1.5
	245nm,0.1s						
AAK	Ala-Archa	1.07	76	P	Pg	09 49 53.8	-2.7
	94nm,0.2s,SNR=204						
AAK				⇑S	Sg	09 50 08.4	-2.1
	225nm,0.4s						
UCH	Uchtor	1.08	98	P	Pg	09 49 52.0	-4.5
	109nm,0.2s,SNR=465						
USP	Ospenovka	1.36	50	⇓P	Pn	09 50 01.0	-0.4
	95nm,0.2s,SNR=156						
USP				⇑S	Sb	09 50 21.5	+2.0
	442nm,0.1s						
CHMS	Chumysh	1.38	63	⇓P	Pn	09 50 00.4	-1.2
	102nm,0.2s,SNR=45						
CHMS				⇓S	Sb	09 50 19.5	-0.3
	149nm,0.1s						
KBK	Karagaybulak	1.41	78	⇓P	Pn	09 49 59.6	-2.5
	86nm,0.1s,SNR=71						
KZA	Kyzart	1.64	100	P	Pn	09 50 02.0	-3.2
	150nm,0.2s,SNR=480						
KZA				⇓S	Sn	09 50 22.7	-4.0
	237nm,0.2s						
TKM2	Tokmak 2	1.93	73	⇓P	Pn	09 50 09.0	-0.3
	14nm,0.1s,SNR=239						
TKM2				⇑S	Sn	09 50 36.5	+2.6
	324nm,0.2s						
TKM2	Tokmak 2	1.93	73	⇓P	Pn	09 50 08.9	-0.3
	8.5nm,0.5s						
TKM2				⇑S	Sn	09 50 36.3	+2.4
	21nm,0.6s						
TKM2	Tokmak 2	1.93	73	PN	Pn	09 50 08.9	-0.4
TKM2						09 50 36.5	
TKM2				pmax	pmax		
	comp=Z,20nm,0.2s						
KK31	Karatay Array	2.02	292	⇑Pn	Pn	09 50 12.5	+2.0
	comp=Z,16nm,0.2s,baz=121,slow=13,SNR=683						
KK31				⇑Lg		09 50 42.6	
	comp=Z,85nm,0.3s,baz=124,slow=31,SNR=15						
KKAR	Karatay Array	2.02	292	PN	Pn	09 50 12.5	+2.0
KKAR						09 50 42.5	
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.2s						
ULHL	Ulahol	2.35	92	⇑P	Pn	09 50 14.8	-0.2
	comp=Z,64nm,0.2s,SNR=232						
KNDC	Almaty	2.98	73	⇑Pn	Pn	09 50 27.7	+4.1
	comp=Z,47nm,0.4s						
KNDC				⇑Lg		09 51 08.0	
	102nm,0.2s,SNR=207						
MK31	Makanchi Array	7.91	53	⇑Pn	Pn	09 51 33.2	+1.7
	comp=Z,1.4nm,0.4s,baz=228,slow=14,SNR=38						
MK31				⇑Sn	Sn	09 53 15.3	+14
	comp=Z,7.4nm,0.8s						
MK31				⇑Lg		09 53 45.8	
	comp=Z,5.5nm,0.6s,baz=233,slow=28,SNR=4.0						
MKAR	Makanchi Array	7.91	53	Pn	Pn	09 51 32.2	+0.8
	comp=Z,0.9nm,0.3s,baz=228,slow=14,SNR=34						
MKAR				Sn	Sn	09 53 16.6	+15
	comp=Z,0.5nm,0.3s,baz=238,slow=18,SNR=2.6						
MKAR				Lg		09 53 46.9	
	comp=Z,1.3nm,0.3s,baz=234,slow=28,SNR=5.7						
MKAR	Makanchi Array	7.91	53	Pn	Pn	09 51 32.2	+0.8
MKAR				Sn	Sn	09 53 16.6	+15
MKAR				Lg		09 53 46.9	
KURK	Kurchatov	9.16	23	⇑Pn	Pn	09 51 49.0	+0.5
	comp=Z,1.5nm,1.3s						
KURK				⇓Lg		09 54 25.1	
	comp=Z,8.5nm,0.7s						
KURK	Kurchatov	9.16	23	eP	Pn	09 51 49.5	+1.0
VOSK	Vostochnaya	10.44	353	⇑Pn	Pn	09 52 06.1	+0.1
	comp=Z,1.1nm,0.5s						
VOSK				⇑Sn	Sn	09 54 02.6	-0.7
	comp=Z,2.1nm,0.4s						
VOSK				⇑Lg		09 55 04.1	
	comp=Z,16nm,0.8s						
BVA0	Borovoye Array	10.79	351	⇑Pn	Pn	09 52 11.5	+0.6
	comp=Z,0.4nm,0.6s,baz=161,slow=14,SNR=11						
BVA0				⇑Sn	Sn	09 54 11.6	-0.5
	comp=Z,0.3nm,0.4s,baz=161,slow=24,SNR=3.6						
BVA0				⇑Lg		09 55 20.5	
	comp=Z,2.5nm,1.0s,baz=163,slow=28,SNR=3.5						
BVAR	Borovoye Array	10.79	351	Pn	Pn	09 52 11.0	0.0
	comp=Z,1.0nm,0.3s,baz=164,slow=13,SNR=14						
BVAR				Sn	Sn	09 54 12.1	+0.1
	comp=Z,1.1nm,0.3s,baz=164,slow=23,SNR=5.3						
BVAR				Lg		09 55 20.8	
	comp=Z,0.8nm,0.3s,baz=159,slow=29,SNR=3.5						
BVAR	Borovoye Array	10.79	351	P	Pn	09 52 11.0	+0.1
BVAR						09 54 12.1	
BRVK	Borovoye	10.84	351	ePn	Pn	09 52 12.0	+0.4
ZRNK	Zerenda	10.92	347	⇑Pn	Pn	09 52 12.9	+0.3
	comp=Z,3.4nm,0.8s						
ZRNK				⇑Sn	Sn	09 54 13.7	-1.3
	comp=Z,2.3nm,0.6s						
ZRNK				⇓Lg		09 55 24.3	
	comp=Z,29nm,1.5s						
ZRNK	Zerenda	10.92	347	ePn	Pn	09 52 13.0	+0.4
	comp=Z,4.5nm,0.6s						
ZRNK				eSn	Sn	09 54 14.1	-1.0
ZRNK	Zerenda	10.92	347	eP	Pn	09 52 13.0	+0.4
ZRNK				e		09 54 14.1	
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHKZ	Chkalovo	11.41	353	⇑Pn	Pn	09 52 20.4	+1.0
	comp=Z,1.7nm,0.7s						
CHKZ				⇑Sn	Sn	09 54 26.8	-0.4
	comp=Z,2.6nm,0.8s						
CHKZ				⇑Lg		09 55 37.3	
	comp=Z,7.8nm,0.7s						
CHKZ	Chkalovo	11.41	353	ePn	Pn	09 52 20.7	+1.3
	comp=Z,2.0nm,0.4s						
CHKZ	Chkalovo	11.41	353	P	Pn	09 52 20.5	+1.1
AB31	Akbulak array	11.44	311	⇑Pn	Pn	09 52 20.1	+0.3
	comp=Z,4.9nm,0.7s,baz=119,slow=12,SNR=60						
AB31				⇑Sn	Sn	09 54 26.7	-1.2
	comp=Z,2.6nm,0.8s,baz=120,slow=25,SNR=4.2						
AB31	Akbulak array	11.44	311	iP	Pn	09 52 20.1	+0.3
AKTK	Aktyubinsk	13.13	313	Pn	Pn	09 52 42.2	-0.6
AKTK				Sn	Sn	09 55 07.3	-1.8
AKTO	Aktyubinsk	13.13	313	⇑Pn	Pn	09 52 43.2	+0.4
AKTO				⇑Sn	Sn	09 55 08.7	-0.4
	comp=Z,0.1nm,1.4s						
AKTO	Aktyubinsk	13.13	313	Pn	Pn	09 52 42.2	-0.6
	comp=Z,0.4nm,0.3s,baz=123,slow=16,SNR=9.6						
AKTO				Sn	Sn	09 55 07.3	-1.8
	comp=Z,0.1nm,0.3s,baz=179,slow=22,SNR=2.6						
ZAL	Zalesovo	13.93	30	Pn	Pn	09 52 54.7	+0.9
	comp=Z,0.2nm,0.3s,baz=170,slow=6.1,SNR=2.2						
ZAL				Sn	Sn	09 55 38.3	+10
	comp=Z,0.1nm,0.3s,baz=299,slow=21,SNR=3.1						
ZAL				Lg		09 56 58.1	
	comp=Z,0.1nm,0.3s,baz=143,slow=20,SNR=2.1						
ZAL	Zalesovo	13.93	30	Pn	Pn	09 52 54.7	+0.9
ZAL				Sn	Sn	09 55 38.3	+10
ZAL				Lg		09 56 58.1	
ZAL	Zalesovo	13.93	30	P	Pn	09 52 54.7	+0.9
ZAL						09 55 38.3	
GNI	Garni	21.38	274	eP	P	09 54 25.4	+1.4
	comp=Z,3.3nm,0.4s,mb4.0						
GNI	Garni	21.38	274	eP	P	09 54 25.4	+1.3
GNI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES	FINESS Array B	33.71	321	P	P	09 56 18.8	+0.9
	comp=Z,1.3nm,0.9s,mb3.9,baz=108,slow=10,SNR=4.1						
ARCES	ARCESS Array B	36.43	334	P	P	09 56 42.6	+1.3
	comp=Z,1.7nm,0.8s,mb4.0,baz=112,slow=8.0,SNR=7.0						
NOA	NORSAR Array B	40.82	319	P	P	09 57 18.4	+0.2
	comp=Z,0.9nm,0.8s,mb3.4,baz=93,slow=7.6,SNR=3.1						
GERES	GERESS Array B	41.10	300	P	P	09 57 20.7	+0.3
	comp=Z,0.5nm,0.5s,mb3.4,baz=78,slow=9.1,SNR=2.8						
TORD	Torodi Ar. Bea	67.53	267	P	P	10 00 30.4	-2.5
	comp=Z,0.5nm,0.6s,mb3.8,baz=43,slow=4.2,SNR=7.5						
ILAR	Eielson Array	68.68	17	P	P	10 00 39.7	-0.5
	comp=Z,0.4nm,1.0s,mb3.3,baz=324,slow=7.0,SNR=5.1						
YKA	Yellowknife Ar	75.29	4	P	P	10 01 19.6	-0.2
	comp=Z,0.3nm,0.5s,mb3.5,baz=351,slow=6.0,SNR=14						

IDC 27 09:58:30.6±2.4, 623S×12953E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/14, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=150.3km s-min=32.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.40	198	Sn	Sn	10 03 47.0	-0.2
	0.1nm,0.3s,baz=144,slow=19,SNR=2.8						
WRA	Warramunga Arr	14.41	162	Pn	Pn	10 01 54.7	-1.2
	0.1nm,0.3s,baz=344,slow=13,SNR=3.5						
WRA				Sn	Sn	10 04 23.1	-13
	0.2nm,0.3s,baz=339,slow=25,SNR=5.0						
ASAR	Alice Springs	17.84	167	P	Pn	10 02 41.5	+1.2
	0.0nm,0.3s,baz=346,slow=9.6,SNR=4.6						
ASAR				S	Sn	10 05 48.1	-12
	0.0nm,0.3s,baz=302,slow=38,SNR=3.0						
MKAR	Makanchi Array	67.33	327	P	P	10 09 27.6	+0.2
	0.3nm,0.4s,baz=134,slow=6.2,SNR=4.7						

ISCJB 27 10:07:32.6±0.7, 4986S±007×127.1E±03, h10km, mb4.5/8, MS3.9/9, Error ellipse: s-maj=24.6km s-min=10.6km az=179.5
IDC 27 10:07:32.6±1.0, 4988S×12723E, h0km, mb4.6/7, mb1 4.7/8, mb1mx4.5/14, mbtmp4.6/8, ML2.1/1, MS3.9/10, Ms1 3.9/10, ms1mx3.7/19, Error ellipse: s-maj=51.4km s-min=17.4km az=99.0
NEIC 27 10:07:34.6±0.5, 4988S×12705E, h10km, mb4.6/7, Error ellipse: s-maj=22.5km s-min=9.6km az=92.0

ISC 27 10:07:34.2±0.7, 4988S±007×1270E±03, h10km, n32, σ0°83/18, mb4.5/9, MS3.9/9, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	18.44	333	P	Pn	10 11 49.4	-0.4
	0.3nm,0.3s,baz=154,slow=5.2,SNR=4.0						
NWAO				LR	LR	10 17 14.7	
	comp=Z,486nm,18.5s,baz=339,slow=32						
FORT	Forrest	19.10	3	eP	Pn	10 11 57.9	+0.1
	48nm,0.9s						
KLBR	Kellerberrin	19.55	336	eP	Pn	10 12 03.2	0.0
	38nm,1.2s						
STKA	Stephens Creek	21.02	37	eP	P	10 12 17.2	-0.7
	39nm,0.9s,mb4.7						
STKA	Stephens Creek	21.02	37	P	P	10 12 17.0	-0.8
	41nm,0.9s,mb4.8,baz=200,slow=11,SNR=41						
STKA				LR	LR	10 19 09.8	
	comp=Z,384nm,19.0s,MS3.8,baz=206,slow=33						
STKA	Stephens Creek	21.02	37	eP	P	10 12 17.2	-0.7
STKA				e		10 12 23.6	
ASAR	Alice Springs	26.71	14	P	P	10 13 13.7	+0.1
	25nm,0.9s,mb4.7,baz=186,slow=9.3,SNR=86						
RPZ	Rata Peaks	30.40	95	LR	LR	10 23 05.6	
	comp=Z,381nm,18.7s,MS4.1,baz=7.2,slow=31						
WRA	Warramunga Arr	30.43	14	P	P	10 13 46.2	-0.5
	4.2nm,1.0s,mb4.1,baz=197,slow=9.8,SNR=11						
WB2	Warramunga Arr	30.44	14	eP	P	10 13 46.3	-0.5
WRAB	Tennant Creek	30.45	14	eP	P	10 13 49.0	+2.2
	4.7nm,0.7s,mb4.3						
VNDA	Vanda	30.70	166	P	P	10 13 48.0	-1.1
	5.5nm,0.9s,mb4.4,baz=326,slow=7.9,SNR=12						
VNDA				LR	LR	10 25 02.6	
	comp=Z,170nm,19.2s,MS3.7,baz=326,slow=34						
VNDA	Vanda	30.70	166	eP	P	10 13 48.9	-0.2
	6.3nm,1.0s,mb4.4						
VNDA				LR	LR	10 25 02.6	
CTA	Charters Tower	33.43	34	LR	LR	10 26 54.6	
	comp=Z,239nm,20.0s,MS3.9,baz=222,slow=35						
MAW	Mawson	35.67	216	LR	LR	10 27 51.3	
	comp=Z,162nm,20.3s,MS3.8,baz=227,slow=34						
QSPA	South Pole Qui	40.24	180	eP	P	10 15 11.7	+0.7
	15nm,1.1s,mb4.7						
DZM	Mont Dzumac	41.53	63	LR	LR	10 29 05.0	
	comp=Z,217nm,18.8s,MS4.0,baz=20,slow=31						
PMG	Port Moresby	43.68	29	P	P	10 15 38.3	-0.8
	17nm,0.9s,mb4.8,baz=235,slow=12,SNR=2.2						
PMG	Port Moresby	43.68	29	eP	P	10 15 41.8	+2.6
	12nm,0.7s,mb4.7						
SNAA	Sanae	53.69	198	P	P	10 16 56.0	-0.1
	9.4nm,1.0s,mb4.7,baz=146,slow=7.3,SNR=14						
SNAA	Sanae	53.69	198	eP	P	10 16 56.1	0.0
	30nm,1.1s,mb5.1						
PSI	Prapat	57.80	326	LR	LR	10 40 55.6	
	comp=Z,56nm,18.1s,MS3.7,baz=259,slow=35						
TBI	Tubuai	68.42	101	eLR	LR	10 39 54.5	
	94nm,27.8s						
PPT	Papeete	72.55	97	eLR	LR	10 41 49.2	
	63nm,21.8s						
BOSA	Boshof	75.69	243	LR	LR	10 45 57.8	
	comp=Z,77nm,19.1s,MS4.0,baz=113,slow=30						
RKT	Rikitea	77.58	111	eLR	LR	10 44 09.0	
	60nm,22.8s						
MJAR	Matsushiro Arr	86.61	9	P	P	10 20 17.5	-0.2
	0.6nm,0.4s,mb4.2,baz=186,slow=6.6,SNR=4.2						
SONM	Songino Array	98.95	346	LR	LR	11 11 55.1	
	comp=Z,43nm,18.4s,MS4.0,baz=186,slow=39						
BRVK	Borovoye	113.20	327	ePKPdf	PKiKP	10 26 04.5	-7.4
CHKZ	Chkalovo	113.58	327	ePKPdf	PKiKP	10 26 11.5	-1.1
YKA	Yellowknife Ar	144.89	45	PKP	PKPdf	10 27 10.0	-1.4
	4.5nm,1.0s,baz=266,slow=3.3,SNR=36						
YKW3	Yellowknife Ar	144.89	45	ePKPdf	PKPdf	10 27 10.4	-1.0

IDC 27 10:37:41.2±1.6, 372S×13461E, h0km, mb3.5/2, mb1 4.1/4, mb1mx3.8/12, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=71.0km s-min=29.6km az=92.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	16.13	181	eP	Pn	10 41 23.6	-5.6
WRA	Warramunga Arr	16.13	181	Pn	Pn	10 41 23.1	-6.1
	0.1nm,0.3s,baz=6.5,slow=13,SNR=13						
WRA				Sn	Sn	10 44 14.5	-14
	0.2nm,0.3s,baz=8.2,slow=23,SNR=5.6						
FITZ	Fitzroy Crossi	16.78	211	Pn	Pn	10 41 39.7	+2.2
	0.1nm,0.3s,baz=40,slow=16,SNR=4.3						
FITZ				Sn	Sn	10 44 38.2	-6.3
	0.1nm,0.3s,baz=90,slow=20,SNR=2.2						
ASAR	Alice

10nm,0.9s,mb4.8
WVOR Wild Horse Val 76.34 39 *e*P **P 11 08 41.5 +0.1**
5.3nm,1.1s,mb4.4
PV10 Paradox Valley 80.45 46 *e*P **P 11 09 04.8 +0.7**
PV01 Paradox Valley 80.66 46 *e*P **P 11 09 06.3 +1.0**
ANMO Albuquerque 80.76 50 *e*P **P 11 09 06.7 +0.9**
1.7nm,1.1s,mb3.9
MCK McKinley 80.91 11 *e*P **P 11 09 06.3 -0.3**
0.9nm,0.7s,mb3.8
MCMT McKenzie Canyo 81.16 39 *e*P **P 11 09 09.0 +1.0**
PDAR Pinedale Array 82.18 42 P **P 11 09 13.3 0.0**
1.0nm,0.9s,mb3.8,baz=222,slow=2.0,SNR=9.1
PDAR LR LR 11 40 59.0
comp=Z,114nm,19.1s,MS4.3,baz=163,slow=32
ILAR Eielson Array 82.23 11 P **P 11 09 12.9 -0.7**
0.4nm,0.6s,mb3.5,baz=229,slow=6.3,SNR=12
INK Inuvik 88.06 14 *e*P **P 11 09 45.9 +3.1**
6.6nm,1.4s,mb4.7
YKA Yellowknife Ar 89.93 23 P **P 11 09 51.1 -0.4**
0.3nm,0.8s,mb3.7,baz=238,slow=4.5,SNR=6.4
YKA LR LR 11 46 14.1
comp=Z,89nm,18.5s,MS4.2,baz=80,slow=33
BRTR Keskin Array B 145.87 321 PKPbc PKPbc 11 16 32.5 +0.9
2.0nm,0.9s,baz=100,slow=3.0,SNR=8.1
GERES GERESS Array B 145.87 351 PKPbc PKPbc 11 16 30.9 -0.7
0.4nm,0.2s,baz=335,slow=2.2,SNR=4.0

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*TIF **27** 12:19:12.6, 4302N×4603E, h77km±3km*
*CSEM **27** 12:19:13.6, 4308N×4596E, h24km, mb4.0, After OBN*
*MOS **27** 12:19:13.6±1.3, 4308N×4596E, h24km, mb4.0/1, Error ellipse: s-maj=13.0km s-min=7.1km az=26.0*
*ISCJB **27** 12:19:14.7±0.4, 4303N±004×4590E±003, h24km, Error ellipse: s-maj=5.5km s-min=2.7km az=22.7*
ISC 27 12:19:15.0±0.4, 4303N±004×4592E±003, h24km, n30, σ1§29/51, 2C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.43**	**149**	*i* Pg	**Pb**	**12 19 24.8**	**+0.8**
	458nm,0.2s						
BTLR				*i* Sg	**Sb**	**12 19 35.0**	**+4.9**
BTLR	**Botlikh**	**0.43**	**149**	⇑*i*PG	**Pb**	**12 19 24.8**	**+0.8**
BTLR				*i* S	**Sb**	**12 19 35.0**	**+4.9**
BTLR				pmax	pmax		
	comp=Z,458nm,0.2s						
DLMR	**Dylym**	**0.52**	**86**	*i* Pg	**Pb**	**12 19 26.6**	**+1.1**
DBC	**Dubki**	**0.67**	**91**	*i* Pg	**Pb**	**12 19 27.0**	**-0.9**
	comp=Z,185nm,0.1s						
DBC				*i* Sg	**Sb**	**12 19 38.5**	**+1.7**
DBC	**Dubki**	**0.67**	**91**	*i* PG	**Pb**	**12 19 27.0**	**-0.9**
DBC				*i* S	**Sb**	**12 19 38.5**	**+1.7**
DBC				pmax	pmax		
	comp=Z,185nm,0.1s						
UNCR	**Uncukul**	**0.72**	**116**	*i* Pg	**Pb**	**12 19 27.7**	**-1.1**
	comp=Z,143nm,0.2s						
UNCR				*i* Sg	**Sb**	**12 19 39.7**	**+1.5**
UNCR	**Uncukul**	**0.72**	**116**	⇑*i*PG	**Pb**	**12 19 27.7**	**-1.1**
UNCR				*i* S	**Sb**	**12 19 39.7**	**+1.5**
UNCR				pmax	pmax		
	comp=Z,143nm,0.2s						
XNZR	**Khunzakh**	**0.76**	**130**	*i* Pg	**Pb**	**12 19 31.0**	**+1.5**
	comp=Z,87nm,0.2s						
XNZR				*i* Sg	**Sb**	**12 19 44.0**	**+4.6**
XNZR	**Khunzakh**	**0.76**	**130**	*i* PG	**Pb**	**12 19 31.0**	**+1.5**
XNZR				*i* S	**Sb**	**12 19 44.0**	**+4.6**
XNZR				pmax	pmax		
	comp=Z,87nm,0.2s						
SNJR	**Sundja**	**0.81**	**273**	*i* Pg	**Pb**	**12 19 32.2**	**+1.8**
SNJR				*i* Sg	**Sb**	**12 19 46.0**	**+5.0**
BUJR	**Buynaksk**	**0.90**	**103**	*e*Pg	**Pb**	**12 19 30.0**	**-1.8**
BUJR				*e*Sg	**Sb**	**12 19 44.5**	**+1.1**
VLKR	**Vladikavkaz**	**0.91**	**271**	*i* Pg	**Pb**	**12 19 33.0**	**+0.9**
VLKR				*i* Sg	**Sb**	**12 19 47.5**	**+3.7**
GNBR	**Gunib**	**1.00**	**130**	*e*Pg	**Pn**	**12 19 30.0**	**-3.5**
GNBR				*i* Sg	**Sb**	**12 19 45.0**	**-1.4**
MAK	**Makhachkala**	**1.17**	**93**	*e*Pg	**Sn**	**12 19 52.1**	**+1.2**
	comp=Z,433nm,0.4s						
MAK	**Makhachkala**	**1.17**	**93**	*e*PG	**Sn**	**12 19 52.1**	**+1.2**
MAK				pmax	pmax		
	comp=N,433nm,0.4s						
LACR	**Lac**	**1.21**	**261**	*i* Pg	**Pn**	**12 19 35.4**	**-1.0**
LACR				*i* Sg	**Sn**	**12 19 51.6**	**-0.4**
ARNR	**Ardon**	**1.21**	**278**	*i* PG	**Pn**	**12 19 36.9**	**+0.5**
ARNR				*i* S	**Sn**	**12 19 54.2**	**+2.2**
KMKR	**Kumukh**	**1.25**	**136**	*i* Pg	**Pn**	**12 19 34.2**	**-2.8**
	comp=N,85nm,0.1s						
KMKR				*i* Sg	**Sn**	**12 19 51.2**	**-1.9**
KMKR	**Kumukh**	**1.25**	**136**	*i* PG	**Pn**	**12 19 34.2**	**-2.8**
KMKR				*i* S	**Sn**	**12 19 51.2**	**-1.9**
KMKR				pmax	pmax		
	comp=Z,85nm,0.1s						
KORR	**Kora**	**1.36**	**273**	*i* Pg	**Pn**	**12 19 38.3**	**-0.1**
KORR				*i* Sg	**Sn**	**12 19 56.6**	**+0.9**
PRTR	**Priterechnaya**	**1.39**	**302**	*i* Pg	**Pn**	**12 19 37.9**	**-1.0**
PRTR				*i* Sg	**Sn**	**12 19 58.2**	**+1.7**
ZEI	**Tsey**	**1.51**	**261**	*i* Pg	**Pn**	**12 19 38.9**	**-1.6**
TBLG	**Delisi**	**1.57**	**214**	P	**Pn**	**12 19 40.9**	**-0.4**
TBLG				S	**Sn**	**12 20 01.0**	**+0.2**
MTA	**Mtatsminda**	**1.58**	**212**	P	**Pn**	**12 19 42.1**	**+0.7**
MTA				S	**Sn**	**12 20 01.2**	**+0.1**
DGRG	**David-gareji**	**1.63**	**195**	P	**Pn**	**12 19 42.3**	**+0.1**
DGRG				S	**Sn**	**12 20 03.4**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.72**	**266**	*i* Pn	**Pn**	**12 19 34.4**	**-9.0**
KUBR	**Kubataba**	**1.98**	**294**	*i* Pn	**Pn**	**12 19 46.1**	**-0.9**
PYA	**Pyatigorsk**	**2.31**	**297**	*i* Pn	**Pn**	**12 19 49.9**	**-1.6**
SHAR	**Shatzhatmas**	**2.47**	**288**	*i* Pn	**Pn**	**12 19 52.1**	**-1.6**
KIV	**Kislovodsk**	**2.53**	**292**	*i* Pn	**Pn**	**12 19 52.9**	**-1.6**

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*IDC **27** 12:58:51.6±7.3, 3765N×6961E, h50km±59km, mb3.0/2, mb1 3.2/4, mb1mx3.0/23, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=126.4km s-min=46.9km az=140.0*
*NNC **27** 12:58:57.9±2.2, 3737N×7037E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=36.1km s-min=18.5km az=99.0*
ISC 27 12:59:02.1±1.8, 374N±01×708E±02, h200km, n6, σ0§79/8, mb2.8/2, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.71**	**358**	⇑Pn	**Pn**	**13 00 26.7**	**+1.1**
	4.9nm,0.5s,baz=180,slow=13,SNR=60						
KK31				⇑Sn	**Sn**	**13 01 37.3**	**+5.7**
	3.8nm,0.4s,baz=187,slow=25,SNR=7.2						
MKAR	**Makanchi Array**	**12.66**	**39**	P	**Pn**	**13 01 54.7**	**-0.6**
	0.1nm,0.3s,baz=226,slow=16,SNR=4.5						
AB31	**Akbulak array**	**14.24**	**330**	⇑Pn	**Pn**	**13 02 19.1**	**+4.1**
	0.6nm,0.5s,baz=151,slow=15,SNR=17						
AB31				⇓Sn	**Sn**	**13 04 53.7**	**-0.5**
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**15.64**	**359**	P	**Pn**	**13 02 25.3**	**-6.7**
	0.3nm,0.3s,baz=194,slow=16,SNR=5.4						
TORD	**Torodi Ar. Bea**	**65.61**	**268**	P	**P**	**13 09 24.4**	**-0.1**
	0.1nm,0.4s,mb2.8,baz=56,slow=5.4,SNR=4.3						
YKA	**Yellowknife Ar**	**80.36**	**3**	P	**P**	**13 10 55.9**	**+4.8**
	0.2nm,0.7s,mb2.9,baz=350,slow=5.8,SNR=5.2						

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*IDC **27** 13:10:21.0±0.5, 5969S×26.11W, h0km, mb4.7/14, mb1 4.8/15, mb1mx4.7/18, mbtmp4.7/15, ML5.1/1, MS4.6/15, Ms1 4.5/15, ms1mx4.5/19, Error ellipse: s-maj=18.8km s-min=14.8km az=42.0*
*MOS **27** 13:10:24.7±1.5, 5963S×2601W, h33km, mb5.0/8, Error ellipse: s-maj=28.8km s-min=12.6km az=105.3*
*BJI **27** 13:10:25.9, 5970S×26.10W, h44km, mB5.3, Ms5.1, Msz4.7*
*ISCJB **27** 13:10:25.8±0.3, 5974S±006×26.1W±0.1, h45km, mb4.8/23, MS4.6/21, Error ellipse: s-maj=10.2km s-min=6.9km az=91.8*
*NEIC **27** 13:10:27.3±0.2, 5967S×2608W, mb4.9/18, Error ellipse: s-maj=8.5km s-min=6.3km az=211.0*
*HRVD **27** 13:10:27.3±0.2, 6006S×2565W, h37km, MW5.3/89, Centroid moment Tensor Solution. LP body waves: s75,c138;Mantle waves: s89,c142; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.72±.03; $M_{\theta\theta}$0.20±.02; $M_{\phi\phi}$-0.92±.02; $M_{r\theta}$-0.23±.03; $M_{\theta\phi}$-0.39±.02; $M_{\phi r}$0.30±.02; Best double couple: $M_0$0.99200×10^{17} NP1:ϕ223.00000°, δ44.00000°, λ131.00000°. NP2:ϕ353.00000°, δ58.00000°, λ57.00000°. Principal axes: T 0.9090, Plg62.0000°, Azm210.0000°; N 0.1670, Plg27.0000°, Azm12.0000°; P -1.0760, Plg7.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 13:10:24.7±3.4, 5972S±008×261W±01, h22km±25km, h43km±3.2km: pP-P, n116, σ0§89/52, mb4.8/23, MS4.6/21, 2C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.86**	**309**	*e*P	**Pn**	**13 12 26.3**	**+8.7**
	162nm,0.8s						
VNA1	**Neumayer--Stat**	**13.20**	**153**	*e*Pn	**Pn**	**13 13 30.3**	**-0.4**
VNA1				*e*		13 13 31.2	
VNA1				*e*		13 13 31.9	
VNA1				*e*		13 13 32.6	
VNA1				*e*		13 13 37.4	
VNA1				*e*		13 13 43.4	
VNA1				*e*		13 13 50.2	
VNA1				*e*		13 14 26.7	
VNA1				*e*		13 15 01.8	
VNA1				*e*		13 15 47.7	
VNA1				*e*		13 15 51.6	
VNA1				*e*		13 15 59.8	
VNA3	**Neumayer Olymp**	**13.35**	**157**	*e*Pn	**Pn**	**13 13 32.0**	**-0.8**
VNA3				*e*		13 13 32.7	
VNA3				*e*		13 13 33.6	
VNA3				*e*		13 13 34.4	
VNA3				*e*		13 13 35.3	
VNA3				*e*		13 13 43.9	
VNA3				*e*		13 13 47.9	
VNA3				*e*		13 13 56.9	
VNA3				*e*		13 14 00.4	
VNA3				*e*		13 15 04.9	
VNA3				*e*		13 15 49.4	
VNA3				*e*		13 15 54.5	
VNA3				*e*		13 15 58.2	
VNA2	**Neumayer--Watz**	**13.60**	**153**	*e*Pn	**Pn**	**13 13 35.4**	**-0.8**
	baz=311,slow=12						
VNA2				*e*		13 13 36.4	
VNA2				*e*		13 13 37.1	
VNA2				*e*		13 13 37.9	
VNA2				*e*		13 13 38.8	
VNA2				*e*		13 13 44.6	
VNA2				*e*		13 13 47.0	
VNA2				*e*		13 13 50.3	
VNA2				*e*		13 13 55.4	
VNA2				*e*		13 14 01.2	
VNA2				*e*		13 14 05.1	
VNA2				*e*		13 14 30.2	
VNA2				*e*		13 14 39.8	
VNA2				*e*		13 14 51.0	
VNA2				*e*		13 15 07.1	
VNA2				*e*		13 15 56.1	
VNA2				*e*		13 15 58.7	
VNA2				*e*		13 16 00.7	
VNA2				*e*		13 16 09.9	
SNAA	**Sanae**	**15.18**	**152**	Pn	**Pn**	**13 13 56.9**	**-0.7**
	7.1nm,0.3s,baz=317,slow=13,SNR=293						
SNAA				Sn	**Sn**	**13 16 32.9**	**-12**
	1.6nm,0.3s,baz=333,slow=22,SNR=4.5						
SNAA				LR	LR	13 18 40.7	
	comp=Z,977nm,19.7s,baz=318,slow=33						
SNAA	**Sanae**	**15.18**	**152**	*e*Pn	**Pn**	**13 13 56.9**	**-0.8**
SNAA				*e*		13 13 57.7	
SNAA				*e*		13 13 59.0	
SNAA				*e*		13 13 59.9	
SNAA				*e*		13 14 02.5	
SNAA				*e*		13 14 10.3	
SNAA				*e*		13 16 33.5	
SNAA				*e*		13 16 37.3	
SNAA				*e*		13 16 43.6	
SNAA				*e*		13 16 48.6	
SNAA				*e*		13 16 54.8	
SNAA	**Sanae**	**15.18**	**152**	*e*Pn	**Pn**	**13 13 56.8**	**-0.9**
	80nm,0.5s						
SNAA				*e*Sn	**Sn**	**13 16 27.9**	**-17**
SNAA	**Sanae**	**15.18**	**152**	*e*P	**Pn**	**13 13 56.8**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,80nm,0.5s						
PMSA	**Palmer Station**	**18.17**	**238**	*e*P	**Pn**	**13 14 36.0**	**+0.5**
	comp=Z,56nm,1.0s						
NVL	**N'lazarevskaya**	**18.95**	**141**	⇑*i*P	**Pn**	**13 14 46.0**	**+1.1**
NVL				pmax	pmax		
	comp=Z,51nm,1.3s						
NVL				pmax	pmax		
	comp=Z,582nm,21.3s						
EFI	**East Falkland**	**19.56**	**280**	*e*P	**Pn**	**13 14 53.1**	**+0.8**
	comp=Z,62nm,0.5s						
EFI	**East Falkland**	**19.56**	**280**	*e*P	**Pn**	**13 14 53.1**	**+0.8**
EFI				pmax	pmax		
	comp=Z,62nm,0.5s						
USHA	**Ushuaia**	**23.09**	**263**	P	**P**	**13 15 29.0**	**+0.1**
	comp=Z,43nm,0.8s,mb4.9,baz=95,slow=11,SNR=18						
USHA				LR	LR	13 22 25.4	
	comp=Z,3μm,21.9s,MS4.7,baz=88,slow=31						
SYO	**Syowa Base**	**28.44**	**136**	⇓*e*pP	pP	13 16 27.1	+2.7
SYO	**Syowa Base**	**28.44**	**136**	⇓*e*PnPn		13 17 07.1	
QSPA	**South Pole Qui**	**30.52**	**180**	*e*P	**P**	**13 16 38.0**	**+1.8**
	comp=Z,25nm,1.1s,mb5.0						
TRQA	**Tornquist**	**31.42**	**297**	*e*P	**P**	**13 16 44.7**	**+0.5**
	comp=Z,12nm,0.6s,mb4.9						
PLCA	**Paso Flores**	**33.36**	**285**	P	**P**	**13 17 01.1**	**0.0**
	comp=Z,6.7nm,0.6s,mb4.8,baz=143,slow=8.4,SNR=24						
PLCA				LR	LR	13 30 47.6	
	comp=Z,720nm,19.0s,MS4.4,baz=154,slow=37						
PLCA	**Paso Flores**	**33.36**	**285**	*e*P	**P**	**13 17 00.7**	**-0.5**
	comp=Z,6.9nm,0.6s,mb4.8						
PLCA	**Paso Flores**	**33.36**	**285**	*e*P	**P**	**13 17 00.7**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAW	**Mawson**	**36.89**	**140**	P	**P**	**13 17 32.1**	**+0.5**
	comp=Z,19nm,1.0s,mb4.9,baz=274,slow=7.7,SNR=7.1						
MAW				LR	LR	13 30 46.1	
	comp=Z,1μm,20.5s,MS4.7,baz=242,slow=33						
CFAA	**Coronel Fontan**	**39.63**	**296**	LR	LR	13 33 29.2	
	comp=Z,118nm,21.6s,MS3.7,baz=156,slow=35						
CPUP	**Villa Florida**	**39.72**	**313**	P	**P**	**13 17 55.8**	**+0.4**
	comp=Z,3.6nm,0.5s,mb4.4,baz=132,slow=6.0,SNR=10						
CPUP				LR	LR	13 33 36.8	
	comp=Z,525nm,19.9s,MS4.4,baz=146,slow=35						
CPUP	**Villa Florida**	**39.72**	**313**	*e*P	**P**	**13 17 54.0**	**-1.4**
	comp=Z,24nm,0.4s,mb5.3						
CPUP	**Villa Florida**	**39.72**	**313**	*e*P	**P**	**13 17 54.0**	**-1.4**
CPUP				pmax	pmax		
	comp=Z,24nm,0.4s						
SUR	**Sutherland**	**41.20**	**70**	P	**P**	**13 18 10.6**	**+3.0**
	comp=Z,22nm,1.1s,mb4.7						
VNDA	**Vanda**	**42.92**	**183**	P	**P**	**13 18 22.8**	**+1.1**
	comp=Z,9.4nm,0.8s,mb4.5,baz=186,slow=5.9,SNR=19						
VNDA				LR	LR	13 35 11.0	
	comp=Z,512nm,18.5s,MS4.5,baz=178,slow=35						
VNDA	**Vanda**	**42.92**	**183**	*e*P	**P**	**13 18 23.2**	**+1.5**
	comp=Z,20nm,1.3s,mb4.7						
VNDA	**Vanda**	**42.92**	**183**	*e*P	**P**	**13 18 23.2**	**+1.5**
VNDA				pmax	pmax		
	comp=Z,20nm,1.3s						
BOSA	**Boshof**	**46.45**	**71**	P	**P**	**13 18 49.8**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.3,baz=118,slow=2.5,SNR=5.1						
BOSA				LR	LR	13 34 35.3	
	comp=Z,688nm,19.0s,MS4.6,baz=211,slow=31						
BOSA	**Boshof**	**46.45**	**71**	*e*P	**P**	**13 18 49.8**	**-0.1**
	comp=Z,13nm,0.9s,mb4.9						
BOSA				*e*pP	pP	13 19 02.9	+6.3
BOSA	**Boshof**	**46.45**	**71**	*e*P	**P**	**13 18 49.8**	**0.0**
BOSA				*e**PP	pP	13 19 02.9	+6.3
BOSA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
BDFB	**Brasilia**	**46.85**	**330**	P	**P**	**13 18 52.2**	**-0.7**
	comp=Z,2.7nm,0.3s,mb4.6,baz=155,slow=4.5,SNR=5.2						
BDFB				LR	LR	13 36 01.4	
	comp=Z,770nm,20.6s,MS4.7,baz=158,slow=33						
LVC	**Limon Verde**	**47.69**	**302**	LR	LR	13 38 01.1	
	comp=Z,596nm,20.3s,MS4.5,baz=329,slow=35						
LVC	**Limon Verde**	**47.69**	**302**	*e*P	**P**	**13 18 59.6**	**+0.1**
	comp=Z,11nm,0.4s,mb5.2						
LBTB	**Lobatse**	**49.65**	**69**	P	**P**	**13 19 14.8**	**+0.3**
	comp=Z,4.2nm,0.9s,mb4.5,baz=237,slow=15,SNR=4.9						
LBTB	**Lobatse**	**49.65**	**69**	*e*P	**P**	**13 19 13.7**	**-0.9**
	comp=Z,10nm,1.0s,mb4.8						
LBTB				*e*pP	pP	13 19 26.9	+5.5
LBTB	**Lobatse**	**49.65**	**69**	*e*P	**P**	**13 19 13.7**	**-0.8**
LBTB				*e**PP	pP	13 19 26.9	+5.5
LBTB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
TSUM	**Tsumeb**	**51.08**	**57**	*e*P	**P**	**13 19 26.5**	**+1.0**
	comp=Z,15nm,1.2s,mb4.8						
TSUM				*e*pP	pP	13 19 37.0	+4.7
LPAZ	**La Paz**	**53.00**	**306**	P	**P**	**13 19 40.0**	**+0.4**
	comp=Z,4.5nm,0.4s,mb4.8,baz=89,slow=6.3,SNR=40						
LPAZ	**La Paz**	**53.00**	**306**	*e*P	**P**	**13 19 39.7**	**0.0**
	comp=Z,4.6nm,0.4s,mb4.8						
LPAZ	**La Paz**	**53.00**	**306**	*e*P	**P**	**13 19 39.7**	**0.0**
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.4s						
LSZ	**Lusaka**	**59.26**	**66**	*e*P	**P**	**13 20 24.6**	**+0.2**
	comp=Z,9.1nm,0.8s,mb4.9						
LSZ				*e*pP	pP	13 20 37.5	+6.1
LSZ	**Lusaka**	**59.26**	**66**	*e*P	**P**	**13 20 24.6**	**+0.2**
LSZ				*e**PP	pP	13 20 37.5	+6.2
LSZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
DBIC	**Dimbokro**	**68.30**	**23**	P	**P**	**13 21 24.1**	**+0.1**
	comp=Z,3.4nm,0.7s,mb4.5,baz=150,slow=6.9,SNR=6.6						
DBIC				LR	LR	13 44 00.3	
	comp=Z,196nm,20.8s,MS4.3,baz=155,slow=30						
DBIC	**Dimbokro**	**68.30**	**23**	*e*P	**P**	**13 21 23.8**	**-0.2**
OTAV	**Otavalo**	**72.18**	**304**	*e*P	**P**	**13 21 47.8**	**0.0**
	comp=Z,15nm,1.1s,mb4.8						
ROSC	**El Rosal**	**74.70**	**310**	LR	LR	13 55 01.1	
	comp=Z,332nm,21.6s,MS4.6,baz=191,slow=36						
KMBO	**Kilima Mbogo**	**75.87**	**67**	LR	LR	13 52 32.6	
	comp=Z,1μm,19.2s,MS5.3,baz=273,slow=33						
TORD	**Torodi Ar. Bea**	**76.00**	**28**	P	**P**	**13 22 10.2**	**+0.2**
	comp=Z,6.3nm,0.4s,mb4.9,baz=199,slow=6.2,SNR=82						
SDV	**Santo Domingo**	**77.02**	**315**	*e*P	**P**	**13 22 14.0**	**-1.8**
	comp=Z,4.8nm,0.6s,mb4.6						
RKT	**Rikitea**	**79.30**	**242**	*e*S	S	13 32 27.5	-0.1
	comp=Z,117nm,25.0s						
RKT				*e*LQ		13 43 55.2	
	comp=Z,479nm,30.8s						
RKT				*e*LR	LR	13 47 13.1	
	comp=Z,762nm,28.5s						
MUN	**Mundaring**	**83.48**	**148**	*e*P	**P**	**13 22 50.6**	**0.0**
TBI	**Tubuai**	**85.20**	**230**	*e*LQ		13 46 23.8	
	comp=Z,329nm,34.8s						
TBI				*e*LR	LR	13 50 01.6	
	comp=Z,328nm,23.2s						
FORT	**Forrest**	**87.34**	**158**	*e*P	**P**	**13 23 10.4**	**+0.5**
	comp=Z,11nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**88.18**	**170**	P	**P**	**13 23 12.2**	**-1.6**
	comp=Z,5.1nm,0.8s,mb4.8,baz=224,slow=3.6,SNR=6.5						
STKA				LR	LR	14 03 15.7	
	comp=Z,512nm,19.1s,MS5.0,baz=200,slow=36						
PPT	**Papeete**	**90.46**	**233**	*e*LR	LR	13 52 32.7	
	comp=Z,434nm,22.0s						
PPT	**Papeete**	**90.46**	**233**	LR	LR	13 58 27.0	
	comp=Z,479nm,19.4s,MS4.9,baz=151,slow=32						
TAOE	**Nuku Hiva Isla**	**94.14**	**245**	*e*LR	LR	13 54 10.0	
	comp=Z,2μm,25.0s						
ASAR	**Alice Springs**	**95.31**	**162**	P	**P**	**13 23 46.5**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.7,baz=183,slow=4.0,SNR=56						
ASAR				PKiKP	PKiKP	13 28 26.9	-0.7
	comp=Z,0.5nm,0.8s,baz=185,slow=1.3,SNR=5.3						
WRA	**Warramunga Arr**	**99.03**	**161**	P	**P**	**13 24 02.7**	**-1.0**
	comp=Z,0.3nm,0.5s,mb4.1,baz=200,slow=4.5,SNR=6.8						
SCHQ	**Schefferville**	**118.75**	**334**	PKP	PKPdf	13 29 08.8	-2.2
	comp=Z,1.5nm,0.5s,baz=38,slow=3.8,SNR=9.9						
PDAR	**Pinedale Array**	**122.73**	**300**	PKP	PKPdf	13 29 16.6	-2.2
	comp=Z,0.5nm,0.4s,baz=126,slow=5.0,SNR=10						
ULM	**Lac du Bonnet**	**123.26**	**314**	PKP	PKPdf	13 29 16.8	-3.0
	comp=Z,1.6nm,0.4s,baz=125,slow=3.4,SNR=8.0						
NVAR	**Mina Array Bea**	**123.29**	**290**	PKP	PKPdf	13 29 19.1	-0.7
	comp=Z,0.7nm,0.6s,baz=105,slow=2.9,SNR=8.4						
KOLN	**Koldanda**	**123.43**	**92**	*e*P	PKPdf	13 29 18.9	-1.2
	comp=Z,7.6nm,0.4s						
NB2	**NORSAR Subarra**	**123.84**	**21**	PKPd	PKPdf	13 29 18.5	-2.3
	comp=Z,0.7nm,0.5s,baz=201,slow=1.8						
NOA	**NORSAR Array B**	**123.84**	**21**	PKP	PKPdf	13 29 18.9	-1.9
	comp=Z,0.8nm,0.5s,baz=204,slow=1.8,SNR=4.8						
LOHW	**Long Hollow**	**123.87**	**299**	*e*PKPdf	PKPdf	13 29 19.3	-1.6
TPAW	**Teton Pass**	**123.92**	**299**	*e*PKPdf	PKPdf	13 29 19.8	-1.2
DMN	**Daman**	**124.06**	**93**	*e*P	PKPdf	13 29 20.7	-0.6
GKN	**Gorkha**	**124.14**	**92**	*e*P	PKPdf	13 29 20.2	-1.2
	comp=Z,6.8nm,0.4s						
PKI	**Pulchoki**	**124.18**	**93**	*e*P	PKPdf	13 29 20.7	-0.8
FLWY	**Flagg Ranch**	**124.28**	**300**	*e*PKPdf	PKPdf	13 29 20.5	-1.2
KKN	**Kakani**	**124.30**	**93**	*e*P	PKPdf	13 29 20.7	-1.0
	comp=Z,6.7nm,0.4s						
JIRN	**Jiri**	**124.65**	**94**	*e*P	PKPdf	13 29 21.8	-0.6
	comp=Z,18nm,0.5s						
GUN	**Gumba**	**124.70**	**93**	*e*P	PKPdf	13 29 21.9	-0.6
	comp=Z,9.5nm,0.4s						
OBN	**Obninsk**	**124.88**	**38**	*e*PKIKP	PKPdf	13 29 26.1	+3.3
OBN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,200nm,24.0s,MS4.7						
HRY	**Holter Researc**	**126.84**	**301**	*e*PKPdf	PKPdf	13 29 25.7	-0.8
FINES	**FINESS Array B**	**127.35**	**29**	PKP	PKPdf	13 29 25.4	-2.2
	comp=Z,1.7nm,0.4s,baz=142,slow=2.1,SNR=22						
KAF	**Kangasniemi**	**127.98**	**28**	*e*p	PKPdf	13 29 26.5	-2.3
	comp=Z,0.8nm,0.4s						
JOF	**Joensuu**	**129.91**	**30**	*e*p	PKPdf	13 29 31.6	-0.8
	comp=Z,0.5nm,0.3s						
KMI	**Kunming**	**130.70**	**111**	PKP	PKPdf	13 29 31.0	-2.9
KMI				PP	PP	13 31 48.8	-0.4

NJ2			XPKP		13 30 14.5	
NJ2			PP	PP	13 33 18.0	+6.6
NJ2			PKS		13 33 34.0	
NJ2			SKS	SKSdf	13 37 04.0	-2.4
NJ2			SKKS	SKKSac	13 40 00.0	-2.9
NJ2			PP	PP		
	comp=Z,50nm,9.4s					
NJ2			LR	LR		
	comp=Z,90nm,18.3s,MS4.6					
SSE	**Sheshan**	**143.98 128**	PKP	PKPdf	13 29 51.0	-7.3
SSE			PP	PP	13 33 09.5	-2.6
SSE			PP	PP		
	comp=Z,58nm,3.5s					
SSE			LR	LR		
	comp=N,69nm,23.3s,MS4.5					
SSE			LR	LR		
	comp=E,61nm,23.2s,MS4.5					
SSE			LR	LR		
	comp=Z,138nm,22.1s,MS4.7					
HHC	**Hu-ho-hao-te**	**147.76 107**	*e*PKP	PKPdf	13 30 05.5	+0.7
HHC			APKP		13 30 18.5	
HHC			XPKP		13 30 22.0	
HHC			PKS		13 33 39.3	
HHC			PP	PP	13 33 42.3	+7.8
HHC			SKS	SKSdf	13 37 08.8	-3.2
HHC			SKKS	SKKSac	13 40 24.0	-1.0
HHC			LR	LR		
	comp=N,118nm,5.5s					
HHC			LR	LR		
	comp=E,101nm,4.1s					
HHC			LR	LR		
	comp=Z,105nm,9.8s					
INK	**Inuvik**	**148.95 317**	*e*PKPbc	PKPbc	13 30 07.1	-3.7
DAWY	**Dawson**	**149.58 307**	*e*PKPbc	PKPbc	13 30 08.9	-3.4
MOY	**Mondy**	**149.86 82**	*e*PKP2	PKPbc	13 30 12.2	-0.8
MOY			pmax	pmax		
	comp=Z,44nm,2.2s					
SONM	**Songino Array**	**150.19 92**	PKPbc	PKPbc	13 30 12.7	-1.1
	comp=Z,5.6nm,0.5s,baz=219,slow=3.2,SNR=56					
ZAK	**Zakamensk**	**150.24 85**	*e*PKIKP	PKPbc	13 30 12.5	-1.4
ZAK			pmax	pmax		
	comp=Z,19nm,1.4s					
ULN	**Ulaanbaatar**	**150.54 93**	*e*PKPbc	PKPbc	13 30 13.1	-1.6
EYAK	**Cordova Ski Ar**	**150.85 298**	*e*PKPbc	PKPbc	13 30 12.9	-2.4
DIV	**Divide**	**151.10 299**	*e*PKPbc	PKPbc	13 30 13.6	-2.4
IRK	**Irkutsk**	**151.85 83**	*e*PKIKP	PKPbc	13 30 15.7	-2.0
IRK			*e*		13 34 05.6	
IRK			pmax	pmax		
	comp=Z,35nm,0.7s					
SML	**Sawmill**	**152.50 300**	*e*PKPbc	PKPbc	13 30 16.4	-2.7
KDAK	**Kodiak Island**	**152.79 290**	PKPbc	PKPbc	13 30 17.1	-2.7
	comp=Z,6.6nm,0.4s,baz=206,slow=3.0,SNR=21					
SLKM	**Skilak Lake**	**152.85 296**	*e*PKPbc	PKPbc	13 30 17.1	-2.8
ILAR	**Eielson Array**	**152.88 306**	PKPbc	PKPbc	13 30 17.2	-2.8
	comp=Z,2.0nm,0.4s,baz=321,slow=0.6,SNR=6.4					
COLA	**College**	**153.31 306**	*e*PKPbc	PKPbc	13 30 17.4	-3.6
MJAR	**Matsushiro Arr**	**154.69 149**	PKPab	PKPab	13 30 36.7	-2.1
	comp=Z,2.0nm,0.8s,baz=186,slow=4.8,SNR=5.2					
CN2	**Changchun**	**156.52 120**	*e*PKP	PKPdf	13 30 18.3	+0.5
BOD	**Bodaibo**	**159.44 78**	*e*PKIKP	PKPdf	13 30 17.7	-3.7
BOD			pmax	pmax		
	comp=Z,3.0nm,2.3s					
BOD			pmax	pmax		
	comp=Z,6.0nm,1.2s					

IDC 27 13:25:13.9±3.8, 4275S×7487W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.8/16, mbtmp3.8/3, ML3.7/1, MS3.9/1, Ms1 4.1/1, ms1mx3.3/19, Error ellipse: s-maj=196.2km s-min=50.9km az=141.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.81**	**59**	Pn	Pn	13 26 13.7	-0.2
	1.2nm,0.3s,baz=220,slow=14,SNR=18						
PLCA				Sn	Sn	13 27 01.2	+1.9
	5.1nm,0.3s,baz=332,slow=15,SNR=4.9						
CPUP	**Villa Florida**	**21.77**	**47**	P	P	13 30 07.1	0.0
	1.3nm,0.4s,baz=195,slow=12,SNR=6.4						
LPAZ	**La Paz**	**27.00**	**14**	LR	LR	13 42 35.8	
	comp=Z,284nm,20.4s,baz=286,slow=39						
TORD	**Torodi Ar. Bea**	**89.21**	**71**	P	P	13 38 11.8	+0.2
	0.6nm,0.8s,baz=220,slow=3.6,SNR=4.7						

*ISCJB **27** 13:33:59.1±0.5, 2955N±007×140.1E±0.1, h21km, mb3.9/14, MS4.4/1, Error ellipse: s-maj=17.1km s-min=7.2km az=130.2*

*NIED **27** 13:34:00, 2950N×14020E, h62km, Mw4.1 Best double couple: M0 1.76000×10^15 NP1:φ0=349.00000°, δ80.00000°, λ99.00000°. NP2:φ0=125.00000°, δ13.00000°, λ48.00000°.*

*NEIC **27** 13:34:01.2±0.3, 2961N×14003E, mb4.2/2, Error ellipse: s-maj=13.9km s-min=8.4km az=85.0*

*IDC **27** 13:34:01.1±0.7, 2960N×14005E, h21km±4km, mb3.7/12, mb1 3.9/15, mb1mx3.8/23, mbtmp3.8/15, ML4.3/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/21, Error ellipse: s-maj=22.1km s-min=13.4km az=83.0*

ISC 27 13:34:01.1±0.5, 2956N±007×1402E±01, h23km, h23km±.5km: pP-P, n23, σ0§79/21, mb3.9/14, MS4.4/1, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.04**	**144**	Pn	**Pn**	13 34 48.1	+0.3
	123nm,0.3s,baz=119,slow=23,SNR=90						
CBIJ				Sn	**Sn**	13 35 22.0	-1.4
	74nm,0.3s,baz=262,slow=21,SNR=5.6						
CBIJ				LR	LR	13 36 02.8	
	comp=Z,200nm,18.3s,baz=112,slow=39						
JHJ	**Hachijo jima 2**	**3.56**	**355**	Pn	**Pn**	13 34 55.5	+0.5
	8.4nm,0.3s,baz=51,slow=17,SNR=4.5						
MJAR	**Matsushiro Arr**	**7.15**	**347**	Pn	**Pn**	13 35 42.8	-1.4
	0.1nm,0.3s,baz=158,slow=13,SNR=2.4						
JOW	**Kunigami**	**10.83**	**258**	LR	LR	13 40 29.0	
	comp=Z,44nm,20.4s,baz=185,slow=36						
SONM	**Songino Array**	**31.71**	**315**	P	**P**	13 40 23.8	+0.7
	0.4nm,0.9s,mb3.3,baz=107,slow=9.7,SNR=2.9						
MKAR	**Makanchi Array**	**47.54**	**308**	P	**P**	13 42 34.4	-0.3
	0.2nm,0.5s,mb3.4,baz=88,slow=4.6,SNR=2.9						
WRAB	**Tennant Creek**	**49.52**	**187**	*e*P	**P**	13 42 50.7	+0.7
	6.7nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**49.53**	**187**	P	**P**	13 42 50.8	+0.7
	2.9nm,0.8s,mb4.4,baz=7.3,slow=8.1,SNR=17						
WRA				pP	pP	13 42 57.4	+0.2
	2.8nm,0.7s,baz=6.2,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**53.26**	**187**	P	**P**	13 43 18.3	+0.3
	0.6nm,0.6s,mb3.7,baz=357,slow=5.1,SNR=7.5						
ASAR				pP	pP	13 43 25.2	+0.1
	1.2nm,0.9s,baz=354,slow=4.7,SNR=4.9						
ILAR	**Eielson Array**	**56.43**	**29**	P	**P**	13 43 40.8	-0.1
	1.1nm,0.9s,mb3.9,baz=266,slow=5.6,SNR=12						
INK	**Inuvik**	**61.55**	**25**	*e*P	**P**	13 44 16.8	+0.5
	0.3nm,0.4s,mb3.8						
ARCES	**ARCESS Array B**	**70.63**	**340**	P	**P**	13 45 14.2	-0.5
	2.8nm,0.9s,mb4.2,baz=60,slow=5.8,SNR=6.5						
YKA	**Yellowknife Ar**	**70.83**	**28**	P	**P**	13 45 16.1	+0.2
	0.8nm,0.7s,mb3.8,baz=292,slow=6.1,SNR=19						
YKA				pP	pP	13 45 22.7	-0.5
	0.2nm,0.6s,baz=293,slow=6.4,SNR=4.1						
YKA	**Yellowknife Ar**	**70.83**	**28**	P	**P**	13 45 16.1	+0.2
YKA				pP	pP	13 45 22.8	-0.5
FINES	**FINESS Array B**	**74.95**	**333**	P	**P**	13 45 39.8	-0.6
	0.7nm,0.5s,mb3.9,baz=64,slow=8.7,SNR=8.9						
FINES				pP	pP	13 45 46.2	-1.5
	1.1nm,0.5s,baz=60,slow=4.9,SNR=3.4						
FINES				LR	LR	14 22 04.1	
	comp=Z,185nm,20.3s,MS4.4,baz=202,slow=38						
FINES	**FINESS Array B**	**74.95**	**333**	P	**P**	13 45 39.8	-0.6
FINES				pP	pP	13 45 46.2	-1.5
FINES				LR	LR	14 22 04.1	
NEW	**Newport**	**76.29**	**42**	P	**P**	13 45 49.1	+1.1
	2.4nm,0.8s,mb4.2,baz=338,slow=5.6,SNR=3.8						
AKASG	**Malin Array Be**	**79.58**	**323**	P	**P**	13 46 05.0	-1.3
	0.2nm,0.3s,mb3.5,baz=210,slow=21,SNR=3.7						
AKASG	**Malin Array Be**	**79.58**	**323**	P	**P**	13 46 05.0	-1.4
NVAR	**Mina Array Bea**	**80.39**	**51**	P	**P**	13 46 11.7	+1.0
	0.6nm,0.7s,mb3.6,baz=315,slow=4.9,SNR=4.5						
BRTR	**Keskin Array B**	**83.03**	**312**	P	**P**	13 46 24.1	-0.6
	0.6nm,0.8s,mb3.7,baz=108,slow=4.7,SNR=2.9						
LPAZ	**La Paz**	**150.88**	**69**	PKPbc	PKPbc	13 53 53.8	+2.0
	0.9nm,0.7s,baz=353,slow=8.1,SNR=5.2						
PLCA	**Paso Flores**	**152.66**	**122**	PKPbc	PKPbc	13 53 56.3	+0.5
	0.9nm,0.6s,baz=124,slow=10,SNR=3.4						

*NIED **27** 14:10:00, 4010N×142.10E, h56km, Mw3.6 Best double couple: M0 2.85000×10^14 NP1:φ0=51.00000°, δ57.00000°, λ59.00000°. NP2:φ0=278.00000°, δ44.00000°, λ128.00000°.*

JMA 27 14:10:50.6±0.1, 4007N×14210E, h38km±1km, M3.7, 5C-4D Broadband fault plane solution: P waves. NP1: φ0=36.00000°, δ69.00000°, λ0.00000°. **NP2:** φ0=306.00000°, δ90.00000°, λ159.00000°. **Principal axes:** T Plg15.0000°, Azm259.0000°; N Plg69.0000°, Azm126.0000°; P Plg15.0000°, Azm353.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.22**	**234**	⇓P	Pn	14 10 58.0	+0.1
JTH				S	Sn	14 11 03.1	+0.2
MIYJ	**Miyakonagasawa**	**0.54**	**204**	⇓P	Pn	14 11 01.4	-0.4
MIYJ				S	Sn	14 11 08.9	-0.8
JANG	**Nango**	**0.54**	**304**	⇑P	Pn	14 11 01.6	-0.2
JANG				S	Sn	14 11 09.1	-0.6
JKZ	**Kuzumaki**	**0.60**	**262**	⇑P	Pn	14 11 02.7	+0.1
JKZ				S	Sn	14 11 11.1	0.0
JOM	**Ohasama**	**0.86**	**226**	⇑P	Pn	14 11 06.3	+0.1
JOM				S	Sn	14 11 17.5	-0.1
OFUJ	**Ofunato**	**1.04**	**199**	⇓P	Pn	14 11 08.7	0.0
OFUJ				S	Sn	14 11 21.8	-0.3
JTM	**Tenmabayashi**	**1.06**	**313**	⇓P	Pn	14 11 09.4	+0.4
JTM				S	Sn	14 11 22.8	+0.2
JAH	**Hinai**	**1.13**	**276**	⇑P	Pn	14 11 10.3	+0.4
JMK	**Ichinoseki**	**1.31**	**212**	⇑P	Pn	14 11 12.9	+0.6
JMK				S	Sn	14 11 28.8	+0.2

IDC 27 14:20:34.3±6.5, 3045S×17810W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.7/12, mbtmp3.6/2 Error ellipse: s-maj=259.7km s-min=60.7km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.02**	**267**	P	P	14 28 35.5	0.0
	0.8nm,0.9s,baz=106,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**44.02**	**272**	P	P	14 28 44.1	+0.6
	0.4nm,0.5s,baz=113,slow=7.9,SNR=6.9						
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	PKPbc	14 40 11.7	-1.6
	0.7nm,0.6s,baz=31,slow=4.4,SNR=4.0						

*IDC **27** 14:22:03.4±0.8, 3912S×17521E, h202km±20km, mb3.5/2, mb1 3.8/3, mb1mx3.5/12, mbtmp4.1/3, Error ellipse: s-maj=50.4km s-min=12.8km az=128.0*

*ISCJB **27** 14:22:04.4±0.5, 3900S±005×175.11E±007, h216km±3km, mb4.2/4, Error ellipse: s-maj=10.5km s-min=6.3km az=69.6*

*NEIC **27** 14:22:06.7, 3878S×17523E, h197km, MG4.8(WEL), After WEL.*

*BJI **27** 14:22:06.7, 3880S×17520E, h197km, mB5.3, mb4.9*

*WEL **27** 14:22:06.5±0.2, 3894S×175.12E, h208km±1km, ML4.7/21, Error ellipse: s-maj=2.1km s-min=1.7km az=0.0*

ISC 27 14:22:05.1±0.5, 3901S±005×17512E±007, h214km±3km, n113, σ0§90/133, mb4.2/4, 4C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.25**	**104**	⇑PN	**Pn**	14 22 33.6	+0.5
TWVZ				SN	**S**	14 22 54.3	-0.7
TWVZ	**Taurewa**	**0.25**	**104**	P	**Pn**	14 22 32.6	-0.5
VRZ	**Vera Road**	**0.30**	**248**	⇑PN	**Pn**	14 22 33.4	+0.2
VRZ				SN	**S**	14 22 54.8	-0.3
VRZ	**Vera Road**	**0.30**	**248**	*e*P	**Pn**	14 22 33.4	+0.2
PKVZ	**Pokaka**	**0.33**	**148**	PN	**Pn**	14 22 34.1	+0.8
PKVZ				SN	**S**	14 22 54.9	-0.4
WTVZ	**West Tongariro**	**0.38**	**106**	PN	**Pn**	14 22 34.1	+0.7
WTVZ				SN	**S**	14 22 55.1	-0.3
WTVZ	**West Tongariro**	**0.38**	**106**	P	**Pn**	14 22 33.1	-0.3
WPVZ	**Whakapapa**	**0.38**	**121**	PN	**Pn**	14 22 34.3	+0.9
WPVZ				SN	**S**	14 22 55.5	0.0
WPVZ	**Whakapapa**	**0.38**	**121**	P	**Pn**	14 22 33.3	-0.1
NGZ	**Ngauruhoe**	**0.41**	**114**	PN	**Pn**	14 22 34.4	+0.9
NGZ				SN	**S**	14 22 55.3	-0.3
NGZ	**Ngauruhoe**	**0.41**	**114**	P	**Pn**	14 22 33.4	-0.1
KRVZ	**Karewarewa**	**0.41**	**102**	PN	**Pn**	14 22 34.3	+0.7
KRVZ				SN	**S**	14 22 55.1	-0.6
FWVZ	**Far West T-bar**	**0.42**	**126**	PN	**Pn**	14 22 34.5	+1.0
FWVZ				SN	**S**	14 22 55.1	-0.5
FWVZ	**Far West T-bar**	**0.42**	**126**	P	**Pn**	14 22 33.5	0.0
DRZ	**Dome Shelter**	**0.43**	**128**	PN	**Pn**	14 22 35.0	+1.4
DRZ	**Dome Shelter**	**0.43**	**128**	P	**Pn**	14 22 34.0	+0.4
TRVZ	**Turoa**	**0.44**	**131**	PN	**Pn**	14 22 34.7	+1.1
KAZ	**Kakaramea**	**0.45**	**86**	PN	**Pn**	14 22 34.3	+0.7
KATZ				SN	**S**	14 22 55.9	+0.1
KATZ	**Kakaramea**	**0.45**	**86**	P	**Pn**	14 22 33.3	-0.3
OTVZ	**Oturere**	**0.45**	**110**	PN	**Pn**	14 22 34.3	+0.6
OTVZ				SN	**S**	14 22 56.1	+0.3
MTVZ	**Mangateitei**	**0.46**	**144**	PN	**Pn**	14 22 34.6	+1.0
MTVZ				SN	**S**	14 22 55.9	0.0
TUVZ	**Tukino**	**0.49**	**122**	PN	**Pn**	14 22 34.9	+1.1
TUVZ	**Tukino**	**0.49**	**122**	P	**Pn**	14 22 33.9	+0.1
WNVZ	**Wahianoa**	**0.49**	**131**	PN	**Pn**	14 22 34.8	+1.1
WNVZ	**Wahianoa**	**0.49**	**131**	P	**Pn**	14 22 33.8	0.0
RATZ	**Rangitukua**	**0.53**	**75**	PN	**Pn**	14 22 34.4	+0.5
RATZ				SN	**S**	14 22 55.9	-0.4
RATZ	**Rangitukua**	**0.53**	**75**	P	**Pn**	14 22 33.4	-0.5
WATZ	**Wairara**	**0.56**	**58**	PN	**Pn**	14 22 34.5	+0.4
WATZ				SN	**S**	14 22 55.6	-1.0
WATZ	**Wairara**	**0.56**	**58**	P	**Pn**	14 22 33.5	-0.5
RITZ	**Rihia Road**	**0.58**	**87**	PN	**Pn**	14 22 34.8	+0.7
RITZ	**Rihia Road**	**0.58**	**87**	P	**Pn**	14 22 32.4	-1.7
RAEZ	**Rainy Point**	**0.63**	**244**	PN	**Pn**	14 22 34.8	+0.5
RAEZ	**Rainy Point**	**0.63**	**244**	P	**Pn**	14 22 34.8	+0.5
MOVZ	**Moawhango**	**0.63**	**129**	PN	**Pn**	14 22 35.0	+0.7
MOVZ				SN	**S**	14 22 55.6	-1.5
MOVZ	**Moawhango**	**0.63**	**129**	P	**Pn**	14 22 34.0	-0.3
WHTZ	**Whakaora**	**0.74**	**63**	PN	**Pn**	14 22 35.3	+0.5
WHTZ	**Whakaora**	**0.74**	**63**	P	**Pn**	14 22 34.3	-0.5
WAZ	**Wanganui**	**0.75**	**188**	PN	**Pn**	14 22 36.2	+1.4
WAZ	**Wanganui**	**0.75**	**188**	P	**Pn**	14 22 36.2	+1.3
HATZ	**Hinemaiaia**	**0.77**	**81**	PN	**Pn**	14 22 35.0	+0.1
HATZ	**Hinemaiaia**	**0.77**	**81**	P	**Pn**	14 22 34.0	-0.9
NEZ	**North Egmont**	**0.84**	**252**	PN	**Pn**	14 22 36.2	+0.9
NEZ	**North Egmont**	**0.84**	**252**	P	**Pn**	14 22 36.2	+0.9
PKE	**Pukeiti**	**0.90**	**258**	PN	**Pn**	14 22 36.2	+0.5
PKE	**Pukeiti**	**0.90**	**258**	P	**Pn**	14 22 36.2	+0.5
NRZ	**Ngariki Road**	**0.98**	**250**	PN	**Pn**	14 22 36.9	+0.7
NRZ	**Ngariki Road**	**0.98**	**250**	P	**Pn**	14 22 36.9	+0.8
NWEZ	**Newall Road**	**1.01**	**254**	PN	**Pn**	14 22 37.1	+0.7
NWEZ	**Newall Road**	**1.01**	**254**	P	**Pn**	14 22 37.1	+0.8
BKZ	**Black Stump Fm**	**1.08**	**99**	PN	**Pn**	14 22 37.3	+0.5
BKZ	**Black Stump Fm**	**1.08**	**99**	P	**Pn**	14 22 37.3	+0.5
BKZ				S	**S**	14 22 59.2	-2.3
TSZ	**Takapari Road**	**1.23**	**148**	⇑PN	**Pn**	14 22 39.4	+1.5
TSZ	**Takapari Road**	**1.23**	**148**	P	**Pn**	14 22 39.4	+1.5
MRZ	**Mangatainoka R**	**1.69**	**168**	⇑PN	**Pn**	14 22 42.8	+1.2
MRZ				SN	**S**	14 23 10.2	0.0
MRZ	**Mangatainoka R**	**1.69**	**168**	P	**Pn**	14 22 42.8	+1.1
MRZ				S	**S**	14 23 10.6	+0.4
PXZ	**Pawanui**	**1.69**	**128**	PN	**Pn**	14 22 43.0	+1.3
URZ	**Urewera**	**1.73**	**65**	P	**Pn**	14 22 41.0	-1.0
	124nm,0.3s,baz=263,slow=2.7,SNR=731						
URZ				S	**S**	14 23 06.9	-4.0
	103nm,0.3s,baz=132,slow=23,SNR=32						
URZ	**Urewera**	**1.73**	**65**	⇓PN	**Pn**	14 22 41.0	-1.1
URZ				SN	**S**	14 23 06.3	-4.6
URZ	**Urewera**	**1.73**	**65**	P	**Pn**	14 22 41.0	-1.0
KIW	**Kapiti Island**	**1.86**	**185**	PN	**Pn**	14 22 44.2	+1.0
KIW	**Kapiti Island**	**1.86**	**185**	P	**Pn**	14 22 43.2	0.0
BFZ	**Birch Farm**	**1.88**	**153**	PN	**Pn**	14 22 44.6	+1.1
KNZ	**Kokohu**	**1.99**	**91**	PN	**Pn**	14 22 44.8	+0.3
MWZ	**Matawai**	**2.00**	**71**	PN	**Pn**	14 22 44.0	-0.6
MWZ				SN	**S**	14 23 11.4	-4.2
MWZ	**Matawai**	**2.00**	**71**	P	**Pn**	14 22 43.0	-1.6
DUWZ	**D'Urville Isla**	**2.02**	**207**	PN	**Pn**	14 22 45.5	+0.7
CAW	**Cannon Point**	**2.10**	**181**	PN	**Pn**	14 22 46.6	+1.1
CAW	**Cannon Point**	**2.10**	**181**	P	**Pn**	14 22 45.6	0.0
MTW	**Mount Morrison**	**2.17**	**172**	PN	**Pn**	14 22 47.1	+0.8
MTW	**Mount Morrison**	**2.17**	**172**	P	**Pn**	14 22 46.1	-0.2
MRW	**Makara Radio**	**2.24**	**188**	PN	**Pn**	14 22 48.0	+0.9
MRW	**Makara Radio**	**2.24**	**188**	P	**Pn**	14 22 47.0	-0.1
WEL	**Wellington**	**2.29**	**187**	PN	**Pn**	14 22 48.4	+0.8
WEL	**Wellington**	**2.29**	**187**	P	**Pn**	14 22 47.4	-0.2
TCW	**Tory Channel**	**2.29**	**196**	PN	**Pn**	14 22 48.6	+1.0
TCW	**Tory Channel**	**2.29**	**196**	P	**Pn**	14 22 47.6	0.0
SNZO	**South Karori**	**2.32**	**188**	PN	**Pn**	14 22 48.6	+0.7
SNZO	**South Karori**	**2.32**	**188**	P	**Pn**	14 22 48.6	+0.7
PAWZ	**Paruwai Farm**	**2.38**	**174**	PN	**Pn**	14 22 49.3	+0.8
PAWZ	**Paruwai Farm**	**2.38**	**174**	P	**Pn**	14 22 48.3	-0.2
BHW	**Baring Head**	**2.40**	**184**	PN	**Pn**	14 22 49.5	+0.8
BHW	**Baring Head**	**2.40**	**184**	P	**Pn**	14 22 48.5	-0.3
MSWZ	**Moikau Station**	**2.41**	**178**	PN	**Pn**	14 22 49.5	+0.7
MSWZ	**Moikau Station**	**2.41**	**178**	P	**Pn**	14 22 48.5	-0.3
TRWZ	**Traveller**	**2.43**	**170**	PN	**Pn**	14 22 49.9	+0.9
NNZ	**Nelson**	**2.58**	**211**	PN	**Pn**	14 22 50.8	+0.1
NNZ	**Nelson**	**2.58**	**211**	P	**Pn**	14 22 50.8	+0.1
PUZ	**Puketiti**	**2.63**	**70**	*e*P	**Pn**	14 22 50.1	-1.2
QRZ	**Quartz Range**	**2.69**	**227**	P	**Pn**	14 22 51.3	-0.7
BSWZ	**Blackbirch Sta**	**2.86**	**199**	P	**Pn**	14 22 53.8	-0.1
MXZ	**Matakaoa Point**	**2.89**	**61**	P	**Pn**	14 22 52.3	-1.9
THZ	**Tophouse**	**3.23**	**211**	P	**Pn**	14 22 57.9	-0.2
KHZ	**Kahutara**	**3.61**	**199**	P	**Pn**	14 23 03.1	+0.5
DSZ	**Denniston Nort**	**3.73**	**222**	P	**Pn**	14 23 03.1	-0.9
LTZ	**Lake Taylor**	**4.34**	**209**	P	**Pn**	14 23 10.9	-0.7
CRLZ	**Canterbury Las**	**4.94**	**202**	*e*P	**Pn**	14 23 17.9	-1.1
MQZ	**McQueen's Vall**	**5.05**	**201**	P	**Pn**	14 23 19.1	-1.3
WVZ	**Waitaha Valley**	**5.24**	**218**	*e*P	**Pn**	14 23 21.7	-1.2
RPZ	**Rata Peaks**	**5.61**	**212**	P	**Pn**	14 23 26.4	-1.1
	5.1nm,0.3s,baz=45,slow=8.2,SNR=74						
RPZ				S	**S**	14 24 28.4	-4.4
	40nm,0.3s,baz=117,slow=19,SNR=29						
RPZ	**Rata Peaks**	**5.61**	**212**	P	**Pn**	14 23 26.0	-1.5
FOZ	**Fox Glacier**	**6.12**	**220**	*e*P	**Pn**	14 23 30.3	-3.7
LBZ	**Lake Benmore**	**6.52**	**213**	*e*P	**Pn**	14 23 36.4	-2.8
ODZ	**Otahua Downs**	**6.89**	**207**	*e*P	**Pn**	14 23 43.4	-0.5
JCZ	**Jackson Bay**	**6.95**	**221**	*e*P	**Pn**	14 23 41.3	-3.5
WKZ	**Wanaka**	**7.38**	**216**	*e*P	**Pn**	14 23 46.4	-3.9
EAZ	**Earnscleugh**	**7.57**	**213**	*e*P	**Pn**	14 23 49.8	-2.9
TUZ	**Tuapeka**	**8.04**	**209**	*e*P	**Pn**	14 23 58.4	-0.3
MLZ	**Mavora Lakes**	**8.16**	**217**	*e*P	**Pn**	14 23 59.7	-0.7
ASAR	**Alice Springs**	**38.04**	**281**	P	**P**	14 29 03.0	+0.2
	2.1nm,0.8s,mb3.7,baz=118,slow=6.0,SNR=27						
WRA	**Warramunga Arr**	**39.87**	**287**	P	**P**	14 29 18.0	+0.1
	1.8nm,0.8s,mb3.5,baz=129,slow=7.1,SNR=14						
NJ2	**Nanjing**	**87.92**	**315**	*e*P	**P**	14 34 35.5	+5.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
KMI	**Kunming**	**92.92**	**300**	P	**P**	14 34 54.8	+1.1
KMI				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.7						
ARCES	**ARCESS Array B**	**145.41**	**342**	PKP	PKPdf	14 41 15.4	-1.9
	comp=Z,2.6nm,0.7s,baz=58,slow=1.9,SNR=9.1						

*IDC **27** 14:39:19.0±2.0, 051N×98.14E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=69.3km s-min=20.3km az=68.0*

*ISCJB **27** 14:39:21.8±1.4, 06N±01×982E±03, h33km, mb3.6/6, Error ellipse: s-maj=37.5km s-min=13.7km az=156.4*

*NEIC **27** 14:39:23.2±1.0, 054N×98.16E, h30km, mb3.8/1, Error ellipse: s-maj=27.9km s-min=10.3km az=78.0*

ISC 27 14:39:24.4±1.5, 06N±01×982E±03, h35km, n9, σ0§35/9, mb3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**18**	Pn	**Pn**	14 39 59.2	-0.5
	3.3nm,0.3s,baz=163,slow=14,SNR=9.3						
PSI	**Prapat**	**2.29**	**18**	Pn	**Pn**	14 39 59.2	-0.5
KULM	**Kulim**	**5.25**	**27**	*e*P	**Pn**	14 40 40.7	+0.4
WRA	**Warramunga Arr**	**40.85**	**122**	P	**P**	14 47 02.5	-0.3
	0.5nm,0.8s,mb3.2,baz=301,slow=9.2,SNR=5.9						
WRA				PcP	PcP	14 49 04.8	+1.6
	0.3nm,0.6s,baz=316,slow=2.6,SNR=5.2						
ASAR	**Alice Spring

SLR AML AML 14 59 50.9
comp=Z,163nm,0.6s
KSR Koster 7.43 231 *e*P **Pn** **14 58 15.1 +1.1**
LSZ Lusaka 7.75 320 Pn **Pn** **14 58 18.5 +0.1**
comp=Z,10.0nm,0.3s,baz=151,slow=13,SNR=67
LSZ Sn **Sn** **14 59 40.6 -5.7**
comp=Z,30nm,0.3s,baz=76,slow=22,SNR=9.2
LSZ Lg 15 00 25.0
comp=Z,44nm,0.3s,baz=41,slow=21,SNR=7.0
LSZ LR LR 15 00 43.8
comp=Z,54nm,19.9s,baz=260,slow=33
LSZ Lusaka 7.75 320 *e*Pn **Pn** **14 58 18.0 -0.4**
LSZ *e*Sn **Sn** **14 59 39.6 -6.6**
LSZ *e*Sg Sg 15 00 24.2 -10
LSZ Lg 15 00 25.0
LSZ LR LR 15 00 43.8
LBTB Lobatse 8.01 241 Pn **Pn** **14 58 23.2 +1.2**
comp=Z,6.3nm,0.3s,baz=67,slow=13,SNR=36
LBTB Sn **Sn** **14 59 50.8 -1.9**
comp=Z,12nm,0.3s,baz=342,slow=12,SNR=4.3
LBTB Lg 15 00 34.6
comp=Z,14nm,0.3s,baz=162,slow=23,SNR=7.2
LBTB LR LR 15 01 45.6
comp=Z,299nm,21.5s,baz=30,slow=40
LBTB Lobatse 8.01 241 *e*Pn **Pn** **14 58 23.1 +1.0**
LBTB *e*Sn **Sn** **14 59 52.5 -0.2**
LBTB *e*Sg Sn 15 00 33.0 +40
LBTB Lg 15 00 34.6
LBTB LR LR 15 01 45.6
BOSA Boshof 10.31 224 Pn **Pn** **14 58 53.2 -0.4**
comp=Z,2.7nm,0.3s,baz=49,slow=13,SNR=37
BOSA Sn **Sn** **15 00 42.3 -6.8**
comp=Z,3.0nm,0.3s,baz=322,slow=18,SNR=3.8
BOSA Lg 15 01 48.8
comp=Z,3.5nm,0.3s,baz=314,slow=12,SNR=3.5
BOSA LR LR 15 03 16.4
comp=Z,208nm,18.5s,baz=300,slow=40
BOSA Boshof 10.31 224 *e*Pn **Pn** **14 58 52.9 -0.7**
comp=Z,22nm,0.6s
BOSA *e*Sn **Sn** **15 00 41.8 -7.4**
BOSA *e*Sg Sn 15 01 48.3 +59
BOSA Lg 15 01 48.8
BOSA LR LR 15 03 16.4
OPO Ambohidratompo 13.31 81 Pn **Pn** **14 59 32.8 -1.8**
comp=Z,0.8nm,0.3s,baz=261,slow=16,SNR=4.3
OPO Sn **Sn** **15 01 52.8 -10**
comp=Z,4.0nm,0.3s,baz=138,slow=21,SNR=6.6
TSUM Tsumeb 14.93 275 *e*Pn **Pn** **14 59 54.7 -2.0**
comp=Z,9.3nm,0.6s
TSUM Sn **Sn** **15 02 29.8 -12**
SUR Sutherland 15.67 223 *e*P **Pn** **15 00 07.2 +0.7**
SUR *e*S **Sn** **15 02 49.6 -11**
SUR Sutherland 15.67 223 Pn **Pn** **15 00 06.4 -0.1**
comp=Z,2.4nm,0.3s,baz=50,slow=15,SNR=21
SUR Sn **Sn** **15 02 53.5 -6.7**
comp=Z,1.0nm,0.3s,baz=46,slow=19,SNR=3.3
SUR Lg 15 04 38.2
comp=Z,1.1nm,0.3s,baz=133,slow=21,SNR=4.3
SUR Sutherland 15.67 223 *e*P **Pn** **15 00 06.6 +0.2**
comp=Z,23nm,0.6s
SUR Sn **Sn** **15 02 53.5 -6.7**
SUR Lg 15 04 38.2
KMBO Kilima Mbogo 20.44 11 P **P** **15 01 03.9 +0.8**
comp=Z,1.2nm,0.5s,baz=184,slow=16,SNR=2.9
KMBO LR LR 15 09 50.0
comp=Z,74nm,20.1s,MS3.0,baz=282,slow=39
TORD Torodi Ar. Bea 46.25 315 P **P** **15 04 50.2 -0.8**
comp=Z,1.3nm,0.7s,mb4.0,baz=129,slow=6.6,SNR=13
DBIC Dimbokro 46.67 302 LR LR 15 23 23.7
comp=Z,84nm,21.6s,MS3.7,baz=193,slow=35
BRTR Keskin Array B 60.73 0 P **P** **15 06 39.0 +1.7**
comp=Z,0.6nm,0.3s,mb4.2,baz=267,slow=9.1,SNR=17
HOPE Hope Point 61.22 219 *e*P **P** **15 06 40.1 -0.5**
comp=Z,73nm,0.8s
BVAR Borovoye Array 80.72 22 P **P** **15 08 38.5 -0.5**
comp=Z,1.4nm,0.8s,mb3.9,baz=221,slow=5.9,SNR=9.1
MKAR Makanchi Array 80.91 32 P **P** **15 08 39.6 -0.5**
comp=Z,0.5nm,0.6s,mb3.6,baz=207,slow=5.0,SNR=7.0
KURK Kurchatov 82.07 27 P **P** **15 08 45.9 -0.3**
comp=Z,5.8nm,1.4s,mb4.3
ASAR Alice Springs 90.72 116 P **P** **15 09 29.1 +0.4**
comp=Z,0.8nm,0.7s,mb4.2,baz=242,slow=3.9,SNR=15
YKA Yellowknife Ar 133.40 340 PKP PKPdf 15 15 41.9 -0.1
comp=Z,0.7nm,0.7s,baz=38,slow=1.9,SNR=13
NVAR Mina Array Bea 150.25 311 PKPbc PKPbc 15 16 19.4 +2.5
comp=Z,0.9nm,0.7s,baz=62,slow=4.8,SNR=6.2

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*ISCJB **27** 15:40:26.7±0.6, 2099S×005×6871W±0.10, h102km±9km, mb3.7/2, Error ellipse: s-maj=15.3km s-min=7.3km az=159.6*
*IDC **27** 15:40:29.6±1.3, 21.17S×6865W, h110km±13km, mb3.5/3, mb1 3.6/7, mb1mx3.5/18, mbtmp3.8/7, MS3.1/1, Ms1 3.1/1, ms1mx2.4/19, Error ellipse: s-maj=29.4km s-min=15.8km az=112.0*
*NEIC **27** 15:40:29.7±1.0, 21.17S×6860W, h113km±10km, mb3.8/1, Error ellipse: s-maj=18.1km s-min=10.8km az=102.0*

ISC 27 15:40:27.9±0.6, 2102S±005×**6874W**±010, **h99**km±10km, **n17**, σ1§**12**/18, **mb3.7**/2, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.59**	**186**	P	**Pn**	**15 40 56.2**	**+0.9**
	12nm,0.3s,baz=30,slow=9.4,SNR=218						
LVC				S	**Sn**	**15 41 16.3**	**+0.3**
	47nm,0.3s,baz=264,slow=20,SNR=31						
LPAZ	**La Paz**	**4.74**	**7**	P	**Pn**	**15 41 42.6**	**+5.6**
	0.3nm,0.3s,baz=172,slow=6.9,SNR=7.7						
LPAZ	**La Paz**	**4.74**	**7**	*e*Pn	**Pn**	**15 41 42.8**	**+5.8**
LPAZ				*e*Sn	**Sn**	**15 42 29.6**	**-1.1**
ARE	**Arequipa**	**5.23**	**330**	*e*P	**Pn**	**15 41 43.0**	**-0.6**
ARE				*i* S	**Sn**	**15 42 43.5**	**+0.8**
SIV	**San Ignacio**	**8.82**	**57**	P	**Pn**	**15 42 33.2**	**+0.7**
	3.5nm,0.3s,baz=249,slow=11,SNR=67						
CPUP	**Villa Florida**	**11.71**	**119**	P	**Pn**	**15 43 10.2**	**-1.5**
	0.3nm,0.3s,baz=287,slow=13,SNR=3.5						
CPUP	**Villa Florida**	**11.71**	**119**	*e*P	**Pn**	**15 43 10.3**	**-1.4**
TRQA	**Tornquist**	**17.96**	**162**	*e*P	**Pn**	**15 44 30.4**	**-0.7**
	0.8nm,0.5s						
PLCA	**Paso Flores**	**19.71**	**184**	P	**Pn**	**15 44 49.2**	**-2.6**
	0.2nm,0.3s,baz=332,slow=9.2,SNR=6.2						
PLCA	**Paso Flores**	**19.71**	**184**	*e*P	**Pn**	**15 44 48.8**	**-3.0**
	4.0nm,0.8s						
BDFB	**Brasilia**	**20.38**	**78**	P	**P**	**15 44 57.8**	**+1.2**
	4.9nm,0.5s,baz=267,slow=13,SNR=7.5						
SDV	**Santo Domingo**	**29.77**	**356**	LR	LR	15 59 36.0	
	comp=Z,39nm,19.4s,baz=314,slow=38						
VNA3	**Neumayer Olymp**	**60.48**	**161**	*e*	**P**	**15 50 33.2**	**+6.0**
VNA2	**Neumayer--Watz**	**61.05**	**161**	*e*	**P**	**15 50 34.9**	**+3.8**
	baz=270,slow=17						
TORD	**Torodi Ar. Bea**	**77.04**	**70**	P	**P**	**15 52 11.1**	**+1.1**
	1.5nm,0.4s,mb4.0,baz=253,slow=5.7,SNR=18						
YKA	**Yellowknife Ar**	**90.79**	**341**	P	**P**	**15 53 19.3**	**-0.6**
	0.2nm,0.6s,mb3.5,baz=132,slow=4.2,SNR=6.4						
MKAR	**Makanchi Array**	**145.15**	**36**	PKPbc	PKPbc	15 59 53.9	+0.4
	0.8nm,0.8s,baz=316,slow=3.9,SNR=7.1						

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*IDC **27** 16:02:08.0±1.3, 19.12N×121.43E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=75.9km s-min=25.8km az=68.0*
*ISCJB **27** 16:02:10.2±1.9, 19.24N±006×121.1E±0.1, h15km±14km, mb3.2/4, Error ellipse: s-maj=16.7km s-min=10.1km az=142.6*
*MAN **27** 16:02:13.1, 18.98N×121.19E, h1km, mb3.7, ML4.8, MS2.1*

ISC 27 16:02:09.7±1.9, 1919N±006×**12111E**±010, **h4**km±11km, **n11**, σ1§**00**/15, **mb3.2**/4, **2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.98**	**208**	⇓*i*P	**Pg**	**16 02 29.7**	**+1.2**
PIP				*e*S	**Sg**	**16 02 40.2**	**-0.9**
SGCP	**Mt. Cagua**	**1.30**	**137**	*e*P	**Pn**	**16 02 35.0**	**+0.4**
APYP	**Conner**	**1.33**	**174**	*e*P	**Pn**	**16 02 35.0**	**-0.1**
APYP				*e*S	**Sg**	**16 02 52.0**	**-0.5**
ABRA	**Dolores**	**1.58**	**194**	*e*P	**Pn**	**16 02 38.6**	**+0.2**
ABRA				*e*S	**Sn**	**16 02 59.6**	**+0.3**
CVP	**Callao Caves**	**1.63**	**155**	⇓*e*P	**Pn**	**16 02 39.3**	**+0.2**
CVP				*i* S	**Sn**	**16 03 01.0**	**+0.5**
CAUP	**Cauayan**	**2.34**	**163**	*e*P	**Pn**	**16 02 52.3**	**+3.4**
BALP	**Baler**	**3.46**	**172**	*e*P	**Pn**	**16 03 09.2**	**+4.9**
SONM	**Songino Array**	**30.98**	**341**	P	**P**	**16 08 27.5**	**-0.5**
	0.3nm,0.6s,mb3.3,baz=156,slow=6.8,SNR=3.3						
MKAR	**Makanchi Array**	**41.98**	**320**	P	**P**	**16 10 03.3**	**+1.5**
	0.3nm,0.7s,mb3.0,baz=123,slow=5.3,SNR=3.2						
ASAR	**Alice Springs**	**44.39**	**163**	P	**P**	**16 10 19.1**	**-2.2**
	0.1nm,0.4s,mb2.9,baz=342,slow=6.9,SNR=9.6						
YKA	**Yellowknife Ar**	**87.58**	**23**	P	**P**	**16 14 57.8**	**-1.2**
	0.3nm,0.7s,mb3.6,baz=308,slow=4.4,SNR=8.8						

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*ISK **27** 16:02:46.5, 3874N×4473E, h5km, MD3.4*
*TEH **27** 16:02:46.7, 3862N×4461E, h2km, Mn3.6*
*ISCJB **27** 16:02:47.3±0.8, 3872N±004×4474E±004, h4km±7km, Error ellipse: s-maj=7.0km s-min=4.9km az=36.3*
*CSEM **27** 16:02:47.2±0.2, 3872N×4476E, h12km, MD3.4, Error ellipse: s-maj=7.3km s-min=4.1km az=1.0*

ISC 27 16:02:48.1±0.8, 3867N±004×**4474E**±004, **h4**km±8km, **n19**, σ1§**04**/26, **Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.76**	**86**	*e*Pg	**Pg**	**16 03 02.3**	**-0.4**
IMRD				*e*Sg	**Sg**	**16 03 13.9**	**+1.4**
CLDR	**Caldiran**	**0.80**	**307**	PG	**Pg**	**16 03 01.7**	**-1.7**
VANT	**Van**	**1.08**	**259**	*e*PN	**Pg**	**16 03 09.9**	**+1.1**
VANT				*e*SN	**Sg**	**16 03 28.4**	**+5.6**
ITBZ	**Tabriz**	**1.19**	**111**	*e*Pg	**Pg**	**16 03 09.4**	**-1.5**
HKR	**Hakkari**	**1.34**	**216**	*e*PN	**Pn**	**16 03 13.8**	**+0.2**
IAZR	**Azarshahr**	**1.39**	**135**	*e*Pn	**Pn**	**16 03 13.3**	**-1.0**
IAZR				*e*Sn	**Sn**	**16 03 33.3**	**+0.2**
GNI	**Garni**	**1.48**	**0**	*e*PN	**Pn**	**16 03 14.7**	**-0.9**
CUKT	**Cukurca**	**1.67**	**213**	*e*PN	**Pn**	**16 03 19.0**	**+0.8**
IBST	**Bostanabad**	**1.95**	**119**	*e*Pn	**Pn**	**16 03 21.8**	**-0.2**
IBST				*e*Sn	**Sn**	**16 03 47.3**	**+0.3**
DIGO	**Kars**	**2.04**	**329**	*i* P	**Pg**	**16 03 28.0**	**+0.7**
DIGO				*i* S	**Sg**	**16 04 04.9**	**+11**
BTMT	**Batman**	**2.59**	**261**	*e*PN	**Pn**	**16 03 34.2**	**+3.3**
MSL	**Mosul**	**2.71**	**209**	*ex*	x	16 03 32.5	
MSL				*ex*	x	16 03 43.0	
MSL				*ex*	x	16 04 07.0	
MSL				*i* x	x	16 04 17.0	
DGRG	**David-gareji**	**2.83**	**10**	P	**Pg**	**16 03 40.9**	**-1.4**
DGRG				S	**Sg**	**16 04 20.4**	**+1.5**
BEST	**Besiri**	**2.84**	**255**	*i* P	**Pn**	**16 03 33.9**	**-0.3**
BEST				*i* S	**Sn**	**16 04 07.7**	**-1.2**
EZM	**Erzurum**	**2.90**	**296**	*e*PN	**Pn**	**16 03 35.2**	**+0.2**
MTA	**Mtatsminda**	**3.02**	**1**	S	**Sg**	**16 04 25.1**	**-0.2**
TBLG	**Delisi**	**3.06**	**0**	S	**Sn**	**16 04 20.6**	**+6.2**
MARD	**Mardin**	**3.41**	**248**	*i* P	**Pn**	**16 03 43.0**	**+1.0**
MARD				*i* S	**Sn**	**16 04 32.0**	**+9.1**
MARD	**Mardin**	**3.41**	**248**	*i* P	**Pn**	**16 03 43.0**	**+1.0**

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*NIED **27** 16:23:00, 3060N×142.00E, h35km, Mw4.0 Best double couple: M0:9.89000×10^14 NP1:φ0=311.00000°, δ79.00000°, λ-76.00000°. NP2:φ0=78.00000°, δ18.00000°, λ-142.00000°.*
*ISCJB **27** 16:23:01.6±2.1, 3063N±005×142.1E±0.2, h31km±16km, mb4.0/10, Error ellipse: s-maj=23.3km s-min=5.2km az=150.5*
*NEIC **27** 16:23:01.9±4.8, 3055N×142.15E, h18km±29km, mb4.2/3, Error ellipse: s-maj=22.2km s-min=8.8km az=79.0*
*JMA **27** 16:23:01.4±0.1, 3065N×142.03E, h31km, M4.0*
*IDC **27** 16:23:03.9±6.4, 3058N×142.05E, h29km±46km, mb3.7/7, mb1 3.9/10, mb1mx3.7/22, mbtmp3.9/10, ML3.8/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/35, Error ellipse: s-maj=36.7km s-min=14.4km az=78.0*

ISC 27 16:23:03.2±2.2, 3062N±005×**1421E**±02, **h28**km±17km, **n28**, σ0§**80**/34, **mb4.0**/10, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.15**	**323**	P	**Pn**	**16 23 50.3**	**-0.7**
JHJ	**Hachijo jima 2**	**3.17**	**322**	Pn	**Pn**	**16 23 49.6**	**-1.6**
	8.5nm,0.3s,baz=246,slow=22,SNR=15						
JHJ				Sn	**Sn**	**16 24 26.9**	**-1.3**
	18nm,0.3s,baz=68,slow=19,SNR=4.5						
CBIJ	**Chichi jima**	**3.51**	**179**	Pn	**Pn**	**16 23 56.6**	**+0.6**
	16nm,0.3s,baz=281,slow=22,SNR=12						
CBIJ				Sn	**Sn**	**16 24 35.5**	**-1.0**
	15nm,0.3s,baz=288,slow=20,SNR=5.5						
CBIJ				LR	LR	16 24 36.6	
	comp=Z,194nm,21.9s,baz=132,slow=27						
CBIJ	**Chichi jima**	**3.51**	**179**	P	**Pn**	**16 23 55.9**	**-0.1**
CBIJ				*e*S	**Sn**	**16 24 36.7**	**+0.1**
BSO1	**Boso 1**	**4.13**	**347**	P	**Pn**	**16 24 03.5**	**-0.9**
BSO1				*e*S	**Sn**	**16 24 50.5**	**-1.3**
BSO3	**Boso 3**	**4.38**	**343**	P	**Pn**	**16 24 07.6**	**-0.2**
BSO3				*e*S	**Sn**	**16 24 57.7**	**-0.2**
JOD2	**Odawara 2**	**5.27**	**332**	P	**Pn**	**16 24 20.1**	**-0.1**
JRY	**Ryogami san**	**6.01**	**334**	P	**Pn**	**16 24 30.8**	**+0.6**
JRY				*e*S	**Sn**	**16 25 38.1**	**0.0**
MJAR	**Matsushiro Arr**	**6.74**	**332**	Pn	**Pn**	**16 24 41.1**	**+0.9**
	3.9nm,0.3s,baz=160,slow=11,SNR=49						
MAJO	**Matsushiro**	**6.74**	**332**	*e*Pn	**Pn**	**16 24 40.7**	**+0.4**
	16nm,0.5s						
MAT	**Matsushiro**	**6.74**	**332**	P	**Pn**	**16 24 41.5**	**+1.2**
MAT	**Matsushiro**	**6.74**	**332**	P	**Pn**	**16 24 41.2**	**+0.9**
MAT				S	**Sn**	**16 25 57.2**	**+1.2**
MAT	**Matsushiro**	**6.74**	**332**	*e*P	**Pn**	**16 24 41.0**	**+0.7**
	11nm,0.5s						
MAT				*e*S	**Sn**	**16 25 57.0**	**+1.0**
JOW	**Kunigami**	**12.70**	**256**	LR	LR	16 30 25.0	
	comp=Z,30nm,19.1s,baz=121,slow=35						
ULN	**Ulaanbaatar**	**31.79**	**313**	*e*P	**P**	**16 29 26.7**	**+1.5**
	1.4nm,0.6s,mb4.0						
SONM	**Songino Array**	**32.20**	**312**	P	**P**	**16 29 30.2**	**+1.4**
	0.7nm,0.6s,mb3.7,baz=124,slow=9.4,SNR=8.6						
MKAR	**Makanchi Array**	**48.23**	**307**	P	**P**	**16 31 42.1**	**+0.7**
	1.1nm,0.6s,mb4.1,baz=99,slow=8.6,SNR=15						
KURK	**Kurchatov**	**50.51**	**313**	P	**P**	**16 31 59.0**	**+0.2**
	1.0nm,0.6s,mb3.9						
WRAB	**Tennant Creek**	**50.81**	**189**	*e*P	**P**	**16 32 00.6**	**-0.6**
	5.0nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**50.82**	**189**	*e*P	**P**	**16 32 01.0**	**-0.2**
WRA	**Warramunga Arr**	**50.82**	**189**	P	**P**	**16 32 01.0**	**-0.2**
	5.3nm,0.6s,mb4.6,baz=6.2,slow=7.6,SNR=106						
ASAR	**Alice Springs**	**54.55**	**189**	P	**P**	**16 32 28.8**	**0.0**
	0.8nm,0.5s,mb4.0,baz=360,slow=4.6,SNR=47						
ILAR	**Eielson Array**	**54.68**	**30**	P	**P**	**16 32 30.3**	**+0.6**
	0.4nm,0.9s,mb3.5,baz=279,slow=7.2,SNR=3.5						
STKA	**Stephens Creek**	**62.16**	**180**	*e*P	**P**	**16 33 21.2**	**-0.7**
FINES	**FINESS Array B**	**74.77**	**333**	P	**P**	**16 34 41.3**	**+0.7**
	0.7nm,0.5s,mb3.9,baz=60,slow=6.1,SNR=12						
NOA	**NORSAR Array B**	**80.32**	**338**	P	**P**	**16 35 10.8**	**-0.9**
	0.8nm,0.8s,mb3.7,baz=13,slow=4.5,SNR=3.3						
NOA	**NORSAR Array B**	**80.32**	**338**	P	**P**	**16 35 10.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**122.17**	**313**	PKP	PKPdf	16 41 56.2	+0.9
	0.2nm,0.5s,baz=73,slow=1.1,SNR=5.9						

NEIC 27 16:41:05.0, 5757N×15620W, h105km, **MG2.9**(AEIC), **After AEIC., Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.96**	**82**	P	Pn	16 41 36.4	-0.9
KDAK				S	Sn	16 41 59.8	-2.0
SDPT	**Sand Point**	**3.25**	**229**	P	Pn	16 41 53.0	-1.3
SDPT				S	Sn	16 42 29.9	-2.4
SVW2	**Sparrevohn**	**3.55**	**5**	P	Pn	16 41 56.6	-1.6
SLKM	**Skilak Lake**	**4.27**	**44**	*e*P	Pn	16 42 05.8	-2.0
SEW	**Seward**	**4.33**	**51**	P	Pn	16 42 06.1	-2.7
FIB	**Fire Island**	**4.74**	**38**	*e*P	Pn	16 42 14.0	-0.3
RC01	**Rabbit Creek A**	**4.84**	**40**	P	Pn	16 42 13.6	-2.0
RC01				S	Sn	16 43 04.2	-6.2
TT01	**Tatalina**	**5.35**	**1**	P	Pn	16 42 22.2	-0.3
GHO	**Glory Hole Cre**	**5.60**	**38**	P	Pn	16 42 23.0	-2.9
SML	**Sawmill**	**5.82**	**40**	P	Pn	16 42 25.8	-3.2
EYAK	**Cordova Ski Ar**	**6.16**	**57**	P	Pn	16 42 31.4	-2.1
KTH	**Kantishna Hill**	**6.54**	**21**	P	Pn	16 42 37.0	-1.6
TRF	**Thorofare Moun**	**6.58**	**24**	P	Pn	16 42 37.2	-1.9
BMRM	**Bremner River**	**6.85**	**55**	P	Pn	16 42 40.7	-2.1
UNV	**Unalaska Valle**	**6.91**	**242**	P	Pn	16 42 42.0	-1.7
MCK	**McKinley**	**7.13**	**27**	P	Pn	16 42 43.6	-3.1
IL1	**Eielson Array**	**8.50**	**28**	P	Pn	16 43 00.6	-4.7
PNL	**Peninsula**	**9.02**	**69**	P	Pn	16 43 10.5	-1.8
DAWY	**Dawson**	**10.45**	**45**	*e*P	Pn	16 43 29.5	-2.3

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*ISCJB **27** 16:58:34.8±0.4, 0.99N±005×97.19E±004, h23km, mb4.6/56, MS4.4/30, Error ellipse: s-maj=7.1km s-min=6.1km az=74.8*

*BJI **27** 16:58:34.6, 095N×97.30E, h24km, mB5.1, mb4.8, Ms4.7, Msz4.4*
*NEIC **27** 16:58:36.2±0.4, 096N×9722E, mb4.6/15, Error ellipse: s-maj=11.6km s-min=7.6km az=51.0*
*MOS **27** 16:58:36.2±1.2, 106N×97.16E, h33km, mb4.8/16, MS4.3/4, Error ellipse: s-maj=13.2km s-min=7.3km az=99.6*
*IDC **27** 16:58:38.5±3.2, 0.98N×97.17E, h39km±26km, mb4.0/16, mb1 4.1/17, mb1mx4.0/24, mbtmp4.2/17, ML3.3/1, MS4.1/10, Ms1 4.1/10, ms1mx3.9/21, Error ellipse: s-maj=27.2km s-min=11.2km az=44.0*

ISC 27 16:58:37.1±0.3, 098N±005×**9719E**±005, **h25**km, **h25**km±7km:**pP-P, n112**, σ1§**19**/120, **mb4.6**/56, **MS4.4**/30, **8C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.50**	**44**	Pn	**Pn**	**16 59 15.7**	**-0.5**
	6.9nm,0.3s,baz=211,slow=8.5,SNR=73						
PSI				LR	LR	17 00 05.9	
	comp=Z,2μm,19.9s,baz=313,slow=36						
IPM	**Ipoh**	**5.17**	**48**	P	**Pn**	**16 59 54.5**	**+1.6**
KULM	**Kulim**	**5.50**	**39**	⇑*e*P	**Pn**	**16 59 56.9**	**-0.5**
KULM				*e*pP		17 00 02.8	
KGM	**Kluang**	**6.21**	**80**	P	**Pn**	**17 00 08.6**	**+1.4**
KKTK	**Khon Kaen**	**16.23**	**20**	P	**Pn**	**17 02 25.0**	**+1.5**
CHRT	**Chiangrai**	**18.94**	**8**	⇑P	**Pn**	**17 02 55.0**	**-2.0**
KKM	**Kota Kinabalu**	**19.64**	**75**	P	**Pn**	**17 03 05.6**	**+0.3**
TSM	**Tawau**	**20.92**	**81**	P	**P**	**17 03 19.1**	**+1.4**
QIZ	**Qiongzhong**	**21.81**	**34**	P	**P**	**17 03 27.0**	**-0.3**
QIZ				S	**S**	**17 07 19.3**	**-7.8**
QIZ				XS	sS	17 07 30.5	-7.6
QIZ				AMB	AMB		
	comp=Z,195nm,12.6s						
QIZ				LR	LR		
	comp=E,885nm,14.5s						
QIZ				LR	LR		
	comp=Z,654nm,12.9s,MS4.2						
KMI	**Kunming**	**24.59**	**12**	P	**P**	**17 03 55.5**	**+0.4**
KMI				AP		17 04 02.3	
KMI				XP	sP	17 04 04.8	-0.8
KMI				S	**S**	**17 08 16.8**	**+2.1**
KMI				XS	sS	17 08 26.8	0.0
KMI				AMB	AMB		
	comp=Z,51nm,1.4s,mb4.9						
KMI				AMB	AMB		
	comp=Z,285nm,3.3s						
KMI				LR	LR		
	comp=N,1μm,15.7s,MS4.6						
KMI				LR	LR		
	comp=E,628nm,14.2s,MS4.6						
KMI				LR	LR		
	comp=Z,2μm,15.2s,MS4.6						
GYA	**Guiyang**	**26.92**	**19**	⇓*i*P	**P**	**17 04 15.3**	**-0.9**
GYA				AP	pP	17 04 22.5	-1.1
GYA				XP	sP	17 04 25.8	-0.9
GYA				PP		17 05 01.5	
GYA				S	**S**	**17 08 48.0**	**-3.7**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,3.2s						
GYA				LR	LR		
	comp=N,540nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=E,640nm,16.4s,MS4.4						
GYA				LR	LR		
	comp=Z,510nm,17.0s,MS4.2						
JIRN	**Jiri**	**28.55**	**339**	*e*P	**P**	**17 04 32.2**	**+1.4**
	comp=Z,31nm,0.9s,mb5.0						
PKI	**Pulchoki**	**28.75**	**338**	*e*P	**P**	**17 04 35.0**	**+2.4**
GUN	**Gumba**	**28.89**	**339**	*e*P	**P**	**17 04 34.9**	**+1.1**
	comp=Z,110nm,1.2s,mb5.5						
DMN	**Daman**	**28.90**	**337**	*e*P	**P**	**17 04 36.5**	**+2.6**
	comp=Z,34nm,1.2s,mb5.0						
KKN	**Kakani**	**29.00**	**338**	*e*P	**P**	**17 04 35.7**	**+0.9**
	comp=Z,47nm,1.2s,mb5.1						
LSA	**Lhasa**	**29.13**	**349**	P	**P**	**17 04 37.8**	**+1.8**
LSA	**Lhasa**	**29.13**	**349**	*e*P	**P**	**17 04 37.2**	**+1.2**
	comp=Z,8.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**29.13**	**349**	*e*P	**P**	**17 04 37.2**	**+1.2**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
GKN	**Gorkha**	**29.43**	**337**	*e*P	**P**	**17 04 39.6**	**+0.9**
	comp=Z,87nm,1.4s,mb5.3						
KOLN	**Koldanda**	**29.65**	**335**	*e*P	**P**	**17 04 41.8**	**+1.2**
	comp=Z,25nm,0.7s,mb5.0						
CD2	**Chengdu**	**30.41**	**11**	⇑*i*P	**P**	**17 04 46.5**	**-0.8**
CD2				AP	pP	17 04 53.5	-1.2
CD2				XP	sP	17 04 56.0	-1.8
CD2				S	**S**	**17 09 41.3**	**-5.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,60nm,5.4s						
CD2				LR	LR		
	comp=N,600nm,13.8s						
CD2				LR	LR		
	comp=Z,680nm,14.4s,MS4.4						
ENH	**Enshi**	**31.38**	**21**	*e*P	**P**	**17 04 53.9**	**-2.0**
	comp=Z,26nm,1.0s,mb5.0						
QZH	**Quanzhou**	**31.54**	**39**	*e*P	**P**	**17 04 59.0**	**+1.7**
QZH				*e*S	**S**	**17 10 05.0**	**+0.7**
QZH				LR	LR		
	comp=N,1μm,11.0s,MS4.9						
QZH				LR	LR		
	comp=E,550nm,11.2s,MS4.9						
QZH				LR	LR		
	comp=Z,2μm,17.3s						
FITZ	**Fitzroy Crossi**	**33.81**	**125**	P	**P**	**17 05 16.4**	**-0.7**
	comp=Z,3.4nm,1.0s,mb4.2,baz=207,slow=9.0,SNR=3.7						
XAN	**Xi'an**	**34.67**	**17**	P	**P**	**17 05 23.3**	**-1.3**
XAN				AP	pP	17 05 30.8	-1.3
XAN				PP	PP	17 06 41.5	-1.9
XAN				S	**S**	**17 10 58.0**	**+5.1**
XAN				SS	SS	17 13 04.5	-19
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0

comp=N,141nm,16.7s,MS4.0
SSE LR LR
comp=E,156nm,16.7s,MS4.0
SSE LR LR
comp=Z,253nm,15.9s,MS4.1
GTA Gaotai 38.32 3 ⇑P **P** **17 05 55.3 -0.4**
GTA AP pP 17 06 02.3 -0.9
GTA XP sP 17 06 05.3 -1.0
GTA PP PP 17 07 24.5 +1.0
GTA PCP PcP 17 08 11.3 +2.0
GTA S **S** **17 11 46.0 -2.6**
GTA SCP ScP 17 11 56.0 +0.5
GTA XS sS 17 11 58.0 -2.9
GTA SS SS 17 14 22.8 -14
GTA AMB AMB
comp=Z,13nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,123nm,6.1s
GTA LR LR
comp=N,343nm,16.7s,MS4.3
GTA LR LR
comp=E,250nm,16.7s,MS4.3
GTA LR LR
comp=Z,397nm,18.6s,MS4.3
HHC Hu-ho-hao-te 41.77 16 *e*P **P** **17 06 26.0 +1.7**
HHC AP pP 17 06 32.5 +0.6
HHC XP sP 17 06 35.5 +0.6
HHC PP PP 17 08 06.3 +5.2
HHC PCP PcP 17 08 22.5 +2.2
HHC PCS PcS 17 12 12.3 +0.5
HHC S **S** **17 12 42.0 +1.9**
HHC XS sS 17 12 54.5 +1.9
HHC SS SS 17 15 42.8 -3.6
HHC SCS ScS 17 16 25.0 -0.8
HHC AMB AMB
comp=Z,10.0nm,0.3s,mb4.9
HHC AMB AMB
comp=Z,207nm,5.0s
HHC LR LR
comp=N,545nm,14.1s,MS4.7
HHC LR LR
comp=E,546nm,15.3s,MS4.7
HHC LR LR
comp=Z,467nm,16.2s,MS4.5
WRA Warramunga Arr 41.93 122 P **P** **17 06 25.9 +0.2**
comp=Z,3.1nm,0.8s,mb4.0,baz=300,slow=9.0,SNR=27
WRAB Tennant Creek 41.93 122 *e*P **P** **17 06 26.4 +0.7**
comp=Z,6.8nm,0.6s,mb4.5
WRAB Tennant Creek 41.93 122 *e*P **P** **17 06 26.4 +0.7**
WRAB pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
WB2 Warramunga Arr 41.94 122 *e*P **P** **17 06 25.6 -0.1**
BJT Baijiatuau 42.52 22 *e*P **P** **17 06 31.0 +0.6**
comp=Z,17nm,0.9s,mb4.8
BJT Baijiatuau 42.52 22 *e*P **P** **17 06 31.0 +0.5**
BJT pmax pmax
comp=Z,17nm,0.9s
BJI Beijing 42.54 22 P **P** **17 06 31.3 +0.7**
BJI XP sP 17 06 39.0 -2.2
BJI PP PP 17 08 15.3 +5.9
BJI AMB AMB
comp=Z,17nm,1.0s,mb4.7
BJI AMB AMB
comp=Z,230nm,4.1s
BJI LR LR
comp=N,286nm,14.7s,MS4.5
BJI LR LR
comp=E,404nm,15.9s,MS4.5
BJI LR LR
comp=Z,155nm,21.9s
FORT Forrest 43.12 140 *e*P pP 17 06 42.9 0.0
comp=Z,23nm,0.8s
ASAR Alice Springs 43.27 127 P **P** **17 06 37.4 +0.8**
comp=Z,3.7nm,0.9s,mb4.1,baz=300,slow=7.5,SNR=27
ASAR S **S** **17 13 01.9 -0.4**
comp=Z,1.7nm,1.3s,baz=305,slow=15,SNR=5.0
WMQ Urumqi 43.48 350 P **P** **17 06 38.8 +0.5**
WMQ AP pP 17 06 45.3 -0.6
WMQ XP sP 17 06 48.8 -0.1
WMQ PP PP 17 08 22.0 +2.4
WMQ PPP 17 08 57.5
WMQ *e*S **S** **17 13 05.5 +0.1**
WMQ AMB AMB
comp=Z,22nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,150nm,4.6s
WMQ LR LR
comp=N,864nm,20.0s,MS4.8
WMQ LR LR
comp=E,926nm,24.0s,MS4.8
WMQ LR LR
comp=Z,836nm,22.0s,MS4.6
ULHL Ulahol 45.19 338 P **P** **17 06 53.3 +1.4**
SNR=8.5
UCH Uchtor 45.84 336 P **P** **17 06 59.0 +1.9**
SNR=11
KS15 Wonju Array Si 46.00 34 P **P** **17 06 56.4 -1.9**
TKM2 Tokmak 2 46.02 338 P **P** **17 06 59.3 +0.9**
SNR=5.3
KBK Karagaybulak 46.04 337 P **P** **17 07 00.6 +2.0**
SNR=6.7
AML Almayashu 46.10 336 P **P** **17 07 00.5 +1.5**
SNR=8.3
EKS2 Erkin-Say 46.50 336 P **P** **17 07 03.7 +1.4**
SNR=5.6
USP Ospenovka 46.73 337 P **P** **17 07 04.8 +0.8**
SNR=14
SONM Songino Array 47.35 8 P **P** **17 07 09.0 +0.1**
comp=Z,12nm,1.0s,mb4.8,baz=190,slow=8.8,SNR=29
SONM PcP PcP 17 08 40.0 +0.5
comp=Z,2.9nm,0.8s,baz=192,slow=4.3,SNR=6.2
SONM LR LR 17 29 45.2
comp=Z,714nm,18.6s,MS4.7,baz=189,slow=39
SONM Songino Array 47.35 8 P **P** **17 07 09.0 +0.1**
SONM 17 08 40.0
MK31 Makanchi Array 47.45 346 *i*P **P** **17 07 09.5 -0.2**
MK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MKAR Makanchi Array 47.45 346 P **P** **17 07 09.8 +0.1**
comp=Z,5.6nm,0.8s,mb4.5,baz=161,slow=8.7,SNR=64
MKAR LR LR 17 31 13.3
comp=Z,129nm,20.5s,MS3.9,baz=172,slow=41
MKAR Makanchi Array 47.45 346 P **P** **17 07 09.8 +0.1**
MKAR LR LR 17 31 13.3
ULN Ulaanbaatar 47.48 9 *e*P **P** **17 07 07.7 -2.1**
comp=Z,4.7nm,0.7s,mb4.5
ULN Ulaanbaatar 47.48 9 ⇑*i*P **P** **17 07 09.1 -0.8**
ZAK Zakamensk 49.49 5 *e*P **P** **17 07 25.4 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.9s,mb4.5
CN2 Changchun 49.50 27 *e*P **P** **17 07 24.5 -1.0**
CN2 *e*XP sP 17 07 33.5 -2.6
CN2 PCP PcP 17 08 47.0 -0.2
CN2 *e*S **S** **17 14 30.0 -1.5**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,14.0s,MS4.7
CN2 LR LR
comp=E,300nm,14.0s,MS4.7
CN2 LR LR
comp=Z,500nm,15.0s,MS4.6
PMG Port Moresby 50.81 103 *e*P pP 17 07 43.1 0.0
HIA Hailar 51.85 19 *e*P **P** **17 07 42.1 -1.0**
comp=Z,8.2nm,0.8s,mb4.7
HIA Hailar 51.85 19 *e*P **P** **17 07 42.1 -1.1**
HIA pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 52.00 345 *e*P **P** **17 07 43.8 -0.5**
comp=Z,8.8nm,1.0s,mb4.6
KURK *e*pP pP 17 07 51.0 -1.1
KURK Kurchatov 52.00 345 *e*P **P** **17 07 43.8 -0.5**
KURK *e**PP pP 17 07 51.0 -1.0
KURK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MDJ Mudanjiang 52.06 29 P **P** **17 07 46.3 +1.6**
MDJ AP pP 17 07 52.0 -0.5
MDJ XP sP 17 07 56.3 +0.8
MDJ PP PP 17 09 43.5 +0.5
MDJ S **S** **17 15 09.5 +2.5**
MDJ AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,101nm,4.1s
MDJ LR LR
comp=N,157nm,15.8s,MS4.2
MDJ LR LR
comp=E,104nm,16.2s,MS4.2
MDJ LR LR
comp=Z,244nm,16.2s,MS4.3
STKA Stephens Creek 53.22 132 *e*P **P** **17 07 52.9 -0.4**
comp=Z,4.5nm,0.8s,mb4.5
STKA Stephens Creek 53.22 132 P **P** **17 07 53.3 0.0**
comp=Z,5.1nm,0.8s,mb4.5,baz=296,slow=7.5,SNR=8.5
ZAL Zalesovo 53.76 351 P **P** **17 07 56.5 -0.8**
comp=Z,4.7nm,0.8s,mb4.5,baz=294,slow=7.0,SNR=38
ZAL LR LR 17 35 03.6
comp=Z,146nm,18.5s,MS4.1,baz=295,slow=41
ZAL Zalesovo 53.76 351 P **P** **17 07 56.5 -0.8**
ZAL LR LR 17 35 03.6
NVS Novosibirsk 54.89 350 *e*P **P** **17 08 02.9 -2.6**
KLR Kul'dur 56.45 26 *e*P **P** **17 08 14.0 -2.7**
KLR pmax pmax
comp=Z,90nm,2.0s,mb5.5
KLR MLR MLR
comp=N,700nm,13.0s,MS5.0
KLR MLR MLR
comp=E,500nm,13.0s,MS5.0
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.5
BVAR Borovoye Array 56.45 341 P **P** **17 08 15.6 -1.2**
comp=Z,3.1nm,0.8s,mb4.4,baz=137,slow=7.3,SNR=14
BRVK Borovoye 56.51 341 *e*P **P** **17 08 15.6 -1.6**
comp=Z,4.7nm,0.9s,mb4.5
BRVK Borovoye 56.51 341 *e*P **P** **17 08 15.6 -1.6**
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ZRNK Zerenda 56.85 340 *e*P **P** **17 08 18.4 -1.2**
comp=Z,5.1nm,1.0s,mb4.5
ZRNK *e*pP pP 17 08 25.2 -2.1
ZRNK Zerenda 56.85 340 *e*P **P** **17 08 18.4 -1.2**
ZRNK *e**PP pP 17 08 25.2 -2.1
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CHKZ Chkalovo 56.93 341 *e*P **P** **17 08 19.4 -0.7**
comp=Z,10nm,0.9s,mb4.8
CHKZ *e*pP pP 17 08 26.0 -1.9
CHKZ Chkalovo 56.93 341 *e*P **P** **17 08 19.4 -0.7**
CHKZ *e**PP pP 17 08 26.0 -1.9
CHKZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
HABR Khabarovsk 57.45 29 *e*P **P** **17 08 22.0 -1.8**
BOD Bodaibo 58.22 10 *e*P **P** **17 08 29.1 -0.1**
BOD *e* pP 17 08 35.8 -1.2
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.8
AKTK Aktyubinsk 59.42 332 P **P** **17 08 36.3 -1.2**
AKTO Aktyubinsk 59.42 332 P **P** **17 08 36.3 -1.2**
comp=Z,1.9nm,0.8s,mb4.2,baz=130,slow=4.9,SNR=6.8
KMBO Kilima Mbogo 59.97 268 P **P** **17 08 41.4 +0.1**
comp=Z,0.5nm,0.4s,mb3.9,baz=204,slow=20,SNR=2.4
KMBO LR LR 17 33 47.2
comp=Z,132nm,18.1s,MS4.1,baz=32,slow=35
KMBO Kilima Mbogo 59.97 268 P **P** **17 08 41.4 +0.1**
KMBO LR LR 17 33 47.2
ZEI Tsey 63.15 319 *e*P **P** **17 09 03.4 +0.6**
ARU Arti 63.38 337 *e*P **P** **17 09 02.8 -1.5**
ARU pmax pmax
comp=Z,18nm,1.1s,mb5.1
ARU MLR MLR
comp=Z,200nm,20.0s,MS4.3
KIV Kislovodsk 64.47 319 *e*P **P** **17 09 11.7 +0.2**
KIV *e*S **S** **17 17 42.6 -6.2**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KIV MLR MLR
comp=Z,51nm,18.0s,MS3.8
YAK Yakutsk 65.63 16 *e*P **P** **17 09 17.1 -1.9**
YAK pmax pmax
comp=Z,13nm,1.1s,mb4.9
SOC Sochi 66.27 318 *e*P **P** **17 09 20.0 -3.2**
SOC *e* 17 09 54.3
SOC *e*S S 17 18 06.6 -4.4
SOC *e**SS sS 17 18 22.3 -1.7
SOC *e* 17 19 11.1
SOC *e*SS SS 17 22 27.0 -0.3
SOC pmax pmax
comp=Z,22nm,0.9s,mb5.2
SOC MLR MLR
comp=Z,123nm,18.0s,MS4.2
BRTR Keskin Array B 69.25 312 P **P** **17 09 41.6 -0.3**
comp=Z,0.9nm,0.8s,mb3.8,baz=134,slow=6.6,SNR=5.8
BRTR Keskin Array B 69.25 312 *i*P **P** **17 09 42.0 +0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
DZM Mont Dzumac 71.20 114 LR LR 17 43 36.1
comp=Z,177nm,18.3s,MS4.4,baz=18,slow=38
MA2 Magadan 71.53 26 *e*P **P** **17 09 54.8 -1.1**
comp=Z,3.6nm,0.8s,mb4.3
MA2 Magadan 71.53 26 *e*P **P** **17 09 55.3 -0.6**
MA2 pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
OBN Obninsk 72.80 328 *e*P **P** **17 10 03.3 -0.1**
OBN *e* 17 10 20.1
OBN *e* 17 12 44.0
OBN pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
TIXI Tiksi 73.40 10 ⇑*i*P **P** **17 10 05.3 -1.7**
TIXI pmax pmax
comp=Z,6μm,0.8s
TIXI MLR MLR
comp=Z,400nm,18.0s,MS4.7
SEY Seymchan 73.96 23 *d i*P **P** **17 10 10.0 -0.3**
BOSA Boshof 74.66 240 LR LR 17 41 33.5
comp=Z,104nm,18.3s,MS4.2,baz=304,slow=34
AKASG Malin Array Be 75.42 322 P **P** **17 10 17.6 -1.1**
comp=Z,1.8nm,0.9s,mb4.0,baz=91,slow=5.2,SNR=9.6
AKASG Malin Array Be 75.42 322 *i*P **P** **17 10 19.2 +0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 80.19 333 P **P** **17 10 44.5 -0.8**
comp=Z,1.3nm,0.8s,mb3.9,baz=45,slow=5.7,SNR=4.8
BILL Bilibino 81.37 21 *e*P **P** **17 10 50.7 -0.9**
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
ARCES ARCESS Array B 82.74 340 P **P** **17 10 58.3 -0.5**
comp=Z,3.5nm,0.9s,mb4.4,baz=90,slow=4.9,SNR=5.6
ARCES LR LR 17 52 09.2
comp=Z,136nm,19.5s,MS4.3,baz=249,slow=39
GERES GERESS Array B 84.97 319 P **P** **17 11 11.2 +1.0**
comp=Z,1.1nm,0.7s,mb4.1,baz=98,slow=5.7,SNR=9.5
VNDA Vanda 85.61 169 LR LR 17 44 29.0
comp=Z,138nm,19.9s,MS4.3,baz=156,slow=32
NB2 NORSAR Subarra 87.19 331 P **P** **17 11 20.5 -0.7**
comp=Z,1.1nm,0.8s,mb4.1,baz=96,slow=4.8
NB2 NORSAR Subarra 87.19 331 P **P** **17 11 20.5 -0.7**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
NOA NORSAR Array B 87.19 331 P **P** **17 11 19.7 -1.4**
comp=Z,1.7nm,0.8s,mb4.3,baz=94,slow=5.3,SNR=4.9
NOA LR LR 17 56 02.4
comp=Z,75nm,18.7s,MS4.1,baz=260,slow=40
VNA2 Neumayer--Watz 95.67 199 ⇑*i*P **P** **17 12 00.0 -0.6**
VNA2 *e* pP 17 12 08.0 -0.8
VNA3 Neumayer Olymp 96.31 198 ⇑*i*P **P** **17 12 05.2 +1.7**
VNA3 *e* pP 17 12 12.6 +0.9
PDAR Pinedale Array 130.24 26 PKP PKPdf 17 17 43.5 -1.5
comp=Z,0.3nm,0.7s,baz=294,slow=2.9,SNR=2.6
CPUP Villa Florida 144.84 222 PKP PKPdf 17 18 13.2 +1.3
comp=Z,1.5nm,0.6s,baz=132,slow=6.8,SNR=5.6
CPUP Villa Florida 144.84 222 PKIKP PKPdf 17 18 12.9 +1.1
CPUP *e* 17 18 20.2

IDC 27 17:20:03.1±20.0, 2426S×17656W, h380km±68km, mb3.7/5, mb1 3.7/6, mb1mx3.4/17, mbtmp4.5/6, 1C, Error ellipse: s-maj=262.5km s-min=61.2km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.78**	**275**	P	P	17 23 25.6	+0.7
	0.5nm,0.3s,baz=88,slow=16,SNR=7.0						
CTA	**Charters Tower**	**34.62**	**269**	*e*P	P	17 26 18.1	+0.1
	5.6nm,0.4s						
CTA	**Charters Tower**	**34.62**	**269**	P	P	17 26 18.1	+0.1
	6.6nm,0.4s,baz=99,slow=12,SNR=15						
STKA	**Stephens Creek**	**37.51**	**249**	⇑*i*P	P	17 26 41.6	-0.7
	2.0nm,0.6s						
STKA	**Stephens Creek**	**37.51**	**249**	P	P	17 26 41.7	-0.6
	2.5nm,0.6s,baz=116,slow=9.6,SNR=10						
PMG	**Port Moresby**	**37.59**	**287**	P	P	17 26 43.8	+0.9
	5.1nm,0.7s,baz=138,slow=8.0,SNR=3.9						
ASAR	**Alice Springs**	**45.07**	**260**	P	P	17 27 43.5	+0.6
	1.7nm,0.8s,baz=91,slow=7.2,SNR=42						
ASAR				ScP	ScP	17 32 31.5	-0.2
	0.4nm,0.8s,baz=118,slow=6.4,SNR=4.7						
WB2	**Warramunga Arr**	**45.50**	**265**	*e*P	P	17 27 46.2	-0.1
WRA	**Warramunga Arr**	**45.51**	**265**	P	P	17 27 46.4	0.0
	4.0nm,0.6s,baz=100,slow=8.1,SNR=79						
WRA				ScP	ScP	17 32 34.0	+0.5
	1.9nm,0.9s,baz=100,slow=3.6,SNR=11						
KAKA	**Kakadu**	**49.47**	**274**	*e*P	P	17 28 17.0	+0.6
	8.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.93**	**265**	*e*P	P	17 28 49.5	+0.5
	12nm,0.8s						

*IDC **27** 17:28:15.9±0.8, 1348S×7690W, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.1/18, mbtmp4.0/11, ML3.7/3, MS3.7/7, Ms1 3.7/7, ms1mx3.5/19, Error ellipse: s-maj=32.9km s-min=16.4km az=60.0*
*ISCJB **27** 17:28:21.7±2.7, 1364S±009×769W±02, h61km±25km, mb3.9/10, Error ellipse: s-maj=25.4km s-min=13.0km az=144.6*
*BJI **27** 17:28:22.3, 1360S×7680W, h65km, mB5.1*
*NEIC **27** 17:28:24.3±2.1, 1359S×7677W, h65km±19km, mb4.0/2, Error ellipse: s-maj=23.5km s-min=11.3km az=71.0*

ISC 27 17:28:24.1±1.9, 1368S±009×769W±02, h68km±17km, n32, σ1§19/24, mb3.8/10, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**5.92**	**118**	*e*P	**Pn**	**17 29 55.0**	**+5.8**
ARE				*e*S	**Sn**	**17 31 11.0**	**+15**
LPAZ	**La Paz**	**8.88**	**108**	Pn	**Pn**	**17 30 30.9**	**+1.4**
	0.7nm,0.3s,baz=275,slow=12,SNR=11						
LPAZ				Sn	**Sn**	**17 32 19.9**	**+12**
	baz=95,slow=12,SNR=1.6						
LPAZ				LR	LR	17 34 34.3	
	comp=Z,251nm,18.9s,baz=289,slow=42						
LPAZ	**La Paz**	**8.88**	**108**	*e*P	**Pn**	**17 30 30.8**	**+1.2**
	13nm,0.7s						
LVC	**Limon Verde**	**11.69**	**141**	Pn	**Pn**	**17 31 06.4**	**-1.6**
	0.4nm,0.3s,baz=298,slow=12,SNR=3.9						
LVC				Lg		17 34 18.1	
	0.3nm,0.3s,baz=133,slow=19,SNR=7.5						
LVC				LR	LR	17 35 51.9	
	comp=Z,181nm,21.2s,baz=92,slow=38						
LVC	**Limon Verde**	**11.69**	**141**	*e*P	**Pn**	**17 31 07.4**	**-0.6**
	197nm,0.8s						
OTAV	**Otavalo**	**13.91**	**354**	*e*P	**Pn**	**17 31 39.4**	**+1.4**
	11nm,0.8s						
SAML	**Samuel**	**14.26**	**72**	*e*P	**Pn**	**17 31 40.5**	**-2.0**
	12nm,0.6s						
SIV	**San Ignacio**	**15.49**	**100**	Pn	**Pn**	**17 31 56.0**	**-2.4**
	0.1nm,0.3s,baz=277,slow=19,SNR=3.0						
ROSC	**El Rosal**	**18.60**	**8**	LR	LR	17 40 48.5	
	comp=Z,404nm,19.1s,baz=354,slow=41						
CFAA	**Coronel Fontan**	**19.54**	**157**	P	**Pn**	**17 32 47.8**	**-0.2**
	0.1nm,0.3s,baz=270,slow=6.1,SNR=5.4						
CPUP	**Villa Florida**	**22.26**	**127**	P	**P**	**17 33 15.2**	**-0.1**
	1.5nm,0.7s,mb3.5,baz=294,slow=9.9,SNR=3.9						
CPUP				LR	LR	17 43 57.6	
	comp=Z,187nm,20.1s,baz=297,slow=42						
SDV	**Santo Domingo**	**23.27**	**16**	P	**P**	**17 33 23.6**	**-2.1**
	6.6nm,0.6s,mb4.2,baz=264,slow=12,SNR=5.0						
SDV	**Santo Domingo**	**23.27**	**16**	*e*P	**P**	**17 33 23.7**	**-2.1**
	7.7nm,0.5s,mb4.3						
PLCA	**Paso Flores**	**27.52**	**169**	P	**P**	**17 34 05.8**	**+1.6**
	1.4nm,0.6s,mb3.6,baz=340,slow=13,SNR=3.8						
PLCA				LR	LR	17 42 52.4	
	comp=Z,74nm,21.2s,baz=176,slow=32						
PLCA	**Paso Flores**	**27.52**	**169**	P	**P**	**17 34 03.9**	**-0.3**
	1.4nm,0.7s,mb3.6						
PLCA				LR	LR	17 42 52.4	
PDAR	**Pinedale Array**	**63.66**	**334**	P	**P**	**17 38 47.8**	**-0.3**
	0.4nm,0.7s,mb3.3,baz=141,slow=6.6,SNR=2.4						
NVAR	**Mina Array Bea**	**64.70**	**325**	P	**P**	**17 38 55.3**	**+0.4**
	0.8nm,0.7s,mb3.7,baz=131,slow=8.1,SNR=4.0						
ULM	**Lac du Bonnet**	**65.80**	**347**	P	**P**	**17 39 01.2**	**-0.8**
	1.7nm,0.6s,mb4.0,baz=162,slow=5.5,SNR=4.4						
DBIC	**Dimbokro**	**74.32**	**79**	P	**P**	**17 39 55.4**	**+1.2**
	3.3nm,0.8s,mb4.1,baz=231,slow=7.4,SNR=3.9						
DBIC				LR	LR	18 11 45.2	
	comp=Z,123nm,18.0s,baz=255,slow=35						
YKA	**Yellowknife Ar**	**81.43**	**343**	P	**P**	**17 40 33.1**	**-0.6**
	0.3nm,0.6s,mb3.3,baz=131,slow=5.1,SNR=8.3						
TORD	**Torodi Ar. Bea**	**82.31**	**74**	P	**P**	**17 40 40.0**	**+1.7**
	6.0nm,0.9s,mb4.4,baz=263,slow=5.0,SNR=28						
SYO	**Syowa Base**	**86.39**	**161**	⇓*e*P	**P**	**17 41 04.3**	**+5.4**
BOSA	**Boshof**	**93.91**	**121**	LR	LR	18 19 40.6	
	comp=Z,84nm,19.7s,baz=117,slow=33						
ILAR	**Eielson Array**	**94.00**	**336**	P	**P**	**17 41 34.1**	**-0.5**
	0.2nm,0.5s,mb3.7,baz=186,slow=4.3,SNR=3.2						
ASAR	**Alice Springs**	**132.18**	**219**	PKP	PKPdf	17 47 34.1	+4.0
	0.1nm,0.6s,baz=118,slow=2.7,SNR=4.5						
WRA	**Warramunga Arr**	**134.59**	**223**	PKP	PKPdf	17 47 35.5	+0.9
	1.1nm,0.8s,baz=136,slow=1.8,SNR=8.8						
ZAL	**Zalesovo**	**137.33**	**16**	PKP	PKPdf	17 47 42.4	+2.6
	0.6nm,0.3s,baz=319,slow=6.3,SNR=3.9						
ULN	**Ulaanbaatar**	**145.76**	**355**	*e*PKP	PKPdf	17 47 56.0	+1.2
SONM	**Songino Array**	**145.84**	**356**	PKPbc	PKPbc	17 47 57.1	+1.5
	2.1nm,1.0s,baz=340,slow=2.6,SNR=14						
WMQ	**Urumqi**	**147.19**	**21**	*e*PKP	PKPdf	17 47 54.3	-2.9
HHC	**Hu-ho-hao-te**	**151.94**	**346**	*e*PKP	PKPdf	17 48 02.0	-2.7
NJ2	**Nanjing**	**156.70**	**324**	*e*PKP	PKPdf	17 48 08.5	-2.9

*ATH **27** 17:46:00.9, 4022N×2268E, h4km, MD2.8/3*
*ISCJB **27** 17:46:03.6±0.4, 4020N±002×2302E±004, h9km±7km, Error ellipse: s-maj=5.5km s-min=3.3km az=175.2*
*CSEM **27** 17:46:04.4±0.1, 4021N×2302E, h12km, ML2.0, Error ellipse: s-maj=1.8km s-min=1.2km az=102.0*
*THE **27** 17:46:04.3, 4022N×2302E, h2km, ML2.0*

ISC 27 17:46:04.1±0.5, 4020N±002×2302E±004, h15km±8km, n17, σ0§54/28, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLG	**Polygyros**	**0.37**	**62**	*e*Pb	**Pg**	**17 46 11.3**	**-0.3**
PLG				*e*Sb	**Sg**	**17 46 16.9**	**+0.2**
LIT	**Litokhoron**	**0.41**	**256**	*e*Pg	**Pg**	**17 46 12.3**	**-0.2**
LIT				*e*Sg	**Sg**	**17 46 18.7**	**+0.7**
THE	**Thessaloniki**	**0.43**	**355**	*e*Pg	**Pg**	**17 46 12.3**	**-0.4**
THE				*e*Sg	**Sg**	**17 46 18.4**	**-0.1**
PAIG	**Paliouri**	**0.58**	**118**	*e*Pg	**Pg**	**17 46 14.8**	**-0.7**
PAIG				*e*Sg	**Sg**	**17 46 24.4**	**+1.2**
SOH	**Sokhos**	**0.67**	**23**	*e*Pg	**Pg**	**17 46 16.7**	**-0.5**
SOH				*e*Sg	**Sg**	**17 46 26.1**	**+0.1**
OUR	**Ouranopolis**	**0.75**	**80**	*e*Pg	**Pg**	**17 46 18.5**	**-0.2**
XOR	**Xorichti**	**0.85**	**171**	*e*Pg	**Pg**	**17 46 20.4**	**-0.1**
XOR				*e*Sg	**Sg**	**17 46 32.7**	**+1.1**
GRG	**Griva**	**0.89**	**328**	*e*Pg	**Pg**	**17 46 20.8**	**-0.4**
GRG				*e*Sg	**Sg**	**17 46 33.7**	**+0.8**
NEO	**Neokhori**	**0.91**	**170**	*e*PG	**Pg**	**17 46 20.6**	**-1.1**
NEO				*e*SG	**Sg**	**17 46 33.4**	**-0.2**
NEO	**Neokhori**	**0.91**	**170**	*e*Pb	**Pb**	**17 46 21.4**	**-0.2**
KZN	**Kozani**	**0.96**	**277**	*e*PG	**Pg**	**17 46 14.2**	**-8.4**
KNT	**Kendrikon**	**0.96**	**355**	*e*Pg	**Pg**	**17 46 22.1**	**-0.6**
KNT				*e*Sg	**Sg**	**17 46 35.8**	**+0.5**
SRS	**Serrai**	**1.01**	**25**	*e*Pg	**Pg**	**17 46 23.3**	**-0.3**
SRS				*e*Sg	**Sg**	**17 46 37.2**	**+0.3**
SRS	**Serrai**	**1.01**	**25**	*e*Pg	**Pg**	**17 46 23.3**	**-0.4**
SRS				*e*Sg	**Sg**	**17 46 37.2**	**+0.3**
AGG	**Agios Georgios**	**1.29**	**204**	*e*Pg	**Pg**	**17 46 28.7**	**-0.3**
NVR	**Nevrokopi**	**1.31**	**29**	*e*PN	**Pn**	**17 46 28.5**	**+0.6**
NVR	**Nevrokopi**	**1.31**	**29**	*e*Pb	**Pb**	**17 46 28.8**	**+0.3**

*ISCJB **27** 18:29:37.6±0.6, 6090N±004×15229W±0.10, h113km±8km, mb3.5/1, Error ellipse: s-maj=7.9km s-min=6.7km az=33.6*
*IDC **27** 18:29:37.5±1.8, 6093N×15221W, h80km±34km, mb3.1/1, mb1 3.3/5, mb1mx3.1/22, mbtmp3.4/5, Error ellipse: s-maj=45.1km s-min=9.7km az=110.0*
*NEIC **27** 18:29:40.3, 6092N×15226W, h105km, MG2.8(AEIC), After AEIC.*

ISC 27 18:29:38.7±0.6, 6090N±004×15230W±010, h107km±8km, n27, σ0°73/37, mb3.5/1, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**1.07**	**75**	*eP*	**Pn**	**18 30 02.1**	**+1.7**
FIB				P		18 30 02.4	
SLKM	**Skilak Lake**	**1.10**	**110**	P	**Pn**	**18 30 01.4**	**+0.8**
SLKM				*eP*		18 30 01.6	
SLKM				*eS*	**Sn**	**18 30 17.8**	**+0.6**
RC01	**Rabbit Creek A**	**1.26**	**80**	P	**Pn**	**18 30 03.5**	**+1.0**
RC01				S	**Sn**	**18 30 21.4**	**+0.9**
SVW2	**Sparrevohn**	**1.61**	**278**	*eP*	**Pn**	**18 30 05.9**	**-0.8**
SVW2				P		18 30 06.9	
SEW	**Seward**	**1.62**	**118**	P	**Pn**	**18 30 07.2**	**+0.4**
PMR	**Palmer**	**1.68**	**64**	P	**Pn**	**18 30 07.6**	**+0.1**
PMR				*eP*		18 30 07.8	
PMR				*eS*	**Sn**	**18 30 26.7**	**-2.7**
PMR				S	**Sn**	**18 30 29.1**	**-0.4**
GHO	**Glory Hole Cre**	**1.85**	**60**	P	**Pn**	**18 30 09.8**	**+0.2**
SML	**Sawmill**	**2.12**	**63**	*eP*	**Pn**	**18 30 12.9**	**-0.1**
SML				*eS*	**Sn**	**18 30 38.8**	**-0.5**
TTA	**Tatalina**	**2.69**	**321**	*eP*	**Pn**	**18 30 20.9**	**+0.4**
TRF	**Thorofare Moun**	**2.73**	**19**	P	**Pn**	**18 30 21.3**	**+0.4**
KTH	**Kantishna Hill**	**2.74**	**13**	P	**Pn**	**18 30 21.3**	**+0.2**
KTH				S	**Sn**	**18 30 52.5**	**-1.2**
KDAK	**Kodiak Island**	**3.13**	**183**	P	**Pn**	**18 30 26.0**	**-0.4**
	5.6nm,0.3s,baz=16,slow=7.5,SNR=30						
KDAK				S	**Sn**	**18 31 01.9**	**-1.3**
	4.5nm,0.3s,baz=298,slow=22,SNR=8.3						
DIV	**Divide**	**3.19**	**83**	P	**Pn**	**18 30 26.2**	**-0.8**
DIV				S	**Sn**	**18 31 03.5**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.24**	**93**	P	**Pn**	**18 30 27.4**	**-0.3**
MCK	**McKinley**	**3.25**	**27**	*eP*	**Pn**	**18 30 28.0**	**+0.1**
MCK				P		18 30 28.6	
MCK				*eS*	**Sn**	**18 30 60.0**	**-5.8**
BMRM	**Bremner River**	**3.76**	**86**	P	**Pn**	**18 30 33.8**	**-0.9**
PAX	**Paxson**	**3.84**	**54**	P	**Pn**	**18 30 36.6**	**+0.8**
COLA	**College**	**4.47**	**25**	P	**Pn**	**18 30 44.0**	**-0.3**
MENT	**Mentasta**	**4.54**	**60**	*eP*	**Pn**	**18 30 45.5**	**+0.3**
IL1	**Eielson Array**	**4.61**	**30**	P	**Pn**	**18 30 45.8**	**-0.4**
ILAR	**Eielson Array**	**4.61**	**30**	P	**Pn**	**18 30 45.9**	**-0.3**
	2.5nm,0.3s,baz=210,slow=14,SNR=117						
ILAR				S	**Sn**	**18 31 34.6**	**-4.0**
	1.4nm,0.3s,baz=5.1,slow=22,SNR=8.8						
DOT	**Dot Lake**	**4.73**	**51**	P	**Pn**	**18 30 48.1**	**+0.3**
IM01	**Indian Mountai**	**5.15**	**354**	P	**Pn**	**18 30 53.7**	**+0.1**
DAWY	**Dawson**	**6.77**	**56**	*eP*	**Pn**	**18 31 15.7**	**+0.3**
INK	**Inuvik**	**10.91**	**39**	P	**Pn**	**18 32 11.4**	**-0.2**
	0.1nm,0.3s,baz=255,slow=10,SNR=6.5						
YKA	**Yellowknife Ar**	**17.78**	**68**	P	**Pn**	**18 33 39.6**	**+0.3**
	baz=280,slow=11,SNR=7.6						
SONM	**Songino Array**	**54.54**	**306**	P	**P**	**18 38 56.6**	**+0.9**
	0.4nm,0.8s,mb3.5,baz=48,slow=6.4,SNR=3.7						

*NEIC **27** 18:47:52.3, 1935N×6543W, h101km, MD3.5(RSPR), After RSPR.*

RSPR 27 18:47:52.3, 1935N×6543W, h101km±9km, MD3.5/8, MD3.5/8, 7C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.08**	**156**	*eS*	Sn	18 48 29.9	+0.1
STVI	**Saint Thomas**	**1.08**	**156**	⇑*eP*	Pn	18 48 12.8	-0.9
STVI				*eS*	Sn	18 48 29.9	+0.1
CBYP	**Canovanas**	**1.15**	**201**	*eS*	Sn	18 48 31.2	+0.1
CBYP	**Canovanas**	**1.15**	**201**	⇑*eP*	Pn	18 48 13.4	-0.9
CBYP				*eS*	Sn	18 48 31.2	+0.1
TBVI	**Tortola**	**1.21**	**140**	*eS*	Sn	18 48 32.0	-0.4
TBVI	**Tortola**	**1.21**	**140**	⇑*eP*	Pn	18 48 14.9	-0.3
TBVI				*eS*	Sn	18 48 32.0	-0.4
MTP	**Monte Pirata**	**1.25**	**186**	*eS*	Sn	18 48 33.1	-0.2
MTP	**Monte Pirata**	**1.25**	**186**	⇓*eP*	Pn	18 48 15.3	-0.3
MTP				*eS*	Sn	18 48 33.1	-0.2
AOPR	**Arecibo Observ**	**1.60**	**232**	*eS*	Sn	18 48 40.3	-0.4
AOPR	**Arecibo Observ**	**1.60**	**232**	⇑*eP*	Pn	18 48 20.2	+0.4
AOPR				*eS*	Sn	18 48 40.3	-0.4
CELP	**Cerrillos**	**1.67**	**221**	⇑*eP*	Pn	18 48 20.0	-0.7
ICM	**Isla Caja Muer**	**1.78**	**216**	⇑*eP*	Pn	18 48 21.6	-0.4
CRPR	**Cabo Rojo, PR**	**2.08**	**230**	*eS*	Sn	18 48 50.6	-1.0
CRPR	**Cabo Rojo, PR**	**2.08**	**230**	⇑*eP*	Pn	18 48 25.9	0.0
CRPR				*eS*	Sn	18 48 50.6	-1.0

*ISCJB **27** 19:44:43.3±1.0, 109S±02×1114E±03, h10km, mb4.0/7, MS4.7/1, Error ellipse: s-maj=48.3km s-min=11.3km az=95.8*

*IDC **27** 19:44:45.7±1.2, 1029S×112.11E, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/17, mbtmp3.9/7, ML3.7/1, MS4.6/1, Ms1 4.6/1, ms1mx3.0/28, Error ellipse: s-maj=63.8km s-min=15.0km az=42.0*

*NEIC **27** 19:44:45.4±1.0, 1077S×11155E, h10km, mb4.3/1, Error ellipse: s-maj=50.1km s-min=11.1km az=50.0*

ISC 27 19:44:45.7±4.2, 107S±03×117E±03, h8km±28km, n11, σ0°97/13, mb4.0/7, MS4.7/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**12.97**	**144**	*eP*	**Pn**	**19 47 48.5**	**-1.6**
MBWA				*eS*	**Sn**	**19 49 58.0**	**-17**
FITZ	**Fitzroy Crossi**	**15.41**	**120**	Pn	**Pn**	**19 48 23.0**	**-0.3**
	0.2nm,0.3s,baz=293,slow=13,SNR=8.9						
FITZ				Sn	**Sn**	**19 50 57.8**	**-16**
	0.2nm,0.3s,baz=359,slow=24,SNR=3.1						
WRA	**Warramunga Arr**	**23.71**	**115**	P	**P**	**19 49 58.9**	**+0.8**
	5.7nm,0.9s,mb4.0,baz=290,slow=11,SNR=20						
WRA				PcP	PcP	19 53 43.8	+1.8
	0.6nm,0.8s,baz=303,slow=1.8,SNR=4.6						
WRA				S	**S**	**19 54 11.8**	**-1.2**
	0.3nm,0.8s,baz=287,slow=20,SNR=3.5						
ASAR	**Alice Springs**	**24.81**	**124**	P	**P**	**19 50 10.1**	**+1.9**
	2.6nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=41						
ASAR				PcP	PcP	19 53 46.2	+1.9
	0.6nm,0.7s,baz=320,slow=1.8,SNR=6.3						
STKA	**Stephens Creek**	**34.76**	**132**	P	**P**	**19 51 37.0**	**+0.6**
	2.3nm,0.7s,mb4.2,baz=329,slow=10,SNR=9.0						
STKA	**Stephens Creek**	**34.76**	**132**	*eP*	**P**	**19 51 37.2**	**+0.8**
LSA	**Lhasa**	**44.77**	**334**	P	**P**	**19 52 59.0**	**-0.6**
	2.9nm,0.7s,mb4.2						
DZM	**Mont Dzumac**	**53.52**	**110**	LR	LR	20 14 57.4	
	comp=Z,575nm,18.9s,MS4.7,baz=67,slow=34						
SONM	**Songino Array**	**58.47**	**356**	P	**P**	**19 54 41.5**	**-0.6**
	0.7nm,0.9s,mb3.7,baz=177,slow=8.2,SNR=5.8						
MKAR	**Makanchi Array**	**62.97**	**338**	P	**P**	**19 55 12.6**	**-0.2**
	0.6nm,0.6s,mb3.9,baz=150,slow=8.1,SNR=8.9						
BRTR	**Keskin Array B**	**87.71**	**311**	P	**P**	**19 57 35.5**	**+0.6**
	1.0nm,0.7s,mb4.1,baz=106,slow=4.4,SNR=5.5						

IDC 27 19:53:19.1±2.2, 374N×6342E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/22, mbtmp3.8/5, Error ellipse: s-maj=89.2km s-min=24.7km az=56.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.90**	**18**	P	P	20 01 43.0	-0.4
	0.2nm,0.6s,baz=189,slow=7.3,SNR=4.2						
AKTO	**Aktyubinsk**	**46.75**	**355**	P	P	20 01 50.6	+0.6
	0.7nm,0.6s,baz=166,slow=11,SNR=4.0						
HFS	**Hagfors**	**67.73**	**336**	P	P	20 04 18.0	-0.4
	1.5nm,0.6s,baz=131,slow=8.1,SNR=8.9						
WRA	**Warramunga Arr**	**73.44**	**112**	P	P	20 04 53.7	+0.4
	1.1nm,0.7s,baz=291,slow=5.4,SNR=11						
ASAR	**Alice Springs**	**73.75**	**116**	P	P	20 04 56.2	+1.2
	0.9nm,0.8s,baz=285,slow=5.9,SNR=9.3						

*CSEM **27** 19:54:16.4±0.1, 4560N×2650E, h132km, MD4.4/4, Error ellipse: s-maj=1.4km s-min=1.3km az=103.0*

*IDC **27** 19:54:17.9±0.6, 4567N×2630E, h113km±5km, mb3.3/5, mb1 3.3/10, mb1mx3.1/24, mbtmp3.6/10, Error ellipse: s-maj=21.6km s-min=11.5km az=120.0*

*ISCJB **27** 19:54:17.1±0.2, 4556N±002×2647E±003, h127km±2km, mb3.6/5, Error ellipse: s-maj=3.1km s-min=2.9km az=124.5*

*MOS **27** 19:54:17.1±0.6, 4556N×2645E, h125km, mb3.7/1, Error ellipse: s-maj=8.4km s-min=5.5km az=89.1*

*BUC **27** 19:54:17.8±0.7, 4555N×2647E, h127km±7km, MD4.3/6, Error ellipse: s-maj=5.1km s-min=4.6km az=85.0*

*NEIC **27** 19:54:18.4, 4555N×2650E, h120km, MD4.2(BUC), After BUC.*

*SOF **27** 19:54:18.1, 4559N×2638E, h100km, MD3.3*

ISC 27 19:54:18.1±0.2, 4557N±002×2646E±002, h123km±2km, n90, σ0°91/140, mb3.6/5, 18C-18D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.31**	**25**	⇑*iP*	**Pn**	**19 54 35.7**	**+0.2**
PLOR				*i S*	**Sn**	**19 54 49.0**	**+0.5**
VRI	**Vrincioaia**	**0.35**	**32**	⇑*iP*	**Pn**	**19 54 36.1**	**+0.5**
VRI				*i S*	**Sn**	**19 54 49.0**	**+0.2**
VRI	**Vrincioaia**	**0.35**	**32**	⇑*iP*	**Pn**	**19 54 36.2**	**+0.6**
VRI				*i S*	**Sn**	**19 54 49.3**	**+0.5**
MLR	**Muntele Rosu**	**0.37**	**258**	P	**Pn**	**19 54 36.0**	**+0.3**
	144nm,0.3s,baz=342,slow=3.1,SNR=2289						
MLR				S	**Sn**	**19 54 47.8**	**-1.2**
	694nm,0.3s,baz=283,slow=21,SNR=89						
MLR	**Muntele Rosu**	**0.37**	**258**	⇑*iP*	**Pn**	**19 54 36.0**	**+0.3**
MLR				*i S*	**Sn**	**19 54 49.0**	**0.0**
MLR	**Muntele Rosu**	**0.37**	**258**	⇑*iP*	**Pn**	**19 54 36.1**	**+0.4**
MLR				*i S*	**Sn**	**19 54 49.0**	**0.0**
BRD	**Bordesti**	**0.40**	**92**	P	**Pn**	**19 54 36.2**	**+0.4**
ISR	**Istrita**	**0.45**	**173**	⇓*iP*	**Pn**	**19 54 36.5**	**+0.4**
ISR				*i S*	**Sn**	**19 54 50.2**	**+0.5**
PETR		**0.56**	**73**	⇓*iP*	**Pn**	**19 54 37.7**	**+0.9**
PETR				*i S*	**Sn**	**19 54 51.8**	**+0.9**
SECR		**0.60**	**208**	⇓*iP*	**Pn**	**19 54 37.6**	**+0.6**
SECR				*i S*	**Sn**	**19 54 52.5**	**+1.2**
FULR		**0.68**	**181**	⇓*iP*	**Pn**	**19 54 38.2**	**+0.6**
FULR				*i S*	**Sn**	**19 54 53.2**	**+0.9**
SNX	**Sinaia**	**0.70**	**253**	⇑*iP*	**Pn**	**19 54 36.0**	**-1.8**
SNX				*i S*	**Sn**	**19 54 51.7**	**-0.9**
OZUR		**0.71**	**318**	⇑*iP*	**Pn**	**19 54 37.7**	**-0.2**
OZUR				*i S*	**Sn**	**19 54 51.3**	**-1.5**
GHRR		**0.82**	**53**	⇑*iP*	**Pn**	**19 54 39.7**	**+0.9**
GHRR				*i S*	**Sn**	**19 54 55.0**	**+0.6**
TUDR		**0.85**	**88**	⇓*iP*	**Pn**	**19 54 39.1**	**+0.1**
TUDR				*i S*	**Sn**	**19 54 54.7**	**-0.1**
TESR		**0.95**	**8**	⇑*iP*	**Pn**	**19 54 40.2**	**+0.2**
TESR				*i S*	**Sn**	**19 54 55.6**	**-0.9**
VOIR		**1.00**	**263**	⇑*iP*	**Pn**	**19 54 40.3**	**-0.1**
VOIR				*i S*	**Sn**	**19 54 55.8**	**-1.5**
MTUR	**Matau**	**1.04**	**251**	⇑*iP*	**Pn**	**19 54 41.1**	**+0.3**
MTUR				*i S*	**Sn**	**19 54 59.2**	**+1.2**
AMRR		**1.14**	**147**	⇓*iP*	**Pn**	**19 54 42.3**	**+0.5**
AMRR				*i S*	**Sn**	**19 54 59.7**	**0.0**
BTMR	**Bucharest-Geot**	**1.16**	**193**	⇓*iP*	**Pn**	**19 54 43.2**	**+1.2**
BTMR				*i S*	**Sn**	**19 55 01.3**	**+1.2**
CFR	**Carcaliu**	**1.24**	**108**	⇓*iP*	**Pn**	**19 54 42.7**	**-0.2**
CFR				*i S*	**Sn**	**19 55 01.1**	**-0.5**
CFR	**Carcaliu**	**1.24**	**108**	⇓*iP*	**Pn**	**19 54 42.8**	**-0.1**
CFR				*i S*	**Sn**	**19 55 00.5**	**-1.1**
BUC1	**Bucharest**	**1.26**	**194**	⇓*iP*	**Pn**	**19 54 43.2**	**+0.2**
BUC1				*i S*	**Sn**	**19 55 01.3**	**-0.6**
KGL	**Cahul**	**1.26**	**74**	⇓*iP*	**Pn**	**19 54 45.8**	**+2.7**
	1μm,0.4s						
KGL				⇑*iS*	**Sn**	**19 55 04.0**	**+1.9**
	4μm,2.6s						
HARR	**Harsova**	**1.36**	**130**	⇓*iP*	**Pn**	**19 54 44.4**	**+0.3**
HARR				*i S*	**Sn**	**19 55 03.6**	**-0.3**
LEOM	**Leova**	**1.54**	**53**	*eP*	**Pn**	**19 54 46.5**	**+0.3**
	400nm,0.4s						
LEOM				*i S*	**Sn**	**19 55 07.0**	**-0.5**
	7μm,0.5s						
TLCR		**1.70**	**102**	⇑*iP*	**Pn**	**19 54 46.9**	**-1.2**
TLCR				*i S*	**Sn**	**19 55 09.2**	**-1.7**
MSAB	**Monastry St. A**	**1.77**	**146**	⇓*iP*	**Pn**	**19 54 49.2**	**+0.4**
MSAB				*i S*	**Sn**	**19 55 11.6**	**-0.7**
TIRR	**Tirgusor**	**1.77**	**128**	⇓*iP*	**Pn**	**19 54 49.3**	**+0.4**
TIRR				*i S*	**Sn**	**19 55 11.5**	**-0.9**
TIRR	**Tirgusor**	**1.77**	**128**	P	**Pn**	**19 54 49.2**	**+0.3**
TIRR				*i S*	**Sn**	**19 55 11.5**	**-0.9**
TIRR	**Tirgusor**	**1.77**	**128**	⇓*iP*	**Pn**	**19 54 49.2**	**+0.3**
TIRR				*i S*	**Sn**	**19 55 11.5**	**-1.0**
TIRR	**Tirgusor**	**1.77**	**128**	⇓P	**Pn**	**19 54 49.2**	**+0.3**
TIRR				S	**Sn**	**19 55 11.4**	**-1.0**
IAS	**Iasi**	**1.80**	**25**	⇑*iP*	**Pn**	**19 54 49.6**	**+0.4**
IAS				*i S*	**Sn**	**19 55 12.0**	**-1.0**
ZIMR		**2.06**	**203**	⇓*iP*	**Pn**	**19 54 52.2**	**-0.3**
ZIMR				*i S*	**Sn**	**19 55 16.8**	**-2.0**
KIS	**Kishinev**	**2.17**	**48**	*eP*	**Pn**	**19 54 54.0**	**+0.2**
KIS				*i S*	**Sn**	**19 55 20.5**	**-0.7**
	2μm,0.7s						
KIS	**Kishinev**	**2.17**	**48**	*eP*	**Pn**	**19 54 54.0**	**+0.2**
KIS				*i S*	**Sn**	**19 55 20.5**	**-0.7**
KIS				smax			
	comp=N,2μm,0.7s						
KIS				smax			
	comp=E,2μm,0.8s						
KIS				smax			
	comp=N,2μm,0.7s						
KIS				smax			
	comp=E,2μm,0.8s						
BURAR	**Bucovina Array**	**2.22**	**338**	⇑*iP*	**Pn**	**19 54 56.3**	**+1.8**
BURAR				*i S*	**Sn**	**19 55 23.9**	**+1.5**
BURAR	**Bucovina Array**	**2.22**	**338**	*i P*	**Pn**	**19 55 23.9**	**+1.5**
BURAR	**Bucovina Array**	**2.22**	**338**	⇑*iP*	**Pn**	**19 54 56.3**	**+1.8**
BURAR				*i S*	**Sn**	**19 55 23.9**	**+1.5**
PSN	**Preselentsi**	**2.25**	**146**	*i P*	**Pn**	**19 54 55.5**	**+0.7**
CRAR	**CRAIOVA**	**2.26**	**238**	*i S*	**Sn**	**19 55 21.2**	**-2.1**
SZH	**Strazhica**	**2.33**	**190**	*i P*	**Pn**	**19 54 55.5**	**-0.3**
PRD	**Provadia**	**2.46**	**164**	*i P*	**Pn**	**19 54 58.5**	**+1.0**
PVL	**Pavlikeni**	**2.48**	**199**	*i P*	**Pn**	**19 54 59.0**	**+1.2**
DRGR		**2.88**	**297**	P	**Pn**	**19 55 02.8**	**-0.1**
KSV	**Kosov**	**2.91**	**341**	*i P*	**Pn**	**19 55 02.8**	**-0.5**
KSV				*i S*	**Sn**	**19 55 37.1**	**-1.1**
JMB	**Yambol**	**3.10**	**178**	*eP*	**Pn**	**19 55 05.6**	**-0.2**
BZS	**Buzias**	**3.40**	**273**	⇑*iP*	**Pn**	**19 55 10.0**	**+0.2**
BZS				*i S*	**Sn**	**19 55 42.6**	**-7.1**
PGB	**Panagyurishte**	**3.44**	**210**	*eP*	**Pn**	**19 55 10.5**	**+0.2**
VTS	**Vitosha**	**3.79**	**219**	⇓*iP*	**Pn**	**19 55 15.4**	**+0.5**
VTS				*i S*	**Sn**	**19 55 58.5**	**-0.3**
VTS	**Vitosha**	**3.79**	**219**	*eP*	**Pn**	**19 55 15.0**	**+0.1**
VTS				*i S*	**Sn**	**19 55 58.5**	**-0.3**
KDZ	**Kurdzhali**	**3.99**	**191**	*eP*	**Pn**	**19 55 17.3**	**-0.2**
RZN	**Rozhen**	**4.08**	**199**	*eP*	**Pn**	**19 55 19.0**	**+0.2**
KOLS	**Kolonicke sedl**	**4.41**	**321**	*e*PN	**Pn**	**19 55 24.2**	**+1.0**
KOLS	**Kolonicke sedl**	**4.41**	**321**	*e*Pn	**Pn**	**19 55 24.3**	**+1.1**
KKB	**Krupnik**	**4.44**	**215**	*eP*	**Pn**	**19 55 25.0**	**+1.5**
LVV	**L'vov**	**4.56**	**340**	*eP*	**Pn**	**19 55 24.6**	**-0.6**
LVV				*i S*	**Sn**	**19 56 17.3**	**0.0**
ALN	**Alexandroupoli**	**4.68**	**184**	*eP*	**Pn**	**19 55 27.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**4.77**	**316**	*e*PN	**Pn**	**19 55 28.1**	**+0.1**
DIVS	**Divcibare**	**4.83**	**255**	*eP*	**Pn**	**19 55 28.2**	**-0.6**
SRS	**Serrai**	**4.92**	**206**	*eP*	**Pn**	**19 55 28.8**	**-1.2**
KNT	**Kendrikon**	**5.11**	**212**	*eP*	**Pn**	**19 55 32.2**	**-0.4**
SEV	**Sevastopol'**	**5.21**	**99**	*eP*	**Pn**	**19 55 33.4**	**-0.4**
SEV				*eS*	**Sn**	**19 56 31.9**	**-0.9**
STHS	**Stebnicka Huta**	**5.23**	**319**	*e*PN	**Pn**	**19 55 33.9**	**-0.3**
SIM	**Simferopol'**	**5.44**	**94**	P	**Pn**	**19 55 38.0**	**+1.0**
	comp=E,6μm,0.6s						
SIM				*eS*	**Sn**	**19 56 37.0**	**-1.4**
	comp=E,38nm,0.9s						
SIM	**Simferopol'**	**5.44**	**94**	P	**Pn**	**19 55 38.0**	**+1.0**
SIM				*eS*	**Sn**	**19 56 37.0**	**-1.4**
SIM				pmax	pmax		
	comp=Z,6μm,0.6s						
SIM				smax			
	comp=E,54nm,1.0s						
SIM				smax			
	comp=N,38nm,0.9s						
AKASG	**Malin Array Be**	**5.46**	**19**	P	**Pn**	**19 55 36.3**	**-1.0**
	comp=N,2.0nm,0.3s,baz=86,slow=15,SNR=5.9						
AKASG				S	**Sn**	**19 56 34.3**	**-4.6**
	comp=N,4.4nm,0.3s,baz=203,slow=22,SNR=4.5						
GRG	**Griva**	**5.48**	**214**	*eP*	**Pn**	**19 55 37.5**	**-0.1**
PKSM	**Moragy**	**5.50**	**280**	⇑*iP*	**Pn**	**19 55 38.4**	**+0.6**
PKSM				*i S*	**Sn**	**19 56 38.0**	**-1.9**
OUR	**Ouranopolis**	**5.54**	**200**	*eP*	**Pn**	**19 55 37.7**	**-0.6**
YAL	**Yalta**	**5.56**	**98**	*eP*	**Pn**	**19 55 38.1**	**-0.5**
YAL				*eS*	**Sn**	**19 56 40.3**	**-1.0**
ALU	**Alushta**	**5.69**	**96**	*eP*	**Pn**	**19 55 40.2**	**-0.1**
ALU				*eS*	**Sn**	**19 56 44.1**	**-0.3**
PAIG	**Paliouri**	**6.00**	**201**	*eP*	**Pn**	**19 55 44.8**	**+0.3**
SUDU	**Sudak**	**6.07**	**93**	*eP*	**Pn**	**19 55 45.4**	**-0.1**
SUDU				*eS*	**Sn**	**19 56 51.8**	**-1.8**
XOR	**Xorichti**	**6.65**	**202**	*eP*	**Pn**	**19 55 53.6**	**+0.2**
BRTR	**Keskin Array B**	**7.87**	**135**	P	**Pn**	**19 56 10.0**	**+0.1**
	comp=N,0.1nm,0.3s,baz=170,slow=33,SNR=5.2						
GERES	**GERESS Array B**	**9.29**	**295**	P	**Pn**	**19 56 29.8**	**+0.9**
	comp=N,0.1nm,0.3s,baz=108,slow=13,SNR=6.9						
OBN	**Obninsk**	**11.52**	**30**	*eP*	**Pn**	**19 57 02.4**	**+3.6**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
KIV	**Kislovodsk**	**11.65**	**92**	*eP*	**Pn**	**19 57 06.0**	**+5.5**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**15.91**	**359**	P	**Pn**	**19 57 53.0**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=154,slow=11,SNR=5.8						
FINES	**FINESS Array B**	**15.91**	**359**	*i P*	**Pn**	**19 57 56.4**	**+1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**16.45**	**337**	P	**Pn**	**19 58 00.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=153,slow=14,SNR=8.4						
NB2	**NORSAR Subarra**	**17.90**	**335**	P	**Pn**	**19 58 17.6**	**-1.6**
	comp=Z,2.6nm,0.7s,baz=147,slow=12						
NOA	**NORSAR Array B**	**17.90**	**335**	P	**Pn**	**19 58 18.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=144,slow=9.9,SNR=5.7						
AKTK	**Aktyubinsk**	**21.57**	**66**	P	**P**	**19 58 59.2**	**+1.5**
AKTO	**Aktyubinsk**	**21.57**	**66**	P	**P**	**19 58 59.2**	**+1.5**
	comp=Z,0.6nm,0.6s,mb3.1,baz=268,slow=14,SNR=3.4						
ARCES	**ARCESS Array B**	**24.04**	**359**	P	**P**	**19 59 22.1**	**+0.4**
	comp=Z,3.2nm,0.9s,mb3.6,baz=185,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**37.98**	**67**	P	**P**	**20 01 25.6**	**+1.7**
	comp=Z,0.3nm,0.5s,mb3.4,baz=274,slow=8.2,SNR=8.7						
TORD	**Torodi Ar. Bea**	**38.54**	**221**	P	**P**	**20 01 29.3**	**+0.7**
	comp=Z,1.0nm,0.5s,mb3.9,baz=31,slow=8.9,SNR=26						
TORD				pP	pP	20 01 51.6	-4.5
	comp=Z,0.2nm,0.5s,baz=31,slow=8.0,SNR=5.1						
DBIC	**Dimbokro**	**47.30**	**225**	P	**P**	**20 02 38.3**	**-0.8**
	comp=Z,1.8nm,0.9s,mb3.8,baz=187,slow=23,SNR=6.7						

WEL 27 20:03:29.6±0.3, 3837S×17601E, h159km±3km, ML3.6/10, 3C, Error ellipse: s-maj=2.5km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.87**	**83**	PN	Pn	20 03 54.2	0.0
URZ				SN	Sn	20 04 12.6	-0.6
BKZ	**Black Stump Fm**	**0.88**	**155**	⇑PN	Pn	20 03 54.7	+0.4
BKZ				SN	Sn	20 04 13.0	-0.2
TUVZ	**Tukino**	**0.94**	**197**	PN	Pn	20 03 55.1	+0.3
WNVZ	**Wahianoa**	**1.01**	**198**	PN	Pn	20 03 55.6	+0.3
PKVZ	**Pokaka**	**1.05**	**209**	PN	Pn	20 03 55.7	0.0
MOVZ	**Moawhango**	**1.06**	**191**	PN	Pn	20 03 55.5	-0.2
MTVZ	**Mangateitei**	**1.10**	**202**	PN	Pn	20 03 56.1	0.0
MTVZ				*e*SN	Sn	20 04 17.0	+0.7
MWZ	**Matawai**	**1.19**	**89**	PN	Pn	20 03 57.2	+0.3
MWZ				SN	Sn	20 04 17.5	-0.3
KNZ	**Kokohu**	**1.46**	**117**	SN	Sn	20 04 22.1	-0.2
TSZ	**Takapari Road**	**1.69**	**181**	⇑PN	Pn	20 04 01.5	-0.4
PXZ	**Pawanui**	**1.79**	**159**	PN	Pn	20 04 03.0	+0.1
PXZ				SN	Sn	20 04 27.8	-0.7
PUZ	**Puketiti**	**1.79**	**81**	PN	Pn	20 04 02.9	-0.1
PUZ				SN	Sn	20 04 27.9	-0.8
MRZ	**Mangatainoka R**	**2.31**	**188**	⇑PN	Pn	20 04 07.4	-1.5
BFZ	**Birch Farm**	**2.32**	**176**	PN	Pn	20 04 07.8	-1.1
MTW	**Mount Morrison**	**2.81**	**188**	PN	Pn	20 04 12.7	-2.3
CAW	**Cannon Point**	**2.83**	**195**	PN	Pn	20 04 13.0	-2.2
NNZ	**Nelson**	**3.49**	**215**	SN	Sn	20 05 01.3	-4.2
QRZ	**Quartz Range**	**3.64**	**227**	SN	Sn	20 05 04.1	-4.7
THZ	**Tophouse**	**4.14**	**214**	PN	Pn	20 04 29.0	-2.9

SZGRF ***27*** *20:07:27.8, 1869S×178.12W, h649km, Fiji Islands region*
CSEM ***27*** *20:07:29.3, 1801S×17755W, h33km, mb6.0*
CRAAG ***27*** *20:08:23.3, 1768S×17888W, Mb5.2*
MOS ***27*** *20:08:24.9±0.9, 1757S×17892W, h513km, mb5.3/43, Error ellipse: s-maj=8.2km s-min=6.9km az=53.7*
ISCJB ***27*** *20:08:26.3±0.1, 1777S±003×17890W±003, h537km, mb5.2/144, Error ellipse: s-maj=4.3km s-min=3.0km az=78.6*
BJI ***27*** *20:08:26.9, 1727S×17896W, h520km, mB5.2, mb5.2*
HRVD ***27*** *20:08:27.2±0.3, 1764S×17872W, h559km±2km, MW5.6/78, Centroid moment Tensor Solution. LP body waves: s78,c141; Half duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr0.53±.06; Mθθ-0.47±.09; Mφφ-0.05±.10; Mrθ2.22±.09; Mθφ2.75±.08; Mφr0.57±.09; Best double couple: M=3.60900×10^17 NP1:φs354.00000°, δ51.00000°, λ170.00000°. NP2:φs90.00000°, δ82.00000°, λ39.00000°. Principal axes: T 3.7410, Plg33.0000°, Azm320.0000°; N -0.2660, Plg50.0000°, Azm100.0000°; P -3.4760, Plg20.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***27*** *20:08:27.2±0.1, 1775S×17890W, mb5.2/85 Error ellipse: s-maj=4.8km s-min=2.8km az=126.0*
IDC ***27*** *20:08:27.7±0.7, 1785S×17889W, h543km±7km, mb4.8/34, mb1 4.8/36, mb1mx4.8/36, mbtmp5.7/36, Error ellipse: s-maj=8.2km s-min=6.8km az=135.0*
BGS ***27*** *20:08:28.9±4.3, 1775S×17890W, h538km, mb5.2(NEIC)*
ISC 27 20:08:27.5±0.1, 1777S±003×17886W±003, h538km, h538km±1.9km; pP-P, n771, σ1.02/370, mb5.2/143, 157C-36D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.82**	**62**	P	**P**	**20 10 19.7**	**-3.4**
	85nm,0.3s,baz=344,slow=1.0,SNR=150						
AFI				S	**S**	**20 11 50.4**	**-7.4**
	25nm,0.3s,baz=262,slow=22,SNR=3.0						
AFI	**Afiamalu**	**7.82**	**62**	*e*P	**P**	**20 10 19.3**	**-3.8**
	2μm,0.8s						
AFI				*e*S	**S**	**20 11 49.7**	**-8.1**
AFI	**Afiamalu**	**7.82**	**62**	*e*P	**P**	**20 10 19.3**	**-3.8**
AFI				*e*S	**S**	**20 11 49.7**	**-8.1**
AFI				pmax	pmax		
	comp=Z,2μm,0.8s						
FUNA	**Funafuti**	**9.38**	**348**	*e*P	**P**	**20 10 37.5**	**-1.3**
FUNA				*e*S	**S**	**20 12 24.3**	**-2.5**
RAO	**Raoul Island**	**11.46**	**176**	S	**S**	**20 13 04.6**	**-1.4**
	comp=Z,40nm,0.3s,baz=280,slow=23,SNR=3.4						
BKM	**Butte a Klehm**	**12.29**	**269**	⇓*i*P	**P**	**20 11 09.9**	**+0.9**
DZM	**Mont Dzumac**	**14.46**	**250**	P	**P**	**20 11 31.3**	**-0.2**
	comp=Z,6.3nm,0.3s,baz=77,slow=18,SNR=49						
DZM				S	**S**	**20 14 03.0**	**-0.1**
	baz=121,slow=23,SNR=3.4						
NOU	**Noumea**	**14.52**	**249**	⇑*e*P	**P**	**20 11 32.4**	**+0.4**
NOU				*e*S	**S**	**20 14 09.8**	**+5.7**
RAR	**Rarotonga**	**18.32**	**104**	P	**P**	**20 12 08.6**	**-0.1**
	comp=Z,3.5nm,0.3s,baz=250,slow=8.9,SNR=14						
OUZ	**Omahuta**	**18.63**	**200**	PN	**P**	**20 12 14.0**	**+2.4**
OUZ	**Omahuta**	**18.63**	**200**	*e*P	**P**	**20 12 14.0**	**+2.4**
WCZ	**Waipu Caves**	**19.07**	**197**	PN	**P**	**20 12 17.9**	**+2.3**
WCZ	**Waipu Caves**	**19.07**	**197**	*e*P	**P**	**20 12 17.9**	**+2.3**
KUZ	**Kuaotunu**	**19.50**	**193**	PN	**P**	**20 12 20.6**	**+1.2**
KUZ	**Kuaotunu**	**19.50**	**193**	*e*P	**P**	**20 12 19.6**	**+0.1**
MTAZ	**Motutapu**	**19.72**	**195**	PN	**P**	**20 12 23.4**	**+1.8**
MTAZ	**Motutapu**	**19.72**	**195**	*e*P	**P**	**20 12 23.4**	**+1.9**
KAAZ	**Kauri Point**	**19.81**	**195**	PN	**P**	**20 12 24.3**	**+2.0**
WTAZ	**Waiatarua**	**19.95**	**196**	PN	**P**	**20 12 25.2**	**+1.7**
WTAZ	**Waiatarua**	**19.95**	**196**	*e*P	**P**	**20 12 25.2**	**+1.6**
MKAZ	**Moumakai**	**19.97**	**194**	PN	**P**	**20 12 25.2**	**+1.5**
MKAZ	**Moumakai**	**19.97**	**194**	*e*P	**P**	**20 12 25.2**	**+1.4**
URZ	**Urewera**	**20.71**	**189**	P	**P**	**20 12 28.3**	**-2.2**
	comp=Z,212nm,0.7s,baz=28,slow=3.3,SNR=50						
URZ				S	**S**	**20 15 42.7**	**-4.6**
	comp=Z,47nm,0.7s,baz=266,slow=16,SNR=7.0						
URZ				ScP	ScP	20 19 01.2	-0.8
	comp=Z,18nm,0.7s,baz=149,slow=4.7,SNR=4.2						
URZ	**Urewera**	**20.71**	**189**	PN	**P**	**20 12 27.6**	**-2.9**
URZ	**Urewera**	**20.71**	**189**	*e*P	**P**	**20 12 27.6**	**-2.9**
MWZ	**Matawai**	**20.73**	**188**	PN	**P**	**20 12 27.7**	**-3.0**
MWZ	**Matawai**	**20.73**	**188**	*e*P	**P**	**20 12 27.3**	**-3.3**
HIZ	**Hauiti**	**21.38**	**194**	PN	**P**	**20 12 37.5**	**+1.0**
VRZ	**Vera Road**	**21.99**	**193**	PN	**P**	**20 12 42.8**	**+0.8**
VRZ	**Vera Road**	**21.99**	**193**	*e*P	**P**	**20 12 43.2**	**+1.2**
HNR	**Honiara**	**22.19**	**289**	*e*P	**P**	**20 12 43.3**	**-0.5**
	comp=Z,145nm,1.0s,mb5.6						
HNR	**Honiara**	**22.19**	**289**	*e*P	**P**	**20 12 43.3**	**-0.5**
HNR				pmax	pmax		
	comp=Z,145nm,1.0s,mb5.6						
MRZ	**Mangatainoka R**	**23.31**	**191**	PN	**P**	**20 12 50.8**	**-3.0**
MRZ	**Mangatainoka R**	**23.31**	**191**	*e*P	**P**	**20 12 50.8**	**-3.0**
SNZO	**South Karori**	**24.10**	**192**	*e*P	**P**	**20 12 59.1**	**-1.7**
	comp=Z,519nm,1.3s,mb6.0						
QRZ	**Quartz Range**	**24.14**	**196**	PN	**P**	**20 13 00.8**	**-0.4**
QRZ	**Quartz Range**	**24.14**	**196**	*e*P	**P**	**20 13 00.8**	**-0.4**
THZ	**Tophouse**	**24.93**	**195**	PN	**P**	**20 13 06.1**	**-2.0**
THZ	**Tophouse**	**24.93**	**195**	*e*P	**P**	**20 13 06.9**	**-1.2**
DSZ	**Denniston Nort**	**25.20**	**197**	PN	**P**	**20 13 09.0**	**-1.4**
DSZ	**Denniston Nort**	**25.20**	**197**	*e*P	**P**	**20 13 09.0**	**-1.5**
KHZ	**Kahutara**	**25.41**	**193**	PN	**P**	**20 13 10.3**	**-2.0**
KHZ	**Kahutara**	**25.41**	**193**	*e*P	**P**	**20 13 10.3**	**-2.0**
LTZ	**Lake Taylor**	**26.05**	**195**	PN	**P**	**20 13 15.8**	**-2.1**
LTZ	**Lake Taylor**	**26.05**	**195**	*e*P	**P**	**20 13 16.0**	**-2.0**
WVZ	**Waitaha Valley**	**26.73**	**197**	PN	**P**	**20 13 22.5**	**-1.4**
WVZ	**Waitaha Valley**	**26.73**	**197**	*e*P	**P**	**20 13 22.5**	**-1.5**
RPZ	**Rata Peaks**	**27.23**	**196**	P	**P**	**20 13 26.6**	**-1.8**
	comp=Z,125nm,0.8s,mb5.6,baz=246,slow=1.1,SNR=44						
RPZ	**Rata Peaks**	**27.23**	**196**	PN	**P**	**20 13 25.8**	**-2.6**
RPZ	**Rata Peaks**	**27.23**	**196**	*e*P	**P**	**20 13 25.8**	**-2.6**
FOZ	**Fox Glacier**	**27.48**	**198**	PN	**P**	**20 13 28.8**	**-1.7**
FOZ	**Fox Glacier**	**27.48**	**198**	*e*P	**P**	**20 13 27.8**	**-2.7**
PAE	**Paea**	**27.88**	**94**	*e*P	**P**	**20 13 33.9**	**-0.2**
	comp=Z,52nm,0.7s,mb5.2						
PPT	**Papeete**	**27.89**	**94**	*e*P	**P**	**20 13 34.2**	**0.0**
	comp=Z,39nm,0.9s,mb5.0						
PPT	**Papeete**	**27.89**	**94**	P	**P**	**20 13 34.8**	**+0.6**
	comp=Z,53nm,0.6s,mb5.3,baz=220,slow=7.2,SNR=6.0						
TBI	**Tubuai**	**28.05**	**106**	*e*P	**P**	**20 13 36.8**	**+1.2**
	comp=Z,136nm,0.8s,mb5.6						
LBZ	**Lake Benmore**	**28.09**	**197**	PN	**P**	**20 13 33.5**	**-2.4**
LBZ	**Lake Benmore**	**28.09**	**197**	*e*P	**P**	**20 13 32.5**	**-3.4**
TVO	**Taravao**	**28.18**	**95**	*e*P	**P**	**20 13 36.8**	**+0.1**
	comp=Z,43nm,0.7s,mb5.2						
WKZ	**Wanaka**	**28.83**	**198**	PN	**P**	**20 13 40.7**	**-1.6**
WKZ	**Wanaka**	**28.83**	**198**	*e*P	**P**	**20 13 39.7**	**-2.6**
MLZ	**Mavora Lakes**	**29.55**	**199**	PN	**P**	**20 13 48.5**	**-0.1**
MLZ	**Mavora Lakes**	**29.55**	**199**	*e*P	**P**	**20 13 45.3**	**-3.3**
ARMA	**Armidale**	**29.64**	**239**	*e*P	**P**	**20 13 50.7**	**+1.3**
TUZ	**Tuapeka**	**29.69**	**196**	PN	**P**	**20 13 48.9**	**-0.9**
TUZ	**Tuapeka**	**29.69**	**196**	*e*P	**P**	**20 13 49.1**	**-0.7**
DCZ	**Deep Cove**	**29.99**	**200**	PN	**P**	**20 13 51.5**	**-0.9**
DCZ	**Deep Cove**	**29.99**	**200**	*e*P	**P**	**20 13 50.5**	**-1.9**
VAH	**Vaihoa**	**30.04**	**90**	*e*P	**P**	**20 13 52.0**	**-0.8**
	comp=Z,45nm,0.8s,mb5.0						
VAH				*e*pP		20 15 21.9	
	comp=Z,38nm,1.0s						
RIV	**Riverview**	**31.22**	**233**	⇓*i*P	**P**	**20 14 04.0**	**+1.0**
CTA	**Charters Tower**	**33.05**	**260**	⇓*i*P	**P**	**20 14 18.9**	**+0.4**
	comp=Z,36nm,0.7s,mb5.0						
CTA				*i* S	**S**	**20 18 57.8**	**-1.4**
CTA	**Charters Tower**	**33.05**	**260**	P	**P**	**20 14 18.9**	**+0.4**
	comp=Z,39nm,0.6s,mb5.1,baz=87,slow=11,SNR=58						
CTA	**Charters Tower**	**33.05**	**260**	⇓*i*P	**P**	**20 14 18.9**	**+0.4**
CTA				*i* S	**S**	**20 18 57.8**	**-1.4**
CTA				pmax	pmax		
	comp=Z,36nm,0.7s						
CNB	**Canberra Magne**	**33.17**	**232**	⇓*i*P	**P**	**20 14 20.8**	**+1.3**
	comp=Z,461nm,0.6s,mb6.2						
CNB				*i* S	**S**	**20 19 02.3**	**+1.2**
CNB				*i* SCP	ScP	20 19 43.6	+3.9
PMG	**Port Moresby**	**34.01**	**280**	P	**P**	**20 14 27.8**	**+1.2**
	comp=Z,73nm,0.9s,mb5.2,baz=95,slow=7.2,SNR=22						
PMG	**Port Moresby**	**34.01**	**280**	*e*P	**P**	**20 14 27.2**	**+0.6**
	comp=Z,292nm,1.5s,mb5.6						
PMG	**Port Moresby**	**34.01**	**280**	*c*P	**P**	**20 14 27.7**	**+1.1**
TOO	**Toolangi**	**36.92**	**230**	⇓*i*P	**P**	**20 14 51.9**	**+1.1**
	comp=Z,661nm,0.9s,mb6.2						
TOO				*e*S	**S**	**20 19 58.1**	**+0.7**
TOO	**Toolangi**	**36.92**	**230**	⇓*i*P	**P**	**20 14 51.9**	**+1.1**
TOO				*e*S	**S**	**20 19 58.1**	**+0.7**
TOO				pmax	pmax		
	comp=Z,661nm,0.9s,mb6.2						
TAU	**Tasmania Unive**	**38.05**	**222**	*e*P	**P**	**20 15 00.6**	**+0.6**
	comp=Z,280nm,0.9s,mb5.8						
TAU	**Tasmania Unive**	**38.05**	**222**	*e*P	**P**	**20 15 00.6**	**+0.6**
TAU				pmax	pmax		
	comp=Z,280nm,0.9s,mb5.8						
STKA	**Stephens Creek**	**38.32**	**241**	⇓*i*P	**P**	**20 15 01.3**	**-0.9**
	comp=Z,399nm,1.0s,mb5.9						
STKA				*e*S	**S**	**20 20 16.9**	**-1.1**
STKA	**Stephens Creek**	**38.32**	**241**	P	**P**	**20 15 01.4**	**-0.8**
	comp=Z,338nm,0.9s,mb5.9,baz=87,slow=8.9,SNR=565						
STKA				ScP	ScP	20 20 00.0	+1.3
	comp=Z,20nm,1.0s,baz=95,slow=6.0,SNR=4.0						
WAKE	**Wake Island**	**39.48**	**338**	*e*P	**P**	**20 15 10.7**	**-0.8**
	comp=Z,1μm,1.3s,mb6.2						
ADE	**Adelaide**	**41.35**	**237**	⇓*i*P	**P**	**20 15 27.2**	**+0.8**
WB2	**Warramunga Arr**	**44.22**	**259**	⇓*i*P	**P**	**20 15 48.5**	**-0.4**
WB2				*e*S	**S**	**20 21 27.0**	**-16**
WRAB	**Tennant Creek**	**44.23**	**259**	P	**P**	**20 15 48.0**	**-0.9**
	comp=Z,343nm,0.7s,mb6.0,SNR=43						
WRAB	**Tennant Creek**	**44.23**	**259**	*e*P	**P**	**20 15 48.2**	**-0.7**
	comp=Z,57nm,0.8s,mb5.2						
WRAB				*e*S	**S**	**20 21 31.0**	**-12**
WRAB	**Tennant Creek**	**44.23**	**259**	*e*P	**P**	**20 15 48.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**20 15 48.4**	**-0.6**
	comp=Z,36nm,0.8s,mb5.0,baz=96,slow=7.4,SNR=484						
WRA				ScP	ScP	20 20 24.5	+2.1
	comp=Z,7.5nm,0.8s,baz=80,slow=4.1,SNR=4.7						
WRA				S	**S**	**20 21 39.6**	**-3.8**
	comp=Z,7.0nm,0.8s,baz=90,slow=14,SNR=9.3						
WRA				ScS	ScS	20 24 48.0	+0.7
	comp=Z,8.9nm,0.9s,baz=100,slow=5.3,SNR=9.2						
ASAR	**Alice Springs**	**44.41**	**254**	P	**P**	**20 15 50.9**	**+0.5**
	comp=Z,402nm,0.7s,mb6.0,baz=88,slow=8.1,SNR=6054						
ASAR				ScP	ScP	20 20 24.4	+1.2
	comp=Z,12nm,0.6s,baz=97,slow=4.3,SNR=9.4						
ASAR				S	**S**	**20 21 44.1**	**-1.8**
	comp=Z,72nm,1.0s,baz=86,slow=16,SNR=69						
ASAR				ScS	ScS	20 24 50.5	+2.0
	comp=Z,3.8nm,0.8s,baz=89,slow=5.6,SNR=4.8						
KAKA	**Kakadu**	**47.16**	**269**	*e*P	**P**	**20 16 11.6**	**+0.3**
	comp=Z,53nm,0.3s,mb5.5						
GUMO	**Guam**	**47.45**	**309**	P	**P**	**20 16 14.3**	**+0.8**
	comp=Z,557nm,0.7s,mb6.2,baz=165,slow=7.1,SNR=28						
GUMO	**Guam**	**47.45**	**309**	*e*P	**P**	**20 16 13.6**	**+0.1**
	comp=Z,1μm,1.3s						
GUMO	**Guam**	**47.45**	**309**	*e*P	**P**	**20 16 13.6**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,1μm,1.3s						
FORT	**Forrest**	**49.68**	**244**	*e*P	**P**	**20 16 29.6**	**-0.4**
	comp=Z,419nm,0.6s,mb6.0						
FORT				*i* S	**S**	**20 22 56.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**52.63**	**261**	⇓*i*P	**P**	**20 16 52.1**	**+0.7**
	comp=Z,27nm,0.8s,mb4.6						
FITZ				*e*S	**S**	**20 23 39.5**	**+1.1**
MBWA	**Marble Bar**	**57.69**	**256**	*e*P	**P**	**20 17 26.4**	**-0.2**
	comp=Z,35nm,0.9s,mb4.6						
KLBR	**Kellerberrin**	**58.50**	**243**	⇓*i*P	**P**	**20 17 31.8**	**-0.4**
	comp=Z,210nm,0.7s,mb5.5						
KLBR				*e*S	**S**	**20 24 52.0**	**-2.5**
NWAO	**Narrogin (SRO)**	**58.90**	**242**	*e*P	**P**	**20 17 34.7**	**-0.1**
	comp=Z,133nm,1.4s,mb5.0						
NWAO	**Narrogin (SRO)**	**58.90**	**242**	*e*P	**P**	**20 17 34.7**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,133nm,1.4s						
MUN	**Mundaring**	**59.80**	**243**	*e*P	**P**	**20 17 40.8**	**0.0**
MUN				*e*S	**S**	**20 25 11.1**	**+0.2**
SBA	**Scott Base**	**60.53**	**183**	*e*P	**P**	**20 17 47.2**	**+1.5**
	comp=Z,190nm,1.0s,mb5.4						
SBA	**Scott Base**	**60.53**	**183**	*e*P	**P**	**20 17 47.2**	**+1.6**
SBA				pmax	pmax		
	comp=Z,190nm,1.0s,mb5.4						
VNDA	**Vanda**	**60.54**	**185**	P	**P**	**20 17 46.3**	**+0.5**
	comp=Z,48nm,0.8s,mb4.9,baz=355,slow=7.3,SNR=176						
VNDA	**Vanda**	**60.54**	**185**	*e*P	**P**	**20 17 46.1**	**+0.4**
	comp=Z,135nm,1.3s,mb5.1						
VNDA	**Vanda**	**60.54**	**185**	*e*P	**P**	**20 17 46.1**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,135nm,1.3s						
JHJ	**Hachijo jima 2**	**64.20**	**322**	P	**P**	**20 18 09.4**	**+0.1**
	comp=Z,499nm,0.7s,mb6.1,baz=176,slow=7.3,SNR=19						
CASY	**Casey**	**66.08**	**205**	*e*P	**P**	**20 18 21.2**	**0.0**
TSM	**Tawau**	**66.12**	**283**	P	**P**	**20 18 22.9**	**+1.4**
TGY	**Tagaytay City**	**67.30**	**294**	P	**P**	**20 18 30.0**	**+1.2**
	comp=Z,151nm,0.4s,baz=249,slow=8.1,SNR=6.8						
MJAR	**Matsushiro Arr**	**67.54**	**324**	P	**P**	**20 18 29.7**	**-0.5**
	comp=Z,87nm,0.7s,mb5.4,baz=158,slow=5.9,SNR=277						
MAJO	**Matsushiro**	**67.54**	**324**	*e*P	**P**	**20 18 29.8**	**-0.4**
	comp=Z,145nm,0.8s,mb5.6						
MAJO	**Matsushiro**	**67.54**	**324**	*e*P	**P**	**20 18 29.8**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,145nm,0.8s,mb5.6						
MAT	**Matsushiro**	**67.54**	**324**	P	**P**	**20 18 29.8**	**-0.4**
MAT				S	S	20 26 44.0	-0.4
MAT	**Matsushiro**	**67.54**	**324**	*e*P	**P**	**20 18 30.0**	**-0.2**
	comp=Z,104nm,0.8s,mb5.4						
MAT				*e*S	S	20 26 45.0	+0.6
MAT	**Matsushiro**	**67.54**	**324**	*e*P	**P**	**20 18 30.0**	**-0.2**
MAT				*e*S	S	20 26 45.0	+0.6
MAT				pmax	pmax		
	comp=Z,104nm,0.8s,mb5.4						
LUBP	**Lubang**	**67.74**	**293**	*e*P	**P**	**20 18 29.7**	**-1.8**
JOW	**Kunigami**	**67.80**	**310**	P	**P**	**20 18 32.5**	**+0.6**
	comp=Z,88nm,1.0s,mb5.2,baz=159,slow=9.1						
KKM	**Kota Kinabalu**	**68.29**	**284**	P	**P**	**20 18 35.6**	**+0.8**
KKM	**Kota Kinabalu**	**68.29**	**284**	*e*P	**P**	**20 18 35.5**	**+0.7**
JNU	**Nakatsue**	**69.74**	**317**	P	**P**	**20 18 43.8**	**+0.3**
	comp=Z,14nm,0.5s,mb4.8,baz=98,slow=10,SNR=7.3						
SMY	**Shemya**	**70.47**	**355**	*e*P	**P**	**20 18 46.3**	**-1.5**
	comp=Z,589nm,1.7s,mb5.8						
SMY				LR	LR		
	comp=Z,500nm,20.0s						
SMY	**Shemya**	**70.47**	**355**	*e*P	**P**	**20 18 46.3**	**-1.5**
SMY				pmax	pmax		
	comp=Z,589nm,1.7s,mb5.8						
SMY				MLR	MLR		
	comp=Z,500nm,20.0s						
FX1	**Attu Island--F**	**70.70**	**355**	P	**P**	**20 18 48.0**	**-1.2**
	comp=Z,190nm,0.7s,mb5.8,baz=106,slow=7.4						
FX1	**Attu Island--F**	**70.70**	**355**	*e*P	**P**	**20 18 47.9**	**-1.3**
ASAJ	**Asahikawa**	**70.95**	**332**	P	**P**	**20 18 51.9**	**+1.2**
	comp=Z,84nm,0.7s,mb5.4,baz=210,slow=7.7,SNR=75						
NACB	**Ninganchiao**	**71.48**	**304**	*e*P	**P**	**20 18 53.5**	**-0.3**
YHNB	**Yeheng**	**71.90**	**304**	*e*P	**P**	**20 18 56.1**	**-0.1**
KSM	**Kuching**	**72.24**	**277**	*e*P	**P**	**20 18 59.3**	**+1.1**
QSPA	**South Pole Qui**	**72.28**	**180**	⇓*i*P	**P**	**20 18 59.1**	**+0.7**
	comp=Z,249nm,0.8s,mb5.7						
YSS	**Yuzh-Sakhalins**	**73.10**	**334**	*e*P	**P**	**20 19 03.4**	**+0.2**
	comp=Z,151nm,1.2s,mb5.3						
YSS	**Yuzh-Sakhalins**	**73.10**	**334**	*e*P	**P**	**20 19 03.4**	**+0.3**
YSS				pmax	pmax		
	comp=Z,151nm,1.2s,mb5.3						
MIR	**Mirnyy**	**73.11**	**205**	⇓*i*P	**P**	**20 19 04.0**	**+0.8**
MIR				pmax	pmax		
	comp=Z,6μm,1.0s						
PET	**Petropavlovsk**	**73.14**	**346**	*e*P	**P**	**20 19 02.1**	**-1.2**
	comp=Z,108nm,1.2s,mb5.2						
PET	**Petropavlovsk**	**73.14**	**346**	*e*P	**P**	**20 19 01.9**	**-1.4**
PET				pmax	pmax		
	comp=Z,154nm,1.6s,mb5.2						
QZH	**Quanzhou**	**74.24**	**303**	⇑*i*P	**P**	**20 19 10.5**	**+0.9**
QZH				S	S	20 28 03.0	+3.0
QZH				SCS	ScS	20 28 30.3	+0.5
QZH				AMB	AMB		
	comp=Z,230nm,0.9s,mb5.6						
QZH				AMB	AMB		
	comp=Z,760nm,3.2s						
KS15	**Wonju Array Si**	**74.33**	**319**	*e*P	**P**	**20 19 10.7**	**+0.6**
SSE	**Sheshan**	**75.32**	**310**	P	**P**	**20 19 15.8**	**+0.1**
SSE				AP	pP	20 21 09.3	+0.3
SSE				PP	PP	20 22 15.8	+1.8
SSE				S	S	20 28 12.5	+0.8
SSE				SS	SS	20 33 18.0	+1.5
SSE				AMB	AMB		
	comp=Z,53nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,197nm,5.4s						
VLA	**Vladivostok**	**75.59**	**325**	*e*P	**P**	**20 19 16.5**	**-0.7**
VLA	**Vladivostok**	**75.59**	**325**	*e*P	**P**	**20 19 16.4**	**-0.8**
VLA				pmax	pmax		
	comp=Z,144nm,1.3s,mb5.2						
SAO	**San Andreas Ge**	**76.62**	**44**	*e*P	**P**	**20 19 23.3**	**+0.5**
	comp=Z,70nm,0.9s,mb5.1						
SAO	**San Andreas Ge**	**76.62**	**44**	*e*P	**P**	**20 19 23.3**	**+0.4**
SAO				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.1						
NJ2	**Nanjing**	**77.52**	**310**	*e*P	**P**	**20 19 29.0**	**+1.3**
NJ2				AP	pP	20 21 24.8	+2.9
NJ2				PP	PP	20 22 35.0	+2.8
NJ2				S	S	20 28 31.0	-4.1
NJ2				XS	sS	20 31 57.0	-1.6
NJ2				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,140nm,10.2s						
MWC	**Mount Wilson**	**77.56**	**48**	*e*P	**P**	**20 19 28.3**	**+0.3**
HABR	**Khabarovsk**	**77.68**	**331**	⇑*i*P	**P**	**20 19 29.5**	**+0.9**
HABR				*e*S	S	20 28 32.7	-4.1
HABR				pmax	pmax		
	comp=Z,153nm,1.0s,mb5.3						
GZH	**Guangzhou**	**77.68**	**299**	P	**P**	**20 19 28.5**	**-0.1**
BAR	**Barrett**	**77.77**	**50**	*e*P	**P**	**20 19 29.3**	**+0.2**
MDJ	**Mudanjiang**	**77.83**	**325**	P	**P**	**20 19 30.3**	**+0.9**
MDJ				AP	pP	20 21 23.0	-0.7
MDJ				XP	sP	20 22 18.0	-1.0
MDJ				PP	PP	20 22 35.3	+0.6
MDJ				S	S	20 28 39.8	+1.5
MDJ				SKS		20 28 50.0	
MDJ				SCS	ScS	20 29 00.3	+1.4
MDJ				SS	SS	20 33 57.0	+3.2
MDJ				AMB	AMB		
	comp=Z,193nm,0.7s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,417nm,3.1s						
MDJ	**Mudanjiang**	**77.83**	**325**	*e*P	**P**	**20 19 30.1**	**+0.7**
	comp=Z,171nm,0.9s,mb5.4						
ISA	**Isabella**	**78.03**	**46**	*e*P	**P**	**20 19 30.9**	**+0.4**
	comp=Z,8.3nm,0.3s,mb4.5						
ISA	**Isabella**	**78.03**	**46**	*e*P	**P**	**20 19 30.9**	**+0.4**
ISA				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb4.5						
CMB	**Columbia Colle**	**78.04**	**43**	*e*P	**P**	**20 19 30.5**	**0.0**
	comp=Z,50nm,0.9s,mb4.8						
CMB				*e*pP	pP	20 21 24.6	-0.3
CMB	**Columbia Colle**	**78.04**	**43**	*e*P	**P**	**20 19 30.5**	**0.0**
CMB				*e**PP	pP	20 21 24.6	-0.3
CMB				pmax	pmax		
	comp=Z,50nm,0.9s,mb4.8						
OHCM	**Honcut**	**78.06**	**42**	*e*P	**P**	**20 19 30.5**	**-0.1**
WDC	**Whiskeytown Da**	**78.12**	**40**	*e*P	**P**	**20 19 31.1**	**+0.1**
	comp=Z,79nm,1.4s,mb4.8						
WDC				*e*pP	pP	20 21 24.6	-0.8
WDC	**Whiskeytown Da**	**78.12**	**40**	*e*P	**P**	**20 19 31.1**	**+0.1**
WDC				*e**PP	pP	20 21 24.6	-0.7
WDC				pmax	pmax		
	comp=Z,79nm,1.4s,mb4.8						
KDAK	**Kodiak Island**	**78.37**	**14**	P	**P**	**20 19 31.0**	**-1.3**
	comp=Z,1μm,0.9s,mb6.2,SNR=32						
KDAK	**Kodiak Island**	**78.37**	**14**	P	**P**	**20 19 31.4**	**-0.9**
	comp=Z,93nm,0.7s,mb5.2,baz=194,slow=2.9,SNR=48						
KDAK	**Kodiak Island**	**78.37**	**14**	P	**P**	**20 19 31.4**	**-0.9**
PFO	**Pinyon Flat Ob**	**78.39**	**49**	*e*P	**P**	**20 19 32.8**	**+0.4**
	comp=Z,24nm,1.2s,mb4.4						
PFO				*e*pP	pP	20 21 30.1	+3.2
PFO	**Pinyon Flat Ob**	**78.39**	**49**	*e*P	**P**	**20 19 32.8**	**+0.4**
PFO				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.4						
KEBM	**Edson Butte**	**78.41**	**38**	*e*P	**P**	**20 19 32.7**	**+0.2**
YBH	**Yreka Blue Hor**	**78.69**	**39**	P	**P**	**20 19 34.7**	**+0.7**
	comp=Z,44nm,0.8s,mb4.9,baz=170,slow=1.1,SNR=103						
YBH

comp=Z,64nm,0.9s,mb5.0
OOW Octopus West 81.48 34 P **P 20 19 49.3 +0.7**
OCWA Octopus Mounta 81.50 34 eP **P 20 19 49.1 +0.4**
comp=Z,102nm,0.8s,mb5.3
WVOR Wild Horse Val 81.58 41 eP **P 20 19 49.5 +0.4**
comp=Z,96nm,0.9s,mb5.2
WVOR Wild Horse Val 81.58 41 eP **P 20 19 49.5 +0.4**
WVOR pmax pmax
comp=Z,96nm,0.9s,mb5.2
ASR Mount Adams--S 81.95 36 ⇑P **P 20 19 51.0 +0.1**
TUC Tucson 81.96 52 eP **P 20 19 52.5 +1.5**
comp=Z,48nm,1.0s,mb4.9
TUC epP pP 20 21 46.2 -0.6
TUC Tucson 81.96 52 eP **P 20 19 52.5 +1.5**
TUC e*PP pP 20 21 46.2 -0.6
TUC pmax pmax
comp=Z,48nm,1.0s,mb4.9
FIB Fire Island 81.96 14 eP **P 20 19 50.3 -0.7**
comp=Z,118nm,0.9s,mb5.3
FIB Fire Island 81.96 14 eP **P 20 19 50.3 -0.7**
FIB pmax pmax
comp=Z,118nm,0.9s,mb5.3
IPM Ipoh 81.98 277 P **P 20 19 52.4 +1.3**
HDW Hoodsport 82.03 34 ⇑P **P 20 19 51.8 +0.3**
WPW White Pass 82.29 36 ⇓P **P 20 19 52.7 0.0**
FMW Mount Fremont 82.36 36 ⇑P **P 20 19 53.2 +0.1**
BBB Bella Bella 82.41 29 P **P 20 19 53.0 -0.3**
comp=Z,44nm,0.9s,mb4.9,baz=266,slow=7.7,SNR=12
BBB Bella Bella 82.41 29 P **P 20 19 53.0 -0.3**
TTA Tatalina 82.42 10 eP **P 20 19 52.4 -0.9**
EYAK Cordova Ski Ar 82.49 16 eP **P 20 19 52.3 -1.5**
CCUT Cedar City 82.53 47 eP **P 20 19 55.0 +1.1**
CCUT epP pP 20 21 52.0 +2.1
JBO Jordan Butte 82.55 37 ⇑P **P 20 19 53.9 -0.1**
CRAG Craig 82.57 24 eP **P 20 19 53.4 -0.7**
comp=Z,70nm,1.1s,mb5.1
PMR Palmer 82.57 14 eP **P 20 19 52.6 -1.5**
comp=Z,127nm,1.3s,mb5.3
PMR Palmer 82.57 14 eP **P 20 19 52.6 -1.5**
PMR pmax pmax
comp=Z,127nm,1.3s,mb5.3
ARUT Antelope Range 82.59 47 eP **P 20 19 54.9 +0.7**
ELK Elko 82.85 43 eP **P 20 19 55.8 +0.3**
comp=Z,51nm,0.9s,mb5.0
ELK Elko 82.85 43 eP **P 20 19 55.8 +0.3**
ELK pmax pmax
comp=Z,51nm,0.9s
SIT Sitka 82.91 22 eP **P 20 19 55.3 -0.5**
comp=Z,128nm,2.0s,mb5.1
SIT Sitka 82.91 22 eP **P 20 19 55.3 -0.5**
SIT pmax pmax
comp=Z,129nm,2.0s,mb5.1
SML Sawmill 82.95 14 eP **P 20 19 54.5 -1.5**
EBG Ellensburg 82.96 36 ⇑P **P 20 19 56.1 0.0**
JCW Jim Creek 82.97 34 ⇑P **P 20 19 56.0 -0.2**
DIV Divide 82.98 15 eP **P 20 19 54.4 -1.7**
comp=Z,336nm,0.8s,mb5.9
DIV epP pP 20 21 52.0 -0.4
WUAZ Wupatki 82.98 49 eP **P 20 19 56.8 +0.6**
comp=Z,80nm,1.0s,mb5.2
WUAZ epP pP 20 21 54.4 +2.0
RSW Rattlesnake Hi 83.22 37 ⇑P **P 20 19 57.7 +0.3**
SNIWA Snively Ranch 83.22 37 ⇑P **P 20 19 57.6 +0.2**
SNG Songkhla 83.22 280 P **P 20 19 59.0 +1.6**
comp=Z,194nm,0.8s,mb5.7
HAWA Hanford 83.25 37 eP **P 20 19 57.3 -0.2**
comp=Z,6.3nm,0.9s,mb4.2
H2OWA Water 83.32 37 ⇑P **P 20 19 58.0 +0.1**
RPW Rockport 83.34 34 ⇑P **P 20 19 57.5 -0.5**
BJT Baijiatuau 83.38 316 eP **P 20 19 58.6 +0.4**
comp=Z,154nm,1.3s,mb5.4
BJT Baijiatuau 83.38 316 eP **P 20 19 58.6 +0.4**
BJT pmax pmax
comp=Z,154nm,1.3s
BJI Beijing 83.39 316 P **P 20 19 58.8 +0.6**
BJI SKS 20 29 27.0
BJI S S 20 29 36.5 +1.8
BJI AMB AMB
comp=Z,99nm,1.3s,mb5.2
BJI AMB AMB
comp=Z,669nm,4.0s
PSI Prapat 83.44 275 P **P 20 19 59.1 +0.6**
comp=Z,21nm,0.8s,mb4.7,baz=111,slow=0.7,SNR=20
PSI PP PP 20 23 20.6 +0.2
comp=Z,5.7nm,1.0s,baz=185,slow=3.4,SNR=4.9
TNA Tin City 83.49 5 eP **P 20 19 57.8 -0.9**
comp=Z,101nm,1.0s,mb5.3
TNA epP pP 20 21 54.1 -1.0
TNA ePP PP 20 23 18.0 -2.8
SEY Seymchan 83.55 347 ⇑iP **P 20 19 58.0 -1.0**
SEY Seymchan 83.55 347 eP **P 20 19 58.1 -0.9**
SEY eS S 20 29 26.0 -10
SEY eSS SS 20 35 13.4 -4.7
SEY pmax pmax
comp=Z,45nm,0.8s,mb5.0
SEY pmax pmax
comp=N,50nm,0.6s
SEY pmax pmax
comp=E,11nm,0.6s
SEY smax
comp=N,100nm,6.4s
SEY smax
comp=E,71nm,7.1s
BMO Blue Mountains 83.71 39 eP **P 20 19 59.5 -0.4**
comp=E,25nm,0.9s,mb4.8
WTV Waterville 83.76 36 ⇑P **P 20 19 59.6 -0.5**
EPH Ephrata 83.76 36 P **P 20 19 59.8 -0.3**
NLW Nelson Butte 83.76 35 ⇑P **P 20 19 59.7 -0.4**
MSU Marysvale 83.81 46 eP **P 20 20 01.4 +1.0**
MSU epP pP 20 21 58.7 +1.9
ENH Enshi 83.84 304 eP **P 20 20 01.2 +0.8**
comp=E,200nm,1.0s,mb5.6
MAW Mawson 83.84 200 eP **P 20 19 59.9 -0.6**
comp=E,53nm,0.8s,mb5.1
MAW Mawson 83.84 200 P **P 20 00.7 +0.2**
comp=E,64nm,0.7s,mb5.2,baz=123,slow=6.7,SNR=45
MAW Mawson 83.84 200 eP **P 20 19 59.9 -0.6**
MAW pmax pmax
comp=Z,53nm,0.8s
DUG Dugway 84.19 45 eP **P 20 20 02.0 -0.1**
comp=Z,28nm,1.4s,mb4.6
DUG Dugway 84.19 45 eP **P 20 20 02.0 -0.2**
DUG pmax pmax
comp=Z,28nm,1.4s,mb4.6
KKTK Khon Kaen 84.23 289 P **P 20 20 04.0 +1.6**
comp=Z,370nm,1.0s,mb5.9
BGU Big Grassy Mou 84.39 44 eP **P 20 20 06.6 +3.4**
MCK McKinley 84.50 13 eP **P 20 20 01.9 -1.8**
comp=Z,138nm,0.5s,mb5.7
MCK McKinley 84.50 13 eP **P 20 20 02.0 -1.7**
MCK pmax pmax
comp=Z,138nm,0.5s,mb5.7
GYA Guiyang 84.60 300 ⇑iP **P 20 20 05.3 +1.1**
GYA AP pP 20 22 03.5 +2.6
GYA PP PP 20 23 33.0 +3.4
GYA SKS 20 29 36.3
GYA S 20 29 47.8
GYA AMB AMB
comp=Z,50nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,150nm,4.2s
HLID Hailey 84.81 41 eP **P 20 20 05.7 +0.5**
comp=Z,41nm,0.8s,mb5.0
HLID epP pP 20 22 01.1 -0.9
TMUT Trail Mountain 84.85 46 eP **P 20 20 06.3 +0.9**
MPU Maple Canyon 84.89 45 eP **P 20 20 05.7 +0.1**
comp=Z,13nm,0.8s,mb4.5
SPUT South Promonto 84.97 44 eP **P 20 20 06.3 +0.3**
SPUT pP pP 20 22 04.8 +2.0
HVU Hansel Valley 84.98 43 eP **P 20 20 06.4 +0.3**
comp=Z,61nm,1.5s,mb4.9
HVU Hansel Valley 84.98 43 eP **P 20 20 06.4 +0.4**
HVU pmax pmax
comp=Z,61nm,1.5s,mb4.9
MENT Mentasta 85.03 15 eP **P 20 20 04.9 -1.4**
SRU San Rafael 85.23 47 eP **P 20 20 07.3 +0.1**
comp=Z,30nm,0.8s,mb4.9
SRU San Rafael 85.23 47 eP **P 20 20 07.4 +0.1**
SRU pmax pmax
comp=Z,30nm,0.8s,mb4.9
NEW Newport 85.65 36 P **P 20 20 08.7 -0.6**
comp=Z,27nm,0.7s,mb5.0,baz=226,slow=3.8,SNR=40
NEW Newport 85.65 36 eP **P 20 20 08.5 -0.8**
comp=Z,35nm,0.8s,mb5.0
NEW Newport 85.65 36 eP **P 20 20 08.5 -0.8**
NEW pmax pmax
comp=Z,35nm,0.8s
HWUT Hardware Ranch 85.69 44 eP **P 20 20 09.3 -0.1**
comp=Z,10nm,0.8s,mb4.5
HWUT epP pP 20 22 03.6 -3.0
COLA College 85.73 13 eP **P 20 20 07.3 -2.3**
comp=Z,95nm,1.1s,mb5.3
COLA epP pP 20 22 06.0 -0.8
COLA College 85.73 13 c iP **P 20 20 07.6 -2.1**
NNT Nongplab 85.80 285 P **P 20 20 12.7 +2.7**
MNTX Cornudas Mount 85.85 55 eP **P 20 20 10.8 +0.6**
comp=Z,22nm,0.9s,mb4.8
MNTX epP pP 20 22 12.4 +4.9
ILAR Eielson Array 85.85 13 P **P 20 20 08.2 -2.1**
comp=Z,37nm,0.7s,mb5.1,baz=224,slow=5.2,SNR=388
ILAR pP pP 20 22 07.2 -0.3
comp=Z,11nm,1.1s,baz=226,slow=6.0,SNR=5.8
ILAR PKKP PKKPbc 20 38 00.4 -6.8
comp=Z,0.5nm,0.7s,baz=336,slow=2.4,SNR=4.5
ILAR PKKPbc PKKPbc 20 38 07.8 +0.6
comp=Z,1.1nm,0.9s,baz=222,slow=1.7,SNR=4.1
DLBC Dease Lake 85.88 23 P **P 20 20 10.1 -0.3**
comp=Z,32nm,0.9s,mb4.9,baz=219,slow=6.8,SNR=35
PV10 Paradox Valley 85.94 48 eP **P 20 20 11.0 +0.3**
HIA Hailar 86.01 325 eP **P 20 20 10.4 -0.6**
comp=Z,192nm,1.8s,mb5.4
HIA Hailar 86.01 325 eP **P 20 20 10.4 -0.6**
HIA pmax pmax
comp=Z,192nm,1.8s
PV01 Paradox Valley 86.17 48 eP **P 20 20 11.9 +0.2**
PV01 epP pP 20 22 12.5 +3.4
BILL Bilibino 86.25 354 eP **P 20 20 10.5 -1.6**
comp=Z,94nm,0.9s,mb5.4
BILL Bilibino 86.25 354 eP **P 20 20 10.5 -1.6**
BILL pmax pmax
comp=Z,95nm,0.9s,mb5.4
LTX Lajitas 86.29 58 eP **P 20 20 13.7 +1.4**
comp=Z,146nm,1.1s,mb5.5
LTX Lajitas 86.29 58 eP **P 20 20 13.7 +1.4**
LTX pmax pmax
comp=Z,146nm,1.1s,mb5.5
ANMO Albuquerque 86.35 52 P **P 20 20 13.2 +0.6**
comp=Z,33nm,1.2s,mb4.8,baz=235,slow=4.6,SNR=19
ANMO Albuquerque 86.35 52 eP **P 20 20 12.9 +0.3**
comp=Z,27nm,1.1s,mb4.8
ANMO epP pP 20 22 10.7 +0.7
ANMO Albuquerque 86.35 52 c iP **P 20 20 12.3 -0.3**
ANMO i *PP pP 20 22 03.4 -6.6
MCMT McKenzie Canyo 86.42 41 eP **P 20 20 13.3 +0.4**
AHID Auburn Hatcher 86.54 43 eP **P 20 20 13.9 +0.4**
comp=Z,48nm,1.1s,mb5.0
MSO Missoula 86.75 39 eP **P 20 20 13.4 -1.0**
comp=Z,10nm,0.9s,mb4.5
DLMT Dillon 86.83 40 eP **P 20 20 15.0 +0.2**
comp=Z,60nm,0.9s,mb5.2
DLMT epP pP 20 22 12.3 -0.1
USHA Ushuaia 86.84 147 P **P 20 20 15.3 +0.3**
comp=Z,15nm,1.0s,mb4.6,baz=228,slow=6.7,SNR=3.9
HHC Hu-ho-hao-te 86.87 315 eP **P 20 20 16.0 +0.9**
HHC AP pP 20 22 15.0 +2.4
HHC PP PP 20 23 50.8 +3.1
HHC SKS 20 29 50.5
HHC S 20 30 08.0
HHC SS SS 20 36 09.0 +2.7
HHC AMB AMB
comp=Z,73nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,449nm,4.5s
TPAW Teton Pass 86.98 42 eP **P 20 20 16.2 +0.7**
comp=Z,53nm,0.9s,mb5.2
REDW Red Top Meadow 86.98 43 eP **P 20 20 16.0 +0.5**
comp=Z,95nm,1.1s,mb5.3
REDW epP pP 20 22 13.5 +0.3
SNOW Snow King Moun 87.09 43 eP **P 20 20 16.7 +0.6**
comp=Z,76nm,0.9s,mb5.3
IMW Indian Meadow 87.17 42 eP **P 20 20 17.2 +0.7**
comp=Z,83nm,0.8s,mb5.4
IMW epP pP 20 22 14.9 +0.7
CHMT Chamberlain Mo 87.20 39 eP **P 20 20 16.2 -0.4**
MOOW Moose Ponds 87.23 42 eP **P 20 20 16.9 +0.2**
comp=Z,27nm,1.0s,mb4.8
MOOW epP pP 20 22 16.8 +2.4
LOHW Long Hollow 87.26 42 eP **P 20 20 17.0 +0.2**
comp=Z,35nm,0.8s,mb5.0
QLMT Earthquake Lak 87.30 41 eP **P 20 20 18.2 +1.1**
QLMT epP pP 20 22 16.5 +1.7
KMI Kunming 87.39 297 P **P 20 20 19.5 +2.0**
KMI XP sP 20 23 08.5 -1.2
KMI SKS 20 29 54.0
KMI S 20 30 12.8
KMI XS sS 20 33 38.3 -4.5
KMI SS SS 20 36 12.0 -1.7
KMI SSS 20 39 50.0
KMI AMB AMB
comp=Z,50nm,0.9s,mb5.1
KMI AMB AMB
comp=Z,238nm,3.1s
FLWY Flagg Ranch 87.41 42 eP **P 20 20 18.2 +0.6**
comp=Z,80nm,1.0s,mb5.3
YFT Old Faithful 87.50 42 eP **P 20 20 19.6 +1.6**
YMR Madison River 87.52 41 eP **P 20 20 19.4 +1.3**
comp=Z,28nm,0.8s,mb5.0
PDAR Pinedale Array 87.55 44 P **P 20 20 18.2 0.0**
comp=Z,25nm,0.7s,mb5.0,baz=216,slow=3.4,SNR=62
PDAR PKKPbc PKKPbc 20 38 01.9 -1.2
comp=Z,0.3nm,0.6s,baz=90,slow=4.4,SNR=3.9
SMCO Snowmass 87.74 48 eP **P 20 20 19.8 +0.7**
comp=Z,29nm,1.1s,mb4.9
SMCO epP pP 20 22 20.1 +3.1
BTO Baotou 87.82 314 eP **P 20 20 19.8 +0.3**
LKWY Lake 87.83 42 eP **P 20 20 21.5 +2.0**
comp=Z,66nm,1.2s,mb5.2
LKWY Lake 87.83 42 eP **P 20 20 21.5 +2.0**
LKWY pmax pmax
comp=Z,66nm,1.2s,mb5.2
CLNS Chul'man 87.85 333 eP **P 20 20 17.6 -2.0**
CLNS e 20 23 07.0
CLNS eS 20 29 52.7
CLNS e 20 30 20.9
CLNS pmax pmax
comp=Z,128nm,1.1s,mb5.6
CLNS pmax pmax
comp=N,77nm,1.5s
CLNS pmax pmax
comp=E,40nm,1.3s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
CLNS smax
comp=N,11nm,1.1s
CLNS smax
comp=Z,3.0nm,0.7s
CLNS smax
comp=E,25nm,1.4s
HRY Holter Researc 87.95 39 eP **P 20 20 20.3 +0.2**
BDT Bhumibol Dam 87.98 289 P **P 20 20 21.0 +0.7**
CD2 Chengdu 88.63 303 P **P 20 20 24.5 +1.2**
CD2 AP pP 20 22 23.5 +2.1
CD2 SKS 20 30 01.3
CD2 S 20 30 29.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,70nm,7.1s
RWWY Rawlins 88.64 45 eP **P 20 20 22.5 -0.9**
comp=Z,92nm,1.3s,mb5.5
SYO Syowa Base 89.19 193 ⇓eP **P 20 20 24.9 -1.0**
SYO Syowa Base 89.19 193 ⇓epP pP 20 22 22.2 -2.0
YAK Yakutsk 89.29 338 eP **P 20 20 24.5 -1.9**
YAK e 20 23 13.1
YAK eS 20 30 01.1
YAK e 20 30 25.2
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,12nm,1.5s
YAK pmax pmax
comp=Z,8.0nm,1.6s,mb4.3
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK smax
comp=N,12nm,1.6s
YAK smax
comp=E,6.0nm,1.4s
PHWY Pilot Hill 89.68 46 eP **P 20 20 28.3 +0.2**
JCT Junction City 89.83 58 eP **P 20 20 28.3 -0.5**
comp=E,18nm,0.8s,mb4.9
JCT epP pP 20 22 32.1 +4.9
JCT Junction City 89.83 58 eP **P 20 20 28.3 -0.5**
JCT pmax pmax
comp=Z,18nm,0.8s,mb5.0
LZH Lanzhou 90.47 308 ⇑P **P 20 20 33.5 +1.7**
LZH PP PP 20 24 17.0 +1.0
LZH SKS 20 30 12.3
LZH S 20 30 46.0
LZH SS SS 20 37 00.3 +2.4
LZH AMB AMB
comp=Z,70nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,290nm,5.2s
SNAA Sanae 90.74 179 eP **P 20 20 31.4 -1.7**
SNAA Sanae 90.74 179 eP **P 20 20 31.8 -1.3**
comp=Z,65nm,0.9s,mb5.6
SNAA Sanae 90.74 179 eP **P 20 20 31.8 -1.3**
SNAA pmax pmax
comp=Z,65nm,0.9s
CIT Chita 90.80 325 eP **P 20 20 33.4 +0.1**
CIT e 20 24 16.4
CIT e 20 30 14.1
CIT pmax pmax
comp=Z,144nm,1.2s,mb5.8
VNA3 Neumayer Olymp 90.90 177 eP **P 20 20 33.1 -0.7**
VNA3 e 20 21 01.3
VNA3 e 20 21 08.2
VNA3 e 20 21 21.4
VNA3 e pP 20 22 34.2 +1.9
VNA3 e 20 22 41.1
VNA2 Neumayer--Watz 91.33 177 eP **P 20 20 35.3 -0.5**
VNA2 e 20 20 38.8
VNA2 e 20 21 02.2
VNA2 e 20 21 09.2
VNA2 e 20 21 23.2
VNA2 e pP 20 22 37.0 +2.6
VNA2 e 20 22 44.2
NVL N'lazarevskaya 91.38 184 d iP **P 20 20 34.0 -2.0**
NVL pmax pmax
comp=Z,71nm,1.5s,mb5.4
NVL pmax pmax
comp=N,34nm,1.6s
NVL pmax pmax
comp=E,16nm,1.6s
LAO LASA Array 91.39 41 eP **P 20 20 36.6 +0.6**
comp=E,68nm,0.8s,mb5.6
VNA1 Neumayer--Stat 91.57 177 eP **P 20 20 36.6 -0.3**
VNA1 e 20 20 40.5
PLCA Paso Flores 91.73 134 P **P 20 20 38.9 +1.3**
comp=E,2.6nm,0.7s,mb4.4,baz=240,slow=8.2,SNR=7.1
RSSD Black Hills 91.77 44 eP **P 20 20 37.4 -0.3**
comp=E,27nm,0.9s,mb5.3
RSSD Black Hills 91.77 44 eP **P 20 20 37.4 -0.4**
RSSD pmax pmax
comp=Z,27nm,0.9s,mb5.3
INK Inuvik 91.87 15 P **P 20 20 36.2 -2.1**
comp=Z,48nm,0.9s,mb5.5,baz=218,slow=5.5,SNR=125
WMOK Wichita Mounta 92.11 54 eP **P 20 20 38.6 -0.7**
comp=Z,2.2nm,0.7s,mb4.3
WMOK Wichita Mounta 92.11 54 eP **P 20 20 38.6 -0.8**
WMOK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
ULN Ulaanbaatar 92.77 320 eP **P 20 20 42.0 -0.4**
comp=Z,31nm,1.0s,mb5.3
ULN Ulaanbaatar 92.77 320 c iP **P 20 20 42.1 -0.3**
SONM Songino Array 93.17 319 P **P 20 20 43.7 -0.5**
comp=Z,8.6nm,0.9s,mb4.8,baz=128,slow=3.9,SNR=56
SONM PP PP 20 24 34.6 -2.2
comp=Z,3.6nm,0.9s,baz=120,slow=5.8,SNR=8.1
BOD Bodaibo 93.33 330 eP **P 20 20 43.1 -1.9**
BOD pmax pmax
comp=Z,14nm,1.2s,mb4.9
YKA Yellowknife Ar 94.39 25 P **P 20 20 48.3 -1.4**
comp=Z,14nm,0.8s,mb5.2,baz=246,slow=4.4,SNR=182
YKA PP PP 20 24 42.0 -4.2
comp=Z,2.0nm,0.9s,baz=244,slow=7.2,SNR=4.7
GTA Gaotai 94.62 310 i P **P 20 20 51.3 +0.5**
GTA AP pP 20 22 48.3 -1.3
GTA XP sP 20 23 33.8 -10
GTA SKS 20 30 32.5
GTA S 20 31 20.5
GTA AMB AMB
comp=Z,23nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,145nm,6.8s
KSU1 Kansas State U 95.20 51 eP **P 20 20 53.9 +0.5**
TIXI Tiksi 95.92 345 ⇑iP **P 20 20 54.4 -2.3**
TIXI Tiksi 95.92 345 eP **P 20 20 51.2 -5.5**
TIXI e*SP sP 20 23 39.5 -10
TIXI pmax pmax
comp=Z,18nm,0.9s,mb5.3
ZAK Zakamensk 96.01 321 eP **P 20 20 56.2 -0.9**
ZAK e 20 23 38.5
ZAK pmax pmax
comp=Z,66nm,1.9s,mb5.5
ZAK pmax pmax
comp=Z,9.0nm,2.0s,mb4.7
ZAK pmax pmax
comp=Z,33nm,1.8s,mb5.3
MOY Mondy 97.81 322 eP Pdif 20 21 04.3 -0.8
MOY e 20 25 09.8
ULM Lac du Bonnet 99.08 40 P Pdif 20 21 09.0 -1.8
comp=Z,1.4nm,0.5s,baz=284,slow=5.7,SNR=4.9
ULM Lac du Bonnet 99.08 40 P Pdif 20 21 09.0 -1.8
MKAR Makanchi Array 108.73 314 Pdiff Pdif 20 21 53.3 -0.4
comp=Z,1.3nm,0.8s,baz=97,slow=5.0,SNR=9.2
MKAR PKiKP PKiKP 20 25 54.1 -1.3
comp=Z,3.6nm,0.6s,baz=150,slow=1.0,SNR=38
MKAR PP PP 20 26 30.5 -1.9
comp=Z,5.7nm,1.1s,baz=103,slow=5.4,SNR=4.7
MKAR SKiKP 20 28 39.7
comp=Z,0.8nm,0.5s,baz=172,slow=0.9,SNR=7.0
MKAR PKKPbc PKKPbc 20 37 05.3 +0.2
comp=Z,1.5nm,0.9s,baz=270,slow=4.9,SNR=8.6
MKAR PKKPab PKKPab 20 37 18.9 -1.2
comp=Z,1.2nm,0.9s,baz=259,slow=3.6,SNR=6.3
MKAR Makanchi Array 108.73 314 Pdif Pdif 20 21 53.3 -0.4
MKAR PKPdf PKiKP 20 25 54.1 -1.3
MKAR PP PP 20 26 30.5 -1.9
MKAR PKKPbc PKKPbc 20 37 05.3 +0.2
MKAR PKKPab PKKPab 20 37 18.9 -1.2
MKAR Makanchi Array 108.73 314 P Pdif 20 21 53.3 -0.4
MKAR 20 26 30.5
SIV San Ignacio 110.13 115 PKKPbc PKKPbc 20 37 00.8 0.0
comp=Z,1.3nm,0.6s,baz=128,slow=5.0,SNR=6.4
SIV PKKPab PKKPab 20 37 15.2 +1.3
comp=Z,1.7nm,0.8s,baz=76,slow=6.4,SNR=6.3
KURK Kurchatov 111.44 318 ePKP PKiKP 20 25 58.0 -2.5
KSH Kashi 112.65 306 ePKP PKiKP 20 26 04.0 +1.2
KSH PKS 20 29 39.0
KSH SKS SKSdf 20 32 24.0 +0.1
KSH PP PP
comp=Z,113nm,4.8s
ULHL Ulahol 112.65 309 P PKiKP 20 26 02.7 -0.1
SNR=7.2
TKM2 Tokmak 2 113.17 310 P PKiKP 20 26 03.3 -0.5
SNR=6.3
KBK Karagaybulak 113.63 309 P PKiKP 20 26 04.3 -0.4
SNR=5.2
UCH Uchtor 113.93 309 P PKiKP 20 26 05.3 0.0
SNR=7.0
USP Ospenovka 113.99 310 P PKiKP 20 26 04.2 -1.2
SNR=5.6
EKS2 Erkin-Say 114.49 309 P PKiKP 20 26 05.9 -0.4
SNR=5.9
AML Almayashu 114.54 309 P PKiKP 20 26 06.6 +0.2
SNR=6.9
FRB Frobisher Bay 114.76 27 PKiKP PKiKP 20 26 04.9 -2.0
comp=Z,2.7nm,0.6s,baz=290,slow=4.8,SNR=5.5
CHKZ Chkalovo 116.27 322 ePKPdf PKPdf 20 26 08.0 -1.7
BVAR Borovoye Array 116.47 321 PKiKP PKiKP 20 26 08.9 -1.3
comp=Z,11nm,0.7s,baz=83,slow=0.7,SNR=65
BVAR PP PP 20 27 25.2 -1.5
comp=Z,5.2nm,0.9s,baz=93,slow=5.9,SNR=6.4
BVAR SKP 20 28 54.8
comp=Z,2.5nm,0.7s,baz=149,slow=1.2,SNR=5.8

BVAR PKKPab PKKPab 20 36 45.4 -0.4
comp=Z,1.1nm,0.7s,baz=285,slow=2.9,SNR=6.5
BVAR Borovoye Array 116.47 321 PKIKP PKPdf 20 26 08.9 -1.3
BVAR 20 27 25.2
BVAR 20 28 54.8
BRVK Borovoye 116.53 321 *e*PKPdf PKPdf 20 26 08.9 -1.4
ZRNK Zerenda 117.31 321 *e*PKPdf PKPdf 20 26 10.3 -1.5
DAG Danmarks Havn 120.11 5⇓*i*P PKPdf 20 26 14.5 -2.7
comp=Z,5.1nm,0.4s
DAG *i* 20 27 45.9
DAG Danmarks Havn 120.11 5⇓*e*PKIKP PKPdf 20 26 14.5 -2.7
DAG pmax pmax
comp=Z,5.0nm,0.4s
SUMG Summit 120.70 13 *e*P PKPdf 20 26 16.0 -2.3
SUMG *e*PP PP 20 27 50.9 -4.4
SFJD Kangerlussuaq 120.72 21 PKP PKPdf 20 26 16.3 -2.1
comp=Z,6.0nm,0.5s,baz=88,slow=2.4,SNR=7.9
SFJD Kangerlussuaq 120.72 21 *i* P PKPdf 20 26 16.3 -2.0
comp=Z,7.1nm,0.5s
BDFB Brasilia 121.27 121 PKKPbc PKKPbc 20 36 23.0 +0.3
comp=Z,4.8nm,0.7s,baz=108,slow=3.9,SNR=6.2
SVE Sverdlovsk 121.29 326 *e*PKIKP PKPdf 20 26 18.0 -1.4
SVE *e* 20 27 55.5
SVE *e* 20 28 19.0
SVE pmax pmax
comp=Z,36nm,1.0s
OPO Ambohidratompo 122.09 234 PKP PKPdf 20 26 22.3 +1.3
comp=Z,3.4nm,0.7s,baz=115,slow=4.0,SNR=10.0
ARU Arti 122.50 326⇑*i*PKIKP PKPdf 20 26 20.5 -1.2
AKTK Aktyubinsk 124.49 319 PKP PKPdf 20 26 25.1 -0.5
AKTK PP PP 20 28 18.2 -2.4
AKTO Aktyubinsk 124.49 319 PKP PKPdf 20 26 25.1 -0.5
comp=Z,12nm,0.8s,baz=78,slow=2.7,SNR=42
AKTO PP PP 20 28 18.2 -2.4
comp=Z,1.4nm,0.7s,baz=48,slow=12,SNR=3.7
KEV Kevo 125.65 349 *ep* PKPdf 20 26 24.4 -3.4
comp=Z,0.8nm,0.4s
KEV Kevo 125.65 349 *e*PKIKP PKPdf 20 26 24.4 -3.4
KEV pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 126.11 350 PKhKP 20 26 16.9
comp=Z,2.1nm,0.8s,baz=121,slow=1.0,SNR=9.1
ARCES PKP PKPdf 20 26 26.1 -2.5
comp=Z,18nm,0.9s,baz=270,slow=0.1,SNR=22
ARCES SKP 20 29 10.8
comp=Z,6.1nm,0.9s,baz=35,slow=4.4,SNR=3.9
ARCES PKKPbc 20 36 03.3
comp=Z,2.0nm,0.7s,baz=127,slow=3.2,SNR=5.3
ARCES ARCESS Array B 126.11 350 PKP PKPdf 20 26 26.1 -2.5
ARCES SKP 20 29 10.8
ARCES PKKPbc 20 36 03.3
APA Apatity 126.11 345⇑*i*PKIKP PKPdf 20 26 27.2 -1.5
APA pmax pmax
comp=Z,18nm,0.8s
BOSA Boshof 128.32 207 PKP PKPdf 20 26 34.2 +1.3
comp=Z,5.9nm,0.8s,baz=84,slow=3.8,SNR=5.9
KLMR Klimovskoe 129.07 337 *i* PKIKP PKPdf 20 26 33.6 -0.7
KLMR pmax pmax
comp=Z,40nm,1.6s
FINES FINESS Array B 132.94 344 PKhKP 20 26 26.6
comp=Z,0.7nm,0.6s,baz=32,slow=2.0,SNR=5.7
FINES PKP PKPdf 20 26 40.4 -1.2
comp=Z,7.4nm,0.7s,baz=77,slow=4.3,SNR=21
FINES SKPab 20 29 19.8
comp=Z,44nm,0.8s,baz=60,slow=4.6,SNR=56
FINES FINESS Array B 132.94 344 PKP PKPdf 20 26 40.4 -1.2
FINES SKPab 20 29 19.8
OBN Obninsk 133.98 332 *e*PKP PKPdf 20 26 42.7 -0.9
OBN Obninsk 133.98 332 *i* PKIKP PKPdf 20 26 42.6 -1.0
OBN *e* 20 29 23.3
OBN pmax pmax
comp=Z,15nm,0.7s
OBN MLR MLR
comp=Z,100nm,17.0s
VRSR Storozhevoye 135.06 327 *e*PKIKP PKPdf 20 26 44.4 -1.2
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=Z,5.0nm,0.9s
VRSR pmax pmax
comp=E,1.0nm,1.1s
GOF Gofitskoye 135.79 317 *e*PKIKP PKPdf 20 26 45.1 -1.8
NB2 NORSAR Subarra 136.19 353 PKPa 20 26 33.9
comp=Z,4.3nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 136.19 353 PKhKP 20 26 37.0
comp=Z,4.8nm,0.9s,baz=37,slow=2.2,SNR=11
NOA PKP PKPdf 20 26 46.6 -1.1
comp=Z,4.6nm,0.7s,baz=14,slow=4.1,SNR=13
NOA SKP 20 29 30.3
comp=Z,22nm,1.0s,baz=6.3,slow=4.0,SNR=18
NOA NORSAR Array B 136.19 353 PKP PKPdf 20 26 46.6 -1.1
NOA SKP 20 29 30.3
GNI Garni 136.36 310 PKP PKPdf 20 26 48.4 +0.4
comp=Z,8.1nm,0.8s,baz=337,slow=4.3,SNR=10.0
GNI SKP 20 29 31.6
comp=Z,5.5nm,0.8s,baz=189,slow=20,SNR=3.6
GNI Garni 136.36 310 *e*PKIKP PKPdf 20 26 46.5 -1.5
KIV Kislovodsk 136.46 316 *e*PKPdf PKPdf 20 26 47.6 -0.5
KIV Kislovodsk 136.46 316 *i* PKIKP PKPdf 20 26 47.8 -0.4
LSZ Lusaka 137.70 221 *e*PKPpre 20 26 41.7
ANN Anapa 139.45 320 *i* PKHKP 20 26 44.2
ANN pmax pmax
comp=Z,31nm,1.3s
KMBO Kilima Mbogo 139.79 246 PKhKP 20 26 47.9
comp=Z,1.2nm,0.7s,baz=53,slow=23,SNR=5.5
KMBO PKP PKPdf 20 26 55.0 +0.7
comp=Z,3.1nm,0.9s,baz=52,slow=8.2,SNR=7.6
KMBO SKKP 20 29 42.4
comp=Z,12nm,1.0s,baz=63,slow=4.5,SNR=14
KMBO Kilima Mbogo 139.79 246 *e*PKHKP 20 26 48.0
KMBO 20 26 55.0
KMBO *e* 20 29 43.2
SUW Suwalki 140.01 340 *e*PKPpre 20 26 47.1
AKASG Malin Array Be 140.24 332 PKhKP 20 26 47.2
comp=Z,5.0nm,0.6s,baz=40,slow=4.2,SNR=7.1
AKASG PKP PKPdf 20 26 55.4 +0.3
comp=Z,8.6nm,0.6s,baz=43,slow=2.8,SNR=15
AKASG SKP 20 29 35.1
comp=Z,5.9nm,0.7s,baz=43,slow=4.4,SNR=4.2
AKASG SKiKP 20 29 40.4
comp=Z,6.0nm,0.7s,baz=37,slow=2.6,SNR=18
AKASG SKPab 20 29 53.2
comp=Z,7.7nm,0.8s,baz=42,slow=4.7,SNR=7.8
AKASG Malin Array Be 140.24 332 PKP PKPdf 20 26 55.4 +0.3
AKASG SKP 20 29 35.1
AKASG SKPab 20 29 53.2
AKASG Malin Array Be 140.24 332 PKIKP PKPdf 20 26 55.4 +0.3
MUD Monsted U'grnd 140.91 353 *i* P PKPdf 20 26 50.2 -6.1
comp=Z,26nm,1.0s
MUD Monsted U'grnd 140.91 353 *i* PKHKP 20 26 50.2
MUD pmax pmax
comp=Z,26nm,1.0s
BSD Bornholm Skovb 141.26 347 *i* P PKPdf 20 26 50.2 -6.7
comp=Z,23nm,0.6s
BSD Bornholm Skovb 141.26 347 *i* PKHKP 20 26 50.2
BSD pmax pmax
comp=Z,23nm,0.6s
SIM Simferopol' 141.38 322 *d* *i* PKHKP 20 26 53.0
SIM *e* 20 26 57.0
SIM *e* 20 30 12.0
SIM pmax pmax
comp=Z,80nm,18.1s
MALT Malatya 141.60 310⇑PKP PKPdf 20 26 54.4 -3.1
EKA Eskdalemuir Ar 142.37 4 SKPab 20 30 03.2
comp=Z,4.3nm,0.8s,baz=356,slow=3.2,SNR=4.5
GKP Gorka Klasztor 142.41 344 *e*PKP PKPdf 20 26 55.5 -3.5
GZT Gaziantep 142.59 309 *i* P PKPdf 20 26 56.9 -2.4
BOYT Boyabat 142.72 316 *i* P PKPdf 20 26 57.8 -1.7
KIS Kishinev 143.01 328α *i* PKHKP 20 26 57.0
KIS pmax pmax
comp=Z,200nm,1.0s
KIS pmax pmax
comp=Z,300nm,1.0s
LVV L'vov 143.10 335⇑*i*PKIKP PKPdf 20 26 57.5 -2.7
LVV *i* 20 29 48.5
LVV *e* 20 33 35.5
BSEG Bad Segeberg 143.21 351 *e*PKPbc PKPdf 20 26 57.7 -2.7
BSEG *e*SKPbc SKPbc 20 29 49.1 +1.2
WIM Isle of Man 143.42 6⇑*e*P PKPdf 20 26 57.9 -2.8
WIM AMb AMB 20 26 59.7
comp=Z,157nm,1.3s
WIM Isle of Man 143.42 6⇑*e*P PKPdf 20 26 57.9 -2.8
WIM AMb AMB 20 26 59.7
comp=Z,157nm,1.3s
IAS Iasi 143.50 329 P PKPdf 20 26 59.5 -1.4

KWP Kalwaria 143.78 336 *i* PKPc PKPdf 20 27 00.3 -1.0
COBT Iskenderun 143.87 308 *i* P PKPdf 20 27 01.5 0.0
DCN Croghan 143.90 9⇑*i*P PKPdf 20 26 59.7 -1.9
CDAG Cicekdag 143.93 314 *i* P PKPdf 20 27 01.0 -0.6
RUE Ruedersdorf 143.97 347 *e*PKPbc PKPdf 20 27 00.2 -1.5
AVNT Avonos 143.97 312 *i* P PKPdf 20 27 00.9 -0.8
DLF Lyons Farm 144.05 8⇑*i*P PKPdf 20 27 00.2 -1.6
ELDT Eldivan 144.15 316 *i* P PKPdf 20 27 02.4 +0.4
WCB1 Church Bay 144.19 6⇑*e*P PKPdf 20 27 00.4 -1.7
WCB1 AMb AMB 20 27 01.7
comp=Z,285nm,1.2s
WCB1 Church Bay 144.19 6⇑*e*P PKPdf 20 27 00.4 -1.7
WCB1 AMb AMB 20 27 01.7
comp=Z,285nm,1.2s
WME Myndd Eilian 144.20 6⇑*e*P PKPdf 20 27 00.5 -1.6
WME AMb AMB 20 27 01.4
comp=Z,122nm,0.9s
WME Myndd Eilian 144.20 6⇑*e*P PKPdf 20 27 00.5 -1.6
WME AMb AMB 20 27 01.4
comp=Z,122nm,0.9s
LHO Holmfirth 144.22 3⇑*e*P PKPdf 20 27 00.6 -1.5
LHO Holmfirth 144.22 3⇑*e*P PKPdf 20 27 00.6 -1.5
BURAR Bucovina Array 144.29 332 ⇓P PKPdf 20 27 02.2 0.0
BURAR Bucovina Array 144.29 332 ⇓P PKPdf 20 27 02.2 0.0
WLF1 Llynfaes 144.29 6⇑*e*P PKPdf 20 27 00.9 -1.4
WLF1 Llynfaes 144.29 6⇑*e*P PKPdf 20 27 00.9 -1.4
YRC Rhoscolyn 144.31 6⇑*e*P PKPdf 20 27 01.0 -1.3
YRC AMb AMB 20 27 02.1
comp=Z,366nm,1.0s
YRC Rhoscolyn 144.31 6⇑*e*P PKPdf 20 27 01.0 -1.3
YRC AMb AMB 20 27 02.1
comp=Z,366nm,1.0s
OJC Ojcow 144.34 339 *i* PKPdfc PKPdf 20 27 01.9 -0.4
WPM1 Penmaenmawr 144.37 5 *e*P PKPdf 20 27 01.1 -1.2
WPM1 Penmaenmawr 144.37 5 *e*P PKPdf 20 27 01.1 -1.2
BR131 Keskin Array S 144.38 315 *e*PKPdf PKPdf 20 27 02.3 -0.1
BRTR Keskin Array B 144.38 315 PKP PKPdf 20 27 02.2 -0.2
comp=Z,40nm,0.8s,baz=126,slow=3.4,SNR=248
BRTR SKPbc SKPbc 20 29 51.4 +0.7
comp=Z,3.4nm,0.7s,baz=132,slow=3.8,SNR=5.1
YLL Llanberis 144.46 6⇑*e*P PKPdf 20 27 01.5 -1.0
YLL AMb AMB 20 27 02.8
comp=Z,475nm,1.1s
YLL Llanberis 144.46 6⇑*e*P PKPdf 20 27 01.5 -1.0
YLL AMb AMB 20 27 02.8
comp=Z,475nm,1.1s
STHS Stebnicka Huta 144.50 337 *i* PKP PKPdf 20 27 02.9 +0.3
STHS *e* 20 27 20.0
STHS *e*SKP 20 29 53.4
KOLS Kolonicke sedl 144.51 336 *i* PKP PKPdf 20 27 02.4 -0.2
KOLS *e*SKP 20 29 52.6
CFR Carcaliu 144.59 326 ⇓P PKPdf 20 27 03.0 +0.3
YRE Yr Eifl 144.60 6 *e*P PKPdf 20 27 01.7 -1.1
YRE Yr Eifl 144.60 6 *e*P PKPdf 20 27 01.7 -1.1
SBD1 Bryn Du 144.77 5⇑*e*P PKPdf 20 27 02.7 -0.3
SBD1 Bryn Du 144.77 5⇑*e*P PKPdf 20 27 02.7 -0.3
NIE Niedzica 144.84 338 *i* PKPdfc PKPdf 20 27 04.1 +0.9
VRI Vrincioaia 144.84 328⇑P PKPdf 20 27 03.7 +0.5
VRI Vrincioaia 144.84 328⇑P PKPdf 20 27 03.7 +0.5
VRI Vrincioaia 144.84 328 PKIKP PKPdf 20 27 04.0 +0.8
CRVS Cervenica-Dubn 144.84 337 *i* PKP PKPdf 20 27 03.7 +0.5
CRVS *e* 20 29 54.4
KSP Ksiaz 144.86 343 *i* PKPc PKPdf 20 27 03.9 +0.7
KSP Ksiaz 144.86 343 *e*PKPab PKPdf 20 27 03.6 +0.4
KSP *e*PKPdf PKPdf 20 27 05.3 +2.1
KSP *e* 20 29 54.0
ANTO Ankara 144.88 315⇑P PKPdf 20 27 03.3 +0.1
PLOR Plostina 144.89 328⇓P PKPdf 20 27 04.0 +0.7
TIRR Tirgusor 144.91 325⇑P PKPdf 20 27 03.9 +0.6
TIRR Tirgusor 144.91 325⇑P PKPdf 20 27 03.9 +0.6
TIRR Tirgusor 144.91 325 PKIKP PKPdf 20 27 04.3 +1.0
RAC Raciborz 144.97 341 *e*PKPdf PKPdf 20 27 04.5 +1.1
SGKT Sivrigoynuk 145.01 317 *i* P PKPdf 20 27 03.0 -0.5
HARR Harsova 145.02 326⇓P PKPdf 20 27 04.5 +1.0
IBBN Ibbenburen 145.15 353 *e*PKPbc PKPbc 20 27 04.5 -0.1
IBBN *e*SKPbc SKPbc 20 29 54.0 +1.6
HLM1 Long Mynd 145.19 4⇑*e*P PKPdf 20 27 04.0 +0.2
HLM1 AMb AMB 20 27 06.1
comp=Z,205nm,1.6s
HLM1 Long Mynd 145.19 4⇑*e*P PKPdf 20 27 04.0 +0.2
HLM1 AMb AMB 20 27 06.1
comp=Z,205nm,1.6s
OKC Ostrava-Krasne 145.20 341 *e*PKPDF PKPdf 20 27 03.9 +0.1
OKC ⇑*e*PKPB PKPbc 20 27 04.8 0.0
OKC *e*SKP 20 29 54.2
CLZ Clausthal 145.23 350 *e*PKPbc PKPbc 20 27 04.9 0.0
CLZ *e*SKPbc SKPbc 20 29 54.2 +1.6
BHL Bhannes 145.23 304 *e*P PKPdf 20 27 05.4 +1.6
CLL Collm 145.24 347 *e*PKPbc PKPbc 20 27 04.5 -0.4
CLL *e*SKPbc SKPbc 20 29 53.9 +1.3
CLL Collm 145.24 347⇓*i*PKPbc PKPbc 20 27 04.1 -0.8
comp=Z,206nm,0.8s
CLL *i* PKPab PKPab 20 27 05.9 -0.1
comp=Z,139nm,0.9s
CLL *ep*PKPbc 20 29 11.0
CLL *i* SKPbc SKPbc 20 29 53.6 +1.0
comp=Z,41nm,1.3s
CLL Collm 145.24 347⇓*i*PKP PKPdf 20 27 04.1 +0.2
CLL *i* PKP PKPdf 20 27 05.9 +2.0
CLL *ep*PKP pPKPdf 20 29 11.0 +0.7
CLL Collm 145.24 347⇓*i*PKIKP PKPdf 20 27 04.1 +0.2
CLL *i* 20 27 05.9
UPC Upice 145.24 343 *e*PKPDF PKPdf 20 27 04.4 +0.5
UPC ⇑*e*PKPB PKPbc 20 27 05.1 +0.2
UPC *e*SKP 20 29 53.9
SSP1 Stoney Pound 145.27 5⇑*e*P PKPdf 20 27 04.2 +0.3
SSP1 Stoney Pound 145.27 5⇑*e*P PKPdf 20 27 04.2 +0.3
DPC Dobruska-Polom 145.29 343 *e*PKPDF PKPdf 20 27 04.3 +0.3
DPC ⇑*e*PKPB PKPbc 20 27 05.5 +0.5
DPC *e*PKPAB PKPab 20 27 06.9 +0.7
DPC *e*SKP 20 29 54.5
DPC Dobruska-Polom 145.29 343 *e*PKIKP PKPdf 20 27 04.3 +0.3
DPC *e* 20 27 05.5
DPC *e* 20 29 54.5
BRG Berggiesshubel 145.43 346 *e*PKPbc PKPbc 20 27 05.4 0.0
BRG *e*SKPbc SKPbc 20 29 54.3 +1.2
BRG Berggiesshubel 145.43 346 *i* PKIKP PKPdf 20 27 03.2 -1.0
BRG *i* 20 27 05.3
BRG *i* 20 29 54.3
BRG *e* 20 30 27.9
BRG Berggiesshubel 145.43 346 *i* PKP PKPdf 20 27 03.2 -1.0
comp=Z,9.7nm,1.1s
BRG *i* 20 27 05.3
comp=Z,71nm,0.9s
BRG *ep*PKP Px 20 29 39.0
comp=Z,6.7nm,1.4s
BRG *i* 20 29 54.3
comp=Z,21nm,1.3s
BRG *e*PP PP 20 30 27.9 -2.9
MORC Moravsky Berou 145.45 341⇓P PKPdf 20 27 04.9 +0.7
ISR Istrita 145.45 328⇓P PKPdf 20 27 05.8 +1.6
MLR Muntele Rosu 145.49 329⇑P PKPdf 20 27 05.5 +1.2
MLR Muntele Rosu 145.49 329⇑P PKPdf 20 27 05.5 +1.2
MLR Muntele Rosu 145.49 329 PKP2 PKPab 20 27 05.6 -1.4
PSN Preselentsi 145.54 324 *i* P PKPdf 20 27 06.0 +1.6
KEJS Kecovo 145.56 337 *i* PKP PKPdf 20 27 05.6 +1.2
LIKS Likavka 145.57 339 *e*PKP PKPdf 20 27 06.2 +1.8
WTSB Winterswijk 145.59 354⇑*e*PKiKP PKiKP 20 27 05.2 -3.5
comp=Z,191nm,1.0s
HTR Trewern Hill 145.59 5⇑*e*P PKPdf 20 27 04.9 +0.4
HTR AMb AMB 20 27 05.8
comp=Z,100nm,1.0s
HTR Trewern Hill 145.59 5⇑*e*P PKPdf 20 27 04.9 +0.4
HTR AMb AMB 20 27 05.8
comp=Z,100nm,1.0s
HENT Hendek 145.62 318 *i* P PKPdf 20 27 03.3 -1.2
MCH1 Michaelchurch 145.69 5⇑*e*P PKPdf 20 27 05.3 +0.7
MCH1 Michaelchurch 145.69 5⇑*e*P PKPdf 20 27 05.3 +0.7
SSW Stow on the Wo 145.80 3⇑*e*P PKPdf 20 27 06.2 +1.4
SSW Stow on the Wo 145.80 3⇑*e*P PKPdf 20 27 06.2 +1.4
SHEL Horse Pasture 145.80 168 *e*PKPdf PKPdf 20 27 07.8 +3.0
SNX Sinaia 145.80 329⇑P PKPdf 20 27 05.4 +0.6
HSA Swansea 145.84 6⇑*e*P PKPdf 20 27 05.6 +0.7
HSA Swansea 145.84 6⇑*e*P PKPdf 20 27 05.6 +0.7
VOIR 145.97 329⇑P PKPdf 20 27 06.8 +1.7
KDHN Kadinhani 146.00 314 *i* P PKPdf 20 27 05.9 +0.8
DRGR 146.03 333⇑P PKPdf 20 27 07.1 +1.9
DRGR 146.03 333⇑P PKPdf 20 27 07.1 +1.9
DRGR 146.03 333 PKP2 PKPab 20 27 07.2 -1.9
PRA Prague 146.05 345⇑PKPB PKPbc 20 27 07.0 -0.2
BUG Bochum--Univer 146.06 353 *e*PKPbc PKPbc 20 27 06.4 -0.8

HGH Gray Hill 146.07 4⇑*e*P PKPdf 20 27 06.3 +1.1
HGH AMb AMB 20 27 08.4
comp=Z,313nm,1.1s
HGH Gray Hill 146.07 4⇑*e*P PKPdf 20 27 06.3 +1.1
HGH AMb AMB 20 27 08.4
comp=Z,313nm,1.1s
SKP1 Kophill 146.09 2⇑*e*P PKPdf 20 27 06.2 +0.9
SKP1 Kophill 146.09 2⇑*e*P PKPdf 20 27 06.2 +0.9
PRU Pruhonice 146.10 344 *e*PKPDF PKPdf 20 27 05.2 -0.1
PRU ⇑*e*PKPB PKPbc 20 27 07.4 0.0
PRU *e*PKPAB PKPab 20 27 09.5 +0.1
PRU *e*SKP 20 29 55.9
MTUR Matau 146.12 329⇓P PKPdf 20 27 08.9 +3.6
MTUR Matau 146.12 329⇓P PKPdf 20 27 08.9 +3.5
MTUR Matau 146.12 329 PKP2 PKPab 20 27 07.5 -2.0
VYHS Vyhne 146.14 339 *i* PKP PKPdf 20 27 07.5 +2.1
VYHS *e* 20 29 28.5
VRAC Vranov 146.15 342⇑⇑P PKPdf 20 27 07.4 +2.0
VRAC Vranov 146.15 342⇑⇑P PKPdf 20 27 07.5 +2.1
VRAC Vranov 146.15 342 PKP2 PKPab 20 27 07.6 -2.0
MOX Moxa 146.15 348 *e*PKPbc PKPbc 20 27 07.4 -0.1
MOX Moxa 146.15 348 *e*PKP PKPdf 20 27 04.8 -0.6
comp=Z,131nm,1.5s
MOX *e* 20 27 36.5
TANN Tannenbergstha 146.19 347 *e*PKPbc PKPbc 20 27 07.5 -0.1
PSZ Piszkesteto 146.25 337⇑*i*PKP/p PKPbc 20 27 07.7 -0.1
PSZ Piszkesteto 146.25 337 PKP2 PKPab 20 27 07.9 -2.1
BUC1 Bucharest 146.25 327 P PKPdf 20 27 07.5 +1.9
SWN1 Swindon 146.25 3⇑*e*P PKPdf 20 27 07.0 +1.5
SWN1 Swindon 146.25 3⇑*e*P PKPdf 20 27 07.0 +1.5
PRD Provadia 146.29 324 *i* P PKPdf 20 27 08.5 +2.9
ESKT Eskisehir 146.35 316 *i* P PKPdf 20 27 05.5 -0.2
NKC Novy Kostel 146.37 347 *e*PKPDF PKPdf 20 27 05.9 +0.1
NKC ⇑*e*PKPB PKPbc 20 27 08.1 0.0
NKC *e*PKPAB PKPab 20 27 10.8 +0.3
SMD Mendips 146.40 4 *e*P PKPdf 20 27 07.2 +1.4
SMD Mendips 146.40 4 *e*P PKPdf 20 27 07.2 +1.4
BORA Eskisehir 146.42 317 *i* P PKPdf 20 27 07.7 +1.8
HEX Exmoor 146.55 6 *e*P PKPdf 20 27 07.8 +1.8
HEX Exmoor 146.55 6 *e*P PKPdf 20 27 07.8 +1.8
SMOL Smolenice 146.59 340 *i* PKP PKPdf 20 27 09.1 +3.0
SWK Warminster 146.59 4⇑*e*P PKPdf 20 27 08.0 +1.8
SWK Warminster 146.59 4⇑*e*P PKPdf 20 27 08.0 +1.8
TFO1 Folkestone 146.74 360 *e*P PKPdf 20 27 08.8 +2.4
TFO1 Folkestone 146.74 360 *e*P PKPdf 20 27 08.8 +2.4
BEBN Eben Emael 146.85 355 PKPbc PKPbc 20 27 09.4 0.0
BEBN PKPab PKPab 20 27 11.7 -0.8
ROTZ Rotzenmuhle 146.86 347 *e*PKPbc PKPbc 20 27 09.6 +0.2
ROTZ *e*PKPab PKPab 20 27 12.2 -0.3
HGN Heimansgroeve 146.86 354⇑*e*PKiKP PKiKP 20 27 08.8 -2.5
comp=Z,78nm,1.4s
SRO Srobarova 146.90 339 *e*PKP PKPdf 20 27 09.5 +2.8
SRO2 Moca 146.92 338 *e*PKP PKPdf 20 27 09.7 +3.0
BUD Budapest 146.93 338⇑*e*PKP/p PKPbc 20 27 09.3 -0.3
UCC Uccle 146.95 356⇑⇑PKPbc PKPbc 20 27 09.2 -0.4
UCC PKPab PKPab 20 27 11.4 -1.4
SRO1 Iza 146.97 339 *e*PKP PKPdf 20 27 09.7 +2.9
ZST Bratislava 146.97 340 *e*PKP PKPdf 20 27 10.1 +3.3
EIL Elat 146.98 297 *e*PKPdf PKPdf 20 27 07.6 +0.8
MEM Membach 147.01 354 PKP PKPdf 20 27 06.3 -0.5
MEM PKPbc PKPbc 20 27 09.2 -0.6
MEM PKPab PKPab 20 27 13.1 0.0
SZH Strazhica 147.04 326 *i* P PKPdf 20 27 10.0 +3.1
ZIMR 147.08 327⇑⇑P PKPdf 20 27 11.3 +4.4
TNS Taunus Mts 147.10 351 *e*PKPbc PKPbc 20 27 10.1 0.0
TNS *e*PKPab PKPab 20 27 12.7 -0.7
GRF Grafenberg Arr 147.14 348 *e*PKPbc PKPbc 20 27 10.3 +0.1
GRF *e*PKPab PKPab 20 27 13.3 -0.3
KHC Kasperske Hory 147.14 345 *e*PKPDF PKPdf 20 27 07.0 0.0
KHC ⇑*e*PKPB PKPbc 20 27 10.4 +0.2
KHC *e*PKPAB PKPab 20 27 13.8 +0.2
KHC *e*SKP 20 29 58.2
CSA1 St Austell 147.14 7⇑*e*P PKPdf 20 27 09.2 +2.1
CSA1 St Austell 147.14 7⇑*e*P PKPdf 20 27 09.2 +2.1
DYA Yadsworthy 147.16 6 *e*P PKPdf 20 27 08.9 +1.8
DYA Yadsworthy 147.16 6 *e*P PKPdf 20 27 08.9 +1.8
JMB Yambol 147.22 324 *e*P PKPdf 20 27 10.3 +3.1
SNF Seneffe 147.25 356 PKPbc PKPbc 20 27 09.9 -0.5
SNF PKPab PKPab 20 27 13.1 -0.9
PKS7 Kunszentmiklos 147.25 337⇑⇑*i*P PKPdf 20 27 10.3 +3.1
CCA1 Carnmenellis 147.26 8 *e*P PKPdf 20 27 07.9 +0.6
CCA1 Carnmenellis 147.26 8 *e*P PKPdf 20 27 07.9 +0.6
MENF Mencas 147.28 359 PKP PKPdf 20 27 10.1 +2.8
WET Wettzell 147.29 346 *e*PKPbc PKPbc 20 27 10.5 -0.1
WET *e*PKPab PKPab 20 27 13.9 -0.3
GERES GERESS Array B 147.37 345 PKP PKPdf 20 27 07.4 -0.1
comp=Z,52nm,0.7s,baz=349,slow=1.0,SNR=241
GERES PKPbc PKPbc 20 27 10.7 -0.1
comp=Z,53nm,0.7s,baz=30,slow=3.2,SNR=116
GERES SKPbc SKPbc 20 29 57.0 -0.4
comp=Z,2.3nm,0.9s,baz=64,slow=3.1,SNR=3.6
CRAR CRAIOVA 147.39 329⇑⇑P PKPbc 20 27 11.1 +0.3
BZS Buzias 147.42 333⇑⇑P PKPdf 20 27 07.5 0.0
BZS Buzias 147.42 333⇑⇑P PKPdf 20 27 07.5 0.0
BZS P 20 27 10.9
ISP Isparta 147.43 314 *e*PKPbc PKPbc 20 27 10.1 -0.8
ISP Isparta 147.43 314 PKIKP PKPbc 20 27 10.6 -0.3
TKTP Tekketepe 147.47 314 *i* P PKPdf 20 27 08.4 +0.8
PKS6 Bocsa 147.47 336⇑⇑*i*P PKPbc 20 27 11.1 +0.1
GDZ Gediz 147.48 317 *i* P PKPdf 20 27 11.1 +3.5
ABH Alteburg 147.56 352 PKP PKPbc 20 27 11.1 -0.1
GIVF Givet 147.61 356 *e*PKIKP PKPdf 20 27 07.3 -0.5
DOU Dourbes 147.63 356 PKPbc PKPbc 20 27 11.2 -0.2
TOD Tromm 147.65 351 PKP PKPbc 20 27 11.3 -0.2
BAIF Baives 147.70 356 *e*PKIKP PKPdf 20 27 07.7 -0.3
RUP Ruppelstein 147.79 353 PKP PKPbc 20 27 12.0 +0.1
WLF Walferdange 147.93 354 *e*PKPdf PKPdf 20 27 08.9 +0.6
WLF *e*PKPbc PKPbc 20 27 12.6 +0.4
WLF *e*PKPab PKPab 20 27 16.4 -0.4
WLF Walferdange 147.93 354 PKP PKPdf 20 27 08.8 +0.5
WLF PKPbc PKPbc 20 27 12.6 +0.4
WLF APKP 20 29 19.6
WLF Walferdange 147.93 354 *e*PKP2 PKPbc 20 27 12.2 0.0
BTOK Tokmak 148.03 319 *i* P PKPdf 20 27 07.2 -1.3
KTD Kalmit 148.03 351 PKP PKPbc 20 27 12.4 -0.1
DIM Dimitrovgrad 148.08 324 *i* P PKPbc 20 27 13.0 +0.4
MOA Molln 148.13 343⇑*i* PKPdf 20 27 12.7 +4.0
comp=Z,91nm,1.1s
MOA Molln 148.13 343⇑⇑*i*PKPdf PKPdf 20 27 07.8 -0.9
comp=Z,2.2nm,0.6s,SNR=11
MOA ⇑⇑*i*PKiKP PKiKP 20 27 12.7 -1.3
comp=Z,91nm,1.1s
PKSM Moragy 148.14 337⇑⇑P PKPdf 20 27 08.7 0.0
PKSM Moragy 148.14 337⇑⇑P PKPdf 20 27 08.7 0.0
PKSM P 20 27 12.4
ARSA Arzberg 148.31 341⇑*i* PKPdf 20 27 12.8 +3.8
comp=Z,48nm,1.4s
ARSA Arzberg 148.31 341⇑⇑*i*PKPdf PKPdf 20 27 08.6 -0.4
comp=Z,2.8nm,0.8s,SNR=10
ARSA ⇑⇑*i*PKPbc PKPbc 20 27 12.8 -0.4
comp=Z,48nm,1.4s
STU Stuttgart 148.39 350 *e*PKPdf PKPdf 20 27 09.3 +0.2
STU *e*PKPbc PKPbc 20 27 13.3 -0.1
STU *e*PKPab PKPab 20 27 17.9 -0.8
STU Stuttgart 148.39 350 *e*PKPdf PKPdf 20 27 08.3 -0.8
STU *e*PKPbc PKPbc 20 27 13.0 -0.3
LANF Langenberg 148.40 352 PKP PKPbc 20 27 13.5 +0.1
MANT Manisa 148.41 316 *i* P PKPdf 20 27 13.4 +4.2
KDZ Kurdzhali 148.41 324 *i* P PKPbc 20 27 13.5 +0.1
PGB Panagyurishte 148.48 326 *i* P PKPbc 20 27 13.5 -0.1
JLP Les Platons 148.50 4⇑*e*P PKPbc 20 27 13.0 -0.6
JLP Les Platons 148.50 4⇑*e*P PKPbc 20 27 13.0 -0.6
DNZL Cakiroluk 148.51 315 *i* P PKPdf 20 27 13.9 +4.6
JVM Valle D.L. Mar 148.52 4⇑*e*P PKPbc 20 27 13.2 -0.5
JVM Valle D.L. Mar 148.52 4⇑*e*P PKPbc 20 27 13.2 -0.5
ALN Alexandroupoli 148.54 322 *e*P PKPdf 20 27 13.1 +3.8
JSA Saint Aubin 148.55 4⇑*e*P PKPbc 20 27 13.3 -0.5
JSA Saint Aubin 148.55 4⇑*e*P PKPbc 20 27 13.3 -0.5
JRS Jersey 148.55 4⇑*e*P PKPbc 20 27 13.0 -0.8
JRS Jersey 148.55 4⇑*e*P PKPbc 20 27 13.0 -0.8
FUR Furstenfeldbru 148.57 347 *e*PKPbc PKPbc 20 27 13.8 0.0
FUR *e*PKPab PKPab 20 27 19.1 -0.3
SVIS Svilajnac 148.63 332⇑⇑*i*PKP PKPdf 20 27 13.7 +4.3
RDO Rodhopi 148.67 323 *e*P PKPdf 20 27 13.6 +4.1
RZN Rozhen 148.78 325 *i* P PKPbc 20 27 14.0 -0.3
KOGS Kog 148.79 340 *i* PKPbc PKPbc 20 27 13.7 -0.6
VTS Vitosha 148.94 327 *i* P PKPbc 20 27 14.0 -0.7
VTS Vitosha 148.94 327 *e*P PKPbc 20 27 14.9 +0.2
VTS Vitosha 148.94 327⇑⇑P PKPbc 20 27 14.9 +0.2
VTS Vitosha 148.94 327 PKHKP 20 27 15.0
BFO Black Forest 148.96 351 *e*PKPbc PKPbc 20 27 14.6 -0.2

BFO *e*PKPab PKPab 20 27 19.8 -1.2
BFO Black Forest 148.96 351 *e*PKPdf PKPdf 20 27 09.9 -0.1
BFO *e*PKPbc PKPbc 20 27 14.4 -0.3
PERS Pernice 148.98 341 *e*PKPbc PKPbc 20 27 14.1 -0.7
PERS *e*PKPab PKPab 20 27 20.5 -0.6
WLS Welschbruch 149.02 352 PKP PKPbc 20 27 14.8 -0.1
CDF Champ du Feu 149.03 352 *e*PKIKP PKPdf 20 27 09.4 -0.7
FLN La Foliniere 149.06 2 *e*PKIKP PKPdf 20 27 09.5 -0.7
comp=Z,18nm,0.7s
KBA Koelnbreinsper 149.09 344⇑*i* PKPdf 20 27 14.6 +4.3
comp=Z,45nm,0.6s
KBA Koelnbreinsper 149.09 344⇑*i*PKPdf PKPdf 20 27 10.0 -0.3
comp=Z,6.8nm,0.9s,SNR=30
KBA ⇑*i*PKPbc PKPbc 20 27 14.6 -0.5
comp=Z,45nm,0.6s
SPAK Spaichingen 149.11 350 PKP PKPbc 20 27 14.9 -0.2
MEZF Maizieres J'vi 149.19 355 *e*PKIKP PKPdf 20 27 10.3 -0.1
ECH Echery 149.24 352 PKP PKPbc 20 27 15.0 -0.4
LDF La Druitiere 149.24 2 *e*PKIKP PKPdf 20 27 09.7 -0.8
comp=Z,26nm,0.9s
OBKA Obir 149.27 342⇑*i* PKPdf 20 27 14.8 +4.3
comp=Z,39nm,1.2s
OBKA Obir 149.27 342⇑*i*PKPdf PKPdf 20 27 10.3 -0.2
comp=Z,3.3nm,1.4s,SNR=15
OBKA ⇑*i*PKPbc PKPbc 20 27 14.8 -0.7
comp=Z,39nm,1.2s
WATA Walderalm 149.29 346⇑*i* PKPdf 20 27 15.2 +4.7
comp=Z,66nm,1.1s
WATA Walderalm 149.29 346⇓*i*PKPdf PKPdf 20 27 10.6 +0.1
comp=Z,13nm,1.3s,SNR=25
WATA ⇑*i*PKPbc PKPbc 20 27 15.2 -0.3
comp=Z,66nm,1.1s
KDAG Bornova 149.30 317 *i* P PKPdf 20 27 13.7 +3.2
DIVS Divcibare 149.33 333⇑*i*PKP PKPdf 20 27 10.4 -0.2
DIVS Divcibare 149.33 333 *e*P PKPdf 20 27 10.6 0.0
WTTA Wattenberg 149.35 346⇑*i* PKPdf 20 27 15.8 +5.2
comp=Z,134nm,0.8s
WTTA Wattenberg 149.35 346⇑*i*PKPdf PKPdf 20 27 10.8 +0.2
comp=Z,19nm,1.5s,SNR=48
WTTA ⇑*i*PKiKP PKiKP 20 27 15.8 -0.7
comp=Z,134nm,0.8s
THEF They Montfort 149.37 354 PKP PKPbc 20 27 15.7 0.0
MMB Musomiste 149.38 326 *i* P PKPbc 20 27 15.5 -0.3
MOTA Moosalm 149.39 347⇑*i* PKPdf 20 27 15.5 +4.8
comp=Z,79nm,1.1s
MOTA Moosalm 149.39 347⇑*i*PKPdf PKPdf 20 27 10.2 -0.5
comp=Z,12nm,1.1s,SNR=43
MOTA ⇑*i*PKPbc PKPbc 20 27 15.5 -0.3
comp=Z,79nm,1.1s
GRR Gorron 149.42 3 *e*PKIKP PKPdf 20 27 10.7 0.0
PRK Paraskevi 149.43 320 *e*P PKPdf 20 27 15.4 +4.6
FELD Feldberg 149.46 351⇑*e*P PKPbc 20 27 15.6 -0.3
SQTA Sankt Quirin 149.49 346⇑*i* PKPdf 20 27 16.0 +5.1
comp=Z,70nm,1.0s
SQTA Sankt Quirin 149.49 346⇓*i*PKPdf PKPdf 20 27 10.5 -0.3
comp=Z,13nm,1.2s,SNR=30
SQTA ⇑*i*PKiKP PKiKP 20 27 16.0 -0.8
comp=Z,70nm,1.0s
KKB Krupnik 149.53 327 *i* P PKPdf 20 27 16.5 +5.6
HAU Haudompre 149.55 353 *e*PKIKP PKPdf 20 27 10.0 -0.9
SISC Sisak 149.60 339 *i* PKP PKPdf 20 27 16.1 +5.1
MOF Molkenrain 149.60 352 PKP PKPbc 20 27 15.7 -0.6
HINF Hinteralfeld 149.67 352 *e*PKIKP PKPdf 20 27 10.4 -0.7
LJU Ljubljana 149.69 341 *e*PKPdf PKPdf 20 27 10.3 -0.8
LJU *i* PKPbc PKPbc 20 27 16.2 -0.3
LJU *ep*PKPdf pPKPdf 20 29 24.0 +6.2
LJU *ep*PKPbc pPKPbc 20 29 33.5 +12
DAVA Damuels 149.70 348⇑*i* PKPdf 20 27 16.6 +5.4
comp=Z,124nm,1.1s
DAVA Damuels 149.70 348⇓*i*PKPdf PKPdf 20 27 11.5 +0.3
comp=Z,8.2nm,0.9s,SNR=18
DAVA ⇑*i*PKiKP PKiKP 20 27 16.6 -0.7
comp=Z,124nm,1.1s
LOS Limnos 149.72 322 *e*P PKPdf 20 27 15.7 +4.5
SRS Serrai 149.78 325 *e*P PKPdf 20 27 15.0 +3.7
VOY Vojsko 149.90 342 *e*PKPdf PKPdf 20 27 11.0 -0.5
VOY *i* PKPbc PKPbc 20 27 16.3 -0.7
VOY *e* 20 27 32.6
BOJS Bojanci 149.95 340 *e*PKPbc PKPbc 20 27 17.2 +0.1
CEY Cerknica 150.00 341 *e*PKPdf PKPdf 20 27 10.7 -0.9
CEY *i* PKPbc PKPbc 20 27 16.9 -0.3
CEY *e*PKPab PKPab 20 27 24.6 -0.8
CEY *e* 20 29 41.3
OUR Ouranopolis 150.10 323 *e*P PKPdf 20 27 16.6 +4.8
SOH Sokhos 150.12 325 *e*P PKPdf 20 27 16.1 +4.3
STIP Stip 150.12 327 *e*PKP PKPdf 20 27 16.1 +4.2
KNT Kendrikon 150.13 326 *e*P PKPdf 20 27 16.1 +4.2
LOMF Lomont 150.13 352 PKP PKPbc 20 27 17.4 -0.1
VAY Valandovo 150.19 326 *e*P PKPdf 20 27 16.1 +4.2
VAY Valandovo 150.19 326 *e*PKP PKPdf 20 27 16.3 +4.4
PLE Pljevlja 150.20 333⇑*i*PKP PKPbc 20 27 17.7 0.0
SKO Skopje 150.29 329 *e*PKP PKPdf 20 27 17.5 +5.4
IVA Berane 150.34 331⇑*i*PKP PKPbc 20 27 17.9 -0.1
THE Thessaloniki 150.46 325 *e*P PKPdf 20 27 16.9 +4.6
LOR Lormes 150.50 356 *e*PKIKP PKPdf 20 27 12.1 -0.3
comp=Z,48nm,1.3s
UPM Unac-Piva 150.51 333⇑*i*PKP PKPbc 20 27 17.8 -0.6
PVY Plav 150.52 331⇑*i*PKP PKPbc 20 27 18.0 -0.4
GRG Griva 150.54 326 *e*P PKPdf 20 27 17.3 +4.9
PAIG Paliouri 150.54 323 *e*P PKPdf 20 27 17.3 +4.8
SSF Saint Saulge 150.73 357 *e*PKIKP PKPdf 20 27 12.4 -0.4
comp=Z,60nm,1.3s
NKY Niksic 150.79 332⇑*i*PKP PKPbc 20 27 18.7 -0.3
BRY Bratogost 150.92 333⇑*i*PKP PKPbc 20 27 18.8 -0.6
AOS Alonnisos 150.93 322 *e*P PKPdf 20 27 18.4 +5.3
CABF La Chapelle 150.95 353 *e*PKIKP PKPdf 20 27 13.3 +0.2
TTG Podgorica 150.98 332⇑*i*PKP PKPbc 20 27 19.0 -0.5
AVF Avril sur Loir 151.00 357 *e*PKIKP PKPdf 20 27 12.7 -0.5
LIT Litokhoron 151.09 325 *e*P PKPdf 20 27 18.7 +5.4
SMF Signal de Mont 151.12 356 *e*PKIKP PKPdf 20 27 12.8 -0.6
OG01 Vacheresse 151.16 352 PKP PKPbc 20 27 20.1 +0.2
APE Apeiranthos 151.19 317⇑*i*P PKPbc 20 27 18.5 -1.5
APE Apeiranthos 151.19 317⇑*i*PKIKP PKPbc 20 27 18.6 -1.4
XOR Xorichti 151.20 323 *e*P PKPdf 20 27 19.0 +5.5
FNA Florina 151.20 327 *e*P PKPdf 20 27 13.2 -0.3
NEO Neokhori 151.22 323 *e*P PKPdf 20 27 18.9 +5.4
MFF Saint Martin d 151.23 2 *e*PKIKP PKPdf 20 27 13.0 -0.5
comp=Z,30nm,1.0s
BUM Brajici-Budva 151.24 332⇑*i*PKP PKPbc 20 27 19.4 -0.7
OHR Ohrid 151.25 328 *e*P PKPdf 20 27 19.3 +5.7
OHR Ohrid 151.25 328 *e*PKP PKPdf 20 27 19.2 +5.6
BGF Bois d'Agland 151.26 358 *e*PKIKP PKPdf 20 27 13.5 -0.1
HCY Herceg Novi 151.30 333⇑*i*PKP PKPbc 20 27 19.3 -0.9
ULC Ulcinj 151.35 331⇑*i*PKP PKPbc 20 27 19.6 -0.7
TIR Tirane 151.54 330 *e*P PKPdf 20 27 20.6 +6.7
TCF Toulx Ste Croi 151.55 358 *e*PKIKP PKPdf 20 27 13.6 -0.4
comp=Z,27nm,1.2s
AGO Saint Agoulin 151.75 357 PKP PKPbc 20 27 20.8 -0.4
LKR Lokris 151.78 322 *e*P PKPdf 20 27 20.2 +5.9
RSL Roselend 151.79 352 PKP PKPbc 20 27 21.4 +0.1
PLDF La Plantade 151.81 356 PKP PKPbc 20 27 21.5 +0.2
AGG Agios Georgios 151.92 323 *e*P PKPdf 20 27 20.4 +5.9
LPL La Plagne 151.95 352 *e*PKIKP PKPdf 20 27 14.9 +0.3
LPG La Plagne 151.96 352 *e*PKIKP PKPdf 20 27 15.1 +0.5
comp=Z,17nm,1.1s
PYM Petit Puy Mans 152.06 357 PKP PKPbc 20 27 21.7 -0.2
LAST Lasithi 152.29 313 *e*P PKPdf 20 27 22.5 +7.4
EVR Evrytania 152.29 324 *e*P PKPdf 20 27 22.3 +7.2
BNI Bardonecchia 152.41 352 *e*PKPpre 20 27 16.3
BNI *e*PKPbc PKPbc 20 27 23.1 +0.4
FRNF Fournols 152.44 358 PKP PKPbc 20 27 23.1 +0.4
RJF Les Rejaudoux 152.55 359 *e*PKIKP PKPdf 20 27 15.2 -0.3
comp=Z,20nm,0.9s
ORIF Oris-en-Rattie 152.65 353 *e*PKIKP PKPdf 20 27 15.7 +0.1
comp=Z,16nm,0.9s
IGT Igoumenitsa 152.66 326 *e*P PKPdf 20 27 22.3 +6.6
MBDF Montbardon 152.71 351 *e*PKIKP PKPdf 20 27 15.6 -0.1
comp=Z,38nm,1.4s
KEK Kerkira 152.80 327 *e*P PKPdf 20 27 23.1 +7.3
SIVA Sivas 152.82 314 *e*P PKPdf 20 27 23.4 +7.5
VIVF Saint-Julien-l 152.84 354 *e*PKIKP PKPdf 20 27 16.2 +0.3
comp=Z,43nm,1.4s
LFF La Frestale 152.91 1 *e*PKIKP PKPdf 20 27 15.7 -0.3
CAF Calviac 152.92 359 *e*PKIKP PKPdf 20 27 15.9 -0.1
SAOF Saorge 153.31 350 PKP PKPbc 20 27 24.1 -0.5
AUTN L'Aution 153.32 350 PKP PKPbc 20 27 25.3 +0.6
AQU L'Aquila 153.36 339 *e*PKPbc PKPbc 20 27 24.2 -0.6
AQU *e*PKPab PKPab 20 27 40.1 +0.5
SBF Sospel 153.45 350 *e*PKIKP PKPdf 20 27 16.1 -0.7
MVIF Mont Vial 153.47 350 PKP PKPbc 20 27 24.6 -0.4
SMRF Simiane la Rot 153.61 353 *e*PKIKP PKPdf 20 27 17.4 +0.4
comp=Z,17nm,0.9s
LASF Ste Croix 153.68 356 *e*PKIKP PKPdf 20 27 17.3 +0.2
comp=Z,40nm,1.2s
FRF La Foret Royal 153.87 351 *e*PKIKP PKPdf 20 27 16.8 -0.6
LMR La Mourre 154.12 351 *e*PKIKP PKPdf 20 27 17.0 -0.7
comp=Z,26nm,1.1s
PGF Pioggiola 154.41 346 *e*PKIKP PKPdf 20 27 17.6 -0.5
comp=Z,54nm,1.3s
MTLF Montolieu 154.50 358 *e*PKIKP PKPdf 20 27 18.1 -0.1
comp=Z,29nm,1.4s
SJPF Ste Jean 154.66 4 *e*PKIKP PKPdf 20 27 18.5 +0.1
comp=Z,28nm,1.2s
TIP Timpagrande 154.71 331 *e*PKPdf PKPdf 20 27 18.3 -0.2
TIP *e*PKPbc PKPdf 20 27 27.4 +8.9
TIP *e*PKPab PKPab 20 27 45.3 -0.1
EPF Esparros 154.81 1 *e*PKIKP PKPdf 20 27 18.8 +0.2
comp=Z,9.0nm,0.9s
ETSF Etsaut 154.91 3 *e*PKIKP PKPdf 20 27 19.0 +0.2
comp=Z,17nm,0.9s
PBRG Braganca 155.12 14 *e*PKPab PKPab 20 27 46.6 -0.5
PVRL Vila Real 155.37 16 *e*PKPab PKPab 20 27 47.8 -0.4
PVIS Viseu 155.84 17 *e*PKPab PKPab 20 27 50.1 -0.2
MTE Manteigas 156.24 17 *e*PKPab PKPab 20 27 51.6 -0.4
PTOM Tomar 156.71 19 *e*PKPab PKPab 20 27 53.5 -0.5
PCBR Castelo Branco 156.78 17 *e*PKPab PKPab 20 27 53.6 -0.7
EBR Ebro Roquetas 157.02 1 *e*PKPpB PKPab 20 27 54.5 -0.9
PLOU Loures 157.13 21 *e*PKPab PKPab 20 27 55.5 -0.3
MOE Montemor 157.72 20 *e*PKPab PKPab 20 27 58.1 -0.3
ESDC Sonseca Array 157.73 10 PKP PKPdf 20 27 22.6 +0.2
comp=Z,1.5nm,0.8s,baz=358,slow=4.1,SNR=5.7
ESDC PKPab PKPab 20 27 57.7 -0.7
comp=Z,13nm,0.9s,baz=342,slow=4.3,SNR=13
ESDC PP PP 20 31 39.7 -0.3
comp=Z,2.2nm,0.8s,baz=345,slow=6.5,SNR=5.6
PBEJ Beja 158.33 20 *e*PKPab PKPab 20 28 00.4 -0.7
CMAH Djebel Manchou 160.42 345 P PKPab 20 28 09.0 -1.2
CKFL Kef-Lekhel 160.80 346 P PKPab 20 28 11.0 -0.8
DFRA Djebel Bou Aff 160.84 348 P PKPab 20 28 12.0 0.0
SET Setif 161.26 349 P PKPab 20 28 14.0 +0.1
CKHR Kef el Ahmar 161.42 349 P PKPab 20 28 14.0 -0.6
LIC Lamto 167.04 152 *e*PKP2 PKPab 20 28 39.7 +0.3
comp=Z,15nm,0.9s
DBIC Dimbokro 167.51 151 PKP PKPdf 20 27 31.8 0.0
comp=Z,2.7nm,0.8s,baz=14,slow=8.2,SNR=5.0
DBIC PKPab PKPab 20 28 41.2 -0.2
comp=Z,3.7nm,0.7s,baz=169,slow=5.9,SNR=6.8
TORD Torodi Ar. Bea 175.37 187 PKP PKPdf 20 27 35.7 +0.1
comp=Z,2.5nm,0.8s,baz=295,slow=0.9,SNR=13
TORD PKPab PKPab 20 29 16.4 +0.1
comp=Z,8.6nm,0.7s,baz=188,slow=3.4,SNR=30
TORD pPKPab pPKPab 20 31 15.7 0.0
comp=Z,2.3nm,1.1s,baz=163,slow=4.4,SNR=2.9
TORD PP PP 20 33 07.7 -1.7
comp=Z,5.1nm,0.9s,baz=169,slow=4.4,SNR=8.7

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*ISCJB **27** 20:17:28.6±1.5, 209N±03×956E±02, h10km, mb3.5/3, MS3.5/1, Error ellipse: s-maj=44.8km s-min=18.5km az=70.9*
*IDC **27** 20:17:29.6±4.5, 2108N×9585E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=379.9km s-min=27.5km az=59.0*
ISC 27 20:17:31.0±1.5, 210N±03×956E±02, h10km, n4, σ9§42/4, mb3.5/3, MS3.5/1, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	**Chiangrai** 26nm,0.8s	**4.07**	**105**	P	**Pg**	**20 18 49.0**	**0.0**
MKAR	**Makanchi Array** 0.4nm,0.5s,mb3.3,baz=145,slow=11,SNR=7.3	**27.95**	**340**	P	**P**	**20 23 21.5**	**0.0**
MKAR	comp=Z,124nm,20.2s,MS3.5,baz=264,slow=41			LR	LR	20 36 37.4	
WRA	**Warramunga Arr** 0.5nm,0.5s,mb3.8,baz=321,slow=7.4,SNR=7.6	**55.58**	**134**	P	**P**	**20 27 06.4**	**-0.3**
ASAR	**Alice Springs** 0.3nm,0.8s,mb3.4,baz=316,slow=7.0,SNR=4.6	**57.96**	**138**	P	**P**	**20 27 23.9**	**+0.3**

IDC 27 21:02:00.2±7.3, 1871S×17684W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.7/3, Error ellipse: s-maj=317.0km s-min=38.8km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=97,slow=7.7,SNR=17	**45.96**	**260**	P	P	21 10 25.3	+0.4
ASAR	**Alice Springs** 0.7nm,0.7s,baz=86,slow=8.2,SNR=10	**46.02**	**255**	P	P	21 10 25.7	+0.4
ILAR	**Eielson Array** 0.3nm,0.9s,baz=224,slow=6.3,SNR=4.5	**86.34**	**12**	P	P	21 14 43.6	-0.5

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*BJI **27** 21:08:44.0, 1620S×17780E, h10km, mB5.1, mb4.7, Ms4.9, Msz4.4*
*IDC **27** 21:08:45.5±1.3, 1632S×17797E, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.5/15, mbtmp4.4/10, MS4.2/22, Ms1 4.2/22, ms1mx4.2/27, Error ellipse: s-maj=51.8km s-min=18.9km az=141.0*
*MOS **27** 21:08:46.3±1.0, 1621S×17775E, h10km, mb5.0/9, Error ellipse: s-maj=20.1km s-min=14.6km az=147.2*
*NEIC **27** 21:08:47.5±0.4, 1621S×17782E, h10km, mb4.8/10, Error ellipse: s-maj=22.4km s-min=9.0km az=151.0*
*ISCJB **27** 21:08:49.5±0.5, 163S±0.1×178E±0.1, h33km, mb4.6/29, MS4.3/19, Error ellipse: s-maj=22.1km s-min=10.2km az=123.1*
ISC 27 21:08:51.6±0.5, 162S±01×17781E±010, h35km, n85, σ1§18/47, mb4.6/29, MS4.3/19, 1D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** comp=Z,1μm,20.6s,baz=69,slow=33	**10.32**	**79**	LR	LR	21 14 24.1	
RAO	**Raoul Island** comp=Z,958nm,19.1s,baz=176,slow=33	**13.55**	**164**	LR	LR	21 16 09.3	
HNR	**Honiara** comp=Z,344nm,18.3s,baz=174,slow=34	**18.67**	**289**	LR	LR	21 19 22.1	
RAR	**Rarotonga** comp=Z,252nm,20.2s,MS3.6,baz=121,slow=33	**21.80**	**107**	LR	LR	21 20 36.1	
URZ	**Urewera** comp=Z,491nm,22.0s,MS3.9,baz=94,slow=33	**21.96**	**181**	LR	LR	21 20 38.9	
RPZ	**Rata Peaks** comp=Z,499nm,18.2s,MS4.1,baz=176,slow=33	**28.00**	**190**	LR	LR	21 24 09.7	
CTA	**Charters Tower** 9.9nm,1.0s,mb4.5,baz=80,slow=12,SNR=3.3	**30.21**	**258**	P	**P**	**21 15 00.1**	**+1.4**
CTA	comp=Z,393nm,19.9s,MS4.0,baz=77,slow=32			LR	LR	21 24 47.2	
PMG	**Port Moresby** comp=Z,201nm,21.2s,MS3.7,baz=304,slow=32	**30.62**	**279**	LR	LR	21 25 01.6	
PPT	**Papeete** 2μm,26.2s	**31.21**	**97**	*e*LQ		21 21 54.9	
PPT	876nm,29.2s			*e*LR	LR	21 23 15.1	
PPT	**Papeete** comp=Z,359nm,19.2s,MS4.0,baz=241,slow=30	**31.21**	**97**	LR	LR	21 24 07.1	
TBI	**Tubuai** 1μm,26.2s	**31.55**	**108**	*e*LQ		21 22 04.2	
TBI	920nm,30.8s,baz=275			*e*LR	LR	21 23 29.7	
STKA	**Stephens Creek** 8.6nm,0.9s,mb4.7	**36.36**	**238**	*e*P	**P**	**21 15 51.5**	**-0.7**
STKA	**Stephens Creek** 11nm,0.9s,mb4.8,baz=64,slow=8.3,SNR=13	**36.36**	**238**	P	**P**	**21 15 51.6**	**-0.6**
STKA	comp=Z,649nm,21.0s,MS4.4,baz=42,slow=33			LR	LR	21 28 43.7	
STKA	**Stephens Creek**	**36.36**	**238**	*e*P	**P**	**21 15 51.2**	**-1.0**
WRAB	**Tennant Creek**	**41.40**	**258**	P	**P**	**21 16 32.1**	**-2.3**
WRA	**Warramunga Arr** 4.9nm,1.0s,mb4.1,baz=89,slow=8.0,SNR=14	**41.41**	**258**	P	**P**	**21 16 33.9**	**-0.6**
ASAR	**Alice Springs** 11nm,0.9s,mb4.5,baz=83,slow=8.7,SNR=57	**41.80**	**253**	P	**P**	**21 16 38.2**	**+0.5**
RKT	**Rikitea** 611nm,29.2s,baz=289	**44.84**	**107**	*e*LR	LR	21 29 36.0	
FITZ	**Fitzroy Crossi** 6.0nm,0.9s,mb4.6,baz=94,slow=16,SNR=2.4	**49.75**	**260**	P	**P**	**21 17 42.7**	**+2.3**
VNDA	**Vanda** comp=Z,255nm,19.1s,MS4.4,baz=133,slow=32	**61.84**	**184**	LR	LR	21 41 31.3	
SBA	**Scott Base** 25nm,1.4s,mb5.2	**61.90**	**183**	*e*P	**P**	**21 19 06.9**	**-0.6**
SBA	**Scott Base** comp=Z,25nm,1.4s,mb5.2	**61.90**	**183**	*e*P	**P**	**21 19 06.9**	**-0.6**
SBA				pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,6.2nm,1.0s,mb4.6,baz=155,slow=6.4,SNR=11	**64.44**	**325**	P	**P**	**21 19 24.2**	**-0.1**
MJAR	comp=Z,142nm,21.5s,MS4.1,baz=110,slow=32			LR	LR	21 42 45.6	
QSPA	**South Pole Qui** comp=Z,17nm,1.1s,mb4.9	**73.82**	**180**	*e*P	**P**	**21 20 27.6**	**+5.1**
NJ2	**Nanjing**	**74.09**	**311**	*e*P	**P**	**21 20 18.0**	**-6.1**
NJ2	comp=Z,10.0nm,0.5s,mb5.0			AMB	AMB		
CN2	**Changchun**	**76.51**	**324**	*e*P	**P**	**21 20 38.5**	**+0.6**
YBH	**Yreka Blue Hor** comp=Z,159nm,19.7s,MS4.4,baz=175,slow=30	**79.57**	**41**	LR	LR	21 49 00.2	
MTUM	**Tungsten Hills**	**80.08**	**46**	*e*P	**P**	**21 20 57.7**	**0.0**
MTUM				*e*		21 21 05.0	
PSI	**Prapat** comp=Z,3.2nm,0.7s,mb4.3,baz=22,slow=22,SNR=4.8	**80.13**	**276**	P	**P**	**21 20 58.3**	**+0.3**
ENH	**Enshi** comp=Z,19nm,1.5s,mb4.8	**80.34**	**305**	P	**P**	**21 20 55.9**	**-3.2**
MNV	**Mina** comp=Z,15nm,1.2s,mb4.8	**80.88**	**46**	P	**P**	**21 21 02.4**	**+0.4**
MNV				*e*		21 21 08.5	
MNV	**Mina**	**80.88**	**46**	P	**P**	**21 21 02.4**	**+0.4**
MNV				*e*		21 21 08.5	
MNV	comp=Z,15nm,1.2s,mb4.8			pmax	pmax		
TPNV	**Topopah Spring** comp=Z,9.6nm,1.3s,mb4.6	**81.51**	**48**	*e*P	**P**	**21 21 05.8**	**+0.4**
TPNV				*e*		21 21 11.8	
TPNV	**Topopah Spring**	**81.51**	**48**	*e*P	**P**	**21 21 05.8**	**+0.5**
TPNV				*e*		21 21 11.8	
TPNV	comp=Z,10.0nm,1.3s,mb4.6			pmax	pmax		
TTA	**Tatalina** comp=Z,34nm,1.8s,mb5.0	**81.51**	**12**	*e*P	**P**	**21 21 00.1**	**-5.2**
TTA	**Tatalina** comp=Z,33nm,1.8s,mb5.0	**81.51**	**12**	*e*P	**P**	**21 21 00.2**	**-5.1**
TTA				pmax	pmax		
TUC				*e*		21 21 23.2	
TUC	**Tucson** comp=Z,4.2nm,1.1s,mb4.5	**83.58**	**54**	P	**P**	**21 21 16.9**	**+0.7**
TUC	**Tucson**	**83.58**	**54**	P	**P**	**21 21 16.9**	**+0.8**
TUC				*e*		21 21 23.2	
TUC	comp=Z,4.0nm,1.1s,mb4.5			pmax	pmax		
KMI	**Kunming**	**83.85**	**298**	P	**P**	**21 21 14.5**	**-3.0**
KMI				AP	pP	21 21 18.5	-10
KMI				XP	sP	21 21 20.5	-12
KMI				PP	PP	21 24 26.0	-5.0
KMI				S	S	21 31 34.8	-3.6
KMI	comp=Z,4.0nm,0.7s,mb4.7			AMB	AMB		
KMI	comp=Z,64nm,4.6s			AMB	AMB		
KMI	comp=N,115nm,14.3s			LR	LR		
KMI	comp=E,121nm,21.4s			LR	LR		
KMI	comp=Z,155nm,20.2s			LR	LR		
ARUT	**Antelope Range**	**83.89**	**48**	*e*P	**P**	**21 21 18.3**	**+0.6**
ELK	**Elko** comp=Z,1.9nm,0.9s,mb4.2	**83.96**	**45**	*e*P	**P**	**21 21 17.9**	**-0.1**
ELK				*e*		21 21 24.6	
ELK	**Elko**	**83.96**	**45**	*e*P	**P**	**21 21 18.0**	**0.0**
ELK				*e*		21 21 24.6	
ELK	comp=Z,2.0nm,0.9s			pmax	pmax		
MAW	**Mawson** comp=Z,182nm,18.5s,MS4.5,baz=235,slow=33	**84.19**	**200**	LR	LR	21 55 14.6	
BILL	**Bilibino** comp=Z,2.0nm,1.5s,mb4.0	**84.44**	**356**	*e*P	**P**	**21 21 20.2**	**-0.3**
BILL				pmax	pmax		
COLA	**College** comp=Z,4.8nm,0.8s,mb4.7	**84.97**	**14**	P	**P**	**21 21 21.0**	**-2.2**
COLA	**College** comp=Z,5.0nm,0.8s,mb4.7	**84.97**	**14**	P	**P**	**21 21 21.0**	**-2.2**
COLA				pmax	pmax		
MSU	**Marysvale**	**85.10**	**48**	*e*P	**P**	**21 21 25.2**	**+1.4**
MSU				*e*		21 21 31.1	
ILAR	**Eielson Array** comp=Z,4.1nm,1.0s,mb4.5,baz=234,slow=5.8,SNR=26	**85.11**	**14**	P	**P**	**21 21 22.4**	**-1.4**
ILAR				LR	LR	21 52 07.4	
CD2	**Chengdu** comp=Z,10.0nm,0.8s,mb5.0	**85.13**	**304**	*e*P	**P**	**21 21 19.0**	**-4.9**
CD2				AMB	AMB		
LZH	**Lanzhou** comp=Z,26nm,1.3s,mb5.3	**87.01**	**309**	*e*P	**P**	**21 21 35.5**	**+2.2**
LZH				AMB	AMB		
ANMO	**Albuquerque** comp=Z,194nm,18.6s,MS4.5,baz=69,slow=30	**87.92**	**53**	LR	LR	21 53 19.5	
CHMT	**Chamberlain Mo**	**88.02**	**40**	*e*P	**P**	**21 21 36.9**	**-1.2**
QLMT	**Earthquake Lak**	**88.27**	**42**	P	**P**	**21 21 39.7**	**+0.4**
QLMT				*e*		21 21 46.8	
PDAR	**Pinedale Array** comp=Z,0.7nm,0.9s,mb4.0,baz=256,slow=4.4,SNR=4.6	**88.66**	**45**	P	**P**	**21 21 41.1**	**0.0**
PDAR				LR	LR	21 56 58.8	
ULN	**Ulaanbaatar** comp=Z,4.3nm,1.1s,mb4.7	**89.55**	**321**	*e*P	**P**	**21 21 45.9**	**+0.6**
ULN	**Ulaanbaatar**	**89.55**	**321**	*e*P	**P**	**21 21 45.9**	**+0.6**
ULN	comp=Z,4.0nm,1.1s,mb4.7			pmax	pmax		
SONM	**Songino Array** comp=Z,1.2nm,1.0s,mb4.2,baz=114,slow=3.6,SNR=7.5	**89.94**	**320**	P	**P**	**21 21 47.9**	**+0.8**
SONM				LR	LR	21 55 30.4	
SYO	**Syowa Base** comp=Z,122nm,21.1s,MS4.3,baz=107,slow=31	**89.95**	**194**‖	*e*PP	PP	21 25 26.3	+6.1
BOD	**Bodaibo**	**90.44**	**331**	*e*P	**P**	**21 21 48.3**	**-1.1**
BOD	comp=Z,3.0nm,1.1s,mb4.5			pmax	pmax		
GTA	**Gaotai**	**91.19**	**311**	*e*P	**P**	**21 21 54.5**	**+1.6**
GTA				AP	pP	21 22 01.5	-2.6
GTA				XP	sP	21 22 05.5	-2.6
GTA	comp=Z,2.0nm,1.4s,mb4.2			AMB	AMB		
TIXI	**Tiksi** comp=Z,2.0nm,1.2s,mb4.4	**93.64**	**346**	*e*P	**P**	**21 21 56.6**	**-7.6**
TIXI				pmax	pmax		
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.9s,mb4.1,baz=255,slow=4.6,SNR=5.7	**94.35**	**25**	P	**P**	**21 22 07.1**	**-0.4**
YKA				LR	LR	21 56 04.9	
YKA	**Yellowknife Ar** comp=Z,167nm,21.1s,MS4.5,baz=235,slow=30	**94.35**	**25**	P	**P**	**21 22 07.1**	**-0.4**
YKA				LR	LR	21 56 04.9	
PLCA	**Paso Flores** comp=Z,99nm,20.1s,MS4.3,baz=188,slow=29	**95.09**	**135**	LR	LR	21 54 32.0	
ULM	**Lac du Bonnet** comp=Z,213nm,21.7s,MS4.6,baz=297,slow=32	**99.97**	**41**	LR	LR	22 01 50.0	
ZRNK	**Zerenda**	**114.11**	**321**	*e*PKiKP	PKiKP	21 27 25.9	-1.2
AKTK	**Aktyubinsk**	**121.25**	**320**	PKP	PKPdf	21 27 40.7	0.0
AKTO	**Aktyubinsk** comp=Z,1.9nm,0.9s,baz=107,slow=1.3,SNR=6.2	**121.25**	**320**	PKP	PKPdf	21 27 40.7	0.0
BRTR	**Keskin Array B** comp=Z,0.4nm,0.7s,baz=132,slow=1.8,SNR=4.6	**141.03**	**314**	PKP	PKPdf	21 28 18.9	+0.9
KECS	**Kecovo**	**142.85**	**335**	*e*PKP	PKPdf	21 28 26.5	+5.2
KECS				*e*		22 01 03.0	
VYHS	**Vyhne**	**143.50**	**336**	*e*PKP	PKPdf	21 28 25.0	+2.6
PRU	**Prunonice**	**143.70**	**342**	*e*PKP	PKPdf	21 28 21.8	-1.0
KHC	**Kasperske Hory**	**144.75**	**342**	*e*PKP	PKPdf	21 28 25.2	+0.6
GERES	**GERESS Array B** comp=Z,2.5nm,1.0s,baz=29,slow=3.0,SNR=14	**144.97**	**342**	PKPbc	PKPdf	21 28 24.9	0.0
LJU	**Ljubljana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.25**	**329**	PG	Pg	21 21 36.3	-0.2
PUZ				SG	Sg	21 21 40.7	+0.9
MWZ	**Matawai**	**0.70**	**266**	P*	Pb	21 21 45.6	-0.7
MWZ				S*	Sb	21 21 55.3	-0.9
MXZ	**Matakaoa Point**	**0.73**	**353**	P*	Pb	21 21 45.9	-0.8
MXZ				S*	Sb	21 21 57.6	+0.6
KNZ	**Kokohu**	**0.94**	**219**	*e*P*	Pb	21 21 49.4	-0.8
URZ	**Urewera**	**1.03**	**271**	P*	Pb	21 21 51.0	-0.9
MRZ	**Mangatainoka R**	**3.23**	**222**	PN	Pn	21 22 19.1	-3.7
MRZ				SN	Sn	21 22 57.0	-4.7

IDC 27 21:26:36.5±4.2, 629S×14823E, h0^{km}, mb3.6/1, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, ML2.6/1, Error ellipse: s-maj=148.2km s-min=34.5km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.27**	**199**	Pn	Pn	21 27 29.9	+1.0
	5.0nm,0.3s,baz=57,slow=5.0,SNR=12						
PMG				Sn	Sn	21 28 09.4	+0.9
	4.0nm,0.3s,baz=41,slow=7.3,SNR=4.5						
WRA	**Warramunga Arr**	**19.13**	**224**	P	Pn	21 31 01.2	-0.7
	0.2nm,0.3s,baz=41,slow=10,SNR=17						
ASAR	**Alice Springs**	**22.09**	**217**	P	P	21 31 32.8	-0.4
	1.4nm,0.5s,baz=52,slow=9.0,SNR=20						
TORD	**Torodi Ar. Bea**	**146.34**	**284**	PKPbc	PKPbc	21 46 19.9	+0.8
	0.2nm,0.4s,baz=85,slow=3.2,SNR=8.1						

IDC 27 21:31:01.2±2.3, 165N×9708E, h0^{km}, mb3.4/3, mb1 3.4/4, mb1mx3.3/21, mbtmp3.3/4, Error ellipse: s-maj=56.5km s-min=29.7km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.17**	**58**	Pn	Pn	21 31 38.4	-0.2
	1.0nm,0.3s,baz=162,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**42.38**	**122**	P	P	21 38 57.5	+0.3
	0.3nm,0.8s,baz=303,slow=9.0,SNR=3.3						
SONM	**Songino Array**	**46.71**	**9**	P	P	21 39 31.7	-0.1
	0.4nm,0.5s,baz=187,slow=8.9,SNR=5.2						
MKAR	**Makanchi Array**	**46.78**	**346**	P	P	21 39 32.5	+0.2
	0.5nm,0.7s,baz=157,slow=9.1,SNR=5.5						

*ISCJB **27** 21:43:40.9±0.4, 3931N±003×6804E±005, h33^{km}, mb3.8/16, Error ellipse: s-maj=5.3km s-min=4.6km az=155.4*
*NEIC **27** 21:43:41.2±0.6, 3942N×6816E, h10^{km}, mb4.1/4, Error ellipse: s-maj=8.6km s-min=6.9km az=2.0*
*BJI **27** 21:43:41.1, 3946N×6807E, h18^{km}, mB5.0, mb4.4, ML4.3, Ms4.2, Msz4.1*
*MOS **27** 21:43:43.1±1.1, 3953N×6815E, h33^{km}, mb4.2/6, Error ellipse: s-maj=11.1km s-min=6.6km az=80.4*
*IDC **27** 21:43:44.6±3.4, 3920N×6810E, h39^{km}±28^{km}, mb3.6/9, mb1 3.8/14, mb1mx3.7/26, mbtmp3.9/14, ML4.1/4, Error ellipse: s-maj=29.3km s-min=14.9km az=6.0*
*NNC **27** 21:43:44.3±3.5, 3955N×6814E, h24^{km}±20^{km}, mb4.0, mpv4.0, Error ellipse: s-maj=22.3km s-min=11.3km az=2.0*

ISC 27 21:43:42.5±1.5, 3941N±003×6800E±005, h24^{km}±12^{km}, n79, σ1°43/94, mb3.8/16, 22C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.15**	**26**	⇑Pn	**Pn**	**21 44 45.5**	**+1.2**
	32nm,0.5s,baz=217,slow=13,SNR=862						
KK31				⇑Pg	**Pn**	**21 44 56.8**	**+13**
	20nm,0.4s,baz=196,slow=11,SNR=37						
KK31				Lg		21 45 53.1	
	178nm,0.5s,baz=217,slow=35,SNR=12						
AML	**Almayashu**	**5.11**	**56**	P	**Pn**	**21 44 57.9**	**+0.5**
	SNR=247						
EKS2	**Erkin-Say**	**5.44**	**51**	P	**Pn**	**21 45 02.5**	**+0.5**
	SNR=86						
UCH	**Uchtor**	**5.69**	**58**	P	**Pn**	**21 45 06.0**	**+0.7**
	SNR=72						
AAK	**Ala-Archa**	**5.87**	**55**	P	**Pn**	**21 45 09.1**	**+1.1**
	SNR=100						
FRU	**Bishkek**	**6.05**	**53**	*e*PN	**Pn**	**21 45 11.0**	**+0.6**
FRU				*e*		21 45 31.0	
FRU				*i* S	**Sn**	**21 46 22.0**	**+3.1**
FRU				pmax	pmax		
	comp=Z,100nm,1.2s						
FRU				smax			
	comp=N,440nm,1.4s						
KZA	**Kyzart**	**6.11**	**62**	P	**Pn**	**21 45 11.7**	**+0.4**
	SNR=104						
KSH	**Kashi**	**6.17**	**86**	P	**Pn**	**21 45 11.8**	**-0.2**
KSH				S	**Sn**	**21 46 23.0**	**+1.2**
KSH				Smax			
	comp=N,233nm,0.8s						
KSH				Smax			
	comp=E,199nm,0.8s						
KBK	**Karagaybulak**	**6.17**	**56**	P	**Pn**	**21 45 12.9**	**+0.9**
	SNR=68						
CHMS	**Chumysh**	**6.22**	**53**	P	**Pn**	**21 45 13.6**	**+0.8**
	SNR=42						
USP	**Ospenovka**	**6.22**	**50**	P	**Pn**	**21 45 12.9**	**+0.1**
	SNR=15						
CEP	**Cherat**	**6.40**	**149**	P	**Pn**	**21 45 13.1**	**-2.1**
CEP				S	**Sn**	**21 46 25.0**	**-2.4**
TKM2	**Tokmak 2**	**6.72**	**56**	P	**Pn**	**21 45 20.2**	**+0.6**
	SNR=41						
TKM2	**Tokmak 2**	**6.72**	**56**	⇑Pn	**Pn**	**21 45 19.9**	**+0.4**
	comp=E,1.7nm,0.5s						
TKM2				⇑Sn	**Sn**	**21 46 36.6**	**+1.3**
	comp=E,4.0nm,0.7s						
TKM2				⇑Lg		21 47 09.1	
	comp=E,7.0nm,0.6s						
ULHL	**Ulahol**	**6.86**	**63**	P	**Pn**	**21 45 22.0**	**+0.5**
	SNR=29						
CHCP	**Chirah Chowk**	**7.13**	**142**	P	**Pn**	**21 45 22.0**	**-3.2**
THW	**Thamme Wali**	**7.26**	**154**	P	**Pn**	**21 45 24.1**	**-2.9**
SBDP	**Sheikh Budin**	**7.45**	**161**	P	**Pn**	**21 45 26.3**	**-3.3**
KNDC	**Almaty**	**7.74**	**58**	⇑Lg		21 47 39.5	
	comp=E,249nm,1.4s						
AAA	**Alma-Ata**	**7.76**	**57**	*e*P	**Pn**	**21 45 34.0**	**+0.2**
DRP	**Derazinda**	**7.85**	**166**	P	**Pn**	**21 45 34.2**	**-1.0**
SARP	**Sargodha**	**8.38**	**152**	P	**Pn**	**21 45 36.5**	**-5.9**
AB31	**Akbulak array**	**11.40**	**332**	⇑Pn	**Pn**	**21 46 24.3**	**+0.5**
	comp=E,4.0nm,0.3s,baz=164,slow=12,SNR=258						
AB31				⇑Sn	**Sn**	**21 48 27.5**	**-3.0**
	comp=E,7.3nm,0.5s,baz=161,slow=22,SNR=3.6						
AB31	**Akbulak array**	**11.40**	**332**	⇑Pn	**Pn**	**21 46 24.3**	**+0.5**
	comp=E,4.0nm,0.3s						
AB31				Sn	**Sn**	**21 48 27.4**	**-3.0**
AB31	**Akbulak array**	**11.40**	**332**	⇑P	**Pn**	**21 46 24.3**	**+0.5**
AB31						21 48 27.5	
AB31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MK31	**Makanchi Array**	**12.77**	**50**	⇑Pn	**Pn**	**21 46 41.4**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=233,slow=14,SNR=14						
MK31				⇑Lg		21 50 22.0	
	comp=Z,19nm,1.1s,baz=252,slow=34,SNR=2.9						
MK31	**Makanchi Array**	**12.77**	**50**	⇑Pn	**Pn**	**21 46 41.4**	**-1.2**
	comp=Z,1.5nm,0.5s						
MK31				Lg		21 50 22.0	
MKAR	**Makanchi Array**	**12.77**	**50**	Pn	**Pn**	**21 46 41.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=228,slow=14,SNR=15						
AKTK	**Aktyubinsk**	**13.09**	**331**	⇓Pn	**Pn**	**21 46 47.9**	**+1.1**
AKTK				Sn	**Sn**	**21 49 08.7**	**-2.8**
AKTO	**Aktyubinsk**	**13.09**	**331**	⇓Pn	**Pn**	**21 46 47.9**	**+1.1**
	comp=Z,0.2nm,0.8s						
AKTO				⇓Sn	**Sn**	**21 49 08.7**	**-2.8**
	comp=Z,0.2nm,0.7s						
AKTO	**Aktyubinsk**	**13.09**	**331**	Pn	**Pn**	**21 46 48.4**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=144,slow=14,SNR=38						
AKTO	**Aktyubinsk**	**13.09**	**331**	P	**Pn**	**21 46 48.4**	**+1.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	**Vostochnaya**	**13.48**	**8**	⇑Pn	**Pn**	**21 46 51.4**	**-0.7**
	comp=Z,1.4nm,0.5s						
VOSK				⇓Lg		21 50 45.5	
	comp=Z,55nm,1.9s						
VOSK	**Vostochnaya**	**13.48**	**8**	⇑Pn	**Pn**	**21 46 51.4**	**-0.7**
	comp=Z,1.4nm,0.4s						
VOSK				Lg		21 50 45.5	
KURK	**Kurchatov**	**13.55**	**30**	⇑Pn	**Pn**	**21 46 56.8**	**+3.6**
	comp=Z,3.8nm,1.3s						
KURK				⇓Lg		21 50 42.9	
	comp=Z,56nm,1.5s						
KURK	**Kurchatov**	**13.55**	**30**	Pn	**Pn**	**21 46 49.9**	**-3.2**
	comp=Z,3.5nm,0.8s						
KURK				⇑Pn	**Pn**	**21 46 56.8**	**+3.6**
KURK				Sn	**Sn**	**21 49 21.1**	**-1.8**
KURK				Lg		21 50 42.9	
KURK	**Kurchatov**	**13.55**	**30**	P	**Pn**	**21 46 49.9**	**-3.3**
KURK						21 49 21.1	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZRNK	**Zerenda**	**13.56**	**3**	⇑Pn	**Pn**	**21 46 52.8**	**-0.5**
	comp=Z,3.0nm,0.4s						
ZRNK				⇑Sn	**Sn**	**21 49 21.5**	**-1.7**
	comp=Z,5.6nm,0.6s						
ZRNK	**Zerenda**	**13.56**	**3**	*e*Pn	**Pn**	**21 46 52.4**	**-1.0**
	comp=Z,7.2nm,0.5s						
ZRNK				*e*Sn	**Sn**	**21 49 21.3**	**-1.9**
ZRNK	**Zerenda**	**13.56**	**3**	*e*P	**Pn**	**21 46 52.4**	**-0.9**
ZRNK				*e*		21 49 21.3	
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BVA0	**Borovoye Array**	**13.72**	**6**	⇑Pn	**Pn**	**21 46 54.9**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=198,slow=21,SNR=33						
BVA0	**Borovoye Array**	**13.72**	**6**	⇑P	**Pn**	**21 46 54.9**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**13.72**	**6**	Pn	**Pn**	**21 46 54.5**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=171,slow=13,SNR=21						
BRVK	**Borovoye**	**13.74**	**6**	*e*Pn	**Pn**	**21 46 55.0**	**-0.8**
	comp=Z,5.8nm,0.6s						
BRVK				*e*Sn	**Sn**	**21 49 24.8**	**-2.8**
BRVK	**Borovoye**	**13.74**	**6**	*e*P	**Pn**	**21 46 55.0**	**-0.8**
BRVK				*e*		21 49 24.8	
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CHKZ	**Chkalovo**	**14.38**	**6**	⇓Pn	**Pn**	**21 47 03.9**	**-0.6**
	comp=Z,3.0nm,0.9s						
CHKZ				⇑Sn	**Sn**	**21 49 41.2**	**-2.0**
	comp=Z,3.8nm,0.7s						
CHKZ	**Chkalovo**	**14.38**	**6**	⇓Pn	**Pn**	**21 47 03.9**	**-0.6**
CHKZ				Sn	**Sn**	**21 49 41.2**	**-2.0**
KOLN	**Koldanda**	**17.39**	**127**	*e*P	**Pn**	**21 47 35.3**	**-8.2**
	comp=Z,18nm,0.7s						
GKN	**Gorkha**	**17.88**	**124**	*e*P	**Pn**	**21 47 42.0**	**-7.5**
	comp=Z,22nm,0.5s						
GNI	**Garni**	**17.89**	**280**	P	**Pn**	**21 47 52.4**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=21,slow=22,SNR=2.0						
KKN	**Kakani**	**18.44**	**124**	*e*P	**Pn**	**21 47 48.6**	**-7.8**
	comp=Z,22nm,0.6s						
DMN	**Daman**	**18.45**	**124**	*e*P	**Pn**	**21 47 48.7**	**-7.8**
	comp=Z,15nm,0.5s						
ZAL	**Zalesovo**	**18.48**	**33**	P	**Pn**	**21 48 00.1**	**+3.3**
	comp=Z,1.8nm,0.3s,baz=248,slow=4.1,SNR=11						
NVS	**Novosibirsk**	**18.53**	**29**	*e*P	**Pn**	**21 47 57.2**	**-0.2**
NVS				pmax	pmax		
	comp=N,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
PKI	**Pulchoki**	**18.67**	**124**	*e*P	**Pn**	**21 47 51.6**	**-7.6**
	comp=E,16nm,0.6s						
GUN	**Gumba**	**18.75**	**122**	*e*P	**Pn**	**21 47 53.6**	**-6.5**
	comp=E,35nm,1.0s						
JIRN	**Jiri**	**19.12**	**122**	*e*P	**Pn**	**21 47 57.6**	**-7.0**
	comp=E,23nm,0.4s						
KIV	**Kislovodsk**	**19.42**	**292**	*e*P	**Pn**	**21 48 09.2**	**+1.1**
	comp=E,10nm,0.6s						
KIV	**Kislovodsk**	**19.42**	**292**	*e*P	**Pn**	**21 48 11.1**	**+2.9**
KIV				*e*		21 51 39.0	
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**21.33**	**110**	P	**P**	**21 48 27.0**	**-0.7**
LSA	**Lhasa**	**21.33**	**110**	*e*P	**P**	**21 48 27.3**	**-0.4**
	comp=Z,7.5nm,0.8s,mb4.1						
LSA	**Lhasa**	**21.33**	**110**	*e*P	**P**	**21 48 27.3**	**-0.4**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
GTA	**Gaotai**	**24.52**	**80**	*e*P	**P**	**21 49 02.0**	**+2.1**
GTA				AP		21 49 10.8	
GTA				XP	sP	21 49 14.8	+4.8
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.7						
OBN	**Obninsk**	**26.20**	**317**	*e*P	**P**	**21 49 06.4**	**-8.8**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
BRTR	**Keskin Array B**	**26.40**	**282**	P	**P**	**21 49 19.4**	**+2.4**
	comp=Z,1.7nm,0.7s,mb3.7,baz=90,slow=10,SNR=13						
ZAK	**Zakamensk**	**27.05**	**54**	*e*P	**P**	**21 49 28.3**	**+5.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.9s,mb3.8						
SONM	**Songino Array**	**28.79**	**60**	P	**P**	**21 49 40.0**	**+1.5**
	comp=Z,0.1nm,0.3s,mb3.0,baz=299,slow=13,SNR=2.4						
FINES	**FINESS Array B**	**33.75**	**325**	P	**P**	**21 50 24.1**	**+2.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=112,slow=13,SNR=8.0						
BOD	**Bodaibo**	**34.70**	**43**	*e*P	**P**	**21 50 33.3**	**+3.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
ARCES	**ARCESS Array B**	**37.55**	**337**	P	**P**	**21 50 56.4**	**+1.6**
	comp=Z,2.0nm,0.9s,mb3.9,baz=114,slow=9.0,SNR=4.7						
NB2	**NORSAR Subarra**	**40.64**	**321**	P	**P**	**21 51 21.4**	**+0.9**
	comp=Z,2.4nm,0.8s,mb3.9,baz=96,slow=8.6						
NB2	**NORSAR Subarra**	**40.64**	**321**	P	**P**	**21 51 21.4**	**+0.9**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
NOA	**NORSAR Array B**	**40.64**	**321**	P	**P**	**21 51 21.4**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.4,baz=98,slow=8.4,SNR=2.7						
NJ2	**Nanjing**	**41.47**	**84**	*e*P	**P**	**21 51 26.8**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
TIXI	**Tiksi**	**44.01**	**23**	*e*P	**P**	**21 51 51.7**	**+3.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
TORD	**Torodi Ar. Bea**	**63.50**	**265**	P	**P**	**21 54 11.1**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.2,baz=53,slow=6.0,SNR=30						
YKA	**Yellowknife Ar**	**78.42**	**1**	P	**P**	**21 55 42.0**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=354,slow=5.8,SNR=3.7						
WRA	**Warramunga Arr**	**85.52**	**120**	P	**P**	**21 56 17.5**	**-0.9**
	comp=Z,0.6nm,0.6s,mb4.0,baz=324,slow=4.8,SNR=11						
ASAR	**Alice Springs**	**87.84**	**123**	P	**P**	**21 56 29.6**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.7,baz=305,slow=5.3,SNR=4.5						

*IDC **27** 21:48:49.3±0.8, 041N×9797E, h0^{km}, mb4.1/12, mb1 4.1/13, mb1mx4.0/23, mbtmp4.1/13, ML3.7/1, Error ellipse: s-maj=38.6km s-min=14.2km az=54.0*
*NEIC **27** 21:48:50.9±0.5, 041N×9808E, h10^{km}, mb4.3/3, Error ellipse: s-maj=17.3km s-min=8.4km az=55.0*
*ISCJB **27** 21:48:55.3±4.4, 06N±02×983E±03, h54^{km}±34^{km}, mb4.2/19, Error ellipse: s-maj=56.9km s-min=11.3km az=100.6*

ISC 27 21:48:56.9±4.4, 06N±02×983E±03, h49^{km}±34^{km}, n30, σ0°98/30, mb4.2/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.27**	**16**	Pn	**Pn**	**21 49 31.5**	**-0.5**
	16nm,0.3s,baz=95,slow=0.6,SNR=35						
KULM	**Kulim**	**5.22**	**27**	*e*P	**Pn**	**21 50 11.9**	**-0.4**
JIRN	**Jiri**	**29.30**	**338**	*e*P	**P**	**21 54 55.5**	**+0.8**
	8.0nm,0.6s,mb4.6						
PKI	**Pulchoki**	**29.53**	**336**	*e*P	**P**	**21 54 59.1**	**+2.4**
GUN	**Gumba**	**29.65**	**337**	*e*P	**P**	**21 54 57.2**	**-0.5**
	15nm,0.5s,mb5.0						
DMN	**Daman**	**29.69**	**336**	*e*P	**P**	**21 55 00.7**	**+2.6**
LSA	**Lhasa**	**29.73**	**347**	*e*P	**P**	**21 54 59.2**	**+0.8**
KKN	**Kakani**	**29.78**	**336**	*e*P	**P**	**21 54 59.9**	**+1.0**
	5.6nm,0.5s,mb4.6						
GKN	**Gorkha**	**30.23**	**335**	*e*P	**P**	**21 55 02.3**	**-0.6**
	14nm,0.8s,mb4.7						
KOLN	**Koldanda**	**30.47**	**334**	*e*P	**P**	**21 55 05.8**	**+0.8**
	7.1nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**40.79**	**122**	P	**P**	**21 56 34.7**	**+1.3**
	0.6nm,0.3s,mb3.7,baz=305,slow=8.9,SNR=8.9						
WRA				PcP	PcP	21 58 36.0	+2.2
	0.8nm,0.5s,baz=316,slow=2.6,SNR=7.9						
WRAB	**Tennant Creek**	**40.80**	**122**	P	**P**	**21 56 33.3**	**-0.2**
	3.7nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**42.16**	**127**	P	**P**	**21 56 45.8**	**+1.2**
	0.9nm,0.7s,mb3.5,baz=298,slow=7.7,SNR=8.8						
ASAR				PcP	PcP	21 58 40.8	+2.5
	0.7nm,0.5s,baz=319,slow=2.8,SNR=5.7						
SONM	**Songino Array**	**47.57**	**7**	P	**P**	**21 57 28.4**	**+0.8**
	1.3nm,0.5s,mb4.3,baz=190,slow=9.2,SNR=16						
SONM				PcP	PcP	21 58 57.7	+0.9
	0.7nm,0.5s,baz=193,slow=3.9,SNR=6.9						
MKAR	**Makanchi Array**	**48.09**	**345**	P	**P**	**21 57 31.4**	**-0.2**
	0.9nm,0.5s,mb4.0,baz=153,slow=9.1,SNR=14						
MKAR	**Makanchi Array**	**48.09**	**345**	P	**P**	**21 57 31.4**	**-0.2**
CTA	**Charters Tower**	**51.26**	**116**	P	**P**	**21 57 54.8**	**-0.9**
	4.9nm,0.9s,mb4.4,baz=72,slow=20,SNR=2.0						
STKA	**Stephens Creek**	**52.15**	**132**	P	**P**	**21 58 01.4**	**-1.0**
	3.8nm,0.7s,mb4.4,baz=301,slow=7.6,SNR=10						
STKA	**Stephens Creek**	**52.15**	**132**	*e*P	**P**	**21 58 02.2**	**-0.1**
KURK	**Kurchatov**	**52.65**	**344**	*e*P	**P**	**21 58 06.5**	**+0.4**
ZAL	**Zalesovo**	**54.32**	**350**	P	**P**	**21 58 18.4**	**+0.1**
	1.8nm,0.4s,mb4.3,baz=296,slow=7.5,SNR=6.9						
BVAR	**Borovoye Array**	**57.17**	**340**	P	**P**	**21 58 38.1**	**-0.7**
	1.5nm,0.5s,mb4.3,baz=147,slow=9.6,SNR=9.7						
BRVK	**Borovoye**	**57.24**	**340**	*e*P	**P**	**21 58 37.6**	**-1.6**
ZRNK	**Zerenda**	**57.59**	**339**	*e*P	**P**	**21 58 40.6**	**-1.1**
CHKZ	**Chkalovo**	**57.64**	**341**	*e*P	**P**	**21 58 41.6**	**-0.5**
	1.6nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**70.32**	**312**	P	**P**	**22 00 04.4**	**-0.9**
	0.2nm,0.4s,mb3.4,baz=165,slow=6.0,SNR=2.4						
FINES	**FINESS Array B**	**81.03**	**332**	P	**P**	**22 01 06.2**	**-0.4**
	1.3nm,0.9s,mb3.9,baz=108,slow=6.2,SNR=6.1						
ARCES	**ARCESS Array B**	**83.47**	**340**	P	**P**	**22 01 18.6**	**-0.7**
	3.3nm,0.9s,mb4.3,baz=106,slow=4.0,SNR=5.7						
CLL	**Collm**	**86.58**	**321**	*e*(P)	**P**	**22 01 39.0**	**+4.1**
HFS	**Hagfors**	**86.78**	**330**	P	**P**	**22 01 34.8**	**-1.1**
	0.9nm,0.4s,mb4.3,baz=119,slow=8.6,SNR=8.4						

*AUST **27** 21:57:32.2, 2932S×15076E, h10^{km}, ML3.5*

IDC 27 21:57:40.4±10.0, 2902S×14982E, h0^{km}, mb1 3.7/3, mb1mx3.6/10, mbtmp3.5/3, ML3.6/3, Error ellipse: s-maj=107.5km s-min=56.9km az=100.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**7.65**	**246**	Pn	Pn	21 59 33.5	+0.4
	0.7nm,0.3s,baz=70,slow=13,SNR=8.9						
STKA				Sn	Sn	22 01 03.0	+2.5
	1.0nm,0.3s,baz=345,slow=20,SNR=4.4						
ASAR	**Alice Springs**	**15.23**	**287**	Pn	Pn	22 01 16.9	+0.2
	0.2nm,0.3s,baz=119,slow=13,SNR=8.4						
WRA	**Warramunga Arr**	**16.73**	**299**	Pn	Pn	22 01 35.3	-0.8
	0.2nm,0.3s,baz=124,slow=10,SNR=14						
WRA				Sn	Sn	22 04 44.3	+1.8
	0.1nm,0.3s,baz=131,slow=21,SNR=5.2						

*CSEM **27** 22:37:23.9±0.2, 5150N×16.16E, h1^{km}±1^{km}, ML3.0/8, Error ellipse: s-maj=4.3km s-min=2.1km az=26.0*
*ISCJB **27** 22:37:23.0±0.8, 5143N±004×1608E±004, h0^{km}, Error ellipse: s-maj=5.5km s-min=3.2km az=57.8*
*NEIC **27** 22:37:23.8±1.0, 5152N×1613E, h5^{km}, MG2.5(WAR), Error ellipse: s-maj=14.0km s-min=9.3km az=55.0*
*IPEC **27** 22:37:23.7±0.8, 5152N×1620E, h0^{km}±3^{km}, ML2.1/3, Error ellipse: s-maj=4.2km s-min=3.9km az=50.0*
*WAR **27** 22:37:25.1, 5147N×1611E, ML2.5, Mining Induced*
*VIE **27** 22:37:28.6±0.6, 5120N×1632E, h0^{km}, mb1.9/2, ML2.5/3, Error ellipse: s-maj=3.6km s-min=2.9km az=158.0 49 km WNW of Breslau Suspected Mining induced.*

ISC 27 22:37:23.0±0.6, 5151N±003×1616E±004, h0^{km}, n25, σ0°72/54, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**173**	*e*Pg	**Pg**	**22 37 36.8**	**+1.0**
KSP				*e*Sg	**Sg**	**22 37 45.3**	**+0.8**
KSP	**Ksiaz**	**0.67**	**173**	*e*Pg	**Pg**	**22 37 36.8**	**+1.0**
KSP				*e*Sg	**Sg**	**22 37 44.7**	**+0.2**
KSP	**Ksiaz**	**0.67**	**173**	*e*Pg	**Pg**	**22 37 36.8**	**+1.0**
KSP				*e*Sg	**Sg**	**22 37 45.2**	**+0.7**
UPC	**Upice**	**1.01**	**186**	*e*PG	**Pg**	**22 37 42.7**	**+0.4**
DPC	**Dobruska-Polom**	**1.16**	**175**	*e*PG	**Pg**	**22 37 45.6**	**+0.3**
DPC				*e*SG	**Sg**	**22 38 00.4**	**0.0**
	22nm,0.5s						
DPC	**Dobruska-Polom**	**1.16**	**175**	*e*Pg	**Pg**	**22 37 45.5**	**+0.2**
DPC				*e*Sg	**Sg**	**22 38 00.2**	**-0.2**
BRG	**Berggiesshubel**	**1.54**	**246**	Pn	**Pn**	**22 37 52.3**	**+0.7**
BRG	**Berggiesshubel**	**1.54**	**246**	Pg	**Pg**	**22 37 52.6**	**+0.2**
BRG	**Berggiesshubel**	**1.54**	**246**	Pn	**Pn**	**22 37 52.4**	**+0.8**
BRG				Pg	**Pg**	**22 37 52.6**	**+0.2**
BRG				Sg	**Sg**	**22 38 12.7**	**+0.4**
BRG	**Berggiesshubel**	**1.54**	**246**	PN	**Pn**	**22 37 52.4**	**+0.8**
BRG				PG	**Pg**	**22 37 52.6**	**+0.2**
BRG				SG	**Sg**	**22 38 12.7**	**+0.4**
	16nm,0.6s						
PRU	**Pruhonice**	**1.84**	**215**	*e*PN	**Pn**	**22 37 56.0**	**+0.2**
PRU				*e*PG	**Pg**	**22 37 57.5**	**-0.7**
PRU				*e*SG	**Sg**	**22 38 21.0**	**-1.

PTCA	**Ponta do Capel**	**0.18**	**260**	*e*S	Sg	22 44 58.8	+1.6
PTCA							
	48nm,0.1s						
PTEI	**Pico do Teixo**	**0.20**	**126**	*e*S	Sg	22 44 58.0	+0.2
PBOI	**Pico dos Bois**	**0.23**	**140**	*e*S	Sg	22 44 58.8	0.0
PBOI							
	28nm,0.1s						
ROSA	**Rosais**	**0.27**	**68**	*e*P	Pg	22 44 55.9	-0.5
ROSA				*e*S	Sg	22 44 59.8	-0.2
PAMA	**Santo Amaro**	**0.31**	**78**	*e*P	Pg	22 44 57.4	+0.3
PAMA				*e*S	Sg	22 45 01.7	+0.6
PAMA							
	52nm,0.2s						
PMAN	**Manadas**	**0.37**	**87**	*e*P	Pg	22 44 57.8	-0.5
PMAN				*e*S	Sg	22 45 02.9	-0.3
PMAN							
	109nm,0.2s						
PMAN	**Manadas**	**0.37**	**87**	*e*P	Pg	22 44 57.8	-0.5
PMAN				*e*S	Sg	22 45 02.9	-0.3
PID	**Ribeirinha**	**0.39**	**116**	*e*P	Pg	22 44 57.9	-0.7
PID				*e*S	Sg	22 45 03.3	-0.5

IDC 27 22:47:40.3±10.0, 1559N×14742E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=375.3km s-min=28.2km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.58**	**200**	P	P	22 54 56.7	+0.4
	0.2nm,0.3s,baz=25,slow=10.0,SNR=15						
SONM	**Songino Array**	**46.60**	**323**	P	P	22 56 10.9	+0.9
	0.4nm,0.5s,baz=134,slow=8.3,SNR=6.9						
MKAR	**Makanchi Array**	**61.81**	**315**	P	P	22 58 00.5	-0.4
	0.9nm,0.4s,baz=101,slow=7.2,SNR=29						

IDC 27 22:55:34.9±1.3, 284S×12784E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=120.4km s-min=20.4km az=68.0
ISCJB 27 22:55:38.2±0.8, 29S±01×1277E±03, h33km, mb3.7/4, Error ellipse: s-maj=42.4km s-min=10.8km az=139.4
NEIC 27 22:55:40.2±0.7, 286S×12786E, h35km, mb4.1/1, Error ellipse: s-maj=40.4km s-min=10.4km az=70.0
ISC 27 22:55:40.6±0.8, 29S±01×1277E±03, h35km, n11, σ0§91/11, mb3.7/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.12**	**159**	*e*P	**Pn**	**22 59 49.9**	**+0.6**
	5.3nm,0.4s						
WRA	**Warramunga Arr**	**18.12**	**159**	P	**Pn**	**22 59 49.6**	**+0.2**
	0.6nm,0.3s,baz=340,slow=12,SNR=37						
WB2	**Warramunga Arr**	**18.12**	**159**	*e*P	**Pn**	**22 59 49.6**	**+0.2**
MBWA	**Marble Bar**	**19.68**	**202**	*e*P	**Pn**	**23 00 08.3**	**+0.1**
ASAR	**Alice Springs**	**21.48**	**164**	P	**P**	**23 00 26.6**	**+0.5**
	2.4nm,0.6s,mb3.7,baz=343,slow=12,SNR=32						
STKA	**Stephens Creek**	**31.64**	**157**	P	**P**	**23 01 58.0**	**-2.3**
	2.7nm,1.0s,mb4.0,baz=326,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**31.64**	**157**	P	**P**	**23 01 58.0**	**-2.3**
SONM	**Songino Array**	**53.88**	**342**	P	**P**	**23 05 01.6**	**+1.4**
	0.4nm,0.6s,mb3.5,baz=134,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**63.56**	**327**	P	**P**	**23 06 06.5**	**-1.1**
	0.5nm,0.8s,mb3.6,baz=139,slow=6.6,SNR=4.8						
KURK	**Kurchatov**	**67.85**	**329**	P	**P**	**23 06 34.7**	**-0.5**
ZRNK	**Zerenda**	**74.10**	**328**	*e*P	**P**	**23 07 13.5**	**+0.4**

IDC 27 23:05:44.5±0.9, 870S×12700E, h0km, mb4.0/5, mb1 4.1/8, mb1mx4.0/16, mbtmp4.1/8, ML4.1/3, MS3.4/3, Ms1 3.4/3, ms1mx3.0/21, Error ellipse: s-maj=40.2km s-min=18.4km az=58.0
ISCJB 27 23:05:46.6±0.5, 885S±004×12732E±007, h33km, mb4.0/12, MS3.4/2, Error ellipse: s-maj=10.4km s-min=5.3km az=142.0
BJI 27 23:05:47.1, 9.19S×127.11E, h44km, mB4.7, mb4.6, Ms4.5, Msz4.3
NEIC 27 23:05:48.8±0.5, 873S×12738E, h35km, mb4.2/9, Error ellipse: s-maj=18.1km s-min=7.3km az=62.0
ISC 27 23:05:49.2±0.5, 879S±005×12734E±007, h35km, n28, σ1§17/32, mb4.0/12, MS3.4/2, 1C, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.35**	**128**	*e*P	**Pn**	**23 07 21.8**	**+1.6**
	60nm,0.6s						
KAKA				*e*S	**Sn**	**23 08 31.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**9.41**	**190**	*e*P	**Pn**	**23 08 05.8**	**+3.6**
	16nm,0.4s						
FITZ				*e*S	**Sn**	**23 09 45.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**9.41**	**190**	Pn	**Pn**	**23 08 03.6**	**+1.4**
	1.2nm,0.3s,baz=29,slow=11,SNR=33						
FITZ				Sn	**Sn**	**23 09 46.3**	**-0.4**
	6.4nm,0.3s,baz=264,slow=23,SNR=7.0						
FITZ				LR	LR	23 12 00.6	
	comp=Z,99nm,20.6s,baz=206,slow=40						
WRAB	**Tennant Creek**	**12.99**	**149**	*e*Pn	**Pn**	**23 08 50.7**	**-0.4**
	21nm,0.6s						
WRAB				*e*Sn	**Sn**	**23 11 08.8**	**-5.7**
WRA	**Warramunga Arr**	**12.99**	**149**	Pn	**Pn**	**23 08 50.4**	**-0.8**
	3.1nm,0.3s,baz=327,slow=14,SNR=94						
WRA				Sn	**Sn**	**23 11 07.9**	**-6.6**
	6.8nm,0.3s,baz=330,slow=21,SNR=11						
WB2	**Warramunga Arr**	**13.00**	**149**	⇑*i*P	**Pn**	**23 08 50.4**	**-0.9**
WB2				*e*S	**Sn**	**23 11 06.8**	**-7.8**
MBWA	**Marble Bar**	**14.32**	**210**	*e*Pn	**Pn**	**23 09 10.7**	**+1.3**
MBWA				*e*Sn	**Sn**	**23 11 39.5**	**-7.5**
ASAR	**Alice Springs**	**16.08**	**158**	Pn	**Pn**	**23 09 32.6**	**+0.2**
	0.6nm,0.3s,baz=329,slow=9.6,SNR=14						
ASAR				Sn	**Sn**	**23 12 25.6**	**-3.9**
	1.2nm,0.3s,baz=315,slow=18,SNR=9.5						
PMG	**Port Moresby**	**19.58**	**93**	P	**Pn**	**23 10 18.7**	**+3.2**
	2.5nm,0.3s,baz=288,slow=16,SNR=2.7						
CTA	**Charters Tower**	**21.46**	**124**	*e*P	**P**	**23 10 39.6**	**+5.2**
	7.4nm,0.9s,mb4.0						
CTA	**Charters Tower**	**21.46**	**124**	P	**P**	**23 10 39.1**	**+4.7**
	9.7nm,0.9s,mb4.1,baz=305,slow=14,SNR=6.2						
CTA				LR	LR	23 19 33.5	
	comp=Z,155nm,18.9s,MS3.4,baz=48,slow=38						
CTAO	**Charters Tower**	**21.46**	**124**	*e*P	pP	23 10 41.5	-2.2
	11nm,0.9s						
FORT	**Forrest**	**21.89**	**178**	*e*P	pP	23 10 46.0	-2.4
	12nm,0.6s						
NWAO	**Narrogin (SRO)**	**25.78**	**200**	P	**P**	**23 11 17.3**	**+0.6**
STKA	**Stephens Creek**	**26.52**	**152**	*e*P	**P**	**23 11 24.8**	**+1.4**
	3.5nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**26.52**	**152**	P	**P**	**23 11 24.7**	**+1.4**
	5.3nm,0.8s,mb4.1,baz=306,slow=9.1,SNR=8.1						
JOW	**Kunigami**	**35.41**	**1**	LR	LR	23 26 23.4	
	comp=Z,66nm,19.6s,MS3.4,baz=347,slow=35						
NJ2	**Nanjing**	**41.41**	**349**	*e*P	**P**	**23 13 33.0**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**51.74**	**319**	*e*P	**P**	**23 14 54.8**	**+1.8**
	comp=Z,1.3nm,0.3s,mb4.3						
GTA	**Gaotai**	**54.33**	**334**	*e*P	**P**	**23 15 12.5**	**+0.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**59.35**	**344**	P	**P**	**23 15 47.0**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=164,slow=5.9,SNR=5.8						
MKAR	**Makanchi Array**	**68.31**	**328**	P	**P**	**23 16 46.5**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=130,slow=8.5,SNR=6.3						
ZAL	**Zalesovo**	**72.05**	**335**	P	**P**	**23 17 07.8**	**-1.8**
	comp=Z,0.7nm,0.4s,mb3.9,baz=345,slow=7.2,SNR=4.3						
KURK	**Kurchatov**	**72.70**	**330**	*e*P	**P**	**23 17 12.8**	**-0.6**
	comp=Z,1.2nm,0.3s,mb4.3						
BRVK	**Borovoye**	**78.26**	**329**	*e*P	**P**	**23 17 44.7**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.7						
BRVK				*e*PcP	PcP	23 17 54.2	-0.5
CHKZ	**Chkalovo**	**78.42**	**329**	*e*P	**P**	**23 17 44.8**	**-1.4**
	comp=Z,1.2nm,0.9s,mb3.8						
ZRNK	**Zerenda**	**78.86**	**328**	*e*P	**P**	**23 17 48.0**	**-0.7**
	comp=Z,2.6nm,1.1s,mb4.1						
TORD	**Torodi Ar. Bea**	**126.54**	**280**	PKP	PKPdf	23 24 51.0	+2.5
	comp=Z,0.3nm,0.7s,baz=62,slow=0.9,SNR=4.1						

NEIC 27 23:19:45.7±4.3, 5042N×1825E, h5km, MG2.5(WAR), Error ellipse: s-maj=51.6km s-min=10.1km az=154.0
CSEM 27 23:19:48.2±0.3, 5014N×1837E, h2km, ML2.9/5, Error ellipse: s-maj=7.7km s-min=4.0km az=177.0
IPEC 27 23:19:48.3±0.1, 5006N×1843E, h1km±1km, ML2.1/3, Error ellipse: s-maj=1.9km s-min=0.7km az=161.0
PRU 27 23:19:50.2, 5005N×1831E, h0km
VIE 27 23:19:52.2±0.7, 4975N×1829E, h0km, mb1.5/2, ML2.5/3, Error ellipse: s-maj=5.0km s-min=2.7km az=84.0 10 km SSE of Ostrava Suspected Mining induced.
WAR 27 23:19:48.7, 5006N×1844E, ML2.5, 1C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**279**	⇓*i*Pg	Pg	23 19 52.2	+0.5
RAC				*i*Sg	Sg	23 19 55.3	+1.5
OKC	**Ostrava-Krasne**	**0.29**	**220**	*e*PG	Pg	23 19 54.6	+0.3
OKC				*e*SG	Sg	23 19 59.3	+1.3
	97nm,0.6s						
OKC	**Ostrava-Krasne**	**0.29**	**220**	*e*Pg	Pg	23 19 54.1	-0.2
OKC				*e*Sg	Sg	23 19 57.4	-0.6
MORC	**Moravsky Berou**	**0.64**	**244**	*e*Pg	Pg	23 20 00.8	-0.2
MORC				*e*Sg	Sg	23 20 10.0	+0.6
MORC	**Moravsky Berou**	**0.64**	**244**	*e*Pg	Pg	23 20 00.8	-0.2
MORC				*e*Sg	Sg	23 20 10.0	+0.6
OJC	**Ojcow**	**0.89**	**79**	*e*Pg	Pg	23 20 05.2	-0.6
OJC				*e*Sg	Sg	23 20 18.1	+0.8
JAVC	**Velka Javorina**	**1.30**	**203**	*e*Pg	Pg	23 20 13.9	+0.3
NIE	**Niedzica**	**1.38**	**117**	*e*Pg	Pg	23 20 15.3	+0.2
NIE				*e*Sg	Sg	23 20 35.0	+2.1
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*PG	Pg	23 20 13.9	-1.4
DPC				*e*SG	Sg	23 20 32.7	-0.7
	44nm,0.5s						
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*Pg	Pg	23 20 13.9	-1.4
DPC				*e*Sg	Sg	23 20 32.0	-1.4
VRAC	**Vranov**	**1.41**	**239**	*e*Pg	Pg	23 20 14.4	-1.4
VRAC				*e*Sg	Sg	23 20 32.5	-1.6
	29nm,0.4s						
KSP	**Ksiaz**	**1.58**	**301**	*e*Pg	Pg	23 20 16.4	-2.6
KSP				*e*Sg	Sg	23 20 37.7	-1.8
VYHS	**Vyhne**	**1.59**	**170**	*e*PN	Pn	23 20 17.9	-0.2
VYHS				*e*SN	Sn	23 20 39.3	0.0
VYHS	**Vyhne**	**1.59**	**170**	*e*Pn	Pn	23 20 17.9	-0.2
VYHS				*e*Sn	Sn	23 20 39.4	+0.1
KRUC	**Moravsky**	**1.66**	**234**	*e*Pg	Pg	23 20 18.4	-2.2
KRUC				*e*Sg	Sg	23 20 40.2	-1.9
	20nm,0.6s						
SMOL	**Smolenice**	**1.68**	**203**	*e*PN	Pn	23 20 18.3	-1.0
SMOL				*e*SN	Sn	23 20 41.1	-0.5
STHS	**Stebnicka Huta**	**1.93**	**108**	*e*PN	Pn	23 20 25.5	+2.7
STHS				*e*SN	Sn	23 20 52.8	+5.0
KECS	**Kecovo**	**2.07**	**139**	*e*PG	Pg	23 20 30.0	+1.6
KECS				*e*SN	Sn	23 20 52.6	+1.4
CRVS	**Cervenica-Dubn**	**2.29**	**119**	*e*PN	Pn	23 20 30.9	+3.2
CRVS				*e*SN	Sn	23 21 03.7	+7.2
PRU	**Pruhonice**	**2.51**	**270**	*e*PG	Pg	23 20 33.2	-3.7
PRU				*e*SG	Sg	23 21 06.0	-3.5
	9.4nm,0.8s						
BRG				SG	Sg	23 21 21.8	-2.9
	2.6nm,0.5s						
BRG	**Berggiesshubel**	**2.98**	**288**	PG	Pg	23 20 43.4	-2.6
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PG	Pg	23 20 47.9	-4.0
KHC				*e*SG	Sg	23 21 32.6	-2.0
	8.1nm,0.5s						
MOA	**Molln**	**3.53**	**233**	⇑*i*Sg	Sg	23 21 39.8	-2.2
	comp=Z,4.4nm,0.5s						
CLL	**Collm**	**3.67**	**292**	*e*Sg	Sg	23 21 46.0	-0.8
NKC	**Novy Kostel**	**3.86**	**275**	*e*SG	Sg	23 21 51.1	-1.5
	6.2nm,0.5s						
MOX	**Moxa**	**4.41**	**280**	(SG)	Sg	23 22 11.8	+1.5

BJI 27 23:34:48.1, 8700N×5810E, h10km, mB5.1, mb4.5
CSEM 27 23:34:49.6±0.1, 8701N×5772E, h10km, mb4.4/9, Error ellipse: s-maj=5.6km s-min=2.9km az=102.0
ISCJB 27 23:34:50.4±0.4, 8696N±005×58E±, h10km, mb4.0/22, MS3.8/12, Error ellipse: s-maj=10.1km s-min=7.1km az=28.1
MOS 27 23:34:50.1±1.1, 8695N×5695E, h10km, mb4.3/7, Error ellipse: s-maj=99.9km s-min=8.3km az=89.5
IDC 27 23:34:50.5±0.7, 8698N×5927E, h0km, mb3.8/13, mb1 4.1/14, mb1mx4.0/21, mbtmp3.9/14, ML3.7/1, MS3.8/14, Ms1 3.8/14, ms1mx3.7/32, Error ellipse: s-maj=23.3km s-min=13.2km az=101.0
NEIC 27 23:34:52.1±0.3, 8698N×5814E, h10km, mb4.2/8, Error ellipse: s-maj=9.6km s-min=5.8km az=109.0
ISC 27 23:34:51.6±0.4, 8697N±005×58E±, h10km, n69, σ0§95/61, mb4.0/22, MS3.8/12, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**9.30**	**240**	*e*P	**Pn**	**23 37 04.2**	**-1.5**
	19nm,0.5s						
KBS	**Kingsbay**	**9.30**	**240**	*e*P	**Pn**	**23 37 04.2**	**-1.5**
	19nm,0.5s						
KBS	**Kingsbay**	**9.30**	**240**	*e*P	**Pn**	**23 37 04.2**	**-1.5**
KBS				pmax	pmax		
	comp=Z,19nm,0.5s						
TIXI	**Tiksi**	**17.68**	**100**	*e*P	**Pn**	**23 38 59.1**	**+1.2**
	comp=Z,5.0nm,1.1s						
TIXI	**Tiksi**	**17.68**	**100**	*e*P	**Pn**	**23 38 59.1**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARCES	**ARCESS Array B**	**18.09**	**218**	P	**Pn**	**23 39 04.7**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=14,slow=9.9,SNR=13						
ARCES				LR	LR	23 45 49.7	
	comp=Z,337nm,18.6s,baz=8.9,slow=36						
JMIC	**Jan Mayen**	**18.14**	**255**	LR	LR	23 44 25.1	
	comp=Z,140nm,18.4s,baz=5.6,slow=32						
LVZ	**Lovozero**	**19.47**	**207**	P	**Pn**	**23 39 12.7**	**-7.1**
LVZ				MLR	MLR		
	comp=Z,524nm,17.0s						
LVZ				MLR	MLR		
	comp=N,328nm,18.0s						
LVZ				MLR	MLR		
	comp=E,71nm,13.0s						
BILL	**Bilibino**	**23.21**	**65**	*e*P	**P**	**23 39 59.3**	**+0.5**
	comp=E,28nm,1.2s,mb4.6						
BILL	**Bilibino**	**23.21**	**65**	*e*P	**P**	**23 39 59.3**	**+0.5**
	comp=E,28nm,1.2s,mb4.6						
BILL	**Bilibino**	**23.21**	**65**	*e*P	**P**	**23 39 59.3**	**+0.5**
BILL				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.6						
SFJD	**Kangerlussuaq**	**24.30**	**295**	LR	LR	23 50 22.4	
	comp=Z,167nm,19.5s,MS3.5,baz=337,slow=38						
INK	**Inuvik**	**24.82**	**10**	P	**P**	**23 40 12.7**	**-1.2**
	comp=Z,4.2nm,0.9s,mb4.0,baz=1.0,slow=13,SNR=10						
INK				LR	LR	23 48 56.9	
	comp=Z,220nm,21.6s,MS3.6,baz=16,slow=34						
FINES	**FINESS Array B**	**26.18**	**215**	P	**P**	**23 40 25.6**	**-0.6**
	comp=Z,1.4nm,0.8s,mb3.6,baz=350,slow=7.9,SNR=5.1						
FINES				LR	LR	23 50 42.4	
	comp=Z,235nm,19.8s,MS3.7,baz=260,slow=36						
NB2	**NORSAR Subarra**	**27.13**	**231**	P	**P**	**23 40 35.0**	**+0.2**
	comp=Z,3.9nm,0.9s,mb3.9,baz=5.5,slow=8.6						
NB2	**NORSAR Subarra**	**27.13**	**231**	P	**P**	**23 40 35.0**	**+0.2**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
NOA	**NORSAR Array B**	**27.13**	**231**	P	**P**	**23 40 35.1**	**+0.4**
	comp=Z,2.5nm,0.8s,mb3.8,baz=5.5,slow=8.6,SNR=4.4						
NOA				LR	LR	23 51 40.0	
	comp=Z,73nm,18.5s,MS3.3,baz=30,slow=37						
HFS	**Hagfors**	**27.93**	**229**	LR	LR	23 52 50.4	
	comp=Z,88nm,19.1s,MS3.4,baz=151,slow=39						
ILAR	**Eielson Array**	**28.17**	**23**	P	**P**	**23 40 44.8**	**+0.6**
	comp=Z,2.2nm,1.0s,mb3.7,baz=355,slow=7.7,SNR=24						
ILAR				LR	LR	23 50 00.1	
	comp=Z,200nm,21.9s,MS3.7,baz=2.1,slow=32						
FRB	**Frobisher Bay**	**28.34**	**311**	LR	LR	23 51 15.0	
	comp=Z,216nm,20.7s,MS3.7,baz=355,slow=35						
TTA	**Tatalina**	**29.80**	**31**	*e*P	**P**	**23 40 59.1**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.2						
TTA	**Tatalina**	**29.80**	**31**	*e*P	**P**	**23 40 59.1**	**+0.6**
	comp=Z,4.5nm,0.9s,mb4.2						
TTA	**Tatalina**	**29.80**	**31**	*e*P	**P**	**23 40 59.1**	**+0.5**
TTA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
ARU	**Arti**	**30.69**	**180**	*e*P	**P**	**23 41 05.8**	**-0.7**
ARU	**Arti**	**30.69**	**180**	*e*P	**P**	**23 41 05.8**	**-0.7**
YKA	**Yellowknife Ar**	**30.70**	**354**	P	**P**	**23 41 05.5**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=360,slow=8.1,SNR=12						
YKA				PcP	PcP	23 44 02.8	-1.5
	comp=Z,0.3nm,0.5s,baz=345,slow=3.0,SNR=7.1						
YKA				LR	LR	23 52 58.8	
	comp=Z,327nm,21.2s,MS4.0,baz=355,slow=36						
YKA	**Yellowknife Ar**	**30.70**	**354**	PcP	PcP	23 44 02.8	-1.5
YKA	**Yellowknife Ar**	**30.70**	**354**	P	**P**	**23 41 05.5**	**-1.1**
YKA				PcP	PcP	23 44 02.8	-1.5
YKA				LR	LR	23 52 58.8	
YKA	**Yellowknife Ar**	**30.70**	**354**	P	**P**	**23 41 05.5**	**-1.0**
YKA						23 44 02.8	
NVS	**Novosibirsk**	**32.59**	**153**	*i*P	**P**	**23 41 21.1**	**-2.1**
CHKZ	**Chkalovo**	**33.53**	**167**	*e*P	**P**	**23 41 31.3**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**33.53**	**167**	*e*P	**P**	**23 41 31.3**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**33.53**	**167**	*e*P	**P**	**23 41 31.3**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**33.54**	**151**	P	**P**	**23 41 30.6**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=118,slow=8.9,SNR=4.1						
SUW	**Suwalki**	**33.71**	**218**	*e*P	**P**	**23 41 33.5**	**+0.5**
	comp=Z,5.8nm,0.4s,mb4.9						
SUW	**Suwalki**	**33.71**	**218**	*e*P	**P**	**23 41 33.5**	**+0.6**
	comp=Z,5.8nm,0.4s,mb4.9						
SUW	**Suwalki**	**33.71**	**218**	*e*P	**P**	**23 41 33.6**	**+0.6**
SUW				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
BRVK	**Borovoye**	**34.14**	**167**	*e*P	**P**	**23 41 37.5**	**+0.8**
	comp=Z,1.7nm,1.0s,mb3.9						
BRVK	**Borovoye**	**34.14**	**167**	*e*P	**P**	**23 41 37.5**	**+0.8**
	comp=Z,1.7nm,1.0s,mb3.9						
BRVK	**Borovoye**	**34.14**	**167**	*e*P	**P**	**23 41 37.5**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZRNK	**Zerenda**	**34.24**	**168**	*e*P	**P**	**23 41 37.7**	**+0.2**
	comp=Z,4.8nm,1.5s,mb4.2						
ZRNK	**Zerenda**	**34.24**	**168**	*e*P	**P**	**23 41 37.7**	**+0.2**
	comp=Z,4.8nm,1.5s,mb4.2						
ZRNK	**Zerenda**	**34.24**	**168**	*e*P	**P**	**23 41 37.7**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
MOY	**Mondy**	**36.33**	**134**	*e*P	**P**	**23 41 56.8**	**+1.3**
KURK	**Kurchatov**	**36.62**	**158**	*e*P	**P**	**23 41 57.8**	**-0.3**
SCHQ	**Schefferville**	**37.18**	**308**	LR	LR	23 56 25.2	
	comp=Z,305nm,19.3s,MS4.1,baz=93,slow=35						
GERES	**GERESS Array B**	**39.22**	**227**	P	**P**	**23 42 21.0**	**+1.0**
	comp=Z,0.9nm,0.9s,mb3.5,baz=10,slow=8.1,SNR=4.4						
PSZ	**Piszkesteto**	**39.91**	**221**	*e*P	**P**	**23 42 25.4**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.0						
PSZ	**Piszkesteto**	**39.91**	**221**	*e*P	**P**	**23 42 25.4**	**-0.4**
PSZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
SONM	**Songino Array**	**40.37**	**129**	P	**P**	**23 42 30.0**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.6,baz=340,slow=6.6,SNR=9.2						
MKAR	**Makanchi Array**	**40.62**	**155**	P	**P**	**23 42 30.3**	**-1.3**
	comp=Z,1.3nm,0.8s,mb3.6,baz=15,slow=5.0,SNR=8.3						
ULM	**Lac du Bonnet**	**42.71**	**336**	LR	LR	00 01 31.8	
	comp=Z,158nm,20.0s,MS3.9,baz=344,slow=38						
GNI	**Garni**	**47.07**	**194**	*e*P	**P**	**23 43 22.8**	**-0.7**
HHC	**Hu-ho-hao-te**	**47.56**	**124**	*e*P	**P**	**23 43 25.5**	**-1.8**
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,55nm,3.4s						
BR131	**Keskin Array S**	**47.70**	**206**	*e*P	**P**	**23 43 29.5**	**+1.1**
BR131	**Keskin Array S**	**47.70**	**206**	*e*P	**P**	**23 43 29.5**	**+1.2**
BRTR	**Keskin Array B**	**47.70**	**206**	P	**P**	**23 43 29.0**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.6,baz=352,slow=5.2,SNR=3.9						
FLWY	**Flagg Ranch**	**49.11**	**349**	*e*P	**P**	**23 43 39.1**	**-0.2**
	comp=Z,67nm,2.0s,mb5.3						
FLWY	**Flagg Ranch**	**49.11**	**349**	*e*P	**P**	**23 43 39.1**	**-0.2**
	comp=Z,67nm,2.0s,mb5.3						
PDAR	**Pinedale Array**	**50.42**	**348**	P	**P**	**23 43 49.2**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=34,slow=5.4,SNR=10						
PDAR				LR	LR	00 04 42.8	
	comp=Z,214nm,20.4s,MS4.2,baz=40,slow=36						
PDAR	**Pinedale Array**	**50.42**	**348**	P	**P**	**23 43 49.2**	**0.0**
PDAR				LR	LR	00 04 42.8	
NVAR	**Mina Array Bea**	**54.81**	**357**	P	**P**	**23 44 22.1**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.2,baz=7.5,slow=7.6,SNR=7.1						
NVAR	**Mina Array Bea**	**54.81**	**357**	P	**P**	**23 44 22.1**	**+0.4**
PV01	**Paradox Valley**	**55.03**	**347**	*e*P	**P**	**23 44 23.6**	**+0.3**
PV01	**Paradox Valley**	**55.03**	**347**	*e*P	**P**	**23 44 23.6**	**+0.2**
EIL	**Elat**	**57.70**	**204**	*e*P	**P**	**23 44 44.1**	**+1.8**
EIL	**Elat**	**57.70**	**204**	*e*P	**P**	**23 44 44.1**	**+1.8**
SJG	**San Juan**	**73.75**	**305**	LR	LR	00 17 49.6	
	comp=Z,98nm,19.0s,MS4.1,baz=91,slow=35						
TORD	**Torodi Ar. Bea**	**75.27**	**237**	P	**P**	**23 46 34.9**	**+0.2**
	comp=Z,1.7nm,0.9s,mb4.0,baz=354,slow=6.0,SNR=7.3						

**CASC 27 23:37:39.9±2.8, 1366N

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.46**	**322**	*eP*	**Pg**	**23 43 46.0**	**+0.6**
SJMP				*eS*	**Sg**	**23 43 53.0**	**+1.5**
OTRP	**Odiongan**	**0.65**	**66**	*eP*	**Pg**	**23 43 50.4**	**+1.4**
OTRP				*eS*	**Sg**	**23 44 00.9**	**+3.4**
BUSP	**Coron**	**1.19**	**266**	*eP*	**Pb**	**23 43 57.4**	**-1.6**
BUSP				*eS*	**Sb**	**23 44 15.2**	**+0.8**
CUYO	**Cuyo Island**	**1.29**	**197**	*eP*	**Pn**	**23 43 58.5**	**-1.9**
CUYO				*eS*	**Sb**	**23 44 19.6**	**+2.1**
RCP	**Roxas**	**1.41**	**112⇓**	*eP*	**Pn**	**23 44 02.2**	**+0.1**
RCP				*eS*	**Sn**	**23 44 22.8**	**+2.1**
BOAC	**Boac**	**1.42**	**17**	*eP*	**Pn**	**23 43 59.8**	**-2.4**
PGP	**Puerto Galera**	**1.47**	**342**	*eP*	**Pn**	**23 44 02.0**	**-0.8**
AUQP	**San Andres**	**1.73**	**45**	*eP*	**Pn**	**23 44 07.5**	**+1.0**
GUIM	**Jordan**	**1.86**	**142**	*eP*	**Pn**	**23 44 07.9**	**-0.4**
LUBP	**Lubang**	**1.99**	**325**	*eP*	**Pn**	**23 44 08.7**	**-1.3**
TGY	**Tagaytay City**	**2.05**	**347**	Pn	**Pn**	**23 44 11.5**	**+0.7**
	1μm,0.3s,baz=208,slow=2.2,SNR=238						
TGY	**Tagaytay City**	**2.05**	**347⇓**	*eP*	**Pn**	**23 44 12.2**	**+1.4**
TGY				*eS*	**Sn**	**23 44 40.9**	**+4.5**
TGY	**Tagaytay City**	**2.05**	**347**	*eP*	**Pn**	**23 44 14.0**	**+3.2**
ENPP	**El Nido**	**2.14**	**246**	*eP*	**Pn**	**23 44 10.8**	**-1.3**
MMPH	**Masbate**	**2.18**	**83**	*i P*	**Pn**	**23 44 13.5**	**+0.9**
POLP	**Polilio Island**	**2.67**	**11**	*eP*	**Pn**	**23 44 20.0**	**+0.7**
PVCP	**Virac**	**3.06**	**61**	*eP*	**Pn**	**23 44 26.1**	**+1.3**
LLP	**Lapu-Lapu**	**3.07**	**125⇓**	*eP*	**Pn**	**23 44 25.8**	**+1.0**
LLP				*eS*	**Sb**	**23 45 08.5**	**+0.1**
CNP	**Catarman**	**3.21**	**82**	*eP*	**Pn**	**23 44 28.1**	**+1.4**
SNPH	**Sibulan**	**3.27**	**147⇓**	*i P*	**Pn**	**23 44 28.8**	**+1.2**
OCLP	**Ormoc**	**3.30**	**108**	*eP*	**Pn**	**23 44 29.5**	**+1.5**
OCLP				*eS*	**Sn**	**23 45 10.7**	**+3.4**
TBP	**Tagbilaran**	**3.39**	**135**	*eP*	**Pn**	**23 44 30.2**	**+0.9**
TBP				*eS*	**Sg**	**23 45 32.7**	**+7.5**
PCPH	**Palayan**	**3.46**	**355⇑**	*eP*	**Pn**	**23 44 30.9**	**+0.6**
PPR	**Puerto Princes**	**3.50**	**229⇑**	*iP*	**Pn**	**23 44 32.2**	**+1.5**
PLP	**Palo**	**3.62**	**104**	*eP*	**Pn**	**23 44 33.6**	**+1.2**
BALP	**Baler**	**3.63**	**2**	*eP*	**Pn**	**23 44 33.5**	**+0.9**
MSLP	**Maasin**	**3.90**	**120**	*eP*	**Pn**	**23 44 38.2**	**+1.9**
SCZP	**Santa Cruz**	**3.94**	**338**	*eP*	**Pn**	**23 44 37.5**	**+0.7**
DCPH	**Dipolog City**	**3.98**	**151⇑**	*eP*	**Pn**	**23 44 37.2**	**-0.2**
BCPH	**Baguio City Da**	**4.34**	**349⇓**	*eP*	**Pn**	**23 44 43.4**	**+1.1**
	1481μm,1.0s						
IPIL	**Ipil**	**4.43**	**165**	*eP*	**Pn**	**23 44 42.5**	**-1.1**
BOLP	**Bolinao**	**4.50**	**341**	*eP*	**Pn**	**23 44 46.2**	**+1.7**
SCPH	**Surigao**	**4.62**	**119**	*eP*	**Pn**	**23 44 47.7**	**+1.6**
SCPH				*eS*	**Pg**	**23 45 16.7**	**+12**
PAGZ	**Pagadian**	**4.64**	**155**	*eP*	**Pn**	**23 44 48.1**	**+1.6**
BATP	**Bataraza**	**4.83**	**228**	*eP*	**Pn**	**23 44 48.9**	**-0.2**
CAUP	**Cauayan**	**4.84**	**5**	*eP*	**Pn**	**23 44 51.6**	**+2.4**
PALP	**Palanan**	**5.04**	**11**	*eP*	**Pn**	**23 44 53.0**	**+1.1**
BUTP	**Butuan**	**5.17**	**126**	*eP*	**Pn**	**23 44 54.7**	**+0.9**
BUKP	**Musuan**	**5.52**	**139**	*eP*	**Pn**	**23 45 00.4**	**+1.8**
ABRA	**Dolores**	**5.56**	**353**	*eP*	**Pn**	**23 45 00.7**	**+1.6**
CVP	**Callao Caves**	**5.59**	**4**	*eP*	**Pn**	**23 45 00.0**	**+0.5**
APYP	**Conner**	**5.74**	**358**	*eP*	**Pn**	**23 45 04.0**	**+2.4**
SGCP	**Mt. Cagua**	**6.14**	**6**	*eP*	**Pn**	**23 45 09.6**	**+2.5**
PIP	**Pasuquin**	**6.24**	**353⇑**	*iP*	**Pn**	**23 45 11.3**	**+2.9**
KKM	**Kota Kinabalu**	**7.90**	**221**	P	**Pn**	**23 45 36.5**	**+5.3**
KKM	**Kota Kinabalu**	**7.90**	**221**	*ePn*	**Pn**	**23 45 31.6**	**+0.4**
NACB	**Ninganchiao**	**12.02**	**1⇑**	*ePn*	**Pn**	**23 46 27.0**	**-0.6**
HKC	**Hong Kong**	**12.28**	**327⇓**	*iP*	**Pn**	**23 46 37.0**	**+5.8**
HKC				*i S*	**Sn**	**23 48 42.0**	**-6.2**
YHNB	**Yeheng**	**12.51**	**360**	*eP*	**Pn**	**23 46 35.4**	**+1.0**
TATO	**Taipei**	**12.81**	**0**	*ePn*	**Pn**	**23 46 39.5**	**+1.0**
QZH	**Quanzhou**	**13.06**	**349⇑**	*iP*	**Pn**	**23 46 42.5**	**+0.7**
QZH				S	**Sn**	**23 49 07.0**	**-0.1**
QZH				AMB	AMB		
	comp=Z,490nm,1.2s						
QZH				LR	LR		
	comp=N,33μm,16.9s						
QZH				LR	LR		
	comp=E,33μm,19.5s						
QZH				LR	LR		
	comp=Z,23μm,15.3s						
QIZ	**Qiongzhong**	**13.10**	**303**	P	**Pn**	**23 46 42.5**	**0.0**
QIZ				AP		23 46 50.0	
QIZ				S	**Sn**	**23 49 10.5**	**+2.3**
QIZ				XS		23 49 24.0	
QIZ				AMB	AMB		
	comp=Z,2μm,9.7s						
QIZ				LR	LR		
	comp=N,11μm,12.5s						
QIZ				LR	LR		
	comp=E,4μm,11.0s						
QIZ				LR	LR		
	comp=Z,12μm,13.5s						
QIZ	**Qiongzhong**	**13.10**	**303**	*ePn*	**Pn**	**23 46 42.2**	**-0.3**
	comp=Z,302nm,1.3s						
KSM	**Kuching**	**15.25**	**227**	Pn	**Pn**	**23 47 13.4**	**+1.7**
JOW	**Kunigami**	**16.02**	**23**	Pn	**Pn**	**23 47 22.7**	**+1.0**
	comp=Z,2.4nm,0.3s,baz=217,slow=12,SNR=9.9						
JOW				LR	LR	23 53 07.7	
	comp=Z,8μm,20.4s,baz=358,slow=36						
KKTK	**Khon Kaen**	**18.50**	**285**	P	**Pn**	**23 47 54.0**	**+1.2**
	comp=Z,864nm,0.5s						
SSE	**Sheshan**	**18.91**	**359**	P	**Pn**	**23 47 57.8**	**+0.1**
SSE				AP	pP	23 48 09.0	+9.1
SSE				S	**Sn**	**23 51 24.3**	**-5.1**
SSE				AMB	AMB		
	comp=Z,94nm,1.6s						
SSE				AMB	AMB		
	comp=Z,2μm,9.7s						
SSE				LR	LR		
	comp=N,5μm,17.7s						
SSE				LR	LR		
	comp=E,7μm,17.6s						
SSE				LR	LR		
	comp=Z,7μm,16.7s						
WHN	**Wuhan**	**19.49**	**341**	⇓P	**Pn**	**23 48 03.8**	**-0.9**
WHN				S	**Sn**	**23 51 43.0**	**-0.4**
WHN				LR	LR		
	comp=Z,18μm,19.2s						
GYA	**Guiyang**	**19.92**	**318⇑**	*iP*	**Pn**	**23 48 09.5**	**-0.3**
GYA				AP	pP	23 48 20.5	+10
GYA				XP	sP	23 48 26.5	+14
GYA				PP		23 48 31.8	
GYA				S	**Sn**	**23 51 54.3**	**+0.6**
GYA				AMB	AMB		
	comp=Z,130nm,1.0s						
GYA				AMB	AMB		
	comp=Z,2μm,7.5s						
GYA				LR	LR		
	comp=N,9μm,11.4s						
GYA				LR	LR		
	comp=E,10μm,15.4s						
GYA				LR	LR		
	comp=Z,12μm,15.0s						
NJ2	**Nanjing**	**20.00**	**354**	*eP*	**Pn**	**23 48 10.8**	**0.0**
NJ2				AP	pP	23 48 19.5	+7.6
NJ2				XP	sP	23 48 24.0	+11
NJ2				PP		23 48 30.5	
NJ2				S	**Sn**	**23 51 45.0**	**-11**
NJ2				XS	sS	23 51 56.0	-2.4
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,2μm,10.4s						
NJ2				LR	LR		
	comp=N,45μm,24.4s						
NJ2				LR	LR		
	comp=E,23μm,17.2s						
NJ2				LR	LR		
	comp=Z,8μm,20.6s,MS5.0						
NST	**Nakhon Sawan**	**20.96**	**282**	P	**P**	**23 48 21.0**	**+1.6**
	comp=Z,92nm,1.3s						
SNG	**Songkhla**	**21.07**	**258**	P	**P**	**23 48 22.0**	**+1.4**
	comp=Z,106nm,0.8s,mb5.2						
NNT	**Nongplab**	**21.18**	**274**	P	**P**	**23 48 29.6**	**+7.8**
ENH	**Enshi**	**21.20**	**330**	*eP*	**P**	**23 48 22.4**	**+0.3**
	comp=Z,310nm,1.3s,mb5.5						
ENH				LR	LR		
	comp=Z,10μm,19.0s,MS5.2						
IPM	**Ipoh**	**21.53**	**251**	P	**P**	**23 48 26.7**	**+1.1**
KULM	**Kulim**	**21.60**	**254**	*eP*	**P**	**23 48 27.6**	**+1.3**
KMI	**Kunming**	**21.90**	**309**	P	**P**	**23 48 31.5**	**+2.0**
KMI				AP		23 48 37.0	
KMI				XP	sP	23 48 39.0	+5.3
KMI				PP		23 49 00.5	
KMI				S	**S**	**23 52 32.8**	**+1.5**
KMI				AMB	AMB		
	comp=Z,172nm,1.2s,mb5.4						
KMI				AMB	AMB		
	comp=Z,891nm,3.1s						
KMI				LR	LR		
	comp=N,6μm,12.2s,MS5.3						
KMI				LR	LR		
	comp=E,6μm,15.8s,MS5.3						
KMI				LR	LR		
	comp=Z,7μm,17.2s,MS5.1						
CHRT	**Chiangrai**	**22.17**	**293**	⇓P	**P**	**23 48 33.5**	**+1.1**
	comp=Z,726nm,1.1s,mb6.0						
BDT	**Bhumibol Dam**	**22.27**	**286**	P	**P**	**23 48 35.0**	**+1.5**
JNU	**Nakatsue**	**22.66**	**21**	P	**P**	**23 48 36.9**	**-0.7**
	comp=Z,101nm,1.0s,mb5.2,baz=171,slow=12,SNR=6.6						
GUMO	**Guam**	**22.92**	**84**	P	**P**	**23 48 41.8**	**+1.5**
	comp=Z,23nm,0.3s,mb5.0,baz=97,slow=16,SNR=2.3						
GUMO				LR	LR	23 56 02.6	
	comp=Z,5μm,18.4s,MS5.0,baz=86,slow=33						
GUMO	**Guam**	**22.92**	**84**	P	**P**	**23 48 41.2**	**+0.8**
	comp=Z,317nm,1.3s,mb5.6						
GUMO				LR	LR	23 56 02.6	
GUMO	**Guam**	**22.92**	**84**	P	**P**	**23 48 41.2**	**+0.8**
GUMO				pmax	pmax		
	comp=Z,317nm,1.3s,mb5.6						
PSI	**Prapat**	**24.11**	**249**	P	**P**	**23 48 52.1**	**0.0**
	comp=Z,4.9nm,0.5s,baz=148,slow=6.7,SNR=9.6						
TIA	**Tai'an**	**24.32**	**352**	P	**P**	**23 48 53.5**	**-0.6**
TIA				S	**S**	**23 53 16.0**	**+2.8**
TIA				AMB	AMB		
	comp=Z,85nm,1.0s,mb5.1						
TIA				LR	LR		
	comp=N,7μm,14.0s,MS5.5						
TIA				LR	LR		
	comp=E,8μm,16.0s,MS5.5						
CBIJ	**Chichi jima**	**24.55**	**50**	LR	LR	23 56 57.1	
	comp=E,3μm,19.5s,MS4.8,baz=272,slow=33						
XAN	**Xi'an**	**24.64**	**334**	P	**P**	**23 48 55.3**	**-1.6**
XAN				AP		23 49 09.0	
XAN				AMB	AMB		
	comp=Z,39nm,1.1s,mb4.8						
XAN				AMB	AMB		
	comp=Z,822nm,11.2s						
XAN				LR	LR		
	comp=N,6μm,16.6s,MS5.5						
XAN				LR	LR		
	comp=E,12μm,19.0s,MS5.5						
XAN				LR	LR		
	comp=Z,6μm,24.0s,MS5.0						
CD2	**Chengdu**	**24.84**	**322⇑**	*iP*	**P**	**23 48 58.8**	**0.0**
CD2				AP		23 49 10.0	
CD2				XP	sP	23 49 13.3	+10
CD2				PP		23 49 38.5	
CD2				PPP		23 49 46.3	
CD2				S	**S**	**23 53 17.3**	**-4.2**
CD2				XS	sS	23 53 34.8	+8.3
CD2				SS		23 54 17.8	
CD2				AMB	AMB		
	comp=Z,270nm,1.0s,mb5.7						
CD2				AMB	AMB		
	comp=Z,730nm,9.8s						
CD2				LR	LR		
	comp=N,6μm,16.8s						
CD2				LR	LR		
	comp=Z,5μm,19.8s,MS5.0						
INCN	**Inchon**	**25.71**	**10**	P	**P**	**23 49 07.6**	**+0.9**
	comp=Z,80nm,1.1s,mb5.2						
INCN				LR	LR		
	comp=Z,4μm,19.0s,MS5.0						
KS15	**Wonju Array Si**	**25.90**	**12**	*eP*	**P**	**23 49 09.5**	**+1.1**
DL2	**Dalian**	**26.70**	**0**	⇑P	**P**	**23 49 16.0**	**+0.3**
DL2				AP	pP	23 49 28.0	+9.3
DL2				S	**S**	**23 53 50.8**	**-0.3**
DL2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.2						
DL2				AMB	AMB		
	comp=Z,680nm,5.8s						
DL2				LR	LR		
	comp=N,2μm,15.9s,MS5.2						
DL2				LR	LR		
	comp=E,5μm,15.9s,MS5.2						
DL2				LR	LR		
	comp=Z,3μm,17.4s,MS5.0						
JHJ	**Hachijo jima 2**	**26.85**	**36**	P	**P**	**23 49 15.8**	**-1.1**
	comp=Z,131nm,0.8s,mb5.5,baz=204,slow=14,SNR=3.7						
JHJ				LR	LR	23 58 15.4	
	comp=Z,9μm,19.3s,MS5.4,baz=258,slow=33						
KAKA	**Kakadu**	**26.96**	**156**	*eP*	**P**	**23 49 16.8**	**-1.2**
	comp=Z,34nm,0.6s,mb5.1						
BJT	**Baijiatuau**	**28.20**	**351⇑**	*eP*	**P**	**23 49 28.0**	**-1.1**
	comp=Z,152nm,1.4s,mb5.4						
BJT				LR	LR		
	comp=Z,6μm,22.0s,MS5.2						
BJT	**Baijiatuau**	**28.20**	**351⇑**	*eP*	**P**	**23 49 28.0**	**-1.1**
BJT				pmax	pmax		
	comp=Z,152nm,1.4s						
BJT				MLR	MLR		
	comp=Z,6μm,22.0s						
BJI	**Beijing**	**28.22**	**351**	P	**P**	**23 49 29.3**	**0.0**
BJI				XP	sP	23 49 45.0	+11
BJI				PP	PP	23 50 16.0	-17
BJI				S	**S**	**23 54 15.0**	**+0.1**
BJI				AMB	AMB		
	comp=Z,48nm,1.7s,mb4.8						
BJI				AMB	AMB		
	comp=Z,787nm,7.3s						
BJI				LR	LR		
	comp=N,4μm,22.1s,MS5.3						
BJI				LR	LR		
	comp=E,7μm,18.4s,MS5.3						
BJI				LR	LR		
	comp=Z,5μm,22.5s,MS5.1						
MAJO	**Matsushiro**	**28.66**	**29**	*eP*	**P**	**23 49 31.0**	**-2.2**
	comp=Z,23nm,0.9s,mb4.9						
MAJO				LR	LR		
	comp=Z,5μm,20.0s,MS5.1						
MAJO	**Matsushiro**	**28.66**	**29**	*eP*	**P**	**23 49 31.0**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.9						
MAJO				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.1						
MAT	**Matsushiro**	**28.66**	**29**	P	**P**	**23 49 30.3**	**-2.9**
MAT				S	**S**	**23 54 26.0**	**+4.1**
MAT	**Matsushiro**	**28.66**	**29**	*eP*	**P**	**23 49 30.0**	**-3.2**
	comp=Z,71nm,2.0s,mb5.0						
MAT				*eS*	**S**	**23 54 26.0**	**+4.1**
MAT				LR	LR		
	comp=Z,4μm,20.0s,MS5.0						
MAT	**Matsushiro**	**28.66**	**29**	*eP*	**P**	**23 49 30.0**	**-3.2**
MAT				*eS*	**S**	**23 54 26.0**	**+4.1**
MAT				pmax	pmax		
	comp=Z,71nm,2.0s,mb5.0						
MAT				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.0						
MJAR	**Matsushiro Arr**	**28.66**	**29**	P	**P**	**23 49 31.9**	**-1.3**
	comp=Z,5.9nm,0.9s,mb4.3,baz=210,slow=8.3,SNR=10						
MJAR				LR	LR	00 00 17.6	
	comp=Z,5μm,19.9s,MS5.1,baz=225,slow=35						
LZH	**Lanzhou**	**28.67**	**329**	P	**P**	**23 49 34.3**	**+1.0**
LZH				AP	pP	23 49 49.5	+13
LZH				PP	PP	23 50 28.0	-10
LZH				S	**S**	**23 54 19.0**	**-3.1**
LZH				XS	sS	23 54 40.0	+13
LZH				SS	SS	23 55 50.0	-33
LZH				AMB	AMB		
	comp=Z,330nm,1.4s,mb5.9						
LZH				AMB	AMB		
	comp=Z,2μm,5.6s						
LZH				LR	LR		
	comp=E,13μm,13.4s						
LZH				LR	LR		
	comp=Z,16μm,18.6s						
SNY	**Shenyang**	**29.68**	**3**	⇑P	**P**	**23 49 41.8**	**-0.5**
SNY				AP	pP	23 49 54.0	+8.7
SNY				XP	sP	23 50 00.3	+14
SNY				S	**S**	**23 54 35.5**	**-2.5**
SNY				XS	sS	23 54 55.3	+12
SNY				AMB	AMB		
	comp=Z,120nm,1.3s,mb5.5						
SNY				AMB	AMB		
	comp=Z,2μm,10.8s						
SNY				LR	LR		
	comp=E,7μm,16.9s						
SNY				LR	LR		
	comp=Z,5μm,16.3s,MS5.2						
HHC	**Hu-ho-hao-te**	**29.92**	**345**	*eP*	**P**	**23 49 44.3**	**-0.1**
HHC				AP	pP	23 49 56.0	+8.5
HHC				XP	sP	23 50 01.5	+13
HHC				PP	PP	23 50 43.5	-8.4
HHC				PCP	PcP	23 52 46.0	-1.0
HHC				S	**S**	**23 54 37.8**	**-4.0**
HHC				XS	sS	23 54 58.0	+11
HHC				SS	SS	23 56 16.8	-32
HHC				PCS	PcS	23 56 28.0	-2.3
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,428nm,5.1s						
HHC				LR	LR		
	comp=N,5μm,17.1s,MS5.4						
HHC				LR	LR		
	comp=E,7μm,19.2s,MS5.4						
HHC				LR	LR		
	comp=Z,7μm,19.3s,MS5.3						
BTO	**Baotou**	**30.12**	**343**	*eP*	**P**	**23 49 43.3**	**-2.8**
BTO				LR	LR		
	comp=N,745nm,5.7s						
BTO				LR	LR		
	comp=E,4μm,14.8s						
FITZ	**Fitzroy Crossi**	**30.29**	**172**	*eP*	**P**	**23 49 46.0**	**-1.7**
	comp=E,27nm,1.1s,mb4.9						
FITZ	**Fitzroy Crossi**	**30.29**	**172**	P	**P**	**23 49 46.8**	**-0.8**
	comp=E,9.4nm,0.8s,mb4.6,baz=350,slow=11,SNR=10						
SHL	**Shillong**	**30.91**	**300**	*i P*	**P**	**23 49 53.5**	**+0.4**
SHL				*eS*	**S**	**23 54 57.0**	**-0.1**
AGT	**Agartala**	**30.92**	**296**	*i P*	**P**	**23 49 56.0**	**+2.8**
CN2	**Changchun**	**31.79**	**6**	⇑P	**P**	**23 50 00.5**	**-0.3**
CN2				PP	PP	23 51 08.5	-4.1
CN2				SS	SS	23 56 58.8	-28
CN2				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,7μm,20.0s,MS5.4						
CN2				LR	LR		
	comp=E,5μm,20.0s,MS5.4						
CN2				LR	LR		
	comp=Z,6μm,21.0s,MS5.2						
VLA	**Vladivostok**	**32.22**	**14**	*eP*	**P**	**23 50 05.1**	**+0.4**
VLA				*e*		23 51 08.0	
VLA				*eS*	**S**	**23 55 14.3**	**-3.4**
VLA				pmax	pmax		
	comp=Z,216nm,2.2s,mb5.6						
VLA				MLR	MLR		
	comp=Z,3μm,19.5s,MS5.0						
MBWA	**Marble Bar**	**33.09**	**183**	*eP*	**P**	**23 50 10.1**	**-2.1**
	comp=Z,32nm,1.0s,mb5.2						
MBWA				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
LSA	**Lhasa**	**33.11**	**307**	P	**P**	**23 50 14.5**	**+2.1**
LSA				AP	pP	23 50 23.0	+7.5
LSA				XP	sP	23 50 27.3	+11
LSA				PCP	PcP	23 52 55.8	+0.2
LSA				S	**S**	**23 55 31.0**	**-0.5**
LSA				XS	sS	23 55 49.3	+13
LSA				SCP	ScP	23 56 37.3	-2.5
LSA				AMB	AMB		
	comp=Z,70nm,1.6s,mb5.3						
LSA				LR	LR		
	comp=N,2μm,17.5s						
LSA				LR	LR		
	comp=E,2μm,26.3s						
LSA				LR	LR		
	comp=Z,3μm,26.3s						
LSA	**Lhasa**	**33.11**	**307**	*eP*	**P**	**23 50 13.9**	**+1.4**
	comp=Z,307nm,1.4s,mb6.0						
LSA				LR	LR		
	comp=Z,4μm,21.0s,MS5.1						
LSA	**Lhasa**	**33.11**	**307**	*eP*	**P**	**23 50 13.9**	**+1.5**
LSA				pmax	pmax		
	comp=Z,307nm,1.4s,mb6.0						
LSA				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.1						
MDJ	**Mudanjiang**	**33.16**	**11**	P	**P**	**23 50 13.0**	**+0.1**
MDJ				AP	pP	23 50 24.3	+8.3
MDJ				XP	sP	23 50 28.0	+11
MDJ				S	**S**	**23 55 34.3**	**+2.0**
MDJ				XS	sS	23 55 50.0	+13
MDJ				AMB	AMB		
	comp=Z,135nm,1.0s,mb5.8						
MDJ				AMB	AMB		
	comp=Z,227nm,3.2s						
MDJ				LR	LR		
	comp=N,3μm,18.0s,MS5.2						
MDJ				LR	LR		
	comp=E,3μm,19.1s,MS5.2						
MDJ				LR	LR		
	comp=Z,4μm,16.9s,MS5.2						
MDJ	**Mudanjiang**	**33.16**	**11⇑**	*iP*	**P**	**23 50 13.1**	**+0.2**
	comp=Z,173nm,1.1s,mb5.9						
MDJ				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
CAL	**Calcutta**	**33.17**	**293**	*eP*	**P**	**23 50 17.7**	**+4.7**
CAL				*eS*	**S**	**23 55 36.6**	**+4.1**
CAL				AMP		00 06 56.7	
	comp=Z,3μm,17.2s						
GTA	**Gaotai**	**33.26**	**329**	*eP*	**P**	**23 50 14.5**	**+0.7**
GTA				AP	pP	23 50 26.0	+9.2
GTA				XP	sP	23 50 30.5	+12
GTA				PP	PP	23 51 26.8	-2.2
GTA				PPP		23 51 44.3	
GTA				S	**S**	**23 55 32.0**	**-1.9**
GTA				XS	sS	23 55 50.3	+11
GTA				SS	SS	23 57 34.8	-22
GTA				AMB	AMB		
	comp=Z,61nm,1.2s,mb5.4						
GTA				AMB	AMB		
	comp=Z,762nm,8.4s						
GTA				LR	LR		
	comp=N,7μm,18.2s,MS5.5						
GTA				LR	LR		
	comp=E,5μm,17.9s,MS5.5						
GTA				LR	LR		
	comp=Z,8μm,19.4s,MS5.5						
PMG	**Port Moresby**	**33.33**	**129**	P	**P**	**23 50 14.4**	**0.0**
	comp=Z,37nm,1.3s,mb5.2,baz=335,slow=14,SNR=3.9						
PMG	**Port Moresby**	**33.33**	**129**	*eP*	**P**	**23 50 09.1**	**-5.3**
	comp=Z,106nm,1.5s,mb5.5						
PMG				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
PMG	**Port Moresby**	**33.33**	**129**	*eP*	**P**	**23 50 13.0**	**-1.4**
WRAB	**Tennant Creek**	**34.28**	**158**	P	**P**	**23 50 22.5**	**-0.1**
	comp=Z,194nm,1.0s,mb6.0,SNR=9.0						
WRAB	**Tennant Creek**	**34.28**	**158**	*eP*	**P**	**23 50 21.5**	**-1.1**
	comp=Z,56nm,1.3s,mb5.3						
WRAB				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
WRAB	**Tennant Creek**	**34.28**	**158**	*eP*	**P**	**23 50 21.5**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.3						
WRAB				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.9						
WRA	**Warramunga Arr**	**34.28**	**158**	P	**P**	**23 50 21.7**	**-1.0**
	comp=Z,4.7nm,0.5s,mb4.7,baz=331,slow=10,SNR=34						
WRA	**Warramunga Arr**	**34.28**	**158**	*i P*	**P**	**23 50 22.2**	**-0.5**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WB2	**Warramunga Arr**	**34.29**	**158**	*eP*	**P**	**23 50 20.7**	**-2.0**
COCO	**West Island**	**34.31**	**226**	PFAKE		23 50 30.0	+7.1
COCO				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
BOK	**Bokaro**	**35.64**	**294**	*eP*	**P**	**23 50 34.9**	**+0.5**
BOK				AMb	AMB	23 50 42.6	
	comp=Z,115nm,1.2s,mb5.7						
JIRN	**Jiri**	**36.40**	**300**	*eP*	**P**	**23 50 41.8**	**+0.9**
	comp=Z,945nm,1.4s						
GUN	**Gum

comp=Z,161nm,1.6s,mb5.6
KKN Kakani 37.21 300 *e*P **P** **23 50 47.9 +0.1**
comp=Z,1μm,1.8s,mb6.3
DMN Daman 37.30 300 *e*P **P** **23 50 48.8 +0.2**
comp=Z,301nm,1.0s,mb6.1
ASAR Alice Springs 37.58 161 P **P** **23 50 51.0 0.0**
comp=Z,8.2nm,0.6s,mb4.6,baz=343,slow=6.5,SNR=50
ULN Ulaanbaatar 37.63 344⇑*i*P **P** **23 50 50.8 -0.6**
ULN LR LR
comp=Z,5μm,21.0s,MS5.3
SONM Songino Array 37.78 343 P **P** **23 50 52.2 -0.5**
comp=Z,21nm,0.7s,mb5.0,baz=163,slow=9.9,SNR=189
SONM LR LR 00 08 13.9
comp=Z,6μm,19.6s,MS5.4,baz=154,slow=39
GKN Gorkha 37.82 300 *e*P **P** **23 50 52.6 -0.3**
comp=Z,457nm,1.5s,mb6.0
KLR Kul'dur 38.00 11⇓*i*P **P** **23 50 51.2 -3.3**
KLR *e* 23 52 24.0
KLR *e*S **S** **23 56 37.0 -10**
KLR pmax pmax
comp=E,180nm,1.8s
KLR pmax pmax
comp=Z,950nm,1.8s,mb6.2
KLR smax
comp=N,1μm,9.5s
KLR smax
comp=E,1μm,9.5s
KLR MLR MLR
comp=N,2μm,15.0s
KLR MLR MLR
comp=Z,6μm,15.0s,MS5.5
HABR Khabarovsk 38.01 15 *e*P **P** **23 50 55.0 +0.5**
HABR *e*S **S** **23 56 46.1 -0.6**
HABR pmax pmax
comp=Z,79nm,1.3s,mb5.3
HABR MLR MLR
comp=Z,1μm,15.7s,MS4.7
YUK Yuzh-Kuril'sk 38.15 29 *e*P **P** **23 50 54.9 -0.8**
YUK *i* 23 51 08.6
YUK pmax pmax
comp=N,2μm,2.0s
YUK pmax pmax
comp=Z,2μm,2.0s
KOLN Koldanda 38.63 300 *e*P **P** **23 50 59.9 +0.1**
comp=Z,750nm,1.7s,mb6.2
DANN Dangsing 38.66 300 *e*P **P** **23 51 00.6 +0.6**
YSS Yuzh-Sakhalins 39.13 23 *e*P **P** **23 51 04.2 +0.3**
comp=Z,126nm,1.3s,mb5.5
YSS LR LR
comp=Z,3μm,22.0s,MS5.1
YSS Yuzh-Sakhalins 39.13 23 *oe*P **P** **23 51 04.9 +1.0**
YSS *e**PP pP 23 51 14.0 +7.0
YSS *e* 23 53 14.2
YSS *e*S **S** **23 57 03.0 -0.6**
YSS *e*SSS 00 00 27.0
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.3
YSS pmax pmax
comp=N,40nm,1.1s
YSS smax
comp=N,900nm,12.0s
YSS MLR MLR
comp=Z,2μm,17.0s,MS5.0
YSS MLR MLR
comp=N,2μm,18.0s,MS5.0
YSS MLR MLR
comp=E,1μm,18.0s,MS5.0
CTA Charters Tower 40.26 142 *e*P **P** **23 51 12.7 -0.6**
comp=E,10nm,0.9s,mb4.5
CTA Charters Tower 40.26 142 P **P** **23 51 14.0 +0.7**
comp=E,8.7nm,0.9s,mb4.5,baz=327,slow=11,SNR=6.2
CTA Charters Tower 40.26 142 *e*P **P** **23 51 12.7 -0.6**
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 40.26 142 P **P** **23 51 15.5 +2.2**
CTAO LR LR
comp=Z,2μm,21.0s,MS4.9
CIT Chita 40.32 352 *e*P **P** **23 51 14.2 +0.3**
CIT *e* 23 51 28.0
CIT *e* 23 53 09.8
CIT pmax pmax
comp=Z,139nm,1.6s,mb5.4
PALK Pallekele 40.38 267 PFAKE 23 51 30.0 +16
PALK LR LR
comp=Z,2μm,19.0s,MS4.9
ZAK Zakamensk 40.97 342 *e*P **P** **23 51 18.7 -0.6**
ZAK *e* 23 52 50.2
ZAK pmax pmax
comp=Z,26nm,1.7s,mb4.6
ZAK pmax pmax
comp=Z,31nm,1.8s,mb4.6
ZAK pmax pmax
comp=Z,41nm,1.8s,mb4.8
NGP Nagpur 41.47 288⇑*e*x x 23 51 16.5
NGP *e*S **S** **23 57 40.1 +1.5**
NGP AMP 00 11 34.9
comp=Z,1μm,19.3s
HYB Hyderabad 41.72 283 *i* P **P** **23 51 26.0 +0.6**
comp=Z,50nm,1.0s,mb5.1
HYB *e*S **S** **23 57 48.0 +5.7**
HYB Hyderabad 41.72 283 *e*P **P** **23 51 26.0 +0.6**
comp=Z,50nm,1.0s,mb5.1
HYB *e*S **S** **23 57 48.0 +5.7**
HYB Hyderabad 41.72 283 *e*P **P** **23 51 26.0 +0.6**
HYB *e*S **S** **23 57 48.0 +5.7**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.1
LGTI Lohaghat 41.92 301 *e*P **P** **23 51 28.0 +0.9**
IRK Irkutsk 42.36 344 *e*P **P** **23 51 29.0 -1.7**
IRK *e* 23 53 40.7
IRK pmax pmax
comp=Z,83nm,3.0s
WMQ Urumqi 42.90 324 P **P** **23 51 35.3 +0.3**
WMQ AP pP 23 51 47.5 +9.4
WMQ XP sP 23 51 53.0 +14
WMQ PP PP 23 53 17.8 +3.3
WMQ PCP PcP 23 53 26.0 +0.2
WMQ PPP 23 53 52.5
WMQ S **S** **23 57 56.5 -3.3**
WMQ AMB AMB
comp=Z,86nm,0.8s,mb5.5
WMQ AMB AMB
comp=Z,703nm,4.6s
WMQ LR LR
comp=N,6μm,18.0s,MS5.6
WMQ LR LR
comp=E,5μm,18.2s,MS5.6
WMQ LR LR
comp=Z,6μm,17.0s,MS5.6
FORT Forrest 43.10 172 *e*P **P** **23 51 35.5 -1.1**
comp=Z,41nm,0.6s,mb5.3
KLBR Kellerberrin 43.58 185 *e*P **P** **23 51 39.6 -0.9**
comp=Z,56nm,1.2s,mb5.2
HNR Honiara 43.86 117 PFAKE 23 51 50.0 +7.2
HNR LR LR
comp=Z,2μm,21.0s,MS4.9
DDI Dehra Dun 43.99 301 *e*P **P** **23 51 43.3 -0.5**
WAKE Wake Island 44.04 75 PFAKE 23 52 00.0 +16
WAKE LR LR
comp=Z,2μm,22.0s,MS4.9
MUN Mundaring 44.10 186 *e*P **P** **23 51 44.1 -0.6**
NDI New Delhi 44.31 299 *e*P **P** **23 51 44.0 -2.4**
NRGR Nerungri 44.54 3 *e*P **P** **23 51 45.8 -2.4**
NRGR S **S** **23 58 18.5 -5.2**
NRGR smax
comp=E,5.0nm,0.3s
CLNS Chul'man 44.73 3 *e*P **P** **23 51 49.3 -0.4**
CLNS *e**PP pP 23 51 55.2 +2.4
CLNS *e* 23 53 30.1
CLNS *e* 23 53 40.1
CLNS *e*S **S** **23 58 21.2 -5.2**
CLNS pmax pmax
comp=Z,145nm,1.8s,mb5.5
CLNS pmax pmax
comp=N,133nm,1.3s
CLNS pmax pmax
comp=E,47nm,1.8s
CLNS pmax pmax
comp=Z,16nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS smax
comp=E,180nm,12.2s
CLNS smax
comp=Z,76nm,12.4s
CLNS smax
comp=N,239nm,12.6s
CLNS MLR MLR
comp=Z,3μm,17.0s,MS5.3
CLNS MLR MLR
comp=N,600nm,16.0s,MS5.2
CLNS MLR MLR
comp=E,2μm,15.0s,MS5.2
NWAO Narrogin (SRO) 44.94 185 *e*P **P** **23 51 49.2 -2.2**
comp=E,28nm,0.7s,mb5.2
NWAO LR LR
comp=Z,1μm,21.0s,MS4.8
NWAO Narrogin (SRO) 44.94 185 *e*P **P** **23 51 49.2 -2.2**
NWAO pmax pmax
comp=Z,28nm,0.7s
NWAO MLR MLR
comp=Z,1μm,21.0s
BHK Bhakra 45.63 302 *ex* x 23 52 11.5
KAD Karad 45.89 282 *e*P **P** **23 52 00.0 +1.1**
BOD Bodaibo 45.98 354 *e*P **P** **23 51 59.6 0.0**
BOD pmax pmax
comp=Z,34nm,1.4s,mb5.1
PONG Pong 46.15 303 *e*P **P** **23 52 00.0 -1.0**
PONG *e*P 23 52 00.0
AJM Ajmer 46.15 295 *e*P **P** **23 52 01.2 +0.3**
AJM AMb AMB 23 52 09.8
comp=Z,230nm,1.5s,mb5.9
POO Poona 46.21 284 *e*P **P** **23 51 57.5 -4.0**
POO *ex* x 23 52 12.8
DLH Dalhousie 46.29 304 *ex* x 23 52 07.0
MK31 Makanchi Array 47.73 324 *i* P **P** **23 52 13.2 -0.1**
MKAR Makanchi Array 47.73 324 P **P** **23 52 13.2 -0.2**
comp=Z,18nm,0.8s,mb5.1,baz=137,slow=9.2,SNR=108
MKAR LR LR 00 13 27.5
comp=Z,4μm,21.6s,MS5.3,baz=211,slow=38
MKAR Makanchi Array 47.73 324 P **P** **23 52 13.2 -0.2**
MKAR LR LR 00 13 27.5
STKA Stephens Creek 47.81 157 *e*P **P** **23 52 11.8 -2.1**
comp=Z,31nm,1.8s,mb5.0
STKA Stephens Creek 47.81 157 P **P** **23 52 12.1 -1.8**
comp=Z,5.7nm,0.5s,mb4.8,baz=338,slow=8.0,SNR=22
KSH Kashi 48.49 313 *i* PR **P** **23 52 22.0 +2.8**
KSH AP pP 23 52 34.3 +12
KSH XP sP 23 52 40.0 +16
KSH PCP PcP 23 53 46.0 +0.8
KSH PP PP 23 54 14.3 +2.4
KSH PPP 23 55 08.0
KSH SCP ScP 23 57 36.5 -3.5
KSH PCS PcS 23 57 41.3 +0.1
KSH S **S** **23 59 19.0 -1.2**
KSH XS sS 23 59 40.0 +15
KSH AMB AMB
comp=Z,116nm,1.1s,mb5.8
KSH AMB AMB
comp=Z,744nm,3.6s
KSH LR LR
comp=N,3μm,17.6s
KSH LR LR
comp=E,1μm,12.6s
KSH LR LR
comp=Z,3μm,16.4s,MS5.4
AAA Alma-Ata 49.30 318 *i* P **P** **23 52 27.3 +1.8**
AAA *i* S **S** **23 59 33.0 +1.3**
AAA pmax pmax
comp=Z,600nm,2.4s,mb6.2
AAA smax
comp=N,800nm,7.0s
AAA MLR MLR
comp=Z,3μm,18.0s,MS5.4
ULHL Ulahol 49.35 316 P **P** **23 52 26.5 +0.7**
SNR=115
ADE Adelaide 49.59 161 *e*P **P** **23 52 28.4 +0.7**
KZA Kyzart 49.96 315 P **P** **23 52 32.0 +1.5**
SNR=51
TKM2 Tokmak 2 50.06 317 P **P** **23 52 31.7 +0.5**
SNR=20
YAK Yakutsk 50.21 5⇑*e*P **P** **23 52 31.3 -1.1**
comp=Z,232nm,1.2s,mb6.1
YAK LR LR
comp=Z,2μm,19.0s,MS5.2
YAK Yakutsk 50.21 5⇑*e*P **P** **23 52 31.3 -1.1**
YAK pmax pmax
comp=Z,232nm,1.2s,mb6.1
YAK MLR MLR
comp=Z,2μm,19.0s,MS5.2
BHJ Bhuj 50.32 290 *e*P **P** **23 52 32.6 -0.5**
BHJ AMb AMB 23 52 41.6
comp=Z,148nm,1.1s,mb5.9
KBK Karagaybulak 50.39 316 P **P** **23 52 35.0 +1.3**
SNR=34
PET Petropavlovsk 50.49 28⇑*e*P **P** **23 52 34.5 0.0**
comp=Z,124nm,1.4s,mb5.8
PET LR LR
comp=Z,2μm,19.0s,MS5.2
PET Petropavlovsk 50.49 28 *e*P **P** **23 52 34.7 +0.3**
PET *e* 23 54 33.0
PET *e*PPP 23 55 21.4
PET *e*S **S** **23 59 46.5 -1.8**
PET *e*SS SS 00 03 18.1 -4.0
PET *e*SSS 00 04 50.6
PET pmax pmax
comp=Z,900nm,7.3s
PET pmax pmax
comp=Z,71nm,1.3s,mb5.5
PET pmax pmax
comp=Z,600nm,14.9s
PET pmax pmax
comp=Z,400nm,13.3s
PET pmax pmax
comp=Z,400nm,15.5s
PET smax
comp=N,1μm,23.5s
PET MLR MLR
comp=Z,2μm,20.0s,MS5.2
UCH Uchtor 50.52 315 P **P** **23 52 36.0 +1.3**
SNR=69
CHMS Chumysh 50.66 316 P **P** **23 52 36.5 +0.8**
SNR=15
FRU Bishkek 50.68 316 *e*P **P** **23 52 37.0 +1.1**
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.4
FRU MLR MLR
comp=Z,4μm,20.0s,MS5.5
AAK Ala-Archa 50.69 316 P **P** **23 52 37.5 +1.5**
SNR=24
ZAL Zalesovo 50.80 333 P **P** **23 52 35.8 -1.0**
comp=Z,19nm,1.1s,mb4.9,baz=343,slow=5.7,SNR=60
ZAL LR LR 00 16 12.5
comp=Z,2μm,18.9s,MS5.2,baz=341,slow=39
USP Ospenovka 50.93 317 P **P** **23 52 38.0 +0.2**
SNR=30
AML Almayashu 51.05 315 P **P** **23 52 39.9 +1.2**
SNR=57
EKS2 Erkin-Say 51.19 316 P **P** **23 52 40.9 +1.1**
SNR=35
ARMA Armidale 51.30 146 *e*P **P** **23 52 42.1 +1.5**
KURK Kurchatov 51.90 327⇑*i*P **P** **23 52 44.4 -0.6**
comp=Z,101nm,0.9s,mb5.8
KURK LR LR
comp=Z,2μm,20.0s,MS5.2
KURK Kurchatov 51.90 327⇑*i*P **P** **23 52 44.4 -0.7**
KURK pmax pmax
comp=Z,101nm,0.9s,mb5.8
KURK MLR MLR
comp=Z,2μm,20.0s,MS5.2
NVS Novosibirsk 52.08 333 *i* P **P** **23 52 44.4 -2.0**
NVS *i* S **S** **00 00 03.6 -6.7**
NVS pmax pmax
comp=N,51nm,1.2s
NVS pmax pmax
comp=Z,83nm,1.2s,mb5.5
NVS pmax pmax
comp=E,61nm,1.3s
NVS smax
comp=N,48nm,2.2s
NVS smax
comp=E,51nm,2.2s
MA2 Magadan 52.19 18⇑*i*P **P** **23 52 47.2 0.0**
comp=E,211nm,1.4s,mb5.9
MA2 LR LR
comp=Z,1μm,20.0s,MS5.0
MA2 Magadan 52.19 18*c i*P **P** **23 52 47.4 +0.2**
MA2 *e* 23 53 01.6
MA2 *e*S **S** **00 00 05.7 -6.0**
MA2 *e*PS 00 00 25.8
MA2 *e* 00 54 53.1
MA2 pmax pmax
comp=N,30nm,1.4s
MA2 pmax pmax
comp=Z,70nm,1.4s,mb5.4
MA2 pmax pmax
comp=E,30nm,1.5s
MA2 MLR MLR
comp=Z,3μm,21.0s,MS5.3
DGAR Diego Garcia 52.39 251 PFAKE 23 53 00.0 +11
DGAR LR LR
comp=Z,3μm,20.0s,MS5.3
KK31 Karatay Array 53.59 315 *i* P **P** **23 52 57.6 0.0**
TOO Toolangi 54.33 156 *e*P **P** **23 53 03.5 +0.6**
comp=Z,14nm,0.9s,mb4.9
TOO Toolangi 54.33 156 *e*P **P** **23 53 03.5 +0.6**
TOO pmax pmax
comp=Z,14nm,0.9s,mb4.9
SEY Seymchan 55.34 17 *e*P **P** **23 53 10.9 +0.6**
SEY Seymchan 55.34 17 *e*P **P** **23 53 11.0 +0.7**
SEY 23 54 13.5
SEY *e* 23 55 18.2
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=Z,60nm,1.2s,mb5.5
SEY pmax pmax
comp=E,30nm,1.4s
SEY pmax pmax
comp=E,1μm,17.0s
BVAR Borovoye Array 57.48 326 P **P** **23 53 24.8 -0.8**
comp=E,8.1nm,0.6s,mb4.9,baz=116,slow=10,SNR=68
BRVK Borovoye 57.56 326 P **P** **23 53 25.1 -1.0**
comp=E,284nm,1.1s,mb6.2,SNR=24
BRVK Borovoye 57.56 326⇑*e*P **P** **23 53 25.3 -0.8**
comp=E,31nm,1.0s,mb5.3
BRVK LR LR
comp=Z,2μm,19.0s,MS5.3
BRVK Borovoye 57.56 326⇑*e*P **P** **23 53 25.3 -0.8**
BRVK pmax pmax
comp=Z,31nm,1.0s,mb5.3
BRVK MLR MLR
comp=Z,2μm,19.0s,MS5.3
CHKZ Chkalovo 57.65 327⇑*e*P **P** **23 53 25.5 -1.2**
comp=Z,30nm,1.1s,mb5.2
CHKZ Chkalovo 57.65 327⇑*e*P **P** **23 53 25.5 -1.2**
CHKZ pmax pmax
comp=Z,30nm,1.1s,mb5.2
FX1 Attu Island--F 57.82 34 P **P** **23 53 27.8 -0.1**
comp=Z,45nm,1.1s,mb5.4,baz=288,slow=13,SNR=2.6
ZRNK Zerenda 58.21 326⇑*e*P **P** **23 53 29.3 -1.4**
comp=Z,21nm,0.7s,mb5.3
ZRNK Zerenda 58.21 326⇑*e*P **P** **23 53 29.3 -1.4**
ZRNK pmax pmax
comp=Z,21nm,0.7s,mb5.3
SMY Shemya 58.28 35 PFAKE 23 53 40.0 +8.9
SMY LR LR
comp=Z,3μm,22.0s,MS5.3
TIXI Tiksi 59.69 3⇑*i*P **P** **23 53 39.2 -1.8**
TIXI LR LR
comp=Z,2μm,20.0s,MS5.2
TIXI Tiksi 59.69 3 *e*P **P** **23 53 34.0 -7.0**
TIXI *e*S **S** **00 01 38.0 -14**
TIXI *e*SS SS 00 05 40.6 -6.7
TIXI pmax pmax
comp=Z,86nm,1.2s,mb5.7
TIXI smax
comp=N,289nm,10.0s
TIXI smax
comp=E,139nm,9.5s
WBK Wadi Bani Khal 60.15 289⇓P **P** **23 53 43.5 -0.6**
JMDO Jabal Madar 60.96 289⇓P **P** **23 53 48.8 -0.8**
SMDO Samad 60.99 290⇑P **P** **23 53 50.0 +0.1**
HOQ Hoqain 61.66 290 P **P** **23 53 54.7 +0.4**
SNR=8.7
BSY Bisya 61.78 289⇓P **P** **23 53 55.3 +0.1**
SNR=6.2
ARQ Araqi 62.39 290 P **P** **23 53 59.3 0.0**
SNR=6.5
BANOM Banah 62.54 293⇑P **P** **23 54 02.0 +1.8**
SNR=9.6
ASHO Ashiyiah 62.77 292⇑P **P** **23 54 01.6 -0.2**
SNR=12
BILL Bilibino 63.02 17⇑*i*P **P** **23 54 02.0 -1.5**
BILL MLR MLR
comp=Z,714nm,22.0s,MS4.8
ADK Adak 63.33 38 PFAKE 23 54 20.0 +14
ADK LR LR
comp=Z,2μm,22.0s,MS5.2
AKTK Aktyubinsk 63.89 320 P **P** **23 54 08.8 -0.4**
AKTO Aktyubinsk 63.89 320 P **P** **23 54 08.8 -0.4**
comp=Z,6.7nm,0.7s,mb4.8,baz=97,slow=7.9,SNR=31
AKTO Aktyubinsk 63.89 320 *i* P **P** **23 54 08.3 -0.9**
AKTO pmax pmax
comp=Z,30nm,2.2s,mb4.9
SVE Sverdlovsk 64.12 328⇓*i*P **P** **23 54 10.0 -0.8**
SVE *e* 23 54 43.0
SVE *e*S **S** **00 02 52.0 +4.3**
SVE pmax pmax
comp=Z,128nm,2.3s,mb5.5
SVE MLR MLR
comp=N,2μm,15.0s,MS5.4
SVE MLR MLR
comp=E,1μm,15.0s,MS5.4
SVE MLR MLR
comp=Z,2μm,15.0s,MS5.5
RBK Rabkut 64.92 284⇓P **P** **23 54 15.9 -0.1**
ARU Arti 65.10 327 *e*P **P** **23 54 15.3 -1.8**
comp=Z,25nm,0.9s,mb5.2
ARU LR LR
comp=Z,3μm,20.0s,MS5.5
ARU Arti 65.10 327⇑*i*P **P** **23 54 15.7 -1.4**
ARU *e* 23 54 45.8
ARU *e* 23 56 37.4
ARU *e*PPP 23 58 15.2
ARU *e*S S 00 02 58.5 -1.2
ARU *e*SS SS 00 07 11.2 -0.6
ARU pmax pmax
comp=Z,17nm,0.9s,mb5.1
ARU MLR MLR
comp=Z,3μm,19.0s,MS5.5
ARU MLR MLR
comp=N,300nm,17.0s,MS5.4
ARU MLR MLR
comp=E,2μm,18.0s,MS5.4
WHFO Wadi Hawf 65.30 284 P **P** **23 54 18.3 -0.2**
SNR=10
ABTO Aybut 65.80 284 P **P** **23 54 22.1 +0.4**
SNR=14
UNV Unalaska Valle 69.76 37 PFAKE 23 55 00.0 +13
UNV LR LR
comp=Z,5μm,21.0s,MS5.7
MAK Makhachkala 70.10 311*c i*P **P** **23 54 43.4 -5.3**
MAK *i* 23 57 27.2
MAK *e*PPP 23 59 11.6
MAK *e*S S 00 03 54.2 -5.5
MAK *e* 00 04 44.1
MAK *e*SS SS 00 08 30.3 +1.0
MAK pmax pmax
comp=Z,86nm,1.9s,mb5.4
RDF Al-Radifah 70.22 297 *e*P **P** **23 54 49.2 -0.2**
RDF AMb AMB 23 54 51.3
comp=Z,147nm,0.9s,mb5.9
MIB Mutribah 70.35 297 *e*P **P** **23 54 49.9 -0.4**
MIB AMb AMB 23 54 51.8
comp=Z,108nm,0.7s,mb5.9
NAY Al-Naaiem 70.47 297 *e*P **P** **23 54 50.7 -0.3**
NAY AMb AMB 23 54 52.6
comp=Z,73nm,0.9s,mb5.6
AFI Afiamalu 71.08 109 PFAKE 23 55 10.0 +15
AFI LR LR
comp=Z,2μm,21.0s,MS5.3
TNA Tin City 71.09 25 *e*P **P** **23 54 54.7 -0.1**
comp=Z,16nm,1.2s,mb4.8
TNA *e*PP PP 23 57 25.9 -6.4
TNA LR LR
comp=Z,474nm,19.0s,MS4.8
DGRG David-gareji 71.66 310 P **P** **23 54 59.2 +1.0**
MTA Mtatsminda 72.09 310 P **P** **23 55 01.3 +0.5**
TBLG Delisi 72.13 310 P **P** **23 55 01.9 +0.8**
TBLG Delisi 72.13 310 *e*P **P** **23 55 01.9 +0.8**
GNI Garni 72.15 308⇑*e*P **P** **23 55 02.0 +0.8**
comp=Z,88nm,1.4s,mb5.5
GNI LR LR
comp=Z,1μm,22.0s,MS5.2
GNI Garni 72.15 308*c i*P **P** **23 55 00.6 -0.5**

GNI pmax pmax
comp=Z,126nm,1.9s
BHD Baghdad 72.69 301 *ex* x 23 54 57.0
BHD *ex* x 00 04 20.0
ZEI Tsey 72.75 311 *eP* **P** **23 55 05.0 +0.3**
ZEI *i* *PP pP 23 55 14.8 +6.8
ZEI pmax pmax
comp=Z,31nm,1.4s,mb5.0
AKH Akhalkalaki 73.07 310 P **P** **23 55 08.4 +1.8**
DIGO Kars 73.19 309 *i* P **P** **23 55 07.5 +0.2**
TVAN Van 73.23 307 *i* P **P** **23 55 09.1 +1.5**
GOF Gofitskoye 73.35 314 *eP* **P** **23 55 07.0 -1.3**
GOF pmax pmax
comp=Z,30nm,1.0s,mb5.2
MSL Mosul 73.58 304 *ex* x 23 55 11.0
MSL *ex* x 00 04 44.0
MSL *ex* x 00 05 19.0
MSL *ex* x 23 58 03.5
ARTV Artvin 74.26 310 *i* P **P** **23 55 15.3 +1.7**
VRHR Novokhopersk 74.28 320 *eP* **P** **23 55 10.5 -3.2**
VRHR pmax pmax
comp=Z,40nm,1.3s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.8s
ERZM Erzurum 74.75 308 *i* P **P** **23 55 16.5 0.0**
BNGL BINGOL 74.97 307 *i* P **P** **23 55 11.1 -6.6**
MARD Mardin 75.37 306 *i* P **P** **23 55 10.7 -9.3**
KLMR Klimovskoe 75.58 330 *d* *i* P **P** **23 55 19.9 -1.3**
KLMR pmax pmax
comp=Z,80nm,1.5s,mb5.4
KLMR pmax pmax
comp=Z,180nm,6.4s
KLMR MLR MLR
comp=Z,2µm,19.0s,MS5.5
VORD Divnogorie 75.75 320 *eP* **P** **23 55 20.1 -2.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VORD pmax pmax
comp=E,20nm,0.8s
SOC Sochi 75.78 312 *i* P **P** **23 55 19.0 -3.4**
SOC Sochi 75.78 312 *c* *i* P **P** **23 55 21.2 -1.2**
SOC *e* 23 55 31.3
SOC *eS* S 00 05 01.9 -2.4
SOC *e**SS sS 00 05 23.2 +13
SOC *eSS SS 00 09 48.0 -8.0
SOC pmax pmax
comp=Z,21nm,0.8s,mb5.1
VOR Voronezh 75.79 321 *eP* **P** **23 55 20.5 -2.0**
VOR *e* 23 55 33.0
VOR pmax pmax
comp=Z,60nm,2.0s,mb5.2
VRSR Storozhevoye 75.81 320 *eP* **P** **23 55 21.5 -1.1**
VRSR pmax pmax
comp=N,3.0nm,1.0s
VRSR pmax pmax
comp=Z,3.0nm,1.0s
VRSR pmax pmax
comp=E,3.0nm,0.9s
TTA Tatalina 75.94 28 *eP* **P** **23 55 23.1 -0.2**
comp=E,128nm,1.5s,mb5.6
TTA Tatalina 75.94 28 *eP* **P** **23 55 23.1 -0.2**
TTA pmax pmax
comp=Z,128nm,1.5s,mb5.6
SVW2 Sparrevohn 76.12 30 *eP* **P** **23 55 25.1 +0.7**
MOS Moscow 76.61 325 *eP* **P** **23 55 24.6 -2.5**
MOS pmax pmax
comp=Z,70nm,1.6s,mb5.3
MOS pmax pmax
comp=Z,200nm,2.2s,mb5.7
MOS MLR MLR
comp=Z,4µm,20.0s,MS5.8
MOS MLR MLR
comp=E,2µm,17.0s
ELZG Elazig 76.69 307 *i* P **P** **23 55 28.8 +1.2**
MALT Malatya 77.14 307 ⇓P **P** **23 55 32.3 +2.2**
OBN Obninsk 77.24 324 *eP* **P** **23 55 29.1 -1.6**
comp=E,106nm,1.5s,mb5.5
OBN LR LR
comp=Z,2µm,21.0s,MS5.5
OBN Obninsk 77.24 324 *eP* **P** **23 55 29.2 -1.5**
OBN *e* 23 55 40.1
OBN *e* 23 58 23.7
OBN *eS* S 00 05 17.4 -2.9
OBN pmax pmax
comp=Z,57nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,2µm,21.0s,MS5.5
ANN Anapa 77.34 313 *eP* **P** **23 55 28.0 -3.2**
ANN *e**PP pP 23 55 39.0 +4.5
ANN *i* 23 55 42.8
ANN *eS* S 00 05 18.8 -2.6
ANN *eSS SS 00 10 19.3 -0.3
ANN *eSSS 00 13 32.4
ANN pmax pmax
comp=Z,54nm,1.2s,mb5.3
LVZ Lovozero 77.67 337 PFAKE 23 55 40.0 +6.9
LVZ LR LR
comp=Z,3µm,20.0s,MS5.7
GZT Gaziantep 77.92 306 *i* P **P** **23 55 35.3 +0.8**
APA Apatity 78.15 337 ⇑*i* P **P** **23 55 34.7 -1.1**
APA *i* 23 55 44.0
APA *eS* S 00 05 24.0 -6.2
APA pmax pmax
comp=Z,12nm,0.8s,mb4.9
FIB Fire Island 78.74 30 *eP* **P** **23 55 38.7 -0.3**
comp=Z,47nm,1.2s,mb5.3
FIB LR LR
comp=Z,3µm,22.0s,MS5.6
FIB Fire Island 78.74 30 *eP* **P** **23 55 38.7 -0.3**
FIB pmax pmax
comp=Z,47nm,1.2s,mb5.3
FIB MLR MLR
comp=Z,3µm,22.0s,MS5.6
SLKM Skilak Lake 78.77 30 *eP* **P** **23 55 38.0 -1.2**
COBT Iskenderun 79.06 305 *i* P **P** **23 55 40.0 -0.7**
MCK McKinley 79.10 27⇑*eP* **P** **23 55 40.2 -0.8**
comp=Z,46nm,1.0s,mb5.4
MCK LR LR
comp=Z,450nm,21.0s,MS4.8
MCK McKinley 79.10 27⇑*eP* **P** **23 55 40.2 -0.8**
MCK pmax pmax
comp=Z,46nm,1.0s,mb5.4
MCK MLR MLR
comp=Z,450nm,21.0s,MS4.8
PMR Palmer 79.21 29 *eP* **P** **23 55 40.4 -1.2**
PMR LR LR
comp=Z,686nm,22.0s,MS5.0
COLA College 79.46 26 *eP* **P** **23 55 42.1 -0.9**
COLA LR LR
comp=Z,715nm,20.0s,MS5.0
BOYT Boyabat 79.51 310 *i* P **P** **23 55 42.5 -0.7**
SML Sawmill 79.56 29 *eP* **P** **23 55 42.8 -0.8**
SIM Simferopol' 79.67 314 *c* *i* P **P** **23 55 44.0 -0.1**
SIM *eS* S 00 05 43.0 -3.4
SIM pmax pmax
comp=Z,20µm,0.8s
DESE Dese 79.79 279 *eP* **P** **23 55 47.9 +3.1**
AVNT Avonos 79.88 308 *i* P **P** **23 55 45.4 +0.2**
BHL Bhannes 79.88 303 *eP* **P** **23 55 46.9 +1.6**
ILAR Eielson Array 79.88 26 P **P** **23 55 43.2 -2.0**
comp=Z,6.4nm,0.8s,mb4.6,baz=248,slow=4.8,SNR=43
ILAR PP PP 23 58 49.1 +2.4
comp=Z,1.6nm,1.0s,baz=288,slow=7.8,SNR=4.3
ILAR LR LR 00 36 37.6
comp=Z,430nm,18.4s,MS4.8,baz=94,slow=40
ILAR Eielson Array 79.88 26 P **P** **23 55 43.3 -1.9**
ILAR 23 58 49.1
CDAG Cicekdag 80.14 308 *i* P **P** **23 55 40.6 -6.0**
KEV Kevo 80.27 339 *eP* **P** **23 55 45.9 -1.4**
comp=Z,6.5nm,0.7s,mb4.7
KEV LR LR
comp=Z,2µm,19.0s,MS5.5
KEV Kevo 80.27 339 *eP* **P** **23 55 45.9 -1.4**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KEV MLR MLR
comp=Z,2µm,19.0s,MS5.5
BR131 Keskin Array S 80.69 309 *eP* **P** **23 55 49.1 -0.5**
comp=Z,3.0nm,0.7s,mb4.3
BR131 LR LR
comp=Z,726nm,20.0s,MS5.0
BRTR Keskin Array B 80.69 309 P **P** **23 55 49.2 -0.4**
comp=Z,3.1nm,0.8s,mb4.3,baz=116,slow=4.6,SNR=15
BRTR PP PP 23 58 56.1 +2.8
comp=Z,2.1nm,0.8s,baz=89,slow=7.9,SNR=3.8
ARCES ARCESS Array B 80.82 339 P **P** **23 55 48.1 -2.2**
comp=Z,14nm,0.9s,mb4.9,baz=88,slow=5.7,SNR=15
ARCES LR LR 00 36 23.0
comp=Z,2µm,19.0s,MS5.5,baz=77,slow=39
ARE0 ARCESS Array S 80.82 339 P **P** **23 55 48.6 -1.7**
DIV Divide 80.87 29⇑*eP* **P** **23 55 50.0 -0.6**
comp=Z,282nm,1.4s,mb6.0
DIV LR LR
comp=Z,4µm,22.0s,MS5.7
EYAK Cordova Ski Ar 80.97 30 *eP* **P** **23 55 51.4 +0.3**
EIL Elat 81.08 298⇑*eP* **P** **23 55 52.5 +0.8**
comp=Z,1µm,1.1s
ANTO Ankara 81.31 309 PFAKE 23 56 00.0 +7.1
ANTO LR LR
comp=Z,609nm,22.0s,MS4.9
MENT Mentasta 81.54 27 *eP* **P** **23 55 54.4 +0.3**
CSS Prodhromos 81.62 304 *eP* **P** **23 55 55.1 +0.6**
comp=Z,27nm,0.7s,mb5.3
SGKT Sivrigoynuk 81.76 310 *i* P **P** **23 55 49.8 -5.5**
KBS Kingsbay 81.88 349 PFAKE 23 56 10.0 +14
KBS LR LR
comp=Z,2µm,21.0s,MS5.4
FINES FINESS Array B 82.02 331 P **P** **23 55 55.5 -1.2**
comp=Z,2.2nm,0.6s,baz=62,slow=5.9,SNR=18
FINES LR LR 00 36 45.2
comp=Z,2µm,18.4s,MS5.4,baz=75,slow=39
AKASG Malin Array Be 82.13 320 P **P** **23 55 54.9 -2.4**
comp=Z,1.2nm,0.6s,baz=70,slow=4.4,SNR=13
AKASG Malin Array Be 82.13 320 *i* P **P** **23 55 56.2 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
VSU Vasula 82.23 328 *eP* **P** **23 55 56.6 -1.2**
MNK Minsk 82.33 324 *eP* **P** **23 55 56.0 -2.3**
HENT Hendek 82.59 310 *i* P **P** **23 55 59.3 -0.3**
KIS Kishinev 83.02 316 *eP* **P** **23 56 01.0 -0.9**
KIS *e*PPP 23 59 19.0
KIS *e* 00 06 16.0
DAWY Dawson 83.21 26⇑*eP* **P** **23 56 02.8 0.0**
TIRR Tirgusor 83.76 314 ⇓P **P** **23 56 06.7 +1.0**
GDZ Gediz 83.97 309 *i* P **P** **23 56 05.0 -1.8**
HARR Harsova 84.06 314 ⇓P **P** **23 56 07.9 +0.7**
INK Inuvik 84.33 21 P **P** **23 56 07.5 -1.1**
comp=Z,16nm,0.7s,mb5.3,baz=286,slow=4.8,SNR=69
INK LR LR 00 33 50.1
comp=Z,913nm,21.8s,MS5.1,baz=321,slow=36
INK Inuvik 84.33 21 *eP* **P** **23 56 07.9 -0.7**
comp=Z,31nm,0.9s,mb5.4
INK Inuvik 84.33 21 *eP* **P** **23 56 07.9 -0.7**
INK pmax pmax
comp=Z,31nm,0.9s
KMBO Kilima Mbogo 84.52 268 P **P** **23 56 10.9 +1.4**
comp=Z,7.5nm,0.9s,mb4.8,baz=56,slow=8.3,SNR=10
KMBO LR LR 00 30 12.9
comp=Z,723nm,20.0s,MS5.1,baz=89,slow=33
KMBO Kilima Mbogo 84.52 268 *eP* **P** **23 56 11.6 +2.1**
comp=Z,15nm,1.2s,mb5.0
KMBO LR LR
comp=Z,497nm,20.0s,MS4.9
KMBO Kilima Mbogo 84.52 268 *eP* **P** **23 56 11.6 +2.0**
KMBO pmax pmax
comp=Z,15nm,1.2s
KMBO MLR MLR
comp=Z,497nm,20.0s
VRI Vrincioaia 84.66 316 ⇑P **P** **23 56 10.9 +0.7**
PLOR Plostina 84.71 316 ⇑P **P** **23 56 11.6 +1.1**
SUW Suwalki 85.10 324 *eP* **P** **23 56 11.6 -0.9**
MLR Muntele Rosu 85.27 315 ⇓P **P** **23 56 12.9 -0.4**
BURAR Bucovina Array 85.30 318 ⇓P **P** **23 56 13.1 -0.4**
BURAR Bucovina Array 85.30 318 ⇓P **P** **23 56 13.1 -0.4**
LVV L'vov 85.57 320 *i* P pP 23 56 25.7 +7.6
KWP Kalwaria 86.45 320 *eP* **P** **23 56 19.6 +0.4**
KOLS Kolonicke sedl 86.90 319 *eP* **P** **23 56 25.5 +4.1**
KOLS *es*P sP 23 56 39.6 +14
SIT Sitka 87.03 32 *eP* **P** **23 56 24.1 +2.1**
comp=Z,68nm,1.3s,mb5.7
SIT LR LR
comp=Z,500nm,22.0s,MS4.9
SIT Sitka 87.03 32 *eP* **P** **23 56 24.1 +2.1**
SIT pmax pmax
comp=Z,68nm,1.3s,mb5.7
SIT MLR MLR
comp=Z,500nm,22.0s,MS4.9
DRGR 87.16 317 ⇓P **P** **23 56 31.0 +8.4**
CRVS Cervenica-Dubn 87.43 319 *eP* **P** **23 56 26.2 +2.3**
CRVS *e* 23 56 38.6
STHS Stebnicka Huta 87.43 320 *eP* **P** **23 56 24.3 +0.4**
STHS *es*P sP 23 56 40.9 +12
OJC Ojcow 88.11 321 *eP* **P** **23 56 26.2 -1.0**
OJC *eS* 00 07 04.6
OJC L 00 38 01.8
comp=Z,9.6nm,20.0s
OJC Ojcow 88.11 321 *eP* **P** **23 56 26.2 -1.0**
OJC *eS* 00 07 04.6
OJC MLR MLR
comp=Z,10µm,20.0s,MS6.2
KECS Kecovo 88.16 319 *eP* **P** **23 56 26.3 -1.1**
KECS *e* 23 56 45.1
HFS Hagfors 88.21 332 P **P** **23 56 25.2 -2.4**
comp=Z,2.0nm,0.5s,mb4.6,baz=104,slow=6.3,SNR=14
HFS LR LR 00 39 58.8
comp=Z,2µm,18.2s,MS5.5,baz=65,slow=38
DAG Danmarks Havn 88.29 351⇑*iP* **P** **23 56 26.2 -1.8**
comp=Z,4.0nm,0.6s,mb4.8
DAG Danmarks Havn 88.29 351⇑*iP* **P** **23 56 26.2 -1.8**
DAG pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
NB2 NORSAR Subarra 89.00 333 P **P** **23 56 29.3 -2.1**
comp=Z,25nm,1.1s,mb5.5,baz=68,slow=4.8
NB2 NORSAR Subarra 89.00 333 P **P** **23 56 29.3 -2.1**
NB2 pmax pmax
comp=Z,25nm,1.1s,mb5.5
NOA NORSAR Array B 89.00 333 P **P** **23 56 29.5 -1.8**
comp=Z,3.1nm,0.8s,mb4.7,baz=67,slow=4.6,SNR=8.4
NOA LR LR 00 40 57.6
comp=Z,2µm,18.2s,MS5.7,baz=45,slow=39
NOA NORSAR Array B 89.00 333 P **P** **23 56 29.5 -1.9**
NOA LR LR 00 40 57.6
VYHS Vyhne 89.21 320 *eP* **P** **23 56 32.9 +0.5**
VYHS *e* 23 56 51.4
VYHS *e*PP PP 00 00 02.8 +0.1
OKC Ostrava-Krasne 89.24 321 *es*P sP 23 56 49.9 +13
DLBC Dease Lake 89.24 30 P **P** **23 56 33.9 +1.4**
MAW Mawson 89.81 199 P **P** **23 56 32.5 -2.6**
comp=Z,6.2nm,0.9s,mb4.9,baz=76,slow=8.3,SNR=3.3
MAW LR LR 00 32 12.2
comp=Z,733nm,20.3s,MS5.1,baz=56,slow=32
PKSM Moragy 90.02 317 ⇓P **P** **23 56 36.5 +0.3**
DPC Dobruska-Polom 90.19 322 *ep*P pP 23 56 47.9 +7.6
DPC *ex* x 23 56 57.6
KONO Kongsberg 90.30 332 PFAKE 23 56 50.0 +13
KONO LR LR
comp=Z,2µm,22.0s,MS5.5
UPC Upice 90.32 322 *es*P sP 23 56 55.8 +14
UPC *ex* x 23 57 03.7
RES Resolute Bay 90.50 9 *eP* **P** **23 56 37.0 -1.4**
comp=Z,67nm,1.5s,mb5.8
RES Resolute Bay 90.50 9 *eP* **P** **23 56 37.0 -1.4**
RES pmax pmax
comp=Z,67nm,1.5s,mb5.8
JMIC Jan Mayen 90.52 345 LR LR 00 40 16.2
comp=Z,2µm,20.8s,MS5.5,baz=50,slow=38
PRU Pruhonice 91.39 322 *eP* **P** **23 56 43.3 +0.8**
PRU *ex* x 23 57 02.2
BRG Berggiesshubel 91.43 323 *eP* **P** **23 56 50.8 +8.1**
BRG *e* 23 57 03.1
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
BRG Berggiesshubel 91.43 323 *eP* **P** **23 56 50.8 +8.1**
comp=Z,5.4nm,1.2s,mb4.8
BRG *e* 23 57 03.1
comp=Z,10nm,1.2s
CLL Collm 91.82 323 *eP* **P** **23 56 42.9 -1.6**
CLL *e*(S) 00 07 44.8
CLL *e*(PS) 00 09 17.7
CLL *e*LR LR 00 32 05.0
CLL *e*L 00 40 23.2
comp=Z,2µm,20.0s
CLL *e* 23 57 03.9
CLL *e*PP PP 00 00 23.8 +0.4
KHC Kasperske Hory 92.28 321 *ep*P pP 23 56 55.2 +5.2
KHC *ex* x 23 57 06.5
GERES GERESS Array B 92.31 321 P **P** **23 56 45.3 -1.5**
comp=Z,0.5nm,0.7s,baz=61,slow=6.9,SNR=5.0
GERES PP PP 00 00 26.8 -0.5
comp=Z,1.1nm,0.9s,baz=84,slow=4.2,SNR=3.9
GERES LR LR 00 45 10.1
comp=Z,1µm,18.2s,MS5.4,baz=164,slow=40
GERES GERESS Array B 92.31 321 P **P** **23 56 45.3 -1.5**
GERES 00 00 26.8
VNDA Vanda 92.36 172 P **P** **23 56 44.7 -2.3**
comp=Z,2.3nm,0.8s,mb4.5,baz=336,slow=5.5,SNR=7.9
VNDA LR LR 00 39 29.7
comp=Z,768nm,20.2s,MS5.1,baz=225,slow=36
VNDA Vanda 92.36 172 *eP* **P** **23 56 44.8 -2.3**
comp=Z,12nm,1.0s,mb5.2
VNDA LR LR 00 39 29.7
VNDA Vanda 92.36 172 *eP* **P** **23 56 44.8 -2.2**
VNDA pmax pmax
comp=Z,12nm,1.0s
BOJS Bojanci 92.49 317 *eP* **P** **23 56 46.6 -1.0**
NKC Novy Kostel 92.55 323 *ep*P pP 23 57 00.1 +8.8
NKC *ex* x 23 57 07.0
PPT Papeete 92.66 107 *eS* 00 07 53.0
comp=Z,690nm,28.0s
PPT *e*SS SS 00 14 04.6 -0.7
comp=Z,388nm,22.0s
PPT *e*LQ 00 22 41.1
comp=Z,2µm,31.0s
PPT *e*LR LR 00 25 53.7
comp=Z,946nm,24.8s
CEY Cerknica 92.95 318 *eP* **P** **23 56 48.6 -1.1**
VOJS Vojsko 93.20 318 *eP* **P** **23 56 49.6 -1.3**
TBI Tubuai 93.92 113 *eS* 00 08 00.6
comp=Z,465nm,26.0s
TBI *e*SS SS 00 14 29.1 +5.8
comp=Z,441nm,30.0s
TBI *e*LQ 00 23 11.3
comp=Z,901nm,29.5s
TBI *e*LR LR 00 27 36.0
comp=Z,2µm,26.5s
YKW3 Yellowknife Ar 93.94 23 *eP* **P** **23 56 53.6 -0.7**
YKA Yellowknife Ar 93.98 23 P **P** **23 56 53.9 -0.6**
comp=Z,8.5nm,0.9s,mb5.2,baz=306,slow=4.4,SNR=119
YKA PP PP 00 00 34.4 -6.0
comp=Z,1.1nm,1.1s,baz=328,slow=7.5,SNR=4.1
YKA PKKPbc PKKPbc 00 13 58.2 +1.5
comp=Z,0.2nm,0.6s,baz=128,slow=2.7,SNR=5.8
YKA LR LR 00 43 56.8
comp=Z,480nm,20.2s,MS5.0,baz=280,slow=38
YKA Yellowknife Ar 93.98 23 P **P** **23 56 53.9 -0.6**
YKA PP PP 00 00 34.4 -6.0
YKA PKKPbc PKKPbc 00 13 58.2 +1.5
YKA LR LR 00 43 56.8
SUMG Summit 94.48 354 *eP* **P** **23 56 55.9 -1.0**
comp=Z,21nm,1.1s,mb5.5
LSZ Lusaka 96.18 256 PFAKE 23 57 20.0 +15
LSZ LR LR
comp=Z,1µm,19.0s,MS5.5
OCWA Octopus Mounta 96.84 38 PFAKE 23 57 20.0 +12
OCWA LR LR
comp=Z,945nm,21.0s,MS5.2
LPG La Plagne 97.99 320 *eP* **P** **23 57 12.2 -0.5**
comp=Z,43nm,1.3s,mb5.5
LPG La Plagne 97.99 320 *eP* **P** **23 57 12.2 -0.5**
comp=Z,22nm,1.3s,mb5.5
LPG La Plagne 97.99 320 *eP* **P** **23 57 12.2 -0.5**
LPG pmax pmax
comp=Z,22nm,1.3s,mb5.5
LPL La Plagne 98.00 320 *eP* **P** **23 57 12.1 -0.7**
comp=Z,20nm,1.1s,mb5.2
LPL La Plagne 98.00 320 *eP* **P** **23 57 12.1 -0.7**
comp=Z,10.0nm,1.1s,mb5.3
LPL La Plagne 98.00 320 *eP* **P** **23 57 12.1 -0.7**
LPL pmax pmax
comp=Z,10.0nm,1.1s,mb5.3
BORG Borgarnes 98.39 345 PFAKE 23 57 20.0 +5.5
BORG LR LR
comp=Z,2µm,19.0s,MS5.6
COR Corvallis 98.80 41 PFAKE 23 57 30.0 +14
COR LR LR
comp=Z,874nm,21.0s,MS5.2
HUMO Hull Mountain 99.90 43 PFAKE 23 57 30.0 +8.7
HUMO LR LR
comp=Z,860nm,20.0s,MS5.2
EDM Edmonton 99.96 30 *e*Pdif Pdif 23 57 19.7 -1.9
TAOE Nuku Hiva Isla 100.00 97 *e*LR LR 00 29 59.4
comp=Z,4µm,30.8s
LBTB Lobatse 100.22 247 PFAKE 23 57 30.0 +7.3
LBTB LR LR
comp=Z,744nm,20.0s,MS5.2
YBH Yreka Blue Hor 100.46 43 PFAKE 23 57 30.0 +6.3
YBH LR LR
comp=Z,980nm,21.0s,MS5.3
NEW Newport 100.73 35 PFAKE 23 57 40.0 +15
NEW LR LR
comp=Z,630nm,19.0s,MS5.2
BOSA Boshof 101.03 243 PFAKE 23 57 40.0 +14
BOSA LR LR
comp=Z,856nm,19.0s,MS5.3
WDC Whiskeytown Da 101.08 44 PFAKE 23 57 40.0 +13
WDC LR LR
comp=Z,847nm,22.0s,MS5.2
HOPS Hopland 101.41 46 PFAKE 23 57 40.0 +12
HOPS LR LR
comp=Z,1µm,20.0s,MS5.4
MOD Modoc 101.97 42 PFAKE 23 57 40.0 +10
MOD LR LR
comp=Z,1µm,22.0s,MS5.3
WALA Waterton Lakes 102.08 34 Pdif Pdif 23 57 33.4 +2.5
BMO Blue Mountains 102.41 38 Pdif Pdif 23 57 34.3 +1.9
BMO LR LR
comp=Z,443nm,20.0s,MS5.0
WVOR Wild Horse Val 102.80 41 PFAKE 23 57 50.0 +16
WVOR LR LR
comp=Z,1µm,19.0s,MS5.5
MSO Missoula 103.33 35 PFAKE 23 57 50.0 +14
MSO LR LR
comp=Z,333nm,19.0s,MS4.9
SAO San Andreas Ge 103.55 47 PFAKE 23 57 50.0 +13
SAO LR LR
comp=Z,904nm,21.0s,MS5.3
CMB Columbia Colle 103.73 46 PFAKE 23 57 50.0 +12
CMB LR LR
comp=Z,825nm,19.0s,MS5.3
FRB Frobisher Bay 104.00 5 Pdiff Pdif 23 57 38.4 -1.2
comp=Z,3.8nm,0.9s,baz=228,slow=2.2,SNR=4.2
FFC Flin Flon 104.05 24 PFAKE 23 57 50.0 +10
FFC LR LR
comp=Z,961nm,19.0s,MS5.3
BMN Battle Mountai 104.72 42 PFAKE 23 57 50.0 +7.3
BMN LR LR
comp=Z,678nm,19.0s,MS5.2
HLID Hailey 104.86 38 PFAKE 23 57 50.0 +6.7
HLID LR LR
comp=Z,727nm,19.0s,MS5.2
EGMT Eagleton 104.92 33 PFAKE 23 57 50.0 +6.4
EGMT LR LR
comp=Z,479nm,20.0s,MS5.0
MNV Mina 105.08 45 PFAKE 00 02 10.0 +11
MNV LR LR
comp=Z,867nm,22.0s,MS5.2
SUR Sutherland 105.26 240 PFAKE 00 02 10.0 +11
SUR LR LR
comp=Z,897nm,22.0s,MS5.3
BOZ Bozeman (W) 105.32 36 PFAKE 00 02 10.0 +11
BOZ LR LR
comp=Z,898nm,19.0s,MS5.3
ELK Elko 105.86 41 PFAKE 00 02 10.0 +10
ELK LR LR
comp=Z,946nm,21.0s,MS5.3
ISA Isabella 106.19 47 PFAKE 00 02 10.0 +9.1
ISA LR LR
comp=Z,270nm,22.0s,MS4.8
YMR Madison River 106.27 36 PFAKE 00 02 10.0 +8.9
YMR LR LR
comp=Z,1µm,20.0s,MS5.5
DAC Darwin (Calif) 106.52 46 PFAKE 00 02 10.0 +8.5
DAC LR LR
comp=Z,624nm,20.0s,MS5.2
SNCC San Nicolas Is 106.53 50 PFAKE 00 02 10.0 +8.5
SNCC LR LR
comp=Z,1µm,21.0s,MS5.4
LKWY Lake 106.66 36 PFAKE 00 02 10.0 +8.2
LKWY LR LR
comp=Z,818nm,19.0s,MS5.3
TSUM Tsumeb 106.80 253 PFAKE 00 02 10.0 +8.0
TSUM LR LR
comp=Z,716nm,20.0s,MS5.2

RKT	**Rikitea**	**107.05**	**111**	*e*S	Sdif	00 09 48.4	-6.8
	comp=Z,368nm,43.8s						
RKT				*e*LR	LR	00 32 46.0	
	comp=Z,1μm,28.8s						
TPNV	**Topopah Spring**	**107.13**	**45**	PFAKE		00 02 10.0	+7.3
TPNV				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
AHID	**Auburn Hatcher**	**107.31**	**38**	PFAKE		00 02 10.0	+7.0
AHID				LR	LR		
	comp=Z,735nm,19.0s,MS5.3						
DGMT	**Dagmar**	**107.46**	**30**	PFAKE		00 02 10.0	+6.7
DGMT				LR	LR		
	comp=Z,468nm,22.0s,MS5.0						
LAO	**LASA Array**	**107.62**	**32**	PFAKE		00 02 10.0	+6.4
LAO				LR	LR		
	comp=Z,907nm,21.0s,MS5.3						
HWUT	**Hardware Ranch**	**107.70**	**39**	PFAKE		00 02 20.0	+16
HWUT				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
DUG	**Dugway**	**107.71**	**41**	PFAKE		00 02 20.0	+16
DUG				LR	LR		
	comp=Z,866nm,21.0s,MS5.3						
ESLA	**Sonseca Array**	**107.74**	**319**	PFAKE		00 02 20.0	+16
ESLA				LR	LR		
	comp=Z,6μm,19.0s,MS6.2						
BW06	**Boulder Array**	**108.22**	**37**	PFAKE		00 02 20.0	+15
BW06				LR	LR		
	comp=Z,788nm,21.0s,MS5.2						
MPU	**Maple Canyon**	**108.56**	**40**	PFAKE		00 02 20.0	+15
MPU				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
PFO	**Pinyon Flat Ob**	**108.63**	**48**	PFAKE		00 02 20.0	+15
PFO				LR	LR		
	comp=Z,2μm,22.0s,MS5.5						
MVU	**Marysvale**	**109.03**	**42**	PFAKE		00 02 20.0	+14
MVU				LR	LR		
	comp=Z,804nm,21.0s,MS5.3						
WUAZ	**Wupatki**	**111.23**	**44**	PFAKE		00 02 20.0	+10
WUAZ				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
ISCO	**Idaho Springs**	**112.39**	**38**	PFAKE		00 02 20.0	+7.4
ISCO				LR	LR		
	comp=Z,892nm,20.0s,MS5.3						
SCHQ	**Schefferville**	**112.97**	**5**	PFAKE		00 02 20.0	+6.3
SCHQ				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
TUC	**Tucson**	**113.39**	**47**	PFAKE		00 02 30.0	+16
TUC				LR	LR		
	comp=Z,1μm,19.0s,MS5.5						
EYMN	**Ely**	**113.45**	**23**	PFAKE		00 02 30.0	+15
EYMN				LR	LR		
	comp=Z,939nm,21.0s,MS5.4						
SDCO	**Great Sand Dun**	**113.75**	**39**	PFAKE		00 02 30.0	+15
SDCO				LR	LR		
	comp=Z,912nm,20.0s,MS5.4						
ANMO	**Albuquerque**	**114.85**	**42**	PFAKE		00 02 30.0	+13
ANMO				LR	LR		
	comp=Z,706nm,21.0s,MS5.2						
TORD	**Torodi Ar. Bea**	**115.17**	**291**	PKP	PKiKP	00 02 17.1	-0.7
	comp=Z,1.0nm,0.8s,baz=47,slow=2.5,SNR=6.6						
TORD				PP	PP	00 03 13.8	-4.0
	comp=Z,3.1nm,1.1s,baz=72,slow=5.9,SNR=6.9						
MNTX	**Cornudas Mount**	**117.51**	**44**	PFAKE		00 02 30.0	+7.6
MNTX				LR	LR		
	comp=Z,674nm,20.0s,MS5.3						
WMOK	**Wichita Mounta**	**119.82**	**38**	PFAKE		00 02 40.0	+13
WMOK				LR	LR		
	comp=Z,713nm,20.0s,MS5.3						
LTX	**Lajitas**	**120.11**	**46**	PFAKE		00 02 40.0	+13
LTX				LR	LR		
	comp=Z,886nm,19.0s,MS5.4						
JCT	**Junction City**	**122.01**	**42**	PFAKE		00 02 40.0	+9.0
JCT				LR	LR		
	comp=Z,887nm,21.0s,MS5.4						
ERPA	**Erie**	**122.58**	**19**	PFAKE		00 02 40.0	+7.9
ERPA				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
LBNH	**Lisbon**	**122.64**	**11**	PFAKE		00 02 40.0	+7.8
LBNH				LR	LR		
	comp=Z,962nm,20.0s,MS5.5						
MIAR	**Mount Ida**	**122.95**	**34**	PFAKE		00 02 40.0	+7.2
MIAR				LR	LR		
	comp=Z,568nm,21.0s,MS5.2						
ACSO	**Alum Creek Sta**	**123.23**	**22**	PFAKE		00 02 40.0	+6.6
ACSO				LR	LR		
	comp=Z,624nm,19.0s,MS5.3						
DBIC	**Dimbokro**	**123.42**	**286**	PKP	PKPdf	00 02 33.4	-0.3
	comp=Z,5.8nm,0.8s,baz=181,slow=1.6,SNR=6.2						
DBIC	**Dimbokro**	**123.42**	**286**	PKIKP	PKPdf	00 02 33.4	-0.3
DBIC				MLR	MLR		
	comp=Z,592nm,21.0s						
WCI	**Wyandotte Cave**	**123.62**	**26**	PFAKE		00 02 50.0	+16
WCI				LR	LR		
	comp=Z,942nm,20.0s,MS5.5						
BINY	**Binghamton**	**123.66**	**15**	PFAKE		00 02 50.0	+16
BINY				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
LIC	**Lamto**	**123.72**	**286**	*e*PKIKP	PKPdf	00 02 33.8	-0.5
	comp=Z,74nm,1.5s						
NATX	**Nacogdoches**	**124.36**	**37**	PFAKE		00 02 50.0	+14
NATX				LR	LR		
	comp=Z,935nm,20.0s,MS5.5						
WES	**Weston**	**124.54**	**11**	PFAKE		00 02 50.0	+14
WES				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
WVT	**Waverly**	**124.66**	**29**	PFAKE		00 02 50.0	+14
WVT				LR	LR		
	comp=Z,915nm,19.0s,MS5.5						
MCWV	**Mont Chateau**	**124.85**	**20**	PFAKE		00 02 50.0	+14
MCWV				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
HKT	**Hockley**	**124.92**	**40**	PFAKE		00 02 50.0	+13
HKT				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
OXF	**Oxford**	**125.19**	**31**	PFAKE		00 02 50.0	+13
OXF				LR	LR		
	comp=Z,488nm,21.0s,MS5.2						
PLAL	**Pickwick Lake**	**125.47**	**30**	PFAKE		00 02 50.0	+12
PLAL				LR	LR		
	comp=Z,902nm,20.0s,MS5.4						
BLA	**Blacksburg**	**126.83**	**22**	PFAKE		00 02 50.0	+10
BLA				LR	LR		
	comp=Z,92nm,21.0s,MS4.4						
CBN	**Corbin**	**126.96**	**19**	PFAKE		00 02 50.0	+9.5
CBN				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
LRAL	**Lakeview Retre**	**127.57**	**30**	PFAKE		00 02 50.0	+8.3
LRAL				LR	LR		
	comp=Z,954nm,19.0s,MS5.5						
NHSC	**New Hope**	**130.56**	**24**	PFAKE		00 03 00.0	+13
NHSC				LR	LR		
	comp=Z,1μm,19.0s,MS5.5						
DWPF	**Disney**	**134.32**	**29**	PFAKE		00 03 10.0	+16
DWPF				LR	LR		
	comp=Z,913nm,20.0s,MS5.5						
TEIG	**Tepich**	**136.59**	**43**	PFAKE		00 03 10.0	+11
TEIG				LR	LR		
	comp=Z,64nm,22.0s,MS4.3						
JTS	**JuntasAbangare**	**145.64**	**51**	*e*PKPdf	PKPdf	00 03 15.4	+0.5
JTS				LR	LR		
	comp=Z,453nm,20.0s,MS5.2						
SJG	**San Juan**	**149.07**	**14**	PFAKE		00 03 30.0	+9.4
SJG				LR	LR		
	comp=Z,725nm,22.0s,MS5.4						
CPD	**Cerro la Pandu**	**149.20**	**14**	*e*PKPbc	PKPbc	00 03 24.9	-0.1
MTP	**Monte Pirata**	**149.23**	**13**	*e*PKPbc	PKPbc	00 03 25.5	+0.4
PLCA	**Paso Flores**	**149.59**	**162**	PKPbc	PKPbc	00 03 26.1	+0.1
	comp=Z,5.9nm,0.9s,baz=254,slow=1.3,SNR=5.4						
PLCA	**Paso Flores**	**149.59**	**162**	PKP2	PKPbc	00 03 26.1	+0.1
PLCA				MLR	MLR		
	comp=Z,404nm,21.0s						
TRQA	**Tornquist**	**153.97**	**174**	PFAKE		00 03 40.0	+12
TRQA				LR	LR		
	comp=Z,870nm,22.0s,MS5.5						
SDV	**Santo Domingo**	**155.96**	**30**	PKP	PKPdf	00 03 31.8	+1.0
	comp=Z,2.1nm,0.5s,baz=25,slow=14,SNR=2.3						
SDV	**Santo Domingo**	**155.96**	**30**	PKP	PKPdf	00 03 31.8	+1.0
SDV				LR	LR		
	comp=Z,402nm,21.0s,MS5.2						
RCBR	**Riachuelo**	**156.75**	**284**	PFAKE		00 03 40.0	+8.2
RCBR				LR	LR		
	comp=Z,821nm,21.0s,MS5.5						
OTAV	**Otavalo**	**156.79**	**60**	PFAKE		00 03 40.0	+8.1
OTAV				LR	LR		
	comp=Z,349nm,21.0s,MS5.2						
CFAA	**Coronel Fontan**	**158.64**	**157**	PKPab	PKPab	00 04 09.7	+0.3
	comp=Z,0.3nm,0.5s,baz=204,slow=6.4,SNR=4.0						
LVC	**Limon Verde**	**165.64**	**138**	PKPab	PKPab	00 04 42.4	+2.4
	comp=Z,3.2nm,0.9s,baz=328,slow=5.5,SNR=4.7						
LVC	**Limon Verde**	**165.64**	**138**	PKPab	PKPab	00 04 42.4	+2.4
LVC				LR	LR		
	comp=Z,523nm,21.0s						
CPUP	**Villa Florida**	**165.79**	**185**	PKPab	PKPab	00 04 41.9	+1.2
	comp=Z,1.5nm,0.7s,baz=78,slow=1.0,SNR=2.8						
BDFB	**Brasilia**	**169.14**	**250**	PKP	PKPdf	00 03 45.0	+1.2
	comp=Z,1.2nm,0.5s,baz=90,slow=6.1,SNR=1.7						
BDFB				PKPab	PKPab	00 04 57.5	+2.0
	comp=Z,1.6nm,0.6s,baz=61,slow=23,SNR=2.4						
LPAZ	**La Paz**	**169.85**	**115**	PKP	PKPdf	00 03 46.9	+2.7
	comp=Z,1.2nm,0.9s,baz=276,slow=0.3,SNR=4.4						
LPAZ	**La Paz**	**169.85**	**115**	PKIKP	PKPdf	00 03 46.9	+2.7
LPAZ				MLR	MLR		
	comp=Z,579nm,20.0s						
SAML	**Samuel**	**174.51**	**56**	PFAKE		00 04 00.0	+14
SAML				LR	LR		
	comp=Z,779nm,22.0s						
SIV	**San Ignacio**	**175.44**	**148**	PKP	PKPdf	00 03 47.7	+1.2
	comp=Z,1.0nm,0.7s,baz=180,slow=20,SNR=2.2						
SIV				PKPab	PKPab	00 05 23.8	+0.4
	comp=Z,1.2nm,0.8s,baz=285,slow=6.0,SNR=2.2						

MAN 27 23:58:21.6, 1215N×12144E, h23km, mb2.8, ML4.2, MS2.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.44**	**315**	*e*P	Pb	23 58 30.9	+0.2
SJMP				*e*S	Sb	23 58 38.1	+1.2
OTRP	**Odiongan**	**0.60**	**70**	*e*P	Pb	23 58 34.8	+1.3
OTRP				*e*S	Sb	23 58 44.8	+3.2
BUSP	**Coron**	**1.22**	**263**	*e*P	Pn	23 58 43.4	+0.2
BUSP				*e*S	Sn	23 58 59.5	+0.4
CUYO	**Cuyo Island**	**1.36**	**198**	*e*P	Pn	23 58 44.3	-0.8
CUYO				*e*S	Sn	23 59 03.8	+1.4
BOAC	**Boac**	**1.36**	**17**	*e*P	Pn	23 58 44.9	-0.2
BOAC				*e*S	Sn	23 59 02.9	+0.5
RCP	**Roxas**	**1.41**	**115**	⇑*e*P	Pn	23 58 57.9	+12
GUIM	**Jordan**	**1.89**	**143**	*e*P	Pn	23 58 51.3	-1.1
LUBP	**Lubang**	**1.96**	**324**	*e*P	Pn	23 58 54.7	+1.4
LUBP	**Lubang**	**1.96**	**324**	*e*P	Pn	23 58 54.2	+0.8
LUBP				*e*S	Sn	23 59 19.7	+2.5
ENPP	**El Nido**	**2.19**	**245**	*e*P	Pn	23 58 56.5	0.0

*CSEM **28** 00:17:36.3±0.8, 2910N×1477W, h52km±27km, mb3.4/6, Error ellipse: s-maj=19.1km s-min=2.9km az=174.0, After MDD*
*NEIC **28** 00:17:36.3, 2910N×1477W, h52km, MG3.4(MDD), After MDD.*

MDD 28 00:17:36.3±0.8, 2910N×1477W, h52km±27km, mb3.6/3, 1C, Error ellipse: s-maj=19.1km s-min=2.9km az=174.0, PRXIMO TT-MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFUE	**Fuerteventura**	**0.86**	**121**	P	Pn	00 17 50.6	-1.6
	3.8nm,0.0s,SNR=7.9						
CFUE				S	Sn	00 18 01.6	-2.3
	70nm,0.0s,SNR=7.9						
CFTV	**Fuerteventura**	**0.91**	**138**	⇑P	Pn	00 17 51.8	-1.1
	1.9nm,0.1s,SNR=18						
CFTV				S	Sn	00 18 03.5	-1.6
	13nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.49**	**248**	P	Pn	00 17 58.9	-1.7
	7.7nm,0.3s,SNR=4.0						
EBAJ				S	Sn	00 18 16.5	-2.5
	7.3nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.49**	**248**	P	Pn	00 17 58.9	-1.8
	7.7nm,0.3s,SNR=4.0						
EBAJ				S	Sn	00 18 16.5	-2.5
	7.3nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.49**	**248**	P	Pn	00 17 58.9	-1.7
EBAJ				S	Sn	00 18 16.4	-2.6
CRAJ	**Montana Rajada**	**1.81**	**243**	S	Sn	00 18 24.6	-2.2
	18nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**1.81**	**243**	S	Sn	00 18 24.6	-2.2
	18nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**1.83**	**242**	P	Pn	00 18 03.9	-1.4
	0.5nm,0.1s,SNR=7.9						
CCAN				S	Sn	00 18 24.6	-2.9
	2.3nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**1.83**	**242**	P	Pn	00 18 03.9	-1.5
	0.5nm,0.1s,SNR=7.9						
CCAN				S	Sn	00 18 24.6	-2.8
	2.3nm,0.1s,SNR=7.9						
CICO	**Icod de los Vi**	**1.87**	**247**	S	Sn	00 18 26.9	-1.4
	1.6nm,0.2s,SNR=7.9						
CHIO	**Chio**	**1.99**	**245**	P	Pn	00 18 07.1	-0.4
	4.4nm,0.1s,SNR=7.9						
CHIO				S	Sn	00 18 28.4	-2.9
	47nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**2.34**	**247**	P	Pn	00 18 10.7	-1.6
	0.2nm,0.1s,SNR=7.9						
EGOM				S	Sn	00 18 35.3	-4.5
	31nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**2.34**	**247**	P	Pn	00 18 10.6	-1.7
	0.2nm,0.1s,SNR=7.9						
EGOM				S	Sn	00 18 35.3	-4.5
	31nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**2.34**	**247**	P	Pn	00 18 10.7	-1.6
EGOM				S	Sn	00 18 35.3	-4.5

IDC 28 00:31:00.2±3.7, 1625S×17798E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=166.9km s-min=30.6km az=139.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.48**	**238**	P	P	00 38 07.2	+0.2
	1.9nm,0.7s,baz=52,slow=8.0,SNR=5.6						
WRA	**Warramunga Arr**	**41.56**	**258**	P	P	00 38 49.1	-0.3
	0.5nm,0.5s,baz=93,slow=8.8,SNR=3.2						
ASAR	**Alice Springs**	**41.95**	**253**	P	P	00 38 53.6	+1.0
	2.8nm,0.7s,baz=84,slow=8.8,SNR=10.0						
ILAR	**Eielson Array**	**85.10**	**14**	P	P	00 43 37.5	-0.4
	1.2nm,0.9s,baz=230,slow=6.0,SNR=12						

*ISCJB **28** 00:32:28.5±1.2, 3717N±006×718E±0.1, h116km±15km, mb3.8/5, Error ellipse: s-maj=17.3km s-min=5.9km az=119.2*
*MOS **28** 00:32:29.7±1.7, 3738N×7205E, h115km, mb3.7/1, Error ellipse: s-maj=19.7km s-min=9.8km az=111.4*
*NEIC **28** 00:32:30.4±2.0, 3736N×7220E, h116km±28km, mb4.0/3, Error ellipse: s-maj=18.3km s-min=8.1km az=61.0*
*IDC **28** 00:32:34.4±8.3, 3770N×7208E, h126km±51km, mb3.4/5, mb1 3.4/8, mb1mx3.1/26, mbtmp3.7/8, Error ellipse: s-maj=90.2km s-min=28.1km az=167.0*
*NNC **28** 00:32:37.0±6.3, 3775N×7146E, h148km±90km, mb2.7, mpv3.5, Error ellipse: s-maj=58.0km s-min=32.4km az=21.0*

ISC 28 00:32:30.1±1.1, 3719N±006×718E±01, h124km±13km, n36, σ1§00/40, mb3.8/5, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.14**	**16**	P	**Pn**	**00 33 45.3**	**+0.4**
	SNR=113						
UCH	**Uchtor**	**5.44**	**22**	P	**Pn**	**00 33 49.3**	**+0.4**
	SNR=12						
KZA	**Kyzart**	**5.55**	**27**	P	**Pn**	**00 33 51.1**	**+0.6**
	SNR=10						
EKS2	**Erkin-Say**	**5.67**	**15**	P	**Pn**	**00 33 52.7**	**+0.7**
	SNR=31						
AAK	**Ala-Archa**	**5.81**	**20**	P	**Pn**	**00 33 54.7**	**+0.7**
	SNR=19						
KK31	**Karatay Array**	**5.99**	**351**	⇓P	**Pn**	**00 33 56.0**	**-0.4**
	8.7nm,0.3s,baz=172,slow=12,SNR=412						
KK31				⇓S	**Sn**	**00 34 57.9**	**-5.8**
	6.7nm,0.4s,baz=172,slow=19,SNR=12						
KKAR	**Karatay Array**	**5.99**	**351**	PN	**Pn**	**00 33 56.0**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ULHL	**Ulahol**	**6.09**	**33**	P	**Pn**	**00 33 57.8**	**+0.1**
	SNR=12						
CHMS	**Chumysh**	**6.22**	**20**	P	**Pn**	**00 33 60.0**	**+0.5**
	SNR=6.9						
USP	**Ospenovka**	**6.40**	**18**	P	**Pn**	**00 34 01.8**	**-0.2**
	SNR=5.3						
TKM2	**Tokmak 2**	**6.41**	**26**	P	**Pn**	**00 34 02.2**	**+0.2**
	SNR=7.4						
TKM2	**Tokmak 2**	**6.41**	**26**	⇑P	**Pn**	**00 34 02.7**	**+0.7**
	comp=Z,0.7nm,0.8s						
TKM2				⇑S	**Sn**	**00 35 13.9**	**+0.1**
	comp=Z,0.3nm,0.7s						
DDI	**Dehra Dun**	**8.59**	**141**	*ex*	**Sn**	**00 36 07.8**	**+1.3**
MKAR	**Makanchi Array**	**12.34**	**36**	P	**Pn**	**00 35 19.8**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=215,slow=11,SNR=3.1						
KOLN	**Koldanda**	**13.66**	**130**	*e*P	**Pn**	**00 35 38.0**	**-0.6**
	comp=Z,12nm,0.7s						
GKN	**Gorkha**	**14.14**	**127**	*e*P	**Pn**	**00 35 44.1**	**-0.7**
	comp=Z,17nm,0.6s						
KKN	**Kakani**	**14.70**	**126**	*e*P	**Pn**	**00 35 50.6**	**-1.3**
	comp=Z,19nm,0.9s						
AB31	**Akbulak array**	**14.83**	**328**	⇑P	**Pn**	**00 35 52.0**	**-1.4**
	comp=Z,0.9nm,0.4s						
AB31				⇑S	**Sn**	**00 38 24.4**	**-13**
	comp=Z,2.3nm,0.6s,baz=150,slow=21,SNR=11						
AB31	**Akbulak array**	**14.83**	**328**	P	**Pn**	**00 35 52.0**	**-1.4**
PKI	**Pulchoki**	**14.94**	**126**	*e*P	**Pn**	**00 35 54.9**	**+0.1**
	comp=Z,17nm,0.7s						
GUN	**Gumba**	**15.02**	**124**	*e*P	**Pn**	**00 35 54.8**	**-1.0**
	comp=Z,9.3nm,0.6s						
JIRN	**Jiri**	**15.39**	**124**	*e*P	**Pn**	**00 35 59.8**	**-0.7**
	comp=Z,16nm,0.5s						
ZRNK	**Zerenda**	**15.88**	**354**	*e*Pn	**Pn**	**00 36 05.2**	**-1.4**
	comp=Z,0.8nm,0.4s						
ZRNK	**Zerenda**	**15.88**	**354**	*e*P	**Pn**	**00 36 05.2**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTK	**Aktyubinsk**	**16.54**	**328**	P	**Pn**	**00 36 13.9**	**-0.7**
AKTO	**Aktyubinsk**	**16.54**	**328**	⇑P	**Pn**	**00 36 16.0**	**+1.4**
	comp=Z,0.4nm,1.5s						
AKTO				⇑S	**S**	**00 39 07.2**	**-12**
	comp=Z,0.5nm,1.8s						
AKTO	**Aktyubinsk**	**16.54**	**328**	P	**Pn**	**00 36 13.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=139,slow=13,SNR=12						
LSA	**Lhasa**	**17.75**	**109**	*e*P	**Pn**	**00 36 31.8**	**+2.5**
	comp=Z,2.4nm,0.2s						
LSA	**Lhasa**	**17.75**	**109**	*e*P	**Pn**	**00 36 31.8**	**+2.5**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.2s						
ZAL	**Zalesovo**	**19.00**	**24**	P	**P**	**00 36 39.0**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=288,slow=3.2,SNR=3.1						
GNI	**Garni**	**21.33**	**286**	P	**P**	**00 37 12.0**	**+4.9**
	comp=Z,0.9nm,0.4s,mb3.5,baz=224,slow=8.8,SNR=3.6						
FINES	**FINESS Array B**	**37.29**	**325**	P	**P**	**00 39 31.3**	**+1.3**
	comp=Z,1.3nm,0.9s,mb3.9,baz=148,slow=8.1,SNR=3.1						
ARCES	**ARCESS Array B**	**40.77**	**337**	P	**P**	**00 39 59.7**	**+0.8**
	comp=Z,5.2nm,1.0s,mb4.3,baz=108,slow=8.6,SNR=3.9						
HFS	**Hagfors**	**42.94**	**321**	P	**P**	**00 40 17.7**	**+1.1**
	comp=Z,1.2nm,0.7s,mb3.7,baz=83,slow=13,SNR=3.9						
YKA	**Yellowknife Ar**	**80.53**	**3**	P	**P**	**00 44 29.3**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.5,baz=348,slow=5.4,SNR=15						
YKA	**Yellowknife Ar**	**80.53**	**3**	P	**P**	**00 44 29.3**	**+0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*NEIC **28** 00:43:15.7, 1956N×6845W, h50km, MD3.8(RSPR), After RSPR.*

RSPR 28 00:43:15.7, 1956N×6845W, h50km±25km, MD3.8/14, MD3.8/14, 11C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.67**	**130**	*e*S	Sn	00 44 01.7	-1.0
AGPR	**Aguadilla, PR**	**1.67**	**130**	⇓*e*P	Pn	00 43 41.8	-0.7
AGPR				*e*S	Sn	00 44 01.7	-1.0
LSP	**Las Mesas**	**1.89**	**136**	*e*S	Sn	00 44 07.8	-0.3
LSP	**Las Mesas**	**1.89**	**136**	⇑*e*P	Pn	00 43 44.4	-1.1
LSP				*e*S	Sn	00 44 07.8	-0.3
LRS	**Lares**	**1.97**	**129**	⇓*e*P	Pn	00 43 46.0	-0.7
LRS				*e*S	Sn	00 44 09.4	-0.8
CRPR	**Cabo Rojo, PR**	**2.00**	**140**	*e*S	Sn	00 44 09.1	-1.7
CRPR	**Cabo Rojo, PR**	**2.00**	**140**	⇑*e*P	Pn	00 43 45.7	-1.3
CRPR				*e*S	Sn	00 44 09.1	-1.7
MGP	**Maguayo**	**2.01**	**140**	⇓*e*P	Pn	00 43 45.7	-1.5
MGP				*e*S	Sn	00 44 10.3	-0.8
AOPR	**Arecibo Observ**	**2.01**	**126**	*e*S	Sn	00 44 09.3	-1.8
AOPR	**Arecibo Observ**	**2.01**	**126**	⇑*e*P	Pn	00 43 46.0	-1.1
AOPR				*e*S	Sn	00 44 09.3	-1.8
CELP	**Cerrillos**	**2.31**	**129**	⇑*e*P	Pn	00 43 51.1	-0.2
CELP				*e*S	Sn	00 44 17.9	-0.5
ICM	**Isla Caja Muer**	**2.47**	**132**	*e*S	Sn	00 44 21.9	-0.4
ICM	**Isla Caja Muer**	**2.47**	**132**	⇑*e*P	Pn	00 43 53.7	+0.3
ICM				*e*S	Sn	00 44 21.9	-0.4
SJG	**San Juan**	**2.61**	**123**	⇑*e*P	Pn	00 43 55.7	+0.3
SJG				*e*S	Sn	00 44 25.8	-0.1
SJG	**San Juan**	**2.61**	**123**	⇑*e*P	Pn	00 43 55.1	-0.3
SJG				*e*S	Sn	00 44 25.4	-0.5
CBYP	**Canovanas**	**2.77**	**117**	*e*S	Sn	00 44 29.5	-0.3
CBYP	**Canovanas**	**2.77**	**117**	⇑*e*P	Pn	00 43 56.6	-1.0
CBYP				*e*S	Sn	00 44 29.5	-0.3
CPD	**Cerro la Pandu**	**2.84**	**122**	*e*S	Sn	00 44 31.1	-0.4
CPD	**Cerro la Pandu**	**2.84**	**122**	⇑*e*P	Pn	00 43 58.0	-0.5
CPD				*e*S	Sn	00 44 31.1	-0.4
HUMP	**Col San Antoni**	**2.84**	**119**	*e*S	Sn	00 44 30.0	-1.5
HUMP	**Col San Antoni**	**2.84**	**119**	⇑*e*P	Pn	00 43 57.5	-1.0
HUMP				*e*S	Sn	00 44 30.0	-1.5
MTP	**Monte Pirata**	**3.10**	**117**	*e*S	Sn	00 44 37.2	-0.8
MTP	**Monte Pirata**	**3.10**	**117**	⇑*e*P	Pn	00 44 01.0	-1.2
MTP				*e*S	Sn	00 44 37.2	-0.8

*NIED **28** 01:11:00, 3220N×14200E, h8km, Mw4.2 Best double couple: M0 2.02000×10^15 NP1:φs 127.00000°, δ82.00000°, λ85.00000°. NP2:φs 338.00000°, δ10.00000°, λ121.00000°.*
*JMA **28** 01:11:17.7±0.8, 3225N×14195E, h30km, M3.4*

WRAB ep P pP 01 20 44.0 -0.3
WRA Warramunga Arr 52.53 189 P P 01 20 30.8 -0.6
0.9nm,0.5s,mb4.0,baz=5.5,slow=7.7,SNR=13
WRA pP pP 01 20 43.5 -0.9
2.6nm,0.8s,baz=8.6,slow=7.8,SNR=10
ILAR Eielson Array 53.28 30 P P 01 20 37.2 +0.3
0.3nm,0.7s,mb3.3,baz=256,slow=6.4,SNR=3.6
ZRNK Zerenda 54.85 315 eP **P 01 20 49.1 +0.7**
0.4nm,0.4s,mb3.8
ZRNK epP pP 01 21 02.1 +0.7
ASAR Alice Springs 56.25 189 P P 01 20 57.8 -0.7
0.2nm,0.3s,mb3.6,baz=355,slow=5.6,SNR=3.4
ASAR pP pP 01 21 09.6 -2.0
0.2nm,0.5s,baz=16,slow=6.4,SNR=2.1
YKA Yellowknife Ar 67.67 29 P P 01 22 16.5 +1.4
0.1nm,0.5s,mb3.1,baz=303,slow=6.7,SNR=4.4

MAN 28 01:15:18, 1217N×12141E, h24km, mb2.0, ML3.7, MS1.9, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.41**	**316**	eP	Pb	01 15 27.1	+0.5
SJMP				eS	Sb	01 15 34.2	+1.8
OTRP	**Odiongan**	**0.63**	**72**	eP	Pb	01 15 30.9	+0.7
OTRP				eS	Sb	01 15 40.4	+1.8
BUSP	**Coron**	**1.20**	**262**	eP	Pn	01 15 39.5	+0.3
BUSP				eS	Sn	01 15 54.5	-0.2
BOAC	**Boac**	**1.35**	**18**	eP	Pn	01 15 41.0	-0.4
BOAC				eS	Sn	01 15 59.2	+0.8
CUYO	**Cuyo Island**	**1.37**	**196**	eP	Pn	01 15 40.0	-1.5
CUYO				eS	Sn	01 15 59.5	+0.7
RCP	**Roxas**	**1.44**	**115**	eP	Pn	01 15 43.2	+0.6
LUBP	**Lubang**	**1.93**	**324**	eP	Pn	01 15 50.1	+0.8
LUBP				eS	Sn	01 16 15.3	+2.6
ENPP	**El Nido**	**2.17**	**244**	eP	Pn	01 15 53.4	+0.8

MOS ***28*** *01:17:06.0±2.7, 4120N×4344E, h10km, mb4.0/1, Error ellipse: s-maj=17.0km s-min=9.7km az=76.9*
TIF ***28*** *01:17:08.0, 4122N×4390E, h15km±2km*
CSEM ***28*** *01:17:09.0±0.2, 4125N×4382E, h1km±2km, mb4.0, Error ellipse: s-maj=5.2km s-min=3.9km az=173.0*
ISCJB ***28*** *01:17:10.1±0.4, 4131N±003×4387E±003, h10km, Error ellipse: s-maj=3.9km s-min=3.2km az=119.9*
ISC 28 01:17:10.4±0.4, 4131N±003×4387E±003, h10km, n19, σ1°13/31, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.30**	**290**	P	**Pg**	**01 17 15.9**	**-0.5**
AKH				S	**Sg**	**01 17 19.9**	**-0.5**
KZR	**Kazreti**	**0.42**	**80**	P	**Pg**	**01 17 17.4**	**-1.2**
KZR				S	**Sg**	**01 17 23.1**	**-1.0**
GOR	**Gori**	**0.70**	**15**	P	Px	01 17 42.9	
GOR				S	Sx	01 17 53.1	
GOR	**Gori**	**0.70**	**15**	P	Px	01 17 42.9	
GOR				S	Sx	01 17 52.2	
TBLG	**Delisi**	**0.78**	**57**	P	**Pg**	**01 17 24.7**	**-0.7**
TBLG				S	**Sg**	**01 17 35.6**	**+0.1**
MTA	**Mtatsminda**	**0.80**	**61**	P	**Pg**	**01 17 24.9**	**-0.8**
MTA				S	**Sg**	**01 17 35.6**	**-0.5**
DIGO	**Kars**	**0.97**	**203**	*i* P	**Pg**	**01 17 28.2**	**-0.8**
DIGO				*i* S	**Sg**	**01 17 41.8**	**+0.2**
DUS	**Dusheti**	**1.00**	**38**	P	**Pg**	**01 17 28.5**	**-1.2**
DUS				S	**Sg**	**01 17 43.2**	**+0.5**
DGRG	**David-gareji**	**1.14**	**82**	P	**Pb**	**01 17 31.7**	**-0.5**
DGRG				S	**Sb**	**01 17 48.6**	**+1.5**
DGRG	**David-gareji**	**1.14**	**82**	P	**Pb**	**01 17 31.7**	**-0.5**
DGRG				S	**Sb**	**01 17 46.5**	**-0.5**
GNI	**Garni**	**1.33**	**150**	*i* Pg	**Pg**	**01 17 35.4**	**-0.6**
GNI				eSg	**Sg**	**01 17 55.0**	**+1.7**
ZEI	**Tsey**	**1.46**	**1**	*i* Pn	**Pn**	**01 17 37.5**	**+0.7**
ZEI				eSg	**Sg**	**01 17 57.9**	**+0.5**
ARTV	**Artvin**	**1.47**	**266**	*i* P	**Pn**	**01 17 36.8**	**-0.1**
ARTV				*i* S	**Sn**	**01 17 54.2**	**-1.9**
DIGR	**Digorskoe uzhe**	**1.61**	**352**	*i* PN	**Pn**	**01 17 32.8**	**-6.0**
KORR	**Kora**	**1.78**	**5**	*i* Pn	**Pn**	**01 17 42.6**	**+1.4**
KORR				eSg	**Sg**	**01 18 06.4**	**-1.3**
VLKR	**Vladikavkaz**	**1.84**	**19**	ePN	**Pn**	**01 17 44.6**	**+2.6**
ARNR	**Ardon**	**1.91**	**9**	ePN	**Pn**	**01 17 44.6**	**+1.7**
ARNR				eS	**Sn**	**01 18 09.9**	**+3.0**
ERZM	**Erzurum**	**2.36**	**234**	*i* P	**Pn**	**01 17 50.7**	**+1.5**
ERZM				*i* S	**Sn**	**01 18 24.8**	**+6.5**
SOC	**Sochi**	**3.82**	**308**	ePN	**Pn**	**01 18 01.2**	**-8.1**

IDC ***28*** *01:35:24.0±3.5, 5147N×17997E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, Error ellipse: s-maj=92.9km s-min=37.2km az=3.0*
ISCJB ***28*** *01:35:39.5±2.9, 52.1N±04×1795W±04, h108km±28km, mb3.4/4, Error ellipse: s-maj=68.5km s-min=38.6km az=154.5*
NEIC ***28*** *01:35:44.1, 5192N×179.15W, h117km, MG3.2(AEIC), After AEIC.*
ISC 28 01:35:39.5±3.0, 519N±04×1796W±04, h105km±28km, n8, σ0°69/9, mb3.3/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.78**	**90**	P	**Pn**	**01 36 10.5**	**+1.0**
ADK				S	**Sn**	**01 36 31.4**	**-0.9**
SLKM	**Skilak Lake**	**18.30**	**51**	P	**P**	**01 39 45.2**	**0.0**
ILAR	**Eielson Array**	**21.12**	**40**	P	**P**	**01 40 16.4**	**+0.8**
0.2nm,0.5s,mb2.7,baz=250,slow=11,SNR=4.1
YKA Yellowknife Ar 35.20 47 P P 01 42 22.9 -0.5
0.1nm,0.4s,mb3.0,baz=279,slow=7.9,SNR=5.0
YKA Yellowknife Ar 35.20 47 P P 01 42 22.9 -0.5
PDAR Pinedale Array 46.59 72 P P 01 43 57.4 +0.5
0.4nm,0.6s,mb3.3,baz=309,slow=4.3,SNR=2.8
AKASG Malin Array Be 74.88 342 P P 01 47 07.7 -0.9
1.1nm,0.4s,mb4.0,baz=20,slow=6.5,SNR=4.4
BRTR Keskin Array B 84.25 335 P P 01 47 59.4 0.0
0.3nm,0.6s,mb3.3,baz=40,slow=4.3,SNR=3.6

ISCJB ***28*** *01:43:31.0±0.7, 75N±01×362W±01, h10km, mb4.0/10, MS3.7/5, Error ellipse: s-maj=21.2km s-min=12.8km az=74.1*
IDC ***28*** *01:43:31.3±0.9, 759N×3626W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/22, mbtmp3.9/6, MS3.7/5, Ms1 3.7/5, ms1mx3.4/26, Error ellipse: s-maj=39.2km s-min=20.2km az=137.0*
NEIC ***28*** *01:43:32.9±0.6, 755N×3629W, h10km, mb4.3/4, Error ellipse: s-maj=17.7km s-min=10.4km az=114.0*
ISC 28 01:43:33.2±0.7, 75N±01×362W±01, h10km, n15, σ0°57/12, mb4.0/10, MS3.7/5, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.28**	**179**	ePn	**Pn**	**01 46 41.3**	**-0.5**
BDFB	**Brasilia**	**25.82**	**207**	P	**P**	**01 49 05.2**	**+0.6**
6.4nm,0.8s,mb4.2,baz=45,slow=9.4,SNR=8.4
BDFB LR LR 01 58 12.8
comp=Z,83nm,19.0s,MS3.3,baz=304,slow=34
SJG San Juan 30.96 293 LR LR 01 59 07.2
comp=Z,109nm,20.3s,MS3.5,baz=110,slow=30
SAML Samuel 31.46 239 eP **P 01 49 54.9 +0.1**
1.7nm,0.7s,mb4.0
TORD Torodi Ar. Bea 37.69 78 P P 01 50 48.2 -0.4
1.0nm,0.8s,mb3.6,baz=269,slow=8.9,SNR=8.6
CPUP Villa Florida 39.41 211 LR LR 02 07 52.2
comp=Z,73nm,18.7s,MS3.5,baz=33,slow=37
CPUP Villa Florida 39.41 211 P P 01 51 03.2 +0.1
2.8nm,0.6s,mb4.2
LPAZ La Paz 39.47 233 P P 01 51 04.4 +0.8
2.9nm,0.6s,mb4.2,baz=62,slow=5.1,SNR=15
OTAV Otavalo 42.72 262 eP **P 01 51 30.1 -0.3**
4.0nm,0.4s,mb4.5
TRQA Tornquist 51.32 206 eP **P 01 52 37.0 -0.6**
4.7nm,0.8s,mb4.5
PLCA Paso Flores 57.49 211 LR LR 02 16 59.4
comp=Z,140nm,19.8s,MS4.1,baz=266,slow=35
GERES GERESS Array B 58.70 36 P P 01 53 31.1 +0.2
0.2nm,0.3s,mb3.6,baz=245,slow=5.7,SNR=3.5
GERES LR LR 02 14 53.9
comp=Z,124nm,18.7s,MS4.1,baz=263,slow=32
BRTR Keskin Array B 69.74 51 P P 01 54 44.3 +0.9
0.9nm,1.0s,mb3.7,baz=258,slow=5.9,SNR=4.8
YKA Yellowknife Ar 77.99 332 P P 01 55 30.7 -1.0
0.5nm,0.7s,mb3.6,baz=99,slow=5.6,SNR=12
YKA Yellowknife Ar 77.99 332 P P 01 55 30.7 -1.0

ISCJB ***28*** *01:51:34.0±0.7, 41.08N±004×2488E±003, h6km±6km, Error ellipse: s-maj=7.1km s-min=3.9km az=10.3*
NEIC ***28*** *01:51:33.5, 4135N×2504E, h43km, MD3.3(ATH), After ATH.*
CSEM ***28*** *01:51:34.8±0.3, 41.12N×2490E, h15km, MD3.3, Error ellipse: s-maj=7.4km s-min=4.0km az=8.0*
ATH ***28*** *01:51:34.8, 41.12N×2493E, h21km±2km, MD3.3/3*
THE ***28*** *01:51:35.8, 4105N×2488E, h8km, ML2.9*
ISC 28 01:51:34.6±0.7, 4109N±004×2490E±003, h14km±6km, n14, σ1°17/26, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	**Rodhopi**	**0.49**	**83**	ePB	**Pb**	**01 51 44.5**	**-0.5**
RDO				eSB	**Sb**	**01 51 51.4**	**-0.6**
NVR	**Nevrokopi**	**0.82**	**289**	ePB	**Pb**	**01 51 50.5**	**-0.3**
NVR				eSN	**Sn**	**01 52 02.7**	**-1.2**
ALN	**Alexandroupoli**	**0.89**	**102**	ePg	**Pg**	**01 51 52.2**	**+0.4**
ALN				eSg	**Sg**	**01 52 06.0**	**+2.5**
SRS	**Serrai**	**0.99**	**272**	ePg	**Pg**	**01 51 54.0**	**+0.3**
SRS				eSg	**Sg**	**01 52 08.2**	**+1.6**
OUR	**Ouranopolis**	**1.02**	**223**	ePg	**Pg**	**01 51 54.5**	**+0.1**
OUR				eSg	**Sg**	**01 52 08.3**	**+0.5**
OUR	**Ouranopolis**	**1.02**	**223**	ePg	**Pg**	**01 51 54.5**	**+0.1**
OUR				eSg	**Sg**	**01 52 08.3**	**+0.5**
LOS	**Limnos**	**1.16**	**173**	ePg	**Pg**	**01 51 56.8**	**-0.2**
LOS				eSg	**Sg**	**01 52 12.1**	**0.0**
SOH	**Sokhos**	**1.20**	**258**	ePg	**Pg**	**01 51 57.7**	**-0.1**
SOH				eSg	**Sg**	**01 52 14.4**	**+1.1**
SOH	**Sokhos**	**1.20**	**258**	ePg	**Pg**	**01 51 57.7**	**0.0**
SOH				eSg	**Sg**	**01 52 14.4**	**+1.0**
LIA	**Limnos Island**	**1.21**	**170**	ePN	**Pn**	**01 51 57.8**	**+0.7**
PLG	**Polygyros**	**1.31**	**238**	ePN	**Pn**	**01 52 00.3**	**+1.7**
PLG				eSN	**Sn**	**01 52 18.5**	**+2.6**
PAIG	**Paliouri**	**1.48**	**219**	ePg	**Pg**	**01 52 01.3**	**-1.9**
PAIG				eSg	**Sg**	**01 52 20.8**	**-1.7**
KNT	**Kendrikon**	**1.51**	**274**	ePg	**Pg**	**01 52 02.2**	**-1.5**
KNT				eSg	**Sg**	**01 52 22.9**	**-0.5**
PRK	**Paraskevi**	**2.12**	**150**	ePB	**Pb**	**01 52 11.0**	**-1.8**

WEL 28 02:37:33.2±0.4, 4042S×17683E, h26km±2km, ML3.6/15, Error ellipse: s-maj=5.0km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.39**	**3**	P*	Pb	02 37 41.3	-0.3
PXZ				S*	Sb	02 37 48.4	+1.1
BFZ	**Birch Farm**	**0.52**	**240**	P*	Pb	02 37 44.1	+0.3
BFZ				S*	Sb	02 37 51.9	+1.1
TSZ	**Takapari Road**	**0.76**	**298**	P*	Pb	02 37 47.3	-0.5
TSZ				S*	Sb	02 37 58.1	+0.5
MRZ	**Mangatainoka R**	**0.99**	**255**	P*	Pb	02 37 50.9	-0.8
MRZ				S*	Sb	02 38 04.7	+0.4
MTW	**Mount Morrison**	**1.25**	**233**	P*	Pb	02 37 54.1	-2.0
BKZ	**Black Stump Fm**	**1.28**	**348**	PN	Pn	02 37 55.4	0.0
BKZ				SN	Sn	02 38 11.8	+0.1
MOVZ	**Moawhango**	**1.31**	**320**	PN	Pn	02 37 56.5	+0.7
WNVZ	**Wahianoa**	**1.45**	**318**	PN	Pn	02 37 59.5	+1.8
TUVZ	**Tukino**	**1.47**	**321**	PN	Pn	02 37 59.9	+1.9
TRVZ	**Turoa**	**1.49**	**318**	PN	Pn	02 38 00.6	+2.3
CAW	**Cannon Point**	**1.51**	**242**	PN	Pn	02 37 57.6	-1.0
FWVZ	**Far West T-bar**	**1.52**	**319**	PN	Pn	02 38 00.9	+2.1
OTVZ	**Oturere**	**1.54**	**324**	PN	Pn	02 38 00.6	+1.5
WAZ	**Wanganui**	**1.57**	**294**	PN	Pn	02 38 00.9	+1.6
WPVZ	**Whakapapa**	**1.57**	**320**	PN	Pn	02 38 01.4	+2.0
PKVZ	**Pokaka**	**1.61**	**314**	PN	Pn	02 38 02.2	+2.3
KRVZ	**Karewarewa**	**1.61**	**325**	PN	Pn	02 38 01.5	+1.6
WTVZ	**West Tongariro**	**1.62**	**323**	PN	Pn	02 38 02.2	+2.1
KATZ	**Kakaramea**	**1.69**	**328**	PN	Pn	02 38 03.9	+2.9
TWVZ	**Taurewa**	**1.72**	**321**	PN	Pn	02 38 03.5	+2.0
MQZ	**McQueen's Vall**	**4.53**	**222**	eSN	Sn	02 39 26.1	-5.7

IDC ***28*** *03:06:49.5±1.8, 648N×12740E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, Error ellipse: s-maj=135.6km s-min=16.6km az=68.0*
NEIC ***28*** *03:06:54.5±6.7, 658N×12754E, h32km±47km, mb4.1/5, Error ellipse: s-maj=38.7km s-min=9.2km az=64.0*
ISCJB ***28*** *03:07:01.3±1.3, 6.1N±01×1267E±03, h102km±10km, mb3.8/12, Error ellipse: s-maj=53.8km s-min=9.9km az=141.5*
ISC 28 03:07:02.1±1.2, 60N±01×1266E±03, h91km±10km, n22, σ0°94/22, mb3.8/12, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.46**	**314**	⇑*i* P	**Pn**	**03 07 27.0**	**-0.4**
DAV	**Davao City (W)**	**1.46**	**314**	ePn	**Pn**	**03 07 26.2**	**-1.2**
SCPH	**Surigao**	**3.88**	**343**	eP	**Pn**	**03 07 59.4**	**-0.2**
SCPH				eS	**Sn**	**03 08 45.5**	**+1.4**
NACB	**Ninganchiao**	**18.67**	**345**	eP	**Pn**	**03 11 05.9**	**-8.4**
KAKA	**Kakadu**	**19.50**	**163**	eP	**Pn**	**03 11 22.8**	**-1.3**
9.1nm,0.9s
FITZ Fitzroy Crossi 24.01 182 eP **P 03 12 10.4 +2.0**
FITZ Fitzroy Crossi 24.01 182 eP **P 03 12 10.5 +2.1**
2.0nm,0.6s,mb3.6,baz=277,slow=16,SNR=8.6
WRA Warramunga Arr 26.91 164 P P 03 12 35.2 +0.5
0.7nm,0.3s,mb3.6,baz=346,slow=10,SNR=13
WB2 Warramunga Arr 26.91 164 eP **P 03 12 38.1 +3.4**
ASAR Alice Springs 30.37 167 P P 03 13 06.0 +0.6
0.4nm,0.5s,mb3.3,baz=348,slow=7.3,SNR=6.9
STKA Stephens Creek 40.32 160 P P 03 14 29.3 -1.3
0.7nm,0.4s,mb3.9,baz=338,slow=12,SNR=3.4
STKA Stephens Creek 40.32 160 P P 03 14 29.3 -1.3
MKAR Makanchi Array 55.62 324 P P 03 16 28.9 +0.4
0.8nm,0.6s,mb3.9,baz=124,slow=7.8,SNR=8.8
KURK Kurchatov 59.76 327 eP **P 03 16 57.4 -0.1**
1.3nm,0.5s,mb4.2
BVAR Borovoye Array 65.35 326 P P 03 17 34.1 -0.6
1.2nm,0.8s,mb3.8,baz=119,slow=8.6,SNR=6.7
BRVK Borovoye 65.42 326 eP **P 03 17 34.5 -0.7**
1.0nm,0.6s,mb3.8
CHKZ Chkalovo 65.50 327 eP **P 03 17 34.8 -0.8**
0.8nm,0.6s,mb3.7
ZRNK Zerenda 66.08 326 eP **P 03 17 39.2 -0.2**
1.0nm,0.6s,mb3.8
AKTK Aktyubinsk 71.80 321 P P 03 18 14.9 +0.1
AKTO Aktyubinsk 71.80 321 P P 03 18 14.9 +0.1
1.9nm,0.7s,mb4.0,baz=86,slow=8.3,SNR=8.3
BRTR Keskin Array B 88.48 310 P P 03 19 44.7 +0.4
0.4nm,0.8s,mb3.5,baz=95,slow=3.3,SNR=3.9
TORD Torodi Ar. Bea 122.08 290 PKP PKPdf 03 25 47.0 +0.9
1.9nm,1.3s,baz=63,slow=2.1,SNR=3.9

MAN 28 03:08:09.9, 1209N×12133E, h11km, mb2.3, ML3.9, MS2.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.42**	**330**	eP	Pg	03 08 19.3	+1.1
SJMP				eS	Sg	03 08 26.4	+2.5
OTRP	**Odiongan**	**0.72**	**68**	eP	Pg	03 08 23.3	-0.6
OTRP				eS	Sg	03 08 34.0	+0.6
KALP	**Kalibo**	**1.06**	**113**	eP	Sg	03 08 46.4	+2.1
BUSP	**Coron**	**1.11**	**266**	eP	Pb	03 08 30.7	-0.4
BUSP				eS	Sb	03 08 46.9	+1.3
CUYO	**Cuyo Island**	**1.27**	**194**	eP	Pn	03 08 31.9	-1.6
CUYO				eS	Sb	03 08 51.1	+1.0
BOAC	**Boac**	**1.45**	**20**	eP	Pn	03 08 34.8	-1.2
RCP	**Roxas**	**1.48**	**111**	eP	Pn	03 08 37.8	+1.3
RCP				eS	Sn	03 08 55.5	-0.2
LUBP	**Lubang**	**1.95**	**327**	eP	Pn	03 08 45.6	+2.7
ENPP	**El Nido**	**2.07**	**245**	eP	Pn	03 08 44.2	-0.3

NEIC ***28*** *03:22:28.7±1.3, 1003N×5906W, h10km, mb3.4/1, MD4.0(TRN), Error ellipse: s-maj=19.1km s-min=11.8km az=92.0*
ISCJB ***28*** *03:22:30.0±1.0, 1036N±006×5903W±005, h10km, mb3.6/5, Error ellipse: s-maj=8.5km s-min=7.4km az=157.0*
TRN ***28*** *03:22:30.0, 1031N×5912W, h9km, MD3.9*
IDC ***28*** *03:22:33.1±1.7, 1047N×5978W, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=46.0km s-min=25.4km az=42.0*

ISC 28 03:22:31.7±0.9, 1032N±006×5910W±005, h10km, n27, σ0°76/39, mb3.6/5, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOT	**Bacolet**	**1.80**	**298**	eP	**Pn**	**03 23 03.3**	**+0.4**
BOT				eS	**Sn**	**03 23 26.0**	**+0.2**
TPR	**Prospect**	**1.86**	**298**	eP	**Pn**	**03 23 04.0**	**+0.4**
TPR				eS	**Sn**	**03 23 27.5**	**+0.3**
TBH	**Brigand Hill**	**1.95**	**275**	eP	**Pn**	**03 23 04.8**	**0.0**
TBH				eS	**Sn**	**03 23 29.1**	**-0.1**
TRN	**Trinidad (W)**	**2.29**	**278**	eP	**Pn**	**03 23 08.7**	**-0.9**
TRN				eS	**Sn**	**03 23 38.9**	**+1.1**
GRHS	**Sauteurs**	**3.13**	**307**	eS	**Sn**	**03 23 56.2**	**-2.4**
GRCU	**Cariacou**	**3.15**	**313**	eP	**Pn**	**03 23 21.7**	**+0.4**
GRCU				eS	**Sn**	**03 23 58.1**	**-0.9**
GRSS	**Sisters**	**3.16**	**309**	eP	**Pn**	**03 23 21.8**	**+0.4**
GRSS				eS	**Sn**	**03 23 58.7**	**-0.5**
FCV	**Fort Charlotte**	**3.52**	**324**	eP	**Pn**	**03 23 27.8**	**+1.4**
FCV				eS	**Sn**	**03 24 08.7**	**+0.6**
SVB	**Belmont**	**3.62**	**325**	eP	**Pn**	**03 23 27.9**	**+0.1**
SVB				eS	**Sn**	**03 24 10.1**	**-0.4**
SSV	**Crater Summit**	**3.63**	**326**	eP	**Pn**	**03 23 28.1**	**+0.1**
SVV	**Soufriere Volc**	**3.63**	**325**	eP	**Pn**	**03 23 28.1**	**+0.1**
SVV				eS	**Sn**	**03 24 11.8**	**+0.9**
TRMF	**Trois Ilets**	**4.61**	**336**	eP	**Pn**	**03 23 41.2**	**-0.2**
CRM	**Caravelle**	**4.75**	**338**	eP	**Pn**	**03 23 43.4**	**0.0**
FDF	**Fort de France**	**4.83**	**336**	eP	**Pn**	**03 23 44.8**	**+0.4**
FDF				eS	**Sn**	**03 24 38.1**	**-2.2**
PML	**Morne Lenard**	**4.88**	**336**	eP	**Pn**	**03 23 45.5**	**+0.3**
PCM	**Pelee Case Pet**	**4.92**	**335**	eP	**Pn**	**03 23 46.0**	**+0.3**
SVN	**Savane Anatole**	**4.93**	**336**	eP	**Pn**	**03 23 46.4**	**+0.5**
SVN				eS	**Sn**	**03 24 43.5**	**+0.6**
LZG	**Guadaloupe-1**	**6.35**	**336**	eP	**Pn**	**03 24 05.7**	**+0.4**
SEG	**Port Louis**	**6.49**	**339**	eP	**Pn**	**03 24 07.8**	**+0.6**
SDV	**Santo Domingo**	**11.46**	**264**	ePn	**Pn**	**03 25 09.0**	**-6.5**
SDV				eSn	**Sn**	**03 27 12.0**	**-12**
SAML	**Samuel**	**19.57**	**192**	eP	**Pn**	**03 26 54.4**	**-6.5**
1.5nm,0.6s
ANMO Albuquerque 49.53 307 P P 03 31 22.1 -0.5
0.6nm,0.7s,mb3.7,baz=135,slow=7.1,SNR=3.0
ULM Lac du Bonnet 50.03 330 P P 03 31 25.3 -1.0
0.7nm,0.3s,mb4.1,baz=131,slow=8.1,SNR=3.1
PDAR Pinedale Array 54.43 316 P P 03 31 58.6 -0.5
0.5nm,0.5s,mb3.7,baz=116,slow=10,SNR=7.5
TORD Torodi Ar. Bea 59.47 81 P P 03 32 43.1 +8.3
0.2nm,0.6s,mb3.4,baz=289,slow=6.1,SNR=4.4
YKA Yellowknife Ar 65.40 335 P P 03 33 13.2 -1.2
0.1nm,0.4s,mb3.2,baz=105,slow=7.6,SNR=4.3
YKA Yellowknife Ar 65.40 335 P P 03 33 13.2 -1.2

MAN 28 03:29:41.1, 1212N×12143E, h24km, mb1.9, ML3.7, MS3.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.45**	**318**	eP	Pb	03 29 50.6	+0.2
SJMP				eS	Sb	03 29 58.3	+1.4
OTRP	**Odiongan**	**0.62**	**68**	eP	Pb	03 29 54.5	+1.2
OTRP				eS	Sb	03 30 04.3	+2.7
BUSP	**Coron**	**1.21**	**264**	eP	Pn	03 30 02.9	+0.4
CUYO	**Cuyo Island**	**1.33**	**198**	eP	Pn	03 30 03.2	-0.9
BOAC	**Boac**	**1.39**	**17**	eP	Pn	03 30 04.5	-0.4
LUBP	**Lubang**	**1.97**	**324**	eP	Pn	03 30 13.5	+0.5

MEX 28 03:38:15.6±1.3, 1549N×9350W, h40km±999km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.49**	**34**	*i* P	Pn	03 38 39.3	-0.6
SCX				*i* S	Sn	03 38 57.5	-0.7
CCIG	**Comitan**	**1.53**	**59**	*i* P	Pn	03 38 38.9	-1.5
CCIG				*i* S	Sn	03 38 55.6	-3.5
CMIG	**Matias Romero**	**2.08**	**320**	*i* P	Pn	03 38 45.9	-2.0
CMIG				*i* S	Sn	03 39 09.6	-2.9

BJI 28 03:47:41.5, 2458N×10303E, h23km, mb4.5, ML3.6, Msz3.9, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.60**	**334**	PG	Pb	03 47 50.3	-3.1
KMI				SG	Sb	03 47 59.0	-2.4
KMI				Smax			
comp=N,2μm,0.6s
KMI Smax
comp=E,2μm,0.9s
CD2 Chengdu 6.34 6 eP Pn 03 49 16.0 +2.5
CD2 S Sn 03 50 30.5 +5.3
CD2 SG Sn 03 51 08.8 +44
CD2 Smax
comp=N,10.0nm,1.3s
CD2 Smax
comp=E,10.0nm,1.3s
NJ2 Nanjing 15.79 58 eP Pn 03 51 23.8 +1.5
NJ2 AMB AMB
comp=Z,10.0nm,0.5s

NIED ***28*** *03:48:00, 3240N×14190E, h5km, Mw4.4 Best double couple: M0 4.47000×10^15 NP1:φ=15.00000°, δ=66.00000°, λ=107.00000°. NP2:φ=159.00000°, δ=29.00000°, λ=57.00000°.*
JMA ***28*** *03:48:52.8±0.5, 3238N×14190E, h8km, M4.2*
ISCJB ***28*** *03:48:56.6±0.4, 3231N±003×14176E±007, h47km, mb4.5/34, MS3.7/3, Error ellipse: s-maj=8.7km s-min=4.0km az=135.0*
MOS ***28*** *03:48:56.0±0.8, 3230N×14173E, h38km, mb4.9/10, Error ellipse: s-maj=20.6km s-min=7.7km az=119.9*
IDC ***28*** *03:48:59.0±0.5, 3232N×14174E, h45km±4km, mb3.8/15, mb1 4.0/17, mb1mx4.0/23, mbtmp4.1/17, MS3.7/6, Ms1 3.7/6, ms1mx3.3/26, Error ellipse: s-maj=13.1km s-min=7.8km az=36.0*
BJI ***28*** *03:48:59.3, 3230N×14160E, h47km, mB4.6, mb4.3, Ms4.2, Msz3.8*
NEIC ***28*** *03:48:59.1±0.3, 3232N×14165E, mb4.7/12, MW4.4(NIED), Error ellipse: s-maj=9.3km s-min=6.8km az=66.0*
ISC 28 03:48:58.8±0.4, 3234N±004×14174E±007, h49km, h49km±1.1km; pP-P, n85, σ1°06/89, mb4.5/34, MS3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.79**	**296**	P	**Pn**	**03 49 26.1**	**-1.2**
JHJ	**Hachijo jima 2**	**1.82**	**296**	P	**Pn**	**03 49 26.3**	**-1.4**
109nm,0.3s,baz=79,slow=22,SNR=102
JHJ S **Sn** **03 49 49.8** **+0.2**
158nm,0.3s,baz=48,slow=23,SNR=8.3
BSO1 Boso 1 2.40 345 P Pn 03 49 33.6 -1.9
BSO1 eS **Sn** **03 50 01.8** **-1.9**
BSO2 Boso 2 2.55 341 eS **Sn** **03 50 07.3** **0.0**
BSO3 Boso 3 2.67 338 P Pn 03 49 37.7 -1.5
BSO3 eS **Sn** **03 50 11.3** **+1.0**
JKO Kozu shima 2.86 311 P Pn 03 49 41.1 -0.7
BSO4 Boso 4 2.89 337 P Pn 03 49 40.6 -1.7
BSO4 eS **Sn** **03 50 18.2** **+2.3**
JIM2 Oshima 3 3.06 322 P Pn 03 49 44.7 +0.1
JIM2 eS **Sn** **03 50 19.9** **0.0**
**JOD2 Odawara

CBIJ Chichi jima 5.24 176 P **Pn** **03 50 12.8 -1.7**
comp=Z,21nm,0.3s,baz=270,slow=20,SNR=4.4
JNU Nakatsue 9.18 278 LR LR 03 55 02.9
comp=Z,426nm,18.3s,baz=271,slow=40
ASAJ Asahikawa 11.78 3 P **Pn** **03 51 40.1 -4.0**
comp=Z,0.9nm,0.3s,baz=212,slow=2.7,SNR=5.3
ASAJ LR LR 03 57 21.8
comp=Z,185nm,19.2s,baz=165,slow=43
ASAJ Asahikawa 11.78 3 P **Pn** **03 51 40.2 -3.9**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,185nm,19.2s
JOW Kunigami 12.93 248 LR LR 03 57 27.4
comp=Z,414nm,18.0s,baz=351,slow=39
YSS Yuzh-Sakhalins 14.62 3 *eP* **Pn** **03 52 29.8 +7.2**
MDJ Mudanjiang 15.50 326 P **Pn** **03 52 37.3 +3.3**
MDJ AMB AMB
comp=Z,9.0nm,1.0s
MDJ AMB AMB
comp=Z,95nm,4.1s
MDJ LR LR
comp=N,252nm,16.2s
MDJ LR LR
comp=E,211nm,14.9s
MDJ LR LR
comp=Z,276nm,16.8s
MDJ Mudanjiang 15.50 326 *e*Pn **Pn** **03 52 34.1 +0.1**
comp=Z,19nm,1.1s
KLR Kul'dur 18.47 339 *eP* **Pn** **03 53 07.2 -3.8**
KLR MLR MLR
comp=N,500nm,13.0s
KLR MLR MLR
comp=Z,900nm,13.0s
HIA Hailar 23.60 322 *eP* **P** **03 54 04.9 -0.2**
comp=Z,7.1nm,0.6s,mb4.3
HIA *e*pP 03 54 17.1
HIA Hailar 23.60 322 *eP* **P** **03 54 04.9 -0.2**
HIA *e**PP 03 54 17.1
HIA pmax pmax
comp=Z,7.0nm,0.6s
CIT Chita 28.41 322 *eP* **P** **03 54 50.7 +2.1**
CIT *e* pP 03 55 04.0 +2.7
CIT *e* 04 01 17.3
CIT pmax pmax
comp=Z,53nm,2.5s,mb4.7
ULN Ulaanbaatar 30.43 311 *eP* **P** **03 55 08.5 +2.1**
comp=Z,14nm,0.8s,mb4.8
ULN *e*pP pP 03 55 21.2 +2.1
ULN Ulaanbaatar 30.43 311 *eP* **P** **03 55 08.5 +2.0**
ULN *e**PP pP 03 55 21.3 +2.1
ULN pmax pmax
comp=Z,14nm,0.8s,mb4.7
SONM Songino Array 30.84 311 P **P** **03 55 11.4 +1.3**
comp=Z,3.4nm,0.6s,mb4.4,baz=109,slow=8.9,SNR=28
SONM pP pP 03 55 23.0 +0.1
comp=Z,8.8nm,0.9s,baz=106,slow=7.4,SNR=11
SONM LR LR 04 08 10.7
comp=Z,168nm,18.6s,MS3.7,baz=248,slow=37
SONM Songino Array 30.84 311 P **P** **03 55 11.4 +1.3**
SONM *PP pP 03 55 23.0 +0.1
LZH Lanzhou 31.43 287 *eP* **P** **03 55 15.0 -0.3**
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.8
QIZ Qiongzhong 31.52 253 *eP* **P** **03 55 16.7 +0.6**
comp=Z,57nm,1.5s,mb5.2
BOD Bodaibo 31.72 332 *eP* **P** **03 55 17.2 -0.6**
BOD pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
ZAK Zakamensk 33.56 314 *eP* **P** **03 55 35.5 +1.6**
ZAK pmax pmax
comp=Z,12nm,1.5s,mb4.6
GTA Gaotai 34.46 294 *eP* **P** **03 55 41.3 -0.4**
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
PMG Port Moresby 41.83 172 *eP* **P** **03 56 40.2 -3.5**
comp=Z,12nm,0.4s,mb4.9
PMG Port Moresby 41.83 172 *eP* **P** **03 56 40.2 -3.5**
PMG pmax pmax
comp=Z,12nm,0.4s
WMQ Urumqi 43.36 301 *eP* **P** **03 56 56.0 -0.1**
ZAL Zalesovo 45.38 316 P **P** **03 57 12.4 +0.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=358,slow=8.9,SNR=9.9
NVS Novosibirsk 46.37 317 *i P* **P** **03 57 20.2 +0.1**
NVS pmax pmax
comp=E,8.0nm,0.9s
NVS pmax pmax
comp=Z,13nm,0.9s,mb4.9
MKAR Makanchi Array 46.97 306 P **P** **03 57 24.7 -0.1**
comp=Z,4.3nm,0.8s,mb4.4,baz=98,slow=8.7,SNR=31
MKAR pP pP 03 57 39.0 +0.9
comp=Z,10nm,0.9s,baz=91,slow=9.7,SNR=14
MKAR LR LR 04 17 05.5
comp=Z,68nm,18.8s,MS3.6,baz=238,slow=36
MKAR Makanchi Array 46.97 306 P **P** **03 57 24.7 -0.1**
MKAR pP pP 03 57 39.0 +0.9
MKAR LR LR 04 17 05.5
MKAR Makanchi Array 46.97 306 P **P** **03 57 24.7 -0.1**
MKAR *PP pP 03 57 39.0 +1.0
JIRN Jiri 47.89 280 *eP* **P** **03 57 32.3 +0.4**
comp=Z,30nm,1.0s,mb5.3
PKI Pulchoki 48.57 280 *eP* **P** **03 57 37.4 +0.2**
comp=Z,13nm,0.6s,mb5.1
KKN Kakani 48.60 280 *eP* **P** **03 57 37.7 +0.3**
comp=Z,3.0nm,0.2s,mb5.0
GKN Gorkha 49.06 281 *eP* **P** **03 57 40.2 -0.8**
KURK Kurchatov 49.14 311 *eP* **P** **03 57 41.4 -0.1**
comp=Z,14nm,0.8s,mb5.0
KURK *e*pP pP 03 57 54.1 -0.7
KURK Kurchatov 49.14 311 *eP* **P** **03 57 41.4 -0.1**
KURK *e**PP pP 03 57 54.2 -0.7
KURK pmax pmax
comp=Z,14nm,0.8s,mb5.0
KOLN Koldanda 50.01 281 *eP* **P** **03 57 48.1 0.0**
comp=Z,11nm,1.0s,mb4.9
WRAB Tennant Creek 52.45 189 *eP* **P** **03 58 06.6 +0.1**
comp=Z,52nm,1.8s,mb5.2
WRAB *e*pP pP 03 58 19.7 -0.2
WRAB Tennant Creek 52.45 189 *eP* **P** **03 58 06.6 +0.2**
WRAB *e**PP pP 03 58 19.7 -0.2
WRAB pmax pmax
comp=Z,52nm,1.8s,mb5.2
WRA Warramunga Arr 52.46 189 P **P** **03 58 06.4 -0.1**
comp=Z,3.8nm,0.5s,mb4.6,baz=5.4,slow=7.6,SNR=42
WRA pP pP 03 58 19.8 -0.1
comp=Z,16nm,0.6s,baz=5.4,slow=7.6,SNR=24
ILAR Eielson Array 53.36 30 P **P** **03 58 13.7 +0.5**
comp=Z,1.0nm,0.7s,mb3.8,baz=264,slow=6.2,SNR=7.7
CHKZ Chkalovo 53.79 316 *eP* **P** **03 58 16.6 +0.3**
comp=Z,7.6nm,0.9s,mb4.6
CHKZ *e*pP pP 03 58 29.6 -0.2
CHKZ Chkalovo 53.79 316 *eP* **P** **03 58 16.6 +0.3**
CHKZ *e**PP pP 03 58 29.6 -0.2
CHKZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRVK Borovoye 54.06 315 *eP* **P** **03 58 19.2 +0.9**
comp=Z,2.6nm,0.8s,mb4.2
BRVK *e*pP pP 03 58 32.1 +0.3
BRVK Borovoye 54.06 315 *eP* **P** **03 58 19.2 +0.9**
BRVK *e**PP pP 03 58 32.1 +0.3
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ZRNK Zerenda 54.84 315 *eP* **P** **03 58 23.8 -0.1**
comp=Z,3.5nm,0.8s,mb4.4
ZRNK *e*pP pP 03 58 37.3 -0.2
ZRNK *e*sP sP 03 58 41.5 -1.6
ZRNK Zerenda 54.84 315 *eP* **P** **03 58 23.8 -0.2**
ZRNK *e**PP pP 03 58 37.3 -0.2
ZRNK *e**SP sP 03 58 41.5 -1.6
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ASAR Alice Springs 56.19 189 P **P** **03 58 35.9 +2.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=16,slow=14,SNR=23
INK Inuvik 58.47 26 P **P** **03 58 50.1 +0.4**
comp=Z,1.0nm,0.7s,mb3.9,baz=279,slow=11,SNR=3.8
DLBC Dease Lake 62.20 36 P **P** **03 59 14.6 -0.6**
comp=Z,1.5nm,1.0s,mb4.1,baz=236,slow=14,SNR=3.2
DLBC Dease Lake 62.20 36 P **P** **03 59 14.6 -0.6**
STKA Stephens Creek 63.86 180 P **P** **03 59 24.9 -1.3**
comp=Z,1.2nm,0.6s,mb4.1,baz=334,slow=6.6,SNR=3.1
STKA Stephens Creek 63.86 180 P **P** **03 59 24.9 -1.3**
YKA Yellowknife Ar 67.75 29 P **P** **03 59 51.7 +0.5**
comp=Z,0.8nm,0.7s,mb3.9,baz=305,slow=6.5,SNR=13
YKA pP pP 04 00 04.9 -0.2
comp=Z,1.4nm,0.8s,baz=297,slow=6.1,SNR=10
FINES FINESS Array B 73.10 333 P **P** **04 00 23.6 -0.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=91,slow=7.6,SNR=6.9
FINES pP pP 04 00 37.5 -0.4
comp=Z,2.6nm,0.9s,baz=71,slow=8.3,SNR=3.4
AKASG Malin Array Be 78.19 323 P **P** **04 00 53.3 +0.3**
comp=Z,0.9nm,0.4s,mb4.0,baz=48,slow=6.0,SNR=7.7
AKASG pP pP 04 01 06.0 -1.2
comp=Z,3.0nm,0.8s,baz=49,slow=5.9,SNR=4.9
NB2 NORSAR Subarra 78.62 338 P **P** **04 00 55.7 +0.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=40,slow=5.6
NB2 NORSAR Subarra 78.62 338 P **P** **04 00 55.7 +0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 78.62 338 P **P** **04 00 55.9 +0.5**
comp=Z,1.7nm,0.8s,mb4.0,baz=42,slow=5.4,SNR=4.8
NOA pP pP 04 01 09.0 -0.5
comp=Z,3.1nm,0.8s,baz=41,slow=5.4,SNR=5.8
NOA LR LR 04 40 48.3
comp=Z,32nm,19.3s,MS3.7,baz=310,slow=40
NOA NORSAR Array B 78.62 338 P **P** **04 00 55.9 +0.5**
NOA pP pP 04 01 09.0 -0.5
NOA LR LR 04 40 48.3
NOA NORSAR Array B 78.62 338 P **P** **04 00 55.9 +0.5**
NOA *PP pP 04 01 09.0 -0.5
PDAR Pinedale Array 80.78 45 P **P** **04 01 08.9 +1.8**
comp=Z,0.6nm,0.8s,mb3.6,baz=294,slow=1.5,SNR=4.2
BRTR Keskin Array B 82.18 312 P **P** **04 01 15.7 +1.2**
comp=Z,1.6nm,0.9s,mb4.0,baz=106,slow=4.0,SNR=8.1
BRTR pP pP 04 01 28.9 +0.1
comp=Z,2.1nm,0.8s,baz=116,slow=4.5,SNR=7.2
BRG Berggiesshubel 85.23 330 *e*(P) pP 04 01 43.9 -0.5
comp=Z,4.6nm,1.1s
CLL Collm 85.30 331 *i* (P) pP 04 01 44.7 0.0
comp=Z,11nm,1.0s
TORD Torodi Ar. Bea 120.78 313 PKP PKPdf 04 07 46.4 +1.1
comp=Z,0.5nm,0.7s,baz=349,slow=1.6,SNR=6.0
TORD pPKP pPKPdf 04 07 60.0 -0.3
comp=Z,0.4nm,0.5s,baz=41,slow=1.1,SNR=2.5
LPAZ La Paz 148.58 67 PKPbc PKPbc 04 08 43.4 +3.2
comp=Z,1.6nm,0.7s,baz=34,slow=7.2,SNR=6.2
SIV San Ignacio 153.67 57 PKPbc PKPbc 04 08 54.3 +2.2
comp=Z,0.7nm,0.8s,baz=203,slow=7.6,SNR=3.8

IDC ***28*** *03:50:38.9±1.2, 5322N×16724W, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/24, mbtmp3.9/14, ML3.8/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/25, Error ellipse: s-maj=33.1km s-min=18.4km az=161.0*
ISCJB ***28*** *03:50:45.0±0.9, 532N±0.1×1669W±0.1, h61km±6km, mb4.0/14, Error ellipse: s-maj=19.4km s-min=6.4km az=126.2*
NEIC ***28*** *03:50:46.0±1.2, 5316N×16680W, h53km±9km, mb4.1/3, Error ellipse: s-maj=21.5km s-min=9.0km az=159.0*
ISC 28 03:50:46.1±0.9, 532N±01×1669W±01, h57km±6km, n36, σ1§18/37, mb4.0/14, MS3.3/3, 1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**0.67**	**20**	↓*i* Pn	**Pn**	**03 50 59.4**	**-0.4**
UNV				S	**Sn**	**03 51 10.2**	**+0.4**
AKUT	**Akutan**	**1.14**	**36**	P	**Pn**	**03 51 06.0**	**+0.1**
AKUT				S	**Sn**	**03 51 22.0**	**+1.5**
AKA	**Akutan**	**1.14**	**36**	P	**Pn**	**03 51 06.0**	**+0.2**
NIKO	**Nikolski**	**1.21**	**259**	P	**Pn**	**03 51 06.1**	**-0.6**
NIKO				S	**Sn**	**03 51 21.7**	**-0.4**
SDPT	**Sand Point**	**4.33**	**58**	P	**Pn**	**03 51 49.5**	**+0.2**
ADK	**Adak**	**6.12**	**261**	P	**Pn**	**03 52 15.6**	**+1.7**
KDAK	**Kodiak Island**	**9.32**	**55**	Pn	**Pn**	**03 52 56.0**	**-1.7**
	1.0nm,0.3s,baz=201,slow=16,SNR=16						
KDAK				Sn	**Sn**	**03 54 34.8**	**-6.1**
	baz=300,slow=20,SNR=2.4						
SLKM	**Skilak Lake**	**11.66**	**45**	*e*Pn	**Pn**	**03 53 30.2**	**+0.5**
TNA	**Tin City**	**12.39**	**358**	*e*Pn	**Pn**	**03 53 43.1**	**+3.4**
	3.1nm,0.6s						
EYAK	**Cordova Ski Ar**	**13.65**	**49**	*e*Pn	**Pn**	**03 53 54.1**	**-2.7**
DIV	**Divide**	**13.88**	**47**	*e*Pn	**Pn**	**03 53 57.8**	**-2.1**
	22nm,0.6s						
ILAR	**Eielson Array**	**15.41**	**33**	Pn	**Pn**	**03 54 18.4**	**-1.4**
	0.1nm,0.3s,baz=219,slow=10,SNR=13						
DAWY	**Dawson**	**17.80**	**42**	*e*Pn	**Pn**	**03 54 50.8**	**+1.0**
BILL	**Bilibino**	**19.59**	**330**	*e*P	**Pn**	**03 55 11.9**	**+0.7**
	8.0nm,1.0s						
DLBC	**Dease Lake**	**21.16**	**61**	P	**P**	**03 55 29.0**	**+2.5**
	0.4nm,0.5s,mb3.0,baz=246,slow=10.0,SNR=5.7						
DLBC	**Dease Lake**	**21.16**	**61**	P	**P**	**03 55 29.0**	**+2.5**
INK	**Inuvik**	**21.81**	**33**	P	**P**	**03 55 31.6**	**-1.8**
	2.9nm,0.5s,mb4.0,baz=256,slow=13,SNR=22						
INK	**Inuvik**	**21.81**	**33**	*e*P	**P**	**03 55 31.4**	**-2.0**
	2.9nm,0.5s,mb4.0						
YKA	**Yellowknife Ar**	**28.55**	**50**	P	**P**	**03 56 37.5**	**+1.1**
	0.4nm,0.3s,mb3.6,baz=277,slow=8.7,SNR=18						
YKA				PcP	PcP	03 59 46.4	-0.2
	0.4nm,0.8s,baz=293,slow=2.4,SNR=4.2						
YKA	**Yellowknife Ar**	**28.55**	**50**	P	**P**	**03 56 37.5**	**+1.1**
YKA				PcP	PcP	03 59 46.4	-0.2
NEW	**Newport**	**31.36**	**79**	LR	LR	04 09 19.9	
	comp=Z,95nm,19.4s,MS3.5,baz=83,slow=36						
YBH	**Yreka Blue Hor**	**31.50**	**93**	LR	LR	04 06 43.7	
	comp=Z,93nm,20.5s,MS3.5,baz=160,slow=30						
ASAJ	**Asahikawa**	**33.93**	**275**	LR	LR	04 09 06.1	
	comp=Z,34nm,19.3s,MS3.1,baz=159,slow=33						
PDAR	**Pinedale Array**	**38.78**	**82**	P	**P**	**03 58 06.1**	**+1.0**
	0.3nm,0.4s,mb3.4,baz=316,slow=4.1,SNR=3.8						
SONM	**Songino Array**	**52.15**	**302**	P	**P**	**03 59 50.9**	**+0.2**
	0.9nm,0.8s,mb3.8,baz=83,slow=4.6,SNR=4.8						
SONM				PcP	PcP	04 01 01.5	-0.4
	1.0nm,0.6s,baz=58,slow=2.6,SNR=5.3						
SCHQ	**Schefferville**	**53.78**	**45**	P	**P**	**04 00 03.8**	**+1.0**
	2.4nm,0.7s,mb4.2,baz=297,slow=12,SNR=3.9						
ARCES	**ARCESS Array B**	**57.23**	**355**	P	**P**	**04 00 26.9**	**-0.6**
	4.3nm,1.1s,mb4.4,baz=20,slow=9.1,SNR=3.9						
ARCES				PcP	PcP	04 01 21.3	-0.1
	3.2nm,0.7s,baz=25,slow=3.2,SNR=3.8						
ARCES	**ARCESS Array B**	**57.23**	**355**	P	**P**	**04 00 26.9**	**-0.6**
ARCES				PcP	PcP	04 01 21.3	-0.1
MKAR	**Makanchi Array**	**64.30**	**315**	P	**P**	**04 01 14.3**	**-1.2**
	0.6nm,0.6s,mb3.8,baz=353,slow=3.8,SNR=4.3						
MKAR	**Makanchi Array**	**64.30**	**315**	P	**P**	**04 01 14.3**	**-1.2**
ZRNK	**Zerenda**	**64.40**	**326**	*e*P	**P**	**04 01 16.1**	**-0.1**
	3.8nm,0.5s,mb4.7						
FINES	**FINESS Array B**	**65.22**	**353**	P	**P**	**04 01 20.2**	**-1.3**
	1.1nm,0.8s,mb4.0,baz=34,slow=7.6,SNR=4.3						
AKASG	**Malin Array Be**	**75.57**	**349**	P	**P**	**04 02 23.6**	**-1.1**
	0.4nm,0.3s,mb3.9,baz=12,slow=5.6,SNR=4.3						
BRTR	**Keskin Array B**	**85.74**	**344**	P	**P**	**04 03 20.5**	**+1.5**
	3.6nm,0.8s,mb4.6,baz=51,slow=3.4,SNR=14						
ESDC	**Sonseca Array**	**86.31**	**13**	P	**P**	**04 03 22.4**	**+0.6**
	0.9nm,0.6s,mb4.2,baz=341,slow=4.7,SNR=6.0						
WRA	**Warramunga Arr**	**88.71**	**234**	P	**P**	**04 03 33.5**	**+0.1**
	0.3nm,0.3s,mb4.1,baz=32,slow=5.4,SNR=5.2						

IDC ***28*** *03:52:48.3±0.8, 1723S×7231W, h36km±5km, mb3.6/5, mb1 3.8/8, mb1mx3.7/19, mbtmp3.8/8, ML4.5/2, MS3.3/6, Ms1 3.3/6, ms1mx3.1/19, Error ellipse: s-maj=28.8km s-min=18.3km az=54.0*
ISCJB ***28*** *03:52:50.0±1.6, 1734S±006×722W±02, h68km±14km, mb3.6/5, Error ellipse: s-maj=24.2km s-min=9.2km az=174.7*
NEIC ***28*** *03:52:49.9±2.1, 1726S×7228W, h53km±17km, Error ellipse: s-maj=34.4km s-min=11.0km az=107.0*
ISC 28 03:52:50.0±1.9, 1730S±006×724W±02, h55km±16km, n18, σ0§83/16, mb3.7/5, MS3.2/3, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.17**	**45**	↓*i* P	**Pn**	**03 53 09.5**	**-0.6**
ARE				*i* S	**Sn**	**03 53 27.0**	**+1.9**
LPAZ	**La Paz**	**4.17**	**77**	Pn	**Pn**	**03 53 55.5**	**+4.4**
	1.0nm,0.3s,baz=256,slow=8.8,SNR=44						
LPAZ				LR	LR	03 55 45.2	
	comp=Z,357nm,19.0s,baz=263,slow=43						
LPAZ	**La Paz**	**4.17**	**77**	*e*Pn	**Pn**	**03 53 55.1**	**+4.1**
LPAZ				*i*		03 54 00.2	
LVC	**Limon Verde**	**6.19**	**149**	Pn	**Pn**	**03 54 18.4**	**-0.4**
	2.5nm,0.3s,baz=325,slow=8.8,SNR=37						
LVC				Sn	**Sn**	**03 55 28.0**	**-0.2**
	6.0nm,0.3s,baz=74,slow=20,SNR=15						
LVC				LR	LR	03 56 35.3	
	comp=Z,124nm,21.3s,baz=296,slow=36						
LVC	**Limon Verde**	**6.19**	**149**	Pn	**Pn**	**03 54 18.4**	**-0.4**
LVC				Sn	**Sn**	**03 55 28.0**	**-0.2**
LVC				LR	LR	03 56 35.3	
SIV	**San Ignacio**	**10.89**	**85**	Pn	**Pn**	**03 55 22.5**	**-0.6**
	0.9nm,0.3s,baz=261,slow=13,SNR=14						
SAML	**Samuel**	**12.19**	**48**	*e*Pn	**Pn**	**03 55 39.3**	**-1.5**
CFAA	**Coronel Fontan**	**14.72**	**166**	Pn	**Pn**	**03 56 15.9**	**+1.0**
	0.0nm,0.3s,baz=327,slow=14,SNR=4.4						
CPUP	**Villa Florida**	**16.58**	**125**	LR	LR	04 04 24.3	
	comp=Z,109nm,18.9s,baz=341,slow=42						
BDFB	**Brasilia**	**23.39**	**89**	P	**P**	**03 57 53.8**	**-0.2**
	1.6nm,0.7s,mb3.6,baz=270,slow=9.1,SNR=2.1						
BDFB				LR	LR	04 08 05.9	
	comp=Z,57nm,18.9s,MS3.0,baz=287,slow=39						
PLCA	**Paso Flores**	**23.40**	**177**	P	**P**	**03 57 54.5**	**+0.4**
	2.1nm,0.9s,mb3.5,baz=16,slow=7.4,SNR=2.8						
SDV	**Santo Domingo**	**26.08**	**4**	LR	LR	04 09 18.8	
	comp=Z,62nm,18.3s,MS3.2,baz=159,slow=38						
JTS	**JuntasAbangare**	**30.11**	**335**	LR	LR	04 10 25.0	
	comp=Z,100nm,18.7s,MS3.5,baz=34,slow=35						
PDAR	**Pinedale Array**	**68.88**	**331**	P	**P**	**04 03 49.0**	**+0.1**
	0.5nm,0.9s,mb3.4,baz=123,slow=3.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**79.11**	**73**	P	**P**	**04 04 49.1**	**+0.5**
	1.4nm,0.6s,mb4.0,baz=261,slow=3.7,SNR=20						
TORD				pP	pP	04 05 00.1	-4.0
	1.6nm,0.7s,baz=260,slow=5.4,SNR=7.2						
YKA	**Yellowknife Ar**	**86.19**	**342**	P	**P**	**04 05 24.9**	**-0.4**
	0.7nm,0.8s,mb4.0,baz=136,slow=4.8,SNR=17						
YKA				pP	pP	04 05 36.7	-4.3
	0.5nm,0.6s,baz=135,slow=4.9,SNR=8.6						
MKAR	**Makanchi Array**	**143.89**	**30**	PKP	PKPdf	04 12 18.0	-1.1
	0.6nm,0.6s,baz=308,slow=4.5,SNR=6.2						
MKAR				pPKP	pPKPdf	04 12 29.1	-6.4
	0.4nm,0.7s,baz=326,slow=5.9,SNR=3.8						
SONM	**Songino Array**	**149.53**	**2**	PKPbc	PKPbc	04 12 34.7	+1.5
	1.1nm,0.8s,baz=9.3,slow=1.3,SNR=7.4						
SONM				pPKPbc	pPKPbc	04 12 45.8	-3.6
	0.8nm,0.7s,baz=328,slow=3.0,SNR=5.0						

ISCJB ***28*** *03:53:33.4±0.4, 1051N±003×6253W±002, h76km±6km, Error ellipse: s-maj=6.1km s-min=3.5km az=131.8*
FUNV ***28*** *03:53:34.1, 1064N×6241W, h68km, MW3.6*
NEIC ***28*** *03:53:35.5, 1048N×6237W, h80km, MD3.5(TRN), After TRN.*
TRN ***28*** *03:53:35.5, 1048N×6237W, h80km, MD3.5*
ISC 28 03:53:34.6±0.4, 1053N±003×6252W±002, h66km±7km, n28, σ1§06/45, 2C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.31**	**68**	*e*P	**Pn**	**03 53 45.0**	**-0.4**
GUIV				*e*S	**Sn**	**03 53 52.2**	**-1.1**
GUNV	**Guanoco**	**0.55**	**229**	↑*i* P	**Pn**	**03 53 48.7**	**+1.1**
GUNV				*e*S	**Sn**	**03 53 59.2**	**+2.1**
CRUV	**Carupano**	**0.72**	**282**	↓*i* P	**Pn**	**03 53 49.3**	**-0.2**
CRUV				*e*S	**Sn**	**03 53 60.0**	**-0.4**
ITEV	**Isla Los Testi**	**1.02**	**324**	↓*i* P	**Pn**	**03 53 51.9**	**-1.2**
ITEV				*e*S	**Sn**	**03 54 05.0**	**-1.9**
TPP	**Pointe-a-Pierr**	**1.07**	**101**	*e*P	**Pn**	**03 53 54.6**	**+0.8**
TPP				*e*S	**Sn**	**03 54 09.7**	**+1.6**
TRN	**Trinidad (W)**	**1.10**	**84**	↓*e*P	**Pn**	**03 53 54.2**	**0.0**
TRN				*e*S	**Sn**	**03 54 07.3**	**-1.5**
TBH	**Brigand Hill**	**1.43**	**92**	*e*P	**Pn**	**03 53 58.5**	**+0.1**
TBH				*e*S	**Sn**	**03 54 14.7**	**-1.7**
ORIV	**Oritupano**	**1.69**	**211**	*e*P	**Pn**	**03 54 03.0**	**+1.0**
ORIV				*e*S	**Sn**	**03 54 24.8**	**+2.0**
GRW	**Mount Saint Ca**	**1.83**	**27**	*e*P	**Pn**	**03 54 03.9**	**+0.1**
GRW				*e*S	**Sn**	**03 54 26.9**	**+0.9**
TPR	**Prospect**	**1.83**	**69**	↓*e*P	**Pn**	**03 54 04.1**	**+0.2**
TPR				*e*S	**Sn**	**03 54 23.9**	**-2.2**
BOT	**Bacolet**	**1.88**	**70**	*e*P	**Pn**	**03 54 04.6**	**+0.1**
BOT				*e*S	**Sn**	**03 54 25.9**	**-1.3**
GRHS	**Sauteurs**	**1.89**	**27**	*e*P	**Pn**	**03 54 05.8**	**+1.1**
GRHS				*e*S	**Sn**	**03 54 28.2**	**+0.7**
GRSS	**Sisters**	**1.97**	**27**	*e*P	**Pn**	**03 54 07.1**	**+1.3**
GRSS				*e*S	**Sn**	**03 54 31.3**	**+1.9**
GRIC	**Isle de Caille**	**1.97**	**28**	*e*P	**Pn**	**03 54 07.0**	**+1.2**
GRIC				*e*S	**Sn**	**03 54 33.8**	**+4.3**
PCRV	**Puerto La Cruz**	**2.11**	**261**	↑*e*P	**Pn**	**03 54 08.0**	**+0.3**
PCRV				*e*S	**Sn**	**03 54 32.5**	**-0.4**
GRCU	**Cariacou**	**2.20**	**28**	*e*P	**Pn**	**03 54 09.4**	**+0.6**
GRCU				*e*S	**Sn**	**03 54 35.7**	**+0.8**
IBAV	**Isla La Blanqu**	**2.40**	**303**	*e*P	**Pn**	**03 54 10.3**	**-1.3**
GURV	**El Guri**	**2.81**	**192**	*e*P	**Pn**	**03 54 16.8**	**-0.3**
CUPV	**Cœpira**	**3.25**	**262**	*e*P	**Pn**	**03 54 24.2**	**+1.0**
CUPV				*e*S	**Sn**	**03 55 00.9**	**+0.2**
MERV	**Las Mercedes**	**3.93**	**252**	*e*P	**Pn**	**03 54 32.5**	**0.0**
LUEV	**Luepa**	**4.77**	**167**	*e*P	**Pn**	**03 54 42.9**	**-1.1**
CAOV	**Caicara del Or**	**4.92**	**230**	*e*P	**Pn**	**03 54 45.5**	**-0.5**
TURV	**Turiamo**	**5.23**	**270**	*e*P	**Pn**	**03 54 50.6**	**+0.3**
BAUV	**El Baul**	**5.67**	**254**	*e*P	**Pn**	**03 54 55.6**	**-0.6**
TEPV	**Terepaima**	**6.59**	**266**	*e*P	**Pn**	**03 55 08.0**	**-0.9**
SANV	**Sanarito**	**6.99**	**262**	*e*P	**Pn**	**03 55 14.3**	**0.0**
CURV	**Curarigua**	**7.34**	**267**	*e*P	**Pn**	**03 55 18.3**	**-0.8**
SOCV	**Socops**	**8.52**	**256**	*e*P	**Pn**	**03 55 33.5**	**-1.7**

NIED ***28*** *03:58:00, 3250N×14190E, h5km, Mw3.7 Best double couple: M0:4.59000×10^14 NP1:φ0:2.00000°, δ48.00000°, λ104.00000°. NP2:φ0:161.00000°, δ44.00000°, λ75.00000°.*
IDC ***28*** *03:58:17.3±0.7, 3229N×14184E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.9/19, mbtmp3.8/12, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/24, Error ellipse: s-maj=22.1km s-min=16.9km az=68.0*
ISCJB ***28*** *03:58:18.5±1.9, 3230N±005×14194E±007, h22km±14km, mb3.8/14, Error ellipse: s-maj=11.2km s-min=6.7km az=116.6*
JMA ***28*** *03:58:18.1±0.4, 3246N×14187E, h0km, M3.7*
NEIC ***28*** *03:58:22.4±0.5, 3231N×14190E, h35km, mb4.2/3, Error ellipse: s-maj=15.2km s-min=8.4km az=66.0*
ISC 28 03:58:20.3±2.0, 3231N±005×14190E±007, h20km±13km, n32, σ0§76/39, mb3.8/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.93**	**295**	P	**Pn**	**03 58 51.2**	**-0.8**
JHJ2				*e*S	**Sn**	**03 59 16.0**	**+0.3**
JHJ	**Hachijo jima 2**	**1.96**	**295**	Pn	**Pn**	**03 58 51.5**	**-0.9**
	63nm,0.3s,baz=62,slow=18,SNR=17						
JHJ				Sn	**Sn**	**03 59 16.5**	**+0.1**
	49nm,0.3s,baz=52,slow=19,SNR=4.1						
BSO1	**Boso 1**	**2.46**	**342**	P	**Pn**	**03 58 58.6**	**-0.7**
BSO1				*e*S	**Sn**	**03 59 29.2**	**+0.5**
BSO2	**Boso 2**	**2.61**	**339**	*e*S	**Sn**	**03 59 32.1**	**-0.5**
BSO3	**Boso 3**	**2.74**	**335**	P	**Pn**	**03 59 02.7**	**-0.5**
BSO4	**Boso 4**	**2.97**	**334**	P	**Pn**	**03 59 06.8**	**+0.5**
BSO4

NOA NORSAR Array B 78.69 338 P **P 04 10 20.5 -0.6**
1.2nm,0.8s,mb3.9,baz=41,slow=5.3,SNR=3.4
PDAR Pinedale Array 80.70 45 P **P 04 10 33.4 +1.5**
0.3nm,0.7s,mb3.3,baz=324,slow=5.6,SNR=3.1
SRU San Rafael 82.22 48 *e*P **P 04 10 38.0 -2.0**
4.8nm,0.7s,mb4.5
SRU *e*PcP PcP 04 10 46.4 +1.0
BRTR Keskin Array B 82.30 312 P **P 04 10 41.1 +0.7**
0.2nm,0.5s,mb3.3,baz=166,slow=2.5,SNR=4.1
TORD Torodi Ar. Bea 120.90 313 PKP PKPdf 04 17 10.8 -0.4
0.7nm,1.2s,baz=2.6,slow=2.5,SNR=5.3

IDC 28 04:03:55.2±3.1,1105S×11873E,h0km,mb3.5/1, mb1 4.0/4,mb1mx3.8/14,mbtmp3.8/4,ML3.8/3,MS3.3/1, Ms1 3.3/1,ms1mx2.5/14,Error ellipse: s-maj=238.9km s-min=24.6km az=49.0,South of Sumbawa

Code	Station Name	Δ° AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 15nm,0.8s	**9.69 137**	*e*P		Pn		04 06 14.3	-1.5
FITZ	**Fitzroy Crossi** 0.9nm,0.3s,baz=354,slow=7.1,SNR=17	**9.69 137**	Pn		Pn		04 06 14.3	-1.6
FITZ	0.2nm,0.3s,baz=194,slow=19,SNR=2.3				Sn	Sn	04 07 54.7	-11
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=302,slow=12,SNR=6.1	**17.44 122**	P		Pn		04 08 00.2	+0.4
WRA	0.1nm,0.3s,baz=292,slow=22,SNR=3.6				S	Sn	04 11 01.2	-13
ASAR	**Alice Springs** 0.3nm,0.3s,baz=305,slow=10,SNR=32	**19.14 133**	P		Pn		04 08 21.2	+0.6
PSI	**Prapat** comp=Z,66nm,18.5s,baz=25,slow=39	**24.03 304**	LR		LR		04 19 36.1	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=144,slow=4.9,SNR=8.4	**66.15 334**	P		P		04 14 44.5	+0.1

*CSEM **28** 04:09:44.0,5645S×2641W,h33km,mb5.8*
*MOS **28** 04:09:49.1±1.2,5660S×2647W,h73km,mb5.4/4,Error ellipse: s-maj=23.8km s-min=12.5km az=104.5*
*ISCJB **28** 04:09:52.0±1.4,5652S±005×2651W±0.10,h101km±13km, mb5.2/29,Error ellipse: s-maj=10.6km s-min=5.9km az=103.7*
*IDC **28** 04:09:53.0±0.6,5666S×2666W,h97km±4km,mb4.8/16, mb1 4.8/17,mb1mx4.8/19,mbtmp5.1/17,MS4.1/9, Ms1 4.1/9,ms1mx3.9/14,Error ellipse: s-maj=14.1km s-min=9.9km az=32.0*
*NEIC **28** 04:09:53.5±0.2,5661S×2646W,mb5.5/14,Error ellipse: s-maj=9.1km s-min=6.7km az=200.0*
*HRVD **28** 04:09:53.5±0.3,5670S×2599W,h91km±3km,MW5.1/75, Centroid moment Tensor Solution. LP body waves: s36,c49;Mantle waves: s75,c108; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~0.36±.26; $M_{\theta\theta}$2.76±.28; $M_{\phi\phi}$-2.40±.27; $M_{r\theta}$-2.30±.13; $M_{\theta\phi}$-2.24±.19; $M_{\phi r}$3.35±.12; Best double couple: $M_0$5.28000×10^{16} NP1:ϕs152.00000°,δ40.00000°,λ-177.00000°. NP2: ϕs152.00000°,δ88.00000°,λ-50.00000°. Principal axes: T 5.6470, Plg31.0000°, Azm210.0000°; N -0.7380, Plg40.0000°, Azm330.0000°; P -4.9130, Plg35.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **28** 04:09:54.4,5660S×2650W,h102km,mB5.6*
ISC 28 04:09:54.6±1.4,5664S±006×265W±01,h113km±13km, h104km±1.7km:pP-P,n123,σ1905/69,mb5.2/29,7C-5D, South Sandwich Islands region

Code	Station Name	Δ° AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point** 2μm,0.5s,SNR=16	**6.16 288**	Pn		**Pn**		**04 11 21.1**	**-1.9**
HOPE	**Hope Point** 494nm,1.0s	**6.16 288**	*e*Pn		**Pn**		**04 11 21.6**	**-1.4**
HOPE			*e*Sn		**Sn**		**04 12 37.0**	**+5.0**
VNA1	**Neumayer--Stat**	**16.10 158**	↑*i*Pn		**Pn**		**04 13 35.6**	**+1.3**
VNA1			*e*				04 13 36.7	
VNA1			*e*				04 13 38.0	
VNA1			*e*				04 13 39.5	
VNA1			*e*				04 13 44.0	
VNA1			*e*				04 13 48.6	
VNA1			*e*				04 13 55.1	
VNA1			*e*S		**S**		**04 16 32.7**	**-5.8**
VNA1			*e*				04 16 56.4	
VNA3	**Neumayer Olymp**	**16.30 161**	↑*i*Pn		**Pn**		**04 13 37.7**	**+0.9**
VNA3			*e*				04 13 38.6	
VNA3			*e*				04 13 39.8	
VNA3			*e*				04 13 42.1	
VNA3			*e*				04 13 45.6	
VNA3			*e*				04 13 54.3	
VNA3			*e*				04 13 57.4	
VNA3			*e*S		**S**		**04 16 30.3**	**-12**
VNA3			*e*S		**S**		**04 16 34.0**	**-8.6**
VNA3			*e*S		**S**		**04 16 54.9**	**+12**
VNA3			*e*				04 17 18.8	
VNA3			*e*				04 29 37.8	
VNA2	**Neumayer--Watz** baz=316,slow=13	**16.50 158**	↑*i*Pn		**Pn**		**04 13 40.4**	**+1.2**
VNA2			*e*				04 13 41.2	
VNA2			*e*				04 13 42.5	
VNA2			*e*				04 13 44.3	
VNA2			*e*				04 13 48.3	
VNA2			*e*				04 13 52.8	
VNA2			*e*				04 13 56.2	
VNA2			*e*				04 13 58.4	
VNA2			*e*				04 14 10.1	
VNA2			*e*S		**S**		**04 16 37.9**	**-8.6**
VNA2			*e*S		**S**		**04 16 42.0**	**-4.5**
VNA2			*e*S		**S**		**04 17 01.6**	**+15**
VNA2			*e*				04 17 27.1	
VNA2			*e*				04 29 38.1	
SNAA	**Sanae** 0.6nm,0.3s,baz=318,slow=10,SNR=47	**18.04 156**	P		**P**		**04 13 55.9**	**-0.9**
SNAA	0.1nm,0.3s,baz=335,slow=19,SNR=2.4				S	**S**	**04 17 05.9**	**-12**
SNAA	**Sanae**	**18.04 156**	↑*i*Pn		**Pn**		**04 13 57.0**	**-0.9**
SNAA			*e*				04 13 58.0	
SNAA			*e*				04 14 01.9	
SNAA			*e*				04 14 04.6	
SNAA			*e*				04 14 14.7	
SNAA			*e*				04 14 21.0	
SNAA			*e*S		**S**		**04 17 15.0**	**-2.8**
SNAA			*e*S		**S**		**04 17 16.6**	**-1.2**
SNAA			*e*S		**S**		**04 17 36.5**	**+19**
SNAA			*e*				04 17 49.2	
SNAA	**Sanae** 92nm,0.8s	**18.04 156**	*e*P		**P**		**04 13 56.0**	**-0.9**
SNAA	**Sanae**	**18.04 156**	*e*P		**P**		**04 13 56.0**	**-0.9**
SNAA	comp=Z,92nm,0.8s		pmax		pmax			
EFI	**East Falkland** comp=Z,139nm,1.0s	**19.03 272**	*e*P		**P**		**04 14 07.7**	**0.0**
EFI			*e*S		**S**		**04 17 42.7**	**+5.0**
EFI	**East Falkland**	**19.03 272**	*e*P		**P**		**04 14 07.7**	**0.0**
EFI			*e*S		**S**		**04 17 42.7**	**+5.0**
EFI	comp=Z,139nm,1.0s		pmax		pmax			
PMSA	**Palmer Station** comp=Z,240nm,0.8s	**19.81 230**	*e*P		**P**		**04 14 17.9**	**+1.8**
NVL	**N'lazarevskaya**	**21.55 146**	⇓*i*P		**P**		**04 14 34.6**	**-0.2**
NVL			*e**PP				04 15 11.7	
NVL			*e*S		**S**		**04 18 32.3**	**+5.2**
NVL			*e**SS		sS		04 19 24.9	+22
NVL	comp=Z,62nm,1.6s,mb4.7		pmax		pmax			
USHA	**Ushuaia** comp=Z,25nm,0.8s,mb4.6,baz=32,slow=6.8,SNR=14	**23.42 257**	P		**P**		**04 14 51.4**	**-2.0**
USHA	comp=Z,3.8nm,0.7s,baz=90,slow=1.0,SNR=2.6		PcP		PcP		04 18 36.5	+0.1
USHA	comp=Z,1μm,21.1s,baz=89,slow=31		LR		LR		04 21 48.2	
USHA	comp=Z,5.1nm,0.6s,baz=119,slow=8.5,SNR=7.6		ScP		ScP		04 22 06.0	+1.9
TRQA	**Tornquist** comp=Z,16nm,0.6s,mb4.8	**29.91 293**	*e*P		**P**		**04 15 50.4**	**-1.2**
TRQA			*e*PcP		PcP		04 18 50.0	-1.7
TRQA			*e*ScP		ScP		04 22 24.6	+1.3
SYO	**Syowa Base**	**30.88 140**	⇓*e*pP		pP		04 16 19.7	-5.4
SYO	**Syowa Base**	**30.88 140**	↑*e*PP		PP		04 17 11.9	-0.1
PLCA	**Paso Flores** comp=Z,7.2nm,0.8s,mb4.5,baz=146,slow=7.1,SNR=26	**32.49 280**	P		**P**		**04 16 12.4**	**-1.9**
PLCA			PcP		PcP		04 18 58.8	+0.2
PLCA	comp=Z,1.4nm,0.7s,baz=82,slow=4.0,SNR=2.3		ScP		ScP		04 22 31.9	-0.1
PLCA	comp=Z,4.0nm,0.9s,baz=141,slow=6.5,SNR=6.7		LR		LR		04 29 02.9	
PLCA	comp=Z,297nm,19.7s,baz=148,slow=36 **Paso Flores**	**32.49 280**	P		**P**		**04 16 12.4**	**-1.9**
PLCA							04 18 58.8	
QSPA	**South Pole Qui** comp=Z,144nm,0.6s,mb6.0	**33.61 180**	⇑*i*P		**P**		**04 16 24.6**	**+0.6**
CPUP	**Villa Florida** comp=Z,21nm,0.6s,mb5.3,baz=135,slow=7.4,SNR=90	**37.49 311**	P		**P**		**04 16 56.5**	**-0.8**
CPUP	comp=Z,2.2nm,0.5s,baz=169,slow=3.8,SNR=4.3		PcP		PcP		04 19 13.5	+0.3
CPUP	comp=Z,5.1nm,1.0s,baz=146,slow=6.4,SNR=4.1		ScP		ScP		04 22 49.6	-0.4
CPUP	comp=Z,70nm,18.1s,baz=142,slow=36		LR		LR		04 32 24.4	
CPUP	**Villa Florida**	**37.49 311**	P		**P**		**04 16 56.5**	**-0.7**
CPUP							04 19 13.5	
CPUP							04 22 49.7	
MAW	**Mawson** comp=Z,3.5nm,0.3s,mb4.6,baz=229,slow=4.3,SNR=13	**39.44 143**	P		**P**		**04 17 12.7**	**-0.8**
SUR	**Sutherland** comp=Z,234nm,0.9s,mb6.0,SNR=7.1	**40.43 74**	P		**P**		**04 17 21.8**	**+0.1**
SHEL	**Horse Pasture** comp=Z,245nm,1.0s,mb5.9	**43.56 30**	*e*P		**P**		**04 17 47.6**	**+0.5**
SHEL			*e*pP		pP		04 18 11.6	-1.5
SHEL			*e*sP		sP		04 18 22.3	-3.6
BDFB	**Brasilia** comp=Z,7.2nm,0.6s,mb4.6,baz=152,slow=3.9,SNR=20	**44.07 329**	P		**P**		**04 17 52.2**	**+1.0**
SBA	**Scott Base** comp=Z,13nm,0.7s,mb4.8	**45.52 184**	*e*P		**P**		**04 18 03.2**	**+0.5**
SBA	**Scott Base**	**45.52 184**	*e*P		**P**		**04 18 03.2**	**+0.5**
SBA	comp=Z,13nm,0.7s,mb4.8		pmax		pmax			
BOSA	**Boshof** comp=Z,33nm,0.9s,mb5.0,baz=212,slow=7.5,SNR=20	**45.75 75**	P		**P**		**04 18 03.8**	**-0.7**
BOSA	comp=Z,420nm,20.8s,baz=232,slow=30		LR		LR		04 32 41.1	
LVC	**Limon Verde** comp=Z,93nm,0.7s,mb5.6	**45.93 300**	*e*P		**P**		**04 18 06.2**	**+0.2**
LVC			*e*pP		pP		04 18 29.1	-3.1
LVC			*e*sP		sP		04 18 39.7	-5.2
VNDA	**Vanda** comp=Z,39nm,0.7s,mb5.2,baz=188,slow=6.5,SNR=242	**46.00 183**	P		**P**		**04 18 06.9**	**+0.5**
VNDA			ScP		ScP		04 23 25.6	+1.7
LBTB	**Lobatse** comp=Z,51nm,0.9s,mb5.5	**48.82 72**	*e*P		**P**		**04 18 27.5**	**-0.8**
LBTB	**Lobatse** comp=Z,51nm,0.9s,mb5.5	**48.82 72**	*e*P		**P**		**04 18 27.5**	**-0.8**
LBTB			pmax		pmax			
TSUM	**Tsumeb** comp=Z,12nm,0.5s,mb5.1	**49.64 60**	*e*P		**P**		**04 18 33.9**	**-0.7**
TSUM			pP		pP		04 18 59.8	-1.3
LPAZ	**La Paz** comp=Z,199nm,0.6s,mb6.3,baz=139,slow=5.5,SNR=624	**51.03 305**	P		**P**		**04 18 46.2**	**+1.2**
LPAZ	comp=Z,1.6nm,0.9s,baz=72,slow=20,SNR=3.5		S		**S**		**04 25 53.3**	**-0.4**
LPAZ	comp=Z,40nm,19.1s,baz=312,slow=37		LR		LR		04 41 12.4	
LPAZ	**La Paz**	**51.03 305**	P		**P**		**04 18 46.2**	**+1.2**
LPAZ			S		**S**		**04 25 53.3**	**-0.4**
LPAZ			LR		LR		04 41 12.4	
LPAZ	**La Paz**	**51.03 305**	P		**P**		**04 18 46.3**	**+1.3**
LPAZ			S		**S**		**04 25 53.3**	**-0.4**
ARE	**Arequipa**	**52.44 301**	↑*i*P		**P**		**04 18 55.8**	**+0.3**
SAML	**Samuel** comp=Z,32nm,0.7s,mb5.5	**55.49 314**	*e*P		**P**		**04 19 17.2**	**-0.5**
SAML			*e*pP		pP		04 19 42.4	-2.4
SAML			*e*sP		sP		04 19 52.5	-4.7
LSZ	**Lusaka** comp=Z,55nm,0.8s,mb5.6	**58.23 68**	*e*P		**P**		**04 19 36.4**	**-0.6**
LSZ	**Lusaka** comp=Z,55nm,0.8s,mb5.6	**58.23 68**	*e*P		**P**		**04 19 36.4**	**-0.6**
LSZ			pmax		pmax			
DBIC	**Dimbokro** comp=Z,44nm,0.9s,mb5.3,baz=174,slow=7.2,SNR=58	**65.55 24**	P		**P**		**04 20 25.6**	**-0.4**
DBIC			pP		pP		04 20 51.3	-2.6
DBIC	comp=Z,28nm,0.8s,baz=170,slow=7.2,SNR=6.9		LR		LR		04 43 04.5	
DBIC	comp=Z,141nm,18.1s,baz=143,slow=30		*PP		pP		04 20 51.3	-2.6
DBIC	**Dimbokro**	**65.55 24**	P		**P**		**04 20 25.6**	**-0.4**
OPO	**Ambohidratompo** comp=Z,19nm,1.0s,mb4.9,baz=209,slow=6.5,SNR=20	**65.73 87**	P		**P**		**04 20 28.7**	**+1.6**
OTAV	**Otavalo** comp=Z,79nm,0.9s,mb5.5	**70.30 303**	*e*P		**P**		**04 20 57.0**	**+1.2**
OTAV			PcP		PcP		04 21 17.4	+0.7
ROSC	**El Rosal** comp=Z,14nm,0.7s,mb4.9,baz=141,slow=4.9,SNR=7.2	**72.58 309**	P		**P**		**04 21 10.6**	**+1.2**
TORD	**Torodi Ar. Bea** comp=Z,112nm,0.6s,mb5.9,baz=200,slow=6.5,SNR=614	**73.39 29**	P		**P**		**04 21 14.1**	**-0.1**
TORD			pP		pP		04 21 39.7	-2.9
SDV	**Santo Domingo** comp=Z,35nm,0.7s,mb5.2,baz=200,slow=2.9,SNR=56	**74.70 314**	P		**P**		**04 21 22.2**	**+0.4**
KMBO	**Kilima Mbogo** comp=Z,8.9nm,1.0s,mb4.5,baz=201,slow=4.2,SNR=15	**74.89 68**	P		**P**		**04 21 25.6**	**+2.7**
KMBO	comp=Z,110nm,19.4s,baz=111,slow=36		LR		LR		04 54 21.7	
RKT	**Rikitea** comp=Z,147nm,40.2s	**80.55 242**	*e*LR		LR		04 47 21.2	
MTP	**Monte Pirata**	**81.33 323**	*e*P		**P**		**04 21 57.7**	**-0.7**
JTS	**JuntasAbangare** comp=Z,23nm,1.0s,mb4.9,baz=16,slow=3.9,SNR=6.4	**82.16 302**	P		**P**		**04 22 03.7**	**+0.9**
TBI	**Tubuai** comp=Z,388nm,31.8s	**87.01 231**	*e*LR		LR		04 50 21.5	
STKA	**Stephens Creek** comp=Z,5.2nm,0.5s,mb4.9,baz=188,slow=3.9,SNR=14	**91.25 170**	P		**P**		**04 22 45.5**	**-1.5**
STKA			LR		LR		05 04 46.8	
PPT	**Papeete** comp=Z,666nm,31.0s	**92.15 233**	*e*LR		LR		04 52 44.4	
PPT	**Papeete** comp=Z,184nm,18.8s,baz=255,slow=31	**92.15 233**	LR		LR		04 57 19.0	
ASAR	**Alice Springs** comp=Z,6.1nm,0.7s,mb5.3,baz=184,slow=4.0,SNR=25	**98.31 162**	P		**P**		**04 23 19.1**	**-0.2**
ASAR			PP		PP		04 27 17.4	-3.0
ASAR	comp=Z,1.4nm,0.9s,baz=179,slow=7.0,SNR=4.9		S				04 33 48.7	
WRA	**Warramunga Arr** comp=Z,0.9nm,0.6s,baz=194,slow=4.3,SNR=5.6	**102.02 162**	P		Pdif		04 23 34.3	-1.5
GLAT	**Glass**	**106.67 311**	*e*PKPdf		PKiKP		04 28 06.7	+0.3
BRTR	**Keskin Array B** comp=Z,2.2nm,1.2s,baz=189,slow=6.3,SNR=6.0	**108.57 45**	PP		PP		04 28 33.9	-3.0
GERES	**GERESS Array B** comp=Z,1.9nm,0.9s,baz=171,slow=7.0,SNR=5.9	**110.31 27**	PP		PP		04 28 47.5	-1.9
SCHQ	**Schefferville** comp=Z,2.2nm,0.7s,baz=185,slow=15,SNR=5.4	**115.86 335**	PKP		PKPdf		04 28 23.0	-0.8
ULM	**Lac du Bonnet** comp=Z,1.3nm,0.5s,baz=124,slow=3.3,SNR=5.3	**120.94 316**	PKP		PKPdf		04 28 30.6	-2.9
ULM	comp=Z,1.3nm,0.6s,baz=11,slow=2.3,SNR=4.1		SKP				04 31 56.9	
PDAR	**Pinedale Array** comp=Z,0.6nm,0.5s,baz=116,slow=4.7,SNR=9.2	**120.98 301**	PKP		PKPdf		04 28 31.8	-1.9
PDAR	comp=Z,1.4nm,1.0s,baz=145,slow=5.4,SNR=6.5		PP		PP		04 30 03.3	-0.9
PDAR	comp=Z,0.9nm,1.0s,baz=186,slow=2.8,SNR=3.5		SKP				04 31 58.8	
NOA	**NORSAR Array B** comp=Z,1.1nm,0.9s,baz=92,slow=17,SNR=2.7	**121.03 20**	PKP		PKPdf		04 28 33.1	-0.7
HWUT	**Hardware Ranch**	**121.05 299**	*e*PKPdf		PKPdf		04 28 33.1	-0.7
HWUT			*e*pPKPdf		pPKPdf		04 28 56.8	-7.7
HWUT			*e*SKPdf		SKPdf		04 31 59.1	+0.3
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.5s,baz=130,slow=3.6,SNR=6.3	**121.98 292**	PKP		PKPdf		04 28 36.1	+0.5
OBN	**Obninsk**	**122.58 37**	⇓*i*PKIKP		PKPdf		04 28 31.8	-4.9
OBN	comp=Z,5.0nm,0.4s		pmax		pmax			
OBN	comp=Z,100nm,17.0s		MLR		MLR			
KOLN	**Koldanda** comp=Z,19nm,0.7s	**123.68 90**	*e*P		PKPdf		04 28 37.9	-0.9
DMN	**Daman** comp=Z,16nm,0.8s	**124.38 91**	*e*P		PKPdf		04 28 39.6	-0.6
GKN	**Gorkha** comp=Z,14nm,0.7s	**124.43 91**	*e*P		PKPdf		04 28 39.1	-1.2
PKI	**Pulchoki**	**124.52 92**	*e*P		PKPdf		04 28 40.0	-0.5
KKN	**Kakani**	**124.62 91**	*e*P		PKPdf		04 28 40.3	-0.3
FINES	**FINESS Array B** comp=Z,2.7nm,0.9s,baz=163,slow=2.0,SNR=8.0	**124.73 28**	PKP		PKPdf		04 28 39.7	-1.1
JIRN	**Jiri** comp=Z,31nm,0.7s	**125.02 92**	*e*P		PKPdf		04 28 40.8	-0.6
GUN	**Gumba**	**125.05 92**	*e*P		PKPdf		04 28 41.0	-0.5
	comp=Z,21nm,0.7s							
WVOR	**Wild Horse Val**	**125.14 295**	*e*PKPdf		PKPdf		04 28 42.0	+0.3
WVOR			*e*				04 29 13.3	
WVOR			*e*SKPdf		SKPdf		04 32 08.2	+1.7
WVOR	**Wild Horse Val**	**125.14 295**	*e*PKIKP		PKPdf		04 28 42.0	+0.4
WVOR			*e*				04 29 13.3	
KLMR	**Klimovskoe**	**128.09 35**	*i*PKIKP		PKPdf		04 28 43.7	-3.6
KLMR	comp=Z,30nm,2.1s		pmax		pmax			
SUMG	**Summit**	**129.20 355**	*e*PKPdf		PKPdf		04 28 50.4	+1.0
ARCES	**ARCESS Array B** comp=Z,3.5nm,0.9s,baz=282,slow=1.1,SNR=6.0	**131.35 22**	PKP		PKPdf		04 28 51.0	-2.4
KMI	**Kunming**	**131.97 109**	PKP		PKPdf		04 28 56.5	+1.9
KMI			SS		SS		04 48 50.5	+6.2
KMI	comp=N,293nm,12.5s		LR		LR			
KMI	comp=E,254nm,18.3s		LR		LR			
KMI	comp=Z,196nm,12.6s		LR		LR			
CHKZ	**Chkalovo**	**135.29 57**	*e*PKPdf		PKPdf		04 28 59.4	-1.5
CHKZ			*e*SKPdf		SKPdf		04 32 21.4	-4.0
MKAR	**Makanchi Array** comp=Z,0.4nm,0.7s,baz=233,slow=5.5,SNR=4.5	**136.71 72**	PKhKP				04 28 48.1	
MKAR	comp=Z,1.1nm,0.7s,baz=222,slow=3.3,SNR=6.3		PKP		PKPdf		04 29 01.6	-2.0
MKAR	comp=Z,1.2nm,0.9s,baz=258,slow=6.1,SNR=3.5		PP		PP		04 31 49.0	+2.1
MKAR	comp=Z,3.4nm,1.1s,baz=262,slow=0.9,SNR=7.6		SKPbc		SKPbc		04 32 23.5	-2.3
MKAR	**Makanchi Array**	**136.71 72**	PKP		PKPdf		04 29 01.6	-2.0
MKAR			PP		PP		04 31 49.0	+2.1
MKAR			SKPbc		SKPbc		04 32 23.5	-2.3
MKAR	**Makanchi Array**	**136.71 72**	PKIKP		PKPdf		04 29 01.6	-1.9
MKAR							04 31 49.0	
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.5s,baz=127,slow=2.8,SNR=6.8	**136.87 317**	PKhKP				04 28 48.9	
YKA	comp=Z,2.0nm,0.3s,baz=129,slow=2.1,SNR=30		PKP		PKPdf		04 29 02.3	-1.5
YKA	comp=Z,2.4nm,0.6s,baz=124,slow=2.2,SNR=4.8		pPKP		pPKPdf		04 29 27.4	-7.1
YKA	comp=Z,1.5nm,0.8s,baz=124,slow=6.3,SNR=7.2		PP		PP		04 31 45.4	-2.5
YKA	comp=Z,2.2nm,0.7s,baz=129,slow=3.0,SNR=11		SKPbc		SKPbc		04 32 25.7	-0.5
YKA	**Yellowknife Ar**	**136.87 317**	PKI				04 28 48.9	
YKA			PKHKP				04 29 02.4	
YKA			PKP		PKPdf		04 29 02.4	-1.4
YKA			pPKP		pPKPdf		04 29 27.4	-7.1
YKA			PP		PP		04 31 45.4	-2.5
YKA			SKPbc		SKPbc		04 32 25.8	-0.5
YKA	**Yellowknife Ar**	**136.87 317**	PKHKP				04 28 48.9	
YKA							04 29 02.4	
YKA							04 29 27.4	
YKA							04 31 45.4	
YKW3	**Yellowknife Ar**	**136.91 317**	*e*PKPdf		PKPdf		04 29 02.3	-1.6
YKW3			*e*pPKPdf		pPKPdf		04 29 27.9	-6.7
YKW3			*e*SKPdf		SKPdf		04 32 24.6	-3.8
CD2	**Chengdu**	**137.13 105**	*e*PKP		PKPdf		04 29 05.5	+1.2
KURK	**Kurchatov**	**137.31 65**	*e*PKPdf		PKPdf		04 29 03.1	-1.5
KURK			*e*SKPdf		SKPdf		04 32 26.4	-2.7
WMQ	**Urumqi**	**137.65 79**	*e*PKP		PKPdf		04 29 05.8	+0.6
WMQ	comp=N,621nm,23.2s		LR		LR			
WMQ	comp=Z,611nm,22.0s		LR		LR			
RES	**Resolute Bay**	**138.55 338**	*e*PKPdf		PKPdf		04 29 00.6	-6.3
RES			*e*pPKPdf		pPKPdf		04 29 30.6	-7.0
RES			*e*SKPdf		SKPdf		04 32 30.7	-0.6
RES	**Resolute Bay**	**138.55 338**	*e*PKIKP		PKPdf		04 29 00.6	-6.3
RES			*e*				04 29 30.6	
NVS	**Novosibirsk**	**141.98 62**	*e*PKHKP				04 29 06.7	
NVS	comp=Z,14nm,1.5s		pmax		pmax			
NVS	comp=E,51nm,2.2s		pmax		pmax			
ZAL	**Zalesovo** comp=E,1.5nm,0.5s,baz=293,slow=2.8,SNR=6.5	**142.27 64**	PKhKP				04 29 07.3	
ZAL	comp=E,4.2nm,0.5s,baz=176,slow=3.1,SNR=14		PKP		PKPdf		04 29 14.5	+0.8
ZAL	**Zalesovo**	**142.27 64**	PKIKP		PKPdf		04 29 14.5	+0.9
NJ2	**Nanjing**	**145.70 121**	*e*PKP		PKPdf		04 29 20.3	+0.7
NJ2			PKP2		PKPab		04 29 23.5	+2.8
NJ2			APKP				04 29 46.8	
NJ2			XPKP				04 29 57.8	
NJ2			PP		PP		04 32 45.0	+3.3
NJ2			PKS				04 32 54.0	
NJ2			SKS		SKSdf		04 36 17.0	-1.2
NJ2			SKKS		SKKSac		04 39 25.0	+1.9
NJ2	comp=Z,50nm,10.4s		PP		PP			
NJ2	comp=N,1μm,36.7s		LR		LR			
NJ2	comp=E,800nm,24.2s		LR		LR			
NJ2	comp=Z,80nm,16.6s		LR		LR			
SSE	**Sheshan**	**145.98 125**	PKP		PKPdf		04 29 20.5	+0.4
INK	**Inuvik** comp=Z,20nm,0.5s,baz=82,slow=3.6,SNR=96	**146.50 320**	PKPbc		PKPbc		04 29 21.0	-1.5
INK	comp=Z,3.3nm,0.7s,baz=63,slow=2.3,SNR=3.1		SKPbc		SKPbc		04 32 50.4	-0.4
INK	**Inuvik**	**146.50 320**	*e*PKPdf		PKPdf		04 29 20.3	-0.7
INK			PKPbc		PKPbc		04 29 21.0	-1.5
INK			*e*pPKPdf		pPKPdf		04 29 42.4	-9.3
INK			*e*SKPbc		SKPbc		04 32 49.9	-0.9
INK			SKPbc		SKPbc		04 32 50.4	-0.4
INK	**Inuvik**	**146.50 320**	*e*PKP2		PKPab		04 29 20.3	-3.4
INK							04 29 21.0	
INK			*e*				04 29 42.4	
INK			*e*				04 32 49.9	
DAWY	**Dawson**	**147.47 311**	*e*PKPdf		PKPdf		04 29 22.9	+0.3
DAWY			*e*SKPdf		SKPdf		04 32 45.0	-1.1
DAWY			*e*PP		PP		04 32 53.0	+0.9
BTO	**Baotou**	**147.74 101**	*e*PKP		PKPdf		04 29 24.3	+1.3
TIA	**Tai'an**	**148.21 114**	*e*PKP		PKPdf		04 29 26.8	+3.0
HHC	**Hu-ho-hao-te**	**148.74 102**	*e*PKP		PKPdf		04 29 25.5	+0.8
HHC			APKP				04 29 53.5	
HHC			XPKP				04 30 04.0	
HHC			PKS				04 33 00.3	
HHC			PP		PP		04 33 03.8	+4.3
HHC			SKS		SKSdf		04 36 23.3	+0.8
HHC			SKKS		SKKSac		04 39 43.5	+3.4
HHC			SS		SS		04 52 05.0	+4.8
HHC	comp=N,134nm,5.5s		LR		LR			

MCK	**McKinley**	**151.44 308**	*e*PKIKP	PKPbc	04 29 34.0	-1.1
MCK			*e*		04 29 43.2	
MCK			*e*		04 29 56.0	
IRK	**Irkutsk**	**151.54 78**	*e*PKIKP	PKPdf	04 29 21.0	-8.1
CN2	**Changchun**	**158.11 114**	*e*PKP	PKPdf	04 29 39.3	+1.2
MDJ	**Mudanjiang**	**160.76 119**	PKP	PKPdf	04 29 42.0	+0.9
BILL	**Bilibino**	**167.16 338**⇓	*e*PKIKP	PKPdf	04 29 55.3	+8.4
BILL			pmax	pmax		
	comp=Z,13nm,2.8s					

MEX 28 04:27:08.0±0.6, 1732N×9544W, h92km±11km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.58**	**113**	*i* P	Pn	04 27 22.4	-1.3
CMIG				*i* S	Sn	04 27 33.7	-1.5
OXX	**Oaxaca**	**1.25**	**259**	*i* P	Pn	04 27 29.7	-1.0
OXX				*i* S	Sn	04 27 46.7	-1.2
VHO	**Vista Hermosa**	**1.26**	**259**	*i* P	Pn	04 27 29.7	-1.2
VHO				*i* S	Sn	04 27 46.7	-1.4
UTMO	**Huajuapan**	**2.31**	**283**	*i* P	Pn	04 27 44.3	0.0
UTMO				*i* S	Sn	04 28 10.6	-1.5

*ISCJB **28** 04:39:45.6±0.6, 2289S×005×6637W±010, h244km±11km, mb3.2/2, Error ellipse: s-maj=14.9km s-min=7.8km az=1.0*
*NEIC **28** 04:39:46.6±0.6, 2283S×6636W, h232km±10km, mb3.9/3, Error ellipse: s-maj=12.7km s-min=8.8km az=90.0*
*IDC **28** 04:39:46.5±1.1, 2284S×6630W, h227km±14km, mb3.1/2, mb1 3.4/7, mb1mx3.3/18, mbtmp3.9/7, Error ellipse: s-maj=21.7km s-min=14.6km az=110.0*

ISC 28 04:39:46.8±0.6, 2284S±006×6637W±010, h238km±11km, n15, σ0°87/19, mb3.2/2, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.36**	**275**	P	**Pn**	**04 40 33.2**	**+1.5**
	131nm,0.3s,baz=96,slow=5.9,SNR=1241						
LVC				S	**S**	**04 41 07.2**	**+0.2**
	60nm,0.3s,baz=253,slow=20,SNR=38						
LPAZ	**La Paz**	**6.72**	**345**	P	**Pn**	**04 41 25.1**	**+1.4**
	3.3nm,0.3s,baz=152,slow=9.1,SNR=64						
LPAZ				S	**S**	**04 42 40.8**	**-0.5**
	0.2nm,0.3s,baz=263,slow=21,SNR=5.5						
LPAZ	**La Paz**	**6.72**	**345**	⇑*i* P	**Pn**	**04 41 24.7**	**+0.9**
LPAZ				*e*S	**S**	**04 42 40.2**	**-1.2**
ARE	**Arequipa**	**7.97**	**322**	*e*P	**Pn**	**04 41 38.0**	**-1.6**
ARE				*e*S	**S**	**04 43 05.0**	**-5.2**
SIV	**San Ignacio**	**8.44**	**37**	P	**Pn**	**04 41 45.2**	**-0.4**
	2.5nm,0.3s,baz=230,slow=8.6,SNR=79						
CFAA	**Coronel Fontan**	**8.89**	**190**	P	**Pn**	**04 41 50.1**	**-1.2**
	0.2nm,0.3s,baz=26,slow=18,SNR=32						
CFAA				S	**S**	**04 43 25.7**	**-6.1**
	0.4nm,0.3s,baz=253,slow=21,SNR=13						
CPUP	**Villa Florida**	**8.93**	**115**	*e*Pn	**Pn**	**04 41 51.6**	**-0.2**
	9.5nm,1.1s						
SAML	**Samuel**	**14.14**	**13**	*e*Pn	**Pn**	**04 42 57.1**	**+0.2**
	3.4nm,0.8s						
TRQA	**Tornquist**	**15.63**	**167**	*e*P	**Pn**	**04 43 14.2**	**-0.7**
	2.6nm,0.4s						
PLCA	**Paso Flores**	**18.19**	**190**	P	**P**	**04 43 42.9**	**+0.8**
	0.1nm,0.3s,baz=6.2,slow=16,SNR=4.6						
BDFB	**Brasilia**	**18.74**	**71**	P	**P**	**04 43 48.9**	**+0.9**
	0.6nm,0.3s,baz=245,slow=11,SNR=19						
TORD	**Torodi Ar. Bea**	**75.61**	**69**	P	**P**	**04 51 05.7**	**+0.2**
	0.5nm,0.5s,mb3.4,baz=260,slow=4.7,SNR=15						
YKA	**Yellowknife Ar**	**93.24**	**340**	P	**P**	**04 52 34.3**	**+0.1**
	0.1nm,0.5s,mb3.1,baz=130,slow=4.6,SNR=5.9						
YKA	**Yellowknife Ar**	**93.24**	**340**	P	**P**	**04 52 34.3**	**+0.1**
MKAR	**Makanchi Array**	**145.26**	**39**	PKPbc	PKPbc	04 58 57.4	+1.2
	1.3nm,0.8s,baz=316,slow=2.6,SNR=10						

IDC 28 05:26:04.8±2.9, 1103N×9485E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, MS3.4/1, Ms1 3.4/1, ms1mx2.5/26, Error ellipse: s-maj=124.5km s-min=22.0km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.16**	**287**	*e*P	Pn	05 26 56.7	+15
PBA				*e*S	Sn	05 27 22.4	+13
PBA				*e*x	x	05 27 37.7	
	comp=E,349nm,1.0s						
PBA				*e*x	x	05 27 38.6	
	comp=N,333nm,1.1s						
PSI	**Prapat**	**9.12**	**153**	LR	LR	05 31 34.2	
	comp=N,223nm,20.9s,baz=158,slow=36						
MKAR	**Makanchi Array**	**37.20**	**346**	P	P	05 33 17.8	0.0
	comp=N,1.2nm,0.8s,baz=152,slow=8.0,SNR=7.9						
SONM	**Songino Array**	**37.95**	**13**	P	P	05 33 23.2	-0.9
	comp=N,0.7nm,0.9s,baz=205,slow=9.5,SNR=5.9						
ZAL	**Zalesovo**	**43.55**	**351**	P	P	05 34 11.1	+0.8
	comp=N,1.0nm,0.3s,baz=72,slow=8.2,SNR=3.3						
WRA	**Warramunga Arr**	**49.58**	**128**	P	P	05 34 58.5	+0.8
	comp=N,0.8nm,0.6s,baz=302,slow=9.5,SNR=5.6						
ASAR	**Alice Springs**	**51.45**	**132**	P	P	05 35 12.1	+0.2
	comp=N,1.0nm,0.8s,baz=307,slow=6.8,SNR=7.3						

IDC 28 05:26:57.5±3.5, 1077N×9372E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, Error ellipse: s-maj=143.2km s-min=25.1km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.19**	**347**	P	P	05 34 10.4	+0.1
	1.4nm,1.0s,baz=159,slow=7.8,SNR=4.3						
SONM	**Songino Array**	**38.46**	**14**	P	P	05 34 21.1	0.0
	0.7nm,0.7s,baz=208,slow=6.0,SNR=4.6						
WRA	**Warramunga Arr**	**50.30**	**127**	P	P	05 35 55.4	-0.4
	1.0nm,0.8s,baz=304,slow=8.7,SNR=5.1						
ASAR	**Alice Springs**	**52.11**	**131**	P	P	05 36 10.5	+1.1
	1.6nm,0.8s,baz=307,slow=7.5,SNR=7.9						

*IDC **28** 05:37:10.6±1.9, 1083N×9456E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/22, mbtmp3.8/7, MS3.7/10, Ms1 3.8/10, ms1mx3.6/25, Error ellipse: s-maj=90.5km s-min=19.5km az=62.0*
*NEIC **28** 05:37:12.2±0.6, 1080N×9456E, h10km, mb4.5/6, Error ellipse: s-maj=25.9km s-min=7.3km az=53.0*
*ISCJB **28** 05:37:13.1±0.9, 107N±0.1×944E±02, h33km, mb4.0/12, MS3.7/9, Error ellipse: s-maj=32.3km s-min=9.7km az=103.7*
*MOS **28** 05:37:15.3±0.9, 1049N×9399E, h66km, mb4.8/3, Error ellipse: s-maj=34.5km s-min=11.7km az=109.4*

ISC 28 05:37:17.1±3.0, 108N±02×945E±02, h48km±30km, n35, σ0°69/27, mb4.0/12, MS3.7/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.86**	**296**	*e*P	**Pn**	**05 38 00.9**	**+14**
PBA				*e*S	**Sn**	**05 38 26.6**	**+18**
PBA				*e*x	x	05 38 54.5	
	comp=E,852nm,0.7s						
PBA				*e*x	x	05 38 55.0	
	comp=N,616nm,0.7s						
PSI	**Prapat**	**9.13**	**151**	LR	LR	05 43 27.0	
	comp=N,492nm,19.6s,baz=310,slow=41						
JIRN	**Jiri**	**18.46**	**336**	*e*P	**Pn**	**05 41 29.8**	**+0.6**
	comp=N,57nm,1.3s						
PKI	**Pulchoki**	**18.70**	**334**	*e*P	**Pn**	**05 41 32.4**	**+0.2**
	comp=N,83nm,1.2s						
GUN	**Gumba**	**18.80**	**336**	*e*P	**Pn**	**05 41 33.3**	**-0.1**
	comp=N,157nm,1.7s						
DMN	**Daman**	**18.86**	**334**	*e*P	**Pn**	**05 41 34.7**	**+0.6**
	comp=N,30nm,0.9s						
KKN	**Kakani**	**18.95**	**334**	*e*P	**Pn**	**05 41 35.3**	**+0.2**
GKN	**Gorkha**	**19.41**	**333**	*e*P	**Pn**	**05 41 39.4**	**-1.3**
	comp=N,43nm,1.0s						
KOLN	**Koldanda**	**19.70**	**330**	*e*P	**Pn**	**05 41 43.1**	**-1.0**
	comp=N,59nm,1.1s						
ENH	**Enshi**	**23.88**	**34**	*e*P	**P**	**05 42 26.1**	**0.0**
	comp=N,32nm,1.3s,mb4.6						
DDI	**Dehra Dun**	**24.67**	**324**	*e*P	**P**	**05 42 35.0**	**+1.7**
MKAR	**Makanchi Array**	**37.30**	**346**	P	**P**	**05 44 24.7**	**+0.3**
	comp=N,1.6nm,0.8s,mb3.9,baz=164,slow=8.0,SNR=17						
MKAR				LR	LR	06 03 52.6	
	comp=N,68nm,18.4s,MS3.5,baz=180,slow=43						
SONM	**Songino Array**	**38.23**	**13**	P	**P**	**05 44 32.2**	**-0.1**
	comp=N,1.3nm,0.9s,mb3.6,baz=188,slow=9.0,SNR=7.6						
SONM				LR	LR	06 02 06.7	
	comp=N,162nm,18.1s,MS3.9,baz=44,slow=39						
SONM	**Songino Array**	**38.23**	**13**	P	**P**	**05 44 32.2**	**-0.1**
SONM				LR	LR	06 02 06.7	
KURK	**Kurchatov**	**41.85**	**345**	*e*P	**P**	**05 45 02.5**	**+0.2**
	comp=N,14nm,1.4s,mb4.4						
KURK	**Kurchatov**	**41.85**	**345**	*e*P	**P**	**05 45 02.5**	**+0.2**
KURK				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.4						
ZAL	**Zalesovo**	**43.68**	**352**	P	**P**	**05 45 17.7**	**+0.6**
	comp=Z,1.4nm,0.5s,mb3.9,baz=348,slow=6.2,SNR=5.3						
ZAL				LR	LR	06 06 33.0	
	comp=Z,80nm,22.0s,MS3.6,baz=240,slow=40						
BVAR	**Borovoye Array**	**46.32**	**340**	P	**P**	**05 45 37.9**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=139,slow=7.1,SNR=3.2						
ZRNK	**Zerenda**	**46.73**	**339**	P	**P**	**05 45 40.2**	**-1.2**
	comp=Z,0.3nm,0.4s,mb3.6						
CHKZ	**Chkalovo**	**46.79**	**341**	*e*P	**P**	**05 45 41.3**	**-0.4**
	comp=Z,6.7nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**46.79**	**341**	*e*P	**P**	**05 45 41.3**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BOD	**Bodaibo**	**49.23**	**14**	*e*P	**P**	**05 46 04.3**	**+3.7**
AKTO	**Aktyubinsk**	**49.54**	**330**	LR	LR	06 07 21.3	
	comp=Z,54nm,19.5s,MS3.6,baz=98,slow=36						
WRA	**Warramunga Arr**	**49.77**	**128**	P	**P**	**05 46 04.8**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=303,slow=8.7,SNR=5.6						
WRAB	**Tennant Creek**	**49.77**	**128**	P	**P**	**05 46 05.0**	**+0.3**
	comp=Z,5.7nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**49.77**	**128**	P	**P**	**05 46 05.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**51.61**	**132**	P	**P**	**05 46 18.4**	**-0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=312,slow=7.3,SNR=16						
GNI	**Garni**	**52.63**	**313**	LR	LR	06 11 02.6	
	comp=Z,47nm,18.3s,MS3.6,baz=262,slow=38						
KMBO	**Kilima Mbogo**	**58.09**	**262**	LR	LR	06 10 17.5	
	comp=Z,27nm,18.3s,MS3.4,baz=91,slow=34						
ARCES	**ARCESS Array B**	**72.61**	**340**	LR	LR	06 23 38.6	
	comp=Z,111nm,18.1s,MS4.2,baz=177,slow=38						
NOA	**NORSAR Array B**	**77.33**	**330**	LR	LR	06 26 23.8	
	comp=Z,53nm,18.0s,MS3.9,baz=335,slow=38						
ILAR	**Eielson Array**	**91.91**	**22**	P	**P**	**05 50 19.8**	**-0.5**
	comp=Z,0.4nm,0.9s,mb3.7,baz=262,slow=5.4,SNR=3.9						
ILAR				LR	LR	06 39 14.3	
	comp=Z,71nm,20.3s,MS4.1,baz=180,slow=40						
NVAR	**Mina Array Bea**	**122.24**	**30**	PKP	PKPdf	05 56 09.1	+2.5
	comp=Z,0.3nm,0.6s,baz=352,slow=6.3,SNR=3.5						
NVAR	**Mina Array Bea**	**122.24**	**30**	PKP	PKPdf	05 56 09.1	+2.5
PDAR	**Pinedale Array**	**122.32**	**21**	PKP	PKPdf	05 56 07.7	+0.9
	comp=Z,0.3nm,0.6s,baz=188,slow=1.0,SNR=3.9						

*HLW **28** 05:44:40.9, 3476N×2499E, h33km, Mb3.0*
*ISCJB **28** 05:44:41.1±0.9, 3462N±006×2493E±007, h61km±20km, Error ellipse: s-maj=11.1km s-min=8.3km az=93.4*
*CSEM **28** 05:44:41.1±0.1, 3456N×2483E, h30km, MD3.0, Error ellipse: s-maj=2.7km s-min=1.9km az=72.0*
*ATH **28** 05:44:41.3, 3471N×2492E, h59km±7km, MD3.0/5*
*NEIC **28** 05:44:42.9, 3476N×2489E, h5km, MD3.0(ATH), After ATH.*

ISC 28 05:44:42.2±0.9, 3464N±006×2492E±007, h49km±32km, n11, σ0°58/16, 2C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.68**	**69**	*e*P	**Pn**	**05 44 55.5**	**-0.2**
XRY				*e*S	**Sn**	**05 45 06.0**	**+0.6**
GVD	**Gavdhos**	**0.72**	**287**	*e*P	**Pn**	**05 44 56.5**	**+0.4**
GVD	**Gavdhos**	**0.72**	**287**	*e*Pb	**Pn**	**05 44 56.0**	**-0.1**
NPS	**Neapolis**	**0.84**	**42**	*e*P	**Pn**	**05 44 57.5**	**-0.3**
NPS				*e*S	**Sn**	**05 45 09.0**	**-0.2**
VAM	**Vamos**	**0.97**	**323**	*e*P	**Pn**	**05 44 58.8**	**-0.7**
VAM				*e*S	**Sn**	**05 45 12.1**	**-0.2**
KARP	**Karpathos**	**2.05**	**63**	*e*P	**Pn**	**05 45 14.0**	**-0.2**
KARP	**Karpathos**	**2.05**	**63**	*e*Pn	**Pn**	**05 45 21.0**	**+6.8**
APE	**Apeiranthos**	**2.48**	**11**	*e*P	**Pn**	**05 45 20.8**	**+0.7**
SLUM		**3.14**	**175**	⇑P	**Pn**	**05 45 29.9**	**+0.7**
SLUM				S	**Sn**	**05 46 05.6**	**+0.1**
HMAT	**Matruh**	**3.98**	**152**	⇑P	**Pn**	**05 45 41.1**	**+0.4**
HMAT				S	**Sn**	**05 46 24.6**	**-1.4**
SWA2		**5.39**	**175**	⇓P	**Pn**	**05 46 00.6**	**+0.5**

*ISCJB **28** 05:46:30.4±0.5, 4092N±003×2124E±004, h12km, Error ellipse: s-maj=4.7km s-min=4.2km az=14.3*
*CSEM **28** 05:46:30.3±0.1, 4092N×2120E, h15km, ML1.9, Error ellipse: s-maj=3.8km s-min=1.8km az=19.0*
*THE **28** 05:46:30.9, 4092N×2118E, h12km, ML2.6*
*SKO **28** 05:46:30.5, 4092N×2119E, h15km, M2.5, ML1.9*

ISC 28 05:46:31.0±0.5, 4091N±003×2123E±004, h12km, n14, σ0°75/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.13**	**33**	*e*Pg	**Pg**	**05 46 34.1**	**-0.1**
BIA				*e*Sg	**Sg**	**05 46 37.5**	**+1.0**
BIA	**Bitola**	**0.13**	**33**	*i* Pg	**Pg**	**05 46 34.2**	**0.0**
BIA				*i* Sg	**Sg**	**05 46 37.6**	**+1.1**
BIA				*e*Lg		05 46 37.7	
	comp=E,503nm,0.2s						
BIA				*e*Lg		05 46 37.8	
	comp=N,188nm,0.3s						
BIA	**Bitola**	**0.13**	**33**	*i* Pg	**Pg**	**05 46 34.1**	**-0.1**
BIA				*e*Sg	**Sg**	**05 46 37.5**	**+1.0**
FNA	**Florina**	**0.17**	**139**	*e*Pg	**Pg**	**05 46 35.2**	**+0.4**
FNA				*e*Sg	**Sg**	**05 46 38.8**	**+1.3**
FNA	**Florina**	**0.17**	**139**	*e*Sg	**Sg**	**05 46 38.8**	**+1.4**
OHR	**Ohrid**	**0.38**	**302**	*e*Pg	**Pg**	**05 46 37.7**	**-0.9**
OHR				*e*Sg	**Sg**	**05 46 43.1**	**-0.6**
OHR	**Ohrid**	**0.38**	**302**	*i* Pg	**Pg**	**05 46 37.8**	**-0.8**
OHR				*i* Sg	**Sg**	**05 46 44.7**	**+1.0**
OHR				*e*Lg		05 46 44.8	
	comp=E,425nm,0.2s						
OHR	**Ohrid**	**0.38**	**302**	*e*Pg	**Pg**	**05 46 37.7**	**-0.9**
OHR				*i* Sg	**Sg**	**05 46 44.7**	**+0.9**
KBN	**Korca**	**0.44**	**230**	*e*Pg	**Pg**	**05 46 39.0**	**-0.7**
KBN				*i* Sg	**Sg**	**05 46 46.2**	**+0.6**
SAMO	**Samokov**	**0.78**	**355**	*e*Pg	**Pg**	**05 46 45.7**	**-0.5**
SAMO				*i*		05 46 46.1	
SAMO				*i* Sg	**Sg**	**05 46 57.0**	**+0.6**
SAMO				*i*		05 46 57.9	
GRG	**Griva**	**0.89**	**87**	*e*Pg	**Pg**	**05 46 48.2**	**+0.1**
VAY	**Valandovo**	**1.09**	**68**	*e*Pg	**Pg**	**05 46 51.4**	**-0.6**
LIT	**Litokhoron**	**1.25**	**130**	*e*Pg	**Pg**	**05 46 54.1**	**-1.0**
KNT	**Kendrikon**	**1.29**	**78**	*e*Pg	**Pg**	**05 46 54.6**	**-1.1**
KNT				*e*Sg	**Sg**	**05 47 12.6**	**+0.3**

IDC 28 06:04:02.4±4.0, 238S×10233E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.4/17, mbtmp3.3/4, Error ellipse: s-maj=172.0km s-min=24.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.80**	**122**	P	P	06 11 03.5	+0.2
	0.4nm,1.0s,baz=299,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**37.16**	**127**	P	P	06 11 15.4	+0.4
	0.3nm,0.5s,baz=303,slow=8.3,SNR=5.3						
SONM	**Songino Array**	**50.13**	**4**	P	P	06 13 00.8	+1.4
	0.4nm,0.6s,baz=187,slow=9.3,SNR=3.8						
MKAR	**Makanchi Array**	**52.05**	**343**	P	P	06 13 12.8	-1.0
	0.2nm,0.6s,baz=150,slow=8.8,SNR=5.0						

IDC 28 06:14:21.6±3.7, 5977S×2651W, h0km, mb3.7/1, mb1 3.7/2, mb1mx3.5/16, mbtmp3.7/2, ML3.7/1, Error ellipse: s-maj=175.4km s-min=49.5km az=80.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.25**	**153**	*e*P	Pn	06 17 33.0	+2.1
VNA1				*e*		06 17 38.3	
VNA1				*e*		06 17 46.9	
VNA3	**Neumayer Olymp**	**13.39**	**156**	*e*P	Pn	06 17 32.6	-0.3
VNA3				*e*		06 17 37.5	
VNA3				*e*		06 17 43.3	
VNA3				*e*		06 17 49.4	
VNA3				*e*		06 18 10.4	
VNA3				*e*		06 19 56.3	
VNA2	**Neumayer--Watz**	**13.65**	**153**	*e*P	Pn	06 17 37.0	+0.6
	baz=309,slow=13						
VNA2				*e*		06 17 41.8	
VNA2				*e*		06 17 51.0	
VNA2				*e*		06 18 14.6	
VNA2				*e*		06 19 57.4	
SNAA	**Sanae**	**15.24**	**151**	Pn	Pn	06 17 57.8	-0.2
	0.3nm,0.3s,baz=320,slow=16,SNR=31						
SNAA	**Sanae**	**15.24**	**151**	*e*P	Pn	06 17 59.0	+1.0
SNAA				*e*		06 18 03.2	
SNAA				*e*		06 18 09.1	
SNAA				*e*		06 18 12.8	
SNAA				*e*		06 18 20.2	
SNAA				*e*		13 54 14.5	
TORD	**Torodi Ar. Bea**	**76.14**	**28**	P	P	06 26 11.2	-0.2
	0.2nm,0.3s,baz=199,slow=6.2,SNR=6.1						
YKA	**Yellowknife Ar**	**139.12**	**315**	PKP	PKPdf	06 33 48.1	-2.1
	0.2nm,0.6s,baz=120,slow=2.4,SNR=6.4						
SONM	**Songino Array**	**150.40**	**93**	PKPbc	PKPbc	06 34 13.5	-1.4
	1.1nm,0.6s,baz=223,slow=2.7,SNR=7.6						

*NNC **28** 06:15:05.5±6.2, 4259N×7693E, h14km±79km, mb3.0, mpv2.8, Error ellipse: s-maj=53.4km s-min=33.5km az=2.0*
*KNET **28** 06:15:10.5±0.7, 4326N×7671E, h0km, ml1.6, Error ellipse: s-maj=6.6km s-min=4.1km az=0.0*
*ISCJB **28** 06:15:11.9±0.9, 433N±0.1×7669E±008, h10km, Error ellipse: s-maj=16.4km s-min=7.4km az=144.7*

ISC 28 06:15:12.6±0.8, 432N±01×7669E±008, h10km, n11, σ0°98/14, 9C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.21**	**82**	⇓P	**Pg**	**06 15 17.4**	**+0.5**
	31nm,0.2s						
KNDC				⇑S	**Sg**	**06 15 28.5**	**+8.7**
	105nm,0.3s						
TKM2	**Tokmak 2**	**0.84**	**252**	⇑P	**Pg**	**06 15 27.8**	**-1.0**
	12nm,0.2s,SNR=6.5						
TKM2				⇑S	**Sg**	**06 15 40.8**	**+1.0**
	11nm,0.2s						
TKM2	**Tokmak 2**	**0.84**	**252**	⇑P	**Pg**	**06 15 27.7**	**-1.1**
	0.1nm,0.2s						
TKM2				⇑S	**Sg**	**06 15 38.8**	**-1.0**
	0.1nm,0.2s						
ULHL	**Ulahol**	**1.00**	**199**	⇑P	**Pg**	**06 15 30.9**	**-0.9**
	7.6nm,0.2s,SNR=38						
KBK	**Karagaybulak**	**1.38**	**248**	⇓P	**Pn**	**06 15 37.8**	**-0.1**
	11nm,0.2s,SNR=8.4						
USP	**Ospenovka**	**1.60**	**274**	⇓P	**Pn**	**06 15 40.5**	**-0.4**
	8.4nm,0.2s,SNR=6.0						
AAK	**Ala-Archa**	**1.70**	**252**	⇓P	**Pn**	**06 15 43.0**	**+0.7**
	5.1nm,0.2s,SNR=7.0						
UCH	**Uchtor**	**1.87**	**240**	⇓P	**Pn**	**06 15 46.3**	**+1.7**
	3.9nm,0.2s,SNR=8.8						
AML	**Almayashu**	**2.45**	**245**	⇑P	**Pn**	**06 15 56.2**	**+3.7**
	6.6nm,0.2s,SNR=11						
KK31	**Karatay Array**	**4.52**	**271**	⇑Pg	**Pg**	**06 16 34.3**	**-4.8**
	0.3nm,0.2s,baz=91,slow=15,SNR=4.8						
KK31				⇑Lg		06 17 36.3	
	1.1nm,0.6s,baz=79,slow=26,SNR=4.7						
MK31	**Makanchi Array**	**5.37**	**46**	Pn	**Pn**	**06 16 31.9**	**-0.7**
	1.5nm,0.2s,baz=220,slow=15,SNR=10						

*NEIC **28** 06:21:46.8, 2850S×7139W, h47km, MD3.9(GUC), After GUC.*

GUC 28 06:21:46.8±0.9, 2850S×7139W, h47km±12km, MD3.9, ML4.0, 2C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.41**	**175**	⇓*i* P	Pn	06 22 10.6	+0.6
LSCH				*i* S	Sn	06 22 28.4	+0.9
LSCH				AMP		06 22 33.9	
	comp=E,1μm,0.3s						
LSCH	**La Serena**	**1.41**	**175**	⇓*i* P	Pn	06 22 10.6	+0.6
LSCH				*i* S	Sn	06 22 28.4	+0.9
CPCH	**Copiapo**	**1.46**	**39**	*e*P	Pn	06 22 11.6	+0.9
CPCH				*i* S	Sn	06 22 29.9	+1.3
CPCH				AMP		06 22 34.3	
	comp=E,16μm,0.1s						
CPCH	**Copiapo**	**1.46**	**39**	*e*P	Pn	06 22 11.6	+0.9
CPCH				*i* S	Sn	06 22 29.9	+1.3
CDCH	**Caldera**	**1.50**	**19**	⇓*i* P	Pn	06 22 11.4	+0.1
CDCH				*i* S	Sn	06 22 30.6	+0.9
TLL	**Tololo Astrono**	**1.74**	**163**	⇓*i* P	Pn	06 22 16.1	+1.5
TLL				*i* S	Sn	06 22 37.3	+1.7
TLL				AMP		06 22 39.9	
	comp=E,2μm,0.4s						
TLL	**Tololo Astrono**	**1.74**	**163**	⇓*i* P	Pn	06 22 16.1	+1.5
TLL				*i* S	Sn	06 22 37.3	+1.7
OVCH	**Ovalle**	**2.11**	**176**	⇓*i* P	Pn	06 22 20.3	+0.7
OVCH				*i* S	Sn	06 22 45.6	+1.0
OVCH				AMP		06 22 54.9	
	comp=E,656nm,0.3s						
OVCH	**Ovalle**	**2.11**	**176**	⇓*i* P	Pn	06 22 20.3	+0.7
OVCH				*i* S	Sn	06 22 45.6	+1.0
CRCH	**Chaqaral**	**2.25**	**18**	AMP		06 23 02.8	
	comp=N,506nm,0.3s						
CMCH	**Combarbala**	**2.69**	**173**	⇑*i* P	Pn	06 22 27.9	+0.3
CMCH				*i* S	Sn	06 22 59.9	+1.0
CMCH				AMP		06 23 16.6	
	comp=E,2μm,0.6s						
CMCH	**Combarbala**	**2.69**	**173**	⇑*i* P	Pn	06 22 27.9	+0.3
CMCH				*i* S	Sn	06 22 59.9	+1.0

*IDC **28** 06:23:05.1±3.2, 2043S×17746W, h478km±31km, mb3.6/5, mb1 3.7/7, mb1mx3.4/16, mbtmp4.5/7, Error ellipse: s-maj=86.7km s-min=17.5km az=145.0*
*ISCJB **28** 06:23:06.5±1.5, 200S±02×1777W±01, h501km±22km, mb4.2/12, Error ellipse: s-maj=34.9km s-min=14.4km az=132.1*

MEX 28 06:31:02.3±0.3, 1542N×9356W, h34km±999km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.58**	**34**	*eP*	Pn	06 31 26.5	-1.4
SCX				*eS*	Sn	06 31 45.3	-1.8
CCIG	**Comitan**	**1.62**	**58**	*i* P	Pn	06 31 26.6	-1.8
CCIG				*i* S	Sn	06 31 46.1	-1.9
CMIG	**Matias Romero**	**2.09**	**323**	*i* P	Pn	06 31 33.4	-1.5
CMIG				*i* S	Sn	06 31 57.3	-2.3

JMA 28 06:49:22.2±0.2, 3782N×13553E, h369km, M3.5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**2.17**	**83**	P	Pn	06 50 16.4	0.0
JHS	**Saijyo**	**3.42**	**215**	P	Pn	06 50 26.7	0.0
JMM	**Marumori**	**4.17**	**88**	P	Pn	06 50 34.8	+0.8
JHO	**Hitachi**	**4.20**	**105**	P	Pn	06 50 33.8	-0.5
JHO				*eS*	S	06 51 31.8	-0.8
JFK	**Kawauchi**	**4.27**	**94**	P	Pn	06 50 35.2	+0.2
JFK				*eS*	S	06 51 32.1	-1.8
JMK	**Ichinoseki**	**4.61**	**74**	P	Pn	06 50 39.3	+0.8
JMK				*eS*	S	06 51 37.2	-3.1

*ISCJB **28** 06:53:53.9±1.0, 2200S±009×17956W±008, h581km±14km, mb4.2/25, Error ellipse: s-maj=14.7km s-min=8.5km az=114.3*
*NEIC **28** 06:53:54.1±1.0, 2201S×17950W, h568km±13km, mb4.3/16, Error ellipse: s-maj=12.5km s-min=9.0km az=156.0*
*IDC **28** 06:53:55.3±1.5, 2195S×17952W, h585km±16km, mb3.5/12, mb1 3.7/14, mb1mx3.7/17, mbtmp4.5/14, Error ellipse: s-maj=16.7km s-min=13.5km az=153.0*

ISC 28 06:53:54.0±1.0, 2204S±009×17945W±008, h568km±13km, n47, σ0°93/39, mb4.2/24, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.89**	**43**	P	**P**	**06 56 21.6**	**+0.6**
	2.0nm,0.3s,baz=299,slow=19,SNR=3.9						
AFI				S	**S**	**06 58 19.9**	**-2.1**
	1.6nm,0.3s,baz=143,slow=20,SNR=2.7						
AFI	**Afiamalu**	**10.89**	**43**	*e*Pn	**P**	**06 56 21.3**	**+0.2**
DZM	**Mont Dzumac**	**13.08**	**267**	P	**P**	**06 56 44.8**	**+1.3**
	0.9nm,0.3s,baz=135,slow=20,SNR=8.4						
URZ	**Urewera**	**16.44**	**190**	P	**P**	**06 57 15.1**	**-1.5**
	4.7nm,0.3s,baz=69,slow=17,SNR=17						
URZ				S	**S**	**06 59 53.7**	**-8.2**
	1.6nm,0.3s,baz=75,slow=21,SNR=13						
CNB	**Canberra Magne**	**30.26**	**237**	*e*P	**P**	**06 59 20.8**	**+1.3**
	39nm,1.5s,mb4.7						
CTA	**Charters Tower**	**32.03**	**267**	P	**P**	**06 59 35.5**	**+0.9**
	11nm,0.5s,mb4.6,baz=105,slow=12,SNR=25						
PMG	**Port Moresby**	**34.42**	**286**	P	**P**	**06 59 54.9**	**+0.2**
	28nm,0.8s,mb4.8,baz=87,slow=7.3,SNR=9.4						
PMG	**Port Moresby**	**34.42**	**286**	*e*P	**P**	**06 59 55.4**	**+0.6**
	27nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**35.92**	**246**	P	**P**	**07 00 06.2**	**-1.0**
	3.9nm,0.5s,mb4.2,baz=94,slow=10,SNR=20						
STKA	**Stephens Creek**	**35.92**	**246**	*e*P	**P**	**07 00 05.6**	**-1.6**
ASAR	**Alice Springs**	**42.87**	**259**	P	**P**	**07 01 03.2**	**+0.3**
	13nm,0.8s,mb4.5,baz=98,slow=8.2,SNR=152						
ASAR				PcP	PcP	07 02 40.6	-0.1
	1.5nm,0.5s,baz=110,slow=3.6,SNR=6.0						
ASAR				S	**S**	**07 06 43.7**	**-3.2**
	1.8nm,0.8s,baz=97,slow=16,SNR=12						
WB2	**Warramunga Arr**	**43.06**	**264**	⇓*i*P	**P**	**07 01 04.1**	**-0.3**
WRAB	**Tennant Creek**	**43.07**	**264**	*e*P	**P**	**07 01 03.8**	**-0.7**
	20nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**43.07**	**264**	P	**P**	**07 01 04.2**	**-0.3**
	11nm,0.8s,mb4.5,baz=98,slow=8.0,SNR=58						
WRA				ScP	ScP	07 05 38.5	-0.3
	2.0nm,0.8s,baz=93,slow=4.0,SNR=9.4						
WRA				S	**S**	**07 06 45.7**	**-4.1**
	1.2nm,0.9s,baz=103,slow=14,SNR=4.0						
KAKA	**Kakadu**	**46.68**	**273**	*e*P	**P**	**07 01 31.9**	**-0.2**
	12nm,0.5s,mb4.7						
FORT	**Forrest**	**47.46**	**248**	*e*P	**P**	**07 01 37.7**	**-0.2**
	6.9nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.51**	**264**	*e*P	**P**	**07 02 08.2**	**+0.6**
	23nm,1.5s,mb4.3						
KLBR	**Kellerberrin**	**56.19**	**246**	*e*P	**P**	**07 02 40.4**	**-0.3**
	35nm,1.8s,mb4.3						
MBWA	**Marble Bar**	**56.22**	**259**	*e*P	**P**	**07 02 40.5**	**-0.3**
	7.8nm,0.4s,mb4.3						
SBA	**Scott Base**	**56.26**	**183**	*e*P	**P**	**07 02 42.6**	**+1.5**
	8.4nm,0.9s,mb4.0						
VNDA	**Vanda**	**56.27**	**185**	P	**P**	**07 02 42.1**	**+0.9**
	1.5nm,0.6s,mb3.4,baz=342,slow=7.5,SNR=19						
VNDA	**Vanda**	**56.27**	**185**	*e*P	**P**	**07 02 41.5**	**+0.4**
	1.5nm,0.6s,mb3.4						
CASY	**Casey**	**62.00**	**206**	*e*P	**P**	**07 03 18.8**	**-0.6**
	4.8nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**68.04**	**180**	*e*P	**P**	**07 03 57.4**	**+0.1**
	20nm,0.9s,mb4.7						
MJAR	**Matsushiro Arr**	**70.66**	**325**	P	**P**	**07 04 12.8**	**-0.2**
	0.6nm,0.3s,mb3.6,baz=158,slow=6.4,SNR=5.1						
NVAR	**Mina Array Bea**	**83.06**	**44**	P	**P**	**07 05 21.6**	**+1.2**
	1.8nm,0.8s,mb3.7,baz=210,slow=6.2,SNR=10						
SYO	**Syowa Base**	**84.94**	**193**	⇓*e*PcP	PcP	07 05 32.0	+0.2
VNA3	**Neumayer Olymp**	**86.70**	**177**	*e*	**P**	**07 05 36.7**	**-1.4**
VNA3				*e*		07 05 41.1	
VNA2	**Neumayer--Watz**	**87.12**	**177**	*e*	**P**	**07 05 39.4**	**-0.7**
	baz=218,slow=2.8						
VNA2				*e*		07 05 43.4	
SRU	**San Rafael**	**88.55**	**47**	*e*P	**P**	**07 05 47.6**	**+0.9**
	3.0nm,0.7s,mb4.2						
HWUT	**Hardware Ranch**	**89.13**	**44**	*e*P	**P**	**07 05 49.5**	**+0.1**
	1.6nm,0.6s,mb4.0						
PLCA	**Paso Flores**	**89.19**	**134**	P	**P**	**07 05 50.3**	**+0.6**
	1.9nm,0.7s,mb4.0,baz=217,slow=7.0,SNR=7.1						
PLCA	**Paso Flores**	**89.19**	**134**	*e*P	**P**	**07 05 50.5**	**+0.9**
	1.8nm,0.7s,mb4.0						
ANMO	**Albuquerque**	**89.41**	**52**	*e*P	**P**	**07 05 51.7**	**+1.0**
	1.5nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**90.11**	**13**	P	**P**	**07 05 52.5**	**-1.4**
	0.4nm,0.7s,mb3.3,baz=224,slow=4.1,SNR=9.3						
PDAR	**Pinedale Array**	**91.00**	**44**	P	**P**	**07 05 58.4**	**+0.4**
	1.3nm,1.0s,mb3.8,baz=220,slow=2.9,SNR=8.1						
YKA	**Yellowknife Ar**	**98.47**	**25**	P	Pdif	07 06 29.8	-2.0
	0.1nm,0.2s,baz=239,slow=4.2,SNR=4.7						
MKAR	**Makanchi Array**	**111.26**	**313**	PKiKP	PKiKP	07 11 22.0	-1.7
	0.3nm,0.4s,baz=187,slow=1.9,SNR=11						
ARCES	**ARCESS Array B**	**130.17**	**349**	PKP	PKPdf	07 11 58.0	-1.9
	1.3nm,0.4s,baz=83,slow=2.1,SNR=15						
FINES	**FINESS Array B**	**136.84**	**342**	PKhKP		07 12 02.3	
	1.6nm,0.9s,baz=41,slow=6.1,SNR=3.9						
FINES				PKP	PKPdf	07 12 10.0	-2.4
	0.7nm,0.5s,baz=73,slow=6.4,SNR=6.1						
AKASG	**Malin Array Be**	**143.66**	**329**	PKP	PKPdf	07 12 22.0	-2.7
	2.9nm,0.3s,baz=42,slow=3.9,SNR=28						
AKASG				SKPbc	SKPbc	07 15 07.0	-3.1
	0.3nm,0.4s,baz=50,slow=2.6,SNR=6.6						
BR131	**Keskin Array S**	**146.82**	**310**	*e*PKPdf	PKPdf	07 12 31.0	+0.9
BRTR	**Keskin Array B**	**146.82**	**310**	PKPbc	PKPbc	07 12 32.5	-0.5
	1.7nm,0.7s,baz=158,slow=4.8,SNR=7.3						
CLL	**Collm**	**149.21**	**345**	*i* PKPbc	PKPbc	07 12 38.4	-0.5
	comp=Z,12nm,0.9s						
BRG	**Berggiesshubel**	**149.37**	**343**	*i* P	PKPbc	07 12 39.0	-0.3
	comp=Z,4.7nm,0.6s						
GERES	**GERESS Array B**	**151.27**	**342**	PKPbc	PKPbc	07 12 43.1	-0.6
	comp=Z,1.1nm,0.4s,baz=8.7,slow=1.8,SNR=11						
TORD	**Torodi Ar. Bea**	**171.09**	**187**	PKP	PKPdf	07 12 56.3	-1.1
	comp=Z,0.9nm,0.8s,baz=305,slow=1.8,SNR=5.4						
TORD				PKPab	PKPab	07 14 20.4	-0.7
	comp=Z,1.4nm,0.7s,baz=181,slow=3.9,SNR=9.6						

IDC 28 07:32:19.2±16.0, 400S×6669E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, Error ellipse: s-maj=498.3km s-min=42.1km az=68.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**52.42**	**13**	P	P	07 41 33.4	0.0
	0.3nm,0.8s,baz=204,slow=8.6,SNR=3.8						
SONM	**Songino Array**	**62.23**	**29**	P	P	07 42 42.9	+0.2
	1.3nm,0.8s,baz=224,slow=6.2,SNR=9.3						
WRA	**Warramunga Arr**	**67.64**	**110**	P	P	07 43 18.6	+0.7
	0.4nm,0.7s,baz=274,slow=6.4,SNR=5.7						

IDC 28 07:50:57.4±4.1, 340S×6824E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=133.9km s-min=30.2km az=67.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**51.49**	**12**	P	P	08 00 03.6	-1.0
	0.4nm,0.7s,baz=183,slow=7.3,SNR=3.9						
ZAL	**Zalesovo**	**58.78**	**11**	P	P	08 00 57.0	-0.3
	0.8nm,0.3s,baz=124,slow=23,SNR=4.3						
SONM	**Songino Array**	**60.96**	**28**	P	P	08 01 13.4	+1.1
	1.1nm,0.8s,baz=219,slow=7.5,SNR=8.7						
ASAR	**Alice Springs**	**66.38**	**114**	P	P	08 01 49.1	+1.1
	0.4nm,0.7s,baz=285,slow=6.5,SNR=4.5						
WRA	**Warramunga Arr**	**66.39**	**110**	P	P	08 01 48.4	+0.2
	1.0nm,0.7s,baz=281,slow=6.5,SNR=6.6						
NVAR	**Mina Array Bea**	**144.62**	**9**	PKP	PKPdf	08 10 36.9	+1.0
	0.5nm,0.8s,baz=323,slow=3.7,SNR=4.5						

IDC 28 08:06:56.9±31.0, 302S×6973E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=911.2km s-min=42.1km az=72.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**59.93**	**28**	P	P	08 17 05.0	+0.2
	1.4nm,0.9s,baz=230,slow=6.9,SNR=7.7						
WRA	**Warramunga Arr**	**65.13**	**110**	P	P	08 17 40.3	+0.8
	1.0nm,0.7s,baz=283,slow=5.8,SNR=5.3						
ASAR	**Alice Springs**	**65.18**	**115**	P	P	08 17 40.4	+0.5
	0.7nm,0.8s,baz=273,slow=5.5,SNR=5.8						

IDC 28 08:25:42.3±13.0, 378S×6758E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=411.7km s-min=33.2km az=68.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**52.01**	**13**	P	P	08 34 53.2	-0.1
	0.3nm,0.7s,baz=177,slow=11,SNR=3.3						
SONM	**Songino Array**	**61.61**	**29**	P	P	08 36 02.0	+0.4
	1.5nm,1.1s,baz=227,slow=5.9,SNR=5.9						
ASAR	**Alice Springs**	**66.83**	**114**	P	P	08 36 36.8	+0.9
	0.4nm,0.8s,baz=274,slow=5.8,SNR=4.6						
WRA	**Warramunga Arr**	**66.89**	**110**	P	P	08 36 36.7	+0.5
	1.0nm,0.8s,baz=283,slow=6.5,SNR=6.1						

MEX 28 08:26:56.2±0.8, 1636N×9916W, h9km±10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.88**	**305**	*i* P	Pg	08 27 10.5	-2.7
ACX				*i* s	Sg	08 27 22.2	-2.5
PNIG	**Pinotepa**	**0.99**	**88**	*i* P	Pg	08 27 12.9	-2.4
PNIG				*i* S	Sg	08 27 25.2	-3.0
MEIG	**Mezcala**	**1.62**	**344**	*i* P	Pn	08 27 21.7	-3.2
MEIG				*i* S	Sn	08 27 41.7	-4.2
UTMO	**Huajuapan**	**1.95**	**41**	*i* P	Pn	08 27 25.9	-3.6
UTMO				*i* S	Sn	08 27 49.0	-5.3

*BJI **28** 08:35:35.8, 273N×9700E, h30km, mB5.0, mb4.9, Ms4.7, Msz4.3*
*ISCJB **28** 08:35:43.0±0.2, 346N±004×9721E±003, h39km, mb4.9/97, MS4.2/34, Error ellipse: s-maj=5.8km s-min=4.3km az=59.7*
*NEIC **28** 08:35:43.3±0.2, 346N×9722E, h30km, mb5.0/38, Error ellipse: s-maj=8.8km s-min=4.8km az=45.0*
NEIC Minor damage to many buildings [V] at Tapaktuan.
*MOS **28** 08:35:43.8±1.1, 363N×9734E, h45km, mb5.2/34, Error ellipse: s-maj=11.5km s-min=5.2km az=117.9*
*HRVD **28** 08:35:43.3±0.5, 336N×97.12E, h31km±3km, MW4.9/63, Centroid moment Tensor Solution. LP body waves: s14,c15;Mantle waves: s63,c82; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.45±.20; $M_{\theta\theta}$-1.60±.14; $M_{\phi\phi}$2.04±.16; $M_{r\theta}$-1.68±.29; $M_{\theta\phi}$0.47±.13; $M_{\phi r}$-1.05±.26; Best double couple: M_o=2.75600×10^{16} NP1:ϕ_s146.00000°,δ44.00000°,λ-170.00000°. NP2: ϕ_s=49.00000°,δ83.00000°,λ-47.00000°. Principal axes: T 2.7010, Plg25.0000°, Azm107.0000°; N 0.1040, Plg43.0000°, Azm223.0000°; P -2.8110, Plg36.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **28** 08:35:43.7, 385N×9757E, h33km, mb4.9, Northern Sumatera, Indonesia*
*IDC **28** 08:35:47.7±1.8, 344N×9735E, h68km±15km, mb4.3/22, mb1 4.4/22, mb1mx4.4/24, mbtmp4.6/22, MS4.1/17, Ms1 4.1/17, ms1mx3.9/28, Error ellipse: s-maj=17.1km s-min=8.4km az=44.0*

ISC 28 08:35:45.2±0.2, 348N±004×9725E±003, h41km, h41km±1.8km: pP-P, n249, σ1§19/238, mb4.9/97, MS4.2/34, 10C-17D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.80**	**112**	P	**Pn**	**08 36 15.0**	**+1.3**
	133nm,0.3s,baz=298,slow=9.3,SNR=183						
KULM	**Kulim**	**3.84**	**62**	*e*Pn	**Pn**	**08 36 44.8**	**+3.1**
IPM	**Ipoh**	**3.89**	**75**	P	**Pn**	**08 36 44.9**	**+2.4**
KGM	**Kluang**	**6.23**	**103**	P	**Pn**	**08 37 16.2**	**+1.6**
KSI	**Kapahiang**	**8.87**	**143**	P	**Pn**	**08 37 54.9**	**+4.2**
	162nm,0.8s						
PBA	**Port Blair**	**9.27**	**331**	*ex*	x	08 38 20.0	
PBA				*ex*	x	08 38 36.3	
PBA				*ex*	x	08 41 30.8	
NNT	**Nongplab**	**9.38**	**15**	P	**Pn**	**08 38 04.5**	**+6.8**
NST	**Nakhon Sawan**	**12.45**	**13**	PG	**Pn**	**08 38 45.8**	**+6.1**
KKTK	**Khon Kaen**	**13.90**	**23**	PG	**Pn**	**08 39 10.5**	**+11**
PALK	**Pallekele**	**16.90**	**284**	*e*P	**Pn**	**08 39 39.5**	**+0.9**
	47nm,1.0s						
KKM	**Kota Kinabalu**	**19.07**	**82**	*e*P	**Pn**	**08 40 06.8**	**+1.7**
VIS	**Vishakhapatnam**	**19.66**	**317**	*e*P	**Pn**	**08 40 12.0**	**-0.2**
VIS				AMb	AMB	08 40 16.8	
	comp=Z,32nm,0.8s						
QIZ	**Qiongzhong**	**19.76**	**38**	P	**Pn**	**08 40 13.8**	**+0.5**
QIZ				AP	pP	08 40 21.5	-0.2
QIZ				S	**S**	**08 43 51.0**	**-1.0**
QIZ				LR	LR		
	comp=N,691nm,16.2s						
QIZ				LR	LR		
	comp=E,836nm,17.4s						
QIZ				LR	LR		
	comp=Z,471nm,18.9s						
QIZ	**Qiongzhong**	**19.76**	**38**	*e*P	**Pn**	**08 40 14.2**	**+0.9**
	comp=Z,28nm,0.8s						
TRD	**Trivandrum**	**20.79**	**285**	*ex*	x	08 40 34.5	
TRD				AMb	AMB	08 40 37.6	
	comp=Z,85nm,1.5s						
KMI	**Kunming**	**22.16**	**13**	P	**P**	**08 40 40.8**	**+3.4**
KMI				AP		08 40 46.8	
KMI				XP	sP	08 40 49.0	-3.9
KMI				PP		08 41 09.0	
KMI				S	**S**	**08 44 41.5**	**+2.2**
KMI				SS		08 45 22.8	
KMI				SSS		08 45 37.8	
KMI				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,128nm,3.5s						
KMI				LR	LR		
	comp=N,585nm,15.8s,MS4.3						
KMI				LR	LR		
	comp=E,684nm,15.8s,MS4.3						
KMI				LR	LR		
	comp=Z,538nm,21.0s						
SHL	**Shillong**	**22.56**	**347**	*i* P	**P**	**08 40 40.0**	**-1.7**
SHL				*ex*	x	08 40 49.0	
HYB	**Hyderabad**	**22.98**	**308**	⇓*i*P	**P**	**08 40 48.0**	**+1.8**
	comp=Z,120nm,1.0s,mb5.3						
HYB				*e*S	**S**	**08 44 52.0**	**-1.6**
HYB	**Hyderabad**	**22.98**	**308**	⇓*e*P	**P**	**08 40 48.0**	**+1.8**
	comp=Z,120nm,1.0s,mb5.3						
HYB				*e*S	**S**	**08 44 52.0**	**-1.6**
HYB	**Hyderabad**	**22.98**	**308**	⇓*e*P	**P**	**08 40 48.0**	**+1.8**
HYB				*e*S	**S**	**08 44 52.0**	**-1.6**
	comp=Z,120nm,1.0s,mb5.3						
BOK	**Bokaro**	**22.99**	**332**	AMb	AMB	08 39 39.7	
	comp=Z,41nm,0.1s,mb5.7						
GYA	**Guiyang**	**24.57**	**21**	⇑*i*P	**P**	**08 41 03.5**	**+2.4**
GYA				AP		08 41 12.8	
GYA				XP	sP	08 41 17.0	-0.2
GYA				PP		08 41 40.5	
GYA				S	**S**	**08 45 22.0**	**+2.8**
GYA				XS	sS	08 45 36.3	-1.4
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.9						
GYA				AMB	AMB		
	comp=Z,110nm,5.4s						
GYA				LR	LR		
	comp=N,990nm,13.4s,MS4.5						
GYA				LR	LR		
	comp=E,540nm,13.2s,MS4.5						
GYA				LR	LR		
	comp=Z,750nm,12.8s,MS4.4						
GZH	**Guangzhou**	**24.95**	**37**	P	**P**	**08 41 09.0**	**+4.4**
GZH				LR	LR		
	comp=N,852nm,20.5s,MS4.3						
GZH				LR	LR		
	comp=E,663nm,19.6s,MS4.3						
GZH				LR	LR		
	comp=Z,644nm,17.4s,MS4.2						
LATR	**Latur**	**25.11**	**308**	*e*P	**P**	**08 41 08.3**	**+2.2**
JIRN	**Jiri**	**26.27**	**337**	*e*P	**P**	**08 41 16.4**	**-0.1**
	comp=Z,49nm,0.7s,mb5.2						
KAD	**Karad**	**26.48**	**303**	*e*P	**P**	**08 41 20.7**	**+2.2**
KAD				AMb	AMB	08 41 22.5	
PKI	**Pulchoki**	**26.49**	**336**	*e*P	**P**	**08 41 18.0**	**-0.6**
	comp=Z,22nm,0.5s,mb4.9						
GUN	**Gumba**	**26.61**	**337**	*e*P	**P**	**08 41 19.0**	**-0.6**
	comp=Z,80nm,0.6s,mb5.4						
DMN	**Daman**	**26.65**	**335**	*e*P	**P**	**08 41 19.9**	**-0.1**
	comp=Z,28nm,0.6s,mb5.0						
LSA	**Lhasa**	**26.71**	**348**	*e*P	**P**	**08 41 20.9**	**+0.3**
	comp=Z,27nm,0.8s,mb4.8						
LSA	**Lhasa**	**26.71**	**348**	*e*P	**P**	**08 41 20.9**	**+0.3**
LSA				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.8						
KKN	**Kakani**	**26.74**	**336**	*e*P	**P**	**08 41 20.0**	**-0.8**
	comp=Z,27nm,0.6s,mb5.0						
GKN	**Gorkha**	**27.20**	**335**	*e*P	**P**	**08 41 24.3**	**-0.6**
	comp=Z,20nm,0.3s,mb5.2						
POO	**Poona**	**27.35**	**305**	*e*P	**P**	**08 41 27.0**	**+0.7**
KOLN	**Koldanda**	**27.45**	**333**	*e*P	**P**	**08 41 26.4**	**-0.7**
	comp=Z,42nm,0.7s,mb5.1						
BHPL	**Bhopal**	**27.46**	**317**	*e*P	**P**	**08 41 28.1**	**+0.9**
BHPL				AMb	AMB	08 41 33.7	
	comp=Z,27nm,1.3s,mb4.6						
CD2	**Chengdu**	**27.97**	**12**	P	**P**	**08 41 34.5**	**+2.7**
CD2				XP	sP	08 41 46.8	-1.1
CD2				PP	PP	08 42 23.0	-12
CD2				PPP		08 42 35.5	
CD2				S	**S**	**08 46 13.5**	**+0.5**
CD2				XS	sS	08 46 30.8	-0.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
CD2				LR	LR		
	comp=E,460nm,12.6s						
CD2				LR	LR		
	comp=Z,240nm,15.6s,MS3.9						
ENH	**Enshi**	**29.05**	**22**	*e*P	**P**	**08 41 40.9**	**-0.6**
	comp=Z,19nm,0.9s,mb4.8						
AJM	**Ajmer**	**31.50**	**319**	*e*P	**P**	**08 42 03.5**	**+0.4**
AJM				AMb	AMB	08 42 05.0	
	comp=Z,16nm,0.7s,mb5.0						
XAN	**Xi'an**	**32.29**	**18**	P	**P**	**08 42 09.0**	**-1.0**
XAN				PP	PP	08 43 18.0	-5.4
XAN				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.0						
XAN				AMB	AMB		
	comp=Z,87nm,6.9s						
XAN				LR	LR		
	comp=N,251nm,19.1s,MS4.2						
XAN				LR	LR		
	comp=E,401nm,15.6s,MS4.2						
XAN				LR	LR		
	comp=Z,576nm,15.6s,MS4.4						
MBWA	**Marble Bar**	**32.94**	**139**	*e*P	**P**	**08 42 15.9**	**+0.3**
	comp=Z,8.2nm,0.8s,mb4.7						
LZH	**Lanzhou**	**33.02**	**10**	*e*P	**P**	**08 42 15.5**	**-0.9**
LZH				AP	pP	08 42 25.5	-2.1
LZH				XP	sP	08 42 29.0	-3.5
LZH				PP	PP	08 43 28.3	-3.2
LZH				*e*S	**S**	**08 47 32.5**	**+0.5**
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,165nm,6.1s						
LZH				LR	LR		
	comp=N,957nm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,17.4s,MS4.8						
NJ2	**Nanjing**	**34.92**	**33**	*e*P	**P**	**08 42 35.3**	**+2.4**
NJ2				AP	pP	08 42 45.0	+0.8
NJ2				XP	sP	08 42 48.8	-0.3
NJ2				PP	PP	08 43 54.3	+1.7
NJ2				S	**S**	**08 48 03.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,100nm,11.5s						
NJ2				LR	LR		
	comp=N,520nm,11.3s,MS5.4						
NJ2				LR	LR		
	comp=E,5μm,15.4s,MS5.4						
NJ2				LR	LR		
	comp=Z,270nm,19.2s,MS4.0						
FITZ	**Fitzroy Crossi**	**35.25**	**128**	*e*P	**P**	**08 42 33.1**	**-2.6**
	comp=Z,30nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**35.25**	**128**	P	**P**	**08 42 34.2**	**-1.5**
	comp=Z,11nm,0.9s,mb4.8,baz=276,slow=13,SNR=7.2						
FITZ				LR	LR	08 57 53.4	
	comp=Z,323nm,19.1s,MS4.1,baz=301,slow=38						
SSE	**Sheshan**	**35.55**	**37**	P	**P**	**08 42 38.8**	**+0.5**
SSE				XP	sP	08 42 51.5	-3.0
SSE				PP	PP	08 44 00.3	+0.8
SSE				PCP	PcP	08 45 05.3	-1.4
SSE				S	**S**	**08 48 15.3**	**+4.1**
SSE				XS	sS	08 48 30.3	+0.3
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,95nm,3.4s						
SSE				LR	LR		
	comp=N,373nm,21.5s,MS4.2			

comp=E,385nm,17.1s,MS4.5
HHC LR LR
MUN Mundaring 39.60 154 *e*P **P 08 43 14.4 +1.9**
KLBR Kellerberrin 39.96 152 *e*P **P 08 43 19.1 +3.5**
comp=Z,21nm,0.7s,mb5.0
BJI Beijing 40.22 23 *e*P **P 08 43 20.3 +2.6**
BJI XP sP 08 43 32.5 -1.5
BJI S **S 08 49 27.3 +5.4**
BJI XS sS 08 49 47.5 +6.5
BJI AMB AMB
comp=Z,25nm,0.6s,mb5.1
BJI LR LR
comp=N,466nm,12.8s,MS4.6
BJI LR LR
comp=E,236nm,12.8s,MS4.6
BJI LR LR
comp=Z,184nm,16.6s,MS4.0
NWAO Narrogin (SRO) 40.85 154 P **P 08 43 22.7 -0.2**
comp=Z,18nm,1.2s,mb4.6,baz=308,slow=12,SNR=3.5
NWAO Narrogin (SRO) 40.85 154 *e*P **P 08 43 23.5 +0.6**
comp=Z,24nm,0.9s,mb4.8
NWAO Narrogin (SRO) 40.85 154 *e*P **P 08 43 23.5 +0.6**
NWAO pmax pmax
comp=Z,24nm,0.9s
WMQ Urumqi 41.06 349 *e*P **P 08 43 24.3 -0.3**
WMQ AP pP 08 43 34.0 -2.1
WMQ XP sP 08 43 38.0 -2.9
WMQ PP PP 08 45 02.8 +3.0
WMQ AMB AMB
comp=Z,42nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,299nm,4.6s
WMQ LR LR
comp=N,1μm,20.6s,MS4.9
WMQ LR LR
comp=E,1μm,24.0s,MS4.9
WMQ LR LR
comp=Z,1μm,20.4s,MS4.7
WBK Wadi Bani Khal 41.66 301 ⇓P **P 08 43 31.5 +1.9**
SNR=6.4
JMDO Jabal Madar 42.33 300 P **P 08 43 37.1 +2.1**
SNR=7.9
SMDO Samad 42.62 301 ⇓P **P 08 43 39.3 +1.9**
BIDO Bidbid 42.72 301 ⇓P **P 08 43 40.6 +2.4**
ULHL Ulahol 42.92 337 P **P 08 43 41.0 +1.1**
SNR=7.3
KZA Kyzart 43.18 336 P **P 08 43 42.2 +0.3**
SNR=12
WRA Warramunga Arr 43.22 124 P **P 08 43 41.3 -1.0**
comp=Z,11nm,0.4s,mb4.9,baz=301,slow=9.3,SNR=74
WRA S **S 08 50 01.1 -5.2**
comp=Z,2.3nm,0.9s,baz=294,slow=16,SNR=7.8
WRAB Tennant Creek 43.23 124 P **P 08 43 41.0 -1.3**
comp=Z,203nm,0.8s,mb5.9,SNR=13
WRAB Tennant Creek 43.23 124 *e*P **P 08 43 41.3 -1.0**
comp=Z,31nm,0.6s,mb5.2
WRAB Tennant Creek 43.23 124 *e*P **P 08 43 41.3 -1.0**
WRAB pmax pmax
comp=Z,31nm,0.6s,mb5.2
WB2 Warramunga Arr 43.23 124 *e*P **P 08 43 41.6 -0.7**
WB2 *e*S **S 08 50 00.9 -5.6**
BSY Bisya 43.24 300 P **P 08 43 44.8 +2.5**
SNR=11
HOQ Hoqain 43.44 301 ⇓P **P 08 43 45.9 +1.9**
UCH Uchtor 43.60 335 P **P 08 43 45.5 +0.1**
SNR=39
TKM2 Tokmak 2 43.75 337 P **P 08 43 45.7 -0.8**
SNR=15
TKM2 Tokmak 2 43.75 337 P **P 08 43 46.4 -0.1**
TKM2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
KBK Karagaybulak 43.78 336 P **P 08 43 46.8 0.0**
SNR=24
AML Almayashu 43.87 335 P **P 08 43 47.6 +0.1**
SNR=39
AAK Ala-Archa 43.95 336 P **P 08 43 48.4 +0.2**
SNR=11
ARQ Araqi 44.03 300 ⇑P **P 08 43 51.0 +2.2**
FRU Bishkek 44.07 336 *e*P **P 08 43 50.0 +1.0**
FRU pmax pmax
comp=Z,50nm,2.1s,mb4.9
CHMS Chumysh 44.15 336 P **P 08 43 48.0 -1.7**
SNR=5.7
EKS2 Erkin-Say 44.27 335 P **P 08 43 51.0 +0.4**
SNR=15
USP Ospenovka 44.48 336 P **P 08 43 52.1 -0.2**
SNR=28
ASAR Alice Springs 44.75 129 P **P 08 43 53.8 -0.7**
comp=Z,12nm,0.8s,mb4.8,baz=306,slow=8.1,SNR=55
ASAR S **S 08 50 25.5 -3.0**
comp=Z,0.7nm,0.8s,baz=292,slow=13,SNR=4.9
SONM Songino Array 44.89 9 P **P 08 43 56.0 +0.4**
comp=Z,7.5nm,0.7s,mb4.6,baz=190,slow=8.5,SNR=29
SONM PcP PcP 08 45 36.6 0.0
comp=Z,3.9nm,0.3s,baz=197,slow=3.9,SNR=15
SONM ScP ScP 08 49 26.5 +0.8
comp=Z,0.5nm,0.7s,baz=132,slow=2.1,SNR=1.9
SONM LR LR 09 05 02.5
comp=Z,275nm,19.9s,MS4.2,baz=40,slow=39
SONM Songino Array 44.89 9 P **P 08 43 56.0 +0.4**
SONM 08 45 36.6
ASHO Ashiyiah 44.90 302 ⇓P **P 08 43 57.2 +1.5**
WHFO Wadi Hawf 44.93 292 P **P 08 43 57.5 +1.6**
SNR=22
FORT Forrest 44.99 141 *e*P **P 08 43 57.5 +1.1**
comp=Z,33nm,0.5s,mb5.4
ULN Ulaanbaatar 45.02 9 *e*P **P 08 43 56.5 -0.1**
comp=Z,44nm,0.8s,mb5.3
ULN Ulaanbaatar 45.02 9 *e*P **P 08 43 56.5 -0.1**
ULN pmax pmax
comp=Z,44nm,0.8s,mb5.3
MKAR Makanchi Array 45.06 345 P **P 08 43 56.0 -0.9**
comp=Z,8.2nm,0.4s,mb4.9,baz=154,slow=9.0,SNR=169
MKAR LR LR 09 06 22.5
comp=Z,109nm,20.6s,MS3.8,baz=1.4,slow=41
MKAR Makanchi Array 45.06 345 *i* P **P 08 43 56.1 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.3s
ABTO Aybut 45.24 291 P **P 08 44 00.2 +1.8**
SNR=6.8
KKAR Karatay Array 46.06 333 *i* P **P 08 44 05.0 +0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
ZAK Zakamensk 47.02 5 *e*P **P 08 44 12.4 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
ZAK pmax pmax
comp=Z,12nm,1.6s,mb4.6
GUMO Guam 49.06 75 LR LR 09 03 56.1
comp=Z,108nm,20.4s,MS3.8,baz=263,slow=35
HIA Hailar 49.48 19 *e*P **P 08 44 31.5 +0.1**
comp=Z,8.8nm,0.9s,mb4.8
HIA Hailar 49.48 19 *e*P **P 08 44 31.5 +0.1**
HIA pmax pmax
comp=Z,9.0nm,0.9s
ABKT Ailbek 49.52 319 P **P 08 44 31.0 -0.7**
comp=Z,271nm,0.9s,SNR=7.9
KURK Kurchatov 49.62 345 P **P 08 44 31.2 -1.2**
comp=Z,72nm,0.9s,mb5.7,SNR=8.3
KURK Kurchatov 49.62 345 *e*P **P 08 44 31.2 -1.2**
comp=Z,12nm,0.9s,mb4.9
KURK Kurchatov 49.62 345 *e*P **P 08 44 31.2 -1.2**
KURK pmax pmax
comp=Z,13nm,0.9s,mb5.0
MDJ Mudanjiang 49.87 30 P **P 08 44 36.0 +1.6**
MDJ AP pP 08 44 44.5 -1.6
MDJ XP sP 08 44 48.0 -2.9
MDJ PP PP 08 46 30.8 +1.5
MDJ S **S 08 51 46.0 +4.6**
MDJ SS SS 08 55 21.8 +7.4
MDJ AMB AMB
comp=Z,8.0nm,2.1s,mb4.4
MDJ AMB AMB
comp=Z,56nm,5.4s
MDJ LR LR
comp=N,164nm,21.3s,MS4.2
MDJ LR LR
comp=E,197nm,17.9s,MS4.2
MDJ LR LR
comp=Z,82nm,22.7s,MS3.7
MJAR Matsushiro Arr 50.00 44 P **P 08 44 36.4 +1.1**
comp=Z,1.3nm,0.8s,mb4.0,baz=254,slow=7.5,SNR=2.7
MJAR PcP PcP 08 45 55.7 +0.9
comp=Z,5.5nm,0.8s,baz=245,slow=2.6,SNR=11
MJAR ScP ScP 08 49 49.5 +2.3
comp=Z,0.8nm,0.5s,baz=228,slow=4.5,SNR=5.2
MJAR LR LR 09 04 36.7
comp=Z,180nm,21.7s,MS4.0,baz=275,slow=35
MJAR Matsushiro Arr 50.00 44 P **P 08 44 36.4 +1.1**
MJAR 08 45 55.7
CIT Chita 50.25 13 *e*P **P 08 44 38.6 +1.4**
ZAL Zalesovo 51.33 351 LR LR 09 12 20.6
comp=Z,117nm,18.4s,MS3.9,baz=296,slow=43
PMG Port Moresby 51.35 105 P **P 08 44 45.7 +0.2**
comp=Z,11nm,0.7s,mb4.9,baz=340,slow=3.5,SNR=4.5
PMG Port Moresby 51.35 105 *e*P **P 08 44 43.9 -1.6**
comp=Z,26nm,0.8s,mb5.2
PMG Port Moresby 51.35 105 *e*P **P 08 44 43.9 -1.6**
PMG pmax pmax
comp=Z,26nm,0.8s
NVS Novosibirsk 52.46 350 *i* P **P 08 44 52.3 -1.4**
NVS *i* *PP pP 08 45 04.6 -0.9
NVS *e*S **S 08 52 13.4 -3.7**
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=Z,18nm,1.1s,mb4.9
NVS pmax pmax
comp=E,8.0nm,0.7s
NVS smax
comp=N,19nm,2.3s
NVS smax
comp=E,21nm,2.6s
CTA Charters Tower 53.49 118 *e*P **P 08 44 58.0 -3.4**
comp=E,5.3nm,0.9s,mb4.5
CTA Charters Tower 53.49 118 P **P 08 45 01.8 +0.4**
comp=E,6.9nm,0.8s,mb4.6,baz=0.0,slow=3.0,SNR=3.3
CTA Charters Tower 53.49 118 *e*P **P 08 44 58.0 -3.4**
CTA pmax pmax
comp=Z,5.0nm,0.9s
UMR Umm Al-Rimmam 53.56 305 *e*P **P 08 45 02.6 +0.8**
UMR AMb AMB 08 45 06.8
comp=Z,48nm,0.7s,mb5.6
VOSK Vostochnaya 53.68 340 P **P 08 45 01.6 -1.2**
VOSK pmax pmax
comp=Z,12nm,0.9s,mb4.8
NAY Al-Naaiem 53.85 304 *e*P **P 08 45 04.1 +0.1**
NAY AMb AMB 08 45 09.0
comp=Z,91nm,0.7s,mb5.8
MIB Mutribah 53.95 305 *e*P **P 08 45 04.9 +0.2**
MIB AMb AMB 08 45 09.9
comp=Z,248nm,1.0s
BVA0 Borovoye Array 54.13 340 *i* P **P 08 45 04.8 -1.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRVK Borovoye 54.20 340 P **P 08 45 05.7 -0.8**
comp=Z,106nm,0.8s,mb5.8,SNR=11
BRVK Borovoye 54.20 340 *e*P **P 08 45 05.3 -1.2**
comp=Z,8.0nm,0.8s,mb4.7
BRVK Borovoye 54.20 340 *e*P **P 08 45 05.3 -1.2**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KLR Kul'dur 54.21 27 *e*P **P 08 45 03.8 -2.8**
ZRNK Zerenda 54.55 339 *e*P **P 08 45 07.5 -1.5**
comp=Z,14nm,0.8s,mb5.0
ZRNK Zerenda 54.55 339 *e*P **P 08 45 07.5 -1.6**
ZRNK pmax pmax
comp=Z,14nm,0.8s,mb5.0
CHKZ Chkalovo 54.60 341 *e*P **P 08 45 08.3 -1.2**
comp=Z,28nm,0.7s,mb5.4
CHKZ Chkalovo 54.60 341 *e*P **P 08 45 08.3 -1.1**
CHKZ pmax pmax
comp=Z,28nm,0.7s,mb5.4
STKA Stephens Creek 54.85 133 *e*P **P 08 45 08.8 -2.5**
comp=Z,12nm,0.6s,mb5.1
STKA Stephens Creek 54.85 133 P **P 08 45 08.8 -2.5**
comp=Z,10nm,0.8s,mb4.9,baz=317,slow=5.9,SNR=17
STKA LR LR 09 06 53.1
comp=Z,238nm,21.5s,MS4.2,baz=209,slow=34
STKA Stephens Creek 54.85 133 *e*P **P 08 45 08.7 -2.5**
AB31 Akbulak array 55.55 331 *i* P **P 08 45 15.5 -0.8**
AB31 pmax pmax
comp=Z,15nm,0.8s,mb5.1
BOD Bodaibo 55.78 11 *e*P **P 08 45 16.3 -1.6**
BOD pmax pmax
comp=Z,13nm,0.9s,mb5.0
ASAJ Asahikawa 56.83 38 LR LR 09 08 06.1
comp=Z,149nm,20.5s,MS4.1,baz=351,slow=34
AKTO Aktyubinsk 57.27 331 P **P 08 45 27.2 -1.3**
AKTO pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BHD Baghdad 57.48 308 *ex* x 08 45 19.0
GNI Garni 59.71 315 *e*P **P 08 45 45.6 0.0**
comp=Z,27nm,1.1s,mb5.2
GNI Garni 59.71 315 *e*P **P 08 45 45.6 +0.1**
GNI pmax pmax
comp=Z,27nm,1.1s
KMBO Kilima Mbogo 60.14 267 P **P 08 45 49.5 +1.0**
comp=Z,2.5nm,0.9s,mb4.3,baz=59,slow=10,SNR=9.1
KMBO LR LR 09 08 32.7
comp=Z,161nm,18.4s,MS4.2,baz=91,slow=33
SVE Sverdlovsk 60.61 338 ⇑*e*P **P 08 45 51.8 +0.1**
SVE *e* pP 08 46 05.0 +1.3
SVE *e* 08 46 30.3
SVE pmax pmax
comp=Z,70nm,1.3s,mb5.6
SVE MLR MLR
comp=N,100nm,14.0s,MS4.3
SVE MLR MLR
comp=E,100nm,14.0s,MS4.3
SVE MLR MLR
comp=Z,200nm,14.0s,MS4.4
ARU Arti 61.12 337 *e*P **P 08 45 53.4 -1.8**
comp=Z,11nm,0.3s,mb5.5
ARU Arti 61.12 337 ⇑*i*P **P 08 45 53.3 -1.9**
ARU *e* 08 48 06.9
ARU *e*S **S 08 54 11.2 -0.3**
ARU *e*SS SS 08 58 07.6 -4.1
ARU pmax pmax
comp=Z,28nm,1.1s,mb5.3
ZEI Tsey 61.35 318 *i* P **P 08 45 55.2 -1.5**
ZEI pmax pmax
comp=Z,14nm,0.7s,mb5.2
KIV Kislovodsk 62.64 319 *e*P **P 08 46 04.8 -0.5**
comp=Z,20nm,0.8s,mb5.3
KIV Kislovodsk 62.64 319 *e*P **P 08 46 04.8 -0.6**
KIV pmax pmax
comp=Z,20nm,0.8s,mb5.3
GOF Gofitskoye 62.86 320 *e*P **P 08 46 14.0 +7.2**
GOF pmax pmax
comp=Z,40nm,1.7s,mb5.3
YAK Yakutsk 63.23 16 *e*P **P 08 46 08.6 -0.8**
comp=Z,47nm,0.6s,mb5.8
YAK Yakutsk 63.23 16 *e*P **P 08 46 08.6 -0.7**
YAK pmax pmax
comp=Z,47nm,0.6s,mb5.8
MALT Malatya 63.66 311 ⇓P **P 08 46 12.9 +0.8**
SOKR Solikamsk 63.99 338 *c* *i*P **P 08 46 13.3 -1.0**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.5
SOC Sochi 64.48 317 *e*P **P 08 46 15.4 -2.2**
SOC *e*PP pP 08 46 28.1 -1.5
SOC *e* 08 46 49.8
SOC *e*S **S 08 54 50.3 -3.3**
SOC *e*SS sS 08 55 13.1 -0.5
SOC *e* 08 56 11.0
SOC *e*SS SS 08 59 06.2 +1.9
SOC pmax pmax
comp=Z,33nm,1.1s,mb5.3
CSS Prodhromos 66.75 307 *e*P **P 08 46 33.1 +1.0**
comp=Z,21nm,1.0s,mb5.1
BR131 Keskin Array S 67.64 312 *e*P **P 08 46 37.0 -0.8**
comp=Z,4.5nm,0.6s,mb4.7
BRTR Keskin Array B 67.64 312 P **P 08 46 36.8 -1.0**
comp=Z,6.2nm,0.8s,mb4.7,baz=128,slow=6.2,SNR=29
MA2 Magadan 69.27 26 *e*P **P 08 46 47.3 -0.7**
comp=Z,5.6nm,0.8s,mb4.5
MA2 Magadan 69.27 26 *e*P **P 08 46 47.4 -0.6**
MA2 pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
MOS Moscow 70.42 329 *e*P **P 08 46 53.8 -1.3**
MOS *e* pP 08 47 06.1 -1.1
MOS pmax pmax
comp=Z,47nm,0.7s,mb5.5
OBN Obninsk 70.72 328 *e*P **P 08 46 56.4 -0.5**
comp=Z,11nm,0.4s,mb5.2
OBN Obninsk 70.72 328 *c* *i*P **P 08 46 56.0 -0.9**
OBN *i* 08 47 20.0
OBN pmax pmax
comp=Z,49nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.1
SEY Seymchan 71.66 23 *e*P **P 08 47 02.0 -0.6**
SEY *e* 08 49 41.6
SEY *e*PPP 08 51 21.3
SEY *e*S S 08 56 21.1 +1.9
SEY *e* 08 57 05.7
SEY pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SEY smax
comp=N,30nm,14.0s
SEY smax
comp=E,139nm,24.9s
SEY MLR MLR
comp=Z,240nm,22.0s,MS4.4
SEY MLR MLR
comp=N,260nm,20.0s,MS4.5
SEY MLR MLR
comp=E,48nm,19.0s,MS4.5
KLMR Klimovskoe 71.73 334 *e*P **P 08 47 02.1 -0.9**
KLMR pmax pmax
comp=Z,50nm,1.3s,mb5.3
TIRR Tirgusor 72.54 316 ⇓P **P 08 47 07.3 -0.5**
SANT Santorini 73.30 307 *e*P **P 08 47 11.3 -1.1**
comp=Z,18nm,0.6s,mb5.2
APE Apeiranthos 73.35 308 ⇓P **P 08 47 11.8 -0.8**
AKASG Malin Array Be 73.50 322 P **P 08 47 12.2 -1.3**
comp=Z,6.9nm,0.6s,mb4.8,baz=92,slow=5.1,SNR=39
VRI Vrincioaia 74.00 317 ⇑P **P 08 47 16.6 +0.2**
PLOR Plostina 74.05 317 ⇑P **P 08 47 17.0 +0.3**
MLR Muntele Rosu 74.46 316 ⇓P **P 08 47 19.1 0.0**
BURAR Bucovina Array 75.36 318 ⇓P **P 08 47 24.9 +0.6**
VTS Vitosha 75.92 313 ⇓P **P 08 47 30.1 +2.6**
BOSA Boshof 75.96 240 P **P 08 47 28.6 +0.9**
comp=Z,2.5nm,0.7s,mb4.3,baz=42,slow=13,SNR=3.9
BOSA LR LR 09 19 28.1
comp=Z,88nm,18.4s,MS4.1,baz=99,slow=34
JOF Joensuu 76.12 335 *e*p **P 08 47 28.7 0.0**
comp=Z,1.2nm,0.3s,mb4.3
LVZ Lovozero 76.73 340 *e*P **P 08 47 29.7 -2.4**
LVZ pmax pmax
comp=Z,58nm,1.4s,mb5.3
LVZ pmax pmax
comp=E,31nm,1.9s
APA Apatity 77.03 339 ⇑*i*P **P 08 47 33.2 -0.6**
APA *i* pP 08 47 46.0 -0.1
APA pmax pmax
comp=Z,57nm,1.0s,mb5.5
KOLS Kolonicke sedl 77.53 319 *e*P **P 08 47 37.1 +0.5**
KOLS *e*sP sP 08 47 49.5 -4.1
GRUS Gruza 77.90 314 ⇑*i*P **P 08 47 37.5 -1.1**
FINES FINESS Array B 78.02 332 P **P 08 47 38.4 -0.9**
comp=Z,5.1nm,0.7s,mb4.5,baz=93,slow=5.7,SNR=21
FINES LR LR 09 23 34.3
comp=Z,99nm,21.2s,MS4.1,baz=173,slow=37
CRVS Cervenica-Dubn 78.06 319 *e* **P 08 47 42.2 +2.7**
KAF Kangasniemi 78.09 333 *ep* **P 08 47 39.0 -0.7**
comp=Z,1.1nm,0.3s,mb4.3,baz=109,slow=5.2
KAF Kangasniemi 78.09 333 *e*P **P 08 47 39.0 -0.7**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
STHS Stebnicka Huta 78.27 320 *e*P **P 08 47 41.7 +1.0**
STHS *e*sP sP 08 47 53.3 -4.4
DIVS Divcibare 78.44 314 *i* P **P 08 47 41.5 -0.2**
PSZ Piszkesteto 78.96 318 *e*P **P 08 47 43.6 -0.9**
comp=Z,7.0nm,0.8s,mb4.6
PSZ Piszkesteto 78.96 318 *e*P **P 08 47 43.6 -0.9**
PSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BILL Bilibino 79.03 21 *e*P **P 08 47 44.1 -0.8**
comp=Z,5.7nm,0.9s,mb4.5
BILL Bilibino 79.03 21 ⇓*e*P **P 08 47 44.2 -0.7**
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BILL MLR MLR
comp=Z,200nm,24.0s,MS4.4
OJC Ojcow 79.31 320 *e*P **P 08 47 46.5 +0.1**
PKSM Moragy 79.62 316 ⇓P **P 08 47 47.3 -0.8**
VYHS Vyhne 79.73 319 *e*P **P 08 47 47.7 -1.0**
KEV Kevo 79.98 341 *ep* **P 08 47 49.4 -0.7**
comp=Z,0.7nm,0.3s,mb4.1
KEV Kevo 79.98 341 *e*P **P 08 47 49.4 -0.7**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
OKC Ostrava-Krasne 80.32 320 *e*P **P 08 47 52.0 +0.1**
ARCES ARCESS Array B 80.42 340 P **P 08 47 51.8 -0.6**
comp=Z,7.6nm,0.6s,mb4.8,baz=94,slow=4.6,SNR=50
ARCES LR LR 09 26 50.6
comp=Z,173nm,19.2s,MS4.4,baz=344,slow=38
ARE0 ARCESS Array S 80.42 340 *e*P **P 08 47 52.0 -0.4**
TIP Timpagrande 80.44 309 *e*P **P 08 47 52.3 -0.3**
MORC Moravsky Berou 80.71 320 ⇓P **P 08 47 53.7 -0.3**
RPZ Rata Peaks 80.77 135 P **P 08 47 54.4 +0.1**
comp=Z,9.6nm,0.6s,mb4.9,baz=79,slow=4.2,SNR=7.8
RPZ LR LR 09 22 07.9
comp=Z,328nm,21.6s,MS4.7,baz=182,slow=34
ZST Bratislava 80.85 318 *e*P **P 08 47 51.6 -3.1**
DPC Dobruska-Polom 81.54 320 *e*P **P 08 47 59.0 +0.6**
KSP Ksiaz 81.60 321 *e*P **P 08 47 59.0 +0.3**
UPC Upice 81.75 320 *e*P **P 08 47 59.8 +0.3**
BOJS Bojanci 81.92 315 *e*P **P 08 48 00.7 +0.3**
PERS Pernice 82.08 316 *e*P **P 08 48 01.3 +0.1**
VISS Visnje 82.23 316 *e*P **P 08 48 01.4 -0.6**
LJU Ljubljana 82.46 316 *e*P **P 08 48 03.5 +0.3**
PRU Pruhonice 82.66 320 *e*P **P 08 48 02.5 -1.8**
VOY Vojsko 82.90 316 *e*P **P 08 48 04.4 -1.1**
VOY *e* 08 48 05.5
VOY *e* pP 08 48 16.5 -1.4
BRG Berggiesshubel 83.09 321 *e*P **P 08 48 06.7 +0.2**
BRG *e* 08 48 22.4
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BRG Berggiesshubel 83.09 321 *e*P **P 08 48 06.7 +0.2**
comp=Z,3.7nm,1.1s,mb4.3
BRG *e* 08 48 22.4
comp=Z,4.4nm,0.9s
GERES GERESS Array B 83.15 319 P **P 08 48 06.9 +0.1**
comp=Z,3.3nm,0.8s,mb4.4,baz=103,slow=6.0,SNR=21
GERES LR LR 09 29 01.1
comp=Z,86nm,18.6s,MS4.2,baz=279,slow=38
KHC Kasperske Hory 83.24 319 *e*P **P 08 48 06.7 -0.6**
KHC pP pP 08 48 18.5 -1.2
KHC Kasperske Hory 83.24 319 *e*P **P 08 48 06.7 -0.6**
KHC *e* pP 08 48 18.5 -1.2
GRA1 Grafenberg Arr 84.80 319 *e*P **P 08 48 14.7 -0.5**
comp=Z,6.0nm,0.9s,mb4.7
GRF Grafenberg Arr 84.80 319 *e*P **P 08 48 14.7 -0.5**
comp=Z,6.0nm,0.9s,mb4.7
GRF Grafenberg Arr 84.80 319 *e*P **P 08 48 14.7 -0.5**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
GRF Grafenberg Arr 84.80 319 *e*P **P 08 48 14.7 -0.5**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 85.05 331 P **P 08 48 14.8 -1.7**
comp=Z,3.6nm,0.7s,mb4.6,baz=93,slow=5.1
NB2 NORSAR Subarra 85.05 331 P **P 08 48 14.8 -1.7**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
NOA NORSAR Array B 85.05 331 P **P 08 48 15.7 -0.8**
comp=Z,2.0nm,0.6s,mb4.4,baz=93,slow=5.3,SNR=8.4
NOA LR LR 09 32 57.1
comp=Z,59nm,20.5s,MS4.0,baz=315,slow=40
LPG La Plagne 87.90 315 *e*P **P 08 48 31.0 +0.6**
comp=Z,27nm,0.9s,mb5.2
LPG La Plagne 87.90 315 *e*P **P 08 48 31.0 +0.6**
comp=Z,13nm,0.9s,mb5.2
LPG La Plagne 87.90 315 *e*P **P 08 48 31.0 +0.6**
LPG pmax pmax
comp=Z,13nm,0.9s,mb5.2
BNI Bardonecchia 87.97 315 *e*P **P 08 48 32.2 +1.5**
comp=Z,5.6nm,0.7s,mb4.9
BNI Bardonecchia 87.97 315 *e*P **P 08 48 32.2 +1.4**
BNI pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
VNDA Vanda 88.03 169 P **P 08 48 29.8 -1.3**
comp=Z,1.6nm,0.8s,mb4.3,baz=281,slow=12,SNR=5.9
AFI Afiamalu 91.77 104 LR LR 09 32 18.6
comp=Z,80nm,18.9s,MS4.2,baz=49,slow=37
TORD Torodi Ar. Bea 94.62 283 P **P 08 49 02.3 +0.6**
comp=Z,2.3nm,1.0s,mb4.6,baz=92,slow=5.1,SNR=9.3
ILAR Eielson Array 97.59 23 P **P 08 49 13.3 -1.9**
comp=Z,0.2nm,0.5s,mb3.9,baz=294,slow=3.9,SNR=5.5
ILAR PP PP 08 53 16.1 +3.1
comp=Z,0.4nm,0.7s,baz=302,slow=7.0,SNR=6.2
ILAR PKKPbc PKKPbc 09 05 50.5 -0.7
comp=Z,1.1nm,1.2s,baz=188,slow=3.8,SNR=4.8

```
ILAR                                LR      LR          09 34 45.0
     comp=Z,100nm,20.4s,MS4.3,baz=359,slow=36
ILAR  Eielson Array     97.59  23   P       P          08 49 13.3 -1.9
ILAR                                PP      PP          08 53 16.1 +3.1
ILAR                                PKKPbc  PKKPbc     09 05 50.5 -0.7
ILAR                                LR      LR          09 34 45.0
ILAR  Eielson Array     97.59  23   P       P          08 49 13.3 -1.9
ILAR                                                   08 53 16.1
INK   Inuvik           100.30  17   P       Pdif       08 49 25.8 -1.5
     comp=Z,1.1nm,0.9s,baz=274,slow=7.7,SNR=7.1
INK                                 PKiKP   PKiKP      08 53 53.5 -0.7
     comp=Z,0.3nm,0.5s,baz=331,slow=5.7,SNR=6.4
YKA   Yellowknife Ar   109.89  15   PKiKP   PKiKP      08 54 10.1 -1.8
     comp=Z,0.2nm,0.7s,baz=334,slow=2.1,SNR=6.1
YKA                                 PP      PP         08 54 39.5 -5.1
     comp=Z,0.5nm,0.7s,baz=330,slow=7.5,SNR=8.5
YKA                                 PKKPab  PKKPab     09 05 22.4 -3.6
     comp=Z,0.1nm,0.4s,baz=137,slow=3.3,SNR=4.7
YKA   Yellowknife Ar   109.89  15   PKPdf   PKiKP      08 54 10.1 -1.8
YKA                                 PP      PP         08 54 39.5 -5.1
YKA                                 PKKPab  PKKPab     09 05 22.4 -3.6
EDM   Edmonton         117.94  20  ePKPdf   PKPdf      08 54 26.8 -0.5
SCHQ  Schefferville    120.41 349   PKP     PKPdf      08 54 32.0  0.0
     comp=Z,2.1nm,0.4s,baz=260,slow=2.2,SNR=12
ULM   Lac du Bonnet    125.30  10   PKP     PKPdf      08 54 41.2 -0.2
     comp=Z,6.8nm,0.8s,baz=346,slow=2.9,SNR=19
ULM   Lac du Bonnet    125.30  10   PKP     PKPdf      08 54 41.2 -0.2
GCMT  Greycliff        125.43  23  ePKPdf   PKPdf      08 54 42.2 +0.5
SNOW  Snow King Moun   126.90  25  ePKPdf   PKPdf      08 54 45.3 +0.8
NVAR  Mina Array Bea   126.91  35   PKP     PKPdf      08 54 46.4 +1.9
     comp=Z,4.6nm,0.8s,baz=337,slow=0.5,SNR=28
PDAR  Pinedale Array   127.97  25   PKP     PKPdf      08 54 47.4 +0.9
     comp=Z,1.9nm,0.5s,baz=113,slow=2.1,SNR=20
DUG   Dugway           128.53  29  ePKPdf   PKPdf      08 54 49.3 +1.7
MSU   Marysvale        130.14  30  ePKPdf   PKPdf      08 54 53.3 +2.7
PV01  Paradox Valley   132.18  28  ePKPdf   PKPdf      08 54 54.9 +0.3
PLCA  Paso Flores      141.31 195   PKP     PKPdf      08 55 11.8 +0.5
     comp=Z,0.8nm,0.7s,baz=201,slow=18,SNR=3.1
JCT   Junction City    142.51  25  ePKPdf   PKPdf      08 55 14.3 +0.8
JCT                                eSKPbc   SKPbc      08 58 49.7 +1.6
BDFB  Brasilia         143.75 248   PKP     PKPdf      08 55 16.8 +1.1
     comp=Z,1.9nm,0.6s,baz=151,slow=4.0,SNR=4.0
CPUP  Villa Florida    146.69 225   PKPbc   PKPbc      08 55 22.6 +0.2
     comp=Z,4.8nm,0.7s,baz=64,slow=3.5,SNR=12
CPUP  Villa Florida    146.69 225  ePKP2    PKPab      08 55 22.6 -1.0
MTP   Monte Pirata     152.68 322  ePKPbc   PKPbc      08 55 37.7 +0.4
SIV   San Ignacio      155.32 238   PKP     PKPdf      08 55 34.7 +0.7
     comp=Z,0.7nm,0.7s,baz=158,slow=2.1,SNR=4.5
SIV                                 PKPab   PKPab      08 55 59.0 -0.3
     comp=Z,1.1nm,0.7s,baz=270,slow=6.3,SNR=5.0
LPAZ  La Paz           160.80 227   PKP     PKPdf      08 55 42.9 +2.2
     comp=Z,3.4nm,0.9s,baz=71,slow=1.5,SNR=11
LPAZ                                PKPab   PKPab      08 56 25.7 +2.7
     comp=Z,2.3nm,0.9s,baz=81,slow=5.0,SNR=4.4
```

IDC 28 08:47:33.4±2.8, 3235S×17733W, h0km, mb4.1/2, mb1 4.3/4, mb1mx4.0/15, mbtmp4.1/4, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/27, Error ellipse: s-maj=68.6km s-min=32.7km az=119.0, South of Kermadec Islands

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Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
RAO   Raoul Island     3.13 351    Sn      Sn        08 48 52.1  -10
     128nm,0.3s,baz=76,slow=22,SNR=3.6
URZ   Urewera          7.45 216    Pn      Pn        08 49 23.4 +0.2
     1.0nm,0.3s,baz=141,slow=16,SNR=5.4
URZ                                Sn      Sn        08 50 48.2  -0.2
     4.9nm,0.3s,baz=165,slow=21,SNR=14
RPZ   Rata Peaks      14.56 215    Pn      Pn        08 50 58.5  -2.2
     0.9nm,0.3s,baz=15,slow=20,SNR=5.6
RPZ                                Sn      Sn        08 53 31.9  -11
     0.7nm,0.3s,baz=317,slow=19,SNR=3.2
DZM   Mont Dzumac     17.67 301    LR      LR        08 55 47.3
     comp=Z,124nm,18.9s,baz=196,slow=28
ASAR  Alice Springs   43.61 269    P       P         08 55 40.1 +0.8
     2.3nm,0.9s,baz=110,slow=7.6,SNR=20
WB2   Warramunga Arr  44.76 274   eP       P         08 55 49.1 +0.6
WRA   Warramunga Arr  44.77 274    P       P         08 55 48.6  0.0
     1.3nm,0.4s,baz=113,slow=8.0,SNR=32
FINES FINESS Array B  147.16 339   PKPbc   PKPbc     09 07 16.8 -1.7
     0.9nm,0.4s,baz=54,slow=4.5,SNR=15
```

NIED ***28*** *08:56:00, 2400N×12180E, h8km, Mw4.4 Best double couple: M0=4.02000×10^15 NP1:φ=49.00000°, δ=69.00000°, λ=83.00000°. NP2:φ=247.00000°, δ=22.00000°, λ=107.00000°.*
IDC ***28*** *08:56:05.7±0.7, 2429N×12197E, h0km, mb4.0/15, mb1 4.1/15, mb1mx4.1/23, mbtmp4.0/15, Error ellipse: s-maj=27.5km s-min=15.9km az=65.0*
ISCJB ***28*** *08:56:07.9±0.7, 2417N±005×12171E±003, h23km±4km, mb4.0/22, MS4.3/1, Error ellipse: s-maj=8.2km s-min=4.0km az=38.1*
JMA ***28*** *08:56:09.6±0.4, 2403N×12180E, h30km, M4.1*
NEIC ***28*** *08:56:09.2±0.4, 2422N×12176E, mb4.3/9, ML4.6(TAP), Error ellipse: s-maj=12.7km s-min=7.0km az=64.0*
NEIC Recorded [4 TAP] in Hua-lien, [3 TAP] in I-lan and [2 TAP] in Nan-t'ou Counties.
BJI ***28*** *08:56:10.7, 2454N×12163E, h6km, mB4.5, mb4.3, ML4.4, Ms4.3, Msz4.1*

ISC 28 08:56:08.4±0.8, 2424N±005×12175E±003, h14km±4km, h24km±1.1km: pP-P, n42, σ0§77/50, mb4.1/22, MS4.3/1, 1C, Taiwan

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Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
NACB  Ninganchiao     0.15 246    ePg     Pg        08 56 11.8  -0.4
YHNB  Yeheng          0.55 322    ePg     Pg        08 56 19.8 +0.6
YHNB                               eSg     Sg        08 56 26.2  -0.3
TATO  Taipei          0.77 342    ePg     Pg        08 56 23.6 +0.1
TATO                               eS      Sg        08 56 33.0  -0.6
YOJ   Yonaguni jima   1.18  79    P       Pn        08 56 30.6 +0.2
YOJ                                eS      Sb        08 56 45.5  0.0
IRIF  Iriomote-Funau  1.81  86    P       Pn        08 56 39.1  -0.1
HATJ  Hateruma jima   1.89  95    P       Pn        08 56 40.1  -0.1
JKRS  Kuro-shima      2.07  89    P       Pn        08 56 43.4 +0.8
JKRS                               eS      Sn        08 57 08.3 +0.1
JIJ   Ishigaki jima   2.19  86    P       Pn        08 56 44.5 +0.1
JIJ                                eS      Sn        08 57 11.1  -0.1
JTJ   Tarama          2.72  81    P       Pn        08 56 53.2 +1.5
JTJ                                eS      Sn        08 57 24.9 +0.5
QZH   Quanzhou        2.96 284 ⇑i/P        Pn        08 56 55.5 +0.6
QZH                                S       Sn        08 57 30.5 +0.3
QZH                                Smax
     comp=N,1μm,0.6s
QZH                                Smax
     comp=E,930nm,0.8s
NJ2   Nanjing         8.19 343    eP      Pn        08 58 10.3 +3.5
NJ2                                AP      08 58 13.5
NJ2                                XP      08 58 16.3
NJ2                                S       Sn        08 59 44.0 +4.8
NJ2                                XS      08 59 48.8
NJ2                                AMB     AMB
     comp=Z,10.0nm,0.5s
NJ2                                AMB     AMB
     comp=Z,20nm,3.5s
NJ2                                Smax
     comp=N,330nm,0.8s
NJ2                                Smax
     comp=E,290nm,0.9s
NJ2                                LR      LR
     comp=N,2μm,11.2s
NJ2                                LR      LR
     comp=E,630nm,15.2s
NJ2                                LR      LR
     comp=Z,890nm,10.2s
CD2   Chengdu        17.27 297     P       Pn        09 00 14.0 +4.9
CD2                                AMB     AMB
     comp=Z,10.0nm,0.5s
CD2                                AMB     AMB
     comp=Z,60nm,3.6s
CD2                                LR      LR
     comp=E,470nm,9.0s
CD2                                LR      LR
     comp=Z,420nm,9.0s
LZH   Lanzhou        19.43 312    eP      Pn        09 00 35.3  -0.2
LZH                                AP      pP        09 00 39.0 +0.7
LZH                                XP      sP        09 00 42.3 +2.1
LZH                                PP      09 00 53.3
LZH                                eS      Sn        09 04 08.0  -5.3
LZH                                XS      sS        09 04 13.5  -6.4
LZH                                SS      09 04 34.5
LZH                                AMB     AMB
     comp=Z,25nm,1.3s
LZH                                AMB     AMB
     comp=Z,97nm,4.2s
LZH                                LR      LR
     comp=N,509nm,11.2s
LZH                                LR      LR
     comp=Z,748nm,14.3s
GTA   Gaotai         23.91 314    eP      P         09 01 23.0 +1.2
GTA                                AP      09 01 27.0
GTA                                XP      sP        09 01 29.5 +1.7
GTA                                PP      09 01 51.8
GTA                                S       S         09 05 25.8  -12
GTA                                AMB     AMB
     comp=Z,3.0nm,1.0s,mb3.7
GTA                                AMB     AMB
     comp=Z,114nm,3.8s
GTA                                LR      LR
     comp=N,215nm,8.0s
GTA                                LR      LR
     comp=E,454nm,11.8s
GTA                                LR      LR
     comp=Z,580nm,11.4s,MS4.3
ULN   Ulaanbaatar    26.31 337    eP      P         09 01 44.5 +0.9
     comp=Z,3.5nm,0.8s,mb3.9
SONM  Songino Array  26.52 336    P       P         09 01 46.1 +0.6
     comp=Z,1.6nm,0.7s,mb3.7,baz=148,slow=9.7,SNR=7.8
MKAR  Makanchi Array 38.66 316    P       P         09 03 32.3 +0.9
     comp=Z,2.1nm,0.7s,mb4.0,baz=108,slow=9.7,SNR=18
ZAL   Zalesovo       40.49 327    P       P         09 03 46.0  -0.6
     comp=Z,1.8nm,0.8s,mb3.9,baz=9.6,slow=10,SNR=7.1
KURK  Kurchatov      42.38 320   eP       P         09 04 02.0  -0.2
     comp=Z,10nm,1.4s,mb4.3
WRA   Warramunga Arr 45.59 163    P       P         09 04 27.0  -1.0
     comp=Z,1.6nm,0.7s,mb4.1,baz=344,slow=8.8,SNR=15
WB2   Warramunga Arr 45.59 163   eP       P         09 04 27.8  -0.2
BVAR  Borovoye Array 47.96 321    P       P         09 04 47.0 +0.5
     comp=Z,1.5nm,0.7s,mb4.1,baz=110,slow=8.5,SNR=8.2
CHKZ  Chkalovo       48.02 321   eP       P         09 04 46.0  -0.9
     comp=Z,3.0nm,0.6s,mb4.5
BRVK  Borovoye       48.03 321   eP       P         09 04 47.2 +0.1
     comp=Z,1.7nm,0.8s,mb4.1
BRVK                               epP     pP        09 04 54.6 +3.0
ZRNK  Zerenda        48.75 320   eP       P         09 04 52.8 +0.2
     comp=Z,5.9nm,1.1s,mb4.5
ZRNK                               epP     pP        09 04 59.6 +2.6
ASAR  Alice Springs  49.05 165    P       P         09 04 55.8 +0.8
     comp=Z,0.6nm,0.6s,mb3.8,baz=344,slow=6.6,SNR=6.2
STKA  Stephens Creek 58.93 160    P       P         09 06 06.5  -0.6
     comp=Z,1.1nm,0.6s,mb4.0,baz=307,slow=5.1,SNR=3.0
KDAK  Kodiak Island  67.57  35    P       P         09 07 03.1  -1.3
     comp=Z,5.6nm,0.9s,mb4.6,baz=239,slow=5.9,SNR=3.7
ILAR  Eielson Array  68.93  27    P       P         09 07 11.5  -1.4
     comp=Z,0.3nm,0.5s,mb3.5,baz=269,slow=5.1,SNR=18
MALT  Malatya        70.39 304   eP       P         09 07 23.1 +1.1
     comp=Z,4.6nm,0.6s,mb4.6
DAWY  Dawson         72.26  27   eP       P         09 07 32.8  -0.4
DAWY                               epP     pP        09 07 39.1 +1.3
INK   Inuvik         72.99  22    P       P         09 07 36.0  -1.6
     comp=Z,1.7nm,0.7s,mb4.1,baz=303,slow=5.1,SNR=15
INK   Inuvik         72.99  22   eP       P         09 07 36.3  -1.3
     comp=Z,2.0nm,0.8s,mb4.1
AKASG Malin Array Be 73.17 318    P       P         09 07 38.1  -0.5
     comp=Z,1.7nm,0.8s,mb4.0,baz=58,slow=6.3,SNR=4.8
BR131 Keskin Array S 73.56 307   eP       P         09 07 42.2 +1.3
     comp=Z,1.2nm,0.6s,mb4.0
BRTR  Keskin Array B 73.56 307    P       P         09 07 42.2 +1.3
     comp=Z,2.6nm,0.8s,mb4.2,baz=100,slow=6.8,SNR=14
NB2   NORSAR Subarra 78.42 332    P       P         09 08 07.8  -0.8
     comp=Z,2.4nm,0.9s,mb4.1,baz=62,slow=5.6
NOA   NORSAR Array B 78.42 332    P       P         09 08 07.7  -0.9
     comp=Z,1.1nm,0.8s,mb3.8,baz=59,slow=5.5,SNR=3.8
YKA   Yellowknife Ar 82.72  23    P       P         09 08 30.5  -1.2
     comp=Z,0.8nm,0.6s,mb4.0,baz=310,slow=5.0,SNR=42
GERES GERESS Array B 83.13 321    P       P         09 08 33.1  -0.7
     comp=Z,0.8nm,0.8s,mb3.8,baz=39,slow=0.9,SNR=5.1
SDV   Santo Domingo  144.93  22   PKP     PKPdf     09 15 44.9  -0.1
     comp=Z,13nm,0.7s,baz=343,slow=2.2,SNR=20
SDV   Santo Domingo  144.93  22  ePKPdf   PKPdf     09 15 44.9  -0.2
```

ISCJB ***28*** *09:02:59.7±0.7, 4306N±004×7491E±004, h5km±6km, Error ellipse: s-maj=6.4km s-min=4.7km az=31.1*
NNC ***28*** *09:02:59.6±1.0, 4330N×7511E, h0km, mb2.8, mpv2.2, Error ellipse: s-maj=16.1km s-min=2.6km az=29.0*
KNET ***28*** *09:02:59.2±0.4, 4303N×7489E, h15km±2km, ml2.0, Error ellipse: s-maj=3.3km s-min=2.1km az=14.0*

ISC 28 09:02:59.8±0.7, 4307N±004×7491E±004, h10km±6km, n12, σ0§50/24, 18C-4D, Central Kazakhstan

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Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
CHMS  Chumysh        0.13 239 ⇑P        Pg        09 03 02.4  -0.5
     106nm,0.1s,SNR=176
CHMS                               ⇑S      Sg        09 03 04.4  -0.6
     408nm,0.2s
USP   Ospenovka      0.36 304    P       Pg        09 03 07.3 +0.4
     78nm,0.1s,SNR=51
USP                                ⇑S      Sg        09 03 12.6 +0.9
     128nm,0.2s
KBK   Karagaybulak   0.41 176    P       Pg        09 03 08.0 +0.1
     152nm,0.2s,SNR=96
KBK                                ⇑S      Sg        09 03 14.1 +0.7
     639nm,0.4s
TKM2  Tokmak 2       0.53 106 ⇑P        Pg        09 03 09.9  -0.1
     19nm,0.2s,SNR=41
TKM2                               ⇑S      Sg        09 03 17.1 +0.2
     61nm,0.2s
TKM2  Tokmak 2       0.53 106 ⇑P        Pg        09 03 09.8  -0.2
     2.1nm,0.6s
TKM2                               ⇓S      Sg        09 03 17.2 +0.3
     1.3nm,0.3s
AAK   Ala-Archa      0.53 215 ⇑P        Pg        09 03 09.9  -0.2
     30nm,0.2s,SNR=42
AAK                                ⇑S      Sg        09 03 17.0  -0.1
     76nm,0.3s
UCH   Uchtor         0.89 199 ⇑P        Pg        09 03 16.5  -0.4
     7.6nm,0.2s,SNR=54
UCH                                ⇑S      Sg        09 03 28.2  -0.2
     14nm,0.3s
EKS2  Erkin-Say      0.93 244    P       Pg        09 03 17.5  -0.1
     11nm,0.1s,SNR=25
EKS2                               ⇑S      Sg        09 03 30.5 +0.9
     19nm,0.2s
KZA   Kyzart         1.02 166 ⇑P        Pg        09 03 19.2  -0.2
     13nm,0.2s,SNR=39
KZA                                ⇓S      Sg        09 03 33.3 +0.6
     16nm,0.2s
ULHL  Ulahol         1.28 129 ⇑P        Pn        09 03 23.5  -0.3
     4.6nm,0.2s,SNR=18
AML   Almayashu      1.29 224 ⇑P        Pn        09 03 24.0  0.0
     7.9nm,0.3s,SNR=15
AML                                ⇓S      Sb        09 03 41.0 +0.1
     20nm,0.3s
KK31  Karatay Array  3.22 272 ⇑Pn       Pn        09 03 56.9 +6.4
     0.4nm,0.3s,baz=99,slow=17,SNR=17
KK31                               ⇑Pg     Pg        09 04 00.5  -1.1
     0.4nm,0.2s,baz=150,slow=26,SNR=4.7
KK31                               ⇓Sn     Sn        09 04 40.5  +12
     1.0nm,0.3s,baz=88,slow=29,SNR=5.8
KK31                               ⇑Lg     09 04 47.2
     2.3nm,0.3s,baz=85,slow=25,SNR=3.4
```

IDC 28 09:03:28.7±1.4, 2762S×17955W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.8/12, mbtmp3.7/4, ML4.4/1, Error ellipse: s-maj=44.8km s-min=23.8km az=26.0, Kermadec Islands region

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Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
RAO   Raoul Island   2.17 139    Pn      Pn        09 04 04.4  -1.7
     116nm,0.3s,baz=87,slow=21,SNR=2.9
RAO                                Sn      Sn        09 04 36.5 +2.9
     289nm,0.3s,baz=73,slow=23,SNR=19
ASAR  Alice Springs  41.96 265    P       P         09 11 21.1  -0.2
     0.2nm,0.4s,baz=101,slow=8.2,SNR=4.1
WRA   Warramunga Arr 42.69 270    P       P         09 11 27.7 +0.5
     0.7nm,0.7s,baz=106,slow=7.7,SNR=9.0
NVAR  Mina Array Bea 87.15  44    P       P         09 16 17.5 +0.9
     0.9nm,0.8s,baz=196,slow=8.8,SNR=4.6
```

IDC 28 09:11:49.0±3.6, 696N×9432E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=147.2km s-min=27.4km az=63.0, Nicobar Islands region

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Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
PBA   Port Blair     4.92 342    eP      Pn        09 12 23.6  -41
PBA                                eS      Sn        09 13 07.6  -54
PBA                                ex      x         09 13 57.9
     comp=E,183nm,0.8s
PBA                                ex      x         09 13 59.7
     comp=N,171nm,0.5s
MKAR  Makanchi Array 41.01 347    P       P         09 19 33.0  -0.7
     comp=N,1.1nm,1.0s,baz=163,slow=9.9,SNR=4.3
SONM  Songino Array  42.01  12    P       P         09 19 42.0  0.0
     comp=N,0.8nm,1.0s,baz=197,slow=4.5,SNR=3.7
ZAL   Zalesovo       47.47 352    P       P         09 20 26.3 +0.8
     comp=N,0.6nm,0.3s,baz=261,slow=2.8,SNR=3.9
ASAR  Alice Springs  49.20 129    P       P         09 20 39.2 +0.4
     comp=N,0.5nm,0.5s,baz=306,slow=6.6,SNR=9.2
```

MEX 28 09:13:57.1±0.8, 1622N×9559W, h60km±13km, MD4.2, 1D, Oaxaca

```
Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
HUIG  Huatulco       0.67 228    eP      Pn        09 14 08.9  -2.0
HUIG                               i S     Sn        09 14 20.3  -0.8
CMIG  Matias Romero  1.10  38    eP      Pn        09 14 14.8  -1.6
CMIG                               i S     Sn        09 14 29.4  -1.4
OXX   Oaxaca         1.38 308    i P     Pn        09 14 18.5  -1.7
OXX                                i S     Sn        09 14 35.7  -1.8
VHO   Vista Hermosa  1.38 308 ⇓i/P         Pn        09 14 18.7  -1.5
VHO                                i S     Sn        09 14 34.8  -2.7
TUIG  Tuzandepetl    2.12  32    i P     Pn        09 14 28.9  -1.3
TUIG                               i S     Sn        09 14 53.7  -1.7
PNIG  Pinotepa       2.44 274    eP      Pn        09 14 33.6  -1.0
PNIG                               i S     Sn        09 15 01.6  -1.5
UTMO  Huajuapan      2.65 307    eP      Pn        09 14 38.1 +0.7
UTMO                               i S     Sn        09 15 08.5 +0.1
TPIG  Tehuac#an      2.76 323    eP      Pn        09 14 38.7  -0.2
TPIG                               i S     Sn        09 15 10.3  -0.8
CCIG  Comitan        3.32  88    eP      Pn        09 14 47.7 +1.1
CCIG                               i S     Sn        09 15 23.7  -1.0
PPM   Popocatepetl   4.05 315    eP      Pn        09 14 57.5 +1.0
PPM                                i S     Sn        09 15 43.0 +0.5
ACX   Acapulco       4.20 279    eP      Pn        09 14 57.0  -1.5
MEIG  Mezcala        4.21 294    eP      Pn        09 14 58.4  -0.3
MEIG                               i S     Sn        09 15 45.2  -1.4
PLIG  Platanillo     4.31 301    i S     Sn        09 15 48.5  -0.7
```

IDC 28 10:14:28.5±13.0, 282S×6821E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=432.6km s-min=37.5km az=69.0, Carlsberg Ridge

```
Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
MKAR  Makanchi Array 50.94  12    P       P         10 23 31.6  0.0
     0.2nm,0.7s,baz=198,slow=7.4,SNR=2.3
SONM  Songino Array  60.47  29    P       P         10 24 40.3 +0.2
     1.7nm,1.0s,baz=241,slow=6.7,SNR=5.0
ASAR  Alice Springs  66.65 114    P       P         10 25 21.6 +0.7
     1.0nm,1.1s,baz=286,slow=8.6,SNR=4.1
```

BJI ***28*** *10:16:34.6, 4125S×6806E, h20km, mB5.0, mb4.6, Ms4.7, Msz4.6*
ISCJB ***28*** *10:16:37.6±0.4, 352S±007×6838E±007, h10km, mb4.5/33, MS3.9/7, Error ellipse: s-maj=10.3km s-min=8.9km az=101.0*
IDC ***28*** *10:16:38.0±0.7, 3455S×6835E, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.1/23, mbtmp4.1/15, MS3.8/6, Ms1 3.8/6, ms1mx3.5/28, Error ellipse: s-maj=20.4km s-min=17.5km az=176.0*
MOS ***28*** *10:16:37.6±1.0, 3445S×6838E, h10km, mb4.6/10, Error ellipse: s-maj=14.1km s-min=11.9km az=99.9*
NEIC ***28*** *10:16:41.1±0.4, 3535S×6840E, mb4.5/9, Error ellipse: s-maj=11.2km s-min=10.4km az=140.0*

ISC 28 10:16:39.9±0.4, 352S±007×6838E±007, h10km, (h21km±.5km: pP-P), n67, σ1§14/52, mb4.5/33, MS3.9/7, 2C, Chagos Archipelago region

```
Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                   Op      ISC       h m s     ISC
DGAR  Diego Garcia   5.60 134    ePn     Pn        10 18 03.4 +0.3
PSI   Prapat        31.16  79    LR      LR        10 32 56.1
     comp=Z,192nm,21.4s,MS3.7,baz=222,slow=31
KMBO  Kilima Mbogo  31.19 274    P       P         10 22 58.5  -0.7
     0.8nm,0.7s,mb3.7,baz=104,slow=8.3,SNR=3.8
KOLN  Koldanda      34.40  24    eP      P         10 23 28.0 +0.8
DMN   Daman         34.90  27    eP      P         10 23 32.9 +1.3
     26nm,0.9s,mb5.2
GKN   Gorkha        35.04  26    eP      P         10 23 34.1 +1.4
     36nm,1.0s,mb5.3
KKN   Kakani        35.13  27    eP      P         10 23 35.0 +1.4
     28nm,0.8s,mb5.2
JIRN  Jiri          35.44  28    eP      P         10 23 37.8 +1.6
     13nm,0.8s,mb4.9
GUN   Gumba         35.51  27    eP      P         10 23 38.5 +1.7
     55nm,0.9s,mb5.5
LSZ   Lusaka        41.25 251    P       P         10 24 25.9 +0.8
     5.8nm,0.8s,mb4.2,baz=71,slow=7.6,SNR=5.3
LSZ                                LR      LR        10 38 52.4
     comp=Z,190nm,18.2s,MS4.0,baz=116,slow=32
LSZ   Lusaka        41.25 251    eP      P         10 24 25.8 +0.7
     5.1nm,1.0s,mb4.1
LSZ                                epP     pP        10 24 32.1 +3.8
LSZ   Lusaka        41.25 251    eP      P         10 24 25.8 +0.7
LSZ                                e*PP    pP        10 24 32.1 +3.9
LSZ                                pmax    pmax
     comp=Z,5.0nm,1.0s,mb4.1
KMI   Kunming       43.85  48    P       P         10 24 44.5  -1.7
KMI                                AMB     AMB
     comp=Z,9.0nm,1.0s,mb4.5
LBTB  Lobatse       46.35 238    eP      P         10 25 07.9 +1.8
     comp=Z,14nm,1.2s,mb4.8
LBTB  Lobatse       46.35 238    eP      P         10 25 07.9 +1.8
LBTB                               pmax    pmax
     comp=Z,13nm,1.2s,mb4.7
QIZ   Qiongzhong    46.54  60    eP      P         10 25 06.0  -1.6
BOSA  Boshof        47.97 234    P       P         10 25 19.4 +0.7
     comp=Z,3.8nm,0.8s,mb4.5,baz=180,slow=15,SNR=5.4
BOSA  Boshof        47.97 234    eP      P         10 25 19.2 +0.5
     comp=Z,3.7nm,0.8s,mb4.5
BOSA  Boshof        47.97 234    eP      P         10 25 19.2 +0.5
BOSA                               pmax    pmax
     comp=Z,4.0nm,0.8s,mb4.5
CD2   Chengdu       48.06  42    eP      P         10 25 19.5  0.0
CD2                                AMB     AMB
     comp=Z,10.0nm,0.8s,mb4.9
GNI   Garni         48.57 336    LR      LR        10 45 32.1
     comp=Z,54nm,18.8s,MS3.6,baz=346,slow=36
MALT  Malatya       50.01 329    eP      P         10 25 35.5 +1.1
     comp=Z,1.6nm,0.6s,mb4.2
MALT                               epP     pP        10 25 41.6 +4.0
MALT  Malatya       50.01 329    eP      P         10 25 35.5 +1.1
MALT                               e*PP    pP        10 25 41.6 +4.0
MALT                               pmax    pmax
     comp=Z,2.0nm,0.6s,mb4.3
MKAR  Makanchi Array 51.59  12    P       P         10 25 45.5  -0.8
     comp=Z,1.2nm,0.7s,mb3.9,baz=197,slow=7.5,SNR=14
GTA   Gaotai        51.60  31    eP      P         10 25 47.3 +0.9
GTA                                AP      pP        10 25 52.8 +3.3
GTA                                XP      sP        10 25 56.3 +5.5
GTA                                AMB     AMB
     comp=Z,3.0nm,1.6s,mb4.0
GTA                                AMB     AMB
     comp=Z,130nm,5.7s
GTA                                LR      LR
     comp=N,190nm,22.1s,MS4.2
GTA                                LR      LR
     comp=E,155nm,18.6s,MS4.2
GTA                                LR      LR
     comp=Z,178nm,22.0s,MS4.0
BRTR  Keskin Array B 53.58 327    P       P         10 26 00.9  -0.1
     comp=Z,0.8nm,0.6s,mb3.8,baz=146,slow=12,SNR=6.4
AKTK  Aktyubinsk    54.48 352    P       P         10 26 06.5  -1.1
AKTO  Aktyubinsk    54.48 352    P       P         10 26 06.5  -1.1
     comp=Z,1.5nm,0.7s,mb4.0,baz=171,slow=9.3,SNR=7.7
KURK  Kurchatov     54.74  8     eP      P         10 26 08.2  -1.3
     comp=Z,4.6nm,0.9s,mb4.5
KURK                               epP     pP        10 26 14.2 +1.5
KURK  Kurchatov     54.74  8     eP      P         10 26 08.2  -1.3
KURK                               e*PP    pP        10 26 14.2 +1.5
```

KURK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ZRNK Zerenda 56.27 0 *eP* **P 10 26 19.8 -0.8**
comp=Z,7.5nm,1.4s,mb4.5
ZRNK *e*pP pP 10 26 25.6 +1.9
ZRNK Zerenda 56.27 0 *eP* **P 10 26 19.8 -0.7**
ZRNK *e**PP pP 10 26 25.6 +1.9
ZRNK pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
CHKZ Chkalovo 57.02 2 *eP* **P 10 26 25.2 -0.7**
comp=Z,1.3nm,0.7s,mb4.1
CHKZ *e*pP pP 10 26 31.5 +2.5
CHKZ Chkalovo 57.02 2 *eP* **P 10 26 25.2 -0.7**
CHKZ *e**PP pP 10 26 31.5 +2.4
CHKZ pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
FITZ Fitzroy Crossi 57.84 109 LR LR 10 48 16.0
comp=Z,65nm,18.9s,MS3.8,baz=353,slow=33
ZAL Zalesovo 58.88 11 P **P 10 26 38.0 -0.8**
comp=Z,1.9nm,0.5s,mb4.4,baz=237,slow=6.4,SNR=7.6
HHC Hu-ho-hao-te 59.18 37 *eP* **P 10 26 46.0 +5.0**
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,74nm,3.9s
NJ2 Nanjing 59.52 49 *eP* **P 10 26 44.5 +1.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
SONM Songino Array 61.01 28 P **P 10 26 54.3 +0.8**
comp=Z,3.5nm,0.8s,mb4.5,baz=221,slow=6.7,SNR=28
ZAK Zakamensk 61.50 25 *eP* **P 10 26 56.1 -0.7**
ZAK pmax pmax
comp=Z,8.0nm,1.8s,mb4.5
MLR Muntele Rosu 61.66 327 P **P 10 26 55.8 -2.1**
comp=Z,1.5nm,0.7s,mb4.2,baz=300,slow=8.1,SNR=3.9
AKASG Malin Array Be 63.57 333 P **P 10 27 08.8 -1.9**
comp=Z,0.4nm,0.4s,mb3.8,baz=139,slow=5.4,SNR=4.8
ASAR Alice Springs 66.20 114 P **P 10 27 28.0 +0.2**
comp=Z,1.8nm,1.0s,mb4.0,baz=285,slow=5.9,SNR=7.9
WRA Warramunga Arr 66.22 110 P **P 10 27 28.7 +0.8**
comp=Z,3.5nm,1.0s,mb4.3,baz=280,slow=6.1,SNR=12
WRAB Tennant Creek 66.22 110 *eP* **P 10 27 25.4 -2.6**
comp=Z,12nm,1.1s,mb4.8
WRAB Tennant Creek 66.22 110 *eP* **P 10 27 25.4 -2.6**
WRAB pmax pmax
comp=Z,12nm,1.1s,mb4.8
CIT Chita 67.24 28 *eP* **P 10 27 34.9 +0.4**
SYO Syowa Base 68.15 191⇑*eP* **P 10 27 38.4 -1.8**
SYO Syowa Base 68.15 191⇑*e*pP pP 10 27 43.6 +0.1
TORD Torodi Ar. Bea 68.22 286 P **P 10 27 41.0 +0.4**
comp=Z,0.7nm,0.9s,mb3.7,baz=31,slow=3.5,SNR=5.2
MDJ Mudanjiang 72.51 41 P **P 10 28 05.8 -1.0**
MDJ AP pP 10 28 11.8 +1.7
MDJ XP sP 10 28 14.3 +3.0
MDJ PCP PcP 10 28 23.5 -1.0
MDJ PP PP 10 30 47.3 -0.7
MDJ AMB AMB
comp=Z,10.0nm,2.5s,mb4.3
MDJ AMB AMB
comp=Z,59nm,3.0s
DBIC Dimbokro 73.81 278 P **P 10 28 15.2 +0.6**
comp=Z,4.3nm,0.8s,mb4.4,baz=93,slow=5.7,SNR=4.7
DBIC Dimbokro 73.81 278 *eP* **P 10 28 14.8 +0.3**
comp=Z,6.1nm,0.8s,mb4.6
DBIC Dimbokro 73.81 278 *eP* **P 10 28 14.8 +0.3**
DBIC pmax pmax
comp=Z,6.0nm,0.8s
CTA Charters Tower 77.41 110 LR LR 11 00 02.9
comp=Z,88nm,18.8s,MS4.1,baz=36,slow=34
ARCES ARCESS Array B 78.46 346 LR LR 11 05 50.1
comp=Z,62nm,18.3s,MS4.0,baz=13,slow=38
ESDC Sonseca Array 78.77 311 P **P 10 28 43.3 +0.5**
comp=Z,0.3nm,0.3s,mb3.7,baz=101,slow=4.8,SNR=8.3
ESLA Sonseca Array 78.77 311 *eP* **P 10 28 43.8 +1.1**
PMR Palmer 115.61 19 *e*Pdif Pdif 10 31 31.7 -3.0
SML Sawmill 115.70 18 *e*Pdif Pdif 10 31 34.3 -0.8
YKA Yellowknife Ar 121.12 2 PKP PKPdf 10 35 30.3 -2.6
comp=Z,0.3nm,0.7s,baz=350,slow=2.3,SNR=8.5
YBH Yreka Blue Hor 140.68 13 PKP PKPdf 10 36 10.9 +1.1
comp=Z,2.5nm,0.9s,baz=297,slow=8.5,SNR=3.1
PDAR Pinedale Array 140.88 358 PKP PKPdf 10 36 10.0 -0.1
comp=Z,0.5nm,0.6s,baz=82,slow=2.2,SNR=4.2
NVAR Mina Array Bea 144.73 9 PKP PKPdf 10 36 17.9 +1.0
comp=Z,0.9nm,0.7s,baz=28,slow=3.3,SNR=6.3
MSU Marysvale 145.17 1 *e*PKPdf PKPdf 10 36 19.1 +1.5
PV01 Paradox Valley 145.44 356 *e*PKPdf PKPdf 10 36 19.1 +1.0
OTAV Otavalo 146.70 265 *e*PKPbc PKPbc 10 36 24.3 +2.3

CSEM ***28*** *10:20:11.5±1.1, 7249N×283E, h10km, ML2.9, Error ellipse: s-maj=32.8km s-min=10.4km az=61.0*
ISCJB ***28*** *10:20:12.6±1.2, 7274N±005×48E±03, h10km, mb3.3/1, Error ellipse: s-maj=13.1km s-min=7.0km az=148.0*
BER ***28*** *10:20:13.3±1.4, 7257N×335E, h10km, ML1.9, ML2.9(NAO)*
NAO ***28*** *10:20:14.7±5.6, 7273N×439E, ML2.9*
IDC ***28*** *10:20:17.6±6.2, 7212N×453E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.3/22, mbtmp3.6/4, ML3.0/3, MS2.6/1, Ms1 2.6/1, ms1mx2.4/28, Error ellipse: s-maj=80.1km s-min=29.2km az=153.0*
ISC 28 10:20:13.9±1.1, 7269N±005×44E±03, h10km, n8, σ1§13/13, mb3.3/1, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**6.26**	**23**		Pn	**Pn**	**10 21 47.4**	**+1.1**
	baz=221,slow=16							
SPA0					Sn	**Sn**	**10 22 57.5**	**-0.4**
	baz=219,slow=18							
KBS	**Kingsbay**	**6.53**	**13**	*e*P	**Pn**	**10 21 49.1**	**-0.8**
KBS				*e*S	**Sn**	**10 22 59.3**	**-5.0**
KBS				AML	AML	10 23 02.2	
	comp=N,2.0nm,0.5s						
KBS	**Kingsbay**	**6.53**	**13**	Pn	**Pn**	**10 21 49.0**	**-0.9**
KBS				Sn	**Sn**	**10 23 03.9**	**-0.5**
ARA0	**ARCESS Array S**	**7.51**	**105**	Pn	**Pn**	**10 22 05.3**	**+1.9**
	baz=310,slow=12						
ARA0				Sn	**Sn**	**10 23 27.8**	**-0.8**
	baz=302,slow=22						
ARCES	**ARCESS Array B**	**7.51**	**105**	Pn	**Pn**	**10 22 05.7**	**+2.2**
	comp=N,0.5nm,0.3s,baz=313,slow=12,SNR=16						
ARCES				Sn	**Sn**	**10 23 27.7**	**-0.9**
	comp=N,0.6nm,0.3s,baz=298,slow=21,SNR=4.1						
ARCES				LR	LR	10 24 33.4	
	comp=N,49nm,21.0s,baz=342,slow=35						
HFS	**Hagfors**	**13.12**	**159**	Pn	**Pn**	**10 23 19.1**	**-1.1**
	comp=N,0.2nm,0.3s,baz=4.5,slow=7.4,SNR=3.8						
FINES	**FINESS Array B**	**13.96**	**133**	Pn	**Pn**	**10 23 32.3**	**+0.5**
	comp=N,0.1nm,0.3s,baz=337,slow=14,SNR=3.5						
GERES	**GERESS Array B**	**24.29**	**165**	P	**P**	**10 25 30.7**	**-0.7**
	comp=N,0.9nm,0.7s,mb3.3,baz=359,slow=9.3,SNR=5.8						

NEIC ***28*** *10:25:55.9, 3657N×2804E, h27km, MD3.3(ATH), After ATH.*
ISCJB ***28*** *10:25:55.7±0.4, 3650N±002×2806E±004, h10km, Error ellipse: s-maj=4.2km s-min=3.2km az=151.6*
ATH ***28*** *10:25:55.9, 3657N×2804E, h27km±2km, MD3.3/6*
ISK ***28*** *10:25:55.6, 3655N×2807E, h7km, MD3.2*
CSEM ***28*** *10:25:56.0±0.1, 3657N×2805E, h10km, MD3.3, Error ellipse: s-maj=2.1km s-min=1.7km az=79.0*
HLW ***28*** *10:26:05.8, 3597N×2835E, h23km, Mb3.3*
ISC 28 10:25:55.9±0.7, 3651N±003×2808E±004, h0km±6km, n29, σ1§07/43, 2C-5D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.29**	**172**	*e*PB	**Pg**		**10 26 03.6**	**+2.1**
ARG				*e*SB	**Sg**		**10 26 10.8**	**+5.5**
DAT	**Datca**	**0.46**	**299**	PG	**Pg**		**10 26 04.3**	**-0.4**
DAT				SG	**Sg**		**10 26 11.9**	**+1.2**
YER	**Yerkesik**	**0.65**	**15**	PG	**Pg**		**10 26 07.3**	**-1.0**
YER				SG	**Sg**		**10 26 17.4**	**+0.6**
NISR	**Nisiros**	**0.77**	**278**	*e*PN	**Pg**		**10 26 11.5**	**+0.8**
MLSB	**Milas**	**0.82**	**343**	PG	**Pg**		**10 26 11.1**	**-0.6**
MLSB				SG	**Sg**		**10 26 22.1**	**-0.3**
BODT	**Bodrum**	**0.83**	**312**	PG	**Pg**		**10 26 11.5**	**-0.3**
BODT				SG	**Sg**		**10 26 22.8**	**+0.2**
AYDN	**Tasoluk**	**1.16**	**352**	*i* P	**Pg**		**10 26 17.0**	**-1.2**
AYDN				*i* S	**Sg**		**10 26 32.5**	**-0.8**
KARP	**Karpathos**	**1.21**	**218**	*e*PN	**Pn**		**10 26 19.8**	**-0.3**
KARP				*e*SN	**Sn**		**10 26 36.2**	**-1.0**
KSL	**Kastellorizon**	**1.27**	**106**	*e*PN	**Pn**		**10 26 20.5**	**-0.3**
GOLH	**Golhisar**	**1.40**	**58**	*i* P	**Pn**		**10 26 24.1**	**+1.5**
GOLH				*i* S	**Sg**		**10 26 41.0**	**+0.3**
DENT	**Denizli**	**1.46**	**31**	PN	**Pn**		**10 26 22.5**	**-1.0**
ELL	**Elmali**	**1.49**	**80**	*e*PN	**Pn**		**10 26 23.7**	**-0.2**
SMG	**Samos**	**1.56**	**321**	*e*PN	**Pn**		**10 26 22.7**	**-2.1**
IZM	**Izmir**	**2.00**	**341**	*e*PN	**Pn**		**10 26 30.2**	**-0.7**
KDAG	**Bornova**	**2.00**	**341**	*i* P	**Pn**		**10 26 32.5**	**+1.6**
KDAG				*i* S	**Sn**		**10 26 57.5**	**+0.9**
KDAG	**Bornova**	**2.00**	**341**	*i* S	**Sn**		**10 26 57.5**	**+0.9**
APE	**Apeiranthos**	**2.12**	**286**	*e*PN	**Pn**		**10 26 32.2**	**-0.4**
APE	**Apeiranthos**	**2.12**	**286**	*e*Pn	**Pn**		**10 26 30.8**	**-1.8**
URLA	**Izmir**	**2.19**	**328**	*i* P	**Pn**		**10 26 36.5**	**+2.9**
URLA				*i* S	**Sn**		**10 27 08.8**	**+7.4**
TKTP	**Tekketepe**	**2.35**	**49**	*i* P	**Pn**		**10 26 36.7**	**+0.9**
TKTP				*i* S	**Sn**		**10 27 08.4**	**+3.0**
HMAT	**Matruh**	**5.46**	**189**	⇓P	**Pn**		**10 27 18.6**	**+0.2**
HMAT	**Matruh**	**5.46**	**189**	P	**Pn**		**10 27 18.6**	**+0.1**
SLUM		**5.54**	**206**	P	**Pn**		**10 27 21.4**	**+1.8**
SLUM				S	**Sn**		**10 28 16.4**	**-7.5**
HSAF	**As Saff**	**7.46**	**156**	⇓P	**Pn**		**10 27 45.1**	**-0.9**
GLL	**Jalalah**	**7.55**	**155**	⇓P	**Pn**		**10 27 46.1**	**-1.1**
GLL				S	**Sn**		**10 28 60.0**	**-13**
SWA2		**7.57**	**198**	⇑P	**Pn**		**10 27 48.4**	**+0.9**
SWA2				S	**Sn**		**10 29 03.5**	**-10**
SUZ		**7.75**	**148**	⇑P	**Pn**		**10 27 49.2**	**-0.7**
HBST	**Basata**	**9.17**	**141**	⇓P	**Pn**		**10 28 09.2**	**-0.2**
TR2		**9.39**	**148**	⇓P	**Pn**		**10 28 11.7**	**-0.8**

BJI ***28*** *10:29:11.8, 405S×6741E, h21km, mB5.1, mb4.5, Ms4.5, Msz4.4*
ISCJB ***28*** *10:29:15.8±0.5, 354S±009×6823E±008, h10km, mb4.3/21, MS3.8/7, Error ellipse: s-maj=13.0km s-min=11.5km az=115.5*
IDC ***28*** *10:29:16.1±0.7, 355S×6826E, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/20, mbtmp4.0/12, MS3.9/6, Ms1 3.8/6, ms1mx3.4/24, Error ellipse: s-maj=22.2km s-min=18.2km az=5.0*
NEIC ***28*** *10:29:19.3±0.4, 359S×6826E, mb4.3/5, Error ellipse: s-maj=12.0km s-min=9.8km az=132.0*
ISC 28 10:29:18.4±0.5, 350S±009×6821E±008, h10km, (h23km±.9km:pP-P), n39, σ1§03/30, mb4.3/21, MS3.8/7, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.02**	**274**	P	**P**		**10 35 37.0**	**+0.9**
	0.9nm,0.6s,mb3.8,baz=206,slow=22,SNR=5.0							
KMBO				LR	LR		10 45 30.2	
	comp=Z,63nm,20.9s,MS3.3,baz=94,slow=31							
KOLN	**Koldanda**	**34.45**	**25**	*e*P	**P**		**10 36 06.5**	**+0.4**
DMN	**Daman**	**34.96**	**27**	*e*P	**P**		**10 36 11.0**	**+0.5**
	19nm,0.8s,mb5.1							
GKN	**Gorkha**	**35.09**	**26**	*e*P	**P**		**10 36 12.2**	**+0.5**
	34nm,1.1s,mb5.2							
KKN	**Kakani**	**35.19**	**27**	*e*P	**P**		**10 36 13.1**	**+0.6**
JIRN	**Jiri**	**35.50**	**28**	*e*P	**P**		**10 36 16.1**	**+0.9**
	16nm,1.0s,mb4.9							
GUN	**Gumba**	**35.57**	**28**	*e*P	**P**		**10 36 16.8**	**+1.0**
	26nm,0.8s,mb5.2							
LSZ	**Lusaka**	**41.10**	**251**	P	**P**		**10 37 03.7**	**+1.5**
	5.7nm,0.8s,mb4.3,baz=86,slow=7.4,SNR=5.9							
LSZ	**Lusaka**	**41.10**	**251**	*e*P	**P**		**10 37 03.3**	**+1.1**
	5.3nm,0.8s,mb4.2							
LSZ				*e*pP	pP		10 37 10.3	+4.9
BOSA	**Boshof**	**47.84**	**234**	P	**P**		**10 37 54.2**	**-2.0**
	3.3nm,0.7s,mb4.5,baz=61,slow=11,SNR=5.9							
BOSA				LR	LR		10 55 33.8	
	comp=Z,118nm,19.7s,MS3.9,baz=124,slow=33							
BOSA	**Boshof**	**47.84**	**234**	*e*P	**P**		**10 37 54.4**	**-1.8**
	2.8nm,0.7s,mb4.4							
MKAR	**Makanchi Array**	**51.60**	**12**	P	**P**		**10 38 23.8**	**-1.1**
	0.8nm,0.7s,mb3.7,baz=182,slow=7.3,SNR=6.3							
MKAR				LR	LR		11 00 39.5	
	comp=Z,78nm,19.3s,MS3.8,baz=187,slow=36							
MKAR	**Makanchi Array**	**51.60**	**12**	P	**P**		**10 38 23.8**	**-1.1**
MKAR				LR	LR		11 00 39.5	
SUR	**Sutherland**	**52.84**	**231**	LR	LR		10 57 29.3	
	comp=Z,195nm,20.5s,MS4.1,baz=11,slow=32							
BRTR	**Keskin Array B**	**53.47**	**327**	P	**P**		**10 38 38.9**	**+0.2**
	0.6nm,0.7s,mb3.7,baz=153,slow=9.7,SNR=4.9							
AKTK	**Aktyubinsk**	**54.44**	**352**	P	**P**		**10 38 44.4**	**-1.4**
AKTO	**Aktyubinsk**	**54.44**	**352**	P	**P**		**10 38 44.4**	**-1.4**
	0.9nm,0.7s,mb3.8,baz=171,slow=11,SNR=6.1							
KURK	**Kurchatov**	**54.74**	**8**	*e*P	**P**		**10 38 46.8**	**-1.2**
	1.9nm,0.8s,mb4.2							
ZRNK	**Zerenda**	**56.25**	**1**	*e*P	**P**		**10 38 58.1**	**-0.7**
ZRNK				*e*pP	pP		10 39 03.9	+1.9
CHKZ	**Chkalovo**	**57.01**	**2**	*e*P	**P**		**10 39 03.0**	**-1.2**
	1.1nm,0.6s,mb4.1							
CHKZ				*e*pP	pP		10 39 09.9	+2.5
ZAL	**Zalesovo**	**58.89**	**11**	LR	LR		11 04 23.8	
	comp=Z,88nm,20.9s,MS3.9,baz=266,slow=36							
NJ2	**Nanjing**	**59.64**	**50**	*e*P	**P**		**10 39 24.0**	**+1.4**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb5.1							
SONM	**Songino Array**	**61.07**	**28**	P	**P**		**10 39 33.0**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.5,baz=226,slow=6.6,SNR=30							
SONM				LR	LR		11 05 47.4	
	comp=Z,259nm,20.0s,MS4.4,baz=55,slow=36							
AKASG	**Malin Array Be**	**63.48**	**333**	P	**P**		**10 39 47.6**	**-0.9**
	comp=Z,0.5nm,0.4s,mb4.0,baz=134,slow=5.5,SNR=4.3							
ASAR	**Alice Springs**	**66.36**	**114**	P	**P**		**10 40 07.2**	**-0.1**
	comp=Z,1.5nm,0.9s,mb4.0,baz=274,slow=6.5,SNR=8.9							
WRA	**Warramunga Arr**	**66.38**	**110**	P	**P**		**10 40 07.3**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.2,baz=287,slow=5.8,SNR=20							
WRAB	**Tennant Creek**	**66.39**	**110**	*e*P	**P**		**10 40 07.3**	**-0.2**
WRAB				*e*pP	pP		10 40 13.8	+3.0
WB2	**Warramunga Arr**	**66.39**	**110**	*e*P	**P**		**10 40 08.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**68.05**	**286**	P	**P**		**10 40 19.2**	**+1.2**
	comp=Z,0.8nm,1.1s,mb3.6,baz=90,slow=7.2,SNR=3.3							
MDJ	**Mudanjiang**	**72.61**	**41**	P	**P**		**10 40 45.5**	**-0.4**
MDJ				AMB	AMB			
	comp=Z,8.0nm,1.5s,mb4.4							
MDJ				AMB	AMB			
	comp=Z,56nm,4.0s							
MDJ				LR	LR			
	comp=N,18nm,26.0s,MS3.4							
MDJ				LR	LR			
	comp=E,25nm,30.3s,MS3.4							
MDJ				LR	LR			
	comp=Z,37nm,28.2s,MS3.5							
STKA	**Stephens Creek**	**74.05**	**122**	P	**P**		**10 40 51.5**	**-3.0**
	comp=Z,1.6nm,0.7s,mb4.0,baz=321,slow=7.8,SNR=3.8							
ESDC	**Sonseca Array**	**78.62**	**311**	P	**P**		**10 41 21.8**	**+1.4**
	comp=Z,2.7nm,0.8s,mb4.2,baz=90,slow=5.8,SNR=7.2							
YKA	**Yellowknife Ar**	**121.11**	**2**	PKP	PKPdf		10 48 09.4	-1.9
	comp=Z,0.2nm,0.7s,baz=335,slow=2.3,SNR=7.5							
PDAR	**Pinedale Array**	**140.86**	**357**	PKP	PKPdf		10 48 47.8	-0.7
	comp=Z,0.1nm,2.1s,baz=82,slow=3.1,SNR=3.8							
NVAR	**Mina Array Bea**	**144.73**	**9**	PKP	PKPdf		10 48 55.9	+0.6
	comp=Z,0.9nm,0.8s,baz=27,slow=3.3,SNR=4.9							
MIAR	**Mount Ida**	**144.78**	**333**	*e*PKPdf	PKPdf		10 48 55.0	-0.4
MSU	**Marysvale**	**145.16**	**1**	*e*PKPdf	PKPdf		10 48 57.5	+1.4
PV01	**Paradox Valley**	**145.41**	**356**	*e*PKPdf	PKPdf		10 48 57.0	+0.4
OTAV	**Otavalo**	**146.53**	**265**	*e*PKPbc	PKPbc		10 49 01.7	+1.8

NEIC ***28*** *10:46:54.8±0.7, 180N×12755E, h30km, mb4.5/5, Error ellipse: s-maj=50.4km s-min=9.6km az=71.0*
ISCJB ***28*** *10:47:01.8±5.5, 17N±02×127.4E±04, h112km±55km, mb4.2/11, Error ellipse: s-maj=61.9km s-min=18.6km az=146.5*
IDC ***28*** *10:47:04.0±3.5, 162N×12750E, h118km±31km, mb3.9/7, mb1 4.0/8, mb1mx3.8/19, mbtmp4.3/8, MS3.6/1, Ms1 3.6/1, ms1mx2.5/27, Error ellipse: s-maj=76.9km s-min=13.6km az=69.0*
ISC 28 10:47:04.5±5.4, 17N±02×1276E±04, h125km±55km, n18, σ0§54/18, mb4.2/11, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.07**	**162**	*e*P	**Pn**		**10 50 30.1**	**-0.8**
	7.0nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.74**	**186**	*e*P	**P**		**10 51 24.9**	**+0.5**
	43nm,2.0s							
FITZ	**Fitzroy Crossi**	**19.74**	**186**	P	**P**		**10 51 24.5**	**+0.1**
	0.5nm,0.3s,baz=21,slow=15,SNR=11							
WRAB	**Tennant Creek**	**22.47**	**163**	*e*P	**P**		**10 51 53.6**	**+0.2**
	18nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**22.47**	**163**	P	**P**		**10 51 53.9**	**+0.4**
	10nm,0.4s,mb4.5,baz=341,slow=11,SNR=207							
WB2	**Warramunga Arr**	**22.48**	**163**⇑*i* P		**P**		**10 51 53.9**	**+0.4**
ASAR	**Alice Springs**	**25.92**	**167**	P	**P**		**10 52 25.6**	**+0.7**
	2.5nm,0.5s,mb3.9,baz=351,slow=7.1,SNR=75							
ASAR				ScP	ScP		10 59 19.1	+0.7
	0.3nm,1.0s,baz=350,slow=2.3,SNR=4.1							
KLBR	**Kellerberrin**	**34.37**	**195**	*e*P	**P**		**10 53 39.3**	**-0.1**
	91nm,1.8s,mb5.3							
STKA	**Stephens Creek**	**35.91**	**159**	*e*P	**P**		**10 53 51.9**	**-0.7**
	9.6nm,0.4s,mb5.1							
STKA	**Stephens Creek**	**35.91**	**159**	P	**P**		**10 53 52.0**	**-0.6**
	21nm,0.7s,mb5.2,baz=332,slow=8.8,SNR=62							
STKA	**Stephens Creek**	**35.91**	**159**	*e*P	**P**		**10 53 51.5**	**-1.1**
SONM	**Songino Array**	**49.51**	**341**	P	**P**		**10 55 43.3**	**+1.0**
	0.8nm,0.7s,mb3.8,baz=156,slow=9.8,SNR=4.4							
MKAR	**Makanchi Array**	**59.73**	**326**	P	**P**		**10 56 56.6**	**+0.6**
	1.8nm,0.4s,mb4.5,baz=115,slow=7.8,SNR=34							
MKAR				LR	LR		11 22 09.4	
	comp=Z,43nm,19.0s,baz=360,slow=35							
KURK	**Kurchatov**	**63.93**	**328**	*e*P	**P**		**10 57 23.9**	**-0.2**
	2.4nm,0.6s,mb4.2							
BVAR	**Borovoye Array**	**69.51**	**327**	P	**P**		**10 57 59.2**	**-0.3**
	0.3nm,0.4s,mb3.5,baz=126,slow=7.5,SNR=4.1							
ZRNK	**Zerenda**	**70.23**	**327**	*e*P	**P**		**10 58 03.4**	**-0.5**
	0.8nm,0.6s,mb3.7							
AKTK	**Aktyubinsk**	**75.80**	**322**	P	**P**		**10 58 36.3**	**-0.4**
AKTO	**Aktyubinsk**	**75.80**	**322**	P	**P**		**10 58 36.3**	**-0.4**
	0.7nm,0.4s,mb3.7,baz=135,slow=5.7,SNR=2.7							

MEX 28 10:59:58.8±1.3, 1645N×9928W, h17km±15km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.74**	**304**	*i* P		Pb	11 00 09.8	-3.5
ACX				*i* S		Sg	11 00 19.3	-3.8
PNIG	**Pinotepa**	**1.10**	**93**	*i* P		Pb	11 00 16.4	-3.0
PNIG				*i* S		Sb	11 00 28.8	-4.7
CAIG	**El Cayaco**	**1.12**	**302**	*e*P		Pn	11 00 16.8	-2.9
CAIG				*i* S		Sb	11 00 30.2	-3.9
MEIG	**Mezcala**	**1.50**	**347**	*i* P		Pn	11 00 21.4	-3.6
MEIG				*i* S		Sn	11 00 39.1	-5.2
PLIG	**Platanillo**	**1.94**	**354**	*e*P		Pn	11 00 29.5	-1.6
PLIG				*i* S		Sn	11 00 52.4	-2.7
UTMO	**Huajuapan**	**1.96**	**46**	*e*P		Pn	11 00 28.1	-3.2
UTMO				*i* S		Sn	11 00 51.5	-4.1
OXX	**Oaxaca**	**2.52**	**75**	*e*P		Pn	11 00 39.7	+0.7
PPM	**Popocatepetl**	**2.67**	**13**	*i* P		Pn	11 00 40.5	-0.6
TPIG	**Tehuac#an**	**2.68**	**43**	*e*P		Pn	11 00 41.4	+0.2
TPIG				*i* S		Sn	11 01 12.0	-1.2

MEX 28 11:00:24.4±0.7, 1548N×9338W, h40km±999km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.44**	**56**	*i* P		Pn	11 00 46.2	-1.7
CCIG				*i* S		Sn	11 01 03.1	-2.5
SCX	**San Cristobal**	**1.44**	**30**	*e*P		Pn	11 00 46.8	-1.2
SCX				*e*S		Sn	11 01 05.3	-0.3
CMIG	**Matias Romero**	**2.16**	**318**	*i* P		Pn	11 00 56.9	-1.0
CMIG				*i* S		Sn	11 01 20.7	-2.7

NNC 28 11:03:00.6±4.1, 3765N×7047E, h0km, mb3.2, mpv2.8, 5C-1D, Error ellipse: s-maj=35.5km s-min=25.8km az=10.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.44**	**0**	⇑Pn		Pn	11 04 26.8	+3.8
	1.5nm,0.3s,baz=178,slow=13,SNR=42							
KK31				⇑Sn		Sn	11 05 34.5	+8.2
	3.5nm,0.5s,baz=189,slow=26,SNR=4.2							
TKM2	**Tokmak 2**	**6.56**	**35**	⇑Pn		Pn	11 04 36.7	-1.6
	0.1nm,0.5s							
TKM2				⇓Sn		Sn	11 05 53.2	-0.6
	0.2nm,0.6s							
AB31	**Akbulak array**	**13.87**	**330**	⇑P		Pn	11 06 18.8	+0.3
	0.2nm,0.3s,baz=3.7,slow=27,SNR=18							
AB31				⇑S		Sn	11 08 53.4	+0.2
	0.4nm,0.5s,baz=154,slow=24,SNR=3.3							
AKTO	**Aktyubinsk**	**15.57**	**329**	P		Pn	11 06 42.9	+1.5

ISCJB ***28*** *11:33:06.1±1.4, 180S±02×1786W±02, h546km±22km, mb3.8/7, Error ellipse: s-maj=39.5km s-min=15.2km az=106.6*
IDC ***28*** *11:33:08.0±1.8, 1800S×17857W, h555km±24km, mb3.4/8, mb1 3.6/9, mb1mx3.5/16, mbtmp4.3/9, Error ellipse: s-maj=31.5km s-min=12.0km az=146.0*
ISC 28 11:33:07.5±1.4, 180S±02×1785W±02, h551km±20km, n12, σ0§95/12, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.64**	**59**	P		**P**	**11 35 01.2**	**-0.4**
	4.1nm,0.3s,baz=300,slow=1.9,SNR=11							
URZ	**Urewera**	**20.55**	**190**	P		**P**	**11 37 07.9**	**-0.4**
	5.5nm,0.5s,baz=133,slow=18,SNR=5.0							
STKA	**Stephens Creek**	**38.51**	**241**	*e*P		**P**	**11 39 42.9**	**+0.1**
	4.2nm,0.5s,mb4.2							
STKA	**Stephens Creek**	**38.

σ1§12/72, **mb3.6/9, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.31**	**230**	*e*PG	**Pg**	**12 13 53.7**	**+0.2**
SHGR	**Shooshtar-Gavs**	**0.31**	**230**	*e*Pg	**Pg**	**12 13 53.0**	**-0.6**
IPIR	**Pirpir**	**1.57**	**76**	*e*Pn	**Pn**	**12 14 14.8**	**-0.7**
IPIR				Sn	**Sn**	**12 14 37.1**	**+1.2**
IPIR	**Pirpir**	**1.57**	**76**	Pn	**Pn**	**12 14 13.8**	**-1.7**
IPIR				Sn	**Sn**	**12 14 37.1**	**+1.2**
IKLH	**Kalahroud**	**2.33**	**64**	*e*Pn	**Pn**	**12 14 26.6**	**+0.7**
IKLH				*e*Sn	**Sn**	**12 14 56.0**	**+1.4**
IKLH	**Kalahroud**	**2.33**	**64**	Pn	**Pn**	**12 14 26.8**	**+0.9**
IKLH				Sn	**Sn**	**12 14 56.0**	**+1.4**
ASAO	**Ashtian**	**2.37**	**19**	*e*PN	**Pn**	**12 14 27.9**	**+1.4**
ASAO				*e*SG	**Sg**	**12 15 02.8**	**-0.8**
ASAO				AML	AML	12 15 11.2	
	comp=E,214nm,0.7s						
ASAO				AML	AML	12 15 13.7	
	comp=N,213nm,0.7s						
ASAO	**Ashtian**	**2.37**	**19**	*e*Pn	**Pn**	**12 14 27.9**	**+1.5**
	SNR=52						
ASAO				*e*Sg	**Sg**	**12 15 02.8**	**-0.8**
	SNR=91						
ASAO	**Ashtian**	**2.37**	**19**	*e*Pn	**Pn**	**12 14 27.0**	**+0.6**
ASAO				*e*Sg	**Sg**	**12 15 03.0**	**-0.6**
IGAR	**Garneh**	**2.64**	**91**	*e*Pn	**Pn**	**12 14 28.5**	**-1.6**
IZEF	**Zefreh**	**2.80**	**77**	*e*Pn	**Pn**	**12 14 32.4**	**0.0**
IZEF	**Zefreh**	**2.80**	**77**	Pn	**Pn**	**12 14 32.7**	**+0.3**
MIB	**Mutribah**	**2.91**	**211**	*e*P	**Pn**	**12 14 34.5**	**+0.6**
MIB				AML	AML	12 15 24.9	
	comp=Z,93nm,0.5s						
UMR	**Umm Al-Rimmam**	**2.99**	**204**	*e*P	**Pn**	**12 14 34.7**	**-0.2**
UMR				AML	AML	12 15 24.3	
	comp=Z,95nm,0.3s						
SNGE	**Sanandaj**	**3.13**	**333**	*e*PN	**Pn**	**12 14 38.7**	**+1.8**
SNGE				AML	AML	12 15 34.3	
	comp=N,174nm,0.4s						
SNGE				AML	AML	12 15 43.3	
	comp=E,156nm,0.6s						
SNGE	**Sanandaj**	**3.13**	**333**	*e*Pn	**Pn**	**12 14 38.0**	**+1.1**
IRAZ	**Razeghan**	**3.17**	**13**	*e*Sn	**Sn**	**12 15 16.4**	**+1.1**
NASN	**Na'in**	**3.18**	**80**	*e*PN	**Pn**	**12 14 38.2**	**+0.6**
NASN				*e*SG	**Sg**	**12 15 24.2**	**-5.5**
NASN	**Na'in**	**3.18**	**80**	*e*Pn	**Pn**	**12 14 38.0**	**+0.4**
IDHR	**Dehrash**	**3.28**	**317**	*e*Pn	**Pn**	**12 14 40.6**	**+1.6**
IDHR				Sn	**Sn**	**12 15 18.7**	**+0.6**
IDHR	**Dehrash**	**3.28**	**317**	Pn	**Pn**	**12 14 39.8**	**+0.8**
IDHR				Sn	**Sn**	**12 15 18.7**	**+0.6**
KBD	**Kabd**	**3.34**	**201**	*e*P	**Pn**	**12 14 39.9**	**+0.1**
KBD				*e*S	**Sn**	**12 15 20.1**	**+0.6**
KBD				AML	AML	12 15 21.7	
	comp=Z,209nm,0.3s						
KBD	**Kabd**	**3.34**	**201**	*e*P	**Pn**	**12 14 39.9**	**+0.1**
KBD				*e*S	**Sn**	**12 15 20.1**	**+0.5**
NAY	**Al-Naaiem**	**3.44**	**208**	*e*P	**Pn**	**12 14 41.3**	**+0.2**
NAY				*e*S	**Sn**	**12 15 23.0**	**+1.1**
NAY				AML	AML	12 15 26.0	
	comp=Z,39nm,0.4s						
NAY	**Al-Naaiem**	**3.44**	**208**	*e*P	**Pn**	**12 14 41.3**	**+0.2**
NAY				*e*S	**Sn**	**12 15 23.0**	**+1.1**
IVRN	**Varamin**	**3.47**	**39**	*e*Pn	**Pn**	**12 14 42.2**	**+0.6**
IVRN	**Varamin**	**3.47**	**39**	Pn	**Pn**	**12 14 42.6**	**+1.0**
RDF	**Al-Radifah**	**3.62**	**202**	*e*P	**Pn**	**12 14 44.0**	**+0.4**
RDF				AML	AML	12 15 28.2	
	comp=Z,88nm,0.2s						
QRN	**Al-Qurain**	**3.69**	**196**	*e*P	**Pn**	**12 14 44.7**	**+0.1**
QRN				AML	AML	12 15 26.6	
	comp=Z,40nm,0.3s						
QRN				*e*S	**Sn**	**12 15 28.6**	**+0.4**
CHTH	**Charan**	**3.97**	**25**	*e*Pn	**Pn**	**12 14 49.2**	**+0.8**
CHTH	**Charan**	**3.97**	**25**	*e*Pn	**Pn**	**12 14 49.2**	**+0.8**
	SNR=52						
BHD	**Baghdad**	**4.08**	**285**	*e*x	x	12 15 02.0	
BHD				*e*x	x	12 15 50.0	
DAMV	**Damavand**	**4.09**	**35**	*e*Pn	**Pn**	**12 14 50.8**	**+0.7**
IAFJ	**Afjeh**	**4.16**	**31**	*e*Pn	**Pn**	**12 14 51.9**	**+0.9**
IAFJ	**Afjeh**	**4.16**	**31**	Pn	**Pn**	**12 14 51.8**	**+0.8**
ILAS	**Lasjerd**	**4.45**	**45**	Pn	**Pn**	**12 14 55.8**	**+0.8**
IFIR	**Firoozkooh**	**4.51**	**42**	Pn	**Pn**	**12 14 56.5**	**+0.6**
IFIR				*e*Sn	**Sn**	**12 15 47.7**	**-0.7**
IPRN	**Paran-Amol**	**4.72**	**33**	Pn	**Pn**	**12 14 59.9**	**+1.2**
ISHM	**Shahmirzad**	**4.94**	**44**	Pn	**Pn**	**12 15 02.5**	**+0.8**
IANJ	**Anjiloo**	**5.11**	**51**	*e*Pn	**Pn**	**12 15 03.7**	**-0.3**
GHIR	**Ghir-Karzin**	**5.24**	**139**	*e*PN	**Pn**	**12 15 05.1**	**-0.7**
GHIR				AML	AML	12 16 22.3	
	comp=E,28nm,0.3s						
GHIR				AML	AML	12 16 44.7	
	comp=N,26nm,0.7s						
IGLO	**Galoogah**	**5.41**	**41**	Pn	**Pn**	**12 15 13.5**	**+5.3**
IKIA	**Kiasar**	**5.44**	**43**	Pn	**Pn**	**12 15 09.5**	**+0.8**
IAZR	**Azarshahr**	**5.93**	**335**	Pn	**Pn**	**12 15 16.6**	**+1.2**
BR131	**Keskin Array S**	**14.52**	**305**	Pn	**Pn**	**12 17 17.3**	**+4.4**
BRTR	**Keskin Array B**	**14.52**	**305**	Pn	**Pn**	**12 17 11.6**	**-1.3**
	baz=126,slow=14,SNR=1.4						
AKTK	**Aktyubinsk**	**19.29**	**17**	P	**Pn**	**12 18 11.5**	**-1.9**
AKTO	**Aktyubinsk**	**19.29**	**17**	P	**Pn**	**12 18 11.5**	**-1.9**
	comp=N,0.1nm,0.3s,baz=219,slow=14,SNR=2.6						
ZRNK	**Zerenda**	**25.15**	**29**	P	**P**	**12 19 10.1**	**-2.7**
	comp=N,1.0nm,0.7s,mb3.5						
BVAR	**Borovoye Array**	**25.78**	**30**	P	**P**	**12 19 16.8**	**-1.7**
	comp=N,0.5nm,0.5s,mb3.4,baz=232,slow=7.3,SNR=4.8						
MKAR	**Makanchi Array**	**29.16**	**51**	P	**P**	**12 19 48.1**	**-0.7**
	comp=N,0.5nm,0.6s,mb3.4,baz=246,slow=8.9,SNR=5.2						
FINES	**FINESS Array B**	**32.76**	**340**	P	**P**	**12 20 18.4**	**-2.1**
	comp=N,0.6nm,0.3s,mb3.9,baz=142,slow=9.6,SNR=6.9						
ZAL	**Zalesovo**	**33.33**	**39**	P	**P**	**12 20 23.4**	**-2.2**
	comp=N,1.4nm,0.5s,mb4.2,baz=221,slow=8.2,SNR=3.5						
NOA	**NORSAR Array B**	**37.81**	**331**	P	**P**	**12 21 04.2**	**+0.1**
	comp=N,0.8nm,0.7s,mb3.6,baz=122,slow=8.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**47.26**	**257**	P	**P**	**12 22 19.1**	**-1.7**
	comp=N,0.7nm,0.4s,mb4.0,baz=61,slow=7.5,SNR=14						
ILAR	**Eielson Array**	**82.44**	**7**	P	**P**	**12 26 07.4**	**-2.6**
	comp=N,0.4nm,0.8s,mb3.4,baz=326,slow=3.4,SNR=3.0						
YKA	**Yellowknife Ar**	**84.62**	**352**	P	**P**	**12 26 19.9**	**-1.4**
	comp=N,0.1nm,0.7s,mb3.0,baz=13,slow=5.3,SNR=4.2						

ISCJB ***28*** *12:23:53.8±0.2,3613N±002×2690E±002,h117km±2km, mb3.9/18, Error ellipse: s-maj=3.1km s-min=2.5km az=103.7*
CSEM ***28*** *12:23:53.2±0.0,3619N×2700E,h116km,mb4.0/6,Mw3.4, Error ellipse: s-maj=1.5km s-min=0.8km az=55.0*
MOS ***28*** *12:23:54.8±1.2,3620N×2675E,h117km,mb4.1/12, Error ellipse: s-maj=7.7km s-min=4.4km az=118.7*
IDC ***28*** *12:23:55.1±1.1,3629N×2672E,h102km±10km,mb3.7/11, mb1 3.8/15,mb1mx3.7/24,mbtmp4.1/15, Error ellipse: s-maj=22.2km s-min=9.5km az=140.0*
NEIC ***28*** *12:23:55.8,3622N×2679E,h88km,mb4.1/19, After ATH.*
HLW ***28*** *12:23:55.6,3605N×2708E,h33km,Mb4.7*
ISK ***28*** *12:23:55.8,3636N×2678E,h103km,MD3.5*
ATH ***28*** *12:23:55.8,3622N×2679E,h88km±4km*
THE ***28*** *12:23:57.8,3623N×2689E,h71km,ML3.5*
NIC ***28*** *12:23:59.5±0.2,3647N×2753E,h61km,mb4.5,ML4.0, MW3.4*

ISC 28 12:23:54.8±0.1,3613N±002×2690E±002,h111km±2km, n211,σ1§10/246,mb3.9/18,12C-21D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.52**	**21**	*e*P	**Pn**	**12 24 11.2**	**-0.7**
KARP	**Karpathos**	**0.62**	**160**	⇑*i*P	**Pn**	**12 24 13.6**	**+0.9**
KARP				*e*S	**Sn**	**12 24 25.3**	**-0.8**
DAT	**Datca**	**0.81**	**42**	*i* PG	**Pn**	**12 24 14.3**	**0.0**
BODT	**Bodrum**	**0.99**	**20**	*i* PG	**Pn**	**12 24 15.5**	**-0.5**
BODT				*i* SG	**Sn**	**12 24 29.3**	**-2.6**
ARG	**Arkhangelos**	**1.00**	**85**	⇑*i*P	**Pn**	**12 24 17.1**	**+1.0**
ARG				⇑*i*S	**Sn**	**12 24 32.6**	**+0.4**
ZKR	**Zakros**	**1.16**	**209**	*e*Pg	**Pn**	**12 24 19.3**	**+1.6**
ZKR				*e*Sg	**Sn**	**12 24 35.7**	**+0.6**
SANT	**Santorini**	**1.19**	**282**	*e*Pg	**Pn**	**12 24 17.7**	**-0.4**
SANT				*e*Sg	**Sn**	**12 24 33.8**	**-1.9**
SANT	**Santorini**	**1.19**	**282**	*e*Pn	**Pn**	**12 24 17.5**	**-0.6**
SANT	**Santorini**	**1.19**	**282**	*e*Pg	**Pn**	**12 24 17.7**	**-0.4**
SANT				*e*Sg	**Sn**	**12 24 33.8**	**-1.9**
SANT	**Santorini**	**1.19**	**282**	*e*Pn	**Pn**	**12 24 17.5**	**-0.6**
SANT				*e*Sn	**Sn**	**12 24 33.8**	**-1.9**
THR1	**Thera Island**	**1.19**	**282**	*e*Pg	**Pn**	**12 24 17.8**	**-0.3**
THR6	**Thira Island,**	**1.23**	**281**	*e*Pg	**Pn**	**12 24 18.8**	**+0.2**
THR4	**Thira Island,**	**1.25**	**286**	*e*Pg	**Pn**	**12 24 18.7**	**-0.1**
NPS	**Neapolis**	**1.36**	**231**	*e*P	**Pn**	**12 24 20.8**	**+0.8**
NPS				*e*S	**Sn**	**12 24 38.4**	**-0.7**
MLSB	**Milas**	**1.36**	**31**	*i* PN	**Pn**	**12 24 20.0**	**-0.1**
APE	**Apeiranthos**	**1.44**	**311**	*i* PN	**Pn**	**12 24 19.7**	**-1.3**
APE				*i* SN	**Sn**	**12 24 37.1**	**-3.8**
APE	**Apeiranthos**	**1.44**	**311**	⇓*i*P	**Pn**	**12 24 20.3**	**-0.7**
APE				*e*S	**Sn**	**12 24 38.2**	**-2.7**
APE	**Apeiranthos**	**1.44**	**311**	*e*Pg	**Pn**	**12 24 20.3**	**-0.7**
APE				*e*Sg	**Sn**	**12 24 38.2**	**-2.7**
YER	**Yerkesik**	**1.50**	**48**	*i* PN	**Pn**	**12 24 22.5**	**+0.8**
LAST	**Lasithi**	**1.51**	**230**	*e*Pg	**Pn**	**12 24 22.9**	**+1.1**
LAST				*e*Sg	**Sn**	**12 24 42.3**	**0.0**
SMG	**Samos**	**1.57**	**358**	⇓*i*P	**Pn**	**12 24 22.0**	**-0.6**
SMG				*e*S	**Sn**	**12 24 41.4**	**-2.3**
XRY	**Khrisi**	**1.59**	**218**	*e*P	**Pn**	**12 24 23.5**	**+0.7**
AYDN	**Tasoluk**	**1.72**	**27**	*i* P	**Pn**	**12 24 24.6**	**+0.3**
AYDN				*i* S	**Sn**	**12 24 46.0**	**-0.8**
IDI	**Anoyia**	**1.84**	**243**	P	**Pn**	**12 24 26.2**	**+0.4**
	42nm,0.3s,baz=0.5,slow=9.1,SNR=68						
IDI				S	**Sn**	**12 24 47.9**	**-1.6**
	68nm,0.3s,baz=314,slow=18,SNR=10						
SIVA	**Sivas**	**2.03**	**237**	*e*Pn	**Pn**	**12 24 30.0**	**+1.7**
SIVA				*e*Sn	**Sn**	**12 24 54.9**	**+1.1**
URLA	**Izmir**	**2.24**	**354**	*i* P	**Pn**	**12 24 29.9**	**-1.0**
URLA				*i* S	**Sn**	**12 24 58.2**	**-0.3**
IZM	**Izmir**	**2.28**	**7**	PN	**Pn**	**12 24 30.2**	**-1.2**
KDAG	**Bornova**	**2.29**	**7**	*i* P	**Pn**	**12 24 31.2**	**-0.3**
KDAG				*i* S	**Sn**	**12 25 00.1**	**+0.5**
VAM	**Vamos**	**2.31**	**253**	*e*P	**Pn**	**12 24 32.5**	**+0.7**
VAM				*e*S	**Sn**	**12 24 59.0**	**-1.1**
DENT	**Denizli**	**2.36**	**46**	PN	**Pn**	**12 24 32.7**	**+0.3**
GOLH	**Golhisar**	**2.41**	**62**	*i* P	**Pn**	**12 24 34.5**	**+1.4**
GOLH				*i* S	**Sn**	**12 25 05.5**	**+3.1**
ELL	**Elmali**	**2.51**	**75**	PN	**Pn**	**12 24 36.2**	**+1.9**
AKS	**Akhisar**	**2.84**	**15**	*e*PN	**Pn**	**12 24 38.1**	**-0.6**
KHL	**Karahalli**	**3.03**	**43**	*e*PN	**Pn**	**12 24 41.9**	**+0.7**
VLI	**Veliai**	**3.25**	**282**	*e*P	**Pn**	**12 24 44.4**	**+0.3**
ISP	**Isparta**	**3.36**	**58**	*e*Pn	**Pn**	**12 24 45.8**	**+0.2**
ISP	**Isparta**	**3.36**	**58**	*e*Pn	**Pn**	**12 24 45.8**	**+0.2**
ISP				*e*Sn	**Sn**	**12 25 14.8**	**-10**
AOS	**Alonnisos**	**3.86**	**323**	*e*Pn	**Pn**	**12 24 52.8**	**+0.5**
AOS				*e*Sn	**Sn**	**12 25 36.0**	**-0.9**
LOS	**Limnos**	**4.06**	**340**	*e*Pn	**Pn**	**12 24 55.4**	**+0.4**
LOS	**Limnos**	**4.06**	**340**	*e*Pn	**Pn**	**12 24 55.3**	**+0.4**
ITM	**Ithomi**	**4.13**	**286**	*e*P	**Pn**	**12 24 56.9**	**+1.0**
XOR	**Xorichti**	**4.36**	**319**	*e*Pn	**Pn**	**12 24 59.7**	**+0.6**
PAIG	**Paliouri**	**4.56**	**327**	*e*Pn	**Pn**	**12 25 02.3**	**+0.5**
AKMC	**Akamas**	**4.56**	**102**	⇑P	**Pn**	**12 25 01.5**	**-0.2**
PPCY	**Paphos**	**4.62**	**104**	P	**Pn**	**12 25 02.6**	**+0.2**
AGG	**Agios Georgios**	**4.63**	**310**	*e*Pn	**Pn**	**12 25 04.0**	**+1.3**
AGG				*e*Sn	**Sn**	**12 25 55.1**	**-0.3**
ALFC	**Alevga**	**4.75**	**100**	⇓P	**Pn**	**12 25 03.8**	**-0.4**
	15nm,0.2s						
ALFC				S	**Sn**	**12 25 53.8**	**-4.3**
OUR	**Ouranopolis**	**4.78**	**332**	*e*Pn	**Pn**	**12 25 05.0**	**+0.3**
ALN	**Alexandroupoli**	**4.80**	**352**	*e*Pn	**Pn**	**12 25 05.0**	**0.0**
KIZT	**Kizilcal**	**4.82**	**54**	*e*PN	**Pn**	**12 25 06.3**	**+1.1**
SLUM		**4.83**	**197**	⇓P	**Pn**	**12 25 05.7**	**+0.3**
SLUM				S	**Sn**	**12 25 57.0**	**-3.3**
HMAT	**Matruh**	**5.03**	**178**	⇑P	**Pn**	**12 25 07.6**	**-0.4**
HMAT				S	**Sn**	**12 26 00.6**	**-4.3**
SZAC	**Souni-Zanaja**	**5.08**	**104**	P	**Pn**	**12 25 08.8**	**+0.1**
	16nm,0.2s						
SZAC				S	**Sn**	**12 26 02.9**	**-3.2**
LIT	**Litokhoron**	**5.27**	**320**	*e*Pn	**Pn**	**12 25 11.9**	**+0.6**
CSS	**Prodhromos**	**5.37**	**101**	P	**Pn**	**12 25 12.6**	**-0.1**
	3.6nm,0.3s						
CSS				S	**Sn**	**12 26 10.3**	**-3.0**
THE	**Thessaloniki**	**5.45**	**327**	*e*Pn	**Pn**	**12 25 14.5**	**+0.8**
SRS	**Serrai**	**5.61**	**334**	*e*Pn	**Pn**	**12 25 16.5**	**+0.6**
KNT	**Kendrikon**	**5.92**	**329**	*e*Pn	**Pn**	**12 25 20.7**	**+0.7**
ANTO	**Ankara**	**5.97**	**50**	*e*Pn	**Pn**	**12 25 21.3**	**+0.6**
	15nm,0.8s						
ANTO	**Ankara**	**5.97**	**50**	*e*Pn	**Pn**	**12 25 21.3**	**+0.6**
	15nm,0.8s						
ANTO	**Ankara**	**5.97**	**50**	*e*P	**Pn**	**12 25 21.3**	**+0.6**
ANTO				pmax	pmax		
	comp=Z,15nm,0.8s						
GRG	**Griva**	**5.97**	**325**	*e*Pn	**Pn**	**12 25 21.5**	**+0.8**
FNA	**Florina**	**6.35**	**319**	*e*Pn	**Pn**	**12 25 26.8**	**+0.9**
BR131	**Keskin Array S**	**6.42**	**54**	*e*Pn	**Pn**	**12 25 28.6**	**+1.7**
	comp=Z,5.7nm,0.8s						
BR131	**Keskin Array S**	**6.42**	**54**	*e*Pn	**Pn**	**12 25 28.6**	**+1.7**
	comp=Z,5.7nm,0.8s						
BRTR	**Keskin Array B**	**6.42**	**54**	P	**Pn**	**12 25 28.8**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=231,slow=14,SNR=38						
BRTR				S	**Sn**	**12 26 39.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=221,slow=24,SNR=3.1						
BRTR	**Keskin Array B**	**6.42**	**54**	S	**Sn**	**12 26 39.1**	**+0.3**
SWA1		**6.92**	**189**	⇑P	**Pn**	**12 25 34.4**	**+0.8**
SWA1				S	**Sn**	**12 26 46.4**	**-4.5**
SWA2		**6.97**	**190**	⇑P	**Pn**	**12 25 34.9**	**+0.5**
SWA2				S	**Sn**	**12 26 48.2**	**-3.9**
HNAT	**Natroun**	**7.20**	**153**	⇑P	**Pn**	**12 25 37.2**	**-0.2**
SQR		**7.20**	**149**	⇓P	**Pn**	**12 25 37.1**	**-0.3**
FYM	**Al Fayyum**	**7.30**	**150**	⇓P	**Pn**	**12 25 38.9**	**0.0**
AYT	**Al 'Ayyat**	**7.34**	**150**	⇑P	**Pn**	**12 25 39.1**	**-0.2**
KOT	**Kottamia**	**7.44**	**145**	⇓P	**Pn**	**12 25 40.5**	**-0.3**
KOT				S	**Sn**	**12 26 57.1**	**-6.4**
HNTI	**Hanita**	**7.47**	**112**	Sn	**Sn**	**12 27 01.6**	**-2.6**
HHAG	**Hagoal**	**7.55**	**143**	⇓P	**Pn**	**12 25 41.8**	**-0.4**
HSAF	**As Saff**	**7.58**	**148**	⇑P	**Pn**	**12 25 42.5**	**-0.2**
AMAG	**Maghara**	**7.60**	**134**	⇓P	**Pn**	**12 25 42.4**	**-0.5**
MMA0	**Mount Meron ar**	**7.67**	**111**	Pn	**Pn**	**12 25 44.4**	**+0.6**
GLL	**Jalalah**	**7.69**	**147**	⇓P	**Pn**	**12 25 44.0**	**0.0**
SLTI	**Sal'it**	**7.78**	**118**	Sn	**Sn**	**12 27 08.7**	**-3.1**
KSDI	**Kefar Szold**	**7.79**	**110**	Pn	**Pn**	**12 25 45.5**	**+0.1**
KSDI				Sn	**Sn**	**12 27 09.2**	**-2.8**
MMLI	**Mount Malkishu**	**7.96**	**115**	Sn	**Sn**	**12 27 12.2**	**-3.8**
SUZ		**8.01**	**140**	P	**Pn**	**12 25 48.6**	**+0.2**
HBNS	**Bani Suwayf**	**8.03**	**152**	⇓P	**Pn**	**12 25 48.8**	**+0.1**
KZIT	**Kziot**	**8.14**	**128**	Pn	**Pn**	**12 25 49.5**	**-0.7**
ZAF		**8.32**	**144**	P	**Pn**	**12 25 52.6**	**-0.1**
ZNM		**8.41**	**142**	⇑P	**Pn**	**12 25 54.0**	**+0.2**
MZDA	**Masada**	**8.53**	**122**	Sn	**Sn**	**12 27 26.9**	**-3.1**
HNKL	**Nakhl**	**8.58**	**134**	⇓P	**Pn**	**12 25 56.2**	**+0.1**
HNKL				S	**Sn**	**12 27 28.8**	**-7.3**
HNKL	**Nakhl**	**8.58**	**134**	P	**Pn**	**12 25 56.2**	**+0.1**
TIP	**Timpagrande**	**8.60**	**294**	*e*Pn	**Pn**	**12 25 53.3**	**-3.0**
TIP				*e*Sn	**Sn**	**12 27 14.3**	**-17**
HFRF	**Wahat Farafira**	**9.04**	**172**	⇓P	**Pn**	**12 26 03.1**	**+0.8**
HRFI	**Mount Harif**	**9.14**	**129**	Sn	**Sn**	**12 27 40.7**	**-4.0**
GRB	**Gharib**	**9.29**	**146**	⇓P	**Pn**	**12 26 05.9**	**+0.1**
EIL	**Elat**	**9.34**	**131**	Pn	**Pn**	**12 26 06.2**	**-0.3**
MLR	**Muntele Rosu**	**9.38**	**356**	P	**Pn**	**12 26 05.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=116,slow=16,SNR=3.9						
HBST	**Basata**	**9.54**	**134**	⇓P	**Pn**	**12 26 09.2**	**0.0**
TR2		**9.64**	**141**	⇓P	**Pn**	**12 26 10.5**	**-0.1**
HKAT	**Jabal Katrina**	**9.67**	**140**	⇓P	**Pn**	**12 26 11.5**	**+0.6**
HDHB	**Dhahab**	**9.85**	**136**	⇓P	**Pn**	**12 26 14.0**	**+0.6**
HHRG	**Al Ghardaqah**	**10.54**	**146**	⇓P	**Pn**	**12 26 22.9**	**+0.2**
HDK1	**Dakhla**	**10.77**	**168**	⇓P	**Pn**	**12 26 27.4**	**+1.6**
GTR	**Jabal at Tayr**	**11.04**	**162**	⇑P	**Pn**	**12 26 30.6**	**+1.1**
PSZ	**Piszkesteto**	**12.87**	**338**	*e*Pn	**Pn**	**12 26 56.4**	**+2.9**
KECS	**Kecovo**	**13.22**	**341**	*e*	**Pn**	**12 27 05.3**	**+7.2**
KECS				*e*		12 27 13.4	
STHS	**Stebnicka Huta**	**13.90**	**344**	*e*P	**Pn**	**12 27 12.3**	**+5.3**
VOY	**Vojsko**	**13.91**	**319**	*e*(P)	**Pn**	**12 27 06.9**	**-0.2**
VOY				*e*		12 27 11.5	
KIV	**Kislovodsk**	**14.38**	**52**	*e*P	**Pn**	**12 27 16.7**	**+3.6**
GNI	**Garni**	**14.60**	**69**	*e*P	**Pn**	**12 27 19.2**	**+3.3**
AKASG	**Malin Array Be**	**14.66**	**6**	P	**Pn**	**12 27 18.7**	**+2.1**
	comp=Z,5.4nm,0.3s,baz=195,slow=11,SNR=31						
OKC	**Ostrava-Krasne**	**15.10**	**338**	*e*P	**Pn**	**12 27 25.1**	**+2.8**
VRAC	**Vranov**	**15.17**	**333**	P	**Pn**	**12 27 24.4**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=155,slow=14,SNR=5.3						
MORC	**Moravsky Berou**	**15.24**	**336**	*e*P	**Pn**	**12 27 23.2**	**-0.8**
PGF	**Pioggiola**	**15.25**	**300**	*e*P	**Pn**	**12 27 18.3**	**-5.7**
TREC	**Trest**	**15.57**	**331**	*e*P	**Pn**	**12 27 29.8**	**+1.7**
GEC2	**GERESS Array S**	**15.97**	**327**	*e*P	**Pn**	**12 27 35.5**	**+2.4**
	comp=Z,13nm,0.9s						
GEC2	**GERESS Array S**	**15.97**	**327**	*e*P	**Pn**	**12 27 35.5**	**+2.4**
GEC2				pmax	pmax		
	comp=Z,13nm,0.9s						
GERES	**GERESS Array B**	**15.97**	**327**	P	**Pn**	**12 27 33.0**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=134,slow=12,SNR=35						
DPC	**Dobruska-Polom**	**16.14**	**335**	*e*P	**Pn**	**12 27 36.4**	**+1.2**
KHC	**Kasperske Hory**	**16.24**	**327**	*e*P	**Pn**	**12 27 36.3**	**-0.1**
PRU	**Pruhonice**	**16.50**	**331**	*e*P	**Pn**	**12 27 39.4**	**-0.2**
WET	**Wettzell**	**16.56**	**326**	*e*P	**Pn**	**12 27 40.9**	**+0.6**
	comp=Z,9.0nm,0.9s						
WET	**Wettzell**	**16.56**	**326**	*e*P	**Pn**	**12 27 40.9**	**+0.6**
WET				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DAVOX	**Davos**	**16.57**	**315**	P	**Pn**	**12 27 40.2**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=153,slow=18,SNR=4.3						
DAVOX	**Davos**	**16.57**	**315**	P	**Pn**	**12 27 40.2**	**-0.3**
SBF	**Sospel**	**16.77**	**303**	*e*P	**Pn**	**12 27 39.7**	**-3.2**
	comp=Z,68nm,1.0s						
SBF	**Sospel**	**16.77**	**303**	*e*P	**Pn**	**12 27 39.7**	**-3.2**
	comp=Z,34nm,1.0s						
SBF	**Sospel**	**16.77**	**303**	*e*P	**Pn**	**12 27 39.7**	**-3.2**
SBF				pmax	pmax		
	comp=Z,34nm,1.0s						
ROTZ	**Rotzenmuhle**	**17.31**	**326**	*e*P	**Pn**	**12 27 50.9**	**+1.4**
	comp=Z,8.0nm,0.9s						
MANZ	**Manzenberg**	**17.52**	**327**	*e*P	**Pn**	**12 27 52.3**	**+0.3**
	comp=Z,7.0nm,0.8s						
MBDF	**Montbardon**	**17.53**	**305**	*e*P	**Pn**	**12 27 47.2**	**-4.9**
	comp=Z,5.0nm,0.4s						
GRA1	**Grafenberg Arr**	**17.71**	**325**	*e*P	**Pn**	**12 27 54.8**	**+0.5**
GRF	**Grafenberg Arr**	**17.71**	**325**	*e*P	**Pn**	**12 27 54.8**	**+0.5**
LPG	**La Plagne**	**17.85**	**308**	*e*P	**Pn**	**12 27 53.6**	**-2.4**
	comp=Z,16nm,0.5s						
LPG	**La Plagne**	**17.85**	**308**	*e*P	**Pn**	**12 27 53.6**	**-2.4**
	comp=Z,7.8nm,0.5s						
LPG	**La Plagne**	**17.85**	**308**	*e*P	**Pn**	**12 27 53.6**	**-2.4**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LPL	**La Plagne**	**17.87**	**308**	*e*P	**Pn**	**12 27 53.4**	**-2.8**
	comp=Z,13nm,0.5s						
LPL	**La Plagne**	**17.87**	**308**	*e*P	**Pn**	**12 27 53.4**	**-2.8**
	comp=Z,6.4nm,0.5s						
LPL	**La Plagne**	**17.87**	**308**	*e*P	**Pn**	**12 27 53.4**	**-2.8**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**18.19**	**305**	*e*P	**P**	**12 27 57.2**	**-1.7**
	comp=Z,2.9nm,0.3s						
**ORI

TORD	Torodi Ar. Bea	32.20	231	P	P	12 30 14.3	+2.1
	comp=Z,1.2nm,0.4s,mb4.0,baz=34,slow=8.7,SNR=31						
ARCES	ARCESS Array B	33.47	359	P	P	12 30 22.2	-1.0
	comp=Z,4.4nm,1.1s,mb4.2,baz=180,slow=8.9,SNR=8.3						
DBIC	Dimbokro	41.28	232	P	P	12 31 30.1	+1.0
	comp=Z,2.2nm,0.8s,mb4.0,baz=36,slow=10,SNR=2.8						
DBIC	Dimbokro	41.28	232	P	P	12 31 30.0	+0.9
MKAR	Makanchi Array	42.06	58	P	P	12 31 37.2	+1.7
	comp=Z,1.3nm,0.3s,mb4.1,baz=265,slow=8.6,SNR=9.7						
SCHQ	Schefferville	63.36	320	P	P	12 34 11.5	-0.7
	comp=Z,2.0nm,0.3s,mb4.5,baz=67,slow=5.8,SNR=16						
YKA	Yellowknife Ar	76.95	343	P	P	12 35 33.4	-1.7
	comp=Z,0.1nm,0.3s,mb3.0,baz=32,slow=5.2,SNR=5.0						
ULM	Lac du Bonnet	80.28	327	P	P	12 35 52.8	-0.5
	comp=Z,1.8nm,0.4s,mb4.3,baz=33,slow=6.5,SNR=6.6						

*ISCJB **28** 12:35:11.6±0.7,3969N±004×2395E±008,h29km±7km,*
Error ellipse: s-maj=10.4km s-min=5.6km az=33.3
*CSEM **28** 12:35:11.6±0.1,3969N×2401E,h15km,ML2.9,Error*
ellipse: s-maj=2.2km s-min=1.6km az=112.0
*NEIC **28** 12:35:11.4,3969N×2393E,h35km,MD2.9(ATH),After*
ATH.
*ATH **28** 12:35:11.4,3969N×2393E,h35km±5km,MD2.9/3*
*THE **28** 12:35:12.3,3968N×2397E,h2km,ML2.9*
ISC 28 12:35:11.6±0.7,3969N±004×2395E±008,h28km±7km,n10,
σ0°78/16,1D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.31	319	ePg	Pb	12 35 18.6	-0.5
PAIG				eSg	Sb	12 35 23.6	-0.5
PAIG	Paliouri	0.31	319	ePg	Pb	12 35 18.5	-0.5
PAIG				eSg	Sb	12 35 23.6	-0.5
AOS	Alonnisos	0.52	186	ePg	Pb	12 35 21.9	-0.4
AOS				eSg	Sb	12 35 29.6	0.0
OUR	Ouranopolis	0.64	2	ePg	Pb	12 35 24.7	+0.4
OUR				eSg	Sb	12 35 34.3	+1.4
XOR	Xorichti	0.67	241	ePg	Pb	12 35 25.1	+0.4
XOR				eSg	Sb	12 35 35.1	+1.5
NEO	Neokhori	0.68	236	ePN	Pn	12 35 25.2	-0.2
NEO				⇓iSN	Sn	12 35 35.2	+0.2
PLG	Polygyros	0.78	331	ePN	Pn	12 35 26.0	-0.8
LIA	Limnos Island	0.97	77	ePN	Pn	12 35 30.2	+0.8
LKR	Lokris	1.27	216	ePB	Pb	12 35 33.9	-1.0
NVR	Nevrokopi	1.66	358	ePB	Pb	12 35 40.3	-1.2

*ISCJB **28** 12:46:49.9±0.4,4472N±005×14098E±0.10,h275km±4km,*
mb3.2/9,Error ellipse: s-maj=11.4km s-min=8.7km az=9.7
*JMA **28** 12:46:49.7±0.3,4479N×14094E,h277km±3km,M3.2*
*IDC **28** 12:46:50.8±0.7,4472N×14101E,h270km±8km,mb3.0/9,*
mb1 3.1/10,mb1mx3.0/22,mbtmp3.6/10,Error ellipse:
s-maj=18.2km s-min=12.9km az=110.0
ISC 28 12:46:50.6±0.4,4473N±005×1410E±01,h271km±4km,n30,
σ0°83/40,mb3.2/9,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	Yagishiri	0.43	134	P	Pn	12 47 25.8	+0.1
JRR	Rishiri	0.47	29	P	Pn	12 47 25.9	+0.1
JSS	Shosan	0.70	118	P	Pn	12 47 27.1	+0.6
JWK2	Keihoku	0.87	47	P	Pn	12 47 26.9	-0.4
JWK2				eS	S	12 47 55.5	-0.7
JHR	Hokuryu	1.12	151	P	Pn	12 47 29.2	+0.7
JHR				eS	S	12 47 59.8	+1.4
JSE	Soyaes	1.16	78	P	Pn	12 47 28.1	-0.6
JSE				eS	S	12 47 57.2	-1.7
ASAJ	Asahikawa	1.30	117	P	Pn	12 47 29.6	0.0
ASAJ				S	S	12 48 00.7	+0.2
ASAJ	Asahikawa	1.30	117	P	Pn	12 47 29.5	-0.1
JSK	Shakotan	1.42	195	P	Pn	12 47 30.4	0.0
JKK2	Kamakawa 2	1.52	123	P	Pn	12 47 31.4	+0.3
JEW	Eniwo	1.92	170	P	Pn	12 47 34.4	+0.3
JFR	Furan	1.95	143	P	Pn	12 47 34.7	+0.3
JFR				eS	S	12 48 10.1	+1.1
JTKR	Abashiri--Toko	2.23	109	P	Pn	12 47 37.7	+0.9
JTKR				eS	S	12 48 14.4	+0.9
JAR	Ashorobuto	2.46	124	P	Pn	12 47 39.7	+0.7
JAR				eS	S	12 48 18.1	+0.7
JCH	Churui	2.73	140	P	Pn	12 47 41.8	+0.2
JCH				eS	S	12 48 18.8	-3.2
JNBK	Urakawa-nobuka	2.76	152	P	Pn	12 47 42.7	+0.7
JNBK				eS	S	12 48 22.9	+0.2
JKB	Kayabe	2.84	179	P	Pn	12 47 42.3	-0.4
JOSM	Okushiri--Mats	2.86	203	P	Pn	12 47 42.5	-0.5
JAK	Akkeshi	3.19	122	eS	S	12 48 28.6	-2.2
JOT	Ohata	3.34	179	P	Pn	12 47 47.6	-0.4
JOT				eS	S	12 48 30.9	-2.8
MJAR	Matsushiro Arr	8.44	195	P	Pn	12 48 48.4	-1.1
	0.4nm,0.3s,baz=13,slow=13,SNR=5.5						
SONM	Songino Array	23.99	290	P	P	12 51 41.3	+0.4
	0.4nm,0.4s,mb3.1,baz=84,slow=9.1,SNR=5.8						
MKAR	Makanchi Array	40.18	295	P	P	12 54 01.0	+0.2
	0.1nm,0.4s,mb2.5,baz=80,slow=10,SNR=4.2						
ILAR	Eielson Array	43.33	36	P	P	12 54 25.9	-0.3
	0.6nm,0.6s,mb3.0,baz=281,slow=8.1,SNR=14						
INK	Inuvik	47.79	30	P	P	12 55 00.0	-0.9
	0.5nm,0.4s,mb3.2,baz=304,slow=4.1,SNR=22						
YKA	Yellowknife Ar	57.40	32	P	P	12 56 11.0	0.0
	0.3nm,0.7s,mb2.9,baz=307,slow=6.7,SNR=6.7						
FINES	FINESS Array B	61.92	330	P	P	12 56 41.9	+0.2
	0.3nm,0.3s,mb3.3,baz=59,slow=8.4,SNR=5.1						
WRA	Warramunga Arr	64.64	187	P	P	12 56 59.3	-0.2
	0.2nm,0.5s,mb3.0,baz=3.5,slow=7.0,SNR=9.5						
HFS	Hagfors	66.98	334	P	P	12 57 14.5	+0.1
	3.8nm,1.0s,mb4.1,baz=41,slow=9.9,SNR=6.3						
ASAR	Alice Springs	68.36	187	P	P	12 57 24.1	+1.1
	0.4nm,0.6s,mb3.4,baz=0.5,slow=5.7,SNR=11						

*ISCJB **28** 13:02:03.7±0.6,3422N±002×3529E±003,h4km±4km,*
Error ellipse: s-maj=4.3km s-min=2.7km az=54.2
*CSEM **28** 13:02:04.8±0.1,3422N×3529E,h13km±1km,ML3.6,Error*
ellipse: s-maj=2.3km s-min=1.4km az=112.0
*GII **28** 13:02:05.9±0.7,3411N×3531E,h1km±1km,ML3.1/4*
*GRAL **28** 13:02:06.0±2.1,3422N×3532E,h0km±21km,MD3.6*
*HLW **28** 13:02:13.5,3388N×3502E,h22km,Mb3.3*
ISC 28 13:02:04.7±0.6,3423N±002×3533E±003,h4km±3km,n41,
σ0°55/64,1C-14D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.43	141	iPg	Pg	13 02 13.6	+0.7
BHL				iSg	Sg	13 02 19.1	+0.7
HWQ	Hawqa	0.51	85	iPg	Pg	13 02 14.4	-0.1
HWQ				iSg	Sg	13 02 21.9	+0.7
MATL	Matirih	0.74	180	iPg	Pg	13 02 19.3	+0.3
FKH	Fakeheh	0.89	90	iPg	Pg	13 02 21.5	-0.2
FKH				iSg	Sg	13 02 34.2	+1.0
HAWK	Haweek	0.94	72	⇑iP	Pg	13 02 22.4	-0.2
HAWK				⇓iS	Sg	13 02 34.2	-0.6
BRBR	Barbar	0.97	148	⇑iP	Pg	13 02 23.8	+0.5
BRBR				⇑iS	Sg	13 02 35.8	-0.1
MARH	Ras Al Marh	0.98	102	⇑iP	Pg	13 02 23.6	+0.1
MARH				⇑iS	Sg	13 02 36.1	-0.1
QASN	Qassioun	1.05	131	⇑iP	Pg	13 02 25.1	+0.2
QASN				⇓iS	Sg	13 02 38.4	-0.2
KSDI	Kefar Szold	1.07	165	Pg	Pg	13 02 25.1	-0.2
BIDA	Albida	1.13	46	⇓iP	Pg	13 02 25.8	-0.5
BIDA				⇑iS	Sg	13 02 41.6	+0.6
HNTI	Hanita	1.16	186	Pg	Pg	13 02 26.7	-0.1
HNTI				Sg	Sg	13 02 41.3	-0.5
MMC7	Mount Meron ar	1.21	177	Pg	Pg	13 02 27.0	-0.8
MMA0	Mount Meron ar	1.22	177	Pg	Pg	13 02 27.1	-0.9
MMA0B	Mount Meron ar	1.22	177	Pg	Pg	13 02 27.1	-0.9
MMA0B				Sg	Sg	13 02 43.0	-0.8
SLNF	Slenfeh	1.54	28	⇑iP	Pn	13 02 32.9	-0.1
SLNF				⇑iS	Sn	13 02 52.7	-0.8
WRDH	Warideh	1.55	35	⇑iP	Pn	13 02 33.1	0.0
WRDH				⇑iS	Sn	13 02 53.0	-0.7
KFRA	Kufra	1.56	51	⇑iP	Pn	13 02 33.2	+0.1
KFRA				⇑iS	Sn	13 02 52.4	-1.4
RABH	Abou Rabah	1.57	82	⇓iP	Pn	13 02 33.2	-0.1
RABH				⇑iS	Sn	13 02 53.5	-0.5
TCHB	Talchebab	1.65	161	⇓iP	Pn	13 02 34.2	-0.2
TCHB				⇑iS	Sn	13 02 55.7	-0.4
MMLI	Mount Malkishu	1.79	177	Pn	Pn	13 02 35.9	-0.5
MMLI				Sn	Sn	13 02 59.6	0.0
SALA	Sala	1.92	142	⇓iP	Pn	13 02 38.3	+0.2
HTY	Hatay	2.00	19	PN	Pn	13 02 38.8	-0.4
HTY				SN	Sn	13 03 08.3	+3.7
SLTI	Sal'it	2.00	187	Pn	Pn	13 02 39.0	-0.3
SLTI				Sn	Sn	13 03 04.5	-0.2
ZALF	Zalf	2.12	127	⇑iP	Pn	13 02 41.3	+0.3
ZALF				⇓iS	Sn	13 03 08.1	+0.3
IKL	Isikli	2.41	327	ePN	Pn	13 02 44.2	-0.7
MKRJ	Makawir	2.69	174	Pn	Pn	13 02 48.9	+0.2
MERS	Mersin	2.71	346	ePN	Pn	13 02 49.5	+0.5
MZDA	Masada	2.92	179	Pn	Pn	13 02 51.6	-0.2
MZDA				Sn	Sn	13 03 27.9	+0.5
KARA	Karaisali	3.03	356	ePN	Pn	13 02 54.5	+1.1
KOZT	Kozan	3.27	7	ePN	Pn	13 02 57.5	+0.9
AMAG	Maghara	4.00	207	⇓P	Pn	13 03 06.8	0.0
AMAG				S	Sn	13 03 45.9	-8.2
HNKL	Nakhl	4.44	195	⇓P	Pn	13 03 13.2	+0.4
HNKL				S	Sn	13 03 56.8	-8.2
EIL	Elat	4.56	184	Pn	Pn	13 03 15.1	+0.6
EIL				Sn	Sn	13 04 08.3	+0.4
SUZ		4.87	206	⇓P	Pn	13 03 18.5	-0.1
KOT	Kottamia	5.22	216	P	Pn	13 03 24.6	+1.1
ZNM		5.27	204	⇓P	Pn	13 03 24.3	+0.1
GLL	Jalalah	5.57	215	⇓P	Pn	13 03 28.1	-0.2
HSAF	As Saff	5.61	216	⇓P	Pn	13 03 28.6	-0.3
TR2		5.99	194	⇓P	Pn	13 03 34.6	+0.6
HBNS	Bani Suwayf	6.33	215	P	Pn	13 03 38.8	+0.1
HHRG	Al Ghardaqah	7.15	193	⇑P	Pn	13 03 50.9	+0.9

*ISCJB **28** 13:07:00.4±0.4,4055N±002×28.11E±002,h7km±3km,*
Error ellipse: s-maj=3.0km s-min=2.7km az=44.1
*ATH **28** 13:07:00.3,4058N×2816E,h26km±13km,MD3.9/5*
*CSEM **28** 13:07:00.6±0.1,4056N×28.11E,h10km,MD3.5,Error*
ellipse: s-maj=1.3km s-min=1.2km az=176.0
*ISK **28** 13:07:00.6,4056N×2813E,h13km,MD3.5*
*NEIC **28** 13:07:00.7,4057N×2812E,h13km,MD3.3(SOF),*
MD3.9(ATH),ML3.5(ISK),After ISK.
*SOF **28** 13:07:02.4,4072N×2784E,h3km,MD3.4*
ISC 28 13:07:01.2±0.3,4054N±002×2811E±002,h4km±3km,n94,
σ0°94/118,5C-11D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	Edincik	0.27	224	iPG	Pg	13 07 07.2	+0.8
EDC	Edincik	0.27	224	Pg	Pg	13 07 07.3	+0.9
KCT	Karacabey	0.34	145	iPG	Pg	13 07 08.2	+0.6
KCT	Karacabey	0.34	145	Pg	Pg	13 07 08.3	+0.7
KCT	Karacabey	0.34	145	Pg	Pg	13 07 08.3	+0.7
CTT	Catalca	0.65	22	iPG	Pg	13 07 13.8	+0.1
CTT	Catalca	0.65	22	Pg	Pg	13 07 13.8	+0.1
ELBA	Catalca	0.65	22	iP	Pg	13 07 14.0	+0.3
ELBA				iS	Sg	13 07 22.5	+0.3
MFT	Murefte	0.67	292	iPG	Pg	13 07 14.1	0.0
MFT				iSG	Sg	13 07 23.8	+0.9
SART	Tekirdag	0.72	282	iP	Pg	13 07 15.3	+0.3
SART				iS	Sg	13 07 25.1	+0.8
ORLT	Orhaneli	0.78	129	iPG	Pg	13 07 16.2	+0.1
ORLT	Orhaneli	0.78	129	Pg	Pg	13 07 16.3	+0.2
ORLT	Orhaneli	0.78	129	Pg	Pg	13 07 16.3	+0.2
BTOK	Tokmak	0.78	184	iP	Pg	13 07 16.6	+0.5
BTOK				iS	Sg	13 07 27.4	+1.2
BADT	Buyukada	0.83	68	iPG	Pg	13 07 17.1	0.0
ULDT	Uludag	0.88	117	iP	Pg	13 07 17.8	-0.3
ULDT				iS	Sg	13 07 28.4	-1.2
ISK	Istanbul-Kandi	0.89	54	iPG	Pg	13 07 18.0	-0.3
ISK				iSG	Sg	13 07 29.6	-0.3
BALB	Balikesir	0.92	191	iPG	Pg	13 07 18.8	+0.1
BALB	Balikesir	0.92	191	Pg	Pg	13 07 19.1	+0.4
BALB	Balikesir	0.92	191	Pg	Pg	13 07 19.1	+0.3
YLV	Yalova	0.96	88	iPG	Pg	13 07 18.9	-0.8
LPK	Lapseki	1.04	261	iPG	Pg	13 07 21.3	+0.2
IZI	Iznik	1.06	101	iPG	Pg	13 07 21.5	0.0
HRT	Hereke	1.22	76	iPN	Pn	13 07 22.8	-2.1
EZN	Ezine	1.54	243	iPN	Pn	13 07 29.4	+0.1
AYVA	Ayvalik	1.64	222	iP	Pn	13 07 30.4	+0.4
AYVA				iS	Sn	13 07 55.9	+3.6
EDRB	Edirne	1.66	322	ePN	Pn	13 07 30.8	-0.2
AKS	Akhisar	1.68	188	ePN	Pn	13 07 30.7	-0.5
GPA	Golpazari	1.70	98	ePN	Pn	13 07 31.3	-0.2
GPA	Golpazari	1.70	98	Pn	Pn	13 07 31.9	+0.3
GDZ	Gediz	1.80	143	iP	Pn	13 07 33.1	+0.2
GDZ				iS	Sn	13 07 59.0	+3.0
BORA	Eskisehir	1.91	109	iP	Pn	13 07 33.9	-0.6
BORA				iS	Sn	13 08 03.6	+4.6
PRK	Paraskevi	1.92	228	ePB	Pb	13 07 34.4	-2.2
PRK				eSN	Sn	13 07 58.8	-0.2
PRK	Paraskevi	1.92	228	ePn	Pn	13 07 34.6	+0.1
PRK				eSn	Sn	13 08 03.0	+4.0
RDO	Rodhopi	2.04	288	ePB	Pb	13 07 35.7	-3.0
RDO	Rodhopi	2.04	288	⇓iPn	Pn	13 07 35.8	-0.4
RDO				eSn	Sn	13 08 05.9	+3.8
MANT	Manisa	2.08	170	iP	Pn	13 07 36.3	-0.4
MANT				iS	Sn	13 08 02.6	-0.4
ALT	Altintas	2.14	133	ePN	Pn	13 07 37.8	+0.2
ALT	Altintas	2.14	133	Pn	Pn	13 07 38.0	+0.4
HENT	Hendek	2.14	82	iP	Pn	13 07 37.6	0.0
HENT				iS	Sn	13 08 06.0	+1.4
KDAG	Bornova	2.23	197	iP	Pn	13 07 36.8	-2.0
KDAG				iS	Sn	13 08 05.7	-1.1
IZM	Izmir	2.24	197	ePN	Pn	13 07 37.8	-1.1
JMB	Yambol	2.24	330	iP	Pn	13 07 40.0	+1.1
JMB	Yambol	2.24	330	iP	Pn	13 07 39.0	+0.1
JMB	Yambol	2.24	330	iP	Pn	13 07 39.0	+0.1
KDZ	Kurdzhali	2.31	299	iP	Pn	13 07 40.0	0.0
LIA	Limnos Island	2.33	255	ePN	Pn	13 07 39.6	-0.6
LIA	Limnos Island	2.33	255	ePb	Pb	13 07 39.8	-3.9
LIA				eSn	Sn	13 08 14.4	+5.2
ESKT	Eskisehir	2.34	115	iP	Pn	13 07 40.2	-0.1
ESKT				iS	Sn	13 08 10.6	+1.1
SEYT	Eskypehyr	2.34	115	iP	Pn	13 07 40.2	-0.1
SEYT				iS	Sn	13 08 10.6	+1.1
MDU	Mudurnu	2.37	91	ePN	Pn	13 07 41.0	+0.2
DIM	Dimitrovgrad	2.46	309	iP	Pn	13 07 42.0	+0.1
DIM	Dimitrovgrad	2.46	309	iP	Pn	13 07 41.0	-0.9
DIM	Dimitrovgrad	2.46	309	iP	Pn	13 07 41.0	-0.9
KHL	Karahalli	2.47	153	ePN	Pn	13 07 41.7	-0.4
URLA	Izmir	2.47	209	iP	Pn	13 07 42.2	0.0
URLA				iS	Sn	13 08 21.5	+8.7
PRD	Provadia	2.71	349	eP	Pn	13 07 44.0	-1.4
PRD				ePg	Pg	13 07 51.0	-2.1
PRD	Provadia	2.71	349	ePg	Pg	13 07 51.0	-2.1
RZN	Rozhen	2.81	295	iP	Pn	13 07 46.0	-0.8
SMG	Samos	3.00	200	ePN	Pn	13 07 49.2	-0.2
SMG	Samos	3.00	200	ePn	Pn	13 07 48.1	-1.3
SGKT	Sivrigoynuk	3.01	88	iP	Pn	13 07 50.0	+0.4
SGKT				iS	Sg	13 08 37.8	0.0
TKTP	Tekketepe	3.03	145	iP	Pn	13 07 50.7	+0.9
TKTP				iS	Sg	13 08 37.2	-1.3
SZH	Strazhica	3.17	330	iP	Pn	13 07 51.0	-0.8
SZH	Strazhica	3.17	330	iP	Pn	13 07 51.5	-0.3
ISP	Isparta	3.28	145	ePn	Pn	13 07 57.9	+4.6
NVR	Nevrokopi	3.31	285	ePN	Pn	13 07 53.2	-0.5
NVR	Nevrokopi	3.31	285	ePn	Pn	13 07 53.3	-0.4
KIZT	Kizilcal	3.35	118	ePN	Pn	13 07 54.0	-0.2
GOLH	Golhisar	3.49	161	iP	Pn	13 07 58.5	+2.3
GOLH				iS	Sg	13 08 56.0	+2.8
SAFT	Safranbolu	3.54	77	ePN	Pn	13 07 57.2	+0.3
KDHN	Kadinhani	3.70	122	iP	Pn	13 07 59.1	+0.1
KDHN				iS	Sg	13 08 59.9	-0.1
TIRR	Tirgusor	3.92	3	⇓P	Pn	13 08 02.0	-0.1
TIRR	Tirgusor	3.92	3	⇓P	Pn	13 08 02.0	0.0
APE	Apeiranthos	4.01	211	ePN	Pn	13 08 03.3	0.0
APE	Apeiranthos	4.01	211	⇓P	Pn	13 08 11.0	+7.7
KKB	Krupnik	4.01	291	iP	Pn	13 08 04.0	+0.6
KKB	Krupnik	4.01	291	iP	Pn	13 08 03.0	-0.4
KKB	Krupnik	4.01	291	iP	Pn	13 08 03.0	-0.4
VTS	Vitosha	4.21	301	iP	Pn	13 08 06.0	0.0
VTS	Vitosha	4.21	301	⇓P	Pn	13 08 07.1	+1.1
VTS	Vitosha	4.21	301	⇓P	Pn	13 08 07.0	+1.0
BR131	Keskin Array S	4.32	99	ePn	Pn	13 08 06.9	-0.6
BR131	Keskin Array S	4.32	99	ePn	Pn	13 08 06.9	-0.6
CFR	Carcaliu	4.63	0	⇑P	Pn	13 08 11.9	0.0
CFR	Carcaliu	4.63	0	⇑P	Pn	13 08 11.9	0.0
MLR	Muntele Rosu	5.20	343	⇓P	Pn	13 08 21.5	+1.9
MLR	Muntele Rosu	5.20	343	⇓P	Pn	13 08 21.5	+2.0
PLOR	Plostina	5.41	349	⇑P	Pn	13 08 24.0	+1.4
VRI	Vrincioaia	5.42	350	⇓P	Pn	13 08 23.6	+1.0
VRI	Vrincioaia	5.42	350	⇓P	Pn	13 08 23.6	+1.0
BZS	Buzias	6.95	319	⇓P	Pn	13 08 43.9	+0.2
BURAR	Bucovina Array	7.37	345	⇑P	Pn	13 08 50.5	+1.0
BURAR	Bucovina Array	7.37	345	⇑P	Pn	13 08 50.5	+1.0

*IDC **28** 13:11:29.5±0.9,254N×9574E,h0km,mb4.2/11,*
mb1 4.3/12,mb1mx4.1/21,mbtmp4.2/12,ML3.7/1,MS4.1/2,
Ms1 4.1/2,ms1mx3.4/33,Error ellipse: s-maj=39.3km
s-min=15.3km az=46.0
*ISCJB **28** 13:11:32.5±0.6,257N±008×9582E±007,h33km,mb4.7/41,*
MS4.2/8,Error ellipse: s-maj=13.7km s-min=7.3km
az=68.9
*MOS **28** 13:11:32.4±0.8,258N×9573E,h33km,mb5.0/14,Error*
ellipse: s-maj=15.7km s-min=9.2km az=108.2
*BJI **28** 13:11:32.1,243N×9593E,h38km,mB4.9,mb4.8,Ms4.4,*
Msz4.0
*NEIC **28** 13:11:34.2±0.5,259N×9582E,h30km,mb4.7/12,Error*
ellipse: s-maj=13.6km s-min=6.4km az=215.0
ISC 28 13:11:35.0±0.6,259N±008×9582E±006,h35km,
(h29km±2.6km:pP-P),n63,σ1°91/66,mb4.7/41,MS4.2/8,
1C-1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.10	86	Pn	Pn	13 12 22.1	+0.7
	8.9nm,0.3s,baz=281,slow=7.2,SNR=55						
PSI				LR	LR	13 13 55.2	
	comp=Z,2μm,18.7s,baz=266,slow=46						
KULM	Kulim	5.51	61	ePn	Pn	13 12 54.2	-0.4
KSM	Kuching	14.52	94	Pn	Pn	13 14 59.0	+1.1
KKM	Kota Kinabalu	20.62	80	eP	P	13 16 11.6	+0.4
QIZ	Qiongzhong	21.34	39	P	P	13 16 19.3	+0.4
QIZ				S	S	13 20 14.3	+0.4
QIZ				LR	LR		
	comp=N,593nm,16.2s,MS4.3						
QIZ				LR	LR		
	comp=E,730nm,16.2s,MS4.3						
QIZ				LR	LR		
	comp=Z,413nm,18.3s,MS3.9						
HYB	Hyderabad	22.47	312	eP	sP	13 16 46.0	+1.2
KMI	Kunming	23.38	16	P	P	13 16 41.5	+0.9
KMI				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.1						
JIRN	Jiri	26.58	341	eP	P	13 17 10.9	+1.2
	comp=Z,47nm,0.6s,mb5.2						
PKI	Pulchoki	26.77	339	eP	P	13 17 11.6	+0.2
	comp=Z,25nm,0.7s,mb4.9						
DMN	Daman	26.91	339	eP	P	13 17 13.4	+0.7
	comp=Z,49nm,1.0s,mb5.0						
GUN	Gumba	26.91	340	eP	P	13 17 13.7	+0.9
	comp=Z,60nm,0.7s,mb5.3						
KKN	Kakani	27.01	339	eP	P	13 17 14.4	+0.8
	comp=Z,59nm,0.8s,mb5.2						
LSA	Lhasa	27.33	351	eP	P	13 17 17.4	+0.9
	comp=Z,15nm,0.8s,mb4.6						
LSA	Lhasa	27.33	351	eP	P	13 17 17.4	+0.9
LSA				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
GKN	Gorkha	27.44	338	eP	P	13 17 18.3	+0.8
	comp=Z,86nm,1.0s,mb5.2						
KOLN	Koldanda	27.63	336	eP	P	13 17 20.4	+1.2
	comp=Z,29nm,0.6s,mb5.1						
ENH	Enshi	30.43	24	eP	P	13 17 43.0	-1.0
	comp=Z,5.3nm,0.5s,mb4.5						
XAN	Xi'an	33.60	20	P	P	13 18 10.0	-1.8
XAN				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.5						
LZH	Lanzhou	34.15	12	eP	P	13 18 15.5	-1.1
LZH				AP	pP	13 18 22.8	-4.0
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,53nm,6.3s						
LZH				LR	LR		
	comp=N,236nm,10.5s						
LZH				LR	LR		
	comp=Z,379nm,13.8s,MS4.3						
NJ2	Nanjing	36.45	34	eP	P	13 18 35.5	-0.9
NJ2				AP	pP	13 18 45.3	-1.3
NJ2				XP	sP	13 18 49.3	-1.5
NJ2				PP	PP	13 20 02.8	+3.1
NJ2				S	S	13 24 21.0	+5.2
NJ2				XS	sS	13 24 37.0	+4.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,120nm,6.5s						
NJ2				LR	LR		
	comp=N,380nm,21.5s,MS4.4						
NJ2				LR	LR		
	comp=E,540nm,20.8s,MS4.4						
NJ2				LR	LR		
	comp=Z,150nm,21.0s,MS3.8						
GTA	Gaotai	36.83	5	eP	P	13

ZAL	**Zalesovo**	**51.98 352**	P	**P**	**13 20 40.2**	**-0.4**
ZAL			LR	LR	13 43 46.0	
NVS	**Novosibirsk**	**53.09 351**	*i* P	**P**	**13 20 47.8**	**-1.1**
NVS			*e*		13 21 58.2	
NVS			*e*S	**S**	**13 28 17.3**	**+0.6**
NVS			pmax	pmax		
	comp=N,9.0nm,1.2s					
NVS			pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6					
NVS			pmax	pmax		
	comp=E,9.0nm,1.4s					
NVS			smax			
	comp=N,18nm,1.9s					
BRVK	**Borovoye**	**54.56 341**	*e*P	**P**	**13 20 59.0**	**-0.7**
	comp=N,2.7nm,0.7s,mb4.4					
BRVK	**Borovoye**	**54.56 341**	*e*P	**P**	**13 20 59.0**	**-0.6**
BRVK			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4					
ZRNK	**Zerenda**	**54.89 341**	*e*P	**P**	**13 21 01.3**	**-0.7**
	comp=Z,6.8nm,1.1s,mb4.6					
ZRNK	**Zerenda**	**54.89 341**	*e*P	**P**	**13 21 01.3**	**-0.7**
ZRNK			pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6					
CHKZ	**Chkalovo**	**54.99 342**	*e*P	**P**	**13 21 02.1**	**-0.6**
	comp=Z,9.6nm,0.9s,mb4.8					
CHKZ	**Chkalovo**	**54.99 342**	*e*P	**P**	**13 21 02.1**	**-0.6**
CHKZ			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8					
STKA	**Stephens Creek**	**55.30 132**	P	**P**	**13 21 04.1**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.3,baz=301,slow=8.6,SNR=5.6					
STKA	**Stephens Creek**	**55.30 132**	*e*P	**P**	**13 21 03.5**	**-1.5**
KLR	**Kul'dur**	**55.66 28**	*e*P	**P**	**13 21 09.1**	**+1.6**
BOD	**Bodaibo**	**56.92 11**	*e*P	**P**	**13 21 13.5**	**-3.0**
BOD			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5					
ARU	**Arti**	**61.38 337**	⇓*i*P	**P**	**13 21 47.7**	**+0.3**
ARU			*e*		13 24 01.5	
ARU			*e*PPP		13 25 31.2	
ARU			*e*S	**S**	**13 30 13.0**	**+7.3**
ARU			pmax	pmax		
	comp=Z,21nm,0.8s,mb5.3					
YAK	**Yakutsk**	**64.49 17**	*e*P	**P**	**13 22 06.3**	**-1.8**
	comp=Z,19nm,0.9s,mb5.1					
YAK			*e*	pP	13 22 14.4	-4.4
YAK	**Yakutsk**	**64.49 17**	*e*P	**P**	**13 22 06.3**	**-1.8**
YAK			*e*	pP	13 22 14.4	-4.4
YAK			pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1					
BRTR	**Keskin Array B**	**67.17 312**	P	**P**	**13 22 24.9**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=129,slow=9.9,SNR=2.9					
MA2	**Magadan**	**70.69 26**	P	**P**	**13 22 45.2**	**-2.0**
	comp=Z,4.9nm,0.9s,mb4.4					
MA2	**Magadan**	**70.69 26**	P	**P**	**13 22 45.2**	**-2.0**
MA2			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
OBN	**Obninsk**	**70.72 328**	⇑*e*P	**P**	**13 22 43.8**	**-3.6**
OBN			pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7					
OBN			MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2					
AKASG	**Malin Array Be**	**73.33 322**	P	**P**	**13 23 02.1**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=96,slow=5.0,SNR=6.0					
FINES	**FINESS Array B**	**78.14 333**	P	**P**	**13 23 30.4**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=107,slow=6.4,SNR=8.7					
ARCES	**ARCESS Array B**	**80.78 340**	P	**P**	**13 23 45.0**	**+0.2**
	comp=Z,6.5nm,1.1s,mb4.5,baz=96,slow=6.3,SNR=9.6					
GERES	**GERESS Array B**	**82.87 319**	P	**P**	**13 23 57.9**	**+2.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=96,slow=5.9,SNR=8.8					
NVAR	**Mina Array Bea**	**128.44 34**	PKP	PKPdf	13 30 40.6	+2.6
	comp=Z,0.6nm,0.7s,baz=261,slow=2.9,SNR=4.7					

ISCJB ***28*** *13:17:02.9±0.7, 5834N±006×15130W±009, h47km±13km, mb3.8/1, Error ellipse: s-maj=10.9km s-min=6.2km az=109.8*

IDC ***28*** *13:17:03.9±1.2, 5817N×15130W, h40km±24km, mb3.5/1, mb1 3.8/5, mb1mx3.5/22, mbtmp3.7/5, ML3.7/4, Error ellipse: s-maj=39.6km s-min=12.8km az=155.0*

NEIC ***28*** *13:17:04.0, 5830N×15137W, h26km, ML3.8(AEIC), ML3.9(PMR), After AEIC.*

ISC 28 13:17:04.3±0.7, 5831N±006×15133W±009, h38km±17km, n33, σ0°75/41, mb3.8/1, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.85**	**232**	P	**Pn**	**13 17 19.1**	**-0.8**
	490nm,0.3s,baz=56,slow=14						
KDAK				S	**Sn**	**13 17 30.0**	**-1.0**
	583nm,0.3s,baz=189,slow=18,SNR=33						
KDAK	**Kodiak Island**	**0.85**	**232**	P	**Pn**	**13 17 19.4**	**-0.5**
KDAK				S	**Sn**	**13 17 29.9**	**-1.2**
SEW	**Seward**	**2.04**	**28**	P	**Pn**	**13 17 36.1**	**0.0**
SEW				S	**Sn**	**13 17 59.7**	**-0.7**
SLKM	**Skilak Lake**	**2.27**	**14**	P	**Pn**	**13 17 39.7**	**+0.3**
RC01	**Rabbit Creek A**	**2.90**	**15**	P	**Pn**	**13 17 48.3**	**+0.3**
FIB	**Fire Island**	**2.92**	**11**	P	**Pn**	**13 17 49.3**	**+1.1**
PMR	**Palmer**	**3.47**	**18**	*e*P	**Pn**	**13 17 55.8**	**0.0**
SVW2	**Sparrevohn**	**3.53**	**324**	P	**Pn**	**13 17 56.2**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.63**	**49**	P	**Pn**	**13 17 58.0**	**+0.1**
EYAK				S	**Sn**	**13 18 37.7**	**-1.9**
GHO	**Glory Hole Cre**	**3.67**	**18**	P	**Pn**	**13 17 58.9**	**+0.3**
SML	**Sawmill**	**3.82**	**22**	P	**Pn**	**13 18 00.7**	**+0.2**
DIV	**Divide**	**3.99**	**43**	P	**Pn**	**13 18 02.9**	**0.0**
DIV				S	**Sn**	**13 18 47.2**	**-1.2**
BMRM	**Bremner River**	**4.33**	**49**	P	**Pn**	**13 18 07.7**	**+0.1**
BMRM				S	**Sn**	**13 18 55.3**	**-1.6**
TT01	**Tatalina**	**5.16**	**335**	P	**Pn**	**13 18 18.6**	**-0.3**
TTA	**Tatalina**	**5.17**	**336**	*e*P	**Pn**	**13 18 19.4**	**+0.2**
TRF	**Thorofare Moun**	**5.18**	**5**	P	**Pn**	**13 18 19.8**	**+0.4**
KTH	**Kantishna Hill**	**5.26**	**2**	P	**Pn**	**13 18 21.0**	**+0.6**
PAX	**Paxson**	**5.49**	**29**	P	**Pn**	**13 18 24.8**	**+1.2**
MCK	**McKinley**	**5.56**	**11**	P	**Pn**	**13 18 25.3**	**+0.8**
MENT	**Mentasta**	**5.96**	**36**	*e*P	**Pn**	**13 18 31.1**	**+1.1**
COLA	**College**	**6.79**	**13**	P	**Pn**	**13 18 41.3**	**-0.1**
IL1	**Eielson Array**	**6.82**	**16**	P	**Pn**	**13 18 41.5**	**-0.3**
ILAR	**Eielson Array**	**6.82**	**16**	P	**Pn**	**13 18 41.7**	**-0.1**
	2.2nm,0.3s,baz=204,slow=14,SNR=121						
ILAR				S	**Sn**	**13 19 54.3**	**-3.8**
	1.3nm,0.3s,baz=201,slow=24,SNR=5.2						
GCSA	**Galena City Sc**	**6.98**	**340**	P	**Pn**	**13 18 44.5**	**+0.5**
IM3	**Indian Mountai**	**7.78**	**353**	P	**Pn**	**13 18 54.5**	**-0.5**
DAWY	**Dawson**	**8.15**	**40**	*e*Pn	**Pn**	**13 18 59.8**	**-0.2**
WHY	**Whitehorse**	**8.69**	**67**	P	**Pn**	**13 19 08.2**	**+0.7**
BM3	**Burnt Mountain**	**9.63**	**16**	P	**Pn**	**13 19 19.5**	**-0.9**
DLBC	**Dease Lake**	**11.18**	**80**	P	**Pn**	**13 19 42.7**	**+1.2**
	0.3nm,0.3s,baz=190,slow=12,SNR=9.0						
DLBC				S	**Sn**	**13 21 40.7**	**-4.5**
	0.1nm,0.3s,baz=165,slow=18,SNR=3.1						
INK	**Inuvik**	**12.76**	**31**	P	**Pn**	**13 20 04.2**	**+1.0**
	0.1nm,0.3s,baz=217,slow=10,SNR=5.7						
INK	**Inuvik**	**12.76**	**31**	P	**Pn**	**13 20 04.2**	**+1.0**
YKA	**Yellowknife Ar**	**18.44**	**61**	P	**Pn**	**13 21 17.3**	**+0.5**
	baz=273,slow=10,SNR=40						
SONM	**Songino Array**	**56.49**	**308**	P	**P**	**13 26 42.1**	**-0.5**
	1.0nm,1.0s,mb3.8,baz=37,slow=5.9,SNR=6.3						

ORF ***28*** *13:31:45.7, 2797N×14094E, h30km, mb5.8*

NIED ***28*** *13:32:00, 3180N×13820E, h420km, Mw5.8 Best double couple: M0:6.12000×10^17 NP1:φs352.00000°, δ87.00000°, λ-76.00000°. NP2:φs95.00000°, δ14.00000°, λ-166.00000°.*

ISCJB ***28*** *13:32:47.0±0.1, 3168N±001×13782E±002, h407km, mb5.5/279, Error ellipse: s-maj=2.2km s-min=1.8km az=87.1*

BJI ***28*** *13:32:46.4, 3173N×13768E, h394km, mB5.7, mb5.8*

JMA ***28*** *13:32:46.6±0.4, 3184N×13815E, h439km±4km, M6.0*

JMA Felt III J1.

NEIC ***28*** *13:32:47.6±0.1, 3171N×13775E, mb5.5/170, MW5.9, MW5.8(NIED), Error ellipse: s-maj=2.9km s-min=2.5km az=157.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^18Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M0:1.00000×10^18 NP1:φs163.00000°, δ89.00000°, λ78.00000°. NP2: φs69.00000°, δ12.00000°, λ176.00000°. Principal axes: T 1.1000, Plg45.0000°, Azm62.0000°; N -0.1300, Plg12.0000°, Azm163.0000°; P -0.9600, Plg43.0000°, Azm264.0000°;*

NEIC Felt [III] at Tokyo and Zushi; [II] at Yokosuka, Honshu. Recorded [3 JMA] in Ibaraki; [2 JMA] in Chiba, Fukushima, Gumma, Kanagawa, Miyagi, Saitama, Tochigi and Tokyo; [1 JMA] in Iwate, Nagano and Shizuoka Prefectures, Honshu. Also recorded [1 JMA] on Hachijo-jima, Mikura-jima, Miyake-jima and in the Chichijima-retto.

HRVD ***28*** *13:32:47.6±0.2, 3172N×13779E, h412km±1km, MW5.9/90, Centroid moment Tensor Solution. LP body waves: s90, c193; Half duration: 2±2 Moment tensor: Scale 10^17 Nm; Mrr0.23±.09; Mθθ1.70±.13; Mφφ-1.92±.14; Mrθ2.28±.14; Mθφ-1.33±.12; Mφr-8.56±.12; Best double couple: M0:9.11700×10^17 NP1:φs66.00000°, δ13.00000°, λ172.00000°. NP2:φs164.00000°, δ88.00000°, λ77.00000°. Principal axes: T 8.7350, Plg45.0000°, Azm61.0000°; N 0.7690, Plg13.0000°, Azm164.0000°; P -9.4990, Plg42.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s.*

MOS ***28*** *13:32:47.3±0.9, 3174N×13775E, h409km, mb5.5/119, MS5.0/24 Error ellipse: s-maj=6.6km s-min=3.6km az=106.4*

IDC ***28*** *13:32:48.0±0.4, 3173N×13775E, h407km±3km, mb5.0/35, mb1 5.1/39, mb1mx5.1/39, mbtmp5.7/39, Error ellipse: s-maj=6.8km s-min=4.9km az=73.0*

SZGRF ***28*** *13:32:50.4, 3176N×13808E, h423km, mb5.5, Southeast of Honshu, Japan*

ISC 28 13:32:48.4±0.1, 3173N±001×13785E±002, h408km, h408km±1.8km; pP-P, n994, σ1°±03/1078, mb5.5/278, 202C-141D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**2.04**	**354**	P	**Pn**	**13 33 46.6**	**+1.2**
JHJ	**Hachijo jima 2**	**2.15**	**49**	P	**Pn**	**13 33 46.1**	**0.0**
	6μm,0.3s,baz=194,slow=5.4,SNR=1293						
JHJ				S	**S**	**13 34 30.6**	**-2.1**
	6μm,0.3s,baz=224,slow=24,SNR=11						
JHJ2	**Mitsune**	**2.16**	**50**	⇓P	**Pn**	**13 33 45.9**	**-0.3**
TK02	**Tokai 2**	**2.21**	**358**	⇓P	**Pn**	**13 33 47.7**	**+1.2**
TK03	**Tokai 3**	**2.43**	**2**	P	**Pn**	**13 33 48.8**	**+0.8**
TK03				*e*S	**S**	**13 34 38.9**	**+2.7**
JWZ	**Kozaga**	**2.54**	**316**	⇑P	**Pn**	**13 33 50.0**	**+1.2**
JWZ				S	**S**	**13 34 38.7**	**+1.1**
TK04	**Tokai 4**	**2.65**	**0**	⇓P	**Pn**	**13 33 50.9**	**+1.3**
TK04				*e*S	**S**	**13 34 41.4**	**+2.4**
JKO	**Kozu shima**	**2.68**	**23**	P	**Pn**	**13 33 49.9**	**+0.1**
JIE	**Ise**	**2.82**	**340**	⇑P	**Pn**	**13 33 52.2**	**+1.3**
JIE				S	**S**	**13 34 42.3**	**+0.8**
JKN2	**Miekihoku**	**2.83**	**333**	⇑P	**Pn**	**13 33 52.0**	**+1.1**
JWM	**Minabe**	**2.98**	**316**	⇑P	**Pn**	**13 33 53.5**	**+1.4**
JIZS	**Izushimoda**	**3.10**	**16**	⇓P	**Pn**	**13 33 53.1**	**0.0**
HMMJ	**Hamamatsu 2**	**3.12**	**358**	⇓P	**Pn**	**13 33 54.1**	**+0.8**
JWY	**Kouya**	**3.12**	**323**	P	**Pn**	**13 33 54.9**	**+1.6**
JWY				*e*S	**S**	**13 34 47.3**	**+1.5**
JIM2	**Oshima 3**	**3.26**	**24**	P	**Pn**	**13 33 53.6**	**-0.8**
JIM2				*e*S	**S**	**13 34 44.4**	**-3.5**
SHZ3	**Shizuoka 3**	**3.34**	**5**	⇓P	**Pn**	**13 33 55.8**	**+0.7**
JHE	**Heguri**	**3.44**	**329**	⇑P	**Pn**	**13 33 57.2**	**+1.3**
JAI	**Aioi**	**3.52**	**307**	⇑P	**Pn**	**13 33 58.1**	**+1.4**
JAI				*e*S	**S**	**13 34 53.2**	**+1.1**
MRT2	**Murotomisaki 2**	**3.54**	**299**	⇑P	**Pn**	**13 33 58.4**	**+1.6**
JAO	**Obara**	**3.56**	**352**	⇓P	**Pn**	**13 33 58.0**	**+1.0**
JNY	**Yasuok**	**3.62**	**0**	⇓P	**Pn**	**13 33 58.3**	**+0.8**
JAJ2	**Tsuna**	**3.66**	**318**	⇑P	**Pn**	**13 33 59.1**	**+1.2**
JOD2	**Odawara 2**	**3.67**	**16**	⇓P	**Pn**	**13 33 57.1**	**-0.9**
JOD2				*e*S	**S**	**13 34 51.3**	**-3.2**
BSO3	**Boso 3**	**3.79**	**35**	P	**Pn**	**13 33 56.6**	**-2.5**
JYN	**Shimob**	**3.80**	**9**	⇓P	**Pn**	**13 33 59.3**	**+0.1**
BSO4	**Boso 4**	**3.86**	**32**	P	**Pn**	**13 33 57.7**	**-2.0**
JGF	**Kuroka**	**3.88**	**354**	P	**Pn**	**13 34 00.5**	**+0.6**
JMN	**Monobe**	**3.89**	**302**	⇑P	**Pn**	**13 34 01.8**	**+1.8**
JMN				*e*S	**S**	**13 35 00.1**	**+1.9**
BSO1	**Boso 1**	**3.92**	**41**	P	**Pn**	**13 33 57.5**	**-2.8**
JGM	**Miyama**	**4.07**	**347**	P	**Pn**	**13 34 02.9**	**+1.2**
JGM				*e*S	**S**	**13 35 00.1**	**-1.1**
JWT	**Wachi**	**4.09**	**331**	⇑P	**Pn**	**13 34 03.0**	**+1.1**
JWT				*e*S	**S**	**13 35 01.5**	**0.0**
JKS	**Kasai**	**4.11**	**323**	⇑P	**Pn**	**13 34 02.9**	**+0.9**
JNT	**Takato**	**4.14**	**3**	P	**Pn**	**13 34 02.8**	**+0.4**
JJS	**Sakaide**	**4.22**	**310**	⇑P	**Pn**	**13 34 04.5**	**+1.4**
JKU	**Kubokawa**	**4.34**	**293**	⇑P	**Pn**	**13 34 06.0**	**+1.8**
JRY	**Ryogami san**	**4.37**	**11**	⇓P	**Pn**	**13 34 03.9**	**-0.6**
JRY				*e*S	**S**	**13 35 01.9**	**-4.4**
JTO	**Tosashimizu**	**4.42**	**286**	⇑P	**Pn**	**13 34 06.7**	**+1.7**
JTO				*e*S	**S**	**13 35 08.4**	**+1.1**
JGN	**Niukaw**	**4.50**	**355**	P	**Pn**	**13 34 06.2**	**+0.3**
JET	**Tanbara**	**4.53**	**298**	⇑P	**Pn**	**13 34 07.9**	**+1.8**
UWA2	**Uwa jima 2**	**4.66**	**290**	⇑P	**Pn**	**13 34 09.3**	**+1.9**
MJAR	**Matsushiro Arr**	**4.81**	**3**	P	**Pn**	**13 34 07.9**	**-1.0**
	283nm,0.3s,baz=168,slow=11,SNR=1648						
MJAR				S	**S**	**13 35 10.6**	**-3.8**
	148nm,0.3s,baz=164,slow=14,SNR=7.7						
MAJO	**Matsushiro**	**4.81**	**3**	*e*Pn	**Pn**	**13 34 08.4**	**-0.5**
MAT	**Matsushiro**	**4.81**	**3**	P	**Pn**	**13 34 08.1**	**-0.8**
MAT				*e*S	**S**	**13 35 11.2**	**-3.2**
MAT	**Matsushiro**	**4.81**	**3**	P	**Pn**	**13 34 08.1**	**-0.8**
MAT				S	**S**	**13 35 11.4**	**-3.0**
MAT	**Matsushiro**	**4.81**	**3**	*e*P	**Pn**	**13 34 08.0**	**-0.9**
MAT				*e*S	**S**	**13 35 11.0**	**-3.4**
JAG	**Ashikaga**	**4.87**	**15**	P	**Pn**	**13 34 07.1**	**-2.4**
JAG				*e*S	**S**	**13 35 08.7**	**-6.8**
JNA	**Nagahama**	**4.88**	**293**	⇑P	**Pn**	**13 34 11.7**	**+2.1**
JTT	**Ttatey**	**4.88**	**355**	P	**Pn**	**13 34 10.5**	**+0.9**
JJG	**Jouge**	**4.89**	**308**	⇑P	**Pn**	**13 34 11.1**	**+1.4**
JKR	**Kurayoshi**	**4.96**	**318**	⇑P	**Pn**	**13 34 12.0**	**+1.6**
JHM	**Kurahashi**	**5.08**	**300**	⇑P	**Pn**	**13 34 13.2**	**+1.6**
JHS	**Saijyo**	**5.13**	**311**	⇑P	**Pn**	**13 34 13.7**	**+1.5**
JHS				*e*S	**S**	**13 35 22.1**	**+1.8**
JUS	**Usuki**	**5.33**	**286**	⇑P	**Pn**	**13 34 16.3**	**+2.1**
JUS				S	**S**	**13 35 26.2**	**+2.1**
JJN	**Nakama**	**5.37**	**3**	P	**Pn**	**13 34 14.1**	**-0.5**
JHT	**Toyohira**	**5.41**	**304**	⇑P	**Pn**	**13 34 16.0**	**+0.9**
JTSN	**Tsuno**	**5.42**	**277**	⇑P	**Pn**	**13 34 15.5**	**+2.4**
JKIT	**Kitakata**	**5.50**	**281**	⇑P	**Pn**	**13 34 18.5**	**+2.5**
JNM	**Ikuma**	**5.50**	**314**	P	**Pn**	**13 34 17.5**	**+1.5**
JKD	**Kudamatsu**	**5.54**	**296**	⇑P	**Pn**	**13 34 18.2**	**+1.8**
OIT2	**Oita 2**	**5.62**	**288**	P	**Pn**	**13 34 19.7**	**+2.4**
JGT	**Gotsu**	**5.67**	**307**	P	**Pn**	**13 34 19.0**	**+1.2**
JHIK	**Hikimi**	**5.70**	**301**	⇑P	**Pn**	**13 34 19.4**	**+1.3**
JSZ	**Suzu**	**5.72**	**356**	⇑P	**Pn**	**13 34 17.9**	**-0.4**
JTZ	**Takazaki**	**5.76**	**273**	⇑P	**Pn**	**13 34 21.3**	**+2.6**
SAI	**Saigo**	**5.83**	**321**	P	**Pn**	**13 34 20.5**	**+1.0**
SAI				*e*S	**S**	**13 35 34.3**	**+0.6**
ONAJ	**Iwakimizuishiy**	**5.89**	**24**	P	**Pn**	**13 34 17.9**	**-2.2**
JTSR	**Tashiro 2**	**5.95**	**266**	⇑P	**Pn**	**13 34 23.4**	**+2.6**
CBIJ	**Chichi jima**	**5.97**	**140**	P	**Pn**	**13 34 17.7**	**-3.3**
	2μm,0.3s,baz=347,slow=3.8,SNR=172						
CBIJ				S	**S**	**13 35 28.9**	**-7.5**
	4μm,0.3s,baz=316,slow=20,SNR=18						
JTN	**Tanegashima 3**	**5.98**	**261**	⇑P	**Pn**	**13 34 23.4**	**+2.2**
JIU2	**Izumi 2**	**6.02**	**280**	P	**Pn**	**13 34 23.9**	**+2.3**
JNU	**Nakatsue**	**6.05**	**285**	P	**Pn**	**13 34 24.1**	**+2.1**
	92nm,0.3s,baz=90,slow=11,SNR=161						
JNU				S	**S**	**13 35 32.5**	**-5.7**
	11nm,0.3s,baz=141,slow=0.9,SNR=1.7						
JFK	**Kawauchi**	**6.15**	**23**	P	**Pn**	**13 34 20.8**	**-2.2**
JZO	**Okuchi**	**6.18**	**276**	P	**Pn**	**13 34 25.4**	**+2.1**
JNS	**Sasagawa**	**6.19**	**11**	P	**Pn**	**13 34 21.9**	**-1.5**
JTY	**Toyota**	**6.23**	**296**	P	**Pn**	**13 34 25.5**	**+1.6**
JFA	**Akaike**	**6.26**	**290**	⇑P	**Pn**	**13 34 25.8**	**+1.6**
JSU	**Suzuyama**	**6.31**	**270**	P	**Pn**	**13 34 26.8**	**+2.1**
JFI	**Itaya**	**6.52**	**287**	P	**Pn**	**13 34 28.8**	**+1.8**
JHD	**Hondo**	**6.58**	**278**	P	**Pn**	**13 34 29.9**	**+2.2**
JKC	**Kuchinoerabu**	**6.68**	**261**	⇑P	**Pn**	**13 34 30.4**	**+1.6**
JAW	**Awa shima**	**6.81**	**9**	P	**Pn**	**13 34 28.7**	**-1.5**
JUR	**Ureshino**	**6.82**	**284**	P	**Pn**	**13 34 32.3**	**+2.0**
NGSJ	**Nagasakinomoza**	**6.88**	**280**	P	**Pn**	**13 34 33.1**	**+2.1**
JSJ	**Shimokoshiki**	**6.93**	**272**	⇑P	**Pn**	**13 34 33.6**	**+2.1**
JOU	**Okura**	**7.01**	**18**	P	**Pn**	**13 34 31.2**	**-1.2**
JYK	**Kaneyama**	**7.46**	**15**	P	**P**	**13 34 36.2**	**-1.3**
JTU	**Tsushima**	**7.62**	**294**	P	**P**	**13 34 40.6**	**+1.4**
JMK	**Ichinoseki**	**7.71**	**20**	⇑P	**P**	**13 34 38.6**	**-1.7**
JMK				*e*S	**S**	**13 36 04.7**	**-7.2**
OFUJ	**Ofunato**	**7.97**	**22**	P	**P**	**13 34 41.8**	**-1.4**
JRG	**Rokugo**	**7.98**	**16**	P	**P**	**13 34 42.2**	**-1.1**
JTK	**Tokunoshima**	**8.67**	**245**	P	**P**	**13 34 52.5**	**+1.5**
JKZ	**Kuzumaki**	**8.71**	**18**	P	**P**	**13 34 50.5**	**-0.9**
JOW	**Kunigami**	**9.68**	**242**	P	**P**	**13 35 04.5**	**+2.4**
	171nm,0.3s,baz=33,slow=6.9,SNR=98						
JOW				S	**S**	**13 36 52.6**	**+0.5**
	baz=224,slow=29,SNR=14						
JOT	**Ohata**	**9.97**	**14**	P	**P**	**13 35 04.9**	**-0.5**
KS15	**Wonju Array Si**	**9.99**	**307**	⇓*e*P	**P**	**13 35 06.0**	**+0.4**
KS15				*e*S	**S**	**13 37 01.0**	**+2.4**
INCN	**Inchon**	**10.88**	**305**	⇓*i*P	**P**	**13 35 16.0**	**+0.6**
	2μm,0.8s						
INCN				*e*S	**S**	**13 37 15.8**	**-0.8**
JEM	**Erimo**	**11.11**	**21**	P	**P**	**13 35 18.1**	**+0.1**
JNBK	**Urakawa-nobuka**	**11.23**	**19**	P	**P**	**13 35 19.6**	**+0.3**
JAB	**Ashibetsu**	**12.25**	**15**	P	**P**	**13 35 30.6**	**0.0**
VLA	**Vladivostok**	**12.31**	**339**	*e*P	**P**	**13 35 30.3**	**-0.9**
VLA	**Vladivostok**	**12.31**	**339**	*e*P	**P**	**13 35 33.0**	**+1.8**
VLA				*i* S	**S**	**13 37 42.4**	**-3.3**
VLA			pmax	pmax			
	comp=Z,169nm,0.9s						
VLA			MLR	MLR			
	comp=Z,1μm,12.3s						
ASAJ	**Asahikawa**	**12.92**	**15**	P	**P**	**13 35 38.0**	**+0.2**
	comp=Z,60nm,0.3s,baz=221,slow=11,SNR=186						
ASAJ				S	**S**	**13 37 54.5**	**-3.5**
	comp=Z,9.1nm,0.3s,baz=202,slow=28,SNR=3.6						
ASAJ	**Asahikawa**	**12.92**	**15**	P	**P**	**13 35 38.1**	**+0.2**
ASAJ				S	**S**	**13 37 54.5**	**-3.4**
ASAJ			pmax	pmax			
	comp=Z,60nm,0.3s						
ASAJ			smax				
	comp=N,9.0nm,0.3s						
JMP	**Maruseppu**	**13.00**	**18**	P	**P**	**13 35 39.5**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**13.81**	**25**	*e*P	**P**	**13 35 48.1**	**+0.5**
YUK				*i* S	**S**	**13 38 16.5**	**+0.7**
YUK			pmax	pmax			
	comp=Z,2μm,0.4s						
YUK			pmax	pmax			
	comp=N,2μm,0.5s						
YUK			pmax	pmax			
	comp=E,880nm,0.4s						
YUK			pmax	pmax			
	comp=Z,8μm,1.0s						
YUK			pmax	pmax			
	comp=N,12μm,2.0s						
YUK			pmax	pmax			
	comp=E,2μm,1.0s						
YUK			smax				
	comp=N,29μm,1.0s						
YUK			smax				
	comp=E,18μm,1.0s						
YUK			smax				
	comp=N,6μm,0.5s						
YUK			smax				
	comp=E,4μm,0.6s						
YUK			MLR	MLR			
	comp=Z,11μm,14.0s						
YUK			MLR	MLR			
	comp=N,17μm,16.0s						
YUK			MLR	MLR			
	comp=E,14μm,14.0s						
SSE	**Sheshan**	**14.25**	**272**	P	**P**	**13 35 51.0**	**-1.3**
SSE			XP		13 37 25.0		
SSE			S	**S**	**13 38 22.3**	**-2.2**
SSE			PCP	PcP	13 40 38.8	-1.0
SSE			SCP	ScP	13 43 32.8	-1.2
SSE			SCS	ScS	13 47 09.8	-1.8
SSE			AMB	AMB			
	comp=Z,167nm,1.1s						
SSE			AMB	AMB			
	comp=Z,3μm,6.5s						
SSE			LR	LR			
	comp=N,5μm,11.0s						
SSE			LR	LR			
	comp=E,3μm,11.0s						
SSE			LR	LR			
	comp=Z,5μm,11.8s						
MDJ	**Mudanjiang**	**14.40**	**336**	P	**P**	**13 35 54.3**	**+0.3**
MDJ			S	**S**	**13 38 24.3**	**-3.3**
MDJ			SCP	ScP	13 43 33.0	-1.3
MDJ			SCS	ScS	13 47 11.5	-0.5
MDJ			AMB	AMB			
	comp=Z,60nm,1.1s						
MDJ			AMB	AMB			
	comp=Z,781nm,7.7s						
MDJ			LR	LR			
	comp=N,2μm,14.8s						
MDJ			LR	LR			
	comp=E,4μm,14.8s						
MDJ			LR	LR			
	comp=Z,4μm,12.8s						
MDJ	**Mudanjiang**	**14.40**	**336**	⇓*i*P	**P**	**13 35 54.2**	**+0.2**
	comp=Z,84nm,0.8s						
MDJ			*e*S	**S**	**13 38 24.7**	**-2.9**
MDJ			*e*ScP	ScP	13 43 32.6	-1.7
DL2	**Dalian**	**15.04**	**303**	*i* PR		13 36 01.3	
DL2			S	**S**	**13 38 39.0**	**-1.3**
DL2			SCP	ScP	13 43 35.8	+0.4
DL2			SCS	ScS	13 47 11.8	-1.9

YSS				pmax	pmax	
	comp=Z,100nm,1.0s					
YSS				smax		
	comp=N,1μm,1.5s					
YSS				smax		
	comp=E,1μm,1.5s					
YSS				smax		
	comp=N,6μm,6.0s					
YSS				smax		
	comp=E,13μm,6.0s					
YSS				MLR	MLR	
	comp=Z,2μm,12.0s					
YSS				MLR	MLR	
	comp=N,2μm,13.0s					
TATO	**Taipei**	**15.89 249**	⇓*i*P	**P**	**13 36 09.6 -0.5**	
	comp=N,363nm,0.6s					
YHNB	**Yeheng**	**16.13 248**	⇓*i*P	**P**	**13 36 11.2 -1.4**	
YHNB			*e*S	**S**	**13 39 01.3 -0.3**	
NJ2	**Nanjing**	**16.14 276**	*e*P	**P**	**13 36 12.0 -0.8**	
NJ2			XP	sP	13 37 51.8 -8.6	
NJ2			S	**S**	**13 38 52.0 -10**	
NJ2			XS		13 39 00.5	
NJ2			AMB	AMB		
	comp=Z,180nm,0.8s					
NJ2			AMB	AMB		
	comp=Z,2μm,8.8s					
NJ2			LR	LR		
	comp=N,8μm,12.0s					
NJ2			LR	LR		
	comp=E,15μm,11.2s					
NJ2			LR	LR		
	comp=Z,7μm,11.5s					
NACB	**Ninganchiao**	**16.20 246**	*e*P	**P**	**13 36 11.2 -2.2**	
NACB			*e*S	**S**	**13 38 58.5 -4.6**	
NACB			*e*ScP	ScP	13 43 38.8 +1.1	
HABR	**Khabarovsk**	**16.86 354**	⇑*i*P	**P**	**13 36 20.3 -0.1**	
HABR			*e*S	**S**	**13 39 16.2 +0.4**	
HABR			pmax	pmax		
	comp=Z,171nm,0.8s					
UGL	**Uglegorsk**	**17.62 9**α	*i*P	**P**	**13 36 29.0 +0.5**	
UGL			*i* S	**S**	**13 39 30.0 -0.5**	
UGL			pmax	pmax		
	comp=N,4μm,5.0s					
UGL			pmax	pmax		
	comp=E,2μm,5.0s					
UGL			pmax	pmax		
	comp=Z,7μm,5.0s					
UGL			pmax	pmax		
	comp=N,150nm,0.8s					
UGL			pmax	pmax		
	comp=E,260nm,0.8s					
UGL			pmax	pmax		
	comp=Z,950nm,0.8s					
UGL			smax			
	comp=N,1μm,2.0s					
UGL			smax			
	comp=E,2μm,2.0s					
UGL			smax			
	comp=N,10μm,7.0s					
UGL			smax			
	comp=E,23μm,12.0s					
UGL			MLR	MLR		
	comp=N,2μm,15.0s					
UGL			MLR	MLR		
	comp=Z,2μm,15.0s					
UGL			MLR	MLR		
	comp=E,3μm,12.0s					
TIA	**Tai'an**	**17.76 290**	⇑P	**P**	**13 36 29.0 -0.9**	
TIA			S	**S**	**13 39 30.5 -2.6**	
TIA			AMB	AMB		
	comp=Z,512nm,0.8s					
TIA			AMB	AMB		
	comp=Z,4μm,5.0s					
TIA			LR	LR		
	comp=N,2μm,8.4s					
TIA			LR	LR		
	comp=E,2μm,8.9s					
KLR	**Kul'dur**	**18.08 347**	*e*P	**P**	**13 36 29.5 -3.8**	
KLR			*i* S	**S**	**13 39 34.0 -5.2**	
KLR			pmax	pmax		
	comp=E,140nm,1.8s					
KLR			pmax	pmax		
	comp=Z,460nm,1.8s					
KLR			smax			
	comp=N,4μm,13.0s					
KLR			smax			
	comp=E,13μm,13.0s					
QZH	**Quanzhou**	**18.24 253**	⇓*i*P	**P**	**13 36 32.5 -2.5**	
QZH			S	**S**	**13 39 35.0 -7.3**	
QZH			AMB	AMB		
	comp=Z,360nm,0.8s					
QZH			AMB	AMB		
	comp=Z,6μm,6.0s					
QZH			LR	LR		
	comp=N,7μm,7.5s					
QZH			LR	LR		
	comp=E,7μm,11.4s					
QZH			LR	LR		
	comp=Z,10μm,15.4s					
GUMO	**Guam**	**19.17 159**	P	**P**	**13 36 44.4 -0.2**	
	comp=Z,36nm,0.3s,baz=305,slow=3.2,SNR=7.7					
GUMO	**Guam**	**19.17 159**	*e*P	**P**	**13 36 43.4 -1.2**	
	comp=Z,194nm,0.9s					
GUMO	**Guam**	**19.17 159**	*e*P	**P**	**13 36 43.4 -1.2**	
GUMO			pmax	pmax		
	comp=Z,194nm,0.9s					
BJT	**Baijiatuau**	**19.39 301**	⇓*i*P	**P**	**13 36 44.5 -2.0**	
	comp=Z,744nm,0.9s					
BJT			*e*S	**S**	**13 39 54.2 -7.1**	
BJT			*e*ScP	ScP	13 43 44.8 +0.4	
BJT	**Baijiatuau**	**19.39 301**	⇓*i*P	**P**	**13 36 44.5 -2.1**	
BJT			*e*S	**S**	**13 39 54.2 -7.1**	
BJT			pmax	pmax		
	comp=Z,744nm,0.9s					
BJI	**Beijing**	**19.39 301**	P	**P**	**13 36 45.0 -1.6**	
BJI			S	**S**	**13 39 57.0 -4.3**	
BJI			SCP	ScP	13 43 44.0 -0.4	
BJI			SCS	ScS	13 47 25.8 -1.0	
BJI			AMB	AMB		
	comp=Z,704nm,1.0s					
BJI			AMB	AMB		
	comp=Z,7μm,3.3s					
SGCP	**Mt. Cagua**	**19.60 230**	*e*P	**P**	**13 36 46.7 -1.8**	
CVP	**Callao Caves**	**20.14 230**	*e*P	**P**	**13 36 52.5 -1.0**	
WHN	**Wuhan**	**20.15 273**	⇓P	**P**	**13 36 53.0 -0.5**	
WHN			S	**S**	**13 40 17.0 +3.4**	
WHN			AMB	AMB		
	comp=Z,9μm,9.4s					
WHN			LR	LR		
	comp=Z,12μm,10.7s					
PALP	**Palanan**	**20.22 227**	*e*P	**P**	**13 36 53.7 -0.6**	
APYP	**Conner**	**20.40 231**	*e*P	**P**	**13 36 53.7 -2.2**	
PIP	**Pasuquin**	**20.50 233**	⇑*e*P	**P**	**13 36 54.5 -2.2**	
CAUP	**Cauayan**	**20.69 228**	*e*P	**P**	**13 36 59.0 +0.4**	
ABRA	**Dolores**	**20.91 232**	*e*P	**P**	**13 36 58.7 -1.8**	
BALP	**Baler**	**21.75 227**	*e*P	**P**	**13 37 07.5 -0.7**	
BCPH	**Baguio City Da**	**21.91 230**	⇓*e*P	**P**	**13 37 07.8 -1.8**	
PVCP	**Virac**	**21.99 218**	*e*P	**P**	**13 37 10.6 +0.3**	
HIA	**Hailar**	**22.18 327**	⇓*i*P	**P**	**13 37 12.1 0.0**	
	comp=Z,286nm,1.0s,mb5.7					
HIA			*e*S	**S**	**13 40 47.4 +1.0**	
HIA			*e*ScP	ScP	13 43 51.1 -0.2	
HIA	**Hailar**	**22.18 327**	⇓*i*P	**P**	**13 37 12.1 0.0**	
HIA			*e*S	**S**	**13 40 47.4 +1.0**	
HIA			pmax	pmax		
	comp=Z,286nm,1.0s					
POLP	**Polilio Island**	**22.31 224**	*e*P	**P**	**13 37 13.4 +0.1**	
BOLP	**Bolinao**	**22.35 231**	*e*P	**P**	**13 37 12.3 -1.3**	
CNP	**Catarman**	**22.65 215**	*e*P	**P**	**13 37 16.8 +0.5**	
SCZP	**Santa Cruz**	**22.79 230**	*e*P	**P**	**13 37 17.4 -0.1**	
HHC	**Hu-ho-hao-te**	**22.99 301**	⇓*i*P	**P**	**13 37 19.3 -0.1**	
HHC			S	**S**	**13 40 58.0 -1.1**	
HHC			SCP	ScP	13 43 54.5 +1.1	
HHC			PCS	PcS	13 44 34.3 -0.2	
HHC			AMB	AMB		
	comp=Z,283nm,0.9s,mb5.7					
HHC			LR	LR		
	comp=N,2μm,10.0s					
HHC			LR	LR		
	comp=E,4μm,13.4s					
HHC			LR	LR		
	comp=Z,5μm,12.7s					
AUQP	**San Andres**	**23.02 221**	*e*P	**P**	**13 37 20.4 +0.8**	
HKC	**Hong Kong**	**23.05 252**	⇓*i*P	**P**	**13 37 20.0 +0.1**	
BOAC	**Boac**	**23.38 223**	*e*P	**P**	**13 37 21.4 -1.4**	
TGY	**Tagaytay City**	**23.40 225**	P	**P**	**13 37 23.2 +0.1**	
	comp=Z,688nm,0.8s,baz=89,slow=1.4,SNR=20					
OCLP	**Ormoc**	**23.94 214**	*e*P	**P**	**13 37 27.7 -0.2**	
BTO	**Baotou**	**24.07 299**	*e*P	**P**	**13 37 28.8 -0.3**	
BTO			S	**S**	**13 41 10.0 -6.2**	
BTO			AMB	AMB		
	comp=Z,832nm,1.0s,mb6.1					
BTO			LR	LR		
	comp=N,2μm,4.2s					
BTO			LR	LR		
	comp=E,4μm,11.5s					
LUBP	**Lubang**	**24.11 226**	*e*P	**P**	**13 37 26.7 -2.7**	
OTRP	**Odiongan**	**24.16 221**	*e*P	**P**	**13 37 29.8 -0.1**	
ENH	**Enshi**	**24.33 274**	⇓*i*P	**P**	**13 37 30.8 -0.6**	
	comp=E,626nm,0.5s,mb6.3					
ENH			*e*		13 38 14.3	
ENH			*e*PP	PP	13 38 42.3 +5.1	
ENH			*e*ScP	ScP	13 43 56.4 -0.7	
XAN	**Xi'an**	**24.37 283**	P	**P**	**13 37 30.0 -1.8**	
XAN			AMB	AMB		
	comp=Z,752nm,0.9s,mb6.1					
XAN			AMB	AMB		
	comp=Z,3μm,9.9s					
XAN			LR	LR		
	comp=N,3μm,14.5s					
XAN			LR	LR		
	comp=E,3μm,16.3s					
XAN			LR	LR		
	comp=Z,4μm,18.1s					
RCP	**Roxas**	**24.44 218**	⇓*e*P	**P**	**13 37 31.9 -0.5**	
KALP	**Kalibo**	**24.55 219**	*e*P	**P**	**13 37 34.4 +1.0**	
SJMP	**San Jose**	**24.59 222**	*e*P	**P**	**13 37 33.4 -0.3**	
MSLP	**Maasin**	**24.63 212**	*e*P	**P**	**13 37 34.0 -0.1**	
SCPH	**Surigao**	**24.66 210**	*i* P	**P**	**13 37 34.5 +0.1**	
GUIM	**Jordan**	**25.30 217**	*e*P	**P**	**13 37 39.4 -0.7**	
BUTP	**Butuan**	**25.34 209**	*e*P	**P**	**13 37 40.2 -0.2**	
TBP	**Tagbilaran**	**25.48 214**	*e*P	**P**	**13 37 39.3 -2.3**	
BUSP	**Coron**	**25.49 224**	*e*P	**P**	**13 37 40.8 -1.0**	
CUYO	**Cuyo Island**	**25.96 221**	*e*P	**P**	**13 37 45.6 -0.3**	
PET	**Petropavlovsk**	**26.07 29**⇑	*i*P	**P**	**13 37 46.8 -0.1**	
	comp=Z,487nm,1.4s,mb5.7					
PET	**Petropavlovsk**	**26.07 29**α	*i*P	**P**	**13 37 47.1 +0.2**	
PET			*e**PP		13 38 55.5	
PET			*e**SP	sP	13 39 44.6 -3.0	
PET			*e*		13 41 03.0	
PET			*i* S	**S**	**13 41 47.3 -0.4**	
PET			pmax	pmax		
	comp=Z,315nm,1.0s,mb5.7					
PET			pmax	pmax		
	comp=N,2μm,2.7s					
PET			pmax	pmax		
	comp=Z,3μm,2.9s,mb6.2					
PET			pmax	pmax		
	comp=E,2μm,4.9s					
PET			pmax	pmax		
	comp=Z,2μm,16.1s					
PET			pmax	pmax		
	comp=Z,300nm,14.0s					
PET			pmax	pmax		
	comp=Z,2μm,11.2s					
PET			pmax	pmax		
	comp=Z,1μm,15.8s					
PET			pmax	pmax		
	comp=Z,800nm,14.3s					
PET			smax			
	comp=E,2μm,23.0s					
PET			MLR	MLR		
	comp=Z,2μm,17.0s					
SNPH	**Sibulan**	**26.08 214**	⇓*e*P	**P**	**13 37 46.5 -0.5**	
CGP	**Cagayan de Oro**	**26.19 211**	⇓*i*P	**P**	**13 37 47.1 -0.9**	
BUKP	**Musuan**	**26.55 209**	*e*P	**P**	**13 37 50.8 -0.4**	
ENPP	**El Nido**	**26.58 224**	*e*P	**P**	**13 37 51.0 -0.4**	
CLNS	**Chul'man**	**26.67 344**	*e*P	**P**	**13 37 52.4 +0.2**	
CLNS			pmax	pmax		
	comp=N,30nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0					
CLNS			pmax	pmax		
	comp=E,6.0nm,0.6s					
CLNS			pmax	pmax		
	comp=Z,20nm,0.7s,mb4.7					
CLNS			pmax	pmax		
	comp=N,30nm,0.8s					
CLNS			pmax	pmax		
	comp=E,20nm,0.7s					
CLNS			MLR	MLR		
	comp=Z,1μm,13.0s					
CLNS			MLR	MLR		
	comp=N,400nm,11.0s					
CLNS			MLR	MLR		
	comp=E,3μm,13.0s					
DCPH	**Dipolog City**	**26.69 213**	⇑*e*P	**P**	**13 37 51.0 -1.4**	
CIT	**Chita**	**26.95 326**	⇑*i*P	**P**	**13 37 55.6 +0.9**	
CIT			*e*		13 39 08.2	
CIT			*e*S	**S**	**13 42 02.4 +0.9**	
CIT			*e*		13 44 07.5	
CIT			*e*		13 47 56.5	
CIT			pmax	pmax		
	comp=Z,590nm,2.2s,mb5.6					
DAV	**Davao City (W)**	**27.08 208**	*e*P	**P**	**13 37 55.4 -0.4**	
PAGZ	**Pagadian**	**27.32 213**	*e*P	**P**	**13 37 57.0 -0.9**	
CTBH	**Cotabato--PC H**	**27.49 210**	⇓*i*P	**P**	**13 37 59.8 +0.3**	
GYA	**Guiyang**	**27.70 267**	⇑*i*P	**P**	**13 38 00.5 -0.8**	
GYA			AP		13 39 15.8	
GYA			XP	sP	13 39 59.3 -3.1	
GYA			PCP	PcP	13 41 07.3 +1.4	
GYA			S	**S**	**13 42 10.5 -2.6**	
GYA			SCP	ScP	13 44 07.5 +0.5	
GYA			SCS	ScS	13 47 58.3 -1.6	
GYA			AMB	AMB		
	comp=Z,270nm,0.7s,mb5.7					
GYA			AMB	AMB		
	comp=Z,1μm,8.8s					
GYA			LR	LR		
	comp=N,3μm,13.4s					
GYA			LR	LR		
	comp=E,3μm,15.5s					
GYA			LR	LR		
	comp=Z,4μm,14.3s					
IPIL	**Ipil**	**27.75 214**	*e*P	**P**	**13 38 00.2 -1.5**	
PPR	**Puerto Princes**	**28.13 223**	⇑*i*P	**P**	**13 38 05.2 +0.1**	
QIZ	**Qiongzhong**	**28.20 250**	P	**P**	**13 38 06.5 +0.9**	
QIZ			AP		13 39 16.8	
QIZ			XP	sP	13 40 03.0 -3.9	
QIZ			S	**S**	**13 42 22.0 +1.1**	
QIZ			AMB	AMB		
	comp=Z,174nm,0.7s,mb5.5					
QIZ			AMB	AMB		
	comp=Z,2μm,5.4s					
QIZ	**Qiongzhong**	**28.20 250**	P	**P**	**13 38 06.6 +0.9**	
QIZ			PP	PP	13 39 20.9 +0.9	
QIZ	**Qiongzhong**	**28.20 250**	⇓*i*P	**P**	**13 38 06.3 +0.7**	
	comp=Z,100nm,0.6s,mb5.3					
QIZ			*e*pP		13 39 16.6	
QIZ			*e*SP		13 40 08.1	
ULN	**Ulaanbaatar**	**28.38 314**	P	**P**	**13 38 08.0 +0.7**	
ULN			P		13 38 17.1	
ULN			PP	PP	13 39 23.5 +1.5	
ULN			S	**S**	**13 42 24.4 +0.6**	
ULN			ScP	ScP	13 44 09.2 0.0	
ULN			ScS	ScS	13 48 02.8 -0.2	
ULN	**Ulaanbaatar**	**28.38 314**	⇓*i*P	**P**	**13 38 08.0 +0.7**	
	comp=Z,291nm,0.8s,mb5.7					
ULN			*e*pP		13 39 23.1	
ULN			*e*PcP	PcP	13 41 08.0 +0.4	
ULN			*e*ScP	ScP	13 44 08.2 -0.9	
ULN			*e*		13 47 52.5	
ULN	**Ulaanbaatar**	**28.38 314**	⇓*i*P	**P**	**13 38 08.0 +0.7**	
ULN			*e**PP		13 39 23.1	
ULN			*e*		13 41 08.0	
ULN			pmax	pmax		
	comp=Z,291nm,0.8s,mb5.7					
LZH	**Lanzhou**	**28.47 288**	⇓*i*P	**P**	**13 38 08.0 0.0**	
LZH			AP		13 39 22.0	
LZH			XP	sP	13 40 02.3 -7.0	
LZH			PCP	PcP	13 41 09.8 +2.0	
LZH			S	**S**	**13 42 24.8 -0.4**	
LZH			SCP	ScP	13 44 10.0 +0.6	
LZH			PCS	PcS	13 44 50.3 -0.4	
LZH			SCS	ScS	13 48 02.8 -0.6	
LZH			AMB	AMB		
	comp=Z,579nm,1.3s,mb5.8					
LZH			AMB	AMB		
	comp=Z,2μm,5.2s					
SONM	**Songino Array**	**28.78 313**	P	**P**	**13 38 11.2 +0.4**	
	comp=Z,198nm,0.8s,mb5.5,baz=119,slow=7.5,SNR=684					
SONM			PcP	PcP	13 41 09.4 +0.8	
	comp=Z,18nm,0.8s,baz=132,slow=3.1,SNR=4.1					
SONM			S	**S**	**13 42 30.0 0.0**	
	comp=Z,2.5nm,0.6s,baz=111,slow=15,SNR=1.9					
SONM			ScP	ScP	13 44 10.3 -0.2	
	comp=Z,11nm,0.6s,baz=138,slow=3.0,SNR=10					
SONM			P3KPbc		14 10 17.3	
	comp=Z,0.6nm,0.6s,baz=288,slow=4.8,SNR=6.4					
SONM	**Songino Array**	**28.78 313**	P	**P**	**13 38 11.2 +0.4**	
SONM			PcP	PcP	13 41 09.4 +0.8	
SONM			S	**S**	**13 42 30.0 0.0**	
SONM			ScP	ScP	13 44 10.3 -0.2	
SONM			*e*		14 10 17.3	
SONM	**Songino Array**	**28.78 313**	P	**P**	**13 38 11.2 +0.4**	
SONM					13 41 09.4	
SONM			S	**S**	**13 42 30.0 0.0**	
CD2	**Chengdu**	**29.07 277**	⇓*i*P	**P**	**13 38 12.8 -0.5**	
CD2			AP		13 39 26.0	
CD2			XP	sP	13 40 14.0 -0.7	
CD2			S	**S**	**13 42 32.8 -1.8**	
CD2			XS	sS	13 44 43.5 -7.5	
CD2			AMB	AMB		
	comp=Z,190nm,0.6s,mb5.6					
CD2			AMB	AMB		
	comp=Z,1μm,4.4s					
CD2			LR	LR		
	comp=E,3μm,13.2s					
CD2			LR	LR		
	comp=Z,3μm,11.4s					
MA2	**Magadan**	**29.17 14**⇑	*i*P	**P**	**13 38 13.9 -0.3**	
	comp=Z,412nm,0.9s,mb5.8					
MA2			*e*pP		13 39 27.6	
MA2			*e*sP	sP	13 40 12.4 -3.3	
MA2			*e*S	**S**	**13 42 35.9 -0.2**	
MA2			*e*ScP	ScP	13 44 10.3 -1.4	
MA2			*e*		13 48 05.1	
MA2	**Magadan**	**29.17 14**⇑	*i*P	**P**	**13 38 13.9 -0.3**	
MA2			*e**PP		13 39 27.7	
MA2			*e**SP	sP	13 40 12.4 -3.2	
MA2			*e*S	**S**	**13 42 35.9 -0.2**	
MA2			*e*		13 48 05.1	
MA2			pmax	pmax		
	comp=Z,411nm,0.9s,mb5.8					
BATP	**Bataraza**	**29.46 224**	*e*P	**P**	**13 38 17.4 +0.6**	
BOD	**Bodaibo**	**30.77 335**	*e*P	**P**	**13 38 27.0 -1.2**	
BOD			*e*		13 48 07.0	
BOD			pmax	pmax		
	comp=Z,16nm,0.8s,mb4.4					
BOD			pmax	pmax		
	comp=Z,23nm,0.9s,mb4.5					
YAK	**Yakutsk**	**30.77 352**⇑	*i*P	**P**	**13 38 26.9 -1.3**	
	comp=Z,149nm,0.9s,mb5.3					
YAK			*e*pP	pP	13 39 39.8 -2.7	
YAK			*e*PcP	PcP	13 41 12.9 -0.9	
YAK			*e*S	**S**	**13 42 58.4 -2.6**	
YAK			*e*		13 48 10.6	
YAK	**Yakutsk**	**30.77 352***c*	*i*P	**P**	**13 38 27.0 -1.2**	
YAK			*e**PP	pP	13 39 40.5 -2.0	
YAK			*e*		13 39 49.3	
YAK			*e*S	**S**	**13 43 09.0 +8.0**	
YAK			*e**SS	sS	13 45 24.8 +6.9	
YAK			*i*		13 48 10.0	
YAK			pmax	pmax		
	comp=Z,64nm,1.0s,mb4.9					
YAK			pmax	pmax		
	comp=N,18nm,0.9s					
YAK			pmax	pmax		
	comp=E,5.0nm,0.7s					
YAK			pmax	pmax		
	comp=Z,25nm,1.3s,mb4.4					
YAK			pmax	pmax		
	comp=N,20nm,1.5s					
YAK			pmax	pmax		
	comp=E,12nm,1.4s					
KMI	**Kunming**	**31.47 267**	P	**P**	**13 38 33.8 -0.5**	
KMI			AP	pP	13 39 48.5 -0.2	
KMI			PP	PP	13 39 59.5 +3.4	
KMI			PPP		13 40 23.8	
KMI			XP	sP	13 40 34.5 -1.6	
KMI			PCP	PcP	13 41 14.8 -0.9	
KMI			S	**S**	**13 43 13.8 +1.9**	
KMI			SCP	ScP	13 44 19.0 -0.3	
KMI			PCS	PcS	13 44 58.8 -1.9	
KMI			XS	sS	13 45 27.0 -1.9	
KMI			SS	SS	13 45 45.5 -3.2	
KMI			SSS		13 46 21.3	
KMI			SCS	ScS	13 48 16.5 -1.6	
KMI			AMB	AMB		
	comp=Z,114nm,0.6s,mb5.4					
KMI			AMB	AMB		
	comp=Z,2μm,7.9s					
KMI			LR	LR		
	comp=N,2μm,10.3s					
KMI			LR	LR		
	comp=E,3μm,13.1s					
KMI			LR	LR		
	comp=Z,3μm,13.4s					
ZAK	**Zakamensk**	**31.65 316**	*e*P	**P**	**13 38 35.8 0.0**	
ZAK			*e*	pP	13 39 53.3 +3.0	
ZAK			*e*		13 43 15.8	
ZAK			pmax	pmax		
	comp=Z,316nm,1.9s,mb5.3					
ZAK			pmax	pmax		
	comp=Z,80nm,1.7s,mb4.8					
GTA	**Gaotai**	**31.69 295**	⇓*i*P	**P**	**13 38 36.0 -0.1**	
GTA			AP	pP	13 39 51.0 +0.3	
GTA			PP	PP	13 40 00.8 +2.3	
GTA			XP	sP	13 40 37.3 -0.8	
GTA			PCP	PcP	13 41 18.5 +2.2	
GTA			S	**S**	**13 43 13.0 -2.2**	
GTA			SCP	ScP	13 44 20.5 +0.5	
GTA			PCS	PcS	13 45 03.3 +1.9	
GTA			XS	sS	13 45 29.8 -2.6	
GTA			SS	SS	13 45 46.0 -7.1	
GTA			SCS	ScS	13 48 17.3 -1.9	
GTA			AMB	AMB		
	comp=Z,482nm,0.9s,mb5.8					
GTA			AMB	AMB		
	comp=Z,2μm,6.1s					
GTA			LR	LR		
	comp=N,2μm,14.8s					
GTA			LR	LR		
	comp=E,3μm,12.9s					
GTA			LR	LR		
	comp=Z,2μm,14.1s					
IRK	**Irkutsk**	**31.87 320**	⇓*i*P	**P**	**13 38 37.9 +0.2**	
IRK			*e*S	**S**	**13 43 19.2 +1.2**	
IRK			*e*		13 45 52.5	
IRK			*e*		13 48 15.3	
IRK			pmax	pmax		
	comp=Z,478nm,2.4s,mb5.4					
TLY	**Talaya**	**31.97 319**	P	**P**	**13 38 39.3 +0.8**	
	comp=Z,348nm,1.2s,mb5.6,SNR=20					
SEY	**Seymchan**	**32.57 12**	*e*P	**P**	**13 38 44.0 +0.3**	
SEY			*e**PP	pP	13 40 00.2 +1.7	
SEY					13 40 09.0	
SEY			*SP	sP	13 40 46.2 +0.4	
SEY					13 41 18.1	
SEY			*e*S	**S**	**13 43 28.7 0.0**	
SEY			*SS	sS	13 45 44.5 -1.7	
SEY					13 48 17.5	
SEY			pmax	pmax		
	comp=Z,29nm,0.8s,mb4.7					
SEY			pmax	pmax		
	comp=N,50nm,1.3s					
SEY			pmax	pmax		
	comp=E,20nm,1.3s					
SEY			smax			
	comp=N,2μm,29.3s					
SEY			smax			
	comp=E,3μm,34.7s					
KKM	**Kota Kinabalu**	**32.59 223**	P	**P**	**13 38 44.4 +0.5**	
KKM	**Kota Kinabalu**	**32.59 223**	⇓*i*P	**P**	**13 38 44.2 +0.3**	
KKM			*e*pP	pP	13 39 57.1 -1.6	
KKM			*e*ScP	ScP	13 44 24.7 +1.5	
TSM	**Tawau**	**33.12 219**	P	**P**	**13 38 48.3 0.0**	
MOY	**Mondy**	**33.48 317**	*e*P	**P**	**13 38 51.0 -0.4**	
MOY			pmax	pmax		
	comp=Z,270nm,3.1s					
KKTK	**Khon Kaen**	**35.29 253**	⇑P	**P**	**13 39 07.0 +0.3**	
CHRT	**Chiangrai**	**36.08 260**	P	**P**	**13 39 14.5 +1.1**	
NST	**Nakhon Sawan**	**37.83 254**	⇑P	**P**	**13 39 28.6 +0.7**	

ADK Adak 38.64 45⇑ iP P 13 39 34.2 -0.4
comp=Z,97nm,0.6s,mb5.3
ADK epP pP 13 40 50.0 -1.8
ADK Adak 38.64 45⇑ iP P 13 39 34.2 -0.4
ADK e*PP pP 13 40 50.0 -1.7
ADK pmax pmax
comp=Z,97nm,0.6s,mb5.3
KSM Kuching 39.76 226⇓ iP P 13 39 44.6 +0.9
KSM ePP pP 13 40 59.5 -1.9
KSM ePcP PcP 13 41 41.6 +1.0
KSM e 13 43 15.6
KSM eScP ScP 13 44 50.9 +1.2
NNT Nongplab 39.84 250 P P 13 39 45.4 +1.1
BILL Bilibino 39.93 16⇑ iP P 13 39 44.8 -0.3
comp=Z,864nm,1.2s,mb6.0
BILL ePP PP 13 41 29.0 +1.5
BILL eScP ScP 13 44 49.4 -1.0
BILL eS S 13 45 19.9 +0.6
BILL Bilibino 39.93 16⇑ iP P 13 39 44.8 -0.3
BILL e 13 41 29.0
BILL eS S 13 45 19.9 +0.6
BILL pmax pmax
comp=Z,864nm,1.2s,mb6.0
LSA Lhasa 39.96 280⇓ iP P 13 39 46.5 +1.1
comp=Z,126nm,0.6s,mb5.4
LSA epP pP 13 41 04.3 +1.2
LSA ePP PP 13 41 28.7 +0.8
LSA eScP ScP 13 44 50.8 +0.3
LSA Lhasa 39.96 280⇓ iP P 13 39 46.5 +1.1
LSA e*PP pP 13 41 04.3 +1.2
LSA e 13 41 28.7
LSA pmax pmax
comp=Z,126nm,0.6s,mb5.4
SHL Shillong 40.57 273 i P P 13 39 50.5 +0.2
SHL ex x 13 44 53.5
WMQ Urumqi 40.86 302⇓ iP P 13 39 53.0 +0.4
WMQ AP pP 13 41 12.8 +2.1
WMQ PP PP 13 41 38.0 +0.6
WMQ SCS ScS 13 49 09.5 -1.2
WMQ AMB AMB
comp=Z,431nm,1.1s,mb5.7
WMQ AMB AMB
comp=Z,3μm,4.2s
WMQ Urumqi 40.86 302 P P 13 39 53.0 +0.4
WMQ ScP ScP 13 44 54.2 +0.1
WMQ S S 13 45 32.3 -0.6
WMQ ScS ScS 13 49 08.6 -2.0
AGT Agartala 41.70 271 i P P 13 40 01.0 +1.7
AGT i x x 13 40 33.0
PMG Port Moresby 41.86 166 eP P 13 40 00.1 -0.5
comp=Z,26nm,0.5s,mb4.8
PMG ePP PP 13 41 42.0 -5.9
PMG eS S 13 45 45.6 -1.9
PMG Port Moresby 41.86 166 eP P 13 40 00.1 -0.5
PMG e 13 41 42.0
PMG eS S 13 45 45.6 -1.9
PMG pmax pmax
comp=Z,26nm,0.5s
SNG Songkhla 42.42 243 P P 13 40 05.0 -0.1
ZAL Zalesovo 43.54 317 P P 13 40 13.2 -0.7
comp=Z,42nm,0.4s,mb5.1,baz=7.3,slow=8.2,SNR=125
ZAL PcP PcP 13 41 52.6 -0.5
comp=Z,24nm,0.8s,baz=356,slow=4.3,SNR=5.9
ZAL ScP ScP 13 45 03.5 -1.4
comp=Z,8.7nm,0.9s,baz=2.9,slow=6.6,SNR=3.5
ZAL S S 13 46 08.7 -3.0
comp=Z,9.2nm,0.9s,baz=144,slow=18,SNR=7.7
ZAL Zalesovo 43.54 317 P P 13 40 13.2 -0.7
ZAL 13 41 52.6
ZAL S S 13 46 08.7 -3.0
KULM Kulim 43.63 241⇓ iP P 13 40 14.7 +0.1
KULM epP pP 13 41 34.3 +0.4
KULM ePP PP 13 42 04.8 -0.4
KULM e 13 44 01.4
KULM eScP ScP 13 45 06.3 +1.1
KULM eS S 13 46 13.4 +0.5
IPM Ipoh 43.89 240 P P 13 40 16.5 -0.1
KGM Kluang 43.96 235 P P 13 40 17.9 +0.7
KAKA Kakadu 44.49 188 eP P 13 40 20.2 -1.1
comp=Z,122nm,0.5s,mb5.5
NVS Novosibirsk 44.58 318⇓ iP P 13 40 21.1 -0.9
NVS i *PP pP 13 41 56.9 +15
NVS i 13 42 15.6
NVS i S S 13 46 23.6 -2.9
NVS i 13 49 30.2
NVS pmax pmax
comp=N,109nm,1.8s
NVS pmax pmax
comp=E,364nm,1.8s
NVS pmax pmax
comp=Z,445nm,1.8s,mb5.5
NVS smax
comp=N,273nm,2.6s
NVS smax
comp=E,480nm,2.9s
MKAR Makanchi Array 44.65 306 P P 13 40 22.5 -0.1
comp=E,208nm,0.8s,mb5.5,baz=91,slow=8.5,SNR=713
MKAR PcP PcP 13 41 56.9 -0.1
comp=E,41nm,0.9s,baz=84,slow=5.0,SNR=3.6
MKAR ScP ScP 13 45 09.0 -0.4
comp=E,16nm,0.5s,baz=78,slow=5.1,SNR=11
MKAR S S 13 46 26.2 -1.4
comp=E,4.6nm,0.8s,baz=108,slow=7.7,SNR=3.4
MKAR P4KPbc 14 18 07.2
comp=E,1.1nm,0.8s,baz=77,slow=4.7,SNR=8.9
MKAR Makanchi Array 44.65 306 P P 13 40 22.5 -0.1
MKAR PcP PcP 13 41 56.9 -0.1
MKAR ScP ScP 13 45 09.0 -0.4
MKAR S S 13 46 26.2 -1.4
MKAR Makanchi Array 44.65 306 P P 13 40 22.5 -0.1
MKAR 13 41 56.9
MKAR S S 13 46 26.2 -1.4
CAL Calcutta 44.69 271 eP P 13 40 25.1 +2.2
CAL ex x 13 42 19.5
CAL ex x 13 42 24.0
comp=N,6μm,0.3s
JIRN Jiri 44.72 279⇓ iP P 13 40 24.3 +1.2
comp=N,1μm,0.6s,mb6.4
GUN Gumba 44.91 279⇓ iP P 13 40 25.5 +0.9
UNV Unalaska Valle 45.05 44 eP P 13 40 24.3 -1.4
comp=N,116nm,0.5s,mb5.5
UNV ePcP PcP 13 41 58.0 -0.4
PKI Pulchoki 45.41 279⇓ iP P 13 40 28.7 +0.2
comp=N,672nm,0.7s,mb6.1
KKN Kakani 45.45 279⇓ iP P 13 40 29.2 +0.4
comp=N,1μm,0.9s,mb6.3
DMN Daman 45.65 279⇓ iP P 13 40 30.8 +0.5
GKN Gorkha 45.92 280⇓ iP P 13 40 32.8 +0.4
comp=N,2μm,1.0s,mb6.3
PBA Port Blair 46.03 255 ex x 13 40 50.9
PBA ex x 13 40 52.9
BOK Bokaro 46.30 274 eP P 13 40 35.6 +0.2
BOK AMb AMB 13 40 37.4
comp=Z,227nm,0.6s,mb5.7
DANN Dangsing 46.55 280⇓ iP P 13 40 38.2 +1.0
PSI Prapat 46.56 240 P P 13 40 37.5 +0.1
comp=Z,247nm,0.7s,mb5.7,baz=24,slow=6.5,SNR=158
PSI PcP PcP 13 42 04.8 +1.1
comp=Z,72nm,0.9s,baz=36,slow=2.8,SNR=7.9
PSI ScP ScP 13 45 17.9 +0.5
comp=Z,35nm,0.8s,baz=8.6,slow=1.6,SNR=9.7
PSI S S 13 46 53.9 -0.7
comp=Z,2.7nm,0.6s,baz=175,slow=11,SNR=5.4
PSI Prapat 46.56 240 P P 13 40 37.5 +0.1
PSI PcP PcP 13 42 04.8 +1.1
PSI ScP ScP 13 45 17.9 +0.5
PSI S S 13 46 53.9 -0.7
PSI Prapat 46.56 240 P P 13 40 37.5 +0.2
PSI 13 42 04.8
PSI S S 13 46 53.9 -0.7
KOLN Koldanda 46.87 280⇓ iP P 13 40 40.2 +0.6
comp=Z,448nm,0.7s,mb5.9
TNA Tin City 46.91 28⇑ iP P 13 40 40.5 +0.5
comp=Z,3.2nm,0.3s
TNA epP pP 13 42 02.1 +1.5
TNA eScP ScP 13 45 17.2 -1.6
KURK Kurchatov 47.07 312 P P 13 40 40.6 -0.6
comp=Z,2μm,1.1s,mb6.3
KURK Kurchatov 47.07 312⇓ iP P 13 40 40.3 -0.9
comp=Z,228nm,0.8s,mb5.6
KURK epP pP 13 42 02.2 +0.3
KURK ePP PP 13 42 35.5 -0.9
KURK eScP ScP 13 45 18.8 -0.8
KURK eS S 13 46 58.0 -3.6

KURK Kurchatov 47.07 312⇓ iP P 13 40 40.3 -0.9
KURK e*PP pP 13 42 02.2 +0.3
KURK e 13 42 35.6
KURK eS S 13 46 58.1 -3.6
KURK pmax pmax
comp=Z,228nm,0.8s,mb5.5
AAA Alma-Ata 48.69 302 i P P 13 40 54.7 +1.2
AAA i S S 13 47 24.6 +0.4
AAA pmax pmax
comp=Z,2μm,1.0s
AAA smax
comp=N,2μm,6.6s
AAA MLR MLR
comp=Z,600nm,5.4s
LGTI Lohaghat 49.14 283 eP P 13 40 58.0 +1.2
LGTI ex x 13 42 13.5
ULHL Ulahol 49.35 301 P P 13 40 59.0 +0.6
SNR=46
TKM2 Tokmak 2 49.72 302 P P 13 41 01.9 +0.8
TKM2 pmax pmax
comp=Z,283nm,1.2s,mb5.5
KSH Kashi 50.03 297 P P 13 41 05.0 +1.6
KSH PCP PcP 13 42 17.5 +1.1
KSH AP pP 13 42 28.0 +2.6
KSH PP PP 13 43 06.8 +3.5
KSH SCP ScP 13 45 32.5 +0.3
KSH PCS PcS 13 46 13.3 -0.7
KSH S S 13 47 44.3 +1.7
KSH SCS ScS 13 50 09.0 -1.4
KSH SS SS 13 51 23.3 +1.6
KSH AMB AMB
comp=Z,299nm,0.8s,mb5.7
KSH LR LR
comp=N,1μm,9.9s
KSH LR LR
comp=E,2μm,11.0s
KSH LR LR
comp=Z,3μm,25.3s
KZA Kyzart 50.11 301 P P 13 41 05.6 +1.6
SNR=164
BLSP Bilaspur 50.13 273 eP P 13 41 04.3 +0.2
BLSP AMb AMB 13 41 05.8
comp=Z,341nm,0.6s,mb5.8
KBK Karagaybulak 50.23 301 P P 13 41 05.6 +0.6
SNR=266
CHMS Chumysh 50.32 302 P P 13 41 05.7 +0.1
SNR=58
FRU Bishkek 50.45 302x iP P 13 41 06.8 +0.3
FRU e pP 13 42 32.0 +3.4
FRU eS S 13 47 46.0 -2.2
FRU e 13 50 12.0
FRU pmax pmax
comp=Z,760nm,2.0s,mb5.7
USP Ospenovka 50.46 302 P P 13 41 06.7 +0.1
SNR=67
AAK Ala-Archa 50.57 301 P P 13 41 08.0 +0.6
SNR=16
UCH Uchtor 50.62 301 P P 13 41 09.1 +1.3
SNR=298
FITZ Fitzroy Crossi 50.91 195 eP P 13 41 09.6 -0.3
comp=Z,137nm,0.8s,mb5.2
FITZ eS S 13 47 48.9 -5.7
FITZ eSCS ScS 13 50 17.0 +0.5
VIS Vishakhapatnam 50.97 268 eP P 13 41 10.9 +0.5
VIS AMb AMB 13 41 14.6
comp=Z,475nm,1.9s,mb5.4
EKS2 Erkin-Say 51.08 302 P P 13 41 11.6 +0.4
SNR=13
AML Almayashu 51.24 301 P P 13 41 13.5 +1.2
SNR=54
TTA Tatalina 51.46 32 eP P 13 41 14.3 +0.3
WRAB Tennant Creek 51.48 184 P P 13 41 13.0 -1.1
comp=Z,772nm,0.4s,mb6.3
WRAB Tennant Creek 51.48 184 eP P 13 41 13.6 -0.4
comp=Z,105nm,0.6s,mb5.2
WRAB eS S 13 48 00.6 -1.7
WRAB Tennant Creek 51.48 184 eP P 13 41 13.6 -0.5
WRAB eS S 13 48 00.6 -1.6
WRAB pmax pmax
comp=Z,105nm,0.6s,mb5.2
WB2 Warramunga Arr 51.48 184 eP P 13 41 13.7 -0.4
WB2 eS S 13 47 49.7 -13
WB2 eSCS ScS 13 50 22.9 +2.4
WRA Warramunga Arr 51.48 184 P P 13 41 13.7 -0.4
comp=Z,82nm,0.6s,mb5.2,baz=0.2,slow=7.7,SNR=808
WRA PcP PcP 13 42 22.3 +0.5
comp=Z,20nm,0.6s,baz=358,slow=4.1,SNR=5.7
WRA PP PP 13 43 10.2 -6.1
comp=Z,40nm,0.7s,baz=13,slow=8.3,SNR=6.4
WRA ScP ScP 13 45 39.6 +1.2
comp=Z,11nm,0.8s,baz=2.0,slow=4.8,SNR=4.3
WRA S S 13 47 58.4 -4.0
comp=Z,28nm,1.1s,baz=0.1,slow=14,SNR=16
WRA P4KPbc 14 18 37.5
comp=Z,0.6nm,0.8s,baz=356,slow=5.3,SNR=8.1
WRA Warramunga Arr 51.48 184 P P 13 41 13.7 -0.4
WRA PcP PcP 13 42 22.3 +0.5
WRA PP PP 13 43 10.2 -6.1
WRA ScP ScP 13 45 39.6 +1.2
WRA S S 13 47 58.4 -4.0
WRA Warramunga Arr 51.48 184 P P 13 41 13.7 -0.4
WRA 13 42 22.3
WRA S S 13 47 58.4 -4.0
SVW2 Sparrevohn 51.53 35 eP P 13 41 15.0 +0.5
JBP Jabalpur 51.55 276⇓ iP P 13 41 15.2 +0.6
JBP eS ScS 13 50 18.0 -2.9
BHK Bhakra 51.70 287 ex x 13 41 27.6
DLH Dalhousie 51.73 288 eP P 13 41 18.0 +2.1
DLH ex x 13 41 54.0
NDI New Delhi 51.90 283 eP P 13 41 16.0 -1.1
NDI eS S 13 48 07.0 -0.9
CHKZ Chkalovo 51.91 316⇓ iP P 13 41 16.2 -1.0
comp=Z,284nm,0.4s,mb5.8
CHKZ e 13 41 38.9
CHKZ ePcP PcP 13 42 22.4 -1.0
CHKZ epP pP 13 42 40.4 +0.5
CHKZ eScP ScP 13 45 38.0 -2.3
CHKZ eS S 13 48 01.2 -7.0
CHKZ Chkalovo 51.91 316⇓ iP P 13 41 16.3 -1.0
CHKZ e 13 42 22.5
CHKZ e*PP pP 13 42 40.4 +0.5
CHKZ eS S 13 48 01.2 -7.0
CHKZ pmax pmax
comp=Z,284nm,0.4s,mb5.8
PONG Pong 51.92 288 eP P 13 41 16.0 -1.3
BVA0 Borovoye Array 52.09 315 i P P 13 41 17.9 -0.7
BVA0 pmax pmax
comp=Z,18nm,0.6s,mb4.5
BVAR Borovoye Array 52.09 315 P P 13 41 18.0 -0.5
comp=Z,156nm,0.5s,mb5.5,baz=103,slow=7.0,SNR=387
BVAR PcP PcP 13 42 23.0 -1.1
comp=Z,51nm,0.6s,baz=92,slow=3.9,SNR=8.7
BVAR ScP ScP 13 45 40.1 -0.9
comp=Z,27nm,0.6s,baz=101,slow=3.7,SNR=11
BVAR S S 13 48 07.1 -3.5
comp=Z,8.8nm,0.7s,baz=87,slow=14,SNR=9.1
BVAR P4KPbc 14 18 39.8
comp=Z,1.9nm,0.8s,baz=101,slow=4.7,SNR=9.9
BVAR Borovoye Array 52.09 315 P P 13 41 18.0 -0.5
BVAR PcP PcP 13 42 23.0 -1.0
BVAR ScP ScP 13 45 40.1 -0.9
BVAR S S 13 48 07.1 -3.5
BVAR Borovoye Array 52.09 315 P P 13 41 18.0 -0.6
BVAR 13 42 23.0
BVAR S S 13 48 07.1 -3.5
CTA Charters Tower 52.15 170 eP P 13 41 19.4 +0.4
comp=Z,24nm,0.8s,mb4.5
CTA eS S 13 48 11.0 -0.3
CTA eSCS ScS 13 50 28.1 +3.0
CTA Charters Tower 52.15 170 eP P 13 41 19.4 +0.4
CTA eS S 13 48 11.0 -0.3
CTA e 13 50 28.1
CTA pmax pmax
comp=Z,24nm,0.8s
BRVK Borovoye 52.16 315 P P 13 41 18.7 -0.3
comp=Z,2μm,0.8s,mb6.3
BRVK Borovoye 52.16 315⇓ iP P 13 41 18.4 -0.6
comp=Z,190nm,1.0s,mb5.3
BRVK e 13 41 44.7
BRVK ePcP PcP 13 42 23.4 -0.9
BRVK epP pP 13 42 41.9 +0.1
BRVK ePP PP 13 43 22.1 -0.2
BRVK eScP ScP 13 45 40.1 -1.2
BRVK eS S 13 48 08.4 -3.0

BRVK e 13 50 20.8
BRVK Borovoye 52.16 315⇓ iP P 13 41 18.4 -0.6
BRVK e 13 42 23.4
BRVK e*PP pP 13 42 41.9 +0.1
BRVK e 13 43 22.1
BRVK eS S 13 48 08.4 -3.0
BRVK e 13 50 20.8
BRVK pmax pmax
comp=Z,190nm,1.0s,mb5.3
ZRNK Zerenda 52.93 315⇓ iP P 13 41 23.9 -0.7
comp=Z,223nm,0.8s,mb5.5
ZRNK e 13 41 47.8
ZRNK ePcP PcP 13 42 26.3 -1.0
ZRNK epP pP 13 42 48.4 +0.7
ZRNK eScP ScP 13 45 42.2 -2.5
ZRNK eS S 13 48 18.8 -3.1
ZRNK e 13 50 26.5
ZRNK Zerenda 52.93 315⇓ iP P 13 41 24.0 -0.6
ZRNK e 13 42 26.3
ZRNK e*PP pP 13 42 48.4 +0.7
ZRNK eS S 13 48 18.8 -3.0
ZRNK e 13 50 26.5
ZRNK pmax pmax
comp=Z,223nm,0.8s,mb5.5
KDAK Kodiak Island 53.04 39 P P 13 41 25.0 -0.4
comp=Z,5μm,0.5s
KDAK Kodiak Island 53.04 39 P P 13 41 24.9 -0.5
comp=Z,525nm,0.6s,mb5.9,baz=272,slow=3.8,SNR=947
KDAK S S 13 48 21.9 -1.4
comp=Z,4.2nm,0.7s,baz=320,slow=23,SNR=11
KDAK Kodiak Island 53.04 39 P P 13 41 24.9 -0.5
KDAK S S 13 48 21.9 -1.4
NGP Nagpur 53.15 274 eP P 13 41 24.5 -1.7
NGP ex x 13 41 25.2
comp=Z,602nm,0.4s
NGP eS S 13 48 22.4 -2.3
KKAR Karatay Array 53.36 303 i P P 13 41 27.6 -0.1
KKAR pmax pmax
comp=Z,31nm,0.4s,mb4.9
NIL Nilore 53.59 291 P P 13 41 30.1 +0.8
comp=Z,790nm,0.6s,mb6.1,SNR=21
BHPL Bhopal 53.69 277 eP P 13 41 29.1 -0.9
BHPL AMb AMB 13 41 33.3
comp=Z,330nm,0.8s,mb5.6
SLKM Skilak Lake 54.16 35 eP P 13 41 32.8 -0.6
SLKM ePcP PcP 13 42 31.7 -0.3
SLKM eScP ScP 13 45 47.0 -3.1
SLKM eS S 13 48 37.0 -1.1
SLKM e 13 50 38.1
SLKM Skilak Lake 54.16 35 eP P 13 41 32.8 -0.6
SLKM e 13 42 31.7
SLKM eS S 13 48 37.0 -1.1
SLKM e 13 50 38.1
FIB Fire Island 54.16 35⇑ iP P 13 41 33.4 0.0
comp=Z,257nm,0.7s,mb5.6
FIB ePcP PcP 13 42 28.8 -3.2
FIB Fire Island 54.16 35⇑ iP P 13 41 33.4 0.0
FIB e 13 42 28.8
FIB pmax pmax
comp=Z,257nm,0.7s,mb5.6
PMR Palmer 54.65 34 eP P 13 41 36.3 -0.6
comp=Z,182nm,0.6s,mb5.5
PMR Palmer 54.65 34 eP P 13 41 36.3 -0.6
PMR pmax pmax
comp=Z,182nm,0.6s,mb5.5
MCK McKinley 54.68 31⇑ iP P 13 41 36.5 -0.6
comp=Z,361nm,1.2s,mb5.5
MCK epP pP 13 43 04.8 +3.9
MCK eScP ScP 13 45 50.2 -2.2
MCK McKinley 54.68 31⇑ iP P 13 41 36.5 -0.6
MCK e*PP pP 13 43 04.8 +4.0
MCK pmax pmax
comp=Z,361nm,1.2s,mb5.5
AJM Ajmer 54.80 282 eP P 13 41 37.6 -0.4
AJM AMb AMB 13 41 39.9
comp=Z,269nm,0.9s,mb5.5
SML Sawmill 55.02 34⇑ iP P 13 41 39.1 -0.4
SML ePcP PcP 13 42 34.9 -0.4
SML ePP PP 13 43 47.6 -0.2
AKL Akola 55.06 274 i x x 13 41 04.1
AKL i x x 13 43 11.7
COLA College 55.13 30⇑ eP P 13 41 39.8 -0.5
comp=Z,217nm,0.6s,mb5.6
COLA eScP ScP 13 45 53.9 -0.4
COLA College 55.13 30⇑ eP P 13 41 39.8 -0.5
COLA pmax pmax
comp=Z,217nm,0.6s,mb5.6
HYB Hyderabad 55.17 270⇓ iP P 13 41 40.0 -0.6
comp=Z,320nm,1.0s,mb5.5
HYB e 13 42 04.0
HYB ePcP PcP 13 42 36.0 +0.1
HYB epP pP 13 43 10.0 +5.5
HYB eSP sP 13 43 48.0 -1.3
HYB eScP ScP 13 45 55.0 +0.4
HYB eS S 13 48 52.0 +0.5
HYB eScS ScS 13 50 43.0 -3.7
HYB Hyderabad 55.17 270⇓ eP P 13 41 40.0 -0.6
comp=Z,320nm,1.0s,mb5.5
HYB e 13 42 04.0
HYB eS S 13 48 52.0 +0.5
HYB Hyderabad 55.17 270⇓ eP P 13 41 40.0 -0.6
HYB eS S 13 48 52.0 +0.5
HYB pmax pmax
comp=Z,320nm,1.0s,mb5.5
ASAR Alice Springs 55.21 184 P P 13 41 40.9 +0.1
comp=Z,53nm,0.6s,mb4.9,baz=17,slow=9.9,SNR=368
ASAR ScP ScP 13 45 55.0 +0.3
comp=Z,7.1nm,0.5s,baz=2.5,slow=4.6,SNR=6.9
ASAR S S 13 48 49.0 -3.0
comp=Z,5.9nm,0.8s,baz=17,slow=19,SNR=11
ASAR PKPPKP 14 11 37.5
comp=Z,0.5nm,0.6s,baz=140,slow=3.3,SNR=5.3
ASAR PKP2bc 14 11 51.7
comp=Z,1.1nm,0.7s,baz=156,slow=2.4,SNR=9.0
ASAR P4KPbc 14 18 51.8
comp=Z,0.3nm,0.7s,baz=359,slow=6.5,SNR=4.0
ASAR Alice Springs 55.21 184 P P 13 41 40.9 +0.1
ASAR ScP ScP 13 45 55.0 +0.3
ASAR S S 13 48 49.0 -3.0
ASAR P'P'
ASAR ⇑e 14 11 37.5
ASAR 14 11 51.7
ASAR Alice Springs 55.21 184 P P 13 41 40.9 +0.1
ASAR S S 13 48 49.0 -3.0
MBWA Marble Bar 55.38 201 eP P 13 41 41.6 -0.4
comp=Z,180nm,0.5s,mb5.6
ILAR Eielson Array 55.55 30 P P 13 41 42.0 -1.2
comp=Z,77nm,0.7s,mb5.2,baz=273,slow=4.9,SNR=836
ILAR S S 13 48 54.9 -1.5
comp=Z,0.2nm,0.7s,baz=190,slow=33,SNR=4.1
ILAR PKPPKP 14 11 42.0
comp=Z,0.9nm,0.8s,baz=83,slow=3.5,SNR=11
ILAR P4KPbc 14 18 53.5
comp=Z,0.5nm,0.6s,baz=262,slow=4.4,SNR=17
ILAR Eielson Array 55.55 30 P P 13 41 42.0 -1.2
ILAR S S 13 48 54.9 -1.5
ILAR P'P'
ILAR Eielson Array 55.55 30 P P 13 41 42.1 -1.1
ILAR S S 13 48 54.9 -1.5
MDRS Chennai 55.77 264 ex x 13 42 18.3
MID Middleton Isla 56.18 37 eP P 13 41 48.5 +0.8
FUNA Funafuti 56.24 128⇑ eP P 13 41 49.6 +1.5
DIV Divide 56.29 35⇑ iP P 13 41 48.2 -0.2
comp=Z,458nm,0.6s,mb6.0
DIV eSP sP 13 43 57.5 +0.1
EYAK Cordova Ski Ar 56.36 35 eP P 13 41 49.2 +0.3
EYAK eS S 13 49 11.2 +4.2
LATR Latur 56.43 272⇓ iP P 13 41 49.4 0.0
MENT Mentasta 57.08 32 eP P 13 41 54.4 +0.5
SVE Sverdlovsk 57.26 320⇓ iP P 13 41 55.3 +0.2
SVE e 13 42 39.0
SVE e pP 13 43 20.0 +0.2
SVE e 13 44 11.0
SVE eS S 13 49 15.0 -3.6
SVE e 13 50 57.0
SVE pmax pmax
comp=Z,800nm,2.6s,mb5.6
SVE smax
comp=N,2μm,11.0s
SVE smax
comp=E,900nm,11.0s
SVE MLR MLR
comp=N,500nm,14.0s
SVE MLR MLR

comp=E,1μm,14.0s
SVE MLR MLR
comp=Z,2μm,14.0s
KIP Kipapa 57.56 83 *e*P **P 13 41 58.9 +1.7**
comp=Z,304nm,1.3s,mb5.5
KIP Kipapa 57.56 83 *e*P **P 13 41 58.9 +1.7**
KIP pmax pmax
comp=Z,303nm,1.3s,mb5.5
PALK Pallekele 58.37 258 P **P 13 42 03.9 +1.2**
comp=Z,1μm,0.6s,mb6.4,SNR=46
PALK Pallekele 58.37 258⇓*i*P **P 13 42 03.3 +0.5**
comp=Z,118nm,0.6s,mb5.4
PALK ⇓*e*pP pP 13 43 27.6 -0.3
PALK *e*sP sP 13 44 10.4 -1.9
ARU Arti 58.46 320 P **P 13 42 02.7 -0.6**
comp=Z,2μm,0.5s,SNR=22
ARU Arti 58.46 320⇓*i*P **P 13 42 02.5 -0.8**
comp=Z,153nm,0.6s,mb5.5
ARU *e* 13 42 30.6
ARU *e*pP pP 13 43 27.6 -0.8
ARU *e*sP sP 13 44 08.8 -4.1
ARU Arti 58.46 320⇓*i*P **P 13 42 02.6 -0.7**
ARU *e* 13 42 47.6
ARU *e* pP 13 43 27.5 -0.9
ARU *e*SP 13 44 08.4
ARU *e* 13 44 13.1
ARU *e*S **S 13 49 34.2 +0.2**
ARU *e* 13 51 05.7
ARU pmax pmax
comp=Z,338nm,1.6s,mb5.4
POO Poona 58.69 273⇓*i*P **P 13 42 04.0 -0.9**
comp=Z,720nm,1.0s,mb6.0
POO AMb AMB 13 42 16.6
comp=Z,351nm,0.7s,mb5.8
COCO West Island 58.74 229 *e*P **P 13 42 04.8 -0.5**
comp=Z,232nm,0.7s,mb5.6
SOKR Solikamsk 58.81 324*d i*P **P 13 42 05.0 -0.7**
SOKR S **S 13 49 36.9 -1.6**
SOKR SSS 13 56 24.8
SOKR pmax pmax
comp=Z,70nm,0.7s,mb5.1
SOKR MLR MLR
comp=Z,1μm,26.0s
DAWY Dawson 58.85 31⇑*i*P **P 13 42 06.4 +0.4**
KAD Karad 58.95 272⇓*i*P **P 13 42 06.4 -0.3**
AB31 Akbulak array 59.18 312 *i* P **P 13 42 07.8 -0.4**
AB31 pmax pmax
comp=Z,49nm,0.5s,mb5.1
AKTK Aktyubinsk 60.10 313 P **P 13 42 13.8 -0.6**
AKTK S **S 13 49 53.0 -1.7**
AKTO Aktyubinsk 60.10 313 P **P 13 42 13.8 -0.6**
comp=Z,36nm,0.5s,mb5.0,baz=77,slow=9.2,SNR=5.8
AKTO S **S 13 49 53.0 -1.7**
comp=Z,11nm,1.0s,baz=271,slow=20,SNR=13
AKTO Aktyubinsk 60.10 313 P **P 13 42 13.8 -0.6**
AKTO S **S 13 49 53.1 -1.7**
AKTO pmax pmax
comp=Z,36nm,0.5s,mb5.1
AKTO smax
comp=N,11nm,1.0s
DZM Mont Dzumac 60.10 149 P **P 13 42 14.6 +0.2**
comp=N,21nm,0.5s,mb4.8,baz=21,slow=6.6,SNR=32
BHJ Bhuj 60.23 280 *e*P **P 13 42 16.1 +0.8**
BHJ AMb AMB 13 42 19.3
comp=Z,377nm,1.5s,mb5.6
NOU Noumea 60.31 149⇑*e*P **P 13 42 15.7 -0.1**
POHA Pohakuloa 60.37 84⇑*i*P **P 13 42 18.4 +2.1**
INK Inuvik 60.44 25 P4KPbc 14 19 14.8
comp=Z,1.0nm,1.0s,baz=310,slow=3.8,SNR=7.8
INK Inuvik 60.44 25⇑*i*P **P 13 42 16.2 -0.5**
comp=Z,134nm,0.6s,mb5.5
INK Inuvik 60.44 25⇑*i*P **P 13 42 16.2 -0.5**
INK pmax pmax
comp=Z,134nm,0.6s
TRD Trivandrum 60.86 262 *e*P **P 13 42 19.9 +0.4**
TRD AMb AMB 13 42 21.5
comp=Z,227nm,0.7s,mb5.7
SIT Sitka 62.35 38 *e*P **P 13 42 30.4 +1.1**
comp=Z,591nm,1.6s,mb5.9
SIT Sitka 62.35 38 *e*P **P 13 42 30.4 +1.1**
SIT pmax pmax
comp=Z,591nm,1.6s,mb5.9
FORT Forrest 62.85 189 *e*P **P 13 42 32.5 -0.1**
comp=Z,284nm,0.6s,mb6.0
FORT *e*S **S 13 50 28.2 -0.9**
ARMA Armidale 63.18 167 *e*P **P 13 42 35.8 +1.1**
ARMA *e*S **S 13 50 26.0 -7.0**
STKA Stephens Creek 63.36 176 *e*P **P 13 42 33.8 -2.1**
comp=Z,77nm,0.7s,mb5.3
STKA *e*S **S 13 50 33.0 -2.2**
STKA *e*SCS ScS 13 51 51.0 +3.2
STKA Stephens Creek 63.36 176 P **P 13 42 34.1 -1.8**
comp=Z,87nm,0.7s,mb5.4,baz=347,slow=6.9,SNR=146
STKA S **S 13 50 33.4 -1.9**
comp=Z,10nm,1.0s,baz=130,slow=18,SNR=7.8
STKA Stephens Creek 63.36 176⇓*e*P **P 13 42 34.0 -1.9**
STKA *e*S **S 13 50 28.3 -6.9**
ABKT Ailbek 63.87 300 P **P 13 42 39.6 +0.5**
comp=Z,966nm,0.9s,mb6.3,SNR=32
VAN Vannovskaya 63.87 300 *e*P **P 13 42 39.0 -0.2**
VAN Vannovskaya 63.87 300 *i* P **P 13 42 39.0 -0.2**
VAN S **S 13 50 42.0 +0.6**
CRAG Craig 64.00 39 *e*P **P 13 42 41.1 +1.1**
comp=Z,179nm,0.7s,mb5.7
DLBC Dease Lake 64.63 36⇑*e*P **P 13 42 45.0 +1.0**
KBS Kingsbay 65.36 350 *e*P **P 13 42 49.2 +0.5**
KBS AMb AMB 13 42 51.4
comp=Z,112nm,1.6s,mb5.2
KBS Kingsbay 65.36 350 *e*P **P 13 42 49.2 +0.5**
comp=Z,112nm,1.6s,mb5.2
KBS Kingsbay 65.36 350 P **P 13 42 49.4 +0.7**
KBS pmax pmax
comp=Z,77nm,1.0s,mb5.3
ALE Alert 65.56 3 P **P 13 42 50.0 +0.1**
comp=Z,761nm,0.7s,mb6.4,SNR=74
LVZ Lovozero 65.75 336 *e*P **P 13 42 48.5 -2.6**
LVZ *e**PP pP 13 44 15.0 -3.7
LVZ *i* S S 13 51 01.7 -2.4
LVZ *i* 13 52 00.1
LVZ *e*SSS 13 58 32.5
LVZ pmax pmax
comp=Z,50nm,1.4s,mb5.0
LVZ pmax pmax
comp=N,21nm,1.1s
LVZ pmax pmax
comp=E,48nm,2.3s
LVZ smax
comp=N,2μm,3.0s
LVZ smax
comp=Z,406nm,3.0s
LVZ smax
comp=E,995nm,2.7s
KLBR Kellerberrin 65.79 199 *e*P **P 13 42 50.8 -0.6**
comp=E,108nm,0.7s,mb5.6
KLBR *e*S S 13 51 02.1 -2.5
PECR Pechory 66.21 323 *i* P **P 13 42 53.4 -0.6**
PECR *i* 13 43 19.8
PECR *e* pP 13 44 23.4 +1.7
PECR *i* S S 13 51 07.0 -2.6
PECR *i* 13 52 04.0
PECR pmax pmax
comp=Z,900nm,2.0s,mb6.0
PECR smax
comp=N,4μm,5.3s
AFI Afiamalu 66.25 125 *e*P **P 13 42 55.1 +0.8**
comp=N,158nm,0.9s,mb5.6
AFI Afiamalu 66.25 125 *e*P **P 13 42 55.1 +0.8**
AFI pmax pmax
comp=Z,158nm,0.9s,mb5.6
APA Apatity 66.32 336⇑*i*P **P 13 42 54.0 -0.7**
APA *i* 13 43 23.2
APA *i* *PP pP 13 44 19.3 -3.1
APA *i* S S 13 51 08.0 -2.9
APA *i* 13 52 04.0
APA pmax pmax
comp=Z,52nm,1.0s,mb5.1
MUN Mundaring 66.59 200 *e*P **P 13 42 55.6 -0.8**
MUN *e*S S 13 51 14.2 0.0
KLMR Klimovskoe 66.68 328*d i*P **P 13 42 56.1 -0.9**
KLMR *e**PP pP 13 44 24.9 +0.1
KLMR *e*S S 13 51 12.7 -2.5
KLMR *e*SS SS 13 55 41.1 -0.9
KLMR pmax pmax
comp=Z,230nm,1.8s,mb5.5
KLMR pmax pmax
comp=Z,180nm,4.3s
KLMR MLR MLR
comp=Z,1μm,17.0s
NWAO Narrogin (SRO) 67.19 199 *e*P **P 13 42 59.7 -0.4**
comp=Z,170nm,0.6s,mb5.8
NWAO Narrogin (SRO) 67.19 199 P **P 13 42 59.9 -0.3**
NWAO pmax pmax
comp=Z,170nm,0.6s
KEV Kevo 67.35 339 *ep* **P 13 43 00.5 -0.6**
ARCES ARCESS Array B 67.92 339 P **P 13 43 04.3 -0.3**
comp=Z,21nm,0.6s,mb4.9,baz=64,slow=7.3,SNR=119
ARE0 ARCESS Array S 67.92 339 *e*P **P 13 43 04.0 -0.6**
ARE0 *e*PcP PcP 13 43 30.9 +3.2
RES Resolute Bay 68.44 13 *e*P **P 13 43 07.2 -0.6**
comp=Z,132nm,0.6s,mb5.7
RES Resolute Bay 68.44 13 P **P 13 43 07.5 -0.4**
RES pmax pmax
comp=Z,130nm,0.6s,mb5.7
KTK1 Kautokeino 68.88 339 *e*P **P 13 43 11.6 +1.1**
KTK1 AMb AMB 13 43 29.8
comp=Z,48nm,2.1s,mb4.8
KTK1 Kautokeino 68.88 339 *e*P **P 13 43 11.6 +1.1**
comp=Z,48nm,2.1s,mb4.8
JOF Joensuu 69.25 332 *ep* **P 13 43 13.0 +0.2**
comp=Z,55nm,0.7s,mb5.3
TOO Toolangi 69.31 174 *e*P **P 13 43 14.3 +1.2**
comp=Z,17nm,1.0s,mb4.6
TOO *e*S S 13 51 51.9 +5.9
TOO *e*sS sS 13 54 28.9 +5.1
TOO Toolangi 69.31 174 *e*P **P 13 43 14.3 +1.2**
TOO *e*S S 13 51 51.9 +5.9
TOO pmax pmax
comp=Z,17nm,1.0s,mb4.6
WBK Wadi Bani Khal 69.39 284⇑P **P 13 43 14.2 +0.6**
SNR=46
VRHR Novokhopersk 69.64 318 *e*P **P 13 43 14.4 -0.7**
VRHR pmax pmax
comp=N,30nm,0.5s
VRHR pmax pmax
comp=Z,100nm,0.5s,mb5.6
VRHR pmax pmax
comp=E,40nm,0.6s
BIDO Bidbid 69.68 286⇑P **P 13 43 16.3 +1.0**
SNR=44
MOS Moscow 69.75 324κ *i*P **P 13 43 15.8 0.0**
MOS *e* 13 43 37.0
MOS *e**PP pP 13 44 48.1 +3.5
MOS *e* 13 45 57.0
MOS *e*PPP 13 47 38.3
MOS *i* S S 13 51 49.3 -1.9
MOS *e* 13 52 32.0
MOS *e*SS SS 13 56 32.5 +3.4
MOS pmax pmax
comp=Z,800nm,2.0s,mb5.9
MOS pmax pmax
comp=Z,375nm,1.4s,mb5.7
MOS smax
comp=N,4μm,3.6s
MOS smax
comp=E,3μm,3.3s
MOS MLR MLR
comp=Z,1μm,16.0s
TRO Tromso 69.76 341 *e*P **P 13 43 14.8 -1.1**
YKW3 Yellowknife Ar 69.83 28⇑*i*P **P 13 43 15.7 -0.5**
YKA Yellowknife Ar 69.87 28 P **P 13 43 15.9 -0.6**
comp=Z,96nm,0.6s,mb5.5,baz=300,slow=6.3,SNR=1578
YKA PcP PcP 13 43 36.6 +0.7
comp=Z,9.1nm,0.7s,baz=297,slow=4.0,SNR=6.2
YKA PKP2bc 14 11 10.9
comp=Z,1.3nm,0.9s,baz=111,slow=2.4,SNR=13
YKA Yellowknife Ar 69.87 28 P **P 13 43 15.9 -0.6**
YKA PcP PcP 13 43 36.6 +0.7
YKA ⇑*e* 14 11 10.9
YKA Yellowknife Ar 69.87 28 P **P 13 43 15.9 -0.6**
YKA 13 43 36.7
SMDO Samad 69.95 285⇑P **P 13 43 17.3 +0.3**
SNR=28
BANOM Banah 70.10 289⇑P **P 13 43 18.4 +0.5**
SNR=18
JMDO Jabal Madar 70.22 285⇓P **P 13 43 18.6 0.0**
SNR=36
HOQ Hoqain 70.32 286⇓P **P 13 43 19.6 +0.4**
SNR=45
OBN Obninsk 70.58 323 P **P 13 43 20.9 +0.2**
comp=Z,1μm,1.3s,mb6.2,SNR=9.5
OBN Obninsk 70.58 323 *e*P **P 13 43 19.9 -0.9**
comp=Z,116nm,0.8s,mb5.5
OBN Obninsk 70.58 323⇓*i*P **P 13 43 20.0 -0.7**
OBN *e**PP pP 13 44 52.9 +3.2
OBN *i* 13 45 59.1
OBN *i* S S 13 51 56.8 -3.8
OBN pmax pmax
comp=Z,376nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,800nm,15.0s
VOR Voronezh 70.72 319⇓*i*P **P 13 43 20.0 -1.6**
VOR *e**PP PcP 13 43 46.5 +6.9
VOR 13 46 00.0
VOR *e*S S 13 51 59.0 -3.3
VOR pmax pmax
comp=N,100nm,1.8s
VOR pmax pmax
comp=E,220nm,1.8s
VOR pmax pmax
comp=Z,460nm,1.8s,mb5.7
VOR pmax pmax
comp=Z,150nm,2.3s,mb5.1
VOR smax
comp=N,400nm,2.3s
VOR smax
comp=E,240nm,2.3s
DAG Danmarks Havn 70.77 354⇓*i*P **P 13 43 21.7 -0.2**
comp=E,74nm,0.8s,mb5.3
DAG Danmarks Havn 70.77 354⇓*i*P **P 13 43 21.7 -0.2**
DAG pmax pmax
comp=Z,74nm,0.8s,mb5.3
BSY Bisya 70.79 285⇑P **P 13 43 22.4 +0.4**
SNR=75
ASHO Ashiyiah 70.85 288⇓P **P 13 43 22.7 +0.3**
SNR=79
VRSR Storozhevoye 70.96 319*d i*P **P 13 43 22.5 -0.5**
VRSR *e* 13 43 40.5
VRSR *e*S S 13 52 02.1 -2.9
VRSR *e* 13 52 43.9
VRSR pmax pmax
comp=Z,60nm,0.8s,mb5.2
VRSR pmax pmax
comp=N,40nm,0.7s
VRSR pmax pmax
comp=E,30nm,0.6s
VRSR smax
comp=N,10.0nm,0.8s
VRSR smax
comp=Z,3.0nm,0.8s
VRSR smax
comp=E,30nm,1.0s
VORD Divnogorie 71.02 319 *e*P **P 13 43 22.5 -0.9**
VORD pmax pmax
comp=Z,100nm,1.0s,mb5.3
VORD pmax pmax
comp=E,70nm,1.1s
ARQ Araqi 71.08 286⇑P **P 13 43 24.3 +0.6**
SNR=32
PUL Pulkovo 71.25 329 *e*P **P 13 43 23.5 -1.2**
PUL Pulkovo 71.25 329 *e*P **P 13 43 23.6 -1.1**
PUL *e**PP pP 13 44 50.1 -3.8
PUL *e*PPP 13 47 49.5
PUL *i* S S 13 52 05.7 -2.5
PUL pmax pmax
comp=Z,115nm,0.4s,mb5.8
PUL pmax pmax
comp=E,203nm,0.9s
PUL smax
comp=N,742nm,1.6s
PUL smax
comp=E,536nm,1.3s
GOF Gofitskoye 71.43 312 *e*P **P 13 43 24.5 -1.3**
GOF *i* S S 13 52 08.5 -1.8
GOF pmax pmax
comp=Z,420nm,1.7s,mb5.7
GOF smax
comp=N,2μm,2.5s
DGRG David-gareji 71.49 308 P **P 13 43 27.7 +1.6**
DGRG S S 13 52 00.0 -11
KAF Kangasniemi 71.65 333 *ep* **P 13 43 26.7 -0.4**
comp=N,29nm,0.5s,mb5.1,baz=55,slow=5.5
KAF Kangasniemi 71.65 333 *e*P **P 13 43 26.7 -0.4**
KAF pmax pmax
comp=Z,29nm,0.5s,mb5.1
MTA Mtatsminda 71.77 308 P **P 13 43 27.9 +0.1**
MTA S S 13 52 30.2 +16
TBLG Delisi 71.79 308 P **P 13 43 34.5 +6.6**
TBLG S S 13 52 27.5 +13
TBLG Delisi 71.79 308 P **P 13 43 27.8 -0.1**
TBLG S S 13 52 14.6 +0.2
ZEI Tsey 71.89 309 *i* P **P 13 43 26.7 -1.8**
ZEI *e*S S 13 52 15.3 -0.2
ZEI pmax pmax
comp=Z,111nm,1.0s,mb5.3
FINES FINESS Array B 72.12 332 P **P 13 43 29.1 -0.7**
comp=Z,31nm,0.4s,mb5.2,baz=72,slow=5.6,SNR=330
FINES S S 13 52 15.1 -2.9
comp=Z,11nm,0.8s,baz=76,slow=10.0,SNR=17
KIV Kislovodsk 72.15 311 P **P 13 43 30.0 0.0**
comp=Z,2μm,0.8s,SNR=36
KIV Kislovodsk 72.15 311⇓*i*P **P 13 43 30.2 +0.2**
comp=Z,240nm,0.8s,mb5.8
KIV *e*sP sP 13 45 40.4 -2.4
KIV *e*S S 13 52 17.2 -1.1
KIV Kislovodsk 72.15 311*d i*P **P 13 43 30.4 +0.4**
KIV *e* 13 43 46.5
KIV *e**PP pP 13 45 05.0 +5.5
KIV *e**SP sP 13 45 40.9 -1.9
KIV *e*PPP 13 48 03.9
KIV *e*S S 13 52 17.7 -0.7
KIV *e*SS SS 13 57 08.4 +2.8
KIV *e*SSS 14 00 29.8
KIV pmax pmax
comp=Z,449nm,1.1s,mb5.9
KIV pmax pmax
comp=Z,1μm,2.6s,mb6.1
KIV MLR MLR
comp=Z,710nm,16.0s
OCWA Octopus Mounta 72.16 45⇓*e*P **P 13 43 31.7 +1.7**
comp=Z,266nm,1.2s,mb5.7
PGC Sidney 72.17 44⇓*i*P **P 13 43 31.0 +0.9**
comp=Z,299nm,0.7s,mb5.9
GNI Garni 72.50 307 P **P 13 43 33.0 +0.9**
GNI Garni 72.50 307 P **P 13 43 33.4 +1.3**
comp=Z,78nm,0.8s,mb5.3,baz=358,slow=4.1,SNR=43
GNI S S 13 52 24.6 +2.3
comp=Z,1.8nm,0.3s,baz=9.2,slow=23,SNR=3.8
GNI Garni 72.50 307⇓*e*P **P 13 43 32.8 +0.7**
comp=Z,126nm,0.9s,mb5.5
GNI *e*sP sP 13 45 44.0 -1.0
GNI *e*PP PP 13 46 17.6 -2.2
GNI *e*S S 13 52 23.9 +1.6
GNI Garni 72.50 307⇓*e*P **P 13 43 32.8 +0.7**
GNI *e**SP sP 13 45 44.0 -0.9
GNI *e* 13 46 17.6
GNI *e*S S 13 52 23.9 +1.6
GNI pmax pmax
comp=Z,126nm,0.9s
AKH Akhalkalaki 72.77 308 P **P 13 43 34.5 +0.9**
AKH S S 13 52 27.5 +2.1
AKH Akhalkalaki 72.77 308 P **P 13 43 34.5 +0.9**
MOR8 Moi Rana 73.29 339 *e*P **P 13 43 34.9 -1.7**
MOR8 AMb AMB 13 43 38.4
comp=Z,44nm,1.8s,mb4.7
MOR8 Moi Rana 73.29 339 *e*P **P 13 43 34.9 -1.7**
comp=Z,44nm,1.8s,mb4.7
DIGO Kars 73.31 307 *i* P **P 13 43 37.6 +0.8**
VSU Vasula 73.51 329 *i* Pr **P 13 43 37.6 -0.3**
CLDR Caldiran 73.53 306 P **P 13 43 38.3 +0.3**
ARTV Artvin 73.92 309 *i* P **P 13 43 40.8 +0.5**
COR Corvallis 74.19 47⇑*e*P **P 13 43 43.2 +1.4**
comp=Z,1μm,1.8s,mb6.3
COR Corvallis 74.19 47⇑*e*P **P 13 43 43.2 +1.4**
COR pmax pmax
comp=Z,1μm,1.8s,mb6.3
SOC Sochi 74.22 312*d i*P **P 13 43 41.8 -0.2**
SOC *e* 13 43 59.4
SOC *e**PP pP 13 45 17.0 +5.0
SOC *e* 13 46 29.0
SOC *e*PPP 13 48 20.6
SOC *i* S S 13 52 38.0 -3.4
SOC *e* 13 53 08.6
SOC *e*SS SS 13 57 34.8 -2.2
SOC *e*SSS 14 00 58.0
SOC pmax pmax
comp=Z,197nm,0.7s,mb5.8
SOC pmax pmax
comp=Z,822nm,2.0s,mb6.0
SOC MLR MLR
comp=Z,775nm,19.0s
SHAO Shalim 74.30 282⇑P **P 13 43 42.4 0.0**
SNR=5.4
KEBM Edson Butte 74.36 49⇑*i*P **P 13 43 44.5 +1.7**
HKR Hakkari 74.38 305 P **P 13 43 43.2 +0.3**
CUKT Cukurca 74.63 304 P **P 13 43 44.1 -0.2**
TAU Tasmania Unive 74.78 173 *e*P **P 13 43 45.1 0.0**
comp=Z,25nm,1.0s,mb4.8
TAU Tasmania Unive 74.78 173 *e*P **P 13 43 45.2 0.0**
TAU pmax pmax
comp=Z,25nm,1.0s,mb4.8
ERZM Erzurum 74.91 308 *i* P **P 13 43 47.1 +1.3**
EZM Erzurum 74.91 308 P **P 13 43 46.4 +0.5**
ANN Anapa 75.06 314⇓*i*P **P 13 43 45.1 -1.6**
ANN *e**PP pP 13 45 17.2 +0.2
ANN *e* 13 46 41.8
ANN *i* S S 13 52 47.8 -2.8
ANN *i* 13 53 15.8
ANN pmax pmax
comp=Z,393nm,0.9s,mb6.0
NSS Namsos 75.17 339 *e*P **P 13 43 46.1 -1.2**
NSS AMb AMB 13 43 57.5
comp=Z,44nm,2.0s,mb4.7
NSS Namsos 75.17 339 *e*P **P 13 43 46.1 -1.2**
comp=Z,44nm,2.0s,mb4.7
UMR Umm Al-Rimmam 75.22 296 *e*P **P 13 43 47.3 -0.3**
UMR AMb AMB 13 43 49.0
comp=Z,300nm,0.5s,mb6.1
MNK Minsk 75.23 325 *e*P **P 13 43 44.0 -3.7**
MNK *e* 13 52 46.0
MNK pmax pmax
comp=Z,940nm,1.5s,mb6.2
EDM Edmonton 75.34 36⇑*i*P **P 13 43 48.7 +0.3**
HUMO Hull Mountain 75.38 49⇑*i*P **P 13 43 49.6 +1.1**
comp=Z,81nm,0.7s,mb5.5
HUMO *e*PP PP 13 46 43.8 -0.2
KBD Kabd 75.42 295 *e*P **P 13 43 48.7 -0.1**
KBD AMb AMB 13 43 50.9
comp=Z,1μm,0.5s
MSL Mosul 75.45 304 *i* x x 13 43 50.0
MSL *e*x x 13 44 18.5
MSL *e*x x 13 52 53.0
MSL *e*x x 13 53 23.0
QRN Al-Qurain 75.45 295 *e*P **P 13 43 48.4 -0.6**
QRN AMb AMB 13 43 51.0
comp=Z,397nm,0.7s,mb6.2
BNGL BINGOL 75.51 307 *i* P **P 13 43 50.4 +1.1**
HAWA Hanford 75.59 44 *e*P **P 13 43 50.5 +0.8**
comp=Z,32nm,1.4s,mb4.8
RDF Al-Radifah 75.64 295 *e*P **P 13 43 49.6 -0.5**
RDF AMb AMB 13 43 52.1
comp=Z,521nm,0.6s,mb6.3
BTMT Batman 75.65 306 P **P 13 43 50.8 +0.7**
KHMM Horse Mountain 75.73 51⇑*e*P **P 13 43 52.2 +1.7**
NAY Al-Naaiem 75.73 296 *e*P **P 13 43 50.0 -0.5**
NAY AMb AMB 13 43 53.8
comp=Z,246nm,0.6s,mb6.0
WHFO Wadi Hawf 75.89 282 P **P 13 43 50.8 -0.6**
SNR=77
GUMT Gumushane 75.90 309 P **P 13 43 51.5 +0.1**
SUMG Summit 75.95 359⇑*e*P **P 13 43 51.9 +0.2**
comp=Z,116nm,0.6s,mb5.7
SUMG *e*pP pP 13 45 24.3 +2.1
BHD Baghdad 75.96 300 *i* x x 13 43 41.0
BHD *e*x x 13 45 11.5
BHD *i* x x 13 52 46.5
BHD *e*x x 13 53 06.5
YBH Yreka Blue Hor 75.97 50 P **P 13 43 53.4 +1.5**
comp=Z,69nm,0.7s,mb5.4,baz=4.8,slow=4.1,SNR=118
YBH Yreka Blue Hor 75.97 50⇑*e*P **P 13 43 52.5 +0.7**
comp=Z,60nm,0.7s,mb5.3
YBH *e*pP pP 13 45 21.4 -1.0
YBH *e*PP PP 13 46 49.0 +0.1
YBH Yreka Blue Hor 75.97 50⇑*e*P **P 13 43 52.5 +0.7**
YBH *e**PP pP 13 45 21.4 -1.0
YBH *e* 13 46 49.0

YBH pmax pmax
comp=Z,60nm,0.7s
NEW Newport 76.01 42⇑ eP P 13 43 52.6 +0.5
comp=Z,112nm,0.6s,mb5.7
NEW ePP PP 13 46 50.3 +1.0
NEW Newport 76.01 42⇑ eP P 13 43 52.6 +0.5
NEW e 13 46 50.3
NEW pmax pmax
comp=Z,111nm,0.6s
KIPM Iron Peak 76.42 52 eP P 13 43 55.7 +1.4
ABTO Aybut 76.56 282 P P 13 43 54.9 -0.2
SNR=84
AKASG Malin Array Be 76.65 322 P P 13 43 55.0 -0.7
comp=Z,106nm,0.5s,mb5.7,baz=52,slow=5.9,SNR=392
AKASG S S 13 53 06.5 -1.3
comp=Z,1.6nm,0.8s,baz=58,slow=12,SNR=7.0
AKASG Malin Array Be 76.65 322 P P 13 43 55.0 -0.7
AKASG S S 13 53 06.5 -1.3
WDC Whiskeytown Da 76.66 51⇑ iP P 13 43 56.5 +0.9
comp=Z,142nm,1.1s,mb5.5
WDC Whiskeytown Da 76.66 51⇑ iP P 13 43 56.5 +0.8
WDC pmax pmax
comp=Z,142nm,1.1s,mb5.5
KIEV Kiev 76.67 322 P P 13 43 55.0 -0.7
KIEV PcP PcP 13 44 23.0 +18
KIEV S S 13 53 05.1 -2.9
KIEV SKSac SKSac 13 53 28.1 +0.3
SIM Simferopol' 77.01 315 deP P 13 43 57.7 +0.1
SIM e*PP pP 13 45 34.0 +5.6
SIM e 13 47 00.0
SIM eS S 13 53 10.0 -1.6
SIM eSS SS 13 58 24.0 +5.1
SIM pmax pmax
comp=Z,151nm,0.8s,mb5.7
SCO Scoresbysund 77.05 353 iP P 13 43 58.4 +0.6
comp=Z,39nm,0.7s,mb5.1
SCO iS S 13 53 12.3 +0.2
SCO Scoresbysund 77.05 353 iP P 13 43 58.4 +0.6
SCO iS S 13 53 12.3 +0.2
SCO pmax pmax
comp=Z,39nm,0.7s,mb5.2
HOPS Hopland 77.11 52 eP P 13 43 58.7 +0.6
comp=Z,217nm,1.5s,mb5.6
ELZG Elazig 77.21 307 iP P 13 43 59.8 +1.1
WALA Waterton Lakes 77.37 40⇑ eP P 13 44 00.1 +0.6
comp=Z,144nm,0.6s,mb5.8
MOD Modoc 77.43 48⇑ eP P 13 44 00.7 +0.8
comp=Z,118nm,0.7s,mb5.6
MCCM Marconi Confer 77.66 53⇑ eP P 13 44 01.5 +0.3
HFS Hagfors 77.67 335 P P 13 44 00.3 -0.9
comp=Z,31nm,0.7s,mb5.0,baz=83,slow=4.6,SNR=77
HFS S S 13 53 15.8 -2.8
comp=Z,8.6nm,0.9s,baz=83,slow=17,SNR=6.7
MYA Malataya 77.67 307 P P 13 44 02.1 +0.8
MALT Malatya 77.68 307 P P 13 44 00.1 -1.2
MALT Malatya 77.68 307 ⇓P P 13 44 02.4 +1.1
MALT Malatya 77.68 307 ⇓P P 13 44 02.4 +1.2
MALT Malatya 77.68 307 P P 13 44 02.3 +1.0
MALT pmax pmax
comp=Z,81nm,0.9s,mb5.3
SUW Suwalki 77.73 327 ePd 13 44 01.1
comp=Z,1.0nm,2.2s
SUW e 13 44 27.9
SUW eS S 13 53 17.1 -2.2
SUW L 14 20 09.9
comp=Z,0.6nm,24.5s
SUW Suwalki 77.73 327⇓ eP P 13 44 01.1 -0.4
SUW e 13 44 27.9
SUW eS S 13 53 17.1 -2.2
BMO Blue Mountains 77.73 45⇑ eP P 13 44 02.2 +0.7
comp=Z,102nm,0.6s,mb5.6
BMO epP pP 13 45 28.2 -4.3
SVSK Karacayir 77.81 309 P P 13 44 02.2 +0.2
URFA Urfa 77.86 306 P P 13 44 03.1 +0.9
NB2 NORSAR Subarra 77.90 336 P P 13 44 01.4 -1.0
comp=Z,65nm,1.4s,mb5.1,baz=44,slow=5.3
NB2 NORSAR Subarra 77.90 336 P P 13 44 01.4 -1.0
NB2 pmax pmax
comp=Z,65nm,1.4s,mb5.1
NOA NORSAR Array B 77.90 336 P P 13 44 01.6 -0.8
comp=Z,16nm,0.8s,mb4.7,baz=46,slow=5.4,SNR=44
NOA pP pP 13 45 33.0 -0.4
comp=Z,3.8nm,0.7s,baz=48,slow=5.6,SNR=1.9
NOA S S 13 53 18.9 -2.2
comp=Z,1.6nm,0.8s,baz=49,slow=11,SNR=4.6
MOL Molde 77.96 339 eP **P 13 44 04.9 +2.1**
OHCM Honcut 77.99 51 eP **P 13 44 03.0 +0.1**
OHCM epP pP 13 45 26.4 -7.7
OHCM esP sP 13 46 09.7 -7.3
OHCM ePP PP 13 47 04.2 -1.5
ATAB Bozova 78.20 307 iP **P 13 44 04.6 +0.5**
WVOR Wild Horse Val 78.21 47⇑ eP P 13 44 05.0 +0.9
comp=Z,125nm,0.6s,mb5.7
WVOR Wild Horse Val 78.21 47 P P 13 44 05.1 +1.0
WVOR pmax pmax
comp=Z,130nm,0.6s,mb5.7
SAC San Andreas 78.27 53 eP **P 13 44 04.6 +0.1**
SAC San Andreas 78.27 53 P P 13 44 05.0 +0.5
BOYT Boyabat 78.38 312 iP **P 13 44 05.7 +0.6**
MSO Missoula 78.60 42⇑ eP P 13 44 06.0 -0.3
comp=Z,152nm,1.5s,mb5.4
URZ Urewera 78.66 149 P P 13 44 05.8 -0.8
comp=Z,13nm,0.7s,mb4.7,baz=356,slow=4.4,SNR=10
GZT Gaziantep 78.76 307 iP **P 13 44 07.9 +0.8**
CHMT Chamberlain Mo 78.94 41 eP **P 13 44 08.2 +0.1**
KIS Kishinev 78.97 319 κ iP **P 13 44 08.0 -0.2**
KIS e 13 44 20.0
KIS e*PP pP 13 45 45.0 +5.4
KIS e 13 47 20.0
KIS ePPP 13 49 10.0
KIS iS S 13 53 30.0 -2.3
KIS pmax pmax
comp=Z,400nm,2.0s,mb5.7
KIS pmax pmax
comp=Z,700nm,2.0s,mb5.9
KIS smax
comp=N,800nm,2.0s
KIS smax
comp=E,1μm,2.0s
KIS smax
comp=N,3μm,3.0s
KIS smax
comp=E,3μm,2.0s
KIS MLR MLR
comp=Z,700nm,19.0s
KIS MLR MLR
comp=Z,600nm,18.0s
GAZ Gaziantep 79.09 307 P P 13 44 09.8 +0.9
TOS Tosya 79.15 312 P P 13 44 09.4 +0.2
PAHR Pah Rah Range 79.18 50⇑ eP P 13 44 09.9 +0.5
comp=Z,105nm,0.7s,mb5.6
PAHR epP pP 13 45 41.1 +0.4
SAO San Andreas Ge 79.35 53 eP **P 13 44 10.6 +0.3**
comp=Z,45nm,0.6s,mb5.3
SAO San Andreas Ge 79.35 53 P P 13 44 11.1 +0.8
SAO pmax pmax
comp=Z,45nm,0.6s,mb5.3
CMB Columbia Colle 79.40 52⇑ eP P 13 44 10.8 +0.3
comp=Z,131nm,0.6s,mb5.7
CMB epP pP 13 45 34.2 -7.8
CMB ePP PP 13 47 14.7 -2.7
CMB Columbia Colle 79.40 52⇑ eP P 13 44 10.8 +0.2
CMB e 13 47 14.7
CMB pmax pmax
comp=Z,131nm,0.6s,mb5.7
CDAG Cicekdag 79.69 310 iP **P 13 44 12.5 +0.4**
FFC Flin Flon 79.76 31 P P 13 44 12.9 +0.5
comp=Z,766nm,0.6s,SNR=68
FFC Flin Flon 79.76 31⇑ eP P 13 44 11.9 -0.5
comp=Z,79nm,2.7s,mb4.9
FFC Flin Flon 79.76 31⇑ eP P 13 44 11.9 -0.5
FFC pmax pmax
comp=Z,79nm,2.7s,mb4.9
ELDT Eldivan 79.83 311 iP **P 13 44 13.3 +0.5**
WAR Warsaw 79.85 326 eP **P 13 44 14.0 +1.1**
WAR eS S 13 53 40.6 -0.9
HRY Holter Researc 79.86 41 eP **P 13 44 13.5 +0.5**
KOZT Kozan 79.87 308 P P 13 44 13.2 +0.2
LVV L'vov 79.87 323⇓ iP **P 13 44 12.9 -0.2**
LVV iS S 13 53 39.3 -2.4
LVV ePS 13 53 56.1
LVV pmax pmax
comp=Z,100nm,1.3s,mb5.3
LVV MLR MLR
comp=Z,400nm,16.0s
LVV MLR MLR
comp=N,400nm,15.0s
LVV MLR MLR
comp=E,400nm,16.0s
SAFT Safranbolu 79.89 312 P P 13 44 13.2 +0.1
FCC Fort Churchill 80.05 25⇑ iP **P 13 44 13.1 -0.8**
comp=E,190nm,1.5s,mb5.5
FCC epP pP 13 45 44.4 -1.2
FCC Fort Churchill 80.05 25⇑ iP **P 13 44 13.1 -0.9**
FCC e*PP pP 13 45 44.4 -1.2
FCC pmax pmax
comp=Z,190nm,1.5s,mb5.5
COBT Iskenderun 80.09 307 iP **P 13 44 14.8 +0.6**
BR131 Keskin Array S 80.11 311⇓ eP **P 13 44 14.0 -0.3**
comp=Z,108nm,0.8s,mb5.5
BR131 e 13 44 42.2
BR131 epP pP 13 45 46.7 +0.8
BR131 ePP PP 13 47 19.6 -3.5
BRTR Keskin Array B 80.11 311 P P 13 44 14.4 +0.2
comp=Z,116nm,0.8s,mb5.6,baz=100,slow=4.1,SNR=326
BRTR pP pP 13 45 46.0 +0.1
comp=Z,5.4nm,0.9s,baz=76,slow=6.1,SNR=1.6
BRTR S S 13 53 42.7 -1.4
comp=Z,0.2nm,0.3s,baz=86,slow=8.7,SNR=2.7
BRTR PKKPbc PKKPbc 14 02 55.4 +0.8
comp=Z,0.8nm,0.6s,baz=202,slow=4.7,SNR=5.3
BRTR Keskin Array B 80.11 311 P P 13 44 14.5 +0.2
BRTR *PP pP 13 45 46.1 +0.2
BRTR S S 13 53 42.7 -1.4
CEYT Ceyhan 80.17 307 P P 13 44 14.8 +0.1
HLID Hailey 80.17 45⇑ eP P 13 44 15.8 +1.1
comp=Z,240nm,1.3s,mb5.7
HLID epP pP 13 45 46.6 +0.3
DLMT Dillon 80.21 42⇑ iP **P 13 44 15.4 +0.6**
comp=Z,400nm,1.3s,mb5.9
DLMT epP pP 13 45 46.4 -0.1
EGMT Eagleton 80.22 39⇑ iP **P 13 44 15.3 +0.4**
comp=Z,214nm,1.0s,mb5.7
EGMT epP pP 13 45 44.6 -1.9
KAMT Kaman 80.25 310 P P 13 44 14.7 -0.4
NIG Nigde 80.35 309 P P 13 44 15.2 -0.3
MCMT McKenzie Canyo 80.37 43 eP **P 13 44 16.3 +0.6**
HTY Hatay 80.38 306 eP **P 13 44 16.1 +0.4**
CFR Carcaliu 80.41 318 ⇓P P 13 44 16.0 +0.1
KARA Karaisali 80.51 308 eP **P 13 44 16.2 -0.1**
ANTO Ankara 80.57 311 eP **P 13 44 15.5 -1.3**
ANTO Ankara 80.57 311 ⇑P P 13 44 16.9 +0.2
ANTO Ankara 80.57 311 ⇑P P 13 44 16.9 +0.2
ANTO Ankara 80.57 311 eP **P 13 44 17.2 +0.5**
ANTO pmax pmax
comp=Z,94nm,0.7s,mb5.6
NVAR Mina Array Bea 80.58 51 P P 13 44 17.6 +0.8
comp=Z,51nm,0.7s,mb5.4,baz=296,slow=5.0,SNR=385
NVAR pP pP 13 45 48.0 -0.5
comp=Z,4.1nm,0.6s,baz=274,slow=4.6,SNR=1.9
NVAR PKKPbc PKKPbc 14 02 53.0 -0.5
comp=Z,0.8nm,0.8s,baz=132,slow=3.7,SNR=5.0
NVAR Mina Array Bea 80.58 51 P P 13 44 17.6 +0.8
NVAR pP pP 13 45 48.0 -0.5
NVAR PKKPbc PKKPbc 14 02 53.0 -0.5
LOD Lodumlu 80.58 311 eP **P 13 44 17.1 +0.3**
BURAR Bucovina Array 80.59 321 ⇓P P 13 44 17.0 +0.2
BURAR Bucovina Array 80.59 321 ⇓P P 13 44 17.0 +0.1
BOZ Bozeman (W) 80.59 42⇑ iP **P 13 44 17.7 +0.8**
comp=Z,83nm,0.7s,mb5.6
BOZ Bozeman (W) 80.59 42⇑ iP **P 13 44 17.7 +0.9**
BOZ pmax pmax
comp=Z,83nm,0.7s,mb5.6
TIRR Tirgusor 80.66 317 ⇓P P 13 44 17.1 -0.1
KWP Kalwaria 80.67 323 ePd **P 13 44 17.6 +0.4**
comp=Z,1.6nm,2.6s
KWP eS S 13 53 49.1 -0.8
KWP L 14 23 17.3
comp=Z,0.8nm,19.0s
KWP Kalwaria 80.67 323⇓ eP **P 13 44 17.6 +0.4**
KWP eS S 13 53 49.1 -0.8
BSD Bornholm Skovb 80.67 331 iP **P 13 44 16.4 -0.8**
comp=Z,62nm,0.9s,mb5.3
BSD iS S 13 53 46.6 -3.3
BSD
comp=Z,610nm,19.0s
BSD Bornholm Skovb 80.67 331 iP **P 13 44 16.4 -0.8**
comp=Z,62nm,0.9s,mb5.3
BSD iS S 13 53 46.6 -3.3
MNV Mina 80.67 51⇑ eP **P 13 44 17.9 +0.6**
comp=Z,117nm,1.4s,mb5.4
MNV epP pP 13 45 47.5 -1.5
MNV esP sP 13 46 30.9 -0.9
MNV ePP PP 13 47 28.7 +1.0
MNV Mina 80.67 51⇑ eP **P 13 44 17.9 +0.6**
MNV e*PP pP 13 45 47.5 -1.5
MNV e*SP sP 13 46 30.9 -0.9
MNV e 13 47 28.7
MNV pmax pmax
comp=Z,117nm,1.4s,mb5.4
BLS5 Blasjo 80.69 337 eP **P 13 44 18.5 +1.2**
BLS5 AMb AMB 13 44 29.7
comp=Z,45nm,1.7s,mb4.9
BLS5 Blasjo 80.69 337 eP **P 13 44 18.5 +1.2**
comp=Z,45nm,1.7s,mb4.9
PTRM Twissleman Ran 80.79 54 eP **P 13 44 18.8 +0.9**
VRI Vrincioaia 80.80 319 ⇑P P 13 44 18.3 +0.4
HAAR Harsova 80.81 317 ⇑P P 13 44 18.5 +0.5
PLOR Plostina 80.86 319 ⇑P P 13 44 18.4 +0.2
GKP Gorka Klasztor 80.92 328 eP **P 13 44 18.3 -0.3**
comp=Z,0.6nm,2.2s
GKP eS S 13 53 51.2 -1.3
GKP L 14 24 57.1
comp=Z,0.9nm,18.1s
GKP Gorka Klasztor 80.92 328 eP **P 13 44 18.3 -0.3**
GKP eS S 13 53 51.2 -1.3
GKP pmax pmax
comp=Z,1.0nm,2.2s
GKP MLR MLR
comp=Z,900nm,18.1s
MTUM Tungsten Hills 80.99 52 eP **P 13 44 19.9 +1.0**
MTUM ePP PP 13 47 28.2 -2.1
MERS Mersin 81.08 308 eP **P 13 44 18.2 -1.1**
QLMT Earthquake Lak 81.19 42 eP **P 13 44 21.1 +1.1**
QLMT epP pP 13 45 48.8 -3.0
QLMT ePP PP 13 47 30.4 -1.6
FKH Fakeheh 81.20 305 eP **P 13 44 20.2 +0.2**
MDU Mudurnu 81.25 312 eP **P 13 44 20.1 -0.2**
ELK Elko 81.26 47⇑ eP **P 13 44 21.4 +1.0**
comp=Z,143nm,1.0s,mb5.7
ELK epP pP 13 45 48.0 -4.3
ELK Elko 81.26 47⇑ eP **P 13 44 21.4 +1.1**
ELK pmax pmax
comp=Z,143nm,1.0s
COP Copenhagen 81.28 332 iP **P 13 44 20.1 -0.3**
comp=Z,79nm,0.9s,mb5.4
COP e 13 47 30.0
COP iS S 13 53 53.8 -2.3
COP i 13 56 35.2
COP
comp=Z,420nm,18.0s
COP Copenhagen 81.28 332 iP **P 13 44 20.1 -0.3**
COP e 13 47 30.0
COP iS S 13 53 53.8 -2.3
COP pmax pmax
comp=Z,79nm,0.9s,mb5.4
COP MLR MLR
comp=Z,420nm,18.0s
KOLS Kolonicke sedl 81.33 323 eP **P 13 44 20.6 -0.1**
SFJD Kangerlussuaq 81.38 3⇑ iP **P 13 44 20.6 -0.3**
comp=Z,29nm,0.6s,mb5.2
SFJD iS S 13 53 57.6 +0.5
SFJD
comp=Z,210nm,21.0s
SFJD Kangerlussuaq 81.38 3⇑ iP **P 13 44 20.6 -0.3**
SFJD iS S 13 53 57.6 +0.5
SFJD pmax pmax
comp=Z,29nm,0.6s,mb5.2
SFJD MLR MLR
comp=Z,210nm,21.0s
MLR Muntele Rosu 81.47 319 P P 13 44 21.6 +0.2
comp=Z,53nm,0.9s,mb5.3,baz=359,slow=6.2,SNR=41
MLR S S 13 53 57.7 -0.4
comp=Z,4.5nm,0.8s,baz=286,slow=24,SNR=14
MLR Muntele Rosu 81.47 319 ⇓P P 13 44 21.4 0.0
MLR Muntele Rosu 81.47 319 ⇓P P 13 44 21.4 0.0
MLR Muntele Rosu 81.47 319 P P 13 44 21.6 +0.2
MLR S S 13 53 57.7 -0.4
MLR pmax pmax
comp=Z,53nm,0.9s
MLR smax
comp=N,5.0nm,0.8s
UZH Uzhgorod 81.50 323 c iP **P 13 44 20.7 -0.9**
UZH iS S 13 53 58.7 +0.3
UZH MLR MLR
comp=Z,1μm,14.0s
STHS Stebnicka Huta 81.54 324 iP **P 13 44 22.0 +0.2**
STHS eS S 13 53 57.3 -1.5
YMR Madison River 81.55 42⇑ iP **P 13 44 23.1 +1.3**
comp=Z,253nm,0.8s,mb6.0
GCMT Greycliff 81.61 41 eP **P 13 44 22.9 +0.7**
GCMT e 13 44 44.2
KIZT Kizilcal 81.71 311 eP **P 13 44 22.2 -0.4**
RGN Rugen 81.72 331 eP **P 13 44 22.7 0.0**
comp=Z,79nm,0.8s,mb5.5
OJC Ojcow 81.74 325 eP **P 13 44 22.7 -0.1**
OJC ePcP PcP 13 44 28.3 +1.0
OJC iS S 13 53 58.2 -2.6
OJC eSS SS 13 59 25.2 -4.0
OJC L 14 24 18.0
comp=Z,8.1nm,16.1s
YFT Old Faithful 81.76 42⇑ eP **P 13 44 25.6 +2.7**
KDHN Kadinhani 81.76 310 iP **P 13 44 22.7 -0.2**
CRVS Cervenica-Dubn 81.76 323 eP **P 13 44 23.7 +0.8**
CRVS eS S 13 53 59.3 -1.7
BHL Bhannes 81.90 305 eP **P 13 44 23.6 0.0**
LKWY Lake 81.94 42⇑ eP **P 13 44 26.6 +2.8**
comp=Z,429nm,1.1s,mb6.1
LKWY epP pP 13 45 55.1 -0.8
LKWY Lake 81.94 42⇑ eP **P 13 44 26.6 +2.8**
LKWY e*PP pP 13 45 55.2 -0.7
LKWY pmax pmax
comp=Z,429nm,1.1s,mb6.1
ISA Isabella 81.97 53⇑ eP **P 13 44 23.6 -0.4**
MUD Monsted U'grnd 81.97 334 iP **P 13 44 23.7 -0.3**
comp=Z,73nm,1.0s,mb5.4
MUD iS S 13 54 00.8 -2.4
MUD
comp=Z,430nm,18.0s
MUD Monsted U'grnd 81.97 334 iP **P 13 44 23.7 -0.3**
comp=Z,73nm,1.0s,mb5.4
MUD iS S 13 54 00.8 -2.4
IKL Isikli 81.98 308 eP **P 13 44 23.7 -0.4**
PRD Provadia 82.00 316 iP **P 13 44 24.0 -0.1**
NIE Niedzica 82.01 324⇑ eP **P 13 44 24.7 +0.5**
HRT Hereke 82.01 313 eP **P 13 44 22.1 -2.1**
IMW Indian Meadow 82.03 43⇑ eP **P 13 44 25.8 +1.5**
comp=Z,108nm,0.7s,mb5.7
IMW epP pP 13 45 55.4 -1.0
IMW ePP PP 13 47 29.2 -10
FLWY Flagg Ranch 82.06 43⇑ eP **P 13 44 26.4 +2.0**
comp=Z,356nm,1.1s,mb6.0
FLWY epP pP 13 45 57.9 +1.3
BORA Eskisehir 82.06 312 iP **P 13 44 24.3 -0.1**
BUC1 Bucharest 82.11 318 P P 13 44 25.5 +0.8
HVU Hansel Valley 82.19 45⇑ iP **P 13 44 26.2 +1.1**
comp=Z,123nm,0.7s,mb5.7
HVU epP pP 13 45 56.4 -0.8
HVU Hansel Valley 82.19 45⇑ iP **P 13 44 26.2 +1.1**
HVU e*PP pP 13 45 56.4 -0.9
HVU pmax pmax
comp=Z,123nm,0.7s,mb5.7
DAC Darwin (Calif) 82.23 52⇑ eP **P 13 44 25.7 +0.4**
comp=Z,78nm,0.7s,mb5.5
DAC epP pP 13 45 55.9 -1.5
DAC ePP PP 13 47 40.4 0.0
DAC Darwin (Calif) 82.23 52⇑ eP **P 13 44 25.7 +0.4**
DAC e*PP pP 13 45 55.9 -1.6
DAC e 13 47 40.4
DAC pmax pmax
comp=Z,78nm,0.7s,mb5.5
MOOW Moose Ponds 82.23 43⇑ eP **P 13 44 26.4 +1.1**
comp=Z,393nm,1.6s,mb5.9
MOOW epP pP 13 45 54.2 -3.3
ISK Istanbul-Kandi 82.25 314 eP **P 13 44 25.0 -0.4**
TPAW Teton Pass 82.26 43⇑ eP **P 13 44 26.7 +1.2**
comp=Z,101nm,0.6s,mb5.7
YLV Yalova 82.34 313 eP **P 13 44 24.0 -1.9**
LOHW Long Hollow 82.39 43⇑ eP **P 13 44 27.3 +1.2**
comp=Z,119nm,1.1s,mb5.5
SNOW Snow King Moun 82.39 43⇑ eP **P 13 44 27.8 +1.7**
comp=Z,75nm,0.8s,mb5.5
REDW Red Top Meadow 82.40 43⇑ iP **P 13 44 27.3 +1.1**
comp=Z,203nm,1.4s,mb5.7
REDW epP pP 13 45 55.1 -3.2
PHNC Paralimni 82.43 306 P P 13 44 26.1 -0.2
comp=Z,2.0nm,0.8s
DRGR 82.44 321 ⇑P P 13 44 26.9 +0.5
BORG Borgarnes 82.47 351 P P 13 44 27.1 +0.6
comp=Z,90nm,0.8s,mb5.5,baz=32,slow=4.2
BORG Borgarnes 82.47 351 eP **P 13 44 27.4 +0.9**
comp=Z,113nm,0.9s,mb5.6
KECS Kecovo 82.53 323 eP **P 13 44 26.6 -0.2**
KECS e pP 13 46 02.4 +3.3
KECS ePP PP 13 47 41.5 -1.3
BGU Big Grassy Mou 82.53 46⇑ eP **P 13 44 32.7 +5.9**
ELBA Catalca 82.58 314 iP **P 13 44 27.0 -0.1**
RAC Raciborz 82.61 326 eP **P 13 44 27.8 +0.6**
AHID Auburn Hatcher 82.61 44⇑ eP **P 13 44 27.6 +0.3**
comp=Z,210nm,1.4s,mb5.7
SPUT South Promonto 82.66 46⇑ eP **P 13 44 28.4 +0.9**
TPNV Topopah Spring 82.75 51⇑ eP **P 13 44 28.5 +0.5**
comp=Z,113nm,0.7s,mb5.7
TPNV epP pP 13 45 55.5 -4.8
TPNV Topopah Spring 82.75 51⇑ eP **P 13 44 28.5 +0.5**
TPNV pmax pmax
comp=Z,113nm,0.7s,mb5.7
OKC Ostrava-Krasne 82.79 325⇓ iP **P 13 44 28.0 -0.2**
OKC eS S 13 54 09.5 -1.9
DGMT Dagmar 82.83 36 eP **P 13 44 27.9 -0.5**
comp=Z,110nm,1.1s,mb5.5
DGMT epP pP 13 46 01.0 +0.3
MAMC Mammari 82.89 307 P P 13 44 28.7 0.0
CSS Prodhromos 82.93 307 P P 13 44 28.9 0.0
comp=Z,2.4nm,0.8s
LAO LASA Array 82.93 39⇑ eP **P 13 44 29.6 +0.7**
comp=Z,190nm,1.0s,mb5.8
LAO epP pP 13 46 01.3 0.0
LAO ePP PP 13 47 50.9 +4.8
RUE Ruedersdorf 82.99 329 eP **P 13 44 28.6 -0.6**
comp=Z,61nm,0.8s,mb5.4
RUE Ruedersdorf 82.99 329 eP **P 13 44 28.4 -0.8**
comp=Z,72nm,0.9s,mb5.4
KSP Ksiaz 82.99 327 ePd **P 13 44 29.2 0.0**
comp=Z,0.9nm,2.4s
KSP eS S 13 54 12.1 -1.3
KSP Ksiaz 82.99 327 eP **P 13 44 28.8 -0.4**
KSP e 13 44 55.3
KSP esP pP 13 46 04.6 +3.0
KSP eS S 13 54 09.4 -4.0
KSP eSS sS 13 56 54.2 -3.5
KSP eSS SS 13 59 34.8 -13
KSP Ksiaz 82.99 327 eP **P 13 44 28.8 -0.4**
KSP e*SP pP 13 46 04.6 +3.0
KSP eS S 13 54 09.4 -4.0
HWUT Hardware Ranch 83.02 45⇑ eP **P 13 44 30.2 +0.9**
comp=Z,332nm,1.0s,mb6.0
HWUT epP pP 13 46 00.4 -1.3
MWC Mount Wilson 83.05 54⇑ eP **P 13 44 29.8 +0.3**
MWC epP pP 13 46 00.0 -1.8
MWC ePP PP 13 47 42.2 -4.9
DUG Dugway 83.09 47⇑ eP **P 13 44 30.7 +1.0**
comp=Z,144nm,0.7s,mb5.8
DUG ePP PP 13 47 45.5 -2.0
DUG Dugway 83.09 47⇑ eP **P 13 44 30.7 +1.0**
DUG e 13 47 45.5
DUG pmax pmax
comp=Z,144nm,0.7s,mb5.8
MORC Moravsky Berou 83.13 326 ⇑P P 13 44 29.5 -0.4
MORC Moravsky Berou 83.13 326 ⇑P P 13 44 29.5 -0.3
MORC Moravsky Berou 83.13 326 P P 13 44 29.8 -0.1
MORC pmax pmax
comp=Z,28nm,0.9s,mb5.0
GDZ Gediz 83.13 312 iP **P 13 44 29.6 -0.3**
ISP Isparta 83.19 310 eP **P 13 44 29.2 -1.0**
ISP Isparta 83.19 310⇓ eP **P 13 44 29.0 -1.2**
comp=Z,52nm,0.9s,mb5.3
ISP epP pP 13 45 57.1 -5.4
ISP Isparta 83.19 310⇓ eP **P 13 44 29.0 -1.2**
ISP pmax pmax
comp=Z,51nm,0.9s,mb5.2
EDRB Edirne 83.19 315 eP **P 13 44 29.8 -0.4**

PSZ	**Piszkesteto**	**83.19 323**	⇓	*i*P	**P**	**13 44 30.2**	**0.0**
PSZ				*i* pP	pP	13 46 10.5	+7.9
PSZ	**Piszkesteto**	**83.19 323**		P	**P**	**13 44 30.3**	**+0.1**
PSZ				pmax	pmax		
	comp=Z,170nm,1.5s,mb5.5						
NOQ	**North Oquirrh**	**83.25 46**	⇑	*e*P	**P**	**13 44 31.4**	**+0.9**
	comp=Z,485nm,0.8s,mb6.3						
DPC	**Dobruska-Polom**	**83.32 327**	⇓	*i*P	**P**	**13 44 31.0**	**+0.2**
DPC				*e*pP	pP	13 46 09.8	+6.5
DPC				*e*S	S	13 54 15.0	-1.6
DPC				AMS	AMS	14 31 30.0	
	comp=Z,700nm,15.5s						
ALFC	**Alevga**	**83.32 307**	⇓	P	**P**	**13 44 30.2**	**-0.6**
	comp=Z,4.2nm,0.6s,mb4.4						
ALFC	**Alevga**	**83.32 307**	⇓	*i*P	**P**	**13 44 30.2**	**-0.6**
VYHS	**Vyhne**	**83.35 324**		*i* P	**P**	**13 44 31.2**	**+0.2**
VYHS				*e*	pP	13 46 04.3	+0.9
SZAC	**Souni-Zanaja**	**83.35 307**		P	**P**	**13 44 30.6**	**-0.4**
UPC	**Upice**	**83.35 327**	⇓	*i*P	**P**	**13 44 30.8**	**-0.2**
UPC				*e*pP	pP	13 45 56.9	-6.6
BSEG	**Bad Segeberg**	**83.39 332**		*e*P	**P**	**13 44 30.5**	**-0.7**
	comp=Z,64nm,1.1s,mb5.3						
BSEG				*e*PP	PP	13 47 49.4	-0.5
CTU	**Camp Tracy**	**83.45 46**	⇑	*e*P	**P**	**13 44 32.4**	**+0.9**
	comp=Z,89nm,0.6s,mb5.7						
MFT	**Murefte**	**83.50 314**		*e*P	**P**	**13 44 30.5**	**-1.3**
BW06	**Boulder Array**	**83.51 43**	⇑	*e*P	**P**	**13 44 32.2**	**+0.4**
	comp=Z,87nm,1.0s,mb5.4						
PDAR	**Pinedale Array**	**83.51 43**		P	**P**	**13 44 32.5**	**+0.7**
	comp=Z,45nm,0.7s,mb5.3,baz=285,slow=1.9,SNR=272						
AKMC	**Akamas**	**83.58 307**	⇓	P	**P**	**13 44 31.2**	**-0.9**
SART	**Tekirdag**	**83.62 314**		*i* P	**P**	**13 44 32.3**	**0.0**
PPCY	**Paphos**	**83.64 307**	⇓	P	**P**	**13 44 31.8**	**-0.7**
PPCY	**Paphos**	**83.64 307**	⇓	*e*P	**P**	**13 44 31.8**	**-0.7**
NLU	**North Lily Min**	**83.69 47**	⇑	*e*P	**P**	**13 44 29.8**	**-2.9**
NLU				*e*pP	pP	13 46 02.6	-2.7
BZS	**Buzias**	**83.78 321**	⇓	P	**P**	**13 44 32.4**	**-0.7**
BZS	**Buzias**	**83.78 321**	⇓	P	**P**	**13 44 32.4**	**-0.8**
BZS	**Buzias**	**83.78 321**		P	**P**	**13 44 32.8**	**-0.3**
VRAC	**Vranov**	**83.90 326**		P	**P**	**13 44 33.8**	**+0.1**
	comp=Z,45nm,0.8s,mb5.3,baz=54,slow=4.5,SNR=40						
VRAC	**Vranov**	**83.90 326**	⇓	P	**P**	**13 44 34.0**	**+0.3**
VRAC	**Vranov**	**83.90 326**		P	**P**	**13 44 33.8**	**+0.1**
VRAC				pmax	pmax		
	comp=Z,45nm,0.8s						
DAU	**Daniels Canyon**	**83.92 46**		*e*P	**P**	**13 44 35.6**	**+1.8**
DAU				*e*pP	pP	13 46 03.7	-2.8
MPU	**Maple Canyon**	**83.93 46**	⇑	*e*P	**P**	**13 44 34.8**	**+0.9**
	comp=Z,169nm,0.7s,mb5.9						
SMOL	**Smolenice**	**84.03 325**		*e*P	**P**	**13 44 34.9**	**+0.5**
SMOL				*e*		13 45 00.6	
SMOL				*e*	pP	13 46 12.0	+5.0
BRG	**Berggiesshubel**	**84.05 328**		*e*P	**P**	**13 44 33.7**	**-0.8**
	comp=Z,32nm,0.9s,mb5.0						
BRG	**Berggiesshubel**	**84.05 328**		*i* P	**P**	**13 44 33.9**	**-0.6**
	comp=Z,19nm,0.9s,mb4.8						
BRG				*i*		13 44 56.5	
BRG				*e*pP	pP	13 46 04.2	-2.9
BRG				PP	PP	13 47 49.0	-6.2
BRG				S		13 54 18.0	
BRG				*e*		13 57 00.0	
BRG				SS	SS	13 59 51.0	-12
BRG				LR	LR		
	comp=Z,190nm,17.4s						
BRG	**Berggiesshubel**	**84.05 328**		*i* P	**P**	**13 44 33.9**	**-0.6**
BRG				*e**PP	pP	13 46 04.3	-2.8
BRG						13 47 49.0	
BRG				S		13 54 18.0	
BRG				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8						
BRG				MLR	MLR		
	comp=Z,190nm,17.4s						
BRG	**Berggiesshubel**	**84.05 328**		*i* P	**P**	**13 44 33.9**	**-0.6**
	comp=Z,19nm,0.9s,mb4.8						
BRG				*i*		13 44 56.5	
	comp=Z,8.4nm,1.0s						
BRG				*e*pP	pP	13 46 04.2	-2.9
	comp=Z,41nm,1.6s						
BRG				PP	PP	13 47 49.0	-6.2
BRG				S		13 54 18.0	
BRG				*e*		13 57 00.0	
BRG				SS	SS	13 59 51.0	-12
BRG							
	comp=N,523nm,17.6s						
BRG							
	comp=E,535nm,15.3s						
BRG							
	comp=Z,189nm,17.4s						
KDZ	**Kurdzhali**	**84.10 316**		*i* P	**P**	**13 44 35.0**	**+0.3**
ARUT	**Antelope Range**	**84.10 49**	⇑	*e*P	**P**	**13 44 35.6**	**+0.8**
GOLH	**Golhisar**	**84.15 310**		*i* P	**P**	**13 44 34.1**	**-0.9**
CLL	**Collm**	**84.16 329**		*e*P	**P**	**13 44 33.9**	**-1.1**
	comp=Z,70nm,1.2s,mb5.3						
CLL				*e*pP	pP	13 46 09.9	+2.2
CLL				*e*PP	PP	13 47 52.4	-3.7
CLL				*e*S		13 54 21.4	
CLL				*e*sS	sS	13 57 10.7	+1.0
CLL				*e*SS	SS	14 00 06.0	+1.3
CLL				*e*SSSS		14 06 42.0	
CLL				*e*L		14 26 43.2	
	comp=Z,748nm,20.0s						
CLL	**Collm**	**84.16 329**	⇓	*i*P	**P**	**13 44 34.2**	**-0.8**
	comp=Z,40nm,0.9s,mb5.2						
CLL				*i* PcP	PcP	13 44 36.7	-1.3
CLL				*i* pP	pP	13 46 13.7	+6.0
	comp=Z,50nm,1.2s						
CLL				*e*sP	sP	13 46 55.0	+4.8
CLL				*i* PP	PP	13 48 00.5	+4.4
CLL				*i* S		13 54 22.4	
CLL				*i* S		13 54 22.4	
	comp=E,2μm,10.5s						
CLL				*e*SP		13 55 19.0	
CLL				*e*PS	PS	13 56 19.0	+0.6
CLL				*e*sS	sS	13 57 01.0	-8.7
CLL				*e*SS	SS	14 00 03.0	-1.7
CLL				*e*x	x	14 01 51.0	
CLL				*e*sSS		14 02 30.0	
CLL				*e*SSSS		14 06 44.0	
CLL	**Collm**	**84.16 329**	⇓	*i*P	**P**	**13 44 34.2**	**-0.8**
	comp=E,40nm,0.9s,mb5.2						
CLL				*i*		13 44 57.0	
CLL				*i* pP	pP	13 46 13.7	+6.0
CLL				*i* S		13 54 22.4	
CLL				*e*sS	sS	13 57 08.0	-1.7
CLL	**Collm**	**84.16 329**	⇓	*i*P	**P**	**13 44 34.2**	**-0.8**
CLL				*i* S		13 54 22.4	
CLL				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.2						
ALN	**Alexandroupoli**	**84.18 315**		*e*P	**P**	**13 44 35.3**	**+0.2**
ELL	**Elmali**	**84.21 310**		*e*P	**P**	**13 44 34.9**	**-0.4**
CCUT	**Cedar City**	**84.29 49**	⇑	*e*P	**P**	**13 44 36.3**	**+0.6**
CCUT				*e*pP	pP	13 46 07.3	-1.1
CCUT				*e*PP	PP	13 47 52.0	-5.2
PRA	**Prague**	**84.39 327**	⇓	P	**P**	**13 44 36.0**	**-0.2**
PRA				pP	pP	13 46 17.0	+8.1
PRU	**Pruhonice**	**84.39 327**	⇓	*e*P	**P**	**13 44 35.5**	**-0.7**
PRU				*e*pP	pP	13 46 02.9	-6.0
PRU				*e*S		13 54 24.8	
PRU				AMS	AMS	14 28 50.0	
	comp=Z,1μm,15.0s						
ZST	**Bratislava**	**84.41 325**		*e*P	**P**	**13 44 36.4**	**+0.1**
ZST				*e*		13 46 15.2	
ZST				*e*S		13 54 24.9	
NEN	**Nelson**	**84.42 51**	⇑	*e*P	**P**	**13 44 36.8**	**+0.4**
NEN				*e*pP	pP	13 46 08.1	-1.0
NEN				*e*PP	PP	13 47 57.2	-1.0
TREC	**Trest**	**84.44 326**	⇓	*i*P	**P**	**13 44 34.4**	**-2.0**
TREC				*e*pP	pP	13 46 12.2	+3.1
TREC				*e*S		13 54 25.7	
MVU	**Marysvale**	**84.47 48**	⇑	*e*P	**P**	**13 44 46.0**	**+9.4**
	comp=Z,374nm,1.6s,mb5.9						
MSU	**Marysvale**	**84.48 48**	⇑	*e*P	**P**	**13 44 37.9**	**+1.3**
MSU				*e*pP	pP	13 46 11.4	+2.0
PFO	**Pinyon Flat Ob**	**84.50 54**		P	**P**	**13 44 37.0**	**+0.3**
	comp=Z,1μm,0.6s,SNR=74						
PFO	**Pinyon Flat Ob**	**84.50 54**	⇑	*i*P	**P**	**13 44 37.0**	**+0.3**
	comp=Z,145nm,0.7s,mb5.8						
PFO				*e*pP	pP	13 46 07.6	-1.8
PFO				*e*sP	sP	13 46 51.0	-1.0
PFO				*e*PP	PP	13 47 57.9	-0.9
PFO	**Pinyon Flat Ob**	**84.50 54**	⇑	*i*P	**P**	**13 44 37.0**	**+0.3**
PFO				*e**PP	pP	13 46 07.6	-1.9
PFO				*e**SP	sP	13 46 51.0	-0.9
PFO				*e*		13 47 57.9	
PFO				pmax	pmax		
	comp=Z,145nm,0.7s,mb5.8						
LDFC	**Landfair**	**84.57 52**	⇑	*i*P	**P**	**13 44 37.5**	**+0.4**
LDFC				*e*pP	pP	13 46 05.2	-4.7
LDFC				*e*PP	PP	13 47 56.3	-3.1
TMUT	**Trail Mountain**	**84.62 47**	⇑	*e*P	**P**	**13 44 38.4**	**+1.0**
VTS	**Vitosha**	**84.81 318**		*i* P	**P**	**13 44 38.0**	**-0.2**
VTS	**Vitosha**	**84.81 318**		*e*P	**P**	**13 44 38.3**	**+0.1**
VTS	**Vitosha**	**84.81 318**	⇓	P	**P**	**13 44 38.4**	**+0.2**
BAR	**Barrett**	**84.87 55**	⇑	*e*P	**P**	**13 44 38.5**	**-0.1**
BAR				*e*pP	pP	13 46 09.6	-1.8
BAR				*e*PP	PP	13 47 59.4	-2.4
PMOR	**Pomariorio Ree**	**84.91 111**		*e*P	**P**	**13 44 40.0**	**+1.3**
	comp=Z,70nm,0.9s,mb5.4						
CLZ	**Clausthal**	**84.91 330**		*e*P	**P**	**13 44 38.1**	**-0.6**
	comp=Z,66nm,1.5s,mb5.1						
CLZ	**Clausthal**	**84.91 330**		*e*P	**P**	**13 44 38.1**	**-0.6**
CLZ				pmax	pmax		
	comp=Z,66nm,1.5s,mb5.1						
IZM	**Izmir**	**84.94 312**		*e*P	**P**	**13 44 38.0**	**-0.9**
PKSM	**Moragy**	**84.96 323**	⇓	*e*P	**P**	**13 44 37.9**	**-1.1**
PKSM				*i*	pP	13 46 15.5	+3.6
YER	**Yerkesik**	**85.04 311**		*e*P	**P**	**13 44 39.0**	**-0.4**
PPT	**Papeete**	**85.04 114**		*e*P	**P**	**13 44 41.1**	**+1.7**
	comp=Z,56nm,1.4s,mb5.1						
PPT	**Papeete**	**85.04 114**		*e*S		13 54 35.7	
	comp=Z,387nm,24.5s						
PPT	**Papeete**	**85.04 114**		P	**P**	**13 44 40.6**	**+1.2**
	comp=Z,16nm,0.6s,mb5.0,baz=295,slow=3.8,SNR=7.1						
WERD	**Werda**	**85.08 329**		*e*P	**P**	**13 44 38.8**	**-0.8**
	comp=Z,29nm,1.0s,mb5.0						
WERD				*e*PP	PP	13 48 02.9	-0.6
PAE	**Paea**	**85.09 114**		*e*P	**P**	**13 44 41.1**	**+1.5**
	comp=Z,80nm,1.0s,mb5.4						
SRU	**San Rafael**	**85.16 47**	⇑	*e*P	**P**	**13 44 40.4**	**+0.5**
	comp=Z,179nm,0.6s,mb6.0						
SRU				*e*pP	pP	13 46 12.4	-0.5
SRU	**San Rafael**	**85.16 47**	⇑	*e*P	**P**	**13 44 40.4**	**+0.4**
SRU				*e**PP	pP	13 46 12.4	-0.5
SRU				pmax	pmax		
	comp=Z,179nm,0.6s,mb6.0						
NKC	**Novy Kostel**	**85.17 328**	⇓	*i*P	**P**	**13 44 39.6**	**-0.4**
NKC				*e*pP	pP	13 46 16.2	+3.2
NKC				*e*S		13 54 31.7	
MOX	**Moxa**	**85.25 329**		*e*P	**P**	**13 44 39.5**	**-0.9**
	comp=Z,46nm,1.4s,mb5.0						
MOX				*e*PP	PP	13 48 03.6	-1.2
MOX	**Moxa**	**85.25 329**		*e*P	**P**	**13 44 40.0**	**-0.4**
	comp=Z,94nm,2.0s,mb5.2						
MOX				*e*	pP	13 46 16.0	+2.7
MOX							
	comp=Z,300nm,18.0s						
MOX	**Moxa**	**85.25 329**		*e*P	**P**	**13 44 40.0**	**-0.4**
MOX				*e*	pP	13 46 16.0	+2.7
MOX				pmax	pmax		
	comp=Z,94nm,2.0s,mb5.2						
MOX				MLR	MLR		
	comp=Z,300nm,18.0s						
VAH	**Vaihoa**	**85.25 111**		*e*P	**P**	**13 44 41.6**	**+1.2**
	comp=Z,46nm,1.0s,mb5.2						
MLSB	**Milas**	**85.27 311**		*e*P	**P**	**13 44 39.3**	**-1.2**
KKB	**Krupnik**	**85.33 317**		*i* P	**P**	**13 44 40.0**	**-0.8**
URLA	**Izmir**	**85.38 313**		*i* P	**P**	**13 44 39.9**	**-1.2**
HAJJ	**Hajjah**	**85.42 286**		*e*P	**P**	**13 44 42.5**	**+1.3**
TVO	**Taravao**	**85.42 114**		*e*P	**P**	**13 44 42.9**	**+1.7**
	comp=Z,108nm,0.9s,mb5.6						
KHC	**Kasperske Hory**	**85.44 327**	⇓	*i*P	**P**	**13 44 40.7**	**-0.7**
KHC				x	x	13 45 03.5	
KHC				*e*pP	pP	13 46 16.8	+2.5
KHC				x	x	13 46 21.0	
KHC				*e*S		13 54 33.7	
KHC				AMS	AMS	14 26 30.0	
	comp=Z,1μm,15.6s						
KHC	**Kasperske Hory**	**85.44 327**		*i* Pr	**P**	**13 44 40.5**	**-0.9**
KHC	**Kasperske Hory**	**85.44 327**	⇓	*i*P	**P**	**13 44 40.7**	**-0.7**
KHC				*e**PP	pP	13 46 16.8	+2.5
KHC				*e*		13 54 33.7	
KHC				MLR	MLR		
	comp=Z,1μm,15.6s						
MANZ	**Manzenberg**	**85.50 328**		*e*P	**P**	**13 44 41.1**	**-0.6**
MANZ				*e*pP	pP	13 46 17.6	+2.9
SRS	**Serrai**	**85.51 316**		*e*P	**P**	**13 44 40.9**	**-0.8**
RWWY	**Rawlins**	**85.55 43**	⇑	*i*P	**P**	**13 44 42.6**	**+0.7**
	comp=Z,191nm,0.9s,mb5.8						
RWWY				*e*pP	pP	13 46 13.4	-1.5
ULM	**Lac du Bonnet**	**85.55 31**		P	**P**	**13 44 41.5**	**-0.4**
	comp=Z,36nm,0.8s,mb5.2,baz=313,slow=6.3,SNR=83						
GEC2	**GERESS Array S**	**85.59 327**		*e*P	**P**	**13 44 41.0**	**-1.1**
	comp=Z,15nm,0.9s,mb4.7						
GEC2	**GERESS Array S**	**85.59 327**		*e*P	**P**	**13 44 41.0**	**-1.1**
GEC2				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
GERES	**GERESS Array B**	**85.59 327**		P	**P**	**13 44 41.2**	**-0.9**
	comp=Z,13nm,0.8s,mb4.7,baz=43,slow=4.7,SNR=74						
GERES				pP	pP	13 46 15.0	-0.1
	comp=Z,2.5nm,0.7s,baz=19,slow=4.2,SNR=2.4						
ROTZ	**Rotzenmuhle**	**85.62 328**		*e*P	**P**	**13 44 41.9**	**-0.3**
	comp=Z,70nm,1.6s,mb5.1						
IBBN	**Ibbenburen**	**85.64 332**		*e*P	**P**	**13 44 41.1**	**-1.2**
	comp=Z,30nm,0.9s,mb5.0						
DIVS	**Divcibare**	**85.64 320**		*e*P	**P**	**13 44 41.6**	**-0.7**
BODT	**Bodrum**	**85.70 311**		*e*P	**P**	**13 44 42.1**	**-0.5**
DAT	**Datca**	**85.73 311**		*e*P	**P**	**13 44 41.0**	**-1.8**
WET	**Wettzell**	**85.76 327**		*e*P	**P**	**13 44 42.2**	**-0.7**
	comp=Z,18nm,1.1s,mb4.7						
WET				*e*pP	pP	13 46 18.6	+2.6
WET	**Wettzell**	**85.76 327**		*e*P	**P**	**13 44 42.2**	**-0.7**
WET				*e**PP	pP	13 46 18.6	+2.6
WET				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
RSSD	**Black Hills**	**85.77 40**	⇑	*e*P	**P**	**13 44 42.8**	**-0.1**
	comp=Z,89nm,0.8s,mb5.5						
RSSD				*e*pP	pP	13 46 16.8	+0.8
RSSD	**Black Hills**	**85.77 40**	⇑	*e*P	**P**	**13 44 42.8**	**-0.1**
RSSD				*e**PP	pP	13 46 16.8	+0.8
RSSD				pmax	pmax		
	comp=Z,89nm,0.8s,mb5.5						
OUR	**Ouranopolis**	**85.77 315**		*e*P	**P**	**13 44 42.2**	**-0.7**
UBBA	**Unterbreizbach**	**85.82 330**		*e*P	**P**	**13 44 44.3**	**+1.1**
	comp=Z,27nm,1.5s,mb4.8						
UBBA				*e*PP	PP	13 48 08.3	-1.1
ARSA	**Arzberg**	**85.83 325**	⇑	*i*P	**P**	**13 44 42.7**	**-0.6**
	comp=Z,204nm,2.5s,mb5.4,SNR=9.5						
SOH	**Sokhos**	**85.83 316**		*e*P	**P**	**13 44 43.1**	**-0.1**
KNT	**Kendrikon**	**85.89 317**		*e*P	**P**	**13 44 42.7**	**-0.8**
VAY	**Valandovo**	**85.98 317**		*e*P	**P**	**13 44 42.6**	**-1.4**
VAY	**Valandovo**	**85.98 317**		*i* P	**P**	**13 44 43.0**	**-1.0**
VAY				*i* S		13 54 41.2	
MOA	**Molln**	**86.03 326**	⇓	*i*P	**P**	**13 44 43.9**	**-0.3**
	comp=Z,119nm,2.3s,mb5.2						
GRA1	**Grafenberg Arr**	**86.11 329**		*e*P	**P**	**13 44 44.2**	**-0.4**
	comp=Z,147nm,2.0s,mb5.4						
GRA1				*e*		13 45 10.0	
GRA1				*e*pP	pP	13 46 20.6	+2.9
GRA1				*e*PP	PP	13 48 12.6	+0.9
GRA1				*e*S		13 54 41.9	
GRA1				*e*SS	SS	14 00 30.2	-3.0
GRF	**Grafenberg Arr**	**86.11 329**		*e*P	**P**	**13 44 44.2**	**-0.4**
	comp=Z,147nm,2.0s,mb5.4						
GRF				*e*		13 45 10.0	
GRF				*e*pP	pP	13 46 20.6	+2.9
GRF				*e*PP	PP	13 48 12.6	+0.9
GRF				*e*S		13 54 41.9	
GRF				*e*SS	SS	14 00 30.2	-3.0
GRF	**Grafenberg Arr**	**86.11 329**		*e*P	**P**	**13 44 44.2**	**-0.4**
GRF				*e**PP	pP	13 46 20.6	+2.9
GRF				*e*		13 48 12.6	
GRF				*e*S		13 54 41.9	
GRF				*e*SS	SS	14 00 30.2	-3.0
GRF				pmax	pmax		
	comp=Z,147nm,2.0s,mb5.4						
GRF	**Grafenberg Arr**	**86.11 329**		*e*P	**P**	**13 44 44.2**	**-0.4**
GRF				*e**PP	pP	13 46 20.6	+2.9
GRF				*e*		13 48 12.6	
GRF				*e*S		13 54 41.9	
GRF				*e*SS	SS	14 00 30.2	-3.0
GRF				pmax	pmax		
	comp=Z,147nm,2.0s,mb5.4						
THE	**Thessaloniki**	**86.18 316**		*e*P	**P**	**13 44 43.0**	**-1.9**
PAIG	**Paliouri**	**86.20 315**		*e*P	**P**	**13 44 44.0**	**-1.1**
SKO	**Skopje**	**86.21 318**		*e*P	**P**	**13 44 45.3**	**+0.2**
SKO	**Skopje**	**86.21 318**		*e*P	**P**	**13 44 45.3**	**+0.2**
SKO				*i* S		13 54 44.5	
TRBA	**At Turbah**	**86.27 283**		*e*P	**P**	**13 44 46.1**	**+0.7**
GRG	**Griva**	**86.31 317**		*e*P	**P**	**13 44 44.4**	**-1.1**
PERS	**Pernice**	**86.46 324**		*e*P	**P**	**13 44 45.7**	**-0.6**
BUG	**Bochum--Univer**	**86.49 332**		*e*P	**P**	**13 44 44.9**	**-1.5**
	comp=Z,20nm,0.7s,mb5.0						
BUG				*e*PP	PP	13 48 14.3	-0.5
PV10	**Paradox Valley**	**86.52 46**		*e*P	**P**	**13 44 47.9**	**+1.4**
AOS	**Alonnisos**	**86.55 315**		*e*P	**P**	**13 44 45.5**	**-1.2**
WUAZ	**Wupatki**	**86.79 50**	⇑	*e*P	**P**	**13 44 48.1**	**+0.3**
	comp=Z,190nm,1.4s,mb5.6						
LIT	**Litokhoron**	**86.80 316**		*e*P	**P**	**13 44 46.5**	**-1.4**
PHWY	**Pilot Hill**	**86.81 42**	⇑	*e*P	**P**	**13 44 48.7**	**+0.8**
PHWY				*e*pP	pP	13 46 22.5	+1.3
APE	**Apeiranthos**	**86.83 312**		*e*P	**P**	**13 44 43.9**	**-4.1**
APE	**Apeiranthos**	**86.83 312**	⇑	P	**P**	**13 44 45.8**	**-2.2**
APE	**Apeiranthos**	**86.83 312**	⇑	P	**P**	**13 44 45.8**	**-2.2**
APE	**Apeiranthos**	**86.83 312**		P	**P**	**13 44 46.7**	**-1.3**
XOR	**Xorichti**	**86.85 315**		*e*P	**P**	**13 44 46.7**	**-1.4**
TNS	**Taunus Mts**	**86.92 330**		*e*P	**P**	**13 44 48.1**	**-0.4**
	comp=Z,62nm,1.8s,mb5.0						
TNS				*e*PP	PP	13 48 17.6	-0.6
TNS	**Taunus Mts**	**86.92 330**		*e*P	**P**	**13 44 48.1**	**-0.4**
TNS				*e*		13 48 17.6	
TNS				pmax	pmax		
	comp=Z,62nm,1.8s,mb5.0						
PV01	**Paradox Valley**	**86.96 46**	⇑	*e*P	**P**	**13 44 49.6**	**+1.0**
KBA	**Koelnbreinsper**	**87.01 326**		*i* P	**P**	**13 44 48.4**	**-0.5**
	comp=Z,183nm,3.2s,SNR=11						
FNA	**Florina**	**87.02 317**		*e*P	**P**	**13 44 47.7**	**-1.2**
EKA	**Eskdalemuir Ar**	**87.07 339**		P	**P**	**13 44 48.6**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=76,slow=3.7,SNR=5.7						
OHR	**Ohrid**	**87.14 318**		*e*P	**P**	**13 44 47.7**	**-1.8**
OHR	**Ohrid**	**87.14 318**		*i* P	**P**	**13 44 48.0**	**-1.4**
OHR				*i* S		13 54 51.5	
LJU	**Ljubljana**	**87.17 324**		*e*P	**P**	**13 44 48.5**	**-1.1**
VISS	**Visnje**	**87.18 324**		*i* P	**P**	**13 44 48.3**	**-1.3**
BOJS	**Bojanci**	**87.18 324**		*i* P	**P**	**13 44 48.7**	**-1.0**
BOJS				*i*		13 44 49.7	
BOJS				*e*		13 45 16.2	
FUR	**Furstenfeldbru**	**87.20 327**		*e*P	**P**	**13 44 49.0**	**-0.8**
	comp=Z,79nm,0.8s,mb5.5						
FUR	**Furstenfeldbru**	**87.20 327**		*e*P	**P**	**13 44 49.0**	**-0.8**
FUR				pmax	pmax		
	comp=Z,79nm,0.8s,mb5.5						
SMCO	**Snowmass**	**87.28 45**	⇑	*e*P	**P**	**13 44 50.7**	**+0.6**
	comp=Z,260nm,1.5s,mb5.7						
SMCO				*e*pP	pP	13 46 23.6	0.0
SANT	**Santorini**	**87.31 312**		*e*P	**P**	**13 44 47.9**	**-2.3**
	comp=Z,119nm,1.1s,mb5.5						
VOY	**Vojsko**	**87.49 325**		*e*P	**P**	**13 44 49.6**	**-1.5**
VOY				*e*		13 44 54.8	
VOY				*e*		13 45 16.4	
AGG	**Agios Georgios**	**87.58 315**		*e*P	**P**	**13 44 49.5**	**-2.0**
WATA	**Walderalm**	**87.67 327**	⇑	*i*P	**P**	**13 44 50.6**	**-1.3**
	comp=Z,15nm,0.9s,mb4.7						
ISCO	**Idaho Springs**	**87.69 44**	⇑	*i*P	**P**	**13 44 53.5**	**+1.5**
	comp=Z,50nm,0.8s,mb5.3						
ISCO				*e*pP	pP	13 46 25.5	-0.1
ISCO	**Idaho Springs**	**87.69 44**	⇑	*i*P	**P**	**13 44 53.5**	**+1.4**
ISCO				*e**PP	pP	13 46 25.5	-0.1
ISCO				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.3						
STU	**Stuttgart**	**87.69 329**		*e*P	**P**	**13 44 51.0**	**-1.1**
STU				*e*PP	PP	13 48 23.1	-1.2
STU	**Stuttgart**	**87.69 329**		P	**P**	**13 44 50.9**	**-1.2**
WTTA	**Wattenberg**	**87.69 327**	⇓	*i*P	**P**	**13 44 51.5**	**-0.6**
	comp=Z,178nm,2.9s,mb5.3						
MOTA	**Moosalm**	**87.88 327**		*i* P	**P**	**13 44 52.4**	**-0.6**
	comp=Z,21nm,1.1s,mb4.8,SNR=7.4						
SQTA	**Sankt Quirin**	**87.92 327**	⇑	*i*P	**P**	**13 44 52.7**	**-0.5**
	comp=Z,13nm,0.9s,mb4.7						
WLF	**Walferdange**	**88.31 331**		*e*P	**P**	**13 44 54.4**	**-0.6**
	comp=Z,38nm,1.3s,mb5.0						
IDI	**Anoyia**	**88.34 311**		P	**P**	**13 44 53.7**	**-1.4**
	comp=Z,14nm,0.4s,mb5.0,baz=177,slow=20,SNR=32						
IDI				S		13 54 40.6	
	comp=Z,2.8nm,0.6s,baz=216,slow=20,SNR=6.1						
BFO	**Black Forest**	**88.40 329**		*e*P	**P**	**13 44 54.2**	**-1.2**
	comp=Z,21nm,0.9s,mb4.9						
BFO				*e*PP	PP	13 48 27.4	-2.5
BFO	**Black Forest**	**88.40 329**		P	**P**	**13 44 54.9**	**-0.5**
	comp=Z,151nm,0.8s,mb

LOR e*PP pP 13 46 46.0 +3.9
LOR pmax pmax
comp=Z,68nm,1.5s,mb5.3
LOR MLR MLR
comp=Z,390nm,23.0s
SCHQ Schefferville 91.21 14 P **P 13 45 08.4 0.0**
comp=Z,17nm,0.9s,mb4.9,baz=7.4,slow=5.2,SNR=27
SCHQ Schefferville 91.21 14 eP **P 13 45 08.1 -0.3**
comp=Z,31nm,1.0s,mb5.1
LPL La Plagne 91.25 328 eP **P 13 45 07.9 -0.7**
comp=Z,38nm,0.8s,mb5.0
LPL La Plagne 91.25 328 eP **P 13 45 07.9 -0.7**
comp=Z,19nm,0.8s,mb5.0
LPL La Plagne 91.25 328 eP **P 13 45 07.9 -0.7**
LPL pmax pmax
comp=Z,19nm,0.8s,mb5.0
LPG La Plagne 91.26 328 eP **P 13 45 08.0 -0.7**
comp=Z,57nm,0.9s,mb5.1
LPG epP pP 13 46 48.3 +5.6
LPG La Plagne 91.26 328 eP **P 13 45 08.0 -0.7**
comp=Z,28nm,0.9s,mb5.1
LPG epP pP 13 46 48.3 +5.6
LPG La Plagne 91.26 328 eP **P 13 45 08.0 -0.7**
LPG pmax pmax
comp=Z,28nm,0.9s,mb5.1
SSF Saint Saulge 91.45 331 eP **P 13 45 08.6 -0.9**
comp=Z,38nm,1.0s,mb4.9
SSF Saint Saulge 91.45 331 eP **P 13 45 08.6 -0.9**
comp=Z,19nm,1.0s,mb4.9
SSF Saint Saulge 91.45 331 eP **P 13 45 08.6 -0.9**
SSF pmax pmax
comp=Z,19nm,1.0s,mb4.9
BNI Bardonecchia 91.63 328 eP **P 13 45 09.4 -1.0**
comp=Z,14nm,0.8s,mb5.0
BNI Bardonecchia 91.63 328 eP **P 13 45 09.4 -1.0**
BNI pmax pmax
comp=Z,14nm,0.8s,mb4.9
SMF Signal de Mont 91.64 330 eP **P 13 45 09.4 -1.0**
comp=Z,65nm,0.9s,mb5.3
SMF Signal de Mont 91.64 330 eP **P 13 45 09.4 -1.0**
comp=Z,32nm,0.9s,mb5.2
SMF Signal de Mont 91.64 330 eP **P 13 45 09.4 -1.0**
SMF pmax pmax
comp=Z,32nm,0.9s,mb5.2
FLN La Foliniere 91.65 334 eP **P 13 45 09.4 -1.1**
FLN eR
comp=Z,431nm,19.2s
FLN La Foliniere 91.65 334 eP **P 13 45 09.4 -1.1**
FLN MLR MLR
comp=Z,430nm,19.3s
LDF La Druitiere 91.65 334 eP **P 13 45 09.4 -1.1**
comp=Z,38nm,0.9s,mb5.0
LDF La Druitiere 91.65 334 eP **P 13 45 09.4 -1.1**
comp=Z,19nm,0.9s,mb5.0
LDF La Druitiere 91.65 334 eP **P 13 45 09.4 -1.1**
LDF pmax pmax
comp=Z,19nm,0.9s,mb5.0
AVF Avril sur Loir 91.73 331 eP **P 13 45 09.9 -0.9**
comp=Z,60nm,0.9s,mb5.2
AVF epP pP 13 46 49.9 +5.0
AVF Avril sur Loir 91.73 331 eP **P 13 45 09.9 -0.9**
comp=Z,30nm,0.9s,mb5.2
AVF epP pP 13 46 49.9 +5.0
AVF Avril sur Loir 91.73 331 eP **P 13 45 09.9 -0.9**
AVF e*PP pP 13 46 49.9 +5.0
AVF pmax pmax
comp=Z,30nm,0.9s,mb5.2
CBKS Cedar Bluff 91.73 41 eP **P 13 45 10.7 -0.2**
comp=Z,154nm,1.2s,mb5.8
CBKS Cedar Bluff 91.73 41 P **P 13 45 11.0 +0.2**
CBKS pmax pmax
comp=Z,150nm,1.2s,mb5.8
MBDF Montbardon 91.84 327 eP **P 13 45 09.8 -1.5**
comp=Z,26nm,0.9s,mb4.9
MBDF Montbardon 91.84 327 eP **P 13 45 09.8 -1.5**
comp=Z,13nm,0.9s,mb4.9
MBDF Montbardon 91.84 327 eP **P 13 45 09.8 -1.5**
MBDF pmax pmax
comp=Z,13nm,0.9s,mb4.9
ORIF Oris-en-Rattie 92.10 328 eP **P 13 45 11.0 -1.5**
comp=Z,30nm,1.0s,mb4.9
ORIF eR
comp=Z,536nm,19.8s
ORIF Oris-en-Rattie 92.10 328 eP **P 13 45 11.0 -1.5**
comp=Z,15nm,1.0s,mb4.9
ORIF Oris-en-Rattie 92.10 328 eP **P 13 45 11.0 -1.5**
ORIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GRR Gorron 92.10 334 eP **P 13 45 11.8 -0.7**
comp=Z,61nm,0.8s,mb5.3
GRR epP pP 13 46 48.8 +2.2
GRR Gorron 92.10 334 eP **P 13 45 11.8 -0.7**
comp=Z,30nm,0.8s,mb5.3
GRR epP pP 13 46 48.8 +2.2
GRR Gorron 92.10 334 eP **P 13 45 11.8 -0.7**
GRR e*PP pP 13 46 48.8 +2.2
GRR pmax pmax
comp=Z,30nm,0.8s,mb5.3
BGF Bois d'Agland 92.12 331 eP **P 13 45 11.8 -0.8**
SBF Sospel 92.19 327 eP **P 13 45 11.3 -1.7**
comp=Z,56nm,0.9s,mb5.2
SBF Sospel 92.19 327 eP **P 13 45 11.3 -1.7**
comp=Z,28nm,0.9s,mb5.2
SBF Sospel 92.19 327 eP **P 13 45 11.3 -1.7**
SBF pmax pmax
comp=Z,28nm,0.9s,mb5.2
PGF Pioggiola 92.43 325 eP **P 13 45 13.3 -0.8**
comp=Z,37nm,1.1s,mb4.9
PGF Pioggiola 92.43 325 eP **P 13 45 13.3 -0.8**
comp=Z,18nm,1.1s,mb4.9
PGF Pioggiola 92.43 325 eP **P 13 45 13.3 -0.8**
PGF pmax pmax
comp=Z,18nm,1.1s,mb4.9
TCF Toulx Ste Croi 92.60 331 eP **P 13 45 14.2 -0.7**
comp=Z,69nm,1.0s,mb5.2
TCF epP pP 13 46 54.2 +5.2
TCF Toulx Ste Croi 92.60 331 eP **P 13 45 14.2 -0.7**
comp=Z,35nm,1.0s,mb5.2
TCF epP pP 13 46 54.2 +5.2
TCF Toulx Ste Croi 92.60 331 eP **P 13 45 14.2 -0.7**
TCF e*PP pP 13 46 54.2 +5.2
TCF pmax pmax
comp=Z,35nm,1.0s,mb5.2
VIVF Saint-Julien-l 92.68 329 eP **P 13 45 14.0 -1.2**
comp=Z,60nm,0.9s,mb5.2
VIVF epP pP 13 46 54.5 +5.2
VIVF Saint-Julien-l 92.68 329 eP **P 13 45 14.0 -1.2**
comp=Z,30nm,0.9s,mb5.2
VIVF epP pP 13 46 54.5 +5.2
VIVF Saint-Julien-l 92.68 329 eP **P 13 45 14.0 -1.2**
VIVF pmax pmax
comp=Z,30nm,0.9s,mb5.2
FRF La Foret Royal 92.79 327 eP **P 13 45 13.9 -1.8**
comp=Z,27nm,1.0s,mb4.8
FRF La Foret Royal 92.79 327 eP **P 13 45 13.9 -1.8**
comp=Z,14nm,1.0s,mb4.8
FRF La Foret Royal 92.79 327 eP **P 13 45 13.9 -1.8**
FRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
SMRF Simiane la Rot 92.97 328 eP **P 13 45 15.3 -1.2**
LMR La Mourre 93.03 327 eP **P 13 45 15.1 -1.7**
ROSF Rostrenen 93.03 335 eP **P 13 45 16.1 -0.7**
comp=Z,73nm,1.0s,mb5.3
ROSF Rostrenen 93.03 335 eP **P 13 45 16.1 -0.7**
comp=Z,36nm,1.0s,mb5.3
ROSF Rostrenen 93.03 335 eP **P 13 45 16.1 -0.7**
ROSF pmax pmax
comp=Z,37nm,1.0s,mb5.3
MNTX Cornudas Mount 93.07 50 eP **P 13 45 17.7 +0.7**
comp=Z,129nm,1.4s,mb5.7
MNTX ePP PP 13 49 05.3 -1.1
CPRX Cap Rock 93.17 48 eP **P 13 45 18.1 +0.6**
CPRX ePP PP 13 49 05.0 -2.3
KSU1 Kansas State U 93.25 39⇑eP **P 13 45 17.8 0.0**
MFF Saint Martin d 93.30 332 eP **P 13 45 17.5 -0.5**
comp=Z,202nm,1.4s,mb5.5
MFF Saint Martin d 93.30 332 eP **P 13 45 17.5 -0.5**
comp=Z,101nm,1.4s,mb5.6
MFF Saint Martin d 93.30 332 eP **P 13 45 17.5 -0.5**
MFF pmax pmax
comp=Z,101nm,1.4s,mb5.6
GDL2 Guadalupe Moun 93.40 49 eP **P 13 45 19.1 +0.6**
GDL2 epP pP 13 46 53.8 +1.1
GDL2 ePP PP 13 49 06.4 -2.7
LASF Ste Croix 93.66 329 eP **P 13 45 18.8 -0.9**
comp=Z,41nm,0.9s,mb5.2

CLNB Carlsbad 93.67 48 eP **P 13 45 20.5 +0.8**
CLNB ePP PP 13 49 08.6 -2.5
RJF Les Rejaudoux 93.68 331 eP **P 13 45 19.3 -0.5**
comp=Z,62nm,1.0s,mb5.3
RJF epP pP 13 46 59.3 +5.3
RJF eR
comp=Z,541nm,17.5s
RJF Les Rejaudoux 93.68 331 eP **P 13 45 19.3 -0.5**
comp=Z,31nm,1.0s,mb5.3
RJF epP pP 13 46 59.3 +5.3
RJF LR LR
comp=Z,540nm,17.5s
RJF Les Rejaudoux 93.68 331 eP **P 13 45 19.3 -0.5**
RJF e*PP pP 13 46 59.3 +5.3
RJF pmax pmax
comp=Z,31nm,1.0s,mb5.3
RJF MLR MLR
comp=Z,540nm,17.5s
CAF Calviac 93.76 330 eP **P 13 45 19.0 -1.1**
comp=Z,62nm,1.1s,mb5.3
CAF Calviac 93.76 330 eP **P 13 45 19.0 -1.1**
comp=Z,31nm,1.1s,mb5.2
CAF Calviac 93.76 330 eP **P 13 45 19.0 -1.1**
CAF pmax pmax
comp=Z,31nm,1.1s,mb5.2
LFF La Frestale 94.30 331 eP **P 13 45 21.8 -0.8**
comp=Z,94nm,1.0s,mb5.5
LFF La Frestale 94.30 331 eP **P 13 45 21.8 -0.8**
comp=Z,47nm,1.0s,mb5.5
LFF La Frestale 94.30 331 eP **P 13 45 21.8 -0.8**
LFF pmax pmax
comp=Z,47nm,1.0s,mb5.5
MTLF Montolieu 94.96 329 eP **P 13 45 23.7 -1.9**
WMOK Wichita Mounta 95.12 44 eP **P 13 45 25.5 -0.8**
comp=Z,26nm,0.8s,mb5.3
WMOK epP pP 13 47 00.4 -0.2
WMOK ePP PP 13 49 16.0 -6.3
WMOK Wichita Mounta 95.12 44 eP **P 13 45 25.5 -0.8**
WMOK e*PP pP 13 47 00.4 -0.2
WMOK pmax pmax
comp=Z,26nm,0.8s,mb5.3
LTX Lajitas 95.73 50⇑iP **P 13 45 30.0 +0.9**
comp=Z,85nm,1.2s,mb5.8
LTX epP pP 13 47 02.5 -0.9
LTX Lajitas 95.73 50 P **P 13 45 30.4 +1.3**
LTX pmax pmax
comp=Z,85nm,1.2s,mb5.8
FVM French Village 97.32 36 eP **P 13 45 35.9 -0.4**
comp=Z,9.9nm,1.1s,mb4.8
FVM ePP PP 13 49 29.2 -10
FVM French Village 97.32 36 eP **P 13 45 35.9 -0.4**
FVM pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
JCT Junction City 97.44 47 eP **P 13 45 37.6 +0.8**
comp=Z,32nm,0.8s,mb5.5
JCT Junction City 97.44 47 eP **P 13 45 37.6 +0.8**
JCT pmax pmax
comp=Z,32nm,0.8s,mb5.5
RKT Rikitea 99.54 111 eSKSac SKSac 13 55 44.6 +0.3
comp=Z,525nm,28.0s
KMBO Kilima Mbogo 99.61 275 P Pdif 13 45 45.5 -0.9
comp=Z,4.7nm,0.8s,baz=50,slow=6.5,SNR=14
WVT Waverly 100.07 36 ePdif Pdif 13 45 48.5 0.0
comp=Z,5.5nm,0.8s
WVT Waverly 100.07 36 eP Pdif 13 45 48.5 0.0
WVT pmax pmax
comp=Z,5.0nm,0.8s
ESDC Sonseca Array 100.61 331 PP PP 13 49 57.4 -6.5
comp=Z,1.1nm,0.5s,baz=35,slow=7.4,SNR=4.3
VNDA Vanda 109.97 175 PKiKP PKiKP 13 50 30.5 -1.6
comp=Z,0.8nm,0.6s,baz=330,slow=5.3,SNR=6.5
SBA Scott Base 110.70 174 ePKPdf PKiKP 13 50 31.5 -2.0
MAW Mawson 113.50 204 PKKPbc PKKPbc 14 01 22.9 -0.8
comp=Z,5.3nm,0.7s,baz=287,slow=8.0,SNR=6.1
TORD Torodi Ar. Bea 118.71 310 PKP PKPdf 13 50 48.5 -0.3
comp=Z,8.3nm,0.6s,baz=34,slow=1.1,SNR=85
TORD PP PP 13 52 04.0 -9.4
comp=Z,4.2nm,0.8s,baz=32,slow=8.4,SNR=5.1
TORD SKP 13 53 44.2
comp=Z,4.8nm,0.6s,baz=24,slow=1.6,SNR=7.0
TORD PKKPbc PKKPbc 14 01 03.6 -2.1
comp=Z,1.7nm,0.6s,baz=239,slow=2.5,SNR=13
LBTB Lobatse 120.85 258 PKPdf PKPdf 13 50 53.5 +0.6
QSPA South Pole Qui 121.48 180 eP PKPdf 13 50 53.1 -1.0
JTS JuntasAbangare 121.49 52 PKP PKPdf 13 50 54.0 -0.2
comp=Z,4.8nm,0.5s,baz=247,slow=21,SNR=3.7
JTS JuntasAbangare 121.49 52 PKPdf PKPdf 13 50 52.9 -1.3
JTS JuntasAbangare 121.49 52 PKIKP PKPdf 13 50 54.0 -0.1
JTS pmax pmax
comp=Z,5.0nm,0.5s
SYO Syowa Base 122.16 205⇓eX PKPdf 13 50 50.5 -4.9
SYO Syowa Base 122.16 205⇑eP PKPdf 13 51 03.5 +8.1
BOSA Boshof 122.49 254 PKP PKPdf 13 50 56.7 +0.7
comp=Z,13nm,0.8s,baz=79,slow=3.1,SNR=17
BOSA PKKPbc PKKPbc 14 00 52.6 +0.8
comp=Z,6.7nm,0.6s,baz=273,slow=4.4,SNR=23
TSUM Tsumeb 125.24 268 ePKPdf PKPdf 13 51 01.7 +0.4
TSUM eSKP 13 53 57.9
SJG San Juan 125.36 28 PKP PKPdf 13 51 02.3 +0.8
comp=Z,18nm,0.6s,baz=320,slow=21,SNR=6.4
MTP Monte Pirata 125.61 28 ePKPdf PKPdf 13 51 02.4 +0.4
DBIC Dimbokro 127.81 310 PKP PKPdf 13 51 07.0 +0.8
comp=Z,14nm,0.7s,baz=36,slow=2.0,SNR=22
DBIC SKPbc 13 53 45.4
comp=Z,4.9nm,0.5s,baz=9.5,slow=5.2,SNR=8.5
DBIC Dimbokro 127.81 310 ePKPdf PKPdf 13 51 06.6 +0.4
DBIC Dimbokro 127.81 310 PKIKP PKPdf 13 51 07.0 +0.8
DBIC pmax pmax
comp=Z,14nm,0.7s
DBIC pmax pmax
comp=N,5.0nm,0.5s
LIC Lamto 128.25 310 ePKIKP PKPdf 13 51 06.7 -0.4
comp=N,36nm,0.8s
LIC eR
comp=N,274nm,19.0s
LIC Lamto 128.25 310 ePKPdf PKPdf 13 51 06.7 -0.4
LIC LR LR
comp=Z,140nm,19.0s
SDV Santo Domingo 131.29 39 PKP PKPdf 13 51 13.8 +1.0
comp=Z,17nm,0.6s,baz=347,slow=1.6,SNR=18
SDV pPKP pPKPdf 13 52 51.8 -0.5
comp=Z,4.2nm,0.7s,baz=108,slow=3.2,SNR=1.7
SDV SKPbc SKPbc 13 53 59.3 +0.5
comp=Z,25nm,0.7s,baz=326,slow=2.6,SNR=17
SDV Santo Domingo 131.29 39 ePKPpre 13 50 55.8
SDV ePKPdf PKPdf 13 51 12.8 0.0
SDV PKP PKPdf 13 51 13.8 +1.0
SDV pPKP pPKPdf 13 52 51.8 -0.5
SDV SKPbc SKPbc 13 53 59.3 +0.5
ROSC El Rosal 132.43 46 PKP PKPdf 13 51 16.9 +1.9
comp=Z,8.5nm,0.5s,baz=95,slow=18,SNR=7.2
OTAV Otavalo 133.20 54 ePKPdf PKPdf 13 51 18.1 +1.7
OTAV ePP PP 13 53 48.8 +0.1
OTAV eSKP 13 54 06.3
VNA2 Neumayer--Watz 136.42 196 ePKPdf PKPdf 13 51 21.7 -0.7
baz=84,slow=0.6
VNA2 e 13 51 24.2
VNA2 e 13 52 00.5
VNA2 e 13 52 47.5
VNA2 e 13 53 16.5
VNA2 e 13 53 40.2
VNA2 e 13 54 15.6
VNA2 e 13 54 19.6
VNA2 e 13 54 22.4
VNA3 Neumayer Olymp 136.70 195 ePKPdf PKPdf 13 51 22.8 -0.1
VNA3 e 13 51 25.4
VNA3 e 13 53 37.8
VNA3 e 13 54 16.1
VNA3 e 13 54 20.0
VNA3 e 13 54 23.1
VNA1 Neumayer--Stat 136.82 196 ePKPdf PKPdf 13 51 20.9 -2.3
VNA1 e 13 51 24.2
VNA1 e 13 54 16.6
ASCN Ascension 144.93 307 ePKPdf PKPdf 13 51 37.8 +0.1
ARE Arequipa 149.33 67⇑iP PKPbc 13 51 52.0 +2.2
SAML Samuel 150.07 45 ePKPdf PKPdf 13 51 46.9 +0.7
SAML ePKPbc PKPbc 13 51 52.4 +0.8
SAML ePKPab PKPab 13 51 59.3 +0.1
SAML epPKPdf pPKPdf 13 53 31.7 +5.8
USHA Ushuaia 150.33 149 PKPbc PKPbc 13 51 53.0 +0.8
comp=Z,44nm,0.9s,baz=196,slow=2.3,SNR=12
USHA pPKPbc pPKPbc 13 53 29.6 -1.5
comp=Z,14nm,0.9s,baz=334,slow=3.4,SNR=2.5
LPAZ La Paz 151.83 63 PKPdf PKPdf 13 51 50.9 +2.1
LPAZ PKiKP PKiKP 13 51 57.5 +1.6

LPAZ La Paz 151.83 63 PKP PKPdf 13 51 50.3 +1.5
comp=Z,3.5nm,0.7s,baz=308,slow=0.9,SNR=14
LPAZ PKPbc PKPbc 13 51 57.6 +2.0
comp=Z,26nm,0.7s,baz=321,slow=1.6,SNR=61
LPAZ La Paz 151.83 63 ePKPdf PKPdf 13 51 51.0 +2.2
LPAZ ePKPbc PKPbc 13 51 57.7 +2.0
LPAZ epPKPbc pPKPbc 13 53 31.3 -3.4
LVC Limon Verde 154.57 76 PKP PKPdf 13 51 54.5 +1.8
comp=Z,5.5nm,1.1s,baz=324,slow=2.4,SNR=3.8
LVC PKPbc PKPbc 13 52 03.8 +2.2
comp=Z,10nm,0.7s,baz=272,slow=5.9,SNR=17
LVC PKPab PKPab 13 52 20.4 +2.2
comp=Z,42nm,0.6s,baz=313,slow=4.1,SNR=30
LVC Limon Verde 154.57 76 ePKPdf PKPdf 13 51 54.0 +1.2
LVC ePKPbc PKPbc 13 52 03.4 +1.8
LVC ePKPab PKPab 13 52 20.2 +2.1
LVC epPKPbc pPKPbc 13 53 43.6 +2.8
PLCA Paso Flores 155.48 119 PKP PKPdf 13 51 55.2 +1.2
comp=Z,2.8nm,1.0s,baz=348,slow=10,SNR=3.7
PLCA PKPbc PKPdf 13 52 04.1 +10
comp=Z,4.0nm,0.6s,baz=233,slow=2.4,SNR=14
PLCA PKPab PKPab 13 52 23.8 +1.8
comp=Z,15nm,0.8s,baz=256,slow=4.9,SNR=5.0
PLCA Paso Flores 155.48 119 ePKPdf PKPdf 13 51 55.5 +1.5
PLCA ePKPbc PKPdf 13 52 03.6 +10
PLCA ePKPab PKPab 13 52 23.3 +1.2
PLCA epPKP pPKPdf 13 53 40.0 +6.1
SIV San Ignacio 156.72 52 PKP PKPdf 13 51 56.5 +1.0
comp=Z,3.5nm,0.7s,baz=193,slow=1.0,SNR=14
SIV PKPbc PKPdf 13 52 10.2 +15
comp=Z,8.2nm,0.7s,baz=270,slow=1.9,SNR=14
SIV PKPab PKPab 13 52 27.2 -0.2
comp=Z,18nm,0.8s,baz=317,slow=3.4,SNR=17
CFAA Coronel Fontan 157.81 97 PKPab PKPab 13 52 33.7 +1.6
comp=Z,4.1nm,0.7s,baz=264,slow=5.2,SNR=22
BDFB Brasilia 163.12 20 PKP PKPdf 13 52 03.4 +0.7
comp=Z,5.8nm,0.9s,baz=59,slow=4.0,SNR=5.8
BDFB PKPab PKPab 13 52 56.4 +1.0
comp=Z,26nm,0.6s,baz=332,slow=4.6,SNR=30
CPUP Villa Florida 165.68 72 PKP PKPdf 13 52 06.1 +1.2
comp=Z,3.7nm,0.9s,baz=5.3,slow=4.7,SNR=4.0
CPUP PKPab PKPab 13 53 07.2 +0.5
comp=Z,17nm,0.8s,baz=277,slow=4.1,SNR=20

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*CSEM **28** 14:02:53.2, 1409N×4425E, h17km, ML3.5, After DHMR*
DHMR 28 14:02:53.2±1.1, 1409N×4425E, h18km±4km, ML3.5, 5C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**0.30**	**245**⇑	iP	Pg	14 02 59.8	+0.1
UDYN				i S	Sg	14 03 03.3	-0.8
DHBB	**Dhamar BB**	**0.50**	**16**⇓	iP	Pg	14 03 02.6	-0.6
DHBB				i S	Sg	14 03 10.2	+0.3
TRBA	**At Turbah**	**0.86**	**188**⇑	iP	Pb	14 03 09.2	-0.5
TRBA				i S	Sb	14 03 21.3	+0.4
LBOS		**1.00**	**103**⇑	iP	Pb	14 03 12.3	+0.3
LBOS				i S	Sb	14 03 26.2	+1.5
BDHA	**Al Bayda'**	**1.29**	**95**⇑	iP	Pn	14 03 17.1	+0.8
BDHA				i S	Sn	14 03 34.6	+1.5
BDHA				AML	AML	14 03 38.3	
	comp=N,777nm,0.5s						
BDHA				AMP		14 03 38.4	
BDHA	**Al Bayda'**	**1.29**	**95**⇑	iP	Pn	14 03 17.1	+0.8
BDHA				i S	Sn	14 03 34.6	+1.5
HAJJ	**Hajjah**	**1.72**	**339**	i P	Pn	14 03 23.4	+1.2
HAJJ				i S	Sn	14 03 46.7	+3.1

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*NEIC **28** 14:06:22.2, 3799N×2676E, h4km, MD3.3(ATH), After ATH.*
*CSEM **28** 14:06:23.9±0.1, 3789N×2690E, h10km, MD3.2, Error ellipse: s-maj=2.8km s-min=1.9km az=100.0*
*ISCJB **28** 14:06:24.2±0.5, 3786N±002×2682E±004, h10km±4km, Error ellipse: s-maj=5.2km s-min=3.6km az=3.7*
*ISK **28** 14:06:24.0, 3786N×2684E, h20km, MD3.2*
*ATH **28** 14:06:24.1, 3787N×2683E, h15km±4km, MD3.3/3*
ISC 28 14:06:24.7±0.5, 3786N±002×2681E±004, h11km±4km, n26, σ0°93/38, 2C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.15**	**172**⇑	iPB	**Pg**	**14 06 28.5**	**+0.3**
SMG				eSB	**Sg**	**14 06 31.2**	**+0.5**
SMG	**Samos**	**0.15**	**172**⇑	iPg	**Pg**	**14 06 28.5**	**+0.3**
SMG				eSg	**Sg**	**14 06 31.5**	**+0.8**
URLA	**Izmir**	**0.53**	**341**	i P	**Pg**	**14 06 34.2**	**-0.7**
URLA				i S	**Sg**	**14 06 42.3**	**+0.4**
URLA	**Izmir**	**0.53**	**341**	i P	**Pg**	**14 06 34.2**	**-0.8**
URLA				i S	**Sg**	**14 06 42.3**	**+0.4**
IZM	**Izmir**	**0.64**	**34**	i PG	**Pg**	**14 06 36.4**	**-0.8**
KDAG	**Bornova**	**0.65**	**34**	i P	**Pg**	**14 06 36.6**	**-0.7**
KDAG				i S	**Sg**	**14 06 46.9**	**+1.1**
AYDN	**Tasoluk**	**0.87**	**103**	i P	**Pg**	**14 06 41.1**	**-0.4**
AYDN				i S	**Sg**	**14 06 53.5**	**+0.7**
BODT	**Bodrum**	**0.89**	**153**	PG	**Pg**	**14 06 41.2**	**-0.7**
BODT				SG	**Sg**	**14 06 55.0**	**+1.4**
MLSB	**Milas**	**0.95**	**126**	PG	**Pg**	**14 06 42.2**	**-0.9**
MLSB				SG	**Sg**	**14 06 55.2**	**-0.3**
AKS	**Akhisar**	**1.28**	**38**	PN	**Pn**	**14 06 48.3**	**-0.3**
AKS				SN	**Sn**	**14 07 04.4**	**-1.4**
DAT	**Datca**	**1.29**	**151**	ePN	**Pn**	**14 06 47.6**	**-1.0**
APE	**Apeiranthos**	**1.29**	**233**⇓	iPN	**Pn**	**14 06 48.9**	**+0.3**
APE				eSN	**Sn**	**14 07 07.0**	**+1.1**
APE	**Apeiranthos**	**1.29**	**233**	ePn	**Pn**	**14 06 47.1**	**-1.5**
APE	**Apeiranthos**	**1.29**	**233**⇓	iPb	**Pb**	**14 06 47.6**	**-1.4**
APE	**Apeiranthos**	**1.29**	**233**⇓	iPb	**Pb**	**14 06 47.6**	**-1.4**
YER	**Yerkesik**	**1.38**	**121**	ePN	**Pn**	**14 06 49.0**	**-0.9**
PRK	**Paraskevi**	**1.45**	**343**	ePN	**Pn**	**14 06 51.1**	**+0.3**
PRK	**Paraskevi**	**1.45**	**343**	ePb	**Pb**	**14 06 46.9**	**-4.7**
AYVA	**Ayvalik**	**1.45**	**356**	i P	**Pn**	**14 06 52.2**	**+1.4**
AYVA				i S	**Sn**	**14 07 13.4**	**+3.6**
MANT	**Manisa**	**1.51**	**65**	i P	**Pn**	**14 06 52.5**	**+0.8**
MANT				i S	**Sn**	**14 07 13.4**	**+2.0**
DENT	**Denizli**	**1.76**	**93**	ePN	**Pn**	**14 06 54.3**	**-0.9**
SANT	**Santorini**	**1.84**	**216**	eP	**Pn**	**14 06 57.1**	**+0.9**
SANT	**Santorini**	**1.84**	**216**	eP	**Pn**	**14 06 57.1**	**+0.9**
BALB	**Balikesir**	**1.96**	**25**	ePN	**Pn**	**14 06 57.4**	**-0.5**
ORLT	**Orhaneli**	**2.72**	**36**	ePN	**Pn**	**14 07 08.0**	**-0.3**
YLV	**Yalova**	**3.35**	**36**	ePN	**Pn**	**14 07 17.5**	**+0.5**

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*CSEM **28** 14:19:26.1, 3763N×2142E, h25km, MD3.6/11, After ATH*
*NEIC **28** 14:19:26.1, 3763N×2142E, h25km, MD3.6(ATH), After ATH.*
ATH 28 14:19:26.1, 3763N×2142E, h25km±1km, MD3.7/10, ML3.6, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.43**	**5**⇑	iPB	Pb	14 19 34.9	-0.2
RLS				eSB	Sb	14 19 42.2	+1.0
ITM	**Ithomi**	**0.60**	**138**⇑	iPB	Pb	14 19 37.7	-0.3
ITM				eSN	Sn	14 19 47.4	-0.6
VLS	**Valsamata**	**0.85**	**310**	ePN	Pn	14 19 43.1	+0.6
EVR	**Evrytania**	**1.32**	**13**	ePN	Pn	14 19 51.4	+2.5
VLI	**Velias**	**1.52**	**126**	ePN	Pn	14 19 53.9	+2.3
LKR	**Lokris**	**1.61**	**50**	ePN	Pn	14 19 55.3	+2.4
ATH	**Athens Observa**	**1.85**	**79**	ePB	Pb	14 19 58.1	-1.1
KVR	**Kavouri**	**1.87**	**83**	ePB	Pb	14 19 58.5	-1.1
NEO	**Neokhori**	**2.19**	**40**	ePN	Pn	14 20 03.5	+2.6
KEK	**Kerkira**	**2.44**	**329**	ePN	Pn	14 20 06.5	+2.2
APE	**Apeiranthos**	**3.32**	**98**	ePN	Pn	14 20 19.6	+3.1
OHR	**Ohrid**	**3.51**	**352**	ePn	Pn	14 20 25.3	+6.3
OHR				eSn	Sn	14 21 05.4	+5.7

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*NEIC **28** 14:21:10.2, 3701N×1098W, h0km, MN3.1(MDD), After MDD.*
*INMG **28** 14:21:12.7±0.8, 3688N×1109W, h31km, ML2.5, Error ellipse: s-maj=7.0km s-min=4.9km az=52.0*
*CSEM **28** 14:21:12.6±0.6, 37.19N×1088W, h30km, ML2.5, Error ellipse: s-maj=12.1km s-min=7.0km az=45.0*
*IGIL **28** 14:21:13.0, 3690N×1080W, h0km, ML2.7*
MDD 28 14:21:10.7±1.7, 3698N×1094W, h0km, mbLg3.1/10, Error ellipse: s-maj=15.4km s-min=11.1km az=55.0, PRXIMO, Azores-Cape St. Vincent Ridge

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

PTEO	**Sao Teotonio**	**1.86**	**72**	*e*Pn	Pn	14 21 42.7	-1.0
PTEO				*e*Sn	Sn	14 22 05.7	-2.2
PTEO							
	34nm,0.4s						
PTEO	**Sao Teotonio**	**1.86**	**72**	*e*P	Pn	14 21 42.7	-1.0
PTEO				*e*S	Sn	14 22 05.7	-2.2
	34nm,0.4s						
MORF	**Marmelete**	**1.86**	**79**	*e*P	Pn	14 21 42.6	-1.2
MORF				*e*S	Sn	14 22 04.9	-3.1
MORF				*e*S	Sn	14 22 04.9	-3.1
MORF				AML	AML	14 22 08.0	
	comp=N,63nm,0.2s						
MORF	**Marmelete**	**1.86**	**79**	*e*P	Pn	14 21 42.6	-1.2
MORF				*e*S	Sn	14 22 04.9	-3.1
MORF	**Marmelete**	**1.86**	**79**	P	Pn	14 21 42.6	-1.2
MORF				S	Sn	14 22 04.9	-3.1
PLOU	**Loures**	**2.37**	**36**	*e*Sn	Sn	14 22 18.7	-1.9
PLOU							
	comp=N,19nm,0.2s						
PLOU	**Loures**	**2.37**	**36**	*e*S	Sn	14 22 18.7	-1.9
	comp=N,19nm,0.2s						
MOE	**Montemor**	**2.57**	**52**	*e*Pn	Pn	14 21 52.6	-0.9
MOE				*e*Sn	Sn	14 22 23.2	-2.3
PBEJ	**Beja**	**2.66**	**66**	*e*Pn	Pn	14 21 54.6	-0.2
PBEJ				*e*Sn	Sn	14 22 24.6	-3.1
PBEJ							
	comp=N,10nm,0.1s						
PBEJ	**Beja**	**2.66**	**66**	*e*P	Pn	14 21 54.6	-0.2
PBEJ				*e*S	Sn	14 22 24.6	-3.1
	comp=N,10nm,0.1s						
EGRO	**El Granado**	**2.82**	**78**	P	Pn	14 21 55.7	-1.2
	comp=N,1.5nm,0.3s,SNR=11						
EGRO				S	Sn	14 22 28.2	-3.4
	comp=N,7.3nm,0.1s,SNR=8.1						
EGRO	**El Granado**	**2.82**	**78**	P	Pn	14 21 55.7	-1.2
	comp=N,1.5nm,0.3s,SNR=11						
EGRO				S	Sn	14 22 28.2	-3.3
	comp=N,7.3nm,0.1s,SNR=8.1						
PTOM	**Tomar**	**3.30**	**36**	*e*Pn	Pn	14 22 03.4	-0.2
PTOM				*e*Sn	Sn	14 22 41.3	-2.3
PTOM							
	comp=N,12nm,0.1s						
EMIN	**Mina Concepcio**	**3.49**	**76**	P	Pn	14 22 04.8	-1.4
	comp=N,1.5nm,0.1s,SNR=17						
EMIN				S	Sn	14 22 44.9	-3.3
	comp=N,3.6nm,0.1s						
EMIN	**Mina Concepcio**	**3.49**	**76**	P	Pn	14 22 04.8	-1.4
	comp=N,1.5nm,0.1s,SNR=17						
EMIN				S	Sn	14 22 44.9	-3.3
	comp=N,3.6nm,0.1s						
EBAD	**Badajoz**	**3.58**	**59**	P	Pn	14 22 06.1	-1.3
	comp=N,3.0nm,0.1s,SNR=9.7						
EBAD				S	Sn	14 22 47.2	-3.2
	comp=N,19nm,0.2s						
EBAD	**Badajoz**	**3.58**	**59**	P	Pn	14 22 06.1	-1.3
	comp=N,3.0nm,0.1s,SNR=9.7						
EBAD				S	Sn	14 22 47.2	-3.2
	comp=N,19nm,0.2s						
EBAD	**Badajoz**	**3.58**	**59**	P	Pn	14 22 06.3	-1.1
EBAD				S	Sn	14 22 47.2	-3.2
PCBR	**Castelo Branco**	**3.95**	**43**	*e*Sn	Sn	14 22 56.4	-3.1
PCBR							
	comp=N,3.3nm,0.2s						
PCBR	**Castelo Branco**	**3.95**	**43**	Sn	Sn	14 22 56.4	-3.1
	comp=N,1.6nm,0.2s						
ESPR	**Espera**	**4.08**	**90**	P	Pn	14 22 13.1	-1.2
	comp=N,1.9nm,0.1s,SNR=7.9						
ESPR				S	Sn	14 22 59.4	-3.3
	comp=N,18nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.08**	**90**	P	Pn	14 22 13.1	-1.1
	comp=N,1.9nm,0.1s,SNR=7.9						
ESPR				S	Sn	14 22 59.4	-3.3
	comp=N,18nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.33**	**37**	*e*Pn	Pn	14 22 16.5	-1.2
MTE				*e*Sn	Sn	14 23 06.2	-2.7
MTE							
	comp=N,2.9nm,0.2s						
PVIS	**Viseu**	**4.43**	**32**	*e*Pn	Pn	14 22 17.8	-1.3
PVIS				*e*Sn	Sn	14 23 09.0	-2.3
PVIS							
	comp=N,23nm,0.1s						
ECAB	**El Cabril**	**4.53**	**74**	P	Pn	14 22 19.0	-1.4
	comp=N,4.4nm,0.4s,SNR=8.6						
ECAB				S	Sn	14 23 09.5	-4.3
	comp=N,11nm,0.3s,SNR=5.3						
ECAB	**El Cabril**	**4.53**	**74**	P	Pn	14 22 19.0	-1.4
	comp=N,4.4nm,0.4s,SNR=8.6						
ECAB				S	Sn	14 23 09.5	-4.2
	comp=N,11nm,0.3s,SNR=5.3						
EADA	**Adamuz**	**5.19**	**75**	P	Pn	14 22 28.3	-1.3
	comp=N,1.0nm,0.1s,SNR=6.9						
EADA				S	Sn	14 23 25.8	-4.4
	comp=N,12nm,0.3s,SNR=5.0						
EADA	**Adamuz**	**5.19**	**75**	P	Pn	14 22 28.3	-1.3
	comp=N,1.0nm,0.1s,SNR=6.9						
EADA				S	Sn	14 23 25.8	-4.4
	comp=N,12nm,0.3s,SNR=5.0						
PCAB	**Cabril**	**5.24**	**25**	*e*Sn	Sn	14 23 27.3	-4.0
ELOB	**Lobios**	**5.37**	**24**	P	Pn	14 22 29.9	-2.1
	comp=N,2.0nm,0.1s,SNR=10						
ELOB				S	Sn	14 23 29.5	-5.0
	comp=N,2.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.37**	**24**	P	Pn	14 22 29.9	-2.1
	comp=N,2.0nm,0.1s,SNR=10						
ELOB				S	Sn	14 23 29.5	-5.0
	comp=N,2.1nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**5.82**	**33**	*e*Sn	Sn	14 23 41.9	-3.6
ECAL	**Calabor**	**5.93**	**32**	P	Pn	14 22 38.1	-1.6
	comp=N,4.2nm,0.3s,SNR=7.9						
ECAL				S	Sn	14 23 43.3	-5.1
	comp=N,9.0nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**5.93**	**32**	P	Pn	14 22 38.1	-1.6
	comp=N,4.2nm,0.3s,SNR=7.9						
ECAL				S	Sn	14 23 43.3	-5.0
	comp=N,9.0nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**6.11**	**62**	P	Pn	14 22 41.1	-1.1
	comp=N,5.9nm,0.1s,baz=248,slow=13,SNR=7.9						
ESDC				S	Sn	14 23 47.5	-5.3
	comp=N,4.6nm,0.4s,baz=249,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**6.11**	**62**	P	Pn	14 22 41.1	-1.1
	comp=N,5.9nm,0.1s,SNR=7.9						
ESDC				S	Sn	14 23 47.5	-5.3
	comp=N,4.6nm,0.4s,SNR=7.9						
EMAZ	**Mazaricos**	**6.15**	**14**	P	Pn	14 22 39.7	-3.0
	comp=N,3.7nm,0.2s,SNR=7.9						
EMAZ				S	Sn	14 23 46.9	-6.9
	comp=N,3.1nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.15**	**14**	P	Pn	14 22 39.8	-3.0
EMAZ				S	Sn	14 23 47.0	-6.8
EPON	**Pontenova**	**6.97**	**23**	P	Pn	14 22 52.2	-1.9
	comp=N,10nm,0.3s,SNR=15						
EPON	**Pontenova**	**6.97**	**23**	P	Pn	14 22 52.2	-1.9
	comp=N,10nm,0.3s,SNR=15						

*NEIC **28** 14:25:01.7, 1936N×6529W, h84km, MD3.5(RSPR), After RSPR.*

RSPR 28 14:25:01.7, 1936N×6529W, h84km±8km, MD3.5/10, MD3.5/10, 19C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.05**	**163**	⇓*e*P	Pn	14 25 21.2	-0.4
STVI	**Saint Thomas**	**1.05**	**163**	*e*S	Sn	14 25 36.2	-0.2
STVI	**Saint Thomas**	**1.05**	**163**	⇓*e*P	Pn	14 25 21.1	-0.4
STVI	**Saint Thomas**	**1.05**	**163**	*e*S	Sn	14 25 36.4	0.0
STVI	**Saint Thomas**	**1.05**	**163**	⇓*e*P	Pn	14 25 21.1	-0.4
STVI				*e*S	Sn	14 25 36.2	-0.2
STVI				*e*S	Sn	14 25 36.4	0.0
TBVI	**Tortola**	**1.14**	**146**	⇑*e*P	Pn	14 25 22.1	-0.6
TBVI	**Tortola**	**1.14**	**146**	*e*S	Sn	14 25 38.1	-0.3
TBVI	**Tortola**	**1.14**	**146**	⇑*e*P	Pn	14 25 22.1	-0.6
TBVI	**Tortola**	**1.14**	**146**	*e*S	Sn	14 25 38.6	+0.2
TBVI	**Tortola**	**1.14**	**146**	⇑*e*P	Pn	14 25 22.1	-0.6
TBVI				*e*S	Sn	14 25 38.1	-0.3
TBVI				*e*S	Sn	14 25 38.6	+0.2
CBYP	**Canovanas**	**1.21**	**207**	*e*S	Sn	14 25 40.1	+0.2
CBYP	**Canovanas**	**1.21**	**207**	⇑*e*P	Pn	14 25 22.5	-1.0
CBYP	**Canovanas**	**1.21**	**207**	*e*S	Sn	14 25 39.4	-0.5
CBYP	**Canovanas**	**1.21**	**207**	⇑*e*P	Pn	14 25 22.7	-0.8
CBYP				*e*S	Sn	14 25 39.4	-0.5
CBYP				*e*S	Sn	14 25 40.1	+0.2
MTP	**Monte Pirata**	**1.29**	**192**	⇑*e*P	Pn	14 25 23.7	-0.8
MTP	**Monte Pirata**	**1.29**	**192**	*e*S	Sn	14 25 40.8	-0.8
MTP	**Monte Pirata**	**1.29**	**192**	⇑*e*P	Pn	14 25 23.7	-0.8
MTP	**Monte Pirata**	**1.29**	**192**	*e*S	Sn	14 25 40.9	-0.6
MTP	**Monte Pirata**	**1.29**	**192**	⇑*e*P	Pn	14 25 23.7	-0.8
MTP				*e*S	Sn	14 25 40.8	-0.8
MTP				*e*S	Sn	14 25 40.9	-0.6
HUMP	**Col San Antoni**	**1.32**	**204**	⇑*e*P	Pn	14 25 24.4	-0.5
HUMP	**Col San Antoni**	**1.32**	**204**	*e*S	Sn	14 25 41.6	-0.8
HUMP	**Col San Antoni**	**1.32**	**204**	⇓*e*P	Pn	14 25 24.7	-0.2
HUMP	**Col San Antoni**	**1.32**	**204**	*e*S	Sn	14 25 41.9	-0.5
HUMP	**Col San Antoni**	**1.32**	**204**	⇓*e*P	Pn	14 25 24.7	-0.2
HUMP				*e*S	Sn	14 25 41.6	-0.8
HUMP				*e*S	Sn	14 25 41.9	-0.5
CPD	**Cerro la Pandu**	**1.44**	**205**	⇑*e*P	Pn	14 25 25.5	-1.0
CPD	**Cerro la Pandu**	**1.44**	**205**	⇑*e*P	Pn	14 25 25.6	-0.8
CPD	**Cerro la Pandu**	**1.44**	**205**	⇑*e*P	Pn	14 25 25.6	-0.8
SJG	**San Juan**	**1.49**	**214**	*e*S	Sn	14 25 46.5	+0.4
SJG	**San Juan**	**1.49**	**214**	⇓*e*P	Pn	14 25 26.3	-0.7
SJG				*e*S	Sn	14 25 46.5	+0.4
AOPR	**Arecibo Observ**	**1.71**	**234**	*e*S	Sn	14 25 51.7	+0.4
AOPR	**Arecibo Observ**	**1.71**	**234**	⇑*e*P	Pn	14 25 29.0	-1.0
AOPR				*e*S	Sn	14 25 51.0	-0.3
AOPR				*e*S	Sn	14 25 51.7	+0.4
CELP	**Cerrillos**	**1.77**	**224**	⇓*e*P	Pn	14 25 30.7	0.0
CELP	**Cerrillos**	**1.77**	**224**	⇓*e*P	Pn	14 25 30.7	0.0
LRS	**Lares**	**1.82**	**235**	⇑*e*P	Pn	14 25 30.9	-0.4
LRS	**Lares**	**1.82**	**235**	⇑*e*P	Pn	14 25 30.9	-0.4
LRS	**Lares**	**1.82**	**235**	⇑*e*P	Pn	14 25 30.9	-0.4
ICM	**Isla Caja Muer**	**1.87**	**219**	*e*S	Sn	14 25 55.0	-0.1
ICM	**Isla Caja Muer**	**1.87**	**219**	⇓*e*P	Pn	14 25 32.5	+0.5
ICM	**Isla Caja Muer**	**1.87**	**219**	⇑*e*P	Pn	14 25 31.9	-0.1
ICM				*e*S	Sn	14 25 55.0	-0.1
MGP	**Maguayo**	**2.18**	**232**	⇓*e*P	Pn	14 25 36.0	0.0
CRPR	**Cabo Rojo, PR**	**2.19**	**232**	*e*S	Sn	14 26 02.2	-0.4
CRPR	**Cabo Rojo, PR**	**2.19**	**232**	⇑*e*P	Pn	14 25 36.7	+0.5
CRPR	**Cabo Rojo, PR**	**2.19**	**232**	⇑*e*P	Pn	14 25 35.9	-0.3
CRPR				*e*S	Sn	14 26 02.2	-0.4

MAN 28 14:40:44.8, 962N×12540E, h16km, mb2.0, ML3.7, MS6.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.18**	**29**	*e*P	Pg	14 40 50.3	+1.0
SCPH				*e*S	Sg	14 41 00.3	+8.0
BUTP	**Butuan**	**0.68**	**161**	*e*P	Pg	14 40 57.7	-0.5
BUTP				*e*S	Sg	14 41 12.0	+4.8
MSLP	**Maasin**	**0.74**	**314**	*e*P	Pg	14 40 59.5	+0.3
MSLP				*e*S	Sg	14 41 15.7	+6.8
BUKP	**Musuan**	**1.76**	**191**	*e*P	Pn	14 41 13.6	-1.0
BUKP				*e*S	Sn	14 41 39.8	+3.1

*STR **28** 15:02:12.5±1.0, 5036N×732E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*UCC **28** 15:02:12.9±0.4, 5038N×736E, h8km±2km, ML2.0*
*LDG **28** 15:02:13.1±0.1, 5032N×730E, h6km, Md3.0/1, Ml2.9/12, Error ellipse: s-maj=1.5km s-min=0.9km az=32.0*
*CSEM **28** 15:02:13.0±0.1, 5034N×731E, h10km, ML2.8/11, Error ellipse: s-maj=2.3km s-min=1.4km az=68.0*
*NEIC **28** 15:02:13.1, 5032N×730E, h6km, ML2.4(STR), ML2.9(LDG), After LDG.*
*BNS **28** 15:02:13.1±1.2, 5039N×735E, h4km±18km, ML1.9*

BGR 28 15:02:12.5±0.3, 5036N×740E, h5km, ML2.4/7, 6C-3D, Error ellipse: s-maj=3.3km s-min=2.2km az=140.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.16**	**195**	⇑*i*Pg	Pg	15 02 16.8	+1.0
BGG				*i* Sg	Sg	15 02 19.2	+1.2
	504nm,0.1s						
STB	**Steinbach**	**0.43**	**303**	⇓*i*Pg	Pg	15 02 21.0	+0.3
STB				*e*Sg	Sg	15 02 25.7	-0.6
	70nm,0.4s						
HILG	**Hillesheim**	**0.47**	**262**	⇑*e*Pg	Pg	15 02 21.6	+0.1
HILG				*i* Sg	Sg	15 02 27.2	-0.4
	101nm,0.4s						
ABH	**Alteburg**	**0.49**	**169**	Pg	Pg	15 02 22.9	+0.9
BNS	**Bensberg**	**0.62**	**347**	*e*Pg	Pg	15 02 24.6	+0.2
BNS				*e*Sg	Sg	15 02 32.2	-0.3
	170nm,0.6s						
BNS	**Bensberg**	**0.62**	**347**	Pg	Pg	15 02 24.6	+0.2
BNS				Sg	Sg	15 02 32.2	-0.3
	170nm,0.6s						
HOBG	**Hohbusch**	**0.62**	**356**	⇑*e*Pg	Pg	15 02 24.6	+0.1
HOBG				*e*Sg	Sg	15 02 31.9	-0.7
	113nm,0.7s						
TNS	**Taunus Mts**	**0.69**	**101**	*e*Pg	Pg	15 02 26.3	+0.6
	SNR=6.3						
TNS				*e*Sg	Sg	15 02 34.1	-0.5
RUP	**Ruppelstein**	**0.70**	**198**	Pg	Pg	15 02 25.9	0.0
RUP				Sg	Sg	15 02 35.9	+0.9
KLL	**Kalltalsperre**	**0.75**	**293**	*e*Pg	Pg	15 02 26.5	-0.4
KLL				*e*Sg	Sg	15 02 36.1	-0.6
	32nm,0.5s						
MEM	**Membach**	**0.92**	**286**	⇓P	Pg	15 02 29.4	-0.8
MEM				S	Sg	15 02 41.7	-0.6
	comp=N,18nm,0.4s						
MEM	**Membach**	**0.92**	**286**	P	Pg	15 02 29.4	-0.9
MEM				S	Sg	15 02 41.6	-0.7
HGN	**Heimansgroeve**	**1.02**	**294**	*e*Pn	Pn	15 02 31.7	-1.8
	comp=N,3.1nm,0.1s						
HGN				*i* Pg	Pg	15 02 32.2	+0.1
	comp=N,18nm,0.1s						
HGN				*i* Sg	Sg	15 02 45.4	+0.1
HGN	**Heimansgroeve**	**1.02**	**294**	*i* Pg	Pg	15 02 32.2	+0.1
	comp=N,18nm,0.1s						
HGN				*i* Sg	Sg	15 02 45.4	+0.1
LAUG	**Laupendahl**	**1.03**	**344**	⇑*e*Pg	Pg	15 02 31.9	-0.4
LAUG				*i* Sg	Sg	15 02 45.4	-0.3
	comp=N,50nm,0.4s						
WLF	**Walferdange**	**1.07**	**230**	*e*Pg	Pg	15 02 32.7	-0.3
	SNR=3.9						
WLF				*e*Sg	Sg	15 02 46.3	-0.6
WLF	**Walferdange**	**1.07**	**230**	⇑P	Pg	15 02 31.6	-1.4
WLF				S	Sg	15 02 46.7	-0.2
	comp=E,23nm,0.3s						
WLF	**Walferdange**	**1.07**	**230**	P	Pg	15 02 31.6	-1.4
WLF				S	Sg	15 02 46.6	-0.2
	comp=E,23nm,0.3s						
BUG	**Bochum--Univer**	**1.08**	**356**	*e*Pg	Pg	15 02 32.8	-0.5
	SNR=5.0						
BUG				*e*Sg	Sg	15 02 47.4	0.0
TOD	**Tromm**	**1.18**	**129**	Pg	Pg	15 02 35.7	+0.5
BEBN	**Eben Emael**	**1.18**	**292**	⇓P	Pg	15 02 34.5	-0.7
BEBN				S	Sg	15 02 50.3	-0.2
	comp=E,16nm,0.3s						
LANF	**Langenberg**	**1.41**	**169**	Pg	Pg	15 02 39.5	0.0
LANF				Sg	Sg	15 02 58.1	+0.3
WTSB	**Winterswijk**	**1.65**	**347**	*e*Pg	Pg	15 02 43.8	-0.4
WTSB				*e*Sg	Sg	15 03 03.3	-2.3
GIVF	**Givet**	**1.68**	**262**	*e*Pg	Pg	15 02 43.0	-1.7
GIVF				*e*Sn	Sn	15 03 00.3	-4.1
GIVF				*e*Sg	Sg	15 03 04.2	-2.2
	comp=E,38nm,0.3s						
GIVF	**Givet**	**1.68**	**262**	*e*Pg	Pg	15 02 43.0	-1.7
GIVF				*e*Sn	Sn	15 03 00.3	-4.1
GIVF				*e*Sg	Sg	15 03 04.2	-2.2
	comp=E,19nm,0.3s						
GIVF	**Givet**	**1.68**	**262**	*e*Pn	Pn	15 02 40.4	-2.1
GIVF				*e*Pg	Pg	15 02 43.0	-1.7
GIVF				*e*Sn	Sn	15 03 00.3	-4.1
GIVF				*e*Sg	Sg	15 03 04.2	-2.2
UBBA	**Unterbreizbach**	**1.72**	**74**	*e*Sg	Sg	15 03 06.4	-1.4
DOU	**Dourbes**	**1.82**	**263**	⇑P	Pn	15 02 44.7	+0.2
DOU				S	Sn	15 03 07.5	-0.5
	comp=E,13nm,0.2s						
DOU	**Dourbes**	**1.82**	**263**	P	Pn	15 02 44.7	+0.2
DOU				S	Sn	15 03 07.4	-0.6
	comp=E,13nm,0.2s						
WLS	**Welschbruch**	**1.95**	**181**	Pg	Pg	15 02 48.8	-1.2
CDF	**Champ du Feu**	**1.95**	**182**	*e*Pg	Pg	15 02 48.2	-1.8
CDF				*e*Sg	Sg	15 03 12.7	-2.6
	comp=E,14nm,0.4s						
CDF	**Champ du Feu**	**1.95**	**182**	*e*Pg	Pg	15 02 48.2	-1.8
CDF				*e*Sg	Sg	15 03 12.7	-2.6
	comp=E,6.8nm,0.4s						
CDF	**Champ du Feu**	**1.95**	**182**	*e*Pn	Pn	15 02 44.2	-2.1
CDF				*e*Pg	Pg	15 02 48.2	-1.8
CDF				*e*Sg	Sg	15 03 12.7	-2.6
GTTG	**Gvttingen**	**2.01**	**53**	*e*Sg	Sg	15 03 16.2	-0.8
BAIF	**Baives**	**2.07**	**263**	*e*P	Pn	15 02 48.0	0.0
BAIF	**Baives**	**2.07**	**263**	*e*Pg	Pg	15 02 50.3	-2.0
BAIF				*e*Sn	Sn	15 03 09.7	-4.5
BAIF				*e*Sg	Sg	15 03 15.8	-3.4
	comp=E,23nm,0.2s						
BAIF	**Baives**	**2.07**	**263**	*e*P	Pn	15 02 48.0	0.0
BAIF	**Baives**	**2.07**	**263**	*e*Pg	Pg	15 02 50.3	-2.0
BAIF				*e*Sn	Sn	15 03 09.7	-4.5
BAIF				*e*Sg	Sg	15 03 15.8	-3.4
	comp=E,11nm,0.2s						
BAIF	**Baives**	**2.07**	**263**	*e*Pn	Pn	15 02 45.5	-2.5
BAIF				*e*Pg	Pg	15 02 50.3	-2.0
BAIF				*e*Sn	Sn	15 03 09.7	-4.5
BAIF				*e*Sg	Sg	15 03 15.8	-3.4
BFO	**Black Forest**	**2.12**	**163**	*e*Sg	Sg	15 03 20.0	-0.8
RFYF	**Reffroy**	**2.14**	**217**	*e*Pn	Pn	15 02 46.5	-2.4
RFYF				*e*Sg	Sg	15 03 18.5	-2.9
	comp=E,17nm,0.2s						
RFYF	**Reffroy**	**2.14**	**217**	*e*Pn	Pn	15 02 46.5	-2.4
RFYF				*e*Sg	Sg	15 03 18.5	-2.9
	comp=E,8.5nm,0.2s						
ECH	**Echery**	**2.15**	**184**	Pg	Pg	15 02 53.0	-0.8
THEF	**They Montfort**	**2.33**	**204**	Pg	Pg	15 02 54.8	-2.4
CLZ	**Clausthal**	**2.39**	**51**	*e*Pg	Pg	15 02 56.8	-1.5
	SNR=1.8						
CLZ				*e*Sg	Sg	15 03 28.3	-1.0
MEZF	**Maizieres J'vi**	**2.41**	**220**	*e*Pg	Pg	15 02 56.2	-2.6
MEZF				*e*Sg	Sg	15 03 26.7	-3.4
	comp=E,8.9nm,0.3s,baz=38						
MEZF	**Maizieres J'vi**	**2.41**	**220**	*e*Pg	Pg	15 02 56.2	-2.6
MEZF				*e*Sg	Sg	15 03 26.7	-3.4
	comp=E,4.4nm,0.3s						
HAU	**Haudompre**	**2.46**	**197**	*e*Sg	Sg	15 03 28.7	-2.8
	comp=E,7.1nm,0.3s						
HAU	**Haudompre**	**2.46**	**197**	*e*Sg	Sg	15 03 28.7	-2.8
	comp=E,3.5nm,0.3s						
HINF	**Hinteralfeld**	**2.57**	**188**	*e*Pg	Pg	15 03 00.0	-1.9
HINF				*e*Sn	Sn	15 03 22.0	-4.5
HINF				*e*Sg	Sg	15 03 32.5	-2.7
	comp=E,9.0nm,0.3s						
HINF	**Hinteralfeld**	**2.57**	**188**	*e*Pg	Pg	15 03 00.0	-1.9
HINF				*e*Sn	Sn	15 03 22.0	-4.5
HINF				*e*Sg	Sg	15 03 32.5	-2.7
	comp=E,4.5nm,0.3s						
HINF	**Hinteralfeld**	**2.57**	**188**	*e*Pn	Pn	15 02 52.7	-2.2
HINF				*e*Pg	Pg	15 03 00.0	-1.9
HINF				*e*Sn	Sn	15 03 22.0	-4.5
HINF				*e*Sg	Sg	15 03 32.5	-2.7
SFTF	**Sexfontaines**	**2.66**	**217**	*e*Pg	Pg	15 03 00.9	-2.6
SFTF				*e*Sg	Sg	15 03 34.2	-3.7
	comp=E,7.1nm,0.3s						
SFTF	**Sexfontaines**	**2.66**	**217**	*e*Pg	Pg	15 03 00.9	-2.6
SFTF				*e*Sg	Sg	15 03 34.2	-3.7
	comp=E,3.5nm,0.3s						
MOX	**Moxa**	**2.71**	**82**	*e*Sg	Sg	15 03 38.8	-0.7
TANN	**Tannenbergstha**	**3.24**	**87**	*e*Sg	Sg	15 03 55.7	-0.9
LOR	**Lormes**	**3.88**	**218**	*e*Pn	Pn	15 03 10.5	-2.3
	baz=32						
LOR	**Lormes**	**3.88**	**218**	*e*Pg	Pg	15 03 23.3	-3.6
	baz=35						
LOR				*e*Sn	Sn	15 03 52.9	-5.9
LOR				*e*Sg	Sg	15 04 12.0	-5.2
	comp=E,4.1nm,0.3s,baz=34						
LOR	**Lormes**	**3.88**	**218**	*e*Pg	Pg	15 03 23.3	-3.6
LOR				*e*Sn	Sn	15 03 52.9	-5.9
LOR				*e*Sg	Sg	15 04 12.0	-5.2
	comp=E,2.0nm,0.3s						
LOR	**Lormes**	**3.88**	**218**	*e*Pn	Pn	15 03 10.5	-2.3
LOR				*e*Pg	Pg	15 03 23.3	-3.6
LOR				*e*Sn	Sn	15 03 52.9	-5.9
LOR				*e*Sg	Sg	15 04 12.0	-5.2
SSF	**Saint Saulge**	**4.19**	**219**	*e*Sg	Sg	15 04 22.1	-5.0
	comp=E,2.9nm,0.3s						
SSF	**Saint Saulge**	**4.19**	**219**	*e*Sg	Sg	15 04 22.1	-5.0
	comp=E,1.5nm,0.3s						

*ISCJB **28** 15:22:15.5±0.8, 4799N±009×1492E±02, h382km±10km, mb3.1/7, Error ellipse: s-maj=22.1km s-min=11.1km az=55.2.*
*IDC **28** 15:22:18.6±2.2, 4824N×1490E, h399km±25km, mb2.8/7, mb1 3.1/9, mb1mx3.0/22, mbtmp3.7/9, Error ellipse: s-maj=21.1km s-min=13.4km az=126.0*
*NEIC **28** 15:22:18.4±1.2, 4827N×1490E, h394km±13km, Error ellipse: s-maj=22.2km s-min=10.9km az=122.0*

ISC 28 15:22:16.0±0.8, 4806N±010×1493E±02, h378km±11km, n30, σ1°29/36, mb3.0/7, 1C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**4.59**	**258**	⇑*i*P	Pn	15 23 33.6	+1.1
NEM2	**Nemuro 2**	**5.33**	**209**	P	Pn	15 23 38.7	-1.6
NEM2

*NEIC **28** 15:29:20.8, 5955N×15276W, h88km, mb4.4/4, After AEIC.*

ISC 28 15:29:18.8±0.5, 5955N±004×15287W±008, h104km±5km, n52, σ0§80/59, mb4.2/12, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.64**	**53**	P	**Pn**	**15 29 46.8**	**-0.1**
KDAK	**Kodiak Island**	**1.77**	**175**	P	**Pn**	**15 29 48.3**	**-0.3**
	baz=9.7,slow=12						
KDAK				S	**Sn**	**15 30 10.3**	**-1.0**
	182nm,0.3s,baz=320,slow=23,SNR=15						
KDAK	**Kodiak Island**	**1.77**	**175**	P	**Pn**	**15 29 48.5**	**-0.2**
KDAK				S	**Sn**	**15 30 10.9**	**-0.4**
SEW	**Seward**	**1.81**	**71**	P	**Pn**	**15 29 48.8**	**-0.3**
SEW				S	**Sn**	**15 30 11.0**	**-1.3**
SVW2	**Sparrevohn**	**2.06**	**320**	P	**Pn**	**15 29 52.4**	**+0.1**
FIB	**Fire Island**	**2.10**	**38**	P	**Pn**	**15 29 54.2**	**+1.4**
RC01	**Rabbit Creek A**	**2.20**	**44**	P	**Pn**	**15 29 54.5**	**+0.5**
PMR	**Palmer**	**2.76**	**40**	P	**Pn**	**15 30 01.1**	**-0.2**
GHO	**Glory Hole Cre**	**2.96**	**39**	P	**Pn**	**15 30 04.0**	**0.0**
SML	**Sawmill**	**3.18**	**43**	P	**Pn**	**15 30 07.0**	**0.0**
MID	**Middleton Isla**	**3.33**	**89**	P	**Pn**	**15 30 09.1**	**+0.1**
TT01	**Tatalina**	**3.70**	**337**	P	**Pn**	**15 30 14.2**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.71**	**71**	P	**Pn**	**15 30 13.5**	**-0.5**
TTA	**Tatalina**	**3.72**	**337**	*e*P	**Pn**	**15 30 14.1**	**-0.1**
DIV	**Divide**	**3.87**	**63**	P	**Pn**	**15 30 15.6**	**-0.5**
TRF	**Thorofare Moun**	**4.11**	**16**	P	**Pn**	**15 30 20.6**	**+1.2**
KTH	**Kantishna Hill**	**4.13**	**12**	P	**Pn**	**15 30 19.7**	**+0.1**
BMRM	**Bremner River**	**4.36**	**67**	P	**Pn**	**15 30 22.4**	**-0.4**
MCK	**McKinley**	**4.60**	**22**	P	**Pn**	**15 30 26.8**	**+0.7**
PAX	**Paxson**	**4.95**	**43**	P	**Pn**	**15 30 31.0**	**+0.1**
GCSA	**Galena City Sc**	**5.55**	**342**	P	**Pn**	**15 30 39.0**	**+0.2**
MENT	**Mentasta**	**5.57**	**48**	*e*P	**Pn**	**15 30 39.8**	**+0.6**
COLA	**College**	**5.84**	**22**	P	**Pn**	**15 30 42.5**	**-0.3**
DOT	**Dot Lake**	**5.88**	**42**	P	**Pn**	**15 30 43.8**	**+0.4**
IL1	**Eielson Array**	**5.94**	**26**	P	**Pn**	**15 30 43.9**	**-0.3**
ILAR	**Eielson Array**	**5.94**	**26**	P	**Pn**	**15 30 43.5**	**-0.8**
	5.1nm,0.3s,baz=214,slow=14,SNR=305						
ILAR				S	**Sn**	**15 31 43.5**	**-7.4**
	12nm,0.3s,baz=206,slow=16,SNR=7.6						
COLD	**Coldfoot**	**7.80**	**8**	P	**Pn**	**15 31 09.5**	**0.0**
DAWY	**Dawson**	**7.82**	**49**	P	**Pn**	**15 31 09.8**	**0.0**
BM3	**Burnt Mountain**	**8.71**	**21**	P	**Pn**	**15 31 20.5**	**-1.4**
SIT	**Sitka**	**9.56**	**98**	*e*Pn	**Pn**	**15 31 33.0**	**-0.4**
	33nm,0.6s						
DLBC	**Dease Lake**	**11.82**	**85**	P	**Pn**	**15 32 05.1**	**+1.3**
	9.0nm,0.3s,baz=275,slow=13,SNR=104						
DLBC				S	**Sn**	**15 34 12.5**	**-1.2**
	0.6nm,0.3s,baz=163,slow=25,SNR=3.3						
DLBC	**Dease Lake**	**11.82**	**85**	*e*P	**Pn**	**15 32 05.7**	**+1.9**
INK	**Inuvik**	**12.16**	**36**	P	**Pn**	**15 32 08.7**	**+0.2**
	0.6nm,0.3s,baz=231,slow=17,SNR=22						
INK				S	**Sn**	**15 34 14.4**	**-7.8**
	0.2nm,0.3s,baz=75,slow=18,SNR=2.0						
ADK	**Adak**	**15.39**	**251**	*e*P	**Pn**	**15 32 52.0**	**+1.9**
	25nm,0.4s						
BBB	**Bella Bella**	**15.65**	**107**	P	**Pn**	**15 32 56.1**	**+2.7**
	0.5nm,0.3s,baz=221,slow=1.6,SNR=8.8						
BBB				S	**S**	**15 35 42.8**	**-12**
	0.2nm,0.3s,baz=162,slow=22,SNR=5.3						
YKW3	**Yellowknife Ar**	**18.57**	**64**	*e*P	**P**	**15 33 28.6**	**+1.2**
YKA	**Yellowknife Ar**	**18.58**	**64**	P	**P**	**15 33 28.7**	**+1.1**
	baz=277,slow=9.8,SNR=75						
YKA				ScP	ScP	15 41 18.9	+0.5
	baz=289,slow=2.2,SNR=6.0						
YKA	**Yellowknife Ar**	**18.58**	**64**	P	**P**	**15 33 28.7**	**+1.1**
YKA				ScP	ScP	15 41 18.9	+0.5
RES	**Resolute Bay**	**25.66**	**31**	*e*P	**P**	**15 34 39.2**	**+0.5**
	2.9nm,0.6s,mb3.9						
FRB	**Frobisher Bay**	**37.52**	**47**	P	**P**	**15 36 23.4**	**+1.0**
	5.1nm,0.7s,mb4.5,baz=316,slow=8.4,SNR=9.5						
SFJD	**Kangerlussuaq**	**41.51**	**35**	P	**P**	**15 36 55.8**	**+0.2**
	8.1nm,0.6s,mb4.6,baz=257,slow=3.4,SNR=5.7						
ARCES	**ARCESS Array B**	**51.21**	**1**	P	**P**	**15 38 10.5**	**-0.9**
	12nm,1.2s,mb4.8,baz=338,slow=6.4,SNR=6.7						
ARCES	**ARCESS Array B**	**51.21**	**1**	P	**P**	**15 38 10.5**	**-0.9**
SONM	**Songino Array**	**55.11**	**306**	P	**P**	**15 38 38.5**	**-1.6**
	0.7nm,0.7s,mb3.8,baz=49,slow=5.2,SNR=8.6						
FINES	**FINESS Array B**	**59.34**	**1**	P	**P**	**15 39 08.6**	**-1.2**
	0.6nm,0.4s,mb4.0,baz=16,slow=8.5,SNR=9.0						
CHKZ	**Chkalovo**	**61.85**	**332**	*e*P	**P**	**15 39 26.6**	**-0.2**
	3.9nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**62.50**	**332**	P	**P**	**15 39 31.4**	**+0.2**
	3.5nm,0.6s,mb4.5,baz=31,slow=6.8,SNR=10						
ZRNK	**Zerenda**	**62.90**	**333**	*e*P	**P**	**15 39 33.8**	**0.0**
	2.3nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**64.83**	**321**	P	**P**	**15 39 45.8**	**-0.7**
	0.5nm,0.4s,mb3.7,baz=28,slow=6.6,SNR=14						
AKTK	**Aktyubinsk**	**67.54**	**339**	P	**P**	**15 40 03.0**	**-0.8**
AKTO	**Aktyubinsk**	**67.54**	**339**	P	**P**	**15 40 03.0**	**-0.8**
	1.0nm,0.5s,mb3.9,baz=358,slow=7.8,SNR=3.7						
ESDC	**Sonseca Array**	**77.85**	**24**	P	**P**	**15 41 04.9**	**+0.1**
	0.8nm,0.5s,mb3.7,baz=344,slow=6.5,SNR=4.5						

*OMAN **28** 15:31:57.0, 2873N×5572E, h35km, Error ellipse: s-maj=2619.0km s-min=140.9km az=352.0*

*IDC **28** 15:32:06.1±1.9, 2745N×5569E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/22, mbtmp3.8/8, MS3.4/3, Ms1 3.4/3, ms1mx3.1/34, Error ellipse: s-maj=50.6km s-min=23.0km az=155.0*

*ISCJB **28** 15:32:08.0±0.4, 2757N±004×5571E±004, h10km, mb4.1/18, MS3.5/2, Error ellipse: s-maj=6.6km s-min=4.1km az=87.6*

*MOS **28** 15:32:09.5±2.1, 2749N×5568E, h33km, mb4.4/3, Error ellipse: s-maj=16.5km s-min=11.7km az=102.9*

*NEIC **28** 15:32:11.1, 2749N×5595E, h18km, mb4.0/7, ML3.7(THR), MN3.9(TEH), After THR.*

*THR **28** 15:32:11.1±0.4, 2750N×5595E, h18km±4km, ML3.6*

*CSEM **28** 15:32:12.2±0.1, 2751N×5565E, h53km±1km, mb3.9/4, Error ellipse: s-maj=2.6km s-min=1.6km az=53.0*

*TEH **28** 15:32:12.3, 2754N×5574E, h18km, Mn3.9*

ISC 28 15:32:09.7±0.3, 2755N±004×5571E±004, h10km, n67, σ1§24/76, mb4.1/18, MS3.5/2, 2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.44**	**110**	*e*PG	**Pg**	**15 32 16.5**	**-1.8**
BNDS				AML	AML	15 32 36.8	
	comp=E,14μm,0.5s						
BNDS				AML	AML	15 32 37.8	
	comp=N,11μm,0.5s						
BNDS	**Bandar-Abbas**	**0.44**	**110**	Pg	**Pg**	**15 32 16.0**	**-2.3**
BANOM	**Banah**	**1.70**	**162**	⇓P	**Pn**	**15 32 39.3**	**-0.1**
	SNR=67						
GHIR	**Ghir-Karzin**	**2.52**	**288**	*e*PN	**Pg**	**15 32 56.3**	**-1.6**
GHIR				*e*SG	**Sg**	**15 33 36.9**	**+6.4**
GHIR				AML	AML	15 33 50.5	
	comp=N,192nm,0.6s						
GHIR				AML	AML	15 34 03.8	
	comp=E,185nm,0.8s						
GHIR	**Ghir-Karzin**	**2.52**	**288**	Pn	**Pg**	**15 32 56.0**	**-1.9**
GHIR				Sg	**Sg**	**15 33 36.0**	**+5.5**
KRBR	**Kerman**	**2.59**	**21**	*e*PN	**Pn**	**15 32 54.2**	**+2.5**
KRBR				AML	AML	15 33 32.1	
	comp=E,368nm,0.4s						
KRBR	**Kerman**	**2.59**	**21**	Pn	**Pn**	**15 32 54.0**	**+2.3**
ASHO	**Ashiyiah**	**2.87**	**174**	P	**Pn**	**15 32 56.5**	**+1.0**
	SNR=44						
IMOK	**Mook**	**3.03**	**300**	*e*Pn	**Pn**	**15 32 58.6**	**+0.9**
IMOK				*e*Sn	**Sn**	**15 33 33.9**	**-0.1**
IPAR	**Pars**	**3.27**	**315**	*e*Pn	**Pn**	**15 33 02.3**	**+1.4**
IPAR				*e*Sn	**Sn**	**15 33 39.7**	**-0.1**
IMEH	**Mehriz**	**3.94**	**346**	*e*Pn	**Pn**	**15 33 11.5**	**+1.2**
IBAF	**Bafgh**	**4.03**	**358**	*e*Pn	**Pn**	**15 33 12.8**	**+1.4**
IBAF				Sn	**Sn**	**15 33 57.6**	**-1.0**
IBAF	**Bafgh**	**4.03**	**358**	Pn	**Pn**	**15 33 13.0**	**+1.6**
IBAF				Sn	**Sn**	**15 33 57.6**	**-1.0**
ARQ	**Araqi**	**4.26**	**170**	⇓P	**Pn**	**15 33 16.1**	**+1.6**
ICHK	**Chekchek**	**4.81**	**347**	*e*Pn	**Pn**	**15 33 24.2**	**+2.0**
ZHSF	**Zahedan**	**4.91**	**64**	*e*PN	**Pn**	**15 33 24.1**	**+0.7**
ZHSF	**Zahedan**	**4.91**	**64**	*e*Pn	**Pn**	**15 33 24.1**	**+0.6**
	SNR=52						
ZHSF	**Zahedan**	**4.91**	**64**	Pn	**Pn**	**15 33 24.0**	**+0.5**
IGAR	**Garneh**	**5.58**	**328**	*e*Pn	**Pn**	**15 33 34.7**	**+1.9**
IZEF	**Zefreh**	**6.08**	**332**	*e*Pn	**Pn**	**15 33 40.7**	**+1.1**
IPIR	**Pirpir**	**6.60**	**322**	*e*Pn	**Pn**	**15 33 46.8**	**0.0**
IPIR				*e*Sn	**Sn**	**15 34 57.0**	**-5.0**
IKLH	**Kalahroud**	**6.76**	**329**	*e*Pn	**Pn**	**15 33 50.1**	**+1.1**
IKLH				*e*Sn	**Sn**	**15 35 02.8**	**-3.3**
IKLH	**Kalahroud**	**6.76**	**329**	Pn	**Pn**	**15 33 50.0**	**+1.0**
IRAZ	**Razeghan**	**9.25**	**329**	*e*Pn	**Pn**	**15 34 22.7**	**-0.4**
IRAZ				*e*Sn	**Sn**	**15 36 01.6**	**-5.7**
WHFO	**Wadi Hawf**	**9.75**	**191**	P	**Pn**	**15 34 31.2**	**+1.2**
	SNR=14						
ABTO	**Aybut**	**10.39**	**193**	P	**Pn**	**15 34 37.1**	**-1.6**
	SNR=15						
IDHR	**Dehrash**	**10.70**	**314**	*e*Pn	**Pn**	**15 34 42.4**	**-0.6**
IDHR				*e*Sn	**Sn**	**15 36 35.5**	**-7.3**
GNI	**Garni**	**15.50**	**327**	Pn	**Pn**	**15 35 53.8**	**+5.5**
	comp=E,1.0nm,0.3s,baz=344,slow=5.1,SNR=6.9						
GNI				LR	LR	15 42 59.8	
	comp=E,56nm,18.6s,baz=272,slow=42						
GNI	**Garni**	**15.50**	**327**	*e*P	**Pn**	**15 35 54.3**	**+5.9**
	comp=E,9.9nm,0.6s						
GNI				LR	LR	15 42 59.8	
GNI	**Garni**	**15.50**	**327**	*e*P	**Pn**	**15 35 54.3**	**+6.0**
GNI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZEI	**Tsey**	**17.96**	**331**	*i* P	**Pn**	**15 36 21.5**	**+2.0**
MALT	**Malatya**	**18.02**	**311**	P	**Pn**	**15 36 20.0**	**-0.1**
	comp=Z,4.0nm,0.8s						
MALT	**Malatya**	**18.02**	**311**	P	**Pn**	**15 36 20.0**	**-0.2**
	comp=Z,4.0nm,0.8s						
MALT	**Malatya**	**18.02**	**311**	P	**Pn**	**15 36 20.0**	**-0.1**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIV	**Kislovodsk**	**19.44**	**331**	*e*P	**Pn**	**15 36 37.5**	**0.0**
	comp=Z,11nm,0.7s						
KIV	**Kislovodsk**	**19.44**	**331**	*e*P	**Pn**	**15 36 37.5**	**0.0**
	comp=Z,11nm,0.7s						
KIV	**Kislovodsk**	**19.44**	**331**	*e*P	**Pn**	**15 36 38.7**	**+1.2**
KIV				pmax	pmax		
	comp=Z,14nm,0.9s						
BR131	**Keskin Array S**	**21.96**	**309**	*e*P	**P**	**15 37 03.0**	**-0.5**
	comp=Z,2.7nm,0.7s,mb3.8						
BR131	**Keskin Array S**	**21.96**	**309**	*e*P	**P**	**15 37 03.0**	**-0.5**
	comp=Z,2.7nm,0.7s,mb3.8						
BRTR	**Keskin Array B**	**21.96**	**309**	P	**P**	**15 37 03.1**	**-0.4**
	comp=Z,4.4nm,0.8s,mb3.9,baz=129,slow=12,SNR=25						
AKTK	**Aktyubinsk**	**22.92**	**4**	P	**P**	**15 37 12.9**	**-0.9**
AKTK	**Aktyubinsk**	**22.92**	**4**	P	**P**	**15 37 12.9**	**-0.8**
AKTK				LR	LR	15 48 06.6	
AKTO	**Aktyubinsk**	**22.92**	**4**	P	**P**	**15 37 12.9**	**-0.8**
	comp=Z,5.7nm,0.9s,mb4.0,baz=193,slow=12,SNR=8.2						
AKTO				LR	LR	15 48 06.6	
	comp=Z,30nm,20.2s,MS2.7,baz=0.0,slow=42						
KOLN	**Koldanda**	**24.69**	**83**	*e*P	**P**	**15 37 31.3**	**+0.5**
	comp=Z,13nm,1.1s,mb4.4						
GKN	**Gorkha**	**25.58**	**82**	*e*P	**P**	**15 37 38.5**	**-0.4**
	comp=Z,11nm,0.8s,mb4.5						
DMN	**Daman**	**26.03**	**83**	*e*P	**P**	**15 37 43.3**	**+0.3**
	comp=Z,18nm,1.0s,mb4.5						
KKN	**Kakani**	**26.17**	**83**	*e*P	**P**	**15 37 44.5**	**+0.3**
	comp=Z,26nm,1.0s,mb4.7						
PKI	**Pulchoki**	**26.31**	**83**	*e*P	**P**	**15 37 45.8**	**+0.4**
GUN	**Gumba**	**26.68**	**82**	*e*P	**P**	**15 37 49.4**	**+0.6**
	comp=Z,35nm,1.1s,mb4.8						
JIRN	**Jiri**	**26.98**	**83**	*e*P	**P**	**15 37 51.9**	**+0.3**
	comp=Z,15nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**27.24**	**18**	P	**P**	**15 37 52.4**	**-1.4**
	comp=Z,4.0nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**27.24**	**18**	P	**P**	**15 37 52.4**	**-1.5**
	comp=Z,3.7nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**27.24**	**18**	P	**P**	**15 37 52.4**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
BVAR	**Borovoye Array**	**27.69**	**19**	P	**P**	**15 37 56.0**	**-1.9**
	comp=Z,2.6nm,0.8s,mb3.9,baz=193,slow=6.1,SNR=11						
MKAR	**Makanchi Array**	**28.38**	**40**	P	**P**	**15 38 03.8**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.2,baz=222,slow=7.6,SNR=5.6						
KURK	**Kurchatov**	**28.95**	**31**	P	**P**	**15 38 08.1**	**-1.0**
	comp=Z,2.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**28.95**	**31**	P	**P**	**15 38 08.1**	**-1.0**
	comp=Z,2.2nm,0.8s,mb3.9						
KURK	**Kurchatov**	**28.95**	**31**	P	**P**	**15 38 08.1**	**-1.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
AKBB	**Malin Array Si**	**30.63**	**326**	P	**P**	**15 38 21.0**	**-3.0**
SONM	**Songino Array**	**44.03**	**49**	P	**P**	**15 40 17.1**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.3,baz=254,slow=9.2,SNR=2.4						
NOA	**NORSAR Array B**	**44.75**	**331**	P	**P**	**15 40 18.2**	**-5.0**
	comp=Z,1.1nm,0.8s,mb3.7,baz=119,slow=8.2,SNR=3.8						
BOD	**Bodaibo**	**50.33**	**36**	*e*P	**P**	**15 41 01.3**	**-5.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
TORD	**Torodi Ar. Bea**	**52.25**	**265**	P	**P**	**15 41 19.5**	**-1.5**
	comp=Z,3.0nm,0.9s,mb4.2,baz=58,slow=7.2,SNR=19						
BORG	**Borgarnes**	**59.93**	**331**	LR	LR	16 07 57.1	
	comp=Z,213nm,19.5s,MS4.3,baz=145,slow=36						
ILAR	**Eielson Array**	**86.31**	**9**	P	**P**	**15 44 49.0**	**-2.9**
	comp=Z,0.5nm,0.9s,mb3.7,baz=292,slow=3.7,SNR=4.3						
YKA	**Yellowknife Ar**	**89.94**	**356**	P	**P**	**15 45 05.8**	**-3.3**
	comp=Z,0.2nm,0.6s,mb3.6,baz=5.5,slow=4.7,SNR=4.5						
YKA	**Yellowknife Ar**	**89.94**	**356**	P	**P**	**15 45 05.8**	**-3.3**

*ISCJB **28** 15:54:43.4±0.4, 3837N±003×2200E±004, h10km, Error ellipse: s-maj=4.6km s-min=3.8km az=90.3*

*CSEM **28** 15:54:43.1±0.1, 3838N×2195E, h2km, ML3.2, Error ellipse: s-maj=1.8km s-min=1.2km az=134.0*

*ATH **28** 15:54:43.4, 3832N×2200E, h14km±2km, MD3.4/11, ML3.2*

*NEIC **28** 15:54:43.4, 3832N×2199E, h14km, ML3.2(ATH), After ATH.*

*THE **28** 15:54:46.1, 3846N×2221E, h2km, ML2.9*

ISC 28 15:54:43.5±0.4, 3837N±003×2202E±003, h10km, n23, σ1§17/31, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.54**	**234**	⇑*i*PG	**Pg**	**15 54 52.9**	**-1.1**
RLS				*e*SB	**Sg**	**15 55 00.7**	**-0.4**
RLS	**Riolos of Patr**	**0.54**	**234**	⇑*i*Pb	**Pg**	**15 54 52.9**	**-1.1**
RLS				*i* Sb	**Sg**	**15 55 00.7**	**-0.4**
EVR	**Evrytania**	**0.57**	**343**	*e*PB	**Pb**	**15 54 54.5**	**-1.1**
EVR				*e*SB	**Sb**	**15 55 04.1**	**+0.4**
AGG	**Agios Georgios**	**0.69**	**20**	*e*Pg	**Pg**	**15 54 56.6**	**-0.3**
AGG				*e*Sg	**Sg**	**15 55 05.3**	**-0.7**
LKR	**Lokris**	**0.82**	**70**	*e*PB	**Pb**	**15 54 59.7**	**-0.1**
LKR				*e*SB	**Sb**	**15 55 11.9**	**+1.0**
VLS	**Valsamata**	**1.14**	**261**	*e*PG	**Pg**	**15 55 03.8**	**-1.7**
VLS				*e*SB	**Sb**	**15 55 21.1**	**+0.8**
VLS	**Valsamata**	**1.14**	**261**	*e*Pg	**Pg**	**15 55 03.5**	**-2.0**
ITM	**Ithomi**	**1.19**	**184**	*e*PB	**Pb**	**15 55 05.1**	**-1.1**
NEO	**Neokhori**	**1.32**	**45**	*e*PN	**Pn**	**15 55 08.5**	**+0.4**
NEO				*e*SB	**Sb**	**15 55 29.0**	**+3.5**
XOR	**Xorichti**	**1.35**	**42**	*e*Pg	**Pg**	**15 55 08.5**	**-0.9**
ATH	**Athens Observa**	**1.40**	**106**	*e*PB	**Pb**	**15 55 10.0**	**+0.3**
KVR	**Kavouri**	**1.48**	**111**	*e*PB	**Pb**	**15 55 12.0**	**+0.8**
PTL	**Penteli**	**1.49**	**102**	*e*PB	**Pb**	**15 55 10.5**	**-0.7**
JAN	**Janina**	**1.57**	**325**	*e*PG	**Pg**	**15 55 14.0**	**+0.3**
AOS	**Alonnisos**	**1.66**	**61**	*e*Pg	**Pg**	**15 55 13.1**	**-2.2**
IGT	**Igoumenitsa**	**1.75**	**312**	*e*Pb	**Pb**	**15 55 17.6**	**+1.8**
LIT	**Litokhoron**	**1.77**	**12**	*e*Pb	**Pb**	**15 55 15.5**	**-0.5**
LIT				*e*Sb	**Sb**	**15 55 38.1**	**0.0**
VLI	**Veliai**	**1.80**	**156**	*e*PN	**Pn**	**15 55 15.7**	**+1.0**
PAIG	**Paliouri**	**2.02**	**39**	*e*Pb	**Pb**	**15 55 18.0**	**-2.3**
KEK	**Kerkira**	**2.19**	**308**	*e*PN	**Pn**	**15 55 22.0**	**+2.1**
KNT	**Kendrikon**	**2.87**	**13**	*e*Pn	**Pn**	**15 55 30.7**	**+1.5**
APE	**Apeiranthos**	**3.07**	**114**	*e*PN	**Pn**	**15 55 33.5**	**+1.4**
APE	**Apeiranthos**	**3.07**	**114**	*e*Pn	**Pn**	**15 55 33.9**	**+1.8**

*ISCJB **28** 15:55:05.4±0.4, 6708N±003×2099E±008, h0km, Error ellipse: s-maj=4.8km s-min=4.3km az=113.4*

*HEL **28** 15:55:06.8±0.1, 6708N×2092E, h0km, ML1.7, ML2.1(UPP), Explosion*

*IDC **28** 15:55:07.2±0.9, 6709N×2140E, h0km, mb1 2.8/4, mb1mx2.7/22, mbtmp2.8/4, ML2.5/4, Error ellipse: s-maj=15.5km s-min=6.3km az=114.0*

ISC 28 15:55:06.2±0.4, 6706N±003×2095E±007, h0km, n20, σ1§04/29, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**291**	*i* P	**Pg**	**15 55 09.3**	**+0.1**
MASU	**Masugnsbyn**	**0.57**	**46**	*i* P	**Pg**	**15 55 16.9**	**-0.1**
ERTU	**Ertsjaerv**	**0.71**	**136**	*i* P	**Pg**	**15 55 19.7**	**-0.1**
PAJU	**Pajala**	**0.85**	**92**	*i* P	**Pg**	**15 55 22.0**	**-0.5**
KUA	**Kurravaara**	**0.92**	**346**	*e*P	**Pg**	**15 55 22.9**	**-1.1**
SALU	**Saltoluokta**	**1.00**	**290**	*e*P	**Pg**	**15 55 24.7**	**-0.7**
LANU	**Lannavaara**	**1.07**	**22**	*e*P	**Pg**	**15 55 25.4**	**-1.3**
NIKU	**Nikkaluokta**	**1.09**	**318**	*e*P	**Pg**	**15 55 26.0**	**-1.1**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pn**	**15 55 35.4**	**-0.2**
LILU	**Lilltraesk**	**1.84**	**195**	*e*P	**Pn**	**15 55 39.5**	**+0.4**
KIF	**Kilpisjarvi**	**1.95**	**358**	*e*P	**Pn**	**15 55 42.5**	**+2.0**
KIF				*e*S	**Sn**	**15 56 08.5**	**+2.7**
SGF	**Sodankyl**	**2.20**	**78**	*e*P	**Pn**	**15 55 44.6**	**+0.6**
SGF				*e*S	**Sn**	**15 56 13.1**	**+1.2**
SGF				*e*SG	**Sg**	**15 56 15.4**	**-1.5**
SGF				MSG		15 56 16.8	
	comp=Z,3.4nm,0.2s						
BURU	**Burvik**	**2.50**	**176**	*e*P	**Pn**	**15 55 49.1**	**+1.0**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**15 55 55.1**	**0.0**
	comp=Z,0.6nm,0.3s,baz=210,slow=14,SNR=58						
ARCES				Sn	**Sn**	**15 56 31.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=218,slow=20,SNR=3.3						
ARCES				Lg		15 56 37.1	
	comp=Z,0.8nm,0.3s,baz=211,slow=28,SNR=9.4						
STOK	**Stokkvaagen**	**3.24**	**261**	*e*P	**Pn**	**15 55 59.6**	**+1.4**
KU4	**Liikasenvaara**	**3.50**	**98**	*e*P	**Pn**	**15 56 02.9**	**+1.0**
KU4				*e*S	**Sn**	**15 56 44.4**	**+0.4**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**15 56 01.9**	**-0.1**
KEV				*e*S	**Sn**	**15 56 43.4**	**-0.8**
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**15 56 38.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=5.6						
FINES				Sn	**Sn**	**15 57 46.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=351,slow=25,SNR=3.9						
FINES				Lg		15 58 16.7	
	comp=Z,0.2nm,0.3s,baz=346,slow=27,SNR=2.9						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**15 56 57.5**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=2.3						
NOA				Sn	**Sn**	**15 58 18.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=325,slow=18,SNR=2.1						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**15 56 58.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=3.3						
HFS				Sn	**Sn**	**15 58 25.0**	**-1.6**
	baz=45,slow=16,SNR=2.2						

IDC 28 15:56:21.5±6.8, 367S×13417E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/12, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=382.7km s-min=30.4km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.17**	**179**	Pn	Pn	16 00 08.7	-1.4
	0.0nm,0.3s,baz=359,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**19.88**	**181**	P	Pn	16 00 55.2	-0.6
	0.1nm,0.3s,baz=4.0,slow=12,SNR=12						
MKAR	**Makanchi Array**	**67.85**	**324**	P	P	16 07 21.7	+0.2
	0.2nm,0.5s,baz=129,slow=8.0,SNR=6.1						

*SFS **28** 16:04:45.0, 3672N×11.10W, h0km, ML3.5*

*NEIC **28** 16:04:45.8, 3672N×11.16W, h0km, MN3.5(MDD), After MDD.*

*IGIL **28** 16:04:46.7, 3660N×11.10W, h0km, ML3.7*

*MDD **28** 16:04:46.3±1.3, 3668N×11.10W, h0km, mbLg3.5/16, Error ellipse: s-maj=11.8km s-min=7.0km az=60.0, PRXIMO*

*ISCJB **28** 16:04:47.8±0.7, 3683N±003×1080W±005, h10km, Error ellipse: s-maj=6.1km s-min=4.0km az=103.8*

*CNRM **28** 16:04:47.0, 3627N×1135W, h31km, MD3.9*

*CSEM **28** 16:04:47.8±0.3, 3637N×1065W, h10km, ML4.1/5, Error ellipse: s-maj=5.1km s-min=3.2km az=73.0*

*LDG **28** 16:04:47.2±0.3, 3661N×1131W, h20km, Md3.9/1, Ml3.8/4, Error

PCBR *e*Sn **Sn** **16 06 38.8 +0.6**
PCBR
comp=N,27nm,0.4s
PCBR Castelo Branco 4.05 40 *e*Pn **Pn** **16 05 51.5 +0.8**
PCBR *e*Sn **Sn** **16 06 38.8 +0.6**
comp=N,27nm,0.4s
EJIF Jimena Fronter 4.37 93 P **Pn** **16 05 55.5 +0.4**
comp=N,2.5nm,0.2s,SNR=6.3
EJIF S **Sn** **16 06 46.8 +0.8**
comp=N,2.4nm,0.2s,SNR=7.9
LIJA Lijar 4.39 87 *i* P **Pn** **16 05 55.0 -0.5**
LIJA *e*S **Sn** **16 06 45.0 -1.7**
MTE Manteigas 4.45 35 *e*Pn **Pn** **16 05 56.5 +0.3**
MTE *e*Sn **Sn** **16 06 49.3 +1.3**
MTE
comp=N,35nm,0.4s
MTE Manteigas 4.45 35 *e*Pn **Pn** **16 05 56.5 +0.3**
MTE *e*Sn **Sn** **16 06 49.3 +1.3**
comp=N,35nm,0.4s
AVE Averroes 4.50 140 P **Pn** **16 05 51.5 -5.4**
AVE S **Sn** **16 06 40.0 -9.3**
ECAB El Cabril 4.53 72 P **Pn** **16 05 57.9 +0.5**
comp=N,8.4nm,0.2s,SNR=16
ECAB S **Sn** **16 06 50.4 +0.4**
comp=N,26nm,0.2s,SNR=9.3
ECAB El Cabril 4.53 72 P **Pn** **16 05 57.9 +0.5**
comp=N,8.4nm,0.2s,SNR=16
ECAB S **Sn** **16 06 50.5 +0.4**
PVIS Viseu 4.56 30 *e*Pn **Pn** **16 05 57.9 +0.2**
PVIS *e*Sn **Sn** **16 06 51.1 +0.4**
PVIS
comp=N,24nm,0.1s
PVIS Viseu 4.56 30 *e*Pn **Pn** **16 05 57.9 +0.2**
PVIS *e*Sn **Sn** **16 06 51.1 +0.4**
comp=N,24nm,0.1s
PTO Porto 4.69 22 *e*Sn **Sn** **16 06 53.3 -0.6**
EMIJ Mijas 4.92 91 P **Pn** **16 06 02.3 -0.3**
comp=N,4.8nm,0.3s,SNR=7.9
EMIJ S **Sn** **16 06 58.5 -1.0**
comp=N,8.4nm,0.3s,SNR=7.9
PVRL Vila Real 5.11 28 *e*Sn **Sn** **16 07 03.4 -0.9**
PVRL
comp=N,24nm,0.2s
PVRL Vila Real 5.11 28 Sn **Sn** **16 07 03.4 -0.9**
comp=N,12nm,0.2s
EADA Adamuz 5.20 73 P **Pn** **16 06 06.7 +0.2**
comp=N,6.9nm,0.2s,SNR=72
EADA S **Sn** **16 07 06.2 -0.3**
comp=N,21nm,0.2s,SNR=14
EADA Adamuz 5.20 73 P **Pn** **16 06 06.7 +0.2**
comp=N,6.9nm,0.2s,SNR=72
EADA S **Sn** **16 07 06.2 -0.3**
comp=N,21nm,0.2s,SNR=14
ELUQ Luque 5.34 80 S **Sn** **16 07 09.5 -0.4**
comp=N,11nm,0.2s,SNR=7.1
ELUQ Luque 5.34 80 P **Pn** **16 06 09.4 +1.0**
ELUQ S **Sn** **16 07 09.5 -0.4**
comp=N,11nm,0.2s,SNR=7.1
PCAB Cabril 5.38 23 *e*Pn **Pn** **16 06 08.7 -0.4**
PCAB *e*Sn **Sn** **16 07 10.5 -0.6**
PCAB
comp=N,27nm,0.5s
ELOB Lobios 5.52 22 P **Pn** **16 06 10.3 -0.6**
comp=N,3.2nm,0.1s,SNR=15
ELOB S **Sn** **16 07 11.9 -2.5**
comp=N,14nm,0.1s,SNR=12
EZAM Zamans 5.61 17 P **Pn** **16 06 10.6 -1.6**
comp=N,2.1nm,0.2s,SNR=7.2
EZAM S **Sn** **16 07 13.2 -3.4**
comp=N,9.4nm,0.2s,SNR=6.6
ERON Agron 5.67 86 P **Pn** **16 06 13.7 +0.6**
comp=N,3.6nm,0.2s,SNR=7.9
ERON S **Sn** **16 07 17.0 -1.3**
comp=N,6.3nm,0.4s,SNR=7.9
MIF Mishlifen 5.73 124 *i* P **Pn** **16 06 10.5 -3.4**
MIF *i* S **Sn** **16 07 12.0 -7.7**
EGUA Guajares 5.87 87 P **Pn** **16 06 16.3 +0.6**
comp=N,0.5nm,0.2s,SNR=7.9
EGUA S **Sn** **16 07 20.8 -2.3**
comp=N,0.4nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 5.87 83 P **Pn** **16 06 16.2 +0.4**
comp=N,2.3nm,0.3s,SNR=4.0
ECOG Cogollos-Vega 5.87 83 P **Pn** **16 06 16.0 +0.2**
ECOG Cogollos-Vega 5.87 83 P **Pn** **16 06 16.0 +0.2**
PBRG Braganca 5.94 31 *e*Pn **Pn** **16 06 16.8 0.0**
PBRG *e*Sn **Sn** **16 07 23.3 -1.6**
PBRG
comp=N,13nm,0.3s
EQUE Quentar 5.97 84 S **Sn** **16 07 25.3 -0.2**
comp=N,1.9nm,0.2s,SNR=7.9
ECAL Calabor 6.06 31 P **Pn** **16 06 18.4 0.0**
comp=N,2.3nm,0.1s,SNR=4.0
ECAL S **Sn** **16 07 26.3 -1.5**
comp=N,38nm,0.3s,SNR=4.7
CZD Col de Zad 6.09 126 *i* P **Pn** **16 06 15.0 -3.8**
CZD *i* S **Sn** **16 07 20.5 -8.0**
OUK Oukaimeden 6.11 155 *i* P **Pn** **16 06 11.0 -8.0**
ESDC Sonseca Array 6.16 60 P **Pn** **16 06 20.0 +0.3**
comp=N,2.2nm,0.1s,baz=248,slow=13,SNR=9.7
ESDC S **Sn** **16 07 30.0 -0.1**
comp=N,20nm,0.2s,baz=244,slow=23,SNR=25
ESDC Sonseca Array 6.16 60 P **Pn** **16 06 20.0 +0.3**
comp=N,2.2nm,0.1s,SNR=9.7
EQES Quesada 6.31 78 P **Pn** **16 06 22.1 +0.4**
comp=N,2.5nm,0.2s,SNR=7.9
EQES S **Sn** **16 07 33.2 -0.6**
comp=N,8.7nm,0.2s,SNR=7.9
EQES Quesada 6.31 78 P **Pn** **16 06 22.1 +0.3**
comp=N,2.5nm,0.2s,SNR=7.9
EQES S **Sn** **16 07 33.2 -0.6**
comp=N,8.7nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.32 13 P **Pn** **16 06 20.8 -1.1**
comp=N,2.3nm,0.1s,SNR=9.2
EMAZ S **Sn** **16 07 29.0 -5.1**
comp=N,37nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.32 13 P **Pn** **16 06 20.1 -1.8**
EMAZ S **Sn** **16 07 29.0 -5.1**
EBER Berja 6.41 87 P **Pn** **16 06 22.6 -0.6**
comp=N,3.3nm,0.4s,SNR=7.9
EBER S **Sn** **16 07 35.8 -0.6**
comp=N,6.0nm,0.3s,SNR=4.6
EBER Berja 6.41 87 P **Pn** **16 06 22.6 -0.6**
comp=N,3.3nm,0.4s,SNR=7.9
EBER S **Sn** **16 07 35.8 -0.6**
comp=N,6.0nm,0.3s,SNR=4.6
GUD Guadarrama 6.51 52 P **Pn** **16 06 25.8 +1.2**
comp=N,1.8nm,0.3s,SNR=7.9
GUD S **Sn** **16 07 38.5 -0.4**
comp=N,12nm,0.3s,SNR=8.9
EHUE Huescar 6.68 79 P **Pn** **16 06 28.1 +1.1**
comp=N,1.5nm,0.2s,SNR=7.9
EHUE S **Sn** **16 07 42.8 -0.4**
comp=N,2.3nm,0.1s,SNR=7.9
EVIA Vianos 6.89 72 P **Pn** **16 06 30.7 +0.9**
comp=N,3.6nm,0.2s,SNR=7.9
EVIA S **Sn** **16 07 46.2 -2.0**
comp=N,5.9nm,0.2s,SNR=7.9
ENIJ Nijar 6.96 86 P **Pn** **16 06 30.1 -0.5**
ENIJ Nijar 6.96 86 P **Pn** **16 06 30.1 -0.5**
EPON Pontenova 7.12 23 S **Sn** **16 07 50.2 -3.8**
comp=N,14nm,0.3s,SNR=7.9
ETOB Tobarra 7.62 73 P **Pn** **16 06 39.1 -0.7**
comp=N,1.7nm,0.3s,SNR=7.9
ETOB S **Sn** **16 08 04.8 -1.5**
comp=N,4.5nm,0.4s,SNR=7.9
ETOB Tobarra 7.62 73 P **Pn** **16 06 39.1 -0.7**
comp=N,1.7nm,0.3s,SNR=7.9
ETOB S **Sn** **16 08 04.8 -1.5**
comp=N,4.5nm,0.4s,SNR=7.9
EARI Arriondas 7.82 32 S **Sn** **16 08 08.6 -2.4**
comp=N,9.2nm,0.7s,SNR=7.9
ELAN Lanestosa 8.60 39 S **Sn** **16 08 26.4 -3.8**
comp=N,7.4nm,0.6s,SNR=7.9
SJPF Ste Jean 9.73 47 *e*Pn **Pn** **16 07 10.4 +1.7**
SJPF *e*Sn **Sn** **16 08 56.2 -1.9**
comp=N,2.8nm,0.4s
SJPF Ste Jean 9.73 47 Pn **Pn** **16 07 10.4 +1.7**
SJPF Sn **Sn** **16 08 56.2 -1.9**
comp=N,1.4nm,0.4s
ETSF Etsaut 10.00 49 *e*Pn **Pn** **16 07 13.0 +0.5**
ETSF *e*Sn **Sn** **16 09 01.7 -3.0**
comp=N,3.0nm,0.4s
ETSF Etsaut 10.00 49 Pn **Pn** **16 07 13.0 +0.5**
ETSF Sn **Sn** **16 09 01.7 -3.0**
comp=N,1.5nm,0.4s
EPF Esparros 10.63 51 *e*Pn **Pn** **16 07 21.5 +0.5**
EPF *e*Sn **Sn** **16 09 16.1 -4.0**
comp=N,4.7nm,0.4s
EPF Esparros 10.63 51 Pn **Pn** **16 07 21.5 +0.5**
EPF Sn **Sn** **16 09 16.1 -4.0**
comp=N,2.3nm,0.4s
QUIF Quistinic 12.48 25 *e*Pn **Pn** **16 07 44.7 -1.7**
RJF Les Rejaudoux 12.63 44 *e*Pn **Pn** **16 07 47.8 -0.6**
MFF Saint Martin d 12.65 36 *e*Pn **Pn** **16 07 48.4 -0.3**
CAF Calviac 12.71 46 *e*Pn **Pn** **16 07 49.4 -0.2**
ROSF Rostrenen 12.81 23 *e*Pn **Pn** **16 07 49.5 -1.4**

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*IDC **28** 16:23:19.4±0.5, 5387N×164.18W, h0km, mb4.6/25, mb1 4.7/28, mb1mx4.7/30, mbtmp4.5/28, ML4.2/3, MS3.9/19, Ms1 3.9/19, ms1mx3.8/34, Error ellipse: s-maj=15.2km s-min=10.5km az=161.0*
*BJI **28** 16:23:20.7, 54.12N×164.33W, h15km, mB5.0, mb5.0, Ms4.8, Msz4.6*
*ISCJB **28** 16:23:23.0±0.2, 5392N±004×16398W±004, h31km, mb4.9/123, MS4.0/28, Error ellipse: s-maj=6.4km s-min=3.1km az=166.1*
*MOS **28** 16:23:23.6±1.0, 5397N×16399W, h34km, mb5.2/51, Error ellipse: s-maj=9.5km s-min=4.8km az=88.5*
*SZGRF **28** 16:23:24.5, 5355N×164.76W, h33km, mb5.0, Unimak Island, Alaska, United States, region*
*HRVD **28** 16:23:24.8±0.9, 5372N×164.01W, h34km±1km, MW4.8/43, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s43,c52; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr2.17±.26; Mθθ-0.87±.19; Mφφ-1.31±.15; Mrθ-0.31±.16; Mθφ-0.89±.08; Mφr0.50±.11; Best double couple: M0 2.15900×1016 NP1:φs230.00000°, δ44.00000°, λ108.00000°. NP2: φs25.00000°, δ49.00000°, λ73.00000°. Principal axes: T 2.3030, Plg77.0000°, Azm230.0000°; N -0.2960, Plg13.0000°, Azm36.0000°; P -2.0140, Plg3.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 16:23:24.8±0.2, 5391N×164.02W, mb5.0/60, MS4.1/2, ML4.7(AEIC) Error ellipse: s-maj=5.5km s-min=3.3km az=169.0*
ISC 28 16:23:24.8±0.2, 5396N±005×16402W±004, h33km, h33km±1.0km: pP-P, n311, σ0 93/309, mb4.9/123, MS4.0/28, 11C-4D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.05**	**281**	P		**Pn**	**16 23 43.8**	**+0.6**
AKUT				S		**Sn**	**16 23 58.4**	**+1.6**
UNV	**Unalaska Valle**	**1.48**	**267**	P		**Pn**	**16 23 48.4**	**-0.7**
UNV				S		**Sn**	**16 24 08.5**	**+1.3**
SDPT	**Sand Point**	**2.48**	**54**	P		**Pn**	**16 24 04.2**	**+1.3**
SDPT				S		**Sn**	**16 24 34.6**	**+2.5**
NIKO	**Nikolski**	**3.06**	**253**	P		**Pn**	**16 24 11.5**	**+0.8**
KDAK	**Kodiak Island**	**7.49**	**55**	Pn		**Pn**	**16 25 11.0**	**-0.6**
	342nm,0.4s,SNR=43							
KDAK	**Kodiak Island**	**7.49**	**55**	Pn		**Pn**	**16 25 11.1**	**-0.6**
	9.7nm,0.3s,baz=244,slow=7.5,SNR=63							
KDAK				Sn		**Sn**	**16 26 30.8**	**-4.5**
	5.6nm,0.3s,baz=141,slow=23,SNR=6.8							
KDAK	**Kodiak Island**	**7.49**	**55**	P		**Pn**	**16 25 11.0**	**-0.6**
ADK	**Adak**	**7.94**	**260**	P		**Pn**	**16 25 19.9**	**+2.1**
SVW2	**Sparrevohn**	**8.47**	**29**	P		**Pn**	**16 25 27.4**	**+2.3**
TTA	**Tatalina**	**9.92**	**22**	*e*P		**Pn**	**16 25 47.7**	**+2.7**
	43nm,0.8s							
TTA	**Tatalina**	**9.92**	**22**	*e*P		**Pn**	**16 25 47.7**	**+2.7**
TTA				pmax		pmax		
	comp=Z,43nm,0.8s							
SLKM	**Skilak Lake**	**9.94**	**43**	*e*P		**Pn**	**16 25 46.0**	**+0.8**
PMR	**Palmer**	**11.01**	**40**	*e*P		**Pn**	**16 26 00.4**	**+0.5**
SML	**Sawmill**	**11.44**	**40**	*e*P		**Pn**	**16 26 03.9**	**-2.0**
TNA	**Tin City**	**11.80**	**352**	*e*P		**Pn**	**16 26 14.2**	**+3.5**
	comp=Z,6.8nm,0.5s							
EYAK	**Cordova Ski Ar**	**11.87**	**49**	*e*P		**Pn**	**16 26 10.5**	**-1.2**
DIV	**Divide**	**12.12**	**46**	*e*P		**Pn**	**16 26 13.7**	**-1.5**
	comp=Z,69nm,0.6s							
MCK	**McKinley**	**12.49**	**32**	*e*P		**Pn**	**16 26 21.8**	**+1.6**
	comp=Z,23nm,1.2s							
MCK	**McKinley**	**12.49**	**32**	*e*P		**Pn**	**16 26 21.8**	**+1.6**
MCK				pmax		pmax		
	comp=Z,23nm,1.2s							
COLA	**College**	**13.64**	**30**	*e*P		**Pn**	**16 26 34.5**	**-1.4**
	comp=Z,26nm,1.0s							
COLA	**College**	**13.64**	**30**	*e*P		**Pn**	**16 26 34.5**	**-1.3**
COLA				pmax		pmax		
	comp=Z,26nm,1.0s							
ILAR	**Eielson Array**	**13.86**	**32**	Pn		**Pn**	**16 26 37.8**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=231,slow=12,SNR=34							
ILAR				PcP		PcP	16 31 59.1	-1.1
	comp=Z,0.1nm,0.3s,baz=290,slow=3.0,SNR=6.2							
ILAR				LR		LR	16 32 27.3	
	comp=Z,487nm,19.0s,baz=80,slow=39							
DAWY	**Dawson**	**16.11**	**41**	*e*P		**Pn**	**16 27 07.1**	**-1.6**
DAWY				*e*			16 27 13.1	
SIT	**Sitka**	**16.49**	**68**	*e*P		**Pn**	**16 27 13.8**	**+0.3**
	comp=Z,14nm,0.7s							
SIT	**Sitka**	**16.49**	**68**	*e*P		**Pn**	**16 27 13.8**	**+0.3**
SIT				pmax		pmax		
	comp=Z,14nm,0.7s							
DLBC	**Dease Lake**	**19.30**	**63**	P		**Pn**	**16 27 49.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=272,slow=12,SNR=22							
DLBC				LR		LR	16 34 46.1	
	comp=Z,235nm,18.9s,baz=269,slow=35							
DLBC	**Dease Lake**	**19.30**	**63**	*e*P		**Pn**	**16 27 48.7**	**+0.6**
DLBC				*e*pP		pP	16 27 59.2	+3.6
BILL	**Bilibino**	**19.86**	**327**	*e*P		**Pn**	**16 27 54.9**	**0.0**
	comp=Z,22nm,0.9s							
BILL	**Bilibino**	**19.86**	**327**	*e*P		**Pn**	**16 27 55.4**	**+0.6**
BILL				pmax		pmax		
	comp=Z,26nm,1.0s							
BILL				MLR		MLR		
	comp=Z,500nm,20.0s							
INK	**Inuvik**	**20.25**	**33**	P		**P**	**16 27 55.9**	**-1.4**
	comp=Z,5.0nm,0.4s,baz=226,slow=12,SNR=20							
INK				S		**S**	**16 31 47.1**	**+4.5**
	comp=Z,2.1nm,0.9s,baz=287,slow=28,SNR=4.4							
INK				LR		LR	16 36 31.1	
	comp=Z,384nm,19.9s,MS3.8,baz=91,slow=39							
INK	**Inuvik**	**20.25**	**33**	*e*P		**P**	**16 27 54.9**	**-2.4**
	comp=Z,16nm,0.5s							
INK	**Inuvik**	**20.25**	**33**	*e*P		**P**	**16 27 54.9**	**-2.4**
INK				pmax		pmax		
	comp=Z,16nm,0.5s							
BBB	**Bella Bella**	**21.50**	**80**	LR		LR	16 35 23.8	
	comp=Z,132nm,18.5s,MS3.4,baz=293,slow=34							
PET	**Petropavlovsk**	**22.07**	**283**	*e*P		**P**	**16 28 19.2**	**+2.4**
PET				*e*			16 32 12.1	
PET				MLR		MLR		
	comp=Z,300nm,17.0s,MS3.8							
SEY	**Seymchan**	**24.06**	**309**	*e*P		**P**	**16 28 36.6**	**-0.4**
MA2	**Magadan**	**25.01**	**301**	*e*P		**P**	**16 28 46.1**	**+0.5**
MA2				*e*			16 29 36.4	
MA2				*e*			16 32 20.3	
MA2				pmax		pmax		
	comp=Z,2.0nm,0.8s							
YKW3	**Yellowknife Ar**	**26.74**	**51**	*e*P		**P**	**16 29 01.4**	**+0.1**
YKA	**Yellowknife Ar**	**26.75**	**52**	P		**P**	**16 29 01.7**	**+0.4**
	comp=Z,3.6nm,0.6s,mb4.1,baz=275,slow=10.0,SNR=54							
YKA				PcP		PcP	16 32 23.1	-0.8
	comp=Z,0.9nm,0.8s,baz=272,slow=1.9,SNR=3.9							
YKA				LR		LR	16 40 22.3	
	comp=Z,256nm,21.8s,MS3.7,baz=260,slow=38							
YKA	**Yellowknife Ar**	**26.75**	**52**	P		**P**	**16 29 01.7**	**+0.4**
YKA				LR		LR	16 32 23.1	
NEW	**Newport**	**29.54**	**82**	P		**P**	**16 29 26.5**	**+0.2**
	comp=Z,5.4nm,0.7s,mb4.4,baz=333,slow=6.1,SNR=9.0							
NEW				LR		LR	16 39 00.2	
	comp=Z,261nm,20.8s,MS3.8,baz=290,slow=32							
EDM	**Edmonton**	**29.57**	**70**	*e*P		**P**	**16 29 26.9**	**+0.4**
EDM				*e*		pP	16 29 36.4	+0.4
YBH	**Yreka Blue Hor**	**29.86**	**97**	P		**P**	**16 29 30.6**	**+1.6**
	comp=Z,2.7nm,0.7s,mb4.1,baz=264,slow=6.2,SNR=5.2							
YBH				LR		LR	16 38 50.7	
	comp=Z,238nm,18.4s,MS3.9,baz=342,slow=31							
MOD	**Modoc**	**31.17**	**95**	*e*P		**P**	**16 29 42.0**	**+1.4**
	comp=Z,17nm,1.1s,mb4.8							
WVOR	**Wild Horse Val**	**31.83**	**92**	*e*P		**P**	**16 29 47.3**	**+0.8**
	comp=Z,20nm,0.9s,mb4.9							
WVOR	**Wild Horse Val**	**31.83**	**92**	*e*P		**P**	**16 29 47.3**	**+0.9**
WVOR				pmax		pmax		
	comp=Z,20nm,0.9s,mb5.0							
NVAR	**Mina Array Bea**	**34.57**	**98**	P		**P**	**16 30 11.6**	**+1.2**
	comp=Z,4.5nm,0.7s,mb4.5,baz=297,slow=10.0,SNR=19							
NVAR				PcP		PcP	16 32 44.7	+0.2
	comp=Z,2.0nm,0.6s,baz=326,slow=1.7,SNR=7.4							
NVAR				LR		LR	16 41 21.4	
	comp=Z,189nm,21.4s,MS3.8,baz=270,slow=31							
NVAR	**Mina Array Bea**	**34.57**	**98**	P		**P**	**16 30 11.6**	**+1.2**
NVAR				PcP		PcP	16 32 44.7	+0.2
NVAR				LR		LR	16 41 21.4	
YAK	**Yakutsk**	**34.58**	**310**	*i* P		**P**	**16 30 08.9**	**-1.5**
ELK	**Elko**	**34.88**	**92**	*e*P		**P**	**16 30 13.7**	**+0.7**
	comp=Z,13nm,0.9s,mb4.9							
ELK	**Elko**	**34.88**	**92**	*e*P		**P**	**16 30 13.7**	**+0.7**
ELK				pmax		pmax		
	comp=Z,13nm,0.9s							
TPNV	**Topopah Spring**	**36.77**	**98**	*e*P		**P**	**16 30 29.5**	**+0.3**
	comp=Z,3.8nm,0.6s,mb4.4							
TPNV	**Topopah Spring**	**36.77**	**98**	*e*P		**P**	**16 30 29.5**	**+0.3**
TPNV				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.4							
PDAR	**Pinedale Array**	**36.99**	**85**	P		**P**	**16 30 31.4**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=304,slow=4.2,SNR=9.5							
PDAR				PcP		PcP	16 32 50.4	-1.3
	comp=Z,1.7nm,1.1s,baz=41,slow=2.7,SNR=3.6							
PDAR				LR		LR	16 43 48.1	
	comp=Z,93nm,18.8s,MS3.6,baz=180,slow=33							
FCC	**Fort Churchill**	**37.42**	**54**	*e*P		**P**	**16 30 34.7**	**-0.1**
	comp=Z,26nm,0.9s,mb5.1							
FCC				*e*pP		pP	16 30 44.0	-0.4
FCC	**Fort Churchill**	**37.42**	**54**	*e*P		**P**	**16 30 34.7**	**-0.1**
FCC				*e**PP		pP	16 30 44.0	-0.4
FCC				pmax		pmax		
	comp=Z,26nm,0.9s,mb5.1							
HABR	**Khabarovsk**	**37.52**	**287**	*e*P		**P**	**16 30 34.1**	**-1.5**
HABR				*e*S		**S**	**16 36 22.0**	**-0.3**
ARUT	**Antelope Range**	**37.86**	**94**	*e*P		**P**	**16 30 38.8**	**+0.3**
MSU	**Marysvale**	**38.12**	**92**	*e*P		**P**	**16 30 41.5**	**+0.8**
TMUT	**Trail Mountain**	**38.18**	**91**	*e*P		**P**	**16 30 42.0**	**+0.8**
NEN	**Nelson**	**38.49**	**98**	*e*P		**P**	**16 30 44.1**	**+0.3**
LDFC	**Landfair**	**38.73**	**99**	*e*P		**P**	**16 30 46.1**	**+0.3**
RSSD	**Black Hills**	**39.41**	**79**	*e*P		**P**	**16 30 51.3**	**-0.2**
	comp=Z,6.9nm,0.8s,mb4.4							
RSSD				*e*pP		pP	16 30 59.9	-1.3
RSSD	**Black Hills**	**39.41**	**79**	*e*P		**P**	**16 30 51.3**	**-0.2**
RSSD				*e**PP		pP	16 30 59.9	-1.3
RSSD				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.4							
ULM	**Lac du Bonnet**	**40.56**	**66**	P		**P**	**16 30 59.9**	**-1.1**
	comp=Z,6.0nm,0.8s,mb4.3,baz=302,slow=8.3,SNR=16							
ULM				LR		LR	16 49 12.7	
	comp=Z,194nm,20.1s,MS4.0,baz=294,slow=38							
ULM	**Lac du Bonnet**	**40.56**	**66**	P		**P**	**16 30 59.9**	**-1.1**
ULM				LR		LR	16 49 12.7	
MDJ	**Mudanjiang**	**42.81**	**286**	P		**P**	**16 31 18.8**	**-0.6**
MDJ				AP		pP	16 31 27.0	-2.2
MDJ				XP		sP	16 31 30.8	-2.3
MDJ				PP		PP	16 32 59.0	0.0
MDJ				S		**S**	**16 37 40.3**	**-1.0**
MDJ				XS		sS	16 37 55.3	-2.1
MDJ				AMB		AMB		
	comp=Z,7.0nm,1.8s,mb4.1							
MDJ				AMB		AMB		
	comp=Z,102nm,3.8s							
MDJ				LR		LR		
	comp=Z,134nm,21.2s,MS3.8							
MJAR	**Matsushiro Arr**	**42.95**	**270**	P		**P**	**16 31 19.8**	**-0.7**
	comp=Z,2.9nm,0.5s,mb4.2,baz=39,slow=6.6,SNR=8.9							
BOD	**Bodaibo**	**43.48**	**310**	*e*P		**P**	**16 31 22.0**	**-2.9**
BOD				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.5							
ANMO	**Albuquerque**	**43.91**	**92**	LR		LR	16 48 53.2	
	comp=Z,177nm,18.1s,MS4.0,baz=0.0,slow=35							
BNM	**Barren Site**	**44.37**	**92**	*e*P		**P**	**16 31 32.6**	**+0.7**
BNM				*e*pP		pP	16 31 42.9	+1.1
CN2	**Changchun**	**45.66**	**287**	*e*P		**P**	**16 31 41.0**	**-1.2**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
SUMG	**Summit**	**48.27**	**19**	*e*P		**P**	**16 32 02.8**	**+0.2**
	comp=Z,21nm,0.8s,mb5.2							
SUMG				*e*pP		pP	16 32 11.8	-0.7
WMOK	**Wichita Mounta**	**48.59**	**86**	*e*P		**P**	**16 32 04.1**	**-0.9**
	comp=Z,12nm,0.8s,mb5.0							
WMOK				*e*pP		pP	16 32 14.5	-0.4
WMOK	**Wichita Mounta**	**48.59**	**86**	*e*P		**P**	**16 32 04.1**	**-1.0**
WMOK				*e**PP		pP	16 32 14.5	-0.5
WMOK				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
SFJD	**Kangerlussuaq**	**49.49**	**28**	*i* P		**P**	**16 32 12.3**	**+0.3**
	comp=Z,12nm,0.7s,mb5.0							
SFJD	**Kangerlussuaq**	**49.49**	**28**	*i* P		**P**	**16 32 12.3**	**+0.3**
SFJD				pmax		pmax		
	comp=Z,12nm,0.7s,mb5.0							
LTX	**Lajitas**	**49.57**	**95**	*e*P		**P**	**16 32 12.7**	**+0.1**
	comp=Z,9.6nm,0.6s,mb5.0							
LTX				*e*pP		pP	16 32 22.7	+0.2
LTX	**Lajitas**	**49.57**	**95**	*e*P		**P**	**16 32 12.7**	**+0.1**
LTX				*e**PP		pP	16 32 22.7	+0.2
LTX				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb5.0							
JCT	**Junction City**	**51.02**	**90**	*e*P		**P**	**16 32 22.7**	**-0.8**
	comp=Z,8.7nm,1.0s,mb4.6							
JCT				*e*pP		pP	16 32 31.7	-1.8
JCT	**Junction City**	**51.02**	**90**	*e*P		**P**	**16 32 22.7**	**-0.8**
JCT				*e**PP		pP	16 32 31.7	-1.8
JCT				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
SCHQ	**Schefferville**	**52.03**	**47**	P		**P**	**16 32 30.9**	**-0.3**
	comp=Z,9.0nm,0.9s,mb4.7,baz=326,slow=7.8,SNR=9.0							
SCHQ				LR		LR	16 53 18.1	
	comp=Z,323nm,21.3s,MS4.3,baz=322,slow=34							
SCHQ	**Schefferville**	**52.03**	**47**	P		**P**	**16 32 30.9**	**-0.3**
SCHQ				LR		LR	16 53 18.1	
ULN	**Ulaanbaatar**	**52.86**	**302**	*e*P		**P**	**16 32 37.0**	**-0.2**
	comp=Z,6.0nm,0.9s,mb4.5							
ULN				LR		LR		
	comp=Z,141nm,20.0s,MS4.0							
ULN	**Ulaanbaatar**	**52.86**	**302**	*e*P		**P**	**16 32 37.0**	**-0.2**
ULN				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
ULN				MLR		MLR		
	comp=Z,141nm,20.0s,MS4.0							
SADO	**Sadowa**	**52.86**	**63**	P		**P**	**16 32 35.6**	**-1.6**
	comp=Z,2.2nm,0.6s,mb4.3,baz=8.7,slow=12,SNR=3.7							
SADO				LR		LR	16 54 36.5	
	comp=Z,200nm,20.9s,MS4.1,baz=272,slow=35							
SCO	**Scoresbysund**	**52.91**	**15**	*i* P		**P**	**16 32 37.8**	**+0.2**
ZAK	**Zakamensk**	**53.00**	**307**	*e*P		**P**	**16 32 38.4**	**+0.1**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.4s,mb4.2							
MOY	**Mondy**	**53.20**	**309**	*e*P		**P**	**16 32 40.1**	**+0.4**
SONM	**Songino Array**	**53.21**	**303**	P		**P**	**16 32 39.7**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.3,baz=40,slow=7.9,SNR=23							
SONM				PcP		PcP	16 33 47.6	+0.1
	comp=Z,5.6nm,0.9s,

HHC AMB AMB
comp=Z,53nm,4.1s
HHC LR LR
comp=Z,149nm,6.3s
BTO Baotou 56.31 294 *e*P **P 16 33 02.3 0.0**
KEV Kevo 56.34 355 *e*p **P 16 33 00.8 -1.7**
comp=Z,1.0nm,0.4s,mb4.2
KEV Kevo 56.34 355 *e*P **P 16 33 00.8 -1.7**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ARCES ARCESS Array B 56.62 356 P **P 16 33 03.2 -1.4**
comp=Z,4.8nm,0.7s,mb4.6,baz=26,slow=5.7,SNR=18
ARCES LR LR 16 59 16.8
comp=Z,66nm,19.0s,MS3.8,baz=176,slow=38
SSE Sheshan 56.80 278 P **P 16 33 05.8 0.0**
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,184nm,4.9s
NJ2 Nanjing 57.47 281 *e*P **P 16 33 13.0 +2.5**
NJ2 AP pP 16 33 23.0 +2.5
NJ2 PP PP 16 35 22.0 +3.9
NJ2 S **S 16 41 05.0 -0.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,210nm,4.5s
NJ2 LR LR
comp=N,350nm,24.4s,MS4.5
NJ2 LR LR
comp=E,240nm,19.7s,MS4.5
NJ2 LR LR
comp=Z,100nm,13.1s
LVZ Lovozero 57.67 352 *e*P **P 16 33 09.9 -2.0**
LVZ pmax pmax
comp=Z,20nm,0.8s,mb5.2
ZAL Zalesovo 58.38 320 P **P 16 33 16.8 -0.1**
comp=Z,1.4nm,0.6s,mb4.2,baz=90,slow=5.1,SNR=9.5
ZAL PcP PcP 16 34 07.0 -0.5
comp=Z,1.6nm,0.7s,baz=38,slow=6.2,SNR=5.0
ZAL LR LR 17 02 01.3
comp=Z,135nm,18.7s,MS4.1,baz=85,slow=40
ZAL Zalesovo 58.38 320 P **P 16 33 16.8 -0.1**
ZAL 16 34 07.0
XAN Xi'an 61.67 290 P **P 16 33 38.0 -1.4**
XAN AMB AMB
comp=Z,14nm,1.0s,mb5.0
GTA Gaotai 62.56 300 P **P 16 33 44.8 -0.6**
GTA AP pP 16 33 54.3 -1.2
GTA XP sP 16 33 58.5 -0.9
GTA PP PP 16 36 04.3 +1.1
GTA S **S 16 42 10.5 -0.4**
GTA XS sS 16 42 27.0 -0.6
GTA SS SS 16 46 16.5 +1.2
GTA AMB AMB
comp=Z,11nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,76nm,5.3s
GTA LR LR
comp=N,126nm,15.6s
GTA LR LR
comp=E,91nm,20.9s
GTA LR LR
comp=Z,84nm,16.3s,MS4.0
JOF Joensuu 62.85 352 *e*p **P 16 33 46.5 -0.8**
comp=Z,2.4nm,0.4s,mb4.7
LZH Lanzhou 62.92 295 *e*P **P 16 33 47.5 -0.3**
LZH AP pP 16 33 57.8 -0.2
LZH XP sP 16 34 01.5 -0.4
LZH PP PP 16 36 07.5 +1.1
LZH *e*S **S 16 42 12.5 -3.0**
LZH XS sS 16 42 29.8 -2.4
LZH PS 16 43 34.8
LZH *e*SS SS 16 46 20.0 -1.0
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,156nm,7.2s
LZH LR LR
comp=Z,953nm,18.3s,MS5.0
KURK Kurchatov 63.26 321 P **P 16 33 49.0 -1.1**
comp=Z,84nm,1.3s,mb5.7,SNR=8.6
KURK Kurchatov 63.26 321 *e*P **P 16 33 49.5 -0.6**
comp=Z,12nm,0.8s,mb5.1
KURK LR LR
comp=Z,171nm,19.0s,MS4.2
KURK Kurchatov 63.26 321 P **P 16 33 49.8 -0.3**
KURK pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
CHKZ Chkalovo 63.59 327 *e*P **P 16 33 51.2 -1.1**
comp=Z,9.0nm,0.9s,mb4.8
CHKZ Chkalovo 63.59 327 P **P 16 33 51.5 -0.7**
CHKZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
SVE Sverdlovsk 63.72 334⇑ *e*P **P 16 33 53.7 +0.6**
SVE *e* 16 34 24.0
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.4
KAF Kangasniemi 63.99 355 *e*p **P 16 33 53.0 -1.9**
comp=Z,4.8nm,0.4s,mb4.9,baz=3.0,slow=6.2
KAF Kangasniemi 63.99 355 *e*P **P 16 33 53.0 -1.9**
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
KLMR Klimovskoe 64.02 347 *e*P **P 16 33 53.3 -1.8**
KLMR pmax pmax
comp=Z,30nm,2.1s,mb5.0
ENH Enshi 64.16 286 *e*P **P 16 33 55.5 -0.5**
comp=Z,30nm,1.0s,mb5.3
BVA0 Borovoye Array 64.21 327 *i* P **P 16 33 56.1 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BRVK Borovoye 64.22 327 P **P 16 33 56.4 0.0**
comp=Z,109nm,0.7s,SNR=11
BRVK Borovoye 64.22 327 *e*P **P 16 33 55.9 -0.4**
comp=Z,10nm,0.9s,mb4.8
BRVK *e*PcP PcP 16 34 30.7 -0.3
BRVK Borovoye 64.22 327 *e*P **P 16 33 55.9 -0.5**
BRVK *e* 16 34 30.7
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VOSK Vostochnaya 64.27 326 P **P 16 33 56.1 -0.7**
VOSK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ARU Arti 64.60 335⇑ *i*P **P 16 33 58.6 -0.3**
ARU *e* 16 34 30.4
ARU *e* 16 36 19.8
ARU *e*S **S 16 42 37.0 +0.7**
ARU *e* 16 43 49.3
ARU *e*SS SS 16 46 48.6 +1.5
ARU pmax pmax
comp=Z,23nm,0.8s,mb5.3
FINES FINESS Array B 64.67 355 P **P 16 33 58.2 -1.1**
comp=Z,7.5nm,0.5s,mb5.0,baz=24,slow=8.2,SNR=85
FINES LR LR 17 03 14.3
comp=Z,67nm,21.3s,MS3.8,baz=20,slow=37
ZRNK Zerenda 64.72 328 *e*P **P 16 33 59.2 -0.5**
comp=Z,27nm,0.9s,mb5.3
ZRNK Zerenda 64.72 328 P **P 16 33 59.4 -0.2**
ZRNK pmax pmax
comp=Z,15nm,0.8s,mb5.1
MKAR Makanchi Array 64.98 316 P **P 16 34 00.1 -1.3**
comp=Z,2.4nm,0.6s,mb4.4,baz=45,slow=6.2,SNR=35
MKAR PcP PcP 16 34 34.3 +0.1
comp=Z,1.6nm,0.7s,baz=50,slow=5.0,SNR=4.2
MKAR LR LR 17 04 11.0
comp=Z,107nm,19.2s,MS4.1,baz=92,slow=38
MKAR Makanchi Array 64.98 316 P **P 16 34 00.1 -1.3**
MKAR PcP PcP 16 34 34.4 +0.1
MKAR LR LR 17 04 11.0
MKAR Makanchi Array 64.98 316 P **P 16 34 00.1 -1.3**
MKAR 16 34 34.4
WMQ Urumqi 65.02 311 *e*P **P 16 34 04.5 +2.9**
WMQ PCP PcP 16 34 37.0 +2.6
WMQ AMB AMB
comp=Z,16nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,103nm,4.2s
WMQ LR LR
comp=N,657nm,21.0s
WMQ LR LR
comp=Z,662nm,20.0s,MS4.8
NB2 NORSAR Subarra 65.29 3 P **P 16 34 02.5 -0.9**
comp=Z,5.5nm,0.7s,mb4.7,baz=359,slow=6.5
NB2 NORSAR Subarra 65.29 3 P **P 16 34 02.5 -0.9**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
NOA NORSAR Array B 65.29 3 P **P 16 34 02.8 -0.6**
comp=Z,8.3nm,0.8s,mb4.8,baz=358,slow=6.5,SNR=26
CD2 Chengdu 66.88 291 *e*P **P 16 34 13.8 +0.2**
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.6
GYA Guiyang 68.67 286⇑ *i*P **P 16 34 25.0 +0.1**
GYA AP pP 16 34 34.3 -0.8
GYA XP sP 16 34 38.5 -0.4
GYA PP PP 16 36 58.0 +1.4
GYA S S 16 43 22.5 -3.0
GYA XS sS 16 43 40.8 -1.6
GYA SS SS 16 47 50.0 -0.3
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.3
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=Z,840nm,19.4s,MS5.0
OBN Obninsk 69.98 348⇓ *e*P **P 16 34 30.9 -2.1**
OBN *e* 16 37 07.6
OBN *e*S S 16 43 38.6 -2.4
OBN pmax pmax
comp=Z,18nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
PMOR Pomariorio Ree 70.05 163 *e*T 17 50 53.4
comp=Z,53nm,0.2s
AKTK Aktyubinsk 70.16 333 P **P 16 34 33.9 -0.2**
AKTO Aktyubinsk 70.16 333 P **P 16 34 33.9 -0.2**
comp=Z,34nm,0.7s,mb5.4,baz=34,slow=6.4,SNR=124
AKTO Aktyubinsk 70.16 333 P **P 16 34 34.0 -0.1**
AKTO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AB31 Akbulak array 70.69 331 *i* P **P 16 34 37.3 0.0**
AB31 pmax pmax
comp=Z,13nm,0.7s,mb5.0
TKM2 Tokmak 2 70.87 318 P **P 16 34 39.0 +0.6**
SNR=8.7
TKM2 Tokmak 2 70.87 318 P **P 16 34 38.9 +0.5**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
USP Ospenovka 71.01 319 P **P 16 34 39.7 +0.4**
SNR=16
CHMS Chumysh 71.14 318 P **P 16 34 40.5 +0.5**
SNR=8.2
FRU Bishkek 71.33 318 *e*P **P 16 34 42.0 +0.8**
FRU pmax pmax
comp=Z,36nm,1.5s,mb5.1
KBK Karagaybulak 71.35 318 P **P 16 34 41.9 +0.6**
SNR=9.0
AAK Ala-Archa 71.55 318 P **P 16 34 43.1 +0.6**
SNR=30
KZA Kyzart 71.72 318 P **P 16 34 44.8 +1.3**
SNR=7.0
EKS2 Erkin-Say 71.80 319 P **P 16 34 44.9 +0.9**
SNR=12
UCH Uchtor 71.88 318 P **P 16 34 45.5 +1.0**
SNR=9.5
KMI Kunming 71.92 288 P **P 16 34 44.8 0.0**
KMI AP pP 16 34 50.3 -4.8
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
AML Almayashu 72.28 319 P **P 16 34 47.9 +1.0**
SNR=29
PPT Papeete 72.30 166 *e*LR LR 16 56 57.1
comp=Z,155nm,23.2s
PPT Papeete 72.30 166 LR LR 16 59 43.2
comp=Z,48nm,18.8s,MS3.8,baz=30,slow=30
KKAR Karatay Array 72.66 321 *i* P **P 16 34 49.0 -0.2**
KKAR pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
VRSR Storozhevoye 73.41 345 *e*P **P 16 34 52.8 -0.8**
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,1.0nm,0.8s
LSA Lhasa 74.58 299 *e*P **P 16 35 01.4 +1.0**
comp=E,27nm,0.8s,mb5.2
LSA Lhasa 74.58 299 *e*P **P 16 35 01.4 +1.0**
LSA pmax pmax
comp=Z,27nm,0.8s,mb5.2
CLL Collm 75.08 2 *e*pP pP 16 35 14.0 +0.3
CLL Collm 75.08 2 P **P 16 35 12.0 +8.7**
comp=Z,25nm,1.8s,mb4.8
CLL Collm 75.08 2 P **P 16 35 12.0 +8.7**
CLL pmax pmax
comp=Z,25nm,1.8s,mb4.8
AKASG Malin Array Be 75.12 351 P **P 16 35 02.1 -1.5**
comp=Z,9.9nm,0.6s,mb4.9,baz=11,slow=5.8,SNR=42
BRG Berggiesshubel 75.53 1 *e*P **P 16 35 05.7 -0.2**
BRG *e* pP 16 35 16.5 +0.3
BRG pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BRG Berggiesshubel 75.53 1 *e*P **P 16 35 05.7 -0.2**
comp=Z,1.2nm,0.7s,mb3.9
BRG *e* pP 16 35 16.5 +0.3
comp=Z,6.0nm,1.3s
MOX Moxa 75.71 3 *e*P **P 16 35 07.3 +0.4**
BAIF Baives 75.89 8 *e*P **P 16 35 08.2 +0.3**
comp=Z,30nm,1.0s,mb4.9
BAIF Baives 75.89 8 *e*P **P 16 35 08.2 +0.3**
comp=Z,15nm,1.0s,mb4.9
BAIF Baives 75.89 8 *e*P **P 16 35 08.2 +0.3**
BAIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GIVF Givet 75.89 7 *e*P **P 16 35 08.1 +0.1**
UPC Upice 75.91 360 *e*P **P 16 35 07.9 -0.2**
DPC Dobruska-Polom 76.07 360 *e*P **P 16 35 09.0 0.0**
GRA1 Grafenberg Arr 76.65 3 *e*P **P 16 35 12.7 +0.4**
comp=Z,18nm,1.6s,mb4.8
GRF Grafenberg Arr 76.65 3 *e*P **P 16 35 12.7 +0.4**
comp=Z,18nm,1.6s,mb4.8
GRF Grafenberg Arr 76.65 3 *e*P **P 16 35 12.7 +0.4**
GRF pmax pmax
comp=Z,18nm,1.6s,mb4.8
GRF Grafenberg Arr 76.65 3 *e*P **P 16 35 12.7 +0.4**
GRF pmax pmax
comp=Z,18nm,1.6s,mb4.8
FLN La Foliniere 76.72 11 *e*P **P 16 35 12.2 -0.4**
comp=Z,27nm,0.9s,mb4.9
FLN La Foliniere 76.72 11 *e*P **P 16 35 12.2 -0.4**
comp=Z,14nm,0.9s,mb4.9
FLN La Foliniere 76.72 11 *e*P **P 16 35 12.2 -0.4**
FLN pmax pmax
comp=Z,14nm,0.9s,mb4.9
ROSF Rostrenen 76.79 13 *e*P **P 16 35 13.2 +0.1**
STHS Stebnicka Huta 76.91 356 *e*P **P 16 35 14.4 +0.7**
LDF La Druitiere 76.92 11 *e*P **P 16 35 13.3 -0.5**
comp=Z,60nm,1.2s,mb5.1
LDF La Druitiere 76.92 11 *e*P **P 16 35 13.3 -0.5**
comp=Z,30nm,1.3s,mb5.1
LDF La Druitiere 76.92 11 *e*P **P 16 35 13.3 -0.5**
LDF pmax pmax
comp=Z,30nm,1.3s,mb5.1
GRR Gorron 77.04 11 *e*P **P 16 35 14.3 -0.2**
VRAC Vranov 77.11 360⇑P **P 16 35 15.7 +0.8**
KHC Kasperske Hory 77.27 2 *e*P **P 16 35 15.8 0.0**
KOLS Kolonicke sedl 77.35 356 *e*P **P 16 35 16.7 +0.5**
KOLS *e* 16 35 21.3
GERES GERESS Array B 77.56 2 P **P 16 35 17.6 +0.3**
comp=Z,1.1nm,0.6s,mb4.0,baz=4.5,slow=5.4,SNR=10
KECS Kecovo 77.87 357 *e*P **P 16 35 18.7 -0.4**
VYHS Vyhne 77.90 358 *e*P **P 16 35 19.1 -0.2**
TBI Tubuai 78.00 166 *e*LR LR 16 59 40.1
comp=Z,108nm,27.5s
HAU Haudompre 78.09 7 *e*P **P 16 35 21.3 +1.0**
HINF Hinteralfeld 78.31 6 *e*P **P 16 35 21.3 -0.2**
comp=Z,12nm,0.9s,mb4.5
HINF Hinteralfeld 78.31 6 *e*P **P 16 35 21.3 -0.2**
comp=Z,5.8nm,0.9s,mb4.5
HINF Hinteralfeld 78.31 6 *e*P **P 16 35 21.3 -0.2**
HINF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LOR Lormes 78.63 8 *e*P **P 16 35 23.3 0.0**
comp=Z,33nm,1.0s,mb4.9
LOR Lormes 78.63 8 *e*P **P 16 35 23.3 0.0**
comp=Z,16nm,1.0s,mb4.9
LOR Lormes 78.63 8 *e*P **P 16 35 23.3 0.0**
LOR pmax pmax
comp=Z,16nm,1.0s,mb4.9
GOF Gofitskoye 78.70 341⇑ *i*P **P 16 35 23.0 -0.7**
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.4
GUN Gumba 78.71 302 *e*P **P 16 35 24.2 +0.5**
comp=Z,74nm,0.9s,mb5.6
JIRN Jiri 78.76 302 *e*P **P 16 35 24.6 +0.6**
comp=Z,108nm,0.7s,mb5.9
SSF Saint Saulge 78.80 9 *e*P **P 16 35 24.3 0.0**
comp=Z,30nm,0.9s,mb5.0
SSF Saint Saulge 78.80 9 *e*P **P 16 35 24.3 0.0**
comp=Z,15nm,0.9s,mb4.9
SSF Saint Saulge 78.80 9 *e*P **P 16 35 24.3 0.0**
SSF pmax pmax
comp=Z,15nm,0.9s,mb4.9
MFF Saint Martin d 78.88 11 *e*P **P 16 35 25.0 +0.3**
comp=Z,103nm,1.2s,mb5.3
MFF Saint Martin d 78.88 11 *e*P **P 16 35 25.0 +0.3**
comp=Z,52nm,1.2s,mb5.3
MFF Saint Martin d 78.88 11 *e*P **P 16 35 25.0 +0.3**
MFF pmax pmax
comp=Z,52nm,1.2s,mb5.3
MOTA Moosalm 78.99 3⇑ *i*P **P 16 35 25.6 +0.3**
comp=Z,9.2nm,1.1s,mb4.6
AVF Avril sur Loir 79.06 9 *e*P **P 16 35 25.6 -0.1**
comp=Z,26nm,0.9s,mb4.9
AVF Avril sur Loir 79.06 9 *e*P **P 16 35 25.6 -0.1**
comp=Z,13nm,0.9s,mb4.9
AVF Avril sur Loir 79.06 9 *e*P **P 16 35 25.6 -0.1**
AVF pmax pmax
comp=Z,13nm,0.9s,mb4.9
WTTA Wattenberg 79.09 3⇑ *i*P **P 16 35 26.2 +0.4**
comp=Z,12nm,0.8s,mb4.9
KKN Kakani 79.11 302 *e*P **P 16 35 25.9 0.0**
SQTA Sankt Quirin 79.12 3⇓ *i*P **P 16 35 26.6 +0.6**
comp=Z,9.2nm,1.0s,mb4.7
PKI Pulchoki 79.22 302 *e*P **P 16 35 26.6 0.0**
comp=Z,61nm,1.0s,mb5.5
BGF Bois d'Agland 79.24 9 *e*P **P 16 35 26.6 -0.1**
SMF Signal de Mont 79.25 8 *e*P **P 16 35 26.5 -0.2**
comp=Z,30nm,0.9s,mb4.9
SMF Signal de Mont 79.25 8 *e*P **P 16 35 26.5 -0.2**
comp=Z,15nm,0.9s,mb4.9
SMF Signal de Mont 79.25 8 *e*P **P 16 35 26.5 -0.2**
SMF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GKN Gorkha 79.25 303 *e*P **P 16 35 26.6 -0.1**
comp=Z,66nm,0.9s,mb5.6
KBA Koelnbreinsper 79.32 2⇑ *i*P **P 16 35 28.3 +1.2**
comp=Z,20nm,1.2s,mb4.9
DMN Daman 79.34 302 *e*P **P 16 35 27.6 +0.4**
comp=Z,28nm,0.7s,mb5.3
DANN Dangsing 79.40 304 *e*P **P 16 35 28.2 +0.7**
TCF Toulx Ste Croi 79.45 10 *e*P **P 16 35 27.7 -0.1**
comp=Z,16nm,0.9s,mb4.7
TCF Toulx Ste Croi 79.45 10 *e*P **P 16 35 27.7 -0.1**
comp=Z,7.8nm,0.9s,mb4.6
TCF Toulx Ste Croi 79.45 10 *e*P **P 16 35 27.7 -0.1**
TCF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
DRGR 79.47 355⇓P **P 16 35 23.4 -4.5**
DAVOX Davos 79.51 4 P **P 16 35 29.2 +1.1**
comp=Z,5.7nm,0.6s,mb4.7,baz=331,slow=8.0,SNR=6.4
KIV Kislovodsk 79.83 341 *e*P **P 16 35 30.4 +0.6**
comp=Z,25nm,0.8s,mb5.2
KIV Kislovodsk 79.83 341 *e*P **P 16 35 30.4 +0.6**
KIV pmax pmax
comp=Z,25nm,0.8s,mb5.2
OBKA Obir 79.90 1⇑ *i*P **P 16 35 31.0 +0.7**
comp=Z,17nm,1.1s,mb4.9
ANN Anapa 79.93 345 *e*P **P 16 35 32.8 +2.4**
ANN pmax pmax
comp=Z,21nm,1.1s,mb5.0
KOLN Koldanda 79.95 304 *e*P **P 16 35 30.6 +0.1**
comp=Z,46nm,0.9s,mb5.4
RJF Les Rejaudoux 80.35 10 *e*P **P 16 35 32.4 -0.3**
MLR Muntele Rosu 80.57 353⇑P **P 16 35 34.1 +0.3**
LPL La Plagne 80.59 7 *e*P **P 16 35 34.1 +0.1**
comp=Z,21nm,1.1s,mb4.7
LPL La Plagne 80.59 7 *e*P **P 16 35 34.1 +0.1**
comp=Z,10nm,1.1s,mb4.7
LPL La Plagne 80.59 7 *e*P **P 16 35 34.1 +0.1**
LPL pmax pmax
comp=Z,11nm,1.1s,mb4.7
LPG La Plagne 80.61 7 *e*P **P 16 35 34.1 0.0**
LFF La Frestale 80.62 11 *e*P **P 16 35 34.1 -0.1**
comp=Z,65nm,1.1s,mb5.2
LFF La Frestale 80.62 11 *e*P **P 16 35 34.1 -0.1**
comp=Z,32nm,1.1s,mb5.2
LFF La Frestale 80.62 11 *e*P **P 16 35 34.1 -0.1**
LFF pmax pmax
comp=Z,33nm,1.1s,mb5.2
BZS Buzias 80.69 356⇓P **P 16 35 34.6 +0.1**
ZEI Tsey 80.72 340 *i* P **P 16 35 33.4 -1.3**
ZEI *i* 16 35 39.0
ZEI *i* 16 38 37.5
ZEI pmax pmax
comp=Z,19nm,0.9s,mb5.0
SOC Sochi 80.73 343 *e*P **P 16 35 34.8 +0.1**
SOC *e*PPP 16 40 35.7
SOC *e*S S 16 45 40.5 +0.3
SOC *e*SSS 16 54 12.9
SOC pmax pmax
comp=Z,33nm,0.8s,mb5.3
SOC pmax pmax
comp=Z,31nm,0.8s,mb5.3
RKT Rikitea 80.75 153 *e*LR LR 17 00 55.3
comp=Z,149nm,44.5s
CAF Calviac 80.78 10 *e*P **P 16 35 35.1 +0.1**
VIVF Saint-Julien-I 81.09 8 *e*P **P 16 35 36.9 +0.3**
comp=Z,24nm,0.8s,mb4.9
VIVF Saint-Julien-I 81.09 8 *e*P **P 16 35 36.9 +0.3**
comp=Z,12nm,0.8s,mb4.9
VIVF Saint-Julien-I 81.09 8 *e*P **P 16 35 36.9 +0.3**
VIVF pmax pmax
comp=Z,12nm,0.8s,mb4.9
ORIF Oris-en-Rattie 81.12 7 *e*P **P 16 35 37.5 +0.7**
comp=Z,18nm,0.8s,mb4.8
ORIF Oris-en-Rattie 81.12 7 *e*P **P 16 35 37.5 +0.7**
comp=Z,9.2nm,0.8s,mb4.8
ORIF Oris-en-Rattie 81.12 7 *e*P **P 16 35 37.5 +0.7**
ORIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MBDF Montbardon 81.38 7 *e*P **P 16 35 38.5 +0.3**
comp=Z,32nm,0.7s,mb5.0
MBDF Montbardon 81.38 7 *e*P **P 16 35 38.5 +0.3**
comp=Z,16nm,0.7s,mb5.1
MBDF Montbardon 81.38 7 *e*P **P 16 35 38.5 +0.3**
MBDF pmax pmax
comp=Z,16nm,0.7s,mb5.1
SMRF Simiane la Rot 82.04 8 *e*P **P 16 35 41.8 +0.2**
comp=Z,38nm,1.0s,mb5.0
SMRF Simiane la Rot 82.04 8 *e*P **P 16 35 41.8 +0.2**
comp=Z,38nm,1.0s,mb5.3
BOK Bokaro 82.09 300 *e*P **P 16 35 42.1 +0.2**
BOK AMb AMB 16 35 43.5
comp=Z,14nm,0.7s,mb5.0
SJPF Ste Jean 82.19 13 *e*P **P 16 35 42.0 -0.4**
SBF Sospel 82.28 6 *e*P **P 16 35 42.9 0.0**
comp=Z,60nm,0.9s,mb5.2
SBF Sospel 82.28 6 *e*P **P 16 35 42.9 0.0**
comp=Z,30nm,0.9s,mb5.2
SBF Sospel 82.28 6 *e*P **P 16 35 42.9 0.0**
SBF pmax pmax
comp=Z,30nm,0.9s,mb5.2
MTLF Montolieu 82.36 10 *e*P **P 16 35 43.4 +0.1**
comp=Z,18nm,0.8s,mb4.8
MTLF Montolieu 82.36 10 *e*P **P 16 35 43.4 +0.1**
comp=Z,9.1nm,0.8s,mb4.8
MTLF Montolieu 82.36 10 *e*P **P 16 35 43.4 +0.1**
MTLF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EPF Esparros 82.46 12 *e*P **P 16 35 43.4 -0.5**
comp=Z,32nm,1.1s,mb4.8
EPF Esparros 82.46 12 *e*P **P 16 35 43.4 -0.5**
comp=Z,16nm,1.1s,mb4.9
EPF Esparros 82.46 12 *e*P **P 16 35 43.4 -0.5**
EPF pmax pmax
comp=Z,16nm,1.1s,mb4.9
ETSF Etsaut 82.48 12 *e*P **P 16 35 43.9 -0.1**
comp=Z,14nm,0.8s,mb4.7
ETSF Etsaut 82.48 12 *e*P **P 16 35 43.9 -0.1**
comp=Z,6.9nm,0.8s,mb4.6
ETSF Etsaut 82.48 12 *e*P **P 16 35 43.9 -0.1**
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FRF La Foret Royal 82.53 7 *e*P **P 16 35 44.5 +0.3**
comp=Z,27nm,0.8s,mb5.0
FRF La Foret Royal 82.53 7 *e*P **P 16 35 44.5 +0.3**
comp=Z,13nm,0.8s,mb5.0

FRF La Foret Royal 82.53 7 *eP* **P 16 35 44.5 +0.3**
FRF pmax pmax
comp=Z,13nm,0.8s,mb5.0
LMR La Mourre 82.75 7 *eP* **P 16 35 45.9 +0.6**
comp=Z,42nm,1.1s,mb5.1
LMR La Mourre 82.75 7 *eP* **P 16 35 45.9 +0.6**
comp=Z,21nm,1.1s,mb5.1
LMR La Mourre 82.75 7 *eP* **P 16 35 45.9 +0.6**
LMR pmax pmax
comp=Z,21nm,1.1s,mb5.1
GNI Garni 83.05 338 *eP* **P 16 35 48.4 +1.5**
comp=Z,14nm,0.9s,mb5.0
GNI Garni 83.05 338 *eP* **P 16 35 48.4 +1.5**
GNI pmax pmax
comp=Z,14nm,0.9s
PGF Pioggiola 83.69 5 *eP* **P 16 35 50.3 +0.1**
SKO Skopje 84.33 356 *eP* **P 16 35 54.4 +0.9**
VAY Valandovo 84.93 355 *eP* **P 16 35 56.5 0.0**
ESDC Sonseca Array 85.17 15 P **P 16 35 57.6 -0.1**
comp=Z,6.5nm,0.6s,mb4.9,baz=344,slow=5.0,SNR=22
KAKA Kakadu 85.38 241 *eP* **P 16 35 58.0 -0.7**
comp=Z,24nm,1.0s,mb5.3
BLSP Bilaspur 85.38 302 *eP* **P 16 35 58.2 -0.6**
BLSP AMb AMB 16 35 59.1
comp=Z,15nm,0.6s,mb5.3
BR131 Keskin Array S 85.46 346 *eP* **P 16 35 59.5 +0.4**
comp=Z,16nm,0.9s,mb5.2
BRTR Keskin Array B 85.46 346 P **P 16 35 59.6 +0.5**
comp=Z,14nm,0.8s,mb5.2,baz=46,slow=3.6,SNR=85
MALT Malatya 86.08 342 *eP* **P 16 36 03.8 +1.6**
comp=Z,5.2nm,0.9s,mb4.8
MALT Malatya 86.08 342 *eP* **P 16 36 03.8 +1.6**
MALT pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
KSM Kuching 86.27 267 *eP* **P 16 36 03.2 0.0**
BHPL Bhopal 86.75 306 *eP* **P 16 36 04.5 -1.0**
BHPL AMb AMB 16 36 05.9
comp=Z,21nm,0.6s,mb5.5
TIP Timpagrande 87.24 359 *eP* **P 16 36 07.9 +0.1**
WB2 Warramunga Arr 90.54 236 *eP* **P 16 36 21.8 -1.6**
WRA Warramunga Arr 90.54 236 P **P 16 36 21.8 -1.7**
comp=Z,1.8nm,0.7s,mb4.5,baz=34,slow=5.5,SNR=19
HYB Hyderabad 91.14 302 *i P* **P 16 36 26.0 -0.3**
HYB Hyderabad 91.14 302 *eP* **P 16 36 26.0 -0.3**
FITZ Fitzroy Crossi 93.44 244 *eP* **P 16 36 33.9 -3.0**
comp=Z,27nm,1.8s,mb5.4
FITZ Fitzroy Crossi 93.44 244 LR LR 17 13 52.5
comp=Z,86nm,19.2s,MS4.2,baz=34,slow=32
ASAR Alice Springs 93.91 234 P **P 16 36 37.8 -1.2**
comp=Z,1.6nm,0.7s,mb4.6,baz=31,slow=4.4,SNR=27
STKA Stephens Creek 97.54 224 P **P 16 36 52.8 -2.8**
comp=Z,1.7nm,0.8s,mb4.6,baz=347,slow=5.5,SNR=3.2
KMBO Kilima Mbogo 124.50 334 PKP PKPdf 16 42 20.5 -0.1
comp=Z,2.1nm,0.7s,baz=32,slow=20,SNR=7.6
KMBO Kilima Mbogo 124.50 334 *e*PKIKP PKPdf 16 42 21.4 +0.8
QSPA South Pole Qui 143.73 180 *eP* PKPdf 16 42 51.4 -5.0
LBTB Lobatse 150.22 342 *e*PKPbc PKPbc 16 43 12.4 +0.1
BOSA Boshof 153.78 341 PKPbc PKPbc 16 43 19.9 -0.6
comp=Z,2.5nm,0.7s,baz=330,slow=13,SNR=4.4
BOSA PKPab PKPab 16 43 33.5 +0.1
comp=Z,6.4nm,0.8s,baz=358,slow=3.6,SNR=6.1
MAW Mawson 154.14 220 PKPbc PKPbc 16 43 19.1 -2.1
comp=Z,3.5nm,0.7s,baz=336,slow=10,SNR=3.0

MEX 28 16:29:48.3±0.5, 1635N×9559W, h61km±14km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.76**	**221**	*i* P	Pn	16 30 02.0	-1.4
HUIG				*i* S	Sn	16 30 12.7	-1.8
CMIG	**Matias Romero**	**1.00**	**42**	*i* P	Pn	16 30 05.0	-1.4
CMIG				*i* S	Sn	16 30 18.0	-1.7
OXX	**Oaxaca**	**1.31**	**304**	*i* P	Pn	16 30 07.5	-3.0
UTMO	**Huajuapan**	**2.58**	**305**	*i* P	Pn	16 30 27.8	+0.1
UTMO				*i* S	Sn	16 30 57.2	-0.7

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*ISCJB **28** 16:29:48.8±0.7, 166N±0.1×466W±0.1, h10km, mb4.3/20, MS3.8/7, Error ellipse: s-maj=15.8km s-min=15.0km az=27.9*
*IDC **28** 16:29:48.7±0.8, 1657N×4656W, h0km, mb4.1/13, mb1 4.4/14, mb1mx4.1/28, mbtmp4.2/14, ML6.4/1, MS3.8/7, Ms1 3.8/7, ms1mx3.6/23, Error ellipse: s-maj=21.0km s-min=19.5km az=86.0*
*NEIC **28** 16:29:50.3±0.6, 1662N×4650W, h10km, mb4.7/6, Error ellipse: s-maj=14.3km s-min=10.6km az=99.0*

ISC 28 16:29:50.9±0.7, 166N±01×466W±01, h10km, n29, σ0§70/26, mb4.3/20, MS3.8/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**18.76**	**277**	P	**Pn**	**16 34 09.3**	**-1.1**
	2.4nm,0.3s,baz=141,slow=6.5,SNR=2.6						
SDV	**Santo Domingo**	**24.69**	**255**	P	**P**	**16 35 12.5**	**+0.5**
	6.7nm,0.9s,mb4.2,baz=70,slow=12,SNR=4.2						
SDV				LR	LR	16 45 16.7	
	comp=Z,74nm,18.3s,MS3.2,baz=31,slow=38						
SDV	**Santo Domingo**	**24.69**	**255**	*eP*	**P**	**16 35 13.5**	**+1.5**
SDV				LR	LR	16 45 16.7	
ROSC	**El Rosal**	**29.64**	**250**	LR	LR	16 47 21.2	
	comp=Z,92nm,18.6s,MS3.4,baz=20,slow=36						
SIV	**San Ignacio**	**35.44**	**205**	P	**P**	**16 36 40.8**	**-6.3**
	1.0nm,0.8s,mb3.8,baz=206,slow=19,SNR=3.6						
NCB	**Newcomb**	**35.92**	**325**	*eP*	**P**	**16 36 50.3**	**-1.0**
	20nm,1.0s,mb5.0						
LPAZ	**La Paz**	**39.02**	**214**	P	**P**	**16 37 16.1**	**-1.4**
	1.2nm,0.7s,mb3.8,baz=13,slow=5.8,SNR=6.6						
LPAZ	**La Paz**	**39.02**	**214**	*eP*	**P**	**16 37 17.9**	**+0.3**
	1.3nm,0.7s,mb3.8						
MDT	**Midelt**	**41.07**	**59**	LR	LR	16 52 09.5	
	comp=Z,86nm,18.6s,MS3.6,baz=159,slow=33						
DBIC	**Dimbokro**	**41.94**	**99**	LR	LR	16 52 19.9	
	comp=Z,129nm,18.1s,MS3.9,baz=328,slow=32						
CPUP	**Villa Florida**	**43.97**	**194**	P	**P**	**16 37 57.7**	**-0.4**
	9.7nm,0.9s,mb4.5,baz=3.1,slow=8.5,SNR=16						
CPUP	**Villa Florida**	**43.97**	**194**	*eP*	**P**	**16 37 57.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**46.67**	**87**	P	**P**	**16 38 20.1**	**+0.5**
	2.5nm,1.0s,mb4.1,baz=280,slow=5.7,SNR=8.6						
ULM	**Lac du Bonnet**	**51.74**	**322**	P	**P**	**16 38 58.1**	**-0.3**
	3.3nm,0.8s,mb4.3,baz=121,slow=5.1,SNR=8.3						
MNTX	**Cornudas Mount**	**55.13**	**297**	*eP*	**P**	**16 39 24.4**	**+1.1**
	11nm,1.6s,mb4.6						
MNTX				*e*		16 39 29.5	
PDAR	**Pinedale Array**	**59.15**	**310**	P	**P**	**16 39 51.9**	**+0.2**
	2.3nm,1.0s,mb4.2,baz=102,slow=6.8,SNR=12						
PDAR				LR	LR	17 01 22.0	
	comp=Z,135nm,19.7s,MS4.1,baz=98,slow=32						
BW06	**Boulder Array**	**59.15**	**310**	*eP*	**P**	**16 39 52.0**	**+0.3**
	6.4nm,1.1s,mb4.6						
HWUT	**Hardware Ranch**	**60.54**	**309**	*eP*	**P**	**16 40 01.6**	**+0.3**
	10nm,1.0s,mb4.9						
HLID	**Hailey**	**62.75**	**311**	*eP*	**P**	**16 40 16.7**	**+0.6**
	3.1nm,0.9s,mb4.4						
ELK	**Elko**	**63.28**	**308**	*eP*	**P**	**16 40 20.1**	**+0.4**
	8.4nm,1.1s,mb4.8						
NEW	**Newport**	**64.87**	**316**	P	**P**	**16 40 30.6**	**+0.4**
	5.1nm,0.8s,mb4.6,baz=113,slow=6.8,SNR=7.1						
YKA	**Yellowknife Ar**	**65.28**	**332**	P	**P**	**16 40 31.8**	**-1.0**
	0.6nm,0.7s,mb3.8,baz=99,slow=7.7,SNR=12						
YKA				LR	LR	17 06 36.5	
	comp=Z,103nm,21.0s,MS4.0,baz=65,slow=34						
YKA	**Yellowknife Ar**	**65.28**	**332**	P	**P**	**16 40 31.8**	**-1.0**
YKA				LR	LR	17 06 36.5	
NVAR	**Mina Array Bea**	**65.68**	**305**	P	**P**	**16 40 36.3**	**+0.9**
	0.4nm,0.6s,mb3.6,baz=82,slow=7.4,SNR=2.9						
NVAR	**Mina Array Bea**	**65.68**	**305**	P	**P**	**16 40 36.3**	**+0.9**
BRTR	**Keskin Array B**	**72.12**	**53**	P	**P**	**16 41 15.2**	**-0.3**
	0.9nm,0.9s,mb3.7,baz=239,slow=4.7,SNR=6.2						
DLBC	**Dease Lake**	**72.59**	**327**	P	**P**	**16 41 18.5**	**+0.2**
	0.5nm,0.3s,mb3.9,baz=84,slow=10,SNR=2.7						
INK	**Inuvik**	**73.57**	**337**	P	**P**	**16 41 23.1**	**-1.0**
	2.4nm,0.8s,mb4.2,baz=71,slow=4.6,SNR=11						
INK				LR	LR	17 11 38.0	
	comp=Z,110nm,19.5s,MS4.2,baz=78,slow=34						
ILAR	**Eielson Array**	**79.44**	**335**	P	**P**	**16 41 57.4**	**0.0**
	3.7nm,0.9s,mb4.3,baz=72,slow=4.5,SNR=32						

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*CSEM **28** 16:45:51.9±0.2, 5155N×16.15E, h0km, ML3.5/6, Error ellipse: s-maj=3.4km s-min=2.9km az=7.0*
*ISCJB **28** 16:45:51.4±0.5, 5142N±003×1608E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.2km az=33.0*
*IPEC **28** 16:45:51.4±0.3, 5155N×1622E, h0km, ML2.4/2, Error ellipse: s-maj=4.1km s-min=2.0km az=82.0*
*NEIC **28** 16:45:51.1±0.4, 5160N×1621E, h5km, ML3.0(SZGRF), Error ellipse: s-maj=5.6km s-min=4.6km az=103.0*
*IDC **28** 16:45:52.7±0.7, 5150N×1599E, h0km, mb1 3.4/8, mb1mx3.2/25, mbtmp3.3/8, ML3.1/8, Error ellipse: s-maj=10.3km s-min=6.8km az=112.0*
*WAR **28** 16:45:53.4, 5148N×1610E, ML2.7, Mining Induced*
*BGR **28** 16:45:53.7±0.7, 5152N×1604E, h1km, ML3.0/10, Error ellipse: s-maj=17.8km s-min=6.7km az=164.0*
*VIE **28** 16:45:55.4±0.8, 5124N×1615E, h0km, mb2.5/4, ML2.9/4, Error ellipse: s-maj=5.2km s-min=4.6km az=118.0 62 km WNW of Breslau Suspected Mining induced.*

ISC 28 16:45:51.2±0.4, 5153N±002×1613E±003, h0km, n59, σ1§00/105, 4C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**171**	⇓*i* Pg	**Pg**	**16 46 05.4**	**+0.9**
KSP				*e*Sg	**Sg**	**16 46 14.0**	**+0.4**
UPC	**Upice**	**1.03**	**184**	*e*PG	**Pg**	**16 46 11.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*PG	**Pg**	**16 46 14.2**	**+0.2**
DPC				*e*SG	**Sg**	**16 46 28.1**	**-1.3**
	49nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*Pg	**Pg**	**16 46 14.0**	**0.0**
DPC				*e*Sg	**Sg**	**16 46 28.7**	**-0.7**
BRG	**Berggiesshubel**	**1.52**	**245**	*e*Pn	**Pn**	**16 46 20.1**	**+0.5**
BRG				*e*Sg	**Sg**	**16 46 41.0**	**+0.8**
BRG	**Berggiesshubel**	**1.52**	**245**	Pg	**Pg**	**16 46 20.8**	**+0.4**
BRG				Sg	**Sg**	**16 46 41.0**	**+0.8**
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pn**	**16 46 19.9**	**+0.3**
BRG				PG	**Pg**	**16 46 20.8**	**+0.3**
BRG				SG	**Sg**	**16 46 41.0**	**+0.8**
	66nm,0.4s						
RUE	**Ruedersdorf**	**1.74**	**304**	*e*P	**Pn**	**16 46 22.6**	**0.0**
RUE	**Ruedersdorf**	**1.74**	**304**	*e*P	**Pn**	**16 46 22.6**	**0.0**
PRU	**Pruhonice**	**1.84**	**214**	*e*PN	**Pn**	**16 46 23.9**	**-0.2**
PRU				*e*PG	**Pg**	**16 46 25.7**	**-0.8**
PRU				*e*SG	**Sg**	**16 46 49.3**	**-1.1**
	38nm,0.6s						
PRU	**Pruhonice**	**1.84**	**214**	*e*Pg	**Pg**	**16 46 25.7**	**-0.8**
PRU				*e*Sg	**Sg**	**16 46 49.3**	**-1.1**
	38nm,0.6s						
FBE	**Freiberg**	**1.85**	**252**	*e*Pn	**Pn**	**16 46 25.6**	**+1.5**
FBE				*e*Sg	**Sg**	**16 46 50.5**	**0.0**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**16 46 25.7**	**-0.1**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**16 46 26.0**	**+0.2**
CLL				*e*Pg	**Pg**	**16 46 28.0**	**-1.0**
CLL				*ex*	x	16 46 33.0	
CLL				*i* Sg	**Sg**	**16 46 54.7**	**+0.2**
	comp=Z,25nm,0.8s						
CLL	**Collm**	**1.97**	**265**	*e*Pg	**Pg**	**16 46 28.0**	**-1.0**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**16 46 26.0**	**+0.2**
CLL				*e*Pg	**Pg**	**16 46 28.0**	**-1.0**
CLL				*i* Sg	**Sg**	**16 46 54.7**	**+0.2**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**16 46 25.8**	**0.0**
MORC				*e*Sg	**Sg**	**16 46 52.9**	**-1.7**
	comp=Z,23nm,0.2s						
MORC				*e*S	**Sn**	**16 46 53.5**	**+2.2**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*P	**Pn**	**16 46 25.8**	**-0.1**
MORC				*e*S	**Sn**	**16 46 53.5**	**+2.2**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pg**	**16 46 31.7**	**-0.3**
OKC				*e*SG	**Sg**	**16 46 58.2**	**-1.3**
VRAC	**Vranov**	**2.24**	**172**	Pn	**Pn**	**16 46 30.8**	**+1.2**
	comp=Z,2.3nm,0.3s,baz=348,slow=16,SNR=9.7						
VRAC				Pg	**Pg**	**16 46 34.1**	**-0.1**
	comp=Z,3.7nm,0.3s,baz=347,slow=17,SNR=11						
VRAC				Lg		16 47 02.1	
	comp=Z,6.7nm,0.3s,baz=250,slow=19,SNR=9.8						
VRAC	**Vranov**	**2.24**	**172**	*e*Pn	**Pn**	**16 46 29.9**	**+0.3**
VRAC	**Vranov**	**2.24**	**172**	Pg	**Pg**	**16 46 34.1**	**-0.1**
VRAC				*e*Sg	**Sg**	**16 47 01.8**	**-1.5**
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**16 46 33.4**	**+0.6**
KRUC				*e*Sg	**Sg**	**16 47 09.7**	**-1.1**
	comp=Z,17nm,0.3s						
TANN	**Tannenbergstha**	**2.57**	**246**	*e*Pn	**Pn**	**16 46 34.7**	**+0.6**
TANN				*e*Sg	**Sg**	**16 47 12.5**	**-1.4**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**16 46 36.4**	**+1.0**
NKC				*e*PG	**Pg**	**16 46 42.5**	**+0.1**
NKC				*e*SG	**Sg**	**16 47 17.3**	**+0.3**
	comp=Z,51nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**242**	*e*Pg	**Pg**	**16 46 42.5**	**+0.1**
NKC				*e*Sg	**Sg**	**16 47 17.3**	**+0.3**
	comp=Z,51nm,0.3s						
OJC	**Ojcow**	**2.67**	**118**	*e*Pn	**Pn**	**16 46 34.6**	**-0.8**
OJC				*e*Pg	**Pg**	**16 46 42.9**	**+0.5**
OJC				*e*Sg	**Sg**	**16 47 18.6**	**+1.6**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**16 46 42.9**	**+0.5**
OJC				*e*Sg	**Sg**	**16 47 18.6**	**+1.6**
WERN	**Wernitzgruen**	**2.68**	**244**	*e*Pn	**Pn**	**16 46 36.5**	**+0.9**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**16 46 38.9**	**+0.2**
KHC				*e*PG	**Pg**	**16 46 45.1**	**-1.8**
KHC				*e*SN	**Sn**	**16 47 14.0**	**-0.3**
KHC				*e*SG	**Sg**	**16 47 24.0**	**-0.5**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*Pg	**Pg**	**16 46 45.1**	**-1.8**
KHC				*e*Sn	**Sn**	**16 47 14.0**	**-0.3**
KHC				*e*Sg	**Sg**	**16 47 24.0**	**-0.5**
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**16 46 40.4**	**+0.7**
MOX				*e*Sg	**Sg**	**16 47 28.1**	**+1.1**
MOX	**Moxa**	**2.98**	**254**	*e*PN	**Pn**	**16 46 39.9**	**+0.2**
MOX				*e*PG	**Pg**	**16 46 48.4**	**+0.1**
MOX				*e*SG	**Sg**	**16 47 28.1**	**+1.1**
MOX	**Moxa**	**2.98**	**254**	*e*Pg	**Pg**	**16 46 48.4**	**+0.1**
MOX				Sg	**Sg**	**16 47 28.1**	**+1.1**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**16 46 40.8**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn	**Pn**	**16 46 41.4**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	⇑*i* Pn	**Pn**	**16 46 41.5**	**+0.7**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**16 46 42.5**	**+1.1**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**16 46 42.5**	**+1.0**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**16 46 42.0**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=28,slow=12,SNR=43						
GERES				Pg	**Pg**	**16 46 48.9**	**-1.9**
	comp=Z,3.5nm,0.3s,baz=27,slow=20,SNR=27						
GERES				Sn	**Sn**	**16 47 18.1**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=27,slow=26,SNR=4.3						
GERES				Lg		16 47 28.8	
	comp=Z,4.4nm,0.3s,baz=29,slow=27,SNR=10						
GERES	**GERESS Array B**	**3.11**	**211**	Pg	**Pg**	**16 46 48.9**	**-1.9**
SMOL	**Smolenice**	**3.13**	**164**	*e*SG	**Sg**	**16 47 32.3**	**+0.4**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**16 46 42.4**	**+0.1**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**16 46 42.4**	**+0.1**
VYHS	**Vyhne**	**3.50**	**149**	*e*SG	**Sg**	**16 47 45.8**	**+2.0**
GRF	**Grafenberg Arr**	**3.63**	**241**	*e*Sg	**Sg**	**16 47 47.6**	**-0.1**
MOA	**Molln**	**3.88**	**199**	⇓*i* Sg	**Sg**	**16 47 56.1**	**+0.3**
	comp=Z,27nm,0.6s						
MOA	**Molln**	**3.88**	**199**	⇑*i* Pn	**Pn**	**16 46 52.9**	**+0.9**
MOA				⇓*i* Sg	**Sg**	**16 47 56.1**	**+0.3**
	comp=Z,27nm,0.6s						
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*Pn	**Pn**	**16 46 53.7**	**+1.5**
STHS				*e*PG	**Pg**	**16 47 06.6**	**+0.8**
STHS				*e*SG	**Sg**	**16 48 00.2**	**+3.9**
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*Pg	**Pg**	**16 47 06.6**	**+0.8**
KECS	**Kecovo**	**4.15**	**136**	*e*PN	**Pn**	**16 46 56.9**	**+1.2**
KECS				*e*SG	**Sg**	**16 48 04.0**	**-0.4**
KBA	**Koelnbreinsper**	**4.81**	**203**	⇑*i* Sg	**Sg**	**16 48 25.4**	**-0.4**
	comp=Z,9.4nm,0.7s						
KBA	**Koelnbreinsper**	**4.81**	**203**	⇓*i* Pn	**Pn**	**16 47 06.1**	**+1.2**
KBA				⇑*i* Sg	**Sg**	**16 48 25.4**	**-0.4**
	comp=Z,9.4nm,0.7s						
DAVOX	**Davos**	**6.28**	**223**	Pn	**Pn**	**16 47 24.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=0.0,slow=14,SNR=3.7						
DAVOX				Lg		16 49 08.7	
	comp=Z,0.4nm,0.3s,baz=329,slow=21,SNR=2.6						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**16 47 51.2**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=280,slow=12,SNR=5.2						
AKASG				Sn	**Sn**	**16 49 24.0**	**-2.9**
	comp=Z,0.6nm,0.3s,baz=251,slow=12,SNR=3.8						
AKASG				Lg		16 50 16.1	
	baz=88,slow=31,SNR=2.2						
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**16 47 57.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=152,slow=16,SNR=3.0						
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	**16 48 13.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=2.6						
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**16 48 32.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=4.2						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**Pn**	**16 50 06.5**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=5.5						

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*IDC **28** 17:01:47.4±10.0, 4.12S×6690E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, MS3.7/6, Ms1 3.7/6, ms1mx3.3/28, Error ellipse: s-maj=319.9km s-min=39.3km az=66.0*
*ISCJB **28** 17:01:54.5±1.1, 34S±02×684E±02, h10km, mb4.0/5, MS3.7/6, Error ellipse: s-maj=34.7km s-min=24.7km az=93.8*
*NEIC **28** 17:01:56.3±1.0, 345S×6832E, h10km, mb4.6/1, Error ellipse: s-maj=33.6km s-min=23.8km az=137.0*

ISC 28 17:01:56.8±1.1, 34S±02×683E±02, h10km, n9, σ1§18/5, mb4.0/5, MS3.7/6, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.12**	**273**	LR	LR	17 18 06.1	
	comp=Z,104nm,19.6s,MS3.5,baz=90,slow=33						
PSI	**Prapat**	**31.20**	**79**	LR	LR	17 18 11.5	
	comp=Z,114nm,20.0s,MS3.5,baz=197,slow=30						
LSZ	**Lusaka**	**41.24**	**251**	*eP*	**P**	**17 09 42.1**	**+0.1**
	21nm,1.8s,mb4.5						
BOSA	**Boshof**	**48.00**	**234**	LR	LR	17 26 58.6	
	comp=Z,86nm,18.5s,MS3.8,baz=119,slow=33						
MKAR	**Makanchi Array**	**51.46**	**12**	P	**P**	**17 11 02.1**	**-0.2**
	0.4nm,0.8s,mb3.4,baz=181,slow=8.6,SNR=5.5						
ZAL	**Zalesovo**	**58.75**	**11**	P	**P**	**17 11 53.8**	**-1.1**
	0.8nm,0.9s,mb3.8,baz=216,slow=8.3,SNR=4.3						
ZAL				LR	LR	17 36 24.0	
	comp=Z,60nm,18.4s,MS3.8,baz=283,slow=35						
SONM	**Songino Array**	**60.91**	**28**	P	**P**	**17 12 11.2**	**+1.5**
	2.1nm,1.0s,mb4.2,baz=224,slow=5.9,SNR=12						
SONM				LR	LR	17 37 49.6	
	comp=Z,109nm,21.6s,MS4.0,baz=257,slow=35						
WRA	**Warramunga Arr**	**66.33**	**110**	P	**P**	**17 12 45.3**	**-0.3**
	3.3nm,1.2s,mb4.2,baz=286,slow=5.6,SNR=4.8						
FINES	**FINESS Array B**	**72.31**	**340**	LR	LR	17 46 13.8	
	comp=Z,41nm,19.2s,MS3.7,baz=163,slow=37						

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*IDC **28** 17:38:45.0±2.0, 2787N×5679E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/24, mbtmp3.8/10, Error ellipse: s-maj=45.8km s-min=22.1km az=157.0*
*TEH **28** 17:38:48.0, 2781N×5681E, h10km, Mn3.7*
*CSEM **28** 17:38:48.2±0.1, 2802N×5694E, h25km, mb3.5/1, Error ellipse: s-maj=3.6km s-min=2.9km az=117.0*
*NEIC **28** 17:38:50.1, 28.12N×5672E, h18km, mb3.5/1, ML3.8(THR), MN3.7(TEH), After THR.*
*THR **28** 17:38:50.0±0.6, 2811N×5672E, h18km±5km, ML3.6*
*ISCJB **28** 17:38:51.1±0.6, 2797N±004×5670E±005, h58km±7km, mb3.6/10, Error ellipse: s-maj=8.2km s-min=5.7km az=145.3*
*OMAN **28** 17:39:10.6±131.0, 2623N×5708E, h0km±4km, Error ellipse: s-maj=25.3km s-min=3.1km az=5.0*

ISC 28 17:38:52.4±0.5, 2797N±003×5672E±005, h54km±7km, n43, σ0§90/55, mb3.6/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.75**	**221**	*e*PG	**Pn**	**17 39 06.5**	**-0.4**
BNDS				AML	AML	17 39 25.0	
	comp=E,3μm,0.1s						
BNDS				AML	AML	17 39 26.6	
	comp=N,2μm,0.4s						
BNDS	**Bandar-Abbas**	**0.75**	**221**	Pg	**Pn**	**17 39 06.0**	**-0.9**
KRBR	**Kerman**	**2.01**	**1**	*e*PG	**Pn**	**17 39 24.0**	**+0.1**
KRBR				*e*SG	**Sn**	**17 39 49.4**	**+1.5**
KRBR	**Kerman**	**2.01**	**1**	*e*Pg	**Pn**	**17 39 24.0**	**+0.1**
	SNR=91						
KRBR				Sg	**Sn**	**17 39 49.0**	**+1.1**
KRBR	**Kerman**	**2.01**	**1**	Pg	**Pn**	**17 39 23.0**	**-0.9**
KRBR				Sg	**Sn**	**17 39 49.0**	**+1.1**
BANOM	**Banah**	**2.07**	**191**	P	**Pn**	**17 39 25.3**	**+0.6**
	SNR=21						
GHIR	**Ghir-Karzin**	**3.31**	**276**	*e*PN	**Pn**	**17 39 43.0**	**+1.3**
GHIR				AML	AML	17 40 59.9	
	comp=N,88nm,0.9s						
ASHO	**Ashiyiah**	**3.32**	**190**	P	**Pn**	**17 39 43.0**	**+1.2**
	SNR=21						
ASHO	**Ashiyiah**	**3.32**	**190**	P	**Pn**	**17 39 43.0**	**+1.1**
	SNR=21						
IMOK	**Mook**	**3.69**	**288**	*e*Pn	**Pn**	**17 39 46.5**	**-0.4**
IMOK				*e*Sn	**Sn**	**17 40 29.1**	**+0.1**
IPAR	**Pars**	**3.72**	**301**	*e*Pn	**Pn**	**17 39 47.5**	**+0.1**
IPAR				*e*Sn	**Sn**	**17 40 31.9**	**+2.0**
IBAF	**Bafgh**	**3.75**	**345**	*e*Pn	**Pn**	**17 39 47.8**	**+0.1**
IBAF				*e*Sn	**Sn**	**17 40 31.9**	**+1.3**
IBAF	**Bafgh**	**3.75**	**345**	Pn	**Pn**	**17 39 47.2**	**-0.5**
IBAF				Sn	**Sn**	**17 40 31.9**	**+1.3**
IMEH	**Mehriz**	**3.87**	**332**	*e*Pn	**Pn**	**17 39 49.5**	**+0.

s-min=27.0km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**18.65**	**39**	LR	LR	18 13 37.2	
	comp=Z,50nm,19.1s,baz=24,slow=33						
WRA	**Warramunga Arr**	**18.93**	**176**	P	Pn	18 07 41.4	-0.5
	0.1nm,0.3s,baz=355,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**22.61**	**178**	P	P	18 08 21.8	+0.6
	0.9nm,0.8s,baz=0.6,slow=12,SNR=9.7						
MKAR	**Makanchi Array**	**64.94**	**324**	P	P	18 14 00.4	+0.1
	0.3nm,0.6s,baz=116,slow=6.6,SNR=5.6						

IDC 28 18:10:11.1±1.3, 1875N×14668E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/18, mbtmp3.4/5, MS4.0/2, Ms1 4.0/2, ms1mx2.9/23, Error ellipse: s-maj=62.4km s-min=24.3km az=96.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**15.59**	**338**	LR	LR	18 18 19.8	
	comp=Z,540nm,18.6s,baz=65,slow=31						
WRA	**Warramunga Arr**	**40.31**	**198**	P	P	18 17 51.6	+1.5
	0.4nm,0.3s,baz=35,slow=8.4,SNR=10						
FITZ	**Fitzroy Crossi**	**42.05**	**211**	LR	LR	18 34 36.8	
	comp=Z,166nm,20.6s,baz=154,slow=35						
SONM	**Songino Array**	**43.69**	**321**	P	P	18 18 18.7	+1.0
	0.3nm,0.6s,baz=131,slow=7.1,SNR=4.1						
ASAR	**Alice Springs**	**43.96**	**197**	P	P	18 18 18.5	-1.4
	0.3nm,0.9s,baz=10,slow=6.9,SNR=4.5						
YKA	**Yellowknife Ar**	**77.51**	**28**	P	P	18 22 09.0	+0.4
	0.3nm,0.8s,baz=290,slow=5.7,SNR=5.0						
FINES	**FINESS Array B**	**87.23**	**336**	P	P	18 22 57.8	-1.7
	0.7nm,0.7s,baz=50,slow=4.1,SNR=4.9						

*IDC **28** 18:12:03.9±0.8, 124N×96.94E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.2/21, mbtmp4.3/13, ML3.4/1, MS4.1/5, Ms1 4.1/5, ms1mx3.6/24, Error ellipse: s-maj=32.8km s-min=15.8km az=49.0*

*ISCJB **28** 18:12:05.2±1.6, 123N±006×9706E±005, h21km±11km, mb4.8/58, MS4.4/20, Error ellipse: s-maj=9.8km s-min=8.2km az=11.0*

*BJI **28** 18:12:05.5, 123N×9725E, h25km, mB5.0, mb4.9, Ms4.8, Msz4.5*

*NEIC **28** 18:12:07.4±0.4, 127N×97.11E, mb4.7/22, Error ellipse: s-maj=8.8km s-min=7.2km az=209.0*

*MOS **28** 18:12:07.4±0.9, 137N×9706E, h33km, mb5.0/24, Error ellipse: s-maj=12.9km s-min=7.3km az=97.4*

ISC 28 18:12:07.7±1.5, 125N±006×9710E±005, h23km±10km, h24km±.7km: pP-P, n108, σ1§15/112, mb4.8/58, MS4.4/20, 4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.39**	**50**	Pn	**Pn**	**18 12 45.0**	**-0.5**
	8.6nm,0.3s,baz=256,slow=5.3,SNR=77						
TSI	**Tuntungan**	**2.67**	**33**	P	**Pn**	**18 12 49.0**	**-0.3**
	836nm,1.1s						
IPM	**Ipoh**	**5.07**	**51**	P	**Pn**	**18 13 23.0**	**+0.7**
KULM	**Kulim**	**5.36**	**41**	*e*Pn	**Pn**	**18 13 25.8**	**-0.4**
KGM	**Kluang**	**6.26**	**83**	P	**Pn**	**18 13 40.5**	**+1.8**
KSM	**Kuching**	**13.21**	**89**	*e*Pn	**Pn**	**18 15 18.1**	**+4.3**
KSM				*e*pP		18 15 26.7	
PALK	**Pallekele**	**17.40**	**291**	*e*Pn	**Pn**	**18 16 08.1**	**-0.9**
	22nm,1.3s						
KKM	**Kota Kinabalu**	**19.66**	**76**	P	**Pn**	**18 16 35.6**	**-0.8**
KKM	**Kota Kinabalu**	**19.66**	**76**	*e*Pn	**Pn**	**18 16 35.9**	**-0.5**
QIZ	**Qiongzhong**	**21.64**	**34**	P	**P**	**18 16 58.3**	**+1.9**
QIZ				S	**S**	**18 20 54.3**	**-0.6**
QIZ				XS	sS	18 21 04.0	-1.0
QIZ				LR	LR		
	comp=N,593nm,13.8s,MS4.3						
QIZ				LR	LR		
	comp=E,550nm,13.1s,MS4.3						
QIZ				LR	LR		
	comp=Z,426nm,15.1s,MS4.0						
HYB	**Hyderabad**	**24.30**	**312**	*i* P	**P**	**18 17 26.0**	**+2.6**
HYB	**Hyderabad**	**24.30**	**312**	*e*P	**P**	**18 17 26.0**	**+2.6**
KMI	**Kunming**	**24.35**	**12**	P	**P**	**18 17 24.5**	**+0.7**
KMI				AP		18 17 32.0	
KMI				XP	sP	18 17 34.3	+0.9
KMI				PP		18 18 02.3	
KMI				PPP		18 18 12.0	
KMI				S	**S**	**18 21 43.8**	**+1.8**
KMI				XS	sS	18 21 53.5	+0.4
KMI				SS		18 22 36.5	
KMI				AMB	AMB		
	comp=Z,52nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,219nm,3.4s						
KMI				LR	LR		
	comp=N,1μm,14.8s,MS4.7						
KMI				LR	LR		
	comp=E,954nm,13.2s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,14.8s,MS4.6						
JIRN	**Jiri**	**28.26**	**339**	*e*P	**P**	**18 18 00.5**	**+1.3**
	comp=Z,115nm,1.1s,mb5.4						
PKI	**Pulchoki**	**28.47**	**338**	*e*P	**P**	**18 18 02.0**	**+1.0**
	comp=Z,48nm,1.1s,mb5.0						
GUN	**Gumba**	**28.60**	**339**	*e*P	**P**	**18 18 03.5**	**+1.3**
	comp=Z,55nm,0.8s,mb5.3						
DMN	**Daman**	**28.62**	**337**	*e*P	**P**	**18 18 02.9**	**+0.6**
	comp=Z,49nm,0.9s,mb5.2						
KKN	**Kakani**	**28.71**	**338**	*e*P	**P**	**18 18 03.9**	**+0.7**
	comp=Z,69nm,1.1s,mb5.3						
LSA	**Lhasa**	**28.85**	**349**	P	**P**	**18 18 05.3**	**+0.9**
LSA	**Lhasa**	**28.85**	**349**	*e*P	**P**	**18 18 05.5**	**+1.1**
	comp=Z,11nm,0.8s,mb4.6						
LSA	**Lhasa**	**28.85**	**349**	*e*P	**P**	**18 18 05.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
GKN	**Gorkha**	**29.15**	**337**	*e*P	**P**	**18 18 08.1**	**+1.0**
	comp=Z,88nm,0.9s,mb5.5						
KOLN	**Koldanda**	**29.37**	**335**	*e*P	**P**	**18 18 10.3**	**+1.3**
	comp=Z,48nm,0.8s,mb5.3						
CD2	**Chengdu**	**30.16**	**11**	*e*P	**P**	**18 18 15.0**	**-1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
ENH	**Enshi**	**31.17**	**21**	*e*P	**P**	**18 18 22.8**	**-2.1**
	comp=Z,41nm,1.0s,mb5.2						
XAN	**Xi'an**	**34.45**	**18**	P	**P**	**18 18 50.5**	**-3.0**
XAN				S	**S**	**18 24 28.0**	**+7.5**
XAN				AMB	AMB		
	comp=Z,33nm,1.2s,mb5.1						
XAN				AMB	AMB		
	comp=Z,57nm,8.1s						
XAN				LR	LR		
	comp=N,622nm,15.7s,MS4.5						
XAN				LR	LR		
	comp=E,473nm,16.2s,MS4.5						
XAN				LR	LR		
	comp=Z,941nm,14.7s,MS4.7						
LZH	**Lanzhou**	**35.22**	**9**	*e*P	**P**	**18 18 59.8**	**-0.4**
LZH				AP	pP	18 19 07.0	-0.1
LZH				XP	sP	18 19 12.5	+2.6
LZH				PP	PP	18 20 19.3	-1.0
LZH				AMB	AMB		
	comp=Z,31nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,72nm,5.7s						
LZH				LR	LR		
	comp=N,574nm,13.5s						
LZH				LR	LR		
	comp=Z,789nm,17.8s,MS4.5						
NJ2	**Nanjing**	**36.88**	**32**	*e*P	**P**	**18 19 15.0**	**+0.6**
NJ2				AP	pP	18 19 22.5	+1.2
NJ2				XP	sP	18 19 25.8	+1.8
NJ2				PP	PP	18 20 40.8	+2.3
NJ2				S	**S**	**18 24 58.0**	**+0.3**
NJ2				XS	sS	18 25 09.0	-0.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,110nm,5.2s						
NJ2				LR	LR		
	comp=N,660nm,18.1s,MS4.6						
NJ2				LR	LR		
	comp=E,660nm,20.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,3μm,19.5s,MS5.1						
SSE	**Sheshan**	**37.43**	**35**	P	**P**	**18 19 18.3**	**-0.8**
SSE				XP	sP	18 19 30.8	+2.0
SSE				PP	PP	18 20 44.3	-0.3
SSE				PCP	PcP	18 21 34.8	-2.7
SSE				S	**S**	**18 25 07.8**	**+1.6**
SSE				XS	sS	18 25 22.0	+4.5
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,121nm,4.4s						
SSE				LR	LR		
	comp=N,215nm,16.8s,MS4.0						
SSE				LR	LR		
	comp=E,93nm,16.9s,MS4.0						
SSE				LR	LR		
	comp=Z,264nm,15.7s,MS4.1						
GTA	**Gaotai**	**38.06**	**3**	*e*P	**P**	**18 19 24.0**	**-0.4**
GTA				AP	pP	18 19 31.5	+0.2
GTA				XP	sP	18 19 34.8	+0.7
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,110nm,4.9s						
GTA				LR	LR		
	comp=N,446nm,13.3s,MS4.5						
GTA				LR	LR		
	comp=E,223nm,15.2s,MS4.5						
GTA				LR	LR		
	comp=Z,379nm,12.5s,MS4.4						
HHC	**Hu-ho-hao-te**	**41.54**	**17**	*e*P	**P**	**18 19 55.0**	**+1.6**
HHC				AP	pP	18 20 01.8	+1.5
HHC				XP	sP	18 20 04.3	+1.2
HHC				PP	PP	18 21 34.8	+5.3
HHC				PCP	PcP	18 21 52.8	+2.3
HHC				S	**S**	**18 26 10.0**	**+2.2**
HHC				XS	sS	18 26 19.5	+0.2
HHC				SS	SS	18 29 10.5	-2.3
HHC				SCS	ScS	18 29 55.3	-0.3
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.0						
HHC				LR	LR		
	comp=N,641nm,15.7s,MS4.7						
HHC				LR	LR		
	comp=E,569nm,16.7s,MS4.7						
HHC				LR	LR		
	comp=Z,625nm,16.7s,MS4.6						
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**18 19 59.2**	**+0.8**
	comp=Z,1.6nm,0.6s,mb3.9,baz=303,slow=8.9,SNR=13						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P	**P**	**18 19 59.0**	**+0.6**
	comp=Z,13nm,1.2s,mb4.4						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P	**P**	**18 19 59.0**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
BJT	**Baijiatuau**	**42.31**	**22**	*e*P	**P**	**18 19 59.7**	**+0.1**
	comp=Z,8.3nm,0.5s,mb4.6						
BJT	**Baijiatuau**	**42.31**	**22**	*e*P	**P**	**18 19 59.7**	**+0.1**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJI	**Beijing**	**42.33**	**22**	P	**P**	**18 20 00.3**	**+0.5**
BJI				AP	pP	18 20 07.3	+0.5
BJI				XP	sP	18 20 11.0	+1.5
BJI				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=N,322nm,15.1s,MS4.4						
BJI				LR	LR		
	comp=E,246nm,14.6s,MS4.4						
BJI				LR	LR		
	comp=Z,167nm,21.5s						
WMQ	**Urumqi**	**43.20**	**350**	P	**P**	**18 20 08.0**	**+1.1**
WMQ				AP	pP	18 20 14.0	+0.1
WMQ				XP	sP	18 20 17.0	+0.4
WMQ				PP	PP	18 21 50.8	+3.4
WMQ				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,211nm,4.2s						
WMQ				LR	LR		
	comp=N,1μm,20.0s						
WMQ				LR	LR		
	comp=Z,1μm,19.5s,MS4.8						
ASAR	**Alice Springs**	**43.51**	**127**	P	**P**	**18 20 11.2**	**+1.8**
	comp=Z,3.3nm,1.1s,mb4.0,baz=298,slow=7.9,SNR=18						
UCH	**Uchtor**	**45.56**	**336**	P	**P**	**18 20 27.2**	**+1.4**
	SNR=6.9						
KBK	**Karagaybulak**	**45.75**	**337**	P	**P**	**18 20 28.8**	**+1.5**
	SNR=7.6						
AML	**Almayashu**	**45.81**	**336**	P	**P**	**18 20 29.2**	**+1.5**
	SNR=6.5						
KS15	**Wonju Array Si**	**45.83**	**35**	*e*P	**P**	**18 20 28.1**	**+0.2**
FRU	**Bishkek**	**46.03**	**337**	*e*P	**P**	**18 20 35.0**	**+5.5**
FRU				*e*		18 20 50.0	
EKS2	**Erkin-Say**	**46.22**	**336**	P	**P**	**18 20 32.4**	**+1.5**
	SNR=5.3						
USP	**Ospenovka**	**46.45**	**337**	P	**P**	**18 20 33.6**	**+0.8**
	SNR=7.4						
SONM	**Songino Array**	**47.10**	**9**	P	**P**	**18 20 37.9**	**+0.1**
	comp=Z,15nm,1.0s,mb4.9,baz=191,slow=6.5,SNR=83						
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**	**18 20 38.5**	**+0.1**
	comp=Z,11nm,0.9s,mb4.8,baz=158,slow=7.8,SNR=73						
MKAR				LR	LR	18 43 28.2	
	comp=Z,147nm,20.0s,MS3.9,baz=223,slow=40						
ULN	**Ulaanbaatar**	**47.23**	**9**	*e*P	**P**	**18 20 38.5**	**-0.3**
	comp=Z,12nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**47.23**	**9**	*e*P	**P**	**18 20 38.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
ZAK	**Zakamensk**	**49.23**	**5**	*e*P	**P**	**18 20 53.5**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.7						
CN2	**Changchun**	**49.30**	**27**	*e*P	**P**	**18 20 52.5**	**-2.4**
MOY	**Mondy**	**50.34**	**3**	*e*P	**P**	**18 21 03.2**	**+0.4**
HIA	**Hailar**	**51.62**	**19**	*e*P	**P**	**18 21 11.5**	**-0.9**
	comp=Z,7.4nm,0.8s,mb4.7						
HIA	**Hailar**	**51.62**	**19**	*e*P	**P**	**18 21 11.5**	**-0.9**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**51.72**	**345**	*e*P	**P**	**18 21 12.9**	**-0.1**
	comp=Z,8.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**51.72**	**345**	*e*P	**P**	**18 21 13.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**51.87**	**29**	P	**P**	**18 21 14.5**	**+0.2**
MDJ				AP	pP	18 21 20.5	-0.8
MDJ				XP	sP	18 21 23.0	-1.1
MDJ				SCP	ScP	18 26 24.0	+1.7
MDJ				S	**S**	**18 28 40.8**	**+5.2**
MDJ				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,109nm,4.6s						
MDJ				LR	LR		
	comp=N,135nm,20.9s,MS4.0						
MDJ				LR	LR		
	comp=E,39nm,21.9s,MS4.0						
MDJ				LR	LR		
	comp=Z,204nm,17.1s,MS4.2						
MDJ	**Mudanjiang**	**51.87**	**29**	P	**P**	**18 21 14.7**	**+0.5**
	comp=Z,27nm,1.3s,mb5.0						
CIT	**Chita**	**52.44**	**13**	*e*P	**P**	**18 21 19.0**	**+0.5**
CIT				*e*	pP	18 21 26.9	+1.3
CIT				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.2						
CTA	**Charters Tower**	**52.62**	**117**	LR	LR	18 48 01.3	
	comp=Z,214nm,20.1s,MS4.2,baz=144,slow=41						
STKA	**Stephens Creek**	**53.47**	**132**	P	**P**	**18 21 26.0**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.3,baz=308,slow=5.3,SNR=6.5						
STKA	**Stephens Creek**	**53.47**	**132**	*e*P	**P**	**18 21 25.8**	**-0.3**
ZAL	**Zalesovo**	**53.48**	**351**	P	**P**	**18 21 25.7**	**-0.4**
	comp=Z,4.9nm,0.6s,mb4.6,baz=293,slow=6.3,SNR=29						
NVS	**Novosibirsk**	**54.61**	**350**	*i* P	**P**	**18 21 32.9**	**-1.5**
NVS				*i* *PP	pP	18 21 50.6	+9.1
NVS				*e*S	**S**	**18 29 05.9**	**-6.9**
NVS				pmax	pmax		
	comp=N,17nm,1.7s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.7s						
NVS				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
NVS				smax			
	comp=N,11nm,1.7s						
NVS				smax			
	comp=E,16nm,1.9s						
BRVK	**Borovoye**	**56.23**	**341**	*e*P	**P**	**18 21 44.6**	**-1.5**
	comp=E,4.1nm,0.9s,mb4.5						
BRVK	**Borovoye**	**56.23**	**341**	*e*P	**P**	**18 21 44.6**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KLR	**Kul'dur**	**56.25**	**27**	*e*P	**P**	**18 21 44.2**	**-2.0**
KLR				pmax	pmax		
	comp=E,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.3						
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS5.2						
ZRNK	**Zerenda**	**56.57**	**340**	*e*P	**P**	**18 21 47.4**	**-1.1**
	comp=Z,5.4nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**56.57**	**340**	*e*P	**P**	**18 21 47.4**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**56.65**	**341**	*e*P	**P**	**18 21 48.2**	**-0.9**
	comp=Z,14nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**56.65**	**341**	*e*P	**P**	**18 21 48.2**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
HABR	**Khabarovsk**	**57.26**	**29**	*e*P	**P**	**18 21 52.9**	**-0.5**
BOD	**Bodaibo**	**57.98**	**11**	*e*P	**P**	**18 21 56.6**	**-1.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
YSS	**Yuzh-Sakhalins**	**60.36**	**34**	*e*P	**P**	**18 22 15.1**	**+0.2**
	comp=Z,20nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**60.36**	**34**	*e*P	**P**	**18 22 15.1**	**+0.1**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SVE	**Sverdlovsk**	**62.60**	**338**	*e*P	**P**	**18 22 29.4**	**-0.7**
SVE				*e*		18 23 04.0	
SVE				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.2						
ZEI	**Tsey**	**62.89**	**319**	*i* P	**P**	**18 22 27.9**	**-4.1**
ZEI				*i*		18 22 40.9	
ZEI				*i*		18 24 46.4	
ARU	**Arti**	**63.10**	**337**	⇓*i* P	**P**	**18 22 31.6**	**-1.8**
ARU				*e*		18 24 47.8	
ARU				*e*S	**S**	**18 31 02.6**	**-0.4**
ARU				*e*SS	SS	18 35 08.9	0.0
ARU				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
KIV	**Kislovodsk**	**64.20**	**319**	P	**P**	**18 22 37.8**	**-2.8**
	comp=Z,10nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**64.20**	**319**	*e*P	**P**	**18 22 40.0**	**-0.7**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
KIV				MLR	MLR		
	comp=Z,41nm,15.0s,MS3.7						
MALT	**Malatya**	**65.02**	**312**	*e*P	**P**	**18 22 46.5**	**+0.5**
	comp=Z,6.2nm,1.1s,mb4.5						
MALT				*e*pP	pP	18 22 53.7	+0.5
MALT	**Malatya**	**65.02**	**312**	*e*P	**P**	**18 22 46.5**	**+0.5**
MALT				*e**PP	pP	18 22 53.7	+0.5
MALT				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
YAK	**Yakutsk**	**65.40**	**16**	*e*P	**P**	**18 22 47.1**	**-1.4**
	comp=Z,54nm,0.9s,mb5.6						
YAK	**Yakutsk**	**65.40**	**16**	*e*P	**P**	**18 22 47.2**	**-1.3**
YAK				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=N,13nm,1.5s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.4s						
ANN	**Anapa**	**67.99**	**318**	*e*P	**P**	**18 22 56.0**	**-9.0**
CASY	**Casey**	**68.06**	**174**	P	**P**	**18 23 03.8**	**-1.6**
	comp=E,7.2nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**69.00**	**312**	P	**P**	**18 23 11.2**	**-0.1**
	comp=E,0.6nm,0.7s,baz=123,slow=9.0,SNR=4.2						
MA2	**Magadan**	**71.33**	**26**	*e*P	**P**	**18 23 24.8**	**-0.8**
	comp=E,5.9nm,0.8s,mb4.6						
MA2	**Magadan**	**71.33**	**26**	*e*P	**P**	**18 23 25.4**	**-0.2**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
OBN	**Obninsk**	**72.52**	**328**	⇓*i* P	**P**	**18 23 31.4**	**-1.3**
OBN				*e*		18 26 11.1	
OBN				*e*S	S	18 32 53.3	-2.5
OBN				pmax	pmax		
	comp=Z,37nm,2.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
KLMR	**Klimovskoe**	**73.66**	**334**	*e*P	**P**	**18 23 37.7**	**-1.8**
KLMR				pmax	pmax		
	comp=Z,30nm,2.8s,mb4.7						
SEY	**Seymchan**	**73.75**	**23**	*e*P	**P**	**18 23 39.1**	**-0.9**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
LBTB	**Lobatse**	**73.82**	**244**	*e*P	**P**	**18 23 41.7**	**+1.3**
	comp=Z,6.1nm,1.0s,mb4.5						
LBTB	**Lobatse**	**73.82**	**244**	*e*P	**P**	**18 23 41.7**	**+1.3**
LBTB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BOSA	**Boshof**	**74.72**	**240**	LR	LR	18 51 15.4	
	comp=Z,120nm,18.0s,MS4.2,baz=120,slow=32						
AKASG	**Malin Array Be**	**75.16**	**322**	P	**P**	**18 23 46.4**	**-1.8**
	comp=Z,2.0nm,0.7s,mb4.1,baz=95,slow=4.1,SNR=9.8						
FINES	**FINESS Array B**	**79.91**	**333**	P	**P**	**18 24 13.9**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.2,baz=90,slow=5.7,SNR=6.7						
FINES				LR	LR	19 02 20.3	
	comp=Z,78nm,19.0s,MS4.1,baz=46,slow=38						
SYO	**Syowa Base**	**80.02**	**198**	⇓*e*PcP	PcP	18 24 20.5	-2.2
TSUM	**Tsumeb**	**80.51**	**250**	P	**P**	**18 24 20.4**	**+2.5**
	comp=Z,7.3nm,1.2s,mb4.5						
TSUM				*e*pP	pP	18 24 27.0	+1.7
BILL	**Bilibino**	**81.15**	**21**	⇓*e*P	**P**	**18 24 14.5**	**-6.9**
BILL				pmax	pmax		
	comp=Z,13nm,2.8s,mb4.4						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.6						
ARCES	**ARCESS Array B**	**82.45**	**340**	P	**P**	**18 24 28.1**	**-0.1**
	comp=Z,4.3nm,0.9s,mb4.4,baz=104,slow=6.1,SNR=9.7						
ARCES				LR	LR	19 05 08.9	
	comp=Z,97nm,19.0s,MS4.2,baz=173,slow=39						
GERES	**GERESS Array B**	**84.71**	**319**	P	**P**	**18 24 39.7**	**-0.1**
	comp=Z,1.5nm,1.0s,mb4.1,baz=98,slow=5.5,SNR=7.8						
NB2	**NORSAR Subarra**	**86.91**	**331**	P	**P**	**18 24 50.1**	**-0.6**
	comp=Z,3.7nm,1.0s,mb4.6,baz=90,slow=5.3						
NB2	**NORSAR Subarra**	**86.91**	**331**	P	**P**	**18 24 50.1**	**-0.6**
NB2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
NOA	**NORSAR Array B**	**86.91**	**331**	P	**P**	**18 24 50.1**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.4,baz=93,slow=4.9,SNR=5.7						
CPUP	**Villa Florida**	**144.97**	**222**	PKP	PKPdf	18 31 45.0	+1.9
	comp=Z,1.4nm,0.6s,baz=163,slow=4.1,SNR=4.4						
CPUP	**Villa Florida**	**144.97**	**222**	*e*PKIKP	PKPdf	18 31 44.0	+1.0
CPUP				*e*		18 31 51.5	

MAN 28 18:19:45.9, 1834N×12203E, h6km, mb2.6, ML4.1, MS0.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.10**	**174**	*e*P	Pg	18 19 49.1	+1.0
SGCP				*e*S	Sg	18 19 54.7	+5.2
CVP	**Callao Caves**	**0.67**	**198**	*e*P	Pg	18 20 00.0	+1.3
CVP				*i* S	Sg	18 20 13.5	+6.1
APYP	**Conner**	**0.89**	**238**	*e*P	Pg	18 20 03.0	+0.1
APYP				*e*S	Sg	18 20 18.6	+4.0
**C

14nm,0.6s
BILL eSn **Sn** **18 42 29.5 -8.8**
BILL Bilibino 13.52 110⇑ eP **Pn** **18 40 11.0 +3.0**
BILL eS **Sn** **18 42 34.5 -3.8**
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,300nm,13.0s
YAK Yakutsk 14.57 182 ePn **Pn** **18 40 18.7 -3.6**
comp=Z,18nm,0.8s
YAK Yakutsk 14.57 182 eP **Pn** **18 40 21.3 -1.0**
YAK eS **Sn** **18 43 06.4 +2.5**
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK smax
comp=E,6.0nm,1.3s
YAK MLR MLR
comp=Z,288nm,14.0s
SEY Seymchan 15.43 140 eP **Pn** **18 40 40.1 +6.3**
SEY pmax pmax
comp=Z,10.0nm,1.0s
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY MLR MLR
comp=Z,130nm,18.0s
SEY MLR MLR
comp=N,30nm,12.0s
SEY MLR MLR
comp=E,30nm,12.0s
MA2 Magadan 18.42 146 ePn **Pn** **18 41 11.4 -0.2**
comp=E,16nm,0.8s
MA2 Magadan 18.42 146 eP **Pn** **18 41 12.2 +0.6**
MA2 eS **Sn** **18 44 35.5 -1.9**
MA2 pmax pmax
comp=Z,10.0nm,0.9s
MA2 pmax pmax
comp=N,7.0nm,0.8s
MA2 MLR MLR
comp=Z,200nm,22.4s
BOD Bodaibo 19.69 207 eP **Pn** **18 41 22.0 -4.9**
BOD pmax pmax
comp=Z,32nm,0.9s
KBS Kingsbay 21.23 332 P **P** **18 41 44.7 +2.5**
TNA Tin City 21.50 87 eP **P** **18 41 45.5 +0.5**
comp=Z,8.3nm,0.9s,mb4.1
KRAR Krasnoyarsk 24.68 235 eP **P** **18 42 12.8 -4.4**
CIT Chita 25.46 205 eP **P** **18 42 23.6 -0.6**
PET Petropavlovsk 25.89 139 P **P** **18 42 28.5 +0.4**
comp=Z,145nm,1.3s,mb5.3
PET Petropavlovsk 25.89 139 eP **P** **18 42 26.8 -1.4**
PET e 18 46 49.6
PET MLR MLR
comp=Z,300nm,15.0s,MS4.0
TTA Tatalina 26.50 79 eP **P** **18 42 34.4 +0.7**
comp=Z,24nm,1.5s,mb4.5
TTA Tatalina 26.50 79 eP **P** **18 42 34.4 +0.7**
TTA pmax pmax
comp=Z,24nm,1.5s,mb4.5
COLA College 26.67 70 P **P** **18 42 37.4 +2.2**
comp=Z,3.9nm,0.9s,mb3.9
COLA College 26.67 70 P **P** **18 42 37.4 +2.2**
COLA pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
RES Resolute Bay 26.70 25 eP **P** **18 42 35.2 -0.3**
comp=Z,9.5nm,1.2s,mb4.2
RES Resolute Bay 26.70 25 eP **P** **18 42 35.2 -0.2**
RES pmax pmax
comp=Z,9.0nm,1.2s,mb4.2
INK Inuvik 26.70 55 P **P** **18 42 35.7 +0.2**
comp=Z,2.4nm,0.8s,mb3.8,baz=354,slow=12,SNR=10.0
INK LR LR 18 53 45.9
comp=Z,100nm,19.3s,MS3.4,baz=322,slow=38
INK Inuvik 26.70 55 eP **P** **18 42 35.4 -0.1**
comp=Z,7.6nm,1.3s,mb4.1
INK Inuvik 26.70 55 P **P** **18 42 35.7 +0.2**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK MLR MLR
comp=Z,100nm,19.3s
ILAR Eielson Array 26.97 70 P **P** **18 42 39.1 +1.2**
comp=Z,4.9nm,1.1s,mb4.0,baz=324,slow=8.7,SNR=42
ILAR PcP PcP 18 45 57.8 -1.7
comp=Z,0.9nm,0.9s,baz=317,slow=3.3,SNR=4.8
ARCES ARCESS Array B 27.29 312 P **P** **18 42 38.9 -1.9**
comp=Z,3.9nm,0.8s,mb4.0,baz=340,slow=10,SNR=2.7
ARE0 ARCESS Array S 27.29 312 P **P** **18 42 37.2 -3.6**
MCK McKinley 27.42 72 eP **P** **18 42 35.2 -6.7**
comp=Z,8.9nm,1.4s,mb4.1
MCK McKinley 27.42 72 eP **P** **18 42 35.2 -6.7**
MCK pmax pmax
comp=Z,9.0nm,1.4s,mb4.1
NVS Novosibirsk 27.75 246 eP **P** **18 42 44.5 -0.4**
NVS e 18 43 26.5
ZAK Zakamensk 28.32 218 eP **P** **18 42 49.5 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,2.0s,mb3.9
DAWY Dawson 29.20 64 eP **P** **18 42 58.4 +0.5**
SML Sawmill 29.24 74 eP **P** **18 42 57.4 -0.7**
ULN Ulaanbaatar 30.28 212 P **P** **18 43 06.1 -1.3**
comp=Z,1.5nm,0.8s,mb3.8
ULN Ulaanbaatar 30.28 212 P **P** **18 43 06.1 -1.3**
ULN pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
SONM Songino Array 30.39 213 P **P** **18 43 09.0 +0.6**
comp=Z,1.1nm,0.7s,mb3.7,baz=4.9,slow=8.9,SNR=11
SONM LR LR 18 56 42.8
comp=Z,86nm,21.2s,MS3.4,baz=264,slow=39
SUMG Summit 30.95 354 eP **P** **18 43 13.4 +0.1**
comp=Z,3.9nm,0.7s,mb4.3
CHKZ Chkalovo 31.64 259 eP **P** **18 43 18.6 -0.7**
comp=Z,6.5nm,1.3s,mb4.3
CHKZ Chkalovo 31.64 259 eP **P** **18 43 18.7 -0.7**
CHKZ pmax pmax
comp=Z,7.0nm,1.3s,mb4.3
ADK Adak 31.71 110 P **P** **18 43 20.0 0.0**
comp=Z,68nm,1.2s,mb5.4
ADK Adak 31.71 110 P **P** **18 43 20.0 0.0**
ADK pmax pmax
comp=Z,68nm,1.2s,mb5.3
MDJ Mudanjiang 32.02 181 P **P** **18 43 21.5 -1.2**
MDJ AMB AMB
comp=Z,9.0nm,2.3s,mb4.2
MDJ AMB AMB
comp=Z,135nm,6.9s
MDJ LR LR
comp=N,54nm,17.3s,MS3.4
MDJ LR LR
comp=E,50nm,16.8s,MS3.4
MDJ LR LR
comp=Z,70nm,19.0s,MS3.4
BVAR Borovoye Array 32.30 259 P **P** **18 43 26.3 +1.2**
comp=Z,1.1nm,0.6s,mb3.9,baz=31,slow=8.8,SNR=7.6
BVAR PcP PcP 18 46 17.5 +4.4
comp=Z,0.6nm,0.6s,baz=26,slow=3.8,SNR=3.8
KURK Kurchatov 32.60 248 eP **P** **18 43 27.2 -0.7**
comp=Z,10nm,1.1s,mb4.7
KURK Kurchatov 32.60 248 eP **P** **18 43 27.2 -0.6**
KURK pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ZRNK Zerenda 32.68 260 P **P** **18 43 33.0 +4.5**
comp=Z,1.4nm,0.9s,mb3.9
ZRNK Zerenda 32.68 260 P **P** **18 43 33.1 +4.6**
ZRNK pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
CN2 Changchun 32.90 187 eP **P** **18 43 31.0 +0.6**
FINES FINESS Array B 34.47 305 P **P** **18 43 47.9 +3.8**
comp=Z,1.3nm,0.8s,mb3.9,baz=44,slow=14,SNR=4.8
YKA Yellowknife Ar 35.40 47 P **P** **18 43 51.6 -0.5**
comp=Z,2.2nm,0.8s,mb4.1,baz=343,slow=8.3,SNR=21
YKA PcP PcP 18 46 20.9 -1.0
comp=Z,0.8nm,0.8s,baz=326,slow=3.6,SNR=7.6
YKA LR LR 18 57 03.4
comp=Z,69nm,19.5s,MS3.4,baz=100,slow=34
YKA Yellowknife Ar 35.40 47 P **P** **18 43 51.6 -0.5**
YKA PcP PcP 18 46 20.9 -1.0
YKA LR LR 18 57 03.5
YKA Yellowknife Ar 35.40 47 P **P** **18 43 51.6 -0.5**
YKA 18 46 20.9
MKAR Makanchi Array 35.54 242 P **P** **18 43 53.4 +0.1**
comp=Z,1.0nm,0.7s,mb3.9,baz=19,slow=7.7,SNR=11
MKAR PcP PcP 18 46 21.9 -0.5
comp=Z,0.6nm,0.7s,baz=340,slow=3.8,SNR=3.2
MKAR LR LR 18 59 57.2
comp=Z,192nm,18.0s,MS3.9,baz=100,slow=39
MKAR Makanchi Array 35.54 242 P **P** **18 43 53.5 +0.2**
MKAR 18 46 21.9

DLBC Dease Lake 36.25 61 P **P** **18 43 59.2 -0.1**
comp=Z,3.6nm,0.9s,mb4.3,baz=359,slow=17,SNR=8.9
DLBC Dease Lake 36.25 61 eP **P** **18 43 59.9 +0.5**
HHC Hu-ho-hao-te 36.71 204 eP **P** **18 44 02.5 -0.9**
HHC AP pP 18 44 06.8 +0.4
HHC XP sP 18 44 09.8 +2.1
HHC PP PP 18 45 27.0 +0.1
HHC PCP PcP 18 46 26.0 +0.2
HHC S **S** **18 49 44.8 -2.0**
HHC PCS PcS 18 50 12.8 -1.0
HHC SS SS 18 52 11.0 -16
HHC SCS ScS 18 54 15.8 -3.6
HHC AMB AMB
comp=Z,10.0nm,0.3s,mb5.1
HHC AMB AMB
comp=Z,157nm,5.7s
HHC LR LR
comp=N,188nm,10.0s
HHC LR LR
comp=E,154nm,5.9s
HHC LR LR
comp=Z,219nm,13.7s,MS4.1
BJI Beijing 37.12 198 eP **P** **18 44 07.3 +0.5**
BJI AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
BJI LR LR
comp=N,363nm,12.0s,MS4.4
BJI LR LR
comp=E,133nm,13.0s,MS4.4
BJI LR LR
comp=Z,119nm,16.0s,MS3.8
WMQ Urumqi 37.32 234 eP **P** **18 44 07.5 -1.0**
WMQ AP pP 18 44 12.0 +0.4
WMQ XP sP 18 44 14.5 +1.7
WMQ PP PP 18 45 34.5 +0.9
WMQ AMB AMB
comp=Z,12nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,88nm,4.3s
WMQ LR LR
comp=N,612nm,22.6s
WMQ LR LR
comp=Z,569nm,22.0s,MS4.3
NB2 NORSAR Subarra 37.50 316 P **P** **18 44 10.3 +0.3**
comp=Z,0.6nm,0.7s,mb3.5,baz=40,slow=5.3
NB2 NORSAR Subarra 37.50 316 P **P** **18 44 10.3 +0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
NOA NORSAR Array B 37.50 316 P **P** **18 44 09.6 -0.4**
comp=Z,2.0nm,0.8s,mb4.0,baz=19,slow=8.2,SNR=4.2
OBN Obninsk 38.15 292⇑ eP **P** **18 44 11.0 -4.5**
OBN i 18 44 20.2
OBN e 18 45 42.7
OBN eS **S** **18 50 14.5 +5.9**
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.8
FCC Fort Churchill 42.04 33 eP **P** **18 44 45.0 -2.8**
comp=Z,16nm,1.3s,mb4.5
FCC Fort Churchill 42.04 33 eP **P** **18 44 45.0 -2.8**
FCC pmax pmax
comp=Z,16nm,1.3s,mb4.5
AKASG Malin Array Be 43.86 296 P **P** **18 45 07.1 +4.6**
comp=Z,1.4nm,0.7s,mb3.8,baz=20,slow=8.8,SNR=7.6
EDM Edmonton 44.39 50 eP **P** **18 45 05.5 -1.3**
NJ2 Nanjing 44.89 194 eP **P** **18 45 08.8 -2.0**
NJ2 AP pP 18 45 13.3 -0.7
NJ2 XP sP 18 45 15.8 +0.6
NJ2 PP PP 18 46 54.0 -1.7
NJ2 S **S** **18 51 42.0 -6.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,140nm,3.5s
NJ2 LR LR
comp=N,770nm,14.0s
NJ2 LR LR
comp=E,260nm,25.7s
NJ2 LR LR
comp=Z,120nm,19.6s
CLL Collm 46.47 310 e(sP) sP 18 45 29.0 +1.4
KIV Kislovodsk 47.25 281 eP **P** **18 45 33.1 +3.7**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,128nm,15.0s,MS4.0
CD2 Chengdu 47.40 212 eP **P** **18 45 28.0 -2.6**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
WALA Waterton Lakes 48.27 53 eP **P** **18 45 37.7 +0.3**
comp=Z,17nm,1.4s,mb4.9
SCHQ Schefferville 48.44 13 P **P** **18 45 37.2 -1.5**
comp=Z,13nm,1.4s,mb4.8,baz=272,slow=9.2,SNR=5.4
SCHQ Schefferville 48.44 13 P **P** **18 45 35.9 -2.7**
GERES GERESS Array B 48.70 308 P **P** **18 45 40.6 0.0**
comp=Z,1.3nm,0.8s,mb4.0,baz=8.9,slow=9.5,SNR=3.6
ULM Lac du Bonnet 50.10 37 P **P** **18 45 49.7 -1.6**
comp=Z,1.1nm,0.6s,mb4.1,baz=350,slow=7.5,SNR=3.8
ULM Lac du Bonnet 50.10 37 P **P** **18 45 49.7 -1.6**
GNI Garni 50.38 277 P **P** **18 45 52.1 -1.4**
comp=Z,2.6nm,0.4s,mb4.7,baz=108,slow=6.4,SNR=2.0
MCMT McKenzie Canyo 52.54 53 eP **P** **18 46 03.3 -6.4**
EYMN Ely 52.95 34 P **P** **18 46 10.3 -2.3**
comp=Z,6.3nm,0.9s,mb4.5
GUN Gumba 53.10 231 eP **P** **18 46 15.2 +1.4**
comp=Z,27nm,1.0s,mb5.1
KMI Kunming 53.23 212 P **P** **18 46 17.5 +2.8**
KMI AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
KMI LR LR
comp=Z,93nm,13.4s,MS4.0
GKN Gorkha 53.24 232 eP **P** **18 46 16.2 +1.4**
comp=Z,32nm,0.9s,mb5.2
JIRN Jiri 53.29 231 eP **P** **18 46 16.2 +1.0**
comp=Z,17nm,1.0s,mb4.9
BRTR Keskin Array B 53.33 287 P **P** **18 46 16.9 +1.5**
comp=Z,0.3nm,0.4s,mb3.6,baz=49,slow=2.5,SNR=3.4
KKN Kakani 53.33 232 eP **P** **18 46 16.4 +0.9**
DMN Daman 53.54 232 eP **P** **18 46 18.3 +1.3**
YBH Yreka Blue Hor 53.56 63 LR LR 19 12 24.6
comp=Z,84nm,19.4s,MS3.8,baz=168,slow=40
KOLN Koldanda 53.66 233 eP **P** **18 46 18.7 +0.8**
comp=Z,15nm,1.1s,mb4.8
PDAR Pinedale Array 55.15 51 P **P** **18 46 28.9 +0.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=35,slow=2.9,SNR=7.4
DUG Dugway 57.03 55 P **P** **18 46 42.4 +0.3**
comp=Z,5.1nm,1.1s,mb4.5
DUG Dugway 57.03 55 P **P** **18 46 42.4 +0.3**
DUG pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
CMB Columbia Colle 57.60 62 P **P** **18 46 46.7 +0.6**
comp=Z,5.6nm,0.9s,mb4.6
CMB Columbia Colle 57.60 62 P **P** **18 46 46.7 +0.5**
CMB pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
NVAR Mina Array Bea 57.65 60 P **P** **18 46 48.6 +2.1**
comp=Z,3.8nm,0.8s,mb4.5,baz=358,slow=4.9,SNR=18
SMCO Snowmass 59.09 50 eP **P** **18 46 56.8 +0.1**
comp=Z,2.8nm,0.7s,mb4.4
NEN Nelson 61.03 58 eP **P** **18 47 10.9 +1.0**
ANMO Albuquerque 63.30 50 P **P** **18 47 25.1 0.0**
comp=Z,4.3nm,1.1s,mb4.5
ANMO Albuquerque 63.30 50 P **P** **18 47 25.1 0.0**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
WMOK Wichita Mounta 64.82 44 eP **P** **18 47 34.3 -0.9**
comp=Z,3.1nm,0.8s,mb4.4
WMOK e 18 47 49.1
WMOK Wichita Mounta 64.82 44 eP **P** **18 47 34.3 -0.8**
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
JCT Junction City 68.82 45 eP **P** **18 48 00.1 -0.5**
comp=Z,5.7nm,0.7s,mb4.6
JCT Junction City 68.82 45 eP **P** **18 48 00.1 -0.5**
JCT pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KSM Kuching 75.83 201 eP **P** **18 48 46.5 +4.0**
TORD Torodi Ar. Bea 85.61 310 P **P** **18 49 33.9 -0.9**
comp=Z,2.1nm,0.9s,mb4.3,baz=0.8,slow=5.4,SNR=9.6
WRA Warramunga Arr 96.29 176 P **P** **18 50 27.3 +2.5**
comp=Z,0.5nm,0.7s,mb4.0,baz=356,slow=5.6,SNR=5.2

*CSEM **28** 18:38:38.4, 3578N×31.16E, h29km, MD3.6, After ISK*

*ISK **28** 18:38:38.4, 3578N×31.16E, h29km, MD3.6*
*ISCJB **28** 18:39:38.2±0.3, 3570N±003×3120E±004, h33km, Error ellipse: s-maj=4.4km s-min=3.3km az=118.2*
*HLW **28** 18:39:43.6, 3556N×3106E, h33km, Mb3.7*
ISC 28 18:39:40.1±0.3, 3576N±003×3120E±004, h35km, n35, σ0§82/45, 6C-8D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ELL	**Elmali**	**1.44**	**314**	PN	**Pn**		**18 40 02.3**	**-1.3**
BCK	**Bucak**	**1.77**	**344**	PN	**Pn**		**18 40 08.1**	**-0.1**
BCK				SN	**Sn**		**18 40 28.4**	**-1.1**
GOLH	**Golhisar**	**1.98**	**319**	*i* P	**Pn**		**18 40 12.5**	**+1.4**
GOLH				*i* S	**Sn**		**18 40 35.9**	**+1.2**
IKL	**Isikli**	**2.07**	**76**	PN	**Pn**		**18 40 12.9**	**+0.6**
IKL				SN	**Sn**		**18 40 37.4**	**+0.5**
ISP	**Isparta**	**2.15**	**345**	PN	**Pn**		**18 40 12.4**	**-1.1**
KONT	**Konya--Tatoy**	**2.37**	**23**	PN	**Pn**		**18 40 16.5**	**0.0**
TKTP	**Tekketepe**	**2.38**	**343**	*i* P	**Pn**		**18 40 16.9**	**+0.3**
TKTP				*i* S	**Sn**		**18 40 46.6**	**+2.0**
YER	**Yerkesik**	**2.72**	**301**	PN	**Pn**		**18 40 21.6**	**+0.3**
KDHN	**Kadinhani**	**2.85**	**15**	*i* P	**Pn**		**18 40 22.2**	**-0.8**
KDHN				*i* S	**Sn**		**18 41 03.6**	**+7.4**
MERS	**Mersin**	**2.90**	**67**	PN	**Pn**		**18 40 24.5**	**+0.7**
DAT	**Datca**	**3.08**	**289**	PN	**Pn**		**18 40 25.8**	**-0.5**
MLSB	**Milas**	**3.16**	**300**	*e*PN	**Pn**		**18 40 26.5**	**-0.7**
KIZT	**Kizilcal**	**3.16**	**10**	PN	**Pn**		**18 40 26.5**	**-0.9**
BODT	**Bodrum**	**3.40**	**294**	*e*PN	**Pn**		**18 40 30.0**	**-0.6**
ALT	**Altintas**	**3.41**	**346**	*e*PN	**Pn**		**18 40 30.0**	**-0.7**
KARA	**Karaisali**	**3.45**	**63**	*e*PN	**Pn**		**18 40 31.5**	**+0.2**
HTY	**Hatay**	**4.02**	**83**	*e*PN	**Pn**		**18 40 39.9**	**+0.7**
KOZT	**Kozan**	**4.10**	**64**	*e*PN	**Pn**		**18 40 40.6**	**+0.4**
BHL	**Bhannes**	**4.10**	**115**	Sn	**Sn**		**18 41 24.7**	**-2.3**
HWQ	**Hawqa**	**4.17**	**109**	*e*Pn	**Pn**		**18 40 41.8**	**+0.7**
HWQ				Sn	**Sn**		**18 41 27.9**	**-0.6**
FKH	**Fakeheh**	**4.53**	**108**	Sn	**Sn**		**18 41 36.8**	**-0.8**
AMAG	**Maghara**	**5.37**	**161**	⇓P	**Pn**		**18 40 58.2**	**+0.5**
AMAG				S	**Sn**		**18 41 54.6**	**-3.7**
HHAG	**Hagoal**	**5.84**	**172**	⇑P	**Pn**		**18 41 04.7**	**+0.6**
KOT	**Kottamia**	**5.84**	**175**	⇓P	**Pn**		**18 41 04.7**	**+0.6**
KOT				S	**Sn**		**18 42 04.3**	**-5.5**
FYM	**Al Fayyum**	**6.05**	**181**	⇑P	**Pn**		**18 41 07.1**	**+0.1**
SUZ		**6.06**	**166**	⇑P	**Pn**		**18 41 07.7**	**+0.6**
HNAT	**Natroun**	**6.13**	**185**	⇓P	**Pn**		**18 41 08.4**	**+0.3**
HSAF	**As Saff**	**6.13**	**177**	⇓P	**Pn**		**18 41 08.4**	**+0.3**
GLL	**Jalalah**	**6.18**	**176**	⇓P	**Pn**		**18 41 09.0**	**+0.3**
SLUM		**6.56**	**231**	⇓P	**Pn**		**18 41 13.9**	**-0.1**
SLUM				S	**Sn**		**18 42 20.9**	**-6.6**
HKAT	**Jabal Katrina**	**7.59**	**161**	⇓P	**Pn**		**18 41 28.9**	**+0.7**
TR2		**7.66**	**163**	⇑P	**Pn**		**18 41 29.4**	**+0.4**
AWBH		**7.67**	**195**	⇑P	**Pn**		**18 41 28.9**	**-0.3**
SWA2		**8.11**	**218**	⇓P	**Pn**		**18 41 33.9**	**-1.3**
SWA2				S	**Sn**		**18 42 57.4**	**-8.1**
HFRF	**Wahat Farafira**	**8.93**	**197**	⇑P	**Pn**		**18 41 46.3**	**-0.2**

*ISCJB **28** 18:48:48.0±0.8, 2384N±005×7047E±005, h10km, Error ellipse: s-maj=9.2km s-min=5.3km az=98.3*
*NDI **28** 18:48:55.5±2.3, 2368N×7018E, h5km, ML3.6*
ISC 28 18:48:48.9±0.8, 2378N±005×7047E±005, h10km, n12, σ1§11/17, 1C, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**0.91**	**235⇑**	*e*P	**Pg**		**18 49 07.1**	**+0.5**
BHJ				*e*S	**Sg**		**18 49 17.6**	**-0.8**
BHJ				AML	AML		18 49 20.8	
	comp=N,3μm,0.0s							
BHJ				AML	AML		18 49 21.1	
	comp=E,4μm,0.2s							
BHV	**Bhavnagar**	**2.55**	**142**	*e*PN	**Pn**		**18 49 30.5**	**+0.2**
BHV				*e*SN	**Sn**		**18 50 02.5**	**+1.1**
AJM	**Ajmer**	**4.64**	**54**	*e*P	**Pb**		**18 50 10.2**	**-0.2**
AJM				*e*S	**Sb**		**18 51 05.3**	**-1.1**
AJM				AML	AML		18 51 28.2	
	comp=E,79nm,0.3s							
AJM				AML	AML		18 51 28.3	
	comp=N,52nm,0.2s							
POO	**Poona**	**6.11**	**148**	*e*P	**Pn**		**18 50 27.0**	**+7.8**
POO				*e*S	**Sn**		**18 51 34.0**	**+4.9**
BHPL	**Bhopal**	**6.41**	**93**	*e*P	**Pn**		**18 50 32.5**	**+9.2**
BHPL				*e*x	**Sn**		**18 51 35.8**	**-0.8**
BHPL				AML	AML		18 52 16.4	
	comp=N,37nm,0.4s							
KAD	**Karad**	**7.32**	**151**	*e*x	**Sn**		**18 51 58.0**	**-1.1**
LATR	**Latur**	**7.80**	**132**	*e*x	**Sn**		**18 52 05.0**	**-5.8**
KOLN	**Koldanda**	**12.48**	**69**	*e*P	**Pn**		**18 51 48.6**	**+2.0**
	comp=N,3.3nm,0.3s							
KKN	**Kakani**	**13.93**	**70**	*e*P	**Pn**		**18 52 06.5**	**+0.2**
PKI	**Pulchoki**	**13.99**	**71**	*e*P	**Pn**		**18 52 09.3**	**+2.1**
	comp=N,5.3nm,0.4s							
GUN	**Gumba**	**14.47**	**70**	*e*P	**Pn**		**18 52 11.9**	**-1.8**
	comp=N,5.3nm,0.3s							
JIRN	**Jiri**	**14.69**	**71**	*e*P	**Pn**		**18 52 16.7**	**0.0**
	comp=N,5.7nm,0.4s							

IDC 28 19:04:20.5±7.9, 654S×14768E, h90km±47km, mb3.2/2, mb1 3.2/4, mb1mx3.1/14, mbtmp3.4/4, Error ellipse: s-maj=75.6km s-min=56.5km az=74.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.90**	**190**	P	Pn		19 05 03.9	-0.7
	3.3nm,0.3s,baz=24,slow=12,SNR=17							
PMG				S	Sn		19 05 39.5	+1.0
	4.5nm,0.3s,baz=186,slow=19,SNR=3.7							
WRA	**Warramunga Arr**	**18.58**	**223**	P	Pn		19 08 29.5	-2.2
	0.1nm,0.3s,baz=50,slow=11,SNR=8.5							
ASAR	**Alice Springs**	**21.57**	**216**	P	P		19 09 03.0	+0.3
	0.6nm,0.4s,baz=51,slow=8.2,SNR=44							
STKA	**Stephens Creek**	**25.84**	**192**	P	P		19 09 44.1	+0.6
	0.5nm,0.4s,baz=17,slow=13,SNR=2.5							

*BJI **28** 19:05:52.8, 4357N×14756E, h30km, mB4.7, mb4.6, Ms4.3, Msz3.9*
*ISCJB **28** 19:05:53.7±0.9, 4325N±006×14773E±006, h48km±7km, mb4.2/22, Error ellipse: s-maj=11.4km s-min=5.8km az=120.7*
*JMA **28** 19:05:53.5±0.2, 4317N×14765E, h25km, M4.5*
*MOS **28** 19:05:54.4±1.0, 4337N×14775E, h50km, mb4.5/6, Error ellipse: s-maj=17.6km s-min=10.1km az=112.4*
*NEIC **28** 19:05:55.4±2.1, 4326N×14773E, h47km±15km, mb4.1/7, Error ellipse: s-maj=22.1km s-min=9.7km az=157.0*
*SKHL **28** 19:05:55.4±0.6, 4340N×14770E, h52km±21km, mb4.8/2*
*IDC **28** 19:05:56.4±2.7, 4323N×14781E, h56km±7km, mb3.7/12, mb1 3.9/13, mb1mx3.7/23, mbtmp4.0/13, MS2.7/1, Ms1 2.7/1, ms1mx2.0/30, Error ellipse: s-maj=67.3km s-min=12.9km az=178.0*
ISC 28 19:05:55.0±0.9, 4330N±006×14774E±007, h43km±7km, h56km±2.4km: pP-P, n55, σ0§93/73, mb4.2/22, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.46**	**273**	P	**Pn**		**19 06 18.1**	**-0.7**
NEM2				*e*S	**Sn**		**19 06 36.4**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**1.55**	**299**	⇓*i*P	**Pn**		**19 06 19.9**	**-0.2**
YUK				AMB	AMB		19 06 20.0	
	180nm,0.4s							
YUK				AMB	AMB		19 06 20.0	
	410nm,0.4s							
YUK				AMB	AMB		19 06 20.0	
	2μm,0.4s							
YUK				AMB	AMB		19 06 24.0	
	2μm,2.0s							
YUK				AMB	AMB		19 06 24.0	
	2μm,2.0s							
YUK				*i* S	**Sn**		**19 06 38.7**	**-0.2**
YUK				A			19 06 43.0	
	3μm,0.4s							
YUK				A			19 06 46.2	
	3μm,1.0s							
YUK				A			19 06 46.2	
	3μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**1.55**	**299**	⇓*i*PN	**Pn**		**19 06 19.9**	**-0.2**
YUK				*i* S	**Sn**		**19 06 38.7**	**-0.2**
YUK				pmax	pmax			
	comp=Z,2100μm,0.3s							

YUK pmax pmax
comp=N,180nm,0.3s
YUK pmax pmax
comp=E,410nm,0.4s
YUK pmax pmax
comp=N,2μm,2.0s
YUK pmax pmax
comp=Z,2μm,2.0s
YUK pmax pmax
comp=E,2μm,1.0s
YUK smax
comp=N,3μm,0.4s
YUK smax
comp=E,3μm,0.4s
YUK smax
comp=N,3μm,1.0s
YUK smax
comp=E,3μm,1.0s
KUR Kuril'sk 1.94 3 *e*P **Pn 19 06 24.5 -0.9**
KUR AMB AMB 19 06 32.5
comp=E,80nm,0.5s
KUR AMB AMB 19 06 32.5
comp=E,110nm,0.5s
KUR *i* S **Sn 19 06 45.9 -2.6**
KUR A 19 06 47.5
comp=E,700nm,0.5s
KUR A 19 06 47.5
comp=E,1μm,0.5s
KUR Kuril'sk 1.94 3 *e*PN **Pn 19 06 24.5 -0.9**
KUR *i* S **Sn 19 06 45.9 -2.6**
KUR pmax pmax
comp=N,80nm,0.5s
KUR pmax pmax
comp=E,80nm,0.5s
KUR pmax pmax
comp=Z,100nm,0.5s
KUR smax
comp=N,700nm,0.5s
KUR smax
comp=E,1μm,0.5s
JRA Rausu 2.01 289 P **Pn 19 06 26.6 +0.3**
JRA *e*S **Sn 19 06 51.0 +0.8**
JNK Nakash 2.22 278 P **Pn 19 06 28.8 -0.4**
JNK *e*S **Sn 19 06 55.2 -0.2**
JAK Akkeshi 2.25 263 P **Pn 19 06 29.1 -0.5**
JAK *e*S **Sn 19 06 54.6 -1.5**
JTKR Abashiri--Toko 2.86 285 P **Pn 19 06 39.1 +1.0**
JTKR *e*S **Sn 19 07 13.0 +1.7**
JOB Onbets 2.89 263 P **Pn 19 06 38.1 -0.3**
JOB *e*S **Sn 19 07 10.0 -1.9**
JAR Ashorobuto 2.90 271 P **Pn 19 06 38.6 0.0**
JAR *e*S **Sn 19 07 11.9 -0.3**
JMP Maruseppu 3.26 284 P **Pn 19 06 44.7 +1.2**
JCH Churui 3.29 259 P **Pn 19 06 43.4 -0.5**
JCH *e*S **Sn 19 07 20.5 -1.2**
JEM Erimo 3.62 251 P **Pn 19 06 48.7 +0.3**
JEM *e*S **Sn 19 07 29.9 +0.1**
JFR Furan 3.76 270 *e*S **Sn 19 07 33.4 -0.1**
JNBK Urakawa-nobuka 3.81 256 P **Pn 19 06 51.0 -0.1**
JNBK *e*S **Sn 19 07 34.0 -0.6**
ASAJ Asahikawa 3.82 284 P **Pn 19 06 53.3 +2.1**
comp=E,5.8nm,0.3s,baz=134,slow=8.4,SNR=48
ASAJ S **Sn 19 07 39.8 +4.9**
comp=E,4.5nm,0.3s,baz=0.2,slow=30,SNR=2.7
ASAJ LR LR 19 08 41.7
comp=E,107nm,20.1s,baz=1.1,slow=43
ASAJ Asahikawa 3.82 284 PN **Pn 19 06 53.3 +2.1**
ASAJ S **Sn 19 07 39.8 +5.0**
ASAJ pmax pmax
comp=Z,6.0nm,0.3s
ASAJ smax
comp=N,5.0nm,0.3s
ASAJ MLR MLR
comp=Z,107nm,20.1s
JSE Soyaes 4.07 296 P **Pn 19 06 56.0 +1.4**
JEW Eniwo 4.63 266 P **Pn 19 07 03.6 +1.2**
JEW *e*S **Sn 19 07 56.3 +1.4**
YSS Yuzh-Sakhalins 5.08 318 *e*Pn **Pn 19 07 10.0 +1.5**
MDJ Mudanjiang 13.14 282 P **Pn 19 08 58.3 -0.7**
MDJ AMB AMB
comp=Z,125nm,4.3s
KS15 Wonju Array Si 16.21 256 P **Pn 19 09 38.8 -0.7**
MA2 Magadan 16.41 5 P **Pn 19 09 41.3 -0.7**
comp=Z,5.2nm,1.1s
MA2 Magadan 16.41 5 P **Pn 19 09 41.3 -0.8**
MA2 pmax pmax
comp=Z,5.0nm,1.1s
SSE Sheshan 24.30 249 P **P 19 11 08.0 -0.3**
SSE AMB AMB
comp=Z,17nm,0.7s,mb4.6
SSE AMB AMB
comp=Z,115nm,3.7s
NJ2 Nanjing 25.35 253 *e*P **P 19 11 18.5 +0.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
HHC Hu-ho-hao-te 26.84 277 *e*P **P 19 11 32.3 +1.0**
HHC AP pP 19 11 43.8 +1.0
HHC XP sP 19 11 49.5 +1.6
HHC PP 19 12 17.5
HHC PCP PcP 19 14 55.5 +2.5
HHC S **S 19 16 02.5 -2.1**
HHC XS sS 19 16 20.3 -3.7
HHC SS 19 17 15.3
HHC PCS PcS 19 18 35.3 +0.9
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb4.6
HHC AMB AMB
comp=Z,87nm,4.8s
HHC LR LR
comp=N,135nm,4.7s
HHC LR LR
comp=E,182nm,4.7s
HHC LR LR
comp=Z,95nm,5.5s
ULN Ulaanbaatar 28.60 293 *e*P **P 19 11 47.6 +0.6**
comp=Z,3.8nm,0.9s,mb4.1
ULN Ulaanbaatar 28.60 293 *e*P **P 19 11 47.6 +0.6**
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
SONM Songino Array 29.04 294 P **P 19 11 51.9 +1.0**
comp=Z,1.9nm,0.7s,mb3.9,baz=82,slow=8.3,SNR=19
LZH Lanzhou 34.22 273 *e*P **P 19 12 36.5 +0.1**
LZH AP pP 19 12 49.8 +1.7
LZH XP sP 19 12 55.0 +1.8
LZH *e*PP PP 19 13 51.5 -3.0
LZH AMB AMB
comp=Z,19nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,53nm,5.6s
LZH LR LR
comp=E,436nm,13.7s
LZH LR LR
comp=Z,589nm,17.5s
CD2 Chengdu 36.79 265 *e*P **P 19 12 57.5 -1.0**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
ILAR Eielson Array 41.60 36 P **P 19 13 38.3 -0.4**
comp=Z,0.4nm,0.4s,mb3.4,baz=270,slow=8.8,SNR=7.4
WMQ Urumqi 42.66 292 *e*P **P 19 13 48.8 +1.5**
WMQ AMB AMB
comp=Z,8.0nm,1.2s,mb4.3
WMQ AMB AMB
comp=Z,57nm,4.3s
MKAR Makanchi Array 45.18 298 P **P 19 14 07.9 +0.4**
comp=Z,2.0nm,0.6s,mb4.1,baz=79,slow=8.7,SNR=25
KURK Kurchatov 46.14 305 *e*P **P 19 14 13.9 -1.2**
comp=Z,2.0nm,0.8s,mb4.1
KURK Kurchatov 46.14 305 *e*P **P 19 14 13.9 -1.2**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
INK Inuvik 46.58 30 P **P 19 14 19.4 +0.9**
comp=Z,2.1nm,0.5s,mb4.4,baz=304,slow=5.0,SNR=14
INK Inuvik 46.58 30 *e*P **P 19 14 20.2 +1.7**
comp=Z,3.0nm,0.5s,mb4.5
INK Inuvik 46.58 30 *e*P **P 19 14 20.2 +1.7**
INK pmax pmax
comp=Z,3.0nm,0.5s
BVAR Borovoye Array 50.12 310 P **P 19 14 46.6 +0.7**
comp=Z,0.6nm,0.4s,mb4.0,baz=87,slow=12,SNR=5.2
ZRNK Zerenda 50.92 310 *e*P **P 19 14 51.6 -0.3**
comp=Z,1.6nm,0.7s,mb4.1
ZRNK Zerenda 50.92 310 *e*P **P 19 14 51.6 -0.3**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
RES Resolute Bay 55.28 17 *e*P **P 19 15 23.5 -0.4**
comp=Z,2.7nm,0.6s,mb4.5
RES Resolute Bay 55.28 17 *e*P **P 19 15 23.5 -0.4**
RES pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
YKA Yellowknife Ar 55.94 34 P **P 19 15 28.1 -0.5**
comp=Z,0.7nm,0.7s,mb3.8,baz=298,slow=6.9,SNR=9.4
ARCES ARCESS Array B 59.82 340 P **P 19 15 55.5 -0.3**
comp=Z,4.3nm,0.8s,mb4.5,baz=46,slow=6.9,SNR=17
FINES FINESS Array B 65.47 333 P **P 19 16 33.0 -0.6**
comp=Z,1.1nm,0.5s,mb4.1,baz=38,slow=6.9,SNR=11
FINES pP pP 19 16 48.8 +2.8
comp=Z,1.4nm,0.9s,baz=38,slow=7.2,SNR=2.0
NVAR Mina Array Bea 67.45 58 P **P 19 16 47.4 +1.1**
comp=Z,0.9nm,0.5s,mb4.1,baz=290,slow=8.9,SNR=6.2
PDAR Pinedale Array 69.87 50 P **P 19 17 01.2 -0.1**
comp=Z,0.7nm,0.7s,mb3.7,baz=180,slow=0.7,SNR=4.8
NB2 NORSAR Subarra 70.18 339 P **P 19 17 02.6 -0.6**
comp=Z,1.7nm,0.6s,mb4.2,baz=32,slow=6.5
NB2 NORSAR Subarra 70.18 339 P **P 19 17 02.6 -0.6**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 70.18 339 P **P 19 17 02.9 -0.3**
comp=Z,0.8nm,0.5s,mb3.9,baz=32,slow=6.2,SNR=4.2
NOA pP pP 19 17 18.6 +2.8
comp=Z,0.5nm,0.5s,baz=31,slow=6.3,SNR=1.8
AKASG Malin Array Be 72.20 324 P **P 19 17 14.7 -0.7**
comp=Z,0.2nm,0.2s,mb3.6,baz=41,slow=6.0,SNR=6.8
AKASG pP pP 19 17 31.0 +3.0
comp=Z,0.5nm,0.4s,baz=39,slow=5.8,SNR=2.5

IDC 28 19:08:51.8±2.0, 1181S×16680E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/14, mbtmp4.0/7, MS3.0/1, Ms1 3.0/1, ms1mx2.6/28, Error ellipse: s-maj=89.2km s-min=23.1km az=136.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**20.99**	**98**	LR		LR	19 20 20.2	
comp=Z,36nm,18.6s,baz=311,slow=33								
STKA	**Stephens Creek**	**30.62**	**225**	P		P	19 15 07.7	+0.2
1.4nm,0.6s,baz=51,slow=11,SNR=6.9								
WRA	**Warramunga Arr**	**32.20**	**251**	P		P	19 15 21.9	+0.4
1.8nm,0.7s,baz=82,slow=9.1,SNR=11								
ASAR	**Alice Springs**	**33.39**	**245**	P		P	19 15 32.1	+0.2
1.7nm,0.7s,baz=70,slow=9.5,SNR=28								
FITZ	**Fitzroy Crossi**	**40.19**	**256**	P		P	19 16 30.7	+0.9
3.2nm,0.6s,baz=90,slow=10,SNR=7.2								
ILAR	**Eielson Array**	**83.91**	**18**	P		P	19 21 24.1	+0.6
0.3nm,0.5s,baz=252,slow=5.3,SNR=9.8								
MKAR	**Makanchi Array**	**94.78**	**317**	P		P	19 22 14.6	-0.7
0.5nm,0.5s,baz=84,slow=6.5,SNR=14								
YKA	**Yellowknife Ar**	**95.17**	**27**	P		P	19 22 15.8	-1.3
0.2nm,0.7s,baz=260,slow=4.8,SNR=4.1								

*ISCJB **28** 19:36:17.4±0.9, 1527N±003×9554W±003, h5km±5km, mb4.8/50, MS4.4/24, Error ellipse: s-maj=6.3km s-min=4.1km az=72.7*
*MEX **28** 19:36:18.9±1.3, 1508N×9565W, h13km±29km, MD4.8*
*BJI **28** 19:36:22.5, 1522N×9439W, h30km, mB5.1, Ms5.0, Msz4.7*
*MOS **28** 19:36:22.5±1.0, 1543N×9537W, h33km, mb5.2/24, Error ellipse: s-maj=10.9km s-min=6.3km az=97.6*
*HRVD **28** 19:36:23.8±0.4, 1528N×9544W, h12km, MW4.9/74, Centroid moment Tensor Solution. LP body waves: s36,c50;Mantle waves: s74,c110; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.27±.08; $M_{\theta\theta}$-1.61±.06; $M_{\phi\phi}$-0.66±.09; $M_{r\theta}$1.64±.22; $M_{\theta\phi}$0.74±.06; $M_{\phi r}$-1.26±.29; Best double couple: $M_0$2.97600×10^{16} NP1:ϕ_s294.00000°, δ23.00000°, λ81.00000°. NP2: ϕ_s125.00000°, δ67.00000°, λ94.00000°. Principal axes: T 3.1140, Plg68.0000°, Azm42.0000°; N -0.2770, Plg4.0000°, Azm303.0000°; P -2.8380, Plg22.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 19:36:23.8±0.3, 1548N×9523W, h30km, mb5.0/41, MS4.1/2, MD4.7(MEX) Error ellipse: s-maj=9.5km s-min=5.2km az=49.0*
*IDC **28** 19:36:25.6±3.9, 1540N×9528W, h53km±36km, mb3.9/18, mb1 4.1/19, mb1mx4.0/24, mbtmp4.2/19, ML4.0/1, MS4.4/18, Ms1 4.3/18, ms1mx4.2/30, Error ellipse: s-maj=23.3km s-min=10.8km az=60.0*
*SZGRF **28** 19:36:25.0, 1436N×9503W, h33km, mb4.8, Off coast of Oaxaca, Mexico*

ISC 28 19:36:18.8±1.1, 1534N±004×9550W±003, h1km±6km, n194, σ1§29/187, mb4.8/50, MS4.4/24, 2D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.72**	**306**	*e*P		**Pg**	19 36 32.2	**-0.5**
HUIG				*i* S		**Sg**	19 36 42.0	**-0.1**
CMIG	**Matias Romero**	**1.84**	**19**	*i* P		**Pn**	19 36 50.2	**-1.2**
CMIG				*i* S		**Sn**	19 37 16.8	**+1.4**
VHO	**Vista Hermosa**	**2.09**	**326**	*i* P		**Pn**	19 36 54.5	**-0.4**
VHO				*i* S		**Sn**	19 37 19.8	**-1.8**
OXX	**Oaxaca**	**2.09**	**326**	*i* P		**Pn**	19 36 55.1	**+0.1**
PNIG	**Pinotepa**	**2.74**	**293**	*i* P		**Pn**	19 36 59.6	**-4.2**
PNIG				*i* S		**Sn**	19 37 30.6	**-6.9**
TUIG	**Tuzandepetl**	**2.87**	**21**	*e*P		**Pn**	19 37 05.2	**-0.5**
SCX	**San Cristobal**	**3.08**	**63**	*i* P		**Pn**	19 37 09.7	**+1.1**
SCX				*i* S		**Sn**	19 37 47.5	**+1.4**
CCIG	**Comitan**	**3.37**	**73**	*e*P		**Pn**	19 37 11.3	**-1.2**
CCIG				*i* S		**Sn**	19 37 54.3	**+1.1**
TPIG	**Tehuac#an**	**3.54**	**330**	*e*P		**Pn**	19 37 13.7	**-1.2**
TPIG				*i* S		**Sn**	19 37 55.3	**-2.1**
LVIG	**Laguna Verde**	**4.45**	**349**	*e*P		**Pn**	19 37 28.0	**+0.7**
LVIG				*i* S		**Sn**	19 38 21.7	**+2.0**
ACX	**Acapulco**	**4.51**	**290**	*i* P		**Pn**	19 37 26.7	**-1.5**
MEIG	**Mezcala**	**4.71**	**304**	*i* P		**Pn**	19 37 30.7	**-0.3**
MEIG				*i* S		**Sn**	19 38 22.8	**-3.4**
PPM	**Popocatepetl**	**4.76**	**322**	*e*P		**Pn**	19 37 32.4	**+0.8**
PPM				*i* S		**Sn**	19 38 27.4	**0.0**
CAIG	**El Cayaco**	**4.88**	**291**	*i* P		**Pn**	19 37 32.6	**-0.8**
CAIG				*i* S		**Sn**	19 38 21.7	**-8.8**
PLIG	**Platanillo**	**4.89**	**309**	*e*P		**Pn**	19 37 33.2	**-0.2**
YAIG	**Yautepec**	**4.89**	**316**	*e*P		**Pn**	19 37 34.8	**+1.4**
UNM	**Universidad Na**	**5.30**	**319**	*e*P		**Pn**	19 37 40.0	**+1.0**
TEIG	**Tepich**	**8.42**	**54**	*e*Pn		**Pn**	19 38 18.4	**-3.5**
8.4nm,0.8s								
TEIG				*e*Sn		**Sn**	19 39 49.6	**-8.1**
SFJM	**Santa Fe**	**8.81**	**307**	*i* P		**Pn**	19 38 27.0	**-0.3**
ZAIG	**Zacatecas**	**9.96**	**319**	*e*P		**Pn**	19 38 39.2	**-3.8**
LNIG	**Linares**	**10.21**	**339**	*e*P		**Pn**	19 38 49.8	**+3.4**
LNIG				*e*S		**Sn**	19 40 46.9	**+5.3**
JTS	**JuntasAbangare**	**11.44**	**115**	P		**Pn**	19 39 04.8	**+1.4**
1.0nm,0.3s,baz=288,slow=14,SNR=7.5								
HKT	**Hockley**	**14.54**	**359**	*e*Pn		**Pn**	19 39 42.8	**-2.9**
6.9nm,1.1s								
HKT				*e*			19 39 54.2	
HKT	**Hockley**	**14.54**	**359**	*e*P		**Pn**	19 39 42.8	**-2.9**
HKT				pmax		pmax		
comp=Z,7.0nm,1.1s								
JCT	**Junction City**	**15.58**	**346**	*e*Pn		**Pn**	19 39 58.4	**-1.1**
comp=Z,31nm,1.2s								
JCT	**Junction City**	**15.58**	**346**	*e*P		**Pn**	19 39 58.4	**-1.1**
JCT				pmax		pmax		
comp=Z,31nm,1.2s								
GDL2	**Guadalupe Moun**	**18.62**	**336**	*e*Pn		**Pn**	19 40 39.6	**+1.7**
CPRX	**Cap Rock**	**19.18**	**338**	*e*Pn		**Pn**	19 40 44.5	**0.0**
MIAR	**Mount Ida**	**19.20**	**5**	*e*Pn		**Pn**	19 40 43.4	**-1.5**
comp=Z,31nm,1.1s								
MIAR	**Mount Ida**	**19.20**	**5**	*e*P		**Pn**	19 40 43.4	**-1.5**
MIAR				pmax		pmax		
comp=Z,31nm,1.1s								
WMOK	**Wichita Mounta**	**19.54**	**352**	*e*Pn		**Pn**	19 40 48.1	**-0.8**
comp=Z,240nm,2.3s								
WMOK	**Wichita Mounta**	**19.54**	**352**	*e*P		**Pn**	19 40 48.1	**-0.8**
WMOK				pmax		pmax		
comp=Z,240nm,2.3s								
UALR	**University of**	**19.56**	**8**	*e*Pn		**Pn**	19 40 47.6	**-1.6**
comp=Z,49nm,1.2s								
PLAL	**Pickwick Lake**	**20.67**	**17**	P		**P**	19 40 55.2	**-4.8**
comp=Z,12nm,1.1s								
BNM	**Barren Site**	**21.25**	**334**	*e*P		**P**	19 41 08.6	**+2.3**
LPM	**Los Pinos Moun**	**21.39**	**334**	*e*P		**P**	19 41 10.5	**+2.7**
LENM	**Lemitar**	**21.41**	**333**	*e*P		**P**	19 41 10.8	**+2.8**
LAZ	**Ladron**	**21.68**	**333**	*e*P		**P**	19 41 14.1	**+3.1**
WVT	**Waverly**	**21.81**	**17**	*e*P		**P**	19 41 11.1	**-1.2**
comp=Z,37nm,1.5s,mb4.6								
WVT	**Waverly**	**21.81**	**17**	*e*P		**P**	19 41 11.1	**-1.2**
WVT				pmax		pmax		
comp=Z,37nm,1.5s,mb4.6								
ANMO	**Albuquerque**	**21.87**	**335**	P		**P**	19 41 14.4	**+1.5**
comp=Z,2.3nm,0.7s,baz=172,slow=8.5,SNR=9.6								
ANMO	**Albuquerque**	**21.87**	**335**	*e*P		**P**	19 41 14.1	**+1.1**
comp=Z,26nm,1.4s,mb4.5								
ANMO	**Albuquerque**	**21.87**	**335**	*e*P		**P**	19 41 14.1	**+1.1**
ANMO				pmax		pmax		
comp=Z,26nm,1.4s								
TUC	**Tucson**	**21.88**	**323**	*e*P		**P**	19 41 14.9	**+1.8**
comp=Z,63nm,1.5s,mb4.8								
TUC	**Tucson**	**21.88**	**323**	*e*P		**P**	19 41 14.9	**+1.8**
TUC				pmax		pmax		
comp=Z,63nm,1.5s,mb4.8								
ROSC	**El Rosal**	**23.27**	**114**	P		**P**	19 41 31.3	**+3.5**
comp=Z,9.0nm,0.6s,mb4.5,baz=109,slow=17,SNR=8.5								
SLM	**Saint Louis**	**23.66**	**10**	*e*P		**P**	19 41 30.6	**-1.2**
CBKS	**Cedar Bluff**	**23.68**	**352**	*e*P		**P**	19 41 30.5	**-1.5**
comp=Z,157nm,1.3s,mb5.4								
CBKS	**Cedar Bluff**	**23.68**	**352**	*e*P		**P**	19 41 30.5	**-1.5**
CBKS				pmax		pmax		
comp=Z,157nm,1.3s,mb5.4								
KSU1	**Kansas State U**	**23.69**	**358**	*e*P		**P**	19 41 31.2	**-0.9**
KSU1				*e*			19 41 40.9	
WUAZ	**Wupatki**	**24.61**	**328**	*e*P		**P**	19 41 42.0	**+1.5**
comp=Z,84nm,1.4s,mb5.3								
BLO	**Bloomington**	**25.02**	**17**	*e*P		**P**	19 41 42.5	**-1.7**
comp=Z,23nm,0.8s,mb5.0								
BLO	**Bloomington**	**25.02**	**17**	*e*P		**P**	19 41 42.5	**-1.7**
BLO				pmax		pmax		
comp=Z,23nm,0.8s,mb5.0								
SDV	**Santo Domingo**	**25.13**	**102**	P		**P**	19 41 45.1	**-0.2**
comp=Z,6.2nm,0.8s,mb4.4,baz=293,slow=6.3,SNR=8.3								
SDV	**Santo Domingo**	**25.13**	**102**	*e*P		**P**	19 41 44.9	**-0.3**
comp=Z,19nm,1.0s,mb4.8								
PV01	**Paradox Valley**	**25.47**	**336**	*e*P		**P**	19 41 50.9	**+2.6**
BAR	**Barrett**	**25.84**	**316**	P		**P**	19 41 52.6	**+1.0**
ISCO	**Idaho Springs**	**25.93**	**342**	*e*P		**P**	19 41 54.3	**+1.8**
comp=Z,92nm,1.9s,mb5.1								
ISCO	**Idaho Springs**	**25.93**	**342**	*e*P		**P**	19 41 54.3	**+1.9**
ISCO				pmax		pmax		
comp=Z,92nm,1.9s,mb5.1								
NEN	**Nelson**	**26.62**	**323**	*e*P		**P**	19 42 00.7	**+1.9**
CCUT	**Cedar City**	**27.20**	**328**	P		**P**	19 42 00.8	**-3.2**
MSU	**Marysvale**	**27.36**	**331**	*e*P		**P**	19 42 08.2	**+2.8**
ARUT	**Antelope Range**	**27.42**	**328**	*e*P		**P**	19 42 08.8	**+2.9**
ARUT				*e*			19 42 18.7	
TPNV	**Topopah Spring**	**28.34**	**323**	*e*P		**P**	19 42 16.6	**+2.5**
comp=Z,134nm,2.1s,mb5.4								
TPNV	**Topopah Spring**	**28.34**	**323**	*e*P		**P**	19 42 16.6	**+2.4**
TPNV				pmax		pmax		
comp=Z,134nm,2.1s,mb5.4								
NLU	**North Lily Min**	**28.48**	**333**	*e*P		**P**	19 42 14.2	**-1.2**
PDAR	**Pinedale Array**	**29.88**	**339**	P		**P**	19 42 29.0	**+1.2**
comp=Z,0.9nm,0.9s,baz=134,slow=8.5,SNR=6.1								
PDAR				LR		LR	19 57 50.8	
comp=Z,350nm,20.1s,MS4.0,baz=74,slow=43								
HVU	**Hansel Valley**	**30.28**	**334**	*e*P		**P**	19 42 32.2	**+0.8**
comp=Z,13nm,1.4s,mb4.6								
HVU	**Hansel Valley**	**30.28**	**334**	*e*P		**P**	19 42 32.2	**+0.8**
HVU				pmax		pmax		
comp=Z,13nm,1.4s,mb4.6								
MNV	**Mina**	**30.45**	**323**	*e*P		**P**	19 42 35.9	**+3.0**
comp=Z,17nm,1.1s,mb4.8								
MNV	**Mina**	**30.45**	**323**	*e*P		**P**	19 42 35.9	**+3.0**
MNV				pmax		pmax		
comp=Z,17nm,1.1s,mb4.8								
NVAR	**Mina Array Bea**	**30.54**	**323**	P		**P**	19 42 36.1	**+2.5**
comp=Z,3.6nm,0.8s,mb4.3,baz=132,slow=9.4,SNR=22								
REDW	**Red Top Meadow**	**30.86**	**338**	*e*P		**P**	19 42 37.3	**+0.8**
comp=Z,53nm,1.4s,mb5.3								
REDW				*e*			19 42 45.4	
SNOW	**Snow King Moun**	**30.91**	**338**	*e*P		**P**	19 42 38.7	**+1.7**
comp=Z,36nm,1.1s,mb5.2								
QLMT	**Earthquake Lak**	**32.34**	**339**	P		**P**	19 42 46.8	**-2.8**
QLMT				*e*			19 42 52.5	
QLMT				*e*			19 43 02.8	
HLID	**Hailey**	**32.43**	**334**	*e*P		**P**	19 42 52.1	**+1.8**
comp=Z,11nm,1.2s,mb4.7								
SADO	**Sadowa**	**32.44**	**22**	P		**P**	19 42 47.8	**-2.6**
comp=Z,3.5nm,0.8s,mb4.3,baz=271,slow=6.1,SNR=4.2								
MCMT	**McKenzie Canyo**	**32.85**	**337**	*e*P		**P**	19 42 56.6	**+2.6**
DLMT	**Dillon**	**33.22**	**338**	*e*P		**P**	19 42 59.1	**+1.9**
comp=Z,58nm,1.3s,mb5.3								
EGMT	**Eagleton**	**34.65**	**343**	*e*P		**P**	19 43 09.0	**-0.7**
comp=Z,18nm,1.3s,mb4.8								
CHMT	**Chamberlain Mo**	**34.78**	**339**	*e*P		**P**	19 43 11.9	**+1.1**
ULM	**Lac du Bonnet**	**34.82**	**360**	P		**P**	19 43 10.0	**-1.1**
comp=Z,5.5nm,1.2s,mb4.3,baz=179,slow=12,SNR=4.3								
ULM				LR		LR	19 58 24.1	
comp=Z,246nm,18.8s,MS4.0,baz=321,slow=38								
ULM	**Lac du Bonnet**	**34.82**	**360**	P		**P**	19 43 10.0	**-1.1**
ULM				LR		LR	19 58 24.1	
YBH	**Yreka Blue Hor**	**35.26**	**324**	LR		LR	19 59 26.7	
comp=Z,1μm,19.6s,MS4.7,baz=148,slow=39								
EDM	**Edmonton**	**40.33**	**343**	*e*P		**P**	19 43 57.9	**+0.1**
LPAZ	**La Paz**	**41.45**	**138**	P		**P**	19 44 06.4	**-0.6**
comp=Z,2.1nm,0.9s,mb3.9,baz=323,slow=10,SNR=4.9								
LPAZ				LR		LR	20 00 39.4	
comp=Z,222nm,20.2s,MS4.0,baz=86,slow=35								
FCC	**Fort Churchill**	**43.36**	**1**	*e*P		**P**	19 44 20.7	**-1.8**
comp=Z,9.3nm,1.3s,mb4.3								
FCC	**Fort Churchill**	**43.36**	**1**	*e*P		**P**	19 44 20.7	**-1.9**
FCC				pmax		pmax		
comp=Z,9.0nm,1.3s,mb4.3								
SCHQ	**Schefferville**	**45.23**	**23**	P		**P**	19 44 34.7	**-2.8**
comp=Z,5.4nm,0.8s,mb4.5,baz=240,slow=5.0,SNR=5.6								
SCHQ				LR		LR	20 06 43.8	
comp=Z,566nm,19.1s,MS4.5,baz=223,slow=40								
SCHQ	**Schefferville**	**45.23**	**23**	P		**P**	19 44 34.7	**-2.9**
SCHQ				LR		LR	20 06 43.8	
LVC	**Limon Verde**	**45.83**	**145**	P		**P**	19 44 42.5	**+0.2**
comp=Z,0.9nm,0.4s,mb4.1,baz=327,slow=5.8,SNR=3.7								
SIV	**San Ignacio**	**46.10**	**131**	P		**P**	19 44 42.9	**-1.5**
comp=Z,5.4nm,1.1s,mb4.5,baz=312,slow=7.3,SNR=13								
YKA	**Yellowknife Ar**	**48.99**	**348**	P		**P**	19 45 06.2	**-0.7**
comp=Z,1.9nm,0.8s,mb4.2,baz=154,slow=7.2,SNR=25								
YKA				LR		LR	20 06 12.0	
comp=Z,310nm,18.7s,MS4.3,baz=170,slow=36								
YKW3	**Yellowknife Ar**	**49.06**	**348**	*e*P		**P**	19 45 06.0	**-1.5**
DLBC	**Dease Lake**	**50.08**	**337**	LR		LR	20 06 54.7	
comp=Z,614nm,18.1s,MS4.7,baz=356,slow=36								
FRB	**Frobisher Bay**	**51.83**	**15**	P		**P**	19 45 27.5	**-0.9**
comp=Z,4.5nm,0.8s,mb4.4,baz=167,slow=5.1,SNR=5.3								
CFAA	**Coronel Fontan**	**53.51**	**151**	P		**P**	19 45 40.8	**0.0**
comp=Z,0.2nm,0.4s,baz=340,slow=8.8,SNR=5.4								
RKT	**Rikitea**	**54.34**	**226**	*e*S		**S**	19 53 21.0	**-4.8**
comp=Z,148nm,29.2s								
RKT				*e*LR		LR	20 01 33.3	
comp=Z,395nm,27.2s								
CPUP	**Villa Florida**	**55.62**	**138**	P		**P**	19 45 55.2	**-0.9**
comp=Z,0.5nm,0.3s,mb4.0,baz=22,slow=12,SNR=2.2								
CPUP				LR		LR	20 09 51.3	
comp=Z,163nm,21.9s,MS4.1,baz=311,slow=36								
BDFB	**Brasilia**	**56.10**	**121**	P		**P**	19 46 00.2	**+0.6**
comp=Z,1.8nm,0.7s,mb4.2,baz=250,slow=15,SNR=2.1								
BDFB				LR		LR	20 12 54.1	
comp=Z,285nm,18.5s,MS4.4,baz=83,slow=39								
BDFB	**Brasilia**	**56.10**	**121**	P		**P**	19 46 00.2	**+0.6**
BDFB				LR		LR	20 12

TTA	**Tatalina**	**63.19**	**333**	*e*P		**P**	**19 46 48.2**	**-0.2**
	comp=Z,28nm,1.7s,mb5.1							
TTA	**Tatalina**	**63.19**	**333**	*e*P		**P**	**19 46 48.3**	**-0.2**
TTA				pmax	pmax			
	comp=Z,28nm,1.7s,mb5.1							
TBI	**Tubuai**	**65.28**	**235**	*e*S		S	19 55 42.6	-4.2
	comp=Z,158nm,33.8s							
TBI				*e*LR		LR	20 06 39.2	
	comp=Z,289nm,27.0s							
SUMG	**Summit**	**65.87**	**16**	*e*P		**P**	**19 47 05.0**	**-1.0**
	comp=Z,629nm,3.0s							
DAG	**Danmarks Havn**	**72.16**	**14⇓**	*i*P		**P**	**19 47 44.2**	**-0.9**
	comp=Z,5.0nm,0.9s,mb4.6							
DAG	**Danmarks Havn**	**72.16**	**14⇓**	*i*P		**P**	**19 47 44.2**	**-0.9**
DAG				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.6							
BILL	**Bilibino**	**78.95**	**338**	*e*P		**P**	**19 48 23.6**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.3							
BILL				*e*			19 48 31.6	
BILL	**Bilibino**	**78.95**	**338**	*e*P		**P**	**19 48 23.6**	**-0.5**
BILL				*e*			19 48 31.6	
BILL				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2							
ROSF	**Rostrenen**	**80.17**	**43**	*e*P		**P**	**19 48 30.6**	**-0.1**
ESDC	**Sonseca Array**	**81.54**	**51**	P		**P**	**19 48 37.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=278,slow=4.3,SNR=4.0							
GRR	**Gorron**	**81.72**	**42**	*e*P		**P**	**19 48 38.8**	**-0.2**
FLN	**La Foliniere**	**81.88**	**42**	*e*P		**P**	**19 48 39.8**	**0.0**
FLN				*e*R				
	comp=Z,264nm,17.8s							
FLN	**La Foliniere**	**81.88**	**42**	*e*P		**P**	**19 48 39.8**	**0.0**
FLN				MLR	MLR			
	comp=Z,260nm,17.8s,MS4.6							
LDF	**La Druitiere**	**82.15**	**42**	*e*P		**P**	**19 48 40.5**	**-0.8**
	comp=Z,77nm,1.3s,mb5.4							
LDF	**La Druitiere**	**82.15**	**42**	*e*P		**P**	**19 48 40.5**	**-0.8**
	comp=Z,39nm,1.3s,mb5.4							
LDF	**La Druitiere**	**82.15**	**42**	*e*P		**P**	**19 48 40.5**	**-0.8**
LDF				pmax	pmax			
	comp=Z,39nm,1.3s,mb5.4							
SJPF	**Ste Jean**	**82.74**	**47**	*e*P		**P**	**19 48 44.4**	**+0.1**
ETSF	**Etsaut**	**83.27**	**47**	*e*P		**P**	**19 48 46.7**	**-0.4**
EPF	**Esparros**	**83.87**	**47**	*e*P		**P**	**19 48 50.3**	**+0.1**
	comp=Z,35nm,1.2s,mb5.2							
EPF	**Esparros**	**83.87**	**47**	*e*P		**P**	**19 48 50.3**	**+0.1**
	comp=Z,18nm,1.2s,mb5.2							
EPF	**Esparros**	**83.87**	**47**	*e*P		**P**	**19 48 50.3**	**+0.1**
EPF				pmax	pmax			
	comp=Z,18nm,1.2s,mb5.2							
RJF	**Les Rejaudoux**	**84.08**	**45**	*e*P		**P**	**19 48 51.5**	**+0.2**
TCF	**Toulx Ste Croi**	**84.28**	**44**	*e*P		**P**	**19 48 52.3**	**0.0**
	comp=Z,92nm,1.6s,mb5.5							
TCF	**Toulx Ste Croi**	**84.28**	**44**	*e*P		**P**	**19 48 52.3**	**0.0**
	comp=Z,46nm,1.6s,mb5.5							
TCF	**Toulx Ste Croi**	**84.28**	**44**	*e*P		**P**	**19 48 52.3**	**0.0**
TCF				pmax	pmax			
	comp=Z,46nm,1.6s,mb5.5							
BAIF	**Baives**	**84.48**	**40**	*e*P		**P**	**19 48 53.3**	**0.0**
CAF	**Calviac**	**84.56**	**45**	*e*P		**P**	**19 48 53.4**	**-0.3**
NB2	**NORSAR Subarra**	**84.57**	**28**	P		**P**	**19 48 53.4**	**-0.3**
	comp=Z,26nm,1.4s,mb5.3,baz=292,slow=5.1							
NB2	**NORSAR Subarra**	**84.57**	**28**	P		**P**	**19 48 53.4**	**-0.3**
NB2				pmax	pmax			
	comp=Z,26nm,1.4s,mb5.3							
NOA	**NORSAR Array B**	**84.57**	**28**	P		**P**	**19 48 53.3**	**-0.5**
	comp=Z,2.3nm,1.0s,mb4.4,baz=294,slow=5.0,SNR=3.9							
NOA				LR	LR		20 23 15.3	
	comp=Z,151nm,20.6s,MS4.4,baz=320,slow=33							
BGF	**Bois d'Agland**	**84.63**	**43**	*e*P		**P**	**19 48 54.3**	**+0.3**
	comp=Z,31nm,0.9s,mb5.2							
BGF	**Bois d'Agland**	**84.63**	**43**	*e*P		**P**	**19 48 54.3**	**+0.3**
	comp=Z,15nm,0.9s,mb5.2							
BGF	**Bois d'Agland**	**84.63**	**43**	*e*P		**P**	**19 48 54.3**	**+0.3**
BGF				pmax	pmax			
	comp=Z,15nm,0.9s,mb5.2							
AVF	**Avril sur Loir**	**84.89**	**43**	*e*P		**P**	**19 48 55.1**	**-0.3**
	comp=Z,47nm,1.3s,mb5.2							
AVF	**Avril sur Loir**	**84.89**	**43**	*e*P		**P**	**19 48 55.1**	**-0.3**
	comp=Z,24nm,1.3s,mb5.3							
AVF	**Avril sur Loir**	**84.89**	**43**	*e*P		**P**	**19 48 55.1**	**-0.3**
AVF				pmax	pmax			
	comp=Z,24nm,1.3s,mb5.3							
SSF	**Saint Saulge**	**84.92**	**43**	*e*P		**P**	**19 48 54.7**	**-0.8**
	comp=Z,57nm,1.4s,mb5.3							
SSF	**Saint Saulge**	**84.92**	**43**	*e*P		**P**	**19 48 54.7**	**-0.8**
	comp=Z,28nm,1.4s,mb5.3							
SSF	**Saint Saulge**	**84.92**	**43**	*e*P		**P**	**19 48 54.7**	**-0.8**
SSF				pmax	pmax			
	comp=Z,28nm,1.4s,mb5.3							
LOR	**Lormes**	**85.09**	**42**	*e*P		**P**	**19 48 56.1**	**-0.2**
	comp=Z,123nm,1.6s,mb5.6							
LOR				*e*R				
	comp=Z,297nm,22.8s							
LOR	**Lormes**	**85.09**	**42**	*e*P		**P**	**19 48 56.1**	**-0.2**
	comp=Z,62nm,1.6s,mb5.6							
LOR				LR	LR			
	comp=Z,300nm,22.8s,MS4.6							
LOR	**Lormes**	**85.09**	**42**	*e*P		**P**	**19 48 56.1**	**-0.2**
LOR				pmax	pmax			
	comp=Z,62nm,1.6s,mb5.6							
LOR				MLR	MLR			
	comp=Z,300nm,22.8s,MS4.6							
MTLF	**Montolieu**	**85.11**	**47**	*e*P		**P**	**19 48 56.2**	**-0.2**
	comp=Z,55nm,1.3s,mb5.3							
MTLF	**Montolieu**	**85.11**	**47**	*e*P		**P**	**19 48 56.2**	**-0.2**
	comp=Z,28nm,1.3s,mb5.3							
MTLF	**Montolieu**	**85.11**	**47**	*e*P		**P**	**19 48 56.2**	**-0.2**
MTLF				pmax	pmax			
	comp=Z,28nm,1.3s,mb5.3							
SMF	**Signal de Mont**	**85.26**	**43**	*e*P		**P**	**19 48 56.9**	**-0.3**
MEZF	**Maizieres J'vi**	**85.48**	**41**	*e*P		**P**	**19 48 58.2**	**-0.1**
ARCES	**ARCESS Array B**	**85.91**	**18**	LR	LR		20 28 51.2	
	comp=Z,136nm,19.3s,MS4.4,baz=105,slow=37							
LASF	**Ste Croix**	**86.03**	**45**	*e*P		**P**	**19 49 00.8**	**-0.2**
HAU	**Haudompre**	**86.46**	**41**	*e*P		**P**	**19 49 02.9**	**-0.2**
HAU				*e*R				
	comp=Z,164nm,20.8s							
HAU	**Haudompre**	**86.46**	**41**	*e*P		**P**	**19 49 02.9**	**-0.2**
HAU				MLR	MLR			
	comp=Z,160nm,20.8s,MS4.4							
ORIF	**Oris-en-Rattie**	**87.15**	**44**	*e*P		**P**	**19 49 06.7**	**+0.2**
ORIF				*e*R				
	comp=Z,279nm,23.0s							
SMRF	**Simiane la Rot**	**87.24**	**45**	*e*P		**P**	**19 49 07.2**	**+0.2**
	comp=Z,21nm,0.9s,mb5.1							
SMRF	**Simiane la Rot**	**87.24**	**45**	*e*P		**P**	**19 49 07.2**	**+0.2**
	comp=Z,21nm,0.9s,mb5.4							
LMR	**La Mourre**	**88.09**	**46**	*e*P		**P**	**19 49 11.2**	**+0.2**
	comp=Z,79nm,1.5s,mb5.5							
LMR	**La Mourre**	**88.09**	**46**	*e*P		**P**	**19 49 11.2**	**+0.2**
	comp=Z,40nm,1.5s,mb5.5							
LMR	**La Mourre**	**88.09**	**46**	*e*P		**P**	**19 49 11.2**	**+0.2**
LMR				pmax	pmax			
	comp=Z,40nm,1.5s,mb5.5							
FRF	**La Foret Royal**	**88.11**	**45**	*e*P		**P**	**19 49 11.4**	**+0.3**
SBF	**Sospel**	**88.55**	**45**	*e*P		**P**	**19 49 12.9**	**-0.3**
	comp=Z,124nm,1.3s,mb5.7							
SBF	**Sospel**	**88.55**	**45**	*e*P		**P**	**19 49 12.9**	**-0.3**
	comp=Z,62nm,1.3s,mb5.7							
SBF	**Sospel**	**88.55**	**45**	*e*P		**P**	**19 49 12.9**	**-0.3**
SBF				pmax	pmax			
	comp=Z,62nm,1.3s,mb5.7							
LIC	**Lamto**	**88.83**	**84**	*e*P		**P**	**19 49 16.5**	**+2.0**
LIC				*e*R				
	comp=Z,92nm,21.9s							
LIC	**Lamto**	**88.83**	**84**	*e*P		**P**	**19 49 16.5**	**+2.0**
LIC				LR	LR			
	comp=Z,50nm,21.9s,MS3.9							
GRA1	**Grafenberg Arr**	**88.88**	**38**	*e*P		**P**	**19 49 17.9**	**+3.2**
	comp=Z,6.0nm,1.0s,mb4.8							
GRF	**Grafenberg Arr**	**88.88**	**38**	*e*P		**P**	**19 49 17.9**	**+3.2**
	comp=Z,6.0nm,1.0s,mb4.8							
GRF	**Grafenberg Arr**	**88.88**	**38**	*e*P		**P**	**19 49 17.9**	**+3.2**
GRF				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.8							
GRF	**Grafenberg Arr**	**88.88**	**38**	*e*P		**P**	**19 49 17.9**	**+3.2**
GRF				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.8							
DBIC	**Dimbokro**	**88.88**	**83**	LR	LR		20 26 05.4	
	comp=Z,116nm,19.4s,MS4.3,baz=63,slow=34							
FINES	**FINESS Array B**	**90.70**	**24**	LR	LR		20 32 36.3	
	comp=Z,161nm,18.1s,MS4.5,baz=128,slow=37							
GERES	**GERESS Array B**	**90.70**	**39**	P		**P**	**19 49 22.9**	**-0.4**
	comp=Z,0.9nm,0.8s,mb4.2,baz=303,slow=5.7,SNR=4.0							
GERES				LR	LR		20 29 09.9	
	comp=Z,228nm,19.6s,MS4.6,baz=106,slow=35							
HHC	**Hu-ho-hao-te**	**118.72**	**337**	*e*PKP	PKPdf		19 55 10.0	+1.3
HHC				PP	PP		19 56 31.3	+4.8
HHC				PKS			19 58 45.5	
HHC				SKS	SKSdf		20 02 17.3	-4.5
HHC				SKKS	SKKSac		20 03 19.0	-9.1
HHC				LR	LR			
	comp=Z,143nm,5.5s							
WMQ	**Urumqi**	**121.06**	**357**	*e*PKP	PKPdf		19 55 14.5	+1.3
WMQ				LR	LR			
	comp=N,265nm,22.0s							
WMQ				LR	LR			
	comp=Z,229nm,22.0s,MS4.8							
SSE	**Sheshan**	**121.91**	**323**	PKP	PKPdf		19 55 16.5	+1.7
NJ2	**Nanjing**	**122.52**	**325**	*e*PKP	PKPdf		19 55 18.5	+2.5
NJ2				XPKP			19 55 32.8	
NJ2				PP	PP		19 56 58.0	+5.5
NJ2				PKS			19 58 53.8	
NJ2				SKS	SKSdf		20 02 25.0	-4.0
NJ2				SKKS	SKKSac		20 03 47.0	-5.9
NJ2				PP	PP			
	comp=Z,100nm,5.6s							
NJ2				LR	LR			
	comp=Z,80nm,19.4s,MS4.4							
STKA	**Stephens Creek**	**125.74**	**242**	PKP	PKPdf		19 55 19.9	-2.2
	comp=Z,2.3nm,0.9s,baz=50,slow=3.4,SNR=5.5							
STKA	**Stephens Creek**	**125.74**	**242**	PKP	PKPdf		19 55 19.9	-2.2
CD2	**Chengdu**	**130.43**	**338**	*e*PKP	PKPdf		19 55 32.5	+1.4
WRA	**Warramunga Arr**	**132.42**	**257**	PKP	PKPdf		19 55 35.1	+0.2
	comp=Z,1.8nm,1.1s,baz=98,slow=2.5,SNR=7.0							
ASAR	**Alice Springs**	**132.89**	**252**	PKP	PKPdf		19 55 35.3	-0.4
	comp=Z,1.1nm,0.9s,baz=87,slow=2.3,SNR=6.7							
HYB	**Hyderabad**	**146.93**	**10**	*i* PKP	PKPdf		19 56 02.0	+0.9
HYB	**Hyderabad**	**146.93**	**10**	*e*PKP2	PKPab		19 56 02.0	-2.4
KSM	**Kuching**	**149.50**	**301**	*e*PKPdf	PKPbc		19 56 09.4	-0.3

IDC 28 19:37:11.8±1.1,2958N×14012E,h0km,mb3.7/4,
mb1 3.9/5,mb1mx3.6/19,mbtmp3.8/5,ML4.1/1,Error
ellipse: s-maj=52.2km s-min=23.2km az=88.0,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.07**	**143**	Pn	Pn	19 38 01.6	0.0
	29nm,0.3s,baz=284,slow=18,SNR=6.0						
CBIJ				Sn	Sn	19 38 35.9	-3.1
	86nm,0.3s,baz=277,slow=22,SNR=9.6						
WRA	**Warramunga Arr**	**49.55**	**187**	P	P	19 46 04.4	0.0
	1.8nm,0.8s,baz=5.0,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**53.28**	**187**	P	P	19 46 32.5	+0.2
	0.6nm,0.7s,baz=358,slow=5.3,SNR=5.5						
YKA	**Yellowknife Ar**	**70.83**	**28**	P	P	19 48 30.1	-0.2
	0.5nm,0.6s,baz=292,slow=6.2,SNR=7.8						
FINES	**FINESS Array B**	**74.92**	**333**	P	P	19 48 54.2	-0.3
	0.7nm,0.6s,baz=63,slow=6.4,SNR=4.2						

*CSEM **28** 20:11:26.9±0.5,3726N×2463W,h5km,ML2.3,Error*
ellipse: s-maj=3.8km s-min=1.6km az=86.0,After PDA
*PDA **28** 20:11:26.9±0.5,3726N×2463W,h5km,MD2.5,ML2.3,*
Error ellipse: s-maj=3.8km s-min=1.6km az=86.0
SVSA 28 20:11:26.9±0.5,3726N×2463W,h5km,MD2.5,ML2.3,
Error ellipse: s-maj=3.8km s-min=1.6km az=86.0,
Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**233**	*e*P	Pg	20 11 34.6	-0.7
PSMN				*e*S	Sg	20 11 40.3	-0.6
MIRA	**Miradouro**	**0.73**	**316**	*e*P	Pg	20 11 38.9	-2.1
MIRA				*e*S	Sg	20 11 48.1	-2.4
FRA1	**Furnas**	**0.75**	**310**	*e*P	Pg	20 11 39.5	-1.8
PCNG	**Congro**	**0.79**	**310**	*e*S	Sg	20 11 49.3	-3.0
PCNG							
	43nm,0.2s						
PFAD	**Fenais da Ajud**	**0.80**	**316**	*e*P	Pg	20 11 39.9	-2.3
PFAD				*e*S	Sg	20 11 49.6	-2.9
VIF	**Vila Franca**	**0.80**	**307**	*e*S	Sg	20 11 49.8	-2.9
VIF							
	32nm,0.1s						
PRCH	**Ribeira Ch**	**0.82**	**305**	*e*P	Pg	20 11 40.2	-2.4
PRCH				*e*S	Sg	20 11 49.9	-3.3
PRCH							
	95nm,0.3s						
PRCH	**Ribeira Ch**	**0.82**	**305**	*e*P	Pg	20 11 40.2	-2.4
PRCH				*e*S	Sg	20 11 49.9	-3.3
MESC	**Monte Escuro**	**0.84**	**309**	*e*S	Sg	20 11 51.2	-2.6
LFA	**Lagoa do Fogo**	**0.85**	**307**	*i* P	Pg	20 11 40.7	-2.4
PVER	**Pico Vermelho**	**0.88**	**307**	*e*P	Pg	20 11 41.0	-2.8
CML	**Cha da Macela**	**0.89**	**305**	*e*P	Pg	20 11 41.1	-2.8
CML				*e*S	Sg	20 11 51.8	-3.6
FAC	**Faja de Cima**	**0.96**	**302**	*e*S	Sg	20 11 53.6	-4.1
PSAN	**Santo Antonio**	**1.05**	**304**	*e*P	Pg	20 11 43.4	-3.6
PSAN				*e*S	Sg	20 11 55.8	-4.8

*ATH **28** 20:22:31.5,3966N×2010E,h26km±2km,MD3.3/5*
*NEIC **28** 20:22:31.5,3966N×2010E,h26km,MD3.3(ATH),After*
ATH.
*ISCJB **28** 20:22:32.6±0.7,3962N±004×2013E±004,h8km,Error*
ellipse: s-maj=5.5km s-min=4.3km az=19.7
*CSEM **28** 20:22:32.5±0.2,3961N×2013E,h8km,MD3.3,Error*
ellipse: s-maj=4.5km s-min=3.7km az=4.0
*THE **28** 20:22:34.6,3970N×1993E,h19km,ML3.3*
ISC 28 20:22:32.5±0.9,3959N±005×2013E±004,h5km±7km,n15,
σ1§09/24,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.28**	**296**	*e*PB	**Pg**	**20 22 37.5**	**-0.5**
KEK				*e*SB	**Sg**	**20 22 42.8**	**+1.1**
SRN	**Sarande**	**0.30**	**341**	*e*Pg	**Pg**	**20 22 36.9**	**-1.5**
SRN				*i* Sg	**Sg**	**20 22 42.8**	**+0.4**
JAN	**Janina**	**0.56**	**83**	*e*PN	**Pg**	**20 22 42.5**	**-0.8**
JAN				*e*SN	**Sg**	**20 22 51.8**	**+1.1**
KZN	**Kozani**	**1.45**	**60**	*e*PN	**Pn**	**20 22 58.0**	**-1.5**
VLS	**Valsamata**	**1.46**	**166**	*e*PN	**Pn**	**20 22 59.3**	**-0.3**
EVR	**Evrytania**	**1.47**	**117**	*e*PN	**Pn**	**20 22 59.7**	**0.0**
FNA	**Florina**	**1.53**	**38**	*e*Pg	**Pg**	**20 23 00.5**	**-1.3**
FNA				*e*Sg	**Sg**	**20 23 20.9**	**-0.8**
OHR	**Ohrid**	**1.60**	**18**	*e*Pn	**Pn**	**20 23 02.9**	**+1.3**
OHR				*e*Sn	**Sg**	**20 23 25.8**	**+1.8**
OHR	**Ohrid**	**1.60**	**18**	*e*Pn	**Pn**	**20 23 02.9**	**+1.3**
OHR				*e*Sn	**Sg**	**20 23 25.7**	**+1.7**
BIA	**Bitola**	**1.69**	**32**	*e*Sb	**Sb**	**20 23 24.2**	**-1.6**
BIA				*e*Sb	**Sg**	**20 23 31.4**	**+4.4**
BIA	**Bitola**	**1.69**	**32**	*e*Sn	**Pn**	**20 23 01.3**	**-1.5**
BIA				*e*Sn	**Sg**	**20 23 27.3**	**+0.3**
BIA	**Bitola**	**1.69**	**32**	*e*Sn	**Sg**	**20 23 27.3**	**+0.3**
LIT	**Litokhoron**	**1.89**	**74**	*e*Pn	**Pn**	**20 23 06.9**	**+1.4**
LIT				*e*Sn	**Sb**	**20 23 32.2**	**+0.7**
GRG	**Griva**	**2.21**	**51**	*e*Pn	**Pn**	**20 23 10.6**	**+0.7**
KNT	**Kendrikon**	**2.63**	**53**	*e*Pn	**Pn**	**20 23 16.5**	**+0.7**

*ISCJB **28** 20:24:04.2±2.1,2244S±009×1777W±0.1,h186km±23km,*
mb4.0/9,Error ellipse: s-maj=23.3km s-min=11.8km
az=56.1
*NEIC **28** 20:24:16.6±1.6,2214S×17648W,h412km±33km,mb4.0/3,*
Error ellipse: s-maj=33.4km s-min=19.5km az=114.0
*IDC **28** 20:24:23.7±7.2,2262S×17789W,h363km±74km,mb3.4/6,*
mb1 3.7/7,mb1mx3.5/13,mbtmp4.2/7,Error ellipse:
s-maj=45.4km s-min=24.0km az=165.0
ISC 28 20:24:05.4±2.8,2275S±01×1772W±02,h211km±33km,n21,
σ0§90/17,mb3.8/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.16**	**31**	Pn	**Pn**	**20 26 26.4**	**-0.1**
AFI				*e*Sn		20 28 13.5	
DZM	**Mont Dzumac**	**15.14**	**269**	P	**Pn**	**20 27 37.4**	**+8.6**
	0.3nm,0.3s,baz=98,slow=19,SNR=4.2						
URZ	**Urewera**	**16.24**	**196**	P	**P**	**20 27 50.3**	**+9.1**
	3.3nm,0.3s,baz=296,slow=5.3,SNR=10						
URZ				S	**S**	**20 30 40.4**	**-0.1**
	1.4nm,0.3s,baz=313,slow=23,SNR=7.0						
CTA	**Charters Tower**	**34.07**	**267**	*e*P	**P**	**20 30 31.3**	**+1.6**
	12nm,1.9s,mb4.1						
PMG	**Port Moresby**	**36.60**	**285**	*e*P	**P**	**20 30 51.3**	**0.0**
	20nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**37.55**	**247**	*e*P	**P**	**20 30 59.2**	**0.0**
	2.1nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**37.55**	**247**	P	**P**	**20 30 59.5**	**+0.2**
	2.9nm,0.4s,mb4.1,baz=97,slow=10,SNR=23						
STKA	**Stephens Creek**	**37.55**	**247**	*e*P	**P**	**20 30 59.1**	**-0.1**
ASAR	**Alice Springs**	**44.77**	**259**	P	**P**	**20 31 58.6**	**+0.6**
	1.5nm,0.8s,mb3.4,baz=93,slow=8.3,SNR=16						
WB2	**Warramunga Arr**	**45.06**	**264**	*e*P	**P**	**20 32 00.1**	**-0.1**
WRAB	**Tennant Creek**	**45.06**	**264**	*e*P	**P**	**20 31 57.7**	**-2.6**
	4.2nm,0.9s,mb3.8						
WRA	**Warramunga Arr**	**45.07**	**264**	P	**P**	**20 32 00.3**	**-0.1**
	0.5nm,0.3s,mb3.3,baz=97,slow=8.2,SNR=37						
KKM	**Kota Kinabalu**	**71.05**	**285**	P	**P**	**20 35 00.0**	**-0.4**
NVAR	**Mina Array Bea**	**82.13**	**43**	P	**P**	**20 36 07.3**	**+4.8**
	1.1nm,0.7s,mb3.6,baz=225,slow=8.2,SNR=6.8						
PDAR	**Pinedale Array**	**90.07**	**43**	P	**P**	**20 36 45.2**	**+4.0**
	0.6nm,0.6s,mb3.6,baz=185,slow=2.8,SNR=6.2						
ILAR	**Eielson Array**	**90.31**	**12**	P	**P**	**20 36 42.2**	**-0.1**
	1.1nm,0.8s,mb3.7,baz=220,slow=5.2,SNR=9.4						
ARCES	**ARCESS Array B**	**131.23**	**350**	PKP	PKPdf	20 42 51.0	-1.2
	6.1nm,1.1s,baz=346,slow=3.1,SNR=13						
FINES	**FINESS Array B**	**138.10**	**343**	PKP	PKPdf	20 43 05.5	+0.4
	1.1nm,0.8s,baz=348,slow=2.4,SNR=3.6						
AKASG	**Malin Array Be**	**145.30**	**330**	PKP	PKPdf	20 43 16.8	-1.1
	2.0nm,0.4s,baz=41,slow=4.0,SNR=12						
BRTR	**Keskin Array B**	**148.85**	**310**	PKPbc	PKPbc	20 43 27.6	-0.4
	0.9nm,0.5s,baz=143,slow=3.8,SNR=5.7						
GERES	**GERESS Array B**	**152.53**	**344**	PKPbc	PKPbc	20 43 37.0	+0.4
	0.6nm,0.4s,baz=48,slow=2.0,SNR=6.2						

*CSEM **28** 20:40:52.3,2978N×5755E,h17km,ML3.5,After THR*
THR 28 20:40:52.3±0.3,2978N×5755E,h17km±4km,ML3.5,
Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.72**	**287**	*e*PG	Pg	20 41 06.2	-0.2
KRBR				*e*SG	Sg	20 41 16.5	+0.6
KRBR				AML	AML	20 41 17.0	
	comp=N,2μm,0.2s						
KRBR				AML	AML	20 41 17.1	
	comp=E,2μm,0.3s						
KRBR	**Kerman**	**0.72**	**287**	*e*Pg	Pg	20 41 06.2	-0.1
	SNR=94						
KRBR				*e*Sg	Sg	20 41 16.5	+0.6
	comp=E,2μm,0.3s,SNR=94						
BNDS	**Bandar-Abbas**	**2.66**	**207**	*e*PN	Pn	20 41 36.5	+2.2
BNDS	**Bandar-Abbas**	**2.66**	**207**	*e*Pn	Pn	20 41 36.5	+2.1
	SNR=52						
ZHSF	**Zahedan**	**2.81**	**93**	*e*PN	Pn	20 41 38.6	+2.2
ZHSF				*e*SG	Sg	20 42 20.2	-2.4

*CASC **28** 20:43:29.9±2.8,1368N×9217W,h2km±23km,MD4.3,*
mb4.3(NEIC)
*IDC **28** 20:43:30.1±0.9,1400N×9149W,h0km,mb4.2/12,*
mb1 4.4/12,mb1mx4.2/23,mbtmp4.2/12,MS3.8/4,
Ms1 3.8/4,ms1mx3.3/29,Error ellipse: s-maj=43.1km
s-min=16.9km az=57.0
*ISCJB **28** 20:43:30.7±1.3,1356N±005×9226W±003,h26km±8km,*
mb4.2/23,MS3.8/4,Error ellipse: s-maj=8.1km
s-min=4.7km az=32.6
*MEX **28** 20:43:33.5±1.1,1359N×9234W,h10km±382km,MD4.7*
*BJI **28** 20:43:37.9,1400N×9170W,h60km,mB4.5,Ms4.6,Msz4.4*
*NEIC **28** 20:43:38.0±1.6,1399N×9169W,h61km±15km,mb4.3/15,*
MD4.5(MEX),Error ellipse: s-maj=18.9km s-min=6.7km
az=51.0
ISC 28 20:43:30.8±1.4,1357N±005×9220W±003,h12km±8km,n69,
σ1§24/67,mb4.3/23,MS3.8/4,4C-4D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.92**	**36⇑**	*e*P	**Pb**	**20 43 49.7**	**+0.9**
JAT				*e*S	**Sg**	**20 44 00.8**	**+0.1**
FUG	**Fuego 3**	**1.58**	**56⇑**	*i* P	**Pn**	**20 43 58.2**	**-0.5**
TP2	**Tecpan 2**	**1.66**	**43⇑**	*e*P	**Pn**	**20 43 58.8**	**-1.0**
PCG	**Pacaya**	**1.75**	**62⇓**	*e*P	**Pn**	**20 44 01.3**	**+0.4**
PCG				*e*S	**Sn**	**20 44 23.2**	**0.0**
IXG	**Ixpaco**	**1.80**	**70**	*e*P	**Pn**	**20 43 60.0**	**-1.7**
IXG				*e*S	**Sn**	**20 44 24.0**	**-0.4**
GCG	**Guatemala City**	**1.91**	**58⇓**	*e*P	**Pn**	**20 44 03.1**	**0.0**
GCG				*e*S	**Sn**	**20 44 27.2**	**+0.2**
SBLS	**San Blas**	**2.52**	**84**	*e*P	Px	20 44 22.3	
SBLS				*e*S	Sx	20 44 55.0	
CCIG	**Comitan**	**2.70**	**1**	*i* P	**Pn**	**20 44 15.3**	**+1.3**
CCIG				*i* S	**Sn**	**20 44 46.5**	**-0.1**
BOQS	**Boqueron**

1.0nm,0.6s,mb3.9
LPAZ La Paz 38.02 141 P **P 20 50 49.7 +0.9**
0.7nm,0.5s,mb3.7,baz=346,slow=6.6,SNR=4.2
LPAZ LR LR 21 06 28.6
comp=Z,51nm,19.1s,MS3.4,baz=279,slow=36
LPAZ La Paz 38.02 141 *e*P **P 20 50 50.8 +2.0**
SIV San Ignacio 42.54 133 P **P 20 51 26.9 +0.7**
2.6nm,0.8s,mb4.0,baz=297,slow=8.9,SNR=12
EDM Edmonton 42.98 341 *e*P **P 20 51 28.7 -1.1**
SCHQ Schefferville 45.69 20 P **P 20 51 47.6 -3.9**
6.0nm,0.9s,mb4.5,baz=215,slow=10,SNR=6.7
SCHQ PcP PcP 20 53 28.8 -0.6
2.1nm,0.7s,baz=215,slow=3.5,SNR=5.6
SCHQ LR LR 21 11 17.9
comp=Z,228nm,20.5s,MS4.1,baz=202,slow=37
SCHQ Schefferville 45.69 20 P **P 20 51 48.1 -3.4**
11nm,1.0s,mb4.7
YKA Yellowknife Ar 51.40 347 P **P 20 52 34.3 -1.2**
1.1nm,0.5s,mb4.0,baz=147,slow=7.6,SNR=28
YKA PcP PcP 20 53 49.7 -0.3
1.2nm,0.7s,baz=148,slow=3.7,SNR=18
YKA Yellowknife Ar 51.40 347 P **P 20 52 34.3 -1.2**
YKA PcP PcP 20 53 49.7 -0.3
DLBC Dease Lake 52.97 336 P **P 20 52 48.4 +1.3**
2.0nm,0.5s,mb4.3,baz=148,slow=8.5,SNR=6.6
DLBC Dease Lake 52.97 336 *e*P **P 20 52 48.8 +1.7**
INK Inuvik 60.80 344 P **P 20 53 41.5 -1.1**
1.0nm,0.3s,mb4.5,baz=132,slow=7.8,SNR=14
INK Inuvik 60.80 344 *e*P **P 20 53 41.9 -0.8**
1.4nm,0.3s,mb4.6
RES Resolute Bay 61.13 359 *e*P **P 20 53 41.8 -3.1**
2.4nm,0.6s,mb4.5
ILAR Eielson Array 63.16 337 P **P 20 53 58.9 +0.4**
2.4nm,0.8s,mb4.4,baz=124,slow=4.9,SNR=24
BILL Bilibino 81.78 338 *e*P **P 20 55 49.5 -0.1**
8.2nm,1.1s,mb4.6
ARCES ARCESS Array B 86.61 18 P **P 20 56 11.3 -2.8**
3.7nm,0.9s,mb4.6,baz=31,slow=5.0,SNR=4.3
ARCES LR LR 21 33 26.2
comp=Z,57nm,19.6s,MS4.0,baz=176,slow=35
ARCES ARCESS Array B 86.61 18 P **P 20 56 11.3 -2.8**
ARCES LR LR 21 33 26.2
HHC Hu-ho-hao-te 121.55 339 *e*PKP PKPdf 21 02 19.5 -4.8
HHC PP PP 21 03 54.5 -1.7
HHC PKS 21 05 54.8
HHC LR LR
comp=Z,121nm,6.7s
WMQ Urumqi 122.89 0 *e*PKP PKPdf 21 02 25.5 -1.3
NJ2 Nanjing 125.75 327 *e*PKP PKPdf 21 02 29.3 -3.0
WRA Warramunga Arr 135.10 255 PKP PKPdf 21 02 51.5 +1.5
comp=Z,0.4nm,0.8s,baz=83,slow=2.7,SNR=5.7
HYB Hyderabad 147.89 17 *i* PKP PKPdf 21 03 16.0 +3.2
HYB Hyderabad 147.89 17 *e*P PKPdf 21 03 16.0 +3.2

IDC 28 20:46:14.6±9.8, 754S×12904E, h299km±121km, mb2.7/1, mb1 3.1/4, mb1mx2.9/15, mbtmp3.7/4, Error ellipse: s-maj=69.0km s-min=52.4km az=24.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.01**	**197**	P	Pn	20 48 44.5	-0.4
0.1nm,0.3s,baz=161,slow=13,SNR=2.9							
FITZ				S	S	20 50 47.1	-1.1
0.2nm,0.3s,baz=24,slow=18,SNR=3.3							
WRA	**Warramunga Arr**	**13.36**	**158**	P	Pn	20 49 12.1	-1.3
0.4nm,0.3s,baz=338,slow=12,SNR=21							
WRA				S	S	20 51 34.2	-6.8
0.3nm,0.3s,baz=337,slow=22,SNR=6.4							
ASAR	**Alice Springs**	**16.70**	**164**	P	P	20 49 52.3	+2.2
0.2nm,0.3s,baz=342,slow=9.3,SNR=20							
MKAR	**Makanchi Array**	**68.16**	**327**	P	P	20 56 43.0	+0.1
0.2nm,0.5s,baz=117,slow=8.3,SNR=4.0							

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*IDC **28** 21:00:58.9±0.8, 2430N×12500E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.8/21, mbtmp3.8/10, ML3.1/1, Error ellipse: s-maj=30.3km s-min=19.1km az=74.0*
*NIED **28** 21:01:00, 2430N×12520E, h23km, Mw4.0 Best double couple: M0 9.51000×10^14 NP1:φ1=250.00000°, δ87.00000°, λ-111.00000°. NP2:φ2=152.00000°, δ21.00000°, λ-8.00000°.*
*ISCJB **28** 21:01:03.4±0.8, 2436N±008×125.17E±006, h43km±7km, mb3.7/9, Error ellipse: s-maj=15.1km s-min=6.0km az=124.1*
*JMA **28** 21:01:03.6±0.1, 2433N×125.16E, h34km±3km, M3.6*
ISC 28 21:01:03.9±1.2, 2435N±009×12516E±005, h32km±7km, n18, σ0=62/23, mb3.7/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.47**	**29**	P	**Pb**	**21 01 13.7**	**-0.2**
JOGS				*e*S	**Sb**	**21 01 21.4**	**+0.7**
JMJ	**Miyako jima 2**	**0.48**	**15**	P	**Pb**	**21 01 13.8**	**-0.2**
JMJ				*e*S	**Sb**	**21 01 21.3**	**+0.3**
JTJ	**Tarama**	**0.50**	**305**	P	**Pb**	**21 01 14.2**	**-0.2**
JTJ				*e*S	**Sb**	**21 01 21.4**	**-0.3**
JIJ	**Ishigaki jima**	**0.92**	**271**	P	**Pn**	**21 01 20.3**	**-0.3**
JIJ				*e*S	**Sn**	**21 01 32.9**	**+0.1**
JKRS	**Kuro-shima**	**1.05**	**264**	P	**Pn**	**21 01 22.9**	**+0.5**
HATJ	**Hateruma jima**	**1.27**	**257**	P	**Pn**	**21 01 25.1**	**-0.2**
HATJ				*e*S	**Sn**	**21 01 41.9**	**+0.6**
IRIF	**Iriomote-Funau**	**1.30**	**270**	P	**Pn**	**21 01 26.1**	**+0.3**
JKE	**Kume jima 2**	**2.46**	**37**	P	**Pn**	**21 01 41.2**	**-0.6**
JOW	**Kunigami**	**3.75**	**48**	Pn	**Pn**	**21 01 59.4**	**-0.1**
2.9nm,0.3s,baz=219,slow=13,SNR=1.5							
SONM	**Songino Array**	**27.77**	**332**	P	**P**	**21 06 48.5**	**-1.2**
0.3nm,0.3s,mb3.4,baz=147,slow=11,SNR=13							
MKAR	**Makanchi Array**	**40.78**	**314**	P	**P**	**21 08 41.7**	**-0.3**
1.7nm,0.4s,mb4.0,baz=104,slow=11,SNR=18							
WRA	**Warramunga Arr**	**44.92**	**168**	P	**P**	**21 09 14.5**	**-1.1**
0.7nm,0.5s,mb3.8,baz=348,slow=8.9,SNR=9.5							
ASAR	**Alice Springs**	**48.48**	**169**	P	**P**	**21 09 44.0**	**+0.6**
0.3nm,0.6s,mb3.5,baz=354,slow=14,SNR=7.0							
ILAR	**Eielson Array**	**67.40**	**28**	P	**P**	**21 11 57.6**	**+1.6**
0.3nm,0.7s,mb3.5,baz=292,slow=9.7,SNR=6.3							
INK	**Inuvik**	**71.70**	**23**	P	**P**	**21 12 23.4**	**+0.8**
0.8nm,0.3s,mb4.1,baz=333,slow=2.3,SNR=3.5							
FINES	**FINESS Array B**	**73.12**	**330**	P	**P**	**21 12 30.6**	**-0.5**
1.5nm,0.6s,mb4.1,baz=64,slow=6.3,SNR=12							
BRTR	**Keskin Array B**	**75.97**	**307**	P	**P**	**21 12 48.0**	**+0.4**
0.2nm,0.4s,mb3.4,baz=51,slow=7.6,SNR=2.9							
YKA	**Yellowknife Ar**	**81.38**	**24**	P	**P**	**21 13 16.9**	**-0.5**
0.2nm,0.5s,mb3.3,baz=308,slow=5.0,SNR=6.0							

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*IDC **28** 21:03:20.2±2.0, 4319N×10507W, h0km, mb2.5/1, mb1 3.3/4, mb1mx3.2/23, mbtmp3.0/4, ML2.5/2, Error ellipse: s-maj=40.7km s-min=10.1km az=153.0*
*ISCJB **28** 21:03:23.3±0.7, 4380N±005×10524W±009, h0km, Error ellipse: s-maj=10.6km s-min=6.6km az=62.2*
*NEIC **28** 21:03:25.1±0.7, 4380N×105.19W, h0km, ML3.0, Error ellipse: s-maj=11.4km s-min=8.2km az=139.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
ISC 28 21:03:24.6±0.7, 4378N±006×10524W±009, h0km, n15, σ0=75/18, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**68**	*e*Pg	**Pg**	**21 03 42.6**	**+0.1**
RWWY	**Rawlins**	**2.55**	**215**	*e*Pn	**Pn**	**21 04 08.2**	**+1.0**
RWWY				*e*Sn	**Sn**	**21 04 37.4**	**-1.4**
LAO	**LASA Array**	**2.99**	**347**	*e*Pn	**Pn**	**21 04 12.6**	**-0.5**
PDAR	**Pinedale Array**	**3.31**	**254**	Pn	**Pn**	**21 04 18.1**	**+0.4**
1.1nm,0.3s,baz=69,slow=16,SNR=25							
PDAR				Lg		21 05 03.5	
3.8nm,0.3s,baz=73,slow=23,SNR=7.3							
GCMT	**Greycliff**	**3.74**	**304**	*e*Pn	**Pn**	**21 04 24.0**	**+0.5**
LOHW	**Long Hollow**	**3.89**	**269**	*e*Pn	**Pn**	**21 04 29.8**	**+4.1**
ISCO	**Idaho Springs**	**3.99**	**184**	*e*Pn	**Pn**	**21 04 27.6**	**+0.6**
IMW	**Indian Meadow**	**4.12**	**274**	*e*Pn	**Pn**	**21 04 28.6**	**-0.3**
DGMT	**Dagmar**	**4.74**	**8**	*e*Pn	**Pn**	**21 04 38.3**	**+1.0**
DGMT				*e*Sn	**Sg**	**21 05 49.5**	**-7.5**
SMCO	**Snowmass**	**4.78**	**196**	*e*Pg	**Pg**	**21 04 49.0**	**-7.2**
SMCO				*e*S	**Sg**	**21 05 52.3**	**-5.9**
EGMT	**Eagleton**	**5.28**	**325**	*e*Pn	**Pn**	**21 04 44.6**	**-0.1**
7.9nm,0.5s							
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**21 05 36.1**	**-1.0**
0.5nm,0.3s,baz=237,slow=12,SNR=3.8							
ULM				Lg		21 08 08.1	
0.3nm,0.3s,baz=131,slow=17,SNR=3.6							
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**21 05 36.1**	**-1.0**
ULM				Lg		21 08 08.1	
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn	**Pn**	**21 06 01.1**	**-5.0**
0.1nm,0.3s,baz=46,slow=9.1,SNR=2.5							
YKA	**Yellowknife Ar**	**19.53**	**347**	P	**Pn**	**21 07 54.3**	**-0.4**
0.2nm,0.6s,baz=157,slow=13,SNR=3.9							

IDC 28 21:05:06.0±1.3, 583S×15139E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/13, mbtmp3.8/5, ML2.5/1, MS3.9/2, Ms1 3.9/2, ms1mx3.0/23, Error ellipse: s-maj=71.5km s-min=24.6km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**229**	Pn	Pn	21 06 31.2	+2.1
1.1nm,0.3s,baz=338,slow=19,SNR=2.3							
PMG				Sn	Sn	21 07 28.8	-4.2
3.7nm,0.3s,baz=172,slow=21,SNR=7.5							
WRA	**Warramunga Arr**	**21.71**	**228**	P	P	21 09 58.2	-0.5
1.8nm,0.5s,baz=53,slow=10,SNR=22							
WRA				PcP	PcP	21 14 01.0	+1.3
0.2nm,0.4s,baz=47,slow=2.1,SNR=6.3							
ASAR	**Alice Springs**	**24.45**	**222**	P	P	21 10 26.8	+0.4
3.1nm,0.7s,baz=55,slow=9.3,SNR=39							
STKA	**Stephens Creek**	**27.49**	**198**	P	P	21 10 53.4	-0.5
1.2nm,0.8s,baz=51,slow=14,SNR=2.7							
RAO	**Raoul Island**	**37.19**	**132**	LR	LR	21 24 15.4	
comp=Z,231nm,18.6s,baz=226,slow=31							
ZAL	**Zalesovo**	**81.23**	**327**	LR	LR	21 57 25.8	
comp=Z,52nm,18.7s,baz=264,slow=39							
ILAR	**Eielson Array**	**83.64**	**22**	P	P	21 17 35.8	-0.6
0.2nm,0.5s,baz=252,slow=5.1,SNR=5.3							
TORD	**Torodi Ar. Bea**	**149.26**	**286**	PKPbc	PKPbc	21 24 57.4	+0.8
2.8nm,0.7s,baz=80,slow=2.6,SNR=37							

IDC 28 21:10:37.8±5.5, 1368S×16708E, h227km±55km, mb3.2/6, mb1 3.4/7, mb1mx3.3/14, mbtmp3.8/7, Error ellipse: s-maj=52.4km s-min=27.4km az=150.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.37**	**184**	P	Pn	21 12 36.7	+0.9
0.7nm,0.3s,baz=7.6,slow=15,SNR=6.1							
STKA	**Stephens Creek**	**29.55**	**228**	P	P	21 16 20.6	-0.8
0.9nm,0.4s,baz=52,slow=9.4,SNR=5.7							
WRA	**Warramunga Arr**	**31.92**	**254**	P	P	21 16 42.2	0.0
0.2nm,0.5s,baz=86,slow=9.6,SNR=4.6							
ASAR	**Alice Springs**	**32.89**	**248**	P	P	21 16 51.0	+0.4
0.8nm,0.6s,baz=75,slow=9.1,SNR=18							
ASAR				PcP	PcP	21 19 30.4	+1.0
0.4nm,0.5s,baz=63,slow=2.4,SNR=5.9							
SONM	**Songino Array**	**81.55**	**324**	P	P	21 22 31.0	+0.9
0.4nm,0.7s,baz=133,slow=4.7,SNR=3.9							
ILAR	**Eielson Array**	**85.58**	**18**	P	P	21 22 48.8	-1.8
0.2nm,0.4s,baz=249,slow=4.8,SNR=5.4							
MKAR	**Makanchi Array**	**96.32**	**316**	P	P	21 23 40.9	+0.3
0.4nm,0.5s,baz=80,slow=6.1,SNR=9.9							
ARCES	**ARCESS Array B**	**119.19**	**346**	PKP	PKPdf	21 28 59.3	-0.4
3.7nm,1.0s,baz=73,slow=0.9,SNR=7.5							

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*ISCJB **28** 21:11:25.3±7.7, 154S±02×173.3W±03, h6km±50km, mb3.8/7, MS3.4/1, Error ellipse: s-maj=53.1km s-min=17.7km az=84.7*
*IDC **28** 21:11:25.7±1.0, 1543S×173.13W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/16, mbtmp3.8/7, MS3.5/1, Ms1 3.5/1, ms1mx2.8/27, Error ellipse: s-maj=52.8km s-min=18.6km az=136.0*
ISC 28 21:11:28.4±7.9, 154S±02×1731W±02, h17km±50km, n10, σ0=85/9, mb3.8/7, MS3.4/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.94**	**42**	Pn	**Pn**	**21 12 00.5**	**-0.1**
364nm,0.3s,baz=191,slow=2.7,SNR=166							
AFI				Sn	**Sn**	**21 12 20.7**	**-3.8**
435nm,0.3s,baz=282,slow=23,SNR=12							
AFI				LR	LR	21 12 32.2	
comp=Z,417nm,21.0s,baz=309,slow=33							
URZ	**Urewera**	**24.38**	**199**	P	**P**	**21 16 45.1**	**-0.6**
4.3nm,0.4s,mb4.2,baz=333,slow=11,SNR=5.9							
PMG	**Port Moresby**	**39.22**	**274**	LR	LR	21 32 18.3	
comp=Z,63nm,20.7s,MS3.4,baz=24,slow=32							
WRA	**Warramunga Arr**	**50.13**	**257**	P	**P**	**21 20 23.1**	**+0.4**
0.5nm,0.9s,mb3.5,baz=94,slow=7.2,SNR=3.4							
ASAR	**Alice Springs**	**50.39**	**252**	P	**P**	**21 20 24.0**	**-0.7**
0.8nm,0.6s,mb3.9,baz=90,slow=7.8,SNR=12							
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**21 23 05.2**	**+1.5**
0.8nm,0.7s,mb3.8,baz=224,slow=8.4,SNR=4.2							
PDAR	**Pinedale Array**	**82.05**	**42**	P	**P**	**21 23 48.3**	**+0.6**
1.0nm,0.9s,mb3.8,baz=216,slow=4.8,SNR=6.1							
ILAR	**Eielson Array**	**82.36**	**11**	P	**P**	**21 23 49.0**	**-0.4**
0.5nm,0.6s,mb3.6,baz=229,slow=6.3,SNR=11							
YKA	**Yellowknife Ar**	**89.96**	**23**	P	**P**	**21 24 26.7**	**-0.1**
0.3nm,0.8s,mb3.7,baz=237,slow=4.3,SNR=6.0							
BRTR	**Keskin Array B**	**146.31**	**321**	PKPbc	PKPbc	21 31 09.5	+1.4
0.9nm,0.8s,baz=103,slow=2.7,SNR=7.9							

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*CSEM **28** 21:11:37.7±0.2, 3588N×2780E, h60km±4km, MD2.9, Error ellipse: s-maj=7.5km s-min=4.8km az=104.0*
*ISCJB **28** 21:11:38.4±0.6, 3589N±004×2777E±007, h78km±8km, Error ellipse: s-maj=10.2km s-min=7.0km az=29.4*
*NEIC **28** 21:11:41.2, 3603N×2756E, h42km, MD2.9(ATH), After ATH.*
*ATH **28** 21:11:41.2, 3603N×2756E, h42km±2km, MD2.9/4*
*HLW **28** 21:11:46.1, 3539N×2795E, h27km, Mb3.0*
ISC 28 21:11:39.8±0.7, 3592N±004×2772E±007, h69km±10km, n15, σ0=63/21, 4C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.44**	**48**	‖*i*P	**Pn**	**21 11 52.6**	**+0.6**
ARG				‖*i*S	**Sn**	**21 12 01.2**	**+0.3**
KARP	**Karpathos**	**0.59**	**231**	*e*P	**Pn**	**21 11 53.5**	**0.0**
KARP				‖*i*S	**Sn**	**21 12 02.8**	**-0.7**
DAT	**Datca**	**0.81**	**352**	PG	**Pn**	**21 11 55.9**	**0.0**
BODT	**Bodrum**	**1.18**	**344**	PG	**Pn**	**21 11 59.9**	**-0.7**
YER	**Yerkesik**	**1.29**	**20**	*e*PG	**Pn**	**21 12 02.2**	**+0.2**
MLSB	**Milas**	**1.37**	**2**	*e*PG	**Pn**	**21 12 03.3**	**+0.3**
NPS	**Neapolis**	**1.84**	**250**	*e*P	**Pn**	**21 12 10.7**	**+1.4**
NPS				*e*S	**Sn**	**21 12 31.6**	**-0.1**
SMG	**Samos**	**1.92**	**339**	*e*P	**Pn**	**21 12 10.5**	**+0.2**
SMG				*e*S	**Sn**	**21 12 32.7**	**-0.8**
HMAT	**Matruh**	**4.84**	**186**	‖P	**Pn**	**21 12 49.4**	**-0.8**
HMAT				S	**Sn**	**21 13 36.0**	**-8.9**
SLUM		**4.89**	**206**	P	**Pn**	**21 12 51.9**	**+1.2**
SLUM				S	**Sn**	**21 13 39.7**	**-6.3**
SWA2		**6.93**	**197**	‖P	**Pn**	**21 13 19.2**	**+0.5**
AMAG	**Maghara**	**6.99**	**137**	P	**Pn**	**21 13 19.2**	**-0.2**
AWBH		**7.65**	**172**	‖P	**Pn**	**21 13 27.6**	**-0.8**
AWBH		**7.65**	**172**	P	**Pn**	**21 13 27.6**	**-0.9**
HFRF	**Wahat Farafira**	**8.76**	**177**	P	**Pn**	**21 13 43.3**	**-0.5**

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*NEIC **28** 21:31:43.9, 3689N×2661E, h29km, MD2.8(ATH), After ATH.*
*ATH **28** 21:31:43.9, 3689N×2661E, h29km±2km, MD2.8/4*
*ISK **28** 21:31:43.5, 3674N×2651E, h11km, MD3.0*
*ISCJB **28** 21:31:44.8±1.0, 3686N±006×2659E±006, h31km±10km, Error ellipse: s-maj=10.4km s-min=7.1km az=50.4*
*CSEM **28** 21:31:44.8±0.2, 3689N×2659E, h15km, MD2.8, Error ellipse: s-maj=5.1km s-min=3.2km az=17.0*
ISC 28 21:31:44.6±0.7, 3691N±007×2658E±004, h18km±7km, n8, σ0=85/14, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.53**	**123**	*e*PN	**Pg**	**21 31 55.0**	**-0.2**
NISR				*e*SN	**Sg**	**21 32 02.0**	**-0.3**
BODT	**Bodrum**	**0.61**	**75**	PG	**Pg**	**21 31 57.4**	**+0.8**
DAT	**Datca**	**0.82**	**102**	PG	**Pg**	**21 32 00.7**	**+0.1**
SMG	**Samos**	**0.83**	**14**	*e*PN	**Pn**	**21 32 00.5**	**-0.9**
SMG				*e*SN	**Sn**	**21 32 12.1**	**-1.0**
APE	**Apeiranthos**	**0.86**	**281**	*e*PG	**Pg**	**21 32 00.2**	**-1.1**
APE				*e*SG	**Sg**	**21 32 13.0**	**+0.4**
APE	**Apeiranthos**	**0.86**	**281**	*e*Pb	**Pb**	**21 32 00.7**	**-0.2**
APE				*e*Sg	**Sg**	**21 32 13.0**	**+0.4**
APE				*e*Sn	**Sn**	**21 32 14.4**	**+0.6**
KARP	**Karpathos**	**1.43**	**161**	*e*PN	**Pn**	**21 32 09.6**	**-0.1**
IZM	**Izmir**	**1.59**	**20**	*e*PN	**Pn**	**21 32 14.1**	**+2.3**
IZM				*e*SN	**Sn**	**21 32 38.2**	**+6.4**

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*ISCJB **28** 21:35:59.4±0.6, 123N±008×97.13E±007, h24km, mb4.5/32, MS4.0/9, Error ellipse: s-maj=12.0km s-min=8.6km az=61.9*
*BJI **28** 21:35:59.4, 080N×9731E, h45km, mB5.0, mb4.7, Ms4.4, Ms2.4.3*
*IDC **28** 21:36:00.9±0.8, 121N×9701E, h22km±4km, mb3.9/8, mb1 4.0/9, mb1mx3.8/21, mbtmp4.0/9, ML3.4/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/26, Error ellipse: s-maj=34.9km s-min=14.8km az=22.0*
*NEIC **28** 21:36:01.3±0.4, 123N×97.10E, mb4.4/10, Error ellipse: s-maj=9.9km s-min=6.3km az=214.0*
ISC 28 21:36:02.4±0.7, 132N±008×9720E±007, h25km, h25km±1.2km: pP-P, n48, σ1=03/47, mb4.5/32, MS4.0/9, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.27**	**50**	Pn	**Pn**	**21 36 39.0**	**+0.8**
7.8nm,0.3s,baz=246,slow=5.2,SNR=22							
PSI				LR	LR	21 37 29.0	
comp=Z,665nm,20.9s,baz=285,slow=36							
KULM	**Kulim**	**5.24**	**41**	*e*Pn	**Pn**	**21 37 19.6**	**+0.5**
KSM	**Kuching**	**13.11**	**89**	P	**Pn**	**21 39 07.4**	**+0.4**
KSM				*e*		21 39 18.9	
PALK	**Pallekele**	**17.47**	**290**	*e*P	**Pn**	**21 40 10.2**	**+5.9**
KKM	**Kota Kinabalu**	**19.55**	**76**	*e*P	**Pn**	**21 40 29.1**	**-0.4**
QIZ	**Qiongzhong**	**21.52**	**34**	P	**P**	**21 40 50.5**	**+1.0**
QIZ				S	**S**	**21 44 43.3**	**-3.5**
QIZ				LR	LR		
comp=N,292nm,14.0s							
QIZ				LR	LR		
comp=Z,244nm,14.0s,MS3.8							
KMI	**Kunming**	**24.26**	**12**	P	**P**	**21 41 18.8**	**+1.4**
KMI				AP		21 41 32.0	
KMI				PP		21 41 58.0	
KMI				S	**S**	**21 45 31.5**	**-3.1**
KMI				XS	sS	21 45 54.5	+7.6
KMI				AMB	AMB		
comp=Z,13nm,1.3s,mb4.2							
KMI				AMB	AMB		
comp=Z,90nm,5.1s							
KMI				LR	LR		
comp=N,620nm,16.8s,MS4.3							
KMI				LR	LR		
comp=E,399nm,13.8s,MS4.3							
KMI				LR	LR		
comp=Z,706nm,14.8s,MS4.3							
JIRN	**Jiri**	**28.23**	**339**	*e*P	**P**	**21 41 53.9**	**+0.7**
comp=Z,18nm,0.8s,mb4.8							
PKI	**Pulchoki**	**28.44**	**338**	*e*P	**P**	**21 41 55.6**	**+0.5**
GUN	**Gumba**	**28.57**	**339**	*e*P	**P**	**21 41 57.1**	**+0.8**
comp=Z,28nm,0.7s,mb5.1							
DMN	**Daman**	**28.59**	**337**	*e*P	**P**	**21 41 57.5**	**+1.1**
KKN	**Kakani**	**28.68**	**338**	*e*P	**P**	**21 41 57.8**	**+0.5**
comp=Z,15nm,0.8s,mb4.8							
LSA	**Lhasa**	**28.80**	**349**	*e*P	**P**	**21 41 59.5**	**+1.2**
comp=Z,4.2nm,0.8s,mb4.2							
GKN	**Gorkha**	**29.12**	**337**	*e*P	**P**	**21 42 01.7**	**+0.5**
comp=Z,9.0nm,0.3s,mb4.9							
KOLN	**Koldanda**	**29.34**	**335**	*e*P	**P**	**21 42 03.8**	**+0.7**
comp=Z,13nm,0.6s,mb4.8							
CD2	**Chengdu**	**30.08**	**11**	*e*P	**P**	**21 42 10.3**	**+0.7**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
ENH	**Enshi**	**31.07**	**21**	*e*P	**P**	**21 42 17.8**	**-0.6**
comp=Z,13nm,0.6s,mb4.9							
XAN	**Xi'an**	**34.35**	**17**	P	**P**	**21 42 46.8**	**-0.3**
XAN				AMB	AMB		
comp=Z,9.0nm,1.4s,mb4.5							
XAN				AMB	AMB		
comp=Z,108nm,8.8s							
XAN				LR	LR		
comp=N,273nm,17.1s,MS4.1							
XAN				LR	LR		
comp=E,212nm,20.7s,MS4.1							
XAN				LR	LR		
comp=Z,386nm,14.6s							
LZH	**Lanzhou**	**35.13**	**9**	*e*P	**P**	**21 42 57.5**	**+3.6**
LZH				AP	pP	21 43 06.0	+4.5
LZH				XP	sP	21 43 10.3	+5.7
LZH				*e*PP	PP	21 44 18.5	+4.8
LZH				AMB	AMB		
comp=Z,26nm,1.4s,mb5.0							
LZH				AMB	AMB		
comp=Z,63nm,5.5s							
LZH				LR	LR		
comp=E,319nm,13.7s							
LZH				LR	LR		
comp=Z,497nm,17.5s,MS4.3							
NJ2	**Nanjing**	**36.76**	**32**	*e*P	**P**	**21 43 07.5**	**-0.3**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
SSE	**Sheshan**	**37.32**	**35**	P	**P**	**21 43 12.3**	**-0.2**
SSE				PP	PP	21 44 38.3	+0.5
SSE				PCP	PcP	21 45 29.5	-1.9
SSE				S	**S**	**21 48 55.3**	**-3.3**
SSE				XS	sS	21 49 24.8	+14
SSE				AMB	AMB		
comp=Z,42nm,0.7s,mb5.4							
SSE				AMB	AMB		
comp=Z,159nm,4.8s							
SSE				LR	LR		
comp=N,98nm,18.0s,MS3.7							
SSE				LR	LR		
comp=E,61nm,18.0s,MS3.7							
SSE				LR	LR		
comp=Z,102nm,18.0s,MS3.7							
GTA	**Gaotai**	**37.98**	**3**	*e*P	**P**	**21 43 19.5**	**+1.4**
GTA				AP	pP	21 43 26.3	+0.5
GTA				AMB	AMB		
comp=Z,3.0nm,0.7s,mb4.1							
HHC	**Hu-ho-hao-te**	**41.44**	**17**	*e*P	**P**	**21 43 48.0**	**+1.1**
HHC				PP	PP	21 45 28.5	+5.7
HHC				PCP	PcP	21 45 45.3	+0.8
HHC				S	**S**	**21 49 57.5**	**-3.0**
HHC				AMB	AMB		
comp=Z,10.0nm,0.3s,mb4.9							
HHC				AMB	AMB		
comp=Z,143nm,5.3s							
HHC				LR	LR		
comp=N,307nm,7.9s							
HHC				LR	LR		
comp=E,315nm,10.8s							
HHC				LR	LR

MDJ				LR	LR		
	comp=N,49nm,20.6s,MS3.6						
MDJ				LR	LR		
	comp=E,36nm,19.0s,MS3.6						
MDJ				LR	LR		
	comp=Z,91nm,17.5s,MS3.9						
ZAL	**Zalesovo**	**53.43 351**		P	**P**	**21 45 19.6**	**-0.5**
	comp=Z,4.4nm,0.6s,mb4.5,baz=317,slow=7.0,SNR=23						
STKA	**Stephens Creek**	**53.44 132**	*e*P		pP	21 45 26.1	-2.0
	comp=Z,2.2nm,0.6s						
STKA	**Stephens Creek**	**53.44 132**		P	**P**	**21 45 19.3**	**-0.9**
	comp=Z,1.6nm,0.8s,mb4.0,baz=308,slow=7.7,SNR=3.7						
STKA				pP	pP	21 45 26.0	-2.1
	comp=Z,1.9nm,0.5s,baz=288,slow=7.3,SNR=4.7						
STKA	**Stephens Creek**	**53.44 132**	*e*P		**P**	**21 45 19.1**	**-1.1**
BRVK	**Borovoye**	**56.20 341**		P	**P**	**21 45 38.6**	**-1.6**
	comp=Z,1.7nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**56.53 340**	*e*P		**P**	**21 45 41.1**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**56.61 341**	*e*P		**P**	**21 45 42.0**	**-1.1**
	comp=Z,3.9nm,0.6s,mb4.6						
BOSA	**Boshof**	**74.84 240**		LR	LR	22 13 09.5	
	comp=Z,76nm,20.0s,MS4.0,baz=119,slow=30						
AKASG	**Malin Array Be**	**75.16 322**		P	**P**	**21 47 41.0**	**-1.5**
	comp=Z,0.2nm,0.3s,mb3.6,baz=65,slow=1.6,SNR=2.9						
AKASG				pP	pP	21 47 48.0	-2.6
	comp=Z,0.5nm,0.5s,baz=90,slow=5.1,SNR=3.5						
FINES	**FINESS Array B**	**79.89 332**		P	**P**	**21 48 07.5**	**-1.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=66,slow=4.8,SNR=4.7						
FINES				pP	pP	21 48 15.7	-1.4
	comp=Z,1.0nm,0.8s,baz=74,slow=6.8,SNR=2.4						
FINES	**FINESS Array B**	**79.89 332**		P	**P**	**21 48 07.5**	**-1.4**
FINES				pP	pP	21 48 15.7	-1.4
SYO	**Syowa Base**	**80.12 198**	⇓*e*P		**P**	**21 48 14.4**	**+4.2**
SYO	**Syowa Base**	**80.12 198**	⇓*e*pP		pP	21 48 31.2	+13
SYO	**Syowa Base**	**80.12 198**	⇑*e*PP		PP	21 51 17.7	+5.3
CPUP	**Villa Florida**	**145.09 222**		PKP	PKPdf	21 55 36.9	-0.6
	comp=Z,0.7nm,0.5s,baz=151,slow=7.0,SNR=2.2						
CPUP				pPKP	pPKPdf	21 55 44.8	-1.3
	comp=Z,1.3nm,0.5s,baz=127,slow=6.8,SNR=3.0						

*IDC **28** 21:39:02.2±2.2, 6825N×13065E, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, ML4.0/3, Error ellipse: s-maj=84.5km s-min=28.7km az=79.0*
*ISCJB **28** 21:39:16.6±3.5, 75S±02×1305E±03, h158km±36km, mb3.8/2, Error ellipse: s-maj=43.5km s-min=31.2km az=123.2*
ISC 28 21:39:18.4±3.3, 76S±02×1305E±03, h160km±33km, n8, σ0§64/9, mb3.8/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.49**	**159**	*e*P	**Pn**	**21 40 38.7**	**+0.3**
	12nm,0.3s						
KAKA				*e*S	**Sn**	**21 41 41.1**	**0.0**
FITZ	**Fitzroy Crossi**	**11.49**	**204**	*e*P	**Pn**	**21 41 57.5**	**-0.2**
	1.3nm,0.1s						
FITZ				*e*S	Sx	21 44 02.4	
FITZ	**Fitzroy Crossi**	**11.49**	**204**	Pn	**Pn**	**21 41 57.8**	**+0.1**
	0.9nm,0.3s,baz=40,slow=10,SNR=16						
FITZ				Sn	Sx	21 44 01.4	
	0.6nm,0.3s,baz=252,slow=20,SNR=5.0						
WRA	**Warramunga Arr**	**12.88**	**163**	Pn	**Pn**	**21 42 15.2**	**-0.5**
	0.8nm,0.3s,baz=348,slow=13,SNR=65						
WRA				Sn	Sx	21 44 36.0	
	1.4nm,0.3s,baz=345,slow=22,SNR=13						
WB2	**Warramunga Arr**	**12.89**	**163**	*e*P	**Pn**	**21 42 15.3**	**-0.5**
WB2				*e*S	Sx	21 44 36.6	
ASAR	**Alice Springs**	**16.37**	**169**	P	**Pn**	**21 43 02.5**	**+3.4**
	0.5nm,0.3s,baz=342,slow=9.6,SNR=31						
ASAR				S	Sx	21 46 01.4	
	0.4nm,0.3s,baz=353,slow=26,SNR=7.8						
FORT	**Forrest**	**23.22**	**185**	*e*P	**P**	**21 44 11.2**	**0.0**
	9.4nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**68.93**	**327**	P	**P**	**21 50 06.0**	**0.0**
	0.2nm,0.4s,mb3.2,baz=120,slow=7.5,SNR=6.2						

*BJI **28** 21:47:50.6, 5386N×109.11E, h10km, mB4.6, mb4.3, Ms4.2, Msz4.0*
*IDC **28** 21:47:53.6±0.7, 5358N×10848E, h0km, mb4.0/14, mb1 4.1/16, mb1mx4.0/24, mbtmp4.0/16, ML3.9/2, MS3.1/2, Ms1 3.2/2, ms1mx2.7/32, Error ellipse: s-maj=18.6km s-min=13.8km az=82.0*
*ISCJB **28** 21:47:53.6±0.2, 5357N±002×10852E±003, h13km, mb4.2/26, MS3.5/2, Error ellipse: s-maj=2.9km s-min=1.9km az=94.5*
*MOS **28** 21:47:53.6±1.1, 5357N×10846E, h9km, mb4.4/6, Error ellipse: s-maj=8.3km s-min=5.6km az=64.0*
MOS Felt (II) at Ust'-Barguzin, Onguryeny.
*NEIC **28** 21:47:54.7±0.5, 5362N×10853E, h10km, mb4.3/6, Error ellipse: s-maj=10.3km s-min=7.8km az=54.0*
NEIC Felt [II] at Onguryeny and Ust'-Barguzin.
*BYKL **28** 21:47:55.6±0.1, 5356N×10848E, h13km±2km, FELT I=III MSK at Ust-Barguzin, II at Onguren, Yelantsy.*
ISC 28 21:47:55.1±0.2, 5356N±002×10850E±003, h13km, n112, σ1§45/195, mb4.2/26, MS3.5/2, 17C-18D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.34**	**154**	⇑*i*Pg	**Pg**	**21 48 02.2**	**+0.3**
MXMB				Pmax		21 48 02.4	
MXMB				*e*Sg	**Sg**	**21 48 06.9**	**+0.4**
MXMB				Smax		21 48 07.7	
OGRR	**Ongureny**	**0.54**	**279**	⇑*i*Pg	**Pg**	**21 48 06.1**	**+0.4**
	2μm,0.4s						
OGRR				⇓*i*Pg	**Pg**	**21 48 06.1**	**+0.4**
	5μm,0.4s						
OGRR				⇑*i*Pg	**Pg**	**21 48 06.1**	**+0.4**
	7μm,0.4s						
OGRR				Pmax		21 48 06.2	
	5μm,0.3s						
OGRR				*e*Sg	**Sg**	**21 48 13.3**	**+0.4**
OGRR				Smax		21 48 14.0	
	10μm,0.4s						
OGRR	**Ongureny**	**0.54**	**279**	*e*PG	**Pg**	**21 48 06.1**	**+0.4**
OGRR				*e*		21 48 13.5	
OGRR				pmax	pmax		
	comp=Z,5μm,0.6s						
OGRR				smax			
	comp=N,10μm,0.4s						
KELR	**Kotokel**	**0.84**	**197**	⇑*i*Pg	**Pg**	**21 48 10.8**	**-0.6**
KELR				Pmax		21 48 14.0	
	comp=N,1μm,0.2s						
KELR				*e*Sg	**Sg**	**21 48 22.5**	**+0.1**
KELR				Smax		21 48 24.0	
	comp=N,22μm,0.3s						
SYVR	**Suvo**	**0.90**	**83**	⇑*i*Pg	**Pg**	**21 48 11.9**	**-0.6**
	comp=N,260nm,0.6s						
SYVR				⇑*i*Pg	**Pg**	**21 48 11.9**	**-0.6**
	comp=N,1μm,0.6s						
SYVR				⇑*i*Pg	**Pg**	**21 48 11.9**	**-0.6**
	comp=N,2μm,0.6s						
SYVR				Pmax		21 48 12.1	
	comp=N,1μm,0.4s						
SYVR				*e*Sg	**Sg**	**21 48 24.1**	**-0.2**
SYVR				Smax		21 48 31.2	
	comp=N,3μm,0.4s						
SYVR	**Suvo**	**0.90**	**83**	*e*PG	**Pg**	**21 48 11.9**	**-0.6**
SYVR				*e*		21 48 24.1	
SYVR				pmax	pmax		
	comp=Z,1μm,0.3s						
SYVR				smax			
	comp=N,4μm,0.2s						
TRTB	**Turuntaevo**	**1.44**	**202**	⇓*i*Pg	**Pg**	**21 48 21.5**	**-1.2**
TRTB				Pmax		21 48 29.8	
	comp=N,951nm,0.4s						
TRTB				*e*Sg	**Sg**	**21 48 40.7**	**-0.6**
TRTB				*e*Sb	**Sb**	**21 48 41.6**	**+1.8**
TRTB				max		21 48 42.9	
	comp=N,8μm,0.6s						
TRG	**Tyrgan**	**1.52**	**239**	⇑*i*Pg	**Pg**	**21 48 22.4**	**-1.9**
TRG				Pmax		21 48 27.7	
	comp=N,731nm,0.4s						
TRG				*e*Sg	**Sg**	**21 48 42.5**	**-1.6**
TRG				*e*Sb	**Sb**	**21 48 43.6**	**+1.2**
TRG				max		21 48 46.7	
	comp=N,84nm,0.4s						
TRG	**Tyrgan**	**1.52**	**239**	⇑*i*PG	**Pg**	**21 48 22.4**	**-1.9**
TRG				*e*		21 48 43.4	
TRG				pmax	pmax		
	comp=Z,928nm,0.3s						
TRG				smax			
	comp=N,10μm,0.4s						
FFNB	**Fofonovo**	**1.85**	**215**	*e*Pn	**Pn**	**21 48 27.1**	**+0.7**
FFNB				*e*Pg	**Pg**	**21 48 29.0**	**-1.5**
FFNB				Pmax		21 48 32.9	
	comp=N,966nm,0.1s						
FFNB				*e*Sg	**Sg**	**21 48 53.4**	**-1.1**
FFNB				Smax		21 48 56.8	
	comp=N,11μm,0.3s						
KAB	**Kabansk**	**1.88**	**217**	*e*Pg	**Pg**	**21 48 29.7**	**-1.5**
KAB				Pmax		21 48 37.2	
	comp=N,2μm,1.0s						
KAB				*e*Sn	**Sn**	**21 48 52.1**	**+1.5**
KAB				*e*Sg	**Sg**	**21 48 54.6**	**-1.1**
KAB				Smax		21 49 09.1	
	comp=N,9μm,0.7s						
KAB	**Kabansk**	**1.88**	**217**	*e*PN	**Pn**	**21 48 29.4**	**+2.5**
KAB				*e*		21 48 54.4	
KAB				pmax	pmax		
	comp=Z,442nm,0.4s						
KAB				smax			
	comp=E,6μm,0.7s						
YLYR	**Ulyunkhan**	**2.04**	**49**	⇓*i*Pn	**Pn**	**21 48 30.4**	**+1.2**
	comp=E,48nm,0.5s						
YLYR				⇓*i*Pn	**Pn**	**21 48 30.4**	**+1.2**
	comp=E,55nm,0.5s						
YLYR				⇓*i*Pn	**Pn**	**21 48 30.4**	**+1.2**
	comp=E,89nm,0.5s						
YLYR				*e*Pg	**Pg**	**21 48 31.9**	**-2.4**
YLYR				*e*PgPg		21 48 38.1	
YLYR				max		21 48 40.7	
	comp=E,414nm,0.5s						
YLYR				*e*Sg	**Sg**	**21 48 59.7**	**-1.1**
YLYR				Smax		21 49 00.8	
	comp=E,3μm,1.2s						
YLYR	**Ulyunkhan**	**2.04**	**49**	*e*PN	**Pn**	**21 48 30.4**	**+1.2**
YLYR				*e*		21 48 32.4	
YLYR				*e*		21 48 59.5	
YLYR				pmax	pmax		
	comp=Z,426nm,0.4s						
YLYR				smax			
	comp=N,3μm,0.7s						
HRMR	**Khuramsha**	**2.15**	**206**	⇓*i*Pn	**Pn**	**21 48 31.6**	**+0.9**
HRMR				⇓*i*Pg	**Pg**	**21 48 34.4**	**-2.0**
HRMR				Pmax		21 48 43.7	
	comp=N,2μm,0.5s						
HRMR				*e*Sg	**Sg**	**21 49 02.8**	**-1.5**
HRMR				Smax		21 49 05.1	
	comp=N,24μm,0.5s						
NIZ	**Nizh Angarsk**	**2.30**	**15**	⇓*i*Pn	**Pn**	**21 48 34.4**	**+1.8**
NIZ				*e*Pg	**Pg**	**21 48 37.5**	**-1.6**
NIZ				*e*		21 48 39.4	
NIZ				max		21 48 44.1	
	comp=N,276nm,0.4s						
NIZ				*e*Sn	**Sn**	**21 49 03.1**	**+2.3**
NIZ				*e*Sg	**Sg**	**21 49 07.1**	**-1.8**
NIZ				Smax		21 49 08.0	
	comp=N,2μm,0.5s						
NIZ				*e*SgSg		21 49 14.7	
NIZ	**Nizh Angarsk**	**2.30**	**15**	*e*PN	**Pn**	**21 48 34.4**	**+1.8**
NIZ				*e*		21 48 37.4	
NIZ				*e*S	**Sn**	**21 49 03.1**	**+2.3**
NIZ				*e*		21 49 07.3	
NIZ				pmax	pmax		
	comp=Z,275nm,0.4s						
NIZ				smax			
	comp=N,2μm,0.5s						
BTMB	**Babushkin**	**2.47**	**222**	*e*Pn	**Pn**	**21 48 35.2**	**+0.1**
BTMB				*e*Pg	**Pg**	**21 48 39.3**	**-3.2**
BTMB				Pmax		21 48 49.4	
	comp=N,380nm,0.6s						
BTMB				*e*Sn	**Sn**	**21 49 05.5**	**+0.4**
BTMB				*e*Sg	**Sg**	**21 49 12.0**	**-2.6**
BTMB				Smax		21 49 15.7	
	comp=N,3μm,0.6s						
LSTR	**Listvyanka**	**2.80**	**234**	⇑*i*Pn	**Pn**	**21 48 40.6**	**+1.0**
	comp=N,114nm,0.5s						
LSTR				⇑*i*Pn	**Pn**	**21 48 40.6**	**+1.0**
	comp=N,144nm,0.5s						
LSTR				⇓*i*Pn	**Pn**	**21 48 40.6**	**+1.0**
	comp=N,190nm,0.5s						
LSTR				*e*Pg	**Pg**	**21 48 44.8**	**-4.0**
LSTR				Pmax		21 48 55.6	
	comp=N,214nm,0.8s						
LSTR				*e*Sn	**Sn**	**21 49 13.7**	**+0.5**
LSTR				*e*Sg	**Sg**	**21 49 21.5**	**-3.6**
LSTR				Smax		21 49 36.4	
	comp=N,1μm,0.9s						
LSTR	**Listvyanka**	**2.80**	**234**	⇓*i*PN	**Pn**	**21 48 40.5**	**+0.9**
LSTR				*e*		21 48 46.5	
LSTR				*e*S	**Sn**	**21 49 14.3**	**+1.1**
LSTR				*e*		21 49 20.8	
LSTR				pmax	pmax		
	comp=Z,204nm,0.4s						
LSTR				smax			
	comp=N,1μm,0.8s						
KMO	**Kumora**	**2.81**	**33**	⇓*i*Pn	**Pn**	**21 48 41.3**	**+1.7**
KMO				*e*Pg	**Pg**	**21 48 46.0**	**-2.9**
KMO				Pmax		21 48 52.8	
	comp=N,736nm,0.5s						
KMO				*e*Sg	**Sg**	**21 49 23.1**	**-2.2**
KMO				Smax		21 49 39.2	
	comp=N,3μm,1.0s						
KMO	**Kumora**	**2.81**	**33**	*e*PN	**Pn**	**21 48 41.2**	**+1.6**
KMO				*e*		21 48 45.8	
KMO				*e*S	**Sn**	**21 49 14.9**	**+1.5**
KMO				*e*		21 49 22.1	
KMO				pmax	pmax		
	comp=Z,744nm,0.4s						
KMO				smax			
	comp=N,3μm,1.0s						
IRK	**Irkutsk**	**2.88**	**244**	*e*Pn	**Pn**	**21 48 41.9**	**+1.3**
IRK				*e*Pg	**Pg**	**21 48 46.7**	**-3.6**
IRK				Pmax		21 48 51.6	
	comp=N,502nm,0.3s						
IRK				*e*Sg	**Sg**	**21 49 23.4**	**-4.2**
IRK				Smax		21 49 28.5	
	comp=N,7μm,0.5s						
IRK	**Irkutsk**	**2.88**	**244**	*e*PN	**Pn**	**21 48 40.8**	**+0.2**
IRK				*e*		21 48 46.4	
IRK				*e*S	**Sn**	**21 49 13.9**	**-1.2**
IRK				*e*		21 49 21.6	
IRK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
IRK				smax			
	comp=N,8.0nm,0.5s						
YOA	**Uoyan**	**3.18**	**35**	*e*Pn	**Pn**	**21 48 46.8**	**+2.0**
YOA				*e*Pg	**Pg**	**21 48 53.7**	**-2.3**
YOA				Pmax		21 49 03.7	
	comp=N,497nm,0.7s						
YOA				*e*		21 49 25.7	
YOA				*e*Sg	**Sg**	**21 49 35.5**	**-1.7**
YOA				Smax		21 49 58.9	
	comp=N,5μm,0.9s						
YOA	**Uoyan**	**3.18**	**35**	⇑*i*PN	**Pn**	**21 48 46.8**	**+2.0**
YOA				*e*		21 48 51.8	
YOA				*e*		21 49 34.3	
YOA				pmax	pmax		
	comp=Z,643nm,0.4s						
YOA				smax			
	comp=N,5μm,0.8s						
CIT	**Chita**	**3.44**	**115**	⇑*i*Pn	**Pn**	**21 48 48.6**	**+0.3**
CIT				*e*Pg	**Pg**	**21 48 56.3**	**-4.6**
CIT				Pmax		21 49 01.4	
	comp=N,502nm,0.8s						
CIT				*e*Sn	**Sn**	**21 49 29.1**	**+0.2**
CIT				*e*Sg	**Sg**	**21 49 41.6**	**-3.9**
CIT				Smax		21 49 48.9	
	comp=N,3μm,0.7s						
CIT	**Chita**	**3.44**	**115**	*e*PN	**Pn**	**21 48 48.6**	**+0.3**
CIT				*e*		21 48 56.2	
CIT				*e*S	**Sn**	**21 49 28.7**	**-0.2**
CIT				*e*		21 49 41.2	
CIT				pmax	pmax		
	comp=Z,564nm,0.9s						
CIT				smax			
	comp=N,3μm,0.6s						
TLY	**Talaya**	**3.51**	**239**	⇓*i*Pn	**Pn**	**21 48 50.1**	**+0.8**
TLY				*e*Pg	**Pg**	**21 48 57.6**	**-4.7**
TLY				Pmax		21 49 02.6	
	comp=N,106nm,0.5s						
TLY				*e*Sg	**Sg**	**21 49 42.5**	**-5.2**
TLY				Smax		21 49 48.7	
	comp=N,3μm,0.9s						
TLY	**Talaya**	**3.51**	**239**	⇓*i*PN	**Pn**	**21 48 50.0**	**+0.7**
TLY				*e*		21 48 56.7	
TLY				*e*S	**Sn**	**21 49 29.2**	**-1.4**
TLY				*e*		21 49 41.8	
TLY				pmax	pmax		
	comp=Z,139nm,0.6s						
TLY				smax			
	comp=E,3μm,0.8s						
UKT	**Uakit**	**3.56**	**55**	⇓*i*Pn	**Pn**	**21 48 51.3**	**+1.3**
UKT				*e*Pg	**Pg**	**21 48 59.1**	**-4.2**
UKT				*e*PgPg		21 49 02.1	
UKT				max		21 49 10.5	
	comp=E,198nm,0.8s						
UKT				*e*Sg	**Sg**	**21 49 45.5**	**-3.9**
UKT				Smax		21 49 57.0	
	comp=E,648nm,1.1s						
UKT	**Uakit**	**3.56**	**55**	*e*PN	**Pn**	**21 48 51.6**	**+1.6**
UKT				*e*		21 48 58.5	
UKT				*e*S	**Sn**	**21 49 32.6**	**+0.7**
UKT				*e*		21 49 45.3	
UKT				pmax	pmax		
	comp=Z,203nm,0.6s						
UKT				smax			
	comp=N,636nm,0.8s						
ARS	**Arshan**	**4.04**	**248**	*e*Pn	**Pn**	**21 48 57.9**	**+1.3**
ARS				*e*Pg	**Pg**	**21 49 07.9**	**-4.6**
ARS				Pmax		21 49 13.8	
	comp=N,263nm,0.6s						
ARS				*e*Sg	**Sg**	**21 49 58.8**	**-6.0**
ARS				Smax		21 50 03.3	
	comp=N,5μm,0.8s						
ARS	**Arshan**	**4.04**	**248**	*e*PN	**Pn**	**21 48 58.0**	**+1.4**
ARS				*e*		21 49 05.7	
ARS				*e*		21 49 57.5	
ARS				pmax	pmax		
	comp=Z,297nm,0.5s						
ARS				smax			
	comp=E,5μm,0.8s						
ZAK	**Zakamensk**	**4.53**	**227**	⇓*i*Pn	**Pn**	**21 49 04.9**	**+1.5**
ZAK				*e*		21 49 12.0	
ZAK				*e*		21 49 21.8	
ZAK				*e*Sg	**Sg**	**21 50 17.5**	**-3.1**
ZAK				Smax		21 50 23.9	
	comp=E,244nm,1.2s						
ZAK	**Zakamensk**	**4.53**	**227**	*e*PN	**Pn**	**21 49 04.8**	**+1.4**
ZAK				*e*		21 49 18.2	
ZAK				*e*S	**Sn**	**21 50 13.3**	**+17**
ZAK				pmax	pmax		
	comp=Z,91nm,0.8s						
ZAK				smax			
	comp=N,411nm,0.6s						
KPC	**Khapcheranga**	**4.56**	**146**	⇑*i*Pn	**Pn**	**21 49 03.4**	**-0.3**
KPC				Pg	**Pg**	**21 49 16.7**	**-5.7**
KPC				*e*		21 49 18.0	
KPC				max		21 49 25.4	
	comp=N,280nm,0.9s						
KPC				*e*Sn	**Sn**	**21 49 55.0**	**-1.6**
KPC				*e*Sg	**Sg**	**21 50 16.2**	**-5.3**
KPC				Smax		21 50 19.5	
	comp=N,996nm,0.9s						
KPC	**Khapcheranga**	**4.56**	**146**	*e*PN	**Pn**	**21 49 03.4**	**-0.3**
KPC				*e*		21 49 17.0	
KPC				*e*S	**Sn**	**21 49 55.6**	**-1.0**
KPC				*e*		21 50 16.3	
KPC				pmax	pmax		
	comp=Z,282nm,1.0s						
KPC				smax			
	comp=E,1μm,1.1s						
MOY	**Mondy**	**4.95**	**250**	⇑*i*Pn	**Pn**	**21 49 11.9**	**+2.8**
MOY				*e*		21 49 13.3	
MOY				*e*		21 49 27.6	
MOY				max		21 49 28.8	
	comp=E,192nm,1.0s						
MOY				*e*		21 50 09.3	
MOY				*e*		21 50 25.2	
MOY				*e*Sg	**Sg**	**21 50 27.7**	**-6.3**
MOY				*e*		21 50 36.6	
MOY				max		21 50 39.5	
	comp=E,3μm,1.3s						
MOY	**Mondy**	**4.95**	**250**	*e*PN	**Pn**	**21 49 11.9**	**+2.8**
MOY				*e*		21 49 23.9	
MOY				*e*S	**Sn**	**21 50 09.0**	**+2.8**
MOY				*e*		21 50 25.4	
MOY				pmax	pmax		
	comp=Z,188nm,1.0s						
MOY				pmax	pmax		
	comp=E,3μm,1.3s						
NLYR	**Nelyaty**	**5.08**	**52**	*e*Pn	**Pn**	**21 49 11.9**	**+1.0**
NLYR				*e*Pg	**Pg**	**21 49 26.8**	**-5.5**
NLYR				Pmax		21 49 50.9	
	comp=E,92nm,0.7s						
NLYR				*e*Sg	**Sg**	**21 50 34.2**	**-3.9**
NLYR				Smax		21 50 46.8	
	comp=E,1μm,1.3s						
BOD	**Bodaibo**	**5.28**	**34**	*e*Pn	**Pn**	**21 49 14.7**	**+1.1**
BOD				max		21 49 37.8	
	comp=E,40nm,0.9s						
BOD				*e*Sg	**Sg**	**21 50 39.2**	**-5.4**
BOD				Smax		21 50 55.3	
	comp=E,346nm,1.0s						
BOD	**Bodaibo**	**5.28**	**34**	*e*PN	**Pn**	**21 49 13.9**	**+0.3**
BOD				*e*		21 49 29.3	
BOD				*e*		21 50 37.5	
BOD				pmax	pmax		
	comp=Z,42nm,1.0s						
BOD				smax			
	comp=N,347nm,0.6s						
ORL	**Orlik**	**5.34**	**262**	*e*Pn	**Pn**	**21 49 15.9**	**+1.4**
ORL				⇓*i*		21 49 17.6	
	comp=N,32nm,0.8s						
ORL				⇓*i*		21 49 17.6	
	comp=N,86nm,0.8s						
ORL				⇑*i*		21 49 17.6	
	comp=N,112nm,0.8s						
ORL				max		21 49 23.0	
	comp=N,148nm,0.8s						
ORL				*e*		21 50 16.8	
ORL				*e*Sg	**Sg**	**21 50 40.3**	**-6.2**
ORL				Smax		21 50 48.3	
	comp=N,589nm,0.9s						
ORL	**Orlik**	**5.34**	**262**	*e*PN	**Pn**	**21 49 16.0**	**+1.5**
ORL				*e*S	**Sg**	**21 50 40.3**	**-6.2**
ORL				smax			
	comp=N,588nm,1.0s						
ULN	**Ulaanbaatar**	**5.78**	**190**	*e*Pn	**Pn**	**21 49 21.3**	**+0.8**
	comp=N,44nm,0.8s						
ULN				*e*Pg	**Pg**	**21 49 41.2**	**-4.6**
ULN				*e*Sg	**Sg**	**21 50 53.6**	**-6.9**
ULN	**Ulaanbaatar**	**5.78**	**190**	*e*PN	**Pn**	**21 49 21.3**	**+0.8**
ULN				*e*		21 49 41.2	
ULN				*e*		21 50 53.6	
ULN				pmax	pmax		
	comp=Z,44nm,0.8s						
SONM	**Songino Array**	**5.89**	**194**	Pn	**Pn**	**21 49 23.1**	**+1.1**
	comp=Z,4.1nm,0.3s,baz=8.9,slow=14,SNR=206						
SONM				Pg	**Pg**	**21 49 41.6**	**-6.3**
	comp=Z,14nm,0.3s,baz=11,slow=16,SNR=13						
SONM				Sn	**Sn**	**21 50 33.0**	**+3.6**
	comp=Z,11nm,0.3s,baz=17,slow=21,SNR=4.2						
SONM				Lg		21 51 01.5	
	comp=Z,61nm,0.3s,baz=11,slow=30,SNR=15						
SONM				LR	LR	21 51 56.6	
	comp=Z,159nm,19.3s,baz=182,slow=41						
SONM	**Songino Array**	**5.89**	**194**	PN	**Pn**	**21 49 23.1**	**+1.1**
SONM						21 49 41.6	
SONM						21 50 33.0	
SONM						21 51 01.5	
CRS	**Chara**	**6.51**	**55**	*e*Pn	**Pn**	**21 49 32.3**	**+1.7**
CRS				*e*Pg	**Pg**	**21 49 52.1**	**-7.7**
CRS				Pmax		21 50 06.2	
	comp=Z,97nm,1.2s						
CRS				*e*Sg	**Sg**	**21 51 17.3**	**-6.8**
CRS				Smax		21 51 33.6	
	comp=Z,722nm,1.7s						
CRS	**Chara**	**6.51**	**55**	*e*PN	**Pn**	**21 49 33.7**	**+3.1**
CRS				*e*		21 49 52.0	
CRS				*e*		21 51 18.0	
CRS				pmax	pmax		
	comp=Z,97nm,1.0s						
CRS				smax			
	comp=E,727nm,1.6s						
TUP	**Tupik**	**6.81**	**78**	⇑*i*Pn	**Pn**	**21 49 35.3**	**+0.6**
TUP				*e*Pg	**Pg**	**21 49 57.7**	**-7.8**

TUP Pmax 21 50 09.3
comp=E,30nm,0.7s
TUP eSg **Sg** **21 51 26.4 -7.3**
TUP Smax 21 51 30.8
comp=E,1μm,1.6s
TUP Tupik 6.81 78 ePN **Pn** **21 49 35.2 +0.5**
TUP e 21 49 57.3
TUP eS **Sn** **21 50 51.3 -0.8**
TUP e 21 51 26.1
TUP pmax pmax
comp=Z,33nm,0.6s
TUP smax
comp=N,1μm,1.0s
KHNR Khani 7.38 58 ePn **Pn** **21 49 44.0 +1.6**
KHNR eSg Sn 21 51 44.4 +38
HIA Hailar 8.24 117 ePn **Pn** **21 49 51.4 -2.8**
comp=N,9.9nm,0.4s
HIA eSn **Sn** **21 51 16.2 -11**
HIA Hailar 8.24 117 ePN **Pn** **21 49 51.4 -2.9**
HIA e 21 51 16.2
HIA pmax pmax
comp=Z,10.0nm,0.4s
KRAR Krasnoyarsk 9.35 291 eP **Pn** **21 50 07.9 -1.6**
HHC Hu-ho-hao-te 12.89 170 eP **Pn** **21 51 00.0 +2.1**
HHC AP 21 51 03.5
HHC XP 21 51 06.8
HHC PP 21 51 10.8
HHC S **Sn** **21 53 28.0 +6.8**
HHC XS 21 53 33.0
HHC SS 21 53 43.0
HHC AMB AMB
comp=Z,9.0nm,0.4s
HHC AMB AMB
comp=Z,64nm,5.0s
HHC LR LR
comp=N,467nm,6.8s
HHC LR LR
comp=E,579nm,2.5s
HHC LR LR
comp=Z,503nm,10.2s
BTO Baotou 13.01 175 eP **Pn** **21 51 01.5 +2.0**
ZAL Zalesovo 14.01 281 Pn **Pn** **21 51 13.7 +0.5**
comp=Z,0.1nm,0.3s,baz=37,slow=10,SNR=6.7
ZAL Lg 21 55 11.0
comp=Z,0.6nm,0.3s,baz=262,slow=7.1,SNR=5.5
BJI Beijing 14.50 156 eP **Pn** **21 51 20.8 +0.9**
BJI AMB AMB
comp=Z,11nm,0.5s
BJI LR LR
comp=N,540nm,8.5s
BJI LR LR
comp=E,129nm,8.7s
BJI LR LR
comp=Z,106nm,11.6s
BJT Baijiatuan 14.52 156 ePn **Pn** **21 51 19.9 -0.3**
comp=Z,8.2nm,0.5s
BJT Baijiatuan 14.52 156 eP **Pn** **21 51 19.9 -0.3**
BJT pmax pmax
comp=Z,8.0nm,0.5s
NVS Novosibirsk 14.82 285 eP **Pn** **21 51 22.9 -1.3**
NVS e 21 54 18.8
NVS pmax pmax
comp=Z,14nm,1.8s
NVS pmax pmax
comp=N,11nm,1.9s
NVS pmax pmax
comp=E,15nm,1.6s
NVS smax
comp=N,120nm,1.8s
NVS smax
comp=E,43nm,1.2s
GTA Gaotai 15.35 206 eP **Pn** **21 51 38.0 +6.7**
GTA AP pP 21 51 42.3 +2.6
GTA XP sP 21 51 44.8 +3.4
GTA PP 21 51 49.3
GTA AMB AMB
comp=Z,7.0nm,1.0s
GTA LR LR
comp=N,213nm,9.9s
GTA LR LR
comp=E,224nm,8.7s
GTA LR LR
comp=Z,253nm,10.3s
MDJ Mudanjiang 16.41 115 P **Pn** **21 51 41.0 -4.1**
MDJ XP sP 21 51 48.0 -5.2
MDJ S **Sn** **21 54 43.8 -3.2**
MDJ SCP ScP 22 00 08.0 -3.5
MDJ AMB AMB
comp=Z,14nm,1.8s
MDJ AMB AMB
comp=Z,126nm,3.9s
MDJ LR LR
comp=N,61nm,17.1s
MDJ LR LR
comp=E,61nm,19.1s
MDJ LR LR
comp=Z,94nm,16.1s
WMQ Urumqi 16.78 243 eP **Pn** **21 51 52.0 +2.2**
WMQ AP pP 21 51 55.5 -0.1
WMQ XP sP 21 51 59.0 +1.7
WMQ PP 21 52 06.5
WMQ PPP 21 52 14.5
WMQ eS **Sn** **21 54 59.8 +3.8**
WMQ SS 21 55 20.5
WMQ PCP PcP 21 56 38.5 +0.7
WMQ AMB AMB
comp=Z,13nm,0.8s
WMQ AMB AMB
comp=Z,99nm,3.6s
WMQ LR LR
comp=N,654nm,10.0s
WMQ LR LR
comp=E,669nm,10.0s
WMQ LR LR
comp=Z,702nm,9.0s
LZH Lanzhou 17.78 192 eP **Pn** **21 52 01.5 -0.7**
LZH AP pP 21 52 04.5 -2.1
LZH PP 21 52 16.5
LZH eS **Sn** **21 55 19.8 -0.3**
LZH SS 21 55 46.8
LZH AMB AMB
comp=Z,23nm,1.1s
LZH AMB AMB
comp=Z,161nm,4.5s
LZH LR LR
comp=N,556nm,11.2s
LZH LR LR
comp=Z,739nm,14.8s
MKAR Makanchi Array 18.03 259 P **Pn** **21 52 05.1 -0.3**
comp=Z,0.3nm,0.3s,baz=70,slow=10,SNR=21
MKAR Lg 21 57 22.0
comp=Z,0.1nm,0.3s,baz=76,slow=30,SNR=5.9
MKAR Makanchi Array 18.03 259 P **Pn** **21 52 05.0 -0.3**
MKAR Lg 21 57 22.0
KURK Kurchatov 18.49 273 eP **Pn** **21 52 07.9 -3.0**
comp=Z,3.2nm,0.6s
KURK Kurchatov 18.49 273 eP **Pn** **21 52 07.9 -3.1**
KURK pmax pmax
comp=Z,3.0nm,0.6s
CHKZ Chkalovo 22.30 286 eP **P** **21 52 51.1 -1.0**
comp=Z,15nm,1.0s,mb4.4
CHKZ eS **S** **21 56 51.4 -5.8**
CHKZ Chkalovo 22.30 286 eP **P** **21 52 51.1 -1.0**
CHKZ eS **S** **21 56 51.4 -5.8**
CHKZ pmax pmax
comp=Z,15nm,1.0s,mb4.4
BVAR Borovoye Array 22.61 284 P **P** **21 52 54.7 -0.7**
comp=Z,1.4nm,0.4s,mb3.8,baz=83,slow=12,SNR=8.4
BRVK Borovoye 22.66 284 eP **P** **21 52 53.2 -2.7**
comp=Z,4.3nm,0.5s,mb4.1
BRVK Borovoye 22.66 284 eP **P** **21 52 53.2 -2.8**
BRVK pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
NJ2 Nanjing 22.76 157 eP **P** **21 52 54.3 -2.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
CD2 Chengdu 22.90 191 eP **P** **21 52 57.0 -1.5**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
ZRNK Zerenda 23.43 285 eP **P** **21 53 02.8 -1.3**
comp=Z,7.2nm,0.5s,mb4.4
ZRNK eS **S** **21 57 15.2 -1.5**
ZRNK Zerenda 23.43 285 eP **P** **21 53 02.8 -1.3**
ZRNK eS **S** **21 57 15.2 -1.5**
ZRNK pmax pmax
comp=Z,7.0nm,0.5s,mb4.3
MA2 Magadan 23.72 58 P **P** **21 53 05.9 -1.0**
MA2 pmax pmax
comp=Z,4.0nm,1.1s,mb3.8
SEY Seymchan 24.44 50 eP **P** **21 53 15.6 +2.1**
KMI Kunming 28.73 191 P **P** **21 53 54.5 +2.4**
KMI XP sP 21 54 01.5 +3.8
KMI AMB AMB
comp=Z,4.0nm,1.1s,mb4.1
GUN Gumba 30.57 222 eP **P** **21 54 10.1 +1.7**
JIRN Jiri 30.67 221 eP **P** **21 54 11.4 +2.1**
comp=Z,6.5nm,0.6s,mb4.7
AKTK Aktyubinsk 30.71 285 P **P** **21 54 10.0 +0.4**
AKTO Aktyubinsk 30.71 285 P **P** **21 54 10.0 +0.4**
comp=Z,1.3nm,0.8s,mb3.8,baz=80,slow=6.1,SNR=1.9
AKTO Aktyubinsk 30.71 285 P **P** **21 54 10.0 +0.4**
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
KKN Kakani 30.92 223 eP **P** **21 54 13.0 +1.5**
comp=Z,11nm,0.8s,mb4.8
GKN Gorkha 30.99 224 eP **P** **21 54 14.1 +2.0**
comp=Z,14nm,0.9s,mb4.8
KOLN Koldanda 31.63 225 eP **P** **21 54 19.8 +2.0**
comp=Z,12nm,0.8s,mb4.7
ARCES ARCESS Array B 39.02 326 P **P** **21 55 21.2 -0.1**
comp=Z,1.0nm,0.4s,mb3.9,baz=58,slow=9.3,SNR=7.6
ARCES LR LR 22 16 37.6
comp=Z,31nm,18.5s,MS3.2,baz=331,slow=44
ARCES ARCESS Array B 39.02 326 P **P** **21 55 21.2 -0.1**
ARCES LR LR 22 16 37.6
OBN Obninsk 40.25 302⇓ eP **P** **21 55 21.0 -11**
OBN e 21 57 07.0
OBN eSS SS 22 04 24.6 -12
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
OBN MLR MLR
comp=Z,100nm,13.0s,MS3.9
FINES FINESS Array B 42.12 315 P **P** **21 55 46.9 -0.1**
comp=Z,2.0nm,0.7s,mb3.8,baz=61,slow=8.7,SNR=12
AKASG Malin Array Be 46.37 300 P **P** **21 56 20.4 -0.6**
comp=Z,0.7nm,0.5s,mb3.9,baz=49,slow=8.9,SNR=6.0
NB2 NORSAR Subarra 48.37 320 P **P** **21 56 35.7 -0.8**
comp=Z,1.8nm,0.8s,mb4.2,baz=69,slow=4.8
NB2 NORSAR Subarra 48.37 320 P **P** **21 56 35.7 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
NOA NORSAR Array B 48.37 320 P **P** **21 56 36.6 0.0**
comp=Z,1.3nm,0.7s,mb4.1,baz=52,slow=7.3,SNR=4.6
ILAR Eielson Array 48.65 34 P **P** **21 56 39.5 +0.8**
comp=Z,2.3nm,0.9s,mb4.2,baz=305,slow=6.6,SNR=23
BRTR Keskin Array B 50.87 286 P **P** **21 56 56.4 +0.8**
comp=Z,0.5nm,0.5s,mb3.7,baz=64,slow=5.8,SNR=4.1
BRTR PcP PcP 21 58 13.1 +0.9
comp=Z,0.3nm,0.4s,baz=64,slow=4.6,SNR=3.6
GERES GERESS Array B 55.28 307 P **P** **21 57 28.7 +0.6**
comp=Z,0.4nm,0.6s,mb3.6,baz=39,slow=6.3,SNR=4.2
YKA Yellowknife Ar 59.43 22 P **P** **21 57 56.7 -0.6**
comp=Z,0.8nm,0.5s,mb4.0,baz=332,slow=6.9,SNR=18
YKA Yellowknife Ar 59.43 22 P **P** **21 57 56.7 -0.7**
SCHQ Schefferville 71.90 357 P **P** **21 59 17.6 -0.3**
comp=Z,2.1nm,0.8s,mb4.1,baz=42,slow=14,SNR=3.7
WRA Warramunga Arr 76.53 155 P **P** **21 59 45.1 +0.2**
comp=Z,2.1nm,0.7s,mb4.2,baz=348,slow=6.4,SNR=20
ASAR Alice Springs 80.00 156 P **P** **22 00 04.8 +0.6**
comp=Z,1.5nm,0.7s,mb4.0,baz=350,slow=5.5,SNR=18
TORD Torodi Ar. Bea 89.23 291 P **P** **22 00 51.4 +0.7**
comp=Z,2.8nm,0.8s,mb4.6,baz=32,slow=4.1,SNR=31
VNA2 Neumayer--Watz 147.52 213 ePKPdf PKPdf 22 07 37.8 +1.5
baz=70,slow=2.5
VNA3 Neumayer Olymp 148.27 213 ePKPdf PKPdf 22 07 43.5 +6.0
CPUP Villa Florida 150.82 333 PKPbc PKPbc 22 07 46.1 -1.1
comp=Z,0.5nm,0.4s,baz=56,slow=3.6,SNR=4.0

IDC 28 22:09:49.6±5.9, 838S×14877E, h51km±45km, mb2.6/1, mb1 3.2/2, mb1mx3.0/10, mbtmp3.1/2, ML3.5/1, Error ellipse: s-maj=74.8km s-min=38.1km az=142.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.90**	**237**	P	Pn	22 10 19.9	+0.4
33nm,0.3s,baz=48,slow=6.7,SNR=44							
PMG				S	Sn	22 10 42.8	+0.6
126nm,0.3s,baz=314,slow=23,SNR=10							
WRA	**Warramunga Arr**	**18.09**	**229**	P	Pn	22 13 58.0	+0.8
0.2nm,0.3s,baz=55,slow=11,SNR=16							
ASAR	**Alice Springs**	**20.83**	**221**	P	P	22 14 27.0	+0.1
0.1nm,0.3s,baz=37,slow=12,SNR=3.6							
TORD	**Torodi Ar. Bea**	**147.33**	**281**	PKPbc	PKPbc	22 29 27.9	+0.4
1.2nm,0.7s,baz=61,slow=2.7,SNR=15							

*IDC **28** 22:10:45.5±0.9, 507S×134.45E, h0km, mb4.1/5, mb1 4.3/8, mb1mx4.2/12, mbtmp4.2/8, ML4.0/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/25, Error ellipse: s-maj=52.1km s-min=19.0km az=76.0*
*ISCJB **28** 22:10:48.8±0.5, 523S±005×1345E±01, h33km, mb4.2/11, MS2.9/1, Error ellipse: s-maj=15.5km s-min=7.0km az=171.9*
*BJI **28** 22:10:48.2, 520S×13450E, h30km, mB4.9, mb4.7*
*NEIC **28** 22:10:50.3±0.5, 5.16S×13452E, h30km, mb4.1/6, Error ellipse: s-maj=13.7km s-min=8.9km az=87.0*

ISC 28 22:10:51.1±0.5, 533S±004×1345E±01, h35km, n24, σ1§47/27, mb4.2/11, MS2.9/1, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.62**	**196**	eP	**Pn**	**22 12 42.3**	**+2.7**
14nm,0.4s							
KAKA				eS	**Sn**	**22 14 04.7**	**-0.1**
WRAB	**Tennant Creek**	**14.52**	**181**	ePn	**Pn**	**22 14 25.1**	**+11**
28nm,0.8s							
WRAB				eSn	**Sn**	**22 16 50.5**	**-3.2**
WRA	**Warramunga Arr**	**14.53**	**181**	Pn	**Pn**	**22 14 13.3**	**-0.8**
0.2nm,0.3s,baz=357,slow=12,SNR=8.4							
WRA				Sn	**Sn**	**22 16 50.6**	**-3.3**
0.5nm,0.3s,baz=358,slow=23,SNR=4.9							
FITZ	**Fitzroy Crossi**	**15.39**	**214**	eP	**Pn**	**22 14 25.5**	**0.0**
11nm,0.6s							
FITZ				eS	S	22 17 04.5	-26
FITZ	**Fitzroy Crossi**	**15.39**	**214**	Pn	**Pn**	**22 14 25.2**	**-0.3**
0.5nm,0.3s,baz=16,slow=13,SNR=19							
FITZ				Sn	**Sn**	**22 17 06.5**	**-8.3**
1.4nm,0.3s,baz=198,slow=17,SNR=8.6							
FITZ				LR	LR	22 21 08.0	
comp=Z,163nm,20.5s,baz=48,slow=40							
ASAR	**Alice Springs**	**18.25**	**182**	P	**Pn**	**22 15 02.9**	**+1.5**
0.5nm,0.3s,baz=3.8,slow=11,SNR=55							
ASAR				S	**S**	**22 18 23.6**	**-4.7**
0.2nm,0.3s,baz=357,slow=26,SNR=5.8							
CTA	**Charters Tower**	**18.58**	**143**	P	**Pn**	**22 15 06.5**	**+1.1**
0.2nm,0.3s,baz=337,slow=15,SNR=2.2							
CTA				LR	LR	22 22 36.3	
comp=Z,121nm,20.3s,baz=359,slow=38							
MBWA	**Marble Bar**	**21.31**	**221**	P	**P**	**22 15 35.9**	**+1.2**
GUMO	**Guam**	**21.41**	**29**	LR	LR	22 22 03.2	
comp=Z,53nm,19.6s,MS2.9,baz=239,slow=32							
HNR	**Honiara**	**25.52**	**101**	P	**P**	**22 16 16.0**	**-0.2**
FORT	**Forrest**	**26.04**	**193**	eP	**P**	**22 16 22.7**	**+1.7**
19nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**27.23**	**167**	eP	**P**	**22 16 34.1**	**+2.4**
3.2nm,0.9s,mb3.9							
STKA	**Stephens Creek**	**27.23**	**167**	P	**P**	**22 16 33.6**	**+1.9**
2.9nm,0.8s,mb3.9,baz=332,slow=11,SNR=5.9							
BJI	**Beijing**	**48.21**	**341**	eP	**P**	**22 19 28.3**	**+0.2**
BJI				AMB	AMB		
comp=Z,20nm,1.2s,mb5.0							
LSA	**Lhasa**	**54.26**	**313**	P	**P**	**22 20 14.0**	**+0.5**
GTA	**Gaotai**	**54.85**	**327**	eP	**P**	**22 20 18.5**	**+0.7**
GTA				AP	pP	22 20 24.0	-4.3
GTA				XP	sP	22 20 27.3	-5.2
GTA				AMB	AMB		
comp=Z,6.0nm,1.2s,mb4.5							
SONM	**Songino Array**	**58.44**	**338**	P	**P**	**22 20 41.0**	**-2.2**
comp=Z,1.2nm,0.7s,mb4.0,baz=156,slow=5.8,SNR=9.1							
KURK	**Kurchatov**	**73.53**	**327**	eP	**P**	**22 22 20.4**	**+0.1**
comp=Z,2.0nm,0.8s,mb4.1							
VNDA	**Vanda**	**73.59**	**174**	P	**P**	**22 22 22.2**	**+1.6**
comp=Z,1.2nm,1.0s,mb3.8,baz=3.9,slow=7.3,SNR=3.4							
BVAR	**Borovoye Array**	**79.12**	**326**	P	**P**	**22 22 50.9**	**-1.1**
comp=Z,1.6nm,0.9s,mb4.0,baz=116,slow=3.4,SNR=8.4							
CHKZ	**Chkalovo**	**79.26**	**327**	eP	**P**	**22 22 50.4**	**-2.4**
comp=Z,1.7nm,1.0s,mb3.9							
ZRNK	**Zerenda**	**79.86**	**326**	eP	**P**	**22 22 55.9**	**-0.1**
comp=Z,1.6nm,0.9s,mb4.0							
ILAR	**Eielson Array**	**89.93**	**25**	P	**P**	**22 23 45.0**	**-1.6**
comp=Z,0.9nm,1.0s,mb4.1,baz=247,slow=5.7,SNR=5.5							
LPAZ	**La Paz**	**148.95**	**134**	PKPbc	PKPbc	22 30 38.0	+2.8
comp=Z,1.2nm,0.8s,baz=33,slow=1.4,SNR=3.9							

*ISCJB **28** 22:12:30.7±0.9, 38.16N±003×2657E±005, h8km±5km, Error ellipse: s-maj=6.7km s-min=5.0km az=134.6*
*ISK **28** 22:12:30.4, 38.18N×2659E, h9km, MD3.3*
*CSEM **28** 22:12:31.0±0.1, 3820N×2665E, h10km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.7km az=81.0*
*ATH **28** 22:12:31.1, 3821N×2671E, h27km±12km, MD3.3/4*
*NEIC **28** 22:12:31.0, 38.12N×2671E, h6km, MD3.3(ATH), MD3.3(ISK), After ISK.*

ISC 28 22:12:32.0±0.6, 3819N±003×2661E±005, h12km±4km, n22, σ0§91/32, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**356**	*i* P	**Pg**	**22 12 35.0**	**-1.0**
URLA				*i* S	**Sg**	**22 12 40.4**	**+1.8**
SMG	**Samos**	**0.51**	**159**	⇑*i* PN	**Pg**	**22 12 41.7**	**-0.3**
SMG				⇑*i* SN	**Sg**	**22 12 49.8**	**+1.0**
IZM	**Izmir**	**0.56**	**67**	PG	**Pg**	**22 12 42.0**	**-0.9**
IZM				SG	**Sg**	**22 12 50.3**	**+0.1**
KDAG	**Bornova**	**0.56**	**67**	*i* P	**Pg**	**22 12 42.0**	**-0.9**
KDAG				*i* S	**Sg**	**22 12 51.0**	**+0.7**
PRK	**Paraskevi**	**1.09**	**346**	⇓*i* PN	**Pn**	**22 12 51.9**	**-1.2**
PRK				eSN	**Sn**	**22 13 07.8**	**-0.3**
AYVA	**Ayvalik**	**1.12**	**3**	*i* P	**Pb**	**22 12 52.3**	**-1.1**
AYVA				*i* S	**Sb**	**22 13 10.5**	**+2.6**
AYDN	**Tasoluk**	**1.13**	**117**	*i* P	**Pb**	**22 12 52.8**	**-0.7**
AYDN				*i* S	**Sb**	**22 13 08.6**	**+0.4**
AKS	**Akhisar**	**1.17**	**53**	PN	**Pn**	**22 12 53.3**	**-0.9**
AKS				SN	**Sn**	**22 13 10.6**	**+0.5**
BODT	**Bodrum**	**1.25**	**153**	PN	**Pn**	**22 12 54.9**	**-0.4**
MLSB	**Milas**	**1.28**	**134**	PN	**Pn**	**22 12 54.9**	**-0.8**
APE	**Apeiranthos**	**1.41**	**218**	ePN	**Pn**	**22 12 55.8**	**-1.6**
APE	**Apeiranthos**	**1.41**	**218**	ePN	**Pn**	**22 12 57.6**	**+0.2**
APE				eSN	**Sn**	**22 13 18.0**	**+2.1**
MANT	**Manisa**	**1.56**	**78**	*i* P	**Pn**	**22 13 00.6**	**+1.0**
MANT				*i* S	**Sn**	**22 13 23.9**	**+4.2**
DAT	**Datca**	**1.65**	**152**	ePN	**Pn**	**22 13 00.8**	**+0.1**
YER	**Yerkesik**	**1.69**	**128**	ePN	**Pn**	**22 13 01.2**	**-0.2**
BALB	**Balikesir**	**1.76**	**34**	ePN	**Pn**	**22 13 01.7**	**-0.6**
LIA	**Limnos Island**	**2.04**	**327**	ePN	**Pn**	**22 13 05.7**	**-0.4**
EDC	**Edincik**	**2.37**	**24**	ePN	**Pn**	**22 13 11.3**	**+0.7**
KCT	**Karacabey**	**2.48**	**33**	ePN	**Pn**	**22 13 12.3**	**+0.1**
MRMT	**Marmara Adasi**	**2.53**	**17**	ePN	**Pn**	**22 13 12.9**	**0.0**
ORLT	**Orhaneli**	**2.57**	**43**	ePN	**Pn**	**22 13 13.9**	**+0.5**
RDO	**Rodhopi**	**3.07**	**345**	ePN	**Pn**	**22 13 20.4**	**+0.1**

MEX 28 22:20:02.6±0.6, 1768N×9964W, h6km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.24**	**5**	*i* P	Pg	22 20 06.8	-0.6
MEIG				*i* S	Sg	22 20 10.9	+0.3
PLIG	**Platanillo**	**0.72**	**11**	*i* P	Pg	22 20 15.3	-1.1
PLIG				*i* S	Sg	22 20 25.3	-0.4
ACX	**Acapulco**	**0.85**	**198**	*i* P	Pg	22 20 17.5	-1.5
ACX				*i* S	Sg	22 20 27.0	-3.0
CAIG	**El Cayaco**	**0.87**	**223**	*i* P	Pg	22 20 17.6	-1.7
CAIG				*i* S	Sg	22 20 28.5	-2.0
PPM	**Popocatepetl**	**1.68**	**35**	eP	Pn	22 20 33.0	+0.5
PPM				*i* P		22 20 34.0	
UTMO	**Huajuapan**	**1.76**	**85**	eP	Pn	22 20 32.4	-1.2
UTMO				*i* S	Sn	22 20 52.2	-4.1

*IDC **28** 22:26:41.1±0.6, 147N×12663E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/17, mbtmp4.4/12, ML4.1/1, MS4.2/1, Ms1 4.2/1, ms1mx2.8/20, Error ellipse: s-maj=48.2km s-min=9.9km az=72.0*
*MOS **28** 22:26:46.3±0.9, 152N×12632E, h44km, mb4.9/13, Error ellipse: s-maj=21.4km s-min=8.6km az=113.3*
*ISCJB **28** 22:26:51.3±1.9, 144N±006×12628E±010, h90km±17km, mb4.5/45, Error ellipse: s-maj=17.7km s-min=7.1km az=134.6*
*NEIC **28** 22:26:51.9±1.6, 148N×12639E, h85km±15km, mb4.6/13, Error ellipse: s-maj=16.2km s-min=5.8km az=66.0*
*BJI **28** 22:26:51.1, 205N×12654E, h56km, mB5.0, mb4.7, Ms4.6, Msz4.4*

ISC 28 22:26:52.3±1.5, 144N±005×12633E±010, h84km±13km, h37km±2.4km: pP-P, n77, σ1§13/77, mb4.5/45, 2C-5D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.08**	**295**	ePn	**Pn**	**22 29 28.5**	**+0.8**
KAKA	**Kakadu**	**15.31**	**157**	eP	**Pn**	**22 30 24.9**	**+1.3**
21nm,0.6s							
KSM	**Kuching**	**16.02**	**270**	ePn	**Pn**	**22 30 37.7**	**+5.2**
FITZ	**Fitzroy Crossi**	**19.43**	**182**	eP	**Pn**	**22 31 14.8**	**+0.9**
5.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.43**	**182**	P	**Pn**	**22 31 11.6**	**-2.3**
0.5nm,0.3s,baz=40,slow=4.7,SNR=9.1							
WRAB	**Tennant Creek**	**22.65**	**160**	eP	**P**	**22 31 46.1**	**-0.3**
42nm,0.6s,mb5.0							
WRAB	**Tennant Creek**	**22.65**	**160**	eP	**P**	**22 31 46.1**	**-0.3**
WRAB				pmax	pmax		
comp=Z,42nm,0.6s,mb5.0							
WRA	**Warramunga Arr**	**22.65**	**160**	P	**P**	**22 31 45.3**	**-1.1**
comp=Z,15nm,0.5s,mb4.6,baz=339,slow=11,SNR=93							
WRA				S	**S**	**22 35 50.5**	**+2.2**
comp=Z,1.5nm,0.9s,baz=331,slow=20,SNR=4.5							
WB2	**Warramunga Arr**	**22.66**	**160**	⇑*i* P	**P**	**22 31 45.9**	**-0.6**
MBWA	**Marble Bar**	**23.37**	**196**	eP	**P**	**22 31 53.6**	**+0.2**
comp=Z,4.8nm,0.6s,mb4.0							
ASAR	**Alice Springs**	**26.02**	**164**	P	**P**	**22 32 17.6**	**+0.2**
comp=Z,7.0nm,0.6s,mb4.3,baz=348,slow=8.1,SNR=45							
ASAR				S	**S**	**22 36 47.3**	**+5.2**
comp=Z,0.2nm,0.3s,baz=354,slow=24,SNR=2.7							
NJ2	**Nanjing**	**31.26**	**348**	eP	**P**	**22 33 01.5**	**-2.5**
NJ2				AP	pP	22 33 13.5	-10
NJ2				XP	sP	22 33 19.0	-14
NJ2				PP	PP	22 34 05.5	-10
NJ2				S	**S**	**22 38 02.0**	**-2.4**
NJ2				XS	sS	22 38 21.0	-17
NJ2				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.5							
NJ2				AMB	AMB		
comp=Z,120nm,3.7s							
NJ2				LR	LR		
comp=N,480nm,13.9s							
NJ2				LR	LR		
comp=E,290nm,11.0s							
NJ2				LR	LR		
comp=Z,400nm,19.4s							
FORT	**Forrest**	**32.08**	**177**	eP	**P**	**22 33 08.8**	**-2.4**
comp=Z,16nm,0.6s,mb4.9							
KMI	**Kunming**	**32.75**	**318**	P	**P**	**22 33 23.0**	**+5.9**
KMI				AP	pP	22 33 32.3	-4.2
KMI				XP	sP	22 33 35.0	-11
KMI				AMB	AMB		
comp=Z,5.0nm,1.3s,mb4.2							
KMI				AMB	AMB		
comp=Z,138nm,4.0s							
KMI				LR	LR		
comp=N,131nm,13.5s							
KMI				LR	LR		
comp=E,113nm,15.0s							
KMI				LR	LR		
comp=Z,77nm,17.9s							
ENH	**Enshi**	**32.83**	**332**	eP	**P**	**22 33 16.0**	**-1.8**
comp=Z,9.2nm,0.9s,mb4.6							
KLBR	**Kellerberrin**	**33.84**	**193**	eP	**P**	**22 33 26.0**	**-0.6**
comp=Z,41nm,1.4s,mb5.1							
MUN	**Mundaring**	**34.59**	**195**	eP	**P**	**22 33 34.0**	**+0.9**
NWAO	**Narrogin (SRO)**	**35.24**	**193**	eP	**P**	**22 33 39.4**	**+0.7**
STKA	**Stephens Creek**	**36.16**	**158**	eP	**P**	**22 33 44.8**	**-1.7**
comp=Z,2.9nm,0.4s,mb4.6							
STKA	**Stephens Creek**	**36.16**	**158**	P	**P**	**22 33 44.8**	**-1.7**
comp=Z,4.7nm,0.6s,mb4.6,baz=334,slow=6.5,SNR=12							
STKA				PcP	PcP	22 36 11.3	+0.8
comp=Z,1.1nm,0.4s,baz=350,slow=4.9,SNR=3.2							
STKA	**Stephens Creek**	**36.16**	**158**	eP	**P**	**22 33 45.2**	**-1.3**
CD2	**Chengdu**	**36.28**	**326**	eP	**P**	**22 33 49.0**	**+1.5**
CD2				AMB	AMB		

comp=Z,10.0nm,0.8s,mb4.8
MJAR Matsushiro Arr 36.62 16 P **P 22 33 48.2 -2.2**
comp=Z,5.0nm,0.8s,mb4.5,baz=184,slow=9.4,SNR=10
ARMA Armidale 39.81 145 *e*P **P 22 34 19.1 +1.9**
ARMA *i* S S 22 39 43.2 -32
LZH Lanzhou 40.29 331 *e*P **P 22 34 20.5 -0.7**
LZH AP pP 22 34 31.3 -10
LZH *e*PP PP 22 35 57.8 +2.5
LZH AMB AMB
comp=Z,19nm,1.1s,mb4.8
LZH AMB AMB
comp=Z,56nm,6.5s
LZH LR LR
comp=E,357nm,14.3s
LZH LR LR
comp=Z,495nm,17.5s
HHC Hu-ho-hao-te 41.45 343 *e*P **P 22 34 32.3 +1.6**
HHC AP pP 22 34 42.0 -8.7
HHC XP sP 22 34 46.0 -14
HHC PP PP 22 36 12.3 +4.4
HHC PCP PcP 22 36 29.5 +2.4
HHC PCS PcS 22 40 20.0 +1.6
HHC S **S 22 40 46.0 +6.3**
HHC XS sS 22 41 02.8 -11
HHC SCS ScS 22 44 31.0 +5.0
HHC AMB AMB
comp=Z,9.0nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,113nm,5.1s
HHC LR LR
comp=N,106nm,6.3s
HHC LR LR
comp=E,87nm,3.7s
HHC LR LR
comp=Z,114nm,5.7s
MDJ Mudanjiang 43.09 3 P **P 22 34 44.5 +0.5**
MDJ PCS PcS 22 40 25.5 +0.5
MDJ S **S 22 41 05.5 +1.6**
MDJ XS sS 22 41 24.8 -13
MDJ SCS ScS 22 44 40.5 +4.4
MDJ AMB AMB
comp=Z,13nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,96nm,4.6s
LSA Lhasa 43.68 313 *e*P **P 22 34 50.7 +1.9**
comp=Z,2.3nm,0.6s,mb4.1
LSA Lhasa 43.68 313 *e*P **P 22 34 50.7 +1.9**
LSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
GTA Gaotai 44.87 331 *e*P **P 22 34 58.5 +0.3**
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.0
DZM Mont Dzumac 45.58 123 LR LR 22 50 13.9
comp=Z,296nm,21.0s,baz=23,slow=31
JIRN Jiri 46.42 308 *e*P **P 22 35 10.4 -0.1**
comp=Z,6.0nm,0.4s,mb4.7
GUN Gumba 46.78 308 *e*P **P 22 35 13.3 0.0**
comp=Z,12nm,0.4s,mb5.0
PKI Pulchoki 47.00 307 *e*P **P 22 35 14.8 -0.2**
KKN Kakani 47.20 308 *e*P **P 22 35 16.0 -0.5**
comp=Z,6.3nm,0.5s,mb4.6
GKN Gorkha 47.80 307 *e*P **P 22 35 20.4 -0.8**
comp=Z,7.7nm,0.6s,mb4.7
KOLN Koldanda 48.53 307 *e*P **P 22 35 26.7 -0.1**
comp=Z,15nm,0.5s,mb5.2
ULN Ulaanbaatar 49.17 343 *e*P **P 22 35 30.8 -0.9**
comp=Z,3.0nm,0.7s,mb4.3
ULN Ulaanbaatar 49.17 343 *e*P **P 22 35 30.8 -0.9**
ULN pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SONM Songino Array 49.34 342 P **P 22 35 32.8 -0.2**
comp=Z,2.3nm,0.7s,mb4.2,baz=155,slow=7.9,SNR=17
HYB Hyderabad 49.55 292 *i* P **P 22 35 33.0 -1.6**
HYB Hyderabad 49.55 292 *e*P **P 22 35 33.0 -1.6**
CIT Chita 51.53 350 *e*P **P 22 35 40.9 -8.7**
CIT pmax pmax
comp=Z,46nm,1.7s,mb5.2
WMQ Urumqi 54.38 326 *e*P **P 22 36 12.8 +2.3**
WMQ AP pP 22 36 22.8 -8.5
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,88nm,4.6s
WMQ LR LR
comp=N,659nm,22.0s
WMQ LR LR
comp=Z,701nm,22.0s
BOD Bodaibo 57.06 352 *e*P **P 22 36 29.8 +0.1**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MKAR Makanchi Array 59.21 326 P **P 22 36 44.8 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MA2 Magadan 61.01 14 *e*P **P 22 36 57.8 +0.8**
comp=Z,9.2nm,0.7s,mb4.9
MA2 Magadan 61.01 14 *e*P **P 22 36 58.3 +1.4**
MA2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MA2 pmax pmax
comp=N,3.0nm,0.6s
MA2 pmax pmax
comp=E,2.0nm,0.6s
KURK Kurchatov 63.46 328 *e*P **P 22 37 13.2 -0.1**
comp=E,10nm,0.6s,mb4.9
KURK Kurchatov 63.46 328 *e*P **P 22 37 13.2 -0.1**
KURK pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
SEY Seymchan 64.34 13 *e*P **P 22 37 20.4 +1.3**
BVA0 Borovoye Array 69.02 328 *i* P **P 22 37 49.8 +0.9**
BVA0 pmax pmax
comp=Z,2.0nm,1.8s,mb3.6
BVAR Borovoye Array 69.02 328 P **P 22 37 49.0 +0.1**
comp=Z,14nm,0.4s,mb4.1,baz=71,slow=5.2,SNR=26
BRVK Borovoye 69.09 328 *e*P **P 22 37 49.7 +0.4**
comp=Z,2.5nm,0.8s,mb4.1
BRVK Borovoye 69.09 328 *e*P **P 22 37 49.7 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
CHKZ Chkalovo 69.20 328 *e*P **P 22 37 49.6 -0.3**
comp=Z,1.9nm,0.5s,mb4.2
CHKZ Chkalovo 69.20 328 *e*P **P 22 37 49.6 -0.4**
CHKZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
ZRNK Zerenda 69.73 327 *e*P **P 22 37 53.3 +0.1**
comp=Z,6.2nm,0.4s,mb4.8
ZRNK Zerenda 69.73 327 *e*P **P 22 37 53.3 +0.1**
ZRNK pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
BILL Bilibino 71.86 15 ⇓*i*P **P 22 37 59.5 -6.6**
BILL *e*S S 22 47 25.7 +5.5
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb3.6
AB31 Akbulak array 73.67 321 *i* P **P 22 38 16.7 -0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
AKTK Aktyubinsk 75.20 322 P **P 22 38 26.3 +0.5**
AKTO Aktyubinsk 75.20 322 P **P 22 38 26.3 +0.5**
comp=Z,2.2nm,0.5s,mb4.1,baz=104,slow=9.7,SNR=13
SVE Sverdlovsk 75.70 329 *e*P **P 22 38 29.0 +0.4**
ARU Arti 76.65 328 ⇓*i*P **P 22 38 33.3 -0.7**
ARU *e* 22 41 26.5
ARU *e*PPP 22 43 12.6
ARU pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
VNDA Vanda 81.22 173 P **P 22 38 59.8 +0.8**
comp=Z,2.0nm,0.6s,mb4.1,baz=331,slow=6.4,SNR=7.6
KIV Kislovodsk 84.42 314 *e*P **P 22 39 17.5 +2.0**
KIV pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ANN Anapa 88.21 315 *e*P **P 22 39 34.6 +0.5**
ANN pmax pmax
comp=Z,14nm,0.9s,mb5.0
OBN Obninsk 88.69 325⇑*e*P **P 22 39 35.1 -1.2**
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SYO Syowa Base 90.16 201⇓*e*X **P 22 39 40.3 -2.9**
SYO Syowa Base 90.16 201⇓*e*pP pP 22 39 53.3 -12
SYO Syowa Base 90.16 201⇓*e*PP PP 22 43 18.3 +0.6
BRTR Keskin Array B 91.17 310 P **P 22 39 48.3 +0.4**
comp=Z,0.7nm,0.8s,mb3.8,baz=109,slow=7.5,SNR=4.3
ARCES ARCESS Array B 92.45 340 P **P 22 39 52.8 -1.0**
comp=Z,4.4nm,0.8s,mb4.7,baz=72,slow=5.2,SNR=3.8
FINES FINESS Array B 93.65 332 P **P 22 39 57.9 -1.5**
comp=Z,0.7nm,0.6s,mb4.2,baz=72,slow=6.2,SNR=6.5
SCHQ Schefferville 122.88 9 PKP PKPdf 22 45 39.9 +1.2
comp=Z,3.8nm,1.0s,baz=0.0,slow=5.1,SNR=3.6
TORD Torodi Ar. Bea 123.22 287 PKP PKPdf 22 45 41.6 +2.3
comp=Z,0.5nm,0.8s,baz=96,slow=1.8,SNR=5.3

*IDC **28** 22:29:45.4±2.2, 1722N×6257W, h95km±28km, mb3.3/4, mb1 3.5/4, mb1mx3.2/21, mbtmp3.6/4, Error ellipse: s-maj=30.9km s-min=23.3km az=68.0*
*ISCJB **28** 22:29:46.1±0.5, 1731N±007×6243W±006, h115km±4km, mb3.6/4, Error ellipse: s-maj=13.5km s-min=5.8km az=80.4*
*NEIC **28** 22:29:47.8, 1726N×6243W, h91km, MD3.5(TRN), After TRN.*
*TRN **28** 22:29:47.3, 1723N×6243W, h94km, MD3.5*
ISC 28 22:29:47.2±0.5, 1729N±006×6244W±006, h109km±4km, n18, σ0965/25, mb3.6/4, 2C-6D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STAT	**Sint Eustatius**	**0.55**	**291**	*e*P		**Pn**	**22 30 04.2**	**0.0**
STAT				*e*S		**Sn**	**22 30 16.8**	**-0.3**
BPA	**Boggy Peak**	**0.61**	**114**	⇑*i*P		**Pn**	**22 30 04.3**	**-0.3**
BPA				*e*S		**Sn**	**22 30 16.8**	**-1.0**
CPB	**Codrington**	**0.68**	**60**	⇑*i*P		**Pn**	**22 30 05.5**	**+0.3**
CPB				*e*S		**Sn**	**22 30 18.8**	**0.0**
SABT	**Saba**	**0.83**	**293**	*e*P		**Pn**	**22 30 07.8**	**+1.2**
STMA	**St. Maarten, A**	**0.98**	**320**	*e*P		**Pn**	**22 30 09.1**	**+1.0**
STMA				*e*S		**Sn**	**22 30 24.0**	**+0.2**
SEG	**Port Louis**	**1.26**	**135**	⇓*e*P		**Pn**	**22 30 10.9**	**-0.2**
SEG				*e*S		**Sn**	**22 30 28.1**	**-1.1**
LZG	**Guadaloupe-1**	**1.31**	**151**	⇓*e*P		**Pn**	**22 30 11.5**	**-0.2**
LZG				*e*S		**Sn**	**22 30 31.7**	**+1.5**
BCG	**Bois Riant Cap**	**1.44**	**147**	*e*P		**Pn**	**22 30 13.7**	**+0.5**
SCG	**Saint Claude**	**1.45**	**150**	⇓*e*P		**Pn**	**22 30 13.2**	**-0.1**
DOG	**Dongo Capester**	**1.48**	**148**	⇓*e*P		**Pn**	**22 30 13.7**	**0.0**
TBG	**Guadaloupe-3**	**1.62**	**152**	⇓*e*P		**Pn**	**22 30 15.1**	**-0.3**
MGG	**Marie-Galante**	**1.74**	**142**	⇓*e*P		**Pn**	**22 30 17.0**	**+0.1**
BBL	**Barber's Block**	**1.99**	**152**	*e*P		**Pn**	**22 30 19.8**	**-0.2**
MTP	**Monte Pirata**	**3.08**	**285**	*e*Pn		**Pn**	**22 30 34.3**	**+0.2**
MTP				*e*Sn		**Sn**	**22 31 09.5**	**-0.8**
ULM	**Lac du Bonnet**	**42.41**	**328**	P		**P**	**22 37 30.4**	**-0.5**
	1.4nm,0.4s,mb4.0,baz=132,slow=7.3,SNR=4.2							
PDAR	**Pinedale Array**	**47.26**	**313**	P		**P**	**22 38 08.9**	**-0.5**
	0.5nm,0.6s,mb3.4,baz=118,slow=7.4,SNR=4.9							
YKA	**Yellowknife Ar**	**57.74**	**334**	P		**P**	**22 39 25.9**	**-0.7**
	0.2nm,0.5s,mb3.4,baz=111,slow=7.4,SNR=5.6							
TORD	**Torodi Ar. Bea**	**61.79**	**84**	P		**P**	**22 39 55.6**	**+1.3**
	0.4nm,0.8s,mb3.5,baz=277,slow=7.0,SNR=2.4							

*ISCJB **28** 22:35:48.0±0.2, 1546N±003×9175W±002, h221km, mb4.4/54, Error ellipse: s-maj=5.0km s-min=2.4km az=60.6*
*NEIC **28** 22:35:49.6±0.3, 1542N×9149W, mb4.8/45, Error ellipse: s-maj=7.6km s-min=4.6km az=48.0*
*CASC **28** 22:35:49.3±3.1, 1494N×9183W, h232km±25km, MD4.7, ML4.9, mb4.8(NEIC)*
*BJI **28** 22:35:49.5, 1540N×9150W, h222km, mB5.0*
*IDC **28** 22:35:49.7±0.5, 1558N×9152W, h223km±3km, mb4.0/25, mb1 4.1/27, mb1mx4.1/29, mbtmp4.6/27, Error ellipse: s-maj=15.0km s-min=6.6km az=54.0*
*MEX **28** 22:35:50.0±1.0, 1540N×9191W, h227km±9km, MD4.9*
*MOS **28** 22:35:52.1±1.0, 1559N×9140W, h257km, mb4.8/20, Error ellipse: s-maj=9.7km s-min=6.4km az=101.3*
ISC 28 22:35:49.2±0.2, 1543N±003×9178W±003, h223km, h223km±2.1km; pP-P, n254, σ1940/230, mb4.4/54, 7C-9D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.92**	**338**	*i* P		**Pn**	**22 36 20.8**	**0.0**
CCIG				*i* S		**S**	**22 36 44.8**	**-0.8**
TP2	**Tecpan 2**	**0.97**	**131**	⇑*i*P		**Pn**	**22 36 21.4**	**+0.3**
TP2				*e*S		**S**	**22 36 46.5**	**+0.4**
TP2				AML		AML	22 36 49.9	
	comp=N,9μm,0.6s							
FUG	**Fuego 3**	**1.33**	**137**	⇑*e*P		**Pn**	**22 36 24.7**	**+1.1**
GCG	**Guatemala City**	**1.46**	**125**	⇓*e*P		**Pn**	**22 36 25.5**	**+0.9**
SCX	**San Cristobal**	**1.54**	**328**	*i* P		**Pn**	**22 36 25.5**	**+0.2**
SCX				*i* S		**S**	**22 36 51.0**	**-2.6**
NBG	**Las Nubes**	**1.61**	**121**	*e*P		**Pn**	**22 36 27.8**	**+1.9**
IXG	**Ixpaco**	**1.78**	**134**	*e*P		**Pn**	**22 36 27.7**	**+0.3**
IXG				AML		AML	22 37 05.0	
	comp=E,31μm,0.4s							
RBDL	**Robledal**	**2.41**	**123**	*e*P		Px	22 36 45.3	
RBDL				*e*S		Sx	22 37 19.3	
SNJE	**San Jose**	**2.61**	**126**	*e*P		Px	22 36 47.5	
SNJE				*e*S		Sx	22 37 24.3	
SBLS	**San Blas**	**2.61**	**127**	*e*P		Px	22 36 47.5	
SBLS				*e*S		Sx	22 37 24.1	
BOQS	**Boqueron**	**2.94**	**124**	*e*P		Px	22 36 51.2	
BOQS				*e*S		Sx	22 37 29.0	
LBRS	**Las Brisas**	**3.13**	**122**	*e*P		Px	22 36 52.7	
LBRS				*e*S		Sx	22 37 31.9	
LFRS	**El Faro**	**3.18**	**124**	*e*P		Px	22 36 53.7	
LFRS				*e*S		Sx	22 37 32.9	
LCBS	**La Ceiba**	**3.23**	**123**	*e*P		Px	22 36 54.4	
LCBS				*e*S		Sx	22 37 37.6	
CMIG	**Matias Romero**	**3.41**	**299**	*i* P		**Pn**	**22 36 43.1**	**-1.7**
CMIG				*i* S		**S**	**22 37 22.6**	**-6.0**
TUIG	**Tuzandepetl**	**3.63**	**316**	*i* P		**Pn**	**22 36 46.2**	**-1.1**
TUIG				*i* S		**S**	**22 37 30.2**	**-3.0**
HUIG	**Huatulco**	**4.19**	**275**	*i* P		**Pn**	**22 36 51.5**	**-2.6**
HUIG				*i* S		**S**	**22 37 41.3**	**-4.2**
CNCH	**Conchagua**	**4.38**	**119**	*e*P		Px	22 37 07.5	
CNCH				*e*S		Sx	22 38 01.1	
EVV	**El Vigia**	**4.56**	**312**	*i* P		**Pn**	**22 36 58.5**	**-0.1**
OXX	**Oaxaca**	**5.03**	**290**	*i* P		**Pn**	**22 37 05.3**	**+0.8**
OXX				*i* S		**S**	**22 38 00.0**	**-4.2**
VHO	**Vista Hermosa**	**5.04**	**290**	*i* P		**Pn**	**22 37 04.6**	**0.0**
VHO				*i* S		**S**	**22 38 03.2**	**-1.1**
TEIG	**Tepich**	**5.82**	**34**	⇓*i*Pn		**Pn**	**22 37 13.4**	**-1.1**
TEIG				*e*S		**S**	**22 38 13.9**	**-8.5**
TPIG	**Tehuac#an**	**6.12**	**300**	*i* P		**Pn**	**22 37 17.8**	**-0.4**
TPIG				*i* S		**S**	**22 38 26.5**	**-2.7**
LVIG	**Laguna Verde**	**6.15**	**315**	*i* P		**Pn**	**22 37 18.5**	**-0.2**
LVIG				⇓*i*S		**S**	**22 38 23.6**	**-6.4**
PNIG	**Pinotepa**	**6.19**	**280**	*i* P		**Pn**	**22 37 18.4**	**-0.7**
PNIG				*i* S		**S**	**22 38 25.7**	**-5.1**
UTMO	**Huajuapan**	**6.25**	**293**	*i* P		**Pn**	**22 37 20.5**	**+0.5**
UTMO				*i* S		**S**	**22 38 29.1**	**-3.2**
PPM	**Popocatepetl**	**7.48**	**300**	*i* P		**Pn**	**22 37 38.2**	**+2.5**
YAIG	**Yautepec**	**7.76**	**297**	*i* P		**Pn**	**22 37 40.6**	**+1.3**
YAIG				*i* S		**S**	**22 39 05.0**	**-2.5**
MEIG	**Mezcala**	**7.92**	**289**	*i* P		**Pn**	**22 37 41.5**	**+0.2**
MEIG				*i* S		**S**	**22 39 06.4**	**-4.8**
ACX	**Acapulco**	**7.95**	**281**	*i* P		**Pn**	**22 37 41.2**	**-0.6**
PLIG	**Platanillo**	**7.96**	**293**	*i* P		**Pn**	**22 37 42.8**	**+0.9**
PLIG				*i* S		**S**	**22 39 06.4**	**-5.8**
VCR	**Vista de Mar**	**7.98**	**131**	⇑*e*P		**Pn**	**22 37 43.1**	**+1.1**
UNM	**Universidad Na**	**8.06**	**300**	*e*P		**Pn**	**22 37 41.0**	**-2.2**
UNM				*i* P			22 37 43.1	
UNM				*i* S		**S**	**22 39 11.0**	**-3.6**
CAIG	**El Cayaco**	**8.31**	**282**	*i* P		**Pn**	**22 37 46.8**	**+0.4**
JTS	**JuntasAbangare**	**8.38**	**127**	P		**Pn**	**22 37 47.7**	**+0.4**
	comp=E,41nm,0.3s,baz=316,slow=6.7,SNR=71							
JTS				S		**S**	**22 39 14.4**	**-7.7**
	comp=E,6.7nm,0.3s,baz=300,slow=20,SNR=3.6							
CGA2	**Cerro Gallo 2**	**8.93**	**126**	⇓*e*P		**Pn**	**22 37 55.4**	**+1.1**
CGA2				*e*S		**S**	**22 39 32.5**	**-2.4**
VPS2	**Volcan Poas 2**	**9.01**	**124**	*e*P		**Pn**	**22 37 57.2**	**+1.9**
PRS1	**Puriscal**	**9.07**	**126**	*e*P		**Pn**	**22 37 57.5**	**+1.4**
LAJ	**Bijagual**	**9.29**	**126**	⇓*e*P		**Pn**	**22 37 56.7**	**-2.2**
LCR2	**La Lucha 2**	**9.46**	**126**	⇓*i*P		**Pn**	**22 38 02.5**	**+1.4**
ZIIG	**Zihuatanejo**	**9.54**	**284**	*i* P		**Pn**	**22 38 02.7**	**+0.5**
URSC	**Urasca**	**9.58**	**125**	⇓*e*P		**Pn**	**22 38 04.2**	**+1.5**
URSC				*e*S		**S**	**22 39 49.3**	**-1.0**
BUS	**Buena Vista**	**9.76**	**126**	⇑*e*P		**Pn**	**22 38 06.3**	**+1.3**
MOIG	**Morelia**	**9.92**	**297**	*i* P		**Pn**	**22 38 04.8**	**-2.2**
MRX	**Morelia**	**9.94**	**297**	*e*P		**Pn**	**22 38 08.0**	**+0.8**
SOR	**Soroa**	**11.06**	**47**	*e*P		**Pn**	**22 38 22.2**	**+0.7**
SFJM	**Santa Fe**	**11.84**	**297**	*i* P		**Pn**	**22 38 34.0**	**+2.7**
LNIG	**Linares**	**11.87**	**324**	*i* P		**Pn**	**22 38 33.9**	**+2.2**
ZAIG	**Zacatecas**	**12.54**	**307**	*i* P		**Pn**	**22 38 38.9**	**-1.3**
CCCC	**Cccc**	**14.49**	**65**	*e*P		**Pn**	**22 39 07.8**	**+3.7**
HKT	**Hockley**	**14.93**	**346**	Pn		**Pn**	**22 39 10.7**	**+1.2**
HKT				*e*			22 40 14.7	
DWPF	**Disney**	**15.85**	**35**	*e*Pn		**Pn**	**22 39 21.1**	**+0.5**
	comp=E,44nm,0.7s							
DWPF				*e*			22 39 37.4	

NATX Nacogdoches 16.47 351 *e*P **P 22 39 28.3 +1.6**
comp=E,323nm,1.1s
JCT Junction City 16.70 335 P **P 22 39 31.2 +2.1**
comp=E,31nm,1.1s
JCT Junction City 16.70 335 P **P 22 39 31.3 +2.1**
JCT pmax pmax
comp=Z,31nm,1.1s
LTX Lajitas 17.66 324 *e*P **P 22 39 43.2 +3.5**
comp=Z,5.9nm,0.6s
LTX Lajitas 17.66 324 *e*P **P 22 39 43.2 +3.6**
LTX pmax pmax
comp=Z,6.0nm,0.6s
LRAL Lakeview Retre 18.06 13 Pn **Pn 22 39 46.6 +0.1**
comp=Z,60nm,1.1s
MIAR Mount Ida 19.11 355 P **P 22 39 56.3 +1.0**
comp=Z,34nm,1.1s
MIAR Mount Ida 19.11 355 P **P 22 39 56.3 +1.0**
MIAR pmax pmax
comp=Z,34nm,1.1s
UALR University of 19.27 359 *e*P **P 22 39 59.1 +2.0**
comp=Z,49nm,1.1s
UALR *e* 22 40 26.6
PLAL Pickwick Lake 19.76 9 P **P 22 40 02.6 +0.4**
comp=Z,12nm,0.4s
OTAV Otavalo 20.02 138 *e*P **P 22 40 07.8 +2.7**
comp=Z,29nm,0.5s
ROSC El Rosal 20.11 120 P **P 22 40 07.9 +1.9**
comp=Z,8.8nm,0.3s,baz=328,slow=2.7,SNR=16
WMOK Wichita Mounta 20.24 343 P **P 22 40 07.8 +0.5**
comp=Z,7.4nm,0.7s
WMOK Wichita Mounta 20.24 343 P **P 22 40 07.8 +0.4**
WMOK pmax pmax
comp=Z,7.0nm,0.7s
GDL2 Guadalupe Moun 20.25 328 P **P 22 40 19.0 +11**
GDL2 pP 22 40 47.6
SWET Sewanee 20.39 14 *e*P **P 22 40 10.2 +1.1**
MNTX Cornudas Mount 20.41 325 P **P 22 40 10.4 +1.2**
comp=Z,17nm,1.0s
MNTX *e* 22 40 46.3
GLAT Glass 20.88 6 *e*P **P 22 40 14.5 +0.3**
WVT Waverly 20.92 9 *e*P **P 22 40 14.8 +0.2**
comp=Z,27nm,0.6s
WVT Waverly 20.92 9 *e*P **P 22 40 14.8 +0.2**
WVT pmax pmax
comp=Z,27nm,0.6s
SDV Santo Domingo 21.66 105 P **P 22 40 21.3 -0.8**
comp=Z,20nm,0.4s,mb5.0,baz=217,slow=3.6,SNR=30
SDV ScP ScP 22 47 30.1 +0.4
comp=Z,1.9nm,0.7s,baz=337,slow=7.7,SNR=4.1
SDV Santo Domingo 21.66 105 P **P 22 40 21.3 -0.8**
comp=Z,37nm,0.8s,mb5.0
TZTN Tazewell 22.27 18 *e*P **P 22 40 28.8 +1.0**
SIUC Southern Illin 22.32 5 P **P 22 40 29.4 +1.3**
comp=Z,100nm,0.5s
FVM French Village 22.50 3 *e*P **P 22 40 30.0 +0.2**
USIN University of 22.74 8 *e*P **P 22 40 33.0 +0.9**
comp=Z,36nm,0.6s,mb5.1
BNM Barren Site 22.96 327 *e*P **P 22 40 36.7 +2.7**
LPM Los Pinos Moun 23.08 327 P **P 22 40 37.4 +2.3**
LPM *e* 22 41 16.6
LENM Lemitar 23.15 326 P **P 22 40 38.5 +2.7**
LENM *e* 22 41 18.8
SLM Saint Louis 23.16 3 *e*P **P 22 40 36.8 +0.9**
comp=Z,38nm,0.5s,mb5.2
SLM Saint Louis 23.16 3 *e*P **P 22 40 36.8 +0.9**
SLM pmax pmax
comp=Z,38nm,0.5s,mb5.2
WCI Wyandotte Cave 23.23 11 P **P 22 40 36.7 +0.2**
comp=Z,32nm,0.8s,mb4.9
WCI Wyandotte Cave 23.23 11 P **P 22 40 36.7 +0.3**
WCI pmax pmax
comp=Z,32nm,0.8s,mb4.9
ANMO Albuquerque 23.50 329 P **P 22 40 42.3 +3.4**
ELN Prospectdale 23.82 22 *e*P **P 22 40 42.5 +0.7**
TUC Tucson 24.11 318 *e*P **P 22 40 46.7 +2.2**
CBKS Cedar Bluff 24.33 345 P **P 22 40 48.0 +1.6**
SJG San Juan 24.68 80 P **P 22 40 48.9 -0.6**
comp=Z,25nm,0.5s,mb5.1,baz=300,slow=6.6,SNR=10
SJG San Juan 24.68 80 P **P 22 40 49.1 -0.5**
comp=Z,25nm,0.6s,mb5.0
SJG San Juan 24.68 80 P **P 22 40 49.1 -0.5**
SJG pmax pmax
comp=Z,25nm,0.6s
CPD Cerro la Pandu 24.89 80 P **P 22 40 51.9 +0.3**
CBYP Canovanas 24.96 80 P **P 22 40 52.0 -0.2**
HUMP Col San Antoni 24.96 80 P **P 22 40 52.0 -0.2**
MTP Monte Pirata 25.24 80 P **P 22 40 54.8 +0.1**
ACSO Alum Creek Sta 25.88 16 P **P 22 41 01.1 +0.7**
comp=Z,12nm,0.7s,mb4.6
WUAZ Wupatki 26.61 322 P **P 22 41 11.3 +4.3**
comp=Z,11nm,1.1s,mb4.4
PV01 Paradox Valley 27.05 330 P **P 22 41 13.8 +2.9**
ISCO Idaho Springs 27.13 336 P **P 22 41 15.2 +3.6**
ISCO pP pP 22 41 59.1 +3.1
GLA Glamis 27.28 314 *e*P **P 22 41 15.7 +2.8**
GLA *e* pP 22 41 58.3 +0.9
MVL Millersville 27.95 26 *e*P **P 22 41 19.7 +0.9**
PHWY Pilot Hill 28.38 338 pP pP 22 42 10.3 +3.1
SRU San Rafael 28.77 329 pP pP 22 42 14.2 +3.4
MSU Marysvale 29.18 326 pP pP 22 42 21.9 +7.4
SHPR Sheep Range 29.57 320 P **P 22 41 36.6 +3.5**
SHPR pP pP 22 42 24.1 +6.2
BBSR BB Station 29.83 51 *e*P **P 22 41 36.3 +0.9**
comp=Z,38nm,0.7s,mb5.1
BINY Binghamton 29.95 24 P **P 22 41 37.4 +0.9**
comp=Z,32nm,1.0s,mb4.9
DAC Darwin (Calif) 30.99 317 P **P 22 41 49.8 +4.1**
comp=Z,30nm,2.1s,mb4.5
DAC pP pP 22 42 34.5 +3.8
DAC Darwin (Calif) 30.99 317 P **P 22 41 49.8 +4.1**
DAC pmax pmax
comp=Z,30nm,2.1s,mb4.5
SADO Sadowa 31.14 18 P **P 22 41 46.7 -0.3**
comp=Z,13nm,0.8s,mb4.6,baz=219,slow=5.9,SNR=14
SADO Sadowa 31.14 18 P **P 22 41 46.7 -0.3**
PDAR Pinedale Array 31.23 334 P **P 22 41 48.7 +1.0**
comp=Z,0.2nm,0.3s,baz=156,slow=8.9,SNR=1.6
PDAR pP pP 22 42 33.5 +0.8
comp=Z,0.3nm,0.6s,baz=142,slow=18,SNR=1.9
PDAR ScP ScP 22 47 58.9 +0.8
comp=Z,1.0nm,0.9s,baz=122,slow=5.6,SNR=5.6
NCB Newcomb 32.13 24 *e*P **P 22 41 56.4 +0.8**
NCB *e*pP pP 22 42 39.8 -1.0
REDW Red Top Meadow 32.26 333 pP pP 22 42 44.1 +2.2
LOHW Long Hollow 32.36 334 P **P 22 42 00.5 +2.9**
LOHW pP pP 22 42 46.1 +3.3
TPAW Teton Pass 32.41 334 P **P 22 41 59.9 +1.8**
TPAW pP pP 22 42 47.0 +3.8
MOOW Moose Ponds 32.53 334 pP pP 22 42 45.6 +1.3
MNV Mina 32.63 320 P **P 22 42 04.0 +4.1**
comp=Z,1.6nm,0.4s,mb3.9
MNV pP pP 22 42 49.3 +4.2
MNV Mina 32.63 320 P **P 22 42 04.0 +4.1**
MNV pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
NVAR Mina Array Bea 32.72 320 P **P 22 42 03.6 +2.9**
comp=Z,3.2nm,0.6s,mb4.0,baz=122,slow=9.8,SNR=14
NVAR pP pP 22 42 46.9 +1.0
comp=Z,12nm,1.0s,baz=127,slow=9.3,SNR=7.3
NVAR sP sP 22 43 13.9 +2.2
comp=Z,4.8nm,1.0s,baz=129,slow=9.7,SNR=3.2
NVAR ScP ScP 22 48 03.8 +0.7
comp=Z,2.1nm,0.8s,baz=128,slow=5.5,SNR=7.8
NVAR Mina Array Bea 32.72 320 P **P 22 42 03.6 +2.9**
NVAR pP pP 22 42 46.9 +1.0
NVAR sP sP 22 43 13.9 +2.2
NVAR ScP ScP 22 48 03.8 +0.7
IMW Indian Meadow 32.73 334 *e*P **P 22 42 03.4 +2.6**
comp=Z,2.7nm,0.7s,mb3.9
IMW pP pP 22 42 49.6 +3.5
IMW *e*PcP PcP 22 44 41.9 +1.2
IMW ScP ScP 22 48 05.3 +2.1
HLID Hailey 34.05 330 P **P 22 42 15.4 +3.2**
HLID pP pP 22 42 59.4 +1.8
BOZ Bozeman (W) 34.44 335 ScP ScP 22 48 11.3 +2.0
DGMT Dagmar 34.50 345 *e*P **P 22 42 17.2 +1.1**
DGMT ScP ScP 22 48 11.6 +2.2
ULM Lac du Bonnet 34.89 355 P **P 22 42 18.6 -0.8**
comp=Z,1.2nm,0.5s,mb3.7,baz=167,slow=9.4,SNR=4.0
ULM pP pP 22 43 04.3 -0.7
comp=Z,2.3nm,0.4s,baz=170,slow=5.9,SNR=4.3
ULM ScP ScP 22 48 10.4 -0.5
comp=Z,1.4nm,0.4s,baz=212,slow=4.1,SNR=5.7
LRM Limekiln Ridge 34.92 334 P **P 22 42 21.3 +1.6**
LRM pP pP 22 43 07.0 +1.7

BMO	Blue Mountains	36.41	329	pP	pP	22 43 19.5	+1.3
SAML	Samuel	37.27	129	P	P	22 42 37.9	-1.7
	comp=Z,32nm,0.7s,mb5.0						
YBH	Yreka Blue Hor	37.40	321	P	P	22 42 41.2	+0.6
	comp=Z,1.3nm,0.6s,mb3.7,baz=176,slow=11,SNR=3.5						
WALA	Waterton Lakes	38.12	336	P	P	22 42 49.0	+2.3
WALA				*e*pP	pP	22 43 37.2	+4.3
WALA				ScP	ScP	22 48 24.9	+2.0
LPAZ	La Paz	39.21	142	P	P	22 42 57.4	+1.7
	comp=Z,39nm,0.6s,mb5.1,baz=330,slow=7.8,SNR=183						
LPAZ				ScP	ScP	22 48 29.6	+2.6
	comp=Z,1.1nm,0.6s,baz=350,slow=7.6,SNR=4.4						
LPAZ	La Paz	39.21	142	P	P	22 42 57.4	+1.7
	comp=Z,34nm,0.5s,mb5.1						
FFC	Flin Flon	40.01	351	pP	pP	22 43 49.9	+1.0
SIV	San Ignacio	43.52	135	P	P	22 43 30.4	-0.2
	comp=Z,23nm,0.7s,mb4.6,baz=308,slow=9.1,SNR=21						
SIV				PcP	PcP	22 45 15.4	+1.1
	comp=Z,7.1nm,0.6s,baz=347,slow=1.9,SNR=7.0						
SCHQ	Schefferville	43.82	21	P	P	22 43 31.6	-1.4
	comp=Z,7.6nm,1.1s,mb4.0,baz=200,slow=4.9,SNR=6.8						
LVC	Limon Verde	43.94	149	P	P	22 43 36.1	+2.2
	comp=Z,19nm,0.6s,mb4.6,baz=307,slow=5.0,SNR=25						
LVC				PcP	PcP	22 45 18.1	+2.4
	comp=Z,5.1nm,0.6s,baz=276,slow=4.6,SNR=4.8						
LVC	Limon Verde	43.94	149	P	P	22 43 36.7	+2.7
	comp=Z,21nm,0.7s,mb4.6						
LVC				*e*PcP	PcP	22 45 18.0	+2.3
YKA	Yellowknife Ar	49.70	346	P	P	22 44 18.7	+0.2
	comp=Z,2.2nm,0.6s,mb3.6,baz=148,slow=7.6,SNR=52						
YKA				pP	pP	22 45 07.0	-0.1
	comp=Z,10nm,0.9s,baz=146,slow=7.6,SNR=17						
YKA				ScP	ScP	22 49 09.8	-0.2
	comp=Z,1.4nm,0.8s,baz=143,slow=4.2,SNR=17						
YKA	Yellowknife Ar	49.70	346	P	P	22 44 18.8	+0.2
YKA				pP	pP	22 45 07.0	-0.1
YKA				ScP	ScP	22 49 09.8	-0.2
YKW3	Yellowknife Ar	49.76	346	*e*P	P	22 44 19.1	+0.1
YKW3				pP	pP	22 45 07.6	0.0
FRB	Frobisher Bay	50.88	13	P	P	22 44 25.3	-2.1
	comp=Z,4.7nm,0.8s,mb4.0,baz=223,slow=8.2,SNR=9.9						
FRB				pP	pP	22 45 15.2	-1.0
	comp=Z,9.9nm,1.0s,baz=197,slow=7.9,SNR=4.9						
FRB	Frobisher Bay	50.88	13	P	P	22 44 25.3	-2.1
FRB				pP	pP	22 45 15.2	-1.0
DLBC	Dease Lake	51.45	335	P	P	22 44 31.0	-0.6
	comp=Z,1.8nm,0.4s,mb3.9,baz=152,slow=8.9,SNR=3.3						
DLBC				pP	pP	22 45 21.4	+0.9
	comp=Z,2.5nm,0.5s,baz=100,slow=4.7,SNR=3.1						
DLBC	Dease Lake	51.45	335	P	P	22 44 31.0	-0.6
DLBC				pP	pP	22 45 21.4	+0.9
DLBC				pP	pP	22 45 22.1	+1.6
BDFB	Brasilia	53.11	124	P	P	22 44 43.3	-0.5
	comp=Z,24nm,0.7s,mb4.8,baz=294,slow=8.5,SNR=36						
CPUP	Villa Florida	53.33	141	P	P	22 44 44.7	-0.7
	comp=Z,28nm,0.7s,mb4.8,baz=319,slow=8.3,SNR=58						
CPUP	Villa Florida	53.33	141	P	P	22 44 44.6	-0.7
	comp=Z,106nm,0.7s,mb5.4						
CPUP	Villa Florida	53.33	141	P	P	22 44 44.6	-0.8
CPUP				pmax	pmax		
	comp=Z,106nm,0.7s						
INK	Inuvik	59.14	343	P	P	22 45 25.9	-0.5
	comp=Z,0.7nm,0.2s,mb3.9,baz=88,slow=10.0,SNR=3.1						
INK				pP	pP	22 46 15.2	-1.5
	comp=Z,5.7nm,0.8s,baz=46,slow=19,SNR=6.8						
INK	Inuvik	59.14	343	P	P	22 45 25.9	-0.5
INK				pP	pP	22 46 13.2	-3.6
INK				pP	pP	22 46 15.2	-1.5
INK	Inuvik	59.14	343	P	P	22 45 25.9	-0.5
INK				*PP	pP	22 46 13.2	-3.5
RES	Resolute Bay	59.29	359	pP	pP	22 46 17.9	+0.2
TRQA	Tornquist	60.10	153	P	P	22 45 33.6	+0.7
	comp=Z,47nm,1.3s,mb5.0						
CAM4	Nova Friburgo	61.10	127	⇑*i*P	P	22 45 39.9	+0.2
CAM4				*i*		22 45 45.6	
CAM4				*i*		22 45 54.3	
SLKM	Skilak Lake	61.35	331	P	P	22 45 42.3	+1.0
SLKM				pP	pP	22 46 36.9	+4.9
ILAR	Eielson Array	61.63	336	P	P	22 45 43.3	+0.1
	comp=Z,0.4nm,0.4s,mb3.4,baz=110,slow=5.4,SNR=14						
ILAR				pP	pP	22 46 33.0	-0.9
	comp=Z,6.1nm,1.1s,baz=122,slow=4.8,SNR=13						
ILAR				sP	sP	22 46 57.4	-0.7
	comp=Z,2.8nm,1.1s,baz=126,slow=3.7,SNR=2.8						
ILAR				ScP	ScP	22 50 02.5	0.0
	comp=Z,0.2nm,0.7s,baz=134,slow=2.3,SNR=4.2						
CAM3	Guarapari	61.84	124	⇑*i*P	P	22 45 44.5	0.0
CAM3				*i*		22 45 50.5	
TNA	Tin City	70.34	335	pP	pP	22 47 33.0	+2.3
DAG	Danmarks Havn	71.23	13	⇓*i*P	pP	22 47 36.8	+0.6
	comp=Z,7.6nm,1.1s						
EVO	Evora	75.75	54	*e*P	P	22 47 08.3	-1.9
	comp=Z,21nm,0.9s,mb4.5						
ROSF	Rostrenen	77.66	43	*e*P	P	22 47 19.7	-1.2
QUIF	Quistinic	77.80	43	*e*P	P	22 47 20.5	-1.2
	comp=Z,259nm,1.6s,mb5.3						
QUIF	Quistinic	77.80	43	*e*P	P	22 47 20.5	-1.2
	comp=Z,130nm,1.6s,mb5.3						
QUIF	Quistinic	77.80	43	*e*P	P	22 47 20.5	-1.2
QUIF				pmax	pmax		
	comp=Z,130nm,1.6s,mb5.3						
ESDC	Sonseca Array	78.67	52	P	P	22 47 25.4	-1.0
	comp=Z,3.0nm,0.8s,mb4.0,baz=283,slow=5.3,SNR=14						
ESDC				pP	pP	22 48 19.0	-0.7
	comp=Z,4.1nm,1.0s,baz=297,slow=6.1,SNR=5.8						
GRR	Gorron	79.24	43	*e*P	P	22 47 28.6	-0.9
	comp=Z,295nm,1.9s,mb5.3						
GRR	Gorron	79.24	43	*e*P	P	22 47 28.6	-0.9
	comp=Z,148nm,1.9s,mb5.3						
GRR	Gorron	79.24	43	*e*P	P	22 47 28.6	-0.9
GRR				pmax	pmax		
	comp=Z,148nm,1.9s,mb5.3						
FLN	La Foliniere	79.41	42	*e*P	P	22 47 28.8	-1.7
MDT	Midelt	79.47	59	P	P	22 47 30.1	-0.7
	comp=Z,5.2nm,0.9s,mb4.2,baz=299,slow=3.5,SNR=9.2						
MDT				pP	pP	22 48 23.3	-0.8
	comp=Z,2.0nm,1.0s,baz=272,slow=4.5,SNR=3.1						
LDF	La Druitiere	79.68	42	*e*P	P	22 47 30.3	-1.6
	comp=Z,47nm,1.2s,mb4.7						
LDF	La Druitiere	79.68	42	*e*P	P	22 47 30.3	-1.6
	comp=Z,23nm,1.2s,mb4.7						
LDF	La Druitiere	79.68	42	*e*P	P	22 47 30.3	-1.6
LDF				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.7						
SJPF	Ste Jean	80.03	48	*e*P	P	22 47 32.8	-1.0
	comp=Z,59nm,1.3s,mb4.8						
SJPF	Ste Jean	80.03	48	*e*P	P	22 47 32.8	-1.0
	comp=Z,30nm,1.3s,mb4.8						
SJPF	Ste Jean	80.03	48	*e*P	P	22 47 32.8	-1.0
SJPF				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.8						
MFF	Saint Martin d	80.07	44	*e*P	P	22 47 32.5	-1.5
BILL	Bilibino	80.23	338	⇓*e*P	P	22 47 35.2	+0.4
BILL				*e*		22 50 42.0	
BILL				*e*SS	SS	23 02 33.0	-4.0
BILL				pmax	pmax		
	comp=Z,9.0nm,2.5s,mb4.0						
LFF	La Frestale	81.03	46	*e*P	P	22 47 37.9	-1.2
RJF	Les Rejaudoux	81.48	45	*e*P	P	22 47 39.8	-1.6
	comp=Z,19nm,0.9s,mb4.4						
RJF	Les Rejaudoux	81.48	45	*e*P	P	22 47 39.8	-1.6
	comp=Z,9.4nm,0.9s,mb4.4						
RJF	Les Rejaudoux	81.48	45	*e*P	P	22 47 39.8	-1.6
RJF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
TCF	Toulx Ste Croi	81.72	44	*e*P	P	22 47 41.1	-1.6
CAF	Calviac	81.94	46	*e*P	P	22 47 42.4	-1.5
	comp=Z,11nm,0.9s,mb4.2						
CAF	Calviac	81.94	46	*e*P	P	22 47 42.4	-1.5
	comp=Z,5.3nm,0.9s,mb4.2						
CAF	Calviac	81.94	46	*e*P	P	22 47 42.4	-1.5
CAF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
BGF	Bois d'Agland	82.09	44	*e*P	P	22 47 42.9	-1.7
	comp=Z,20nm,0.8s,mb4.5						
BGF	Bois d'Agland	82.09	44	*e*P	P	22 47 42.9	-1.7
	comp=Z,10nm,0.8s,mb4.5						
BGF	Bois d'Agland	82.09	44	*e*P	P	22 47 42.9	-1.7
BGF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
AVF	Avril sur Loir	82.37	44	*e*P	P	22 47 44.4	-1.7
	comp=Z,21nm,1.1s,mb4.4						
AVF	Avril sur Loir	82.37	44	*e*P	P	22 47 44.4	-1.7
	comp=Z,10nm,1.1s,mb4.4						
AVF	Avril sur Loir	82.37	44	*e*P	P	22 47 44.4	-1.7
AVF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
SSF	Saint Saulge	82.40	43	*e*P	P	22 47 44.4	-1.8
	comp=Z,29nm,1.3s,mb4.5						
SSF	Saint Saulge	82.40	43	*e*P	P	22 47 44.4	-1.8
	comp=Z,15nm,1.3s,mb4.5						
SSF	Saint Saulge	82.40	43	*e*P	P	22 47 44.4	-1.8
SSF				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.5						
MTLF	Montolieu	82.43	47	*e*P	P	22 47 44.9	-1.5
	comp=Z,16nm,1.1s,mb4.3						
MTLF	Montolieu	82.43	47	*e*P	P	22 47 44.9	-1.5
	comp=Z,7.8nm,1.1s,mb4.2						
MTLF	Montolieu	82.43	47	*e*P	P	22 47 44.9	-1.5
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
LOR	Lormes	82.58	43	*e*P	P	22 47 45.8	-1.4
	comp=Z,13nm,0.9s,mb4.4						
LOR	Lormes	82.58	43	*e*P	P	22 47 45.8	-1.4
	comp=Z,6.4nm,0.9s,mb4.3						
LOR	Lormes	82.58	43	*e*P	P	22 47 45.8	-1.4
LOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
SMF	Signal de Mont	82.73	44	*e*P	P	22 47 46.4	-1.5
	comp=Z,20nm,1.0s,mb4.5						
SMF	Signal de Mont	82.73	44	*e*P	P	22 47 46.4	-1.5
	comp=Z,10nm,1.0s,mb4.5						
SMF	Signal de Mont	82.73	44	*e*P	P	22 47 46.4	-1.5
SMF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
NB2	NORSAR Subarra	82.80	29	P	P	22 47 48.2	-0.1
	comp=Z,1.1nm,0.7s,mb3.7,baz=288,slow=5.1						
NB2	NORSAR Subarra	82.80	29	P	P	22 47 48.2	-0.1
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
NOA	NORSAR Array B	82.80	29	P	P	22 47 48.6	+0.3
	comp=Z,1.4nm,0.8s,mb3.8,baz=290,slow=5.1,SNR=6.1						
LASF	Ste Croix	83.40	46	*e*P	P	22 47 49.9	-1.4
	comp=Z,34nm,1.3s,mb4.6						
HOPE	Hope Point	83.80	151	P	P	22 47 54.6	+1.2
HOPE				pP	pP	22 48 43.6	-3.7
HAU	Haudompre	84.01	42	*e*P	P	22 47 52.8	-1.7
	comp=Z,14nm,0.7s,mb4.5						
HAU	Haudompre	84.01	42	*e*P	P	22 47 52.8	-1.7
	comp=Z,6.9nm,0.7s,mb4.5						
HAU	Haudompre	84.01	42	*e*P	P	22 47 52.8	-1.7
HAU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
CABF	La Chapelle	84.23	43	*e*P	P	22 47 54.1	-1.5
ORIF	Oris-en-Rattie	84.56	45	*e*P	P	22 47 55.5	-1.7
ARCES	ARCESS Array B	84.72	18	P	P	22 47 57.2	-0.8
	comp=Z,4.6nm,1.0s,mb4.2,baz=296,slow=4.3,SNR=5.5						
LPG	La Plagne	84.99	44	*e*P	P	22 47 58.0	-1.4
MBDF	Montbardon	85.23	45	*e*P	P	22 47 59.1	-1.4
	comp=Z,18nm,1.0s,mb4.5						
MBDF	Montbardon	85.23	45	*e*P	P	22 47 59.1	-1.4
	comp=Z,9.0nm,1.0s,mb4.5						
MBDF	Montbardon	85.23	45	*e*P	P	22 47 59.1	-1.4
MBDF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
DBIC	Dimbokro	85.30	84	P	P	22 47 59.7	-1.2
	comp=Z,1.7nm,0.7s,mb3.9,baz=234,slow=8.7,SNR=4.1						
LMR	La Mourre	85.45	46	*e*P	P	22 47 59.8	-1.8
FRF	La Foret Royal	85.48	46	*e*P	P	22 48 00.0	-1.8
	comp=Z,47nm,1.1s,mb4.8						
FRF	La Foret Royal	85.48	46	*e*P	P	22 48 00.0	-1.8
	comp=Z,24nm,1.1s,mb4.8						
FRF	La Foret Royal	85.48	46	*e*P	P	22 48 00.0	-1.8
FRF				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.8						
GERES	GERESS Array B	88.37	40	pP	pP	22 49 09.6	-0.5
	comp=Z,1.2nm,0.8s,baz=255,slow=2.6,SNR=5.5						
FINES	FINESS Array B	89.12	25	P	P	22 48 16.9	-2.3
	comp=Z,1.0nm,0.8s,mb3.7,baz=246,slow=6.8,SNR=3.5						
TORD	Torodi Ar. Bea	89.84	76	P	P	22 48 20.7	-1.8
	comp=Z,0.2nm,0.5s,baz=291,slow=4.9,SNR=5.7						
OBN	Obninsk	97.32	27	⇑*e*P	P	22 48 54.0	-2.8
OBN				*e**PP	pP	22 49 55.2	+3.6
OBN				*e*		22 53 02.5	
OBN				*e*SS	SS	23 06 37.2	-7.2
OBN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.4						
SONM	Songino Array	114.97	347	PKKPbc	PKKPbc	23 04 39.8	-0.1
	comp=Z,1.0nm,0.6s,baz=199,slow=3.1,SNR=11						
HHC	Hu-ho-hao-te	119.97	340	*e*PKP	PKPdf	22 54 13.5	+0.5
HHC				PP	PP	22 55 43.8	+3.4
HHC				PKS		22 57 49.0	
HHC				SKS	SKSdf	23 01 02.0	-1.5
HHC				SKKS	SKKSac	23 02 12.8	-4.5
HHC				SS	SS	23 11 48.5	+0.2
HHC				LR	LR		
	comp=N,107nm,3.7s						
HHC				LR	LR		
	comp=E,53nm,3.1s						
HHC				LR	LR		
	comp=Z,95nm,5.3s						
BOSA	Boshof	120.75	114	PKP	PKPdf	22 54 14.5	+0.1
	comp=Z,5.7nm,0.8s,baz=310,slow=5.2,SNR=8.8						
WMQ	Urumqi	121.04	0	*e*PKP	PKPdf	22 54 16.0	+1.0
TAU	Tasmania Unive	122.90	229	*e*PKPdf	PKPdf	22 54 20.0	+1.4
NJ2	Nanjing	124.41	328	*e*PKP	PKPdf	22 54 23.0	+1.5
NJ2				XPKP		22 55 43.8	
NJ2				PP	PP	22 56 16.0	+5.7
NJ2				PKS		22 57 58.0	
NJ2				SKS	SKSdf	23 01 11.0	-0.9
NJ2				SKKS	SKKSac	23 02 44.0	-2.0
NJ2				PP	PP		
	comp=Z,110nm,10.5s						
NJ2				LR	LR		
	comp=N,330nm,12.8s						
NJ2				LR	LR		
	comp=E,290nm,26.2s						
NJ2				LR	LR		
	comp=Z,260nm,24.0s						
CTA	Charters Tower	124.77	256	PKP	PKPdf	22 54 23.9	+1.7
	comp=Z,5.2nm,0.8s,baz=349,slow=1.6,SNR=4.2						
MAW	Mawson	125.32	168	PKP	PKPdf	22 54 22.8	-0.4
	comp=Z,8.9nm,0.6s,baz=264,slow=5.1,SNR=11						
LZH	Lanzhou	126.68	344	PKP	PKPdf	22 54 24.5	-1.3
LZH				XPKP		22 55 45.3	
STKA	Stephens Creek	128.94	241	*e*P	PKPdf	22 54 29.9	-0.2
	comp=Z,4.3nm,0.7s						
STKA	Stephens Creek	128.94	241	PKP	PKPdf	22 54 29.9	-0.3
	comp=Z,5.4nm,0.7s,baz=89,slow=1.7,SNR=14						
CD2	Chengdu	131.57	342	*e*PKP	PKPdf	22 54 35.8	+0.7
WB2	Warramunga Arr	135.93	257	*e*P	PKPdf	22 54 44.5	+1.2
WRAB	Tennant Creek	135.93	257	*e*PKPdf	PKPdf	22 54 45.3	+2.0
WRA	Warramunga Arr	135.94	257	PKhKP		22 54 37.2	
	comp=Z,0.8nm,0.7s,baz=92,slow=3.3,SNR=3.9						
WRA				PKP	PKPdf	22 54 44.7	+1.4
	comp=Z,3.5nm,0.8s,baz=82,slow=1.7,SNR=18						
ASAR	Alice Springs	136.33	252	PKhKP		22 54 36.6	
	comp=Z,0.8nm,0.7s,baz=103,slow=3.7,SNR=7.7						
ASAR				PKP	PKPdf	22 54 45.8	+1.7
	comp=Z,2.4nm,0.7s,baz=98,slow=1.8,SNR=18						
ASAR				SKPbc	SKPbc	22 57 57.4	+2.4
	comp=Z,0.3nm,0.5s,baz=90,slow=2.8,SNR=5.6						
ASAR	Alice Springs	136.33	252	PKHKP		22 54 36.7	
ASAR						22 54 45.8	
FITZ	Fitzroy Crossi	144.12	260	*e*P	PKPdf	22 54 59.0	+0.9
	comp=Z,23nm,0.6s						
KKM	Kota Kinabalu	145.02	306	*e*PKPdf	PKPdf	22 55 01.9	+2.2
NWAO	Narrogin (SRO)	148.47	231	*e*PKPdf	PKPdf	22 55 07.6	+2.1
KLBR	Kellerberrin	148.64	234	*e*P	PKPdf	22 55 10.6	+4.9
	comp=Z,55nm,1.5s						
MBWA	Marble Bar	149.58	254	*e*PKPbc	PKPbc	22 55 13.8	+1.8
MUN	Mundaring	149.67	232	*e*P	PKPbc	22 55 13.8	+1.6
KSM	Kuching	152.45	306	*e*PKP	PKPab	22 55 31.5	+1.7

*IDC **28** 22:45:00.2±6.5, 22.28N×122.54E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=168.9km s-min=59.4km az=18.0*
*ISCJB **28** 22:45:07.7±2.0, 242.2N±0.1×125.3E±0.1, h33km, mb3.3/2, Error ellipse: s-maj=24.9km s-min=6.6km az=87.7*
*JMA **28** 22:45:08.5±0.4, 24.26N×125.17E, h27km, M3.4*

ISC 28 22:45:08.2±2.1, 242.2N±01×125.3E±02, h35km, n11, σ0.70/12, mb3.3/2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.53	14	P	Pn	22 45 19.4	+0.1
JOGS				S	Sn	22 45 27.5	+0.4
JMJ	Miyako jima 2	0.57	2	P	Pn	22 45 19.3	-0.5
JMJ				*e*S	Sn	22 45 28.3	+0.3
JTJ	Tarama	0.65	308	P	Pn	22 45 19.6	-1.3
JIJ	Ishigaki jima	1.03	277	P	Pn	22 45 25.6	-0.6
JKRS	Kuro-shima	1.15	270	P	Pn	22 45 28.4	+0.7
HATJ	Hateruma jima	1.35	263	P	Pn	22 45 30.7	+0.2
HATJ				*e*S	Sn	22 45 47.4	+0.2
IRIF	Iriomote-Funau	1.41	274	P	Pn	22 45 31.7	+0.4
SONM	Songino Array	27.91	332	P	P	22 50 58.4	+3.5
	0.1nm,0.3s,mb3.0,baz=149,slow=8.7,SNR=2.5						
ILAR	Eielson Array	67.45	28	P	pP	22 56 14.8	+3.7
	0.2nm,0.7s,baz=267,slow=7.9,SNR=4.1						
FINES	FINESS Array B	73.26	330	P	P	22 56 35.4	-0.5
	1.0nm,0.9s,mb3.7,baz=67,slow=7.7,SNR=3.4						
YKA	Yellowknife Ar	81.44	24	P	pP	22 57 34.2	+1.6
	0.4nm,0.9s,baz=309,slow=5.2,SNR=4.5						

SKHL 28 23:04:03.7±0.0, 52.80N×142.80E, h10km, mb3.7/3, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	Okha	0.76	6	⇑*i*Pg	Pg	23 04 19.8	+1.5
OKH				AMB	AMB	23 04 20.0	
	200nm,0.3s						
OKH				*i* Sg	Sg	23 04 31.1	+2.9
OKH				A		23 04 32.9	
	600nm,0.3s						
NKL	Nikolayevsk	1.33	286	*i* Pg	Pg	23 04 30.0	+0.8
NKL				AMB	AMB	23 04 30.8	
	10.0nm,0.3s						
NKL				*i* Sg	Sg	23 04 48.4	+1.9
NKL				A		23 04 50.0	
	90nm,0.3s						
NKL				A		23 04 50.0	
	70nm,0.3s						
TYV	Tymovskoe	1.94	183	*e*Pg	Pg	23 04 42.6	+1.7
TYV				AMB	AMB	23 04 45.0	
	10.0nm,0.3s						
TYV				*e*Sg	Sg	23 05 09.9	+3.8
TYV				A		23 05 13.0	
	13nm,0.8s						
EKMR	Ekimchan	5.96	277	*e*rx	rx	23 07 14.5	
EKMR				*e*Sg	Sg	23 07 23.9	+8.8
EKMR				A		23 07 30.9	
	10.0nm,0.5s						

*IDC **28** 23:19:05.8±4.9, 20.18S×177.99W, h528km±54km, mb3.4/7, mb1 3.6/9, mb1mx3.4/15, mbtmp4.3/9, Error ellipse: s-maj=36.9km s-min=28.4km az=166.0*
*NEIC **28** 23:19:06.1±2.2, 20.15S×178.02W, h532km±23km, mb4.3/2, Error ellipse: s-maj=18.3km s-min=14.5km az=68.0*
*ISCJB **28** 23:19:07.3±3.6, 202S±02×178.1W±02, h558km±43km, mb4.0/9, Error ellipse: s-maj=30.8km s-min=24.7km az=111.9*

ISC 28 23:19:06.0±3.6, 202S±02×178.0W±02, h533km±40km, n16, σ0.45/13, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.68	260	P	P	23 22 12.0	-0.3
	0.1nm,0.3s,baz=86,slow=19,SNR=1.8						
URZ	Urewera	18.52	192	P	P	23 22 49.6	+0.3
	0.9nm,0.3s,baz=249,slow=2.7,SNR=5.5						
CTA	Charters Tower	33.56	264	P	P	23 25 02.4	+0.7
	9.8nm,0.7s,mb4.4,baz=97,slow=11,SNR=8.2						
STKA	Stephens Creek	37.96	244	P	P	23 25 37.4	-0.7
	2.1nm,0.7s,mb3.8,baz=103,slow=6.2,SNR=5.7						
STKA	Stephens Creek	37.96	244	P	P	23 25 37.4	-0.7
ASAR	Alice Springs	44.63	256	P	P	23 26 31.4	+0.5
	7.1nm,0.8s,mb4.3,baz=86,slow=8.7,SNR=74						
ASAR				PcP	PcP	23 28 02.3	+0.2
	0.9nm,0.8s,baz=102,slow=3.6,SNR=5.3						
WRAB	Tennant Creek	44.67	262	*e*P	P	23 26 31.2	0.0
	5.5nm,0.4s,mb4.4						
WRA	Warramunga Arr	44.68	262	P	P	23 26 31.2	-0.1
	4.2nm,0.6s,mb4.2,baz=96,slow=8.4,SNR=20						
VNDA	Vanda	58.23	185	*e*P	P	23 28 08.9	-0.3
MAW	Mawson	81.87	200	P	P	23 30 29.6	0.0
	2.7nm,0.3s,mb4.2						
ILAR	Eielson Array	88.00	13	P	P	23 30 58.6	-0.7
	0.8nm,0.6s,mb3.6,baz=216,slow=5.4,SNR=11						
PDAR	Pinedale Array	88.71	43	P	P	23 31 03.3	+0.7
	0.5nm,0.6s,mb3.5,baz=226,slow=4.0,SNR=4.3						
SONM	Songino Array	95.54	319	P	P	23 31 33.9	-0.1
	0.1nm,0.3s,mb3.5,baz=119,slow=8.9,SNR=4.3						
AKASG	Malin Array Be	142.75	331	PKhKP		23 37 34.9	
	1.8nm,0.5s,baz=43,slow=4.3,SNR=14						
BRTR	Keskin Array B	146.65	313	PKPbc	PKPbc	23 37 48.2	+0.3
	1.1nm,0.6s,baz=145,slow=3.3,SNR=7.7						
GERES	GERESS Array B	149.91	345	PKPbc	PKPbc	23 37 56.5	+0.5
	1.1nm,0.7s,baz=354,slow=1.0,SNR=8.2						

*CSEM **28** 23:23:55.9±0.2, 41.71N×45.48E, h2km,

AKH					S	Sn	23 24 44.5	-0.5
DBC	**Dubki**	**1.57**	**38**	*i*	Pn	Pn	23 24 25.0	0.0
DBC				*i*	Sg	Sg	23 24 47.0	-0.4
BUJR	**Buynaksk**	**1.58**	**49**		Pn	Pn	23 24 25.0	-0.1
BUJR				*e*	Sg	Sg	23 24 49.0	+1.4
HARI	**Harich**	**1.64**	**224**	⇓	P	Pn	23 24 24.6	-1.3
HARI					S	Sn	23 24 46.5	-0.7
ARNR	**Ardon**	**1.66**	**328**	*e*	PN	Pn	23 24 27.2	+1.0
ARNR				*e*	S	Sn	23 24 48.9	+1.2
KORR	**Kora**	**1.67**	**321**	*i*	Pn	Pn	23 24 27.4	+1.1
KORR				*i*	Sg	Sg	23 24 49.2	-1.3
BTKR	**Batakoyurt**	**1.73**	**336**	*e*	Pn	Pn	23 24 28.3	+1.2
BTKR				*e*	Sg	Sg	23 24 50.9	-1.5
SGKR	**Sergokala**	**1.74**	**67**	*e*	Pn	Pn	23 24 26.0	-1.3
GNI	**Garni**	**1.74**	**199**		P	Pn	23 24 28.0	+0.7
DIGR	**Digorskoe uzhe**	**1.80**	**308**	*i*	Pn	Pn	23 24 22.8	-5.3
MAK	**Makhachkala**	**1.89**	**51**	*i*	Sg	Sg	23 25 01.1	+3.5
MAK	**Makhachkala**	**1.89**	**51**	*i*	PN	Pn	23 24 38.3	+8.9
MAK				*i*			23 25 01.1	
MAK					pmax	pmax		
	comp=Z,76nm,0.4s							
MAK					smax			
	comp=E,283nm,0.5s							
DIGO	**Kars**	**2.12**	**230**	*i*	P	Pn	23 24 32.9	+0.4
DIGO				*i*	S	Sn	23 25 04.8	+5.8
PRTR	**Priterechnaya**	**2.15**	**336**	*e*	Pn	Pn	23 24 33.8	+0.8
PRTR				*e*	Sn	Sn	23 25 00.6	+0.8
ARTV	**Artvin**	**2.75**	**258**	*i*	P	Pn	23 24 42.0	+0.8
ARTV				*i*	S	Sn	23 25 22.9	+8.3
ERZM	**Erzurum**	**3.66**	**240**	*i*	P	Pn	23 24 54.8	+1.1

*ISCJB **28** 23:44:08.5±0.5,2363S×004×6657W±005,h199km±5km, mb4.4/31,Error ellipse: s-maj=7.7km s-min=5.8km az=17.4*
*NEIC **28** 23:44:09.7±0.6,2355S×6654W,h195km±5km,mb4.7/24, Error ellipse: s-maj=7.8km s-min=6.0km az=65.0*
*IDC **28** 23:44:09.6±0.8,2350S×6651W,h198km±8km,mb4.0/13, mb1 4.3/19,mb1mx4.2/22,mbtmp4.7/19,Error ellipse: s-maj=12.9km s-min=10.5km az=59.0*
*GUC **28** 23:44:10.5±0.7,2398S×6699W,h240km,MD4.5,ML5.5*
*BJI **28** 23:44:10.7,2350S×6650W,h195km,mB5.5*

ISC 28 23:44:09.7±0.5,2363S×004×6658W±005,h195km±5km, n87,σ1°905/86,mb4.4/31,4C-4D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**295**	P	**Pn**	**23 44 53.8**	**+1.9**
	346nm,0.3s,baz=112,slow=7.0,SNR=2599						
LVC				S	**Sn**	**23 45 25.5**	**+0.8**
	481nm,0.3s,baz=256,slow=21,SNR=21						
LVC	**Limon Verde**	**2.38**	**295**	⇑*i*Pn	**Pn**	**23 44 53.8**	**+1.9**
LVC				*e*Sn	**Sn**	**23 45 26.0**	**+1.4**
CEN1	**Los Morros**	**3.34**	**273**	⇓*i*P	**Pn**	**23 45 05.4**	**+2.4**
CEN1				*i* S	**Sn**	**23 45 45.4**	**+0.6**
CEN1				AMP		23 45 49.0	
	comp=N,4μm,0.5s						
ANCH	**Antofagasta**	**3.52**	**268**	*e*P	**Pn**	**23 45 06.1**	**+0.8**
ANCH				*i* S	**Sn**	**23 45 48.6**	**-0.2**
ANCH				AMP		23 45 51.3	
	comp=E,5μm,0.4s						
CPN1	**Cerro Paranal**	**3.64**	**253**	⇑*i*P	**Pn**	**23 45 07.6**	**+0.9**
CPN1				*i* S	**Sn**	**23 45 49.9**	**-1.5**
CRCH	**Chaqaral**	**4.56**	**233**	*i* P	**Pn**	**23 45 18.1**	**-0.2**
CRCH				*i* S	**Sn**	**23 46 08.7**	**-3.5**
CPCH	**Copiapo**	**5.05**	**222**	*e*P	**Pn**	**23 45 23.6**	**-0.9**
CPCH				*i* S	**Sn**	**23 46 20.6**	**-2.8**
CDCH	**Caldera**	**5.16**	**227**	*e*P	**Pn**	**23 45 24.6**	**-1.4**
CDCH				*i* S	**Sn**	**23 46 21.5**	**-4.5**
LPAZ	**La Paz**	**7.45**	**348**	P	**Pn**	**23 45 56.6**	**+1.0**
	comp=E,24nm,0.3s,baz=161,slow=8.5,SNR=381						
LPAZ				S	**Sn**	**23 47 18.0**	**-1.7**
	baz=81,slow=25,SNR=1.4						
LPAZ	**La Paz**	**7.45**	**348**	⇓*i*Pn	**Pn**	**23 45 56.7**	**+1.0**
	comp=E,173nm,0.7s						
LPAZ				*e*Sn	**Sn**	**23 47 21.3**	**+1.5**
CFAA	**Coronel Fontan**	**8.08**	**190**	P	**Pn**	**23 46 04.0**	**0.0**
	comp=E,2.1nm,0.3s,baz=13,slow=12,SNR=134						
CFAA				S	**Sn**	**23 47 30.1**	**-4.8**
	comp=E,2.7nm,0.3s,baz=261,slow=18,SNR=13						
CFAA	**Coronel Fontan**	**8.08**	**190**	P	**Pn**	**23 46 04.0**	**0.0**
CFAA				S	**Sn**	**23 47 30.1**	**-4.8**
ARE	**Arequipa**	**8.49**	**326**	*e*P	**Pn**	**23 46 07.0**	**-2.3**
ARE				*e*S	**Sn**	**23 47 38.0**	**-6.6**
CPUP	**Villa Florida**	**8.81**	**110**	P	**Pn**	**23 46 13.8**	**+0.4**
	comp=E,0.7nm,0.3s,baz=272,slow=12,SNR=32						
CPUP	**Villa Florida**	**8.81**	**110**	⇑*e*Pn	**Pn**	**23 46 13.9**	**+0.5**
	comp=E,96nm,0.6s						
SIV	**San Ignacio**	**9.19**	**35**	P	**Pn**	**23 46 17.4**	**-1.0**
	comp=E,18nm,0.3s,baz=221,slow=11,SNR=316						
SIV				S	**Sn**	**23 47 45.9**	**-15**
	baz=18,slow=20,SNR=4.6						
TRQA	**Tornquist**	**14.91**	**166**	*e*Pn	**Pn**	**23 47 31.3**	**+0.4**
	comp=E,22nm,0.9s						
SAML	**Samuel**	**14.95**	**13**	*e*Pn	**Pn**	**23 47 30.4**	**-1.1**
	comp=E,47nm,0.6s						
SAML				*e*S	**Sn**	**23 50 10.2**	**-8.4**
BDFB	**Brasilia**	**19.19**	**69**	P	**P**	**23 48 18.8**	**+0.2**
	comp=E,7.3nm,0.3s,baz=249,slow=11,SNR=202						
BAO	**Brasilia Array**	**19.21**	**69**	P	**P**	**23 48 19.0**	**+0.2**
CAM4	**Nova Friburgo**	**22.14**	**92**	*e*P	**P**	**23 48 44.6**	**-4.8**
CAM4				*i*		23 48 47.6	
CAM4				*i*		23 48 49.5	
CAM4				*i*		23 48 57.7	
CAM4				*i*		23 49 21.3	
CAM3	**Guarapari**	**24.29**	**88**	*e*P	**P**	**23 49 05.8**	**-3.2**
CAM3				*i*		23 49 08.3	
CAM3				*i*		23 49 10.4	
CAM3				*i*		23 49 34.5	
OTAV	**Otavalo**	**26.38**	**332**	*e*P	**P**	**23 49 29.9**	**+2.0**
	comp=E,7.0nm,0.7s,mb4.4						
SDV	**Santo Domingo**	**32.55**	**353**	P	**P**	**23 50 19.9**	**-2.4**
	comp=E,2.6nm,0.4s,mb4.1,baz=201,slow=7.1,SNR=5.6						
SDV	**Santo Domingo**	**32.55**	**353**	*e*P	**P**	**23 50 21.0**	**-1.3**
	comp=E,12nm,0.4s,mb4.8						
RCBR	**Riachuelo**	**34.41**	**64**	*e*P	**P**	**23 50 38.2**	**-0.2**
	comp=E,54nm,1.0s,mb5.0						
FDF	**Fort de France**	**38.49**	**8**	*e*P	**P**	**23 51 11.5**	**-1.4**
CRM	**Caravelle**	**38.54**	**9**	*e*P	**P**	**23 51 12.3**	**-1.0**
SJG	**San Juan**	**41.48**	**1**	P	**P**	**23 51 36.5**	**-1.0**
	comp=E,13nm,0.7s,mb4.5,baz=321,slow=20,SNR=4.0						
SNAA	**Sanae**	**59.57**	**161**	P	**P**	**23 53 53.0**	**+0.2**
	comp=E,1.5nm,0.7s,mb3.8,baz=281,slow=8.9,SNR=11						
JCT	**Junction City**	**62.53**	**328**	*e*P	**P**	**23 54 12.6**	**0.0**
	comp=E,11nm,0.7s,mb4.6						
WVT	**Waverly**	**62.74**	**341**	*e*P	**P**	**23 54 12.6**	**-1.4**
	comp=E,3.8nm,0.6s,mb4.2						
QSPA	**South Pole Qui**	**66.58**	**180**	*e*P	**P**	**23 54 40.1**	**+1.3**
	comp=E,13nm,0.8s,mb4.6						
CPRX	**Cap Rock**	**66.62**	**326**	*e*P	**P**	**23 54 40.0**	**+0.9**
DBIC	**Dimbokro**	**67.31**	**71**	P	**P**	**23 54 42.5**	**-0.9**
	comp=E,20nm,0.8s,mb4.8,baz=217,slow=6.1,SNR=26						
DBIC	**Dimbokro**	**67.31**	**71**	*e*P	**P**	**23 54 42.5**	**-1.0**
	comp=E,34nm,1.1s,mb4.9						
BNM	**Barren Site**	**68.93**	**325**	*e*P	**P**	**23 54 52.4**	**-1.1**
LPM	**Los Pinos Moun**	**69.06**	**325**	*e*P	**P**	**23 54 50.4**	**-3.9**
SYO	**Syowa Base**	**73.76**	**159**	⇑*e*PcP	PcP	23 55 37.3	+0.3
SYO	**Syowa Base**	**73.76**	**159**	⇓*e*pP	pP	23 56 08.6	-0.2
SYO	**Syowa Base**	**73.76**	**159**	⇓*e*PP	PP	23 58 03.4	-6.2
RWWY	**Rawlins**	**75.09**	**330**	*e*P	**P**	**23 55 29.6**	**-0.5**
	comp=E,19nm,1.1s,mb4.7						
VNDA	**Vanda**	**75.13**	**190**	P	**P**	**23 55 31.2**	**+0.8**
	comp=E,2.4nm,1.1s,mb3.7,baz=118,slow=7.0,SNR=5.0						
VNDA	**Vanda**	**75.13**	**190**	P	**P**	**23 55 31.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**76.07**	**69**	P	**P**	**23 55 34.8**	**-0.8**
	comp=E,15nm,0.5s,mb4.8,baz=253,slow=5.4,SNR=283						
PDAR	**Pinedale Array**	**77.03**	**329**	P	**P**	**23 55 40.8**	**-0.3**
	comp=E,1.9nm,0.9s,mb3.7,baz=135,slow=7.6,SNR=10						
TSUM	**Tsumeb**	**77.38**	**106**	*e*P	**P**	**23 55 43.1**	**+0.2**
	comp=E,10nm,0.8s,mb4.5						
ULM	**Lac du Bonnet**	**78.00**	**341**	P	**P**	**23 55 44.9**	**-1.5**
	comp=E,1.5nm,0.5s,mb3.9,baz=166,slow=5.0,SNR=4.9						
SCHQ	**Schefferville**	**78.14**	**360**	P	**P**	**23 55 45.6**	**-1.6**
	comp=E,3.6nm,0.6s,mb4.2,baz=191,slow=5.7,SNR=12						
NVAR	**Mina Array Bea**	**78.49**	**321**	P	**P**	**23 55 49.4**	**+0.2**
	comp=E,0.5nm,0.2s,mb3.7,baz=201,slow=6.1,SNR=6.3						
IMW	**Indian Meadow**	**78.54**	**329**	*e*P	**P**	**23 55 50.3**	**+0.9**
	comp=E,2.7nm,0.6s,mb4.0						
IMW				*e*PcP	PcP	23 55 57.6	-0.1
HLID	**Hailey**	**79.99**	**327**	*e*P	**P**	**23 55 58.1**	**+1.0**
	comp=E,7.6nm,0.9s,mb4.3						
MCMT	**McKenzie Canyo**	**80.15**	**329**	*e*P	**P**	**23 55 59.2**	**+1.2**
BOSA	**Boshof**	**80.56**	**117**	P	**P**	**23 55 59.6**	**-0.6**
	comp=E,5.4nm,0.8s,mb4.2,baz=263,slow=4.0,SNR=8.2						
EGRO	**El Granado**	**82.37**	**43**	P	**P**	**23 56 10.0**	**+0.3**
	comp=E,15nm,0.9s,mb4.6						
PBEJ	**Beja**	**82.43**	**43**	*e*P	**P**	**23 56 10.9**	**+0.9**
ESPR	**Espera**	**83.01**	**45**	P	**P**	**23 56 13.7**	**+0.6**
	comp=E,2.8nm,0.5s,mb4.2						
EMIN	**Mina Concepcio**	**83.02**	**44**	P	**P**	**23 56 13.6**	**+0.5**
	comp=E,14nm,0.8s,mb4.8						
PTOM	**Tomar**	**83.07**	**41**	*e*P	**P**	**23 56 14.2**	**+0.8**
EBAD	**Badajoz**	**83.40**	**43**	P	**P**	**23 56 16.4**	**+1.4**
	comp=E,7.4nm,0.9s,mb4.4						
EMIJ	**Mijas**	**83.54**	**46**	P	**P**	**23 56 16.5**	**+0.8**
	comp=E,20nm,1.0s,mb4.8						
PCBR	**Castelo Branco**	**83.78**	**42**	*e*P	**P**	**23 56 17.4**	**+0.5**
PVIS	**Viseu**	**84.06**	**41**	*e*P	**P**	**23 56 19.4**	**+1.0**
	comp=E,37nm,1.6s,mb4.9						
MTE	**Manteigas**	**84.08**	**41**	*e*P	**P**	**23 56 18.3**	**-0.2**
ELUQ	**Luque**	**84.44**	**45**	P	**P**	**23 56 21.1**	**+0.8**
	comp=E,19nm,0.8s,mb4.9						
PVRL	**Vila Real**	**84.51**	**40**	*e*P	**P**	**23 56 22.2**	**+1.6**
EADA	**Adamuz**	**84.59**	**44**	P	**P**	**23 56 21.4**	**+0.4**
	comp=E,7.7nm,0.8s,mb4.5						
ECOG	**Cogollos-Vega**	**84.74**	**46**	P	**P**	**23 56 21.9**	**+0.2**
EQES	**Quesada**	**85.36**	**45**	P	**P**	**23 56 24.9**	**0.0**
	comp=E,12nm,1.0s,mb4.6						
ENIJ	**Nijar**	**85.46**	**46**	P	**P**	**23 56 25.0**	**-0.4**
EHUE	**Huescar**	**85.68**	**46**	P	**P**	**23 56 25.9**	**-0.5**
ESDC	**Sonseca Array**	**85.86**	**43**	P	**P**	**23 56 26.8**	**-0.5**
	comp=E,4.8nm,0.9s,mb4.2,baz=228,slow=5.4,SNR=19						
ESDC	**Sonseca Array**	**85.86**	**43**	P	**P**	**23 56 27.1**	**-0.2**
	comp=E,7.2nm,1.0s,mb4.4						
YKA	**Yellowknife Ar**	**93.91**	**340**	P	**P**	**23 57 04.3**	**-0.7**
	comp=E,0.4nm,0.5s,mb3.7,baz=131,slow=4.5,SNR=26						
YKA				pP	pP	23 57 59.9	+6.6
	comp=E,0.6nm,0.7s,baz=131,slow=4.8,SNR=5.4						
ASAR	**Alice Springs**	**128.96**	**204**	PKP	PKPdf	00 02 54.8	+0.7
	comp=E,1.1nm,0.8s,baz=142,slow=2.1,SNR=10						
WRA	**Warramunga Arr**	**132.13**	**207**	SKPbc	SKPbc	00 06 08.2	0.0
	comp=E,1.3nm,0.6s,baz=158,slow=3.7,SNR=8.0						
BHJ	**Bhuj**	**139.96**	**81**	*ex*	x	00 03 08.8	
TRD	**Trivandrum**	**142.01**	**107**	*e*P	PKPdf	00 03 19.4	+1.1
AJM	**Ajmer**	**144.84**	**77**	*e*P	PKPdf	00 03 23.1	-0.2
AJM				AMb	AMB	00 03 24.2	
	comp=Z,39nm,1.1s						
BHPL	**Bhopal**	**147.02**	**83**	*e*P	PKPdf	00 03 28.6	+1.6
BHPL				AMb	AMB	00 03 32.5	
	comp=Z,25nm,0.8s						
WMQ	**Urumqi**	**150.81**	**40**	*e*PKP	PKPdf	00 03 32.0	-1.1
VIS	**Vishakhapatnam**	**151.27**	**96**	*e*P	PKPdf	00 03 34.6	+0.8
VIS				AMb	AMB	00 03 45.1	
	comp=Z,20nm,0.8s						
BOK	**Bokaro**	**154.80**	**84**	*e*P	PKPdf	00 03 40.7	+1.8
BOK				AMb	AMB	00 03 50.8	
	comp=Z,4.5nm,0.4s						
BOK				*ex*	x	00 04 01.6	
SONM	**Songino Array**	**155.20**	**11**	PKPab	PKPab	00 04 04.2	-1.1
	comp=Z,1.6nm,0.9s,baz=334,slow=6.2,SNR=6.9						
HHC	**Hu-ho-hao-te**	**162.75**	**5**	*e*PKP	PKPdf	00 03 44.3	-3.9
HHC				APKP		00 04 42.5	
HHC				PKS		00 07 16.5	
HHC				PP	PP	00 08 22.0	-1.1
HHC				LR	LR		
	comp=N,57nm,4.3s						
HHC				LR	LR		
	comp=E,90nm,3.7s						
HHC				LR	LR		
	comp=Z,55nm,4.7s						
CD2	**Chengdu**	**168.75**	**48**	*e*PKP	PKPdf	00 03 55.0	+1.9
NJ2	**Nanjing**	**170.33**	**331**	*e*PKP	PKPdf	00 03 50.5	-3.5
NJ2				APKP		00 04 48.5	
NJ2				PKP2	PKPab	00 05 10.3	-1.3
NJ2				PKS		00 07 21.0	
NJ2				PP	PP	00 09 02.0	0.0
NJ2				PP	PP		
	comp=Z,280nm,5.6s						
NJ2				LR	LR		
	comp=N,430nm,21.0s						
NJ2				LR	LR		
	comp=E,820nm,28.6s						
NJ2				LR	LR		
	comp=Z,280nm,25.6s						

*NEIC **28** 23:52:46.0,3267S×7183W,h37km,ML4.5(GUC),After GUC.*
NEIC Felt [III] at Concon, Quillota, Valparaiso and Vina del Mar; [II] at Quilpue and Santiago.

GUC 28 23:52:46.6±0.8,3267S×7183W,h37km±2km,ML4.5, 7C-10D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.35**	**68**	⇓*i*P	Pn	23 52 55.1	-0.2
IHA	**Instituto Hidr**	**0.39**	**156**	⇓*i*P	Pn	23 52 55.2	-0.5
IHA				*i* S	Sn	23 53 00.2	-1.9
ROCH	**El Roble**	**0.75**	**114**	⇑*i*P	Pn	23 53 01.1	+0.5
LCCH	**Las Cruces**	**0.83**	**165**	⇑*i*P	Pn	23 53 02.1	+0.3
CHNG	**Los Chungos**	**0.83**	**19**	*e*P	Pn	23 53 02.2	+0.4
CHNG				*i* S	Sn	23 53 13.6	+0.7
JACH	**Jahuel**	**1.04**	**91**	⇑*i*P	Pn	23 53 05.3	+0.7
PEL	**Peldehue**	**1.07**	**117**	*e*P	Pn	23 53 05.7	+0.6
PEL				*i* S	Sn	23 53 20.4	+1.7
PEL				AMP		23 53 23.3	
	comp=E,45μm,0.4s						
PEL	**Peldehue**	**1.07**	**117**	*e*P	Pn	23 53 05.7	+0.6
PEL				*i* S	Sn	23 53 20.4	+1.7
RCDM	**Rinconada Maip**	**1.18**	**134**	*e*P	Pn	23 53 07.2	+0.6
RCDM				*i* S	Sn	23 53 22.4	+0.9
TACH	**Talagante**	**1.23**	**143**	⇑*i*P	Pn	23 53 08.5	+1.2
SAN	**Santiago**	**1.25**	**129**	⇑*i*P	Pn	23 53 08.9	+1.4
SAN				*i* S	Sn	23 53 25.2	+2.0
STL	**Santa Lucia**	**1.25**	**128**	*e*P	Pn	23 53 08.4	+0.8
STL				*i* S	Sn	23 53 24.7	+1.4
DSCH	**Colegio Aleman**	**1.28**	**125**	*e*P	Pn	23 53 08.7	+0.7
CLCH	**Cerro Calan**	**1.30**	**124**	⇓*i*P	Pn	23 53 09.8	+1.5
CLCH				*i* S	Sn	23 53 27.1	+2.7
CLCH				AMP		23 53 32.1	
	comp=E,16μm,0.3s						
LNV	**Longovilo**	**1.33**	**165**	⇑*i*P	Pn	23 53 09.3	+0.7
ANTU	**Antumapu**	**1.34**	**132**	*e*P	Pn	23 53 10.2	+1.3
ANTU				*i* S	Sn	23 53 28.1	+2.6
ANTU				AMP		23 53 33.0	
	comp=E,11μm,0.4s						
ANTU	**Antumapu**	**1.34**	**132**	*e*P	Pn	23 53 10.2	+1.3
ANTU				*i* S	Sn	23 53 28.1	+2.6
FSR	**Penalolen**	**1.36**	**127**	⇓*i*P	Pn	23 53 10.7	+1.7
FSR				*i* S	Sn	23 53 28.5	+2.7
FSR				AMP		23 53 32.3	
	comp=N,11μm,0.6s						
FSR	**Penalolen**	**1.36**	**127**	⇓*i*P	Pn	23 53 10.7	+1.7
FSR				*i* S	Sn	23 53 28.5	+2.7
FCH	**Farellones**	**1.45**	**117**	⇓*i*P	Pn	23 53 12.2	+1.9
FCH				*i* S	Sn	23 53 31.0	+3.0
FCH				AMP		23 53 32.9	
	comp=E,10μm,0.2s						
PCH	**Pirque**	**1.45**	**131**	⇑*i*P	Pn	23 53 12.0	+1.7
SJCH	**San Jose de Ma**	**1.57**	**128**	*e*P	Pn	23 53 13.4	+1.5
SJCH				*i* S	Sn	23 53 33.6	+2.6
SJCH				AMP		23 53 38.3	
	comp=E,5μm,0.3s						
SJCH	**San Jose de Ma**	**1.57**	**128**	*e*P	Pn	23 53 13.4	+1.5
SJCH				*i* S	Sn	23 53 33.6	+2.6
CHCH	**Chadas Angostu**	**1.60**	**142**	*i* P	Pn	23 53 14.4	+2.0
CMCH	**Combarbala**	**1.65**	**25**	⇓*i*P	Pn	23 53 14.5	+1.4
CMCH				*i* S	Sn	23 53 36.0	+3.0
CMCH				AMP		23 53 42.1	
	comp=E,20μm,0.7s						
CMCH	**Combarbala**	**1.65**	**25**	⇓*i*P	Pn	23 53 14.5	+1.4
CMCH				*i* S	Sn	23 53 36.0	+3.0
CACH	**El Canelo**	**1.77**	**145**	*e*P	Pn	23 53 17.5	+2.8
LMEL	**Las Melosas**	**1.80**	**131**	*e*P	Pn	23 53 17.6	+2.6
LMEL				*i* S	Sn	23 53 40.6	+4.0
LMEL				AMP		23 53 44.0	
	comp=N,11μm,0.2s						
LMEL	**Las Melosas**	**1.80**	**131**	*e*P	Pn	23 53 17.6	+2.6
LMEL				*i* S	Sn	23 53 40.6	+4.0
CICH	**Cipreses**	**2.02**	**145**	*e*P	Pn	23 53 20.6	+2.5
SFDO	**San Fernando**	**2.05**	**161**	*e*P	Pn	23 53 20.4	+1.8
OVCH	**Ovalle**	**2.12**	**15**	⇓*i*P	Pn	23 53 20.9	+1.3
OVCH				*i* S	Sn	23 53 46.9	+2.2
OVCH				AMP		23 54 02.2	
	comp=N,4μm,0.5s						
OVCH	**Ovalle**	**2.12**	**15**	⇓*i*P	Pn	23 53 20.9	+1.3
OVCH				*i* S	Sn	23 53 46.9	+2.2
NICH	**Los Niches**	**2.38**	**168**	*e*P	Pn	23 53 25.1	+2.0
TLL	**Tololo Astrono**	**2.64**	**20**	*e*P	Pn	23 53 28.9	+2.2
TLL				*i* S	Sn	23 54 00.5	+3.0
TLL				AMP		23 54 13.0	
	comp=N,3μm,0.4s						
TLL	**Tololo Astrono**	**2.64**	**20**	*e*P	Pn	23 53 28.9	+2.2
TLL				*i* S	Sn	23 54 00.5	+3.0
TRQA	**Tornquist**	**9.67**	**127**	*e*Pn	Pn	23 55 06.0	+2.9
	comp=N,13nm,0.9s						
CPUP	**Villa Florida**	**14.11**	**67**	*e*Pn	Pn	23 56 07.2	+3.3
	comp=N,14nm,0.4s						
CPUP				*e*Sn	Sn	23 58 38.9	-0.2

IDC 29 00:04:39.3±28.0,2404S×17383W,h0km,mb4.3/4, mb1 4.4/4,mb1mx4.1/13,mbtmp4.3/4,Error ellipse: s-maj=522.4km s-min=144.7km az=80.0,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.12**	**268**	P	P	00 11 52.0	+0.5
	8.0nm,0.7s,baz=112,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**39.92**	**249**	P	P	00 12 15.0	0.0
	2.1nm,0.6s,baz=93,slow=8.6,SNR=7.8						
ASAR	**Alice Springs**	**47.57**	**259**	P	P	00 13 17.1	+0.5
	0.9nm,0.5s,baz=96,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**48.02**	**264**	P	P	00 13 20.4	+0.3
	2.5nm,0.5s,baz=104,slow=8.0,SNR=8.7						

*IDC **29** 00:07:44.8±2.8,3252S×7239W,h0km,mb4.2/3,mb1 3.9/7, mb1mx3.8/17,mbtmp3.9/7,ML4.0/4,MS3.6/3,Ms1 3.5/3, ms1mx3.1/21,Error ellipse: s-maj=52.4km s-min=46.6km az=159.0*
*ISCJB **29** 00:07:51.7±0.6,3268S±002×7185W±006,h43km±7km, mb4.0/3,MS3.7/2,Error ellipse: s-maj=8.3km s-min=3.9km az=156.2*
*NEIC **29** 00:07:51.7,3267S×7176W,h36km,MD4.3(GUC),After GUC.*
NEIC Felt [III] at Puchuncavi; [II] at Santiago, Valparaiso and Vina del Mar.
*GUC **29** 00:07:51.7±0.7,3267S×7176W,h36km±2km,MD4.3, ML4.3*

ISC 29 00:07:51.4±0.7,3269S±002×7184W±005,h21km±5km,n39, σ0°73/64,mb4.0/3,MS3.7/2,6C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.37**	**66**	⇓*i*P	**Pb**	**00 07 59.7**	**+0.5**
IHA	**Instituto Hidr**	**0.38**	**154**	*e*P	**Pb**	**00 07 60.0**	**+0.6**
ROCH	**El Roble**	**0.75**	**113**	⇑*i*P	**Pb**	**00 08 05.7**	**0.0**
ROCH				*i* S	**Sb**	**00 08 15.7**	**+0.2**
LCCH	**Las Cruces**	**0.82**	**164**	⇑*i*P	**Pb**	**00 08 06.8**	**-0.1**
LCCH				*i* S	**Sb**	**00 08 17.6**	**+0.1**
CHNG	**Los Chungos**	**0.85**	**20**	⇓*i*P	**Pb**	**00 08 07.0**	**-0.4**
CHNG				*i* S	**Sb**	**00 08 18.1**	**-0.2**
JACH	**Jahuel**	**1.05**	**90**	⇑*i*P	**Pn**	**00 08 09.9**	**-0.8**
JACH				*i* S	**Sb**	**00 08 23.5**	**-0.6**
PEL	**Peldehue**	**1.07**	**116**	⇑*i*P	**Pn**	**00 08 10.9**	**-0.2**
PEL				*i* S	**Sb**	**00 08 24.3**	**-0.5**
RCDM	**Rinconada Maip**	**1.18**	**133**	*e*P	**Pn**	**00 08 12.1**	**-0.5**
RCDM				*i* S	**Sb**	**00 08 27.1**	**-0.7**
TACH	**Talagante**	**1.23**	**142**	⇑*i*P	**Pn**	**00 08 13.0**	**-0.2**
TACH				*i* S	**Sn**	**00 08 28.6**	**-0.5**
SAN	**Santiago**	**1.25**	**128**	*e*P	**Pn**	**00 08 13.3**	**-0.3**
SAN				*i* S	**Sn**	**00 08 29.4**	**-0.3**
STL	**Santa Lucia**	**1.25**	**127**	*e*P	**Pn**	**00 08 12.9**	**-0.7**
STL				*i* S	**Sn**	**00 08 29.1**	**-0.6**
DSCH	**Colegio Aleman**	**1.28**	**124**	*e*P	**Pn**	**00 08 13.2**	**-0.8**
CLCH	**Cerro Calan**	**1.30**	**123**	⇓*i*P	**Pn**	**00 08 14.4**	**+0.2**
CLCH				*i* S	**Sn**	**00 08 31.2**	**+0.2**
CLCH				AMP		00 08 36.0	
	comp=N,11μm,0.5s						
LNV	**Longovilo**	**1.32**	**164**	*e*P	**Pn**	**00 08 13.9**	**-0.5**
ANTU	**Antumapu**	**1.34**	**131**	*

6C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.20**	**37⇑**	*e*P	Pn	00 39 35.7	-0.2
SSNN				*e*S	Sn	00 39 54.5	+1.8
MADN	**Villa Maderas**	**1.49**	**44⇑**	*e*P	Pn	00 39 40.7	+1.1
CONN	**Concepcion**	**1.55**	**38⇑**	*e*P	Pn	00 39 40.7	+0.4
APON	**Apoyo**	**1.66**	**18**	*e*P	Pn	00 39 42.4	+0.7
TICN	**Ticuantepe**	**1.73**	**12⇓**	*e*P	Pn	00 39 43.9	+1.3
XAVN	**Gruta Xavier**	**1.82**	**8⇑**	*e*P	Pn	00 39 45.6	+1.8
MGAN	**Managua**	**1.84**	**11**	*e*S	Sn	00 40 07.5	+0.6
COPN	**Copaltepe**	**1.84**	**0⇓**	*e*P	Pn	00 39 43.5	-0.5
APYN	**Apoyeque**	**1.91**	**7⇑**	*e*P	Pn	00 39 44.9	+0.1
APYN				*e*S	Sn	00 40 08.9	+0.4
LEON	**Leon**	**2.09**	**352⇑**	*e*P	Pn	00 39 47.0	-0.3
MIRN	**Miramar**	**2.10**	**357**	*e*P	Pn	00 39 47.0	-0.3
TEL3	**Telica 3**	**2.24**	**354⇓**	*e*P	Pn	00 39 49.2	0.0

*IDC **29** 00:46:40.8±0.7, 2081N×12222E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, Error ellipse: s-maj=41.8km s-min=16.6km az=68.0*
*ISCJB **29** 00:46:42.5±3.2, 2098N±005×1226E±02, h24km±23km, mb3.9/16, Error ellipse: s-maj=27.8km s-min=7.9km az=167.7*
*NEIC **29** 00:46:45.8±0.5, 2096N×12253E, h35km, mb4.1/5, Error ellipse: s-maj=30.6km s-min=7.9km az=69.0*

ISC 29 00:46:41.7±4.5, 2097N±005×1225E±02, h5km±28km, n22, σ0°72/24, mb3.9/16, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.30**	**345**	*e*Pn	**Pn**	**00 47 33.7**	**-0.4**
CVP	**Callao Caves**	**3.31**	**191**	*e*P	**Pn**	**00 47 34.5**	**+0.3**
CVP				*i* S	**Sn**	**00 48 14.5**	**+0.6**
YHNB	**Yeheng**	**3.83**	**344**	*e*Pn	**Pn**	**00 47 42.0**	**+0.6**
YHNB				*e*Sn	**Sn**	**00 48 22.0**	**-4.8**
SONM	**Songino Array**	**29.79**	**338**	P	**P**	**00 52 48.8**	**-0.7**
	0.8nm,0.6s,mb3.6,baz=156,slow=9.3,SNR=6.8						
WRAB	**Tennant Creek**	**42.27**	**163**	*e*P	**P**	**00 54 36.0**	**-0.1**
	2.3nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**42.27**	**163**	P	**P**	**00 54 35.6**	**-0.5**
	1.3nm,0.7s,mb3.6,baz=344,slow=8.8,SNR=6.5						
KURK	**Kurchatov**	**45.35**	**322**	*e*P	**P**	**00 55 01.2**	**+0.4**
	2.3nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**45.73**	**165**	P	**P**	**00 55 04.0**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=347,slow=7.6,SNR=7.2						
BVAR	**Borovoye Array**	**50.94**	**322**	P	**P**	**00 55 44.0**	**-0.1**
	0.8nm,0.6s,mb3.8,baz=114,slow=8.9,SNR=8.7						
BVAR				PcP	PcP	00 56 59.3	-1.1
	0.8nm,0.6s,baz=122,slow=5.4,SNR=5.1						
BRVK	**Borovoye**	**51.01**	**322**	*e*P	**P**	**00 55 45.3**	**+0.7**
	1.6nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**51.02**	**323**	*e*P	**P**	**00 55 44.5**	**-0.2**
	1.8nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**51.72**	**322**	*e*P	**P**	**00 55 49.8**	**-0.1**
	2.3nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**55.63**	**160**	P	**P**	**00 56 17.1**	**-1.5**
	2.1nm,0.6s,mb4.4,baz=343,slow=7.2,SNR=7.1						
AKTK	**Aktyubinsk**	**57.94**	**317**	P	**P**	**00 56 34.9**	**-0.1**
AKTO	**Aktyubinsk**	**57.94**	**317**	P	**P**	**00 56 34.9**	**-0.1**
	0.8nm,0.5s,mb4.0,baz=99,slow=11,SNR=4.2						
ILAR	**Eielson Array**	**71.51**	**27**	P	**P**	**00 58 04.5**	**+0.9**
	0.6nm,0.9s,mb3.5,baz=264,slow=5.4,SNR=7.7						
FINES	**FINESS Array B**	**74.83**	**330**	P	**P**	**00 58 22.9**	**-0.3**
	2.1nm,1.1s,mb4.0,baz=71,slow=6.9,SNR=5.2						
BRTR	**Keskin Array B**	**76.07**	**307**	P	**P**	**00 58 30.2**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=116,slow=6.1,SNR=4.9						
NOA	**NORSAR Array B**	**81.63**	**333**	P	**P**	**00 58 59.4**	**-1.4**
	0.8nm,0.7s,mb3.8,baz=58,slow=5.1,SNR=3.7						
NOA	**NORSAR Array B**	**81.63**	**333**	P	**P**	**00 58 59.4**	**-1.4**
YKA	**Yellowknife Ar**	**85.45**	**23**	P	**P**	**00 59 22.3**	**+1.9**
	0.7nm,0.7s,mb3.9,baz=310,slow=4.6,SNR=21						
YKA	**Yellowknife Ar**	**85.45**	**23**	P	**P**	**00 59 22.3**	**+1.9**

*NEIC **29** 01:34:11.5, 3258S×7152W, h47km, MD3.5(GUC), After GUC.*

GUC 29 01:34:11.5±0.9, 3258S×7152W, h47km±21km, MD3.5, ML2.7, 17C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.58**	**133**	*e*P	Pn	01 34 24.4	+0.9
ROCH				*i* S	Sn	01 34 33.9	+1.7
CHNG	**Los Chungos**	**0.69**	**1⇓**	*i*P	Pn	01 34 25.7	+0.7
CHNG				*i* S	Sn	01 34 35.9	+1.1
CHNG				AMP		01 34 36.8	
	comp=E,286nm,0.2s						
JACH	**Jahuel**	**0.79**	**98⇑**	*i*P	Pn	01 34 27.3	+1.1
JACH				*i* S	Sn	01 34 38.7	+1.8
LCCH	**Las Cruces**	**0.90**	**183⇓**	*i*P	Pn	01 34 27.6	-0.2
PEL	**Peldehue**	**0.90**	**129⇑**	*i*P	Pn	01 34 28.6	+0.9
PEL				*i* S	Sn	01 34 41.4	+1.7
PEL				AMP		01 34 42.5	
	comp=N,577nm,0.3s						
PEL	**Peldehue**	**0.90**	**129⇑**	*i*P	Pn	01 34 28.6	+0.9
PEL				*i* S	Sn	01 34 41.4	+1.7
RCDM	**Rinconada Maip**	**1.09**	**147⇑**	*i*P	Pn	01 34 30.8	+0.4
RCDM				*i* S	Sn	01 34 45.0	+0.8
RCDM				AMP		01 34 48.7	
	comp=E,309nm,0.2s						
RCDM	**Rinconada Maip**	**1.09**	**147⇑**	*i*P	Pn	01 34 30.8	+0.4
RCDM				*i* S	Sn	01 34 45.0	+0.8
CLCH	**Cerro Calan**	**1.16**	**135⇑**	*i*P	Pn	01 34 32.1	+0.8
CLCH				*i* S	Sn	01 34 47.4	+1.5
CLCH				AMP		01 34 49.9	
	comp=N,172nm,0.5s						
TACH	**Talagante**	**1.18**	**156⇑**	*i*P	Pn	01 34 32.2	+0.7
TACH				*i* S	Sn	01 34 47.6	+1.1
ANTU	**Antumapu**	**1.23**	**143⇑**	*i*P	Pn	01 34 32.5	+0.2
ANTU				*i* S	Sn	01 34 48.8	+1.0
ANTU				AMP		01 34 50.4	
	comp=E,178nm,0.2s						
ANTU	**Antumapu**	**1.23**	**143⇑**	*i*P	Pn	01 34 32.5	+0.2
ANTU				*i* S	Sn	01 34 48.8	+1.0
FCH	**Farellones**	**1.27**	**126⇑**	*i*P	Pn	01 34 33.8	+1.0
FCH				*i* S	Sn	01 34 50.6	+1.8
FCH				AMP		01 34 51.5	
	comp=N,213nm,0.2s						
PCH	**Pirque**	**1.34**	**141⇑**	*i*P	Pn	01 34 34.6	+0.8
PCH				*i* S	Sn	01 34 52.0	+1.6
CMCH	**Combarbala**	**1.47**	**18⇑**	*i*P	Pn	01 34 36.0	+0.5
CMCH				*i* S	Sn	01 34 54.4	+0.9
CMCH				AMP		01 34 56.3	
	comp=E,468nm,0.7s						
CMCH	**Combarbala**	**1.47**	**18⇑**	*i*P	Pn	01 34 36.0	+0.5
CMCH				*i* S	Sn	01 34 54.4	+0.9
CHCH	**Chadas Angostu**	**1.53**	**152⇑**	*i*P	Pn	01 34 37.2	+0.8
CHCH				*i* S	Sn	01 34 56.7	+1.6
LMEL	**Las Melosas**	**1.68**	**139⇑**	*i*P	Pn	01 34 39.7	+1.3
LMEL				*i* S	Sn	01 35 00.8	+2.2
LMEL				AMP		01 35 02.5	
	comp=E,230nm,0.1s						
LMEL	**Las Melosas**	**1.68**	**139⇑**	*i*P	Pn	01 34 39.7	+1.3
LMEL				*i* S	Sn	01 35 00.8	+2.2
CACH	**El Canelo**	**1.72**	**154**	*i* P	Pn	01 34 40.6	+1.7
CACH				*i* S	Sn	01 35 02.6	+3.0
CICH	**Cipreses**	**1.96**	**152⇑**	*i*P	Pn	01 34 43.1	+0.8
CICH				*i* S	Sn	01 35 07.4	+1.7

*ISCJB **29** 01:36:20.9±0.3, 3564N±002×11747W±003, h10km, mb4.6/2, Error ellipse: s-maj=3.1km s-min=2.3km az=160.8*
*BJI **29** 01:36:20.4, 3514N×11821W, h17km, mB5.2, mb4.5, Ms4.8, Msz4.8*
*IDC **29** 01:36:22.5±3.0, 3558N×11754W, h0km, mb2.9/1, mb1 3.3/3, mb1mx3.2/20, mbtmp2.9/3, ML3.1/2, Error ellipse: s-maj=40.0km s-min=18.7km az=54.0*
*NEIC **29** 01:36:22.0, 3562N×11759W, h10km, ML4.1(PAS), After PAS.*
NEIC Cracks observed in a wall of one building at Ridgecrest. Felt [IV] at Ridgecrest, [III] at Weldon and [II] at Inyokern and Trona. Felt at Bakersfield, Bodfish, Johannesburg, Lake Isabella and Onyx.

ISC 29 01:36:22.4±0.3, 3561N±002×11756W±002, h10km, n45, σ1°21/81, mb4.6/2, 1C-2D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAC	**Darwin (Calif)**	**0.67**	**357**	Pg	**Pg**	**01 36 34.7**	**-0.7**
DAC				Sg	**Sg**	**01 36 43.7**	**-0.4**
GSC	**Goldstone**	**0.68**	**116⇓**	*i*P	**Pg**	**01 36 36.1**	**+0.5**
GSC				*e*S	**Sg**	**01 36 45.8**	**+1.2**
ISA	**Isabella**	**0.75**	**275⇑**	*i*Pg	**Pg**	**01 36 36.3**	**-0.6**
ISA				*e*Sg	**Sg**	**01 36 45.6**	**-1.1**
MWC	**Mount Wilson**	**1.44**	**197**	*e*Pn	**Pn**	**01 36 48.7**	**+0.2**
MWC				*e*Pg	**Pg**	**01 36 50.2**	**+0.1**
MWC				Sg	**Sg**	**01 37 09.0**	**+0.3**
TPNV	**Topopah Spring**	**1.71**	**38⇓**	*e*Pn	**Pn**	**01 36 52.2**	**+0.1**
TPNV				*e*S	**Sn**	**01 37 18.7**	**+4.8**
MTUM	**Tungsten Hills**	**1.92**	**335**	*e*Pn	**Pn**	**01 36 55.7**	**+0.5**
MTUM				*i* Pg	**Pg**	**01 36 57.9**	**-1.4**
LDFC	**Landfair**	**2.07**	**104**	*e*Pn	**Pn**	**01 36 55.9**	**-1.2**
LDFC				*e*S	**Sn**	**01 37 27.4**	**+4.5**
SHPR	**Sheep Range**	**2.14**	**65**	Pn	**Pn**	**01 36 58.9**	**+0.8**
SHPR				Sg	**Sg**	**01 37 30.2**	**-0.9**
PFO	**Pinyon Flat Ob**	**2.19**	**155**	*e*Pn	**Pn**	**01 36 58.8**	**0.0**
PFO				*e*Pg	**Pg**	**01 37 03.8**	**-0.6**
PFO				*e*Sn	**Sn**	**01 37 26.9**	**+1.0**
PFO				*e*Sg	**Sg**	**01 37 33.0**	**+0.2**
NEN	**Nelson**	**2.21**	**88**	*e*Pn	**Pn**	**01 36 58.5**	**-0.6**
NEN				*e*Sn	**Sn**	**01 37 33.0**	**+6.5**
MNV	**Mina**	**2.86**	**351**	*e*Pn	**Pn**	**01 37 08.6**	**+0.6**
MNV				*e*Pg	**Pg**	**01 37 15.8**	**-1.4**
MNV				Sg	**Sg**	**01 37 53.2**	**-1.1**
NVAR	**Mina Array Bea**	**2.88**	**348**	Pn	**Pn**	**01 37 09.1**	**+0.7**
	2.1nm,0.3s,baz=165,slow=16,SNR=22						
NVAR				Pg	**Pg**	**01 37 16.2**	**-1.4**
	26nm,0.3s,baz=165,slow=18,SNR=68						
NVAR				Lg		01 37 54.2	
	28nm,0.3s,baz=175,slow=31,SNR=9.0						
NVAR	**Mina Array Bea**	**2.88**	**348**	Pn	**Pn**	**01 37 09.1**	**+0.7**
NVAR				Pg	**Pg**	**01 37 16.2**	**-1.4**
NVAR				Lg		01 37 54.2	
BAR	**Barrett**	**3.01**	**166**	*e*Pn	**Pn**	**01 37 10.5**	**+0.4**
BAR				*e*Sn	**Sn**	**01 37 44.5**	**-1.7**
BAR				Sg	**Sg**	**01 37 54.7**	**-4.4**
CMB	**Columbia Colle**	**3.32**	**318**	Pn	**Pn**	**01 37 15.6**	**+1.2**
CMB				*e*S	**Sn**	**01 38 02.1**	**+8.2**
SAO	**San Andreas Ge**	**3.35**	**291**	Pn	**Pn**	**01 37 15.7**	**+0.9**
GLA	**Glamis**	**3.40**	**138**	*e*Pn	**Pn**	**01 37 14.4**	**-1.1**
GLA				*e*Pg	**Pg**	**01 37 26.0**	**-1.7**
GLA				*e*Sg	**Sg**	**01 38 12.3**	**+0.5**
CCUT	**Cedar City**	**3.89**	**59**	*e*Pn	**Pn**	**01 37 23.6**	**+1.4**
CCUT				*e*Pg	**Pg**	**01 37 35.1**	**-1.8**
CCUT				*e*Sg	**Sg**	**01 38 23.6**	**-3.8**
ARUT	**Antelope Range**	**3.96**	**55**	*e*Pn	**Pn**	**01 37 24.0**	**+0.9**
ARUT				*e*Pg	**Pg**	**01 37 37.3**	**-1.0**
ARUT				*e*Sg	**Sg**	**01 38 28.9**	**-0.6**
PAHR	**Pah Rah Range**	**4.34**	**341**	*e*Pn	**Pn**	**01 37 29.6**	**+1.2**
PAHR				*e*Pg	**Pg**	**01 37 43.4**	**-2.2**
PAHR				Sg	**Sg**	**01 38 46.5**	**+4.7**
OHCM	**Honcut**	**4.86**	**321**	Pb	**Pb**	**01 37 44.6**	**-3.0**
WUAZ	**Wupatki**	**5.04**	**89**	*e*Pn	**Pn**	**01 37 38.7**	**+0.7**
WUAZ				*e*Sg	**Sg**	**01 39 02.4**	**-1.8**
MSU	**Marysvale**	**5.19**	**54**	Pn	**Pn**	**01 37 39.4**	**-0.6**
MSU				Pg	**Pg**	**01 37 59.6**	**-2.2**
MSU				*e*Sg	**Sg**	**01 39 09.0**	**+0.1**
DUG	**Dugway**	**5.92**	**38**	Pg	**Pg**	**01 38 13.3**	**-2.5**
DUG				Sg	**Sg**	**01 39 33.6**	**+1.2**
NLU	**North Lily Min**	**6.14**	**43**	Pg	**Pg**	**01 38 16.1**	**-3.8**
NLU				Sg	**Sg**	**01 39 37.8**	**-1.6**
BGU	**Big Grassy Mou**	**6.39**	**32**	*e*Pg	**Pg**	**01 38 26.4**	**+1.6**
BGU				*e*Sg	**Sg**	**01 39 49.3**	**+1.7**
MPU	**Maple Canyon**	**6.43**	**45**	Pg	**Pg**	**01 38 25.8**	**+0.2**
MPU				Sg	**Sg**	**01 39 47.8**	**-1.0**
TUC	**Tucson**	**6.52**	**118**	*e*Pn	**Pn**	**01 37 57.5**	**-0.8**
TUC				*e*Sn	**Sn**	**01 39 15.3**	**+2.7**
WVOR	**Wild Horse Val**	**6.87**	**353**	Pn	**Pn**	**01 38 03.5**	**+0.4**
WVOR				*e*Pg	**Pg**	**01 38 34.7**	**+0.7**
WVOR				*e*Sg	**Sg**	**01 40 04.7**	**+1.8**
DAU	**Daniels Canyon**	**6.91**	**44**	Pn	**Pn**	**01 38 05.5**	**+1.8**
DAU				Pg	**Pg**	**01 38 36.4**	**+1.8**
SPUT	**South Promonto**	**6.96**	**34**	*e*Pn	**Pn**	**01 38 05.9**	**+1.5**
YBH	**Yreka Blue Hor**	**7.32**	**328**	Lg		01 40 10.3	
	0.1nm,0.3s,baz=235,slow=18,SNR=3.8						
PV01	**Paradox Valley**	**7.63**	**68**	*e*Pn	**Pn**	**01 38 21.0**	**+7.5**
HLID	**Hailey**	**8.31**	**16**	*e*Pn	**Pn**	**01 38 25.7**	**+2.8**
HLID				*e*Lg		01 40 43.7	
ANMO	**Albuquerque**	**9.10**	**91**	Pg	Px	01 39 11.5	
	0.1nm,0.3s,baz=275,slow=13,SNR=3.7						
ANMO				Lg		01 41 04.9	
	0.1nm,0.3s,baz=32,slow=19,SNR=3.4						
ANMO	**Albuquerque**	**9.10**	**91**	Pg	Px	01 39 11.5	
ANMO				Lg		01 41 04.9	
PDAR	**Pinedale Array**	**9.46**	**39**	Pn	**Pn**	**01 38 42.8**	**+4.1**
	0.0nm,0.3s,baz=225,slow=13,SNR=4.5						
PDAR				Pg	Pn	01 39 16.9	+38
	0.1nm,0.3s,baz=210,slow=12,SNR=3.4						
PDAR				Lg		01 41 25.8	
	0.1nm,0.3s,baz=248,slow=36,SNR=2.6						
DLMT	**Dillon**	**10.45**	**20**	*e*Pn	**Pn**	**01 38 52.9**	**+0.7**
NEW	**Newport**	**12.65**	**1**	*e*Pn	**Pn**	**01 39 23.3**	**+1.0**
YKA	**Yellowknife Ar**	**26.97**	**3**	P	**P**	**01 42 07.4**	**+3.3**
	0.1nm,0.7s,baz=181,slow=9.4,SNR=4.5						
MDJ	**Mudanjiang**	**79.65**	**318**	P	**P**	**01 48 30.8**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,107nm,4.7s						
CN2	**Changchun**	**82.42**	**319**	*e*P	**P**	**01 48 44.0**	**-0.7**
CN2				*e*XP	sP	01 48 51.0	+1.6
CN2				*e*S	S	01 58 57.3	-3.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
HHC	**Hu-ho-hao-te**	**91.54**	**325**	*e*P	**P**	**01 49 27.8**	**-1.5**
HHC				AP	pP	01 49 32.8	+0.1
HHC				XP	sP	01 49 34.8	+0.9
HHC				PP	PP	01 53 07.0	-0.2
HHC				SKS		01 59 57.5	
HHC				S		02 00 23.0	
HHC				SS	SS	02 06 31.0	-4.3
HHC				AMB	AMB		
	comp=Z,12nm,0.4s						
HHC				AMB	AMB		
	comp=Z,85nm,3.7s						
HHC				LR	LR		
	comp=Z,111nm,4.7s						
WMQ	**Urumqi**	**97.67**	**342**	*e*P	**P**	**01 49 57.5**	**+0.2**
LZH	**Lanzhou**	**98.93**	**327**	*e*P	**P**	**01 50 04.0**	**+1.0**
LZH				AP	pP	01 50 07.3	+0.9
LZH				PP	PP	01 54 07.5	+2.9
LZH				AMB	AMB		
	comp=Z,54nm,8.1s						
LZH				LR	LR		
	comp=N,327nm,16.1s						
LZH				LR	LR		
	comp=Z,434nm,18.9s						

*ISCJB **29** 01:38:52.3±1.0, 3601N±006×230E±02, h78km±9km, Error ellipse: s-maj=23.2km s-min=8.3km az=143.1*
*ATH **29** 01:38:55.4, 3628N×2363E, h22km±4km, MD2.8/6*
*NEIC **29** 01:38:55.4, 3628N×2363E, h22km, MD2.8(ATH), After ATH.*
*HLW **29** 01:38:55.7, 3588N×2331E, h33km, Mb3.1*
*CSEM **29** 01:38:56.4±0.5, 3618N×2338E, h47km±4km, MD2.8, Error ellipse: s-maj=8.6km s-min=3.2km az=61.0*

ISC 29 01:38:53.9±1.0, 3608N±005×232E±02, h72km±10km, n10, σ0°81/17, 3C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.22**	**334**	*e*P	**Pn**	**01 39 05.3**	**+0.4**
KYTH				*e*SB	**Sn**	**01 39 12.5**	**-0.4**
VLI	**Veliai**	**0.66**	**344**	*e*PN	**Pn**	**01 39 09.6**	**+1.0**
VLI				*e*SN	**Sn**	**01 39 18.5**	**-0.8**
VAM	**Vamos**	**1.08**	**128**	*e*PN	**Pn**	**01 39 14.5**	**+1.0**
VAM				*e*SN	**Sn**	**01 39 28.5**	**+0.3**
NAIG	**Nisos Aigina**	**1.69**	**9**	*e*PN	**Pn**	**01 39 22.5**	**+1.0**
KVR	**Kavouri**	**1.81**	**15**	*e*PN	**Pn**	**01 39 23.5**	**+0.4**
PTL	**Penteli**	**2.04**	**16**	*e*PN	**Pn**	**01 39 27.0**	**+0.8**
PTL				*e*SN	**Sn**	**01 39 49.0**	**-1.8**
SLUM		**4.89**	**159**	P	**Pn**	**01 40 04.3**	**-0.6**
SLUM				S	**Sn**	**01 40 53.5**	**-6.5**
HMAT	**Matruh**	**5.96**	**145**	⇑P	**Pn**	**01 40 18.7**	**-0.8**
HMAT				S	**Sn**	**01 41 19.6**	**-6.7**
SWA2		**7.09**	**164**	⇑P	**Pn**	**01 40 34.7**	**-0.2**
SWA2				S	**Sn**	**01 41 46.8**	**-7.2**
HFRF	**Wahat Farafira**	**9.93**	**152**	⇑P	**Pn**	**01 41 13.2**	**-0.5**

*IDC **29** 01:44:19.5±6.9, 5165N×17732W, h0km, mb3.2/4, mb1 3.7/5, mb1mx3.4/23, mbtmp3.4/5, ML4.1/1, Error ellipse: s-maj=109.0km s-min=80.2km az=66.0*
*ISCJB **29** 01:44:56.3±0.8, 528N±03×1746W±02, h214km±12km, mb3.0/3, Error ellipse: s-maj=44.4km s-min=21.1km az=143.3*
*NEIC **29** 01:44:57.7±0.8, 5275N×17443W, h208km±13km, MG2.8(AEIC), Error ellipse: s-maj=32.8km s-min=22.7km az=146.0*

ISC 29 01:44:57.2±0.8, 528N±03×1746W±02, h212km±12km, n9, σ0°62/11, mb3.0/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.66**	**156**	P	**Pn**	**01 45 26.8**	**+0.5**
ATKA				S	**S**	**01 45 49.2**	**+0.3**
ADK	**Adak**	**1.56**	**235**	P	**Pn**	**01 45 32.8**	**+0.3**
ADK				S	**S**	**01 45 59.2**	**-0.7**
KDAK	**Kodiak Island**	**13.48**	**60**	Pn	**Pn**	**01 47 58.8**	**-1.5**
	0.8nm,0.3s,baz=259,slow=5.0,SNR=16						
ILAR	**Eielson Array**	**18.52**	**39**	P	**P**	**01 48 58.3**	**+0.5**
	0.3nm,0.5s,baz=242,slow=11,SNR=7.6						
INK	**Inuvik**	**24.81**	**36**	P	**P**	**01 50 00.0**	**+0.2**
	1.1nm,1.0s,mb3.4,baz=263,slow=8.1,SNR=6.5						
YKA	**Yellowknife Ar**	**32.37**	**49**	P	**P**	**01 51 07.1**	**+0.4**
	0.1nm,0.4s,mb2.7,baz=282,slow=8.6,SNR=4.0						
YKA	**Yellowknife Ar**	**32.37**	**49**	P	**P**	**01 51 07.1**	**+0.4**
MOD	**Modoc**	**37.53**	**85**	*e*P	**P**	**01 51 50.5**	**-0.4**
PDAR	**Pinedale Array**	**43.45**	**76**	P	**P**	**01 52 39.5**	**+0.3**
	0.3nm,0.5s,mb2.9,baz=343,slow=4.6,SNR=3.4						

IDC 29 01:53:00.9±5.8, 3039S×17822W, h55km±40km, mb3.6/3, mb1 3.8/3, mb1mx3.6/12, mbtmp3.9/3, Error ellipse: s-maj=85.8km s-min=30.6km az=133.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.17**	**13**	P	Pn	01 53 20.8	-0.1
	15nm,0.3s,baz=60,slow=20,SNR=1.9						
RAO				S	Sn	01 53 36.0	+0.1
	202nm,0.3s,baz=92,slow=23,SNR=5.1						
URZ	**Urewera**	**8.74**	**205**	S	Sn	01 56 36.6	-5.1
	0.7nm,0.3s,baz=162,slow=20,SNR=4.2						
STKA	**Stephens Creek**	**34.29**	**257**	P	P	01 59 41.7	-0.1
	1.8nm,0.6s,baz=105,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**42.92**	**267**	P	P	02 00 54.5	+0.4
	0.3nm,0.4s,baz=107,slow=7.7,SNR=5.1						
WRA	**Warramunga Arr**	**43.91**	**272**	P	P	02 01 02.4	+0.3
	0.9nm,0.4s,baz=113,slow=7.9,SNR=6.6						
FINES	**FINESS Array B**	**145.07**	**340**	PKPbc	PKPbc	02 12 29.9	-1.6
	1.2nm,0.4s,baz=56,slow=5.2,SNR=15						

*ISCJB **29** 01:56:21.6±1.0, 3013S±01×1788W±03, h360km±11km, mb3.4/2, Error ellipse: s-maj=37.0km s-min=11.9km az=40.0*
*IDC **29** 01:56:23.3±0.8, 2996S×17929W, h334km±10km, mb3.2/1, mb1 3.5/2, mb1mx3.1/13, mbtmp4.0/2, Error ellipse: s-maj=38.9km s-min=20.5km az=116.0*
*NEIC **29** 01:56:23.0±0.9, 3006S×17879W, h353km±9km, mb3.8/2, Error ellipse: s-maj=25.3km s-min=15.6km az=125.0*

ISC 29 01:56:22.2±1.1, 302S±01×1787W±03, h353km±11km, n11, σ1°00/11, mb3.4/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.15**	**36**	P	**Pn**	**01 57 09.4**	**+0.5**
	125nm,0.3s,baz=84,slow=19,SNR=4.2						
RAO				S	**S**	**01 57 46.3**	**-0.1**
	133nm,0.3s,baz=115,slow=19,SNR=3.6						
RAO	**Raoul Island**	**1.15**	**36**	*e*Pn	**Pn**	**01 57 09.4**	**+0.5**
RAO				*e*S	**S**	**01 57 44.4**	**-1.9**
RAO				S	**S**	**01 57 46.3**	**-0.1**
URZ	**Urewera**	**8.77**	**202**	P	**Pn**	**01 58 27.6**	**+2.1**
	1.5nm,0.3s,baz=340,slow=2.8,SNR=6.0						
URZ				S	**S**	**02 00 05.3**	**-1.0**
	3.6nm,0.3s,baz=64,slow=18,SNR=14						
DZM	**Mont Dzumac**	**15.59**	**298**	P	**P**	**01 59 43.9**	**+0.8**
	0.5nm,0.3s,baz=131,slow=11,SNR=5.1						
AFI	**Afiamalu**	**17.41**	**23**	*e*P	**P**	**02 00 02.5**	**-0.2**
	3.0nm,0.5s						
WRAB	**Tennant Creek**	**43.48**	**272**	*e*P	**P**	**02 03 51.5**	**-0.3**
	3.1nm,0.7s,mb3.5						
WRA	**Warramunga Arr**	**43.49**	**272**	P	**P**	**02 03 50.9**	**-1.0**
	1.4nm,0.7s,mb3.2,baz=111,slow=7.9,SNR=6.9						
KAF	**Kangasniemi**	**144.15**	**340**	ep	PKPdf	02 15 15.6	-0.6
FINES	**FINESS Array B**	**144.74**	**340**	PKP	PKPdf	02 15 17.5	+0.2
	1.5nm,0.4s,baz=50,slow=4.1,SNR=24						
AKASG	**Malin Array Be**	**150.77**	**322**	PKPbc	PKPbc	02 15 34.1	+1.1
	1.1nm,0.5

1.0nm,0.7s
MBWA Marble Bar 55.40 260 P **P** **02 17 21.5 +0.3**
4.7nm,0.5s,mb4.0
CASY Casey 60.33 206 *e*P **P** **02 17 54.5 -0.2**
2.2nm,0.6s,mb3.7
QSPA South Pole Qui 66.44 180 *e*P **P** **02 18 35.6 +1.8**
14nm,0.8s,mb4.6
MJAR Matsushiro Arr 71.67 326 P **P** **02 19 04.6 -0.7**
4.6nm,0.7s,mb4.0,baz=166,slow=6.7,SNR=8.2
SYO Syowa Base 83.25 193⇑*e*PcP PcP 02 20 08.5 -2.5
SYO Syowa Base 83.25 193⇓*e*PKiKP PKiKP 02 25 20.1 -1.0
NVAR Mina Array Bea 84.58 44 P **P** **02 20 14.3 -0.2**
1.2nm,0.4s,mb3.8,baz=188,slow=9.0,SNR=4.5
SNAA Sanae 84.92 179 *e*P **P** **02 20 15.7 -0.5**
2.6nm,0.4s,mb4.1
VNA3 Neumayer Olymp 85.13 177 *e* **P** **02 20 17.3 +0.2**
VNA3 *e* 02 20 45.7
VNA2 Neumayer--Watz 85.55 178 *e* **P** **02 20 19.5 +0.4**
baz=194,slow=3.2
VNA2 *e* 02 20 47.3
TUC Tucson 86.38 53 *e*P **P** **02 20 24.1 +1.0**
6.4nm,0.9s,mb4.2
WVOR Wild Horse Val 86.73 41 *e*P **P** **02 20 24.5 -0.3**
5.1nm,0.9s,mb4.2
CCUT Cedar City 87.32 47 *e*P **P** **02 20 27.8 +0.2**
PLCA Paso Flores 88.46 134 P **P** **02 20 34.3 +1.5**
1.6nm,0.6s,mb3.9,baz=219,slow=0.8,SNR=4.5
PLCA Paso Flores 88.46 134 *e*P **P** **02 20 34.9 +2.0**
14nm,1.4s,mb4.5
HLID Hailey 89.92 41 *e*P **P** **02 20 39.6 0.0**
3.4nm,0.8s,mb4.2
MNTX Cornudas Mount 90.08 55 *e*P **P** **02 20 40.3 -0.1**
2.9nm,0.8s,mb4.2
LTX Lajitas 90.31 58 *e*P **P** **02 20 42.5 +1.1**
11nm,1.3s,mb4.5
HWUT Hardware Ranch 90.65 44 *e*P **P** **02 20 42.1 -0.9**
2.8nm,0.6s,mb4.4
ANMO Albuquerque 90.82 52 *e*P **P** **02 20 43.3 -0.5**
5.3nm,1.2s,mb4.3
ILAR Eielson Array 91.79 14 P **P** **02 20 45.6 -2.6**
0.3nm,0.8s,mb3.4,baz=211,slow=6.8,SNR=4.3
ILAR pP pP 02 22 45.1 -1.7
0.9nm,1.0s,baz=212,slow=3.2,SNR=2.6
LOHW Long Hollow 92.29 43 *e*P **P** **02 20 50.2 -0.3**
1.0nm,0.5s,mb4.1
SMCO Snowmass 92.47 48 *e*P **P** **02 20 51.2 -0.2**
2.3nm,0.8s,mb4.3
BW06 Boulder Array 92.52 44 *e*P **P** **02 20 51.0 -0.6**
1.3nm,0.6s,mb4.1
PDAR Pinedale Array 92.52 44 P **P** **02 20 50.6 -1.0**
2.0nm,0.8s,mb4.2,baz=218,slow=3.4,SNR=17
BOZ Bozeman (W) 92.71 41 *e*P **P** **02 20 52.6 +0.1**
0.8nm,0.5s,mb4.0
SONM Songino Array 96.89 319 PKKPbc PKKPbc 02 37 49.5 -0.4
0.5nm,0.7s,baz=308,slow=4.8,SNR=3.8
ZRNK Zerenda 121.07 319 *e*PKPdf PKPdf 02 26 27.5 -1.9
BOSA Boshof 122.62 206 PKP PKPdf 02 26 33.1 +0.8
1.7nm,0.7s,baz=191,slow=18,SNR=3.8
ARCES ARCESS Array B 131.63 348 PKP PKPdf 02 26 47.7 -1.8
1.8nm,0.7s,baz=49,slow=3.2,SNR=5.3
KMBO Kilima Mbogo 136.20 241 PKP PKPdf 02 26 60.0 +1.9
1.2nm,0.8s,baz=47,slow=23,SNR=3.9
KMBO Kilima Mbogo 136.20 241 PKP PKPdf 02 26 60.0 +1.9
FINES FINESS Array B 138.20 342 PKP PKPdf 02 27 00.0 -1.7
0.4nm,0.3s,baz=101,slow=3.3,SNR=6.4
FINES SKPbc SKPbc 02 29 45.2 -0.2
2.1nm,0.7s,baz=61,slow=4.6,SNR=9.9
FINES FINESS Array B 138.20 342 PKP PKPdf 02 27 00.0 -1.7
FINES SKPbc SKPbc 02 29 45.2 -0.2
NB2 NORSAR Subarra141.83 351 PKPa 02 27 02.5
comp=Z,0.9nm,0.8s,baz=18,slow=2.8
NOA NORSAR Array B141.83 351 PKhKP 02 27 02.5
comp=Z,1.9nm,0.9s,baz=16,slow=4.6,SNR=4.3
AKASG Malin Array Be 144.75 327 PKP PKPdf 02 27 12.0 -1.3
comp=Z,1.0nm,0.4s,baz=42,slow=3.5,SNR=11
AKASG SKPbc SKPbc 02 30 01.6 -0.2
comp=Z,2.3nm,0.7s,baz=47,slow=2.1,SNR=10
AKASG Malin Array Be 144.75 327 PKP PKPdf 02 27 12.0 -1.3
AKASG SKPbc SKPbc 02 30 01.6 -0.2
BR131 Keskin Array S 147.41 307 *e*PKPbc PKPbc 02 27 20.7 -0.5
BR131 *e*PKPab PKPab 02 27 25.1 +0.1
BRTR Keskin Array B 147.41 307 PKPbc PKPbc 02 27 20.6 -0.6
comp=Z,0.5nm,0.6s,baz=134,slow=4.4,SNR=4.2
BRTR PKPab PKPab 02 27 25.4 +0.4
comp=Z,1.1nm,0.8s,baz=64,slow=3.9,SNR=7.8
BRTR pPKPbc pPKPbc 02 29 21.8 -3.9
comp=Z,0.8nm,0.9s,baz=145,slow=3.0,SNR=3.8
MORC Moravsky Berou 150.51 337 *e*PKPbc PKPbc 02 27 27.7 -1.0
CLL Collm 150.60 343⇓*i*P PKPbc 02 27 28.7 -0.3
comp=Z,16nm,1.0s
BRG Berggiesshubel 150.74 342 *i*P PKPbc 02 27 28.9 -0.4
comp=Z,3.2nm,0.6s
GERES GERESS Array B 152.61 340 PKPbc PKPbc 02 27 32.5 -1.0
comp=Z,0.2nm,0.4s,baz=60,slow=3.5,SNR=4.5
TORD Torodi Ar. Bea 169.43 189 PKP PKPdf 02 27 42.6 -0.8
comp=Z,1.6nm,1.0s,baz=228,slow=1.6,SNR=5.5
TORD PKPab PKPab 02 29 01.1 +0.8
comp=Z,1.7nm,0.9s,baz=173,slow=4.2,SNR=9.3

IDC ***29*** *02:20:27.9±0.3, 2997N×14261E, h0km, mb5.1/28, mb1 5.2/32, mb1mx5.2/34, mbtmp5.1/32, ML4.7/4, MS4.4/15, Ms1 4.4/15, ms1mx4.1/38, Error ellipse: s-maj=15.2km s-min=8.1km az=101.0*
ISCJB ***29*** *02:20:28.5±0.8, 3013N±002×14260E±002, h9km±4km, mb5.2/196, MS4.5/43, Error ellipse: s-maj=3.8km s-min=3.2km az=74.5*
JMA ***29*** *02:20:28.5±0.2, 3010N×14299E, h49km, M5.3*
BJI ***29*** *02:20:29.5, 3014N×14250E, h11km, mB5.0, mb4.9, Ms4.7, Msz4.4*
MOS ***29*** *02:20:30.2±0.8, 3006N×14264E, h22km, mb5.4/98, MS4.4/16, Error ellipse: s-maj=7.5km s-min=3.9km az=105.5*
HRVD ***29*** *02:20:31.1±0.3, 3004N×14280E, h12km, MW5.0/82, Centroid moment Tensor Solution. LP body waves: s45,c69;Mantle waves: s82,c139; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.71±.08; $M_{\theta\theta}$0.50±.09; $M_{\phi\phi}$3.22±.08; $M_{r\theta}$0.10±.29; $M_{\theta\phi}$-1.46±.07; $M_{\phi r}$0.94±.28; Best double couple: $M_0$3.90100×10^{16} NP1:ϕ_s329.00000°, δ39.00000°, λ-101.00000°. NP2: ϕ_s164.00000°, δ52.00000°, λ-81.00000°. Principal axes: T 3.9450, Plg6.0000°, Azm247.0000°; N -0.0820, Plg7.0000°, Azm338.0000°; P -3.8570, Plg81.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *02:20:31.1±1.7, 3006N×14262E, h18km±10km, mb5.2/121 Error ellipse: s-maj=3.5km s-min=3.1km az=140.0*
SZGRF ***29*** *02:20:39.1, 3091N×14222E, h33km, mb5.1, Southeast of Honshu, Japan*
ISC 29 02:20:32.3±0.8, 3016N±002×14262E±002, h23km±5km, h33km±2.5km; pP-P, n531, σ0s93/550, mb5.2/196, MS4.5/43, 26C-51D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.08**	**187**	Pn		**Pn**	**02 21 15.9**	**-3.6**
	101nm,0.3s,baz=351,slow=8.1,SNR=26							
CBIJ				Sn		**Sn**	**02 21 47.5**	**-8.0**
	594nm,0.3s,baz=290,slow=23,SNR=16							
CBIJ	**Chichi jima**	**3.08**	**187**	P		**Pn**	**02 21 16.2**	**-3.3**
CBIJ				*e*S		**Sn**	**02 21 47.4**	**-8.2**
JHHJ	**Haha-jima-NKT**	**3.54**	**186**	P		**Pn**	**02 21 22.4**	**-3.5**
JHHJ				*e*S		**Sn**	**02 22 01.0**	**-6.0**
JHJ2	**Mitsune**	**3.79**	**322**	*e*S		**Sn**	**02 22 11.9**	**-1.3**
JHJ	**Hachijo jima 2**	**3.81**	**321**	Pn		**Pn**	**02 21 28.8**	**-0.9**
	46nm,0.3s,baz=46,slow=22,SNR=3.9							
JHJ				Sn		**Sn**	**02 22 11.5**	**-2.3**
	249nm,0.3s,baz=73,slow=22,SNR=5.4							
BSO1	**Boso 1**	**4.69**	**343**	P		**Pn**	**02 21 40.4**	**-1.3**
BSO1				*e*S		**Sn**	**02 22 34.6**	**-0.8**
BSO3	**Boso 3**	**4.96**	**340**	P		**Pn**	**02 21 44.7**	**-0.7**
BSO3				*e*S		**Sn**	**02 22 40.7**	**-1.3**
BSO4	**Boso 4**	**5.19**	**339**	P		**Pn**	**02 21 47.9**	**-0.6**
BSO4				S		**Sn**	**02 22 48.1**	**+0.5**
JIZS	**Izushimoda**	**5.54**	**326**	P		**Pn**	**02 21 53.9**	**+0.6**
TK02	**Tokai 2**	**5.59**	**314**	P		**Pn**	**02 21 57.3**	**+3.2**
JYO	**Yokosk**	**5.63**	**335**	P		**Pn**	**02 21 55.4**	**+0.8**
JYO				*e*S		**Sn**	**02 22 58.0**	**-0.6**
JOD2	**Odawara 2**	**5.89**	**331**	P		**Pn**	**02 21 57.9**	**-0.3**
JOD2				*e*S		**Sn**	**02 23 05.2**	**+0.1**
JHU	**Hanno**	**6.33**	**335**	⇑P		**Pn**	**02 22 03.8**	**-0.4**
JHU				*e*S		**Sn**	**02 23 12.4**	**-3.4**
JYT	**Yasato**	**6.38**	**342**	P		**Pn**	**02 22 05.1**	**+0.1**
JRY	**Ryogami san**	**6.62**	**333**	P		**Pn**	**02 22 08.2**	**0.0**
JRY				*e*S		**Sn**	**02 23 21.6**	**-1.4**
JHO	**Hitachi**	**6.66**	**346**	P		**Pn**	**02 22 07.6**	**-1.1**
JAG	**Ashikaga**	**6.79**	**338**	P		**Pn**	**02 22 10.1**	**-0.4**
JAG				S		**Sn**	**02 23 25.3**	**-1.8**
JNG	**Nsakai**	**7.29**	**330**	P		**Pn**	**02 22 19.0**	**+1.6**
JFK	**Kawauchi**	**7.33**	**349**	P		**Pn**	**02 22 16.4**	**-1.6**
MJAR	**Matsushiro Arr**	**7.36**	**331**	Pn		**Pn**	**02 22 19.0**	**+0.7**
	20nm,0.3s,baz=147,slow=11,SNR=166							
MJAR				S		**Sn**	**02 23 40.0**	**-1.1**
	6.7nm,0.3s,baz=27,slow=12,SNR=5.3							
MAJO	**Matsushiro**	**7.36**	**331**	*e*Pn		**Pn**	**02 22 18.7**	**+0.4**
MAT	**Matsushiro**	**7.36**	**331**	P		**Pn**	**02 22 19.4**	**+1.1**
MAT	**Matsushiro**	**7.36**	**331**	P		**Pn**	**02 22 19.3**	**+1.0**
MAT				S		**Sn**	**02 23 40.2**	**-0.9**
MAT	**Matsushiro**	**7.36**	**331**	*e*P		**Pn**	**02 22 19.0**	**+0.7**
	162nm,1.0s							
MAT				*e*S		**Sn**	**02 23 40.0**	**-1.1**
MAT	**Matsushiro**	**7.36**	**331**	*e*P		**Pn**	**02 22 19.0**	**+0.7**
MAT				*e*S		**Sn**	**02 23 40.0**	**-1.1**
MAT				pmax		pmax		
	comp=Z,162nm,1.0s							
JGN	**Niukaw**	**7.50**	**325**	P		**Pn**	**02 22 23.2**	**+2.9**
JHK	**Hiroka**	**7.68**	**338**	P		**Pn**	**02 22 22.7**	**-0.1**
JMK	**Ichinoseki**	**8.85**	**353**	P		**Pn**	**02 22 36.9**	**-1.9**
JNU	**Nakatsue**	**10.43**	**289**	Pn		**Pn**	**02 23 03.1**	**+2.6**
	comp=Z,1.1nm,0.3s,baz=81,slow=18,SNR=4.6							
JOW	**Kunigami**	**13.04**	**259**	Pn		**Pn**	**02 23 36.9**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=89,slow=9.8,SNR=4.5							
ASAJ	**Asahikawa**	**13.93**	**360**	Pn		**Pn**	**02 23 44.5**	**-3.8**
	comp=Z,2.1nm,0.3s,baz=164,slow=26,SNR=5.1							
ASAJ				Sn		**Sn**	**02 26 11.2**	**-11**
	comp=Z,1.3nm,0.3s,baz=285,slow=20,SNR=2.2							
ASAJ				LR		LR	02 28 59.5	
	comp=Z,813nm,18.5s,baz=138,slow=36							
KS15	**Wonju Array Si**	**14.23**	**305**	P		**Pn**	**02 23 49.6**	**-2.8**
INCN	**Inchon**	**15.15**	**303**	*e*P		**Pn**	**02 24 04.7**	**-0.2**
	comp=Z,30nm,0.6s							
VLA	**Vladivostok**	**15.52**	**329**	*e*P		**Pn**	**02 24 10.7**	**+1.1**
VLA				pmax		pmax		
	comp=Z,55nm,0.7s							
VLA				MLR		MLR		
	comp=Z,1μm,16.3s							
KUR	**Kuril'sk**	**15.61**	**14**⇑*i*P			**Pn**	**02 24 13.8**	**+3.0**
KUR				pmax		pmax		
	comp=Z,270nm,0.9s							
KUR				MLR		MLR		
	comp=Z,3μm,12.0s							
GUMO	**Guam**	**16.62**	**172**	Pn		**Pn**	**02 24 22.0**	**-1.8**
	comp=Z,8.1nm,0.3s,baz=284,slow=3.4,SNR=6.0							
GUMO	**Guam**	**16.62**	**172**	*e*P		**Pn**	**02 24 23.8**	**0.0**
	comp=Z,268nm,1.1s							
GUMO	**Guam**	**16.62**	**172**	*e*P		**Pn**	**02 24 23.8**	**0.0**
GUMO				pmax		pmax		
	comp=Z,268nm,1.1s							
YSS	**Yuzh-Sakhalins**	**16.77**	**0**⇓*i*P			**Pn**	**02 24 25.0**	**-0.7**
YSS				pmax		pmax		
	comp=Z,60nm,1.0s							
YSS				MLR		MLR		
	comp=N,1μm,14.0s							
YSS				MLR		MLR		
	comp=Z,800nm,14.0s							
MDJ	**Mudanjiang**	**17.72**	**328**	P		**Pn**	**02 24 36.5**	**-1.1**
MDJ				AP		pP	02 24 45.3	+0.7
MDJ				XP		sP	02 24 49.5	+2.0
MDJ				S		**Sn**	**02 27 52.0**	**-2.4**
MDJ				PCP		PcP	02 29 15.0	0.0
MDJ				SCP		ScP	02 32 46.5	-2.2
MDJ				PCS		PcS	02 32 51.5	+0.2
MDJ				AMB		AMB		
	comp=Z,32nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,108nm,5.8s							
MDJ				LR		LR		
	comp=N,729nm,18.8s							
MDJ				LR		LR		
	comp=E,685nm,16.7s							
MDJ				LR		LR		
	comp=Z,912nm,20.4s							
MDJ	**Mudanjiang**	**17.72**	**328**	*e*P		**Pn**	**02 24 36.1**	**-1.4**
	comp=Z,94nm,0.9s							
SSE	**Sheshan**	**18.47**	**278**	P		**Pn**	**02 24 45.5**	**-1.2**
SSE				XP		sP	02 24 57.8	+2.1
SSE				S		**Sn**	**02 28 12.0**	**-0.4**
SSE				PCP		PcP	02 29 14.5	-1.7
SSE				AMB		AMB		
	comp=Z,52nm,0.7s							
SSE				AMB		AMB		
	comp=Z,226nm,5.1s							
SSE				LR		LR		
	comp=N,70nm,18.6s							
SSE				LR		LR		
	comp=E,641nm,18.6s							
SSE				LR		LR		
	comp=Z,802nm,19.1s							
UGL	**Uglegorsk**	**18.90**	**359**	*e*P		**Pn**	**02 24 53.5**	**+1.6**
UGL				*e*S		**Sn**	**02 28 23.0**	**+0.2**
UGL				pmax		pmax		
	comp=Z,120nm,0.7s							
UGL				pmax		pmax		
	comp=N,1μm,5.0s							
UGL				pmax		pmax		
	comp=Z,1μm,5.0s							
UGL				smax				
	comp=N,1μm,8.0s							
UGL				smax				
	comp=E,700nm,8.0s							
UGL				smax				
	comp=Z,500nm,8.0s							
HABR	**Khabarovsk**	**19.18**	**345**	*e*P		**Pn**	**02 25 00.2**	**+4.8**
HABR				pmax		pmax		
	comp=Z,123nm,1.2s							
SNY	**Shenyang**	**19.26**	**312**	⇑P		**Pn**	**02 24 56.5**	**+0.2**
SNY				AP		pP	02 25 06.3	+4.8
SNY				S		**Sn**	**02 28 33.3**	**+1.7**
SNY				SS			02 28 49.5	
SNY				AMB		AMB		
	comp=Z,30nm,0.8s							
SNY				AMB		AMB		
	comp=Z,121nm,7.9s							
SNY				LR		LR		
	comp=N,845nm,12.0s							
SNY				LR		LR		
	comp=E,684nm,13.9s							
SNY				LR		LR		
	comp=Z,737nm,17.7s							
CN2	**Changchun**	**19.27**	**320**	*e*P		**Pn**	**02 24 55.8**	**-0.6**
CN2				*e*AP		pP	02 25 04.0	+2.4
CN2				*e*XP		sP	02 25 08.5	+4.0
CN2				*e*S		**Sn**	**02 28 27.3**	**-4.6**
CN2				AMB		AMB		
	comp=Z,40nm,0.9s							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,700nm,14.0s							
CN2				LR		LR		
	comp=E,800nm,14.0s							
CN2				LR		LR		
	comp=Z,700nm,16.0s							
DL2	**Dalian**	**19.34**	**302**	*e*P		**Pn**	**02 24 57.8**	**+0.6**
DL2				*e*S		**Sn**	**02 28 34.0**	**+0.6**
DL2				AMB		AMB		
	comp=Z,30nm,1.0s							
DL2				AMB		AMB		
	comp=Z,160nm,6.7s							
DL2				LR		LR		
	comp=N,680nm,15.9s							
DL2				LR		LR		
	comp=E,450nm,16.6s							
DL2				LR		LR		
	comp=Z,860nm,17.8s							
TATO	**Taipei**	**19.42**	**260**	*e*P		**Pn**	**02 24 56.1**	**-2.1**
	comp=Z,152nm,0.9s							
NACB	**Ninganchiao**	**19.62**	**257**	*e*P		**Pn**	**02 24 56.5**	**-4.1**
YHNB	**Yeheng**	**19.62**	**259**	*e*P		**Pn**	**02 24 58.3**	**-2.3**
NJ2	**Nanjing**	**20.43**	**281**	*e*P		**P**	**02 25 09.0**	**+1.1**
NJ2				XP		sP	02 25 22.0	+4.9
NJ2				PP			02 25 29.8	
NJ2				S		**S**	**02 28 50.0**	**-5.6**
NJ2				XS		sS	02 29 04.0	-1.6
NJ2				AMB		AMB		
	comp=Z,50nm,1.0s							
NJ2				AMB		AMB		
	comp=Z,120nm,3.8s							
NJ2				LR		LR		
	comp=N,1μm,11.8s							
NJ2				LR		LR		
	comp=E,2μm,19.9s							
NJ2				LR		LR		
	comp=Z,1μm,19.9s							
KLR	**Kul'dur**	**20.76**	**340**	*e*P		**P**	**02 25 10.3**	**-1.2**
KLR				*e*S		**S**	**02 29 00.0**	**-2.2**
KLR				pmax		pmax		
	comp=E,38nm,1.4s							
KLR				pmax		pmax		
	comp=Z,110nm,1.4s							
QZH	**Quanzhou**	**21.91**	**262**	P		**P**	**02 25 25.0**	**+1.1**
QZH				S		**S**	**02 29 21.5**	**-3.2**
QZH				LR		LR		
	comp=E,1μm,13.2s							
QZH				LR		LR		
	comp=Z,2μm,20.8s							
TIA	**Tai'an**	**22.14**	**293**	*e*P		**P**	**02 25 25.3**	**-1.1**
BJT	**Baijiatuau**	**23.70**	**302**	*e*P		**P**	**02 25 42.2**	**-0.2**
	comp=Z,71nm,1.2s,mb5.0							
BJT				pP			02 25 52.6	
BJT				*e*sP		sP	02 25 57.0	+5.0
BJT	**Baijiatuau**	**23.70**	**302**	*e*P		**P**	**02 25 42.3**	**-0.2**
BJT				*PP			02 25 52.6	
BJT				pmax		pmax		
	comp=Z,71nm,1.2s							
BJI	**Beijing**	**23.70**	**302**	P		**P**	**02 25 42.8**	**+0.3**
BJI				XP		sP	02 25 55.0	+3.0
BJI				S		**S**	**02 29 54.0**	**-2.0**
BJI				AMB		AMB		
	comp=Z,36nm,1.2s,mb4.7							
BJI				AMB		AMB		
	comp=Z,245nm,4.3s							
BJI				LR		LR		
	comp=N,585nm,16.4s,MS4.5							
BJI				LR		LR		
	comp=E,1μm,19.5s,MS4.5							
BJI				LR		LR		
	comp=Z,1μm,19.8s,MS4.4							
WHN	**Wuhan**	**24.37**	**278**	*e*P		**P**	**02 25 50.0**	**+1.3**
WHN				S		**S**	**02 30 09.3**	**+2.4**
WHN				LR		LR		
	comp=Z,2μm,15.4s,MS4.8							
TGY	**Tagaytay City**	**25.59**	**236**	P		**P**	**02 25 58.3**	**-1.4**
	comp=Z,370nm,0.2s,baz=175,slow=13,SNR=5.3							
PET	**Petropavlovsk**	**25.69**	**23**	*e*P		**P**	**02 26 06.2**	**+5.6**
PET				pmax		pmax		
	comp=Z,100nm,13.6s							
PET				pmax		pmax		
	comp=N,100nm,13.5s							
PET				MLR		MLR		
	comp=Z,700nm,16.0s,MS4.3							
HIA	**Hailar**	**25.79**	**324**	*e*P		**P**	**02 26 03.0**	**+1.5**
	comp=Z,95nm,0.8s,mb5.4							
HIA	**Hailar**	**25.79**	**324**	*e*P		**P**	**02 26 03.0**	**+1.5**
HIA				pmax		pmax		
	comp=Z,95nm,0.8s							
HHC	**Hu-ho-hao-te**	**27.31**	**301**	*e*P		**P**	**02 26 16.0**	**+0.8**
HHC				AP		pP	02 26 25.3	+3.3
HHC				XP		sP	02 26 29.3	+4.5
HHC				PP			02 27 03.0	
HHC				PCP		PcP	02 29 35.5	+1.1
HHC				S		**S**	**02 30 52.3**	**-1.2**
HHC				XS		sS	02 31 07.0	+2.3
HHC				SS			02 32 09.0	
HHC				AMB		AMB		
	comp=Z,6.0nm,0.3s,mb4.6							
HHC				AMB		AMB		
	comp=Z,97nm,4.9s							
HHC				LR		LR		
	comp=N,967nm,17.2s,MS4.6							
HHC				LR		LR		
	comp=E,943nm,19.1s,MS4.6							
HHC				LR		LR		
	comp=Z,1μm,21.1s,MS4.5							
BTO	**Baotou**	**28.40**	**300**	*e*P		**P**	**02 26 24.8**	**-0.2**
BTO				LR		LR		
	comp=N,282nm,13.9s,MS4.5							
BTO				LR		LR		
	comp=E,797nm,16.3s,MS4.5							
ENH	**Enshi**	**28.57**	**279**	*e*P		**P**	**02 26 24.2**	**-2.4**
	comp=E,18nm,0.7s,mb4.9							
XAN	**Xi'an**	**28.73**	**287**	P		**P**	**02 26 26.5**	**-1.4**
XAN				S		**S**	**02 31 15.0**	**-0.9**
XAN				AMB		AMB		
	comp=Z,28nm,0.9s,mb5.0							
XAN				AMB		AMB		
	comp=Z,149nm,11.3s							
XAN				LR		LR		
	comp=N,329nm,19.4s,MS4.1							
XAN				LR		LR		
	comp=E,412nm,20.7s,MS4.1							
XAN				LR		LR		
	comp=Z,520nm,20.7s,MS4.1							
CLNS	**Chul'man**	**29.42**	**340**	*e*P		**P**	**02 26 35.3**	**+1.2**
CLNS				pmax		pmax		
	comp=Z,32nm,0.9s,mb5.0							
CLNS				pmax		pmax		
	comp=N,22nm,1.1s							
CLNS				pmax		pmax		
	comp=E,11nm,0.9s							
MA2	**Magadan**	**29.93**	**8***d*i*P			**P**	**02 26 38.6**	**0.0**
MA2				*e*			02 29 42.1	
MA2				*e*S		**S**	**02 31 32.1**	**-2.7**
MA2				pmax		pmax		
	comp=N,10.0nm,1.2s							
MA2				pmax		pmax		
	comp=Z,20nm,1.2s,mb4.7							
MA2				MLR		MLR		
	comp=Z,600nm,20.0s,MS4.2							
CIT	**Chita**	**30.59**	**324**	*e*P		**P**	**02 26 45.4**	**+1.0**
CIT				*e*		pP	02 26 52.6	+1.4
CIT				*e*			02 26 58.8	
CIT				pmax		pmax		
	comp=Z,64nm,1.2s,mb5.3							
QIZ	**Qiongzhong**	**31.69**	**257**	P		**P**	**02 26 56.5**	**+2.4**
QIZ				S		**S**	**02 32 02.3**	**0.0**
QIZ				LR		LR		
	comp=N,261nm,14.8s,MS4.2							
QIZ				LR		LR		
	comp=E,354nm,17.4s,MS4.2							
QIZ				LR		LR		
	comp=Z,375nm,18.8s,MS4.1							
GYA	**Guiyang**	**31.79**	**272**⇑*i*P			**P**	**02 26 54.8**	**-0.1**
GYA				AP		pP	02 27 04.5	+2.8
GYA				XP		sP	02 27 09.3	+4.8
GYA				PP		PP	02 28 00.5	-6.3
GYA				S		**S**	**02 32 00.3**	**-3.5**
GYA				SCP		ScP	02 33 25.0	-2.8
GYA				SCS		ScS	02 37 22.0	-4.0
GYA				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.2							
GYA				AMB		AMB		
	comp=Z,120nm,4.2s							
GYA				LR		LR		
	comp=N,1μm,16.9s,MS4.8							
GYA				LR		LR		
	comp=E,1μm,16.6s,MS4.8							
GYA				LR		LR		
	comp=Z,1μm,17.0s,MS4.7							
SONM	**Songino Array**	**32.84**	**313**	P		**P**	**02 27 05.2**	**+0.9**
	comp=Z,14nm,0.7s,mb5.0,baz=114,slow=7.3,SNR=97							
SONM				PcP		PcP	02 29 48.0	-0.7
	comp=Z,2.5nm,0.6s,baz=114,slow=3.1,SNR=5.4							
SONM				LR		LR	02 41 37.8	
	comp=Z,499nm,18.9s,MS4.2,baz=122,slow=38							
SONM	**Songino Array**	**32.84**	**313**	P		**P**	**02 27 05.2**	**+1.0**
SONM							02 29 48.0	
LZH	**Lanzhou**	**32.85**	**291**	⇓P		**P**	**02 27 03.8**	**-0.5**
LZH				AP		pP	02 27 14.3	+3.2
LZH				XP		sP	02 27 17.5	+3.6
LZH				PP		PP	02 28 13.8	-4.9
LZH				*e*S		**S**	**02 32 17.5**	**-2.9**
LZH				XS		sS	02 32 34.3	+2.7
LZH				SS		SS	02 34 17.0	-25
LZH				AMB		AMB		
	comp=Z,32nm,1.3s,mb5.1							
LZH				AMB		AMB		
	comp=Z,113nm,5.4s							
LZH				LR	

comp=Z,1µm,17.4s,MS4.7
YAK Yakutsk 32.99 349 *e*P **P 02 27 03.9 -1.6**
comp=Z,27nm,0.6s,mb5.4
YAK Yakutsk 32.99 349 *e*P **P 02 27 05.5 0.0**
YAK pmax pmax
comp=Z,21nm,0.8s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK MLR MLR
comp=Z,181nm,16.0s,MS3.9
YAK MLR MLR
comp=N,133nm,13.0s,MS3.9
YAK MLR MLR
comp=E,92nm,13.0s,MS3.9
CD2 Chengdu 33.37 281 P **P 02 27 08.5 -0.3**
CD2 XP sP 02 27 21.3 +2.9
CD2 PP PP 02 28 19.5 -4.9
CD2 PPP 02 28 34.3
CD2 S **S 02 32 24.0 -4.4**
CD2 SS SS 02 34 24.5 -28
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,70nm,6.3s
CD2 LR LR
comp=N,550nm,15.0s
CD2 LR LR
comp=Z,320nm,18.0s,MS4.1
SEY Seymchan 33.39 8 *e*P **P 02 27 09.8 +0.8**
SEY *e* 02 28 24.6
SEY *e* 02 29 53.7
SEY *e*S **S 02 32 26.2 -2.5**
SEY pmax pmax
comp=Z,13nm,1.0s,mb4.8
SEY smax
comp=N,280nm,23.2s
SEY smax
comp=E,140nm,24.5s
SEY MLR MLR
comp=Z,680nm,20.0s,MS4.4
SEY MLR MLR
comp=N,340nm,16.0s
SEY MLR MLR
comp=E,340nm,24.0s
BOD Bodaibo 33.99 333⇑ *i*P **P 02 27 14.4 +0.2**
BOD pmax pmax
comp=Z,18nm,1.0s,mb5.0
KMI Kunming 35.55 272 P **P 02 27 29.0 +1.3**
KMI AP pP 02 27 39.3 +4.7
KMI PP PP 02 28 51.8 +3.2
KMI PPP 02 29 08.8
KMI S **S 02 33 01.0 -1.1**
KMI XS sS 02 33 18.0 +4.6
KMI SCP ScP 02 33 40.3 -0.7
KMI PCS PcS 02 33 44.3 +0.7
KMI SS SS 02 35 20.0 -17
KMI SSS 02 35 48.3
KMI SCS ScS 02 37 43.5 -2.2
KMI AMB AMB
comp=Z,16nm,0.8s,mb5.0
KMI AMB AMB
comp=Z,72nm,4.5s
KMI LR LR
comp=N,348nm,19.1s,MS4.3
KMI LR LR
comp=E,394nm,15.8s,MS4.3
KMI LR LR
comp=Z,285nm,23.2s
ZAK Zakamensk 35.62 316 *e*P **P 02 27 29.1 +0.8**
ZAK pmax pmax
comp=Z,32nm,1.4s,mb5.1
IRK Irkutsk 35.72 319 *e*P **P 02 27 25.6 -3.5**
IRK *e* 02 28 51.0
IRK *e* 02 33 04.9
IRK pmax pmax
comp=Z,42nm,1.5s,mb5.2
GTA Gaotai 36.06 297 *e*P **P 02 27 32.5 +0.4**
GTA AP pP 02 27 43.0 +4.1
GTA XP sP 02 27 46.3 +4.6
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,103nm,3.8s
GTA LR LR
comp=N,611nm,17.1s,MS4.6
GTA LR LR
comp=E,729nm,19.8s,MS4.6
GTA LR LR
comp=Z,848nm,19.0s,MS4.5
PMG Port Moresby 39.58 173 P **P 02 28 00.6 -1.2**
comp=Z,10nm,0.6s,mb4.7,baz=346,slow=12,SNR=3.3
PMG Port Moresby 39.58 173 P **P 02 28 00.3 -1.5**
comp=Z,17nm,0.9s,mb4.8
PMG Port Moresby 39.58 173 P **P 02 28 00.3 -1.5**
PMG pmax pmax
comp=Z,17nm,0.9s
BILL Bilibino 40.40 13 *e*P **P 02 28 08.0 -0.6**
comp=Z,33nm,0.9s,mb5.1
BILL Bilibino 40.40 13 *d i*P **P 02 28 08.2 -0.4**
BILL *i* 02 28 21.6
BILL *e*S **S 02 34 19.8 +4.3**
BILL pmax pmax
comp=Z,62nm,1.6s,mb5.1
BILL MLR MLR
comp=Z,400nm,21.0s,MS4.2
KRAR Krasnoyarsk 43.29 321 *e*P **P 02 28 31.7 -0.5**
KRAR pmax pmax
comp=Z,45nm,0.5s,mb5.5
KAKA Kakadu 43.73 194 *e*P **P 02 28 34.5 -1.3**
comp=Z,30nm,0.9s,mb5.0
WMQ Urumqi 45.16 303 P **P 02 28 48.5 +1.3**
WMQ AP pP 02 28 58.5 +4.4
WMQ XP sP 02 29 02.5 +5.6
WMQ PP PP 02 30 35.0 +2.1
WMQ PPP 02 31 16.5
WMQ S **S 02 35 25.5 +0.1**
WMQ SCS ScS 02 38 40.3 -2.5
WMQ AMB AMB
comp=Z,54nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,386nm,4.1s
WMQ LR LR
comp=N,2µm,19.8s,MS5.2
WMQ LR LR
comp=E,2µm,19.8s,MS5.2
WMQ LR LR
comp=Z,2µm,20.0s,MS5.1
TNA Tin City 46.47 26⇓ *i*P **P 02 28 57.7 +0.1**
comp=Z,21nm,0.9s,mb5.1
KULM Kulim 46.60 246 *e*P **P 02 28 57.7 -0.8**
KULM *e* 02 29 13.3
SDPT Sand Point 47.12 41 *e*P **P 02 29 01.3 -1.4**
comp=Z,68nm,0.5s,mb5.8
SDPT LR LR
comp=Z,300nm,18.0s,MS4.3
MK31 Makanchi Array 48.87 308 *i*P **P 02 29 17.2 +1.0**
MKAR Makanchi Array 48.87 308 *i*P **P 02 29 17.2 +1.0**
MKAR pmax pmax
comp=Z,13nm,0.7s
JIRN Jiri 49.03 282 *e*P **P 02 29 18.4 +1.0**
comp=Z,91nm,0.4s,mb6.1
GUN Gumba 49.22 282 *e*P **P 02 29 19.7 +0.8**
comp=Z,54nm,0.5s,mb5.8
PSI Prapat 49.48 245 P **P 02 29 20.1 -0.8**
comp=Z,7.1nm,0.5s,mb5.0,baz=58,slow=2.4,SNR=11
PKI Pulchoki 49.72 282 *e*P **P 02 29 23.0 +0.3**
comp=Z,25nm,0.7s,mb5.4
KKN Kakani 49.76 282 *e*P **P 02 29 23.7 +0.7**
comp=Z,47nm,0.8s,mb5.6
DMN Daman 49.96 282 *e*P **P 02 29 25.2 +0.7**
comp=Z,28nm,0.5s,mb5.5
CTA Charters Tower 50.08 176 *e*P **P 02 29 24.5 -0.9**
comp=Z,24nm,1.0s,mb5.2
CTA Charters Tower 50.08 176 P **P 02 29 24.6 -0.8**
comp=Z,28nm,1.0s,mb5.3,baz=3.8,slow=7.1,SNR=11
CTA Charters Tower 50.08 176 *e*P **P 02 29 24.5 -0.9**
CTA pmax pmax
comp=Z,24nm,1.0s
GKN Gorkha 50.24 283 *e*P **P 02 29 27.2 +0.6**
comp=Z,34nm,0.6s,mb5.5
WRAB Tennant Creek 50.43 190 P **P 02 29 26.9 -1.2**
comp=Z,350nm,0.7s,SNR=28
WRAB Tennant Creek 50.43 190 *e*P **P 02 29 26.4 -1.7**
comp=Z,51nm,0.6s,mb5.7
WRAB Tennant Creek 50.43 190 *e*P **P 02 29 26.4 -1.7**
WRAB pmax pmax
comp=Z,51nm,0.6s,mb5.7
WB2 Warramunga Arr 50.44 190 *e*P **P 02 29 26.2 -2.0**
WB2 *e*PCP PcP 02 30 46.8 +0.6
WRA Warramunga Arr 50.44 190 P **P 02 29 26.4 -1.8**
comp=Z,38nm,0.7s,mb5.6,baz=9.6,slow=8.0,SNR=75
WRA PcP PcP 02 30 46.8 +0.6
comp=Z,13nm,0.6s,baz=4.1,slow=4.0,SNR=9.4
WRA S **S 02 36 35.7 -4.8**
comp=Z,0.4nm,0.3s,baz=18,slow=15,SNR=4.5
BOK Bokaro 50.52 277 *e*P **P 02 29 29.5 +0.7**
BOK AMb AMB 02 29 30.7
comp=Z,22nm,0.8s,mb5.2
SVW2 Sparrevohn 50.53 34 *e*P **P 02 29 29.2 +0.4**
TTA Tatalina 50.63 31 *e*P **P 02 29 29.7 +0.1**
FITZ Fitzroy Crossi 50.69 201 *e*P **P 02 29 28.7 -1.3**
comp=Z,65nm,0.9s,mb5.6
FITZ *e*pP pP 02 29 42.1 +5.0
FITZ Fitzroy Crossi 50.69 201 P **P 02 29 29.2 -0.8**
comp=Z,41nm,0.9s,mb5.4,baz=20,slow=8.3,SNR=21
KURK Kurchatov 51.15 313 P **P 02 29 33.8 +0.3**
comp=Z,149nm,0.7s,mb6.0,SNR=21
KURK Kurchatov 51.15 313⇓ *i*P **P 02 29 33.5 0.0**
comp=Z,27nm,0.8s,mb5.2
KURK Kurchatov 51.15 313 P **P 02 29 33.8 +0.3**
KURK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KOLN Koldanda 51.19 283 *e*P **P 02 29 34.3 +0.5**
comp=Z,35nm,0.6s,mb5.4
KDAK Kodiak Island 51.71 38 P **P 02 29 37.0 -0.7**
comp=Z,600nm,1.3s,SNR=29
KDAK Kodiak Island 51.71 38 P **P 02 29 37.1 -0.5**
comp=Z,80nm,0.9s,mb5.7,baz=268,slow=4.2,SNR=83
SLKM Skilak Lake 53.08 35 *e*P **P 02 29 46.8 -1.1**
SLKM *e*PcP PcP 02 30 55.8 -0.3
FIB Fire Island 53.14 34 *e*P **P 02 29 47.8 -0.5**
comp=Z,31nm,0.7s,mb5.3
FIB Fire Island 53.14 34 *e*P **P 02 29 47.8 -0.5**
FIB pmax pmax
comp=Z,31nm,0.7s,mb5.3
PMR Palmer 53.67 33 *e*P **P 02 29 51.0 -1.2**
comp=Z,44nm,0.7s,mb5.5
PMR LR LR
comp=Z,200nm,19.0s,MS4.2
PMR Palmer 53.67 33 *e*P **P 02 29 51.0 -1.2**
PMR pmax pmax
comp=Z,44nm,0.7s,mb5.5
PMR MLR MLR
comp=Z,200nm,19.0s,MS4.2
MCK McKinley 53.90 31⇓ *i*P **P 02 29 53.0 -0.9**
comp=Z,33nm,1.2s,mb5.1
MCK *e*PcP PcP 02 30 58.4 -0.8
MCK McKinley 53.90 31⇓ *i*P **P 02 29 53.0 -0.8**
MCK *e* 02 30 58.4
MCK pmax pmax
comp=Z,33nm,1.2s,mb5.1
TKM2 Tokmak 2 54.02 303 P **P 02 29 56.8 +2.1**
SNR=22
SML Sawmill 54.06 33⇓ *i*P **P 02 29 54.4 -0.6**
ASAR Alice Springs 54.17 190 P **P 02 29 54.0 -1.8**
comp=Z,9.5nm,0.8s,mb4.8,baz=5.7,slow=6.3,SNR=86
ASAR PcP PcP 02 31 01.1 +0.9
comp=Z,4.5nm,0.6s,baz=7.3,slow=3.7,SNR=6.0
ASAR S **S 02 37 27.6 -3.9**
comp=Z,1.6nm,1.0s,baz=14,slow=14,SNR=7.5
KSH Kashi 54.38 299 P **P 02 30 00.5 +3.1**
KSH AP pP 02 30 10.8 +6.3
KSH PCP PcP 02 31 03.8 +2.8
KSH PP PP 02 32 03.5 +4.1
KSH PPP 02 33 14.0
KSH SCP ScP 02 34 56.8 -1.1
KSH PCS PcS 02 35 01.0 +0.5
KSH S **S 02 37 34.5 +0.2**
KSH XS sS 02 37 51.5 +5.5
KSH SCS ScS 02 39 43.3 -2.0
KSH SS SS 02 41 16.3 -0.3
KSH AMB AMB
comp=Z,35nm,1.0s,mb5.2
KSH AMB AMB
comp=Z,209nm,3.0s
KSH LR LR
comp=N,223nm,6.1s
KSH LR LR
comp=E,244nm,4.6s
KSH LR LR
comp=Z,432nm,21.8s,MS4.5
KZA Kyzart 54.42 302 P **P 02 30 00.7 +3.0**
SNR=8.4
COLA College 54.46 29 *e*P **P 02 29 57.7 -0.2**
comp=Z,13nm,0.6s,mb5.0
COLA College 54.46 29 *e*P **P 02 29 57.7 -0.2**
COLA pmax pmax
comp=Z,13nm,0.6s,mb5.0
KBK Karagaybulak 54.53 303 P **P 02 30 00.3 +1.8**
SNR=31
CHMS Chumysh 54.61 304 P **P 02 30 00.3 +1.3**
SNR=9.6
FRU Bishkek 54.74 303 *e*P **P 02 30 01.5 +1.5**
FRU pmax pmax
comp=Z,65nm,1.6s,mb5.4
FRU MLR MLR
comp=Z,200nm,18.0s,MS4.2
USP Ospenovka 54.75 304 P **P 02 30 01.4 +1.3**
SNR=21
ILAR Eielson Array 54.86 30 P **P 02 29 59.7 -1.2**
comp=Z,19nm,0.8s,mb5.2,baz=260,slow=6.4,SNR=169
ILAR PcP PcP 02 31 01.6 -1.2
comp=Z,3.5nm,0.8s,baz=294,slow=4.1,SNR=5.2
ILAR LR LR 02 53 07.8
comp=Z,182nm,19.7s,MS4.2,baz=354,slow=36
ILAR Eielson Array 54.86 30 P **P 02 29 59.7 -1.2**
ILAR 02 31 01.7
UCH Uchtor 54.93 303 P **P 02 30 01.0 -0.3**
SNR=22
VIS Vishakhapatnam 55.05 271 *e*P **P 02 30 03.1 +0.9**
VIS AMb AMB 02 30 04.5
comp=Z,20nm,0.8s,mb5.2
DIV Divide 55.27 34⇓ *i*P **P 02 30 03.3 -0.5**
comp=Z,106nm,0.7s,mb6.0
EYAK Cordova Ski Ar 55.29 35⇓ *i*P **P 02 30 03.7 -0.2**
EKS2 Erkin-Say 55.38 303 P **P 02 30 05.8 +1.3**
SNR=11
MBWA Marble Bar 55.57 206 *e*P **P 02 30 04.9 -1.1**
comp=Z,25nm,0.8s,mb5.3
VOSK Vostochnaya 55.76 316 P **P 02 30 07.6 +0.3**
VOSK pmax pmax
comp=Z,18nm,0.7s,mb5.2
CHKZ Chkalovo 55.88 317⇓ *i*P **P 02 30 08.1 -0.1**
comp=Z,25nm,0.8s,mb5.3
CHKZ Chkalovo 55.88 317 *i*P **P 02 30 08.2 +0.1**
CHKZ pmax pmax
comp=Z,21nm,0.8s,mb5.2
BVA0 Borovoye Array 56.08 316 *i*P **P 02 30 10.2 +0.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BRVK Borovoye 56.14 316 P **P 02 30 10.7 +0.7**
comp=Z,225nm,0.7s,mb6.3,SNR=19
BRVK Borovoye 56.14 316⇓ *i*P **P 02 30 10.4 +0.4**
comp=Z,16nm,0.8s,mb5.1
BRVK Borovoye 56.14 316⇓ *i*P **P 02 30 10.4 +0.4**
BRVK pmax pmax
comp=Z,16nm,0.8s,mb5.1
MENT Mentasta 56.23 32 *e*P **P 02 30 11.1 +0.4**
NDI New Delhi 56.26 286 *e*P **P 02 30 10.5 -0.4**
DZM Mont Dzumac 56.76 153 P **P 02 30 14.2 -0.3**
comp=Z,22nm,1.0s,mb5.1,baz=354,slow=10,SNR=7.7
ZRNK Zerenda 56.92 316⇓ *i*P **P 02 30 16.1 +0.5**
comp=Z,24nm,0.7s,mb5.3
ZRNK Zerenda 56.92 316⇓ *i*P **P 02 30 16.1 +0.5**
ZRNK pmax pmax
comp=Z,25nm,0.7s,mb5.3
NOU Noumea 56.98 153⇑ *e*P **P 02 30 14.8 -1.2**
KK31 Karatay Array 57.64 304 *i*P **P 02 30 21.9 +1.2**
KK31 Karatay Array 57.64 304 *i*P **P 02 30 21.8 +1.1**
KK31 pmax pmax
comp=Z,36nm,0.6s,mb5.6
KKAR Karatay Array 57.64 304 *i*P **P 02 30 21.8 +1.1**
KKAR pmax pmax
comp=Z,23nm,0.7s,mb5.3
BHPL Bhopal 57.97 280 *e*P **P 02 30 22.7 -0.3**
BHPL AMb AMB 02 30 24.3
comp=Z,27nm,0.7s,mb5.4
DAWY Dawson 58.12 30⇓ *i*P **P 02 30 24.1 +0.1**
AJM Ajmer 59.15 285 *e*P **P 02 30 31.4 +0.2**
AJM AMb AMB 02 30 34.2
comp=Z,22nm,0.7s,mb5.3
HYB Hyderabad 59.31 273 *i*P **P 02 30 33.0 +0.7**
HYB Hyderabad 59.31 273 *e*P **P 02 30 33.0 +0.7**
INK Inuvik 60.10 25 P **P 02 30 37.5 -0.3**
comp=Z,20nm,0.6s,mb5.3,baz=292,slow=6.1,SNR=266
INK Inuvik 60.10 25⇓ *e*P **P 02 30 37.4 -0.4**
comp=Z,21nm,0.6s,mb5.3
INK Inuvik 60.10 25⇓ *e*P **P 02 30 37.4 -0.4**
INK pmax pmax
comp=Z,21nm,0.6s
ARMA Armidale 60.85 171 *e*P **P 02 30 42.6 -0.3**
SVE Sverdlovsk 61.05 322 *e*P **P 02 30 45.0 +0.7**
SVE pmax pmax
comp=Z,125nm,2.5s,mb5.6
STKA Stephens Creek 61.70 181 *e*P **P 02 30 45.1 -3.6**
comp=Z,11nm,0.7s,mb5.1
STKA Stephens Creek 61.70 181 P **P 02 30 45.1 -3.5**
comp=Z,13nm,0.9s,mb5.0,baz=339,slow=7.0,SNR=14
STKA Stephens Creek 61.70 181 *e*P **P 02 30 44.9 -3.8**
AFI Afiamalu 62.03 128 LR LR 02 54 18.4
comp=Z,192nm,19.5s,MS4.3,baz=306,slow=33
FORT Forrest 62.16 194⇓ *i*P **P 02 30 50.2 -1.6**
comp=Z,76nm,0.6s,mb6.0
ARU Arti 62.26 321 P **P 02 30 52.1 -0.3**
comp=Z,295nm,0.6s,SNR=13
ARU Arti 62.26 321⇓ *i*P **P 02 30 52.4 0.0**
comp=Z,55nm,0.9s,mb5.7
ARU Arti 62.26 321⇑ *i*P **P 02 30 52.6 +0.2**
ARU *e* 02 31 31.0
ARU *e* 02 33 11.0
ARU *e*PPP 02 34 37.6
ARU *e*S **S 02 39 18.8 +1.7**
ARU *e*SS SS 02 43 21.8 +1.4
ARU pmax pmax
comp=Z,57nm,1.2s,mb5.6
SOKR Solikamsk 62.46 325⇑ *i*P **P 02 30 53.8 +0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SOKR MLR MLR
comp=Z,590nm,25.0s,MS4.7
CRAG Craig 62.60 40 *e*P **P 02 30 55.4 +0.7**
comp=Z,44nm,1.1s,mb5.5
CRAG LR LR
comp=Z,200nm,18.0s,MS4.3
POO Poona 62.90 277⇓ *i*P **P 02 30 57.0 +0.3**
comp=Z,60nm,0.0s
KAD Karad 63.13 275 *e*P **P 02 30 59.0 +0.8**
AB31 Akbulak array 63.26 313 *i*P **P 02 30 59.5 +0.5**
AB31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
DLBC Dease Lake 63.50 36 P **P 02 31 01.4 +0.7**
comp=Z,14nm,0.8s,mb5.0,baz=286,slow=8.8,SNR=23
DLBC Dease Lake 63.50 36⇓ *i*P **P 02 31 01.3 +0.6**
AKTK Aktyubinsk 64.12 315 *i*P **P 02 31 04.8 0.0**
AKTO Aktyubinsk 64.12 315 *i*P **P 02 31 04.7 -0.1**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KLBR Kellerberrin 65.79 203 *e*P **P 02 31 13.7 -1.9**
comp=Z,16nm,0.7s,mb5.2
BBB Bella Bella 66.38 42 P **P 02 31 19.2 -0.2**
comp=Z,13nm,0.8s,mb5.0,baz=311,slow=8.0,SNR=6.6
BBB Bella Bella 66.38 42 P **P 02 31 19.2 -0.2**
ALE Alert 66.90 3 P **P 02 31 22.0 -0.7**
comp=Z,136nm,1.1s,mb5.9,SNR=14
NWAO Narrogin (SRO) 67.19 203 P **P 02 31 23.1 -1.4**
comp=Z,55nm,1.1s,mb5.5,baz=37,slow=4.7,SNR=12
TOO Toolangi 67.43 178 *e*P **P 02 31 26.1 0.0**
comp=Z,5.2nm,0.6s,mb4.7
TOO Toolangi 67.43 178 *e*P **P 02 31 26.1 0.0**
TOO pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KBS Kingsbay 67.59 351⇑ *e*P **P 02 31 27.1 0.0**
ABKT Ailbek 68.18 302 P **P 02 31 32.0 +1.2**
comp=Z,113nm,0.9s,mb5.9,SNR=5.3
RES Resolute Bay 69.01 14 *e*P **P 02 31 35.2 -0.7**
comp=Z,25nm,0.9s,mb5.1
RES *e*PcP PcP 02 31 59.7 -0.3
RES Resolute Bay 69.01 14 *e*P **P 02 31 35.2 -0.8**
RES *e* 02 31 59.7
RES pmax pmax
comp=Z,25nm,0.9s,mb5.1
YKW3 Yellowknife Ar 69.25 29⇓ *e*P **P 02 31 36.8 -0.7**
YKA Yellowknife Ar 69.28 29 P **P 02 31 37.0 -0.7**
comp=Z,27nm,0.6s,mb5.3,baz=294,slow=6.4,SNR=553
YKA LR LR 03 03 22.1
comp=Z,126nm,18.5s,MS4.2,baz=265,slow=37
YKA Yellowknife Ar 69.28 29 P **P 02 31 37.0 -0.7**
YKA LR LR 03 03 22.1
APA Apatity 69.38 337⇓ *i*P **P 02 31 38.0 -0.3**
APA pmax pmax
comp=Z,18nm,0.8s,mb5.0
OTR Olympics--Tyee 70.12 45 P **P 02 31 44.2 +1.4**
KLMR Klimovskoe 70.14 330 *d i*P **P 02 31 42.0 -0.9**
KLMR *e* 02 34 13.6
KLMR pmax pmax
comp=Z,70nm,2.5s,mb5.2
KLMR MLR MLR
comp=Z,390nm,21.0s,MS4.6
PGC Sidney 70.44 45⇓ *e*P **P 02 31 45.0 +0.2**
comp=Z,23nm,0.6s,mb5.3
ARCES ARCESS Array B 70.78 341 P **P 02 31 47.5 +0.6**
comp=Z,8.6nm,0.7s,mb4.8,baz=72,slow=7.8,SNR=26
ARCES LR LR 03 06 24.8
comp=Z,227nm,20.3s,MS4.4,baz=263,slow=39
MCW Mount Constitu 70.81 44 P **P 02 31 47.8 +0.7**
HDW Hoodsport 71.09 45 P **P 02 31 49.8 +1.1**
CPW Capitol Peak 71.32 46 P **P 02 31 50.9 +0.8**
MBW Mount Baker 71.33 44 P **P 02 31 50.7 +0.6**
CMW Cultus Mountai 71.34 44 P **P 02 31 51.1 +0.8**
JCW Jim Creek 71.56 45 P **P 02 31 52.2 +0.6**
RPW Rockport 71.70 44 P **P 02 31 52.5 +0.1**
GSM Grass Mountain 72.06 46 P **P 02 31 55.1 +0.5**
LON Longmire 72.24 46 P **P 02 31 55.6 0.0**
JOF Joensuu 72.52 333 *ep* **P 02 31 57.1 -0.2**
DAG Danmarks Havn 72.69 356⇑ *i*P **P 02 31 58.4 0.0**
comp=Z,18nm,0.9s,mb5.0
DAG Danmarks Havn 72.69 356⇑ *i*P **P 02 31 58.4 0.0**
DAG pmax pmax
comp=Z,18nm,0.9s,mb5.0
LTY Liberty 72.72 45 P **P 02 31 58.5 -0.1**
TBM Table Mountain 72.81 45 P **P 02 31 59.3 +0.2**
BROR Big Rock Looko 72.89 48 P **P 02 32 00.1 +0.6**
EBG Ellensburg 72.94 45 P **P 02 32 00.5 +0.7**
HBO Huckleberry Mo 73.16 49 P **P 02 32 01.8 +0.7**
MXC Moxie City 73.25 46 P **P 02 32 02.1 +0.5**
EPH Ephrata 73.34 45 P **P 02 32 01.9 -0.2**
MOS Moscow 73.41 325 *e*P **P 02 32 02.1 -0.5**
MOS pmax pmax
comp=Z,65nm,1.1s,mb5.5
WBK Wadi Bani Khal 73.76 287 P **P 02 32 06.9 +2.2**
SNR=5.4
HAWA Hanford 73.81 46 *e*P **P 02 32 05.0 +0.1**
YBH Yreka Blue Hor 73.82 51 *e*P **P 02 32 05.6 +0.6**
comp=Z,6.5nm,0.7s,mb4.7
YBH Yreka Blue Hor 73.82 51 *e*P **P 02 32 05.6 +0.6**
YBH pmax pmax
comp=Z,6.0nm,0.7s
EDM Edmonton 74.15 37 *e*P **P 02 32 06.5 -0.5**
LHEM Herd Peak 74.20 51 P **P 02 32 07.8 +0.5**
OBN Obninsk 74.24 325 *e*P **P 02 32 07.4 -0.1**
comp=Z,8.2nm,0.5s,mb4.9
OBN Obninsk 74.24 325 *d i*P **P 02 32 07.4 -0.1**
OBN *e* 02 32 20.8
OBN pmax pmax
comp=Z,66nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.6
NEW Newport 74.41 43 P **P 02 32 08.4 0.0**
comp=Z,15nm,0.6s,mb5.1,baz=295,slow=4.6,SNR=33
NEW LR LR 02 59 06.3
comp=Z,189nm,19.9s,MS4.4,baz=315,slow=31
NEW Newport 74.41 43⇓ *e*P **P 02 32 08.4 0.0**
comp=Z,39nm,1.1s,mb5.2
NEW Newport 74.41 43⇓ *e*P **P 02 32 08.4 0.0**
NEW pmax pmax
comp=Z,39nm,1.1s
HOQ Hoqain 74.70 289 P **P 02 32 12.0 +1.9**
SNR=9.8
VRSR Storozhevoye 74.80 321 *e*P **P 02 32 10.9 +0.2**
VRSR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=E,7.0nm,0.9s

KAF Kangasniemi 74.89 334 *ep* **P 02 32 10.3 -0.9**
comp=E,12nm,0.6s,mb5.0,baz=52,slow=5.4
KAF Kangasniemi 74.89 334 *eP* **P 02 32 10.3 -0.9**
KAF pmax pmax
comp=Z,12nm,0.6s,mb5.0
ASHO Ashiyiah 75.23 290 P **P 02 32 15.2 +1.9**
SNR=8.8
RAR Rarotonga 75.34 125 LR LR 03 01 01.4
comp=Z,482nm,21.4s,MS4.8,baz=344,slow=32
FINES FINESS Array B 75.38 334 P **P 02 32 14.2 +0.1**
comp=Z,6.5nm,0.5s,mb4.8,baz=65,slow=5.7,SNR=74
FINES FINESS Array B 75.38 334 *i P* **P 02 32 14.1 0.0**
FINES pmax pmax
comp=Z,7.0nm,0.5s
ARQ Araqi 75.46 289 P **P 02 32 16.6 +2.0**
SNR=10
GOF Gofitskoye 75.50 314 *eP* **P 02 32 15.0 +0.3**
GOF pmax pmax
comp=Z,40nm,0.7s,mb5.5
WALA Waterton Lakes 75.89 41 *eP* **P 02 32 17.6 +0.6**
comp=Z,24nm,0.8s,mb5.2
BMO Blue Mountains 75.90 46⇓*eP* **P 02 32 17.1 0.0**
comp=Z,32nm,1.2s,mb5.1
ZEI Tsey 76.02 311 *eP* **P 02 32 17.1 -0.6**
WVOR Wild Horse Val 76.20 49 *eP* **P 02 32 18.5 -0.3**
comp=Z,46nm,1.5s,mb5.2
WVOR Wild Horse Val 76.20 49 *eP* **P 02 32 18.5 -0.3**
WVOR pmax pmax
comp=Z,46nm,1.5s,mb5.2
KIV Kislovodsk 76.24 313 P **P 02 32 20.1 +1.1**
comp=Z,323nm,0.8s,mb6.3,SNR=9.2
KIV Kislovodsk 76.24 313 *eP* **P 02 32 19.6 +0.6**
comp=Z,38nm,0.8s,mb5.4
KIV Kislovodsk 76.24 313 *eP* **P 02 32 19.6 +0.6**
KIV pmax pmax
comp=Z,38nm,0.8s,mb5.4
GNI Garni 76.70 309 *eP* **P 02 32 23.4 +1.9**
comp=Z,22nm,0.9s,mb5.1
GNI Garni 76.70 309 *eP* **P 02 32 23.4 +1.8**
GNI pmax pmax
comp=Z,23nm,0.9s
VSU Vasula 76.91 331 *eP* **P 02 32 22.8 0.0**
PAHR Pah Rah Range 76.99 52⇓*iP* **P 02 32 23.0 -0.2**
comp=Z,40nm,1.3s,mb5.2
CMB Columbia Colle 77.09 54⇓*eP* **P 02 32 23.9 +0.1**
comp=Z,27nm,1.0s,mb5.1
CMB Columbia Colle 77.09 54⇓*eP* **P 02 32 23.9 +0.1**
CMB pmax pmax
comp=Z,27nm,1.0s,mb5.1
CHMT Chamberlain Mo 77.35 43 *eP* **P 02 32 24.6 -0.6**
SUMG Summit 77.54 0⇓*iP* **P 02 32 27.4 +1.1**
comp=Z,55nm,1.0s,mb5.4
RPZ Rata Peaks 78.00 159 P **P 02 32 27.2 -1.7**
comp=Z,25nm,0.8s,mb5.2,baz=346,slow=7.9,SNR=7.4
HRY Holter Researc 78.29 43 *eP* **P 02 32 30.7 +0.2**
SOC Sochi 78.29 314 *eP* **P 02 32 31.2 +0.7**
SOC *e* pP 02 32 37.8 0.0
SOC *eS* S 02 42 22.0 -2.4
SOC pmax pmax
comp=Z,25nm,0.9s,mb5.1
NVAR Mina Array Bea 78.34 52 P **P 02 32 31.4 +0.6**
comp=Z,18nm,0.7s,mb5.1,baz=302,slow=4.0,SNR=36
HLID Hailey 78.35 46 *eP* **P 02 32 31.3 +0.5**
comp=Z,6.6nm,0.9s,mb4.6
MNV Mina 78.44 52 *eP* **P 02 32 31.4 +0.1**
comp=Z,32nm,1.5s,mb5.0
MNV Mina 78.44 52 *eP* **P 02 32 31.4 +0.1**
MNV pmax pmax
comp=Z,32nm,1.5s,mb5.0
DLMT Dillon 78.54 44 *eP* **P 02 32 32.2 +0.3**
comp=Z,9.3nm,0.7s,mb4.8
MCMT McKenzie Canyo 78.67 45 *eP* **P 02 32 32.5 0.0**
MTUM Tungsten Hills 78.69 53 *eP* **P 02 32 33.0 +0.4**
EGMT Eagleton 78.79 41 *eP* **P 02 32 32.5 -0.7**
comp=Z,28nm,1.1s,mb5.1
MNK Minsk 78.80 327 *eP* **P 02 32 30.0 -3.3**
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.2
FFC Flin Flon 78.95 32 P **P 02 32 33.6 -0.5**
comp=Z,278nm,0.7s,mb6.3,SNR=20
FFC Flin Flon 78.95 32⇓*iP* **P 02 32 33.8 -0.3**
comp=Z,32nm,0.8s,mb5.3
FFC Flin Flon 78.95 32⇓*iP* **P 02 32 33.8 -0.3**
FFC pmax pmax
comp=Z,32nm,0.8s,mb5.3
BOZ Bozeman (W) 78.97 43⇓*iP* **P 02 32 34.5 +0.3**
comp=Z,7.3nm,0.6s,mb4.8
BOZ Bozeman (W) 78.97 43⇓*iP* **P 02 32 34.5 +0.3**
BOZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SCO Scoresbysund 79.04 355 *i P* **P 02 32 35.6 +1.0**
comp=Z,9.1nm,1.0s,mb4.7
SCO Scoresbysund 79.04 355 *i P* **P 02 32 35.6 +1.0**
SCO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ANN Anapa 79.07 316 *eP* **P 02 32 33.8 -1.0**
ANN *eS* S 02 42 31.6 -1.1
ANN pmax pmax
comp=Z,50nm,1.7s,mb5.2
ELK Elko 79.25 49 *eP* **P 02 32 36.0 +0.3**
comp=Z,19nm,1.2s,mb4.9
ELK Elko 79.25 49 *eP* **P 02 32 36.0 +0.3**
ELK pmax pmax
comp=Z,19nm,1.2s
QLMT Earthquake Lak 79.53 44 *eP* **P 02 32 37.9 +0.6**
FCC Fort Churchill 79.70 26 *eP* **P 02 32 36.8 -1.4**
comp=Z,31nm,1.1s,mb5.2
FCC Fort Churchill 79.70 26 *eP* **P 02 32 36.8 -1.4**
FCC pmax pmax
comp=Z,31nm,1.1s,mb5.2
MIB Mutribah 79.75 298 *eP* **P 02 32 38.7 +0.3**
MIB AMb AMB 02 32 46.5
comp=Z,62nm,0.8s,mb5.6
QRN Al-Qurain 79.81 297 *eP* **P 02 32 39.5 +0.6**
YMR Madison River 79.89 44 *eP* **P 02 32 39.9 +0.7**
comp=Z,55nm,1.4s,mb5.3
RDF Al-Radifah 80.01 298 *eP* **P 02 32 40.4 +0.5**
RDF AMb AMB 02 32 41.1
comp=Z,87nm,0.7s,mb5.8
GCMT Greycliff 80.06 43 *eP* **P 02 32 40.1 0.0**
YFT Old Faithful 80.09 44 *eP* **P 02 32 42.3 +2.0**
NAY Al-Naaiem 80.09 298 *eP* **P 02 32 40.2 -0.1**
NAY AMb AMB 02 32 44.3
comp=Z,52nm,0.9s,mb5.5
WHFO Wadi Hawf 80.24 285⇓*P* **P 02 32 41.4 +0.3**
SNR=5.9
BHD Baghdad 80.27 303 *ex* x 02 32 31.5
LKWY Lake 80.29 44 *eP* **P 02 32 43.5 +2.2**
comp=Z,27nm,1.1s,mb5.1
LKWY Lake 80.29 44 *eP* **P 02 32 43.6 +2.2**
LKWY pmax pmax
comp=Z,27nm,1.1s,mb5.1
HVU Hansel Valley 80.31 47 *eP* **P 02 32 42.1 +0.6**
comp=Z,50nm,1.6s,mb5.2
HVU Hansel Valley 80.31 47 *eP* **P 02 32 42.1 +0.6**
HVU pmax pmax
comp=Z,50nm,1.6s,mb5.2
IMW Indian Meadow 80.32 45 *eP* **P 02 32 42.7 +1.1**
comp=Z,39nm,1.2s,mb5.2
DCID1 Drake Creek 80.33 45 *eP* **P 02 32 42.5 +0.9**
FLWY Flagg Ranch 80.37 44 *eP* **P 02 32 43.2 +1.4**
comp=Z,61nm,1.4s,mb5.3
AKASG Malin Array Be 80.38 324 P **P 02 32 41.9 0.0**
comp=Z,22nm,0.7s,mb5.2,baz=48,slow=5.5,SNR=131
TPNV Topopah Spring 80.49 53⇓*iP* **P 02 32 42.1 -0.4**
comp=Z,39nm,1.0s,mb5.3
TPNV Topopah Spring 80.49 53⇓*iP* **P 02 32 42.1 -0.4**
TPNV pmax pmax
comp=Z,39nm,1.0s,mb5.3
MOOW Moose Ponds 80.52 45 *eP* **P 02 32 43.2 +0.6**
comp=Z,17nm,1.3s,mb4.8
TPAW Teton Pass 80.53 45 *eP* **P 02 32 43.6 +0.9**
comp=Z,63nm,1.6s,mb5.3
SNOW Snow King Moun 80.67 45 *eP* **P 02 32 43.8 +0.4**
comp=Z,51nm,1.6s,mb5.2
PPT Papeete 80.67 116 LR LR 03 04 19.3
comp=Z,343nm,18.0s,MS4.7,baz=297,slow=33
LOHW Long Hollow 80.68 45 *eP* **P 02 32 43.4 -0.1**
comp=Z,4.8nm,0.6s,mb4.6
ABTO Aybut 80.91 285⇑*P* **P 02 32 45.6 +0.9**
SNR=8.5
NB2 NORSAR Subarra 80.92 338 P **P 02 32 44.8 +0.1**
comp=Z,28nm,1.0s,mb5.2,baz=39,slow=5.6
NB2 NORSAR Subarra 80.92 338 P **P 02 32 44.8 +0.1**
NB2 pmax pmax
comp=Z,28nm,1.0s,mb5.2

NOA NORSAR Array B 80.92 338 P **P 02 32 44.7 -0.1**
comp=Z,13nm,0.8s,mb4.9,baz=40,slow=5.2,SNR=37
NOA LR LR 03 17 11.3
comp=Z,194nm,18.0s,MS4.5,baz=15,slow=42
NOA NORSAR Array B 80.92 338 P **P 02 32 44.7 -0.1**
NOA LR LR 03 17 11.3
SIM Simferopol' 80.98 317⇑*eP* **P 02 32 45.6 +0.5**
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.1
DUG Dugway 81.12 49⇓*eP* **P 02 32 46.1 +0.3**
comp=Z,14nm,0.6s,mb5.1
DUG Dugway 81.12 49⇓*eP* **P 02 32 46.1 +0.3**
DUG pmax pmax
comp=Z,15nm,0.6s,mb5.1
HWUT Hardware Ranch 81.16 47 *eP* **P 02 32 46.5 +0.5**
comp=Z,31nm,1.1s,mb5.2
NAO01 NORSAR Array S 81.17 338 *eP* **P 02 32 45.2 -0.9**
comp=Z,11nm,0.9s,mb4.8
SUW Suwalki 81.24 329 *eP* **P 02 32 46.8 +0.3**
LAO LASA Array 81.53 40 *eP* **P 02 32 48.1 +0.1**
comp=Z,34nm,1.1s,mb5.2
DGMT Dagmar 81.60 38 *eP* **P 02 32 47.9 -0.5**
comp=Z,40nm,1.3s,mb5.2
BW06 Boulder Array 81.78 45 *eP* **P 02 32 48.8 -0.6**
comp=Z,11nm,1.1s,mb4.7
PDAR Pinedale Array 81.78 45 P **P 02 32 48.3 -1.0**
comp=Z,0.7nm,0.3s,baz=298,slow=1.9,SNR=43
PDAR PP PP 02 35 57.4 +0.9
comp=Z,1.7nm,1.1s,baz=320,slow=3.9,SNR=4.0
PDAR LR LR 03 07 59.1
comp=Z,220nm,19.7s,MS4.5,baz=138,slow=35
MALT Malatya 81.86 310⇑*P* **P 02 32 52.1 +2.4**
ARUT Antelope Range 81.97 51 *eP* **P 02 32 50.6 +0.2**
MPU Maple Canyon 81.98 48 *eP* **P 02 32 50.4 +0.1**
comp=Z,17nm,1.1s,mb4.9
DAU Daniels Canyon 82.00 48 *eP* **P 02 32 51.0 +0.4**
PFO Pinyon Flat Ob 82.05 56 P **P 02 32 50.6 -0.1**
comp=Z,172nm,0.9s,mb6.0,SNR=5.1
PFO Pinyon Flat Ob 82.05 56 *eP* **P 02 32 50.3 -0.4**
comp=Z,37nm,1.2s,mb5.2
PFO Pinyon Flat Ob 82.05 56 *eP* **P 02 32 50.3 -0.4**
PFO pmax pmax
comp=Z,37nm,1.2s,mb5.2
NEN Nelson 82.13 53 *eP* **P 02 32 51.1 -0.1**
CCUT Cedar City 82.15 51 *eP* **P 02 32 51.6 +0.3**
BAR Barrett 82.37 57 *eP* **P 02 32 51.6 -0.8**
MSU Marysvale 82.43 50 *eP* **P 02 32 52.8 +0.1**
SFJD Kangerlussuaq 82.63 5 LR LR 03 11 59.2
comp=Z,191nm,18.6s,MS4.5,baz=333,slow=37
SFJD Kangerlussuaq 82.63 5 *i P* **P 02 32 53.6 -0.2**
comp=Z,11nm,0.8s,mb4.9
SFJD Kangerlussuaq 82.63 5 *i P* **P 02 32 53.6 -0.2**
SFJD pmax pmax
comp=Z,11nm,0.8s,mb4.9
KIS Kishinev 82.81 321 *eP* **P 02 32 50.0 -4.7**
SRU San Rafael 83.19 49 *eP* **P 02 32 56.0 -0.7**
comp=Z,12nm,0.9s,mb4.9
SRU San Rafael 83.19 49 *eP* **P 02 32 56.0 -0.7**
SRU pmax pmax
comp=Z,12nm,0.9s,mb4.9
LVV L'vov 83.55 325 *eP* **P 02 32 58.7 +0.2**
LVV *eS* S 02 43 21.9 +2.8
LVV MLR MLR
comp=E,200nm,19.0s,MS4.7
LVV MLR MLR
comp=N,200nm,20.0s,MS4.7
LVV MLR MLR
comp=Z,300nm,19.0s,MS4.7
RWWY Rawlins 83.83 45 *eP* **P 02 33 00.0 +0.1**
comp=Z,62nm,1.3s,mb5.6
BSD Bornholm Skovb 83.98 333 *i P* **P 02 33 00.6 -0.2**
comp=Z,18nm,0.8s,mb5.3
BSD Bornholm Skovb 83.98 333 *i P* **P 02 33 00.6 -0.2**
BSD pmax pmax
comp=Z,18nm,0.8s,mb5.2
BR131 Keskin Array S 84.20 313 *eP* **P 02 33 02.5 +0.7**
comp=Z,16nm,0.7s,mb5.3
BRTR Keskin Array B 84.20 313 P **P 02 33 02.6 +0.7**
comp=Z,20nm,0.8s,mb5.3,baz=101,slow=4.0,SNR=136
BRTR PKKPbc PKKPbc 02 51 15.6 +0.8
comp=Z,0.4nm,0.5s,baz=183,slow=4.8,SNR=3.6
BRTR Keskin Array B 84.20 313 *i P* **P 02 33 02.5 +0.6**
BRTR pmax pmax
comp=Z,20nm,0.8s
RSSD Black Hills 84.29 42 *eP* **P 02 33 01.1 -1.2**
comp=Z,7.1nm,0.8s,mb4.8
RSSD Black Hills 84.29 42 *eP* **P 02 33 01.1 -1.2**
RSSD pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
CFR Carcaliu 84.29 320⇑*P* **P 02 33 02.8 +0.5**
KWP Kalwaria 84.32 325 *eP* **P 02 33 03.3 +0.8**
GKP Gorka Klasztor 84.35 331 *eP* **P 02 33 02.9 +0.3**
BURAR Bucovina Array 84.35 323⇓*P* **P 02 33 03.4 +0.8**
BURAR Bucovina Array 84.35 323⇓*P* **P 02 33 03.4 +0.8**
COP Copenhagen 84.52 334 *i P* **P 02 33 03.0 -0.5**
comp=Z,39nm,0.8s,mb5.6
COP Copenhagen 84.52 334 *eP* **P 02 33 03.0 -0.5**
comp=Z,39nm,0.8s,mb5.6
COP Copenhagen 84.52 334 *eP* **P 02 33 03.0 -0.5**
COP pmax pmax
comp=Z,39nm,0.8s,mb5.6
PV10 Paradox Valley 84.56 49 *eP* **P 02 33 04.2 +0.5**
WUAZ Wupatki 84.59 52 *eP* **P 02 33 03.8 -0.1**
comp=Z,34nm,1.1s,mb5.4
VRI Vrincioaia 84.64 321⇑*P* **P 02 33 04.8 +0.7**
ANTO Ankara 84.66 313⇑*P* **P 02 33 05.7 +1.5**
ULM Lac du Bonnet 84.68 33 P **P 02 33 03.4 -0.9**
comp=Z,4.8nm,0.4s,mb5.0,baz=308,slow=6.1,SNR=17
ULM LR LR 03 12 43.7
comp=Z,223nm,18.8s,MS4.6,baz=294,slow=37
ULM Lac du Bonnet 84.68 33 P **P 02 33 03.4 -0.9**
ULM LR LR 03 12 43.7
PLOR Plostina 84.69 321⇑*P* **P 02 33 05.7 +1.3**
KOLS Kolonicke sedl 85.00 325 *eP* **P 02 33 05.5 -0.4**
KOLS *e* 02 33 20.1
PV01 Paradox Valley 85.00 49 *eP* **P 02 33 05.4 -0.5**
RGN Rugen 85.03 333 *eP* **P 02 33 06.1 +0.1**
MUD Monsted U'grnd 85.12 336 *i P* **P 02 33 06.5 0.0**
comp=Z,37nm,1.1s,mb5.4
MUD Monsted U'grnd 85.12 336 *eP* **P 02 33 06.5 0.0**
comp=Z,37nm,1.1s,mb5.4
MUD Monsted U'grnd 85.12 336 *eP* **P 02 33 06.5 0.0**
MUD pmax pmax
comp=Z,37nm,1.1s,mb5.4
PHWY Pilot Hill 85.12 45 *eP* **P 02 33 06.6 +0.1**
STHS Stebnicka Huta 85.18 326 *eP* **P 02 33 07.7 +0.9**
MLR Muntele Rosu 85.31 321⇑*P* **P 02 33 10.0 +2.6**
OJC Ojcow 85.32 327 *eP* **P 02 33 07.8 +0.3**
SMCO Snowmass 85.43 47 *eP* **P 02 33 08.4 +0.3**
comp=Z,26nm,1.0s,mb5.3
NIE Niedzica 85.62 326 *eP* **P 02 33 09.8 +0.8**
ISCO Idaho Springs 85.92 46 *eP* **P 02 33 11.1 +0.6**
comp=Z,17nm,1.3s,mb5.1
ISCO Idaho Springs 85.92 46 *eP* **P 02 33 11.1 +0.6**
ISCO pmax pmax
comp=Z,17nm,1.3s,mb5.1
KECS Kecovo 86.18 326 *eP* **P 02 33 11.8 +0.1**
OKC Ostrava-Krasne 86.36 328 *eP* **P 02 33 12.7 +0.1**
KSP Ksiaz 86.49 329 *eP* **P 02 33 13.5 +0.2**
KSP Ksiaz 86.49 329 *eP* **P 02 33 13.2 -0.1**
BSEG Bad Segeberg 86.65 334 *eP* **P 02 33 14.1 0.0**
comp=Z,27nm,0.9s,mb5.5
MORC Moravsky Berou 86.68 328⇑*P* **P 02 33 14.7 +0.5**
TUC Tucson 86.77 54 *eP* **P 02 33 14.5 -0.2**
comp=Z,19nm,1.5s,mb5.1
TUC Tucson 86.77 54 *eP* **P 02 33 14.5 -0.2**
TUC pmax pmax
comp=Z,19nm,1.5s,mb5.1
DPC Dobruska-Polom 86.83 329 *eP* **P 02 33 15.1 +0.2**
PSZ Piszkesteto 86.85 325 *eP* **P 02 33 15.3 +0.2**
comp=Z,7.0nm,0.9s,mb4.9
PSZ Piszkesteto 86.85 325 *eP* **P 02 33 15.3 +0.2**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
UPC Upice 86.85 329 *eP* **P 02 33 15.0 -0.1**
VYHS Vyhne 86.97 326 *eP* **P 02 33 16.0 +0.4**
CSS Prodhromos 87.12 309 *eP* **P 02 33 16.6 +0.2**
comp=Z,8.4nm,0.6s,mb5.2
VRAC Vranov 87.45 328⇓*P* **P 02 33 18.5 +0.5**
BRG Berggiesshubel 87.49 330 *eP* **P 02 33 16.3 -1.9**
comp=Z,7.0nm,1.0s,mb4.8
BRG Berggiesshubel 87.49 330 *eP* **P 02 33 16.2 -1.9**
BRG *e* pP 02 33 22.5 -3.1
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb4.5

BRG Berggiesshubel 87.49 330 *eP* **P 02 33 16.2 -2.0**
comp=Z,4.4nm,1.3s,mb4.5
BRG *e* pP 02 33 22.5 -3.0
comp=Z,3.9nm,0.9s
BZS Buzias 87.54 323⇑*P* **P 02 33 18.2 -0.2**
CLL Collm 87.56 331 *eP* **P 02 33 18.0 -0.5**
comp=Z,8.0nm,0.8s,mb5.0
CLL Collm 87.56 331⇓*iP* **P 02 33 17.8 -0.7**
comp=Z,21nm,1.6s,mb5.1
CLL *es*P sP 02 33 35.0 +6.4
CLL Collm 87.56 331⇓*iP* **P 02 33 17.8 -0.7**
CLL pmax pmax
comp=Z,21nm,1.6s,mb5.1
SMOL Smolenice 87.62 327 *eP* **P 02 33 19.5 +0.7**
PRU Pruhonice 87.88 329 *eP* **P 02 33 20.0 0.0**
LAZ Ladron 88.09 51 *eP* **P 02 33 21.3 +0.3**
ANMO Albuquerque 88.22 50 *eP* **P 02 33 22.0 +0.3**
comp=Z,4.7nm,0.9s,mb4.7
ANMO Albuquerque 88.22 50 *eP* **P 02 33 22.0 +0.3**
ANMO pmax pmax
comp=Z,5.0nm,0.9s
CLZ Clausthal 88.24 333 *eP* **P 02 33 21.2 -0.5**
comp=Z,28nm,1.1s,mb5.4
CLZ Clausthal 88.24 333 *eP* **P 02 33 21.2 -0.5**
CLZ pmax pmax
comp=Z,28nm,1.1s,mb5.4
EYMN Ely 88.36 33 *eP* **P 02 33 21.1 -1.2**
comp=Z,29nm,1.3s,mb5.3
NKC Novy Kostel 88.60 331 *eP* **P 02 33 23.7 +0.3**
MOX Moxa 88.64 331 *eP* **P 02 33 23.7 +0.1**
comp=Z,6.0nm,0.9s,mb4.9
PKSM Moragy 88.65 325⇑*P* **P 02 33 23.4 -0.3**
VTS Vitosha 88.68 320⇓*P* **P 02 33 24.2 +0.4**
MANZ Manzenberg 88.93 331 *eP* **P 02 33 24.7 -0.3**
comp=Z,5.0nm,1.1s,mb4.8
KHC Kasperske Hory 88.93 329 *eP* **P 02 33 24.5 -0.5**
KHC Kasperske Hory 88.93 329⇑*eP* **P 02 33 24.7 -0.3**
EIL Elat 89.00 304 *eP* **P 02 33 25.1 -0.3**
ROTZ Rotzenmuhle 89.06 330 *eP* **P 02 33 25.3 -0.3**
comp=Z,7.0nm,1.0s,mb5.0
GEC2 GERESS Array S 89.09 329 *eP* **P 02 33 24.2 -1.5**
comp=Z,5.0nm,0.9s,mb4.8
GEC2 GERESS Array S 89.09 329 *eP* **P 02 33 24.2 -1.5**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
GERES GERESS Array B 89.09 329 P **P 02 33 24.2 -1.5**
comp=Z,2.3nm,0.8s,mb4.6,baz=46,slow=5.8,SNR=11
GERES LR LR 03 17 26.9
comp=Z,255nm,18.5s,MS4.7,baz=278,slow=38
GRA1 Grafenberg Arr 89.53 331 *eP* **P 02 33 28.2 +0.4**
comp=Z,13nm,1.2s,mb5.1
GRF Grafenberg Arr 89.53 331 *eP* **P 02 33 28.2 +0.4**
comp=Z,13nm,1.2s,mb5.1
GRF Grafenberg Arr 89.53 331 *eP* **P 02 33 28.2 +0.4**
GRF pmax pmax
comp=Z,13nm,1.2s,mb5.1
GRF Grafenberg Arr 89.53 331 *eP* **P 02 33 28.2 +0.4**
GRF pmax pmax
comp=Z,13nm,1.2s,mb5.1
MOA Molln 89.57 328⇑*iP* **P 02 33 28.3 +0.3**
comp=Z,9.0nm,0.9s,mb5.1
PERS Pernice 90.06 327 *i P* **P 02 33 30.1 -0.2**
TNS Taunus Mts 90.26 333 *eP* **P 02 33 31.2 0.0**
comp=Z,7.0nm,0.9s,mb5.0
TNS Taunus Mts 90.26 333 *eP* **P 02 33 31.2 0.0**
TNS pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
GOLS Golise 90.27 326 *eP* **P 02 33 30.9 -0.3**
KBA Koelnbreinsper 90.56 328⇓*iP* **P 02 33 32.3 -0.3**
comp=Z,7.0nm,0.7s,mb5.1
FUR Furstenfeldbru 90.67 330 *eP* **P 02 33 33.6 +0.5**
comp=Z,23nm,1.2s,mb5.4
FUR Furstenfeldbru 90.67 330 *eP* **P 02 33 33.6 +0.5**
FUR pmax pmax
comp=Z,23nm,1.2s,mb5.4
BOJS Bojanci 90.82 326 *eP* **P 02 33 33.5 -0.3**
MNTX Cornudas Mount 90.87 52 *eP* **P 02 33 33.8 -0.3**
comp=Z,29nm,1.8s,mb5.3
STU Stuttgart 91.09 331 *eP* **P 02 33 34.9 -0.2**
comp=Z,17nm,0.8s,mb5.4
WLF Walferdange 91.61 333 *eP* **P 02 33 38.3 +0.8**
comp=Z,37nm,1.6s,mb5.5
SCHQ Schefferville 91.64 17 P **P 02 33 36.5 -1.1**
comp=Z,8.2nm,0.8s,mb5.1,baz=332,slow=5.9,SNR=10
SCHQ LR LR 03 23 15.5
comp=Z,258nm,18.4s,MS4.7,baz=23,slow=41
GIVF Givet 91.76 334 *eP* **P 02 33 36.9 -1.3**
BFO Black Forest 91.79 331 *eP* **P 02 33 37.8 -0.5**
comp=Z,14nm,0.9s,mb5.3
BFO Black Forest 91.79 331 *eP* **P 02 33 37.8 -0.5**
BFO pmax pmax
comp=Z,14nm,0.9s,mb5.3
DAVA Damuels 91.95 330⇑*iP* **P 02 33 39.4 +0.3**
comp=Z,25nm,1.1s,mb5.5
BAIF Baives 92.02 335 *eP* **P 02 33 38.6 -0.8**
CDF Champ du Feu 92.16 332 *eP* **P 02 33 39.6 -0.4**
comp=Z,24nm,0.9s,mb5.2
CDF Champ du Feu 92.16 332 *eP* **P 02 33 39.6 -0.4**
comp=Z,12nm,0.9s,mb5.2
CDF Champ du Feu 92.16 332 *eP* **P 02 33 39.6 -0.4**
CDF pmax pmax
comp=Z,12nm,0.9s,mb5.2
HINF Hinteralfeld 92.81 332 *eP* **P 02 33 42.1 -0.9**
comp=Z,17nm,0.9s,mb5.2
HINF Hinteralfeld 92.81 332 *eP* **P 02 33 42.1 -0.9**
comp=Z,8.4nm,0.9s,mb5.2
HINF Hinteralfeld 92.81 332 *eP* **P 02 33 42.1 -0.9**
HINF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
HAU Haudompre 92.86 332 *eP* **P 02 33 43.5 +0.2**
comp=Z,15nm,0.8s,mb5.2
HAU *eR*
comp=Z,250nm,18.5s
HAU Haudompre 92.86 332 *eP* **P 02 33 43.5 +0.2**
comp=Z,7.7nm,0.8s,mb5.2
HAU LR LR
comp=Z,250nm,18.5s,MS4.7
HAU Haudompre 92.86 332 *eP* **P 02 33 43.5 +0.2**
HAU pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
HAU MLR MLR
comp=Z,250nm,18.5s,MS4.7
MEZF Maizieres J'vi 92.97 333 *eP* **P 02 33 43.6 -0.2**
WMOK Wichita Mounta 93.32 46 *eP* **P 02 33 45.0 -0.4**
comp=Z,14nm,0.9s,mb5.4
WMOK Wichita Mounta 93.32 46 *eP* **P 02 33 45.0 -0.4**
WMOK pmax pmax
comp=Z,14nm,0.9s,mb5.4
LTX Lajitas 93.47 53 *eP* **P 02 33 46.6 +0.6**
comp=Z,39nm,1.0s,mb5.8
LTX Lajitas 93.47 53 *eP* **P 02 33 46.7 +0.6**
LTX pmax pmax
comp=Z,39nm,1.0s,mb5.8
CABF La Chapelle 94.08 332 *eP* **P 02 33 48.3 -0.6**
comp=Z,15nm,0.9s,mb5.1
CABF La Chapelle 94.08 332 *eP* **P 02 33 48.3 -0.6**
comp=Z,7.3nm,0.9s,mb5.1
CABF La Chapelle 94.08 332 *eP* **P 02 33 48.3 -0.6**
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
LOR Lormes 94.44 333 *eP* **P 02 33 49.9 -0.6**
comp=Z,19nm,1.0s,mb5.2
LOR *eR*
comp=Z,208nm,18.0s
LOR Lormes 94.44 333 *eP* **P 02 33 49.9 -0.6**
comp=Z,9.4nm,1.0s,mb5.2
LOR LR LR
comp=Z,210nm,18.0s,MS4.7
LOR Lormes 94.44 333 *eP* **P 02 33 49.9 -0.6**
LOR pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
LOR MLR MLR
comp=Z,210nm,18.0s,MS4.7
LPL La Plagne 94.69 331 *eP* **P 02 33 51.4 -0.3**
comp=Z,9.1nm,0.7s,mb5.0
LPL La Plagne 94.69 331 *eP* **P 02 33 51.4 -0.3**
comp=Z,4.6nm,0.7s,mb5.0
LPL La Plagne 94.69 331 *eP* **P 02 33 51.4 -0.3**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
LPG La Plagne 94.69 331 *eP* **P 02 33 51.5 -0.2**
comp=Z,24nm,0.9s,mb5.3
LPG La Plagne 94.69 331 *eP* **P 02 33 51.5 -0.2**
comp=Z,12nm,0.9s,mb5.3
LPG La Plagne 94.69 331 *eP* **P 02 33 51.5 -0.2**
LPG pmax pmax

comp=Z,12nm,0.9s,mb5.3
SSF Saint Saulge 94.75 333 *e*P **P 02 33 51.4 -0.6**
comp=Z,25nm,1.0s,mb5.3
SSF Saint Saulge 94.75 333 *e*P **P 02 33 51.4 -0.6**
comp=Z,12nm,1.0s,mb5.3
SSF Saint Saulge 94.75 333 *e*P **P 02 33 51.4 -0.6**
SSF pmax pmax
comp=Z,12nm,1.0s,mb5.3
FLN La Foliniere 94.79 337 *e*P **P 02 33 51.4 -0.7**
FLN *e*R
comp=Z,176nm,20.5s
FLN La Foliniere 94.79 337 *e*P **P 02 33 51.4 -0.7**
FLN MLR MLR
comp=Z,180nm,20.5s,MS4.5
LDF La Druitiere 94.81 336 *e*P **P 02 33 51.4 -0.8**
SMF Signal de Mont 94.96 333 *e*P **P 02 33 52.2 -0.7**
comp=Z,16nm,0.9s,mb5.2
SMF Signal de Mont 94.96 333 *e*P **P 02 33 52.2 -0.7**
comp=Z,8.2nm,0.9s,mb5.2
SMF Signal de Mont 94.96 333 *e*P **P 02 33 52.2 -0.7**
SMF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
AVF Avril sur Loir 95.03 333 *e*P **P 02 33 52.7 -0.5**
comp=Z,27nm,1.0s,mb5.3
AVF Avril sur Loir 95.03 333 *e*P **P 02 33 52.7 -0.5**
comp=Z,13nm,1.0s,mb5.3
AVF Avril sur Loir 95.03 333 *e*P **P 02 33 52.7 -0.5**
AVF pmax pmax
comp=Z,13nm,1.0s,mb5.3
RKT Rikitea 95.16 114 *e*SS SS 02 51 30.9 -2.9
comp=Z,94nm,28.2s
RKT *e*LR LR 03 03 36.6
comp=Z,149nm,31.8s
GRR Gorron 95.24 337 *e*P **P 02 33 53.6 -0.6**
comp=Z,42nm,1.0s,mb5.5
GRR Gorron 95.24 337 *e*P **P 02 33 53.6 -0.6**
comp=Z,21nm,1.0s,mb5.5
GRR Gorron 95.24 337 *e*P **P 02 33 53.6 -0.6**
GRR pmax pmax
comp=Z,21nm,1.0s,mb5.5
MBDF Montbardon 95.30 330 *e*P **P 02 33 53.3 -1.2**
comp=Z,7.3nm,0.6s,mb5.0
MBDF Montbardon 95.30 330 *e*P **P 02 33 53.3 -1.2**
comp=Z,3.7nm,0.6s,mb5.0
MBDF Montbardon 95.30 330 *e*P **P 02 33 53.3 -1.2**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
JCT Junction City 95.39 50 *e*P **P 02 33 54.9 0.0**
comp=Z,14nm,0.6s,mb5.6
JCT Junction City 95.39 50 *e*P **P 02 33 54.9 0.0**
JCT pmax pmax
comp=Z,14nm,0.6s,mb5.6
BGF Bois d'Agland 95.42 333 *e*P **P 02 33 54.5 -0.5**
SBF Sospel 95.69 329 *e*P **P 02 33 54.8 -1.5**
comp=Z,32nm,0.8s,mb5.5
SBF Sospel 95.69 329 *e*P **P 02 33 54.8 -1.5**
comp=Z,16nm,0.8s,mb5.5
SBF Sospel 95.69 329 *e*P **P 02 33 54.8 -1.5**
SBF pmax pmax
comp=Z,16nm,0.8s,mb5.5
TCF Toulx Ste Croi 95.89 334 *e*P **P 02 33 57.5 +0.3**
comp=Z,26nm,1.3s,mb5.2
TCF Toulx Ste Croi 95.89 334 *e*P **P 02 33 57.5 +0.3**
comp=Z,13nm,1.3s,mb5.2
TCF Toulx Ste Croi 95.89 334 *e*P **P 02 33 57.5 +0.3**
TCF pmax pmax
comp=Z,13nm,1.3s,mb5.2
VIVF Saint-Julien-l 96.08 331 *e*P **P 02 33 57.4 -0.6**
comp=Z,8.0nm,0.7s,mb4.9
VIVF Saint-Julien-l 96.08 331 *e*P **P 02 33 57.4 -0.6**
comp=Z,4.0nm,0.7s,mb5.0
VIVF Saint-Julien-l 96.08 331 *e*P **P 02 33 57.4 -0.6**
VIVF pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
ROSF Rostrenen 96.09 338 *e*P **P 02 33 57.5 -0.6**
comp=Z,189nm,1.6s,mb6.0
ROSF Rostrenen 96.09 338 *e*P **P 02 33 57.5 -0.6**
comp=Z,95nm,1.6s,mb6.0
ROSF Rostrenen 96.09 338 *e*P **P 02 33 57.5 -0.6**
ROSF pmax pmax
comp=Z,95nm,1.6s,mb6.0
FRF La Foret Royal 96.28 329 *e*P **P 02 33 58.2 -0.7**
comp=Z,32nm,1.1s,mb5.4
FRF La Foret Royal 96.28 329 *e*P **P 02 33 58.2 -0.7**
comp=Z,16nm,1.1s,mb5.4
FRF La Foret Royal 96.28 329 *e*P **P 02 33 58.2 -0.7**
FRF pmax pmax
comp=Z,16nm,1.1s,mb5.4
QSPA South Pole Qui 119.92 180 *e*P PKPdf 02 39 19.1 -1.8
TORD Torodi Ar. Bea 122.82 313 PKP PKPdf 02 39 25.4 -1.1
comp=Z,1.6nm,0.6s,baz=21,slow=1.9,SNR=7.9
TORD PP PP 02 40 51.0 -14
comp=Z,0.8nm,0.8s,baz=27,slow=8.5,SNR=4.0
TORD PKKPbc PKKPbc 02 49 18.9 +0.1
comp=Z,1.1nm,0.6s,baz=220,slow=3.1,SNR=18
LBTB Lobatse 124.55 259 *e*PKPdf PKPdf 02 39 29.2 -0.6
SJG San Juan 124.58 34 *e*PKPdf PKPdf 02 39 29.2 -0.6
SDV Santo Domingo 129.72 45 *e*PKPdf PKPdf 02 39 40.0 +0.3
DBIC Dimbokro 131.89 314 PKP PKPdf 02 39 43.9 +0.2
comp=Z,2.6nm,0.7s,baz=230,slow=8.0,SNR=6.2
DBIC SKP 02 43 21.7
comp=Z,2.8nm,0.7s,baz=66,slow=3.3,SNR=6.3
DBIC Dimbokro 131.89 314 PKP PKPdf 02 39 43.9 +0.2
DBIC SKP 02 43 21.7
SNAA Sanae 134.42 195 *e*PKPdf PKPdf 02 39 47.8 -0.7
SNAA Sanae 134.42 195 ⇑*i*PKIKP PKPdf 02 39 47.4 -1.1
ARE Arequipa 145.98 74 *e*P PKPdf 02 40 11.0 +1.6
SAML Samuel 147.96 54 *e*PKPdf PKPdf 02 40 13.3 +0.6
SAML *e*PKPbc PKPbc 02 40 16.1 +0.3
LPAZ La Paz 148.67 71 PKP PKPdf 02 40 15.6 +1.8
comp=Z,28nm,0.8s,baz=334,slow=2.7,SNR=13
LPAZ PKPbc PKPbc 02 40 19.4 +1.8
comp=Z,28nm,0.8s,baz=358,slow=4.6,SNR=70
LPAZ La Paz 148.67 71 *e*PKIKP PKPdf 02 40 15.7 +1.9
LPAZ *e* 02 40 19.3
LVC Limon Verde 150.84 83 *e*PKPbc PKPbc 02 40 23.8 +0.9
PLCA Paso Flores 151.15 121 PKP PKPdf 02 40 18.6 +0.8
comp=Z,3.5nm,1.1s,baz=225,slow=5.7,SNR=2.5
PLCA PKPbc PKPbc 02 40 24.1 +0.4
comp=Z,26nm,1.0s,baz=240,slow=3.9,SNR=34
PLCA Paso Flores 151.15 121 PKIKP PKPdf 02 40 18.6 +0.8
PLCA *e* 02 40 23.5
PLCA 02 40 24.1
CPUP Villa Florida 162.02 83 PKP PKPdf 02 40 32.5 +0.7
comp=Z,0.2nm,0.3s,baz=284,slow=4.2,SNR=2.8
CPUP PKPab PKPab 02 41 17.9 -0.1
comp=Z,2.6nm,0.8s,baz=241,slow=3.0,SNR=4.7
BDFB Brasilia 162.56 36 PKPab PKPab 02 41 20.1 -0.3
comp=Z,1.8nm,0.6s,baz=205,slow=8.2,SNR=3.8

IDC 29 02:45:48.0±15.0, 2342S×17971E, h432km±113km, mb3.1/5, mb1 3.3/6, mb1mx3.2/14, mbtmp4.1/6, Error ellipse: s-maj=190.2km s-min=29.6km az=43.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.96**	**188**	P	P	02 48 58.5	-0.6
	1.3nm,0.3s,baz=11,slow=16,SNR=5.0						
CTA	**Charters Tower**	**31.21**	**270**	P	P	02 51 31.1	+1.2
	2.4nm,0.4s,baz=84,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**34.66**	**247**	P	P	02 51 59.5	+0.2
	1.3nm,0.6s,baz=76,slow=9.3,SNR=4.3						
ASAR	**Alice Springs**	**41.85**	**260**	P	P	02 52 58.4	+0.1
	1.4nm,0.8s,baz=91,slow=8.3,SNR=11						
WRA	**Warramunga Arr**	**42.17**	**266**	P	P	02 53 00.4	-0.5
	0.4nm,0.3s,baz=102,slow=13,SNR=4.9						
VNDA	**Vanda**	**54.84**	**185**	P	P	02 54 35.5	-0.4
	0.5nm,0.5s,baz=1.5,slow=7.4,SNR=2.0						

WEL 29 03:01:11.9±0.1, 4055S×17433E, h53km±3km, ML3.5/12, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.40**	**231**	PN	Pn	03 01 22.1	-0.2
DUWZ				SN	Sn	03 01 30.4	+0.6
KIW	**Kapiti Island**	**0.54**	**126**	PN	Pn	03 01 23.3	-0.5
KIW				SN	Sn	03 01 32.3	0.0
TCW	**Tory Channel**	**0.67**	**184**	PN	Pn	03 01 25.0	-0.3
TCW				SN	Sn	03 01 34.9	-0.2
MRW	**Makara Radio**	**0.73**	**158**	PN	Pn	03 01 25.9	-0.3
MRW				SN	Sn	03 01 37.1	+0.5
CAW	**Cannon Point**	**0.79**	**135**	PN	Pn	03 01 26.6	-0.3
CAW				SN	Sn	03 01 38.4	+0.5
WEL	**Wellington**	**0.81**	**156**	PN	Pn	03 01 27.3	+0.1
WEL				SN	Sn	03 01 38.9	+0.7
SNZO	**South Karori**	**0.81**	**160**	PN	Pn	03 01 26.8	-0.4
SNZO				SN	Sn	03 01 38.3	-0.1
TUWZ	**Tuamarina**	**0.93**	**198**	PN	Pn	03 01 28.1	-0.6
TUWZ				SN	Sn	03 01 40.9	-0.2
WAZ	**Wanganui**	**0.94**	**32**	PN	Pn	03 01 29.1	+0.3
BHW	**Baring Head**	**0.95**	**155**	PN	Pn	03 01 29.3	+0.3
MRZ	**Mangatainoka R**	**0.96**	**97**	PN	Pn	03 01 28.3	-0.8
NNZ	**Nelson**	**0.98**	**227**	PN	Pn	03 01 29.1	-0.4
MTW	**Mount Morrison**	**1.08**	**125**	PN	Pn	03 01 30.1	-0.6
MSWZ	**Moikau Station**	**1.11**	**142**	PN	Pn	03 01 31.2	+0.1
PAWZ	**Paruwai Farm**	**1.17**	**136**	PN	Pn	03 01 31.9	-0.1
BSWZ	**Blackbirch Sta**	**1.22**	**196**	PN	Pn	03 01 32.8	+0.2
NRZ	**Ngariki Road**	**1.25**	**346**	PN	Pn	03 01 33.7	+0.6
TRWZ	**Traveller**	**1.33**	**130**	PN	Pn	03 01 34.4	+0.3
TSZ	**Takapari Road**	**1.34**	**69**	PN	Pn	03 01 33.6	-0.6
PKE	**Pukeiti**	**1.38**	**349**	PN	Pn	03 01 35.1	+0.3
QRZ	**Quartz Range**	**1.40**	**258**	PN	Pn	03 01 34.5	-0.6
VRZ	**Vera Road**	**1.46**	**13**	PN	Pn	03 01 35.2	-0.7
BFZ	**Birch Farm**	**1.46**	**96**	PN	Pn	03 01 35.1	-0.8
TRVZ	**Turoa**	**1.56**	**37**	PN	Pn	03 01 37.5	+0.3
WNVZ	**Wahianoa**	**1.56**	**39**	PN	Pn	03 01 37.3	+0.1

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*CSEM **29** 03:07:40.8±0.2, 2765N×5608E, h2km, ML3.3, Error ellipse: s-maj=7.0km s-min=3.3km az=76.0*
*ISCJB **29** 03:07:41.8±1.1, 2768N±007×561E±02, h13km±17km, Error ellipse: s-maj=29.4km s-min=9.5km az=31.5*
*THR **29** 03:07:42.3±0.7, 2755N×5605E, h14km±9km, ML3.3*
*TEH **29** 03:07:46.8, 2770N×5579E, h18km, Mn3.5*
ISC 29 03:07:42.8±1.5, 2763N±006×560E±02, h6km±18km, n11, σ1§41/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.28**	**148**	*e*PG	**Pg**	**03 07 46.8**	**-1.4**
BNDS				AML	AML	03 07 59.3	
	comp=E,3μm,0.2s						
KRBR	**Kerman**	**2.43**	**16**	*e*PN	**Pn**	**03 08 25.2**	**+2.2**
KRBR				*e*SG	**Sg**	**03 09 00.9**	**0.0**
KRBR				AML	AML	03 09 01.9	
	comp=N,206nm,0.1s						
KRBR				AML	AML	03 09 07.0	
	comp=E,204nm,0.5s						
KRBR	**Kerman**	**2.43**	**16**	*e*Pn	**Pn**	**03 08 25.2**	**+2.2**
	SNR=52						
KRBR				*e*Sg	**Sg**	**03 09 00.9**	**0.0**
	SNR=90						
GHIR	**Ghir-Karzin**	**2.75**	**284**	*e*PN	**Pn**	**03 08 28.8**	**+1.4**
GHIR				AML	AML	03 09 21.4	
	comp=N,90nm,0.6s						
GHIR				AML	AML	03 09 33.4	
	comp=E,131nm,0.0s						
IMEH	**Mehriz**	**3.94**	**342**	*e*Pn	**Pn**	**03 08 43.9**	**+0.2**
IBAF	**Bafgh**	**3.96**	**355**	*e*Pn	**Pn**	**03 08 45.4**	**+1.3**
IBAF				*e*Sn	**Sn**	**03 09 28.5**	**-2.3**
ICHK	**Chekchek**	**4.80**	**344**	*e*Pn	**Pn**	**03 08 56.5**	**+0.9**
ICHK				*e*Sn	**Sn**	**03 09 47.1**	**-4.4**
IGAR	**Garneh**	**5.66**	**325**	*e*Pn	**Pn**	**03 09 09.8**	**+2.4**
IGAR				*e*Sn	**Sn**	**03 10 11.7**	**-1.0**
IZEF	**Zefreh**	**6.13**	**330**	*e*Pn	**Pn**	**03 09 13.0**	**-0.9**
IPIR	**Pirpir**	**6.70**	**320**	*e*Pn	**Pn**	**03 09 19.9**	**-1.8**
IKLH	**Kalahroud**	**6.83**	**327**	*e*Pn	**Pn**	**03 09 23.0**	**-0.5**

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*SKO **29** 03:08:15.6, 4440N×2020E, h15km*
*ISCJB **29** 03:08:17.9±0.3, 4410N±001×2012E±002, h3km±2km, Error ellipse: s-maj=2.9km s-min=2.1km az=3.8*
*NEIC **29** 03:08:18.5, 4407N×2010E, h10km, MD3.2(PDG), After PDG.*
*PDG **29** 03:08:18.5±0.2, 4407N×2010E, h10km*
*BEO **29** 03:08:18.6±0.3, 4409N×2008E, h15km*
*CSEM **29** 03:08:18.3±0.1, 4405N×2007E, h15km, ML3.4/1, Error ellipse: s-maj=1.5km s-min=1.4km az=44.0*
ISC 29 03:08:19.2±0.3, 4408N±001×2012E±002, h4km±2km, n84, σ1§16/121, 27C-30D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divcibare**	**0.09**	**279**	⇓*i*Pg	**Pg**	**03 08 21.5**	**+0.4**
DIVS				Sg	**Sg**	**03 08 23.4**	**+1.1**
GRUS	**Gruza**	**0.47**	**114**	*i* Pg	**Pg**	**03 08 27.7**	**-0.7**
GRUS				Sg	**Sg**	**03 08 35.3**	**+0.8**
BBLS	**Bajina Basta -**	**0.55**	**247**	*i* Pg	**Pg**	**03 08 30.2**	**+0.3**
BBLS				Sg	**Sg**	**03 08 37.4**	**+0.3**
SVIS	**Svilajnac**	**0.82**	**75**	⇑*i*Pg	**Pg**	**03 08 35.4**	**+0.4**
SVIS				Sg	**Sg**	**03 08 47.1**	**+1.4**
PLE	**Pljevlja**	**0.92**	**215**	⇓*i*Pg	**Pg**	**03 08 35.3**	**-1.5**
PLE				*e*Sg	**Sg**	**03 08 49.3**	**+0.6**
FGSL	**Fruska Gora**	**1.09**	**349**	Pg	**Pg**	**03 08 38.8**	**-1.4**
FGSL				Sg	**Sg**	**03 08 54.0**	**-0.4**
IVA	**Berane**	**1.22**	**187**	⇓*i*Pg	**Pg**	**03 08 40.9**	**-1.8**
IVA				*e*Sg	**Sg**	**03 08 59.7**	**+1.2**
UPM	**Unac-Piva**	**1.24**	**225**	⇓*i*Pg	**Pg**	**03 08 41.1**	**-1.9**
UPM				*e*Sg	**Sg**	**03 09 00.4**	**+1.3**
BOLS	**Boljevac**	**1.36**	**100**	⇓*i*Pg	**Pg**	**03 08 44.2**	**-1.0**
BOLS				Sg	**Sg**	**03 09 02.9**	**+0.1**
PVY	**Plav**	**1.49**	**184**	*e*Pg	**Pg**	**03 08 45.8**	**-2.1**
PVY				*e*Sg	**Sg**	**03 09 08.2**	**+1.1**
NKY	**Niksic**	**1.51**	**213**	⇓*i*Pg	**Pg**	**03 08 45.9**	**-2.2**
NKY				*e*Sg	**Sg**	**03 09 08.7**	**+0.9**
NKY	**Niksic**	**1.51**	**213**	⇓*i*Pg	**Pg**	**03 08 45.9**	**-2.2**
NKY				*e*Sg	**Sg**	**03 09 08.6**	**+0.9**
BRY	**Bratogost**	**1.65**	**225**	⇓*i*Pn	**Pn**	**03 08 48.1**	**-0.8**
BRY				*e*Sn	**Sn**	**03 09 11.9**	**+1.5**
BCI	**Bajram Curri**	**1.72**	**181**	*e*Pn	**Pn**	**03 08 48.4**	**-1.4**
BCI				*i* Sn	**Sn**	**03 09 12.4**	**+0.2**
TTG	**Podgorica**	**1.77**	**201**	⇓*i*Pn	**Pn**	**03 08 49.9**	**-0.7**
TTG				*e*Sn	**Sn**	**03 09 14.8**	**+1.4**
BZS	**Buzias**	**1.87**	**34**	⇑P	**Pn**	**03 08 51.6**	**-0.3**
BZS	**Buzias**	**1.87**	**34**	⇑P	**Pn**	**03 08 51.6**	**-0.3**
TREB	**Trebinje**	**1.88**	**224**	P	**Pn**	**03 08 52.4**	**+0.4**
TREB				S	**Sn**	**03 09 17.8**	**+1.7**
BUM	**Brajici-Budva**	**1.99**	**207**	*e*Pn	**Pn**	**03 08 53.2**	**-0.4**
BUM				*e*Sn	**Sn**	**03 09 20.2**	**+1.2**
HCY	**Herceg Novi**	**2.02**	**216**	*e*Pn	**Pn**	**03 08 53.8**	**-0.2**
HCY				*e*Sn	**Sn**	**03 09 20.8**	**+1.2**
STON	**Ston**	**2.13**	**236**	*i* Pn	**Pn**	**03 08 56.3**	**+0.7**
STON				*i* Sn	**Sn**	**03 09 25.1**	**+2.6**
ULC	**Ulcinj**	**2.21**	**197**	*e*Pn	**Pn**	**03 08 56.2**	**-0.5**
ULC				*e*Sn	**Sn**	**03 09 25.5**	**+1.1**
RHK3	**Tenkes**	**2.24**	**324**	⇑*i*P	**Pn**	**03 08 56.8**	**-0.2**
RHK3				*e*S	**Sg**	**03 09 31.1**	**0.0**
SKO	**Skopje**	**2.32**	**155**	*e*Pn	**Pn**	**03 08 57.3**	**-0.9**
PKSM	**Moragy**	**2.37**	**334**	⇑P	**Pn**	**03 08 58.6**	**-0.2**
PKSM	**Moragy**	**2.37**	**334**	⇑P	**Pn**	**03 08 58.6**	**-0.3**
PKS6	**Bocsa**	**2.55**	**351**	⇑*i*P	**Pn**	**03 09 01.4**	**+0.2**
VTS	**Vitosha**	**2.71**	**122**	⇓P	**Pn**	**03 09 02.7**	**-0.7**
VTS	**Vitosha**	**2.71**	**122**	⇓P	**Pn**	**03 09 02.7**	**-0.7**
PKS9	**Tamasi**	**2.82**	**333**	⇑*i*P	**Pn**	**03 09 05.0**	**0.0**
STIP	**Stip**	**2.83**	**147**	*e*Pn	**Pn**	**03 09 03.3**	**-1.9**
PKS8	**Sarbogard**	**2.97**	**341**	⇑*i*P	**Pn**	**03 09 07.0**	**-0.1**
PKS8				*e*S	**Sg**	**03 09 56.3**	**+1.6**
OHR	**Ohrid**	**3.01**	**170**	*e*Pn	**Pn**	**03 09 07.1**	**-0.6**
BIA	**Bitola**	**3.19**	**163**	*e*Pn	**Pn**	**03 09 09.3**	**-0.8**
DRGR		**3.27**	**33**	⇑P	**Pn**	**03 09 11.3**	**+0.1**
DRGR		**3.27**	**33**	⇑P	**Pn**	**03 09 11.3**	**+0.1**
VAY	**Valandovo**	**3.30**	**146**	*e*Pn	**Pn**	**03 09 09.8**	**-1.9**
VAY	**Valandovo**	**3.30**	**146**	*e*Pn	**Pn**	**03 09 09.7**	**-1.9**
FNA	**Florina**	**3.43**	**164**	*e*P	**Pn**	**03 09 13.9**	**+0.5**
BUD	**Budapest**	**3.48**	**348**	⇓*e*Pn	**Pn**	**03 09 14.3**	**+0.1**
PKSG		**3.52**	**341**	⇑*i*P	**Pn**	**03 09 14.8**	**+0.1**
GRG	**Griva**	**3.55**	**151**	*e*P	**Pn**	**03 09 14.5**	**-0.6**
KNT	**Kendrikon**	**3.57**	**144**	*e*P	**Pn**	**03 09 14.3**	**-1.0**
PENC	**Penc**	**3.75**	**351**	⇓*e*P	**Pn**	**03 09 18.3**	**+0.5**
PSZ	**Piszkesteto**	**3.84**	**358**	⇑*i*Pn	**Pn**	**03 09 18.8**	**-0.2**
PSZ				*e*Sn	**Sn**	**03 10 03.5**	**-1.1**
PSZ	**Piszkesteto**	**3.84**	**358**	⇑*i*P	**Pn**	**03 09 18.8**	**-0.2**
PSZ				*e*S	**Sn**	**03 10 03.7**	**-0.9**
SRO2	**Moca**	**3.87**	**343**	*e*PN	**Pn**	**03 09 18.5**	**-1.0**
SRO2				*e*SN	**Sn**	**03 10 06.7**	**+1.4**
SRO1	**Iza**	**3.91**	**341**	*e*PN	**Pn**	**03 09 20.4**	**+0.4**
SRO1				*e*SN	**Sn**	**03 10 07.6**	**+1.4**
SRS	**Serrai**	**3.92**	**138**	*e*P	**Pn**	**03 09 18.9**	**-1.3**
SRO	**Srobarova**	**3.94**	**342**	*e*PN	**Pn**	**03 09 21.1**	**+0.7**
SRO				*e*SN	**Sn**	**03 10 08.1**	**+1.1**
SOH	**Sokhos**	**4.05**	**143**	*e*P	**Pn**	**03 09 20.9**	**-0.9**
MLR	**Muntele Rosu**	**4.38**	**69**	⇑P	**Pn**	**03 09 29.0**	**+2.5**
MLR	**Muntele Rosu**	**4.38**	**69**	⇑P	**Pn**	**03 09 29.0**	**+2.5**
KECS	**Kecovo**	**4.41**	**3**	*e*PN	**Pn**	**03 09 28.9**	**+2.0**
VYHS	**Vyhne**	**4.50**	**349**	*e*PN	**Pn**	**03 09 28.0**	**-0.1**
VYHS				*e*SN	**Sn**	**03 10 19.2**	**-1.7**
ARSA	**Arzberg**	**4.51**	**316**	⇑*i*Sn	**Sn**	**03 10 18.7**	**-2.5**
ARSA	**Arzberg**	**4.51**	**316**	⇑*i*Pn	**Pn**	**03 09 28.5**	**+0.2**
ARSA				⇑*i*Sn	**Sn**	**03 10 18.7**	**-2.5**
OBKA	**Obir**	**4.62**	**304**	⇓*i*Sn	**Sn**	**03 10 21.4**	**-2.3**
OBKA	**Obir**	**4.62**	**304**	⇓*i*Sg	**Sg**	**03 10 47.6**	**+0.1**
	comp=N,9.0nm,0.5s						
OBKA	**Obir**	**4.62**	**304**	⇓⇓*i*Pn	**Pn**	**03 09 29.5**	**-0.2**
OBKA				⇓⇓*i*Sn	**Sn**	**03 10 21.4**	**-2.3**
OBKA				⇓⇓*i*Sg	**Sg**	**03 10 47.6**	**+0.1**
	9.0nm,0.5s						
ZST	**Bratislava**	**4.62**	**334**	*e*PN	**Pn**	**03 09 30.0**	**+0.3**
ZST				*e*SN	**Sn**	**03 10 22.7**	**-1.0**
OUR	**Ouranopolis**	**4.72**	**141**	*e*P	**Pn**	**03 09 30.1**	**-1.0**
SMOL	**Smolenice**	**4.81**	**338**	*e*PN	**Pn**	**03 09 32.5**	**+0.2**
SMOL				*e*SN	**Sn**	**03 10 27.2**	**-1.2**
PAIG	**Paliouri**	**4.93**	**146**	*e*P	**Pn**	**03 09 33.0**	**-1.0**
PLOR	**Plostina**	**4.96**	**67**	⇓P	**Pn**	**03 09 36.9**	**+2.4**
BURAR	**Bucovina Array**	**5.02**	**43**	⇑P	**Pn**	**03 09 36.9**	**+1.7**
BURAR	**Bucovina Array**	**5.02**	**43**	⇑P	**Pn**	**03 09 36.9**	**+1.7**
VRI	**Vrincioaia**	**5.02**	**67**	⇓P	**Pn**	**03 09 39.3**	**+4.1**
VRI	**Vrincioaia**	**5.02**	**67**	⇓P	**Pn**	**03 09 39.3**	**+4.0**
NIE	**Niedzica**	**5.34**	**1**	*e*Pn	**Pn**	**03 09 42.5**	**+2.9**
NIE				*e*Sn	**Sn**	**03 10 44.5**	**+2.9**
STHS	**Stebnicka Huta**	**5.39**	**8**	*e*PN	**Pn**	**03 09 42.3**	**+1.9**
MOA	**Molln**	**5.55**	**315**	⇓*i*Sn	**Sn**	**03 10 44.4**	**-2.3**
MOA	**Molln**	**5.55**	**315**	⇑*i*Pn	**Pn**	**03 09 42.3**	**-0.2**
MOA				⇓*i*Sn	**Sn**	**03 10 44.4**	**-2.3**
KBA	**Koelnbreinsper**	**5.62**	**305**	⇓*i*Sn	**Sn**	**03 10 46.3**	**-2.1**
KBA	**Koelnbreinsper**	**5.62**	**305**	⇓*i*Pn	**Pn**	**03 09 44.0**	**+0.6**
KBA				⇓*i*Sn	**Sn**	**03 10 46.3**	**-2.1**
HARR	**Harsova**	**5.63**	**81**	⇓P	**Pn**	**03 09 45.1**	**+1.4**
HARR	**Harsova**	**5.63**	**81**	⇓P	**Pn**	**03 09 45.1**	**+1.4**
TIRR	**Tirgusor**	**5.97**	**84**	⇑P	**Pn**	**03 09 49.0**	**+0.7**
TIRR	**Tirgusor**	**5.97**	**84**	⇑P	**Pn**	**03 09 49.0**	**+0.7**
WTTA	**Wattenberg**	**6.74**	**301**	⇑*i*Sn	**Sn**	**03 11 12.6**	**-3.4**
WTTA	**Wattenberg**	**6.74**	**301**	⇓*i*Pn	**Pn**	**03 09 58.9**	**+0.1**
WTTA				⇑*i*Sn	**Sn**	**03 11 12.6**	**-3.4**
SQTA	**Sankt Quirin**	**6.99**	**300**	⇑*i*Pn	**Pn**	**03 10 02.3**	**0.0**
MOTA	**Moosalm**	**7.10**	**300**	⇓*i*Pn	**Pn**	**03 10 03.7**	**-0.1**
MOTA	**Moosalm**	**7.10**	**300**	Pn	**Pn**	**03 10 03.7**	**-0.1**

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*ISCJB **29** 03:37:03.5±0.3, 6629N±003×14220W±007, h10km, mb4.0/11, MS3.5/7, Error ellipse: s-maj=4.4km s-min=4.0km az=125.0*
*IDC **29** 03:37:04.9±0.6, 6636N×14209W, h0km, mb4.0/8, mb1 4.2/13, mb1mx3.9/26, mbtmp4.0/13, ML4.2/4, MS3.5/9, Ms1 3.5/9, ms1mx3.2/34, Error ellipse: s-maj=12.6km s-min=9.1km az=148.0*
*NEIC **29** 03:37:05.9, 6626N×14237W, h18km, mb4.0/5, ML4.4(AEIC), MW4.3(SLM), MW4.5(PGC), After AEIC.*
*PGC **29** 03:37:05.0, 6629N×14223W, h5km, ML4.4/2, Mw4.5, 280km northwest of Dawson, Yt Eastern Alaska.*
ISC 29 03:37:05.0±0.3, 6631N±003×14223W±007, h10km, n69, σ1§11/82, mb4.0/11, MS3.5/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.46**	**321**	P	**Pn**	**03 37 31.0**	**-0.3**
BM3				S	**Sn**	**03 37 51.9**	**+1.5**
IL1	**Eielson Array**	**2.48**	**234**	P	**Pn**	**03 37 44.6**	**-0.8**
ILAR	**Eielson Array**	**2.48**	**234**	Pn	**Pn**	**03 37 44.6**	**-0.8**
	12nm,0.3s,baz=45,slow=14,SNR=1356						
ILAR				Pg	**Pg**	**03 37 51.1**	**-1.4**
	56nm,0.3s,baz=44,slow=17,SNR=81						
ILAR				Lg		03 38 20.4	
	186nm,0.3s,baz=50,slow=29,SNR=22						
DAWY	**Dawson**	**2.56**	**151**	Pn	**Pn**	**03 37 45.5**	**-1.0**
DAWY				Sn	**Sn**	**03 38 16.3**	**-1.3**
DAWY				Sg	**Sg**	**03 38 22.3**	**-4.8**
DAWY				Trac		03 38 30.8	
	comp=Z,548nm,0.5s						
DAWY	**Dawson**	**2.56**	**151**	P	**Pn**	**03 37 45.5**	**-1.0**
COLA	**College**	**2.75**	**241**	P	**Pn**	**03 37 48.3**	**-0.8**
DOT	**Dot Lake**	**2.79**	**197**	P	**Pn**	**03 37 49.1**	**-0.5**
COLD	**Coldfoot**	**3.29**	**290**	P	**Pn**	**03 37 57.3**	**+0.7**
MENT	**Mentasta**	**3.45**	**191**	P	**Pn**	**03 37 58.2**	**-0.5**
PAX	**Paxson**	**3.63**	**204**	P	**Pn**	**03 38 02.3**	**+1.0**
MCK	**McKinley**	**3.85**	**231**	P	**Pn**	**03 38 03.6**	**-0.6**
INK	**Inuvik**	**3.92**	**55**	Pn	**Pn**	**03 38 05.2**	**0.0**
	19nm,0.3s,baz=241,slow=17,SNR=262						
INK				Sn	**Sn**	**03 38 50.0**	**-1.3**
	12nm,0.3s,baz=129,slow=19,SNR=8.9						
INK				Lg		03 39 07.4	
	49n

baz=295,slow=23,SNR=9.9
YKA LR LR 03 45 02.3
comp=Z,228nm,21.5s,baz=0.0,slow=38
YKA Yellowknife Ar 12.48 95 Pn **Pn 03 39 58.4 -4.2**
YKA Sn **Sn 03 42 11.4 -10**
YKA LR LR 03 45 02.3
BMBC Bull Mountain 14.05 127 Pn **Pn 03 40 33.0 +8.9**
BMBC S Sx 03 44 24.1
BMBC Trac 03 44 51.8
comp=Z,20nm,0.9s
RES Resolute Bay 17.32 41 Pn **Pn 03 41 03.6 -3.2**
RES Sn **Sn 03 44 06.3 -13**
RES Trac 03 44 12.6
comp=Z,9.0nm,0.8s
RES Resolute Bay 17.32 41 *e*Pn **Pn 03 41 03.0 -3.9**
3.6nm,0.6s
EDM Edmonton 19.33 119 *e*P **Pn 03 41 29.4 -2.0**
BILL Bilibino 19.58 299 *e*P **Pn 03 41 33.7 -0.7**
6.6nm,0.9s
NEW Newport 22.33 132 LR LR 03 51 23.5
comp=Z,160nm,19.1s,MS3.5,baz=330,slow=38
FFC Flin Flon 22.48 101 *e*P **P 03 42 03.9 -0.5**
5.1nm,0.8s,mb4.0
WALA Waterton Lakes 22.64 126 *e*P **P 03 42 07.1 +1.0**
39nm,1.8s,mb4.5
CHMT Chamberlain Mo 24.73 127 *e*P **P 03 42 27.0 +0.6**
HRY Holter Researc 25.37 126 *e*P **P 03 42 32.6 +0.3**
YBH Yreka Blue Hor 26.92 146 LR LR 03 53 18.1
comp=Z,122nm,19.0s,MS3.5,baz=96,slow=36
ULM Lac du Bonnet 28.31 102 LR LR 03 54 54.3
comp=Z,73nm,19.5s,MS3.3,baz=315,slow=38
FRB Frobisher Bay 29.56 60 P **P 03 43 10.7 +0.8**
2.0nm,0.8s,mb3.9,baz=297,slow=6.0,SNR=3.9
PDAR Pinedale Array 29.62 126 P **P 03 43 11.8 +1.5**
3.2nm,0.7s,mb4.2,baz=354,slow=5.5,SNR=16
ISCO Idaho Springs 33.59 124 *e*P **P 03 43 46.3 +1.0**
2.2nm,0.7s,mb4.2
ANMO Albuquerque 37.73 128 P **P 03 44 22.0 +1.2**
1.4nm,0.7s,mb3.8,baz=332,slow=12,SNR=4.4
JMIC Jan Mayen 39.40 22 LR LR 04 00 21.8
comp=Z,57nm,20.6s,MS3.4,baz=73,slow=36
SADO Sadowa 39.44 91 LR LR 04 01 20.1
comp=Z,164nm,19.3s,MS3.9,baz=219,slow=37
NOA NORSAR Array B 51.45 16 LR LR 04 05 57.3
comp=Z,29nm,19.6s,MS3.3,baz=235,slow=34
FINES FINESS Array B 52.26 7 P **P 03 46 16.6 +0.2**
0.6nm,0.4s,mb3.8,baz=15,slow=7.9,SNR=7.2
HFS Hagfors 52.60 15 P **P 03 46 19.5 +0.6**
1.5nm,0.8s,mb4.0,baz=335,slow=5.6,SNR=5.5
SONM Songino Array 54.78 310 P **P 03 46 35.9 +1.0**
0.4nm,0.8s,mb3.5,baz=58,slow=3.6,SNR=2.6
EKA Eskdalemuir Ar 54.81 27 P **P 03 46 35.5 +0.4**
2.0nm,0.9s,mb4.2,baz=325,slow=6.1,SNR=6.5
MKAR Makanchi Array 62.18 327 LR LR 04 17 37.8
comp=Z,47nm,18.1s,MS3.7,baz=258,slow=39
AKASG Malin Array Be 63.13 6 P **P 03 47 33.0 +0.1**
0.9nm,0.6s,mb4.1,baz=1.6,slow=6.2,SNR=4.0

*NEIC **29** 03:42:36.2,3142S×7151W,h69km,MD3.6(GUC),After GUC.*
GUC 29 03:42:36.2±0.9,3142S×7151W,h69km±4km,MD3.6, ML3.6,15C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**179**	⇓*i*P	Pn	03 42 48.9	+0.4
CHNG				*i* S	Sn	03 42 58.0	+0.4
CHNG				AMP		03 42 58.4	
	comp=N,4μm,0.3s						
CMCH	**Combarbala**	**0.50**	**60**	⇑*i*P	Pn	03 42 49.8	+0.8
CMCH				*i* S	Sn	03 42 59.4	+1.1
CMCH				AMP		03 43 00.6	
	comp=E,17μm,0.6s						
CMCH	**Combarbala**	**0.50**	**60**	⇑*i*P	Pn	03 42 49.8	+0.8
CMCH				*i* S	Sn	03 42 59.4	+1.1
OVCH	**Ovalle**	**0.85**	**18**	⇑*i*P	Pn	03 42 53.4	+0.5
OVCH				*i* S	Sn	03 43 05.6	+0.5
OVCH				AMP		03 43 05.9	
	comp=N,4μm,0.2s						
PACH	**Papudo**	**1.11**	**177**	*i* P	Pn	03 42 56.6	+0.5
PACH				*i* S	Sn	03 43 11.5	+0.6
TLL	**Tololo Astrono**	**1.39**	**26**	⇑*i*P	Pn	03 43 00.6	+0.9
TLL				*i* S	Sn	03 43 18.3	+1.0
TLL				AMP		03 43 20.4	
	comp=N,3μm,0.7s						
TLL	**Tololo Astrono**	**1.39**	**26**	⇑*i*P	Pn	03 43 00.6	+0.9
TLL				*i* S	Sn	03 43 18.3	+1.0
JACH	**Jahuel**	**1.48**	**148**	⇑*i*P	Pn	03 43 01.8	+1.0
JACH				*i* S	Sn	03 43 20.7	+1.3
IHA	**Instituto Hidr**	**1.60**	**184**	⇑*i*P	Pn	03 43 02.5	0.0
ROCH	**El Roble**	**1.60**	**165**	⇓*i*P	Pn	03 43 03.2	+0.8
PEL	**Peldehue**	**1.85**	**158**	⇑*i*P	Pn	03 43 06.9	+1.1
PEL				*i* S	Sn	03 43 29.5	+1.2
PEL				AMP		03 43 30.1	
	comp=E,801nm,0.4s						
PEL	**Peldehue**	**1.85**	**158**	⇑*i*P	Pn	03 43 06.9	+1.1
PEL				*i* S	Sn	03 43 29.5	+1.2
LCCH	**Las Cruces**	**2.05**	**181**	⇓*i*P	Pn	03 43 08.6	+0.2
DSCH	**Colegio Aleman**	**2.12**	**158**	⇑*i*P	Pn	03 43 10.0	+0.6
DSCH				*i* S	Sn	03 43 35.5	+0.7
CLCH	**Cerro Calan**	**2.13**	**158**	*e*P	Pn	03 43 10.5	+0.9
CLCH				*i* S	Sn	03 43 36.3	+1.2
CLCH				AMP		03 43 52.4	
	comp=E,383nm,0.6s						
CLCH				AMP		03 43 53.0	
	comp=E,494nm,0.7s						
RCDM	**Rinconada Maip**	**2.15**	**164**	*e*P	Pn	03 43 10.4	+0.7
RCDM				*i* S	Sn	03 43 35.9	+0.6
RCDM				AMP		03 43 36.6	
	comp=E,798nm,0.2s						
RCDM	**Rinconada Maip**	**2.15**	**164**	*e*P	Pn	03 43 10.4	+0.7
RCDM				*i* S	Sn	03 43 35.9	+0.6
FCH	**Farellones**	**2.16**	**152**	⇓*i*P	Pn	03 43 11.4	+1.4
FCH				*i* S	Sn	03 43 37.6	+1.8
FCH				AMP		03 43 40.5	
	comp=E,232nm,0.3s						
FSR	**Penalolen**	**2.21**	**158**	*i* P	Pn	03 43 11.6	+0.9
FSR				*i* S	Sn	03 43 37.8	+0.8
FSR				AMP		03 43 52.5	
	comp=N,359nm,0.5s						
FSR	**Penalolen**	**2.21**	**158**	*i* P	Pn	03 43 11.6	+0.9
FSR				*i* S	Sn	03 43 37.8	+0.8
ANTU	**Antumapu**	**2.27**	**161**	⇓*i*P	Pn	03 43 11.9	+0.5
ANTU				*i* S	Sn	03 43 39.0	+0.8
ANTU				AMP		03 43 40.5	
	comp=N,244nm,0.3s						
ANTU	**Antumapu**	**2.27**	**161**	⇓*i*P	Pn	03 43 11.9	+0.5
ANTU				*i* S	Sn	03 43 39.0	+0.8
TACH	**Talagante**	**2.28**	**168**	⇑*i*P	Pn	03 43 12.3	+0.8
TACH				*i* S	Sn	03 43 38.9	+0.3
PCH	**Pirque**	**2.35**	**159**	*e*P	Pn	03 43 13.3	+0.8
SJCH	**San Jose de Ma**	**2.42**	**156**	⇑*i*P	Pn	03 43 13.9	+0.4
SJCH				*i* S	Sn	03 43 43.0	+1.0
SJCH				AMP		03 43 58.0	
	comp=N,162nm,0.3s						
SJCH	**San Jose de Ma**	**2.42**	**156**	⇑*i*P	Pn	03 43 13.9	+0.4
SJCH				*i* S	Sn	03 43 43.0	+1.0
LNV	**Longovilo**	**2.53**	**178**	⇑*i*P	Pn	03 43 14.7	-0.2
CHCH	**Chadas Angostu**	**2.61**	**164**	⇑*i*P	Pn	03 43 17.2	+1.2
CHCH				*i* S	Sn	03 43 47.4	+0.8
LMEL	**Las Melosas**	**2.66**	**156**	*e*P	Pn	03 43 18.4	+1.7
LMEL				*i* S	Sn	03 43 50.0	+2.2
LMEL				AMP		03 43 51.4	
	comp=N,304nm,0.2s						
LMEL	**Las Melosas**	**2.66**	**156**	*e*P	Pn	03 43 18.4	+1.7
LMEL				*i* S	Sn	03 43 50.0	+2.2
CACH	**El Canelo**	**2.79**	**164**	*i* P	Pn	03 43 19.9	+1.3
CICH	**Cipreses**	**3.03**	**163**	*i* P	Pn	03 43 23.0	+1.3
SFDO	**San Fernando**	**3.21**	**173**	*i* P	Pn	03 43 25.1	+0.9

*ISCJB **29** 03:48:00.7±0.1,49363N±0009×685E±002,h0km,Error ellipse: s-maj=1.4km s-min=1.2km az=171.3*
*NEIC **29** 03:48:02.6,4938N×685E,h1km,ML3.3(SZGRF), ML3.3(STR),ML3.5(FUR),ML3.7(LDG),After STR.*
*STR **29** 03:48:02.6±0.3,4938N×685E,h1km±1km,Ml3.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LEDBW **29** 03:48:03.1±0.2,4938N×687E,h1km,ML3.2,Error ellipse: s-maj=6.0km s-min=2.0km az=99.0*
*BGR **29** 03:48:03.0±0.2,4939N×692E,h1km,ML3.2/9,Error ellipse: s-maj=2.2km s-min=1.1km az=112.0,Q=A*

2006 MAR

*CSEM **29** 03:48:03.3±0.0,4937N×692E,h1km,ML3.8/35,Error ellipse: s-maj=0.8km s-min=0.8km az=95.0*
*UCC **29** 03:48:03.3±0.9,4933N×677E,h1km±6km,ML2.9*
*LDG **29** 03:48:03.1±0.1,4938N×691E,h1km,Md3.6/2,Ml3.7/33, Error ellipse: s-maj=1.1km s-min=1.0km az=110.0, Suspected Mining induced.*
*BNS **29** 03:48:03.9±0.9,4942N×687E,h1km,ML3.1*
*PRU **29** 03:48:04.4,4921N×7.13E,h0km*
ISC 29 03:48:01.5±0.1,49364N±0008×687E±001,h0km,n218, σ1$25/461,**21C-32D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**20**	⇓P*	**Pg**	**03 48 09.9**	**+1.5**
RUP	**Ruppelstein**	**0.36**	**20**	Pg	**Pg**	**03 48 09.8**	**+1.4**
RUP	**Ruppelstein**	**0.36**	**20**	⇓P	**Pg**	**03 48 09.9**	**+1.5**
WLF	**Walferdange**	**0.56**	**303**	*e*Pg	**Pg**	**03 48 14.1**	**+2.0**
	SNR=46						
WLF				*e*Sg	**Sg**	**03 48 21.4**	**+2.0**
WLF	**Walferdange**	**0.56**	**303**	⇓P	**Pg**	**03 48 14.1**	**+2.0**
WLF				S	**Sg**	**03 48 19.5**	**+0.1**
	comp=N,340nm,0.5s						
WLF	**Walferdange**	**0.56**	**303**	*e*Pg	**Pg**	**03 48 14.0**	**+1.8**
WLF				*e*Sg	**Sg**	**03 48 18.9**	**-0.5**
ABH	**Alteburg**	**0.68**	**40**	⇓*e*P*	**Pg**	**03 48 15.4**	**+0.9**
ABH	**Alteburg**	**0.68**	**40**	⇓*e*P	**Pg**	**03 48 15.4**	**+0.9**
LANF	**Langenberg**	**0.72**	**122**	Pg	**Pg**	**03 48 16.7**	**+1.3**
LANF	**Langenberg**	**0.72**	**122**	P	**Pg**	**03 48 16.8**	**+1.4**
KTD	**Kalmit**	**0.80**	**93**	P*	**Pb**	**03 48 18.0**	**-0.2**
KTD	**Kalmit**	**0.80**	**93**	Pg	**Pg**	**03 48 18.5**	**+1.8**
KTD	**Kalmit**	**0.80**	**93**	P	**Pg**	**03 48 18.0**	**+1.3**
BGG	**Burgeitz**	**0.90**	**20**	⇓*e*Pg	**Pg**	**03 48 19.4**	**+0.7**
BGG				*e*Sg	**Sg**	**03 48 31.7**	**+1.4**
	comp=N,614nm,0.5s						
HILG	**Hillesheim**	**0.94**	**352**	*e*Pg	**Pg**	**03 48 21.1**	**+1.6**
HILG				*e*Sg	**Sg**	**03 48 32.7**	**+1.1**
	comp=N,591nm,0.6s						
HILG	**Hillesheim**	**0.94**	**352**	Pg	**Pg**	**03 48 21.0**	**+1.5**
HILG				Sg	**Sg**	**03 48 32.7**	**+1.1**
	comp=N,591nm,0.6s						
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**03 48 23.0**	**+0.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**03 48 33.8**	**+0.5**
	comp=N,280nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**03 48 23.0**	**+0.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**03 48 33.8**	**+0.5**
	comp=N,140nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pg	**Pg**	**03 48 22.0**	**+1.5**
CDF				*e*Pn	**Pn**	**03 48 23.0**	**+0.4**
CDF				*e*Sg	**Sg**	**03 48 33.8**	**+0.5**
WLS	**Welschbruch**	**1.00**	**161**	Pg	**Pg**	**03 48 22.3**	**+1.6**
WLS	**Welschbruch**	**1.00**	**161**	P	**Pg**	**03 48 22.2**	**+1.5**
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**03 48 25.2**	**+1.7**
ECH	**Echery**	**1.17**	**170**	⇓P	**Pg**	**03 48 25.1**	**+1.2**
RFYF	**Reffroy**	**1.18**	**232**	*e*Pg	**Pg**	**03 48 26.1**	**+2.0**
RFYF				*e*Sg	**Sg**	**03 48 41.6**	**+2.3**
	comp=N,421nm,0.3s						
RFYF	**Reffroy**	**1.18**	**232**	*e*Pg	**Pg**	**03 48 26.1**	**+2.0**
RFYF				*e*Sg	**Sg**	**03 48 41.6**	**+2.3**
	comp=N,211nm,0.3s						
RFYF	**Reffroy**	**1.18**	**232**	*e*Pn	**Pn**	**03 48 25.6**	**+0.4**
RFYF				*e*Pg	**Pg**	**03 48 26.1**	**+2.0**
RFYF				*e*Sg	**Sg**	**03 48 41.6**	**+2.3**
SWS	**Schriesheim**	**1.20**	**84**	⇓P	**Pg**	**03 48 25.1**	**+0.6**
SWS				S	**Sg**	**03 48 41.4**	**+1.3**
SWS	**Schriesheim**	**1.20**	**84**	P	**Pg**	**03 48 25.1**	**+0.6**
SWS				S	**Sg**	**03 48 41.4**	**+1.3**
SWS	**Schriesheim**	**1.20**	**84**	⇓P	**Pg**	**03 48 25.2**	**+0.7**
SWS				S	**Sg**	**03 48 41.4**	**+1.3**
STB	**Steinbach**	**1.23**	**359**	*e*Pg	**Pg**	**03 48 25.2**	**+0.1**
STB				*e*Sg	**Sg**	**03 48 42.0**	**+0.9**
	comp=N,254nm,0.7s						
THEF	**They Montfort**	**1.28**	**208**	Pg	**Pg**	**03 48 26.9**	**+0.9**
THEF				Sg	**Sg**	**03 48 44.4**	**+1.8**
THEF	**They Montfort**	**1.28**	**208**	⇓P	**Pg**	**03 48 26.9**	**+0.9**
TOD	**Tromm**	**1.28**	**78**	Pn	**Pn**	**03 48 26.2**	**-0.5**
TOD				*e*Pg	**Pg**	**03 48 26.2**	**+0.1**
	SNR=77						
TOD				Sg	**Sg**	**03 48 44.6**	**+1.8**
TOD	**Tromm**	**1.28**	**78**	Pn	**Pn**	**03 48 26.2**	**-0.5**
TOD				Sg	**Sg**	**03 48 44.4**	**+1.6**
TOD	**Tromm**	**1.28**	**78**	Pn	**Pn**	**03 48 26.2**	**-0.5**
TOD				Sg	**Sg**	**03 48 44.6**	**+1.8**
LIBD	**Limburg**	**1.31**	**158**	P	**Pg**	**03 48 28.5**	**+1.9**
LIBD				*e*Pg	**Pg**	**03 48 28.8**	**+2.2**
	SNR=7.1						
LIBD	**Limburg**	**1.31**	**158**	Pg	**Pg**	**03 48 28.0**	**+1.4**
LIBD	**Limburg**	**1.31**	**158**	P	**Pg**	**03 48 28.5**	**+1.9**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**03 48 27.0**	**-0.1**
KLL				*e*Sg	**Sg**	**03 48 44.1**	**-0.3**
	comp=N,118nm,0.2s						
TNS	**Taunus Mts**	**1.34**	**49**	⇓*e*P	**Pg**	**03 48 26.7**	**-0.4**
TNS				Sg	**Sg**	**03 48 46.2**	**+1.7**
TNS	**Taunus Mts**	**1.34**	**49**	*e*Pn	**Pn**	**03 48 26.8**	**-0.6**
TNS				*e*Sg	**Sg**	**03 48 46.0**	**+1.6**
MEM	**Membach**	**1.37**	**336**	⇓P	**Pg**	**03 48 27.7**	**+0.1**
MEM				S	**Sg**	**03 48 45.7**	**+0.3**
	comp=E,260nm,0.6s						
MEM	**Membach**	**1.37**	**336**	P	**Pg**	**03 48 27.7**	**0.0**
MEM				S	**Sg**	**03 48 45.6**	**+0.2**
	comp=E,260nm,0.6s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**03 48 30.2**	**+1.8**
HAU				*e*Sn	**Sn**	**03 48 46.2**	**-1.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**03 48 47.9**	**+1.3**
	comp=E,433nm,0.3s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**03 48 30.2**	**+1.8**
HAU				*e*Sn	**Sn**	**03 48 46.2**	**-1.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**03 48 47.9**	**+1.3**
	comp=E,217nm,0.3s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pn	**Pn**	**03 48 28.8**	**+0.5**
HAU				*e*Pg	**Pg**	**03 48 30.2**	**+1.8**
HAU				*e*Sn	**Sn**	**03 48 46.2**	**-1.3**
HAU				*e*Sg	**Sg**	**03 48 47.9**	**+1.3**
BFO	**Black Forest**	**1.41**	**136**	⇓P	**Pn**	**03 48 28.4**	**0.0**
BFO				Pg	**Pg**	**03 48 30.1**	**+1.5**
BFO				S	**Sg**	**03 48 46.9**	**0.0**
BFO				Sg	**Sg**	**03 48 48.7**	**+1.8**
BFO	**Black Forest**	**1.41**	**136**	⇓P	**Pn**	**03 48 28.4**	**0.0**
BFO				P		03 48 30.1	
BFO				S	**Sg**	**03 48 46.9**	**0.0**
BFO				S	**Sg**	**03 48 48.7**	**+1.8**
BFO	**Black Forest**	**1.41**	**136**	Pg	**Pg**	**03 48 30.1**	**+1.5**
BFO				S	**Sg**	**03 48 46.9**	**0.0**
BFO				Sg	**Sg**	**03 48 48.7**	**+1.8**
BFO	**Black Forest**	**1.41**	**136**	*e*Pn	**Pn**	**03 48 28.8**	**+0.3**
BFO				*e*Sg	**Sg**	**03 48 48.7**	**+1.8**
LBG	**Lerchenberg**	**1.45**	**118**	⇓P	**Pn**	**03 48 28.9**	**0.0**
LBG				Pg	**Pg**	**03 48 30.7**	**+1.5**
LBG				S	**Sg**	**03 48 47.2**	**-0.8**
LBG	**Lerchenberg**	**1.45**	**118**	Pg	**Pg**	**03 48 30.7**	**+1.5**
LBG				S	**Sg**	**03 48 47.2**	**-0.8**
LBG	**Lerchenberg**	**1.45**	**118**	⇓P	**Pn**	**03 48 28.9**	**0.0**
LBG				Pg	**Pg**	**03 48 30.7**	**+1.5**
LBG				S	**Sg**	**03 48 47.2**	**-0.8**
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**03 48 31.4**	**+1.6**
MEZF				*e*Sn	**Sn**	**03 48 48.7**	**-0.6**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**03 48 51.0**	**+2.0**
	comp=E,172nm,0.4s						
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**03 48 31.4**	**+1.6**
MEZF				*e*Sn	**Sn**	**03 48 48.7**	**-0.6**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**03 48 51.0**	**+2.0**
	comp=E,86nm,0.4s						
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pn	**Pn**	**03 48 29.7**	**+0.4**
MEZF				*e*Pg	**Pg**	**03 48 31.4**	**+1.6**
MEZF				*e*Sn	**Sn**	**03 48 48.7**	**-0.6**
MEZF				*e*Sg	**Sg**	**03 48 51.0**	**+2.0**
FBB	**Freiburg**	**1.51**	**154**	S*	**Sb**	**03 48 52.0**	**+1.9**
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**03 48 32.1**	**+1.5**
GIVF				*e*Sn	**Sn**	**03 48 49.3**	**-1.1**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**03 48 52.0**	**+1.6**
	comp=E,348nm,0.4s						
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**03 48 32.1**	**+1.5**
GIVF				*e*Sn	**Sn**	**03 48 49.3**	**-1.1**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**03 48 52.0**	**+1.6**
	comp=E,174nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIVF	**Givet**	**1.52**	**300**	*e*Pn	**Pn**	**03 48 30.6**	**+0.7**
GIVF				*e*Pg	**Pg**	**03 48 32.1**	**+1.5**
GIVF				*e*Sn	**Sn**	**03 48 49.3**	**-1.1**
GIVF				*e*Sg	**Sg**	**03 48 52.0**	**+1.6**
MOF	**Molkenrain**	**1.52**	**173**	Pg	**Pg**	**03 48 31.9**	**+1.2**
MOF				Sg	**Sg**	**03 48 52.6**	**+2.1**
MOF	**Molkenrain**	**1.52**	**173**	P	**Pn**	**03 48 30.2**	**+0.2**
MOF				Pg	**Pg**	**03 48 32.1**	**+1.4**
MOF				S	**Sg**	**03 48 49.3**	**-1.2**
MOF				Sg	**Sg**	**03 48 52.6**	**+2.2**
MOF	**Molkenrain**	**1.52**	**173**	Pg	**Pg**	**03 48 32.2**	**+1.5**
MOF				S	**Sg**	**03 48 49.3**	**-1.2**
MOF				Sg	**Sg**	**03 48 52.6**	**+2.1**
HGN	**Heimansgroeve**	**1.53**	**337**	⇓*e*Pn	**Pn**	**03 48 30.2**	**+0.2**
	comp=E,27nm,0.4s						
HGN				*e*Pg	**Pg**	**03 48 31.6**	**+0.8**
	comp=E,91nm,0.3s						
HGN				*e*Sg	**Sg**	**03 48 50.4**	**-0.2**
HGN	**Heimansgroeve**	**1.53**	**337**	*e*Pg	**Pg**	**03 48 31.6**	**+0.8**
	comp=E,91nm,0.3s						
HGN				*e*Sg	**Sg**	**03 48 50.3**	**-0.3**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**03 48 32.2**	**+1.0**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**03 48 49.7**	**-1.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**03 48 52.3**	**+1.0**
	comp=E,675nm,0.4s						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**03 48 32.2**	**+1.0**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**03 48 49.7**	**-1.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**03 48 52.3**	**+1.0**
	comp=E,338nm,0.4s						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pn	**Pn**	**03 48 30.0**	**-0.3**
HINF				*e*Pg	**Pg**	**03 48 32.2**	**+1.0**
HINF				*e*Sn	**Sn**	**03 48 49.7**	**-1.4**
HINF				*e*Sg	**Sg**	**03 48 52.3**	**+1.0**
KIZ	**Kirchzarten**	**1.57**	**153**	P	**Pn**	**03 48 31.0**	**+0.3**
KIZ				Pg	**Pg**	**03 48 33.1**	**+1.4**
KIZ				S	**Sn**	**03 48 49.7**	**-1.9**
KIZ				Sg	**Sg**	**03 48 53.2**	**+1.2**
KIZ	**Kirchzarten**	**1.57**	**153**	Pg	**Pg**	**03 48 33.1**	**+1.5**
KIZ	**Kirchzarten**	**1.57**	**153**	P	**Pn**	**03 48 31.0**	**+0.4**
KIZ				Pg	**Pg**	**03 48 33.1**	**+1.5**
KIZ				S	**Sn**	**03 48 49.7**	**-2.0**
KIZ				Sg	**Sg**	**03 48 53.2**	**+1.2**
JUE	**Julich**	**1.58**	**349**	*e*Sg	**Sg**	**03 48 51.6**	**-0.5**
BNS	**Bensberg**	**1.61**	**7**	*e*Pg	**Pg**	**03 48 31.5**	**-0.9**
BNS				*e*Sg	**Sg**	**03 48 52.8**	**-0.6**
BEBN	**Eben Emael**	**1.63**	**332**	⇑P	**Pn**	**03 48 31.9**	**+0.5**
BEBN				S	**Sn**	**03 48 54.3**	**+1.2**
	comp=N,100nm,0.5s						
BEBN	**Eben Emael**	**1.63**	**332**	P	**Pn**	**03 48 31.8**	**+0.4**
BEBN				S	**Sn**	**03 48 54.2**	**+1.1**
STU	**Stuttgart**	**1.64**	**110**	*e*Pn	**Pn**	**03 48 31.6**	**0.0**
	SNR=4.0						
STU				*e*Sn	**Sn**	**03 48 53.2**	**-0.1**
STU	**Stuttgart**	**1.64**	**110**	*e*Pn	**Pn**	**03 48 31.6**	**0.0**
STU				*e*Sn	**Sn**	**03 48 53.2**	**-0.2**
DOU	**Dourbes**	**1.65**	**297**	⇓P	**Pn**	**03 48 32.3**	**+0.6**
DOU				S	**Sn**	**03 48 53.9**	**+0.3**
	comp=N,136nm,0.5s						
DOU	**Dourbes**	**1.65**	**297**	P	**Pn**	**03 48 32.2**	**+0.5**
DOU				S	**Sn**	**03 48 53.8**	**+0.2**
	comp=N,136nm,0.5s						
HOBG	**Hohbusch**	**1.65**	**10**	*e*Pg	**Pg**	**03 48 31.6**	**-1.5**
HOBG				*e*Sg	**Sg**	**03 48 52.2**	**-2.3**
	comp=N,678nm,0.8s						
FELD	**Feldberg**	**1.67**	**153**	Pg	**Pg**	**03 48 34.4**	**+0.9**
FELD				Sg	**Sg**	**03 48 56.2**	**+1.1**
FELD	**Feldberg**	**1.67**	**153**	Pg	**Pg**	**03 48 34.4**	**+0.9**
FELD				Sg	**Sg**	**03 48 56.2**	**+1.1**
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pg	**Pg**	**03 48 34.8**	**+1.1**
SFTF				*e*Sn	**Sn**	**03 48 53.1**	**-1.2**
SFTF				*e*Sg	**Sg**	**03 48 57.1**	**+1.7**
	comp=N,193nm,0.5s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pg	**Pg**	**03 48 34.8**	**+1.1**
SFTF				*e*Sn	**Sn**	**03 48 53.1**	**-1.2**
SFTF				*e*Sg	**Sg**	**03 48 57.1**	**+1.7**
	comp=N,96nm,0.5s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	**Pn**	**03 48 32.3**	**+0.2**
SFTF				*e*Pg	**Pg**	**03 48 34.8**	**+1.1**
SFTF				*e*Sn	**Sn**	**03 48 53.1**	**-1.2**
SFTF				*e*Sg	**Sg**	**03 48 57.1**	**+1.7**
TUBL	**Tuebingen Lnz**	**1.68**	**119**	Pg	**Pg**	**03 48 35.5**	**+1.7**
SIND	**Sindeldorf**	**1.79**	**89**	⇓P	**Pn**	**03 48 33.4**	**-0.2**
SIND				S	**Sn**	**03 48 55.4**	**-1.6**
SIND	**Sindeldorf**	**1.79**	**89**	⇓P	**Pn**	**03 48 33.4**	**-0.2**
SIND				S	**Sn**	**03 48 55.4**	**-1.6**
SPAK	**Spaichingen**	**1.79**	**134**	⇓P	**Pn**	**03 48 35.3**	**+1.6**
SPAK				*e*Pg	**Pg**	**03 48 37.0**	**+1.2**
	SNR=16						
**S

SNR=1.0
CABF eSn Sn 03 49 20.0 -2.1
SNR=1.0
CABF eSg Sg 03 49 31.0 -0.6
comp=N,52nm,0.5s,SNR=1.0
GRF Grafenberg Arr 2.85 82 ePg Pg 03 48 56.5 +0.3
SNR=5.5
GRF eSg Sg 03 49 32.7 -0.5
DAVA Damuels 2.89 135⇑iSn Sn 03 49 21.8 -2.4
DAVA Damuels 2.89 135⇑iPn Pn 03 48 49.4 +0.6
DAVA ⇑iSn Sn 03 49 21.8 -2.4
LOR Lormes 2.90 225 ePn Pn 03 48 48.7 -0.3
SNR=1.0
LOR Lormes 2.90 225 ePg Pg 03 48 57.9 +0.7
SNR=1.0
LOR eSn Sn 03 49 22.4 -2.2
SNR=1.0
LOR eSg Sg 03 49 34.0 -0.8
comp=N,84nm,0.4s,SNR=1.0
LOR Lormes 2.90 225 ePg Pg 03 48 57.9 +0.7
SNR=1.0
LOR eSn Sn 03 49 22.4 -2.2
SNR=1.0
LOR eSg Sg 03 49 34.0 -0.8
comp=N,42nm,0.4s,SNR=1.0
LOR Lormes 2.90 225 ePn Pn 03 48 48.6 -0.4
LOR ePg Pg 03 48 57.9 +0.7
LOR eSn Sn 03 49 22.4 -2.2
LOR eSg Sg 03 49 34.0 -0.8
IBBN Ibbenburen 3.00 10 eSg Sg 03 49 37.4 -0.5
FUR Furstenfeldbru 3.15 111 eSg Sg 03 49 42.7 -0.1
SSF Saint Saulge 3.22 226 ePg Pg 03 49 03.5 +0.3
SSF eSn Sn 03 49 31.0 -1.4
SNR=1.0
SSF eSg Sg 03 49 45.5 +0.5
comp=N,61nm,0.4s,SNR=1.0
SSF Saint Saulge 3.22 226 ePn Pn 03 48 53.0 -0.3
SNR=1.0
SSF Saint Saulge 3.22 226 ePg Pg 03 49 03.5 +0.3
SSF eSn Sn 03 49 31.0 -1.4
SNR=1.0
SSF eSg Sg 03 49 45.5 +0.5
comp=N,30nm,0.4s,SNR=1.0
SSF Saint Saulge 3.22 226 ePn Pn 03 48 52.7 -0.6
SSF ePn Pn 03 48 53.0 -0.3
SSF ePg Pg 03 49 03.5 +0.3
SSF eSn Sn 03 49 31.0 -1.4
SSF eSg Sg 03 49 45.5 +0.5
MOX Moxa 3.32 65 ePn Pn 03 48 55.3 +0.6
SNR=2.0
MOX ePg Pg 03 49 04.3 -0.8
SNR=4.0
MOX eSg Sg 03 49 46.7 -1.5
MOX Moxa 3.32 65 ePN Pn 03 48 55.9 +1.2
MOX ePG Pg 03 49 04.3 -0.8
MOX eSG Sg 03 49 49.7 +1.5
CLZ Clausthal 3.34 41 ePn Pn 03 48 54.7 -0.2
SNR=3.9
CLZ ePg Pg 03 49 05.5 +0.1
SNR=2.4
CLZ eSg Sg 03 49 47.2 -1.5
CLZ Clausthal 3.34 41 ePn Pn 03 48 55.2 +0.3
SMF Signal de Mont 3.40 218 ePg Pg 03 49 06.7 +0.1
SNR=1.0
SMF eSn Sn 03 49 34.1 -2.6
SNR=1.0
SMF eSg Sg 03 49 49.6 -1.0
comp=N,44nm,0.4s,SNR=1.0
SMF Signal de Mont 3.40 218 ePg Pg 03 49 06.7 +0.1
SNR=1.0
SMF eSn Sn 03 49 34.1 -2.6
SNR=1.0
SMF eSg Sg 03 49 49.6 -1.0
comp=N,22nm,0.4s,SNR=1.0
SMF Signal de Mont 3.40 218 ePn Pn 03 48 55.0 -0.7
SMF ePg Pg 03 49 06.7 +0.1
SMF eSn Sn 03 49 34.1 -2.6
SMF eSg Sg 03 49 49.6 -1.0
MANZ Manzenberg 3.46 78 ePn Pn 03 48 57.2 +0.6
MOTA Moosalm 3.47 124⇓iSn Sn 03 49 35.6 -3.0
MOTA Moosalm 3.47 124⇓iSg Sg 03 49 51.0 -2.0
comp=N,35nm,0.6s
MOTA Moosalm 3.47 124⇑iPn Pn 03 48 57.6 +0.8
MOTA ⇑iSn Sn 03 49 40.2 +1.6
MOTA ⇑iSg Sg 03 49 55.2 +2.1
comp=N,35nm,0.6s
AVF Avril sur Loir 3.49 224 ePn Pn 03 48 56.4 -0.6
SNR=1.0
AVF eSn Sn 03 49 37.0 -2.1
SNR=1.0
AVF eSg Sg 03 49 53.7 0.0
comp=N,64nm,0.7s
AVF Avril sur Loir 3.49 224 ePn Pn 03 48 56.4 -0.6
SNR=1.0
AVF eSn Sn 03 49 37.0 -2.1
SNR=1.0
AVF eSg Sg 03 49 53.7 0.0
comp=N,32nm,0.7s
HYF Humbligny 3.52 235 ePg Pg 03 49 09.3 +0.4
HYF eSg Sg 03 49 54.5 0.0
HYF Humbligny 3.52 235 ePn Pn 03 48 57.7 +0.3
HYF ePg Pg 03 49 09.3 +0.4
HYF eSg Sg 03 49 54.5 0.0
SQTA Sankt Quirin 3.60 125⇑iSn Sn 03 49 38.5 -3.4
SQTA Sankt Quirin 3.60 125⇑iSg Sg 03 49 55.2 -2.1
comp=N,15nm,0.4s
SQTA Sankt Quirin 3.60 125⇓iPn Pn 03 48 58.8 +0.2
SQTA ⇑iSn Sn 03 49 42.1 +0.3
SQTA ⇑iSg Sg 03 49 55.2 -2.1
comp=N,15nm,0.4s
WERD Werda 3.68 71 eSg Sg 03 49 58.3 -1.4
NKC Novy Kostel 3.72 74 ePN Pn 03 49 00.9 +0.8
NKC ePG Pg 03 49 10.1 -2.6
NKC eSG Sg 03 49 58.3 -2.6
comp=N,49nm,0.5s
NKC Novy Kostel 3.72 74 ePg Pg 03 49 10.1 -2.6
NKC eSg Sg 03 49 58.3 -2.6
comp=N,49nm,0.5s
WATA Walderalm 3.74 121⇑iSn Sn 03 49 42.2 -2.9
WATA Walderalm 3.74 121⇑iSg Sg 03 49 59.2 -2.4
comp=N,10nm,0.4s
WATA Walderalm 3.74 121⇑iPn Pn 03 48 59.9 -0.5
WATA ⇓iSn Sn 03 49 44.4 -0.7
WATA ⇑iSg Sg 03 49 59.2 -2.4
comp=N,10nm,0.4s
TANN Tannenbergstha 3.77 72 ePn Pn 03 49 02.7 +1.9
SNR=2.6
TANN ePg Pg 03 49 12.7 -0.9
SNR=4.1
TANN eSg Sg 03 50 01.1 -1.4
LPL La Plagne 3.85 181 ePn Pn 03 49 03.4 +1.4
SNR=1.0
LPL eSg Sg 03 50 04.6 -0.6
comp=N,21nm,0.6s,SNR=1.0
LPL La Plagne 3.85 181 ePn Pn 03 49 03.4 +1.4
SNR=1.0
LPL eSg Sg 03 50 04.6 -0.6
comp=N,10nm,0.6s,SNR=1.0
LPG La Plagne 3.87 181 ePg Pg 03 49 14.6 -1.1
SNR=1.0
LPG eSg Sg 03 50 05.6 -0.2
comp=N,14nm,0.3s,SNR=1.0
LPG La Plagne 3.87 181 ePg Pg 03 49 14.6 -1.1
SNR=1.0
LPG eSg Sg 03 50 05.6 -0.2
comp=N,7.1nm,0.3s,SNR=1.0
LPG La Plagne 3.87 181 ePn Pn 03 49 03.0 +0.8
LPG ePg Pg 03 49 14.6 -1.1
LPG eSg Sg 03 50 05.6 -0.2
BGF Bois d'Agland 3.90 225 ePn Pn 03 49 01.9 -0.7
SNR=1.0
BGF eSn Sn 03 49 44.5 -4.6
SNR=1.0
BGF eSg Sg 03 50 05.6 -1.1
comp=N,196nm,0.4s,SNR=1.0
BGF Bois d'Agland 3.90 225 ePn Pn 03 49 01.9 -0.7
SNR=1.0
BGF eSn Sn 03 49 44.5 -4.6
SNR=1.0
BGF eSg Sg 03 50 05.6 -1.1
comp=N,98nm,0.4s,SNR=1.0
WET Wettzell 3.94 91 ePn Pn 03 49 04.8 +1.6
SNR=9.2
WET eSg Sg 03 50 07.0 -1.1
WET Wettzell 3.94 91 ePn Pn 03 49 04.3 +1.1

PLDF La Plantade 4.04 214 Pn Pn 03 49 04.4 -0.2
CLL Collm 4.38 61 ePg Pg 03 49 24.1 -1.4
SNR=2.1
CLL eSg Sg 03 50 20.4 -2.0
CLL Collm 4.38 61 ePg Pg 03 49 24.0 -1.5
CLL eSg Sg 03 50 22.0 -0.3
comp=Z,31nm,0.7s
TCF Toulx Ste Croi 4.39 227 ePn Pn 03 49 09.4 -0.1
SNR=1.0
TCF eSn Sn 03 49 58.6 -2.8
SNR=1.0
TCF eSg Sg 03 50 22.7 0.0
comp=Z,34nm,0.5s,SNR=1.0
TCF Toulx Ste Croi 4.39 227 ePn Pn 03 49 09.4 -0.1
SNR=1.0
TCF eSn Sn 03 49 58.6 -2.8
SNR=1.0
TCF eSg Sg 03 50 22.7 0.0
comp=Z,17nm,0.5s,SNR=1.0
KHC Kasperske Hory 4.40 90 ePN Pn 03 49 10.5 +1.0
KHC eSN Sn 03 49 59.1 -2.4
KHC eSG Sg 03 50 19.4 -3.5
PYM Petit Puy Mans 4.46 217 Pn Pn 03 49 07.5 -2.9
ORIF Oris-en-Rattie 4.50 189 ePg Pg 03 49 25.0 -2.7
SNR=1.0
ORIF eSg Sg 03 50 24.3 -1.7
comp=Z,33nm,0.6s,SNR=1.0
ORIF Oris-en-Rattie 4.50 189 ePg Pg 03 49 25.0 -2.7
SNR=1.0
ORIF eSg Sg 03 50 24.3 -1.7
comp=Z,16nm,0.6s,SNR=1.0
ORIF Oris-en-Rattie 4.50 189 ePn Pn 03 49 11.3 +0.4
ORIF ePg Pg 03 49 25.0 -2.7
ORIF eSg Sg 03 50 24.3 -1.7
GEC2 GERESS Array S 4.52 94 ePn Pn 03 49 12.4 +1.3
SNR=35
GEC2 eSg Sg 03 50 26.3 -0.3
GEC2 GERESS Array S 4.52 94 ePn Pn 03 49 12.1 +0.9
MBDF Montbardon 4.64 181 ePn Pn 03 49 13.5 +0.7
MBDF eSg Sg 03 50 28.5 -2.1
comp=Z,30nm,0.8s
MBDF Montbardon 4.64 181 ePn Pn 03 49 13.5 +0.7
MBDF eSg Sg 03 50 28.5 -2.1
comp=Z,15nm,0.8s
LDF La Druitiere 4.67 263 ePg Pg 03 49 31.0 0.0
SNR=1.0
LDF eSn Sn 03 50 05.1 -3.0
SNR=1.0
LDF eSg Sg 03 50 31.2 -0.3
comp=Z,35nm,0.5s,SNR=1.0
LDF La Druitiere 4.67 263 ePg Pg 03 49 31.0 0.0
SNR=1.0
LDF eSn Sn 03 50 05.1 -3.0
SNR=1.0
LDF eSg Sg 03 50 31.2 -0.3
comp=Z,18nm,0.5s,SNR=1.0
LDF La Druitiere 4.67 263 ePn Pn 03 49 13.6 +0.4
LDF ePg Pg 03 49 31.0 0.0
LDF eSn Sn 03 50 05.1 -3.0
LDF eSg Sg 03 50 31.2 -0.3
VIVF Saint-Julien-l 4.75 199 ePg Pg 03 49 31.0 -1.6
VIVF eSn Sn 03 50 06.8 -3.4
SNR=1.0
VIVF eSg Sg 03 50 33.2 -1.0
comp=Z,16nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 4.75 199 ePg Pg 03 49 31.0 -1.6
VIVF eSn Sn 03 50 06.8 -3.4
SNR=1.0
VIVF eSg Sg 03 50 33.2 -1.0
comp=Z,8.1nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 4.75 199 ePn Pn 03 49 13.9 -0.5
VIVF ePg Pg 03 49 31.0 -1.6
VIVF eSn Sn 03 50 06.8 -3.4
VIVF eSg Sg 03 50 33.2 -1.0
BRG Berggiesshubel 4.79 69 eSg Sg 03 50 33.8 -1.8
BRG Berggiesshubel 4.79 69 PG Pg 03 49 30.9 -2.5
BRG SN Sn 03 50 09.4 -1.8
BRG SG Sg 03 50 33.6 -2.0
comp=Z,9.1nm,0.8s
LBL Lubilhac 4.81 212 Pn Pn 03 49 15.4 +0.2
FLN La Foliniere 4.87 266 ePn Pn 03 49 16.6 +0.6
SNR=1.0
FLN eSg Sg 03 50 36.6 -1.4
comp=Z,40nm,0.4s
FLN La Foliniere 4.87 266 ePn Pn 03 49 16.6 +0.6
SNR=1.0
FLN eSg Sg 03 50 36.6 -1.4
comp=Z,20nm,0.4s
KBA Koelnbreinsper 4.89 115⇑iSn Sn 03 50 10.3 -3.3
KBA Koelnbreinsper 4.89 115⇑iPn Pn 03 49 17.6 +1.3
KBA ⇓iSn Sn 03 50 14.0 +0.3
PRU Pruhonice 5.02 80 eSG Sg 03 50 40.1 -2.7
comp=Z,29nm,0.9s
MOA Molln 5.13 104⇑iSn Sn 03 50 16.6 -3.0
MOA Molln 5.13 104⇓iPn Pn 03 49 20.8 +1.2
MOA ⇑iSn Sn 03 50 16.6 -3.0
GRR Gorron 5.19 262 ePg Pg 03 49 40.0 -1.0
SNR=1.0
GRR eSn Sn 03 50 17.4 -3.6
GRR eSg Sg 03 50 46.7 -1.6
comp=Z,30nm,0.6s
GRR Gorron 5.19 262 ePg Pg 03 49 40.0 -1.0
SNR=1.0
GRR eSn Sn 03 50 17.4 -3.6
GRR eSg Sg 03 50 46.7 -1.6
comp=Z,15nm,0.6s
GRR Gorron 5.19 262 ePn Pn 03 49 20.7 +0.3
GRR ePg Pg 03 49 40.0 -1.0
GRR eSn Sn 03 50 17.4 -3.6
GRR eSg Sg 03 50 46.7 -1.6
RJF Les Rejaudoux 5.45 224 eSg Sg 03 50 55.4 -1.3
comp=Z,32nm,0.6s
RJF Les Rejaudoux 5.45 224 eSg Sg 03 50 55.4 -1.3
comp=Z,16nm,0.6s
MFF Saint Martin d 5.46 242 ePn Pn 03 49 23.8 -0.3
MFF eSg Sg 03 50 55.3 -1.6
comp=Z,25nm,0.6s,SNR=1.0
MFF Saint Martin d 5.46 242 ePn Pn 03 49 23.8 -0.3
MFF eSg Sg 03 50 55.3 -1.6
comp=Z,12nm,0.6s,SNR=1.0
CAF Calviac 5.52 218 ePn Pn 03 49 23.9 -1.0
SNR=1.0
CAF eSg Sg 03 50 56.8 -2.0
comp=Z,20nm,0.5s
CAF Calviac 5.52 218 ePn Pn 03 49 23.9 -1.0
SNR=1.0
CAF eSg Sg 03 50 56.8 -2.0
comp=Z,9.9nm,0.5s
LASF Ste Croix 5.68 203 eSg Sg 03 51 01.6 -2.4
comp=Z,37nm,0.6s
LASF Ste Croix 5.68 203 eSg Sg 03 51 01.6 -2.4
comp=Z,18nm,0.6s
UPC Upice 6.01 76 eSG Sg 03 51 11.5 -3.2
LFF La Frestale 6.09 226 eSg Sg 03 51 14.9 -2.1
comp=Z,56nm,0.7s
LFF La Frestale 6.09 226 eSg Sg 03 51 14.9 -2.1
comp=Z,28nm,0.7s
DPC Dobruska-Polom 6.19 77 eSG Sg 03 51 17.5 -2.9
SGMF Saint Gilles 6.33 263 ePn Pn 03 49 36.1 +0.1
SNR=1.0
SGMF eSg Sg 03 51 21.9 -2.8
comp=Z,37nm,0.7s
SGMF Saint Gilles 6.33 263 ePn Pn 03 49 36.1 +0.1
SNR=1.0
SGMF eSg Sg 03 51 21.9 -2.8
comp=Z,18nm,0.7s
ROSF Rostrenen 6.77 265 ePn Pn 03 49 41.8 -0.3
SNR=1.0
QUIF Quistinic 6.81 262 ePn Pn 03 49 42.2 -0.4
SNR=1.0
MTLF Montolieu 6.83 210 eSg Sg 03 51 37.4 -3.4
comp=Z,9.3nm,0.6s
MTLF Montolieu 6.83 210 eSg Sg 03 51 37.4 -3.4
comp=Z,4.7nm,0.6s
EPF Esparros 7.79 218 ePn Pn 03 49 55.5 -0.5
EPF eSg Sg 03 52 07.6 -3.9
comp=Z,9.6nm,0.7s

IDC 29 03:50:14.9±2.6, 619N×12544E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=129.5km s-min=42.1km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.13**	**180**	P	P	03 55 34.3	+1.9
	2.4nm,0.8s,baz=319,slow=17,SNR=6.9						
WRA	**Warramunga Arr**	**27.40**	**162**	P	P	03 56 01.9	-0.2
	0.4nm,0.4s,baz=335,slow=10,SNR=11						
WB2	**Warramunga Arr**	**27.41**	**162**	eP	P	03 56 02.0	-0.1
ASAR	**Alice Springs**	**30.80**	**165**	P	P	03 56 32.9	+0.6
	0.5nm,0.3s,baz=344,slow=7.3,SNR=8.4						
STKA	**Stephens Creek**	**40.87**	**159**	P	P	03 57 57.3	-1.2
	1.2nm,0.4s,baz=326,slow=10,SNR=4.3						
TORD	**Torodi Ar. Bea**	**120.92**	**289**	PKP	PKPdf	04 09 10.2	+1.0
	0.1nm,0.3s,baz=56,slow=1.2,SNR=4.2						

IDC 29 03:50:36.0±20.0, 1642S×6806E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/20, Error ellipse: s-maj=648.2km s-min=36.2km az=60.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**54.82**	**101**	LR	LR	04 19 15.3	
	comp=Z,8.1nm,18.4s,baz=301,slow=31						
ASAR	**Alice Springs**	**61.82**	**108**	P	P	04 00 57.0	+0.2
	0.6nm,0.6s,baz=273,slow=5.9,SNR=6.9						
WRA	**Warramunga Arr**	**62.71**	**104**	P	P	04 01 03.7	+1.0
	1.4nm,0.9s,baz=268,slow=5.9,SNR=7.6						
MKAR	**Makanchi Array**	**64.21**	**11**	P	P	04 01 12.8	+0.2
	0.6nm,0.9s,baz=193,slow=5.9,SNR=2.6						
SONM	**Songino Array**	**72.56**	**26**	P	P	04 02 04.9	0.0
	0.2nm,0.3s,baz=222,slow=5.7,SNR=5.2						

*ISCJB **29** 04:00:10.3±0.4, 5013N×003×18.34E±003, h0km, Error ellipse: s-maj=4.3km s-min=2.4km az=34.3*
*WAR **29** 04:00:12.6, 5006N×1844E, ML2.6, Mining Induced*
*CSEM **29** 04:00:12.3±0.2, 5013N×1838E, h2km, ML3.1/3, Error ellipse: s-maj=4.0km s-min=2.2km az=8.0*
*NEIC **29** 04:00:12.0±0.7, 5013N×1840E, h5km, MG2.6(WAR), Error ellipse: s-maj=12.5km s-min=5.8km az=189.0*
*IPEC **29** 04:00:12.5±0.1, 5008N×1842E, h7km±1km, ML2.2/3, Error ellipse: s-maj=1.6km s-min=0.7km az=162.0*
*PRU **29** 04:00:13.4, 5006N×1832E, h0km*
*VIE **29** 04:00:15.9±0.5, 4974N×1828E, h0km, mb2.0/2, ML2.5/3, Error ellipse: s-maj=3.7km s-min=2.0km az=87.0 11 km S of Ostrava Suspected Mining induced.*

ISC 29 04:00:11.9±0.4, 5008N±003×1835E±003, h0km, n37, σ1§15/65, 7C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.10**	**275**	⇓iPg	**Pg**	**04 00 16.2**	**+2.4**
RAC				eSg	**Sg**	**04 00 19.4**	**+4.3**
OKC	**Ostrava-Krasne**	**0.27**	**208**	ePG	**Pg**	**04 00 18.3**	**+1.2**
OKC				eSG	**Sg**	**04 00 22.7**	**+2.0**
	250nm,0.7s						
OKC	**Ostrava-Krasne**	**0.27**	**208**	ePg	**Pg**	**04 00 18.2**	**+1.1**
OKC				eSg	**Sg**	**04 00 22.6**	**+1.9**
MORC	**Moravsky Berou**	**0.60**	**240**	⇓P	**Pg**	**04 00 24.6**	**+1.2**
MORC	**Moravsky Berou**	**0.60**	**240**	⇓iPg	**Pg**	**04 00 24.4**	**+1.0**
MORC				eSg	**Sg**	**04 00 33.4**	**+2.2**
	42nm,0.4s						
OJC	**Ojcow**	**0.94**	**81**	ePg	**Pg**	**04 00 29.1**	**-1.0**
OJC				eSg	**Sg**	**04 00 41.6**	**-0.7**
OJC	**Ojcow**	**0.94**	**81**	ePg	**Pg**	**04 00 29.1**	**-1.0**
OJC				eSg	**Sg**	**04 00 41.3**	**-1.0**
LIKS	**Likavka**	**1.14**	**154**	ePN	**Pn**	**04 00 34.2**	**-0.9**
LIKS				eSN	**Sn**	**04 00 50.7**	**-0.8**
JAVC	**Velka Javorina**	**1.29**	**200**	ePn	**Pn**	**04 00 37.5**	**+0.2**
DPC	**Dobruska-Polom**	**1.33**	**283**	ePG	**Pg**	**04 00 37.9**	**+0.5**
DPC				eSG	**Sg**	**04 00 55.6**	**+0.9**
	94nm,0.5s						
DPC	**Dobruska-Polom**	**1.33**	**283**	ePg	**Pg**	**04 00 37.9**	**+0.5**
DPC				eSg	**Sg**	**04 00 56.2**	**+1.5**
VRAC	**Vranov**	**1.37**	**237**	⇑P	**Pg**	**04 00 38.0**	**-0.3**
VRAC	**Vranov**	**1.37**	**237**	ePn	**Pn**	**04 00 38.2**	**-0.2**
VRAC				eSg	**Sg**	**04 00 56.8**	**+0.7**
	27nm,0.3s						
VRAC	**Vranov**	**1.37**	**237**	⇑P	**Pg**	**04 00 38.0**	**-0.3**
NIE	**Niedzica**	**1.44**	**117**	ePg	**Pg**	**04 00 39.0**	**-0.5**
NIE				eSg	**Sg**	**04 00 58.6**	**+0.5**
KSP	**Ksiaz**	**1.52**	**301**	ePg	**Pg**	**04 00 40.4**	**-0.7**
KSP				eSg	**Sg**	**04 01 01.3**	**+0.5**
UPC	**Upice**	**1.56**	**287**	ePG	**Pg**	**04 00 41.3**	**-0.5**
VYHS	**Vyhne**	**1.61**	**168**	ePN	**Pn**	**04 00 40.6**	**-1.1**
VYHS				eSN	**Sn**	**04 01 02.6**	**-0.6**
VYHS	**Vyhne**	**1.61**	**168**	ePn	**Pn**	**04 00 41.4**	**-0.3**
VYHS				eSn	**Sn**	**04 01 02.6**	**-0.6**
KRUC	**Moravsky**	**1.63**	**232**	ePn	**Pn**	**04 00 42.1**	**+0.3**
KRUC				eSg	**Sg**	**04 01 03.9**	**-0.3**
	23nm,0.4s						
STHS	**Stebnicka Huta**	**1.99**	**108**	ePN	**Pn**	**04 00 49.6**	**+2.7**
STHS				eSN	**Sn**	**04 01 16.6**	**+4.1**
ZST	**Bratislava**	**2.05**	**204**	eSN	**Sn**	**04 01 12.8**	**-1.2**
KECS	**Kecovo**	**2.12**	**138**	e	**Pn**	**04 00 47.2**	**-1.4**
KECS	**Kecovo**	**2.12**	**138**	ePG	**Pg**	**04 00 53.8**	**+1.2**
KECS				eSN	**Sn**	**04 01 17.7**	**+2.0**
CRVS	**Cervenica-Dubn**	**2.35**	**119**	ePN	**Pn**	**04 00 54.0**	**+2.3**
CRVS				eSN	**Sn**	**04 01 25.7**	**+4.5**
PSZ	**Piszkesteto**	**2.39**	**154**	ePn	**Pn**	**04 00 51.4**	**-0.9**
PSZ				ePg	**Pg**	**04 00 57.9**	**+0.2**
PRU	**Pruhonice**	**2.46**	**269**	ePG	**Pg**	**04 00 57.0**	**-2.0**
PRU				eSG	**Sg**	**04 01 29.7**	**-1.1**
	14nm,0.7s						
KOLS	**Kolonicke sedl**	**2.80**	**113**	ePG	**Pg**	**04 01 04.8**	**-0.9**
KOLS				e		04 01 41.0	
BRG	**Berggiesshubel**	**2.92**	**288**	PG	**Pg**	**04 01 06.6**	**-1.4**
BRG				SG	**Sg**	**04 01 46.0**	**+0.1**
	8.0nm,0.6s						
KHC	**Kasperske Hory**	**3.24**	**255**	ePN	**Pn**	**04 01 03.9**	**-0.2**
KHC				ePG	**Pg**	**04 01 12.5**	**-1.6**
KHC				eSG	**Sg**	**04 01 54.6**	**-1.5**
	14nm,0.8s						
KHC	**Kasperske Hory**	**3.24**	**255**	ePg	**Pg**	**04 01 12.5**	**-1.6**
KHC				eSg	**Sg**	**04 01 54.6**	**-1.5**
	14nm,0.8s						
MOA	**Molln**	**3.49**	**232**	⇑iPn	**Pn**	**04 01 07.9**	**+0.4**
MOA				⇑iPg	**Pg**	**04 01 18.2**	**-0.7**
MOA				⇑iSg	**Sg**	**04 02 03.0**	**-1.1**
	comp=Z,5.3nm,0.4s						
MOA	**Molln**	**3.49**	**232**	Pg	**Pg**	**04 01 18.2**	**-0.7**
MOA				Sg	**Sg**	**04 02 03.0**	**-1.1**
	5.3nm,0.4s						
CLL	**Collm**	**3.62**	**292**	ePg	**Pg**	**04 01 22.0**	**+0.8**
CLL				eSg	**Sg**	**04 02 10.0**	**+1.9**
NKC	**Novy Kostel**	**3.80**	**275**	eSG	**Sg**	**04 02 13.2**	**-0.7**
	26nm,1.2s						
BURAR	**Bucovina Array**	**5.16**	**116**	⇑P	**Pn**	**04 01 30.7**	**+0.3**
BURAR	**Bucovina Array**	**5.16**	**116**	⇑P	**Pn**	**04 01 30.7**	**+0.3**

IDC 29 04:05:32.5±13.0, 2888N×13816E, h609km±159km, mb2.5/4, mb1 2.7/4, mb1mx2.5/18, mbtmp3.6/4, Error ellipse: s-maj=168.1km s-min=19.0km az=72.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**30.98**	**316**	P	P	04 11 01.2	-0.7
	0.3nm,0.6s,baz=116,slow=6.7,SNR=2.8						
MKAR	**Makanchi Array**	**46.59**	**308**	P	P	04 13 08.1	+0.9
	0.2nm,0.3s,baz=82,slow=8.6,SNR=4.6						
WRA	**Warramunga Arr**	**48.67**	**185**	P	P	04 13 22.8	+0.1
	0.4nm,0.3s,baz=0.6,slow=7.6,SNR=15						
FINES	**FINESS Array B**	**74.76**	**333**	P	P	04 16 11.0	-0.6
	1.2nm,0.9s,baz=56,slow=5.2,SNR=6.5						

*ISCJB **29** 04:07:54.1±0.9, 3652N±004×14159E±007, h41km±8km, mb3.9/10, Error ellipse: s-maj=9.7km s-min=6.1km az=43.6*
*JMA **29** 04:07:55.2±0.1, 3658N×14143E, h48km±2km, M4.0*
JMA Felt I J1.
*IDC **29** 04:07:58.4±2.4, 3643N×14149E, h60km±21km, mb3.5/7, mb1 3.7/10, mb1mx3.5/23, mbtmp3.9/10, ML4.2/3, Error ellipse: s-maj=19.7km s-min=11.7km az=73.0*
*NIED **29** 04:08:00, 3660N×14150E, h35km, Mw4.0 Best double couple: M0 1.10000×10^15 NP1:φ=31.00000°, δ=69.00000°, λ=63.00000°. NP2:φ=266.00000°, δ=34.00000°, λ=140.00000°.*
*NEIC **29** 04:08:00.1±1.7, 3648N×141.18E, h68km±13km, mb4.3/3, Error ellipse: s-maj=20.0km s-min=11.9km az=72.0*
NEIC Recorded [1 JMA] in Fukushima, Ibaraki and Tochigi

Prefectures.

ISC 29 04:07:55.2±2.0, 3655N±004×14156E±006, h33km±15km, n27, σ1§02/37, mb3.8/10, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.80**	**274**	⇓P	**Pn**	**04 08 08.7**	**-1.4**
JHO				*e*S	**Sn**	**04 08 18.7**	**-2.1**
ONAJ	**Iwakimizuishiy**	**0.82**	**312**	⇓P	**Pn**	**04 08 09.1**	**-1.3**
JFK	**Kawauchi**	**0.98**	**326**	⇓P	**Pn**	**04 08 11.5**	**-1.1**
JFT	**Otama**	**1.37**	**315**	⇓P	**Pn**	**04 08 18.1**	**+0.1**
JFT				*e*S	**Sn**	**04 08 35.3**	**+0.3**
JMM	**Marumori**	**1.44**	**335**	⇓P	**Pn**	**04 08 18.4**	**-0.6**
JAG	**Ashikaga**	**1.70**	**266**	P	**Pn**	**04 08 22.1**	**-0.4**
JAG				*e*S	**Sn**	**04 08 42.5**	**-0.6**
JFY	**Yanaizu**	**1.71**	**300**	⇑P	**Pn**	**04 08 23.0**	**+0.4**
JKT	**Katashina**	**1.87**	**277**	P	**Pn**	**04 08 25.0**	**+0.2**
JKT				*e*S	**Sn**	**04 08 47.1**	**-0.1**
JIO	**Ouri**	**1.90**	**355**	⇓P	**Pn**	**04 08 24.9**	**-0.4**
JIO				*e*S	**Sn**	**04 08 46.9**	**-1.2**
JOU	**Okura**	**1.94**	**339**	P	**Pn**	**04 08 26.5**	**+0.7**
JOU				*e*S	**Sn**	**04 08 50.4**	**+1.3**
MJAR	**Matsushiro Arr**	**2.69**	**271**	P	**Pn**	**04 08 36.7**	**+0.5**
	69nm,0.3s,baz=112,slow=9.6,SNR=326						
MJAR				S	**Sn**	**04 09 10.8**	**+3.1**
	29nm,0.3s,baz=103,slow=14,SNR=8.5						
MAJO	**Matsushiro**	**2.70**	**271**	*e*Pn	**Pn**	**04 08 37.5**	**+1.3**
MAT	**Matsushiro**	**2.70**	**271**	P	**Pn**	**04 08 37.4**	**+1.2**
MAT				S	**Sn**	**04 09 10.2**	**+2.5**
MAT	**Matsushiro**	**2.70**	**271**	*e*P	**Pn**	**04 08 37.0**	**+0.8**
MAT				*e*S	**Sn**	**04 09 10.0**	**+2.3**
JHJ	**Hachijo jima 2**	**3.72**	**204**	P	**Pn**	**04 08 51.0**	**+0.7**
	29nm,0.3s,baz=78,slow=22,SNR=7.5						
JHJ				S	**Sn**	**04 09 31.8**	**-1.3**
	96nm,0.3s,baz=248,slow=23,SNR=6.7						
ASAJ	**Asahikawa**	**7.59**	**6**	P	**Pn**	**04 09 47.3**	**+3.8**
	3.5nm,0.3s,baz=249,slow=17,SNR=5.4						
ULN	**Ulaanbaatar**	**27.72**	**305**	*e*P	**P**	**04 13 40.3**	**-0.1**
	1.9nm,0.9s,mb3.7						
SONM	**Songino Array**	**28.15**	**305**	P	**P**	**04 13 44.1**	**-0.2**
	3.5nm,0.8s,mb4.1,baz=103,slow=6.6,SNR=27						
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**04 16 03.0**	**-0.2**
	1.0nm,0.6s,mb3.7,baz=90,slow=11,SNR=14						
KURK	**Kurchatov**	**46.32**	**308**	*e*P	**P**	**04 16 17.0**	**-0.8**
	2.6nm,0.5s,mb4.4						
ILAR	**Eielson Array**	**49.84**	**32**	P	**P**	**04 16 47.6**	**+2.6**
	0.3nm,0.9s,mb3.3,baz=269,slow=8.0,SNR=3.2						
ZRNK	**Zerenda**	**51.81**	**313**	*e*P	**P**	**04 16 59.9**	**+0.1**
	1.4nm,0.4s,mb4.2						
WB2	**Warramunga Arr**	**56.60**	**188**	*e*P	**P**	**04 17 39.9**	**+5.2**
WRA	**Warramunga Arr**	**56.60**	**188**	P	**P**	**04 17 34.7**	**-0.1**
	0.7nm,0.6s,mb3.9,baz=5.2,slow=7.5,SNR=6.8						
ASAR	**Alice Springs**	**60.33**	**188**	P	**P**	**04 18 01.5**	**+0.8**
	0.1nm,0.3s,mb3.4,baz=15,slow=7.7,SNR=4.1						
FINES	**FINESS Array B**	**69.29**	**332**	P	**P**	**04 18 58.8**	**-0.3**
	0.7nm,0.6s,mb3.7,baz=38,slow=9.3,SNR=3.3						
AKASG	**Malin Array Be**	**74.75**	**322**	P	**P**	**04 19 31.4**	**-0.3**
	0.7nm,0.4s,mb4.0,baz=47,slow=6.2,SNR=6.1						

*CSEM **29** 04:08:39.7, 3713N×2076E, h18km, MD3.6/3, After ATH*

ATH 29 04:08:39.4, 3712N×2073E, h4km±2km, MD3.6/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.96**	**86**	*e*PG	Pg	04 08 57.5	-0.3
ITM				*e*SG	Sg	04 09 10.7	+0.5
ITM	**Ithomi**	**0.96**	**86**	*e*Pn	Pn	04 08 57.5	-2.1
ITM				*e*Sn	Sn	04 09 11.0	-2.7
VLS	**Valsamata**	**1.06**	**354**	*e*PB	Pb	04 08 58.8	-1.5
VLS				*e*SG	Sg	04 09 15.0	+1.5
VLS	**Valsamata**	**1.06**	**354**	*e*Pb	Pb	04 08 58.5	-1.8
VLS				*e*Sn	Sn	04 09 15.5	-0.7
VLI	**Veliai**	**1.81**	**102**	*e*PB	Pb	04 09 13.9	+0.8
VLI				*e*SB	Sb	04 09 38.3	+2.1
EVR	**Evrytania**	**1.99**	**25**	*e*PG	Pg	04 09 16.5	-1.0
EVR				*e*SN	Sn	04 09 42.1	+3.0
EVR	**Evrytania**	**1.99**	**25**	*e*Pn	Pn	04 09 15.0	+1.2

PGC 29 04:10:19.9, 5003N×12840W, h10km, ML3.0/1, Mw3.6, 1C-2D, 102km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**0.43**	**72**	⇓P	Pg	04 10 28.1	-0.2
BPBC				S	Sg	04 10 33.5	-0.4
BPBC				Trac		04 10 34.8	
	comp=Z,1μm,0.1s						
HOLB	**Holberg**	**0.64**	**16**	P	Pg	04 10 32.3	+0.1
HOLB				S	Sg	04 10 41.2	+0.6
HOLB				Trac		04 10 42.3	
	comp=Z,117nm,0.1s						
EDB	**Eliza Dome**	**0.84**	**100**	P	Pg	04 10 35.0	-1.2
EDB				S	Sg	04 10 45.4	-1.7
EDB				Trac		04 10 48.2	
	comp=Z,74nm,0.2s						
MAYB	**Maynard**	**0.88**	**64**	⇑P	Pg	04 10 35.2	-1.5
MAYB				S	Sg	04 10 45.9	-2.2
MAYB				Trac		04 10 47.1	
	comp=Z,95nm,0.2s						
PHC	**Port Hardy**	**0.92**	**42**	⇑P	Pg	04 10 36.5	-1.1
PHC				S	Sg	04 10 47.6	-2.0
PHC				Trac		04 10 48.3	
	comp=Z,193nm,0.2s						
WOSB	**Woss**	**1.19**	**83**	⇑P	Pb	04 10 40.6	-1.8
WOSB				S	Sb	04 10 55.3	-2.6
WOSB				Trac		04 10 58.9	
	comp=Z,15nm,0.1s						
GDR	**Gold River**	**1.55**	**98**	Pn	Pn	04 10 45.4	-2.1
GDR				Pg	Pg	04 10 47.5	-2.2
GDR				Sg	Sg	04 11 07.6	-2.2
GDR				Trac		04 11 09.8	
	comp=Z,35nm,0.4s						
NCRB	**Newcastle Ridg**	**1.56**	**75**	Pn	Pn	04 10 46.2	-1.4
NCRB				Sg	Sg	04 11 05.8	-4.1
NCRB				Trac		04 11 07.5	
	comp=Z,25nm,0.2s						
CBB	**Campbell River**	**1.96**	**89**	⇓Pn	Pn	04 10 52.0	-1.1
CBB				Pg	Pg	04 10 53.7	-3.7
CBB				Sg	Sg	04 11 18.2	-4.6
CBB				Trac		04 11 23.8	
	comp=Z,14nm,0.4s						
BBB	**Bella Bella**	**2.17**	**5**	Pn	Pn	04 10 55.3	-0.7
BBB				Sn	Sn	04 11 20.9	-2.0
BBB				Sg	Sg	04 11 26.8	-2.7
BBB				Trac		04 11 29.6	
	comp=Z,20nm,0.2s						
ALB	**Alberni**	**2.44**	**107**	Pg	Pg	04 11 03.8	-2.9
ALB				Trac		04 11 47.9	
	comp=Z,4.0nm,0.3s						
TXB	**Texada**	**2.59**	**96**	Pn	Pn	04 11 00.7	-1.1
TXB				Trac		04 11 49.4	
	comp=Z,13nm,0.5s						
MGB	**Mount Grey**	**2.63**	**112**	Pg	Pg	04 11 07.5	-2.8
MGB				Trac		04 11 44.6	
	comp=Z,5.0nm,0.3s						
SHB	**Sechelt**	**2.96**	**97**	Pn	Pn	04 11 06.8	-0.2
SHB				Pg	Pg	04 11 13.2	-3.4
SHB				Sg	Sg	04 11 49.3	-5.8
SHB				Trac		04 11 57.3	
	comp=Z,23nm,0.5s						
PFB	**Port Renfrew**	**2.98**	**118**	Pg	Pg	04 11 14.7	-2.2
NLLB	**Nanaimo Lost L**	**2.98**	**104**	Pg	Pg	04 11 12.3	-4.6
NLLB				Trac		04 11 57.5	
	comp=Z,4.0nm,0.3s						
BNB	**Barry Inlet**	**3.31**	**322**	Pn	Pn	04 11 11.8	+0.1
BNB				Sn	Sn	04 11 49.0	-1.9
	comp=Z,57nm,0.2s						
BNB				Trac		04 11 50.6	
	comp=Z,57nm,0.2s						
LZB	**Mount Lazard**	**3.31**	**114**	Trac		04 12 17.8	
	comp=Z,1.0nm,0.5s						
BIB	**Bowen Island**	**3.37**	**99**	Pn	Pn	04 11 13.1	+0.6
BIB				Trac		04 12 03.3	
	comp=Z,3.0nm,0.6s						
WPB	**Watts Point**	**3.38**	**94**	Pn	Pn	04 11 13.8	+1.1
WPB				Pg	Pg	04 11 18.8	-5.9
WPB				Sg	Sg	04 12 02.3	-6.2
WPB				Trac		04 12 06.1	
	comp=Z,3.0nm,0.4s						
WSLR	**Whistler**	**3.53**	**86**	Pg	Pg	04 11 21.4	-6.1
WSLR				Sg	Sg	04 12 05.2	-8.1
WSLR				Trac		04 12 07.9	
	comp=Z,4.0nm,0.5s						
BNAB	**Bonilla**	**3.74**	**339**	Pn	Pn	04 11 17.1	-0.5
BNAB				Sn	Sn	04 11 58.1	-3.5
	comp=Z,2.0nm,0.2s						
BNAB				Trac		04 11 59.8	
	comp=Z,2.0nm,0.2s						
MOBC	**Moresby Island**	**3.85**	**327**	Pn	Pn	04 11 20.3	+1.2
MOBC				Sn	Sn	04 12 01.7	-2.7
MOBC				Trac		04 12 02.6	
	comp=Z,2.0nm,0.3s						
HNB	**Haney**	**3.86**	**99**	Pn	Pn	04 11 20.2	+1.0
LLLB	**Lillooet**	**4.22**	**80**	Pn	Pn	04 11 22.6	-1.6
NDB	**Naden**	**4.83**	**326**	Pn	Pn	04 11 27.5	-5.0
FSB	**Fort Saint Jam**	**5.11**	**28**	Pn	Pn	04 11 44.9	+8.4
FSB				Sg	Sg	04 13 02.8	-1.1
FSB				Trac		04 13 09.6	
	comp=Z,4.0nm,0.6s						

*IDC **29** 04:13:30.8±1.6, 253S×14021E, h0km, mb3.5/3, mb1 4.0/4, mb1mx3.7/12, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=73.4km s-min=25.8km az=98.0*

*ISCJB **29** 04:13:34.7±1.4, 26S±02×1398E±04, h33km, mb3.5/3, Error ellipse: s-maj=59.2km s-min=18.2km az=29.9*

ISC 29 04:13:36.4±1.4, 26S±02×1399E±04, h35km, n5, σ1§20/5, mb3.5/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.52**	**216**	*e*P	**Pn**	**04 16 30.9**	**-1.1**
	9.8nm,0.5s						
WRA	**Warramunga Arr**	**18.12**	**197**	P	**Pn**	**04 17 46.1**	**+0.8**
	0.4nm,0.3s,baz=20,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.78**	**195**	P	**P**	**04 18 25.4**	**+0.3**
	2.6nm,0.7s,mb3.8,baz=29,slow=9.5,SNR=16						
MKAR	**Makanchi Array**	**70.42**	**322**	P	**P**	**04 24 47.8**	**+0.9**
	0.3nm,0.5s,mb3.5,baz=109,slow=6.5,SNR=3.8						
ILAR	**Eielson Array**	**85.19**	**24**	P	**P**	**04 26 08.2**	**-0.9**
	0.3nm,0.8s,mb3.5,baz=267,slow=4.9,SNR=4.8						

*ISCJB **29** 04:57:30.1±1.2, 534N±01×1696W±01, h36km±18km, mb3.2/3, Error ellipse: s-maj=18.9km s-min=11.8km az=145.3*

*NEIC **29** 04:57:31.3±0.8, 5324N×16937W, h35km, mb3.4/1, ML2.9(AEIC), Error ellipse: s-maj=15.8km s-min=10.3km az=148.0*

*IDC **29** 04:57:33.0±7.1, 5311N×16779W, h0km, mb3.2/3, mb1 3.6/5, mb1mx3.4/24, mbtmp3.3/5, ML3.1/2, Error ellipse: s-maj=112.6km s-min=56.6km az=82.0*

ISC 29 04:57:28.6±3.6, 534N±01×1695W±01, h11km±29km, n12, σ1§05/14, mb3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.58**	**134**	P	**Pb**	**04 57 41.4**	**+0.7**
NIKO				S	**Sb**	**04 57 54.1**	**+5.2**
UNV	**Unalaska Valle**	**1.87**	**74**	P	**Pn**	**04 57 59.6**	**-0.9**
UNV				S	**Sn**	**04 58 25.4**	**+1.3**
AKUT	**Akutan**	**2.36**	**70**	P	**Pn**	**04 58 07.0**	**-0.3**
ATKA	**Atka Island**	**3.06**	**249**	P	**Pn**	**04 58 17.4**	**+0.5**
KDAK	**Kodiak Island**	**10.55**	**59**	Pn	**Pn**	**04 59 57.7**	**-2.1**
	0.4nm,0.3s,baz=301,slow=8.9,SNR=7.1						
PMR	**Palmer**	**13.66**	**45**	*e*P	**Pn**	**05 00 42.9**	**+0.6**
ILAR	**Eielson Array**	**16.19**	**36**	Pn	**Pn**	**05 01 17.1**	**+1.2**
	0.0nm,0.3s,baz=231,slow=10,SNR=3.6						
INK	**Inuvik**	**22.57**	**35**	P	**P**	**05 02 29.4**	**+0.6**
	0.8nm,0.5s,mb3.4,baz=268,slow=10,SNR=12						
INK	**Inuvik**	**22.57**	**35**	*e*P	**P**	**05 02 29.4**	**+0.6**
	1.0nm,0.6s,mb3.4						
YKA	**Yellowknife Ar**	**29.66**	**50**	P	**P**	**05 03 33.8**	**-0.4**
	0.2nm,0.7s,mb3.0,baz=276,slow=7.3,SNR=5.2						
YKA	**Yellowknife Ar**	**29.66**	**50**	P	**P**	**05 03 33.8**	**-0.4**
PDAR	**Pinedale Array**	**40.32**	**80**	P	**P**	**05 05 04.4**	**-1.6**
	0.2nm,0.5s,mb3.1,baz=284,slow=5.0,SNR=2.5						

*NEIC **29** 05:02:49.2, 3818S×17562E, h211km, MG3.9(WEL), After WEL.*

WEL 29 05:02:56.2±0.4, 3857S×17622E, h172km±3km, ML3.5/8, Error ellipse: s-maj=6.7km s-min=4.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.63**	**161**	PN	Pn	05 03 21.3	+0.5
BKZ				SN	Sn	05 03 39.9	+0.3
BKZ	**Black Stump Fm**	**0.63**	**161**	*e*P	Pn	05 03 21.6	+0.9
URZ	**Urewera**	**0.76**	**66**	PN	Pn	05 03 21.3	-0.1
URZ				SN	Sn	05 03 40.3	-0.6
URZ	**Urewera**	**0.76**	**66**	P	Pn	05 03 21.3	-0.2
WNVZ	**Wahianoa**	**0.90**	**213**	PN	Pn	05 03 22.5	+0.1
WNVZ				SN	Sn	05 03 42.5	0.0
WNVZ	**Wahianoa**	**0.90**	**213**	P	Pn	05 03 21.4	-1.0
MXZ	**Matakaoa Point**	**1.93**	**59**	PN	Pn	05 03 32.3	+0.4
MXZ				SN	Sn	05 03 59.7	+0.2
MXZ	**Matakaoa Point**	**1.93**	**59**	*e*P	Pn	05 03 31.3	-0.6
MRZ	**Mangatainoka R**	**2.15**	**193**	PN	Pn	05 03 34.2	-0.2
MRZ				SN	Sn	05 04 02.8	-1.1
MRZ	**Mangatainoka R**	**2.15**	**193**	*e*P	Pn	05 03 34.2	-0.2
KIW	**Kapiti Island**	**2.50**	**203**	PN	Pn	05 03 37.2	-1.3
KIW	**Kapiti Island**	**2.50**	**203**	P	Pn	05 03 36.3	-2.2
CAW	**Cannon Point**	**2.69**	**199**	PN	Pn	05 03 39.7	-1.0
CAW	**Cannon Point**	**2.69**	**199**	P	Pn	05 03 37.5	-3.2
MSWZ	**Moikau Station**	**2.94**	**194**	P	Pn	05 03 41.5	-2.2

*CSEM **29** 05:42:20.0, 2208S×17663W, h33km, mb5.5*

*SZGRF **29** 05:42:21.9, 2201S×17744W, h33km, South of Fiji Islands*

*ISCJB **29** 05:42:33.8±1.4, 2223S±005×17699W±007, h145km±13km, mb4.7/43, Error ellipse: s-maj=11.7km s-min=7.0km az=75.6*

*BJI **29** 05:42:33.9, 2230S×17690W, h147km, mB5.1, mb4.8*

*NEIC **29** 05:42:34.9±1.1, 2230S×17690W, h147km±10km, mb4.9/25, Error ellipse: s-maj=9.4km s-min=5.2km az=132.0*

*MOS **29** 05:42:36.7±2.9, 2204S×17700W, h148km, mb4.8/8, Error ellipse: s-maj=13.9km s-min=11.4km az=45.5*

*IDC **29** 05:42:36.7±1.8, 2224S×17698W, h157km±15km, mb4.3/16, mb1 4.5/19, mb1mx4.4/22, mbtmp4.8/19, Error ellipse: s-maj=17.1km s-min=10.9km az=131.0*

ISC 29 05:42:35.9±1.3, 2226S±006×17688W±007, h154km±12km, n212, σ1§06/101, mb4.7/43, 17C-27D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.03**	**187**	S	**Sn**	**05 45 36.8**	**+1.7**
	106nm,0.3s,baz=90,slow=20,SNR=3.3						
AFI	**Afiamalu**	**9.61**	**31**	P	**Pn**	**05 44 50.4**	**-0.2**
	4.9nm,0.3s,baz=237,slow=23,SNR=5.1						
AFI				S	**Sn**	**05 46 24.3**	**-13**
	3.1nm,0.3s,baz=72,slow=20,SNR=3.5						
NOU	**Noumea**	**15.44**	**267**	*e*P	**Pn**	**05 46 14.1**	**+8.7**
DZM	**Mont Dzumac**	**15.46**	**268**	P	**Pn**	**05 46 12.5**	**+6.8**
	2.4nm,0.3s,baz=80,slow=17,SNR=33						
RAR	**Rarotonga**	**15.93**	**89**	P	**Pn**	**05 46 11.4**	**0.0**
	0.8nm,0.3s,baz=250,slow=12,SNR=4.3						
RAR				S	**S**	**05 49 00.2**	**-8.6**
	3.3nm,0.3s,baz=66,slow=19,SNR=5.8						
URZ	**Urewera**	**16.77**	**197**	P	**Pn**	**05 46 20.2**	**-1.4**
	7.0nm,0.3s,baz=7.6,slow=2.3,SNR=22						
URZ				S	**S**	**05 49 14.9**	**-13**
	7.1nm,0.3s,baz=250,slow=24,SNR=13						
QRZ	**Quartz Range**	**20.57**	**203**	PN	**P**	**05 47 02.9**	**+0.3**
QRZ	**Quartz Range**	**20.57**	**203**	*e*P	**P**	**05 47 01.5**	**-1.0**
THZ	**Tophouse**	**21.26**	**201**	PN	**P**	**05 47 09.5**	**-0.4**
THZ	**Tophouse**	**21.26**	**201**	*e*P	**P**	**05 47 07.5**	**-2.4**
DSZ	**Denniston Nort**	**21.64**	**203**	PN	**P**	**05 47 13.3**	**-0.5**
DSZ	**Denniston Nort**	**21.64**	**203**	*e*P	**P**	**05 47 13.3**	**-0.6**
LTZ	**Lake Taylor**	**22.39**	**201**	PN	**P**	**05 47 20.6**	**-0.9**
LTZ	**Lake Taylor**	**22.39**	**201**	*e*P	**P**	**05 47 20.6**	**-0.9**
RPZ	**Rata Peaks**	**23.63**	**202**	P	**P**	**05 47 31.6**	**-1.3**
	14nm,0.4s,mb4.9,baz=353,slow=4.3,SNR=18						
FOZ	**Fox Glacier**	**24.00**	**205**	PN	**P**	**05 47 34.5**	**-1.7**
FOZ	**Fox Glacier**	**24.00**	**205**	*e*P	**P**	**05 47 33.5**	**-2.7**
JCZ	**Jackson Bay**	**24.79**	**205**	PN	**P**	**05 47 42.7**	**-0.7**
JCZ	**Jackson Bay**	**24.79**	**205**	*e*P	**P**	**05 47 41.7**	**-1.7**
ARMA	**Armidale**	**29.30**	**247**	⇓*i*P	**P**	**05 48 25.8**	**+2.0**
CNB	**Canberra Magne**	**32.16**	**239**	⇑*i*P	**P**	**05 48 50.1**	**+1.2**
	22nm,1.1s,mb4.8						
CTA	**Charters Tower**	**34.40**	**267**	⇓*i*P	**P**	**05 49 09.9**	**+1.6**
	51nm,0.4s,mb5.6						
CTA	**Charters Tower**	**34.40**	**267**	⇓*i*P	**P**	**05 49 09.9**	**+1.6**
CTA				pmax	pmax		
	comp=Z,51nm,0.4s						
PMG	**Port Moresby**	**36.78**	**285**	P	**P**	**05 49 30.1**	**+1.6**
	comp=Z,29nm,0.7s,mb5.0,baz=125,slow=5.1,SNR=12						
PMG	**Port Moresby**	**36.78**	**285**	*e*P	**P**	**05 49 29.8**	**+1.3**
	comp=Z,26nm,0.7s,mb5.0						
PMG	**Port Moresby**	**36.78**	**285**	*e*P	**P**	**05 49 29.8**	**+1.3**
PMG				pmax	pmax		
	comp=Z,26nm,0.7s						
STKA	**Stephens Creek**	**38.01**	**246**	⇓*i*P	**P**	**05 49 37.5**	**-1.4**
	comp=Z,15nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**38.01**	**246**	P	**P**	**05 49 37.8**	**-1.1**
	comp=Z,18nm,0.7s,mb4.8,baz=90,slow=9.1,SNR=41						
STKA				PcP	PcP	05 51 50.5	-0.6
	comp=Z,5.2nm,0.6s,baz=77,slow=6.5,SNR=5.1						
STKA	**Stephens Creek**	**38.01**	**246**	*e*P	**P**	**05 49 37.3**	**-1.7**
STKA				*e*PcP	PcP	05 51 50.0	-1.2
ASAR	**Alice Springs**	**45.16**	**258**	P	**P**	**05 50 37.4**	**+0.2**
	comp=Z,29nm,0.7s,mb5.0,baz=95,slow=8.0,SNR=224						
ASAR				PcP	PcP	05 52 15.1	+0.3
	comp=Z,5.6nm,0.5s,baz=109,slow=3.9,SNR=10						
ASAR				ScP	ScP	05 55 52.7	-0.1
	comp=Z,1.2nm,0.8s,baz=109,slow=4.1,SNR=4.4						
ASAR	**Alice Springs**	**45.16**	**258**	P	**P**	**05 50 37.4**	**+0.3**
ASAR						05 52 15.1	
WB2	**Warramunga Arr**	**45.41**	**263**	⇓*i*P	**P**	**05 50 38.8**	**-0.2**
WRAB	**Tennant Creek**	**45.41**	**264**	*e*P	**P**	**05 50 38.6**	**-0.4**
	comp=Z,41nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**45.41**	**264**	⇑*e*P	**P**	**05 50 39.1**	**0.0**
WRA	**Warramunga Arr**	**45.42**	**263**	P	**P**	**05 50 38.9**	**-0.2**
	comp=Z,26nm,0.6s,mb5.0,baz=96,slow=8.5,SNR=183						
WRA				PcP	PcP	05 52 16.1	+0.5
	comp=Z,5.7nm,1.0s,baz=99,slow=3.8,SNR=5.9						
KAKA	**Kakadu**	**49.08**	**272**	⇓*i*P	**P**	**05 51 07.2**	**-0.2**
	comp=Z,17nm,0.3s,mb5.2						
FORT	**Forrest**	**49.59**	**248**	⇓*i*P	**P**	**05 51 10.6**	**-0.7**
	comp=Z,235nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.85**	**263**	⇑*i*P	**P**	**05 51 43.3**	**+0.4**
	comp=Z,32nm,0.5s,mb5.3						
VNDA	**Vanda**	**56.27**	**185**	P	**P**	**05 52 02.2**	**+2.0**
	comp=Z,2.6nm,0.7s,mb4.2,baz=11,slow=6.5,SNR=7.2						
VNDA	**Vanda**	**56.27**	**185**	*e*P	**P**	**05 52 02.0**	**+1.8**
	comp=Z,4.5nm,0.9s,mb4.3						
VNDA	**Vanda**	**56.27**	**185**	*e*P	**P**	**05 52 02.0**	**+1.8**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KLBR	**Kellerberrin**	**58.28**	**246**	*e*P	**P**	**05 52 13.7**	**-0.6**
	comp=Z,21nm,0.6s,mb5.1						
MBWA	**Marble Bar**	**58.51**	**258**	*e*P	**P**	**05 52 15.1**	**-0.8**
	comp=Z,36nm,0.8s,mb5.2						
MUN	**Mundaring**	**59.53**	**245**	*e*P	**P**	**05 52 23.0**	**+0.1**
CASY	**Casey**	**62.84**	**206**	⇓*i*P	**P**	**05 52 45.6**	**+0.4**
CASY	**Casey**	**62.84**	**206**	*e*P	**P**	**05 52 45.3**	**+0.1**
	comp=Z,15nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	**67.82**	**180**	*e*P	**P**	**05 53 18.8**	**+1.6**
	comp=Z,15nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**72.23**	**323**	P	**P**	**05 53 44.4**	**+0.3**
	comp=Z,2.8nm,0.5s,mb4.3,baz=154,slow=6.1,SNR=5.5						
KSM	**Kuching**	**74.69**	**278**	*e*P	**P**	**05 53 58.9**	**+0.4**
UNV	**Unalaska Valle**	**76.31**	**6**	*e*P	**P**	**05 54 06.2**	**-1.6**
	comp=Z,154nm,1.2s,mb5.5						
SSE	**Sheshan**	**79.61**	**310**	P	**P**	**05 54 25.0**	**-0.9**
SSE				PP	PP	05 57 26.5	-2.2
SSE				AMB	AMB		
	comp=Z,14nm,0.5s,mb4.8						
SSE				AMB	AMB		
	comp=Z,134nm,4.6s						
SSE				LR	LR		
	comp=N,76nm,18.2s						
SSE				LR	LR		
	comp=E,43nm,18.0s						
SSE				LR	LR		
	comp=Z,126nm,18.1s						
MAW	**Mawson**	**80.27**	**200**	⇓*i*P	**P**	**05 54 30.3**	**+0.8**
	comp=Z,7.0nm,0.6s,mb4.5						
MAW	**Mawson**	**80.27**	**200**	P	**P**	**05 54 30.6**	**+1.2**
	comp=Z,13nm,0.8s,mb4.6,baz=142,slow=5.2,SNR=11						
MAW	**Mawson**	**80.27**	**200**	⇓*i*P	**P**	**05 54 30.3**	**+0.8**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.6s						
YBH	**Yreka Blue Hor**	**81.01**	**38**	P	**P**	**05 54 35.4**	**+2.0**
	comp=Z,4.1nm,0.7s,mb4.2,baz=270,slow=1.5,SNR=9.8						
NVAR	**Mina Array Bea**	**81.59**	**43**	P	**P**	**05 54 38.0**	**+1.6**
	comp=Z,0.9nm,0.6s,mb3.6,baz=231,slow=9.1,SNR=6.8						
KDAK	**Kodiak Island**	**82.28**	**13**	P	**P**	**05 54 40.9**	**+0.8**
	comp=Z,11nm,0.8s,mb4.5,baz=191,slow=3.3,SNR=12						
TUC	**Tucson**	**83.24**	**51**	*e*P	**P**	**05 54 46.4**	**+1.3**
	comp=Z,2.4nm,0.7s,mb4.0						
TUC	**

ILAR	**Eielson Array**	**89.79**	**12**	P		**P**	**05 55 15.8**	**-1.1**
ILAR							05 58 55.3	
DAWY	**Dawson**	**90.86**	**16**	*e*P		**P**	**05 55 21.5**	**-0.3**
BILL	**Biiibino**	**90.88**	**354**	P		**P**	**05 55 20.4**	**-1.6**
	comp=Z,2.3nm,0.6s,mb4.4							
BILL	**Biiibino**	**90.88**	**354**	P		**P**	**05 55 20.4**	**-1.5**
BILL				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
KMI	**Kunming**	**91.07**	**297**	P		**P**	**05 55 24.3**	**+1.5**
KMI				AP		pP	05 55 57.0	-4.8
KMI				AMB		AMB		
	comp=Z,11nm,1.2s,mb4.8							
KMI				LR		LR		
	comp=N,129nm,16.7s							
KMI				LR		LR		
	comp=E,129nm,15.9s							
KMI				LR		LR		
	comp=Z,130nm,15.1s							
CD2	**Chengdu**	**92.61**	**302**	*e*P		**P**	**05 55 30.0**	**+0.1**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.0							
RSSD	**Black Hills**	**93.69**	**44**	*e*P		**P**	**05 55 34.5**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.4							
RSSD	**Black Hills**	**93.69**	**44**	*e*P		**P**	**05 55 34.5**	**-0.4**
RSSD				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.4							
YAK	**Yakutsk**	**94.12**	**338⇑**	*e*P		**P**	**05 55 34.6**	**-2.3**
YAK				pmax		pmax		
	comp=Z,12nm,0.6s,mb5.2							
INK	**Inuvik**	**95.69**	**15**	P		**P**	**05 55 43.5**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.4,baz=226,slow=6.4,SNR=13							
INK	**Inuvik**	**95.69**	**15**	*e*P		**P**	**05 55 43.1**	**-0.9**
	comp=Z,2.5nm,0.9s,mb4.5							
INK	**Inuvik**	**95.69**	**15**	*e*P		**P**	**05 55 43.1**	**-0.9**
INK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**97.66**	**24**	P		**P**	**05 55 52.5**	**-0.5**
	comp=Z,0.9nm,0.8s,mb4.2,baz=244,slow=4.4,SNR=17							
YKA				PKKPbc		PKKPbc	06 12 27.6	-0.3
	comp=Z,0.3nm,0.5s,baz=42,slow=2.4,SNR=13							
YKA				PKKP		PKKPbc	06 12 34.2	+6.3
	comp=Z,0.3nm,0.5s,baz=38,slow=2.4,SNR=12							
YKA	**Yellowknife Ar**	**97.66**	**24**	P		**P**	**05 55 52.5**	**-0.5**
YKA				PKKPbc		PKKPbc	06 12 27.6	-0.3
YKA				PKKP		PKKPbc	06 12 34.2	+6.2
MKAR	**Makanchi Array**	**113.16**	**313**	PKiKP		PKiKP	06 00 53.5	-1.4
	comp=Z,1.1nm,0.6s,baz=77,slow=2.2,SNR=16							
KURK	**Kurchatov**	**115.99**	**317**	*e*PKPdf		PKPdf	06 00 57.9	-2.5
KURK	**Kurchatov**	**115.99**	**317⇑**	*i*PKIKP		PKPdf	06 00 59.4	-1.0
BRVK	**Borovoye**	**121.15**	**319**	*e*PKPdf		PKPdf	06 01 08.9	-1.3
BOSA	**Boshof**	**125.11**	**204**	PKP		PKPdf	06 01 19.0	+1.1
	comp=Z,2.6nm,0.7s,baz=317,slow=4.9,SNR=6.6							
ARU	**Arti**	**127.23**	**325**	*i*PKIKP		PKPdf	06 01 20.6	-1.3
ARU				*e*			06 08 21.4	
ARU				*e*SS		SS	06 20 18.9	-0.7
LBTB	**Lobatse**	**128.20**	**206**	*e*PKPdf		PKPdf	06 01 24.8	+1.0
ARCES	**ARCESS Array B**	**130.83**	**350**	PKhKP			06 01 15.3	
	comp=Z,4.4nm,0.9s,baz=56,slow=1.6,SNR=4.1							
ARCES				PKP		PKPdf	06 01 27.8	-1.0
	comp=Z,3.9nm,0.4s,baz=81,slow=0.3,SNR=44							
JOF	**Joensuu**	**135.11**	**342**	*e*pkp		PKPdf	06 01 32.7	-4.1
KAF	**Kangasniemi**	**137.12**	**344**	*e*pkp		PKPdf	06 01 37.1	-3.5
FINES	**FINESS Array B**	**137.74**	**344**	PKhKP			06 01 29.7	
	comp=Z,1.0nm,0.5s,baz=46,slow=3.8,SNR=11							
FINES				PKP		PKPdf	06 01 41.4	-0.3
	comp=Z,2.7nm,0.5s,baz=90,slow=1.9,SNR=9.7							
FINES				SKPbc		SKPbc	06 04 58.6	-2.5
	comp=Z,1.8nm,0.6s,baz=48,slow=2.8,SNR=7.6							
FINES	**FINESS Array B**	**137.74**	**344**	PKP			06 01 29.7	
FINES				PKP		PKPdf	06 01 41.4	-0.3
FINES				SKPbc		SKPbc	06 04 58.6	-2.4
FINES	**FINESS Array B**	**137.74**	**344**	PKHKP			06 01 29.7	
FINES							06 01 41.4	
OBN	**Obninsk**	**138.79**	**331**	*i*PKIKP		PKPdf	06 01 42.8	-0.8
OBN				pmax		pmax		
	comp=Z,28nm,1.7s							
KMBO	**Kilima Mbogo**	**139.41**	**240**	PKhKP			06 01 36.3	
	comp=Z,1.1nm,0.6s,baz=182,slow=19,SNR=4.3							
KMBO				PKP		PKPdf	06 01 46.9	+2.2
	comp=Z,1.8nm,0.6s,baz=13,slow=20,SNR=4.2							
GNI	**Garni**	**140.59**	**307⇓**	*i*PKIKP		PKPdf	06 01 47.7	+0.8
GNI				MLR		MLR		
	comp=Z,100nm,17.0s							
NB2	**NORSAR Subarra**	**140.84**	**354**	PKPa			06 01 39.0	
	comp=Z,3.2nm,0.6s,baz=11,slow=2.9							
NOA	**NORSAR Array B**	**140.84**	**354**	PKhKP			06 01 39.7	
	comp=Z,3.4nm,0.7s,baz=17,slow=4.5,SNR=18							
NOA				SKPbc		SKPbc	06 05 08.6	-1.0
	comp=Z,1.3nm,0.8s,baz=16,slow=4.2,SNR=3.7							
KIV	**Kislovodsk**	**140.92**	**313⇑**	*i*PKIKP		PKPdf	06 01 49.0	+1.5
KIV				MLR		MLR		
	comp=Z,100nm,14.0s							
SUW	**Suwalki**	**144.84**	**339**	*e*PKP		PKPdf	06 01 53.3	-1.1
AKASG	**Malin Array Be**	**145.05**	**331**	PKP		PKPdf	06 01 53.0	-1.8
	comp=Z,5.5nm,0.4s,baz=43,slow=4.3,SNR=57							
MUD	**Monsted U'grnd**	**145.55**	**354**	*i* P		PKPdf	06 01 55.8	+0.2
	comp=Z,114nm,1.1s							
MALT	**Malatya**	**145.81**	**306**	⇓P		PKPdf	06 01 57.6	+1.5
MALT	**Malatya**	**145.81**	**306**	⇓P		PKPdf	06 01 57.6	+1.5
MALT	**Malatya**	**145.81**	**306**	PKIKP		PKPdf	06 01 57.8	+1.7
SIM	**Simferopol'**	**146.00**	**319**	*i*PKIKP		PKPdf	06 01 57.3	+0.9
SIM				pmax		pmax		
	comp=Z,27nm,0.8s							
BSD	**Bornholm Skovb**	**146.02**	**348⇓**	*i*P		PKPdf	06 01 56.6	+0.2
	comp=Z,34nm,0.5s							
ESK	**Eskdalemuir**	**146.65**	**7**	*e*PKPdf		PKPdf	06 01 58.4	+0.9
GKP	**Gorka Klasztor**	**147.21**	**344**	*e*PKP		PKPdf	06 02 00.9	+2.5
BSEG	**Bad Segeberg**	**147.90**	**352**	*e*PKPbc		PKPbc	06 02 02.6	-0.2
LVV	**L'vov**	**147.93**	**334**	*i*PKIKP		PKPdf	06 02 02.3	+2.7
LVV				*e*			06 05 33.9	
KWP	**Kalwaria**	**148.61**	**335**	*e*PKP		PKPbc	06 02 04.6	0.0
RUE	**Ruedersdorf**	**148.73**	**347**	*e*PKPbc		PKPbc	06 02 05.1	+0.2
PPE	**Popeni**	**148.76**	**326**	P		PKPdf	06 02 03.3	+2.3
BR131	**Keskin Array S**	**148.78**	**311**	*e*PKPbc		PKPbc	06 02 04.0	-1.1
BRTR	**Keskin Array B**	**148.78**	**311**	PKPbc		PKPbc	06 02 04.7	-0.4
	comp=Z,10nm,0.7s,baz=135,slow=4.5,SNR=51							
BURAR	**Bucovina Array**	**149.10**	**330**	⇓P		PKPbc	06 02 06.3	+0.5
OJC	**Ojcow**	**149.17**	**339**	*e*PKP		PKPbc	06 02 05.6	-0.4
ANTO	**Ankara**	**149.31**	**312**	*e*PKPbc		PKPbc	06 02 06.3	0.0
ANTO	**Ankara**	**149.31**	**312**	PKHKP			06 02 06.8	
CFR	**Carcaliu**	**149.31**	**324**	*i*PKIKP		PKPbc	06 02 06.2	-0.2
STHS	**Stebnicka Huta**	**149.34**	**337**	*e*PKP		PKPdf	06 02 06.7	+4.8
VRI	**Vrincioaia**	**149.60**	**326**	⇓P		PKPbc	06 02 06.8	-0.3
VRI	**Vrincioaia**	**149.60**	**326**	PKHKP			06 02 07.1	
TIRR	**Tirgusor**	**149.62**	**323**	⇑P		PKPbc	06 02 06.9	-0.2
PLOR	**Plostina**	**149.65**	**326**	⇑P		PKPbc	06 02 06.8	-0.4
KSP	**Ksiaz**	**149.66**	**343**	*e*PKP		PKPbc	06 02 07.7	+0.5
NIE	**Niedzica**	**149.67**	**338**	*e*PKPd		PKPbc	06 02 07.8	+0.6
CRVS	**Cervenica-Dubn**	**149.68**	**336**	*e*PKP		PKPbc	06 02 07.6	+0.3
HARR	**Harsova**	**149.74**	**324**	⇓P		PKPbc	06 02 07.5	+0.1
IBBN	**Ibbenburen**	**149.79**	**354**	*e*PKPbc		PKPbc	06 02 08.1	+0.6
CLZ	**Clausthal**	**149.94**	**351**	*e*PKPbc		PKPbc	06 02 08.1	+0.2
CLL	**Collm**	**150.00**	**348**	*e*PKPbc		PKPbc	06 02 08.1	+0.1
CLL	**Collm**	**150.00**	**348⇓**	*i*PKPbc		PKPbc	06 02 07.9	-0.1
	comp=Z,54nm,1.1s							
CLL				*i* PKiKP		PKiKP	06 02 10.8	+1.9
CLL				*i* PKPab		PKPab	06 02 14.1	-0.2
	comp=Z,20nm,0.9s							
CLL				*ep*PKPab		pPKPab	06 02 56.0	+2.3
CLL	**Collm**	**150.00**	**348⇓**	*i*PKP		PKPbc	06 02 07.9	-0.1
CLL				*i*			06 02 10.8	
CLL				*i*			06 02 14.1	
OKC	**Ostrava-Krasne**	**150.03**	**340**	*e*PKPbc		PKPbc	06 02 07.8	-0.3
UPC	**Upice**	**150.04**	**343**	*e*PKPbc		PKPbc	06 02 08.4	+0.2
DPC	**Dobruska-Polom**	**150.10**	**343**	*e*PKPbc		PKPbc	06 02 08.6	+0.3
BRG	**Berggiesshubel**	**150.21**	**346**	*e*PKPbc		PKPbc	06 02 08.6	+0.1
BRG	**Berggiesshubel**	**150.21**	**346**	*i* PKHKP			06 02 08.5	
BRG				*i*			06 02 14.3	
BRG	**Berggiesshubel**	**150.21**	**346**	*i* PKP		PKPbc	06 02 08.5	0.0
	comp=Z,46nm,1.6s							
BRG				*i*			06 02 14.3	
	comp=Z,5.9nm,1.0s							
BRG				*i*			06 58 12.7	
	comp=Z,12nm,0.9s							
BRG								
	comp=N,207nm,16.0s							
BRG								
	comp=E,141nm,17.6s							
BRG								
	comp=Z,320nm,20.1s							
MLR	**Muntele Rosu**	**150.26**	**327**	⇓P		PKPbc	06 02 08.3	-0.4
MLR	**Muntele Rosu**	**150.26**	**327**	PKIKP		PKPbc	06 02 08.5	-0.2
MORC	**Moravsky Berou**	**150.27**	**341**	⇓P		PKPbc	06 02 08.8	+0.1
MORC	**Moravsky Berou**	**150.27**	**341**	⇓P		PKPbc	06 02 08.8	+0.1
MORC	**Moravsky Berou**	**150.27**	**341**	PKIKP		PKPbc	06 02 08.9	+0.2
KECS	**Kecovo**	**150.39**	**336**	*i* PKP		PKPbc	06 02 09.6	+0.6
EIL	**Elat**	**150.51**	**291**	*e*PKPbc		PKPbc	06 02 09.7	+0.5
BUG	**Bochum--Univer**	**150.69**	**355**	*e*PKPbc		PKPbc	06 02 10.4	+0.7
DRGR		**150.84**	**332**	⇓P		PKPbc	06 02 09.9	-0.1
DRGR		**150.84**	**332**	⇓P		PKPbc	06 02 09.9	-0.1
DRGR		**150.84**	**332**	PKIKP		PKPbc	06 02 10.1	+0.1
MOX	**Moxa**	**150.89**	**349**	*e*PKPbc		PKPbc	06 02 10.0	-0.2
PRU	**Pruhonice**	**150.90**	**345**	*e*PKPbc		PKPbc	06 02 10.1	-0.1
VYHS	**Vyhne**	**150.97**	**338**	*e*PKP		PKPbc	06 02 10.3	0.0
UBBA	**Unterbreizbach**	**150.99**	**351**	*e*PKPbc		PKPbc	06 02 10.5	+0.1
PSZ	**Piszkesteto**	**151.08**	**336**	*e*PKPbc		PKPbc	06 02 10.2	-0.4
NKC	**Novy Kostel**	**151.13**	**348**	*e*PKPbc		PKPbc	06 02 10.5	-0.2
NKC				*e*PKPab		PKPab	06 02 19.0	0.0
TREC	**Trest**	**151.29**	**343**	*e*PKPbc		PKPbc	06 02 10.9	-0.2
SMOL	**Smolenice**	**151.42**	**340**	*e*PKP		PKPbc	06 02 12.8	+1.4
MANZ	**Manzenberg**	**151.43**	**348**	*e*PKPbc		PKPbc	06 02 11.6	+0.2
ROTZ	**Rotzenmuhle**	**151.62**	**348**	*e*PKPbc		PKPbc	06 02 11.8	0.0
TNS	**Taunus Mts**	**151.78**	**353**	*e*PKPbc		PKPbc	06 02 12.0	-0.2
ISP	**Isparta**	**151.80**	**310⇑**	*i*PKIKP		PKPbc	06 02 10.6	-1.6
GRA1	**Grafenberg Arr**	**151.88**	**349**	*e*PKPbc		PKPbc	06 02 12.6	+0.2
GRF	**Grafenberg Arr**	**151.88**	**349**	*e*PKPbc		PKPbc	06 02 12.6	+0.2
KHC	**Kasperske Hory**	**151.92**	**345**	*e*PKPbc		PKPbc	06 02 12.5	0.0
KHC	**Kasperske Hory**	**151.92**	**345⇓**	*i*PKIKP		PKPbc	06 02 12.3	-0.2
WET	**Wettzell**	**152.07**	**346**	*e*PKPbc		PKPbc	06 02 13.4	+0.5
GEC2	**GERESS Array S**	**152.16**	**345**	*e*PKPbc		PKPbc	06 02 13.0	-0.1
GERES	**GERESS Array B**	**152.16**	**345**	PKPbc		PKPbc	06 02 12.9	-0.1
	comp=Z,5.3nm,0.6s,baz=48,slow=2.0,SNR=29							
GIVF	**Givet**	**152.18**	**358**	*e*PKP1		PKPbc	06 02 12.7	-0.4
	comp=Z,14nm,0.5s							
BZS	**Buzias**	**152.23**	**331**	P		PKPbc	06 02 12.8	-0.4
BAIF	**Baives**	**152.24**	**359**	*e*PKP1		PKPbc	06 02 12.9	-0.3
	comp=Z,5.8nm,0.5s							
PKSM	**Moragy**	**152.97**	**336**	⇑P		PKPbc	06 02 14.6	-0.3
PKSM	**Moragy**	**152.97**	**336**	⇑P		PKPbc	06 02 14.7	-0.2
PKSM	**Moragy**	**152.97**	**336**	PKIKP		PKPbc	06 02 14.8	-0.1
LDF	**La Druitiere**	**153.59**	**5**	*e*PKP1		PKPbc	06 02 16.1	-0.1
	comp=Z,8.3nm,0.5s							
CDF	**Champ du Feu**	**153.69**	**354**	*e*PKP1		PKPbc	06 02 17.0	+0.6
	comp=Z,3.1nm,0.4s							
GRR	**Gorron**	**153.73**	**6**	*e*PKP1		PKPbc	06 02 16.2	-0.3
	comp=Z,10nm,0.5s							
WATA	**Walderalm**	**154.06**	**347⇑**	*i*P		PKPbc	06 02 17.9	+0.7
	comp=Z,1.8nm,0.6s							
WTTA	**Wattenberg**	**154.12**	**347⇑**	*i*P		PKPbc	06 02 17.2	-0.1
	comp=Z,12nm,0.5s							
HAU	**Haudompre**	**154.18**	**355**	*e*PKP1		PKPbc	06 02 17.9	+0.4
HINF	**Hinteralfeld**	**154.32**	**354**	*e*PKP1		PKPbc	06 02 16.9	-0.9
	comp=Z,4.4nm,0.4s							
VOJS	**Vojsko**	**154.71**	**342**	*i* PKPbc		PKPbc	06 02 18.5	-0.1
BOJS	**Bojanci**	**154.78**	**340**	*i* PKPbc		PKPbc	06 02 19.4	+0.6
LOR	**Lormes**	**155.04**	**359**	*e*PKP1		PKPdf	06 02 20.0	+10
SSF	**Saint Saulge**	**155.25**	**359**	*e*PKP1		PKPdf	06 02 20.5	+10
AVF	**Avril sur Loir**	**155.52**	**360**	*e*PKP1		PKPdf	06 02 20.8	+10
CABF	**La Chapelle**	**155.58**	**355**	*e*PKP1		PKPdf	06 02 21.8	+11
ESDC	**Sonseca Array**	**161.62**	**18**	PKPab		PKPab	06 03 04.9	+0.9
	comp=Z,0.3nm,0.3s,baz=3.6,slow=2.8,SNR=5.1							
TORD	**Torodi Ar. Bea**	**170.84**	**171**	PKP		PKPdf	06 02 25.4	-0.1
	comp=Z,2.0nm,0.8s,baz=296,slow=0.9,SNR=11							
TORD				PKPab		PKPab	06 03 45.8	+1.0
	comp=Z,4.8nm,0.7s,baz=187,slow=4.0,SNR=24							

PGC ***29*** *05:46:16.0, 66.24N×142.07W, h15km, ML3.1/2, 272km northwest of Dawson, Yt Eastern Alaska.*

NEIC 29 05:46:12.8, 66.6N×142.22W, h1km, ML3.1(AEIC), After AEIC., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.50**	**322**	P	Pn	05 46 40.2	-0.7
BM3				S	Sb	05 47 01.4	+0.3
IL1	**Eielson Array**	**2.45**	**235**	P	Pn	05 46 53.8	-0.2
IL1				S	Sn	05 47 27.6	+3.0
DAWY	**Dawson**	**2.50**	**150**	Pn	Pn	05 46 54.6	-0.1
DAWY				Sn	Sn	05 47 24.6	-1.3
DAWY				Sg	Sg	05 47 30.6	-2.7
DAWY				Trac		05 47 35.9	
	comp=Z,36nm,0.3s						
DAWY	**Dawson**	**2.50**	**150**	P	Pn	05 46 55.0	+0.3
COLA	**College**	**2.72**	**242**	*e*Pn	Pn	05 46 57.4	-0.3
COLA				*e*Pg	Pg	05 47 03.4	-1.6
COLA				*e*Sg	Sg	05 47 38.2	-2.1
COLD	**Coldfoot**	**3.31**	**291**	P	Pn	05 47 06.9	+1.1
MENT	**Mentasta**	**3.39**	**192**	P	Pn	05 47 07.7	+0.7
MCK	**McKinley**	**3.81**	**231**	*e*Pn	Pn	05 47 12.8	+0.1
MCK				*e*Pg	Pg	05 47 25.1	-0.8
MCK				*e*Sg	Sg	05 48 13.2	-2.1
INK	**Inuvik**	**3.95**	**55**	Pn	Pn	05 47 14.6	-0.1
INK				Pg	Pg	05 47 26.9	-1.7
INK				Sn	Sn	05 47 59.5	-2.2
INK				Sg	Sg	05 48 17.3	-2.5
INK				Trac		05 48 25.6	
	comp=Z,34nm,0.8s						
INK	**Inuvik**	**3.95**	**55**	*e*Pn	Pn	05 47 14.9	+0.3
INK				*e*Pg	Pg	05 47 26.6	-2.1
INK				*e*Sn	Sn	05 47 59.7	-2.0
INK				*e*Sg	Sg	05 48 19.4	-0.5
TRF	**Thorofare Moun**	**4.45**	**234**	P	Pn	05 47 21.9	+0.5
HYT	**Haines Junctio**	**5.84**	**157**	Pn	Pn	05 47 41.5	+0.9
HYT				Sg	Sg	05 49 17.2	-3.4
HYT				Trac		05 49 23.6	
	comp=Z,16nm,0.8s						
WHY	**Whitehorse**	**6.51**	**146**	Pn	Pn	05 47 49.0	-0.8
WHY				Sg	Sg	05 49 36.8	-5.0
WHY				Trac		05 49 42.4	
	comp=Z,3.0nm,0.6s						
DLBC	**Dease Lake**	**9.66**	**139**	Trac		05 51 24.8	
	comp=Z,3.0nm,0.8s						
DLBC	**Dease Lake**	**9.66**	**139**	Sg	Sn	05 51 19.4	+57
YKW3	**Yellowknife Ar**	**12.43**	**94**	Pn	Pn	05 49 07.0	-4.0
YKW3				Sn	Sn	05 51 16.4	-14
YKW3				Trac		05 51 40.5	
	comp=Z,1.0nm,0.4s						

IDC 29 06:09:47.7±15.0, 1318S×17542E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.9/4, ML4.4/1, Error ellipse: s-maj=292.7km s-min=90.8km az=92.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.30**	**223**	Pn	Pn	06 12 44.4	+0.3
	2.1nm,0.3s,baz=80,slow=17,SNR=6.1						
STKA	**Stephens Creek**	**36.15**	**233**	P	P	06 16 51.3	-0.3
	1.1nm,0.4s,baz=61,slow=9.4,SNR=5.1						
WRA	**Warramunga Arr**	**39.87**	**255**	P	P	06 17 24.0	+1.0
	0.2nm,0.4s,baz=85,slow=8.6,SNR=8.3						
ASAR	**Alice Springs**	**40.61**	**249**	P	P	06 17 29.3	+0.1
	1.5nm,0.5s,baz=78,slow=8.8,SNR=31						

MEX 29 06:09:58.0±1.1, 1717N×9998W, h20km±85km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.30**	**246**	*i* P	Pb	06 10 03.0	-1.7
CAIG				*e*S	Sb	06 10 08.8	-0.3
ACX	**Acapulco**	**0.31**	**168**	*i* P	Pb	06 10 03.1	-1.7
ACX				*i* S	Sb	06 10 08.3	-1.2
MEIG	**Mezcala**	**0.83**	**25**	*i* P	Pb	06 10 10.3	-3.4
MEIG				*e*S	Sb	06 10 21.9	-2.4
PLIG	**Platanillo**	**1.30**	**21**	*i* P	Pn	06 10 17.5	-3.5
PLIG				*e*S	Sn	06 10 34.0	-3.7
ZIIG	**Zihuatanejo**	**1.48**	**287**	*e*P	Pn	06 10 20.3	-3.2
ZIIG				*e*S	Sn	06 10 39.1	-3.1
PNIG	**Pinotepa**	**1.94**	**113**	*e*P	Pn	06 10 28.2	-1.6
PNIG				*i* S	Sn	06 10 51.6	-1.9
PPM	**Popocatepetl**	**2.28**	**34**	*e*P	Pn	06 10 31.0	-3.5
PPM				*e*P		06 10 32.6	
PPM				*i* S	Sn	06 11 01.0	-1.1
MOIG	**Morelia**	**2.74**	**336**	*i* P	Pn	06 10 40.5	-0.3
MOIG				*i* S	Sn	06 11 11.4	-2.0
TPIG	**Tehuac#an**	**2.79**	**63**	*i* P	Pn	06 10 38.7	-2.8
TPIG				*i* S	Sn	06 11 14.2	-0.3
OXX	**Oaxaca**	**3.12**	**91**	*i* P	Pn	06 10 43.0	-3.0

NIED ***29*** *06:16:00, 24.30N×125.20E, h35km, Mw4.2 Best double couple: M0=2.26000×10^15 NP1:φs=44.00000°, δ70.00000°, λ74.00000°. NP2:φs=265.00000°, δ25.00000°, λ128.00000°.*

ISCJB ***29*** *06:16:27.8±0.4, 24.21N±0.04×125.28E±0.03, h30km, mb4. 1/19, MS3.4/4, Error ellipse: s-maj=6.0km s-min=4.1km az=131.6*

IDC ***29*** *06:16:29.7±0.6, 24.27N×124.97E, h29km±4km, mb3.9/13, mb1 4.0/15, mb1mx4.0/21, mbtmp4.0/15, ML3.6/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/28, Error ellipse: s-maj=24.1km s-min=13.4km az=70.0*

JMA ***29*** *06:16:29.7±0.2, 24.26N×125.18E, h22km, M4.3*

JMA Felt I J1.

BJI ***29*** *06:16:30.2, 24.53N×125.33E, h46km, mb4.6, Ms4.0, Msz3.9*

NEIC ***29*** *06:16:31.6±1.1, 24.31N×125.08E, h50km±12km, mb4.2/1, Error ellipse: s-maj=12.9km s-min=11.1km az=162.0*

NEIC Recorded [1 JMA] on Miyako-jima.

ISC 29 06:16:29.9±0.4, 2431N±004×12522E±004, h32km, h32km±.7km: pP-P, n47, σ1°$03/52, mb4.1/19, MS3.4/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.48**	**21**	P	**Pb**	**06 16 40.4**	**+0.2**
JOGS				S	**Sb**	**06 16 48.6**	**+1.4**
JMJ	**Miyako jima 2**	**0.51**	**8**	P	**Pb**	**06 16 40.5**	**-0.1**
JMJ				S	**Sb**	**06 16 48.3**	**+0.4**
JTJ	**Tarama**	**0.58**	**305**	P	**Pb**	**06 16 41.0**	**-0.7**
JTJ				S	**Sb**	**06 16 48.8**	**-0.9**
JIJ	**Ishigaki jima**	**0.98**	**274**	P	**Pn**	**06 16 47.1**	**-0.4**
JIJ				*e*S	**Sn**	**06 17 01.0**	**+0.7**
JKRS	**Kuro-shima**	**1.10**	**267**	P	**Pn**	**06 16 49.6**	**+0.4**
JKRS				*e*S	**Sn**	**06 17 04.2**	**+0.9**
HATJ	**Hateruma jima**	**1.31**	**259**	P	**Pn**	**06 16 52.0**	**0.0**
HATJ				*e*S	**Sn**	**06 17 08.7**	**+0.2**
IRIF	**Iriomote-Funau**	**1.36**	**272**	P	**Pn**	**06 16 52.9**	**+0.3**
IRIF				*e*S	**Sn**	**06 17 11.8**	**+2.3**
YOJ	**Yonaguni jima**	**2.02**	**275**	P	**Pn**	**06 17 03.3**	**+1.6**
JKE	**Kume jima 2**	**2.46**	**35**	P	**Pn**	**06 17 08.1**	**+0.3**
JAGN	**Aguni-jima**	**2.92**	**38**	P	**Pn**	**06 17 16.2**	**+2.1**
NACB	**Ninganchiao**	**3.31**	**268**	*e*P	**Pn**	**06 17 18.2**	**-1.2**
YHNB	**Yeheng**	**3.52**	**277**	*e*Pn	**Pn**	**06 17 23.6**	**+1.2**
JIH	**Iheya**	**3.68**	**42**	P	**Pn**	**06 17 24.7**	**+0.1**
JOW	**Kunigami**	**3.73**	**47**	Pn	**Pn**	**06 17 26.7**	**+1.4**
	5.1nm,0.3s,baz=76,slow=12,SNR=4.2						
JOW				LR	LR	06 19 14.4	
	comp=Z,380nm,18.2s,baz=213,slow=42						
JOW	**Kunigami**	**3.73**	**47**	P	**Pn**	**06 17 27.3**	**+2.0**
JMZ	**Minamidaito 2**	**5.65**	**73**	P	**Pn**	**06 17 48.9**	**-2.7**
MJAR	**Matsushiro Arr**	**16.54**	**39**	Pn	**Pn**	**06 20 23.1**	**+3.7**
	0.5nm,0.3s,baz=234,slow=10,SNR=3.3						
GUMO	**Guam**	**21.40**	**116**	LR	LR	06 27 20.9	
	comp=Z,63nm,21.1s,MS3.0,baz=235,slow=30						
GTA	**Gaotai**	**26.19**	**311**	*e*P	**P**	**06 22 01.0**	**-0.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**27.83**	**332**	P	**P**	**06

TEIG	**Tepich**	**41.57**	**333**	*e*P	**P**	**06 37 27.6**	**+1.3**
	5.4nm,1.3s,mb4.0						
DBIC	**Dimbokro**	**68.18**	**75**	P	**P**	**06 40 36.7**	**-0.6**
	1.4nm,0.5s,mb4.0,baz=211,slow=5.9,SNR=3.0						
ULM	**Lac du Bonnet**	**71.14**	**342**	P	**P**	**06 40 54.0**	**-1.4**
	1.0nm,0.4s,mb3.9,baz=161,slow=6.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**76.55**	**72**	P	**P**	**06 41 27.2**	**+0.3**
	0.7nm,0.5s,mb3.5,baz=249,slow=6.3,SNR=12						
YKA	**Yellowknife Ar**	**87.04**	**341**	P	**P**	**06 42 21.7**	**0.0**
	0.4nm,0.6s,mb3.5,baz=133,slow=4.8,SNR=24						
YKA	**Yellowknife Ar**	**87.04**	**341**	P	**P**	**06 42 21.7**	**0.0**
SONM	**Songino Array**	**149.35**	**5**	PKPbc	PKPbc	06 49 25.3	+1.1
	0.4nm,0.3s,baz=312,slow=2.1,SNR=6.2						

MOS ***29*** *06:38:21.6±0.9,2276S×175.19W,h33km,mb5.5/28, MS5.0/5, Error ellipse: s-maj=13.0km s-min=9.2km az=60.2*

ISCJB ***29*** *06:38:22.6±0.2,2293S±004×175.13W±005,h46km, mb5.2/81,MS4.8/32, Error ellipse: s-maj=7.4km s-min=4.3km az=89.6*

NEIC ***29*** *06:38:24.0±0.2,2291S×175.11W,mb5.3/54, Error ellipse: s-maj=7.8km s-min=4.1km az=134.0*

BJI ***29*** *06:38:23.9,2290S×175.10W,h46km,mB5.7,mb5.3,Ms5.4, Msz5.0*

IDC ***29*** *06:38:24.0±2.0,2287S×17532W,h45km±17km,mb4.7/15, mb1 4.9/16,mb1mx4.9/16,mbtmp5.0/16,ML5.2/2,MS4.7/16, Ms1 4.7/16,ms1mx4.5/27, Error ellipse: s-maj=17.5km s-min=10.5km az=142.0*

HRVD ***29*** *06:38:24.0±0.2,2304S×17453W,h12km,MW5.3/86, Centroid moment Tensor Solution. LP body waves: s67,c109;Mantle waves: s86,c147; Half duration: 1§1 Moment tensor: Scale 10^17^Nm; M_{rr}-0.53±.01; $M_{\theta\theta}$0.07±.01; $M_{\phi\phi}$0.45±.01; $M_{r\theta}$0.51±.04; $M_{\theta\phi}$0.18±.01; $M_{\phi r}$0.74±.04; Best double couple: $M_0$1.04200×10^17^ NP1:φs213.00000°,δ75.00000°,λ-84.00000°. Principal axes: T 1.0300, Plg30.0000°, Azm298.0000°; N 0.0240, Plg6.0000°, Azm31.0000°; P -1.0530, Plg60.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 06:38:24.2±0.2,2295S±004×17506W±005,h47km, h47km±1.0km:pP-P,n271,σ1§03/200,mb5.2/81,MS4.8/32, 23C-7D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.78**	**202**	P	**Pn**	**06 39 58.8**	**-2.3**
	163nm,0.3s,baz=274,slow=16,SNR=9.0						
RAO				S	**Sn**	06 41 14.7	-2.3
	212nm,0.3s,baz=257,slow=22,SNR=8.5						
RAO	**Raoul Island**	**6.78**	**202**	*e*Pn	**Pn**	**06 39 59.0**	**-2.1**
	3μm,1.1s						
RAO	**Raoul Island**	**6.78**	**202**	*e*P	**Pn**	**06 39 59.0**	**-2.1**
RAO				pmax	pmax		
	comp=Z,3μm,1.1s						
AFI	**Afiamalu**	**9.51**	**20**	P	**Pn**	**06 40 29.2**	**-9.3**
	comp=Z,19nm,0.3s,baz=167,slow=1.3,SNR=27						
AFI				S	**Sn**	**06 42 06.7**	**-17**
	comp=Z,19nm,0.3s,baz=205,slow=16,SNR=5.4						
AFI				T		06 50 27.4	
	comp=Z,4.5nm,0.3s,baz=180,slow=20,SNR=4.4						
AFI	**Afiamalu**	**9.51**	**20**	*e*Pn	**Pn**	**06 40 28.5**	**-10**
	comp=Z,324nm,0.9s						
RAR	**Rarotonga**	**14.28**	**86**	P	**Pn**	**06 41 32.4**	**-11**
	comp=Z,14nm,0.3s,baz=260,slow=8.1,SNR=19						
RAR				S	Sn	06 43 55.4	-25
	comp=Z,7.3nm,0.3s,baz=35,slow=17,SNR=5.2						
RAR				LR	LR	06 46 15.2	
	comp=Z,2μm,19.0s,baz=304,slow=32						
BKM	**Butte a Klehm**	**16.52**	**285**	⇑*i*P	**Pn**	**06 42 19.4**	**+6.9**
URZ	**Urewera**	**16.67**	**202**	P	**Pn**	**06 42 14.2**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=40,slow=2.8,SNR=17						
URZ				S	S	06 45 04.7	-23
	comp=Z,4.5nm,0.3s,baz=288,slow=20,SNR=12						
DZM	**Mont Dzumac**	**17.12**	**269**	P	**Pn**	**06 42 22.1**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=78,slow=16,SNR=31						
THZ	**Tophouse**	**21.30**	**205**	PN	**P**	**06 43 07.6**	**+0.8**
THZ	**Tophouse**	**21.30**	**205**	P	**P**	**06 43 08.6**	**+1.8**
KHZ	**Kahutara**	**21.62**	**203**	PN	**P**	**06 43 11.4**	**+1.2**
KHZ	**Kahutara**	**21.62**	**203**	P	**P**	**06 43 08.9**	**-1.3**
DSZ	**Denniston Nort**	**21.74**	**207**	PN	**P**	**06 43 11.0**	**-0.4**
DSZ	**Denniston Nort**	**21.74**	**207**	P	**P**	**06 43 13.5**	**+2.0**
LTZ	**Lake Taylor**	**22.41**	**205**	PN	**P**	**06 43 18.4**	**-0.3**
LTZ				SN	**S**	**06 47 14.8**	**-7.4**
LTZ				SN	**S**	**06 47 16.2**	**-6.0**
LTZ	**Lake Taylor**	**22.41**	**205**	P	**P**	**06 43 19.9**	**+1.2**
TBI	**Tubuai**	**23.54**	**96**	*e*LQ		06 47 45.9	
	comp=Z,3μm,27.0s						
TBI				*e*LR	LR	06 48 42.3	
	comp=Z,5μm,27.2s,baz=267						
RPZ	**Rata Peaks**	**23.68**	**206**	P	**P**	**06 43 29.9**	**-1.6**
	comp=Z,26nm,0.7s,mb4.8,baz=200,slow=0.6,SNR=12						
RPZ				S	**S**	**06 47 39.1**	**-3.7**
	comp=Z,17nm,0.9s,baz=31,slow=19,SNR=3.6						
PAE	**Paea**	**24.45**	**82**	*e*P	**P**	**06 43 35.8**	**-2.7**
	comp=Z,124nm,1.1s,mb5.3						
PPT	**Papeete**	**24.48**	**82**	*e*P	**P**	**06 43 35.5**	**-3.3**
	comp=Z,54nm,1.1s,mb4.9						
PPT	**Papeete**	**24.48**	**82**	*e*LQ		06 48 15.4	
	comp=Z,3μm,27.2s						
PPT				*e*LR	LR	06 49 03.9	
	comp=Z,5μm,26.0s,baz=249						
PPT	**Papeete**	**24.48**	**82**	P	**P**	**06 43 35.7**	**-3.1**
	comp=Z,46nm,0.9s,mb4.9,baz=235,slow=15,SNR=4.3						
PPT				LR	LR	06 50 22.4	
	comp=Z,2μm,20.6s,MS4.5,baz=262,slow=29						
PPT				T		07 09 47.0	
	comp=Z,22nm,0.4s,baz=223,slow=19,SNR=3.7						
PPT	**Papeete**	**24.48**	**82**	P	**P**	**06 43 35.7**	**-3.1**
PPT				LR	LR	06 50 22.4	
TVO	**Taravao**	**24.72**	**83**	*e*P	**P**	**06 43 38.5**	**-2.4**
	comp=Z,211nm,1.1s,mb5.6						
JCZ	**Jackson Bay**	**24.93**	**208**	PN	**P**	**06 43 41.3**	**-1.6**
JCZ	**Jackson Bay**	**24.93**	**208**	*e*P	**P**	**06 43 40.3**	**-2.6**
ARMA	**Armidale**	**30.60**	**249**	*e*P	**P**	**06 44 34.4**	**+0.8**
CNB	**Canberra Magne**	**33.26**	**240**	*e*P	**P**	**06 44 57.7**	**+0.8**
	comp=Z,34nm,1.1s,mb5.2						
CTA	**Charters Tower**	**36.04**	**267**	*e*P	**P**	**06 45 20.7**	**-0.2**
	comp=Z,32nm,0.8s,mb5.3						
CTA				*e*PP	PP	06 47 06.0	+23
CTA				*e*S	**S**	**06 50 56.5**	**0.0**
CTA	**Charters Tower**	**36.04**	**267**	S	**S**	**06 50 56.9**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=220,slow=20,SNR=6.8						
CTA				LR	LR	06 57 51.9	
	comp=Z,789nm,21.5s,MS4.5,baz=97,slow=33						
CTA	**Charters Tower**	**36.04**	**267**	*e*P	**P**	**06 45 20.7**	**-0.2**
CTA				*e*		06 47 06.0	
CTA				*e*S	**S**	**06 50 56.5**	**0.0**
CTA				pmax	pmax		
	comp=Z,32nm,0.8s						
TAOE	**Nuku Hiva Isla**	**36.26**	**73**	*e*LR	LR	06 54 39.0	
	comp=Z,4μm,24.6s						
TOO	**Toolangi**	**36.78**	**237**	⇑*i*P	**P**	**06 45 28.1**	**+0.9**
	comp=Z,25nm,0.9s,mb5.0						
TOO	**Toolangi**	**36.78**	**237**	⇑*i*P	**P**	**06 45 28.1**	**+0.9**
TOO				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.0						
RKT	**Rikitea**	**36.81**	**98**	*e*S	**S**	**06 51 02.2**	**-6.1**
	comp=Z,261nm,29.0s						
RKT				*e*LR	LR	06 54 46.5	
	comp=Z,3μm,27.0s,baz=261						
PMG	**Port Moresby**	**38.57**	**284**	P	**P**	**06 45 41.7**	**-0.7**
	comp=Z,114nm,0.9s,mb5.6,baz=108,slow=3.9,SNR=30						
PMG				LR	LR	06 57 41.3	
	comp=Z,1μm,18.0s,MS4.7,baz=112,slow=30						
PMG	**Port Moresby**	**38.57**	**284**	*e*P	**P**	**06 45 41.5**	**-0.8**
	comp=Z,121nm,0.9s,mb5.6						
PMG	**Port Moresby**	**38.57**	**284**	*e*P	**P**	**06 45 41.5**	**-0.8**
PMG				pmax	pmax		
	comp=Z,121nm,0.9s						
STKA	**Stephens Creek**	**39.28**	**247**	⇑*i*P	**P**	**06 45 45.9**	**-2.4**
	comp=Z,10nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**39.28**	**247**	P	**P**	**06 45 46.0**	**-2.3**
	comp=Z,17nm,0.9s,mb4.8,baz=89,slow=9.1,SNR=24						
STKA				S	**S**	**06 51 43.4**	**-2.3**
	comp=Z,1.2nm,0.3s,baz=245,slow=19,SNR=2.0						
STKA				LR	LR	06 59 57.9	
	comp=Z,2μm,20.6s,MS4.9,baz=70,slow=33						
STKA	**Stephens Creek**	**39.28**	**247**	*e*P	**P**	**06 45 45.9**	**-2.4**
ASAR	**Alice Springs**	**46.67**	**259**	P	**P**	**06 46 47.2**	**-0.8**
	comp=Z,74nm,1.0s,mb5.6,baz=92,slow=8.1,SNR=276						
ASAR				S	**S**	**06 53 32.4**	**-1.7**
	comp=Z,9.7nm,1.2s,baz=91,slow=17,SNR=15						
WB2	**Warramunga Arr**	**47.00**	**264**	*e*P	**P**	**06 46 49.4**	**-1.2**
WB2				*e*S	**S**	**06 53 35.2**	**-3.6**
WRAB	**Tennant Creek**	**47.00**	**264**	P	**P**	**06 46 49.0**	**-1.6**
	comp=Z,287nm,1.0s,mb6.2,SNR=20						
WRAB	**Tennant Creek**	**47.00**	**264**	*e*P	**P**	**06 46 49.1**	**-1.5**
	comp=Z,72nm,0.9s,mb5.6						
WRAB	**Tennant Creek**	**47.00**	**264**	*e*P	**P**	**06 46 49.1**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,72nm,0.9s,mb5.6						
WRA	**Warramunga Arr**	**47.01**	**264**	P	**P**	**06 46 49.5**	**-1.2**
	comp=Z,40nm,0.9s,mb5.3,baz=102,slow=8.0,SNR=137						
WRA				S	**S**	**06 53 34.9**	**-4.0**
	comp=Z,4.5nm,1.1s,baz=100,slow=14,SNR=7.7						
KAKA	**Kakadu**	**50.78**	**272**	*e*P	**P**	**06 47 18.3**	**-1.2**
	comp=Z,10.0nm,0.5s,mb5.0						
FORT	**Forrest**	**50.89**	**248**	⇑*i*P	**P**	**06 47 19.3**	**-1.1**
	comp=Z,42nm,0.8s,mb5.4						
GUMO	**Guam**	**53.46**	**309**	LR	LR	07 07 33.8	
	comp=Z,577nm,21.1s,MS4.6,baz=98,slow=33						
FITZ	**Fitzroy Crossi**	**55.44**	**263**	*e*P	**P**	**06 47 53.5**	**-0.3**
	comp=Z,38nm,0.9s,mb5.4						
FITZ	**Fitzroy Crossi**	**55.44**	**263**	LR	LR	07 11 10.2	
	comp=Z,1μm,19.3s,MS5.0,baz=108,slow=36						
SBA	**Scott Base**	**55.64**	**185**	*e*P	**P**	**06 47 58.1**	**+2.9**
	comp=Z,45nm,1.1s,mb5.4						
SBA				*e*pP	pP	06 48 13.0	+4.5
SBA	**Scott Base**	**55.64**	**185**	*e*P	**P**	**06 47 58.2**	**+2.9**
SBA				*e**PP	pP	06 48 13.0	+4.5
SBA				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.4						
VNDA	**Vanda**	**55.75**	**186**	P	**P**	**06 47 57.7**	**+1.6**
	comp=Z,9.8nm,0.9s,mb4.8,baz=8.9,slow=7.2,SNR=26						
VNDA				LR	LR	07 07 44.1	
	comp=Z,258nm,18.3s,MS4.3,baz=25,slow=32						
VNDA	**Vanda**	**55.75**	**186**	*e*P	**P**	**06 47 57.7**	**+1.6**
	comp=Z,22nm,1.1s,mb5.1						
VNDA				*e*pP	pP	06 48 12.2	+3.0
VNDA	**Vanda**	**55.75**	**186**	*e*P	**P**	**06 47 57.7**	**+1.6**
VNDA				*e**PP	pP	06 48 12.2	+3.0
VNDA				pmax	pmax		
	comp=Z,22nm,1.1s						
KLBR	**Kellerberrin**	**59.53**	**246**	⇓*i*P	**P**	**06 48 22.4**	**-0.2**
	comp=Z,34nm,0.9s,mb5.4						
NWAO	**Narrogin (SRO)**	**59.75**	**244**	LR	LR	07 14 20.0	
	comp=Z,1μm,18.6s,MS5.1,baz=92,slow=36						
MBWA	**Marble Bar**	**60.01**	**258**	*e*P	**P**	**06 48 24.9**	**-1.0**
	comp=Z,66nm,1.3s,mb5.5						
MUN	**Mundaring**	**60.76**	**245**	*e*P	**P**	**06 48 32.0**	**+0.9**
CASY	**Casey**	**62.95**	**206**	*e*P	**P**	**06 48 46.6**	**+0.8**
CASY	**Casey**	**62.95**	**206**	*e*P	**P**	**06 48 46.6**	**+0.8**
	comp=Z,33nm,0.9s,mb5.5						
QSPA	**South Pole Qui**	**67.14**	**180**	*e*P	**P**	**06 49 14.4**	**+1.5**
	comp=Z,97nm,1.5s,mb5.6						
MIR	**Mirnyy**	**69.95**	**205**	*e*P	**P**	**06 49 33.5**	**+3.0**
MIR				pmax	pmax		
	comp=Z,2μm,2.0s						
MJAR	**Matsushiro Arr**	**73.80**	**322**	P	**P**	**06 49 52.9**	**-0.7**
	comp=Z,8.1nm,0.6s,mb4.8,baz=157,slow=6.1,SNR=16						
MJAR				LR	LR	07 16 25.3	
	comp=Z,317nm,19.6s,MS4.6,baz=130,slow=31						
KSM	**Kuching**	**76.45**	**277**	*e*P	**P**	**06 50 09.4**	**+0.6**
PET	**Petropavlovsk**	**79.03**	**344**	*e*P	**P**	**06 50 27.9**	**+4.7**
PET				*e*S	S	07 00 22.7	+4.1
PET				pmax	pmax		
	comp=Z,200nm,11.8s						
PET				smax			
	comp=N,200nm,17.8s						
PFO	**Pinyon Flat Ob**	**79.21**	**46**	*e*P	**P**	**06 50 24.4**	**+0.2**
	comp=N,16nm,1.0s,mb4.9						
PFO				*e*pP	pP	06 50 36.5	-1.5
PFO	**Pinyon Flat Ob**	**79.21**	**46**	*e*P	**P**	**06 50 24.4**	**+0.2**
PFO				*e**PP	pP	06 50 36.5	-1.4
PFO				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
CMB	**Columbia Colle**	**79.45**	**41**	*e*P	**P**	**06 50 25.6**	**+0.1**
	comp=Z,15nm,1.1s,mb4.8						
CMB	**Columbia Colle**	**79.45**	**41**	*e*P	**P**	**06 50 25.6**	**+0.1**
CMB				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
WDC	**Whiskeytown Da**	**79.86**	**38**	*e*P	**P**	**06 50 27.6**	**-0.1**
	comp=Z,28nm,1.2s,mb5.1						
WDC	**Whiskeytown Da**	**79.86**	**38**	*e*P	**P**	**06 50 27.6**	**-0.1**
WDC				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
DAC	**Darwin (Calif)**	**80.08**	**44**	*e*P	**P**	**06 50 29.2**	**+0.3**
	comp=Z,66nm,2.2s,mb5.2						
DAC	**Darwin (Calif)**	**80.08**	**44**	*e*P	**P**	**06 50 29.2**	**+0.3**
DAC				pmax	pmax		
	comp=Z,66nm,2.2s,mb5.2						
MTUM	**Tungsten Hills**	**80.14**	**42**	*e*P	**P**	**06 50 30.0**	**+0.8**
MAW	**Mawson**	**80.18**	**199**	⇑*i*P	**P**	**06 50 30.9**	**+1.4**
	comp=Z,24nm,1.0s,mb5.1						
MAW	**Mawson**	**80.18**	**199**	P	**P**	**06 50 31.1**	**+1.7**
	comp=Z,24nm,0.9s,mb5.1,baz=125,slow=8.7,SNR=17						
MAW				LR	LR	07 26 39.3	
	comp=Z,1μm,18.3s,MS5.2,baz=97,slow=36						
MAW	**Mawson**	**80.18**	**199**	⇑*i*P	**P**	**06 50 30.9**	**+1.4**
MAW				pmax	pmax		
	comp=Z,24nm,1.0s						
YBH	**Yreka Blue Hor**	**80.54**	**37**	*e*P	**P**	**06 50 31.8**	**+0.5**
	comp=Z,15nm,1.1s,mb4.8						
YBH	**Yreka Blue Hor**	**80.54**	**37**	*e*P	**P**	**06 50 31.8**	**+0.4**
YBH				pmax	pmax		
	comp=Z,15nm,1.1s						
NVAR	**Mina Array Bea**	**80.97**	**42**	P	**P**	**06 50 33.6**	**0.0**
	comp=Z,17nm,1.0s,mb5.0,baz=209,slow=6.8,SNR=62						
MNV	**Mina**	**81.06**	**42**	*e*P	**P**	**06 50 34.6**	**+0.5**
	comp=Z,31nm,1.1s,mb5.2						
MNV	**Mina**	**81.06**	**42**	*e*P	**P**	**06 50 34.6**	**+0.4**
MNV				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
SSE	**Sheshan**	**81.34**	**309**	P	**P**	**06 50 36.0**	**+0.3**
SSE				XP	sP	06 50 53.0	-1.8
SSE				PP	PP	06 53 43.0	+1.2
SSE				S	S	07 00 46.5	+3.5
SSE				XS	sS	07 01 07.5	+1.4
SSE				SS	SS	07 06 06.5	+7.0
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,247nm,5.1s						
SSE				LR	LR		
	comp=N,97nm,21.9s,MS4.3						
SSE				LR	LR		
	comp=E,121nm,22.1s,MS4.3						
SSE				LR	LR		
	comp=Z,237nm,20.6s,MS4.5						
NEN	**Nelson**	**81.49**	**46**	*e*P	**P**	**06 50 36.6**	**+0.2**
NEN				*e*pP	pP	06 50 51.2	+1.0
VLA	**Vladivostok**	**81.85**	**324**	⇑*i*P	**P**	**06 50 39.2**	**+0.9**
TUC	**Tucson**	**82.38**	**50**	*e*P	**P**	**06 50 41.5**	**+0.4**
	comp=Z,13nm,1.0s,mb4.8						
TUC				*e*pP	pP	06 50 54.9	0.0
TUC	**Tucson**	**82.38**	**50**	*e*P	**P**	**06 50 41.5**	**+0.4**
TUC				*e**PP	pP	06 50 54.9	0.0
TUC				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
WVOR	**Wild Horse Val**	**83.29**	**38**	*e*P	**P**	**06 50 46.3**	**+0.5**
	comp=Z,25nm,1.1s,mb5.2						
WVOR	**Wild Horse Val**	**83.29**	**38**	*e*P	**P**	**06 50 46.3**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
NJ2	**Nanjing**	**83.54**	**309**	*e*P	**P**	**06 50 48.5**	**+1.4**
NJ2				AP	pP	06 51 01.8	+0.9
NJ2				XP	sP	06 51 07.0	+0.8
NJ2				PP	PP	06 54 03.0	+3.2
NJ2				S	S	07 01 05.0	-0.3
NJ2				XS	sS	07 01 27.0	-1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,120nm,8.4s						
NJ2				LR	LR		
	comp=N,2μm,23.4s,MS5.5						
NJ2				LR	LR		
	comp=E,970nm,27.0s,MS5.5						
NJ2				LR	LR		
	comp=Z,330nm,21.7s						
CCUT	**Cedar City**	**83.56**	**45**	*e*P	**P**	**06 50 48.1**	**+0.9**
WUAZ	**Wupatki**	**83.73**	**47**	*e*P	**P**	**06 50 48.7**	**+0.6**
	comp=Z,26nm,1.2s,mb5.2						
MDJ	**Mudanjiang**	**84.09**	**324**	P	**P**	**06 50 51.0**	**+1.1**
MDJ				AP	pP	06 51 03.3	-0.5
MDJ				XP	sP	06 51 08.0	-1.1
MDJ				PP	PP	06 54 05.0	+0.7
MDJ				S		07 01 13.5	
MDJ				XS	sS	07 01 34.5	+0.3
MDJ				SS	SS	07 06 44.0	+3.8
MDJ				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,302nm,3.9s						
MDJ				LR	LR		
	comp=N,234nm,21.1s,MS4.6						
MDJ				LR	LR		
	comp=E,192nm,22.3s,MS4.6						
MDJ				LR	LR		
	comp=Z,485nm,19.9s,MS4.9						
MDJ	**Mudanjiang**	**84.09**	**324**	*e*P	**P**	**06 50 51.0**	**+1.0**
	comp=Z,22nm,0.8s,mb5.3						
ELK	**Elko**	**84.26**	**41**	*e*P	**P**	**06 50 51.0**	**+0.3**
	comp=Z,21nm,1.1s,mb5.2						
ELK	**Elko**	**84.26**	**41**	*e*P	**P**	**06 50 51.1**	**+0.3**
ELK				pmax	pmax		
	comp=Z,21nm,1.1s						
QIZ	**Qiongzhong**	**84.34**	**293**	P	**P**	**06 50 52.8**	**+1.6**
QIZ				XP	sP	06 51 13.0	+2.7
QIZ				S		07 01 14.5	
QIZ				PS		07 02 15.3	
QIZ				SS	SS	07 06 42.0	-1.9
QIZ				AMB	AMB		
	comp=Z,285nm,11.4s						
QIZ				LR	LR		
	comp=E,289nm,18.8s						
QIZ				LR	LR		
	comp=Z,418nm,18.8s,MS4.8						
PGC	**Sidney**	**84.86**	**31**	P	**P**	**06 50 52.8**	**-1.0**
	comp=Z,90nm,1.5s,mb5.7						
MSU	**Marysvale**	**84.88**	**45**	*e*P	**P**	**06 50 55.2**	**+1.3**
SYO	**Syowa Base**	**84.93**	**192**	⇑*e*P	**P**	**06 50 54.5**	**+0.3**
SYO	**Syowa Base**	**84.93**	**192**	⇑*e*PcP	PcP	06 50 56.1	-1.3
SVW2	**Sparrevohn**	**85.22**	**9**	*e*P	**P**	**06 50 54.3**	**-1.3**
DUG	**Dugway**	**85.43**	**43**	*e*P	**P**	**06 50 56.6**	**-0.1**
	comp=Z,7.2nm,1.2s,mb4.7						
DUG	**Dugway**	**85.43**	**43**	*e*P	**P**	**06 50 56.6**	**-0.1**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
SNAA	**Sanae**	**85.48**	**178**	*e*P	**P**	**06 50 57.0**	**+0.1**
SNAA				*e*		06 51 00.2	
SNAA				*e*	pP	06 51 10.7	-0.1
SNAA				*e*	pP	06 51 15.3	+4.5
SNAA				*e*		06 51 26.7	
SNAA	**Sanae**	**85.48**	**178**	*e*P	**P**	**06 50 56.7**	**-0.2**
	comp=Z,101nm,1.6s,mb5.7						
SNAA	**Sanae**	**85.48**	**178**	⇑*e*P	**P**	**06 50 57.2**	**+0.3**
VNA3	**Neumayer Olymp**	**85.51**	**175**	*e*P	**P**	**06 50 57.2**	**+0.1**
VNA3				*e*		06 51 00.0	
VNA3				*e*	pP	06 51 10.9	-0.1
VNA3				*e*		06 51 16.1	
SLKM	**Skilak Lake**	**85.58**	**12**	*e*P	**P**	**06 50 56.2**	**-1.2**
PLCA	**Paso Flores**	**85.61**	**132**	P	**P**	**06 50 58.1**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.6,baz=260,slow=7.3,SNR=6.5						
PLCA				LR	LR	07 25 32.5	
	comp=Z,357nm,18.1s,MS4.8,baz=231,slow=33						
CN2	**Changchun**	**85.90**	**321**	*e*P	**P**	**06 51 00.3**	**+1.3**
CN2				*e*AP	pP	06 51 13.5	+0.6
CN2				*e*XP	sP	06 51 18.8	+0.6
CN2				*e*S		07 01 29.0	
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.5						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,600nm,13.0s,MS5.3						
CN2				LR	LR		
	comp=E,500nm,13.0s,MS5.3						
CN2				LR	LR		
	comp=Z,400nm,13.0s,MS5.0						
TMUT	**Trail Mountain**	**85.94**	**44**	*e*P	**P**	**06 50 59.1**	**-0.1**
MNTX	**Cornudas Mount**	**85.97**	**53**	*e*P	**P**	**06 50 59.3**	**0.0**
	comp=Z,20nm,1.1s,mb5.3						
VNA2	**Neumayer--Watz**	**85.98**	**176**	*e*P	**P**	**06 50 59.8**	**+0.4**
	baz=205,slow=4.1						
VNA2				*e*		06 51 01.0	
VNA2				*e*	pP	06 51 13.2	-0.1
VNA2				*e*		06 51 18.3	
VNA2				*e*		06 51 30.0	
KLR	**Kul'dur**	**86.03**	**328**	*e*P	**P**	**06 50 58.0**	**-1.6**
KLR				*e*S		07 01 24.0	
KLR				smax			
	comp=N,2μm,9.5s						
KLR				smax			
	comp=E,700nm,9.5s						
LENM	**Lemitar**	**86.07**	**50**	*e*P	**P**	**06 51 00.7**	**+0.9**
LAZ	**Ladron**	**86.07**	**50**	*e*pP	pP	06 51 14.4	+0.7
LTX	**Lajitas**	**86.11**	**56**	*e*P	**P**	**06 51 00.7**	**+0.7**
	comp=E,30nm,1.1s,mb5.4						
LTX	**Lajitas**	**86.11**	**56**	*e*P	**P**	**06 51 00.7**	**+0.7**
LTX				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.4						
VNA1	**Neumayer--Stat**	**86.20**	**176**	*e*P	**P**	**06 51 01.6**	**+1.2**
VNA1				*e*		06 51 02.8	
VNA1				*e*	pP	06 51 14.6	+0.2
VNA1				*e*		06 51 20.1	
FIB	**Fire Island**	**86.20**	**12**	*e*P	**P**	**06 51 00.9**	**+0.5**
	comp=Z,10.0nm,0.6s,mb5.2		

MCK	McKinley	88.79	11	*e*P		P	06 51 11.9	-1.0
	comp=Z,30nm,1.5s,mb5.4							
MCK				*e*pP		pP	06 51 25.8	-1.1
MCK	McKinley	88.79	11	*e*P		P	06 51 11.9	-1.0
MCK				*e**PP		pP	06 51 25.8	-1.1
MCK				pmax		pmax		
	comp=Z,30nm,1.5s,mb5.4							
BW06	Boulder Array	88.90	42	*e*P		P	06 51 13.1	-0.3
	comp=Z,4.8nm,1.0s,mb4.8							
PDAR	Pinedale Array	88.90	42	P		P	06 51 12.7	-0.7
	comp=Z,5.0nm,1.0s,mb4.8,baz=203,slow=3.9,SNR=21							
PDAR				LR		LR	07 26 08.5	
	comp=Z,344nm,18.9s,MS4.8,baz=246,slow=32							
CHMT	Chamberlain Mo	89.06	37	*e*P		P	06 51 13.8	-0.4
MENT	Mentasta	89.12	14	*e*P		P	06 51 14.2	-0.2
BOZ	Bozeman (W)	89.26	39	*e*P		P	06 51 14.3	-0.8
	comp=Z,75nm,2.2s,mb5.6							
BOZ	Bozeman (W)	89.26	39	*e*P		P	06 51 14.3	-0.8
BOZ				pmax		pmax		
	comp=Z,75nm,2.2s,mb5.6							
SEY	Seymchan	89.39	346	*e*P		P	06 51 16.0	+0.3
SEY							06 54 46.6	
SEY				*e*			07 01 38.0	
SEY				*e*S			07 02 06.0	
SEY				PS		PS	07 03 06.6	-6.3
SEY				pmax		pmax		
	comp=Z,37nm,1.3s,mb5.5							
SEY				smax				
	comp=N,140nm,6.6s							
SEY				smax				
	comp=E,90nm,6.6s							
SEY				MLR		MLR		
	comp=Z,450nm,18.0s,MS4.9							
SEY				MLR		MLR		
	comp=N,320nm,19.0s,MS4.9							
SEY				MLR		MLR		
	comp=E,200nm,17.0s,MS4.9							
BJT	Baijiatuau	89.54	314	P		P	06 51 17.6	+1.2
BJI	Beijing	89.55	314	P		P	06 51 17.8	+1.3
BJI				XP		sP	06 51 38.5	+2.8
BJI				AMB		AMB		
	comp=Z,13nm,0.7s,mb5.4							
BJI				AMB		AMB		
	comp=Z,560nm,5.6s							
BJI				LR		LR		
	comp=N,186nm,13.4s,MS5.0							
BJI				LR		LR		
	comp=E,337nm,13.0s,MS5.0							
BJI				LR		LR		
	comp=Z,348nm,25.7s							
JCT	Junction City	89.61	57	*e*P		P	06 51 16.5	-0.3
ENH	Enshi	89.66	303	*e*P		P	06 51 18.1	+1.1
	comp=Z,105nm,1.4s,mb6.0							
HRY	Holter Researc	89.75	38	*e*P		P	06 51 16.9	-0.5
COLA	College	90.03	11	*e*P		P	06 51 17.5	-1.2
	comp=Z,40nm,1.3s,mb5.6							
COLA				*e*pP		pP	06 51 30.8	-1.9
COLA	College	90.03	11	*e*P		P	06 51 17.5	-1.2
COLA				*e**PP		pP	06 51 30.8	-1.9
COLA				pmax		pmax		
	comp=Z,40nm,1.3s,mb5.6							
ILAR	Eielson Array	90.11	12	P		P	06 51 17.9	-1.2
	comp=Z,8.3nm,1.0s,mb5.0,baz=222,slow=5.2,SNR=35							
ILAR				PKKPbc		PKKPbc	07 08 49.7	+0.7
	comp=Z,0.2nm,0.7s,baz=354,slow=2.1,SNR=4.3							
GYA	Guiyang	90.22	299	⇑*i*P		P	06 51 20.5	+0.9
GYA				AP		pP	06 51 34.0	+0.4
GYA				XP		sP	06 51 39.3	+0.4
GYA				PP		PP	06 54 57.5	+3.8
GYA				SKS			07 01 46.0	
GYA				S			07 02 09.5	
GYA				PS		PS	07 03 26.8	+4.6
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.4							
GYA				AMB		AMB		
	comp=Z,180nm,4.9s							
GYA				LR		LR		
	comp=N,680nm,18.6s,MS5.3							
GYA				LR		LR		
	comp=E,690nm,18.9s,MS5.3							
GYA				LR		LR		
	comp=Z,810nm,19.4s,MS5.2							
GCMT	Greycliff	90.48	40	*e*P		P	06 51 21.1	+0.3
DAWY	Dawson	91.08	15	*e*P		P	06 51 23.4	-0.2
DAWY				*e*pP		pP	06 51 36.8	-0.8
BILL	Bilibino	91.76	353	*e*P		P	06 51 26.3	-0.4
	comp=Z,10nm,1.0s,mb5.1							
BILL	Bilibino	91.76	353	*e*P		P	06 51 26.3	-0.4
BILL				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb5.1							
XAN	Xi'an	91.78	306	P		P	06 51 28.3	+1.5
XAN				AMB		AMB		
	comp=Z,29nm,0.9s,mb5.6							
XAN				LR		LR		
	comp=N,238nm,23.4s,MS4.8							
XAN				LR		LR		
	comp=E,304nm,22.5s,MS4.8							
XAN				LR		LR		
	comp=Z,430nm,24.2s,MS4.8							
HIA	Hailar	92.27	323	⇓*e*P		P	06 51 29.8	+0.7
EDM	Edmonton	92.70	32	*e*P		P	06 51 30.4	-0.7
KMI	Kunming	92.88	296	P		P	06 51 33.5	+1.6
KMI				AP		pP	06 51 46.8	+0.9
KMI				XP		sP	06 51 53.0	+1.8
KMI				PP		PP	06 55 19.3	+4.6
KMI				PPP			06 57 21.5	
KMI				SKS			07 02 06.0	
KMI				S			07 02 32.5	
KMI				XS		sS	07 02 54.3	-3.3
KMI				PS		PS	07 03 57.3	+5.7
KMI				SS		SS	07 08 50.8	+2.7
KMI				SSS			07 12 31.5	
KMI				AMB		AMB		
	comp=Z,21nm,0.8s,mb5.6							
KMI				AMB		AMB		
	comp=Z,140nm,3.1s							
KMI				LR		LR		
	comp=N,225nm,18.5s,MS4.9							
KMI				LR		LR		
	comp=E,316nm,18.5s,MS4.9							
KMI				LR		LR		
	comp=Z,337nm,19.6s,MS4.8							
LAO	LASA Array	92.98	40	*e*P		P	06 51 33.0	+0.6
	comp=Z,34nm,1.1s,mb5.7							
HHC	Hu-ho-hao-te	93.01	313	*e*P		P	06 51 33.5	+1.0
HHC				AP		pP	06 51 47.0	+0.5
HHC				XP		sP	06 51 52.0	+0.2
HHC				PP		PP	06 55 19.8	+4.1
HHC				SKS			07 02 02.3	
HHC				S			07 02 34.0	
HHC				XS		sS	07 02 56.8	-1.9
HHC				SS		SS	07 08 54.5	+4.5
HHC				AMB		AMB		
	comp=Z,9.0nm,0.4s,mb5.5							
HHC				AMB		AMB		
	comp=Z,213nm,3.7s							
HHC				LR		LR		
	comp=N,144nm,4.2s							
HHC				LR		LR		
	comp=E,395nm,5.2s							
HHC				LR		LR		
	comp=Z,470nm,24.0s,MS4.9							
RSSD	Black Hills	93.04	43	*e*P		P	06 51 32.3	-0.4
	comp=Z,17nm,1.1s,mb5.4							
RSSD	Black Hills	93.04	43	*e*P		P	06 51 32.3	-0.4
RSSD				pmax		pmax		
	comp=Z,17nm,1.1s,mb5.4							
CD2	Chengdu	94.40	302	*e*P		P	06 51 37.0	-1.9
CD2				AP		pP	06 51 50.5	-2.4
CD2				XP		sP	06 51 55.8	-2.4
CD2				PP		PP	06 55 27.3	+0.7
CD2				SKS			07 02 07.0	
CD2				S			07 02 42.5	
CD2				XS		sS	07 03 05.5	-5.4
CD2				SS		SS	07 09 11.0	+1.2
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.2							
CD2				AMB		AMB		
	comp=Z,50nm,5.9s							
CD2				LR		LR		
	comp=E,230nm,18.0s							
CD2				LR		LR		
	comp=Z,240nm,19.2s,MS4.7							
DGMT	Dagmar	95.06	39	*e*P		P	06 51 42.0	0.0
	comp=Z,32nm,1.1s,mb5.7							
LVC	Limon Verde	95.09	117	P		P	06 51 42.2	+0.1
	comp=Z,7.4nm,1.2s,mb5.0							
YAK	Yakutsk	95.41	337	⇑*e*P		P	06 51 41.9	-1.6
INK	Inuvik	95.93	14	*e*P		P	06 51 44.9	-1.0
	comp=Z,7.8nm,1.2s,mb5.0							
INK				*e*pP		pP	06 51 58.1	-1.8
INK	Inuvik	95.93	14	*e*P		P	06 51 44.9	-1.0
INK				*e**PP		pP	06 51 58.1	-1.8
INK				pmax		pmax		
	comp=Z,8.0nm,1.2s							
LZH	Lanzhou	96.42	306	*e*P		P	06 51 49.0	+0.9
LZH				AP		pP	06 52 02.5	+0.4
LZH				XP		sP	06 52 07.8	+0.4
LZH				PP		PP	06 55 45.8	+3.6
LZH				*e*S			07 03 03.0	
LZH				XS		sS	07 03 26.3	-2.1
LZH				PS		PS	07 04 34.3	+3.8
LZH				SS		SS	07 09 40.5	+2.0
LZH				AMB		AMB		
	comp=Z,27nm,1.5s,mb5.5							
LZH				AMB		AMB		
	comp=Z,97nm,8.2s							
LZH				LR		LR		
	comp=N,432nm,16.3s							
LZH				LR		LR		
	comp=Z,589nm,19.4s,MS5.1							
YKA	Yellowknife Ar	97.60	24	P		P	06 51 52.2	-1.3
	comp=Z,2.5nm,0.9s,mb4.8,baz=235,slow=4.2,SNR=39							
YKA				PKKPbc		PKKPbc	07 08 28.4	-1.0
	comp=Z,0.5nm,0.9s,baz=36,slow=2.7,SNR=5.1							
YKA				LR		LR	07 30 51.6	
	comp=Z,276nm,18.5s,MS4.8,baz=245,slow=32							
YKA	Yellowknife Ar	97.60	24	P		P	06 51 52.2	-1.3
YKA				PKKPbc		PKKPbc	07 08 28.4	-1.0
YKA				LR		LR	07 30 51.6	
YKW3	Yellowknife Ar	97.64	24	*e*P		P	06 51 52.8	-0.8
LPAZ	La Paz	98.61	112	P		P	06 52 00.8	+2.8
	comp=Z,1.2nm,1.0s,mb4.4,baz=213,slow=7.9,SNR=4.8							
LPAZ				LR		LR	07 31 15.7	
	comp=Z,164nm,18.8s,MS4.5,baz=287,slow=32							
LPAZ	La Paz	98.61	112	P		P	06 52 00.8	+2.8
LPAZ				LR		LR	07 31 15.7	
ULN	Ulaanbaatar	99.00	318	⇓*e*P		P	06 51 59.4	-0.3
SONM	Songino Array	99.39	318	P		P	06 52 01.5	+0.1
	comp=Z,0.6nm,0.6s,mb4.3,baz=111,slow=3.0,SNR=4.9							
SONM				LR		LR	07 29 04.0	
	comp=Z,197nm,21.4s,MS4.6,baz=174,slow=31							
GTA	Gaotai	100.63	308	*e*P		Pdif	06 52 07.8	+0.8
GTA				AP			06 52 22.3	
GTA				XP			06 52 26.3	
GTA				AMB		AMB		
	comp=Z,2.0nm,0.7s							
ULM	Lac du Bonnet	100.73	40	P		Pdif	06 52 06.1	-1.3
	comp=Z,0.7nm,0.4s,baz=308,slow=7.7,SNR=3.1							
MKAR	Makanchi Array	114.86	312	PKP		PKiKP	06 56 58.7	-0.9
	comp=Z,1.0nm,0.6s,baz=156,slow=0.7,SNR=12							
MKAR				PKKPbc		PKKPbc	07 07 37.3	+1.1
	comp=Z,0.2nm,0.5s,baz=265,slow=3.2,SNR=4.2							
KURK	Kurchatov	117.64	316	*e*PKPdf		PKPdf	06 57 03.8	-1.1
BRVK	Borovoye	122.77	319	*e*PKPdf		PKPdf	06 57 14.0	-0.7
BOSA	Boshof	125.13	202	PKP		PKPdf	06 57 21.2	+1.9
	comp=Z,2.0nm,0.6s,baz=187,slow=2.4,SNR=4.8							
ARCES	ARCESS Array B	131.79	350	PKP		PKPdf	06 57 32.3	+0.3
	comp=Z,2.4nm,0.7s,baz=347,slow=1.8,SNR=12							
JOF	Joensuu	136.28	343	*e*p		PKPdf	06 57 36.1	-4.3
KAF	Kangasniemi	138.22	345	*e*p		PKPdf	06 57 41.2	-2.8
FINES	FINESS Array B	138.86	345	PKP		PKPdf	06 57 45.3	+0.1
	comp=Z,1.4nm,0.6s,baz=64,slow=4.4,SNR=6.3							
MAK	Makhachkala	139.61	310	*e*PKHKP			06 57 33.3	
OBN	Obninsk	140.20	332	*e*PKP		PKPdf	06 57 45.7	-1.9
OBN	Obninsk	140.20	332	*i* PKIKP		PKPdf	06 57 45.7	-1.9
OBN				*e*			07 00 43.4	
OBN				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KMBO	Kilima Mbogo	140.47	237	⇑*i* PKIKP		pPKPdf	06 57 57.0	-5.6
NB2	NORSAR Subarra	141.68	355	PKPa			06 57 33.2	
	comp=Z,3.9nm,1.1s,baz=10,slow=3.2							
NOA	NORSAR Array B	141.68	355	PKhKP			06 57 45.6	
	comp=Z,1.7nm,1.0s,baz=5.5,slow=4.3,SNR=3.5							
ZEI	Tsey	142.20	311	*i* PKIKP		PKPdf	06 57 48.8	-2.4
GNI	Garni	142.35	307	⇑*i* PKIKP		PKPdf	06 57 55.6	+4.1
KIV	Kislovodsk	142.61	313	*i* PKIKP		PKPdf	06 57 55.0	+3.1
BHD	Baghdad	143.91	295	*ex*		x	06 57 45.0	
MSL	Mosul	144.50	301	*ex*		x	06 57 50.0	
SOC	Sochi	144.74	314	*i* PKIKP		PKPdf	06 57 56.2	+0.5
ANN	Anapa	145.67	317	*i* PKIKP		PKPdf	06 57 57.9	+0.6
ANN				pmax		pmax		
	comp=Z,137nm,1.6s							
SUW	Suwalki	146.06	341	*e*PKP		PKPdf	06 57 59.7	+1.8
MUD	Monsted U'grnd	146.39	356	*i* P		PKPdf	06 58 01.1	+2.6
	comp=Z,16nm,0.9s							
MUD				*i*			06 58 13.0	
MUD	Monsted U'grnd	146.39	356	*e*P		PKPdf	06 58 01.1	+2.6
MUD				*i*			06 58 13.0	
AKASG	Malin Array Be	146.46	332	PKPbc		PKPbc	06 57 58.7	-1.4
	comp=Z,10.0nm,0.7s,baz=41,slow=4.1,SNR=26							
COP	Copenhagen	146.83	352	*i* P		PKPdf	06 58 03.9	+4.7
BSD	Bornholm Skovb	147.02	349	⇑*i*P		pPKPdf	06 58 09.7	-4.3
	comp=Z,35nm,1.1s							
BSD	Bornholm Skovb	147.02	349	⇑*e*PKP2		pPKPdf	06 58 09.7	-4.3
BSD				pmax		pmax		
	comp=Z,35nm,1.1s							
MALT	Malatya	147.58	306	⇓P		PKPdf	06 58 05.0	+4.5
MALT	Malatya	147.58	306	*e*PKIKP		PKPdf	06 58 00.1	-0.4
KIS	Kishinev	149.27	327	*e*PKP2		PKPbc	06 58 06.0	-1.6
KIS				MLR		MLR		
	comp=Z,600nm,20.0s,MS5.4							
RUE	Ruedersdorf	149.75	349	*e*PKPbc		PKPbc	06 58 09.4	+0.6
RUE				*e*PKPab		PKPab	06 58 15.1	+0.9
KWP	Kalwaria	149.92	337	*e*PKP		PKPbc	06 58 09.7	+0.5
OJC	Ojcow	150.40	341	*e*PKP		PKPbc	06 58 09.9	-0.4
BR131	Keskin Array S	150.50	311	*e*PKPbc		PKPbc	06 58 11.0	+0.4
BRTR	Keskin Array B	150.50	311	PKPbc		PKPbc	06 58 10.3	-0.2
	comp=Z,5.3nm,0.8s,baz=134,slow=2.8,SNR=24							
BURAR	Bucovina Array	150.51	332	⇓P		PKPbc	06 58 12.5	+1.9
STHS	Stebnicka Huta	150.62	338	*e*PKP		PKPbc	06 58 12.0	+1.2
STHS				*e*			06 58 24.3	
KSP	Ksiaz	150.78	345	*e*PKP		PKPbc	06 58 11.8	+0.6
KSP	Ksiaz	150.78	345	*e*PKIKP		PKPbc	06 58 11.4	+0.2
KSP				*e*			06 58 17.0	
KSP				*e*			06 58 26.8	
CFR	Carcaliu	150.85	325	⇑P		PKPbc	06 58 12.1	+0.7
NIE	Niedzica	150.93	339	*e*PKP		PKPbc	06 58 12.6	+1.0
CRVS	Cervenica-Dubn	150.98	337	*e*PKP		pPKPdf	06 58 18.1	-2.3
CLL	Collm	151.01	350	*e*PKPdf		PKPdf	06 58 06.5	+0.5
CLL				*e*PKPbc		PKPbc	06 58 11.7	-0.1
CLL				*e*PKPab		PKPab	06 58 17.4	-2.0
CLL				*ep*PKPbc		pPKPbc	06 58 27.2	+1.0
CLL				*es*PKPbc			06 58 31.2	
CLL	Collm	151.01	350	*i* PKPbc		PKPbc	06 58 11.7	-0.1
	comp=Z,21nm,1.0s							
CLL				*i* PKPab		PKPab	06 58 17.3	-2.1
	comp=Z,29nm,1.2s							
CLL				*i* pPKPbc		pPKPbc	06 58 26.7	+0.5
	comp=Z,38nm,1.1s							
CLL				*i* sPKPbc			06 58 31.8	
CLL	Collm	151.01	350	*i* PKIKP		PKPbc	06 58 11.7	-0.1
CLL				*i*			06 58 17.3	
CLL				*i*			06 58 26.7	
CLL				pmax		pmax		
	comp=Z,21nm,1.0s							
ANTO	Ankara	151.02	312	⇓P		PKPbc	06 58 12.8	+1.0
VRI	Vrincioaia	151.09	328	⇑P		pPKPdf	06 58 17.3	-3.3
UPC	Upice	151.16	345	*e*PKPbc		PKPbc	06 58 11.3	-0.8
TIRR	Tirgusor	151.17	324	⇑P		pPKPdf	06 58 18.8	-1.9
OKC	Ostrava-Krasne	151.22	342	*e*PKPbc		PKPbc	06 58 12.6	+0.3
DPC	Dobruska-Polom	151.23	345	*e*PKPbc		PKPbc	06 58 13.0	+0.7
MORC	Moravsky Berou	151.45	343	⇑P		PKPbc	06 58 13.5	+0.7
KECS	Kecovo	151.68	338	*e*PKP		PKPbc	06 58 13.7	+0.4
KECS				*e*			06 58 22.3	
KECS				*e*			06 58 34.6	
MLR	Muntele Rosu	151.75	328	⇑P		PKPbc	06 58 14.2	+0.7
MOX	Moxa	151.87	351	*e*PKP		PKPbc	06 58 14.3	+0.6
	comp=Z,42nm,1.9s							
MOX								
	comp=Z,300nm,19.0s							
MOX	Moxa	151.87	351	*e*PKIKP		PKPbc	06 58 14.3	+0.6
MOX				pmax		pmax		
	comp=Z,42nm,1.9s							
MOX				MLR		MLR		
	comp=Z,300nm,19.0s,MS5.1							
PRU	Pruhonice	151.98	347	*e*PKPbc		PKPbc	06 58 12.2	-1.8
NKC	Novy Kostel	152.14	350	*e*PKPbc		PKPbc	06 58 17.1	+2.8
VYHS	Vyhne	152.21	340	*e*PKP		PKPbc	06 58 15.9	+1.4
VYHS				*e*			06 58 34.8	
EIL	Elat	152.33	290	*e*PKPbc		PKPbc	06 58 15.6	+0.8
GRF	Grafenberg Arr	152.85	351	*e*PKP		PKPdf	06 58 18.0	+9.3
GIVF	Givet	152.90	0	*e*PKP1		PKPbc	06 58 17.3	+1.3
BAIF	Baives	152.93	1	*e*PKP1		PKPbc	06 58 17.6	+1.5
KHC	Kasperske Hory	152.99	347	*e*PKPdf		PKPdf	06 58 08.5	-0.4
KHC				*e*PKPbc		PKPbc	06 58 18.8	+2.6
GERES	GERESS Array B	153.24	347	PKPbc		PKPbc	06 58 17.3	+0.5
	comp=Z,0.9nm,0.6s,baz=150,slow=5.7,SNR=6.3							
PKSM	Moragy	154.27	338	⇑P		PKPbc	06 58 18.4	-0.6
SSF	Saint Saulge	155.91	2	*e*PKP1		pPKPdf	06 58 24.0	-3.5
LIC	Lamto	160.80	148	*e*PKP2		pPKPab	06 59 15.0	-0.3
	comp=Z,52nm,1.3s							
EVO	Evora	160.92	33	*e*PKP2		PKPab	06 59 00.5	-1.3
	comp=Z,45nm,1.3s							
ESDC	Sonseca Array	161.69	22	PKPab		PKPab	06 59 04.1	-1.1
	comp=Z,0.8nm,0.5s,baz=321,slow=5.8,SNR=5.1							
TORD	Torodi Ar. Bea	169.78	162	PKP		PKPdf	06 58 26.1	-0.3
	comp=Z,1.3nm,0.9s,baz=175,slow=0.7,SNR=5.8							
TORD				PKPab		PKPab	06 59 41.5	+0.7
	comp=Z,3.4nm,0.9s,baz=190,slow=2.1,SNR=11							

IDC 29 07:11:36.5±58.0, 1984S×17725W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=1075.0km s-min=168.3km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.72	244	P		P	07 19 02.2	0.0
	0.5nm,0.4s,baz=73,slow=9.7,SNR=2.6							
ASAR	Alice Springs	45.36	256	P		P	07 19 57.0	+0.5
	2.1nm,0.5s,baz=96,slow=7.5,SNR=44							
WB2	Warramunga Arr	45.39	261	*e*P		P	07 19 57.2	+0.6
WRA	Warramunga Arr	45.40	261	P		P	07 19 57.0	+0.3
	1.2nm,0.6s,baz=98,slow=8.3,SNR=21							

*ISCJB **29** 07:20:59.8±0.4, 2461N±005×12180E±003, h75km±3km, mb3.8/9, Error ellipse: s-maj=9.4km s-min=4.4km az=32.3*
*BJI **29** 07:20:59.5, 2462N×12174E, h45km, mb4.5, ML4.3, Ms3.9, Msz3.5*
*NEIC **29** 07:21:00.7±0.6, 2459N×12181E, h70km±6km, MG3.8(JMA), Error ellipse: s-maj=14.8km s-min=11.4km az=62.0*
*NIED **29** 07:21:00, 2470N×12190E, h29km, Mw4.0 Best double couple: M0 9.99000×10^14 NP1:φ=229.00000°, δ67.00000°, λ100.00000°. NP2:φ=24.00000°, δ25.00000°, λ68.00000°.*
*JMA **29** 07:21:01.8±0.3, 2468N×12192E, h66km, M3.8*
*IDC **29** 07:21:02.4±4.0, 2465N×12196E, h86km±37km, mb3.5/9, mb1 3.7/10, mb1mx3.5/23, mbtmp3.9/10, Error ellipse: s-maj=26.8km s-min=15.8km az=61.0*

ISC 29 07:21:00.9±0.4, 2460N±005×12182E±003, h69km±4km, n22, σ0°94/34, mb3.8/9, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YHNB	Yeheng	0.41	280	*e*Pn		Pn	07 21 13.0	+0.3
YHNB				*e*Sn		Sn	07 21 20.5	-0.9
NACB	Ninganchiao	0.47	206	*e*Pn		Pn	07 21 13.1	-0.2
NACB				Sn		Sn	07 21 23.2	+0.9
TATO	Taipei	0.48	322	*e*Pn		Pn	07 21 12.9	-0.5
TATO				*e*Sn		Sn	07 21 22.4	-0.1
YOJ	Yonaguni jima	1.10	97	P		Pn	07 21 20.5	0.0
YOJ				*e*S		Sn	07 21 34.1	-1.0
IRIF	Iriomote-Funau	1.76	98	P		Pn	07 21 29.3	0.0
IRIF				*e*S		Sn	07 21 50.0	-0.8
HATJ	Hateruma jima	1.89	106	P		Pn	07 21 31.6	+0.6
HATJ				*e*S		Sn	07 21 54.5	+0.6
JKRS	Kuro-shima	2.03	100	P		Pn	07 21 33.5	+0.6
JKRS				S		Sn	07 21 57.7	+0.4
JIJ	Ishigaki jima	2.13	96	P		Pn	07 21 34.2	-0.1
JIJ				S		Sn	07 21 58.7	-1.0
JTJ	Tarama	2.63	88	P		Pn	07 21 42.1	+1.1
JTJ				*e*S		Sn	07 22 12.9	+1.2
QZH	Quanzhou	2.95	277	⇓*i*P		Pn	07 21 45.0	-0.4
QZH				S		Sn	07 22 16.3	-3.3
QZH				Smax				
	comp=N,810nm,0.8s							
QZH				Smax				
	comp=E,440nm,0.6s							
JOW	Kunigami	6.24	68	P		Pn	07 22 30.8	+0.5
	comp=E,2.4nm,0.3s,baz=135,slow=16,SNR=4.2							
JOW				S		Sn	07 23 38.6	-1.5
	comp=E,2.8nm,0.3s,baz=113,slow=18,SNR=2.1							
NJ2	Nanjing	7.87	341	*e*P		Pn	07 22 56.0	+3.4
NJ2				S		Sn	07 24 21.5	+1.3
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
NJ2				Smax				
	comp=N,210nm,0.8s							
NJ2				Smax				
	comp=E,280nm,1.0s							
NJ2				LR		LR		
	comp=N,500nm,7.6s							
NJ2				LR		LR		
	comp=E,460nm,14.3s							
NJ2				LR		LR		
	comp=Z,290nm,16.1s							
SONM	Songino Array	26.22	336	P		P	07 26 28.7	-0.5
	comp=Z,2.1nm,0.7s,mb3.7,baz=158,slow=9.6,SNR=12							
MKAR	Makanchi Array	38.45	315	P		P	07 28 16.4	+0.6
	comp=Z,0.8nm,0.5s,mb3.8,baz=102,slow=10,SNR=14							
ASAR	Alice Springs	49.39	165	P		P	07 29 44.3	+0.8
	comp=Z,0.4nm,0.6s,mb3.5,baz=348,slow=13,SNR=4.8							
CTA	Charters Tower	50.38	150	P		P	07 29 51.9	+0.9
	comp=Z,3.1nm,0.6s,mb4.4,baz=333,slow=13,SNR=4.8							
AKTK	Aktyubinsk	54.88	315	P		P	07 30 25.2	+0.9
AKTO	Aktyubinsk	54.88	315	P		P	07 30 25.2	+0.9
	comp=Z,0.6nm,0.5s,mb3.9,baz=90,slow=12,SNR=2.8							
STKA	Stephens Creek	59.25

MOX Moxa 2.93 256 *e*PG **Pg 07 27 48.0 -0.4**
MOX *e*SG **Sg 07 28 27.6 +1.2**
MOA Molln 3.77 199⇑ *i*Sg **Sg 07 28 54.5 +1.1**
comp=E,5.9nm,0.3s

MEX ***29*** *07:45:07.5±0.7, 1446N×9248W, h65km±9km, MD4.2*
ISCJB ***29*** *07:45:08.3±0.6, 1476N±007×9243W±005, h101km±6km, mb3.7/4, Error ellipse: s-maj=13.6km s-min=5.0km az=69.8*
CASC ***29*** *07:45:08.1±3.4, 1492N×9249W, h60km±50km, MD4.1, ML4.5, mb3.9(NEIC)*
NEIC ***29*** *07:45:16.0±3.2, 1514N×9173W, h143km±31km, mb3.9/1, Error ellipse: s-maj=50.1km s-min=10.4km az=64.0*
IDC ***29*** *07:45:17.7±4.2, 1540N×9142W, h156km±40km, mb3.3/4, mb1 3.6/5, mb1mx3.2/21, mbtmp3.8/5, Error ellipse: s-maj=90.0km s-min=17.8km az=52.0*
ISC 29 07:45:09.5±0.6, 1475N±006×9243W±005, h91km±7km, n25, σ1º01/28, mb3.7/4, 2C-3D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.88**	**119**	*e*P			**Pn**	**07 45 27.4**	**-0.4**
JAT				*e*S			**Sn**	**07 45 39.9**	**-1.6**
TP2	**Tecpan 2**	**1.36**	**88**⇑	*e*P			**Pn**	**07 45 32.9**	**-0.6**
TP2				*e*S			**Sn**	**07 45 53.3**	**+1.6**
TP2				AML			AML	07 45 56.2	
	comp=E,3μm,0.4s								
CCIG	**Comitan**	**1.55**	**10**	*i*P			**Pn**	**07 45 35.9**	**0.0**
CCIG				*i*S			**Sn**	**07 45 57.6**	**+1.6**
FUG	**Fuego 3**	**1.56**	**101**⇓	*e*P			**Pn**	**07 45 36.3**	**+0.3**
GCG	**Guatemala City**	**1.84**	**95**	*e*P			**Pn**	**07 45 39.4**	**-0.2**
SCX	**San Cristobal**	**1.99**	**354**	*i*P			**Pn**	**07 45 42.5**	**+1.0**
IXG	**Ixpaco**	**1.99**	**106**⇑	*e*P			**Pn**	**07 45 41.4**	**-0.2**
IXG				*e*S			**Sn**	**07 46 06.4**	**+0.3**
IXG				AML			AML	07 46 12.5	
	comp=E,14μm,0.4s								
NBG	**Las Nubes**	**2.02**	**94**	*e*P			**Pn**	**07 45 42.6**	**+0.7**
MRL	**Marmol**	**2.66**	**83**⇓	*e*P			**Pn**	**07 45 49.8**	**-0.6**
MRL				*e*S			**Sn**	**07 46 20.7**	**-1.3**
SNJE	**San Jose**	**2.87**	**107**	*e*P			Px	07 46 09.4	
SNJE				*e*S			Sx	07 46 46.5	
BOQS	**Boqueron**	**3.21**	**108**	*e*P			Px	07 46 13.0	
BOQS				*e*S			Sx	07 46 54.6	
CMIG	**Matias Romero**	**3.32**	**315**	*e*P			**Pn**	**07 45 58.4**	**-0.9**
CMIG				*i*S			**Sn**	**07 46 38.2**	**+0.4**
LFRS	**El Faro**	**3.45**	**108**	*e*P			Px	07 46 16.8	
LFRS				*e*S			Sx	07 46 58.6	
SNVI	**San Vicente**	**3.66**	**107**	*e*P			Px	07 46 19.8	
SNVI				*e*S			Sx	07 47 03.6	
BLLM	**Bellamira**	**4.27**	**107**	*e*P			Px	07 46 28.3	
BLLM				*e*S			Sx	07 47 19.9	
CNCH	**Conchagua**	**4.69**	**108**	*e*P			Px	07 46 34.4	
CNCH				*e*S			Sx	07 47 28.5	
VHO	**Vista Hermosa**	**4.75**	**300**	*e*P			**Pn**	**07 46 19.7**	**+1.2**
VHO				*i*S			**Sn**	**07 47 11.5**	**-0.9**
TEIG	**Tepich**	**6.74**	**35**	*e*Pn			**Pn**	**07 46 43.5**	**-2.2**
TEIG				*e*Sn			**Sn**	**07 47 53.9**	**-7.0**
JTS	**JuntasAbangare**	**8.54**	**120**	P			**Pn**	**07 47 11.2**	**+1.0**
	comp=E,1.7nm,0.3s,baz=311,slow=19,SNR=6.8								
JTS				S			**Sn**	**07 48 45.4**	**+0.7**
	comp=E,0.5nm,0.3s,baz=292,slow=19,SNR=2.9								
OTAV	**Otavalo**	**19.97**	**135**	*e*P			**Pn**	**07 49 36.5**	**-0.4**
	comp=E,8.4nm,1.5s								
NVAR	**Mina Array Bea**	**32.84**	**321**	P			**P**	**07 51 37.9**	**+3.6**
	comp=E,0.9nm,0.5s,mb3.8,baz=133,slow=8.8,SNR=9.5								
SIV	**San Ignacio**	**43.50**	**133**	P			**P**	**07 53 03.8**	**0.0**
	comp=E,1.8nm,0.5s,mb4.0,baz=309,slow=7.7,SNR=19								
YKA	**Yellowknife Ar**	**50.21**	**347**	P			**P**	**07 53 54.6**	**-1.4**
	comp=E,0.2nm,0.3s,mb3.5,baz=135,slow=8.9,SNR=15								
TRQA	**Tornquist**	**59.79**	**152**	*e*P			**P**	**07 55 06.6**	**+1.6**
ILAR	**Eielson Array**	**61.99**	**337**	P			**P**	**07 55 19.6**	**-0.4**
	comp=E,0.2nm,0.4s,mb3.5,baz=125,slow=5.3,SNR=9.5								

IDC ***29*** *08:33:13.7±2.6, 2255×1394E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/12, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=109.5km s-min=26.6km az=82.0*
ISCJB ***29*** *08:33:17.5±2.3, 2235±02×1392E±06, h33km, mb3.5/3, Error ellipse: s-maj=89.2km s-min=21.4km az=172.4*
ISC 29 08:33:21.6±1.9, 24S±01×1386E±04, h35km, n6, σ1º21/6, mb3.5/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.90**	**210**	*e*P			**Pn**	**08 36 07.7**	**-1.1**
	4.2nm,0.6s								
WB2	**Warramunga Arr**	**17.90**	**193**	*e*P			**Pn**	**08 37 28.7**	**+0.9**
WRA	**Warramunga Arr**	**17.90**	**193**	P			**Pn**	**08 37 28.7**	**+0.9**
	0.4nm,0.3s,baz=19,slow=12,SNR=21								
ASAR	**Alice Springs**	**21.60**	**192**	P			**P**	**08 38 08.7**	**+0.2**
	0.8nm,0.6s,mb3.3,baz=16,slow=11,SNR=11								
STKA	**Stephens Creek**	**29.44**	**175**	P			**P**	**08 39 20.7**	**-1.2**
	0.7nm,0.4s,mb3.7,baz=346,slow=8.3,SNR=2.7								
MKAR	**Makanchi Array**	**69.49**	**322**	P			**P**	**08 44 26.7**	**+0.2**
	0.7nm,0.9s,mb3.6,baz=104,slow=6.1,SNR=5.0								

ISCJB ***29*** *08:41:42.3±0.8, 4864N±007×153.1E±0.1, h167km±7km, mb4.0/29, Error ellipse: s-maj=14.5km s-min=5.9km az=87.7*
MOS ***29*** *08:41:43.0±0.8, 4867N×153.10E, h174km, mb4.1/8, Error ellipse: s-maj=17.6km s-min=8.8km az=66.3*
NEIC ***29*** *08:41:45.8±0.2, 4866N×15306E, mb4.4/10, Error ellipse: s-maj=8.9km s-min=4.5km az=137.0*
IDC ***29*** *08:41:46.4±0.8, 4867N×15308E, h188km±7km, mb3.7/23, mb1 3.9/25, mb1mx3.8/30, mbtmp4.2/25, Error ellipse: s-maj=12.4km s-min=8.1km az=143.0*
ISC 29 08:41:43.2±0.7, 4867N±007×1531E±01, h160km±7km, h187km±2.4km: pP-P, n66, σ0º66/60, mb4.0/29, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.96**	**228**⇑	*i*PN			**Pn**	**08 42 56.9**	**+0.6**
KUR				*e*S			**Sn**	**08 43 51.5**	**-1.9**
KUR				pmax			pmax		
	comp=Z,150nm,0.5s								
KUR				smax					
	comp=N,90nm,0.6s								
KUR				smax					
	comp=E,80nm,0.6s								
PET	**Petropavlovsk**	**5.60**	**37**	*e*PN			**Pn**	**08 43 04.6**	**-0.1**
PET				*e*S			**Sn**	**08 44 08.4**	**0.0**
PET				pmax			pmax		
	comp=Z,60nm,0.5s								
PET				smax					
	comp=N,131nm,0.5s								
YSS	**Yuzh-Sakhalins**	**7.17**	**260**⇑	*e*PN			**Pn**	**08 43 31.0**	**+5.5**
YSS				pmax			pmax		
	comp=Z,40nm,1.0s								
ASAJ	**Asahikawa**	**8.57**	**242**	P			**Pn**	**08 43 47.9**	**+3.9**
	comp=Z,18nm,0.3s,baz=70,slow=13,SNR=39								
ASAJ	**Asahikawa**	**8.57**	**242**	PN			**Pn**	**08 43 47.9**	**+3.9**
ASAJ				pmax			pmax		
	comp=Z,18nm,0.3s								
KLR	**Kul'dur**	**14.04**	**280**	*e*P			**Pn**	**08 44 55.6**	**+0.5**
MJAR	**Matsushiro Arr**	**16.30**	**227**	P			**Pn**	**08 45 23.4**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=25,slow=12,SNR=18								
MAJO	**Matsushiro**	**16.31**	**227**	*e*P			**Pn**	**08 45 23.8**	**+0.8**
	comp=Z,14nm,0.5s								
MAJO	**Matsushiro**	**16.31**	**227**	*e*P			**Pn**	**08 45 23.8**	**+0.7**
MAJO				pmax			pmax		
	comp=Z,14nm,0.5s								
MAT	**Matsushiro**	**16.31**	**227**	P			**Pn**	**08 45 22.9**	**-0.2**
MAT	**Matsushiro**	**16.31**	**227**	*e*P			**Pn**	**08 45 23.0**	**-0.1**
	comp=Z,16nm,0.8s								
MAT	**Matsushiro**	**16.31**	**227**	*e*P			**Pn**	**08 45 23.0**	**-0.1**
MAT				pmax			pmax		
	comp=Z,16nm,0.8s								
BILL	**Bilibino**	**20.52**	**14**	*e*P			**P**	**08 46 09.4**	**+0.5**
BILL				pmax			pmax		
	comp=Z,4.0nm,0.6s								
SONM	**Songino Array**	**30.73**	**286**	P			**P**	**08 47 44.2**	**+1.1**
	comp=Z,0.3nm,0.7s,mb3.1,baz=70,slow=12,SNR=3.3								
SONM				pP			pP	08 48 22.6	+5.9
	comp=Z,1.3nm,1.0s,baz=70,slow=7.7,SNR=5.1								
SONM				PcP			PcP	08 50 36.4	-0.3
	comp=Z,1.0nm,0.6s,baz=103,slow=1.5,SNR=9.2								
KDAK	**Kodiak Island**	**32.93**	**53**	P			**P**	**08 48 01.6**	**-0.8**
	comp=Z,2.6nm,0.7s,mb4.1,baz=220,slow=7.9,SNR=3.8								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SML	**Sawmill**	**34.61**	**46**	*e*P			**P**	**08 48 16.9**	**+0.1**
COLA	**College**	**34.65**	**40**	*e*P			**P**	**08 48 16.8**	**-0.4**
	comp=Z,3.0nm,0.8s,mb4.0								
COLA	**College**	**34.65**	**40**	*e*P			**P**	**08 48 16.8**	**-0.4**
COLA				pmax			pmax		
	comp=Z,3.0nm,0.8s,mb4.0								
ILAR	**Eielson Array**	**35.07**	**40**	P			**P**	**08 48 20.6**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.6,baz=258,slow=5.4,SNR=26								
ILAR				PcP			PcP	08 50 46.5	-2.4
	comp=Z,0.5nm,0.9s,baz=281,slow=3.7,SNR=4.3								
INK	**Inuvik**	**40.05**	**34**	P			**P**	**08 49 02.8**	**+0.2**
	comp=Z,1.0nm,0.4s,mb3.8,baz=278,slow=5.6,SNR=29								
INK	**Inuvik**	**40.05**	**34**	*e*P			**P**	**08 49 02.7**	**+0.1**
	comp=Z,1.0nm,0.4s,mb3.8								
INK	**Inuvik**	**40.05**	**34**	P			**P**	**08 49 02.8**	**+0.2**
INK				pmax			pmax		
	comp=Z,1.0nm,0.4s								
DLBC	**Dease Lake**	**44.28**	**47**	P			**P**	**08 49 38.1**	**+1.3**
	comp=Z,1.1nm,0.5s,mb3.7,baz=289,slow=7.0,SNR=7.7								
MKAR	**Makanchi Array**	**46.07**	**296**	P			**P**	**08 49 50.7**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.5,baz=67,slow=7.5,SNR=9.9								
MKAR				pP			pP	08 50 32.6	+6.0
	comp=Z,1.8nm,0.8s,baz=61,slow=7.5,SNR=7.1								
MKAR				PcP			PcP	08 51 24.3	-0.2
	comp=Z,0.7nm,0.6s,baz=55,slow=4.6,SNR=3.7								
YKA	**Yellowknife Ar**	**49.40**	**38**	P			**P**	**08 50 16.7**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.0,baz=299,slow=7.0,SNR=48								
YKA				pP			pP	08 50 56.6	+4.0
	comp=Z,0.4nm,0.6s,baz=299,slow=7.5,SNR=2.7								
YKA				PcP			PcP	08 51 36.0	-0.5
	comp=Z,0.4nm,0.4s,baz=306,slow=3.8,SNR=10.0								
BVAR	**Borovoye Array**	**49.64**	**308**	P			**P**	**08 50 18.6**	**+0.2**
	comp=Z,2.3nm,0.5s,mb4.1,baz=59,slow=7.2,SNR=16								
BVAR				pP			pP	08 51 00.3	+5.7
	comp=Z,1.8nm,0.7s,baz=51,slow=7.5,SNR=4.3								
BVAR				PcP			PcP	08 51 37.3	-0.1
	comp=Z,1.4nm,0.4s,baz=99,slow=2.0,SNR=7.5								
NEW	**Newport**	**56.03**	**54**	P			**P**	**08 51 04.8**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=318,slow=8.0,SNR=5.7								
YBH	**Yreka Blue Hor**	**56.86**	**63**	P			**P**	**08 51 11.5**	**+0.4**
	comp=Z,1.0nm,0.4s,mb4.0,baz=330,slow=8.1,SNR=4.1								
FCC	**Fort Churchill**	**59.67**	**34**	*e*P			**P**	**08 51 29.3**	**-1.2**
	comp=Z,2.7nm,0.4s,mb4.4								
FCC	**Fort Churchill**	**59.67**	**34**	*e*P			**P**	**08 51 29.3**	**-1.2**
FCC				pmax			pmax		
	comp=Z,3.0nm,0.4s,mb4.5								
HRY	**Holter Researc**	**59.81**	**52**	*e*P			**P**	**08 51 31.2**	**-0.3**
NVAR	**Mina Array Bea**	**61.56**	**63**	P			**P**	**08 51 44.2**	**+0.9**
	comp=Z,3.4nm,0.6s,mb4.4,baz=293,slow=7.8,SNR=21								
NVAR				PcP			PcP	08 52 24.1	+0.6
	comp=Z,0.7nm,0.6s,baz=293,slow=5.1,SNR=4.0								
FINES	**FINESS Array B**	**62.30**	**334**	P			**P**	**08 51 47.5**	**-0.8**
	comp=Z,1.3nm,0.4s,mb4.1,baz=35,slow=7.7,SNR=16								
PDAR	**Pinedale Array**	**63.63**	**55**	P			**P**	**08 51 57.6**	**+0.6**
	comp=Z,3.1nm,1.0s,mb4.1,baz=314,slow=1.8,SNR=16								
KAKA	**Kakadu**	**63.80**	**203**	*e*P			**P**	**08 51 57.9**	**-0.3**
	comp=Z,4.0nm,0.5s,mb4.5								
PSI	**Prapat**	**64.92**	**243**	P			**P**	**08 52 05.3**	**-0.1**
	comp=Z,4.9nm,0.8s,mb4.4,baz=216,slow=11,SNR=3.7								
ULM	**Lac du Bonnet**	**65.08**	**41**	P			**P**	**08 52 05.8**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.9,baz=320,slow=8.9,SNR=3.5								
SRU	**San Rafael**	**65.60**	**58**	*e*P			**P**	**08 52 10.6**	**+0.7**
	comp=Z,7.5nm,0.8s,mb4.6								
SRU	**San Rafael**	**65.60**	**58**	*e*P			**P**	**08 52 10.6**	**+0.8**
SRU				pmax			pmax		
	comp=Z,8.0nm,0.8s,mb4.6								
NB2	**NORSAR Subarra**	**66.41**	**341**	P			**P**	**08 52 14.6**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=25,slow=6.5								
NB2	**NORSAR Subarra**	**66.41**	**341**	P			**P**	**08 52 14.6**	**-0.4**
NB2				pmax			pmax		
	comp=Z,1.0nm,0.5s,mb3.9								
NOA	**NORSAR Array B**	**66.41**	**341**	P			**P**	**08 52 14.7**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=25,slow=6.3,SNR=4.8								
CTA	**Charters Tower**	**68.72**	**187**	*e*P			**P**	**08 52 29.1**	**-0.4**
	comp=Z,2.3nm,0.5s,mb4.2								
CTA	**Charters Tower**	**68.72**	**187**	P			**P**	**08 52 28.9**	**-0.5**
	comp=Z,5.7nm,1.2s,mb4.2,baz=18,slow=7.5,SNR=6.4								
CTA	**Charters Tower**	**68.72**	**187**	*e*P			**P**	**08 52 29.1**	**-0.4**
CTA				pmax			pmax		
	comp=Z,2.0nm,0.5s								
AKASG	**Malin Array Be**	**69.94**	**326**	P			**P**	**08 52 35.9**	**-1.2**
	comp=Z,0.5nm,0.3s,mb3.7,baz=33,slow=6.7,SNR=4.6								
WB2	**Warramunga Arr**	**70.33**	**199**	⇓ *i*P			**P**	**08 52 38.9**	**-0.4**
WRA	**Warramunga Arr**	**70.33**	**199**	P			**P**	**08 52 39.1**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.2,baz=18,slow=6.4,SNR=24								
FITZ	**Fitzroy Crossi**	**70.84**	**208**	⇑ *i*P			**P**	**08 52 43.1**	**+0.7**
	comp=Z,4.9nm,0.6s,mb4.4								
FITZ	**Fitzroy Crossi**	**70.84**	**208**	P			**P**	**08 52 42.7**	**+0.2**
	comp=Z,3.9nm,0.8s,mb4.2,baz=40,slow=8.8,SNR=7.3								
SCHQ	**Schefferville**	**71.54**	**23**	P			**P**	**08 52 46.1**	**-0.6**
	comp=Z,1.5nm,0.5s,mb4.0,baz=101,slow=6.6,SNR=14								
ASAR	**Alice Springs**	**74.03**	**198**	P			**P**	**08 53 01.8**	**+0.4**
	comp=Z,3.7nm,0.5s,mb4.3,baz=9.5,slow=5.4,SNR=78								
ASAR	**Alice Springs**	**74.03**	**198**	P			**P**	**08 53 01.8**	**+0.5**
ASAR				pmax			pmax		
	comp=Z,4.0nm,0.5s								
GERES	**GERESS Array B**	**76.72**	**334**	P			**P**	**08 53 16.4**	**-0.3**
	comp=Z,0.7nm,0.4s,mb3.7,baz=27,slow=6.6,SNR=5.0								
GERES	**GERESS Array B**	**76.72**	**334**	P			**P**	**08 53 16.4**	**-0.3**
GERES				pmax			pmax		
	comp=Z,1.0nm,0.4s								
BRTR	**Keskin Array B**	**76.98**	**316**	P			**P**	**08 53 18.8**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.4,baz=0.0,slow=1.6,SNR=3.9								
BRTR	**Keskin Array B**	**76.98**	**316**	P			**P**	**08 53 18.8**	**+0.7**
BRTR				pmax			pmax		
	comp=Z,1.0nm,0.7s								
FORT	**Forrest**	**82.20**	**202**⇑ *i*P				**P**	**08 53 46.6**	**+0.3**
	comp=Z,12nm,0.7s,mb4.6								
TORD	**Torodi Ar. Bea**	**113.43**	**329**	PKiKP			PKiKP	09 00 01.4	-0.6
	comp=Z,0.4nm,0.6s,baz=24,slow=2.0,SNR=5.6								
DBIC	**Dimbokro**	**121.59**	**334**	PKP			PKPdf	09 00 17.3	-0.4
	comp=Z,1.5nm,0.6s,baz=280,slow=6.1,SNR=3.3								
DBIC	**Dimbokro**	**121.59**	**334**	PKIKP			PKPdf	09 00 17.3	-0.4
DBIC				pmax			pmax		
	comp=Z,2.0nm,0.6s								
CFAA	**Coronel Fontan**	**144.60**	**77**	PKP			PKPdf	09 00 58.6	-2.0
	comp=Z,1.2nm,0.5s,baz=262,slow=3.5,SNR=26								
CPUP	**Villa Florida**	**147.49**	**58**	PKPbc			PKPbc	09 01 06.8	-1.4
	comp=Z,1.3nm,0.4s,baz=342,slow=0.4,SNR=6.2								
CPUP	**Villa Florida**	**147.49**	**58**	PKP2			PKPbc	09 01 06.9	-1.4
CPUP				pmax			pmax		
	comp=Z,1.0nm,0.4s								
PLCA	**Paso Flores**	**148.34**	**92**	PKPbc			PKPbc	09 01 09.6	-0.9
	comp=Z,6.0nm,0.8s,baz=245,slow=3.5,SNR=18								
PLCA	**Paso Flores**	**148.34**	**92**	PKP2			PKPbc	09 01 09.6	-0.9
PLCA				pmax			pmax		
	comp=Z,6.0nm,0.9s								

ISCJB ***29*** *08:54:44.8±2.1, 8235±01×1213E±02, h180km±20km, mb3.8/5, Error ellipse: s-maj=35.0km s-min=11.1km az=101.8*
NEIC ***29*** *08:54:45.4±2.5, 8135×12132E, h165km±23km, mb4.6/3, Error ellipse: s-maj=30.9km s-min=14.0km az=66.0*
IDC ***29*** *08:54:46.7±3.2, 8075×12163E, h178km±30km, mb3.6/5, mb1 3.8/8, mb1mx3.6/18, mbtmp4.1/8, Error ellipse: s-maj=54.7km s-min=11.0km az=61.0*
ISC 29 08:54:50.2±1.8, 81S±02×1216E±02, h213km±18km, n16, σ1º30/18, mb3.7/5, 1C, Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.66**	**159**	*e*P			**Pn**	**08 57 14.7**	**-3.0**
	14nm,0.6s								
FITZ				*e*S			**S**	**08 59 05.6**	**-11**
FITZ	**Fitzroy Crossi**	**10.66**	**159**	P			**Pn**	**08 57 13.8**	**-3.9**
	0.7nm,0.3s,baz=357,slow=8.0,SNR=18								
FITZ				S			**S**	**08 59 08.1**	**-8.9**
	2.2nm,0.3s,baz=170,slow=13,SNR=7.7								
KAKA	**Kakadu**	**11.56**	**114**	*e*P			**Pn**	**08 57 29.1**	**0.0**
	7.6nm,0.4s								
WRA	**Warramunga Arr**	**17.01**	**135**	P			**P**	**08 58 35.5**	**+1.1**
	1.2nm,0.3s,baz=309,slow=12,SNR=143								
WRA				S			**S**	**09 01 39.0**	**-1.7**
	0.8nm,0.3s,baz=312,slow=23,SNR=7.3								
WRAB	**Tennant Creek**	**17.02**	**135**	*e*P			**P**	**08 58 35.7**	**+1.3**
	9.1nm,0.6s								
WRAB				*e*S			**S**	**09 01 39.7**	**-1.0**
WB2	**Warramunga Arr**	**17.02**	**135**⇑ *i*P				**P**	**08 58 35.5**	**+1.0**
WB2				*e*S			**S**	**09 01 36.4**	**-4.4**
ASAR	**Alice Springs**	**19.42**	**144**	P			**P**	**08 59 01.4**	**+0.9**
	1.3nm,0.3s,baz=333,slow=12,SNR=78								
ASAR				S			**S**	**09 02 30.5**	**+2.1**
	0.1nm,0.3s,baz=327,slow=22,SNR=8.6								
STKA	**Stephens Creek**	**30.06**	**145**	P			**P**	**09 00 39.0**	**-0.5**
	0.9nm,0.3s,mb3.9,baz=313,slow=11,SNR=5.4								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**57.32**	**348**	P			**P**	**09 04 16.2**	**+0.3**
	0.6nm,0.4s,mb3.6,baz=164,slow=8.4,SNR=8.6								
MKAR	**Makanchi Array**	**64.90**	**331**	P			**P**	**09 05 06.8**	**0.0**
	0.3nm,0.3s,mb3.4,baz=146,slow=8.4,SNR=8.5								
ZAL	**Zalesovo**	**69.18**	**338**	P			**P**	**09 05 32.2**	**-1.5**
	2.4nm,0.3s,mb4.3,baz=2.2,slow=4.4,SNR=3.5								
VNDA	**Vanda**	**72.46**	**172**	P			**P**	**09 05 54.2**	**+0.7**
	0.4nm,0.5s,mb3.3,baz=303,slow=5.0,SNR=6.8								
YKA	**Yellowknife Ar**	**112.31**	**25**	PKiKP			PKiKP	09 13 00.4	-0.2
	0.1nm,0.5s,baz=309,slow=1.9,SNR=7.8								
YKA	**Yellowknife Ar**	**112.31**	**25**	PKPdf			PKiKP	09 13 00.4	-0.2
TORD	**Torodi Ar. Bea**	**120.88**	**280**	PKP			PKPdf	09 13 17.3	+0.3
	0.2nm,0.4s,baz=38,slow=1.9,SNR=6.1								
CPUP	**Villa Florida**	**145.75**	**182**	PKPbc			PKPbc	09 14 06.7	+2.5
	2.5nm,0.8s,baz=44,slow=3.0,SNR=4.6								

ISCJB ***29*** *09:00:06.4±0.7, 6476N±003×306E±0.1, h0km, Error ellipse: s-maj=8.1km s-min=4.4km az=11.3*
NAO ***29*** *09:00:07.4±1.0, 6467N×3096E, ML2.0*
HEL ***29*** *09:00:08.0±0.2, 6476N×3066E, h0km, ML1.9, ML2.0(NAO), Explosion*
BER ***29*** *09:00:09.8±3.0, 6476N×3065E, h0km, ML2.0(NAO), Suspected explosion*
IDC ***29*** *09:00:10.1±2.3, 6470N×3055E, h0km, mb1 3.1/4, mb1mx2.9/22, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=32.1km s-min=9.3km az=105.0*
ISC 29 09:00:07.5±0.7, 6476N±003×306E±01, h0km, n17, σ0º95/27, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.43**	**243**	*e*P			**Pn**	**09 00 33.1**	**-1.5**
KJN				*e*S			**Sg**	**09 00 52.0**	**-1.3**
KU4	**Liikasenvaara**	**1.67**	**346**	*e*P			**Pn**	**09 00 38.1**	**+0.1**
KU4				*e*S			**Sn**	**09 00 59.4**	**-0.5**
JOF	**Joensuu**	**1.88**	**170**	*e*P			**Pn**	**09 00 40.8**	**-0.1**
JOF				*e*S			**Sn**	**09 01 04.3**	**-1.0**
OUL	**Oulu**	**2.03**	**281**	*e*P			**Pn**	**09 00 44.1**	**+1.1**
OUL				*e*S			**Sn**	**09 01 10.4**	**+1.4**
OUL				MSG				09 01 13.6	
	comp=Z,5.5nm,0.1s								
SUF	**Sumiainen**	**2.85**	**226**	*e*P			**Pn**	**09 00 55.4**	**+1.2**
SUF				MSG				09 01 36.6	
	comp=Z,3.7nm,0.2s								
APA0	**Apatity Array**	**3.02**	**18**	Pn			**Pn**	**09 00 57.4**	**+0.9**
	baz=197,slow=14								
APA0	**Apatity Array**	**3.02**	**18**	*e*P			**Pn**	**09 00 57.4**	**+0.9**
SGF	**Sodankyl**	**3.16**	**330**	*e*P			**Pn**	**09 00 58.4**	**-0.1**
FIA0	**FINESS Array S**	**3.91**	**214**	Pn			**Pn**	**09 01 09.7**	**+0.8**
	baz=29,slow=14								
FIA0				Sn			**Sn**	**09 01 55.6**	**+0.2**
	baz=45,slow=22								
FIA0				Lg				09 02 08.6	
	baz=27,slow=28								
FIA0	**FINESS Array S**	**3.91**	**214**	*e*P			**Pn**	**09 01 09.7**	**+0.8**
FIA0				*e*S			**Sn**	**09 01 55.6**	**+0.2**
FIA0				*e*SG			**Sg**	**09 02 08.6**	**-4.7**
FINES	**FINESS Array B**	**3.91**	**214**	Pn			**Pn**

0.4nm,0.9s,mb3.5,baz=0.5,slow=6.3,SNR=4.5

IDC 29 09:21:59.9±2.5,2231S×17544W,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.9/15,mbtmp3.9/5,ML2.6/1,Error ellipse: s-maj=106.2km s-min=25.7km az=144.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.05**	**23**	Pn	Pn	09 24 11.2	-0.5
	3.5nm,0.3s,baz=133,slow=14,SNR=6.6						
AFI				Sn	Sn	09 25 47.6	-6.7
	1.5nm,0.3s,baz=13,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**39.21**	**247**	P	P	09 29 28.8	-0.9
	0.6nm,0.4s,baz=90,slow=8.1,SNR=2.9						
ASAR	**Alice Springs**	**46.46**	**258**	P	P	09 30 29.4	+1.0
	1.8nm,0.8s,baz=91,slow=8.3,SNR=18						
WRA	**Warramunga Arr**	**46.74**	**263**	P	P	09 30 31.0	+0.3
	0.4nm,0.3s,baz=102,slow=7.9,SNR=24						
NVAR	**Mina Array Bea**	**80.73**	**42**	P	P	09 34 15.6	+0.6
	1.1nm,1.0s,baz=224,slow=7.3,SNR=3.8						

*ISCJB **29** 09:43:26.5±2.9,396N±0.1×9699E±008,h2km±17km, mb3.6/5,Error ellipse: s-maj=21.2km s-min=6.2km az=53.0*

*IDC **29** 09:43:29.4±1.0,3950N×9751E,h0km,mb3.6/5,mb1 3.8/8, mb1mx3.6/25,mbtmp3.7/8,ML3.5/3,MS2.9/1,Ms1 2.9/1, ms1mx2.3/31,Error ellipse: s-maj=32.7km s-min=16.0km az=53.0*

*BJI **29** 09:43:29.2,3962N×97.10E,h18km,mb4.4,ML4.1,Ms3.9, Msz3.4*

ISC 29 09:43:29.2±2.1,395N±01×9708E±008,h3km±14km,n12, σ1§17/17,mb3.6/5,Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.12**	**91**	PG	**Pn**	**09 44 05.0**	**-0.5**
GTA				SG	**Sn**	**09 44 32.0**	**-0.3**
GTA				Smax			
	comp=N,2μm,0.7s						
GTA				Smax			
	comp=E,782nm,0.5s						
LZH	**Lanzhou**	**6.33**	**120**	*e*PG	**Pb**	**09 45 26.5**	**+6.6**
LZH				S	**Sn**	**09 46 21.5**	**+5.4**
LZH				SG	**Sg**	**09 46 53.0**	**+0.6**
LZH				Smax			
	comp=N,179nm,1.2s						
LZH				Smax			
	comp=E,83nm,1.1s						
LZH				LR	LR		
	comp=E,457nm,6.3s						
LZH				LR	LR		
	comp=Z,576nm,8.5s						
WMQ	**Urumqi**	**8.27**	**305**	*e*P	**Pn**	**09 45 28.8**	**-1.1**
WMQ				S	**Sn**	**09 47 03.5**	**-0.3**
WMQ				Smax			
	comp=N,235nm,1.0s						
WMQ				Smax			
	comp=E,267nm,1.0s						
WMQ				LR	LR		
	comp=N,557nm,6.0s						
SONM	**Songino Array**	**10.74**	**36**	Pn	**Pn**	**09 46 03.3**	**-0.6**
	comp=N,0.3nm,0.3s,baz=167,slow=7.4,SNR=4.1						
SONM				Lg		09 49 00.5	
	comp=N,0.8nm,0.3s,baz=223,slow=28,SNR=6.9						
MKAR	**Makanchi Array**	**13.04**	**309**	Pn	**Pn**	**09 46 33.1**	**-2.2**
	comp=N,0.2nm,0.3s,baz=104,slow=11,SNR=9.0						
MKAR				Sn	**Sn**	**09 48 56.7**	**-4.2**
	comp=N,0.7nm,0.3s,baz=112,slow=25,SNR=8.4						
MKAR				Lg		09 50 30.4	
	comp=N,0.3nm,0.3s,baz=115,slow=27,SNR=3.9						
ZAL	**Zalesovo**	**16.71**	**334**	Pn	**Pn**	**09 47 25.6**	**+1.3**
	comp=N,0.5nm,0.3s,baz=334,slow=19,SNR=4.2						
ZAL				Lg		09 52 21.7	
	comp=N,0.2nm,0.3s,baz=53,slow=20,SNR=4.6						
ZAL				LR	LR	09 54 48.5	
	comp=N,45nm,20.1s,baz=92,slow=40						
NJ2	**Nanjing**	**19.13**	**106**	*e*P	**Pn**	**09 47 53.5**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
BVAR	**Borovoye Array**	**22.74**	**315**	P	**P**	**09 48 35.4**	**+3.1**
	comp=Z,1.7nm,0.6s,mb3.6,baz=108,slow=9.5,SNR=6.1						
FINES	**FINESS Array B**	**47.45**	**322**	P	**P**	**09 52 07.1**	**+2.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=79,slow=9.9,SNR=4.3						
NOA	**NORSAR Array B**	**54.54**	**323**	P	**P**	**09 52 59.8**	**+1.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=69,slow=7.3,SNR=2.8						
WRA	**Warramunga Arr**	**68.59**	**142**	P	**P**	**09 54 33.0**	**-0.3**
	comp=Z,0.6nm,1.0s,mb3.5,baz=341,slow=6.2,SNR=8.2						
ASAR	**Alice Springs**	**71.61**	**145**	P	**P**	**09 54 51.5**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=333,slow=5.9,SNR=12						

*ISCJB **29** 09:49:44.5±0.2,46924N±0008×677E±001,h4km±1km, Error ellipse: s-maj=1.5km s-min=1.4km az=45.2*

*CSEM **29** 09:49:46.9±0.0,4690N×691E,h12km,ML3.6/43,Error ellipse: s-maj=1.0km s-min=0.8km az=116.0*

*ZUR **29** 09:49:46.5,4692N×687E,h4km±2km,ML3.2/33*

*NEIC **29** 09:49:46.6,4692N×687E,h4km,ML3.1(ROM), ML3.1(SZGRF),ML3.3(STR),ML3.2(ZUR),ML3.6(LDG), After ZUR.*

*LDG **29** 09:49:46.8±0.0,4690N×687E,h4km,Md3.4/2,Ml3.6/37, Error ellipse: s-maj=0.8km s-min=0.7km az=105.0*

*STR **29** 09:49:47.3±0.2,4694N×685E,h10km±1km,Ml3.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **29** 09:49:47.2±0.6,4696N×680E,h10km,ML3.1,Error ellipse: s-maj=7.8km s-min=5.6km az=51.0*

*ROM **29** 09:49:47.0±0.5,4691N×675E,h10km,Md2.7/4,Ml3.1/2, Error ellipse: s-maj=6.3km s-min=4.2km az=60.0*

*LEDBW **29** 09:49:47.2±0.7,4691N×688E,h6km±2km,ML3.2,Error ellipse: s-maj=12.0km s-min=6.0km az=9.0*

*PRU **29** 09:49:49.6,4697N×7.11E,h0km*

ISC 29 09:49:45.9±0.1,46915N±0007×681E±001,h11km±1km, n299,σ1§21/579,55C-29D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORNY	**Torny**	**0.17**	**145**	⇓*i*Pg	**Pg**	**09 49 50.5**	**+0.8**
	29μm,0.1s						
TORNY				*i* Sg	**Sg**	**09 49 52.9**	**+0.6**
	29μm,0.1s						
TORNY	**Torny**	**0.17**	**145**	⇓*iP*	**Pg**	**09 49 50.0**	**+0.3**
BRANT	**Les Verrieres**	**0.23**	**276**	⇓*i*Pg	**Pg**	**09 49 52.3**	**+1.6**
	10μm,0.3s						
BRANT				*i* Sg	**Sg**	**09 49 56.6**	**+2.6**
	10μm,0.3s						
LOMF	**Lomont**	**0.44**	**1**	Pg	**Pg**	**09 49 55.6**	**+1.2**
LOMF				Sg	**Sg**	**09 50 02.0**	**+1.8**
LOMF	**Lomont**	**0.44**	**1**	⇑P	**Pg**	**09 49 55.7**	**+1.2**
LOMF				S	**Sg**	**09 50 01.9**	**+1.7**
GIMEL	**Gimel**	**0.54**	**225**	⇑*i*Pg	**Sg**	**09 50 06.6**	**+3.2**
	1μm,0.2s						
GIMEL	**Gimel**	**0.54**	**225**	⇑*iP*	**Pg**	**09 49 57.7**	**+1.4**
BOURR	**Bourrignon**	**0.56**	**31**	*e*Pg	**Pg**	**09 49 57.3**	**+0.6**
BOURR				*e*Sg	**Sg**	**09 50 06.0**	**+1.9**
BOURR	**Bourrignon**	**0.56**	**31**	⇑*i*Pg	**Pg**	**09 49 57.4**	**+0.7**
	1μm,0.7s						
AIGLE	**Aigle**	**0.58**	**170**	*e*Pg	**Pg**	**09 49 58.1**	**+0.9**
	1μm,0.8s						
AIGLE				*e*Sg	**Sg**	**09 49 58.8**	**-6.1**
CABF	**La Chapelle**	**0.58**	**239**	*e*Pg	**Pg**	**09 49 58.7**	**+1.5**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**09 50 06.8**	**+1.9**
	795nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**0.58**	**239**	*e*Pg	**Pg**	**09 49 58.7**	**+1.5**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**09 50 06.8**	**+1.9**
	397nm,0.6s,SNR=1.0						
WIMIS	**Wimmis**	**0.61**	**114**	*e*Sg	**Pg**	**09 49 57.7**	**-0.1**
	1μm,0.6s						
WIMIS	**Wimmis**	**0.61**	**114**	⇓*i*Pg	**Pg**	**09 49 58.1**	**+0.3**
	1μm,0.6s						
WIMIS	**Wimmis**	**0.61**	**114**	⇓*i*Pg	**Pg**	**09 49 58.1**	**+0.3**
	1μm,0.6s						
WIMIS	**Wimmis**	**0.61**	**114**	⇓*iP*	**Pg**	**09 49 58.0**	**+0.2**
SENIN	**Lac Senin**	**0.65**	**149**	⇓*i*Pg	**Pg**	**09 49 59.7**	**+1.3**
	1μm,0.3s						
SENIN	**Lac Senin**	**0.65**	**149**	⇓*iP*	**Pg**	**09 49 58.8**	**+0.4**
GRYON	**Gryon**	**0.70**	**163**	⇓*i*Pg	**Pg**	**09 50 00.5**	**+1.1**
	312nm,0.4s						
GRYON	**Gryon**	**0.70**	**163**	⇓*iP*	**Pg**	**09 49 59.7**	**+0.3**
BBS	**Basel-Blauen**	**0.73**	**41**	⇑P*	**Pb**	**09 50 00.5**	**-0.1**
BBS				PmP		09 50 02.4	
BBS	**Basel-Blauen**	**0.73**	**41**	⇑P	**Pb**	**09 50 00.5**	**-0.1**
BBS				P		09 50 02.4	
BBS	**Basel-Blauen**	**0.73**	**41**	Pg	**Pg**	**09 50 00.2**	**+0.3**
BBS	**Basel-Blauen**	**0.73**	**41**	Pb	**Pb**	**09 50 00.5**	**-0.1**
BBS	**Basel-Blauen**	**0.73**	**41**	⇑P	**Pb**	**09 50 00.5**	**-0.1**
BALST	**Balsthal**	**0.73**	**55**	⇑*i*Pg	**Pg**	**09 50 00.8**	**+0.7**
	2μm,0.3s						
BALST	**Balsthal**	**0.73**	**55**	⇑*iP*	**Pg**	**09 50 00.5**	**+0.4**
LKBD	**Leukerbad**	**0.77**	**133**	⇓*i*Pg	**Pg**	**09 50 03.9**	**+3.1**
	433nm,0.4s						
LKBD	**Leukerbad**	**0.77**	**133**	*e*P	**Pg**	**09 50 00.8**	**0.0**
SALAN	**Lac Salanfe**	**0.78**	**172**	⇑*i*Pg	**Pg**	**09 50 01.4**	**+0.5**
	576nm,0.2s						
EMV	**Vieux Emosson**	**0.85**	**176**	Pg	**Pg**	**09 50 02.9**	**+0.5**
EMV	**Vieux Emosson**	**0.85**	**176**	⇑*i*Pg	**Pg**	**09 50 04.1**	**+1.7**
	2μm,0.3s						
HINF	**Hinteralfeld**	**0.90**	**2**	*e*Pn	**Pn**	**09 50 04.3**	**-0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**09 50 15.7**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**09 50 17.6**	**0.0**
	533nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.90**	**2**	*e*Pn	**Pn**	**09 50 04.3**	**-0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**09 50 15.7**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**09 50 17.6**	**0.0**
	267nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.90**	**2**	*e*Pg	**Pg**	**09 50 03.6**	**+0.3**
HINF				*e*Pn	**Pn**	**09 50 04.3**	**-0.2**
HINF				*e*Sg	**Sg**	**09 50 15.7**	**+0.7**
HINF				*e*Sn	**Sn**	**09 50 17.6**	**0.0**
DIX	**Grande Dixence**	**0.93**	**153**	Pg	**Pg**	**09 50 04.8**	**+1.0**
DIX	**Grande Dixence**	**0.93**	**153**	⇓*i*Pg	**Sg**	**09 50 16.5**	**+0.5**
	1μm,0.3s						
HASLI	**Hasliberg**	**0.93**	**99**	⇓*i*Pg	**Pg**	**09 50 02.8**	**-1.1**
	3μm,0.6s						
HASLI	**Hasliberg**	**0.93**	**99**	⇓*iP*	**Pg**	**09 50 04.0**	**+0.1**
HASLI	**Hasliberg**	**0.93**	**99**	*i* Sg	**Pg**	**09 50 04.4**	**+0.5**
	3μm,0.6s						
MOF	**Molkenrain**	**0.96**	**13**	Pg	**Pg**	**09 50 04.9**	**+0.5**
MOF				Sg	**Sg**	**09 50 18.8**	**+1.9**
MOF	**Molkenrain**	**0.96**	**13**	⇑P	**Pg**	**09 50 05.1**	**+0.7**
SULZ	**Sulz-Cheisache**	**1.08**	**55**	*e*Pg	**Pg**	**09 50 06.8**	**+0.1**
SULZ				*e*Sg	**Sg**	**09 50 22.1**	**+1.4**
SULZ	**Sulz-Cheisache**	**1.08**	**55**	⇑*iP*	**Pb**	**09 50 04.2**	**-2.4**
	3μm,0.5s						
SULZ	**Sulz-Cheisache**	**1.08**	**55**	*e*P	**Pb**	**09 50 06.8**	**+0.2**
BNALP	**Bannalp**	**1.11**	**92**	*e*P	**Pb**	**09 50 06.8**	**-0.3**
	1μm,0.3s						
BNALP	**Bannalp**	**1.11**	**92**	*e*P	**Pb**	**09 50 07.5**	**+0.4**
HAU	**Haudompre**	**1.14**	**344**	*e*P	**Pb**	**09 50 09.7**	**+2.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**09 50 23.6**	**+1.1**
	687nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**1.14**	**344**	*e*P	**Pb**	**09 50 09.7**	**+2.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**09 50 23.6**	**+1.1**
	343nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**1.14**	**344**	*e*Pg	**Pg**	**09 50 09.1**	**+1.4**
HAU				*e*Sg	**Sg**	**09 50 23.6**	**+1.1**
MRGE	**Morge**	**1.16**	**171**	Pg	**Pg**	**09 50 08.5**	**+0.3**
	358nm,0.5s						
MMK	**Mattmark**	**1.18**	**137**	⇑*i*Pg	**Pg**	**09 50 07.5**	**-1.0**
	651nm,0.5s						
MMK	**Mattmark**	**1.18**	**137**	Pg	**Pg**	**09 50 08.6**	**+0.1**
MUO	**Muotathal**	**1.25**	**87**	⇑*i*Pg	**Pg**	**09 50 08.6**	**-1.3**
	1μm,0.7s						
MUO	**Muotathal**	**1.25**	**87**	⇑*iP*	**Pn**	**09 50 10.4**	**+1.1**
MCGN	**Macugnaga**	**1.26**	**139**	Pg	**Pg**	**09 50 10.5**	**+0.5**
MCGN				Sg	**Sg**	**09 50 27.4**	**+1.1**
	126nm,0.4s						
FELD	**Feldberg**	**1.26**	**40**	⇑P	**Pn**	**09 50 08.9**	**-0.5**
FELD				PmP		09 50 10.3	
FELD	**Feldberg**	**1.26**	**40**	⇑P	**Pn**	**09 50 08.9**	**-0.5**
FELD				P		09 50 10.3	
FELD				*e*S	**Sb**	**09 50 27.5**	**+1.7**
FELD	**Feldberg**	**1.26**	**40**	Pn	**Pn**	**09 50 08.8**	**-0.6**
FELD	**Feldberg**	**1.26**	**40**	⇑P	**Pn**	**09 50 08.9**	**-0.5**
KIZ	**Kirchzarten**	**1.28**	**35**	⇑P	**Pn**	**09 50 09.1**	**-0.7**
KIZ				Pg	**Pg**	**09 50 10.5**	**-0.1**
KIZ				Sg	**Sg**	**09 50 27.4**	**+0.2**
KIZ	**Kirchzarten**	**1.28**	**35**	⇑P	**Pn**	**09 50 09.1**	**-0.7**
KIZ				P		09 50 10.5	
KIZ				S	**Sg**	**09 50 27.4**	**+0.2**
KIZ				*e*S	**Sb**	**09 50 27.4**	**+0.9**
KIZ	**Kirchzarten**	**1.28**	**35**	Pg	**Pg**	**09 50 10.5**	**-0.1**
KIZ				Sg	**Sg**	**09 50 27.4**	**+0.2**
KIZ	**Kirchzarten**	**1.28**	**35**	⇑P	**Pn**	**09 50 09.1**	**-0.7**
KIZ				Sg	**Sg**	**09 50 27.4**	**+0.2**
ZUR	**Zurich**	**1.29**	**69**	*e*Pg	**Pg**	**09 50 10.1**	**-0.6**
ZUR				*e*Sg	**Sg**	**09 50 27.3**	**-0.1**
ZUR	**Zurich**	**1.29**	**69**	⇑*i*Pn	**Pn**	**09 50 10.1**	**+0.2**
	2μm,0.3s						
ECH	**Echery**	**1.32**	**10**	Pn	**Pn**	**09 50 10.3**	**0.0**
ECH	**Echery**	**1.32**	**10**	⇑P	**Pn**	**09 50 10.4**	**0.0**
LIBD	**Limburg**	**1.35**	**23**	P	**Pn**	**09 50 10.7**	**0.0**
LIBD				Pg	**Pg**	**09 50 12.5**	**+0.7**
LIBD	**Limburg**	**1.35**	**23**	Pg	**Pg**	**09 50 12.4**	**+0.6**
LIBD				Sg	**Sg**	**09 50 30.6**	**+1.4**
LIBD	**Limburg**	**1.35**	**23**	P	**Pn**	**09 50 10.7**	**0.0**
LIBD				Pg	**Pg**	**09 50 12.5**	**+0.7**
FUSIO	**Fusio**	**1.35**	**109**	⇓*i*Pg	**Pg**	**09 50 10.8**	**-1.1**
	437nm,0.3s						
FUSIO	**Fusio**	**1.35**	**109**	⇓*iP*	**Pn**	**09 50 12.0**	**+1.2**
FLACH	**Flaach**	**1.36**	**61**	⇑*iP*	**Pn**	**09 50 10.8**	**-0.1**
LPL	**La Plagne**	**1.40**	**182**	*e*Pg	**Pg**	**09 50 13.2**	**+0.4**
LPL				*e*Sn	**Sn**	**09 50 28.8**	**-1.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**09 50 30.8**	**-0.2**
	116nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**1.40**	**182**	*e*Pg	**Pg**	**09 50 13.2**	**+0.4**
LPL				*e*Sn	**Sn**	**09 50 28.8**	**-1.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**09 50 30.8**	**-0.2**
	58nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**1.40**	**182**	*e*Pn	**Pn**	**09 50 11.3**	**-0.1**
LPL				*e*Pg	**Pg**	**09 50 13.2**	**+0.4**
LPL				*e*Sn	**Sn**	**09 50 28.8**	**-1.1**
LPL				*e*Sg	**Sg**	**09 50 30.8**	**-0.2**
LPG	**La Plagne**	**1.42**	**182**	*e*Pg	**Pg**	**09 50 13.5**	**+0.4**
LPG				*e*Sg	**Sg**	**09 50 31.4**	**-0.1**
	170nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**1.42**	**182**	*e*Pg	**Pg**	**09 50 13.5**	**+0.4**
LPG				*e*Sg	**Sg**	**09 50 31.4**	**-0.1**
	85nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**1.42**	**182**	*e*Pn	**Pn**	**09 50 11.7**	**+0.1**
LPG				*e*Pg	**Pg**	**09 50 13.5**	**+0.4**
LPG				*e*Sg	**Sg**	**09 50 31.4**	**-0.1**
SLE	**Schleitheim**	**1.43**	**53**	*e*Pn	**Pn**	**09 50 11.1**	**-0.6**
SLE				*e*Sg	**Sg**	**09 50 31.4**	**-0.3**
SLE	**Schleitheim**	**1.43**	**53**	⇑*i*Pn	**Pn**	**09 50 12.0**	**+0.3**
	2μm,0.6s						
SLE				Sg	**Sg**	**09 50 31.4**	**-0.4**
SLE	**Schleitheim**	**1.43**	**53**	⇑*iP*	**Pn**	**09 50 11.2**	**-0.5**
THEF	**They Montfort**	**1.43**	**337**	Pg	**Pg**	**09 50 13.4**	**+0.1**
THEF				Sg	**Sg**	**09 50 33.2**	**+1.4**
THEF	**They Montfort**	**1.43**	**337**	⇓P	**Pn**	**09 50 12.5**	**+0.7**
THEF				Pg	**Pg**	**09 50 13.9**	**+0.6**
THEF				Sg	**Sg**	**09 50 33.1**	**+1.3**
THEF	**They Montfort**	**1.43**	**337**	Pg	**Pg**	**09 50 13.4**	**+0.1**
THEF				Sg	**Sg**	**09 50 33.1**	**+1.3**
LLS	**Linth-Limmern**	**1.51**	**92**	⇑*i*Pn	**Pn**	**09 50 14.1**	**+1.2**
	268nm,0.3s						
LLS	**Linth-Limmern**	**1.51**	**92**	⇑*iP*	**Pn**	**09 50 14.2**	**+1.3**
WILA	**Wila**	**1.51**	**70**	*e*Sg	**Sg**	**09 50 35.3**	**+0.7**
WILA	**Wila**	**1.51**	**70**	⇑*i*Pn	**Pn**	**09 50 14.2**	**+1.2**
	5μm,0.3s						
WILA				Sg	**Sg**	**09 50 35.3**	**+0.7**
WILA	**Wila**	**1.51**	**70**	*e*P	**Pn**	**09 50 13.4**	**+0.4**
ORX	**Oropa**	**1.52**	**147**	P	**Pn**	**09 50 16.0**	**+3.0**
ORX				S	**Sn**	**09 50 34.0**	**+1.2**
ORO	**Oropa**	**1.52**	**147**	Pg	**Pg**	**09 50 15.4**	**+0.3**
ORO				Sg	**Sg**	**09 50 35.8**	**+0.9**
	218nm,0.2s						
CDF	**Champ du Feu**	**1.53**	**12**	*e*Pg	**Pg**	**09 50 15.3**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**09 50 32.4**	**-0.7**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**09 50 35.1**	**0.0**
	282nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**1.53**	**12**	*e*Pg	**Pg**	**09 50 15.3**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**09 50 32.4**	**-0.7**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**09 50 35.1**	**0.0**
	141nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**1.53**	**12**	*e*Pn	**Pn**	**09 50 13.0**	**-0.2**
CDF				*e*Pg	**Pg**	**09 50 15.3**	**0.0**
CDF				*e*Sn	**Sn**	**09 50 32.4**	**-0.7**
CDF				*e*Sg	**Sg**	**09 50 35.1**	**0.0**
WLS	**Welschbruch**	**1.54**	**13**	Pg	**Pg**	**09 50 15.9**	**+0.4**
WLS				Sg	**Sg**	**09 50 36.0**	**+0.5**
WLS	**Welschbruch**	**1.54**	**13**	Pg	**Pg**	**09 50 15.8**	**+0.3**
WLS				Sg	**Sg**	**09 50 36.0**	**+0.5**
TRAV		**1.55**	**155**	P	**Pn**	**09 50 15.8**	**+2.4**
TRAV				S	**Sn**	**09 50 34.7**	**+1.2**
SISB	**Singen-Sch Ber**	**1.66**	**61**	Pg	**Pg**	**09 50 17.5**	**-0.2**
SISB				Sg	**Sg**	**09 50 39.5**	**+0.3**
VAI	**Varese**	**1.71**	**127**	Pg	**Pg**	**09 50 18.7**	**0.0**
VAI				Sg	**Sg**	**09 50 42.2**	**+1.3**
BFO	**Black Forest**	**1.75**	**35**	⇑P	**Pn**	**09 50 15.3**	**-0.9**
BFO				Pg	**Pg**	**09 50 19.1**	**-0.3**
BFO				Sg	**Sg**	**09 50 41.5**	**-0.6**
BFO	**Black Forest**	**1.75**	**35**	⇑P	**Pn**	**09 50 15.3**	**-0.9**
BFO				P		09 50 19.1	
BFO				S	**Sg**	**09 50 41.5**	**-0.6**
BFO	**Black Forest**	**1.75**	**35**	Pg	**Pg**	**09 50 19.1**	**-0.3**
BFO				Sg	**Sg**	**09 50 41.5**	**-0.6**
BFO	**Black Forest**	**1.75**	**35**	*e*Pn	**Pn**	**09 50 15.2**	**-1.0**
BFO				*e*Pg	**Pg**	**09 50 19.3**	**-0.1**
BFO				*e*Sg	**Sg**	**09 50 41.8**	**-0.3**
PLONS	**Plons**	**1.76**	**85**	⇑*i*Pn	**Pn**	**09 50 14.8**	**-1.6**
	745nm,0.4s						
PLONS	**Plons**	**1.76**	**85**	⇑*iP*	**Pn**	**09 50 17.5**	**+1.1**
SFTF	**Sexfontaines**	**1.76**	**318**	*e*Pn	**Pn**	**09 50 17.4**	**+1.0**
	baz=135						
SFTF	**Sexfontaines**	**1.76**	**318**	*e*Pg	**Pg**	**09 50 20.4**	**+0.7**
	baz=132						
SFTF				*e*Sn	**Sn**	**09 50 38.9**	**+0.1**
	baz=131						
SFTF				*e*Sg	**Sg**	**09 50 43.7**	**+1.1**
	162nm,0.2s,baz=135						
SFTF	**Sexfontaines**	**1.76**	**318**	*e*Pg	**Pg**	**09 50 20.4**	**+0.7**
SFTF				*e*Sn	**Sn**	**09 50 38.9**	**+0.1**
SFTF				*e*Sg	**Sg**	**09 50 43.7**	**+1.1**
	81nm,0.2s						
SFTF	**Sexfontaines**	**1.76**	**318**	*e*Pn	**Pn**	**09 50 17.4**	**+1.0**
SFTF				*e*Pg	**Pg**	**09 50 20.4**	**+0.7**
SFTF				*e*Sn	**Sn**	**09 50 38.9**	**+0.1**
SFTF				*e*Sg	**Sg**	**09 50 43.7**	**+1.1**
SPAK	**Spaichingen**	**1.79**	**48**	Pg	**Pg**	**09 50 19.7**	**-0.5**
SPAK	**Spaichingen**	**1.79**	**48**	Pg	**Pg**	**09 50 19.5**	**-0.7**
RSP	**Reno Superiore**	**1.79**	**170**	P	**Pn**	**09 50 19.2**	**+2.4**
RSP				S	**Sn**	**09 50 41.0**	**+1.5**
TUE	**Stuetta**	**1.80**	**103**	Pg	**Pg**	**09 50 19.4**	**-1.0**
TUE				Sg	**Sg**	**09 50 41.8**	**-2.0**
MUGIO	**Muggio**	**1.83**	**122**	Pg	**Pg**	**09 50 19.5**	**-1.6**
BNI	**Bardonecchia**	**1.87**	**183**	*e*Pn	**Pn**	**09 50 20.0**	**+2.2**
BNI				*e*Sn	**Sn**	**09 50 46.8**	**+5.4**
LIENZ	**Alp Oberkamor**	**1.87**	**77**	⇑*i*Pn	**Pn**	**09 50 18.8**	**+0.9**
	485nm,0.9s						
VDL	**Val di Lei**	**1.88**	**102**	⇓*i*Pn	**Pn**	**09 50 17.5**	**-0.5**
	451nm,0.8s						
VDL	**Val di Lei**	**1.88**	**102**	⇓*iP*	**Pn**	**09 50 20.3**	**+2.3**
FENE	**Fenestrelle**	**1.89**	**175**	P	**Pn**	**09 50 20.6**	**+2.4**
FENE				S	**Sn**	**09 50 43.1**	**+1.1**
RFYF	**Reffroy**	**1.94**	**333**	*e*Pn	**Pn**	**09 50 19.0**	**+0.2**
	baz=143						
RFYF	**Reffroy**	**1.94**	**333**	*e*P	**Pn**	**09 50 21.2**	**+2.4**
RFYF	**Reffroy**	**1.94**	**333**	*e*Pg	**Pg**	**09 50 23.3**	**+0.2**
	baz=154						
RFYF				*e*Sn	**Sn**	**09 50 42.6**	**-0.6**
RFYF				*e*Sg	**Sg**	**09 50 49.0**	**+0.8**
	257nm,0.2s						
RFYF	**Reffroy**	**1.94**	**333**	*e*P	**Pn**	**09 50 21.2**	**+2.4**
RFYF	**Reffroy**	**1.94**	**333**	*e*Pg	**Pg**	**09 50 23.3**	**+0.2**
RFYF				*e*Sn	**Sn**	**09 50 42.6**	**-0.6**
RFYF				*e*Sg	**Sg**	**09 50 49.0**	**+0.8**
	129nm,0.2s						
RFYF	**Reffroy**	**1.94**	**333**	*e*Pn	**Pn**	**09 50 19.0**	**+0.2**
RFYF				*e*Pg	**Pg**	**09 50 23.3**	**+0.2**
RFYF				*e*Sn	**Sn**	**09 50 42.6**	**-0.6**
R

DAVA	**Damuels**	**2.13**	**79**	Pn	**Pn**	**09 50 22.6**	**+1.2**
DAVA				Sn	**Sn**	**09 50 51.2**	**+3.4**
109nm,0.3s							
DAVA				Sg	**Sg**	**09 50 54.9**	**+0.6**
LANF	**Langenberg**	**2.17**	**18**	Pg	**Pg**	**09 50 26.8**	**-0.7**
LANF	**Langenberg**	**2.17**	**18**	P	**Pg**	**09 50 27.3**	**-0.3**
MBDF	**Montbardon**	**2.19**	**181**	*e*Pn	**Pn**	**09 50 22.2**	**0.0**
SNR=1.0							
MBDF	**Montbardon**	**2.19**	**181**	*e*P	**Pn**	**09 50 24.4**	**+2.2**
MBDF	**Montbardon**	**2.19**	**181**	*e*Pg	**Pg**	**09 50 27.2**	**-0.7**
MBDF				*e*Sn	**Sn**	**09 50 47.9**	**-1.4**
SNR=1.0							
MBDF				*e*Sg	**Sg**	**09 50 55.2**	**-1.0**
46nm,0.6s,SNR=1.0							
MBDF	**Montbardon**	**2.19**	**181**	*e*P	**Pn**	**09 50 24.4**	**+2.2**
MBDF				*e*Pg	**Pg**	**09 50 27.2**	**-0.7**
MBDF				*e*Sn	**Sn**	**09 50 47.9**	**-1.4**
MBDF				*e*Sg	**Sg**	**09 50 55.2**	**-1.0**
LBG	**Lerchenberg**	**2.20**	**37**	P	**Pn**	**09 50 21.2**	**-1.3**
LBG				Pg	**Pg**	**09 50 27.6**	**-0.6**
LBG				Sg	**Sg**	**09 50 56.4**	**-0.3**
LBG	**Lerchenberg**	**2.20**	**37**	Pg	**Pg**	**09 50 27.6**	**-0.5**
LBG	**Lerchenberg**	**2.20**	**37**	P	**Pn**	**09 50 21.2**	**-1.2**
LBG				Pg	**Pg**	**09 50 27.6**	**-0.5**
LBG				Sg	**Sg**	**09 50 56.4**	**-0.3**
TUBL	**Tuebingen Lnz**	**2.22**	**43**	Pg	**Pg**	**09 50 28.1**	**-0.3**
SSF	**Saint Saulge**	**2.27**	**275**	*e*P	**Pn**	**09 50 26.2**	**+2.9**
SSF	**Saint Saulge**	**2.27**	**275**	*e*Pg	**Pg**	**09 50 29.7**	**+0.3**
SSF				*e*Sn	**Sn**	**09 50 51.0**	**-0.3**
SNR=1.0							
SSF				*e*Sg	**Sg**	**09 50 59.4**	**+0.6**
121nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**2.27**	**275**	*e*P	**Pn**	**09 50 26.2**	**+2.9**
SSF	**Saint Saulge**	**2.27**	**275**	*e*Pg	**Pg**	**09 50 29.7**	**+0.3**
SSF				*e*Sn	**Sn**	**09 50 51.0**	**-0.3**
SNR=1.0							
SSF				*e*Sg	**Sg**	**09 50 59.4**	**+0.6**
60nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**2.27**	**275**	*e*Pn	**Pn**	**09 50 23.9**	**+0.6**
SSF				*e*Pg	**Pg**	**09 50 29.7**	**+0.3**
SSF				*e*Sn	**Sn**	**09 50 51.0**	**-0.3**
SSF				*e*Sg	**Sg**	**09 50 59.4**	**+0.6**
MDI	**Monti di Nese**	**2.31**	**118**	Pg	**Pg**	**09 50 25.2**	**-4.9**
104nm,0.8s							
UBR	**Uberruh**	**2.37**	**70**	P	**Pn**	**09 50 25.2**	**+0.5**
UBR				Pg	**Pg**	**09 50 31.0**	**-0.3**
UBR				Sg	**Sg**	**09 51 02.5**	**+0.5**
UBR	**Uberruh**	**2.37**	**70**	P	**Pn**	**09 50 25.3**	**+0.6**
UBR				Pg	**Pg**	**09 50 31.0**	**-0.3**
UBR				Sg	**Sg**	**09 51 02.5**	**+0.5**
AVF	**Avril sur Loir**	**2.38**	**268**	*e*Pg	**Pg**	**09 50 31.7**	**+0.2**
AVF				*e*Sg	**Sg**	**09 51 01.9**	**-0.4**
53nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**2.38**	**268**	*e*Pg	**Pg**	**09 50 31.7**	**+0.2**
AVF				*e*Sg	**Sg**	**09 51 01.9**	**-0.4**
27nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**2.38**	**268**	*e*Pn	**Pn**	**09 50 25.8**	**+1.0**
AVF				*e*Pg	**Pg**	**09 50 31.7**	**+0.2**
AVF				*e*Sg	**Sg**	**09 51 01.9**	**-0.4**
FUORN	**Ofenpass**	**2.39**	**96**	*e*Pn	**Pn**	**09 50 23.4**	**-1.6**
FUORN	**Ofenpass**	**2.39**	**96**	Pg	**Pg**	**09 50 27.8**	**-3.9**
PLDF	**La Plantade**	**2.40**	**248**	Pn	**Pn**	**09 50 25.7**	**+0.5**
STU	**Stuttgart**	**2.46**	**40**	Pn	**Pn**	**09 50 29.0**	**+3.1**
VIVF	**Saint-Julien-l**	**2.54**	**217**	*e*Pg	**Pg**	**09 50 34.5**	**-0.2**
SNR=1.0							
VIVF				*e*Sn	**Sn**	**09 50 56.6**	**-1.5**
SNR=1.0							
VIVF				*e*Sg	**Sg**	**09 51 07.2**	**-0.4**
87nm,0.3s							
VIVF	**Saint-Julien-l**	**2.54**	**217**	*e*Pg	**Pg**	**09 50 34.5**	**-0.2**
SNR=1.0							
VIVF				*e*Sn	**Sn**	**09 50 56.6**	**-1.5**
SNR=1.0							
VIVF				*e*Sg	**Sg**	**09 51 07.2**	**-0.4**
44nm,0.3s							
VIVF	**Saint-Julien-l**	**2.54**	**217**	*e*Pn	**Pn**	**09 50 27.3**	**+0.2**
VIVF				*e*Pg	**Pg**	**09 50 34.5**	**-0.2**
VIVF				*e*Sn	**Sn**	**09 50 56.6**	**-1.5**
VIVF				*e*Sg	**Sg**	**09 51 07.2**	**-0.4**
COLF	**Collangettes**	**2.58**	**238**	Pn	**Pn**	**09 50 27.9**	**+0.3**
OG25	**Le Caire**	**2.60**	**192**	Pn	**Pn**	**09 50 29.5**	**+1.6**
STV2	**Anna di Valdie**	**2.69**	**172**	P	**Pn**	**09 50 31.1**	**+1.9**
ENR	**Entracque**	**2.72**	**171**	P	**Pn**	**09 50 31.0**	**+1.4**
BGF	**Bois d'Agland**	**2.75**	**264**	*e*Pg	**Pg**	**09 50 38.2**	**-0.4**
BGF				*e*Sn	**Sn**	**09 51 01.9**	**-1.3**
SNR=1.0							
BGF				*e*Sg	**Sg**	**09 51 13.6**	**-0.7**
107nm,0.2s,SNR=1.0							
BGF	**Bois d'Agland**	**2.75**	**264**	*e*Pg	**Pg**	**09 50 38.2**	**-0.4**
BGF				*e*Sn	**Sn**	**09 51 01.9**	**-1.3**
SNR=1.0							
BGF				*e*Sg	**Sg**	**09 51 13.6**	**-0.7**
53nm,0.2s,SNR=1.0							
BGF	**Bois d'Agland**	**2.75**	**264**	*e*Pn	**Pn**	**09 50 29.8**	**-0.2**
BGF				*e*Pg	**Pg**	**09 50 38.2**	**-0.4**
BGF				*e*Sn	**Sn**	**09 51 01.9**	**-1.3**
BGF				*e*Sg	**Sg**	**09 51 13.6**	**-0.7**
WLF	**Walferdange**	**2.79**	**351**	*e*Sg	**Sg**	**09 51 14.2**	**-1.2**
WLF	**Walferdange**	**2.79**	**351**	P	**Pg**	**09 50 40.6**	**+1.3**
WLF				S	**Sg**	**09 51 12.7**	**-2.7**
RUP	**Ruppelstein**	**2.79**	**3**	P	**Pn**	**09 50 32.4**	**+1.9**
RUP	**Ruppelstein**	**2.79**	**3**	Pn	**Pn**	**09 50 31.2**	**+0.6**
RUP	**Ruppelstein**	**2.79**	**3**	P	**Pn**	**09 50 32.4**	**+1.8**
HDH	**Heidenheim**	**2.83**	**53**	Pg	**Pg**	**09 50 39.4**	**-0.8**
SWS	**Schriesheim**	**2.86**	**25**	P	**Pn**	**09 50 31.1**	**-0.4**
SWS				Pg	**Pg**	**09 50 40.3**	**-0.5**
SWS				Sg	**Sg**	**09 51 17.3**	**-0.6**
SWS	**Schriesheim**	**2.86**	**25**	P	**Pg**	**09 50 40.3**	**-0.5**
SWS				S	**Sg**	**09 51 17.3**	**-0.6**
HYF	**Humbligny**	**2.87**	**279**	*e*Pg	**Pg**	**09 50 41.1**	**+0.1**
HYF				*e*Sn	**Sn**	**09 51 05.5**	**-0.7**
HYF				*e*Sg	**Sg**	**09 51 18.2**	**0.0**
HYF	**Humbligny**	**2.87**	**279**	*e*Pg	**Pg**	**09 50 41.1**	**+0.1**
HYF				*e*Sn	**Sn**	**09 51 05.5**	**-0.7**
HYF				*e*Sg	**Sg**	**09 51 18.2**	**0.0**
HYF	**Humbligny**	**2.87**	**279**	*e*Pn	**Pn**	**09 50 32.8**	**+1.1**
HYF				*e*Pg	**Pg**	**09 50 41.1**	**+0.1**
HYF				*e*Sn	**Sn**	**09 51 05.5**	**-0.7**
HYF				*e*Sg	**Sg**	**09 51 18.2**	**0.0**
PYM	**Petit Puy Mans**	**2.88**	**248**	Pn	**Pn**	**09 50 31.9**	**+0.1**
MONE	**Monesi**	**2.91**	**167**	P	**Pn**	**09 50 33.9**	**+1.7**
MOTA	**Moosalm**	**2.96**	**80**	⇑*i*Sn	**Sn**	**09 51 06.2**	**-2.2**
MOTA	**Moosalm**	**2.96**	**80**	⇑*i*Sg	**Sg**	**09 51 18.2**	**-2.9**
comp=Z,32nm,0.7s							
MOTA	**Moosalm**	**2.96**	**80**	⇓*i*Pn	**Pn**	**09 50 34.0**	**+1.1**
MOTA				⇑*i*Sn	**Sn**	**09 51 09.1**	**+0.7**
MOTA				⇑*i*Sg	**Sg**	**09 51 18.2**	**-2.9**
32nm,0.7s							
LBL	**Lubilhac**	**3.00**	**237**	Pn	**Pn**	**09 50 33.5**	**+0.1**
TOD	**Tromm**	**3.00**	**26**	Pg	**Pg**	**09 50 42.9**	**-0.6**
TOD	**Tromm**	**3.00**	**26**	Pg	**Pg**	**09 50 42.8**	**-0.6**
ABH	**Alteburg**	**3.01**	**9**	P	**Pn**	**09 50 34.3**	**+0.8**
SQTA	**Sankt Quirin**	**3.02**	**83**	⇓*i*Sn	**Sn**	**09 51 07.9**	**-2.0**
SQTA	**Sankt Quirin**	**3.02**	**83**	⇑*i*Sg	**Sg**	**09 51 19.2**	**-3.7**
comp=Z,15nm,0.3s							
SQTA	**Sankt Quirin**	**3.02**	**83**	⇑*i*Pn	**Pn**	**09 50 34.5**	**+0.9**
SQTA				⇑*i*Sn	**Sn**	**09 51 10.6**	**+0.8**
SQTA				⇑*i*Sg	**Sg**	**09 51 19.2**	**-3.7**
15nm,0.3s							
SMRF	**Simiane la Rot**	**3.07**	**197**	*e*Pg	**Pg**	**09 50 43.8**	**-0.8**
SMRF				*e*Sg	**Sg**	**09 51 22.8**	**-1.6**
17nm,0.5s,SNR=1.0							
SMRF	**Simiane la Rot**	**3.07**	**197**	*e*Pg	**Pg**	**09 50 43.8**	**-0.8**
SMRF				*e*Sg	**Sg**	**09 51 22.8**	**-1.6**
8.6nm,0.5s,SNR=1.0							
SMRF	**Simiane la Rot**	**3.07**	**197**	*e*Pn	**Pn**	**09 50 33.9**	**-0.4**
SMRF				*e*Pg	**Pg**	**09 50 43.8**	**-0.8**
SMRF				*e*Sg	**Sg**	**09 51 22.8**	**-1.6**
SIND	**Sindeldorf**	**3.07**	**37**	P	**Pn**	**09 50 32.5**	**-1.9**
SIND				Pg	**Pg**	**09 50 43.7**	**-1.0**
SIND				Sg	**Sg**	**09 51 23.9**	**-0.7**
SIND	**Sindeldorf**	**3.07**	**37**	P	**Pn**	**09 50 32.5**	**-1.9**
SIND				P		09 50 43.7	
SIND	**Sindeldorf**	**3.07**	**37**	P	**Pn**	**09 50 32.5**	**-1.9**
SIND				Pg	**Pg**	**09 50 43.7**	**-1.0**
SBF	**Sospel**	**3.08**	**172**	*e*Pg	**Pg**	**09 50 43.0**	**-2.0**
SBF				*e*Sg	**Sg**	**09 51 22.3**	**-2.6**
62nm,0.6s							
SBF	**Sospel**	**3.08**	**172**	*e*Pg	**Pg**	**09 50 43.0**	**-2.0**
SBF				*e*Sg	**Sg**	**09 51 22.3**	**-2.6**
31nm,0.6s							
SBF	**Sospel**	**3.08**	**172**	*e*P	**Pn**	**09 50 36.7**	**+2.2**
SBF				*e*Pg	**Pg**	**09 50 43.0**	**-2.0**
SBF				*e*Sg	**Sg**	**09 51 22.3**	**-2.6**
NEGI	**Negi**	**3.13**	**168**	P	**Pn**	**09 50 36.9**	**+1.7**
TCF	**Toulx Ste Croi**	**3.23**	**260**	*e*Pg	**Pg**	**09 50 47.3**	**-0.6**
SNR=1.0							
TCF				*e*Sn	**Sn**	**09 51 14.0**	**-1.1**
SNR=1.0							
TCF				*e*Sg	**Sg**	**09 51 29.5**	**-0.3**
27nm,0.2s,SNR=1.0							
TCF	**Toulx Ste Croi**	**3.23**	**260**	*e*Pg	**Pg**	**09 50 47.3**	**-0.6**
SNR=1.0							
TCF				*e*Sn	**Sn**	**09 51 14.0**	**-1.1**
SNR=1.0							
TCF				*e*Sg	**Sg**	**09 51 29.5**	**-0.3**
13nm,0.2s,SNR=1.0							
TCF	**Toulx Ste Croi**	**3.23**	**260**	*e*Pn	**Pn**	**09 50 37.2**	**+0.6**
TCF				*e*Pg	**Pg**	**09 50 47.3**	**-0.6**
TCF				*e*Sn	**Sn**	**09 51 14.0**	**-1.1**
TCF				*e*Sg	**Sg**	**09 51 29.5**	**-0.3**
WATA	**Walderalm**	**3.28**	**81**	⇓*i*Sn	**Sn**	**09 51 14.4**	**-1.8**
WATA	**Walderalm**	**3.28**	**81**	⇑*i*Sg	**Sg**	**09 51 27.9**	**-3.4**
comp=Z,23nm,0.5s							
WATA	**Walderalm**	**3.28**	**81**	⇑*i*Pn	**Pn**	**09 50 38.1**	**+0.8**
WATA				⇑*i*Sn	**Sn**	**09 51 17.1**	**+0.9**
WATA				⇑*i*Sg	**Sg**	**09 51 31.2**	**-0.1**
23nm,0.5s							
WTTA	**Wattenberg**	**3.31**	**82**	⇑*i*Sg	**Sg**	**09 51 30.0**	**-2.3**
comp=N,38nm,0.6s							
WTTA	**Wattenberg**	**3.31**	**82**	⇓*i*Pn	**Pn**	**09 50 38.8**	**+1.1**
WTTA				⇑*i*Sg	**Sg**	**09 51 30.0**	**-2.3**
38nm,0.6s							
WTTA	**Wattenberg**	**3.31**	**82**	*e*Pn	**Pn**	**09 50 40.7**	**+3.0**
WTTA				*e*Sg	**Sg**	**09 51 33.9**	**+1.5**
SCE	**Schlegeis**	**3.35**	**86**	⇑*i*Pn	**Pn**	**09 50 40.5**	**+2.2**
FRF	**La Foret Royal**	**3.36**	**182**	*e*Pg	**Pg**	**09 50 47.9**	**-2.3**
SNR=1.0							
FRF				*e*Sn	**Sn**	**09 51 15.7**	**-2.5**
SNR=1.0							
FRF				*e*Sg	**Sg**	**09 51 31.4**	**-2.3**
20nm,0.4s,SNR=1.0							
FRF	**La Foret Royal**	**3.36**	**182**	*e*Pg	**Pg**	**09 50 47.9**	**-2.3**
SNR=1.0							
FRF				*e*Sn	**Sn**	**09 51 15.7**	**-2.5**
SNR=1.0							
FRF				*e*Sg	**Sg**	**09 51 31.4**	**-2.3**
10.0nm,0.4s,SNR=1.0							
FRF	**La Foret Royal**	**3.36**	**182**	*e*Pn	**Pn**	**09 50 38.4**	**+0.1**
FRF				*e*Pg	**Pg**	**09 50 47.9**	**-2.3**
FRF				*e*Sn	**Sn**	**09 51 15.7**	**-2.5**
FRF				*e*Sg	**Sg**	**09 51 31.4**	**-2.3**
GIVF	**Givet**	**3.45**	**338**	*e*Pg	**Pg**	**09 50 50.9**	**-1.1**
GIVF				*e*Sg	**Sg**	**09 51 35.8**	**-1.0**
35nm,0.4s,SNR=1.0							
GIVF	**Givet**	**3.45**	**338**	*e*Pg	**Pg**	**09 50 50.9**	**-1.1**
GIVF				*e*Sg	**Sg**	**09 51 35.8**	**-1.0**
18nm,0.4s,SNR=1.0							
GIVF	**Givet**	**3.45**	**338**	*e*Pn	**Pn**	**09 50 39.8**	**+0.2**
GIVF				*e*Pg	**Pg**	**09 50 50.9**	**-1.1**
GIVF				*e*Sg	**Sg**	**09 51 35.8**	**-1.0**
TNS	**Taunus Mts**	**3.48**	**18**	*e*Sg	**Sg**	**09 51 37.1**	**-0.7**
BACM		**3.49**	**138**	P	**Pn**	**09 50 43.3**	**+3.2**
DOU	**Dourbes**	**3.51**	**336**	⇑P	**Pn**	**09 50 42.5**	**+2.1**
DOU				S	**Sn**	**09 51 20.9**	**-1.0**
DOU	**Dourbes**	**3.51**	**336**	P	**Pn**	**09 50 42.4**	**+2.0**
DOU				S	**Sn**	**09 51 20.9**	**-1.0**
LASF	**Ste Croix**	**3.52**	**217**	*e*Pg	**Pg**	**09 50 52.9**	**-0.4**
SNR=1.0							
LASF				*e*Sg	**Sg**	**09 51 37.1**	**-1.8**
50nm,0.5s,SNR=1.0							
LASF	**Ste Croix**	**3.52**	**217**	*e*Pg	**Pg**	**09 50 52.9**	**-0.4**
SNR=1.0							
LASF				*e*Sg	**Sg**	**09 51 37.1**	**-1.8**
25nm,0.5s,SNR=1.0							
LASF	**Ste Croix**	**3.52**	**217**	*e*Pn	**Pn**	**09 50 40.7**	**+0.2**
LASF				*e*Pg	**Pg**	**09 50 52.9**	**-0.4**
LASF				*e*Sg	**Sg**	**09 51 37.1**	**-1.8**
LMR	**La Mourre**	**3.59**	**184**	*e*Pn	**Pn**	**09 50 41.2**	**-0.3**
LMR				*e*Sn	**Sn**	**09 51 21.5**	**-2.4**
10nm,0.3s,SNR=1.0							
LMR	**La Mourre**	**3.59**	**184**	*e*Pn	**Pn**	**09 50 41.2**	**-0.3**
LMR				*e*Sn	**Sn**	**09 51 21.5**	**-2.4**
5.1nm,0.3s,SNR=1.0							
BAIF	**Baives**	**3.59**	**332**	*e*Pg	**Pg**	**09 50 53.4**	**-1.3**
BAIF				*e*Sn	**Sn**	**09 51 22.5**	**-1.5**
SNR=1.0							
BAIF				*e*Sg	**Sg**	**09 51 40.1**	**-1.1**
23nm,0.4s,SNR=1.0							
BAIF	**Baives**	**3.59**	**332**	*e*Pg	**Pg**	**09 50 53.4**	**-1.3**
BAIF				*e*Sn	**Sn**	**09 51 22.5**	**-1.5**
SNR=1.0							
BAIF				*e*Sg	**Sg**	**09 51 40.1**	**-1.1**
12nm,0.4s,SNR=1.0							
BAIF	**Baives**	**3.59**	**332**	*e*Pn	**Pn**	**09 50 43.1**	**+1.6**
BAIF				*e*Pg	**Pg**	**09 50 53.4**	**-1.3**
BAIF				*e*Sn	**Sn**	**09 51 22.5**	**-1.5**
BAIF				*e*Sg	**Sg**	**09 51 40.1**	**-1.1**
SARO	**Sassorosso**	**3.72**	**136**	P	**Pn**	**09 50 46.0**	**+2.8**
MEM	**Membach**	**3.73**	**352**	⇑P	**Pn**	**09 50 45.3**	**+1.8**
MEM				S	**Sn**	**09 51 27.4**	**-0.1**
MEM	**Membach**	**3.73**	**352**	P	**Pn**	**09 50 45.3**	**+1.8**
MEM				S	**Sn**	**09 51 27.3**	**-0.2**
CAF	**Calviac**	**3.87**	**241**	*e*Pn	**Pn**	**09 50 46.0**	**+0.7**
SNR=1.0							
CAF				*e*Sg	**Sg**	**09 51 49.0**	**-1.0**
18nm,0.3s							
CAF	**Calviac**	**3.87**	**241**	*e*Pn	**Pn**	**09 50 46.0**	**+0.7**
SNR=1.0							
CAF				*e*Sg	**Sg**	**09 51 49.0**	**-1.0**
9.1nm,0.3s							
BEBN	**Eben Emael**	**3.96**	**349**	P	**Pn**	**09 50 48.3**	**+1.7**
BEBN				AP		09 50 49.8	
BEBN	**Eben Emael**	**3.96**	**349**	P	**Pn**	**09 50 48.2**	**+1.7**
SNF	**Seneffe**	**3.97**	**336**	P	**Pn**	**09 50 47.3**	**+0.6**
SNF				S	**Sn**	**09 51 32.3**	**-0.9**
SNF	**Seneffe**	**3.97**	**336**	P	**Pn**	**09 50 47.2**	**+0.5**
SNF				S	**Sn**	**09 51 32.3**	**-0.9**
RJF	**Les Rejaudoux**	**4.02**	**248**	*e*Pn	**Pn**	**09 50 47.7**	**+0.3**
RJF				*e*Sg	**Sg**	**09 51 53.7**	**-1.3**
38nm,0.4s,SNR=1.0							
RJF	**Les Rejaudoux**	**4.02**	**248**	*e*Pn	**Pn**	**09 50 47.7**	**+0.3**
RJF				*e*Sg	**Sg**	**09 51 53.7**	**-1.3**
19nm,0.4s,SNR=1.0							
GRF	**Grafenberg Arr**	**4.05**	**45**	*e*Pg	**Pg**	**09 51 01.9**	**-1.5**
GRF				*e*Sg	**Sg**	**09 51 54.5**	**-1.3**
KBA	**Koelnbreinsper**	**4.47**	**86**	⇑*i*Sn	**Sn**	**09 51 43.8**	**-1.9**
KBA	**Koelnbreinsper**	**4.47**	**86**	⇑*i*Sg	**Sg**	**09 52 07.3**	**-2.2**
comp=E,9.8nm,0.6s							
KBA	**Koelnbreinsper**	**4.47**	**86**	⇑*i*Pn	**Pn**	**09 50 54.4**	**+0.8**
KBA				⇑*i*Sn	**Sn**	**09 51 44.9**	**-0.8**
KBA				⇑*i*Sg	**Sg**	**09 52 13.5**	**+4.0**
9.8nm,0.6s							
KBA	**Koelnbreinsper**	**4.47**	**86**	*e*Pn	**Pn**	**09 50 56.2**	**+2.6**
KBA				*e*Sn	**Sn**	**09 51 44.8**	**-0.9**
LFF	**La Frestale**	**4.67**	**247**	*e*Pn	**Pn**	**09 50 55.7**	**-0.7**
LFF				*e*Sg	**Sg**	**09 52 15.8**	**-0.2**
31nm,0.4s,SNR=1.0							
LFF	**La Frestale**	**4.67**	**247**	*e*Pn	**Pn**	**09 50 55.7**	**-0.7**
LFF				*e*Sg	**Sg**	**09 52 15.8**	**-0.2**
16nm,0.4s,SNR=1.0							
MFF	**Saint Martin d**	**4.79**	**269**	*e*Pn	**Pn**	**09 50 58.7**	**+0.7**
MFF				*e*Sn	**Sn**	**09 51 51.7**	**-1.9**
SNR=1.0							
MFF				*e*Sg	**Sg**	**09 52 17.1**	**-2.7**
18nm,0.3s							
MFF	**Saint Martin d**	**4.79**	**269**	*e*Pn	**Pn**	**09 50 58.7**	**+0.7**
MFF				*e*Sn	**Sn**	**09 51 51.7**	**-1.9**
SNR=1.0							
MFF				*e*Sg	**Sg**	**09 52 17.1**	**-2.7**
8.8nm,0.3s							
MTLF	**Montolieu**	**4.83**	**224**	*e*Pg	**Pg**	**09 51 16.0**	**-2.4**
SNR=1.0							
MTLF				*e*Sn	**Sn**	**09 51 51.8**	**-2.7**
SNR=1.0							
MTLF				*e*Sg	**Sg**	**09 52 18.9**	**-2.1**
12nm,0.4s							
MTLF	**Montolieu**	**4.83**	**224**	*e*Pn	**Pn**	**09 50 40.3**	**-2.0**
SNR=1.0							
MTLF				*e*Sn	**Sn**	**09 51 51.8**	**-2.7**
MTLF				*e*Sg	**Sg**	**09 52 18.9**	**-2.1**
6.0nm,0.4s							
MTLF	**Montolieu**	**4.83**	**224**	*e*Pn	**Pn**	**09 50 58.3**	**-0.3**
MTLF				*e*Pg	**Pg**	**09 51 16.0**	**-2.4**
MTLF				*e*Sn	**Sn**	**09 51 51.8**	**-2.7**
MTLF				*e*Sg	**Sg**	**09 52 18.9**	**-2.1**
MOX	**Moxa**	**4.90**	**39**	*e*Pg	**Pg**	**09 51 17.8**	**-1.9**
MOX				*e*Sn	**Sn**	**09 51 54.5**	**-1.7**
MOX				*e*Sg	**Sg**	**09 52 21.5**	**-1.7**
MOX				*e*SN	**Sn**	**09 51 54.5**	**-1.7**
MOX				*e*SG	**Sg**	**09 52 21.5**	**-1.7**
MOX	**Moxa**	**4.90**	**39**	*e*PG	**Pg**	**09 51 17.8**	**-1.9**
LDF	**La Druitiere**	**4.97**	**292**	*e*Pn	**Pn**	**09 51 01.2**	**+0.7**
LDF				*e*Sg	**Sg**	**09 52 23.8**	**-1.7**
36nm,0.5s,SNR=1.0							
LDF	**La Druitiere**	**4.97**	**292**	*e*Pn	**Pn**	**09 51 01.2**	**+0.7**
LDF				*e*Sg	**Sg**	**09 52 23.8**	**-1.7**
18nm,0.5s,SNR=1.0							
NKC	**Novy Kostel**	**5.00**	**46**	*e*PG	**Pg**	**09 51 17.6**	**-4.1**
NKC				*e*SG	**Sg**	**09 52 22.6**	**-3.9**
23nm,0.5s							
GEC2	**GERESS Array S**	**5.02**	**65**	*e*Pn	**Pn**	**09 51 01.0**	**-0.2**
GEC2				*e*Sn	**Sn**	**09 51 57.4**	**-1.8**
GEC2	**GERESS Array S**	**5.02**	**65**	*e*Pn	**Pn**	**09 51 01.0**	**-0.2**
GEC2				*e*Sn	**Sn**	**09 51 57.4**	**-1.8**
KHC	**Kasperske Hory**	**5.05**	**61**	*e*PN	**Pn**	**09 51 03.7**	**+2.1**
KHC				*e*PG	**Pg**	**09 51 19.7**	**-2.9**
KHC				*e*SN	**Sn**	**09 51 57.5**	**-2.5**
KHC				*e*SG	**Sg**	**09 52 25.0**	**-3.1**
22nm,0.7s							
KHC	**Kasperske Hory**	**5.05**	**61**	*e*Pg	**Pg**	**09 51 19.7**	**-2.9**
KHC				*e*Sn	**Sn**	**09 51 57.5**	**-2.5**
KHC				*e*Sg	**Sg**	**09 52 25.0**	**-3.1**
22nm,0.7s							
TANN	**Tannenbergstha**	**5.12**	**45**	*e*Sg	**Sg**	**09 52 28.0**	**-2.4**
MOA	**Molln**	**5.15**	**77**	⇓*i*Sn	**Sn**	**09 51 59.0**	**-3.3**
MOA	**Molln**	**5.15**	**77**	⇓*i*Sg	**Sg**	**09 52 28.8**	**-2.3**
comp=E,9.0nm,0.7s							
MOA	**Molln**	**5.15**	**77**	⇑*i*Pn	**Pn**	**09 51 04.1**	**+1.2**
MOA				⇓*i*Sn	**Sn**	**09 51 59.0**	**-3.3**
MOA				⇓*i*Sg	**Sg**	**09 52 28.8**	**-2.3**
9.0nm,0.7s							
MOA	**Molln**	**5.15**	**77**	Pn	**Pn**	**09 51 04.1**	**+1.2**
MOA				Sn	**Sn**	**09 51 59.0**	**-3.3**
MOA				Sg	**Sg**	**09 52 28.8**	**-2.4**
9.0nm,0.7s							
GRR	**Gorron**	**5.39**	**289**	*e*Pn	**Pn**	**09 51 07.0**	**+0.8**
SNR=1.0							
GRR				*e*Sn	**Sn**	**09 52 05.7**	**-2.6**
SNR=1.0							
GRR				*e*Sg	**Sg**	**09 52 37.0**	**-1.9**
12nm,0.3s							
GRR	**Gorron**	**5.39**	**289**	*e*Pn	**Pn**	**09 51 07.0**	**+0.8**
SNR=1.0							
GRR				*e*Sn	**Sn**	**09 52 05.7**	**-2.6**
SNR=1.0							
GRR				*e*Sg	**Sg**	**09 52 37.0**	**-1.9**
5.9nm,0.3s							
CLL	**Collm**	**5.99**	**40**	*e*Sg	**Sg**	**09 53 00.0**	**+2.0**
EPF	**Esparros**	**6.01**	**232**	*e*Pn	**Pn**	**09 51 14.0**	**-0.8**
EPF				*e*Sg	**Sg**	**09 52 56.2**	**-2.7**
7.7nm,0.4s							
EPF	**Esparros**	**6.01**	**232**	*e*Sg	**Sg**	**09 52 56.2**	**-2.7**
3.8nm,0.4s							
BRG	**Berggiesshubel**	**6.15**	**47**	PG	**Pg**	**09 51 42.8**	**-0.8**
BRG				SG	**Sg**	**09 53 01.1**	**-2.1**
5.2nm,0.9s							
SGMF	**Saint Gilles**	**6.48**	**285**	*e*Pn	**Pn**	**09 51 21

SNAA				*e*			10 02 00.9	
SNAA				*e*			10 02 05.6	
VNDA	**Vanda**	**45.25**	**182**	P		**P**	**10 06 05.7**	**-0.2**
	1.0nm,0.6s,mb3.8,baz=192,slow=6.8,SNR=8.3							
BOSA	**Boshof**	**45.51**	**73**	P		**P**	**10 06 07.9**	**-0.1**
	3.6nm,1.0s,mb4.3,baz=211,slow=5.9,SNR=3.2							
LPAZ	**La Paz**	**51.86**	**304**	P		**P**	**10 06 56.8**	**+0.1**
	1.5nm,0.6s,mb4.1,baz=203,slow=8.3,SNR=7.1							
TORD	**Torodi Ar. Bea**	**73.84**	**28**	P		**P**	**10 09 22.9**	**0.0**
	2.8nm,0.6s,mb4.4,baz=198,slow=6.7,SNR=26							
YKA	**Yellowknife Ar**	**137.75**	**316**	PKP		PKPdf	10 17 08.8	-3.3
	0.4nm,0.6s,baz=124,slow=2.2,SNR=12							
SONM	**Songino Array**	**149.94**	**88**	PKPbc		PKPbc	10 17 36.0	-2.2
	0.7nm,0.5s,baz=220,slow=3.5,SNR=6.0							
ILAR	**Eielson Array**	**151.65**	**309**	PKPbc		PKPbc	10 17 39.5	-2.7
	0.8nm,0.8s,baz=148,slow=5.2,SNR=14							

IDC ***29*** *10:11:17.0±9.3, 41.63N×148.09E, h50km±63km, mb3.3/3, mb1 3.4/4, mb1mx3.2/21, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=101.7km s-min=36.3km az=175.0*
ISCJB ***29*** *10:11:32.2±1.2, 44.1N±0.1×147.6E±0.1, h93km±8km, mb3.4/3, Error ellipse: s-maj=24.0km s-min=6.6km az=94.8*
MOS ***29*** *10:11:34.3±0.2, 44.57N×147.22E, h94km, mb3.9/1, Error ellipse: s-maj=47.1km s-min=29.8km az=156.0*
JMA ***29*** *10:11:34.9±0.2, 43.91N×147.55E, h73km, M3.9*

ISC 29 10:11:33.2±1.2, 44.1N±0.1×147.6E±0.1, h86km±8km, n15, σ1$00/23, mb3.4/3, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.14**	**11**	⇑*i* PN		**Pn**	**10 11 53.2**	**-1.0**
KUR				*i* S		**Sn**	**10 12 09.4**	**-0.6**
KUR				pmax		pmax		
	comp=E,80nm,0.4s							
KUR				pmax		pmax		
	comp=Z,90nm,0.4s							
KUR				smax				
	comp=N,1μm,0.5s							
KUR				smax				
	comp=E,990nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.23**	**267**	*e*PN		**Pn**	**10 11 56.0**	**+0.6**
YUK				*i* S		**Sn**	**10 12 12.0**	**-0.1**
YUK				smax				
	comp=N,2μm,0.4s							
YUK				smax				
	comp=E,1μm,0.4s							
NEM2	**Nemuro 2**	**1.52**	**241**	P		**Pn**	**10 11 59.1**	**+0.1**
NEM2				*e*S		**Sn**	**10 12 17.2**	**-1.3**
JRA	**Rausu**	**1.77**	**265**	P		**Pn**	**10 12 03.7**	**+1.5**
JRA				*e*S		**Sn**	**10 12 25.7**	**+1.4**
JNK	**Nakash**	**2.13**	**257**	*e*S		**Sn**	**10 12 32.2**	**-0.5**
JAK	**Akkeshi**	**2.37**	**243**	P		**Pn**	**10 12 10.4**	**+0.3**
JAK				*e*S		**Sn**	**10 12 37.1**	**-1.3**
JAR	**Ashorobuto**	**2.88**	**255**	*e*S		**Sn**	**10 12 51.5**	**+1.0**
JOB	**Onbets**	**2.98**	**247**	P		**Pn**	**10 12 19.6**	**+1.4**
JOB				*e*S		**Sn**	**10 12 52.1**	**-0.9**
JMP	**Maruseppu**	**3.04**	**269**	P		**Pn**	**10 12 20.6**	**+1.5**
JCH	**Churui**	**3.42**	**245**	P		**Pn**	**10 12 25.4**	**+1.2**
JCH				*e*S		**Sn**	**10 13 01.9**	**-1.7**
ASAJ	**Asahikawa**	**3.58**	**272**	P		**Pn**	**10 12 25.9**	**-0.5**
	comp=E,3.2nm,0.3s,baz=86,slow=17,SNR=22							
ASAJ				S		**Sn**	**10 13 20.1**	**+12**
	comp=E,1.4nm,0.3s,baz=265,slow=24,SNR=3.8							
SONM	**Songino Array**	**28.61**	**292**	P		**P**	**10 17 20.3**	**-1.0**
	comp=E,0.4nm,0.5s,mb3.3,baz=79,slow=8.1,SNR=4.6							
MKAR	**Makanchi Array**	**44.69**	**297**	P		**P**	**10 19 37.0**	**-0.5**
	comp=E,1.0nm,0.6s,mb3.7,baz=79,slow=8.9,SNR=11							
MKAR	**Makanchi Array**	**44.69**	**297**	P		**P**	**10 19 37.0**	**-0.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**55.33**	**34**	P		**P**	**10 20 58.4**	**+0.4**
	comp=Z,0.2nm,0.7s,mb3.3,baz=300,slow=7.1,SNR=3.9							

JMA 29 10:11:48.1±0.2, 45.24N×144.73E, h49km±3km, M2.1, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAK	**Akkeshi**	**0.46**	**357**	P		Pn	10 11 58.7	-0.1
JAK				*e*S		Sn	10 12 06.9	+0.5
JOB	**Onbets**	**0.75**	**299**	P		Pn	10 12 02.8	+0.3
JAR	**Ashorobuto**	**1.03**	**317**	P		Pn	10 12 06.2	0.0

BJI ***29*** *10:20:37.8, 51.43N×179.84W, h39km, mB5.3, mb5.2, Ms5.0, Msz4.6*
IDC ***29*** *10:20:37.2±2.3, 51.42N×179.36W, h29km±14km, mb4.8/22, mb1 4.9/23, mb1mx4.8/27, mbtmp5.0/23, ML5.0/1, MS4.1/18, Ms1 4.1/18, ms1mx4.0/37, Error ellipse: s-maj=20.2km s-min=10.1km az=159.0*
ISCJB ***29*** *10:20:38.9±0.2, 51.35N±0.05×179.38W±0.03, h55km, mb5.1/205, MS4.3/34, Error ellipse: s-maj=6.5km s-min=2.5km az=0.8*
MOS ***29*** *10:20:38.6±0.9, 51.41N×179.37W, h50km, mb5.4/98, Error ellipse: s-maj=7.3km s-min=4.4km az=93.0*
SZGRF ***29*** *10:20:40.5, 51.42N×179.23E, h33km, mb5.2, Rat Islands, Aleutian Islands, United States*
NEIC ***29*** *10:20:40.5±0.2, 51.34N×179.40W, mb5.1/137, ML4.8(AEIC), Error ellipse: s-maj=5.6km s-min=2.4km az=3.0*
HRVD ***29*** *10:20:40.5±0.4, 51.02N×179.23W, h34km±1km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s29,c35; Mantle waves: s60,c85; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 2.31±.17; Mθθ -2.30±.11; Mφφ -0.01±.10; Mrθ 1.47±.15; Mφθ -0.79±.08; Mφr 1.52±.15; Best double couple: M0 3.22600×10^16 NP1: ϕs 270.00000°, δ29.00000°, λ122.00000°. NP2: ϕs 54.00000°, δ66.00000°, λ74.00000°. Principal axes: T 3.2450, Plg65.0000°, Azm296.0000°; N -0.0440, Plg15.0000°, Azm61.0000°; P -3.2070, Plg19.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 10:20:40.8±0.2, 51.45N±0.05×179.39W±0.03, h57km, h57km±2.0km: pP-P, n540, σ0$87/525, mb5.1/205, MS4.3/34, 106C-14D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADK	**Adak**	**1.74**	**75**	P		**Pn**	**10 21 06.3**	**-2.4**
ADK				S		**Sn**	**10 21 29.3**	**-0.5**
ATKA	**Atka Island**	**3.31**	**75**	P		**Pn**	**10 21 29.0**	**-1.2**
ATKA				S		**Sn**	**10 22 09.2**	**+1.0**
SMY	**Shemya**	**4.21**	**290**	P		**Pn**	**10 21 42.0**	**-0.5**
NIKO	**Nikolski**	**6.65**	**73**	P		**Pn**	**10 22 16.0**	**0.0**
UNV	**Unalaska Valle**	**8.20**	**68**	P		**Pn**	**10 22 37.5**	**+0.5**
PET	**Petropavlovsk**	**13.54**	**285**	*e*P		**Pn**	**10 23 41.4**	**-8.6**
PET				*e*S		**Sn**	**10 26 16.8**	**-2.0**
PET				MLR		MLR		
	comp=Z,2μm,23.0s							
TNA	**Tin City**	**15.32**	**18**	*e*P		**Pn**	**10 24 17.5**	**+4.0**
	comp=Z,29nm,1.3s							
TNA				*e*			10 32 47.0	
SVW2	**Sparrevohn**	**16.28**	**44**	*e*P		**Pn**	**10 24 27.2**	**+1.6**
KDAK	**Kodiak Island**	**16.70**	**57**	Pn		**Pn**	**10 24 30.0**	**-0.8**
	comp=Z,222nm,0.5s,SNR=10							
KDAK	**Kodiak Island**	**16.70**	**57**	Pn		**Pn**	**10 24 27.7**	**-3.1**
	comp=Z,5.2nm,0.3s,baz=234,slow=5.0,SNR=42							
KDAK				Sn		**Sn**	**10 27 31.4**	**-4.0**
	comp=Z,0.7nm,0.3s,baz=311,slow=17,SNR=7.2							
TTA	**Tatalina**	**16.98**	**38**	*e*P		**Pn**	**10 24 36.9**	**+2.5**
BILL	**Bilibino**	**18.05**	**343**	*e*P		**Pn**	**10 24 50.2**	**+2.7**
	comp=Z,53nm,1.0s							
BILL	**Bilibino**	**18.05**	**343**	⇑*i* P		**Pn**	**10 24 49.5**	**+2.0**
BILL				*e*S		**S**	**10 28 01.8**	**-9.4**
BILL				pmax		pmax		
	comp=Z,76nm,1.4s							
BILL				MLR		MLR		
	comp=Z,1μm,19.0s							
SLKM	**Skilak Lake**	**18.52**	**49**	*e*P		**Pn**	**10 24 53.6**	**+0.4**
MA2	**Magadan**	**18.61**	**307**	*e*P		**Pn**	**10 24 56.0**	**+1.7**
	comp=Z,14nm,1.0s							
MA2	**Magadan**	**18.61**	**307**	*e*P		**Pn**	**10 24 56.2**	**+1.9**
MA2				pmax		pmax		
	comp=Z,6.0nm,1.2s							
FIB	**Fire Island**	**18.74**	**47**	*e*P		**Pn**	**10 24 55.3**	**-0.5**
	comp=Z,24nm,0.8s							
FIB	**Fire Island**	**18.74**	**47**	P		**Pn**	**10 24 56.7**	**+0.9**
FIB				pmax		pmax		
	comp=Z,24nm,0.8s							
SEY	**Seymchan**	**18.94**	**318**	*e*P		**Pn**	**10 25 00.6**	**+2.3**
SEY				*e*S		**S**	**10 28 31.2**	**+2.0**
SEY				pmax		pmax		
	comp=Z,23nm,1.1s							
SEY				pmax		pmax		
	comp=E,19nm,1.2s							
SEY				smax				
	comp=N,60nm,5.4s							
SEY				smax				
	comp=E,48nm,5.4s							
SEY				MLR		MLR		
	comp=Z,190nm,14.0s							
SEY				MLR		MLR		
	comp=N,260nm,17.0s							
SEY				MLR		MLR		
	comp=E,60nm,12.0s							
PMR	**Palmer**	**19.35**	**47**	*e*P		**Pn**	**10 25 02.1**	**-1.0**
	comp=E,18nm,0.7s							
PMR	**Palmer**	**19.35**	**47**	*e*P		**Pn**	**10 25 03.1**	**0.0**
PMR				pmax		pmax		
	comp=Z,33nm,0.9s							
SML	**Sawmill**	**19.78**	**46**	*e*P		**Pn**	**10 25 06.8**	**-1.4**
SML				*e*pP		pP	10 25 18.3	-0.5
SML				*e*S		**S**	**10 28 52.7**	**+6.9**
SML	**Sawmill**	**19.78**	**46**	*e*P		**Pn**	**10 25 07.2**	**-0.9**
MCK	**McKinley**	**20.19**	**41**	*e*P		**P**	**10 25 09.8**	**-0.8**
	comp=Z,8.8nm,0.6s							
MCK	**McKinley**	**20.19**	**41**	P		**P**	**10 25 10.1**	**-0.5**
MCK				pmax		pmax		
	comp=Z,9.0nm,0.6s							
EYAK	**Cordova Ski Ar**	**20.68**	**51**	*e*P		**P**	**10 25 17.9**	**+2.0**
EYAK				*e*pP			10 25 30.5	
EYAK				*e*			10 33 03.8	
DIV	**Divide**	**20.79**	**49**	*e*P		**P**	**10 25 18.2**	**+1.0**
	comp=Z,114nm,0.6s							
COLA	**College**	**21.08**	**38**	*e*P		**P**	**10 25 20.7**	**+0.4**
	comp=Z,30nm,0.8s,mb4.7							
COLA	**College**	**21.08**	**38**	P		**P**	**10 25 21.0**	**+0.7**
COLA				pmax		pmax		
	comp=Z,30nm,0.8s,mb4.7							
ILAR	**Eielson Array**	**21.42**	**39**	P		**P**	**10 25 21.4**	**-2.5**
	comp=Z,5.0nm,0.6s,baz=236,slow=7.5,SNR=91							
ILAR				PcP		PcP	10 29 23.3	-2.1
	comp=Z,1.0nm,0.6s,baz=293,slow=3.4,SNR=7.4							
ILAR				ScP		ScP	10 32 58.5	+1.0
	comp=Z,0.9nm,0.7s,baz=281,slow=3.1,SNR=7.9							
ILAR	**Eielson Array**	**21.42**	**39**	P		**P**	**10 25 21.5**	**-2.4**
ILAR							10 29 23.3	
MENT	**Mentasta**	**22.16**	**45**	*e*P		**P**	**10 25 31.7**	**-0.1**
DAWY	**Dawson**	**24.31**	**43**	*e*P		**P**	**10 25 51.8**	**-1.1**
DAWY				*e*pP			10 26 06.8	
YSS	**Yuzh-Sakhalins**	**24.95**	**275**	*e*P		**P**	**10 26 01.0**	**+2.3**
YSS				*e*			10 26 16.0	
YSS				pmax		pmax		
	comp=Z,100nm,1.0s,mb5.3							
ASAJ	**Asahikawa**	**26.34**	**269**	P		**P**	**10 26 10.7**	**-0.6**
	comp=Z,51nm,1.1s,mb5.0,baz=51,slow=6.0,SNR=7.6							
ASAJ				LR		LR	10 36 35.6	
	comp=Z,339nm,20.0s,MS3.9,baz=76,slow=36							
ASAJ	**Asahikawa**	**26.34**	**269**	P		**P**	**10 26 10.7**	**-0.6**
ASAJ				pmax		pmax		
	comp=Z,51nm,1.1s							
ASAJ				MLR		MLR		
	comp=Z,339nm,20.0s							
INK	**Inuvik**	**27.61**	**35**	P		**P**	**10 26 22.0**	**-0.8**
	comp=Z,11nm,0.9s,mb4.5,baz=246,slow=7.8,SNR=36							
INK				PcP		PcP	10 29 37.8	-1.2
	comp=Z,2.9nm,0.6s,baz=294,slow=2.3,SNR=5.4							
INK				ScP		ScP	10 33 16.4	+1.7
	comp=Z,1.1nm,0.7s,baz=82,slow=32,SNR=14							
INK	**Inuvik**	**27.61**	**35**	*e*P		**P**	**10 26 22.4**	**-0.3**
	comp=Z,16nm,1.0s,mb4.6							
INK				*e*PcP		PcP	10 29 37.4	-1.6
INK	**Inuvik**	**27.61**	**35**	*e*P		**P**	**10 26 22.4**	**-0.3**
INK				*e*			10 29 37.4	
INK				pmax		pmax		
	comp=Z,16nm,1.0s							
DLBC	**Dease Lake**	**28.63**	**56**	P		**P**	**10 26 31.1**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=299,slow=12,SNR=8.0							
DLBC				LR		LR	10 37 56.8	
	comp=Z,296nm,20.2s,MS3.9,baz=274,slow=36							
YAK	**Yakutsk**	**29.09**	**311**	*e*P		**P**	**10 26 35.3**	**-0.6**
YAK				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.5							
TIXI	**Tiksi**	**30.39**	**331**	*e*P		**P**	**10 26 46.3**	**-1.1**
TIXI				*e*S		**S**	**10 31 44.0**	**+0.1**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.0s							
TIXI				MLR		MLR		
	comp=Z,1μm,17.0s,MS4.5							
KLR	**Kul'dur**	**30.80**	**285**	⇓*i* P		**P**	**10 26 47.0**	**-4.0**
KLR				pmax		pmax		
	comp=E,52nm,1.4s							
KLR				pmax		pmax		
	comp=Z,140nm,1.4s,mb5.6							
MJAR	**Matsushiro Arr**	**33.43**	**260**	P		**P**	**10 27 13.3**	**-0.7**
	comp=Z,5.4nm,0.8s,mb4.5,baz=52,slow=8.1,SNR=11							
MJAR				LR		LR	10 38 33.2	
	comp=Z,358nm,19.6s,MS4.1,baz=55,slow=32							
VLA	**Vladivostok**	**33.53**	**275**	⇑*e*P		**P**	**10 27 15.5**	**+0.5**
VLA				pmax		pmax		
	comp=Z,170nm,2.5s,mb5.5							
MDJ	**Mudanjiang**	**34.20**	**279**	P		**P**	**10 27 19.0**	**-1.7**
MDJ				AP		pP	10 27 32.0	-3.1
MDJ				XP		sP	10 27 38.3	-3.6
MDJ				PP		PP	10 28 36.8	-2.2
MDJ				PCP		PcP	10 29 54.5	-1.9
MDJ				AMB		AMB		
	comp=Z,17nm,1.1s,mb4.9							
MDJ				AMB		AMB		
	comp=Z,154nm,4.3s							
MDJ				LR		LR		
	comp=N,380nm,5.0s							
MDJ				LR		LR		
	comp=E,317nm,4.8s							
MDJ				LR		LR		
	comp=Z,688nm,4.8s							
MDJ	**Mudanjiang**	**34.20**	**279**	*e*P		**P**	**10 27 19.0**	**-1.7**
	comp=Z,10nm,0.9s,mb4.8							
OCWA	**Octopus Mounta**	**35.26**	**74**	*e*P		**P**	**10 27 30.6**	**+0.7**
YKW3	**Yellowknife Ar**	**35.43**	**46**	*e*P		**P**	**10 27 30.2**	**-1.1**
YKW3				*e*PcP		PcP	10 29 59.3	-0.7
YKA	**Yellowknife Ar**	**35.45**	**46**	P		**P**	**10 27 30.4**	**-1.1**
	comp=Z,16nm,0.6s,mb5.2,baz=282,slow=7.8,SNR=387							
YKA				PcP		PcP	10 29 59.2	-0.8
	comp=Z,5.3nm,1.0s,baz=289,slow=2.8,SNR=12							
YKA				ScP		ScP	10 33 42.4	+1.5
	comp=Z,2.2nm,0.7s,baz=293,slow=3.2,SNR=28							
YKA				LR		LR	10 43 52.8	
	comp=Z,462nm,20.0s,MS4.2,baz=285,slow=39							
YKA	**Yellowknife Ar**	**35.45**	**46**	P		**P**	**10 27 30.4**	**-1.1**
YKA				PcP		PcP	10 29 59.2	-0.8
YKA				ScP		ScP	10 33 42.4	+1.5
YKA				LR		LR	10 43 52.8	
YKA	**Yellowknife Ar**	**35.45**	**46**	P		**P**	**10 27 30.4**	**-1.1**
YKA							10 29 59.2	
VDB	**Vedder Mountai**	**35.92**	**71**	P		**P**	**10 27 35.8**	**+0.2**
JCW	**Jim Creek**	**36.40**	**72**	P		**P**	**10 27 40.3**	**+0.7**
RPW	**Rockport**	**36.53**	**71**	P		**P**	**10 27 41.1**	**+0.3**
FMW	**Mount Fremont**	**37.15**	**74**	P		**P**	**10 27 46.6**	**+0.6**
LON	**Longmire**	**37.15**	**74**	P		**P**	**10 27 46.3**	**+0.3**
CN2	**Changchun**	**37.17**	**280**	*e*P		**P**	**10 27 44.5**	**-1.7**
CN2				*e*AP		pP	10 27 59.8	-0.9
CN2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.9							
CN2				AMB		AMB		
	comp=Z,200nm,4.0s							
WRW	**Wenatchee Ridg**	**37.18**	**72**	P		**P**	**10 27 46.9**	**+0.6**
SLFW	**Sugar Loaf**	**37.44**	**72**	P		**P**	**10 27 49.1**	**+0.7**
ASR	**Mount Adams--S**	**37.58**	**75**	P		**P**	**10 27 50.2**	**+0.6**
LTY	**Liberty**	**37.59**	**73**	P		**P**	**10 27 49.9**	**+0.2**
VLMM	**Larch Mountain**	**37.62**	**76**	P		**P**	**10 27 50.9**	**+0.9**
BOD	**Bodaibo**	**37.64**	**306**	⇑*i* P		**P**	**10 27 49.1**	**-1.0**
BOD				pmax		pmax		
	comp=Z,25nm,0.9s,mb4.9							
TBM	**Table Mountain**	**37.68**	**73**	P		**P**	**10 27 51.1**	**+0.6**
WTV	**Waterville**	**37.81**	**72**	P		**P**	**10 27 51.6**	**+0.1**
EBG	**Ellensburg**	**37.82**	**73**	P		**P**	**10 27 52.2**	**+0.5**
VLL	**Laurance Lake**	**37.87**	**76**	P		**P**	**10 27 52.9**	**+0.8**
HIA	**Hailar**	**37.91**	**291**	*e*P		**P**	**10 27 51.1**	**-1.4**
	comp=Z,17nm,0.6s,mb5.0							
HIA	**Hailar**	**37.91**	**291**	*e*P		**P**	**10 27 51.1**	**-1.4**
HIA				pmax		pmax		
	comp=Z,17nm,0.6s							
VFP	**Flag Point**	**38.08**	**76**	P		**P**	**10 27 54.5**	**+0.6**
MXC	**Moxie City**	**38.15**	**73**	P		**P**	**10 27 54.9**	**+0.5**
SNIWA	**Snively Ranch**	**38.58**	**73**	P		**P**	**10 27 58.4**	**+0.3**
HUMO	**Hull Mountain**	**38.60**	**80**	*e*P		**P**	**10 28 01.6**	**+3.4**
	comp=Z,18nm,1.1s,mb4.7							
BBOR	**Butler Butte**	**38.62**	**80**	P		**P**	**10 28 01.7**	**+3.3**
RSW	**Rattlesnake Hi**	**38.66**	**73**	P		**P**	**10 27 59.3**	**+0.5**
HAWA	**Hanford**	**38.70**	**73**	*e*P		**P**	**10 27 58.9**	**-0.2**
	comp=Z,2.2nm,1.0s							
EDM	**Edmonton**	**39.10**	**61**	*e*P		**P**	**10 28 01.1**	**-1.3**
EDM	**Edmonton**	**39.10**	**61**	*e*P		**P**	**10 28 01.3**	**-1.1**
NEW	**Newport**	**39.20**	**69**	*e*P		**P**	**10 28 02.6**	**-0.7**
	comp=Z,30nm,0.9s,mb5.0							
NEW	**Newport**	**39.20**	**69**	P		**P**	**10 28 02.8**	**-0.5**
NEW				pmax		pmax		
	comp=Z,30nm,0.9s							
YBH	**Yreka Blue Hor**	**39.24**	**81**	*e*P		**P**	**10 28 05.5**	**+1.9**
	comp=Z,16nm,0.9s,mb4.8							
YBH	**Yreka Blue Hor**	**39.24**	**81**	P		**P**	**10 28 07.4**	**+3.8**
YBH				pmax		pmax		
	comp=Z,16nm,0.9s							
SNY	**Shenyang**	**39.40**	**279**	⇑P		**P**	**10 28 03.8**	**-1.1**
SNY				AP		pP	10 28 18.8	-0.8
SNY				AMB		AMB		
	comp=Z,36nm,1.1s,mb5.0							
SNY				AMB		AMB		
	comp=Z,196nm,3.7s							
SNY				LR		LR		
	comp=E,429nm,22.8s							
SNY				LR		LR		
	comp=Z,522nm,20.4s,MS4.4							
LHEM	**Herd Peak**	**39.60**	**81**	P		**P**	**10 28 10.2**	**+3.6**
RES	**Resolute Bay**	**39.83**	**24**	*e*P		**P**	**10 28 08.4**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.2							
RES	**Resolute Bay**	**39.83**	**24**	P		**P**	**10 28 09.1**	**+0.6**
RES				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.2							
CIT	**Chita**	**40.18**	**298**	*e*P		**P**	**10 28 11.9**	**+0.5**
CIT				pmax		pmax		
	comp=Z,98nm,1.2s,mb5.4							
JNU	**Nakatsue**	**40.21**	**263**	P		**P**	**10 28 11.6**	**-0.1**
	comp=Z,36nm,1.0s,mb5.1,baz=26,slow=17,SNR=7.5							
MOD	**Modoc**	**40.63**	**80**	*e*P		**P**	**10 28 16.0**	**+0.9**
	comp=Z,16nm,0.6s,mb4.8							
WALA	**Waterton Lakes**	**40.68**	**67**	*e*P		**P**	**10 28 15.0**	**-0.5**
	comp=Z,20nm,0.9s,mb4.8							
BMO	**Blue Mountains**	**40.83**	**74**	*e*P		**P**	**10 28 16.5**	**-0.2**
	comp=Z,14nm,0.9s,mb4.6							
WVOR	**Wild Horse Val**	**41.35**	**78**	*e*P		**P**	**10 28 21.0**	**0.0**
	comp=Z,18nm,0.9s,mb4.7							
WVOR	**Wild Horse Val**	**41.35**	**78**	*e*P		**P**	**10 28 21.0**	**0.0**
WVOR				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.7							
MSO	**Missoula**	**41.79**	**70**	*e*P		**P**	**10 28 23.9**	**-0.7**
	comp=Z,21nm,1.0s,mb4.7							
CHMT	**Chamberlain Mo**	**42.15**	**69**	*e*P		**P**	**10 28 27.0**	**-0.5**
PAHR	**Pah Rah Range**	**42.47**	**82**	*e*P		**P**	**10 28 30.6**	**+0.4**
	comp=Z,18nm,1.0s,mb4.7							
ALE	**Alert**	**42.62**	**10**	P		**P**	**10 28 31.0**	**-0.3**
	comp=Z,58nm,1.2s,mb5.2,SNR=8.8							
HRY	**Holter Researc**	**43.09**	**69**	*e*P		**P**	**10 28 34.9**	**-0.3**
HLID	**Hailey**	**43.28**	**74**	*e*P		**P**	**10 28 36.7**	**+0.1**
	comp=Z,23nm,0.9s,mb4.9							
DLMT	**Dillon**	**43.36**	**71**	*e*P		**P**	**10 28 37.2**	**-0.2**
	comp=Z,11nm,0.9s,mb4.6							
MCMT	**McKenzie Canyo**	**43.51**	**71**	*e*P		**P**	**10 28 38.1**	**-0.4**
EGMT	**Eagleton**	**43.59**	**66**	*e*P		**P**	**10 28 38.0**	**-1.2**
	comp=Z,25nm,0.8s,mb5.0							
BOZ	**Bozeman (W)**	**43.78**	**70**	*e*P		**P**	**10 28 40.2**	**-0.6**
	comp=Z,47nm,0.8s,mb5.3							
BOZ	**Bozeman (W)**	**43.78**	**70**	P		**P**	**10 28 40.3**	**-0.4**
BOZ				pmax		pmax		
	comp=Z,47nm,0.8s,mb5.3							
NVAR	**Mina Array Bea**	**43.91**	**82**	P		**P**	**10 28 42.7**	**+0.9**
	comp=Z,12nm,0.9s,mb4.7,baz=305,slow=5.8,SNR=35							
NVAR				LR		LR	10 45 46.5	
	comp=Z,197nm,18.3s,MS4.1,baz=205,slow=34							
MNV	**Mina**	**44.00**	**82**	*e*P		**P**	**10 28 42.9**	**+0.4**
	comp=Z,6.2nm,0.8s,mb4.4							
MNV	**Mina**	**44.00**	**82**	P		**P**	**10 28 43.3**	**+0.8**
MNV				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.3							
QLMT	**Earthquake Lak**	**44.34**	**71**	*e*P		**P**	**10 28 45.0**	**-0.3**
ELK	**Elko**	**44.40**	**78**	*e*P		**P**	**10 28 46.0**	**+0.3**
	comp=Z,19nm,0.9s,mb4.8							
ELK	**Elko**	**44.40**	**78**	*e*P		**P**	**10 28 46.3**	**+0.6**
ELK				pmax		pmax		
	comp=Z,19nm,0.9s							
MTUM	**Tungsten Hills**	**44.41**	**84**	*e*P		**P**	**10 28 49.8**	**+4.0**
YMR	**Madison River**	**44.71**	**71**	*e*P		**P**	**10 28 47.9**	**-0.3**
	comp=Z,48nm,1.0s,mb5.3							
GCMT	**Greycliff**	**44.84**	**69**	*e*P		**P**	**10 28 48.8**	**-0.4**
YFT	**Old Faithful**	**44.91**	**71**	*e*P		**P**	**10 28 50.6**	**+0.9**
BJT	**Baijiatuau**	**45.01**	**282**	*e*P		**P**	**10 28 50.3**	**-0.3**
	comp=Z,7.8nm,0.4s,mb4.9							
BJT	**Baijiatuau**	**45.01**	**282

PDAR LR LR 10 45 06.1
comp=Z,235nm,20.8s,MS4.1,baz=304,slow=32
NLU North Lily Min 46.81 77 *e*P **P 10 29 01.3 -3.4**
DAU Daniels Canyon 47.03 76 *e*P **P 10 29 07.3 +0.9**
DAU Daniels Canyon 47.03 76 P **P 10 29 07.8 +1.4**
MPU Maple Canyon 47.04 76 *e*P **P 10 29 06.2 -0.3**
comp=Z,12nm,0.7s,mb5.0
MOY Mondy 47.12 303 *e*P **P 10 29 07.8 +0.7**
MOY pmax pmax
comp=Z,33nm,1.2s,mb5.1
HHC Hu-ho-hao-te 47.31 285 *e*P **P 10 29 08.5 -0.1**
HHC AP pP 10 29 24.0 +0.4
HHC PCP PcP 10 30 39.8 +1.0
HHC PP PP 10 31 00.0 -0.1
HHC AMB AMB
comp=Z,10.0nm,0.3s,mb5.2
HHC AMB AMB
comp=Z,158nm,4.4s
HHC LR LR
comp=N,297nm,5.3s
HHC LR LR
comp=E,429nm,5.3s
HHC LR LR
comp=Z,369nm,23.0s,MS4.3
CCUT Cedar City 47.51 80 *e*P **P 10 29 09.8 -0.3**
MVU Marysvale 47.62 78 *e*P **P 10 29 20.0 +9.0**
comp=Z,17nm,0.9s,mb5.1
SSE Sheshan 47.63 269 P **P 10 29 10.5 -0.6**
SSE PCP PcP 10 30 38.0 -1.9
SSE PP PP 10 31 02.3 -0.7
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,178nm,5.9s
SSE LR LR
comp=N,93nm,22.5s,MS3.8
SSE LR LR
comp=E,78nm,22.9s,MS3.8
SSE LR LR
comp=Z,100nm,23.4s,MS3.7
MSU Marysvale 47.64 78 *e*P **P 10 29 12.0 +0.9**
MSU Marysvale 47.64 78 P **P 10 29 12.8 +1.6**
TMUT Trail Mountain 47.74 77 *e*P **P 10 29 12.2 +0.2**
NEN Nelson 47.81 83 *e*P **P 10 29 15.4 +2.9**
LDFC Landfair 48.01 84 *e*P **P 10 29 16.7 +2.6**
SRU San Rafael 48.27 76 *e*P **P 10 29 17.7 +1.6**
comp=Z,38nm,0.7s,mb5.5
SRU San Rafael 48.27 76 *e*P **P 10 29 17.7 +1.6**
SRU pmax pmax
comp=Z,38nm,0.7s,mb5.5
BTO Baotou 48.39 286 *e*P **P 10 29 17.0 0.0**
NJ2 Nanjing 48.44 271 *e*P **P 10 29 18.5 +1.1**
NJ2 PP PP 10 31 11.5 +1.1
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
NJ2 AMB AMB
comp=Z,100nm,6.3s
NJ2 LR LR
comp=N,310nm,13.8s,MS4.5
NJ2 LR LR
comp=E,320nm,17.6s,MS4.5
NJ2 LR LR
comp=Z,130nm,23.9s
GLA Glamis 49.52 86 *e*P **P 10 29 25.6 -0.1**
PV10 Paradox Valley 49.64 76 *e*P **P 10 29 26.9 +0.4**
KBS Kingsbay 49.71 357 *e*P **P 10 29 27.4 +0.4**
comp=Z,20nm,0.4s,mb5.5
KBS Kingsbay 49.71 357 P **P 10 29 28.9 +1.9**
KBS pmax pmax
comp=Z,20nm,0.4s,mb5.5
ULM Lac du Bonnet 49.95 56 P **P 10 29 26.8 -2.1**
comp=Z,2.2nm,0.5s,mb4.4,baz=316,slow=7.2,SNR=8.1
ULM PcP PcP 10 30 46.8 -1.6
comp=Z,2.9nm,1.0s,baz=327,slow=6.3,SNR=3.9
ULM LR LR 10 50 16.0
comp=Z,145nm,19.7s,MS4.0,baz=360,slow=36
PV01 Paradox Valley 50.08 76 *e*P **P 10 29 29.6 -0.2**
ISCO Idaho Springs 50.80 73 *e*P **P 10 29 35.5 +0.2**
comp=Z,12nm,0.9s,mb4.8
ISCO Idaho Springs 50.80 73 P **P 10 29 35.9 +0.6**
ISCO pmax pmax
comp=Z,12nm,1.0s,mb4.8
DAG Danmarks Havn 51.46 6⇑ *i*P **P 10 29 39.8 -0.5**
comp=Z,3.7nm,0.8s,mb4.4
DAG Danmarks Havn 51.46 6⇑ *e*P **P 10 29 39.8 -0.5**
comp=Z,3.7nm,0.8s,mb4.4
DAG Danmarks Havn 51.46 6⇑ *e*P **P 10 29 39.8 -0.5**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TUC Tucson 52.54 83 *e*P **P 10 29 48.2 -0.1**
comp=Z,7.0nm,0.9s,mb4.6
TUC Tucson 52.54 83 *e*P **P 10 29 48.2 -0.1**
TUC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
SUMG Summit 53.32 14 *e*P **P 10 29 54.0 0.0**
comp=Z,26nm,0.9s,mb5.2
LAZ Ladron 53.39 79 *e*P **P 10 29 55.3 +0.8**
LAZ *e* pP 10 30 08.2 -1.6
ANMO Albuquerque 53.44 78|| *e*P **P 10 29 54.9 0.0**
EYMN Ely 53.64 57 *e*P **P 10 29 54.6 -1.7**
comp=Z,12nm,0.9s,mb4.8
ZAL Zalesovo 53.73 313 PcP PcP 10 31 02.8 +0.3
comp=Z,7.2nm,0.8s,baz=75,slow=4.7,SNR=19
LPM Los Pinos Moun 53.76 79 *e*P **P 10 29 57.8 +0.5**
NVS Novosibirsk 53.85 315 *e*P **P 10 29 56.8 -1.1**
BNM Barren Site 53.87 79 *e*P **P 10 29 58.7 +0.6**
LZH Lanzhou 55.01 286 *e*P **P 10 30 07.5 +1.2**
LZH PP PP 10 32 12.8 +3.0
LZH AMB AMB
comp=Z,26nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,157nm,7.2s
LZH LR LR
comp=E,577nm,15.2s
LZH LR LR
comp=Z,885nm,18.3s,MS4.9
GTA Gaotai 55.20 291⇑ *i*P **P 10 30 08.3 +0.6**
GTA AP pP 10 30 23.5 +0.5
GTA AMB AMB
comp=Z,47nm,0.6s,mb5.7
GTA AMB AMB
comp=Z,99nm,7.6s
GTA LR LR
comp=N,269nm,18.3s,MS4.5
GTA LR LR
comp=E,243nm,16.8s,MS4.5
GTA LR LR
comp=Z,406nm,15.7s,MS4.6
MNTX Cornudas Mount 56.30 80 *e*P **P 10 30 15.5 -0.1**
comp=Z,17nm,0.8s,mb5.1
CPRX Cap Rock 56.32 78 *e*P **P 10 30 15.9 +0.2**
KSU1 Kansas State U 56.55 68 *e*P **P 10 30 16.2 -1.1**
GDL2 Guadalupe Moun 56.58 79 *e*P **P 10 30 17.7 +0.1**
JMIC Jan Mayen 57.69 4 LR LR 10 54 00.5
comp=Z,118nm,19.1s,MS4.0,baz=79,slow=35
ARCES ARCESS Array B 57.96 350 P **P 10 30 26.1 -1.2**
comp=Z,6.4nm,0.7s,mb4.8,baz=26,slow=7.0,SNR=17
ARCES LR LR 10 59 04.3
comp=Z,107nm,19.4s,MS4.0,baz=228,slow=40
WMOK Wichita Mounta 58.23 73 *e*P **P 10 30 28.5 -0.6**
comp=Z,10nm,0.8s,mb4.9
WMOK *e*pP pP 10 30 37.6 -7.0
WMOK Wichita Mounta 58.23 73 P **P 10 30 28.7 -0.5**
WMOK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LVZ Lovozero 58.28 346 *e*P **P 10 30 27.6 -1.9**
LVZ pmax pmax
comp=Z,55nm,1.8s,mb5.3
LVZ pmax pmax
comp=N,28nm,1.1s
LVZ pmax pmax
comp=E,14nm,1.1s
LVZ MLR MLR
comp=Z,356nm,23.0s,MS4.4
LVZ MLR MLR
comp=N,88nm,12.0s
LVZ MLR MLR
comp=E,162nm,25.0s
KURK Kurchatov 58.70 313 P **P 10 30 31.2 -1.3**
comp=E,163nm,1.0s,mb6.0,SNR=13
KURK Kurchatov 58.70 313 *e*P **P 10 30 31.5 -0.9**
comp=E,27nm,0.9s,mb5.3
KURK Kurchatov 58.70 313 P **P 10 30 31.9 -0.6**
KURK pmax pmax
comp=Z,27nm,1.0s,mb5.2
WMQ Urumqi 58.99 302 P **P 10 30 35.0 +0.5**
WMQ AP pP 10 30 51.0 +1.1
WMQ PCP PcP 10 31 23.3 +0.3
WMQ PP PP 10 32 48.0 +2.7
WMQ PPP 10 34 13.3
WMQ AMB AMB
comp=Z,37nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,369nm,4.4s
WMQ LR LR
comp=N,289nm,19.5s,MS4.6
WMQ LR LR
comp=E,289nm,19.0s,MS4.6
WMQ LR LR
comp=Z,444nm,20.0s,MS4.6
LTX Lajitas 59.01 81 *e*P **P 10 30 36.8 +2.2**
comp=Z,19nm,0.9s,mb5.1
LTX Lajitas 59.01 81 *e*P **P 10 30 36.8 +2.2**
LTX pmax pmax
comp=Z,19nm,0.9s,mb5.1
MK31 Makanchi Array 59.70 308 *i*P **P 10 30 38.2 -1.1**
MK31 pmax pmax
comp=Z,12nm,0.5s,mb5.2
MKAR Makanchi Array 59.70 308 P **P 10 30 38.5 -0.9**
comp=Z,13nm,0.7s,mb5.1,baz=49,slow=6.7,SNR=102
MKAR PcP PcP 10 31 25.9 +0.1
comp=Z,3.0nm,0.6s,baz=39,slow=2.7,SNR=4.3
GYA Guiyang 59.95 276⇑ *i*P **P 10 30 40.0 -1.1**
GYA AP pP 10 30 57.5 +1.0
GYA PP PP 10 32 54.5 +0.8
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,130nm,4.6s
GYA LR LR
comp=N,860nm,18.6s,MS5.1
GYA LR LR
comp=E,840nm,18.7s,MS5.1
GYA LR LR
comp=Z,730nm,17.8s,MS4.9
CHKZ Chkalovo 60.02 320 *e*P **P 10 30 40.2 -1.3**
comp=Z,9.3nm,0.8s,mb4.9
CHKZ Chkalovo 60.02 320 *i*P **P 10 30 40.7 -0.9**
CHKZ pmax pmax
comp=Z,17nm,1.5s,mb4.8
SCHQ Schefferville 60.18 38 P **P 10 30 41.9 -0.7**
comp=Z,18nm,0.6s,mb5.2,baz=324,slow=7.2,SNR=57
SCHQ LR LR 10 58 36.0
comp=Z,301nm,18.1s,MS4.5,baz=188,slow=38
SCHQ Schefferville 60.18 38 *e*P **P 10 30 41.2 -1.4**
comp=Z,34nm,1.0s,mb5.3
TGY Tagaytay City 60.30 255 P **P 10 30 43.6 +0.1**
comp=Z,102nm,0.3s,baz=144,slow=9.8,SNR=3.9
SLM Saint Louis 60.51 64 *e*P **P 10 30 43.8 -1.1**
comp=Z,24nm,0.6s,mb5.5
SLM Saint Louis 60.51 64 P **P 10 30 44.2 -0.7**
SLM pmax pmax
comp=Z,23nm,0.6s,mb5.5
JCT Junction City 60.58 77 *e*P **P 10 30 44.2 -1.2**
comp=Z,17nm,0.8s,mb5.2
JCT *e*pP pP 10 31 00.4 -0.4
JCT Junction City 60.58 77 *e*P **P 10 30 44.2 -1.1**
JCT *e**PP pP 10 31 00.4 -0.4
JCT pmax pmax
comp=Z,17nm,0.8s,mb5.2
VOSK Vostochnaya 60.58 319 P **P 10 30 44.4 -0.9**
VOSK pmax pmax
comp=Z,18nm,1.2s,mb5.1
BVA0 Borovoye Array 60.59 319 *i*P **P 10 30 44.9 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,1.3s,mb4.4
BRVK Borovoye 60.61 319 P **P 10 30 45.8 +0.2**
comp=Z,134nm,0.6s,mb6.2,SNR=5.3
BRVK Borovoye 60.61 319 *e*P **P 10 30 44.9 -0.7**
comp=Z,8.6nm,0.6s,mb5.1
BRVK Borovoye 60.61 319 *e*P **P 10 30 44.9 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
FVM French Village 60.86 65 *e*P **P 10 30 45.9 -1.4**
comp=Z,21nm,0.8s,mb5.3
FVM *e*pP pP 10 31 01.8 -1.0
FVM French Village 60.86 65 *e*P **P 10 30 45.9 -1.4**
FVM *e**PP pP 10 31 01.8 -1.0
FVM pmax pmax
comp=Z,21nm,0.8s,mb5.3
ZRNK Zerenda 61.21 320 *e*P **P 10 30 48.7 -1.0**
comp=Z,15nm,0.7s,mb5.2
ZRNK Zerenda 61.21 320 *e*P **P 10 30 48.7 -0.9**
ZRNK pmax pmax
comp=Z,15nm,0.7s,mb5.2
MIAR Mount Ida 61.45 70 *e*P **P 10 30 50.4 -0.9**
comp=Z,16nm,1.0s,mb5.1
MIAR Mount Ida 61.45 70 P **P 10 30 50.7 -0.6**
MIAR pmax pmax
comp=Z,16nm,1.0s,mb5.1
UALR University of 62.00 69 *e*P **P 10 30 54.4 -0.6**
BLO Bloomington 62.20 61 *e*P **P 10 30 55.4 -0.9**
comp=Z,44nm,0.9s,mb5.6
BLO Bloomington 62.20 61 *e*P **P 10 30 55.4 -0.9**
BLO pmax pmax
comp=Z,44nm,0.9s,mb5.6
HBAR Harrisburg 62.43 67 *e*P **P 10 30 57.0 -0.9**
BORG Borgarnes 62.90 10 LR LR 10 56 22.8
comp=Z,242nm,18.8s,MS4.4,baz=313,slow=34
UTMT University of 62.90 65 *e*P **P 10 31 00.8 -0.2**
comp=Z,111nm,1.0s,mb5.9
HALT Halls 62.93 66 *e*P **P 10 31 00.1 -1.1**
WCI Wyandotte Cave 63.00 62 *e*P **P 10 31 00.9 -0.7**
comp=Z,36nm,0.8s,mb5.5
WCI Wyandotte Cave 63.00 62 P **P 10 31 01.3 -0.3**
WCI pmax pmax
comp=Z,36nm,0.9s,mb5.5
KMI Kunming 63.35 277 P **P 10 31 01.8 -2.2**
KMI LR LR
comp=Z,109nm,31.2s,MS3.8
QIZ Qiongzhong 63.40 267 P **P 10 31 05.3 +1.0**
QIZ S **S 10 39 35.5 +2.9**
QIZ LR LR
comp=Z,83nm,25.5s,MS3.8
JOF Joensuu 63.43 345 *e*p **P 10 31 04.1 -0.4**
WVT Waverly 63.63 65 *e*P **P 10 31 04.9 -0.9**
comp=Z,30nm,0.8s,mb5.4
WVT Waverly 63.63 65 P **P 10 31 05.1 -0.7**
WVT pmax pmax
comp=Z,30nm,0.9s,mb5.3
ALLY Alegheny Colle 63.83 56 *e*P **P 10 31 06.4 -0.7**
OXF Oxford 63.89 67 *e*P **P 10 31 06.9 -0.6**
comp=Z,129nm,1.0s,mb5.9
OXF Oxford 63.89 67 P **P 10 31 07.3 -0.2**
OXF pmax pmax
comp=Z,130nm,1.0s,mb5.9
PLAL Pickwick Lake 64.32 66 *e*P **P 10 31 09.1 -1.2**
comp=Z,52nm,0.9s,mb5.6
KAF Kangasniemi 64.96 347 *e*p **P 10 31 13.1 -1.4**
comp=Z,12nm,0.6s,mb5.1,baz=13,slow=6.0
KAF Kangasniemi 64.96 347 *e*P **P 10 31 13.1 -1.4**
KAF pmax pmax
comp=Z,12nm,0.6s,mb5.1
MIV Mineville/With 65.33 50 *e*P **P 10 31 14.7 -2.2**
SWET Sewanee 65.36 64 *e*P **P 10 31 15.9 -1.2**
BINY Binghamton 65.53 53 *e*P **P 10 31 17.4 -0.8**
comp=Z,30nm,0.9s,mb5.3
FINES FINESS Array B 65.63 347 P **P 10 31 17.8 -1.1**
comp=Z,13nm,0.8s,mb5.0,baz=28,slow=8.6,SNR=27
FINES LR LR 11 06 03.4
comp=Z,219nm,18.0s,MS4.4,baz=24,slow=42
FINES FINESS Array B 65.63 347 *i*P **P 10 31 17.7 -1.1**
FINES pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 65.78 309 P **P 10 31 21.4 +1.6**
SNR=8.0
CPCT Cooper Cave 65.98 63 *e*P **P 10 31 19.8 -1.3**
USP Ospenovka 66.05 310 P **P 10 31 22.2 +0.6**
SNR=24
KBK Karagaybulak 66.30 309 P **P 10 31 23.9 +0.8**
SNR=11
FRU Bishkek 66.32 309 *e*P **P 10 31 24.5 +1.2**
FRU *e* pP 10 31 37.0 -2.0
FRU pmax pmax
comp=Z,50nm,1.9s,mb5.2
LRAL Lakeview Retre 66.34 66 *e*P **P 10 31 21.8 -1.6**
comp=Z,12nm,0.7s,mb5.0
FWV Forest Hill 66.45 59 *e*P **P 10 31 23.6 -0.5**
AAK Ala-Archa 66.53 309 P **P 10 31 25.1 +0.4**
SNR=17
KZA Kyzart 66.58 309 P **P 10 31 26.6 +1.7**
SNR=7.7
FFD Franklin Falls 66.68 49 *e*P **P 10 31 24.7 -0.8**
comp=Z,16nm,0.3s,mb5.5
ELN Prospectdale 66.74 59 *e*P **P 10 31 25.4 -0.5**
UCH Uchtor 66.83 309 P **P 10 31 28.6 +2.1**
SNR=8.1
EKS2 Erkin-Say 66.86 310 P **P 10 31 27.3 +0.6**
SNR=15
LSA Lhasa 67.07 289 *e*P **P 10 31 29.8 +1.8**
comp=Z,21nm,0.7s,mb5.3
LSA Lhasa 67.07 289 *e*P **P 10 31 29.8 +1.8**
LSA pmax pmax
comp=Z,21nm,0.7s,mb5.3
AML Almayashu 67.30 310 P **P 10 31 30.6 +1.1**
SNR=20
PAL Palisades 67.45 52 *e*P **P 10 31 29.6 -0.8**
comp=Z,26nm,1.0s,mb5.2
PAL Palisades 67.45 52 P **P 10 31 29.9 -0.6**
PAL pmax pmax
comp=Z,26nm,1.0s,mb5.2
NB2 NORSAR Subarra 67.54 354 P **P 10 31 30.6 -0.4**
comp=Z,14nm,0.7s,mb5.1,baz=6.9,slow=6.5
NB2 NORSAR Subarra 67.54 354 P **P 10 31 30.6 -0.4**
NB2 pmax pmax
comp=Z,14nm,0.7s,mb5.1
NOA NORSAR Array B 67.54 354 P **P 10 31 30.8 -0.2**
comp=Z,14nm,0.8s,mb5.0,baz=7.0,slow=6.3,SNR=39
NOA LR LR 11 02 17.8
comp=Z,81nm,19.8s,MS4.0,baz=10.0,slow=37
CPNY Central Park 67.59 52 *e*P **P 10 31 30.8 -0.5**
AB31 Akbulak array 67.66 322 P **P 10 31 31.0 -0.8**
AB31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
KK31 Karatay Array 68.06 312 *i*P **P 10 31 33.7 -0.6**
KK31 pmax pmax
comp=Z,14nm,0.6s,mb5.2
KKAR Karatay Array 68.06 312 *i*P **P 10 31 33.7 -0.6**
KKAR pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
KSH Kashi 68.16 306 P **P 10 31 37.0 +2.1**
KSH AP pP 10 31 52.5 +1.8
KSH PCP PcP 10 32 01.5 +1.0
KSH PP PP 10 34 09.8 +4.0
KSH PPP 10 35 47.5
KSH SCP 10 35 59.8
KSH PCS 10 36 06.5
KSH AMB AMB
comp=Z,52nm,1.1s,mb5.5
KSH AMB AMB
comp=Z,156nm,4.3s
KSH LR LR
comp=N,230nm,5.5s
KSH LR LR
comp=E,295nm,6.0s
KSH LR LR
comp=Z,357nm,18.5s,MS4.6
HFS Hagfors 68.27 353 LR LR 10 59 45.2
comp=Z,124nm,20.1s,MS4.1,baz=167,slow=34
VSU Vasula 68.39 346*d* *i*P **P 10 31 35.8 -0.6**
JSC Jenkinsville 68.65 62 *e*P **P 10 31 37.4 -0.6**
JSC Jenkinsville 68.65 62 P **P 10 31 37.6 -0.4**
TAOE Nuku Hiva Isla 68.92 138 *e*LR LR 10 52 10.5
comp=Z,1μm,23.8s
IMP Imphal 69.01 284 *ex* x 10 31 40.0
KONO Kongsberg 69.02 355|| *e*P **P 10 31 40.5 +0.2**
COW Cow Castle Cre 69.63 62 *e*P **P 10 31 44.6 +0.5**
OBN Obninsk 69.67 339*c* *i*P **P 10 31 43.4 -0.9**
OBN *e* pP 10 32 00.0 -0.1
OBN pmax pmax
comp=Z,41nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
NHSC New Hope 70.13 62 *e*P **P 10 31 47.8 +0.7**
comp=Z,50nm,1.0s,mb5.4
IZAR Zarasai 71.07 345 *e*P **P 10 31 52.0 -0.9**
ISAL Salakas 71.26 345 *e*P **P 10 31 53.1 -0.8**
IDID Didziasalis 71.41 345 *e*P **P 10 31 54.4 -0.5**
IIGN Ignalina 71.46 345 *e*P **P 10 31 54.5 -0.6**
GUN Gumba 71.48 292 *e*P **P 10 31 56.1 +0.8**
comp=Z,191nm,0.6s,mb6.2
JIRN Jiri 71.49 291 *e*P **P 10 31 56.2 +0.8**
comp=Z,152nm,0.7s,mb6.0
KKN Kakani 71.92 292 *e*P **P 10 31 58.5 +0.5**
comp=Z,94nm,0.7s,mb5.8
PKI Pulchoki 72.01 292 *e*P **P 10 31 59.1 +0.6**
comp=Z,100nm,0.9s,mb5.8
GKN Gorkha 72.14 292 *e*P **P 10 31 59.4 +0.2**
comp=Z,72nm,0.6s,mb5.8
DMN Daman 72.16 292 *e*P **P 10 32 00.1 +0.7**
comp=Z,66nm,0.9s,mb5.6
DANN Dangsing 72.38 293 *e*P **P 10 32 01.4 +0.7**
KOLN Koldanda 72.91 293 *e*P **P 10 32 03.8 -0.1**
comp=Z,55nm,0.9s,mb5.5
SUW Suwalki 73.22 346 *e*P **P 10 32 04.9 -0.8**
PPT Papeete 73.51 150 *e*LR LR 10 54 13.9
comp=Z,345nm,27.8s
BOK Bokaro 74.59 289 *e*P **P 10 32 14.3 +0.6**
BOK AMb AMB 10 32 15.3
comp=Z,35nm,0.8s,mb5.4
BSEG Bad Segeberg 74.67 354 *e*P **P 10 32 14.7 +0.6**
comp=Z,45nm,0.9s,mb5.4
BSEG Bad Segeberg 74.67 354 *e*P **P 10 32 14.7 +0.6**
AKASG Malin Array Be 75.36 342 P **P 10 32 17.2 -0.9**
comp=Z,26nm,0.6s,mb5.3,baz=21,slow=6.0,SNR=90
RUE Ruedersdorf 75.85 352 *e*P **P 10 32 21.1 +0.2**
comp=Z,32nm,0.8s,mb5.3
KSM Kuching 76.66 255 *e*P **P 10 32 25.1 -0.4**
CLZ Clausthal 76.75 354 *e*P **P 10 32 26.7 +0.7**
comp=Z,37nm,0.9s,mb5.3
CLZ Clausthal 76.75 354 *e*P **P 10 32 26.7 +0.7**
CLZ pmax pmax
comp=Z,37nm,0.9s,mb5.3
CLL Collm 77.08 352 *e*P **P 10 32 27.6 -0.3**
comp=Z,16nm,0.9s,mb5.0
CLL Collm 77.08 352⇑ *i*P **P 10 32 27.2 -0.7**
comp=Z,16nm,0.9s,mb5.0
CLL *i* pP pP 10 32 33.8 -10
CLL Collm 77.08 352⇑ *i*P **P 10 32 27.2 -0.7**
CLL *i* 10 32 33.8
CLL pmax pmax
comp=Z,16nm,0.9s,mb5.0
LVV L'vov 77.15 345 *e*P **P 10 32 27.9 -0.4**
KSP Ksiaz 77.22 350 *e*P **P 10 32 28.4 -0.2**
BUG Bochum--Univer 77.33 356 *e*P **P 10 32 28.9 -0.4**
comp=Z,20nm,0.9s,mb5.0
OJC Ojcow 77.40 348 *e*P **P 10 32 29.5 -0.2**
BRG Berggiesshubel 77.43 351 *e*P **P 10 32 29.5 -0.3**
comp=Z,18nm,1.0s,mb5.0
BRG Berggiesshubel 77.43 351 *i*P **P 10 32 29.7 -0.1**
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.7
BRG Berggiesshubel 77.43 351 *i*P **P 10 32 29.7 -0.1**
comp=Z,10nm,1.0s,mb4.7
KWP Kalwaria 77.55 345 *e*P **P 10 32 31.0 +0.5**
UPC Upice 77.58 350 *e*P **P 10 32 30.7 0.0**
DPC Dobruska-Polom 77.70 350 *e*P **P 10 32 31.8 +0.5**
MOX Moxa 77.85 353 *e*P **P 10 32 32.0 -0.2**
comp=Z,18nm,0.9s,mb5.0
MOX Moxa 77.85 353 *e*P **P 10 32 32.0 -0.2**
MOX pmax pmax
comp=Z,20nm,1.0s,mb5.0
STHS Stebnicka Huta 77.98 346 *i*P **P 10 32 33.7 +0.8**
OKC Ostrava-Krasne 77.99 348 *e*P **P 10 32 32.5 -0.4**
MORC Moravsky Berou 78.12 349 ⇑P **P 10 32 33.8 +0.1**
NKC Novy Kostel 78.19 352 *e*P **P 10 32 34.4 +0.3**
MEM Membach 78.21 356 P **P 10 32 34.2 0.0**
comp=Z,17nm,0.9s,mb5.0
KIV Kislovodsk 78.22 330 *e*P **P 10 32 34.4 +0.2**
KIV pmax pmax
comp=Z,14nm,0.9s,mb4.9
KIV MLR MLR
comp=Z,248nm,17.0s,MS4.6
PRU Pruhonice 78.24 351 *e*P **P 10 32 33.5 -0.9**
SNF Seneffe 78.37 358 P **P 10 32 35.1 0.0**
comp=Z,9.8nm,1.0s,mb4.7
CRVS Cervenica-Dubn 78.45 346 *e*P **P 10 32 36.5 +1.0**
MANZ Manzenberg 78.47 352 *e*P **P 10 32 35.7 +0.1**
comp=Z,12nm,0.9s,mb4.8
TNS Taunus Mts 78.48 355 *e*P **P 10 32 35.8 +0.1**
comp=Z,23nm,0.8s,mb5.2
TNS Taunus Mts 78.48 355 *e*P **P 10 32 35.8 +0.1**
TNS pmax pmax
comp=Z,23nm,0.8s,mb5.2
LIKS Likavka 78.64 348 *e*P **P 10 32 37.3 +0.8**
ROTZ Rotzenmuhle 78.68 352 *e*P **P 10 32 36.6 -0.1**
comp=Z,11nm,0.9s,mb4.8

VRAC **Vranov** 78.70 349 LR LR 11 06 56.0
comp=Z,152nm,20.1s,MS4.3,baz=20,slow=35
VRAC **Vranov** 78.70 349 ⇓P P 10 32 37.5 +0.7
GIVF **Givet** 78.76 357⇑*i*P P 10 32 37.2 0.0
comp=Z,51nm,1.0s,mb5.1
GIVF **Givet** 78.76 357⇑*i*P P 10 32 37.2 0.0
comp=Z,26nm,1.0s,mb5.1
GIVF **Givet** 78.76 357⇑*i*P P 10 32 37.2 0.0
GIVF pmax pmax
comp=Z,26nm,1.0s,mb5.1
DOU **Dourbes** 78.77 357 ⇑P P 10 32 37.2 0.0
comp=Z,8.6nm,0.8s,mb4.7
BAIF **Baives** 78.82 358⇑*i*P P 10 32 37.8 +0.3
comp=Z,59nm,0.9s,mb5.2
BAIF **Baives** 78.82 358⇑*i*P P 10 32 37.8 +0.3
comp=Z,30nm,0.9s,mb5.2
BAIF **Baives** 78.82 358⇑*i*P P 10 32 37.8 +0.3
BAIF pmax pmax
comp=Z,29nm,0.9s,mb5.2
GRA1 **Grafenberg Arr** 78.83 353 *e*P P 10 32 38.1 +0.5
comp=Z,48nm,0.9s,mb5.4
GRF **Grafenberg Arr** 78.83 353 *e*P P 10 32 38.1 +0.5
comp=Z,48nm,0.9s,mb5.4
GRF **Grafenberg Arr** 78.83 353 *e*P P 10 32 38.1 +0.5
GRF pmax pmax
comp=Z,48nm,0.9s,mb5.4
GRF **Grafenberg Arr** 78.83 353 *e*P P 10 32 38.1 +0.5
GRF pmax pmax
comp=Z,48nm,0.9s,mb5.4
ZEI **Tsey** 78.91 329 *i*P P 10 32 36.6 -1.4
ZEI pmax pmax
comp=Z,19nm,1.0s,mb5.0
AJM **Ajmer** 78.95 299 *e*P P 10 32 38.4 +0.1
AJM AMb AMB 10 32 39.3
comp=Z,59nm,0.9s,mb5.5
KIS **Kishinev** 78.97 341 *e*P P 10 32 37.0 -1.4
TBI **Tubuai** 78.99 152 *e*LR LR 10 56 46.0
comp=Z,292nm,22.8s
KECS **Kecovo** 79.00 347 *e*P P 10 32 38.8 +0.3
BURAR **Bucovina Array** 79.08 343 ⇓P P 10 32 39.2 +0.3
BURAR **Bucovina Array** 79.08 343 ⇓P P 10 32 39.2 +0.3
WLF **Walferdange** 79.15 356 *e*P P 10 32 39.9 +0.6
comp=Z,34nm,1.1s,mb5.2
WLF **Walferdange** 79.15 356 ⇑P P 10 32 39.6 +0.3
comp=Z,13nm,1.0s,mb4.8
KHC **Kasperske Hory** 79.19 351 *e*P P 10 32 39.6 +0.1
KHC x x 10 33 16.0
VYHS **Vyhne** 79.22 348 *i*P P 10 32 39.9 +0.2
WET **Wettzell** 79.24 352 *e*P P 10 32 39.8 0.0
comp=Z,10.0nm,0.9s,mb4.8
WET **Wettzell** 79.24 352 *e*P P 10 32 39.8 0.0
WET pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SMOL **Smolenice** 79.38 349 *e*P P 10 32 41.2 +0.6
SOC **Sochi** 79.45 332 *e*P P 10 32 39.8 -1.2
SOC *e*S S 10 42 55.2 +17
SOC pmax pmax
comp=Z,13nm,0.8s,mb4.9
SOC MLR MLR
comp=Z,382nm,21.0s,MS4.7
GEC2 **GERESS Array S** 79.46 351 *e*P P 10 32 40.8 -0.2
comp=Z,11nm,0.7s,mb4.9
GEC2 **GERESS Array S** 79.46 351 *e*P P 10 32 40.8 -0.2
GEC2 pmax pmax
comp=Z,11nm,0.7s,mb4.9
GERES **GERESS Array B** 79.46 351 P P 10 32 40.9 -0.1
comp=Z,6.8nm,0.6s,mb4.8,baz=26,slow=5.4,SNR=45
PSZ **Piszkesteto** 79.64 347 *e*P P 10 32 43.0 +1.0
comp=Z,31nm,1.0s,mb5.2
PSZ **Piszkesteto** 79.64 347 *e*P P 10 32 43.0 +1.0
PSZ pmax pmax
comp=Z,31nm,1.0s,mb5.2
ZST **Bratislava** 79.73 349 *e*P P 10 32 43.4 +0.9
STU **Stuttgart** 79.89 354 *e*P P 10 32 43.6 +0.3
BHPL **Bhopal** 79.94 295 *e*P P 10 32 42.7 -0.9
BHPL AMb AMB 10 32 44.7
comp=Z,40nm,0.8s,mb5.4
DRGR 80.31 345 ⇑P P 10 32 45.5 -0.1
LDF **La Druitiere** 80.33 0⇑*i*P P 10 32 45.4 -0.3
comp=Z,63nm,0.8s,mb5.3
LDF **La Druitiere** 80.33 0⇑*i*P P 10 32 45.4 -0.3
comp=Z,32nm,0.8s,mb5.3
LDF **La Druitiere** 80.33 0⇑*i*P P 10 32 45.4 -0.3
LDF pmax pmax
comp=Z,32nm,0.8s,mb5.3
CDF **Champ du Feu** 80.35 356⇑*i*P P 10 32 45.7 -0.1
comp=Z,27nm,0.9s,mb4.9
CDF **Champ du Feu** 80.35 356⇑*i*P P 10 32 45.7 -0.1
comp=Z,13nm,0.9s,mb4.9
CDF **Champ du Feu** 80.35 356⇑*i*P P 10 32 45.7 -0.1
CDF pmax pmax
comp=Z,13nm,0.9s,mb4.9
MEZF **Maizieres J'vi** 80.35 357⇑*i*P P 10 32 46.1 +0.2
comp=Z,52nm,1.0s,mb5.1
MEZF **Maizieres J'vi** 80.35 357⇑*i*P P 10 32 46.1 +0.2
comp=Z,52nm,1.0s,mb5.4
BFO **Black Forest** 80.38 355 *e*P P 10 32 45.8 -0.2
comp=Z,12nm,1.1s,mb4.7
BFO **Black Forest** 80.38 355 *e*P P 10 32 45.8 -0.2
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.7
MOA **Molln** 80.39 351⇓*i*P P 10 32 46.0 -0.1
comp=Z,13nm,1.1s,mb4.8
VRI **Vrincioaia** 80.48 342 ⇓P P 10 32 47.3 +0.8
GRR **Gorron** 80.53 1⇑*i*P P 10 32 46.7 -0.1
comp=Z,57nm,0.8s,mb5.2
GRR **Gorron** 80.53 1⇑*i*P P 10 32 46.7 -0.1
comp=Z,28nm,0.8s,mb5.2
GRR **Gorron** 80.53 1⇑*i*P P 10 32 46.7 -0.1
GRR pmax pmax
comp=Z,28nm,0.8s,mb5.2
ROSF **Rostrenen** 80.54 3 *e*P P 10 32 46.8 0.0
comp=Z,77nm,1.2s,mb5.2
ROSF **Rostrenen** 80.54 3 *e*P P 10 32 46.8 0.0
comp=Z,38nm,1.3s,mb5.2
ROSF **Rostrenen** 80.54 3 *e*P P 10 32 46.8 0.0
ROSF pmax pmax
comp=Z,38nm,1.3s,mb5.2
VIS **Vishakhapatnam** 80.77 287 *e*P P 10 32 47.6 -0.5
HAU **Haudompre** 80.80 356 *e*P P 10 32 49.0 +0.8
comp=Z,46nm,1.0s,mb5.1
HAU **Haudompre** 80.80 356 *e*P P 10 32 49.0 +0.8
comp=Z,23nm,1.0s,mb5.1
HAU **Haudompre** 80.80 356 *e*P P 10 32 49.0 +0.8
HAU pmax pmax
comp=Z,23nm,1.0s,mb5.1
ARSA **Arzberg** 80.85 350⇑*i*P P 10 32 49.1 +0.6
comp=Z,20nm,1.1s,mb5.0,SNR=6.1
CFR **Carcaliu** 80.86 341 ⇓P P 10 32 49.2 +0.7
QUIF **Quistinic** 80.96 3 *e*P P 10 32 49.0 -0.1
HINF **Hinteralfeld** 80.97 356⇑*i*P P 10 32 48.7 -0.4
comp=Z,19nm,0.9s,mb4.7
HINF **Hinteralfeld** 80.97 356⇑*i*P P 10 32 48.7 -0.4
comp=Z,9.6nm,0.9s,mb4.7
HINF **Hinteralfeld** 80.97 356⇑*i*P P 10 32 48.7 -0.4
HINF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GNI **Garni** 80.98 327*ce*P P 10 32 49.6 +0.4
GNI pmax pmax
comp=Z,14nm,1.3s
MLR **Muntele Rosu** 80.99 342 ⇓P P 10 32 50.2 +0.9
WATA **Walderalm** 81.14 352⇑*i*P P 10 32 50.4 +0.4
comp=Z,21nm,1.0s,mb5.0
MOTA **Moosalm** 81.17 353⇑*i*P P 10 32 50.4 +0.1
comp=Z,22nm,1.2s,mb5.0,SNR=7.6
WTTA **Wattenberg** 81.21 352⇑*i*P P 10 32 50.9 +0.4
comp=Z,20nm,0.9s,mb5.1
KBA **Koelnbreinsper** 81.24 351⇑*i*P P 10 32 51.6 +1.0
comp=Z,70nm,1.0s,mb5.5,SNR=55
SQTA **Sankt Quirin** 81.29 353⇑*i*P P 10 32 51.2 +0.4
comp=Z,12nm,0.9s,mb4.8
DAVA **Damuels** 81.32 354⇑*i*P P 10 32 51.7 +0.7
HARR **Harsova** 81.36 341 ⇑P P 10 32 51.5 +0.3
PKSM **Moragy** 81.48 347 ⇑P P 10 32 50.8 -1.1
PERS **Pernice** 81.50 350 *i*P P 10 32 52.5 +0.5
LOR **Lormes** 81.62 358⇑*i*P P 10 32 52.6 0.0
comp=Z,34nm,0.9s,mb5.0
LOR **Lormes** 81.62 358⇑*i*P P 10 32 52.6 0.0
comp=Z,17nm,0.9s,mb5.0
LOR **Lormes** 81.62 358⇑*i*P P 10 32 52.6 0.0
LOR pmax pmax
comp=Z,17nm,0.9s,mb5.0
BZS **Buzias** 81.63 345 ⇓P P 10 32 52.7 +0.1
GROS **Grobnik** 81.63 350 *i*P P 10 32 52.9 +0.3
HYF **Humbligny** 81.64 359 *e*P P 10 32 53.1 +0.4
OBKA **Obir** 81.68 350⇑*i*P P 10 32 53.5 +0.6
comp=Z,24nm,1.0s,mb5.1,SNR=11
WRAB **Tennant Creek** 81.80 223 *i*P P 10 32 53.8 +0.3
DAVOX **Davos** 81.82 354 LR LR 11 10 45.4
comp=Z,99nm,19.1s,MS4.2,baz=69,slow=37
SSF **Saint Saulge** 81.84 358⇑*i*P P 10 32 53.7 0.0
comp=Z,42nm,1.1s,mb5.0
SSF **Saint Saulge** 81.84 358⇑*i*P P 10 32 53.7 0.0
comp=Z,21nm,1.1s,mb5.0
SSF **Saint Saulge** 81.84 358⇑*i*P P 10 32 53.7 0.0
SSF pmax pmax
comp=Z,21nm,1.1s,mb5.0
AVF **Avril sur Loir** 82.11 358⇑*i*P P 10 32 55.1 -0.1
comp=Z,39nm,1.0s,mb5.0
AVF **Avril sur Loir** 82.11 358⇑*i*P P 10 32 55.1 -0.1
comp=Z,20nm,1.0s,mb5.0
AVF **Avril sur Loir** 82.11 358⇑*i*P P 10 32 55.1 -0.1
AVF pmax pmax
comp=Z,20nm,1.0s,mb5.0
GCIS **Gornji Cirnik** 82.20 349 *e*P P 10 32 55.8 +0.2
CABF **La Chapelle** 82.20 356⇑*i*P P 10 32 56.0 +0.3
comp=Z,40nm,1.0s,mb5.0
CABF **La Chapelle** 82.20 356⇑*i*P P 10 32 56.0 +0.3
comp=Z,20nm,1.0s,mb5.0
CABF **La Chapelle** 82.20 356⇑*i*P P 10 32 56.0 +0.3
CABF pmax pmax
comp=Z,20nm,1.0s,mb5.0
SMF **Signal de Mont** 82.25 358⇑*i*P P 10 32 55.8 -0.1
comp=Z,72nm,1.0s,mb5.2
SMF **Signal de Mont** 82.25 358⇑*i*P P 10 32 55.8 -0.1
comp=Z,36nm,1.0s,mb5.3
SMF **Signal de Mont** 82.25 358⇑*i*P P 10 32 55.8 -0.1
SMF pmax pmax
comp=Z,36nm,1.0s,mb5.3
MFF **Saint Martin d** 82.33 1⇑*i*P P 10 32 56.4 +0.1
comp=Z,27nm,0.8s,mb4.9
MFF **Saint Martin d** 82.33 1⇑*i*P P 10 32 56.4 +0.1
comp=Z,13nm,0.8s,mb4.9
MFF **Saint Martin d** 82.33 1⇑*i*P P 10 32 56.4 +0.1
MFF pmax pmax
comp=Z,13nm,0.8s,mb4.9
BGF **Bois d'Agland** 82.35 358⇑*i*P P 10 32 56.4 0.0
comp=Z,47nm,1.1s,mb5.0
BGF **Bois d'Agland** 82.35 358⇑*i*P P 10 32 56.4 0.0
comp=Z,24nm,1.1s,mb5.0
BGF **Bois d'Agland** 82.35 358⇑*i*P P 10 32 56.4 0.0
BGF pmax pmax
comp=Z,24nm,1.1s,mb5.0
BOJS **Bojanci** 82.60 350 *e*P P 10 32 57.6 -0.1
PSI **Prapat** 82.63 265 P P 10 32 57.4 -0.5
comp=Z,17nm,0.7s,mb5.2,baz=35,slow=4.4,SNR=13
TCF **Toulx Ste Croi** 82.63 359⇑*i*P P 10 32 57.8 -0.1
comp=Z,26nm,0.9s,mb5.0
TCF **Toulx Ste Croi** 82.63 359⇑*i*P P 10 32 57.8 -0.1
comp=Z,13nm,0.9s,mb5.0
TCF **Toulx Ste Croi** 82.63 359⇑*i*P P 10 32 57.8 -0.1
TCF pmax pmax
comp=Z,13nm,0.9s,mb5.0
LPL **La Plagne** 83.27 356⇑*i*P P 10 33 02.2 +1.0
LPG **La Plagne** 83.29 356 *e*P P 10 33 02.5 +1.2
comp=Z,53nm,1.3s,mb5.1
LPG **La Plagne** 83.29 356 *e*P P 10 33 02.5 +1.2
comp=Z,27nm,1.3s,mb5.1
LPG **La Plagne** 83.29 356 *e*P P 10 33 02.5 +1.2
LPG pmax pmax
comp=Z,27nm,1.3s,mb5.1
RJF **Les Rejaudoux** 83.62 359 *e*P P 10 33 02.7 -0.3
comp=Z,58nm,1.2s,mb5.3
RJF **Les Rejaudoux** 83.62 359 *e*P P 10 33 02.7 -0.3
comp=Z,29nm,1.2s,mb5.3
RJF **Les Rejaudoux** 83.62 359 *e*P P 10 33 02.7 -0.3
RJF pmax pmax
comp=Z,29nm,1.2s,mb5.3
BNI **Bardonecchia** 83.73 356 *e*P P 10 33 04.6 +1.0
comp=Z,31nm,1.0s,mb5.4
BNI **Bardonecchia** 83.73 356 *e*P P 10 33 04.6 +1.0
BNI pmax pmax
comp=Z,31nm,1.0s,mb5.4
HYB **Hyderabad** 83.84 290⇑*i*P P 10 33 04.0 -0.1
HYB **Hyderabad** 83.84 290 *e*P P 10 33 04.0 -0.1
RKT **Rikitea** 83.86 140 *e*LR LR 10 59 05.2
comp=Z,235nm,28.8s
ORIF **Oris-en-Rattie** 83.90 356⇑*i*P P 10 33 05.2 +0.8
comp=Z,43nm,1.1s,mb5.2
ORIF **Oris-en-Rattie** 83.90 356⇑*i*P P 10 33 05.2 +0.8
comp=Z,21nm,1.1s,mb5.2
ORIF **Oris-en-Rattie** 83.90 356⇑*i*P P 10 33 05.2 +0.8
ORIF pmax pmax
comp=Z,21nm,1.1s,mb5.2
LFF **La Frestale** 83.99 360⇑*i*P P 10 33 05.1 +0.2
comp=Z,43nm,0.7s,mb5.4
LFF **La Frestale** 83.99 360⇑*i*P P 10 33 05.1 +0.2
comp=Z,21nm,0.7s,mb5.4
LFF **La Frestale** 83.99 360⇑*i*P P 10 33 05.1 +0.2
LFF pmax pmax
comp=Z,21nm,0.7s,mb5.4
CAF **Calviac** 84.00 359⇑*i*P P 10 33 05.3 +0.4
comp=Z,36nm,0.9s,mb5.2
CAF **Calviac** 84.00 359⇑*i*P P 10 33 05.3 +0.4
comp=Z,18nm,0.9s,mb5.2
CAF **Calviac** 84.00 359⇑*i*P P 10 33 05.3 +0.4
CAF pmax pmax
comp=Z,18nm,0.9s,mb5.2
VIVF **Saint-Julien-l** 84.01 357⇑*i*P P 10 33 05.4 +0.4
comp=Z,21nm,0.9s,mb5.0
VIVF **Saint-Julien-l** 84.01 357⇑*i*P P 10 33 05.4 +0.4
comp=Z,11nm,0.9s,mb5.0
VIVF **Saint-Julien-l** 84.01 357⇑*i*P P 10 33 05.4 +0.4
VIVF pmax pmax
comp=Z,11nm,0.9s,mb5.0
MBDF **Montbardon** 84.05 356⇑*i*P P 10 33 06.0 +0.8
comp=Z,30nm,0.8s,mb5.2
MBDF **Montbardon** 84.05 356⇑*i*P P 10 33 06.0 +0.8
comp=Z,15nm,0.8s,mb5.2
MBDF **Montbardon** 84.05 356⇑*i*P P 10 33 06.0 +0.8
MBDF pmax pmax
comp=Z,15nm,0.8s,mb5.2
FITZ **Fitzroy Crossi** 84.22 232 *e*P P 10 33 04.2 -1.8
comp=Z,27nm,0.7s,mb5.5
FITZ *e* 10 33 41.3
FITZ **Fitzroy Crossi** 84.22 232 P P 10 33 04.8 -1.2
comp=Z,22nm,0.9s,mb5.3,baz=26,slow=4.1,SNR=32
VTS **Vitosha** 84.30 343 ⇓P P 10 33 07.0 +0.6
MALT **Malatya** 84.68 331 ⇑P P 10 33 09.1 +0.7
MALT **Malatya** 84.68 331 ⇑P P 10 33 09.1 +0.7
MALT **Malatya** 84.68 331 P P 10 33 09.0 +0.6
MALT pmax pmax
comp=Z,19nm,1.0s,mb5.2
BR131 **Keskin Array S** 84.72 335 *e*P P 10 33 08.5 -0.1
comp=Z,11nm,0.9s,mb5.0
BR131 *e*pP pP 10 33 21.6 -3.2
BRTR **Keskin Array B** 84.72 335 P P 10 33 08.9 +0.3
comp=Z,11nm,0.8s,mb5.0,baz=46,slow=3.6,SNR=58
LASF **Ste Croix** 84.81 358⇑*i*P P 10 33 09.4 +0.4
comp=Z,31nm,1.1s,mb5.1
SMRF **Simiane la Rot** 84.86 356⇑*i*P P 10 33 10.2 +0.9
comp=Z,53nm,0.9s,mb5.4
SMRF **Simiane la Rot** 84.86 356⇑*i*P P 10 33 10.2 +0.9
comp=Z,53nm,0.9s,mb5.7
SBF **Sospel** 84.88 355⇑*i*P P 10 33 09.4 0.0
comp=Z,92nm,0.9s,mb5.6
SBF **Sospel** 84.88 355⇑*i*P P 10 33 09.4 0.0
comp=Z,46nm,0.9s,mb5.6
SBF **Sospel** 84.88 355⇑*i*P P 10 33 09.4 0.0
SBF pmax pmax
comp=Z,46nm,0.9s,mb5.6
FRF **La Foret Royal** 85.22 356 *e*P P 10 33 11.1 0.0
comp=Z,51nm,0.9s,mb5.3
FRF **La Foret Royal** 85.22 356 *e*P P 10 33 11.1 0.0
comp=Z,25nm,0.9s,mb5.3
FRF **La Foret Royal** 85.22 356 *e*P P 10 33 11.1 0.0
FRF pmax pmax
comp=Z,25nm,0.9s,mb5.3
LMR **La Mourre** 85.46 356⇑*i*P P 10 33 12.3 0.0
comp=Z,27nm,0.8s,mb5.2
LMR **La Mourre** 85.46 356⇑*i*P P 10 33 12.3 0.0
comp=Z,14nm,0.8s,mb5.1
LMR **La Mourre** 85.46 356⇑*i*P P 10 33 12.3 0.0
LMR pmax pmax
comp=Z,14nm,0.8s,mb5.1
MTLF **Montolieu** 85.58 359⇑*i*P P 10 33 12.9 0.0
comp=Z,18nm,0.8s,mb5.0
MTLF **Montolieu** 85.58 359⇑*i*P P 10 33 12.9 0.0
comp=Z,8.9nm,0.8s,mb5.0
MTLF **Montolieu** 85.58 359⇑*i*P P 10 33 12.9 0.0
MTLF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
ELAN **Lanestosa** 85.63 3 P P 10 33 12.6 -0.6
comp=Z,46nm,0.8s,mb5.8
POO **Poona** 85.69 294⇓*i*P P 10 33 13.0 -0.4
comp=Z,30nm,1.0s,mb5.5
EALK **Alkurruntz** 85.69 2 P P 10 33 13.5 +0.1
comp=Z,30nm,0.8s,mb5.6
SJPF **Ste Jean** 85.80 1 *e*P P 10 33 14.2 +0.2
comp=Z,20nm,0.7s,mb5.2
SJPF **Ste Jean** 85.80 1 *e*P P 10 33 14.2 +0.2
comp=Z,10nm,0.7s,mb5.2
SJPF **Ste Jean** 85.80 1 *e*P P 10 33 14.2 +0.2
SJPF pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
EPF **Esparros** 85.90 0 *e*P P 10 33 13.9 -0.5
comp=Z,26nm,1.0s,mb5.1
EPF **Esparros** 85.90 0 *e*P P 10 33 13.9 -0.5
comp=Z,13nm,1.0s,mb5.1
EPF **Esparros** 85.90 0 *e*P P 10 33 13.9 -0.5
EPF pmax pmax
comp=Z,13nm,1.0s,mb5.1
AQU **L'Aquila** 85.91 351 *e*P P 10 33 14.9 +0.4
comp=Z,32nm,0.8s,mb5.6
AQU **L'Aquila** 85.91 351 *e*P P 10 33 15.0 +0.5
AQU pmax pmax
comp=Z,32nm,0.8s,mb5.6
ETSF **Etsaut** 86.03 1⇑*i*P P 10 33 15.7 +0.6
comp=Z,30nm,0.7s,mb5.3
ETSF **Etsaut** 86.03 1⇑*i*P P 10 33 15.7 +0.6
comp=Z,15nm,0.7s,mb5.3
ETSF **Etsaut** 86.03 1⇑*i*P P 10 33 15.7 +0.6
ETSF pmax pmax
comp=Z,15nm,0.7s,mb5.3
PGF **Pioggiola** 86.10 354 *e*P P 10 33 15.4 0.0
comp=Z,113nm,0.9s,mb5.8
PGF **Pioggiola** 86.10 354 *e*P P 10 33 15.4 0.0
comp=Z,57nm,0.9s,mb5.8
PGF **Pioggiola** 86.10 354 *e*P P 10 33 15.4 0.0
PGF pmax pmax
comp=Z,57nm,0.9s,mb5.8
EBIE **Bielsa** 86.24 0 P P 10 33 17.3 +1.1
comp=Z,22nm,0.9s,mb5.4
KAD **Karad** 86.47 293 *i*P P 10 33 13.0 -4.2
EPOB **Poblet** 87.58 360 P P 10 33 21.7 -0.9
comp=Z,10nm,0.6s,mb5.2
GUD **Guadarrama** 88.19 4 P P 10 33 24.6 -0.9
comp=Z,8.1nm,0.8s,mb5.0
GUD **Guadarrama** 88.19 4 P P 10 33 24.6 -0.9
GUD pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
ESDC **Sonseca Array** 89.16 4 P P 10 33 29.4 -0.8
comp=Z,3.8nm,0.6s,mb4.9,baz=358,slow=4.4,SNR=14
ESDC **Sonseca Array** 89.16 4 P P 10 33 28.7 -1.4
comp=Z,6.6nm,0.6s,mb5.1
ECHE **Chera** 89.33 1 P P 10 33 30.2 -0.6
comp=Z,6.3nm,0.8s,mb5.0
ECHE **Chera** 89.33 1 P P 10 33 30.2 -0.7
ECHE pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
STKA **Stephens Creek** 89.79 212 P P 10 33 30.0 -3.0
comp=Z,11nm,0.8s,mb5.2,baz=349,slow=5.8,SNR=8.8
STKA **Stephens Creek** 89.79 212 *e*P P 10 33 29.4 -3.6
STKA *e*pP pP 10 33 45.5 -3.9
CPD **Cerro la Pandu** 89.83 61 *e*P P 10 33 34.1 +0.9
CPD **Cerro la Pandu** 89.83 61 P P 10 33 34.5 +1.2
ETOB **Tobarra** 90.26 2 P P 10 33 34.6 -0.6
comp=Z,48nm,1.6s,mb5.6
EADA **Adamuz** 90.64 4 P P 10 33 36.4 -0.6
comp=Z,24nm,0.8s,mb5.6
EMIN **Mina Concepcio** 90.93 6 P P 10 33 37.4 -0.9
comp=Z,30nm,1.2s,mb5.5
IDI **Anoyia** 91.03 340 LR LR 11 17 43.6
comp=Z,36nm,21.6s,MS3.8,baz=21,slow=38
EMIJ **Mijas** 92.23 4 P P 10 33 43.4 -1.0
comp=Z,18nm,1.0s,mb5.4
TORD **Torodi Ar. Bea** 115.67 359 PKP PKPdf 10 39 15.5 -1.1
comp=Z,1.0nm,0.9s,baz=4.6,slow=2.4,SNR=5.9
TORD PP PP 10 40 14.4 -5.3
comp=Z,1.1nm,1.0s,baz=2.0,slow=7.3,SNR=4.3
DBIC **Dimbokro** 121.92 6 PKP PKPdf 10 39 27.5 -1.1
comp=Z,2.2nm,0.4s,baz=306,slow=2.4,SNR=7.8
LIC **Lamto** 122.35 7 *e*P PKPdf 10 39 28.6 -0.8
comp=Z,22nm,1.0s
CFAA **Coronel Fontan** 126.83 96 PKP PKPdf 10 39 36.4 -1.6
comp=Z,0.5nm,0.8s,baz=281,slow=2.8,SNR=6.2
PLCA **Paso Flores** 131.34 107 PKP PKPdf 10 39 45.9 -0.7
comp=Z,6.8nm,0.9s,baz=294,slow=3.1,SNR=11
TSUM **Tsumeb** 145.15 331 PKPbc PKPbc 10 40 11.5 +0.1
comp=Z,19nm,0.9s,baz=24,slow=3.6,SNR=27
TSUM **Tsumeb** 145.15 331 *e*PKPdf PKPdf 10 40 11.7 -0.1
MAW **Mawson** 146.31 218 PKPbc PKPbc 10 40 12.4 -2.6
comp=Z,7.5nm,0.7s,baz=56,slow=4.1,SNR=7.4
LBTB **Lobatse** 147.41 315 PKPbc PKPbc 10 40 18.3 +0.1
comp=Z,34nm,0.7s,baz=43,slow=1.7,SNR=56
LBTB **Lobatse** 147.41 315 *e*PKPbc PKPbc 10 40 18.1 0.0
LBTB **Lobatse** 147.41 315 PKP2 PKPab 10 40 18.3 -1.9
LBTB pmax pmax
comp=Z,34nm,0.7s
BOSA **Boshof** 150.65 312 PKPbc PKPbc 10 40 26.3 0.0
comp=Z,14nm,0.7s,baz=8.4,slow=2.5,SNR=23
BOSA PKPab PKPab 10 40 31.9 -1.4
comp=Z,19nm,0.7s,baz=15,slow=4.6,SNR=18

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*IDC **29** 10:24:04.4±0.5,2273S×17521W,h0km,mb4.9/20, mb1 5.1/22,mb1mx5.0/24,mbtmp4.9/22,ML5.1/2,MS4.1/3, Ms1 4.1/3,ms1mx3.7/23,Error ellipse: s-maj=17.0km s-min=13.4km az=139.0*

*ISCJB **29** 10:24:06.6±0.2,2286S±005×175.15W±006,h22km, mb5.0/53,MS4.5/9,Error ellipse: s-maj=8.9km s-min=5.8km az=84.0*

*HRVD **29** 10:24:08.1±0.6,2316S×17467W,h15km±2km,MW5.0/53, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s53,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.28±.27; $M_{\theta\theta}$0.58±.18; $M_{\phi\phi}$1.70±.20; $M_{r\theta}$-0.53±.56; $M_{\theta\phi}$1.05±.14; $M_{\phi r}$3.92±.94; Best double couple: $M_0$4.54300×10^{16} NP1:ϕ_s48.00000°,δ20.00000°,λ-44.00000°. NP2: ϕ_s180.00000°,δ76.00000°,λ-105.00000°. Principal axes: T 4.2150, Plg30.0000°, Azm282.0000°; N 0.6600, Plg14.0000°, Azm183.0000°; P -4.8700, Plg56.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **29** 10:24:08.3±0.9,2280S×17528W,h33km,mb5.2/22 Error ellipse: s-maj=14.4km s-min=10.0km az=57.7*

*NEIC **29** 10:24:08.1±0.2,2275S×17523W,mb5.1/27,Error ellipse: s-maj=9.3km s-min=5.3km az=133.0*

*BJI **29** 10:24:09.4,2229S×17458W,h36km,mB5.6,mb5.1,Ms5.4, Msz5.1*

ISC 29 10:24:08.3±0.2,2285S±005×17509W±006,h24km, h24km±.7km:pP-P,n170,σ1§01/124,mb5.0/53,MS4.5/9, 11C-9D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RAO	**Raoul Island**	**6.86**	**201**	Pn		**Pn**	**10 25 47.7**	**+0.3**
164nm,0.3s,baz=62,slow=21,SNR=5.6								
RAO				Sn		**Sn**	**10 27 02.8**	**-2.0**
268nm,0.3s,baz=101,slow=22,SNR=5.6								
RAO	**Raoul Island**	**6.86**	**201**	P		**Pn**	**10 25 47.6**	**+0.2**
AFI	**Afiamalu**	**9.43**	**20**	Pn		**Pn**	**10 26 16.9**	**-5.8**
12nm,0.3s,baz=198,slow=4.1,SNR=19								
AFI				Sn		**Sn**	**10 27 57.6**	**-10**
16nm,0.3s,baz=229,slow=22,SNR=4.6								
AFI				T			10 36 12.2	
1.6nm,0.3s,baz=198,slow=23,SNR=3.9								
AFI	**Afiamalu**	**9.43**	**20**	*e*Pn		**Pn**	**10 26 17.1**	**-5.7**
153nm,0.9s								
AFI				*e*S		**Sn**	**10 27 54.9**	**-13**
RAR	**Rarotonga**	**14.30**	**86**	Pn		**Pn**	**10 27 20.7**	**-8.5**
7.2nm,0.3s,baz=272,slow=10,SNR=15								
RAR				Sn		Sn	10 29 43.6	-24
3.9nm,0.3s,baz=82,slow=18,SNR=4.6								
RAR				T			10 42 41.6	
6.2nm,0.3s,baz=230,slow=7.9,SNR=5.1								
RAR	**Rarotonga**	**14.30**	**86**	Pn		**Pn**	**10 27 20.7**	**-8.5**
RAR				Sn		Sn	10 29 43.6	-24
URZ	**Urewera**	**16.75**	**202**	Pn		**Pn**	**10 28 02.7**	**+1.3**
1.5nm,0.3s,baz=98,slow=4.9,SNR=8.4								
URZ				Sn		**Sn**	**10 30 51.1**	**-16**
2.0nm,0.3s,baz=228,slow=20,SNR=9.1								
NOU	**Noumea**	**17.06**	**268**	*e*P		**Pn**	**10 28 13.2**	**+8.0**
DZM	**Mont Dzumac**	**17.09**	**269**	Pn		**Pn**	**10 28 08.6**	**+3.0**
1.5nm,0.3s,baz=81,slow=15,SNR=27								
TBI	**Tubuai**	**23.57**	**96**	*e*LQ			10 33 29.8	

701nm,27.2s
TBI eLR LR 10 34 43.0
1μm,27.5s,baz=269
RPZ Rata Peaks 23.75 206 P **P 10 29 19.3 +0.4**
8.8nm,0.7s,mb4.3,baz=44,slow=7.3,SNR=6.5
RPZ S **S 10 33 24.7 -7.9**
7.2nm,0.8s,baz=114,slow=20,SNR=3.6
PAE Paea 24.47 82 eP **P 10 29 23.3 -2.1**
122nm,1.1s,mb5.2
PPT Papeete 24.50 82 eP **P 10 29 23.8 -1.9**
66nm,1.2s,mb4.9
PPT Papeete 24.50 82 eLQ 10 34 01.7
829nm,27.8s
PPT eLR LR 10 35 03.9
2μm,26.2s,baz=255
PPT Papeete 24.50 82 P **P 10 29 26.4 +0.7**
58nm,1.0s,mb5.0,baz=253,slow=4.4,SNR=4.0
PPT LR LR 10 35 44.9
comp=Z,826nm,20.6s,MS4.2,baz=266,slow=28
TVO Taravao 24.73 83 eP **P 10 29 26.1 -1.7**
198nm,1.2s,mb5.5
ARMA Armidale 30.61 249 eP **P 10 30 21.4 +0.9**
CTA Charters Tower 36.01 267 eP **P 10 31 07.3 -0.2**
13nm,0.6s,mb5.0
CTA Charters Tower 36.01 267 P **P 10 31 07.5 0.0**
19nm,0.7s,mb5.2,baz=105,slow=10,SNR=21
CTA LR LR 10 43 25.3
comp=Z,234nm,21.5s,MS3.9,baz=193,slow=32
CTA Charters Tower 36.01 267 eP **P 10 31 07.3 -0.2**
CTA pmax pmax
comp=Z,13nm,0.6s
RKT Rikitea 36.85 98 eLR LR 10 40 35.8
comp=Z,908nm,27.2s,baz=264
PMG Port Moresby 38.52 284 P **P 10 31 28.0 -0.8**
comp=Z,36nm,0.8s,mb5.2,baz=116,slow=4.6,SNR=12
PMG Port Moresby 38.52 284 eP **P 10 31 28.6 -0.2**
comp=Z,39nm,0.8s,mb5.2
PMG Port Moresby 38.52 284 P **P 10 31 28.2 -0.6**
PMG pmax pmax
comp=Z,39nm,0.9s
STKA Stephens Creek 39.29 247 eP **P 10 31 33.0 -2.3**
comp=Z,4.8nm,0.6s,mb4.4
STKA Stephens Creek 39.29 247 P **P 10 31 33.2 -2.1**
comp=Z,5.7nm,0.6s,mb4.5,baz=86,slow=9.7,SNR=13
STKA Stephens Creek 39.29 247 eP **P 10 31 32.6 -2.7**
ASAR Alice Springs 46.66 258 P **P 10 32 33.5 -1.4**
comp=Z,14nm,0.7s,mb5.0,baz=105,slow=7.0,SNR=144
WB2 Warramunga Arr 46.98 264 eP **P 10 32 35.7 -1.7**
WRAB Tennant Creek 46.98 264 P **P 10 32 36.9 -0.6**
comp=Z,155nm,0.9s,mb5.9,SNR=7.3
WRAB Tennant Creek 46.98 264 eP **P 10 32 36.3 -1.1**
comp=Z,32nm,0.8s,mb5.3
WRAB Tennant Creek 46.98 264 eP **P 10 32 36.3 -1.2**
WRAB pmax pmax
comp=Z,32nm,0.8s,mb5.3
WRA Warramunga Arr 46.99 264 P **P 10 32 36.2 -1.3**
comp=Z,12nm,0.8s,mb4.9,baz=90,slow=5.8,SNR=90
FORT Forrest 50.90 248 eP **P 10 33 04.4 -3.0**
comp=Z,19nm,0.6s,mb5.2
GUMO Guam 53.38 309 LR LR 10 53 29.6
comp=Z,173nm,19.2s,MS4.1,baz=89,slow=33
FITZ Fitzroy Crossi 55.42 263 P **P 10 33 41.6 +0.8**
comp=Z,12nm,0.9s,mb4.9,baz=102,slow=2.5,SNR=6.1
SBA Scott Base 55.73 185 eP **P 10 33 45.1 +2.1**
comp=Z,16nm,0.9s,mb5.1
SBA Scott Base 55.73 185 eP **P 10 33 45.1 +2.1**
SBA pmax pmax
comp=Z,16nm,0.9s,mb5.0
VNDA Vanda 55.84 186 P **P 10 33 45.4 +1.6**
comp=Z,7.0nm,0.9s,mb4.7,baz=2.9,slow=7.3,SNR=26
VNDA Vanda 55.84 186 eP **P 10 33 45.0 +1.2**
comp=Z,7.1nm,1.0s,mb4.7
VNDA Vanda 55.84 186 eP **P 10 33 45.0 +1.2**
VNDA pmax pmax
comp=Z,7.0nm,1.0s
KLBR Kellerberrin 59.54 246 eP **P 10 34 09.5 -0.3**
comp=Z,32nm,1.2s,mb5.2
MUN Mundaring 60.77 245 eP **P 10 34 18.6 +0.4**
CASY Casey 63.02 206 eP **P 10 34 33.8 +0.5**
CASY Casey 63.02 206 eP **P 10 34 33.3 -0.1**
comp=Z,15nm,0.8s,mb5.2
QSPA South Pole Qui 67.23 180 eP **P 10 35 01.2 +0.6**
comp=Z,24nm,1.0s,mb5.2
MJAR Matsushiro Arr 73.71 322 P **P 10 35 38.4 -1.8**
comp=Z,3.9nm,0.7s,mb4.4,baz=158,slow=5.8,SNR=9.1
CMB Columbia Colle 79.40 41 eP **P 10 36 12.9 +0.5**
comp=Z,10nm,1.0s,mb4.7
CMB Columbia Colle 79.40 41 eP **P 10 36 12.9 +0.5**
CMB pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MTUM Tungsten Hills 80.09 42 eP **P 10 36 16.4 +0.2**
MAW Mawson 80.26 199 P **P 10 36 18.2 +1.1**
comp=Z,17nm,0.7s,mb5.1,baz=111,slow=6.7,SNR=12
NVAR Mina Array Bea 80.92 42 P **P 10 36 21.3 +0.7**
comp=Z,8.2nm,0.8s,mb4.7,baz=212,slow=6.7,SNR=33
SSE Sheshan 81.26 309 P **P 10 36 23.0 +0.5**
SSE AMB AMB
comp=Z,18nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,165nm,4.1s
TPNV Topopah Spring 81.30 44 eP **P 10 36 23.5 +0.9**
comp=Z,5.9nm,1.0s,mb4.5
TPNV Topopah Spring 81.30 44 eP **P 10 36 23.5 +0.8**
TPNV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
NEN Nelson 81.44 46 eP **P 10 36 23.5 +0.1**
WVOR Wild Horse Val 83.24 38 eP **P 10 36 33.1 +0.3**
comp=Z,22nm,1.2s,mb5.1
WVOR Wild Horse Val 83.24 38 eP **P 10 36 33.1 +0.3**
WVOR pmax pmax
comp=Z,23nm,1.2s,mb5.1
NJ2 Nanjing 83.45 309 eP **P 10 36 34.5 +0.6**
NJ2 PP PP 10 39 48.0 +1.9
NJ2 S S 10 46 53.0 -0.9
NJ2 AMB AMB
comp=Z,140nm,5.2s
NJ2 LR LR
comp=N,310nm,13.8s,MS4.9
NJ2 LR LR
comp=E,320nm,17.6s,MS4.9
NJ2 LR LR
comp=Z,2μm,23.9s
ARUT Antelope Range 83.60 45 eP **P 10 36 35.6 +0.9**
ARUT epP pP 10 36 41.9 -0.5
MDJ Mudanjiang 84.00 324 P **P 10 36 37.3 +0.6**
MDJ AP pP 10 36 43.8 -0.6
MDJ PP PP 10 39 50.5 0.0
MDJ S 10 47 01.0
MDJ XS sS 10 47 12.5 +0.3
MDJ SS SS 10 52 30.3 +2.6
MDJ AMB AMB
comp=Z,17nm,1.9s,mb4.8
MDJ AMB AMB
comp=Z,301nm,5.3s
MDJ LR LR
comp=N,221nm,23.7s,MS4.5
MDJ LR LR
comp=E,48nm,20.9s,MS4.5
MDJ LR LR
comp=Z,131nm,20.9s,MS4.3
MSU Marysvale 84.83 45 eP **P 10 36 42.2 +1.2**
MSU esP sP 10 36 53.3 +1.9
SYO Syowa Base 85.02 192⇓ eP **P 10 36 40.9 -0.9**
SYO Syowa Base 85.02 192⇓ epP pP 10 36 50.3 +0.7
SLKM Skilak Lake 85.50 12 eP **P 10 36 43.4 -0.9**
SNAA Sanae 85.58 178 P **P 10 36 44.1 -0.5**
comp=Z,7.7nm,1.0s,mb4.9,baz=195,slow=3.8,SNR=12
SNAA Sanae 85.58 178⇑ iP **P 10 36 44.2 -0.4**
SNAA e 10 36 47.3
SNAA e pP 10 36 51.6 -0.8
SNAA Sanae 85.58 178 eP **P 10 36 44.1 -0.6**
comp=Z,24nm,1.1s,mb5.3
SNAA Sanae 85.58 178 eP **P 10 36 44.1 -0.5**
SNAA pmax pmax
comp=Z,24nm,1.1s
VNA3 Neumayer Olymp 85.61 175⇑ iP **P 10 36 44.3 -0.5**
VNA3 e 10 36 48.0
VNA3 e pP 10 36 51.5 -1.0
VNA3 e 10 36 53.8
PLCA Paso Flores 85.70 132 P **P 10 36 45.2 0.0**
comp=Z,7.0nm,1.1s,mb4.8,baz=226,slow=4.6,SNR=6.3
PLCA Paso Flores 85.70 132 eP **P 10 36 44.8 -0.4**
comp=Z,8.6nm,1.1s,mb4.9
PLCA Paso Flores 85.70 132 eP **P 10 36 44.8 -0.4**
PLCA pmax pmax
comp=Z,9.0nm,1.1s

CN2 Changchun 85.81 321 eP **P 10 36 46.5 +0.7**
CN2 eXP sP 10 36 57.5 +1.2
CN2 eS 10 47 16.5
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
LAZ Ladron 86.03 50 eP **P 10 36 48.0 +1.1**
LTX Lajitas 86.08 56 eP **P 10 36 47.5 +0.4**
comp=Z,11nm,1.1s,mb5.0
LTX Lajitas 86.08 56 eP **P 10 36 47.6 +0.5**
LTX pmax pmax
comp=Z,11nm,1.1s,mb5.0
VNA2 Neumayer--Watz 86.08 176⇑ iP **P 10 36 47.0 -0.1**
baz=186,slow=2.4
VNA2 e 10 36 49.3
VNA2 e pP 10 36 55.3 +0.4
SRU San Rafael 86.24 45 eP **P 10 36 48.6 +0.7**
comp=Z,22nm,1.4s,mb5.2
SRU San Rafael 86.24 45 eP **P 10 36 48.6 +0.7**
SRU pmax pmax
comp=Z,22nm,1.4s,mb5.2
BNM Barren Site 86.27 51 eP **P 10 36 48.4 +0.3**
VNA1 Neumayer--Stat 86.29 176⇓ iP **P 10 36 48.7 +0.5**
VNA1 e 10 36 51.0
VNA1 e pP 10 36 55.3 -0.6
LPM Los Pinos Moun 86.35 50 eP **P 10 36 49.3 +0.9**
EYAK Cordova Ski Ar 86.46 14 eP **P 10 36 48.7 -0.4**
EYAK esP sP 10 36 58.2 -1.3
PMR Palmer 86.70 12 eP **P 10 36 49.7 -0.5**
comp=Z,12nm,1.1s,mb5.0
PMR Palmer 86.70 12 eP **P 10 36 49.7 -0.5**
PMR pmax pmax
comp=Z,12nm,1.1s,mb5.0
MA2 Magadan 86.78 343⇓ eP **P 10 36 48.5 -2.1**
MA2 pmax pmax
comp=Z,21nm,2.9s,mb4.9
ANMO Albuquerque 86.80 50 eP **P 10 36 50.7 +0.1**
comp=Z,17nm,1.3s,mb5.1
ANMO epP pP 10 36 58.0 -0.4
ANMO esP sP 10 37 04.6 +3.4
ANMO Albuquerque 86.80 50 eP **P 10 36 50.7 +0.1**
ANMO e*PP pP 10 36 58.0 -0.4
ANMO e*SP sP 10 37 04.6 +3.4
ANMO pmax pmax
comp=Z,17nm,1.3s
TTA Tatalina 86.82 9 eP **P 10 36 50.3 -0.5**
comp=Z,45nm,1.5s,mb5.5
TTA Tatalina 86.82 9 eP **P 10 36 50.3 -0.5**
TTA pmax pmax
comp=Z,45nm,1.5s,mb5.5
GDL2 Guadalupe Moun 86.94 53 eP **P 10 36 51.7 +0.3**
HWUT Hardware Ranch 86.97 42 eP **P 10 36 51.1 -0.4**
comp=Z,2.1nm,0.7s,mb4.5
DIV Divide 86.98 14 eP **P 10 36 50.5 -1.1**
comp=Z,77nm,1.4s,mb5.7
PV01 Paradox Valley 87.00 46 eP **P 10 36 52.0 +0.4**
SML Sawmill 87.06 12 eP **P 10 36 52.2 +0.3**
PSI Prapat 87.38 274 P **P 10 36 53.0 -0.5**
comp=Z,7.2nm,0.8s,mb4.9,baz=168,slow=7.0,SNR=8.4
CPRX Cap Rock 87.71 53 eP **P 10 36 55.0 -0.1**
NEW Newport 87.73 35 eP **P 10 36 54.8 -0.4**
MCK McKinley 88.70 11 eP **P 10 36 58.9 -0.9**
comp=Z,6.9nm,0.9s,mb5.0
MCK McKinley 88.70 11 eP **P 10 36 58.9 -0.9**
MCK pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
PDAR Pinedale Array 88.85 42 P **P 10 37 00.6 +0.1**
comp=Z,2.1nm,0.8s,mb4.5,baz=211,slow=2.7,SNR=14
CHMT Chamberlain Mo 89.01 37 eP **P 10 37 00.9 -0.3**
DLBC Dease Lake 89.18 22 P **P 10 37 03.0 +0.9**
comp=Z,5.8nm,1.1s,mb4.8,baz=210,slow=7.1,SNR=8.3
ENH Enshi 89.59 303 eP **P 10 37 05.8 +1.9**
comp=Z,54nm,1.8s,mb5.6
WALA Waterton Lakes 89.90 35 eP **P 10 37 05.4 0.0**
comp=Z,15nm,1.3s,mb5.2
COLA College 89.94 11 eP **P 10 37 05.1 -0.5**
comp=Z,14nm,0.8s,mb5.3
COLA College 89.94 11 eP **P 10 37 05.1 -0.5**
COLA pmax pmax
comp=Z,14nm,0.8s,mb5.3
ILAR Eielson Array 90.03 12 P **P 10 37 05.5 -0.5**
comp=Z,5.8nm,1.1s,mb4.8,baz=222,slow=4.5,SNR=19
GYA Guiyang 90.15 299 P **P 10 37 09.5 +2.9**
GYA AP pP 10 37 16.0 +1.7
GYA XP sP 10 37 18.8 +1.7
GYA PP PP 10 40 46.3 +6.2
GYA SKS 10 47 38.0
GYA S 10 48 01.0
GYA PS PS 10 49 12.3 +4.5
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,110nm,4.9s
GYA LR LR
comp=N,540nm,19.4s,MS5.1
GYA LR LR
comp=E,530nm,20.6s,MS5.1
GYA LR LR
comp=Z,480nm,20.4s,MS4.9
DAWY Dawson 91.00 15 eP **P 10 37 10.4 -0.1**
BILL Bilibino 91.66 353 eP **P 10 37 13.1 -0.5**
XAN Xi'an 91.70 306 P **P 10 37 13.8 0.0**
XAN AMB AMB
comp=Z,13nm,1.3s,mb5.1
XAN AMB AMB
comp=Z,194nm,9.5s
XAN LR LR
comp=N,205nm,22.8s,MS4.6
XAN LR LR
comp=E,195nm,26.6s,MS4.6
XAN LR LR
comp=Z,192nm,24.8s,MS4.5
EDM Edmonton 92.63 32 eP **P 10 37 17.7 -0.4**
KMI Kunming 92.81 296 P **P 10 37 20.8 +1.9**
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,164nm,6.5s
KMI LR LR
comp=Z,161nm,27.8s,MS4.3
HHC Hu-ho-hao-te 92.93 313 eP **P 10 37 20.0 +0.6**
HHC AP pP 10 37 28.3 +1.1
HHC XP sP 10 37 31.5 +1.5
HHC PP PP 10 41 05.3 +3.3
HHC SKS 10 47 50.5
HHC S 10 48 21.5
HHC SS SS 10 54 38.5 +0.8
HHC AMB AMB
comp=Z,12nm,0.3s,mb5.8
HHC AMB AMB
comp=Z,133nm,4.2s
HHC LR LR
comp=N,152nm,4.7s
HHC LR LR
comp=E,144nm,3.8s
HHC LR LR
comp=Z,206nm,5.5s
DGMT Dagmar 95.01 39 eP **P 10 37 29.1 +0.1**
comp=Z,16nm,0.9s,mb5.5
YAK Yakutsk 95.31 337⇓ eP **P 10 37 28.9 -1.5**
YAK pmax pmax
comp=Z,10.0nm,0.6s,mb5.4
INK Inuvik 95.85 14 P **P 10 37 32.5 -0.4**
comp=Z,2.7nm,1.0s,mb4.6,baz=253,slow=4.6,SNR=5.8
INK Inuvik 95.85 14 eP **P 10 37 31.8 -1.1**
comp=Z,4.9nm,1.4s,mb4.7
INK epP pP 10 37 39.2 -1.4
INK Inuvik 95.85 14 eP **P 10 37 31.8 -1.0**
INK e*PP pP 10 37 39.2 -1.4
INK pmax pmax
comp=Z,5.0nm,1.4s
LZH Lanzhou 96.34 306 eP **P 10 37 36.5 +1.4**
LZH AP pP 10 37 43.5 +0.7
LZH PP PP 10 41 32.5 +3.9
LZH SKS 10 48 10.8
LZH eS 10 48 52.5
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,79nm,7.8s
LZH LR LR
comp=N,319nm,16.5s
LZH LR LR
comp=Z,493nm,18.4s,MS5.0

YKA Yellowknife Ar 97.53 24 P **P 10 37 39.9 -0.5**
comp=Z,1.6nm,0.8s,mb4.6,baz=236,slow=4.5,SNR=29
YKA Yellowknife Ar 97.53 24 P **P 10 37 39.9 -0.5**
comp=Z,0.8nm,0.6s,baz=59,slow=0.7,SNR=6.6
KURK Kurchatov 117.55 317⇓ iPKIKP PKPdf 10 42 50.7 -1.5
CHKZ Chkalovo 122.42 320 ePKPdf PKPdf 10 42 59.5 -2.1
ZRNK Zerenda 123.45 319 ePKPdf PKPdf 10 43 02.1 -1.4
ARU Arti 128.67 325 i PKIKP PKPdf 10 43 12.5 -1.0
ARU e 10 45 18.0
ARU e 10 50 16.0
ARU ePS PS 10 55 22.8 -4.6
ARU eSS SS 11 02 32.2 -3.1
ARCES ARCESS Array B 131.70 350 PKhKP 10 43 15.4
comp=Z,2.4nm,0.8s,baz=51,slow=2.3,SNR=4.5
MOS Moscow 139.24 332 ePKIKP PKPdf 10 43 37.0 +3.7
OBN Obninsk 140.10 332 i PKIKP PKPdf 10 43 33.4 -1.4
OBN pmax pmax
comp=Z,5.0nm,0.9s
GNI Garni 142.28 307 i PKIKP PKPdf 10 43 39.5 +0.7
KIV Kislovodsk 142.53 313 i PKIKP PKPdf 10 43 39.8 +0.6
KIV e 10 46 44.4
KIV eSS SS 11 05 18.2 -3.1
KIV pmax pmax
comp=Z,4.0nm,0.5s
SOC Sochi 144.65 314 i P Pdif 10 41 04.1 -5.9
SOC i 10 43 41.4
ANN Anapa 145.58 317 i PKP2 PKPab 10 43 41.8 -3.2
ANN pmax pmax
comp=Z,51nm,1.3s
SUW Suwalki 145.97 341 ePKP PKPdf 10 43 46.4 +1.2
AKASG Malin Array Be 146.36 332 PKPbc PKPbc 10 43 45.9 -1.3
comp=Z,8.9nm,0.7s,baz=38,slow=4.1,SNR=21
AKASG Malin Array Be 146.36 332 i PKP2 PKPab 10 43 46.5 -1.5
AKASG pmax pmax
comp=Z,9.0nm,0.7s
MALT Malatya 147.50 306⇑ P PKPdf 10 43 51.5 +3.7
SIM Simferopol' 147.53 320⇑ i PKP2 PKPab 10 43 51.4 -1.1
SIM pmax pmax
comp=Z,18nm,0.9s
OJC Ojcow 150.30 341 ePKP PKPbc 10 43 57.5 0.0
BR131 Keskin Array S 150.42 311 ePKPbc PKPbc 10 43 57.9 +0.2
BRTR Keskin Array B 150.42 311 PKPbc PKPbc 10 43 58.2 +0.5
comp=Z,4.8nm,0.8s,baz=133,slow=3.4,SNR=18
BRTR Keskin Array B 150.42 311 i PKIKP PKPbc 10 43 58.2 +0.4
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BURAR Bucovina Array 150.42 332⇓ P PKPbc 10 43 59.2 +1.4
STHS Stebnicka Huta 150.52 338 ePKP PKPbc 10 43 58.1 +0.1
KSP Ksiaz 150.69 345 ePKP PKPbc 10 43 59.3 +0.9
KSP Ksiaz 150.69 345 ePKIKP PKPbc 10 43 58.2 -0.2
CLZ Clausthal 150.75 353 ePKPab PKPbc 10 43 59.0 +0.4
NIE Niedzica 150.83 339 ePKP PKPbc 10 43 59.6 +0.8
CLL Collm 150.91 350⇑ i PKPbc PKPbc 10 43 59.1 +0.2
comp=Z,22nm,1.0s
CLL ePKPab PKPab 10 44 05.9 -0.4
comp=Z,10.0nm,0.8s
CLL e 10 44 12.7
CLL Collm 150.91 350⇑ i PKPbc PKPbc 10 43 59.1 +0.2
comp=Z,22nm,1.0s
CLL i PKPab PKPab 10 44 05.9 -0.4
comp=Z,18nm,1.2s
CLL i pPKPab pPKPab 10 44 12.7 -1.4
CLL Collm 150.91 350⇑ i PKIKP PKPbc 10 43 59.1 +0.2
CLL i 10 44 05.9
CLL pmax pmax
comp=Z,22nm,1.0s
UPC Upice 151.06 345 ePKPbc PKPbc 10 44 00.1 +0.8
DPC Dobruska-Polom 151.14 345 ePKPbc PKPbc 10 43 59.9 +0.4
BRG Berggiesshubel 151.16 348 ePKPab PKPbc 10 43 59.9 +0.4
BRG Berggiesshubel 151.16 348 i PKP PKPbc 10 44 00.0 +0.5
comp=Z,8.4nm,0.9s
MORC Moravsky Berou 151.35 343⇓ P PKPbc 10 44 00.8 +0.8
KECS Kecovo 151.58 338 ePKP PKPbc 10 44 01.2 +0.7
KECS e 10 44 09.6
MLR Muntele Rosu 151.65 328⇓ P PKPbc 10 44 01.1 +0.4
PRU Pruhonice 151.88 347 ePKPbc PKPbc 10 44 01.5 +0.3
VYHS Vyhne 152.12 340 ePKP PKPbc 10 44 02.1 +0.4
KHC Kasperske Hory 152.89 347 ePKPdf PKPdf 10 43 54.5 -1.7
KHC ePKPab PKPab 10 44 12.5 -2.1
GERES GERESS Array B 153.14 347 PKPbc PKPbc 10 44 02.4 -1.6
comp=Z,1.3nm,0.8s,baz=41,slow=4.3,SNR=6.2
BZS Buzias 153.53 333⇑ P PKPbc 10 44 05.4 +0.6
PKSM Moragy 154.17 338⇑ P PKPbc 10 44 06.4 +0.2
DBIC Dimbokro 161.36 148 PKPab PKPab 10 44 50.3 -0.8
comp=Z,3.7nm,0.8s,baz=157,slow=5.5,SNR=4.7
ESDC Sonseca Array 161.61 22 PKPab PKPab 10 44 50.9 -1.3
comp=Z,0.3nm,0.3s,baz=333,slow=6.3,SNR=4.5
TORD Torodi Ar. Bea 169.88 162 PKP PKPdf 10 44 13.5 -0.4
comp=Z,1.3nm,0.8s,baz=171,slow=0.6,SNR=6.4
TORD PKPab PKPab 10 45 29.2 +0.6
comp=Z,2.9nm,0.7s,baz=183,slow=3.3,SNR=12

NIED ***29*** *10:28:00, 37.20N×141.60E, 77km, Mw4.6 Best double couple: M0=9.22000×10^15 NP1:φs=190.00000°, δ=67.00000°, λ=-102.00000°. NP2:φs=38.00000°, δ=26.00000°, λ=-64.00000°.*

BJI ***29*** *10:28:37.5, 37.27N×141.52E, 76km, mB5.0, mb4.9, Ms4.6, Msz4.2*

SZGRF ***29*** *10:28:38.2, 37.81N×141.62E, 33km, mb4.6, Near east coast of eastern Honshu, Japan*

ISCJB ***29*** *10:28:39.7±0.3, 37.22N±003×141.41E±.003, 86km±2km, mb4.7/90, Error ellipse: s-maj=5.1km s-min=4.2km az=102.5*

JMA ***29*** *10:28:39.4±0.1, 37.20N×141.55E, 76km±2km, M4.8 Broadband fault plane solution: P waves. NP1: φs=30.00000°, δ=27.00000°, λ=-68.00000°. NP2:φs=186.00000°, δ=65.00000°, λ=-100.00000°. Principal axes: T Plg=20.0000°, Azm=284.0000°; N Plg=10.0000°, Azm=191.0000°; P Plg=68.0000°, Azm=76.0000°;*

JMA Felt III J1.

NEIC ***29*** *10:28:40.5±0.2, 37.19N×141.47E, mb4.7/43, MW4.6(NIED) Error ellipse: s-maj=5.4km s-min=3.5km az=157.0*

NEIC Recorded [3 JMA] in Fukushima and Miyagi; [2 JMA] in Ibaraki and Tochigi; [1 JMA] in Gumma, Iwate, Saitama and Yamagata Prefectures.

MOS ***29*** *10:28:40.8±0.8, 37.19N×141.34E, h99km, mb4.8/38, Error ellipse: s-maj=8.6km s-min=6.0km az=108.6*

IDC ***29*** *10:28:40.5±0.4, 37.16N×141.44E, h80km±3km, mb4.3/24, mb1 4.5/26, mb1mx4.5/28, mbtmp4.6/26, Error ellipse: s-maj=12.0km s-min=8.6km az=104.0*

ISC 29 10:28:40.6±0.4, 37.25N±003×141.45E±.004, h78km±2km, h80km±1.2km:pP-P, n204, σ0.97/212, mb4.7/90, 10C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**284**	⇓P	**Pn**	**10 28 53.3**	**-0.6**
JFK				S	**Sn**	**10 29 03.2**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.54**	**254**	⇓P	**Pn**	**10 28 53.8**	**-0.7**
ONAJ				S	**Sn**	**10 29 04.3**	**-0.5**
JMM	**Marumori**	**0.81**	**320**	⇓P	**Pn**	**10 28 57.1**	**-0.1**
JMM				S	**Sn**	**10 29 10.1**	**+0.5**
JFT	**Otama**	**0.92**	**287**	⇑P	**Pn**	**10 28 59.2**	**+0.6**
JFT				S	**Sn**	**10 29 13.5**	**+1.5**
JHO	**Hitachi**	**0.95**	**228**	⇓P	**Pn**	**10 28 57.7**	**-1.2**
JHO				S	**Sn**	**10 29 10.8**	**-1.8**
JIO	**Ouri**	**1.20**	**356**	⇓P	**Pn**	**10 29 01.5**	**-0.5**
JIO				S	**Sn**	**10 29 17.6**	**-0.5**
JOU	**Okura**	**1.27**	**331**	⇑P	**Pn**	**10 29 02.8**	**-0.1**
JFY	**Yanaizu**	**1.40**	**277**	⇑P	**Pn**	**10 29 04.8**	**+0.3**
JFY				S	**Sn**	**10 29 23.6**	**+1.1**
JYS	**Shiratake**	**1.46**	**312**	⇑P	**Pn**	**10 29 05.8**	**+0.5**
JYS				S	**Sn**	**10 29 26.1**	**+2.1**
JMK	**Ichinoseki**	**1.71**	**354**	⇑P	**Pn**	**10 29 08.2**	**-0.3**
JMK				S	**Sn**	**10 29 29.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.69**	**256**	P	**Pn**	**10 29 22.3**	**+0.6**
	120nm,0.3s,baz=72,slow=1.2,SNR=1681						
MJAR				S	**Sn**	**10 29 45.8**	**-7.4**
	101nm,0.3s,baz=76,slow=18,SNR=5.5						
MAJO	**Matsushiro**	**2.69**	**256**	ePn	**Pn**	**10 29 22.6**	**+0.9**
MAT	**Matsushiro**	**2.69**	**256**	P	**Pn**	**10 29 22.8**	**+1.1**
MAT				S	**Sn**	**10 29 55.4**	**+2.1**
MAT	**Matsushiro**	**2.69**	**256**	eP	**Pn**	**10 29 23.0**	**+1.3**
MAT				eS	**Sn**	**10 29 55.0**	**+1.7**
JHJ	**Hachijo jima 2**	**4.34**	**199**	P	**Pn**	**10 29 45.4**	**+1.3**
	56nm,0.3s,baz=212,slow=0.8,SNR=14						
JHJ				S	**Sn**	**10 30 28.6**	**-4.9**

295nm,0.3s,baz=103,slow=24,SNR=10.0
ASAJ Asahikawa 6.91 7 P **Pn 10 30 17.3 -1.9**
13nm,0.3s,baz=225,slow=9.2,SNR=83
ASAJ S **Sn 10 31 33.2 -3.1**
5.4nm,0.3s,baz=99,slow=27,SNR=4.1
ASAJ Asahikawa 6.91 7 P **Pn 10 30 17.3 -1.9**
ASAJ S **Sn 10 31 33.3 -3.0**
ASAJ pmax pmax
comp=Z,13nm,0.3s
ASAJ smax
comp=N,5.0nm,0.3s
KUR Kuril'sk 9.32 29 *e*P Px 10 31 08.8
VLA Vladivostok 9.37 312 *e*P **Pn 10 30 52.9 +0.2**
VLA *e* 10 32 42.2
VLA pmax pmax
comp=Z,69nm,0.7s
VLA MLR MLR
comp=Z,2μm,22.3s
VLA MLR MLR
comp=Z,700nm,16.1s
VLA MLR MLR
comp=Z,2μm,12.3s
JNU Nakatsue 9.58 248 P **Pn 10 30 56.5 +0.9**
comp=Z,1.1nm,0.3s,baz=58,slow=16,SNR=8.6
CBIJ Chichi jima 10.14 176 S **Sn 10 32 44.5 -11**
comp=Z,49nm,0.3s,baz=274,slow=21,SNR=3.7
KS15 Wonju Array Si 10.80 275 *e*Pn **Pn 10 31 14.3 +2.1**
MDJ Mudanjiang 11.59 313 P **Pn 10 31 24.3 +1.3**
MDJ S **Sn 10 33 34.5 +4.0**
MDJ AMB AMB
comp=Z,11nm,1.0s
MDJ AMB AMB
comp=Z,132nm,5.2s
MDJ LR LR
comp=N,380nm,4.8s
MDJ LR LR
comp=E,317nm,5.3s
MDJ LR LR
comp=Z,688nm,5.5s
MDJ Mudanjiang 11.59 313 *e*Pn **Pn 10 31 26.8 +3.8**
comp=Z,24nm,0.4s
INCN Inchon 11.79 276 Pn **Pn 10 31 25.6 -0.2**
HABR Khabarovsk 12.15 339 *e*P **Pn 10 31 26.8 -3.8**
HABR *e*S **Sn 10 33 43.7 -0.5**
CN2 Changchun 13.81 303 *e*P **Pn 10 31 51.5 -1.2**
CN2 *e*AP 10 32 02.5
CN2 *e*XP 10 32 14.0
CN2 *e*S **Sn 10 34 23.3 -1.1**
CN2 AMB AMB
comp=Z,10.0nm,1.1s
CN2 AMB AMB
comp=Z,200nm,3.0s
SNY Shenyang 14.52 294 ⇑P **Pn 10 32 03.0 +1.0**
SNY AP 10 32 10.8
SNY S **Sn 10 34 40.3 -1.5**
SNY AMB AMB
comp=Z,37nm,0.6s
SNY AMB AMB
comp=Z,290nm,4.8s
SNY LR LR
comp=N,669nm,4.7s
SNY LR LR
comp=Z,504nm,17.6s
SSE Sheshan 17.84 256 P **Pn 10 32 41.8 -1.7**
SSE AMB AMB
comp=Z,19nm,0.7s
SSE AMB AMB
comp=Z,97nm,4.0s
NJ2 Nanjing 19.28 261 *e*P **Pn 10 33 00.3 -0.5**
NJ2 AP pP 10 33 14.5 -0.1
NJ2 PP 10 33 20.5
NJ2 XP sP 10 33 25.0 +0.5
NJ2 S **S 10 36 25.0 -8.1**
NJ2 AMB AMB
comp=Z,30nm,1.0s
NJ2 AMB AMB
comp=Z,830nm,5.2s
NJ2 LR LR
comp=N,490nm,15.0s
NJ2 LR LR
comp=E,340nm,13.8s
NJ2 LR LR
comp=Z,250nm,24.4s
HIA Hailar 19.77 314 *e*P **Pn 10 33 01.3 -5.2**
comp=Z,63nm,1.4s
HIA Hailar 19.77 314 *e*P **Pn 10 33 01.3 -5.2**
HIA pmax pmax
comp=Z,63nm,1.4s
BJI Beijing 19.92 286 P **Pn 10 33 04.5 -3.7**
BJI AMB AMB
comp=Z,18nm,0.8s
BJI LR LR
comp=Z,178nm,19.1s
BJT Baijiatuau 19.92 286 *e*P **Pn 10 33 03.9 -4.4**
comp=Z,30nm,0.6s
BJT Baijiatuau 19.92 286 *e*P **Pn 10 33 03.9 -4.4**
BJT pmax pmax
comp=Z,30nm,0.6s
CLNS Chul'man 22.50 336 *e*P **P 10 33 32.2 -1.3**
CLNS pmax pmax
comp=N,32nm,1.0s
CLNS pmax pmax
comp=Z,37nm,1.0s,mb4.7
CLNS pmax pmax
comp=E,15nm,0.9s
MA2 Magadan 23.14 12 *e*P **P 10 33 39.4 -0.7**
comp=E,18nm,0.9s,mb4.4
MA2 Magadan 23.14 12 *e*P **P 10 33 39.3 -0.7**
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
MA2 pmax pmax
comp=N,7.0nm,1.0s
MA2 pmax pmax
comp=E,3.0nm,1.0s
WHN Wuhan 23.42 261 *e*P **P 10 33 40.5 -2.1**
HHC Hu-ho-hao-te 23.43 288 *e*P **P 10 33 42.8 +0.1**
HHC AP 10 33 59.8
HHC XP sP 10 34 09.0 -0.2
HHC PP 10 34 18.3
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb4.4
HHC AMB AMB
comp=Z,225nm,5.2s
HHC LR LR
comp=N,299nm,5.3s
HHC LR LR
comp=E,429nm,5.7s
HHC LR LR
comp=Z,369nm,23.8s
CIT Chita 24.54 316 *e*P **P 10 33 50.4 -2.4**
CIT *e* 10 34 29.9
CIT pmax pmax
comp=Z,132nm,1.5s,mb5.1
YAK Yakutsk 25.86 347 *e*P **P 10 34 04.9 +0.1**
comp=Z,37nm,0.7s,mb4.9
YAK Yakutsk 25.86 347 *e*P **P 10 34 05.5 +0.7**
YAK *e*S **S 10 38 35.3 +6.4**
YAK pmax pmax
comp=Z,20nm,0.8s,mb4.6
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK smax
comp=N,13nm,1.4s
YAK smax
comp=E,13nm,1.4s
XAN Xi'an 26.56 273 P **P 10 34 09.3 -1.8**
XAN AMB AMB
comp=Z,23nm,0.8s,mb4.8
SEY Seymchan 26.57 11 *e*P **P 10 34 12.2 +1.0**
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=Z,16nm,0.9s,mb4.5
ULN Ulaanbaatar 27.26 304 *e*P **P 10 34 17.2 -0.2**
comp=Z,16nm,0.8s,mb4.6
ULN Ulaanbaatar 27.26 304 *e*P **P 10 34 17.2 -0.2**
ULN pmax pmax
comp=Z,16nm,0.8s,mb4.6
BOD Bodaibo 27.36 328 ⇑*i*P **P 10 34 17.8 -0.5**
BOD pmax pmax
comp=Z,23nm,0.9s,mb4.7
ENH Enshi 27.38 265 *e*P **P 10 34 17.9 -0.6**
comp=Z,86nm,0.8s,mb5.3
SONM Songino Array 27.69 304 P **P 10 34 21.3 +0.1**
comp=Z,26nm,0.8s,mb4.8,baz=99,slow=8.0,SNR=109
LZH Lanzhou 30.06 279 *e*P **P 10 34 41.5 -0.7**
LZH PP PP 10 35 40.5 -11
LZH AMB AMB
comp=Z,25nm,1.4s,mb4.7
LZH AMB AMB
comp=Z,87nm,6.8s
LZH LR LR
comp=N,987nm,13.2s
LZH LR LR
comp=Z,1μm,16.8s
ZAK Zakamensk 30.16 308 *e*P **P 10 34 43.3 +0.2**
ZAK pmax pmax
comp=Z,30nm,1.3s,mb4.8
ZAK pmax pmax
comp=Z,9.0nm,2.0s,mb4.0
GYA Guiyang 31.29 260 ⇑*i*P **P 10 34 52.0 -1.1**
GYA AP pP 10 35 09.8 -1.5
GYA XP sP 10 35 19.0 -1.4
GYA PP PP 10 35 56.5 -8.5
GYA PPP 10 36 12.8
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,110nm,3.2s
GYA LR LR
comp=N,670nm,15.9s
GYA LR LR
comp=E,570nm,15.6s
GYA LR LR
comp=Z,590nm,16.0s
CD2 Chengdu 31.70 270 *e*P **P 10 34 55.8 -0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
GTA Gaotai 32.53 287 P **P 10 35 03.8 -0.1**
GTA AP pP 10 35 22.0 -0.3
GTA XP sP 10 35 31.8 +0.4
GTA PP PP 10 36 15.5 -3.2
GTA S **S 10 40 11.5 -2.0**
GTA XS sS 10 40 41.3 -3.7
GTA AMB AMB
comp=Z,14nm,0.7s,mb4.9
GTA AMB AMB
comp=Z,115nm,4.2s
GTA LR LR
comp=N,169nm,17.2s
GTA LR LR
comp=E,176nm,16.8s
GTA LR LR
comp=Z,213nm,26.4s
BILL Bilibino 33.81 16 *e*P **P 10 35 14.2 -0.9**
comp=Z,2.1nm,0.3s,mb4.5
BILL Bilibino 33.81 16 *ce*P **P 10 35 14.6 -0.5**
BILL pmax pmax
comp=Z,13nm,1.6s,mb4.5
KMI Kunming 35.02 261 P **P 10 35 26.5 +0.9**
KMI AP pP 10 35 43.0 -1.0
KMI XP sP 10 35 54.3 +1.2
KMI AMB AMB
comp=Z,32nm,0.9s,mb5.2
KMI LR LR
comp=N,136nm,7.4s
KMI LR LR
comp=E,155nm,7.4s
KMI LR LR
comp=Z,175nm,26.7s
TIXI Tiksi 35.08 353 *e*P **P 10 35 26.4 +0.3**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
WMQ Urumqi 40.77 297 P **P 10 36 15.5 +1.6**
WMQ AP pP 10 36 34.0 +1.2
WMQ XP sP 10 36 43.0 +1.3
WMQ PP PP 10 37 54.0 +4.8
WMQ PPP 10 38 24.8
WMQ *e*S **S 10 42 21.3 +2.4**
WMQ SS SS 10 45 20.8 -1.6
WMQ SCS ScS 10 46 10.8 -0.5
WMQ AMB AMB
comp=Z,29nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,232nm,4.6s
WMQ LR LR
comp=N,486nm,19.8s
WMQ LR LR
comp=E,662nm,22.0s
WMQ LR LR
comp=Z,844nm,20.0s
ZAL Zalesovo 41.80 312 P **P 10 36 23.0 +0.6**
comp=Z,14nm,0.9s,mb4.7,baz=16,slow=8.5,SNR=30
LSA Lhasa 42.22 275 *e*P **P 10 36 27.7 +1.9**
comp=Z,14nm,0.6s,mb4.9
LSA Lhasa 42.22 275 *e*P **P 10 36 27.7 +1.9**
LSA pmax pmax
comp=Z,14nm,0.6s,mb4.9
NVS Novosibirsk 42.71 314 *e*P **P 10 36 29.0 -0.8**
NVS pmax pmax
comp=Z,35nm,1.4s,mb4.9
NVS pmax pmax
comp=E,38nm,1.6s
MK31 Makanchi Array 44.03 302 *i*P **P 10 36 40.3 -0.1**
MK31 pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
MKAR Makanchi Array 44.03 302 P **P 10 36 40.4 0.0**
comp=Z,10nm,0.7s,mb4.7,baz=85,slow=9.3,SNR=64
MKAR pP pP 10 36 59.1 -0.3
comp=Z,7.5nm,0.8s,baz=74,slow=8.9,SNR=5.3
KURK Kurchatov 45.82 308 *e*P **P 10 36 53.9 -0.7**
comp=Z,54nm,0.8s,mb5.3
KURK Kurchatov 45.82 308 *e*P **P 10 36 53.9 -0.7**
KURK pmax pmax
comp=Z,54nm,0.8s,mb5.3
KDAK Kodiak Island 46.92 42 P **P 10 37 03.0 -0.2**
comp=Z,29nm,0.7s,mb5.1,baz=277,slow=4.3,SNR=32
KDAK Kodiak Island 46.92 42 P **P 10 37 03.0 -0.3**
JIRN Jiri 47.02 275 *e*P **P 10 37 04.0 0.0**
comp=Z,50nm,0.6s,mb5.4
GUN Gumba 47.16 275 *e*P **P 10 37 05.9 +0.8**
comp=Z,68nm,0.7s,mb5.5
PKI Pulchoki 47.69 275 *e*P **P 10 37 09.8 +0.6**
comp=Z,24nm,0.7s,mb5.2
KKN Kakani 47.69 276 *e*P **P 10 37 09.9 +0.7**
comp=Z,51nm,0.7s,mb5.5
DMN Daman 47.91 276 *e*P **P 10 37 12.7 +1.8**
GKN Gorkha 48.11 276 *e*P **P 10 37 12.8 +0.4**
comp=Z,52nm,0.6s,mb5.5
PMR Palmer 48.44 37 *e*P **P 10 37 14.4 -0.5**
comp=Z,12nm,0.6s,mb4.9
PMR Palmer 48.44 37 *e*P **P 10 37 14.4 -0.6**
PMR pmax pmax
comp=Z,11nm,0.6s,mb4.9
SML Sawmill 48.80 36 *e*P **P 10 37 17.6 -0.1**
COLA College 48.88 32 *e*P **P 10 37 18.5 +0.1**
comp=Z,14nm,0.8s,mb5.0
COLA College 48.88 32 *e*P **P 10 37 18.5 +0.1**
COLA pmax pmax
comp=Z,14nm,0.8s,mb4.9
KOLN Koldanda 49.03 277 *e*P **P 10 37 19.8 +0.3**
comp=Z,58nm,1.2s,mb5.4
ILAR Eielson Array 49.30 32 P **P 10 37 21.5 0.0**
comp=Z,16nm,0.7s,mb5.0,baz=268,slow=6.2,SNR=71
ILAR pP pP 10 37 40.9 0.0
comp=Z,2.7nm,0.8s,baz=265,slow=6.0,SNR=1.7
DIV Divide 50.09 37 *e*P **P 10 37 27.2 -0.3**
comp=Z,84nm,1.2s,mb5.5
VOSK Vostochnaya 50.16 312 P **P 10 37 27.2 -0.9**
VOSK pmax pmax
comp=Z,12nm,1.2s,mb4.7
CHKZ Chkalovo 50.18 313 *e*P **P 10 37 27.4 -0.9**
comp=Z,10nm,0.7s,mb4.9
CHKZ Chkalovo 50.18 313 *i*P **P 10 37 27.6 -0.7**
CHKZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KSH Kashi 50.34 294 P **P 10 37 32.0 +2.5**
KSH AP pP 10 37 50.5 +1.6
KSH XP sP 10 37 59.5 +1.8
KSH PCP PcP 10 38 49.3 +2.2
KSH SCP ScP 10 42 37.3 +1.3
KSH PCS PcS 10 42 45.5 +1.2
KSH S **S 10 44 38.0 +1.5**
KSH XS sS 10 45 11.0 +1.4
KSH SCS ScS 10 47 12.5 -0.5
KSH SS SS 10 48 09.8 -1.2
KSH AMB AMB
comp=Z,81nm,1.4s,mb5.5
KSH AMB AMB
comp=Z,83nm,4.4s
KSH LR LR
comp=N,270nm,5.6s
KSH LR LR
comp=E,301nm,5.2s
KSH LR LR
comp=Z,165nm,10.2s
BVA0 Borovoye Array 50.45 312 *i*P **P 10 37 30.3 0.0**
BRVK Borovoye 50.50 312 *e*P **P 10 37 30.7 +0.1**
comp=Z,5.7nm,1.0s,mb4.6
BRVK Borovoye 50.50 312 *e*P **P 10 37 30.7 0.0**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
ZRNK Zerenda 51.28 312 *e*P **P 10 37 36.4 -0.1**
comp=Z,10.0nm,0.7s,mb5.0
ZRNK Zerenda 51.28 312 *e*P **P 10 37 36.4 -0.1**
ZRNK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KK31 Karatay Array 53.04 300 *i*P **P 10 37 50.0 +0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
KKAR Karatay Array 53.04 300 *i*P **P 10 37 50.0 +0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
INK Inuvik 54.18 27 P **P 10 37 58.1 +0.2**
comp=Z,9.4nm,0.8s,mb4.8,baz=294,slow=6.3,SNR=37
INK pP pP 10 38 18.1 +0.6
comp=Z,5.8nm,0.8s,baz=286,slow=4.7,SNR=5.8
INK Inuvik 54.18 27 *e*P **P 10 37 57.7 -0.2**
comp=Z,6.9nm,0.8s,mb4.7
INK Inuvik 54.18 27 P **P 10 37 58.1 +0.2**
INK *PP pP 10 38 18.1 +0.6
INK pmax pmax
comp=Z,9.0nm,0.9s
INK pmax pmax
comp=Z,6.0nm,0.8s
SVE Sverdlovsk 55.00 319 *e*P **P 10 38 02.0 -1.8**
SVE *e* pP 10 38 26.2 +2.7
SVE *e* 10 51 29.0
ARU Arti 56.22 318 ⇓*i*P **P 10 38 10.8 -1.7**
ARU *e* 10 40 15.0
ARU *e*S **S 10 45 59.9 +3.7**
ARU *e*SS SS 10 49 46.9 +3.2
ARU pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
FITZ Fitzroy Crossi 57.04 198 ⇓*i*P pP 10 38 38.2 +0.1
comp=Z,25nm,1.3s
FITZ Fitzroy Crossi 57.04 198 P **P 10 38 18.2 -0.1**
comp=Z,4.3nm,0.9s,mb4.5,baz=146,slow=3.6,SNR=5.5
FITZ pP pP 10 38 38.8 +0.7
comp=Z,9.3nm,0.7s,baz=26,slow=10,SNR=7.1
CTA Charters Tower 57.21 175 *e*P pP 10 38 39.0 -0.4
comp=Z,5.3nm,0.8s
CTA Charters Tower 57.21 175 P **P 10 38 19.0 -0.5**
comp=Z,2.7nm,0.7s,mb4.4,baz=37,slow=10,SNR=3.3
CTA pP pP 10 38 39.3 -0.1
comp=Z,5.6nm,0.7s,baz=6.8,slow=9.9,SNR=3.2
WRAB Tennant Creek 57.27 188 *e*P **P 10 38 18.1 -1.8**
comp=Z,14nm,0.6s,mb5.2
WRAB Tennant Creek 57.27 188 *e*P **P 10 38 18.1 -1.9**
WRAB pmax pmax
comp=Z,14nm,0.6s,mb5.2
WB2 Warramunga Arr 57.28 188 ⇓*i*P **P 10 38 18.6 -1.4**
WB2 *e*pP pP 10 38 39.3 -0.5
WRA Warramunga Arr 57.28 188 P **P 10 38 18.7 -1.4**
comp=Z,12nm,0.6s,mb5.1,baz=6.3,slow=7.4,SNR=144
WRA pP pP 10 38 39.4 -0.4
comp=Z,9.4nm,0.5s,baz=4.9,slow=7.2,SNR=12
AB31 Akbulak array 57.82 310 *i*P **P 10 38 23.4 -0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
DLBC Dease Lake 58.44 38 P **P 10 38 29.8 +1.6**
comp=Z,6.8nm,0.9s,mb4.7,baz=296,slow=8.3,SNR=13
DLBC Dease Lake 58.44 38 *e*P **P 10 38 29.5 +1.3**
ASAR Alice Springs 61.01 188 P **P 10 38 44.8 -1.0**
comp=Z,6.2nm,0.8s,mb4.7,baz=11,slow=6.7,SNR=40
ASAR pP pP 10 39 05.8 0.0
comp=Z,5.8nm,0.7s,baz=21,slow=6.2,SNR=12
RES Resolute Bay 62.38 14 *e*P **P 10 38 54.2 -0.8**
comp=Z,10nm,1.0s,mb4.8
RES *e*pP pP 10 39 13.8 -1.4
RES *e*sP sP 10 39 20.8 -3.0
RES Resolute Bay 62.38 14 *e*P **P 10 38 54.2 -0.9**
RES *e**SP sP 10 39 20.8 -3.0
RES pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
DZM Mont Dzumac 63.53 154 P **P 10 39 03.6 +1.0**
comp=Z,13nm,1.0s,mb4.7,baz=165,slow=23,SNR=4.0
YKW3 Yellowknife Ar 63.57 30 *e*P **P 10 39 02.0 -0.9**
YKW3 *e*pP pP 10 39 22.8 -0.3
YKA Yellowknife Ar 63.61 30 P **P 10 39 02.6 -0.6**
comp=Z,2.5nm,0.7s,mb4.2,baz=305,slow=6.8,SNR=48
YKA pP pP 10 39 23.2 0.0
comp=Z,2.1nm,0.7s,baz=305,slow=6.8,SNR=9.8
YKA Yellowknife Ar 63.61 30 P **P 10 39 02.6 -0.6**
YKA *PP pP 10 39 23.3 0.0
ARCES ARCESS Array B 63.80 339 P **P 10 39 04.2 -0.3**
comp=Z,1.5nm,0.7s,mb3.9,baz=35,slow=6.5,SNR=6.0
DAG Danmarks Havn 65.56 355 ⇓*i*P **P 10 39 15.7 -0.2**
comp=Z,4.7nm,0.6s,mb4.5
DAG Danmarks Havn 65.56 355 ⇓*i*P **P 10 39 15.7 -0.2**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
JOF Joensuu 65.78 332 *e*p **P 10 39 17.4 +0.1**
OBN Obninsk 67.94 323 *e*P **P 10 39 30.9 -0.1**
OBN pmax pmax
comp=Z,24nm,1.6s,mb4.8
ARMA Armidale 67.99 171 *e*P **P 10 39 31.7 +0.4**
KAF Kangasniemi 68.13 333 *e*p **P 10 39 31.0 -1.2**
FINES FINESS Array B 68.64 332 P **P 10 39 35.0 -0.3**
comp=Z,2.9nm,0.7s,mb4.2,baz=64,slow=8.7,SNR=11
STKA Stephens Creek 68.77 180 *e*P **P 10 39 33.4 -2.8**
comp=Z,4.9nm,0.6s,mb4.5
STKA *e*pP pP 10 39 54.7 -1.8
STKA Stephens Creek 68.77 180 P **P 10 39 33.4 -2.8**
comp=Z,7.8nm,0.8s,mb4.6,baz=350,slow=7.0,SNR=20
STKA pP pP 10 39 54.9 -1.7
comp=Z,2.3nm,0.4s,baz=346,slow=6.2,SNR=4.2
STKA Stephens Creek 68.77 180 *e*P **P 10 39 33.1 -3.1**
STKA *e*pP pP 10 39 54.5 -2.1
FORT Forrest 68.83 192 *e*P **P 10 39 35.9 -0.6**
comp=Z,35nm,0.6s,mb5.4
FORT *e*pP pP 10 39 55.9 -1.0
NEW Newport 69.95 44 *e*P **P 10 39 43.5 +0.1**
comp=Z,9.0nm,1.1s,mb4.5
NEW Newport 69.95 44 *e*P **P 10 39 43.6 +0.1**
NEW pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 70.47 360 *e*P **P 10 39 47.1 +0.5**
comp=Z,7.3nm,0.8s,mb4.6
KIV Kislovodsk 70.79 311 *e*P **P 10 39 52.9 +4.3**
KIV Kislovodsk 70.79 311 *e*P **P 10 39 48.9 +0.3**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.7
WALA Waterton Lakes 71.26 42 *e*P **P 10 39 51.7 +0.3**
comp=Z,5.0nm,0.6s,mb4.5
GNI Garni 71.60 307 ⇓*e*P **P 10 39 53.6 +0.1**
GNI pmax pmax
comp=Z,7.0nm,1.7s
GNI MLR MLR
comp=Z,400nm,21.0s
KLBR Kellerberrin 71.98 201 *e*P pP 10 40 15.0 -1.3
comp=Z,19nm,1.1s
CMB Columbia Colle 73.72 55 *e*P **P 10 40 06.5 +0.4**
comp=Z,10nm,1.1s,mb4.5
CMB Columbia Colle 73.72 55 *e*P **P 10 40 06.5 +0.4**
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
HRY Holter Researc 73.78 43 *e*P **P 10 40 06.8 +0.5**
FCC Fort Churchill 73.80 27 *e*P **P 10 40 05.7 -0.8**
comp=Z,14nm,1.2s,mb4.6
FCC *e*pP pP 10 40 26.0 -1.1
FCC Fort Churchill 73.80 27 *e*P **P 10 40 05.7 -0.8**
FCC *e**PP pP 10 40 26.0 -1.1
FCC pmax pmax
comp=Z,14nm,1.2s,mb4.6
NB2 NORSAR Subarra 74.00 337 P **P 10 40 07.3 -0.4**
comp=Z,2.5nm,0.6s,mb4.1,baz=38,slow=6.2
NB2 NORSAR Subarra 74.00 337 P **P 10 40 07.3 -0.4**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
NOA NORSAR Array B 74.00 337 P **P 10 40 07.5 -0.1**
comp=Z,4.3nm,0.8s,mb4.2,baz=39,slow=5.8,SNR=14
AKASG Malin Array Be 74.14 322 P **P 10 40 08.0 -0.5**
comp=Z,0.9nm,0.4s,mb3.8,baz=46,slow=5.9,SNR=6.9
DLMT Dillon 74.17 45 *e*P **P 10 40 09.3 +0.6**
comp=Z,22nm,0.9s,mb4.9

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BOZ   Bozeman (W)     74.54  44  eP        P        10 40 11.6 +0.8
      comp=Z,12nm,0.9s,mb4.6
BOZ   Bozeman (W)     74.54  44  eP        P        10 40 11.6 +0.8
BOZ                              pmax      pmax
      comp=Z,12nm,0.9s,mb4.6
NVAR  Mina Array Bea  74.84  53  P         P        10 40 13.6 +1.1
      comp=Z,6.6nm,0.8s,mb4.4,baz=294,slow=3.9,SNR=28
ELK   Elko            75.39  50  eP        P        10 40 16.4 +0.7
      comp=Z,4.1nm,1.0s,mb4.1
ELK   Elko            75.39  50  eP        P        10 40 16.5 +0.8
ELK                              pmax      pmax
      comp=Z,4.0nm,1.0s
GCMT  Greycliff       75.53  43  eP        P        10 40 16.8 +0.2
YFT   Old Faithful    75.72  45  eP        P        10 40 20.0 +2.4
IMW   Indian Meadow   76.00  45  eP        P        10 40 20.8 +1.6
      comp=Z,12nm,0.8s,mb4.7
DCID1 Drake Creek     76.05  46  eP        P        10 40 20.5 +1.1
DGMT  Dagmar          76.65  39  eP        P        10 40 23.0 +0.1
      comp=Z,10nm,1.1s,mb4.5
HWUT  Hardware Ranch  77.06  47  eP        P        10 40 25.4 +0.2
      comp=Z,8.1nm,0.9s,mb4.5
DUG   Dugway          77.19  49  eP        P        10 40 26.4 +0.5
      comp=Z,4.4nm,0.6s,mb4.4
DUG   Dugway          77.19  49  eP        P        10 40 26.4 +0.5
DUG                              pmax      pmax
      comp=Z,4.0nm,0.6s,mb4.3
BW06  Boulder Array   77.50  45  eP        P        10 40 27.8 +0.1
      comp=Z,6.4nm,1.0s,mb4.3
PDAR  Pinedale Array  77.50  45  P         P        10 40 27.9 +0.3
      comp=Z,4.0nm,0.7s,mb4.3,baz=271,slow=2.6,SNR=33
NEN   Nelson          78.72  54  eP        P        10 40 35.2 +0.9
NEN                              epP       pP       10 40 54.3 -0.8
BRTR  Keskin Array B  78.73 312  P         P        10 40 35.7 +1.3
      comp=Z,0.6nm,0.5s,mb3.7,baz=113,slow=2.8,SNR=5.0
BRTR  Keskin Array B  78.73 312⇑eP          P        10 40 37.4 +3.0
SRU   San Rafael      79.25  49  eP        P        10 40 37.6 +0.3
      comp=Z,12nm,0.9s,mb4.7
SRU   San Rafael      79.25  49  eP        P        10 40 37.6 +0.3
SRU                              pmax      pmax
      comp=Z,12nm,0.9s,mb4.7
ULM   Lac du Bonnet   79.31  33  P         P        10 40 37.1 -0.5
      comp=Z,5.4nm,1.0s,mb4.3,baz=301,slow=6.5,SNR=10
ULM                              pP        pP       10 40 57.7 -0.7
      comp=Z,4.3nm,1.1s,baz=341,slow=3.1,SNR=3.7
PV10  Paradox Valley  80.61  49  eP        P        10 40 46.1 +1.5
CLL   Collm           80.92 330  i P       P        10 40 46.4 +0.1
      comp=Z,7.0nm,1.0s,mb4.5
CLL                              i pP      pP       10 41 08.6 +1.4
CLL   Collm           80.92 330  i P       P        10 40 46.4 +0.1
CLL                              i *PP     pP       10 41 08.6 +1.4
CLL                              pmax      pmax
      comp=Z,7.0nm,1.0s,mb4.5
PV01  Paradox Valley  81.05  49  eP        P        10 40 48.0 +1.0
ISCO  Idaho Springs   81.68  46  eP        P        10 40 50.9 +0.6
      comp=Z,3.1nm,0.7s,mb4.2
ISCO  Idaho Springs   81.68  46  eP        P        10 40 50.9 +0.6
ISCO                             pmax      pmax
      comp=Z,3.0nm,0.7s,mb4.2
KHC   Kasperske Hory  82.37 328  eP        P        10 40 53.0 -0.9
KHC                              x         x        10 41 16.5
KHC   Kasperske Hory  82.37 328  eP        P        10 40 53.0 -0.9
KHC                              e         pP       10 41 16.5 +1.6
GERES GERESS Array B  82.54 328  P         P        10 40 54.9 +0.1
      comp=Z,0.3nm,0.4s,baz=28,slow=6.0,SNR=5.3
GRA1  Grafenberg Arr  82.90 330  eP        P        10 40 56.2 -0.4
      comp=Z,5.0nm,1.0s,mb4.3
GRF   Grafenberg Arr  82.90 330  eP        P        10 40 56.2 -0.4
      comp=Z,5.0nm,1.0s,mb4.3
GRF   Grafenberg Arr  82.90 330  eP        P        10 40 56.2 -0.4
GRF                              pmax      pmax
      comp=Z,5.0nm,1.0s,mb4.3
GRF   Grafenberg Arr  82.90 330  eP        P        10 40 56.2 -0.4
GRF                              pmax      pmax
      comp=Z,5.0nm,1.0s,mb4.3
LAZ   Ladron          84.37  51  eP        P        10 41 05.0 +0.8
ANMO  Albuquerque     84.42  50  eP        P        10 41 05.4 +1.0
      comp=Z,8.4nm,1.0s,mb4.5
ANMO  Albuquerque     84.42  50  eP        P        10 41 05.4 +1.0
ANMO                             pmax      pmax
      comp=Z,8.0nm,1.0s
SCHQ  Schefferville   85.12  16  P         P        10 41 07.8 -0.1
      comp=Z,4.6nm,1.0s,mb4.4,baz=10,slow=6.5,SNR=3.9
SCHQ                             pP        pP       10 41 28.6 -0.3
      comp=Z,4.1nm,0.8s,baz=339,slow=3.8,SNR=3.3
KSU1  Kansas State U  87.13  41  eP        P        10 41 17.2 -0.6
WMOK  Wichita Mounta  89.11  46  eP        P        10 41 27.2  0.0
      comp=Z,1.4nm,0.8s,mb4.0
WMOK  Wichita Mounta  89.11  46  eP        P        10 41 27.2  0.0
WMOK                             pmax      pmax
      comp=Z,1.0nm,0.8s,mb3.9
LTX   Lajitas         89.97  52  eP        P        10 41 31.4 +0.2
      comp=Z,4.8nm,1.2s,mb4.5
LTX   Lajitas         89.97  52  eP        P        10 41 31.4 +0.2
LTX                              pmax      pmax
      comp=Z,5.0nm,1.2s,mb4.5
TORD  Torodi Ar. Bea  117.20 315 PKP        PKPdf    10 47 15.7 -1.0
      comp=Z,0.7nm,0.8s,baz=35,slow=1.8,SNR=5.8
SDV   Santo Domingo   125.14  40 ePKPdf     PKPdf    10 47 31.8 -0.2
DBIC  Dimbokro        126.15 317 PKP        PKPdf    10 47 33.0 -0.9
      comp=Z,2.1nm,0.6s,baz=123,slow=2.1,SNR=5.2
DBIC  Dimbokro        126.15 317 PKIKP      PKPdf    10 47 33.0 -0.9
DBIC                             pmax      pmax
      comp=Z,2.0nm,0.6s
QSPA  South Pole Qui  126.99 180 ePKPdf     PKPdf    10 47 32.6 -2.8
VNA2  Neumayer--Watz  142.53 196 ePKPdf     PKPdf    10 47 59.7 -4.7
      baz=53,slow=0.9
VNA2                             e                  10 48 23.1
VNA3  Neumayer Olymp  142.78 195 ePKPdf     PKPdf    10 47 59.8 -5.0
VNA3                             e                  10 48 22.9
LPAZ  La Paz          146.56  59 PKPbc      PKPbc    10 48 13.9 +0.9
      comp=Z,10nm,0.6s,baz=336,slow=2.8,SNR=38
LPAZ                             pPKPbc    pPKPbc   10 48 36.3 +1.5
      comp=Z,3.3nm,0.5s,baz=40,slow=9.8,SNR=2.9
LPAZ  La Paz          146.56  59 ePKPbc     PKPbc    10 48 13.8 +0.9
LPAZ  La Paz          146.56  59 PKP2       PKPab    10 48 13.9 -0.2
LPAZ                             pmax      pmax
      comp=Z,10.0nm,0.6s
LPAZ                             pmax      pmax
      comp=Z,3.0nm,0.5s
LVC   Limon Verde     150.07  69 ePKPbc     PKPbc    10 48 23.0 +0.8
SIV   San Ignacio     150.92  49 PKP        PKPdf    10 48 18.4  0.0
      comp=Z,1.0nm,0.8s,baz=285,slow=4.2,SNR=4.4
SIV                              PKPbc     PKPbc    10 48 24.3 +0.1
      comp=Z,12nm,0.7s,baz=315,slow=2.2,SNR=40
SIV                              PKPab     PKPab    10 48 31.7 -0.1
      comp=Z,6.1nm,1.0s,baz=304,slow=4.9,SNR=4.9
SIV                              pPKPbc    pPKPbc   10 48 46.9 +0.7
      comp=Z,5.7nm,0.8s,baz=49,slow=1.3,SNR=5.5
CFAA  Coronel Fontan  154.93  86 PKPbc      PKPbc    10 48 32.8 -0.3
      comp=Z,0.3nm,0.6s,baz=312,slow=3.1,SNR=4.5
CFAA                             PKPab     PKPab    10 48 48.9 +0.2
      comp=Z,0.1nm,0.5s,baz=269,slow=3.2,SNR=6.4
```

*ISCJB **29** 10:40:59.6±0.6,2440S±004×6709W±009,h170km±12km, mb3.5/2,Error ellipse: s-maj=12.8km s-min=6.0km az=16.2*

*IDC **29** 10:41:00.8±1.2,2428S×6700W,h162km±14km,mb3.4/2, mb1 3.6/8,mb1mx3.4/19,mbtmp3.9/8,Error ellipse: s-maj=19.1km s-min=16.0km az=65.0*

*NEIC **29** 10:41:02.7,2448S×6747W,h190km,mb3.9/2,After GUC.*

*GUC **29** 10:41:02.7±0.7,2448S×6747W,h190km,ML4.3*

ISC 29 10:41:00.6±0.6,2440S±004×6708W±008,h164km±12km, n24,σ1§14/37,mb3.5/2,4C-4D,Chile-Argentina border region

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Code  Station Name      Δ°   AZ°  Phase ID   Time     Res
                                Op    ISC   h m s    ISC
LVC   Limon Verde     2.45 316   P         Pn       10 41 43.3 +1.6
      29nm,0.3s,baz=143,slow=5.7,SNR=598
LVC                              S         Sn       10 42 13.7 +0.2
      82nm,0.3s,baz=208,slow=10,SNR=58
LVC   Limon Verde     2.45 316   P         Pn       10 41 43.3 +1.6
LVC                              S         Sn       10 42 13.7 +0.2
CEN1  Los Morros      3.03 289⇓i P          Pn       10 41 50.6 +1.9
CEN1                             i S       Sn       10 42 26.7 +0.6
CEN1                             AMP                10 42 27.7
      comp=N,508nm,0.7s
CPN1  Cerro Paranal   3.04 265⇑i P          Pn       10 41 50.1 +1.2
CPN1                             i S       Sn       10 42 26.0 -0.3
CPN1                             AMP                10 42 32.7
      comp=N,296nm,0.6s
ANCH  Antofagasta     3.12 283⇑i P          Pn       10 41 51.1 +1.1
ANCH                             i S       Sn       10 42 27.8 -0.6
ANCH                             AMP                10 42 30.9
      comp=E,793nm,0.4s
ANCH  Antofagasta     3.12 283⇑i P          Pn       10 41 51.1 +1.1
ANCH                             i S       Sn       10 42 27.8 -0.6
CRCH  Chaqaral        3.74 238⇓i P          Pn       10 41 58.5 +0.7
CRCH                             i S       Sn       10 42 41.2 -1.2
CRCH                             AMP                10 42 42.6
      comp=E,619nm,0.2s
CRCH  Chaqaral        3.74 238⇓i P          Pn       10 41 58.5 +0.7
CRCH                             i S       Sn       10 42 41.2 -1.2
CPCH  Copiapo         4.17 224⇑i P          Pn       10 42 02.6 -0.7
CPCH                             i S       Sn       10 42 51.1 -1.1
CDCH  Caldera         4.30 231⇓i P          Pn       10 42 04.9 -0.2
CDCH                             i S       Sn       10 42 53.3 -2.0
CFAA  Coronel Fontan  7.25 188   P         Pn       10 42 45.9 +2.0
      comp=E,0.1nm,0.3s,baz=7.1,slow=12,SNR=6.6
CFAA                             S         Sn       10 44 04.8 -0.4
      comp=E,0.2nm,0.3s,baz=255,slow=17,SNR=6.2
LPAZ  La Paz          8.13 353   P         Pn       10 42 55.9 +0.4
      comp=E,2.6nm,0.3s,baz=148,slow=5.8,SNR=60
LPAZ                             S         Sn       10 44 24.2 -2.0
      comp=E,0.2nm,0.3s,baz=339,slow=18,SNR=4.5
LPAZ  La Paz          8.13 353   ePn       Pn       10 42 55.5  0.0
LPAZ                             S         Sn       10 44 24.2 -2.0
CPUP  Villa Florida   9.03 104   P         Pn       10 43 06.5 -0.9
      comp=E,0.2nm,0.3s,baz=285,slow=12,SNR=2.3
CPUP  Villa Florida   9.03 104   ePn       Pn       10 43 15.9 +8.5
SIV   San Ignacio     10.09  35  P         Pn       10 43 19.5 -1.9
      comp=E,0.8nm,0.3s,baz=215,slow=14,SNR=13
SIV                              S         Sn       10 45 00.8 -13
      comp=E,0.1nm,0.3s,baz=233,slow=16,SNR=3.1
TRQA  Tornquist       14.29 163  ePn       Pn       10 44 19.7 +4.2
      comp=E,3.1nm,0.5s
PLCA  Paso Flores     16.55 189  P         Pn       10 44 44.0 +0.9
      comp=E,0.2nm,0.3s,baz=344,slow=8.5,SNR=3.9
PLCA  Paso Flores     16.55 189  eP        Pn       10 44 44.9 +1.8
      comp=E,2.2nm,0.5s
BDFB  Brasilia        19.90  68  P         P        10 45 19.5 +0.1
      comp=E,1.3nm,0.3s,baz=248,slow=10,SNR=16
TORD  Torodi Ar. Bea  76.78  69  P         P        10 52 34.1 +0.2
      comp=E,0.9nm,0.5s,mb3.7,baz=253,slow=5.3,SNR=13
YKA   Yellowknife Ar  94.47 340  P         P        10 54 01.4 -0.7
      comp=E,0.1nm,0.4s,mb3.3,baz=132,slow=4.6,SNR=4.9
YKA   Yellowknife Ar  94.47 340  P         P        10 54 01.4 -0.7
WRA   Warramunga Arr  131.24 207 PKP        PKPdf    10 59 54.5 +1.4
      comp=E,0.2nm,0.4s,baz=160,slow=1.7,SNR=8.6
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*CRAAG **29** 10:43:24.5,5026S×13533E,Mb5.4*

*ISCJB **29** 10:43:26.4±0.2,5023S±003×13532E±009,h10km, mb5.3/43,MS5.0/72,Error ellipse: s-maj=8.6km s-min=4.6km az=12.8*

*BJI **29** 10:43:26.5,5020S×13540E,h10km,mB5.4,mb5.3,Ms5.4, Msz5.0*

*IDC **29** 10:43:26.6±0.5,5021S×13545E,h0km,mb5.1/13, mb1 5.2/14,mb1mx5.1/18,mbtmp5.1/14,ML4.5/1,MS5.0/22, Ms1 4.9/22,ms1mx4.9/23,Error ellipse: s-maj=19.3km s-min=14.3km az=96.0*

*SZGRF **29** 10:43:27.0,4931S×13771E,h33km,Western Indian-Antarctic Ridge*

*NEIC **29** 10:43:28.6±0.2,5020S×13538E,h10km,mb5.3/21, MS5.0/49,Error ellipse: s-maj=10.5km s-min=8.0km az=104.0*

*HRVD **29** 10:43:28.6±0.1,5029S×13531E,h12km,MW5.4/97, Centroid moment Tensor Solution. LP body waves: s68,c121;Mantle waves: s97,c185; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.39±.03; $M_{\theta\theta}$1.64±.02; $M_{\phi\phi}$-1.25±.03; $M_{r\theta}$-0.13±.06; $M_{\theta\phi}$0.95±.02; $M_{\phi r}$-0.27±.06; Best double couple: $M_0$1.75800×10^{17} NP1:ϕ_s298.00000°,δ79.00000°,λ-4.00000°. NP2: ϕ_s29.00000°,δ86.00000°,λ-169.00000°. Principal axes: T 1.9420, Plg5.0000°, Azm163.0000°; N -0.3640, Plg78.0000°, Azm48.0000°; P -1.5740, Plg10.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **29** 10:43:29.5±2.0,4978S×13526E,h10km,mb5.4/13, MS5.0/22 Error ellipse: s-maj=18.5km s-min=9.2km az=86.8*

ISC 29 10:43:27.9±0.2,5025S±003×13526E±009,h10km, (h12km±1.5km:pP-P),n322,σ0§97/98,mb5.3/43,MS5.0/72, 13C-8D,Western Indian-Antarctic Ridge

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Code  Station Name      Δ°   AZ°  Phase ID   Time     Res
                                Op    ISC   h m s    ISC
TAU   Tasmania Unive  11.07  53  ePn       Pn       10 46 07.5 +1.2
      128nm,1.4s
TAU   Tasmania Unive  11.07  53  eP        Pn       10 46 07.5 +1.2
TAU                              pmax      pmax
      comp=Z,128nm,1.4s
TOO   Toolangi        14.65  34  eP        Pn       10 46 55.7 +0.6
      comp=Z,50nm,1.0s
TOO   Toolangi        14.65  34  eP        Pn       10 46 55.7 +0.6
TOO                              pmax      pmax
      comp=Z,50nm,1.0s
ADE   Adelaide        15.48  11  eP        Pn       10 47 05.0 -1.3
DRV   Dumont d'Urvil  16.64 173  P         Pn       10 47 21.0 -0.2
DRV                              S         Sn       10 50 27.0 +1.1
DRV                              R                  10 51 00.0
CNB   Canberra Magne  18.12  40  eP        Pn       10 47 41.8 +2.2
      comp=Z,63nm,1.3s
STKA  Stephens Creek  18.96  17⇑i P         Pn       10 47 46.6 -3.2
      comp=Z,89nm,1.1s
STKA                             i S       Sn       10 51 16.0 -6.1
STKA  Stephens Creek  18.96  17  P         Pn       10 47 46.5 -3.3
      comp=Z,0.8nm,0.3s,baz=183,slow=13,SNR=55
STKA                             LR        LR       10 53 59.7
      comp=Z,8μm,19.8s,baz=188,slow=34
STKA  Stephens Creek  18.96  17  eP        Pn       10 47 46.7 -3.2
FORT  Forrest         20.19 342  eP        P        10 48 02.7  0.0
      comp=Z,164nm,1.2s
CASY  Casey           20.43 209  eP        P        10 48 05.2 -0.1
CASY  Casey           20.43 209  eP        P        10 48 04.7 -0.5
      comp=Z,318nm,1.8s
CASY                             LR        LR
      comp=Z,2μm,21.0s,MS4.5
NWAO  Narrogin (SRO)  21.84 316  P         P        10 48 20.4 -0.1
      comp=Z,173nm,1.1s,mb5.4,baz=145,slow=9.0,SNR=21
NWAO                             LR        LR       10 54 49.9
      comp=Z,6μm,20.6s,MS5.0,baz=302,slow=31
NWAO  Narrogin (SRO)  21.84 316  eP        P        10 48 20.5 -0.1
      comp=Z,377nm,1.4s,mb5.6
NWAO                             LR        LR
      comp=Z,5μm,21.0s,MS4.9
NWAO  Narrogin (SRO)  21.84 316  eP        P        10 48 20.5  0.0
NWAO                             pmax      pmax
      comp=Z,377nm,1.4s
NWAO                             MLR       MLR
      comp=Z,5μm,21.0s
KLBR  Kellerberrin    22.76 318  eP        P        10 48 30.1 -0.1
      comp=Z,243nm,1.4s,mb5.4
MUN   Mundaring       23.11 315  eP        P        10 48 33.6 -0.3
ARMA  Armidale        23.32  38  eP        P        10 48 36.9 +0.8
ARMA                             eS        S        10 53 00.9 +12
RPZ   Rata Peaks      25.10  89  P         P        10 48 51.7 -1.0
      comp=Z,62nm,1.1s,mb5.0,baz=177,slow=4.2,SNR=12
RPZ                              LR        LR       10 56 51.6
      comp=Z,5μm,18.0s,MS5.1,baz=238,slow=32
ASAR  Alice Springs   26.56 357  P         P        10 49 04.7 -1.3
      comp=Z,45nm,1.1s,mb4.9,baz=171,slow=9.4,SNR=89
ASAR                             PP                 10 49 45.0
      comp=Z,16nm,0.9s,baz=170,slow=13,SNR=6.4
MIR   Mirnyy          26.77 217  eP        P        10 49 09.0 +1.2
MIR                              pmax      pmax
      comp=Z,2μm,2.0s,mb6.2
SNZO  South Karori    28.64  87  PFAKE     P        10 49 40.0 +15
SNZO                             LR        LR
      comp=Z,2μm,19.0s,MS4.8
VNDA  Vanda           29.16 168  P         P        10 49 27.8 -1.5
      comp=Z,14nm,0.8s,mb4.8,baz=324,slow=9.1,SNR=54
VNDA                             LR        LR       10 59 55.0
      comp=Z,5μm,19.5s,MS5.2,baz=356,slow=34
VNDA  Vanda           29.16 168  eP        P        10 49 27.9 -1.4
      comp=Z,44nm,1.3s,mb5.0
VNDA                             LR        LR
      comp=Z,6μm,19.0s,MS5.2
VNDA  Vanda           29.16 168  eP        P        10 49 27.9 -1.3
VNDA                             pmax      pmax
      comp=Z,44nm,1.3s
VNDA                             MLR       MLR
      comp=Z,6μm,19.0s
SBA   Scott Base      30.08 167  eP        P        10 49 36.6 -0.8
      comp=Z,24nm,1.2s,mb4.8
SBA                              LR        LR
      comp=Z,5μm,20.0s,MS5.1
SBA   Scott Base      30.08 167  eP        P        10 49 36.6 -0.8
SBA                              pmax      pmax
      comp=Z,24nm,1.2s,mb4.8
SBA                              MLR       MLR
      comp=Z,5μm,20.0s,MS5.1
WB2   Warramunga Arr  30.25 358⇑i P         P        10 49 37.5 -1.4
WRA   Warramunga Arr  30.25 358  P         P        10 49 37.6 -1.3
      comp=Z,65nm,1.0s,mb5.3,baz=182,slow=8.2,SNR=104
WRA                              PP        PP       10 50 33.7  -13
      comp=Z,21nm,0.9s,baz=177,slow=12,SNR=5.8
WRAB  Tennant Creek   30.26 358  P         P        10 49 37.2 -1.8
      comp=Z,568nm,1.1s,mb6.2,SNR=24
WRAB  Tennant Creek   30.26 358  eP        P        10 49 37.6 -1.4
      comp=Z,204nm,1.1s,mb5.8
WRAB                             LR        LR
      comp=Z,6μm,20.0s,MS5.2
WRAB  Tennant Creek   30.26 358  eP        P        10 49 37.6 -1.4
WRAB                             pmax      pmax
      comp=Z,204nm,1.1s,mb5.8
WRAB                             MLR       MLR
      comp=Z,6μm,20.0s,MS5.2
CTA   Charters Tower  31.34  20  eP        P        10 49 49.3 +0.8
      comp=Z,18nm,1.0s,mb4.9
CTA   Charters Tower  31.34  20  P         P        10 49 48.4 -0.1
      comp=Z,25nm,1.1s,mb5.0,baz=208,slow=12,SNR=8.5
CTA   Charters Tower  31.34  20  eP        P        10 49 49.3 +0.8
CTA                              pmax      pmax
      comp=Z,18nm,1.0s
MBWA  Marble Bar      31.52 331  eP        P        10 49 49.3 -0.7
MBWA                             LR        LR
      comp=Z,7μm,20.0s,MS5.3
URZ   Urewera         31.87  84  P         P        10 49 52.5 -0.6
      comp=Z,22nm,1.1s,mb4.9,baz=249,slow=5.0,SNR=4.5
URZ                              LR        LR       11 01 28.2
      comp=Z,2μm,18.7s,MS4.9,baz=242,slow=34
URZ   Urewera         31.87  84  P         P        10 49 52.5 -0.6
URZ                              LR        LR       11 01 28.2
FITZ  Fitzroy Crossi  32.99 343  eP        P        10 50 03.2 +0.2
      comp=Z,32nm,1.3s,mb5.1
FITZ  Fitzroy Crossi  32.99 343  P         P        10 50 02.7 -0.2
      comp=Z,25nm,1.2s,mb5.0,baz=169,slow=14,SNR=7.0
FITZ                             LR        LR       11 02 45.2
      comp=Z,4μm,19.1s,MS5.2,baz=351,slow=35
DZM   Mont Dzumac     37.26  52  P         P        10 50 39.3 -0.5
      comp=Z,19nm,1.1s,mb4.8,baz=256,slow=8.3,SNR=4.0
DZM                              LR        LR       11 03 04.8
      comp=Z,2μm,19.0s,MS4.8,baz=217,slow=32
KAKA  Kakadu          37.51 355  eP        P        10 50 41.1 -0.8
      comp=Z,45nm,0.8s,mb5.2
MAW   Mawson          38.50 216  LR        LR       11 03 50.2
      comp=Z,2μm,19.9s,MS4.9,baz=89,slow=32
QSPA  South Pole Qui  39.87 180⇑i P         P        10 51 01.2 -0.5
      comp=Z,71nm,1.5s,mb5.2
RAO   Raoul Island    40.83  77  LR        LR       11 06 22.0
      comp=Z,2μm,18.1s,MS5.0,baz=187,slow=34
RAO   Raoul Island    40.83  77  PFAKE     LR       10 51 20.0 +10
RAO                              LR        LR
      comp=Z,2μm,19.0s,MS5.1
PMG   Port Moresby    41.90  18  P         P        10 51 19.0 +0.5
      comp=Z,94nm,1.1s,mb5.3,baz=185,slow=3.8,SNR=12
PMG                              PP        PP       10 52 56.7 +1.4
      comp=Z,19nm,1.1s,baz=229,slow=2.6,SNR=3.1
PMG                              LR        LR       11 06 53.3
      comp=Z,2μm,21.8s,MS5.0,baz=194,slow=34
PMG   Port Moresby    41.90  18  eP        P        10 51 20.1 +1.6
      comp=Z,138nm,1.2s,mb5.5
PMG                              LR        LR
      comp=Z,2μm,19.0s,MS5.1
PMG   Port Moresby    41.90  18  eP        P        10 51 20.1 +1.7
PMG                              pmax      pmax
      comp=Z,139nm,1.2s
PMG                              MLR       MLR
      comp=Z,2μm,19.0s
HNR   Honiara         45.55  35  LR        LR       11 07 40.3
      comp=Z,758nm,19.3s,MS4.7,baz=182,slow=32
HNR   Honiara         45.55  35  PFAKE     LR       10 52 00.0 +12
HNR                              LR        LR
      comp=Z,925nm,20.0s,MS4.7
SYO   Syowa Base      46.18 210⇓eP          P        10 51 53.3 +0.5
SYO   Syowa Base      46.18 210⇓ePP         PP       10 53 41.8 +0.7
NVL   N'lazarevskaya  52.68 200⇓i P          P        10 52 43.1 +0.7
NVL                              e                  10 54 49.0
NVL                              eS        S        11 00 15.5 +5.4
NVL                              eSS       SS       11 03 55.0 +6.5
NVL                              pmax      pmax
      comp=Z,52nm,1.5s,mb5.2
SNAA  Sanae           54.82 195  P         P        10 52 57.9 -0.2
      comp=Z,20nm,1.1s,mb5.1,baz=148,slow=7.4,SNR=22
SNAA  Sanae           54.82 195⇑i P         P        10 52 57.9 -0.2
SNAA                             e         pP       10 52 59.8 -1.5
SNAA                             e         pP       10 53 00.9 -0.4
SNAA                             e                  10 53 08.7
SNAA                             e                  10 53 49.9
SNAA  Sanae           54.82 195  eP        P        10 52 57.4 -0.7
      comp=Z,66nm,1.0s,mb5.6
SNAA  Sanae           54.82 195  eP        P        10 52 57.4 -0.7
SNAA                             pmax      pmax
      comp=Z,66nm,1.0s
KSM   Kuching         55.79 329  eP        P        10 53 05.3 +0.2
AFI   Afiamalu        56.04  69  LR        LR       11 12 01.2
      comp=Z,924nm,20.2s,MS4.9,baz=223,slow=31
VNA2  Neumayer--Watz  56.20 194⇑i P         P        10 53 06.9 -1.1
VNA2                             e         pP       10 53 08.4 -2.8
VNA2                             e         pP       10 53 10.3 -0.9
VNA2                             e                  10 53 14.6
VNA2                             e                  10 53 17.5
VNA2                             e                  10 53 29.9
VNA2                             e                  10 54 04.7
VNA3  Neumayer Olymp  56.25 193⇑i P         P        10 53 07.5 -0.9
VNA3                             e         pP       10 53 09.0 -2.6
VNA3                             e         pP       10 53 10.9 -0.7
VNA3                             e                  10 53 18.4
VNA3                             e                  10 54 05.3
VNA1  Neumayer--Stat  56.58 194⇑i P         P        10 53 10.4 -0.3
VNA1                             e         pP       10 53 12.0 -1.9
VNA1                             e         pP       10 53 13.3 -0.6
VNA1                             e                  10 54 08.2
DAV   Davao City (W)  57.70 349  PFAKE     LR       10 53 30.0 +11
DAV                              LR        LR
      comp=Z,926nm,20.0s,MS4.9
KULM  Kulim           62.88 321  eP        P        10 53 54.3 +0.2
TBI   Tubuai          63.12  95  eS        S        11 02 30.2 +3.4
      comp=Z,850nm,28.5s
TBI                              eS        S        11 02 31.3 +4.5
      comp=Z,375nm,26.5s
TBI                              eLR       LR       11 12 33.4
      comp=Z,1μm,31.2s,baz=226
GUMO  Guam            64.12  10  LR        LR       11 22 35.5
      comp=Z,325nm,19.0s,MS4.5,baz=108,slow=37
GUMO  Guam            64.12  10  PFAKE     LR       10 54 10.0 +7.7
GUMO                             LR        LR
      comp=Z,623nm,21.0s,MS4.8
PPT   Papeete         67.24  90  eS        S        11 03 21.9 +4.5
      comp=Z,859nm,26.8s
PPT                              eLR       LR       11 14 20.9
      comp=Z,2μm,29.2s,baz=222
PPT   Papeete         67.24  90  LR        LR       11 18 40.3
      comp=Z,1μm,20.3s,MS5.0,baz=239,slow=32
RKT   Rikitea         72.44 105  eLQ       LR       11 13 45.3
      comp=Z,1μm,28.0s
RKT                              eLR       LR       11 16 44.3
      comp=Z,736nm,23.0s,baz=217
QIZ   Qiongzhong      72.54 335  P         P        10 54 55.0 -0.1
QIZ                              S         S        11 04 25.3 +5.8
QIZ                              XS        sS       11 04 31.0 +6.1
QIZ                              SS        SS       11 08 59.3 +1.0
QIZ                              LR        LR
      comp=N,342nm,18.8s,MS4.8
QIZ                              LR        LR
      comp=E,357nm,18.1s,MS4.8
QIZ                              LR        LR
      comp=Z,588nm,27.1s
EFI   East Falkland   77.82 172  PFAKE     LR       10 55 40.0 +15
EFI                              LR        LR
      comp=Z,2μm,21.0s,MS5.3
SUR   Sutherland      79.41 232  LR        LR       11 23 03.3
      comp=Z,793nm,20.9s,MS5.0,baz=322,slow=30
SUR   Sutherland      79.41 232  PFAKE     LR       10 55 50.0 +16
SUR                              LR        LR
      comp=Z,1μm,21.0s,MS5.2
TAOE  Nuku Hiva Isla  79.80  92  eLR       LR       11 20 10.4
      comp=Z,3μm,23.0s,baz=227
BOSA  Boshof          80.08 237  P         P        10 55 39.5 +1.6
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comp=Z,12nm,1.0s,mb4.8,baz=157,slow=8.7,SNR=6.3
BOSA LR LR 11 23 54.1
comp=Z,460nm,19.1s,MS4.8,baz=135,slow=30
BOSA Boshof 80.08 237 *eP* **P 10 55 39.2 +1.3**
comp=Z,24nm,1.3s,mb5.0
BOSA LR LR
comp=Z,541nm,20.0s,MS4.9
BOSA Boshof 80.08 237 *eP* **P 10 55 39.2 +1.3**
BOSA pmax pmax
comp=Z,24nm,1.3s,mb5.0
BOSA MLR MLR
comp=Z,541nm,20.0s,MS4.9
KMI Kunming 80.39 330 P **P 10 55 42.0 +2.5**
KMI AP pP 10 55 45.5 +2.6
KMI PP PP 10 58 48.3 +5.9
KMI S S 11 05 49.8 +4.2
KMI XS sS 11 05 53.3 +2.3
KMI AMB AMB
comp=Z,26nm,1.5s,mb4.9
KMI AMB AMB
comp=Z,130nm,3.1s
KMI LR LR
comp=N,565nm,21.0s,MS5.0
KMI LR LR
comp=E,559nm,22.8s,MS5.0
KMI LR LR
comp=Z,1μm,24.5s,MS5.1
GYA Guiyang 80.47 334⇑ *iP* **P 10 55 40.8 +0.8**
GYA AP pP 10 55 45.5 +2.2
GYA XP sP 10 55 47.8 +3.3
GYA PP PP 10 58 46.3 +3.2
GYA S S 11 05 46.0 -0.4
GYA SKS 11 05 53.5
GYA PS 11 06 34.0
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.9
GYA AMB AMB
comp=Z,180nm,4.9s
GYA LR LR
comp=N,1μm,18.9s,MS5.4
GYA LR LR
comp=E,1μm,19.8s,MS5.4
GYA LR LR
comp=Z,1μm,19.4s,MS5.3
SSE Sheshan 81.94 348 P **P 10 55 49.0 +1.2**
SSE XP sP 10 55 53.5 +1.2
SSE PP PP 10 58 57.8 +2.5
SSE S S 11 06 06.0 +4.3
SSE XS sS 11 06 11.5 +4.3
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,99nm,4.1s
SSE LR LR
comp=N,332nm,24.3s,MS4.6
SSE LR LR
comp=E,58nm,24.3s,MS4.6
SSE LR LR
comp=Z,504nm,24.3s,MS4.8
WHN Wuhan 82.55 342 *eP* **P 10 55 50.3 -0.7**
LBTB Lobatse 82.73 239 LR LR 11 27 55.4
comp=Z,802nm,18.2s,MS5.1,baz=121,slow=32
LBTB Lobatse 82.73 239 *eP* **P 10 55 51.5 -0.5**
comp=Z,17nm,1.3s,mb4.9
LBTB LR LR
comp=Z,1μm,19.0s,MS5.2
LBTB Lobatse 82.73 239 *eP* **P 10 55 51.5 -0.5**
LBTB pmax pmax
comp=Z,17nm,1.3s,mb4.9
LBTB MLR MLR
comp=Z,1μm,19.0s,MS5.2
NJ2 Nanjing 83.22 346 *eP* **P 10 55 53.5 -1.0**
NJ2 AP pP 10 55 58.5 +0.7
NJ2 XP sP 10 56 00.5 +1.5
NJ2 PP PP 10 59 06.0 +0.2
NJ2 S S 11 06 11.0 -3.8
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,80nm,10.8s
NJ2 LR LR
comp=N,1μm,23.6s,MS5.3
NJ2 LR LR
comp=E,440nm,20.0s,MS5.3
NJ2 LR LR
comp=Z,460nm,22.0s,MS4.8
ENH Enshi 83.36 338 *eP* **P 10 55 54.0 -1.2**
comp=Z,56nm,1.4s,mb5.4
ENH LR LR
comp=Z,488nm,21.0s,MS4.9
HYB Hyderabad 83.78 307 *i P* **P 10 55 58.0 +0.7**
HYB Hyderabad 83.78 307 *eP* **P 10 55 58.0 +0.7**
CD2 Chengdu 85.50 333 *eP* **P 10 56 06.5 +0.5**
CD2 XP sP 10 56 14.0 +3.5
CD2 PP PP 10 59 30.3 +6.0
CD2 PPP 11 01 26.8
CD2 S 11 06 39.5
CD2 XS sS 11 06 46.0 +3.0
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb5.3
CD2 AMB AMB
comp=Z,80nm,3.7s
CD2 LR LR
comp=E,430nm,15.8s
CD2 LR LR
comp=Z,280nm,22.8s
MJAR Matsushiro Arr 86.46 2 P **P 10 56 11.5 +0.7**
comp=Z,2.8nm,1.0s,mb4.4,baz=184,slow=3.9,SNR=5.0
MJAR LR LR 11 32 21.2
comp=Z,568nm,20.8s,MS5.0,baz=170,slow=34
PLCA Paso Flores 86.61 161 LR LR 11 33 23.4
comp=Z,443nm,18.4s,MS4.9,baz=169,slow=35
PLCA Paso Flores 86.61 161 PFAKE 10 56 20.0 +8.5
PLCA LR LR
comp=Z,488nm,21.0s,MS4.9
XAN Xi'an 87.10 338 P **P 10 56 14.0 +0.1**
XAN S 11 06 47.3
XAN AMB AMB
comp=Z,13nm,1.9s,mb4.8
XAN AMB AMB
comp=Z,173nm,14.7s
XAN LR LR
comp=N,406nm,30.3s
XAN LR LR
comp=E,173nm,36.4s
XAN LR LR
comp=Z,762nm,30.3s,MS4.9
LSA Lhasa 88.68 323 PFAKE 10 56 30.0 +8.6
LSA LR LR
comp=Z,428nm,22.0s,MS4.8
JIRN Jiri 88.91 318 *eP* **P 10 56 22.0 -0.5**
comp=Z,106nm,1.4s,mb6.0
LSZ Lusaka 88.92 247 LR LR 11 30 35.8
comp=Z,838nm,18.4s,MS5.2,baz=173,slow=32
LSZ Lusaka 88.92 247 *eP* **P 10 56 23.7 +1.1**
comp=Z,23nm,1.2s,mb5.4
LSZ LR LR
comp=Z,809nm,19.0s,MS5.2
LSZ Lusaka 88.92 247 *eP* **P 10 56 23.7 +1.1**
LSZ pmax pmax
comp=Z,23nm,1.2s,mb5.4
LSZ MLR MLR
comp=Z,809nm,19.0s,MS5.2
PKI Pulchoki 89.17 317 *eP* **P 10 56 23.8 0.0**
comp=Z,95nm,1.5s,mb5.9
GUN Gumba 89.26 318 *eP* **P 10 56 24.5 +0.3**
comp=Z,133nm,1.4s,mb6.1
DMN Daman 89.34 317 *eP* **P 10 56 24.8 +0.3**
comp=Z,110nm,1.4s,mb6.0
KKN Kakani 89.42 317 *eP* **P 10 56 25.0 +0.1**
comp=Z,69nm,1.1s,mb5.9
GKN Gorkha 89.88 317 *eP* **P 10 56 26.8 -0.3**
comp=Z,72nm,1.1s,mb5.9
KOLN Koldanda 90.14 316 *eP* **P 10 56 28.0 -0.3**
comp=Z,76nm,1.2s,mb5.9
LZH Lanzhou 90.34 335 ⇓P **P 10 56 30.5 +1.3**
LZH AP pP 10 56 33.8 +1.2
LZH XP sP 10 56 35.5 +1.8
LZH PP PP 11 00 08.3 +5.1
LZH SKS 11 06 59.5
LZH *eS* 11 07 23.5
LZH XS sS 11 07 31.8 +2.6
LZH PS PS 11 08 37.0 +5.8
LZH SS SS 11 13 29.5 +6.1
LZH AMB AMB
comp=Z,43nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,197nm,8.2s
LZH LR LR
comp=N,746nm,16.0s
LZH LR LR
comp=Z,887nm,19.4s,MS5.2
TRQA Tornquist 90.76 166 *eP* **P 10 56 29.5 -1.7**
comp=Z,10nm,1.1s,mb5.1
TRQA LR LR
comp=Z,1μm,22.0s,MS5.3
BJT Baijiatuau 91.44 345 *eP* **P 10 56 33.0 -1.3**
comp=Z,25nm,1.4s,mb5.4
BJT LR LR
comp=Z,660nm,22.0s,MS5.0
BJT Baijiatuau 91.44 345 *eP* **P 10 56 33.1 -1.3**
BJT pmax pmax
comp=Z,25nm,1.4s
BJT MLR MLR
comp=Z,660nm,22.0s
BJI Beijing 91.47 345 *eP* **P 10 56 35.0 +0.5**
BJI S 11 07 33.0
BJI AMB AMB
comp=Z,8.0nm,1.2s,mb4.9
BJI LR LR
comp=N,365nm,18.9s,MS5.1
BJI LR LR
comp=E,535nm,18.5s,MS5.1
BJI LR LR
comp=Z,483nm,27.4s
TSUM Tsumeb 91.78 237 LR LR 11 30 45.2
comp=Z,462nm,19.4s,MS4.9,baz=146,slow=31
TSUM Tsumeb 91.78 237 PFAKE 10 56 50.0 +14
TSUM LR LR
comp=Z,548nm,21.0s,MS5.0
VLA Vladivostok 93.04 358⇑ *eP* **P 10 56 36.5 -5.2**
VLA pmax pmax
comp=Z,38nm,0.8s,mb5.9
VLA MLR MLR
comp=Z,800nm,20.0s,MS5.2
HHC Hu-ho-hao-te 93.08 342 *eP* **P 10 56 43.5 +1.6**
HHC AP pP 10 56 48.3 +3.1
HHC XP sP 10 56 50.5 +4.1
HHC PP PP 11 00 31.0 +6.1
HHC SKS 11 07 15.5
HHC S 11 07 48.8
HHC XS sS 11 07 57.0 +3.0
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.6
HHC LR LR
comp=N,369nm,5.2s
HHC LR LR
comp=E,123nm,3.5s
HHC LR LR
comp=Z,682nm,32.7s,MS4.9
CN2 Changchun 94.06 353 *eP* **P 10 56 47.5 +1.1**
CN2 *eXP* sP 10 56 54.5 +3.5
CN2 *eS* 11 07 56.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
KMBO Kilima Mbogo 94.27 263 LR LR 11 34 54.6
comp=Z,435nm,18.1s,MS5.0,baz=275,slow=33
KMBO Kilima Mbogo 94.27 263 PFAKE 10 57 00.0 +13
KMBO LR LR
comp=Z,354nm,19.0s,MS4.8
MDJ Mudanjiang 94.61 356 P **P 10 56 50.8 +1.8**
MDJ AP pP 10 56 54.0 +1.7
MDJ XP sP 10 56 55.3 +1.8
MDJ PP PP 11 00 39.8 +2.9
MDJ S 11 08 05.0
MDJ XS sS 11 08 11.0 +3.5
MDJ AMB AMB
comp=Z,311nm,5.2s
MDJ LR LR
comp=N,275nm,46.3s
MDJ LR LR
comp=E,151nm,39.8s
MDJ LR LR
comp=Z,296nm,33.4s
MDJ Mudanjiang 94.61 356 PFAKE 10 57 00.0 +11
MDJ LR LR
comp=Z,452nm,19.0s,MS5.0
HIA Hailar 100.03 350 PFAKE 10 57 20.0 +6.6
HIA LR LR
comp=Z,562nm,22.0s,MS5.0
HIA Hailar 100.03 350 *eP* Pdif 10 57 11.7 -1.7
ULN Ulaanbaatar 100.72 341 PFAKE 10 57 30.0 +14
ULN LR LR
comp=Z,385nm,21.0s,MS4.9
SONM Songino Array 100.83 341 P Pdif 10 57 18.0 +1.1
comp=Z,0.7nm,1.0s,baz=145,slow=5.3,SNR=4.5
WMQ Urumqi 102.44 327 *eP* Pdif 10 57 24.3 +0.2
WMQ AMB AMB
comp=Z,11nm,1.2s
WMQ AMB AMB
comp=Z,85nm,4.2s
WMQ LR LR
comp=N,654nm,22.2s,MS5.3
WMQ LR LR
comp=E,662nm,21.2s,MS5.3
WMQ LR LR
comp=Z,689nm,22.0s,MS5.1
CPUP Villa Florida 102.94 168 PFAKE 10 57 40.0 +14
CPUP LR LR
comp=Z,206nm,19.0s,MS4.7
LVC Limon Verde 104.36 157 PFAKE 10 57 50.0 +17
LVC LR LR
comp=Z,486nm,20.0s,MS5.0
MA2 Magadan 110.19 8 PFAKE 11 02 10.0 +10
MA2 LR LR
comp=Z,342nm,22.0s,MS4.9
LPAZ La Paz 110.62 156 PFAKE 11 02 10.0 +9.2
LPAZ LR LR
comp=Z,315nm,19.0s,MS4.9
KURK Kurchatov 111.56 325 *i* PKIKP PKiKP 11 02 00.1 -2.4
YAK Yakutsk 112.02 357 PFAKE 11 02 10.0 +6.6
YAK LR LR
comp=Z,570nm,22.0s,MS5.1
YAK Yakutsk 112.02 357⇑ *i* PKIKP PKiKP 11 01 59.4 -4.0
YAK MLR MLR
comp=Z,400nm,17.0s,MS5.1
GNI Garni 119.79 298 PFAKE 11 02 30.0 +12
GNI LR LR
comp=Z,348nm,22.0s,MS5.0
GNI Garni 119.79 298⇑ *i* PKIKP PKPdf 11 02 16.5 -1.8
GNI MLR MLR
comp=Z,200nm,20.0s
BILL Bilibino 120.23 13 PFAKE 11 02 30.0 +11
BILL LR LR
comp=Z,324nm,20.0s,MS5.0
BILL Bilibino 120.23 13 *i* PKIKP PKPdf 11 02 15.0 -4.2
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL MLR MLR
comp=Z,200nm,21.0s,MS4.7
TIXI Tiksi 121.68 358 *i* PKIKP PKPdf 11 02 18.7 -3.3
TIXI *eSS* SS 11 20 26.4 -4.2
TIXI pmax pmax
comp=Z,3.0nm,1.2s
ZEI Tsey 122.00 300 *i* PKIKP PKPdf 11 02 21.1 -1.5
ZEI *i* 11 03 54.8
OTAV Otavalo 122.49 139 PFAKE 11 02 40.0 +16
OTAV LR LR
comp=Z,221nm,19.0s,MS4.8
KIV Kislovodsk 123.44 300⇑ *i* PKIKP PKPdf 11 02 24.9 -0.4
RCBR Riachuelo 123.62 191 PFAKE 11 02 40.0 +14
RCBR LR LR
comp=Z,911nm,20.0s,MS5.4
ARU Arti 123.74 319 *i* PKIKP PKPdf 11 02 25.2 -0.7
ARU *e* 11 09 23.2
ARU *ePS* PS 11 14 01.8 -4.1
ARU *eSS* SS 11 20 48.9 -7.9
ARU MLR MLR
comp=Z,300nm,19.0s,MS5.0
ARU MLR MLR
comp=N,300nm,18.0s,MS5.1
ARU MLR MLR
comp=E,300nm,20.0s,MS5.1
SOC Sochi 124.87 298 *i* PKIKP PKPdf 11 02 27.1 -1.0
SOC *e* 11 04 14.8
SOC *ePS* PS 11 14 22.9 +7.1
DBIC Dimbokro 125.29 231 PFAKE 11 02 40.0 +11
DBIC LR LR
comp=Z,398nm,19.0s,MS5.1
SLKM Skilak Lake 125.56 36 *ePKPdf* PKPdf 11 02 23.7 -5.7
BRTR Keskin Array B 126.00 291 PKP PKPdf 11 02 30.1 -0.1
comp=Z,1.0nm,0.8s,baz=151,slow=2.8,SNR=5.8
BRTR Keskin Array B 126.00 291 *i* PKIKP PKPdf 11 02 30.7 +0.5
BRTR pmax pmax
comp=Z,1.0nm,0.8s
ISA Isabella 126.26 76 PFAKE 11 02 40.0 +9.3
ISA LR LR
comp=Z,134nm,19.0s,MS4.6
CMB Columbia Colle 126.59 72 PFAKE 11 02 40.0 +8.6
CMB LR LR
comp=Z,300nm,22.0s,MS4.9
PMR Palmer 126.66 35 PFAKE 11 02 40.0 +8.5
PMR LR LR
comp=Z,421nm,20.0s,MS5.1
TORD Torodi Ar. Bea 127.17 242 PKP PKPdf 11 02 33.2 +0.8
comp=Z,2.3nm,1.0s,baz=88,slow=0.7,SNR=8.6
MCK McKinley 128.07 33 *ePKPdf* PKPdf 11 02 30.8 -3.4
MCK LR LR
comp=Z,237nm,20.0s,MS4.9
NVAR Mina Array Bea 128.12 73 PKP PKPdf 11 02 34.8 +0.5
comp=Z,2.1nm,0.9s,baz=182,slow=3.9,SNR=9.2
JTS JuntasAbangare 128.21 126 PFAKE 11 02 50.0 +16
JTS LR LR
comp=Z,321nm,19.0s,MS5.0
COLA College 129.14 32 *ePKPdf* PKPdf 11 02 35.4 -0.9
COLA LR LR
comp=Z,353nm,21.0s,MS5.0
ILAR Eielson Array 129.41 33 PKP PKPdf 11 02 35.2 -1.5
comp=Z,1.4nm,1.0s,baz=291,slow=2.6,SNR=8.1
DAWY Dawson 131.74 36 *ePKPdf* PKPdf 11 02 40.5 -0.7
BNM Barren Site 132.79 85 *ePKPdf* PKPdf 11 02 44.1 +1.0
MOS Moscow 132.89 310 *ePKHKP* 11 02 31.6
OBN Obninsk 133.10 309 *i* PKIKP PKPdf 11 02 43.9 +0.2
OBN *e* 11 05 07.3
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.8
ANMO Albuquerque 133.40 85 PKPdf PKPdf 11 02 44.2 -0.1
ANMO LR LR
comp=Z,535nm,21.0s,MS5.2
SDV Santo Domingo 133.50 143 PFAKE 11 03 00.0 +16
SDV LR LR
comp=Z,342nm,20.0s,MS5.1
PV01 Paradox Valley 134.01 80 *ePKPdf* PKPdf 11 02 45.0 -0.5
NEW Newport 134.45 63 PFAKE 11 03 00.0 +14
NEW LR LR
comp=Z,647nm,19.0s,MS5.4
AKASG Malin Array Be 134.79 301 PKP PKPdf 11 02 47.7 +0.8
comp=Z,0.3nm,0.3s,baz=89,slow=1.9,SNR=5.2
AKASG PP PP 11 05 22.3 +1.7
comp=Z,0.2nm,0.3s,baz=120,slow=4.5,SNR=6.6
AKASG Malin Array Be 134.79 301 PKP PKPdf 11 02 47.7 +0.8
AKASG PP PP 11 05 22.3 +1.7
SDCO Great Sand Dun 135.72 82 PFAKE 11 03 00.0 +11
SDCO LR LR
comp=Z,797nm,21.0s,MS5.4
INK Inuvik 135.80 32 *ePKPdf* PKPdf 11 02 48.1 -0.7
PDAR Pinedale Array 136.05 74 PKP PKPdf 11 02 48.9 -0.4
comp=Z,1.2nm,1.1s,baz=199,slow=3.1,SNR=5.4
WMOK Wichita Mounta 138.19 91 *ePKPdf* PKPdf 11 02 54.3 +1.1
VSU Vasula 139.42 310⇑ *i* PKIKP PKPdf 11 02 50.3 -5.2
FINES FINESS Array B 140.69 314 PKhKP 11 02 50.8
comp=Z,2.0nm,0.8s,baz=66,slow=4.8,SNR=4.9
FINES FINESS Array B 140.69 314 *i* PKHKP 11 02 50.7
FINES pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 141.42 44 PKhKP 11 02 50.2
comp=Z,0.6nm,0.8s,baz=256,slow=2.8,SNR=12
ARCES ARCESS Array B 142.57 327 PKhKP 11 02 55.4
comp=Z,4.4nm,0.7s,baz=101,slow=0.6,SNR=9.9
GEC2 GERESS Array S 142.90 291 *ePKPbc* PKPdf 11 02 57.8 -3.9
GEC2 GERESS Array S 142.90 291 *ePKPbc* PKPdf 11 02 57.8 -3.9
GERES GERESS Array B 142.90 291 PKhKP 11 02 57.6
comp=Z,3.5nm,0.8s,baz=134,slow=3.9,SNR=12
KHC Kasperske Hory 143.09 291 ⇓ *i* PKIKP PKPdf 11 03 02.2 +0.1
BRG Berggiesshubel 143.57 294 *ePKPbc* PKPdf 11 02 59.8 -3.1
BRG Berggiesshubel 143.57 294 *eP* PKPdf 11 03 00.0 -2.9
comp=Z,18nm,1.9s
BRG *e* 11 03 05.2
comp=Z,6.8nm,1.2s
FUR Furstenfeldbru 144.07 289 *ePKPbc* PKPdf 11 03 01.2 -2.6
ROTZ Rotzenmuhle 144.17 292 *ePKPbc* PKPdf 11 03 01.9 -2.0
CLL Collm 144.28 295 *ePKPpre* 11 03 03.1
CLL *ePKPdf* PKPdf 11 03 06.6 +2.5
CLL Collm 144.28 295 *i* PKPpre 11 03 00.8
comp=Z,9.0nm,1.1s
CLL ⇓ *i* PKPdf PKPdf 11 03 03.0 -1.1
comp=Z,25nm,1.0s
CLL *i* pPKPdf pPKPdf 11 03 06.7 -0.9
comp=Z,32nm,1.1s
CLL *i* pPKiKP 11 03 10.8
CLL Collm 144.28 295 *i* PKHKP 11 03 00.8
CLL *i* 11 03 03.0
CLL *i* 11 03 06.7
MANZ Manzenberg 144.31 292 *ePKPbc* PKPdf 11 03 02.4 -1.8
DAVOX Davos 144.33 286 PKP PKPdf 11 03 02.6 -1.7
comp=Z,21nm,1.0s,baz=114,slow=6.1,SNR=10
OJBR Djebel Berber 144.45 263 P PKPdf 11 03 06.0 +1.6
BSD Bornholm Skovb 144.48 301 *i* P PKPdf 11 03 04.2 -0.3
comp=Z,41nm,1.1s
BSD Bornholm Skovb 144.48 301 *ePKIKP* PKPdf 11 03 04.2 -0.3
SAOF Saorge 144.49 280 PKP PKPdf 11 03 04.9 +0.4
SBF Sospel 144.51 280 *ePKP1* PKPdf 11 03 04.3 -0.2
comp=Z,195nm,1.2s
OKGL Djebel Kef Gue 144.54 264 P PKPdf 11 03 05.0 +0.4
GNAR Gosnell 144.57 96 PKPdf PKPdf 11 03 03.0 -1.6
LRAL Lakeview Retre 144.60 103 *ePKPdf* PKPdf 11 03 01.9 -2.8
ODJA Bouhanifia 144.61 262 P PKPdf 11 03 04.0 -0.7
MVIF Mont Vial 144.70 280 PKP PKPdf 11 03 04.5 -0.4
GRA1 Grafenberg Arr 144.73 291 *ePKPbc* PKPdf 11 03 02.9 -2.0
GRF Grafenberg Arr 144.73 291 *ePKPbc* PKPdf 11 03 02.9 -2.0
LMR La Mourre 144.83 279 *ePKP1* PKPdf 11 03 04.6 -0.5
comp=Z,120nm,1.3s
MOX Moxa 144.85 293 *ePKPbc* PKPdf 11 03 03.2 -1.9
MOX Moxa 144.85 293 *ePKP* PKPdf 11 03 03.4 -1.7
comp=Z,71nm,1.6s
FRF La Foret Royal 144.86 279 *ePKP1* PKPdf 11 03 04.7 -0.4
comp=Z,102nm,1.2s
PLAL Pickwick Lake 145.19 99 *ePKPdf* PKPdf 11 03 03.2 -2.5
SURF Saint Ours 145.20 281 PKP PKPdf 11 03 06.5 +0.8
GLAT Glass 145.22 96 *ePKPdf* PKPdf 11 03 03.3 -2.4
TAVF Tavernes 145.26 279 PKP PKPdf 11 03 07.2 +1.4
ETOS Mallorca 145.33 271 PKP PKPdf 11 03 03.5 -2.4
MBDF Montbardon 145.34 281 *ePKP1* PKPbc 11 03 05.9 +0.1
comp=Z,71nm,1.0s
BERF Bertagne 145.34 278 PKP PKPdf 11 03 07.6 +1.6
PUYF Puyloubier 145.44 279 PKP PKPdf 11 03 07.6 +1.4
FVM French Village 145.52 93 *ePKPdf* PKPdf 11 03 05.2 -1.1
STOF St-Etienne Org 145.54 280 PKP PKPdf 11 03 07.9 +1.6
GELF Grande-Etoile 145.54 278 PKP PKPdf 11 03 05.9 -0.4
BNI Bardonecchia 145.55 282 *ePKPdf* PKPdf 11 03 06.1 -0.3
SPAK Spaichingen 145.57 288 PKP PKPdf 11 03 06.3 -0.1
VILF Villemus 145.59 279 PKP PKPdf 11 03 06.3 -0.1
TREF Trevaresse 145.69 279 PKP PKPdf 11 03 07.6 +1.0
FFC Flin Flon 145.70 60 *ePKPdf* PKPdf 11 03 05.6 -1.0
LPG La Plagne 145.71 282 *ePKP1* PKPbc 11 03 07.2 +0.2
comp=Z,68nm,1.0s
LPL La Plagne 145.73 282 *ePKP1* PKPbc 11 03 07.3 +0.3
comp=Z,133nm,1.1s
SMRF Simiane la Rot 145.74 279 *ePKP1* PKPbc 11 03 08.0 +0.9
comp=Z,83nm,1.3s
EIBI Ibiza 145.86 269 PKP PKPdf 11 03 07.3 +0.4
UBBA Unterbreizbach 145.87 293 *ePKPbc* PKPbc 11 03 06.6 -0.9
BFO Black Forest 145.94 288 *ePKPbc* PKPbc 11 03 07.7 0.0
BFO Black Forest 145.94 288 *ePKPbc* PKPbc 11 03 07.7 0.0
GDM Grand'Maison 145.97 282 PKP PKPdf 11 03 08.4 +1.3
ORIF Oris-en-Rattie 145.99 281 *ePKP1* PKPbc 11 03 08.1 +0.3
comp=Z,79nm,1.3s
CLZ Clausthal 146.01 294 *ePKPbc* PKPbc 11 03 07.3 -0.6
WVT Waverly 146.06 98 *ePKPdf* PKPdf 11 03 05.5 -1.7
SIUC Southern Illin 146.13 94 *ePKPdf* PKPdf 11 03 06.8 -0.5
TOD Tromm 146.15 290 PKP PKPdf 11 03 07.9 +0.6
GRN Grenoble 146.22 281 PKP PKPdf 11 03 09.0 +1.5
LOMF Lomont 146.46 285 PKP PKPdf 11 03 06.8 -1.1
MOF Molkenrain 146.48 286 PKP PKPdf 11 03 10.3 +2.4
LANF Langenberg 146.51 289 PKP PKPdf 11 03 09.9 +1.9
CART Cartagena 146.53 265 *ePKPdf* PKPdf 11 03 09.3 +1.3
WLS Welschbruch 146.57 287 PKP PKPdf 11 03 07.6 -0.5
TNS Taunus Mts 146.59 291 *ePKPbc* PKPbc 11 03 09.3 -0.3
TNS Taunus Mts 146.59 291 *ePKPbc* PKPbc 11 03 09.3 -0.3
ECH Echery 146.61 287 PKP PKPdf 11 03 08.7 +0.6
CABF La Chapelle 146.61 284 *ePKP1* PKPbc 11 03 09.7 0.0
comp=Z,84nm,1.2s
CDF Champ du Feu 146.62 287 *ePKP1* PKPbc 11 03 08.9 -0.8

HINF	Hinteralfeld	146.64	286	*e*PKP1	PKPbc	11 03 08.9	-0.9
	comp=Z,45nm,1.2s						
EBEN	Beniarda	146.68	267	PKP	PKPdf	11 03 09.9	+1.7
BSEG	Bad Segeberg	146.69	298	*e*PKPbc	PKPbc	11 03 09.7	-0.2
BSEG	Bad Segeberg	146.69	298	*e*PKPbc	PKPbc	11 03 09.7	-0.2
VIVF	Saint-Julien-l'	146.72	280	*e*PKP1	PKPbc	11 03 10.0	0.0
	comp=Z,38nm,1.1s						
LASF	Ste Croix	146.88	278	*e*PKP1	PKPbc	11 03 10.7	+0.3
	comp=Z,86nm,1.4s						
ABH	Alteburg	147.00	290	PKP	PKPdf	11 03 09.5	+0.7
HAU	Haudompre	147.03	286	*e*PKP1	PKPbc	11 03 11.4	+0.5
	comp=Z,136nm,1.4s						
HAU				*e*R			
	comp=Z,235nm,22.2s						
HAU	Haudompre	147.03	286	*e*PKP2	PKPab	11 03 11.4	-1.0
HAU				MLR	MLR		
	comp=Z,240nm,22.3s,MS4.9						
RUP	Ruppelstein	147.23	289	PKP	PKPdf	11 03 08.5	-0.7
EPOB	Poblet	147.30	272	PKP	PKPbc	11 03 11.7	+0.1
EBER	Berja	147.32	262	PKP	PKPbc	11 03 12.4	+0.7
THEF	They Montfort	147.34	286	PKP	PKPbc	11 03 11.3	-0.4
ETOB	Tobarra	147.50	266	PKP	PKPbc	11 03 12.6	+0.4
MTLF	Montolieu	147.57	276	*e*PKP1	PKPbc	11 03 12.6	+0.2
	comp=Z,90nm,1.4s						
NOA	NORSAR Array B	147.64	311	PKP	PKPdf	11 03 08.2	-1.7
	comp=Z,12nm,1.0s,baz=248,slow=3.0,SNR=10						
NOA				PKPbc	PKPbc	11 03 11.6	-1.0
	comp=Z,12nm,1.0s,baz=247,slow=3.0,SNR=10.0						
ECHE	Chera	147.66	268	PKP	PKPbc	11 03 13.8	+1.2
EHUE	Huescar	147.68	264	PKP	PKPbc	11 03 12.4	-0.3
EGUA	Guajares	147.71	261	PKP	PKPbc	11 03 13.0	+0.3
EMOS	Mosqueruela	147.76	269	PKP	PKPbc	11 03 13.4	+0.5
WLF				XPKPbc		11 03 16.6	
WLF	Walferdange	147.77	289	PKPbc	PKPbc	11 03 14.1	+1.2
NAO01	NORSAR Array S	147.78	311	*e*PKPbc	PKPbc	11 03 11.0	-1.9
LBL	Lubilhac	147.79	280	PKP	PKPdf	11 03 11.1	+1.0
ULM	Lac du Bonnet	147.83	70	PKP	PKPdf	11 03 06.9	-3.3
	comp=Z,9,6nm,1.1s,baz=172,slow=2.9,SNR=5.9						
ULM				PKPbc	PKPbc	11 03 09.9	-3.1
	comp=Z,21nm,1.2s,baz=239,slow=3.8,SNR=11						
PLDF	La Plantade	147.88	281	PKP	PKPbc	11 03 12.9	-0.3
ERON	Agron	147.97	261	PKP	PKPbc	11 03 14.3	+0.9
MEZF	Maizieres J'vi	148.02	286	*e*PKP1	PKPbc	11 03 13.5	-0.1
	comp=Z,36nm,1.0s						
SMF	Signal de Mont	148.03	283	*e*PKP1	PKPbc	11 03 13.3	-0.3
	comp=Z,74nm,1.3s						
RES	Resolute Bay	148.05	23	*e*PKPdf	PKPdf	11 03 09.6	-0.9
RES				*e*PKPbc	PKPbc	11 03 11.3	-2.4
EVIA	Vianos	148.10	265	PKP	PKPbc	11 03 14.0	+0.2
PYM	Petit Puy Mans	148.17	281	PKP	PKPdf	11 03 09.7	-1.0
EGRA	Graus	148.22	273	PKP	PKPbc	11 03 14.8	+0.7
ELOJ	Sierra Loja	148.27	261	PKP	PKPbc	11 03 14.4	+0.1
LOR	Lormes	148.27	284	*e*PKP1	PKPbc	11 03 14.1	-0.2
	comp=Z,101nm,1.7s						
LOR				*e*R			
	comp=Z,275nm,21.0s						
LOR	Lormes	148.27	284	*e*PKP2	PKPbc	11 03 14.1	-0.2
LOR				MLR	MLR		
	comp=Z,280nm,21.0s,MS5.0						
WCI	Wyandotte Cave	148.30	96	*e*PKPdf	PKPdf	11 03 08.3	-2.6
AVF	Avril sur Loir	148.40	283	*e*PKP1	PKPbc	11 03 14.3	-0.3
	comp=Z,64nm,1.3s						
CAF	Calviac	148.41	279	*e*PKP1	PKPbc	11 03 15.0	+0.4
	comp=Z,44nm,1.0s						
SSF	Saint Saulge	148.41	283	*e*PKP1	PKPbc	11 03 14.6	0.0
	comp=Z,95nm,1.2s						
ESAC	San Caprasio	148.48	272	PKP	PKPbc	11 03 15.7	+0.9
EBIE	Bielsa	148.57	274	PKP	PKPbc	11 03 15.7	+0.7
ELUQ	Luque	148.59	262	PKP	PKPdf	11 03 14.2	+2.8
BGF	Bois d'Agland	148.62	282	*e*PKP1	PKPbc	11 03 15.5	+0.3
EPF	Esparros	148.62	274	*e*PKP1	PKPbc	11 03 15.5	+0.3
	comp=Z,41nm,1.0s						
EBAN	Banos Encina	148.65	263	PKP	PKPbc	11 03 14.9	-0.4
GIVF	Givet	148.73	289	*e*PKP1	PKPbc	11 03 15.3	-0.1
	comp=Z,70nm,1.1s						
DOU	Dourbes	148.87	289	PKPbc	PKPbc	11 03 16.7	+0.9
DOU				XPKPbc		11 03 20.9	
DOU				XPKPab		11 03 25.8	
TCF	Toulx Ste Croi	148.91	281	*e*PKP1	PKPbc	11 03 16.2	+0.3
	comp=Z,78nm,1.5s						
RJF	Les Rejaudoux	148.92	279	*e*PKP1	PKPbc	11 03 16.3	+0.4
	comp=Z,88nm,1.3s						
RJF				*e*R			
	comp=Z,402nm,22.5s						
RJF	Les Rejaudoux	148.92	279	*e*PKP2	PKPbc	11 03 16.3	+0.4
RJF				MLR	MLR		
	comp=Z,400nm,22.5s,MS5.2						
JSC	Jenkinsville	148.99	107	*e*PKPbc	PKPbc	11 03 14.9	-1.2
HYF	Humbligny	149.03	283	*e*PKP1	PKPbc	11 03 16.4	+0.2
BAIF	Baives	149.09	289	*e*PKP1	PKPbc	11 03 16.3	-0.1
	comp=Z,109nm,1.3s						
ETSF	Etsaut	149.13	274	*e*PKP1	PKPbc	11 03 16.2	-0.3
	comp=Z,71nm,1.3s						
EADA	Adamuz	149.15	263	PKP	PKPbc	11 03 16.2	-0.4
ESPR	Espera	149.18	259	PKP	PKPbc	11 03 16.8	+0.2
LFF	La Frestale	149.25	278	*e*PKP1	PKPbc	11 03 16.4	-0.4
ESDC	Sonseca Array	149.62	265	PKPbc	PKPbc	11 03 18.3	+0.6
	comp=Z,6.1nm,0.9s,baz=94,slow=1.5,SNR=17						
ESDC	Sonseca Array	149.62	265	PKP	PKPbc	11 03 17.4	-0.3
ESLA	Sonseca Array	149.62	265	*e*PKPbc	PKPbc	11 03 17.9	+0.2
ESLA				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
SJPF	Ste Jean	149.66	273	*e*PKP1	PKPbc	11 03 18.7	+0.9
	comp=Z,88nm,1.1s						
ELIZ	Elizondo	149.88	273	PKP	PKPbc	11 03 18.5	+0.1
EALK	Alkurruntz	149.89	273	PKP	PKPbc	11 03 18.3	0.0
EMIN	Mina Concepcio	150.24	260	PKP	PKPbc	11 03 18.2	-1.0
GUD	Guadarrama	150.28	267	PKP	PKPbc	11 03 19.0	-0.3
MFF	Saint Martin d	150.52	280	*e*PKP1	PKPbc	11 03 20.0	+0.1
	comp=Z,81nm,1.2s						
FCC	Fort Churchill	150.73	54	*e*PKPdf	PKPdf	11 03 12.8	-2.0
FCC				*e*PKPbc	PKPbc	11 03 18.0	-2.4
LDF	La Druitiere	151.25	284	*e*PKP1	PKPbc	11 03 21.4	-0.2
	comp=Z,39nm,1.0s						
BLA	Blacksburg	151.40	103	*e*PKPbc	PKPbc	11 03 20.3	-1.6
DAG	Danmarks Havn	151.51	348	⇓*i*P	PKPbc	11 03 20.2	-2.0
	comp=Z,11nm,1.0s						
DAG	Danmarks Havn	151.51	348	⇓*e*PKIKP	PKPbc	11 03 20.2	-2.0
DAG				pmax	pmax		
	comp=Z,11nm,1.0s						
EVO	Evora	151.55	260	*e*PKIKP	PKPdf	11 03 14.9	-1.2
	comp=Z,62nm,1.3s						
EVO				*e*R			
	comp=Z,410nm,23.0s						
ACSO	Alum Creek Sta	151.56	96	*e*PKPbc	PKPbc	11 03 19.3	-2.9
GRR	Gorron	151.64	283	*e*PKP1	PKPbc	11 03 22.1	-0.4
	comp=Z,46nm,1.1s						
QUIF	Quistinic	152.92	281	*e*PKP1	PKPbc	11 03 25.3	0.0
	comp=Z,138nm,1.5s						
ROSF	Rostrenen	153.13	282	*e*PKP1	PKPbc	11 03 25.3	-0.5
	comp=Z,94nm,1.3s						
EKA	Eskdalemuir Ar	154.64	298	PKPab	PKPab	11 03 42.8	-1.0
	comp=Z,4.3nm,0.9s,baz=66,slow=9.2,SNR=3.7						

*IDC **29** 10:56:46.0±2.3,3261N×7557E,h0km,mb3.7/5,mb1 3.8/6, mb1mx3.5/24,mbtmp3.7/6,ML3.6/1,MS3.5/1,Ms1 3.5/1, ms1mx2.8/28, Error ellipse: s-maj=48.3km s-min=28.8km az=146.0*

*ISCJB **29** 10:56:48.0±1.1,3274N±006×7550E±009,h23km±8km, mb3.5/5,MS3.4/1,Error ellipse: s-maj=15.3km s-min=6.1km az=110.1*

*NEIC **29** 10:56:56.9±3.3,3319N×7574E,h45km,mb3.7/4,Error ellipse: s-maj=46.6km s-min=22.6km az=189.0*

*NDI **29** 10:56:57.4±6.0,3307N×7556E,h33km,ML3.6, mb3.7(NEIC)*

ISC 29 10:56:49.1±1.2,3271N±006×7553E±009,h18km±7km,n26, σ1§07/31,mb3.5/5,MS3.4/1,Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	0.41	114	*e*P	Pg	10 56 55.0	-2.5
DLH				*e*S	Sg	10 57 05.0	+1.9
PONG	Pong	0.83	155	*ex*	Pb	10 57 05.0	-0.1
PONG				*ex*	x	10 57 25.0	
BHK	Bhakra	1.49	149	*e*P	Pn	10 57 28.1	+13
BHK				*e*S	Sn	10 57 49.3	+15
SDNR	Sundarnagar	1.72	134	*e*P	Pn	10 57 17.0	-1.1
SDNR				*e*S	Sn	10 57 40.6	+1.0
SMLA	Simla	2.10	138	*e*P	Pn	10 57 21.0	-2.5
SMLA				*e*S	Sn	10 57 48.2	-0.9
NIL	Nilore	2.13	297	Pn	Pn	10 57 30.2	+6.4
	226nm,0.5s,SNR=5.3						
KLP	Kalpa	2.59	116	*e*P	Pn	10 57 30.8	+0.7
KLP				*e*S	Sn	10 58 01.7	+0.5
KLP				AML	AML	10 58 11.1	
	comp=E,400nm,0.5s						
KLP				AML	AML	10 58 11.7	
	comp=N,264nm,0.5s						
DDI	Dehra Dun	3.21	137	*e*P	Pn	10 57 51.2	+13
DDI				*e*S	Sn	10 58 24.2	+7.7
RTK	Rohtak	3.74	168	*e*P	Pn	10 57 56.0	+10
NDI	New Delhi	4.27	160	*ex*	Pn	10 58 00.0	+6.8
SONA	Sohna	4.64	163	*ex*	Pn	10 57 59.0	+0.6
SONA				*ex*	x	10 58 20.0	
SONA				AML	AML	10 59 25.8	
	comp=N,111nm,0.4s						
SONA				AML	AML	10 59 29.2	
	comp=E,123nm,0.4s						
AJM	Ajmer	6.26	187	*ex*	Sn	10 59 19.1	-12
MKAR	Makanchi Array	14.99	18	Pn	Pn	11 00 19.2	-0.8
	comp=E,0.3nm,0.3s,baz=199,slow=13,SNR=11						
SHL	Shillong	15.95	112	*ex*	x	10 56 03.0	
KURK	Kurchatov	18.14	6	*e*P	Pn	11 00 57.6	-2.5
	comp=E,1.8nm,0.6s						
BVAR	Borovoye Array	20.64	351	P	P	11 01 28.5	+0.8
	comp=E,7.0nm,0.6s,baz=156,slow=10,SNR=52						
BRVK	Borovoye	20.69	351	*e*P	P	11 01 28.6	+0.4
	comp=E,7.9nm,0.6s						
ZRNK	Zerenda	20.77	349	*e*P	P	11 01 29.6	+0.5
	comp=E,3.2nm,0.5s						
CHKZ	Chkalovo	21.25	352	*e*P	P	11 01 34.1	-0.2
	comp=E,2.5nm,0.8s,mb3.6						
AKTK	Aktyubinsk	21.93	329	P	P	11 01 42.2	+0.7
AKTO	Aktyubinsk	21.93	329	P	P	11 01 42.2	+0.7
	comp=E,1.5nm,0.6s,mb3.6,baz=131,slow=11,SNR=6.9						
ZAL	Zalesovo	22.23	15	P	P	11 01 44.5	-0.2
	comp=E,1.1nm,0.5s,mb3.6,baz=274,slow=8.7,SNR=4.1						
ZAL	Zalesovo	22.23	15	P	P	11 01 44.5	-0.2
SONM	Songino Array	27.75	48	P	P	11 02 37.1	+0.4
	comp=E,0.3nm,0.6s,mb3.1,baz=249,slow=9.5,SNR=3.0						
SONM				LR	LR	11 16 21.1	
	comp=E,102nm,19.9s,MS3.4,baz=73,slow=42						
SONM	Songino Array	27.75	48	P	P	11 02 37.1	+0.4
SONM				LR	LR	11 16 21.1	
TORD	Torodi Ar. Bea	69.50	273	P	P	11 07 57.0	+0.4
	comp=E,0.3nm,0.5s,mb3.5,baz=55,slow=4.9,SNR=6.4						

*IDC **29** 11:08:42.4±0.8,3002N×14282E,h0km,mb3.8/9, mb1 4.0/11,mb1mx3.9/21,mbtmp3.8/11,ML3.6/2,MS4.6/3, Ms1 4.5/3,ms1mx3.4/29,Error ellipse: s-maj=30.1km s-min=17.9km az=83.0*

*ISCJB **29** 11:08:44.0±2.3,30.14N±006×1426E±02,h23km±17km, mb3.8/9,MS4.7/3,Error ellipse: s-maj=23.0km s-min=8.2km az=141.6*

*JMA **29** 11:08:44.4±0.2,3002N×14254E,h52km,M4.3*

ISC 29 11:08:46.5±2.4,3013N±006×1427E±02,h27km±17km,n26, σ0§98/27,mb3.8/9,MS4.7/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.05	188	*e*S	Sn	11 10 03.4	-5.1
JHJ2	Mitsune	3.83	322	P	Pn	11 09 43.2	-0.5
JHJ	Hachijo jima 2	3.86	321	Pn	Pn	11 09 43.5	-0.6
	7.4nm,0.3s,baz=253,slow=19,SNR=5.6						
JHJ				Sn	Sn	11 10 26.9	-1.6
	15nm,0.3s,baz=258,slow=22,SNR=3.9						
BSO1	Boso 1	4.73	343	P	Pn	11 09 55.8	-0.3
BSO1				*e*S	Sn	11 10 48.7	-1.3
BSO2	Boso 2	4.88	341	S	Sn	11 10 53.6	-0.1
BSO3	Boso 3	5.00	339	P	Pn	11 10 00.3	+0.5
JOD2	Odawara 2	5.94	331	P	Pn	11 10 12.9	+0.3
JHU	Hanno	6.37	334	P	Pn	11 10 18.6	0.0
JHU				*e*S	Sn	11 11 27.0	-3.4
JRY	Ryogami san	6.66	333	P	Pn	11 10 23.5	+0.9
JHO	Hitachi	6.70	345	P	Pn	11 10 21.7	-1.4
JAG	Ashikaga	6.83	338	P	Pn	11 10 24.7	-0.2
MJAR	Matsushiro Arr	7.40	331	Pn	Pn	11 10 33.4	+0.7
	1.4nm,0.3s,baz=158,slow=11,SNR=13						
MJAR				Sn	Sn	11 11 56.7	+1.0
	0.7nm,0.3s,baz=91,slow=9.5,SNR=3.3						
MAT	Matsushiro	7.40	331	P	Pn	11 10 33.7	+1.0
SONM	Songino Array	32.89	313	P	P	11 15 21.1	+2.9
	0.7nm,0.8s,mb3.6,baz=110,slow=7.3,SNR=5.3						
MKAR	Makanchi Array	48.91	308	P	P	11 17 31.7	+1.6
	0.8nm,0.7s,mb3.8,baz=89,slow=9.4,SNR=7.8						
WB2	Warramunga Arr	50.42	190	*e*P	P	11 17 40.5	-1.0
WRA	Warramunga Arr	50.42	190	P	P	11 17 40.5	-1.0
	1.8nm,0.6s,mb4.3,baz=9.1,slow=7.9,SNR=21						
WRA				PcP	PcP	11 19 01.3	+1.7
	0.4nm,0.6s,baz=1.5,slow=3.7,SNR=5.2						
ASAR	Alice Springs	54.14	190	P	P	11 18 08.4	-0.7
	0.4nm,0.7s,mb3.5,baz=11,slow=8.4,SNR=8.4						
ILAR	Eielson Array	54.87	30	P	P	11 18 14.0	-0.5
	0.6nm,0.8s,mb3.7,baz=260,slow=5.6,SNR=6.5						
YKA	Yellowknife Ar	69.29	29	P	P	11 19 51.5	+0.2
	0.8nm,0.6s,mb3.8,baz=295,slow=6.3,SNR=21						
YBH	Yreka Blue Hor	73.81	51	LR	LR	11 46 11.0	
	comp=Z,325nm,21.5s,MS4.6,baz=279,slow=30						
FINES	FINESS Array B	75.42	334	P	P	11 20 28.8	+0.9
	1.2nm,0.9s,mb3.8,baz=60,slow=8.2,SNR=4.9						
AKASG	Malin Array Be	80.42	324	P	P	11 20 56.6	+0.9
	0.4nm,0.4s,mb3.7,baz=48,slow=4.9,SNR=5.6						
PDAR	Pinedale Array	81.78	45	LR	LR	11 54 37.9	
	comp=Z,350nm,19.9s,MS4.7,baz=253,slow=34						
BRTR	Keskin Array B	84.25	313	P	P	11 21 16.1	+0.5
	1.1nm,0.8s,mb4.0,baz=90,slow=3.7,SNR=5.4						
ULM	Lac du Bonnet	84.69	33	LR	LR	11 57 49.2	
	comp=Z,270nm,18.8s,MS4.7,baz=287,slow=35						

CASC 29 11:11:11.1±1.6,1031N×8629W,h11km±7km,MD3.7, 7C-1D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	Vista de Mar	0.67	105	*e*P	Pg	11 11 23.8	-0.4
VCR				*e*S	Sg	11 11 34.6	+1.6
SSNN	San Juan del S	1.07	24⇑	*e*P	Pb	11 11 31.2	-0.4
LIM1	Limonal	1.09	69	*i*P	Pb	11 11 30.0	-2.0
LIM1				*i*S	Sb	11 11 46.4	+0.1
MADN	Villa Maderas	1.32	34⇑	*e*P	Pn	11 11 35.4	-0.1
CONN	Concepcion	1.41	28⇑	*e*P	Pn	11 11 36.2	-0.5
TICN	Ticuantepe	1.72	2⇑	*e*P	Pn	11 11 40.7	-0.2
CGA2	Cerro Gallo 2	1.82	99	*e*P	Pn	11 11 41.3	-1.1
COPN	Copaltepe	1.89	351⇓	*e*P	Pn	11 11 43.1	-0.1
APYN	Apoyeque	1.92	358⇑	*e*P	Pn	11 11 43.9	+0.2
APYN				*e*S	Sn	11 12 07.5	-0.3
PRS1	Puriscal	1.98	99	*e*P	Pn	11 11 43.3	-1.2
MIRN	Miramar	2.16	349	*i*P	Pn	11 11 47.1	0.0
MIRN				*e*P		11 11 47.1	
LEON	Leon	2.18	344⇑	*e*P	Pn	11 11 47.3	0.0
LAJ	Bijagual	2.18	101	*e*P	Pn	11 11 41.6	-5.7
LAJ				*e*S	Sn	11 12 05.8	-8.5
TEL3	Telica 3	2.32	347⇑	*e*P	Pn	11 11 49.4	+0.3
LCR2	La Lucha 2	2.32	104	*e*P	Pn	11 11 49.3	+0.1
LCR2				*e*S	Sn	11 12 19.2	+1.4
CRIN	San Cristobal	2.49	343	*e*P	Pn	11 11 50.6	-1.0
URSC	Urasca	2.52	100	*e*P	Pn	11 11 52.4	+0.4
URSC				*e*S	Sn	11 12 24.0	+1.4

IDC 29 11:19:04.2±6.9,029S×2004W,h0km,mb3.8/1,mb1 3.9/2, mb1mx3.4/24,mbtmp4.0/2,ML4.1/1,Error ellipse: s-maj=308.8km s-min=52.2km az=132.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	16.65	65	Pn	Pn	11 22 59.2	+0.3
	0.7nm,0.3s,baz=241,slow=16,SNR=10						
TORD	Torodi Ar. Bea	25.35	57	P	P	11 24 33.2	+0.4
	1.4nm,0.6s,baz=239,slow=9.8,SNR=8.3						
ASAR	Alice Springs	145.26	135	PKPbc	PKPbc	11 38 43.8	+0.2
	0.5nm,0.5s,baz=232,slow=2.6,SNR=4.8						

*IDC **29** 11:26:14.8±0.7,3300S×17927W,h0km,mb4.2/5, mb1 4.6/6,mb1mx4.3/13,mbtmp4.3/6,ML4.4/1,MS4.0/3, Ms1 4.0/3,ms1mx3.5/21,Error ellipse: s-maj=27.7km s-min=25.4km az=27.0*

*ISCJB **29** 11:26:19.0±0.7,3329S±005×1794W±01,h33km,mb4.3/8, MS4.0/3,Error ellipse: s-maj=14.9km s-min=5.9km az=40.7*

*NEIC **29** 11:26:31.7±2.4,3442S×17934W,h156km±19km,mb4.3/3, Error ellipse: s-maj=27.2km s-min=17.1km az=223.0*

ISC 29 11:26:20.6±0.7,3333S±006×1792W±01,h35km, (h30km±7km:pP-P),n62,σ1§58/56,mb4.3/8,MS4.0/3,3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.68	205	*e*PN	Pn	11 27 29.6	+1.0
MXZ				SN	Sn	11 28 24.4	+2.7
MXZ	Matakaoa Point	4.68	205	*e*P	Pn	11 27 28.6	-0.1
MXZ				S	Sn	11 28 23.4	+1.7
MWZ	Matawai	5.65	207	PN	Pn	11 27 42.3	+0.3
MWZ				SN	Sn	11 28 47.9	+2.3
MWZ	Matawai	5.65	207	*e*P	Pn	11 27 41.8	-0.2
MWZ				S	Sn	11 28 47.9	+2.3
URZ	Urewera	5.75	210	Pn	Pn	11 27 44.2	+0.8
	8.9nm,0.3s,baz=45,slow=2.2,SNR=54						
URZ				Sn	Sn	11 28 49.2	+1.1
	9.9nm,0.3s,baz=104,slow=21,SNR=8.0						
URZ	Urewera	5.75	210	PN	Pn	11 27 43.6	+0.3
URZ				SN	Sn	11 28 50.2	+2.2
URZ	Urewera	5.75	210	*e*P	Pn	11 27 43.6	+0.2
WCZ	Waipu Caves	5.90	242	PN	Pn	11 27 50.5	+5.1
WCZ	Waipu Caves	5.90	242	*e*P	Pn	11 27 50.5	+5.1
OUZ	Omahuta	6.22	250	PN	Pn	11 27 54.5	+4.6
OUZ	Omahuta	6.22	250	*e*P	Pn	11 27 54.5	+4.6
NGZ	Ngauruhoe	7.17	214	PN	Pn	11 28 04.5	+1.5
NGZ	Ngauruhoe	7.17	214	P	Pn	11 28 03.5	+0.6
FWVZ	Far West T-bar	7.26	214	PN	Pn	11 28 05.3	+1.2
FWVZ				SN	Sn	11 29 27.4	+2.1
FWVZ	Far West T-bar	7.26	214	*e*P	Pn	11 28 05.2	+1.1
WNVZ	Wahianoa	7.29	213	PN	Pn	11 28 04.8	+0.2
WNVZ	Wahianoa	7.29	213	P	Pn	11 28 03.8	-0.8
PXZ	Pawanui	7.39	204	PN	Pn	11 28 04.2	-1.7
PXZ				SN	Sn	11 29 26.6	-1.9
MRZ	Mangatainoka R	8.41	208	PN	Pn	11 28 17.3	-2.6
MRZ	Mangatainoka R	8.41	208	*e*P	Pn	11 28 16.3	-3.6
KIW	Kapiti Island	8.85	210	P	Pn	11 28 21.4	-4.6
MTW	Mount Morrison	8.87	207	PN	Pn	11 28 23.5	-2.7
MTW	Mount Morrison	8.87	207	P	Pn	11 28 22.5	-3.7
CAW	Cannon Point	8.99	209	PN	Pn	11 28 25.8	-2.1
CAW	Cannon Point	8.99	209	P	Pn	11 28 23.3	-4.6
MRW	Makara Radio	9.25	210	PN	Pn	11 28 29.6	-1.8
MRW	Makara Radio	9.25	210	P	Pn	11 28 28.6	-2.8
TCW	Tory Channel	9.41	211	PN	Pn	11 28 30.2	-3.4
TCW	Tory Channel	9.41	211	P	Pn	11 28 29.2	-4.5
TUWZ	Tuamarina	9.74	212	PN	Pn	11 28 35.3	-2.8
THZ	Tophouse	10.47	214	*e*P	Pn	11 28 45.4	-2.8
LTZ	Lake Taylor	11.56	213	*e*P	Pn	11 28 58.8	-4.3
RPZ	Rata Peaks	12.85	213	Pn	Pn	11 29 17.3	-3.3
	0.8nm,0.3s,baz=333,slow=8.5,SNR=5.1						
RPZ				Sn	Sn	11 31 30.6	-12
	1.3nm,0.3s,baz=343,slow=15,SNR=6.3						
STKA	Stephens Creek	32.90	262	LR	LR	11 45 40.3	
	comp=Z,287nm,18.4s,MS4.0,baz=26,slow=35						
CTA	Charters Tower	33.36	284	*e*P	P	11 32 57.2	+1.8
	3.3nm,0.6s,mb4.4						
CTA	Charters Tower	33.36	284	LR	LR	11 45 20.9	
	comp=Z,199nm,18.9s,MS3.9,baz=52,slow=34						
ASAR	Alice Springs	41.99	271	P	P	11 34 08.4	+0.2
	2.8nm,0.5s,mb4.2,baz=109,slow=7.5,SNR=53						
WB2	Warramunga Arr	43.24	276	*e*P	P	11 34 18.3	-0.1
WRAB	Tennant Creek	43.24	276	*e*P	P	11 34 18.0	-0.4
	6.5nm,0.6s,mb4.5						
WRA	Warramunga Arr	43.25	276	P	P	11 34 18.4	-0.1
	5.6nm,0.7s,mb4.4,baz=116,slow=7.5,SNR=38						
VNDA	Vanda	45.09	186	P	P	11 34 35.5	+2.3
	0.9nm,0.8s,mb3.7,baz=44,slow=5.9,SNR=4.7						
VNDA				PcP	PcP	11 36 13.9	+0.4
	0.7nm,0.6s,baz=332,slow=1.5,SNR=3.9						
FITZ	Fitzroy Crossi	51.37	273	LR	LR	11 55 14.4	
	comp=Z,177nm,19.3s,MS4.1,baz=338,slow=34						
CASY	Casey	52.07	209	*e*P	P	11 35 24.7	-2.2
	2.2nm,0.4s,mb4.4						
SNAA	Sanae	75.27	179	*e*	P	11 37 59.6	-0.3
SNAA				*e*		11 38 04.4	
SNAA				*e*	pP	11 38 08.6	-2.2
VNA3	Neumayer Olymp	75.46	177	⇓*i*	P	11 38 01.0	0.0
VNA3				*e*		11 38 06.1	
VNA3				*e

MMPH	Masbate	1.26 120	‖eP	Pg	12 19 34.5 -0.2
LQP	Lukban	1.46 320	eP	Pn	12 19 36.7 -1.2
PVCP	Virac	1.71 69	eP	Pn	12 19 34.9 -6.5
POLP	Polilio Island	1.81 342	eP	Pn	12 19 43.9 +1.2

ISCJB ***29*** *12:44:55.9±0.2,4323N×002×067W±002,h24km±2km,*
Error ellipse: s-maj=3.0km s-min=2.3km az=171.0
NEIC ***29*** *12:44:56.9,43.17N×060W,h5km,ML3.2(STR),*
ML3.3(LDG),MN3.1(MDD),After STR.
STR ***29*** *12:44:56.9±0.2,43.17N×060W,h5km±1km,Ml3.3,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD ***29*** *12:44:57.4±0.2,43.17N×063W,h8km±2km,mbLg3.0/26,*
Error ellipse: s-maj=2.5km s-min=1.3km az=11.0,PRXIMO
LDG ***29*** *12:44:57.3±0.1,43.18N×062W,h5km,Md3.4/2,Ml3.3/20,*
Error ellipse: s-maj=1.5km s-min=1.2km az=149.0
CSEM ***29*** *12:44:57.3±0.0,43.16N×062W,h10km,ML3.2/32,Error*
ellipse: s-maj=0.9km s-min=0.7km az=140.0
ISC 29 12:44:56.1±0.2,4322N±001×062W±001,h15km±1km,n174,
σ1§19/325,5C-1D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.14**	**204**	Pg	**Pg**	**12 45 00.1**	**+0.2**
ATE	**Arette**	**0.14**	**204**	P	**Pg**	**12 45 00.2**	**+0.2**
ATE				S	**Sg**	**12 45 02.1**	**-0.4**
REYF	**Montagne du Re**	**0.22**	**131**	Pg	**Pg**	**12 45 01.5**	**+0.4**
REYF	**Montagne du Re**	**0.22**	**131**	P	**Pg**	**12 45 01.7**	**+0.6**
REYF				S	**Sg**	**12 45 04.9**	**+0.4**
ORDF	**Ordiarp**	**0.23**	**269**	Pg	**Pg**	**12 45 02.3**	**+1.0**
ORDF	**Ordiarp**	**0.23**	**269**	P	**Pg**	**12 45 02.4**	**+1.2**
ORDF				S	**Sg**	**12 45 06.1**	**+1.4**
ETSF	**Etsaut**	**0.32**	**172**	ePg	**Pg**	**12 45 02.5**	**-0.3**
	SNR=1.0						
ETSF				eSg	**Sg**	**12 45 05.8**	**-1.5**
	3μm,0.2s,SNR=1.0						
ETSF	**Etsaut**	**0.32**	**172**	ePg	**Pg**	**12 45 02.5**	**-0.3**
	SNR=1.0						
ETSF				eSg	**Sg**	**12 45 05.8**	**-1.5**
	2μm,0.2s,SNR=1.0						
LARF	**Larrau**	**0.32**	**237**	Pg	**Pg**	**12 45 03.1**	**+0.3**
LARF	**Larrau**	**0.32**	**237**	P	**Pg**	**12 45 03.2**	**+0.4**
LARF				S	**Sg**	**12 45 07.2**	**-0.2**
FDAF	**Les Forges d'A**	**0.40**	**174**	P	**Pg**	**12 45 03.7**	**-0.5**
FDAF				S	**Sg**	**12 45 07.9**	**-1.7**
SJPF	**Ste Jean**	**0.46**	**257**	ePg	**Pg**	**12 45 05.5**	**+0.3**
	SNR=1.0						
SJPF				eSg	**Sg**	**12 45 11.8**	**+0.5**
	710nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**0.46**	**257**	ePg	**Pg**	**12 45 05.5**	**+0.3**
	SNR=1.0						
SJPF				eSg	**Sg**	**12 45 11.8**	**+0.5**
	355nm,0.3s,SNR=1.0						
OSSF	**Osses**	**0.47**	**275**	Pg	**Pg**	**12 45 05.7**	**+0.2**
OSSF	**Osses**	**0.47**	**275**	P	**Pg**	**12 45 05.8**	**+0.3**
LABF	**Labassere**	**0.54**	**108**	Pg	**Pg**	**12 45 07.8**	**+1.1**
LABF				Sg	**Sg**	**12 45 15.4**	**+1.5**
LABF	**Labassere**	**0.54**	**108**	P	**Pg**	**12 45 07.5**	**+0.8**
LABF				S	**Sg**	**12 45 15.1**	**+1.3**
VIEF	**Viey**	**0.58**	**125**	Pg	**Pg**	**12 45 07.6**	**+0.1**
VIEF	**Viey**	**0.58**	**125**	P	**Pg**	**12 45 07.7**	**+0.2**
VIEF				S	**Sg**	**12 45 14.5**	**-0.7**
EALK	**Alkurruntz**	**0.65**	**271**	⇑Pg	**Pg**	**12 45 08.8**	**0.0**
	26nm,0.2s,SNR=18						
EALK				Lg		12 45 17.2	
	546nm,0.3s,SNR=5.0						
EALK	**Alkurruntz**	**0.65**	**271**	⇑Pg	**Pg**	**12 45 08.8**	**0.0**
EALK				Lg		12 45 16.6	
ELIZ	**Elizondo**	**0.67**	**266**	Pg	**Pg**	**12 45 09.0**	**-0.1**
	57nm,0.2s,SNR=7.9						
ELIZ				Lg		12 45 18.5	
	108nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.67**	**266**	Pg	**Pg**	**12 45 09.0**	**-0.1**
ELIZ				Lg		12 45 17.9	
IPRE	**Itoiz**	**0.68**	**233**	Pg	**Pg**	**12 45 09.2**	**-0.2**
	26nm,0.2s,SNR=7.9						
IPRE				Lg		12 45 18.3	
	238nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**0.68**	**233**	Pg	**Pg**	**12 45 09.2**	**-0.2**
	26nm,0.2s,SNR=7.9						
EPF	**Esparros**	**0.73**	**104**	ePg	**Pg**	**12 45 11.1**	**+0.8**
	SNR=1.0						
EPF				eSg	**Sg**	**12 45 20.3**	**+0.4**
EPF				eSn	**Sn**	**12 45 23.5**	**+0.8**
	320nm,0.2s,SNR=1.0						
EPF	**Esparros**	**0.73**	**104**	ePg	**Pg**	**12 45 11.1**	**+0.8**
	SNR=1.0						
EPF				eSg	**Sg**	**12 45 20.3**	**+0.4**
EPF				eSn	**Sn**	**12 45 23.5**	**+0.8**
	160nm,0.2s,SNR=1.0						
IUSE	**Utxeti**	**0.73**	**249**	⇑Pg	**Pg**	**12 45 10.6**	**+0.2**
	35nm,0.2s,SNR=18						
IUSE				Lg		12 45 19.6	
	135nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.73**	**249**	Pg	**Pg**	**12 45 10.6**	**+0.2**
	35nm,0.2s,SNR=18						
EBIE	**Bielsa**	**0.77**	**133**	⇑Pg	**Pg**	**12 45 11.0**	**-0.1**
	317nm,0.1s,SNR=18						
EBIE				Lg		12 45 20.1	
	381nm,0.1s,SNR=12						
EBIE	**Bielsa**	**0.77**	**133**	Pg	**Pg**	**12 45 11.0**	**-0.1**
	317nm,0.1s,SNR=18						
EBIE	**Bielsa**	**0.77**	**133**	Pg	**Pg**	**12 45 11.0**	**-0.1**
EBIE				Lg		12 45 19.8	
RESF	**Ens**	**0.81**	**120**	Pg	**Pg**	**12 45 11.9**	**0.0**
RESF	**Ens**	**0.81**	**120**	P	**Pb**	**12 45 12.0**	**+0.1**
RESF				S	**Sg**	**12 45 22.0**	**-0.6**
EARA	**Aranguren**	**0.83**	**238**	Pg	**Pg**	**12 45 12.4**	**+0.1**
	37nm,0.2s,SNR=14						
EARA				Lg		12 45 22.9	
	113nm,0.2s,SNR=18						
MELF	**Melles**	**1.07**	**108**	P	**Pb**	**12 45 17.1**	**+0.8**
MELF				S	**Sb**	**12 45 31.2**	**+1.1**
EGRA	**Graus**	**1.23**	**146**	⇓Pg	**Pg**	**12 45 19.6**	**-0.3**
	11nm,0.1s,SNR=18						
EGRA				Lg		12 45 37.8	
	92nm,0.3s,SNR=12						
EGRA	**Graus**	**1.23**	**146**	Pg	**Pg**	**12 45 19.3**	**-0.6**
EGRA				Lg		12 45 36.9	
MLS	**Moulis**	**1.28**	**101**	Pg	**Pg**	**12 45 21.3**	**+0.5**
MLS	**Moulis**	**1.28**	**101**	P	**Pn**	**12 45 21.3**	**+1.9**
MLS				S	**Sb**	**12 45 37.7**	**+1.5**
SALF	**Salau**	**1.40**	**108**	Pg	**Pg**	**12 45 22.6**	**-0.5**
SALF	**Salau**	**1.40**	**108**	P	**Pn**	**12 45 23.2**	**+2.1**
SALF				S	**Sn**	**12 45 41.6**	**+2.2**
ESAC	**San Caprasio**	**1.50**	**176**	Pg	**Pg**	**12 45 24.0**	**-0.9**
	75nm,0.2s,SNR=60						
ESAC				Lg		12 45 43.4	
	625nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.50**	**176**	Pg	**Pg**	**12 45 24.0**	**-0.9**
	75nm,0.2s,SNR=60						
ESAC	**San Caprasio**	**1.50**	**176**	Pg	**Pg**	**12 45 24.0**	**-0.9**
ESAC				Lg		12 45 43.0	
ECRI	**Cripan**	**1.52**	**247**	⇑Pg	**Pg**	**12 45 25.0**	**-0.2**
	136nm,0.4s,SNR=18						
ECRI				Lg		12 45 44.6	
	206nm,0.3s,SNR=7.9						
ECRI	**Cripan**	**1.52**	**247**	Pg	**Pg**	**12 45 25.0**	**-0.2**
ECRI				Lg		12 45 44.0	
LPEF	**Le Peyrat**	**1.87**	**97**	P	**Pn**	**12 45 32.5**	**+5.0**
LPEF				S	**Sn**	**12 45 57.0**	**+6.1**
LFF	**La Frestale**	**1.98**	**29**	eSg	**Sg**	**12 46 01.0**	**+1.1**
	68nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**1.98**	**29**	ePn	**Pn**	**12 45 30.8**	**+1.7**
	SNR=1.0						
LFF				eSg	**Sg**	**12 46 01.0**	**+1.1**
	34nm,0.2s,SNR=1.0						
EMIR	**Miracle**	**2.05**	**129**	Pg	**Pg**	**12 45 34.5**	**-0.9**
	76nm,0.2s,SNR=69						
EMIR				Lg		12 46 01.2	
	249nm,0.2s,SNR=9.7						
EMIR	**Miracle**	**2.05**	**129**	Pg	**Pg**	**12 45 34.5**	**-1.0**
	76nm,0.2s,SNR=69						
EMIR	**Miracle**	**2.05**	**129**	Pg	**Pg**	**12 45 34.7**	**-0.8**
EMIR				Lg		12 46 00.9	
ELAN	**Lanestosa**	**2.06**	**271**	Pn	**Pn**	**12 45 31.9**	**+1.7**
	0.3nm,0.1s,SNR=4.0						
ELAN				Pg	**Pg**	**12 45 33.1**	**-2.5**
	3.5nm,0.2s,SNR=7.9						
ELAN				Lg		12 46 01.0	
	19nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.06**	**271**	Pn	**Pn**	**12 45 31.9**	**+1.8**
	0.3nm,0.1s,SNR=4.0						
ELAN	**Lanestosa**	**2.06**	**271**	Pg	**Pg**	**12 45 33.1**	**-2.5**
	3.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.06**	**271**	Pn	**Pn**	**12 45 32.9**	**+2.8**
ELAN				Sn	**Sn**	**12 45 58.5**	**+3.0**
CARF	**Carcanieres**	**2.06**	**103**	Pg	**Pg**	**12 45 35.3**	**-0.4**
CARF				Sg	**Sg**	**12 46 03.2**	**+0.7**
MTLF	**Montolieu**	**2.08**	**86**	ePg	**Pg**	**12 45 35.0**	**-1.0**
MTLF				eSn	**Sn**	**12 45 55.7**	**-0.3**
	SNR=1.0						
MTLF	**Montolieu**	**2.08**	**86**	eSg	**Sg**	**12 46 02.0**	**-0.9**
	57nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**2.08**	**86**	Pn	**Pn**	**12 45 30.8**	**+0.4**
MTLF				Pg	**Pg**	**12 45 35.0**	**-1.0**
MTLF				Sn	**Sn**	**12 45 55.7**	**-0.3**
MTLF				Lg		12 46 02.0	
	29nm,0.3s						
MTLF	**Montolieu**	**2.08**	**86**	ePg	**Pg**	**12 45 35.0**	**-1.0**
MTLF				eSn	**Sn**	**12 45 55.7**	**-0.3**
	SNR=1.0						
MTLF				eSg	**Sg**	**12 46 02.0**	**-0.9**
	29nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**2.08**	**86**	ePn	**Pn**	**12 45 30.8**	**+0.4**
MTLF				ePg	**Pg**	**12 45 35.0**	**-1.0**
MTLF				eSn	**Sn**	**12 45 55.7**	**-0.3**
VALF	**Valcebollere**	**2.10**	**112**	Pg	**Pg**	**12 45 35.3**	**-1.2**
VALF				Sg	**Sg**	**12 46 04.2**	**+0.4**
VALF	**Valcebollere**	**2.10**	**112**	P	**Pn**	**12 45 35.4**	**+4.6**
VALF				S	**Sn**	**12 46 03.9**	**+7.2**
EPOB	**Poblet**	**2.25**	**145**	Pn	**Pn**	**12 45 33.9**	**+1.2**
	0.2nm,0.1s,SNR=4.0						
EPOB				Pg	**Pg**	**12 45 37.4**	**-1.8**
	6.8nm,0.1s,SNR=64						
EPOB				Sn	**Sn**	**12 46 01.0**	**+0.7**
	12nm,0.2s,SNR=4.0						
EPOB				Lg		12 46 05.9	
	118nm,0.3s,SNR=11						
EPOB	**Poblet**	**2.25**	**145**	Pn	**Pn**	**12 45 33.9**	**+1.1**
	0.2nm,0.1s,SNR=4.0						
EPOB	**Poblet**	**2.25**	**145**	Pg	**Pg**	**12 45 37.4**	**-1.9**
	6.8nm,0.1s,SNR=64						
EPOB				Sn	**Sn**	**12 46 01.0**	**+0.8**
	12nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**2.25**	**145**	Pn	**Pn**	**12 45 33.9**	**+1.2**
EPOB				Pg	**Pg**	**12 45 37.5**	**-1.8**
EPOB				Sn	**Sn**	**12 46 01.6**	**+1.4**
EPOB				Lg		12 46 06.0	
ERTA	**Horta de San J**	**2.37**	**162**	Pn	**Pn**	**12 45 34.8**	**+0.4**
	0.6nm,0.1s,SNR=7.9						
ERTA				Pg	**Pg**	**12 45 39.2**	**-2.3**
	10nm,0.2s,SNR=25						
ERTA				Sn	**Sn**	**12 46 02.4**	**-0.7**
	15nm,0.2s,SNR=7.9						
ERTA				Lg		12 46 08.4	
	85nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.37**	**162**	Pn	**Pn**	**12 45 34.8**	**+0.4**
	0.6nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.37**	**162**	Pg	**Pg**	**12 45 39.2**	**-2.3**
	10nm,0.2s,SNR=25						
ERTA				Sn	**Sn**	**12 46 02.4**	**-0.7**
	15nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.37**	**162**	Pn	**Pn**	**12 45 35.7**	**+1.4**
ERTA				Pg	**Pg**	**12 45 39.4**	**-2.1**
ERTA				Sn	**Sn**	**12 46 02.6**	**-0.6**
ERTA				Lg		12 46 09.3	
FILF	**Fillols**	**2.43**	**105**	Pg	**Pg**	**12 45 38.8**	**-3.9**
FILF				Sg	**Sg**	**12 46 12.0**	**-2.2**
FILF	**Fillols**	**2.43**	**105**	Sg	**Sg**	**12 46 12.0**	**-2.2**
EBR	**Ebro Roquetas**	**2.53**	**161**	eRs		12 45 48.0	
EBR				eS*	**Sb**	**12 46 15.0**	**+2.7**
CAF	**Calviac**	**2.58**	**48**	ePn	**Pn**	**12 45 38.4**	**+1.1**
	SNR=1.0						
CAF				eSn	**Sn**	**12 46 07.2**	**-1.2**
CAF				eSg	**Sg**	**12 46 19.5**	**+0.4**
	20nm,0.2s						
CAF	**Calviac**	**2.58**	**48**	ePn	**Pn**	**12 45 38.4**	**+1.1**
	SNR=1.0						
CAF				eSn	**Sn**	**12 46 07.2**	**-1.2**
CAF				eSg	**Sg**	**12 46 19.5**	**+0.4**
	9.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.59**	**36**	ePg	**Pg**	**12 45 46.0**	**+0.2**
RJF				eSn	**Sn**	**12 46 09.0**	**+0.3**
RJF				eSg	**Sg**	**12 46 19.8**	**+0.4**
	37nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.59**	**36**	Pn	**Pn**	**12 45 38.5**	**+1.0**
RJF				Pg	**Pg**	**12 45 46.0**	**+0.2**
RJF				Sn	**Sn**	**12 46 09.0**	**+0.3**
RJF				Lg		12 46 19.8	
	18nm,0.2s						
RJF	**Les Rejaudoux**	**2.59**	**36**	ePg	**Pg**	**12 45 46.0**	**+0.2**
RJF				eSn	**Sn**	**12 46 09.0**	**+0.3**
RJF				eSg	**Sg**	**12 46 19.8**	**+0.4**
	18nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.59**	**36**	ePn	**Pn**	**12 45 38.5**	**+1.0**
RJF				ePg	**Pg**	**12 45 46.0**	**+0.2**
RJF				eSn	**Sn**	**12 46 09.0**	**+0.3**
RJF				eSg	**Sg**	**12 46 19.8**	**+0.4**
EJON	**La Jonquera**	**2.69**	**105**	Pn	**Pn**	**12 45 40.2**	**+1.3**
	1.3nm,0.3s,SNR=7.9						
EJON				Pg	**Pg**	**12 45 44.4**	**-3.3**
	3.1nm,0.2s,SNR=7.7						
EJON				Lg		12 46 21.8	
	147nm,0.6s,SNR=5.3						
EJON	**La Jonquera**	**2.69**	**105**	Pn	**Pn**	**12 45 40.2**	**+1.3**
	1.3nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.69**	**105**	Pg	**Pg**	**12 45 44.4**	**-3.3**
	3.1nm,0.2s,SNR=7.7						
EJON	**La Jonquera**	**2.69**	**105**	Pn	**Pn**	**12 45 40.7**	**+1.8**
EJON				Pg	**Pg**	**12 45 44.4**	**-3.3**
EJON				Lg		12 46 21.5	
EMOS	**Mosqueruela**	**2.85**	**178**	Pg	**Pg**	**12 45 49.4**	**-1.4**
	2.1nm,0.1s,SNR=8.3						
EMOS				Sn	**Sn**	**12 46 15.0**	**-0.1**
	6.5nm,0.2s,SNR=7.9						
EMOS				Lg		12 46 22.9	
	35nm,0.4s,SNR=4.0						
EMOS	**Mosqueruela**	**2.85**	**178**	Pg	**Pg**	**12 45 45.5**	**-5.3**
	2.1nm,0.1s,SNR=8.3						
EMOS				Sn	**Sn**	**12 46 15.0**	**-0.1**
	6.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.85**	**178**	Pg	**Pg**	**12 45 47.0**	**-3.8**
EMOS				Sn	**Sn**	**12 46 15.4**	**+0.3**
EMOS				Lg		12 46 23.8	
EARI	**Arriondas**	**3.35**	**273**	Pn	**Pn**	**12 45 48.7**	**+0.8**
	0.4nm,0.2s,SNR=8.4						
EARI				Sn	**Sn**	**12 46 27.9**	**+0.4**
	3.1nm,0.3s,SNR=5.0						
EARI	**Arriondas**	**3.35**	**273**	Pn	**Pn**	**12 45 48.7**	**+0.7**
	0.4nm,0.2s,SNR=8.4						
EARI				Sn	**Sn**	**12 46 27.9**	**+0.4**
	3.1nm,0.3s,SNR=5.0						
EARI	**Arriondas**	**3.35**	**273**	Pn	**Pn**	**12 45 48.7**	**+0.8**
EARI				Sn	**Sn**	**12 46 28.1**	**+0.6**
LASF	**Ste Croix**	**3.36**	**74**	ePn	**Pn**	**12 45 48.6**	**+0.5**
	SNR=1.0						
LASF				eSn	**Sn**	**12 46 26.4**	**-1.3**
	SNR=1.0						
LASF				eSg	**Sg**	**12 46 43.1**	**-1.0**
	19nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.36**	**74**	ePn	**Pn**	**12 45 48.6**	**+0.5**
	SNR=1.0						
LASF				eSn	**Sn**	**12 46 26.4**	**-1.3**
	SNR=1.0						
LASF				eSg	**Sg**	**12 46 43.1**	**-1.0**
	9.6nm,0.4s,SNR=1.0						
MFF	**Saint Martin d**	**3.40**	**6**	ePg	**Pg**	**12 46 02.5**	**+1.2**
	SNR=1.0						
MFF				eSn	**Sn**	**12 46 27.1**	**-1.6**
	SNR=1.0						
MFF				eSg	**Sg**	**12 46 45.6**	**+0.2**
	29nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**3.40**	**6**	Pn	**Pn**	**12 45 49.4**	**+0.8**
MFF				Pg	**Pg**	**12 46 02.5**	**+1.2**
MFF				Sn	**Sn**	**12 46 27.1**	**-1.6**
MFF				Lg		12 46 45.6	
	15nm,0.3s						
MFF	**Saint Martin d**	**3.40**	**6**	ePg	**Pg**	**12 46 02.5**	**+1.2**
	SNR=1.0						
MFF				eSn	**Sn**	**12 46 27.1**	**-1.6**
	SNR=1.0						
MFF				eSg	**Sg**	**12 46 45.6**	**+0.2**
	15nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**3.40**	**6**	ePn	**Pn**	**12 45 49.4**	**+0.8**
MFF				ePg	**Pg**	**12 46 02.5**	**+1.2**
MFF				eSn	**Sn**	**12 46 27.1**	**-1.6**
MFF				eSg	**Sg**	**12 46 45.6**	**+0.2**
LBL	**Lubilhac**	**3.43**	**53**	Pn	**Pn**	**12 45 50.3**	**+1.3**
PYM	**Petit Puy Mans**	**3.63**	**44**	Pn	**Pn**	**12 45 52.2**	**+0.5**
ECHE	**Chera**	**3.63**	**184**	Pn	**Pn**	**12 45 53.0**	**+1.2**
	2.0nm,0.4s,SNR=7.9						
ECHE				Pg	**Pg**	**12 46 02.9**	**-2.8**
	1.0nm,0.3s,SNR=4.0						
ECHE				Sn	**Sn**	**12 46 31.8**	**-2.6**
	5.3nm,0.4s,SNR=7.9						
ECHE				Lg		12 46 48.6	
	6.8nm,0.3s,SNR=7.9						
ECHE	**Chera**	**3.63**	**184**	Pg	**Pg**	**12 46 02.9**	**-2.8**
	1.0nm,0.3s,SNR=4.0						
ECHE				Sn	**Sn**	**12 46 31.8**	**-2.6**
	5.3nm,0.4s,SNR=7.9						
ECHE	**Chera**	**3.63**	**184**	Pn	**Pn**	**12 45 52.6**	**+0.9**
ECHE				Pg	**Pg**	**12 46 02.9**	**-2.8**
ECHE				Sn	**Sn**	**12 46 31.8**	**-2.6**
ECHE				Lg		12 46 48.6	
TCF	**Toulx Ste Croi**	**3.67**	**32**	ePn	**Pn**	**12 45 53.4**	**+1.0**
	SNR=1.0						
TCF				eSn	**Sn**	**12 46 34.0**	**-1.4**
	SNR=1.0						
TCF				eSg	**Sg**	**12 46 54.2**	**+0.1**
	21nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.67**	**32**	ePn	**Pn**	**12 45 53.4**	**+1.0**
	SNR=1.0						
TCF				eSn	**Sn**	**12 46 34.0**	**-1.4**
	SNR=1.0						
TCF				eSg	**Sg**	**12 46 54.2**	**+0.1**
	10nm,0.4s,SNR=1.0						
GUD	**Guadarrama**	**3.68**	**227**	Pn	**Pn**	**12 45 53.9**	**+1.5**
	5.2nm,0.2s,SNR=9.4						
GUD				Sn	**Sn**	**12 46 34.8**	**-0.8**
	5.1nm,0.4s,SNR=5.0						
GUD				Lg		12 46 53.0	
	6.2nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.68**	**227**	Pn	**Pn**	**12 45 53.9**	**+1.4**
	5.2nm,0.2s,SNR=9.4						
GUD				Sn	**Sn**	**12 46 34.8**	**-0.8**
	5.1nm,0.4s,SNR=5.0						
GUD	**Guadarrama**	**3.68**	**227**	Pn	**Pn**	**12 45 53.9**	**+1.5**
GUD				Sn	**Sn**	**12 46 34.8**	**-0.8**
GUD				Lg		12 46 52.2	
BGF	**Bois d'Agland**	**4.15**	**35**	ePn	**Pn**	**12 45 58.0**	**-0.9**
	SNR=1.0						
BGF				eSn	**Sn**	**12 46 46.5**	**-0.6**
	SNR=1.0						
BGF				eSg	**Sg**	**12 47 08.9**	**-0.5**
	74nm,0.4s						
BGF	**Bois d'Agland**	**4.15**	**35**	ePn	**Pn**	**12 45 58.0**	**-0.9**
	SNR=1.0						
BGF				eSn	**Sn**	**12 46 46.5**	**-0.6**
	SNR=1.0						
BGF				eSg	**Sg**	**12 47 08.9**	**-0.5**
	37nm,0.4s						
VIVF	**Saint-Julien-l**	**4.15**	**65**	ePn	**Pn**	**12 46 00.0**	**+1.1**
	SNR=1.0						
VIVF				eSg	**Sg**	**12 47 10.7**	**+1.2**
	11nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.15**	**65**	ePn	**Pn**	**12 46 00.0**	**+1.1**
	SNR=1.0						
VIVF				eSg	**Sg**	**12 47 10.7**	**+1.2**
	5.5nm,0.4s,SNR=1.0						
ETOS	**Mallorca**	**4.30**	**142**	Pn	**Pn**	**12 46 02.3**	**+1.3**
	0.9nm,0.1s,SNR=6.4						
ETOS				Sn	**Sn**	**12 46 48.8**	**-2.2**
	3.4nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.30**	**142**	Pn	**Pn**	**12 46 02.3**	**+1.3**
	0.9nm,0.1s,SNR=6.4						
ETOS				Sn	**Sn**	**12 46 48.8**	**-2.1**
	3.4nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.30**	**142**	Pn	**Pn**	**12 46 01.9**	**+0.9**
ETOS				Sn	**Sn**	**12 46 48.8**	**-2.2**
ESDC	**Sonseca Array**	**4.34**	**216**	Pn	**Pn**	**12 46 01.6**	**+0.1**
	1.5nm,0.1s,baz=39,slow=14,SNR=11						
ESDC				Sn	**Sn**	**12 46 49.6**	**-2.2**
	1.1nm,0.3s,baz=38,slow=24,SNR=7.9						
ESDC				Lg		12 47 10.3	
	4.4nm,0.5s,baz=35,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**4.34**	**216**	Pn	**Pn**	**12 46 01.6**	**+0.1**
	1.5nm,0.1s,SNR=11						
ESDC				Sn	**Sn**	**12 46 49.6**	**-2.2**
	1.1nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**4.34**	**216**	Pn	**Pn**	**12 46 01.3**	**-0.2**
ESDC				Pg	**Pg**	**12 46 15.7**	**-3.5**
ESDC				Sn	**Sn**	**12 46 49.6**	**-2.2**
ESDC				Lg		12 47 10.3	
EIBI	**Ibiza**	**4.44**	**160**	Pn	**Pn**	**12 46 03.1**	**+0.2**
	0.6nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**12 46 49.9**	**-4.4**
	3.0nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.44**	**160**	Pn	**Pn**	**12 46 03.1**	**+0.2**
	0.6nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**12 46 49.9**	**-4.4**
	3.0nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.52**	**176**	Pn	**Pn**	**12 46 05.1**	**+1.2**
	0.7nm,0.1s,SNR=7.9						
EBEN				Sn	**Sn**	**12 46 53.1**	**-3.1**
	1.4nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.52**	**176**	Pn	**Pn**	**12 46 05.1**	**+1.1**
	0.7nm,0.1s,SNR=7.9						
EBEN				Sn	**Sn**	**12 46 53.1**	**-3.1**
	1.4nm,0.2s,SNR=7.9						
AVF	**Avril sur Loir**

	SNR=1.0							
SSF				*e*Sg		**Sg**	**12 47 29.5**	**-1.6**
	6.0nm,0.5s							
ERUA	**La Rua**	**4.87**	**262**	Pn		**Pn**	**12 46 10.5**	**+1.7**
	3.3nm,0.2s,SNR=7.9							
ERUA	**La Rua**	**4.87**	**262**	Pn		**Pn**	**12 46 10.1**	**+1.3**
ORIF	**Oris-en-Rattie**	**4.98**	**68**	*e*Pn		**Pn**	**12 46 12.4**	**+2.0**
	SNR=1.0							
QUIF	**Quistinic**	**5.03**	**340**	*e*Pn		**Pn**	**12 46 11.6**	**+0.6**
QUIF				*e*Sn		**Sn**	**12 47 07.5**	**-1.3**
	15nm,0.3s							
QUIF	**Quistinic**	**5.03**	**340**	*e*Pn		**Pn**	**12 46 11.6**	**+0.6**
QUIF				*e*Sn		**Sn**	**12 47 07.5**	**-1.3**
	7.7nm,0.3s							
LOR	**Lormes**	**5.14**	**36**	*e*Pn		**Pn**	**12 46 13.0**	**+0.5**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**12 47 10.0**	**-1.5**
	baz=211,SNR=1.0							
LOR				*e*Sg		**Sg**	**12 47 39.3**	**-1.8**
	8.2nm,0.5s,baz=212							
LOR	**Lormes**	**5.14**	**36**	*e*Pn		**Pn**	**12 46 13.0**	**+0.5**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**12 47 10.0**	**-1.5**
	SNR=1.0							
LOR				*e*Sg		**Sg**	**12 47 39.3**	**-1.8**
	4.1nm,0.5s							
GRR	**Gorron**	**5.17**	**358**	*e*Sn		**Sn**	**12 47 09.2**	**-3.2**
	7.9nm,0.2s,SNR=1.0							
GRR	**Gorron**	**5.17**	**358**	*e*Pn		**Pn**	**12 46 13.5**	**+0.5**
	SNR=1.0							
GRR				*e*Sn		**Sn**	**12 47 09.2**	**-3.2**
	4.0nm,0.2s,SNR=1.0							
LMR	**La Mourre**	**5.21**	**86**	*e*Sn		**Sn**	**12 47 10.2**	**-3.0**
	9.6nm,0.7s,SNR=1.0							
LMR	**La Mourre**	**5.21**	**86**	*e*Sn		**Sn**	**12 47 10.2**	**-3.0**
	4.8nm,0.7s,SNR=1.0							
SGMF	**Saint Gilles**	**5.22**	**346**	*e*Sn		**Sn**	**12 47 11.6**	**-1.9**
	10.0nm,0.4s							
SGMF	**Saint Gilles**	**5.22**	**346**	*e*Pn		**Pn**	**12 46 13.5**	**-0.1**
	SNR=1.0							
SGMF				*e*Sn		**Sn**	**12 47 11.6**	**-1.9**
	5.0nm,0.4s							
FRF	**La Foret Royal**	**5.31**	**84**	*e*Pn		**Pn**	**12 46 15.5**	**+0.7**
LDF	**La Druitiere**	**5.39**	**4**	*e*Pn		**Pn**	**12 46 15.9**	**0.0**
LDF				*e*Sn		**Sn**	**12 47 14.8**	**-2.9**
	5.8nm,0.3s,SNR=1.0							
LDF	**La Druitiere**	**5.39**	**4**	*e*Pn		**Pn**	**12 46 15.9**	**0.0**
LDF				*e*Sn		**Sn**	**12 47 14.8**	**-2.9**
	2.9nm,0.3s,SNR=1.0							
ROSF	**Rostrenen**	**5.45**	**341**	*e*Pn		**Pn**	**12 46 16.0**	**-0.7**
	SNR=1.0							
ROSF				*e*Sn		**Sn**	**12 47 16.7**	**-2.4**
	4.2nm,0.2s							
ROSF	**Rostrenen**	**5.45**	**341**	*e*Pn		**Pn**	**12 46 16.0**	**-0.7**
	SNR=1.0							
ROSF				*e*Sn		**Sn**	**12 47 16.7**	**-2.4**
	2.1nm,0.2s							
ELOB	**Lobios**	**5.66**	**259**	Pn		**Pn**	**12 46 20.4**	**+0.8**
	0.6nm,0.1s,SNR=7.9							
ELOB				Sn		**Sn**	**12 47 23.4**	**-1.0**
	0.6nm,0.2s,SNR=4.0							
ELOB	**Lobios**	**5.66**	**259**	Pn		**Pn**	**12 46 20.5**	**+0.8**
	0.6nm,0.1s,SNR=7.9							
ELOB				Sn		**Sn**	**12 47 23.4**	**-1.0**
	0.6nm,0.2s,SNR=4.0							
ELOB	**Lobios**	**5.66**	**259**	Pn		**Pn**	**12 46 19.6**	**-0.1**
ELOB				Sn		**Sn**	**12 47 23.3**	**-1.0**
EQES	**Quesada**	**5.72**	**200**	Pn		**Pn**	**12 46 21.2**	**+0.7**
	0.9nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.72**	**200**	Pn		**Pn**	**12 46 21.2**	**+0.7**
	0.9nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.72**	**200**	Pn		**Pn**	**12 46 21.9**	**+1.4**
LPG	**La Plagne**	**5.76**	**64**	*e*Pn		**Pn**	**12 46 21.8**	**+0.8**
EADA	**Adamuz**	**5.87**	**212**	Pn		**Pn**	**12 46 23.0**	**+0.5**
	1.0nm,0.3s,SNR=7.5							
EADA				Sn		**Sn**	**12 47 25.6**	**-4.0**
	0.7nm,0.2s,SNR=7.2							
EADA	**Adamuz**	**5.87**	**212**	Pn		**Pn**	**12 46 23.0**	**+0.4**
	1.0nm,0.3s,SNR=7.5							
EADA	**Adamuz**	**5.87**	**212**	Pn		**Pn**	**12 46 22.9**	**+0.3**
EADA				Sn		**Sn**	**12 47 25.6**	**-4.0**
EADA				Lg			12 48 02.7	
ECAB	**El Cabril**	**6.30**	**217**	Pn		**Pn**	**12 46 29.0**	**+0.6**
	0.4nm,0.2s,SNR=5.8							
ECAB				Sn		**Sn**	**12 47 36.1**	**-4.0**
	1.2nm,0.4s,SNR=5.0							
ECAB	**El Cabril**	**6.30**	**217**	Pn		**Pn**	**12 46 29.0**	**+0.6**
ECAB				Sn		**Sn**	**12 47 36.2**	**-3.9**
EBAD	**Badajoz**	**6.58**	**229**	Pn		**Pn**	**12 46 32.5**	**+0.3**
	0.9nm,0.2s,SNR=7.9							
EBAD				Sn		**Sn**	**12 47 43.2**	**-3.7**
	2.4nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**6.58**	**229**	Pn		**Pn**	**12 46 32.7**	**+0.4**
EBAD				Sn		**Sn**	**12 47 43.2**	**-3.7**
EMIN	**Mina Concepcio**	**7.13**	**222**	Pn		**Pn**	**12 46 39.9**	**+0.1**
	0.2nm,0.1s,SNR=7.9							
EMIN				Sn		**Sn**	**12 47 54.5**	**-6.1**
	0.6nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.13**	**222**	Pn		**Pn**	**12 46 39.8**	**0.0**
EMIN				Sn		**Sn**	**12 47 54.7**	**-6.0**
EGRO	**El Granado**	**7.72**	**225**	Pn		**Pn**	**12 46 47.9**	**-0.1**
	0.5nm,0.1s,SNR=4.0							
EGRO				Sn		**Sn**	**12 48 09.7**	**-5.4**
	1.3nm,0.3s,SNR=7.9							
GIVF	**Givet**	**7.84**	**27**	*e*Pn		**Pn**	**12 46 51.2**	**+1.6**
	SNR=1.0							

*ISCJB **29** 13:11:00.7±0.3, 4324N±002×060W±002, h10km±3km, Error ellipse: s-maj=3.6km s-min=2.8km az=4.8*
*CSEM **29** 13:11:02.3±0.1, 4319N×063W, h5km, ML2.5/6, Error ellipse: s-maj=1.6km s-min=1.0km az=177.0*
*LDG **29** 13:11:02.3±0.1, 4317N×063W, h7km, Md2.3/2, Ml2.3/5, Error ellipse: s-maj=1.9km s-min=1.2km az=174.0*
*STR **29** 13:11:02.5±0.2, 4304N×067W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **29** 13:11:02.6±0.2, 4316N×064W, h11km, mbLg2.1/19, Error ellipse: s-maj=2.8km s-min=1.4km az=12.0, PRXIMO*

ISC 29 13:11:01.5±0.3, 4320N±002×061W±002, h14km±3km, n63, σ0§88/105, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.13**	**210**	Pg	**Pg**	**13 11 05.0**	**0.0**
ATE	**Arette**	**0.13**	**210**	P	**Pg**	**13 11 05.2**	**+0.2**
ATE				S	**Sg**	**13 11 07.2**	**-0.3**
REYF	**Montagne du Re**	**0.20**	**128**	Pg	**Pg**	**13 11 06.8**	**+0.7**
REYF				Sg	**Sg**	**13 11 10.1**	**+0.7**
REYF	**Montagne du Re**	**0.20**	**128**	P	**Pg**	**13 11 06.9**	**+0.8**
REYF				S	**Sg**	**13 11 09.9**	**+0.6**
ORDF	**Ordiarp**	**0.24**	**274**	Pg	**Pg**	**13 11 07.5**	**+0.8**
ORDF	**Ordiarp**	**0.24**	**274**	P	**Pg**	**13 11 07.5**	**+0.8**
ORDF				S	**Sg**	**13 11 11.2**	**+0.9**
ETSF	**Etsaut**	**0.30**	**172**	*e*Pg	**Pg**	**13 11 07.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**13 11 10.8**	**-1.2**
	308nm,0.2s						
ETSF	**Etsaut**	**0.30**	**172**	*e*Pg	**Pg**	**13 11 07.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**13 11 10.8**	**-1.2**
	154nm,0.2s						
LARF	**Larrau**	**0.32**	**240**	Pg	**Pg**	**13 11 08.1**	**0.0**
LARF	**Larrau**	**0.32**	**240**	P	**Pg**	**13 11 08.2**	**+0.2**
LARF				S	**Sg**	**13 11 12.1**	**-0.4**
FDAF	**Les Forges d'A**	**0.38**	**175**	P	**Pg**	**13 11 08.8**	**-0.4**
FDAF				S	**Sg**	**13 11 13.0**	**-1.3**
SJPF	**Ste Jean**	**0.46**	**260**	*e*Pg	**Pg**	**13 11 10.6**	**0.0**
SJPF				*e*Sg	**Sg**	**13 11 16.8**	**+0.1**
	51nm,0.2s						
SJPF	**Ste Jean**	**0.46**	**260**	*e*Pg	**Pg**	**13 11 10.6**	**0.0**
SJPF				*e*Sg	**Sg**	**13 11 16.8**	**+0.1**
	26nm,0.2s						
OSSF	**Osses**	**0.48**	**277**	Pg	**Pg**	**13 11 11.0**	**0.0**
OSSF	**Osses**	**0.48**	**277**	P	**Pg**	**13 11 11.0**	**0.0**
LABF	**Labassere**	**0.52**	**106**	Pg	**Pg**	**13 11 12.9**	**+1.1**
LABF				Sg	**Sg**	**13 11 20.6**	**+1.8**
LABF	**Labassere**	**0.52**	**106**	P	**Pg**	**13 11 13.0**	**+1.1**
LABF				S	**Sg**	**13 11 20.2**	**+1.3**
VIEF	**Viey**	**0.56**	**124**	Pg	**Pg**	**13 11 12.8**	**+0.3**
VIEF				Sg	**Sg**	**13 11 20.1**	**+0.1**
VIEF	**Viey**	**0.56**	**124**	P	**Pg**	**13 11 12.9**	**+0.3**
EALK	**Alkurruntz**	**0.66**	**272**	Pg	**Pg**	**13 11 14.1**	**-0.2**
	6.1nm,0.1s,SNR=29						
EALK				Lg		13 11 22.1	
	18nm,0.1s,SNR=18						
IPRE	**Itoiz**	**0.67**	**235**	Pg	**Pg**	**13 11 14.7**	**+0.1**
	1.5nm,0.1s,SNR=7.9						
IPRE				Lg		13 11 23.4	
	18nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**0.67**	**235**	Pg	**Pg**	**13 11 14.7**	**+0.1**
	SNR=7.9						
ELIZ	**Elizondo**	**0.67**	**268**	Pg	**Pg**	**13 11 14.4**	**-0.2**
	5.4nm,0.2s,SNR=7.9						
ELIZ				Lg		13 11 23.7	
	9.8nm,0.2s,SNR=7.9						
EPF	**Esparros**	**0.72**	**103**	*e*Pg	**Pg**	**13 11 16.1**	**+0.6**
EPF	**Esparros**	**0.72**	**103**	*e*P	**Pg**	**13 11 16.6**	**+1.1**
EPF				*e*Sg	**Sg**	**13 11 25.4**	**+0.5**
EPF				*e*Sn	**Sg**	**13 11 28.5**	**+3.6**
	27nm,0.2s						
EPF	**Esparros**	**0.72**	**103**	Pg	**Pg**	**13 11 16.1**	**+0.6**
EPF				Lg		13 11 25.4	
EPF	**Esparros**	**0.72**	**103**	*e*P	**Pg**	**13 11 16.6**	**+1.1**
EPF				*e*Sg	**Sg**	**13 11 25.4**	**+0.5**
EPF				*e*Sn	**Sg**	**13 11 28.5**	**+3.6**
	13nm,0.2s						
IUSE	**Utxeti**	**0.73**	**250**	Pg	**Pg**	**13 11 15.7**	**0.0**
	3.3nm,0.1s,SNR=7.9						
IUSE				Lg		13 11 24.8	
	14nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.73**	**250**	Pg	**Pg**	**13 11 15.7**	**0.0**
	3.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.75**	**132**	⇑Pg	**Pg**	**13 11 16.1**	**-0.1**
	16nm,0.1s,SNR=18						
EBIE				Lg		13 11 25.4	
	40nm,0.1s,SNR=26						
EBIE	**Bielsa**	**0.75**	**132**	Pg	**Pg**	**13 11 16.1**	**-0.1**
	16nm,0.1s,SNR=18						
RESF	**Ens**	**0.80**	**119**	Pg	**Pg**	**13 11 17.1**	**+0.1**
RESF				Sg	**Sg**	**13 11 27.8**	**+0.3**
RESF	**Ens**	**0.80**	**119**	P	**Pg**	**13 11 17.2**	**+0.2**
RESF				S	**Sg**	**13 11 27.4**	**-0.1**
EARA	**Aranguren**	**0.83**	**240**	Pg	**Pg**	**13 11 18.5**	**+1.0**
	5.2nm,0.1s,SNR=7.9						
EARA				Lg		13 11 28.9	
	14nm,0.1s,SNR=7.9						
MELF	**Melles**	**1.06**	**107**	P	**Pb**	**13 11 22.0**	**+0.4**
MELF				S	**Sb**	**13 11 36.1**	**+0.9**
EGRA	**Graus**	**1.21**	**145**	Pg	**Pg**	**13 11 24.8**	**0.0**
	0.6nm,0.1s,SNR=5.3						
EGRA				Lg		13 11 41.4	
	6.5nm,0.2s,SNR=4.7						
SALF	**Salau**	**1.39**	**108**	Pg	**Pg**	**13 11 28.9**	**+0.6**
SALF	**Salau**	**1.39**	**108**	P	**Pn**	**13 11 28.7**	**+2.3**
SALF				S	**Sn**	**13 11 46.0**	**+1.4**
ESAC	**San Caprasio**	**1.48**	**176**	Pg	**Pg**	**13 11 29.5**	**-0.4**
	8.0nm,0.2s,SNR=10						
ESAC				Lg		13 11 48.2	
	72nm,0.2s,SNR=13						
ESAC	**San Caprasio**	**1.48**	**176**	Pg	**Pg**	**13 11 29.5**	**-0.4**
	8.0nm,0.2s,SNR=10						
ECRI	**Cripan**	**1.51**	**248**	Pg	**Pg**	**13 11 30.7**	**+0.1**
	12nm,0.2s,SNR=7.9						
ECRI				Lg		13 11 49.7	
	16nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**29**	*e*Pn	**Pn**	**13 11 35.9**	**+1.1**
LFF				*e*Sg	**Sg**	**13 12 06.0**	**+0.2**
	5.8nm,0.2s						
LFF	**La Frestale**	**2.00**	**29**	*e*Pn	**Pn**	**13 11 35.9**	**+1.1**
LFF				*e*Sg	**Sg**	**13 12 06.0**	**+0.2**
	2.9nm,0.2s						
EMIR	**Miracle**	**2.03**	**128**	Pg	**Pg**	**13 11 40.3**	**-0.2**
	8.4nm,0.2s,SNR=7.4						
EMIR				Lg		13 12 06.5	
	23nm,0.2s,SNR=5.6						
EMIR	**Miracle**	**2.03**	**128**	Pg	**Pg**	**13 11 40.3**	**-0.2**
	8.4nm,0.2s,SNR=7.4						
ELAN	**Lanestosa**	**2.06**	**272**	Pg	**Pg**	**13 11 39.6**	**-1.5**
	0.5nm,0.1s,SNR=7.9						
ELAN				Lg		13 12 05.6	
	2.1nm,0.1s,SNR=4.0						
ELAN	**Lanestosa**	**2.06**	**272**	Pg	**Pg**	**13 11 39.6**	**-1.5**
	0.5nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**2.07**	**85**	*e*Pn	**Pn**	**13 11 35.8**	**0.0**
MTLF	**Montolieu**	**2.07**	**85**	*e*Pg	**Pg**	**13 11 40.0**	**-1.3**
MTLF				*e*Sn	**Sn**	**13 12 00.8**	**-0.6**
MTLF				*e*Sg	**Sg**	**13 12 07.1**	**-1.1**
	5.2nm,0.3s						
MTLF	**Montolieu**	**2.07**	**85**	Pn	**Pn**	**13 11 35.8**	**0.0**
MTLF				Pg	**Pg**	**13 11 40.0**	**-1.3**
MTLF				Sn	**Sn**	**13 12 00.8**	**-0.6**
MTLF				Lg		13 12 07.1	
	2.6nm,0.3s						
MTLF	**Montolieu**	**2.07**	**85**	*e*Pg	**Pg**	**13 11 40.0**	**-1.3**
MTLF				*e*Sn	**Sn**	**13 12 00.8**	**-0.6**
MTLF				*e*Sg	**Sg**	**13 12 07.1**	**-1.1**
	2.6nm,0.3s						
EPOB	**Poblet**	**2.23**	**145**	Pg	**Pg**	**13 11 43.0**	**-1.3**
	1.6nm,0.2s,SNR=6.7						
EPOB				Lg		13 12 10.9	
	3.8nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.23**	**145**	Pg	**Pg**	**13 11 43.0**	**-1.2**
	1.6nm,0.2s,SNR=6.7						
ERTA	**Horta de San J**	**2.34**	**162**	Pg	**Pg**	**13 11 45.6**	**-0.8**
	1.1nm,0.1s,SNR=7.9						
ERTA				Lg		13 12 13.4	
	3.6nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.34**	**162**	Pg	**Pg**	**13 11 45.6**	**-0.9**
	1.1nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.59**	**47**	*e*Pn	**Pn**	**13 11 43.4**	**+0.5**
CAF				*e*Sn	**Sn**	**13 12 12.2**	**-2.0**
CAF				*e*Sg	**Sg**	**13 12 24.6**	**-0.2**
	1.7nm,0.2s						
CAF	**Calviac**	**2.59**	**47**	*e*Pn	**Pn**	**13 11 43.4**	**+0.5**
CAF				*e*Sn	**Sn**	**13 12 12.2**	**-2.0**
CAF				*e*Sg	**Sg**	**13 12 24.6**	**-0.2**
	0.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.60**	**35**	*e*Pn	**Pn**	**13 11 43.5**	**+0.4**
RJF				*e*Sn	**Sn**	**13 12 14.2**	**-0.3**
RJF				*e*Sg	**Sg**	**13 12 24.7**	**-0.5**
	3.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.60**	**35**	*e*Pn	**Pn**	**13 11 43.5**	**+0.4**
RJF				*e*Sn	**Sn**	**13 12 14.2**	**-0.3**
RJF				*e*Sg	**Sg**	**13 12 24.7**	**-0.5**
	1.8nm,0.2s						
EJON	**La Jonquera**	**2.68**	**105**	Lg		13 12 27.3	
	3.1nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.83**	**178**	Pn	**Pn**	**13 11 48.4**	**+2.1**
	0.5nm,0.1s,SNR=7.9						
EMOS				Pg	**Pg**	**13 11 52.4**	**-3.4**
	1.2nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**13 12 19.4**	**-0.7**
	0.4nm,0.1s,SNR=4.0						
LASF	**Ste Croix**	**3.36**	**73**	*e*Pn	**Pn**	**13 11 53.7**	**+0.2**
LASF				*e*Sn	**Sn**	**13 12 31.5**	**-1.7**
LASF				*e*Sg	**Sg**	**13 12 48.1**	**-1.4**
	0.4nm,0.1s						
LASF	**Ste Croix**	**3.36**	**73**	*e*Pn	**Pn**	**13 11 53.7**	**+0.2**
LASF				*e*Sn	**Sn**	**13 12 31.5**	**-1.7**
LASF				*e*Sg	**Sg**	**13 12 48.1**	**-1.4**
	0.2nm,0.1s						

JMA 29 13:26:20.7±0.5, 3232N×14202E, h38km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**4.45**	**345**	P	Pn	13 27 27.6	+2.0
JHO				S	Sn	13 28 15.1	-0.9

IDC 29 13:37:30.2±1.2, 2006N×14634E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=44.8km s-min=24.0km az=89.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.46**	**197**	P	P	13 45 19.1	+0.5
	0.6nm,0.5s,baz=19,slow=8.2,SNR=15						
ASAR	**Alice Springs**	**45.12**	**196**	P	P	13 45 48.0	-0.2
	0.4nm,0.6s,baz=20,slow=8.4,SNR=11						
ZAL	**Zalesovo**	**57.32**	**322**	P	P	13 47 19.6	-0.3
	0.8nm,0.6s,baz=9.4,slow=7.0,SNR=4.9						
MKAR	**Makanchi Array**	**57.97**	**313**	P	P	13 47 24.7	+0.3
	0.5nm,0.7s,baz=86,slow=8.9,SNR=6.0						
NVAR	**Mina Array Bea**	**81.83**	**52**	P	P	13 49 51.9	+0.7
	0.7nm,0.7s,baz=272,slow=4.3,SNR=5.5						

*ISCJB **29** 13:43:26.2±0.5, 6626N±003×14197W±008, h4km, Error ellipse: s-maj=4.9km s-min=4.3km az=18.3*
*NEIC **29** 13:43:28.1, 6624N×14236W, h4km, ML3.2(AEIC), After AEIC.*
*PGC **29** 13:43:29.6, 6624N×142.19W, h5km, ML3.6/2, 275km northwest of Dawson, Yt Eastern Alaska.*

ISC 29 13:43:27.7±0.4, 6626N±003×14216W±008, h4km, n22, σ1§20/33, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.52**	**321**	P	**Pn**	**13 43 54.9**	**-0.6**
BM3				S	**Sn**	**13 44 16.2**	**+0.6**
IL1	**Eielson Array**	**2.47**	**235**	P	**Pn**	**13 44 08.2**	**-0.4**
DAWY	**Dawson**	**2.49**	**151**	Pn	**Pn**	**13 44 09.1**	**+0.1**
DAWY				Sn	**Sn**	**13 44 40.5**	**+0.7**
DAWY				Sg	**Sg**	**13 44 45.7**	**-2.1**
DAWY				Trac		13 44 54.0	
	comp=Z,143nm,0.7s						
DAWY	**Dawson**	**2.49**	**151**	P	**Pn**	**13 44 10.0**	**+1.0**
DAWY				S	**Sn**	**13 44 40.7**	**+0.9**
DOT	**Dot Lake**	**2.74**	**198**	P	**Pn**	**13 44 12.7**	**+0.3**
COLA	**College**	**2.75**	**242**	P	**Pn**	**13 44 12.1**	**-0.3**
COLD	**Coldfoot**	**3.34**	**291**	P	**Pn**	**13 44 21.2**	**+0.7**
MENT	**Mentasta**	**3.40**	**192**	P	**Pn**	**13 44 22.0**	**+0.6**
MCK	**McKinley**	**3.83**	**232**	*e*Pn	**Pn**	**13 44 26.9**	**-0.5**
INK	**Inuvik**	**3.93**	**55**	Pn	**Pn**	**13 44 29.3**	**+0.6**
INK				Sn	**Sn**	**13 45 14.6**	**-0.7**
INK				Sg	**Sg**	**13 45 33.0**	**-0.9**
INK				Trac		13 45 38.9	
	comp=Z,84nm,0.8s						
INK	**Inuvik**	**3.93**	**55**	*e*Pn	**Pn**	**13 44 29.1**	**+0.4**
IM3	**Indian Mountai**	**4.72**	**272**	P	**Pn**	**13 44 38.7**	**-0.9**
SML	**Sawmill**	**5.23**	**214**	*e*Pn	**Pn**	**13 44 44.1**	**-2.5**
SML				*e*Sn	**Sn**	**13 45 45.4**	**-1.8**
DIV	**Divide**	**5.39**	**199**	*e*Pn	**Pn**	**13 44 51.1**	**+2.2**
	16nm,0.4s						
DIV				*e*Sn	**Sb**	**13 46 06.3**	**-1.2**
BMRM	**Bremner River**	**5.42**	**193**	P	**Pn**	**13 44 50.8**	**+1.6**
HYT	**Haines Junctio**	**5.84**	**157**	Pn	**Pn**	**13 44 56.4**	**+1.5**
HYT				Sg	**Sg**	**13 46 28.6**	**-6.5**
HYT				Trac		13 46 38.6	
	comp=Z,43nm,0.8s						
EYAK	**Cordova Ski Ar**	**5.95**	**197**	P	**Pn**	**13 44 58.9**	**+2.4**
WHY	**Whitehorse**	**6.50**	**147**	Pn	**Pn**	**13 45 04.0**	**+0.1**
WHY				Sg	**Sg**	**13 46 51.1**	**-5.1**
WHY				Trac		13 47 09.3	
	comp=Z,6.0nm,0.6s						
WHY	**Whitehorse**	**6.50**	**147**	P	**Pn**	**13 45 04.0**	**+0.1**
PLBC	**Pleasant Camp**	**7.32**	**156**	Pn	**Pn**	**13 45 22.0**	**+6.7**
DLBC	**Dease Lake**	**9.64**	**139**	Pn	**Pn**	**13 45 48.0**	**+0.9**
DLBC				Sg	Sn	13 48 27.1	+51
DLBC				Trac		13 48 38.9	
	comp=Z,5.0nm,0.9s						
YKW3	**Yellowknife Ar**	**12.41**	**94**	Pn	**Pn**	**13 46 21.4**	**-3.6**
YKW3				Sn	**Sn**	**13 48 32.6**	**-11**
YKW3				Trac		13 48 51.1	
	comp=Z,1.0nm,0.4s						

IDC 29 13:56:21.1±2.4, 105N×9708E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/20, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=56.8km s-min=31.2km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.54**	**47**	Pn	Pn	13 57 02.9	-0.6
	2.2nm,0.3s,baz=228,slow=4.7,SNR=7.0						
WRA	**Warramunga Arr**	**42.06**	**122**	P	P	14 04 14.8	+0.3
	0.3nm,0.6s,baz=301,slow=9.0,SNR=5.8						
SONM	**Songino Array**	**47.30**	**9**	P	P	14 04 56.4	+0.1
	0.3nm,0.7s,baz=197,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**47.36**	**346**	P	P	14 04 56.8	0.0
	0.3nm,0.7s,baz=168,slow=9.3,SNR=5.0						

*ISCJB **29** 14:06:48.3±0.5, 4252N±004×475E±004, h10km, Error ellipse: s-maj=6.0km s-min=2.9km az=121.8*
*CSEM **29** 14:06:50.2±0.1, 4232N×492E, h25km, ML2.7/8, Error ellipse: s-maj=4.0km s-min=2.0km az=152.0*
*MDD **29** 14:06:51.3±1.5, 4252N×479E, h18km±14km, mbLg2.4/6, Error ellipse: s-maj=9.1km s-min=4.4km az=152.0, PRXIMO*
*NEIC **29** 14:06:51.0, 4240N×480E, h20km, ML2.8(LDG), MN2.3(MDD), After LDG.*
*LDG **29** 14:06:51.0±0.1, 4240N×480E, h20km, Md2.6/1, Ml2.8/8, Error ellipse: s-maj=3.6km s-min=1.9km az=163.0*

ISC 29 14:06:49.2±0.5, 4253N±004×476E±004, h10km, n45, σ1§10/82, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EJON	**La Jonquera**	**1.39**	**267**	P	**Pn**	**14 07 14.4**	**-0.2**
	2.8nm,0.1s,SNR=7.9						
EJON				S	**Sn**	**14 07 31.8**	**-1.2**
	7.3nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.39**	**267**	P	**Pn**	**14 07 14.4**	**-0.2**
	2.8nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.39**	**267**	P	**Pn**	**14 07 14.4**	**-0.2**
EJON				S	**Sn**	**14 07 29.9**	**-3.1**
LMR	**La Mourre**	**1.51**	**57**	*e*

3.0nm,0.1s,SNR=7.9
EMIR Miracle 2.48 257 P **Pn 14 07 31.2 +1.5**
EMIR S **Sn 14 07 59.4 -0.6**
ORIF Oris-en-Rattie 2.52 18 *e*Pn **Pn 14 07 30.9 +0.8**
EPOB Poblet 2.99 248 P **Pn 14 07 37.8 +1.1**
0.5nm,0.1s,SNR=7.9
EPOB S **Sn 14 08 11.5 -1.1**
0.9nm,0.1s,SNR=7.9
EPOB Poblet 2.99 248 P **Pn 14 07 37.8 +1.2**
0.5nm,0.1s,SNR=7.9
EPOB S **Sn 14 08 11.5 -1.0**
0.9nm,0.1s,SNR=7.9
CAF Calviac 3.09 322 *e*Pn **Pn 14 07 38.8 +0.8**
ETOS Mallorca 3.13 209 P **Pn 14 07 38.8 +0.3**
0.7nm,0.1s,SNR=5.9
ETOS S **Sn 14 08 09.1 -6.9**
2.3nm,0.1s,SNR=6.8
ETOS Mallorca 3.13 209 P **Pn 14 07 38.8 +0.2**
0.7nm,0.1s,SNR=5.9
PGF Pioggiola 3.13 88 *e*Pn **Pn 14 07 37.2 -1.4**
PGF *e*Sn **Sn 14 08 08.6 -7.4**
5.1nm,0.2s
PGF Pioggiola 3.13 88 *e*Pn **Pn 14 07 37.2 -1.4**
PGF *e*Sn **Sn 14 08 08.6 -7.4**
2.5nm,0.2s
EBIE Bielsa 3.41 274 P **Pn 14 07 42.8 +0.4**
1.2nm,0.3s,SNR=7.9
EBIE S **Sn 14 08 21.8 -1.2**
2.7nm,0.3s,SNR=6.9
EBIE Bielsa 3.41 274 P **Pn 14 07 45.9 +3.4**
1.2nm,0.3s,SNR=7.9
EBIE Bielsa 3.41 274 P **Pn 14 07 45.9 +3.5**
EBIE S **Sn 14 08 24.1 +1.1**
RJF Les Rejaudoux 3.63 321 *e*Pn **Pn 14 07 46.2 +0.8**
ERTA Horta de San J 3.67 246 P **Pn 14 07 47.0 +1.1**
0.6nm,0.1s,SNR=7.9
ERTA S **Sn 14 08 27.5 -1.8**
0.0nm,0.2s,SNR=7.9
ERTA Horta de San J 3.67 246 P **Pn 14 07 47.0 +1.0**
0.6nm,0.1s,SNR=7.9
LFF La Frestale 3.78 311 *e*Pn **Pn 14 07 47.7 +0.2**
ETSF Etsaut 3.94 277 *e*Pn **Pn 14 07 48.8 -0.9**
ESAC San Caprasio 3.98 260 P **Pn 14 07 51.4 +1.2**
1.6nm,0.1s,SNR=7.9
ESAC S **Sn 14 08 36.2 -0.6**
5.3nm,0.2s,SNR=7.9
ESAC San Caprasio 3.98 260 P **Pn 14 07 51.4 +1.2**
1.6nm,0.1s,SNR=7.9
TCF Toulx Ste Croi 4.17 335 *e*Pn **Pn 14 07 54.0 +1.1**
BGF Bois d'Agland 4.25 342 *e*Pn **Pn 14 07 54.2 +0.3**
EIBI Ibiza 4.36 218 P **Pn 14 07 56.6 +1.1**
0.2nm,0.1s,SNR=7.9
EIBI S **Sn 14 08 40.9 -5.4**
2.3nm,0.2s,SNR=7.9

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*MOS **29** 14:13:56.3±1.0,6331N×14955W,h10km,mb3.9/1,Error ellipse: s-maj=21.0km s-min=7.5km az=85.8*
*NEIC **29** 14:13:57.8,6326N×14952W,h8km,mb4.7/1, ML3.9(AEIC),After AEIC.*
*IDC **29** 14:13:57.1±0.8,6343N×14954W,h0km,mb3.9/7, mb1 4.0/12,mb1mx3.9/19,mbtmp3.8/12,ML3.4/5,MS3.0/1, Ms1 2.9/1,ms1mx2.4/32,Error ellipse: s-maj=13.8km s-min=9.4km az=118.0*
*ISCJB **29** 14:13:58.4±0.5,6329N±002×14955W±006,h25km±5km, mb4.1/8,Error ellipse: s-maj=4.5km s-min=4.0km az=10.4*
ISC 29 14:13:58.5±0.6,6328N±002×14955W±006,h14km±5km, n47,σ0°97/59,mb4.1/8,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.37**	**297**	P	**Pg**	**14 14 06.0**	**0.0**
TRF				S	**Sg**	**14 14 12.0**	**+0.9**
MCK	**McKinley**	**0.53**	**31**	P	**Pg**	**14 14 08.2**	**-0.8**
MCK				S	**Sg**	**14 14 15.5**	**-0.5**
KTH	**Kantishna Hill**	**0.68**	**294**	P	**Pg**	**14 14 11.2**	**-0.5**
KTH				S	**Sg**	**14 14 20.9**	**+0.3**
GHO	**Glory Hole Cre**	**1.54**	**169**	P	**Pn**	**14 14 24.3**	**-1.2**
SML	**Sawmill**	**1.58**	**159**	P	**Pn**	**14 14 24.7**	**-1.4**
SML				S	**Sn**	**14 14 45.0**	**-1.3**
PMR	**Palmer**	**1.71**	**173**	P	**Pn**	**14 14 26.8**	**-1.0**
PMR				S	**Sn**	**14 14 48.2**	**-1.3**
COLA	**College**	**1.76**	**24**	P	**Pn**	**14 14 28.5**	**-0.1**
COLA				S	**Sn**	**14 14 50.3**	**-0.5**
PAX	**Paxson**	**1.88**	**98**	P	**Pn**	**14 14 30.4**	**+0.2**
PAX				S	**Sn**	**14 14 54.1**	**+0.4**
IL1	**Eielson Array**	**1.90**	**37**	P	**Pn**	**14 14 30.0**	**-0.5**
ILAR	**Eielson Array**	**1.90**	**37**	Pg	**Pn**	**14 14 30.1**	**-0.3**
	14nm,0.3s,baz=220,slow=14,SNR=348						
ILAR				Lg		14 14 55.8	
	52nm,0.3s,baz=225,slow=26,SNR=21						
FIB	**Fire Island**	**2.14**	**188**	P	**Pn**	**14 14 34.7**	**+0.9**
RC01	**Rabbit Creek A**	**2.20**	**182**	P	**Pn**	**14 14 34.5**	**-0.1**
DOT	**Dot Lake**	**2.49**	**79**	P	**Pn**	**14 14 38.4**	**-0.2**
DIV	**Divide**	**2.79**	**139**	*e*Pn	**Pn**	**14 14 41.9**	**-0.8**
DIV				*e*S	**Sn**	**14 15 17.1**	**+0.9**
SLKM	**Skilak Lake**	**2.80**	**187**	*e*Pn	**Pn**	**14 14 43.7**	**+0.8**
SLKM				*e*S	**Sn**	**14 15 17.6**	**+1.2**
TTA	**Tatalina**	**2.96**	**266**	*e*Pn	**Pn**	**14 14 45.2**	**+0.2**
TTA				*e*Pg	**Pg**	**14 14 52.4**	**-2.8**
TTA				*e*Sg	**Sg**	**14 15 29.5**	**-4.0**
TT01	**Tatalina**	**2.97**	**266**	P	**Pn**	**14 14 45.0**	**-0.1**
SEW	**Seward**	**3.19**	**179**	P	**Pn**	**14 14 48.6**	**+0.4**
IM3	**Indian Mountai**	**3.26**	**328**	P	**Pn**	**14 14 49.9**	**+0.7**
EYAK	**Cordova Ski Ar**	**3.28**	**145**	P	**Pn**	**14 14 50.4**	**+1.0**
BMRM	**Bremner River**	**3.28**	**133**	P	**Pn**	**14 14 49.7**	**+0.2**
GCSA	**Galena City Sc**	**3.54**	**298**	P	**Pn**	**14 14 54.7**	**+1.6**
SVW2	**Sparrevohn**	**3.58**	**235**	P	**Pn**	**14 14 53.5**	**-0.1**
COLD	**Coldfoot**	**3.97**	**356**	P	**Pn**	**14 15 00.1**	**+1.2**
DAWY	**Dawson**	**4.59**	**76**	P	**Pn**	**14 15 07.3**	**-0.2**
BM3	**Burnt Mountain**	**4.64**	**24**	P	**Pn**	**14 15 08.6**	**+0.4**
KDAK	**Kodiak Island**	**5.72**	**197**	Pn	**Pn**	**14 15 22.4**	**-0.5**
	2.6nm,0.3s,baz=31,slow=10.0,SNR=55						
KDAK				Sn	**Sn**	**14 16 27.4**	**-1.0**
	5.2nm,0.3s,baz=359,slow=21,SNR=9.0						
KDAK	**Kodiak Island**	**5.72**	**197**	P	**Pn**	**14 15 22.6**	**-0.3**
PNL	**Peninsula**	**6.06**	**122**	P	**Pn**	**14 15 28.9**	**+1.3**
WHY	**Whitehorse**	**7.39**	**104**	P	**Pn**	**14 15 47.5**	**+1.6**
TNA	**Tin City**	**8.27**	**294**	P	**Pn**	**14 15 59.3**	**+1.4**
INK	**Inuvik**	**8.28**	**46**	Pn	**Pn**	**14 15 57.8**	**-0.3**
	0.6nm,0.3s,baz=238,slow=18,SNR=24						
INK				Lg		14 18 16.8	
	0.3nm,0.3s,baz=173,slow=2.6,SNR=3.8						
INK	**Inuvik**	**8.28**	**46**	*e*P	**Pn**	**14 15 57.7**	**-0.4**
DLBC	**Dease Lake**	**10.66**	**108**	Pn	**Pn**	**14 16 31.1**	**+0.3**
	0.1nm,0.3s,baz=295,slow=17,SNR=2.2						
DLBC				Lg		14 19 26.6	
	0.1nm,0.3s,baz=218,slow=25,SNR=3.6						
YKW3	**Yellowknife Ar**	**15.81**	**77**	*e*P	**Pn**	**14 17 44.1**	**+3.6**
YKA	**Yellowknife Ar**	**15.83**	**77**	Pn	**Pn**	**14 17 40.3**	**-0.6**
	baz=284,slow=11,SNR=9.4						
YKA				LR	LR	14 24 23.8	
	comp=Z,51nm,20.3s,baz=180,slow=40						
BBB	**Bella Bella**	**15.86**	**125**	Pn	**Pn**	**14 17 43.8**	**+2.6**
	0.1nm,0.3s,baz=205,slow=17,SNR=1.6						
BILL	**Bilibino**	**18.48**	**304**	*e*P	**Pn**	**14 18 15.0**	**+0.9**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.5s						
EDM	**Edmonton**	**21.24**	**101**	P	**P**	**14 18 44.1**	**+0.1**
PDAR	**Pinedale Array**	**30.85**	**113**	P	**P**	**14 20 15.7**	**+1.5**
	comp=Z,1.2nm,0.8s,mb3.8,baz=328,slow=5.3,SNR=11						
EYMN	**Ely**	**34.80**	**88**	*e*P	**P**	**14 20 48.6**	**0.0**
	comp=Z,6.6nm,0.6s,mb4.7						
EYMN				*e*	pP	14 20 52.2	-0.8
ARCES	**ARCESS Array B**	**47.42**	**2**	P	**P**	**14 22 31.1**	**-1.4**
	comp=Z,4.9nm,1.0s,mb4.4,baz=1.6,slow=8.5,SNR=4.0						
SONM	**Songino Array**	**54.18**	**306**	P	**P**	**14 23 24.0**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=32,slow=5.6,SNR=4.1						
FINES	**FINESS Array B**	**55.55**	**3**	P	**P**	**14 23 32.0**	**-1.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=27,slow=8.8,SNR=7.3						
MKAR	**Makanchi Array**	**62.86**	**323**	P	**P**	**14 24 22.4**	**-1.5**
	comp=Z,0.4nm,0.4s,mb3.9,baz=25,slow=6.5,SNR=6.6						
AKASG	**Malin Array Be**	**66.36**	**1**	P	**P**	**14 24 45.1**	**-1.7**
	comp=Z,0.7nm,0.4s,mb4.0,baz=358,slow=6.2,SNR=4.9						
GERES	**GERESS Array B**	**67.44**	**12**	P	**P**	**14 24 53.1**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.8,baz=358,slow=6.9,SNR=2.8						

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*ISCJB **29** 14:17:31.3±0.4,3380N±002×3572E±004,h0km,Error ellipse: s-maj=5.0km s-min=2.6km az=42.4*
*CSEM **29** 14:17:31.0±0.1,3381N×3576E,h1km,ML3.1,Error ellipse: s-maj=2.6km s-min=1.8km az=100.0,Mining explosion.*
*GRAL **29** 14:17:31.1±1.8,3385N×3556E,h20km±9km,MD3.1*
*GII **29** 14:18:09.0±1.2,3374N×3584E,h0km,ML2.4/3*
ISC 29 14:17:31.7±0.4,3380N±002×3571E±004,h0km,n18, σ1°14/31,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.11**	**336**	*i* Pg	**Pg**	**14 17 34.0**	**+0.1**
BHL				*i* Sg	**Sg**	**14 17 37.6**	**+2.2**
BRBR	**Barbar**	**0.44**	**152**	⇑*i*P	**Pg**	**14 17 38.6**	**-1.5**
MATL	**Matirih**	**0.44**	**226**	*i* Pg	**Pg**	**14 17 39.9**	**-0.3**
HWQ	**Hawqa**	**0.52**	**22**	*i* Pg	**Pg**	**14 17 40.4**	**-1.2**
HWQ				*i* Sg	**Sg**	**14 17 49.0**	**+0.7**
QASN	**Qassioun**	**0.54**	**119**	⇑*i*P	**Pg**	**14 17 42.2**	**+0.1**
QASN				⇑*i*S	**Sg**	**14 17 50.6**	**+1.4**
KSDI	**Kefar Szold**	**0.61**	**184**	Pg	**Pg**	**14 17 42.9**	**-0.5**
KSDI				Sg	**Sg**	**14 17 52.5**	**+1.2**
FKH	**Fakeheh**	**0.72**	**53**	*i* Pg	**Pg**	**14 17 44.3**	**-1.3**
FKH				*i* Sg	**Sg**	**14 17 56.2**	**+1.3**
MMC2	**Mount Meron ar**	**0.81**	**198**	Pg	**Pg**	**14 17 46.5**	**-0.7**
MMB1	**Mount Meron ar**	**0.82**	**198**	Pg	**Pg**	**14 17 46.7**	**-0.7**
MMA0	**Mount Meron ar**	**0.82**	**198**	Pg	**Pg**	**14 17 46.8**	**-0.7**
MMA0				Sg	**Sg**	**14 18 00.3**	**+2.2**
MMA0	**Mount Meron ar**	**0.82**	**198**	Pg	**Pg**	**14 17 46.8**	**-0.7**
MMA0				Sg	**Sg**	**14 18 00.3**	**+2.1**
HNTI	**Hanita**	**0.84**	**212**	Pg	**Pg**	**14 17 49.0**	**+1.1**
HNTI				Sg	**Sg**	**14 18 02.2**	**+3.4**
BIDA	**Albida**	**1.31**	**23**	⇑*i*P	**Pg**	**14 17 55.9**	**-1.0**
BIDA				⇑*i*S	**Sg**	**14 18 15.1**	**+1.2**
ROOS	**tl_alroos**	**1.36**	**74**	⇑*i*P	**Pg**	**14 17 56.5**	**-1.4**
ROOS				⇑*i*S	**Sg**	**14 18 17.2**	**+1.6**
MMLI	**Mount Malkishu**	**1.38**	**190**	Pn	**Pn**	**14 17 57.3**	**-0.9**
MMLI				Sn	**Sn**	**14 18 16.5**	**-0.7**
SLTI	**Sal'it**	**1.65**	**200**	Pn	**Pn**	**14 18 01.5**	**-0.5**
SLTI				Sn	**Sn**	**14 18 24.7**	**+0.8**
WRDH	**Warideh**	**1.80**	**19**	⇑*i*P	**Pn**	**14 18 03.2**	**-0.8**
WRDH				⇑*i*S	**Sn**	**14 18 26.6**	**-0.9**
MKRJ	**Makawir**	**2.24**	**181**	Pn	**Pn**	**14 18 09.4**	**-0.7**

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*NEIC **29** 15:11:56.6,5057N×13038W,h10km,MW3.9(PGC),After PGC.*
PGC 29 15:11:56.6,5057N×13038W,h10km,MLSn3.3/1,Mw3.9, 2C-2D,209km southwest of Pt. Hardy, Bc South of Moresby Island, British Columbia,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.43**	**86**	⇑Pn	Pn	15 12 20.7	-1.9
HOLB				Sn	Sn	15 12 37.1	-4.3
	comp=Z,58nm,0.1s						
HOLB				Trac		15 12 38.2	
	comp=Z,58nm,0.1s						
BPBC	**Brooks Peninsu**	**1.72**	**103**	⇑Pn	Pn	15 12 24.1	-2.4
BPBC				Sn	Sn	15 12 43.1	-5.4
	comp=Z,111nm,0.2s						
BPBC				Trac		15 12 44.9	
	comp=Z,111nm,0.2s						
PHC	**Port Hardy**	**1.88**	**85**	⇑Pn	Pn	15 12 27.1	-1.6
PHC				Sn	Sn	15 12 48.5	-4.0
PHC				Trac		15 12 49.7	
	comp=Z,81nm,0.2s						
MAYB	**Maynard**	**2.05**	**94**	⇑Pn	Pn	15 12 29.6	-1.5
MAYB				Trac		15 12 54.2	
	comp=Z,33nm,0.3s						
BBB	**Bella Bella**	**2.15**	**40**	⇓Pn	Pn	15 12 30.8	-1.6
BBB				Sn	Sn	15 12 55.4	-3.8
BBB				Trac		15 12 58.7	
	comp=Z,92nm,0.3s						
BNB	**Barry Inlet**	**2.18**	**337**	Pn	Pn	15 12 30.8	-2.0
BNB				Sn	Sn	15 12 58.3	-1.7
	comp=Z,116nm,0.2s						
BNB				Trac		15 12 59.4	
	comp=Z,116nm,0.2s						
EDB	**Eliza Dome**	**2.21**	**107**	Pn	Pn	15 12 31.3	-1.9
WOSB	**Woss**	**2.47**	**98**	Pn	Pn	15 12 35.7	-1.2
ETB	**Estevan Point**	**2.75**	**114**	Pn	Pn	15 12 37.9	-2.8
NCRB	**Newcastle Ridg**	**2.77**	**92**	Pn	Pn	15 12 39.7	-1.3
NCRB				Trac		15 13 13.9	
	comp=Z,24nm,0.4s						
MOBC	**Moresby Island**	**2.79**	**341**	Pn	Pn	15 12 38.7	-2.6
GDR	**Gold River**	**2.90**	**104**	Pn	Pn	15 12 41.3	-1.5
BNAB	**Bonilla**	**2.93**	**357**	Pn	Pn	15 12 41.5	-1.6
BNAB				Trac		15 13 16.9	
	comp=Z,2.0nm,0.2s						
VIB	**Van Inlet**	**3.00**	**334**	Pn	Pn	15 12 42.3	-1.8
VIB				Sn	Sn	15 13 16.6	-3.5
	comp=Z,2.0nm,0.4s						
VIB				Trac		15 13 23.6	
	comp=Z,2.0nm,0.4s						
CBB	**Campbell River**	**3.26**	**98**	⇑Pn	Pn	15 12 46.9	-0.8
CBB				Sn	Sn	15 13 22.2	-4.3
CBB				Trac		15 13 33.3	
	comp=Z,10.0nm,0.3s						
BTB	**Buttle Lake**	**3.32**	**108**	⇑Pn	Pn	15 12 47.4	-1.2
OZB	**Mount Ozzard**	**3.55**	**115**	Pn	Pn	15 12 50.1	-1.6
NDB	**Naden**	**3.73**	**336**	Pn	Pn	15 12 52.8	-1.5
RUBB	**Prince Rupert**	**3.76**	**1**	Pn	Pn	15 12 53.5	-1.1
RUBB				Trac		15 13 40.7	
	comp=Z,7.0nm,0.3s						
ALB	**Alberni**	**3.81**	**108**	Pn	Pn	15 12 53.9	-1.5
TXB	**Texada**	**3.92**	**101**	Pn	Pn	15 12 56.0	-0.8
MGB	**Mount Grey**	**4.01**	**111**	Pn	Pn	15 12 56.8	-1.2
SHB	**Sechelt**	**4.30**	**101**	⇓Pn	Pn	15 13 01.6	-0.4
SHB				Trac		15 13 54.0	
	comp=Z,14nm,0.5s						
NLLB	**Nanaimo Lost L**	**4.34**	**106**	Pn	Pn	15 13 04.2	+1.6
PFB	**Port Renfrew**	**4.35**	**115**	Pn	Pn	15 13 01.9	-0.9
LZB	**Mount Lazard**	**4.69**	**112**	Pn	Pn	15 13 07.6	+0.2
WPB	**Watts Point**	**4.70**	**99**	Pn	Pn	15 13 07.5	0.0
BIB	**Bowen Island**	**4.71**	**102**	Pn	Pn	15 13 07.4	-0.2
GOBB	**Galiano Island**	**4.74**	**107**	Pn	Pn	15 13 07.9	-0.2
WSLR	**Whistler**	**4.79**	**92**	Pn	Pn	15 13 08.3	-0.5
OCWA	**Octopus Mounta**	**4.95**	**122**	*e*Pn	Pn	15 13 12.5	+1.6
HNB	**Haney**	**5.20**	**101**	Pn	Pn	15 13 15.5	+1.1
FSB	**Fort Saint Jam**	**5.38**	**41**	Pn	Pn	15 13 24.2	+7.4
FSB				Sn	Sn	15 14 22.6	+3.9
	comp=Z,3.0nm,0.5s						
FSB				Trac		15 14 26.3	
	comp=Z,3.0nm,0.5s						
FSB				Sg	Sg	15 14 36.0	-13
LLLB	**Lillooet**	**5.41**	**86**	Pn	Pn	15 13 17.4	+0.1
VDB	**Vedder Mountai**	**5.58**	**103**	Pn	Pn	15 13 20.7	+1.2
HDW	**Hoodsport**	**5.63**	**119**	P	Pn	15 13 21.9	+1.6
MBW	**Mount Baker**	**5.79**	**105**	⇑P	Pn	15 13 24.1	+1.7
CMW	**Cultus Mountai**	**5.79**	**109**	P	Pn	15 13 24.1	+1.6
JCW	**Jim Creek**	**6.01**	**110**	P	Pn	15 13 26.3	+0.8
RPW	**Rockport**	**6.15**	**107**	P	Pn	15 13 28.6	+1.2
FMW	**Mount Fremont**	**6.81**	**119**	P	Pn	15 13 38.6	+2.1
BMBC	**Bull Mountain**	**7.37**	**39**	Pn	Pn	15 13 44.3	+0.1
BMBC				Sn	Sn	15 15 07.2	-0.7
BMBC				Trac		15 15 10.2	
	comp=Z,4.0nm,0.3s						

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*ISCJB **29** 15:12:58.6±3.2,528S×008×81.19W±007,h14km±19km, mb3.8/9,MS3.7/5,Error ellipse: s-maj=15.9km s-min=8.3km az=68.9*
*IDC **29** 15:12:58.7±0.9,522S×8104W,h0km,mb3.9/10, mb1 4.1/12,mb1mx4.0/20,mbtmp4.0/12,ML4.0/2,MS3.7/7, Ms1 3.7/7,ms1mx3.4/28,Error ellipse: s-maj=40.7km s-min=15.7km az=55.0*
*NEIC **29** 15:13:06.0±1.2,520S×8088W,h53km±12km,mb3.8/2, Error ellipse: s-maj=13.5km s-min=8.0km az=50.0*
ISC 29 15:13:06.6±1.3,518S±008×8085W±008,h57km±14km,n26, σ0°77/22,mb3.8/9,MS3.7/5,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**5.89**	**24**	*e*Pn	**Pn**	**15 14 31.2**	**-0.1**
PAYG	**Puerto Ayora**	**10.43**	**295**	*e*Pn	**Pn**	**15 15 33.0**	**-0.4**
PAYG				*e*Sn	**Sn**	**15 17 20.8**	**-7.8**
ROSC	**El Rosal**	**11.91**	**33**	LR	LR	15 20 56.5	
	comp=Z,316nm,19.0s,baz=201,slow=40						
LPAZ	**La Paz**	**16.66**	**132**	Pn	**Pn**	**15 16 56.5**	**+0.3**
	0.3nm,0.3s,baz=320,slow=11,SNR=8.0						
LPAZ				LR	LR	15 23 31.8	
	comp=Z,119nm,19.1s,baz=109,slow=38						
LPAZ	**La Paz**	**16.66**	**132**	*e*Pn	**Pn**	**15 16 55.7**	**-0.5**
	3.6nm,0.8s						
LPAZ				LR	LR	15 23 31.8	
SDV	**Santo Domingo**	**17.29**	**36**	P	**Pn**	**15 17 04.6**	**+0.5**
	0.4nm,0.3s,baz=225,slow=4.3,SNR=2.5						
SAML	**Samuel**	**17.93**	**103**	*e*P	**Pn**	**15 17 11.1**	**-0.8**
	1.0nm,1.4s						
SAML				*e*S	**S**	**15 20 33.8**	**-0.8**
LVC	**Limon Verde**	**20.82**	**147**	P	**P**	**15 17 44.5**	**+1.1**
	6.5nm,0.9s,baz=324,slow=10,SNR=5.3						
LVC	**Limon Verde**	**20.82**	**147**	*e*P	**P**	**15 17 44.6**	**+1.2**
	11nm,1.0s						
SIV	**San Ignacio**	**22.19**	**120**	P	**P**	**15 17 58.1**	**+0.1**
	3.8nm,0.9s,mb3.8,baz=305,slow=12,SNR=12						
SJG	**San Juan**	**27.32**	**32**	LR	LR	15 28 47.8	
	comp=Z,126nm,21.2s,MS3.5,baz=251,slow=35						
CPUP	**Villa Florida**	**30.78**	**136**	P	**P**	**15 19 16.3**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=202,slow=17,SNR=3.3						
CPUP				LR	LR	15 33 03.8	
	comp=Z,134nm,18.6s,MS3.6,baz=304,slow=39						
CPUP	**Villa Florida**	**30.78**	**136**	P	**P**	**15 19 16.3**	**-0.5**
CPUP				LR	LR	15 33 03.8	
BDFB	**Brasilia**	**33.88**	**110**	P	**P**	**15 19 46.5**	**+2.7**
	1.4nm,0.4s,mb4.3,baz=64,slow=5.5,SNR=3.1						
BDFB				LR	LR	15 34 26.7	
	comp=Z,156nm,20.7s,MS3.7,baz=290,slow=38						
PLCA	**Paso Flores**	**36.59**	**167**	P	**P**	**15 20 06.5**	**-0.6**
	1.7nm,0.8s,mb3.9,baz=309,slow=14,SNR=3.1						
PLCA	**Paso Flores**	**36.59**	**167**	P	**P**	**15 20 06.5**	**-0.6**
PDAR	**Pinedale Array**	**54.37**	**334**	P	**P**	**15 22 28.2**	**+0.7**
	0.9nm,0.7s,mb3.8,baz=137,slow=8.8,SNR=8.7						
PDAR				LR	LR	15 48 44.7	
	comp=Z,76nm,18.3s,MS3.8,baz=67,slow=40						
YKA	**Yellowknife Ar**	**72.24**	**344**	P	**P**	**15 24 25.1**	**-0.7**
	0.3nm,0.7s,mb3.3,baz=135,slow=5.2,SNR=9.8						
YKA	**Yellowknife Ar**	**72.24**	**344**	P	**P**	**15 24 25.1**	**-0.7**
DLBC	**Dease Lake**	**74.56**	**336**	P	**P**	**15 24 39.4**	**-0.1**
	1.6nm,0.7s,mb4.0,baz=74,slow=4.5,SNR=7.4						
DBIC	**Dimbokro**	**76.76**	**82**	LR	LR	15 56 16.4	
	comp=Z,76nm,19.0s,MS4.0,baz=170,slow=34						
INK	**Inuvik**	**81.88**	**343**	P	**P**	**15 25 19.6**	**-0.3**
	0.8nm,0.7s,mb3.8,baz=207,slow=3.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**83.94**	**76**	P	**P**	**15 25 30.8**	**+0.2**
	1.0nm,0.9s,mb3.9,baz=298,slow=6.2,SNR=3.9						
ASAR	**Alice Springs**	**135.60**	**228**	PKhKP		15 32 16.6	
	0.4nm,0.8s,baz=118,slow=3.9,SNR=4.5						
MKAR	**Makanchi Array**	**136.06**	**17**	PKP	PKPdf	15 32 20.5	-0.8
	0.4nm,0.7s,baz=48,slow=1.8,SNR=4.7						
WRA	**Warramunga Arr**	**137.33**	**233**	PKP	PKPdf	15 32 23.8	+0.1
	0.2nm,0.7s,baz=118,slow=1.9,SNR=4.8						

MEX 29 15:29:50.0±0.4,1520N×9102W,h20km,MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.52**	**315**	*i* P	Pn	15 30 13.1	-2.9
CCIG				*i* S	Sn	15 30 31.2	-3.9
SCX	**San Cristobal**	**2.17**	**315**	*e*P	Pn	15 30 24.3	-0.7
SCX				*i* S	Sn	15 30 48.7	-2.7
CMIG	**Matias Romero**	**4.16**	**297**	*i* P	Pn	15 30 51.0	-1.3
CMIG				*i* S	Sn	15 31 37.0	-3.4

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*INMG **29** 15:41:45.5±0.7,3693N×14.19W,h10km,ML2.9,Error ellipse: s-maj=6.5km s-min=2.8km az=130.0*
*IGIL **29** 15:41:45.0,3730N×1380W,h0km,ML2.6*
*NEIC **29** 15:41:45.7,3731N×1376W,h0km,MN3.3(MDD),After MDD.*
*CSEM **29** 15:41:47.9±0.4,3739N×1350W,h30km,ML2.9,Error ellipse: s-maj=8.7km s-min=5.7km az=52.0*
MDD 29 15:41:43.9±2.3,3722N×1386W,h0km,mb4.4/10,Error ellipse: s-maj=20.4km s-min=15.2km az=66.0,PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**4.11**	**84**	*e*Sn	Sn	15 43 32.2	-4.4
MORF	**Marmelete**	**4.16**	**87**	*e*P	Pn	15 42 46.9	-1.7
MORF				*e*S	Sn	15 43 32.6	-5.3
MORF				*e*S	Sn	15 43 32.6	-5.3
MORF				AML	AML	15 43 35.6	
	comp=E,11nm,0.1s						
MORF	**Marmelete**	**4.16**	**87**	P	Pn	15 42 46.9	-1.7
MORF				S	Sn	15 43 32.6	-5.3
MORF	**Marmelete**	**4.16**	**87**	*e*P	Pn	15 42 46.9	-1.7
MORF				*e*S	Sn	15 43 32.6	-5.3
PTOM	**Tomar**	**4.90**	**59**	*e*Pn	Pn	15 42 58.4	-0.5
PTOM				*e*Sn	Sn	15 43 53.4	-2.9
PTOM							
	comp=E,17nm,0.2s						
PTOM	**Tomar**	**4.90**	**59**	*e*Pn	Pn	15 42 58.4	-0.5
PTOM				*e*Sn	Sn	15 43 53.4	-2.9
	comp=E,17nm,0.2s						
EGRO	**El Granado**	**5.09**	**85**	P	Pn	15 42 59.7	-1.8
	comp=E,0.8nm,0.1s,SNR=9.3						
EGRO				S	Sn	15 43 56.1	-4.8
	comp=E,9.6nm,0.3s,SNR=5.6						
EGRO	**El Granado**	**5.09**	**85**	P	Pn	15 42 59.7	-1.7
	comp=E,0.8

ELOB Lobios 6.45 42 P Pn 15 43 18.8 -1.3
comp=E,0.9nm,0.1s,SNR=7.9
ELOB S Sn 15 44 28.1 -6.3
comp=E,7.1nm,0.2s,SNR=7.9
ELOB Lobios 6.45 42 P Pn 15 43 19.0 -1.1
ELOB S Sn 15 44 27.9 -6.5
ECAB El Cabril 6.75 80 P Pn 15 43 23.2 -1.0
comp=E,1.7nm,0.2s,SNR=4.5
ECAB S Sn 15 44 35.4 -6.5
comp=E,11nm,0.4s,SNR=7.9
ECAB El Cabril 6.75 80 P Pn 15 43 23.2 -1.1
comp=E,1.7nm,0.2s,SNR=4.5
ECAB S Sn 15 44 35.4 -6.5
comp=E,11nm,0.4s,SNR=7.9
ECAB El Cabril 6.75 80 P Pn 15 43 23.4 -0.9
ECAB S Sn 15 44 35.0 -6.9
EMAZ Mazaricos 6.84 32 S Sn 15 44 35.8 -8.1
comp=E,10nm,0.1s,SNR=4.7
EMAZ Mazaricos 6.84 32 S Sn 15 44 35.8 -8.1
comp=E,10nm,0.1s,SNR=4.7
STS Santiago 6.97 34 P Pn 15 43 26.5 -0.7
comp=E,3.4nm,0.2s,SNR=4.0
STS S Sn 15 44 38.9 -8.3
comp=E,9.9nm,0.2s,SNR=7.9
PBRG Braganca 7.16 48 *e*Pn Pn 15 43 29.0 -0.8
PBRG *e*Sn Sn 15 44 45.9 -5.9
PBRG
comp=E,3.9nm,0.1s
ECAL Calabor 7.24 47 P Pn 15 43 30.1 -0.9
comp=E,1.4nm,0.1s,SNR=7.9
ECAL S Sn 15 44 47.6 -6.3
comp=E,10nm,0.3s,SNR=7.9
ECAL Calabor 7.24 47 P Pn 15 43 30.1 -0.9
comp=E,1.4nm,0.1s,SNR=7.9
ECAL S Sn 15 44 47.6 -6.3
comp=E,10nm,0.3s,SNR=7.9
ECAL Calabor 7.24 47 P Pn 15 43 30.4 -0.5
ECAL S Sn 15 44 47.8 -6.2
EMIJ Mijas 7.31 92 S Sn 15 44 50.4 -5.3
comp=E,3.4nm,0.3s,SNR=7.9
EMIJ Mijas 7.31 92 S Sn 15 44 50.3 -5.4
comp=E,3.4nm,0.3s,SNR=7.9
EADA Adamuz 7.42 80 P Pn 15 43 32.1 -1.4
comp=E,1.2nm,0.1s,SNR=5.8
EADA S Sn 15 44 51.5 -6.9
comp=E,2.9nm,0.4s
EADA Adamuz 7.42 80 P Pn 15 43 32.1 -1.3
comp=E,1.2nm,0.1s,SNR=5.8
EADA S Sn 15 44 51.5 -6.9
comp=E,2.9nm,0.4s
EADA Adamuz 7.42 80 P Pn 15 43 32.1 -1.4
EADA S Sn 15 44 51.7 -6.7
EPON Pontenova 7.97 38 P Pn 15 43 38.7 -2.2
comp=E,1.3nm,0.3s,SNR=4.0
EPON S Sn 15 45 03.6 -8.1
comp=E,1.9nm,0.2s,SNR=7.9
EPON Pontenova 7.97 38 P Pn 15 43 38.7 -2.2
comp=E,1.3nm,0.3s,SNR=4.0
EPON S Sn 15 45 03.6 -8.1
comp=E,1.9nm,0.2s,SNR=7.9
EPON Pontenova 7.97 38 P Pn 15 43 40.8 -0.2
EPON S Sn 15 45 03.0 -8.8
ESDC Sonseca Array 8.14 69 P Pn 15 43 41.6 -1.8
comp=E,6.9nm,0.2s,baz=256,slow=13,SNR=17
ESDC Sonseca Array 8.14 69 P Pn 15 43 41.6 -1.8
comp=E,6.9nm,0.2s,SNR=17
ESDC Sonseca Array 8.14 69 P Pn 15 43 41.9 -1.4
ESDC S Sn 15 45 06.8 -9.4
EARI Arriondas 8.97 45 P Pn 15 43 54.0 -0.8
comp=E,1.0nm,0.3s,SNR=7.9
EARI S Sn 15 45 29.0 -7.5
comp=E,0.6nm,0.3s,SNR=4.0

IDC ***29*** *15:58:18.5±0.4,2290S×175.16W,h0km,mb5.0/20, mb1 5.1/21,mb1mx5.1/23,mbtmp4.9/21,ML4.6/1,MS4.5/18, Ms1 4.5/18,ms1mx4.4/30,Error ellipse: s-maj=16.1km s-min=14.1km az=144.0*
ISCJB ***29*** *15:58:21.0±0.2,2306S±004×175.12W±005,h25km, mb5.2/73,MS4.8/39,Error ellipse: s-maj=7.5km s-min=4.8km az=83.6*
CSEM ***29*** *15:58:22.5,2309S×175.14W,h33km,mb5.5*
NEIC ***29*** *15:58:22.4±0.2,2296S×175.19W,h25km,mb5.4/41, MS4.9/8,Error ellipse: s-maj=8.7km s-min=5.0km az=138.0*
HRVD ***29*** *15:58:22.4±0.2,2316S×17461W,h12km,MW5.2/81, Centroid moment Tensor Solution. LP body waves: s55,c78;Mantle waves: s81,c129; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.68±.10; $M_{\theta\theta}$0.97±.10; $M_{\phi\phi}$2.71±.10; $M_{r\theta}$3.56±.28; $M_{\theta\phi}$1.49±.08; $M_{\phi r}$4.25±.27; Best double couple: $M_0$6.62200×10^{16} NP1:ϕ_s218.00000°,δ74.00000°,λ-85.00000°. Principal axes: T 6.5270, Plg28.0000°, Azm305.0000°; N 0.1900, Plg4.0000°, Azm37.0000°; P -6.7160, Plg61.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***29*** *15:58:23.3±1.5,2286S×17527W,h33km,mb5.6/21, MS4.8/11 Error ellipse: s-maj=12.7km s-min=10.5km az=71.0*
BJI ***29*** *15:58:23.9,2289S×17477W,h44km,mB5.5,mb5.3,Ms5.2, Msz4.8*

ISC 29 15:58:22.8±0.2,2303S±004×17507W±005,h27km, h27km±.9km:pP-P,n313,σ1s10/169,mb5.2/73,MS4.8/39, 11C-15D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
RAO	**Raoul Island**	**6.71**	**202**		Pn	**Pn**	**15 59 59.4**	**-0.1**
	baz=248,slow=18							
RAO					Sn	**Sn**	**16 01 13.8**	**-1.2**
	220nm,0.3s,baz=277,slow=22,SNR=4.1							
RAO	**Raoul Island**	**6.71**	**202**	*e*Pn		**Pn**	**15 59 59.2**	**-0.3**
	739nm,0.4s							
RAO				*e*Sn		**Sn**	**16 01 13.6**	**-1.4**
RAO	**Raoul Island**	**6.71**	**202**	*e*P		**Pn**	**15 59 59.2**	**-0.3**
RAO				*e*			16 01 13.6	
RAO				pmax		pmax		
	comp=Z,739nm,0.4s							
AFI	**Afiamalu**	**9.59**	**20**	Pn		**Pn**	**16 00 31.7**	**-7.4**
AFI				Sn		**Sn**	**16 02 10.3**	**-16**
	comp=Z,25nm,0.3s,baz=195,slow=19,SNR=5.2							
AFI	**Afiamalu**	**9.59**	**20**	*e*Pn		**Pn**	**16 00 31.1**	**-8.0**
	comp=Z,154nm,0.4s							
AFI				*e*Sn		Sn	16 01 58.4	-28
RAR	**Rarotonga**	**14.29**	**86**	Pn		**Pn**	**16 01 35.1**	**-8.2**
	comp=Z,16nm,0.3s,baz=265,slow=7.9,SNR=18							
RAR				Sn		Sn	16 03 59.4	-21
	comp=Z,8.4nm,0.3s,baz=94,slow=20,SNR=4.1							
RAR				LR		LR	16 06 18.7	
	comp=Z,2μm,18.8s,baz=267,slow=33							
BKM	**Butte a Klehm**	**16.53**	**286**	*i* P		**Pn**	**16 02 19.6**	**+6.8**
URZ	**Urewera**	**16.60**	**202**	Pn		**Pn**	**16 02 13.1**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=104,slow=1.8,SNR=11							
URZ				Sn		**Sn**	**16 05 04.1**	**-13**
	comp=Z,6.9nm,0.3s,baz=286,slow=22,SNR=10							
NOU	**Noumea**	**17.08**	**269⇑**	*e*P		**Pn**	**16 02 26.4**	**+6.8**
DZM	**Mont Dzumac**	**17.11**	**270**	P		**Pn**	**16 02 23.6**	**+3.6**
	comp=Z,1.8nm,0.3s,baz=51,slow=17,SNR=27							
TBI	**Tubuai**	**23.53**	**96**	*e*LQ			16 07 45.7	
	comp=Z,3μm,27.0s							
TBI				*e*LR		LR	16 08 58.1	
	comp=Z,3μm,27.8s,baz=270							
RPZ	**Rata Peaks**	**23.60**	**206**	P		**P**	**16 03 29.0**	**-2.6**
	comp=Z,15nm,0.6s,mb4.6,baz=52,slow=3.4,SNR=12							
RPZ				S		**S**	**16 07 38.3**	**-5.8**
	comp=Z,7.6nm,0.7s,baz=212,slow=23,SNR=6.0							
PAE	**Paea**	**24.47**	**82**	*e*P		**P**	**16 03 38.0**	**-1.5**
	comp=Z,116nm,1.1s,mb5.2							
PPT	**Papeete**	**24.50**	**82**	*e*P		**P**	**16 03 38.7**	**-1.1**
	comp=Z,76nm,1.3s,mb5.0							
PPT	**Papeete**	**24.50**	**82**	*e*LQ			16 08 16.6	
	comp=Z,2μm,28.0s							
PPT				*e*LR		LR	16 09 19.2	
	comp=Z,3μm,26.8s,baz=250							
TVO	**Taravao**	**24.73**	**83**	*e*P		**P**	**16 03 40.8**	**-1.1**
	comp=Z,287nm,1.1s,mb5.7							
ARMA	**Armidale**	**30.57**	**249**	*e*P		**P**	**16 04 35.3**	**+1.1**
CTA	**Charters Tower**	**36.03**	**267**	*e*P		**P**	**16 05 20.6**	**-1.1**
	comp=Z,18nm,0.4s,mb5.4							
CTA	**Charters Tower**	**36.03**	**267**	P		**P**	**16 05 21.8**	**0.0**
	comp=Z,25nm,0.6s,mb5.3,baz=99,slow=11,SNR=36							
CTA				LR		LR	16 17 42.9	
	comp=Z,664nm,19.7s,MS4.4,baz=95,slow=32							
CTA	**Charters Tower**	**36.03**	**267**	*e*P		**P**	**16 05 20.6**	**-1.1**
CTA				pmax		pmax		
	comp=Z,18nm,0.4s							
TAOE	**Nuku Hiva Isla**	**36.29**	**73**	*e*LR		LR	16 14 43.1	
	comp=Z,2μm,25.1s							
TOO	**Toolangi**	**36.73**	**238**	*e*P		**P**	**16 05 27.9**	**+0.1**
	comp=Z,9.8nm,0.6s,mb4.8							
TOO	**Toolangi**	**36.73**	**238**	*e*P		**P**	**16 05 27.9**	**+0.1**
TOO				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.8							
RKT	**Rikitea**	**36.80**	**98**	*e*LR		LR	16 15 05.1	
	comp=Z,2μm,28.0s,baz=259							
PMG	**Port Moresby**	**38.59**	**284**	P		**P**	**16 05 42.7**	**-0.7**
	comp=Z,62nm,0.9s,mb5.3,baz=99,slow=5.6,SNR=17							
PMG				LR		LR	16 19 49.3	
	comp=Z,725nm,18.4s,MS4.5,baz=112,slow=34							
PMG	**Port Moresby**	**38.59**	**284**	*e*P		**P**	**16 05 41.9**	**-1.6**
	comp=Z,83nm,0.9s,mb5.5							
PMG				LR		LR		
	comp=Z,1μm,19.0s,MS4.8							
PMG	**Port Moresby**	**38.59**	**284**	*e*P		**P**	**16 05 41.9**	**-1.6**
PMG				pmax		pmax		
	comp=Z,83nm,0.9s							
PMG				MLR		MLR		
	comp=Z,1μm,19.0s							
STKA	**Stephens Creek**	**39.24**	**247**	*e*P		**P**	**16 05 46.7**	**-2.3**
	comp=Z,5.5nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**39.24**	**247**	P		**P**	**16 05 46.8**	**-2.1**
	comp=Z,5.7nm,0.5s,mb4.5,baz=90,slow=11,SNR=23							
STKA				LR		LR	16 21 33.9	
	comp=Z,2μm,18.3s,MS5.0,baz=48,slow=36							
STKA	**Stephens Creek**	**39.24**	**247**	*e*P		**P**	**16 05 46.6**	**-2.3**
ASAR	**Alice Springs**	**46.65**	**259**	P		**P**	**16 06 48.2**	**-0.7**
	comp=Z,18nm,0.7s,mb5.2,baz=97,slow=6.6,SNR=149							
ASAR				PcP		PcP	16 08 22.9	+0.4
	comp=Z,3.3nm,0.7s,baz=104,slow=3.9,SNR=4.2							
WB2	**Warramunga Arr**	**46.99**	**264⇓**	*i* P		**P**	**16 06 50.0**	**-1.5**
WB2				*e*S		**S**	**16 13 34.3**	**-7.0**
WRAB	**Tennant Creek**	**46.99**	**264**	P		**P**	**16 06 50.0**	**-1.6**
	comp=Z,183nm,1.1s,mb5.9,SNR=18							
WRAB	**Tennant Creek**	**46.99**	**264**	*e*P		**P**	**16 06 50.1**	**-1.5**
	comp=Z,43nm,0.9s,mb5.4							
WRAB				LR		LR		
	comp=Z,1μm,19.0s,MS4.9							
WRAB	**Tennant Creek**	**46.99**	**264⇓**	*i* P		**P**	**16 06 50.2**	**-1.4**
WRA	**Warramunga Arr**	**47.00**	**264**	P		**P**	**16 06 50.4**	**-1.3**
	comp=Z,18nm,0.8s,mb5.0,baz=93,slow=8.6,SNR=107							
KAKA	**Kakadu**	**50.78**	**272**	*e*P		**P**	**16 07 19.4**	**-1.2**
	comp=Z,13nm,0.5s,mb5.1							
FORT	**Forrest**	**50.85**	**248**	*e*P		**P**	**16 07 19.8**	**-1.4**
	comp=Z,39nm,0.6s,mb5.5							
FITZ	**Fitzroy Crossi**	**55.42**	**263**	*e*P		**P**	**16 07 53.6**	**-1.2**
	comp=Z,16nm,0.6s,mb5.2							
SBA	**Scott Base**	**55.56**	**185**	*e*P		**P**	**16 07 58.9**	**+3.1**
	comp=Z,41nm,1.1s,mb5.4							
SBA	**Scott Base**	**55.56**	**185**	*e*P		**P**	**16 07 58.9**	**+3.1**
SBA				pmax		pmax		
	comp=Z,41nm,1.1s,mb5.4							
VNDA	**Vanda**	**55.67**	**186**	P		**P**	**16 07 58.4**	**+1.8**
	comp=Z,10nm,0.9s,mb4.9,baz=8.0,slow=7.5,SNR=28							
VNDA				LR		LR	16 28 22.1	
	comp=Z,250nm,18.3s,MS4.3,baz=24,slow=32							
KLBR	**Kellerberrin**	**59.49**	**246**	*e*P		**P**	**16 08 22.7**	**-0.8**
	comp=Z,22nm,0.6s,mb5.4							
MUN	**Mundaring**	**60.72**	**245**	*e*P		**P**	**16 08 32.3**	**+0.4**
CASY	**Casey**	**62.87**	**206**	*e*P		**P**	**16 08 47.4**	**+1.0**
CASY	**Casey**	**62.87**	**206**	*e*P		**P**	**16 08 47.5**	**+1.1**
	comp=Z,23nm,0.9s,mb5.3							
QSPA	**South Pole Qui**	**67.05**	**180**	*e*P		**P**	**16 09 15.1**	**+1.5**
	comp=Z,38nm,0.8s,mb5.5							
MJAR	**Matsushiro Arr**	**73.86**	**322**	P		**P**	**16 09 54.3**	**-0.9**
	comp=Z,6.9nm,0.8s,mb4.7,baz=154,slow=5.9,SNR=12							
MJAR				LR		LR	16 35 40.8	
	comp=Z,181nm,20.0s,MS4.4,baz=135,slow=30							
MAT	**Matsushiro**	**73.86**	**322**	P		**P**	**16 09 53.9**	**-1.3**
MAT	**Matsushiro**	**73.86**	**322**	*e*P		**P**	**16 09 54.0**	**-1.2**
	comp=Z,11nm,1.2s,mb4.7							
MAT	**Matsushiro**	**73.86**	**322**	*e*P		**P**	**16 09 54.0**	**-1.2**
MAT				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.7							
KSM	**Kuching**	**76.45**	**277**	*e*P		**P**	**16 10 10.5**	**+0.4**
PET	**Petropavlovsk**	**79.11**	**344**	*e*P		**P**	**16 10 28.4**	**+3.5**
PET				*e*S		S	16 20 21.7	-0.9
PET				pmax		pmax		
	comp=Z,200nm,13.6s							
PET				smax				
	comp=N,100nm,17.8s							
PET				MLR		MLR		
	comp=Z,200nm,17.0s,MS4.5							
PFO	**Pinyon Flat Ob**	**79.27**	**46**	*e*P		**P**	**16 10 25.9**	**+0.1**
	comp=Z,16nm,1.1s,mb4.9							
PFO	**Pinyon Flat Ob**	**79.27**	**46**	*e*P		**P**	**16 10 25.9**	**+0.1**
PFO				pmax		pmax		
	comp=Z,16nm,1.1s,mb4.9							
YSS	**Yuzh-Sakhalins**	**79.38**	**332**	*e*P		**P**	**16 10 27.3**	**+0.9**
	comp=Z,89nm,1.0s,mb5.7							
YSS	**Yuzh-Sakhalins**	**79.38**	**332⇑**	*i* P		**P**	**16 10 29.3**	**+2.9**
YSS				*e*			16 10 46.0	
YSS				pmax		pmax		
	comp=Z,90nm,1.0s,mb5.7							
CMB	**Columbia Colle**	**79.52**	**41**	*e*P		**P**	**16 10 27.3**	**+0.1**
	comp=Z,27nm,1.2s,mb5.0							
CMB				LR		LR		
	comp=Z,455nm,20.0s,MS4.8							
CMB	**Columbia Colle**	**79.52**	**41**	*e*P		**P**	**16 10 27.3**	**+0.2**
CMB				pmax		pmax		
	comp=Z,27nm,1.2s,mb5.0							
CMB				MLR		MLR		
	comp=Z,455nm,20.0s,MS4.8							
OHCM	**Honcut**	**79.71**	**39**	*e*P		**P**	**16 10 26.7**	**-1.5**
MAW	**Mawson**	**80.10**	**199**	LR		LR	16 46 39.6	
	comp=Z,578nm,19.2s,MS4.9,baz=307,slow=36							
MTUM	**Tungsten Hills**	**80.20**	**42**	*e*P		**P**	**16 10 31.3**	**+0.5**
USHA	**Ushuaia**	**80.52**	**146**	P		**P**	**16 10 33.3**	**+0.7**
	comp=Z,9.7nm,0.8s,mb4.8,baz=286,slow=7.4,SNR=3.3							
YBH	**Yreka Blue Hor**	**80.61**	**37**	P		**P**	**16 10 31.8**	**-1.2**
	comp=Z,12nm,0.9s,mb4.8,baz=179,slow=3.4,SNR=6.9							
YBH				LR		LR	16 38 15.9	
	comp=Z,400nm,20.3s,MS4.8,baz=246,slow=30							
NVAR	**Mina Array Bea**	**81.03**	**42**	P		**P**	**16 10 35.8**	**+0.5**
	comp=Z,14nm,0.8s,mb4.9,baz=216,slow=7.2,SNR=48							
NVAR				LR		LR	16 37 57.2	
	comp=Z,300nm,19.6s,MS4.7,baz=260,slow=29							
HUMO	**Hull Mountain**	**81.06**	**36**	*e*P		**P**	**16 10 35.8**	**+0.4**
	comp=Z,19nm,1.2s,mb4.9							
MNV	**Mina**	**81.13**	**42**	*e*P		**P**	**16 10 35.9**	**+0.2**
	comp=Z,33nm,1.2s,mb5.1							
MNV				LR		LR		
	comp=Z,426nm,20.0s,MS4.8							
MNV	**Mina**	**81.13**	**42**	*e*P		**P**	**16 10 35.9**	**+0.1**
MNV				pmax		pmax		
	comp=Z,33nm,1.2s,mb5.1							
MNV				MLR		MLR		
	comp=Z,426nm,20.0s,MS4.8							
PAHR	**Pah Rah Range**	**81.19**	**40**	*e*P		**P**	**16 10 36.2**	**+0.1**
	comp=Z,30nm,1.3s,mb5.1							
SSE	**Sheshan**	**81.39**	**309**	P		**P**	**16 10 38.0**	**+0.8**
SSE				XP		sP	16 10 51.3	+2.4
SSE				PP		PP	16 13 44.3	+1.1
SSE				S		S	16 20 48.5	+1.9
SSE				XS		sS	16 21 04.8	+4.0
SSE				AMB		AMB		
	comp=Z,37nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,201nm,5.9s							
SSE				LR		LR		
	comp=N,125nm,27.0s,MS4.2							
SSE				LR		LR		
	comp=E,81nm,27.2s,MS4.2							
SSE				LR		LR		
	comp=Z,212nm,28.4s,MS4.3							
NEN	**Nelson**	**81.55**	**46**	*e*P		**P**	**16 10 37.4**	**-0.6**
MOD	**Modoc**	**82.07**	**38**	*e*P		**P**	**16 10 40.9**	**+0.2**
	comp=Z,32nm,1.2s,mb5.1							
TUC	**Tucson**	**82.44**	**50**	*e*P		**P**	**16 10 43.3**	**+0.6**
	comp=Z,15nm,1.2s,mb4.8							
TUC				LR		LR		
	comp=Z,699nm,20.0s,MS5.0							
TUC	**Tucson**	**82.44**	**50**	*e*P		**P**	**16 10 43.3**	**+0.6**
TUC				pmax		pmax		
	comp=Z,15nm,1.2s,mb4.8							
TUC				MLR		MLR		
	comp=Z,699nm,20.0s,MS5.0							
KDAK	**Kodiak Island**	**82.67**	**12**	P		**P**	**16 10 42.9**	**-1.0**
	comp=Z,21nm,1.1s,mb5.1,baz=206,slow=5.3,SNR=6.9							
NJ2	**Nanjing**	**83.58**	**309**	*e*P		**P**	**16 10 49.5**	**+0.9**
NJ2				PP		PP	16 14 03.5	+2.3
NJ2				S		S	16 21 06.0	-3.0
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb5.1							
NJ2				AMB		AMB		
	comp=Z,130nm,9.4s							
NJ2				LR		LR		
	comp=N,740nm,26.8s							
NJ2				LR		LR		
	comp=E,720nm,34.2s							
NJ2				LR		LR		
	comp=Z,310nm,36.8s							
CCUT	**Cedar City**	**83.62**	**45**	*e*P		**P**	**16 10 48.8**	**0.0**
ARUT	**Antelope Range**	**83.71**	**45**	*e*P		**P**	**16 10 49.8**	**+0.5**
OCWA	**Octopus Mounta**	**83.96**	**32**	*e*P		**P**	**16 10 51.4**	**+0.8**
	comp=Z,69nm,1.2s,mb5.7							
HABR	**Khabarovsk**	**83.99**	**329**	*e*P		**P**	**16 10 53.2**	**+2.5**
HABR				*e*S		S	16 21 13.0	-0.1
HABR				pmax		pmax		
	comp=Z,115nm,1.4s,mb5.8							
HABR				MLR		MLR		
	comp=Z,314nm,4.9s							
MDJ	**Mudanjiang**	**84.15**	**324**	P		**P**	**16 10 52.5**	**+1.0**
MDJ				PP		PP	16 14 06.3	+0.4
MDJ				S			16 21 16.3	
MDJ				AMB		AMB		
	comp=Z,31nm,1.4s,mb5.2							
MDJ				AMB		AMB		
	comp=Z,43nm,4.0s							
MDJ				LR		LR		
	comp=N,173nm,19.7s,MS4.6							
MDJ				LR		LR		
	comp=E,163nm,20.8s,MS4.6							
MDJ				LR		LR		
	comp=Z,377nm,20.0s,MS4.8							
MDJ	**Mudanjiang**	**84.15**	**324**	*e*P		**P**	**16 10 51.5**	**0.0**
	comp=Z,40nm,1.1s,mb5.5							
QIZ	**Qiongzhong**	**84.37**	**293**	P		**P**	**16 10 53.8**	**+1.2**
QIZ				AP		pP	16 11 02.0	+0.7
QIZ				S			16 21 18.5	
QIZ				PS			16 22 18.5	
QIZ				LR		LR		
	comp=E,305nm,21.4s							
QIZ				LR		LR		
	comp=Z,278nm,21.8s,MS4.6							
SYO	**Syowa Base**	**84.85**	**192⇓**	*e*P		**P**	**16 10 54.9**	**-0.1**
SYO	**Syowa Base**	**84.85**	**192⇓**	*e*PcP		PcP	16 10 57.9	-0.5
SYO	**Syowa Base**	**84.85**	**192⇓**	*e*pP		pP	16 11 01.5	-2.2
PGC	**Sidney**	**84.94**	**31**	P		**P**	**16 10 55.1**	**-0.4**
	comp=Z,46nm,1.0s,mb5.6							
MSU	**Marysvale**	**84.94**	**45**	*e*P		**P**	**16 10 55.5**	**0.0**
SVW2	**Sparrevohn**	**85.30**	**9**	*e*P		**P**	**16 10 53.9**	**-3.4**
SNAA	**Sanae**	**85.40**	**178**	P		**P**	**16 10 57.8**	**0.0**
	comp=Z,10nm,1.0s,mb4.9,baz=204,slow=4.5,SNR=14							
SNAA	**Sanae**	**85.40**	**178**	*e*P		**P**	**16 10 58.3**	**+0.5**
SNAA				*e*		pP	16 11 05.8	-0.7
SNAA	**Sanae**	**85.40**	**178**	*e*P		**P**	**16 10 57.6**	**-0.2**
	comp=Z,98nm,1.4s,mb5.7							
SNAA	**Sanae**	**85.40**	**178**	*d i* P		**P**	**16 10 57.8**	**0.0**
VNA3	**Neumayer Olymp**	**85.43**	**175**	*e*P		**P**	**16 10 57.9**	**-0.1**
VNA3				*e*		pP	16 11 07.1	+0.5
VNA3				*e*			16 21 44.0	
VNA3				*e*			16 22 19.5	
PLCA	**Paso Flores**	**85.56**	**132**	P		**P**	**16 10 59.2**	**+0.6**
	comp=Z,12nm,1.1s,mb5.0,baz=241,slow=5.7,SNR=12							
PLCA				LR		LR	16 40 29.4	
	comp=Z,276nm,21.3s,MS4.6,baz=220,slow=30							
BMO	**Blue Mountains**	**85.63**	**37**	*e*P		**P**	**16 10 58.4**	**-0.5**
	comp=Z,19nm,1.2s,mb5.2							
SLKM	**Skilak Lake**	**85.66**	**12**	*e*P		**P**	**16 10 58.2**	**-0.9**
VNA2	**Neumayer--Watz**	**85.90**	**176**	*e*P		**P**	**16 11 00.7**	**+0.4**
VNA2				*e*		pP	16 11 07.9	-1.1
VNA2				*e*			16 11 14.9	
VNA2				*e*			16 21 45.3	
VNA2				*e*			16 22 07.2	
VNA2				*e*			16 22 29.6	
CN2	**Changchun**	**85.96**	**321**	*e*P		**P**	**16 11 02.5**	**+1.9**
CN2				*e*S			16 21 33.3	
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.1							
CN2				AMB		AMB		
	comp=Z,200nm,4.0s							
TMUT	**Trail Mountain**	**86.01**	**44**	*e*P		**P**	**16 11 01.7**	**+0.9**
MNTX	**Cornudas Mount**	**86.03**	**53**	*e*P		**P**	**16 11 00.8**	**-0.1**
	comp=Z,28nm,1.3s,mb5.3							
MNTX				LR		LR		
	comp=Z,597nm,19.0s,MS5.0							
KLR	**Kul'dur**	**86.09**	**328**	*e*P		**P**	**16 11 00.0**	**-1.2**
VNA1	**Neumayer--Stat**	**86.11**	**176**	*e*P		**P**	**16 11 02.5**	**+1.2**
VNA1				*e*		pP	16 11 10.2	+0.2
LENM	**Lemitar**	**86.12**	**50**	*e*P		**P**	**16 11 02.0**	**+0.7**
LAZ	**Ladron**	**86.13**	**50**	*e*P		**P**	**16 11 03.0**	**+1.6**
WHN	**Wuhan**	**86.13**	**305**	*e*P		**P**	**16 11 03.5**	**+2.1**
LTX	**Lajitas**	**86.16**	**56**	*e*P		**P**	**16 11 01.9**	**+0.4**
	comp=Z,24nm,1.2s,mb5.3							
LTX	**Lajitas**	**86.16**	**56**	*e*P		**P**	**16 11 01.9**	**+0.4**
LTX				pmax		pmax		
	comp=Z,24nm,1.2s,mb5.3							
SRU	**San Rafael**	**86.35**	**45**	*e*P		**P**	**16 11 02.6**	**+0.1**
	comp=Z,46nm,1.3s,mb5.5							
SRU	**San Rafael**	**86.35**	**45**	*e*P		**P**	**16 11 02.6**	**+0.1**
SRU				pmax		pmax		
	comp=Z,46nm,1.3s,mb5.5							
BNM	**Barren Site**	**86.36**	**51**	*e*P		**P**	**16 11 02.9**	**+0.3**
LPM	**Los Pinos Moun**	**86.44**	**50**	*e*P		**P**	**16 11 03.2**	**+0.2**
EYAK	**Cordova Ski Ar**	**86.63**	**14**	*e*P		**P**	**16 11 04.2**	**+0.3**
KULM	**Kulim**	**86.81**	**277**	*e*P		**P**	**16 11 05.9**	**+1.2**
PMR	**Palmer**	**86.87**	**12**	*e*P		**P**	**16 11 04.8**	**-0.3**
	comp=Z,30nm,1.2s,mb5.4							
PMR				LR		LR		
	comp=Z,322nm,20.0s,MS4.7							
PMR	**Palmer**	**86.87**	**12**	*e*P		**P**	**16 11 04.8**	**-0.2**
PMR				pmax		pmax		
	comp=Z,30nm,1.2s,mb5.4							
PMR				MLR		MLR		
	comp=Z,322nm,20.0s,MS4.7		

SEY pmax pmax
comp=E,10.0nm,1.2s
SEY smax
comp=N,350nm,16.9s
SEY smax
comp=E,130nm,22.9s
SEY MLR MLR
comp=E,250nm,18.0s,MS4.9
SEY MLR MLR
comp=Z,420nm,18.0s,MS4.9
SEY MLR MLR
comp=N,340nm,19.0s,MS4.9
BJI Beijing 89.60 314 P **P** **16 11 19.8 +1.8**
BJI XP sP 16 11 33.3 +3.5
BJI PP PP 16 14 57.3 +7.5
BJI S 16 21 58.5
BJI AMB AMB
comp=Z,15nm,1.3s,mb5.2
BJI LR LR
comp=N,156nm,16.3s,MS4.9
BJI LR LR
comp=E,341nm,16.3s,MS4.9
BJI LR LR
comp=Z,213nm,25.0s
ENH Enshi 89.70 303 *e*P **P** **16 11 19.8 +1.3**
comp=Z,106nm,1.4s,mb6.0
HRY Holter Researc 89.81 38 *e*P **P** **16 11 18.5 -0.5**
COLA College 90.11 11 *e*P **P** **16 11 19.3 -1.1**
comp=Z,40nm,1.3s,mb5.6
COLA College 90.11 11 *e*P **P** **16 11 19.3 -1.1**
COLA pmax pmax
comp=Z,39nm,1.3s,mb5.6
ILAR Eielson Array 90.19 12 P **P** **16 11 20.9 +0.1**
comp=Z,31nm,1.3s,mb5.5,baz=221,slow=4.0,SNR=28
GYA Guiyang 90.26 299⇑ *i*P **P** **16 11 21.8 +0.7**
GYA PP PP 16 14 57.3 +2.3
GYA SKS 16 21 49.0
GYA S 16 22 11.0
GYA PS PS 16 23 23.0 -0.1
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,170nm,4.8s
GYA LR LR
comp=N,790nm,20.4s,MS5.4
GYA LR LR
comp=E,1μm,20.8s,MS5.4
GYA LR LR
comp=Z,1μm,21.0s,MS5.3
GCMT Greycliff 90.55 40 *e*P **P** **16 11 22.8 +0.3**
DAWY Dawson 91.16 15 *e*P **P** **16 11 25.1 -0.2**
NST Nakhon Sawan 91.38 286 P **P** **16 11 28.0 +1.7**
XAN Xi'an 91.82 306 P **P** **16 11 26.0 -2.4**
XAN AMB AMB
comp=Z,28nm,1.5s,mb5.4
XAN AMB AMB
comp=Z,155nm,9.2s
XAN LR LR
comp=N,190nm,24.0s,MS4.6
XAN LR LR
comp=E,206nm,27.2s,MS4.6
XAN LR LR
comp=Z,292nm,21.9s
BILL Bilibino 91.84 353 *e*P **P** **16 11 27.4 -1.0**
comp=Z,24nm,1.4s,mb5.3
BILL Bilibino 91.84 353 *de*P **P** **16 11 28.0 -0.4**
BILL *e* 16 11 44.0
BILL pmax pmax
comp=Z,24nm,1.6s,mb5.3
EDM Edmonton 92.77 32 *e*P **P** **16 11 31.8 -0.9**
KMI Kunming 92.91 296 P **P** **16 11 35.5 +2.1**
KMI AP pP 16 11 44.3 +2.2
KMI PP PP 16 15 18.3 +2.3
KMI PPP 16 17 22.0
KMI SKS 16 22 07.5
KMI S 16 22 34.0
KMI AMB AMB
comp=Z,20nm,1.6s,mb5.3
KMI AMB AMB
comp=Z,158nm,3.1s
KMI LR LR
comp=N,156nm,19.1s,MS4.8
KMI LR LR
comp=E,236nm,17.1s,MS4.8
KMI LR LR
comp=Z,195nm,24.3s
LAO LASA Array 93.05 40 *e*P **P** **16 11 34.5 +0.4**
comp=Z,38nm,1.1s,mb5.7
HHC Hu-ho-hao-te 93.06 313 *e*P **P** **16 11 35.0 +0.9**
HHC PP PP 16 15 21.0 +3.8
HHC SKS 16 22 05.5
HHC S 16 22 37.3
HHC AMB AMB
comp=Z,14nm,0.6s,mb5.6
HHC AMB AMB
comp=Z,296nm,5.0s
HHC LR LR
comp=N,211nm,5.7s
HHC LR LR
comp=E,324nm,5.1s
HHC LR LR
comp=Z,274nm,22.5s,MS4.7
CHRT Chiangrai 93.33 290 P **P** **16 11 37.5 +2.2**
JTS JuntasAbangare 94.06 81 LR LR 16 44 37.6
comp=Z,144nm,19.6s,MS4.4,baz=62,slow=30
CD2 Chengdu 94.44 302 *e*P **P** **16 11 38.5 -1.9**
CD2 PP PP 16 15 28.5 +0.6
CD2 SKS 16 22 10.5
CD2 S 16 22 45.8
CD2 SS SS 16 29 12.0 -1.1
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,50nm,5.9s
CD2 LR LR
comp=E,190nm,14.4s
CD2 LR LR
comp=Z,160nm,21.6s
LVC Limon Verde 95.06 117 P **P** **16 11 43.7 +0.5**
comp=Z,4.5nm,1.0s,mb4.9,baz=223,slow=3.0,SNR=5.1
LVC LR LR 16 43 52.9
comp=Z,321nm,19.4s,MS4.8,baz=207,slow=29
DGMT Dagmar 95.13 39 *e*P **P** **16 11 43.4 -0.1**
comp=Z,50nm,1.2s,mb5.8
YAK Yakutsk 95.48 337⇑ *i*P **P** **16 11 45.9 +0.7**
YAK Yakutsk 95.48 337⇑ *i*P **P** **16 11 45.8 +0.6**
YAK pmax pmax
comp=Z,20nm,1.3s,mb5.4
LZH Lanzhou 96.46 306 *e*P **P** **16 11 50.5 +0.9**
LZH AP pP 16 11 58.8 +0.4
LZH PP PP 16 15 47.0 +3.4
LZH SKS 16 22 24.3
LZH *e*S 16 23 06.5
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,182nm,8.3s
LZH LR LR
comp=E,779nm,16.5s
LZH LR LR
comp=Z,934nm,19.3s,MS5.3
YKA Yellowknife Ar 97.68 24 P **P** **16 11 54.0 -1.1**
comp=Z,2.3nm,0.8s,mb4.8,baz=235,slow=4.6,SNR=32
YKA PP PP 16 15 49.7 -3.3
comp=Z,0.2nm,0.8s,baz=236,slow=6.5,SNR=4.1
YKA LR LR 16 50 36.8
comp=Z,150nm,18.3s,MS4.5,baz=240,slow=32
YKA Yellowknife Ar 97.68 24 P **P** **16 11 54.0 -1.2**
YKA PP PP 16 15 49.7 -3.3
YKA LR LR 16 50 36.8
YKA Yellowknife Ar 97.68 24 P **P** **16 11 54.0 -1.1**
YKA 16 15 49.7
LPAZ La Paz 98.58 112 P **P** **16 12 01.6 +2.4**
comp=Z,0.8nm,0.5s,mb4.5,baz=166,slow=4.2,SNR=5.0
LPAZ LR LR 16 52 03.9
comp=Z,138nm,18.2s,MS4.5,baz=284,slow=33
LPAZ La Paz 98.58 112 P **P** **16 12 02.3 +3.0**
comp=Z,3.9nm,1.3s,mb4.8
LPAZ La Paz 98.58 112 P **P** **16 12 02.3 +3.1**
LPAZ pmax pmax
comp=Z,4.0nm,1.3s
ULN Ulaanbaatar 99.05 318 *e*P **P** **16 12 01.8 +0.5**
comp=Z,2.3nm,0.8s,mb4.8
ULN Ulaanbaatar 99.05 318 *e*P **P** **16 12 01.8 +0.5**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb4.7

SONM Songino Array 99.45 318 P **P** **16 12 02.8 -0.3**
comp=Z,0.4nm,0.5s,mb4.2,baz=130,slow=3.9,SNR=4.5
SONM LR LR 16 56 32.3
comp=Z,163nm,19.2s,MS4.5,baz=110,slow=35
GTA Gaotai 100.68 308 *e*P Pdif 16 12 10.0 +1.5
GTA PP PP 16 16 20.8 +4.9
GTA SKS 16 22 45.8
GTA S Sdif 16 23 42.0 -2.1
GTA AMB AMB
comp=Z,2.0nm,1.5s
GTA AMB AMB
comp=Z,84nm,4.6s
GTA LR LR
comp=N,158nm,15.3s,MS4.8
GTA LR LR
comp=E,213nm,19.5s,MS4.8
GTA LR LR
comp=Z,237nm,21.0s,MS4.7
TIXI Tiksi 101.89 344 *e*P Pdif 16 12 12.2 -1.7
TIXI *e*PPP 16 18 33.4
TIXI *e* 16 23 51.9
TIXI *e* 16 25 21.5
TIXI pmax pmax
comp=Z,2.0nm,1.2s
TIXI MLR MLR
comp=Z,241nm,18.0s,MS4.8
JIRN Jiri 107.69 293 *e*P PKiKP 16 16 47.4 0.0
comp=Z,4.4nm,0.6s
PKI Pulchoki 108.33 293 *e*P PKiKP 16 16 49.3 +0.7
KKN Kakani 108.50 293 *e*P PKiKP 16 16 48.9 -0.1
comp=Z,10.0nm,0.9s
DMN Daman 108.59 293 *e*P PKiKP 16 16 49.3 +0.2
comp=Z,5.8nm,0.6s
KOLN Koldanda 109.92 292 *e*P PKiKP 16 16 51.2 -0.4
comp=Z,4.4nm,0.6s
WMQ Urumqi 110.64 310 *e*PDIF Pdif 16 12 53.5 +0.7
WMQ PP PP 16 17 32.8 +3.3
WMQ SS SS 16 32 58.3 +1.4
WMQ PP PP
comp=Z,98nm,8.0s
WMQ LR LR
comp=N,754nm,20.0s,MS5.4
WMQ LR LR
comp=E,802nm,20.0s,MS5.4
WMQ LR LR
comp=Z,869nm,20.0s,MS5.3
MKAR Makanchi Array 114.91 312 PKP PKiKP 16 16 59.9 -1.2
comp=Z,1.8nm,0.6s,baz=215,slow=1.5,SNR=26
NVS Novosibirsk 115.17 321 *e*PKIKP PKiKP 16 16 58.4 -3.2
KURK Kurchatov 117.70 316 *e*PKPdf PKPdf 16 17 04.9 -1.6
CHKZ Chkalovo 122.57 320 *e*PKPdf PKPdf 16 17 14.2 -1.7
BRVK Borovoye 122.82 319 *e*PKPdf PKPdf 16 17 15.2 -1.2
ZRNK Zerenda 123.60 319 *e*PKPdf PKPdf 16 17 16.6 -1.2
BOSA Boshof 125.05 202 PKP PKPdf 16 17 23.7 +3.1
comp=Z,9.4nm,1.1s,baz=154,slow=3.7,SNR=5.7
SVE Sverdlovsk 127.61 325 *e*PKIKP PKPdf 16 17 25.8 +0.3
SVE MLR MLR
comp=N,100nm,16.0s,MS5.1
SVE MLR MLR
comp=E,300nm,16.0s,MS5.1
SVE MLR MLR
comp=Z,300nm,16.0s,MS5.1
ARCES ARCESS Array B 131.87 350 PKP PKPdf 16 17 33.3 -0.3
comp=Z,5.9nm,0.7s,baz=336,slow=2.7,SNR=15
JOF Joensuu 136.35 343 *ep* PKPdf 16 17 40.0 -2.0
KAF Kangasniemi 138.30 345 *ep* 16 17 34.7
FINES FINESS Array B 138.94 345 PKhKP 16 17 37.5
comp=Z,0.6nm,0.7s,baz=231,slow=29,SNR=3.5
FINES PKP PKPdf 16 17 47.5 +0.7
comp=Z,2.1nm,0.7s,baz=69,slow=2.7,SNR=8.1
OBN Obninsk 140.27 332 *i* PKIKP PKPdf 16 17 50.3 +1.1
OBN *e* 16 20 45.8
OBN *e*SS SS 16 39 04.7 -4.0
OBN pmax pmax
comp=Z,34nm,1.8s
KMBO Kilima Mbogo 140.43 237 PKhKP 16 17 44.1
comp=Z,0.7nm,0.5s,baz=309,slow=4.5,SNR=3.5
NB2 NORSAR Subarra141.76 355 PKPa 16 17 45.4
comp=Z,4.1nm,0.9s,baz=2.6,slow=2.5
NOA NORSAR Array B141.76 355 PKhKP 16 17 46.3
comp=Z,1.4nm,0.7s,baz=1.7,slow=2.4,SNR=4.5
ZEI Tsey 142.25 311 *i* PKIKP PKPdf 16 17 50.1 -2.6
GNI Garni 142.40 306⇑ *e*PKP PKPdf 16 17 53.6 +0.6
KIV Kislovodsk 142.67 313 *i* PKIKP PKPdf 16 17 52.9 -0.6
KIV *e*SS SS 16 39 32.4 -4.3
KIV pmax pmax
comp=Z,8.0nm,1.1s
BHD Baghdad 143.94 295 *ex* x 16 17 47.5
MSL Mosul 144.54 301 *ex* x 16 17 59.0
SOC Sochi 144.79 314 *i* PKP PKPdf 16 17 58.9 +1.7
SOC Sochi 144.79 314 *e*PKIKP PKPdf 16 17 56.8 -0.4
SOC *i* 16 18 01.9
SOC *e* 16 21 11.3
SOC *e*SSS 16 45 26.3
ERZM Erzurum 144.96 307 *i* P PKPdf 16 17 56.7 -0.8
ANN Anapa 145.72 317 *i* PKP2 PKPab 16 17 59.6 0.0
ANN *e* 16 21 16.3
ANN pmax pmax
comp=Z,133nm,1.3s
MARD Mardin 146.12 303 *i* P PKPdf 16 18 01.1 +1.7
SUW Suwalki 146.14 341 *e*PKP PKPdf 16 18 01.0 +1.5
MUD Monsted U'grnd 146.47 356 *i* P PKPdf 16 18 00.2 +0.1
comp=Z,41nm,1.3s
MUD Monsted U'grnd 146.47 356 *e*PKP2 PKPab 16 18 00.2 -2.2
AKASG Malin Array Be 146.53 332 PKPbc PKPbc 16 18 00.7 -1.0
comp=Z,15nm,0.6s,baz=39,slow=4.0,SNR=45
GRSN GIRESUNGRSN 146.83 310 *i* P PKPdf 16 18 00.9 +0.3
BSD Bornholm Skovb 147.10 349 *i* P PKPdf 16 18 03.0 +1.9
comp=Z,44nm,1.0s
BSD Bornholm Skovb 147.10 349 *e*PKP2 PKPab 16 18 03.0 -1.9
ELZG Elazig 147.15 306 *i* P PKPbc 16 18 05.0 +1.6
MALT Malatya 147.62 306⇑ P PKPbc 16 18 06.1 +1.4
SIM Simferopol' 147.68 320 *i* PKP2 PKPab 16 18 05.9 -1.2
SIM pmax pmax
comp=Z,130nm,8.0s
GZT Gaziantep 148.57 305 *i* P PKPbc 16 18 08.0 +0.8
BOYT Boyabat 148.94 313 *i* P PKPbc 16 18 09.2 +1.0
KIS Kishinev 149.33 327 *e*PKP2 PKPbc 16 18 08.0 -1.2
LVV L'vov 149.34 335 *i* PKP2 PKPbc 16 18 09.9 +0.7
LVV *e* 16 21 46.9
CTKT Corum 149.37 312 *i* P PKPbc 16 18 10.4 +1.2
COBT Iskenderun 149.82 304 *i* P PKPbc 16 18 11.0 +0.6
RUE Ruedersdorf 149.82 349 *e*PKPdf PKPbc 16 18 11.8 +1.4
KWP Kalwaria 149.99 337 *e*PKP PKPbc 16 18 11.2 +0.4
AVNT Avonos 150.08 309 *i* P PKPbc 16 18 10.1 -0.8
CDAG Cicekdag 150.08 310 *i* P PKPbc 16 18 10.8 -0.2
ELDT Eldivan 150.35 313 *i* P PKPbc 16 18 12.2 +0.5
OJC Ojcow 150.47 340 *e*PKP PKPbc 16 18 11.7 -0.2
BR131 Keskin Array S 150.55 311 *e*PKPbc PKPbc 16 18 12.2 +0.1
BRTR Keskin Array B 150.55 311 PKPbc PKPbc 16 18 12.2 +0.1
comp=Z,9.0nm,0.7s,baz=137,slow=4.1,SNR=20
BURAR Bucovina Array 150.59 331 ⇓P PKPbc 16 18 12.7 +0.5
BURAR Bucovina Array 150.59 331 ⇓P PKPbc 16 18 12.7 +0.5
IBBN Ibbenburen 150.69 356 *e*PKPdf PKPbc 16 18 13.3 +0.9
STHS Stebnicka Huta 150.69 338 *e*PKP PKPbc 16 18 12.9 +0.5
STHS *e* 16 18 20.6
KSP Ksiaz 150.86 345 *e*PKP PKPbc 16 18 13.3 +0.5
KSP Ksiaz 150.86 345 *e*PKIKP PKPbc 16 18 13.0 +0.2
CFR Carcaliu 150.91 325 ⇓P PKPbc 16 18 12.7 -0.3
CLZ Clausthal 150.93 353 *e*PKPdf PKPbc 16 18 13.0 0.0
NIE Niedzica 151.00 339 *e*PKP PKPbc 16 18 13.8 +0.6
BHL Bhannes 151.01 299 *e*P PKPbc 16 18 14.1 +0.9
CRVS Cervenica-Dubn 151.05 337 *e* PKPbc 16 18 15.9 +2.6
ANTO Ankara 151.07 312 *e*PKPbc PKPbc 16 18 13.6 +0.3
CLL Collm 151.09 350 *e*PKPdf PKPdf 16 18 08.9 +1.4
CLL *i* PKPbc PKPbc 16 18 13.2 -0.2
comp=Z,41nm,1.0s
CLL *e*PKPab PKPab 16 18 20.8 -0.2
CLL *es*PKPbc 16 18 24.1
CLL *eL* 17 22 24.4
comp=Z,186nm,22.0s
CLL Collm 151.09 350 *e*PKPdf PKPdf 16 18 06.0 -1.5
comp=Z,8.0nm,1.3s
CLL *i* PKPbc PKPbc 16 18 13.1 -0.3
comp=Z,41nm,1.0s
CLL *i* PKPab PKPab 16 18 20.4 -0.6
comp=Z,19nm,0.8s
CLL *i* sPKPbc 16 18 24.2
CLL *ex* x 16 19 00.0
CLL *e*PP PP 16 21 57.0 +5.7
VRI Vrincioaia 151.16 327 ⇓P PKPbc 16 18 13.8 +0.3
SGKT Sivrigoynuk 151.24 314 *i* P PKPbc 16 18 13.6 -0.2
UPC Upice 151.24 345 *e*PKPbc PKPbc 16 18 13.0 -0.7
OKC Ostrava-Krasne 151.30 342 *e*PKPbc PKPbc 16 18 12.5 -1.4

DPC Dobruska-Polom 151.31 345 *e*PKPbc PKPbc 16 18 13.8 -0.1
DPC *e*PKPab PKPab 16 18 24.1 +2.1
BRG Berggiesshubel 151.34 348 *e*PKPdf PKPbc 16 18 13.2 -0.7
BRG Berggiesshubel 151.34 348 *e*PKIKP PKPdf 16 18 08.9 +1.0
BRG *i* 16 18 14.1
BRG *i* 16 18 19.7
BRG pmax pmax
comp=Z,1.0nm,0.5s
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG pmax pmax
comp=Z,14nm,1.2s
BRG pmax pmax
comp=N,5.0nm,0.8s
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 151.34 348 *e*PKP PKPdf 16 18 08.9 +1.0
comp=Z,0.7nm,0.5s
BRG *i* 16 18 14.1
comp=Z,6.9nm,0.7s
BRG *i* 16 18 19.7
comp=Z,14nm,1.2s
BRG *e* 16 40 36.9
comp=Z,3.1nm,1.0s
HARR Harsova 151.34 324 ⇓P PKPbc 16 18 14.6 +0.6
MORC Moravsky Berou 151.52 343 ⇓P PKPbc 16 18 13.9 -0.5
KECS Kecovo 151.75 338 *e*PKP PKPbc 16 18 15.9 +1.0
KECS *e* 16 18 26.3
MLR Muntele Rosu 151.81 328 PKPbc PKPbc 16 18 14.6 -0.4
comp=Z,11nm,0.9s,baz=3.6,slow=3.6,SNR=13
MLR Muntele Rosu 151.81 328 ⇓P PKPbc 16 18 15.3 +0.3
HENT Hendek 151.87 315 *i* P PKPbc 16 18 14.6 -0.6
MOX Moxa 151.95 351 *e*PKPdf PKPbc 16 18 13.8 -1.5
MOX Moxa 151.95 351 *e*PKP PKPbc 16 18 17.4 +2.1
comp=Z,25nm,1.5s
MOX
comp=Z,100nm,16.0s
MOX Moxa 151.95 351 *e*PKIKP PKPbc 16 18 17.4 +2.1
MOX pmax pmax
comp=Z,25nm,1.5s
MOX MLR MLR
comp=Z,100nm,16.0s,MS4.7
UBBA Unterbreizbach 151.98 353 *e*PKPdf PKPbc 16 18 14.9 -0.5
PRU Pruhonice 152.06 347 *e*PKPbc PKPbc 16 18 15.3 -0.3
PRU *e*PKPab PKPab 16 18 26.1 +1.0
VRAC Vranov 152.20 344⇑ P PKPbc 16 18 18.0 +2.1
NKC Novy Kostel 152.22 350 *e*PKPbc PKPbc 16 18 17.1 +1.1
NKC *e*PKPab PKPab 16 18 25.2 -0.6
VYHS Vyhne 152.29 340 *e*PKP PKPbc 16 18 17.7 +1.6
VYHS *e* 16 18 28.5
DRGR 152.30 333 ⇓P PKPbc 16 18 18.0 +1.9
EIL Elat 152.35 290 *e*PKPbc PKPbc 16 18 17.0 +0.7
MANZ Manzenberg 152.51 350 *e*PKPdf PKPdf 16 18 12.5 +2.8
ESKT Eskisehir 152.56 313 *i* P PKPbc 16 18 16.8 0.0
SMOL Smolenice 152.70 342 *e*PKP PKPab 16 18 28.5 +0.7
GRA1 Grafenberg Arr 152.93 351 *e*PKPdf PKPdf 16 18 12.2 +1.9
GRF Grafenberg Arr 152.93 351 *e*PKPdf PKPdf 16 18 12.2 +1.9
GIVF Givet 152.98 0 *e*PKP2 PKPab 16 18 29.9 +0.9
BAIF Baives 153.02 1 *e*PKP2 PKPab 16 18 30.2 +1.1
KHC Kasperske Hory 153.07 347 *e*PKPdf PKPdf 16 18 11.4 +0.9
KHC *e*PKPbc PKPbc 16 18 19.1 +1.3
ZST Bratislava 153.08 342 *e*PKP PKPab 16 18 31.1 +1.7
GERES GERESS Array B 153.31 347 PKP PKPdf 16 18 11.5 +0.7
comp=Z,0.6nm,0.7s,baz=124,slow=1.8,SNR=5.7
GERES PKPbc PKPbc 16 18 16.9 -1.5
comp=Z,2.1nm,0.8s,baz=31,slow=0.8,SNR=12
BZS Buzias 153.69 333⇑ P PKPbc 16 18 18.9 -0.3
ROSF Rostrenen 153.91 13 *e*PKP2 PKPab 16 18 35.2 +2.3
comp=Z,122nm,1.6s
LDF La Druitiere 154.17 8 *e*PKP2 PKPab 16 18 34.5 +0.5
GRR Gorron 154.28 9 *e*PKP2 PKPab 16 18 35.5 +1.0
QUIF Quistinic 154.34 13 *e*PKP2 PKPab 16 18 36.9 +2.2
comp=Z,52nm,1.2s
PKSM Moragy 154.34 338 ⇓P PKPdf 16 18 14.0 +1.7
CDF Champ du Feu 154.60 356 *e*PKP2 PKPab 16 18 37.1 +1.3
comp=Z,46nm,1.3s
HAU Haudompre 155.05 358 *e*PKP2 PKPab 16 18 38.6 +0.8
HAU *e*R
comp=Z,303nm,20.2s
HINF Hinteralfeld 155.22 357 *e*PKP2 PKPab 16 18 39.5 +1.0
comp=Z,42nm,1.5s
LOR Lormes 155.80 2 *e*PKP2 PKPab 16 18 42.0 +1.0
LOR *e*R
comp=Z,296nm,18.5s
SSF Saint Saulge 155.99 2 *e*PKP2 PKPab 16 18 43.0 +1.2
AVF Avril sur Loir 156.26 3 *e*PKP2 PKPab 16 18 43.8 +0.9
SMF Signal de Mont 156.42 2 *e*PKP2 PKPab 16 18 44.7 +1.1
comp=Z,74nm,1.3s
CABF La Chapelle 156.45 358 *e*PKP2 PKPab 16 18 44.1 +0.3
BGF Bois d'Agland 156.47 4 *e*PKP2 PKPab 16 18 44.9 +1.1
LPL La Plagne 157.52 357 *e*PKP2 PKPab 16 18 50.5 +2.1
LPG La Plagne 157.54 357 *e*PKP2 PKPab 16 18 51.0 +2.6
comp=Z,64nm,1.6s
RJF Les Rejaudoux 157.60 6 *e*PKP2 PKPab 16 18 49.7 +1.0
comp=Z,22nm,1.2s
RJF *e*R
comp=Z,288nm,21.8s
LFF La Frestale 157.88 8 *e*PKP2 PKPab 16 18 51.0 +1.1
VIVF Saint-Julien-l 158.23 1 *e*PKP2 PKPab 16 18 53.1 +1.7
MBDF Montbardon 158.30 356 *e*PKP2 PKPab 16 18 52.7 +0.9
comp=Z,13nm,0.9s
LASF Ste Croix 158.99 2 *e*PKP2 PKPab 16 18 55.2 +0.5
SMRF Simiane la Rot 159.10 359 *e*PKP2 PKPab 16 18 55.8 +0.6
comp=Z,26nm,1.1s
SBF Sospel 159.12 355 *e*PKP2 PKPab 16 18 56.1 +0.8
comp=Z,106nm,1.1s
FRF La Foret Royal 159.47 356 *e*PKP2 PKPab 16 18 56.9 +0.1
comp=Z,40nm,1.3s
MTLF Montolieu 159.62 6 *e*PKP2 PKPab 16 18 59.2 +1.7
EPF Esparros 159.69 10 *e*PKP2 PKPab 16 18 58.5 +0.7
LMR La Mourre 159.71 357 *e*PKP2 PKPab 16 18 59.2 +1.3
comp=Z,48nm,1.2s
PGF Pioggiola 160.24 351 *e*PKP2 PKPab 16 19 00.3 +0.1
comp=Z,130nm,1.5s
LIC Lamto 160.73 149 *e*PKIKP PKPdf 16 18 20.0 -0.3
comp=Z,48nm,1.3s
LIC *e*R
comp=Z,425nm,20.8s
LIC Lamto 160.73 149 *e*PKPdf PKPdf 16 18 20.0 -0.3
LIC LR LR
comp=Z,210nm,20.8s
EVO Evora 160.99 33 *e*PKP2 PKPab 16 19 03.7 +0.2
EVO *e*R
comp=Z,316nm,17.2s
DBIC Dimbokro 161.20 148 PKP PKPdf 16 18 21.9 +1.1
comp=Z,3.1nm,1.0s,baz=278,slow=1.0,SNR=3.6
DBIC PKPab PKPab 16 19 04.9 +0.5
comp=Z,5.9nm,0.8s,baz=148,slow=6.4,SNR=7.5
ESDC Sonseca Array 161.77 22 PKPab PKPab 16 19 06.4 -0.5
comp=Z,1.6nm,0.7s,baz=320,slow=5.0,SNR=6.4
TORD Torodi Ar. Bea 169.70 162 PKP PKPdf 16 18 27.1 -0.8
comp=Z,2.3nm,0.8s,baz=3.3,slow=0.9,SNR=11
TORD PKPab PKPab 16 19 42.6 +0.8
comp=Z,4.2nm,0.7s,baz=195,slow=3.9,SNR=16

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*ISCJB **29** 16:12:57.4±0.3,2283S±006×17532W±007,h24km, mb4.8/39,MS4.6/6,Error ellipse: s-maj=10.5km s-min=7.2km az=90.6*
*MOS **29** 16:12:58.9±0.8,2277S×17535W,h33km,mb5.0/8,Error ellipse: s-maj=16.9km s-min=13.5km az=56.8*
*BJI **29** 16:12:58.4,2260S×175.14W,h21km,mB5.4,mb5.0,Ms5.4, Msz5.0*
*NEIC **29** 16:12:59.4±6.4,2278S×17528W,h27km±43km,mb4.9/14, Error ellipse: s-maj=13.3km s-min=10.7km az=154.0*
*IDC **29** 16:13:03.2±2.6,2285S×17529W,h60km±22km,mb4.2/17, mb1 4.4/18,mb1mx4.3/21,mbtmp4.5/18,ML4.3/1,Error ellipse: s-maj=20.2km s-min=11.8km az=149.0*
ISC 29 16:12:59.1±0.3,2287S±006×17522W±007,h26km, h26km±.8km:pP-P,n102,σ1°04/81,mb4.8/39,MS4.6/6, 5C-4D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.81**	**200**	P	**Pn**	**16 14 32.3**	**-4.9**
	116nm,0.3s,baz=286,slow=22,SNR=3.6						
RAO				S	**Sn**	**16 15 50.3**	**-3.5**
	67nm,0.3s,baz=82,slow=22,SNR=2.5						
AFI	**Afiamalu**	**9.49**	**21**	P	**Pn**	**16 15 07.7**	**-6.3**
	7.9nm,0.3s,baz=245,slow=19,SNR=11						
AFI				S	**Sn**	**16 16 43.5**	**-16**
	2.6nm,0.3s,baz=254,slow=23,SNR=2.2						
AFI	**Afiamalu**	**9.49**	**21**	*e*P	**Pn**	**16 15 08.4**	**-5.7**

49nm,0.7s
AFI Afiamalu 9.49 21 *e*P **Pn 16 15 08.4 -5.6**
AFI pmax pmax
comp=Z,49nm,0.7s
RAR Rarotonga 14.41 86 P **Pn 16 16 11.1 -10**
comp=Z,5.5nm,0.3s,baz=293,slow=4.3,SNR=7.6
URZ Urewera 16.69 201 P **Pn 16 16 52.8 +1.6**
comp=Z,1.1nm,0.3s,baz=45,slow=4.6,SNR=10
URZ S **Sn 16 19 36.5 -19**
comp=Z,0.5nm,0.3s,baz=310,slow=22,SNR=2.7
DZM Mont Dzumac 16.97 269 P **Pn 16 17 02.0 +7.4**
comp=Z,0.7nm,0.3s,baz=86,slow=17,SNR=16
RPZ Rata Peaks 23.69 205 P **P 16 18 07.9 -0.8**
comp=Z,7.5nm,0.6s,mb4.3,baz=223,slow=2.4,SNR=7.6
TBI Tubuai 23.69 96 *e*LQ 16 22 32.7
comp=Z,447nm,29.8s
TBI *e*LR LR 16 23 32.2
comp=Z,406nm,26.2s
PPT Papeete 24.61 82 *e*LQ 16 22 51.2
comp=Z,374nm,27.8s
PPT *e*LR LR 16 23 54.7
comp=Z,367nm,25.2s
ARMA Armidale 30.50 249 *e*P **P 16 19 11.9 +2.0**
CTA Charters Tower 35.90 267 *e*P **P 16 19 58.3 +1.3**
comp=Z,7.3nm,0.4s,mb5.0
CTA Charters Tower 35.90 267 P **P 16 19 58.4 +1.4**
comp=Z,11nm,0.7s,mb4.9,baz=102,slow=11,SNR=21
CTA Charters Tower 35.90 267 *e*P **P 16 19 58.3 +1.3**
CTA pmax pmax
comp=Z,7.0nm,0.4s
PMG Port Moresby 38.41 284 P **P 16 20 19.5 +1.1**
comp=Z,13nm,0.7s,mb4.7,baz=138,slow=6.8,SNR=5.9
PMG Port Moresby 38.41 284 *e*P **P 16 20 19.3 +0.9**
comp=Z,13nm,0.7s,mb4.8
PMG Port Moresby 38.41 284⇑ *e*P **P 16 20 16.6 -1.8**
STKA Stephens Creek 39.18 247 *e*P **P 16 20 22.9 -1.9**
comp=Z,3.8nm,0.6s,mb4.3
STKA Stephens Creek 39.18 247 P **P 16 20 23.1 -1.7**
comp=Z,5.0nm,0.7s,mb4.3,baz=81,slow=7.9,SNR=11
STKA Stephens Creek 39.18 247 *e*P **P 16 20 22.6 -2.2**
ASAR Alice Springs 46.54 259 P **P 16 21 24.6 +0.1**
comp=Z,9.8nm,0.8s,mb4.8,baz=101,slow=6.8,SNR=110
ASAR S **S 16 28 10.9 -0.6**
comp=Z,0.5nm,0.8s,baz=94,slow=15,SNR=5.4
WB2 Warramunga Arr 46.87 264 *e*P **P 16 21 26.5 -0.5**
WRAB Tennant Creek 46.87 264 *e*P **P 16 21 26.2 -0.8**
comp=Z,37nm,1.2s,mb5.2
WRAB Tennant Creek 46.87 264 *e*P **P 16 21 26.2 -0.8**
WRAB pmax pmax
comp=Z,37nm,1.2s,mb5.2
WRA Warramunga Arr 46.88 264 P **P 16 21 26.7 -0.4**
comp=Z,4.3nm,0.6s,mb4.6,baz=96,slow=8.2,SNR=129
WRA S **S 16 28 12.0 -4.3**
comp=Z,0.5nm,0.9s,baz=100,slow=13,SNR=2.8
KAKA Kakadu 50.63 272 *e*P **P 16 21 55.8 -0.1**
comp=Z,4.4nm,0.4s,mb4.7
FORT Forrest 50.78 248 *e*P **P 16 21 54.7 -2.4**
comp=Z,9.5nm,0.6s,mb4.9
FITZ Fitzroy Crossi 55.30 263 *e*P **P 16 22 31.6 +1.2**
comp=Z,6.8nm,0.6s,mb4.8
SBA Scott Base 55.71 185 *e*P **P 16 22 35.6 +2.3**
comp=Z,11nm,0.9s,mb4.9
SBA Scott Base 55.71 185 *e*P **P 16 22 35.6 +2.3**
SBA pmax pmax
comp=Z,11nm,0.9s,mb4.9
VNDA Vanda 55.81 186 P **P 16 22 35.0 +1.0**
comp=Z,3.9nm,0.8s,mb4.5,baz=3.8,slow=6.0,SNR=18
VNDA Vanda 55.81 186 *e*P **P 16 22 35.4 +1.3**
comp=Z,4.7nm,0.9s,mb4.5
VNDA Vanda 55.81 186 *e*P **P 16 22 35.4 +1.4**
VNDA pmax pmax
comp=Z,5.0nm,0.9s
KLBR Kellerberrin 59.43 246 *e*P **P 16 22 59.6 +0.1**
comp=Z,27nm,1.4s,mb5.1
MBWA Marble Bar 59.88 258 *e*P **P 16 23 02.4 -0.2**
comp=Z,98nm,1.5s,mb5.6
MUN Mundaring 60.66 245 *e*P **P 16 23 08.3 +0.4**
CASY Casey 62.96 206 *e*P **P 16 23 24.0 +0.6**
QSPA South Pole Qui 67.22 180 *e*P **P 16 23 51.4 +0.4**
comp=Z,9.0nm,0.8s,mb4.8
MJAR Matsushiro Arr 73.65 322 P **P 16 24 30.3 0.0**
comp=Z,2.6nm,0.7s,mb4.3,baz=160,slow=7.1,SNR=5.4
CMB Columbia Colle 79.49 41 P **P 16 25 03.5 +0.1**
MAW Mawson 80.21 199 P **P 16 25 08.0 +0.7**
comp=Z,11nm,0.7s,mb4.9,baz=140,slow=8.0,SNR=7.0
YBH Yreka Blue Hor 80.56 37 P **P 16 25 09.4 +0.2**
comp=Z,3.4nm,0.8s,mb4.3,baz=32,slow=5.7,SNR=3.6
NVAR Mina Array Bea 81.01 42 P **P 16 25 10.7 -0.9**
comp=Z,3.2nm,0.7s,mb4.4,baz=221,slow=8.1,SNR=22
SSE Sheshan 81.18 309 P **P 16 25 12.3 -0.2**
SSE AMB AMB
comp=Z,22nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,64nm,4.1s
NJ2 Nanjing 83.37 309 *e*P **P 16 25 24.5 +0.6**
NJ2 AP pP 16 25 32.5 +0.3
NJ2 XP sP 16 25 35.5 +0.3
NJ2 PP PP 16 28 37.3 +1.4
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,30nm,5.4s
NJ2 LR LR
comp=N,240nm,26.2s,MS4.8
NJ2 LR LR
comp=E,420nm,24.2s,MS4.8
NJ2 LR LR
comp=Z,300nm,26.8s,MS4.5
ARUT Antelope Range 83.69 45 *e*P **P 16 25 24.1 -1.5**
MDJ Mudanjiang 83.94 324 P **P 16 25 26.5 -0.3**
MDJ AP pP 16 25 33.0 -2.1
MDJ XP sP 16 25 35.0 -3.1
MDJ PP PP 16 28 39.0 -1.5
MDJ S S 16 35 48.5 -0.6
MDJ XS sS 16 36 00.0 -2.8
MDJ AMB AMB
comp=Z,13nm,2.3s,mb4.7
MDJ AMB AMB
comp=Z,173nm,4.3s
MDJ LR LR
comp=N,173nm,23.2s,MS4.5
MDJ LR LR
comp=E,163nm,18.7s,MS4.5
MDJ LR LR
comp=Z,377nm,19.9s,MS4.8
MSU Marysvale 84.92 45 P **P 16 25 33.1 +1.3**
SYO Syowa Base 84.98 192⇓ *e*P **P 16 25 30.3 -1.8**
SNAA Sanae 85.57 178⇑ *e*P **P 16 25 34.5 -0.5**
VNA3 Neumayer Olymp 85.60 175 *e*P **P 16 25 34.5 -0.7**
VNA3 *e* 16 25 38.0
VNA3 *e* pP 16 25 43.4 -0.1
VNA3 *e* 16 25 46.8
VNA3 *e* 16 26 00.0
CN2 Changchun 85.75 321 *e*P **P 16 25 37.5 +1.5**
CN2 *e*XP sP 16 25 48.5 +1.2
CN2 *e*S 16 36 06.5
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
PLCA Paso Flores 85.77 133 P **P 16 25 35.5 -0.6**
comp=Z,5.0nm,0.9s,mb4.4,baz=252,slow=5.6,SNR=4.3
TMUT Trail Mountain 85.99 44 *e*P **P 16 25 38.2 +1.1**
MNTX Cornudas Mount 86.04 53 *e*P **P 16 25 37.1 -0.3**
comp=Z,5.1nm,1.3s,mb4.6
VNA2 Neumayer--Watz 86.07 176 *e*P **P 16 25 37.6 +0.1**
baz=182,slow=3.0
VNA2 *e* 16 25 38.9
VNA2 *e* pP 16 25 44.8 -1.1
VNA2 *e* 16 25 51.0
VNA2 *e* 16 25 56.1
MA2 Magadan 86.76 343⇑ *e*P **P 16 25 40.2 -0.7**
MA2 pmax pmax
comp=Z,11nm,2.5s,mb4.6
TTA Tatalina 86.85 9 *e*P **P 16 25 41.7 +0.3**
comp=Z,2.9nm,0.8s,mb4.6
TTA Tatalina 86.85 9 *e*P **P 16 25 41.7 +0.3**
TTA pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
ANMO Albuquerque 86.89 50⇓ *e*P **P 16 25 42.8 +1.2**
GDL2 Guadalupe Moun 87.04 53 *e*P **P 16 25 42.6 +0.3**
MCK McKinley 88.74 11 *e*P **P 16 25 50.0 -0.4**
comp=Z,12nm,1.6s,mb5.0
MCK McKinley 88.74 11 *e*P **P 16 25 50.0 -0.4**
MCK pmax pmax
comp=Z,12nm,1.6s,mb5.0

PDAR Pinedale Array 88.94 42 P **P 16 25 51.3 0.0**
comp=Z,1.2nm,0.7s,mb4.3,baz=219,slow=2.7,SNR=9.2
DLBC Dease Lake 89.24 22 P **P 16 25 53.1 +0.3**
comp=Z,1.9nm,1.0s,mb4.4,baz=198,slow=17,SNR=3.9
BJI Beijing 89.39 314 *e*P **P 16 25 58.8 +5.4**
BJI S 16 36 43.3
BJI AMB AMB
comp=Z,4.0nm,0.9s,mb4.8
BJI LR LR
comp=Z,142nm,17.7s,MS4.4
COLA College 89.98 11⇑ *e*P **P 16 25 55.6 -0.6**
GYA Guiyang 90.06 299 P **P 16 25 57.8 +1.2**
GYA AP pP 16 26 05.8 +0.9
GYA XP sP 16 26 09.0 +1.1
GYA PP PP 16 29 32.3 +2.5
GYA SKS 16 36 23.5
GYA S 16 36 46.8
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,90nm,4.2s
GYA LR LR
comp=N,460nm,19.8s,MS5.1
GYA LR LR
comp=E,540nm,20.4s,MS5.1
GYA LR LR
comp=Z,570nm,20.8s,MS5.0
ILAR Eielson Array 90.06 12 P **P 16 25 55.9 -0.8**
comp=Z,1.2nm,0.9s,mb4.2,baz=223,slow=4.5,SNR=8.3
DAWY Dawson 91.04 15 *e*P **P 16 26 01.1 0.0**
BILL Bilibino 91.66 353 *e*P **P 16 26 03.9 -0.1**
BILL *e* 16 26 17.6
BILL pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
KMI Kunming 92.72 296 P **P 16 26 11.0 +2.1**
KMI AP pP 16 26 18.5 +1.2
KMI XP sP 16 26 22.0 +1.7
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb5.1
KMI LR LR
comp=Z,76nm,22.3s,MS4.1
HHC Hu-ho-hao-te 92.85 313 *e*P **P 16 26 14.8 +5.3**
HHC AP pP 16 26 22.8 +4.9
HHC XP sP 16 26 26.0 +5.1
HHC S 16 37 19.5
HHC AMB AMB
comp=Z,21nm,0.4s
HHC AMB AMB
comp=Z,204nm,4.4s
HHC LR LR
comp=N,162nm,4.3s
HHC LR LR
comp=E,108nm,4.5s
HHC LR LR
comp=Z,209nm,4.9s
LAO LASA Array 93.02 40 *e*P **P 16 26 10.7 +0.4**
comp=Z,7.2nm,0.6s,mb5.3
INK Inuvik 95.89 14 P **P 16 26 21.6 -1.8**
comp=Z,0.8nm,0.8s,mb4.2,baz=193,slow=4.7,SNR=3.3
LZH Lanzhou 96.25 306 *e*P **P 16 26 23.5 -1.6**
LZH AP pP 16 26 31.5 -2.0
LZH XP sP 16 26 34.8 -1.7
LZH PP PP 16 30 19.5 +1.1
LZH AMB AMB
comp=Z,23nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,67nm,7.9s
LZH LR LR
comp=E,314nm,15.7s
LZH LR LR
comp=Z,437nm,18.9s,MS5.0
YKA Yellowknife Ar 97.59 24 P **P 16 26 30.3 -0.8**
comp=Z,0.8nm,0.8s,mb4.3,baz=235,slow=4.4,SNR=20
YKA Yellowknife Ar 97.59 24 P **P 16 26 30.3 -0.8**
TIXI Tiksi 101.70 344 *i* P Pdjf 16 26 48.0 -1.5
MKAR Makanchi Array 114.70 312 PKP PKiKP 16 31 36.4 -0.7
comp=Z,0.6nm,0.6s,baz=90,slow=1.2,SNR=8.7
KURK Kurchatov 117.48 317⇑ *i*PKIKP PKPdf 16 31 41.7 -0.8
BVAR Borovoye Array 122.55 319 PKP PKPdf 16 31 51.7 -0.5
comp=Z,1.2nm,0.6s,baz=100,slow=1.8,SNR=11
AKTK Aktyubinsk 130.55 318 PKP PKPdf 16 32 07.9 +0.4
AKTO Aktyubinsk 130.55 318 PKP PKPdf 16 32 07.9 +0.4
comp=Z,1.1nm,0.7s,baz=114,slow=0.8,SNR=7.3
ARCES ARCESS Array B 131.69 350 PKP PKPdf 16 32 07.7 -1.9
comp=Z,3.1nm,0.8s,baz=343,slow=2.8,SNR=5.5
FINES FINESS Array B 138.75 345 PKP PKPdf 16 32 20.8 -2.0
comp=Z,1.1nm,0.7s,baz=78,slow=2.7,SNR=5.2
HFS Hagfors 142.24 353 PKhKP 16 32 23.1
comp=Z,0.9nm,0.5s,baz=307,slow=2.9,SNR=5.6
SOC Sochi 144.58 314 *e*PKIKP PKPdf 16 32 41.2 +8.0
SUW Suwalki 145.94 341 *e*PKP PKPdf 16 32 37.5 +1.9
EKA Eskdalemuir Ar 147.04 8 PKPbc PKPbc 16 32 39.5 -0.1
comp=Z,4.3nm,0.9s,baz=308,slow=2.7,SNR=6.1
MALT Malatya 147.41 306 *e*PKPbc PKPbc 16 32 42.1 +1.6
BR131 Keskin Array S 150.34 311 *e*PKPbc PKPbc 16 32 48.4 +0.4
BRTR Keskin Array B 150.34 311 PKPbc PKPbc 16 32 48.8 +0.7
comp=Z,3.2nm,0.7s,baz=119,slow=3.1,SNR=19
KSP Ksiaz 150.67 345 *e*PKP PKPbc 16 32 49.7 +0.9
CLL Collm 150.90 349⇓ *i*PKPbc PKPbc 16 32 49.5 +0.1
comp=Z,11nm,0.9s
CLL *i* PKPab PKPab 16 32 57.5 +0.8
CLL *i* pPKPab pPKPab 16 33 02.6 -2.5
CLL *e*x x 16 33 17.0
CLL Collm 150.90 349⇓ *i*PKIKP PKPbc 16 32 49.5 +0.1
CLL *i* 16 33 02.6
CLL pmax pmax
comp=Z,11nm,0.9s
UPC Upice 151.05 345 *e*PKPbc PKPbc 16 32 50.4 +0.7
UPC *e*PKPab PKPab 16 32 58.2 +0.9
DPC Dobruska-Polom 151.12 345 *e*PKPbc PKPbc 16 32 50.4 +0.5
DPC *e*pPKP pPKPdf 16 33 03.3 +11
MORC Moravsky Berou 151.33 343 *e*PKPbc PKPbc 16 32 50.8 +0.5
PRU Pruhonice 151.87 347 *e*PKPbc PKPbc 16 32 53.2 +1.6
PRU *e*PKPab PKPab 16 33 04.9 +4.2
KHC Kasperske Hory 152.88 347 *e*PKPbc PKPbc 16 32 53.7 -0.2
TORD Torodi Ar. Bea 169.90 163 PKP PKPdf 16 33 04.6 +0.2
comp=Z,0.8nm,0.8s,baz=140,slow=1.0,SNR=4.9

*TRN **29** 16:20:31.6, 11.17N×6001W, h46km, MD3.3*
*FUNV **29** 16:20:33.8, 1103N×6017W, h24km, MW3.8*
*ISCJB **29** 16:20:34.7±1.4, 1072N±006×6027W±009, h33km, Error ellipse: s-maj=13.7km s-min=7.9km az=148.2*
ISC 29 16:20:36.8±1.3, 1079N±006×6034W±008, h35km, n13, σ1°24/22, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.53**	**316**	*e*P	**Pn**	**16 20 46.7**	**-1.1**
BOT				*e*S	**Sn**	**16 20 56.8**	**+1.3**
TPR	**Prospect**	**0.58**	**313**	*e*P	**Pn**	**16 20 47.7**	**-0.8**
TPR				*e*S	**Sn**	**16 20 58.3**	**+1.5**
TBH	**Brigand Hill**	**0.77**	**247**	*e*P	**Pn**	**16 20 54.0**	**+2.8**
TBH				*e*S	**Sn**	**16 21 18.0**	**+16**
TRN	**Trinidad (W)**	**1.05**	**263**	*e*P	**Pn**	**16 20 56.0**	**+1.0**
TRN				*e*S	**Sn**	**16 21 16.0**	**+7.6**
GUIV	**Guiria**	**1.85**	**266**	*e*P	**Pn**	**16 21 06.3**	**+0.3**
GUIV				*e*S	**Sn**	**16 21 30.1**	**+1.9**
GUNV	**Guanoco**	**2.63**	**257**	*e*P	**Pn**	**16 21 17.1**	**+0.4**
GUNV				*e*S	**Sn**	**16 21 48.7**	**+1.3**
ITEV	**Isla Los Testi**	**2.79**	**282**	*e*P	**Pn**	**16 21 17.9**	**-1.1**
ITEV				*e*S	**Sn**	**16 21 50.4**	**-1.1**
CRUV	**Carupano**	**2.85**	**268**	*e*P	**Pn**	**16 21 18.8**	**-0.8**
GURV	**El Guri**	**4.05**	**222**	*e*P	**Pn**	**16 21 37.0**	**+0.8**
PCRV	**Puerto La Cruz**	**4.27**	**262**	*e*P	**Pn**	**16 21 38.3**	**-0.9**
PCRV				*e*S	**Sn**	**16 22 25.9**	**-1.8**
LUEV	**Luepa**	**5.04**	**193**	*e*P	**Pn**	**16 21 50.2**	**+0.4**
CUPV	**Cœpira**	**5.41**	**263**	*e*P	**Pn**	**16 21 54.0**	**-0.9**
CUPV				*e*S	**Sn**	**16 22 53.8**	**-2.0**
CAOV	**Caicara del Or**	**6.83**	**240**	*e*P	**Pn**	**16 22 13.8**	**-0.7**

MAN 29 16:20:44.6, 1453N×12412E, h57km, mb2.1, ML3.8, MS1.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.92**	**178**	*e*P	Pn	16 21 02.7	+1.2
GQP	**Guinayangan**	**1.73**	**249**	*e*P	Pn	16 21 13.3	+0.9
GQP				*i* S	Sn	16 21 34.9	+1.5
CNP	**Catarman**	**2.07**	**165**	*e*P	Pn	16 21 18.0	+1.0
POLP	**Polilio Island**	**2.12**	**276**	*e*P	Pn	16 21 18.7	+1.1
POLP				*e*S	Sn	16 21 45.0	+2.2
BOAC	**Boac**	**2.45**	**245**	*e*P	Pn	16 21 23.2	+1.1

*ISCJB **29** 16:20:44.6±0.4, 2295S±008×175.31W±008, h33km, mb4.5/17, MS4.2/7, Error ellipse: s-maj=12.6km s-min=9.8km az=103.2*
*NEIC **29** 16:20:44.7±0.4, 2287S×17526W, h25km, mb4.8/5, Error ellipse: s-maj=13.3km s-min=9.2km az=143.0*
*BJI **29** 16:20:44.7, 2290S×17530W, h25km, mB5.3, mb4.9, Ms5.5, Msz4.7*
*IDC **29** 16:20:50.7±2.6, 2289S×17534W, h75km±22km, mb4.1/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.4/14, MS4.1/5, Ms1 4.1/5, ms1mx3.7/25, Error ellipse: s-maj=23.0km s-min=12.3km az=157.0*
ISC 29 16:20:46.3±0.4, 2299S±008×17524W±008, h35km, n47, σ1°03/39, mb4.5/17, MS4.2/7, 1C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.68**	**201**	*e*P	**Pn**	**16 22 20.1**	**-1.8**
AFI	**Afiamalu**	**9.61**	**21**	P	**Pn**	**16 22 52.8**	**-9.3**
6.8nm,0.3s,baz=352,slow=14,SNR=12							
AFI				S	**Sn**	**16 24 29.0**	**-20**
3.0nm,0.3s,baz=86,slow=21,SNR=2.1							
AFI	**Afiamalu**	**9.61**	**21**	*e*P	**Pn**	**16 22 54.4**	**-7.7**
20nm,0.4s							
AFI				*e*S	**Sn**	**16 24 32.1**	**-17**
RAR	**Rarotonga**	**14.44**	**86**	P	**Pn**	**16 23 55.3**	**-13**
2.5nm,0.3s,baz=222,slow=4.3,SNR=5.1							
RAR				S	Sn	16 26 18.6	-28
0.3nm,0.3s,baz=120,slow=17,SNR=3.4							
URZ	**Urewera**	**16.57**	**202**	P	**Pn**	**16 24 35.1**	**-0.8**
0.3nm,0.3s,baz=84,slow=22,SNR=3.8							
URZ				S	S	16 27 23.2	-26
0.4nm,0.3s,baz=327,slow=23,SNR=3.5							
DZM	**Mont Dzumac**	**16.95**	**270**	P	**Pn**	**16 24 40.3**	**-0.4**
0.1nm,0.3s,baz=135,slow=13,SNR=2.9							
RPZ	**Rata Peaks**	**23.57**	**205**	P	**P**	**16 25 53.0**	**-0.7**
5.9nm,0.7s,mb4.1,baz=37,slow=18,SNR=2.9							
TBI	**Tubuai**	**23.69**	**96**	*e*LQ		16 30 07.0	
374nm,26.8s							
TBI				*e*LR	LR	16 31 07.0	
470nm,27.8s							
PPT	**Papeete**	**24.65**	**82**	*e*LQ		16 30 26.3	
404nm,24.0s							
PPT				*e*LR	LR	16 31 29.5	
450nm,27.5s							
HNR	**Honiara**	**27.32**	**296**	LR	LR	16 35 14.6	
comp=Z,287nm,18.1s,MS3.9,baz=178,slow=32							
CTA	**Charters Tower**	**35.87**	**267**	*e*P	**P**	**16 27 43.5**	**+0.7**
4.8nm,0.4s,mb4.8							
CTA	**Charters Tower**	**35.87**	**267**	P	**P**	**16 27 43.9**	**+1.1**
5.4nm,0.4s,mb4.8,baz=102,slow=10,SNR=21							
CTA				LR	LR	16 38 29.8	
comp=Z,273nm,19.4s,MS4.0,baz=68,slow=30							
RKT	**Rikitea**	**36.96**	**98**	*e*LR	LR	16 37 10.4	
290nm,27.5s							
PMG	**Port Moresby**	**38.43**	**284**	P	**P**	**16 28 04.9**	**+0.4**
26nm,0.9s,mb4.9,baz=158,slow=4.9,SNR=6.5							
PMG	**Port Moresby**	**38.43**	**284**	*e*P	**P**	**16 28 05.1**	**+0.7**
37nm,1.1s,mb5.0							
STKA	**Stephens Creek**	**39.12**	**247**	*e*P	**P**	**16 28 10.0**	**-0.2**
1.8nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**39.12**	**247**	P	**P**	**16 28 09.4**	**-0.8**
2.7nm,0.6s,mb4.2,baz=60,slow=11,SNR=7.5							
STKA				LR	LR	16 43 12.8	
comp=Z,325nm,18.8s,MS4.2,baz=26,slow=34							
STKA	**Stephens Creek**	**39.12**	**247**	*e*P	**P**	**16 28 10.7**	**+0.5**
ASAR	**Alice Springs**	**46.50**	**259**	P	**P**	**16 29 10.4**	**+0.3**
4.2nm,0.6s,mb4.5,baz=102,slow=7.2,SNR=53							
ASAR				S	**S**	**16 35 54.8**	**-1.2**
0.4nm,0.9s,baz=96,slow=12,SNR=4.6							
WB2	**Warramunga Arr**	**46.84**	**264**	*e*P	**P**	**16 29 12.3**	**-0.4**
WRAB	**Tennant Creek**	**46.84**	**264**	*e*P	**P**	**16 29 12.4**	**-0.3**
11nm,0.9s,mb4.8							
WRA	**Warramunga Arr**	**46.85**	**264**	P	**P**	**16 29 12.1**	**-0.7**
2.3nm,0.4s,mb4.5,baz=93,slow=8.6,SNR=74							
WRA				S	**S**	**16 35 56.0**	**-4.9**
1.3nm,1.2s,baz=115,slow=14,SNR=2.7							
GUMO	**Guam**	**53.36**	**309**	LR	LR	16 49 03.6	
comp=Z,116nm,18.2s,MS4.0,baz=335,slow=32							
FITZ	**Fitzroy Crossi**	**55.27**	**263**	LR	LR	16 54 01.8	
comp=Z,168nm,18.5s,MS4.2,baz=326,slow=36							
SBA	**Scott Base**	**55.58**	**185**	*e*P	**P**	**16 30 21.0**	**+2.7**
7.9nm,1.0s,mb4.7							
VNDA	**Vanda**	**55.69**	**186**	P	**P**	**16 30 21.0**	**+1.9**
3.2nm,0.9s,mb4.3,baz=351,slow=8.2,SNR=9.3							
VNDA	**Vanda**	**55.69**	**186**	*e*P	**P**	**16 30 21.1**	**+2.0**
5.0nm,1.0s,mb4.5							
MBWA	**Marble Bar**	**59.84**	**258**	*e*P	**P**	**16 30 49.6**	**+1.4**
YBH	**Yreka Blue Hor**	**80.67**	**37**	P	**P**	**16 32 54.8**	**-0.8**
1.1nm,0.4s,mb4.1,baz=286,slow=9.5,SNR=2.8							
NVAR	**Mina Array Bea**	**81.11**	**42**	P	**P**	**16 32 57.9**	**-0.1**
3.6nm,1.0s,mb4.2,baz=211,slow=7.0,SNR=12							
NJ2	**Nanjing**	**83.44**	**309**	*e*P	**P**	**16 33 11.5**	**+1.4**
NJ2				AP	pP	16 33 19.5	-1.7
NJ2				XP	sP	16 33 22.5	-2.7
NJ2				PP	PP	16 36 24.8	+2.4
NJ2				S	S	16 43 28.0	-1.0
NJ2				XS	sS	16 43 41.0	-6.2
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.1							
NJ2				AMB	AMB		
comp=Z,20nm,5.2s							
NJ2				LR	LR		
comp=N,1μm,16.2s							
NJ2				LR	LR		
comp=E,420nm,24.1s							
NJ2				LR	LR		
comp=Z,300nm,16.8s,MS4.7							
CCUT	**Cedar City**	**83.71**	**45**	*e*P	**P**	**16 33 12.2**	**+0.7**
SYO	**Syowa Base**	**84.85**	**192⇑**	*e*P	**P**	**16 33 19.9**	**+2.6**
VNA3	**Neumayer Olymp**	**85.48**	**175**	*e*	**P**	**16 33 20.0**	**-0.5**
VNA3				*e*		16 33 27.2	
PLCA	**Paso Flores**	**85.70**	**133**	P	**P**	**16 33 21.5**	**-0.1**
comp=Z,5.5nm,1.2s,mb4.7,baz=254,slow=7.7,SNR=5.2							
VNA2	**Neumayer--Watz**	**85.95**	**176**	*e*	**P**	**16 33 23.1**	**+0.3**
baz=218,slow=3.2							
VNA2				*e*		16 33 29.9	
PDAR	**Pinedale Array**	**89.04**	**42**	P	**P**	**16 33 37.4**	**-0.3**
comp=Z,0.9nm,0.9s,mb4.1,baz=198,slow=4.2,SNR=5.0							
ILAR	**Eielson Array**	**90.19**	**12**	P	**P**	**16 33 41.2**	**-1.8**
comp=Z,2.2nm,1.1s,mb4.4,baz=225,slow=4.9,SNR=8.2							
DAWY	**Dawson**	**91.17**	**15**	*e*P	**P**	**16 33 47.3**	**-0.3**
KMI	**Kunming**	**92.76**	**296**	P	**P**	**16 33 55.5**	**+0.6**
KMI				AP	pP	16 34 04.8	-1.3
KMI				XP	sP	16 34 10.8	+0.7
KMI				AMB	AMB		
comp=Z,5.0nm,1.0s,mb4.9							
KMI				AMB	AMB		
comp=Z,52nm,4.3s							
KMI				LR	LR		
comp=Z,80nm,17.8s,MS4.2							
YKA	**Yellowknife Ar**	**97.71**	**24**	P	**P**	**16 34 16.4**	**-1.1**
comp=Z,0.4nm,0.8s,mb4.0,baz=232,slow=4.4,SNR=7.8							
MKAR	**Makanchi Array**	**114.77**	**312**	PKP	PKiKP	16 39 22.4	-0.6
comp=Z,0.3nm,0.6s,baz=219,slow=1.6,SNR=4.9							
MKAR	**Makanchi Array**	**114.77**	**312**	PKP	PKiKP	16 39 22.4	-0.6
BVAR	**Borovoye Array**	**122.63**	**319**	PKP	PKPdf	16 39 37.1	-1.0
comp=Z,0.6nm,0.5s,baz=130,slow=1.5,SNR=5.6							
AKASG	**Malin Array Be**	**146.42**	**332**	PKPbc	PKPbc	16 40 22.4	-1.2
comp=Z,2.1nm,0.6s,baz=39,slow=4.1,SNR=9.9							
BRTR	**Keskin Array B**	**150.41**	**311**	PKPbc	PKPbc	16 40 34.2	+0.2
comp=Z,1.3nm,0.8s,baz=119,slow=1.5,SNR=8.5							
CLL	**Collm**	**151.02**	**349**	*e*PKPbc	PKPbc	16 40 36.0	+0.6

IDC 29 16:46:07.9±6.0, 492S×14949E, h79km±59km, mb3.1/3, mb1 3.5/4, mb1mx3.2/14, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=123.3km s-min=35.4km az=125.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.02**	**207**	P	Pn	16 47 19.9	-0.8
3.9nm,0.3s,baz=38,slow=15,SNR=13							
PMG				S	Sn	16 48 19.2	+1.8
0.9nm,0.3s,baz=10,slow=20,SNR=3.3							
WRA	**Warramunga Arr**	**20.99**	**223**	P	P	16 50 44.3	-0.5
1.2nm,0.4s,baz=50,slow=11,SNR=14							
ASAR	**Alice Springs**	**23.94**	**217**	P	P	16 51 15.0	+0.4
0.3nm,0.7s,baz=53,slow=8.1,SNR=7.8							
ILAR	**Eielson Array**	**83.53**	**23**	P	P	16 58 27.1	+0.1
0.4nm,0.8s,baz=241,slow=5.5,SNR=5.3							

*BJI **29** 16:48:31.0, 2349S×17430W, h15km, mB5.1, mb5.0, Ms5.0,*

Msz4.7
*NEIC **29** 16:48:33.7±0.9,2383S×17469W,h25km,mb4.7/3,Error ellipse: s-maj=49.0km s-min=13.7km az=166.0*
*ISCJB **29** 16:48:35.4±1.5,234S±04×175.1W±02,h33km,mb4.5/13, MS4.9/1,Error ellipse: s-maj=60.4km s-min=13.5km az=130.0*
*IDC **29** 16:48:41.5±3.9,2296S×17523W,h62km±30km,mb4.1/10, mb1 4.3/10,mb1mx4.1/17,mbtmp4.3/10,MS3.7/1, Ms1 3.7/1,ms1mx3.1/25,Error ellipse: s-maj=69.4km s-min=15.6km az=157.0*

ISC 29 16:48:37.4±1.5,233S±04×1750W±02,h35km,n31, σ1§17/27,mb4.5/13,MS4.9/1,1C-1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.84**	**19**	P		**Pn**	**16 50 46.2**	**-10**
	6.3nm,0.3s,baz=256,slow=9.7,SNR=11						
AFI				S		**Sn**	**16 52 21.6**	**-24**
	baz=144,slow=15,SNR=1.8						
AFI	**Afiamalu**	**9.84**	**19**	*e*P		**Pn**	**16 50 46.4**	**-10**
AFI				*e*S		**Sn**	**16 52 24.0**	**-22**
RAR	**Rarotonga**	**14.28**	**85**	P		**Pn**	**16 51 48.6**	**-8.4**
	1.8nm,0.3s,baz=30,slow=15,SNR=7.6						
RAR				LR		LR	16 55 46.9	
	comp=Z,270nm,19.9s,baz=248,slow=30						
DZM	**Mont Dzumac**	**17.14**	**270**	P		**Pn**	**16 52 40.5**	**+6.3**
	0.5nm,0.3s,baz=104,slow=20,SNR=12						
CTA	**Charters Tower**	**36.05**	**268**	*e*P		**P**	**16 55 36.4**	**+1.0**
	5.1nm,0.6s,mb4.6						
CTA	**Charters Tower**	**36.05**	**268**	P		**P**	**16 55 36.3**	**+0.9**
	5.4nm,0.6s,mb4.7,baz=91,slow=12,SNR=11						
PMG	**Port Moresby**	**38.69**	**285**	P		**P**	**16 55 56.9**	**-0.9**
	17nm,0.8s,mb4.8,baz=115,slow=4.1,SNR=6.2						
PMG	**Port Moresby**	**38.69**	**285**	P		**P**	**16 55 57.7**	**0.0**
	17nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**46.63**	**259**	P		**P**	**16 57 02.5**	**+0.4**
	5.8nm,0.8s,mb4.5,baz=99,slow=6.5,SNR=66						
ASAR				S		**S**	**17 03 47.3**	**-1.6**
	0.2nm,0.7s,baz=92,slow=10,SNR=4.9						
WB2	**Warramunga Arr**	**46.99**	**264**	*e*P		**P**	**16 57 02.6**	**-2.4**
WRAB	**Tennant Creek**	**46.99**	**264**	*e*P		**P**	**16 57 04.7**	**-0.3**
	8.1nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**47.00**	**264**	P		**P**	**16 57 04.9**	**-0.2**
	4.5nm,0.8s,mb4.5,baz=96,slow=8.4,SNR=49						
FITZ	**Fitzroy Crossi**	**55.42**	**264**	P		**P**	**16 58 09.3**	**+1.0**
	2.3nm,0.6s,mb4.4,baz=75,slow=20,SNR=6.8						
MJAR	**Matsushiro Arr**	**74.10**	**322**	P		**P**	**17 00 08.8**	**-1.1**
	3.4nm,0.8s,mb4.3,baz=158,slow=6.0,SNR=5.8						
MJAR	**Matsushiro Arr**	**74.10**	**322**	P		**P**	**17 00 08.8**	**-1.1**
NVAR	**Mina Array Bea**	**81.22**	**42**	P		**P**	**17 00 50.3**	**+0.7**
	1.2nm,0.8s,mb3.9,baz=214,slow=7.8,SNR=7.6						
NJ2	**Nanjing**	**83.78**	**309**	*e*P		**P**	**17 01 04.5**	**+1.5**
NJ2				AP		pP	17 01 12.5	-1.5
NJ2				PP		PP	17 04 17.8	+1.5
NJ2				S		S	17 11 21.0	-2.5
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,30nm,5.3s							
NJ2				LR		LR		
	comp=N,640nm,23.4s,MS5.0							
NJ2				LR		LR		
	comp=E,450nm,24.3s,MS5.0							
NJ2				LR		LR		
	comp=Z,500nm,26.5s,MS4.8							
SYO	**Syowa Base**	**84.59**	**192**⇑	*e*PcP		PcP	17 01 15.5	+4.9
CN2	**Changchun**	**86.20**	**321**	*e*P		**P**	**17 01 17.5**	**+2.4**
PDAR	**Pinedale Array**	**89.14**	**42**	P		**P**	**17 01 29.2**	**-0.1**
	comp=Z,0.6nm,0.8s,mb4.0,baz=199,slow=3.1,SNR=4.2						
ENH	**Enshi**	**89.88**	**303**	*e*P		**P**	**17 01 34.2**	**+1.5**
	comp=Z,5.7nm,0.6s,mb5.1						
ILAR	**Eielson Array**	**90.46**	**12**	P		**P**	**17 01 33.9**	**-1.5**
	comp=Z,1.7nm,1.0s,mb4.3,baz=230,slow=5.2,SNR=8.1						
DAWY	**Dawson**	**91.42**	**15**	*e*P		**P**	**17 01 39.9**	**+0.1**
YKA	**Yellowknife Ar**	**97.92**	**24**	P		**P**	**17 02 08.4**	**-1.1**
	comp=Z,0.3nm,0.8s,mb3.9,baz=233,slow=4.1,SNR=7.6						
YKA	**Yellowknife Ar**	**97.92**	**24**	P		**P**	**17 02 08.4**	**-1.1**
MKAR	**Makanchi Array**	**115.12**	**312**	PKP		PKiKP	17 07 14.5	-0.3
	comp=Z,0.3nm,0.6s,baz=79,slow=2.6,SNR=4.0						
AKASG	**Malin Array Be**	**146.79**	**332**	PKPbc		PKPbc	17 08 15.0	-0.7
	comp=Z,4.5nm,0.8s,baz=40,slow=3.9,SNR=17						
AKASG	**Malin Array Be**	**146.79**	**332**	PKPbc		PKPbc	17 08 15.0	-0.7
MALT	**Malatya**	**147.81**	**306**	*e*PKPbc		PKPbc	17 08 20.5	+2.0
BRTR	**Keskin Array B**	**150.75**	**311**	PKPbc		PKPbc	17 08 26.6	+0.7
	comp=Z,2.0nm,0.8s,baz=104,slow=2.5,SNR=13						
CLL	**Collm**	**151.36**	**349**	‖*i*PKPbc		PKPbc	17 08 27.7	+0.4
	comp=Z,12nm,1.2s							
CLL				*i* PKPab		PKPab	17 08 34.5	-1.1

*ISCJB **29** 16:51:38.0±2.1,240S±07×174.7W±04,h33km,mb4.1/6, Error ellipse: s-maj=107.8km s-min=25.0km az=134.2*
*NEIC **29** 16:51:37.1±1.5,2439S×17440W,h25km,mb4.5/1,Error ellipse: s-maj=77.7km s-min=20.5km az=161.0*
*IDC **29** 16:51:45.2±12.0,2387S×17482W,h77km±102km,mb3.8/5, mb1 4.0/6,mb1mx3.8/15,mbtmp4.2/6,Error ellipse: s-maj=126.9km s-min=37.6km az=149.0*

ISC 29 16:51:39.1±1.7,244S±05×1744W±03,h35km,n10,σ1§02/7, mb4.1/6,1D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.72**	**274**	P		**Pn**	**16 55 44.2**	**+1.2**
	0.4nm,0.3s,baz=78,slow=16,SNR=7.0						
CTA	**Charters Tower**	**36.55**	**269**	P		**P**	**16 58 40.4**	**-1.0**
	2.4nm,0.3s,mb4.5,baz=102,slow=11,SNR=8.5						
STKA	**Stephens Creek**	**39.27**	**249**	P		**P**	**16 59 05.5**	**+1.2**
	0.6nm,0.3s,mb3.8,baz=84,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**46.96**	**260**	P		**P**	**17 00 07.0**	**+0.6**
	3.0nm,0.7s,mb4.3,baz=93,slow=7.3,SNR=20						
WRAB	**Tennant Creek**	**47.42**	**265**	*e*P		**P**	**17 00 08.8**	**-1.3**
	3.5nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**47.43**	**265**	P		**P**	**17 00 09.1**	**-1.0**
	1.1nm,0.3s,mb4.2,baz=89,slow=6.0,SNR=44						
NVAR	**Mina Array Bea**	**81.67**	**41**	P		**P**	**17 03 54.1**	**+0.4**
	0.6nm,0.8s,mb3.5,baz=220,slow=7.3,SNR=3.8						
DAG	**Danmarks Havn**	**126.23**	**7**	‖*i*P		PKPdf	17 10 42.7	+4.8
	2.0nm,0.6s						
AKASG	**Malin Array Be**	**147.99**	**331**	PKPbc		PKPbc	17 11 19.1	-1.6
	1.3nm,0.6s,baz=38,slow=4.0,SNR=10						
BRTR	**Keskin Array B**	**151.86**	**310**	PKPbc		PKPbc	17 11 30.8	+0.6
	1.0nm,0.8s,baz=96,slow=1.4,SNR=6.0						

*ISCJB **29** 16:55:36.3±3.5,228S±01×1754W±01,h33km±24km, mb4.2/14,Error ellipse: s-maj=25.4km s-min=16.7km az=131.6*
*NEIC **29** 16:55:36.3±0.6,2258S×17530W,h25km,mb4.4/3,Error ellipse: s-maj=21.1km s-min=12.4km az=134.0*
*IDC **29** 16:55:40.5±3.1,2276S×17535W,h57km±27km,mb4.0/12, mb1 4.2/12,mb1mx4.1/17,mbtmp4.2/12,MS3.4/1, Ms1 3.4/1,ms1mx2.9/34,Error ellipse: s-maj=29.3km s-min=15.0km az=155.0*

ISC 29 16:55:40.0±3.0,227S±01×1753W±01,h53km±26km,n25, σ0§87/27,mb4.2/14,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.40**	**21**	P		**Pn**	**16 57 45.5**	**-7.1**
	2.8nm,0.3s,baz=222,slow=18,SNR=4.0						
AFI				S		**Sn**	**16 59 25.8**	**-11**
	1.1nm,0.3s,baz=247,slow=19,SNR=2.7						
AFI	**Afiamalu**	**9.40**	**21**	*e*P		**Pn**	**16 57 46.0**	**-6.7**
AFI				S		**Sn**	**16 59 17.3**	**-20**
AFI				S		**Sn**	**16 59 25.8**	**-11**
DZM	**Mont Dzumac**	**16.91**	**269**	P		**Pn**	**16 59 37.6**	**+4.8**
	0.2nm,0.3s,baz=75,slow=20,SNR=2.8						
DZM				LR		LR	17 04 13.4	
	comp=Z,114nm,18.5s,baz=192,slow=30						
CTA	**Charters Tower**	**35.84**	**267**	P		**P**	**17 02 35.6**	**+1.3**
	3.9nm,0.6s,mb4.5,baz=93,slow=9.4,SNR=11						
PMG	**Port Moresby**	**38.32**	**284**	P		**P**	**17 02 56.6**	**+1.1**
	11nm,0.9s,mb4.6,baz=133,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**39.16**	**247**	P		**P**	**17 03 00.7**	**-1.9**
	1.4nm,0.6s,mb3.9,baz=119,slow=17,SNR=4.1						
STKA	**Stephens Creek**	**39.16**	**247**	*e*P		**P**	**17 03 00.1**	**-2.5**
ASAR	**Alice Springs**	**46.50**	**258**	P		**P**	**17 04 01.4**	**-0.5**
	2.5nm,0.7s,mb4.3,baz=100,slow=6.8,SNR=25						
ASAR				S		**S**	**17 10 47.5**	**+1.1**
	0.3nm,0.9s,baz=284,slow=41,SNR=3.4						
ASAR	**Alice Springs**	**46.50**	**258**	P		**P**	**17 04 01.4**	**-0.5**
ASAR				S		**S**	**17 10 47.5**	**+1.1**
WRAB	**Tennant Creek**	**46.82**	**264**	*e*P		**P**	**17 04 04.4**	**0.0**
	2.7nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**46.82**	**264**	P		**P**	**17 04 03.6**	**-0.9**
	1.3nm,0.4s,mb4.2,baz=97,slow=8.4,SNR=44						
WRA				S		**S**	**17 10 50.1**	**-0.9**
	0.7nm,1.0s,baz=239,slow=10,SNR=2.7						
FITZ	**Fitzroy Crossi**	**55.25**	**263**	P		**P**	**17 05 07.9**	**+0.2**
	2.7nm,0.8s,mb4.3,baz=138,slow=6.4,SNR=6.2						
SBA	**Scott Base**	**55.83**	**185**	*e*P		**P**	**17 05 12.8**	**+0.9**
	4.0nm,0.9s,mb4.5						
VNDA	**Vanda**	**55.93**	**186**	P		**P**	**17 05 12.4**	**-0.1**
	1.9nm,0.9s,mb4.1,baz=358,slow=8.2,SNR=6.6						
VNDA	**Vanda**	**55.93**	**186**	*e*P		**P**	**17 05 12.4**	**-0.1**
	1.5nm,0.8s,mb4.1						
MAW	**Mawson**	**80.31**	**199**	P		**P**	**17 07 45.4**	**+0.2**
	6.4nm,0.9s,mb4.6,baz=119,slow=10,SNR=3.6						
NVAR	**Mina Array Bea**	**80.96**	**42**	P		**P**	**17 07 49.5**	**+0.8**
	1.3nm,0.6s,mb4.0,baz=224,slow=8.2,SNR=9.4						
PDAR	**Pinedale Array**	**88.89**	**42**	P		**P**	**17 08 27.6**	**-0.9**
	0.6nm,0.7s,mb4.0,baz=195,slow=2.9,SNR=5.2						
ILAR	**Eielson Array**	**89.96**	**12**	P		**P**	**17 08 33.6**	**+0.1**
	1.7nm,1.2s,mb4.3,baz=243,slow=2.7,SNR=5.1						
YKA	**Yellowknife Ar**	**97.50**	**24**	P		**P**	**17 09 07.7**	**-0.4**
	0.2nm,0.6s,mb3.8,baz=236,slow=3.9,SNR=6.2						
YKA	**Yellowknife Ar**	**97.50**	**24**	P		**P**	**17 09 07.7**	**-0.4**
MKAR	**Makanchi Array**	**114.56**	**312**	PKP		PKiKP	17 14 14.0	-0.2
	0.2nm,0.5s,baz=75,slow=1.6,SNR=4.0						
HFS	**Hagfors**	**142.11**	**353**	PKhKP			17 15 00.9	
	2.2nm,1.0s,baz=29,slow=3.3,SNR=4.5						
AKASG	**Malin Array Be**	**146.18**	**332**	PKPbc		PKPbc	17 15 14.0	-0.3
	0.9nm,0.5s,baz=39,slow=3.7,SNR=8.4						
BRTR	**Keskin Array B**	**150.21**	**311**	PKPbc		PKPbc	17 15 25.4	+0.5
	1.1nm,1.0s,baz=80,slow=1.4,SNR=4.9						

IDC 29 17:16:34.8±3.1,335S×14644E,h0km,mb3.5/3,mb1 3.8/4, mb1mx3.6/13,mbtmp3.6/4,ML2.4/1,MS3.5/3,Ms1 3.5/3, ms1mx2.9/25,Error ellipse: s-maj=97.9km s-min=28.1km az=89.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.06**	**173**	Pn		Pn	17 18 05.5	-0.1
	0.7nm,0.3s,baz=315,slow=17,SNR=3.3						
PMG				LR		LR	17 20 26.5	
	comp=Z,134nm,19.2s,baz=357,slow=38						
WRA	**Warramunga Arr**	**20.29**	**215**	P		P	17 21 11.4	-0.6
	2.4nm,1.0s,baz=40,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**23.56**	**210**	P		P	17 21 47.8	+0.8
	1.7nm,1.1s,baz=42,slow=7.8,SNR=6.2						
FITZ	**Fitzroy Crossi**	**25.11**	**233**	LR		LR	17 31 50.9	
	comp=Z,100nm,19.2s,baz=225,slow=36						
URZ	**Urewera**	**44.62**	**145**	LR		LR	17 40 28.8	
	comp=Z,170nm,20.4s,baz=39,slow=32						
MKAR	**Makanchi Array**	**75.11**	**320**	P		P	17 28 18.9	+0.2
	0.5nm,1.0s,baz=100,slow=7.5,SNR=3.2						

*CSEM **29** 17:19:34.7,2687S×17771W,h33km,mb5.5*
*MOS **29** 17:19:50.3±0.9,2676S×17785W,h159km,mb4.9/8,Error ellipse: s-maj=14.8km s-min=13.5km az=72.8*
*ISCJB **29** 17:19:52.9±0.4,2743S±003×17775W±008,h201km, mb4.5/27,Error ellipse: s-maj=9.8km s-min=4.3km az=21.9*
*NEIC **29** 17:19:55.5±0.3,2682S×17794W,mb4.8/16,Error ellipse: s-maj=10.8km s-min=9.2km az=151.0*
*IDC **29** 17:19:56.2±0.5,2698S×17796W,h202km±4km,mb4.3/13, mb1 4.5/15,mb1mx4.4/17,mbtmp4.8/15,MS3.2/3, Ms1 3.2/3,ms1mx3.0/34,Error ellipse: s-maj=10.4km s-min=8.8km az=95.0*

ISC 29 17:19:54.6±0.4,2753S±003×17767W±008,h203km, h203km±5.4km:pP-P,n129,σ1§19/110,mb4.5/27,9C-4D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.73**	**187**	P		**Pn**	**17 20 38.1**	**+7.5**
	619nm,0.3s,baz=83,slow=20,SNR=27						
RAO				S		**Sn**	**17 21 09.3**	**+11**
	3μm,0.3s,baz=79,slow=23,SNR=16						
RAO				LR		LR	17 21 27.0	
	comp=Z,691nm,19.9s,baz=221,slow=40						
RAO	**Raoul Island**	**1.73**	**187**	*e*Pn		**Pn**	**17 20 37.6**	**+7.0**
RAO				*e*Sn		**Sn**	**17 20 51.2**	**-7.4**
MXZ	**Matakaoa Point**	**10.56**	**198**	SN		**Sn**	**17 24 19.0**	**+0.1**
MWZ	**Matawai**	**11.50**	**199**	**Pn**		**Pn**	**17 22 34.2**	**+1.2**
MWZ				SN		**Sn**	**17 24 39.8**	**-1.5**
MWZ	**Matawai**	**11.50**	**199**	P		**Pn**	**17 22 31.7**	**-1.3**
MWZ				S		**Sn**	**17 24 38.8**	**-2.5**
URZ	**Urewera**	**11.56**	**201**	P		**Pn**	**17 22 35.2**	**+1.5**
	3.0nm,0.3s,baz=283,slow=5.0,SNR=19						
URZ				S		**S**	**17 24 41.2**	**-1.6**
	13nm,0.3s,baz=328,slow=21,SNR=12						
URZ	**Urewera**	**11.56**	**201**	PN		**Pn**	**17 22 36.9**	**+3.2**
URZ				SN		**Sn**	**17 24 41.0**	**-1.7**
URZ	**Urewera**	**11.56**	**201**	P		**Pn**	**17 22 36.9**	**+3.2**
FWVZ	**Far West T-bar**	**12.99**	**204**	PN		**Pn**	**17 22 54.3**	**+2.6**
FWVZ	**Far West T-bar**	**12.99**	**204**	*e*P		**Pn**	**17 22 52.8**	**+1.1**
WNVZ	**Wahianoa**	**13.03**	**204**	PN		**Pn**	**17 22 54.6**	**+2.3**
WNVZ	**Wahianoa**	**13.03**	**204**	P		**Pn**	**17 22 53.1**	**+0.8**
PXZ	**Pawanui**	**13.27**	**199**	PN		**Pn**	**17 22 56.5**	**+1.3**
TSZ	**Takapari Road**	**13.57**	**201**	PN		**Pn**	**17 22 59.6**	**+0.7**
TSZ				SN		**Sn**	**17 25 24.3**	**-6.2**
MRZ	**Mangatainoka R**	**14.23**	**201**	PN		**Pn**	**17 23 06.4**	**-0.8**
MRZ	**Mangatainoka R**	**14.23**	**201**	*e*P		**Pn**	**17 23 05.4**	**-1.8**
AFI	**Afiamalu**	**14.63**	**23**	P		**Pn**	**17 23 02.0**	**-10**
	1.4nm,0.3s,baz=69,slow=23,SNR=2.2						
AFI				S		S	17 25 25.0	-29
	4.5nm,0.3s,baz=59,slow=23,SNR=6.1						
AFI	**Afiamalu**	**14.63**	**23**	P		**Pn**	**17 23 01.7**	**-10**
AFI				*e*S		S	17 25 26.0	-29
KIW	**Kapiti Island**	**14.64**	**203**	PN		**Pn**	**17 23 12.4**	**+0.3**
MTW	**Mount Morrison**	**14.71**	**201**	PN		**Pn**	**17 23 12.6**	**-0.5**
MTW	**Mount Morrison**	**14.71**	**201**	P		**Pn**	**17 23 11.6**	**-1.4**
CAW	**Cannon Point**	**14.80**	**202**	PN		**Pn**	**17 23 13.9**	**-0.3**
CAW	**Cannon Point**	**14.80**	**202**	P		**Pn**	**17 23 12.9**	**-1.3**
SNZO	**South Karori**	**15.11**	**203**	*e*P		**Pn**	**17 23 18.4**	**+0.6**
NOU	**Noumea**	**15.31**	**286**⇑	*e*P		**Pn**	**17 23 25.2**	**+4.9**
DZM	**Mont Dzumac**	**15.41**	**287**	P		**Pn**	**17 23 24.3**	**+2.8**
	1.5nm,0.3s,baz=104,slow=13,SNR=28						
TUWZ	**Tuamarina**	**15.48**	**204**	PN		**Pn**	**17 23 21.5**	**-1.0**
QRZ	**Quartz Range**	**15.53**	**209**	PN		**Pn**	**17 23 22.2**	**-0.8**
QRZ	**Quartz Range**	**15.53**	**209**	*e*P		**Pn**	**17 23 22.2**	**-0.8**
THZ	**Tophouse**	**16.16**	**206**	*e*P		**P**	**17 23 30.1**	**+0.1**
BKM	**Butte a Klehm**	**16.28**	**304**⇑	*i*P		**P**	**17 23 32.1**	**+0.8**
LTZ	**Lake Taylor**	**17.28**	**206**	*e*P		**P**	**17 23 42.6**	**+0.4**
RAR	**Rarotonga**	**17.47**	**73**	P		**P**	**17 23 45.7**	**+1.4**
	0.7nm,0.3s,baz=245,slow=6.6,SNR=6.0						
RPZ	**Rata Peaks**	**18.54**	**206**	P		**P**	**17 23 58.4**	**+2.4**
	1.2nm,0.3s,baz=298,slow=1.4,SNR=7.0						
RPZ				S		**S**	**17 27 12.5**	**-4.2**
	3.5nm,0.3s,baz=2.7,slow=20,SNR=12						
RPZ	**Rata Peaks**	**18.54**	**206**	P		**P**	**17 23 58.4**	**+2.4**
RPZ				S		**S**	**17 27 12.4**	**-4.2**
FOZ	**Fox Glacier**	**18.98**	**209**	*e*P		**P**	**17 24 02.4**	**+1.7**
JCZ	**Jackson Bay**	**19.80**	**210**	*e*PN		**P**	**17 24 09.9**	**+0.4**
JCZ				SN		**S**	**17 27 41.3**	**0.0**
JCZ	**Jackson Bay**	**19.80**	**210**	*e*P		**P**	**17 24 10.3**	**+0.8**
CNB	**Canberra Magne**	**29.08**	**246**	*e*P		**P**	**17 25 40.3**	**+4.2**
	30nm,1.5s,mb4.7						
CTA	**Charters Tower**	**33.73**	**275**	*e*P		**P**	**17 26 17.7**	**+0.9**
	13nm,0.8s,mb4.5						
CTA	**Charters Tower**	**33.73**	**275**	P		**P**	**17 26 18.0**	**+1.3**
	21nm,0.8s,mb4.7,baz=102,slow=13,SNR=15						
CTA	**Charters Tower**	**33.73**	**275**	*e*P		**P**	**17 26 17.7**	**+0.9**
CTA				pmax		pmax		
	comp=Z,13nm,0.8s							
STKA	**Stephens Creek**	**35.50**	**253**	*e*P		**P**	**17 26 32.0**	**+0.1**
	comp=Z,4.5nm,0.9s,mb4.0							
STKA	**Stephens Creek**	**35.50**	**253**	P		**P**	**17 26 32.0**	**+0.1**
	comp=Z,3.6nm,0.7s,mb4.0,baz=92,slow=7.6,SNR=9.1							
STKA				PcP		PcP	17 28 57.4	+0.9
	comp=Z,5.3nm,0.9s,baz=24,slow=9.8,SNR=3.6							
STKA	**Stephens Creek**	**35.50**	**253**	*e*P		**P**	**17 26 32.0**	**+0.1**
PMG	**Port Moresby**	**37.73**	**292**	P		**P**	**17 26 49.8**	**-0.9**
	comp=Z,25nm,1.0s,mb4.7,baz=157,slow=3.6,SNR=5.8							
PMG	**Port Moresby**	**37.73**	**292**	*e*P		**P**	**17 26 49.6**	**-1.0**
	comp=Z,36nm,1.1s,mb4.8							
PMG	**Port Moresby**	**37.73**	**292**	*e*P		**P**	**17 26 49.6**	**-1.1**
PMG				pmax		pmax		
	comp=Z,36nm,1.1s							
ASAR	**Alice Springs**	**43.63**	**264**	P		**P**	**17 27 39.6**	**+0.7**
	comp=Z,14nm,0.8s,mb4.3,baz=96,slow=7.1,SNR=335							
ASAR				PcP		PcP	17 29 23.2	+0.8
	comp=Z,4.3nm,0.9s,baz=114,slow=3.6,SNR=6.0							
ASAR				S		**S**	**17 33 50.6**	**-2.3**
	comp=Z,0.2nm,0.9s,baz=92,slow=13,SNR=3.2							
WB2	**Warramunga Arr**	**44.34**	**269**	*e*P		**P**	**17 27 44.4**	**-0.2**
WRAB	**Tennant Creek**	**44.35**	**269**	*e*P		**P**	**17 27 44.5**	**-0.1**
	comp=Z,95nm,0.9s,mb5.1							
WRAB	**Tennant Creek**	**44.35**	**269***c*	*i*P		**P**	**17 27 44.6**	**0.0**
WRA	**Warramunga Arr**	**44.35**	**269**	P		**P**	**17 27 44.4**	**-0.3**
	comp=Z,60nm,0.8s,mb5.0,baz=108,slow=7.6,SNR=348							
WRA				PcP		PcP	17 29 26.4	+1.5
	comp=Z,9.5nm,1.0s,baz=106,slow=3.7,SNR=6.0							
WRA				S		**S**	**17 33 59.7**	**-3.7**
	comp=Z,0.3nm,0.9s,baz=68,slow=16,SNR=2.5							
FORT	**Forrest**	**47.12**	**252**	*e*P		**P**	**17 28 06.4**	**+0.1**
	comp=Z,29nm,0.6s,mb4.8							
KAKA	**Kakadu**	**48.79**	**277**	*e*P		**P**	**17 28 18.4**	**-0.7**
	comp=Z,17nm,0.4s,mb4.7							
SBA	**Scott Base**	**50.91**	**184**	*e*P		**P**	**17 28 43.1**	**+8.1**
	comp=Z,42nm,1.0s,mb4.8							
SBA	**Scott Base**	**50.91**	**184**	*e*P		**P**	**17 28 43.1**	**+8.1**
SBA				pmax		pmax		
	comp=Z,42nm,1.0s,mb4.8							
VNDA	**Vanda**	**50.97**	**186**	P		**P**	**17 28 42.5**	**+7.0**
	comp=Z,8.6nm,0.6s,mb4.4,baz=0.6,slow=8.0,SNR=77							
VNDA	**Vanda**	**50.97**	**186**	*e*P		**P**	**17 28 43.1**	**+7.6**
	comp=Z,26nm,1.3s,mb4.5							
VNDA	**Vanda**	**50.97**	**186**	*e*P		**P**	**17 28 43.1**	**+7.6**
VNDA				pmax		pmax		
	comp=Z,26nm,1.3s							
FITZ	**Fitzroy Crossi**	**52.71**	**268**	*e*P		**P**	**17 28 48.3**	**0.0**
	comp=Z,30nm,0.9s,mb4.7							
FITZ	**Fitzroy Crossi**	**52.71**	**268**	P		**P**	**17 28 49.1**	**+0.8**
	comp=Z,19nm,0.9s,mb4.5,baz=141,slow=7.2,SNR=29							
FITZ				LR		LR	17 52 40.7	
	comp=Z,60nm,19.1s,baz=254,slow=37							
KLBR	**Kellerberrin**	**55.59**	**249**	*e*P		**P**	**17 29 09.6**	**+0.5**
	comp=Z,12nm,0.8s,mb4.5							
MUN	**Mundaring**	**56.78**	**248**	*e*P		**P**	**17 29 18.1**	**+0.6**
QSPA	**South Pole Qui**	**62.57**	**180**	*e*P		**P**	**17 30 03.4**	**+6.4**
	comp=Z,28nm,1.0s,mb4.8							
MIR	**Mirnyy**	**64.81**	**206**	*e*P		**P**	**17 30 11.0**	**-0.6**
MIR				pmax		pmax		
	comp=Z,2μm,1.0s							
TSM	**Tawau**	**69.65**	**286**	P		**P**	**17 30 42.9**	**+0.8**
KKM	**Kota Kinabalu**	**71.97**	**287**	P		**P**	**17 30 55.9**	**-0.1**
TGY	**Tagaytay City**	**72.47**	**297**	LR		LR	17 57 57.6	
	comp=Z,5.0nm,20.3s,baz=183,slow=32							
KSM	**Kuching**	**74.79**	**280**	*e*P		**P**	**17 31 12.6**	**+0.2**
MAW	**Mawson**	**75.09**	**200**⇑	*i*P		**P**	**17 31 18.9**	**+4.8**
	comp=Z,32nm,0.6s,mb5.1							
MAW	**Mawson**	**75.09**	**200**	P		**P**	**17 31 19.1**	**+5.0**
	comp=Z,48nm,0.7s,mb5.2,baz=129,slow=7.2,SNR=40							
MAW	**Mawson**	**75.09**	**200**	*e*P		**P**	**17 31 18.9**	**+4.8**
	comp=Z,84nm,1.0s,mb5.3							
MAW	**Mawson**	**75.09**	**200**	*e*P		**P**	**17 31 18.9**	**+4.8**
MAW				pmax		pmax		
	comp=Z,84nm,1.0s							
MJAR	**Matsushiro Arr**	**76.06**	**325**	P		**P**	**17 31 18.1**	**-1.6**
	comp=Z,9.6nm,0.7s,mb4.

comp=Z,1.9nm,0.5s,baz=43,slow=3.1,SNR=19
AKASG pPKPbc pPKPbc 17 40 11.5 +0.6
comp=Z,2.2nm,0.7s,baz=49,slow=4.2,SNR=1.5
BOYT Boyabat 149.98 306 *i* P PKPbc 17 39 21.8 +0.9
AVNT Avonos 150.69 301 *i* P PKPbc 17 39 22.9 +0.4
ELDT Eldivan 151.32 305 *i* P PKPbc 17 39 24.5 +0.5
BR131 Keskin Array S 151.38 303 *e*PKPbc PKPbc 17 39 24.6 +0.5
BRTR Keskin Array B 151.38 303 PKPbc PKPbc 17 39 24.6 +0.5
comp=Z,4.5nm,1.0s,baz=127,slow=3.3,SNR=16
BRTR pPKPbc pPKPbc 17 40 17.4 +1.1
comp=Z,1.5nm,1.0s,baz=300,slow=2.4,SNR=1.7
LVV L'vov 152.22 329 *e*PKIKP PKPbc 17 39 26.1 +0.1
CLL Collm 154.92 344⇑*i*PKPbc PKPbc 17 39 31.7 -0.2
comp=Z,9.0nm,1.1s
CLL *e*PKPab PKPab 17 39 46.0 -2.1
TORD Torodi Ar. Bea 165.68 178 PKP PKPdf 17 39 36.9 +2.1
comp=Z,1.5nm,0.8s,baz=290,slow=0.0,SNR=9.2
TORD pPKP pPKPdf 17 40 31.3 +3.7
comp=Z,1.2nm,0.9s,baz=240,slow=1.0,SNR=4.5
TORD PKPab PKPab 17 40 39.4 +4.4
comp=Z,4.8nm,0.7s,baz=180,slow=3.6,SNR=20
TORD pPKPab pPKPab 17 41 30.9 +5.6
comp=Z,1.5nm,0.6s,baz=185,slow=3.0,SNR=3.8

IDC 29 17:26:21.9±4.6, 2993S×17809W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/12, mbtmp3.9/2, Error ellipse: s-maj=218.8km s-min=73.7km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**28.77**	**71**	*e*LR	LR	17 31 33.1	
214nm,26.5s							
ASAR	**Alice Springs**	**43.05**	**266**	P	P	17 34 23.8	+0.4
2.0nm,1.0s,baz=114,slow=7.6,SNR=8.1							
WRA	**Warramunga Arr**	**44.00**	**272**	P	P	17 34 31.1	+0.1
1.7nm,0.8s,baz=112,slow=7.9,SNR=13							
KAKA	**Kakadu**	**48.77**	**280**	*e*P	P	17 35 16.1	+7.6
8.1nm,0.3s							
FINES	**FINESS Array B**	**144.67**	**340**	PKP	PKPdf	17 45 59.1	-1.4
0.4nm,0.5s,baz=35,slow=5.6,SNR=4.4							

*IDC **29** 17:28:18.4±1.2, 2325S×17506W, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.4/20, mbtmp4.4/13, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/33, Error ellipse: s-maj=49.5km s-min=19.6km az=149.0*
*ISCJB **29** 17:28:20.4±0.6, 2353S±008×17484W±0.10, h33km, mb4.4/14, Error ellipse: s-maj=14.9km s-min=9.2km az=74.0*
*NEIC **29** 17:28:21.2±0.5, 2347S×17485W, h25km, mb4.7/4, Error ellipse: s-maj=17.2km s-min=9.4km az=157.0*
ISC 29 17:28:22.3±0.6, 2355S±008×17478W±010, h35km, n29, σ1º01/25, mb4.4/14, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.00**	**17**	Pn	**Pn**	**17 30 32.7**	**-11**
3.0nm,0.3s,baz=185,slow=6.4,SNR=3.6							
AFI				Sn	Sn	17 32 08.3	-26
3.0nm,0.3s,baz=214,slow=18,SNR=3.2							
AFI	**Afiamalu**	**10.00**	**17**	*e*P	**Pn**	**17 30 32.6**	**-11**
RAR	**Rarotonga**	**14.07**	**83**	Pn	**Pn**	**17 31 38.2**	**-0.8**
2.8nm,0.3s,baz=278,slow=12,SNR=3.2							
URZ	**Urewera**	**16.22**	**203**	Pn	**Pn**	**17 32 08.5**	**+1.0**
0.4nm,0.3s,baz=167,slow=18,SNR=4.5							
URZ				Sn	**Sn**	**17 35 05.6**	**-0.6**
0.2nm,0.3s,baz=31,slow=18,SNR=3.1							
DZM	**Mont Dzumac**	**17.38**	**271**	P	**Pn**	**17 32 25.7**	**+3.7**
0.5nm,0.3s,baz=106,slow=18,SNR=10							
HNR	**Honiara**	**27.94**	**296**	LR	LR	17 43 33.7	
comp=Z,54nm,18.5s,baz=180,slow=33							
CTA	**Charters Tower**	**36.27**	**268**	*e*P	**P**	**17 35 22.3**	**+0.1**
7.5nm,0.9s,mb4.6							
CTA	**Charters Tower**	**36.27**	**268**	P	**P**	**17 35 21.9**	**-0.3**
9.9nm,0.8s,mb4.8,baz=113,slow=11,SNR=9.3							
RKT	**Rikitea**	**36.47**	**97**	*e*LR	LR	17 36 33.3	
141nm,29.0s							
PMG	**Port Moresby**	**38.97**	**285**	P	**P**	**17 35 43.6**	**-1.4**
15nm,0.8s,mb4.8,baz=135,slow=13,SNR=6.0							
PMG	**Port Moresby**	**38.97**	**285**	*e*P	**P**	**17 35 44.0**	**-1.1**
15nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**39.30**	**248**	P	**P**	**17 35 46.9**	**-0.8**
2.0nm,0.8s,mb3.9,baz=126,slow=12,SNR=3.9							
STKA	**Stephens Creek**	**39.30**	**248**	P	**P**	**17 35 46.9**	**-0.8**
ASAR	**Alice Springs**	**46.81**	**259**	P	**P**	**17 36 49.1**	**+0.7**
5.6nm,0.8s,mb4.5,baz=92,slow=8.2,SNR=35							
WB2	**Warramunga Arr**	**47.20**	**264**	*e*P	**P**	**17 36 51.0**	**-0.5**
WRAB	**Tennant Creek**	**47.20**	**264**	*e*P	**P**	**17 36 51.1**	**-0.4**
6.7nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**47.21**	**264**	P	**P**	**17 36 51.0**	**-0.6**
4.7nm,0.8s,mb4.5,baz=100,slow=8.1,SNR=24							
FITZ	**Fitzroy Crossi**	**55.63**	**264**	P	**P**	**17 37 55.6**	**+1.0**
2.1nm,0.6s,mb4.3,baz=43,slow=4.4,SNR=4.1							
MJAR	**Matsushiro Arr**	**74.43**	**322**	P	**P**	**17 39 55.1**	**-1.6**
1.5nm,0.7s,mb4.0,baz=164,slow=5.2,SNR=5.3							
NVAR	**Mina Array Bea**	**81.24**	**41**	P	**P**	**17 40 36.8**	**+2.2**
0.6nm,0.7s,mb3.6,baz=209,slow=6.5,SNR=4.9							
PSI	**Prapat**	**87.72**	**274**	P	**P**	**17 41 09.1**	**+1.7**
2.3nm,0.3s,mb4.8,baz=239,slow=9.8,SNR=4.5							
PSI	**Prapat**	**87.72**	**274**	P	**P**	**17 41 09.1**	**+1.7**
ENH	**Enshi**	**90.21**	**303**	*e*P	**P**	**17 41 20.1**	**+1.1**
9.3nm,1.0s,mb5.1							
ILAR	**Eielson Array**	**90.64**	**12**	P	**P**	**17 41 20.9**	**-0.2**
1.2nm,1.0s,mb4.2,baz=214,slow=6.3,SNR=5.0							
INK	**Inuvik**	**96.44**	**14**	P	**P**	**17 41 47.3**	**-0.5**
1.0nm,0.3s,mb4.7,baz=199,slow=14,SNR=4.3							
YKA	**Yellowknife Ar**	**98.04**	**24**	P	**P**	**17 41 54.8**	**-0.1**
0.4nm,0.9s,mb4.0,baz=233,slow=4.9,SNR=5.2							
MKAR	**Makanchi Array**	**115.45**	**312**	PKP	PKPdf	17 47 01.1	+0.7
0.3nm,0.8s,baz=46,slow=4.2,SNR=3.3							
AKASG	**Malin Array Be**	**147.11**	**332**	PKPbc	PKPbc	17 48 01.8	+0.3
0.7nm,0.2s,baz=40,slow=4.1,SNR=15							
BRTR	**Keskin Array B**	**151.09**	**311**	PKPbc	PKPbc	17 48 13.3	+1.7
1.5nm,0.8s,baz=108,slow=4.0,SNR=9.1							

*NIED **29** 17:30:00, 2460N×12190E, h8km, Mw4.0 Best double couple: Mo1.22000×10^15 NP1:φ=288.00000°, δ73.00000°, λ-33.00000°. NP2:φ=29.00000°, δ58.00000°, λ-160.00000°.*
*NEIC **29** 17:30:58.0±1.5, 2442N×12199E, h8km±10km, ML4.6(TAP), Error ellipse: s-maj=14.0km s-min=9.6km az=83.0*
NEIC Recorded [4 TAP] in I-lan; [3 TAP] in Hua-lien; [1 TAP] in Nan-t'ou and T'ai-pei Counties.
*BJI **29** 17:30:57.9, 2440N×12200E, h25km, mb4.5, ML4.1*
*ISCJB **29** 17:30:58.4±0.5, 2441N±005×12194E±003, h24km±5km, mb3.6/7, MS3.0/2, Error ellipse: s-maj=8.0km s-min=3.7km az=19.8*
*JMA **29** 17:30:59.1±0.3, 2456N×12194E, h44km±4km, M4.2*
*IDC **29** 17:31:05.0±4.6, 2447N×12225E, h66km±43km, mb3.4/7, mb1 3.5/8, mb1mx3.4/21, mbtmp3.7/8, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/23, Error ellipse: s-maj=35.4km s-min=19.6km az=69.0*
ISC 29 17:30:58.4±0.6, 2440N±005×12198E±003, h12km±4km, n26, σ1º05/36, mb3.6/7, MS3.0/2, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.42**	**237**	⇓*i*P	**Pg**	**17 31 06.8**	**+0.2**
NACB				*e*S	**Sg**	**17 31 13.2**	**+1.0**
YHNB	**Yeheng**	**0.61**	**296**	*e*P	**Pg**	**17 31 09.6**	**-0.6**
YHNB				*e*S	**Sg**	**17 31 16.1**	**-2.1**
TATO	**Taipei**	**0.72**	**322**	*e*P	**Pg**	**17 31 11.3**	**-1.0**
YOJ	**Yonaguni jima**	**0.94**	**86**	P	**Pg**	**17 31 16.6**	**0.0**
YOJ				S	**Sg**	**17 31 29.5**	**+0.6**
IRIF	**Iriomote-Funau**	**1.60**	**92**	P	**Pn**	**17 31 26.0**	**-0.5**
IRIF				*e*S	**Sn**	**17 31 46.0**	**-1.1**
HATJ	**Hateruma jima**	**1.71**	**101**	P	**Pn**	**17 31 28.5**	**+0.6**
HATJ				*e*S	**Sn**	**17 31 49.5**	**-0.2**
JKRS	**Kuro-shima**	**1.86**	**95**	P	**Pn**	**17 31 30.3**	**+0.2**
JKRS				S	**Sn**	**17 31 53.2**	**-0.4**
JIJ	**Ishigaki jima**	**1.98**	**91**	P	**Pn**	**17 31 31.1**	**-0.6**
JIJ				S	**Sn**	**17 31 54.6**	**-1.8**
JTJ	**Tarama**	**2.49**	**84**	P	**Pn**	**17 31 39.1**	**+0.3**
JTJ				S	**Sn**	**17 32 08.8**	**-0.4**
JMJ	**Miyako jima 2**	**3.05**	**82**	P	**Pn**	**17 31 47.2**	**+0.8**
JMJ				*e*S	**Sn**	**17 32 22.6**	**-0.2**
QZH	**Quanzhou**	**3.12**	**281**	P	**Pn**	**17 31 47.0**	**-0.5**
QZH				S	**Sn**	**17 32 22.0**	**-2.7**
QZH				Smax			
comp=N,800nm,0.8s
QZH Smax
comp=E,380nm,0.7s
JOGS Gusukube 3.14 83 P **Pn** **17 31 48.9 +1.2**
JOGS *e*S **Sn** **17 32 25.0 -0.2**
JOW Kunigami 6.18 66 P **Pn** **17 32 30.4 +1.0**
comp=E,4.0nm,0.3s,baz=208,slow=6.3,SNR=8.4
NJ2 Nanjing 8.10 341 *e*P **Pn** **17 32 57.5 +1.7**
NJ2 AP 17 33 00.5
NJ2 XP 17 33 03.5
NJ2 S **Sn** **17 34 29.8 +2.4**
NJ2 XS 17 34 34.5
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
NJ2 Smax
comp=N,210nm,1.2s
NJ2 Smax
comp=E,120nm,1.0s
MJAR Matsushiro Arr 18.46 45 LR LR 17 42 02.6
comp=E,134nm,18.0s,baz=100,slow=36
GUMO Guam 24.13 112 LR LR 17 43 51.0
comp=E,65nm,19.7s,MS3.1,baz=97,slow=32
ULN Ulaanbaatar 26.24 337 *e*P **P** **17 36 33.5 +0.2**
SONM Songino Array 26.45 336 P **P** **17 36 36.6 +1.4**
comp=E,1.5nm,1.0s,mb3.5,baz=151,slow=9.1,SNR=6.7
SONM LR LR 17 46 29.5
comp=E,30nm,21.9s,MS2.8,baz=33,slow=35
MKAR Makanchi Array 38.69 315 P **P** **17 38 23.0 +0.9**
comp=E,0.3nm,0.5s,mb3.3,baz=101,slow=8.2,SNR=3.9
WRAB Tennant Creek 45.69 164 *e*P **P** **17 39 19.3 +0.2**
WRA Warramunga Arr 45.69 164 P **P** **17 39 18.5 -0.6**
comp=E,0.6nm,0.5s,mb3.8,baz=345,slow=8.6,SNR=4.9
ASAR Alice Springs 49.16 165 P **P** **17 39 47.2 +1.0**
comp=E,0.3nm,0.7s,mb3.5,baz=351,slow=7.5,SNR=5.2
INK Inuvik 72.75 22 P **P** **17 42 24.8 -1.7**
comp=E,0.5nm,0.2s,mb4.0,baz=236,slow=3.6,SNR=4.0
INK Inuvik 72.75 22 P **P** **17 42 24.8 -1.7**
BRTR Keskin Array B 73.62 307 P **P** **17 42 33.0 +1.3**
comp=E,0.7nm,0.8s,mb3.6,baz=84,slow=5.1,SNR=3.3
YKA Yellowknife Ar 82.49 23 P **P** **17 43 19.4 -1.5**
comp=E,0.4nm,0.6s,mb3.5,baz=310,slow=4.9,SNR=12

*SZGRF **29** 17:48:07.2, 2638S×17844E, h33km, South of Fiji Islands*
*MOS **29** 17:49:06.5±1.3, 2382S×17901E, h507km, mb4.9/6, Error ellipse: s-maj=14.6km s-min=12.0km az=139.3*
*BJI **29** 17:49:09.5, 2380S×17900E, h535km, mB4.6, mb4.5*
*NEIC **29** 17:49:09.6±1.0, 2383S×17897E, h535km±11km, mb4.8/18, Error ellipse: s-maj=10.6km s-min=8.4km az=136.0*
*IDC **29** 17:49:10.4±1.4, 2389S×17892E, h541km±13km, mb4.0/16, mb1 4.2/17, mb1mx4.1/19, mbtmp4.8/17, Error ellipse: s-maj=13.8km s-min=12.7km az=155.0*
*ISCJB **29** 17:49:10.7±1.5, 2400S±007×17886E±008, h553km±18km, mb4.5/36, Error ellipse: s-maj=12.2km s-min=9.3km az=110.1*
ISC 29 17:49:08.4±1.1, 2392S±006×17904E±007, h517km±13km, n171, σ1º11/77, mb4.5/35, 19C-11D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.74**	**276**	P	**P**	**17 51 47.1**	**+2.9**
1.9nm,0.3s,baz=88,slow=17,SNR=24							
AFI	**Afiamalu**	**13.21**	**43**	P	**P**	**17 51 58.4**	**-1.1**
16nm,0.3s,baz=24,slow=4.6,SNR=21							
AFI				S	**S**	**17 54 14.0**	**-6.6**
1.7nm,0.3s,baz=194,slow=24,SNR=3.2							
AFI	**Afiamalu**	**13.21**	**43**	*e*P	**P**	**17 51 58.1**	**-1.4**
173nm,0.9s							
AFI	**Afiamalu**	**13.21**	**43**	*e*P	**P**	**17 51 58.2**	**-1.3**
AFI				pmax	pmax		
comp=Z,173nm,0.9s
URZ Urewera 14.39 186 P **P** **17 52 11.3 -0.7**
comp=Z,9.4nm,0.3s,baz=2.7,slow=5.7,SNR=43
URZ S **S** **17 54 37.8 -5.5**
comp=Z,3.2nm,0.3s,baz=193,slow=20,SNR=7.3
MWZ Matawai 14.43 185 PN **P** **17 52 12.0 -0.4**
MRZ Mangatainoka R 16.95 189 PN **P** **17 52 36.5 -1.7**
KIW Kapiti Island 17.25 191 PN **P** **17 52 40.0 -1.0**
SNZO South Karori 17.72 191 *e*P **P** **17 52 46.4 +1.1**
comp=Z,35nm,0.5s
QRZ Quartz Range 17.73 196 PN **P** **17 52 46.8 +1.4**
LTZ Lake Taylor 19.64 195 PN **P** **17 53 02.6 -0.1**
RPZ Rata Peaks 20.81 196 P **P** **17 53 13.6 +0.1**
comp=Z,9.6nm,0.4s,baz=40,slow=2.0,SNR=13
FOZ Fox Glacier 21.06 199 PN **P** **17 53 15.4 -0.2**
JCZ Jackson Bay 21.81 200 PN **P** **17 53 23.1 +0.7**
ARMA Armidale 25.19 249 *e*P **P** **17 53 54.4 +1.8**
CNB Canberra Magne 28.09 239⇑P **P** **17 54 19.6 +1.6**
comp=Z,53nm,0.7s,mb5.3
CTA Charters Tower 30.59 271⇑*i*P **P** **17 54 40.4 +0.6**
comp=Z,49nm,0.3s,mb5.5
CTA Charters Tower 30.59 271 P **P** **17 54 40.5 +0.7**
comp=Z,71nm,0.4s,mb5.5,baz=94,slow=10,SNR=315
CTA Charters Tower 30.59 271⇑*i*P **P** **17 54 40.4 +0.6**
CTA pmax pmax
comp=Z,49nm,0.3s
TOO Toolangi 31.70 237 *e*P **P** **17 54 50.3 +1.0**
comp=Z,34nm,0.6s,mb5.0
TOO Toolangi 31.70 237 *e*P **P** **17 54 50.3 +1.0**
TOO pmax pmax
comp=Z,34nm,0.6s,mb5.0
TAU Tasmania Unive 32.28 226 *e*P **P** **17 54 54.8 +0.6**
comp=Z,28nm,0.6s,mb5.0
TAU Tasmania Unive 32.28 226 *e*P **P** **17 54 54.8 +0.6**
TAU pmax pmax
comp=Z,28nm,0.6s,mb5.0
PMG Port Moresby 33.67 290 P **P** **17 55 06.0 +0.1**
comp=Z,25nm,0.6s,mb4.9,baz=95,slow=5.9,SNR=17
PMG Port Moresby 33.67 290 *e*P **P** **17 55 05.9 -0.1**
STKA Stephens Creek 33.90 248⇑*i*P **P** **17 55 06.7 -1.2**
comp=Z,30nm,0.5s,mb5.1
STKA Stephens Creek 33.90 248 P **P** **17 55 06.7 -1.2**
comp=Z,34nm,0.5s,mb5.2,baz=94,slow=10.0,SNR=177
STKA ScP ScP 18 00 24.5 -2.7
comp=Z,2.3nm,0.9s,baz=18,slow=3.2,SNR=3.1
STKA Stephens Creek 33.90 248 *e*P **P** **17 55 06.6 -1.4**
ADE Adelaide 36.59 243⇑*i*P **P** **17 55 30.6 +0.3**
ASAR Alice Springs 41.16 261 P **P** **17 56 07.3 0.0**
comp=Z,46nm,0.8s,mb5.1,baz=94,slow=7.6,SNR=412
ASAR ScP ScP 18 00 54.0 -0.8
comp=Z,4.4nm,0.8s,baz=109,slow=4.1,SNR=13
ASAR S **S** **18 01 38.1 -5.0**
comp=Z,1.1nm,0.9s,baz=91,slow=16,SNR=4.7
WB2 Warramunga Arr 41.52 266⇑*i*P **P** **17 56 09.5 -0.6**
WB2 *e*S **S** **18 01 42.0 -6.1**
WRAB Tennant Creek 41.52 266 *e*P **P** **17 56 09.4 -0.8**
comp=Z,83nm,0.8s,mb5.3
WRAB Tennant Creek 41.52 266⇑*i*P **P** **17 56 09.5 -0.7**
WRA Warramunga Arr 41.53 266 P **P** **17 56 09.6 -0.6**
comp=Z,62nm,0.7s,mb5.3,baz=104,slow=8.4,SNR=429
WRA ScP ScP 18 00 52.9 -3.4
comp=Z,4.4nm,0.7s,baz=99,slow=3.7,SNR=14
WRA S **S** **18 01 42.8 -5.5**
comp=Z,1.5nm,0.8s,baz=98,slow=14,SNR=4.0
KAKA Kakadu 45.43 276⇑*i*P **P** **17 56 39.7 -0.9**
comp=Z,18nm,0.5s,mb4.9
FORT Forrest 45.48 250 *e*P **P** **17 56 39.8 -1.2**
comp=Z,109nm,0.6s,mb5.6
FITZ Fitzroy Crossi 49.95 266 *e*P **P** **17 57 14.3 -0.2**
comp=Z,17nm,0.9s,mb4.5
FITZ Fitzroy Crossi 49.95 266 P **P** **17 57 14.3 -0.2**
comp=Z,5.6nm,0.4s,mb4.4,baz=106,slow=8.0,SNR=39
KLBR Kellerberrin 54.17 247⇑*i*P **P** **17 57 44.0 -0.9**
comp=Z,24nm,0.7s,mb4.6
VNDA Vanda 54.29 185 P **P** **17 57 46.9 +1.1**
comp=Z,0.9nm,0.8s,baz=4.0,slow=6.6,SNR=6.1
VNDA Vanda 54.29 185 *e*P **P** **17 57 46.6 +0.8**
comp=Z,0.7nm,0.4s
VNDA Vanda 54.29 185 *e*P **P** **17 57 46.6 +0.9**
VNDA pmax pmax
comp=Z,1.0nm,0.4s
SBA Scott Base 54.31 183 *e*P **P** **17 57 48.1 +2.2**
comp=Z,2.7nm,0.8s,mb3.6
SBA Scott Base 54.31 183 *e*P **P** **17 57 48.1 +2.2**
SBA pmax pmax
comp=Z,3.0nm,0.8s,mb3.7
MBWA Marble Bar 54.50 260 *e*P **P** **17 57 46.0 -1.2**
comp=Z,21nm,0.6s,mb4.5
MUN Mundaring 55.42 247 *e*P **P** **17 57 53.1 -0.5**
CASY Casey 59.71 206 *e*P **P** **17 58 22.0 -0.9**
comp=Z,11nm,0.6s,mb4.4
QSPA South Pole Qui 66.17 180 *e*P **P** **17 59 05.6 +1.1**
comp=Z,13nm,0.8s,mb4.5
MJAR Matsushiro Arr 71.42 326 P **P** **17 59 35.0 -1.2**
comp=Z,3.4nm,0.8s,mb3.9,baz=154,slow=5.9,SNR=6.7
SSE Sheshan 77.84 312 P **P** **18 00 13.5 +1.2**
SSE AMB AMB
comp=Z,30nm,0.6s,mb4.8
SSE AMB AMB
comp=Z,116nm,4.4s
VLA Vladivostok 79.56 327⇑*e*P **P** **18 00 23.4 +2.0**
VLA pmax pmax
comp=Z,38nm,0.7s,mb4.8
NJ2 Nanjing 80.01 312 *e*P **P** **18 00 23.3 -0.5**
NJ2 AP pP 18 02 14.3 -0.8
NJ2 PP PP 18 03 35.3 +0.5
NJ2 S S 18 09 37.0 -8.2
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.4
NJ2 AMB AMB
comp=Z,70nm,8.2s
SYO Syowa Base 82.79 194⇓*e*X 18 00 33.7
SYO Syowa Base 82.79 194⇓*e*PcP PcP 18 00 38.2 -3.3
SYO Syowa Base 82.79 194⇓*e*pP pP 18 02 32.8 +2.5
CN2 Changchun 83.38 324 *e*P **P** **18 00 42.3 +1.3**
YBH Yreka Blue Hor 84.66 40 P **P** **18 00 49.1 +1.7**
comp=Z,2.3nm,0.5s,mb4.0,baz=188,slow=5.7,SNR=7.8
SNAA Sanae 84.66 179 P **P** **18 00 46.5 -0.9**
comp=Z,0.9nm,0.5s,mb3.5,baz=215,slow=13,SNR=16
KDAK Kodiak Island 84.78 15 P **P** **18 00 47.3 -0.6**
comp=Z,6.0nm,1.1s,mb4.0,baz=136,slow=18,SNR=3.6
VNA3 Neumayer Olymp 84.91 177⇓*i*P **P** **18 00 46.7 -1.9**
VNA3 *e* 18 00 48.1
VNA3 *e* 18 00 51.9
VNA3 *e* 18 02 14.1
VNA2 Neumayer--Watz 85.31 178⇓P **P** **18 00 48.4 -2.2**
baz=190,slow=4.6
VNA2 *e* 18 00 50.1
VNA2 *e* 18 00 54.9
VNA2 *e* 18 02 18.1
NVAR Mina Array Bea 85.38 44 P **P** **18 00 52.1 +1.3**
comp=Z,3.4nm,0.8s,mb3.9,baz=210,slow=6.5,SNR=18
MA2 Magadan 86.38 346 *e*P **P** **18 00 54.4 -1.3**
comp=Z,6.7nm,0.8s,mb4.3
MA2 Magadan 86.38 346 *e*P **P** **18 00 54.4 -1.2**
MA2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
KMI Kunming 88.49 298 P **P** **18 01 06.0 +0.5**
KMI AMB AMB
comp=Z,8.0nm,1.5s,mb4.2
PLCA Paso Flores 88.89 135 P **P** **18 01 07.7 +0.3**
comp=Z,2.7nm,0.9s,mb4.1,baz=239,slow=7.8,SNR=5.8
HLID Hailey 90.69 42 *e*P **P** **18 01 16.8 +1.0**
comp=Z,1.0nm,0.6s,mb3.9
MNTX Cornudas Mount 90.95 56 *e*P **P** **18 01 18.3 +1.4**
comp=Z,3.7nm,0.8s,mb4.4
ANMO Albuquerque 91.66 52⇑*e*P **P** **18 01 10.7 -10**
BILL Bilibino 92.16 355 *e*P **P** **18 01 21.4 -1.1**
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ILAR Eielson Array 92.25 14 P **P** **18 01 20.8 -2.1**
comp=Z,1.0nm,0.6s,mb4.1,baz=234,slow=5.5,SNR=23
BW06 Boulder Array 93.31 44 *e*P **P** **18 01 28.0 +0.2**
comp=Z,1.2nm,0.7s,mb4.0
PDAR Pinedale Array 93.31 44 P **P** **18 01 28.2 +0.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=215,slow=2.6,SNR=8.7
DAWY Dawson 93.50 17 *e*P **P** **18 01 28.0 -0.7**
YAK Yakutsk 94.27 339⇑*e*P **P** **18 01 33.0 +0.9**
YAK pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
SONM Songino Array 96.54 320 PKKPbc PKKPbc 18 18 23.5 -0.1
comp=Z,0.4nm,0.5s,baz=244,slow=3.5,SNR=4.1
INK Inuvik 98.28 16 P Pdif 18 01 49.1 -1.1
comp=Z,0.7nm,0.2s,baz=234,slow=5.4,SNR=3.7
YKA Yellowknife Ar 100.75 26 P Pdif 18 01 59.2 -2.0
comp=Z,0.1nm,0.5s,baz=247,slow=4.3,SNR=4.1
YKA PKKPbc PKKPbc 18 18 10.7 -1.2
comp=Z,0.2nm,0.5s,baz=42,slow=2.4,SNR=6.0
YKA Yellowknife Ar 100.75 26 P Pdif 18 01 59.2 -2.0
YKA PKKPbc PKKPbc 18 18 10.7 -1.2
MK31 Makanchi Array 111.52 313 *i*PKIKP PKiKP 18 06 41.7 -2.1
MKAR Makanchi Array 111.52 313 PKiKP PKiKP 18 06 41.9 -1.9
comp=Z,0.5nm,0.4s,baz=134,slow=0.9,SNR=17
MKAR PKKPbc PKKPbc 18 17 39.6 +0.2
comp=Z,0.6nm,0.8s,baz=289,slow=3.7,SNR=5.2
MKAR PKKPab PKKPab 18 17 50.9 +0.2
comp=Z,1.0nm,0.6s,baz=277,slow=5.0,SNR=13
KURK Kurchatov 114.60 317 *e*P PKiKP 18 06 46.7 -3.0
KURK Kurchatov 114.60 317 PKIKP PKPdf 18 06 47.3 -2.4
KURK pmax pmax
comp=Z,5.0nm,1.5s
KK31 Karatay Array 119.17 307 *i*PKIKP PKPdf 18 06 57.1 -1.4
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 119.17 307 *i*PKIKP PKPdf 18 06 57.1 -1.4
KKAR pmax pmax
comp=Z,1.0nm,0.5s
VOSK Vostochnaya 119.50 318 PKIKP PKPdf 18 06 57.0 -2.1
VOSK pmax pmax
comp=Z,2.0nm,0.6s
BDFB Brasilia 119.52 126 PKP PKPdf 18 06 58.6 -0.5
comp=Z,0.8nm,0.3s,baz=96,slow=3.1,SNR=3.1
CHKZ Chkalovo 119.74 319 *i*PKIKP PKPdf 18 06 57.2 -2.3
CHKZ pmax pmax
comp=Z,1.0nm,0.5s
BVA0 Borovoye Array 119.87 319 *i*PKIKP PKPdf 18 06 58.0 -1.8
BVAR Borovoye Array 119.87 319 PKP PKPdf 18 06 58.1 -1.7
comp=Z,2.3nm,0.4s,baz=115,slow=2.0,SNR=31
BRVK Borovoye 119.93 319 *e*PKPdf PKPdf 18 06 57.5 -2.4
SUR Sutherland 120.28 201 PKP PKPdf 18 07 01.0 +0.4
comp=Z,8.7nm,0.9s,baz=186,slow=2.8,SNR=6.0
SUR Sutherland 120.28 201 PKP PKPdf 18 07 01.0 +0.4
ZRNK Zerenda 120.70 319 *i*PKIKP PKPdf 18 06 59.4 -2.0
ZRNK pmax pmax
comp=Z,2.0nm,0.5s
BOSA Boshof 121.99 207 PKP PKPdf 18 07 03.5 -0.3
comp=Z,3.0nm,0.7s,baz=228,slow=5.3,SNR=5.2
SCHQ Schefferville 123.04 39 PKP PKPdf 18 07 04.0 -1.8
comp=Z,1.8nm,0.6s,baz=191,slow=17,SNR=3.0
ARU Arti 126.37 324 *i*PKIKP PKPdf 18 07 11.1 -1.2
AB31 Akbulak array 126.59 315 *i*PKIKP PKPdf 18 07 11.6 -1.1
AB31 pmax pmax
comp=Z,3.0nm,1.1s
AKTK Aktyubinsk 127.70 316 PKP PKPdf 18 07 14.1 -0.7
AKTO Aktyubinsk 127.70 316 PKP PKPdf 18 07 14.1 -0.7
comp=Z,2.6nm,0.6s,baz=91,slow=3.3,SNR=13
AKTO Aktyubinsk 127.70 316 *i*PKIKP PKPdf 18 07 14.3 -0.5
AKTO pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 131.72 348 PKP PKPdf 18 07 20.6 -1.9
comp=Z,3.6nm,0.7s,baz=69,slow=1.4,SNR=21
KMBO Kilima Mbogo 135.32 242 SKP 18 10 10.9
comp=Z,0.9nm,0.6s,baz=48,slow=7.0,SNR=5.5
JOF Joensuu 135.44 340 *e*pkp PKPdf 18 07 28.4 -1.0
KAF Kangasniemi 137.58 341 *e*pkp PKPdf 18 07 30.5 -2.8
baz=34,slow=2.1
FINES FINESS Array B 138.18 341 PKhKP 18 07 21.9
comp=Z,0.7nm,0.5s,baz=45,slow=4.5,SNR=7.8
FINES PKP PKPdf 18 07 32.7 -1.7
comp=Z,0.9nm,0.3s,baz=69,slow=2.6,SNR=7.8
FINES SKP 18 10 16.6
comp=Z,2.5nm,0.7s,baz=45,slow=3.8,SNR=12
FINES SKPab 18 10 25.9
comp=Z,1.8nm,0.8s,baz=38,slow=7.2,SNR=4.7
FINES FINESS Array B 138.18 341 PKP 18 07 21.9
FINES PKP PKPdf 18 07 32.7 -1.7
FINES SKP 18 10 16.6
FINES SKPab 18 10 25.9
FINES FINESS Array B 138.18 341 PKHKP 18 07 21.9
FINES 18 07 32.7
FINES 18 10 25.9
KIV Kislovodsk 139.21 310⇑*i*PKIKP PKPdf 18 07 40.8 +4.5
VSU Vasula 140.25 338 *i*PKIKP PKPdf 18 07 38.4 +0.2
NB2 NORSAR Subarra 141.95 350 PKPa 18 07 35.5
comp=Z,3.5nm,0.7s,baz=15,slow=3.1
NOA NORSAR Array B 141.95 350 PKhKP 18 07 35.6
comp=Z,4.9nm,0.7s,baz=16,slow=4.9,SNR=18
**HFS Hagf

CFR	Carcaliu	148.27 319	⇓P	PKPbc	18 07 55.9	-0.2
BURAR	Bucovina Array	148.48 325	⇓P	PKPbc	18 07 56.5	-0.2
BSEG	Bad Segeberg	148.84 347	*e*PKPbc	PKPbc	18 07 56.7	-0.8
STHS	Stebnicka Huta	149.16 331	*i* PKP	PKPbc	18 07 58.4	+0.1
OJC	Ojcow	149.16 334	*e*PKP	PKPbc	18 07 57.5	-0.8
RUE	Ruedersdorf	149.34 342	*e*PKPbc	PKPbc	18 07 58.1	-0.6
MLR	Muntele Rosu	149.38 321	PKPbc	PKPbc	18 07 57.3	-1.5
comp=Z,4.3nm,0.7s,baz=82,slow=3.7,SNR=6.4						
MLR	Muntele Rosu	149.38 321	⇓P	PKPbc	18 07 58.0	-0.8
KSP	Ksiaz	149.98 338	*e*PKP	PKPbc	18 08 00.0	-0.3
KSP	Ksiaz	149.98 338	*e*PKHKP		18 07 59.9	
OKC	Ostrava-Krasne	150.12 335	*e*PKPbc	PKPbc	18 07 59.9	-0.7
DRGR		150.31 326	⇓P	PKPbc	18 08 00.3	-0.7
UPC	Upice	150.36 338	*e*PKPbc	PKPbc	18 08 00.7	-0.4
DPC	Dobruska-Polom	150.38 337	*e*PKPbc	PKPbc	18 08 01.0	-0.2
MORC	Moravsky Berou	150.40 335	⇑P	PKPbc	18 08 00.6	-0.7
CLL	Collm	150.60 342	⇓*i*PKPbc	PKPbc	18 08 00.9	-0.8
comp=Z,34nm,0.8s						
CLL			*i* PKPab	PKPab	18 08 10.1	-0.8
comp=Z,9.0nm,0.6s						
CLL			*e*pPKPbc	pPKPbc	18 10 12.8	+10
CLL	Collm	150.60 342	⇓*i*PKPbc	PKPbc	18 08 00.9	-0.8
comp=Z,33nm,0.8s						
CLL			⇑*i*PKPab	PKPab	18 08 10.1	-0.8
CLL			*ex*	x	18 08 16.0	
CLL			*e*pPKPab	pPKPab	18 10 13.0	+5.7
CLL	Collm	150.60 342	⇓*i*PKIKP	PKPbc	18 08 00.9	-0.8
CLL			*i*		18 08 10.1	
CLL			pmax	pmax		
comp=Z,33nm,0.8s						
BRG	Berggiesshubel	150.71 341	*e*PKPbc	PKPbc	18 08 01.4	-0.6
BRG	Berggiesshubel	150.71 341	*i* PKP	PKPbc	18 08 01.4	-0.5
comp=Z,14nm,0.5s						
BRG			*e*		18 10 13.1	
comp=Z,4.8nm,1.2s						
CLZ	Clausthal	150.79 346	*e*PKPbc	PKPbc	18 08 01.6	-0.5
IBBN	Ibbenburen	150.88 349	*e*PKPbc	PKPbc	18 08 02.0	-0.3
VYHS	Vyhne	150.90 332	PKP	PKPbc	18 08 02.0	-0.4
PRU	Pruhonice	151.29 339	*e*PKPbc	PKPbc	18 08 01.8	-1.5
MOX	Moxa	151.58 343	*e*PKPbc	PKPbc	18 08 02.9	-1.0
MOX	Moxa	151.58 343	*e*PKP	PKPbc	18 08 03.2	-0.7
SRO	Srobarova	151.65 332	*e*PKIKP	PKPbc	18 08 05.4	+1.3
BZS	Buzias	151.67 325	⇑P	PKPbc	18 08 03.2	-0.9
SRO1	Iza	151.72 332	*e*PKP	PKPbc	18 08 05.4	+1.2
UBBA	Unterbreizbach	151.83 345	*e*PKPbc	PKPbc	18 08 03.6	-0.9
MANZ	Manzenberg	152.04 342	*e*PKPbc	PKPbc	18 08 04.5	-0.5
ROTZ	Rotzenmuhle	152.21 342	*e*PKPbc	PKPbc	18 08 04.3	-1.0
KHC	Kasperske Hory	152.35 339	*e*PKPbc	PKPbc	18 08 05.1	-0.5
GRF	Grafenberg Arr	152.56 343	*e*PKPbc	PKPbc	18 08 05.6	-0.5
GEC2	GERESS Array S	152.56 339	*e*PKPbc	PKPbc	18 08 04.7	-1.4
GERES	GERESS Array B	152.56 339	PKPbc	PKPbc	18 08 05.2	-0.9
comp=Z,2.5nm,0.7s,baz=42,slow=2.2,SNR=18						
GERES			PKPab	PKPab	18 08 18.9	-0.2
comp=Z,0.2nm,0.3s,baz=20,slow=4.3,SNR=4.5						
GERES			pPKPbc	pPKPbc	18 10 14.2	+6.8
comp=Z,1.5nm,0.8s,baz=29,slow=3.0,SNR=6.6						
GERES	GERESS Array B	152.56 339	PKIKP	PKPbc	18 08 05.2	-0.9
GERES					18 08 18.9	
PKSM	Moragy	152.71 329	⇑P	PKPbc	18 08 05.7	-0.7
TNS	Taunus Mts	152.73 347	*e*PKPbc	PKPbc	18 08 05.9	-0.6
BAIF	Baives	153.59 352	*e*PKP2	PKPab	18 08 21.6	-1.9
CDF	Champ du Feu	154.69 347	*e*PKP2	PKPab	18 08 28.3	+0.1
HAU	Haudompre	155.26 348	*e*PKP2	PKPab	18 08 30.2	-0.5
comp=Z,8.0nm,0.6s						
GRR	Gorron	155.57 360	*e*PKP2	PKPab	18 08 27.4	-4.6
LOR	Lormes	156.38 352	*e*PKP2	PKPab	18 08 34.4	-1.1
comp=Z,4.6nm,0.6s						
SSF	Saint Saulge	156.63 352	*e*PKP2	PKPab	18 08 35.3	-1.3
comp=Z,14nm,0.7s						
AVF	Avril sur Loir	156.91 352	*e*PKP2	PKPab	18 08 36.4	-1.4
comp=Z,7.9nm,0.7s						
SMF	Signal de Mont	156.99 352	*e*PKP2	PKPab	18 08 36.8	-1.4
comp=Z,20nm,0.7s						
BGF	Bois d'Agland	157.20 353	*e*PKP2	PKPab	18 08 37.8	-1.3
TCF	Toulx Ste Croi	157.53 354	*e*PKP2	PKPab	18 08 38.4	-2.1
DBIC	Dimbokro	162.45 167	PKP	PKPdf	18 08 09.8	-0.9
comp=Z,4.7nm,1.1s,baz=215,slow=1.3,SNR=3.1						
TORD	Torodi Ar. Bea	169.00 194	PKP	PKPdf	18 08 14.9	-1.0
comp=Z,1.2nm,0.9s,baz=347,slow=0.8,SNR=4.6						

MEX 29 17:52:36.4±0.5, 1870N×10463W, h5km±10km, MD4.4, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.88	334	*i* P		Pg	17 52 51.5	-1.8
CJM				*i* S		Sg	17 53 03.1	-1.7
SFJM	Santa Fe	2.33	40	*i* P		Pn	17 53 12.2	-3.1
SFJM				*i* S		Sn	17 53 40.5	-3.8
ZIIG	Zihuatanejo	3.20	109	*i* S		Sn	17 54 02.8	-3.1
MOIG	Morelia	3.40	73	*i* P		Pn	17 53 26.8	-3.2
MOIG				*i* S		Sn	17 54 08.5	-2.2
CAIG	El Cayaco	4.47	111	*i* P		Pn	17 53 43.7	-1.1
MEIG	Mezcala	4.82	98	*i* P		Pn	17 53 45.3	-4.3
MEIG				*i* S		Sn	17 54 43.9	-2.0
ACX	Acapulco	4.85	111	*e*P		Pn	17 53 50.0	0.0
PLIG	Platanillo	4.88	93	*i* P		Pn	17 53 46.8	-3.6
PLIG				*i* S		Sn	17 54 41.9	-5.3
PPM	Popocatepetl	5.70	85	*e*P		Pn	17 54 00.8	-0.8
PPM				*i* S		Sn	17 55 03.5	-4.0
UTMO	Huajuapan	6.55	97	*i* S		Sn	17 55 27.6	-0.8
CMIG	Matias Romero	9.42	98	*i* S		Sn	17 56 35.8	-3.2

*ISCJB **29** 17:55:23.9±2.5, 48S×01×15347E±006, h60km±21km, mb4.1/11, Error ellipse: s-maj=20.9km s-min=10.1km az=13.7*
*NEIC **29** 17:55:25.0±0.7, 472S×15361E, mb4.6/4, Error ellipse: s-maj=17.2km s-min=12.7km az=213.0*
*IDC **29** 17:55:25.1±0.7, 473S×15356E, h58km±4km, mb3.7/8, mb1 3.9/10, mb1mx3.7/18, mbtmp4.1/10, MS2.6/1, Ms1 2.6/1, ms1mx2.0/22, Error ellipse: s-maj=19.7km s-min=15.0km az=84.0*

ISC 29 17:55:25.7±2.0, 48S±01×15355E±008, h63km±16km, n20, σ1°14/21, mb4.1/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.83	234	P		Pn	17 57 18.7	+1.8
5.6nm,0.3s,baz=232,slow=3.5,SNR=24								
PMG				S		Sn	17 58 42.9	-1.2
11nm,0.3s,baz=136,slow=20,SNR=13								
PMG				LR		LR	17 59 43.6	
comp=Z,44nm,21.3s,baz=183,slow=33								
PMG	Port Moresby	7.83	234	*e*Pn		Pn	17 57 18.0	+1.1
PMG				S		Sn	17 58 42.9	-1.2
PMG				LR		LR	17 59 43.6	
HNR	Honiara	7.85	126	P		Pn	17 57 15.3	-1.9
14nm,0.3s,baz=117,slow=1.9,SNR=4.8								
HNR				S		Sn	17 58 49.3	+4.6
7.1nm,0.3s,baz=253,slow=2.5,SNR=3.2								
HNR	Honiara	7.85	126	*e*Pn		Pn	17 57 16.1	-1.1
HNR				S		Sn	17 58 49.3	+4.7
DZM	Mont Dzumac	21.25	145	P		P	18 00 07.2	+0.6
2.9nm,0.5s,mb3.9,baz=297,slow=11,SNR=8.6								
WB2	Warramunga Arr	24.01	229	*e*P		P	18 00 41.0	+6.4
WRA	Warramunga Arr	24.02	229	P		P	18 00 34.7	+0.1
1.2nm,0.5s,mb3.6,baz=54,slow=10,SNR=4.8								
WRA				sP		sP	18 00 56.9	-0.4
1.7nm,0.5s,baz=53,slow=9.8,SNR=4.5								
WRA				PcP		PcP	18 04 15.0	0.0
0.8nm,0.8s,baz=59,slow=2.6,SNR=5.7								
ASAR	Alice Springs	26.67	223	P		P	18 01 00.2	+1.5
0.5nm,0.6s,mb3.2,baz=58,slow=9.0,SNR=4.8								
ASAR				sP		sP	18 01 21.3	-0.1
0.8nm,0.8s,baz=57,slow=9.1,SNR=1.9								
ASAR				PcP		PcP	18 04 21.4	+0.4
0.5nm,0.6s,baz=68,slow=2.7,SNR=5.5								
FITZ	Fitzroy Crossi	30.33	242	sP		sP	18 01 52.1	-1.9
4.6nm,0.8s,baz=86,slow=11,SNR=4.0								
RPZ	Rata Peaks	41.74	161	P		P	18 03 09.0	+0.4
8.7nm,0.6s,mb4.6,baz=329,slow=4.0,SNR=9.8								
SONM	Songino Array	66.70	327	P		P	18 06 10.7	+0.6
0.3nm,0.5s,mb3.6,baz=145,slow=6.1,SNR=3.9								
CASY	Casey	68.25	197	*e*P		P	18 06 17.1	-2.7
14nm,0.6s,mb5.2								
VNDA	Vanda	72.83	178	P		P	18 06 47.9	+0.2
2.2nm,0.7s,mb4.2,baz=336,slow=7.1,SNR=16								
VNDA	Vanda	72.83	178	*e*P		P	18 06 47.4	-0.2
1.9nm,0.6s,mb4.2								
SBA	Scott Base	73.36	177	*e*P		P	18 06 51.5	+0.8
6.8nm,1.3s,mb4.4								
MKAR	Makanchi Array	80.80	319	P		P	18 07 32.8	+0.2
0.4nm,0.5s,mb3.6,baz=90,slow=6.9,SNR=11								
MKAR				pP		pP	18 07 49.0	-1.0
0.7nm,1.0s,baz=72,slow=4.7,SNR=2.9								
MKAR				sP		sP	18 07 55.9	-1.0
0.4nm,0.5s,baz=91,slow=7.5,SNR=3.3								
ILAR	Eielson Array	81.86	22	sP		sP	18 07 58.5	-4.0
0.5nm,0.9s,baz=253,slow=5.7,SNR=3.3								
QSPA	South Pole Qui	85.18	180	*e*P		P	18 07 54.5	-0.7
4.5nm,0.7s,mb4.7								
BVAR	Borovoye Array	89.67	323	P		P	18 08 15.4	-1.3
0.7nm,0.7s,mb4.1,baz=108,slow=4.8,SNR=4.6								
BVAR				pP		pP	18 08 33.1	-1.3
0.2nm,0.4s,baz=228,slow=40,SNR=2.2								
BVAR				sP		sP	18 08 39.3	-2.0
1.6nm,0.7s,baz=102,slow=5.7,SNR=7.1								
TORD	Torodi Ar. Bea	151.01	289	PKPbc		PKPbc	18 15 11.8	+0.4
2.3nm,0.7s,baz=67,slow=2.2,SNR=12								
TORD				PKPab		PKPab	18 15 19.5	+0.4
0.8nm,0.7s,baz=80,slow=3.3,SNR=3.6								
TORD				pPKPbc		pPKPbc	18 15 29.2	-0.5
0.2nm,0.4s,baz=79,slow=37,SNR=2.2								
TORD				sPKPbc			18 15 36.0	
2.1nm,0.8s,baz=71,slow=1.9,SNR=7.3								

HLW 29 18:44:01.5, 3587N×2981E, h33km, Mb3.6, 1C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HMAT	Matruh	5.28	206	P		Pn	18 45 19.4	+1.5
SLUM		5.81	223	P		Pn	18 45 25.7	+0.4
SLUM				S		Sn	18 46 27.2	-3.6
HSAF	As Saff	6.40	166	P		Pn	18 45 34.4	+0.9
GLL	Jalalah	6.47	165	P		Pn	18 45 35.2	+0.7
SUZ		6.53	156	⇓P		Pn	18 45 36.2	+1.0
HNKL	Nakhl	6.88	148	P		Pn	18 45 40.2	+0.1
AWBH		7.57	186	⇓P		Pn	18 45 49.9	+0.5
TR2		8.17	155	P		Pn	18 45 58.1	+0.5
HFRF	Wahat Farafira	8.79	189	⇑P		Pn	18 46 06.7	+0.5

*ISCJB **29** 18:45:20.4±0.6, 3209S×004×6851W±005, h124km±6km, Error ellipse: s-maj=8.1km s-min=5.4km az=47.7*
*IDC **29** 18:45:21.4±1.4, 3207S×68.13W, h116km±8km, mb1 3.4/4, mb1mx3.3/17, mbtmp3.7/4, Error ellipse: s-maj=50.6km s-min=32.7km az=111.0*
*NEIC **29** 18:45:21.1±0.5, 3209S×6847W, h120km±6km, MD3.7(GUC), Error ellipse: s-maj=9.5km s-min=6.2km az=102.0*
*GUC **29** 18:45:21.7±0.9, 32.11S×6881W, h154km±15km, MD3.7, ML3.9*

ISC 29 18:45:21.3±0.6, 3209S±004×6851W±005, h120km±7km, n32, σ0°89/47, 9C-6D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.54	25	P		Pn	18 45 40.1	+0.6
14nm,0.3s,baz=196,slow=7.6,SNR=965								
CFAA				S		Sn	18 45 53.5	+0.3
100nm,0.3s,baz=308,slow=17,SNR=134								
MDZ	Mendoza	0.84	200	⇑*i*P		Pn	18 45 41.4	-0.4
MDZ				*i* S		Sn	18 45 55.6	-1.8
JACH	Jahuel	1.86	251	⇓*i*P		Pn	18 45 53.5	+0.5
FCH	Farellones	1.94	230	⇑*i*P		Pn	18 45 55.0	+0.9
FCH				*i* S		Sn	18 46 20.3	+1.3
FCH				AMP			18 46 23.4	
comp=E,604nm,0.4s								
PEL	Peldehue	2.12	240	⇓*i*P		Pn	18 45 56.2	0.0
PEL				*i* S		Sn	18 46 22.4	-0.5
PEL				AMP			18 46 24.4	
comp=E,675nm,0.3s								
PEL	Peldehue	2.12	240	⇓*i*P		Pn	18 45 56.2	0.0
PEL				*i* S		Sn	18 46 22.4	-0.5
CLCH	Cerro Calan	2.15	232	⇑*i*P		Pn	18 45 57.3	+0.7
CLCH				*i* S		Sn	18 46 24.1	+0.5
CLCH				AMP			18 46 26.2	
comp=N,1μm,0.6s								
CLCH				AMP			18 46 26.8	
comp=N,1μm,0.6s								
LMEL	Las Melosas	2.26	219	⇑*i*P		Pn	18 45 59.4	+1.4
LMEL				*i* S		Sn	18 46 27.1	+1.0
LMEL				AMP			18 46 33.1	
comp=N,166nm,0.5s								
LMEL	Las Melosas	2.26	219	⇑*i*P		Pn	18 45 59.4	+1.4
LMEL				*i* S		Sn	18 46 27.1	+1.0
SAN	Santiago	2.27	233	*i* S		Sn	18 46 25.9	-0.4
SAN				AMP			18 46 29.4	
comp=N,433nm,0.3s								
PCH	Pirque	2.27	227	⇑*i*P		Pn	18 45 58.8	+0.6
ROCH	El Roble	2.29	247	*e*P		Pn	18 45 58.0	-0.3
CMCH	Combarbala	2.31	293	⇓*i*P		Pn	18 45 58.7	0.0
CMCH				*i* S		Sn	18 46 27.4	0.0
CMCH				AMP			18 46 31.9	
comp=E,2μm,0.7s								
CMCH	Combarbala	2.31	293	⇓*i*P		Pn	18 45 58.7	0.0
CMCH				*i* S		Sn	18 46 27.4	0.0
ANTU	Antumapu	2.32	230	*i* S		Sn	18 46 27.6	+0.2
ANTU				AMP			18 46 32.9	
comp=E,407nm,0.4s								
RCDM	Rinconada Maip	2.39	234	*e*P		Pn	18 45 59.7	+0.1
RCDM				*i* S		Sn	18 46 28.8	-0.2
RCDM				AMP			18 46 31.2	
comp=E,533nm,0.2s								
RCDM	Rinconada Maip	2.39	234	*e*P		Pn	18 45 59.7	+0.1
RCDM				*i* S		Sn	18 46 28.8	-0.2
CHNG	Los Chungos	2.55	274	⇓*i*P		Pn	18 46 00.9	-0.8
CHNG				*i* S		Sn	18 46 30.8	-2.0
CHNG				AMP			18 46 39.1	
comp=N,310nm,0.4s								
TACH	Talagante	2.57	232	⇑*i*P		Pn	18 46 01.8	-0.2
TACH				*i* S		Sn	18 46 31.8	-1.5
CHCH	Chadas Angostu	2.57	224	*e*P		Pn	18 46 02.2	+0.2
CHCH				*i* S		Sn	18 46 32.9	-0.4
CACH	El Canelo	2.68	220	*e*P		Pn	18 46 04.2	+0.8
TLL	Tololo Astrono	2.75	314	⇑*i*P		Pn	18 46 05.3	+1.1
TLL				*i* S		Sn	18 46 37.9	+0.5
TLL				AMP			18 46 40.8	
comp=N,1μm,0.6s								
TLL	Tololo Astrono	2.75	314	⇑*i*P		Pn	18 46 05.3	+1.1
TLL				*i* S		Sn	18 46 37.9	+0.5
LSCH	La Serena	3.20	312	*e*P		Pn	18 46 10.1	-0.1
LSCH				AMP			18 46 46.3	
comp=N,835nm,0.2s								
SFDO	San Fernando	3.28	219	*e*P		Pn	18 46 10.9	-0.3
TRQA	Tornquist	8.00	140	*e*P		Pn	18 47 14.0	-0.8
LVC	Limon Verde	9.45	358	P		Pn	18 47 33.3	-1.1
comp=N,1.1nm,0.3s,baz=194,slow=8.2,SNR=14								
CPUP	Villa Florida	11.32	62	P		Pn	18 47 55.0	-4.4
comp=N,0.2nm,0.3s,baz=233,slow=15,SNR=2.4								
LPAZ	La Paz	15.74	1	P		Pn	18 48 58.5	+2.3
comp=N,0.5nm,0.3s,baz=152,slow=11,SNR=6.9								
SIV	San Ignacio	17.40	25	P		Pn	18 49 14.7	-1.8
comp=N,0.2nm,0.3s,baz=210,slow=14,SNR=3.9								
WRA	Warramunga Arr	123.82	206	PKP		PKPdf	19 04 05.1	+0.1
comp=N,0.4nm,0.7s,baz=162,slow=1.8,SNR=9.6								
ZAL	Zalesovo	151.02	33	PKPbc		PKPbc	19 05 00.5	+0.5
comp=N,1.5nm,0.5s,baz=55,slow=4.2,SNR=5.7								

*NEIC **29** 18:46:29.6, 3735N×2206E, h24km, ML3.4(ATH), After ATH.*
*CSEM **29** 18:46:29.6, 3735N×2206E, h24km, MD3.5/5, After ATH*

ATH 29 18:46:30.0, 3734N×2204E, h25km±3km, MD3.4/7, ML3.4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.18	209	*e*PB		Pb	18 46 35.1	-0.4
ITM				*e*SB		Sb	18 46 39.6	+0.5
RLS	Riolos of Patr	0.85	328	*e*PB		Pb	18 46 45.7	-0.4
RLS				*e*SN		Sn	18 47 00.3	+2.3
VLI	Veliai	0.95	131	*e*PN		Pn	18 46 47.9	+0.2
VLI				*e*SN		Sn	18 47 02.7	+2.3
VLS	Valsamata	1.42	306	*e*PN		Pn	18 46 56.5	+2.3
VLS				*e*SN		Sn	18 47 16.4	+4.3
ATH	Athens Observa	1.47	64	*e*PB		Pb	18 46 56.0	-0.7
ATH	Athens Observa	1.47	64	*e*Pn		Pn	18 46 54.0	-0.9
LKR	Lokris	1.51	30	*e*PB		Pb	18 46 56.9	-0.5
EVR	Evrytania	1.58	353	*e*PN		Pn	18 46 58.5	+2.0
EVR				*e*SN		Sn	18 47 20.3	+4.2
EVR	Evrytania	1.58	353	*e*Pn		Pn	18 46 59.8	+3.3
NEO	Neokhori	2.17	25	*e*PN		Pn	18 47 06.1	+1.5

IDC 29 18:55:23.0±2.6, 698S×6893E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.3/3, MS3.5/3, Ms1 3.5/3, ms1mx3.1/8, Error ellipse: s-maj=96.5km s-min=33.8km az=47.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	32.11	279	LR		LR	19 11 45.6	
comp=Z,64nm,20.8s,baz=91,slow=31								
LSZ	Lusaka	40.75	255	LR		LR	19 16 42.7	
comp=Z,73nm,18.8s,baz=328,slow=31								
TSUM	Tsumeb	51.28	251	LR		LR	19 22 56.2	
comp=Z,54nm,20.4s,baz=236,slow=32								
MKAR	Makanchi Array	54.84	11	P		P	19 04 54.9	0.0
0.2nm,0.8s,baz=178,slow=8.7,SNR=2.6								
BRTR	Keskin Array B	56.76	328	P		P	19 05 09.0	+0.3
0.7nm,0.9s,baz=156,slow=11,SNR=3.2								
ASAR	Alice Springs	64.33	113	P		P	19 06 01.1	+0.7
0.2nm,0.7s,baz=277,slow=6.5,SNR=4.5								

WEL 29 19:48:38.4±0.6, 3709S×17669E, h294km±8km, ML3.6/6, Error ellipse: s-maj=17.0km s-min=15.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.21	164	PN		Pn	19 49 19.2	0.0
URZ				SN		S	19 49 51.1	-0.6
MXZ	Matakaoa Point	1.37	111	PN		Pn	19 49 20.1	-0.1
MXZ				SN		S	19 49 52.6	-0.8
MWZ	Matawai	1.41	152	PN		Pn	19 49 21.1	+0.8
MWZ				SN		S	19 49 53.5	-0.3
TUVZ	Tukino	2.32	200	PN		Pn	19 49 27.9	+0.6
WNVZ	Wahianoa	2.39	201	PN		Pn	19 49 28.2	+0.3
MTVZ	Mangateitei	2.48	202	PN		Pn	19 49 29.1	+0.3
TSZ	Takapari Road	3.02	191	PN		Pn	19 49 33.3	-0.6
MRZ	Mangatainoka R	3.67	193	PN		Pn	19 49 39.4	-1.3
KIW	Kapiti Island	4.01	200	PN		Pn	19 49 42.9	-1.5

IDC 29 19:50:09.3±15.0, 2441N×14120E, h263km±154km, mb3.0/7, mb1 3.2/7, mb1mx3.1/19, mbtmp3.6/7, Error ellipse: s-maj=55.5km s-min=16.1km az=73.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	36.09	319	P		P	19 56 46.0	-0.3
0.3nm,0.6s,baz=135,slow=5.0,SNR=4.6								
WRA	Warramunga Arr	44.59	189	P		P	19 57 54.8	-0.8
0.9nm,0.5s,baz=7.3,slow=8.6,SNR=24								
ASAR	Alice Springs	48.31	189	P		P	19 58 25.9	+1.5
0.2nm,0.8s,baz=17,slow=6.8,SNR=3.3								
MKAR	Makanchi Array	51.53	311	P		P	19 58 49.0	+0.4
1.4nm,0.6s,baz=92,slow=8.5,SNR=11								
YKA	Yellowknife Ar	74.92	28	P		P	20 01 21.5	0.0
0.2nm,0.4s,baz=294,slow=5.6,SNR=4.7								
ARCES	ARCESS Array B	75.77	341	P		P	20 01 26.1	-0.3
1.1nm,0.6s,baz=59,slow=4.7,SNR=8.2								
FINES	FINESS Array B	79.95	334	P		P	20 01 48.4	-0.9
0.3nm,0.3s,baz=68,slow=5.7,SNR=7.0								

IDC 29 19:55:08.8±27.0, 2322S×17471W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.9/4, MS3.6/1, Ms1 3.6/1, ms1mx2.9/32, Error ellipse: s-maj=487.9km s-min=150.6km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.34	267	P		P	20 02 14.9	+0.5
1.5nm,0.4s,baz=96,slow=13,SNR=3.5								
STKA	Stephens Creek	39.47	248	P		P	20 02 40.0	-0.7
0.4nm,0.4s,baz=90,slow=12,SNR=2.9								
ASAR	Alice Springs	46.93	259	P		P	20 03 42.0	+0.9
0.7nm,0.4s,baz=92,slow=8.0,SNR=21								
WRA	Warramunga Arr	47.30	264	P		P	20 03 44.1	+0.2
1.0nm,0.8s,baz=102,slow=7.7,SNR=26								
FITZ	Fitzroy Crossi	55.72	263	LR		LR	20 25 25.1	
comp=Z,48nm,18.5s,baz=82,slow=33								

IDC 29 20:05:17.1±36.0, 2206S×17817W, h563km±334km, mb2.7/3, mb1 3.0/3, mb1mx2.8/13, mbtmp3.6/3, Error ellipse: s-maj=401.5km s-min=71.9km az=134.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.03	258	P		P	20 12 36.3	+0.9
1.0nm,1.0s,baz=86,slow=8.3,SNR=6.3								
WRA	Warramunga Arr	44.25	264	P		P	20 12 36.8	-0.3
0.6nm,1.1s,baz=107,slow=8.0,SNR=12								
ILAR	Eielson Array	89.87	13	P		P	20 17 15.8	-0.7
0.5nm,0.7s,baz=223,slow=5.4,SNR=5.9								
AKASG	Malin Array Be	144.29	330	PKP		PKP

MTTG	**Motta San Giov** 501nm,0.6s	1.50	77	Pg	Pg	20 20 28.9	0.0
SCLL	**Scilla** 54nm,0.4s	1.59	68	Pg	Pn	20 20 28.5	0.0
PTS	**Pantelleria** 98nm,0.3s	1.71	240	Pg	Pn	20 20 29.3	-0.9
CEL	**Celeste** 700nm,0.9s	1.72	70	Pg	Pn	20 20 30.6	+0.3
SOI	**Samo** 600nm,0.8s	1.79	77	Pg	Pg	20 20 32.8	-1.7
PLAC	**Placanica** 207nm,1.2s	2.19	69	Pg	Pn	20 20 37.8	+1.1
GRI	**Girifalco** 354nm,0.7s	2.33	60	Pg	Pn	20 20 38.5	-0.2
SERS	**Sersale** 138nm,0.6s	2.62	58	Pg	Pn	20 20 42.9	+0.3
TIP	**Timpagrande** 209nm,0.7s	2.74	56	Pg	Pn	20 20 44.6	+0.3
CUC	**Castrocucco** 104nm,0.6s	2.78	33	Pg	Pn	20 20 44.9	0.0
MGR	**Morigerati** 31nm,0.3s	2.79	28	Pg	Pn	20 20 44.6	-0.5
CMPR	**Campora** 62nm,0.5s	2.87	23	Pg	Pn	20 20 45.8	-0.3
CDRU	**Civita di Ruta** 29nm,0.4s	3.03	22	Pn	Pn	20 20 48.7	+0.4
SCHR	**S. Chirico Rap** 63nm,1.0s	3.06	34	Pg	Pn	20 20 49.5	+0.8
SGO	**Sicignano** 21nm,0.5s	3.10	21	Pg	Pn	20 20 50.1	+0.9
MCRV	**Calabrutti - M**	3.27	18	Pn	Pn	20 20 53.4	+1.8
CRAC	**Craco**	3.36	36	Pn	Pn	20 20 56.3	+3.5
GIUL	**Giuliano Di Ro** 35nm,0.6s	3.90	353	Pn	Pn	20 21 01.1	+0.8
VSL	**Villasalto** 149nm,0.6s	3.94	299	Pn	Pn	20 21 00.5	-0.4
BRT	**Bari-Castellan** 38nm,0.8s	4.12	38	Pn	Pn	20 21 03.5	+0.1
PE1	**Pezze di Greco**	4.18	41	*e*P	Pn	20 21 04.1	0.0
DGI	**Dorgali Grotta**	4.22	310	Pn	Pn	20 21 04.4	-0.3
PGF	**Pioggiola**	6.12	324	*e*Pn	Pn	20 21 32.1	+1.3
PGF	14nm,0.5s			*e*Sn	Sn	20 22 38.9	-2.0
SBF	**Sospel** 9.8nm,0.4s	7.86	324	*e*Pn	Pn	20 21 54.2	-0.5
SBF	**Sospel** 4.9nm,0.4s	7.86	324	*e*Pn	Pn	20 21 54.2	-0.5
				*e*Sn	Sn	20 23 19.5	-4.3
LMR	**La Mourre** 5.5nm,0.5s	7.94	318	*e*Pn	Pn	20 21 54.9	-0.9
LMR	**La Mourre** 2.8nm,0.5s	7.94	318	*e*Pn	Pn	20 21 54.9	-0.9
				*e*Sn	Sn	20 23 20.6	-5.2
FRF	**La Foret Royal** 1.8nm,0.4s	8.03	319	*e*Pn	Pn	20 21 56.3	-0.7
FRF				*e*Sn	Sn	20 23 23.5	-4.4
MBDF	**Montbardon**	8.83	325	*e*Pn	Pn	20 22 09.8	+1.8
SMRF	**Simiane la Rot**	8.88	318	*e*Pn	Pn	20 22 09.2	+0.6
IDI	**Anoyia** 0.3nm,0.3s,baz=307,slow=17,SNR=3.2	9.21	102	P	Pn	20 22 14.4	+1.2
IDI	0.4nm,0.3s,baz=306,slow=19,SNR=5.8			S	Sn	20 23 55.5	-1.4
ORIF	**Oris-en-Rattie**	9.39	323	*e*Pn	Pn	20 22 17.3	+1.7
LPG	**La Plagne**	9.44	328	*e*Pn	Pn	20 22 17.2	+0.8
LPL	**La Plagne**	9.47	328	*e*Pn	Pn	20 22 18.0	+1.3
DAVOX	**Davos** comp=Z,82nm,18.9s,baz=122,slow=37	9.56	343	LR	LR	20 26 00.6	
LASF	**Ste Croix**	9.90	313	*e*Pn	Pn	20 22 21.6	-1.0
VIVF	**Saint-Julien-l**	9.95	319	*e*Pn	Pn	20 22 23.3	0.0
MTLF	**Montolieu**	10.50	306	*e*Pn	Pn	20 22 30.6	-0.3
GERES	**GERESS Array B** 0.2nm,0.3s,baz=174,slow=13,SNR=8.9	11.16	360	P	Pn	20 22 40.5	+0.6
GERES	comp=Z,69nm,18.2s,baz=309,slow=44			LR	LR	20 28 05.8	
SMF	**Signal de Mont**	11.63	324	*e*Pn	Pn	20 22 46.3	0.0
HAU	**Haudompre**	11.69	334	*e*P	Pn	20 22 53.7	+6.6
HAU	**Haudompre**	11.69	334	*e*Pn	Pn	20 22 47.6	+0.5
HAU				*e*P		20 22 53.7	
MLR	**Muntele Rosu** 0.4nm,0.3s,baz=126,slow=19,SNR=4.6	11.95	45	P	Pn	20 22 52.9	+2.2
AVF	**Avril sur Loir**	11.96	323	*e*Pn	Pn	20 22 51.4	+0.5
RJF	**Les Rejaudoux**	11.97	313	*e*Pn	Pn	20 22 50.7	-0.3
TCF	**Toulx Ste Croi**	12.19	319	*e*Pn	Pn	20 22 54.0	0.0
ESDC	**Sonseca Array** 0.1nm,0.3s,baz=93,slow=15,SNR=2.9	14.06	284	P	Pn	20 23 25.2	+5.8
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=280,slow=8.6,SNR=2.1	15.59	76	P	Pn	20 23 39.2	-0.9
MDT	**Midelt** 0.1nm,0.3s,baz=27,slow=4.8,SNR=5.3	15.84	258	P	Pn	20 23 48.8	+5.5
MDT	comp=Z,86nm,18.5s,baz=39,slow=39			LR	LR	20 30 29.1	
AKASG	**Malin Array Be** 0.4nm,0.3s,baz=229,slow=12,SNR=7.7	17.02	35	P	Pn	20 23 58.8	+0.5
SOC	**Sochi** 20nm,1.3s	20.46	65	*e*P	P	20 24 40.6	+2.5
SOC	**Sochi** comp=Z,20nm,1.3s	20.46	65	*e*P	P	20 24 40.6	+2.5
SOC				pmax	pmax		
EKA	**Eskdalemuir Ar** comp=Z,1.9nm,0.8s,mb3.5,baz=147,slow=10,SNR=5.5	21.09	332	P	P	20 24 46.0	+1.2
HFS	**Hagfors** comp=Z,4.0nm,0.7s,mb3.9,baz=170,slow=12,SNR=7.0	22.48	360	P	P	20 24 58.5	-1.2
NB2	**NORSAR Subarra** comp=Z,2.3nm,0.9s,mb3.6,baz=173,slow=10	23.44	357	P	P	20 25 08.1	-1.8
NB2	**NORSAR Subarra** 0.2nm,0.9s,mb3.5	23.44	357	P	P	20 25 08.1	-1.8
NB2				pmax	pmax		
NOA	**NORSAR Array B** comp=Z,1.4nm,0.8s,mb3.5,baz=186,slow=12,SNR=3.8	23.44	357	P	P	20 25 09.3	-0.6
FINES	**FINESS Array B** comp=Z,0.8nm,0.4s,mb3.6,baz=185,slow=8.9,SNR=10	24.99	14	P	P	20 25 22.8	-1.4
ARCES	**ARCESS Array B** comp=Z,0.8nm,0.7s,mb3.8,baz=181,slow=9.0,SNR=3.0	32.54	8	P	P	20 26 29.6	-1.9
JMIC	**Jan Mayen** comp=Z,45nm,21.4s,MS3.2,baz=250,slow=38	35.36	348	LR	LR	20 42 34.8	
MKAR	**Makanchi Array** comp=Z,0.3nm,0.7s,mb3.5,baz=283,slow=7.9,SNR=5.2	50.02	57	P	P	20 28 54.0	-1.0
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.7s,mb3.3,baz=41,slow=5.6,SNR=7.2	71.94	338	P	P	20 31 22.6	-1.3

*ISCJB **29** 20:34:09.0±1.3, 13.1N±0.1×1437E±02, h145km±13km, mb3.5/11, Error ellipse: s-maj=31.6km s-min=15.3km az=25.4*
*IDC **29** 20:34:11.0±1.0, 13.14N×14382E, h149km±10km, mb3.4/8, mb1 3.7/8, mb1mx3.6/20, mbtmp3.8/8, Error ellipse: s-maj=27.8km s-min=15.1km az=106.0*
*NEIC **29** 20:34:11.0±1.1, 13.13N×14377E, h150km±11km, mb3.9/2, Error ellipse: s-maj=23.4km s-min=12.5km az=102.0*
ISC 29 20:34:10.8±1.1, 1314N±010×1438E±02, h147km±12km, n14, σ0°87/16, mb3.5/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 58nm,0.3s,baz=182,slow=4.5,SNR=37	1.15	67	P	Pn	20 34 37.4	+0.7
GUMO	146nm,0.3s,baz=10,slow=23,SNR=34			S	Sn	20 34 56.3	0.0
GUMO	**Guam**	1.15	67	*e*P	Pn	20 34 37.2	+0.6
GUMO				*e*S	Sn	20 34 55.4	-0.9
WRAB	**Tennant Creek** 2.6nm,0.7s,mb4.1	34.15	196	*e*P	P	20 40 41.4	-0.4
WB2	**Warramunga Arr**	34.16	196	*e*P	P	20 40 41.8	-0.1
WRA	**Warramunga Arr** 0.9nm,0.5s,mb3.8,baz=17,slow=9.3,SNR=15	34.16	196	P	P	20 40 41.5	-0.4
ASAR	**Alice Springs** 0.3nm,0.5s,mb3.2,baz=18,slow=12,SNR=11	37.84	195	P	P	20 41 13.7	+0.5
SONM	**Songino Array** 0.2nm,0.6s,mb2.9,baz=144,slow=5.7,SNR=3.4	46.49	326	P	P	20 42 23.7	+0.5
MKAR	**Makanchi Array** 0.2nm,0.4s,mb3.3,baz=95,slow=9.0,SNR=6.5	61.07	316	P	P	20 44 09.9	+0.8
KURK	**Kurchatov** 0.6nm,0.7s,mb3.5	64.24	320	*e*P	P	20 44 30.1	-0.1
ILAR	**Eielson Array** 0.2nm,0.5s,mb3.1,baz=250,slow=5.9,SNR=6.9	69.42	25	P	P	20 45 01.2	-1.7
YKA	**Yellowknife Ar** 0.5nm,0.4s,mb3.6,baz=286,slow=5.1,SNR=9.9	83.74	27	P	P	20 46 23.3	-0.1
NEW	**Newport** 1.7nm,0.5s,mb4.1,baz=10,slow=1.5,SNR=3.7	86.27	41	P	P	20 46 36.5	+0.6
NVAR	**Mina Array Bea** 1.0nm,0.6s,mb3.8,baz=259,slow=7.1,SNR=9.0	88.03	51	P	P	20 46 46.1	+1.7
FINES	**FINESS Array B** 0.3nm,0.5s,mb3.6,baz=57,slow=5.1,SNR=4.9	91.11	335	P	P	20 46 57.2	-1.6

*ISCJB **29** 20:41:26.6±4.5, 372S±010×1400E±04, h14km±25km, mb3.4/2, Error ellipse: s-maj=68.4km s-min=15.6km az=9.4*
*IDC **29** 20:41:26.6±3.8, 350S×140.14E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.7/11, mbtmp3.6/4, MS2.6/1, Ms1 2.6/1, ms1mx2.1/15, Error ellipse: s-maj=136.0km s-min=27.9km az=95.0*
*NEIC **29** 20:41:30.1±2.2, 396S×140.97E, h60km, mb4.2/2, Error ellipse: s-maj=76.4km s-min=12.9km az=96.0*
ISC 29 20:41:31.0±3.9, 39S±01×1403E±05, h42km±27km, n13, σ0°92/11, mb3.4/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 14nm,0.4s	11.71	221	*e*P	Pn	20 44 14.5	-0.8
WRAB	**Tennant Creek** 13nm,0.8s	16.98	199	*e*P	Pn	20 45 25.0	-0.3
WB2	**Warramunga Arr**	16.99	199	*e*P	Pn	20 45 25.6	+0.2
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=16,slow=13,SNR=22	16.99	199	Pn	Pn	20 45 26.1	+0.6
WRA	0.2nm,0.3s,baz=9.5,slow=23,SNR=3.9			Sn	Sn	20 48 23.4	-10
WRA	0.1nm,0.3s,baz=25,slow=29,SNR=2.8			Lg		20 50 30.4	
GUMO	**Guam** comp=Z,23nm,21.3s,baz=188,slow=35	17.93	15	LR	LR	20 51 45.1	
FITZ	**Fitzroy Crossi** 32nm,1.9s	20.13	224	*e*P	P	20 46 04.3	+3.0
FITZ	**Fitzroy Crossi** 2.2nm,0.7s,baz=50,slow=16,SNR=3.7	20.13	224	P	P	20 46 04.2	+2.9
ASAR	**Alice Springs** 3.3nm,0.6s,baz=26,slow=9.3,SNR=65	20.62	197	P	P	20 46 11.2	+4.6
ASAR	0.9nm,0.7s,baz=8.5,slow=28,SNR=4.5			S	S	20 49 53.9	-1.0
SONM	**Songino Array** 0.4nm,0.9s,mb3.1,baz=139,slow=8.6,SNR=2.5	59.42	334	P	P	20 51 29.0	-0.2
MKAR	**Makanchi Array** 0.2nm,0.5s,mb3.4,baz=120,slow=5.7,SNR=5.7	71.64	322	P	P	20 52 47.9	-0.3
RKT	**Rikitea** 129nm,25.0s	83.69	113	*e*LR	LR	20 53 11.8	
DBIC	**Dimbokro** 1.5nm,0.5s,baz=78,slow=3.2,SNR=5.0	145.16	276	PKPbc	PKPbc	21 01 05.2	+1.8
DBIC	**Dimbokro**	145.16	276	PKPbc	PKPbc	21 01 05.2	+1.8

*ISCJB **29** 21:19:31.4±0.8, 3547N±003×2779E±005, h9km±6km, Error ellipse: s-maj=7.1km s-min=5.1km az=22.2*
*ATH **29** 21:19:31.7, 3549N×2782E, h8km±4km, MD3.4/3*
*CSEM **29** 21:19:32.0±0.1, 3547N×2780E, h20km, MD3.5, Error ellipse: s-maj=3.2km s-min=1.9km az=90.0*
*ISK **29** 21:19:34.1, 3558N×2763E, h64km, MD3.5*
*HLW **29** 21:19:35.7, 3540N×2787E, h19km, Mb3.4*
ISC 29 21:19:33.2±0.8, 3554N±003×2775E±005, h13km±6km, n25, σ1°00/33, 2C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	0.48	271	*e*PB	Pg	21 19 41.9	-0.7
KARP				*e*SB	Sg	21 19 49.9	+1.0
ARG	**Arkhangelos**	0.74	24	*e*PB	Pg	21 19 46.5	-1.1
ARG				*e*SB	Sg	21 19 57.0	-0.4
DAT	**Datca**	1.20	354	PN	Pn	21 19 54.7	-0.9
DAT				SN	Sn	21 20 10.5	-1.2
BDRM	**Kayabasi**	1.54	351	*i* P	Pn	21 19 59.9	-0.5
BDRM				*i* S	Sn	21 20 19.7	-0.6
BODT	**Bodrum**	1.56	347	*e*PN	Pn	21 19 59.4	-1.2
YER	**Yerkesik**	1.65	15	*e*PN	Pn	21 20 02.4	+0.5
MLSB	**Milas**	1.75	1	*e*PN	Pn	21 20 02.8	-0.5
NPS	**Neapolis**	1.77	262	*e*PN	Pn	21 20 05.1	+1.7
AYDN	**Tasoluk**	2.12	3	*i* P	Pn	21 20 09.9	+1.6
AYDN				*i* S	Sn	21 20 39.6	+5.0
ELL	**Elmali**	2.13	55	*e*PN	Pn	21 20 09.7	+1.3
GOLH	**Golhisar**	2.24	40	*i* P	Pn	21 20 11.5	+1.6
GOLH				*i* S	Sn	21 20 42.2	+4.8
APE	**Apeiranthos**	2.35	311	*e*PN	Pn	21 20 10.8	-0.7
DENT	**Denizli**	2.44	25	*e*PN	Pn	21 20 13.0	+0.3
BCK	**Bucak**	2.99	49	*e*PN	Pn	21 20 21.3	+1.1
MANT	**Manisa**	3.02	12	*i* P	Pn	21 20 23.7	+3.1
MANT				*i* S	Sn	21 21 01.3	+4.6
MANT	**Manisa**	3.02	12	*i* S	Sn	21 21 01.3	+4.6
KHL	**Karahalli**	3.12	27	*e*PN	Pn	21 20 22.4	+0.3
AKS	**Akhisar**	3.34	1	*e*PN	Pn	21 20 25.5	+0.5
HMAT	**Matruh**	4.46	187	⇑P	Pn	21 20 39.9	-0.6
SLUM		4.56	208	P	Pn	21 20 42.0	+0.2
SLUM				S	Sn	21 21 30.3	-4.3
SWA2		6.57	198	⇑P	Pn	21 21 09.6	+0.1
AMAG	**Maghara**	6.69	135	⇓P	Pn	21 21 09.8	-1.4
SUZ		7.12	142	P	Pn	21 21 16.5	-0.5
ZAF		7.44	146	P	Pn	21 21 20.9	-0.5

*IDC **29** 21:35:54.8±6.9, 3621N×7087E, h166km±62km, mb3.1/7, mb1 3.2/9, mb1mx3.1/23, mbtmp3.6/9, Error ellipse: s-maj=33.2km s-min=22.3km az=17.0*
*ISCJB **29** 21:35:60.0±1.3, 3654N±008×709E±0.1, h221km±14km, mb3.1/6, Error ellipse: s-maj=22.3km s-min=6.6km az=113.9*
*NEIC **29** 21:36:00.6±2.7, 3648N×7097E, h211km±30km, mb3.4/2, Error ellipse: s-maj=32.4km s-min=10.5km az=59.0*
*NNC **29** 21:36:08.0±6.4, 37.14N×7074E, h172km±90km, mb2.8, mpv3.6, Error ellipse: s-maj=66.1km s-min=44.0km az=30.0*
ISC 29 21:36:01.5±1.2, 3657N±008×710E±01, h220km±13km, n27, σ0°97/29, mb3.1/6, 2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	5.74	133	*e*P	S	21 38 34.0	+1.4
AML	**Almayashu** SNR=98	5.93	20	P	Pn	21 37 27.6	-0.5
UCH	**Uchtor** SNR=22	6.26	25	P	Pn	21 37 32.2	-0.2
KZA	**Kyzart** SNR=6.4	6.41	30	P	Pn	21 37 33.5	-0.6
EKS2	**Erkin-Say** SNR=8.4	6.45	19	P	Pn	21 37 34.8	+0.1
KK31	**Karatay Array** 2.9nm,0.5s,baz=177,slow=12,SNR=74	6.53	357	P	Pn	21 37 34.2	-1.5
KK31	1.9nm,0.4s,baz=179,slow=22,SNR=4.0			⇓S	S	21 38 42.8	-8.1
AAK	**Ala-Archa** SNR=13	6.62	23	P	Pn	21 37 36.9	0.0
KBK	**Karagaybulak** SNR=5.4	6.79	25	P	Pn	21 37 39.3	+0.2
TKM2	**Tokmak 2** SNR=6.4	7.26	28	P	Pn	21 37 45.0	-0.1
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=219,slow=12,SNR=11	13.23	36	P	Pn	21 39 01.2	+0.2
KOLN	**Koldanda** 3.1nm,0.6s	13.80	126	*e*P	Pn	21 39 06.3	-1.9
GKN	**Gorkha** 8.9nm,0.6s	14.34	123	*e*P	Pn	21 39 15.3	+0.6
DMN	**Daman**	14.91	123	*e*P	Pn	21 39 18.8	-2.9
KKN	**Kakani** 6.5nm,0.5s	14.91	122	*e*P	Pn	21 39 20.9	-0.8
AB31	**Akbulak array** 0.8nm,0.5s,baz=141,slow=13,SNR=13	15.02	331	P	Pn	21 39 24.4	+1.4
AB31	0.4nm,0.7s			⇓S	S	21 42 04.4	-4.9
GUN	**Gumba**	15.25	120	*e*P	Pn	21 39 28.2	+2.4
JIRN	**Jiri** 3.7nm,0.3s	15.62	120	*e*P	Pn	21 39 30.6	+0.3
ZRNK	**Zerenda** 0.5nm,0.6s	16.44	356	P	P	21 39 39.2	+0.4
AKTK	**Aktyubinsk**	16.72	330	P	P	21 39 42.5	+0.6
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=136,slow=12,SNR=4.8	16.72	330	P	P	21 39 42.5	+0.6
ZAL	**Zalesovo** 1.3nm,0.3s,baz=229,slow=7.0,SNR=5.4	19.83	25	P	P	21 40 15.7	+0.1
FINES	**FINESS Array B** 0.4nm,0.4s,mb3.4,baz=115,slow=13,SNR=6.0	37.42	326	P	P	21 42 53.7	+0.3
ARCES	**ARCESS Array B** 0.8nm,0.5s,mb3.4,baz=110,slow=9.2,SNR=7.0	41.08	338	P	P	21 43 24.1	+0.5
NOA	**NORSAR Array B** 0.9nm,0.8s,mb3.2,baz=93,slow=8.2,SNR=3.3	44.32	323	P	P	21 43 49.0	-0.6
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,mb3.1,baz=51,slow=6.3,SNR=15	65.72	269	P	P	21 46 21.1	-1.5
YKA	**Yellowknife Ar** 0.1nm,0.4s,mb2.8,baz=357,slow=5.5,SNR=3.9	81.17	3	P	P	21 47 53.5	+1.0
WRA	**Warramunga Arr** 0.2nm,0.6s,mb2.9,baz=326,slow=4.9,SNR=4.0	82.03	122	P	P	21 47 56.2	-0.8

*BJI **29** 21:37:27.5, 5162N×16092E, h8km, mB4.9, mb4.4, Ms4.5, Msz4.2*
*IDC **29** 21:37:28.4±0.8, 5161N×16106E, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.9/25, mbtmp4.0/13, Error ellipse: s-maj=27.1km s-min=17.1km az=155.0*
*NEIC **29** 21:37:29.7±0.4, 5158N×161.11E, h10km, mb4.5/4, Error ellipse: s-maj=12.3km s-min=8.3km az=145.0*
*KRSC **29** 21:37:30.4±0.6, 5155N×16134E, h38km±11km, ML4.1*
*ISCJB **29** 21:37:32.0±0.8, 5165N±005×161.18E±006, h40km±7km, mb4.2/23, MS4.0/3, Error ellipse: s-maj=8.6km s-min=5.3km az=132.9*
*MOS **29** 21:37:32.1±0.9, 5168N×161.12E, h38km, mb4.5/5, Error ellipse: s-maj=17.6km s-min=7.5km az=93.0*
ISC 29 21:37:33.3±0.9, 5162N±005×16114E±006, h37km±7km, h8km±6.0km; pP-P, n74, σ0°93/94, mb4.2/23, MS4.0/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	1.63	336	P	Pn	21 37 57.7	-1.7
SPN				S	Sn	21 38 16.9	-2.3
SPN	**Mys Shipunski**	1.63	336	*i* P	Pn	21 37 57.7	-1.7
SPN				*i* S	Sn	21 38 16.8	-2.4
RUS	**Russkaya**	1.81	298	P	Pn	21 38 01.2	-0.8
RUS				S	Sn	21 38 23.1	-0.6
RUS	**Russkaya**	1.81	298	*e*P	Pn	21 38 01.2	-0.8
RUS				*i* S	Sn	21 38 23.5	-0.2
NLC	**Nalytchevo**	1.90	325	P	Pn	21 38 02.5	-0.7
NLC				S	Sn	21 38 25.3	-0.6
NLC	**Nalytchevo**	1.90	325	*i* P	Pn	21 38 02.4	-0.8
NLC				*i* S	Sn	21 38 25.2	-0.7
PET	**Petropavlovsk**	2.07	314	P	Pn	21 38 04.3	-1.2
PET				S	Sn	21 38 28.9	-1.2
PET	**Petropavlovsk**	2.07	314	*e*P	Pn	21 38 05.1	-0.4
PET				*e*S	Sn	21 38 29.7	-0.4
PET	**Petropavlovsk**	2.07	314	*e*PN	Pn	21 38 05.3	-0.2
PET				*e*S	Sn	21 38 29.6	-0.5
PET	comp=Z,83nm,0.5s			pmax	pmax		
PET	comp=N,40nm,0.6s			pmax	pmax		
PET	comp=N,410nm,0.9s			smax			
PET	comp=E,393nm,0.7s			smax			
PET	comp=Z,500nm,17.0s			MLR	MLR		
GRL	**Gorelyy**	2.11	297	*e*P	Pn	21 38 07.0	+1.0
UGLR	**Uglovaya**	2.13	319	*e*P	Pn	21 38 07.0	+0.7
SDLR	**Sedlovina**	2.16	321	*i* P	Pn	21 38 06.7	0.0
SMAR	**Somma**	2.18	320	*e*P	Pn	21 38 07.1	+0.1
AVH	**Avacha**	2.21	319	*e*P	Pn	21 38 07.6	+0.2
KRMR	**Karymshinskiy**	2.21	304	*i* P	Pn	21 38 07.3	-0.1
KRMR				*e*S	Sn	21 38 33.9	+0.4
KOK	**Koryaka**	2.27	319	*e*P	Pn	21 38 09.4	+1.2
PAU	**Pauzhetka**	2.71	268	*e*P	Pn	21 38 14.2	0.0
PAU				*e*S	Sn	21 38 45.6	-0.1
PAU				Smax			
MIPR	**Malaya Ipel'ka** comp=Z,200nm,0.8s	2.79	285	*e*P	Pn	21 38 15.9	+0.5
GNL	**Ganaly**	2.85	318	*e*P	Pn	21 38 17.2	+1.0
GNL				*e*S	Sn	21 38 51.3	+2.1
MKZ	**Mys Kozlova**	2.96	7	P	Pn	21 38 15.7	-2.0
MKZ				S	Sn	21 38 48.0	-4.0
MKZ	**Mys Kozlova**	2.96	7	*i* P	Pn	21 38 15.7	-2.0
MKZ				*e*S	Sn	21 38 48.5	-3.5
TUMR	**Tumrok**	3.72	351	*i* P	Pn	21 38 28.5	+0.4
KPT	**Kopyto**	4.39	353	*e*P	Pn	21 38 38.2	+0.9
ZLN	**Zelenaya**	4.41	358	*i* P	Pn	21 38 37.9	+0.3
LGNR	**Loginova**	4.48	357	*e*P	Pn	21 38 39.4	+0.8
KOZ	**Kozyrevsk**	4.51	351	P	Pn	21 38 40.1	+1.1
KOZ				S	Sn	21 39 30.6	+0.4
KOZ	**Kozyrevsk**	4.51	351	*e*P	Pn	21 38 40.0	+1.0
CIRR	**Tsirk**	4.51	357	*e*P	Pn	21 38 39.4	+0.4
KOZR	**Kozyr**	4.51	351	PN	Pn	21 38 40.1	+1.0
KOZR				S	Sn	21 39 30.6	+0.3
ESO	**Esso**	4.55	342	*e*P	Pn	21 38 41.0	+1.5
BKI	**Bering**	4.61	37	*i* P	Pn	21 38 37.8	-2.6
BKI				*i* S	Sn	21 39 26.0	-6.6
BKI				Smax			
KRSR	**Krestovskiy** comp=Z,250nm,0.6s	4.62	356	*e*P	Pn	21 38 40.5	0.0
KBTR	**Krutoberegovo**	4.70	12	P	Pn	21 38 40.0	-1.7
KBTR				S	Sn	21 39 30.5	-4.4
KBTR	**Krutoberegovo**	4.70	12	*i* P	Pn	21 38 40.0	-1.7
SRDR	**Sredinnyy**	4.78	350	*e*P	Pn	21 38 43.0	+0.3
BDR	**Baidarnaya**	4.96	0	*e*P	Pn	21 38 45.5	+0.3
SMKR	**Semkarok**	4.97	2	*i* P	Pn	21 38 45.3	-0.1
SRKR	**Sorokina**	5.04	0	*e*P	Pn	21 38 46.2	-0.1
BILL	**Bilibino** comp=Z,5.6nm,0.8s	16.66	7	*e*P	Pn	21 41 24.6	+0.8
BILL	**Bilibino** comp=Z,6.0nm,0.8s	16.66	7	*e*P	Pn	21 41 24.7	+0.8
BILL				pmax	pmax		
MDJ	**Mudanjiang**	22.07	264	P	P	21 42 23.5	-1.4
MDJ				AP		21 42 26.3	
MDJ				XP	sP	21 42 27.5	-12
MDJ				PCP	PcP	21 46 21.0	-0.7
MDJ				S	S	21 46 27.5	+1.3
MDJ				XS	sS	21 46 32.0	-10
MDJ				SCP	ScP	21 49 58.5	+2.4
MDJ				PCS	PcS	21 49 59.8	-0.5
MDJ				SCS	ScS	21 53 42.5	+1.6
MDJ				AMB	AMB		
MDJ	comp=Z,19nm,2.4s,mb4.1			AMB	AMB		
MDJ	comp=Z,210nm,4.5s			LR	LR		
MDJ	comp=N,185nm,34.2s,MS3.4			LR	LR		
MDJ	comp=E,163nm,30.8s,MS3.4			LR	LR		
MDJ	comp=Z,239nm,18.2s						
TIXI	**Tiksi** comp=Z,4.0nm,0.8s,mb4.0	24.69	336	*e*P	P	21 42 49.8	-0.9
TIXI				pmax	pmax		
CN2	**Changchun**	25.05	266	*e*P	P	21 42 53.8	-0.2
TTA	**Tatalina** comp=Z,13nm,1.0s,mb4.4	25.26	47	*e*P	P	21 42 55.9	-0.1
TTA	**Tatalina** comp=Z,13nm,1.0s,mb4.4	25.26	47	*e*P	P	21 42 55.9	0.0
TTA				pmax	pmax		
KDAK	**Kodiak Island** comp=Z,5.5nm,0.7s,mb4.2,baz=156,slow=6.2,SNR=3.9	26.99	59	P	P	21 43 10.3	-1.3
KDAK	**Kodiak Island**	26.99	59	P	P	21 43 10.3	-1.3
PMR	**Palmer** comp=

comp=E,181nm,5.1s
HHC LR LR
comp=Z,106nm,5.1s
NJ2 Nanjing 36.43 254 *e*P **P** 21 44 34.8 +0.5
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
LZH Lanzhou 43.00 272 *e*P **P** 21 45 27.5 -1.5
LZH AP pP 21 45 30.8 -8.8
LZH XP sP 21 45 32.3 -12
LZH PP PP 21 47 09.8 +0.6
LZH AMB AMB
comp=Z,19nm,1.5s,mb4.6
LZH AMB AMB
comp=Z,51nm,6.1s
LZH LR LR
comp=N,297nm,14.2s
LZH LR LR
comp=Z,359nm,18.3s,MS4.3
YKA Yellowknife Ar 43.83 42 P **P** 21 45 36.0 +0.4
comp=Z,0.9nm,0.7s,mb3.6,baz=298,slow=8.1,SNR=15
RES Resolute Bay 44.46 22 *e*P **P** 21 45 41.0 +0.3
CD2 Chengdu 46.49 267 *e*P **P** 21 45 54.8 -2.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
WMQ Urumqi 48.08 291 *e*P **P** 21 46 10.0 +0.8
WMQ AP pP 21 46 14.5 -5.4
WMQ XP sP 21 46 17.0 -7.3
WMQ AMB AMB
comp=Z,4.0nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,32nm,4.6s
WMQ LR LR
comp=N,333nm,22.4s
WMQ LR LR
comp=Z,321nm,22.0s,MS4.3
MKAR Makanchi Array 49.39 297 P **P** 21 46 18.8 -0.4
comp=Z,0.3nm,0.6s,mb3.5,baz=52,slow=7.1,SNR=6.3
YBH Yreka Blue Hor 50.94 69 P **P** 21 46 32.2 +1.3
comp=Z,1.6nm,0.7s,mb4.0,baz=187,slow=5.1,SNR=3.7
CHKZ Chkalovo 51.31 310 *e*P **P** 21 46 33.2 -0.6
comp=Z,3.1nm,0.6s,mb4.4
CHKZ Chkalovo 51.31 310 *e*P **P** 21 46 33.2 -0.6
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BVAR Borovoye Array 51.82 310 P **P** 21 46 37.7 +0.2
comp=Z,1.9nm,0.7s,mb4.2,baz=57,slow=6.7,SNR=12
NVAR Mina Array Bea 55.65 70 P **P** 21 47 07.4 +1.8
comp=Z,1.6nm,0.6s,mb4.2,baz=294,slow=8.1,SNR=12
PDAR Pinedale Array 57.69 61 P **P** 21 47 21.4 +1.4
comp=Z,1.8nm,0.7s,mb4.2,baz=314,slow=3.3,SNR=18
ULM Lac du Bonnet 59.37 47 P **P** 21 47 31.4 -0.3
comp=Z,0.7nm,0.3s,mb4.1,baz=69,slow=2.7,SNR=3.5
FINES FINESS Array B 61.73 337 P **P** 21 47 48.1 +0.3
comp=Z,0.3nm,0.6s,mb3.6,baz=39,slow=12,SNR=3.9
WRAB Tennant Creek 75.01 206 *e*P **P** 21 49 11.0 +0.1
WRA Warramunga Arr 75.03 206 P **P** 21 49 10.7 -0.3
comp=Z,2.4nm,1.2s,mb4.0,baz=22,slow=5.7,SNR=4.8
ASAR Alice Springs 78.69 205 P **P** 21 49 32.4 +0.8
comp=Z,0.5nm,0.7s,mb3.5,baz=15,slow=5.4,SNR=5.1

FUNV 29 21:42:31.4, 915N×7009W, h0km, MW3.8, 2C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANV	**Sanarito**	**0.65**	**58**	*e*P	Pg	21 42 43.2	-0.7
SANV				*e*S	Sg	21 42 52.1	-0.2
QARV	**Quebrada Arrib**	**1.13**	**338**	*e*P	Pg	21 42 52.4	-0.7
QARV				*e*S	Sg	21 43 08.5	+0.7
SOCV	**Socops**	**1.14**	**221**	*e*P	Pg	21 42 52.5	-0.8
SOCV				*e*S	Sg	21 43 08.9	+0.7
TEPV	**Terepaima**	**1.20**	**48**	*e*P	Pg	21 42 53.0	-1.5
TEPV				*e*S	Sg	21 43 09.8	-0.2
VIGV	**El Vigia**	**1.29**	**256**	⇓*i*P	Pg	21 42 55.5	-0.7
VIGV				*e*S	Sg	21 43 12.4	-0.5
SIQV	**Siquisique**	**1.52**	**11**	⇑*i*P	Pn	21 42 58.9	-0.9
SIQV				*e*S	Sg	21 43 20.8	+0.7
DABV	**Dabajuro**	**1.84**	**343**	*e*P	Pn	21 43 05.0	+0.8
DABV				*e*S	Sn	21 43 28.4	+0.2
JACV	**Jacura**	**2.29**	**33**	*e*P	Pn	21 43 10.7	+0.2
CAPV	**Capacho**	**2.54**	**240**	*e*P	Pn	21 43 14.2	+0.3
TURV	**Turiamo**	**2.57**	**60**	⇑*e*P	Pn	21 43 14.3	0.0
VIRV	**Villa del Rosa**	**2.65**	**301**	⇓*i*P	Pn	21 43 14.0	-1.3
VIRV				*e*S	Sn	21 43 46.2	-1.8
MONV	**Montecano**	**2.79**	**2**	*e*P	Pn	21 43 17.0	-0.3
MERV	**Las Mercedes**	**3.75**	**88**	*e*P	Pn	21 43 29.2	-1.3
BIRV	**Birongo**	**3.99**	**70**	⇓*e*P	Pn	21 43 33.6	-0.2
BIRV				*e*S	Sn	21 44 18.8	-2.5
CUPV	**Cœpira**	**4.34**	**78**	*e*P	Pn	21 43 37.8	-0.8
PCRV	**Puerto La Cruz**	**5.48**	**79**	*e*P	Pn	21 43 53.2	-1.0

IDC ***29*** *21:48:47.4±1.2, 3682N×2375E, h0km, mb3.7/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.7/4, Error ellipse: s-maj=26.2km s-min=21.0km az=111.0*
CSEM ***29*** *21:48:49.3±0.1, 3683N×2382E, h2km, ML3.4, Error ellipse: s-maj=2.8km s-min=1.6km az=69.0*
NEIC ***29*** *21:48:49.4, 3682N×2377E, h7km, ML3.4(ATH), After ATH.*
ISCJB ***29*** *21:48:50.4±0.6, 3685N±002×2372E±003, h16km±6km, mb3.5/4, Error ellipse: s-maj=4.8km s-min=3.1km az=107.0*
ATH ***29*** *21:48:50.3, 3684N×2371E, h23km±1km, MD3.6/13, ML3.4*
THE ***29*** *21:48:52.8, 3686N×2378E, h21km, ML3.6*
HLW ***29*** *21:49:05.7, 3585N×2540E, h25km, Mb3.3*
ISC 29 21:48:49.0±0.6, 3685N±002×2376E±003, h2km±4km, n49, σ1§22/67, mb3.5/4, 2C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.68**	**259**	*e*PB	Pg	21 49 02.1	+0.2
VLI				*e*SN	Sg	21 49 11.8	+1.1
KYTH	**Kithira**	**0.81**	**226**	*e*PN	Pg	21 49 05.3	+0.7
NAIG	**Nisos Aigina**	**0.93**	**347**	*e*PN	Pn	21 49 08.5	-0.6
KVR	**Kavouri**	**0.98**	**0**	*e*PN	Pn	21 49 09.0	-0.7
ATH	**Athens Observa**	**1.12**	**358**	*e*PB	Pb	21 49 10.9	-0.2
ATH				*e*SN	Sn	21 49 27.9	+0.2
ATH	**Athens Observa**	**1.12**	**358**	*e*Pb	Pb	21 49 11.4	+0.3
PTL	**Penteli**	**1.20**	**4**	*e*PN	Pn	21 49 14.0	+1.2
PTL	**Penteli**	**1.20**	**4**	*e*Pn	Pn	21 49 12.0	-0.8
MGER	**Gerania Oros**	**1.20**	**341**	*e*PN	Pn	21 49 12.5	-0.3
MGER	**Gerania Oros**	**1.20**	**341**	*e*Pn	Pn	21 49 12.0	-0.8
APE	**Apeiranthos**	**1.43**	**81**	*e*PN	Pn	21 49 18.6	+2.6
APE				*e*SN	Sn	21 49 37.0	+1.6
APE	**Apeiranthos**	**1.43**	**81**	*e*Pg	Pg	21 49 15.7	-0.8
APE				*e*Sg	Sg	21 49 33.8	-1.3
APE	**Apeiranthos**	**1.43**	**81**	*e*Pg	Pg	21 49 16.0	-0.5
APE				*e*Sg	Sg	21 49 33.8	-1.3
SANT	**Santorini**	**1.45**	**109**	*e*P	Pn	21 49 18.9	+2.8
SANT				*e*S	Sg	21 49 37.6	+2.1
VAM	**Vamos**	**1.48**	**166**	*e*PN	Pn	21 49 18.2	+1.6
VAM				*e*SN	Sn	21 49 37.3	+0.8
VAM	**Vamos**	**1.48**	**166**	*e*Pg	Pg	21 49 16.2	-1.2
VAM				*e*Sb	Sb	21 49 36.8	+0.3
ITM	**Ithomi**	**1.51**	**283**	*e*PN	Pn	21 49 18.0	+1.0
ITM				*e*SN	Sn	21 49 36.8	-0.3
IDI	**Anoyia**	**1.81**	**149**	Pn	Pn	21 49 20.5	-0.6
IDI	7.7nm,0.3s,baz=323,slow=10,SNR=63			Pg	Pg	21 49 28.5	+4.9
IDI	38nm,0.3s,baz=295,slow=13,SNR=40			Sn	Sn	21 49 43.2	-1.3
IDI	43nm,0.3s,baz=291,slow=19,SNR=11			Lg		21 49 49.2	
LKR	**Lokris**	**1.90**	**342**	*e*PB	Pb	21 49 23.0	-1.3
LKR	**Lokris**	**1.90**	**342**	*e*Pb	Pb	21 49 22.6	-1.7
SIVA	**Sivas**	**2.02**	**155**	*e*Pn	Pn	21 49 24.2	+0.3
SIVA				*e*Sn	Sn	21 49 48.7	-1.0
NPS	**Neapolis**	**2.18**	**136**	*e*PN	Pn	21 49 27.5	+1.3
NPS				*e*SN	Sn	21 49 54.8	+1.0
LAST	**Lasithi**	**2.18**	**140**	*e*Pn	Pn	21 49 26.4	+0.1
LAST				*e*Sn	Sn	21 49 53.0	-0.9
RLS	**Riolos of Patr**	**2.19**	**304**	*e*PB	Pb	21 49 28.1	-1.2
RLS				*e*SN	Sn	21 49 54.5	+0.5
RLS	**Riolos of Patr**	**2.19**	**304**	*e*Pn	Pn	21 49 28.8	+2.4
AGG	**Agios Georgios**	**2.45**	**333**	*e*Pn	Pn	21 49 30.5	+0.6
AGG				*e*Sn	Sn	21 49 59.5	-0.9
NEO	**Neokhori**	**2.49**	**350**	*e*PN	Pn	21 49 31.0	+0.5
NEO	**Neokhori**	**2.49**	**350**	*e*Pn	Pn	21 49 30.9	+0.4
NEO				*e*Sn	Sg	21 50 10.3	+1.3
XOR	**Xorichti**	**2.55**	**350**	*e*Pn	Pn	21 49 31.5	+0.1
EVR	**Evrytania**	**2.58**	**324**	*e*PB	Pb	21 49 33.9	-2.0
SMG	**Samos**	**2.60**	**70**	*e*PN	Pn	21 49 33.4	+1.4
SMG	**Samos**	**2.60**	**70**	*e*Pg	Pg	21 49 36.0	-2.8
KARP	**Karpathos**	**3.04**	**114**	*e*PN	Pn	21 49 40.9	+2.8
PAIG	**Paliouri**	**3.08**	**359**	*e*Pn	Pn	21 49 39.2	+0.7
LIT	**Litokhoron**	**3.40**	**343**	*e*Pn	Pn	21 49 43.4	+0.4
OUR	**Ouranopolis**	**3.48**	**3**	*e*Pn	Pn	21 49 44.2	0.0
PLG	**Polygyros**	**3.53**	**356**	*e*PN	Pn	21 49 45.3	+0.5
KNT	**Kendrikon**	**4.36**	**351**	*e*Pn	Pn	21 49 57.2	+1.0
HMAT	**Matruh**	**6.37**	**153**	⇑P	Pn	21 50 17.3	-6.6
SWA2		**7.72**	**169**	⇑P	Pn	21 50 40.5	-1.8
SWA2				S	Sn	21 51 50.0	-20
BR131	**Keskin Array S**	**8.28**	**67**	*e*P	Pn	21 50 47.9	-2.1
	2.9nm,0.3s						
AWBH		**9.54**	**152**	P	Pn	21 51 01.5	-5.9
AMAG	**Maghara**	**10.00**	**125**	P	Pn	21 51 05.0	-8.7
HFRF	**Wahat Farafira**	**10.41**	**157**	P	Pn	21 51 14.6	-4.6
HDK1	**Dakhla**	**12.26**	**155**	P	Pn	21 51 40.2	-4.3
FINES	**FINESS Array B**	**24.66**	**3**	P	P	21 54 10.4	-0.6
	0.5nm,0.8s,mb3.1,baz=177,slow=7.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**30.78**	**226**	P	P	21 55 04.6	-1.2
	0.5nm,0.5s,mb3.6,baz=34,slow=6.8,SNR=18						
DBIC	**Dimbokro**	**39.79**	**228**	P	P	21 56 21.7	-1.7
	0.9nm,0.3s,mb3.9,baz=22,slow=8.6,SNR=9.5						
MKAR	**Makanchi Array**	**43.81**	**58**	P	P	21 56 54.6	-1.6
	0.4nm,0.4s,mb3.5,baz=270,slow=7.8,SNR=9.8						

CRAAG ***29*** *22:05:10.4, 3524N×3549E, Mb4.7*
BJI ***29*** *22:05:10.6, 35.17N×3483E, h35km, mB5.3, mb4.7, Ms5.1, Msz4.8*
HLW ***29*** *22:05:10.6, 3553N×3509E, h8km, Mb4.5*
ISCJB ***29*** *22:05:11.6±0.1, 3529N±001×3543E±001, h10km, mb4.6/111, MS4.4/40, Error ellipse: s-maj=1.7km s-min=1.6km az=179.8*
IDC ***29*** *22:05:11.1±0.6, 3529N×3551E, h0km, mb4.2/24, mb1 4.4/29, mb1mx4.3/31, mbtmp4.2/29, ML4.4/4, MS4.3/27, Ms1 4.3/27, ms1mx4.2/41, Error ellipse: s-maj=14.1km s-min=11.8km az=156.0*
CSEM ***29*** *22:05:12.6, 3524N×3549E, h25km, mb4.7*
MOS ***29*** *22:05:13.1±1.2, 3523N×3541E, h27km, mb4.8/45, MS4.3/18, Error ellipse: s-maj=4.8km s-min=2.8km az=118.5*
NSSC ***29*** *22:05:13.4, 3537N×3545E, h10km±2km*
ISK ***29*** *22:05:14.0, 3531N×3552E, h38km, MD4.7*
NIC ***29*** *22:05:14.4±0.4, 3538N×3556E, h55km, mb4.6, ML4.5, MW4.1*
GRAL ***29*** *22:05:14.2±2.9, 3541N×3551E, h15km±20km, MD4.3*
NEIC ***29*** *22:05:15.2±0.2, 3525N×3543E, mb4.6/64, MS4.3/4, ML4.5(NIC), ML4.7(ISK), Error ellipse: s-maj=3.0km s-min=2.5km az=97.0*
NEIC Felt on Cyprus and at Iskenderun, Turkey.
HRVD ***29*** *22:05:15.2±0.5, 3541N×3541E, h20km±2km, MW5.0/67, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s67,c109; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.80±.14; $M_{\theta\theta}$=2.03±.11; $M_{\phi\phi}$2.83±.13; $M_{r\theta}$1.25±.27; $M_{\theta\phi}$-0.59±.10; $M_{\phi r}$=2.08±.36; Best double couple: M_0=3.42900×10^{16} NP1:ϕ_s=219.00000°, δ43.00000°, λ-10.00000°. NP2: ϕ_s=317.00000°, δ83.00000°, λ-132.00000°. Principal axes: T 3.9670, Plg26.0000°, Azm79.0000°; N -1.0750, Plg42.0000°, Azm323.0000°; P -2.8910, Plg37.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***29*** *22:05:17.2, 35.13N×3464E, h33km, mb4.7, MS4.3, Cyprus region*
ISC 29 22:05:13.2±0.1, 3530N±001×3544E±001, h10km, (h25km±1.7km:pP-P), n587, σ1§29/657, mb4.6/111, MS4.4/40, 26C-46D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLNF	**Slenfeh**	**0.70**	**65**	⇑P	Pg	22 05 26.3	-0.5
SLNF	**Slenfeh**	**0.70**	**65**	⇑*i*P	Pg	22 05 26.3	-0.5
ARNB	**Al Arnab**	**0.71**	**38**	⇑P	Pg	22 05 25.9	-1.0
BIDA	**Albida**	**0.78**	**111**	⇑P	Pg	22 05 28.3	+0.2
BIDA	**Albida**	**0.78**	**111**	⇑*i*P	Pg	22 05 28.3	+0.1
WRDH	**Warideh**	**0.82**	**75**	⇑*i*P	Pg	22 05 28.4	-0.6
HTY	**Hatay**	**1.00**	**35**	*i*PG	Pg	22 05 31.2	-1.1
HTY				*i*SG	Sg	22 05 44.2	-1.1
HTY	**Hatay**	**1.00**	**35**	Pg	Pg	22 05 30.9	-1.4
HTY				Sg	Sg	22 05 44.2	-1.1
HWQ	**Hawqa**	**1.10**	**158**	*i*Pg	Pg	22 05 34.4	0.0
BTCH	**Batrach**	**1.11**	**48**	⇑P	Pb	22 05 33.0	-1.4
BTCH	**Batrach**	**1.11**	**48**	⇑*i*P	Pb	22 05 33.0	-1.4
HAWK	**Haweek**	**1.11**	**134**	⇑P	Pb	22 05 34.7	+0.2
HAWK	**Haweek**	**1.11**	**134**	⇑*i*P	Pb	22 05 34.7	+0.2
KFRA	**Kufra**	**1.12**	**94**	⇑P	Pb	22 05 34.0	-0.5
KFRA	**Kufra**	**1.12**	**94**	⇑*i*P	Pb	22 05 34.0	-0.6
PHNC	**Paralimni**	**1.19**	**256**	⇓*e*P	Pb	22 05 36.3	+0.5
PHNC				S	Sb	22 05 53.6	+2.3
KRTS	**Karatas**	**1.27**	**358**	PN	Pn	22 05 35.8	-1.2
FKH	**Fakeheh**	**1.33**	**143**	*i*Pg	Pg	22 05 38.0	-0.6
FKH				*i*Sg	Sg	22 05 57.3	+1.5
COBT	**Iskenderun**	**1.38**	**28**	*i*P	Pn	22 05 37.5	-1.1
COBT				*i*S	Sb	22 05 51.5	-5.4
BHL	**Bhannes**	**1.41**	**173**	*i*Pg	Pg	22 05 38.8	-1.4
BHL				*i*Sg	Sg	22 06 00.1	+1.7
MARH	**Ras Al Marh**	**1.54**	**146**	⇓P	Pn	22 05 41.2	+0.6
MARH	**Ras Al Marh**	**1.54**	**146**	⇓*i*P	Pn	22 05 41.2	+0.6
DRWC	**Darouich**	**1.65**	**37**	⇑P	Pn	22 05 41.0	-1.2
DRWC				⇑S	Sn	22 06 03.9	+0.5
DRWC	**Darouich**	**1.65**	**37**	⇑*i*P	Pn	22 05 41.0	-1.2
CEYT	**Ceyhan**	**1.72**	**8**	PN	Pn	22 05 42.6	-0.6
MERS	**Mersin**	**1.73**	**335**	PN	Pn	22 05 42.3	-1.0
MERS				SN	Sn	22 06 04.4	-1.0
CSS	**Prodhromos**	**1.76**	**260**	P	Pn	22 05 44.0	+0.3
	36nm,0.8s						
CSS				S	Sn	22 06 07.9	+1.7
CSS	**Prodhromos**	**1.76**	**260**	*e*P	Pn	22 05 44.0	+0.3
MATL	**Matirih**	**1.81**	**183**	*i*Pg	Pn	22 05 43.4	-1.0
MAMC	**Mammari**	**1.82**	**267**	P	Pn	22 05 45.0	+0.4
QASN	**Qassioun**	**1.90**	**158**	⇓P	Pn	22 05 46.2	+0.7
QASN				⇑S	Sn	22 06 11.9	+2.4
QASN	**Qassioun**	**1.90**	**158**	⇓*i*P	Pn	22 05 46.2	+0.6
QASN				⇑*i*S	Sn	22 06 11.9	+2.4
BRBR	**Barbar**	**1.93**	**167**	⇓P	Pn	22 05 46.8	+0.7
BRBR	**Barbar**	**1.93**	**167**	⇓*i*P	Pn	22 05 46.8	+0.7
KARA	**Karaisali**	**1.98**	**351**	PN	Pn	22 05 45.5	-1.2
LEF	**Lefka**	**2.10**	**266**	Pn	Pn	22 05 50.0	+1.7
KSDI	**Kefar Szold**	**2.11**	**175**	⇓Pn	Pn	22 05 48.9	+0.4
SZAC	**Souni-Zanaja**	**2.17**	**256**	⇓*e*P	Pn	22 05 50.7	+1.4
SZAC				S	Sn	22 06 15.2	-1.0
KOZT	**Kozan**	**2.20**	**8**	PN	Pn	22 05 49.1	-0.6
HNTI	**Hanita**	**2.22**	**186**	⇓Pn	Pn	22 05 51.3	+1.2
HNTI				S	Sn	22 06 18.4	+0.8
ALFC	**Alevga**	**2.33**	**267**	P	Pn	22 05 51.4	-0.1
	49nm,0.8s						
ALFC				S	Sn	22 06 24.8	+4.6
GAZ	**Gaziantep**	**2.35**	**37**	PN	Pn	22 05 50.6	-1.3
GAZ	**Gaziantep**	**2.35**	**37**	Pn	Pn	22 05 50.9	-1.0
JHLN	**Al Jahlan**	**2.48**	**81**	⇑P	Pn	22 05 53.8	+0.3
JHLN				⇓S	Sn	22 06 23.7	-0.1
JHLN	**Al Jahlan**	**2.48**	**81**	⇑*i*P	Pn	22 05 53.8	+0.2
JHLN				⇓*i*S	Sn	22 06 23.7	-0.1
AKMC	**Akamas**	**2.56**	**265**	P	Pn	22 05 56.1	+1.4
PPCY	**Paphos**	**2.57**	**262**	P	Pn	22 05 56.1	+1.2
TCHB	**Talchebab**	**2.66**	**170**	⇑P	Pn	22 05 57.3	+1.1
TCHB	**Talchebab**	**2.66**	**170**	⇑*i*P	Pn	22 05 57.3	+1.2
GZT	**Gaziantep**	**2.67**	**39**	*i*P	Pn	22 05 55.3	-0.9
GZT				*i*S	Sn	22 06 26.8	-1.9
SALA	**Sala**	**2.80**	**157**	⇓P	Pn	22 05 59.2	+1.2
SALA				⇑S	Sn	22 06 35.0	+3.2
SALA	**Sala**	**2.80**	**157**	⇓*i*P	Pn	22 05 59.2	+1.2
SALA				⇑*i*S	Sn	22 06 35.0	+3.2
ZALF	**Zalf**	**2.85**	**146**	⇓P	Pn	22 05 59.0	+0.3
ZALF				⇑S	Sn	22 06 35.0	+2.0
ZALF	**Zalf**	**2.85**	**146**	⇓*i*P	Pn	22 05 59.0	+0.4
ZALF				⇑*i*S	Sn	22 06 35.0	+2.0
BSTP	**Nigde**	**2.85**	**338**	*i*P	Pn	22 06 00.6	+1.9
BSTP				*i*S	Sn	22 06 37.3	+4.2
MMLI	**Mount Malkishu**	**2.86**	**180**	⇓Pn	Pn	22 05 59.5	+0.7
NIG	**Nigde**	**2.88**	**347**	PN	Pn	22 05 59.2	+0.1
SLTI	**Sal'it**	**3.07**	**186**	Pn	Pn	22 06 02.1	+0.4
SLTI				S	Sn	22 06 39.1	+0.6
ATAB	**Bozova**	**3.16**	**46**	*i*P	Pn	22 06 02.1	-0.9
ATAB				*i*S	Sg	22 06 52.8	-1.9
URFA	**Urfa**	**3.46**	**51**	PN	Pn	22 06 06.6	-0.5
AVNT	**Avonos**	**3.50**	**352**	*i*P	Pn	22 06 08.1	+0.5
AVNT				*i*S	Sn	22 06 48.9	-0.3
KONT	**Konya--Tatoy**	**3.62**	**318**	PN	Pn	22 06 10.0	+0.7
MALT	**Malatya**	**3.84**	**38**	PN	Pn	22 06 12.2	-0.2
MALT	**Malatya**	**3.84**	**38**	⇓P	Pn	22 06 12.3	-0.1
MALT	**Malatya**	**3.84**	**38**	*e*Pn	Pn	22 06 12.2	-0.2
MALT				*e*S	Sn	22 06 57.2	-0.4
MALT	**Malatya**	**3.84**	**38**	*e*Pn	Pn	22 06 11.9	-0.5
MALT				*e*Sn	Sn	22 06 57.1	-0.4
MYA	**Malataya**	**3.85**	**38**	PN	Pn	22 06 12.0	-0.5
MYA	**Malataya**	**3.85**	**38**	P	Pn	22 06 12.5	0.0
MYA	**Malataya**	**3.85**	**38**	P	Pn	22 06 12.5	0.0
MZDA	**Masada**	**3.98**	**181**	⇓Pn	Pn	22 06 15.2	+0.9
ELZG	**Elazig**	**4.27**	**41**	*i*P	Pn	22 06 17.9	-0.3
ELZG				*i*S	Sn	22 07 10.3	+2.2
KAMT	**Kaman**	**4.29**	**342**	PN	Pn	22 06 19.5	+1.1
KAMT	**Kaman**	**4.29**	**342**	Pn	Pn	22 06 20.0	+1.6
CDAG	**Cicekdag**	**4.40**	**349**	*i*P	Pn	22 06 21.8	+1.8
CDAG				*i*S	Sn	22 07 21.1	+10
SVTA	**Shivta**	**4.41**	**189**	Pn	Pn	22 06 21.3	+1.1
BCK	**Bucak**	**4.47**	**300**	PN	Pn	22 06 22.2	+1.3
BCK	**Bucak**	**4.47**	**300**	P	Pn	22 06 22.1	+1.2
KZIT	**Kziot**	**4.47**	**192**	Pn	Pn	22 06 22.1	+1.1
KZIT				S	Sn	22 07 14.0	+1.0
KIZT	**Kizilcal**	**4.57**	**322**	PN	Pn	22 06 23.8	+1.5
DIY	**Diyarbakir**	**4.64**	**55**	PN	Pn	22 06 23.7	+0.4
DIY	**Diyarbakir**	**4.64**	**55**	Pn	Pn	22 06 23.8	+0.5
BR131	**Keskin Array S**	**4.64**	**343**	*e*Pn	Pn	22 06 24.8	+1.5
BR131				*e*Sn	Sn	22 07 14.2	-3.1
BRTR	**Keskin Array B**	**4.64**	**343**	Pn	Pn	22 06 24.6	+1.3
	1.8nm,0.3s,baz=178,slow=12,SNR=34						
BRTR				Sn	Sn	22 07 14.2	-3.0
	2.0nm,0.3s,baz=160,slow=18,SNR=6.5						
ELL	**Elmali**	**4.71**	**289**	PN	Pn	22 06 25.9	+1.6
ISP	**Isparta**	**4.71**	**304**	PN	Pn	22 06 26.0	+1.7
ISP	**Isparta**	**4.71**	**304**	*e*Pn	Pn	22 06 28.4	+4.2
ISP				*e*Sn	Sn	22 07 17.8	-1.1
ZFRI	**Zfri**	**4.74**	**183**	⇓Pn	Pn	22 06 25.4	+0.7
MARD	**Mardin**	**4.76**	**63**	*i*P	Pn	22 06 24.4	-0.5
MARD				*i*S	Sg	22 07 38.4	-7.5
SVSK	**Karacayir**	**4.77**	**15**	PN	Pn	22 06 25.8	+0.7
TKTP	**Tekketepe**	**4.94**	**305**	*i*P	Pn	22 06 29.8	+2.4
TKTP				*i*S	Sn	22 07 28.9	+4.3
TKTP	**Tekketepe**	**4.94**	**305**	*i*S	Sn	22 07 28.9	+4.3
AMAG	**Maghara**	**5.01**	**203**	⇓P	Pn	22 06 27.8	-0.6
AMAG				S	Sn	22 07 23.2	-3.1
ANTO	**Ankara**	**5.02**	**336**	*e*PN	Pn	22 06 29.4	+0.9
ANTO	**Ankara**	**5.02**	**336**	⇓P	Pn	22 06 30.0	+1.5
ANTO	**Ankara**	**5.02**	**336**	*e*Pn	Pn	22 06 30.3	+1.8
	151nm,1.1s						
LOD	**Lodumlu**	**5.05**	**336**	PN	Pn	22 06 30.7	+1.8
LOD	**Lodumlu**	**5.05**	**336**	Pn	Pn	22 06 29.9	+1.0
TOKT	**Tokat**	**5.09**	**10**	*e*PN	Pn	22 06 30.5	+1.1
GOLH	**Golhisar**	**5.13**	**294**	*i*P	Pn	22 06 32.6	+2.6
GOLH				*i*S	Sn	22 07 33.4	+4.1
GOLH	**Golhisar**	**5.13**	**294**	*i*S	Sn	22 07 33.4	+4.2
HRFI	**Mount Harif**	**5.26**	**184**	Pn	Pn	22 06 32.3	+0.5
CTKT	**Corum**	**5.34**	**355**	*i*P	Pn	22 06 35.0	+2.1
CTKT				*i*S	Sg	22 07 54.6	-10
BEST	**Besiri**	**5.36**	**59**	*i*P	Pn	22 06 34.1	+1.0
BEST				*i*S	Sg	22 07 57.8	-7.3
ELDT	**Eldivan**	**5.42**	**344**	*i*P	Pn	22 06 36.6	+2.6
ELDT				*i*S	Sn	22 07 50.6	+14
CANT	**Cankiri**	**5.49**	**345**	*e*PN	Pn	22 06 36.4	+1.5
HNKL	**Nakhl**	**5.50**	**193**	⇑P	Pn	22 06 35.0	-0.1
HNKL	**Nakhl**	**5.50**	**193**	P	Pn	22 06 35.4	+0.3
KHL	**Karahalli**	**5.62**	**304**	*e*PN	Pn	22 06 38.4	+1.6
EIL	**Elat**	**5.63**	**184**	*e*Pn	Pn	22 06 37.2	+0.3
	2μm,0.6s						
EIL				*e*Sn	Sn	22 07 34.0	-7.6
BTMT	**Batman**	**5.65**	**58**	*e*PN	Pn	22 06 35.9	-1.3
ALT	**Altintas**	**5.67**	**313**	*e*PN	Pn	22 06 38.7	+1.3
DENT	**Denizli**	**5.71**	**297**	*e*PN	Pn	22 06 40.5	+2.5
KVT	**Kavak**	**5.79**	**5**	*e*PN	Pn	22 06 40.4	+1.3
KVT	**Kavak**	**5.79**	**5**	P	Pn	22 06 40.0	+0.9
TOS	**Tosya**	**5.83**	**349**	*e*PN	Pn	22 06 41.7	+2.0
TOS	**Tosya**	**5.83**	**349**	Pn	Pn	22

GRB	Gharib	7.36 199	P	Pn	22 06 59.7 -1.0
TR1		7.38 190	P	Pn	22 07 00.5 -0.4
BALB	Balikesir	7.41 308	ePN	Pn	22 07 02.9 +1.6
SHRM		7.47 189	P	Pn	22 07 03.3 +1.1
SHRM		7.47 189	P	Pn	22 07 01.6 -0.6
BHD	Baghdad	7.67 103	ex	x	22 07 05.0
BHD			ex	x	22 08 34.0
CLDR	Caldiran	7.77 58	ePN	Pn	22 07 07.2 +0.9
EDC	Edincik	7.83 312	P	Pn	22 07 09.9 +2.8
NPS	Neapolis	8.04 273	eP	Pn	22 07 08.0 -2.0
MRMT	Marmara Adasi	8.15 313	ePN	Pn	22 07 12.9 +1.4
HMAT	Matruh	8.15 241	P	Pn	22 07 07.7 -3.8
HMAT	Matruh	8.15 241	P	Pn	22 07 09.1 -2.5
APE	Apeiranthos	8.20 285	Pn	Pn	22 07 10.7 -1.6
APE			⇑eP		22 07 11.9
HHRG	Al Ghardaqah	8.21 192	P	Pn	22 07 11.7 -0.7
HHRG			S	Sn	22 08 42.0 -3.2
HHRG	Al Ghardaqah	8.21 192	P	Pn	22 07 11.6 -0.8
PRK	Paraskevi	8.30 301	eP	Pn	22 07 17.0 +3.4
MFT	Murefte	8.45 313	ePN	Pn	22 07 16.5 +0.9
EZN	Ezine	8.53 305	ePN	Pn	22 07 18.2 +1.5
ASUT		8.55 204	P	Pn	22 07 15.8 -1.1
ASUT		8.55 204	P	Pn	22 07 15.1 -1.9
IDI	Anoyia	8.63 273	Pn	Pn	22 07 17.0 -1.0
	7.1nm,0.3s,baz=104,slow=14,SNR=52				
IDI			Sn	Sn	22 08 52.0 -3.3
	4.5nm,0.3s,baz=245,slow=22,SNR=3.9				
GNI	Garni	8.81 54	ePN	Pn	22 07 20.4 -0.2
GNI	Garni	8.81 54	Pn	Pn	22 07 22.2 +1.6
	0.5nm,0.3s,baz=347,slow=1.1,SNR=14				
GNI	Garni	8.81 54	ePn	Pn	22 07 22.5 +1.9
	83nm,1.1s				
GNI	Garni	8.81 54	P	Pn	22 07 22.2 +1.6
GNI			pmax	pmax	
	comp=Z,1.0nm,0.3s				
AWBH		8.91 220	P	Pn	22 07 19.4 -2.5
AWBH		8.91 220	P	Pn	22 07 20.1 -1.8
SOC	Sochi	8.91 20	eP	Pn	22 07 22.3 +0.4
SOC			eS	Sn	22 09 01.0 -1.2
	comp=Z,4μm,16.0s				
SOC	Sochi	8.91 20	*i* P	Pn	22 07 24.9 +3.0
SOC	Sochi	8.91 20	eP	Pn	22 07 22.3 +0.4
SOC			*e*		22 09 01.0
SOC			MLR	MLR	
	comp=Z,4μm,16.0s				
VAM	Vamos	9.18 274	eP	Pn	22 07 24.0 -1.7
EDRB	Edirne	9.43 316	ePN	Pn	22 07 30.5 +1.4
ANN	Anapa	9.61 9	eP	Pn	22 07 38.8 +7.3
ANN			pmax	pmax	
	comp=Z,26nm,1.3s				
ANN			MLR	MLR	
	comp=N,1μm,12.0s				
ANN			MLR	MLR	
	comp=E,910nm,12.0s				
ANN			MLR	MLR	
	comp=Z,2μm,12.0s				
SIM	Simferopol'	9.69 354	eP	Pn	22 07 38.6 +6.0
SIM			eS	Sn	22 09 25.8 +4.3
SIM			pmax	pmax	
	comp=Z,90nm,17.0s				
SIM			MLR	MLR	
	comp=Z,950nm,13.0s				
SIM			MLR	MLR	
	comp=Z,1μm,17.0s				
MTA	Mtatsminda	9.71 46	P	Pn	22 07 37.1 +4.2
RDO	Rodhopi	9.73 310	P	Pn	22 07 37.0 +3.8
DGRG	David-gareji	9.92 49	P	Pn	22 07 38.3 +2.5
ZEI	Tsey	9.94 39	eP	Pn	22 07 38.7 +2.7
HFRF	Wahat Farafira	10.16 219	⇓P	Pn	22 07 36.8 -2.2
HFRF	Wahat Farafira	10.16 219	P	Pn	22 07 36.6 -2.5
VLI	Veliai	10.23 282	eP	Pn	22 07 40.0 0.0
KIV	Kislovodsk	10.29 31	*i* P	Pn	22 07 41.6 +0.8
	comp=Z,13nm,1.3s				
KIV	Kislovodsk	10.29 31	ePn	Pn	22 07 43.9 +3.1
	comp=Z,35nm,1.2s				
KIV	Kislovodsk	10.29 31	*d iP*	Pn	22 07 41.6 +0.8
KIV			pmax	pmax	
	comp=Z,13nm,1.3s				
SWA2		10.38 237	P	Pn	22 07 38.9 -3.3
SWA2		10.38 237	P	Pn	22 07 39.3 -2.8
TIRR	Tirgusor	10.62 332	⇑P	Pn	22 07 50.0 +4.7
AKRG	Al Kharijah	10.65 205	P	Pn	22 07 44.6 -1.2
EVR	Evrytania	11.47 292	eP	Pn	22 08 01.0 +4.1
APRS		11.64 202	P	Pn	22 07 58.6 -0.7
VTS	Vitosha	11.98 311	⇑P	Pn	22 08 04.8 +0.9
VTS	Vitosha	11.98 311	P	Pn	22 08 04.9 +1.0
VTS	Vitosha	11.98 311	P	Pn	22 08 07.8 +3.9
MAK	Makhachkala	12.09 47	*c iP*	Pn	22 08 04.0 -1.4
MAK			*i* S	Sn	22 10 18.4 -1.8
MAK			pmax	pmax	
	comp=Z,59nm,1.2s				
MAK			MLR	MLR	
	comp=Z,8μm,12.0s				
VLS	Valsamata	12.26 288	eP	Pn	22 08 05.0 -2.7
VRI	Vrincioaia	12.45 331	⇓P	Pn	22 08 20.1 +10
MLR	Muntele Rosu	12.48 328	Pn	Pn	22 08 15.6 +4.9
	comp=Z,0.1nm,0.3s,baz=122,slow=19,SNR=3.6				
MLR			LR	LR	22 13 39.4
	comp=Z,1μm,21.5s,baz=153,slow=41				
MLR	Muntele Rosu	12.48 328	⇑P	Pn	22 08 05.4 -5.4
MLR	Muntele Rosu	12.48 328	⇑P	Pn	22 08 05.4 -5.3
MLR			Pn	Pn	22 08 15.6 +4.9
MLR			LR	LR	22 13 39.4
KIS	Kishinev	12.70 339	eP	Pn	22 08 14.0 +0.2
KIS			eS	Sn	22 10 36.0 +0.8
KIS			MLR	MLR	
	comp=N,900nm,12.0s				
KIS			MLR	MLR	
	comp=Z,1μm,12.0s				
KIS			MLR	MLR	
	comp=E,1μm,13.0s				
KIS			MLR	MLR	
	comp=Z,1μm,13.0s				
BURAR	Bucovina Array	14.48 331	⇓P	Pn	22 08 45.7 +7.6
BURAR	Bucovina Array	14.48 331	⇓P	Pn	22 08 45.6 +7.6
BZS	Buzias	14.71 319	⇓P	Pn	22 08 41.1 -0.1
KMPD	K-Podol'skiy	14.82 336	P	Pn	22 08 44.0 +1.2
VORD	Divnogorie	15.90 9	eP	Pn	22 08 59.0 +2.0
VORD			pmax	pmax	
	comp=N,30nm,0.9s				
VORD			pmax	pmax	
	comp=Z,20nm,0.9s				
VORD			pmax	pmax	
	comp=E,20nm,0.8s				
KIEV	Kiev	16.04 346	P	Pn	22 09 00.0 +1.3
AKASG	Malin Array Be	16.04 346	Pn	Pn	22 08 58.3 -0.5
	comp=E,1.6nm,0.3s,baz=164,slow=11,SNR=8.6				
VRSR	Storozhevoye	16.14 9	eP	Pn	22 09 02.7 +2.7
VRSR			pmax	pmax	
	comp=Z,6.0nm,1.3s				
VRSR			pmax	pmax	
	comp=N,10.0nm,1.1s				
VRSR			pmax	pmax	
	comp=E,1.0nm,0.5s				
VRHR	Novokhopersk	16.41 14	eP	Pn	22 09 02.8 -0.7
	comp=E,90nm,1.6s				
VRHR	Novokhopersk	16.41 14	eP	Pn	22 09 02.8 -0.7
VRHR			pmax	pmax	
	comp=Z,30nm,1.1s				
VRHR			pmax	pmax	
	comp=N,90nm,1.6s				
VRHR			pmax	pmax	
	comp=E,20nm,0.8s				
UZH	Uzhgorod	16.49 328	eP	Pn	22 09 04.0 -0.5
VOR	Voronezh	16.64 8	eP	Pn	22 09 08.0 +1.5
	comp=E,90nm,1.8s				
VOR	Voronezh	16.64 8	eP	Pn	22 09 08.0 +1.5
VOR			S	Sn	22 12 19.0 +7.7
VOR			pmax	pmax	
	comp=Z,90nm,1.8s				
VOR			smax		
	comp=N,80nm,2.0s				
VOR			smax		
	comp=E,110nm,2.0s				
VOR			smax		
	comp=Z,50nm,2.0s				
PKSM	Moragy	16.72 316	⇓P	Pn	22 09 10.1 +2.6
PKSM	Moragy	16.72 316	eP	Pn	22 09 09.6 +2.1
LVV	L'vov	16.74 334	eP	Pn	22 09 15.4 +7.7
CRVS	Cervenica-Dubn	17.06 327	*e*	Pn	22 09 18.0 +6.3
CRVS	Cervenica-Dubn	17.06 327	eP	Pn	22 09 18.1 +6.4
	comp=Z,20nm,1.2s				
CRVS	Cervenica-Dubn	17.06 327	eP	Pn	22 09 18.1 +6.4
CRVS			pmax	pmax	
	comp=Z,20nm,1.2s				
KWP	Kalwaria	17.09 331	eP	Pn	22 09 14.5 +2.4
KWP			epP	pP	22 09 19.9 +3.2
KWP			esP	sP	22 09 23.4 +5.4
KWP			eS	Sn	22 12 33.0 +11
KWP			esS	sS	22 12 42.1 +5.8
KWP			L		22 16 54.8
	comp=Z,1.0nm,24.6s				
KWP	Kalwaria	17.09 331	epP	pP	22 09 19.9 +3.2
KWP	Kalwaria	17.09 331	eP	Pn	22 09 14.5 +2.4
KWP			esP	sP	22 09 19.9 +1.9
KWP			esP	sP	22 09 23.4 +5.4
KWP			eS	Sn	22 12 33.0 +11
KWP			eSS		22 12 42.1
KECS	Kecovo	17.20 325	eP	Pn	22 09 20.1 +6.5
	comp=Z,8.5nm,1.3s				
KECS	Kecovo	17.20 325	eP	Pn	22 09 20.1 +6.5
KECS			pmax	pmax	
	comp=Z,9.0nm,1.3s				
STHS	Stebnicka Huta	17.54 328	eP	Pn	22 09 23.6 +5.9
	comp=Z,8.1nm,1.1s				
STHS	Stebnicka Huta	17.54 328	eP	Pn	22 09 23.6 +5.9
STHS			pmax	pmax	
	comp=Z,8.0nm,1.1s				
VYHS	Vyhne	18.02 322	eP	Pn	22 09 26.1 +2.5
	comp=Z,11nm,1.5s				
VYHS			*e*		22 16 25.2
VYHS	Vyhne	18.02 322	eP	Pn	22 09 26.1 +2.5
VYHS			pmax	pmax	
	comp=Z,11nm,1.5s				
AQU	L'Aquila	18.53 299	eP	Pn	22 09 32.8 +2.8
	comp=Z,64nm,1.1s				
AQU	L'Aquila	18.53 299	eP	Pn	22 09 32.8 +2.9
AQU			pmax	pmax	
	comp=Z,64nm,1.1s				
ZST	Bratislava	18.73 319	eP	Pn	22 09 35.5 +3.1
OJC	Ojcow	18.76 327	eP	Pn	22 09 34.8 +2.1
OJC			eS	Sn	22 13 05.3 +2.7
OJC			L		22 18 22.6
	comp=Z,3.1nm,18.5s				
OJC	Ojcow	18.76 327	eP	Pn	22 09 34.8 +2.1
OJC			eS	Sn	22 13 05.3 +2.7
JAVC	Velka Javorina	18.84 321	P	Pn	22 09 34.6 +0.9
PERS	Pernice	19.01 313	eP	Pn	22 09 36.2 +0.5
CEY	Cerknica	19.02 310	eP	Pn	22 09 36.0 +0.1
ARSA	Arzberg	19.08 315	⇓eP	Pn	22 09 37.2 +0.6
	comp=Z,8.2nm,0.8s				
ARSA	Arzberg	19.08 315	P	Pn	22 09 38.6 +2.0
LJU	Ljubljana	19.09 311	P	Pn	22 09 38.2 +1.4
OKC	Ostrava-Krasne	19.25 324	eS	Sn	22 13 20.1 +5.7
OKC			AMS	AMS	22 19 10.0
	comp=Z,1μm,11.1s				
OBKA	Obir	19.30 312	⇑eP	Pn	22 09 40.3 +1.2
	comp=Z,29nm,1.3s				
OBKA	Obir	19.30 312	P	Pn	22 09 41.2 +2.0
VOY	Vojsko	19.48 310	eP	Pn	22 09 41.1 -0.4
VOY			*e*		22 09 46.8
VOY			*e*		22 09 57.0
MORC	Moravsky Berou	19.50 323	eP	Pn	22 09 43.1 +1.4
	comp=Z,14nm,1.4s				
MORC	Moravsky Berou	19.50 323	eP	Pn	22 09 43.1 +1.4
	comp=Z,14nm,1.4s				
MORC	Moravsky Berou	19.50 323	eP	Pn	22 09 43.1 +1.4
MORC			pmax	pmax	
	comp=Z,14nm,1.4s				
GORS	Gorjuse	19.55 311	eP	Pn	22 09 41.4 -0.8
GORS			*e*		22 09 47.0
KRUC	Moravsky	19.63 320	P	Pn	22 09 42.7 -0.5
VRAC	Vranov	19.68 321	P	Pn	22 09 42.7 -1.0
	comp=Z,0.9nm,0.3s,baz=136,slow=8.3,SNR=10.0				
VRAC			LR	LR	22 18 24.6
	comp=Z,375nm,18.1s,baz=334,slow=40				
VRAC	Vranov	19.68 321	P	Pn	22 09 43.0 -0.7
VRAC	Vranov	19.68 321	⇑P	Pn	22 09 43.0 -0.8
VRAC			P		22 09 46.3
ROBS	Robic	19.82 310	eP	Pn	22 09 44.0 -1.5
OBN	Obninsk	19.83 2	eP	Pn	22 09 44.8 -0.7
	comp=Z,600nm,17.0s				
OBN	Obninsk	19.83 2	eP	Pn	22 09 44.0 -1.6
	comp=Z,58nm,1.1s				
OBN			S	Sn	22 13 25.7 -2.7
OBN	Obninsk	19.83 2	eP	Pn	22 09 44.8 -0.7
OBN			*i* S	Sn	22 13 25.1 -3.2
OBN			pmax	pmax	
	comp=Z,81nm,1.6s				
OBN			MLR	MLR	
	comp=Z,600nm,17.0s				
MNK	Minsk	19.92 347	eP	Pn	22 09 42.0 -4.6
MOA	Molln	20.12 315	⇓*i* P	P	22 09 47.8 +0.6
MOA	Molln	20.12 315	P	P	22 09 47.8 +0.6
TREC	Trest	20.25 320	eP	P	22 09 48.8 +0.3
KBA	Koelnbreinsper	20.29 312	⇓*i* P	P	22 09 52.7 +3.6
KBA	Koelnbreinsper	20.29 312	P	P	22 09 52.1 +3.1
DPC	Dobruska-Polom	20.47 323	eP	P	22 09 51.2 +0.2
DPC			eS	S	22 13 47.3 +7.2
DPC			AMS	AMS	22 19 50.0
	comp=Z,2μm,11.3s				
DPC	Dobruska-Polom	20.47 323	eP	P	22 09 51.2 +0.2
	comp=Z,2μm,11.3s				
MOS	Moscow	20.49 4	eP	P	22 09 50.1 -1.1
	comp=Z,106nm,1.4s				
MOS	Moscow	20.49 4	eP	P	22 09 50.1 -1.1
MOS			*e*		22 10 03.5
MOS			*e*		22 10 26.3
MOS			pmax	pmax	
	comp=Z,106nm,1.4s				
SUW	Suwalki	20.59 339	eP	P	22 09 50.3 -1.9
SUW			epP		22 09 58.0
SUW			esP	sP	22 10 03.3 +6.9
SUW			eS	S	22 13 42.1 -0.2
SUW			esS	sS	22 13 54.0 +7.1
SUW			L		22 18 39.1
	comp=Z,0.7nm,21.0s				
SUW	Suwalki	20.59 339	eP	P	22 09 50.3 -1.9
SUW			epP		22 09 58.0
SUW	Suwalki	20.59 339	eP	P	22 09 50.3 -1.9
SUW			esP	sP	22 09 58.0 +1.6
SUW			esP	sP	22 10 03.3 +6.9
SUW			eS	S	22 13 42.1 -0.2
SUW			eSS		22 13 54.0
UPC	Upice	20.73 323	eP	P	22 09 54.0 +0.3
KSP	Ksiaz	20.81 324	eP	P	22 09 54.0 -0.6
KSP			epP		22 09 57.9
KSP			esP	sP	22 10 07.6 +8.8
KSP	Ksiaz	20.81 324	eP	P	22 09 53.3 -1.3
KSP			eS	S	22 13 52.7 +6.0
GEC2	GERESS Array S	20.96 317	eP	P	22 09 56.5 +0.2
	comp=Z,72nm,1.7s				
GEC2	GERESS Array S	20.96 317	eP	P	22 09 56.5 +0.2
GEC2			pmax	pmax	
	comp=Z,72nm,1.7s				
GERES	GERESS Array B	20.96 317	P	P	22 09 56.5 +0.2
	comp=Z,6.7nm,0.7s,baz=120,slow=11,SNR=49				
GERES			LR	LR	22 19 13.9
	comp=Z,420nm,20.3s,MS3.8,baz=132,slow=40				
VSL	Villasalto	21.10 289	eP	P	22 09 59.1 +1.3
	comp=Z,49nm,0.9s,mb4.8				
PRU	Pruhonice	21.15 320	eP	P	22 09 57.9 -0.4
PRU			eS	S	22 13 50.5 -3.0
PRU			AMS	AMS	22 20 10.0
	comp=Z,1μm,13.1s				
PRU	Pruhonice	21.15 320	eP	P	22 09 57.9 -0.4
	comp=Z,1μm,13.1s				
PRU	Pruhonice	21.15 320	P	P	22 09 58.5 +0.2
KHC	Kasperske Hory	21.19 317	eP	P	22 09 58.7 0.0
KHC			AMS	AMS	22 19 50.0
	comp=Z,2μm,12.5s				
KHC	Kasperske Hory	21.19 317	*i* P	P	22 09 58.6 -0.1
KHC	Kasperske Hory	21.19 317	P	P	22 09 59.2 +0.5
KHC	Kasperske Hory	21.19 317	*c iP*	P	22 09 58.6 -0.1
WTTA	Wattenberg	21.42 311	⇑P	P	22 10 00.5 -0.8
	comp=Z,40nm,1.5s,mb4.5,SNR=7.3				
WTTA	Wattenberg	21.42 311	P	P	22 10 02.2 +1.0
WATA	Walderalm	21.49 311	⇓*i* P	P	22 10 04.4 +2.5
	comp=Z,8.7nm,0.5s,mb4.3				
WET	Wettzell	21.58 317	eP	P	22 10 02.7 -0.3
	comp=Z,27nm,1.2s,mb4.5				
WET	Wettzell	21.58 317	eP	P	22 10 02.7 -0.3
WET			pmax	pmax	
	comp=Z,27nm,1.2s,mb4.5				
SQTA	Sankt Quirin	21.66 311	⇓P	P	22 10 02.1 -1.8
	comp=Z,9.0nm,0.6s,mb4.4,SNR=7.7				
PGF	Pioggiola	21.75 297	eP	P	22 10 03.6 -1.2
	comp=Z,39nm,0.8s,mb4.6				
PGF	Pioggiola	21.75 297	eP	P	22 10 03.6 -1.2
	comp=Z,20nm,0.8s,mb4.6				
PGF	Pioggiola	21.75 297	eP	P	22 10 03.6 -1.2
PGF			pmax	pmax	
	comp=Z,20nm,0.8s,mb4.6				
MOTA	Moosalm	21.78 311	⇑eP	P	22 10 04.8 -0.3
	comp=Z,12nm,0.6s,mb4.5,SNR=14				
PECR	Pechory	21.83 13	eP	P	22 10 04.0 -1.6
PECR			*e*		22 14 09.0
PECR			*e*		22 14 48.4
PECR			pmax	pmax	
	comp=Z,500nm,5.0s				
PECR			MLR	MLR	
	comp=Z,2μm,16.0s,MS4.7				
BRG	Berggiesshubel	21.99 322	eP	P	22 10 07.5 +0.2
	comp=Z,33nm,1.5s,mb4.5				
BRG	Berggiesshubel	21.99 322	eP	P	22 10 07.8 +0.5
BRG			S	S	22 14 08.0 -1.9
BRG			pmax	pmax	
	comp=Z,28nm,1.6s,mb4.4				
BRG	Berggiesshubel	21.99 322	eP	P	22 10 07.8 +0.5
	comp=Z,28nm,1.6s,mb4.4				
BRG			S	S	22 14 08.0 -1.9
FUR	Furstenfeldbru	22.03 313	eP	P	22 10 08.5 +0.7
	comp=Z,34nm,1.1s,mb4.7				
FUR	Furstenfeldbru	22.03 313	eP	P	22 10 08.5 +0.7
FUR			pmax	pmax	
	comp=Z,34nm,1.1s,mb4.7				
ROTZ	Rotzenmuhle	22.28 318	eP	P	22 10 09.6 -0.9
	comp=Z,69nm,1.7s,mb4.8				
AKTK	Aktyubinsk	22.29 40	P	P	22 10 09.5 -1.0
AKTK			LR	LR	22 20 50.3
AKTO	Aktyubinsk	22.29 40	P	P	22 10 09.5 -1.0
	comp=Z,4.7nm,0.7s,mb4.0,baz=240,slow=11,SNR=20				
AKTO			LR	LR	22 20 50.3
	comp=Z,720nm,18.6s,MS4.1,baz=0.0,slow=42				
AKTO	Aktyubinsk	22.29 40	P	P	22 10 09.5 -1.1
AKTO			pmax	pmax	
	comp=Z,5.0nm,0.7s,mb4.0				
AKTO			MLR	MLR	
	comp=Z,720nm,18.6s,MS4.1				
DAVOX	Davos	22.33 309	P	P	22 10 12.5 +1.5
	comp=Z,15nm,1.0s,mb4.4,baz=146,slow=12				
DAVOX			LR	LR	22 20 39.8
	comp=Z,1μm,19.8s,MS4.4,baz=111,slow=42				
MANZ	Manzenberg	22.45 318	eP	P	22 10 11.5 -0.8
	comp=Z,40nm,1.5s,mb4.6				
DAVA	Damuels	22.52 310	⇓*i* P	P	22 10 12.1 -0.9
	comp=Z,58nm,0.9s,mb5.0,SNR=14				
DAVA	Damuels	22.52 310	P	P	22 10 12.0 -1.0
ABSA	Djebel Ababsia	22.68 281	P	P	22 10 19.0 +4.3
CMAH	Djebel Manchou	22.69 282	P	P	22 10 19.0 +4.2
CLL	Collm	22.72 322	eP	P	22 10 13.2 -1.9
CLL	Collm	22.72 322	eP	P	22 10 15.0 -0.1
	comp=Z,24nm,1.7s,mb4.3				
CLL			*i* sP	sP	22 10 27.2 +7.9
CLL			*i* PP		22 10 40.8
	comp=Z,23nm,1.2s				
CLL			*e*PPP		22 10 49.0
CLL			eS	S	22 14 22.0 -2.0
CLL	Collm	22.72 322	eP	P	22 10 15.0 -0.1
	comp=Z,24nm,1.7s,mb4.3				
CLL			*i*		22 10 27.2
CLL			eS	S	22 14 22.0 -2.0
CLL			LR	LR	
	comp=Z,2μm,14.2s,MS4.6				
CLL	Collm	22.72 322	eP	P	22 10 15.0 -0.1
CLL			*i*		22 10 27.2
CLL			eS	S	22 14 22.0 -2.0
CLL			pmax	pmax	
	comp=Z,24nm,1.7s,mb4.3				
CLL			MLR	MLR	
	comp=Z,2μm,14.2s,MS4.6				
AB31	Akbulak array	22.74 45	⇑eP	P	22 10 14.0 -1.3
GRA1	Grafenberg Arr	22.79 317	eP	P	22 10 13.7 -2.2
	comp=Z,32nm,1.3s,mb4.6				
GRA1			eS	S	22 14 21.2 -4.0
GRA1			LR	LR	
	comp=Z,900nm,18.1s,MS4.2				
GRF	Grafenberg Arr	22.79 317	eP	P	22 10 13.7 -2.2
	comp=Z,32nm,1.3s,mb4.6				
GRF			eS	S	22 14 21.2 -4.0
GRF			eL		22 21 12.3
	comp=Z,938nm,18.1s				
GRF	Grafenberg Arr	22.79 317	eP	P	22 10 13.7 -2.2
GRF			eS	S	22 14 21.2 -4.0
GRF			pmax	pmax	
	comp=Z,32nm,1.3s,mb4.6				
GRF			MLR	MLR	
	comp=Z,900nm,18.1s,MS4.2				
GRF	Grafenberg Arr	22.79 317	eP	P	22 10 13.7 -2.2
GRF			eS	S	22 14 21.2 -4.0
GRF			pmax	pmax	
	comp=Z,32nm,1.3s,mb4.6				
GRF			MLR	MLR	
	comp=Z,900nm,18.1s,MS4.2				
LLS	Linth-Limmern	22.91 308	⇑P	P	22 10 17.2 +0.1
RUE	Ruedersdorf	23.06 325	eP	P	22 10 16.9 -1.8
MOX	Moxa	23.07 319	eP	P	22 10 18.7 -0.1
	comp=Z,19nm,1.2s,mb4.4				
MOX	Moxa	23.07 319	eP	P	22 10 19.1 +0.3
	comp=Z,32nm,1.6s,mb4.5				
MOX					
	comp=Z,1μm,15.0s				
MOX	Moxa	23.07 319	eP	P	22 10 19.1 +0.3
MOX			pmax	pmax	
	comp=Z,32nm,1.6s,mb4.5				
MOX			MLR	MLR	
	comp=Z,1μm,15.0s,MS4.5				
SBF	Sospel	23.13 300	eP	P	22 10 17.3 -2.2
CAEH	'Ain El Ouahch	23.13 282	P	P	22 10 22.0 +2.5
MUO	Muotathal	23.19 308	⇑P	P	22 10 19.9 -0.2
CKFL	Kef-Lekhel	23.27 281	P	P	22 10 24.0 +3.0
SPAK	Spaichingen	23.52 311	eP	P	22 10 23.2 -0.3
FRF	La Foret Royal	23.63 299	eP	P	22 10 22.0 -2.6
	comp=Z,84nm,1.5s,mb4.7				
FRF	La Foret Royal	23.63 299	eP	P	22 10 22.0 -2.6
	comp=Z,42nm,1.5s,mb4.7				
FRF	La Foret Royal	23.63 299	eP	P	22 10 22.0 -2.6
FRF			pmax	pmax	
	comp=Z,42nm,1.5s,mb4.7				
LKBD	Leukerbad	23.66 306	⇓P	P	22 10 24.2 -0.6
LKBD			⇓P		22 10 24.7
LMR	La Mourre	23.69 299	eP	P	22 10 22.5 -2.6
	comp=Z,23nm,1.0s,mb4.2				
LMR	La Mourre	23.69 299	eP	P	22 10 22.5 -2.6
	comp=Z,11nm,1.0s,mb4.2				
LMR	La Mourre	23.69 299	eP	P	22 10 22.5 -2.6
LMR			pmax	pmax	
	comp=Z,11nm,1.0s,mb4.2				
DIX	Grande Dixence	23.71 306	⇓P	P	22 10 25.4 +0.1
MBDF	Montbardon	23.79 302	eP	P	22 10 23.6 -2.4
	comp=Z,40nm,0.8s,mb4.6				
MBDF	Montbardon	23.79 302	eP	P	22 10 23.6 -2.4
	comp=Z,20nm,0.8s,mb4.6				
MBDF	Montbardon	23.79 302	eP	P	22 10 23.6 -2.4
MBDF			pmax	pmax	
	comp=Z,20nm,0.8s,mb4.6				
VSU	Vasula	23.88 349	⇑eP	P	22 10 26.8 -0.1
BFO	Black Forest	23.89 311	eP	P	22 10 26.1 -0.9
	comp=Z,104nm,1.5s,mb5.0				
BFO	Black Forest	23.89 311	eP	P	22 10 26.1 -0.9
BFO			pmax	pmax	
	comp=Z,104nm,1.5s,mb5.0				
FELD	Feldberg	23.92 310	eP	P	22 10 27.8 +0.6
DFRA	Djebel Bou Aff	23.93 282	P	P	22 10 29.0 +1.6
LPG	La Plagne	23.99 304	eP	P	22 10 26.1 -1.8
LPL	La Plagne	24.01 304	eP	P	22 10 25.9 -2.1
	comp=Z,22nm,0.6s,mb4.4				
LPL	La Plagne	24.01 304	eP	P	22 10 25.9 -2.1
	comp=Z,11nm,0.6s,mb4.4				
LPL	La Plagne	24.01 304	eP	P	22 10 25.9 -2.1
LPL			pmax	pmax	
	comp=Z,11nm,0.6s,mb4.5				
UBBA	Unterbreizbach	24.04 318	eP	P	22 10 28.1 -0.2
	comp=Z,53nm,1.5s,mb4.8				
EMV	Vieux Emosson	24.04 305	⇓P	P	22 10 30.7 +2.3
BBS	Basel-Blauen	24.09 309	eP	P	22 10 28.9 +0.2
TOD	Tromm	24.14 315	eP	P	22 10 26.5 -2.7
CKHR	Kef el Ahmar	24.29 280	P	P	22 10 33.0 +2.4
GDM	Grand'Maison	24.35 303	eP	P	22 10 35.1 +3.9
CLZ	Clausthal	24.38 320	eP	P	22 10 31.0 -0.4
	comp=Z,34nm,1.1s,mb4.7				
CLZ	Clausthal	24.38 320	eP	P	22 10 31.0 -0.4
CLZ			pmax	pmax	

comp=Z,34nm,1.1s,mb4.7
ORIF Oris-en-Rattie 24.45 302 *e*P **P 22 10 29.9 -2.2**
ORIF *e*R
comp=Z,2μm,21.2s
MOF Molkenrain 24.46 310 *e*P **P 22 10 31.2 -0.9**
LANF Langenberg 24.47 312 *e*P **P 22 10 30.1 -2.1**
SMRF Simiane la Rot 24.47 300 *e*P **P 22 10 30.0 -2.3**
LOMF Lomont 24.48 308 *e*P **P 22 10 31.2 -1.2**
WLS Welschbruch 24.52 311 *e*P **P 22 10 30.4 -2.3**
CDF Champ du Feu 24.57 311 *e*P **P 22 10 31.2 -2.0**
comp=Z,355nm,1.5s,mb5.4
CDF Champ du Feu 24.57 311 *e*P **P 22 10 31.2 -2.0**
comp=Z,178nm,1.5s,mb5.4
CDF Champ du Feu 24.57 311 *e*P **P 22 10 31.2 -2.0**
CDF pmax pmax
comp=Z,178nm,1.5s,mb5.4
ECH Echery 24.57 310 *e*P **P 22 10 32.3 -0.9**
GRN Grenoble 24.61 303 *e*P **P 22 10 33.1 -0.5**
TNS Taunus Mts 24.62 316 *e*P **P 22 10 34.9 +1.3**
comp=Z,40nm,1.4s,mb4.8
TNS Taunus Mts 24.62 316 *e*P **P 22 10 34.9 +1.3**
TNS pmax pmax
comp=Z,40nm,1.4s,mb4.8
HINF Hinteralfeld 24.62 309 *e*P **P 22 10 31.3 -2.4**
comp=Z,44nm,0.9s,mb4.7
HINF Hinteralfeld 24.62 309 *e*P **P 22 10 31.3 -2.4**
comp=Z,22nm,0.9s,mb4.7
HINF Hinteralfeld 24.62 309 *e*P **P 22 10 31.3 -2.4**
HINF pmax pmax
comp=Z,22nm,0.9s,mb4.7
PUL Pulkovo 24.71 354 *e*P **P 22 10 35.2 +0.8**
PUL *e*S **S 22 14 47.9 -8.3**
PUL pmax pmax
comp=Z,198nm,0.9s,mb5.6
PUL MLR MLR
comp=Z,843nm,12.0s,MS4.5
PUL MLR MLR
comp=N,945nm,16.0s
CABF La Chapelle 24.74 306 *e*P **P 22 10 32.8 -1.9**
comp=N,33nm,0.9s,mb4.6
CABF La Chapelle 24.74 306 *e*P **P 22 10 32.8 -1.9**
comp=N,17nm,0.9s,mb4.6
CABF La Chapelle 24.74 306 *e*P **P 22 10 32.8 -1.9**
CABF pmax pmax
comp=Z,17nm,0.9s,mb4.6
HAU Haudompre 25.01 309 *e*P **P 22 10 35.8 -1.3**
comp=Z,68nm,1.0s,mb4.8
HAU *e*R
comp=Z,1μm,17.2s
HAU Haudompre 25.01 309 *e*P **P 22 10 35.8 -1.3**
comp=Z,34nm,1.0s,mb4.8
HAU LR LR
comp=Z,1μm,17.2s,MS4.5
HAU Haudompre 25.01 309 *e*P **P 22 10 35.8 -1.3**
HAU pmax pmax
comp=Z,34nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,1μm,17.2s,MS4.5
RUP Ruppelstein 25.20 314 *e*P **P 22 10 33.0 -6.0**
VIVF Saint-Julien-I 25.27 302 *e*P **P 22 10 37.9 -1.7**
comp=Z,14nm,0.7s,mb4.3
VIVF Saint-Julien-I 25.27 302 *e*P **P 22 10 37.9 -1.7**
comp=Z,6.9nm,0.7s,mb4.3
VIVF Saint-Julien-I 25.27 302 *e*P **P 22 10 37.9 -1.7**
VIVF pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
BSEG Bad Segeberg 25.60 324 *e*P **P 22 10 44.3 +1.8**
comp=Z,42nm,1.6s,mb4.7
LASF Ste Croix 25.71 300 *e*P **P 22 10 42.0 -1.5**
comp=Z,47nm,1.3s,mb4.5
LASF Ste Croix 25.71 300 *e*P **P 22 10 42.0 -1.5**
comp=Z,24nm,1.3s,mb4.5
WLF Walferdange 25.73 313 *e*P **P 22 10 44.0 +0.3**
comp=Z,35nm,1.3s,mb4.7
WLF Walferdange 25.73 313 P **P 22 10 43.8 0.0**
WLF AP pP 22 10 47.5 +0.7
BUG Bochum--Univer 25.84 317 *e*P **P 22 10 48.3 +3.5**
comp=Z,9.0nm,0.8s,mb4.3
MEZF Maizieres J'vi 25.99 310 *e*P **P 22 10 44.0 -2.1**
comp=Z,61nm,0.7s,mb4.9
MEZF Maizieres J'vi 25.99 310 *e*P **P 22 10 44.0 -2.1**
comp=Z,30nm,0.7s,mb4.9
ETOS Mallorca 26.17 290 P **P 22 10 47.9 +0.2**
comp=Z,13nm,0.8s,mb4.5
MEM Membach 26.20 315 P **P 22 10 51.3 +3.3**
MEM AP pP 22 10 56.6 +5.6
PLDF La Plantade 26.23 304 *e*P **P 22 10 48.4 +0.1**
SMF Signal de Mont 26.24 305 *e*P **P 22 10 46.6 -1.7**
comp=Z,14nm,0.7s,mb4.3
SMF Signal de Mont 26.24 305 *e*P **P 22 10 46.6 -1.7**
comp=Z,6.9nm,0.7s,mb4.3
SMF Signal de Mont 26.24 305 *e*P **P 22 10 46.6 -1.7**
SMF pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
EMHD Djebel Mahouad 26.32 282 P **P 22 10 51.0 +2.0**
ARU Arti 26.33 29 *e*P **P 22 10 50.7 +1.5**
ARU *e* 22 11 31.7
ARU *e*PPP 22 11 41.3
ARU *e*S **S 22 15 25.7 +3.7**
ARU *e*SS 22 16 31.7
ARU MLR MLR
comp=N,100nm,17.0s,MS4.0
ARU MLR MLR
comp=E,400nm,17.0s,MS4.0
ARU MLR MLR
comp=Z,400nm,17.0s,MS4.0
LOR Lormes 26.39 307 *e*P **P 22 10 47.8 -1.9**
comp=Z,24nm,0.9s,mb4.4
LOR *e*R
comp=Z,1μm,21.5s
LOR Lormes 26.39 307 *e*P **P 22 10 47.8 -1.9**
comp=Z,12nm,0.9s,mb4.4
LOR LR LR
comp=Z,1μm,21.5s,MS4.4
LOR Lormes 26.39 307 *e*P **P 22 10 47.8 -1.9**
LOR pmax pmax
comp=Z,12nm,0.9s,mb4.4
LOR MLR MLR
comp=Z,1μm,21.5s,MS4.4
SSF Saint Saulge 26.57 306 *e*P **P 22 10 49.6 -1.7**
comp=Z,23nm,0.9s,mb4.4
SSF Saint Saulge 26.57 306 *e*P **P 22 10 49.6 -1.7**
comp=Z,11nm,0.9s,mb4.4
SSF Saint Saulge 26.57 306 *e*P **P 22 10 49.6 -1.7**
SSF pmax pmax
comp=Z,11nm,0.9s,mb4.4
AVF Avril sur Loir 26.60 305 *e*P **P 22 10 50.2 -1.4**
comp=Z,11nm,0.7s,mb4.2
AVF Avril sur Loir 26.60 305 *e*P **P 22 10 50.2 -1.4**
comp=Z,5.3nm,0.7s,mb4.2
AVF Avril sur Loir 26.60 305 *e*P **P 22 10 50.2 -1.4**
AVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MTLF Montolieu 26.79 298 *e*P **P 22 10 51.8 -1.5**
comp=Z,19nm,1.0s,mb4.3
MTLF Montolieu 26.79 298 *e*P **P 22 10 51.8 -1.5**
comp=Z,9.5nm,1.0s,mb4.3
MTLF Montolieu 26.79 298 *e*P **P 22 10 51.8 -1.5**
MTLF pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
DOU Dourbes 26.83 313 P **P 22 10 55.8 +2.2**
FINES FINESS Array B 26.83 350 P **P 22 10 51.9 -1.8**
comp=Z,3.3nm,0.6s,mb4.1,baz=153,slow=11,SNR=27
BGF Bois d'Agland 26.89 305 *e*P **P 22 10 52.7 -1.5**
BAIF Baives 27.05 313 *e*P **P 22 10 54.2 -1.4**
CAF Calviac 27.11 301 *e*P **P 22 10 55.1 -1.1**
TCF Toulx Ste Croi 27.26 304 *e*P **P 22 10 56.0 -1.5**
KAF Kangasniemi 27.45 351 *e*p **P 22 10 58.5 -0.7**
RJF Les Rejaudoux 27.55 302 *e*P **P 22 10 58.8 -1.4**
comp=Z,37nm,1.1s,mb4.6
RJF *e*R
comp=Z,943nm,22.2s
RJF Les Rejaudoux 27.55 302 *e*P **P 22 10 58.8 -1.4**
comp=Z,19nm,1.1s,mb4.6
RJF LR LR
comp=Z,940nm,22.3s,MS4.3
RJF Les Rejaudoux 27.55 302 *e*P **P 22 10 58.8 -1.4**
RJF pmax pmax
comp=Z,19nm,1.1s,mb4.6
RJF MLR MLR
comp=Z,940nm,22.3s,MS4.3
JOF Joensuu 27.76 356 *e*p **P 22 11 00.6 -1.4**
EGRA Graus 28.10 295 P **P 22 11 05.5 +0.4**
comp=Z,8.9nm,0.7s,mb4.5
KK31 Karatay Array 28.12 63 *i* P **P 22 11 05.2 0.0**
KKAR Karatay Array 28.12 63 *i* P **P 22 11 05.2 0.0**
KKAR pmax pmax
comp=Z,26nm,1.4s,mb4.7
HFS Hagfors 28.56 337 P **P 22 11 08.7 -0.5**
comp=Z,2.2nm,0.5s,mb4.1,baz=132,slow=10,SNR=7.7
HFS LR LR 22 25 45.1
comp=Z,675nm,18.1s,MS4.3,baz=150,slow=43
HFA0 Hagfors New Ar 28.57 337 P **P 22 11 09.6 +0.4**
ETSF Etsaut 28.78 296 *e*P **P 22 11 10.0 -1.1**
MFF Saint Martin d 28.92 304 *e*P **P 22 11 11.2 -1.1**
LDF La Druitiere 29.31 308 *e*P **P 22 11 14.2 -1.6**
comp=Z,30nm,0.8s,mb4.8
LDF La Druitiere 29.31 308 *e*P **P 22 11 14.2 -1.6**
comp=Z,15nm,0.8s,mb4.8
LDF La Druitiere 29.31 308 *e*P **P 22 11 14.2 -1.6**
LDF pmax pmax
comp=Z,15nm,0.8s,mb4.8
ZRNK Zerenda 29.49 43 *e*P **P 22 11 17.2 -0.2**
comp=Z,8.9nm,1.2s,mb4.4
ZRNK *e*pP pP 22 11 25.5 +5.0
ZRNK Zerenda 29.49 43 *e*P **P 22 11 17.2 -0.2**
ZRNK *e**PP pP 22 11 25.5 +5.0
ZRNK pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
GRR Gorron 29.74 307 *e*P **P 22 11 18.1 -1.5**
comp=Z,34nm,0.7s,mb4.9
GRR Gorron 29.74 307 *e*P **P 22 11 18.1 -1.5**
comp=Z,17nm,0.7s,mb4.9
GRR Gorron 29.74 307 *e*P **P 22 11 18.1 -1.5**
GRR pmax pmax
comp=Z,17nm,0.7s,mb4.9
NB2 NORSAR Subarra 30.05 336 P **P 22 11 20.8 -1.6**
comp=Z,3.2nm,0.9s,mb4.0,baz=134,slow=11
NB2 NORSAR Subarra 30.05 336 P **P 22 11 20.8 -1.6**
NB2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
NOA NORSAR Array B 30.05 336 P **P 22 11 20.8 -1.5**
comp=Z,0.9nm,0.6s,mb3.7,baz=147,slow=7.8,SNR=4.3
NOA LR LR 22 25 45.5
comp=Z,492nm,18.6s,MS4.2,baz=155,slow=41
BRVK Borovoye 30.25 43⇑ *e*P **P 22 11 22.4 -1.7**
BVAR Borovoye Array 30.29 43 P **P 22 11 23.7 -0.9**
comp=Z,2.4nm,0.8s,mb4.0,baz=224,slow=6.0,SNR=11
ENIJ Nijar 30.32 284 P **P 22 11 24.6 -0.2**
comp=Z,5.7nm,0.6s,mb4.5
ENIJ Nijar 30.32 284 P **P 22 11 24.6 -0.2**
ENIJ pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
VOSK Vostochnaya 30.52 44 P **P 22 11 25.7 -0.8**
VOSK pmax pmax
comp=Z,23nm,1.8s,mb4.7
CHKZ Chkalovo 30.66 42 *e*P **P 22 11 27.3 -0.5**
comp=Z,15nm,1.4s,mb4.6
CHKZ *e*pP pP 22 11 35.1 +4.3
CHKZ *e*PcP PcP 22 14 23.7 -2.0
CHKZ Chkalovo 30.66 42 *e*P **P 22 11 27.3 -0.5**
CHKZ *e**PP pP 22 11 35.2 +4.3
CHKZ *e* 22 14 23.7
CHKZ pmax pmax
comp=Z,15nm,1.4s,mb4.6
EBER Berja 30.88 284 P **P 22 11 29.8 +0.1**
comp=Z,191nm,2.6s,mb5.5
EQES Quesada 30.89 286 P **P 22 11 29.9 +0.1**
comp=Z,37nm,1.8s,mb4.9
FRU Bishkek 31.11 64 *e*P **P 22 11 37.0 +5.2**
FRU pmax pmax
comp=Z,100nm,2.5s,mb5.2
ROSF Rostrenen 31.31 307 *e*P **P 22 11 31.8 -1.7**
comp=Z,14nm,0.6s,mb4.7
ROSF Rostrenen 31.31 307 *e*P **P 22 11 31.8 -1.7**
comp=Z,7.2nm,0.6s,mb4.7
ROSF Rostrenen 31.31 307 *e*P **P 22 11 31.8 -1.7**
ROSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
ESDC Sonseca Array 31.39 290 P **P 22 11 34.0 -0.3**
comp=Z,2.2nm,0.7s,mb4.1,baz=88,slow=9.1,SNR=7.3
ESDC PcP PcP 22 14 27.7 0.0
comp=Z,1.3nm,0.7s,baz=46,slow=3.4,SNR=4.3
ESDC Sonseca Array 31.39 290 P **P 22 11 33.8 -0.4**
comp=Z,2.0nm,1.4s,mb3.8
ESLA Sonseca Array 31.39 290 *e*P **P 22 11 34.2 0.0**
comp=Z,2.0nm,0.9s,mb4.0
ELUQ Luque 31.87 286 P **P 22 11 37.6 -0.7**
comp=Z,4.7nm,0.6s,mb4.5
ELUQ Luque 31.87 286 P **P 22 11 37.6 -0.8**
ELUQ pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
EADA Adamuz 32.03 287 P **P 22 11 38.0 -1.8**
comp=Z,241nm,3.1s
EMIJ Mijas 32.42 284 P **P 22 11 42.6 -0.7**
comp=Z,6.9nm,0.5s,mb4.7
LVZ Lovozero 32.65 359 *e*P **P 22 11 42.7 -2.5**
LVZ pmax pmax
comp=N,37nm,1.9s
LVZ pmax pmax
comp=Z,63nm,1.9s,mb5.2
LVZ pmax pmax
comp=E,41nm,2.9s
LVZ MLR MLR
comp=Z,710nm,14.0s,MS4.5
LVZ MLR MLR
comp=N,438nm,13.0s,MS4.4
LVZ MLR MLR
comp=E,286nm,13.0s,MS4.4
EJIF Jimena Fronter 32.99 284 P **P 22 11 46.4 -1.9**
comp=E,3.8nm,0.6s,mb4.5
EJIF Jimena Fronter 32.99 284 P **P 22 11 46.4 -1.9**
EJIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
MDT Midelt 33.12 277 P **P 22 11 50.3 +0.9**
comp=Z,2.5nm,0.7s,mb4.3,baz=84,slow=8.7,SNR=12
EKA Eskdalemuir Ar 33.13 319 P **P 22 11 48.5 -0.9**
comp=Z,2.0nm,0.6s,mb4.2,baz=113,slow=9.1,SNR=11
ESPR Espera 33.23 285 P **P 22 11 48.5 -1.8**
comp=Z,67nm,1.8s,mb5.3
EPON Pontenova 33.61 297 P **P 22 11 53.5 -0.2**
comp=Z,97nm,1.7s,mb5.5
EMIN Mina Concepcio 33.72 287 P **P 22 11 54.0 -0.6**
comp=Z,9.7nm,0.6s,mb4.9
EGRO El Granado 34.40 287 P **P 22 11 58.0 -2.5**
comp=Z,4.7nm,0.8s,mb4.5
KURK Kurchatov 34.59 50 *e*P **P 22 12 02.6 +0.5**
comp=Z,23nm,1.4s,mb4.9
KURK *e*pP pP 22 12 09.8 +4.5
KURK *e*PP PP 22 13 26.0 +5.5
KURK Kurchatov 34.59 50 *e*P **P 22 12 02.6 +0.5**
KURK *e**PP pP 22 12 09.8 +4.6
KURK *e* 22 13 26.0
KURK pmax pmax
comp=Z,23nm,1.4s,mb4.9
PBEJ Beja 34.62 288 *e*P **P 22 12 02.1 -0.3**
comp=Z,32nm,1.4s,mb5.1
ARCES ARCESS Array B 34.73 354 P **P 22 12 02.1 -1.2**
comp=Z,4.5nm,0.7s,mb4.5,baz=164,slow=8.5,SNR=27
ARCES LR LR 22 28 44.5
comp=Z,575nm,18.7s,MS4.3,baz=166,slow=41
ARE0 ARCESS Array S 34.73 354 *e*P **P 22 12 03.9 +0.6**
KMBO Kilima Mbogo 36.28 177 LR LR 22 26 16.2
comp=Z,190nm,18.4s,MS3.9,baz=304,slow=35
MKAR Makanchi Array 36.65 57 P **P 22 12 19.7 -0.1**
comp=Z,2.0nm,0.7s,mb4.1,baz=266,slow=7.3,SNR=27
MKAR PcP PcP 22 14 42.1 -0.6
comp=Z,0.8nm,0.6s,baz=283,slow=3.0,SNR=4.5
TORD Torodi Ar. Bea 37.57 243 P **P 22 12 28.1 +0.4**
comp=Z,4.8nm,0.9s,mb4.2,baz=29,slow=9.3,SNR=50
TORD PcP PcP 22 14 45.4 -0.1
comp=Z,1.4nm,0.7s,baz=19,slow=1.7,SNR=8.4
NVS Novosibirsk 38.08 44 *e*P **P 22 12 30.7 -1.3**
NVS *e* 22 13 57.8
NVS *e*S **S 22 18 15.7 -9.0**
NVS pmax pmax
comp=Z,80nm,2.8s,mb5.0
NVS pmax pmax
comp=E,11nm,1.5s
NVS pmax pmax
comp=Z,20nm,1.7s,mb4.6
NVS pmax pmax
comp=N,26nm,1.8s
NVS pmax pmax
comp=E,27nm,1.8s
NVS smax
comp=N,35nm,2.8s
ZAL Zalesovo 38.84 46 P **P 22 12 37.6 -0.7**
comp=N,0.9nm,0.6s,mb3.7,baz=196,slow=12,SNR=5.2
ZAL PcP PcP 22 14 47.9 -1.6
comp=N,0.8nm,0.8s,baz=99,slow=5.2,SNR=3.2
ZAL LR LR 22 30 13.9
comp=N,326nm,20.4s,MS4.1,baz=208,slow=39
ZAL Zalesovo 38.84 46 P **P 22 12 37.6 -0.7**
ZAL 22 14 47.9
KOLN Koldanda 41.40 87 *e*P **P 22 13 00.4 +0.8**
comp=N,39nm,1.4s,mb4.9
GKN Gorkha 42.16 86 *e*P **P 22 13 06.8 +1.0**
comp=N,85nm,1.1s,mb5.3
HYB Hyderabad 42.16 104 *i* P **P 22 13 07.0 +1.1**
HYB Hyderabad 42.16 104 *e*P **P 22 13 07.0 +1.1**
JMIC Jan Mayen 42.57 340 LR LR 22 29 39.3
comp=N,237nm,19.6s,MS4.1,baz=104,slow=34
DMN Daman 42.69 86 *e*P **P 22 13 11.4 +1.2**
comp=N,45nm,1.0s,mb5.1
KKN Kakani 42.76 86 *e*P **P 22 13 11.5 +0.8**
comp=N,28nm,0.7s,mb5.1
PKI Pulchoki 42.95 86 *e*P **P 22 13 13.5 +1.2**
comp=N,43nm,1.1s,mb5.1
GUN Gumba 43.21 85 *e*P **P 22 13 15.3 +1.0**
comp=N,63nm,1.0s,mb5.3
JIRN Jiri 43.56 85 *e*P **P 22 13 18.5 +1.3**
comp=N,43nm,0.6s,mb5.3
BORG Borgarnes 44.60 329 LR LR 22 35 03.2
comp=N,400nm,18.4s,MS4.4,baz=130,slow=40
DBIC Dimbokro 46.68 242 P **P 22 13 41.5 -0.5**
comp=N,6.0nm,0.7s,mb4.6,baz=39,slow=10,SNR=14
DBIC PcP PcP 22 15 15.6 0.0
comp=N,5.9nm,0.8s,baz=360,slow=2.5,SNR=6.4
DBIC Dimbokro 46.68 242 *e*P **P 22 13 41.4 -0.6**
comp=N,20nm,1.5s,mb4.8
DBIC *e*pP pP 22 13 49.4 +4.2
DBIC *e*PcP PcP 22 15 16.3 +0.7
DBIC Dimbokro 46.68 242 *e*P **P 22 13 41.4 -0.6**
DBIC *e**PP pP 22 13 49.4 +4.3
DBIC *e* 22 15 16.3
DBIC pmax pmax
comp=Z,19nm,1.5s
LSA Lhasa 46.80 80 *e*P **P 22 13 43.8 +0.8**
comp=Z,7.8nm,0.9s,mb4.6
LSA *e*pP pP 22 13 51.9 +5.8
LSA Lhasa 46.80 80 *e*P **P 22 13 43.8 +0.9**
LSA *e**PP pP 22 13 51.9 +5.8
LSA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LIC Lamto 47.11 242 *e*P **P 22 13 45.0 -0.3**
comp=Z,20nm,0.8s,mb4.8
LIC *e*R
comp=Z,334nm,21.0s
LIC Lamto 47.11 242 *e*P **P 22 13 45.0 -0.3**
comp=Z,10nm,0.8s,mb4.8
LIC LR LR
comp=Z,170nm,21.0s,MS4.0
DAG Danmarks Havn 47.91 345⇑ *i* P **P 22 13 47.8 -3.8**
comp=Z,3.4nm,0.9s,mb4.4
DAG Danmarks Havn 47.91 345⇑ *e*P **P 22 13 47.8 -3.8**
comp=Z,3.4nm,0.9s,mb4.4
DAG Danmarks Havn 47.91 345⇑ *e*P **P 22 13 47.8 -3.8**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MOY Mondy 48.63 49 *e*P **P 22 13 59.4 +2.3**
ZAK Zakamensk 50.25 50 *e*P **P 22 14 09.8 +0.3**
ZAK *e* pP 22 14 13.7 +1.0
ZAK pmax pmax
comp=Z,12nm,1.8s,mb4.6
TLY Talaya 50.26 49⇑ *e*P **P 22 14 10.6 +1.0**
GTA Gaotai 50.37 65 *e*P **P 22 14 09.5 -0.9**
GTA AP pP 22 14 17.3 +3.7
GTA XP sP 22 14 20.3 +5.5
GTA AMB AMB
comp=Z,2.0nm,1.0s,mb4.1
SONM Songino Array 52.77 53 P **P 22 14 28.1 -0.3**
comp=Z,1.3nm,0.8s,mb3.9,baz=291,slow=7.6,SNR=11
SONM LR LR 22 39 53.3
comp=Z,1μm,18.1s,MS5.0,baz=30,slow=40
SONM Songino Array 52.77 53 P **P 22 14 28.1 -0.3**
SONM LR LR 22 39 53.3
ULN Ulaanbaatar 53.20 53 *e*P **P 22 14 32.0 +0.5**
comp=Z,12nm,1.3s,mb4.7
ULN *e*pP pP 22 14 41.1 +6.4
ULN Ulaanbaatar 53.20 53 *e*P **P 22 14 32.0 +0.5**
ULN *e**PP pP 22 14 41.1 +6.4
ULN pmax pmax
comp=Z,12nm,1.3s,mb4.7
BOD Bodaibo 55.06 40 *e*P **P 22 14 40.9 -4.2**
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
SFJD Kangerlussuaq 56.56 332 LR LR 22 39 24.4
comp=Z,307nm,19.8s,MS4.4,baz=63,slow=36
TIXI Tiksi 57.98 22⇑ *e*P **P 22 15 04.6 -1.3**
TIXI Tiksi 57.98 22 *e*P **P 22 15 03.8 -2.1**
TIXI *e*S **S 22 23 00.8 -5.4**
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
KMI Kunming 58.06 80 P **P 22 15 07.5 +1.1**
KMI AP pP 22 15 15.5 +5.8
KMI XP sP 22 15 19.3 +8.4
KMI S **S 22 23 01.0 -6.3**
KMI AMB AMB
comp=Z,3.0nm,0.9s,mb4.3
KMI AMB AMB
comp=Z,50nm,4.4s
KMI LR LR
comp=N,161nm,19.9s,MS4.4
KMI LR LR
comp=E,247nm,18.9s,MS4.4
KMI LR LR
comp=Z,249nm,18.0s,MS4.4
HHC Hu-ho-hao-te 58.42 60 *e*P **P 22 15 10.8 +1.8**
HHC AMB AMB
comp=Z,3.0nm,0.3s,mb4.8
HIA Hailar 60.80 48⇑ *e*P **P 22 15 25.6 +0.2**
BOSA Boshof 64.29 190 P **P 22 15 49.0 +0.3**
comp=Z,4.6nm,0.6s,mb4.7,baz=8.3,slow=4.6,SNR=17
BOSA LR LR 22 46 59.7
comp=Z,160nm,18.1s,MS4.2,baz=11,slow=39
BOSA Boshof 64.29 190 P **P 22 15 49.0 +0.3**
BOSA LR LR 22 46 59.7
SNY Shenyang 66.29 55 ⇑ P **P 22 15 59.8 -1.9**
SNY AP pP 22 16 07.0 +2.1
SNY XP sP 22 16 12.0 +5.9
SNY S S 22 24 46.5 -4.6
SNY SS SS 22 29 04.0 -3.2
SNY AMB AMB
comp=Z,15nm,2.0s,mb4.7
SNY AMB AMB
comp=Z,271nm,6.4s
SNY LR LR
comp=E,998nm,15.3s
SNY LR LR
comp=Z,1μm,13.9s,MS5.2
CN2 Changchun 66.63 52 *e*P **P 22 16 05.0 +1.2**
CN2 *e*XP sP 22 16 16.0 +7.7
CN2 *e*S S 22 24 52.3 -2.9
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,700nm,15.0s,MS5.1
CN2 LR LR
comp=E,500nm,15.0s,MS5.1
CN2 LR LR
comp=Z,900nm,14.0s,MS5.1
PSI Prapat 66.88 104 P **P 22 16 04.7 -0.7**
comp=Z,3.3nm,0.7s,mb4.5,baz=325,slow=11,SNR=3.1
NJ2 Nanjing 67.45 66 *e*P **P 22 16 11.5 +2.4**
NJ2 AP pP 22 16 19.3 +7.0
NJ2 XP sP 22 16 22.5 +9.0
NJ2 PP PP 22 18 41.8 +4.1
NJ2 S S 22 25 05.0 -0.1
NJ2 XS sS 22 25 17.0 +6.5
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,170nm,5.2s
NJ2 LR LR
comp=N,340nm,17.9s
NJ2 LR LR
comp=E,960nm,26.8s
NJ2 LR LR
comp=Z,190nm,21.6s,MS4.3
SCHQ Schefferville 68.37 323 P **P 22 16 15.3 +0.4**
comp=Z,1.8nm,0.8s,mb4.2,baz=34,slow=11,SNR=3.0
SCHQ LR LR 22 46 37.4
comp=Z,223nm,18.9s,MS4.4,baz=235,slow=36
SCHQ Schefferville 68.37 323 P **P 22 16 15.3 +0.4**
SCHQ LR LR 22 46 37.4

SSE	**Sheshan**	**69.65**	**66**	P	**P**	**22 16 19.5**	**-3.3**
SSE				AMB	AMB		
comp=Z,15nm,0.6s,mb5.1							
SSE				AMB	AMB		
comp=Z,128nm,4.8s							
BILL	**Bilibino**	**70.62**	**18**	⇓*i*P	**P**	**22 16 27.0**	**-1.7**
BILL	**Bilibino**	**70.62**	**18**	⇓*i*P	**P**	**22 16 27.9**	**-0.8**
BILL				*e*		22 16 43.2	
BILL				pmax	pmax		
comp=Z,11nm,1.2s,mb4.7							
MA2	**Magadan**	**71.51**	**29**	⇓*i*P	**P**	**22 16 34.2**	**0.0**
INK	**Inuvik**	**76.38**	**356**	LR	LR	22 55 18.2	
comp=Z,224nm,19.6s,MS4.5,baz=301,slow=39							
ASAJ	**Asahikawa**	**76.98**	**45**	LR	LR	22 56 47.3	
comp=Z,249nm,21.7s,MS4.5,baz=346,slow=40							
YKA	**Yellowknife Ar**	**79.60**	**346**	P	**P**	**22 17 19.3**	**-1.2**
comp=Z,1.4nm,0.9s,mb3.9,baz=26,slow=5.6,SNR=18							
YKA				LR	LR	22 55 52.8	
comp=Z,186nm,18.4s,MS4.5,baz=30,slow=38							
YKA	**Yellowknife Ar**	**79.60**	**346**	P	**P**	**22 17 19.3**	**-1.2**
YKA				LR	LR	22 55 52.8	
COLA	**College**	**80.12**	**1**	⇓*e*P	**P**	**22 17 21.9**	**-1.5**
ILAR	**Eielson Array**	**80.24**	**1**	**P**	**P**	**22 17 23.9**	**-0.2**
comp=Z,1.3nm,0.9s,mb3.9,baz=320,slow=3.8,SNR=9.5							
ILAR				LR	LR	23 00 03.8	
comp=Z,92nm,20.3s,MS4.1,baz=176,slow=41							
DAWY	**Dawson**	**80.88**	**358**	*e*P	**P**	**22 17 28.1**	**+0.7**
DAWY				*e*PcP	PcP	22 17 34.0	0.0
MCK	**McKinley**	**81.24**	**2**	*e*P	**P**	**22 17 29.4**	**+0.1**
comp=Z,5.3nm,1.3s,mb4.3							
MCK	**McKinley**	**81.24**	**2**	*e*P	**P**	**22 17 29.5**	**+0.1**
MCK				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.3							
ULM	**Lac du Bonnet**	**84.58**	**331**	P	**P**	**22 17 45.6**	**-1.1**
comp=Z,2.1nm,0.6s,mb4.5,baz=40,slow=4.6,SNR=10							
ULM				LR	LR	22 58 37.9	
comp=Z,156nm,18.0s,MS4.4,baz=25,slow=38							
DLBC	**Dease Lake**	**85.83**	**352**	LR	LR	22 56 53.1	
comp=Z,166nm,20.9s,MS4.4,baz=82,slow=36							
KDAK	**Kodiak Island**	**87.03**	**4**	LR	LR	23 01 52.0	
comp=Z,143nm,18.9s,MS4.4,baz=189,slow=39							
BBB	**Bella Bella**	**91.70**	**350**	LR	LR	23 03 22.3	
comp=Z,175nm,18.3s,MS4.5,baz=190,slow=38							
NEW	**Newport**	**93.27**	**342**	P	**P**	**22 18 28.0**	**0.0**
comp=Z,0.8nm,0.3s,mb4.6,baz=46,slow=2.6,SNR=3.8							
NEW				LR	LR	23 02 11.7	
comp=Z,171nm,18.6s,MS4.5,baz=208,slow=37							
NEW	**Newport**	**93.27**	**342**	P	**P**	**22 18 28.0**	**0.0**
NEW				LR	LR	23 02 11.7	
BDFB	**Brasilia**	**93.69**	**254**	LR	LR	23 04 24.5	
comp=Z,244nm,18.1s,MS4.7,baz=97,slow=38							
PDAR	**Pinedale Array**	**95.98**	**335**	P	**P**	**22 18 39.5**	**-1.0**
comp=Z,0.4nm,0.8s,mb3.9,baz=45,slow=4.8,SNR=4.0							
PDAR				LR	LR	23 07 31.2	
comp=Z,203nm,18.2s,MS4.6,baz=37,slow=39							

IDC 29 22:05:18.2±0.9, 676N×7300W, h151km±16km, mb2.7/1, mb1 3.0/3, mb1mx2.9/22, mbtmp3.3/3, Error ellipse: s-maj=72.5km s-min=8.0km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.31**	**215**	P	Pn	22 05 59.5	+2.4
9.5nm,0.3s,baz=86,slow=19,SNR=12							
ROSC				S	Sn	22 06 27.8	+0.8
8.5nm,0.3s,baz=96,slow=14,SNR=6.6							
SDV	**Santo Domingo**	**3.16**	**48**	P	Pn	22 06 09.3	+1.7
3.7nm,0.3s,baz=233,slow=5.1,SNR=13							
SDV				S	Sn	22 06 46.2	+0.4
5.5nm,0.3s,baz=264,slow=22,SNR=16							
YKA	**Yellowknife Ar**	**63.36**	**340**	P	P	22 15 31.0	-0.3
0.1nm,0.6s,baz=130,slow=6.8,SNR=4.2							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	PKPbc	22 24 52.3	+0.6
0.2nm,0.4s,baz=106,slow=2.6,SNR=8.8							

*ISCJB **29** 22:29:16.6±2.4, 365N±02×702E±0.1, h33km, Error ellipse: s-maj=23.7km s-min=14.7km az=37.6*
*NNC **29** 22:29:21.2±4.1, 3679N×6953E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=36.8km s-min=28.7km az=127.0*

ISC 29 22:29:26.4±3.9, 371N±03×701E±02, h35km, n8, σ0°78/11, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.76**	**27**	P	**Pn**	**22 30 49.6**	**+0.1**
SNR=13							
KK31	**Karatay Array**	**6.04**	**3**	P	**Pn**	**22 30 55.4**	**+2.1**
2.1nm,0.4s,baz=186,slow=13,SNR=40							
KK31				⇓S	**Sn**	**22 32 11.0**	**+10**
1.4nm,0.5s,baz=190,slow=24,SNR=3.6							
UCH	**Uchtor**	**6.17**	**32**	P	**Pn**	**22 30 54.9**	**-0.1**
SNR=5.1							
EKS2	**Erkin-Say**	**6.26**	**25**	P	**Pn**	**22 30 56.6**	**+0.4**
SNR=7.3							
AAK	**Ala-Archa**	**6.50**	**30**	P	**Pn**	**22 30 59.2**	**-0.3**
SNR=6.5							
CHMS	**Chumysh**	**6.91**	**29**	P	**Pn**	**22 31 04.1**	**-1.1**
SNR=5.4							
AB31	**Akbulak array**	**14.26**	**332**	P	**Pn**	**22 32 45.3**	**-0.5**
2.1nm,0.4s,baz=156,slow=12,SNR=71							
AB31				⇑S	**Sn**	**22 35 22.4**	**-0.3**
0.1nm,0.3s,baz=146,slow=25,SNR=4.2							
AKTO	**Aktyubinsk**	**15.95**	**331**	⇑P	**Pn**	**22 33 08.3**	**+0.1**
0.1nm,0.8s							
AKTO				⇑S	**S**	**22 36 06.7**	**-10**
2.5nm,3.6s							

*ISCJB **29** 22:31:36.5±1.0, 3636N±004×2763E±005, h2km±8km, Error ellipse: s-maj=6.8km s-min=6.0km az=73.0*
*ISK **29** 22:31:36.4, 3638N×2761E, h20km, MD3.1*
*ATH **29** 22:31:37.2, 3645N×2768E, h22km±4km, MD2.9/3*
*CSEM **29** 22:31:38.0±0.2, 3647N×2770E, h15km, MD3.1, Error ellipse: s-maj=5.1km s-min=3.6km az=76.0*

ISC 29 22:31:37.8±0.7, 3639N±003×2763E±005, h11km±5km, n12, σ0°95/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.34**	**354**	PG	**Pg**	**22 31 44.0**	**-0.6**
DAT				SG	**Sg**	**22 31 50.0**	**+0.8**
ARG	**Arkhangelos**	**0.44**	**113**	*e*PB	**Pg**	**22 31 46.0**	**-0.4**
ARG				*e*SB	**Sg**	**22 31 53.0**	**+0.7**
NISR	**Nisiros**	**0.46**	**299**	*e*PB	**Pg**	**22 31 47.0**	**+0.2**
NISR				*e*SB	**Sg**	**22 31 54.0**	**+1.1**
BDRM	**Kayabasi**	**0.69**	**348**	*i* P	**Pg**	**22 31 50.5**	**-0.6**
BDRM				*i* S	**Sg**	**22 32 00.6**	**+0.3**
BODT	**Bodrum**	**0.72**	**339**	PG	**Pg**	**22 31 51.1**	**-0.6**
BODT				SG	**Sg**	**22 32 01.6**	**+0.5**
MLSB	**Milas**	**0.91**	**8**	PG	**Pg**	**22 31 54.7**	**-0.7**
YER	**Yerkesik**	**0.91**	**35**	PG	**Pg**	**22 31 54.8**	**-0.6**
KARP	**Karpathos**	**0.92**	**204**	*e*PN	**Pn**	**22 31 56.5**	**-0.2**
KARP				*e*SN	**Sn**	**22 32 10.0**	**+0.1**
AYDN	**Tasoluk**	**1.29**	**9**	*i* P	**Pn**	**22 31 60.0**	**-1.7**
AYDN				*i* S	**Sb**	**22 32 18.2**	**-0.3**
GOLH	**Golhisar**	**1.77**	**61**	*i* P	**Pn**	**22 32 10.6**	**+2.3**
GOLH				*i* S	**Sn**	**22 32 32.6**	**+1.8**
GOLH	**Golhisar**	**1.77**	**61**	*i* S	**Sn**	**22 32 32.6**	**+1.7**
ELL	**Elmali**	**1.87**	**78**	*e*PN	**Pn**	**22 32 08.3**	**-1.5**

*IDC **29** 22:32:14.9±2.7, 5561N×16167E, h0km, mb3.7/10, mb1 4.0/10, mb1mx3.7/23, mbtmp3.7/10, Error ellipse: s-maj=71.4km s-min=21.9km az=6.0*
*NEIC **29** 22:32:19.6±0.7, 5553N×16164E, h35km, mb3.9/4, Error ellipse: s-maj=20.4km s-min=10.1km az=175.0*
*ISCJB **29** 22:32:22.6±0.3, 5559N±002×16206E±005, h80km±3km, mb3.7/14, Error ellipse: s-maj=5.2km s-min=3.7km az=30.2*
*MOS **29** 22:32:22.5±1.4, 5565N×16187E, h79km, mb4.0/1, Error ellipse: s-maj=20.0km s-min=8.9km az=86.0*
*KRSC **29** 22:32:22.2±0.4, 5558N×16207E, h76km±4km, ML4.0*

ISC 29 22:32:23.5±0.3, 5561N±002×16206E±006, h76km±3km, n56, σ1°10/81, mb3.7/14, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.73**	**35**	P	**Pn**	**22 32 38.9**	**-0.3**
KBTR				S	**Sn**	**22 32 51.0**	**+0.2**
KBTR	**Krutoberegovo**	**0.73**	**35**	*i* P	**Pn**	**22 32 38.8**	**-0.4**
KBTR				*i* S	**Sn**	**22 32 51.2**	**+0.4**
ZLN	**Zelenaya**	**0.82**	**300**	*i* P	**Pn**	**22 32 39.7**	**-0.5**
ZLN				*e*S	**Sn**	**22 32 52.7**	**+0.2**
CIRR	**Tsirk**	**0.90**	**305**	*i* P	**Pn**	**22 32 40.6**	**-0.5**
CIRR				*e*S	**Sn**	**22 32 54.4**	**+0.3**
LGNR	**Loginova**	**0.91**	**302**	*i* P	**Pn**	**22 32 41.1**	**-0.1**
LGNR				*e*S	**Sn**	**22 32 55.1**	**+0.8**
SMKR	**Semkarok**	**1.03**	**341**	*i* P	**Pn**	**22 32 42.7**	**0.0**
KRSR	**Krestovskiy**	**1.04**	**306**	*i* P	**Pn**	**22 32 42.1**	**-0.7**
KRSR				*e*S	**Sn**	**22 32 56.5**	**-0.7**
KLY	**Klyuchi**	**1.06**	**312**	P	**Pn**	**22 32 41.4**	**-1.6**
KLY				S	**Sn**	**22 32 55.4**	**-2.2**
KLY	**Klyuchi**	**1.06**	**312**	*i* P	**Pn**	**22 32 41.4**	**-1.6**
KLY				*i* S	**Sn**	**22 32 55.5**	**-2.1**
BDR	**Baidarnaya**	**1.07**	**334**	*i* P	**Pn**	**22 32 43.3**	**+0.1**
MKZ	**Mys Kozlova**	**1.07**	**190**	P	**Pn**	**22 32 42.0**	**-1.2**
MKZ				S	**Sn**	**22 32 56.0**	**-1.9**
MKZ	**Mys Kozlova**	**1.07**	**190**	*i* P	**Pn**	**22 32 42.0**	**-1.2**
MKZ				*e*S	**Sn**	**22 32 56.2**	**-1.7**
KPT	**Kopyto**	**1.10**	**290**	*i* P	**Pn**	**22 32 43.2**	**-0.3**
TUMR	**Tumrok**	**1.14**	**254**	*i* P	**Pn**	**22 32 43.8**	**-0.2**
SRKR	**Sorokina**	**1.16**	**335**	*i* P	**Pn**	**22 32 44.4**	**+0.1**
SRKR				*e*S	**Sn**	**22 33 00.4**	**+0.6**
KOZR	**Kozyr**	**1.30**	**291**	PN	**Pn**	**22 32 46.4**	**+0.3**
KOZR				S	**Sn**	**22 33 04.6**	**+1.5**
KOZ	**Kozyrevsk**	**1.31**	**291**	P	**Pn**	**22 32 46.4**	**+0.2**
KOZ				S	**Sn**	**22 33 04.6**	**+1.3**
KOZ	**Kozyrevsk**	**1.31**	**291**	*i* P	**Pn**	**22 32 46.3**	**+0.1**
SRDR	**Sredinnyy**	**1.50**	**299**	*i* P	**Pn**	**22 32 48.3**	**-0.3**
ESO	**Esso**	**1.93**	**281**	*e*P	**Pn**	**22 32 54.3**	**0.0**
ESO				*e*S	**Sn**	**22 33 17.0**	**-0.7**
ESO				Smax			
120nm,1.1s							
BKI	**Bering**	**2.27**	**99**	*i* P	**Pn**	**22 32 58.5**	**-0.3**
BKI				*i* S	**Sn**	**22 33 24.3**	**-1.5**
BKI				Smax			
320nm,0.8s							
SPN	**Mys Shipunski**	**2.79**	**206**	P	**Pn**	**22 33 04.6**	**-1.3**
SPN				S	**Sn**	**22 33 35.5**	**-2.9**
SPN	**Mys Shipunski**	**2.79**	**206**	*e*P	**Pn**	**22 33 04.6**	**-1.3**
SPN				*e*S	**Sn**	**22 33 35.6**	**-2.8**
NLC	**Nalytchevo**	**2.92**	**214**	P	**Pn**	**22 33 07.8**	**+0.2**
NLC				S	**Sn**	**22 33 40.5**	**-1.1**
NLC	**Nalytchevo**	**2.92**	**214**	*e*P	**Pn**	**22 33 07.8**	**+0.2**
NLC				*e*S	**Sn**	**22 33 40.9**	**-0.7**
SDLR	**Sedlovina**	**2.98**	**220**	*i* P	**Pn**	**22 33 09.3**	**+0.7**
SDLR				*e*S	**Sn**	**22 33 43.6**	**+0.3**
SMAR	**Somma**	**3.03**	**220**	*i* P	**Pn**	**22 33 09.9**	**+0.8**
AVH	**Avacha**	**3.05**	**221**	*e*P	**Pn**	**22 33 10.5**	**+1.1**
UGLR	**Uglovaya**	**3.06**	**220**	*i* P	**Pn**	**22 33 10.7**	**+1.1**
KOK	**Koryaka**	**3.07**	**222**	*i* P	**Pn**	**22 33 10.7**	**+1.0**
GNL	**Ganaly**	**3.07**	**233**	*e*P	**Pn**	**22 33 10.4**	**+0.7**
PET	**Petropavlovsk**	**3.27**	**219**	P	**Pn**	**22 33 13.3**	**+0.8**
PET				S	**Sn**	**22 33 50.3**	**0.0**
PET	**Petropavlovsk**	**3.27**	**219**	P	**Pn**	**22 33 13.2**	**+0.7**
PET	**Petropavlovsk**	**3.27**	**219**	*e*PN	**Pn**	**22 33 14.7**	**+2.2**
PET				*e*S	**Sn**	**22 33 50.3**	**0.0**
PET				smax			
comp=E,110nm,0.4s							
PET				smax			
comp=N,133nm,0.5s							
KRMR	**Karymshinskiy**	**3.62**	**221**	*e*P	**Pn**	**22 33 18.8**	**+1.6**
KRMR				*e*S	**Sn**	**22 34 00.4**	**+1.7**
RUS	**Russkaya**	**3.81**	**215**	P	**Pn**	**22 33 19.8**	**0.0**
RUS				S	**Sn**	**22 34 02.2**	**-1.2**
RUS	**Russkaya**	**3.81**	**215**	*e*P	**Pn**	**22 33 19.8**	**0.0**
RUS				*e*S	**Sn**	**22 34 02.3**	**-1.1**
GRL	**Gorelyy**	**3.86**	**219**	*e*P	**Pn**	**22 33 21.9**	**+1.4**
MIPR	**Malaya Ipel'ka**	**4.58**	**225**	P	**Pn**	**22 33 31.4**	**+1.1**
KAMR	**Kamenskoye**	**7.19**	**16**	*e*P	**Pn**	**22 34 08.4**	**+2.5**
TIXI	**Tiksi**	**21.34**	**332**	*e*P	**P**	**22 37 04.2**	**-0.2**
TIXI				MLR	MLR		
comp=Z,284nm,16.0s							
ILAR	**Eielson Array**	**26.25**	**49**	P	**P**	**22 37 52.2**	**+0.7**
comp=Z,0.3nm,0.8s,mb2.8,baz=280,slow=8.6,SNR=5.2							
ULN	**Ulaanbaatar**	**34.12**	**280**	P	**P**	**22 38 58.3**	**-2.7**
YKA	**Yellowknife Ar**	**40.55**	**45**	P	**P**	**22 39 56.8**	**+1.5**
comp=Z,0.2nm,0.6s,mb3.2,baz=300,slow=8.6,SNR=3.8							
KURK	**Kurchatov**	**47.41**	**301**	*e*P	**P**	**22 40 49.3**	**-0.9**
comp=Z,0.4nm,0.3s,mb3.6							
MKAR	**Makanchi Array**	**48.12**	**295**	P	**P**	**22 40 54.4**	**-1.3**
comp=Z,0.1nm,0.4s,mb3.0,baz=49,slow=6.7,SNR=4.6							
CHKZ	**Chkalovo**	**49.21**	**308**	*e*P	**P**	**22 41 03.1**	**-1.0**
comp=Z,0.4nm,0.4s,mb3.7							
BVAR	**Borovoye Array**	**49.74**	**308**	P	**P**	**22 41 07.0**	**-1.1**
comp=Z,0.3nm,0.4s,mb3.6,baz=52,slow=7.5,SNR=4.2							
BRVK	**Borovoye**	**49.77**	**308**	*e*P	**P**	**22 41 06.3**	**-2.1**
comp=Z,0.4nm,0.5s,mb3.6							
ARCES	**ARCESS Array B**	**51.25**	**342**	P	**P**	**22 41 18.6**	**-0.8**
comp=Z,2.3nm,0.9s,mb4.2,baz=30,slow=8.7,SNR=5.0							
NVAR	**Mina Array Bea**	**53.85**	**73**	P	**P**	**22 41 40.8**	**+2.1**
comp=Z,1.0nm,0.7s,mb3.9,baz=314,slow=5.9,SNR=5.5							
PDAR	**Pinedale Array**	**55.33**	**64**	P	**P**	**22 41 52.0**	**+2.6**
comp=Z,0.2nm,0.5s,mb3.4,baz=324,slow=7.3,SNR=3.9							
FINES	**FINESS Array B**	**58.26**	**337**	P	**P**	**22 42 09.5**	**-0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=46,slow=8.8,SNR=10							
NOA	**NORSAR Array B**	**61.44**	**344**	P	**P**	**22 42 31.7**	**-0.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=18,slow=7.0,SNR=2.7							
EKA	**Eskdalemuir Ar**	**68.76**	**351**	P	**P**	**22 43 21.3**	**+2.0**
comp=Z,2.5nm,1.1s,mb4.0,baz=20,slow=6.4,SNR=3.5							
MBWA	**Marble Bar**	**84.49**	**219**	*e*P	**P**	**22 44 47.4**	**-0.6**
comp=Z,5.7nm,0.7s,mb4.5							

*MDD **29** 22:35:17.1±0.7, 3685N×348E, h0km, mb4.0/9, Error ellipse: s-maj=9.7km s-min=4.9km az=73.0, PRXIMO*
*CRAAG **29** 22:35:17.4, 3682N×343E, Ml3.5*
*ISCJB **29** 22:35:19.0±0.5, 3704N±003×3.16E±004, h10km, Error ellipse: s-maj=5.0km s-min=4.2km az=121.6*
*CSEM **29** 22:35:19.1±0.3, 3697N×3.18E, h15km, ML3.5, Error ellipse: s-maj=6.9km s-min=6.3km az=71.0*
*NEIC **29** 22:35:19.7, 3697N×329E, h0km, MG3.8(MDD), After MDD.*

ISC 29 22:35:20.2±0.5, 3702N±003×321E±004, h10km, n56, σ1°26/97, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.26**	**212**	P	**Pg**	**22 35 24.3**	**-1.2**
ABMS	**Boumerdes**	**0.35**	**141**	P	**Pg**	**22 35 18.6**	**-8.5**
EMHD	**Djebel Mahouad**	**0.84**	**194**	P	**Pg**	**22 35 31.0**	**-5.5**
AKF	**Akfadou**	**1.16**	**109**	P	**Pb**	**22 35 35.0**	**-7.3**
EBNR	**Beni Rached**	**1.53**	**242**	P	**Pn**	**22 35 49.5**	**+1.9**
ECHA	**Ech Chlef**	**1.72**	**240**	P	**Pn**	**22 35 51.0**	**+0.8**
SET	**Setif**	**1.94**	**114**	P	**Pn**	**22 35 51.0**	**-2.3**
EANR	**'Ain N'Sour**	**2.01**	**238**	P	**Pn**	**22 35 52.0**	**-2.1**
CKHR	**Kef el Ahmar**	**2.11**	**118**	P	**Pn**	**22 35 57.0**	**+1.4**
ETRT	**Tiaret**	**2.24**	**224**	P	**Pn**	**22 35 54.0**	**-3.4**
EIBI	**Ibiza**	**2.49**	**324**	P	**Pn**	**22 36 01.4**	**+0.7**
8.3nm,0.3s,SNR=50							
EIBI				S	**Sn**	**22 36 31.7**	**+0.6**
17nm,0.2s,SNR=4.6							
EIBI				T		22 38 01.4	
SNR=8.6							
EIBI	**Ibiza**	**2.49**	**324**	P	**Pn**	**22 36 01.4**	**+0.7**
8.3nm,0.3s,SNR=50							
EIBI				S	**Sn**	**22 36 31.7**	**+0.6**
17nm,0.2s,SNR=4.6							
EIBI	**Ibiza**	**2.49**	**324**	P	**Pn**	**22 36 01.7**	**+1.0**
EIBI				S	**Sn**	**22 36 31.7**	**+0.6**
CASM	**Ain Smara**	**2.75**	**105**	P	**Pn**	**22 36 04.0**	**-0.3**
ETOS	**Mallorca**	**2.76**	**354**	P	**Pn**	**22 36 04.4**	**-0.1**
3.3nm,0.2s,SNR=20							
ETOS				S	**Sn**	**22 36 37.8**	**-0.1**
1.4nm,0.2s							
ETOS				T		22 38 12.3	
SNR=6.1							
ETOS	**Mallorca**	**2.76**	**354**	P	**Pn**	**22 36 04.4**	**-0.1**
3.3nm,0.2s,SNR=20							
ETOS				S	**Sn**	**22 36 36.8**	**-1.1**
1.4nm,0.2s							
ETOS	**Mallorca**	**2.76**	**354**	P	**Pn**	**22 36 04.5**	**0.0**
ETOS				S	**Sn**	**22 36 37.2**	**-0.7**
EBEN	**Beniarda**	**3.19**	**303**	P	**Pn**	**22 36 11.0**	**+0.5**
1.4nm,0.2s,SNR=14							
EBEN				S	**Sn**	**22 36 48.9**	**+0.3**
9.0nm,0.4s,SNR=7.0							
EBEN	**Beniarda**	**3.19**	**303**	P	**Pn**	**22 36 11.0**	**+0.5**
1.4nm,0.2s,SNR=14							
EBEN				S	**Sn**	**22 36 48.9**	**+0.3**
9.0nm,0.4s,SNR=7.0							
EBEN	**Beniarda**	**3.19**	**303**	P	**Pn**	**22 36 11.5**	**+1.0**
EBEN				S	**Sn**	**22 36 48.4**	**-0.2**
EMUR	**La Murta**	**3.63**	**284**	P	**Pn**	**22 36 16.7**	**+0.2**
0.8nm,0.3s,SNR=4.0							
EMUR				S	**Sn**	**22 37 00.7**	**+1.2**
0.5nm,0.3s,SNR=4.0							
EMUR	**La Murta**	**3.63**	**284**	P	**Pn**	**22 36 16.7**	**+0.2**
0.8nm,0.3s,SNR=4.0							
EMUR				S	**Sn**	**22 37 00.7**	**+1.2**
0.5nm,0.3s,SNR=4.0							
EMUR	**La Murta**	**3.63**	**284**	P	**Pn**	**22 36 16.7**	**+0.2**
EMUR				S	**Sn**	**22 37 00.0**	**+0.6**
ETOB	**Tobarra**	**4.10**	**295**	P	**Pn**	**22 36 23.9**	**+1.0**
4.3nm,0.2s,SNR=21							
ETOB				S	**Sn**	**22 37 10.6**	**-0.3**
2.5nm,0.2s							
ETOB	**Tobarra**	**4.10**	**295**	P	**Pn**	**22 36 23.9**	**+1.0**
4.3nm,0.2s,SNR=21							
ETOB				S	**Sn**	**22 37 10.6**	**-0.3**
2.5nm,0.2s							
ETOB	**Tobarra**	**4.10**	**295**	P	**Pn**	**22 36 24.8**	**+1.9**
ETOB				S	**Sn**	**22 37 10.6**	**-0.3**
ECHE	**Chera**	**4.17**	**309**	P	**Pn**	**22 36 25.7**	**+1.8**
7.7nm,0.3s,SNR=41							
ECHE				S	**Sn**	**22 37 14.2**	**+1.6**
1.2nm,0.2s							
ECHE	**Chera**	**4.17**	**309**	P	**Pn**	**22 36 25.7**	**+1.8**
7.7nm,0.3s,SNR=41							
ECHE				S	**Sn**	**22 37 11.9**	**-0.7**
1.2nm,0.2s							
ECHE	**Chera**	**4.17**	**309**	P	**Pn**	**22 36 25.8**	**+2.0**
ECHE				S	**Sn**	**22 37 11.9**	**-0.7**
EMOS	**Mosqueruela**	**4.41**	**320**	P	**Pn**	**22 36 28.2**	**+1.1**
2.8nm,0.2s,SNR=15							
EMOS				S	**Sn**	**22 37 18.2**	**-0.3**
4.1nm,0.3s							
EMOS	**Mosqueruela**	**4.41**	**320**	P	**Pn**	**22 36 28.2**	**+1.0**
2.8nm,0.2s,SNR=15							
EMOS				S	**Sn**	**22 37 18.2**	**-0.3**
4.1nm,0.3s							
EMOS	**Mosqueruela**	**4.41**	**320**	P	**Pn**	**22 36 28.2**	**+1.1**
EMOS				S	**Sn**	**22 37 17.4**	**-1.1**
ERTA	**Horta de San J**	**4.52**	**331**	P	**Pn**	**22 36 29.7**	**+0.9**
0.3nm,0.2s,SNR=7.9							
ERTA				S	**Sn**	**22 37 20.1**	**-1.3**
1.6nm,0.2s,SNR=6.7							
ERTA	**Horta de San J**	**4.52**	**331**	S	**Sn**	**22 37 20.1**	**-1.3**
1.6nm,0.2s,SNR=6.7							
ERTA	**Horta de San J**	**4.52**	**331**	P	**Pn**	**22 36 29.6**	**+0.8**
ERTA				S	**Sn**	**22 37 19.9**	**-1.5**
EPOB	**Poblet**	**4.63**	**340**	P	**Pn**	**22 36 31.3**	**+1.1**
0.5nm,0.1s,SNR=7.9							
EPOB				S	**Sn**	**22 37 21.6**	**-2.5**
1.0nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**4.63**	**340**	P	**Pn**	**22 36 31.3**	**+1.1**
0.5nm,0.1s,SNR=7.9							
EPOB				S	**Sn**	**22 37 21.6**	**-2.5**
1.0nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**4.63**	**340**	P	**Pn**	**22 36 31.6**	**+1.4**
EPOB				S	**Sn**	**22 37 22.1**	**-1.9**
EBER	**Berja**	**4.88**	**270**	P	**Pn**	**22 36 32.6**	**-1.1**
1.3nm,0.3s,SNR=7.9							
EBER				S	**Sn**	**22 37 28.8**	**-1.5**
0.4nm,0.2s,SNR=7.9							
EBER	**Berja**	**4.88**	**270**	P	**Pn**	**22 36 32.6**	**-1.1**
1.3nm,0.3s,SNR=7.9							
EBER				S	**Sn**	**22 37 28.8**	**-1.5**
0.4nm,0.2s,SNR=7.9							
EBER	**Berja**	**4.88**	**270**	P	**Pn**	**22 36 32.6**	**-1.1**
EBER				S	**Sn**	**22 37 27.9**	**-2.4**
EMIR	**Miracle**	**5.06**	**346**	P	**Pn**	**22 36 37.5**	**+1.5**
8.8nm,0.4s,SNR=17							
EMIR				S	**Sn**	**22 37 33.6**	**-1.0**
6.5nm,0.2s							
EMIR	**Miracle**	**5.06**	**346**	P	**Pn**	**22 36 37.5**	**+1.4**
8.8nm,0.4s,SNR=17							
EMIR				S	**Sn**	**22 37 33.6**	**-1.0**
6.5nm,0.2s							
EMIR	**Miracle**	**5.06**	**346**	P	**Pn**	**22 36 37.3**	**+1.2**
EMIR				S	**Sn**	**22 37 33.1**	**-1.4**
EQES	**Quesada**	**5.06**	**281**	P	**Pn**	**22 36 37.4**	**+1.3**
1.8nm,0.2s,SNR=10							
EQES				S	**Sn**	**22 37 36.6**	**+2.0**
1.1nm,0.2s							
EQES	**Quesada**	**5.06**	**281**	P	**Pn**	**22 36 37.4**	**+1.3**
1.8nm,0.2s,SNR=10							
EQES				S	**Sn**	**22 37

comp=Z,1.1nm,0.3s,baz=19,slow=11,SNR=14
CTA LR LR 22 49 02.2
comp=Z,358nm,21.4s,baz=19,slow=33
CTA Charters Tower 14.99 199 ⇓*iP* **Pn 22 44 18.9 +6.7**
CTA pmax pmax
comp=Z,8.0nm,0.6s
KAKA Kakadu 19.80 248 ⇓*iP* **Pn 22 45 10.7 -1.4**
comp=Z,52nm,0.6s
GUMO Guam 20.32 342 LR LR 22 51 31.2
comp=Z,246nm,22.0s,MS3.5,baz=199,slow=32
WRAB Tennant Creek 21.62 228 *eP* **P 22 45 30.2 +0.1**
comp=Z,63nm,0.6s,mb5.2
WRAB *eS* **S 22 49 26.6 -1.1**
WRAB Tennant Creek 21.62 228 *eP* **P 22 45 30.2 +0.2**
WRAB *eS* **S 22 49 26.6 -1.1**
WRAB pmax pmax
comp=Z,63nm,0.6s,mb5.2
WB2 Warramunga Arr 21.62 228 *eP* **P 22 45 30.4 +0.3**
WB2 *eS* **S 22 49 26.1 -1.7**
WRA Warramunga Arr 21.63 228 P **P 22 45 30.5 +0.3**
comp=Z,43nm,0.7s,mb5.0,baz=52,slow=11,SNR=85
WRA S **S 22 49 26.1 -1.8**
comp=Z,15nm,1.2s,baz=55,slow=18,SNR=15
WRA PcP PcP 22 49 31.8 +0.8
comp=Z,8.6nm,0.7s,baz=48,slow=2.1,SNR=15
WRA ScP ScP 22 53 07.1 +1.4
comp=Z,2.1nm,0.8s,baz=51,slow=2.8,SNR=5.8
WRA Warramunga Arr 21.63 228 P **P 22 45 30.5 +0.3**
WRA S **S 22 49 26.1 -1.9**
WRA 22 49 31.8
DZM Mont Dzumac 21.81 139 P **P 22 45 31.9 -0.1**
comp=Z,25nm,0.6s,mb4.8,baz=13,slow=12,SNR=35
DZM LR LR 22 52 38.3
comp=Z,577nm,21.8s,MS4.0,baz=24,slow=33
ASAR Alice Springs 24.38 222 P **P 22 45 58.4 +0.5**
comp=Z,41nm,1.0s,mb4.8,baz=58,slow=8.8,SNR=86
ASAR PcP PcP 22 49 37.4 +0.8
comp=Z,0.9nm,0.6s,baz=38,slow=1.6,SNR=4.1
ASAR ScP ScP 22 53 14.4 +1.5
comp=Z,2.0nm,0.8s,baz=50,slow=3.7,SNR=7.0
ASAR Alice Springs 24.38 222 P **P 22 45 58.4 +0.6**
ASAR 22 49 37.4
ARMA Armidale 24.46 179 *eP* **P 22 45 58.3 -0.3**
STKA Stephens Creek 27.45 198 *eP* **P 22 46 22.8 -2.9**
comp=Z,9.6nm,0.9s,mb4.3
STKA Stephens Creek 27.45 198 P **P 22 46 23.0 -2.7**
comp=Z,14nm,0.9s,mb4.5,baz=4.2,slow=9.4,SNR=14
STKA Stephens Creek 27.45 198 *eP* **P 22 46 22.6 -3.1**
FITZ Fitzroy Crossi 27.84 242 ⇓*iP* **P 22 46 29.5 +0.3**
comp=Z,43nm,0.6s,mb5.2
FITZ Fitzroy Crossi 27.84 242 P **P 22 46 29.4 +0.3**
comp=Z,26nm,0.6s,mb5.0,baz=76,slow=7.6,SNR=28
FORT Forrest 33.04 218 *eP* **P 22 47 14.7 -0.4**
comp=Z,14nm,0.8s,mb5.0
MBWA Marble Bar 34.15 240 *eP* **P 22 47 25.3 +0.6**
comp=Z,90nm,1.2s,mb5.6
TAU Tasmania Unive 37.09 185 *eP* **P 22 47 50.1 +0.2**
AFI Afiamalu 37.23 105 LR LR 23 01 33.9
comp=Z,176nm,18.1s,MS3.9,baz=37,slow=34
JOW Kunigami 39.38 327 P **P 22 48 11.4 +2.3**
comp=Z,31nm,0.8s,mb5.1,baz=149,slow=7.0,SNR=5.6
URZ Urewera 39.90 148 P **P 22 48 13.1 -0.4**
comp=Z,7.8nm,0.5s,mb4.7,baz=16,slow=3.1,SNR=8.0
URZ PcP PcP 22 50 16.6 -2.1
comp=Z,8.4nm,0.6s,baz=238,slow=1.5,SNR=6.8
URZ LR LR 23 01 13.0
comp=Z,537nm,21.1s,MS4.4,baz=6.1,slow=31
RPZ Rata Peaks 41.55 158 P **P 22 48 27.0 -0.2**
comp=Z,23nm,0.7s,mb4.9,baz=311,slow=1.8,SNR=15
RPZ LR LR 23 03 16.6
comp=Z,244nm,20.6s,MS4.1,baz=185,slow=32
MUN Mundaring 41.83 227 *eP* **P 22 48 29.8 +0.4**
YHNB Yeheng 42.03 317 *eP* **P 22 48 33.3 +2.2**
YHNB *epP* pP 22 48 41.8 +1.3
MJAR Matsushiro Arr 43.89 345 LR LR 23 04 16.0
comp=Z,150nm,19.5s,MS3.9,baz=205,slow=32
NJ2 Nanjing 48.71 323 *eP* **P 22 49 26.3 +2.3**
NJ2 AP pP 22 49 36.0 +2.4
NJ2 XP sP 22 49 40.0 +2.6
NJ2 PP PP 22 51 19.3 +2.1
NJ2 S **S 22 56 25.0 +0.5**
NJ2 XS sS 22 56 41.0 +0.8
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
NJ2 AMB AMB
comp=Z,60nm,3.6s
NJ2 LR LR
comp=N,510nm,14.0s,MS4.7
NJ2 LR LR
comp=E,240nm,13.8s,MS4.7
NJ2 LR LR
comp=Z,120nm,22.9s
WHN Wuhan 50.57 318 *eP* **P 22 49 41.0 +2.8**
KULM Kulim 51.74 281 *eP* **P 22 49 50.1 +3.1**
KULM *epP* pP 22 49 58.8 +2.2
ENH Enshi 53.77 314 *eP* **P 22 50 01.7 -0.3**
comp=Z,18nm,1.1s,mb4.9
ENH *epP* pP 22 50 11.8 +0.2
CN2 Changchun 54.63 337 *eP* **P 22 50 10.5 +2.3**
KMI Kunming 56.32 305 P **P 22 50 21.3 +0.9**
KMI AP pP 22 50 31.3 +1.2
KMI XP sP 22 50 36.3 +2.5
KMI S **S 22 58 12.5 +4.0**
KMI XS sS 22 58 30.0 +5.5
KMI SS SS 23 02 01.3 +5.8
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
KMI LR LR
comp=N,114nm,20.1s,MS4.1
KMI LR LR
comp=E,104nm,21.3s,MS4.1
KMI LR LR
comp=Z,113nm,19.5s,MS4.0
HIA Hailar 61.37 337 *eP* **P 22 50 55.6 +0.2**
comp=Z,6.8nm,0.8s,mb4.8
HIA Hailar 61.37 337 *eP* **P 22 50 55.7 +0.3**
HIA pmax pmax
comp=Z,7.0nm,0.8s
MA2 Magadan 65.20 360 *eP* **P 22 51 18.7 -2.1**
MA2 *eS* S 22 59 56.2 -5.6
MA2 *e* 23 01 12.1
ULN Ulaanbaatar 66.08 329 *eP* **P 22 51 26.4 -0.1**
comp=Z,4.4nm,1.0s,mb4.4
ULN *epP* pP 22 51 35.2 -1.1
ULN Ulaanbaatar 66.08 329 *eP* **P 22 51 26.4 -0.1**
ULN *e*PP* pP 22 51 35.2 -1.1
ULN pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
SONM Songino Array 66.40 329 P **P 22 51 29.1 +0.6**
comp=Z,3.0nm,0.6s,mb4.5,baz=146,slow=4.9,SNR=23
SONM LR LR 23 20 02.9
comp=Z,126nm,18.4s,MS4.2,baz=42,slow=36
CASY Casey 66.60 197 *eP* **P 22 51 29.3 -0.5**
comp=Z,17nm,0.3s,mb5.5
LSA Lhasa 67.58 305 *eP* **P 22 51 38.3 +2.2**
comp=Z,3.4nm,0.9s,mb4.4
LSA *epP* pP 22 51 46.5 +0.6
LSA Lhasa 67.58 305 *eP* **P 22 51 38.3 +2.3**
LSA *e*PP* pP 22 51 46.5 +0.6
LSA pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
ZAK Zakamensk 69.59 329 ⇑*iP* **P 22 51 48.6 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
YAK Yakutsk 69.69 349 ⇑*eP* **P 22 51 47.7 -1.5**
YAK pmax pmax
comp=Z,16nm,0.5s,mb5.2
BOD Bodaibo 70.22 340 *eP* **P 22 51 49.9 -2.5**
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
TLY Talaya 70.22 331 ⇓*eP* **P 22 51 52.6 +0.2**
TLY pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
JIRN Jiri 71.03 302 *eP* **P 22 51 57.3 -0.1**
comp=Z,7.3nm,0.8s,mb4.7
GUN Gumba 71.37 302 *eP* **P 22 51 59.7 +0.3**
comp=Z,15nm,0.7s,mb5.0
MOY Mondy 71.52 330 *eP* **P 22 52 01.1 +0.8**
PKI Pulchoki 71.67 301 *eP* **P 22 52 00.4 -0.8**
KKN Kakani 71.84 302 *eP* **P 22 52 01.9 -0.4**
comp=Z,7.3nm,0.7s,mb4.7
VNDA Vanda 71.87 178 P **P 22 52 01.9 -0.5**
comp=Z,7.6nm,0.9s,mb4.6,baz=334,slow=6.5,SNR=32
DMN Daman 71.93 301 *eP* **P 22 52 03.2 +0.4**
comp=Z,18nm,0.8s,mb5.0
GKN Gorkha 72.44 302 *eP* **P 22 52 05.8 -0.1**
comp=Z,6.9nm,0.5s,mb4.9
KOLN Koldanda 73.26 301 *eP* **P 22 52 10.5 -0.2**
comp=Z,13nm,0.7s,mb5.0
BILL Biiibino 74.45 6 *eP* **P 22 52 16.6 -1.1**
comp=Z,2.9nm,0.8s,mb4.3
BILL *epP* pP 22 52 27.6 -0.1
BILL Biiibino 74.45 6 *eP* **P 22 52 16.6 -1.1**
BILL *e*PP* pP 22 52 27.6 -0.1
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KRAR Krasnoyarsk 77.92 331 *eP* **P 22 52 38.0 +0.6**
TIXI Tiksi 78.72 353 ⇑*eP* **P 22 52 42.3 +0.5**
TIXI pmax pmax
comp=Z,7.0nm,2.5s,mb4.2
MKAR Makanchi Array 80.11 319 P **P 22 52 49.1 -0.3**
comp=Z,0.5nm,0.5s,mb3.7,baz=100,slow=7.6,SNR=17
MKAR PKKPbc PKKPbc 23 11 33.3 +0.3
comp=Z,0.4nm,0.7s,baz=305,slow=2.9,SNR=5.9
ZAL Zalesovo 81.18 327 P **P 22 52 53.5 -1.6**
comp=Z,1.3nm,0.5s,mb4.1,baz=0.1,slow=7.0,SNR=7.1
SML Sawmill 81.68 25 *eP* **P 22 52 57.3 -0.5**
SML *epP* pP 22 53 05.7 -2.2
MCK McKinley 82.39 23 *eP* **P 22 53 00.1 -1.4**
comp=Z,5.3nm,0.9s,mb4.5
MCK McKinley 82.39 23 *eP* **P 22 53 00.1 -1.4**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
COLA College 83.36 22 *eP* **P 22 53 05.1 -1.5**
comp=Z,8.3nm,0.8s,mb4.8
COLA College 83.36 22 *eP* **P 22 53 05.1 -1.5**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KURK Kurchatov 83.65 322 *eP* **P 22 53 07.0 -1.0**
comp=Z,2.6nm,0.8s,mb4.4
KURK *epP* pP 22 53 18.5 +0.4
KURK Kurchatov 83.65 322 *eP* **P 22 53 07.0 -1.0**
KURK *e*PP* pP 22 53 18.5 +0.4
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
ILAR Eielson Array 83.68 22 P **P 22 53 06.0 -2.1**
comp=Z,5.1nm,0.6s,mb4.8,baz=248,slow=5.1,SNR=88
ILAR LR LR 23 29 13.2
comp=Z,84nm,18.0s,MS4.2,baz=179,slow=35
MAW Mawson 84.04 203 *eP* **P 22 53 09.8 -0.2**
comp=Z,5.8nm,0.6s,mb4.9
MAW Mawson 84.04 203 P **P 22 53 09.0 -1.0**
comp=Z,6.6nm,0.6s,mb5.0,baz=91,slow=5.9,SNR=14
MAW Mawson 84.04 203 *eP* **P 22 53 09.8 -0.2**
MAW pmax pmax
comp=Z,6.0nm,0.6s
QSPA South Pole Qui 84.14 180 *eP* **P 22 53 10.0 -0.5**
comp=Z,35nm,1.0s,mb5.4
DAWY Dawson 86.34 24 *eP* **P 22 53 21.6 0.0**
DAWY *epP* pP 22 53 29.7 -2.0
DLBC Dease Lake 89.04 31 P **P 22 53 34.6 +0.2**
comp=Z,2.0nm,0.9s,mb4.4,baz=212,slow=7.9,SNR=5.2
CHKZ Chkalovo 89.15 324 *eP* **P 22 53 34.0 -1.0**
BVAR Borovoye Array 89.16 323 P **P 22 53 34.1 -0.9**
comp=Z,0.9nm,0.5s,mb4.4,baz=104,slow=6.3,SNR=7.0
INK Inuvik 89.95 21 P **P 22 53 37.5 -1.2**
comp=Z,1.9nm,0.5s,mb4.7,baz=259,slow=3.2,SNR=16
INK Inuvik 89.95 21 *eP* **P 22 53 38.0 -0.7**
comp=Z,3.7nm,0.8s,mb4.8
INK *epP* pP 22 53 47.8 -1.1
INK Inuvik 89.95 21 *eP* **P 22 53 38.0 -0.7**
INK *e*PP* pP 22 53 47.8 -1.1
INK pmax pmax
comp=Z,4.0nm,0.8s
ZRNK Zerenda 89.97 323 *eP* **P 22 53 37.9 -0.9**
ZRNK *epP* pP 22 53 47.0 -2.0
YBH Yreka Blue Hor 90.86 48 P **P 22 53 44.2 +1.2**
comp=Z,2.7nm,0.7s,mb4.7,baz=161,slow=4.4,SNR=6.4
YBH LR LR 23 32 07.1
comp=Z,109nm,18.3s,MS4.3,baz=357,slow=34
SYO Syowa Base 92.20 200 ⇑*eP* **P 22 53 53.0 +3.8**
SYO Syowa Base 92.20 200 ⇓*esP* sP 22 54 05.0 +2.0
SYO Syowa Base 92.20 200 ⇓*ePP* PP 22 57 28.2 -1.3
SYO Syowa Base 92.20 200 ⇓*ep*PKiKP 22 58 47.0
NVAR Mina Array Bea 93.91 52 P **P 22 53 58.5 +1.4**
comp=Z,5.8nm,0.8s,mb5.0,baz=255,slow=3.7,SNR=32
NVAR Mina Array Bea 93.91 52 P **P 22 53 58.5 +1.4**
YKA Yellowknife Ar 97.04 28 P **P 22 54 10.9 -0.4**
comp=Z,0.5nm,0.5s,mb4.2,baz=271,slow=4.8,SNR=16
YKA PKKPbc PKKPbc 23 10 48.8 -2.6
comp=Z,0.3nm,0.8s,baz=85,slow=2.8,SNR=6.9
YKA Yellowknife Ar 97.04 28 P **P 22 54 10.9 -0.4**
YKA PKKPbc PKKPbc 23 10 48.8 -2.6
EDM Edmonton 97.85 37 *eP* **P 22 54 15.2 +0.2**
PDAR Pinedale Array 100.66 48 P Pdif 22 54 27.8 +0.3
comp=Z,1.5nm,0.8s,baz=260,slow=2.1,SNR=13
ANMO Albuquerque 103.36 56 ⇓*iP* Pdif 22 54 39.1 -0.4
ARCES ARCESS Array B 107.40 343 PKiKP PKiKP 22 59 05.3 -0.7
comp=Z,1.4nm,0.6s,baz=105,slow=1.4,SNR=20
FINES FINESS Array B 111.35 335 PKiKP PKiKP 22 59 12.7 -0.7
comp=Z,1.1nm,0.6s,baz=95,slow=3.3,SNR=11
AKASG Malin Array Be 114.44 324 PKP PKiKP 22 59 18.5 -0.7
comp=Z,1.6nm,0.4s,baz=65,slow=2.2,SNR=16
AKASG PKKPbc PKKPbc 23 09 57.4 -0.7
comp=Z,0.8nm,0.5s,baz=262,slow=4.3,SNR=5.8
AKASG Malin Array Be 114.44 324 PKP PKiKP 22 59 18.5 -0.7
AKASG PKKPbc PKKPbc 23 09 57.4 -0.7
BR131 Keskin Array S 114.85 311 *ePKiKP* PKiKP 22 59 21.2 +1.2
BRTR Keskin Array B 114.85 311 PKP PKiKP 22 59 19.9 -0.2
comp=Z,1.5nm,0.7s,baz=123,slow=1.9,SNR=10.0
NB2 NORSAR Subarra 117.35 339 PKPd PKPdf 22 59 23.4 -1.4
comp=Z,28nm,2.0s,baz=44,slow=1.9
NB2 NORSAR Subarra 117.35 339 PKPd PKPdf 22 59 23.4 -1.4
baz=44,slow=1.9
NOA NORSAR Array B 117.35 339 PKP PKPdf 22 59 24.0 -0.8
comp=Z,1.9nm,0.7s,baz=49,slow=1.7,SNR=7.5
BURAR Bucovina Array 118.07 322 ⇑*iP* PKPdf 22 59 27.5 +1.3
BURAR Bucovina Array 118.07 322 ⇑*iP* PKPdf 22 59 27.4 +1.2
MLR Muntele Rosu 118.46 319 ⇓*iP* PKPdf 22 59 27.0 0.0
KWP Kalwaria 118.69 325 *ePKPdf* PKPdf 22 59 27.5 +0.1
STHS Stebnicka Huta 119.63 325 *ePKP* PKPdf 22 59 27.5 -1.7
OJC Ojcow 120.04 326 *ePKP* PKPdf 22 59 29.5 -0.5
KECS Kecovo 120.52 324 *ePKP* PKPdf 22 59 28.7 -2.2
OKC Ostrava-Krasne 121.15 326 *ePKPdf* PKPdf 22 59 32.3 +0.1
BZS Buzias 121.17 321 ⇓*iP* PKPdf 22 59 32.1 -0.1
VTS Vitosha 121.41 317 ⇓*iP* PKPdf 22 59 33.0 +0.4
VYHS Vyhne 121.47 325 *ePKP* PKPdf 22 59 32.7 -0.1
MORC Moravsky Berou 121.52 327 ⇓*iP* PKPdf 22 59 32.5 -0.4
DPC Dobruska-Polom 121.86 328 *ePKPdf* PKPdf 22 59 33.7 +0.2
UPC Upice 121.94 328 *ePKPdf* PKPdf 22 59 33.7 0.0
SCHQ Schefferville 122.36 25 PKP PKPdf 22 59 33.9 -0.6
comp=Z,3.0nm,1.1s,baz=323,slow=5.1,SNR=2.9
BSEG Bad Segeberg 122.57 334 *ePKPdf* PKPdf 22 59 35.3 +0.4
ZST Bratislava 122.61 325 *ePKP* PKPdf 22 59 34.9 -0.1
PKSM Moragy 122.72 323 ⇓*iP* PKPdf 22 59 35.2 0.0
BRG Berggiesshubel 122.79 329 *ePKPdf* PKPdf 22 59 35.2 -0.1
BRG Berggiesshubel 122.79 329 *eP* PKPdf 22 59 35.3 0.0
comp=Z,5.8nm,1.0s
TREC Trest 122.90 327 *ePKPdf* PKPdf 22 59 35.8 +0.3
CLL Collm 123.00 330 *ePKPdf* PKPdf 22 59 35.7 0.0
CLL Collm 123.00 330 ⇑*iPKPdf* PKPdf 22 59 35.0 -0.7
comp=Z,10.0nm,0.9s
CLL *epPKPdf* pPKPdf 22 59 45.0 -1.2
PRU Pruhonice 123.01 328 *ePKPdf* PKPdf 22 59 35.6 -0.1
CLZ Clausthal 123.93 332 *ePKPdf* PKPdf 22 59 37.6 +0.1
NKC Novy Kostel 123.94 329 *ePKPdf* PKPdf 22 59 37.5 0.0
KHC Kasperske Hory 124.02 328 *ePKPdf* PKPdf 22 59 37.8 +0.1
KHC *ex* x 22 59 46.8
MOX Moxa 124.10 330 *ePKPdf* PKPdf 22 59 38.3 +0.5
GERES GERESS Array B 124.12 327 PKP PKPdf 22 59 38.0 +0.1
comp=Z,6.2nm,0.6s,baz=73,slow=1.7,SNR=63
MANZ Manzenberg 124.27 329 *ePKPdf* PKPdf 22 59 38.7 +0.6
WET Wettzell 124.38 328 *ePKPdf* PKPdf 22 59 38.6 +0.2
GRA1 Grafenberg Arr 124.90 329 *ePKPdf* PKPdf 22 59 39.3 0.0
GRF Grafenberg Arr 124.90 329 *ePKPdf* PKPdf 22 59 39.3 0.0
MIV Mineville/With 125.36 39 *ePKPdf* PKPdf 22 59 40.3 +0.1
FUR Furstenfeldbru 125.82 328 *ePKPdf* PKPdf 22 59 41.7 +0.6
TNS Taunus Mts 125.92 331 *ePKPdf* PKPdf 22 59 41.4 +0.1
WTTA Wattenberg 126.17 327 ⇑*iP* PKPdf 22 59 41.9 +0.1
MOTA Moosalm 126.41 327 ⇓*eP* PKPdf 22 59 42.1 -0.1
STU Stuttgart 126.51 330 *ePKPdf* PKPdf 22 59 42.8 +0.4
DAVA Damuels 127.10 328 ⇓*eP* PKPdf 22 59 43.7 +0.2
comp=Z,7.8nm,0.8s
BFO Black Forest 127.23 330 *ePKPdf* PKPdf 22 59 43.4 -0.4
WLF Walferdange 127.38 332 *ePKPdf* PKPdf 22 59 45.5 +1.4
GIVF Givet 127.67 333 *ePKIKP* PKPdf 22 59 44.5 -0.2
CDF Champ du Feu 127.70 330 *ePKIKP* PKPdf 22 59 44.1 -0.6
BAIF Baives 127.98 334 *ePKIKP* PKPdf 22 59 45.2 0.0
comp=Z,5.6nm,0.5s
HINF Hinteralfeld 128.31 330 *ePKIKP* PKPdf 22 59 45.4 -0.5
HAU Haudompre 128.43 330 *ePKIKP* PKPdf 22 59 46.9 +0.8
comp=Z,24nm,0.8s
MEZF Maizieres J'vi 128.71 332 *ePKIKP* PKPdf 22 59 46.9 +0.3
comp=Z,12nm,0.5s
CABF La Chapelle 129.51 329 *ePKIKP* PKPdf 22 59 47.6 -0.6
comp=Z,16nm,0.8s
LPL La Plagne 129.91 328 *ePKIKP* PKPdf 22 59 49.4 +0.5
comp=Z,14nm,0.8s
LPG La Plagne 129.91 328 *ePKIKP* PKPdf 22 59 49.6 +0.7
comp=Z,12nm,0.7s
LOR Lormes 130.15 331 *ePKIKP* PKPdf 22 59 49.2 -0.2
MBDF Montbardon 130.41 327 *ePKIKP* PKPdf 22 59 50.8 +1.0
comp=Z,6.8nm,0.7s
SSF Saint Saulge 130.47 331 *ePKIKP* PKPdf 22 59 49.0 -1.0
PGF Pioggiola 130.51 324 *ePKIKP* PKPdf 22 59 50.3 +0.3
comp=Z,6.3nm,0.4s
SBF Sospel 130.60 326 *ePKIKP* PKPdf 22 59 49.6 -0.6
SMF Signal de Mont 130.60 331 *ePKIKP* PKPdf 22 59 50.4 +0.2
comp=Z,2.9nm,0.3s
AVF Avril sur Loir 130.74 331 *ePKIKP* PKPdf 22 59 50.3 -0.2
ORIF Oris-en-Rattie 130.76 328 *ePKIKP* PKPdf 22 59 51.3 +0.8
comp=Z,10nm,0.8s
LDF La Druitiere 130.95 335 *ePKIKP* PKPdf 22 59 50.7 -0.2
BGF Bois d'Agland 131.15 331 *ePKIKP* PKPdf 22 59 51.5 +0.2
comp=Z,6.6nm,0.5s
FRF La Foret Royal 131.23 326 *ePKIKP* PKPdf 22 59 51.1 -0.3
GRR Gorron 131.42 335 *ePKIKP* PKPdf 22 59 52.0 +0.2
VIVF Saint-Julien-l 131.43 329 *ePKIKP* PKPdf 22 59 51.6 -0.2
LMR La Mourre 131.45 326 *ePKIKP* PKPdf 22 59 52.0 +0.2
SMRF Simiane la Rot 131.55 327 *ePKIKP* PKPdf 22 59 52.8 +0.8
comp=Z,32nm,1.1s
TCF Toulx Ste Croi 131.65 332 *ePKIKP* PKPdf 22 59 52.6 +0.4
comp=Z,7.7nm,0.7s
LASF Ste Croix 132.39 328 *ePKIKP* PKPdf 22 59 54.3 +0.7
comp=Z,6.7nm,0.7s
MFF Saint Martin d 132.49 333 *ePKIKP* PKPdf 22 59 54.1 +0.3
comp=Z,11nm,0.6s
RJF Les Rejaudoux 132.69 331 *ePKIKP* PKPdf 22 59 54.7 +0.5
CAF Calviac 132.70 330 *ePKIKP* PKPdf 22 59 54.9 +0.7
LPAZ La Paz 135.24 120 PKP PKPdf 23 00 00.9 +2.0
comp=Z,1.9nm,0.5s,baz=184,slow=2.7,SNR=11
LPAZ La Paz 135.24 120 *ePKIKP* PKPdf 23 00 01.1 +2.1
ETSF Etsaut 135.48 330 *ePKIKP* PKPdf 22 59 59.9 +0.5
CPUP Villa Florida 137.67 140 PKP PKPdf 23 00 03.1 -0.4
comp=Z,1.6nm,0.6s,baz=162,slow=3.2,SNR=4.7
SDV Santo Domingo 138.34 83 *ePKPdf* PKPdf 23 00 06.2 +1.5
SDV *ep*PKPdf pPKPdf 23 00 17.0 +1.9
EVO Evora 142.42 333 *ePKP1* PKPdf 23 00 10.1 -2.0
comp=Z,13nm,1.0s
SAML Samuel 142.64 113 *ePKP* PKPdf 23 00 08.5 -4.0
TORD Torodi Ar. Bea 149.16 286 PKPbc PKPbc 23 00 28.3 +0.6
comp=Z,16nm,0.7s,baz=87,slow=2.2,SNR=111
BDFB Brasilia 151.36 138 PKPbc PKPbc 23 00 33.9 +0.8
comp=Z,21nm,0.6s,baz=223,slow=0.9,SNR=33
BDFB PKPab PKPab 23 00 42.1 +0.8
comp=Z,18nm,0.8s,baz=201,slow=2.9,SNR=9.7
DBIC Dimbokro 156.26 273 PKPbc PKPdf 23 00 45.0 +11
comp=Z,1.8nm,0.8s,baz=63,slow=4.7,SNR=4.2
DBIC PKPab PKPab 23 01 02.9 +0.9
comp=Z,5.3nm,0.8s,baz=31,slow=3.6,SNR=6.3
LIC Lamto 156.44 272 *ePKP2* PKPab 23 01 01.4 -1.4

IDC 29 22:41:30.9±40.0, 2104N×14312E, h382km±287km, mb3.0/5, mb1 3.2/5, mb1mx2.9/21, mbtmp3.7/5, Error ellipse: s-maj=658.5km s-min=62.2km az=179.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**55.10**	**313**	P	P	22 50 24.6	-0.3
	0.1nm,0.5s,baz=87,slow=8.8,SNR=4.8						
BVAR	**Borovoye Array**	**63.13**	**320**	P	P	22 51 19.6	+0.3
	0.4nm,0.3s,baz=83,slow=7.2,SNR=4.5						
YKA	**Yellowknife Ar**	**77.06**	**28**	P	P	22 52 42.6	-0.3
	0.2nm,0.5s,baz=294,slow=5.8,SNR=4.6						
ARCES	**ARCESS Array B**	**79.52**	**342**	P	P	22 52 56.2	-0.1
	6.9nm,1.2s,baz=52,slow=7.9,SNR=4.6						
FINES	**FINESS Array B**	**83.75**	**334**	P	P	22 53 17.3	-0.8
	0.5nm,0.7s,baz=78,slow=7.8,SNR=4.0						

*ISCJB **29** 22:59:36.8±2.3, 59S±0.1×15124E±008, h58km±21km, mb4.0/12, MS3.4/1, Error ellipse: s-maj=19.8km s-min=11.7km az=141.6*

*IDC **29** 22:59:39.0±2.8, 585S×151.19E, h62km±24km, mb3.8/10, mb1 4.1/11, mb1mx4.0/16, mbtmp4.1/11, ML3.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/18, Error ellipse: s-maj=22.3km s-min=13.6km az=133.0*

*NEIC **29** 22:59:39.2±1.1, 587S×15126E, h64km±10km, mb4.4/2, Error ellipse: s-maj=10.4km s-min=7.4km az=167.0*

ISC 29 22:59:39.1±1.6, 59S±01×15126E±008, h64km±15km, n25, σ0§65/21, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.38**	**229**	P	**Pn**	**23 00 57.7**	**+1.0**
	8.2nm,0.3s,baz=39,slow=9.5,SNR=22						
PMG				S	**Sn**	**23 01 56.1**	**-1.2**
	17nm,0.3s,baz=138,slow=15,SNR=10						
HNR	**Honiara**	**9.31**	**113**	LR	LR	23 04 33.1	
	comp=Z,181nm,20.5s,baz=359,slow=31						
HNR	**Honiara**	**9.31**	**113**	*e*Pn	**Pn**	**23 01 50.3**	**-0.2**
WRAB	**Tennant Creek**	**21.58**	**228**	*eP*	**P**	**23 04 23.5**	**0.0**
	21nm,0.8s,mb4.6						
WRAB				*e*		23 04 37.4	
WRA	**Warramunga Arr**	**21.60**	**228**	P	**P**	**23 04 23.7**	**+0.1**
	10.0nm,0.8s,mb4.3,baz=52,slow=11,SNR=33						
WRA				S	**S**	**23 08 19.3**	**+0.1**
	1.0nm,0.7s,baz=54,slow=18,SNR=5.7						
DZM	**Mont Dzumac**	**21.80**	**139**	P	**P**	**23 04 26.2**	**+0.5**
	6.1nm,0.7s,mb4.2,baz=301,slow=20,SNR=6.1						
DZM				LR	LR	23 11 32.0	
	comp=Z,162nm,21.7s,baz=202,slow=33						
ASAR	**Alice Springs**	**24.34**	**222**	P	**P**	**23 04 51.5**	**+0.6**
	7.0nm,0.9s,mb4.1,baz=57,slow=9.1,SNR=30						
ASAR				S	**S**	**23 09 17.6**	**+12**
	1.2nm,0.9s,baz=38,slow=21,SNR=6.0						
STKA	**Stephens Creek**	**27.42**	**198**	P	**P**	**23 05 18.6**	**-0.1**
	5.4nm,0.9s,mb4.1,baz=5.2,slow=10,SNR=8.5						
FITZ	**Fitzroy Crossi**	**27.81**	**242**	P	**P**	**23 05 22.3**	**+0.1**
	2.9nm,0.6s,mb4.1,baz=38,slow=18,SNR=9.9						
MBWA	**Marble Bar**	**34.11**	**240**	*eP*	**P**	**23 06 17.6**	**0.0**
ULN	**Ulaanbaatar**	**66.09**	**329**	P	**P**	**23 10 20.5**	**+1.1**
	1.7nm,0.4s,mb4.4						
SONM	**Songino Array**	**66.41**	**329**	P	**P**	**23 10 21.6**	**+0.2**
	0.6nm,0.7s,mb3.8,baz=145,slow=5.2,SNR=3.9						
VNDA	**Vanda**	**71.84**	**178**	P	**P**	**23 10 55.0**	**-0.1**
	1.9nm,1.0s,mb4.0,baz=336,slow=5.0,SNR=8.2						
VNDA	**Vanda**	**71.84**	**178**	P	**P**	**23 10 55.0**	**-0.1**
MKAR	**Makanchi Array**	**80.12**	**319**	P	**P**	**23 11 42.2**	**+0.1**
	0.4nm,0.9s,mb3.4,baz=90,slow=7.3,SNR=3.8						
ILAR	**Eielson Array**	**83.72**	**22**	P	**P**	**23 11 59.2**	**-1.8**
	0.8nm,0.6s,mb4.0,baz=245,slow=5.3,SNR=13						
BRVK	**Borovoye**	**89.24**	**323**	P	**P**	**23 12 28.1**	**+0.1**
ZRNK	**Zerenda**	**89.98**	**323**	*eP*	**P**	**23 12 30.7**	**-0.7**
YKA	**Yellowknife Ar**	**97.07**	**28**	P	**P**	**23 13 04.3**	**+0.2**
	0.1nm,0.3s,mb3.7,baz=265,slow=3.9,SNR=4.5						
GERES	**GERESS Array B**	**124.13**	**327**	PKP	PKPdf	23 18 31.2	+0.8
	1.1nm,0.6s,baz=70,slow=1.6,SNR=11						
LPAZ	**La Paz**	**135.25**	**120**	PKP	PKPdf	23 18 54.4	+3.0
	0.7nm,0.8s,baz=53,slow=5.1,SNR=3.5						
LPAZ	**La Paz**	**135.25**	**120**	PKP	PKPdf	23 18 54.4	+3.0
SDV	**Santo Domingo**	**138.36**	**83**	PKP	PKPdf	23 18 59.2	+2.1
	0.9nm,0.3s,baz=292,slow=4.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.15**	**286**	PKPbc	PKPbc	23 19 21.5	+1.3
	4.0nm,0.8s,baz=61,slow=2.3,SNR=26						
BDFB	**Brasilia**	**151.35**	**138**	PKPbc	PKPbc	23 19 26.9	+1.4
	3.0nm,0.5s,baz=152,slow=6.5,SNR=4.9						

*IDC **29** 23:02:32.9±3.1, 5424N×16131W, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.7/26, mbtmp

SDPT	**Sand Point**	**0.62**	**9**	P	**Pn**	**23 03 00.7**	**+0.6**
SDPT				S	**Sn**	**23 03 11.8**	**+0.7**
AKUT	**Akutan**	**3.05**	**261**	*e*P	**Pn**	**23 03 30.0**	**-1.2**
KDAK	**Kodiak Island**	**5.43**	**53**	Pn	**Pn**	**23 04 04.2**	**+0.7**
	1.0nm,0.3s,baz=227,slow=6.3,SNR=25						
KDAK				Sn	**Sn**	**23 05 02.9**	**-1.8**
	2.8nm,0.3s,baz=332,slow=23,SNR=23						
SVW2	**Sparrevohn**	**6.92**	**21**	*e*P	**Pn**	**23 04 25.9**	**+2.0**
SML	**Sawmill**	**9.59**	**37**	P	**Pn**	**23 04 58.6**	**-1.7**
ILAR	**Eielson Array**	**12.18**	**29**	Pn	**Pn**	**23 05 32.3**	**-3.3**
	0.1nm,0.3s,baz=221,slow=13,SNR=7.6						
ILAR				Sn	**Sn**	**23 07 41.5**	**-8.0**
	0.1nm,0.3s,baz=208,slow=12,SNR=4.1						
DAWY	**Dawson**	**14.22**	**40**	*e*Pn	**Pn**	**23 06 11.9**	**+9.3**
DLBC	**Dease Lake**	**17.18**	**65**	P	**Pn**	**23 06 40.4**	**+0.5**
	0.4nm,0.3s,baz=256,slow=12,SNR=5.9						
INK	**Inuvik**	**18.53**	**32**	P	**Pn**	**23 06 55.5**	**-0.7**
	0.4nm,0.3s,baz=198,slow=11,SNR=8.1						
INK	**Inuvik**	**18.53**	**32**	*e*Pn	**Pn**	**23 06 56.1**	**-0.1**
	0.8nm,0.3s						
YKA	**Yellowknife Ar**	**24.71**	**53**	P	**P**	**23 08 01.1**	**+2.5**
	0.3nm,0.7s,mb2.8,baz=266,slow=8.5,SNR=7.0						
YKA	**Yellowknife Ar**	**24.71**	**53**	P	**P**	**23 08 01.1**	**+2.5**
YAK	**Yakutsk**	**35.56**	**311**	*e*P	**P**	**23 09 23.7**	**-11**
ARCES	**ARCESS Array B**	**55.95**	**357**	P	**P**	**23 12 14.3**	**-0.6**
	4.6nm,1.1s,mb4.4,baz=17,slow=6.2,SNR=8.3						
ARCES	**ARCESS Array B**	**55.95**	**357**	P	**P**	**23 12 14.3**	**-0.6**
FINES	**FINESS Array B**	**64.04**	**356**	P	**P**	**23 13 10.2**	**0.0**
	0.6nm,0.5s,mb3.7,baz=358,slow=8.1,SNR=13						
NOA	**NORSAR Array B**	**64.39**	**4**	P	**P**	**23 13 13.3**	**+0.8**
	0.7nm,0.7s,mb3.6,baz=13,slow=9.6,SNR=3.6						
BVAR	**Borovoye Array**	**64.59**	**329**	P	**P**	**23 13 13.5**	**-0.3**
	0.6nm,0.6s,mb3.6,baz=38,slow=7.5,SNR=5.0						
MKAR	**Makanchi Array**	**65.75**	**318**	P	**P**	**23 13 21.1**	**-0.2**
	0.3nm,0.6s,mb3.3,baz=33,slow=6.0,SNR=4.7						
AKASG	**Malin Array Be**	**74.61**	**354**	P	**P**	**23 14 15.6**	**+0.1**
	0.4nm,0.3s,mb3.6,baz=9.5,slow=5.9,SNR=4.2						

CASC 29 23:32:50.5±1.7, 1319N×9086W, h6km±18km, MD4.1, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.05**	**22**	*e*P	Pg	23 33 10.0	-0.7
IXG				*e*S	Sg	23 33 25.3	+1.0
SNJE	**San Jose**	**1.39**	**61**	*e*P	Pn	23 33 15.4	-1.0
SNJE				*e*P		23 33 15.5	
RBDL	**Robledal**	**1.46**	**51**	*e*P	Pn	23 33 16.5	-1.0
RBDL				*e*P		23 33 16.6	
BOQS	**Boqueron**	**1.63**	**71**	*e*P	Pn	23 33 19.1	-0.6
BOQS				*e*S	Sn	23 33 43.5	+2.5
LFRS	**El Faro**	**1.80**	**76**	*e*P	Pn	23 33 21.9	-0.2
LFRS				*e*P		23 33 22.0	
MTO2	**Montecristo 2**	**1.89**	**50**	*e*P	Pn	23 33 22.6	-0.7
LCBS	**La Ceiba**	**1.89**	**76**	*e*P	Pn	23 33 23.0	-0.3
LCBS				*e*P		23 33 23.1	
LCBS				*e*S	Sn	23 33 48.5	+1.1
SNVI	**San Vicente**	**2.01**	**78**	*e*P	Pn	23 33 25.5	+0.5
SNVI				*e*S	Sn	23 33 50.3	-0.2
MRL	**Marmol**	**2.18**	**31⇑**	*e*P	Pn	23 33 27.6	+0.3

IDC ***29*** *23:38:50.3±0.6, 3551N×9571E, h0km, mb4.5/16, mb1 4.7/18, mb1mx4.6/23, mbtmp4.6/18, ML4.2/3, MS4.6/20, Ms1 4.6/20, ms1mx4.5/26, Error ellipse: s-maj=21.1km s-min=11.7km az=53.0*

BJI ***29*** *23:38:52.9, 3552N×9562E, h37km, mB5.1, mb4.8, ML5.1, Ms5.4, Msz5.0*

ISCJB ***29*** *23:38:54.0±0.2, 3528N±002×9570E±002, h33km, mb4.9/104, MS4.8/52, Error ellipse: s-maj=3.5km s-min=2.7km az=7.9*

MOS ***29*** *23:38:54.6±1.5, 3549N×9566E, h31km, mb5.2/65, MS4.9/23, Error ellipse: s-maj=7.1km s-min=3.9km az=121.7*

NEIC ***29*** *23:38:56.2±0.3, 3526N×9565E, h35km, mb5.0/65, MS4.9/5, Error ellipse: s-maj=6.7km s-min=6.2km az=159.0*

HRVD ***29*** *23:38:56.2±0.2, 3553N×9562E, h24km±1km, MW5.3/37, Centroid moment Tensor Solution. LP body waves: s29,c47;Mantle waves: s37,c66; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09±.04; $M_{\theta\theta}$0.87±.04; $M_{\phi\phi}$-0.78±.04; $M_{r\theta}$-0.45±.09; $M_{\theta\phi}$0.67±.04; $M_{\phi r}$-0.22±.07; Best double couple: $M_0$1.16000×10^{17} NP1:ϕ_s297.00000°, δ73.00000°, λ11.00000°. NP2: ϕ_s204.00000°, δ79.00000°, λ163.00000°. Principal axes: T 1.2920, Plg20.0000°, Azm160.0000°; N -0.2650, Plg70.0000°, Azm353.0000°; P -1.0280, Plg4.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***29*** *23:39:02.3, 3602N×9559E, h33km, mb5.1, MS4.9, Qinghai, China*

ISC 29 23:38:56.1±0.2, 3528N±002×9567E±002, h35km, n351, σ1ϑ39/377, mb4.9/104, MS4.8/52, 13C-11D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**5.28**	**37**	P	**Pn**	**23 40 11.5**	**-1.0**
GTA				S	**Sn**	**23 41 12.5**	**+0.4**
GTA				Smax			
	comp=N,1μm,1.4s						
GTA				Smax			
	comp=E,2μm,1.4s						
GTA				LR	LR		
	comp=N,30μm,13.3s						
GTA				LR	LR		
	comp=E,36μm,11.8s						
GTA				LR	LR		
	comp=Z,10μm,12.5s						
LZH	**Lanzhou**	**6.70**	**81**	P	**Pn**	**23 40 31.8**	**-0.2**
LZH				S	**Sn**	**23 41 47.5**	**+0.4**
LZH				Smax			
	comp=N,2μm,1.1s						
LZH				Smax			
	comp=E,2μm,1.2s						
LZH				LR	LR		
	comp=E,23μm,8.3s						
LZH				LR	LR		
	comp=Z,25μm,9.5s						
LSA	**Lhasa**	**6.75**	**216**	P	**Pn**	**23 40 36.0**	**+3.4**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.4s						
LSA				LR	LR		
	comp=N,20μm,13.2s						
LSA				LR	LR		
	comp=E,36μm,11.8s						
LSA				LR	LR		
	comp=Z,3μm,11.2s						
LSA	**Lhasa**	**6.75**	**216**	*e*Pn	**Pn**	**23 40 33.9**	**+1.3**
	comp=Z,117nm,1.2s						
LSA				*e*Sn	**Sn**	**23 41 54.1**	**+5.8**
LSA	**Lhasa**	**6.75**	**216**	*e*P	**Pn**	**23 40 33.9**	**+1.3**
LSA				*e*		23 41 54.1	
LSA				pmax	pmax		
	comp=Z,117nm,1.2s						
CD2	**Chengdu**	**8.06**	**120**	P	**Pn**	**23 40 54.5**	**+3.8**
CD2				XP		23 41 07.0	
CD2				S	**Sn**	**23 42 29.0**	**+8.4**
CD2				XS		23 42 40.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,80nm,3.9s						
CD2				LR	LR		
	comp=N,36μm,11.2s						
CD2				LR	LR		
	comp=Z,7μm,10.2s						
SHL	**Shillong**	**10.22**	**200**	*e*P	**Pn**	**23 41 19.0**	**-1.2**
SHL				*e*S	**Sn**	**23 43 03.0**	**-10**
WMQ	**Urumqi**	**10.51**	**327**	P	**Pn**	**23 41 18.8**	**-5.5**
WMQ				AP		23 41 24.3	
WMQ				S	**Sn**	**23 43 16.8**	**-4.0**
WMQ				SS		23 43 31.5	
WMQ				PCP	PcP	23 47 20.8	-6.6
WMQ				AMB	AMB		
	comp=Z,1μm,3.2s						
WMQ				LR	LR		
	comp=N,16μm,10.2s						
WMQ				LR	LR		
	comp=E,13μm,9.6s						
WMQ				LR	LR		
	comp=Z,14μm,13.2s						
JIRN	**Jiri**	**11.09**	**229**	*e*P	**Pn**	**23 41 31.4**	**-0.8**
	comp=Z,86nm,1.1s						
GUN	**Gumba**	**11.11**	**231**	*e*P	**Pn**	**23 41 32.5**	**0.0**
KKN	**Kakani**	**11.58**	**233**	*e*P	**Pn**	**23 41 37.6**	**-1.3**
	comp=Z,23nm,0.7s						
PKI	**Pulchoki**	**11.65**	**232**	*e*P	**Pn**	**23 41 38.3**	**-1.5**
DMN	**Daman**	**11.82**	**233**	*e*P	**Pn**	**23 41 41.2**	**-0.9**
KMI	**Kunming**	**11.82**	**147**	P	**Pn**	**23 41 43.0**	**+0.8**
KMI				PP		23 41 52.5	
KMI				S	**Sn**	**23 43 54.5**	**+1.7**
KMI				AMB	AMB		
	comp=Z,38nm,0.9s						
KMI				AMB	AMB		
	comp=Z,264nm,3.4s						
KMI				LR	LR		
	comp=N,6μm,11.1s						
KMI				LR	LR		
	comp=E,12μm,10.0s						
KMI				LR	LR		
	comp=Z,6μm,9.1s						
GKN	**Gorkha**	**11.87**	**235**	*e*P	**Pn**	**23 41 40.9**	**-1.9**
	comp=Z,30nm,0.8s						
AGT	**Agartala**	**11.99**	**200**	*ex*	x	23 40 40.4	
BTO	**Baotou**	**12.51**	**61**	*e*P	**Pn**	**23 41 47.0**	**-4.6**
BTO				S	**Sn**	**23 44 14.5**	**+4.9**
BTO				AMB	AMB		
	comp=Z,87nm,1.3s						
BTO				LR	LR		
	comp=N,3μm,5.3s						
BTO				LR	LR		
	comp=E,3μm,10.3s						
ENH	**Enshi**	**12.65**	**109**	*e*Pn	**Pn**	**23 41 53.9**	**+0.4**
	comp=E,30nm,0.8s						
ENH				*e*Sn	**Sn**	**23 44 12.5**	**-0.6**
KOLN	**Koldanda**	**12.72**	**237**	*e*P	**Pn**	**23 41 51.3**	**-3.2**
	comp=E,42nm,1.1s						
GYA	**Guiyang**	**12.89**	**130⇓**	*i*P	**Pn**	**23 41 56.0**	**-0.8**
GYA				PP		23 42 06.5	
GYA				SS		23 44 36.5	
GYA				AMB	AMB		
	comp=Z,50nm,1.0s						
GYA				AMB	AMB		
	comp=Z,330nm,4.8s						
GYA				LR	LR		
	comp=N,7μm,11.6s						
GYA				LR	LR		
	comp=E,6μm,10.2s						
GYA				LR	LR		
	comp=Z,6μm,10.8s						
HHC	**Hu-ho-hao-te**	**13.70**	**61**	*e*P	**Pn**	**23 42 03.5**	**-4.3**
HHC				AP		23 42 10.5	
HHC				PP		23 42 13.8	
HHC				XP		23 42 15.5	
HHC				S	**Sn**	**23 44 38.5**	**-0.1**
HHC				AMB	AMB		
	comp=Z,13nm,0.5s						
HHC				LR	LR		
	comp=N,3μm,10.2s						
HHC				LR	LR		
	comp=E,3μm,8.7s						
HHC				LR	LR		
	comp=Z,3μm,10.2s						
CAL	**Calcutta**	**14.22**	**209**	*ex*	x	23 45 05.3	
CAL				*ex*	x	23 46 15.6	
BOK	**Bokaro**	**14.25**	**219**	*ex*	x	23 46 12.3	
SONM	**Songino Array**	**14.87**	**29**	Pn	**Pn**	**23 42 20.7**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=216,slow=14,SNR=54						
SONM				Lg		23 46 29.6	
	comp=Z,0.2nm,0.3s,baz=225,slow=27,SNR=5.1						
ULN	**Ulaanbaatar**	**15.16**	**31**	*e*Pn	**Pn**	**23 42 24.8**	**-2.8**
	comp=Z,36nm,1.0s						
ULN				*e*Sn	**Sn**	**23 45 15.8**	**+1.4**
ULN	**Ulaanbaatar**	**15.16**	**31**	*e*P	**Pn**	**23 42 24.8**	**-2.8**
ULN				*e*		23 45 15.8	
ULN				pmax	pmax		
	comp=Z,36nm,1.0s						
MK31	**Makanchi Array**	**15.28**	**323**	*i*P	**Pn**	**23 42 21.6**	**-7.5**
MK31				pmax	pmax		
	comp=Z,235nm,0.8s						
MKAR	**Makanchi Array**	**15.28**	**323**	Pn	**Pn**	**23 42 21.0**	**-8.1**
	comp=Z,8.5nm,0.3s,baz=128,slow=11,SNR=392						
MKAR				Sn	**Sn**	**23 45 08.2**	**-9.0**
	comp=Z,0.3nm,0.3s,baz=126,slow=27,SNR=2.6						
MKAR				Lg		23 46 49.7	
	baz=135,slow=23,SNR=2.2						
MKAR				LR	LR	23 48 51.3	
	comp=Z,4μm,21.6s,baz=139,slow=40						
MKAR	**Makanchi Array**	**15.28**	**323**	P	**Pn**	**23 42 21.6**	**-7.5**
MKAR				pmax	pmax		
	comp=Z,200nm,0.9s						
ZAK	**Zakamensk**	**16.08**	**18**	*e*P	**Pn**	**23 42 38.3**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,98nm,1.8s						
ZAK				pmax	pmax		
	comp=Z,276nm,2.0s						
KSH	**Kashi**	**16.21**	**291**	P	**Pn**	**23 42 41.0**	**-0.1**
KSH				AP	pP	23 42 45.8	-7.2
KSH				XP	sP	23 42 48.0	-10
KSH				PP		23 42 55.0	
KSH				PPP		23 43 03.3	
KSH				S	**S**	**23 45 42.8**	**-9.1**
KSH				XS	sS	23 45 50.3	-16
KSH				AMB	AMB		
	comp=Z,32nm,0.9s						
KSH				AMB	AMB		
	comp=Z,227nm,3.0s						
KSH				LR	LR		
	comp=N,7μm,12.4s						
KSH				LR	LR		
	comp=E,11μm,13.4s						
KSH				LR	LR		
	comp=Z,6μm,10.7s						
WHN	**Wuhan**	**16.38**	**101**	*e*P	**Pn**	**23 42 42.5**	**-0.8**
WHN				LR	LR		
	comp=Z,11μm,12.4s						
AAA	**Alma-Ata**	**16.53**	**304**	*i*P	**Pn**	**23 42 41.7**	**-3.5**
AAA				*i*S	S	23 45 35.6	-23
AAA				pmax	pmax		
	comp=Z,1μm,1.4s						
AAA				smax			
	comp=N,1μm,1.4s						
AAA				MLR	MLR		
	comp=Z,8μm,11.1s						
MOY	**Mondy**	**16.82**	**12**	*e*P	**Pn**	**23 42 47.4**	**-1.5**
MOY				pmax	pmax		
	comp=Z,207nm,1.8s						
BJT	**Baijiatuau**	**16.90**	**68**	*e*Pn	**Pn**	**23 42 48.7**	**-1.2**
	comp=Z,93nm,1.3s						
BJT	**Baijiatuau**	**16.90**	**68**	*e*P	**Pn**	**23 42 48.7**	**-1.2**
BJT				pmax	pmax		
	comp=Z,93nm,1.3s						
BJI	**Beijing**	**16.91**	**68**	P	**Pn**	**23 42 49.0**	**-1.0**
BJI				AMB	AMB		
	comp=Z,34nm,2.0s						
BJI				AMB	AMB		
	comp=Z,760nm,3.3s						
BJI				LR	LR		
	comp=N,4μm,8.9s						
BJI				LR	LR		
	comp=E,3μm,10.1s						
BJI				LR	LR		
	comp=Z,1μm,28.7s						
NDI	**New Delhi**	**16.97**	**252**	*ex*	x	23 42 44.5	
KZA	**Kyzart**	**17.31**	**299**	P	**Pn**	**23 42 52.5**	**-2.4**
SNR=15							
TKM2	**Tokmak 2**	**17.32**	**302**	P	**Pn**	**23 42 50.2**	**-5.0**
SNR=28							
TLY	**Talaya**	**17.37**	**17⇑**	*e*P	**Pn**	**23 42 51.6**	**-4.1**
TIA	**Tai'an**	**17.44**	**81**	P	**Pn**	**23 42 57.0**	**+0.4**
TIA				S	**S**	**23 45 59.0**	**-18**
TIA				LR	LR		
	comp=N,5μm,10.0s						
TIA				LR	LR		
	comp=E,5μm,10.0s						
KBK	**Karagaybulak**	**17.69**	**301**	P	**Pn**	**23 42 57.8**	**-1.9**
SNR=27							
UCH	**Uchtor**	**17.88**	**299**	P	**Pn**	**23 43 02.9**	**+0.9**
SNR=14							
FRU	**Bishkek**	**17.98**	**301**	*e*P	**Pn**	**23 43 01.5**	**-1.7**
FRU				pmax	pmax		
	comp=Z,140nm,2.2s						
FRU				MLR	MLR		
	comp=Z,5μm,15.5s						
AAK	**Ala-Archa**	**18.00**	**300**	P	**Pn**	**23 43 02.2**	**-1.3**
SNR=9.0							
IRK	**Irkutsk**	**18.04**	**17**	*e*P	**Pn**	**23 43 03.2**	**-0.7**
IRK				*e*S	S	23 46 07.8	-21
IRK				pmax	pmax		
	comp=Z,112nm,1.9s						
USP	**Ospenovka**	**18.20**	**302**	P	**Pn**	**23 43 02.7**	**-3.2**
SNR=13							
JBP	**Jabalpur**	**18.22**	**233⇓**	*i*P	**Pn**	**23 43 04.4**	**-1.8**
JBP				*e*S	**S**	**23 46 30.6**	**-2.2**
AML	**Almayashu**	**18.44**	**298**	P	**Pn**	**23 43 05.2**	**-3.6**
SNR=18							
EKS2	**Erkin-Say**	**18.52**	**300**	P	**Pn**	**23 43 05.4**	**-4.4**
SNR=11							
NJ2	**Nanjing**	**19.56**	**93**	*e*P	**Pn**	**23 43 21.0**	**-1.3**
NJ2				AP	pP	23 43 29.5	-0.5
NJ2				XP	sP	23 43 34.0	-0.4
NJ2				PP		23 43 39.8	
NJ2				S	**S**	**23 46 55.0**	**-4.7**
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,310nm,5.5s						
NJ2				LR	LR		
	comp=N,16μm,20.3s						
NJ2				LR	LR		
	comp=E,5μm,13.4s						
NJ2				LR	LR		
	comp=Z,3μm,13.0s						
GZH	**Guangzhou**	**19.60**	**124**	P	**Pn**	**23 43 22.5**	**-0.3**
GZH				S	**S**	**23 47 07.0**	**+6.3**
GZH				LR	LR		
	comp=N,24μm,12.3s						
GZH				LR	LR		
	comp=E,18μm,12.2s						
GZH				LR	LR		
	comp=Z,7μm,11.4s						
KURK	**Kurchatov**	**19.76**	**327**	P	**Pn**	**23 43 18.6**	**-6.1**
	comp=Z,298nm,0.9s,SNR=23						
KURK	**Kurchatov**	**19.76**	**327**	*e*P	**Pn**	**23 43 17.9**	**-6.8**
	comp=Z,208nm,1.5s						
KURK				*e*S	**S**	**23 47 03.9**	**+0.1**
KURK	**Kurchatov**	**19.76**	**327**	*e*P	**Pn**	**23 43 17.9**	**-6.8**
KURK				*e*S	**S**	**23 47 03.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,208nm,1.5s						
BHPL	**Bhopal**	**19.89**	**238**	*e*P	**Pn**	**23 43 25.8**	**-0.5**
BHPL				AMb	AMB	23 43 28.2	
	comp=Z,15nm,0.6s						
BHPL				*ex*	x	23 49 02.9	
KKTK	**Khon Kaen**	**19.92**	**159**	P	**Pn**	**23 43 25.5**	**-1.1**
	comp=Z,309nm,1.0s						
NST	**Nakhon Sawan**	**19.93**	**167**	P	**Pn**	**23 43 26.2**	**-0.5**
	comp=Z,62nm,0.8s						
AJM	**Ajmer**	**20.04**	**250**	*e*P	**P**	**23 43 24.7**	**-1.3**
AJM				AMb	AMB	23 43 27.0	
	comp=Z,38nm,1.2s						
ZAL	**Zalesovo**	**20.15**	**341**	P	**P**	**23 43 23.4**	**-3.9**
	comp=Z,0.9nm,0.3s,baz=338,slow=11,SNR=36						
ZAL				LR	LR	23 51 06.3	
	comp=Z,308nm,19.6s,baz=312,slow=37						
NGP	**Nagpur**	**20.27**	**230**	*e*P	**P**	**23 43 26.7**	**-1.9**
NGP				*ex*	x	23 43 35.9	
	comp=Z,54nm,1.5s						
NGP				*ex*	x	23 47 05.4	
QIZ	**Qiongzhong**	**20.48**	**139**	P	**P**	**23 43 31.0**	**+0.2**
QIZ				S	**S**	**23 47 17.8**	**-0.3**
QIZ				LR	LR		
	comp=N,6μm,12.7s,MS5.3						
QIZ				LR	LR		
	comp=E,7μm,14.1s,MS5.3						
QIZ				LR	LR		
	comp=Z,3μm,13.0s,MS4.9						
QIZ	**Qiongzhong**	**20.48**	**139**	*e*P	**P**	**23 43 31.4**	**+0.5**
	comp=Z,44nm,1.0s						
VIS	**Vishakhapatnam**	**20.65**	**215**	*e*P	**P**	**23 43 32.7**	**0.0**
VIS				AMb	AMB	23 43 45.1	
	comp=Z,38nm,1.0s						
KRAR	**Krasnoyarsk**	**20.82**	**356⇑**	*i*P	**P**	**23 43 28.8**	**-5.7**
KRAR				pmax	pmax		
	comp=Z,124nm,1.7s						
KRAR				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.1						
KK31	**Karatay Array**	**20.95**	**299**	*i*P	**P**	**23 43 34.0**	**-2.0**
KK31				pmax	pmax		
	comp=Z,64nm,1.0s						
KKAR	**Karatay Array**	**20.95**	**299**	P	**P**	**23 43 34.0**	**-2.0**
KKAR				S	**S**	**23 47 29.0**	**+1.5**
KKAR				pmax	pmax		
	comp=Z,67nm,1.1s						
DL2	**Dalian**	**21.00**	**72**	P	**P**	**23 43 35.5**	**-0.9**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s						
DL2				LR	LR		
	comp=N,830nm,10.8s,MS4.7						
DL2				LR	LR		
	comp=E,2μm,11.6s,MS4.7						
DL2				LR	LR		
	comp=Z,2μm,11.9s,MS4.7						
CIT	**Chita**	**21.06**	**32**	*e*P	**P**	**23 43 32.0**	**-5.1**
CIT				pmax	pmax		
	comp=Z,74nm,2.3s,mb4.6						
NVS	**Novosibirsk**	**21.38**	**340⇑**	*i*P	**P**	**23 43 35.6**	**-4.9**
NVS				pmax	pmax		
	comp=Z,444nm,2.1s,mb5.4						
NVS				pmax	pmax		
	comp=N,383nm,1.9s						
SSE	**Sheshan**	**21.74**	**94**	P	**P**	**23 43 45.3**	**+0.9**
SSE				AP		23 43 54.3	
SSE				AMB	AMB		
	comp=Z,30nm,0.6s,mb4.9						
SSE				AMB	AMB		
	comp=Z,133μm,3.0s						
SSE				LR	LR		
	comp=N,2μm,11.8s,MS5.0						
SSE				LR	LR		
	comp=E,3μm,11.9s,MS5.0						
SSE				LR	LR		
	comp=Z,2μm,12.5s,MS4.8						
QZH	**Quanzhou**	**22.30**	**111**	*e*P	**P**	**23 43 54.8**	**+4.4**
QZH				S	**S**	**23 47 58.3**	**+4.6**
QZH				LR	LR		
	comp=N,21μm,12.1s,MS5.8						
QZH				LR	LR		
	comp=E,13μm,12.1s,MS5.8						
QZH				LR	LR		
	comp=Z,13μm,10.8s,MS5.6						
HIA	**Hailar**	**22.52**	**44**	*e*P	**P**	**23 43 54.2**	**+1.5**
	comp=Z,26nm,1.0s,mb4.6						
HIA	**Hailar**	**22.52**	**44**	*e*P	**P**	**23 43 54.2**	**+1.5**
HIA				pmax	pmax		
	comp=Z,25nm,1.0s						
SNY	**Shenyang**	**22.72**	**65**	⇑P	**P**	**23 43 53.0**	**-1.9**
SNY				SS		23 48 33.8	
SNY				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.6						
SNY				AMB	AMB		
	comp=Z,497nm,5.6s						
SNY				LR	LR		
	comp=N,2μm,21.6s						
SNY				LR	LR		
	comp=E,2μm,12.0s						
SNY				LR	LR		
	comp=Z,2μm,20.6s,MS4.5						
HYB	**Hyderabad**	**23.43**	**225**	*i*P	**P**	**23 44 01.0**	**-1.2**
HYB				*e*S	**S**	**23 48 12.0**	**-0.8**
HYB				LR	LR	23 55 00.0	
	comp=Z,2.8nm,12.0s						
HYB	**Hyderabad**	**23.43**	**225**	*e*P	**P**	**23 44 01.0**	**-1.2**
HYB				*e*S	**S**	**23 48 12.0**	**-0.8**
PBA	**Port Blair**	**23.67**	**187**	*ex*	x	23 42 25.9	
PBA				*ex*	x	23 42 41.8	
CN2	**Changchun**	**24.39**	**61**	⇓P	**P**	**23 44 12.5**	**+1.5**
CN2				*e*AP		23 44 21.8	
CN2				*e*S	**S**	**23 48 27.0**	**-1.3**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,16.0s,MS4.9						
CN2				LR	LR		
	comp=E,2μm,16.0s,MS4.9						
CN2				LR	LR		
	comp=Z,3μm,16.0s,MS4.9						
YHNB	**Yeheng**	**24.58**	**108**	*e*P	**P**	**23 44 13.4**	**+0.6**
VOSK	**Vostochnaya**	**24.70**	**323**	P	**P**	**23 44 10.9**	**-2.9**
VOSK				pmax	pmax		

comp=Z,385nm,2.2s,mb5.5
NACB Ninganchiao 25.01 109 *e*P **P** **23 44 17.5 +0.8**
BVA0 Borovoye Array 25.16 323 *i* P **P** **23 44 15.4 -2.7**
BVA0 *i* S **S** **23 48 40.7 0.0**
BVA0 pmax pmax
comp=Z,18nm,1.4s,mb4.4
BVAR Borovoye Array 25.16 323 P **P** **23 44 15.6 -2.4**
comp=Z,27nm,0.9s,mb4.8,baz=122,slow=11,SNR=64
BVAR S **S** **23 48 40.8 0.0**
comp=Z,0.7nm,0.6s,baz=132,slow=6.0,SNR=2.1
BRVK Borovoye 25.23 323 P **P** **23 44 16.6 -2.1**
comp=Z,370nm,1.2s,mb5.8,SNR=29
BRVK Borovoye 25.23 323 *e*P **P** **23 44 16.4 -2.3**
comp=Z,59nm,1.2s,mb5.0
BRVK *e*S **S** **23 48 46.9 +5.1**
BRVK Borovoye 25.23 323 *e*P **P** **23 44 16.4 -2.3**
BRVK *e*S **S** **23 48 46.9 +5.0**
BRVK pmax pmax
comp=Z,59nm,1.2s,mb5.0
CHKZ Chkalovo 25.43 324 *e*P **P** **23 44 17.7 -2.8**
comp=Z,30nm,0.5s,mb5.1
CHKZ *e*S **S** **23 48 54.9 +10**
CHKZ Chkalovo 25.43 324 *e*P **P** **23 44 17.7 -2.8**
CHKZ pmax pmax
comp=Z,30nm,0.5s,mb5.1
POO Poona 25.54 235 *e*P **P** **23 44 18.0 -3.5**
BHJ Bhuj 25.58 249 *e*P **P** **23 44 22.6 +0.7**
BHJ *e*x x 23 48 57.1
BOD Bodaibo 25.66 23 *e*P **P** **23 44 18.9 -3.7**
BOD pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
ZRNK Zerenda 25.82 321 *e*P **P** **23 44 21.1 -2.9**
comp=Z,30nm,0.5s,mb5.1
ZRNK *e*S **S** **23 49 04.9 +14**
ZRNK Zerenda 25.82 321 *e*P **P** **23 44 21.1 -2.9**
ZRNK pmax pmax
comp=Z,30nm,0.5s,mb5.1
BOM Bombay 25.99 237 *i* x x 23 48 53.2
BOM *e*x x 23 49 00.4
comp=Z,45nm,0.9s
BOM *e*x x 23 52 29.3
AB31 Akbulak array 29.59 309 *i* P **P** **23 44 55.1 -2.7**
AB31 pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
KLR Kul'dur 29.81 51 *e*P **P** **23 45 02.8 +3.1**
KLR MLR MLR
comp=N,2μm,11.0s
KLR MLR MLR
comp=Z,6μm,11.0s,MS5.5
AKTO Aktyubinsk 31.10 311 *i* P **P** **23 45 09.7 -1.4**
AKTO pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
HABR Khabarovsk 31.79 53 *e*P **P** **23 45 18.6 +1.5**
HABR *e*S **S** **23 50 25.0 +0.1**
SVE Sverdlovsk 31.94 323⇑*e*P **P** **23 45 16.0 -2.5**
SVE *e* 23 46 17.0
SVE pmax pmax
comp=Z,60nm,2.2s,mb5.0
SVE MLR MLR
comp=N,1μm,18.0s,MS5.0
SVE MLR MLR
comp=E,2μm,18.0s,MS5.0
SVE MLR MLR
comp=Z,2μm,18.0s,MS4.9
ARU Arti 32.80 322 *e*P **P** **23 45 19.4 -6.7**
comp=Z,51nm,0.9s,mb5.5
ARU Arti 32.80 322⇑*i*P **P** **23 45 23.6 -2.4**
ARU *e*PPP 23 46 36.9
ARU *e*S **S** **23 50 33.6 -7.1**
ARU pmax pmax
comp=Z,45nm,1.1s,mb5.3
ARU MLR MLR
comp=N,900nm,19.0s,MS4.8
ARU MLR MLR
comp=Z,2μm,19.0s,MS4.9
ARU MLR MLR
comp=E,1μm,18.0s,MS4.8
YAK Yakutsk 34.23 28 *e*P **P** **23 45 38.9 +0.4**
YAK Yakutsk 34.23 28 *e*P **P** **23 45 44.4 +5.9**
YAK *e* 23 46 54.5
YAK *e*S **S** **23 51 01.1 -1.7**
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.9
YAK pmax pmax
comp=N,9.0nm,1.9s
YAK pmax pmax
comp=E,15nm,1.6s
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
YAK smax
comp=N,80nm,7.7s
YAK MLR MLR
comp=Z,1μm,8.0s
YAK MLR MLR
comp=N,1μm,13.0s,MS5.1
YAK MLR MLR
comp=E,2μm,10.0s,MS5.1
MJAR Matsushiro Arr 34.27 75 LR LR 00 00 25.0
comp=E,629nm,20.1s,MS4.3,baz=290,slow=38
SOKR Solikamsk 35.00 326*c i*P **P** **23 45 42.0 -3.1**
SOKR S **S** **23 51 20.3 +5.5**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.1
SOKR MLR MLR
comp=Z,3μm,23.0s,MS5.0
GNI Garni 40.13 293 LR LR 00 07 27.7
comp=Z,576nm,19.4s,MS4.4,baz=86,slow=43
GNI Garni 40.13 293 *e*P **P** **23 46 30.6 +2.1**
comp=Z,77nm,1.7s,mb5.2
GNI Garni 40.13 293 *e*P **P** **23 46 30.6 +2.1**
GNI pmax pmax
comp=Z,77nm,1.7s
TIXI Tiksi 40.34 16 *e*P **P** **23 46 26.9 -3.3**
TIXI *e*S **S** **23 52 26.9 -8.8**
TIXI *e*SS SS 23 55 21.9 -13
TIXI pmax pmax
comp=Z,15nm,0.9s,mb4.7
TIXI MLR MLR
comp=Z,835nm,12.0s,MS4.8
ZEI Tsey 40.37 297 *i* P **P** **23 46 32.0 +1.5**
PECR Pechory 40.47 318 *e*P **P** **23 46 31.0 -0.4**
PECR pmax pmax
comp=Z,130nm,2.0s,mb5.3
PECR MLR MLR
comp=Z,2μm,15.0s,MS5.2
GOF Gofitskoye 40.75 300 *e*P **P** **23 46 33.9 +0.2**
GOF pmax pmax
comp=Z,50nm,1.0s,mb5.1
KIV Kislovodsk 41.11 299 *e*P **P** **23 46 37.2 +0.6**
comp=Z,24nm,1.2s,mb4.7
KIV Kislovodsk 41.11 299 *e*P **P** **23 46 35.9 -0.7**
KIV *e* 23 48 09.0
KIV *e* 23 48 38.9
KIV *e*S **S** **23 52 41.3 -5.9**
KIV *e*SS SS 23 55 44.0 -6.5
KIV pmax pmax
comp=Z,22nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,788nm,17.0s,MS4.7
VRHR Novokhopersk 41.48 310 *e*P **P** **23 46 38.9 -0.8**
VRHR pmax pmax
comp=Z,50nm,1.0s,mb5.1
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=E,40nm,1.0s
MSL Mosul 42.23 287 *e*x x 23 46 56.0
MA2 Magadan 42.84 38 *e*P **P** **23 46 49.0 -1.7**
comp=E,10nm,0.9s,mb4.6
MA2 Magadan 42.84 38 *e*P **P** **23 46 56.5 +5.7**
MA2 *e*S **S** **23 53 13.1 +0.3**
MA2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MA2 MLR MLR
comp=Z,3μm,22.0s,MS5.1
VORD Divnogorie 42.95 309 *e*P **P** **23 46 53.3 +1.6**
VORD pmax pmax
comp=Z,20nm,0.9s,mb4.8
VORD pmax pmax
comp=N,5.0nm,0.8s
VORD pmax pmax
comp=E,40nm,0.8s
VOR Voronezh 43.00 311 *e*P **P** **23 46 53.5 +1.5**
VOR *e* 23 48 30.0
VOR pmax pmax
comp=Z,110nm,1.1s,mb5.5

VRSR Storozhevoye 43.02 310 *e*P **P** **23 46 53.7 +1.6**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.9s
SOC Sochi 43.29 299 *e*P **P** **23 46 54.3 -0.1**
SOC *e**SP sP 23 47 03.8 -5.1
SOC *e*PPP 23 49 07.5
SOC *e*S **S** **23 53 14.4 -5.0**
SOC *e*SS SS 23 56 29.6 -3.9
SOC pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
SOC pmax pmax
comp=Z,87nm,3.0s
SOC MLR MLR
comp=Z,1μm,18.0s,MS4.8
MOS Moscow 44.02 316 *e*P **P** **23 46 57.6 -2.6**
MOS *e* 23 48 47.8
MOS pmax pmax
comp=Z,300nm,1.5s,mb5.8
MOS pmax pmax
comp=Z,218nm,1.1s,mb5.8
MOS MLR MLR
comp=Z,1μm,17.1s,MS4.9
MOS MLR MLR
comp=E,1μm,17.2s
SEY Seymchan 44.22 33 *e*P **P** **23 47 00.3 -1.5**
SEY *e*PPP 23 49 19.6
SEY *e*S **S** **23 53 24.8 -8.0**
SEY 23 56 56.5
SEY pmax pmax
comp=Z,16nm,1.2s,mb4.6
SEY pmax pmax
comp=E,9.0nm,1.1s
SEY smax
comp=N,520nm,23.2s
SEY smax
comp=E,240nm,28.4s
SEY MLR MLR
comp=E,720nm,16.0s,MS4.9
SEY MLR MLR
comp=Z,920nm,16.0s,MS4.8
SEY MLR MLR
comp=N,1μm,21.0s,MS4.9
OBN Obninsk 44.60 315 *e*P **P** **23 47 03.1 -1.8**
comp=N,98nm,1.3s,mb5.5
OBN Obninsk 44.60 315 *e*P **P** **23 47 03.4 -1.5**
OBN *e* 23 48 48.1
OBN *i* S **S** **23 53 40.9 +2.4**
OBN pmax pmax
comp=Z,84nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,200nm,14.0s,MS4.2
ANN Anapa 44.73 301 *e*P **P** **23 47 08.6 +2.7**
ANN *e*S **S** **23 53 40.8 +0.5**
ANN pmax pmax
comp=Z,50nm,1.2s,mb5.2
ANN MLR MLR
comp=N,1μm,18.0s,MS5.0
ANN MLR MLR
comp=E,1μm,18.0s,MS5.0
ANN MLR MLR
comp=Z,1μm,18.0s,MS4.9
MALT Malatya 45.31 291⇑P **P** **23 47 10.9 +0.3**
MALT Malatya 45.31 291 *e*P **P** **23 47 11.0 +0.5**
comp=Z,8.2nm,1.2s,mb4.4
MALT Malatya 45.31 291 *e*P **P** **23 47 11.0 +0.5**
MALT pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
LVZ Lovozero 46.98 333 *e*P **P** **23 47 20.7 -3.0**
LVZ *e* 23 49 08.0
LVZ *e*S **S** **23 54 00.2 -12**
LVZ *e*SS SS 23 57 27.3 -12
LVZ pmax pmax
comp=Z,49nm,1.3s,mb5.3
LVZ pmax pmax
comp=E,41nm,1.9s
LVZ smax
comp=Z,205nm,2.5s
LVZ smax
comp=N,388nm,4.3s
LVZ smax
comp=E,244nm,3.7s
LVZ MLR MLR
comp=Z,2μm,19.0s,MS5.1
LVZ MLR MLR
comp=N,1μm,24.0s
LVZ MLR MLR
comp=E,631nm,13.0s
JOF Joensuu 47.68 326 *e*p **P** **23 47 27.8 -1.3**
BR131 Keskin Array S 48.55 295 *e*P **P** **23 47 34.2 -1.6**
comp=E,4.0nm,0.8s,mb4.5
BRTR Keskin Array B 48.55 295 P **P** **23 47 34.2 -1.6**
comp=E,2.4nm,0.8s,mb4.3,baz=103,slow=8.2,SNR=15
ANTO Ankara 49.14 295 *e*P **P** **23 47 40.3 -0.1**
comp=E,16nm,1.1s,mb5.0
ANTO Ankara 49.14 295 *e*P **P** **23 47 40.3 -0.1**
ANTO pmax pmax
comp=Z,16nm,1.1s,mb5.0
GUMO Guam 49.15 103 LR LR 00 06 04.2
comp=Z,511nm,21.3s,MS4.5,baz=299,slow=33
AKASG Malin Array Be 49.33 310 P **P** **23 47 39.1 -2.7**
comp=Z,0.5nm,0.3s,mb4.0,baz=55,slow=39,SNR=8.9
MNK Minsk 49.68 315 *e*P **P** **23 47 42.0 -2.5**
VSU Vasula 49.93 320⇓*e*P **P** **23 47 45.2 -1.2**
KAF Kangasniemi 49.98 325 *e*p **P** **23 47 44.7 -2.1**
comp=Z,11nm,0.8s,mb4.9,baz=88,slow=7.5
KAF Kangasniemi 49.98 325 *e*P **P** **23 47 44.7 -2.1**
KAF pmax pmax
comp=Z,11nm,0.8s,mb4.9
KEV Kevo 50.01 335 *e*P **P** **23 47 45.4 -1.6**
comp=Z,24nm,1.0s,mb5.2
KEV Kevo 50.01 335 *e*P **P** **23 47 45.4 -1.6**
KEV pmax pmax
comp=Z,24nm,1.0s,mb5.2
FINES FINESS Array B 50.11 324 P **P** **23 47 45.9 -1.8**
comp=Z,14nm,0.8s,mb5.0,baz=101,slow=10,SNR=31
FINES LR LR 00 10 17.0
comp=Z,2μm,21.2s,MS5.0,baz=86,slow=38
KIS Kishinev 50.26 305 *e*P **P** **23 47 48.0 -0.9**
KIS MLR MLR
comp=Z,800nm,13.0s,MS4.9
KIS MLR MLR
comp=N,500nm,12.0s,MS4.8
KIS MLR MLR
comp=E,400nm,15.0s,MS4.8
KIS MLR MLR
comp=Z,800nm,14.0s
ARCES ARCESS Array B 50.51 335 P **P** **23 47 49.2 -1.6**
comp=Z,5.4nm,0.5s,mb4.7,baz=87,slow=7.5,SNR=31
ARCES LR LR 00 11 53.1
comp=Z,1μm,18.8s,MS5.0,baz=100,slow=39
ARCES ARCESS Array B 50.51 335 P **P** **23 47 49.2 -1.6**
ARCES LR LR 00 11 53.1
BILL Bilibino 50.58 27 *e*P **P** **23 47 51.8 +0.5**
comp=Z,15nm,1.1s,mb4.8
BILL Bilibino 50.58 27⇑*i*P **P** **23 47 51.2 -0.1**
BILL *i* 23 48 04.2
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
CFR Carcaliu 51.13 303⇑P **P** **23 48 01.2 +5.8**
ISP Isparta 51.44 293 *e*P **P** **23 48 01.8 +4.0**
SUW Suwalki 52.45 315 *e*P **P** **23 48 05.6 +0.3**
comp=Z,50nm,0.9s,mb5.4
SUW Suwalki 52.45 315 *e*P **P** **23 48 05.6 +0.3**
SUW pmax pmax
comp=Z,50nm,0.9s,mb5.4
BURAR Bucovina Array 52.51 307⇓P **P** **23 48 07.4 +1.7**
BURAR Bucovina Array 52.51 307⇓P **P** **23 48 07.4 +1.7**
MLR Muntele Rosu 52.55 304⇓P **P** **23 48 09.0 +3.0**
BJO Bjornoya 52.76 341 AMS AMS 00 16 41.6
comp=Z,1μm,18.9s,MS5.0
LVV L'vov 52.77 309 *e*P **P** **23 48 09.8 +2.1**
LVV *e*S **S** **23 55 22.6 -11**
LVV MLR MLR
comp=E,400nm,17.0s,MS4.7
LVV MLR MLR
comp=N,300nm,15.0s,MS4.7
LVV MLR MLR
comp=Z,400nm,15.0s,MS4.6
TRO Tromso 52.82 335 *e*P **P** **23 48 07.4 -0.6**
TRO *e*S **S** **23 55 31.8 -2.4**
TRO *e*SS SS 23 59 10.6 -2.6
TRO AMS AMS 00 13 29.6

comp=Z,670nm,18.4s,MS4.7
KWP Kalwaria 53.65 309 *e*P **P** **23 48 13.0 -1.1**
comp=Z,63nm,0.9s,mb5.5
KWP *e*PP PP 23 50 04.5 -11
KWP Kalwaria 53.65 309 *e*P **P** **23 48 13.0 -1.1**
KWP pmax pmax
comp=Z,63nm,0.9s,mb5.5
KBS Kingsbay 54.45 346 *e*S **S** **23 55 54.7 -1.5**
KBS *e*SS SS 23 59 39.5 +0.7
KBS AMS AMS 00 16 41.5
comp=Z,366nm,19.4s,MS4.5
STHS Stebnicka Huta 54.63 310 *e*P **P** **23 48 22.6 +1.3**
comp=Z,5.2nm,0.9s,mb4.6
STHS Stebnicka Huta 54.63 310 *e*P **P** **23 48 22.6 +1.3**
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
OJC Ojcow 55.32 311 *e*P **P** **23 48 27.6 +1.3**
KECS Kecovo 55.36 309 *e*P **P** **23 48 28.8 +2.3**
comp=Z,6.0nm,1.4s,mb4.4
KECS Kecovo 55.36 309 *e*P **P** **23 48 28.8 +2.3**
KECS pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
BZS Buzias 55.44 305⇓P **P** **23 48 29.0 +1.9**
PSZ Piszkesteto 55.90 308 *e*P **P** **23 48 32.1 +1.7**
comp=Z,4.2nm,0.8s,mb4.5
PSZ Piszkesteto 55.90 308 *e*P **P** **23 48 32.1 +1.7**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
NSS Namsos 56.13 329 *e*P **P** **23 48 33.2 +1.1**
NSS AMS AMS 00 14 44.3
comp=Z,2μm,19.1s,MS5.1
VYHS Vyhne 56.41 309 *e*P **P** **23 48 34.8 +0.8**
comp=Z,12nm,1.2s,mb4.8
VYHS Vyhne 56.41 309 *e*P **P** **23 48 34.8 +0.8**
VYHS pmax pmax
comp=Z,12nm,1.2s,mb4.8
OKC Ostrava-Krasne 56.45 311 *e*P **P** **23 48 35.9 +1.5**
OKC AMS AMS 00 14 00.0
comp=Z,900nm,16.5s
MORC Moravsky Berou 56.84 311⇓P **P** **23 48 38.5 +1.4**
MORC Moravsky Berou 56.84 311 *e*P **P** **23 48 37.6 +0.5**
comp=Z,26nm,1.6s,mb5.0
MORC *e*PcP PcP 23 49 28.7 -3.8
MORC Moravsky Berou 56.84 311 *e*P **P** **23 48 37.6 +0.5**
MORC *e* 23 49 28.7
MORC pmax pmax
comp=Z,25nm,1.6s,mb5.0
PKSM Moragy 57.23 306⇓P **P** **23 48 40.7 +0.8**
NB2 NORSAR Subarra 57.27 325 P **P** **23 48 37.3 -2.8**
comp=Z,14nm,0.7s,mb5.1,baz=76,slow=7.4
NB2 NORSAR Subarra 57.27 325 P **P** **23 48 37.3 -2.8**
NB2 pmax pmax
comp=Z,14nm,0.7s,mb5.1
NOA NORSAR Array B 57.27 325 P **P** **23 48 37.4 -2.7**
comp=Z,5.8nm,0.7s,mb4.7,baz=75,slow=7.0,SNR=23
NOA LR LR 00 14 39.1
comp=Z,1μm,20.4s,MS5.0,baz=60,slow=38
NOA NORSAR Array B 57.27 325 P **P** **23 48 37.4 -2.7**
NOA LR LR 00 14 39.1
KSP Ksiaz 57.30 312 *e*P **P** **23 48 41.8 +1.5**
KSP *e*S **S** **23 56 30.5 -3.6**
KSP *e*SS SS 00 00 15.3 -8.4
GVD Gavdhos 57.34 292 P **P** **23 48 40.9 +0.2**
DPC Dobruska-Polom 57.43 312 *e*P **P** **23 48 41.9 +0.6**
DPC AMS AMS 00 14 10.0
NAO01 NORSAR Array S 57.47 325 *e*P **P** **23 48 42.6 +1.0**
comp=Z,23nm,1.0s,mb5.2
NAO01 *e*PcP PcP 23 49 37.3 +2.4
UPC Upice 57.57 312 *e*P **P** **23 48 43.4 +1.1**
VRAC Vranov 57.58 310⇑P **P** **23 48 44.7 +2.4**
RUE Ruedersdorf 58.30 315 *e*P **P** **23 48 50.1 +2.7**
PRU Pruhonice 58.63 312 *e*P **P** **23 48 50.8 +1.1**
PRU AMS AMS 00 15 00.0
comp=Z,1μm,16.8s
BRG Berggiesshubel 58.71 313 *e*P **P** **23 48 51.6 +1.4**
comp=Z,20nm,1.4s,mb5.0
BRG Berggiesshubel 58.71 313 *e*P **P** **23 48 52.7 +2.5**
comp=Z,12nm,1.4s,mb4.7
BRG *e* 23 53 26.6
BRG S **S** **23 57 07.0 +14**
BRG SS SS 00 01 00.0 +14
BRG LR LR
comp=Z,720nm,14.2s,MS4.9
BRG Berggiesshubel 58.71 313 *e*P **P** **23 48 52.7 +2.5**
comp=Z,12nm,1.4s,mb4.7
BRG *e* 23 53 26.6
comp=Z,4.4nm,1.4s
BRG S **S** **23 57 07.0 +14**
BRG SS SS 00 01 00.0 +14
BRG
comp=N,443nm,17.2s
BRG
comp=E,491nm,19.6s
BRG
comp=Z,720nm,14.2s
CLL Collm 59.13 314 *e*P **P** **23 48 54.5 +1.4**
comp=Z,23nm,1.2s,mb5.1
CLL Collm 59.13 314 *i* P **P** **23 48 53.9 +0.8**
comp=Z,23nm,1.2s,mb5.1
CLL *i* x x 23 48 58.3
CLL *i* x x 23 49 27.7
CLL *e*(PcP) PcP 23 49 44.0 +2.5
CLL Collm 59.13 314 *i* P **P** **23 48 53.9 +0.8**
comp=Z,23nm,1.2s,mb5.1
CLL *i* 23 48 58.3
CLL *i* 23 49 27.7
CLL Collm 59.13 314 *i* P **P** **23 48 53.9 +0.8**
CLL *i* 23 48 58.3
CLL pmax pmax
comp=Z,23nm,1.2s,mb5.1
PERS Pernice 59.39 308 *e*P **P** **23 48 55.5 +0.6**
KHC Kasperske Hory 59.50 311 *e*P **P** **23 48 57.2 +1.5**
KHC AMS AMS 00 15 40.0
comp=Z,1μm,19.3s
KHC Kasperske Hory 59.50 311⇑*e*P **P** **23 48 57.3 +1.6**
GERES GERESS Array B 59.52 311 P **P** **23 48 54.5 -1.3**
comp=Z,5.0nm,1.0s,mb4.5,baz=74,slow=6.1,SNR=18
GERES LR LR 00 16 20.2
comp=Z,735nm,20.8s,MS4.8,baz=76,slow=38
PDKS Podkum 59.67 307 *e*P **P** **23 48 58.1 +1.3**
BSEG Bad Segeberg 59.81 317 *e*P **P** **23 48 58.8 +1.0**
comp=Z,24nm,1.0s,mb5.2
NKC Novy Kostel 59.82 312 *e*P **P** **23 48 59.3 +1.4**
VISS Visnje 59.86 307 *e*P **P** **23 48 59.8 +1.6**
WET Wettzell 59.93 311 *e*P **P** **23 49 00.4 +1.7**
comp=Z,13nm,1.2s,mb4.8
WET Wettzell 59.93 311 *e*P **P** **23 49 00.4 +1.7**
WET pmax pmax
comp=Z,13nm,1.2s,mb4.8
ROTZ Rotzenmuhle 60.12 312 *e*P **P** **23 49 00.7 +0.7**
comp=Z,30nm,1.3s,mb5.2
MOX Moxa 60.18 313 *e*P **P** **23 49 01.7 +1.3**
comp=Z,23nm,1.3s,mb5.0
MOX Moxa 60.18 313 *e*P **P** **23 49 01.2 +0.8**
comp=Z,39nm,1.7s,mb5.2
MOX Moxa 60.18 313 *e*P **P** **23 49 01.2 +0.8**
MOX pmax pmax
comp=Z,39nm,1.7s,mb5.2
BER Bergen 60.22 325 AMS AMS 00 16 45.7
comp=Z,816nm,18.6s,MS4.9
FITZ Fitzroy Crossi 60.23 147 LR LR 00 15 19.4
comp=Z,151nm,18.9s,MS4.2,baz=74,slow=36
GRA1 Grafenberg Arr 60.75 312 *e*P **P** **23 49 06.1 +1.8**
comp=Z,32nm,1.2s,mb5.3
GRA1 LR LR
comp=Z,900nm,19.5s,MS4.9
GRF Grafenberg Arr 60.75 312 *e*L 00 16 27.3
comp=Z,923nm,19.5s
GRF Grafenberg Arr 60.75 312 *e*P **P** **23 49 06.1 +1.8**
comp=Z,32nm,1.2s,mb5.3
GRF LR LR
comp=Z,900nm,19.5s,MS4.9
GRF Grafenberg Arr 60.75 312 *e*P **P** **23 49 06.1 +1.8**
GRF pmax pmax
comp=Z,32nm,1.2s,mb5.3
GRF MLR MLR
comp=Z,900nm,19.5s,MS4.9
GRF Grafenberg Arr 60.75 312 *e*P **P** **23 49 06.1 +1.8**
GRF pmax pmax
comp=Z,32nm,1.2s,mb5.3
GRF MLR MLR
comp=Z,900nm,19.5s,MS4.9
DAG Danmarks Havn 61.19 346 *i* P **P** **23 49 06.0 -1.3**
comp=Z,5.0nm,0.9s,mb4.6
DAG Danmarks Havn 61.19 346 *e*P **P** **23 49 06.0 -1.3**

comp=Z,5.0nm,0.9s,mb4.6
DAG Danmarks Havn 61.19 346 *e*P **P 23 49 06.0 -1.3**
DAG pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
FUR Furstenfeldbru 61.27 311 *e*P **P 23 49 09.7 +1.9**
comp=Z,29nm,1.0s,mb5.4
FUR Furstenfeldbru 61.27 311 *e*P **P 23 49 09.7 +1.9**
FUR pmax pmax
comp=Z,29nm,1.0s,mb5.4
IBBN Ibbenburen 61.83 316 *e*P **P 23 49 14.9 +3.3**
STU Stuttgart 62.33 312 *e*P **P 23 49 18.0 +3.1**
comp=Z,22nm,0.9s,mb5.3
STU Stuttgart 62.33 312 *e*P **P 23 49 18.1 +3.2**
comp=Z,14nm,0.6s,mb5.3
STU Stuttgart 62.33 312 *e*P **P 23 49 18.1 +3.2**
STU pmax pmax
comp=Z,14nm,0.6s,mb5.3
BUG Bochum--Univer 62.44 315 *e*P **P 23 49 18.5 +2.8**
BFO Black Forest 63.03 312 *e*P **P 23 49 20.8 +1.2**
comp=Z,15nm,1.3s,mb5.0
BFO Black Forest 63.03 312 *e*P **P 23 49 20.8 +1.2**
BFO pmax pmax
comp=Z,15nm,1.3s,mb5.0
CDF Champ du Feu 63.64 312 *e*P **P 23 49 24.2 +0.6**
comp=Z,70nm,1.5s,mb5.2
CDF Champ du Feu 63.64 312 *e*P **P 23 49 24.2 +0.6**
comp=Z,35nm,1.5s,mb5.2
CDF Champ du Feu 63.64 312 *e*P **P 23 49 24.2 +0.6**
CDF pmax pmax
comp=Z,35nm,1.5s,mb5.2
WLF Walferdange 63.80 314 *e*P **P 23 49 27.6 +2.9**
comp=Z,25nm,1.1s,mb5.2
WLF Walferdange 63.80 314 P **P 23 49 27.2 +2.5**
WLF AP pP 23 49 32.1 -3.3
WLF Walferdange 63.80 314 *e*P **P 23 49 25.4 +0.7**
comp=Z,18nm,1.0s,mb5.0
WLF Walferdange 63.80 314 *e*P **P 23 49 25.4 +0.7**
WLF pmax pmax
comp=Z,17nm,1.0s,mb5.0
HINF Hinterlafeld 64.14 312 *e*P **P 23 49 27.3 +0.4**
comp=Z,17nm,1.1s,mb4.7
HINF Hinterlafeld 64.14 312 *e*P **P 23 49 27.3 +0.4**
comp=Z,8.3nm,1.1s,mb4.7
HINF Hinterlafeld 64.14 312 *e*P **P 23 49 27.3 +0.4**
HINF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
HAU Haudompre 64.37 312 *e*P **P 23 49 29.8 +1.4**
HAU *e*R
comp=Z,1μm,18.5s
HAU Haudompre 64.37 312 *e*P **P 23 49 29.8 +1.4**
HAU MLR MLR
comp=Z,1μm,18.5s,MS5.1
GIVF Givet 64.40 314 *e*P **P 23 49 30.5 +1.9**
DOU Dourbes 64.53 315 P **P 23 49 31.4 +1.9**
DOU E 23 49 35.3
DOU AP pP 23 49 40.2 0.0
DOU XP sP 23 49 49.4 +5.1
BAIF Baives 64.78 315 *e*P **P 23 49 32.1 +1.0**
comp=Z,52nm,1.4s,mb5.1
BAIF Baives 64.78 315 *e*P **P 23 49 32.1 +1.0**
comp=Z,26nm,1.4s,mb5.1
BAIF Baives 64.78 315 *e*P **P 23 49 32.1 +1.0**
BAIF pmax pmax
comp=Z,26nm,1.4s,mb5.1
MEZF Maizieres J'vi 64.94 313 *e*P **P 23 49 33.1 +0.9**
comp=Z,32nm,1.1s,mb5.0
MEZF Maizieres J'vi 64.94 313 *e*P **P 23 49 33.1 +0.9**
comp=Z,32nm,1.1s,mb5.3
PGF Pioggiola 65.01 306 *e*P **P 23 49 33.8 +1.2**
comp=Z,164nm,1.6s,mb5.5
PGF Pioggiola 65.01 306 *e*P **P 23 49 33.8 +1.2**
comp=Z,82nm,1.6s,mb5.5
PGF Pioggiola 65.01 306 *e*P **P 23 49 33.8 +1.2**
PGF pmax pmax
comp=Z,82nm,1.6s,mb5.5
CABF La Chapelle 65.13 311 *e*P **P 23 49 33.8 +0.4**
LPG La Plagne 65.19 309 *e*P **P 23 49 35.3 +1.5**
comp=Z,24nm,0.8s,mb5.0
LPG La Plagne 65.19 309 *e*P **P 23 49 35.3 +1.5**
comp=Z,12nm,0.8s,mb5.0
LPG La Plagne 65.19 309 *e*P **P 23 49 35.3 +1.5**
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.0
LPL La Plagne 65.20 309 *e*P **P 23 49 35.2 +1.4**
comp=Z,42nm,1.2s,mb5.0
LPL La Plagne 65.20 309 *e*P **P 23 49 35.2 +1.4**
comp=Z,21nm,1.2s,mb5.0
LPL La Plagne 65.20 309 *e*P **P 23 49 35.2 +1.4**
LPL pmax pmax
comp=Z,21nm,1.2s,mb5.0
KMBO Kilima Mbogo 65.34 250 P **P 23 49 35.8 +1.0**
comp=Z,1.6nm,0.4s,mb4.4,baz=55,slow=12,SNR=7.9
KMBO LR LR 00 18 43.3
comp=Z,239nm,19.7s,MS4.4,baz=88,slow=37
SBF Sospel 65.47 307 *e*P **P 23 49 35.3 -0.3**
comp=Z,86nm,1.2s,mb5.3
SBF Sospel 65.47 307 *e*P **P 23 49 35.3 -0.3**
comp=Z,43nm,1.3s,mb5.3
SBF Sospel 65.47 307 *e*P **P 23 49 35.3 -0.3**
SBF pmax pmax
comp=Z,43nm,1.3s,mb5.3
MBDF Montbardon 65.52 308 *e*P **P 23 49 36.0 +0.1**
comp=Z,16nm,1.0s,mb4.7
MBDF Montbardon 65.52 308 *e*P **P 23 49 36.0 +0.1**
comp=Z,8.1nm,1.0s,mb4.7
MBDF Montbardon 65.52 308 *e*P **P 23 49 36.0 +0.1**
MBDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
PMG Port Moresby 65.84 122 P **P 23 49 38.9 +0.9**
comp=Z,13nm,0.8s,mb5.0,baz=243,slow=4.5,SNR=2.1
PMG LR LR 00 17 26.6
comp=Z,239nm,18.6s,MS4.4,baz=135,slow=35
ORIF Oris-en-Rattie 66.00 309 *e*P **P 23 49 39.5 +0.5**
comp=Z,20nm,0.8s,mb4.9
ORIF *e*R
comp=Z,1μm,19.5s
ORIF Oris-en-Rattie 66.00 309 *e*P **P 23 49 39.5 +0.5**
comp=Z,10nm,0.8s,mb4.9
ORIF Oris-en-Rattie 66.00 309 *e*P **P 23 49 39.5 +0.5**
ORIF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
WRAB Tennant Creek 66.04 140 *e*P **P 23 49 39.6 +0.3**
comp=Z,37nm,1.1s,mb5.3
WRAB Tennant Creek 66.04 140 *d*iP **P 23 49 44.4 +5.1**
WRA Warramunga Arr 66.05 140 P **P 23 49 39.3 0.0**
comp=Z,10nm,1.0s,mb4.8,baz=338,slow=6.2,SNR=15
FRF La Foret Royal 66.11 307 *e*P **P 23 49 40.5 +0.8**
LOR Lormes 66.21 312 *e*P **P 23 49 40.3 0.0**
LOR *e*R
comp=Z,836nm,18.2s
LOR Lormes 66.21 312 *e*P **P 23 49 40.3 0.0**
LOR MLR MLR
comp=Z,840nm,18.3s,MS5.0
ESK Eskdalemuir 66.45 322 *e*P **P 23 49 40.2 -1.7**
SMF Signal de Mont 66.50 311 *e*P **P 23 49 42.6 +0.4**
comp=Z,79nm,1.3s,mb5.3
SMF Signal de Mont 66.50 311 *e*P **P 23 49 42.6 +0.4**
comp=Z,39nm,1.3s,mb5.3
SMF Signal de Mont 66.50 311 *e*P **P 23 49 42.6 +0.4**
SMF pmax pmax
comp=Z,39nm,1.3s,mb5.3
SSF Saint Saulge 66.52 312 *e*P **P 23 49 42.4 +0.1**
SMRF Simiane la Rot 66.62 308 *e*P **P 23 49 44.0 +1.0**
AVF Avril sur Loir 66.73 312 *e*P **P 23 49 44.1 +0.4**
comp=Z,28nm,1.0s,mb4.9
AVF Avril sur Loir 66.73 312 *e*P **P 23 49 44.1 +0.4**
comp=Z,14nm,1.0s,mb4.9
AVF Avril sur Loir 66.73 312 *e*P **P 23 49 44.1 +0.4**
AVF pmax pmax
comp=Z,14nm,1.0s,mb5.0
VIVF Saint-Julien-l 66.79 309 *e*P **P 23 49 44.6 +0.5**
comp=Z,42nm,1.4s,mb5.0
VIVF Saint-Julien-l 66.79 309 *e*P **P 23 49 44.6 +0.5**
comp=Z,21nm,1.4s,mb5.0
VIVF Saint-Julien-l 66.79 309 *e*P **P 23 49 44.6 +0.5**
VIVF pmax pmax
comp=Z,21nm,1.4s,mb5.0
TTA Tatalina 66.82 28 *e*P **P 23 49 44.0 -0.3**
comp=Z,10nm,1.3s,mb4.7
TTA Tatalina 66.82 28 *e*P **P 23 49 44.0 -0.2**
TTA pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
HYF Humbligny 66.95 312 *e*P **P 23 49 45.9 +0.8**
BGF Bois d'Agland 67.15 312 *e*P **P 23 49 46.7 +0.4**
comp=Z,17nm,0.9s,mb4.8
BGF Bois d'Agland 67.15 312 *e*P **P 23 49 46.7 +0.4**
comp=Z,8.4nm,0.9s,mb4.8
BGF Bois d'Agland 67.15 312 *e*P **P 23 49 46.7 +0.4**
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 67.67 312 *e*P **P 23 49 50.5 +0.9**
comp=Z,45nm,1.0s,mb5.1
TCF Toulx Ste Croi 67.67 312 *e*P **P 23 49 50.5 +0.9**
comp=Z,23nm,1.0s,mb5.2
TCF Toulx Ste Croi 67.67 312 *e*P **P 23 49 50.5 +0.9**
TCF pmax pmax
comp=Z,23nm,1.0s,mb5.2
LASF Ste Croix 67.67 309 *e*P **P 23 49 50.6 +1.0**
comp=Z,31nm,1.1s,mb4.9
SUMG Summit 67.87 346 *e*P **P 23 49 52.8 +1.9**
comp=Z,9.6nm,1.0s,mb4.8
LDF La Druitiere 67.97 315 *e*P **P 23 49 51.9 +0.4**
comp=Z,42nm,1.2s,mb5.1
LDF La Druitiere 67.97 315 *e*P **P 23 49 51.9 +0.4**
comp=Z,21nm,1.2s,mb5.0
LDF La Druitiere 67.97 315 *e*P **P 23 49 51.9 +0.4**
LDF pmax pmax
comp=Z,21nm,1.2s,mb5.0
CAF Calviac 68.40 310 *e*P **P 23 49 55.4 +1.2**
comp=Z,28nm,1.3s,mb4.8
CAF Calviac 68.40 310 *e*P **P 23 49 55.4 +1.2**
comp=Z,14nm,1.3s,mb4.8
CAF Calviac 68.40 310 *e*P **P 23 49 55.4 +1.2**
CAF pmax pmax
comp=Z,14nm,1.3s,mb4.8
GRR Gorron 68.49 315 *e*P **P 23 49 55.1 +0.3**
comp=Z,36nm,0.9s,mb5.1
GRR Gorron 68.49 315 *e*P **P 23 49 55.1 +0.3**
comp=Z,18nm,0.9s,mb5.1
GRR Gorron 68.49 315 *e*P **P 23 49 55.1 +0.3**
GRR pmax pmax
comp=Z,18nm,0.9s,mb5.1
RJF Les Rejaudoux 68.56 311 *e*P **P 23 49 56.4 +1.2**
RJF *e*R
comp=Z,728nm,20.0s
RJF Les Rejaudoux 68.56 311 *e*P **P 23 49 56.4 +1.2**
RJF MLR MLR
comp=Z,730nm,20.0s,MS4.9
COLA College 68.64 24 *e*P **P 23 49 53.8 -2.0**
comp=Z,10nm,0.8s,mb4.8
COLA College 68.64 24 *e*P **P 23 49 55.4 -0.3**
ASAR Alice Springs 68.92 143 P **P 23 49 57.9 +0.5**
comp=Z,2.1nm,0.7s,mb4.2,baz=329,slow=6.5,SNR=18
MFF Saint Martin d 68.94 313 *e*P **P 23 49 58.2 +0.6**
ILAR Eielson Array 69.03 24 P **P 23 49 54.6 -3.5**
comp=Z,4.5nm,0.8s,mb4.4,baz=295,slow=5.7,SNR=14
ILAR LR LR 00 20 50.8
comp=Z,747nm,18.7s,MS5.0,baz=325,slow=37
MTLF Montolieu 69.07 309 *e*P **P 23 49 59.4 +1.0**
LFF La Frestale 69.22 311 *e*P **P 23 50 00.4 +1.1**
comp=Z,46nm,1.2s,mb5.0
LFF La Frestale 69.22 311 *e*P **P 23 50 00.4 +1.1**
comp=Z,23nm,1.2s,mb5.0
LFF La Frestale 69.22 311 *e*P **P 23 50 00.4 +1.1**
LFF pmax pmax
comp=Z,23nm,1.2s,mb5.0
RES Resolute Bay 70.09 3 *e*P **P 23 50 06.0 +1.3**
comp=Z,8.7nm,1.2s,mb4.6
RES Resolute Bay 70.09 3 *e*P **P 23 50 06.0 +1.3**
RES pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
SML Sawmill 70.39 27 *e*P **P 23 50 04.6 -1.9**
EPF Esparros 70.42 309 *e*P **P 23 50 06.9 +0.2**
INK Inuvik 70.43 17 *e*P **P 23 50 05.4 -1.4**
comp=Z,16nm,1.2s,mb4.8
INK Inuvik 70.43 17 *e*P **P 23 50 05.4 -1.4**
INK pmax pmax
comp=Z,16nm,1.2s
OPO Ambohidratompo 70.58 229 P **P 23 50 09.1 +1.4**
baz=60,slow=6.9
ETSF Etsaut 71.05 309 *e*P **P 23 50 10.9 +0.4**
comp=Z,24nm,1.2s,mb4.7
ETSF Etsaut 71.05 309 *e*P **P 23 50 10.9 +0.4**
comp=Z,12nm,1.2s,mb4.7
ETSF Etsaut 71.05 309 *e*P **P 23 50 10.9 +0.4**
ETSF pmax pmax
comp=Z,12nm,1.2s,mb4.7
DAWY Dawson 71.92 22 *e*P **P 23 50 15.4 -0.4**
ESDC Sonseca Array 74.93 308 P **P 23 50 33.7 +0.2**
comp=Z,2.9nm,0.9s,mb4.2,baz=40,slow=6.7,SNR=5.1
EVO Evora 78.18 309 *e*P **P 23 50 51.7 -0.1**
comp=Z,41nm,1.4s,mb4.9
EVO *e*R
comp=Z,566nm,20.2s
DLBC Dease Lake 79.14 23 *e*P **P 23 50 57.0 -0.1**
YKW3 Yellowknife Ar 79.50 14 *e*P **P 23 50 59.0 -0.1**
STKA Stephens Creek 79.51 142 P **P 23 50 56.0 -3.2**
comp=Z,3.8nm,0.9s,mb4.3,baz=338,slow=7.9,SNR=5.3
STKA LR LR 00 29 28.8
comp=Z,267nm,20.1s,MS4.6,baz=118,slow=38
STKA Stephens Creek 79.51 142 P **P 23 50 56.0 -3.2**
STKA LR LR 00 29 28.8
YKA Yellowknife Ar 79.56 14 P **P 23 50 58.4 -1.1**
comp=Z,2.7nm,0.9s,mb4.2,baz=337,slow=5.1,SNR=13
YKA LR LR 00 29 52.1
comp=Z,395nm,18.5s,MS4.8,baz=285,slow=39
YKA Yellowknife Ar 79.56 14⇑ *e*P **P 23 51 00.3 +0.8**
TORD Torodi Ar. Bea 85.72 283 P **P 23 51 31.9 +0.4**
comp=Z,3.7nm,1.1s,mb4.5,baz=42,slow=3.9,SNR=12
SCHQ Schefferville 89.00 350 P **P 23 51 46.6 -0.7**
comp=Z,2.3nm,0.8s,mb4.6,baz=227,slow=4.9,SNR=6.7
SCHQ LR LR 00 36 03.1
comp=Z,267nm,18.9s,MS4.7,baz=158,slow=39
BOSA Boshof 91.88 236 LR LR 00 32 26.2
comp=Z,213nm,19.1s,MS4.6,baz=282,slow=35
ULM Lac du Bonnet 94.23 7 LR LR 00 34 17.8
comp=Z,374nm,21.4s,MS4.8,baz=159,slow=35
DBIC Dimbokro 94.71 282 LR LR 00 41 32.7
comp=Z,166nm,18.8s,MS4.5,baz=34,slow=40
PDAR Pinedale Array 98.98 19 LR LR 00 38 50.4
comp=Z,414nm,20.3s,MS4.9,baz=156,slow=36
PPT Papeete 119.95 91 *e*LR LR 00 34 29.6
comp=Z,293nm,22.2s
TBI Tubuai 122.88 97 *e*LR LR 00 35 50.1
comp=Z,191nm,29.0s
RKT Rikitea 134.60 89 *e*LR LR 00 41 17.0
comp=Z,184nm,24.0s
SAML Samuel 147.43 319 *e*PKP PKPdf 23 58 35.4 +1.6

*IDC **29** 23:50:01.1±0.9,3550N×9589E,h0km,mb3.8/11, mb1 4.0/13,mb1mx3.9/26,mbtmp3.8/13,ML4.0/2,Error ellipse: s-maj=35.3km s-min=17.8km az=50.0*
*BJI **29** 23:50:02.8,3547N×9549E,h29km,mb4.5,ML4.1,Ms3.7, Msz3.8*
*ISCJB **29** 23:50:04.3±0.5,3537N±007×9567E±006,h33km, mb3.8/13,Error ellipse: s-maj=9.4km s-min=6.8km az=17.5*
*MOS **29** 23:50:04.7±1.3,3568N×9588E,h33km,mb4.2/5,Error ellipse: s-maj=22.4km s-min=11.0km az=110.9*
*NEIC **29** 23:50:07.1±1.1,3570N×9590E,h35km,mb3.9/5,Error ellipse: s-maj=19.5km s-min=15.2km az=158.0*
ISC 29 23:50:06.6±0.5,3540N±006×9560E±006,h35km,n34, σ1⇑18/37,mb3.8/13,1C,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GTA	**Gaotai**	**5.22**	**39**	P		**Pn**	**23 51 23.5**	**+1.4**
GTA				PG		**Pn**	**23 51 37.3**	**+15**
GTA				S		**Sn**	**23 52 22.5**	**+1.4**
GTA				SG		Sn	23 52 45.0	+24
GTA				Smax				
	comp=N,67nm,1.1s							
GTA				Smax				
	comp=E,77nm,1.4s							
LZH	**Lanzhou**	**6.74**	**82**	P		**Pn**	**23 51 42.5**	**-0.5**
LZH				PG		Pn	23 52 08.0	+25
LZH				S		**Sn**	**23 52 58.3**	**-0.2**
LZH				SG		Sn	23 53 37.0	+39
LZH				Smax				
	comp=N,99nm,1.2s							
LZH				Smax				
	comp=E,96nm,1.2s							
LZH				LR		LR		
	comp=E,375nm,8.1s							
LZH				LR		LR		
	comp=Z,512nm,9.3s							
WMQ	**Urumqi**	**10.38**	**326⇑**	*i*P		**Pn**	**23 52 31.0**	**-1.9**
KMI	**Kunming**	**11.95**	**147**	P		**Pn**	**23 52 54.5**	**+0.1**
KMI				AMB		AMB		
	comp=Z,14nm,1.1s							
SONM	**Songino Array**	**14.80**	**30**	Pn		**Pn**	**23 53 28.8**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=219,slow=16,SNR=4.7							
ULN	**Ulaanbaatar**	**15.09**	**31**	P		**Pn**	**23 53 32.4**	**-4.7**
MKAR	**Makanchi Array**	**15.15**	**323**	Pn		**Pn**	**23 53 32.5**	**-5.4**
	comp=Z,2.2nm,0.3s,baz=127,slow=14,SNR=39							
ZAK	**Zakamensk**	**15.98**	**18**	*e*P		**Pn**	**23 53 54.0**	**+5.4**
ZAK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ZAK				pmax		pmax		
	comp=Z,17nm,2.0s							
KURK	**Kurchatov**	**19.63**	**326**	*e*P		**Pn**	**23 54 29.4**	**-4.2**
	comp=Z,3.5nm,0.8s							
KURK	**Kurchatov**	**19.63**	**326**	*e*P		**Pn**	**23 54 29.4**	**-4.2**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ZAL	**Zalesovo**	**20.02**	**341**	P		**P**	**23 54 34.2**	**-2.0**
	comp=Z,2.0nm,0.9s,baz=327,slow=13,SNR=4.9							
BVAR	**Borovoye Array**	**25.03**	**323**	P		**P**	**23 55 25.3**	**-2.0**
	comp=Z,3.2nm,0.9s,mb3.9,baz=119,slow=7.8,SNR=8.2							
BRVK	**Borovoye**	**25.10**	**323**	*e*P		**P**	**23 55 27.2**	**-0.8**
	comp=Z,2.6nm,0.7s,mb3.9							
BRVK	**Borovoye**	**25.10**	**323**	*e*P		**P**	**23 55 27.2**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb3.9							
CHKZ	**Chkalovo**	**25.30**	**324**	*e*P		**P**	**23 55 31.0**	**+1.3**
	comp=Z,3.7nm,0.8s,mb4.0							
CHKZ	**Chkalovo**	**25.30**	**324**	*e*P		**P**	**23 55 31.0**	**+1.3**
CHKZ				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.0							
ZRNK	**Zerenda**	**25.69**	**321**	P		**P**	**23 55 32.9**	**-0.3**
AKTK	**Aktyubinsk**	**30.98**	**311**	P		**P**	**23 56 21.6**	**+1.2**
AKTO	**Aktyubinsk**	**30.98**	**311**	P		**P**	**23 56 21.6**	**+1.2**
	comp=Z,2.4nm,0.9s,mb4.0,baz=87,slow=13,SNR=5.9							
AKTO	**Aktyubinsk**	**30.98**	**311**	P		**P**	**23 56 21.6**	**+1.2**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
MALT	**Malatya**	**45.22**	**291**	P		**P**	**23 58 21.0**	**+0.8**
BR131	**Keskin Array S**	**48.45**	**295**	*e*P		**P**	**23 58 48.2**	**+2.7**
	comp=Z,0.3nm,0.4s,mb3.7							
BRTR	**Keskin Array B**	**48.45**	**295**	P		**P**	**23 58 46.2**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=91,slow=6.6,SNR=2.7							
FINES	**FINESS Array B**	**49.98**	**324**	P		**P**	**23 58 58.7**	**+1.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=108,slow=6.2,SNR=6.2							
ARCES	**ARCESS Array B**	**50.38**	**335**	P		**P**	**23 59 00.1**	**-0.1**
	comp=Z,2.4nm,0.9s,mb4.2,baz=72,slow=7.8,SNR=6.5							
NB2	**NORSAR Subarra**	**57.13**	**325**	P		**P**	**23 59 51.0**	**+1.4**
	comp=Z,0.2nm,0.7s,mb3.3,baz=77,slow=7.4							
NOA	**NORSAR Array B**	**57.13**	**325**	P		**P**	**23 59 50.0**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=75,slow=7.1,SNR=5.3							
NOA	**NORSAR Array B**	**57.13**	**325**	P		**P**	**23 59 50.0**	**+0.4**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
WRAB	**Tennant Creek**	**66.17**	**140**	*e*P		**P**	**00 00 51.2**	**+0.7**
	comp=Z,2.1nm,0.8s,mb4.2							
WRAB	**Tennant Creek**	**66.17**	**140**	*e*P		**P**	**00 00 51.3**	**+0.8**
WRAB				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**66.17**	**140**	P		**P**	**00 00 50.2**	**-0.3**
	comp=Z,0.4nm,0.3s,mb3.9,baz=339,slow=6.8,SNR=4.6							
ILAR	**Eielson Array**	**68.94**	**24**	P		**P**	**00 01 07.2**	**-0.8**
	comp=Z,0.4nm,0.8s,mb3.4,baz=287,slow=5.2,SNR=5.3							
ASAR	**Alice Springs**	**69.05**	**143**	P		**P**	**00 01 08.2**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=324,slow=6.9,SNR=6.4							
YKA	**Yellowknife Ar**	**79.46**	**14**	P		**P**	**00 02 07.1**	**-2.2**
	comp=Z,0.1nm,0.3s,mb3.2,baz=93,slow=34,SNR=3.9							

*ISCJB **29** 23:52:04.8±1.0,330S±02×568E±02,h10km,mb4.1/7, Error ellipse: s-maj=30.2km s-min=23.6km az=125.2*
*IDC **29** 23:52:05.1±1.0,3298S×5676E,h0km,mb3.8/5,mb1 4.0/5, mb1mx3.7/20,mbtmp3.8/5,Error ellipse: s-maj=46.5km s-min=27.9km az=42.0*
*NEIC **29** 23:52:07.6±0.9,3305S×5701E,h10km,mb4.4/1,Error ellipse: s-maj=29.7km s-min=15.1km az=55.0*
ISC 29 23:52:07.0±1.0,330S±02×568E±02,h10km,n10,σ0⇑55/9, mb4.1/7,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.78**	**327**	Pn		**Pn**	**23 56 05.3**	**+3.3**
	0.4nm,0.3s,baz=143,slow=8.0,SNR=6.6							
OPO				Sn		**Sn**	**23 59 01.2**	**-7.2**
	0.7nm,0.3s,baz=333,slow=24,SNR=5.6							
DGAR	**Diego Garcia**	**29.36**	**33**	P		**P**	**23 58 09.9**	**-0.2**
	18nm,0.2s,mb5.5							
VNDA	**Vanda**	**61.18**	**166**	P		**P**	**00 02 21.6**	**-0.1**
	1.0nm,0.9s,mb4.0,baz=297,slow=8.5,SNR=3.8							
ASAR	**Alice Springs**	**67.17**	**104**	P		**P**	**00 03 00.7**	**-0.4**
	0.6nm,0.6s,mb3.8,baz=234,slow=5.2,SNR=6.0							
WRA	**Warramunga Arr**	**69.27**	**101**	P		**P**	**00 03 15.1**	**+0.9**
	1.1nm,0.6s,mb3.9,baz=237,slow=5.1,SNR=5.1							
WRAB	**Tennant Creek**	**69.28**	**101**	*e*P		**P**	**00 03 14.2**	**-0.1**
	1.8nm,0.6s,mb4.2							
TORD	**Torodi Ar. Bea**	**69.77**	**302**	P		**P**	**00 03 17.1**	**-0.2**
	0.8nm,0.8s,mb3.7,baz=119,slow=3.7,SNR=5.3							
MKAR	**Makanchi Array**	**82.73**	**17**	P		**P**	**00 04 30.7**	**-0.3**
	0.4nm,0.8s,mb3.5,baz=245,slow=3.0,SNR=4.0							
ILAR	**Eielson Array**	**145.09**	**17**	PKPbc		PKPbc	00 11 41.6	-2.4
	0.7nm,0.8s,baz=310,slow=3.6,SNR=7.8							
YKA	**Yellowknife Ar**	**150.02**	**352**	PKPbc		PKPbc	00 11 56.1	-1.6
	0.4nm,0.7s,baz=2.3,slow=2.3,SNR=11							

IDC 29 23:58:01.9±1.2,5779S×2589W,h0km,mb3.7/2, mb1 3.7/3,mb1mx3.6/16,mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=78.6km s-min=31.1km az=91.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**16.86**	**155**	Pn		Pn	00 01 58.0	-1.2
	0.2nm,0.3s,baz=325,slow=16,SNR=11							
VNDA	**Vanda**	**44.86**	**182**	P		P	00 06 17.4	-0.5
	0.5nm,0.9s,baz=171,slow=7.6,SNR=6.7							
TORD	**Torodi Ar. Bea**	**74.24**	**28**	P		P	00 09 40.7	0.0
	0.2nm,0.4s,baz=197,slow=6.2,SNR=4.6							
YKA	**Yellowknife Ar**	**137.93**	**316**	PKP		PKPdf	00 17 25.9	-2.5
	0.3nm,0.5s,baz=129,slow=2.3,SNR=10							
ILAR	**Eielson Array**	**151.79**	**309**	PKPbc		PKPbc	00 17 56.4	-2.1
	1.1nm,0.8s,baz=126,slow=2.3,SNR=9.9							

BJI 30 00:04:05.0,3540N×9551E,h19km,ML3.8,Ms3.2,Msz3.3, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GTA	**Gaotai**	**5.27**	**39**	*e*P		Pn	00 05 27.5	+4.8
LZH	**Lanzhou**	**6.81**	**82**	P		Pn	00 05 47.0	+3.1
LZH				Smax				
	comp=N,49nm,1.2s							
LZH				Smax				
	comp=E,45nm,1.1s							
LZH				LR		LR		
	comp=E,157nm,7.5s							
LZH				LR		LR		
	comp=Z,198nm,9.3s							

*BJI **30** 00:04:40.6,3561N×9563E,h36km,mB4.9,mb4.8,ML3.8, Ms3.6,Msz3.5*
*IDC **30** 00:04:45.1±5.9,3587N×9539E,h0km,mb3.9/5,mb1 3.9/8, mb1mx3.7/26,mbtmp3.9/8,ML3.7/2,Error ellipse: s-maj=102.7km s-min=56.9km az=156.0*
*ISCJB **30** 00:04:49.7±2.6,36.1N±03×953E±01,h33km,mb3.8/7, Error ellipse: s-maj=39.0km s-min=14.4km az=149.5*
*MOS **30** 00:04:50.1±1.7,36.18N×9524E,h33km,mb4.1/3,Error ellipse: s-maj=22.3km s-min=10.7km az=103.5*
*NEIC **30** 00:04:54.0±3.1,3640N×9524E,h35km,mb3.8/2,Error ellipse: s-maj=51.7km s-min=16.0km az=163.0*
ISC 30 00:04:51.2±2.4,361N±02×953E±01,h35km,n19,σ1⇑10/19, mb3.8/7,1C,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WMQ	**Urumqi**	**9.70**	**325⇑**	*i*P		**Pn**	**00 07 09.3**	**+1.1**
SONM	**Songino Array**	**14.34**	**32**	Pn		**Pn**	**00 08 09.8**	**-1.7**
	0.2nm,0.3s,baz=216,slow=15,SNR=11							
MKAR	**Makanchi Array**	**14.48**	**322**	Pn		**Pn**	**00 08 11.7**	**-1.8**
	0.6nm,0.3s,baz=130,slow=13,SNR=16							
ULN	**Ulaanbaatar**	**14.64**	**33**	*e*Pn		**Pn**	**00 08 15.9**	**+0.2**
	2.3nm,0.8s							
ULN	**Ulaanbaatar**	**14.64**	**33**	*e*P		**Pn**	**00 08 15.9**	**+0.2**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.8s							

ZAK	**Zakamensk**	**15.42**	**19**	*e*P	**Pn**	**00 08 27.3**	**+1.3**
ZAK				pmax	pmax		
comp=Z,6.0nm,1.6s							
ZAK				pmax	pmax		
comp=Z,10.0nm,1.9s							
KURK	**Kurchatov**	**18.95**	**326**	*e*P	**Pn**	**00 09 11.8**	**+1.8**
ZAL	**Zalesovo**	**19.32**	**341**	P	**Pn**	**00 09 13.9**	**-0.5**
comp=Z,0.2nm,0.3s,baz=322,slow=10,SNR=6.5							
BVAR	**Borovoye Array**	**24.37**	**322**	P	**P**	**00 10 04.4**	**-1.4**
comp=Z,1.0nm,0.6s,mb3.4,baz=120,slow=10,SNR=5.1							
BRVK	**Borovoye**	**24.44**	**322**	*e*P	**P**	**00 10 06.4**	**-0.1**
comp=Z,1.4nm,0.5s,mb3.6							
BRVK	**Borovoye**	**24.44**	**322**	*e*P	**P**	**00 10 06.4**	**-0.1**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.5							
CHKZ	**Chkalovo**	**24.63**	**323**	*e*P	**P**	**00 10 07.2**	**-1.0**
comp=Z,1.9nm,0.7s,mb3.7							
CHKZ	**Chkalovo**	**24.63**	**323**	*e*P	**P**	**00 10 07.2**	**-1.0**
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.7s,mb3.8							
AKTK	**Aktyubinsk**	**30.37**	**310**	P	**P**	**00 10 59.5**	**-0.2**
AKTO	**Aktyubinsk**	**30.37**	**310**	P	**P**	**00 10 59.5**	**-0.2**
comp=Z,2.3nm,0.8s,mb4.0,baz=136,slow=6.3,SNR=5.4							
AKTO	**Aktyubinsk**	**30.37**	**310**	P	**P**	**00 10 59.5**	**-0.2**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.8s,mb3.9							
FINES	**FINESS Array B**	**49.31**	**324**	P	**P**	**00 13 37.1**	**+0.4**
comp=Z,1.7nm,0.9s,mb4.1,baz=69,slow=7.6,SNR=5.1							
ARCES	**ARCESS Array B**	**49.68**	**334**	P	**P**	**00 13 41.2**	**+1.7**
comp=Z,2.1nm,0.9s,mb4.2,baz=81,slow=7.5,SNR=4.2							
NOA	**NORSAR Array B**	**56.46**	**324**	P	**P**	**00 14 29.9**	**+0.5**
comp=Z,1.3nm,0.8s,mb4.0,baz=74,slow=7.0,SNR=3.1							

*MOS **30** 00:19:23.5±1.7, 4243N×4364E, h15km, mb3.6/1, Error ellipse: s-maj=18.2km s-min=7.8km az=81.0*
*TIF **30** 00:19:23.9, 4258N×4348E, h19km±2km*
*CSEM **30** 00:19:23.5, 4243N×4364E, h15km, mb3.6, After OBN*

ISC 30 00:19:24.0±0.7, 4254N±002×4346E±006, h4km±12km, n17, σ0°86/30, 1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.37**	**14**	*i* Pg	**Pg**	**00 19 23.7**	**-7.3**
ZEI	**Tsey**	**0.40**	**55**	*i* Pg	**Pg**	**00 19 31.6**	**0.0**
ZEI				*e*Sg	**Sg**	**00 19 37.4**	**+0.6**
ZEI	**Tsey**	**0.40**	**55**	*d i* PG	**Pg**	**00 19 31.6**	**0.0**
ZEI				*e*		00 19 37.4	
KORR	**Kora**	**0.70**	**39**	*i* Pg	**Pg**	**00 19 37.6**	**+0.1**
KORR				*i* Sg	**Sg**	**00 19 47.9**	**+1.3**
ARNR	**Ardon**	**0.89**	**43**	*e*Pg	**Pg**	**00 19 40.7**	**-0.2**
ARNR				*e*Sg	**Sg**	**00 19 53.2**	**+0.8**
VLKR	**Vladikavkaz**	**1.03**	**60**	*e*Pg	**Pg**	**00 19 42.3**	**-1.4**
VLKR				*e*Sg	**Sg**	**00 19 56.1**	**-1.0**
SNJR	**Sundja**	**1.13**	**62**	*e*Pg	**Pg**	**00 19 44.1**	**-1.5**
SNJR				*e*Sg	**Sg**	**00 19 59.1**	**-1.1**
AKH	**Akhalkalaki**	**1.13**	**179**	P	**Pg**	**00 19 45.1**	**-0.6**
AKH				S	**Sg**	**00 20 00.7**	**+0.3**
TBLG	**Delisi**	**1.25**	**130**	P	**Pg**	**00 19 48.5**	**+0.5**
TBLG				S	**Sg**	**00 20 04.7**	**+0.5**
TBLG	**Delisi**	**1.25**	**130**	*e*Pg	**Pg**	**00 19 48.5**	**+0.5**
TBLG				Sg	**Sg**	**00 20 04.7**	**+0.5**
KUBR	**Kubataba**	**1.26**	**358**	*i* Pg	**Pg**	**00 19 48.6**	**+0.5**
KUBR				*e*Sg	**Sg**	**00 20 06.3**	**+1.9**
MTA	**Mtatsminda**	**1.31**	**130**	P	**Pn**	**00 19 49.4**	**+0.3**
MTA				S	**Sg**	**00 20 06.7**	**+0.7**
SHAR	**Shatzhatmas**	**1.33**	**335**	*i* Pg	**Pg**	**00 19 48.6**	**-0.9**
PRTR	**Priterechnaya**	**1.35**	**26**	*i* Pg	**Pg**	**00 19 49.5**	**-0.4**
PRTR				*i* Sg	**Sg**	**00 20 08.5**	**+1.1**
TRKR	**Terskaya**	**1.50**	**38**	*e*Pg	**Pg**	**00 19 51.4**	**-1.4**
TRKR				*e*Sg	**Sg**	**00 20 11.9**	**-0.4**
KIV	**Kislovodsk**	**1.52**	**339**	*i* Pn	**Pn**	**00 19 51.9**	**0.0**
DGRG	**David-gareji**	**1.80**	**127**	P	**Pg**	**00 19 57.9**	**-0.5**
DGRG				S	**Sg**	**00 20 22.6**	**+0.8**

IDC 30 00:25:13.7±2.6, 302N×12845E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=190.2km s-min=25.7km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.54**	**166**	P	P	00 30 25.7	0.0
0.4nm,0.3s,baz=343,slow=9.8,SNR=2.4							
ASAR	**Alice Springs**	**27.05**	**169**	P	P	00 30 56.7	-1.0
0.3nm,0.4s,baz=354,slow=8.1,SNR=7.0							
MKAR	**Makanchi Array**	**59.12**	**325**	P	P	00 35 17.4	+1.5
0.2nm,0.5s,baz=116,slow=8.1,SNR=4.2							

IDC 30 00:46:35.9±1.0, 5243S×1478E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/18, mbtmp4.1/4, MS3.7/7, Ms1 3.7/7, ms1mx3.6/17, Error ellipse: s-maj=48.6km s-min=28.7km az=87.0, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.51**	**15**	P	P	00 51 17.2	+1.7
5.5nm,0.5s,baz=185,slow=11,SNR=17							
SUR				LR	LR	00 56 59.5	
comp=Z,235nm,19.0s,baz=199,slow=30							
SNAA	**Sanae**	**20.83**	**196**	P	P	00 51 20.1	+1.0
0.8nm,0.7s,baz=274,slow=4.9,SNR=3.7							
BOSA	**Boshof**	**25.03**	**22**	LR	LR	01 00 25.2	
comp=Z,135nm,18.1s,baz=277,slow=33							
MAW	**Mawson**	**27.51**	**142**	LR	LR	01 01 06.0	
comp=Z,87nm,21.4s,baz=74,slow=32							
LBTB	**Lobatse**	**28.58**	**21**	LR	LR	01 02 04.0	
comp=Z,141nm,19.8s,baz=166,slow=32							
VNDA	**Vanda**	**48.72**	**171**	LR	LR	01 15 10.3	
comp=Z,151nm,20.1s,baz=183,slow=35							
KMBO	**Kilima Mbogo**	**54.47**	**28**	LR	LR	01 18 01.4	
comp=Z,52nm,19.0s,baz=90,slow=35							
DBIC	**Dimbokro**	**61.20**	**338**	LR	LR	01 17 25.9	
comp=Z,61nm,18.5s,baz=228,slow=30							
STKA	**Stephens Creek**	**84.07**	**137**	P	P	00 59 10.2	+1.7
0.8nm,0.3s,baz=225,slow=15,SNR=4.9							
ASAR	**Alice Springs**	**87.58**	**127**	P	P	00 59 24.1	-1.8
1.4nm,0.7s,baz=206,slow=4.8,SNR=19							
NVAR	**Mina Array Bea**	**144.87**	**266**	PKP	PKPdf	01 06 15.2	+0.3
2.3nm,0.7s,baz=122,slow=5.3,SNR=14							
YKA	**Yellowknife Ar**	**151.71**	**311**	PKPbc	PKPbc	01 06 30.0	-2.3
0.2nm,0.6s,baz=95,slow=1.4,SNR=5.9							
YKA				PKPab	PKPab	01 06 38.3	-2.8
0.3nm,0.8s,baz=90,slow=2.5,SNR=4.4							

IDC 30 01:09:29.9±3.3, 921S×16131E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.7/3, Error ellipse: s-maj=174.7km s-min=33.0km az=136.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.15**	**245**	P	P	01 15 24.2	+0.5
0.6nm,0.3s,baz=73,slow=9.0,SNR=4.8							
ASAR	**Alice Springs**	**29.87**	**238**	P	P	01 15 39.3	+0.3
0.6nm,0.4s,baz=61,slow=10,SNR=11							
ILAR	**Eielson Array**	**83.23**	**20**	P	P	01 21 57.9	-0.2
0.4nm,1.0s,baz=243,slow=5.3,SNR=4.1							

IDC 30 01:32:59.1±7.6, 491S×10649E, h483km±91km, mb3.0/6, mb1 3.1/6, mb1mx3.0/17, mbtmp3.9/6, Error ellipse: s-maj=67.9km s-min=21.0km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.95**	**121**	P	P	01 38 35.2	-0.5
0.2nm,0.8s,baz=301,slow=9.3,SNR=2.1							
ASAR	**Alice Springs**	**32.34**	**128**	P	P	01 38 48.4	+0.9
0.2nm,0.3s,baz=304,slow=8.0,SNR=3.6							
SONM	**Songino Array**	**52.52**	**360**	P	P	01 41 26.6	+0.2
1.0nm,0.5s,baz=173,slow=8.0,SNR=9.2							
SONM				PcP	PcP	01 42 29.2	+0.2
0.8nm,0.4s,baz=177,slow=4.6,SNR=9.3							
MKAR	**Makanchi Array**	**55.76**	**340**	P	P	01 41 49.1	-0.2
1.4nm,0.4s,baz=149,slow=8.7,SNR=32							
BRTR	**Keskin Array B**	**80.06**	**312**	P	P	01 44 18.5	+0.6
0.8nm,0.7s,baz=122,slow=5.5,SNR=6.6							
ARCES	**ARCESS Array B**	**91.41**	**340**	P	P	01 45 11.5	-1.4
2.6nm,0.9s,baz=76,slow=3.8,SNR=4.5							

*ISCJB **30** 01:57:11.7±0.4, 3247S×002×7147W×006, h67km±4km, mb4.1/5, Error ellipse: s-maj=8.3km s-min=3.3km az=160.4*
*IDC **30** 01:57:12.5±3.7, 3237S×7163W, h71km±28km, mb3.9/3, mb1 3.8/8, mb1mx3.7/17, mbtmp4.0/8, MS3.6/1, Ms1 3.5/1, ms1mx2.7/21, Error ellipse: s-maj=39.4km s-min=23.6km az=132.0*
*NEIC **30** 01:57:12.0, 3247S×7136W, h53km, mb4.3/3, MD4.4(GUC), After GUC.*
NEIC Felt [III] at Illapel and Salamanca; [II] at San Felipe, Vina del Mar and Zapallar.
*GUC **30** 01:57:12.5±0.7, 3247S×7136W, h53km±4km, MD4.4, ML4.3*

ISC 30 01:57:12.8±0.4, 3247S±002×7147W±006, h58km±5km, n53, σ0°81/81, mb4.2/5, MS3.5/1, 11C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.07**	**157**	⇑*i*P	**Pn**	**01 57 21.2**	**-0.2**
IHA	**Instituto Hidr**	**0.57**	**195**	⇓*i*P	**Pn**	**01 57 25.3**	**0.0**
IHA				*i* S	**Sn**	**01 57 34.9**	**+0.5**
CHNG	**Los Chungos**	**0.59**	**358**	⇓*i*P	**Pn**	**01 57 25.5**	**0.0**
CHNG				*i* S	**Sn**	**01 57 34.6**	**-0.2**
ROCH	**El Roble**	**0.63**	**142**	⇓*i*P	**Pn**	**01 57 25.6**	**-0.4**
ROCH				*i* S	**Sn**	**01 57 35.5**	**-0.2**
JACH	**Jahuel**	**0.77**	**106**	⇓*i*P	**Pn**	**01 57 26.8**	**-1.0**
PEL	**Peldehue**	**0.94**	**136**	*e*P	**Pn**	**01 57 29.4**	**-0.5**
PEL				*i* S	**Sn**	**01 57 42.0**	**-0.6**
PEL				AMP		01 57 42.8	
comp=N,17μm,0.4s							
LCCH	**Las Cruces**	**1.00**	**185**	⇑*i*P	**Pn**	**01 57 31.0**	**+0.2**
RCDM	**Rinconada Maip**	**1.16**	**151**	*e*P	**Pn**	**01 57 32.3**	**-0.5**
RCDM				*i* S	**Sn**	**01 57 47.3**	**-0.4**
RCDM				AMP		01 57 49.0	
comp=N,6μm,0.1s							
RCDM	**Rinconada Maip**	**1.16**	**151**	*e*P	**Pn**	**01 57 32.3**	**-0.5**
RCDM				*i* S	**Sn**	**01 57 47.3**	**-0.4**
STL	**Santa Lucia**	**1.19**	**144**	*e*P	**Pn**	**01 57 32.6**	**-0.6**
STL				*i* S	**Sn**	**01 57 47.3**	**-1.1**
CLCH	**Cerro Calan**	**1.21**	**140**	⇑*i*P	**Pn**	**01 57 33.4**	**-0.1**
CLCH				*i* S	**Sn**	**01 57 48.8**	**-0.1**
CLCH				AMP		01 57 50.8	
comp=N,16μm,0.6s							
TACH	**Talagante**	**1.26**	**159**	⇑*i*P	**Pn**	**01 57 34.4**	**+0.2**
TACH				*i* S	**Sn**	**01 57 50.4**	**+0.2**
FSR	**Penalolen**	**1.28**	**142**	*i* P	**Pn**	**01 57 34.6**	**+0.2**
FSR				*i* S	**Sn**	**01 57 50.7**	**+0.1**
FSR				AMP		01 57 51.1	
comp=N,12μm,0.4s							
FSR	**Penalolen**	**1.28**	**142**	*i* P	**Pn**	**01 57 34.6**	**+0.2**
FSR				*i* S	**Sn**	**01 57 50.7**	**+0.1**
ANTU	**Antumapu**	**1.30**	**148**	*e*P	**Pn**	**01 57 34.5**	**-0.2**
ANTU				*i* S	**Sn**	**01 57 50.8**	**-0.3**
ANTU				AMP		01 57 51.2	
comp=N,9μm,0.3s							
ANTU	**Antumapu**	**1.30**	**148**	*e*P	**Pn**	**01 57 34.5**	**-0.2**
ANTU				*i* S	**Sn**	**01 57 50.8**	**-0.3**
FCH	**Farellones**	**1.31**	**131**	⇑*i*P	**Pn**	**01 57 34.6**	**-0.2**
FCH				*i* S	**Sn**	**01 57 51.5**	**+0.2**
CMCH	**Combarbala**	**1.35**	**17**	⇑*i*P	**Pn**	**01 57 35.0**	**-0.4**
CMCH				*i* S	**Sn**	**01 57 52.8**	**+0.4**
CMCH				AMP		01 57 56.4	
comp=E,22μm,0.4s							
CMCH	**Combarbala**	**1.35**	**17**	⇑*i*P	**Pn**	**01 57 35.0**	**-0.4**
CMCH				*i* S	**Sn**	**01 57 52.8**	**+0.4**
PCH	**Pirque**	**1.40**	**145**	⇑*i*P	**Pn**	**01 57 35.9**	**-0.1**
PCH				*i* S	**Sn**	**01 57 53.6**	**+0.1**
LNV	**Longovilo**	**1.48**	**178**	⇓*i*P	**Pn**	**01 57 37.0**	**-0.2**
SJCH	**San Jose de Ma**	**1.50**	**141**	*e*P	**Pn**	**01 57 36.7**	**-0.6**
SJCH				*i* S	**Sn**	**01 57 55.3**	**-0.5**
SJCH				AMP		01 57 58.3	
comp=N,5μm,0.4s							
SJCH	**San Jose de Ma**	**1.50**	**141**	*e*P	**Pn**	**01 57 36.7**	**-0.6**
SJCH				*i* S	**Sn**	**01 57 55.3**	**-0.5**
CHCH	**Chadas Angostu**	**1.61**	**155**	⇑*i*P	**Pn**	**01 57 39.1**	**+0.3**
CACH	**El Canelo**	**1.79**	**156**	*e*P	**Pn**	**01 57 42.1**	**+0.8**
OVCH	**Ovalle**	**1.87**	**7**	*e*P	**Pn**	**01 57 42.5**	**+0.1**
OVCH				*i* S	**Sn**	**01 58 05.5**	**+0.5**
OVCH				AMP		01 58 12.9	
comp=E,5μm,0.3s							
OVCH	**Ovalle**	**1.87**	**7**	*e*P	**Pn**	**01 57 42.5**	**+0.1**
OVCH				*i* S	**Sn**	**01 58 05.5**	**+0.5**
CICH	**Cipreses**	**2.04**	**155**	⇑*i*P	**Pn**	**01 57 45.6**	**+0.9**
SFDO	**San Fernando**	**2.17**	**170**	⇑*i*P	**Pn**	**01 57 46.7**	**+0.2**
MDZ	**Mendoza**	**2.25**	**101**	*e*P	**Pn**	**01 57 49.5**	**+1.9**
MDZ				*i* S	**Sn**	**01 58 23.2**	**+9.1**
TLL	**Tololo Astrono**	**2.37**	**14**	*e*P	**Pn**	**01 57 49.5**	**+0.4**
TLL				*i* S	**Sn**	**01 58 17.9**	**+0.9**
TLL				AMP		01 58 32.6	
comp=E,3μm,0.5s							
TLL	**Tololo Astrono**	**2.37**	**14**	*e*P	**Pn**	**01 57 49.5**	**+0.4**
TLL				*i* S	**Sn**	**01 58 17.9**	**+0.9**
NICH	**Los Niches**	**2.53**	**176**	*e*P	**Pn**	**01 57 51.8**	**+0.3**
LSCH	**La Serena**	**2.56**	**4**	*i* P	**Pn**	**01 57 51.6**	**-0.2**
LSCH				*i* S	**Sn**	**01 58 20.8**	**-1.0**
LSCH				AMP		01 58 39.1	
comp=E,1μm,0.8s							
LSCH	**La Serena**	**2.56**	**4**	*i* P	**Pn**	**01 57 51.6**	**-0.2**
LSCH				S	**Sn**	**01 58 20.8**	**-1.0**
CFAA	**Coronel Fontan**	**2.88**	**73**	P	**Pn**	**01 57 57.2**	**+1.1**
comp=E,3.3nm,0.3s,baz=248,slow=10,SNR=211							
CFAA				S	**Sn**	**01 58 32.7**	**+3.1**
comp=E,8.5nm,0.3s,baz=142,slow=13,SNR=7.1							
CFAA	**Coronel Fontan**	**2.88**	**73**	P	**Pn**	**01 57 57.2**	**+1.1**
CFAA				S	**Sn**	**01 58 32.7**	**+3.1**
CDCH	**Caldera**	**5.41**	**6**	*e*P	**Pn**	**01 58 27.9**	**-3.0**
PLCA	**Paso Flores**	**8.28**	**175**	P	**Pn**	**01 59 11.2**	**+1.1**
comp=E,0.2nm,0.3s,baz=334,slow=14,SNR=5.5							
TRQA	**Tornquist**	**9.55**	**128**	*e*Pn	**Pn**	**01 59 29.1**	**+1.5**
comp=E,4.5nm,0.6s							
TRQA				*e*Sn	Sn	02 01 34.4	+21
LVC	**Limon Verde**	**10.08**	**14**	P	**Pn**	**01 59 30.1**	**-4.6**
comp=E,0.9nm,0.3s,baz=184,slow=7.0,SNR=12							
LVC	**Limon Verde**	**10.08**	**14**	*e*Pn	**Pn**	**01 59 30.0**	**-4.7**
LVC				*e*Sn	**Sn**	**02 01 26.2**	**0.0**
CPUP	**Villa Florida**	**13.76**	**67**	P	**Pn**	**02 00 26.7**	**+1.8**
comp=E,0.2nm,0.3s,baz=339,slow=16,SNR=2.6							
CPUP	**Villa Florida**	**13.76**	**67**	*e*Pn	**Pn**	**02 00 23.9**	**-1.0**
LPAZ	**La Paz**	**16.39**	**11**	P	**Pn**	**02 00 59.0**	**-0.1**
comp=E,0.2nm,0.3s,baz=181,slow=5.4,SNR=16							
LPAZ	**La Paz**	**16.39**	**11**	*e*Pn	**Pn**	**02 00 59.5**	**+0.5**
comp=E,3.8nm,0.7s							
SIV	**San Ignacio**	**18.93**	**32**	P	**Pn**	**02 01 27.0**	**-3.0**
comp=E,0.7nm,0.3s,baz=211,slow=11,SNR=29							
SAML	**Samuel**	**24.64**	**20**	*e*P	**P**	**02 02 27.3**	**-0.5**
comp=E,8.9nm,0.7s,mb4.4							
BDFB	**Brasilia**	**27.10**	**57**	P	**P**	**02 02 48.6**	**-1.5**
comp=E,5.4nm,0.7s,mb4.2,baz=229,slow=4.8,SNR=6.6							
BDFB				LR	LR	02 14 46.5	
comp=E,120nm,18.5s,MS3.5,baz=21,slow=39							
TEIG	**Tepich**	**54.81**	**341**	P	**P**	**02 06 38.8**	**+2.0**
comp=E,6.8nm,1.4s,mb4.5							
DBIC	**Dimbokro**	**74.24**	**71**	P	**P**	**02 08 43.0**	**-0.6**
comp=E,1.9nm,0.8s,mb4.1,baz=251,slow=9.3,SNR=4.9							
DBIC				pP	pP	02 08 59.5	-0.1
comp=E,2.1nm,0.9s,baz=227,slow=11,SNR=2.3							
NVAR	**Mina Array Bea**	**82.91**	**325**	pP	pP	02 09 47.5	-0.1
comp=E,0.5nm,0.7s,baz=157,slow=4.8,SNR=3.0							
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P	**P**	**02 09 32.3**	**-0.7**
comp=E,1.1nm,0.7s,mb4.0,baz=277,slow=6.8,SNR=10							
TORD				pP	pP	02 09 48.6	-0.6
comp=E,2.4nm,0.8s,baz=281,slow=7.1,SNR=10							

*MOS **30** 02:13:58.2±0.9, 522S×15226E, h64km, mb5.0/3, Error ellipse: s-maj=37.0km s-min=15.0km az=49.6*
*ISCJB **30** 02:14:01.0±2.5, 523S±010×15207E±009, h85km±22km, mb4.5/18, Error ellipse: s-maj=15.9km s-min=14.3km az=11.1*
*IDC **30** 02:14:01.9±4.0, 528S×152.13E, h79km±35km, mb4.2/11, mb1 4.5/12, mb1mx4.4/15, mbtmp4.5/12, MS3.4/6, Ms1 3.4/6, ms1mx3.3/17, Error ellipse: s-maj=22.3km s-min=19.1km az=97.0*
*NEIC **30** 02:14:02.5±2.6, 527S×15209E, h86km±24km, mb4.9/6, Error ellipse: s-maj=15.5km s-min=15.0km az=118.0*
*BJI **30** 02:14:03.9, 447S×15199E, h68km, mB5.0, mb4.8, Ms4.9, Msz4.4*

ISC 30 02:14:02.7±2.2, 525S±009×15212E±009, h88km±20km, n39, σ1°23/37, mb4.5/17, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.42**	**230**	P	**Pn**	**02 15 35.1**	**+0.4**
7.5nm,0.3s,baz=28,slow=6.7,SNR=21							
PMG				S	**Sn**	**02 16 46.5**	**-0.1**
30nm,0.3s,baz=19,slow=23,SNR=12							
PMG	**Port Moresby**	**6.42**	**230**	*e*Pn	**Pn**	**02 15 34.3**	**-0.4**
78nm,0.8s							
PMG				*e*Sn	**Sn**	**02 16 46.7**	**+0.1**
PMG	**Port Moresby**	**6.42**	**230**	*e*P	**Pn**	**02 15 34.3**	**-0.4**
PMG				*e*		02 16 46.7	
PMG				pmax	pmax		
comp=Z,78nm,0.8s							
CTA	**Charters Tower**	**15.82**	**201**	LR	LR	02 22 37.1	
comp=Z,188nm,21.3s,baz=46,slow=33							
GUMO	**Guam**	**20.05**	**339**	LR	LR	02 25 39.0	
comp=Z,16nm,20.4s,baz=81,slow=35							
KAKA	**Kakadu**	**20.79**	**248**	⇑*i*P	**P**	**02 18 36.1**	**-0.7**
comp=Z,75nm,0.5s							
DZM	**Mont Dzumac**	**21.72**	**142**	P	**P**	**02 18 47.0**	**+0.3**
comp=Z,8.5nm,0.6s,mb4.3,baz=338,slow=11,SNR=4.3							
DZM				LR	LR	02 25 58.3	
comp=Z,98nm,20.6s,baz=9.4,slow=33							
WRAB	**Tennant Creek**	**22.63**	**228**	*e*P	**P**	**02 18 55.7**	**-0.6**
comp=Z,85nm,0.8s,mb5.1							
WRAB	**Tennant Creek**	**22.63**	**228**	*e*P	**P**	**02 18 55.7**	**-0.6**
WRAB				pmax	pmax		
comp=Z,85nm,0.8s,mb5.1							
WRA	**Warramunga Arr**	**22.64**	**228**	P	**P**	**02 18 56.1**	**-0.3**
comp=Z,23nm,0.4s,mb4.8,baz=53,slow=10.0,SNR=37							
ARMA	**Armidale**	**25.04**	**181**	*e*P	**P**	**02 19 20.5**	**+1.9**
ASAR	**Alice Springs**	**25.36**	**222**	P	**P**	**02 19 21.9**	**+0.3**
comp=Z,15nm,0.4s,mb4.8,baz=58,slow=8.8,SNR=88							
STKA	**Stephens Creek**	**28.27**	**199**	*e*P	**P**	**02 19 45.2**	**-2.4**
comp=Z,3.9nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**28.27**	**199**	P	**P**	**02 19 46.0**	**-1.6**
comp=Z,5.1nm,0.7s,mb4.2,baz=24,slow=12,SNR=16							
STKA				LR	LR	02 30 59.7	
comp=Z,152nm,18.3s,baz=26,slow=36							
STKA	**Stephens Creek**	**28.27**	**199**	*e*P	**P**	**02 19 45.0**	**-2.6**
FITZ	**Fitzroy Crossi**	**28.85**	**242**	*e*P	**P**	**02 19 52.4**	**-0.4**
comp=Z,7.8nm,0.4s,mb4.7							
FITZ	**Fitzroy Crossi**	**28.85**	**242**	P	**P**	**02 19 52.7**	**-0.1**
comp=Z,5.6nm,0.5s,mb4.5,baz=82,slow=7.1,SNR=26							
FITZ				LR	LR	02 30 55.3	
comp=Z,78nm,19.2s,baz=298,slow=35							
MBWA	**Marble Bar**	**35.16**	**240**	P	**P**	**02 20 47.4**	**-0.6**
comp=Z,9.2nm,0.3s,mb5.1							
KKM	**Kota Kinabalu**	**37.56**	**287**	*e*P	**P**	**02 21 09.8**	**+1.4**
MJAR	**Matsushiro Arr**	**43.56**	**344**	LR	LR	02 37 37.7	
comp=Z,74nm,18.2s,baz=65,slow=32							
NJ2	**Nanjing**	**48.77**	**322**	*e*P	**P**	**02 22 39.3**	**+0.7**
NJ2				PP	PP	02 24 34.0	+1.5
NJ2				S	**S**	**02 29 34.0**	**-0.9**
NJ2				AMB	AMB		
comp=Z,20nm,0.5s,mb5.3							
NJ2				AMB	AMB		
comp=Z,70nm,6.0s							
NJ2				LR	LR		
comp=N,580nm,17.8s							
NJ2				LR	LR		
comp=E,270nm,16.8s							
NJ2				LR	LR		
comp=Z,170nm,16.1s							
VLA	**Vladivostok**	**51.51**	**341**	*e*P	**P**	**02 23 11.9**	**+13**
VLA				*e*PP	pP	02 23 32.5	+12
VLA				*e*S	**S**	**02 30 18.4**	**+5.4**
MDJ	**Mudanjiang**	**53.60**	**340**	P	**P**	**02 23 12.5**	**-2.3**
MDJ				AMB	AMB		
comp=Z,193nm,4.9s							
KMI	**Kunming**	**56.68**	**305**	P	**P**	**02 23 39.8**	**+2.9**
KMI				AMB	AMB		
comp=Z,8.0nm,0.5s,mb5.0							
CD2	**Chengdu**	**58.52**	**311**	*e*P	**P**	**02 23 50.0**	**+0.2**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
SONM	**Songino Array**	**66.34**	**328**	P	**P**	**02 24 44.3**	**+2.4**
comp=Z,0.7nm,0.6s,mb3.6,baz=142,slow=7.3,SNR=3.3							
VNDA	**Vanda**	**72.41**	**178**	P	**P**	**02 25 20.2**	**+0.8**
comp=Z,2.9nm,0.8s,mb4.2,baz=332,slow=6.1,SNR=16							
VNDA	**Vanda**	**72.41**	**178**	*e*P	**P**	**02 25 19.7**	**+0.3**
comp=Z,3.5nm,0.8s,mb4.2							
VNDA	**Vanda**	**72.41**	**178**	*e*P	**P**	**02 25 19.7**	**+0.3**
VNDA				pmax	pmax		
comp=Z,4.0nm,0.8s							
SLKM	**Skilak Lake**	**79.36**	**25**	*e*P	**P**	**02 25 58.3**	**-0.6**
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**02 26 03.9**	**+0.4**
comp=Z,0.6nm

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**13.17**	**55**	*e*P	**Pn**	**03 17 48.9**	**+0.9**
	455nm,1.4s						
LIC				*e*R			
	7μm,21.2s						
LIC	**Lamto**	**13.17**	**55**	*e*P	**Pn**	**03 17 48.9**	**+0.9**
	227nm,1.4s						
DBIC	**Dimbokro**	**13.56**	**54**	Pn	**Pn**	**03 17 51.1**	**-2.3**
	0.4nm,0.3s,baz=225,slow=15,SNR=24						
DBIC				Sn	**Sn**	**03 20 11.2**	**-13**
	0.5nm,0.3s,baz=140,slow=17,SNR=4.6						
DBIC				LR	LR	03 22 12.7	
	comp=Z,5μm,18.6s,baz=210,slow=34						
DBIC				T		03 28 38.2	
	0.7nm,0.3s,baz=296,slow=17,SNR=7.0						
DBIC	**Dimbokro**	**13.56**	**54**	*e*Pn	**Pn**	**03 17 51.9**	**-1.5**
	161nm,1.4s						
DBIC	**Dimbokro**	**13.56**	**54**	*e*P	**Pn**	**03 17 51.9**	**-1.5**
DBIC				pmax	pmax		
	comp=Z,161nm,1.4s						
RCBR	**Riachuelo**	**20.48**	**257**	*e*P	**P**	**03 19 19.3**	**+0.4**
	comp=Z,85nm,1.8s						
TORD	**Torodi Ar. Bea**	**22.59**	**50**	P	**P**	**03 19 40.0**	**-1.6**
	comp=Z,16nm,0.9s,mb4.5,baz=234,slow=8.1,SNR=45						
BDFB	**Brasilia**	**34.74**	**244**	P	**P**	**03 21 32.0**	**+0.6**
	comp=Z,6.4nm,1.2s,mb4.4,baz=105,slow=8.8,SNR=4.2						
BDFB				LR	LR	03 33 35.9	
	comp=Z,875nm,20.8s,MS4.5,baz=79,slow=33						
BDFB	**Brasilia**	**34.74**	**244**	P	**P**	**03 21 32.0**	**+0.6**
BDFB				LR	LR	03 33 35.9	
MDT	**Midelt**	**35.57**	**16**	P	**P**	**03 21 36.0**	**-2.4**
	comp=Z,1.8nm,1.0s,mb4.0,baz=320,slow=7.9,SNR=1.7						
TSUM	**Tsumeb**	**37.29**	**121**	P	**P**	**03 21 53.2**	**0.0**
	comp=Z,2.8nm,1.1s,mb4.0,baz=246,slow=10.0,SNR=3.3						
TSUM	**Tsumeb**	**37.29**	**121**	P	**P**	**03 21 54.5**	**+1.4**
	comp=Z,7.0nm,1.1s,mb4.4						
EJIF	**Jimena Fronter**	**38.79**	**13**	P	**P**	**03 22 07.8**	**+2.0**
	comp=Z,8.8nm,1.0s,mb4.4						
EJIF	**Jimena Fronter**	**38.79**	**13**	P	**P**	**03 22 07.8**	**+2.0**
EJIF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
ESPR	**Espera**	**39.10**	**13**	P	**P**	**03 22 10.3**	**+1.9**
	comp=Z,18nm,1.1s,mb4.7						
ELOJ	**Sierra Loja**	**39.77**	**15**	P	pP	03 22 21.4	+4.3
	comp=Z,1.5nm,0.3s						
ELOJ	**Sierra Loja**	**39.77**	**15**	P	pP	03 22 21.4	+4.3
ELOJ				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
EMIN	**Mina Concepcio**	**39.80**	**11**	P	pP	03 22 21.8	+4.4
	comp=Z,12nm,1.2s						
ECOG	**Cogollos-Vega**	**40.05**	**15**	P	**P**	**03 22 15.4**	**-0.9**
	comp=Z,6.6nm,0.8s,mb4.4						
ECOG	**Cogollos-Vega**	**40.05**	**15**	P	**P**	**03 22 15.4**	**-0.9**
ECOG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
ELUQ	**Luque**	**40.14**	**14**	P	**P**	**03 22 17.6**	**+0.6**
	comp=Z,6.5nm,0.8s,mb4.4						
ELUQ	**Luque**	**40.14**	**14**	P	**P**	**03 22 17.6**	**+0.6**
ELUQ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
ENIJ	**Nijar**	**40.14**	**17**	P	**P**	**03 22 16.5**	**-0.6**
	comp=Z,5.5nm,0.6s,mb4.5						
ENIJ	**Nijar**	**40.14**	**17**	P	**P**	**03 22 16.5**	**-0.6**
ENIJ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
EVO	**Evora**	**40.30**	**10**	*e*P	**P**	**03 22 19.3**	**+0.9**
	comp=Z,87nm,1.4s,mb5.0						
EVO				*e*R			
	comp=Z,735nm,22.0s						
EBAN	**Banos Encina**	**40.83**	**15**	P	**P**	**03 22 22.8**	**+0.1**
	comp=Z,12nm,0.7s,mb4.6						
EBAN	**Banos Encina**	**40.83**	**15**	P	**P**	**03 22 22.8**	**0.0**
EBAN				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.6						
EMUR	**La Murta**	**41.24**	**18**	P	**P**	**03 22 23.7**	**-2.4**
	comp=Z,6.3nm,0.8s,mb4.3						
ESDC	**Sonseca Array**	**42.22**	**14**	P	**P**	**03 22 32.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=180,slow=7.7,SNR=2.8						
ESDC				PP	PP	03 24 10.3	-1.5
	comp=Z,2.0nm,0.9s,baz=193,slow=10,SNR=4.5						
ESDC	**Sonseca Array**	**42.22**	**14**	P	**P**	**03 22 33.3**	**-0.9**
	comp=Z,0.6nm,0.6s						
ECHE	**Chera**	**42.93**	**17**	P	**P**	**03 22 40.4**	**+0.4**
	comp=Z,10nm,0.8s,mb4.6						
ECHE	**Chera**	**42.93**	**17**	P	**P**	**03 22 40.4**	**+0.4**
ECHE				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
GUD	**Guadarrama**	**43.10**	**13**	P	**P**	**03 22 43.1**	**+1.8**
	comp=Z,10nm,0.9s,mb4.6						
GUD	**Guadarrama**	**43.10**	**13**	P	**P**	**03 22 43.1**	**+1.8**
GUD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
EMOS	**Mosqueruela**	**43.79**	**17**	P	pP	03 22 55.8	+5.8
	comp=Z,15nm,1.0s						
EBR	**Ebro Roquetas**	**44.50**	**18**	*e*P	**P**	**03 22 57.8**	**+5.2**
ERTA	**Horta de San J**	**44.58**	**18**	P	**P**	**03 22 54.3**	**+1.1**
	comp=Z,14nm,1.1s,mb4.7						
ESAC	**San Caprasio**	**45.05**	**16**	P	pP	03 23 05.1	+5.0
	comp=Z,23nm,1.0s						
EPOB	**Poblet**	**45.17**	**18**	P	**P**	**03 22 57.9**	**0.0**
LSZ	**Lusaka**	**45.64**	**110**	*e*P	**P**	**03 23 02.4**	**+0.8**
	comp=Z,8.7nm,1.3s,mb4.5						
LSZ	**Lusaka**	**45.64**	**110**	*e*P	**P**	**03 23 02.4**	**+0.8**
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
EGRA	**Graus**	**45.71**	**17**	P	pP	03 23 10.2	+4.8
	comp=Z,15nm,0.9s						
ELAN	**Lanestosa**	**45.73**	**13**	P	pP	03 23 11.0	+5.6
	comp=Z,22nm,1.0s						
EMIR	**Miracle**	**45.81**	**18**	P	pP	03 23 11.0	+4.8
	comp=Z,8.6nm,0.7s						
ELIZ	**Elizondo**	**46.11**	**15**	P	pP	03 23 11.5	+3.0
ETSF	**Etsaut**	**46.12**	**16**	*e*P	**P**	**03 23 06.5**	**+1.1**
	comp=Z,87nm,1.5s,mb5.2						
ETSF	**Etsaut**	**46.12**	**16**	*e*P	**P**	**03 23 06.5**	**+1.1**
	comp=Z,43nm,1.5s,mb5.2						
ETSF	**Etsaut**	**46.12**	**16**	*e*P	**P**	**03 23 06.5**	**+1.1**
ETSF				pmax	pmax		
	comp=Z,43nm,1.5s,mb5.2						
SJPF	**Ste Jean**	**46.14**	**15**	*e*P	**P**	**03 23 05.5**	**-0.1**
	comp=Z,100nm,1.4s,mb5.2						
SJPF	**Ste Jean**	**46.14**	**15**	*e*P	**P**	**03 23 05.5**	**-0.1**
	comp=Z,50nm,1.4s,mb5.3						
SJPF	**Ste Jean**	**46.14**	**15**	*e*P	**P**	**03 23 05.5**	**-0.1**
SJPF				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.2						
EPF	**Esparros**	**46.48**	**16**	*e*P	**P**	**03 23 08.8**	**+0.5**
	comp=Z,72nm,1.5s,mb5.1						
EPF	**Esparros**	**46.48**	**16**	*e*P	**P**	**03 23 08.8**	**+0.5**
	comp=Z,36nm,1.5s,mb5.1						
EPF	**Esparros**	**46.48**	**16**	*e*P	**P**	**03 23 08.8**	**+0.5**
EPF				pmax	pmax		
	comp=Z,36nm,1.5s,mb5.1						
EJON	**La Jonquera**	**46.73**	**19**	P	**P**	**03 23 10.0**	**-0.2**
SIV	**San Ignacio**	**46.86**	**249**	P	**P**	**03 23 17.3**	**+6.1**
	comp=Z,0.4nm,0.6s,baz=64,slow=6.7,SNR=3.3						
CPUP	**Villa Florida**	**46.96**	**234**	LR	LR	03 40 30.7	
	comp=Z,1μm,19.7s,MS4.8,baz=51,slow=33						
MTLF	**Montolieu**	**47.32**	**18**	*e*P	**P**	**03 23 15.2**	**+0.3**
	comp=Z,42nm,1.5s,mb4.9						
MTLF	**Montolieu**	**47.32**	**18**	*e*P	**P**	**03 23 15.2**	**+0.3**
	comp=Z,21nm,1.5s,mb4.8						
MTLF	**Montolieu**	**47.32**	**18**	*e*P	**P**	**03 23 15.2**	**+0.3**
MTLF				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
SAML	**Samuel**	**47.68**	**259**	*e*P	**P**	**03 23 19.3**	**+1.7**
	comp=Z,33nm,1.8s,mb5.1						
BOSA	**Boshof**	**47.72**	**129**	P	**P**	**03 23 17.8**	**-0.1**
	comp=Z,6.7nm,0.7s,mb4.8,baz=298,slow=8.0,SNR=20						
BOSA				LR	LR	03 39 51.1	
	comp=Z,408nm,19.7s,MS4.4,baz=294,slow=32						
BOSA	**Boshof**	**47.72**	**129**	*e*P	**P**	**03 23 17.5**	**-0.5**
	comp=Z,5.8nm,0.7s,mb4.7						
BOSA	**Boshof**	**47.72**	**129**	*e*P	**P**	**03 23 17.5**	**-0.4**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
LFF	**La Frestale**	**48.36**	**16**	*e*P	**P**	**03 23 24.5**	**+1.6**
	comp=Z,184nm,1.7s,mb5.5						
LFF	**La Frestale**	**48.36**	**16**	*e*P	**P**	**03 23 24.5**	**+1.6**
	comp=Z,92nm,1.7s,mb5.5						
LFF	**La Frestale**	**48.36**	**16**	*e*P	**P**	**03 23 24.5**	**+1.6**
LFF				pmax	pmax		
	comp=Z,92nm,1.7s,mb5.5						
LASF	**Ste Croix**	**48.50**	**19**	*e*P	**P**	**03 23 24.7**	**+0.7**
	comp=Z,100nm,1.6s,mb5.3						
CAF	**Calviac**	**48.72**	**17**	*e*P	**P**	**03 23 26.3**	**+0.6**
	comp=Z,103nm,1.6s,mb5.3						
CAF	**Calviac**	**48.72**	**17**	*e*P	**P**	**03 23 26.3**	**+0.6**
	comp=Z,52nm,1.6s,mb5.3						
CAF	**Calviac**	**48.72**	**17**	*e*P	**P**	**03 23 26.3**	**+0.6**
CAF				pmax	pmax		
	comp=Z,52nm,1.6s,mb5.3						
RJF	**Les Rejaudoux**	**48.91**	**16**	*e*P	**P**	**03 23 28.1**	**+1.0**
	comp=Z,112nm,1.6s,mb5.3						
RJF				*e*R			
	comp=Z,513nm,20.8s						
RJF	**Les Rejaudoux**	**48.91**	**16**	*e*P	**P**	**03 23 28.1**	**+1.0**
	comp=Z,56nm,1.6s,mb5.3						
RJF				LR	LR		
	comp=Z,510nm,20.8s,MS4.5						
RJF	**Les Rejaudoux**	**48.91**	**16**	*e*P	**P**	**03 23 28.1**	**+1.0**
RJF				pmax	pmax		
	comp=Z,56nm,1.6s,mb5.3						
RJF				MLR	MLR		
	comp=Z,510nm,20.8s,MS4.5						
LBL	**Lubilhac**	**49.35**	**18**	*e*P	**P**	**03 23 19.4**	**-11**
VIVF	**Saint-Julien-l**	**49.46**	**19**	*e*P	**P**	**03 23 32.4**	**+1.0**
	comp=Z,133nm,1.8s,mb5.4						
VIVF	**Saint-Julien-l**	**49.46**	**19**	*e*P	**P**	**03 23 32.4**	**+1.0**
	comp=Z,67nm,1.8s,mb5.4						
VIVF	**Saint-Julien-l**	**49.46**	**19**	*e*P	**P**	**03 23 32.4**	**+1.0**
VIVF				pmax	pmax		
	comp=Z,67nm,1.8s,mb5.4						
MFF	**Saint Martin d**	**49.67**	**14**	*e*P	**P**	**03 23 33.9**	**+0.9**
	comp=Z,89nm,1.4s,mb5.3						
MFF	**Saint Martin d**	**49.67**	**14**	*e*P	**P**	**03 23 33.9**	**+0.9**
	comp=Z,44nm,1.4s,mb5.3						
MFF	**Saint Martin d**	**49.67**	**14**	*e*P	**P**	**03 23 33.9**	**+0.9**
MFF				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.3						
ORIF	**Oris-en-Rattie**	**49.92**	**20**	*e*P	**P**	**03 23 36.2**	**+1.3**
	comp=Z,101nm,1.8s,mb5.2						
ORIF				*e*R			
	comp=Z,624nm,19.5s						
ORIF	**Oris-en-Rattie**	**49.92**	**20**	*e*P	**P**	**03 23 36.2**	**+1.3**
	comp=Z,51nm,1.8s,mb5.2						
ORIF	**Oris-en-Rattie**	**49.92**	**20**	*e*P	**P**	**03 23 36.2**	**+1.3**
ORIF				pmax	pmax		
	comp=Z,51nm,1.8s,mb5.2						
TCF	**Toulx Ste Croi**	**50.00**	**16**	*e*P	**P**	**03 23 36.6**	**+1.1**
	comp=Z,144nm,1.6s,mb5.4						
TCF	**Toulx Ste Croi**	**50.00**	**16**	*e*P	**P**	**03 23 36.6**	**+1.1**
	comp=Z,72nm,1.6s,mb5.5						
TCF	**Toulx Ste Croi**	**50.00**	**16**	*e*P	**P**	**03 23 36.6**	**+1.1**
TCF				pmax	pmax		
	comp=Z,72nm,1.6s,mb5.5						
MBDF	**Montbardon**	**50.07**	**21**	*e*P	**P**	**03 23 37.1**	**+1.1**
	comp=Z,93nm,1.7s,mb5.2						
MBDF	**Montbardon**	**50.07**	**21**	*e*P	**P**	**03 23 37.1**	**+1.1**
	comp=Z,46nm,1.7s,mb5.2						
MBDF	**Montbardon**	**50.07**	**21**	*e*P	**P**	**03 23 37.1**	**+1.1**
MBDF				pmax	pmax		
	comp=Z,47nm,1.7s,mb5.2						
PLDF	**La Plantade**	**50.13**	**18**	*e*P	**P**	**03 23 29.1**	**-7.3**
TIP	**Timpagrande**	**50.20**	**33**	*e*P	**P**	**03 23 36.7**	**-0.2**
LPG	**La Plagne**	**50.73**	**20**	*e*P	**P**	**03 23 42.6**	**+1.6**
	comp=Z,36nm,1.3s,mb4.8						
LPG	**La Plagne**	**50.73**	**20**	*e*P	**P**	**03 23 42.6**	**+1.6**
	comp=Z,18nm,1.3s,mb4.8						
LPG	**La Plagne**	**50.73**	**20**	*e*P	**P**	**03 23 42.6**	**+1.6**
LPG				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
LPL	**La Plagne**	**50.74**	**20**	*e*P	**P**	**03 23 42.6**	**+1.5**
AVF	**Avril sur Loir**	**50.79**	**17**	*e*P	**P**	**03 23 43.4**	**+2.0**
	comp=Z,159nm,1.8s,mb5.3						
AVF	**Avril sur Loir**	**50.79**	**17**	*e*P	**P**	**03 23 43.4**	**+2.0**
	comp=Z,79nm,1.8s,mb5.3						
AVF	**Avril sur Loir**	**50.79**	**17**	*e*P	**P**	**03 23 43.4**	**+2.0**
AVF				pmax	pmax		
	comp=Z,79nm,1.8s,mb5.3						
SSF	**Saint Saulge**	**51.08**	**17**	*e*P	**P**	**03 23 45.6**	**+2.0**
	comp=Z,86nm,1.6s,mb5.1						
SSF	**Saint Saulge**	**51.08**	**17**	*e*P	**P**	**03 23 45.6**	**+2.0**
	comp=Z,43nm,1.6s,mb5.1						
SSF	**Saint Saulge**	**51.08**	**17**	*e*P	**P**	**03 23 45.6**	**+2.0**
SSF				pmax	pmax		
	comp=Z,43nm,1.6s,mb5.1						
GRR	**Gorron**	**51.19**	**13**	*e*P	**P**	**03 23 44.3**	**-0.1**
	comp=Z,106nm,1.4s,mb5.3						
GRR	**Gorron**	**51.19**	**13**	*e*P	**P**	**03 23 44.3**	**-0.1**
	comp=Z,53nm,1.4s,mb5.3						
GRR	**Gorron**	**51.19**	**13**	*e*P	**P**	**03 23 44.3**	**-0.1**
GRR				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.3						
LOR	**Lormes**	**51.37**	**17**	*e*P	**P**	**03 23 47.4**	**+1.6**
	comp=Z,54nm,1.3s,mb5.0						
LOR				*e*R			
	comp=Z,690nm,22.0s						
LOR	**Lormes**	**51.37**	**17**	*e*P	**P**	**03 23 47.4**	**+1.6**
	comp=Z,27nm,1.3s,mb5.0						
LOR				LR	LR		
	comp=Z,690nm,22.0s,MS4.6						
LOR	**Lormes**	**51.37**	**17**	*e*P	**P**	**03 23 47.4**	**+1.6**
LOR				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
LOR				MLR	MLR		
	comp=Z,690nm,22.0s,MS4.6						
CABF	**La Chapelle**	**51.48**	**19**	*e*P	**P**	**03 23 48.2**	**+1.6**
LOMF	**Lomont**	**52.37**	**19**	*e*P	**P**	**03 23 51.9**	**-1.4**
BBS	**Basel-Blauen**	**52.70**	**20**	*e*P	**P**	**03 23 54.9**	**-0.8**
HAU	**Haudompre**	**52.79**	**19**	*e*P	**P**	**03 23 57.3**	**+0.9**
	comp=Z,132nm,1.7s,mb5.3						
HAU				*e*R			
	comp=Z,569nm,17.8s						
HAU	**Haudompre**	**52.79**	**19**	*e*P	**P**	**03 23 57.3**	**+0.9**
	comp=Z,66nm,1.7s,mb5.3						
HAU				LR	LR		
	comp=Z,570nm,17.8s,MS4.7						
HAU	**Haudompre**	**52.79**	**19**	*e*P	**P**	**03 23 57.3**	**+0.9**
HAU				pmax	pmax		
	comp=Z,66nm,1.7s,mb5.3						
HAU				MLR	MLR		
	comp=Z,570nm,17.8s,MS4.7						
MEZF	**Maizieres J'vi**	**52.83**	**17**	*e*P	**P**	**03 23 56.4**	**-0.3**
	comp=Z,113nm,1.5s,mb5.3						
MEZF	**Maizieres J'vi**	**52.83**	**17**	*e*P	**P**	**03 23 56.4**	**-0.3**
	comp=Z,113nm,1.5s,mb5.6						
THEF	**They Montfort**	**52.87**	**18**	*e*P	**P**	**03 23 56.8**	**-0.2**
DAVOX	**Davos**	**52.96**	**22**	P	**P**	**03 23 58.0**	**+0.3**
	comp=Z,4.5nm,0.9s,mb4.4,baz=272,slow=5.4,SNR=4.0						
KMBO	**Kilima Mbogo**	**53.12**	**90**	LR	LR	03 45 01.7	
	comp=Z,2μm,18.8s,MS5.2,baz=271,slow=34						
ECH	**Echery**	**53.24**	**19**	*e*P	**P**	**03 23 58.8**	**-0.9**
CDF	**Champ du Feu**	**53.45**	**19**	*e*P	**P**	**03 24 00.6**	**-0.6**
WLS	**Welschbruch**	**53.47**	**19**	*e*P	**P**	**03 24 00.5**	**-0.9**
LPAZ	**La Paz**	**53.55**	**251**	LR	LR	03 46 02.9	
	comp=Z,1μm,19.0s,MS5.0,baz=92,slow=35						
BFO	**Black Forest**	**53.73**	**20**	*e*P	**P**	**03 24 02.5**	**-0.7**
	comp=Z,67nm,1.9s,mb5.2						
BFO	**Black Forest**	**53.73**	**20**	*e*P	**P**	**03 24 02.5**	**-0.7**
BFO				pmax	pmax		
	comp=Z,67nm,1.9s,mb5.2						
VOY	**Vojsko**	**53.96**	**25**	*e*P	**P**	**03 24 06.2**	**+1.2**
VOY				*e*		03 24 18.3	
BAIF	**Baives**	**53.99**	**16**	*e*P	**P**	**03 24 05.4**	**+0.2**
	comp=Z,110nm,1.4s,mb5.3						
BAIF	**Baives**	**53.99**	**16**	*e*P	**P**	**03 24 05.4**	**+0.2**
	comp=Z,55nm,1.4s,mb5.3						
BAIF	**Baives**	**53.99**	**16**	*e*P	**P**	**03 24 05.4**	**+0.2**
BAIF				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.3						
DOU	**Dourbes**	**54.13**	**16**	⇑P	**P**	**03 24 04.1**	**-2.1**
DOU				AP	pP	03 24 14.0	+4.6
WLF	**Walferdange**	**54.20**	**17**	*e*P	**P**	**03 24 05.0**	**-1.7**
	comp=Z,31nm,1.5s,mb5.0						
RUP	**Ruppelstein**	**54.51**	**18**	*e*P	**P**	**03 24 10.0**	**+1.1**
TOD	**Tromm**	**54.98**	**19**	*e*P	**P**	**03 24 13.5**	**+1.1**
TNS	**Taunus Mts**	**55.40**	**19**	*e*P	**P**	**03 24 12.0**	**-3.4**
	comp=Z,18nm,1.4s,mb4.9						
TNS	**Taunus Mts**	**55.40**	**19**	*e*P	**P**	**03 24 12.0**	**-3.4**
TNS				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
LVC	**Limon Verde**	**55.65**	**243**	LR	LR	03 46 59.1	
	comp=Z,570nm,20.9s,MS4.6,baz=68,slow=35						
GRA1	**Grafenberg Arr**	**55.89**	**21**	*e*P	**P**	**03 24 18.3**	**-0.6**
	comp=Z,18nm,1.3s,mb4.9						
GRA1				*e*pP	pP	03 24 26.0	+3.9
GRA1				*e*PP	PP	03 26 27.3	+3.8
GRA1				LR	LR		
	comp=Z,300nm,21.1s,MS4.3						
GRF	**Grafenberg Arr**	**55.89**	**21**	*e*P	**P**	**03 24 18.3**	**-0.6**
	comp=Z,18nm,1.3s,mb4.9						
GRF				*e*pP	pP	03 24 26.0	+3.9
	comp=Z,47nm,1.9s						
GRF				*e*PP	PP	03 26 27.3	+3.8
GRF				*e*L		03 46 23.4	
	comp=Z,344nm,21.1s						
GRF	**Grafenberg Arr**	**55.89**	**21**	*e*P	**P**	**03 24 18.3**	**-0.6**
GRF				*e**PP	pP	03 24 26.0	+3.9
GRF				*e*		03 26 27.3	
GRF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
GRF				MLR	MLR		
	comp=Z,300nm,21.1s,MS4.3						
GRF	**Grafenberg Arr**	**55.89**	**21**	*e*P	**P**	**03 24 18.3**	**-0.6**
GRF				*e**PP	pP	03 24 26.0	+3.9
GRF				*e*		03 26 27.3	
GRF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
GRF				MLR	MLR		
	comp=Z,300nm,21.1s,MS4.3						
WET	**Wettzell**	**56.05**	**22**	*e*P	**P**	**03 24 21.8**	**+1.7**
	comp=Z,32nm,1.5s,mb5.1						
WET	**Wettzell**	**56.05**	**22**	*e*P	**P**	**03 24 21.8**	**+1.7**
WET				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.1						
GEC2	**GERESS Array S**	**56.12**	**23**	*e*P	**P**	**03 24 20.2**	**-0.4**
	comp=Z,59nm,1.7s,mb5.3						
GEC2	**GERESS Array S**	**56.12**	**23**	*e*P	**P**	**03 24 20.2**	**-0.4**
GEC2				pmax	pmax		
	comp=Z,59nm,1.7s,mb5.3						
GERES	**GERESS Array B**	**56.12**	**23**	P	**P**	**03 24 21.3**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=202,slow=5.7,SNR=8.2						
GERES				PP	PP	03 26 25.0	-0.6
	comp=Z,1.4nm,1.0s,baz=210,slow=7.8,SNR=4.6						
GERES				LR	LR	03 50 47.0	
	comp=Z,426nm,18.3s,MS4.6,baz=351,slow=39						
GERES	**GERESS Array B**	**56.12**	**23**	P	**P**	**03 24 21.3**	**+0.7**
GERES						03 26 25.0	
KHC	**Kasperske Hory**	**56.31**	**23**	*e*P	**P**	**03 24 21.2**	**-0.7**
KHC				*e*pP	pP	03 24 28.6	+3.5
KHC				AMS	AMS	03 49 20.0	
	comp=Z,500nm,16.3s						
KHC	**Kasperske Hory**	**56.31**	**23**	*e*P	**P**	**03 24 21.2**	**-0.7**
KHC				*e*		03 24 28.6	
KHC				LR	LR		
	comp=Z,500nm,16.3s,MS4.7						
ROTZ	**Rotzenmuhle**	**56.31**	**22**	*e*P	**P**	**03 24 21.2**	**-0.7**
	comp=Z,66nm,2.1s,mb5.3						
MANZ	**Manzenberg**	**56.45**	**21**	*e*P	**P**	**03 24 22.5**	**-0.5**
	comp=Z,52nm,1.8s,mb5.3						
NKC	**Novy Kostel**	**56.78**	**21**	*e*P	**P**	**03 24 24.4**	**-0.9**
NKC				*e*pP	pP	03 24 31.8	+3.3
MOX	**Moxa**	**56.83**	**21**	*e*P	**P**	**03 24 24.9**	**-0.7**
	comp=Z,31nm,1.6s,mb5.1						
MOX	**Moxa**	**56.83**	**21**	*e*P	**P**	**03 24 32.6**	**+7.0**
	comp=Z,40nm,2.0s,mb5.1						
MOX	**Moxa**	**56.83**	**21**	*e*P	**P**	**03 24 32.6**	**+7.0**
MOX				pmax	pmax		
	comp=Z,40nm,2.0s,mb5.1						
WERD	**Werda**	**56.91**	**21**	*e*P	**P**	**03 24 26.6**	**+0.4**
	comp=Z,21nm,1.5s,mb5.0						
ZST	**Bratislava**	**57.02**	**26**	*e*P	**P**	**03 24 26.8**	**-0.2**
	comp=Z,26nm,1.4s,mb5.1						
ZST	**Bratislava**	**57.02**	**26**	*e*P	**P**	**03 24 26.8**	**-0.2**
ZST				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.1						
TREC	**Trest**	**57.20**	**24**	*e*P	**P**	**03 24 29.4**	**+1.2**
TREC				*e*pP	pP	03 24 34.5	+3.1
PRU	**Pruhonice**	**57.37**	**23**	*e*P	**P**	**03 24 28.3**	**-1.2**
PRU				*e*pP	pP	03 24 35.7	+3.0
PRU				AMS	AMS	03 50 00.0	
	comp=Z,500nm,14.6s						
PRU	**Pruhonice**	**57.37**	**23**	*e*P	**P**	**03 24 28.3**	**-1.2**
PRU				*e*		03 24 35.7	
PRU				LR	LR		
	comp=Z,500nm,14.6s,MS4.8						
EKA	**Eskdalemuir Ar**	**57.41**	**9**	P	**P**	**03 24 28.8**	**-1.0**
	comp=Z,3.7nm,0.9s,mb4.4,baz=195,slow=8.5,SNR=6.8						
EIL	**Elat**	**57.42**	**53**	*e*P	**P**	**03 24 31.3**	**+1.5**
	comp=Z,521nm,1.5s						
VRAC	**Vranov**	**57.66**	**25**	P	**P**	**03 24 30.6**	**-0.9**
	comp=Z,0.9nm,0.3s,mb4.3,baz=205,slow=10,SNR=3.7						
CFAA	**Coronel Fontan**	**57.81**	**233**	P	**P**	**03 24 32.5**	**0.0**
	comp=Z,0.1nm,0.4s,baz=55,slow=16,SNR=4.0						
BRG	**Berggiesshubel**	**57.85**	**22**	*e*P	**P**	**03 24 39

comp=Z,128nm,2.5s,mb5.5,baz=208,slow=6.9
NB2 NORSAR Subarra 65.58 14 P **P 03 25 24.1 -0.8**
NB2 pmax pmax
comp=Z,129nm,2.5s,mb5.5
NOA NORSAR Array B 65.58 14 P **P 03 25 24.9 -0.1**
comp=Z,1.8nm,0.9s,mb4.1,baz=208,slow=6.5,SNR=4.1
NOA LR LR 03 54 33.6
comp=Z,234nm,21.2s,MS4.4,baz=210,slow=37
ANN Anapa 65.84 39 *e*P pP 03 25 37.6 +7.8
ANN pmax pmax
comp=Z,35nm,1.0s,mb5.3
SOC Sochi 66.74 41 *e*P **P 03 25 32.1 -0.3**
SOC *e**PP pP 03 25 38.9 +3.3
SOC *e*S S 03 34 26.6 +2.2
SOC *e**SS sS 03 34 46.3 +17
SOC *e*SS SS 03 38 45.8 +3.8
SOC pmax pmax
comp=Z,15nm,1.2s,mb4.9
SOC MLR MLR
comp=Z,244nm,17.0s,MS4.5
USHA Ushuaia 68.28 210 LR LR 03 49 47.4
comp=Z,524nm,18.6s,MS4.8,baz=49,slow=31
VSU Vasula 68.44 22⇑ *i*P **P 03 25 46.5 +3.4**
GNI Garni 68.81 46 P **P 03 25 45.9 +0.5**
comp=Z,3.9nm,0.6s,mb4.5,baz=135,slow=7.1,SNR=3.0
GNI Garni 68.81 46 *e*P **P 03 25 46.5 +1.1**
comp=Z,13nm,1.1s,mb4.8
GNI Garni 68.81 46⇓ *i*P **P 03 25 46.8 +1.3**
GNI pmax pmax
comp=Z,9.0nm,1.0s
GNI MLR MLR
comp=Z,200nm,19.0s
KIV Kislovodsk 68.84 41 *e*P **P 03 25 46.8 +1.1**
KIV *e* 03 26 10.1
KIV *e* 03 28 21.9
KIV *e*S S 03 34 55.8 +6.2
KIV pmax pmax
comp=Z,21nm,1.2s,mb4.9
ZEI Tsey 69.19 43 *i*P **P 03 25 46.8 -1.0**
ZEI *i* 03 28 17.9
BINY Binghamton 69.20 316 *e*P **P 03 25 46.5 -1.4**
comp=Z,97nm,1.9s,mb5.4
GOF Gofitskoye 69.52 40 *e*P **P 03 25 51.1 +1.3**
JTS JuntasAbangare 69.67 281 LR LR 03 56 32.8
comp=Z,156nm,18.6s,MS4.3,baz=145,slow=36
VNA2 Neumayer--Watz 69.73 177 *e*P **P 03 25 51.4 +0.2**
baz=334,slow=7.8
VNA2 *e* 03 25 59.1
SCHQ Schefferville 69.76 331 LR LR 03 52 07.0
comp=Z,275nm,19.2s,MS4.5,baz=17,slow=32
VNA3 Neumayer Olymp 69.95 178 *e*P **P 03 25 53.2 +0.7**
VNA3 *e* 03 26 00.9
FINES FINESS Array B 70.28 20 P **P 03 25 53.4 -1.2**
comp=Z,2.1nm,0.7s,mb4.2,baz=223,slow=4.7,SNR=14
FINES LR LR 03 55 18.1
comp=Z,250nm,20.9s,MS4.4,baz=23,slow=35
OBN Obninsk 70.64 29⇑ *e*P **P 03 26 03.4 +6.7**
OBN *e* 03 26 08.9
OBN 03 28 41.0
OBN S S 03 35 17.0 +6.3
OBN pmax pmax
comp=Z,28nm,1.4s,mb5.0
OBN MLR MLR
comp=Z,400nm,17.0s,MS4.7
SNAA Sanae 70.76 176 P **P 03 25 56.9 -0.6**
comp=Z,1.4nm,0.8s,mb4.0,baz=291,slow=13,SNR=4.1
SNAA LR LR 03 49 16.9
comp=Z,105nm,20.7s,MS4.1,baz=161,slow=29
SNAA Sanae 70.76 176 *e*P **P 03 25 56.9 -0.6**
comp=Z,55nm,1.8s,mb5.2
SNAA Sanae 70.76 176 *e*P **P 03 25 56.9 -0.5**
SNAA pmax pmax
comp=Z,55nm,1.8s
KAF Kangasniemi 70.83 20 *e*p **P 03 25 56.2 -1.7**
comp=Z,6.2nm,0.9s,mb4.5
KAF Kangasniemi 70.83 20 *e*P **P 03 25 56.2 -1.7**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MOS Moscow 71.48 29 *e*P **P 03 26 01.1 -0.7**
MOS *e* 03 28 45.4
MOS pmax pmax
comp=Z,43nm,0.6s,mb5.6
JOF Joensuu 73.09 21 *e*p **P 03 26 10.1 -1.4**
comp=Z,4.2nm,0.9s,mb4.4
ACSO Alum Creek Sta 73.54 313 *e*P **P 03 26 14.4 +0.3**
comp=Z,8.7nm,1.0s,mb4.6
WCI Wyandotte Cave 75.52 310 *e*P **P 03 26 25.0 -0.6**
comp=Z,19nm,1.2s,mb4.9
WCI Wyandotte Cave 75.52 310 *e*P **P 03 26 25.0 -0.6**
WCI pmax pmax
comp=Z,19nm,1.2s,mb4.9
ARCES ARCESS Array B 75.96 14 P **P 03 26 26.4 -1.7**
comp=Z,2.6nm,0.9s,mb4.2,baz=264,slow=2.3,SNR=5.2
ARCES LR LR 04 00 55.0
comp=Z,320nm,18.7s,MS4.7,baz=222,slow=37
WVT Waverly 76.26 308 *e*P **P 03 26 27.8 -2.0**
comp=Z,15nm,1.3s,mb4.8
WVT Waverly 76.26 308 *e*P **P 03 26 27.8 -2.0**
WVT pmax pmax
comp=Z,15nm,1.3s,mb4.8
SYO Syowa Base 76.98 162⇑ *e*P **P 03 26 32.2 -1.7**
SYO Syowa Base 76.98 162⇑ *e*PP PP 03 29 25.9 -1.2
OXF Oxford 77.21 306 *e*P **P 03 26 33.2 -1.9**
comp=Z,14nm,1.0s,mb4.8
OXF Oxford 77.21 306 *e*P **P 03 26 33.3 -1.9**
OXF pmax pmax
comp=Z,14nm,1.0s,mb4.8
DAG Danmarks Havn 78.00 359⇑ *i*P **P 03 26 40.3 +0.7**
comp=Z,12nm,1.4s,mb4.6
DAG Danmarks Havn 78.00 359⇑ *i*P **P 03 26 40.3 +0.7**
DAG pmax pmax
comp=Z,12nm,1.4s,mb4.6
FVM French Village 78.66 309 *e*P **P 03 26 41.7 -1.6**
comp=Z,16nm,1.1s,mb4.8
FVM French Village 78.66 309 *e*P **P 03 26 41.7 -1.5**
FVM pmax pmax
comp=Z,15nm,1.1s,mb4.8
AKTK Aktyubinsk 80.80 38 P **P 03 26 54.0 -0.9**
AKTO Aktyubinsk 80.80 38 P **P 03 26 54.0 -0.9**
comp=Z,2.8nm,1.0s,mb4.1,baz=280,slow=2.1,SNR=8.1
ARU Arti 82.52 33 *i*P **P 03 27 04.8 +0.8**
MAW Mawson 84.51 158 P **P 03 27 14.5 +0.3**
comp=Z,2.0nm,0.6s,mb4.5,baz=278,slow=11,SNR=6.4
MAW LR LR 03 56 33.9
comp=Z,106nm,20.0s,MS4.2,baz=249,slow=30
ULM Lac du Bonnet 84.59 321 P **P 03 27 12.6 -2.0**
comp=Z,3.4nm,0.9s,mb4.5,baz=114,slow=5.3,SNR=5.4
ULM LR LR 04 00 17.2
comp=Z,287nm,18.3s,MS4.7,baz=155,slow=32
ULM Lac du Bonnet 84.59 321 P **P 03 27 12.6 -2.0**
ULM LR LR 04 00 17.2
WMOK Wichita Mounta 84.90 305 *e*P **P 03 27 15.4 -0.7**
comp=Z,10nm,1.2s,mb4.8
WMOK Wichita Mounta 84.90 305 *e*P **P 03 27 15.4 -0.7**
WMOK pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
FCC Fort Churchill 85.00 329 *e*P **P 03 27 15.3 -1.3**
comp=Z,32nm,1.8s,mb5.2
FCC Fort Churchill 85.00 329 *e*P **P 03 27 15.3 -1.3**
FCC pmax pmax
comp=Z,32nm,1.8s,mb5.2
JCT Junction City 85.41 301 *e*P **P 03 27 19.5 +0.8**
comp=Z,18nm,1.1s,mb5.1
JCT Junction City 85.41 301 *e*P **P 03 27 19.5 +0.8**
JCT pmax pmax
comp=Z,18nm,1.1s,mb5.1
ZRNK Zerenda 87.94 37 *e*P **P 03 27 30.1 -1.0**
comp=Z,47nm,2.1s,mb5.3
ZRNK Zerenda 87.94 37 *e*P **P 03 27 30.1 -1.0**
ZRNK pmax pmax
comp=Z,47nm,2.1s,mb5.3
RES Resolute Bay 88.35 345 *e*P **P 03 27 32.5 -0.6**
comp=Z,1.4nm,0.7s,mb4.3
RES Resolute Bay 88.35 345 *e*P **P 03 27 32.5 -0.5**
RES pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
BRVK Borovoye 88.72 37 *e*P **P 03 27 34.4 -0.4**
comp=Z,2.1nm,0.6s,mb4.6
BRVK Borovoye 88.72 37 *e*P **P 03 27 34.4 -0.4**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
QSPA South Pole Qui 88.77 180 *e*P **P 03 27 35.5 +0.5**
comp=Z,8.9nm,0.7s,mb5.2
BVAR Borovoye Array 88.78 37 P **P 03 27 34.9 -0.2**
comp=Z,1.9nm,0.9s,mb4.4,baz=290,slow=6.1,SNR=7.4
FFC Flin Flon 88.79 325 *e*P **P 03 27 34.6 -0.5**
comp=Z,16nm,1.8s,mb5.0
FFC Flin Flon 88.79 325 *e*P **P 03 27 34.6 -0.5**
FFC pmax pmax
comp=Z,16nm,1.8s,mb5.0
CHKZ Chkalovo 88.96 36 *e*P **P 03 27 35.0 -0.9**
comp=Z,16nm,1.1s,mb5.2
CHKZ *e* 03 27 43.8
CHKZ Chkalovo 88.96 36 *e*P **P 03 27 35.0 -0.9**
CHKZ *e* 03 27 43.8
CHKZ pmax pmax
comp=Z,16nm,1.1s,mb5.3
GDL2 Guadalupe Moun 89.40 302 *e*P **P 03 27 39.7 +1.7**
RSSD Black Hills 89.57 314 *e*P **P 03 27 38.0 -0.7**
comp=Z,2.2nm,0.5s,mb4.7
RSSD Black Hills 89.57 314 *e*P **P 03 27 38.0 -0.7**
RSSD pmax pmax
comp=Z,2.0nm,0.5s,mb4.7
DGMT Dagmar 89.84 318 *e*P **P 03 27 40.4 +0.4**
comp=Z,46nm,1.5s,mb5.6
ANMO Albuquerque 91.21 305 *e*P **P 03 27 46.9 +0.5**
comp=Z,11nm,1.8s,mb4.9
ANMO Albuquerque 91.21 305⇑ *e*P **P 03 27 47.9 +1.5**
FRU Bishkek 91.24 47 *e*P **P 03 27 42.5 -4.0**
SMCO Snowmass 91.66 309 *e*P **P 03 27 49.3 +0.8**
comp=Z,24nm,1.8s,mb5.2
PDAR Pinedale Array 93.58 313 P **P 03 27 56.5 -0.9**
comp=Z,0.5nm,0.8s,mb4.0,baz=104,slow=6.3,SNR=4.2
PDAR LR LR 04 04 07.2
comp=Z,466nm,21.1s,MS4.9,baz=111,slow=32
PDAR Pinedale Array 93.58 313 P **P 03 27 56.5 -0.9**
PDAR LR LR 04 04 07.2
YKA Yellowknife Ar 95.19 333 P **P 03 28 02.6 -2.1**
comp=Z,0.6nm,0.8s,mb4.1,baz=81,slow=5.0,SNR=9.1
YKA LR LR 04 06 19.0
comp=Z,310nm,19.4s,MS4.8,baz=90,slow=33
YKA Yellowknife Ar 95.19 333 *i*P **P 03 28 03.2 -1.5**
YKA pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 96.55 43 P **P 03 28 09.8 -1.2**
comp=Z,1.1nm,0.9s,mb4.3,baz=290,slow=3.9,SNR=4.4
MKAR LR LR 04 18 20.1
comp=Z,178nm,19.9s,MS4.5,baz=90,slow=40
NEW Newport 98.45 319 LR LR 04 08 19.8
comp=Z,451nm,18.1s,MS5.0,baz=81,slow=33
RKT Rikitea 116.02 244 *e*SS SS 03 50 50.0 +19
comp=Z,120nm,29.2s
RKT *e*LR LR 04 08 24.2
comp=Z,373nm,36.8s
KMI Kunming 116.34 63 PKP PKPdf 03 33 25.8 +1.0
KMI PP PP 03 34 33.3 +2.6
KMI PS PS 03 44 10.0 -2.7
KMI SS SS 03 50 37.3 +2.6
KMI PP PP
comp=Z,183nm,4.4s
KMI LR LR
comp=N,147nm,23.4s,MS4.7
KMI LR LR
comp=E,166nm,24.8s,MS4.7
KMI LR LR
comp=Z,160nm,20.6s,MS4.6
TAOE Nuku Hiva Isla 123.56 259 *e*LR LR 04 11 53.0
comp=Z,2μm,28.2s
CN2 Changchun 125.50 34 *e*PKP PKPdf 03 33 41.5 -0.9
MDJ Mudanjiang 127.16 31 PKP PKPdf 03 33 44.8 -0.8
MDJ LR LR
comp=N,172nm,31.2s,MS4.6
MDJ LR LR
comp=E,86nm,34.4s,MS4.6
MDJ LR LR
comp=Z,194nm,22.8s
NJ2 Nanjing 127.55 50 *e*PKP PKPdf 03 33 45.8 -0.5
NJ2 PP PP 03 35 52.0 +5.1
NJ2 PKS 03 37 20.0
NJ2 SKS SKSdf 03 40 51.0 -7.1
NJ2 SKKS SKKSac 03 42 37.0 -7.8
NJ2 PP PP
comp=Z,100nm,6.2s
NJ2 LR LR
comp=N,340nm,23.9s
NJ2 LR LR
comp=E,160nm,30.6s
NJ2 LR LR
comp=Z,120nm,25.6s,MS4.5
TBI Tubuai 128.65 238 *e*SS SS 03 53 32.0 +21
comp=Z,140nm,33.8s
TBI *e*LR LR 04 14 14.6
comp=Z,327nm,27.0s
PPT Papeete 130.70 245 *e*SS SS 03 53 56.3 +20
comp=Z,176nm,26.8s
PPT *e*LR LR 04 15 12.5
comp=Z,296nm,22.5s
ASAR Alice Springs 141.55 132 PKhKP 03 34 06.2
comp=Z,1.3nm,0.7s,baz=222,slow=2.7,SNR=14
ASAR PKP PKPdf 03 34 11.2 -1.2
comp=Z,1.8nm,0.8s,baz=220,slow=2.0,SNR=9.5
WRA Warramunga Arr 143.97 127 PKhKP 03 34 14.2
comp=Z,1.6nm,0.6s,baz=240,slow=2.6,SNR=19

PRE 30 03:36:55.7±1.7, 2138S×3295E, h5km, ML4.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.08**	**191**	*e*P		Pn		03 38 26.4	+0.1
POGA				*e*S		Sn		03 39 33.4	-2.9
POGA				AML		AML		03 40 20.8	
comp=Z,30nm,0.6s									
LBTB	**Lobatse**	**7.67**	**240**	*e*P		Pn		03 38 49.5	+1.5
LBTB				*e*S		Sn		03 40 12.3	-2.9
LBTB				AML		AML		03 41 10.9	
comp=Z,33nm,0.6s									
BOSA	**Boshof**	**10.02**	**223**	*e*P		Pn		03 39 22.6	+2.3
BOSA				*e*S		Sn		03 41 07.8	-5.3
BOSA				AML		AML		03 41 35.0	
comp=Z,2.6nm,0.5s									
SUR	**Sutherland**	**15.39**	**222**	*e*P		Pn		03 40 34.9	+1.4
SUR				*e*S		Sn		03 43 06.3	-18

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*NEIC **30** 03:38:09.0, 3126S×69.12W, h152km, mb4.2/1, MD4.0(GUC), After GUC.*

GUC 30 03:38:09.0±0.8, 3126S×6912W, h152km±16km, MD4.0, ML3.9, 4C-11D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.62**	**272**	⇓ *i*P		Pn		03 38 40.2	+0.3
CMCH				*i* S		Sn		03 39 04.6	+0.9
CMCH				AMP				03 39 06.2	
comp=E,3μm,0.5s									
CMCH	**Combarbala**	**1.62**	**272**	⇓ *i*P		Pn		03 38 40.2	+0.3
CMCH				*i* S		Sn		03 39 04.6	+0.9
MDZ	**Mendoza**	**1.64**	**172**	*e*P		Pn		03 38 37.6	-2.6
MDZ				*i* S		Sn		03 38 59.3	-4.8
TLL	**Tololo Astrono**	**1.81**	**306**	⇑ *i*P		Pn		03 38 43.1	+1.0
TLL				*i* S		Sn		03 39 09.1	+1.6
TLL				AMP				03 39 11.9	
comp=N,2μm,0.7s									
TLL	**Tololo Astrono**	**1.81**	**306**	⇑ *i*P		Pn		03 38 43.1	+1.0
TLL				*i* S		Sn		03 39 09.1	+1.6
JACH	**Jahuel**	**1.90**	**221**	*e*P		Pn		03 38 44.0	+1.0
OVCH	**Ovalle**	**1.91**	**289**	⇓ *i*P		Pn		03 38 43.6	+0.5
OVCH				*i* S		Sn		03 39 09.4	+0.1
OVCH				AMP				03 39 10.3	
comp=E,783nm,0.3s									
OVCH	**Ovalle**	**1.91**	**289**	⇓ *i*P		Pn		03 38 43.6	+0.5
OVCH				*i* S		Sn		03 39 09.4	+0.1
CHNG	**Los Chungos**	**2.13**	**252**	⇓ *i*P		Pn		03 38 46.5	+0.7
CHNG				*i* S		Sn		03 39 14.1	+0.1
CHNG				AMP				03 39 22.6	
comp=E,357nm,0.5s									
LSCH	**La Serena**	**2.27**	**306**	⇓ *i*P		Pn		03 38 48.1	+0.6
LSCH				*i* S		Sn		03 39 17.0	-0.1
LSCH				AMP				03 39 19.3	
comp=N,575nm,0.4s									
LSCH	**La Serena**	**2.27**	**306**	⇓ *i*P		Pn		03 38 48.1	+0.6
LSCH				*i* S		Sn		03 39 17.0	-0.1
FCH	**Farellones**	**2.29**	**205**	*e*P		Pn		03 38 49.0	+1.3
FCH				*i* S		Sn		03 39 19.2	+1.8
FCH				AMP				03 39 22.4	
comp=E,259nm,0.2s									
PEL	**Peldehue**	**2.31**	**215**	*e*P		Pn		03 38 48.4	+0.6
PEL				*i* S		Sn		03 39 17.9	+0.1
PEL				AMP				03 39 20.7	
comp=N,333nm,0.3s									
PEL	**Peldehue**	**2.31**	**215**	*e*P		Pn		03 38 48.4	+0.6
PEL				*i* S		Sn		03 39 17.9	+0.1
CLCH	**Cerro Calan**	**2.45**	**209**	⇓ *i*P		Pn		03 38 50.6	+1.0
CLCH				*i* S		Sn		03 39 21.3	+0.4
CLCH				AMP				03 39 26.0	
comp=E,406nm,0.4s									
CLCH				AMP				03 39 26.7	
comp=E,563nm,0.4s									
PCH	**Pirque**	**2.64**	**206**	*e*P		Pn		03 38 52.7	+0.8
ANTU	**Antumapu**	**2.64**	**209**	*i* S		Sn		03 39 25.7	+0.7
ANTU				AMP				03 39 27.6	
comp=E,258nm,0.3s									
RCDM	**Rinconada Maip**	**2.65**	**212**	⇓ *i*P		Pn		03 38 52.8	+0.8
RCDM				AMP				03 39 26.1	
comp=E,322nm,0.1s									
TACH	**Talagante**	**2.84**	**212**	*e*P		Pn		03 38 54.3	-0.2
CHCH	**Chadas Angostu**	**2.97**	**206**	⇓ *i*P		Pn		03 38 56.7	+0.7
CHCH				*i* S		Sn		03 39 33.0	+0.6
CACH	**El Canelo**	**3.12**	**203**	⇑ *i*P		Pn		03 38 59.0	+1.2
CICH	**Cipreses**	**3.25**	**199**	⇓ *i*P		Pn		03 39 00.4	+0.8
CDCH	**Caldera**	**4.43**	**340**	⇑ *i*P		Pn		03 39 15.1	+0.2
TRQA	**Tornquist**	**8.97**	**141**	*e*Pn		Pn		03 40 12.1	-3.1
comp=E,2.3nm,0.4s									
TRQA				*e*Sn		Sn		03 41 46.4	-8.5

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*IDC **30** 03:48:04.7±1.1, 5961N×14578W, h0km, mb3.7/4, mb1 3.7/8, mb1mx3.6/22, mbtmp3.6/8, ML3.4/4, Error ellipse: s-maj=19.8km s-min=16.3km az=13.0*
*ISCJB **30** 03:48:05.9±0.6, 5953N±005×14586W±008, h33km±8km, mb3.5/4, Error ellipse: s-maj=8.2km s-min=5.7km az=115.9*
*NEIC **30** 03:48:06.5, 5956N×14580W, h9km, ML3.4(AEIC), ML3.7(PMR), After AEIC.*

ISC 30 03:48:07.1±0.7, 5958N±004×14588W±008, h25km±6km, n39, σ0°89/43, mb3.5/4, 1C, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**0.28**	**237**	P			**Pb**	**03 48 13.7**	**0.0**
MID				S			**Sb**	**03 48 19.0**	**+0.7**
EYAK	**Cordova Ski Ar**	**0.98**	**4**	P			**Pn**	**03 48 23.7**	**-1.4**
EYAK				S			**Sb**	**03 48 37.2**	**-0.5**
BMRM	**Bremner River**	**1.53**	**24**	P			**Pn**	**03 48 32.2**	**-0.6**
BMRM				S			**Sn**	**03 48 52.6**	**+0.8**
DIV	**Divide**	**1.56**	**2**⇑	*i*Pn			**Pn**	**03 48 31.9**	**-1.2**
SEW	**Seward**	**1.88**	**288**	P			**Pn**	**03 48 37.2**	**-0.2**
KNK	**Knik Glacier**	**2.24**	**326**	P			**Pn**	**03 48 43.2**	**+0.8**
SLKM	**Skilak Lake**	**2.37**	**295**	P			**Pn**	**03 48 44.6**	**+0.4**
RC01	**Rabbit Creek A**	**2.44**	**310**	P			**Pn**	**03 48 45.4**	**+0.1**
SML	**Sawmill**	**2.54**	**333**	P			**Pn**	**03 48 47.1**	**+0.5**
PMR	**Palmer**	**2.58**	**323**	P			**Pn**	**03 48 47.5**	**+0.4**
FIB	**Fire Island**	**2.66**	**309**	P			**Pn**	**03 48 48.9**	**+0.6**
GHO	**Glory Hole Cre**	**2.66**	**327**	P			**Pn**	**03 48 49.2**	**+0.9**
PNL	**Peninsula**	**3.30**	**86**	P			**Pn**	**03 48 56.2**	**-0.8**
PAX	**Paxson**	**3.41**	**3**	P			**Pn**	**03 48 58.8**	**+0.2**
MENT	**Mentasta**	**3.53**	**16**	P			**Pn**	**03 49 00.1**	**-0.1**
KDAK	**Kodiak Island**	**3.93**	**246**	Pn			**Pn**	**03 49 05.3**	**-0.4**
1.5nm,0.3s,baz=70,slow=8.7,SNR=18									
KDAK				Sn			**Sn**	**03 49 49.1**	**-2.0**
2.8nm,0.3s,baz=138,slow=23,SNR=12									
DOT	**Dot Lake**	**4.18**	**11**	P			**Pn**	**03 49 09.7**	**+0.6**
MCK	**McKinley**	**4.41**	**342**	P			**Pn**	**03 49 13.4**	**+1.1**
TRF	**Thorofare Moun**	**4.42**	**333**	P			**Pn**	**03 49 13.5**	**+1.0**
KTH	**Kantishna Hill**	**4.66**	**331**	P			**Pn**	**03 49 16.6**	**+0.9**
SVW2	**Sparrevohn**	**5.05**	**292**	P			**Pn**	**03 49 19.8**	**-1.4**
IL1	**Eielson Array**	**5.23**	**355**	P			**Pn**	**03 49 22.5**	**-1.1**
ILAR	**Eielson Array**	**5.23**	**355**	Pn			**Pn**	**03 49 22.5**	**-1.1**
0.7nm,0.3s,baz=179,slow=13,SNR=73									
COLA	**College**	**5.39**	**351**	P			**Pn**	**03 49 25.4**	**-0.4**
DAWY	**Dawson**	**5.45**	**32**	P			**Pn**	**03 49 26.7**	**+0.1**
WHY	**Whitehorse**	**5.61**	**74**	P			**Pn**	**03 49 28.3**	**-0.5**
TT01	**Tatalina**	**5.92**	**309**	P			**Pn**	**03 49 33.8**	**+0.7**
TTA	**Tatalina**	**5.93**	**309**	*e*P			**Pn**	**03 49 32.5**	**-0.7**
IM3	**Indian Mountai**	**7.36**	**334**	P			**Pn**	**03 49 52.7**	**-0.2**
DLBC	**Dease Lake**	**8.27**	**91**	Pn			**Pn**	**03 50 05.2**	**-0.1**
0.6nm,0.3s,baz=212,slow=26,SNR=12									
DLBC	**Dease Lake**	**8.27**	**91**	*e*Pn			**Pn**	**03 50 05.1**	**-0.2**
INK	**Inuvik**	**10.28**	**26**	Pn			**Pn**	**03 50 32.1**	**-0.8**
0.1nm,0.3s,baz=156,slow=11,SNR=5.5									
YKW3	**Yellowknife Ar**	**15.34**	**65**	Pn			**Pn**	**03 51 42.5**	**+0.8**
YKA	**Yellowknife Ar**	**15.34**	**66**	Pn			**Pn**	**03 51 47.0**	**+5.2**
baz=272,slow=10,SNR=28									
YKA	**Yellowknife Ar**	**15.34**	**66**	Pn			**Pn**	**03 51 47.0**	**+5.2**
PDAR	**Pinedale Array**	**27.83**	**111**	P			**P**	**03 53 56.5**	**+2.2**
0.1nm,0.5s,mb2.7,baz=298,slow=5.8,SNR=2.6									
SONM	**Songino Array**	**57.88**	**311**	P			**P**	**03 57 59.2**	**+2.5**
2.6nm,0.8s,mb4.3,baz=39,slow=7.7,SNR=14									
MKAR	**Makanchi Array**	**66.90**	**326**	P			**P**	**03 58 57.1**	**+0.1**
0.8nm,0.9s,mb3.8,baz=31,slow=6.3,SNR=5.0									
AKASG	**Malin Array Be**	**70.01**	**3**	P			**P**	**03 59 15.8**	**-0.7**
0.1nm,0.2s,mb3.3,baz=354,slow=6.6,SNR=4.5									

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*MOS **30** 03:48:55.0±3.0, 4913N×9953E, h12km, mb4.1/1, Error ellipse: s-maj=26.7km s-min=12.6km az=70.9*

BYKL 30 03:48:55.2±0.5, 4915N×9947E, 2D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TSC	**Tosontsengel**	**0.89**	**245**	*e*Pg		Pg		03 49 11.7	-0.6
TSC				*e*Sg		Sg		03 49 23.7	-0.1
TTS	**Tsetserleg**	**2.13**	**141**	*e*Pg		Pg		03 49 33.4	-2.6
TTS				*e*Sg		Sg		03 50 00.8	-2.7
MOY	**Mondy**	**2.70**	**21**	⇓ *i*Pn		Pn		03 49 41.1	+1.2
MOY				*e*Pg		Pg		03 49 44.1	-2.9
MOY				*e*				03 49 48.4	
MOY				*e*Sg		Sg		03 50 20.7	-1.3
MOY				Pmax					
66nm,0.5s									
MOY				Smax					
177nm,1.0s									
MOY	**Mondy**	**2.70**	**21**	*e*PN		Pn		03 49 44.0	+4.1
MOY				*e*				03 50 20.7	
MOY				pmax		pmax			
comp=Z,66nm,0.4s									
MOY				smax					
comp=E,170nm,0.8s									
ZAK	**Zakamensk**	**2.76**	**62**	*e*Pg		Pg		03 49 44.1	-4.0
ZAK				*e*Sg		Sg		03 50 21.9	-2.0
ZAK				Pmax					
comp=E,25nm,0.2s									
ZAK				Smax					
comp=E,153nm,0.3s									
ZAK	**Zakamensk**	**2.76**	**62**	*e*PN		Pn		03 49 44.0	+3.3
ZAK				*e*S		Sn		03 50 21.8	+7.1
ZAK				pmax		pmax			
comp=Z,43nm,0.6s									
ZAK				smax					
comp=N,152nm,0.3s									
ARS	**Arshan**	**3.35**	**33**	*e*Pn		Pn		03 49 49.9	+1.1
ARS				*e*Pg		Pg		03 49 54.7	-4.8
ARS				*e*Sg		Sg		03 50 40.4	-2.5
ARS				Pmax					
comp=N,31nm,0.5s									
ARS				Smax					
comp=N,241nm,1.0s									
ARS	**Arshan**	**3.35**	**33**	*e*PN		Pn		03 49 49.9	+1.1
ARS				*e*				03 49 56.7	
ORL	**Orlik**	**3.40**	**4**	*e*		Pn		03 49 51.1	+1.6
ORL				⇓ *i*Pg		Pg		03 49 56.4	-4.0
ORL				*e*Sg		Sg		03 50 41.0	-3.5
ORL				Pmax					
comp=N,25nm,0.7s									
ORL				Smax					
comp=N,63nm,0.7s									
ORL	**Orlik**	**3.40**	**4**	*e*PN		Pn		03 49 56.4	+6.9
ORL				*e*				03 50 41.1	
ORL				pmax		pmax			
comp=Z,24nm,0.5s									
ORL				smax					
comp=N,61nm,0.6s									
TLY	**Talaya**	**3.68**	**45**	*e*Pg		Pg		03 50 00.3	-5.4
TLY				*e*Sg		Sg		03 50 49.4	-4.0
TLY				Pmax					
comp=N,11nm,0.2s									
TLY				Smax					
comp=N,86nm,0.5s									
TLY	**Talaya**	**3.68**	**45**	*e*PN		Pn		03 49 51.3	-2.0
TLY				*e*				03 50 00.5	
TLY				*e*				03 50 49.5	
TLY				pmax		pmax			

comp=Z,18nm,0.5s
TLY smax
comp=N,115nm,1.0s
IRK Irkutsk 4.35 43 *e*Sg Sg 03 51 11.0 -3.9
IRK Smax
comp=N,230nm,0.5s
IRK Irkutsk 4.35 43 *e*PN Pn 03 50 12.6 +10
IRK *e* 03 51 07.6
IRK pmax pmax
comp=Z,151nm,0.1s
IRK smax
comp=N,228nm,0.5s
LSTR Listvyanka 4.37 49 *e*Pg Pg 03 50 13.6 -5.4
LSTR *e* 03 50 59.1
LSTR *e*Sg Sg 03 51 10.6 -5.1
LSTR Pmax
comp=N,5.0nm,0.6s
LSTR Smax
comp=N,41nm,1.0s
BTMB Babushkin 4.80 55 *e*Pg Pg 03 50 19.8 -7.4
BTMB *e*Sg Sg 03 51 23.8 -5.7
BTMB Pmax
comp=N,11nm,0.5s
BTMB Smax
comp=N,118nm,0.7s
HRMR Khuramsha 5.39 60 *e*Pg Pg 03 50 31.6 -6.9
HRMR *e*Sg Sg 03 51 42.2 -6.2
HRMR Pmax
comp=N,12nm,0.3s
HRMR Smax
comp=N,254nm,1.0s
TRG Tyrgan 5.65 48 *e*Pg Pg 03 50 35.5 -8.0
TRG *e*Sg Sg 03 51 48.2 -8.6
TRG Pmax
comp=N,6.0nm,0.4s
TRG Smax
comp=N,73nm,1.8s
TRG Tyrgan 5.65 48 *e*PN Pn 03 50 18.0 -2.4
TRG *e* 03 50 35.1
TRG *e*S Sn 03 51 22.7 -3.3
TRG *e* 03 51 48.4
TRG pmax pmax
comp=Z,7.0nm,0.5s
TRG smax
comp=N,59nm,1.0s
TRTB Turuntaevo 6.03 56 *e*Pg Pg 03 50 43.0 -7.8
TRTB *e*Sg Sg 03 52 01.7 -7.3
TRTB Pmax
comp=N,6.0nm,0.4s
TRTB Smax
comp=N,41nm,1.3s
OGRR Ongureny 6.79 45 *e*Pn Pn 03 50 35.1 -0.9
OGRR *e*Pg Pg 03 50 57.0 -8.2
OGRR *e*Sg Sg 03 52 23.9 -9.3
OGRR Pmax
comp=N,2.0nm,0.4s
OGRR Smax
comp=N,38nm,1.0s
OGRR Ongureny 6.79 45 *e*PG Pg 03 50 56.5 -8.7
OGRR *e* 03 52 24.0
OGRR pmax pmax
comp=Z,2.0nm,0.4s
OGRR smax
comp=E,38nm,1.0s
KPC Khapcheranga 8.44 81 *e* Pn 03 51 31.2 +33
KPC *e*Sg Sg 03 53 18.0 -8.1
KPC Smax
comp=E,24nm,1.3s
YLYR Ulyunkhan 9.21 47 *e*Sg Sx 03 53 39.1
YLYR Smax
comp=E,21nm,2.0s

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*ISCJB **30** 04:07:00.2±0.5, 16.19N±002×6055W±005, h33km, mb4.0/18, Error ellipse: s-maj=6.3km s-min=3.3km az=166.9*
*TRN **30** 04:07:03.7, 1605N×6094W, h25km, MD3.5, Md3.9(FDF)*
*IDC **30** 04:07:03.4±4.1, 1621N×6073W, h44km±39km, mb3.8/8, mb1 4.0/11, mb1mx3.7/27, mbtmp4.1/11, ML4.0/3, Error ellipse: s-maj=36.7km s-min=17.0km az=57.0*
*NEIC **30** 04:07:03.1, 1602N×6074W, h19km, mb4.1/10, MD3.8(FDF), After FDF.*
NEIC Felt [II] on Guadeloupe.

ISC 30 04:07:02.8±0.5, 1616N±002×6068W±005, h35km, n47, σ1°13/63, mb4.0/18, 2C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.40**	**293**	⇓*i*P	**Pn**	**04 07 11.8**	**-0.3**
SFG	**Saint Francois**	**0.51**	**281**	⇑*e*P	**Pn**	**04 07 13.2**	**-0.4**
SEG	**Port Louis**	**0.83**	**287**	⇓*i*P	**Pn**	**04 07 18.2**	**+0.2**
SEG				*e*S	**Sn**	**04 07 29.1**	**+0.1**
DWS	**Wesley**	**0.85**	**226**	⇑*i*P	**Pn**	**04 07 17.4**	**-0.8**
DWS				*e*S	**Sn**	**04 07 27.8**	**-1.6**
SCG	**Saint Claude**	**0.97**	**263**	⇓*e*P	**Pn**	**04 07 19.7**	**-0.3**
HMG	**Houelmont**	**1.00**	**260**	⇓*i*P	**Pn**	**04 07 20.0**	**-0.3**
LZG	**Guadaloupe-1**	**1.06**	**269**	⇓*i*P	**Pn**	**04 07 20.8**	**-0.3**
MDN	**Morne-Daniel**	**1.08**	**220**	⇓*i*P	**Pn**	**04 07 21.1**	**-0.3**
MDN				*e*S	**Sn**	**04 07 34.0**	**-1.2**
DBCT	**Belle View Cho**	**1.09**	**216**	*e*P	**Pn**	**04 07 21.3**	**-0.3**
DBCT				*e*S	**Sn**	**04 07 35.6**	**+0.2**
DSHT	**Scott's Head**	**1.16**	**216**	*e*P	**Pn**	**04 07 22.4**	**-0.1**
DSHT				*e*S	**Sn**	**04 07 36.9**	**-0.1**
CRM	**Caravelle**	**1.42**	**189**	⇓*e*P	**Pn**	**04 07 24.8**	**-1.2**
CRM				*e*S	**Sn**	**04 07 42.1**	**-1.3**
BPA	**Boggy Peak**	**1.44**	**308**	*e*P	**Pn**	**04 07 27.1**	**+0.8**
BPA				*e*S	**Sn**	**04 07 45.7**	**+1.8**
FDF	**Fort de France**	**1.49**	**198**	⇓*e*P	**Pn**	**04 07 25.6**	**-1.4**
FDF				*e*S	**Sn**	**04 07 42.4**	**-2.8**
CPB	**Codrington**	**1.84**	**323**	*e*P	**Pn**	**04 07 32.4**	**+0.6**
CPB				*e*S	**Sn**	**04 07 57.7**	**+3.8**
STAT	**Sint Eustatius**	**2.58**	**301**	*e*P	**Pn**	**04 07 45.9**	**+3.9**
STAT				*e*S	**Sn**	**04 08 13.2**	**+1.2**
SABT	**Saba**	**2.86**	**301**	*e*P	**Pn**	**04 07 47.6**	**+1.8**
SABT				*e*S	**Sn**	**04 08 26.4**	**+7.4**
SSV	**Crater Summit**	**2.86**	**190**	*e*P	**Pn**	**04 07 48.1**	**+2.2**
SSV				*e*S	**Sn**	**04 08 21.1**	**+2.1**
SVV	**Soufriere Volc**	**2.87**	**191**	*e*P	**Pn**	**04 07 48.4**	**+2.3**
SVV				*e*S	**Sn**	**04 08 20.9**	**+1.5**
SVB	**Belmont**	**2.92**	**191**	*e*P	**Pn**	**04 07 48.6**	**+1.9**
SVB				*e*S	**Sn**	**04 08 22.1**	**+1.5**
FCV	**Fort Charlotte**	**3.03**	**191**	*e*P	**Pn**	**04 07 50.1**	**+1.8**
FCV				*e*S	**Sn**	**04 08 23.3**	**-0.1**
MTP	**Monte Pirata**	**5.05**	**293**	*e*Pn	**Pn**	**04 08 17.0**	**+1.0**
CPD	**Cerro la Pandu**	**5.35**	**291**	*e*Pn	**Pn**	**04 08 20.8**	**+0.7**
SJG	**San Juan**	**5.58**	**291**	P	**Pn**	**04 08 24.1**	**+0.8**
7.9nm,0.3s,baz=114,slow=9.2,SNR=15							
SJG				S	**Sn**	**04 09 25.2**	**-1.0**
3.4nm,0.3s,baz=344,slow=19,SNR=2.4							
SJG	**San Juan**	**5.58**	**291**	*e*Pn	**Pn**	**04 08 24.2**	**+0.8**
SDV	**Santo Domingo**	**12.11**	**235**	P	**Pn**	**04 09 52.2**	**-0.6**
0.5nm,0.3s,baz=46,slow=14,SNR=5.3							
SDV	**Santo Domingo**	**12.11**	**235**	*e*Pn	**Pn**	**04 09 52.2**	**-0.6**
5.1nm,0.7s							
ROSC	**El Rosal**	**17.49**	**232**	P	**Pn**	**04 11 06.2**	**+2.4**
0.9nm,0.3s,baz=107,slow=23,SNR=7.4							
OTAV	**Otavalo**	**23.62**	**230**	*e*P	**P**	**04 12 08.8**	**-1.9**
2.5nm,0.8s,mb3.7							
SAML	**Samuel**	**25.07**	**186**	*e*P	**P**	**04 12 23.7**	**-0.2**
3.2nm,0.8s,mb3.9							
SIV	**San Ignacio**	**31.95**	**181**	P	**P**	**04 13 25.2**	**0.0**
0.9nm,0.4s,mb3.9,baz=39,slow=7.2,SNR=12							
MNTX	**Cornudas Mount**	**43.38**	**299**	*e*P	**P**	**04 15 00.7**	**-1.1**
1.6nm,0.4s,mb4.1							
ULM	**Lac du Bonnet**	**44.26**	**328**	P	**P**	**04 15 07.3**	**-1.5**
1.2nm,0.4s,mb3.9,baz=146,slow=7.7,SNR=4.1							
BW06	**Boulder Array**	**49.27**	**313**	*e*P	**P**	**04 15 47.4**	**-0.6**
2.4nm,0.6s,mb4.4							
PDAR	**Pinedale Array**	**49.27**	**313**	P	**P**	**04 15 48.0**	**0.0**
2.2nm,0.6s,mb4.4,baz=118,slow=9.3,SNR=23							
LOHW	**Long Hollow**	**50.25**	**314**	*e*P	**P**	**04 15 55.0**	**-0.4**
1.2nm,0.7s,mb4.0							
MOOW	**Moose Ponds**	**50.39**	**314**	*e*P	**P**	**04 15 56.5**	**0.0**
0.6nm,0.4s,mb4.0							
TPAW	**Teton Pass**	**50.46**	**313**	*e*P	**P**	**04 15 56.9**	**-0.2**
1.9nm,0.6s,mb4.3							
DUG	**Dugway**	**50.98**	**309**	*e*P	**P**	**04 16 00.7**	**-0.2**
2.0nm,0.9s,mb4.0							
HLID	**Hailey**	**52.91**	**313**	*e*P	**P**	**04 16 15.3**	**0.0**
0.7nm,0.7s,mb3.7							
NVAR	**Mina Array Bea**	**54.88**	**306**	P	**P**	**04 16 29.8**	**+0.1**
0.7nm,0.7s,mb3.8,baz=97,slow=7.5,SNR=8.3							
DBIC	**Dimbokro**	**55.38**	**93**	P	**P**	**04 16 34.1**	**+0.8**
0.8nm,0.5s,mb4.0,baz=276,slow=7.7,SNR=5.4							
NEW	**Newport**	**55.90**	**318**	*e*P	**P**	**04 16 36.2**	**-0.8**
3.1nm,0.7s,mb4.5							
YKA	**Yellowknife Ar**	**59.49**	**334**	P	**P**	**04 17 01.1**	**-1.2**
1.4nm,0.4s,mb4.3,baz=106,slow=7.5,SNR=49							
YKA	**Yellowknife Ar**	**59.49**	**334**	P	**P**	**04 17 01.1**	**-1.2**
INK	**Inuvik**	**68.77**	**338**	P	**P**	**04 18 01.9**	**-1.2**
2.2nm,0.9s,mb4.1,baz=88,slow=6.6,SNR=16							
INK	**Inuvik**	**68.77**	**338**	P	**P**	**04 18 01.9**	**-1.3**
ILAR	**Eielson Array**	**73.91**	**334**	P	**P**	**04 18 32.6**	**-1.6**
0.8nm,0.9s,mb3.6,baz=104,slow=5.1,SNR=8.7							

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*NNC **30** 04:17:20.9±23.0, 4175N×7675E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=271.5km s-min=63.0km az=170.0*
*ISCJB **30** 04:17:49.2±0.9, 4306N±005×7604E±005, h10km, Error ellipse: s-maj=7.0km s-min=5.5km az=35.4*
*KNET **30** 04:17:49.7±0.6, 4298N×7597E, h20km±4km, ml2.1, Error ellipse: s-maj=4.7km s-min=2.0km az=35.0*

ISC 30 04:17:50.0±0.9, 4303N±004×7599E±005, h10km, n12, σ0°95/21, 18C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.31**	**250**	P	**Pg**	**04 17 56.4**	**+0.2**
174nm,0.1s,SNR=257							
TKM2				⇑S	**Sg**	**04 18 01.2**	**+1.0**
341nm,0.1s							
ULHL	**Ulahol**	**0.80**	**167**	⇓P	**Pg**	**04 18 04.8**	**-0.7**
16nm,0.2s,SNR=10							
ULHL				⇓S	**Sg**	**04 18 15.7**	**-0.2**
15nm,0.1s							
KBK	**Karagaybulak**	**0.85**	**245**	⇑P	**Pg**	**04 18 06.0**	**-0.4**
75nm,0.1s,SNR=11							
KBK				⇑S	**Sg**	**04 18 17.9**	**+0.5**
41nm,0.1s							
CHMS	**Chumysh**	**0.91**	**269**	⇑P	**Pg**	**04 18 06.4**	**-1.1**
20nm,0.1s,SNR=42							
CHMS				⇑S	**Sg**	**04 18 18.8**	**-0.5**
92nm,0.2s							
KZA	**Kyzart**	**1.09**	**210**	⇑P	**Pb**	**04 18 10.4**	**-0.5**
5.5nm,0.1s,SNR=50							
KZA				⇑S	**Sg**	**04 18 25.2**	**0.0**
33nm,0.3s							
USP	**Ospenovka**	**1.12**	**283**	⇑P	**Pb**	**04 18 10.1**	**-1.3**
8.9nm,0.1s,SNR=24							
USP				⇑S	**Sb**	**04 18 25.2**	**-0.8**
83nm,0.2s							
AAK	**Ala-Archa**	**1.17**	**251**	⇑P	**Pb**	**04 18 11.2**	**-1.1**
23nm,0.2s,SNR=22							
AAK				⇑S	**Sb**	**04 18 27.2**	**-0.2**
12nm,0.2s							
UCH	**Uchtor**	**1.35**	**234**	⇑P	**Pn**	**04 18 14.7**	**-0.2**
9.0nm,0.2s,SNR=49							
UCH				⇑S	**Sb**	**04 18 32.6**	**-0.1**
7.8nm,0.1s							
EKS2	**Erkin-Say**	**1.67**	**258**	⇑P	**Pn**	**04 18 20.2**	**+1.0**
8.0nm,0.1s,SNR=18							
EKS2				⇑S	**Sn**	**04 18 43.3**	**+2.6**
10.0nm,0.2s							
AML	**Almayashu**	**1.92**	**243**	P	**Pn**	**04 18 24.9**	**+2.3**
15nm,0.3s,SNR=51							
AML				⇑S	**Sn**	**04 18 51.1**	**+4.3**
14nm,0.3s							
KK31	**Karatay Array**	**4.01**	**273**	⇑Lg		04 19 53.9	
1.3nm,0.3s,baz=91,slow=32,SNR=18							
MK31	**Makanchi Array**	**5.85**	**48**	⇑Pg	**Pn**	**04 19 17.6**	**+0.9**
0.3nm,0.3s,baz=221,slow=13,SNR=11							
MK31				⇓Lg		04 20 45.6	
1.4nm,0.7s,baz=227,slow=28							

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*ISCJB **30** 04:22:24.2±0.5, 4935N±002×684E±004, h0km, Error ellipse: s-maj=3.9km s-min=3.1km az=106.1*
*NEIC **30** 04:22:25.8, 4938N×691E, h1km, ML1.9(SZGRF), ML2.5(LDG), After LDG.*
*LDG **30** 04:22:25.8±0.1, 4938N×691E, h1km, Md2.3/1, Ml2.5/9, Error ellipse: s-maj=1.6km s-min=1.3km az=74.0, Suspected Mining induced.*
*BGR **30** 04:22:25.9±0.5, 4936N×688E, h1km, ML1.9/3, Error ellipse: s-maj=7.8km s-min=4.4km az=33.0*

ISC 30 04:22:25.4±0.5, 4936N±002×686E±004, h0km, n15, σ0°75/30, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.56**	**304**	*e*Pg	**Pg**	**04 22 37.1**	**+1.1**
SNR=2.8							
WLF				*e*Sg	**Sg**	**04 22 43.2**	**0.0**
CDF	**Champ du Feu**	**0.98**	**164**	*e*Pn	**Pn**	**04 22 45.4**	**-1.0**
CDF				*e*Sg	**Sg**	**04 22 57.7**	**+0.7**
11nm,0.2s							
CDF	**Champ du Feu**	**0.98**	**164**	*e*Pg	**Pg**	**04 22 44.7**	**+0.5**
CDF				*e*Pn	**Pn**	**04 22 45.4**	**-1.0**
CDF				*e*Sg	**Sg**	**04 22 57.7**	**+0.7**
TNS	**Taunus Mts**	**1.34**	**49**	*e*Pg	**Pg**	**04 22 50.8**	**-0.3**
SNR=2.2							
TNS				*e*Sg	**Sg**	**04 23 08.1**	**-0.5**
TNS	**Taunus Mts**	**1.34**	**49**	*e*Pg	**Pg**	**04 22 50.8**	**-0.3**
TNS				*e*Sg	**Sg**	**04 23 09.5**	**+1.0**
HAU	**Haudompre**	**1.39**	**194**	*e*Pg	**Pg**	**04 22 52.0**	**-0.1**
HAU				*e*Sg	**Sg**	**04 23 10.6**	**+0.4**
7.2nm,0.2s							
BFO	**Black Forest**	**1.41**	**136**	*e*Pg	**Pg**	**04 22 52.9**	**+0.5**
SNR=3.6							
BFO				*e*Sg	**Sg**	**04 23 10.1**	**-0.7**
BFO	**Black Forest**	**1.41**	**136**	*e*Pg	**Pg**	**04 22 52.8**	**+0.4**
BFO				*e*Sg	**Sg**	**04 23 11.3**	**+0.6**
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**04 22 53.8**	**+0.3**
baz=53							
MEZF				*e*Sg	**Sg**	**04 23 13.5**	**+0.9**
6.0nm,0.3s							
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**04 22 54.8**	**+0.3**
GIVF				*e*Sg	**Sg**	**04 23 14.4**	**+0.2**
3.9nm,0.3s							
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	**Pg**	**04 22 55.0**	**+0.1**
HINF				*e*Sg	**Sg**	**04 23 15.1**	**+0.2**
22nm,0.2s							
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Sg	**Sg**	**04 23 19.4**	**+0.4**
2.2nm,0.2s							
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	**04 23 00.8**	**-0.2**
BAIF				*e*Sg	**Sg**	**04 23 25.2**	**0.0**
1.8nm,0.2s							
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**04 23 11.2**	**-1.5**
baz=55							
LOR				*e*Sn	**Sn**	**04 23 44.8**	**-3.4**
LOR				*e*Sg	**Sg**	**04 23 57.7**	**-0.7**
1.8nm,0.3s,baz=43							
SSF	**Saint Saulge**	**3.21**	**226**	*e*Pn	**Pn**	**04 23 15.5**	**-1.5**

CASC 30 04:26:23.5±3.1, 1316N×8966W, h20km±24km, MD3.5, ML3.6, 5C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.68**	**3**	⇑*e*P	Pb	04 27 00.6	+24
SBLS				*e*S	Sb	04 27 10.8	+25
BOQS	**Boqueron**	**0.68**	**33**	⇑*e*P	Pb	04 27 00.1	+23
BOQS				*e*S	Sb	04 27 12.0	+26
SNJE	**San Jose**	**0.70**	**4**	*e*P	Pb	04 27 00.9	+24
SNJE				*e*S	Sb	04 27 10.8	+24
LFRS	**El Faro**	**0.74**	**51**	⇓*i*P	Pb	04 27 00.5	+23
LFRS				*e*S	Sb	04 27 11.7	+24
LFU	**La Fuente**	**0.79**	**42**	⇑*e*P	Pb	04 27 01.6	+23
LFU				*e*S	Sb	04 27 12.3	+24
LCBS	**La Ceiba**	**0.82**	**53**	⇓*e*P	Pb	04 27 01.6	+22
LCBS				*e*S	Sb	04 27 13.5	+24
LBRS	**Las Brisas**	**0.83**	**46**	⇓*e*P	Pb	04 27 02.0	+23
LBRS				*e*S	Sb	04 27 14.4	+25
SNVI	**San Vicente**	**0.91**	**60**	⇓*e*P	Pb	04 27 02.8	+22
SNVI				*e*S	Sb	04 27 15.7	+23
RBDL	**Robledal**	**0.95**	**358**	⇓*e*P	Pb	04 27 04.5	+23
RBDL				*e*S	Sb	04 27 18.3	+25
MTO2	**Montecristo 2**	**1.26**	**13**	⇓*e*P	Pn	04 27 08.8	+23
MTO2				*e*S	Sn	04 27 26.7	+24
IXG	**Ixpaco**	**1.27**	**322**	*e*P	Pn	04 26 45.2	-0.9
IXG				*e*S	Sn	04 27 02.2	-0.4
IXG				AML	AML	04 27 06.2	
comp=E,2μm,0.3s							
VSM	**San Miguel**	**1.37**	**79**	⇑*e*P	Pn	04 27 09.6	+22
VSM				*e*S	Sn	04 27 27.6	+23
BLLM	**Bellamira**	**1.41**	**78**	⇑*e*P	Pn	04 27 09.7	+22
BLLM				*e*S	Sn	04 27 27.1	+21
MRL	**Marmol**	**1.89**	**359**	*e*P	Pn	04 26 56.2	+1.5
TP2	**Tecpan 2**	**2.09**	**321**	*e*P	Pn	04 26 58.5	+1.1
TP2				*e*S	Sn	04 27 25.8	+3.0

GUC 30 04:29:02.7±0.7, 2797S×6904W, h100km, ML3.7, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.31**	**297**	⇑*i*P	Pn	04 29 26.7	0.0
CPCH				*i*S	Sn	04 29 45.1	+0.4
CPCH				AMP		04 29 46.0	
comp=E,12μm,0.1s							
CDCH	**Caldera**	**1.82**	**299**	⇓*i*P	Pn	04 29 34.3	+1.4
CDCH				*i*S	Sn	04 29 56.6	+0.6
CDCH				AMP		04 29 57.3	
comp=N,292nm,0.1s							
CRCH	**Chaqaral**	**2.14**	**319**	*e*P	Pn	04 29 37.8	+0.7
CRCH				*i*S	Sn	04 30 04.2	+0.8
CRCH				AMP		04 30 08.8	
comp=N,177nm,0.2s							
CPN1	**Cerro Paranal**	**3.55**	**340**	*i*S	Sn	04 30 38.4	+1.6
CPN1				AMP		04 30 52.1	
comp=E,72nm,0.6s							
CMCH	**Combarbala**	**3.62**	**208**	⇓*i*P	Pn	04 29 57.2	+0.5
CMCH				*i*S	Sn	04 30 39.5	+1.0

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*NDI **30** 05:07:56.2±4.8, 1709N×7365E, h5km±20km, ML3.8*
*ISCJB **30** 05:07:59.7±1.1, 1724N±007×7396E±007, h51km±7km, Error ellipse: s-maj=13.6km s-min=8.0km az=85.9*

ISC 30 05:08:01.2±1.2, 1726N±007×7389E±007, h33km±6km, n16, σ0°88/20, 1D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	**Karad**	**0.28**	**81**	*e*P	**Pb**	**05 08 08.5**	**-0.2**
KAD				*e*S	**Sb**	**05 08 13.9**	**0.0**
POO	**Poona**	**1.26**	**358**	*e*x	x	05 08 30.9	
POO				*e*S	**Sn**	**05 08 45.8**	**+7.5**
POO				AML	AML	05 08 48.6	
comp=E,1μm,0.3s							
POO				AML	AML	05 08 48.7	
comp=N,2μm,0.2s							
BOM	**Bombay**	**1.92**	**328**	*i*P	**Pn**	**05 08 31.6**	**+0.1**
BOM				*e*S	**Sn**	**05 08 54.4**	**-0.1**
BOM				*e*S	**Sn**	**05 08 54.4**	**-0.1**
LATR	**Latur**	**2.79**	**65**	*e*P	**Pn**	**05 08 45.2**	**+1.7**
LATR				*e*x	**Sn**	**05 09 28.0**	**+12**
AKL	**Akola**	**4.52**	**40**	*i*x	**Sn**	**05 09 42.1**	**-17**
NGP	**Nagpur**	**6.22**	**51**	*e*P	**Pn**	**05 09 31.5**	**+0.9**
NGP				*e*S	**Sn**	**05 10 41.4**	**+0.8**
BHPL	**Bhopal**	**6.81**	**29**	*e*P	**Pn**	**05 09 39.5**	**+0.7**
BHPL				*e*x	**Sn**	**05 10 51.3**	**-3.8**
BHPL				AML	AML	05 11 33.5	
comp=E,125nm,0.3s							
BHPL				AML	AML	05 11 33.6	
comp=N,74nm,0.3s							
SALM	**Salem**	**6.97**	**143**	*e*x	**Sn**	**05 10 59.0**	**+0.1**
JBP	**Jabalpur**	**8.20**	**43**	⇓*i*P	**Pn**	**05 09 57.9**	**+0.1**
JBP				*e*x	x	05 09 58.6	
comp=Z,22nm,0.7s							
JBP				*e*x	x	05 12 09.6	
VIS	**Vishakhapatnam**	**9.02**	**86**	*e*S	**Sn**	**05 11 48.4**	**-0.9**
VIS				*i*x	x	05 12 36.9	
AJM	**Ajmer**	**9.20**	**4**	*e*x	x	05 12 39.0	
ALBI	**Allahabad**	**10.89**	**41**	*e*x	x	05 13 34.0	
KOLN	**Koldanda**	**13.77**	**39**	*e*P	**Pn**	**05 11 13.4**	**-0.6**
GKN	**Gorkha**	**14.57**	**41**	*e*P	**Pn**	**05 11 21.4**	**-3.6**
PKI	**Pulchoki**	**14.78**	**44**	*e*P	**Pn**	**05 11 27.5**	**-0.2**
JIRN	**Jiri**	**15.36**	**46**	*e*P	**Pn**	**05 11 34.1**	**-1.3**

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*IDC **30** 05:15:36.0±8.0, 5142N×17754E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, ML4.2/1, Error ellipse: s-maj=137.1km s-min=68.1km az=71.0*
*ISCJB **30** 05:15:43.3±2.3, 517N±04×1773E±02, h71km±16km, mb3.3/4, Error ellipse: s-maj=63.2km s-min=11.1km az=32.2*
*NEIC **30** 05:15:44.3±2.1, 5166N×17721E, h70km±16km, ML3.7(AEIC), Error ellipse: s-maj=52.7km s-min=13.7km az=193.0*

ISC 30 05:15:45.3±1.8, 519N±03×1773E±02, h66km±17km, n11, σ0°97/12, mb3.3/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.15**	**294**	P	**Pn**	**05 16 18.4**	**-0.6**
SMY				S	**Sn**	**05 16 44.9**	**+0.3**
ADK	**Adak**	**3.70**	**88**	P	**Pn**	**05 16 40.4**	**+0.3**
ATKA	**Atka Island**	**5.23**	**83**	P	**Pn**	**05 17 01.8**	**+0.9**
KDAK	**Kodiak Island**	**18.19**	**59**	P	**Pn**	**05 19 51.3**	**-1.9**
0.7nm,0.3s,baz=277,slow=8.1,SNR=9.5							
SLKM	**Skilak Lake**	**19.80**	**52**	*e*P	**Pn**	**05 20 11.8**	**-0.6**
ILAR	**Eielson Array**	**22.39**	**41**	P	**P**	**05 20 37.3**	**-0.7**
0.5nm,0.5s,mb3.1,baz=248,slow=8.2,SNR=11							
DAWY	**Dawson**	**25.40**	**45**	*e*P	**P**	**05 21 07.7**	**+1.3**
INK	**Inuvik**	**28.43**	**36**	P	**P**	**05 21 34.8**	**+1.1**
0.4nm,0.5s,mb3.2,baz=256,slow=9.2,SNR=3.6							
YKA	**Yellowknife Ar**	**36.61**	**46**	P	**P**	**05 22 46.0**	**+1.0**
0.5nm,0.6s,mb3.6,baz=284,slow=8.4,SNR=12							
YKA	**Yellowknife Ar**	**36.61**	**46**	P	**P**	**05 22 46.0**	**+0.9**
NVAR	**Mina Array Bea**	**45.86**	**81**	P	**P**	**05 23 59.8**	**-1.1**
0.5nm,0.7s,mb3.4,baz=306,slow=6.2,SNR=4.1							

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*ISCJB **30** 05:23:12.8±2.9, 55S±02×147.1E±03, h150km±29km, mb4.3/2, Error ellipse: s-maj=55.6km s-min=28.0km az=178.8*
*IDC **30** 05:23:16.8±2.7, 587S×14752E, h199km±32km, mb3.9/2, mb1 3.9/4, mb1mx3.4/15, mbtmp4.2/4, Error ellipse: s-maj=69.0km s-min=22.3km az=117.0*

ISC 30 05:23:17.2±2.8, 57S±02×1470E±04, h163km±30km, n6, σ0°42/7, mb4.3/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**178**	P	**Pn**	**05 24 13.0**	**-0.2**
5.0nm,0.3s,baz=24,slow=5.3,SNR=12							
PMG				S	**Sn**	**05 24 56.9**	**0.0**
6.0nm,0.3s,baz=225,slow=23,SNR=7.8							
KAKA	**Kakadu**	**15.97**	**243**	*e*P	**Pn**	**05 26 52.9**	**0.0**
11nm,0.9s							
WRA	**Warramunga Arr**	**18.75**	**220**	P	**P**	**05 27 24.2**	**+0.6**
1.1nm,0.3s,baz=48,slow=10.0,SNR=60							
WRA				S	**S**	**05 30 48.2**	**-0.2**
baz=42,slow=20,SNR=3.9							
ASAR	**Alice Springs**	**21.85**	**214**	P	**P**	**05 27 56.9**	**+0.2**
3.9nm,0.5s,mb4.1,baz=48,slow=8.3,SNR=84							
FITZ	**Fitzroy Crossi**	**24.23**	**238**	P	**P**	**05 28 18.4**	**-0.4**
6.3nm,0.5s,mb4.4,baz=62,slow=9.8,SNR=28							
TORD	**Torodi Ar. Bea**	**145.05**	**285**	PKPbc	PKPbc	05 42 31.1	-3.6
0.2nm,0.6s,baz=62,slow=4.5,SNR=4.0							

MEX 30 05:34:11.2±0.8, 1645N×9497W, h20km±11km, MD3.8, Oaxaca

| Code | Station Name | Δ° | A

mb3.3/2, Error ellipse: s-maj=90.0km s-min=28.4km az=39.4
*IDC **30** 05:41:19.0±7.6, 3181S×17971E, h499km±100km, mb2.8/2, mb1 3.1/2, mb1mx2.8/11, mbtmp3.7/2, Error ellipse: s-maj=117.8km s-min=38.0km az=8.0*
ISC 30 05:41:16.6±2.2, 315S±03×1796E±08, h454km±61km, n9, σ0§61/12, mb3.3/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.11**	**190**	*e*PN	**P**	**05 42 51.5**	**-0.6**
MWZ	**Matawai**	**7.00**	**194**	*e*PN	**P**	**05 43 02.3**	**+0.9**
MWZ				*e*SN	**S**	**05 44 27.2**	**+0.1**
URZ	**Urewera**	**7.02**	**197**	P	**P**	**05 43 03.3**	**+1.8**
21nm,0.3s,baz=5.9,slow=2.7,SNR=84							
URZ				S	**S**	**05 44 27.4**	**-0.1**
12nm,0.3s,baz=346,slow=9.6,SNR=19							
URZ	**Urewera**	**7.02**	**197**	*e*PN	**P**	**05 43 01.4**	**-0.2**
URZ				*e*SN	**S**	**05 44 26.7**	**-0.9**
PXZ	**Pawanui**	**8.77**	**194**	*e*PN	**P**	**05 43 19.5**	**-0.8**
MRZ	**Mangatainoka R**	**9.68**	**199**	*e*PN	**P**	**05 43 30.2**	**0.0**
MRZ				*e*SN	**S**	**05 45 20.4**	**+0.3**
ASAR	**Alice Springs**	**41.05**	**269**	P	**P**	**05 48 18.7**	**-0.2**
0.2nm,0.3s,mb3.0,baz=104,slow=7.2,SNR=5.2							
WRA	**Warramunga Arr**	**42.15**	**275**	P	**P**	**05 48 27.8**	**+0.1**
0.8nm,0.3s,mb3.6,baz=111,slow=8.0,SNR=50							
FINES	**FINESS Array B**	**145.48**	**338**	PKPbc	PKPbc	06 00 00.1	-2.9
1.5nm,0.4s,baz=50,slow=4.1,SNR=13							

*IDC **30** 06:02:18.8±0.9, 3461N×7319E, h0km, mb3.9/10, mb1 4.2/13, mb1mx4.0/24, mbtmp4.0/13, ML4.2/3, Error ellipse: s-maj=24.6km s-min=18.8km az=53.0*
*ISCJB **30** 06:02:18.2±1.1, 3469N±003×7334E±005, h3km±7km, mb3.8/11, Error ellipse: s-maj=7.6km s-min=3.7km az=123.1*
*MOS **30** 06:02:20.5±1.4, 3465N×7330E, h25km, mb4.4/3, Error ellipse: s-maj=17.7km s-min=8.1km az=97.8*
*NEIC **30** 06:02:20.3±0.8, 3463N×7327E, h10km, mb3.7/4, Error ellipse: s-maj=18.3km s-min=5.6km az=51.0*
*NDI **30** 06:02:22.9±5.6, 3493N×7398E, h4km±25km, ML3.6, mb3.7(NEIC)*
*BJI **30** 06:02:23.3, 3460N×7330E, h30km, ML3.8*
*NNC **30** 06:02:28.9±6.1, 3491N×7302E, h64km±47km, mb3.5, mpv4.4, Error ellipse: s-maj=53.3km s-min=28.0km az=35.0*
ISC 30 06:02:19.9±0.9, 3467N±003×7324E±005, h5km±6km, n67, σ1§29/81, mb3.8/11, 9C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.01**	**179**	P	**Pg**	**06 02 39.5**	**+0.2**
CEP	**Cherat**	**1.39**	**233**	⇑P	**Pn**	**06 02 44.8**	**-1.1**
THW	**Thamme Wali**	**2.25**	**214**	P	**Pn**	**06 02 59.1**	**+1.4**
SARP	**Sargodha**	**2.78**	**190**	⇑P	**Pn**	**06 03 06.4**	**+1.4**
DLH	**Dalhousie**	**3.11**	**132**	*e*PG	**Pg**	**06 03 17.0**	**-2.5**
DLH				*e*SG	**Sg**	**06 04 00.0**	**+0.2**
SBDP	**Sheikh Budin**	**3.12**	**221**	P	**Pn**	**06 03 10.8**	**+1.1**
PONG	**Pong**	**3.53**	**139**	*ex*	**Pb**	**06 03 20.0**	**-2.8**
PONG				*ex*	**Sb**	**06 04 06.0**	**0.0**
SDNR	**Sundarnagar**	**4.45**	**134**	*e*P	**Pn**	**06 03 30.3**	**+2.4**
SDNR				*ex*	**Sb**	**06 04 39.1**	**+6.8**
SMLA	**Simla**	**4.83**	**136**	*e*P	**Pn**	**06 03 32.7**	**-0.5**
SMLA				*ex*	**Sn**	**06 04 31.1**	**+1.6**
KLP	**Kalpa**	**5.24**	**125**	*e*P	**Pn**	**06 03 40.6**	**+1.9**
KLP				AML	AML	06 05 13.4	
comp=E,546nm,0.7s							
KLP				AML	AML	06 05 15.9	
comp=N,506nm,0.7s							
KSH	**Kashi**	**5.30**	**23**	*e*PG	**Pg**	**06 04 01.0**	**-0.5**
KSH				*e*S	**Sn**	**06 04 48.8**	**+7.6**
KSH				Smax			
comp=N,85nm,0.1s							
KSH				Smax			
comp=E,45nm,0.2s							
DDI	**Dehra Dun**	**5.94**	**136**	*e*P	**Pn**	**06 03 46.1**	**-2.4**
DDI				*ex*	**Sn**	**06 05 02.1**	**+5.2**
NDI	**New Delhi**	**6.86**	**149**	*e*P	**Pn**	**06 04 04.0**	**+2.9**
NDI				*e*S	**Sn**	**06 05 17.5**	**-2.0**
KALG	**Kalgarh**	**6.95**	**136**	*e*P	**Pn**	**06 04 01.5**	**-0.8**
KALG				*e*S	**Sn**	**06 05 13.7**	**-8.1**
AYAN	**Aya Nagar**	**7.00**	**151**	*e*P	**Pn**	**06 04 04.3**	**+1.3**
AYAN				*e*S	**Sn**	**06 05 20.7**	**-2.3**
AYAN				AML	AML	06 05 31.1	
comp=Z,19nm,0.6s							
SONA	**Sohna**	**7.19**	**152**	*e*P	**Pn**	**06 04 09.6**	**+3.9**
SONA				*e*S	**Sn**	**06 05 23.4**	**-4.2**
SONA				AML	AML	06 05 30.7	
comp=N,19nm,0.2s							
SONA				AML	AML	06 05 31.0	
comp=E,29nm,0.2s							
AML	**Almayashu**	**7.46**	**3**	P	**Pn**	**06 04 13.7**	**+4.4**
SNR=32							
KZA	**Kyzart**	**7.56**	**11**	P	**Pn**	**06 04 15.0**	**+4.4**
SNR=11							
UCH	**Uchtor**	**7.61**	**7**	P	**Pn**	**06 04 15.9**	**+4.6**
SNR=18							
PTH	**Pithoragarh**	**7.81**	**129**	*ex*	**Pn**	**06 04 17.0**	**+2.9**
PTH				*ex*	**Sn**	**06 05 45.0**	**+2.1**
EKS2	**Erkin-Say**	**7.99**	**3**	P	**Pn**	**06 04 21.3**	**+4.7**
SNR=13							
AAK	**Ala-Archa**	**8.01**	**7**	P	**Pn**	**06 04 23.6**	**+6.7**
SNR=8.1							
AJM	**Ajmer**	**8.25**	**171**	*i* x	x	06 05 05.5	
TKM2	**Tokmak 2**	**8.44**	**12**	P	**Pn**	**06 04 27.0**	**+4.3**
SNR=7.3							
KK31	**Karatay Array**	**8.68**	**347**	⇓P	**Pn**	**06 04 28.6**	**+2.5**
comp=E,5.0nm,0.3s,baz=153,slow=10,SNR=267							
KK31				⇑S	**Sn**	**06 06 03.4**	**-0.9**
comp=E,3.4nm,0.3s,baz=161,slow=21,SNR=9.2							
KOLN	**Koldanda**	**11.22**	**125**	*e*P	**Pn**	**06 05 00.9**	**+0.1**
comp=E,10nm,0.3s							
GKN	**Gorkha**	**11.79**	**121**	*e*P	**Pn**	**06 05 08.2**	**-0.4**
comp=E,16nm,0.3s							
GKN				*e*S	**Sn**	**06 07 13.1**	**-7.4**
DMN	**Daman**	**12.36**	**122**	*e*P	**Pn**	**06 05 16.5**	**+0.1**
comp=E,15nm,0.3s							
KKN	**Kakani**	**12.37**	**120**	*e*P	**Pn**	**06 05 16.3**	**-0.3**
comp=E,23nm,0.5s							
KKN				*e*S	**Sn**	**06 07 27.4**	**-7.3**
PKI	**Pulchoki**	**12.59**	**121**	*e*P	**Pn**	**06 05 19.0**	**-0.6**
comp=E,12nm,0.3s							
GUN	**Gumba**	**12.73**	**119**	*e*P	**Pn**	**06 05 20.6**	**-0.9**
comp=E,14nm,0.3s							
JIRN	**Jiri**	**13.10**	**119**	*e*P	**Pn**	**06 05 25.6**	**-0.9**
comp=E,28nm,0.4s							
MK31	**Makanchi Array**	**13.90**	**27**	⇑P	**Pn**	**06 05 39.5**	**+2.0**
comp=E,0.9nm,0.5s,baz=207,slow=12,SNR=9.3							
MKAR	**Makanchi Array**	**13.90**	**27**	Pn	**Pn**	**06 05 39.3**	**+1.8**
comp=E,0.2nm,0.3s,baz=216,slow=15,SNR=5.9							
KURK	**Kurchatov**	**16.51**	**12**	⇓P	**Pn**	**06 06 13.5**	**+1.4**
comp=E,3.5nm,1.2s							
KURK	**Kurchatov**	**16.51**	**12**	*e*P	**Pn**	**06 06 09.7**	**-2.4**
comp=E,3.3nm,0.8s							
KURK	**Kurchatov**	**16.51**	**12**	*e*P	**Pn**	**06 06 09.7**	**-2.4**
KURK				pmax	pmax		
comp=Z,3.0nm,0.8s							
AB31	**Akbulak array**	**17.57**	**330**	P	**Pn**	**06 06 23.5**	**-2.0**
comp=Z,1.1nm,0.5s,baz=148,slow=13,SNR=36							
AB31				⇑S	**Sn**	**06 09 36.1**	**-5.3**
comp=Z,1.0nm,0.6s,baz=149,slow=23,SNR=4.9							
VOSK	**Vostochnaya**	**18.12**	**356**	⇓P	**Pn**	**06 06 31.1**	**-1.1**
comp=Z,3.5nm,1.1s							
BVA0	**Borovoye Array**	**18.46**	**355**	⇑P	**Pn**	**06 06 37.3**	**+0.9**
comp=Z,0.6nm,0.4s,baz=144,slow=8.8,SNR=31							
BVAR	**Borovoye Array**	**18.46**	**355**	P	**Pn**	**06 06 35.3**	**-1.1**
comp=Z,2.1nm,0.3s,baz=163,slow=11,SNR=38							
BRVK	**Borovoye**	**18.50**	**354**	*e*P	**Pn**	**06 06 37.7**	**+0.8**
comp=Z,4.7nm,0.6s							
BRVK	**Borovoye**	**18.50**	**354**	*e*P	**Pn**	**06 06 37.7**	**+0.8**
BRVK				pmax	pmax		
comp=Z,5.0nm,0.6s							
ZRNK	**Zerenda**	**18.52**	**352**	⇑P	**Pn**	**06 06 37.9**	**+0.8**
comp=Z,6.4nm,0.6s							
ZRNK	**Zerenda**	**18.52**	**352**	*e*P	**Pn**	**06 06 37.7**	**+0.6**
comp=Z,11nm,0.6s							
ZRNK	**Zerenda**	**18.52**	**352**	*e*P	**Pn**	**06 06 37.7**	**+0.6**
ZRNK				pmax	pmax		
comp=Z,11nm,0.6s							
CHKZ	**Chkalovo**	**19.09**	**355**	⇑P	**Pn**	**06 06 43.2**	**-0.9**
comp=Z,5.3nm,1.5s							
CHKZ	**Chkalovo**	**19.09**	**355**	*e*P	**Pn**	**06 06 43.4**	**-0.7**
comp=Z,2.3nm,0.6s							
CHKZ	**Chkalovo**	**19.09**	**355**	*e*P	**Pn**	**06 06 43.4**	**-0.7**
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.6s							
AKTK	**Aktyubinsk**	**19.28**	**329**	P	**Pn**	**06 06 46.3**	**0.0**
AKTO	**Aktyubinsk**	**19.28**	**329**	⇑P	**Pn**	**06 06 46.1**	**-0.2**
comp=Z,0.2nm,0.8s							
AKTO	**Aktyubinsk**	**19.28**	**329**	P	**Pn**	**06 06 46.3**	**0.0**
comp=Z,1.2nm,0.3s,baz=135,slow=11,SNR=28							
AKTO	**Aktyubinsk**	**19.28**	**329**	P	**Pn**	**06 06 46.3**	**0.0**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**20.91**	**19**	P	**P**	**06 07 03.0**	**-0.1**
comp=Z,13nm,0.4s,baz=256,slow=6.7,SNR=45							
NVS	**Novosibirsk**	**21.34**	**16**	*e*P	**P**	**06 07 06.4**	**-1.3**
NVS				*e*		06 11 43.7	
NVS				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.0							
NVS				pmax	pmax		
comp=N,10.0nm,0.9s							
SONM	**Songino Array**	**27.95**	**52**	P	**P**	**06 08 12.3**	**+1.2**
comp=N,0.3nm,0.4s,mb3.2,baz=263,slow=12,SNR=3.7							
JOF	**Joensuu**	**38.36**	**330**	*e*p	**P**	**06 09 41.7**	**-0.1**
comp=N,2.1nm,0.3s,mb4.3							
FINES	**FINESS Array B**	**40.02**	**327**	P	**P**	**06 09 56.0**	**+0.4**
comp=N,0.4nm,0.3s,mb3.6,baz=124,slow=10,SNR=7.8							
ARCES	**ARCESS Array B**	**43.53**	**338**	P	**P**	**06 10 24.6**	**+0.2**
comp=N,1.9nm,0.5s,mb4.1,baz=114,slow=8.2,SNR=17							
NOA	**NORSAR Array B**	**46.94**	**324**	P	**P**	**06 10 50.0**	**-1.4**
comp=N,0.6nm,0.6s,mb3.7,baz=96,slow=7.6,SNR=3.3							
TORD	**Torodi Ar. Bea**	**67.54**	**271**	P	**P**	**06 13 16.9**	**-0.2**
comp=N,0.9nm,0.5s,mb4.1,baz=49,slow=6.0,SNR=19							
ILAR	**Eielson Array**	**76.02**	**17**	P	**P**	**06 14 07.5**	**-0.6**
comp=N,0.2nm,0.5s,mb3.3,baz=301,slow=5.3,SNR=4.5							
WRA	**Warramunga Arr**	**79.47**	**123**	P	**P**	**06 14 27.5**	**+0.2**
comp=N,1.3nm,0.5s,mb4.1,baz=324,slow=5.2,SNR=52							
WRA	**Warramunga Arr**	**79.47**	**123**	P	**P**	**06 14 27.5**	**+0.2**
WRA				pmax	pmax		
comp=Z,1.0nm,0.5s							
ASAR	**Alice Sprngs**	**81.71**	**126**	P	**P**	**06 14 39.5**	**+0.2**
comp=Z,1.3nm,0.8s,mb3.9,baz=311,slow=5.1,SNR=10							
ASAR	**Alice Springs**	**81.71**	**126**	P	**P**	**06 14 39.5**	**+0.2**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**82.97**	**4**	P	**P**	**06 14 45.2**	**-0.7**
comp=Z,0.4nm,0.5s,mb3.7,baz=347,slow=5.3,SNR=20							

HLW 30 06:12:51.0, 3458N×2756E, h33km, Mb3.5, 5C-4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMAT	**Matruh**	**3.50**	**187**	⇓P	Pn	06 13 43.5	+0.4
HMAT				S	Sn	06 14 21.6	-1.6
SLUM		**3.66**	**213**	⇓P	Pn	06 13 45.5	+0.3
SLUM				S	Sn	06 14 24.8	-2.4
SWA2		**5.61**	**199**	⇑P	Pn	06 14 13.3	+1.2
KOT	**Kottamia**	**5.88**	**141**	⇑P	Pn	06 14 16.0	+0.2
AMAG	**Maghara**	**6.17**	**128**	⇓P	Pn	06 14 19.8	-0.1
SUZ		**6.50**	**135**	⇓eP	Pn	06 14 24.8	+0.4
HFRF	**Wahat Farafira**	**7.44**	**175**	⇑P	Pn	06 14 37.5	+0.3
HHRG	**Al Ghardaqah**	**8.97**	**143**	⇑P	Pn	06 14 59.0	+0.8
HDK1	**Dakhla**	**9.15**	**169**	⇑P	Pn	06 15 01.8	+1.2

IDC 30 06:14:21.4±6.6, 749S×12928E, h171km±65km, mb3.5/2, mb1 3.6/5, mb1mx3.4/15, mbtmp4.0/5, Error ellipse: s-maj=62.8km s-min=24.5km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.13**	**198**	P	Pn	06 16 56.7	+1.0
0.7nm,0.3s,baz=34,slow=12,SNR=27							
FITZ				S	Sn	06 18 58.5	-0.7
1.2nm,0.3s,baz=306,slow=23,SNR=7.2							
WRA	**Warramunga Arr**	**13.32**	**159**	P	Pn	06 17 22.2	-1.6
1.0nm,0.3s,baz=340,slow=13,SNR=45							
WRA				S	Sn	06 19 44.7	-7.0
1.8nm,0.3s,baz=332,slow=22,SNR=13							
ASAR	**Alice Springs**	**16.69**	**165**	P	Pn	06 18 06.5	+1.1
0.4nm,0.3s,baz=342,slow=9.6,SNR=16							
ASAR				S	S	06 21 09.0	-1.3
0.5nm,0.3s,baz=350,slow=25,SNR=9.3							
STKA	**Stephens Creek**	**26.84**	**156**	P	P	06 19 46.7	+0.7
2.2nm,0.9s,baz=349,slow=10,SNR=3.4							
MKAR	**Makanchi Array**	**68.24**	**327**	P	P	06 25 03.6	0.0
0.5nm,0.4s,baz=131,slow=7.9,SNR=14							

*IDC **30** 06:23:26.7±0.7, 2276S×175.14W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.4/16, mbtmp4.3/12, MS3.1/3, Ms1 3.1/3, ms1mx2.8/21, Error ellipse: s-maj=28.7km s-min=18.4km az=151.0*
*ISCJB **30** 06:23:28.2±0.7, 225S±0.1×1749W±0.1, h33km, mb4.3/16, MS3.2/2, Error ellipse: s-maj=15.9km s-min=14.4km az=58.4*
*NEIC **30** 06:23:30.1±0.5, 2265S×17507W, h25km, mb4.5/7, Error ellipse: s-maj=17.2km s-min=12.2km az=137.0*
ISC 30 06:23:30.9±0.6, 2262S±010×1750W±01, h35km, n33, σ1§20/25, mb4.3/16, MS3.2/2, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.18**	**20**	Pn	**Pn**	**06 25 38.9**	**-1.8**
6.6nm,0.3s,baz=356,slow=18,SNR=7.7							
AFI				Sn	**Sn**	**06 27 13.2**	**-10**
3.2nm,0.3s,baz=81,slow=23,SNR=2.9							
AFI	**Afiamalu**	**9.18**	**20**	*e*Pn	**Pn**	**06 25 38.9**	**-1.8**
RAR	**Rarotonga**	**14.15**	**87**	Pn	**Pn**	**06 26 41.9**	**-6.9**
4.1nm,0.3s,baz=295,slow=21,SNR=9.6							
RAR				Sn	**Sn**	**06 29 02.3**	**-22**
1.0nm,0.3s,baz=123,slow=21,SNR=3.4							
RAR				LR	LR	06 30 07.1	
comp=Z,40nm,21.0s,baz=156,slow=28							
DZM	**Mont Dzumac**	**17.23**	**268**	P	**Pn**	**06 27 29.6**	**+0.9**
0.1nm,0.3s,baz=93,slow=19,SNR=1.8							
TBI	**Tubuai**	**23.47**	**97**	*e*LR	LR	06 33 48.0	
126nm,27.0s							
PPT	**Papeete**	**24.34**	**83**	*e*LR	LR	06 34 05.9	
128nm,27.5s							
HNR	**Honiara**	**27.40**	**295**	LR	LR	06 38 38.7	
comp=Z,45nm,19.6s,MS3.0,baz=180,slow=33							
CTA	**Charters Tower**	**36.16**	**267**	P	**P**	**06 30 31.1**	**+1.3**
5.4nm,0.8s,mb4.5,baz=115,slow=9.6,SNR=5.6							
CTA				LR	LR	06 41 25.3	
comp=Z,58nm,18.7s,MS3.4,baz=54,slow=30							
PMG	**Port Moresby**	**38.59**	**284**	P	**P**	**06 30 52.0**	**+1.5**
6.4nm,0.7s,mb4.4,baz=30,slow=6.9,SNR=4.2							
PMG	**Port Moresby**	**38.59**	**284**	*e*P	**P**	**06 30 51.5**	**+1.0**
7.3nm,0.8s,mb4.5							
PMG				*e*PP	PP	06 32 21.6	+2.5
STKA	**Stephens Creek**	**39.50**	**247**	P	**P**	**06 30 56.4**	**-1.7**
0.7nm,0.4s,mb3.8,baz=128,slow=12,SNR=3.8							
ASAR	**Alice Springs**	**46.84**	**258**	P	**P**	**06 31 56.6**	**-0.7**
6.1nm,0.8s,mb4.6,baz=95,slow=8.0,SNR=50							
WRAB	**Tennant Creek**	**47.14**	**263**	*e*P	**P**	**06 31 59.0**	**-0.7**
5.7nm,0.7s,mb4.6							
WRA	**Warramunga Arr**	**47.15**	**263**	P	**P**	**06 31 58.3**	**-1.5**
2.8nm,0.8s,mb4.3,baz=92,slow=8.6,SNR=39							
FITZ	**Fitzroy Crossi**	**55.58**	**263**	P	**P**	**06 33 02.6**	**-0.2**
3.4nm,0.9s,mb4.4,baz=55,slow=21,SNR=3.9							
SBA	**Scott Base**	**55.97**	**185**	*e*P	**P**	**06 33 05.9**	**+0.2**
4.6nm,0.9s,mb4.5							
VNDA	**Vanda**	**56.08**	**186**	P	**P**	**06 33 06.8**	**+0.3**
1.6nm,1.0s,mb4.0,baz=47,slow=4.4,SNR=5.6							
VNDA	**Vanda**	**56.08**	**186**	*e*P	**P**	**06 33 06.8**	**+0.3**
1.9nm,1.0s,mb4.1							
QSPA	**South Pole Qui**	**67.46**	**180**	*e*P	**P**	**06 34 22.7**	**-0.4**
1.9nm,0.7s,mb4.2							
MAW	**Mawson**	**80.52**	**199**	P	**P**	**06 35 39.9**	**+0.5**
6.0nm,1.1s,mb4.5,baz=102,slow=8.1,SNR=4.2							
MAW	**Mawson**	**80.52**	**199**	*e*P	**P**	**06 35 39.4**	**0.0**
4.9nm,0.8s,mb4.5							
NVAR	**Mina Array Bea**	**80.66**	**42**	P	**P**	**06 35 43.5**	**+3.3**
1.6nm,0.7s,mb4.0,baz=218,slow=7.2,SNR=12							
SNAA	**Sanae**	**85.80**	**178**	*e*P	**P**	**06 36 06.0**	**-0.7**
8.4nm,1.0s,mb4.9							
PDAR	**Pinedale Array**	**88.59**	**42**	P	**P**	**06 36 22.2**	**+2.1**
0.4nm,0.7s,mb3.9,baz=190,slow=2.7,SNR=5.2							
ILAR	**Eielson Array**	**89.78**	**12**	P	**P**	**06 36 27.1**	**+1.4**
0.6nm,0.8s,mb4.0,baz=216,slow=4.7,SNR=5.5							
YKA	**Yellowknife Ar**	**97.27**	**24**	P	**P**	**06 37 01.7**	**+1.6**
0.4nm,0.8s,mb3.9,baz=236,slow=4.4,SNR=11							
MKAR	**Makanchi Array**	**114.72**	**312**	PKP	PKiKP	06 42 07.6	0.0
0.3nm,0.6s,baz=96,slow=3.7,SNR=4.0							
MKAR	**Makanchi Array**	**114.72**	**312**	PKP	PKiKP	06 42 07.6	0.0
ARCES	**ARCESS Array B**	**131.49**	**351**	PKP	PKPdf	06 42 41.4	+1.8
3.2nm,1.0s,baz=25,slow=6.7,SNR=3.9							
ARCES	**ARCESS Array B**	**131.49**	**351**	PKP	PKPdf	06 42 41.4	+1.8
AKASG	**Malin Array Be**	**146.22**	**332**	PKPbc	PKPbc	06 43 07.9	+0.4
1.5nm,0.6s,baz=39,slow=4.1,SNR=13							
BRTR	**Keskin Array B**	**150.36**	**312**	PKPbc	PKPbc	06 43 20.4	+2.0
1.2nm,0.7s,baz=90,slow=1.4,SNR=6.2							
TORD	**Torodi Ar. Bea**	**170.05**	**161**	PKPab	PKPab	06 44 51.0	+0.8
0.8nm,0.7s,baz=191,slow=4.1,SNR=5.5							

*IDC **30** 06:36:57.2±1.0, 3455N×7313E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.6/24, mbtmp3.6/9, ML3.4/3, Error ellipse: s-maj=30.2km s-min=21.7km az=65.0*
*NEIC **30** 06:36:59.0±0.9, 3456N×7316E, h10km, mb3.3/1, Error ellipse: s-maj=22.5km s-min=12.9km az=70.0*
*ISCJB **30** 06:37:01.4±0.7, 3475N±007×7321E±02, h33km, mb3.5/5, Error ellipse: s-maj=19.9km s-min=6.9km az=133.3*
*NNC **30** 06:37:08.2±16.0, 3545N×7516E, h136km±129km, mb2.6, mpv3.8, Error ellipse: s-maj=159.8km s-min=136.7km az=61.0*
ISC 30 06:37:02.8±0.8, 3467N±008×731E±02, h35km, n15, σ0§72/16, mb3.5/5, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**6.91**	**148**	*e*P	**Sn**	**06 40 04.0**	**+5.0**
KK31	**Karatay Array**	**8.66**	**347**	P	**Pn**	**06 39 07.6**	**+1.9**
1.6nm,0.3s,baz=163,slow=12,SNR=31							
KK31				⇑S	**Sn**	**06 40 41.9**	**-0.2**
0.9nm,0.4s,baz=153,slow=24,SNR=5.1							
MKAR	**Makanchi Array**	**13.96**	**27**	Pn	**Pn**	**06 40 18.4**	**+0.4**
0.0nm,0.3s,baz=204,slow=14,SNR=2.5							
AB31	**Akbulak array**	**17.52**	**330**	P	**Pn**	**06 41 04.0**	**-0.2**
0.2nm,0.4s,baz=146,slow=13,SNR=8.4							
BVAR	**Borovoye Array**	**18.46**	**355**	P	**Pn**	**06 41 16.3**	**+0.6**
0.3nm,0.3s,baz=157,slow=11,SNR=5.0							
CHKZ	**Chkalovo**	**19.09**	**355**	P	**Pn**	**06 41 22.1**	**-1.3**
3.0nm,1.5s							
AKTK	**Aktyubinsk**	**19.23**	**330**	P	**Pn**	**06 41 25.0**	**0.0**
AKTO	**Aktyubinsk**	**19.23**	**330**	⇓P	**Pn**	**06 41 24.9**	**-0.2**
0.8nm,2.8s							
AKTO	**Aktyubinsk**	**19.23**	**330**	P	**Pn**	**06 41 25.0**	**0.0**
0.3nm,0.3s,baz=131,slow=12,SNR=8.4							
ZAL	**Zalesovo**	**20.95**	**20**	P	**P**	**06 41 42.0**	**-0.6**
1.3nm,0.4s,baz=250,slow=8.9,SNR=3.7							
ARCES	**ARCESS Array B**	**43.49**	**338**	P	**P**	**06 45 02.6**	**0.0**
0.7nm,0.7s,mb3.5,baz=123,slow=6.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**67.43**	**271**	P	**P**	**06 47 54.9**	**+0.1**
0.4nm,0.5s,mb3.7,baz=46,slow=5.7,SNR=9.3							
WRA	**Warramunga Arr**	**79.56**	**123**	P	**P**	**06 49 05.9**	**-0.2**
0.3nm,0.4s,mb3.5,baz=322,slow=5.2,SNR=16							
ASAR	**Alice Springs**	**81.79**	**126**	P	**P**	**06 49 18.1**	**0.0**
0.3nm,0.8s,mb3.3,baz=296,slow=5.8,SNR=4.2							
YKA	**Yellowknife Ar**	**82.98**	**4**	P	**P**	**06 49 24.0**	**-0.3**
0.2nm,0.6s,mb3.3,baz=345,slow=5.2,SNR=6.4							

IDC 30 07:00:42.1±1.9, 1237S×17187E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=89.3km s-min=25.3km az=134.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.95**	**208**	Pn	Pn	07 03 18.7	-1.4
0.3nm,0.3s,baz=128,slow=17,SNR=4.1							
WRA	**Warramunga Arr**	**36.77**	**253**	P	P	07 07 50.5	-0.9
0.2nm,0.8s,baz=84,slow=8.2,SNR=3.1							
ASAR	**Alice Springs**	**37.70**	**247**	P	P	07 08 01.0	+1.7
0.6nm,0.7s,baz=72,slow=9.7,SNR=8.1							
ILAR	**Eielson Array**	**82.96**	**17**	P	P	07 13 08.2	-0.7
1.3nm,0.6s,baz=232,slow=5.0,SNR=38							
YKA	**Yellowknife Ar**	**93.43**	**26**	P	P	07 13 59.7	+0.3
0.2nm,0.6s,baz=258,slow=4.7,SNR=6.8							

*CSEM **30** 07:03:09.4±0.1, 3941N×3313E, h5km, MD3.5, Error ellipse: s-maj=2.9km s-min=1.7km az=50.0*
*ISK **30** 07:03:09.4, 3941N×3310E, h5km, MD3.5*
*ISCJB **30** 07:03:10.0±0.4, 3940N±003×3309E±003, h5km, Error ellipse: s-maj=3.8km s-min=2.9km az=39.1*
ISC 30 07:03:10.4±0.6, 3939N±003×3312E±003, h2km±5km, n26, σ0§93/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.46**	**93**	*i* PG	**Pg**	**07 03 18.8**	**-0.5**
KAMT				*i* SG	**Sg**	**07 03 25.9**	**+0.6**
ANTO	**Ankara**	**0.54**	**332**	*i* PG	**Pg**	**07 03 19.0**	**-1.7**
ANTO				*i* SG	**Sg**	**07 03 27.7**	**0.0**
LOD

GHIR Ghir-Karzin 2.30 292 *e*PN **Pn 07 29 30.2 +4.7**
GHIR *e*SG **Sg 07 30 04.9 +3.5**
GHIR AML AML 07 30 14.3
comp=N,2μm,0.5s
GHIR Ghir-Karzin 2.30 292 *e*Pn **Pn 07 29 30.2 +4.7**
SNR=52
GHIR *e*Sg **Sg 07 30 04.9 +3.5**
SNR=90
GHIR Ghir-Karzin 2.30 292 Pn **Pn 07 29 30.0 +4.5**
GHIR Sg **Sg 07 30 04.0 +2.6**
KRBR Kerman 2.79 25 *e*PN **Pn 07 29 34.1 +1.8**
KRBR AML AML 07 30 15.0
comp=E,1μm,0.4s
KRBR AML AML 07 30 15.8
comp=N,1μm,0.6s
KRBR Kerman 2.79 25 Pn **Pn 07 29 34.0 +1.7**
ASHO Ashiyiah 2.82 168 ⇓P **Pn 07 29 35.0 +2.4**
SNR=80
ASHO Ashiyiah 2.82 168 Pg **Pg 07 29 35.0 -6.6**
SNR=80
IMOK Mook 2.86 304 *e*Pn **Pn 07 29 35.3 +2.1**
IMOK Mook 2.86 304 Pn **Pn 07 29 35.2 +2.0**
IPAR Pars 3.16 320 *e*Pn **Pn 07 29 39.4 +2.1**
SHI Shiraz 3.35 311 *e*Pn **Pn 07 29 43.7 +3.7**
SHI Shiraz 3.35 311 P **Pn 07 29 43.6 +3.6**
IMEH Mehriz 3.99 350 *e*Pn **Pn 07 29 50.8 +2.1**
IBAF Bafgh 4.13 2 *e*Pn **Pn 07 29 52.0 +1.3**
IBAF Bafgh 4.13 2 Pn **Pn 07 29 51.9 +1.2**
ARQ Araqi 4.22 166 ⇑P **Pn 07 29 54.2 +2.3**
SNR=16
HOQ Hoqain 4.22 156 ⇑P **Pn 07 29 51.7 -0.2**
SNR=7.9
BIDO Bidbid 4.62 147 ⇑P **Pn 07 29 58.3 +0.8**
SNR=7.6
ISAD Sadrabad 4.69 342 *e*Sn **Sn 07 30 54.3 +1.4**
ISAD *e*Sn **Sn 07 30 54.4 +1.5**
ICHK Chekchek 4.86 350 *e*Pn **Pn 07 30 02.5 +1.8**
ICHK Chekchek 4.86 350 Pn **Pn 07 30 02.4 +1.7**
SMDO Samad 4.99 151 P **Pn 07 30 05.5 +3.0**
SNR=7.7
ZHSF Zahedan 5.19 64 *e*PN **Pn 07 30 06.6 +1.3**
ZHSF Zahedan 5.19 64 Pn **Pn 07 30 06.0 +0.7**
IGAR Garneh 5.53 331 *e*Pn **Pn 07 30 15.0 +5.1**
JMDO Jabal Madar 5.62 154 P **Pn 07 30 13.6 +2.5**
SNR=15
WBK Wadi Bani Khal 5.80 145 P **Pn 07 30 14.3 +0.6**
SNR=14
IZEF Zefreh 6.04 335 *e*Pn **Pn 07 30 18.1 +1.1**
IZEF *e*Sn **Sn 07 31 26.0 -0.2**
IZEF *e*Sn **Sn 07 31 26.0 -0.2**
IPIR Pirpir 6.52 324 *e*Pn **Pn 07 30 24.8 +1.3**
IPIR *e*Sn **Sn 07 31 36.9 -1.0**
IPIR *e*Sn **Sn 07 31 37.2 -0.7**
IPIR Pirpir 6.52 324 *e*Pn **Pn 07 30 24.8 +1.3**
IPIR *e*Sn **Sn 07 31 36.9 -1.0**
IKLH Kalahroud 6.72 331 *e*Pn **Pn 07 30 27.5 +1.2**
IKLH *e*Sn **Sn 07 31 41.1 -1.7**
IKLH *e*Sn **Sn 07 31 41.4 -1.4**
IKLH Kalahroud 6.72 331 Pn **Pn 07 30 27.4 +1.1**
QRN Al-Qurain 6.74 283 *e*P **Pn 07 30 28.0 +1.5**
QRN AML AML 07 31 44.8
comp=Z,114nm,0.3s
KBD Kabd 7.01 286 *e*P **Pn 07 30 31.8 +1.5**
KBD AML AML 07 31 50.0
comp=Z,102nm,0.4s
UMR Umm Al-Rimmam 7.08 289 *e*P **Pn 07 30 32.5 +1.2**
UMR AML AML 07 31 53.8
comp=Z,75nm,0.4s
ISFB Sefidab 7.40 339 *e*Pn **Pn 07 30 37.5 +1.9**
ISFB Sefidab 7.40 339 Pn **Pn 07 30 37.4 +1.8**
NAY Al-Naaiem 7.41 286 *e*P **Pn 07 30 36.8 +0.9**
NAY AML AML 07 31 56.4
comp=Z,23nm,0.5s
MIB Mutribah 7.47 290 *e*P **Pn 07 30 38.1 +1.6**
MIB AML AML 07 32 02.7
comp=Z,58nm,0.6s
IANJ Anjiloo 8.09 351 *e*Pn **Pn 07 30 47.2 +2.1**
IANJ Anjiloo 8.09 351 Pn **Pn 07 30 47.1 +2.0**
IVRN Varamin 8.15 338 *e*Pn **Pn 07 30 47.5 +1.5**
IVRN Varamin 8.15 338 Pn **Pn 07 30 47.4 +1.4**
ISHM Shahmirzad 8.52 348 *e*Pn **Pn 07 30 53.0 +2.0**
ISHM *e*Sn **Sn 07 32 24.2 -3.0**
ISHM *e*Sn **Sn 07 32 25.2 -2.0**
ISHM Shahmirzad 8.52 348 *e*Pn **Pn 07 30 53.0 +2.0**
ISHM *e*Sn **Sn 07 32 24.2 -3.0**
IAFJ Afjeh 8.95 340 *e*Pn **Pn 07 30 58.4 +1.5**
IAFJ Afjeh 8.95 340 Pn **Pn 07 30 58.3 +1.4**
IGLO Galoogah 8.98 350 *e*Pn **Pn 07 31 02.1 +4.8**
IGLO Galoogah 8.98 350 Pn **Pn 07 31 02.0 +4.7**
IPRN Paran-Amol 9.17 344 *e*Pn **Pn 07 31 01.2 +1.3**
IPRN Paran-Amol 9.17 344 Pn **Pn 07 31 01.1 +1.2**
IRAZ Razeghan 9.20 331 *e*Pn **Pn 07 31 06.9 +6.5**
IKOM Komasi 9.54 317 *e*Pn **Pn 07 31 05.8 +0.9**
IKOM *e*Sn **Sn 07 32 47.6 -4.5**
IKOM Komasi 9.54 317 Pn **Pn 07 31 05.7 +0.8**
IKOM Sn **Sn 07 32 47.6 -4.5**
WHFO Wadi Hawf 9.61 189 P **Pn 07 31 06.2 +0.3**
SNR=24
IMYA Miamay 9.72 23 *e*Pn **Pn 07 31 08.4 +1.0**
RBK Rabkut 9.96 187 P **Pn 07 31 11.5 +0.7**
SNR=8.8
IDHR Dehrash 10.58 315 *e*Pn **Pn 07 31 19.0 -0.2**
IDHR *e*Sn **Sn 07 33 12.2 -5.5**
IDHR *e*Sn **Sn 07 33 12.7 -5.0**
IDHR Dehrash 10.58 315 Pn **Pn 07 31 18.9 -0.3**
BHD Baghdad 11.15 304 *e*x x 07 31 16.0
BHD *e*x x 07 33 18.5
MSL Mosul 13.67 313 *e*x x 07 32 34.0
IMRD Marand 13.86 327 *e*Pn **Pn 07 32 09.2 +5.2**
GNI Garni 15.44 328 Pn **Pn 07 32 30.7 +5.3**
comp=Z,3.7nm,0.3s,baz=21,slow=0.4,SNR=8.7
GNI LR LR 07 39 25.0
comp=Z,261nm,19.9s,baz=331,slow=41
GNI Garni 15.44 328 *e*Pn **Pn 07 32 25.8 +0.4**
comp=Z,25nm,0.6s
GNI LR LR 07 39 25.0
GNI Garni 15.44 328 *e*P **Pn 07 32 25.8 +0.4**
GNI pmax pmax
comp=Z,25nm,0.6s
MARD Mardin 15.77 312 *i* P **Pn 07 32 30.1 +0.3**
ZEI Tsey 17.92 331 *i* P **Pn 07 32 59.7 +2.8**
GZT Gaziantep 17.99 308 *i* P **Pn 07 32 57.4 -0.3**
COBT Iskenderun 18.57 304 *i* P **Pn 07 33 00.8 -4.0**
KIV Kislovodsk 19.40 331 *e*P **Pn 07 33 15.7 +0.9**
comp=Z,20nm,0.6s
KIV Kislovodsk 19.40 331 *e*P **Pn 07 33 18.1 +3.3**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,59nm,15.0s
KKAR Karatay Array 19.85 34 *e*P **Pn 07 33 19.1 -1.1**
comp=Z,4.0nm,0.7s
KKAR Karatay Array 19.85 34 *e*P **Pn 07 33 19.1 -1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
GOF Gofitskoye 20.16 334 *e*P **P 07 33 20.9 -1.1**
comp=Z,50nm,1.0s
GOF Gofitskoye 20.16 334 *e*P **P 07 33 20.9 -1.1**
GOF pmax pmax
comp=Z,50nm,1.0s
SOC Sochi 20.49 326 *e*P **P 07 33 26.7 +1.1**
comp=Z,32nm,1.4s
SOC Sochi 20.49 326 *e*P **P 07 33 26.7 +1.1**
SOC *e**SP sP 07 33 37.8 +8.1
SOC *e* 07 33 51.6
SOC pmax pmax
comp=Z,32nm,1.4s
CTKT Corum 21.49 313 *i* P **P 07 33 35.1 -1.3**
BR131 Keskin Array S 21.82 310 *e*P **P 07 33 40.4 +0.5**
comp=Z,3.7nm,0.6s,mb4.0
BRTR Keskin Array B 21.82 310 P **P 07 33 40.0 +0.1**
comp=Z,4.0nm,0.8s,mb3.9,baz=129,slow=13,SNR=10
FRU Bishkek 21.88 40 *e*P **P 07 33 46.0 +5.4**
AB31 Akbulak array 22.05 8 *i* P **P 07 33 42.5 +0.1**
comp=Z,19nm,0.8s,mb4.6
AB31 Akbulak array 22.05 8 *i* P **P 07 33 42.5 +0.1**
AB31 pmax pmax
comp=Z,19nm,0.8s,mb4.6
ELDT Eldivan 22.32 311 *i* P **P 07 33 48.2 +2.9**
ANN Anapa 22.51 325 *e*P **P 07 33 53.7 +6.4**
ANN pmax pmax
comp=Z,46nm,1.6s,mb4.7
AKTK Aktyubinsk 23.04 4 P **P 07 33 52.8 -0.1**
AKTK LR LR 07 45 02.0
AKTO Aktyubinsk 23.04 4 P **P 07 33 52.8 -0.1**
comp=Z,23nm,1.0s,mb4.6,baz=157,slow=9.3,SNR=14
AKTO LR LR 07 45 02.0
comp=Z,242nm,18.4s,MS3.7,baz=0.0,slow=42
AKTO Aktyubinsk 23.04 4 P **P 07 33 55.7 +2.8**
AKTO pmax pmax
comp=Z,10.0nm,1.3s,mb4.1
IDI Anoyia 27.12 294 P **P 07 34 31.4 +0.7**
comp=Z,5.6nm,0.5s,mb4.4,baz=87,slow=10.0,SNR=9.4
ZRNK Zerenda 27.41 18 *e*P **P 07 34 34.4 +1.1**
comp=Z,3.0nm,0.8s,mb3.9
ZRNK Zerenda 27.41 18 *e*P **P 07 34 34.4 +1.1**
comp=Z,2.7nm,0.8s,mb3.8
ZRNK Zerenda 27.41 18 *e*P **P 07 34 34.4 +1.1**
ZRNK pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
VOSK Vostochnaya 27.79 21 P **P 07 34 37.0 +0.3**
comp=Z,5.0nm,1.0s,mb4.1
VOSK Vostochnaya 27.79 21 P **P 07 34 37.0 +0.3**
VOSK pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
BRVK Borovoye 27.87 19 *e*P **P 07 34 39.8 +2.4**
comp=Z,2.5nm,0.6s,mb4.0
BRVK Borovoye 27.87 19 *e*P **P 07 34 39.8 +2.4**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BVA0 Borovoye Array 27.87 20 P **P 07 34 36.8 -0.6**
comp=Z,1.0nm,0.7s,mb3.5
BVA0 Borovoye Array 27.87 20 P **P 07 34 36.8 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
BVAR Borovoye Array 27.87 20 P **P 07 34 36.7 -0.8**
comp=Z,6.0nm,0.8s,mb4.3,baz=196,slow=9.3,SNR=10
CHKZ Chkalovo 28.51 19 *e*P **P 07 34 43.9 +0.8**
comp=Z,1.0nm,0.4s,mb3.9
CHKZ Chkalovo 28.51 19 *e*P **P 07 34 43.9 +0.8**
comp=Z,0.9nm,0.4s,mb3.9
CHKZ Chkalovo 28.51 19 *e*P **P 07 34 43.9 +0.8**
CHKZ pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
MKAR Makanchi Array 28.62 40 P **P 07 34 43.2 -0.9**
comp=Z,1.0nm,0.5s,mb3.9,baz=230,slow=8.8,SNR=18
KURK Kurchatov 29.17 31 *e*P **P 07 34 48.9 -0.1**
comp=Z,1.0nm,0.5s,mb3.8
KURK Kurchatov 29.17 31 *e*P **P 07 34 48.9 -0.1**
KURK pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
MLR Muntele Rosu 29.52 315 LR LR 07 47 32.7
comp=Z,94nm,21.2s,MS3.4,baz=178,slow=38
AKASG Malin Array Be 30.57 327 P **P 07 34 59.8 -1.6**
comp=Z,2.2nm,0.5s,mb4.2,baz=135,slow=8.4,SNR=13
OBN Obninsk 30.85 339 P **P 07 35 06.0 +2.2**
comp=Z,18nm,1.3s,mb4.7
OBN Obninsk 30.85 339 P **P 07 35 06.0 +2.2**
OBN pmax pmax
comp=Z,18nm,1.3s,mb4.7
KMBO Kilima Mbogo 33.35 215 P **P 07 35 25.0 -0.8**
comp=Z,1.3nm,0.5s,mb4.1,baz=48,slow=11,SNR=4.7
KMBO Kilima Mbogo 33.35 215 *e*P **P 07 35 27.1 +1.3**
comp=Z,3.2nm,1.1s,mb4.2
KMBO Kilima Mbogo 33.35 215 *e*P **P 07 35 27.1 +1.3**
KMBO pmax pmax
comp=Z,3.0nm,1.1s
ZAL Zalesovo 34.15 31 P **P 07 35 31.5 -1.2**
comp=Z,4.3nm,0.5s,mb4.6,baz=222,slow=11,SNR=9.2
ZAL LR LR 07 52 28.8
comp=Z,113nm,20.7s,MS3.6,baz=99,slow=42
MORC Moravsky Berou 36.49 318 *e*P **P 07 35 46.8 -6.1**
comp=Z,3.9nm,0.5s,mb4.6
MORC Moravsky Berou 36.49 318 *e*P **P 07 35 46.8 -6.1**
MORC pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
GERES GERESS Array B 38.51 315 P **P 07 36 09.3 -0.7**
comp=Z,1.0nm,0.5s,mb3.9,baz=107,slow=8.6,SNR=10.0
GTA Gaotai 38.58 60 *e*P **P 07 36 16.8 +6.2**
GTA AP pP 07 36 22.8 +9.1
GTA XP sP 07 36 25.5 +11
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.2
KHC Kasperske Hory 38.67 315 *e*P **P 07 36 10.8 -0.6**
JOF Joensuu 38.83 343 *e*p **P 07 36 10.7 -2.0**
comp=Z,1.7nm,0.7s,mb3.9
BRG Berggiesshubel 39.04 318 *e*P **P 07 36 13.6 -0.9**
comp=Z,2.6nm,0.5s,mb4.2
BRG Berggiesshubel 39.04 318 *e*P **P 07 36 13.6 -0.9**
BRG pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
FINES FINESS Array B 39.25 338 P **P 07 36 14.1 -2.1**
comp=Z,2.1nm,0.6s,mb4.1,baz=131,slow=11,SNR=8.9
FINES LR LR 07 56 17.8
comp=Z,39nm,21.5s,MS3.2,baz=35,slow=42
WTTA Wattenberg 39.39 312 ⇑*i*P **P 07 36 16.8 -0.6**
comp=Z,6.9nm,0.4s,mb4.7
KAF Kangasniemi 39.66 339 *e*p **P 07 36 14.2 -5.5**
comp=Z,0.9nm,0.6s,mb3.7
KAF Kangasniemi 39.66 339 *e*P **P 07 36 14.2 -5.5**
KAF pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
SQTA Sankt Quirin 39.66 312 ⇓*i*P **P 07 36 18.8 -0.8**
comp=Z,10nm,0.4s,mb4.9
GRA1 Grafenberg Arr 40.31 316 *e*P **P 07 36 25.8 +0.8**
comp=Z,6.0nm,1.2s,mb4.2
GRF Grafenberg Arr 40.31 316 *e*P **P 07 36 25.8 +0.8**
comp=Z,6.0nm,1.2s,mb4.2
GRF Grafenberg Arr 40.31 316 *e*P **P 07 36 25.8 +0.8**
GRF pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
GRF Grafenberg Arr 40.31 316 *e*P **P 07 36 25.8 +0.8**
GRF pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
PGF Pioggiola 40.38 304 *e*P **P 07 36 24.8 -0.8**
comp=Z,18nm,0.9s,mb4.5
PGF Pioggiola 40.38 304 *e*P **P 07 36 24.8 -0.8**
comp=Z,8.8nm,0.9s,mb4.5
PGF Pioggiola 40.38 304 *e*P **P 07 36 24.8 -0.8**
PGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
DAVA Damuels 40.56 312 ⇑*i*P **P 07 36 26.3 -0.8**
comp=Z,19nm,0.5s,mb5.0
SBF Sospel 41.67 306 *e*P **P 07 36 35.5 -0.7**
comp=Z,22nm,0.7s,mb4.6
SBF Sospel 41.67 306 *e*P **P 07 36 35.5 -0.7**
comp=Z,11nm,0.7s,mb4.6
SBF Sospel 41.67 306 *e*P **P 07 36 35.5 -0.7**
SBF pmax pmax
comp=Z,11nm,0.7s,mb4.6
MBDF Montbardon 42.25 307 *e*P **P 07 36 39.8 -1.2**
comp=Z,8.4nm,0.5s,mb4.3
MBDF Montbardon 42.25 307 *e*P **P 07 36 39.8 -1.2**
comp=Z,4.2nm,0.5s,mb4.3
MBDF Montbardon 42.25 307 *e*P **P 07 36 39.8 -1.2**
MBDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
LPG La Plagne 42.37 308 *e*P **P 07 36 42.2 +0.3**
comp=Z,19nm,1.0s,mb4.4
LPG La Plagne 42.37 308 *e*P **P 07 36 42.2 +0.3**
LPG pmax pmax
comp=Z,9.4nm,1.0s,mb4.4
LPG La Plagne 42.37 308 *e*P **P 07 36 42.2 +0.3**
LPG pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
LPL La Plagne 42.38 308 *e*P **P 07 36 42.1 +0.1**
CDF Champ du Feu 42.51 313 *e*P **P 07 36 41.2 -1.9**
HINF Hinteralfeld 42.67 312 *e*P **P 07 36 43.1 -1.3**
CABF La Chapelle 42.99 310 *e*P **P 07 36 46.1 -0.9**
SMRF Simiane la Rot 43.02 306 *e*P **P 07 36 46.6 -0.6**
HAU Haudompre 43.04 312 *e*P **P 07 36 46.8 -0.6**
VIVF Saint-Julien-l 43.75 307 *e*P **P 07 36 51.6 -1.5**
LASF Ste Croix 44.26 306 *e*P **P 07 36 56.2 -1.0**
SONM Songino Array 44.30 49 P **P 07 36 56.8 -0.7**
comp=Z,0.3nm,0.5s,mb3.3,baz=261,slow=9.4,SNR=3.4
SONM LR LR 07 57 00.3
comp=Z,76nm,19.2s,MS3.6,baz=216,slow=38
SMF Signal de Mont 44.52 310 *e*P **P 07 36 58.1 -1.2**
comp=Z,23nm,0.9s,mb4.7
SMF Signal de Mont 44.52 310 *e*P **P 07 36 58.1 -1.2**
comp=Z,11nm,0.9s,mb4.7
SMF Signal de Mont 44.52 310 *e*P **P 07 36 58.1 -1.2**
SMF pmax pmax
comp=Z,11nm,0.9s,mb4.7
LOR Lormes 44.59 311 *e*P **P 07 36 58.5 -1.4**
NB2 NORSAR Subarra 44.71 331 P **P 07 36 59.0 -1.8**
comp=Z,2.1nm,0.7s,mb4.1,baz=116,slow=7.9
NB2 NORSAR Subarra 44.71 331 P **P 07 36 59.0 -1.8**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
NOA NORSAR Array B 44.71 331 P **P 07 36 58.9 -1.9**
comp=Z,1.0nm,0.6s,mb3.8,baz=116,slow=7.9,SNR=4.9
NOA LR LR 07 56 45.9
comp=Z,30nm,20.6s,MS3.2,baz=120,slow=38
SSF Saint Saulge 44.80 310 *e*P **P 07 37 00.5 -1.1**
comp=Z,32nm,1.1s,mb4.8
SSF Saint Saulge 44.80 310 *e*P **P 07 37 00.5 -1.1**
comp=Z,16nm,1.1s,mb4.8
SSF Saint Saulge 44.80 310 *e*P **P 07 37 00.5 -1.1**
SSF pmax pmax
comp=Z,16nm,1.1s,mb4.8
BAIF Baives 44.80 315 *e*P **P 07 37 01.7 +0.1**
AVF Avril sur Loir 44.88 310 *e*P **P 07 37 01.3 -0.8**
BGF Bois d'Agland 45.20 309 *e*P **P 07 37 03.4 -1.3**
MTLF Montolieu 45.41 305 *e*P **P 07 37 06.0 -0.3**
comp=Z,4.2nm,0.6s,mb4.1
MTLF Montolieu 45.41 305 *e*P **P 07 37 06.0 -0.3**
comp=Z,2.1nm,0.6s,mb4.1
MTLF Montolieu 45.41 305 *e*P **P 07 37 06.0 -0.3**
MTLF pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
ARCES ARCESS Array B 45.56 346 P **P 07 37 06.0 -1.6**
comp=Z,4.5nm,1.0s,mb4.3,baz=148,slow=7.1,SNR=6.5
CAF Calviac 45.60 307 *e*P **P 07 37 07.3 -0.6**
comp=Z,3.8nm,0.5s,mb4.3
CAF Calviac 45.60 307 *e*P **P 07 37 07.3 -0.6**
comp=Z,1.9nm,0.5s,mb4.3
CAF Calviac 45.60 307 *e*P **P 07 37 07.3 -0.6**
CAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
TCF Toulx Ste Croi 45.61 309 *e*P **P 07 37 07.1 -0.8**
comp=Z,7.6nm,0.6s,mb4.5
TCF Toulx Ste Croi 45.61 309 *e*P **P 07 37 07.1 -0.8**
comp=Z,3.8nm,0.6s,mb4.5
TCF Toulx Ste Croi 45.61 309 *e*P **P 07 37 07.1 -0.8**
TCF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
RJF Les Rejaudoux 46.01 308 *e*P **P 07 37 10.6 -0.6**
comp=Z,6.9nm,0.5s,mb4.5
RJF Les Rejaudoux 46.01 308 *e*P **P 07 37 10.6 -0.6**
comp=Z,3.5nm,0.5s,mb4.5
RJF Les Rejaudoux 46.01 308 *e*P **P 07 37 10.6 -0.6**
RJF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
OPO Ambohidratompo 46.44 191 P **P 07 37 11.2 -3.2**
comp=Z,2.4nm,1.0s,mb4.1,baz=342,slow=6.4,SNR=2.7
LFF La Frestale 46.54 307 *e*P **P 07 37 14.8 -0.5**
comp=Z,20nm,0.6s,mb4.9
LFF La Frestale 46.54 307 *e*P **P 07 37 14.8 -0.5**
comp=Z,9.9nm,0.6s,mb4.9
LFF La Frestale 46.54 307 *e*P **P 07 37 14.8 -0.5**
LFF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MFF Saint Martin d 47.26 309 *e*P **P 07 37 19.3 -1.6**
LDF La Druitiere 47.40 312 *e*P **P 07 37 20.4 -1.6**
comp=Z,9.5nm,0.5s,mb4.7
LDF La Druitiere 47.40 312 *e*P **P 07 37 20.4 -1.6**
comp=Z,4.8nm,0.5s,mb4.7
LDF La Druitiere 47.40 312 *e*P **P 07 37 20.4 -1.6**
LDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
ETSF Etsaut 47.43 304 *e*P **P 07 37 22.1 -0.1**
SJPF Ste Jean 47.92 305 *e*P **P 07 37 25.9 -0.1**
comp=Z,8.3nm,0.5s,mb4.8
SJPF Ste Jean 47.92 305 *e*P **P 07 37 25.9 -0.1**
comp=Z,4.2nm,0.5s,mb4.8
SJPF Ste Jean 47.92 305 *e*P **P 07 37 25.9 -0.1**
SJPF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ESDC Sonseca Array 50.13 300 P **P 07 37 42.5 -0.5**
comp=Z,0.9nm,0.4s,mb4.1,baz=74,slow=7.6,SNR=5.0
BOD Bodaibo 50.57 36 *e*P **P 07 37 44.8 -1.5**
comp=Z,7.0nm,0.9s,mb4.6
BOD Bodaibo 50.57 36 *e*P **P 07 37 44.8 -1.5**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
TORD Torodi Ar. Bea 51.98 265 P **P 07 37 56.7 -0.2**
comp=Z,1nm,0.5s,mb5.1,baz=63,slow=7.2,SNR=195
TSUM Tsumeb 59.10 222 *e*P **P 07 38 48.7 +0.5**
comp=Z,3.5nm,0.7s,mb4.5
DBIC Dimbokro 60.61 262 P **P 07 38 57.6 -0.9**
comp=Z,1.9nm,0.4s,mb4.6,baz=29,slow=5.2,SNR=7.9
LIC Lamto 60.97 262 *e*P **P 07 39 00.8 -0.1**
comp=Z,8.6nm,0.6s,mb4.7
LIC Lamto 60.97 262 *e*P **P 07 39 00.8 -0.1**
comp=Z,4.3nm,0.6s,mb4.7
BOSA Boshof 62.80 210 P **P 07 39 11.2 -2.0**
comp=Z,1.0nm,0.6s,mb4.1,baz=30,slow=7.5,SNR=2.3
BOSA LR LR 08 10 25.6
comp=Z,56nm,19.0s,MS3.8,baz=35,slow=40
SCHQ Schefferville 84.28 331 P **P 07 41 16.8 -2.8**
comp=Z,1.5nm,0.8s,mb4.2,baz=45,slow=1.4,SNR=3.5
ILAR Eielson Array 86.45 9 P **P 07 41 28.6 -1.8**
comp=Z,0.3nm,0.5s,mb3.7,baz=330,slow=5.2,SNR=3.2
ILAR LR LR 08 25 44.7
comp=Z,45nm,20.2s,MS3.9,baz=181,slow=40
WRA Warramunga Arr 89.71 113 P **P 07 41 45.3 -0.6**
comp=Z,0.6nm,0.6s,mb4.1,baz=317,slow=4.0,SNR=13
YKA Yellowknife Ar 90.01 355 P **P 07 41 46.4 -0.9**
comp=Z,0.4nm,0.8s,mb3.8,baz=6.8,slow=5.3,SNR=10
YKA LR LR 08 26 12.1
comp=Z,42nm,19.9s,MS3.9,baz=205,slow=38
ASAR Alice Springs 91.18 116 P **P 07 41 52.0 -0.8**
comp=Z,0.5nm,0.6s,mb4.0,baz=305,slow=4.9,SNR=9.4

IDC 30 07:58:15.5±1.9, 221S×13605E, h0km, mb3.3/2, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=61.2km s-min=30.3km az=98.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**13.16**	**123**	Pn	Pn	08 01 24.1	+0.5
	1.6nm,0.3s,baz=331,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**17.70**	**185**	P	Pn	08 02 23.1	-0.3
	0.1nm,0.3s,baz=7.4,slow=13,SNR=9.0						
				S	Sn	08 05 23.1	-18
	0.1nm,0.3s,baz=5.0,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**21.43**	**185**	P	P	08 03 05.4	+0.3
	0.4nm,0.5s,baz=19,slow=12,SNR=6.5						
ILAR	**Eielson Array**	**86.49**	**25**	P	P	08 11 00.1	-0.1
	0.3nm,0.6s,baz=270,slow=4.7,SNR=7.3						

NIED ***30*** *08:21:00, 3720N×13860E, h5km, Mw3.5 Best double couple: M0 1.69000×10^14 NP1:*ϕ_s*13.00000°,* δ*60.00000°,* λ*70.00000°. NP2:*ϕ_s*229.00000°,* δ*35.00000°,* λ*121.00000°.*
JMA 30 08:21:16.5±0.1, 3722N×13857E, h11km±2km, M3.7, 1C-4D Broadband fault plane solution: P waves. NP1: ϕ_s18.00000°, δ46.00000°, λ47.00000°. **NP2:** ϕ_s251.00000°, δ58.00000°, λ125.00000°. **Principal axes:** T Plg60.0000°, Azm215.0000°; N Plg29.0000°, Azm51.0000°; P Plg7.0000°, Azm317.0000°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.33**	**20**	P	Pg	08 21 23.6	+0.5
JIZZ				S	Sg	08 21 29.8	+2.2
JJN	**Nakama**	**0.34**	**250**	⇓P	Pg	08 21 23.6	+0.2
JJN				S	Sg	08 21 29.4	+1.4
JHK	**Hiroka**	**0.36**	**85**	⇓P	Pg	08 21 23.3	-0.3
JHK				S	Sg	08 21 28.6	+0.2
JGK	**Kuni**	**0.66**	**175**	P	Pg	08 21 29.0	-0.3
JGK				S	Sg	08 21 38.0	+0.1
JKT	**Katashina**	**0.71**	**130**	⇓P	Pg	08 21 29.3	-0.9
MAT	**Matsushiro**	**0.74**	**203**	P	Pg	08 21 29.9	-0.8
MAT				S	Sg	08 21 40.2	-0.2
JNS	**Sasagawa**	**0.84**	**45**	⇑P	Pg	08 21 31.7	-1.1
JNS				S	Sg	08 21 43.5	-0.3
JSD	**Sado**	**0.85**	**343**	⇓P	Pg	08 21 31.8	-1.1
JSD				S	Sg	08 21 43.3	-0.8
JFY	**Yanaizu**	**0.92**	**78**	P	Pg	08 21 33.3	-1.0
JFY				S	Sg	08 21 45.7	-0.6
JSZ	**Suzu**	**0.99**	**284**	P	Pg	08 21 34.4	-1.1
JSZ				S	Sg	08 21 48.1	-0.3

MEX 30 08:53:50.1±0.8, 1946N×10444W, h85km±17km, MD4.2, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.57**	**274**	*i* P	Pn	08 54 03.0	-1.9
CJM				*i* S	Sn	08 54 14.9	-0.9

SFJM	**Santa Fe**	**1.67**	**52**	*i* P	Pn	08 54 16.8	-1.0
SFJM				*i* S	Sn	08 54 37.0	-1.8
MRX	**Morelia**	**3.08**	**85**	*e*P	Pn	08 54 37.0	+0.5
MOIG	**Morelia**	**3.08**	**85**	*i* P	Pn	08 54 36.3	-0.2
MOIG				*i* S	Sn	08 55 10.8	-1.5
PLIG	**Platanillo**	**4.80**	**102**	*i* S	Sn	08 55 52.0	-2.2
MEIG	**Mezcala**	**4.82**	**108**	*i* P	Pn	08 54 59.1	-1.1
MEIG				*i* S	Sn	08 55 55.5	+0.8
PPM	**Popocatepetl**	**5.51**	**93**	*i* P	Pn	08 55 10.6	+1.1
PPM				*i* S	Sn	08 56 13.0	+1.5
UTMO	**Huajuapan**	**6.50**	**103**	*i* S	Sn	08 56 35.5	-0.3

ISK 30 08:57:23.2, 4070N×2933E, h11km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLV	**Yalova**	**0.14**	**167**	*i* PG	Pg	08 57 26.6	+0.1
YLV	**Yalova**	**0.14**	**167**	PG	Pg	08 57 27.1	+0.6
YLV	**Yalova**	**0.14**	**167**	*i* SG	Sg	08 57 29.3	+0.5
YLV	**Yalova**	**0.14**	**167**	SG	Sg	08 57 29.8	+1.0
HRT	**Hereke**	**0.28**	**65**	PG	Pg	08 57 27.8	-1.1
HRT	**Hereke**	**0.28**	**65**	*i* PG	Pg	08 57 29.3	+0.4
IZI	**Iznik**	**0.38**	**164**	PG	Pg	08 57 30.3	-0.4
IZI	**Iznik**	**0.38**	**164**	*i* PG	Pg	08 57 31.1	+0.4
IZI	**Iznik**	**0.38**	**164**	*i* SG	Sg	08 57 36.6	+0.8
IZI	**Iznik**	**0.38**	**164**	SG	Sg	08 57 36.8	+1.0
SILT	**Sile**	**0.51**	**27**	*e*PG	Pg	08 57 34.3	+1.2
ORLT	**Orhaneli**	**0.74**	**207**	*e*PG	Pg	08 57 40.2	+2.8
DST	**Dursunbey**	**1.22**	**206**	*e*PN	Pn	08 57 48.5	+2.3

*ISCJB **30** 09:54:00.5±0.6, 3749N±006×2326E±008, h142km±8km, Error ellipse: s-maj=12.9km s-min=6.3km az=96.4*
*CSEM **30** 09:54:00.1±0.2, 3749N×2329E, h150km, ML4.1, Error ellipse: s-maj=9.1km s-min=3.3km az=46.0*
*ATH **30** 09:54:02.4, 3759N×2333E, h116km±3km*
*HLW **30** 09:54:04.9, 3722N×2385E, h33km, Mb4.1*

ISC 30 09:54:01.4±0.6, 3751N±006×2329E±008, h137km±8km, n26, σ1§08/36, 2C-5D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**0.29**	**32**	*e*P	**Pn**	**09 54 19.5**	**-0.8**
VLI	**Veliai**	**0.84**	**200**	*e*P	**Pn**	**09 54 24.0**	**+0.5**
VLI				*e*S	**Sn**	**09 54 39.1**	**-1.3**
ITM	**Ithomi**	**1.14**	**254**	*e*P	**Pn**	**09 54 27.2**	**+1.0**
ITM				*e*S	**Sn**	**09 54 45.1**	**0.0**
ITM	**Ithomi**	**1.14**	**254**	*e*P	**Pn**	**09 54 27.6**	**+1.4**
ITM				*e*S	**Sn**	**09 54 46.0**	**+0.9**
LKR	**Lokris**	**1.16**	**349**	⇓*i*P	**Pn**	**09 54 25.7**	**-0.8**
LKR				*e*S	**Sn**	**09 54 42.0**	**-3.6**
LKR	**Lokris**	**1.16**	**349**	*e*P	**Pn**	**09 54 25.7**	**-0.8**
RLS	**Riolos of Patr**	**1.55**	**291**	*e*P	**Pn**	**09 54 32.0**	**+1.5**
RLS				*e*S	**Sn**	**09 54 52.1**	**-0.6**
RLS	**Riolos of Patr**	**1.55**	**291**	*e*P	**Pn**	**09 54 32.3**	**+1.8**
EVR	**Evrytania**	**1.83**	**321**	*e*P	**Pn**	**09 54 34.4**	**+0.7**
EVR				*e*S	**Sn**	**09 54 57.2**	**-1.2**
APE	**Apeiranthos**	**1.84**	**103**	*e*P	**Pn**	**09 54 35.1**	**+1.3**
VAM	**Vamos**	**2.22**	**160**	*e*P	**Pn**	**09 54 39.8**	**+1.4**
VLS	**Valsamata**	**2.24**	**288**	*e*P	**Pn**	**09 54 39.2**	**+0.6**
VLS				*e*S	**Sn**	**09 55 07.3**	**0.0**
VLS	**Valsamata**	**2.24**	**288**	*e*P	**Pn**	**09 54 39.0**	**+0.4**
JAN	**Janina**	**2.87**	**319**	*e*P	**Pn**	**09 54 47.5**	**+0.9**
NPS	**Neapolis**	**2.92**	**139**	*e*P	**Pn**	**09 54 48.4**	**+1.2**
NPS	**Neapolis**	**2.92**	**139**	*e*P	**Pn**	**09 54 47.6**	**+0.4**
KEK	**Kerkira**	**3.51**	**310**	*e*P	**Pn**	**09 54 56.0**	**+1.1**
KEK	**Kerkira**	**3.51**	**310**	*e*P	**Pn**	**09 54 54.7**	**-0.2**
KARP	**Karpathos**	**3.68**	**121**	*e*P	**Pn**	**09 54 59.3**	**+2.2**
SLUM		**6.21**	**165**	⇓P	**Pn**	**09 55 29.4**	**-1.3**
SLUM				S	**Sn**	**09 56 30.7**	**-10**
CDT	**Castel del Mon**	**6.51**	**305**	*e*Pn	**Pn**	**09 55 33.6**	**-1.1**
HMAT	**Matruh**	**7.13**	**153**	⇑*e*P	**Pn**	**09 55 41.7**	**-1.4**
HMAT				S	**Sn**	**09 56 51.2**	**-11**
SWA2		**8.44**	**167**	⇑P	**Pn**	**09 56 00.4**	**-0.2**
SWA2				S	**Sn**	**09 57 25.5**	**-8.7**
KOT	**Kottamia**	**10.37**	**134**	⇓P	**Pn**	**09 56 25.6**	**-0.9**
GLL	**Jalalah**	**10.57**	**136**	⇓*e*P	**Pn**	**09 56 28.1**	**-1.0**
HFRF	**Wahat Farafira**	**11.16**	**156**	⇓P	**Pn**	**09 56 36.8**	**-0.2**

*NEIC **30** 09:59:06.2, 3128S×6932W, h177km, MD3.9(GUC), After GUC.*

GUC 30 09:59:06.4±0.8, 3127S×6914W, h154km±17km, MD3.8, ML3.7, 3C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.60**	**273**	⇓*i*P	Pn	09 59 38.1	+0.8
CMCH				*i* S	Sn	10 00 02.2	+1.1
CMCH				AMP		10 00 04.1	
	comp=N,950nm,0.5s						
CMCH	**Combarbala**	**1.60**	**273**	⇓*i*P	Pn	09 59 38.1	+0.8
CMCH				*i* S	Sn	10 00 02.2	+1.2
TLL	**Tololo Astrono**	**1.81**	**307**	*e*P	Pn	09 59 41.0	+1.3
TLL				*i* S	Sn	10 00 06.1	+1.0
TLL				AMP		10 00 09.3	
	comp=N,434nm,0.6s						
TLL	**Tololo Astrono**	**1.81**	**307**	*i* P	Pn	09 59 41.0	+1.4
TLL				*i* S	Sn	10 00 06.8	+1.7
JACH	**Jahuel**	**1.87**	**221**	⇑*i*P	Pn	09 59 41.2	+0.9
JACH				*i* S	Sn	10 00 07.4	+1.0
JACH	**Jahuel**	**1.87**	**221**	⇑*i*P	Pn	09 59 41.3	+1.0
JACH				*i* S	Sn	10 00 07.9	+1.6
FCH	**Farellones**	**2.27**	**205**	*e*P	Pn	09 59 46.2	+1.2
FCH				*i* S	Sn	10 00 15.9	+1.3
FCH				AMP		10 00 26.1	
	comp=E,174nm,0.3s						
LSCH	**La Serena**	**2.27**	**306**	*i* P	Pn	09 59 45.1	+0.2
LSCH				*i* S	Sn	10 00 14.7	0.0
LSCH				AMP		10 00 15.5	
	comp=E,200nm,0.4s						
LSCH	**La Serena**	**2.27**	**306**	*i* P	Pn	09 59 45.1	+0.2
LSCH				*i* S	Sn	10 00 14.5	-0.2
PEL	**Peldehue**	**2.28**	**215**	⇓*i*P	Pn	09 59 45.7	+0.6
PEL				*i* S	Sn	10 00 15.4	+0.6
PEL				AMP		10 00 16.8	
	comp=E,355nm,0.2s						
PEL	**Peldehue**	**2.28**	**215**	*i* P	Pn	09 59 45.6	+0.5
PEL				*i* S	Sn	10 00 15.4	+0.6
ROCH	**El Roble**	**2.32**	**223**	⇓*i*P	Pn	09 59 46.5	+1.0
ROCH	**El Roble**	**2.32**	**223**	*i* P	Pn	09 59 46.6	+1.0
ROCH				*i* S	Sn	10 00 17.7	+1.9
CLCH	**Cerro Calan**	**2.43**	**209**	*e*P	Pn	09 59 47.6	+0.8
CLCH				*i* S	Sn	10 00 18.9	+0.9
CLCH				AMP		10 00 21.4	
	comp=E,358nm,0.3s						
PCH	**Pirque**	**2.61**	**206**	*i* P	Pn	09 59 50.1	+1.0
PCH				*i* S	Sn	10 00 23.2	+1.1
PCH	**Pirque**	**2.61**	**206**	*i* P	Pn	09 59 50.4	+1.3
PCH				*i* S	Sn	10 00 23.6	+1.5
ANTU	**Antumapu**	**2.62**	**209**	AMP		10 00 26.6	
	comp=E,219nm,0.2s						
RCDM	**Rinconada Maip**	**2.62**	**212**	*i* P	Pn	09 59 49.7	+0.5
RCDM				*i* S	Sn	10 00 23.2	+0.9
RCDM				AMP		10 00 24.1	
	comp=E,288nm,0.2s						
RCDM	**Rinconada Maip**	**2.62**	**212**	*i* P	Pn	09 59 49.7	+0.5
RCDM				*i* S	Sn	10 00 23.0	+0.7
TACH	**Talagante**	**2.82**	**212**	*i* P	Pn	09 59 51.9	+0.3
TACH				*i* S	Sn	10 00 27.1	+0.4
TACH	**Talagante**	**2.82**	**212**	*i* P	Pn	09 59 51.9	+0.3
TACH				*i* S	Sn	10 00 27.0	+0.4
CHCH	**Chadas Angostu**	**2.94**	**205**	*i* P	Pn	09 59 53.9	+0.6
CHCH				*i* S	Sn	10 00 29.9	+0.4
CHCH	**Chadas Angostu**	**2.94**	**205**	⇑*i*P	Pn	09 59 54.0	+0.8
CHCH				*i* S	Sn	10 00 30.4	+1.0
CACH	**El Canelo**	**3.09**	**203**	⇓*i*P	Pn	09 59 56.4	+1.3
CACH				*i* S	Sn	10 00 33.9	+1.1
CICH	**Cipreses**	**3.23**	**199**	*i* P	Pn	09 59 57.9	+1.2
CICH				*i* S	Sn	10 00 36.8	+1.0

*IDC **30** 10:34:02.3±0.7, 3473N×7366E, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.1/23, mbtmp4.1/16, ML4.1/2, Error ellipse: s-maj=19.6km s-min=16.9km az=40.0*
*ISCJB **30** 10:34:02.3±0.9, 3483N±002×7393E±004, h6km±6km, mb4.0/17, Error ellipse: s-maj=6.4km s-min=3.2km az=128.2*
*NEIC **30** 10:34:03.9±0.3, 3467N×7369E, h10km, mb3.7/5, Error ellipse: s-maj=9.9km s-min=4.2km az=47.0*
*MOS **30** 10:34:03.6±1.2, 3471N×7378E, h23km, mb4.3/4, Error ellipse: s-maj=15.1km s-min=7.6km az=101.9*
*BJI **30** 10:34:09.1, 3504N×7363E, h28km, mb4.4, ML3.7*
*NNC **30** 10:34:11.7±6.2, 3509N×7253E, h0km, mb3.6, mpv4.1, Error ellipse: s-maj=86.2km s-min=49.8km az=100.0*

ISC 30 10:34:04.5±0.9, 3484N±002×7387E±004, h10km±6km, n66, σ1§33/83, mb4.0/17, 3C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**1.10**	**132**	*e*P	**Pg**	**10 34 30.0**	**+4.4**
SRNI				*ex*	x	10 34 46.0	
CHCP	**Chirah Chowk**	**1.28**	**203**	P	**Pn**	**10 34 27.4**	**-1.0**
CEP	**Cherat**	**1.91**	**238**	P	**Pn**	**10 34 36.9**	**-0.2**
JMU	**Jammu**	**2.29**	**158**	*e*S	**Sg**	**10 35 16.0**	**-2.0**
THW	**Thamme Wali**	**2.70**	**221**	⇑P	**Pn**	**10 34 49.1**	**+1.1**
DLH	**Dalhousie**	**2.89**	**142**	*e*P	**Pg**	**10 34 58.0**	**-1.8**
DLH				*e*S	**Sg**	**10 35 36.0**	**-1.2**
SARP	**Sargodha**	**3.08**	**199**	P	**Pn**	**10 34 54.2**	**+1.0**
SARP				S	**Sn**	**10 35 33.0**	**+3.0**
PONG	**Pong**	**3.37**	**148**	*e*P	**Pn**	**10 35 00.0**	**+2.9**
PONG				*e*S	**Sn**	**10 35 41.0**	**+3.9**
SBDP	**Sheikh Budin**	**3.60**	**226**	P	**Pn**	**10 35 01.1**	**+0.8**
BHK	**Bhakra**	**4.03**	**147**	*ex*	x	10 35 34.0	
BHK				*ex*	x	10 36 27.7	
SDNR	**Sundarnagar**	**4.23**	**141**	*e*P	**Pn**	**10 35 11.7**	**+2.7**
SDNR				*ex*	**Sn**	**10 36 00.5**	**+2.1**
SMLA	**Simla**	**4.63**	**142**	*e*P	**Pn**	**10 35 14.9**	**+0.5**
SMLA				*ex*	**Sn**	**10 36 08.5**	**+0.3**
KLP	**Kalpa**	**4.94**	**131**	*e*P	**Pn**	**10 35 21.7**	**+3.0**
KLP				*e*S	**Sn**	**10 36 21.4**	**+5.5**
KSH	**Kashi**	**4.96**	**19**	*e*PG	**Pg**	**10 35 35.0**	**-4.5**
KSH				SG	**Sb**	**10 36 30.5**	**-0.6**
KSH				Smax			
	comp=N,51nm,0.6s						
KSH				Smax			
	comp=E,48nm,0.8s						
KKR	**Kurukshetra**	**5.47**	**152**	*e*P	**Pn**	**10 35 27.6**	**+1.6**
KKR				*e*S	**Sn**	**10 36 31.4**	**+2.4**
KKR				AML	AML	10 37 11.8	
	comp=Z,231nm,0.3s						
DDI	**Dehra Dun**	**5.73**	**141**	*e*P	**Pn**	**10 35 32.2**	**+2.6**
DDI				*ex*	**Sb**	**10 36 52.2**	**-1.0**
KALG	**Kalgarh**	**6.74**	**141**	AML	AML	10 37 40.5	
	comp=E,124nm,0.6s						
KALG				AML	AML	10 37 41.6	
	comp=Z,100nm,0.7s						
NDI	**New Delhi**	**6.77**	**154**	*e*P	**Pn**	**10 35 45.0**	**+1.1**
NDI				*e*S	**Sn**	**10 37 00.0**	**-1.0**
AYAN	**Aya Nagar**	**6.92**	**155**	*e*P	**Pn**	**10 35 46.2**	**+0.2**
AYAN				*e*S	**Sn**	**10 37 05.3**	**+0.5**
AYAN				AML	AML	10 37 08.9	
	comp=Z,58nm,0.5s						
SONA	**Sohna**	**7.12**	**156**	*e*P	**Pn**	**10 35 48.7**	**0.0**
SONA				*e*S	**Sn**	**10 37 08.4**	**-1.3**
SONA				AML	AML	10 37 18.4	
	comp=N,189nm,0.4s						
SONA				AML	AML	10 37 18.8	
	comp=E,323nm,0.2s						
PTH	**Pithoragarh**	**7.54**	**133**	*e*P	**Pn**	**10 35 58.0**	**+3.6**
PTH				*e*S	**Sn**	**10 37 21.0**	**+1.1**
LGTI	**Lohaghat**	**7.62**	**133**	*e*P	**Pn**	**10 35 56.5**	**+0.9**
LGTI				*e*S	**Sn**	**10 37 21.2**	**-0.9**
JASL	**Jaisalmer**	**8.29**	**199**	*e*P	**Pn**	**10 35 59.7**	**-5.1**
JASL				AML	AML	10 38 32.6	
AJM	**Ajmer**	**8.36**	**175**	*i* P	**Pn**	**10 36 05.0**	**-0.7**
AJM				*i* S	**Sn**	**10 37 38.0**	**-2.2**
KK31	**Karatay Array**	**8.65**	**343**	P	**Pn**	**10 36 11.4**	**+1.7**
	comp=E,3.2nm,0.3s,baz=166,slow=12,SNR=88						
KK31				⇓S	**Sn**	**10 37 45.4**	**-1.9**
	comp=E,4.4nm,0.5s,baz=170,slow=24,SNR=8.4						
KOLN	**Koldanda**	**10.90**	**128**	*e*P	**Pn**	**10 36 40.7**	**+0.1**
	comp=E,25nm,0.3s						
KOLN				*e*S	**Sn**	**10 38 40.3**	**-2.3**
GKN	**Gorkha**	**11.45**	**124**	*e*P	**Pn**	**10 36 48.4**	**+0.4**
	comp=E,32nm,0.3s						
GKN				*e*S	**Sn**	**10 38 53.8**	**-2.1**
DMN	**Daman**	**12.02**	**124**	*e*P	**Pn**	**10 36 55.8**	**0.0**
	comp=E,43nm,0.5s						
KKN	**Kakani**	**12.02**	**123**	*e*P	**Pn**	**10 36 55.7**	**-0.1**
	comp=E,28nm,0.4s						
KKN				*e*S	**Sn**	**10 39 07.0**	**-3.0**
PKI	**Pulchoki**	**12.25**	**123**	*e*P	**Pn**	**10 36 58.6**	**-0.3**
	comp=E,20nm,0.4s						
GUN	**Gumba**	**12.37**	**121**	*e*P	**Pn**	**10 37 00.9**	**+0.3**
	comp=E,27nm,0.3s						
JIRN	**Jiri**	**12.74**	**121**	*e*P	**Pn**	**10 37 05.8**	**+0.2**
	comp=E,95nm,0.4s						
KURK	**Kurchatov**	**16.24**	**11**	*e*P	**Pn**	**10 37 55.4**	**+2.8**
	comp=E,6.9nm,1.0s						
KURK	**Kurchatov**	**16.24**	**11**	*e*P	**Pn**	**10 37 55.4**	**+2.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AB31	**Akbulak array**	**17.69**	**329**	⇑P	**Pn**	**10 38 10.7**	**-0.2**
	comp=Z,1.1nm,0.5s						
BVAR	**Borovoye Array**	**18.34**	**353**	P	**Pn**	**10 38 20.3**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=154,slow=9.1,SNR=10						
BRVK	**Borovoye**	**18.39**	**353**	*e*P	**Pn**	**10 38 21.5**	**+2.0**
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**18.39**	**353**	*e*P	**Pn**	**10 38 21.5**	**+2.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZRNK	**Zerenda**	**18.43**	**351**	*e*P	**Pn**	**10 38 21.5**	**+1.5**
	comp=Z,3.4nm,0.6s						
ZRNK	**Zerenda**	**18.43**	**351**	*e*P	**Pn**	**10 38 21.5**	**+1.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHKZ	**Chkalovo**	**18.97**	**354**	*e*P	**Pn**	**10 38 26.9**	**+0.4**
	comp=Z,1.7nm,0.6s						
CHKZ	**Chkalovo**	**18.97**	**354**	*e*P	**Pn**	**10 38 27.0**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTK	**Aktyubinsk**	**19.40**	**328**	P	**Pn**	**10 38 30.6**	**-1.1**
AKTO	**Aktyubinsk**	**19.40**	**328**	⇑P	**Pn**	**10 38 29.9**	**-1.8**
	comp=Z,0.2nm,0.8s						
AKTO	**Aktyubinsk**	**19.40**	**328**	P	**Pn**	**10 38 30.6**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=129,slow=12,SNR=13						
AKTO	**Aktyubinsk**	**19.40**	**328**	P	**Pn**	**10 38 30.6**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**20.58**	**19**	P	**P**	**10 38 43.4**	**-0.1**
	comp=Z,4.9nm,0.5s,baz=254,slow=7.8,SNR=15						
NVS	**Novosibirsk**	**21.03**	**15**	*e*P	**P**	**10 38 49.2**	**+0.8**
NVS				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.1						
NVS				pmax	pmax		
	comp=N,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
ZAK	**Zakamensk**	**26.41**	**45**	*e*P	**P**	**10 39 39.3**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb3.8						
SONM	**Songino Array**	**27.44**	**52**	P	**P**	**10 39 52.3**	**+1.9**
	comp=Z,0.8nm,0.6s,mb3.4,baz=249,slow=8.3,SNR=8.5						
BRTR	**Keskin Array B**	**32.18**	**291**	P	**P**	**10 40 32.2**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.6,baz=38,slow=14,SNR=4.1						
AKASG	**Malin Array Be**	**35.80**	**310**	P	**P**	**10 41 02.7**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=82,slow=7.2,SNR=4.7						
JOF	**Joensuu**	**38.47**	**330**	*ep*	**P**	**10 41 27.0**	**+0.5**
	comp=Z,1.5nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**40.15**	**327**	P	**P**	**10 41 39.1**	**-1.5**
	comp=Z,1.2nm,0.5s,mb3.9,baz=112,slow=8.8,SNR=12						
ARCES	**ARCESS Array B**	**43.56**	**338**	P	**P**	**10 42 08.2**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.1,baz=112,slow=8.1,SNR=15						
TIXI	**Tiksi**	**46.46**	**21**	*e*P	**P**	**10 42 30.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
NB2	**NORSAR Subarra**	**47.10**	**324**	P	**P**	**10 42 35.0**	**-1.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=99,slow=7.9						
NB2	**NORSAR Subarra**	**47.10**	**324**	P	**P**	**10 42 35.0**	**-1.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**47.10**	**324**	P	**P**	**10 42 35.0**	**-1.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=97,slow=7.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**68.05**	**271**	P	**P**	**10 45 02.3**	**-1.9**
	comp=Z,2.8nm,0.7s,mb4.4,baz=40,slow=5.7,SNR=15						
ILAR	**Eielson Array**	**75.71**	**17**	P	**P**	**10 45 49.5**	**-0.7**
	comp=Z,0.9nm,0.8s,mb3.8,baz=310,slow=4.8,SNR=15						
DBIC	**Dimbokro**	**76.97**	**269**	P	**P**	**10 45 56.5**	**-0.8**
	comp=Z,2.6nm,0.8s,mb4.2,baz=40,slow=6.1,SNR=5.5						
BOSA	**Boshof**	**78.04**	**222**	P	**P**	**10 46 01.8**	**-1.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=45,slow=7.1,SNR=4.6						
WRA	**Warramunga Arr**	**79.13**	**124**	P	**P**	**10 46 09.7**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=324,slow=5.3,SNR=15						
ASAR	**Alice Springs**	**81.39**	**127**	P	**P**	**10 46 21.9**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=311,slow=5.0,SNR=20						
YKA	**Yellowknife Ar**	**82.76**	**4**	P	**P**	**10 46 28.4**	**-0.3**
	comp=Z,1.3nm,0.8s,mb4.0,baz=347,slow=5.3,SNR=18						

GUC 30 10:38:21.3±0.5, 3471S×7243W, h15km±23km, MD3.8, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.03**	**107**	⇓*i*P	Pb	10 38 39.7	-1.2
NICH				*i* S	Sb	10 38 53.1	-1.0
LNV	**Longovilo**	**1.13**	**49**	⇓*i*P	Pb	10 38 40.9	-1.6
LNV				*i* S	Sb	10 38 55.8	-1.2
CACH	**El Canelo**	**1.62**	**69**	⇑*i*P	Pn	10 38 49.3	0.0
CACH				*i* S	Sn	10 39 11.2	+1.3
CHCH	**Chadas Angostu**	**1.66**	**63**	⇑*i*P	Pn	10 38 49.7	-0.2
CHCH				*e*S	Sn	10 39 12.1	+1.2
CICH	**Cipreses**	**1.70**	**78**	⇓*i*P	Pn	10 38 50.6	+0.2

*NIED **30** 10:44:00, 4030N×14490E, h8km, Mw3.8 Best double couple: M0:4.75000×10^14 NP1:φ0±39.00000°, δ47.00000°, λ-99.00000°. NP2:φ0±232.00000°, δ43.00000°, λ-80.00000°.*
*MOS **30** 10:44:36.3±2.3, 4021N×14525E, h28km, mb4.1/2, Error ellipse: s-maj=31.6km s-min=15.2km az=83.3*
*ISCJB **30** 10:44:38.7±0.6, 4025N±003×14496E±005, h33km, mb3.5/5, Error ellipse: s-maj=5.9km s-min=3.7km az=57.7*
*JMA **30** 10:44:39.9±0.3, 4025N×14488E, h49km, M4.0*
*IDC **30** 10:44:40.4±7.8, 4018N×14499E, h32km±60km, mb3.4/5, mb1 3.6/7, mb1mx3.3/22, mbtmp3.5/7, ML3.2/1, Error ellipse: s-maj=33.1km s-min=23.2km az=106.0*

ISC 30 10:44:40.3±0.6, 4026N±003×14496E±005, h35km, n29, σ1§02/46, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.22**	**323**	P	**Pn**	**10 45 15.6**	**+1.0**
JEM				*e*S	**Sn**	**10 45 41.1**	**+0.2**
JTH	**Tanohata**	**2.40**	**263**	P	**Pn**	**10 45 17.1**	**+0.1**
JTH				*e*S	**Sn**	**10 45 43.9**	**-1.2**
MIYJ	**Miyakonagasawa**	**2.51**	**255**	P	**Pn**	**10 45 18.7**	**+0.2**
MIYJ				S	**Sn**	**10 45 47.0**	**-0.9**
JNBK	**Urakawa-nobuka**	**2.62**	**321**	P	**Pn**	**10 45 21.1**	**+1.0**
JNBK				*e*S	**Sn**	**10 45 52.3**	**+1.7**
JANG	**Nango**	**2.64**	**274**	P	**Pn**	**10 45 20.4**	**+0.1**
JANG				S	**Sn**	**10 45 49.7**	**-1.4**
JCH	**Churui**	**2.65**	**334**	P	**Pn**	**10 45 20.7**	**+0.3**
JCH				S	**Sn**	**10 45 50.8**	**-0.5**
JAK	**Akkeshi**	**2.75**	**356**	P	**Pn**	**10 45 21.4**	**-0.4**
JAK				*e*S	**Sn**	**10 45 52.5**	**-1.3**
JOM	**Ohasama**	**2.93**	**256**	P	**Pn**	**10 45 25.0**	**+0.7**
JOM				S	**Sn**	**10 45 58.2**	**-0.1**
NEM2	**Nemuro 2**	**3.16**	**10**	P	**Pn**	**10 45 26.1**	**-1.4**
NEM2				S	**Sn**	**10 46 01.0**	**-3.0**
JAR	**Ashorobuto**	**3.17**	**344**	P	**Pn**	**10 45 27.4**	**-0.2**
JAR				*e*S	**Sn**	**10 46 03.5**	**-0.7**
JMK	**Ichinoseki**	**3.17**	**247**	P	**Pn**	**10 45 27.9**	**+0.3**
JMK				S	**Sn**	**10 46 02.8**	**-1.4**
JOT	**Ohata**	**3.17**	**292**	P	**Pn**	**10 45 29.0**	**+1.3**
JOT				S	**Sn**	**10 46 04.2**	**-0.1**
JKB	**Kayabe**	**3.39**	**300**	*e*S	**Sn**	**10 46 09.2**	**-0.4**
JFR	**Furan**	**3.40**	**329**	P	**Pn**	**10 45 31.6**	**+0.7**
JFR				*e*S	**Sn**	**10 46 09.1**	**-0.9**
JTKR	**Abashiri--Toko**	**3.79**	**348**	P	**Pn**	**10 45 36.7**	**+0.5**
JTKR				*e*S	**Sn**	**10 46 20.1**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**3.84**	**10**	*e*P	**Pn**	**10 45 36.1**	**-0.7**
YUK				*e*S	**Sn**	**10 46 17.8**	**-2.9**
YUK				pmax	pmax		
	comp=Z,170nm,0.3s						
YUK				smax			
	comp=E,580nm,0.5s						
YUK				smax			
	comp=N,260nm,0.4s						
YUK				smax			
	comp=N,2μm,0.6s						
JHR	**Hokuryu**	**4.24**	**326**	*e*S	**Sn**	**10 46 32.6**	**+2.0**
ASAJ	**Asahikawa**	**4.24**	**336**	Pn	**Pn**	**10 45 42.6**	**+0.3**
	comp=N,3.3nm,0.3s,baz=285,slow=32,SNR=21						
ASAJ				Sn	**Sn**	**10 46 31.9**	**+1.4**

KU4 MSN 10 50 12.1
comp=Z,0.8nm,0.2s
KU4 Liikasenvaara 9.01 250 P **Pn 10 48 14.0 +0.3**
KU4 S **Sn 10 49 53.8 -2.1**
comp=Z,0.8nm,0.2s
SGF Sodankyl 9.34 260 *e*S **Sn 10 50 02.2 -1.8**
SGF MSN 10 50 06.6
comp=Z,0.6nm,0.2s
SGF Sodankyl 9.34 260 S **Sn 10 50 02.2 -1.8**
comp=Z,0.6nm,0.2s
KIF Kilpisjarvi 10.48 274 *e*P **Pn 10 48 34.6 +0.7**
KIF *e*S **Sn 10 50 31.0 -0.9**
KIF MSN 10 50 36.8
comp=Z,0.3nm,0.2s
KIF Kilpisjarvi 10.48 274 P **Pn 10 48 34.5 +0.6**
JOF Joensuu 11.06 234 *e*S **Sn 10 50 38.4 -7.8**
JOF MSN 10 50 40.2
comp=Z,0.7nm,0.3s
KJN Kajaani 11.16 244 *e*S **Sn 10 50 41.8 -6.9**
KJN MSN 10 50 51.3
comp=Z,0.7nm,0.2s
SPA0 Spitsbergen Ar 11.54 324 Pn **Pn 10 48 48.2 -0.3**
baz=118,slow=18
SPA0 Sn **Sn 10 50 50.9 -7.1**
baz=118,slow=14
KBS Kingsbay 12.62 326 Pn **Pn 10 49 02.1 -1.2**
KBS Sn **Sn 10 51 19.2 -5.3**
SUF Sumiainen 12.66 242 *e*S **Sn 10 51 17.6 -7.8**
FIA0 FINESS Array S 13.70 239 Pn **Pn 10 49 14.7 -3.2**
baz=84,slow=14

IDC 30 10:59:30.7±3.5, 1100S×1357W, h0km, mb4.2/7, mb1 4.2/8, mb1mx3.9/21, mbtmp4.2/8, ML3.8/1, MS3.6/9, Ms1 3.6/9, ms1mx3.5/16, Error ellipse: s-maj=161.2km s-min=18.2km az=145.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**19.58**	**27**	P	Pn	11 04 01.6	+0.2
DBIC	0.3nm,0.3s,baz=184,slow=13,SNR=7.2			LR	LR	11 09 43.6	
TORD	comp=Z,78nm,21.0s,baz=343,slow=31 **Torodi Ar. Bea**	**28.37**	**33**	P	P	11 05 26.7	+0.2
BDFB	4.1nm,0.6s,baz=212,slow=9.6,SNR=23 **Brasilia**	**33.81**	**258**	P	P	11 06 15.1	+0.7
BDFB	3.3nm,0.8s,baz=110,slow=7.1,SNR=5.3			LR	LR	11 17 06.5	
BOSA	comp=Z,71nm,20.5s,baz=111,slow=31 **Boshof**	**40.29**	**122**	LR	LR	11 20 34.1	
SIV	comp=Z,134nm,19.4s,baz=256,slow=31 **San Ignacio**	**46.38**	**258**	P	P	11 07 59.2	+0.5
KMBO	1.2nm,0.8s,baz=102,slow=10,SNR=5.7 **Kilima Mbogo**	**51.40**	**83**	LR	LR	11 27 43.8	
LPAZ	comp=Z,61nm,18.5s,baz=84,slow=33 **La Paz**	**53.16**	**258**	P	P	11 08 51.6	+1.3
ROSC	1.3nm,0.8s,baz=77,slow=5.4,SNR=5.9 **El Rosal**	**62.48**	**281**	LR	LR	11 36 42.3	
BRTR	comp=Z,103nm,19.1s,baz=0.9,slow=36 **Keskin Array B**	**66.81**	**38**	P	P	11 10 25.4	+1.3
AKASG	2.3nm,0.9s,baz=194,slow=7.6,SNR=9.3 **Malin Array Be**	**71.83**	**27**	P	P	11 10 54.0	-1.1
GNI	2.6nm,0.7s,baz=225,slow=7.1,SNR=14 **Garni**	**74.12**	**43**	LR	LR	11 44 40.6	
NOA	comp=Z,23nm,20.4s,baz=171,slow=37 **NORSAR Array B**	**74.44**	**12**	LR	LR	11 42 05.7	
MAW	comp=Z,29nm,21.9s,baz=285,slow=34 **Mawson**	**74.74**	**157**	LR	LR	11 40 42.7	
FINES	comp=Z,100nm,18.3s,baz=64,slow=33 **FINESS Array B**	**78.63**	**18**	P	P	11 11 34.1	-0.3
FINES	1.8nm,0.7s,baz=204,slow=4.2,SNR=7.0			LR	LR	11 49 23.4	
	comp=Z,40nm,18.2s,baz=173,slow=38						

IDC 30 11:00:27.4±1.0, 2256S×17519W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.1/16, mbtmp4.0/8, ML2.6/1, Error ellipse: s-maj=37.1km s-min=21.0km az=140.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.20**	**21**	Pn	Pn	11 02 40.1	-1.2
AFI	3.6nm,0.3s,baz=119,slow=1.4,SNR=14			Sn	Sn	11 04 17.5	-8.0
RAR	**Rarotonga**	**14.38**	**88**	Pn	Pn	11 03 42.8	-9.4
DZM	2.8nm,0.3s,baz=149,slow=16,SNR=13 **Mont Dzumac**	**17.00**	**268**	Pn	Pn	11 04 33.5	+6.9
CTA	0.2nm,0.3s,baz=66,slow=16,SNR=3.6 **Charters Tower**	**35.94**	**267**	P	P	11 07 30.4	+0.9
ASAR	2.7nm,0.5s,baz=101,slow=13,SNR=7.7 **Alice Springs**	**46.63**	**258**	P	P	11 08 57.3	-0.1
WRA	1.2nm,0.5s,baz=98,slow=6.6,SNR=41 **Warramunga Arr**	**46.93**	**263**	P	P	11 08 59.4	-0.4
VNDA	0.9nm,0.3s,baz=90,slow=5.8,SNR=106 **Vanda**	**56.12**	**186**	P	P	11 10 08.0	-0.5
NVAR	0.9nm,0.9s,baz=357,slow=5.5,SNR=3.4 **Mina Array Bea**	**80.77**	**42**	P	P	11 12 42.8	+0.1
ILAR	0.7nm,0.7s,baz=211,slow=6.0,SNR=7.1 **Eielson Array**	**89.76**	**12**	P	P	11 13 28.1	+0.4
YKA	1.0nm,1.1s,baz=223,slow=6.4,SNR=4.9 **Yellowknife Ar**	**97.30**	**24**	P	P	11 14 01.0	-1.4
AKASG	0.1nm,0.5s,baz=243,slow=4.1,SNR=3.4 **Malin Array Be**	**146.06**	**332**	PKPbc	PKPbc	11 20 09.7	+0.4
BRTR	0.7nm,0.5s,baz=36,slow=4.3,SNR=5.1 **Keskin Array B**	**150.16**	**312**	PKPbc	PKPbc	11 20 20.5	+0.3
	0.5nm,0.5s,baz=0.7,slow=9.9,SNR=4.1						

IDC 30 11:29:01.4±24.0, 3630N×7183E, h275km±140km, mb2.9/4, mb1 3.0/6, mb1mx2.8/23, mbtmp3.6/6, Error ellipse: s-maj=262.2km s-min=42.3km az=5.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.87**	**352**	P	Pn	11 30 36.6	-4.1
KK31	0.7nm,0.4s,baz=188,slow=14,SNR=14			S	S	11 31 46.6	-14
MKAR	2.6nm,0.7s,baz=182,slow=22,SNR=9.1 **Makanchi Array**	**13.07**	**33**	P	Pn	11 31 58.3	+0.9
AKTO	0.2nm,0.3s,baz=204,slow=12,SNR=6.8 **Aktyubinsk**	**17.29**	**329**	P	P	11 32 43.5	-1.2
FINES	0.3nm,0.3s,baz=122,slow=11,SNR=9.3 **FINESS Array B**	**38.02**	**326**	P	P	11 35 53.4	0.0
ARCES	0.3nm,0.3s,baz=128,slow=9.0,SNR=3.2 **ARCESS Array B**	**41.58**	**337**	P	P	11 36 22.4	-0.2
NOA	1.5nm,0.7s,baz=116,slow=8.2,SNR=7.0 **NORSAR Array B**	**44.94**	**323**	P	P	11 36 49.1	-0.2
YKA	0.5nm,0.7s,baz=95,slow=7.7,SNR=2.5 **Yellowknife Ar**	**81.41**	**3**	P	P	11 40 46.7	-1.0
	0.1nm,0.7s,baz=349,slow=5.6,SNR=4.7						

IDC 30 11:49:30.6±1.8, 1327N×14510E, h119km±24km, mb3.3/4, mb1 3.5/4, mb1mx3.2/20, mbtmp3.6/4, Error ellipse: s-maj=134.9km s-min=19.1km az=108.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.38**	**325**	P	Pn	11 49 49.5	+1.6
GUMO	1μm,0.3s,baz=108,slow=22,SNR=178			S	Sn	11 50 02.3	+1.5
WRA	**Warramunga Arr**	**34.66**	**198**	P	P	11 56 08.4	-0.2
ASAR	0.7nm,0.5s,baz=21,slow=9.7,SNR=14 **Alice Springs**	**38.31**	**197**	P	P	11 56 40.6	+1.1
STKA	0.3nm,0.4s,baz=21,slow=13,SNR=13 **Stephens Creek**	**45.02**	**184**	P	P	11 57 33.4	-0.8
ILAR	0.4nm,0.3s,baz=13,slow=7.0,SNR=7.7 **Eielson Array**	**68.76**	**25**	P	P	12 00 21.4	-0.3
	0.2nm,0.5s,baz=255,slow=5.5,SNR=10						

MOS ***30*** *12:02:17.8±0.8, 8626N×6904E, h10km, mb4.1/1, Error ellipse: s-maj=99.9km s-min=16.0km az=88.5*
ISCJB ***30*** *12:02:18.1±0.6, 8626N±008×69E±, h10km, mb3.4/10, MS3.0/1, Error ellipse: s-maj=17.3km s-min=9.8km az=62.1*
IDC ***30*** *12:02:18.5±0.8, 8625N×7109E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.7/22, mbtmp3.6/10, MS3.0/2, Ms1 2.9/2, ms1mx2.6/30, Error ellipse: s-maj=31.8km s-min=15.3km az=113.0*
NEIC ***30*** *12:02:19.8±0.5, 8624N×6992E, h10km, mb4.0/1, Error ellipse: s-maj=14.1km s-min=8.0km az=124.0*
ISC 30 12:02:19.4±0.6, 8624N±009×70E±, h10km, n18, σ§61/21, mb3.4/10, MS3.0/1, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**9.71**	**257**	*e*Pn	**Pn**	**12 04 38.6**	**-0.4**
ARCES	**ARCESS Array B**	**18.10**	**233**	P	**Pn**	**12 06 29.8**	**-1.0**
ARCES	baz=0.0,slow=16,SNR=3.9			S	**Sn**	**12 09 41.5**	**-11**
ARCES	0.2nm,0.3s,baz=21,slow=20,SNR=5.0			LR	LR	12 14 13.3	
ARCES	comp=Z,29nm,19.9s,baz=303,slow=39 **ARCESS Array B**	**18.10**	**233**	P	**Pn**	**12 06 29.8**	**-1.0**
ARCES				S	**Sn**	**12 09 41.5**	**-11**
ARCES				LR	LR	12 14 13.3	
ARCES	**ARCESS Array B**	**18.10**	**233**	P	**Pn**	**12 06 29.8**	**-1.0**
ARCES				S	**Sn**	**12 09 41.5**	**-11**
INK	**Inuvik**	**25.33**	**21**	P	**P**	**12 07 45.1**	**-1.2**
INK	1.0nm,0.8s,mb3.4,baz=327,slow=4.4,SNR=5.4 **Inuvik**	**25.33**	**21**	*e*P	**P**	**12 07 45.8**	**-0.5**
INK	3.1nm,1.0s,mb3.8 **Inuvik**	**25.33**	**21**	*e*P	**P**	**12 07 45.8**	**-0.5**
INK	comp=Z,3.0nm,1.0s			pmax	pmax		
FINES	**FINESS Array B**	**26.13**	**230**	P	**P**	**12 07 54.3**	**+0.7**
ILAR	comp=Z,1.1nm,0.8s,mb3.4,baz=24,slow=14,SNR=2.9 **Eielson Array**	**28.48**	**33**	P	**P**	**12 08 14.8**	**+0.2**
ARU	comp=Z,0.2nm,0.7s,mb2.9,baz=358,slow=8.0,SNR=5.5 **Arti**	**30.05**	**193**	*i* P	**P**	**12 08 28.3**	**-0.3**
ARU				*i*	pP	12 08 30.1	-1.5
YKA	**Yellowknife Ar**	**31.44**	**4**	P	**P**	**12 08 40.5**	**-0.2**
YKA	comp=Z,0.8nm,0.9s,mb3.5,baz=360,slow=8.5,SNR=18			LR	LR	12 19 51.6	
YKA	comp=Z,37nm,21.0s,MS3.0,baz=105,slow=34 **Yellowknife Ar**	**31.44**	**4**	P	**P**	**12 08 40.5**	**-0.3**
YKA				LR	LR	12 19 51.6	
DLBC	**Dease Lake**	**35.30**	**18**	P	**P**	**12 09 14.9**	**+0.4**
SONM	comp=Z,1.4nm,0.8s,mb4.0,baz=314,slow=6.5,SNR=7.0 **Songino Array**	**39.35**	**141**	P	**P**	**12 09 49.0**	**+0.1**
MKAR	comp=Z,0.3nm,0.7s,mb3.1,baz=343,slow=13,SNR=2.9 **Makanchi Array**	**39.70**	**167**	P	**P**	**12 09 51.1**	**-0.6**
BRTR	comp=Z,0.3nm,0.6s,mb3.2,baz=342,slow=12,SNR=3.7 **Keskin Array B**	**47.47**	**219**	P	**P**	**12 10 55.2**	**+0.9**
PDAR	comp=Z,0.6nm,0.7s,mb3.6,baz=8.6,slow=6.4,SNR=3.7 **Pinedale Array**	**51.21**	**360**	P	**P**	**12 11 22.9**	**-0.1**
TORD	comp=Z,0.6nm,0.8s,mb3.6,baz=356,slow=5.8,SNR=5.6 **Torodi Ar. Bea**	**75.58**	**249**	P	**P**	**12 14 05.3**	**+1.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=351,slow=3.9,SNR=2.4						

IDC ***30*** *12:19:38.7±1.1, 2074S×17389W, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.5/16, mbtmp4.3/10, MS3.9/9, Ms1 3.9/9, ms1mx3.5/25, Error ellipse: s-maj=53.2km s-min=13.4km az=153.0*
ISCJB ***30*** *12:19:44.4±0.3, 2036S±007×17404W±007, h34km, mb4.7/46, MS4.1/10, Error ellipse: s-maj=12.5km s-min=6.4km az=105.6*
NEIC ***30*** *12:19:46.1±0.2, 2019S×174.16W, mb4.8/24, Error ellipse: s-maj=11.8km s-min=5.9km az=136.0*
BJI ***30*** *12:19:46.2, 2021S×17421W, h33km, mB5.3, mb4.9, Ms5.2, Msz4.7*
MOS ***30*** *12:19:48.9±2.6, 1921S×17451W, h33km, mb4.8/9, Error ellipse: s-maj=16.0km s-min=11.1km az=135.4*
ISC 30 12:19:46.3±0.3, 2031S±007×17401W±007, h36km, h36km±1.4km: pP-P, n119, σ1§03/90, mb4.7/46, MS4.1/10, 5C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.72**	**19**	Pn	**Pn**	**12 21 15.1**	**-7.4**
AFI	7.0nm,0.3s,baz=19,slow=4.0,SNR=20			Sn	**Sn**	**12 22 24.2**	**-13**
AFI	14nm,0.3s,baz=334,slow=22,SNR=2.8			T		12 28 14.5	
AFI	6.9nm,0.3s,baz=61,slow=17,SNR=4.3 **Afiamalu**	**6.72**	**19**	*e*Pn	**Pn**	**12 21 14.9**	**-7.6**
AFI	63nm,0.6s			*e*Sn	**Sn**	**12 22 21.8**	**-16**
AFI	**Afiamalu**	**6.72**	**19**	*e*P	**Pn**	**12 21 14.9**	**-7.5**
AFI				*e*		12 22 21.8	
AFI	comp=Z,63nm,0.6s			pmax	pmax		
RAO	**Raoul Island**	**9.58**	**201**	Sn	**Sn**	**12 23 42.9**	**-5.1**
RAR	comp=Z,60nm,0.3s,baz=100,slow=22,SNR=7.5 **Rarotonga**	**13.35**	**96**	Pn	**Pn**	**12 22 38.8**	**-14**
RAR	comp=Z,10nm,0.3s,baz=260,slow=8.6,SNR=24			Sn	Sn	12 24 52.0	-28
RAR	comp=Z,1.8nm,0.3s,baz=124,slow=15,SNR=2.3			LR	LR	12 26 54.0	
DZM	comp=Z,266nm,21.2s,baz=344,slow=33 **Mont Dzumac**	**18.31**	**261**	P	**Pn**	**12 23 59.9**	**+2.5**
NOU	comp=Z,1.0nm,0.3s,baz=68,slow=18,SNR=19 **Noumea**	**18.32**	**260‖**	*e*P	**Pn**	**12 24 01.4**	**+4.0**
URZ	**Urewera**	**19.47**	**201**	P	**Pn**	**12 24 09.7**	**-1.7**
URZ	comp=Z,3.7nm,0.3s,baz=360,slow=4.8,SNR=34			S	**S**	**12 27 34.4**	**-14**
URZ	comp=Z,0.7nm,0.3s,baz=178,slow=20,SNR=7.1 **Urewera**	**19.47**	**201**	*e*PN	**Pn**	**12 24 10.8**	**-0.6**
TBI	**Tubuai**	**22.98**	**102**	*e*P	**P**	**12 24 42.8**	**-4.9**
TBI	comp=Z,302nm,1.3s,mb5.6			*e*LR	LR	12 29 46.5	
SNZO	comp=Z,420nm,32.2s **South Karori**	**23.02**	**202**	*e*P	**P**	**12 24 47.0**	**-1.2**
PPT	comp=Z,19nm,0.7s,mb4.6 **Papeete**	**23.27**	**87**	*e*LQ		12 29 01.0	
PPT	comp=Z,363nm,24.5s			*e*LR	LR	12 29 54.9	
PPT	comp=Z,539nm,27.2s,baz=254 **Papeete**	**23.27**	**87**	LR	LR	12 30 44.8	
QRZ	comp=Z,353nm,19.1s,MS3.8,baz=263,slow=29 **Quartz Range**	**23.45**	**206**	*e*PN	**P**	**12 24 54.1**	**+1.6**
LTZ	**Lake Taylor**	**25.20**	**204**	*e*PN	**P**	**12 25 13.4**	**+4.8**
RPZ	**Rata Peaks**	**26.46**	**205**	P	**P**	**12 25 19.6**	**-0.4**
HNR	comp=Z,15nm,0.7s,mb4.6,baz=178,slow=3.7,SNR=5.9 **Honiara**	**27.35**	**289**	LR	LR	12 34 46.3	
TAOE	comp=Z,117nm,18.2s,MS3.5,baz=179,slow=33 **Nuku Hiva Isla**	**34.62**	**76**	*e*LR	LR	12 35 18.1	
CNB	comp=Z,719nm,28.3s **Canberra Magne**	**35.45**	**237‖**	*i*P	**P**	**12 26 39.8**	**+0.7**
RKT	comp=Z,13nm,0.9s,mb4.9 **Rikitea**	**36.30**	**102**	*e*LR	LR	12 35 58.6	
CTA	comp=Z,324nm,28.0s **Charters Tower**	**37.23**	**263**	*e*P	**P**	**12 26 55.1**	**+0.8**
CTA	comp=Z,7.0nm,0.7s,mb4.6 **Charters Tower**	**37.23**	**263**	*e*P	**P**	**12 26 55.1**	**+0.8**
CTA				pmax	pmax		
PMG	comp=Z,7.0nm,0.7s **Port Moresby**	**38.97**	**280**	*e*P	**P**	**12 27 08.2**	**-0.7**
PMG	comp=Z,32nm,0.9s,mb5.1 **Port Moresby**	**38.97**	**280**	*e*P	**P**	**12 27 08.2**	**-0.8**
PMG				pmax	pmax		
STKA	comp=Z,32nm,0.9s **Stephens Creek**	**41.24**	**245**	*e*P	**P**	**12 27 25.7**	**-2.1**
STKA	comp=Z,6.4nm,0.7s,mb4.4 **Stephens Creek**	**41.24**	**245**	P	**P**	**12 27 25.7**	**-2.1**
STKA	comp=Z,10nm,0.9s,mb4.5,baz=93,slow=9.5,SNR=19			LR	LR	12 44 08.9	
ASAR	comp=Z,173nm,18.4s,MS4.0,baz=198,slow=36 **Alice Springs**	**48.20**	**256**	P	**P**	**12 28 23.2**	**0.0**
ASAR	comp=Z,9.5nm,0.8s,mb4.9,baz=87,slow=8.4,SNR=88			PcP	PcP	12 29 49.8	-0.3
ASAR	comp=Z,3.8nm,0.7s,baz=105,slow=3.8,SNR=10			S	**S**	**12 35 19.8**	**-0.2**
WRAB	comp=Z,0.5nm,0.9s,baz=99,slow=13,SNR=4.2 **Tennant Creek**	**48.32**	**261**	*e*P	**P**	**12 28 23.3**	**-0.8**
WRAB	comp=Z,12nm,0.8s,mb5.0 **Tennant Creek**	**48.32**	**261**	*e*P	**P**	**12 28 23.3**	**-0.9**
WRAB				pmax	pmax		
WRA	comp=Z,12nm,0.8s,mb5.0 **Warramunga Arr**	**48.33**	**261**	P	**P**	**12 28 22.9**	**-1.4**
WRA	comp=Z,5.9nm,0.7s,mb4.7,baz=96,slow=7.5,SNR=57			PcP	PcP	12 29 50.9	+0.4
WRA	comp=Z,3.6nm,0.8s,baz=95,slow=3.5,SNR=7.6			S	**S**	**12 35 22.6**	**+0.8**
KAKA	comp=Z,0.2nm,0.8s,baz=100,slow=15,SNR=2.6 **Kakadu**	**51.72**	**270**	*e*P	**P**	**12 28 49.5**	**-0.4**
FORT	comp=Z,8.7nm,0.7s,mb4.8 **Forrest**	**52.80**	**246‖**	*i*P	**P**	**12 28 57.8**	**-0.2**
FITZ	comp=Z,20nm,0.7s,mb5.2 **Fitzroy Crossi**	**56.76**	**261**	*e*P	**P**	**12 29 26.5**	**-0.1**
SBA	comp=Z,16nm,1.5s,mb4.8 **Scott Base**	**58.33**	**185**	*e*pP	pP	12 29 50.1	+1.5
VNDA	**Vanda**	**58.45**	**186**	*e*P	**P**	**12 29 39.7**	**+1.1**
VNDA	comp=Z,6.3nm,1.0s,mb4.6			*e*pP	pP	12 29 50.6	+1.2
VNDA	**Vanda**	**58.45**	**186**	*e*P	**P**	**12 29 39.7**	**+1.1**
VNDA				*e**PP	pP	12 29 50.6	+1.2
VNDA				pmax	pmax		
KLBR	comp=Z,6.0nm,1.0s **Kellerberrin**	**61.52**	**244**	*e*P	**P**	**12 29 59.9**	**+0.3**
MBWA	comp=Z,15nm,0.8s,mb5.2 **Marble Bar**	**61.54**	**256**	*e*P	**P**	**12 29 59.7**	**0.0**
CASY	**Casey**	**65.73**	**205**	*e*P	**P**	**12 30 27.4**	**0.0**
QSPA	comp=Z,6.9nm,0.8s,mb4.7 **South Pole Qui**	**69.76**	**180**	*e*P	**P**	**12 30 56.0**	**+3.3**
MJAR	comp=Z,16nm,1.1s,mb4.9 **Matsushiro Arr**	**72.34**	**321**	P	**P**	**12 31 09.1**	**+0.7**
YHNB	comp=Z,3.3nm,0.7s,mb4.4,baz=150,slow=6.1,SNR=34 **Yeheng**	**77.13**	**303**	*e*P	**P**	**12 31 34.4**	**-1.7**
DAC	**Darwin (Calif)**	**77.51**	**44**	*e*P	**P**	**12 31 40.4**	**+2.2**
DAC	comp=Z,1.7nm,0.8s,mb4.0 **Darwin (Calif)**	**77.51**	**44**	*e*P	**P**	**12 31 40.4**	**+2.2**
DAC				pmax	pmax		
MTUM	comp=Z,2.0nm,0.8s,mb4.1 **Tungsten Hills**	**77.54**	**42**	*e*P	**P**	**12 31 40.0**	**+1.5**
YBH	**Yreka Blue Hor**	**77.85**	**37**	P	**P**	**12 31 39.7**	**-0.4**
NVAR	comp=Z,2.6nm,1.0s,mb4.1,baz=186,slow=9.2,SNR=3.3 **Mina Array Bea**	**78.36**	**41**	P	**P**	**12 31 42.3**	**-0.7**
LDFC	comp=Z,4.1nm,0.8s,mb4.4,baz=216,slow=5.8,SNR=20 **Landfair**	**78.45**	**46**	*e*P	**P**	**12 31 43.4**	**-0.1**
TPNV	**Topopah Spring**	**78.78**	**44**	P	**P**	**12 31 45.8**	**+0.5**
NEN	**Nelson**	**78.96**	**45**	*e*P	**P**	**12 31 45.5**	**-0.7**
SHPR	**Sheep Range**	**79.23**	**45**	P	**P**	**12 31 47.9**	**+0.1**
SSE	**Sheshan**	**80.48**	**308**	*e*P	**P**	**12 31 54.8**	**+0.3**
SSE				AMB	AMB		
SSE	comp=Z,46nm,0.7s,mb5.5			AMB	AMB		
ARUT	comp=Z,73nm,5.0s **Antelope Range**	**81.09**	**44**	*e*P	**P**	**12 31 57.3**	**-0.5**
ARUT				*e*pP	pP	12 32 09.2	+0.2
MDJ	**Mudanjiang**	**82.56**	**323**	P	**P**	**12 32 07.5**	**+2.0**
MDJ				XP	sP	12 32 20.5	-0.4
MDJ				AMB	AMB		
MDJ	comp=Z,12nm,1.3s,mb4.8			AMB	AMB		
NJ2	comp=Z,209nm,5.9s **Nanjing**	**82.68**	**308**	*e*P	**P**	**12 32 06.3**	**+0.2**
NJ2				AP	pP	12 32 16.5	-0.9
NJ2				S	S	12 42 16.0	-5.1
NJ2				XS	sS	12 42 35.0	-4.8
NJ2				AMB	AMB		
NJ2	comp=Z,10.0nm,0.6s,mb5.0			AMB	AMB		
NJ2	comp=Z,200nm,3.9s			LR	LR		
NJ2	comp=N,1μm,32.8s			LR	LR		
NJ2	comp=E,460nm,22.6s			LR	LR		
NJ2	comp=Z,90nm,14.3s			LR	LR		
MAW	**Mawson**	**82.98**	**199**	LR	LR	13 08 43.1	
SRU	comp=Z,231nm,18.7s,MS4.6,baz=240,slow=36 **San Rafael**	**83.73**	**44**	*e*P	**P**	**12 32 11.7**	**+0.1**
SRU	comp=Z,5.2nm,0.8s,mb4.7			*e*pP	pP	12 32 21.3	-1.5
SRU	**San Rafael**	**83.73**	**44**	*e*P	**P**	**12 32 11.7**	**+0.2**
SRU				*e**PP	pP	12 32 21.3	-1.5
SRU				pmax	pmax		
HLID	comp=Z,5.0nm,0.8s,mb4.7 **Hailey**	**83.78**	**39**	*e*P	**P**	**12 32 11.3**	**-0.5**
DAU	comp=Z,3.6nm,0.9s,mb4.5 **Daniels Canyon**	**83.96**	**43**	*e*P	**P**	**12 32 12.9**	**+0.2**
TCUT	**Toone Canyon**	**84.25**	**42**	*e*P	**P**	**12 32 14.3**	**+0.1**
ANMO	**Albuquerque**	**84.40**	**50**	*e*P	**P**	**12 32 15.5**	**+0.6**
ANMO	comp=Z,8.1nm,1.4s,mb4.7			*e*pP	pP	12 32 26.9	+0.7
ANMO	**Albuquerque**	**84.40**	**50**	*e*P	**P**	**12 32 15.5**	**+0.6**
ANMO				*e**PP	pP	12 32 26.9	+0.7
ANMO				pmax	pmax		
CN2	comp=Z,8.0nm,1.4s **Changchun**	**84.48**	**321**	*e*P	**P**	**12 32 16.3**	**+0.9**
CN2				*e*AP	pP	12 32 26.8	+0.1
CN2				*e*S		12 42 38.5	
CN2	comp=Z,10.0nm,1.0s,mb4.9			AMB	AMB		
CN2	comp=Z,200nm,3.0s			AMB	AMB		
MA2	**Magadan**	**84.66**	**343**	*e*P	**P**	**12 32 15.9**	**-0.3**
MA2				pmax	pmax		
MCMT	comp=Z,3.0nm,1.0s,mb4.4 **McKenzie Canyo**	**85.43**	**39**	*e*P	**P**	**12 32 20.3**	**+0.2**
TNA	**Tin City**	**85.73**	**3**	*e*P	**P**	**12 32 21.4**	**-0.2**
TNA	comp=Z,6.1nm,0.9s,mb4.8			*e*PcP	PcP	12 32 24.2	-0.2
TNA				*e*pP	pP	12 32 32.3	-0.6
DLMT	**Dillon**	**85.88**	**38**	*e*P	**P**	**12 32 23.2**	**+0.9**
SNOW	comp=Z,4.1nm,1.0s,mb4.6 **Snow King Moun**	**85.93**	**41**	*e*P	**P**	**12 32 22.6**	**+0.1**
MCK	comp=Z,5.7nm,1.1s,mb4.7 **McKinley**	**86.03**	**11**	*e*P	**P**	**12 32 22.0**	**-1.1**
MCK	comp=Z,3.5nm,0.8s,mb4.6 **McKinley**	**86.03**	**11**	*e*P	**P**	**12 32 22.0**	**-1.1**
MCK				pmax	pmax		
LOHW	comp=Z,3.0nm,0.8s,mb4.6 **Long Hollow**	**86.10**	**41**	*e*P	**P**	**12 32 25.0**	**+1.6**
LOHW	comp=Z,5.0nm,1.4s,mb4.5			*e*pP	pP	12 32 37.2	+2.5
QLMT	**Earthquake Lak**	**86.27**	**39**	*e*P	**P**	**12 32 24.9**	**+0.6**
PDAR	**Pinedale Array**	**86.30**	**42**	P	**P**	**12 32 23.6**	**-0.8**
PDAR	comp=Z,1.0nm,0.9s,mb4.0,baz=234,slow=2.4,SNR=6.7			LR	LR	13 07 37.7	
BOZ	comp=Z,54nm,19.6s,MS4.0,baz=74,slow=33 **Bozeman (W)**	**86.60**	**39**	*e*P	**P**	**12 32 26.5**	**+0.6**
BOZ	comp=Z,1.9nm,0.8s,mb4.4			*e*PcP	PcP	12 32 28.9	+0.6
BOZ				*e*pP	pP	12 32 36.4	-0.8
BOZ				*e*sP	sP	12 32 44.2	+2.8
BOZ	**Bozeman (W)**	**86.60**	**39**	*e*P	**P**	**12 32 26.5**	**+0.6**
BOZ				*e**PP	pP	12 32 36.4	-0.8
BOZ				*e**SP	sP	12 32 44.2	+2.8
BOZ				pmax	pmax		
PLCA	comp=Z,2.0nm,0.8s,mb4.4 **Paso Flores**	**86.66**	**132**	LR	LR	13 01 45.1	
COLA	comp=Z,89nm,19.7s,MS4.2,baz=11,slow=29 **College**	**87.27**	**11**	*e*P	**P**	**12 32 27.1**	**-2.0**
COLA	comp=Z,6.3nm,0.9s,mb4.8			*e*PcP	PcP	12 32 31.3	+0.1
COLA	**College**	**87.27**	**11**	*e*P	**P**	**12 32 28.1**	**-1.1**
ILAR	**Eielson Array**	**87.35**	**11**	P	**P**	**12 32 28.6**	**-0.9**
DAWY	comp=Z,0.9nm,0.6s,mb4.2,baz=222,slow=5.6,SNR=11 **Dawson**	**88.30**	**14**	*e*P	**P**	**12 32 33.1**	**-1.0**
DAWY				*e*pP	pP	12 32 41.5	-3.9
BJI	**Beijing**	**88.43**	**314**	P	**P**	**12 32 35.0**	**+0.3**
BILL	**Bilibino**	**89.28**	**353**	*e*P	**P**	**12 32 38.0**	**-0.6**
BILL	comp=Z,9.0nm,1.3s,mb4.9			*e*pP	pP	12 32 49.1	-0.9
BILL	**Bilibino**	**89.28**	**353**	P	**P**	**12 32 39.0**	**+0.3**
BILL				*e*	pP	12 32 49.9	-0.2
BILL				pmax	pmax		
HHC	comp=Z,5.0nm,1

comp=Z,0.3nm,0.7s,mb3.8,baz=234,slow=4.2,SNR=11
YKA Yellowknife Ar 94.81 24 P **P 12 33 02.7 -1.6**
LZH Lanzhou 95.65 306 *e*P **P 12 33 10.3 +2.2**
LZH AP pP 12 33 22.5 +3.0
LZH XP sP 12 33 25.5 +1.9
LZH PP PP 12 37 04.5 +4.8
LZH AMB AMB
comp=Z,26nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,71nm,8.7s
LZH LR LR
comp=N,215nm,16.2s
LZH LR LR
comp=Z,293nm,19.3s,MS4.8
ULN Ulaanbaatar 97.69 318⇑ *e*P **P 12 33 15.8 -1.6**
SONM Songino Array 98.10 318 P **P 12 33 18.0 -1.2**
comp=Z,0.3nm,0.9s,mb3.8,baz=108,slow=9.3,SNR=2.8
SONM LR LR 13 17 31.9
comp=Z,32nm,18.4s,MS3.8,baz=250,slow=35
LPAZ La Paz 98.65 111 LR LR 13 11 37.3
comp=Z,66nm,19.2s,MS4.2,baz=77,slow=32
TIXI Tiksi 99.55 344 *e*P 12 33 25.7
TIXI pmax pmax
comp=Z,6.0nm,2.8s,mb4.5
MKAR Makanchi Array 113.80 313 PKP PKiKP 12 38 20.2 -0.9
comp=Z,0.4nm,0.7s,baz=180,slow=0.4,SNR=6.2
MKAR PP PP 12 39 11.6 -2.7
comp=Z,0.6nm,0.9s,baz=117,slow=8.4,SNR=3.2
ARCES ARCESS Array B 129.36 351 PKP PKPdf 12 38 47.1 -3.8
comp=Z,2.7nm,1.0s,baz=48,slow=1.8,SNR=4.2
KMBO Kilima Mbogo 142.69 239 PKP PKPdf 12 39 13.4 -2.2
comp=Z,2.9nm,0.2s,baz=73,slow=20,SNR=3.0
AKASG Malin Array Be 144.57 334 PKPbc PKPdf 12 39 17.0 -1.9
comp=Z,12nm,0.7s,baz=41,slow=4.3,SNR=46
MALT Malatya 146.74 310 ⇓P PKPbc 12 39 29.0 +4.6
KSP Ksiaz 148.47 347 *e*PKP PKPbc 12 39 29.9 +0.8
KSP Ksiaz 148.47 347 *e*PKP2 PKPbc 12 39 29.4 +0.3
CLL Collm 148.58 352 *i* PKPbc PKPbc 12 39 29.7 +0.3
comp=Z,8.0nm,0.9s
CLL *e*pPKPab pPKPab 12 39 43.0 -1.4
CLL Collm 148.58 352 *i* PKP2 PKPbc 12 39 29.7 +0.3
CLL pmax pmax
comp=Z,8.0nm,0.9s
BURAR Bucovina Array 148.62 335 ⇓P PKPbc 12 39 30.8 +1.3
BRG Berggiesshubel 148.87 350 *e*PKP2 PKPbc 12 39 30.5 +0.4
BRG pmax pmax
comp=Z,3.0nm,0.5s
BRG Berggiesshubel 148.87 350 *e*PKP PKPbc 12 39 30.5 +0.4
comp=Z,2.7nm,0.5s
DPC Dobruska-Polom 148.93 347 *e*PKPbc PKPbc 12 39 31.4 +1.1
DPC x x 12 39 46.5
CFR Carcaliu 149.19 329 ⇑P PKPbc 12 39 32.4 +1.5
VRI Vrincioaia 149.34 331 ⇓P PKPbc 12 39 31.9 +0.6
BR131 Keskin Array S 149.41 315 *e*PKPbc PKPbc 12 39 31.7 +0.2
BRTR Keskin Array B 149.41 315 PKPbc PKPbc 12 39 31.6 +0.2
comp=Z,1.7nm,0.7s,baz=93,slow=2,2,SNR=8.8
TIRR Tirgusor 149.56 327 ⇑P PKPbc 12 39 33.5 +1.7
HARR Harsova 149.64 328 ⇑P PKPbc 12 39 33.8 +1.8
MLR Muntele Rosu 149.98 331 ⇓P PKPbc 12 39 34.6 +1.7
GRF Grafenberg Arr 150.39 353 *e*PKP PKPbc 12 39 34.3 +0.5
KHC Kasperske Hory 150.61 350 *e*PKPbc PKPbc 12 39 34.8 +0.4
GERES GERESS Array B 150.87 350 PKPbc PKPbc 12 39 34.2 -0.8
comp=Z,1.0nm,0.7s,baz=230,slow=1.0,SNR=6.2
BZS Buzias 151.67 337 ⇓P PKPbc 12 39 37.4 +0.6

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*ISCJB **30** 12:34:33.4±0.5, 3260S±004×1796E±0.1, h300km, mb4.2/8, Error ellipse: s-maj=12.5km s-min=4.4km az=33.3*
*NEIC **30** 12:34:33.7±0.9, 3292S×17957W, h345km±10km, mb4.7/4, Error ellipse: s-maj=24.4km s-min=9.9km az=105.0*
*IDC **30** 12:34:36.0±1.2, 3227S×17962E, h325km±14km, mb3.6/5, mb1 3.7/6, mb1mx3.6/12, mbtmp4.4/6, Error ellipse: s-maj=17.1km s-min=15.5km az=53.0*
ISC 30 12:34:34.3±0.5, 3269S±004×1797E±01, h300km, n95, σ1§49/107, mb4.2/8, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.97**	**31**	P	**Pn**	**12 35 39.5**	**-0.7**
	243nm,0.3s,baz=284,slow=21,SNR=15						
RAO				S	**S**	**12 36 30.9**	**-2.0**
	147nm,0.3s,baz=77,slow=20,SNR=2.7						
MXZ	**Matakaoa Point**	**5.00**	**193**	PN	**Pn**	**12 35 55.3**	**+3.5**
MXZ				SN	**S**	**12 36 55.0**	**+0.9**
MXZ	**Matakaoa Point**	**5.00**	**193**	*e*P	**Pn**	**12 35 54.4**	**+2.6**
KUZ	**Kuaotunu**	**5.23**	**218**	⇑PN	**Pn**	**12 36 02.0**	**+7.6**
KUZ	**Kuaotunu**	**5.23**	**218**	*e*P	**Pn**	**12 36 01.0**	**+6.6**
WCZ	**Waipu Caves**	**5.52**	**233**	⇑PN	**Pn**	**12 36 05.5**	**+7.7**
WCZ	**Waipu Caves**	**5.52**	**233**	*e*P	**Pn**	**12 36 05.5**	**+7.7**
MARZ	**Manawahe**	**5.85**	**204**	*e*PN	**Pn**	**12 36 05.5**	**+3.7**
MARZ	**Manawahe**	**5.85**	**204**	P	**Pn**	**12 36 04.5**	**+2.7**
MWZ	**Matawai**	**5.92**	**197**	PN	**Pn**	**12 36 04.6**	**+2.0**
MWZ				*e*SN	**S**	**12 37 15.0**	**+1.3**
MWZ	**Matawai**	**5.92**	**197**	*e*P	**Pn**	**12 36 03.6**	**+1.1**
URZ	**Urewera**	**5.96**	**200**	P	**Pn**	**12 36 05.3**	**+2.2**
	30nm,0.3s,baz=279,slow=2.6,SNR=81						
URZ				S	**S**	**12 37 17.2**	**+2.6**
	28nm,0.3s,baz=81,slow=22,SNR=13						
URZ	**Urewera**	**5.96**	**200**	PN	**Pn**	**12 36 05.5**	**+2.5**
URZ				SN	**S**	**12 37 18.2**	**+3.6**
URZ	**Urewera**	**5.96**	**200**	P	**Pn**	**12 36 05.5**	**+2.4**
RATZ	**Rangitukua**	**6.96**	**206**	P	**Pn**	**12 36 17.6**	**+2.5**
RITZ	**Rihia Road**	**7.02**	**206**	P	**Pn**	**12 36 20.9**	**+5.0**
KATZ	**Kakaramea**	**7.08**	**206**	*e*PN	**Pn**	**12 36 19.7**	**+3.1**
KATZ	**Kakaramea**	**7.08**	**206**	P	**Pn**	**12 36 18.7**	**+2.1**
WTVZ	**West Tongariro**	**7.24**	**207**	P	**Pn**	**12 36 19.7**	**+1.1**
OTVZ	**Oturere**	**7.26**	**206**	PN	**Pn**	**12 36 21.0**	**+2.2**
TWVZ	**Taurewa**	**7.26**	**208**	P	**Pn**	**12 36 20.3**	**+1.5**
NGZ	**Ngauruhoe**	**7.29**	**206**	P	**Pn**	**12 36 20.5**	**+1.3**
WPVZ	**Whakapapa**	**7.34**	**206**	*e*PN	**Pn**	**12 36 22.5**	**+2.8**
WPVZ	**Whakapapa**	**7.34**	**206**	P	**Pn**	**12 36 21.6**	**+1.9**
TUVZ	**Tukino**	**7.35**	**206**	PN	**Pn**	**12 36 21.7**	**+1.8**
TUVZ	**Tukino**	**7.35**	**206**	P	**Pn**	**12 36 20.7**	**+0.8**
FWVZ	**Far West T-bar**	**7.38**	**206**	PN	**Pn**	**12 36 22.3**	**+2.0**
FWVZ	**Far West T-bar**	**7.38**	**206**	P	**Pn**	**12 36 21.3**	**+1.1**
WNVZ	**Wahianoa**	**7.43**	**206**	P	**Pn**	**12 36 21.4**	**+0.6**
MOVZ	**Moawhango**	**7.44**	**205**	P	**Pn**	**12 36 20.9**	**-0.1**
MTVZ	**Mangateitei**	**7.52**	**206**	PN	**Pn**	**12 36 23.7**	**+1.8**
PXZ	**Pawanui**	**7.69**	**197**	PN	**Pn**	**12 36 24.5**	**+0.6**
PXZ				*e*SN	**S**	**12 37 51.2**	**-1.6**
RAEZ	**Rainy Point**	**7.88**	**212**	P	**Pn**	**12 36 32.1**	**+5.7**
TSZ	**Takapari Road**	**7.96**	**201**	PN	**Pn**	**12 36 27.3**	**0.0**
TSZ				SN	**S**	**12 37 58.0**	**-1.0**
TSZ	**Takapari Road**	**7.96**	**201**	*e*P	**Pn**	**12 36 28.0**	**+0.7**
PKE	**Pukeiti**	**7.99**	**214**	*e*PN	**Pn**	**12 36 32.0**	**+4.2**
PKE	**Pukeiti**	**7.99**	**214**	P	**Pn**	**12 36 32.3**	**+4.6**
WAZ	**Wanganui**	**8.03**	**207**	PN	**Pn**	**12 36 29.1**	**+0.9**
WAZ				*e*SN	**S**	**12 38 01.3**	**+0.7**
WAZ	**Wanganui**	**8.03**	**207**	P	**Pn**	**12 36 29.9**	**+1.7**
NWEZ	**Newall Road**	**8.11**	**214**	P	**Pn**	**12 36 35.8**	**+6.6**
NRZ	**Ngariki Road**	**8.13**	**214**	P	**Pn**	**12 36 35.6**	**+6.2**
MRZ	**Mangatainoka R**	**8.63**	**202**	PN	**Pn**	**12 36 34.6**	**-0.9**
MRZ				*e*SN	**S**	**12 38 11.9**	**-2.2**
MRZ	**Mangatainoka R**	**8.63**	**202**	*e*P	**Pn**	**12 36 34.9**	**-0.6**
KIW	**Kapiti Island**	**9.03**	**204**	PN	**Pn**	**12 36 39.7**	**-0.8**
KIW	**Kapiti Island**	**9.03**	**204**	P	**Pn**	**12 36 39.0**	**-1.4**
MTW	**Mount Morrison**	**9.11**	**201**	P	**Pn**	**12 36 40.3**	**-1.1**
CAW	**Cannon Point**	**9.20**	**203**	P	**Pn**	**12 36 40.6**	**-1.9**
PAWZ	**Paruwai Farm**	**9.34**	**200**	P	**Pn**	**12 36 42.8**	**-1.4**
MSWZ	**Moikau Station**	**9.42**	**201**	PN	**Pn**	**12 36 44.4**	**-0.8**
MSWZ				*e*SN	**S**	**12 38 27.2**	**-4.7**
MSWZ	**Moikau Station**	**9.42**	**201**	P	**Pn**	**12 36 43.4**	**-1.8**
MRW	**Makara Radio**	**9.43**	**204**	P	**Pn**	**12 36 43.9**	**-1.4**
WEL	**Wellington**	**9.46**	**203**	P	**Pn**	**12 36 44.2**	**-1.5**
SNZO	**South Karori**	**9.50**	**204**	*e*PN	**Pn**	**12 36 44.7**	**-1.5**
SNZO				*e*SN	**S**	**12 38 29.6**	**-4.1**
SNZO	**South Karori**	**9.50**	**204**	*e*Pn	**Pn**	**12 36 47.0**	**+0.8**
SNZO				*e*Sn	**S**	**12 38 32.9**	**-0.8**
BHW	**Baring Head**	**9.53**	**203**	P	**Pn**	**12 36 44.8**	**-1.8**
TCW	**Tory Channel**	**9.56**	**206**	P	**Pn**	**12 36 45.2**	**-1.8**
QRZ	**Quartz Range**	**9.97**	**213**	PN	**Pn**	**12 36 50.8**	**-1.1**
QRZ	**Quartz Range**	**9.97**	**213**	P	**Pn**	**12 36 50.9**	**-1.1**
CMWZ	**Cape Campbell**	**10.06**	**204**	P	**Pn**	**12 36 52.9**	**-0.2**
BSWZ	**Blackbirch Sta**	**10.15**	**206**	P	**Pn**	**12 36 53.6**	**-0.6**
THZ	**Tophouse**	**10.57**	**209**	PN	**Pn**	**12 36 57.5**	**-1.8**
THZ	**Tophouse**	**10.57**	**209**	*e*P	**Pn**	**12 36 57.9**	**-1.4**
LTZ	**Lake Taylor**	**11.68**	**208**	PN	**Pn**	**12 37 11.1**	**-1.7**
LTZ				*e*SN	**S**	**12 39 17.0**	**-6.0**
LTZ	**Lake Taylor**	**11.68**	**208**	*e*P	**Pn**	**12 37 11.2**	**-1.6**
CRLZ	**Canterbury Las**	**12.22**	**205**	*e*P	**Pn**	**12 37 20.3**	**+0.8**
RPZ	**Rata Peaks**	**12.95**	**209**	P	**Pn**	**12 37 26.9**	**-1.3**
	7.7nm,0.3s,baz=322,slow=2.2,SNR=48						
RPZ				S	**S**	**12 39 44.8**	**-6.7**
	7.0nm,0.3s,baz=347,slow=24,SNR=12						
FOZ	**Fox Glacier**	**13.42**	**213**	PN	**Pn**	**12 37 32.0**	**-1.9**
FOZ	**Fox Glacier**	**13.42**	**213**	*e*P	**Pn**	**12 37 31.1**	**-2.8**
LBZ	**Lake Benmore**	**13.86**	**210**	PN	**Pn**	**12 37 38.5**	**-0.6**
LBZ	**Lake Benmore**	**13.86**	**210**	*e*P	**Pn**	**12 37 37.8**	**-1.3**
JCZ	**Jackson Bay**	**14.25**	**214**	*e*PN	**Pn**	**12 37 42.5**	**-1.2**
JCZ	**Jackson Bay**	**14.25**	**214**	*e*P	**P**	**12 37 42.2**	**-0.8**
WKZ	**Wanaka**	**14.71**	**211**	PN	**Pn**	**12 37 47.4**	**-1.8**
WKZ	**Wanaka**	**14.71**	**211**	*e*P	**P**	**12 37 46.9**	**-1.2**
EAZ	**Earnscleugh**	**14.91**	**210**	*e*P	**P**	**12 37 51.3**	**+1.1**
MLZ	**Mavora Lakes**	**15.49**	**212**	*e*PN	**Pn**	**12 37 57.6**	**-0.7**
MLZ	**Mavora Lakes**	**15.49**	**212**	*e*P	**P**	**12 38 00.6**	**+4.0**
DZM	**Mont Dzumac**	**15.84**	**309**	P	**P**	**12 38 02.0**	**+1.6**
	0.5nm,0.3s,baz=123,slow=14,SNR=7.5						
AFI	**Afiamalu**	**20.23**	**24**	P	**P**	**12 38 45.4**	**-2.1**
	1.9nm,0.3s,baz=240,slow=22,SNR=4.9						
AFI	**Afiamalu**	**20.23**	**24**	*e*P	**P**	**12 38 45.3**	**-2.2**
	11nm,0.5s						
HNR	**Honiara**	**29.50**	**317**	*e*P	**P**	**12 40 14.5**	**+3.3**
	138nm,1.0s,mb5.3						
STKA	**Stephens Creek**	**32.15**	**261**	*e*P	**P**	**12 40 34.3**	**0.0**
	3.1nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**32.15**	**261**	P	**P**	**12 40 34.2**	**-0.2**
	4.7nm,0.8s,mb4.1,baz=89,slow=9.2,SNR=8.5						
STKA	**Stephens Creek**	**32.15**	**261**	*e*P	**P**	**12 40 34.1**	**-0.2**
ASAR	**Alice Springs**	**41.13**	**271**	P	**P**	**12 41 49.8**	**+0.1**
	2.2nm,0.4s,mb3.7,baz=109,slow=7.8,SNR=78						
ASAR				S	**S**	**12 47 35.8**	**-3.9**
	0.3nm,0.6s,baz=105,slow=15,SNR=5.5						
WRAB	**Tennant Creek**	**42.33**	**276**	*e*P	**P**	**12 41 59.0**	**-0.3**
	4.7nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**42.33**	**276**	P	**P**	**12 41 59.0**	**-0.3**
	3.0nm,0.3s,mb3.9,baz=115,slow=8.0,SNR=179						
WRA				S	**S**	**12 47 50.8**	**-6.4**
	1.4nm,1.3s,baz=110,slow=15,SNR=2.7						
VNDA	**Vanda**	**45.64**	**185**	P	**P**	**12 42 27.8**	**+2.3**
	1.3nm,0.8s,mb3.3,baz=357,slow=8.8,SNR=17						
VNDA	**Vanda**	**45.64**	**185**	*e*P	**P**	**12 42 27.8**	**+2.4**
	0.8nm,0.6s,mb3.2						
QSPA	**South Pole Qui**	**57.43**	**180**	*e*P	**P**	**12 43 55.1**	**+2.9**
	28nm,0.4s,mb5.0						
MAW	**Mawson**	**69.49**	**201**	P	**P**	**12 45 10.9**	**+0.3**
	2.5nm,0.5s,mb4.2,baz=135,slow=11,SNR=6.1						
FINES	**FINESS Array B**	**146.57**	**337**	PKPbc	PKPbc	12 53 37.6	-2.9
	0.8nm,0.5s,baz=46,slow=4.7,SNR=8.2						
NB2	**NORSAR Subarra**	**150.66**	**349**	PKPa	PKPbc	12 53 48.5	-2.4
	comp=Z,0.7nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**150.66**	**349**	PKPbc	PKPbc	12 53 48.4	-2.5
	comp=Z,0.9nm,0.6s,baz=14,slow=4.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**160.47**	**186**	PKPab	PKPab	12 54 40.1	-0.9
	comp=Z,1.5nm,0.7s,baz=172,slow=3.5,SNR=11						

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*IDC **30** 13:18:28.6±11.0, 4437N×14722E, h141km±121km, mb3.2/4, mb1 3.5/5, mb1mx3.2/22, mbtmp3.7/5, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/14, Error ellipse: s-maj=188.0km s-min=19.2km az=118.0*
*ISCJB **30** 13:18:29.0±0.9, 443N±0.1×1469E±02, h170km±10km, mb3.5/4, Error ellipse: s-maj=25.1km s-min=14.9km az=91.5*
*JMA **30** 13:18:31.2±0.4, 4439N×14684E, h150km±3km, M3.4*
ISC 30 13:18:29.8±0.9, 444N±01×1469E±02, h161km±11km, n19, σ0§86/23, mb3.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.31**	**221**	P	**Pn**	**13 18 58.6**	**+0.2**
NEM2				*e*S	**Sn**	**13 19 19.5**	**-0.9**
JRA	**Rausu**	**1.37**	**253**	P	**Pn**	**13 18 59.0**	**0.0**
JNK	**Nakash**	**1.78**	**245**	P	**Pn**	**13 19 03.5**	**+0.4**
JAK	**Akkeshi**	**2.12**	**231**	P	**Pn**	**13 19 07.5**	**+0.5**
JAK				*e*S	**Sn**	**13 19 35.6**	**0.0**
JTKR	**Abashiri--Toko**	**2.21**	**261**	P	**Pn**	**13 19 07.9**	**-0.2**
JAR	**Ashorobuto**	**2.53**	**246**	P	**Pn**	**13 19 12.8**	**+1.0**
JMP	**Maruseppu**	**2.60**	**263**	P	**Pn**	**13 19 12.5**	**-0.1**
JOB	**Onbets**	**2.68**	**238**	P	**Pn**	**13 19 14.6**	**+0.9**
JOB				*e*S	**Sn**	**13 19 47.5**	**-0.1**
JKK2	**Kamakawa 2**	**3.06**	**262**	P	**Pn**	**13 19 18.7**	**+0.4**
ASAJ	**Asahikawa**	**3.13**	**267**	P	**Pn**	**13 19 19.9**	**+0.6**
	12nm,0.3s,baz=89,slow=13,SNR=109						
ASAJ	**Asahikawa**	**3.13**	**267**	P	**Pn**	**13 19 19.7**	**+0.5**
JCH	**Churui**	**3.13**	**237**	P	**Pn**	**13 19 19.7**	**+0.5**
JCH				*e*S	**Sn**	**13 19 56.2**	**-1.4**
JFR	**Furan**	**3.37**	**251**	P	**Pn**	**13 19 23.5**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.69**	**237**	P	**Pn**	**13 19 25.8**	**-0.6**
JNBK				*e*S	**Sn**	**13 20 07.7**	**-2.6**
JHJ	**Hachijo jima 2**	**12.53**	**209**	LR	LR	13 26 39.6	
	comp=Z,317nm,20.0s,baz=275,slow=39						
ILAR	**Eielson Array**	**41.09**	**37**	P	**P**	**13 25 57.0**	**-0.7**
	0.6nm,0.6s,mb3.4,baz=275,slow=8.4,SNR=17						
INK	**Inuvik**	**45.96**	**31**	P	**P**	**13 26 35.0**	**-1.5**
	0.6nm,0.4s,mb3.6,baz=309,slow=6.2,SNR=6.9						
YKA	**Yellowknife Ar**	**55.38**	**34**	P	**P**	**13 27 46.8**	**-0.3**
	0.5nm,0.7s,mb3.4,baz=302,slow=7.0,SNR=11						
WRA	**Warramunga Arr**	**65.02**	**193**	P	**P**	**13 28 53.9**	**+1.3**
	0.4nm,0.5s,mb3.5,baz=9.5,slow=6.7,SNR=8.7						

IDC 30 13:26:11.8±1.0, 042N×12532E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.2/17, Error ellipse: s-maj=131.9km s-min=19.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.08**	**157**	P	P	13 31 08.9	+0.5
	0.9nm,0.5s,baz=336,slow=11,SNR=25						
WRA				PcP	PcP	13 35 06.5	+0.3
	0.2nm,0.5s,baz=333,slow=2.1,SNR=5.8						
ASAR	**Alice Springs**	**25.35**	**161**	P	P	13 31 41.2	+0.7
	0.4nm,0.6s,baz=345,slow=13,SNR=14						
ASAR				PcP	PcP	13 35 13.8	+0.6
	0.6nm,0.5s,baz=351,slow=2.1,SNR=20						
PSI	**Prapat**	**26.49**	**275**	LR	LR	13 41 40.0	
	comp=Z,41nm,19.1s,baz=78,slow=35						
STKA	**Stephens Creek**	**35.63**	**156**	P	P	13 33 10.6	-0.7
	0.6nm,0.5s,baz=323,slow=9.4,SNR=4.1						
SONM	**Songino Array**	**50.01**	**343**	P	P	13 35 09.4	+1.5
	0.5nm,0.7s,baz=155,slow=8.2,SNR=4.0						
MKAR	**Makanchi Array**	**59.50**	**327**	P	P	13 36 15.8	-0.9
	0.4nm,0.3s,baz=124,slow=7.8,SNR=7.8						

IDC 30 13:57:17.4±4.2, 1249S×17162E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/14, mbtmp3.8/4, MS3.2/2, Ms1 3.2/2, ms1mx2.7/22, Error ellipse: s-maj=225.9km s-min=26.6km az=142.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.73**	**207**	LR	LR	14 03 06.8	
	comp=Z,111nm,21.9s,baz=26,slow=33						
WRA	**Warramunga Arr**	**36.49**	**253**	P	P	14 04 25.0	+0.7
	0.5nm,0.9s,baz=85,slow=9.0,SNR=6.7						
GUMO	**Guam**	**37.07**	**313**	LR	LR	14 18 26.6	
	comp=Z,50nm,19.3s,baz=238,slow=34						
ASAR	**Alice Springs**	**37.42**	**247**	P	P	14 04 32.3	+0.1
	1.7nm,0.7s,baz=73,slow=9.4,SNR=37						
ILAR	**Eielson Array**	**83.14**	**17**	P	P	14 09 45.3	+0.1
	1.1nm,0.8s,baz=232,slow=6.0,SNR=13						
YKA	**Yellowknife Ar**	**93.65**	**27**	P	P	14 10 34.8	-0.9
	0.3nm,0.8s,baz=254,slow=4.8,SNR=6.5						

IDC 30 14:04:10.7±26.0, 1931S×17341W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.2/4, Error ellipse: s-maj=484.9km s-min=154.2km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.92**	**262**	P	P	14 11 30.6	+1.0
	2.0nm,0.5s,baz=87,slow=13,SNR=7.5						
STKA	**Stephens Creek**	**42.19**	**244**	P	P	14 12 04.8	-0.3
	1.1nm,0.4s,baz=81,slow=14,SNR=5.6						
ASAR	**Alice Springs**	**48.99**	**255**	P	P	14 12 59.5	+0.5
	3.9nm,0.5s,baz=93,slow=7.5,SNR=150						
WRA	**Warramunga Arr**	**49.05**	**260**	P	P	14 12 59.5	+0.1
	0.7nm,0.3s,baz=97,slow=7.4,SNR=87						

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*ISCJB **30** 14:07:45.4±3.8, 3105N±009×1416E±02, h15km±26km, mb4.0/15, Error ellipse: s-maj=31.5km s-min=11.8km az=142.8*

*MOS **30** 14:07:47.9±0.8, 3109N×14160E, h33km, mb4.4/5, Error ellipse: s-maj=33.3km s-min=9.8km az=115.4*
*NEIC **30** 14:07:50.3±1.3, 3111N×14166E, h35km±11km, mb4.3/6, Error ellipse: s-maj=18.8km s-min=9.9km az=75.0*
*IDC **30** 14:07:51.1±5.2, 3111N×14164E, h40km±45km, mb3.7/9, mb1 3.9/10, mb1mx3.7/20, mbtmp3.9/10, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/30, Error ellipse: s-maj=39.1km s-min=18.5km az=75.0*
ISC 30 14:07:50.6±1.9, 311N±01×1417E±02, h40km±16km, n26, σ0§85/27, mb4.0/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.01**	**174**	LR	LR	14 10 29.4	
	comp=Z,334nm,18.0s,baz=313,slow=39						
MJAR	**Matsushiro Arr**	**6.15**	**333**	Pn	**Pn**	**14 09 18.8**	**-0.1**
	1.1nm,0.3s,baz=154,slow=10,SNR=11						
MAJO	**Matsushiro**	**6.16**	**333**	*e*P	**Pn**	**14 09 17.4**	**-1.6**
MAT	**Matsushiro**	**6.16**	**333**	P	**Pn**	**14 09 19.4**	**+0.4**
MAT				S	**Sn**	**14 10 30.1**	**+2.0**
MAT	**Matsushiro**	**6.16**	**333**	*e*P	**Pn**	**14 09 19.0**	**0.0**
MAT				*e*S	**Sn**	**14 10 30.0**	**+1.9**
ULN	**Ulaanbaatar**	**31.21**	**312**	*e*P	**P**	**14 14 05.7**	**-0.4**
	2.4nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**31.21**	**312**	*e*P	**P**	**14 14 05.7**	**-0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**31.62**	**312**	P	**P**	**14 14 10.0**	**+0.3**
	comp=Z,1.3nm,0.9s,mb3.8,baz=139,slow=13,SNR=8.2						
ZAL	**Zalesovo**	**46.25**	**317**	P	**P**	**14 16 11.8**	**-0.1**
	comp=Z,0.8nm,0.3s,mb4.1,baz=342,slow=10.0,SNR=3.8						
NVS	**Novosibirsk**	**47.24**	**318**	*e*P	**P**	**14 16 18.5**	**-1.2**
MKAR	**Makanchi Array**	**47.66**	**307**	P	**P**	**14 16 22.8**	**-0.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=87,slow=9.2,SNR=14						
KURK	**Kurchatov**	**49.93**	**312**	*e*P	**P**	**14 16 39.6**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**49.93**	**312**	*e*P	**P**	**14 16 39.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**51.22**	**189**	*e*P	**P**	**14 16 49.9**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**51.22**	**189**	*e*P	**P**	**14 16 49.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**51.23**	**189**	P	**P**	**14 16 50.6**	**+0.5**
	comp=Z,1.6nm,0.4s,mb4.3,baz=5.4,slow=7.6,SNR=58						
PMR	**Palmer**	**53.34**	**34**	P	**P**	**14 16 58.2**	**-7.6**
	comp=Z,2.9nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**54.96**	**189**	P	**P**	**14 17 18.4**	**+0.8**
	comp=Z,1.2nm,0.5s,mb4.2,baz=359,slow=5.1,SNR=74						
ZRNK	**Zerenda**	**55.69**	**316**	*e*P	**P**	**14 17 22.4**	**-0.4**
	comp=Z,3.3nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**55.69**	**316**	*e*P	**P**	**14 17 22.4**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
RES	**Resolute Bay**	**68.29**	**14**	P	**P**	**14 18 46.2**	**-1.2**
	comp=Z,3.2nm,1.3s,mb4.2						
RES	**Resolute Bay**	**68.29**	**14**	P	**P**	**14 18 46.3**	**-1.2**
RES				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
FINES	**FINESS Array B**	**74.19**	**333**	P	**P**	**14 19 23.0**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=44,slow=6.1,SNR=4.0						
NVAR	**Mina Array Bea**	**78.41**	**52**	P	**P**	**14 19 48.1**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=280,slow=6.4,SNR=4.5						
AKASG	**Malin Array Be**	**79.15**	**323**	P	**P**	**14 19 51.2**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=43,slow=5.2,SNR=4.3						
BRTR	**Keskin Array B**	**82.98**	**312**	P	**P**	**14 20 12.9**	**+1.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=62,slow=5.7,SN

ARCES Pg **Pg** **14 28 46.0 -3.0**
comp=Z,2.4nm,0.3s,baz=119,slow=14,SNR=20
ARCES Sn **Sn** **14 29 19.3 -1.1**
comp=Z,2.7nm,0.3s,baz=119,slow=28,SNR=11
ARCES Lg 14 29 31.7
comp=Z,12nm,0.3s,baz=109,slow=33,SNR=17
OUL Oulu 4.22 235 *e*P **Pn** **14 28 45.1 +0.4**
OUL *e*S **Sn** **14 29 33.9 -0.8**
OUL MSG 14 29 55.4
comp=Z,3.0nm,0.2s
KJN Kajaani 4.48 219 *e*P **Pn** **14 28 48.6 +0.3**
KJN *e*S **Sn** **14 29 39.7 -1.5**
KJN MSG 14 29 58.4
comp=Z,5.4nm,0.3s
KIF Kilpisjarvi 5.09 291 *e*P **Pn** **14 28 57.5 +0.9**
KIF *e*S **Sn** **14 29 55.7 -0.5**
KIF MSG 14 30 17.5
comp=Z,14nm,0.3s
FIA0 FINESS Array S 7.17 213 Pn **Pn** **14 29 24.2 -1.0**
baz=26,slow=14
FIA0 Sn **Sn** **14 30 42.7 -4.6**
baz=42,slow=22
FIA0 Lg 14 31 17.9
baz=27,slow=28
FIA0 FINESS Array S 7.17 213 *e*P **Pn** **14 29 24.2 -1.0**
FIA0 *e*S **Sn** **14 30 42.7 -4.6**
FIA0 *e*SG 14 31 17.9
FINES FINESS Array B 7.17 213 Pn **Pn** **14 29 24.3 -0.9**
comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=7.9
FINES Sn **Sn** **14 30 41.8 -5.5**
comp=Z,0.3nm,0.3s,baz=41,slow=22,SNR=3.9
FINES Lg 14 31 19.4
comp=Z,0.8nm,0.3s,baz=25,slow=23,SNR=5.8
SPA0 Spitsbergen Ar 11.64 342 Pn **Pn** **14 30 25.3 -1.2**
baz=146,slow=14
SPA0 Spitsbergen Ar 11.64 342 *e*P **Pn** **14 30 25.3 -1.2**
HFS Hagfors 11.70 239 Pn **Pn** **14 30 23.4 -3.9**
comp=Z,0.1nm,0.3s,baz=55,slow=18,SNR=2.9
NB2 NORSAR Subarra 11.89 247 *e*P **Pn** **14 30 27.4 -2.5**
NOA NORSAR Array B 11.89 247 Pn **Pn** **14 30 26.3 -3.5**
comp=Z,0.1nm,0.3s,baz=48,slow=12,SNR=2.1

IDC 30 14:50:54.6±1.3,085S×13418E,h0km,mb3.5/3,mb1 3.8/5, mb1mx3.7/16,mbtmp3.6/5,ML3.8/2,Error ellipse: s-maj=57.2km s-min=22.1km az=89.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.98**	**180**	P	Pn	14 55 17.5	-0.5
	0.2nm,0.3s,baz=356,slow=11,SNR=22						
WRA				S	Sn	14 58 42.6	-8.5
	0.0nm,0.3s,baz=350,slow=24,SNR=3.9						
FITZ	**Fitzroy Crossi**	**19.09**	**206**	*e*P	Pn	14 55 20.5	+1.1
	4.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.09**	**206**	P	Pn	14 55 20.4	+0.9
	0.4nm,0.3s,baz=36,slow=15,SNR=8.7						
FITZ				S	Sn	14 58 38.6	-15
	0.2nm,0.3s,baz=176,slow=20,SNR=5.2						
ASAR	**Alice Springs**	**22.68**	**181**	P	P	14 55 57.3	-0.3
	0.4nm,0.3s,baz=358,slow=11,SNR=22						
MKAR	**Makanchi Array**	**65.58**	**324**	P	P	15 01 40.9	+0.7
	0.6nm,0.6s,baz=111,slow=8.4,SNR=9.9						
ILAR	**Eielson Array**	**86.05**	**25**	P	P	15 03 36.1	-1.0
	0.4nm,0.8s,baz=267,slow=5.0,SNR=6.0						

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*NEIC **30** 14:52:33.1,4140S×17466E,h58km,ML3.8(WEL),After WEL.*
NEIC Felt at Wellington.
WEL 30 14:52:34.2±0.1,4139S×17465E,h54km±1km,ML3.7/13, 1C-14D,Error ellipse: s-maj=0.9km s-min=0.8km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.09**	**26**	PN	Pn	14 52 42.4	-0.1
SNZO				SN	Sn	14 52 48.2	-0.1
SNZO	**South Karori**	**0.09**	**26**	P	Pn	14 52 42.4	-0.1
SNZO				S	Sn	14 52 48.2	-0.1
WEL	**Wellington**	**0.13**	**40**	PN	Pn	14 52 42.6	0.0
WEL	**Wellington**	**0.13**	**40**	P	Pn	14 52 41.6	-1.0
MRW	**Makara Radio**	**0.16**	**12**	⇓PN	Pn	14 52 42.6	-0.2
MRW	**Makara Radio**	**0.16**	**12**	P	Pn	14 52 41.6	-1.2
BHW	**Baring Head**	**0.16**	**97**	⇑PN	Pn	14 52 42.7	0.0
BHW				SN	Sn	14 52 48.8	0.0
BHW	**Baring Head**	**0.16**	**97**	P	Pn	14 52 41.7	-1.1
BHW				S	Sn	14 52 47.8	-1.1
TCW	**Tory Channel**	**0.34**	**302**	⇓PN	Pn	14 52 43.6	-0.4
TCW				SN	Sn	14 52 50.2	-0.8
TCW	**Tory Channel**	**0.34**	**302**	P	Pn	14 52 42.6	-1.4
CAW	**Cannon Point**	**0.42**	**48**	⇓PN	Pn	14 52 44.7	-0.2
CAW				SN	Sn	14 52 52.4	-0.1
CAW	**Cannon Point**	**0.42**	**48**	P	Pn	14 52 43.7	-1.2
MSWZ	**Moikau Station**	**0.45**	**94**	⇓PN	Pn	14 52 45.0	-0.2
MSWZ				SN	Sn	14 52 53.0	0.0
MSWZ	**Moikau Station**	**0.45**	**94**	P	Pn	14 52 44.0	-1.2
CMWZ	**Cape Campbell**	**0.49**	**222**	⇓PN	Pn	14 52 46.0	+0.4
CMWZ				SN	Sn	14 52 54.8	+1.0
CMWZ	**Cape Campbell**	**0.49**	**222**	P	Pn	14 52 45.0	-0.6
TUWZ	**Tuamarina**	**0.54**	**265**	⇓PN	Pn	14 52 45.5	-0.7
TUWZ				SN	Sn	14 52 53.2	-1.6
KIW	**Kapiti Island**	**0.56**	**20**	⇓PN	Pn	14 52 46.2	-0.3
KIW	**Kapiti Island**	**0.56**	**20**	P	Pn	14 52 45.2	-1.2
PAWZ	**Paruwai Farm**	**0.58**	**90**	⇓PN	Pn	14 52 46.3	-0.4
PAWZ				SN	Sn	14 52 55.4	-0.3
PAWZ	**Paruwai Farm**	**0.58**	**90**	P	Pn	14 52 45.3	-1.4
BSWZ	**Blackbirch Sta**	**0.67**	**241**	⇓PN	Pn	14 52 47.5	-0.2
BSWZ	**Blackbirch Sta**	**0.67**	**241**	P	Pn	14 52 46.5	-1.3
MTW	**Mount Morrison**	**0.68**	**71**	⇓PN	Pn	14 52 47.4	-0.5
MTW				SN	Sn	14 52 57.6	-0.2
MTW	**Mount Morrison**	**0.68**	**71**	P	Pn	14 52 46.4	-1.5
TRWZ	**Traveller**	**0.78**	**91**	PN	Pn	14 52 48.7	-0.5
DUWZ	**D'Urville Isla**	**0.81**	**316**	PN	Pn	14 52 49.2	-0.3
MRZ	**Mangatainoka R**	**1.01**	**44**	⇓PN	Pn	14 52 51.4	-0.8
MRZ				SN	Sn	14 53 05.1	-0.3
MRZ	**Mangatainoka R**	**1.01**	**44**	P	Pn	14 52 51.4	-0.8
THZ	**Tophouse**	**1.36**	**254**	PN	Pn	14 52 56.0	-0.9
THZ	**Tophouse**	**1.36**	**254**	P	Pn	14 52 56.0	-1.0
WAZ	**Wanganui**	**1.65**	**9**	PN	Pn	14 53 01.6	+0.8
WAZ	**Wanganui**	**1.65**	**9**	P	Pn	14 53 01.7	+0.9
TSZ	**Takapari Road**	**1.66**	**37**	⇓PN	Pn	14 52 59.7	-1.2
TSZ	**Takapari Road**	**1.66**	**37**	P	Pn	14 52 59.8	-1.1
QRZ	**Quartz Range**	**1.70**	**289**	⇓PN	Pn	14 53 01.5	0.0
RAEZ	**Rainy Point**	**2.11**	**354**	P	Pn	14 53 08.5	+1.4
NRZ	**Ngariki Road**	**2.12**	**345**	P	Pn	14 53 07.9	+0.6
MOVZ	**Moawhango**	**2.15**	**23**	P	Pn	14 53 05.9	-1.7
PXZ	**Pawanui**	**2.16**	**52**	PN	Pn	14 53 05.2	-2.5
WNVZ	**Wahianoa**	**2.18**	**20**	P	Pn	14 53 07.0	-1.1
NWEZ	**Newall Road**	**2.20**	**344**	P	Pn	14 53 09.0	+0.7
FWVZ	**Far West T-bar**	**2.24**	**18**	P	Pn	14 53 07.9	-1.0
PKE	**Pukeiti**	**2.25**	**347**	P	Pn	14 53 09.6	+0.6
TUVZ	**Tukino**	**2.25**	**20**	P	Pn	14 53 08.1	-0.9
LTZ	**Lake Taylor**	**2.26**	**231**	⇓PN	Pn	14 53 07.9	-1.2
LTZ	**Lake Taylor**	**2.26**	**231**	P	Pn	14 53 07.9	-1.2
WPVZ	**Whakapapa**	**2.29**	**18**	P	Pn	14 53 08.7	-0.8
NGZ	**Ngauruhoe**	**2.33**	**18**	P	Pn	14 53 09.4	-0.7
WTVZ	**West Tongariro**	**2.38**	**18**	P	Pn	14 53 10.1	-0.7
TWVZ	**Taurewa**	**2.39**	**15**	P	Pn	14 53 09.9	-1.0
KATZ	**Kakaramea**	**2.54**	**19**	P	Pn	14 53 11.8	+1.2
CRLZ	**Canterbury Las**	**2.65**	**214**	PN	Pn	14 53 12.2	-2.4
CRLZ	**Canterbury Las**	**2.65**	**214**	P	Pn	14 53 12.3	-2.2
URZ	**Urewera**	**3.65**	**32**	P	Pn	14 53 24.9	-3.3
MWZ	**Matawai**	**3.77**	**37**	PN	Pn	14 53 26.1	-3.7
MWZ	**Matawai**	**3.77**	**37**	P	Pn	14 53 25.2	-4.6
LBZ	**Lake Benmore**	**4.45**	**226**	*e*P	Pn	14 53 35.8	-3.3
KUZ	**Kuaotunu**	**4.71**	**10**	*e*P	Pn	14 53 40.9	-1.8
MXZ	**Matakaoa Point**	**4.75**	**38**	*e*P	Pn	14 53 38.5	-4.8
JCZ	**Jackson Bay**	**5.11**	**236**	*e*P	Pn	14 53 43.8	-4.3
WKZ	**Wanaka**	**5.37**	**228**	*e*P	Pn	14 53 47.5	-4.3
WCZ	**Waipu Caves**	**5.45**	**357**	*e*P	Pn	14 53 52.8	0.0
EAZ	**Earnscleugh**	**5.47**	**224**	*e*P	Pn	14 53 49.9	-3.3
TUZ	**Tuapeka**	**5.84**	**217**	P	Pn	14 53 55.5	-2.7
MLZ	**Mavora Lakes**	**6.16**	**228**	*e*P	Pn	14 54 00.5	-2.1
DCZ	**Deep Cove**	**6.82**	**231**	*e*P	Pn	14 54 07.3	-4.3

IDC 30 14:56:21.4±53.0,5004S×13692E,h0km,mb3.6/2, mb1 3.8/3,mb1mx3.7/10,mbtmp3.6/3,Error ellipse: s-maj=985.3km s-min=155.8km az=146.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**18.48**	**13**	P	Pn	15 00 38.6	-0.2
	0.0nm,0.3s,baz=171,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**26.43**	**354**	P	P	15 01 59.9	+0.1
	0.4nm,0.6s,baz=169,slow=9.9,SNR=5.1						
WRA	**Warramunga Arr**	**30.10**	**355**	P	P	15 02 32.5	0.0
	1.2nm,0.8s,baz=182,slow=8.2,SNR=9.8						

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*NEIC **30** 15:07:36.0,3050S×71.16W,h56km,MD3.8(GUC),After GUC.*
NEIC Felt [II] at Hurtado and Ovalle.
GUC 30 15:07:36.0±0.9,3050S×7116W,h56km±4km,MD3.8, ML3.9,10C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.11**	**201**	*e*P	Pn	15 07 44.7	+0.1
OVCH				*i* S	Sn	15 07 51.2	+0.6
OVCH				AMP		15 07 51.7	
	comp=N,12μm,0.4s						
TLL	**Tololo Astrono**	**0.45**	**42**	⇑*i*P	Pn	15 07 48.1	+1.1
TLL				*i* S	Sn	15 07 56.8	+1.7
TLL				AMP		15 07 58.1	
	comp=N,7μm,0.4s						
TLL	**Tololo Astrono**	**0.45**	**42**	⇑*i*P	Pn	15 07 48.1	+1.1
TLL				*i* S	Sn	15 07 56.8	+1.7
LSCH	**La Serena**	**0.60**	**353**	⇑*i*P	Pn	15 07 49.1	+0.3
LSCH				*i* S	Sn	15 07 58.6	+0.6
LSCH				AMP		15 07 59.0	
	comp=N,7μm,0.3s						
LSCH	**La Serena**	**0.60**	**353**	⇑*i*P	Pn	15 07 49.1	+0.3
LSCH				*i* S	Sn	15 07 58.6	+0.6
CMCH	**Combarbala**	**0.68**	**169**	⇑*i*P	Pn	15 07 49.4	-0.3
CMCH				*i* S	Sn	15 07 59.5	-0.2
CMCH				AMP		15 08 03.8	
	comp=N,6μm,0.5s						
CMCH	**Combarbala**	**0.68**	**169**	⇑*i*P	Pn	15 07 49.4	-0.3
CMCH				*i* S	Sn	15 07 59.5	-0.2
CHNG	**Los Chungos**	**1.41**	**192**	⇑*i*P	Pn	15 07 59.7	+0.4
CHNG				*i* S	Sn	15 08 17.3	+0.5
CHNG				AMP		15 08 21.3	
	comp=E,1μm,0.7s						
JACH	**Jahuel**	**2.22**	**168**	*e*P	Pn	15 08 11.0	+0.6
JACH				*i* S	Sn	15 08 39.3	+2.6
PEL	**Peldehue**	**2.66**	**171**	⇓*i*P	Pn	15 08 16.9	+0.5
PEL				AMP		15 09 03.0	
	comp=E,896nm,0.3s						
FCH	**Farellones**	**2.91**	**166**	*e*P	Pn	15 08 21.1	+1.3
FCH				AMP		15 09 05.8	
	comp=E,318nm,0.2s						
CLCH	**Cerro Calan**	**2.93**	**170**	AMP		15 09 03.6	
	comp=N,607nm,0.5s						
LCCH	**Las Cruces**	**2.98**	**187**	⇑*i*P	Pn	15 08 21.0	+0.1
RCDM	**Rinconada Maip**	**2.99**	**174**	⇓*i*P	Pn	15 08 22.0	+1.1
RCDM				AMP		15 09 07.6	
	comp=E,411nm,0.1s						
MDZ	**Mendoza**	**3.08**	**141**	*e*P	Pn	15 08 27.6	+5.5
PCH	**Pirque**	**3.15**	**170**	*e*P	Pn	15 08 24.2	+1.1
LMEL	**Las Melosas**	**3.43**	**167**	⇑*i*P	Pn	15 08 29.7	+2.8
LMEL				*i* S	Sn	15 09 09.0	+2.7
LMEL				AMP		15 09 19.6	
	comp=N,266nm,0.3s						
LMEL	**Las Melosas**	**3.43**	**167**	⇑*i*P	Pn	15 08 29.7	+2.8
LMEL				*i* S	Sn	15 09 09.0	+2.7
CHCH	**Chadas Angostu**	**3.45**	**173**	*i* P	Pn	15 08 28.3	+1.2
CACH	**El Canelo**	**3.63**	**173**	⇓*i*P	Pn	15 08 31.3	+1.6
CICH	**Cipreses**	**3.85**	**171**	*e*P	Pn	15 08 34.1	+1.3
SFDO	**San Fernando**	**4.10**	**178**	*e*P	Pn	15 08 36.8	+0.7

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*ISCJB **30** 15:18:28.7±0.3,132S×004×12947E±008,h18km, mb4.6/29,MS3.7/6,Error ellipse: s-maj=11.7km s-min=5.5km az=147.7*
*BJI **30** 15:18:28.2,154S×12956E,h23km,mB4.8,mb4.8,Ms4.6, Msz4.6*
*MOS **30** 15:18:30.5±1.2,125S×12953E,h33km,mb4.6/7,Error ellipse: s-maj=19.6km s-min=9.2km az=116.0*
*IDC **30** 15:18:31.3±0.7,132S×12942E,h20km±4km,mb4.2/11, mb1 4.3/14,mb1mx4.2/22,mbtmp4.3/14,ML4.1/3,MS3.6/5, Ms1 3.6/5,ms1mx3.2/21,Error ellipse: s-maj=25.3km s-min=10.6km az=69.0*
*NEIC **30** 15:18:31.1±0.3,128S×12949E,mb4.6/17,Error ellipse: s-maj=11.8km s-min=5.5km az=67.0*
ISC 30 15:18:30.8±0.3,128S±005×12957E±009,h19km, h19km±1.6km:pP-P,n59,σ1º11/61,mb4.6/29,MS3.7/6,1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.71**	**166**	*e*P	**Pn**	**15 21 15.1**	**-1.6**
	19nm,0.3s						
KAKA				*e*S	**Sn**	**15 23 21.5**	**-5.3**
FITZ	**Fitzroy Crossi**	**17.16**	**193**	⇑*i*P	**Pn**	**15 22 29.0**	**-0.4**
	14nm,0.5s						
FITZ				*e*S	**Sn**	**15 25 34.8**	**-4.8**
FITZ	**Fitzroy Crossi**	**17.16**	**193**	P	**Pn**	**15 22 27.8**	**-1.6**
	1.6nm,0.3s,baz=26,slow=9.7,SNR=24						
WRAB	**Tennant Creek**	**19.12**	**166**	*e*Pn	**Pn**	**15 22 51.5**	**-1.9**
	14nm,0.6s						
WRAB				*e*Sn	**Sn**	**15 26 09.7**	**-17**
WRAB	**Tennant Creek**	**19.12**	**166**	*e*P	**Pn**	**15 22 51.5**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**19.12**	**166**	P	**Pn**	**15 22 52.0**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=343,slow=13,SNR=48						
WRA				S	**Sn**	**15 26 14.0**	**-13**
	comp=Z,1.1nm,0.3s,baz=350,slow=24,SNR=6.9						
PMG	**Port Moresby**	**19.27**	**115**	P	**Pn**	**15 22 56.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=276,slow=10,SNR=3.5						
GUMO	**Guam**	**21.17**	**45**	LR	LR	15 30 26.2	
	comp=Z,98nm,20.6s,MS3.2,baz=100,slow=34						
MBWA	**Marble Bar**	**21.97**	**205**	*e*P	**P**	**15 23 23.1**	**-0.3**
	comp=Z,52nm,1.1s,mb4.9						
ASAR	**Alice Springs**	**22.64**	**170**	P	**P**	**15 23 31.5**	**+0.9**
	comp=Z,19nm,0.7s,mb4.6,baz=352,slow=11,SNR=248						
ASAR				S	**S**	**15 27 37.7**	**-0.4**
	comp=Z,7.6nm,0.9s,baz=345,slow=20,SNR=12						
CTA	**Charters Tower**	**24.81**	**140**	*e*P	**P**	**15 23 53.6**	**+2.0**
	comp=Z,13nm,0.9s,mb4.5						
CTA	**Charters Tower**	**24.81**	**140**	P	**P**	**15 23 53.7**	**+2.1**
	comp=Z,17nm,0.9s,mb4.6,baz=326,slow=11,SNR=14						
CTA	**Charters Tower**	**24.81**	**140**	*e*P	**P**	**15 23 53.6**	**+2.0**
CTA				pmax	pmax		
	comp=Z,13nm,0.9s						
YHNB	**Yeheng**	**27.00**	**343**	P	**P**	**15 24 05.4**	**-6.0**
JOW	**Kunigami**	**27.98**	**358**	LR	LR	15 33 16.6	
	comp=Z,114nm,21.9s,MS3.4,baz=332,slow=32						
FORT	**Forrest**	**29.37**	**183**	*e*P	**P**	**15 24 32.6**	**0.0**
	comp=Z,14nm,0.7s,mb4.8						
PSI	**Prapat**	**30.91**	**278**	P	**P**	**15 24 46.2**	**0.0**
	comp=Z,12nm,0.8s,mb4.8,baz=169,slow=2.2,SNR=5.5						
KLBR	**Kellerberrin**	**32.15**	**199**	*e*P	**P**	**15 24 59.0**	**+1.9**
	comp=Z,15nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**32.48**	**161**	*e*P	**P**	**15 25 00.3**	**+0.3**
	comp=Z,4.5nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**32.48**	**161**	P	**P**	**15 25 00.6**	**+0.6**
	comp=Z,5.6nm,0.7s,mb4.5,baz=335,slow=7.3,SNR=14						
STKA				LR	LR	15 39 05.9	
	comp=Z,141nm,18.9s,MS3.7,baz=18,slow=38						
NWAO	**Narrogin (SRO)**	**33.55**	**199**	P	**P**	**15 25 10.4**	**+1.0**
	comp=Z,7.2nm,0.5s,mb4.8,baz=35,slow=8.6,SNR=10.0						
ARMA	**Armidale**	**35.75**	**146**	*e*P	**P**	**15 25 31.3**	**+3.0**
ARMA				*i* S	**S**	**15 30 57.8**	**-6.6**
MAJO	**Matsushiro**	**38.48**	**11**	P	**P**	**15 25 50.2**	**-1.4**
DZM	**Mont Dzumac**	**41.39**	**123**	P	**P**	**15 26 17.9**	**+2.2**
	comp=Z,5.8nm,0.9s,mb4.2,baz=318,slow=12,SNR=3.9						
LZH	**Lanzhou**	**44.23**	**330**	*e*P	**P**	**15 26 40.3**	**+1.5**
LZH				AP	pP	15 26 45.3	+0.4
LZH				XP	sP	15 26 48.5	+1.3
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,52nm,4.7s						
LZH				LR	LR		
	comp=N,283nm,10.2s						
LZH				LR	LR		
	comp=Z,476nm,13.5s,MS4.6						
LSA	**Lhasa**	**47.89**	**313**	*e*P	**P**	**15 27 09.4**	**+1.8**
	comp=Z,9.2nm,0.8s,mb4.9						
LSA	**Lhasa**	**47.89**	**313**	*e*P	**P**	**15 27 09.4**	**+1.8**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
GTA	**Gaotai**	**48.83**	**329**	*e*P	**P**	**15 27 16.0**	**+1.2**
GTA				AP	pP	15 27 20.3	-0.6
GTA				XP	sP	15 27 22.8	-0.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**50.64**	**308**	*e*P	**P**	**15 27 29.5**	**+0.9**
GUN	**Gumba**	**51.00**	**308**	*e*P	**P**	**15 27 32.1**	**+0.8**
	comp=Z,26nm,0.8s,mb5.2						
KKN	**Kakani**	**51.41**	**308**	*e*P	**P**	**15 27 34.4**	**-0.1**
	comp=Z,13nm,0.8s,mb4.9						
DMN	**Daman**	**51.47**	**307**	*e*P	**P**	**15 27 35.0**	**+0.1**
GKN	**Gorkha**	**52.02**	**308**	*e*P	**P**	**15 27 38.4**	**-0.6**
	comp=Z,14nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**52.74**	**341**	*e*P	**P**	**15 27 44.2**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**52.74**	**341**	*e*P	**P**	**15 27 44.2**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KOLN	**Koldanda**	**52.74**	**307**	*e*P	**P**	**15 27 45.0**	**+0.7**
	comp=Z,47nm,0.8s,mb5.5						
SONM	**Songino Array**	**52.93**	**341**	P	**P**	**15 27 45.8**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=153,slow=8.3,SNR=10						
SONM				pP	pP	15 27 52.0	+0.1
	comp=Z,1.2nm,0.8s,baz=148,slow=9.1,SNR=7.7						
SONM				PcP	PcP	15 28 54.7	+0.2
	comp=Z,1.0nm,0.9s,baz=169,slow=4.9,SNR=3.6						
HYB	**Hyderabad**	**53.57**	**293**	*i* P	**P**	**15 27 51.0**	**+0.6**
HYB	**Hyderabad**	**53.57**	**293**	*e*P	**P**	**15 27 51.0**	**+0.6**
YAK	**Yakutsk**	**63.14**	**0**	*e*P	**P**	**15 28 56.3**	**-1.0**
	comp=Z,14nm,0.8s,mb5.2						
YAK	**Yakutsk**	**63.14**	**0**	*e*P	**P**	**15 28 56.3**	**-1.0**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**63.27**	**326**	P	**P**	**15 28 57.9**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.4,baz=121,slow=8.7,SNR=34						
MKAR				LR	LR	15 59 24.1	
	comp=Z,36nm,18.8s,MS3.6,baz=215,slow=39						
ZAL	**Zalesovo**	**66.32**	**333**	P	**P**	**15 29 17.5**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.1,baz=153,slow=4.5,SNR=2.6						
ZAL				pP	pP	15 29 24.2	0.0
	comp=Z,1.0nm,0.4s,baz=19,slow=2.0,SNR=1.8						
KURK	**Kurchatov**	**67.47**	**328**	*e*P	**P**	**15 29 24.7**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.7						
KURK	**Kurchatov**	**67.47**	**328**	*e*P	**P**	**15 29 24.9**	**-0.4**
NVS	**Novosibirsk**	**67.60**	**333**	*e*P	**P**	**15 29 24.2**	**-1.9**
TIXI	**Tiksi**	**72.81**	**360**	*e*P	**P**	**15 29 56.5**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**73.12**	**327**	*e*P	**P**	**15 29 59.4**	**-0.5**
	comp=Z,5.3nm,1.1s,mb4.4						
BRVK	**Borovoye**	**73.12**	**327**	*e*P	**P**	**15 29 59.4**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CHKZ	**Chkalovo**	**73.21**	**328**	*e*P	**P**	**15 29 59.3**	**-1.1**
	comp=Z,3.1nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**73.21**	**328**	*e*P	**P**	**15 29 59.3**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**73.77**	**327**	*e*P	**P**	**15 30 03.1**	**-0.6**
	comp=Z,6.4nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**73.77**	**327**	*e*P	**P**	**15 30 03.1**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
VNDA	**Vanda**	**78.14**	**173**	P	**P**	**15 30 29.2**	**+0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=0.0,slow=20,SNR=4.6						
VNDA	**Vanda**	**78.14**	**173**	P	**P**	**15 30 29.2**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**88.39**	**25**	P	**P**	**15 31 21.5**	**0.0**
	comp=Z,0.5nm,1.1s,mb3.7,baz=224,slow=5.0,SNR=3.6						
ILAR				LR	LR	16 11 09.0	
	comp=Z,34nm,18.8s,MS3.8,baz=182,slow=36						
QSPA	**South Pole Qui**	**88.66**	**180**	P	**P**	**15 31 21.9**	**-0.8**
	comp=Z,4.4nm,1.1s,mb4.7						
TORD	**Torodi Ar. Bea**	**127.08**	**285**	PKP	PKPdf	15 37 35.5	+1.9
	comp=Z,1.4nm,0.8s,baz=100,slow=1.8,SNR=3.8						
TORD				pPKP	pPKPdf	15 37 41.1	+0.9
	comp=Z,1.2nm,0.7s,baz=57,slow=1.9,SNR=8.0						
CPUP	**Villa Florida**	**151.75**	**167**	PKPbc	PKPbc	15 38 26.1	+2.0
	comp=Z,1.2nm,0.5s,baz=137,slow=3.6,SNR=5.8						
CPUP				pPKPbc	pPKPbc	15 38 32.3	+1.6
	comp=Z,2.4nm,0.6s,baz=357,slow=2.7,SNR=4.6						

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*ISCJB **30** 15:30:17.9±0.9,3818N±003×2672E±007,h12km±6km, Error ellipse: s-maj=9.0km s-min=5.3km az=24.1*
*ATH **30** 15:30:17.2,3814N×2643E,h3km±2km,MD3.0/3*
*ISK **30** 15:30:17.6,3821N×2672E,h16km,MD2.8*
*CSEM **30** 15:30:18.6±0.2,3819N×2682E,h20km,MD2.8,Error ellipse: s-maj=7.3km s-min=3.7km az=113.0*
**ISC 30 15:30:18.0±0.9,3819N±003×2670E±007,h14km±6km

MDJ LR LR
comp=E,15nm,22.6s
MDJ LR LR
comp=Z,32nm,37.4s
CN2 Changchun 34.39 334 *e*P **P 16 03 11.5 +3.3**
WRAB Tennant Creek 35.16 198 *e*P **P 16 03 14.5 -0.4**
comp=Z,13nm,0.9s,mb4.8
WRA Warramunga Arr 35.17 198 P **P 16 03 14.9 0.0**
comp=Z,5.1nm,0.6s,mb4.5,baz=21,slow=9.5,SNR=76
WRA PcP PcP 16 05 45.2 +1.5
comp=Z,0.6nm,0.5s,baz=13,slow=3.5,SNR=6.2
ENH Enshi 36.77 302 *e*P **P 16 03 28.9 +0.3**
comp=Z,6.1nm,0.9s,mb4.5
ENH *e*PcP PcP 16 05 49.2 +0.8
FITZ Fitzroy Crossi 37.09 212 *e*P **P 16 03 31.3 0.0**
comp=Z,7.7nm,1.0s,mb4.6
FITZ Fitzroy Crossi 37.09 212 P **P 16 03 31.7 +0.4**
comp=Z,4.2nm,0.8s,mb4.5,baz=345,slow=7.1,SNR=10
ASAR Alice Springs 38.82 197 P **P 16 03 46.2 +0.4**
comp=Z,1.8nm,0.6s,mb4.1,baz=23,slow=11,SNR=25
ASAR PP PP 16 05 16.9 -0.1
comp=Z,1.2nm,0.9s,baz=20,slow=11,SNR=5.5
HHC Hu-ho-hao-te 39.85 319 *e*P **P 16 03 54.0 -0.4**
HHC PP PP 16 05 31.5 +3.3
HHC PCP PcP 16 05 57.5 -0.5
HHC S **S 16 09 49.5 -0.9**
HHC SCS ScS 16 13 45.5 -4.0
HHC AMB AMB
comp=Z,5.0nm,0.3s,mb4.8
HHC AMB AMB
comp=Z,53nm,4.8s
HHC LR LR
comp=N,179nm,5.3s
HHC LR LR
comp=E,150nm,6.3s
HHC LR LR
comp=Z,111nm,7.7s
DZM Mont Dzumac 41.26 149 P **P 16 04 05.9 -0.1**
comp=Z,4.5nm,0.8s,mb4.3,baz=354,slow=9.2
CD2 Chengdu 41.69 301 *e*P **P 16 04 09.0 -0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
LZH Lanzhou 43.17 309 *e*P **P 16 04 22.5 +1.1**
LZH AP pP 16 04 51.3 +3.5
LZH PP PP 16 06 06.5 +2.6
LZH AMB AMB
comp=Z,18nm,1.4s,mb4.6
LZH AMB AMB
comp=Z,49nm,6.2s
ARMA Armidale 44.37 172 *e*P **P 16 04 32.2 +1.2**
STKA Stephens Creek 45.52 184 ⇓*i*P **P 16 04 38.2 -2.0**
comp=Z,3.7nm,0.4s,mb4.5
STKA Stephens Creek 45.52 184 P **P 16 04 38.3 -1.9**
comp=Z,4.6nm,0.4s,mb4.5,baz=360,slow=6.0,SNR=23
STKA Stephens Creek 45.52 184 *e*P **P 16 04 38.1 -2.1**
ULN Ulaanbaatar 46.42 325 P **P 16 04 43.9 -3.4**
comp=Z,1.2nm,0.7s,mb3.7
SONM Songino Array 46.78 325 P **P 16 04 49.5 -0.5**
comp=Z,0.8nm,0.6s,mb3.6,baz=134,slow=5.7,SNR=5.6
FORT Forrest 47.27 200 *e*P **P 16 04 54.2 +0.4**
comp=Z,8.0nm,0.6s,mb4.6
GTA Gaotai 47.30 311 *e*P **P 16 04 55.3 +1.2**
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
YAK Yakutsk 49.46 350 P **P 16 05 09.9 -0.8**
comp=Z,12nm,0.6s,mb5.0
LSA Lhasa 52.21 297 *e*P **P 16 05 32.4 +1.2**
comp=Z,4.3nm,0.7s,mb4.6
NWAO Narrogin (SRO) 53.58 209 P **P 16 05 45.0 +3.7**
comp=Z,27nm,1.2s,mb5.2
BILL Bilibino 55.93 9 P **P 16 05 57.1 -1.1**
comp=Z,1.6nm,0.8s,mb4.1
JIRN Jiri 56.44 294 *e*P **P 16 06 01.8 -0.1**
comp=Z,4.5nm,0.6s,mb4.7
GUN Gumba 56.72 294 *e*P **P 16 06 04.3 +0.4**
comp=Z,8.6nm,0.5s,mb5.0
KKN Kakani 57.25 294 *e*P **P 16 06 07.2 -0.4**
DMN Daman 57.40 294 *e*P **P 16 06 07.7 -0.9**
comp=Z,7.5nm,0.6s,mb4.9
GKN Gorkha 57.82 295 *e*P **P 16 06 10.9 -0.7**
comp=Z,6.2nm,0.6s,mb4.8
KOLN Koldanda 58.74 294 *e*P **P 16 06 16.8 -1.2**
comp=Z,5.8nm,0.7s,mb4.7
MKAR Makanchi Array 61.59 316 P **P 16 06 37.5 0.0**
comp=Z,1.2nm,0.7s,mb4.0,baz=90,slow=8.7,SNR=14
MKAR pP pP 16 07 06.0 +0.6
comp=Z,1.0nm,0.8s,baz=98,slow=8.8,SNR=4.8
ZAL Zalesovo 61.68 324 P **P 16 06 38.6 +0.6**
comp=Z,0.5nm,0.5s,mb3.8,baz=44,slow=6.0,SNR=3.5
PALK Pallekele 63.60 271 P **P 16 06 55.1 +4.3**
comp=Z,8.0nm,1.2s,mb4.4
KURK Kurchatov 64.66 320 *e*P **P 16 06 56.7 -1.0**
comp=Z,2.3nm,0.8s,mb4.1
KURK *e*PcP PcP 16 07 26.1 -4.4
MCK McKinley 67.13 26 *e*P **P 16 07 12.4 -1.1**
comp=Z,4.3nm,1.4s,mb4.1
ILAR Eielson Array 68.26 25 P **P 16 07 18.8 -1.8**
comp=Z,1.0nm,0.6s,mb3.9,baz=249,slow=6.1,SNR=36
ILAR pP pP 16 07 49.9 +0.7
comp=Z,0.4nm,0.5s,baz=253,slow=5.9,SNR=4.8
BRVK Borovoye 70.06 322 *e*P **P 16 07 31.0 -0.7**
comp=Z,1.5nm,0.6s,mb4.0
ZRNK Zerenda 70.82 322 *e*P **P 16 07 34.5 -1.8**
comp=Z,2.1nm,0.9s,mb4.0
INK Inuvik 74.07 22 *e*P **P 16 07 54.7 -0.9**
comp=Z,3.3nm,1.1s,mb4.0
YKA Yellowknife Ar 82.55 27 P **P 16 08 41.7 -0.5**
comp=Z,1.0nm,0.6s,mb3.8,baz=285,slow=5.1,SNR=18
YKA Yellowknife Ar 82.55 27 P **P 16 08 41.7 -0.5**
NVAR Mina Array Bea 86.55 51 P **P 16 09 04.7 +2.3**
comp=Z,1.3nm,0.6s,mb4.0,baz=290,slow=4.0,SNR=11
HLID Hailey 87.98 46 *e*P **P 16 09 10.3 +1.1**
comp=Z,6.7nm,1.0s,mb4.6
ELK Elko 88.20 49 *e*P **P 16 09 12.0 +1.7**
comp=Z,5.1nm,0.8s,mb4.6
HRY Holter Researc 88.75 42 P **P 16 09 13.1 +0.2**
PDAR Pinedale Array 91.60 45 P **P 16 09 26.7 +0.6**
comp=Z,0.4nm,0.6s,mb3.8,baz=226,slow=1.8,SNR=4.7
TORD Torodi Ar. Bea 135.04 305 PKP PKPdf 16 15 40.7 +2.9
comp=Z,1.2nm,0.7s,baz=22,slow=2.8,SNR=8.1
DBIC Dimbokro 144.01 302 PKP PKPdf 16 15 53.3 -0.8
comp=Z,6.8nm,0.6s,baz=27,slow=3.9,SNR=19
LPAZ La Paz 147.72 99 PKPbc PKPbc 16 16 04.3 +0.9
comp=Z,0.9nm,0.5s,baz=272,slow=2.9,SNR=6.8

TEH ***30*** *16:16:05.0,3355N×4885E,h0km,ML4.6*
SZGRF ***30*** *16:16:54.5,3204N×4936E,h33km,mb4.4,MS3.6, Western Iran*
BJI ***30*** *16:17:03.5,3350N×4870E,h10km,mB5.0,mb4.7,Ms4.8, Msz4.4*
ISCJB ***30*** *16:17:05.4±0.2,3358N±002×4872E±002,h14km, mb4.6/103,MS4.0/28,Error ellipse: s-maj=2.8km s-min=1.9km az=19.6*
THR ***30*** *16:17:06.8±0.9,3374N×4892E,h14km±9km,ML4.5*
CSEM ***30*** *16:17:06.9±0.1,3353N×4871E,h30km,mb4.6/38,Ms3.7, Error ellipse: s-maj=2.1km s-min=1.2km az=12.0*
NEIC ***30*** *16:17:06.5±0.2,3355N×4871E,h10km,mb4.8/48, ML4.6(THR),MN4.7(TEH),Error ellipse: s-maj=5.9km s-min=3.1km az=188.0*
MOS ***30*** *16:17:07.9±1.4,3358N×4870E,h33km,mb4.7/30,Error ellipse: s-maj=6.6km s-min=4.1km az=112.3*
IDC ***30*** *16:17:10.3±2.1,3374N×4865E,h35km±14km,mb3.9/20, mb1 4.1/22,mb1mx4.1/25,mbtmp4.1/22,ML3.5/3,MS3.8/15, Ms1 3.8/15,ms1mx3.8/21,Error ellipse: s-maj=15.1km s-min=12.4km az=123.0*
OMAN ***30*** *16:17:21.9,3283N×4943E,h150km±5km,Error ellipse: s-maj=65.7km s-min=7.7km az=335.0*
ISC 30 16:17:07.4±0.2,3358N±002×4874E±002,h14km, h14km±1.3km:pP-P,n367,σ1§31/418,mb4.6/103,MS4.0/28, 13C-11D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.18**	**301**	*e*Pg	**Pg**	**16 17 28.3**	**-1.8**
IKOM	**Komasi**	**1.18**	**301**	Pg	**Pg**	**16 17 28.2**	**-1.9**
ASAO	**Ashtian**	**1.44**	**48**	*e*PG	**Pg**	**16 17 29.3**	**-5.7**
ASAO				*e*SG	**Sg**	**16 17 46.0**	**-7.8**
ASAO				AML	AML	16 17 50.9	
	comp=E,9μm,0.4s						
ASAO				AML	AML	16 17 53.8	
	comp=N,10μm,0.7s						
ASAO	**Ashtian**	**1.44**	**48**	*e*Pg	**Pg**	**16 17 29.3**	**-5.8**
	SNR=90						
ASAO				*e*Sg	**Sg**	**16 17 46.0**	**-7.8**
	SNR=90						
SHGR	**Shooshtar-Gavs**	**1.47**	**178**	*e*PG	**Pg**	**16 17 36.4**	**+0.7**
SHGR				AML	AML	16 18 03.6	
	comp=E,6μm,0.6s						
SHGR				AML	AML	16 18 16.8	
	comp=N,4μm,0.6s						
SNGE	**Sanandaj**	**1.90**	**323**	*e*PG	**Pg**	**16 17 40.9**	**-2.9**
SNGE				*e*SG	**Sg**	**16 18 06.4**	**-2.0**
SNGE				AML	AML	16 18 14.9	
	comp=E,7μm,0.5s						
SNGE	**Sanandaj**	**1.90**	**323**	*e*Pg	**Pg**	**16 17 40.9**	**-2.9**
	SNR=90						
SNGE				*e*Sg	**Sg**	**16 18 06.4**	**-2.0**
	SNR=90						
IGHG	**Ghaleghazi**	**1.95**	**293**	*e*Pn	**Pn**	**16 17 43.2**	**+3.2**
IPIR	**Pirpir**	**2.02**	**116**	*e*Pn	**Pn**	**16 17 40.4**	**-0.5**
IPIR				*e*Sn	**Sn**	**16 18 07.0**	**+1.1**
IPIR				*e*Sn	**Sn**	**16 18 07.7**	**+1.8**
IRAZ	**Razeghan**	**2.07**	**28**	*e*Pn	**Pn**	**16 17 42.7**	**+1.1**
IRAZ				*e*Sn	**Sn**	**16 18 09.1**	**+2.0**
IRAZ				*e*Sn	**Sn**	**16 18 09.5**	**+2.4**
IRAZ	**Razeghan**	**2.07**	**28**	*e*Pn	**Pn**	**16 17 42.7**	**+1.1**
IRAZ				*e*Sn	**Sn**	**16 18 09.1**	**+2.0**
IDHR	**Dehrash**	**2.25**	**300**	*e*Pn	**Pn**	**16 17 46.9**	**+2.8**
IDHR				*e*Lg		16 18 20.5	
IDHR	**Dehrash**	**2.25**	**300**	Pn	**Pn**	**16 17 46.8**	**+2.7**
IDHR				Lg		16 18 20.4	
IKLH	**Kalahroud**	**2.39**	**96**	*e*Pn	**Pn**	**16 17 45.9**	**-0.1**
IKLH				*e*Sn	**Sn**	**16 18 15.1**	**0.0**
IKLH				*e*Sn	**Sn**	**16 18 15.7**	**+0.6**
IKLH	**Kalahroud**	**2.39**	**96**	Pn	**Pn**	**16 17 45.8**	**-0.2**
IMHD	**Mahdasht**	**2.63**	**37**	*e*Pn	**Pn**	**16 17 50.7**	**+1.3**
IMHD				*e*Sn	**Sn**	**16 18 22.4**	**+1.3**
IMHD				*e*Sn	**Sn**	**16 18 22.4**	**+1.3**
IMHD	**Mahdasht**	**2.63**	**37**	Pn	**Pn**	**16 17 50.6**	**+1.2**
IMHD				Sn	**Sn**	**16 18 22.3**	**+1.2**
IVRN	**Varamin**	**2.85**	**59**	*e*Pn	**Pn**	**16 17 52.6**	**+0.2**
IVRN				*e*Sn	**Sn**	**16 18 26.7**	**+0.3**
IVRN				*e*Sn	**Sn**	**16 18 26.7**	**+0.3**
IVRN	**Varamin**	**2.85**	**59**	Pn	**Pn**	**16 17 52.5**	**+0.1**
IZEF	**Zefreh**	**3.09**	**102**	*e*Pn	**Pn**	**16 17 56.3**	**+0.7**
IZEF				*e*Sn	**Sn**	**16 18 31.7**	**-0.6**
IZEF				*e*Sn	**Sn**	**16 18 31.7**	**-0.6**
IAFJ	**Afjeh**	**3.34**	**46**	*e*Pn	**Pn**	**16 18 00.0**	**+0.9**
IAFJ				*e*Sn	**Sn**	**16 18 38.6**	**+0.1**
IAFJ				*e*Sn	**Sn**	**16 18 38.7**	**+0.2**
IAFJ	**Afjeh**	**3.34**	**46**	Pn	**Pn**	**16 17 59.9**	**+0.8**
DAMV	**Damavand**	**3.36**	**52**	*e*PN	**Pn**	**16 17 58.0**	**-1.4**
DAMV				AML	AML	16 18 56.4	
	comp=E,1μm,0.5s						
NASN	**Na'in**	**3.50**	**102**	*e*Pn	**Pn**	**16 18 02.1**	**+0.8**
BHD	**Baghdad**	**3.66**	**266**	*ex*	x	16 17 55.0	
BHD				*i x*	x	16 18 06.5	
BHD				*i x*	x	16 18 36.0	
IFIR	**Firoozkooh**	**3.90**	**57**	*e*Pn	**Pn**	**16 18 07.8**	**+1.0**
IFIR				*e*Sn	**Sn**	**16 18 51.0**	**-1.3**
IFIR				*e*Sn	**Sn**	**16 18 51.6**	**-0.7**
IFIR	**Firoozkooh**	**3.90**	**57**	*e*Pn	**Pn**	**16 18 07.8**	**+1.0**
IFIR				*e*Sn	**Sn**	**16 18 51.6**	**-0.7**
IPRN	**Paran-Amol**	**3.92**	**46**	*e*Pn	**Pn**	**16 18 09.1**	**+2.1**
IPRN				*e*Sn	**Sn**	**16 18 52.3**	**-0.4**
IPRN				*e*Sn	**Sn**	**16 18 52.6**	**-0.1**
IPRN	**Paran-Amol**	**3.92**	**46**	Pn	**Pn**	**16 18 09.0**	**+2.0**
ILAS	**Lasjerd**	**3.92**	**62**	*e*Pn	**Pn**	**16 18 07.4**	**+0.3**
ILAS				*e*Sn	**Sn**	**16 18 51.7**	**-1.2**
ILAS				*e*Sn	**Sn**	**16 18 52.0**	**-0.9**
ILAS	**Lasjerd**	**3.92**	**62**	Pn	**Pn**	**16 18 07.3**	**+0.2**
ISHM	**Shahmirzad**	**4.36**	**58**	*e*Pn	**Pn**	**16 18 13.9**	**+0.8**
ISHM				*e*Sn	**Sn**	**16 19 02.4**	**-1.3**
ISHM				*e*Sn	**Sn**	**16 19 02.4**	**-1.3**
ISHM	**Shahmirzad**	**4.36**	**58**	Pn	**Pn**	**16 18 13.8**	**+0.7**
IBST	**Bostanabad**	**4.38**	**340**	*e*Pn	**Pn**	**16 18 15.3**	**+2.0**
KBD	**Kabd**	**4.48**	**192**	*e*P	**Pn**	**16 18 17.4**	**+2.6**
KBD				*e*S	**Sn**	**16 19 10.3**	**+3.6**
KBD				AML	AML	16 19 14.1	
	comp=Z,524nm,0.4s						
NAY	**Al-Naaiem**	**4.50**	**197**	*e*P	**Pn**	**16 18 18.0**	**+2.9**
NAY				AML	AML	16 19 11.1	
	comp=Z,56nm,0.5s						
IAZR	**Azarshahr**	**4.66**	**332**	*e*Pn	**Pn**	**16 18 20.0**	**+2.7**
IAZR				*e*Sn	**Sn**	**16 19 12.5**	**+1.3**
IAZR				*e*Sn	**Sn**	**16 19 12.8**	**+1.6**
IAZR	**Azarshahr**	**4.66**	**332**	Pn	**Pn**	**16 18 19.9**	**+2.6**
IANJ	**Anjiloo**	**4.67**	**65**	*e*Pn	**Pn**	**16 18 17.5**	**+0.1**
IANJ	**Anjiloo**	**4.67**	**65**	Pn	**Pn**	**16 18 17.4**	**0.0**
RDF	**Al-Radifah**	**4.75**	**193**	*e*P	**Pn**	**16 18 21.3**	**+2.8**
RDF				*e*S	**Sn**	**16 19 16.1**	**+2.8**
RDF				AML	AML	16 19 16.2	
	comp=Z,162nm,0.6s						
RDF	**Al-Radifah**	**4.75**	**193**	*e*S	**Sn**	**16 19 16.1**	**+2.8**
IGLO	**Galoogah**	**4.76**	**54**	*e*Pn	**Pn**	**16 18 24.2**	**+5.6**
IGLO	**Galoogah**	**4.76**	**54**	Pn	**Pn**	**16 18 24.1**	**+5.5**
IKIA	**Kiasar**	**4.83**	**56**	*e*Pn	**Pn**	**16 18 20.4**	**+0.7**
IKIA				*e*Sn	**Sn**	**16 19 13.3**	**-2.1**
IKIA				*e*Sn	**Sn**	**16 19 13.7**	**-1.7**
IKIA	**Kiasar**	**4.83**	**56**	*e*Pn	**Pn**	**16 18 20.4**	**+0.7**
IKIA				*e*Sn	**Sn**	**16 19 13.7**	**-1.7**
IKIA	**Kiasar**	**4.83**	**56**	Pn	**Pn**	**16 18 20.3**	**+0.6**
QRN	**Al-Qurain**	**4.87**	**189**	*e*P	**Pn**	**16 18 22.7**	**+2.5**
QRN				*e*S	**Sn**	**16 19 20.4**	**+4.1**
QRN				AML	AML	16 19 22.4	
	comp=Z,142nm,0.5s						
ICHK	**Chekchek**	**4.95**	**104**	*e*Pn	**Pn**	**16 18 21.2**	**-0.1**
ITBZ	**Tabriz**	**5.10**	**336**	*e*Pn	**Pn**	**16 18 25.4**	**+2.2**
ITBZ				*e*Sn	**Sn**	**16 19 23.1**	**+1.3**
ITBZ				*e*Sn	**Sn**	**16 19 23.2**	**+1.4**
IPAR	**Pars**	**5.23**	**134**	*e*Pn	**Pn**	**16 18 25.6**	**+0.5**
IPAR	**Pars**	**5.23**	**134**	Pn	**Pn**	**16 18 25.5**	**+0.4**
MSL	**Mosul**	**5.37**	**302**	*ex*	x	16 18 29.5	
MSL				*i x*	x	16 18 50.5	
MSL				*i x*	x	16 19 32.5	
MSL				*i x*	x	16 20 05.5	
IMEH	**Mehriz**	**5.42**	**112**	*e*Pn	**Pn**	**16 18 27.5**	**-0.2**
CUKT	**Cukurca**	**5.56**	**313**	P	**Pn**	**16 18 29.8**	**+0.1**
IMOK	**Mook**	**5.66**	**142**	*e*Pn	**Pn**	**16 18 31.1**	**+0.1**
IMOK	**Mook**	**5.66**	**142**	Pn	**Pn**	**16 18 31.0**	**0.0**
IMRD	**Marand**	**5.68**	**335**	*e*Pn	**Pn**	**16 18 33.6**	**+2.4**
IMRD				*e*Sn	**Sn**	**16 19 36.7**	**+0.5**
IMRD				*e*Sn	**Sn**	**16 19 36.9**	**+0.7**
IMRD	**Marand**	**5.68**	**335**	Pn	**Pn**	**16 18 33.5**	**+2.3**
HKR	**Hakkari**	**5.70**	**316**	P	**Pn**	**16 18 32.1**	**+0.6**
IBAF	**Bafgh**	**6.10**	**107**	*e*Pn	**Pn**	**16 18 36.6**	**-0.4**
VANT	**Van**	**6.51**	**320**	*e*P	**Pn**	**16 18 44.7**	**+2.1**
CLDR	**Caldiran**	**6.78**	**326**	*e*P	**Pn**	**16 18 49.5**	**+3.1**
GNI	**Garni**	**7.29**	**335**	*e*P	**Pn**	**16 19 03.1**	**+10**
GNI	**Garni**	**7.29**	**335**	Pn	**Pn**	**16 18 54.4**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=29,slow=9.5,SNR=8.5						
GNI				Lg		16 20 60.0	
	comp=Z,0.3nm,0.3s,baz=298,slow=18,SNR=1.5						
GNI				LR	LR	16 22 00.9	
	comp=Z,2μm,20.2s,baz=152,slow=41						
GNI	**Garni**	**7.29**	**335**	*e*Pn	**Pn**	**16 18 57.4**	**+4.0**
	comp=Z,206nm,1.3s						
BTMT	**Batman**	**7.47**	**310**	*e*P	**Pn**	**16 18 56.7**	**+0.9**
ISHV	**Shirvan**	**8.29**	**59**	*e*Pn	**Pn**	**16 19 09.6**	**+2.4**
DGRG	**David-gareji**	**8.30**	**342**	P	**Pn**	**16 19 08.7**	**+1.5**
DGRG				S	**Sn**	**16 20 43.7**	**+3.0**
ISFR	**Esferayen**	**8.32**	**63**	*e*Pn	**Pn**	**16 19 10.2**	**+2.7**
EZM	**Erzurum**	**8.65**	**319**	*e*P	**Pn**	**16 19 12.9**	**+0.9**
MTA	**Mtatsminda**	**8.68**	**340**	P	**Pn**	**16 19 16.6**	**+4.2**
MTA				S	**Sn**	**16 20 49.3**	**-0.7**
IQHU	**Quchan**	**8.73**	**64**	*e*Pn	**Pn**	**16 19 14.6**	**+1.4**
IEMG	**Emamqoli**	**8.94**	**62**	*e*Pn	**Pn**	**16 19 18.0**	**+2.0**
IEMG	**Emamqoli**	**8.94**	**62**	Pn	**Pn**	**16 19 17.9**	**+1.9**
URFA	**Urfa**	**8.95**	**298**	*e*P	**Pn**	**16 19 17.8**	**+1.6**
IMOG	**Moghan**	**9.07**	**71**	*e*Pn	**Pn**	**16 19 17.7**	**-0.1**
MAK	**Makhachkala**	**9.41**	**354**	*e*P	**Pn**	**16 19 21.0**	**-1.5**
MAK				MLR	MLR		
	comp=Z,1517μm,13.0s						
MALT	**Malatya**	**9.60**	**302**	*e*P	**Pn**	**16 19 24.2**	**-0.8**
MALT	**Malatya**	**9.60**	**302**	*e*P	**Pn**	**16 19 25.1**	**+0.1**
	comp=Z,33nm,0.9s						
MALT	**Malatya**	**9.60**	**302**	*e*Pn	**Pn**	**16 19 25.1**	**+0.1**
	comp=Z,33nm,0.9s						
MALT	**Malatya**	**9.60**	**302**	*e*P	**Pn**	**16 19 25.1**	**+0.1**
MALT				pmax	pmax		
	comp=Z,33nm,0.9s						
MYA	**Malataya**	**9.61**	**302**	*e*P	**Pn**	**16 19 25.4**	**+0.2**
IMYA	**Miamay**	**9.72**	**70**	*e*Pn	**Pn**	**16 19 26.4**	**-0.4**
IMYA	**Miamay**	**9.72**	**70**	Pn	**Pn**	**16 19 26.3**	**-0.5**
ZEI	**Tsey**	**9.93**	**339**	*e*P	**Pn**	**16 19 33.8**	**+4.2**
BANOM	**Banah**	**10.07**	**137**	P	**Pn**	**16 19 30.7**	**-0.8**
	SNR=6.2						
GAZ	**Gaziantep**	**10.07**	**294**	*e*P	**Pn**	**16 19 34.0**	**+2.5**
BHL	**Bhannes**	**10.90**	**275**	*e*Pn	**Pn**	**16 19 46.2**	**+3.3**
ASHO	**Ashiyiah**	**10.93**	**142**	P	**Pn**	**16 19 41.4**	**-1.8**
	SNR=19						
KOZT	**Kozan**	**11.21**	**294**	*e*P	**Pn**	**16 19 48.8**	**+1.7**
KIV	**Kislovodsk**	**11.38**	**337**	*e*P	**Pn**	**16 19 53.5**	**+4.1**
	comp=Z,24nm,1.1s						
KIV	**Kislovodsk**	**11.38**	**337**	*e*Pn	**Pn**	**16 19 52.6**	**+3.1**
	comp=Z,51nm,1.4s						
KIV	**Kislovodsk**	**11.38**	**337**	*e*P	**Pn**	**16 19 53.5**	**+4.1**
KIV				*e*S	**Sn**	**16 22 03.8**	**+7.5**
KIV				pmax	pmax		
	comp=Z,24nm,1.1s						
KIV				MLR	MLR		
	comp=Z,733nm,10.0s						
SOC	**Sochi**	**12.22**	**327**	*i* P	**Pn**	**16 20 03.5**	**+2.6**
	comp=Z,26nm,1.2s						
SOC	**Sochi**	**12.22**	**327**	*c i*P	**Pn**	**16 20 03.5**	**+2.6**
SOC				*e*		16 22 22.3	
SOC				pmax	pmax		
	comp=Z,26nm,1.2s						
GOF	**Gofitskoye**	**12.28**	**341**	*e*P	**Pn**	**16 20 05.8**	**+4.1**
GOF				pmax	pmax		
	comp=Z,40nm,1.0s						
ARQ	**Araqi**	**12.29**	**144**	P	**Pn**	**16 19 59.6**	**-2.2**
	SNR=10						
EIL	**Elat**	**12.38**	**255**	*e*Pn	**Pn**	**16 20 02.2**	**-0.8**
	comp=Z,523nm,0.8s						
CSS	**Prodhromos**	**12.82**	**280**	*e*Pn	**Pn**	**16 20 07.3**	**-1.8**
	comp=Z,53nm,1.1s						
SMDO	**Samad**	**13.30**	**140**	P	**Pn**	**16 20 12.2**	**-3.4**
	SNR=10						
KAMT	**Kaman**	**13.39**	**300**	*e*P	**Pn**	**16 20 16.8**	**-0.1**
BRTR	**Keskin Array B**	**13.58**	**301**	Pn	**Pn**	**16 20 21.2**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=119,slow=13,SNR=24						
BRTR				ScP	ScP	16 29 16.7	-1.6
	comp=Z,0.1nm,0.3s,baz=108,slow=4.0,SNR=4.2						
BR131	**Keskin Array S**	**13.58**	**301**	*e*Pn	**Pn**	**16 20 20.5**	**+1.0**
	comp=Z,9.1nm,0.9s						
JMDO	**Jabal Madar**	**13.89**	**141**	P	**Pn**	**16 20 20.6**	**-3.1**
	SNR=7.8						
ANN	**Anapa**	**14.21**	**325**	*e*P	**Pn**	**16 20 32.5**	**+4.4**
ANN				*e*S	**Sn**	**16 23 14.9**	**+9.5**
ANN				pmax	pmax		
	comp=Z,85nm,1.7s						
ANN				MLR	MLR		
	comp=N,436nm,14.0s						
ANN				MLR	MLR		
	comp=E,735nm,14.0s						
ANN				MLR	MLR		
	comp=Z,758nm,14.0s						
ISP	**Isparta**	**15.40**	**291**	*e*Pn	**Pn**	**16 20 47.6**	**+3.5**
	comp=Z,60nm,1.0s						
ISP	**Isparta**	**15.40**	**291**	*e*P	**Pn**	**16 20 47.7**	**+3.5**
ISP				pmax	pmax		
	comp=Z,60nm,1.0s						
WHFO	**Wadi Hawf**	**16.24**	**163**	P	**Pn**	**16 20 51.0**	**-4.0**
	SNR=34						
ABTO	**Aybut**	**16.67**	**165**	P	**Pn**	**16 20 56.6**	**-3.9**
	SNR=76						
RBK	**Rabkut**	**16.75**	**162**	P	**Pn**	**16 20 58.0**	**-3.4**
	SNR=38						
AB31	**Akbulak array**	**17.74**	**25**	*i* P	**Pn**	**16 21 15.5**	**+1.7**
	comp=Z,2.0nm,0.6s						
AB31	**Akbulak array**	**17.74**	**25**	*i* P	**Pn**	**16 21 15.5**	**+1.7**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTK	**Aktyubinsk**	**18.17**	**19**	P	**Pn**	**16 21 18.7**	**-0.5**
	comp=Z,120nm,20.1s						
AKTK	**Aktyubinsk**	**18.17**	**19**	P	**Pn**	**16 21 18.7**	**-0.5**
AKTK				LR	LR	16 30 04.0	
AKTO	**Aktyubinsk**	**18.17**	**19**	P	**Pn**	**16 21 18.7**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=202,slow=11,SNR=16						
AKTO				LR	LR	16 30 04.0	
	comp=Z,120nm,20.1s,baz=0.0,slow=43						
AKTO	**Aktyubinsk**	**18.17**	**19**	P	**Pn**	**16 21 18.7**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,120nm,20.1s						
VRHR	**Novokhopersk**	**18.26**	**346**	*e*P	**Pn**	**16 21 18.7**	**-1.5**
	comp=Z,90nm,1.0s						
VRHR	**Novokhopersk**	**18.26**	**346**	*e*P	**Pn**	**16 21 18.7**	**-1.5**
VRHR				pmax	pmax		
	comp=Z,40nm,0.8s						
VRHR				pmax	pmax		
	comp=N,90nm,1.0s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRSR	**Storozhevoye**	**18.95**	**341**	*e*P	**Pn**	**16 21 28.5**	**-0.1**
	comp=E,4.0nm,1.6s						
VRSR	**Storozhevoye**	**18.95**	**341**	*e*P	**Pn**	**16 21 28.5**	**-0.1**
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VRSR				pmax	pmax		
	comp=N,4.0nm,1.6s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.8s						
NPS	**Neapolis**	**19.15**	**282**	*e*P	**Pn**	**16 21 32.0**	**+1.0**
PRD	**Provadia**	**19.24**	**306**	*e*P	**Pn**	**16 21 33.0**	**+0.9**
APE	**Apeiranthos**	**19.24**	**287**	⇑P	**Pn**	**16 21 32.2**	**0.0**
SANT	**Santorini**	**19.27**	**285**	*e*Pn	**Pn**	**16 21 32.0**	**-0.5**
	comp=E,35nm,0.4s						
VOR	**Voronezh**	**19.42**	**342**	*e*P	**Pn**	**16 21 33.5**	**-0.7**
	comp=E,70nm,1.4s						
VOR	**Voronezh**	**19.42**	**342**	*e*P	**Pn**	**16 21 33.5**	**-0.7**
VOR				pmax	pmax		
	comp=Z,70nm,1.4s						
KK31

KSH PCP PcP 16 26 02.3 +1.9
KSH S **S** **16 26 14.0 -1.4**
KSH XS sS 16 26 21.0 -1.1
KSH SCP ScP 16 29 37.5 0.0
KSH PCS PcS 16 29 40.3 +1.1
KSH SCS ScS 16 33 22.5 -0.4
KSH AMB AMB
comp=Z,23nm,0.4s,mb5.0
KSH AMB AMB
comp=Z,242nm,3.8s
KSH LR LR
comp=N,1µm,13.0s
KSH LR LR
comp=E,464nm,7.4s
KSH LR LR
comp=Z,330nm,16.2s,MS3.9
BIA Bitola 22.97 297 *e*P **P** **16 22 09.6 -1.8**
BIA Bitola 22.97 297 *e*P **P** **16 22 09.5 -1.9**
SKO Skopje 23.07 299 *e*P **P** **16 22 12.1 -0.3**
SKO Skopje 23.07 299 *e*P **P** **16 22 12.0 -0.4**
OBN Obninsk 23.15 342 *e*P **P** **16 22 12.6 -0.7**
comp=Z,70nm,1.3s,mb4.9
OBN Obninsk 23.15 342 *e*P **P** **16 22 12.2 -1.0**
comp=Z,119nm,1.4s,mb5.1
OBN Obninsk 23.15 342 *ce*P **P** **16 22 12.6 -0.7**
OBN *e* 16 22 18.3
OBN 16 22 44.0
OBN pmax pmax
comp=Z,70nm,1.3s,mb4.9
OBN MLR MLR
comp=Z,400nm,23.0s,MS3.8
VLS Valsamata 23.22 289 *e*P **P** **16 22 13.5 -0.5**
OHR Ohrid 23.38 297 *e*P **P** **16 22 14.8 -0.8**
ARU Arti 23.83 14 *i* P **P** **16 22 20.5 +0.5**
comp=Z,17nm,1.1s,mb4.4
ARU Arti 23.83 14 *e*P **P** **16 22 19.2 -0.7**
comp=Z,14nm,0.8s,mb4.5
ARU Arti 23.83 14 ⇓*i*P **P** **16 22 20.5 +0.5**
ARU *e* 16 22 48.6
ARU *e*PPP 16 22 59.5
ARU *e*S **S** **16 26 36.2 +1.0**
ARU *e*SS 16 27 17.8
ARU pmax pmax
comp=Z,17nm,1.1s,mb4.4
BZS Buzias 23.98 308 ⇑P **P** **16 22 20.7 -0.7**
GRUS Gruza 24.06 304 ⇑*i*P **P** **16 22 22.2 +0.2**
ZRNK Zerenda 24.19 31 *e*P **P** **16 22 22.7 -0.6**
comp=Z,5.0nm,0.7s,mb4.0
ZRNK Zerenda 24.19 31 *e*P **P** **16 22 22.6 -0.6**
comp=Z,5.3nm,0.7s,mb4.1
ZRNK Zerenda 24.19 31 *e*P **P** **16 22 22.7 -0.6**
ZRNK pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
LVV L'vov 24.40 319 *e*P **P** **16 22 29.2 +4.0**
LVV *e* 16 23 09.4
LVV *e*S **S** **16 26 47.4 +3.0**
DIVS Divcibare 24.61 304 *i* P **P** **16 22 28.1 +1.0**
SVE Sverdlovsk 24.64 16 *e*P **P** **16 22 27.0 -0.3**
SVE *e* 16 22 33.0
SVE *e*PPP 16 23 10.0
SVE *e*S **S** **16 26 52.0 +3.8**
SVE MLR MLR
comp=N,200nm,9.0s
SVE MLR MLR
comp=E,200nm,9.0s
SVE MLR MLR
comp=Z,400nm,9.0s
BRVK Borovoye 24.82 32 *e*P **P** **16 22 26.6 -2.4**
comp=Z,7.0nm,0.9s,mb4.2
BRVK Borovoye 24.82 32 *e*P **P** **16 22 26.6 -2.4**
comp=Z,6.8nm,0.9s,mb4.2
BRVK Borovoye 24.82 32 *e*P **P** **16 22 26.6 -2.4**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
BVA0 Borovoye Array 24.85 32 *i* P **P** **16 22 27.7 -1.5**
comp=Z,2.0nm,0.9s,mb3.6
BVA0 Borovoye Array 24.85 32 *i* P **P** **16 22 27.7 -1.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
BVAR Borovoye Array 24.85 32 P **P** **16 22 28.4 -0.8**
comp=Z,2.4nm,0.5s,mb4.0,baz=225,slow=8.2,SNR=24
BVAR ScP ScP 16 29 40.5 -3.1
comp=Z,0.5nm,0.6s,baz=194,slow=0.6,SNR=4.0
VOSK Vostochnaya 24.91 33 P **P** **16 22 31.5 +1.7**
comp=Z,3.0nm,1.1s,mb3.7
VOSK Vostochnaya 24.91 33 P **P** **16 22 31.5 +1.7**
VOSK pmax pmax
comp=Z,3.0nm,1.1s,mb3.7
BBLS Bajina Basta - 24.96 303 ⇑*i*P **P** **16 22 33.7 +3.4**
KWP Kalwaria 25.04 318 P **P** **16 22 27.3 -3.6**
comp=Z,61nm,0.5s,mb5.4
KWP Kalwaria 25.04 318 P **P** **16 22 27.3 -3.7**
KWP pmax pmax
comp=Z,61nm,0.5s,mb5.4
CHKZ Chkalovo 25.39 31 *e*P **P** **16 22 33.1 -1.1**
comp=Z,6.0nm,0.8s,mb4.2
CHKZ Chkalovo 25.39 31 *e*P **P** **16 22 33.1 -1.1**
comp=Z,6.3nm,0.8s,mb4.2
CHKZ Chkalovo 25.39 31 *e*P **P** **16 22 33.1 -1.1**
CHKZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
STHS Stebnicka Huta 25.77 316 *e*P **P** **16 22 39.8 +2.2**
KECS Kecovo 25.81 314 *e*P **P** **16 22 39.8 +1.9**
comp=Z,6.8nm,1.2s,mb4.0
KECS Kecovo 25.81 314 *e*P **P** **16 22 39.8 +1.9**
KECS pmax pmax
comp=Z,7.0nm,1.2s,mb4.1
PSZ Piszkesteto 25.94 312 *e*P **P** **16 22 36.3 -2.8**
comp=Z,17nm,1.1s,mb4.5
PSZ Piszkesteto 25.94 312 *e*P **P** **16 22 36.3 -2.8**
comp=Z,17nm,1.1s,mb4.5
PSZ Piszkesteto 25.94 312 *e*P **P** **16 22 36.3 -2.8**
PSZ pmax pmax
comp=Z,17nm,1.1s,mb4.5
PKSM Moragy 26.14 308 ⇑P **P** **16 22 41.0 0.0**
TIP Timpagrande 26.26 292 *e*P **P** **16 22 42.0 0.0**
SOKR Solikamsk 26.54 9 *e*P pP 16 22 57.1 +8.2
SOKR pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
VYHS Vyhne 26.82 313 *e*P **P** **16 22 49.5 +2.4**
VYHS Vyhne 26.82 313 *e*P **P** **16 22 49.6 +2.5**
OJC Ojcow 26.97 317 *e*P **P** **16 22 48.1 -0.4**
SUW Suwalki 27.26 326 *e*P **P** **16 22 50.6 -0.5**
KURK Kurchatov 27.73 43 *i* P **P** **16 22 55.1 -0.2**
KURK Kurchatov 27.73 43 P **P** **16 22 56.6 +1.3**
comp=Z,7.0nm,1.1s,mb4.2
MORC Moravsky Berou 28.10 315 *e*P **P** **16 22 57.9 -0.7**
comp=Z,4.0nm,0.9s,mb4.0
MORC Moravsky Berou 28.10 315 *e*P **P** **16 22 57.9 -0.7**
comp=Z,3.9nm,0.9s,mb4.0
MORC Moravsky Berou 28.10 315 *e*P **P** **16 22 57.9 -0.7**
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
VRAC Vranov 28.49 313 LR LR 16 35 59.0
comp=Z,250nm,18.4s,MS3.9,baz=112,slow=40
MK31 Makanchi Array 28.60 53 *i* P **P** **16 23 03.5 +0.5**
comp=Z,2.0nm,0.6s,mb4.0
MK31 Makanchi Array 28.60 53 *i* P **P** **16 23 03.5 +0.5**
MK31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
MKAR Makanchi Array 28.60 53 P **P** **16 23 03.1 +0.2**
comp=Z,1.4nm,0.6s,mb3.9,baz=248,slow=8.1,SNR=16
MKAR ScP ScP 16 29 51.0 -3.7
comp=Z,0.3nm,0.7s,baz=246,slow=9.1,SNR=3.7
MKAR LR LR 16 34 39.0
comp=Z,92nm,21.2s,MS3.4,baz=270,slow=37
MKAR Makanchi Array 28.60 53 P **P** **16 23 03.1 +0.2**
MKAR ScP ScP 16 29 51.0 -3.7
MKAR LR LR 16 34 39.0
DPC Dobruska-Polom 29.05 315 *e*P **P** **16 23 10.9 +3.9**
UPC Upice 29.29 315 *e*P **P** **16 23 09.1 -0.1**
MOA Molln 29.49 309 ⇓*i*P **P** **16 23 10.7 -0.1**
comp=Z,4.8nm,0.6s,mb4.4
MOA Molln 29.49 309 P **P** **16 23 10.7 -0.2**
comp=Z,4.8nm,0.6s,mb4.4
KBA Koelnbreinsper 29.89 307 ⇓*i*P **P** **16 23 14.3 -0.2**
comp=Z,8.1nm,0.6s,mb4.6
GERES GERESS Array B 30.13 311 P **P** **16 23 15.3 -1.3**
comp=Z,1.0nm,0.5s,mb3.8,baz=117,slow=7.6,SNR=8.0
GERES ScP ScP 16 29 57.5 -2.1
comp=Z,0.7nm,0.8s,baz=151,slow=6.2,SNR=4.2
GERES LR LR 16 37 47.5
comp=Z,76nm,18.1s,MS3.4,baz=87,slow=41
GERES GERESS Array B 30.13 311 P **P** **16 23 15.3 -1.3**
GERES 16 29 57.5

KHC Kasperske Hory 30.30 311 *e*P **P** **16 23 21.1 +3.0**
KHC Kasperske Hory 30.30 311 *e*P **P** **16 23 19.4 +1.3**
KOLN Koldanda 30.44 92 *e*P **P** **16 23 19.5 +0.1**
comp=Z,21nm,1.4s,mb4.7
WTTA Wattenberg 31.07 307 ⇓*i*P **P** **16 23 23.8 -1.1**
comp=Z,4.6nm,0.4s,mb4.6
WATA Walderalm 31.12 307 ⇑*e*P **P** **16 23 24.3 -1.0**
comp=Z,4.5nm,0.4s,mb4.6
WATA Walderalm 31.12 307 P **P** **16 23 24.3 -1.0**
comp=Z,4.5nm,0.4s,mb4.6
HYB Hyderabad 31.21 114 *i* P **P** **16 23 27.0 +0.9**
HYB Hyderabad 31.21 114 *e*P **P** **16 23 27.0 +0.9**
GKN Gorkha 31.23 90 *e*P **P** **16 23 27.6 +1.3**
comp=Z,11nm,0.7s,mb4.8
SQTA Sankt Quirin 31.34 307 ⇓*i*P **P** **16 23 26.7 -0.6**
comp=Z,8.1nm,0.4s,mb4.9
JOF Joensuu 31.35 345 *e*p **P** **16 23 26.0 -1.3**
comp=Z,6.4nm,0.6s,mb4.6
CLL Collm 31.36 315 *e*P **P** **16 23 27.0 -0.4**
CLL *i* pP pP 16 23 30.3 -1.6
CLL *ex* x 16 23 34.0
CLL Collm 31.36 315 P **P** **16 23 25.0 -2.4**
CLL *i* *PP pP 16 23 30.3 -1.6
MOTA Moosalm 31.44 307 ⇓*i*P **P** **16 23 27.2 -0.9**
comp=Z,7.2nm,0.5s,mb4.8
FINES FINESS Array B 31.46 339 P **P** **16 23 27.0 -1.4**
comp=Z,2.1nm,0.5s,mb4.3,baz=140,slow=10.0,SNR=37
FINES LR LR 16 37 46.2
comp=Z,216nm,20.5s,MS3.8,baz=163,slow=40
DMN Daman 31.75 91 *e*P **P** **16 23 30.6 -0.3**
comp=Z,35nm,1.2s,mb5.0
WMQ Urumqi 31.82 60 *e*P **P** **16 23 33.0 +1.5**
WMQ AP pP 16 23 37.5 +1.6
WMQ XP sP 16 23 40.0 +2.3
WMQ PP PP 16 24 39.0 -4.3
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,96nm,4.3s
WMQ LR LR
comp=N,2µm,22.2s,MS4.8
WMQ LR LR
comp=E,2µm,21.2s,MS4.8
WMQ LR LR
comp=Z,2µm,22.0s,MS4.7
KKN Kakani 31.84 91 *e*P **P** **16 23 31.9 +0.2**
comp=Z,16nm,0.7s,mb4.9
BSD Bornholm Skovb 31.89 323 ⇓*i*P **P** **16 23 30.5 -1.6**
comp=Z,38nm,0.8s,mb5.3
BSD Bornholm Skovb 31.89 323 ⇓*i*P **P** **16 23 30.5 -1.6**
BSD pmax pmax
comp=Z,38nm,0.8s,mb5.3
KAF Kangasniemi 31.93 340 *e*p **P** **16 23 28.7 -3.8**
GRA1 Grafenberg Arr 31.93 312 *e*P **P** **16 23 29.4 -3.1**
comp=Z,5.0nm,1.0s,mb4.3
GRA1 LR LR
comp=Z,100nm,20.3s,MS3.5
GRF Grafenberg Arr 31.93 312 *e*P **P** **16 23 29.4 -3.1**
comp=Z,5.0nm,1.0s,mb4.3
GRF *e*L 16 40 13.2
comp=Z,124nm,20.3s
GRF Grafenberg Arr 31.93 312 *e*P **P** **16 23 29.4 -3.1**
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
GRF MLR MLR
comp=Z,100nm,20.3s,MS3.5
GRF Grafenberg Arr 31.93 312 *e*P **P** **16 23 29.4 -3.1**
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
GRF MLR MLR
comp=Z,100nm,20.3s,MS3.5
VSL Villasalto 31.98 292 *e*P **P** **16 23 33.7 +0.8**
comp=Z,27nm,0.9s,mb5.1
PKI Pulchoki 32.02 91 *e*P **P** **16 23 33.8 +0.5**
DAVA Damuels 32.24 307 ⇓*i*P **P** **16 23 34.6 -0.6**
comp=Z,15nm,0.5s,mb5.1
DAVA ⇑*i*P pP 16 23 37.8 -1.8
comp=Z,23nm,0.6s
GUN Gumba 32.30 90 *e*P **P** **16 23 36.2 +0.5**
comp=Z,57nm,1.0s,mb5.4
ZAL Zalesovo 32.54 40 P **P** **16 23 37.0 -0.8**
comp=Z,1.4nm,0.7s,mb4.0,baz=211,slow=9.2,SNR=7.9
ZAL LR LR 16 38 47.0
comp=Z,176nm,18.8s,MS3.8,baz=75,slow=40
JIRN Jiri 32.64 90 *e*P **P** **16 23 38.9 +0.2**
comp=Z,14nm,0.6s,mb5.1
SBF Sospel 33.51 300 *e*P **P** **16 23 41.0 -5.3**
comp=Z,54nm,0.9s,mb5.2
SBF Sospel 33.51 300 *e*P **P** **16 23 41.0 -5.3**
comp=Z,27nm,0.9s,mb5.2
SBF Sospel 33.51 300 *e*P **P** **16 23 41.0 -5.3**
SBF pmax pmax
comp=Z,27nm,0.9s,mb5.2
MBDF Montbardon 34.05 302 *e*P **P** **16 23 46.7 -4.3**
comp=Z,17nm,0.7s,mb4.8
MBDF Montbardon 34.05 302 *e*P **P** **16 23 46.7 -4.3**
comp=Z,8.7nm,0.7s,mb4.8
MBDF Montbardon 34.05 302 *e*P **P** **16 23 46.7 -4.3**
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
FRF La Foret Royal 34.07 300 *e*P **P** **16 23 45.8 -5.3**
LPG La Plagne 34.13 303 *e*P **P** **16 23 47.9 -3.8**
comp=Z,19nm,0.7s,mb4.8
LPG La Plagne 34.13 303 *e*P **P** **16 23 47.9 -3.8**
comp=Z,9.5nm,0.7s,mb4.8
LPG La Plagne 34.13 303 *e*P **P** **16 23 47.9 -3.8**
LPG pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BNI Bardonecchia 34.14 302 *e*P **P** **16 23 50.8 -1.0**
comp=Z,18nm,0.7s,mb5.1
BNI Bardonecchia 34.14 302 *e*P **P** **16 23 50.8 -1.0**
comp=Z,18nm,0.7s,mb5.1
BNI Bardonecchia 34.14 302 *e*P **P** **16 23 50.8 -1.0**
BNI pmax pmax
comp=Z,18nm,0.7s,mb5.1
LPL La Plagne 34.14 303 *e*P **P** **16 23 47.8 -4.0**
LMR La Mourre 34.16 299 *e*P **P** **16 23 46.4 -5.5**
ORIF Oris-en-Rattie 34.69 302 *e*P **P** **16 23 50.0 -6.6**
ORIF *e*R
comp=Z,268nm,18.5s
CABF La Chapelle 34.70 305 *e*P **P** **16 23 51.4 -5.3**
comp=Z,34nm,0.7s,mb5.1
CABF La Chapelle 34.70 305 *e*P **P** **16 23 51.4 -5.3**
comp=Z,17nm,0.7s,mb5.1
CABF La Chapelle 34.70 305 *e*P **P** **16 23 51.4 -5.3**
CABF pmax pmax
comp=Z,17nm,0.7s,mb5.1
APA Apatity 35.18 350 *i* P **P** **16 24 03.0 +2.2**
comp=Z,13nm,1.0s,mb4.8
APA Apatity 35.18 350 ⇑*i*P **P** **16 24 03.0 +2.2**
APA *i* pP 16 24 08.0 +2.8
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
MUD Monsted U'grnd 35.39 322 *i* P **P** **16 23 52.7 -10**
comp=Z,23nm,1.2s,mb5.0
VIVF Saint-Julien-l 35.55 302 *e*P **P** **16 23 57.8 -6.1**
LSA Lhasa 36.13 84 *e*P **P** **16 24 08.8 -0.2**
comp=Z,16nm,1.0s,mb4.9
LSA Lhasa 36.13 84 *e*P **P** **16 24 08.8 -0.2**
LSA pmax pmax
comp=Z,16nm,1.0s,mb4.9
KMBO Kilima Mbogo 36.18 200 P **P** **16 24 10.9 +1.6**
comp=Z,2.1nm,0.9s,mb4.0,baz=11,slow=10,SNR=4.5
KMBO LR LR 16 38 04.1
comp=Z,131nm,21.7s,MS3.7,baz=60,slow=34
SMF Signal de Mont 36.25 305 *e*P **P** **16 24 04.2 -5.7**
comp=Z,26nm,0.9s,mb4.9
SMF Signal de Mont 36.25 305 *e*P **P** **16 24 04.2 -5.7**
comp=Z,13nm,0.9s,mb4.9
LOR Lormes 36.29 306 *e*P **P** **16 24 04.5 -5.8**
LOR *e*R
comp=Z,181nm,17.0s
SSF Saint Saulge 36.51 305 *e*P **P** **16 24 06.5 -5.7**
comp=Z,23nm,0.9s,mb4.7
SSF Saint Saulge 36.51 305 *e*P **P** **16 24 06.5 -5.7**
comp=Z,12nm,0.9s,mb4.7
NB2 NORSAR Subarra 36.57 330 P **P** **16 24 10.8 -1.8**
comp=Z,3.6nm,0.6s,mb4.4,baz=122,slow=8.6
NB2 NORSAR Subarra 36.57 330 P **P** **16 24 10.8 -1.8**
NB2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
NOA NORSAR Array B 36.57 330 P **P** **16 24 11.0 -1.6**
comp=Z,2.8nm,0.6s,mb4.3,baz=122,slow=8.4,SNR=12
NOA PP PP 16 25 34.5 -1.4
comp=Z,2.7nm,0.9s,baz=128,slow=11,SNR=4.0
NOA LR LR 16 39 57.4
comp=Z,223nm,19.9s,MS3.9,baz=125,slow=38

NOA NORSAR Array B 36.57 330 P **P** **16 24 11.0 -1.6**
NOA PP PP 16 25 34.5 -1.4
NOA LR LR 16 39 57.4
NOA NORSAR Array B 36.57 330 P **P** **16 24 11.0 -1.6**
NOA 16 25 34.5
NAO01 NORSAR Array S 36.60 330 P **P** **16 24 09.9 -3.0**
comp=Z,5.5nm,0.7s,mb4.5
ETOS Mallorca 37.03 293 P **P** **16 24 16.8 +0.2**
comp=Z,12nm,0.6s,mb4.9
ARCES ARCESS Array B 38.26 347 P **P** **16 24 25.3 -1.7**
comp=Z,4.7nm,1.0s,mb4.2,baz=356,slow=9.1,SNR=12
ARCES LR LR 16 41 43.1
comp=Z,159nm,19.7s,MS3.8,baz=252,slow=39
LFF La Frestale 38.34 302 *e*P **P** **16 24 22.0 -5.7**
EMOS Mosqueruela 39.48 295 P **P** **16 24 37.6 +0.4**
comp=Z,31nm,0.8s,mb5.1
EBEN Beniarda 39.49 292 P **P** **16 24 37.6 +0.3**
comp=Z,42nm,1.2s,mb5.0
GRR Gorron 39.55 307 *e*P **P** **16 24 31.7 -6.1**
comp=Z,60nm,1.1s,mb5.0
GRR Gorron 39.55 307 *e*P **P** **16 24 31.7 -6.1**
comp=Z,30nm,1.1s,mb5.0
ECHE Chera 39.95 293 P **P** **16 24 41.6 +0.5**
comp=Z,10.0nm,0.6s,mb4.7
ECHE Chera 39.95 293 P **P** **16 24 41.6 +0.5**
ECHE pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
ETOB Tobarra 40.53 292 P **P** **16 24 46.0 0.0**
comp=Z,25nm,0.8s,mb4.9
GTA Gaotai 41.02 67 P **P** **16 24 49.8 -0.2**
GTA AP pP 16 24 52.5 -2.0
GTA XP sP 16 24 54.8 -1.5
GTA PP PP 16 26 27.5 +2.8
GTA S **S** **16 31 02.8 +0.9**
GTA XS sS 16 31 09.5 +0.2
GTA SS SS 16 34 00.5 -3.6
GTA AMB AMB
comp=Z,70nm,4.6s
GTA LR LR
comp=N,200nm,18.7s,MS4.1
GTA LR LR
comp=E,119nm,18.3s,MS4.1
GTA LR LR
comp=Z,143nm,18.0s,MS3.9
EVIA Vianos 41.27 292 P **P** **16 24 51.8 -0.2**
comp=Z,10.0nm,0.7s,mb4.5
EVIA Vianos 41.27 292 P **P** **16 24 51.8 -0.2**
comp=Z,10nm,0.7s,mb4.6
EVIA Vianos 41.27 292 P **P** **16 24 51.8 -0.2**
EVIA pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
EQES Quesada 41.85 291 P **P** **16 24 57.2 +0.4**
comp=Z,20nm,0.7s,mb4.8
EBER Berja 41.88 290 P **P** **16 24 57.8 +0.8**
comp=Z,23nm,0.8s,mb4.9
ESDC Sonseca Array 42.23 294 P **P** **16 24 59.3 -0.6**
comp=Z,2.3nm,0.6s,mb4.0,baz=66,slow=8.5,SNR=8.0
ESDC Sonseca Array 42.23 294 P **P** **16 24 59.5 -0.4**
comp=Z,4.4nm,0.8s,mb4.1
ESLA Sonseca Array 42.23 294 *e*P **P** **16 24 59.1 -0.8**
comp=Z,1.8nm,0.9s,mb3.7
GUD Guadarrama 42.23 295 P **P** **16 24 59.3 -0.6**
comp=Z,14nm,1.0s,mb4.5
GUD Guadarrama 42.23 295 P **P** **16 24 59.3 -0.6**
comp=Z,14nm,1.0s,mb4.5
GUD Guadarrama 42.23 295 P **P** **16 24 59.3 -0.6**
GUD pmax pmax
comp=Z,14nm,1.0s,mb4.5
EADA Adamuz 42.95 292 P **P** **16 25 05.5 -0.3**
comp=Z,26nm,1.1s,mb4.9
EMIJ Mijas 43.43 290 P **P** **16 25 08.4 -1.3**
comp=Z,30nm,1.0s,mb5.0
EJIF Jimena Fronter 44.00 290 P **P** **16 25 13.5 -0.7**
comp=Z,4.0nm,0.6s,mb4.3
EJIF Jimena Fronter 44.00 290 P **P** **16 25 13.5 -0.7**
comp=Z,4.4nm,0.6s,mb4.4
EJIF Jimena Fronter 44.00 290 P **P** **16 25 13.5 -0.7**
EJIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
EMIN Mina Concepcio 44.66 292 P **P** **16 25 17.9 -1.5**
comp=Z,19nm,0.8s,mb5.0
EBAD Badajoz 44.72 293 P **P** **16 25 18.4 -1.6**
comp=Z,40nm,1.3s,mb5.1
LZH Lanzhou 44.79 71 *e*P **P** **16 25 21.3 +0.7**
LZH AP pP 16 25 24.5 -0.6
LZH XP sP 16 25 26.0 -0.8
LZH PP PP 16 27 07.5 +2.3
LZH AMB AMB
comp=Z,24nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,75nm,6.3s
LZH LR LR
comp=N,446nm,14.2s
LZH LR LR
comp=Z,529nm,18.5s,MS4.5
PCBR Castelo Branco 44.87 295 *e*P **P** **16 25 21.2 0.0**
comp=Z,28nm,1.1s,mb5.0
SONM Songino Array 44.95 54 P **P** **16 25 23.1 +1.2**
comp=Z,0.8nm,0.9s,mb3.6,baz=278,slow=11,SNR=7.1
SONM LR LR 16 47 41.0
comp=Z,108nm,18.9s,MS3.8,baz=204,slow=41
ELOB Lobios 44.97 298 P **P** **16 25 17.8 -4.2**
comp=Z,57nm,1.1s,mb5.3
ULN Ulaanbaatar 45.39 54 *e*P **P** **16 25 24.7 -0.6**
ULN Ulaanbaatar 45.39 54 *e*P **P** **16 25 26.6 +1.2**
comp=Z,5.8nm,0.9s,mb4.4
PBEJ Beja 45.52 292 *e*P **P** **16 25 26.8 +0.4**
comp=Z,31nm,1.5s,mb5.0
EVO Evora 45.53 293 *e*P **P** **16 25 23.5 -2.9**
EVO *e*R
comp=Z,218nm,21.5s
CD2 Chengdu 46.15 78 *e*P **P** **16 25 29.5 -1.8**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
TORD Torodi Ar. Bea 47.27 256 P **P** **16 25 40.2 +0.2**
comp=Z,4.9nm,0.8s,mb4.5,baz=57,slow=8.1,SNR=33
KMI Kunming 47.37 85 P **P** **16 25 42.5 +1.6**
KMI S **S** **16 32 35.0 +0.7**
KMI AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
KMI LR LR
comp=N,160nm,20.7s,MS4.1
KMI LR LR
comp=E,147nm,19.1s,MS4.1
KMI LR LR
comp=Z,133nm,14.9s,MS4.0
BOD Bodaibo 49.31 40 *e*P **P** **16 25 54.3 -1.5**
comp=Z,3.0nm,1.3s,mb4.2
BOD Bodaibo 49.31 40 *e*P **P** **16 25 54.3 -1.5**
BOD pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
HHC Hu-ho-hao-te 49.62 62 *e*P **P** **16 25 57.5 -0.7**
HHC AP pP 16 26 02.3 -0.4
HHC XP sP 16 26 04.8 +0.3
HHC PCP PcP 16 27 19.5 -0.1
HHC PP PP 16 27 53.0 +0.5
HHC SCP ScP 16 31 13.0 -1.6
HHC S **S** **16 33 04.3 -1.7**
HHC XS sS 16 33 12.0 -1.5
HHC SCS ScS 16 35 46.0 -3.5
HHC SS SS 16 36 32.5 -5.6
HHC AMB AMB
comp=Z,10.0nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,89nm,6.3s
HHC LR LR
comp=N,335nm,5.5s
HHC LR LR
comp=E,74nm,4.5s
HHC LR LR
comp=Z,147nm,6.9s
GYA Guiyang 50.11 82 P **P** **16 26 00.5 -1.4**
GYA AP pP 16 26 05.0 -1.5
GYA XP sP 16 26 12.8 +4.6
GYA PP PP 16 27 56.3 -0.7
GYA S **S** **16 33 08.3 -4.6**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,90nm,3.8s
GYA LR LR
comp=N,480nm,17.8s,MS4.7
GYA LR LR
comp=E,460nm,18.0s,MS4.7
GYA LR LR
comp=Z,470nm,18.2s,MS4.5

ENH	**Enshi**	**51.02**	**76**	P	**P**	**16 26 07.8**	**-1.0**
OPO	**Ambohidratompo**	**51.88**	**182**	P	**P**	**16 26 16.7**	**+1.5**
	comp=Z,6.4nm,1.0s,mb4.5,baz=21,slow=4.0,SNR=5.8						
TIXI	**Tiksi**	**55.42**	**22**	*e*P	**P**	**16 26 39.5**	**-1.7**
	comp=Z,100nm,20.0s						
TIXI	**Tiksi**	**55.42**	**22**	*e*P	**P**	**16 26 39.5**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.9						
DBIC	**Dimbokro**	**56.24**	**254**	P	**P**	**16 26 47.4**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=22,slow=3.9,SNR=4.6						
DBIC				LR	LR	16 50 33.8	
	comp=Z,142nm,19.8s,MS4.1,baz=29,slow=36						
DBIC	**Dimbokro**	**56.24**	**254**	P	**P**	**16 26 46.6**	**-0.5**
	comp=Z,6.9nm,1.1s,mb4.6						
DBIC	**Dimbokro**	**56.24**	**254**	P	**P**	**16 26 47.4**	**+0.3**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DBIC				MLR	MLR		
	comp=Z,142nm,19.8s						
LIC	**Lamto**	**56.64**	**254**	*e*P	**P**	**16 26 45.3**	**-4.6**
	comp=Z,9.5nm,0.8s,mb4.6						
LIC				*e*R			
	comp=Z,299nm,17.5s						
LIC	**Lamto**	**56.64**	**254**	*e*P	**P**	**16 26 45.3**	**-4.6**
	comp=Z,4.8nm,0.8s,mb4.6						
LIC				LR	LR		
	comp=Z,150nm,17.5s,MS4.1						
YAK	**Yakutsk**	**56.81**	**34**	*e*P	**P**	**16 26 50.8**	**-0.3**
	comp=Z,5.0nm,1.3s,mb4.4						
YAK	**Yakutsk**	**56.81**	**34**	*e*P	**P**	**16 26 50.8**	**-0.3**
YAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
NJ2	**Nanjing**	**57.87**	**71**	*e*P	**P**	**16 26 57.3**	**-1.3**
NJ2				AP	pP	16 27 07.5	+4.3
NJ2				XP	sP	16 27 11.3	+6.3
NJ2				PP	PP	16 29 07.5	+0.7
NJ2				S	**S**	**16 34 52.0**	**-5.8**
NJ2				XS	sS	16 35 07.0	+1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,100nm,9.3s						
NJ2				LR	LR		
	comp=N,310nm,26.3s,MS4.7						
NJ2				LR	LR		
	comp=E,670nm,27.8s,MS4.7						
NJ2				LR	LR		
	comp=Z,300nm,19.4s						
CN2	**Changchun**	**58.76**	**56**	*e*P	**P**	**16 27 04.8**	**0.0**
CN2				*e*AP	pP	16 27 09.3	-0.1
CN2				*e*S	**S**	**16 35 06.8**	**-2.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
SSE	**Sheshan**	**60.07**	**71**	*e*P	**P**	**16 27 12.3**	**-1.6**
SSE				AP	pP	16 27 15.8	-2.7
SSE				PCP	PcP	16 27 58.8	-0.9
SSE				PP	PP	16 29 24.5	-1.9
SSE				S	**S**	**16 35 24.0**	**-2.4**
SSE				SCS	ScS	16 37 03.3	-0.7
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,93nm,5.9s						
SSE				LR	LR		
	comp=N,93nm,26.3s,MS3.9						
SSE				LR	LR		
	comp=E,50nm,26.2s,MS3.9						
SSE				LR	LR		
	comp=Z,36nm,18.8s						
MDJ	**Mudanjiang**	**61.31**	**53**	P	**P**	**16 27 20.8**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,150nm,5.6s						
LBTB	**Lobatse**	**62.29**	**204**	*e*P	**P**	**16 27 29.6**	**+0.7**
	comp=Z,19nm,1.0s,mb5.2						
LBTB	**Lobatse**	**62.29**	**204**	*e*Pn	**P**	**16 27 29.6**	**+0.7**
	comp=Z,19nm,1.0s,mb5.2						
LBTB	**Lobatse**	**62.29**	**204**	*e*P	**P**	**16 27 29.6**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.2						
BOSA	**Boshof**	**65.74**	**203**	P	**P**	**16 27 52.1**	**+0.5**
	comp=Z,9.1nm,0.9s,mb4.8,baz=27,slow=6.3,SNR=9.7						
BOSA				LR	LR	16 57 46.0	
	comp=Z,133nm,18.6s,MS4.2,baz=22,slow=37						
SEY	**Seymchan**	**66.46**	**29**	*e*P	**P**	**16 27 55.2**	**-1.0**
	comp=Z,10.0nm,0.9s,mb4.8						
SEY	**Seymchan**	**66.46**	**29**	*e*P	**P**	**16 27 55.2**	**-1.0**
SEY				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	**Magadan**	**67.33**	**33**	*e*P	**P**	**16 28 06.0**	**+4.2**
MA2				*e*		16 28 21.4	
MA2				*e*		16 30 36.7	
MA2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MA2				MLR	MLR		
	comp=Z,200nm,24.0s,MS4.3						
BILL	**Bilibino**	**68.60**	**21**	P	**P**	**16 28 09.0**	**-0.7**
	comp=Z,100nm,23.0s						
BILL	**Bilibino**	**68.60**	**21**	*e*P	**P**	**16 28 08.0**	**-1.8**
	comp=Z,3.6nm,0.8s,mb4.3						
BILL	**Bilibino**	**68.60**	**21**	P	**P**	**16 28 09.0**	**-0.7**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,23.0s,MS4.0						
YSS	**Yuzh-Sakhalins**	**68.84**	**47**	*e*P	**P**	**16 28 12.0**	**+0.8**
	comp=Z,18nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**68.84**	**47**	*e*P	**P**	**16 28 12.0**	**+0.8**
	comp=Z,18nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**68.84**	**47**	*e*P	**P**	**16 28 12.0**	**+0.8**
YSS				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
MJAR	**Matsushiro Arr**	**70.58**	**59**	P	**P**	**16 28 23.0**	**+1.0**
	comp=Z,0.8nm,0.4s,mb4.0,baz=327,slow=14,SNR=4.1						
MJAR				LR	LR	17 04 27.3	
	comp=Z,67nm,20.0s,MS3.9,baz=30,slow=40						
SCHQ	**Schefferville**	**76.08**	**327**	P	**P**	**16 28 51.9**	**-2.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=18,slow=12,SNR=5.2						
SCHQ	**Schefferville**	**76.08**	**327**	P	**P**	**16 28 51.9**	**-2.5**
ILAR	**Eielson Array**	**81.21**	**7**	P	**P**	**16 29 20.4**	**-2.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=337,slow=3.8,SNR=14						
ILAR				PP	PP	16 32 27.3	-0.7
	comp=Z,0.8nm,1.1s,baz=339,slow=7.6,SNR=4.2						
YKA	**Yellowknife Ar**	**83.32**	**352**	P	**P**	**16 29 31.0**	**-2.7**
	comp=Z,0.2nm,0.4s,mb3.5,baz=12,slow=5.5,SNR=9.0						
ULM	**Lac du Bonnet**	**90.85**	**338**	LR	LR	17 13 57.5	
	comp=Z,87nm,19.9s,MS4.2,baz=15,slow=38						

*IDC **30** 16:27:26.3±1.5,535N×9443E,h0km,mb3.9/8,mb1 4.1/9, mb1mx3.8/23,mbtmp3.9/9,ML3.4/1,Error ellipse: s-maj=66.1km s-min=17.4km az=53.0*
*ISCJB **30** 16:27:30.5±2.0,53N±01×944E±01,h47km±21km, mb4.1/18,Error ellipse: s-maj=27.2km s-min=11.6km az=87.3*
*NEIC **30** 16:27:30.7±0.4,538N×9446E,h30km,mb4.1/6,Error ellipse: s-maj=14.9km s-min=6.4km az=46.0*

ISC 30 16:27:32.3±1.6,54N±01×944E±01,h43km±18km,n21, σ0§59/21,mb4.1/18,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.16**	**119**	Pn	**Pn**	**16 28 47.2**	**+0.3**
	1.4nm,0.3s,baz=302,slow=9.9,SNR=6.7						
PALK	**Pallekele**	**13.77**	**279**	Pn	**Pn**	**16 30 44.4**	**-0.4**
JIRN	**Jiri**	**23.53**	**341**	*e*P	**P**	**16 32 39.3**	**+0.7**
	3.8nm,0.3s,mb4.3						
GUN	**Gumba**	**23.86**	**341**	*e*P	**P**	**16 32 42.4**	**+0.8**
	6.1nm,0.4s,mb4.3						
KKN	**Kakani**	**23.95**	**340**	*e*P	**P**	**16 32 42.4**	**0.0**
	3.9nm,0.5s,mb4.1						
GKN	**Gorkha**	**24.38**	**339**	*e*P	**P**	**16 32 46.6**	**+0.3**
	3.1nm,0.3s,mb4.2						
LSA	**Lhasa**	**24.42**	**353**	P	**P**	**16 32 45.7**	**-1.0**
	2.5nm,0.8s,mb3.7						
KOLN	**Koldanda**	**24.56**	**336**	*e*P	**P**	**16 32 48.8**	**+0.8**
	7.4nm,0.5s,mb4.5						
MKAR	**Makanchi Array**	**42.60**	**348**	P	**P**	**16 35 24.3**	**+0.2**
	1.7nm,0.6s,mb4.0,baz=169,slow=8.0,SNR=20						
MKAR	**Makanchi Array**	**42.60**	**348**	P	**P**	**16 35 24.3**	**+0.2**
SONM	**Songino Array**	**43.56**	**12**	P	**P**	**16 35 31.3**	**-0.6**
	0.8nm,0.7s,mb3.6,baz=192,slow=8.2,SNR=7.7						
WRA	**Warramunga Arr**	**46.60**	**124**	P	**P**	**16 35 56.1**	**+0.1**
	1.2nm,0.5s,mb4.0,baz=303,slow=9.5,SNR=22						
WRAB	**Tennant Creek**	**46.61**	**124**	*e*P	**P**	**16 35 55.4**	**-0.7**
	5.5nm,0.9s,mb4.5						
KURK	**Kurchatov**	**47.12**	**346**	*e*P	**P**	**16 35 59.6**	**-0.5**
	3.2nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**48.11**	**128**	P	**P**	**16 36 08.1**	**+0.3**
	0.5nm,0.7s,mb3.7,baz=302,slow=8.0,SNR=11						
ZAL	**Zalesovo**	**49.07**	**352**	P	**P**	**16 36 15.4**	**+0.2**
	1.5nm,0.2s,mb4.6,baz=285,slow=6.8,SNR=4.5						
BVAR	**Borovoye Array**	**51.46**	**342**	P	**P**	**16 36 33.2**	**0.0**
	0.9nm,0.6s,mb3.9,baz=141,slow=7.3,SNR=8.1						
BRVK	**Borovoye**	**51.52**	**342**	P	**P**	**16 36 32.2**	**-1.5**
	1.4nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**51.84**	**341**	*e*P	**P**	**16 36 35.8**	**-0.3**
	1.0nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**77.72**	**340**	P	**P**	**16 39 25.1**	**+0.5**
	3.3nm,1.1s,mb4.2,baz=101,slow=7.4,SNR=5.2						
GERES	**GERESS Array B**	**79.89**	**319**	P	**P**	**16 39 37.0**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=90,slow=11,SNR=4.3						

*NIED **30** 16:29:00,3720N×141.10E,h68km,Mw3.7 Best double couple: M0:3.74000×10^14 NP1:φs=217.00000°,δ87.00000°, λ-67.00000°. NP2:φs=313.00000°,δ23.00000°, λ-173.00000°.*
*ISCJB **30** 16:29:08.4±0.9,37.19N±005×141.18E±008,h92km±5km, mb3.2/4,Error ellipse: s-maj=12.1km s-min=5.7km az=64.3*
*JMA **30** 16:29:10.0±0.1,3720N×14106E,h87km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φs=305.00000°,δ18.00000°,λ-126.00000°. NP2: φs=163.00000°,δ76.00000°,λ-79.00000°. Principal axes: T Plg30.0000°, Azm244.0000°; N Plg10.0000°, Azm340.0000°; P Plg58.0000°, Azm87.0000°;*
JMA Felt I J1.
*IDC **30** 16:29:14.0±2.7,3779N×14064E,h82km±22km,mb3.0/4, mb1 3.1/6,mb1mx3.0/22,mbtmp3.3/6,MS3.2/1,Ms1 3.2/1, ms1mx2.4/6 Error ellipse: s-maj=29.4km s-min=17.5km az=109.0*

ISC 30 16:29:09.1±0.9,3719N±005×14119E±008,h89km±5km, n21,σ0§71/34,mb3.2/4,2C-9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.30**	**305**	⇓P	**Pn**	**16 29 22.8**	**+0.4**
JFK				S	**Sn**	**16 29 32.0**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.33**	**254**	⇓P	**Pn**	**16 29 22.9**	**+0.4**
ONAJ				S	**Sn**	**16 29 32.2**	**-0.2**
JMM	**Marumori**	**0.74**	**335**	⇓P	**Pn**	**16 29 26.3**	**+0.4**
JMM				S	**Sn**	**16 29 38.2**	**-0.2**
JFT	**Otama**	**0.75**	**296**	⇓P	**Pn**	**16 29 26.1**	**+0.1**
JFT				S	**Sn**	**16 29 38.0**	**-0.6**
JHO	**Hitachi**	**0.77**	**221**	⇓P	**Pn**	**16 29 26.2**	**+0.1**
JHO				S	**Sn**	**16 29 37.8**	**-1.0**
JFY	**Yanaizu**	**1.20**	**281**	⇓P	**Pn**	**16 29 30.8**	**-0.3**
JFY				*e*S	**Sn**	**16 29 46.4**	**-1.2**
JOU	**Okura**	**1.24**	**341**	P	**Pn**	**16 29 32.0**	**+0.4**
JOU				S	**Sn**	**16 29 48.9**	**+0.4**
JIO	**Ouri**	**1.27**	**6**	⇑P	**Pn**	**16 29 32.6**	**+0.8**
JIO				S	**Sn**	**16 29 49.1**	**+0.1**
JYS	**Shiratake**	**1.36**	**319**	⇓P	**Pn**	**16 29 33.3**	**+0.3**
JYS				S	**Sn**	**16 29 51.1**	**+0.1**
JAG	**Ashikaga**	**1.59**	**242**	⇓P	**Pn**	**16 29 36.0**	**+0.1**
JAG				S	**Sn**	**16 29 54.9**	**-1.3**
JKT	**Katashina**	**1.61**	**255**	P	**Pn**	**16 29 36.8**	**+0.6**
JKT				*e*S	**Sn**	**16 29 57.5**	**+0.8**
JMK	**Ichinoseki**	**1.75**	**1**	⇑P	**Pn**	**16 29 38.7**	**+0.6**
JYA	**Atsumi**	**1.82**	**321**	⇓P	**Pn**	**16 29 39.5**	**+0.6**
MJAR	**Matsushiro Arr**	**2.48**	**256**	P	**Pn**	**16 29 48.1**	**+0.6**
	6.0nm,0.3s,baz=69,slow=10,SNR=49						
MJAR				S	**Sn**	**16 30 18.2**	**+1.2**
	11nm,0.3s,baz=82,slow=18,SNR=10						
MAT	**Matsushiro**	**2.48**	**256**	P	**Pn**	**16 29 48.2**	**+0.6**
MAT				*e*S	**Sn**	**16 30 16.9**	**-0.2**
JHJ	**Hachijo jima 2**	**4.22**	**196**	LR	LR	16 32 04.3	
	comp=Z,288nm,20.7s,baz=73,slow=36						
ASAJ	**Asahikawa**	**7.00**	**8**	P	**Pn**	**16 30 47.5**	**-1.4**
	0.5nm,0.3s,baz=165,slow=20,SNR=8.8						
ASAJ				S	**Sn**	**16 32 03.8**	**-3.1**
	0.2nm,0.3s,baz=139,slow=20,SNR=3.5						
SONM	**Songino Array**	**27.55**	**304**	P	**P**	**16 34 46.7**	**-0.8**
	0.3nm,0.6s,mb3.0,baz=104,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**43.88**	**302**	P	**P**	**16 37 06.3**	**-0.4**
	0.3nm,0.6s,mb3.2,baz=87,slow=9.6,SNR=3.7						
WRA	**Warramunga Arr**	**57.19**	**188**	P	**P**	**16 38 55.6**	**+8.7**
	0.2nm,0.4s,mb3.5,baz=0.8,slow=7.4,SNR=8.0						
ASAR	**Alice Springs**	**60.92**	**188**	P	**P**	**16 39 22.7**	**+10**
	0.2nm,0.7s,mb3.2,baz=7.4,slow=9.3,SNR=3.0						

IDC 30 16:59:35.2±3.3,890S×10815E,h0km,mb3.6/3,mb1 3.7/3, mb1mx3.4/17,mbtmp3.6/3,Error ellipse: s-maj=130.9km s-min=30.4km az=49.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.59**	**116**	P	P	17 05 24.3	+0.2
	0.5nm,0.9s,baz=288,slow=10,SNR=5.5						
SONM	**Songino Array**	**56.50**	**359**	P	P	17 09 20.5	+1.4
	0.4nm,0.6s,baz=172,slow=8.3,SNR=4.8						
MKAR	**Makanchi Array**	**60.05**	**340**	P	P	17 09 43.2	-0.7
	0.6nm,0.4s,baz=150,slow=7.7,SNR=14						

*NEIC **30** 17:24:46.6,3629S×7237W,h65km,MD3.6(GUC),After GUC.*

GUC 30 17:24:46.6±0.7,3629S×7237W,h65km±5km,MD3.6, ML3.6,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.39**	**143**	⇓*i*P	Pn	17 24 58.1	+0.2
CCHI				*i* S	Sn	17 25 06.5	+0.4
CCHI				AMP		17 25 07.4	
	comp=N,4μm,0.5s						
CCHI				AMP		17 25 07.9	
	comp=N,7μm,0.6s						
CCHI	**Chillan**	**0.39**	**143**	⇓*i*P	Pn	17 24 58.1	+0.2
CCHI				*i* S	Sn	17 25 06.5	+0.4
CNCO	**Chanco**	**0.57**	**346**	⇑*i*P	Pn	17 25 00.0	+0.4
CNCO				*i* S	Sn	17 25 09.7	+0.5
CNCO				AMP		17 25 10.2	
	comp=N,3μm,0.2s						
CNCO	**Chanco**	**0.57**	**346**	⇑*i*P	Pn	17 25 00.0	+0.4
CNCO				*i* S	Sn	17 25 09.7	+0.5
TALC	**Talca**	**1.07**	**34**	⇓*i*P	Pn	17 25 06.7	+1.0
TALC				*i* S	Sn	17 25 21.3	+1.4
SFDO	**San Fernando**	**2.00**	**34**	*e*P	Pn	17 25 18.3	+0.2
SFDO				*i* S	Sn	17 25 43.0	+0.8
LNV	**Longovilo**	**2.46**	**19**	⇑*i*P	Pn	17 25 24.8	+0.5
CICH	**Cipreses**	**2.53**	**40**	*e*P	Pn	17 25 26.2	+0.9
CICH				*i* S	Sn	17 25 56.6	+1.6
TACH	**Talagante**	**2.88**	**24**	⇓*i*P	Pn	17 25 31.1	+1.0
TACH				*e*S	Sn	17 26 04.5	+1.0
RCDM	**Rinconada Maip**	**3.07**	**25**	*e*P	Pn	17 25 32.7	0.0
RCDM				*i* S	Sn	17 26 08.5	+0.2
RCDM				AMP		17 26 12.2	
	comp=E,200nm,0.1s						
RCDM	**Rinconada Maip**	**3.07**	**25**	*e*P	Pn	17 25 32.7	0.0
RCDM				*i* S	Sn	17 26 08.5	+0.2
FCH	**Farellones**	**3.41**	**31**	⇑*i*P	Pn	17 25 39.0	+1.6
FCH				*i* S	Sn	17 26 18.2	+1.6
FCH				AMP		17 26 21.2	
	comp=N,96nm,0.2s						
JACH	**Jahuel**	**3.88**	**23**	*i* P	Pn	17 25 44.3	+0.5
JACH				*i* S	Sn	17 26 28.6	+0.5

JMA 30 17:32:34.3±0.3,2234N×12140E,h61km,M3.5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.58**	**35**	P	Pn	17 33 14.6	+1.0
YOJ				*e*S	Sn	17 33 45.0	+1.2
HATJ	**Hateruma jima**	**2.80**	**52**	P	Pn	17 33 17.7	+1.1
HATJ				*e*S	Sn	17 33 49.8	+0.7
IRIF	**Iriomote-Funau**	**2.92**	**47**	P	Pn	17 33 19.7	+1.4
IRIF				*e*S	Sn	17 33 54.0	+1.8
JKRS	**Kuro-shima**	**3.05**	**51**	P	Pn	17 33 21.5	+1.4
JKRS				*e*S	Sn	17 33 56.9	+1.5
JIJ	**Ishigaki jima**	**3.23**	**51**	P	Pn	17 33 23.3	+0.8
JIJ				*e*S	Sn	17 34 00.3	+0.6
JTJ	**Tarama**	**3.80**	**52**	P	Pn	17 33 31.5	+1.2
JTJ				*e*S	Sn	17 34 15.6	+1.9
JOGS	**Gusukube**	**4.39**	**56**	P	Pn	17 33 40.3	+1.8
JOGS				*e*S	Sn	17 34 29.7	+1.4

IDC 30 17:34:28.5±2.2,026N×9784E,h24km±6km,mb3.2/4, mb1 3.3/5,mb1mx3.2/20,mbtmp3.3/5,ML2.6/1,Error ellipse: s-maj=69.3km s-min=18.8km az=65.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.75**	**23**	Pn	Pn	17 35 11.6	+0.5
	1.2nm,0.3s,baz=162,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**41.00**	**121**	P	P	17 42 09.9	+0.3
	0.2nm,0.9s,baz=306,slow=8.8,SNR=2.8						
WRA				pP	pP	17 42 16.8	0.0
	0.5nm,0.6s,baz=302,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**42.32**	**127**	P	P	17 42 21.1	+0.7
	0.3nm,0.8s,baz=298,slow=8.0,SNR=5.9						
ASAR				pP	pP	17 42 28.0	+0.3
	0.3nm,0.5s,baz=297,slow=8.0,SNR=2.4						
SONM	**Songino Array**	**47.97**	**8**	P	P	17 43 04.3	-1.0
	0.4nm,0.6s,baz=184,slow=10.0,SNR=4.6						
SONM				pP	pP	17 43 13.1	+0.5
	0.3nm,0.5s,baz=189,slow=8.3,SNR=3.5						
MKAR	**Makanchi Array**	**48.30**	**346**	P	P	17 43 07.9	+0.1
	0.6nm,0.8s,baz=155,slow=9.6,SNR=8.7						

IDC 30 17:36:03.7±1.8,5638S×2770W,h0km,mb3.7/1, mb1 3.7/1,mb1mx3.4/15,mbtmp3.7/1,Error ellipse: s-maj=97.8km s-min=72.5km az=141.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**73.48**	**30**	P	P	17 47 37.9	-0.2
	0.3nm,0.4s,baz=202,slow=6.8,SNR=6.1						
ILAR	**Eielson Array**	**150.12**	**311**	PKPbc	PKPbc	17 55 54.4	-2.0
	1.2nm,0.7s,baz=125,slow=1.9,SNR=19						
SONM	**Songino Array**	**151.03**	**87**	PKPbc	PKPbc	17 55 57.4	-1.2
	0.6nm,0.5s,baz=229,slow=3.0,SNR=12						

IDC 30 18:03:27.2±8.3,746S×12952E,h55km±94km,mb3.0/1, mb1 3.5/4,mb1mx3.3/15,mbtmp3.4/4,ML3.5/3,Error ellipse: s-maj=56.1km s-min=51.5km az=11.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.23**	**199**	P	Pn	18 06 06.8	+1.8
	0.3nm,0.3s,baz=20,slow=19,SNR=14						
FITZ				S	Sn	18 08 11.3	+2.3
	0.2nm,0.3s,baz=155,slow=22,SNR=3.4						
WRA	**Warramunga Arr**	**13.26**	**160**	P	Pn	18 06 32.8	+0.2
	0.3nm,0.3s,baz=338,slow=14,SNR=30						
WRA				S	Sn	18 08 58.0	-0.4
	0.2nm,0.3s,baz=331,slow=22,SNR=6.1						
ASAR	**Alice Springs**	**16.66**	**166**	P	Pn	18 07 15.2	-1.6
	0.1nm,0.3s,baz=338,slow=9.3,SNR=5.1						
MKAR	**Makanchi Array**	**68.35**	**327**	P	P	18 14 22.8	+0.1
	0.4nm,1.0s,baz=108,slow=4.7,SNR=3.6						

IDC 30 18:26:06.1±5.7,1921S×17819W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/14,mbtmp3.7/3,Error ellipse: s-maj=297.7km s-min=40.3km az=149.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.61**	**261**	P	P	18 34 20.6	+0.5
	0.6nm,0.3s,baz=97,slow=7.0,SNR=44						
ASAR	**Alice Springs**	**44.65**	**255**	P	P	18 34 20.6	+0.1
	0.9nm,0.7s,baz=90,slow=7.7,SNR=12						
YKA	**Yellowknife Ar**	**95.42**	**25**	P	P	18 39 32.1	-0.4
	0.3nm,0.9s,baz=247,slow=5.9,SNR=4.1						

*IDC **30** 18:31:33.9±0.5,3245N×9364E,h0km,mb4.2/19, mb1 4.3/21,mb1mx4.2/27,mbtmp4.2/21,ML3.9/2,MS3.8/11, Ms1 3.8/11,ms1mx3.5/30,Error ellipse: s-maj=22.3km s-min=12.3km az=55.0*
*BJI **30** 18:31:35.9,3255N×9362E,h16km,mB4.7,mb4.4,ML4.1, Ms4.5,Msz4.1*
*ISCJB **30** 18:31:36.4±1.1,3243N±003×9367E±003,h29km±9km, mb4.4/45,MS3.9/20,Error ellipse: s-maj=5.7km s-min=3.8km az=170.6*
*NEIC **30** 18:31:38.0±3.0,3258N×9361E,h19km±20km,mb4.3/11, Error ellipse: s-maj=9.3km s-min=6.0km az=145.0*
*MOS **30** 18:31:39.3±1.0,3257N×9372E,h50km,mb4.6/21,Error ellipse: s-maj=10.0km s-min=6.1km az=98.3*

ISC 30 18:31:40.0±0.4,3248N±003×9366E±003,h42km±5km, n126,σ1§04/137,mb4.4/45,MS3.9/20,3C-6D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.51**	**218**	PG	**Pn**	**18 32 35.0**	**+2.9**
LSA				SG	**Sn**	**18 33 23.0**	**+11**
LSA				Smax			
	comp=N,240nm,0.7s						
LSA				Smax			
	comp=E,470nm,0.7s						
LSA	**Lhasa**	**3.51**	**218**	*e*P	**Pn**	**18 32 35.5**	**+3.4**
LSA				*e*S	**Sn**	**18 33 23.3**	**+11**
SHL	**Shillong**	**7.07**	**193**	*e*P	**Pn**	**18 33 20.0**	**-0.8**
SHL				*e*S	**Sn**	**18 34 35.0**	**-4.8**
JIRN	**Jiri**	**8.06**	**235**	*e*P	**Pn**	**18 33 34.1**	**-0.4**
	comp=E,38nm,0.4s						
GUN	**Gumba**	**8.13**	**238**	*e*P	**Pn**	**18 33 35.4**	**0.0**
	comp=E,115nm,0.5s						
GTA	**Gaotai**	**8.52**	**34**	*e*P	**Pn**	**18 33 41.0**	**+0.2**
GTA				S	**Sn**	**18 35 18.0**	**+2.3**
GTA				AMB	AMB		
	comp=Z,16nm,1.3s						
GTA				AMB	AMB		
	comp=Z,169nm,5.0s						
GTA				LR	LR		
	comp=N,2μm,14.1s						
GTA				LR	LR		
	comp=E,2μm,12.6s						
GTA				LR	LR		

WMQ			AP		18 34 36.0	
WMQ			XP		18 34 40.0	
WMQ			S	**Sn**	**18 36 45.5**	**-1.5**
WMQ			SS		18 37 00.3	
WMQ			PCP	PcP	18 40 13.8	+1.5
WMQ			AMB	AMB		
	comp=Z,11nm,0.9s					
WMQ			AMB	AMB		
	comp=Z,76nm,3.6s					
WMQ			LR	LR		
	comp=N,945nm,10.0s					
WMQ			LR	LR		
	comp=E,1μm,8.6s					
WMQ			LR	LR		
	comp=Z,899nm,11.0s					
GYA	**Guiyang**	**12.82 115**	P	**Pn**	**18 34 39.0**	**-0.6**
GYA			S	**Sn**	**18 37 00.0**	**-0.8**
GYA			AMB	AMB		
	comp=Z,10.0nm,1.4s					
GYA			LR	LR		
	comp=N,1μm,10.8s					
GYA			LR	LR		
	comp=E,310nm,11.4s					
GYA			LR	LR		
	comp=Z,690nm,12.6s					
XAN	**Xi'an**	**12.87 79**	P	**Pn**	**18 34 39.5**	**-0.8**
XAN			S	**Sn**	**18 37 01.5**	**-0.6**
XAN			AMB	AMB		
	comp=Z,98nm,5.9s					
XAN			LR	LR		
	comp=N,384nm,10.3s					
XAN			LR	LR		
	comp=E,764nm,18.1s					
XAN			LR	LR		
	comp=Z,723nm,20.8s					
DDI	**Dehra Dun**	**13.50 265**	*ex*	x	18 34 49.6	
ENH	**Enshi**	**13.70 95**	*eP*	**Pn**	**18 34 52.3**	**+0.7**
	comp=Z,16nm,0.6s					
HHC	**Hu-ho-hao-te**	**16.59 55**	*eP*	**Pn**	**18 35 30.5**	**+0.9**
HHC			AP	pP	18 35 36.3	-5.4
HHC			XP	sP	18 35 40.0	-7.0
HHC			PP		18 35 44.5	
HHC			S	**S**	**18 38 32.8**	**-10**
HHC			XS	sS	18 38 42.8	-16
HHC			SS		18 38 53.0	
HHC			PCP	PcP	18 40 21.8	+3.6
HHC			AMB	AMB		
	comp=Z,148nm,2.8s					
HHC			LR	LR		
	comp=N,2μm,13.3s					
HHC			LR	LR		
	comp=E,976nm,12.3s					
HHC			LR	LR		
	comp=Z,886nm,15.1s					
MKAR	**Makanchi Array**	**16.73 332**	Pn	**Pn**	**18 35 29.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=144,slow=10,SNR=27					
MKAR			PcP	PcP	18 40 18.6	+0.2
	comp=Z,0.1nm,0.3s,baz=245,slow=2.6,SNR=4.3					
MKAR			LR	LR	18 42 52.0	
	comp=Z,265nm,18.5s,baz=277,slow=40					
ULHL	**Ulahol**	**16.90 310**	P	**Pn**	**18 35 33.5**	**+0.1**
	SNR=17					
KZA	**Kyzart**	**17.47 308**	P	**Pn**	**18 35 42.6**	**+2.1**
	SNR=6.5					
AJM	**Ajmer**	**17.60 255**	*eP*	**Pn**	**18 35 43.1**	**+1.1**
KBK	**Karagaybulak**	**17.94 310**	P	**Pn**	**18 35 49.8**	**+3.6**
	SNR=14					
UCH	**Uchtor**	**18.03 308**	P	**Pn**	**18 35 49.5**	**+2.1**
	SNR=9.8					
SONM	**Songino Array**	**18.12 29**	P	**Pn**	**18 35 47.2**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=214,slow=12,SNR=47					
SONM			LR	LR	18 43 32.7	
	comp=Z,246nm,20.6s,baz=212,slow=40					
AAK	**Ala-Archa**	**18.23 309**	P	**Pn**	**18 35 51.5**	**+1.7**
	SNR=18					
FRU	**Bishkek**	**18.24 310**	*eP*	**Pn**	**18 35 52.0**	**+2.1**
ULN	**Ulaanbaatar**	**18.42 30**	*eP*	**Pn**	**18 35 50.8**	**-1.3**
	comp=Z,4.6nm,0.6s					
ULN	**Ulaanbaatar**	**18.42 30**	⇑*iP*	**Pn**	**18 35 51.0**	**-1.1**
AML	**Almayashu**	**18.54 307**	P	**Pn**	**18 35 55.5**	**+2.0**
	SNR=7.4					
EKS2	**Erkin-Say**	**18.71 309**	P	**Pn**	**18 35 56.9**	**+1.3**
	SNR=12					
ZAK	**Zakamensk**	**19.25 19**	*eP*	**Pn**	**18 35 57.4**	**-4.7**
ZAK			pmax	pmax		
	comp=Z,22nm,2.0s					
BJT	**Baijiatuau**	**19.62 61**	*eP*	**Pn**	**18 36 06.1**	**-0.3**
BJI	**Beijing**	**19.63 61**	P	**Pn**	**18 36 06.0**	**-0.6**
BJI			AMB	AMB		
	comp=Z,9.0nm,0.9s					
QIZ	**Qiongzhong**	**19.76 129**	P	**Pn**	**18 36 12.0**	**+3.8**
QIZ			S	**S**	**18 39 51.0**	**+4.2**
QIZ			LR	LR		
	comp=N,577nm,12.1s					
QIZ			LR	LR		
	comp=E,478nm,14.5s					
QIZ			LR	LR		
	comp=Z,537nm,16.2s					
MOY	**Mondy**	**19.91 14**	*eP*	**Pn**	**18 36 09.2**	**-0.7**
MOY			pmax	pmax		
	comp=Z,26nm,1.8s					
HYB	**Hyderabad**	**20.28 226**	*iP*	**P**	**18 36 16.0**	**+4.0**
HYB	**Hyderabad**	**20.28 226**	*eP*	**P**	**18 36 16.0**	**+4.0**
IRK	**Irkutsk**	**21.20 18**	*eP*	**P**	**18 36 21.4**	**-0.6**
IRK			*e*		18 36 41.3	
IRK			*e*		18 40 55.4	
IRK			pmax	pmax		
	comp=Z,50nm,3.0s					
NJ2	**Nanjing**	**21.30 84**	*eP*	**P**	**18 36 27.0**	**+4.0**
NJ2			AP		18 36 34.0	
NJ2			XP	sP	18 36 37.5	-1.1
NJ2			PP		18 36 51.3	
NJ2			S	**S**	**18 40 17.0**	**-0.3**
NJ2			XS	sS	18 40 28.0	-5.9
NJ2			AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4					
NJ2			AMB	AMB		
	comp=Z,130nm,4.9s					
NJ2			LR	LR		
	comp=N,640nm,11.3s					
NJ2			LR	LR		
	comp=E,1μm,27.0s					
NJ2			LR	LR		
	comp=Z,370nm,15.9s,MS3.9					
KURK	**Kurchatov**	**21.34 333**	*eP*	**P**	**18 36 22.9**	**-0.6**
	comp=Z,35nm,0.9s,mb4.7					
KURK	**Kurchatov**	**21.34 333**	*eP*	**P**	**18 36 22.9**	**-0.5**
KURK			pmax	pmax		
	comp=Z,35nm,0.9s,mb4.7					
ZAL	**Zalesovo**	**22.36 346**	P	**P**	**18 36 34.1**	**-0.3**
	comp=Z,4.0nm,0.7s,mb4.0,baz=307,slow=10,SNR=15					
ZAL			LR	LR	18 46 32.1	
	comp=Z,147nm,21.8s,MS3.4,baz=292,slow=40					
SSE	**Sheshan**	**23.42 86**	*eP*	**P**	**18 36 42.3**	**-3.1**
SSE			AP		18 36 50.3	
SSE			XP	sP	18 36 54.5	-6.7
SSE			S	**S**	**18 40 52.0**	**-3.4**
SSE			XS	sS	18 41 07.0	-7.0
SSE			SCS	ScS	18 47 53.5	+1.8
SSE			AMB	AMB		
	comp=Z,31nm,0.7s,mb4.8					
SSE			AMB	AMB		
	comp=Z,101nm,6.8s					
SSE			LR	LR		
	comp=N,103nm,16.8s,MS4.0					
SSE			LR	LR		
	comp=E,402nm,16.8s,MS4.0					
SSE			LR	LR		
	comp=Z,525nm,18.5s,MS4.0					
KRAR	**Krasnoyarsk**	**23.53 359**	*eP*	**P**	**18 36 43.2**	**-3.2**
KRAR			pmax	pmax		
	comp=Z,30nm,1.7s,mb4.5					
KRAR			MLR	MLR		
	comp=Z,200nm,17.0s,MS3.6					
NVS	**Novosibirsk**	**23.54 345**	*eP*	**P**	**18 36 44.3**	**-2.2**
NVS			*eS*	**S**	**18 40 54.8**	**-2.5**
NVS			pmax	pmax		
	comp=Z,25nm,1.4s,mb4.5					
NVS			pmax	pmax		
	comp=N,33nm,1.8s					
NVS			pmax	pmax		
	comp=E,12nm,1.4s					
NVS			smax			
	comp=N,21nm,2.1s					
NVS			smax			
	comp=E,9.0nm,2.1s					

SNY	**Shenyang**	**25.50 60**	⇑P	**P**	**18 37 05.3**	**+0.9**
SNY			PP		18 37 48.5	
SNY			S	**S**	**18 41 33.8**	**+5.0**
SNY			SS		18 42 30.0	
SNY			AMB	AMB		
	comp=Z,21nm,1.2s,mb4.5					
SNY			AMB	AMB		
	comp=Z,124nm,5.1s					
SNY			LR	LR		
	comp=N,722nm,21.6s					
SNY			LR	LR		
	comp=Z,340nm,18.6s,MS3.9					
HIA	**Hailar**	**25.70 42**	*eP*	**P**	**18 37 07.2**	**+1.0**
BVAR	**Borovoye Array**	**26.50 328**	P	**P**	**18 37 13.8**	**+0.4**
	comp=Z,2.5nm,0.7s,mb3.9,baz=146,slow=11,SNR=11					
BVAR			PcP	PcP	18 40 37.5	0.0
	comp=Z,0.7nm,0.5s,baz=101,slow=3.2,SNR=4.8					
BRVK	**Borovoye**	**26.57 328**	*eP*	**P**	**18 37 14.0**	**-0.1**
	comp=Z,2.8nm,0.8s,mb3.8					
BRVK	**Borovoye**	**26.57 328**	*eP*	**P**	**18 37 14.0**	**0.0**
BRVK			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9					
CHKZ	**Chkalovo**	**26.84 329**	*eP*	**P**	**18 37 16.3**	**-0.2**
	comp=Z,11nm,1.4s,mb4.2					
CHKZ	**Chkalovo**	**26.84 329**	*eP*	**P**	**18 37 16.3**	**-0.2**
CHKZ			pmax	pmax		
	comp=Z,11nm,1.4s,mb4.2					
ZRNK	**Zerenda**	**27.09 326**	*eP*	**P**	**18 37 18.8**	**+0.1**
	comp=Z,4.9nm,1.2s,mb3.9					
ZRNK	**Zerenda**	**27.09 326**	*eP*	**P**	**18 37 18.8**	**+0.1**
ZRNK			pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.9					
CN2	**Changchun**	**27.27 56**	*eP*	**P**	**18 37 20.0**	**-0.4**
CN2			AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3					
BOD	**Bodaibo**	**28.88 23**	*eP*	**P**	**18 37 34.5**	**-0.3**
BOD			pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.0					
PSI	**Prapat**	**29.94 169**	LR	LR	18 51 53.1	
	comp=Z,36nm,20.0s,MS3.0,baz=185,slow=41					
MDJ	**Mudanjiang**	**30.36 56**	P	**P**	**18 37 49.0**	**+1.2**
MDJ			XP	sP	18 37 58.0	-6.1
MDJ			PCP	PcP	18 40 49.3	+2.3
MDJ			S	**S**	**18 42 47.0**	**+1.6**
MDJ			XS	sS	18 42 58.5	-5.8
MDJ			AMB	AMB		
	comp=Z,9.0nm,1.8s,mb4.2					
MDJ			AMB	AMB		
	comp=Z,214nm,4.6s					
MDJ			LR	LR		
	comp=N,365nm,21.4s,MS4.0					
MDJ			LR	LR		
	comp=E,71nm,21.1s,MS4.0					
MDJ			LR	LR		
	comp=Z,114nm,20.8s,MS3.5					
AKTK	**Aktyubinsk**	**31.77 315**	P	**P**	**18 38 00.3**	**0.0**
AKTO	**Aktyubinsk**	**31.77 315**	P	**P**	**18 38 00.3**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=103,slow=10,SNR=8.1					
AKTO	**Aktyubinsk**	**31.77 315**	P	**P**	**18 38 00.3**	**0.0**
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8					
KLR	**Kul'dur**	**32.89 48**	*eP*	**P**	**18 38 07.8**	**-2.3**
KLR			pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1					
KLR			MLR	MLR		
	comp=E,500nm,13.0s					
KLR			MLR	MLR		
	comp=Z,2μm,13.0s,MS4.9					
SVE	**Sverdlovsk**	**33.28 327**	*eP*	**P**	**18 38 13.7**	**+0.3**
SVE			pmax	pmax		
	comp=Z,28nm,2.0s,mb4.8					
SVE			MLR	MLR		
	comp=N,300nm,13.0s,MS4.3					
SVE			MLR	MLR		
	comp=E,300nm,13.0s,MS4.3					
SVE			MLR	MLR		
	comp=Z,300nm,13.0s,MS4.2					
ARU	**Arti**	**34.05 325**	*eP*	**P**	**18 38 20.8**	**+0.6**
	comp=Z,12nm,1.3s,mb4.7					
ARU	**Arti**	**34.05 325**	⇓*iP*	**P**	**18 38 20.0**	**-0.1**
ARU			*eS*	**S**	**18 43 43.6**	**+0.8**
ARU			*eSS*	SS	18 45 49.8	-21
ARU			pmax	pmax		
	comp=Z,15nm,1.6s,mb4.7					
YAK	**Yakutsk**	**37.47 27**	*eP*	**P**	**18 38 49.3**	**-0.2**
YAK			pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4					
GNI	**Garni**	**39.74 295**	P	**P**	**18 39 07.6**	**-0.8**
	comp=Z,1.8nm,0.5s,mb4.0,baz=354,slow=20,SNR=4.0					
GNI	**Garni**	**39.74 295**	*eP*	**P**	**18 39 10.4**	**+1.9**
	comp=Z,8.9nm,0.9s,mb4.5					
GNI	**Garni**	**39.74 295**	P	**P**	**18 39 07.6**	**-0.9**
GNI			pmax	pmax		
	comp=Z,2.0nm,0.5s					
KIV	**Kislovodsk**	**41.06 301**	*eP*	**P**	**18 39 20.4**	**+1.0**
KIV			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3					
KIV			MLR	MLR		
	comp=Z,78nm,17.0s,MS3.6					
TIXI	**Tiksi**	**43.47 15**	*dP*	**P**	**18 39 38.0**	**-1.1**
TIXI			pmax	pmax		
	comp=Z,26nm,2.6s,mb4.5					
TIXI			MLR	MLR		
	comp=Z,100nm,19.0s,MS3.7					
ANN	**Anapa**	**44.78 303**	*eP*	**P**	**18 39 41.0**	**-8.5**
ANN			pmax	pmax		
	comp=Z,43nm,1.0s,mb5.2					
OBN	**Obninsk**	**45.47 317**	P	**P**	**18 39 55.0**	**0.0**
OBN			*e*	pP	18 40 04.0	-2.7
OBN			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5					
OBN			MLR	MLR		
	comp=Z,100nm,19.0s,MS3.8					
BR131	**Keskin Array S**	**48.25 296**	*eP*	**P**	**18 40 17.2**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.3					
BRTR	**Keskin Array B**	**48.25 296**	P	**P**	**18 40 17.1**	**+0.4**
	comp=Z,2.7nm,0.9s,mb4.3,baz=94,slow=8.5,SNR=15					
JOF	**Joensuu**	**49.10 328**	*ep*	**P**	**18 40 23.2**	**-0.1**
	comp=Z,3.9nm,1.0s,mb4.4					
AKASG	**Malin Array Be**	**49.88 311**	P	**P**	**18 40 28.7**	**-0.5**
	comp=Z,3.4nm,0.7s,mb4.5,baz=75,slow=6.3,SNR=12					
AKASG	**Malin Array Be**	**49.88 311**	P	**P**	**18 40 28.7**	**-0.5**
KAF	**Kangasniemi**	**51.34 326**	*ep*	**P**	**18 40 39.2**	**-1.0**
	comp=Z,2.7nm,0.8s,mb4.2					
KAF	**Kangasniemi**	**51.34 326**	*eP*	**P**	**18 40 39.2**	**-1.0**
KAF			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3					
FINES	**FINESS Array B**	**51.42 325**	P	**P**	**18 40 40.7**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=93,slow=7.9,SNR=11					
FINES			LR	LR	19 04 39.2	
	comp=Z,121nm,20.8s,MS3.9,baz=52,slow=39					
VRI	**Vrincioaia**	**52.14 305**	⇓P	**P**	**18 40 47.1**	**+0.9**
ARCES	**ARCESS Array B**	**52.34 336**	P	**P**	**18 40 48.0**	**+0.3**
	comp=Z,1.9nm,0.6s,mb4.2,baz=92,slow=6.7,SNR=13					
ARCES			PcP	PcP	18 41 57.9	-0.5
	comp=Z,2.8nm,0.9s,baz=77,slow=1.6,SNR=4.6					
ARCES			LR	LR	19 05 11.4	
	comp=Z,106nm,20.9s,MS3.9,baz=101,slow=38					
ARCES	**ARCESS Array B**	**52.34 336**	P	**P**	**18 40 48.0**	**+0.3**
ARCES			PcP	PcP	18 41 57.9	-0.5
ARCES			LR	LR	19 05 11.4	
ARCES	**ARCESS Array B**	**52.34 336**	P	**P**	**18 40 48.0**	**+0.3**
ARCES					18 41 57.9	
MLR	**Muntele Rosu**	**52.75 305**	⇑P	**P**	**18 40 51.9**	**+1.2**
BURAR	**Bucovina Array**	**52.87 308**	⇓P	**P**	**18 40 52.4**	**+0.9**
BURAR	**Bucovina Array**	**52.87 308**	⇓P	**P**	**18 40 52.4**	**+0.8**
BILL	**Bilibino**	**53.83 26**	*eP*	**P**	**18 40 58.7**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.2					
BILL	**Bilibino**	**53.83 26**	P	**P**	**18 40 59.0**	**+0.4**
BILL			S	**S**	**18 48 23.0**	**-7.5**
BILL			pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5					
BILL			MLR	MLR		
	comp=Z,100nm,17.0s,MS3.9					
PKSM	**Moragy**	**57.57 307**	⇓P	**P**	**18 41 25.2**	**-0.2**
NB2	**NORSAR Subarra**	**58.60 326**	P	**P**	**18 41 32.0**	**-0.7**
	comp=Z,3.4nm,0.7s,mb4.5,baz=79,slow=7.4					
NB2	**NORSAR Subarra**	**58.60 326**	P	**P**	**18 41 32.0**	**-0.7**
NB2			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4					
NOA	**NORSAR Array B**	**58.60 326**	P	**P**	**18 41 32.3**	**-0.4**
	comp=Z,2.9nm,0.9s,mb4.3,baz=79,slow=7.1,SNR=7.5					
NOA			LR	LR	19 08 41.1	
	comp=Z,106nm,21.6s,MS3.9,baz=5.0,slow=38					
FITZ	**Fitzroy Crossi**	**58.88 144**	P	**P**	**18 41 34.6**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.2,baz=340,slow=12,SNR=3.6					

GERES	**GERESS Array B**	**60.09 311**	P	**P**	**18 41 42.9**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=64,slow=6.2,SNR=6.2					
GERES			LR	LR	19 12 33.9	
	comp=Z,111nm,18.8s,MS4.0,baz=274,slow=41					
KMBO	**Kilima Mbogo**	**62.80 249**	P	**P**	**18 42 00.8**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.3,baz=48,slow=12,SNR=7.8					
KMBO			LR	LR	19 12 29.4	
	comp=Z,47nm,18.0s,MS3.7,baz=92,slow=39					
KMBO	**Kilima Mbogo**	**62.80 249**	P	**P**	**18 42 00.8**	**-0.4**
KMBO			LR	LR	19 12 29.4	
DAVOX	**Davos**	**63.18 310**	LR	LR	19 11 35.0	
	comp=Z,128nm,20.6s,MS4.1,baz=8.1,slow=38					
CDF	**Champ du Feu**	**64.27 312**	*eP*	**P**	**18 42 11.0**	**0.0**
WRA	**Warramunga Arr**	**65.05 137**	P	**P**	**18 42 16.7**	**+0.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=332,slow=6.4,SNR=18					
WRA	**Warramunga Arr**	**65.05 137**	*i P*	**P**	**18 42 16.8**	**+0.8**
WRA			pmax	pmax		
	comp=Z,2.0nm,0.9s					
LPG	**La Plagne**	**65.67 310**	*eP*	**P**	**18 42 20.4**	**+0.4**
	comp=Z,14nm,0.9s,mb4.7					
LPL	**La Plagne**	**65.68 310**	*eP*	**P**	**18 42 20.3**	**+0.2**
	comp=Z,7.6nm,0.8s,mb4.5					
MBDF	**Montbardon**	**65.95 309**	*eP*	**P**	**18 42 21.3**	**-0.5**
	comp=Z,4.9nm,0.6s,mb4.4					
ORIF	**Oris-en-Rattie**	**66.46 309**	*eP*	**P**	**18 42 24.4**	**-0.7**
MUN	**Mundaring**	**67.56 159**	*eP*	**P**	**18 42 31.2**	**-0.9**
ASAR	**Alice Springs**	**67.78 140**	P	**P**	**18 42 34.4**	**+0.9**
	comp=Z,3.1nm,0.5s,mb4.6,baz=322,slow=6.3,SNR=70					
ASAR	**Alice Springs**	**67.78 140**	P	**P**	**18 42 34.4**	**+0.9**
ASAR			pmax	pmax		
	comp=Z,3.0nm,0.5s					
NWAO	**Narrogin (SRO)**	**68.75 159**	P	**P**	**18 42 39.2**	**-0.4**
	comp=Z,6.3nm,0.5s,mb4.8,baz=181,slow=8.4,SNR=16					
NWAO	**Narrogin (SRO)**	**68.75 159**	P	**P**	**18 42 39.2**	**-0.4**
NWAO			pmax	pmax		
	comp=Z,6.0nm,0.5s					
COLA	**College**	**71.87 23**	*eP*	**P**	**18 42 58.9**	**+0.3**
ILAR	**Eielson Array**	**72.25 23**	P	**P**	**18 42 59.9**	**-1.0**
	comp=Z,2.0nm,0.9s,mb4.1,baz=290,slow=5.2,SNR=21					
ILAR	**Eielson Array**	**72.25 23**	P	**P**	**18 42 59.9**	**-1.0**
ILAR			pmax	pmax		
	comp=Z,2.0nm,0.9s					
CTA	**Charters Tower**	**72.54 128**	LR	LR	19 13 04.9	
	comp=Z,105nm,21.4s,MS4.1,baz=220,slow=34					
RES	**Resolute Bay**	**72.95 2**	*eP*	**P**	**18 43 05.0**	**-0.1**
SML	**Sawmill**	**73.63 26**	*eP*	**P**	**18 43 09.4**	**+0.3**
YKA	**Yellowknife Ar**	**82.66 13**	P	**P**	**18 43 58.6**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=329,slow=4.8,SNR=15					
YKA	**Yellowknife Ar**	**82.66 13**	P	**P**	**18 43 58.6**	**-0.5**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
TORD	**Torodi Ar. Bea**	**84.69 282**	P	**P**	**18 44 10.1**	**+0.6**
	comp=Z,6.7nm,0.8s,mb4.8,baz=50,slow=4.7,SNR=39					
SCHQ	**Schefferville**	**91.43 349**	P	**P**	**18 44 41.2**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.3,baz=45,slow=18,SNR=3.5					
SIV	**San Ignacio**	**151.82 300**	PKPbc	PKPbc	18 51 31.1	+0.9
	comp=Z,5.7nm,0.8s,baz=85,slow=3.8,SNR=29					
CPUP	**Villa Florida**	**154.04 276**	PKPbc	PKPbc	18 51 34.7	-0.4
	comp=Z,1.5nm,0.6s,baz=45,slow=5.1,SNR=4.8					
CPUP	**Villa Florida**	**154.04 276**	PKIKP	PKPbc	18 51 34.7	-0.4
CPUP			pmax	pmax		
	comp=Z,2.0nm,0.6s					

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*IDC **30** 18:39:04.3±1.0,3.19S×14822E,h0km,mb3.8/10,*
mb1 4.0/11,mb1mx4.0/16,mbtmp3.8/11,ML2.3/1,MS4.1/3,
Ms1 4.1/3,ms1mx3.3/25,Error ellipse: s-maj=40.0km
s-min=17.7km az=103.0
*NEIC **30** 18:39:06.1±0.8,3.155S×14823E,h10km,mb4.6/4,Error*
ellipse: s-maj=26.7km s-min=11.5km az=107.0
*ISCJB **30** 18:39:07.5±0.8,326S±009×1483E±02,h33km,mb4.0/13,*
MS4.1/3,Error ellipse: s-maj=26.6km s-min=11.2km
az=34.3

ISC 30 18:39:09.4±0.8,324S±009×1483E±02,h35km,n21,
σ0°81/17,mb4.0/13,MS4.1/3,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.24**	**191**	Pn	**Pn**	**18 40 38.5**	**-0.4**
	0.4nm,0.3s,baz=304,slow=10,SNR=2.9						
KAKA	**Kakadu**	**18.32**	**238**	*eP*	**Pn**	**18 43 21.4**	**+0.8**
	18nm,0.6s						
WRAB	**Tennant Creek**	**21.48**	**218**	*eP*	**P**	**18 43 54.2**	**-0.6**
	43nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**21.49**	**218**	P	**P**	**18 43 54.8**	**-0.2**
	1.8nm,0.8s,mb3.5,baz=50,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**24.63**	**213**	P	**P**	**18 44 25.4**	**-1.1**
	3.4nm,1.0s,mb3.9,baz=51,slow=8.3,SNR=17						
FITZ	**Fitzroy Crossi**	**26.68**	**235**	*eP*	**P**	**18 44 47.3**	**+2.2**
	22nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**26.68**	**235**	P	**P**	**18 44 45.6**	**+0.5**
	3.7nm,0.8s,mb4.0,baz=56,slow=8.9,SNR=9.2						
FORT	**Forrest**	**33.42**	**213**	*eP*	**P**	**18 45 53.6**	**+8.9**
	9.0nm,0.7s,mb4.8						
JOW	**Kunigami**	**35.62**	**328**	LR	LR	18 57 40.1	
	comp=Z,290nm,21.0s,MS4.0,baz=241,slow=31						
MJAR	**Matsushiro Arr**	**40.68**	**347**	LR	LR	19 01 07.8	
	comp=Z,134nm,20.0s,MS3.8,baz=175,slow=33						
SONM	**Songino Array**	**62.67**	**330**	P	**P**	**18 49 30.5**	**0.0**
	0.3nm,0.7s,mb3.5,baz=134,slow=8.3,SNR=2.8						
VNDA	**Vanda**	**74.58**	**177**	P	**P**	**18 50 45.6**	**+0.9**
	1.0nm,0.9s,mb3.8,baz=351,slow=10,SNR=3.9						
VNDA	**Vanda**	**74.58**	**177**	*eP*	**P**	**18 50 47.7**	**+3.0**
MKAR	**Makanchi Array**	**76.23**	**320**	P	**P**	**18 50 54.5**	**+0.3**
	1.2nm,1.0s,mb3.8,baz=101,slow=6.3,SNR=7.2						
ZAL	**Zalesovo**	**77.41**	**327**	P	**P**	**18 51 00.8**	**0.0**
	0.5nm,0.3s,mb3.9,baz=120,slow=24,SNR=1.9						
KURK	**Kurchatov**	**79.81**	**323**	*eP*	**P**	**18 51 12.6**	**-1.5**
	4.0nm,1.3s,mb4.2						
ILAR	**Eielson Array**	**82.44**	**23**	P	**P**	**18 51 28.4**	**+0.3**
	0.9nm,0.9s,mb3.7,baz=253,slow=5.1,SNR=5.0						
BVAR	**Borovoye Array**	**85.33**	**324**	P	**P**	**18 51 42.8**	**0.0**
	0.3nm,0.5s,mb3.7,baz=125,slow=9.0,SNR=2.6						
YBH	**Yreka Blue Hor**	**91.36**	**48**	LR	LR	19 25 27.3	
	comp=Z,164nm,21.2s,MS4.4,baz=256,slow=30						
YKA	**Yellowknife Ar**	**96.13**	**28**	P	**P**	**18 52 33.6**	**+0.1**
	0.3nm,0.6s,mb3.9,baz=272,slow=4.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**145.58**	**289**	PKPbc	PKPbc	18 58 43.2	-0.9
	0.6nm,0.7s,baz=61,slow=1.6,SNR=3.8						

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*ISCJB **30** 18:40:22.4±1.4,16.1S±02×1750W±03,h265km±25km,*
mb4.1/8,Error ellipse: s-maj=49.0km s-min=23.6km
az=68.2
*IDC **30** 18:40:22.5±1.4,16.19S×17493W,h254km±17km,mb3.8/5,*
mb1 4.0/6,mb1mx3.6/16,mbtmp4.4/6,Error ellipse:
s-maj=40.1km s-min=16.1km az=135.0
*NEIC **30** 18:40:23.9±1.1,16.15S×17491W,h270km±13km,mb4.5/3,*
*Error ellipse: s-maj=33.2km s-min=

KMBO	Kilima Mbogo	143.99	245	PKP	PKPdf	18 59 27.4	+0.4
BRTR	Keskin Array B	145.83	319	PKPbc	PKPbc	18 59 32.2	+0.9
	2.5nm,0.9s,baz=90,slow=2.5,SNR=10						

*ISCJB **30** 18:40:38.9±0.9,3441N±007×27.1E±0.1,h33km, Error ellipse: s-maj=16.1km s-min=8.9km az=145.4*
*CSEM **30** 18:40:39.1,3441N×2698E,h40km,ML3.2*
*HLW **30** 18:40:45.4,3402N×2708E,h33km,Mb3.2*
*ATH **30** 18:40:47.0,3507N×2663E,h10km,MD3.0/3*
ISC 30 18:40:40.7±0.9,3444N±007×270E±01,h35km,n8,σ0§78/9, 2C-3D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	1.11	6	ePB	Pn	18 40 59.3	-0.4
XRY	Khrisi	1.17	292	ePG	Pn	18 41 02.0	+1.5
NPS	Neapolis	1.41	306	ePG	Pn	18 41 03.0	-0.9
SLUM		3.30	208	⇓eP	Pn	18 41 30.1	+0.2
SLUM				S	Sn	18 42 02.7	-5.2
HMAT	Matruh	3.33	179	⇑eP	Pn	18 41 29.9	-0.4
SWA2		5.35	195	⇓P	Pn	18 41 57.7	-0.2
SUZ		6.74	131	⇑eP	Pn	18 42 18.1	+1.0
HFRF	Wahat Farafira	7.35	171	⇓P	Pn	18 42 24.9	-0.6

*ISCJB **30** 18:42:21.1±0.7,4059N±003×2356E±006,h6km±16km, Error ellipse: s-maj=8.3km s-min=3.9km az=150.0*
*CSEM **30** 18:42:21.4±0.2,4058N×2355E,h13km±2km,ML2.2,Error ellipse: s-maj=2.3km s-min=1.2km az=67.0*
*THE **30** 18:42:21.1,4058N×2354E,h9km,ML2.2*
*ATH **30** 18:42:21.6,4061N×2356E,h4km±1km,MD3.1/3*
ISC 30 18:42:21.3±0.9,4059N±003×2355E±007,h12km±13km, n11,σ0§34/19,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	Polygyros	0.23	201	ePG	Pg	18 42 26.2	+0.1
PLG				eSG	Sg	18 42 29.6	+0.2
PLG	Polygyros	0.23	201	eSg	Sg	18 42 29.6	+0.2
SOH	Sokhos	0.28	328	ePg	Pg	18 42 27.1	0.0
SOH				eSg	Sg	18 42 31.1	+0.1
SOH	Sokhos	0.28	328	ePg	Pg	18 42 27.0	-0.1
SOH				eSg	Sg	18 42 31.1	+0.2
OUR	Ouranopolis	0.41	127	ePg	Pg	18 42 29.1	-0.4
OUR				eSg	Sg	18 42 35.5	+0.5
SRS	Serrai	0.53	3	ePg	Pg	18 42 31.5	-0.3
SRS				eSg	Sg	18 42 39.0	+0.3
PAIG	Paliouri	0.67	171	ePg	Pg	18 42 33.8	-0.4
PAIG				eSg	Sg	18 42 42.9	-0.1
KNT	Kendrikon	0.76	320	ePg	Pg	18 42 35.6	-0.4
KNT				eSg	Sg	18 42 46.4	+0.4
NVR	Nevrokopi	0.80	17	ePG	Pg	18 42 36.4	-0.4
NVR				eSG	Sg	18 42 47.0	-0.2
NVR	Nevrokopi	0.80	17	eSg	Sg	18 42 47.0	-0.2
RDO	Rodhopi	1.61	69	ePB	Pb	18 42 51.5	+0.6

*CSEM **30** 19:10:17.0,4255N×4616E,h10km,mb3.8,After OBN*
MOS 30 19:10:17.1±0.1,4255N×4616E,h10km,mb3.8/1,Error ellipse: s-maj=66.8km s-min=13.7km az=22.9,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNZR	Khunzakh	0.40	92	ePg	Pg	19 10 26.5	+1.5
	44nm,0.2s						
XNZR				iSg	Sg	19 10 34.3	+3.9
XNZR	Khunzakh	0.40	92	ePG	Pg	19 10 26.5	+1.5
XNZR				iS	Sg	19 10 34.3	+3.9
XNZR				pmax	pmax		
	comp=Z,44nm,0.2s						
SNJR	Sundja	1.12	298	ePg	Pg	19 10 38.1	-0.5
SNJR				iSg	Sg	19 10 54.6	+1.5
VLKR	Vladikavkaz	1.20	295	iPg	Pg	19 10 39.5	-0.6
VLKR				eSg	Sg	19 10 56.9	+1.2
LACR	Lac	1.40	282	iPg	Pg	19 10 42.8	-1.2
LACR				iSg	Sg	19 11 02.8	+0.6
ARNR	Ardon	1.52	295	ePg	Pg	19 10 44.8	-1.5
ARNR				eSg	Sg	19 11 06.2	+0.2
KORR	Kora	1.63	290	iPn	Pn	19 10 46.5	+0.7
KORR				iSg	Sg	19 11 09.1	-0.4
ZEI	Tsey	1.68	278	iPn	Pn	19 10 47.1	+0.5
ZEI				iSg	Sg	19 11 10.4	-0.8

*ISCJB **30** 19:33:20.5±4.7,35S±02×1489E±0.1,h58km±44km, mb4.0/9,MS4.2/10,Error ellipse: s-maj=25.1km s-min=23.1km az=173.4*
*NEIC **30** 19:33:22.4±3.5,3445S×14907E,h60km±34km,mb4.4/4, Error ellipse: s-maj=25.2km s-min=23.5km az=113.0*
*IDC **30** 19:33:26.2±5.1,3445S×14907E,h99km±48km,mb3.7/6, mb1 3.8/8,mb1mx3.7/16,mbtmp4.0/8,MS4.2/14, Ms1 4.2/14,ms1mx4.0/22,Error ellipse: s-maj=28.9km s-min=26.4km az=150.0*
ISC 30 19:33:22.1±4.0,35S±02×1489E±01,h55km±38km,n25, σ1§31/17,mb4.0/9,MS4.2/10,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.16	196	P	Pn	19 34 55.9	+5.5
	0.6nm,0.3s,baz=115,slow=11,SNR=4.2						
PMG				S	Sn	19 35 59.0	-0.6
	0.7nm,0.3s,baz=335,slow=20,SNR=3.1						
PMG				LR	LR	19 37 26.1	
	comp=Z,732nm,19.4s,baz=23,slow=38						
PMG	Port Moresby	6.16	196	P	Pn	19 34 51.6	+1.2
PMG				S	Sn	19 35 59.0	-0.6
PMG				LR	LR	19 37 26.1	
HNR	Honiara	12.46	119	LR	LR	19 39 56.9	
	comp=Z,582nm,20.4s,baz=354,slow=32						
CTA	Charters Tower	16.73	189	P	Pn	19 37 13.8	+1.1
	0.1nm,0.3s,baz=7.4,slow=19,SNR=3.4						
CTA				LR	LR	19 43 28.5	
	comp=Z,536nm,19.7s,baz=8.7,slow=36						
CTA	Charters Tower	16.73	189	P	Pn	19 37 13.8	+1.1
CTA				LR	LR	19 43 28.5	
GUMO	Guam	17.40	347	LR	LR	19 43 00.5	
	comp=Z,918nm,19.6s,baz=151,slow=33						
KAKA	Kakadu	18.71	240	eP	Pn	19 37 35.2	-1.6
	11nm,0.6s						
WRAB	Tennant Creek	21.68	220	eP	P	19 38 07.6	-0.5
	18nm,0.9s,mb4.5						
WRA	Warramunga Arr	21.70	220	P	P	19 38 07.1	-1.1
	7.7nm,0.9s,mb4.2,baz=42,slow=12,SNR=24						
ASAR	Alice Springs	24.78	215	P	P	19 38 39.4	+0.8
	3.2nm,0.8s,mb3.9,baz=48,slow=7.6,SNR=19						
DZM	Mont Dzumac	25.14	139	P	P	19 38 42.2	+0.3
	10nm,0.9s,mb4.4,baz=113,slow=13,SNR=8.0						
DZM				LR	LR	19 47 05.9	
	comp=Z,1μm,20.2s,MS4.5,baz=327,slow=33						
FITZ	Fitzroy Crossi	27.05	236	eP	P	19 39 02.0	+2.9
	14nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	27.05	236	P	P	19 39 01.2	+2.1
	9.2nm,0.9s,mb4.3,baz=85,slow=10,SNR=11						
FITZ				LR	LR	19 50 03.7	
	comp=Z,684nm,21.0s,MS4.2,baz=54,slow=37						
STKA	Stephens Creek	29.10	193	LR	LR	19 50 16.5	
	comp=Z,481nm,21.6s,MS4.1,baz=14,slow=35						
JOW	Kunigami	36.12	328	LR	LR	19 52 02.1	
	comp=Z,275nm,20.4s,MS4.0,baz=330,slow=31						
AFI	Afiamalu	40.16	107	LR	LR	19 54 21.0	
	comp=Z,140nm,19.6s,MS3.8,baz=110,slow=31						
MJAR	Matsushiro Arr	41.03	347	LR	LR	19 55 45.3	
	comp=Z,308nm,21.2s,MS4.1,baz=175,slow=33						
NWAO	Narrogin (SRO)	41.68	222	LR	LR	19 58 14.0	
	comp=Z,825nm,21.9s,MS4.6,baz=48,slow=36						
ULN	Ulaanbaatar	62.85	330	P	P	19 43 44.1	+2.0
	3.5nm,1.3s,mb4.3						
SONM	Songino Array	63.16	329	P	P	19 43 44.7	+0.5
	0.5nm,0.7s,mb3.8,baz=143,slow=5.7,SNR=4.5						
VNDA	Vanda	74.33	177	LR	LR	20 15 55.5	
	comp=Z,161nm,18.9s,MS4.3,baz=156,slow=34						
MKAR	Makanchi Array	76.78	320	LR	LR	20 20 43.2	
	comp=Z,138nm,18.7s,MS4.3,baz=0.2,slow=37						
ZAL	Zalesovo	77.92	327	LR	LR	20 17 42.1	
	comp=Z,245nm,21.8s,MS4.5,baz=163,slow=34						
ILAR	Eielson Array	82.41	23	P	P	19 45 35.8	-2.4
	0.4nm,0.9s,mb3.3,baz=244,slow=5.9,SNR=3.1						
YKA	Yellowknife Ar	96.05	28	P	P	19 46 42.1	-1.2
	0.2nm,0.8s,mb3.6,baz=271,slow=4.3,SNR=5.0						

*ISCJB **30** 19:35:29.3±0.5,5141N±003×1606E±003,h0km,Error ellipse: s-maj=4.2km s-min=2.2km az=18.3*
*BGR **30** 19:35:29.7±0.6,5150N×1616E,h1km,ML3.0/11,Error ellipse: s-maj=5.6km s-min=4.4km az=158.0*
*NEIC **30** 19:35:29.3±0.6,5154N×1616E,h5km,ML3.0(SZGRF), Error ellipse: s-maj=7.2km s-min=5.2km az=216.0*
*PRU **30** 19:35:31.6,5142N×1608E,h0km,Felt In Harrachov*
*IPEC **30** 19:35:31.9±0.3,5139N×1648E,h0km,Error ellipse: s-maj=3.4km s-min=2.1km az=87.0*
*CSEM **30** 19:35:31.0±0.2,5147N×1608E,h0km,ML3.3/8,Error ellipse: s-maj=2.7km s-min=1.5km az=4.0*
*WAR **30** 19:35:31.0,5149N×1610E,ML2.7,Mining Induced*
*VIE **30** 19:35:32.1±0.9,5133N×1600E,h0km,mb2.5/4,ML2.8/6, Error ellipse: s-maj=6.3km s-min=4.8km az=15.0 74 km WNW of Breslau Suspected Mining induced.*
ISC 30 19:35:29.3±0.5,5152N±003×1612E±003,h0km,n51, σ0§81/103,7C-8D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	171	iPgd	Pg	19 35 43.0	+0.6
KSP				eSg	Sg	19 35 51.9	+0.6
KSP	Ksiaz	0.69	171	ePg	Pg	19 35 43.0	+0.6
KSP				eSg	Sg	19 35 51.9	+0.6
KSP	Ksiaz	0.69	171	⇓iPg	Pg	19 35 43.0	+0.6
KSP				eSg	Sg	19 35 51.9	+0.6
UPC	Upice	1.01	184	ePG	Pg	19 35 49.1	+0.4
DPC	Dobruska-Polom	1.18	174	ePG	Pg	19 35 51.9	0.0
DPC				eSG	Sg	19 36 06.8	-0.3
	54nm,0.4s						
DPC	Dobruska-Polom	1.18	174	ePg	Pg	19 35 51.6	-0.3
DPC				eSg	Sg	19 36 05.4	-1.7
BRG	Berggiesshubel	1.51	246	ePg	Pg	19 35 57.1	-1.2
BRG				eSg	Sg	19 36 18.7	+0.8
BRG	Berggiesshubel	1.51	246	PN	Pn	19 35 56.9	-0.8
BRG				PG	Pg	19 35 58.4	+0.1
BRG				SG	Sg	19 36 18.6	+0.7
	66nm,0.3s						
PRU	Pruhonice	1.83	214	ePN	Pn	19 36 01.5	-0.5
PRU				ePG	Pg	19 36 03.5	-0.9
PRU				ex	x	19 36 07.7	
PRU				ex	x	19 36 20.5	
PRU				eSG	Sg	19 36 28.4	+0.3
	38nm,0.6s						
PRU	Pruhonice	1.83	214	ePg	Pg	19 36 03.5	-0.9
PRU				eSg	Sg	19 36 28.4	+0.3
	38nm,0.6s						
FBE	Freiberg	1.84	252	ePn	Pn	19 36 02.4	+0.3
FBE				eSg	Sg	19 36 28.7	+0.4
CLL	Collm	1.96	265	ePn	Pn	19 36 03.6	-0.2
CLL				eSg	Sg	19 36 33.0	+0.7
CLL	Collm	1.96	265	ePn	Pn	19 36 03.0	-0.8
CLL				ePg	Pg	19 36 06.0	-0.9
CLL				ix	x	19 36 10.6	
CLL				iSg	Sg	19 36 32.4	+0.1
	comp=Z,32nm,0.4s						
CLL	Collm	1.96	265	ePn	Pn	19 36 03.0	-0.8
CLL				ePg	Pg	19 36 06.0	-0.9
CLL				iSg	Sg	19 36 32.4	+0.1
MORC	Moravsky Berou	1.97	152	ePn	Pn	19 36 03.3	-0.5
MORC				eSg	Sg	19 36 27.2	-5.3
MORC	Moravsky Berou	1.97	152	eP	Pn	19 36 02.9	-0.9
MORC				eS	Sn	19 36 29.4	+0.2
OKC	Ostrava-Krasne	2.12	142	ePN	Pn	19 36 05.4	-0.6
OKC				ePG	Pg	19 36 09.7	-0.3
OKC				eSG	Sg	19 36 35.9	-1.6
	comp=Z,33nm,0.7s						
OKC	Ostrava-Krasne	2.12	142	ePg	Pg	19 36 09.7	-0.3
OKC				eSg	Sg	19 36 35.9	-1.6
	comp=Z,33nm,0.7s						
VRAC	Vranov	2.23	172	ePn	Pn	19 36 08.1	+0.6
VRAC				eSg	Sg	19 36 36.8	-4.3
KRUC	Moravsky	2.47	176	ePn	Pn	19 36 11.8	+1.1
TANN	Tannenbergstha	2.56	246	ePn	Pn	19 36 12.3	+0.3
TANN				eSg	Sg	19 36 51.3	-0.3
NKC	Novy Kostel	2.66	242	ePN	Pn	19 36 14.1	+0.8
NKC				ePG	Pg	19 36 20.1	-0.1
NKC				eSG	Sg	19 36 55.1	+0.4
	comp=Z,43nm,0.3s						
NKC	Novy Kostel	2.66	242	ePg	Pg	19 36 20.1	-0.1
NKC				eSg	Sg	19 36 55.1	+0.4
	comp=Z,43nm,0.3s						
WERN	Wernitzgruen	2.67	244	ePn	Pn	19 36 14.2	+0.7
WERN				eSg	Sg	19 36 53.8	-1.3
OJC	Ojcow	2.67	118	ePg	Pg	19 36 20.8	+0.3
OJC				eSg	Sg	19 36 55.9	+0.8
KHC	Kasperske Hory	2.89	215	ePN	Pn	19 36 16.7	+0.1
KHC				ePG	Pg	19 36 22.8	-1.9
KHC				eSN	Sn	19 36 52.0	0.0
KHC				eSG	Sg	19 37 01.1	-1.1
	comp=Z,19nm,0.7s						
KHC	Kasperske Hory	2.89	215	ePg	Pg	19 36 22.8	-1.9
KHC				eSn	Sn	19 36 52.0	0.0
KHC				eSg	Sg	19 37 01.1	-1.1
	comp=Z,19nm,0.7s						
MOX	Moxa	2.97	255	ePn	Pn	19 36 17.9	+0.3
MOX				eSg	Sg	19 37 04.7	-0.1
MOX	Moxa	2.97	255	ePN	Pn	19 36 18.2	+0.5
MOX				ePG	Pg	19 36 26.0	-0.2
MOX				eSG	Sg	19 37 05.8	+1.1
MANZ	Manzenberg	2.97	240	ePn	Pn	19 36 18.3	+0.7
MANZ				eSg	Sg	19 37 05.3	+0.5
ROTZ	Rotzenmuhle	3.04	236	ePn	Pn	19 36 19.2	+0.5
ROTZ				eSg	Sg	19 37 06.6	-0.5
GEC2	GERESS Array S	3.09	211	ePn	Pn	19 36 20.1	+0.8
GEC2				eSg	Sg	19 37 07.7	-1.0
GEC2	GERESS Array S	3.09	211	ePn	Pn	19 36 20.1	+0.7
GEC2				eSg	Sg	19 37 07.7	-1.0
SMOL	Smolenice	3.12	164	eSG	Sg	19 37 11.2	+1.5
WET	Wettzell	3.16	222	ePn	Pn	19 36 20.5	+0.3
WET				eSg	Sg	19 37 09.4	-1.3
WET	Wettzell	3.16	222	ePn	Pn	19 36 20.5	+0.3
WET				eSg	Sg	19 37 09.4	-1.3
NIE	Niedzica	3.41	126	eP	Pg	19 36 33.5	-1.1
NIE				eS	Sg	19 37 18.2	-0.6
GRA1	Grafenberg Arr	3.62	242	Sg	Sg	19 37 25.5	+0.1
GRF	Grafenberg Arr	3.62	242	eSg	Sg	19 37 25.5	+0.1
BSD	Bornholm Skovb	3.67	349	iP	Pn	19 36 26.3	-1.0
BSD				iS	Sn	19 37 07.4	-3.9
MOA	Molln	3.87	199	⇓iSg	Sg	19 37 34.3	+0.8
	comp=Z,14nm,0.5s						
MOA	Molln	3.87	199	⇑iPn	Pn	19 36 30.6	+0.6
	comp=Z,0.6nm,0.1s						
MOA				⇓iSg	Sg	19 37 34.3	+0.8
	comp=Z,14nm,0.5s						
STHS	Stebnicka Huta	3.89	121	ePG	Pg	19 36 44.4	+0.5
STHS				eSG	Sg	19 37 39.1	+4.7
KECS	Kecovo	4.14	135	ePG	Pg	19 36 48.5	-0.2
KECS				eSG	Sg	19 37 42.2	-0.2
ARSA	Arzberg	4.29	185	⇑Sg	Sg	19 37 46.7	-0.4
	comp=Z,9.8nm,0.6s						
ARSA	Arzberg	4.29	185	⇑ePn	Pn	19 36 39.5	+3.7
	comp=Z,1.3nm,0.2s						
ARSA				⇑Sg	Sg	19 37 46.7	-0.4
	comp=Z,9.8nm,0.6s						
KBA	Koelnbreinsper	4.80	203	⇑Sg	Sg	19 38 04.6	+1.1
	comp=Z,6.9nm,0.4s						
KBA	Koelnbreinsper	4.80	203	⇓iPn	Pn	19 36 43.9	+1.1
KBA				⇑Sg	Sg	19 38 04.6	+1.1
	comp=Z,6.9nm,0.4s						
SQTA	Sankt Quirin	5.37	219	⇓iSn	Sn	19 37 49.1	-4.0
	comp=Z,1.7nm,0.3s						
SQTA	Sankt Quirin	5.37	219	⇓iSg	Sg	19 38 21.2	-0.4
	comp=Z,1.9nm,0.3s						
SQTA	Sankt Quirin	5.37	219	⇑iPn	Pn	19 36 52.4	+1.8
	comp=Z,3.2nm,0.3s						
SQTA				⇓iSn	Sn	19 37 49.1	-4.0
	comp=Z,1.7nm,0.3s						
SQTA				⇓iSg	Sg	19 38 21.2	-0.4
	comp=Z,1.9nm,0.3s						

*TEH **30** 19:35:15.7,3348N×4881E,h24km,ML5.1*
*BJI **30** 19:36:14.9,3348N×4826E,h32km,mB5.2,mb4.9,Ms5.1, Msz4.7*
*ISCJB **30** 19:36:16.2±0.1,3355N±002×4874E±001,h15km, mb5.0/222,MS4.6/64,Error ellipse: s-maj=2.6km s-min=1.5km az=19.0*
*HRVD **30** 19:36:17.3±0.3,3365N×4878E,h20km±1km,MW5.1/83, Centroid moment Tensor Solution. LP body waves: s44,c66;Mantle waves: s83,c143; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.32±.18; $M_{\theta\theta}$-5.05±.17; $M_{\phi\phi}$6.37±.17; $M_{r\theta}$2.00±.40; $M_{r\phi}$0.74±.15; $M_{\theta\phi}$0.52±.33; Best double couple: $M_0$6.20600×10^{16} NP1:ϕ_s321.00000°,δ70.00000°,λ-167.00000°. NP2: ϕ_s226.00000°,δ77.00000°,λ-20.00000°. Principal axes: T 6.4750, Plg5.0000°, Azm275.0000°; N -0.5370, Plg66.0000°, Azm16.0000°; P -5.9380, Plg23.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **30** 19:36:17.4,3371N×4875E,h20km,mb5.2*
*NEIC **30** 19:36:17.3±0.2,3356N×4875E,h10km,mb5.2/123, ML5.1(THR),MN5.1(TEH),Error ellipse: s-maj=5.0km s-min=2.3km az=190.0*
*CRAAG **30** 19:36:17.4,3371N×4875E,Mb5.2*
*THR **30** 19:36:18.0±1.7,3369N×4891E,h15km±8km,ML5.1,Fault plane solution: NP1:ϕ_s140.02000°,δ60.32000°, λ40.96000°.*
*MOS **30** 19:36:21.2±1.1,3368N×4868E,h51km,mb5.2/83, MS4.4/33,Error ellipse: s-maj=4.9km s-min=2.4km az=132.2*
*IDC **30** 19:36:22.8±1.3,3370N×4871E,h48km±11km,mb4.5/34, mb1 4.6/37,mb1mx4.6/38,mbtmp4.8/37,ML4.4/3,MS4.5/26, Ms1 4.5/26,ms1mx4.4/35,Error ellipse: s-maj=8.8km s-min=8.3km az=133.0*
*OMAN **30** 19:37:37.6±2.3,2907N×5332E,h177km±55km,Error ellipse: s-maj=25.2km s-min=22.8km az=122.0*
ISC 30 19:36:18.2±0.1,3356N±002×4875E±001,h16km, h16km±1.2km:pP-P,n966,σ1§19/1014,mb5.0/222,MS4.6/64, 64C-26D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	Komasi	1.20	301	ePg	Pg	19 36 39.4	-1.9
IKOM	Komasi	1.20	301	Pg	Pg	19 36 39.3	-2.0
ASAO	Ashtian	1.45	47	ePg	Pn	19 36 40.5	-3.2
ASAO				eSG	Sn	19 36 58.5	-3.8
ASAO				AML	AML	19 37 00.8	
	comp=E,31μm,0.8s						
ASAO				AML	AML	19 37 03.8	
	comp=N,30μm,0.5s						
ASAO	Ashtian	1.45	47	ePg	Pn	19 36 40.5	-3.2
	SNR=91						
ASAO				eSg	Sn	19 36 58.5	-3.9
	comp=N,30μm,0.5s,SNR=91						
SHGR	Shooshtar-Gavs	1.45	178	ePg	Pg	19 36 47.0	+1.0
SNGE	Sanandaj	1.92	323	ePn	Pn	19 36 51.5	+1.3
SNGE				eSG	Sg	19 37 18.1	-1.9
SNGE				AML	AML	19 37 24.1	
	comp=N,20μm,0.6s						
SNGE	Sanandaj	1.92	323	ePn	Pn	19 36 51.5	+1.2
	SNR=42						
SNGE				eSg	Sg	19 37 18.1	-2.0
	SNR=91						
IPIR	Pirpir	2.00	115	ePn	Pn	19 36 51.5	+0.3
IPIR				eSn	Sn	19 37 15.0	-0.9
IPIR				eSn	Sn	19 37 15.0	-0.9
IRAZ	Razeghan	2.08	27	ePn	Pn	19 36 59.3	+6.8
IRAZ	Razeghan	2.08	27	Pn	Pn	19 36 59.2	+6.7
IDHR	Dehrash	2.27	301	ePn	Pn	19 36 57.7	+2.7
IDHR	Dehrash	2.27	301	Pn	Pn	19 36 57.6	+2.6
IKLH	Kalahroud	2.37	95	ePn	Pn	19 36 57.3	+0.8
IMHD	Mahdasht	2.65	36	ePn	Pn	19 37 00.9	+0.7
IMHD				eSn	Sn	19 37 33.1	+1.2
IMHD				eSn	Sn	19 37 33.2	+1.3
IVRN	Varamin	2.85	59	ePn	Pn	19 37 04.2	+1.2
IVRN				eSn	Sn	19 37 37.1	+0.1
IVRN				eSn	Sn	19 37 37.7	+0.7
CHTH	Charan	3.05	39	ePn	Pn	19 37 06.2	+0.5
CHTH	Charan	3.05	39	ePn	Pn	19 37 06.2	+0.4
	SNR=42						
IZEF	Zefreh	3.07	101	ePn	Pn	19 37 07.0	+1.0
IZEF				eSn	Sn	19 37 40.8	-1.6
IZEF				eSn	Sn	19 37 40.9	-1.5
IZEF	Zefreh	3.07	101	Pn	Pn	19 37 06.9	+0.9
IAFJ	Afjeh	3.35	46	ePn	Pn	19 37 11.3	+1.5
IAFJ	Afjeh	3.35	46	Pn	Pn	19 37 11.2	+1.4
DAMV	Damavand	3.36	51	ePn	Pn	19 37 10.5	+0.4
NASN	Na'in	3.48	101	ePn	Pn	19 37 12.3	+0.6
BHD	Baghdad	3.67	267	ix	x	19 37 06.0	
BHD				ix	x	19 37 17.5	
BHD				ix	x	19 37 51.0	
BHD	Baghdad	3.67	267	iSn	x	19 37 51.0	
IFIR	Firoozkooh	3.90	57	ePn	Pn	19 37 18.5	+1.1
IFIR	Firoozkooh	3.90	57	Pn	Pn	19 37 18.4	+1.0
ILAS	Lasjerd	3.92	61	ePn	Pn	19 37 19.2	+1.5
IPRN	Paran-Amol	3.92	46	ePn	Pn	19 37 19.8	+2.0
IPRN				eSn	Sn	19 38 02.9	-0.6
IPRN				eSn	Sn	19 38 02.9	-0.6
IPRN	Paran-Amol	3.92	46	Pn	Pn	19 37 19.7	+1.9
MIB	Mutribah	3.93	198	eP	Pn	19 37 21.7	+3.8
MIB				AML	AML	19 38 17.8	
	comp=Z,2μm,0.6s						
UMR	Umm Al-Rimmam	4.09	193	eP	Pn	19 37 23.4	+3.3
UMR				AML	AML	19 38 22.9	
	comp=Z,903nm,0.4s						
UMR	Umm Al-Rimmam	4.09	193	eP	Pn	19 37 23.4	+3.3
UMR				eS	Sn	19 38 15.0	+7.4
ISHM	Shahmirzad	4.36	58	ePn	Pn	19 37 24.7	+0.9
ISHM				eSn	Sn	19 38 12.8	-1.5
ISHM				eSn	Sn	19 38 13.0	-1.3
ISHM	Shahmirzad	4.36	58	Pn	Pn	19 37 24.6	+0.8
IBST	Bostanabad	4.40	340	ePn	Pn	19 37 26.5	+2.2
IBST	Bostanabad	4.40	340	Pn	Pn	19 37 26.4	+2.1
KBD	Kabd	4.46	192	eP	Pn	19 37 28.5	+3.3
KBD				AML	AML	19 38 25.4	
	comp=Z,5μm,0.6s						
KBD	Kabd	4.46	192	eP	Pn	19 37 28.5	+3.3
KBD				eS	Sn	19 38 21.4	+4.6
NAY	Al-Naaiem	4.49	197	eP	Pn	19 37 29.2	+3.7
NAY				AML	AML	19 38 31.1	
	comp=Z,486nm,0.5s						
IANJ	Anjiloo	4.67	64	ePn	Pn	19 37 28.2	+0.2
IANJ	Anjiloo	4.67	64	Pn	Pn	19 37 28.1	+0.1
IAZR	Azarshahr	4.69	332	ePn	Pn	19 37 30.9	+2.6
IAZR				eSn	Sn	19 38 22.9	+0.5
IAZR				eSn	Sn	19 38 23.1	+0.7
IAZR	Azarshahr	4.69	332	ePn	Pn	19 37 30.9	+2.6
IAZR				eSn	Sn	19 38 22.9	+0.5
IAZR	Azarshahr	4.69	332	Pn	Pn	19 37 30.8	+2.5
RDF	Al-Radifah	4.73	193	eP	Pn	19 37 32.2	+3.4
RDF				AML

GNI Lg 19 40 10.7
baz=4.9,slow=23,SNR=1.5
GNI LR LR 19 41 12.7
comp=Z,9μm,20.2s,baz=151,slow=40
GNI Garni 7.32 335 *e*P **Pn 19 38 08.5 +4.1**
comp=Z,469nm,1.3s
GNI Garni 7.32 335 *e*P **Pn 19 38 08.5 +4.0**
comp=Z,469nm,1.3s
GNI Garni 7.32 335 *e*P **Pn 19 38 08.5 +4.1**
GNI pmax pmax
comp=Z,469nm,1.3s
BEST Besiri 7.46 308 *i*P **Pn 19 38 07.4 +1.0**
BTMT Batman 7.49 310 *e*P **Pn 19 38 06.7 -0.1**
MARD Mardin 7.51 302 *i*P **Pn 19 38 06.6 -0.5**
DIGO Kars 8.08 329 *i*P **Pn 19 38 18.9 +4.0**
BNGL BINGOL 8.16 313 *i*P **Pn 19 38 16.9 +0.9**
DIY Diyarbakir 8.17 304 *e*P **Pn 19 38 16.5 +0.4**
DGRG David-gareji 8.32 342 P **Pn 19 38 23.7 +5.5**
DGRG S **Sn 19 39 51.5 -0.3**
ERZM Erzurum 8.67 319 *i*P **Pn 19 38 28.0 +5.0**
EZM Erzurum 8.68 319 *e*P **Pn 19 38 27.6 +4.6**
EZM Erzurum 8.68 319 P **Pn 19 38 24.0 +1.0**
MTA Mtatsminda 8.71 340 P **Pn 19 38 28.3 +4.8**
MTA S **Sn 19 40 01.0 -0.3**
TBLG Delisi 8.76 340 P **Pn 19 38 28.8 +4.7**
TBLG S **Sn 19 39 59.0 -3.5**
TBLG Delisi 8.76 340 *e*P **Pn 19 38 28.8 +4.7**
ABKT Ailbek 8.77 58 Pn **Pn 19 38 26.4 +2.0**
comp=Z,223nm,0.7s,SNR=12
URFA Urfa 8.98 298 *e*P **Pn 19 38 27.1 -0.1**
URFA Urfa 8.98 298 P **Pn 19 38 27.0 -0.1**
IMOG Moghan 9.07 71 *e*Pn **Pn 19 38 28.9 +0.5**
DUS Dusheti 9.10 341 P **Pn 19 38 34.3 +5.4**
BKR Bakuriani 9.16 335 P **Pn 19 38 35.1 +5.4**
ELZG Elazig 9.32 305 *i*P **Pn 19 38 31.8 -0.1**
ARTV Artvin 9.35 326 *i*P **Pn 19 38 35.6 +3.4**
MAK Makhachkala 9.44 354 *i*P **Pn 19 38 36.6 +3.1**
comp=Z,390nm,1.2s
MAK *i*S **Sn 19 40 23.7 +4.4**
comp=Z,9μm,12.0s
MAK Makhachkala 9.44 354*c i*P **Pn 19 38 36.6 +3.1**
MAK *i*S **Sn 19 40 23.7 +4.4**
MAK pmax pmax
comp=Z,390nm,1.2s
MAK MLR MLR
comp=Z,7009μm,12.0s
MALT Malatya 9.62 302 *e*P **Pn 19 38 35.2 -0.7**
MALT Malatya 9.62 302 P **Pn 19 38 36.3 +0.3**
MYA Malataya 9.63 303 *e*P **Pn 19 38 35.8 -0.3**
IMYA Miamay 9.72 70 *e*Pn **Pn 19 38 37.6 +0.3**
MYA Miamay 9.72 70 Pn **Pn 19 38 37.5 +0.2**
GZT Gaziantep 9.88 296 *i*P **Pn 19 38 39.2 -0.4**
ZEI Tsey 9.96 339 *i*P **Pn 19 38 41.9 +1.3**
BANOM Banah 10.04 137 ⇓P **Pn 19 38 39.0 -2.7**
SNR=66
GAZ Gaziantep 10.09 294 *e*P **Pn 19 38 42.2 -0.2**
GUMT Gumushane 10.12 316 *e*P **Pn 19 38 45.8 +3.0**
GUMT Gumushane 10.12 316 P **Pn 19 38 43.2 +0.4**
MACK Trabzon 10.27 318 *i*P **Pn 19 38 48.8 +3.9**
COBT Iskenderun 10.66 290 *i*P **Pn 19 38 50.4 +0.1**
ASHO Ashiyiah 10.90 142 ⇑P **Pn 19 38 52.0 -1.6**
SNR=131
BHL Bhannes 10.92 275 *e*Pn **Pn 19 38 58.9 +5.2**
KSDI Kefar Szold 10.96 272 P **Pn 19 38 54.9 +0.6**
ZHSF Zahedan 10.98 108 *e*Pn **Pn 19 38 56.2 +1.6**
CEYT Ceyhan 11.17 292 *e*P **Pn 19 38 57.0 -0.3**
CEYT Ceyhan 11.17 292 P **Pn 19 38 56.9 -0.3**
KOZT Kozan 11.24 294 *e*P **Pn 19 38 56.7 -1.4**
KRTS Karatas 11.37 289 *e*P **Pn 19 38 59.2 -0.7**
KIV Kislovodsk 11.41 337 Pn **Pn 19 39 05.4 +5.0**
comp=Z,402nm,1.3s,SNR=14
KIV Kislovodsk 11.41 337 *i*P **Pn 19 39 04.9 +4.5**
comp=Z,112nm,1.2s
KIV *e*S **Sn 19 41 11.2 +3.7**
comp=Z,3μm,8.0s
KIV Kislovodsk 11.41 337 *e*P **Pn 19 39 04.8 +4.3**
comp=Z,127nm,1.1s
KIV Kislovodsk 11.41 337*c i*P **Pn 19 39 04.9 +4.5**
KIV *e*S **Sn 19 41 11.2 +3.7**
KIV pmax pmax
comp=Z,112nm,1.2s
KIV MLR MLR
comp=Z,3μm,8.0s
KARA Karaisali 11.77 292 *e*P **Pn 19 39 05.0 -0.4**
MERS Mersin 12.10 290 *e*P **Pn 19 39 09.2 -0.6**
SOC Sochi 12.25 327 *i*P **Pn 19 39 14.8 +2.9**
comp=Z,977nm,4.7s
SOC *i*S **Sn 19 41 32.0 +3.9**
comp=Z,3μm,9.0s
SOC Sochi 12.25 327*c i*P **Pn 19 39 14.8 +2.9**
SOC *i* 19 41 32.0
SOC pmax pmax
comp=Z,101nm,1.4s
SOC pmax pmax
comp=Z,977nm,4.7s
SOC MLR MLR
comp=Z,3μm,9.0s
ARQ Araqi 12.26 144 P **Pn 19 39 09.8 -2.3**
SNR=30
PHNC Paralimni 12.26 281 P **Pn 19 39 15.4 +3.2**
comp=Z,3.9nm,1.2s
GOF Gofitskoye 12.30 341 *i*P **Pn 19 39 16.2 +3.5**
comp=Z,200nm,1.6s
GOF Gofitskoye 12.30 341 ⇓*i*P **Pn 19 39 16.2 +3.5**
GOF pmax pmax
comp=Z,200nm,1.6s
NIG Nigde 12.34 296 *e*P **Pn 19 39 12.2 -1.0**
NIG Nigde 12.34 296 P **Pn 19 39 12.1 -1.1**
HOQ Hoqain 12.46 141 P **Pn 19 39 11.8 -3.0**
SNR=40
KVT Kavak 12.59 310 *e*P **Pn 19 39 19.0 +2.4**
KVT Kavak 12.59 310 P **Pn 19 39 16.5 -0.1**
CSS Prodhromos 12.84 281 *e*P **Pn 19 39 22.9 +2.9**
comp=Z,5.3nm,1.3s
MAMC Mammari 12.94 281 ⇓P **Pn 19 39 25.3 +3.9**
MAMC Mammari 12.94 281 ⇓*e*P **Pn 19 39 25.3 +3.9**
BIDO Bidbid 12.95 138 P **Pn 19 39 17.8 -3.7**
SNR=48
SZAC Souni-Zanaja 13.20 280 P **Pn 19 39 28.1 +3.1**
SMDO Samad 13.27 140 ⇑P **Pn 19 39 22.7 -3.3**
SNR=36
KAMT Kaman 13.42 300 *e*P **Pn 19 39 27.8 -0.1**
ALFC Alevga 13.44 281 ⇑*e*P **Pn 19 39 30.8 +2.5**
comp=Z,9.3nm,1.4s
BR131 Keskin Array S 13.60 301 *e*P **Pn 19 39 32.6 +2.1**
comp=Z,32nm,0.9s
BRTR Keskin Array B 13.60 301 P **Pn 19 39 32.3 +1.9**
comp=Z,0.3nm,0.3s,baz=118,slow=13,SNR=49
BRTR Lg 19 43 50.6
baz=136,slow=24,SNR=2.2
BRTR ScP ScP 19 48 27.9 -0.8
comp=Z,0.1nm,0.3s,baz=133,slow=3.1,SNR=9.0
BYBT Boyabat 13.61 309 *e*P **Pn 19 39 30.2 -0.3**
PPCY Paphos 13.64 280 ⇓P **Pn 19 39 34.3 +3.3**
PPCY Paphos 13.64 280 ⇓*i*P **Pn 19 39 34.3 +3.3**
JMDO Jabal Madar 13.86 141 ⇓P **Pn 19 39 31.0 -3.0**
SNR=38
TOS Tosya 13.89 307 *e*P **Pn 19 39 37.0 +2.6**
TOS Tosya 13.89 307 P **Pn 19 39 33.4 -0.9**
KONT Konya--Tatoy 14.01 293 P **Pn 19 39 34.3 -1.7**
ELDT Eldivan 14.05 304 *i*P **Pn 19 39 38.6 +2.0**
WBK Wadi Bani Khal 14.14 138 ⇑P **Pn 19 39 34.2 -3.6**
SNR=30
ANN Anapa 14.23 325 *i*P **Pn 19 39 41.9 +2.8**
comp=Z,187nm,1.7s
ANN Anapa 14.23 325*c i*P **Pn 19 39 41.9 +2.8**
ANN *e*S **Sn 19 42 21.1 +4.5**
ANN pmax pmax
comp=Z,187nm,1.7s
ANN MLR MLR
comp=N,5μm,19.0s
ANN MLR MLR
comp=Z,4μm,19.0s
ANTO Ankara 14.26 301 *e*P **Pn 19 39 38.4 -1.0**
ANTO Ankara 14.26 301 ⇓P **Pn 19 39 44.2 +4.8**
LOD Lodumlu 14.29 301 *e*P **Pn 19 39 42.3 +2.5**
KIZT Kizilcal 14.61 296 *e*P **Pn 19 39 46.9 +2.6**
KIZT Kizilcal 14.61 296 P **Pn 19 39 43.2 -1.0**
SAFT Safranbolu 14.88 306 *e*P **Pn 19 39 49.4 +1.5**
SAFT Safranbolu 14.88 306 P **Pn 19 39 46.8 -1.1**
BCK Bucak 15.30 290 P **Pn 19 39 51.7 -1.7**
ISP Isparta 15.42 291 *e*P **Pn 19 39 54.2 -0.9**
ISP Isparta 15.42 291 *e*P **Pn 19 39 56.2 +1.1**
comp=Z,251nm,1.0s
ISP Isparta 15.42 291*c i*P **Pn 19 39 56.5 +1.4**
MDU Mudurnu 15.60 301 P **Pn 19 39 56.2 -1.2**
ELL Elmali 15.74 287 *e*P **Pn 19 40 02.3 +3.1**
ELL Elmali 15.74 287 P **Pn 19 39 57.7 -1.5**
BORA Eskisehir 15.96 299 *i*P **Pn 19 40 02.2 +0.2**
ALT Altintas 15.99 295 *e*P **Pn 19 40 01.3 -1.1**
SIM Simferopol' 16.03 319 *i*P **Pn 19 40 02.0 -1.0**
comp=Z,53nm,1.0s
SIM Simferopol' 16.03 319*c i*P **Pn 19 40 02.0 -1.0**
SIM *e*S **Sn 19 43 03.0 +2.6**
SIM pmax pmax
comp=Z,53nm,1.0s
GOLH Golhisar 16.07 289 *i*P **Pn 19 40 04.7 +1.2**
GDZ Gediz 16.48 295 *i*P **Pn 19 40 04.3 -4.3**
DENT Denizli 16.56 290 *e*P **Pn 19 40 09.0 -0.7**
IZI Iznik 16.82 299 *e*P **Pn 19 40 12.2 -0.8**
IZI Iznik 16.82 299 P **Pn 19 40 12.1 -0.9**
HRT Hereke 16.83 301 *e*P **Pn 19 40 12.7 -0.4**
HRT Hereke 16.83 301 P **Pn 19 40 12.6 -0.5**
YLV Yalova 16.96 300 *e*P **Pn 19 40 13.4 -1.3**
YER Yerkesik 17.07 288 *e*P **Pn 19 40 15.3 -0.9**
YER Yerkesik 17.07 288 P **Pn 19 40 15.2 -1.0**
ARG Arkhangelos 17.13 285 P **Pn 19 40 17.7 +0.8**
BADT Buyukada 17.23 301 *e*P **Pn 19 40 19.1 +0.9**
DST Dursunbey 17.24 296 *e*P **Pn 19 40 17.8 -0.5**
ISK Istanbul-Kandi 17.35 301 *e*P **Pn 19 40 18.7 -0.9**
ISK Istanbul-Kandi 17.35 301 P **Pn 19 40 18.6 -1.0**
MLSB Milas 17.49 288 *e*P **Pn 19 40 20.6 -0.8**
DAT Datca 17.60 286 *e*P **Pn 19 40 23.4 +0.7**
AKS Akhisar 17.70 293 *e*P **Pn 19 40 24.4 +0.4**
AB31 Akbulak array 17.76 25 P **Pn 19 40 23.8 -0.9**
comp=Z,5.0nm,0.5s
AB31 Akbulak array 17.76 25 P **Pn 19 40 23.8 -0.9**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
BALB Balikesir 17.81 296 *e*P **Pn 19 40 26.3 +0.9**
BALB Balikesir 17.81 296 P **Pn 19 40 26.2 +0.9**
ELBA Catalca 17.82 301 *i*P **Pn 19 40 24.9 -0.6**
CTT Catalca 17.82 301 *e*P **Pn 19 40 25.0 -0.5**
BODT Bodrum 17.84 287 *e*P **Pn 19 40 25.7 0.0**
KARP Karpathos 17.90 282 *e*P **Pn 19 40 27.0 +0.6**
IZM Izmir 18.04 292 *e*P **Pn 19 40 28.3 +0.1**
IZM Izmir 18.04 292 P **Pn 19 40 28.2 0.0**
DRP Derazinda 18.15 90 P **Pn 19 40 32.6 +3.0**
AKTK Aktyubinsk 18.19 19 P **Pn 19 40 29.2 -0.8**
comp=Z,1.0nm,0.3s
AKTK Aktyubinsk 18.19 19 P **Pn 19 40 29.1 -0.9**
AKTK S **Sn 19 43 54.0 +1.3**
AKTK LR LR 19 49 14.5
AKTO Aktyubinsk 18.19 19 P **Pn 19 40 29.1 -0.9**
comp=Z,0.8nm,0.3s,baz=208,slow=11,SNR=20
AKTO S **Sn 19 43 54.0 +1.3**
comp=Z,0.1nm,0.3s,baz=36,slow=21,SNR=2.0
AKTO LR LR 19 49 14.5
comp=Z,691nm,18.9s,baz=0.0,slow=43
AKTO Aktyubinsk 18.19 19 P **Pn 19 40 29.2 -0.8**
AKTO S **Sn 19 43 54.0 +1.3**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,691nm,18.9s
MRMT Marmara Adasi 18.27 299 *e*P **Pn 19 40 31.2 +0.3**
SMG Samos 18.28 289 *e*P **Pn 19 40 31.1 0.0**
VRHR Novokhopersk 18.29 346 *e*P **Pn 19 40 29.4 -1.8**
comp=Z,280nm,1.6s
VRHR Novokhopersk 18.29 346 *e*P **Pn 19 40 29.4 -1.8**
VRHR pmax pmax
comp=Z,140nm,1.3s
VRHR pmax pmax
comp=N,280nm,1.6s
VRHR pmax pmax
comp=E,130nm,1.7s
VRHR MLR MLR
comp=N,1μm,14.0s
VRHR MLR MLR
comp=Z,2μm,14.0s
VRHR MLR MLR
comp=E,260nm,7.0s
MFT Murefte 18.55 299 *e*P **Pn 19 40 32.5 -1.8**
URLA Izmir 18.55 291 *i*P **Pn 19 40 34.5 +0.1**
URLA Izmir 18.55 291 *i*P **Pn 19 40 34.5 0.0**
SBDP Sheikh Budin 18.55 88 P **Pn 19 40 34.1 -0.4**
VORD Divnogorie 18.72 341 *e*P **Pn 19 40 34.1 -2.4**
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,60nm,0.9s
VORD pmax pmax
comp=E,30nm,0.8s
PSN Preselentsi 18.94 308 *e*P **Pn 19 40 41.0 +1.9**
PRK Paraskevi 18.95 294 *e*P **Pn 19 40 40.5 +1.3**
VRSR Storozhevoye 18.98 341*c i*P **Pn 19 40 37.2 -2.4**
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=Z,6.0nm,1.1s
VRSR pmax pmax
comp=E,7.0nm,1.2s
VRSR MLR MLR
comp=Z,830nm,22.0s
VRSR MLR MLR
comp=N,130nm,24.0s
VRSR MLR MLR
comp=E,50nm,20.0s
CHOS Chios island 18.98 291 *e*P **Pn 19 40 40.1 +0.5**
MUKL Al Mukalla 19.00 179 *e*P **Pn 19 40 37.8 -2.0**
EZN Ezine 19.02 296 P **Pn 19 40 41.5 +1.4**
XRY Khrisi 19.11 280 *e*P **Pn 19 40 41.7 +0.5**
TIRR Tirgusor 19.14 311 ⇑P **Pn 19 40 42.6 +1.1**
NPS Neapolis 19.16 282 *e*P **Pn 19 40 43.0 +1.2**
EDRB Edirne 19.25 302 *e*P **Pn 19 40 40.6 -2.1**
EDRB Edirne 19.25 302 P **Pn 19 40 40.6 -2.2**
THW Thamme Wali 19.26 86 P **Pn 19 40 42.0 -0.9**
APE Apeiranthos 19.26 287 *e*P **Pn 19 40 40.7 -2.3**
APE Apeiranthos 19.26 287 *e*P **Pn 19 40 43.6 +0.6**
APE Apeiranthos 19.26 287 *e*P **Pn 19 40 42.3 -0.7**
APE Apeiranthos 19.26 287 ⇑P **Pn 19 40 43.5 +0.5**
APE Apeiranthos 19.26 287 P **Pn 19 40 44.3 +1.3**
APE Apeiranthos 19.26 287 ⇑P **Pn 19 40 43.5 +0.4**
CEP Cherat 19.27 83 P **Pn 19 40 48.0 +4.9**
LAST Lasithi 19.28 281 *e*P **Pn 19 40 43.6 +0.4**
SANT Santorini 19.29 285 *e*P **Pn 19 40 42.2 -1.2**
SANT Santorini 19.29 285 *e*P **Pn 19 40 41.9 -1.5**
comp=E,347nm,1.1s
DHBB Dhamar BB 19.31 193 ⇑*e*P **Pn 19 40 42.0 -1.6**
VOR Voronezh 19.44 342 *e*P **Pn 19 40 43.5 -1.7**
VOR pmax pmax
comp=N,250nm,1.2s
VOR pmax pmax
comp=E,130nm,1.2s
VOR pmax pmax
comp=Z,180nm,1.2s
ALN Alexandroupoli 19.48 299 *e*P **Pn 19 40 45.4 -0.2**
KKAR Karatay Array 19.50 54 P **Pn 19 40 46.8 +0.9**
comp=Z,137nm,1.4s
KKAR Karatay Array 19.50 54 P **Pn 19 40 46.8 +0.9**
KKAR pmax pmax
comp=Z,137nm,1.4s
HARR Harsova 19.55 311 ⇑P **Pn 19 40 46.0 -0.5**
JMB Yambol 19.56 303 *e*P **Pn 19 40 51.0 +4.4**
CFR Carcaliu 19.66 312 ⇑P **Pn 19 40 45.5 -2.2**
BDHA Al Bayda' 19.71 189 ⇑*e*P **Pn 19 40 46.3 -2.0**
BDHA AMb AMB 19 40 48.1
comp=Z,130nm,1.7s
IDI Anoyia 19.75 282 P **Pn 19 40 47.9 -1.0**
comp=Z,12nm,0.3s,baz=77,slow=9.2,SNR=80
IDI S **Sn 19 44 29.7 -0.8**
baz=292,slow=22,SNR=1.4
SIVA Sivas 19.83 281 *e*P **Pn 19 40 49.5 -0.3**
LBOS 19.86 190 ⇑*e*P **Pn 19 40 47.9 -2.2**
RDO Rodhopi 19.91 299 *e*P **Pn 19 40 50.1 -0.7**
RDO Rodhopi 19.91 299 P **Pn 19 40 49.2 -1.6**
KDZ Kurdzhali 20.14 300 *e*P **P 19 40 53.0 +1.5**
DIM Dimitrovgrad 20.17 302 *e*P **P 19 40 53.0 +1.1**
KIS Kishinev 20.21 318 *e*P **P 19 40 50.0 -2.3**
KIS *e* 19 41 08.0
KIS *e* 19 44 38.0
KIS MLR MLR
comp=Z,1μm,13.0s,MS4.3
KIS MLR MLR
comp=Z,1μm,14.0s
SZH Strazhica 20.29 305 *i*P **P 19 40 54.0 +0.9**
NIL Nilore 20.40 83 P **P 19 40 57.0 +2.6**
comp=Z,256nm,0.6s,SNR=9.2
CHCP Chirah Chowk 20.41 83 P **P 19 40 53.7 -0.8**
BUC1 Bucharest 20.63 308 P **P 19 40 58.3 +1.4**
RZN Rozhen 20.65 300 *i*P **P 19 40 58.0 +0.9**
PTL Penteli 20.66 290 *e*P **P 19 40 58.5 +1.3**
TRBA At Turbah 20.67 193 ⇑*e*P **P 19 40 56.8 -0.5**
PVL Pavlikeni 20.68 305 *e*P **P 19 41 00.0 +2.6**
KVR Kavouri 20.71 289 *e*P **P 19 40 59.0 +1.2**
ATH Athens Observa 20.77 289 *e*P **P 19 41 00.0 +1.6**
PLD Plovdiv 20.77 301 *e*P **P 19 41 00.0 +1.6**
VRI Vrincioaia 20.86 313 ⇑P **P 19 41 00.4 +1.1**
VRI Vrincioaia 20.86 313 P **P 19 41 00.5 +1.2**
VRI Vrincioaia 20.86 313 ⇑P **P 19 41 00.4 +1.0**
OUR Ouranopolis 20.88 296 *e*P **P 19 40 59.9 +0.3**
PLOR Plostina 20.90 312 ⇓P **P 19 41 00.6 +0.8**
BHJ Bhuj 21.02 114 *e*P **P 19 41 00.1 -1.0**
BHJ AMb AMB 19 41 09.2
comp=Z,186nm,1.1s,mb5.3
BHJ *e*x x 19 44 52.4
PAIG Paliouri 21.04 295 *e*P **P 19 41 01.8 +0.5**
MGER Gerania Oros 21.13 289 *e*P **P 19 41 03.0 +0.7**
MLR Muntele Rosu 21.17 311 P **P 19 41 03.1 +0.4**
comp=Z,18nm,0.7s,mb4.5,baz=98,slow=7.0,SNR=12
MLR Muntele Rosu 21.17 311 ⇑P **P 19 41 04.6 +1.9**
MLR Muntele Rosu 21.17 311 ⇑P **P 19 41 04.6 +1.9**
MLR Muntele Rosu 21.17 311 P **P 19 41 03.1 +0.4**
MLR pmax pmax
comp=Z,18nm,0.7s
PGB Panagyurishte 21.28 302 *e*P **P 19 41 05.0 +1.1**
NEO Neokhori 21.29 293 *e*P **P 19 41 05.0 +0.9**
PLG Polygyros 21.29 296 *e*P **P 19 41 05.0 +0.9**
XOR Xorichti 21.33 293 *e*P **P 19 41 04.7 +0.3**
VLI Veliai 21.33 286 *e*P **P 19 41 03.5 -0.9**
SRS Serrai 21.33 298 *e*P **P 19 41 04.7 +0.2**
MMB Musomiste 21.34 299 *e*P **P 19 41 06.0 +1.4**
AML Almayashu 21.42 59 P **P 19 41 06.7 +1.3**
SNR=26
SOH Sokhos 21.45 297 *e*P **P 19 41 06.4 +0.6**
MTUR Matau 21.62 310 ⇑P **P 19 41 10.8 +3.3**
MTUR Matau 21.62 310 P **P 19 41 09.1 +1.6**
MTUR Matau 21.62 310 ⇑P **P 19 41 10.8 +3.3**
EKS2 Erkin-Say 21.62 58 P **P 19 41 08.2 +0.5**
SNR=29
THE Thessaloniki 21.70 296 *e*P **P 19 41 08.3 -0.1**
KNT Kendrikon 21.86 298 *e*P **P 19 41 10.0 -0.1**
KKB Krupnik 21.88 300 *e*P **P 19 41 10.0 -0.3**
AGG Agios Georgios 21.95 292 *e*P **P 19 41 11.4 +0.3**
LIT Litokhoron 21.97 295 *e*P **P 19 41 11.1 -0.2**
VTS Vitosha 21.97 302 *e*P **P 19 41 12.0 +0.7**
VTS Vitosha 21.97 302 *e*P **P 19 41 11.5 +0.1**
VTS Vitosha 21.97 302 ⇑P **P 19 41 12.8 +1.4**
VTS Vitosha 21.97 302 P **P 19 41 12.5 +1.1**
VTS Vitosha 21.97 302 ⇑P **P 19 41 12.8 +1.4**
UCH Uchtor 22.03 59 P **P 19 41 14.8 +2.8**
SNR=22
AAK Ala-Archa 22.12 58 P **P 19 41 14.1 +1.1**
SNR=12
VAY Valandovo 22.13 298 *i*P **P 19 41 13.3 +0.3**
comp=Z,97nm,1.0s,mb5.2
VAY Valandovo 22.13 298 *i*P **P 19 41 13.2 +0.2**
comp=Z,97nm,1.0s,mb5.2
ITM Ithomi 22.14 287 *e*P **P 19 41 12.5 -0.7**
ITM Ithomi 22.14 287 P **P 19 41 12.1 -1.1**
GRG Griva 22.18 297 *e*P **P 19 41 13.4 -0.2**
FRU Bishkek 22.27 58 *i*P **P 19 41 16.0 +1.5**
comp=Z,170nm,1.8s,mb5.2
FRU Bishkek 22.27 58 ⇑*i*P **P 19 41 16.0 +1.5**
FRU pmax pmax
comp=Z,170nm,1.8s,mb5.2
USP Ospenovka 22.31 57 P **P 19 41 15.7 +0.8**
SNR=39
AKASG Malin Array Be 22.32 326 P **P 19 41 13.3 -1.7**
comp=Z,31nm,0.9s,mb4.7,baz=136,slow=9.4,SNR=23
AKASG S **S 19 45 16.9 -3.2**
comp=Z,0.3nm,0.3s,baz=124,slow=20,SNR=5.4
AKASG ScP ScP 19 48 43.4 -3.8
comp=Z,4.6nm,1.0s,baz=102,slow=2.0,SNR=11
AKASG Malin Array Be 22.32 326 P **P 19 41 13.4 -1.6**
AKASG S **S 19 45 16.9 -3.2**
EVR Evrytania 22.34 292 *e*P **P 19 41 15.5 +0.2**
CHMS Chumysh 22.41 58 P **P 19 41 19.2 +3.2**
SNR=18
KBK Karagaybulak 22.45 58 P **P 19 41 20.4 +3.9**
SNR=17
STIP Stip 22.49 299 *i*P **P 19 41 16.5 -0.4**
comp=Z,23nm,1.2s,mb4.5
STIP Stip 22.49 299 *i*P **P 19 41 16.4 -0.5**
comp=Z,23nm,1.2s,mb4.5
KZA Kyzart 22.53 60 P **P 19 41 18.8 +1.6**
SNR=40
KZN Kozani 22.54 295 *e*P **P 19 41 17.5 +0.1**
BURAR Bucovina Array 22.61 315 ⇑P **P 19 41 19.3 +1.1**
BURAR Bucovina Array 22.61 315 ⇑P **P 19 41 19.3 +1.1**
PONG Pong 22.91 86 *e*P **P 19 41 22.0 +0.7**
FNA Florina 22.92 296 *e*P **P 19 41 20.9 -0.5**
TKM2 Tokmak 2 22.98 58 P **P 19 41 23.0 +0.9**
SNR=29
PECR Pechory 22.99 353 *i*P **P 19 41 20.0 -2.1**
comp=Z,1μm,1.0s
PECR Pechory 22.99 353 *i*P **P 19 41 20.0 -2.1**
PECR *e* 19 41 45.4
PECR *e*S **S 19 45 30.6 -1.3**
PECR pmax pmax
comp=Z,1μm,1.0s
PECR smax
comp=N,1μm,8.0s
PECR MLR MLR
comp=N,1μm,16.0s
PECR MLR MLR
comp=Z,1μm,16.0s,MS4.5
BIA Bitola 23.00 297 *i*P **P 19 41 21.4 -0.8**
comp=Z,63nm,1.3s,mb4.9
SKO Skopje 23.10 299 *i*P **P 19 41 23.2 -0.1**
comp=Z,311nm,1.6s,mb5.5
JAN Janina 23.16 293 *e*P **P 19 41 24.0 +0.1**
OBN Obninsk 23.18 342 P **P 19 41 24.7 +0.5**
comp=Z,1μm,1.5s,mb6.0,SNR=22
OBN Obninsk 23.18 342 *i*P **P 19 41 23.9 -0.3**
comp=Z,451nm,1.7s,mb5.6
OBN Obninsk 23.18 342 *e*P **P 19 41 23.9 -0.2**
comp=Z,696nm,1.6s,mb5.8
OBN Obninsk 23.18 342α *i*P **P 19 41 23.9 -0.3**
OBN *e* 19 41 45.2
OBN *e* 19 41 52.8
OBN *e* 19 45 11.6
OBN *i*S **S 19 45 33.3 -1.8**
OBN *e*SS 19 46 17.8
OBN pmax pmax
comp=Z,451nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,2μm,22.0s,MS4.6
BOLS Boljevac 23.20 304 ⇓*i*P **P 19 41 24.6 +0.2**
VLS Valsamata 23.24 289 *e*P **P 19 41 24.0 -0.8**
ULHL Ulahol 23.28 60 P **P 19 41 25.9 +0.6**
SNR=44
OHR Ohrid 23.40 297 *e*P **P 19 41 24.8 -1.7**
OHR Ohrid 23.40 297 *i*P **P 19 41 26.2 -0.3**
comp=Z,597nm,1.4s,mb5.8
BHK Bhakra 23.41 88 *e*x x 19 41 41.2
AJM Ajmer 23.46 101 *e*P **P 19 41 27.1 0.0**
AJM *e*x x 19 45 37.1
SVIS Svilajnac 23.85 305 ⇓*i*P **P 19 41 31.1 +0.4**
DESE Dese 23.85 203 *e*PN **P 19 41 33.3 +2.6**
DESE *e*S **S 19 45 42.3 -3.7**
ARU Arti 23.85 14 P **P 19 41 30.0 -0.7**
comp=Z,152nm,0.8s,mb5.5,SNR=8.1
ARU Arti 23.85 14 *i*P **P 19 41 29.8 -0.9**
comp=Z,66nm,1.2s,mb4.9
ARU Arti 23.85 14 *e*P **P 19 41 29.0 -1.8**
comp=Z,73nm,1.1s,mb5.0
ARU Arti 23.85 14 ⇑*i*P **P 19 41 29.8 -0.9**
ARU *e* 19 42 00.4
ARU *e*PPP 19 42 11.4
ARU *e*S **S 19 45 46.9 +0.9**
ARU *e*SSS 19 46 40.3
ARU pmax pmax
comp=Z,66nm,1.2s,mb4.9
ARU MLR MLR
comp=Z,800nm,17.0s,MS4.3
ARU MLR MLR
comp=N,700nm,18.0s,MS4.4
ARU MLR MLR
comp=E,800nm,17.0s,MS4.4
KEK Kerkira 23.97 293 *e*P **P 19 41 31.0 -0.8**

BZS Buzias 24.01 308 ⇑P **P 19 41 33.1 +0.9**
AAA Alma-Ata 24.03 58 *e*P **P 19 41 34.3 +1.9**
AAA *i* S **S 19 45 50.2 +1.3**
AAA pmax pmax
comp=Z,762nm,4.1s
AAA smax
comp=N,1μm,11.3s
AAA MLR MLR
comp=Z,2μm,18.9s,MS4.7
GRUS Gruza 24.08 304 *e*P **P 19 41 33.2 +0.4**
GRUS Gruza 24.08 304 P **P 19 41 33.2 +0.4**
TIR Tirane 24.14 297 *e*P **P 19 41 32.6 -0.8**
TIR Tirane 24.14 297 P **P 19 41 33.6 +0.2**
ZRNK Zerenda 24.21 31 P **P 19 41 34.0 0.0**
comp=Z,30nm,1.0s,mb4.7
ZRNK Zerenda 24.21 31 *e*P **P 19 41 33.5 -0.5**
comp=Z,48nm,1.1s,mb4.8
ZRNK Zerenda 24.21 31 P **P 19 41 34.0 0.0**
ZRNK pmax pmax
comp=Z,30nm,1.0s,mb4.7
PVY Plav 24.29 300 ⇑*i*P **P 19 41 32.7 -2.1**
IVA Berane 24.41 301 ⇑*i*P **P 19 41 34.3 -1.5**
LVV L'vov 24.43 319 *e*P **P 19 41 36.8 +0.8**
LVV *e*S **S 19 45 51.8 -3.5**
LVV L'vov 24.43 319 *e*P **P 19 41 36.8 +0.8**
LVV *e* 19 42 15.0
LVV *e*PPP 19 42 23.0
LVV *e*S **S 19 45 51.8 -3.5**
LVV MLR MLR
comp=N,240nm,14.0s,MS4.0
LVV MLR MLR
comp=E,300nm,14.0s,MS4.0
LVV MLR MLR
comp=Z,260nm,14.0s,MS3.9
DIVS Divcibare 24.64 304 ⇓*i*P **P 19 41 37.6 -0.3**
DIVS Divcibare 24.64 304 *e*P **P 19 41 37.9 -0.1**
SVE Sverdlovsk 24.66 16 *e*P **P 19 41 38.4 +0.3**
comp=Z,40nm,1.1s,mb4.9
SVE Sverdlovsk 24.66 16 ⇑*e*P **P 19 41 38.4 +0.3**
SVE *e* 19 41 54.0
SVE *e* 19 42 22.0
SVE pmax pmax
comp=Z,40nm,1.1s,mb4.9
SVE MLR MLR
comp=N,600nm,14.0s,MS4.4
SVE MLR MLR
comp=E,600nm,14.0s,MS4.4
SVE MLR MLR
comp=Z,2μm,14.0s,MS4.6
ULC Ulcinj 24.70 298 ⇑*i*P **P 19 41 36.6 -1.8**
TTG Podgorica 24.77 300 ⇑*i*P **P 19 41 36.8 -2.4**
NDI New Delhi 24.81 94 *e*P **P 19 41 39.0 -0.5**
UZH Uzhgorod 24.82 315 *e*P **P 19 41 40.0 +0.4**
comp=Z,900nm,10.0s
UZH Uzhgorod 24.82 315 *e*P **P 19 41 40.0 +0.4**
UZH MLR MLR
comp=Z,900nm,10.0s,MS4.6
BRVK Borovoye 24.84 32 P **P 19 41 40.0 +0.3**
comp=Z,275nm,1.0s,mb5.7,SNR=35
BRVK Borovoye 24.84 32 *e*P **P 19 41 39.3 -0.4**
comp=Z,32nm,1.0s,mb4.8
BRVK Borovoye 24.84 32 *e*P **P 19 41 39.3 -0.4**
comp=Z,32nm,1.0s,mb4.8
BRVK Borovoye 24.84 32 *e*P **P 19 41 39.3 -0.4**
BRVK pmax pmax
comp=Z,32nm,1.0s,mb4.8
BVA0 Borovoye Array 24.86 32 *i*P **P 19 41 39.5 -0.4**
comp=Z,12nm,1.1s,mb4.3
BVA0 Borovoye Array 24.86 32 *i*P **P 19 41 39.5 -0.4**
BVA0 pmax pmax
comp=Z,12nm,1.1s,mb4.3
BVAR Borovoye Array 24.86 32 P **P 19 41 39.6 -0.3**
comp=Z,46nm,0.9s,mb5.0,baz=223,slow=8.1,SNR=138
BVAR ScP ScP 19 48 50.1 -3.9
comp=Z,1.1nm,0.7s,baz=224,slow=6.2,SNR=4.5
PLE Pljevlja 24.87 302 ⇑*i*P **P 19 41 39.2 -0.8**
VOSK Vostochnaya 24.91 33 P **P 19 41 39.3 -1.2**
comp=Z,8.0nm,0.8s,mb4.3
VOSK Vostochnaya 24.92 33 P **P 19 41 39.3 -1.2**
VOSK pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
BBLS Bajina Basta - 24.99 303 *e*P **P 19 41 49.1 +8.0**
BUM Brajici-Budva 25.01 299 ⇑*i*P **P 19 41 39.0 -2.3**
DDI Dehra Dun 25.04 89 *e*P **P 19 41 42.6 +1.0**
NKY Niksic 25.04 300 *e*P **P 19 41 39.8 -1.8**
KWP Kalwaria 25.07 318 *e*P **P 19 41 42.2 +0.4**
UPM Unac-Piva 25.19 301 ⇑*i*P **P 19 41 42.4 -0.5**
HCY Herceg Novi 25.33 299 ⇑*i*P **P 19 41 42.6 -1.6**
BRY Bratogost 25.39 300 ⇑*i*P **P 19 41 43.5 -1.3**
CHKZ Chkalovo 25.41 31 P **P 19 41 44.1 -0.8**
comp=Z,29nm,1.0s,mb4.8
CHKZ Chkalovo 25.41 31 *e*P **P 19 41 44.1 -0.8**
comp=Z,34nm,0.9s,mb4.9
CHKZ Chkalovo 25.41 31 P **P 19 41 44.1 -0.8**
CHKZ pmax pmax
comp=Z,29nm,1.0s,mb4.8
CRVS Cervenica-Dubn 25.43 315 *e*P **P 19 41 51.4 +6.2**
comp=Z,64nm,1.7s,mb4.9
CRVS *e* 19 52 20.0
CRVS LR LR
comp=Z,640nm,22.9s,MS4.1
CRVS Cervenica-Dubn 25.43 315 *e*P **P 19 41 51.4 +6.2**
CRVS pmax pmax
comp=Z,64nm,1.7s,mb4.9
CRVS MLR MLR
comp=Z,640nm,22.9s,MS4.1
TREB Trebinje 25.49 300 P **P 19 41 45.3 -0.4**
STHS Stebnicka Huta 25.80 316 *e*P **P 19 41 50.1 +1.6**
comp=Z,20nm,1.1s,mb4.6
STHS Stebnicka Huta 25.80 316 *e*P **P 19 41 50.1 +1.6**
STHS pmax pmax
comp=Z,20nm,1.1s,mb4.6
KECS Kecovo 25.83 314 *e*P **P 19 41 48.9 +0.1**
comp=Z,27nm,1.1s,mb4.7
KECS Kecovo 25.83 314 *e*P **P 19 41 48.9 +0.1**
KECS pmax pmax
comp=Z,27nm,1.1s,mb4.7
PE1 Pezze di Greco 25.89 295 *e*P **P 19 41 50.6 +1.3**
PSZ Piszkesteto 25.96 312 *e*P **P 19 41 50.3 +0.3**
PSZ *i* pP pP 19 41 53.3 -1.4
STON Ston 25.99 300 *i*P **P 19 41 48.7 -1.5**
PKS7 Kunszentmiklos 26.11 310 ⇑*e*P **P 19 41 54.8 +3.6**
PKSM Moragy 26.17 308 ⇑P **P 19 41 52.2 +0.4**
TIP Timpagrande 26.28 292 *e*P **P 19 41 53.1 +0.2**
BAI Bari 26.34 296 *e*P **P 19 41 54.9 +1.6**
NIE Niedzica 26.34 315 *e*P **P 19 41 54.0 +0.6**
BUD Budapest 26.35 311 *e*pP pP 19 41 57.1 -1.1
SG1 Sgolgore (BA) 26.46 295 *e*P **P 19 41 53.9 -0.5**
PKS9 Tamasi 26.52 308 *e*P **P 19 41 57.2 +2.2**
GRI Girifalco 26.54 291 P **P 19 41 56.1 +1.0**
SOKR Solikamsk 26.56 9 *i*P **P 19 41 54.8 -0.6**
comp=Z,2μm,25.0s
SOKR Solikamsk 26.56 9 *c*P **P 19 41 54.8 -0.6**
SOKR pmax pmax
comp=Z,100nm,1.5s,mb5.1
SOKR MLR MLR
comp=Z,2μm,25.0s,MS4.5
ORI Oriolo Calabro 26.57 294 P **P 19 41 57.5 +2.1**
IDID Didziasalis 26.62 331 *e*P **P 19 41 55.5 -0.4**
IDID AMb AMB 19 42 02.0
comp=Z,37nm,1.2s,mb4.8
IDID Didziasalis 26.62 331 *e*P **P 19 41 55.5 -0.4**
comp=Z,37nm,1.2s,mb4.8,SNR=33
TDS Terranova Siba 26.63 293 P **P 19 41 58.3 +2.3**
PKSG 26.72 310 ⇓*e*P **P 19 41 57.5 +0.7**
SOI Samo 26.82 289 P **P 19 41 58.5 +0.8**
VYHS Vyhne 26.84 313 *e*P **P 19 41 58.1 +0.2**
comp=Z,16nm,1.2s,mb4.4
VYHS *e* 19 52 30.0
VYHS LR LR
comp=Z,540nm,24.9s,MS4.0
VYHS Vyhne 26.84 313 *e*P **P 19 41 58.1 +0.2**
VYHS pmax pmax
comp=Z,16nm,1.2s,mb4.4
VYHS MLR MLR
comp=Z,540nm,24.9s,MS4.0
IIGN Ignalina 26.86 331 *e*P **P 19 41 57.8 -0.3**
IIGN AMb AMB 19 42 02.5
comp=Z,30nm,1.4s,mb4.7
IIGN Ignalina 26.86 331 *e*P **P 19 41 57.8 -0.2**
comp=Z,30nm,1.4s,mb4.7,SNR=28
LIKS Likavka 26.90 314 *e*P **P 19 41 58.6 +0.2**
comp=Z,30nm,0.8s,mb4.9
LIKS Likavka 26.90 314 *e*P **P 19 41 58.6 +0.2**
LIKS pmax pmax
comp=Z,30nm,0.8s,mb4.9
PTRP Pietrapertosa 26.90 294 P **P 19 41 59.0 +0.6**
SRO Srobarova 26.91 311 *e*P **P 19 42 03.4 +4.9**
SRO pmax pmax
comp=Z,35nm,0.9s,mb4.9
CEL Celeste 26.94 289 P **P 19 41 59.4 +0.6**
SRO1 Iza 26.95 311 *e*P **P 19 42 03.4 +4.6**
POO Poona 26.96 117 *e*P **P 19 41 59.5 +0.5**
OJC Ojcow 27.00 317 *e*P **P 19 41 58.7 -0.6**
OJC *e*S **S 19 46 35.3 -0.8**
OJC L 19 54 32.9
comp=Z,5.3nm,20.7s
CUC Castrocucco 27.05 293 P **P 19 42 00.2 +0.4**
ISAL Salakas 27.05 331 *e*P **P 19 41 59.5 -0.3**
ISAL AMb AMB 19 42 04.3
comp=Z,17nm,1.4s,mb4.4
ISAL Salakas 27.05 331 *e*P **P 19 41 59.5 -0.3**
comp=Z,17nm,1.4s,mb4.4,SNR=28
PTH Pithoragarh 27.05 90 *e*P **P 19 42 00.0 +0.2**
SCLL Scilla 27.08 289 P **P 19 42 01.8 +1.7**
FGMS Monte Sant'Ang 27.09 297 P **P 19 41 59.5 -0.7**
MTTG Motta San Giov 27.10 289 P **P 19 42 02.1 +1.9**
IZAR Zarasai 27.13 332 *e*P **P 19 42 00.2 -0.3**
IZAR AMb AMB 19 42 05.0
comp=Z,25nm,1.8s,mb4.5
IZAR Zarasai 27.13 332 *e*P **P 19 42 00.2 -0.3**
comp=Z,25nm,1.8s,mb4.5,SNR=28
BHPL Bhopal 27.16 105 *e*P **P 19 42 01.1 +0.4**
BHPL AMb AMB 19 42 05.9
comp=Z,66nm,1.0s,mb5.1
MGR Morigerati 27.26 294 P **P 19 42 02.5 +0.8**
SUW Suwalki 27.29 326 *e*P **P 19 42 01.8 -0.1**
MRLC Muro Lucano 27.35 295 P **P 19 42 03.2 +0.7**
SGO Sicignano 27.47 294 P **P 19 42 04.3 +0.7**
SISC Sisak 27.48 305 *i*P **P 19 42 02.5 -1.1**
SISC Sisak 27.48 305 *i*P **P 19 42 02.5 -1.2**
FG5 Orsara di Pugl 27.56 296 P **P 19 42 05.6 +1.2**
JAVC Velka Javorina 27.70 313 P **P 19 42 06.7 +1.1**
CSSN Cassano Irpino 27.71 295 P **P 19 42 06.5 +0.8**
SMOL Smolenice 27.72 312 *e*P **P 19 42 09.0 +3.2**
SMOL Smolenice 27.72 312 *es*P **P 19 42 09.0 +3.2**
KURK Kurchatov 27.74 43 P **P 19 42 06.2 +0.2**
comp=Z,98nm,1.5s,mb5.2,SNR=15
KURK Kurchatov 27.74 43 *e*P **P 19 42 06.0 0.0**
comp=Z,14nm,0.9s,mb4.6
KURK Kurchatov 27.74 43 *e*P **P 19 42 06.0 0.0**
comp=Z,14nm,0.9s,mb4.6
KURK Kurchatov 27.74 43 *e*P **P 19 42 06.0 0.0**
KURK pmax pmax
comp=Z,14nm,0.9s,mb4.6
SLNA Salina 27.77 290 P **P 19 42 07.3 +1.0**
OKC Ostrava-Krasne 27.79 315 *e*P **P 19 42 04.2 -2.2**
OKC AMS AMS 19 55 50.0
comp=Z,900nm,8.9s
OKC Ostrava-Krasne 27.79 315 *e*P **P 19 42 04.2 -2.2**
OKC P pP 19 42 09.0 -2.2
ZST Bratislava 27.81 311 *e*P **P 19 42 08.8 +2.2**
comp=Z,15nm,1.0s,mb4.6
ZST *e* 19 56 00.0
ZST LR LR
comp=Z,700nm,12.5s,MS4.5
ZST Bratislava 27.81 311 *e*P **P 19 42 08.8 +2.2**
ZST pmax pmax
comp=Z,15nm,1.0s,mb4.6
ZST MLR MLR
comp=Z,700nm,12.5s,MS4.5
PSB1 Pescosannita 27.90 296 P **P 19 42 08.4 +1.0**
KAD Karad 27.98 119 ⇑*i*P **P 19 42 09.0 +0.9**
SOP Sopron 27.98 310 *e*P **P 19 42 07.8 -0.4**
MORC Moravsky Berou 28.13 315 ⇑P **P 19 42 08.2 -1.2**
CRES Cresnjev 28.19 306 P **P 19 42 11.2 +1.2**
SGG Gregorio Mates 28.24 296 P **P 19 42 12.2 +1.8**
BOJS Bojanci 28.26 305 *e*P **P 19 42 11.2 +0.6**
BOJS *i* pP 19 42 15.4 +0.1
BOJS *e* 19 42 17.9
CII Carovilli 28.32 297 P **P 19 42 12.9 +1.7**
MIDA Miranda 28.36 297 P **P 19 42 12.3 +0.9**
CSLB Castelbuono 28.39 289 P **P 19 42 13.6 +1.8**
GIB Gibilmanna 28.42 289 P **P 19 42 13.8 +1.8**
RNI2 Rionero Sannit 28.44 297 P **P 19 42 13.4 +1.2**
VRAC Vranov 28.52 313 P **P 19 42 12.8 -0.1**
comp=Z,4.9nm,0.8s,mb4.3,baz=118,slow=12,SNR=7.0
VRAC LR LR 19 55 21.2
comp=Z,1μm,19.5s,MS4.5,baz=112,slow=40
VRAC Vranov 28.52 313 ⇑P **P 19 42 13.3 +0.4**
VRAC Vranov 28.52 313 *e*P **P 19 42 12.7 -0.2**
VRAC Vranov 28.52 313 ⇑P **P 19 42 13.3 +0.4**
VRAC Vranov 28.52 313 P **P 19 42 12.8 -0.1**
VRAC pmax pmax
comp=Z,5.0nm,0.8s
VRAC MLR MLR
comp=Z,1μm,19.5s
ARSA Arzberg 28.52 309 ⇓*i*P **P 19 42 13.7 +0.8**
comp=Z,19nm,1.4s,mb4.6
ARSA Arzberg 28.52 309 P **P 19 42 13.5 +0.5**
RFI Roccamonfina 28.53 296 P **P 19 42 14.5 +1.5**
KRUC Moravsky 28.55 313 P **P 19 42 13.1 -0.1**
PDKS Podkum 28.56 306 *e*P **P 19 42 13.9 +0.6**
MKAR Makanchi Array 28.60 52 P **P 19 42 13.6 -0.1**
comp=Z,4.6nm,0.6s,mb4.4,baz=249,slow=9.5,SNR=44
MKAR ScP ScP 19 49 01.2 -3.9
comp=Z,2.5nm,1.0s,baz=282,slow=6.1,SNR=5.3
MKAR LR LR 19 54 14.9
comp=Z,785nm,18.1s,MS4.4,baz=268,slow=38
MKAR Makanchi Array 28.60 52 P **P 19 42 13.5 -0.1**
comp=Z,4.0nm,0.6s,mb4.3
MKAR Makanchi Array 28.60 52 P **P 19 42 13.5 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
VISS Visnje 28.61 305 *i*P **P 19 42 14.0 +0.3**
PERS Pernice 28.62 307 *e*P **P 19 42 15.6 +1.7**
PERS *i* pP 19 42 21.2 +2.6
CEY Cerknica 28.87 305 P **P 19 42 17.1 +1.0**
LJU Ljubljana 28.87 306 *e*P **P 19 42 16.5 +0.4**
VSU Vasula 28.96 336 P **P 19 42 15.9 -0.9**
OBKA Obir 28.97 307 ⇓*i*P **P 19 42 17.8 +0.9**
comp=Z,18nm,1.1s,mb4.7
OBKA Obir 28.97 307 P **P 19 42 16.9 0.0**
PTQR Pietraquaria 29.02 297 P **P 19 42 18.6 +1.2**
AQU L'Aquila 29.06 298 *e*P **P 19 42 18.3 +0.6**
comp=Z,112nm,1.2s,mb5.5
AQU L'Aquila 29.06 298 *e*P **P 19 42 18.3 +0.7**
comp=Z,112nm,1.2s,mb5.5
AQU L'Aquila 29.06 298 *e*P **P 19 42 18.3 +0.6**
AQU pmax pmax
comp=Z,112nm,1.2s,mb5.5
USI Ustica 29.07 290 P **P 19 42 19.0 +1.2**
DPC Dobruska-Polom 29.07 315 *e*P **P 19 42 17.6 -0.2**
DPC AMS AMS 19 54 00.0
comp=Z,900nm,21.4s
TREC Trest 29.19 313 *e*P **P 19 42 19.3 +0.4**
TREC *e*pP pP 19 42 22.4 -1.3
TREC AMS AMS 19 55 00.0
comp=Z,1μm,18.1s
FIAM Fiamignano 29.26 298 P **P 19 42 20.6 +1.1**
JBP Jabalpur 29.27 103 ⇓*i*P **P 19 42 17.7 -1.9**
JBP *ex* x 19 46 56.1
KSP Ksiaz 29.29 316 *e*P **P 19 42 19.5 -0.2**
VOY Vojsko 29.30 306 *e*P **P 19 42 19.5 -0.4**
VOY *e* 19 42 39.3
VOY *e* 19 42 48.2
NRCA Norcia 29.32 299 P **P 19 42 20.7 +0.7**
UPC Upice 29.32 315 *e*P **P 19 42 19.9 -0.1**
CING Cingoli 29.32 300 P **P 19 42 20.5 +0.4**
SNTG Esanatoglia 29.49 300 P **P 19 42 22.0 +0.4**
MOA Molln 29.51 309 ⇑*i*P **P 19 42 21.6 -0.1**
comp=Z,16nm,0.8s,mb4.8
MOA Molln 29.51 309 P **P 19 42 22.0 +0.3**
MTCE Montecelio 29.51 297 P **P 19 42 22.6 +0.9**
ARV Arcevia 29.52 300 P **P 19 42 21.9 +0.1**
PTCC Patocco-Chiusa 29.75 306 P **P 19 42 24.4 +0.6**
MURB Monte Urbino 29.80 300 P **P 19 42 25.7 +1.5**
KBA Koelnbreinsper 29.91 307 ⇓*i*P **P 19 42 26.0 +0.7**
comp=Z,26nm,0.7s,mb5.1
KBA Koelnbreinsper 29.91 307 P **P 19 42 23.4 -1.9**
RSM Repubblica di 29.93 301 P **P 19 42 27.3 +1.8**
PRU Pruhonice 30.01 313 *e*P **P 19 42 24.5 -1.6**
PRU AMS AMS 19 56 10.0
comp=Z,900nm,17.8s
GEC2 GERESS Array S 30.16 311 *e*P **P 19 42 26.8 -0.7**
comp=Z,25nm,1.6s,mb4.7
GEC2 GERESS Array S 30.16 311 *e*P **P 19 42 26.8 -0.7**
GEC2 pmax pmax
comp=Z,25nm,1.6s,mb4.7
GERES GERESS Array B 30.16 311 P **P 19 42 26.8 -0.7**
comp=Z,1.9nm,0.5s,mb4.1,baz=113,slow=8.1,SNR=14
GERES PcP PcP 19 45 27.6 -0.9
comp=Z,1.6nm,0.6s,baz=166,slow=0.6,SNR=5.7
GERES ScP ScP 19 49 07.6 -2.5
comp=Z,2.5nm,1.0s,baz=114,slow=3.3,SNR=7.7
GERES LR LR 19 57 33.7
comp=Z,413nm,18.1s,MS4.1,baz=300,slow=42
GERES GERESS Array B 30.16 311 PcP PcP 19 45 27.6 -0.9
GERES GERESS Array B 30.16 311 P **P 19 42 26.8 -0.7**
GERES 19 45 27.6
GERES 19 49 07.6
CRE Caprese Michel 30.25 300 P **P 19 42 29.2 +0.9**
KHC Kasperske Hory 30.32 311 *e*P **P 19 42 28.8 -0.1**
KHC *e*pP pP 19 42 31.7 -2.0
KHC AMS AMS 19 57 30.0
comp=Z,1μm,8.5s
KHC Kasperske Hory 30.32 311 *e*P **P 19 42 28.8 -0.1**
KHC *e*pP pP 19 42 31.7 -2.0
SFI Santa Sofia 30.36 301 P **P 19 42 31.0 +1.7**
KOLN Koldanda 30.43 91 *e*P **P 19 42 30.0 +0.2**
comp=Z,118nm,1.6s,mb5.4
BRG Berggiesshubel 30.68 315 *e*P **P 19 42 31.2 -0.8**
comp=Z,3.4nm,0.9s,mb4.2
BRG
comp=N,601nm,14.3s
BRG
comp=E,795nm,22.8s
BRG
comp=Z,556nm,20.2s
CSNT Castellina Chi 30.71 300 P **P 19 42 34.0 +1.6**
WET Wettzell 30.77 311 *e*P **P 19 42 31.9 -0.9**
comp=Z,26nm,1.4s,mb4.9
WET Wettzell 30.77 311 *e*P **P 19 42 31.9 -0.9**
WET pmax pmax
comp=Z,26nm,1.4s,mb4.9
FNVD Fontana Vidola 30.91 301 P **P 19 42 35.9 +1.8**
MEF Metsahovi 31.07 336 P **P 19 42 37.3 +1.8**
WTTA Wattenberg 31.09 307 ⇓*e*P **P 19 42 35.1 -0.6**
comp=Z,38nm,1.2s,mb5.1
WATA Walderalm 31.14 307 ⇑*i*P **P 19 42 36.3 +0.1**
comp=Z,14nm,0.6s,mb5.0
HYB Hyderabad 31.19 114 *i*P **P 19 42 37.0 +0.5**
comp=Z,40nm,1.0s,mb5.2
GKN Gorkha 31.22 90 *e*P **P 19 42 36.2 -0.6**
comp=Z,43nm,0.8s,mb5.3
BDI Bagni Di Lucca 31.28 301 P **P 19 42 37.5 +0.2**
BERN Bernov 31.32 313 ⇓P **P 19 42 44.6 +6.9**
MAIM 31.34 301 P **P 19 42 37.2 -0.7**
NKC Novy Kostel 31.36 313 *e*P **P 19 42 38.2 +0.1**
NKC *e*pP pP 19 42 41.8 -1.1
NKC AMS AMS 19 58 30.0
comp=Z,1μm,8.4s
NKC Novy Kostel 31.36 313 *e*P **P 19 42 38.2 +0.1**
NKC *e*pP pP 19 42 41.8 -1.1
SQTA Sankt Quirin 31.36 307 ⇑*i*P **P 19 42 37.5 -0.6**
comp=Z,14nm,0.4s,mb5.1
ROTZ Rotzenmuhle 31.37 312 *e*P **P 19 42 37.8 -0.3**
comp=Z,39nm,1.5s,mb5.0
JOF Joensuu 31.37 345 *e*p **P 19 42 37.0 -1.2**
comp=Z,37nm,1.0s,mb5.2
RUE Ruedersdorf 31.38 318 *e*P **P 19 42 38.0 -0.2**
comp=Z,17nm,0.8s,mb4.9
CLL Collm 31.39 315 *e*P **P 19 42 37.8 -0.5**
comp=Z,15nm,0.9s,mb4.8
CLL *e*PP PP 19 43 55.8 +6.6
CLL *e*SS SS 19 50 03.2 +3.8
CLL *e*L 19 56 55.5
comp=Z,1μm,20.0s
CLL Collm 31.39 315 *i*P **P 19 42 37.6 -0.7**
comp=Z,10.0nm,1.1s,mb4.6
CLL *i* (pP) pP 19 42 42.5 -0.6
comp=Z,15nm,0.9s
CLL *es*PP 19 43 46.0
CLL *e*PPPP 19 43 56.0
CLL *e*SSS 19 49 42.0
CLL LmV 19 56 00.0
comp=Z,1μm,22.0s
CLL Collm 31.39 315 *i*P **P 19 42 37.6 -0.7**
comp=Z,10.0nm,1.1s,mb4.6
CLL *i* pP 19 42 42.5 -0.6
CLL LR LR
comp=Z,1μm,22.0s,MS4.6
SARO Sassorosso 31.43 301 P **P 19 42 37.9 -0.8**
VLC Villacollemand 31.44 301 *e*P **P 19 42 39.7 +1.0**
MOTA Moosalm 31.46 307 ⇑*i*P **P 19 42 38.3 -0.6**
comp=Z,24nm,0.9s,mb5.0
FINES FINESS Array B 31.49 339 P **P 19 42 38.5 -0.7**
comp=Z,8.2nm,0.7s,mb4.7,baz=140,slow=10.0,SNR=49
FINES LR LR 19 56 57.4
comp=Z,1μm,18.9s,MS4.6,baz=314,slow=39
FUR Furstenfeldbru 31.53 309 *e*P **P 19 42 38.9 -0.7**
comp=Z,50nm,1.0s,mb5.3
FUR Furstenfeldbru 31.53 309 *e*P **P 19 42 38.9 -0.7**
FUR pmax pmax
comp=Z,50nm,1.0s,mb5.3
VALM 31.56 301 P **P 19 42 38.6 -1.2**
VINC Vinca 31.61 301 P **P 19 42 39.1 -1.1**
BACM 31.68 301 P **P 19 42 39.3 -1.5**
GRAM 31.71 302 P **P 19 42 39.7 -1.4**
DMN Daman 31.74 91 *e*P **P 19 42 40.0 +0.6**
comp=Z,195nm,1.4s,mb5.8
WMQ Urumqi 31.82 60 P **P 19 42 42.3 +0.2**
WMQ PP PP 19 43 47.3 -6.7
WMQ PPP 19 43 57.8
WMQ PCP PcP 19 45 33.8 +0.9
WMQ *e*S **S 19 47 50.3 -1.5**
WMQ SCS ScS 19 53 12.3 -1.6
WMQ AMB AMB
comp=Z,25nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,180nm,4.6s
WMQ LR LR
comp=N,1μm,12.0s,MS4.9
WMQ LR LR
comp=E,877nm,10.6s,MS4.9
WMQ LR LR
comp=Z,665nm,9.0s
KKN Kakani 31.83 90 *e*P **P 19 42 42.3 +0.2**
comp=Z,41nm,0.7s,mb5.3
CODM 31.85 301 P **P 19 42 41.0 -1.3**
BSD Bornholm Skovb 31.92 323 ⇑*i*P **P 19 42 41.3 -1.7**
comp=Z,61nm,0.8s,mb5.5
BSD
comp=Z,570nm,18.0s
KAF Kangasniemi 31.95 340 *e*p **P 19 42 41.8 -1.5**
comp=Z,8.6nm,0.6s,mb4.8
GRA1 Grafenberg Arr 31.96 312 *e*P **P 19 42 42.8 -0.5**
comp=Z,32nm,1.0s,mb5.1
GRF Grafenberg Arr 31.96 312 *e*P **P 19 42 42.8 -0.5**
comp=Z,32nm,1.0s,mb5.1
GRF Grafenberg Arr 31.96 312 *e*P **P 19 42 42.8 -0.5**
GRF pmax pmax
comp=Z,32nm,1.0s,mb5.1
GRF Grafenberg Arr 31.96 312 *e*P **P 19 42 42.8 -0.5**
GRF pmax pmax
comp=Z,32nm,1.0s,mb5.1
MOX Moxa 32.00 313 *e*P **P 19 42 46.3 +2.7**
comp=Z,21nm,1.9s,mb4.6
MOX
comp=Z,700nm,18.0s
MOX Moxa 32.00 313 *e*P **P 19 42 46.3 +2.7**
MOX pmax pmax
comp=Z,21nm,1.9s,mb4.6
MOX MLR MLR
comp=Z,700nm,18.0s,MS4.4
VSL Villasalto 32.01 292 *e*P **P 19 42 44.9 +1.2**
comp=Z,63nm,0.9s,mb5.5
PKI Pulchoki 32.01 91 *e*P **P 19 42 44.9 +1.2**
comp=Z,277nm,1.6s,mb5.8
SC2M Scurtabr 32.08 301 P **P 19 42 42.9 -1.4**
NVS Novosibirsk 32.12 38 *e*P **P 19 42 43.6 -1.1**
NVS *e*S **S 19 47 53.1 -3.4**
NVS *e*ScS ScS 19 53 08.0 -7.4
NVS Novosibirsk 32.12 38 *e*P **P 19 42 43.6 -1.1**
NVS *e*PPP 19 43 47.7
NVS *e*S **S 19 47 53.1 -3.4**
NVS *e* 19 53 08.0
NVS pmax pmax
comp=N,19nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.6s
NVS pmax pmax
comp=Z,31nm,1.6s,mb4.9

NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS pmax pmax
comp=Z,17nm,1.4s,mb4.7
NVS smax
comp=N,18nm,1.8s
NVS smax
comp=E,11nm,1.8s
DAVOX Davos 32.17 306 P **P 19 42 44.6 -0.6**
comp=E,13nm,0.7s,mb4.8,baz=113,slow=9.7,SNR=13
DAVOX PcP PcP 19 45 34.9 +1.1
comp=E,4.4nm,0.6s,baz=90,slow=3.0,SNR=3.9
CORF Corte 32.19 297 *e*P **P 19 42 46.3 +0.9**
DAVA Damuels 32.27 307 ⇑*i*P **P 19 42 45.4 -0.6**
comp=E,37nm,0.6s,mb5.4
DAVA Damuels 32.27 307 P **P 19 42 44.8 -1.2**
GUN Gumba 32.29 90 *e*P **P 19 42 46.2 0.0**
comp=E,162nm,0.9s,mb5.8
PGF Pioggiola 32.32 298 *e*P **P 19 42 44.3 -2.2**
comp=E,108nm,1.1s,mb5.3
PGF Pioggiola 32.32 298 *e*P **P 19 42 44.3 -2.2**
comp=E,54nm,1.1s,mb5.3
PGF Pioggiola 32.32 298 *e*P **P 19 42 44.3 -2.2**
PGF pmax pmax
comp=Z,54nm,1.1s,mb5.3
VDL Val di Lei 32.40 305 P **P 19 42 47.7 +0.5**
RGN Rugen 32.48 321 *e*P **P 19 42 49.5 +1.6**
comp=Z,157nm,1.0s,mb5.8
TUE Stuetta 32.48 305 P **P 19 42 47.9 0.0**
ZAL Zalesovo 32.55 40 LR LR 19 57 58.5
comp=Z,980nm,18.5s,MS4.5,baz=230,slow=40
JIRN Jiri 32.63 90 *e*P **P 19 42 49.5 +0.3**
comp=Z,58nm,0.7s,mb5.6
LLS Linth-Limmern 32.77 306 ⇑P **P 19 42 49.7 -0.8**
PCP Pian Castagno 32.79 302 P **P 19 42 48.8 -1.8**
WILA Wila 32.94 307 ⇑P **P 19 42 51.2 -0.7**
FIN Finale Ligure 33.00 301 P **P 19 42 51.1 -1.4**
MUO Muotathal 33.04 306 ⇓P **P 19 42 52.7 -0.1**
CLZ Clausthal 33.11 315 *e*P **P 19 42 52.9 -0.5**
comp=Z,30nm,1.1s,mb5.1
CLZ Clausthal 33.11 315 *e*P **P 19 42 52.9 -0.5**
CLZ pmax pmax
comp=Z,30nm,1.1s,mb5.1
ZUR Zurich 33.15 307 P **P 19 42 53.6 -0.1**
IMI Imperia 33.21 300 P **P 19 42 53.6 -0.7**
ROB Roburent 33.25 301 P **P 19 42 53.0 -1.7**
MONE Monesi 33.32 301 P **P 19 42 54.0 -1.2**
NEGI Negi 33.34 300 P **P 19 42 54.3 -1.1**
COP Copenhagen 33.44 323 *i*P **P 19 43 00.5 +4.2**
comp=Z,88nm,1.2s,mb5.6
COP
comp=Z,270nm,17.0s
COP Copenhagen 33.44 323 *e*P **P 19 43 00.5 +4.2**
comp=Z,88nm,1.2s,mb5.6
COP LR LR
comp=Z,270nm,17.0s,MS4.0
COP Copenhagen 33.44 323 *e*P **P 19 43 00.5 +4.2**
COP pmax pmax
comp=Z,88nm,1.2s,mb5.6
COP MLR MLR
comp=Z,270nm,17.0s,MS4.0
SAOF Saorge 33.46 300 *e*P **P 19 42 56.4 0.0**
SULZ Sulz-Cheisache 33.49 307 ⇑P **P 19 42 57.2 +0.5**
SBF Sospel 33.53 300 *e*P **P 19 42 56.9 -0.2**
comp=Z,234nm,1.1s,mb5.7
SBF Sospel 33.53 300 *e*P **P 19 42 56.9 -0.2**
comp=Z,117nm,1.1s,mb5.7
SBF Sospel 33.53 300 *e*P **P 19 42 56.9 -0.2**
SBF pmax pmax
comp=Z,117nm,1.1s,mb5.7
AUTN L'Aution 33.55 300 *e*P **P 19 42 58.3 +1.1**
ENR Entracque 33.57 301 P **P 19 42 56.2 -1.2**
STV2 Anna di Valdie 33.64 301 P **P 19 42 55.6 -2.4**
STV Sta Anna Valdi 33.64 301 P **P 19 42 56.5 -1.5**
LKBD Leukerbad 33.65 305 ⇓P **P 19 42 57.6 -0.5**
MVIF Mont Vial 33.74 300 *e*P **P 19 42 59.0 +0.1**
DIX Grande Dixence 33.76 304 P **P 19 42 58.5 -0.5**
ABSA Djebel Ababsia 33.77 286 P **P 19 43 03.0 +3.8**
CMAH Djebel Manchou 33.78 287 P **P 19 43 00.0 +0.8**
PZZ Prazzo 33.82 301 P **P 19 42 57.7 -1.9**
TNS Taunus Mts 33.83 312 *e*P **P 19 43 00.0 +0.3**
comp=Z,62nm,1.5s,mb5.3
TNS Taunus Mts 33.83 312 *e*P **P 19 43 00.0 +0.3**
TNS pmax pmax
comp=Z,62nm,1.5s,mb5.3
BOK Bokaro 33.85 97 *ex* x 19 42 49.9
BBS Basel-Blauen 33.88 307 *e*P **P 19 42 57.9 -2.2**
SURF Saint Ours 34.02 301 *e*P **P 19 43 01.7 +0.3**
MBDF Montbardon 34.07 302 *e*P **P 19 43 01.4 -0.4**
comp=Z,65nm,0.7s,mb5.3
MBDF Montbardon 34.07 302 *e*P **P 19 43 01.4 -0.4**
comp=Z,32nm,0.7s,mb5.3
MBDF Montbardon 34.07 302 *e*P **P 19 43 01.4 -0.4**
MBDF pmax pmax
comp=Z,33nm,0.7s,mb5.4
RRL Cesana Torines 34.08 302 P **P 19 42 59.4 -2.4**
FRF La Foret Royal 34.09 300 *e*P **P 19 43 01.2 -0.7**
comp=Z,61nm,1.2s,mb5.1
FRF La Foret Royal 34.09 300 *e*P **P 19 43 01.2 -0.7**
comp=Z,30nm,1.2s,mb5.1
FRF La Foret Royal 34.09 300 *e*P **P 19 43 01.2 -0.7**
FRF pmax pmax
comp=Z,30nm,1.2s,mb5.1
EMV Vieux Emosson 34.11 304 ⇓P **P 19 43 01.9 -0.2**
LPG La Plagne 34.15 303 *e*P **P 19 43 02.0 -0.5**
comp=Z,176nm,1.2s,mb5.6
LPG La Plagne 34.15 303 *e*P **P 19 43 02.0 -0.5**
comp=Z,86nm,1.2s,mb5.6
LPG La Plagne 34.15 303 *e*P **P 19 43 02.0 -0.5**
LPG pmax pmax
comp=Z,88nm,1.2s,mb5.6
BNI Bardonecchia 34.16 302 *e*P **P 19 43 02.1 -0.5**
comp=Z,182nm,1.2s,mb5.9
BNI Bardonecchia 34.16 302 *e*P **P 19 43 02.1 -0.5**
comp=Z,182nm,1.2s,mb5.9
BNI Bardonecchia 34.16 302 *e*P **P 19 43 02.1 -0.5**
BNI pmax pmax
comp=Z,182nm,1.2s,mb5.9
LPL La Plagne 34.17 303 *e*P **P 19 43 02.1 -0.5**
comp=Z,240nm,1.2s,mb5.7
LPL La Plagne 34.17 303 *e*P **P 19 43 02.1 -0.5**
comp=Z,120nm,1.2s,mb5.7
LPL La Plagne 34.17 303 *e*P **P 19 43 02.1 -0.5**
LPL pmax pmax
comp=Z,120nm,1.2s,mb5.7
LMR La Mourre 34.18 299 *e*P **P 19 43 01.9 -0.8**
comp=Z,68nm,1.5s,mb5.1
LMR La Mourre 34.18 299 *e*P **P 19 43 01.9 -0.8**
comp=Z,34nm,1.5s,mb5.1
LMR La Mourre 34.18 299 *e*P **P 19 43 01.9 -0.8**
LMR pmax pmax
comp=Z,34nm,1.5s,mb5.1
CDF Champ du Feu 34.20 308 *e*P **P 19 43 01.7 -1.2**
comp=Z,46nm,1.4s,mb4.9
CDF Champ du Feu 34.20 308 *e*P **P 19 43 01.7 -1.2**
comp=Z,23nm,1.4s,mb4.9
CDF Champ du Feu 34.20 308 *e*P **P 19 43 01.7 -1.2**
CDF pmax pmax
comp=Z,23nm,1.4s,mb4.9
CAEH 'Ain El Ouahch 34.21 287 P **P 19 43 05.0 +2.0**
ECH Echery 34.24 308 *e*P **P 19 43 03.5 +0.3**
RSL Roselend 34.26 303 *e*P **P 19 43 02.4 -1.0**
OG01 Vacheresse 34.29 304 *e*P **P 19 43 04.2 +0.5**
LOMF Lomont 34.32 306 *e*P **P 19 43 03.3 -0.7**
CKFL Kef-Lekhel 34.36 287 P **P 19 43 09.0 +4.7**
HINF Hinteralfeld 34.38 307 *e*P **P 19 43 03.1 -1.3**
OG25 Le Caire 34.55 301 *e*P **P 19 43 04.9 -1.0**
CASM Ain Smara 34.57 287 P **P 19 43 10.0 +3.9**
GDM Grand'Maison 34.57 302 *e*P **P 19 43 05.3 -0.8**
ORIF Oris-en-Rattie 34.72 302 *e*P **P 19 43 05.6 -1.8**
comp=Z,71nm,1.2s,mb5.2
ORIF *e*R
comp=Z,1μm,21.0s
ORIF Oris-en-Rattie 34.72 302 *e*P **P 19 43 05.6 -1.8**
comp=Z,35nm,1.2s,mb5.2
ORIF Oris-en-Rattie 34.72 302 *e*P **P 19 43 05.6 -1.8**
ORIF pmax pmax
comp=Z,35nm,1.2s,mb5.2
CABF La Chapelle 34.73 305 *e*P **P 19 43 07.0 -0.5**
comp=Z,86nm,0.8s,mb5.4
CABF La Chapelle 34.73 305 *e*P **P 19 43 07.0 -0.5**
comp=Z,43nm,0.8s,mb5.4
CABF La Chapelle 34.73 305 *e*P **P 19 43 07.0 -0.5**
CABF pmax pmax
comp=Z,43nm,0.8s,mb5.4
HAU Haudompre 34.74 307 *e*P **P 19 43 07.1 -0.5**
HAU *e*R
comp=Z,1μm,21.8s
HAU Haudompre 34.74 307 *e*P **P 19 43 07.1 -0.5**
HAU MLR MLR
comp=Z,1μm,21.8s,MS4.5
PUYF Puyloubier 34.78 299 *e*P **P 19 43 09.4 +1.5**
VILF Villemus 34.78 300 *e*P **P 19 43 10.9 +3.0**
IBBN Ibbenburen 34.79 315 *e*P **P 19 43 09.1 +1.1**
comp=Z,28nm,1.1s,mb5.1
GRN Grenoble 34.84 302 *e*P **P 19 43 06.4 -2.0**
BUG Bochum--Univer 34.85 313 *e*P **P 19 43 09.4 +0.9**
comp=Z,18nm,1.1s,mb4.9
BUG Bochum--Univer 34.85 313 P **P 19 43 11.1 +2.6**
SMRF Simiane la Rot 34.88 300 *e*P **P 19 43 08.5 -0.3**
comp=Z,84nm,1.5s,mb5.1
SMRF Simiane la Rot 34.88 300 *e*P **P 19 43 08.5 -0.3**
comp=Z,42nm,1.5s,mb5.1
TREF Trevaresse 35.01 300 *e*P **P 19 43 09.2 -0.7**
DFRA Djebel Bou Aff 35.02 287 P **P 19 43 11.0 +1.0**
HFS Hagfors 35.07 330 P **P 19 43 09.5 -1.0**
comp=Z,17nm,0.4s,mb5.3,baz=116,slow=10,SNR=86
HFS LR LR 19 58 12.5
comp=Z,2μm,19.7s,MS4.8,baz=124,slow=38
HFA0 Hagfors New Ar 35.08 330 P **P 19 43 09.2 -1.3**
OG05 Jujurieux 35.10 304 *e*P **P 19 43 09.8 -0.9**
PRAF Pradon 35.17 300 *e*P **P 19 43 10.7 -0.6**
APA Apatity 35.20 350 *i*P **P 19 43 12.3 +0.7**
comp=Z,26nm,1.0s,mb5.1
APA Apatity 35.20 350 ⇓*i*P **P 19 43 12.3 +0.7**
APA *i* 19 44 26.0
APA *e*S **S 19 48 30.0 -14**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
APA MLR MLR
comp=Z,2μm,16.0s,MS4.8
WTSB Winterswijk 35.27 314 *e*P **P 19 43 12.7 +0.6**
comp=Z,48nm,1.7s,mb5.2
LVZ Lovozero 35.34 351 *e*P **P 19 43 12.0 -0.7**
comp=Z,18nm,1.3s,mb4.8
LVZ Lovozero 35.34 351 *e*P **P 19 43 12.0 -0.7**
LVZ *e*S **S 19 48 46.8 +0.4**
LVZ pmax pmax
comp=Z,38nm,1.0s,mb5.3
LVZ pmax pmax
comp=N,18nm,1.3s
LVZ pmax pmax
comp=E,13nm,1.1s
LVZ smax
comp=N,153nm,9.9s
LVZ smax
comp=Z,33nm,8.9s
LVZ smax
comp=E,28nm,7.3s
LVZ MLR MLR
comp=Z,1μm,20.0s,MS4.6
LVZ MLR MLR
comp=N,695nm,18.0s,MS4.5
LVZ MLR MLR
comp=E,311nm,14.0s,MS4.5
CKHR Kef el Ahmar 35.39 286 P **P 19 43 15.0 +1.9**
MUD Monsted U'grnd 35.42 322 *i*P **P 19 43 13.7 +0.3**
comp=E,37nm,0.9s,mb5.3
MUD
comp=Z,370nm,19.0s
SET Setif 35.45 287 P **P 19 43 16.0 +2.3**
HGN Heimansgroeve 35.52 312 *e*P **P 19 43 14.4 +0.1**
comp=Z,33nm,2.4s,mb4.8
VIVF Saint-Julien-I 35.57 302 *e*P **P 19 43 13.4 -1.3**
comp=Z,91nm,1.3s,mb5.2
VIVF Saint-Julien-I 35.57 302 *e*P **P 19 43 13.4 -1.3**
comp=Z,46nm,1.3s,mb5.2
VIVF Saint-Julien-I 35.57 302 *e*P **P 19 43 13.4 -1.3**
VIVF pmax pmax
comp=Z,46nm,1.3s,mb5.2
MEZF Maizieres J'vi 35.67 308 *e*P **P 19 43 14.4 -1.2**
TRD Trivandrum 36.02 127 *e*P **P 19 43 19.6 +1.0**
TRD AMb AMB 19 43 23.6
comp=Z,82nm,1.0s,mb5.6
GIVF Givet 36.08 311 *e*P **P 19 43 18.2 -0.9**
LSA Lhasa 36.12 84 P **P 19 43 21.0 +1.5**
LSA Lhasa 36.12 84 *e*P **P 19 43 20.2 +0.7**
comp=Z,96nm,1.3s,mb5.6
LSA Lhasa 36.12 84 *e*P **P 19 43 20.2 +0.7**
comp=Z,96nm,1.3s,mb5.6
LSA Lhasa 36.12 84 *e*P **P 19 43 20.2 +0.7**
LSA pmax pmax
comp=Z,96nm,1.3s,mb5.6
LASF Ste Croix 36.12 300 *e*P **P 19 43 18.3 -1.2**
comp=Z,46nm,1.1s,mb5.0
LASF Ste Croix 36.12 300 *e*P **P 19 43 18.3 -1.2**
comp=Z,23nm,1.1s,mb5.0
KMBO Kilima Mbogo 36.16 200 P **P 19 43 21.5 +1.7**
comp=Z,10nm,1.2s,mb4.7,baz=20,slow=9.6,SNR=9.5
KMBO PcP PcP 19 45 47.3 +2.0
comp=Z,2.6nm,0.9s,baz=45,slow=23,SNR=3.4
KMBO LR LR 19 57 14.8
comp=Z,701nm,21.4s,MS4.4,baz=75,slow=34
KMBO Kilima Mbogo 36.16 200 P **P 19 43 21.5 +1.7**
KMBO 19 45 47.3
SMF Signal de Mont 36.27 305 *e*P **P 19 43 19.6 -1.1**
comp=Z,149nm,1.2s,mb5.5
SMF Signal de Mont 36.27 305 *e*P **P 19 43 19.6 -1.1**
comp=Z,75nm,1.2s,mb5.5
SMF Signal de Mont 36.27 305 *e*P **P 19 43 19.6 -1.1**
SMF pmax pmax
comp=Z,75nm,1.2s,mb5.5
LOR Lormes 36.32 306 *e*P **P 19 43 19.6 -1.5**
comp=Z,55nm,1.3s,mb5.0
LOR *e*R
comp=Z,699nm,19.8s
LOR Lormes 36.32 306 *e*P **P 19 43 19.6 -1.5**
comp=Z,28nm,1.3s,mb5.0
LOR LR LR
comp=Z,700nm,19.8s,MS4.4
LOR Lormes 36.32 306 *e*P **P 19 43 19.6 -1.5**
LOR pmax pmax
comp=Z,28nm,1.3s,mb5.0
LOR MLR MLR
comp=Z,700nm,19.8s,MS4.4
PLDF La Plantade 36.38 304 *e*P **P 19 43 20.6 -1.0**
BAIF Baives 36.46 310 *e*P **P 19 43 21.9 -0.5**
comp=Z,49nm,1.1s,mb5.0
BAIF Baives 36.46 310 *e*P **P 19 43 21.9 -0.5**
comp=Z,24nm,1.1s,mb5.0
BAIF Baives 36.46 310 *e*P **P 19 43 21.9 -0.5**
BAIF pmax pmax
comp=Z,24nm,1.1s,mb5.0
SSF Saint Saulge 36.54 305 *e*P **P 19 43 21.8 -1.2**
comp=Z,61nm,1.1s,mb5.0
SSF Saint Saulge 36.54 305 *e*P **P 19 43 21.8 -1.2**
comp=Z,30nm,1.1s,mb5.0
SSF Saint Saulge 36.54 305 *e*P **P 19 43 21.8 -1.2**
SSF pmax pmax
comp=Z,31nm,1.1s,mb5.0
NB2 NORSAR Subarra 36.59 330 P **P 19 43 21.9 -1.6**
comp=Z,7.9nm,0.7s,mb4.7,baz=123,slow=8.6
NB2 NORSAR Subarra 36.59 330 P **P 19 43 21.9 -1.6**
NB2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
NOA NORSAR Array B 36.59 330 P **P 19 43 21.9 -1.6**
comp=Z,9.5nm,0.8s,mb4.7,baz=122,slow=8.4,SNR=31
NOA PP PP 19 44 45.2 -1.6
comp=Z,8.3nm,0.9s,baz=129,slow=11,SNR=5.9
NOA LR LR 19 59 09.3
comp=Z,1μm,20.6s,MS4.7,baz=120,slow=38
NOA NORSAR Array B 36.59 330 P **P 19 43 21.9 -1.6**
NOA PP PP 19 44 45.2 -1.6
NOA LR LR 19 59 09.3
NOA NORSAR Array B 36.59 330 P **P 19 43 21.9 -1.6**
NOA 19 44 45.2
LBL Lubilhac 36.60 302 *e*P **P 19 43 22.9 -0.6**
KONO Kongsberg 36.60 327 *e*P **P 19 43 22.0 -1.6**
comp=Z,35nm,1.0s,mb5.1
KONO Kongsberg 36.60 327 *e*P **P 19 43 22.0 -1.5**
comp=Z,35nm,1.0s,mb5.2
KONO Kongsberg 36.60 327 *e*P **P 19 43 22.0 -1.6**
KONO pmax pmax
comp=Z,35nm,1.0s,mb5.1
AVF Avril sur Loir 36.62 305 *e*P **P 19 43 22.4 -1.3**
comp=Z,113nm,1.3s,mb5.2
AVF Avril sur Loir 36.62 305 *e*P **P 19 43 22.4 -1.3**
comp=Z,56nm,1.3s,mb5.2
AVF Avril sur Loir 36.62 305 *e*P **P 19 43 22.4 -1.3**
AVF pmax pmax
comp=Z,56nm,1.3s,mb5.2
NAO01 NORSAR Array S 36.63 330 *e*P **P 19 43 22.7 -1.1**
comp=Z,16nm,0.8s,mb4.9
PYM Petit Puy Mans 36.79 303 *e*P **P 19 43 25.0 -0.2**
BGF Bois d'Agland 36.95 304 *e*P **P 19 43 25.5 -1.0**
comp=Z,32nm,0.9s,mb4.8
BGF Bois d'Agland 36.95 304 *e*P **P 19 43 25.5 -1.0**
comp=Z,16nm,0.9s,mb4.8
ETOS Mallorca 37.05 293 P **P 19 43 28.0 +0.6**
comp=Z,103nm,1.1s,mb5.6
FRNF Fournols 37.09 303 *e*P **P 19 43 27.5 -0.2**
HYF Humbligny 37.15 306 *e*P **P 19 43 27.5 -0.7**
MTLF Montolieu 37.31 299 *e*P **P 19 43 28.3 -1.3**
comp=Z,20nm,1.1s,mb4.6
MTLF Montolieu 37.31 299 *e*P **P 19 43 28.3 -1.3**
comp=Z,10nm,1.1s,mb4.6
MTLF Montolieu 37.31 299 *e*P **P 19 43 28.3 -1.3**
MTLF pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
TCF Toulx Ste Croi 37.37 304 *e*P **P 19 43 29.3 -0.8**
comp=Z,90nm,1.2s,mb5.2
TCF Toulx Ste Croi 37.37 304 *e*P **P 19 43 29.3 -0.8**
comp=Z,45nm,1.2s,mb5.2
TCF Toulx Ste Croi 37.37 304 *e*P **P 19 43 29.3 -0.8**
TCF pmax pmax
comp=Z,45nm,1.2s,mb5.2
EMHD Djebel Mahouad 37.40 287 P **P 19 43 32.0 +1.7**
CAF Calviac 37.43 302 *e*P **P 19 43 29.7 -0.9**
comp=Z,68nm,1.5s,mb5.0
CAF Calviac 37.43 302 *e*P **P 19 43 29.7 -0.9**
comp=Z,34nm,1.5s,mb5.0
CAF Calviac 37.43 302 *e*P **P 19 43 29.7 -0.9**
CAF pmax pmax
comp=Z,34nm,1.5s,mb5.0
KRAR Krasnoyarsk 37.64 40 *e*P **P 19 43 30.5 -1.8**
comp=Z,900nm,16.0s
KRAR Krasnoyarsk 37.64 40 *e*P **P 19 43 30.5 -1.8**
KRAR pmax pmax
comp=Z,42nm,1.9s,mb4.8
KRAR MLR MLR
comp=Z,900nm,16.0s,MS4.7
RJF Les Rejaudoux 37.82 302 *e*P **P 19 43 33.4 -0.5**
comp=Z,114nm,1.4s,mb5.1
RJF *e*R
comp=Z,688nm,21.2s
RJF Les Rejaudoux 37.82 302 *e*P **P 19 43 33.4 -0.5**
comp=Z,57nm,1.4s,mb5.1
RJF LR LR
comp=Z,690nm,21.3s,MS4.4
RJF Les Rejaudoux 37.82 302 *e*P **P 19 43 33.4 -0.5**
RJF pmax pmax
comp=Z,57nm,1.4s,mb5.1
RJF MLR MLR
comp=Z,690nm,21.3s,MS4.4
SHL Shillong 38.13 90 *e*P **P 19 43 36.0 -0.5**
SHL *e*S **S 19 49 31.0 +2.0**
EIBI Ibiza 38.26 292 P **P 19 43 38.1 +0.5**
comp=Z,146nm,1.2s,mb5.6
ARCES ARCESS Array B 38.29 347 P **P 19 43 36.5 -1.3**
comp=Z,15nm,1.0s,mb4.7,baz=147,slow=7.1,SNR=18
ARCES PP PP 19 45 04.7 -0.8
comp=Z,7.4nm,0.8s,baz=146,slow=8.8,SNR=5.6
ARCES LR LR 20 00 23.4
comp=Z,780nm,18.5s,MS4.5,baz=252,slow=38
ARCES ARCESS Array B 38.29 347 P **P 19 43 36.5 -1.4**
ARCES 19 45 04.7
LFF La Frestale 38.37 302 *e*P **P 19 43 37.5 -1.0**
comp=Z,44nm,0.9s,mb4.9
LFF La Frestale 38.37 302 *e*P **P 19 43 37.5 -1.0**
comp=Z,22nm,0.9s,mb4.9
LFF La Frestale 38.37 302 *e*P **P 19 43 37.5 -1.0**
LFF pmax pmax
comp=Z,22nm,0.9s,mb4.9
EBNR Beni Rached 38.52 288 P **P 19 43 42.0 +2.2**
ECHA Ech Chlef 38.67 288 P **P 19 43 42.5 +1.4**
EPF Esparros 38.69 299 *e*P **P 19 43 38.8 -2.4**
EBR Ebro Roquetas 38.72 295 *e*P **P 19 43 42.0 +0.5**
EGRA Graus 38.75 297 P **P 19 43 41.5 -0.3**
comp=Z,5.1nm,0.8s,mb4.3
ERTA Horta de San J 38.83 295 P **P 19 43 42.4 0.0**
comp=Z,155nm,1.7s,mb5.5
ETRT Tiaret 38.87 286 P **P 19 43 44.0 +1.3**
EANR 'Ain N'Sour 38.92 287 P **P 19 43 45.0 +1.8**
MFF Saint Martin d 39.01 304 *e*P **P 19 43 42.5 -1.4**
LDF La Druitiere 39.10 308 *e*P **P 19 43 42.9 -1.7**
FLN La Foliniere 39.35 308 *e*P **P 19 43 45.0 -1.7**
FLN *e*R
comp=Z,1μm,22.5s
FLN La Foliniere 39.35 308 *e*P **P 19 43 45.0 -1.7**
FLN MLR MLR
comp=Z,1μm,22.5s,MS4.7
ETSF Etsaut 39.36 299 *e*P **P 19 43 45.9 -0.9**
comp=Z,22nm,1.0s,mb4.5
ETSF Etsaut 39.36 299 *e*P **P 19 43 45.9 -0.9**
comp=Z,11nm,1.0s,mb4.5
ETSF Etsaut 39.36 299 *e*P **P 19 43 45.9 -0.9**
ETSF pmax pmax
comp=Z,11nm,1.0s,mb4.5
ESAC San Caprasio 39.37 297 P **P 19 43 46.8 -0.2**
comp=Z,58nm,0.9s,mb5.3
PALK Pallekele 39.46 124 P **P 19 43 48.0 +0.4**
comp=Z,178nm,1.0s,mb5.8,SNR=7.6
PALK Pallekele 39.46 124 *e*P **P 19 43 48.4 +0.8**
comp=Z,76nm,1.4s,mb5.2
EMOS Mosqueruela 39.50 295 P **P 19 43 48.6 +0.6**
comp=Z,148nm,1.0s,mb5.7
EBEN Beniarda 39.52 292 P **P 19 43 48.8 +0.7**
comp=Z,159nm,1.1s,mb5.7
GRR Gorron 39.57 307 *e*P **P 19 43 47.0 -1.6**
comp=Z,127nm,1.1s,mb5.3
GRR Gorron 39.57 307 *e*P **P 19 43 47.0 -1.6**
comp=Z,64nm,1.1s,mb5.3
GRR Gorron 39.57 307 *e*P **P 19 43 47.0 -1.6**
GRR pmax pmax
comp=Z,64nm,1.1s,mb5.3
SJPF Ste Jean 39.83 299 *e*P **P 19 43 49.0 -1.8**
ECHE Chera 39.97 293 P **P 19 43 53.2 +1.3**
comp=Z,68nm,0.9s,mb5.4
ECHE Chera 39.97 293 P **P 19 43 53.2 +1.3**
comp=Z,68nm,0.9s,mb5.4
ECHE Chera 39.97 293 P **P 19 43 53.2 +1.3**
ECHE pmax pmax
comp=Z,68nm,0.9s,mb5.4
ODJA Bouhanifia 40.04 287 P **P 19 43 55.0 +2.5**
EMUR La Murta 40.44 291 P **P 19 43 55.5 -0.3**
comp=Z,34nm,0.9s,mb5.1
ETOB Tobarra 40.55 292 P **P 19 43 57.5 +0.9**
comp=Z,216nm,2.1s,mb5.4
GTA Gaotai 41.02 67 *e*P **P 19 44 01.0 +0.4**
GTA AP pP 19 44 05.8 +0.3
GTA PP PP 19 45 41.0 +5.8
GTA PCP PcP 19 45 59.0 -1.4
GTA SCP ScP 19 49 48.0 -1.5
GTA S **S 19 50 17.0 +4.7**
GTA XS sS 19 50 25.0 +4.7
GTA SS SS 19 53 15.8 +1.3
GTA SCS ScS 19 54 01.8 -3.0
GTA AMB AMB
comp=Z,23nm,1.3s,mb4.7
GTA AMB AMB
comp=Z,183nm,6.1s
GTA LR LR
comp=N,415nm,11.1s,MS4.6
GTA LR LR
comp=E,404nm,15.3s,MS4.6
GTA LR LR
comp=Z,267nm,13.4s,MS4.3
QUIF Quistinic 41.10 306 *e*P **P 19 43 59.6 -1.7**
comp=Z,113nm,1.0s,mb5.1
QUIF Quistinic 41.10 306 *e*P **P 19 43 59.6 -1.7**
comp=Z,57nm,1.0s,mb5.1
QUIF Quistinic 41.10 306 *e*P **P 19 43 59.6 -1.7**
QUIF pmax pmax
comp=Z,57nm,1.0s,mb5.2
ROSF Rostrenen 41.18 307 *e*P **P 19 44 00.2 -1.7**
comp=Z,102nm,1.1s,mb5.1
ROSF Rostrenen 41.18 307 *e*P **P 19 44 00.2 -1.7**
comp=Z,51nm,1.1s,mb5.1
ROSF Rostrenen 41.18 307 *e*P **P 19 44 00.2 -1.7**
ROSF pmax pmax
comp=Z,51nm,1.1s,mb5.1
EVIA Vianos 41.29 292 P **P 19 44 03.5 +0.7**
comp=Z,26nm,0.9s,mb4.9
EVIA Vianos 41.29 292 P **P 19 44 03.5 +0.7**
comp=Z,26nm,0.9s,mb4.9

EVIA Vianos 41.29 292 P **P** **19 44 03.5 +0.7**
EVIA pmax pmax
comp=Z,26nm,0.9s,mb4.9
ENIJ Nijar 41.35 290 P **P** **19 44 03.4 +0.1**
comp=Z,21nm,0.8s,mb4.8
ENIJ Nijar 41.35 290 P **P** **19 44 03.4 +0.1**
ENIJ pmax pmax
comp=Z,21nm,0.8s,mb4.8
ELAN Lanestosa 41.44 299 P **P** **19 44 04.8 +0.8**
comp=Z,24nm,0.9s,mb4.8
EHUE Huescar 41.50 291 P **P** **19 44 04.6 +0.1**
comp=Z,25nm,0.7s,mb5.0
EHUE Huescar 41.50 291 P **P** **19 44 04.6 +0.1**
comp=Z,25nm,0.7s,mb5.0
EHUE Huescar 41.50 291 P **P** **19 44 04.6 +0.1**
EHUE pmax pmax
comp=Z,25nm,0.7s,mb5.0
MOY Mondy 41.50 48 *e*P **P** **19 44 06.6 +2.0**
EKA Eskdalemuir Ar 41.77 318 P **P** **19 44 05.8 -1.0**
comp=Z,12nm,0.9s,mb4.5,baz=107,slow=7.7,SNR=16
EQES Quesada 41.87 291 P **P** **19 44 07.7 +0.2**
comp=Z,97nm,0.9s,mb5.4
EBER Berja 41.90 290 P **P** **19 44 07.8 0.0**
comp=Z,92nm,1.1s,mb5.3
ESDC Sonseca Array 42.25 294 P **P** **19 44 10.5 -0.2**
comp=Z,22nm,1.1s,mb4.7,baz=69,slow=8.3,SNR=26
ESDC PcP PcP 19 46 04.7 +0.3
comp=Z,3.7nm,0.8s,baz=43,slow=4.3,SNR=5.1
ESDC ScP ScP 19 49 50.1 -4.3
comp=Z,0.7nm,0.6s,baz=88,slow=5.0,SNR=3.0
ESDC Sonseca Array 42.25 294 P **P** **19 44 10.3 -0.3**
comp=Z,15nm,1.1s,mb4.5
ESLA Sonseca Array 42.25 294 *e*P **P** **19 44 10.4 -0.2**
comp=Z,15nm,1.3s,mb4.5
GUD Guadarrama 42.25 295 P **P** **19 44 10.1 -0.6**
GUD Guadarrama 42.25 295 P **P** **19 44 10.1 -0.6**
comp=Z,26nm,0.9s,mb4.9
ECOG Cogollos-Vega 42.36 290 P **P** **19 44 11.6 +0.1**
comp=Z,28nm,1.0s,mb4.8
ECOG Cogollos-Vega 42.36 290 P **P** **19 44 11.6 +0.1**
ECOG pmax pmax
comp=Z,28nm,1.0s,mb4.8
EGUA Guajares 42.44 290 P **P** **19 44 12.7 +0.5**
comp=Z,5.0nm,1.0s,mb4.1
EGUA Guajares 42.44 290 P **P** **19 44 12.7 +0.4**
comp=Z,5.3nm,1.0s,mb4.1
EGUA Guajares 42.44 290 P **P** **19 44 12.7 +0.5**
EGUA pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
ERON Agron 42.59 290 P **P** **19 44 14.1 +0.6**
comp=Z,29nm,0.9s,mb5.0
EARI Arriondas 42.72 300 P **P** **19 44 15.0 +0.5**
comp=Z,162nm,1.7s,mb5.5
ELOJ Sierra Loja 42.84 290 P **P** **19 44 14.8 -0.7**
comp=Z,8.0nm,0.6s,mb4.6
ELOJ Sierra Loja 42.84 290 P **P** **19 44 14.8 -0.7**
comp=Z,7.6nm,0.6s,mb4.6
ELOJ Sierra Loja 42.84 290 P **P** **19 44 14.8 -0.7**
ELOJ pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
ELUQ Luque 42.85 291 P **P** **19 44 14.7 -0.8**
comp=Z,9.0nm,0.7s,mb4.6
ELUQ Luque 42.85 291 P **P** **19 44 14.7 -0.8**
comp=Z,8.9nm,0.7s,mb4.6
ELUQ Luque 42.85 291 P **P** **19 44 14.7 -0.8**
ELUQ pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
EADA Adamuz 42.98 292 P **P** **19 44 15.7 -0.8**
comp=Z,97nm,1.0s,mb5.5
EMIJ Mijas 43.45 290 P **P** **19 44 19.6 -0.8**
comp=Z,121nm,1.2s,mb5.5
IRK Irkutsk 43.57 47 *e*P **P** **19 44 20.1 -1.2**
comp=Z,37nm,2.4s,mb4.7
IRK Irkutsk 43.57 47 *e*P **P** **19 44 20.1 -1.2**
IRK pmax pmax
comp=Z,37nm,2.4s,mb4.7
ECAL Calabor 44.00 298 P **P** **19 44 24.2 -0.6**
comp=Z,88nm,1.0s,mb5.4
EJIF Jimena Fronter 44.02 290 P **P** **19 44 24.3 -0.7**
comp=Z,9.0nm,0.8s,mb4.5
EJIF Jimena Fronter 44.02 290 P **P** **19 44 24.3 -0.7**
EJIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
PBRG Braganca 44.02 298 *e*P **P** **19 44 25.6 +0.6**
comp=Z,38nm,1.8s,mb4.8
EPON Pontenova 44.13 300 P **P** **19 44 23.4 -2.5**
comp=Z,121nm,1.0s,mb5.6
ESPR Espera 44.23 290 P **P** **19 44 25.6 -1.1**
comp=Z,79nm,1.2s,mb5.3
ERUA La Rua 44.24 298 P **P** **19 44 25.7 -1.0**
comp=Z,31nm,1.0s,mb5.0
ERUA La Rua 44.24 298 P **P** **19 44 25.7 -1.0**
comp=Z,31nm,1.0s,mb5.0
ERUA La Rua 44.24 298 P **P** **19 44 25.7 -1.0**
ERUA pmax pmax
comp=Z,31nm,1.0s,mb5.0
MDT Midelt 44.25 284 P **P** **19 44 27.7 +0.9**
comp=Z,9.8nm,0.8s,mb4.6,baz=87,slow=9.9,SNR=20
MDT LR LR 20 04 18.2
comp=Z,248nm,21.3s,MS4.1,baz=297,slow=38
ZFT Errachidia 44.26 283 *i*P **P** **19 44 27.5 +0.6**
EMIN Mina Concepcio 44.68 292 P **P** **19 44 29.5 -0.8**
comp=Z,104nm,1.3s,mb5.5
EBAD Badajoz 44.74 293 P **P** **19 44 29.8 -0.9**
comp=Z,56nm,1.2s,mb5.3
LZH Lanzhou 44.79 71 *e*P **P** **19 44 30.0 -1.1**
LZH PP PP 19 46 19.3 +3.6
LZH *e*S **S** **19 51 05.3 -2.3**
LZH AMB AMB
comp=Z,61nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,256nm,7.2s
LZH LR LR
comp=E,1μm,14.2s
LZH LR LR
comp=Z,1μm,18.3s,MS5.0
PVRL Vila Real 44.83 297 *e*P **P** **19 44 32.0 +0.6**
comp=Z,58nm,1.5s,mb5.2
MTE Manteigas 44.84 296 *e*P **P** **19 44 32.0 +0.4**
comp=Z,71nm,1.7s,mb5.2
PCBR Castelo Branco 44.89 295 *e*P **P** **19 44 32.0 +0.1**
comp=Z,78nm,1.4s,mb5.3
SONM Songino Array 44.95 54 P **P** **19 44 32.7 +0.3**
comp=Z,3.8nm,1.1s,mb4.1,baz=222,slow=2.0,SNR=16
SONM ScP ScP 19 50 01.6 -3.8
comp=Z,1.2nm,1.0s,baz=249,slow=4.7,SNR=3.8
SONM LR LR 20 06 52.4
comp=Z,808nm,18.3s,MS4.7,baz=9.9,slow=41
ELOB Lobios 44.99 298 P **P** **19 44 32.5 -0.2**
comp=Z,53nm,0.8s,mb5.4
PVIS Viseu 45.05 296 *e*P **P** **19 44 33.3 +0.1**
comp=Z,62nm,1.4s,mb5.2
EGRO El Granado 45.35 292 P **P** **19 44 35.0 -0.7**
comp=Z,61nm,1.1s,mb5.3
ULN Ulaanbaatar 45.39 54 *e*P **P** **19 44 36.5 +0.6**
comp=Z,23nm,1.0s,mb5.0
ULN Ulaanbaatar 45.39 54 *e*P **P** **19 44 36.5 +0.6**
comp=Z,23nm,1.0s,mb5.0
ULN Ulaanbaatar 45.39 54 *e*P **P** **19 44 36.5 +0.6**
ULN pmax pmax
comp=Z,23nm,1.0s,mb5.0
EMAZ Mazaricos 45.50 299 P **P** **19 44 34.6 -2.2**
comp=Z,239nm,1.3s,mb6.0
PBEJ Beja 45.55 293 *e*P **P** **19 44 37.0 -0.1**
comp=Z,88nm,1.2s,mb5.6
EVO Evora 45.55 293 *e*P **P** **19 44 38.0 +0.8**
comp=Z,61nm,1.2s,mb5.1
EVO *e*R
comp=Z,764nm,22.8s
PTOM Tomar 45.64 295 *e*P **P** **19 44 38.9 +1.0**
comp=Z,97nm,1.4s,mb5.5
MOE Montemor 45.81 293 *e*P **P** **19 44 40.3 +1.0**
TZC Tazercounte 45.96 284 *i*P **P** **19 44 41.0 +0.6**
CD2 Chengdu 46.15 78 *e*P **P** **19 44 38.5 -3.4**
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
PTEO Sao Teotonio 46.31 292 *e*P **P** **19 44 44.1 +0.9**
comp=Z,66nm,1.3s,mb5.4
DGAR Diego Garcia 46.54 147 *e*P **P** **19 44 42.3 -2.7**
TORD Torodi Ar. Bea 47.27 256 P **P** **19 44 51.3 +0.6**
comp=Z,40nm,1.1s,mb5.2,baz=60,slow=6.2,SNR=116
KMI Kunming 47.36 85 P **P** **19 44 52.0 +0.6**
KMI PP PP 19 46 37.5 -5.1
KMI S **S** **19 51 41.8 -2.8**
KMI SS SS 19 55 02.8 -9.4
KMI AMB AMB
comp=Z,17nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,120nm,3.4s
KMI LR LR
comp=N,581nm,16.4s,MS4.7
KMI LR LR
comp=E,523nm,19.3s,MS4.7
KMI LR LR
comp=Z,351nm,23.2s,MS4.3
OUK Oukaimeden 47.37 283 *i*P **P** **19 44 52.0 +0.6**
CIA Chichaoua 47.98 284 *i*P **P** **19 44 55.0 -1.2**
JMIC Jan Mayen 48.10 338 LR LR 20 06 04.5
comp=Z,448nm,20.8s,MS4.4,baz=98,slow=37
BTO Baotou 48.52 63 *e*P **P** **19 45 00.0 -0.4**
CIT Chita 49.29 48 *e*P **P** **19 45 06.4 +0.2**
comp=Z,41nm,2.6s,mb5.0
CIT Chita 49.29 48 *e*P **P** **19 45 06.4 +0.2**
CIT pmax pmax
comp=Z,41nm,2.6s,mb5.0
BOD Bodaibo 49.32 40 *e*P **P** **19 45 05.8 -0.7**
comp=Z,12nm,1.4s,mb4.7
BOD Bodaibo 49.32 40 *e*P **P** **19 45 05.8 -0.7**
BOD pmax pmax
comp=Z,12nm,1.4s,mb4.7
XAN Xi'an 49.35 72 P **P** **19 45 05.8 -0.9**
XAN S **S** **19 52 12.5 -0.2**
XAN AMB AMB
comp=Z,30nm,1.5s,mb5.1
XAN AMB AMB
comp=Z,88nm,10.1s
XAN LR LR
comp=N,727nm,21.0s,MS4.8
XAN LR LR
comp=E,735nm,20.0s,MS4.8
XAN LR LR
comp=Z,584nm,20.0s,MS4.6
HHC Hu-ho-hao-te 49.62 62 *e*P **P** **19 45 08.5 -0.3**
HHC AP pP 19 45 13.3 -0.4
HHC PCP PcP 19 46 30.3 +0.2
HHC PP PP 19 47 03.3 +0.2
HHC S **S** **19 52 14.5 -1.9**
HHC SCS ScS 19 54 56.5 -3.4
HHC SS SS 19 55 41.8 -6.8
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.3
HHC LR LR
comp=N,1μm,22.5s
HHC LR LR
comp=E,479nm,13.7s
HHC LR LR
comp=Z,571nm,16.7s
GYA Guiyang 50.10 82 P **P** **19 45 10.5 -1.9**
GYA PP PP 19 47 05.3 -2.2
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.1
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,1μm,17.8s,MS5.1
GYA LR LR
comp=E,1μm,18.0s,MS5.1
GYA LR LR
comp=Z,1μm,18.4s,MS5.0
ENH Enshi 51.02 76 *e*P **P** **19 45 18.6 -0.8**
comp=Z,27nm,1.1s,mb5.1
LSZ Lusaka 52.38 205 P **P** **19 45 31.6 +2.1**
comp=Z,24nm,1.0s,mb5.1,baz=26,slow=7.5,SNR=27
LSZ Lusaka 52.38 205 *e*P **P** **19 45 31.4 +1.9**
comp=Z,32nm,1.0s,mb5.2
LSZ Lusaka 52.38 205 *e*P **P** **19 45 31.4 +1.9**
LSZ pmax pmax
comp=Z,32nm,1.0s,mb5.2
DAG Danmarks Havn 52.46 344⇑ *i*P **P** **19 45 29.1 -1.1**
comp=Z,11nm,0.9s,mb4.8
DAG Danmarks Havn 52.46 344⇑ *i*P **P** **19 45 29.1 -1.1**
DAG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BJI Beijing 53.22 62 P **P** **19 45 35.8 0.0**
BJI AMB AMB
comp=Z,14nm,1.3s,mb4.7
BJI AMB AMB
comp=Z,237nm,4.8s
BJI LR LR
comp=N,1μm,19.8s,MS5.1
BJI LR LR
comp=E,685nm,19.2s,MS5.1
BJI LR LR
comp=Z,696nm,22.0s,MS4.7
HIA Hailar 53.57 50 *e*P **P** **19 45 38.7 +0.4**
comp=Z,13nm,0.8s,mb4.9
HIA Hailar 53.57 50 *e*P **P** **19 45 38.7 +0.4**
comp=Z,13nm,0.8s,mb4.9
HIA Hailar 53.57 50 *e*P **P** **19 45 38.7 +0.4**
HIA pmax pmax
comp=Z,13nm,0.8s
WHN Wuhan 54.84 74 *e*P **P** **19 45 48.0 +0.4**
TIXI Tiksi 55.44 22 *e*P **P** **19 45 50.4 -1.5**
comp=Z,700nm,18.0s
TIXI Tiksi 55.44 22 *e*P **P** **19 45 50.4 -1.5**
TIXI pmax pmax
comp=Z,29nm,1.1s,mb5.2
TIXI MLR MLR
comp=Z,700nm,18.0s,MS4.8
PSI Prapat 55.88 112 P **P** **19 45 57.9 +2.8**
comp=Z,7.4nm,0.7s,mb4.8,baz=296,slow=6.2,SNR=5.8
QIZ Qiongzhong 55.93 89 P **P** **19 45 57.3 +1.9**
QIZ S **S** **19 53 43.3 +0.7**
QIZ LR LR
comp=N,588nm,21.9s,MS4.8
QIZ LR LR
comp=E,452nm,19.4s,MS4.8
QIZ LR LR
comp=Z,445nm,18.7s,MS4.6
DBIC Dimbokro 56.25 254 P **P** **19 45 58.0 +0.3**
comp=Z,11nm,1.0s,mb4.8,baz=30,slow=9.8,SNR=10.0
DBIC LR LR 20 13 17.5
comp=Z,793nm,18.6s,MS4.8,baz=31,slow=39
DBIC Dimbokro 56.25 254 *e*P **P** **19 45 58.1 +0.4**
comp=Z,12nm,0.8s,mb5.0
DBIC Dimbokro 56.25 254 *e*P **P** **19 45 58.1 +0.4**
comp=Z,12nm,0.8s,mb5.0
DBIC Dimbokro 56.25 254 *e*P **P** **19 45 58.1 +0.4**
DBIC pmax pmax
comp=Z,12nm,0.8s
LIC Lamto 56.65 254 *e*P **P** **19 46 00.8 +0.2**
comp=Z,42nm,0.8s,mb5.2
LIC *e*R
comp=Z,2μm,18.0s
LIC Lamto 56.65 254 *e*P **P** **19 46 00.8 +0.2**
comp=Z,21nm,0.8s,mb5.2
LIC LR LR
comp=Z,780nm,18.0s,MS4.8
YAK Yakutsk 56.82 34 *e*P **P** **19 46 01.6 -0.2**
comp=Z,13nm,1.4s,mb4.8
YAK Yakutsk 56.82 34 *e*P **P** **19 46 01.6 -0.2**
YAK pmax pmax
comp=Z,13nm,1.4s,mb4.8
YAK pmax pmax
comp=E,7.0nm,1.2s
SUMG Summit 57.53 339 *e*P **P** **19 46 06.0 -0.8**
comp=E,52nm,1.1s,mb5.5
NJ2 Nanjing 57.87 71 *e*P **P** **19 46 10.5 +1.3**
NJ2 AP pP 19 46 15.0 +0.8
NJ2 PP PP 19 48 20.3 +2.9
NJ2 S **S** **19 54 09.0 +0.8**
NJ2 XS sS 19 54 28.0 +12
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb5.2
NJ2 AMB AMB
comp=Z,70nm,4.7s
NJ2 LR LR
comp=N,2μm,27.1s,MS5.0
NJ2 LR LR
comp=E,770nm,26.3s,MS5.0
NJ2 LR LR
comp=Z,540nm,28.7s,MS4.5
SNY Shenyang 58.07 58 ⇓P **P** **19 46 11.5 +0.9**
SNY AP pP 19 46 18.0 +2.4
SNY XP sP 19 46 20.5 +3.0
SNY PP PP 19 48 17.5 -1.7
SNY S **S** **19 54 02.3 -8.6**
SNY SCS ScS 19 55 56.0 -3.6
SNY AMB AMB
comp=Z,9.0nm,0.7s,mb4.9
SNY AMB AMB
comp=Z,145nm,5.2s
SNY LR LR
comp=N,775nm,21.0s
SNY LR LR
comp=Z,396nm,21.0s,MS4.5
CN2 Changchun 58.76 56 *e*P **P** **19 46 16.5 +1.1**
CN2 *e*S **S** **19 54 18.5 -1.4**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,15.0s,MS5.1
CN2 LR LR
comp=E,500nm,15.0s,MS5.1
CN2 LR LR
comp=Z,800nm,17.0s,MS4.9
TSUM Tsumeb 60.31 214 P **P** **19 46 28.4 +2.3**
comp=Z,8.4nm,0.9s,mb4.8,baz=2.5,slow=7.5,SNR=16
KLR Kul'dur 61.17 48 *e*P **P** **19 46 28.8 -3.2**
KLR pmax pmax
comp=Z,50nm,1.6s,mb5.4
KLR MLR MLR
comp=N,500nm,14.0s,MS5.0
KLR MLR MLR
comp=E,600nm,14.0s,MS5.0
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.4
MDJ Mudanjiang 61.31 53 P **P** **19 46 31.5 -1.4**
MDJ PCS PcS 19 51 16.8 -1.3
MDJ S **S** **19 54 52.5 -0.2**
MDJ SS SS 19 58 53.0 0.0
MDJ AMB AMB
comp=Z,10.0nm,2.8s,mb4.5
MDJ AMB AMB
comp=Z,149nm,6.4s
MDJ LR LR
comp=N,662nm,26.4s,MS4.7
MDJ LR LR
comp=E,273nm,26.4s,MS4.7
MDJ LR LR
comp=Z,356nm,21.3s
LBTB Lobatse 62.27 204 *e*P **P** **19 46 41.0 +1.6**
comp=Z,91nm,1.0s,mb5.9
KS15 Wonju Array Si 62.72 62 *e*P **P** **19 46 42.1 -0.2**
SFJD Kangerlussuaq 63.10 334 P **P** **19 46 44.4 -0.5**
comp=Z,12nm,0.8s,mb5.0,baz=98,slow=7.5,SNR=4.7
SFJD LR LR 20 14 28.1
comp=Z,585nm,21.1s,MS4.7,baz=39,slow=36
SFJD Kangerlussuaq 63.10 334 *i*P **P** **19 46 44.8 -0.1**
comp=Z,19nm,1.1s,mb5.1
SFJD Kangerlussuaq 63.10 334 *i*P **P** **19 46 44.8 -0.1**
SFJD pmax pmax
comp=Z,19nm,1.1s,mb5.1
HABR Khabarovsk 63.48 48 *e*P **P** **19 46 45.8 -1.6**
BOSA Boshof 65.72 203 P **P** **19 47 03.4 +1.3**
comp=Z,39nm,0.9s,mb5.4,baz=26,slow=6.8,SNR=28
BOSA LR LR 20 16 55.4
comp=Z,665nm,18.1s,MS4.9,baz=207,slow=37
BOSA Boshof 65.72 203 *e*P **P** **19 47 03.3 +1.2**
comp=Z,55nm,1.0s,mb5.5
BOSA Boshof 65.72 203 *e*P **P** **19 47 03.3 +1.2**
comp=Z,55nm,1.0s,mb5.5
BOSA Boshof 65.72 203 *e*P **P** **19 47 03.3 +1.2**
BOSA pmax pmax
comp=Z,55nm,1.0s,mb5.5
SEY Seymchan 66.47 29 *e*P **P** **19 47 08.8 +1.9**
comp=Z,10.0nm,0.9s,mb4.8
SEY Seymchan 66.47 29 *e*P **P** **19 47 08.8 +1.9**
SEY *e* 19 47 37.5
SEY *e* 19 49 34.4
SEY *e*S S 19 55 55.7 -1.0
SEY 19 56 48.3
SEY SSS 20 03 03.8
SEY pmax pmax
comp=E,9.0nm,0.8s
SEY pmax pmax
comp=Z,19nm,0.8s,mb5.2
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY smax
comp=N,173nm,15.7s
SEY smax
comp=E,96nm,22.5s
SEY MLR MLR
comp=Z,490nm,28.0s,MS4.6
SEY MLR MLR
comp=N,370nm,26.0s,MS4.8
SEY MLR MLR
comp=E,740nm,31.0s,MS4.8
MA2 Magadan 67.35 33 *e*P **P** **19 47 13.2 +0.7**
comp=E,9.0nm,1.1s,mb4.7
MA2 Magadan 67.35 33 *e*P **P** **19 47 13.2 +0.7**
MA2 S S 19 56 09.8 +2.5
MA2 *e*PS 19 56 41.3
MA2 SSS 20 03 20.0
MA2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MA2 MLR MLR
comp=Z,1μm,27.5s,MS5.0
JOW Kunigami 67.50 72 P **P** **19 47 14.6 +1.1**
comp=Z,12nm,0.7s,mb5.0,baz=315,slow=7.5,SNR=3.6
JOW LR LR 20 18 06.3
comp=Z,500nm,21.6s,MS4.7,baz=120,slow=37
BILL Bilibino 68.61 21 *e*P **P** **19 47 19.9 -0.5**
comp=Z,50nm,1.3s,mb5.3
BILL Bilibino 68.61 21 *e*P **P** **19 47 19.6 -0.8**
comp=Z,46nm,1.2s,mb5.3
BILL Bilibino 68.61 21⇓ *e*P **P** **19 47 19.9 -0.5**
BILL *e* 19 47 29.3
BILL pmax pmax
comp=Z,50nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,300nm,15.0s,MS4.7
YSS Yuzh-Sakhalins 68.84 47 *e*P **P** **19 47 23.7 +1.8**
comp=Z,60nm,1.2s,mb5.4
YSS Yuzh-Sakhalins 68.84 47 *e*P **P** **19 47 22.9 +1.1**
comp=Z,21nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 68.84 47⇑ *e*P **P** **19 47 23.7 +1.8**
YSS *e* 19 47 46.9
YSS pmax pmax
comp=Z,60nm,1.2s,mb5.4
MJAR Matsushiro Arr 70.58 59 P **P** **19 47 33.1 +0.5**
comp=Z,4.2nm,0.9s,mb4.4,baz=293,slow=10,SNR=7.6
MJAR LR LR 20 21 01.9
comp=Z,179nm,19.1s,MS4.3,baz=285,slow=38
SCHQ Schefferville 76.11 327 P **P** **19 48 04.0 -1.2**
comp=Z,3.5nm,0.6s,mb4.5,baz=58,slow=5.2,SNR=12
SCHQ LR LR 20 24 02.4
comp=Z,212nm,19.1s,MS4.5,baz=237,slow=38
SCHQ Schefferville 76.11 327 P **P** **19 48 04.0 -1.2**
SCHQ LR LR 20 24 02.4
TNA Tin City 77.19 15 *e*P **P** **19 48 09.9 -1.4**
comp=Z,9.4nm,1.1s,mb4.6
INK Inuvik 78.43 1 P **P** **19 48 16.3 -1.9**
comp=Z,18nm,1.2s,mb4.9,baz=13,slow=8.4,SNR=8.4
INK Inuvik 78.43 1 *e*P **P** **19 48 16.4 -1.8**
comp=Z,14nm,1.1s,mb4.8
INK Inuvik 78.43 1 *e*P **P** **19 48 16.4 -1.8**
comp=Z,14nm,1.1s,mb4.8
INK Inuvik 78.43 1 *e*P **P** **19 48 16.4 -1.8**
INK pmax pmax
comp=Z,14nm,1.1s
COLA College 81.03 7 *e*P **P** **19 48 30.7 -1.6**
comp=Z,30nm,1.1s,mb5.1
COLA College 81.03 7 *e*P **P** **19 48 30.7 -1.6**
comp=Z,30nm,1.1s,mb5.1
COLA College 81.03 7 *e*P **P** **19 48 30.7 -1.6**
COLA pmax pmax
comp=Z,30nm,1.1s,mb5.1
ILAR Eielson Array 81.23 7 P **P** **19 48 31.9 -1.5**
comp=Z,6.1nm,0.8s,mb4.6,baz=334,slow=3.9,SNR=26
ILAR PP PP 19 51 36.5 -2.3
comp=Z,2.9nm,1.2s,baz=343,slow=7.9,SNR=4.0
ILAR PKKPbc PKKPbc 20 07 05.7 -2.9
comp=Z,0.6nm,0.6s,baz=189,slow=1.8,SNR=10
ILAR LR LR 20 28 17.3
comp=Z,136nm,19.6s,MS4.3,baz=178,slow=38
ILAR Eielson Array 81.23 7 P **P** **19 48 31.9 -1.5**
ILAR 19 51 36.5
MCK McKinley 82.03 8 *e*P **P** **19 48 35.7 -1.9**
comp=Z,16nm,1.2s,mb4.8
MCK McKinley 82.03 8 *e*P **P** **19 48 35.7 -1.8**
comp=Z,16nm,1.2s,mb4.8
MCK McKinley 82.03 8 *e*P **P** **19 48 35.7 -1.9**
MCK pmax pmax
comp=Z,16nm,1.2s,mb4.8
DAWY Dawson 82.49 4 *e*P **P** **19 48 38.4 -1.6**
YKW3 Yellowknife Ar 83.28 352 *e*P **P** **19 48 42.0 -2.1**

YKA	**Yellowknife Ar**	**83.35**	**352**	P	**P**	**19 48 42.7**	**-1.8**	
	comp=Z,8.8nm,1.1s,mb4.7,baz=12,slow=5.7,SNR=34							
YKA				LR	LR	20 30 27.8		
	comp=Z,185nm,20.6s,MS4.4,baz=35,slow=39							
YKA	**Yellowknife Ar**	**83.35**	**352**	P	**P**	**19 48 42.7**	**-1.8**	
YKA				LR	LR	20 30 27.8		
SML	**Sawmill**	**83.97**	**8**	*e*P	**P**	**19 48 46.4**	**-1.2**	
PMR	**Palmer**	**84.08**	**8**	P	**P**	**19 48 46.7**	**-1.5**	
PMR	**Palmer**	**84.08**	**8**	P	**P**	**19 48 46.7**	**-1.5**	
	comp=Z,11nm,0.9s,mb5.5							
DIV	**Divide**	**84.91**	**7**	*e*P	**P**	**19 48 51.0**	**-1.4**	
	comp=Z,103nm,1.2s,mb5.8							
KDAK	**Kodiak Island**	**87.25**	**11**	P	**P**	**19 49 04.1**	**+0.2**	
	comp=Z,16nm,0.6s,mb5.4,baz=184,slow=2.5,SNR=11							
KDAK				LR	LR	20 32 38.1		
	comp=Z,199nm,19.3s,MS4.5,baz=284,slow=39							
GUMO	**Guam**	**87.60**	**75**	LR	LR	20 31 20.5		
	comp=Z,118nm,19.9s,MS4.3,baz=288,slow=38							
DLBC	**Dease Lake**	**88.35**	**359**	*e*P	**P**	**19 49 08.9**	**-0.3**	
FFC	**Flin Flon**	**88.53**	**344**	P	**P**	**19 49 09.3**	**-0.8**	
FITZ	**Fitzroy Crossi**	**89.41**	**112**	*e*P	**P**	**19 49 12.9**	**-1.3**	
	comp=Z,12nm,0.9s,mb5.2							
FITZ	**Fitzroy Crossi**	**89.41**	**112**	P	**P**	**19 49 13.2**	**-0.9**	
	comp=Z,6.2nm,0.8s,mb5.0,baz=237,slow=8.4,SNR=8.3							
FITZ				LR	LR	20 30 45.3		
	comp=Z,174nm,19.2s,MS4.5,baz=143,slow=36							
ULM	**Lac du Bonnet**	**90.88**	**338**	P	**P**	**19 49 20.7**	**-0.3**	
	comp=Z,1.7nm,0.8s,mb4.4,baz=10,slow=4.8,SNR=3.7							
ULM				LR	LR	20 31 11.8		
	comp=Z,254nm,19.1s,MS4.7,baz=354,slow=36							
MUN	**Mundaring**	**91.02**	**128**	*e*P	**P**	**19 49 21.5**	**-0.2**	
KAKA	**Kakadu**	**91.76**	**104**	*e*P	**P**	**19 49 24.2**	**-0.9**	
	comp=Z,12nm,0.9s,mb5.2							
NWAO	**Narrogin (SRO)**	**92.29**	**128**	P	**P**	**19 49 28.2**	**+0.6**	
	comp=Z,8.1nm,0.8s,mb5.1,baz=316,slow=7.7,SNR=4.4							
WRA	**Warramunga Arr**	**97.24**	**109**	P	**P**	**19 49 51.2**	**+1.0**	
	comp=Z,1.3nm,0.8s,mb4.4,baz=319,slow=4.1,SNR=12							
WRA				PKKPbc	PKKPbc	20 06 28.5	-0.4	
	comp=Z,0.5nm,0.9s,baz=4.4,slow=29,SNR=4.7							
ASAR	**Alice Springs**	**98.91**	**112**	P	**P**	**19 49 55.8**	**-2.0**	
	comp=Z,0.9nm,0.9s,mb4.3,baz=312,slow=4.9,SNR=8.4							
ASAR				PKKPbc	PKKPbc	20 06 23.8	-0.5	
	comp=Z,0.7nm,0.9s,baz=128,slow=3.8,SNR=4.2							
SYO	**Syowa Base**	**102.48**	**183**	⇊*e*Pdiff	Pdif	19 50 18.0	+4.4	
CPUP	**Villa Florida**	**116.76**	**255**	PKP	PKPdf	19 55 02.2	+0.5	
	comp=Z,0.5nm,0.5s,baz=45,slow=5.1,SNR=3.3							
LPAZ	**La Paz**	**121.06**	**270**	PKP	PKPdf	19 55 10.7	+0.7	
	comp=Z,1.6nm,0.7s,baz=3.8,slow=1.3,SNR=5.5							
QSPA	**South Pole Qui**	**123.39**	**180**	*e*P	PKPdf	19 55 13.0	-1.5	
PLCA	**Paso Flores**	**131.93**	**243**	PKP	PKPdf	19 55 32.3	+1.5	
	comp=Z,2.4nm,0.9s,baz=206,slow=3.2,SNR=3.1							
PLCA				SKPbc	SKPbc	19 58 54.0	-2.1	
	comp=Z,4.5nm,1.1s,baz=298,slow=1.5,SNR=4.9							

IDC ***30*** *20:16:53.6±1.2,2587N×12830E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.5/21,mbtmp3.6/5,Error ellipse: s-maj=45.4km s-min=10.7km az=88.0*
ISCJB ***30*** *20:16:54.6±1.1,2589N±006×12853E±005,h27km±8km, mb3.5/5,Error ellipse: s-maj=9.8km s-min=8.0km az=32.0*
JMA ***30*** *20:16:54.1±0.2,2581N×12852E,h44km,M3.4*
ISC 30 20:16:54.6±1.2,2593N±005×12853E±005,h16km±8km, n15,σ0§99/20,mb3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.74**	**287**	P	**Pg**	**20 17 08.4**	**-0.6**
JJT2				S	**Sg**	**20 17 19.7**	**+1.0**
NAH1	**Naha**	**0.81**	**290**	P	**Pg**	**20 17 09.7**	**-0.6**
NAH1				S	**Sg**	**20 17 20.4**	**-0.5**
JOW	**Kunigami**	**0.93**	**346**	Pg	**Pg**	**20 17 12.6**	**-0.1**
	140nm,0.3s,baz=164,slow=14,SNR=198						
JOW				Lg		20 17 24.8	
	162nm,0.3s,baz=359,slow=26,SNR=28						
JOW	**Kunigami**	**0.93**	**346**	P	**Pg**	**20 17 12.4**	**-0.3**
JOW				S	**Sg**	**20 17 26.0**	**+1.1**
JIH	**Iheya**	**1.21**	**335**	P	**Pn**	**20 17 16.8**	**-0.2**
JIH				S	**Sb**	**20 17 32.1**	**-0.6**
JAGN	**Aguni-jima**	**1.33**	**300**	P	**Pn**	**20 17 17.5**	**-1.1**
JKE	**Kume jima 2**	**1.62**	**285**	P	**Pn**	**20 17 21.0**	**-1.6**
JTK	**Tokunoshima**	**1.89**	**11**	P	**Pn**	**20 17 26.3**	**+0.1**
JMZ	**Minamidaito 2**	**2.42**	**92**	P	**Pn**	**20 17 33.3**	**-0.3**
JMZ				S	**Sn**	**20 18 01.6**	**-1.3**
JAM	**Amami Oshima**	**2.65**	**21**	P	**Pn**	**20 17 37.2**	**+0.5**
SONM	**Songino Array**	**27.95**	**327**	P	**P**	**20 22 46.6**	**+2.3**
	0.2nm,0.4s,mb3.1,baz=149,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**41.94**	**312**	P	**P**	**20 24 43.8**	**-0.8**
	0.2nm,0.5s,mb3.0,baz=95,slow=9.7,SNR=6.5						
WRA	**Warramunga Arr**	**45.94**	**172**	P	**P**	**20 25 17.7**	**+0.9**
	1.4nm,0.6s,mb4.0,baz=353,slow=8.4,SNR=15						
ASAR	**Alice Springs**	**49.57**	**174**	P	**P**	**20 25 46.5**	**+1.6**
	0.5nm,0.7s,mb3.7,baz=4.9,slow=14,SNR=7.0						
BVAR	**Borovoye Array**	**50.68**	**318**	P	**P**	**20 25 53.8**	**+0.5**
	0.3nm,0.4s,mb3.6,baz=92,slow=8.2,SNR=4.9						

ISCJB ***30*** *20:22:00.6±0.3,4309N±002×0.17E±002,h8km±2km,Error ellipse: s-maj=3.0km s-min=2.3km az=162.0*
STR ***30*** *20:22:01.8±0.1,4300N×0.14E,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***30*** *20:22:02.5±0.2,4300N×0.14E,h6km±3km,mbLg1.7/14, Error ellipse: s-maj=2.2km s-min=1.5km az=14.0,PRXIMO*
CSEM ***30*** *20:22:02.1±0.1,4301N×0.14E,h5km,ML2.5/10,Error ellipse: s-maj=0.9km s-min=0.8km az=149.0*
LDG ***30*** *20:22:02.0±0.0,4301N×0.13E,h4km,Md2.4/2,Ml2.4/7, Error ellipse: s-maj=0.9km s-min=0.7km az=4.0*
ISC 30 20:22:01.5±0.2,4305N±002×016E±002,h10km±2km,n68, σ0§84/113,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**268**	Pg	**Pg**	**20 22 04.1**	**+0.4**
LABF				Sg	**Sg**	**20 22 05.7**	**+0.5**
LABF	**Labassere**	**0.06**	**268**	P	**Pg**	**20 22 04.2**	**+0.5**
LABF				S	**Sg**	**20 22 05.7**	**+0.5**
EPF	**Esparros**	**0.14**	**98**	*e*Pg	**Pg**	**20 22 05.4**	**+0.7**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**20 22 07.6**	**+0.7**
	74nm,0.2s						
EPF	**Esparros**	**0.14**	**98**	*e*Pg	**Pg**	**20 22 05.4**	**+0.7**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**20 22 07.6**	**+0.7**
	37nm,0.2s						
VIEF	**Viey**	**0.19**	**210**	Pg	**Pg**	**20 22 05.3**	**-0.3**
VIEF				Sg	**Sg**	**20 22 07.5**	**-0.9**
VIEF	**Viey**	**0.19**	**210**	P	**Pg**	**20 22 05.3**	**-0.3**
VIEF				S	**Sg**	**20 22 07.6**	**-0.7**
RESF	**Ens**	**0.28**	**151**	Pg	**Pg**	**20 22 06.9**	**-0.2**
RESF				Sg	**Sg**	**20 22 10.9**	**0.0**
RESF	**Ens**	**0.28**	**151**	P	**Pg**	**20 22 07.1**	**0.0**
RESF				S	**Sg**	**20 22 10.9**	**0.0**
EBIE	**Bielsa**	**0.36**	**181**	Pg	**Pg**	**20 22 08.3**	**-0.4**
	28nm,0.3s,SNR=43						
EBIE				Lg		20 22 12.5	
	61nm,0.1s,SNR=4.7						
EBIE	**Bielsa**	**0.36**	**181**	Pg	**Pg**	**20 22 08.3**	**-0.4**
	28nm,0.3s,SNR=43						
EBIE				Lg		20 22 12.5	
	61nm,0.1s,SNR=4.7						
REYF	**Montagne du Re**	**0.40**	**273**	Pg	**Pg**	**20 22 09.5**	**+0.1**
REYF				Sg	**Sg**	**20 22 15.4**	**+0.6**
REYF	**Montagne du Re**	**0.40**	**273**	P	**Pg**	**20 22 09.5**	**+0.1**
REYF				S	**Sg**	**20 22 15.4**	**+0.6**
MELF	**Melles**	**0.48**	**111**	P	**Pg**	**20 22 10.8**	**0.0**
MELF				S	**Sg**	**20 22 17.1**	**0.0**
ETSF	**Etsaut**	**0.55**	**254**	*e*Pg	**Pg**	**20 22 11.8**	**-0.3**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**20 22 18.6**	**-0.7**
	29nm,0.2s,SNR=1.0						
ETSF	**Etsaut**	**0.55**	**254**	*e*Pg	**Pg**	**20 22 11.8**	**-0.3**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**20 22 18.6**	**-0.7**
	15nm,0.2s,SNR=1.0						
FDAF	**Les Forges d'A**	**0.58**	**247**	P	**Pg**	**20 22 12.4**	**-0.3**
FDAF				S	**Sg**	**20 22 20.0**	**-0.4**
ATE	**Arette**	**0.63**	**274**	Pg	**Pg**	**20 22 13.5**	**-0.2**
ATE				Sg	**Sg**	**20 22 22.1**	**+0.2**
ATE	**Arette**	**0.63**	**274**	P	**Pg**	**20 22 13.9**	**+0.2**
ATE				S	**Sg**	**20 22 22.5**	**+0.5**
SALF	**Salau**	**0.81**	**110**	Pg	**Pg**	**20 22 17.2**	**0.0**
SALF				Sg	**Sg**	**20 22 27.7**	**-0.1**
SALF	**Salau**	**0.81**	**110**	P	**Pg**	**20 22 17.2**	**0.0**
SALF				S	**Sg**	**20 22 27.7**	**-0.1**
LARF	**Larrau**	**0.84**	**270**	P	**Pg**	**20 22 17.7**	**0.0**
LARF				S	**Sg**	**20 22 28.8**	**+0.3**
EGRA	**Graus**	**0.86**	**172**	Pg	**Pg**	**20 22 18.1**	**0.0**
	1.5nm,0.2s,SNR=9.8						
EGRA				Lg		20 22 28.9	
	3.6nm,0.2s,SNR=6.1						
CSOR	**Sort**	**0.99**	**133**	Pg	**Pg**	**20 22 20.3**	**-0.2**
SJPF	**Ste Jean**	**1.01**	**274**	*e*Pg	**Pg**	**20 22 20.7**	**-0.3**
SJPF	**Ste Jean**	**1.01**	**274**	*e*Pn	**Pn**	**20 22 21.4**	**-0.3**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**20 22 33.9**	**-0.3**
	3.8nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**1.01**	**274**	Pg	**Pg**	**20 22 20.7**	**-0.3**
SJPF				Pn	**Pn**	**20 22 21.4**	**-0.3**
SJPF				Lg		20 22 33.9	
	1.9nm,0.2s						
SJPF	**Ste Jean**	**1.01**	**274**	*e*Pn	**Pn**	**20 22 21.4**	**-0.3**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**20 22 33.9**	**-0.3**
	1.9nm,0.2s,SNR=1.0						
IPRE	**Itoiz**	**1.14**	**258**	Lg		20 22 40.1	
	2.7nm,0.2s,SNR=7.9						
CORG	**Organya**	**1.19**	**133**	Pn	**Pn**	**20 22 23.0**	**-1.1**
EALK	**Alkurruntz**	**1.23**	**279**	Pg	**Pg**	**20 22 25.8**	**+0.7**
	12nm,0.9s,SNR=7.1						
EALK				Lg		20 22 41.3	
	1.2nm,0.1s						
EALK	**Alkurruntz**	**1.23**	**279**	Pg	**Pg**	**20 22 28.0**	**+2.9**
	12nm,0.9s,SNR=7.1						
CAVN	**Les Avellanes**	**1.25**	**159**	Pg	**Pg**	**20 22 25.0**	**-0.5**
IUNC	**Unciti**	**1.25**	**257**	Pg	**Pg**	**20 22 26.3**	**+0.8**
	1.1nm,0.2s,SNR=7.9						
IUNC				Lg		20 22 42.3	
	5.6nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**1.25**	**257**	Pg	**Pg**	**20 22 28.1**	**+2.6**
	1.1nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.25**	**266**	Pg	**Pg**	**20 22 26.5**	**+0.9**
	0.8nm,0.1s,SNR=7.9						
IUSE				Lg		20 22 43.1	
	1.9nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.25**	**266**	Pg	**Pg**	**20 22 28.0**	**+2.4**
	0.8nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.41**	**199**	Pg	**Pg**	**20 22 28.6**	**+0.2**
	11nm,0.3s,SNR=7.0						
ESAC				Sn	**Sn**	**20 22 45.6**	**-0.1**
	3.5nm,0.1s,SNR=4.0						
ESAC				Lg		20 22 46.9	
	41nm,0.2s,SNR=86						
ESAC	**San Caprasio**	**1.41**	**199**	Pg	**Pg**	**20 22 28.6**	**+0.1**
	11nm,0.3s,SNR=7.0						
ESAC				Sn	**Sn**	**20 22 45.6**	**0.0**
	3.5nm,0.1s,SNR=4.0						
CLLI	**Llivia**	**1.46**	**112**	Pg	**Pg**	**20 22 29.3**	**-0.2**
CARF	**Carcanieres**	**1.47**	**102**	S	**Sn**	**20 22 49.1**	**+1.8**
VALF	**Valcebollere**	**1.52**	**115**	S	**Sn**	**20 22 51.0**	**+2.6**
MTLF	**Montolieu**	**1.54**	**78**	*e*Pn	**Pn**	**20 22 28.9**	**0.0**
	SNR=1.0						
MTLF	**Montolieu**	**1.54**	**78**	*e*Pg	**Pg**	**20 22 31.0**	**0.0**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**20 22 48.4**	**-0.5**
MTLF				*e*Sg	**Sg**	**20 22 51.2**	**+0.3**
	9.0nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**1.54**	**78**	Pn	**Pn**	**20 22 28.9**	**0.0**
MTLF				Pg	**Pg**	**20 22 31.0**	**0.0**
MTLF				Sn	**Sn**	**20 22 48.4**	**-0.5**
MTLF				Lg		20 22 51.2	
	0.0nm,0.2s						
MTLF	**Montolieu**	**1.54**	**78**	*e*Pg	**Pg**	**20 22 31.0**	**0.0**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**20 22 48.4**	**-0.5**
MTLF				*e*Sg	**Sg**	**20 22 51.2**	**+0.3**
	4.5nm,0.2s,SNR=1.0						
EPOB	**Poblet**	**1.83**	**158**	Pg	**Pg**	**20 22 35.0**	**-1.6**
	0.6nm,0.2s,SNR=7.9						
EPOB				Lg		20 22 58.4	
	4.6nm,0.2s,SNR=11						
EPOB	**Poblet**	**1.83**	**158**	Pg	**Pg**	**20 22 35.0**	**-1.6**
	0.6nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.94**	**12**	*e*Pg	**Pg**	**20 22 38.5**	**-0.1**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**20 22 58.3**	**-0.5**
LFF				*e*Sg	**Sg**	**20 23 04.2**	**+0.4**
	8.6nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**1.94**	**12**	*e*Pg	**Pg**	**20 22 38.5**	**-0.1**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**20 22 58.3**	**-0.5**
LFF				*e*Sg	**Sg**	**20 23 04.2**	**+0.4**
	4.3nm,0.4s,SNR=1.0						
ECRI	**Cripan**	**2.01**	**258**	Pn	**Pn**	**20 22 36.0**	**+0.6**
	0.6nm,0.2s,SNR=4.0						
ECRI				Lg		20 23 06.7	
	2.2nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**2.01**	**258**	Pn	**Pn**	**20 22 38.0**	**+2.6**
	0.6nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**2.10**	**176**	Pg	**Pg**	**20 22 40.1**	**-1.6**
	0.4nm,0.1s,SNR=7.9						
ERTA				Lg		20 23 06.6	
	4.8nm,0.2s,SNR=12						
ERTA	**Horta de San J**	**2.10**	**176**	Pg	**Pg**	**20 22 40.1**	**-1.6**
	0.4nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.10**	**106**	Sn	**Sn**	**20 23 04.6**	**+1.8**
	2.1nm,0.2s,SNR=7.9						
EJON				Lg		20 23 10.2	
	1.0nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.10**	**106**	Pn	**Pn**	**20 22 40.0**	**+3.3**
	0.2nm,0.1s,SNR=4.0						
EJON				Sn	**Sn**	**20 23 04.6**	**+1.8**
	2.1nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**2.12**	**127**	Pg	**Pg**	**20 22 42.0**	**-0.2**
CAF	**Calviac**	**2.33**	**36**	*e*Pn	**Pn**	**20 22 39.9**	**+0.1**
CAF	**Calviac**	**2.33**	**36**	*e*Pg	**Pg**	**20 22 45.9**	**-0.2**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**20 23 07.9**	**-0.5**
CAF				*e*Sg	**Sg**	**20 23 16.7**	**+0.4**
	2.7nm,0.2s						
CAF	**Calviac**	**2.33**	**36**	*e*Pg	**Pg**	**20 22 45.9**	**-0.2**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**20 23 07.9**	**-0.5**
CAF				*e*Sg	**Sg**	**20 23 16.7**	**+0.4**
	1.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.46**	**23**	*e*Pg	**Pg**	**20 22 48.4**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**20 23 11.2**	**-0.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**20 23 20.3**	**-0.2**
	3.5nm,0.3s						
RJF	**Les Rejaudoux**	**2.46**	**23**	*e*Pg	**Pg**	**20 22 48.4**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**20 23 11.2**	**-0.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**20 23 20.3**	**-0.2**
	1.8nm,0.3s						
EMOS	**Mosqueruela**	**2.72**	**190**	Sn	**Sn**	**20 23 17.3**	**-0.8**
	0.5nm,0.2s,SNR=4.0						
EMOS				Lg		20 23 25.7	
	0.6nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.72**	**190**	Pn	**Pn**	**20 22 48.1**	**+2.9**
	0.1nm,0.1s,SNR=4.0						
EMOS				Sn	**Sn**	**20 23 17.3**	**-0.9**
	0.5nm,0.2s,SNR=4.0						
LASF	**Ste Croix**	**2.88**	**68**	*e*Pn	**Pn**	**20 22 46.9**	**-0.5**
	SNR=1.0						
LASF	**Ste Croix**	**2.88**	**68**	*e*Pg	**Pg**	**20 22 55.9**	**-0.8**
LASF				*e*Sg	**Sg**	**20 23 33.5**	**-0.5**
	5.4nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**2.88**	**68**	*e*Pg	**Pg**	**20 22 55.9**	**-0.8**
LASF				*e*Sg	**Sg**	**20 23 33.5**	**-0.5**
	2.7nm,0.5s,SNR=1.0						
MFF	**Saint Martin d**	**3.56**	**357**	*e*Sn	**Sn**	**20 23 36.8**	**-2.0**
	9.3nm,0.8s,SNR=1.0						
MFF	**Saint Martin d**	**3.56**	**357**	*e*Sn	**Sn**	**20 23 36.8**	**-2.0**
	4.7nm,0.8s,SNR=1.0						

TIF ***30*** *20:28:44.6,4229N×4545E,h14km±2km*
ISCJB ***30*** *20:28:45.3±0.3,4217N×4561E±003,h10km,mb3.2/1, Error ellipse: s-maj=4.6km s-min=2.5km az=131.7*
MOS ***30*** *20:28:46.4±1.3,4221N×4553E,h21km,mb4.1/1,Error ellipse: s-maj=8.6km s-min=7.9km az=62.7*
CSEM ***30*** *20:28:48.3±0.1,4212N×4564E,h40km,mb4.1,Error ellipse: s-maj=3.2km s-min=1.9km az=155.0*
NNC ***30*** *20:28:51.9±5.5,4209N×4618E,h17km±52km,mb3.3, Error ellipse: s-maj=44.6km s-min=31.0km az=95.0*
ISC 30 20:28:46.5±0.3,4218N±003×4557E±003,h10km,n51, σ1§49/74,mb3.2/1,9C-3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	**Dusheti**	**0.65**	**263**	P	**Pg**	**20 28 56.1**	**-3.1**
DUS				S	**Sg**	**20 29 04.7**	**-2.9**
BTLR	**Botlikh**	**0.69**	**44**	⇑*i*PG	**Pg**	**20 28 56.7**	**-3.1**
BTLR				*i* S	**Sg**	**20 29 07.7**	**-1.0**
BTLR				pmax	pmax		
	comp=Z,852nm,0.4s						
DGRG	**David-gareji**	**0.74**	**192**	P	**Pg**	**20 29 02.7**	**+1.9**
DGRG				S	**Sg**	**20 29 16.1**	**+5.7**
MTA	**Mtatsminda**	**0.75**	**231**	P	**Pg**	**20 28 59.9**	**-1.2**
MTA				S	**Sg**	**20 29 10.7**	**-0.2**
TBLG	**Delisi**	**0.76**	**235**	P	**Pg**	**20 28 59.9**	**-1.3**
TBLG				S	**Sg**	**20 29 10.7**	**-0.5**
XNZR	**Khunzakh**	**0.92**	**66**	*i* Pg	**Pg**	**20 29 04.6**	**+0.5**
	comp=Z,254nm,0.2s						
XNZR				*i* Sg	**Sg**	**20 29 18.8**	**+2.7**
XNZR	**Khunzakh**	**0.92**	**66**	*i* PG	**Pg**	**20 29 04.6**	**+0.5**
XNZR				*i* S	**Sg**	**20 29 18.8**	**+2.7**
XNZR				pmax	pmax		
	comp=Z,254nm,0.2s						
GOR	**Gori**	**1.10**	**261**	P	Px	20 29 24.0	
GOR				S	Sx	20 29 38.1	
GOR	**Gori**	**1.10**	**261**	P	Px	20 29 24.2	
GOR				S	Sx	20 29 38.6	
KMKR	**Kumukh**	**1.14**	**92**	*i* Pg	**Pg**	**20 29 07.5**	**-0.8**
	comp=Z,235nm,0.3s						
KMKR	**Kumukh**	**1.14**	**92**	*i* PG	**Pg**	**20 29 07.5**	**-0.8**
KMKR				*i* S	**Sb**	**20 29 24.5**	**+1.5**
KMKR				pmax	pmax		
	comp=Z,235nm,0.3s						
DLMR	**Dylym**	**1.19**	**41**	*i* Sg	**Sb**	**20 29 23.5**	**-1.0**
DLMR	**Dylym**	**1.19**	**41**	*i* PG	**Pg**	**20 29 05.8**	**-3.5**
DLMR				*i* S	**Sb**	**20 29 23.5**	**-1.0**
DLMR				pmax	pmax		
	comp=Z,829nm,0.3s						
DBC	**Dubki**	**1.26**	**47**	*i* Pg	**Pg**	**20 29 08.0**	**-2.6**
	comp=Z,259nm,0.4s						
DBC				*i* Sg	**Sb**	**20 29 24.5**	**-2.0**
DBC	**Dubki**	**1.26**	**47**	*i* PG	**Pg**	**20 29 08.0**	**-2.6**
DBC				*i* S	**Sb**	**20 29 24.5**	**-2.0**
DBC				pmax	pmax		
	comp=Z,259nm,0.4s						
BUJR	**Buynaksk**	**1.31**	**60**	*e*Pg	**Pg**	**20 29 10.0**	**-1.6**
	comp=Z,156nm,0.2s						
BUJR	**Buynaksk**	**1.31**	**60**	*e*PG	**Pg**	**20 29 10.0**	**-1.6**
BUJR				*i* S	**Sb**	**20 29 30.0**	**+2.0**
BUJR				pmax	pmax		
	comp=Z,156nm,0.2s						
ZEI	**Tsey**	**1.37**	**296**	*e*Sg	**Sg**	**20 29 31.4**	**+0.7**
ZEI	**Tsey**	**1.37**	**296**	*d i*PG	**Pg**	**20 29 08.4**	**-4.5**
ZEI				*e*		20 29 31.4	
SGKR	**Sergokala**	**1.57**	**79**	*i* PG	**Pg**	**20 29 15.0**	**-1.7**
SGKR				*i* S	**Sn**	**20 29 42.5**	**+7.6**
BKR	**Bakuriani**	**1.60**	**255**	P	**Pn**	**20 29 13.4**	**-1.5**
BKR				S	**Sn**	**20 29 34.9**	**-0.8**
MAK	**Makhachkala**	**1.63**	**61**	*c i*PN	**Pn**	**20 29 18.0**	**+2.8**
MAK				*i*		20 29 44.5	
MAK				pmax	pmax		
	comp=Z,729nm,0.8s						
MAK				smax			
	comp=N,1μm,0.5s						
AKH	**Akhalkalaki**	**1.73**	**245**	P	**Pn**	**20 29 14.9**	**-1.8**
AKH				S	**Sn**	**20 29 37.3**	**-1.5**
GNI	**Garni**	**2.12**	**197**	*e*Pn	**Pn**	**20 29 23.9**	**+1.9**
KUBR	**Kubataba**	**2.27**	**316**	*i* PN	**Pn**	**20 29 25.0**	**+1.0**
KUBR				*i* S	**Sn**	**20 29 55.6**	**+3.5**
DIGO	**Kars**	**2.42**	**224**	*i* P	**Pn**	**20 29 27.5**	**+1.5**
PYA	**Pyatigorsk**	**2.62**	**316**	*i* PN	**Pn**	**20 29 28.7**	**-0.1**
PYA				*e*S	**Sn**	**20 30 02.6**	**+2.0**
SHAR	**Shatzhatmas**	**2.65**	**307**	*i* PN	**Pn**	**20 29 29.3**	**+0.1**
SHAR				*i* S	**Sn**	**20 30 03.3**	**+2.0**
KIV	**Kislovodsk**	**2.76**	**311**	*i* PN	**Pn**	**20 29 30.6**	**-0.2**
KIV				*i* S	**Sn**	**20 30 05.5**	**+1.3**
ARTV	**Artvin**	**2.90**	**251**	*i* P	**Pn**	**20 29 33.5**	**+0.7**
NAGR	**Nagutskaya**	**3.06**	**319**	*e*PN	**Pn**	**20 29 26.4**	**-8.5**
GOF	**Gofitskoye**	**3.42**	**328**	*e*PN	**Pn**	**20 29 42.0**	**+2.1**
GOF				*i* S	**Sn**	**20 30 27.3**	**+6.9**
GOF				pmax	pmax		
	comp=Z,30nm,0.8s						
GOF				smax			
	comp=N,120nm,0.9s		

ANCH *i* S **Sn** **20 38 03.4 -2.0**
CPN1 Cerro Paranal 3.41 233⇑ *i*P **Pn** **20 37 35.4 +0.4**
CPN1 *i* S **Sn** **20 38 13.8 -1.9**
CPN1 AMP 20 38 15.4
comp=E,1μm,0.1s
CRCH Chaqaral 4.74 217 *i* S **Sn** **20 38 42.9 -4.2**
CDCH Caldera 5.43 214 *e*P **Pn** **20 37 58.8 -2.9**
CDCH *i* S **Sn** **20 38 56.4 -7.1**
LPAZ La Paz 6.30 354 P **Pn** **20 38 14.6 +1.4**
comp=E,11nm,0.3s,baz=160,slow=6.9,SNR=111
LPAZ S **Sn** **20 39 23.6 -0.5**
comp=E,1.9nm,0.3s,baz=331,slow=13,SNR=6.6
LPAZ La Paz 6.30 354 *e*P **Pn** **20 38 14.7 +1.5**
comp=E,40nm,0.6s
LPAZ *e*S **Sn** **20 39 23.2 -0.9**
SIV San Ignacio 8.88 44 P **Pn** **20 38 46.4 -1.4**
comp=E,12nm,0.3s,baz=219,slow=11,SNR=168
SIV S **Sn** **20 40 10.8 -15**
comp=E,5.4nm,0.3s,baz=241,slow=11,SNR=6.8
CFAA Coronel Fontan 9.01 184 P **Pn** **20 38 48.6 -0.8**
comp=E,0.2nm,0.3s,baz=352,slow=8.8,SNR=9.3
CPUP Villa Florida 9.92 114 P **Pn** **20 39 01.6 +0.1**
comp=E,0.7nm,0.3s,baz=279,slow=12,SNR=20
CPUP Villa Florida 9.92 114 *e*P **Pn** **20 39 02.6 +1.1**
comp=E,43nm,0.8s
SAML Samuel 14.16 17 *e*P **Pn** **20 39 55.2 -1.3**
comp=E,1.9nm,0.6s
TRQA Tornquist 16.11 164 *e*P **Pn** **20 40 19.9 -0.9**
comp=E,21nm,1.0s
PLCA Paso Flores 18.29 188 P **P** **20 40 45.9 +0.8**
comp=E,0.7nm,0.3s,baz=12,slow=14,SNR=21
PLCA Paso Flores 18.29 188 *e*P **P** **20 40 45.9 +0.9**
comp=E,9.2nm,0.8s
BDFB Brasilia 19.59 73 P **P** **20 40 59.9 +0.7**
comp=E,1.6nm,0.3s,baz=258,slow=12,SNR=28
JCT Junction City 61.24 328 *e*P **P** **20 46 41.4 -0.5**
comp=E,8.9nm,0.8s,mb4.7
DBIC Dimbokro 67.73 72 P **P** **20 47 24.5 +0.4**
comp=E,2.0nm,0.6s,mb4.0,baz=226,slow=7.4,SNR=4.3
ANMO Albuquerque 68.16 326 P **P** **20 47 26.6 -0.2**
comp=E,2.9nm,0.6s,mb4.2,baz=160,slow=7.4,SNR=5.1
SRU San Rafael 73.44 326 *e*P **P** **20 47 58.7 +0.1**
comp=E,2.2nm,0.7s,mb4.0
CCUT Cedar City 73.79 324 *e*P **P** **20 48 02.4 +1.7**
MSU Marysvale 73.85 325 *e*P **P** **20 48 01.8 +0.7**
MSU *e*PcP PcP 20 48 16.5 +0.7
RSSD Black Hills 74.37 334 *e*P **P** **20 48 04.3 +0.2**
comp=E,4.4nm,0.9s,mb4.2
DAU Daniels Canyon 74.78 327 *e*P **P** **20 48 07.6 +1.1**
SYO Syowa Base 75.00 159⇓ *e*P **P** **20 48 08.1 +0.4**
PDAR Pinedale Array 75.74 329 P **P** **20 48 10.8 -1.1**
comp=E,1.2nm,0.7s,mb3.7,baz=132,slow=5.9,SNR=11
VNDA Vanda 76.02 190 P **P** **20 48 14.2 +0.6**
comp=E,1.7nm,0.8s,mb3.7,baz=122,slow=3.1,SNR=8.1
TORD Torodi Ar. Bea 76.43 69 P **P** **20 48 16.1 +0.3**
comp=E,9.7nm,0.6s,mb4.6,baz=254,slow=5.5,SNR=158
ULM Lac du Bonnet 76.77 342 P **P** **20 48 16.3 -1.4**
comp=E,6.2nm,0.5s,mb4.5,baz=152,slow=6.4,SNR=20
ELK Elko 77.10 325 *e*P **P** **20 48 19.9 +0.3**
comp=E,3.5nm,1.0s,mb3.9
SCHQ Schefferville 77.10 0 P **P** **20 48 18.5 -1.1**
comp=E,3.3nm,0.8s,mb4.0,baz=246,slow=11,SNR=5.0
HLID Hailey 78.69 327 *e*P **P** **20 48 29.4 +1.0**
comp=E,9.2nm,1.0s,mb4.4
BOSA Boshof 81.72 117 P **P** **20 48 45.4 +0.8**
comp=E,3.6nm,1.0s,mb4.0,baz=274,slow=10,SNR=5.9
YBH Yreka Blue Hor 81.91 322 P **P** **20 48 44.3 -1.3**
comp=E,0.6nm,0.3s,mb3.7,baz=104,slow=4.2,SNR=3.1
MAW Mawson 82.90 163 P **P** **20 48 51.0 +0.3**
comp=E,4.8nm,0.6s,mb4.4,baz=222,slow=5.6,SNR=7.4
MAW Mawson 82.90 163 *e*P **P** **20 48 51.0 +0.3**
YKA Yellowknife Ar 92.67 340 P **P** **20 49 36.5 -1.1**
comp=E,2.5nm,0.6s,mb4.5,baz=133,slow=4.6,SNR=67
WRA Warramunga Arr 132.69 208 PKP PKPdf 20 55 40.6 +0.8
comp=E,2.9nm,0.6s,baz=171,slow=1.7,SNR=17
BVAR Borovoye Array 135.89 36 PKP PKPdf 20 55 46.4 +0.6
comp=E,1.0nm,0.8s,baz=300,slow=3.2,SNR=5.3
ZAL Zalesovo 142.32 27 PKP PKPdf 20 55 57.0 -0.5
comp=E,1.4nm,0.6s,baz=80,slow=0.8,SNR=5.7
MKAR Makanchi Array 145.67 38 PKPbc PKPbc 20 56 03.5 -0.4
comp=E,4.0nm,0.7s,baz=354,slow=2.5,SNR=64
HYB Hyderabad 147.66 93 *i* PKP PKPdf 20 56 10.0 +3.3
CBIJ Chichi jima 152.79 286 PKPbc PKPbc 20 56 22.2 +0.3
comp=E,130nm,0.9s,baz=267,slow=20,SNR=3.6
SONM Songino Array 154.32 10 PKP PKPdf 20 56 17.0 +0.1
comp=E,1.4nm,0.9s,baz=345,slow=0.8,SNR=9.6
SONM PKPbc PKPbc 20 56 25.1 -0.2
comp=E,1.2nm,0.5s,baz=294,slow=1.4,SNR=13
SONM PKPab PKPab 20 56 39.7 -0.2
comp=E,1.0nm,0.7s,baz=331,slow=3.9,SNR=5.5
HHC Hu-ho-hao-te 161.77 2 *e*PKP PKPdf 20 56 23.3 -2.6
HHC APKP 20 57 05.8
HHC XPKP 20 57 22.8
HHC PKS 20 59 55.5
HHC PP PP 21 00 56.5 +0.4
HHC SKS SKSdf 21 03 10.8 -6.3
HHC SKKS SKKSac 21 07 26.5 -3.8
HHC LR LR
comp=N,84nm,4.5s
HHC LR LR
comp=E,115nm,6.1s
HHC LR LR
comp=Z,118nm,6.1s
LZH Lanzhou 164.55 28 *e*PKP PKPdf 20 56 26.5 -2.1
LZH APKP 20 57 08.3
LZH XPKP 20 57 24.5
LZH LR LR
comp=E,145nm,18.5s
LZH LR LR
comp=Z,248nm,20.1s

MOS ***30*** *20:47:45.9±1.0, 51.24N×156.54E, h130km, mb4.0/8, Error ellipse: s-maj=12.6km s-min=7.3km az=79.1*
ISCJB ***30*** *20:47:46.3±0.6, 51.14N±006×156.65E±0.10, h138km±4km, mb4.1/25, Error ellipse: s-maj=13.3km s-min=6.4km az=94.1*
KRSC ***30*** *20:47:46.2±1.5, 50.93N×157.12E, h107km±4km, ML4.4*
BJI ***30*** *20:47:48.3, 51.30N×156.50E, h136km, mB4.8, mb4.7*
NEIC ***30*** *20:47:48.4±0.9, 51.29N×156.55E, h136km±9km, mb4.3/8, Error ellipse: s-maj=12.8km s-min=6.7km az=135.0*
IDC ***30*** *20:47:51.0±3.7, 51.26N×156.51E, h162km±36km, mb3.4/11, mb1 3.6/13, mb1mx3.4/24, mbtmp3.9/13, Error ellipse: s-maj=22.1km s-min=14.1km az=144.0*
ISC 30 20:47:47.8±0.5, 51.18N±006×156.7E±01, h138km±4km, n85, σ1§15/105, mb4.1/25, 1C-1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.30**	**16**	*i* P	**Pn**	**20 48 05.5**	**-1.3**
PAU				*i* S	**Sn**	**20 48 19.8**	**-1.4**
PAU				Smax			
	4μm,0.8s						
SKR	**Severo-Kuril's**	**0.61**	**216**	*i* P	**Pn**	**20 48 02.8**	**-5.5**
SKR				*i* S	**Sn**	**20 48 17.4**	**-6.5**
MIPR	**Malaya Ipel'ka**	**1.10**	**3**	*i* P	**Pn**	**20 48 12.2**	**0.0**
MIPR				*i* S	**Sn**	**20 48 30.8**	**-0.1**
GRL	**Gorelyy**	**1.62**	**32**	*i* P	**Pn**	**20 48 17.9**	**+0.2**
GRL				*i* S	**Sn**	**20 48 40.9**	**+0.3**
RUS	**Russkaya**	**1.69**	**42**	P	**Pn**	**20 48 17.2**	**-1.3**
RUS				S	**Sn**	**20 48 38.6**	**-3.5**
RUS	**Russkaya**	**1.69**	**42**	*i* P	**Pn**	**20 48 17.1**	**-1.4**
RUS				*e*S	**Sn**	**20 48 39.1**	**-3.0**
PET	**Petropavlovsk**	**2.21**	**33**	P	**Pn**	**20 48 24.2**	**-0.5**
PET				S	**Sn**	**20 48 51.1**	**-1.9**
PET	**Petropavlovsk**	**2.21**	**33**	*i* P	**Pn**	**20 48 24.2**	**-0.5**
PET				*e*S	**Sn**	**20 48 52.1**	**-0.9**
PET	**Petropavlovsk**	**2.21**	**33**	*e*PN	**Pn**	**20 48 24.0**	**-0.7**
PET				*e*S	**Sn**	**20 48 49.7**	**-3.3**
UGLR	**Uglovaya**	**2.42**	**32**	*i* P	**Pn**	**20 48 27.8**	**+0.5**
UGLR				*e*S	**Sn**	**20 48 58.0**	**+0.3**
KOK	**Koryaka**	**2.43**	**29**	*i* P	**Pn**	**20 48 28.5**	**+1.1**
KOK				*e*S	**Sn**	**20 48 59.5**	**+1.6**
AVH	**Avacha**	**2.44**	**30**	*i* P	**Pn**	**20 48 28.5**	**+1.0**
SMAR	**Somma**	**2.46**	**31**	*i* P	**Pn**	**20 48 28.3**	**+0.5**
SDLR	**Sedlovina**	**2.50**	**32**	*i* P	**Pn**	**20 48 28.4**	**+0.1**
SDLR				*e*S	**Sn**	**20 48 58.0**	**-1.4**
NLC	**Nalytchevo**	**2.58**	**38**	P	**Pn**	**20 48 27.7**	**-1.6**
NLC				S	**Sn**	**20 48 56.7**	**-4.6**
NLC	**Nalytchevo**	**2.58**	**38**	*i* P	**Pn**	**20 48 27.7**	**-1.6**
NLC				*e*S	**Sn**	**20 48 57.2**	**-4.1**
GNL	**Ganaly**	**2.63**	**17**	*i* P	**Pn**	**20 48 30.6**	**+0.6**
SPN	**Mys Shipunski**	**2.82**	**46**	P	**Pn**	**20 48 31.0**	**-1.3**
SPN				S	**Sn**	**20 49 01.6**	**-5.0**
SPN	**Mys Shipunski**	**2.82**	**46**	*i* P	**Pn**	**20 48 31.0**	**-1.3**
SPN				*e*S	**Sn**	**20 49 02.9**	**-3.7**
MKZ	**Mys Kozlova**	**4.56**	**40**	P	**Pn**	**20 48 53.2**	**-1.9**
MKZ				S	**Sn**	**20 49 40.8**	**-6.6**
MKZ	**Mys Kozlova**	**4.56**	**40**	*i* P	**Pn**	**20 48 53.3**	**-1.8**
MKZ				*e*S	**Sn**	**20 49 41.2**	**-6.2**
TUMR	**Tumrok**	**4.61**	**26**	*i* P	**Pn**	**20 48 57.0**	**+1.3**
ESO	**Esso**	**4.90**	**13**	*i* P	**Pn**	**20 49 01.0**	**+1.4**
ESO				Smax			
	20nm,1.3s						
KPT	**Kopyto**	**5.24**	**22**	*e*P	**Pn**	**20 49 04.8**	**+0.7**
ZLN	**Zelenaya**	**5.43**	**25**	*e*P	**Pn**	**20 49 08.4**	**+1.7**
SRDR	**Sredinnyy**	**5.45**	**18**	*e*P	**Pn**	**20 49 08.4**	**+1.4**
LGNR	**Loginova**	**5.46**	**24**	*e*P	**Pn**	**20 49 08.6**	**+1.5**
CIRR	**Tsirk**	**5.50**	**24**	*e*P	**Pn**	**20 49 09.1**	**+1.4**
KRSR	**Krestovskiy**	**5.55**	**23**	*e*P	**Pn**	**20 49 08.9**	**+0.6**
KLY	**Klyuchi**	**5.66**	**23**	*i* P	**Pn**	**20 49 11.3**	**+1.6**
SRKR	**Sorokina**	**6.09**	**24**	*i* P	**Pn**	**20 49 16.4**	**+0.9**
SMKR	**Semkarok**	**6.11**	**26**	*e*P	**Pn**	**20 49 16.5**	**+0.8**
KBTR	**Krutoberegovo**	**6.22**	**34**	*i* P	**Pn**	**20 49 15.9**	**-1.3**
BKI	**Bering**	**6.88**	**51**	*i* P	**Pn**	**20 49 24.0**	**-2.2**
BKI				*i* S	**Sn**	**20 50 32.6**	**-11**
BKI				Smax			
	380nm,0.3s						
ASAJ	**Asahikawa**	**11.83**	**239**	P	**Pn**	**20 50 34.0**	**+2.0**
	0.9nm,0.3s,baz=245,slow=1.1,SNR=5.3						
ASAJ	**Asahikawa**	**11.83**	**239**	PN	**Pn**	**20 50 34.0**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAMR	**Kamenskoye**	**12.43**	**21**	*e*P	**Pn**	**20 50 42.0**	**+2.1**
KLR	**Kul'dur**	**16.06**	**273**	*e*P	**Pn**	**20 51 26.3**	**+0.5**
BILL	**Bilibino**	**17.55**	**12**	P	**Pn**	**20 51 42.5**	**-1.3**
	comp=Z,6.0nm,0.9s						
BILL	**Bilibino**	**17.55**	**12**	P	**Pn**	**20 51 45.0**	**+1.2**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YAK	**Yakutsk**	**18.25**	**317**	*e*P	**P**	**20 51 50.8**	**+0.2**
	comp=Z,17nm,0.3s						
YAK	**Yakutsk**	**18.25**	**317**	*e*P	**P**	**20 51 50.8**	**+0.3**
YAK				pmax	pmax		
	comp=Z,17nm,0.3s						
MAJO	**Matsushiro**	**19.70**	**229**	*e*P	**P**	**20 52 07.3**	**+1.0**
	comp=Z,11nm,0.4s						
MAJO	**Matsushiro**	**19.70**	**229**	*e*P	**P**	**20 52 07.4**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,11nm,0.4s						
MAT	**Matsushiro**	**19.70**	**229**	P	**P**	**20 52 07.4**	**+1.1**
MAT	**Matsushiro**	**19.70**	**229**	*e*P	**P**	**20 52 07.0**	**+0.7**
	comp=Z,7.8nm,0.5s						
MAT	**Matsushiro**	**19.70**	**229**	*e*P	**P**	**20 52 07.0**	**+0.7**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MJAR	**Matsushiro Arr**	**19.70**	**229**	P	**P**	**20 52 07.5**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=44,slow=8.3,SNR=16						
TNA	**Tin City**	**23.06**	**38**	*e*P	**P**	**20 52 41.6**	**+0.5**
HIA	**Hailar**	**23.55**	**280**	*e*P	**P**	**20 52 45.1**	**-0.5**
	comp=Z,6.8nm,0.6s,mb4.3						
HIA	**Hailar**	**23.55**	**280**	*e*P	**P**	**20 52 45.1**	**-0.5**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TIXI	**Tiksi**	**24.02**	**339**	*e*P	**P**	**20 52 49.0**	**-0.8**
TIXI				*i* *PP		20 53 17.9	
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.9s,mb3.7						
BOD	**Bodaibo**	**25.30**	**302**	*e*P	**P**	**20 53 00.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
ILAR	**Eielson Array**	**31.66**	**43**	P	**P**	**20 53 57.1**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.4,baz=269,slow=6.1,SNR=9.7						
SONM	**Songino Array**	**32.31**	**284**	P	**P**	**20 54 03.9**	**+0.3**
	comp=Z,0.7nm,0.4s,mb3.7,baz=60,slow=8.2,SNR=11						
SONM				PcP	PcP	20 56 48.5	+0.2
	comp=Z,0.6nm,0.7s,baz=108,slow=2.3,SNR=2.7						
NJ2	**Nanjing**	**33.64**	**250**	*e*P	**P**	**20 54 13.0**	**-2.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
INK	**Inuvik**	**36.66**	**36**	P	**P**	**20 54 42.9**	**+1.8**
	comp=Z,0.6nm,0.5s,mb3.5,baz=286,slow=5.6,SNR=3.9						
ZAL	**Zalesovo**	**42.06**	**303**	P	**P**	**20 55 25.0**	**-0.8**
	comp=Z,0.9nm,0.2s,mb4.0,baz=80,slow=5.9,SNR=4.6						
ZAL				PcP	PcP	20 57 18.3	+0.2
	comp=Z,0.9nm,0.3s,baz=21,slow=4.3,SNR=3.3						
NVS	**Novosibirsk**	**42.47**	**305**	*e*P	**P**	**20 55 27.7**	**-1.4**
NVS				pmax	pmax		
	comp=N,2.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**45.99**	**40**	P	**P**	**20 55 58.3**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.0,baz=298,slow=7.8,SNR=3.6						
KURK	**Kurchatov**	**46.95**	**302**	*e*P	**P**	**20 56 03.9**	**-0.7**
	comp=Z,4.8nm,0.6s,mb4.3						
KURK	**Kurchatov**	**46.95**	**302**⇑ *e*P		**P**	**20 56 03.7**	**-0.9**
KURK				*i* *PP	pP	20 56 34.2	-1.7
KURK				*i*		20 57 54.6	
MKAR	**Makanchi Array**	**47.08**	**295**	P	**P**	**20 56 05.5**	**-0.1**
	comp=Z,1.8nm,0.4s,mb4.0,baz=57,slow=6.5,SNR=65						
MKAR	**Makanchi Array**	**47.08**	**295**	P	**P**	**20 56 05.5**	**-0.1**
CHKZ	**Chkalovo**	**49.44**	**309**	*e*P	**P**	**20 56 22.4**	**-1.3**
	comp=Z,2.5nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**49.44**	**309**	*e*P	**P**	**20 56 22.4**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**49.92**	**308**	P	**P**	**20 56 26.6**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.0,baz=58,slow=6.9,SNR=16						
BVAR				PcP	PcP	20 57 44.6	-1.0
	comp=Z,0.5nm,0.3s,baz=56,slow=3.7,SNR=4.3						
BRVK	**Borovoye**	**49.95**	**308**	*e*P	**P**	**20 56 26.7**	**-0.9**
ZRNK	**Zerenda**	**50.65**	**309**	*e*P	**P**	**20 56 31.5**	**-1.3**
ARU	**Arti**	**53.36**	**317**⇓ *i*P		**P**	**20 56 51.1**	**-1.8**
ARU				*e*		20 58 50.8	
ARU				*e*PPP		21 00 01.5	
ARU				*e*S	**S**	**21 04 14.1**	**-0.1**
ARU				*e*SS	SS	21 07 55.8	-0.1
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
ARCES	**ARCESS Array B**	**54.43**	**341**	P	**P**	**20 57 00.2**	**-0.4**
	comp=Z,7.7nm,1.0s,mb4.4,baz=34,slow=7.4,SNR=5.0						
ARCES	**ARCESS Array B**	**54.43**	**341**	P	**P**	**20 57 00.2**	**-0.4**
JIRN	**Jiri**	**56.95**	**274**	*e*P	**P**	**20 57 19.6**	**+0.9**
GUN	**Gumba**	**56.97**	**275**	*e*P	**P**	**20 57 19.5**	**+0.7**
	comp=Z,12nm,0.4s,mb5.0						
KKN	**Kaani**	**57.43**	**275**	*e*P	**P**	**20 57 22.6**	**+0.6**
	comp=Z,17nm,0.6s,mb5.1						
DMN	**Daman**	**57.67**	**275**	*e*P	**P**	**20 57 24.9**	**+1.2**
	comp=Z,18nm,0.7s,mb5.0						
GKN	**Gorkha**	**57.69**	**276**	*e*P	**P**	**20 57 24.3**	**+0.5**
	comp=Z,12nm,0.5s,mb5.0						
DANN	**Dangsing**	**57.99**	**277**	*e*P	**P**	**20 57 26.3**	**+0.4**
KOLN	**Koldanda**	**58.50**	**276**	*e*P	**P**	**20 57 29.9**	**+0.4**
	comp=Z,8.7nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**61.01**	**335**	P	**P**	**20 57 44.1**	**-2.5**
	comp=Z,0.4nm,0.3s,mb3.7,baz=43,slow=7.1,SNR=7.4						
FINES	**FINESS Array B**	**61.01**	**335**	*i* P	**P**	**20 57 45.0**	**-1.6**
NB2	**NORSAR Subarra**	**64.76**	**342**	P	**P**	**20 58 09.6**	**-1.8**
	comp=Z,0.5nm,0.4s,mb3.7,baz=34,slow=6.9						
NB2	**NORSAR Subarra**	**64.76**	**342**	P	**P**	**20 58 09.6**	**-1.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**73.49**	**202**	P	**P**	**20 59 05.1**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=17,slow=6.1,SNR=6.3						
BRTR	**Keskin Array B**	**76.70**	**318**	P	**P**	**20 59 23.1**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.1,baz=62,slow=3.9,SNR=2.7						

IDC ***30*** *20:50:41.0±1.4, 33.75×127.10E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/17, mbtmp4.0/5, MS3.1/1, Ms1 3.1/1, ms1mx2.2/31, Error ellipse: s-maj=198.8km s-min=13.7km az=70.0*
NEIC ***30*** *20:50:41.0±0.9, 30.15×128.38E, h10km, mb3.9/1, Error ellipse: s-maj=58.1km s-min=12.2km az=74.0*
ISCJB ***30*** *20:50:42.3±0.9, 31.5±01×128.4E±04, h33km, mb4.0/5, Error ellipse: s-maj=53.8km s-min=11.6km az=148.3*
ISC 30 20:50:44.6±0.9, 31.5±01×128.4E±04, h35km, n10, σ1§15/11, mb4.0/5, 1C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.19**	**190**	Pn	**Pn**	**20 54 16.7**	**+0.3**
	0.1nm,0.3s,baz=3.4,slow=19,SNR=2.7						
FITZ				LR	LR	21 00 06.4	
	comp=Z,70nm,20.2s,baz=176,slow=38						

WRAB Tennant Creek 17.76 161 *e*P **Pn** **20 54 48.4 -0.7**
8.4nm,0.8s
WRA Warramunga Arr 17.77 161 P **Pn** **20 54 48.2 -0.9**
0.3nm,0.3s,baz=340,slow=12,SNR=24
ASAR Alice Springs 21.18 166 P **P** **20 55 28.5 +1.6**
7.7nm,0.6s,mb4.2,baz=345,slow=12,SNR=97
ASAR S **S** **20 59 26.6 +6.2**
1.1nm,1.0s,baz=348,slow=22,SNR=5.8
SONM Songino Array 54.21 342 P **P** **21 00 08.5 +1.8**
0.5nm,0.8s,mb3.5,baz=134,slow=6.2,SNR=4.1
MKAR Makanchi Array 64.05 327 P **P** **21 01 12.9 -2.0**
1.0nm,0.7s,mb4.0,baz=136,slow=8.2,SNR=5.2
ZAL Zalesovo 67.35 334 P **P** **21 01 36.2 +0.1**
1.7nm,0.4s,mb4.5,baz=28,slow=14,SNR=5.1
ZAL Zalesovo 67.35 334 P **P** **21 01 36.2 +0.1**
BVAR Borovoye Array 73.88 328 P **P** **21 02 15.7 -0.2**
0.8nm,0.8s,mb3.7,baz=111,slow=8.1,SNR=6.2
SYO Syowa Base 86.72 201⇑ *e*P **P** **21 03 31.7 +6.8**

IDC ***30*** *21:06:16.6±5.3, 26.13N×58.16E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=180.6km s-min=28.6km az=145.0*
THR ***30*** *21:06:25.2±0.3, 28.01N×57.29E, h32km±3km, ML3.3*
ISCJB ***30*** *21:06:27.6±1.2, 27.89N±008×57.3E±0.1, h32km, mb3.4/4, Error ellipse: s-maj=16.9km s-min=8.1km az=73.9*
ISC 30 21:06:29.0±1.2, 27.90N±009×57.2E±01, h32km, n7, σ1§00/9, mb3.4/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.04**	**242**	*e*PG	**Pn**	**21 06 46.8**	**-0.6**
BNDS				*e*SG	**Sn**	**21 07 02.6**	**+1.8**
BNDS				AML	AML	21 07 07.5	
	comp=E,774nm,0.5s						
BNDS				AML	AML	21 07 08.7	
	comp=N,592nm,0.6s						
KRBR	**Kerman**	**2.12**	**349**	*e*PG	**Pn**	**21 07 01.5**	**-0.7**
KRBR				*e*SG	**Sn**	**21 07 27.9**	**+0.6**
KRBR				AML	AML	21 07 31.6	
	comp=N,233nm,0.4s						
KRBR				AML	AML	21 07 32.5	
	comp=E,286nm,0.3s						
GHIR	**Ghir-Karzin**	**3.75**	**277**	*e*PN	**Pn**	**21 07 24.0**	**-0.6**
GHIR				AML	AML	21 08 24.2	
	comp=N,26nm,0.4s						
GHIR				AML	AML	21 08 32.5	
	comp=E,34nm,0.6s						
BVAR	**Borovoye Array**	**26.94**	**18**	P	**P**	**21 12 13.1**	**+5.6**
	comp=E,0.6nm,0.6s,mb3.3,baz=204,slow=6.5,SNR=5.9						
MKAR	**Makanchi Array**	**27.26**	**39**	P	**P**	**21 12 11.1**	**+0.8**
	comp=E,0.1nm,0.6s,mb2.5,baz=234,slow=9.8,SNR=3.6						
ZAL	**Zalesovo**	**32.95**	**30**	P	**P**	**21 13 01.2**	**+0.6**
	comp=E,1.5nm,0.3s,mb4.4,baz=231,slow=7.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**53.60**	**266**	P	**P**	**21 15 45.4**	**-1.7**
	comp=E,0.2nm,0.5s,mb3.3,baz=62,slow=7.3,SNR=6.1						

NIED ***30*** *21:07:00, 36.90N×141.80E, h35km, Mw3.8 Best double couple: M0=5.37000×10^14 NP1:φ=22.00000°, δ=69.00000°, λ=85.00000°. NP2:φ=217.00000°, δ=22.00000°, λ=104.00000°.*
ISCJB ***30*** *21:07:16.5±0.6, 36.94N±003×141.94E±007, h33km, mb3.8/10, Error ellipse: s-maj=7.5km s-min=4.8km az=17.2*
JMA ***30*** *21:07:18.0±0.3, 36.95N×141.76E, h49km±4km, M3.9*
IDC ***30*** *21:07:19.2±4.7, 36.94N×141.83E, h35km±35km, mb3.6/9, mb1 3.7/12, mb1mx3.5/25, mbtmp3.8/12, ML3.6/3, Error ellipse: s-maj=37.1km s-min=15.7km az=85.0*
NEIC ***30*** *21:07:22.4±4.2, 36.88N×141.58E, h60km±30km, mb4.3/1, Error ellipse: s-maj=47.2km s-min=11.5km az=72.0*
ISC 30 21:07:19.1±0.7, 36.96N±003×141.78E±007, h35km, n27, σ0§88/37, mb3.7/10, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.80**	**280**	⇓P	**Pn**	**21 07 32.7**	**-1.1**
JFK	**Kawauchi**	**0.82**	**300**	⇓P	**Pn**	**21 07 33.1**	**-1.1**
JHO	**Hitachi**	**1.03**	**250**	⇓P	**Pn**	**21 07 35.7**	**-1.3**
JHO				*e*S	**Sn**	**21 07 48.6**	**-1.6**
JMM	**Marumori**	**1.19**	**319**	⇓P	**Pn**	**21 07 38.6**	**-0.7**
JMM				S	**Sn**	**21 07 52.9**	**-1.3**
JFT	**Otama**	**1.28**	**296**	⇓P	**Pn**	**21 07 40.6**	**+0.2**
JIO	**Ouri**	**1.53**	**347**	⇓P	**Pn**	**21 07 43.2**	**-0.6**
JIO				S	**Sn**	**21 08 00.7**	**-1.8**
JOU	**Okura**	**1.66**	**328**	⇓P	**Pn**	**21 07 45.8**	**+0.2**
JOU				*e*S	**Sn**	**21 08 06.3**	**+0.7**
JFY	**Yanaizu**	**1.71**	**286**	P	**Pn**	**21 07 46.9**	**+0.5**
JYS	**Shirataka**	**1.85**	**313**	P	**Pn**	**21 07 49.0**	**+0.7**
JYS				*e*S	**Sn**	**21 08 13.0**	**+2.6**
JAG	**Ashikaga**	**1.94**	**255**	⇓P	**Pn**	**21 07 49.2**	**-0.4**
MJAR	**Matsushiro Arr**	**2.90**	**263**	Pn	**Pn**	**21 08 03.6**	**+0.9**
	15nm,0.3s,baz=90,slow=15,SNR=88						
MJAR				Sn	**Sn**	**21 08 41.5**	**+5.3**
	7.5nm,0.3s,baz=96,slow=23,SNR=8.4						
MAJO	**Matsushiro**	**2.90**	**263**	*e*P	**Pn**	**21 08 04.1**	**+1.4**
MAT	**Matsushiro**	**2.90**	**263**	P	**Pn**	**21 08 04.0**	**+1.3**
MAT				*e*S	**Sn**	**21 08 37.2**	**+0.9**
MAT	**Matsushiro**	**2.90**	**263**	*e*P	**Pn**	**21 08 04.0**	**+1.3**
MAT				*e*S	**Sn**	**21 08 43.0**	**+6.7**
JHJ	**Hachijo jima 2**	**4.17**	**204**	Pn	**Pn**	**21 08 20.2**

XNZR Khunzakh 0.94 71 *i* Pg **Pg 21 08 49.0 +1.3**
363nm,0.2s
XNZR *i* Sg **Sg 21 09 02.8 +2.9**
XNZR Khunzakh 0.94 71 *i* PG **Pg 21 08 49.0 +1.3**
XNZR *i* S **Sg 21 09 02.8 +2.9**
XNZR pmax pmax
comp=Z,363nm,0.2s
SNJR Sundja 0.97 329 *i* Pg **Pg 21 08 48.8 +0.6**
SNJR *i* Sg **Sg 21 09 03.1 +2.4**
VLKR Vladikavkaz 1.00 323 *i* Pg **Pg 21 08 49.1 +0.2**
VLKR *i* Sg **Sg 21 09 03.6 +1.7**
LACR Lac 1.06 303 *i* Pg **Pg 21 08 48.9 -1.1**
LACR *i* Sg **Sg 21 09 03.3 -0.5**
GOR Gori 1.07 256 P Px 21 08 08.5
GOR S Sx 21 09 22.7
DLMR Dylym 1.17 45 *e*Pg **Pg 21 08 50.0 -2.1**
comp=Z,1μm,0.3s
DLMR *e*Sg **Sg 21 09 07.7 +0.4**
DLMR Dylym 1.17 45 *e*PG **Pg 21 08 50.0 -2.1**
DLMR *e*S **Sg 21 09 07.7 +0.4**
DLMR pmax pmax
comp=Z,1μm,0.3s
KZR Kazreti 1.19 224 P **Pg 21 08 50.1 -2.2**
KZR S **Sg 21 09 05.9 -1.9**
KMKR Kumukh 1.19 95 *i* Pg **Pg 21 08 52.0 -0.6**
comp=Z,235nm,0.3s
KMKR *i* Sg **Sg 21 09 10.0 +2.0**
KMKR Kumukh 1.19 95 *i* PG **Pg 21 08 52.0 -0.6**
KMKR *i* S **Sg 21 09 10.0 +2.0**
KMKR pmax pmax
comp=Z,235nm,0.3s
DBC Dubki 1.25 51 *i* Pg **Pg 21 08 51.5 -2.1**
comp=Z,345nm,0.4s
DBC *i* Sg **Sg 21 09 09.0 -0.8**
DBC Dubki 1.25 51 *i* PG **Pg 21 08 51.5 -2.1**
DBC *i* S **Sg 21 09 09.0 -0.8**
DBC pmax pmax
comp=Z,345nm,0.4s
ZEI Tsey 1.29 294 *e*Pg **Pg 21 08 52.9 -1.6**
ZEI *e*Sg **Sg 21 09 15.6 +4.3**
ARNR Ardon 1.30 317 *e*Pg **Pg 21 08 53.7 -1.0**
ARNR *e*Sg **Sg 21 09 11.6 0.0**
BUJR Buynaksk 1.32 64 *i* Pg **Pg 21 08 54.0 -1.0**
comp=Z,195nm,0.2s
BUJR *i* Sg **Sg 21 09 14.0 +1.9**
BUJR Buynaksk 1.32 64 *i* PG **Pg 21 08 54.0 -1.0**
BUJR *i* S **Sg 21 09 14.0 +1.9**
BUJR pmax pmax
comp=Z,195nm,0.2s
BTKR Batakoyurt 1.33 328 *e*Pg **Pg 21 08 54.9 -0.2**
BTKR *i* Sg **Sg 21 09 13.6 +1.3**
KORR Kora 1.35 309 *i* Pg **Pg 21 08 54.0 -1.5**
KORR *i* Sg **Sg 21 09 12.2 -0.8**
DIGR Digorskoe uzhe 1.56 295 *i* Pg **Pg 21 08 51.4 -8.2**
BKR Bakuriani 1.57 252 P **Pn 21 08 57.9 -0.9**
BKR S **Sn 21 09 18.9 -1.0**
TRKR Terskaya 1.58 339 *i* Pg **Pg 21 08 59.5 -0.5**
TRKR *i* Sg **Sg 21 09 21.9 +1.4**
SGKR Sergokala 1.61 82 *i* Pn **Pn 21 08 59.0 -0.3**
SGKR *i* Sg **Sg 21 09 25.5 +4.0**
MAK Makhachkala 1.64 64 *i* Pn **Pn 21 09 03.5 +3.7**
comp=Z,367nm,0.4s
MAK *i* Sg **Sg 21 09 28.8 +6.3**
comp=Z,1μm,0.6s
MAK Makhachkala 1.64 64 *c i*PN **Pn 21 09 03.5 +3.7**
MAK *i* 21 09 28.8
MAK pmax pmax
comp=Z,367nm,0.4s
MAK smax
comp=N,1μm,0.6s
AKH Akhalkalaki 1.72 242 P **Pn 21 08 59.7 -1.0**
AKH S **Sn 21 09 21.6 -1.8**
PRTR Priterechnaya 1.75 330 *i* Pn **Pn 21 09 01.5 +0.3**
PRTR *i* Sg **Sg 21 09 25.3 -0.6**
GNI Garni 2.17 196 PN **Pn 21 09 07.9 +0.9**
GNI Garni 2.17 196 Pn **Pn 21 09 08.6 +1.6**
comp=N,17nm,0.3s,baz=346,slow=3.8,SNR=139
GNI Sn **Sn 21 09 38.1 +3.5**
comp=N,58nm,0.3s,baz=43,slow=16,SNR=11
GNI Garni 2.17 196 Pn **Pn 21 09 08.6 +1.6**
GNI Sn **Sn 21 09 38.1 +3.5**
KUBR Kubataba 2.18 316 *i* PN **Pn 21 09 08.4 +1.2**
KUBR *e*S **Sn 21 09 35.9 +1.0**
DIGO Kars 2.43 222 *i* P **Pn 21 09 12.2 +1.6**
DIGO Kars 2.43 222 *i* P **Pn 21 09 12.1 +1.5**
PYA Pyatigorsk 2.53 316 *e*Pn **Pn 21 09 13.3 +1.4**
PYA *e*Sn **Sn 21 09 44.9 +1.5**
SHAR Shatzhatmas 2.56 307 *i* Pn **Pn 21 09 13.9 +1.5**
SHAR *e*Sn **Sn 21 09 47.1 +2.9**
KIV Kislovodsk 2.68 311 *i* Pn **Pn 21 09 15.1 +1.1**
KIV *e*Sn **Sn 21 09 49.4 +2.3**
KIV Kislovodsk 2.68 311 *e*P **Pn 21 09 14.3 +0.3**
ARTV Artvin 2.88 250 *i* P **Pn 21 09 17.8 +1.1**
NAGR Nagutskaya 2.97 319 *i* Pn **Pn 21 09 11.8 -6.2**
GOF Gofitskoye 3.33 328 *e*Pn **Pn 21 09 20.6 -2.4**
comp=N,20nm,0.7s
GOF *i* Sn **Sn 21 10 01.6 -1.6**
GOF Gofitskoye 3.33 328 *e*PN **Pn 21 09 20.6 -2.4**
GOF *i* S **Sn 21 10 01.6 -1.6**
GOF pmax pmax
comp=Z,20nm,0.7s
GOF smax
comp=N,70nm,1.0s
GOF smax
comp=E,110nm,1.0s
ERZM Erzurum 3.90 235 *i* P **Pn 21 09 32.7 +1.9**
EZM Erzurum 3.91 235 *e*PN **Pn 21 09 32.6 +1.8**
SOC Sochi 4.45 289 *e*Pn **Pn 21 09 38.1 -0.3**
comp=E,11nm,1.0s
SOC *e*Sn **Sn 21 10 30.2 -0.7**
SOC Sochi 4.45 289 *e*PN **Pn 21 09 38.1 -0.3**
SOC *e* 21 09 52.1
SOC *e* 21 10 30.2
SOC *e*SS 21 10 46.2
SOC pmax pmax
comp=Z,11nm,1.0s
SOC smax
comp=E,19nm,0.7s
GUMT Gumushane 4.87 251 *e*P **Pn 21 09 45.1 +1.0**
ANN Anapa 6.40 296 *e*P **Pn 21 10 04.6 -0.5**
comp=E,52nm,1.9s
ANN *e*S **Sn 21 11 18.0 -0.8**
ANN Anapa 6.40 296 *e*P **Pn 21 10 04.6 -0.5**
ANN *e*S **Sn 21 11 18.0 -0.8**
ANN pmax pmax
comp=Z,52nm,1.9s
BRTR Keskin Array B 9.32 258 Pn **Pn 21 10 45.5 +0.3**
comp=Z,0.1nm,0.3s,baz=59,slow=7.9,SNR=5.3
AKTK Aktyubinsk 11.90 42 P **Pn 21 11 21.2 +0.7**
comp=Z,1.0nm,0.3s
AKTK S **Sn 21 13 29.0 -5.0**
AKTK Aktyubinsk 11.90 42 Pn **Pn 21 11 21.2 +0.7**
AKTK Sn **Sn 21 13 28.9 -5.0**
AKTO Aktyubinsk 11.90 42 Pn **Pn 21 11 21.2 +0.7**
comp=Z,0.5nm,0.3s,baz=232,slow=12,SNR=17
AKTO Sn **Sn 21 13 28.9 -5.0**
comp=Z,0.2nm,0.3s,baz=38,slow=19,SNR=3.0
AKTO Aktyubinsk 11.90 42 P **Pn 21 11 21.3 +0.8**
comp=Z,0.1nm,0.7s
AKTO S **Sn 21 13 32.8 -1.2**
AKTO Aktyubinsk 11.90 42 P **Pn 21 11 21.2 +0.7**
AKTO 21 13 29.0
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AB31 Akbulak array 12.27 50 ⇑P **Pn 21 11 23.8 -1.9**
comp=Z,4.8nm,0.9s,baz=212,slow=13,SNR=13
AB31 ⇑S **Sn 21 13 34.6 -8.5**
comp=Z,3.2nm,0.7s,baz=236,slow=27,SNR=4.5
ARU Arti 16.51 26 *i* P **Pn 21 12 24.9 +2.4**
comp=Z,5.0nm,0.8s
ARU *e*S **Sn 21 15 30.5 +4.1**
ARU Arti 16.51 26 ⇑*i*P **Pn 21 12 24.9 +2.4**
ARU *e*S **Sn 21 15 30.5 +4.1**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ZRNK Zerenda 19.04 48 ⇓P **Pn 21 12 54.4 +0.5**
comp=Z,5.9nm,0.9s
ZRNK Zerenda 19.04 48 *e*P **Pn 21 12 53.4 -0.4**
comp=Z,6.1nm,0.9s
ZRNK Zerenda 19.04 48 *e*P **Pn 21 12 53.4 -0.5**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 19.79 48 *e*P **Pn 21 13 01.9 -1.0**
comp=Z,5.0nm,0.8s
BRVK Borovoye 19.79 48 *e*P **Pn 21 13 01.9 -1.0**
comp=Z,4.9nm,0.8s
BRVK Borovoye 19.79 48 *e*P **Pn 21 13 01.9 -1.0**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BVA0 Borovoye Array 19.83 49 ⇑P **Pn 21 13 02.1 -1.3**
comp=Z,0.8nm,0.9s,baz=248,slow=10,SNR=22
BVAR Borovoye Array 19.83 49 P **Pn 21 13 02.5 -0.9**
comp=Z,0.3nm,0.3s,baz=237,slow=8.1,SNR=20
BVAR Borovoye Array 19.83 49 P **Pn 21 13 02.1 -1.3**
comp=Z,0.8nm,0.9s,SNR=22
VOSK Vostochnaya 20.05 50 ⇓P **P 21 13 04.8 +0.5**
comp=Z,2.2nm,0.7s
CHKZ Chkalovo 20.22 47 ⇑P **P 21 13 06.2 +0.1**
comp=Z,4.9nm,0.8s
CHKZ Chkalovo 20.22 47 *e*P **P 21 13 05.5 -0.6**
comp=Z,6.4nm,0.8s
CHKZ Chkalovo 20.22 47 *e*P **P 21 13 05.5 -0.6**
CHKZ pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 22.50 335 P **P 21 13 30.3 -0.3**
comp=Z,1.7nm,0.8s,mb3.5,baz=124,slow=19,SNR=7.4
GERES GERESS Array B 23.11 298 P **P 21 13 37.8 +0.6**
comp=Z,0.2nm,0.4s,mb3.0,baz=110,slow=12,SNR=3.7
KURK Kurchatov 24.16 58 *e*P **P 21 13 47.2 -0.2**
comp=Z,4.2nm,0.9s,mb4.0
KURK Kurchatov 24.16 58 *e*P **P 21 13 47.2 -0.2**
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
HFS Hagfors 26.40 324 P **P 21 14 06.2 -1.6**
comp=Z,2.4nm,0.9s,mb3.8,baz=125,slow=13,SNR=3.4
MK31 Makanchi Array 26.46 67 P **P 21 14 06.5 -1.8**
comp=Z,0.7nm,0.8s,mb3.3,baz=263,slow=7.9,SNR=14
MKAR Makanchi Array 26.46 67 P **P 21 14 08.6 +0.3**
comp=Z,2.3nm,1.0s,mb3.8,baz=290,slow=3.6,SNR=12
ESDC Sonseca Array 37.02 283 P **P 21 15 40.1 -0.9**
comp=Z,0.3nm,0.5s,mb3.3,baz=68,slow=7.7,SNR=4.7
TORD Torodi Ar. Bea 47.67 246 P **P 21 17 06.2 -1.6**
comp=Z,0.8nm,0.6s,mb4.0,baz=29,slow=7.5,SNR=7.2
KALP Kalibo 72.52 90 ⇓*e*P **P 21 19 49.7 -8.6**

NIED ***30*** *21:13:00,4350N×14750E,h26km,Mw4.0 Best double couple: M0 1.19000×10^15 NP1:φs4.00000°,δ49.00000°, λ115.00000°. NP2:φs148.00000°,δ47.00000°,λ64.00000°.*
MOS ***30*** *21:13:40.9±1.1,4361N×14777E,h37km,mb4.6/13,Error ellipse: s-maj=12.6km s-min=8.1km az=110.1*
JMA ***30*** *21:13:43.1±0.2,4348N×14746E,h20km±5km,M4.8*
ISCJB ***30*** *21:13:43.8±0.9,4363N±005×14751E±007,h55km±6km, mb4.3/39,MS4.3/4,Error ellipse: s-maj=9.3km s-min=6.8km az=87.9*
BJI ***30*** *21:13:43.0,4358N×14751E,h54km,mB4.6,mb4.7,Ms4.5, Ms2.4*
SKHL ***30*** *21:13:44.7±1.2,4390N×14770E,h33km,mb4.9/4*
NEIC ***30*** *21:13:45.2±1.2,4355N×14746E,h54km±10km,mb4.4/9, Error ellipse: s-maj=9.9km s-min=7.9km az=128.0*
IDC ***30*** *21:13:46.2±3.0,4360N×14747E,h61km±26km,mb3.9/22, mb1 4.0/24,mb1mx4.0/28,mbtmp4.1/24,ML3.6/2,MS3.2/2, Ms1 3.2/2,ms1mx2.7/34,Error ellipse: s-maj=16.7km s-min=15.1km az=135.0*
ISC 30 21:13:44.8±0.9,4363N±005×14752E±007,h50km±6km, h49km±1.5km:pP-P,n93,σ0s97/107,mb4.3/39,MS4.3/4, 4C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.27**	**289**	⇓*i*P	**Pn**	**21 14 05.3**	**-0.8**
YUK				AMB	AMB	21 14 05.6	
	4μm,0.2s						
YUK				AMB	AMB	21 14 05.7	
	2μm,0.5s						
YUK				AMB	AMB	21 14 05.7	
	6μm,0.5s						
YUK				*e*S	**Sn**	**21 14 21.0**	**-1.0**
YUK				A		21 14 24.7	
	19μm,0.4s						
YUK				A		21 14 24.7	
	7μm,0.4s						
YUK				A		21 14 25.7	
	54μm,1.0s						
YUK				A		21 14 25.7	
	15μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**1.27**	**289**	⇓*i*PN	**Pn**	**21 14 05.3**	**-0.8**
YUK				*e*S	**Sn**	**21 14 21.0**	**-1.0**
YUK				pmax	pmax		
	comp=Z,4μm,0.3s						
YUK				pmax	pmax		
	comp=Z,6μm,0.6s						
YUK				pmax	pmax		
	comp=E,2μm,0.4s						
YUK				smax			
	comp=E,7μm,0.5s						
YUK				smax			
	comp=N,19μm,0.2s						
YUK				smax			
	comp=N,54μm,1.0s						
YUK				smax			
	comp=E,15μm,0.9s						
NEM2	**Nemuro 2**	**1.32**	**259**	P	**Pn**	**21 14 05.6**	**-1.3**
NEM2				*e*S	**Sn**	**21 14 22.2**	**-1.1**
KUR	**Kuril'sk**	**1.62**	**9**	⇓*i*P	**Pn**	**21 14 05.0**	**-5.9**
KUR				AMB	AMB	21 14 07.0	
	comp=E,130nm,0.6s						
KUR				AMB	AMB	21 14 07.0	
	comp=E,200nm,0.6s						
KUR				AMB	AMB	21 14 07.0	
	comp=E,380nm,0.6s						
KUR				*i* S	**Sn**	**21 14 24.6**	**-6.1**
KUR				A		21 14 29.8	
	comp=E,2μm,0.5s						
KUR				A		21 14 29.8	
	comp=E,2μm,0.5s						
KUR				A		21 14 36.0	
	comp=E,6μm,1.0s						
KUR				A		21 14 36.0	
	comp=E,7μm,1.0s						
KUR	**Kuril'sk**	**1.62**	**9**	⇓*i*PN	**Pn**	**21 14 05.0**	**-5.9**
KUR				*i* S	**Sn**	**21 14 24.6**	**-6.1**
KUR				pmax	pmax		
	comp=N,130nm,0.6s						
KUR				pmax	pmax		
	comp=E,200nm,0.6s						
KUR				pmax	pmax		
	comp=Z,380nm,0.6s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,2μm,0.5s						
KUR				smax			
	comp=N,6μm,1.0s						
KUR				smax			
	comp=E,7μm,1.0s						
JRA	**Rausu**	**1.77**	**281**	P	**Pn**	**21 14 13.0**	**+0.1**
JRA				*e*S	**Sn**	**21 14 35.2**	**+1.0**
JNK	**Nakash**	**2.04**	**270**	P	**Pn**	**21 14 16.0**	**-0.6**
JNK				*e*S	**Sn**	**21 14 40.7**	**-0.1**
JAK	**Akkeshi**	**2.16**	**254**	P	**Pn**	**21 14 17.4**	**-0.9**
JAK				*e*S	**Sn**	**21 14 43.0**	**-0.8**
JTKR	**Abashiri--Toko**	**2.64**	**279**	P	**Pn**	**21 14 26.0**	**+1.1**
JAR	**Ashorobuto**	**2.75**	**264**	P	**Pn**	**21 14 26.6**	**+0.2**
JAR				*e*S	**Sn**	**21 14 58.5**	**+0.1**
JOB	**Onbets**	**2.79**	**256**	P	**Pn**	**21 14 27.0**	**+0.1**
JOB				*e*S	**Sn**	**21 14 59.6**	**+0.2**
JMP	**Maruseppu**	**3.04**	**279**	P	**Pn**	**21 14 31.6**	**+1.3**
JCH	**Churui**	**3.21**	**253**	P	**Pn**	**21 14 32.6**	**-0.1**
JCH				*e*S	**Sn**	**21 15 09.3**	**-0.4**
JKK2	**Kamakawa 2**	**3.47**	**276**	P	**Pn**	**21 14 38.5**	**+2.3**
JEM	**Erimo**	**3.59**	**245**	P	**Pn**	**21 14 39.2**	**+1.2**
ASAJ	**Asahikawa**	**3.59**	**279**	P	**Pn**	**21 14 39.8**	**+1.8**
	comp=E,3.7nm,0.3s,baz=82,slow=12,SNR=22						
ASAJ				S	**Sn**	**21 15 27.7**	**+8.6**
	comp=E,4.6nm,0.3s,baz=49,slow=20,SNR=2.6						
ASAJ				LR	LR	21 16 28.8	
	comp=E,235nm,18.4s,baz=188,slow=46						
ASAJ	**Asahikawa**	**3.59**	**279**	PN	**Pn**	**21 14 39.8**	**+1.8**
ASAJ				S	**Sn**	**21 15 27.7**	**+8.6**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,235nm,18.4s						
JFR	**Furan**	**3.62**	**264**	P	**Pn**	**21 14 39.4**	**+1.0**
JFR				*e*S	**Sn**	**21 15 20.8**	**+1.0**
JNBK	**Urakawa-nobuka**	**3.75**	**251**	P	**Pn**	**21 14 40.1**	**0.0**
JNBK				*e*S	**Sn**	**21 15 22.2**	**-0.8**
JHR	**Hokuryu**	**4.21**	**274**	P	**Pn**	**21 14 48.9**	**+2.5**
YSS	**Yuzh-Sakhalins**	**4.73**	**316**	*e*P	**Pn**	**21 14 55.5**	**+2.0**
YSS				*e*S	**Sn**	**21 15 47.3**	**+0.3**
YSS				A		21 15 50.7	
	comp=Z,50nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.73**	**316**	*e*P	**Pn**	**21 14 54.8**	**+1.2**
MJAR	**Matsushiro Arr**	**10.05**	**228**	P	**Pn**	**21 16 05.2**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=28,slow=15,SNR=5.7						
MJAR				LR	LR	21 19 59.5	
	comp=Z,166nm,20.7s,baz=5.0,slow=37						
NKL	**Nikolayevsk**	**10.55**	**337**	*e*P	**Pn**	**21 16 12.0**	**-1.3**
NKL				AMB	AMB	21 16 13.7	
	comp=Z,13nm,1.0s						
NKL				AMB	AMB	21 16 13.7	
	comp=Z,20nm,1.0s						
PET	**Petropavlovsk**	**11.95**	**34**	*e*PN	**Pn**	**21 16 28.1**	**-4.4**
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
MDJ	**Mudanjiang**	**12.92**	**281**	P	**Pn**	**21 16 44.5**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.2s						
MDJ				AMB	AMB		
	comp=Z,214nm,5.5s						
EKMR	**Ekimchan**	**13.51**	**319**	*e*P	**Pn**	**21 16 53.4**	**-0.2**
EKMR				AMB	AMB	21 16 57.5	
	comp=Z,4.0nm,0.6s						
YASR	**Yasnyy**	**16.12**	**314**	*e*P	**Pn**	**21 17 28.0**	**+0.1**
BMKR	**Bomnak**	**16.44**	**319**	*e*P	**Pn**	**21 17 29.4**	**-2.6**
KROS	**Kirovskiy**	**17.20**	**316**	*e*P	**Pn**	**21 17 39.4**	**-2.1**
KROS				AMB	AMB	21 17 40.6	
	comp=Z,4.0nm,0.5s						
YAK	**Yakutsk**	**21.21**	**336**	*i* P	**P**	**21 18 22.2**	**-4.1**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
NJ2	**Nanjing**	**25.29**	**252**	*e*P	**P**	**21 19 07.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
HHC	**Hu-ho-hao-te**	**26.64**	**277**	*e*P	**P**	**21 19 20.0**	**+1.3**
HHC				AP	pP	21 19 31.8	+0.3
HHC				XP	sP	21 19 37.5	+0.1
HHC				PP		21 20 05.3	
HHC				PCP	PcP	21 22 43.5	+1.9
HHC				S	**S**	**21 23 49.8**	**-0.4**
HHC				XS	sS	21 24 09.3	-2.5
HHC				AMB	AMB		
	comp=Z,6.0nm,0.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,86nm,5.9s						
HHC				LR	LR		
	comp=N,346nm,12.8s						
HHC				LR	LR		
	comp=E,350nm,6.4s						
HHC				LR	LR		
	comp=Z,300nm,15.2s,MS4.0						
ULN	**Ulaanbaatar**	**28.32**	**293**	⇑*e*P	**P**	**21 19 35.6**	**+1.8**
SONM	**Songino Array**	**28.77**	**293**	P	**P**	**21 19 38.9**	**+1.2**
	comp=Z,0.6nm,0.4s,mb3.7,baz=83,slow=8.4,SNR=9.9						
LZH	**Lanzhou**	**34.05**	**272**	*e*P	**P**	**21 20 25.0**	**+0.9**
LZH				AP	pP	21 20 38.3	+1.2
LZH				XP	sP	21 20 43.5	+0.5
LZH				PP	PP	21 21 40.5	-1.4
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,54nm,5.7s						
LZH				LR	LR		
	comp=N,382nm,13.5s						
LZH				LR	LR		
	comp=Z,467nm,17.6s,MS4.3						
CD2	**Chengdu**	**36.66**	**265**	*e*P	**P**	**21 20 45.0**	**-1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
QIZ	**Qiongzhong**	**39.96**	**244**	P	**P**	**21 21 14.5**	**+0.2**
QIZ				LR	LR		
	comp=E,620nm,17.7s						
QIZ				LR	LR		
	comp=Z,970nm,17.7s,MS4.7						
QIZ	**Qiongzhong**	**39.96**	**244**	*e*P	**P**	**21 21 11.6**	**-2.8**
	comp=Z,71nm,1.3s,mb5.2						
KMI	**Kunming**	**40.76**	**258**	P	**P**	**21 21 19.3**	**-1.6**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.0						
COLA	**College**	**41.01**	**36**	*e*P	**P**	**21 21 24.1**	**+1.1**
	comp=Z,4.7nm,0.9s,mb4.1						
COLA	**College**	**41.01**	**36**	*e*P	**P**	**21 21 24.1**	**+1.1**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**41.30**	**307**	P	**P**	**21 21 24.6**	**-0.7**
	comp=Z,0.7nm,0.4s,mb3.7,baz=11,slow=16,SNR=2.5						
ILAR	**Eielson Array**	**41.42**	**36**	P	**P**	**21 21 26.8**	**+0.3**
	comp=Z,1.9nm,0.6s,mb3.9,baz=275,slow=8.7,SNR=28						
WMQ	**Urumqi**	**42.39**	**292**	*e*P	**P**	**21 21 35.0**	**+0.7**
WMQ				AP	pP	21 21 47.5	0.0
WMQ				XP	sP	21 21 52.8	-0.5
WMQ				PP	PP	21 23 16.8	+3.6
WMQ				PCP	PcP	21 23 28.3	+1.5
WMQ				PPP		21 23 50.0	
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,75nm,4.2s						
WMQ				LR	LR		
	comp=N,317nm,18.6s,MS4.3						
WMQ				LR	LR		
	comp=E,251nm,19.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,334nm,19.0s,MS4.2						
MKAR	**Makanchi Array**	**44.88**	**298**	P	**P**	**21 21 54.9**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.2,baz=78,slow=8.4,SNR=37						
KURK	**Kurchatov**	**45.82**	**304**	*e*P	**P**	**21 22 01.6**	**-0.1**
	comp=Z,2.4nm,0.5s,mb4.4						
KURK	**Kurchatov**	**45.82**	**304**	*e*P	**P**	**21 22 01.8**	**+0.1**
INK	**Inuvik**	**46.37**	**30**	P	**P**	**21 22 07.0**	**+0.9**
	comp=Z,5.3nm,0.6s,mb4.7,baz=291,slow=7.3,SNR=25						
INK	**Inuvik**	**46.37**	**30**	*e*P	**P**	**21 22 06.6**	**+0.5**
	comp=Z,12nm,0.9s,mb4.8						
INK	**Inuvik**	**46.37**	**30**	*e*P	**P**	**21 22 06.6**	**+0.5**
INK				pmax	pmax		
	comp=Z,12nm,0.9s						
LSA	**Lhasa**	**46.46**	**272**	P	**P**	**21 22 08.1**	**+1.3**
	comp=Z,1.7nm,0.7s,mb4.1						
LSA	**Lhasa**	**46.46**	**272**	P	**P**	**21 22 08.1**	**+1.3**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**49.42**	**310**	*e*P	**P**	**21 22 28.9**	**-0.7**
	comp=Z,3.5nm,1.1s,mb4.3						
CHKZ	**Chkalovo**	**49.42**	**310**	*e*P	**P**	**21 22 28.9**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
BVAR	**Borovoye Array**	**49.79**	**310**	P	**P**	**21 22 33.2**	**+0.7**
	comp=Z,0.7nm,0.4s,mb4.0,baz=80,slow=11,SNR=6.4						
ZRNK	**Zerenda**	**50.59**	**310**	*e*P	**P**	**21 22 38.1**	**-0.4**
	comp=Z,0.9nm,0.4s,mb4.0						
ZRNK	**Zerenda**	**50.59**	**310**	*e*P	**P**	**21 22 38.2**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ARU	**Arti**	**54.62**	**317**	⇑*e*P	**P**	**21 23 08.2**	**-0.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
RES	**Resolute Bay**	**55.01**	**17**	*e*P	**P**	**21 23 10.3**	**-0.8**
	comp=Z,7.0nm,0.9s,mb4.7						
RES	**Resolute Bay**	**55.01**	**17**	*e*P	**P**	**21 23 10.3**	**-0.8**
RES				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
YKA	**Yellowknife Ar**	**55.75**	**34**	P	**P**	**21 23 16.8**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=298,slow=6.8,SNR=24						
YKA	**Yellowknife Ar**	**55.75**	**34**	P	**P**	**21 23 16.8**	**+0.4**
YKA	**Yellowknife Ar**	**55.75**	**34**	⇑*e*P	**P**	**21 23 16.7**	**+0.2**
AKTK	**Aktyubinsk**	**57.82**	**311**	P	**P**	**21 23 30.9**	**-0.3**
AKTO	**Aktyubinsk**	**57.82**	**311**	P	**P**	**21 23 30.9**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=65,slow=9.4,SNR=6.2						
AKTO	**Aktyubinsk**	**57.82**	**311**	P	**P**	**21 23 30.9**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**59.45**	**340**	P	**P**	**21 23 41.5**	**-1.0**
	comp=Z,3.2nm,0.9s,mb4.3,baz=49,slow=7.5,SNR=9.3						
JOF	**Joensuu**	**62.32**	**332**	*ep*	**P**	**21 24 01.3**	**-0.6**
WRA	**Warramunga Arr**	**64.41**	**194**	P	**P**	**21 24 15.3**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.8,baz=8.8,slow=6.8,SNR=8.3						
FINES	**FINESS Array B**	**65.10**	**333**	P	**P**	**21 24 19.2**	**-1.1**
	comp=Z,2.2nm,0.5s,mb4.4,baz=45,slow=7.5,SNR=40						

FINES	FINESS Array B	65.10	333	P		P	21 24 19.2	-1.1
FINES	FINESS Array B	65.10	333	*i* P		P	21 24 19.7	-0.6
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
OBN	Obninsk	65.57	324⇑	*e*P		P	21 24 22.9	-0.4
OBN				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.7							
ASAR	Alice Springs	68.12	193	P		P	21 24 39.7	+0.2
	comp=Z,0.5nm,0.5s,mb3.8,baz=12,slow=6.3,SNR=8.1							
PDAR	Pinedale Array	69.78	51	P		P	21 24 50.5	+0.7
	comp=Z,0.5nm,0.5s,mb3.7,baz=28,slow=0.4,SNR=6.5							
NB2	NORSAR Subarra	69.81	339	P		P	21 24 49.3	-0.7
	comp=Z,1.3nm,0.4s,mb4.2,baz=31,slow=6.5							
NB2	NORSAR Subarra	69.81	339	P		P	21 24 49.3	-0.7
NB2				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
NOA	NORSAR Array B	69.81	339	P		P	21 24 49.6	-0.4
	comp=Z,2.7nm,0.4s,mb4.5,baz=31,slow=6.5,SNR=9.3							
HFS	Hagfors	69.91	337	P		P	21 24 50.0	-0.6
	comp=Z,3.6nm,0.4s,mb4.7,baz=39,slow=5.7,SNR=38							
KIV	Kislovodsk	70.04	312	*e*P		P	21 24 51.6	+0.2
KIV				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
ULM	Lac du Bonnet	71.43	37	P		P	21 24 59.0	-0.9
	comp=Z,1.2nm,0.6s,mb4.0,baz=313,slow=9.0,SNR=3.3							
AKASG	Malin Array Be	71.84	324	P		P	21 25 01.9	-0.5
	comp=Z,2.6nm,0.5s,mb4.4,baz=40,slow=6.2,SNR=17							
MLR	Muntele Rosu	77.22	322	P		P	21 25 34.2	+0.7
	comp=Z,1.0nm,0.3s,mb4.2,baz=153,slow=19,SNR=2.1							
SCHQ	Schefferville	77.64	20	P		P	21 25 36.2	+0.3
	comp=Z,2.2nm,0.9s,mb4.1,baz=338,slow=5.4,SNR=3.6							
SCHQ	Schefferville	77.64	20	P		P	21 25 36.2	+0.3
BRTR	Keskin Array B	77.82	314	P		P	21 25 37.8	+0.9
	comp=Z,0.9nm,0.7s,mb3.8,baz=65,slow=7.0,SNR=5.5							
KHC	Kasperske Hory	79.19	331	*e*P		P	21 25 45.0	+0.5
GERES	GERESS Array B	79.39	331	P		P	21 25 45.5	0.0
	comp=Z,0.7nm,0.5s,mb3.9,baz=45,slow=4.7,SNR=7.8							
IDI	Anoyia	85.69	316	P		P	21 26 18.8	+0.5
	comp=Z,3.8nm,0.8s,mb4.7,baz=277,slow=8.1,SNR=3.4							
TORD	Torodi Ar. Bea	115.45	323	PKP		PKPdf	21 32 21.1	+0.1
	comp=Z,0.2nm,0.3s,baz=21,slow=2.1,SNR=9.6							
PLCA	Paso Flores	151.80	97	PKPbc		PKPbc	21 33 34.4	+0.5
	comp=Z,1.2nm,0.8s,baz=302,slow=14,SNR=3.4							
PLCA	Paso Flores	151.80	97	PKPbc		PKPbc	21 33 34.4	+0.5

ISCJB ***30*** *21:18:34.7±0.3, 1388N±003×12001E±007, h15km, mb4.5/59, MS4.1/24, Error ellipse: s-maj=9.8km s-min=4.4km az=170.9*
NEIC ***30*** *21:18:35.5±0.2, 1395N×120.16E, h10km, mb4.7/23, Error ellipse: s-maj=11.0km s-min=4.6km az=72.0*
BJI ***30*** *21:18:35.0, 1389N×120.44E, h20km, mB4.8, mb4.5, Ms4.5, Msz4.1*
MAN ***30*** *21:18:37.5, 1388N×11967E, h27km, mb3.9, ML4.9, MS5.3*
MOS ***30*** *21:18:40.2±0.9, 1396N×120.11E, h60km, mb4.9/27, Error ellipse: s-maj=15.1km s-min=6.9km az=113.1*
IDC ***30*** *21:18:41.7±1.5, 1390N×12004E, h58km±14km, mb4.0/19, mb1 4.1/19, mb1mx4.0/24, mbtmp4.3/19, MS4.0/14, Ms1 4.0/14, ms1mx3.9/26, Error ellipse: s-maj=19.9km s-min=11.7km az=76.0*
ISC 30 21:18:37.0±0.2, 1388N±003×11987E±004, h16km, h16km±2.2km: pP-P, n121, σ1°26/133, mb4.5/59, MS4.1/24, 7C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TGY	Tagaytay City	1.06	78	P		Pb	21 18 58.1	+1.1
	2μm,0.3s,baz=270,slow=2.5,SNR=124						
TGY				S		Sb	21 19 11.5	+0.9
	3μm,0.3s,baz=302,slow=17,SNR=18						
TGY	Tagaytay City	1.06	78	*i*P		Pb	21 18 59.0	+2.0
TGY				*i* S		Sb	21 19 12.7	+2.1
PGP	Puerto Galera	1.12	109	*i*P		Pb	21 18 59.5	+1.5
PGP				*i* S		Sb	21 19 02.0	-10
LQP	Lukban	1.64	82	*e*P		Pn	21 19 07.5	+2.4
SJMP	San Jose	1.86	139	*e*P		Pn	21 19 09.8	+1.6
PCPH	Palayan	2.05	35	*e*P		Pn	21 19 11.5	+0.6
PCPH				*e*S		Sn	21 19 19.4	-17
GQP	Guinayangan	2.50	89	*i*P		Pn	21 19 20.2	+3.1
GQP				*i* S		Sn	21 19 58.7	+11
BCPH	Baguio City Da	2.58	15	*e*P		Pn	21 19 19.0	+0.8
BCPH				*e*S		Sn	21 19 50.9	+1.6
RCP	Roxas	3.63	129	*e*P		Pn	21 19 38.5	+5.9
PALP	Palanan	4.01	38	*e*P		Pn	21 19 40.5	+2.6
PPR	Puerto Princes	4.22	195	*i*P		Pn	21 19 41.2	+0.4
CVP	Callao Caves	4.24	26	*e*P		Pn	21 19 43.2	+2.2
BATP	Bataraza	5.44	202	*e*P		Pn	21 19 57.8	+0.3
SSE	Sheshan	17.18	4	*e*P		Pn	21 22 33.0	-3.4
SSE				AP		pP	21 22 42.5	+0.2
SSE				XP		sP	21 22 46.8	+2.4
SSE				S		Sn	21 25 42.5	-4.6
SSE				AMB		AMB		
	comp=Z,45nm,0.7s							
SSE				AMB		AMB		
	comp=Z,123nm,5.3s							
SSE				LR		LR		
	comp=N,403nm,19.6s							
SSE				LR		LR		
	comp=E,129nm,19.6s							
SSE				LR		LR		
	comp=Z,492nm,20.0s							
GYA	Guiyang	17.59	317	P		Pn	21 22 44.3	+2.8
GYA				AP		pP	21 22 49.0	+2.1
GYA				XP		sP	21 22 51.5	+2.5
GYA				PP			21 22 58.8	
GYA				S		Sn	21 26 02.5	+5.3
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
GYA				AMB		AMB		
	comp=Z,80nm,3.0s							
GYA				LR		LR		
	comp=N,430nm,15.2s							
GYA				LR		LR		
	comp=E,570nm,15.0s							
GYA				LR		LR		
	comp=Z,410nm,14.8s							
NJ2	Nanjing	18.11	357	*e*P		Pn	21 22 48.0	+0.1
NJ2				AP		pP	21 22 51.8	-0.9
NJ2				XP		sP	21 22 55.0	+0.3
NJ2				PP			21 23 03.3	
NJ2				S		Sn	21 26 05.0	-4.7
NJ2				XS		sS	21 26 13.0	-9.3
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.9s							
NJ2				AMB		AMB		
	comp=Z,130nm,6.3s							
NJ2				LR		LR		
	comp=N,700nm,16.2s							
NJ2				LR		LR		
	comp=E,1μm,19.4s							
NJ2				LR		LR		
	comp=Z,310nm,23.8s							
KMI	Kunming	19.62	307	P		Pn	21 23 10.0	+3.9
KMI				XP		sP	21 23 19.0	+7.8
KMI				PPP			21 23 35.5	
KMI				S		Sn	21 26 51.0	+5.0
KMI				XS		sS	21 27 01.3	+8.6
KMI				SS			21 27 16.3	
KMI				AMB		AMB		
	comp=Z,8.0nm,1.1s							
KMI				AMB		AMB		
	comp=Z,114nm,5.0s							
KMI				LR		LR		
	comp=N,269nm,13.9s							
KMI				LR		LR		
	comp=E,397nm,13.9s							
KMI				LR		LR		
	comp=Z,517nm,14.8s							
XAN	Xi'an	22.39	336	P		P	21 23 34.0	-0.7
XAN				S		S	21 27 38.3	-2.1
XAN				AMB		AMB		
	comp=Z,12nm,1.4s,mb4.1							
XAN				AMB		AMB		
	comp=Z,82nm,6.8s							
XAN				LR		LR		
	comp=N,357nm,20.1s							
XAN				LR		LR		
	comp=Z,338nm,16.5s,MS3.9							
CD2	Chengdu	22.52	321	*e*P		P	21 23 40.3	+4.3
CD2				XP		sP	21 23 53.3	+11
CD2				PP			21 24 11.0	
CD2				PPP			21 24 23.0	
CD2				S		S	21 27 45.8	+3.1
CD2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.4							
CD2				AMB		AMB		
	comp=Z,100nm,4.7s							
CD2				LR		LR		
	comp=N,290nm,12.6s							
CD2				LR		LR		
	comp=Z,290nm,15.6s,MS3.8							
PSI	Prapat	23.43	244	P		P	21 23 48.0	+2.4
	comp=Z,4.4nm,0.8s,mb4.0,baz=10.0,slow=7.9,SNR=4.3							
PSI				LR		LR	21 32 27.1	
	comp=Z,202nm,19.7s,MS3.6,baz=227,slow=35							
GUMO	Guam	24.29	88	LR		LR	21 31 43.5	
	comp=Z,281nm,19.5s,MS3.8,baz=252,slow=32							
LZH	Lanzhou	26.38	330	*e*P		P	21 24 19.8	+7.2
LZH				AP		pP	21 24 23.3	+5.9
LZH				PP			21 24 59.5	
LZH				PCP		PcP	21 27 40.8	+2.8
LZH				XS		sS	21 28 58.8	+5.7
LZH				AMB		AMB		
	comp=Z,27nm,1.3s,mb4.6							
LZH				AMB		AMB		
	comp=Z,86nm,4.9s							
LZH				LR		LR		
	comp=N,838nm,12.5s							
LZH				LR		LR		
	comp=Z,1μm,14.2s,MS4.6							
HHC	Hu-ho-hao-te	27.83	346	*e*P		P	21 24 26.5	+0.9
HHC				AP		pP	21 24 30.8	+0.4
HHC				XP		sP	21 24 33.5	+1.1
HHC				PP			21 25 16.3	
HHC				PCP		PcP	21 27 41.8	+0.3
HHC				S		S	21 29 08.5	+0.4
HHC				XS		sS	21 29 15.8	-0.3
HHC				SS			21 30 29.0	
HHC				SCP		ScP	21 31 21.8	+0.2
HHC				AMB		AMB		
	comp=Z,10.0nm,0.4s,mb4.8							
HHC				AMB		AMB		
	comp=Z,108nm,5.7s							
HHC				LR		LR		
	comp=N,346nm,16.7s							
HHC				LR		LR		
	comp=E,350nm,6.4s							
HHC				LR		LR		
	comp=Z,302nm,19.6s,MS3.9							
KAKA	Kakadu	29.21	154	*e*P		P	21 24 36.5	-1.4
	comp=Z,6.7nm,0.7s,mb4.5							
CN2	Changchun	30.20	8	*e*P		P	21 24 47.0	+0.3
CN2				*e*XP		sP	21 24 53.0	-0.5
CN2				*e*S		S	21 29 45.0	-0.4
CN2				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.5							
CN2				AMB		AMB		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,200nm,13.0s,MS4.2							
CN2				LR		LR		
	comp=E,300nm,13.0s,MS4.2							
CN2				LR		LR		
	comp=Z,400nm,15.0s,MS4.2							
LSA	Lhasa	30.85	305	*e*P		P	21 24 55.2	+2.8
	comp=Z,8.0nm,1.3s,mb4.4							
LSA	Lhasa	30.85	305	*e*P		P	21 24 55.2	+2.8
LSA				pmax		pmax		
	comp=Z,8.0nm,1.3s,mb4.4							
GTA	Gaotai	30.97	329	*e*P		P	21 25 00.8	+7.4
GTA				AP		pP	21 25 07.3	+9.1
GTA				XP		sP	21 25 11.5	+11
GTA				PCP		PcP	21 27 50.8	+1.4
GTA				SCP		ScP	21 31 31.5	-0.1
GTA				PCS		PcS	21 31 34.3	+0.8
GTA				SCS		ScS	21 35 27.0	-1.5
GTA				AMB		AMB		
	comp=Z,2.0nm,0.9s,mb4.0							
GTA				AMB		AMB		
	comp=Z,96nm,4.6s							
GTA				LR		LR		
	comp=N,446nm,16.1s,MS4.3							
GTA				LR		LR		
	comp=E,438nm,16.8s,MS4.3							
GTA				LR		LR		
	comp=Z,664nm,17.2s,MS4.4							
MDJ	Mudanjiang	31.74	13	P		P	21 25 00.0	-0.2
MDJ				AP		pP	21 25 03.0	-2.0
MDJ				AMB		AMB		
	comp=Z,16nm,1.3s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,75nm,4.4s							
MDJ	Mudanjiang	31.74	13	*e*P		P	21 25 00.1	-0.1
	comp=Z,14nm,1.0s,mb4.7							
FITZ	Fitzroy Crossi	32.28	170	*e*P		P	21 25 04.3	-0.7
	comp=Z,15nm,1.2s,mb4.7							
FITZ	Fitzroy Crossi	32.28	170	P		P	21 25 03.8	-1.2
	comp=Z,7.9nm,1.0s,mb4.5,baz=9.1,slow=9.8,SNR=6.4							
MBWA	Marble Bar	34.82	180	*e*P		P	21 25 28.5	+1.4
	comp=Z,3.4nm,0.6s,mb4.5							
HIA	Hailar	35.29	360	*e*P		P	21 25 29.1	-2.0
	comp=Z,7.0nm,0.8s,mb4.6							
HIA	Hailar	35.29	360	*e*P		P	21 25 29.2	-1.9
HIA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
ULN	Ulaanbaatar	35.52	345	P		P	21 25 33.2	+0.1
	comp=Z,1.5nm,0.6s,mb4.1							
ULN	Ulaanbaatar	35.52	345	P		P	21 25 33.2	0.0
ULN				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
SONM	Songino Array	35.66	344	P		P	21 25 34.1	-0.3
	comp=Z,1.4nm,0.6s,mb4.1,baz=157,slow=8.7,SNR=10							
SONM				PcP		PcP	21 28 02.4	-0.2
	comp=Z,3.5nm,0.9s,baz=177,slow=2.2,SNR=11							
SONM				ScP		ScP	21 31 43.8	-4.2
	comp=Z,0.4nm,0.9s,baz=153,slow=4.8,SNR=2.8							
SONM				LR		LR	21 41 23.0	
	comp=Z,224nm,18.1s,MS4.0,baz=295,slow=38							
SONM	Songino Array	35.66	344	P		P	21 25 34.1	-0.3
SONM							21 28 02.4	
ASAJ	Asahikawa	35.85	28	LR		LR	21 41 22.3	
	comp=Z,126nm,18.1s,MS3.7,baz=342,slow=38							
WRAB	Tennant Creek	36.49	157	*e*P		P	21 25 40.7	-0.8
	comp=Z,56nm,0.9s,mb5.5							
WRAB	Tennant Creek	36.49	157	*e*P		P	21 25 40.7	-0.8
WRAB				pmax		pmax		
	comp=Z,56nm,0.9s,mb5.5							
WRA	Warramunga Arr	36.50	157	P		P	21 25 40.6	-0.9
	comp=Z,32nm,0.9s,mb5.3,baz=336,slow=9.5,SNR=128							
KLR	Kul'dur	36.58	13	*e*P		P	21 25 37.9	-4.3
HABR	Khabarovsk	36.71	17	*e*P		P	21 25 37.9	-5.5
HABR				*e*S		S	21 31 17.5	-8.8
CIT	Chita	38.38	354	*e*P		P	21 25 56.0	-1.5
CIT				pmax		pmax		
	comp=Z,47nm,1.6s,mb5.0							
ZAK	Zakamensk	38.83	343	*e*P		P	21 25 59.5	-1.8
ZAK				*e*			21 28 12.1	
ZAK				pmax		pmax		
	comp=Z,7.0nm,2.0s,mb4.0							
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.3s,mb4.1							
ASAR	Alice Springs	39.76	160	P		P	21 26 09.0	0.0
	comp=Z,13nm,0.7s,mb4.8,baz=334,slow=7.2,SNR=115							
HYB	Hyderabad	39.89	281	*i* P		pP	21 26 22.0	+7.1
WMQ	Urumqi	40.58	324	*e*P		P	21 26 16.5	+0.7
WMQ				AP		pP	21 26 21.0	+0.3
WMQ				PP		PP	21 27 54.0	+4.7
WMQ				PCP		PcP	21 28 18.5	+0.7
WMQ				PPP			21 28 22.0	
WMQ				*e*S		S	21 32 26.0	+1.4
WMQ				SS		SS	21 35 21.5	-3.1
WMQ				AMB		AMB		
	comp=Z,15nm,0.8s,mb4.7							
WMQ				AMB		AMB		
	comp=Z,106nm,4.2s							
WMQ				LR		LR		
	comp=N,367nm,19.0s,MS4.4							
WMQ				LR		LR		
	comp=E,351nm,19.0s,MS4.4							
WMQ				LR		LR		
	comp=Z,394nm,19.0s,MS4.3							
MOY	Mondy	40.64	342	*e*P		P	21 26 16.8	+0.5
BHPL	Bhopal	41.17	289	*e*P		P	21 26 30.6	+10
CTA	Charters Tower	42.58	142	*e*P		P	21 26 31.5	-0.7
	comp=Z,8.1nm,0.9s,mb4.5							
CTA	Charters Tower	42.58	142	*e*P		P	21 26 31.5	-0.7
CTA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
AJM	Ajmer	44.05	294	*e*P		pP	21 26 54.4	+5.5
BOD	Bodaibo	44.08	355	*e*P		P	21 26 43.4	-0.9
BOD				pmax		pmax		
	comp=Z,7.0nm,1.4s,mb4.2							
FORT	Forrest	45.09	170	*e*P		P	21 26 52.9	+0.5
	comp=Z,92nm,0.8s							
KLBR	Kellerberrin	45.25	183	*e*P		P	21 26 53.9	+0.2
	comp=Z,20nm,1.0s,mb4.9							
MKAR	Makanchi Array	45.41	324	P		P	21 26 56.1	+1.2
	comp=Z,2.4nm,0.9s,mb4.0,baz=131,slow=8.7,SNR=18							
MKAR				PcP		PcP	21 28 34.4	+0.4
	comp=Z,2.1nm,1.0s,baz=108,slow=4.7,SNR=3.4							
MKAR				LR		LR	21 47 28.2	
	comp=Z,288nm,18.0s,MS4.2,baz=119,slow=38							
MKAR	Makanchi Array	45.41	324	P		P	21 26 56.1	+1.2
MKAR							21 28 34.4	
NWAO	Narrogin (SRO)	46.61	183	P		P	21 27 05.0	+0.7
	comp=Z,4.4nm,0.6s,mb4.5,baz=21,slow=5.8,SNR=5.1							
NWAO	Narrogin (SRO)	46.61	183	*e*P		P	21 27 04.6	+0.3
	comp=Z,10nm,0.9s,mb4.8							
NWAO	Narrogin (SRO)	46.61	183	*e*P		P	21 27 04.6	+0.3
NWAO				pmax		pmax		
	comp=Z,10.0nm,0.9s							
ZAL	Zalesovo	48.53	333	P		P	21 27 18.4	-0.9
	comp=Z,1.6nm,0.5s,mb4.3,baz=349,slow=7.7,SNR=11							
ZAL				LR		LR	21 49 28.2	
	comp=Z,330nm,18.2s,MS4.4,baz=96,slow=38							
ZAL	Zalesovo	48.53	333	P		P	21 27 18.4	-0.9
ZAL				LR		LR	21 49 28.2	
YAK	Yakutsk	48.60	6	*e*P		P	21 27 17.2	-2.6
	comp=Z,46nm,0.9s,mb5.5							
YAK	Yakutsk	48.60	6	*e*P		P	21 27 18.1	-1.7
KURK	Kurchatov	49.60	327	*e*P		P	21 27 28.2	+0.7
	comp=Z,20nm,1.0s,mb5.1							
KURK	Kurchatov	49.60	327	*e*P		P	21 27 28.2	+0.7
KURK				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.1							
NVS	Novosibirsk	49.82	333	*e*P		P	21 27 27.7	-1.4
NVS				*e*S		S	21 34 35.4	-2.7
NVS				pmax		pmax		
	comp=N,4.0nm,1.2s							
NVS				pmax		pmax		
	comp=E,10.0nm,1.2s							
NVS				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.8							
NVS				smax				
	comp=N,11nm,2.1s							
NVS				smax				
	comp=E,13nm,2.1s							
STKA	Stephens Creek	50.03	156	P		P	21 27 27.5	-3.3
	comp=E,8.1nm,0.9s,mb4.7,baz=342,slow=8.1,SNR=7.6							
STKA	Stephens Creek	50.03	156	*e*P		P	21 27 29.1	-1.7
BVAR	Borovoye Array	55.17	326	P		P	21 28 08.8	-0.1
	comp=E,1.2nm,0.6s,mb4.1,baz=111,slow=8.1,SNR=9.0							
BRVK	Borovoye	55.25	326	*e*P		P	21 28 10.2	+0.8
	comp=E,8.0nm,1.1s,mb4.7							
BRVK	Borovoye	55.25	326	*e*P		P	21 28 10.2	+0.8
BRVK				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.7							
CHKZ	Chkalovo	55.34	327	*e*P		P	21 28 10.3	+0.3
	comp=Z,5.4nm,0.9s,mb4.6							
CHKZ	Chkalovo	55.34	327	*e*P		P	21 28 10.3	+0.3
CHKZ				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
ZRNK	Zerenda	55.90	325	*e*P		P	21 28 14.1	+0.1
	comp=Z,11nm,1.3s,mb4.7							
ZRNK	Zerenda	55.90	325	*e*P		P	21 28 14.1	0.0
ZRNK				pmax		pmax		
	comp=Z,11nm,1.3s,mb4.7							
DZM	Mont Dzumac	57.98	127	LR		LR	21 50 28.7	
	comp=Z,93nm,19.3s,MS3.9,baz=71,slow=33							
TIXI	Tiksi	58.00	3	*e*P		P	21 28 21.5	-7.5
TIXI				*e*S		S	21 36 18.7	-10
TIXI				pmax		pmax		
	comp=Z,22nm,0.9s,mb5.2							
TIXI				MLR		MLR		
	comp=Z,156nm,18.0s,MS4.2							
AKTK	Aktyubinsk	61.56	320	P		P	21 28 53.8	+0.3
AKTK				LR		LR	21 56 39.8	
AKTO	Aktyubinsk	61.56	320	P		P	21 28 53.8	+0.3
	comp=Z,4.7nm,0.9s,mb4.6,baz=102,slow=6.2,SNR=13							
AKTO				LR		LR	21 56 39.8	
	comp=Z,107nm,21.0s,MS4.0,baz=269,slow=37							
BILL	Bilibino	61.79	18⇑	*e*P		P	21 28 54.0	-1.0
BILL				*e*			21 29 07.8	
BILL				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.6							
BILL				MLR		MLR		
	comp=Z,100nm,18.0s,MS4.0							
SVE	Sverdlovsk	61.82	328⇑	*e*P		P	21 28 56.3	+1.1
SVE				*e*			21 29 11.0	
SVE				pmax		pmax		
	comp=Z,24nm,1.0s,mb5.3							
ARU	Arti	62.79	327	*e*P		P	21 29 01.2	-0.5
	comp=Z,9.9nm,1.0s,mb4.9							
ARU	Arti	62.79	327⇑	*i*P		P	21 29 01.3	-0.4
ARU				*e*			21 31 23.4	
ARU				*e*PPP			21 32 47.5	
ARU				*e*S		S	21 37 29.8	-0.4
ARU				*e*SS		SS	21 41 37.6	+2.5
ARU				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.8							
GNI	Garni	69.87	308	*e*P		P	21 29 49.0	+1.9
GNI				pmax		pmax		
	comp=Z,6.0nm,1.1s							
ZEI	Tsey	70.45	311	*i* P		P	21 29 51.2	+0.6
ZEI				*e*S		S	21 39 03.4	+0.5
ZEI				pmax		pmax		
	comp=Z,4.0nm,1.2s,mb4.2							
KIV	Kislovodsk	71.31	312	*e*P		P	21 29 56.1	+0.3
	comp=Z,12nm,1.2s,mb4.7							
KIV	Kislovodsk	71.31	312	*e*P		P	21 29 56.8	+1.0
KIV				pmax		pmax		
	comp=Z,11nm,1.1s,mb4.7							
SOC	Sochi	73.47	312	*e*P		P	21 30 07.7	-1.1
SOC				*e*PP		pP	21 30 19.4	+5.5
SOC				*e*			21 32 55.4	
SOC				*e*S		S	21 39 33.1	-4.6
SOC				*e*			21 40 14.1	
SOC				pmax		pmax		
	comp=Z,15nm,1.0s,mb4.9							
MALT	Malatya	74.88	306	*e*P		P	21 30 18.8	+1.8
	comp=Z,5.2nm,1.1s,mb4.4							
MALT	Malatya	74.88	306	*e*P		P	21 30 18.8	+1.8
MALT				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.4							
OBN	Obninsk	74.92	324⇓	*e*P		P	21 30 16.5	-0.7
OBN				*e*			21 30 31.7	
OBN				pmax		pmax		
	comp=Z,16nm,1.6s,mb4.7							
OBN				MLR		MLR		
	comp=Z,200nm,18.0s,MS4.5							
JOF	Joensuu	77.11	332	*e*p		P	21 30 29.5	-0.2
	comp=Z,3.0nm,0.9s,mb4.2							
MCK	McKinley	78.21	27	*e*P		P	21 30 34.4	-1.4
	comp=Z,3.9nm,1.0s,mb4.3							
MCK	McKinley	78.21	27	*e*P		P	21 30 34.4	-1.4
MCK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
BRTR	Keskin Array B	78.41	308	P		P	21 30 37.5

comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 83.10 267 LR LR 22 07 40.4
comp=Z,84nm,18.5s,MS4.1,baz=94,slow=35
INK Inuvik 83.22 21 P **P 21 31 00.8 -1.8**
comp=Z,3.0nm,1.0s,mb4.3,baz=260,slow=3.7,SNR=4.4
INK Inuvik 83.22 21 *e*P **P 21 31 01.5 -1.1**
comp=Z,4.6nm,1.1s,mb4.4
INK Inuvik 83.22 21 *e*P **P 21 31 01.5 -1.1**
INK pmax pmax
comp=Z,5.0nm,1.1s
HFS Hagfors 85.93 331 P **P 21 31 16.7 +0.3**
comp=Z,1.7nm,0.7s,mb4.4,baz=123,slow=5.5,SNR=6.7
NB2 NORSAR Subarra 86.73 332 P **P 21 31 18.6 -1.7**
comp=Z,3.3nm,0.8s,mb4.6,baz=69,slow=4.6
NB2 NORSAR Subarra 86.73 332 P **P 21 31 18.6 -1.7**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
NOA NORSAR Array B 86.73 332 P **P 21 31 18.4 -1.8**
comp=Z,1.9nm,0.8s,mb4.4,baz=66,slow=4.8,SNR=5.4
NOA LR LR 22 13 05.9
comp=Z,73nm,18.8s,MS4.1,baz=85,slow=38
RES Resolute Bay 88.98 9 *e*P **P 21 31 29.8 -1.3**
comp=Z,6.4nm,1.0s,mb4.9
RES Resolute Bay 88.98 9 *e*P **P 21 31 29.8 -1.2**
RES pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
YKA Yellowknife Ar 92.92 22 P **P 21 31 47.6 -1.7**
comp=Z,1.7nm,0.9s,mb4.5,baz=314,slow=4.5,SNR=25
VNDA Vanda 94.33 172 P **P 21 31 55.0 -0.8**
comp=Z,1.3nm,0.9s,mb4.3,baz=344,slow=5.5,SNR=5.6
PPT Papeete 94.62 107 LR LR 22 12 06.2
comp=Z,292nm,19.3s,MS4.8,baz=78,slow=34

*ISCJB **30** 21:27:20.5±1.7, 19.10N±0.009×65.14W±0.006, h20km, Error ellipse: s-maj=13.5km s-min=7.3km az=144.4*
*NEIC **30** 21:27:20.2, 1922N×6505W, h20km, MD2.0(FDF), MD2.7(RSPR), After RSPR.*
*RSPR **30** 21:27:20.2, 1922N×6505W, h20km±24km, MD2.7/4, MD2.7/4*
*TRN **30** 21:28:26.0, 1581N×6166W, h5km, M2.0(FDF)*

ISC 30 21:27:22.4±1.7, 1901N±0.009×6517W±0.006, h20km, n14, σ1§47/18, 6C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.68**	**163**	*e*S	**Sb**	**21 27 45.7**	**+1.0**
STVI	**Saint Thomas**	**0.68**	**163**	⇓*e*P	**Pb**	**21 27 34.9**	**-0.7**
STVI				*e*S	**Sb**	**21 27 45.7**	**+1.0**
TBVI	**Tortola**	**0.80**	**138**	*e*S	**Sb**	**21 27 46.2**	**-1.8**
TBVI	**Tortola**	**0.80**	**138**	⇑*e*P	**Pb**	**21 27 34.4**	**-3.2**
TBVI				*e*S	**Sb**	**21 27 46.2**	**-1.8**
CBYP	**Canovanas**	**0.98**	**222**	*e*S	**Sb**	**21 27 54.0**	**+0.8**
CBYP	**Canovanas**	**0.98**	**222**	⇑*e*P	**Pb**	**21 27 39.1**	**-1.6**
CBYP				*e*S	**Sb**	**21 27 54.0**	**+0.8**
MTP	**Monte Pirata**	**0.98**	**202**	*e*S	**Sb**	**21 27 54.1**	**+0.9**
MTP	**Monte Pirata**	**0.98**	**202**	⇑*e*P	**Pb**	**21 27 39.5**	**-1.2**
MTP				*e*S	**Sb**	**21 27 54.1**	**+0.9**
SCG	**Saint Claude**	**4.46**	**131**	⇑*e*P	**Pn**	**21 28 30.8**	**+2.0**
BCG	**Bois Riant Cap**	**4.46**	**130**	*e*P	**Pn**	**21 28 30.8**	**+1.9**
DOG	**Dongo Capester**	**4.50**	**131**	⇑*e*P	**Pn**	**21 28 30.8**	**+1.4**
TBG	**Guadaloupe-3**	**4.60**	**132**	⇓*i*P	**Pn**	**21 28 27.3**	**-3.6**
DEG	**La Desirade**	**4.75**	**124**	*e*P	**Pn**	**21 28 41.5**	**+8.7**
MGG	**Marie-Galante**	**4.79**	**129**	⇑*e*P	**Pn**	**21 28 32.9**	**-0.6**

*IDC **30** 21:37:22.5±1.3, 4475N×3691E, h0km, mb3.4/5, mb1 3.6/9, mb1mx3.4/23, mbtmp3.5/9, ML3.7/4, Error ellipse: s-maj=19.0km s-min=13.4km az=8.0*
*CSEM **30** 21:37:23.4±0.1, 4475N×3703E, h24km, mb4.0, Error ellipse: s-maj=2.8km s-min=2.1km az=14.0*
*NEIC **30** 21:37:23.4±0.7, 4478N×3699E, h10km, mb3.3/1, Error ellipse: s-maj=11.8km s-min=9.0km az=106.0*
*ISCJB **30** 21:37:25.0±0.5, 4476N±0.005×3700E±0.004, h44km±6km, mb3.3/4, Error ellipse: s-maj=7.7km s-min=5.1km az=4.3*
*MOS **30** 21:37:24.5±2.7, 4505N×3693E, h24km, mb4.0/1, Error ellipse: s-maj=10.0km s-min=8.2km az=127.8*

ISC 30 21:37:25.9±0.7, 4482N±0.004×3695E±0.004, h27km±7km, n43, σ1§16/57, mb3.3/4, 4C-2D, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.35**	**93**	*i*P	**Pb**	**21 37 33.7**	**-0.1**
ANN				*i*S	**Sb**	**21 37 39.4**	**+0.2**
KERU	**Kerch**	**0.60**	**325**	*i*P	**Pb**	**21 37 41.5**	**+3.6**
KERU	60nm,0.5s						
KERU	**Kerch**	**0.60**	**325**	⇑*i*P	**Pb**	**21 37 41.5**	**+3.6**
KERU				pmax	pmax		
	comp=Z,60nm,0.5s						
FEO	**Feodosiya**	**1.12**	**281**	*e*P	**Pn**	**21 37 48.7**	**+2.9**
	comp=Z,100nm,1.0s						
FEO				*e*S	**Sn**	**21 38 04.7**	**+4.3**
FEO	**Feodosiya**	**1.12**	**281**	*e*P	**Pn**	**21 37 48.7**	**+2.9**
FEO				*e*S	**Sn**	**21 38 04.7**	**+4.3**
FEO				pmax	pmax		
	comp=Z,100nm,1.0s						
FEO				smax			
	comp=N,150nm,0.4s						
FEO				smax			
	comp=E,150nm,0.4s						
SUDU	**Sudak**	**1.39**	**274**	*e*P	**Pn**	**21 37 50.7**	**+1.3**
	comp=E,40nm,0.3s						
SUDU				*e*S	**Sn**	**21 38 08.5**	**+1.6**
	comp=E,200nm,0.6s						
SUDU	**Sudak**	**1.39**	**274**	⇑*e*P	**Pn**	**21 37 50.7**	**+1.3**
SUDU				*e*		21 38 08.5	
SUDU				pmax	pmax		
	comp=Z,40nm,0.3s						
SUDU				smax			
	comp=Z,130nm,0.1s						
SUDU				smax			
	comp=N,200nm,0.6s						
ALU	**Alushta**	**1.82**	**267**	*e*P	**Pn**	**21 37 56.3**	**+0.9**
	comp=N,50nm,0.2s						
ALU				*i*S	**Sn**	**21 38 17.2**	**-0.3**
ALU	**Alushta**	**1.82**	**267**	*e*P	**Pn**	**21 37 56.3**	**+0.9**
ALU				*i*		21 38 17.2	
ALU				pmax	pmax		
	comp=Z,50nm,0.2s						
ALU				smax			
	comp=N,140nm,0.3s						
ALU				smax			
	comp=E,140nm,0.3s						
SIM	**Simferopol'**	**2.02**	**275**	P	**Pn**	**21 37 59.0**	**+0.9**
	comp=E,9.0nm,0.2s						
SIM				*e*S	**Sn**	**21 38 23.0**	**+0.6**
	comp=E,50nm,1.1s						
SIM	**Simferopol'**	**2.02**	**275**	P	**Pn**	**21 37 59.0**	**+0.9**
SIM				*e*S	**Sn**	**21 38 23.0**	**+0.6**
SIM				pmax	pmax		
	comp=Z,9.0nm,0.2s						
SIM				smax			
	comp=E,86nm,1.2s						
SIM				smax			
	comp=N,50nm,1.1s						
YAL	**Yalta**	**2.02**	**262**	*e*P	**Pn**	**21 37 58.4**	**+0.3**
	comp=N,20nm,0.3s						
YAL				*e*S	**Sn**	**21 38 22.4**	**-0.1**
YAL	**Yalta**	**2.02**	**262**	*e*P	**Pn**	**21 37 58.4**	**+0.3**
YAL				*e*		21 38 22.4	
YAL				pmax	pmax		
	comp=Z,20nm,0.3s						
YAL				smax			
	comp=N,110nm,0.6s						
YAL				smax			
	comp=E,110nm,0.6s						
SOC	**Sochi**	**2.34**	**121**	*e*P	**Pn**	**21 38 03.4**	**+0.8**
	comp=E,13nm,1.1s						
SOC				*e*S	**Sn**	**21 38 32.5**	**+2.1**
	comp=E,19nm,0.4s						
SOC	**Sochi**	**2.34**	**121**	*e*P	**Pn**	**21 38 03.4**	**+0.8**
SOC				*e*		21 38 32.5	
SOC				pmax	pmax		
	comp=Z,13nm,1.1s						
SOC				smax			
	comp=N,19nm,0.4s						
SEV	**Sevastopol'**	**2.35**	**265**	*e*P	**Pn**	**21 38 00.4**	**-2.4**
	comp=N,20nm,0.3s						
SEV				*i*S	**Sn**	**21 38 30.6**	**-0.1**
SEV	**Sevastopol'**	**2.35**	**265**	*e*P	**Pn**	**21 38 00.4**	**-2.4**
SEV				*i*		21 38 30.6	
SEV				pmax	pmax		
	comp=Z,20nm,0.3s						
SEV				smax			
	comp=N,70nm,0.4s						
SEV				smax			
	comp=E,40nm,0.4s						
BOYT Boyabat 3.71 204 *i*P **Pn 21 38 20.6 -0.8**							
KIV Kislovodsk 4.20 100 *e*P **Pn 21 38 32.1 +3.9**							
	comp=E,2.0nm,0.7s						
KIV				*e*S	**Sn**	**21 39 21.4**	**+5.1**
KIV Kislovodsk 4.20 100 *e*P **Pn 21 38 32.1 +3.9**							
KIV				*e*S	**Sn**	**21 39 21.4**	**+5.1**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MACK Trabzon 4.39 151 *i*P **Pn 21 38 29.1 -1.7**							
CTKT Corum 4.48 202 *i*P **Pn 21 38 31.4 -0.6**							
ARTV Artvin 5.15 133 *i*P **Pn 21 38 39.9 -1.3**							
BR131 Keskin Array S 5.65 207 *e*P **Pn 21 38 46.5 -1.6**							
	comp=Z,1.4nm,0.3s						
BRTR Keskin Array B 5.65 207 Pn **Pn 21 38 47.0 -1.1**							
	comp=Z,0.4nm,0.3s,baz=49,slow=28,SNR=24						
BRTR				Sn	**Sn**	**21 39 52.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=46,slow=25,SNR=2.5						
TIRR Tirgusor 6.10 270 ⇑P **Pn 21 38 53.4 -0.8**							
CFR Carcaliu 6.26 276 ⇑P **Pn 21 38 57.9 +1.5**							
ELBA Catalca 7.24 243 *i*P **Pn 21 39 08.8 -1.1**							
MLR Muntele Rosu 7.81 279 Sn **Sn 21 40 44.3 -0.8**							
	comp=Z,0.8nm,0.3s,baz=168,slow=22,SNR=3.9						
AKASG Malin Array Be 7.85 321 Pn **Pn 21 39 18.4 0.0**							
	comp=Z,1.9nm,0.3s,baz=135,slow=13,SNR=6.8						
AKASG				Sn	**Sn**	**21 40 43.1**	**-3.2**
	comp=Z,1.6nm,0.3s,baz=132,slow=24,SNR=4.9						
BURAR Bucovina Array 8.60 293 ⇓P **Pn 21 39 28.2 -0.4**							
BURAR Bucovina Array 8.60 293 ⇓P **Pn 21 39 28.2 -0.4**							
AKTO Aktyubinsk 15.26 61 Sn **Sn 21 43 35.2 -12**							
	comp=Z,0.1nm,0.3s,baz=350,slow=11,SNR=2.1						
FINES FINESS Array B 17.84 343 Pn **Pn 21 41 27.7 -4.4**							
	comp=Z,0.4nm,0.3s,baz=154,slow=13,SNR=17						
KAF Kangasniemi 18.40 344 *e*p **Pn 21 41 35.6 -3.4**							
	comp=Z,1.2nm,0.5s						
JOF Joensuu 18.43 352 *e*p **Pn 21 41 37.4 -1.8**							
	comp=Z,1.4nm,0.6s						
DAVOX Davos 18.94 286 P **Pn 21 41 45.5 0.0**							
	comp=Z,0.2nm,0.3s,baz=108,slow=19,SNR=2.6						
HFS Hagfors 20.70 326 P **P 21 42 04.0 +0.1**							
	comp=Z,1.2nm,0.5s,baz=125,slow=13,SNR=11						
HFS Hagfors 20.70 326 P **P 21 42 04.0 +0.1**							
NOA NORSAR Array B 22.23 326 P **P 21 42 19.8 -0.5**							
	comp=Z,0.8nm,0.7s,mb3.3,baz=131,slow=11,SNR=3.5						
ARCES ARCESS Array B 25.46 351 P **P 21 42 51.8 +0.3**							
	comp=Z,1.5nm,0.9s,mb3.5,baz=169,slow=7.4,SNR=9.6						
MKAR Makanchi Array 31.34 70 P **P 21 43 44.6 +0.6**							
	comp=Z,0.2nm,0.7s,mb3.1,baz=283,slow=8.7,SNR=3.1						
YKA Yellowknife Ar 70.64 346 P **P 21 48 39.6 +0.7**							
	comp=Z,0.2nm,0.4s,mb3.4,baz=25,slow=6.2,SNR=4.7						

IDC 30 21:41:10.5±4.5, 1712S×17217W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/17, mbtmp4.1/3, ML1.8/1, Error ellipse: s-maj=141.4km s-min=33.6km az=125.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.22**	**7**	Pn	Pn	21 42 02.4	+0.1
	5.8nm,0.3s,baz=72,slow=23,SNR=4.8						
AFI				Sn	Sn	21 42 37.3	-3.9
	28nm,0.3s,baz=165,slow=18,SNR=9.0						
WRA	**Warramunga Arr 50.62 258**			P		21 50 10.9	-0.3
	0.9nm,0.6s,baz=97,slow=6.8,SNR=28						
ASAR	**Alice Springs 50.72 253**			P		21 50 13.1	+1.1
	3.2nm,0.6s,baz=88,slow=8.8,SNR=54						
BRTR	**Keskin Array B 148.23 320**			PKPbc	PKPbc	22 00 58.3	-0.1
	0.2nm,0.4s,baz=46,slow=4.2,SNR=2.5						

IDC 30 21:58:07.5±3.7, 2505N×4348W, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=171.8km s-min=31.9km az=26.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea 44.11 97**			P	P	22 06 17.8	+0.4
	1.8nm,1.1s,baz=298,slow=8.3,SNR=3.9						
PDAR	**Pinedale Array 56.24 306**			P	P	22 07 50.0	+0.5
	0.5nm,0.9s,baz=82,slow=6.8,SNR=3.5						
YKA	**Yellowknife Ar 59.39 329**			P	P	22 08 11.8	+0.2
	0.1nm,0.3s,baz=99,slow=8.2,SNR=5.6						
ILAR	**Eielson Array 73.13 334**			P	P	22 09 39.0	-0.8
	0.4nm,0.8s,baz=84,slow=4.8,SNR=5.9						

*ISCJB **30** 22:00:26.7±0.8, 3372N±0.004×4883E±0.008, h6km±8km, Error ellipse: s-maj=10.7km s-min=6.6km az=153.7*
*THR **30** 22:00:28.7±0.8, 3374N×4894E, h14km±11km, ML3.1*
*CSEM **30** 22:00:29.2±0.4, 3372N×4891E, h27km±5km, ML3.1, Error ellipse: s-maj=9.7km s-min=7.8km az=98.0*
*KISR **30** 22:00:29.0±1.0, 3330N×4983E, h33km, ML2.7*

ISC 30 22:00:28.1±0.9, 3372N±0.004×4887E±0.007, h3km±8km, n11, σ1§03/20, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**1.26**	**49**	*e*PG	**Pg**	**22 00 51.4**	**-0.9**
ASAO				AML	AML	22 01 13.2	
	comp=N,288nm,0.3s						
ASAO				AML	AML	22 01 13.6	
	comp=E,358nm,0.4s						
SHGR Shooshtar-Gavs 1.61 182 *e*PG **Pg 22 00 58.1 -0.8**							
SHGR				*e*SG	**Sg**	**22 01 20.6**	**+0.8**
SHGR				AML	AML	22 01 24.5	
	comp=N,237nm,0.4s						
SHGR				AML	AML	22 01 24.6	
	comp=E,346nm,0.4s						
SHGR Shooshtar-Gavs 1.61 182 *e*Pg **Pg 22 00 58.1 -0.8**							
SHGR	SNR=90						
SHGR				*e*Sg	**Sg**	**22 01 20.6**	**+0.8**
	SNR=90						
SNGE Sanandaj 1.86 318 *e*PG **Pg 22 01 03.2 -0.5**							
SNGE				*e*SG	**Sg**	**22 01 28.3**	**+0.5**
SNGE				AML	AML	22 01 35.8	
	comp=N,131nm,0.5s						
SNGE Sanandaj 1.86 318 *e*Pg **Pg 22 01 03.2 -0.5**							
SNGE	SNR=90						
SNGE				*e*Sg	**Sg**	**22 01 28.3**	**+0.5**
	SNR=90						
NASN Na'in 3.42 105 *e*PN **Pn 22 01 23.4 +1.1**							
MIB Mutribah 4.12 199 *e*P **Pn 22 01 33.0 +1.2**							
MIB				*e*S	**Sn**	**22 02 21.1**	**+0.5**
MIB				AML	AML	22 02 25.0	
	comp=Z,15nm,0.5s						
MIB Mutribah 4.12 199 *e*P **Pn 22 01 33.0 +1.1**							
MIB				*e*S	**Sn**	**22 02 23.2**	**+2.7**
NAY Al-Naaiem 4.67 198 *e*P **Pn 22 01 39.8 +0.3**							
NAY				*e*S	**Sn**	**22 02 33.1**	**-1.0**
NAY				AML	AML	22 02 36.3	
	comp=Z,3.9nm,0.5s						
NAY Al-Naaiem 4.67 198 *e*P **Pn 22 01 39.8 +0.3**							
NAY				*e*S	**Sn**	**22 02 32.8**	**-1.4**
RDF Al-Radifah 4.91 194 *e*P **Pn 22 01 42.9 +0.1**							
RDF				*e*S	**Sn**	**22 02 38.1**	**-2.0**
RDF				AML	AML	22 02 38.6	
	comp=Z,8.3nm,0.4s						

*ISCJB **30** 22:07:52.7±0.6, 4223N±0.002×4542E±0.004, h5km±7km, Error ellipse: s-maj=4.9km s-min=3.8km az=22.2*
*TIF **30** 22:07:52.9, 4223N×4540E, h17km±3km*
*CSEM **30** 22:07:53.0, 42.16N×4530E, h16km, mb3.7, Error ellipse: s-maj=17.8km s-min=8.0km az=241.0, After OBN*
*MOS **30** 22:07:53.0±1.8, 42.16N×4530E, h16km, mb3.7/1, Error ellipse: s-maj=17.8km s-min=8.0km az=114.1*

ISC 30 22:07:53.5±0.6, 4222N±0.002×4542E±0.004, h12km±6km, n19, σ1§15/34, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	**Dusheti**	**0.55**	**257**	P	**Pg**	**22 08 03.2**	**-1.0**
DUS				S	**Sg**	**22 08 12.4**	**+0.9**
MTA	**Mtatsminda**	**0.70**	**222**	P	**Pg**	**22 08 06.6**	**-0.5**
MTA				S	**Sg**	**22 08 17.8**	**+1.5**
TBLG	**Delisi**	**0.70**	**227**	P	**Pg**	**22 08 07.1**	**0.0**
TBLG				S	**Sg**	**22 08 17.8**	**+1.4**
TBLG	**Delisi**	**0.70**	**227**	*e*Pg	**Pg**	**22 08 07.1**	**0.0**
TBLG				Sg	**Sg**	**22 08 17.8**	**+1.4**
DGRG David-gareji 0.77 183 P **Pg 22 08 09.8 +1.5**							
DGRG				S	**Sg**	**22 08 23.4**	**+5.0**
SNJR Sundja 0.96 332 *i*Pg **Pg 22 08 11.9 -0.2**							
SNJR				*i*Sg	**Sg**	**22 08 26.9**	**+2.2**
VLKR Vladikavkaz 0.99 327 *i*Pg **Pg 22 08 12.2 -0.5**							
VLKR				*e*Sg	**Sg**	**22 08 27.4**	**+1.7**
GOR Gori 1.00 257 P Px 22 08 30.4							
GOR				S	Sx	22 08 45.1	
XNZR Khunzakh 1.01 71 *e*Pg **Pg 22 08 12.5 -0.4**							
XNZR				*e*Sg	**Sg**	**22 08 26.3**	**+0.3**
LACR Lac 1.03 307 *i*Pg **Pg 22 08 11.9 -1.5**							
LACR				*i*Sg	**Sg**	**22 08 26.9**	**+0.1**
KZR Kazreti 1.12 222 P **Pb 22 08 12.9 -2.0**							
KZR				S	**Sb**	**22 08 28.7**	**-0.7**
ZEI Tsey 1.25 297 *i*Pg **Pg 22 08 15.4 -2.2**							
ZEI				*i*Sg	**Sg**	**22 08 33.1**	**-0.9**
ARNR Ardon 1.29 320 *i*Pg **Pg 22 08 16.8 -1.5**							
ARNR				*i*Sg	**Sg**	**22 08 35.5**	**+0.5**
KORR Kora 1.32 312 *i*Pg **Pg 22 08 17.1 -1.9**							
KORR				*i*Sg	**Sg**	**22 08 35.9**	**-0.3**
BTKR Batakoyurt 1.32 331 *i*Pg **Pg 22 08 17.9 -1.1**							
BTKR				*i*Sg	**Sg**	**22 08 37.4**	**+1.2**
DIGR Digorskoe uzhe 1.52 297 *i*Pg **Pg 22 08 14.5 -8.2**							
TRKR Terskaya 1.59 342 *i*Pn **Pn 22 08 22.6 +1.1**							
TRKR				*i*Sg	**Sg**	**22 08 45.7**	**+1.0**
AKH Akhalkalaki 1.65 241 S **Sn 22 08 44.2 +0.7**							
PRTR Priterechnaya 1.75 332 *i*Pn **Pn 22 08 24.6 +1.0**							
PRTR				*i*Sg	**Sg**	**22 08 49.1**	**-0.6**

*IDC **30** 22:24:11.1±1.3, 6.14S×153.03E, h0km, mb3.8/8, mb1 4.0/9, mb1mx4.0/15, mbtmp3.9/9, ML3.3/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/24, Error ellipse: s-maj=48.3km s-min=19.0km az=121.0*
*ISCJB **30** 22:24:14.6±1.0, 62S±0.1×153.0E±0.2, h33km, mb4.1/15, MS3.0/1, Error ellipse: s-maj=28.3km s-min=12.1km az=58.7*
*NEIC **30** 22:24:17.2±2.8, 621S×15300E, h43km±22km, mb4.0/2, Error ellipse: s-maj=27.0km s-min=14.0km az=108.0*

ISC 30 22:24:16.2±1.0, 63S±0.1×1532E±0.2, h35km, n23, σ0§66/21, mb4.1/15, MS3.0/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.70**	**242**	Pn	**Pn**	**22 25 51.6**	**-0.5**
	3.8nm,0.3s,baz=83,slow=8.2,SNR=7.7						
PMG				Sn	**Sn**	**22 27 01.7**	**-5.5**
	1.7nm,0.3s,baz=191,slow=19,SNR=2.8						
PMG				LR	LR	22 27 51.0	
	comp=Z,72nm,19.7s,baz=24,slow=33						
CTA	**Charters Tower 15.27 205**			LR	LR	22 32 54.8	
	comp=Z,49nm,18.6s,baz=234,slow=34						
GUMO Guam 21.39 337				LR	LR	22 35 06.5	
	comp=Z,55nm,18.1s,MS3.0,baz=20,slow=31						
WRAB Tennant Creek 22.76 232 *e*P **P 22 29 14.8 -0.4**							
	5.1nm,1.1s,mb3.9						
WRA Warramunga Arr 22.77 232 P **P 22 29 16.2 +0.8**							
	1.1nm,0.8s,mb3.4,baz=54,slow=11,SNR=4.0						
ASAR Alice Springs 25.33 225 P **P 22 29 40.0 +0.5**							
	2.0nm,0.8s,mb3.7,baz=60,slow=9.2,SNR=20						
STKA Stephens Creek 27.66 202 P **P 22 30 00.3 -0.3**							
	2.4nm,0.7s,mb3.9,baz=24,slow=5.5,SNR=4.3						
FITZ Fitzroy Crossi 29.30 244 P **P 22 30 14.9 -0.3**							
	1.5nm,0.6s,mb3.9,baz=62,slow=18,SNR=7.5						
SONM Songino Array 67.76 328 P **P 22 35 09.4 -0.8**							
	0.8nm,0.8s,mb3.8,baz=145,slow=4.8,SNR=7.7						
LSA Lhasa 69.37 305 *e*P **P 22 35 20.6 +0.4**							
	0.8nm,0.3s,mb4.1						
JIRN Jiri 72.86 301 *e*P **P 22 35 42.3 +0.9**							
	6.3nm,0.8s,mb4.6						
GUN Gumba 73.19 301 *e*P **P 22 35 44.2 +0.8**							
	12nm,0.7s,mb4.9						
KKN Kakani 73.67 301 *e*P **P 22 35 46.5 +0.3**							
	6.0nm,0.7s,mb4.6						
DMN Daman 73.76 301 *e*P **P 22 35 47.7 +1.0**							
GKN Gorkha 74.27 301 *e*P **P 22 35 49.0 -0.7**							
	6.1nm,0.6s,mb4.7						
KOLN Koldanda 75.09 301 *e*P **P 22 35 54.8 +0.4**							
	8.8nm,0.8s,mb4.7						
MKAR Makanchi Array 81.67 319 P **P 22 36 29.6 -1.1**							
	0.3nm,0.6s,mb3.4,baz=104,slow=6.1,SNR=2.1						
ILAR Eielson Array 83.39 22 P **P 22 36 40.1 +0.4**							
	1.0nm,0.9s,mb3.8,baz=262,slow=4.9,SNR=6.1						
BRVK Borovoye 90.70 323 *e*P **P 22 37 14.8 -0.5**							
ZRNK Zerenda 91.45 323 *e*P **P 22 37 17.7 -1.0**							
YKA Yellowknife Ar 96.56 28 P **P 22 37 42.4 +0.2**							
	0.1nm,0.3s,mb3.7,baz=265,slow=4.7,SNR=4.3						
YKA Yellowknife Ar 96.56 28 P **P 22 37 42.4 +0.2**							
TORD Torodi Ar. Bea 151.08 286 PKPbc PKPbc 22 44 06.9 +1.5							
	1.5nm,0.7s,baz=93,slow=2.1,SNR=14						

MEX 30 22:28:59.7±0.7, 1711N×9964W, h20km±31km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.36**	**228**	*i*P	Pb	22 29 06.2	-1.3
ACX				*i*S	Sb	22 29 11.2	-1.5
CAIG	**El Cayaco**	**0.61**	**264**	*i*P	Pb	22 29 09.6	-2.1
CAIG				*i*S	Sb	22 29 17.9	-1.8
MEIG	**Mezcala**	**0.81**	**1**	*e*P	Pb	22 29 12.2	-2.9
MEIG				*i*S	Sb	22 29 23.0	-2.5
UTMO	**Huajuapan**	**1.89**	**68**	*i*P	Pn	22 29 28.7	-2.1
UTMO				*i*S	Sn	22 29 50.7	-3.3

*CSEM **30** 22:32:26.5±0.1, 7311N×623E, h2km, ML2.8, Error ellipse: s-maj=2.8km s-min=2.4km az=89.0*
*MOS **30** 22:32:28.9±1.9, 7307N×635E, h10km, mb4.3/2, Error ellipse: s-maj=35.4km s-min=8.5km az=99.1*
*ISCJB **30** 22:32:29.1±0.5, 7307N±0.004×67E±0.02, h10km, mb3.5/11, MS3.4/6, Error ellipse: s-maj=8.3km s-min=6.2km az=144.7*
*NAO **30** 22:32:29.3±2.3, 7314N×658E, ML2.4*
*IDC **30** 22:32:30.5±0.8, 7309N×681E, h0km, mb3.4/9, mb1 3.7/13, mb1mx3.6/24, mbtmp3.5/13, ML3.4/4, MS3.4/10, Ms1 3.4/10, ms1mx3.2/22, Error ellipse: s-maj=19.9km s-min=12.8km az=49.0*
*NEIC **30** 22:32:31.1±0.5, 7312N×647E, h10km, ML2.8(BER), Error ellipse: s-maj=9.1km s-min=6.2km az=55.0*
*BER **30** 22:32:32.7±3.5, 7320N×666E, h10km, ML2.8, ML2.4(NAO)*

ISC 30 22:32:31.4±0.5, 7313N±0.004×69E±0.02, h10km, n57, σ1§17/70, mb3.5/11, MS3.4/6, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya 3.65 62** *e*P **Pn 22 33 28.7 +0.7**						
BJO	**Bjorno

ARCES 22 35 28.4
ARE0 ARCESS Array S 6.95 112 *e*Pn **Pn 22 34 14.7 +1.4**
ARE0 *e*Sn **Sn 22 35 28.1 -4.2**
STOK Stokkvaagen 7.14 160 *e*P **Pn 22 34 15.5 -0.4**
STOK *e*S **Sn 22 35 28.3 -8.8**
STOK AML AML 22 35 38.4
comp=Z,12nm,0.5s
STOK Stokkvaagen 7.14 160 *e*P **Pn 22 34 15.5 -0.4**
STOK *e*S **Sn 22 35 28.3 -8.8**
KEV Kevo 7.22 108 *e*Pn **Pn 22 34 18.7 +1.7**
KEV *e*Sn **Sn 22 35 35.1 -4.1**
KEV Kevo 7.22 108 *e*P **Pn 22 34 18.7 +1.7**
KEV *e* 22 35 35.1
MOR8 Moi Rana 7.46 156 *e*P **Pn 22 34 20.5 +0.3**
MOR8 *e*S **Sn 22 35 36.7 -8.1**
MOR8 AML AML 22 35 40.9
comp=Z,11nm,0.5s
MOR8 Moi Rana 7.46 156 *e*P **Pn 22 34 20.5 +0.3**
MOR8 *e*S **Sn 22 35 36.7 -8.1**
DAG Danmarks Havn 7.53 311 *i* P **Pn 22 34 18.0 -3.3**
DAG Danmarks Havn 7.53 311 *e*P **Pn 22 34 18.0 -3.3**
NSS Namsos 8.82 166 *e*P **Pn 22 34 38.3 -0.6**
NSS *e*S **Sn 22 36 09.4 -9.1**
NSS AML AML 22 36 18.6
comp=Z,8.8nm,0.5s
NSS Namsos 8.82 166 *e*P **Pn 22 34 38.3 -0.6**
NSS *e*S **Sn 22 36 09.4 -9.1**
SCO Scoresbysund 9.34 268 *i* P **Pn 22 34 42.6 -3.5**
APA0 Apatity Array 10.29 109 Pn **Pn 22 34 59.3 +0.2**
baz=319,slow=11
MOL Molde 10.61 178 *e*P **Pn 22 35 02.6 -0.8**
NB2 NORSAR Subarra 12.25 170 Pn **Pn 22 35 26.2 +0.3**
baz=353,slow=16
NOA NORSAR Array B 12.25 170 Pn **Pn 22 35 26.0 +0.1**
comp=Z,0.2nm,0.3s,baz=348,slow=12,SNR=3.1
NOA Sn **Sn 22 37 35.3 -7.2**
comp=Z,0.1nm,0.3s,baz=336,slow=20,SNR=2.7
NOA LR LR 22 39 53.4
comp=Z,82nm,20.6s,baz=210,slow=36
NOA NORSAR Array B 12.25 170 Pn **Pn 22 35 26.0 +0.1**
NOA Sn **Sn 22 37 35.3 -7.2**
NOA LR LR 22 39 53.4
KAF Kangasniemi 13.19 137 *e*p **Pn 22 35 37.3 -1.4**
comp=Z,3.1nm,0.7s
KAF Kangasniemi 13.19 137 *e*P **Pn 22 35 37.3 -1.4**
KAF pmax pmax
comp=Z,3.0nm,0.7s
HFS Hagfors 13.31 165 Pn **Pn 22 35 40.0 -0.4**
baz=0.7,slow=14
HFS Hagfors 13.31 165 Pn **Pn 22 35 39.3 -1.1**
comp=Z,0.2nm,0.3s,baz=356,slow=12,SNR=8.4
HFS Sn **Sn 22 38 02.0 -6.4**
comp=Z,0.2nm,0.3s,baz=16,slow=22,SNR=4.1
HFS LR LR 22 40 36.0
comp=Z,184nm,18.4s,baz=158,slow=37
HFS Hagfors 13.31 165 P **Pn 22 35 39.3 -1.1**
HFS 22 38 02.0
JOF Joensuu 13.57 126 *e*p **Pn 22 35 43.3 -0.6**
comp=Z,3.1nm,0.9s
FIA0 FINESS Array S 13.76 138 Pn **Pn 22 35 45.7 -0.8**
baz=346,slow=12
FINES FINESS Array B 13.76 138 Pn **Pn 22 35 45.7 -0.8**
comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=6.9
FINES LR LR 22 40 48.2
comp=Z,130nm,21.0s,baz=306,slow=36
FINES FINESS Array B 13.76 138 Pn **Pn 22 35 45.7 -0.8**
FINES LR LR 22 40 48.2
SFJD Kangerlussuaq 19.77 281 LR LR 22 43 27.6
comp=Z,134nm,18.1s,baz=78,slow=33
OBN Obninsk 21.78 130‖ *e*P **P 22 37 26.1 +2.8**
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
OBN MLR MLR
comp=Z,100nm,21.0s,MS3.2
VRAC Vranov 24.28 164 P **P 22 37 50.3 +1.5**
comp=Z,2.4nm,0.7s,mb3.8,baz=354,slow=12,SNR=3.8
VRAC LR LR 22 47 18.0
comp=Z,95nm,18.5s,MS3.3,baz=301,slow=37
AKASG Malin Array Be 24.50 144 P **P 22 37 50.9 +0.1**
comp=Z,0.8nm,0.6s,mb3.4,baz=342,slow=9.4,SNR=3.9
GERES GERESS Array B 24.55 169 P **P 22 37 52.4 +1.2**
comp=Z,0.6nm,0.6s,mb3.3,baz=2.2,slow=6.8,SNR=5.0
GERES LR LR 22 47 31.8
comp=Z,86nm,21.8s,MS3.2,baz=288,slow=37
ARU Arti 26.38 101 *e*P **P 22 38 13.0 +5.2**
MLR Muntele Rosu 29.07 152 LR LR 22 50 26.6
comp=Z,108nm,20.4s,MS3.5,baz=310,slow=37
TIXI Tiksi 30.89 32 *e*P **P 22 38 48.5 +0.5**
TIXI pmax pmax
comp=Z,2.0nm,1.3s,mb3.8
YKA Yellowknife Ar 39.09 321 P **P 22 39 58.8 +0.1**
comp=Z,0.1nm,0.6s,mb2.7,baz=19,slow=8.7,SNR=4.0
YKA LR LR 22 56 52.3
comp=Z,58nm,20.2s,MS3.4,baz=60,slow=37
YKA Yellowknife Ar 39.09 321 P **P 22 39 58.8 +0.1**
YKA LR LR 22 56 52.3
ILAR Eielson Array 41.25 343 P **P 22 40 16.9 +0.3**
comp=Z,0.3nm,0.8s,mb3.0,baz=18,slow=6.1,SNR=3.8
MKAR Makanchi Array 41.79 86 P **P 22 40 21.9 +0.8**
comp=Z,0.4nm,0.9s,mb3.0,baz=350,slow=7.3,SNR=3.5
ULM Lac du Bonnet 46.23 300 LR LR 22 59 35.9
comp=Z,77nm,19.5s,MS3.7,baz=357,slow=35
SONM Songino Array 47.60 64 P **P 22 41 07.2 -0.2**
comp=Z,0.4nm,0.9s,mb3.5,baz=339,slow=6.2,SNR=2.7
PDAR Pinedale Array 56.55 308 P **P 22 42 13.3 -0.7**
comp=Z,1.2nm,1.1s,mb3.8,baz=347,slow=6.1,SNR=3.9
TORD Torodi Ar. Bea 60.03 186 P **P 22 42 38.1 -0.2**
comp=Z,1.0nm,0.7s,mb4.0,baz=5.0,slow=7.6,SNR=12

NEIC ***30*** *22:37:13.7±1.4, 1681S×17586W, h368km±34km, mb3.5/1, Error ellipse: s-maj=153.5km s-min=22.2km az=141.0*
IDC 30 22:37:13.2±1.6, 1658S×17597W, h354km±41km, mb3.3/4, mb1 3.5/5, mb1mx3.3/14, mbtmp4.1/5, Error ellipse: s-maj=161.2km s-min=21.5km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.84**	**57**	P	Pn	22 38 33.1	+1.8
	6.5nm,0.3s,baz=198,slow=3.2,SNR=6.0						
AFI				S	S	22 39 34.2	-0.1
	1.9nm,0.3s,baz=66,slow=20,SNR=2.5						
STKA	**Stephens Creek**	**41.31**	**240**	P	P	22 44 24.6	-0.9
	1.1nm,0.5s,baz=100,slow=11,SNR=5.2						
WRAB	**Tennant Creek**	**47.16**	**258**	*e*P	P	22 45 11.2	-0.2
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**47.17**	**258**	P	P	22 45 11.4	0.0
	0.7nm,0.5s,baz=90,slow=7.0,SNR=6.0						
ASAR	**Alice Springs**	**47.40**	**253**	P	P	22 45 14.1	+0.9
	3.5nm,0.4s,baz=88,slow=8.0,SNR=77						
ILAR	**Eielson Array**	**84.09**	**12**	P	P	22 49 04.7	-0.4
	0.5nm,0.4s,baz=219,slow=5.1,SNR=16						

ISCJB ***30*** *22:37:44.0±0.4, 4227N×4542E±002, h1km±5km, Error ellipse: s-maj=3.3km s-min=3.0km az=131.6*
CSEM ***30*** *22:37:44.8±0.2, 4221N×4540E, h2km, mb3.9, Error ellipse: s-maj=4.0km s-min=2.8km az=14.0*
MOS ***30*** *22:37:44.3±2.0, 4215N×4540E, h16km, mb3.9/1, Error ellipse: s-maj=10.8km s-min=7.1km az=111.3*
TIF ***30*** *22:37:44.7, 4225N×4536E, h17km±2km*
ISC 30 22:37:44.9±0.4, 4226N±002×4541E±003, h1km±4km, n33, σ1§15/57, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	**Dusheti**	**0.56**	**253**	P	**Pg**	**22 37 54.9**	**-0.5**
DUS				S	**Sg**	**22 38 03.4**	**+0.7**
TBLG	**Delisi**	**0.73**	**224**	P	**Pg**	**22 37 58.8**	**+0.1**
TBLG				S	**Sg**	**22 38 09.5**	**+1.3**
TBLG	**Delisi**	**0.73**	**224**	Pg	**Pg**	**22 37 58.8**	**0.0**
TBLG				Sg	**Sg**	**22 38 09.5**	**+1.3**
MTA	**Mtatsminda**	**0.73**	**220**	P	**Pg**	**22 37 58.7**	**-0.1**
MTA				S	**Sg**	**22 38 09.5**	**+1.3**
DGRG	**David-gareji**	**0.81**	**182**	P	**Pg**	**22 38 01.6**	**+1.3**
DGRG				S	**Sg**	**22 38 15.0**	**+4.3**
SNJR	**Sundja**	**0.93**	**332**	*i* Pg	**Pg**	**22 38 03.7**	**+1.1**
SNJR				*i* Sg	**Sg**	**22 38 16.8**	**+2.2**
VLKR	**Vladikavkaz**	**0.96**	**326**	*i* Pg	**Pg**	**22 38 03.9**	**+0.7**
VLKR				*i* Sg	**Sg**	**22 38 16.9**	**+1.2**
XNZR	**Khunzakh**	**1.00**	**73**	*e*Pg	**Pg**	**22 38 04.0**	**0.0**
	51nm,0.2s						
XNZR				*e*Sg	**Sg**	**22 38 17.5**	**+0.6**
XNZR	**Khunzakh**	**1.00**	**73**	*e*PG	**Pg**	**22 38 04.0**	**0.0**
XNZR				*e*S	**Sg**	**22 38 17.5**	**+0.6**
XNZR				pmax	pmax		
	comp=Z,51nm,0.2s						
LACR	**Lac**	**1.00**	**305**	*i* Pg	**Pg**	**22 38 03.5**	**-0.6**
LACR				*i* Sg	**Sg**	**22 38 16.3**	**-0.8**
GOR	**Gori**	**1.01**	**255**	P	Px	22 38 22.8	
GOR				S	Sx	22 38 37.0	
KZR	**Kazreti**	**1.15**	**221**	P	**Pg**	**22 38 04.7**	**-2.2**
KZR				S	**Sg**	**22 38 20.4**	**-1.4**
DLMR	**Dylym**	**1.21**	**47**	*e*Pg	**Pg**	**22 38 05.0**	**-3.1**
DLMR				*i* Sg	**Sg**	**22 38 22.7**	**-1.1**
ZEI	**Tsey**	**1.23**	**295**	*i* Pg	**Pg**	**22 38 07.2**	**-1.3**
ZEI				*e*Sg	**Sg**	**22 38 30.5**	**+6.0**
ZEI	**Tsey**	**1.23**	**295**	*d* PG	**Pg**	**22 38 07.2**	**-1.3**
ZEI				*e*		22 38 30.5	
ARNR	**Ardon**	**1.25**	**319**	*i* Pg	**Pg**	**22 38 08.4**	**-0.5**
ARNR				*i* Sg	**Sg**	**22 38 24.8**	**-0.3**
KMKR	**Kumukh**	**1.26**	**95**	*e*Pg	**Pg**	**22 38 08.0**	**-1.0**
	comp=Z,59nm,0.3s						
KMKR				*i* Sg	**Sg**	**22 38 25.5**	**+0.2**
KMKR	**Kumukh**	**1.26**	**95**	*e*PG	**Pg**	**22 38 08.0**	**-1.0**
KMKR				*i* S	**Sg**	**22 38 25.5**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,59nm,0.3s						
BTKR	**Batakoyurt**	**1.29**	**330**	*i* Pg	**Pg**	**22 38 09.7**	**+0.2**
BTKR				*i* Sg	**Sg**	**22 38 27.1**	**+0.9**
DBC	**Dubki**	**1.29**	**53**	*i* Pg	**Pn**	**22 38 07.0**	**-3.0**
	comp=Z,63nm,0.5s						
DBC	**Dubki**	**1.29**	**53**	*i* PG	**Pn**	**22 38 07.0**	**-3.0**
DBC				pmax	pmax		
	comp=Z,63nm,0.5s						
KORR	**Kora**	**1.29**	**310**	*i* Pg	**Pg**	**22 38 08.7**	**-1.0**
KORR				*i* Sg	**Sg**	**22 38 25.3**	**-1.1**
BUJR	**Buynaksk**	**1.38**	**65**	*i* Pg	**Pg**	**22 38 11.0**	**-0.2**
BUJR				*e*Sg	**Sg**	**22 38 31.0**	**+1.9**
DIGR	**Digorskoe uzhe**	**1.50**	**296**	*i* Pg	**Pn**	**22 38 05.9**	**-7.0**
BKR	**Bakuriani**	**1.52**	**251**	P	**Pn**	**22 38 12.1**	**-1.0**
BKR				S	**Sn**	**22 38 33.7**	**+0.2**
TRKR	**Terskaya**	**1.55**	**341**	*i* Pn	**Pn**	**22 38 14.7**	**+1.1**
TRKR				*i* Sg	**Sg**	**22 38 35.8**	**+1.1**
AKH	**Akhalkalaki**	**1.67**	**240**	P	**Pn**	**22 38 14.2**	**-0.9**
AKH				S	**Sn**	**22 38 36.1**	**-1.0**
PRTR	**Priterechnaya**	**1.71**	**331**	*i* Pn	**Pn**	**22 38 16.6**	**+0.8**
PRTR				*i* Sg	**Sg**	**22 38 39.2**	**-0.6**
DIGO	**Kars**	**2.40**	**221**	*i* P	**Sn**	**22 38 57.3**	**+2.1**
ARTV	**Artvin**	**2.82**	**249**	*i* P	**Pn**	**22 38 31.0**	**0.0**
GOF	**Gofitskoye**	**3.29**	**329**	*e*Pn	**Pb**	**22 38 40.8**	**-3.2**
	comp=Z,10.0nm,1.0s						
GOF				*i* Sn	**Sb**	**22 39 24.5**	**-0.1**
GOF	**Gofitskoye**	**3.29**	**329**	*e*PN	**Pb**	**22 38 40.8**	**-3.2**
GOF				*i* S	**Sb**	**22 39 24.5**	**-0.1**
GOF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GOF				smax			
	comp=N,10.0nm,0.8s						
GOF				smax			
	comp=E,40nm,0.8s						
ERZM	**Erzurum**	**3.86**	**234**	*i* P	**Pn**	**22 38 46.6**	**+1.4**

ISCJB ***30*** *22:41:54.9±0.2, 1341N±003×12005E±003, h10km, mb4.6/36, MS3.6/3, Error ellipse: s-maj=4.5km s-min=3.8km az=45.2*
MAN ***30*** *22:41:56.6, 1349N×12008E, h16km, mb3.6, ML4.7, MS2.1*
BJI ***30*** *22:41:58.8, 1348N×12064E, h53km, mB4.9, mb4.4, Ms4.2, Msz3.6*
NEIC ***30*** *22:41:59.0±0.3, 1350N×12038E, h35km, mb4.7/13, Error ellipse: s-maj=11.8km s-min=5.8km az=62.0*
MOS ***30*** *22:42:00.9±0.7, 1361N×12059E, h73km, mb4.6/11, Error ellipse: s-maj=24.5km s-min=8.7km az=113.9*
IDC ***30*** *22:42:02.4±1.5, 1353N×12052E, h71km±13km, mb4.0/15, mb1 4.1/15, mb1mx4.0/22, mbtmp4.3/15, MS3.4/4, Ms1 3.5/4, ms1mx3.3/19, Error ellipse: s-maj=32.3km s-min=10.4km az=64.0*
ISC 30 22:41:57.6±0.8, 1343N±003×12018E±004, h18km±5km, n87, σ1§20/91, mb4.5/36, MS3.6/3, 4C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.31**	**11**	*e*P	**Pg**	**22 42 03.5**	**-0.7**
LUBP				*e*S	**Sg**	**22 42 07.8**	**-0.9**
PGP	**Puerto Galera**	**0.75**	**85**	‖ *i* P	**Pb**	**22 42 12.2**	**+0.1**
PGP				*i* S	**Sb**	**22 42 27.3**	**+5.2**
TGY	**Tagaytay City**	**0.99**	**48**	P	**Pb**	**22 42 16.8**	**+0.5**
	1μm,0.3s,baz=240,slow=2.6,SNR=131						
TGY				S	**Sb**	**22 42 30.2**	**+1.2**
	3μm,0.3s,baz=168,slow=20,SNR=30						
BUSP	**Coron**	**1.42**	**179**	*e*P	**Pn**	**22 42 2.6**	**+0.1**
LQP	**Lukban**	**1.48**	**63**	‖ *e*P	**Pn**	**22 42 24.8**	**+1.4**
BOAC	**Boac**	**1.62**	**89**	*e*P	**Pn**	**22 42 25.0**	**-0.3**
OTRP	**Odiongan**	**2.08**	**120**	*e*P	**Pn**	**22 42 32.6**	**+0.9**
POLP	**Polilio Island**	**2.14**	**53**	*e*P	**Pn**	**22 42 31.7**	**-0.7**
GQP	**Guinayangan**	**2.25**	**78**	‖ *i* P	**Pn**	**22 42 22.4**	**-12**
GQP				*i* S	**Sn**	**22 43 06.4**	**+5.1**
PCPH	**Palayan**	**2.29**	**23**	‖ *e*P	**Pn**	**22 42 34.8**	**+0.2**
PCPH				*e*S	**Sn**	**22 43 02.3**	**-0.1**
ENPP	**El Nido**	**2.33**	**199**	*e*P	**Pn**	**22 42 35.4**	**+0.3**
SCZP	**Santa Cruz**	**2.35**	**354**	*e*P	**Pn**	**22 42 34.2**	**-1.1**
BALP	**Baler**	**2.66**	**30**	*e*P	**Pn**	**22 42 42.1**	**+2.5**
CUYO	**Cuyo Island**	**2.69**	**162**	*e*P	**Pn**	**22 42 39.9**	**-0.1**
KALP	**Kalibo**	**2.73**	**129**	‖ *e*P	**Pn**	**22 42 40.9**	**+0.4**
BOLP	**Bolinao**	**2.94**	**355**	*e*P	**Pn**	**22 42 45.2**	**+1.7**
RCP	**Roxas**	**3.12**	**126**	‖ *i* P	Px	22 42 57.2	
GUIM	**Jordan**	**3.65**	**140**	*e*P	**Pn**	**22 42 55.1**	**+1.9**
CAUP	**Cauayan**	**3.83**	**24**	*e*P	**Pn**	**22 42 55.4**	**-0.3**
PVCP	**Virac**	**3.87**	**87**	*e*P	**Pn**	**22 42 57.9**	**+1.8**
PPR	**Puerto Princes**	**3.90**	**202**	‖ *i* P	**Pn**	**22 42 57.1**	**+0.4**
QIZ	**Qiongzhong**	**11.38**	**301**	P	**Pn**	**22 44 46.8**	**+7.5**
QIZ				S	**Sn**	**22 47 04.3**	**+18**
QIZ				LR	LR		
	comp=E,224nm,21.8s						
QIZ				LR	LR		
	comp=Z,246nm,19.6s						
JOW	**Kunigami**	**15.34**	**28**	LR	LR	22 51 37.8	
	comp=Z,53nm,21.1s,baz=36,slow=38						
NJ2	**Nanjing**	**18.57**	**356**	*e*P	**Pn**	**22 46 10.5**	**-3.4**
NJ2				PP		22 46 26.0	
NJ2				S	**Sn**	**22 49 29.0**	**-12**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,90nm,6.7s						
NJ2				LR	LR		
	comp=N,260nm,13.7s						
NJ2				LR	LR		
	comp=E,1μm,18.4s						
NJ2				LR	LR		
	comp=Z,230nm,26.8s						
CD2	**Chengdu**	**23.05**	**322**	*e*P	**P**	**22 47 02.8**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
MJAR	**Matsushiro Arr**	**28.12**	**32**	LR	LR	22 59 07.8	
	comp=Z,72nm,20.7s,MS3.2,baz=185,slow=37						
KAKA	**Kakadu**	**28.68**	**154**	*e*P	**P**	**22 47 52.2**	**-1.2**
	comp=Z,12nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.79**	**170**	P	**P**	**22 48 20.5**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.2,baz=29,slow=6.1,SNR=4.6						
MBWA	**Marble Bar**	**34.38**	**181**	*e*P	**P**	**22 48 45.0**	**+1.4**
	comp=Z,20nm,1.1s,mb5.0						
JIRN	**Jiri**	**34.70**	**299**	*e*P	**P**	**22 48 47.7**	**+1.3**
	comp=Z,13nm,0.6s,mb5.0						
GUN	**Gumba**	**35.04**	**300**	*e*P	**P**	**22 48 50.5**	**+1.2**
	comp=Z,12nm,0.5s,mb5.1						
KKN	**Kakani**	**35.51**	**299**	*e*P	**P**	**22 48 54.1**	**+0.8**
WRAB	**Tennant Creek**	**35.97**	**157**	*e*P	**P**	**22 48 56.5**	**-0.8**
	comp=Z,44nm,0.6s,mb5.6						
WRAB	**Tennant Creek**	**35.97**	**157**	*e*P	**P**	**22 48 56.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.6						
WRA	**Warramunga Arr**	**35.97**	**157**	P	**P**	**22 48 56.4**	**-0.9**
	comp=Z,34nm,0.7s,mb5.4,baz=336,slow=9.5,SNR=74						
ULN	**Ulaanbaatar**	**36.03**	**345**	*e*P	**P**	**22 48 57.5**	**-0.4**
	comp=Z,4.9nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**36.03**	**345**	*e*P	**P**	**22 48 57.5**	**-0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
GKN	**Gorkha**	**36.12**	**299**	*e*P	**P**	**22 48 59.0**	**+0.5**
	comp=Z,8.8nm,0.7s,mb4.8						
SONM	**Songino Array**	**36.17**	**344**	P	**P**	**22 48 58.6**	**-0.5**
	comp=Z,5.4nm,0.6s,mb4.6,baz=162,slow=9.9,SNR=62						
KOLN	**Koldanda**	**36.94**	**298**	*e*P	**P**	**22 49 06.2**	**+0.7**
	comp=Z,8.5nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**39.24**	**160**	P	**P**	**22 49 24.8**	**-0.2**
	comp=Z,17nm,0.7s,mb4.9,baz=340,slow=7.1,SNR=195						
ZAK	**Zakamensk**	**39.35**	**343**	*e*P	**P**	**22 49 24.1**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.2s,mb3.9						
MOY	**Mondy**	**41.16**	**342**	*e*P	**P**	**22 49 38.3**	**-2.6**
CTA	**Charters Tower**	**42.04**	**142**	P	**P**	**22 49 47.0**	**-1.1**
	comp=Z,3.4nm,0.6s,mb4.2,baz=320,slow=10,SNR=4.3						
FORT	**Forrest**	**44.60**	**170**	*e*P	**P**	**22 50 08.5**	**-0.3**
	comp=Z,14nm,0.7s,mb4.9						
HNR	**Honiara**	**45.54**	**118**	P	**P**	**22 50 12.9**	**-3.3**
	comp=Z,70nm,0.3s,baz=254,slow=8.4,SNR=3.9						
MKAR	**Makanchi Array**	**45.95**	**324**	P	**P**	**22 50 20.1**	**+0.7**
	comp=Z,2.0nm,0.7s,mb4.1,baz=129,slow=9.6,SNR=27						
MKAR				PcP	PcP	22 51 52.6	-3.6
	comp=Z,1.1nm,0.7s,baz=116,slow=2.8,SNR=5.3						
NWAO	**Narrogin (SRO)**	**46.18**	**183**	*e*P	**P**	**22 50 22.0**	**+0.7**
	comp=Z,5.6nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**46.18**	**183**	*e*P	**P**	**22 50 22.0**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ULHL	**Ulahol**	**47.56**	**316**	P	**P**	**22 50 33.2**	**+1.2**
	SNR=16						
KZA	**Kyzart**	**48.17**	**315**	P	**P**	**22 50 38.9**	**+2.1**
	SNR=5.8						
KBK	**Karagaybulak**	**48.60**	**316**	P	**P**	**22 50 41.8**	**+1.6**
	SNR=7.6						
UCH	**Uchtor**	**48.73**	**315**	P	**P**	**22 50 43.4**	**+2.2**
	SNR=8.6						
ZAL	**Zalesovo**	**49.07**	**333**	P	**P**	**22 50 41.9**	**-1.8**
	comp=Z,1.6nm,0.3s,mb4.6,baz=176,slow=1.8,SNR=3.9						
ZAL	**Zalesovo**	**49.07**	**333**	*i* P	**P**	**22 50 42.5**	**-1.2**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AML	**Almayashu**	**49.27**	**315**	P	**P**	**22 50 47.0**	**+1.8**
	SNR=9.6						
EKS2	**Erkin-Say**	**49.40**	**315**	P	**P**	**22 50 47.8**	**+1.5**
	SNR=5.2						
STKA	**Stephens Creek**	**49.51**	**156**	P	**P**	**22 50 44.3**	**-2.7**
	comp=Z,3.3nm,0.8s,mb4.4,baz=283,slow=8.7,SNR=6.1						
STKA	**Stephens Creek**	**49.51**	**156**	P	**P**	**22 50 46.5**	**-0.6**
KURK	**Kurchatov**	**50.13**	**327**	*e*P	**P**	**22 50 51.7**	**-0.1**
	comp=Z,6.3nm,0.7s,mb4.8						
KURK				*e*		22 51 00.9	
KURK	**Kurchatov**	**50.13**	**327**	*e*P	**P**	**22 50 51.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**55.71**	**326**	P	**P**	**22 51 32.8**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.4,baz=114,slow=8.2,SNR=17						
BRVK	**Borovoye**	**55.78**	**326**	*e*P	**P**	**22 51 33.7**	**+0.2**
	comp=Z,2.8nm,0.9s,mb4.3						
BRVK	**Borovoye**	**55.78**	**326**	*e*P	**P**	**22 51 33.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**55.88**	**327**	*e*P	**P**	**22 51 33.5**	**-0.7**
	comp=Z,2.4nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**55.88**	**327**	*e*P	**P**	**22 51 33.5**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**56.44**	**326**	*e*P	**P**	**22 51 37.8**	**-0.5**
	comp=Z,3.6nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**56.44**	**326**	*e*P	**P**	**22 51 37.8**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
DZM	**Mont Dzumac**	**57.47**	**127**	P	**P**	**22 51 43.6**	**-1.9**
	comp=Z,3.3nm,0.7s,mb4.5,baz=305,slow=16,SNR=3.8						
TIXI	**Tiksi**	**58.43**	**3**	*e*P	**P**	**22 51 47.9**	**-4.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
UMR	**Umm Al-Rimmam**	**68.37**	**297**	*e*P	**P**	**22 52 58.1**	**+0.1**
RDF	**Al-Radifah**	**68.55**	**296**	*e*P	**P**	**22 52 59.2**	**+0.1**
RDF				AMb	AMB	22 53 01.2	
	comp=Z,29nm,0.9s,mb5.2						
MIB	**Mutribah**	**68.68**	**297**	*e*P	**P**	**22 52 59.9**	**0.0**
MIB				AMb	AMB	22 53 00.7	
	comp=Z,16nm,0.6s,mb5.1						
NAY	**Al-Naaiem**	**68.80**	**296**	*e*P	**P**	**22 53 00.7**	**0.0**
JOF	**Joensuu**	**77.64**	**332**	*e*p	**P**	**22 53 50.7**	**-2.2**
	comp=Z,3.2nm,0.5s,mb4.5						
ARCES	**ARCESS Array B**	**79.16**	**339**	P	**P**	**22 53 59.1**	**-2.2**
	comp=Z,2.1nm,0.6s,mb4.2,baz=68,slow=7.1,SNR=14						
ILAR	**Eielson Array**	**79.21**	**26**	P	**P**	**22 53 57.9**	**-3.7**
	comp=Z,0.3nm,0.7s,baz=302,slow=4.1,SNR=5.4						
KAF	**Kangasniemi**	**80.05**	**332**	*e*p	**P**	**22 53 57.8**	**-8.4**
	comp=Z,3.6nm,0.8s,mb4.3						
KAF	**Kangasniemi**	**80.05**	**332**	*e*P	**P**	**22 53 57.8**	**-8.4**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**80.27**	**331**	P	**P**	**22 54 05.7**	**-1.6**
	comp=Z,1.2nm,0.5s,mb4.0,baz=48,slow=6.8,SNR=12						
NB2	**NORSAR Subarra**	**87.27**	**333**	P	**P**	**22 54 40.5**	**-2.6**
	comp=Z,4.7nm,0.7s,mb4.8,baz=68,slow=4.6						
NB2	**NORSAR Subarra**	**87.27**	**333**	P	**P**	**22 54 40.5**	**-2.6**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
NOA	**NORSAR Array B**	**87.27**	**333**	P	**P**	**22 54 40.9**	**-2.2**
	comp=Z,3.6nm,0.7s,mb4.7,baz=68,slow=4.6,SNR=15						
NOA				LR	LR	23 34 58.5	
	comp=Z,30nm,21.4s,MS3.7,baz=260,slow=36						
NOA	**NORSAR Array B**	**87.27**	**333**	P	**P**	**22 54 40.9**	**-2.2**
NOA				LR	LR	23 34 58.5	
GERES	**GERESS Array B**	**90.52**	**321**	P	**P**	**22 54 57.4**	**-1.1**
	comp=Z,0.6nm,0.7s,mb4.0,baz=79,slow=6.9,SNR=5.4						
GERES

SNJR				*i* Sg	**Sg**	**23 47 19.1**	**+2.2**
XNZR	**Khunzakh**	**0.96**	**73**	*i* Pg	**Pg**	**23 47 05.5**	**+0.2**
	comp=Z,73nm,0.2s						
XNZR				*i* Sg	**Sg**	**23 47 18.7**	**+0.8**
XNZR	**Khunzakh**	**0.96**	**73**	⇑*i* PG	**Pg**	**23 47 05.5**	**+0.2**
XNZR				*i* S	**Sg**	**23 47 18.7**	**+0.8**
XNZR				pmax	pmax		
	comp=Z,73nm,0.2s						
VLKR	**Vladikavkaz**	**0.96**	**324**	*i* Pg	**Pg**	**23 47 05.5**	**+0.1**
VLKR				*i* Sg	**Sg**	**23 47 19.7**	**+1.7**
LACR	**Lac**	**1.02**	**303**	*i* Pg	**Pg**	**23 47 05.2**	**-1.2**
LACR				*i* Sg	**Sg**	**23 47 19.3**	**-0.6**
GOR	**Gori**	**1.04**	**255**	P	Px	23 47 24.5	
GOR				S	Sx	23 47 38.4	
UNCR	**Uncukul**	**1.08**	**65**	*e*Pg	**Pg**	**23 47 06.0**	**-1.6**
	comp=Z,75nm,0.3s						
UNCR				*e*Sg	**Sb**	**23 47 21.2**	**+0.5**
UNCR	**Uncukul**	**1.08**	**65**	*e*PG	**Pg**	**23 47 06.0**	**-1.6**
UNCR				*e*S	**Sb**	**23 47 21.2**	**+0.5**
UNCR				pmax	pmax		
	comp=Z,75nm,0.3s						
DLMR	**Dylym**	**1.18**	**47**	*e*Pg	**Pg**	**23 47 06.0**	**-3.4**
DLMR				*i* Sg	**Sg**	**23 47 23.7**	**-1.0**
KZR	**Kazreti**	**1.18**	**222**	P	**Pn**	**23 47 06.3**	**-2.1**
KZR				S	**Sb**	**23 47 21.9**	**-1.7**
KMKR	**Kumukh**	**1.23**	**96**	*e*Pg	**Pg**	**23 47 10.5**	**+0.2**
	comp=Z,71nm,0.3s						
KMKR				*e*Sg	**Sg**	**23 47 28.5**	**+2.1**
KMKR	**Kumukh**	**1.23**	**96**	*e*PG	**Pg**	**23 47 10.5**	**+0.2**
KMKR				*e*S	**Sg**	**23 47 28.5**	**+2.1**
KMKR				pmax	pmax		
	comp=Z,71nm,0.3s						
ZEI	**Tsey**	**1.26**	**294**	*i* Pg	**Pg**	**23 47 08.9**	**-2.0**
ZEI				*i* Sg	**Sg**	**23 47 25.6**	**-1.7**
DBC	**Dubki**	**1.26**	**53**	*i* Pg	**Pg**	**23 47 08.0**	**-2.9**
	comp=Z,106nm,0.5s						
DBC				*e*Sg	**Sb**	**23 47 25.5**	**-0.3**
DBC	**Dubki**	**1.26**	**53**	*i* PG	**Pg**	**23 47 08.0**	**-2.9**
DBC				*e*S	**Sb**	**23 47 25.5**	**-0.3**
DBC				pmax	pmax		
	comp=Z,106nm,0.5s						
ARNR	**Ardon**	**1.26**	**317**	*i* Pg	**Pg**	**23 47 10.2**	**-0.8**
ARNR				*i* Sg	**Sg**	**23 47 27.8**	**+0.3**
BTKR	**Batakoyurt**	**1.29**	**329**	*i* Pg	**Pg**	**23 47 11.2**	**-0.3**
BTKR				*i* Sg	**Sg**	**23 47 29.7**	**+1.3**
KORR	**Kora**	**1.31**	**309**	*i* Pg	**Pg**	**23 47 10.4**	**-1.5**
KORR				*i* Sg	**Sg**	**23 47 28.3**	**-0.7**
BUJR	**Buynaksk**	**1.34**	**65**	*e*Pg	**Pg**	**23 47 12.0**	**-0.4**
BUJR				*i* Sg	**Sg**	**23 47 32.5**	**+2.6**
DIGR	**Digorskoe uzhe**	**1.52**	**295**	*i* Pg	**Pg**	**23 47 07.3**	**-8.6**
TRKR	**Terskaya**	**1.54**	**340**	*i* Pg	**Pg**	**23 47 15.9**	**-0.5**
TRKR				*i* Sg	**Sg**	**23 47 38.0**	**+1.5**
BKR	**Bakuriani**	**1.55**	**250**	P	**Pn**	**23 47 13.9**	**+0.4**
BKR				S	**Sn**	**23 47 35.4**	**+2.2**
AKH	**Akhalkalaki**	**1.70**	**240**	P	**Pn**	**23 47 15.6**	**+0.1**
AKH				S	**Sn**	**23 47 38.1**	**+1.2**
PRTR	**Priterechnaya**	**1.71**	**330**	*i* Pn	**Pn**	**23 47 17.9**	**+2.2**
PRTR				*i* Sg	**Sg**	**23 47 41.4**	**-0.4**
DIGO	**Kars**	**2.43**	**221**	*i* P	**Pn**	**23 47 29.0**	**+3.4**
KIV	**Kislovodsk**	**2.64**	**311**	*e*Pn	**Pn**	**23 47 33.1**	**+4.7**
	comp=Z,13nm,1.1s						
KIV	**Kislovodsk**	**2.64**	**311**	*e*PN	**Pn**	**23 47 33.1**	**+4.7**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
ARTV	**Artvin**	**2.86**	**249**	*i* P	**Pn**	**23 47 33.8**	**+2.4**
GOF	**Gofitskoye**	**3.29**	**329**	*e*Pn	**Pn**	**23 47 42.0**	**+4.6**
	comp=Z,10.0nm,0.8s						
GOF	**Gofitskoye**	**3.29**	**329**	*e*PN	**Pn**	**23 47 42.0**	**+4.6**
GOF				*i* S	**Sb**	**23 48 29.2**	**+4.8**
GOF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GOF				smax			
	comp=N,30nm,0.8s						
GOF				smax			
	comp=E,50nm,0.8s						
ERZM	**Erzurum**	**3.89**	**234**	*i* P	**Pn**	**23 47 47.8**	**+2.2**

*ISCJB **31** 00:02:37.9±0.4, 4984N±003×1845E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.3km az=30.9*
*IPEC **31** 00:02:38.9±0.2, 4986N×1854E, h7km±1km, ML2.0/3, Error ellipse: s-maj=1.8km s-min=1.0km az=160.0*
*CSEM **31** 00:02:39.2±0.2, 4989N×1852E, h1km±1km, ML3.0/3, Error ellipse: s-maj=5.0km s-min=2.1km az=31.0*
*PRU **31** 00:02:40.2, 4981N×1844E, h0km*

ISC 31 00:02:39.0±0.4, 4982N±003×1847E±003, h0km, n31, σ1§14/56, 1C-2D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.21**	**274**	*e*PG	**Pg**	**00 02 44.2**	**+1.2**
OKC				*e*SG	**Sg**	**00 02 48.3**	**+2.5**
	365nm,0.5s						
RAC	**Raciborz**	**0.32**	**325**	*e*Sg	**Sg**	**00 02 52.4**	**+3.3**
MORC	**Moravsky Berou**	**0.60**	**266**	*e*Pg	**Pg**	**00 02 50.9**	**+0.3**
MORC				*e*Sg	**Sg**	**00 02 59.0**	**+0.6**
	36nm,0.4s						
LIKS	**Likavka**	**0.88**	**152**	*e*PN	**Pn**	**00 02 57.9**	**-0.7**
LIKS				*e*SN	**Sg**	**00 03 10.2**	**+3.0**
LIKS	**Likavka**	**0.88**	**152**	*e*Sn	**Sg**	**00 03 10.2**	**+3.0**
OJC	**Ojcow**	**0.94**	**65**	*e*Pg	**Pg**	**00 02 56.1**	**-0.9**
OJC				*e*Sg	**Sg**	**00 03 08.6**	**-0.6**
OJC	**Ojcow**	**0.94**	**65**	*e*Pg	**Pg**	**00 02 56.0**	**-1.0**
OJC				*e*Sg	**Sg**	**00 03 08.6**	**-0.6**
JAVC	**Velka Javorina**	**1.10**	**209**	*e*Pg	**Pg**	**00 03 01.3**	**+1.2**
NIE	**Niedzica**	**1.26**	**108**	*i* Pg	**Pg**	**00 03 02.7**	**-0.5**
NIE				*e*Sg	**Sg**	**00 03 21.4**	**+1.8**
VRAC	**Vranov**	**1.33**	**248**	⇑P	**Pg**	**00 03 04.1**	**-0.4**
VRAC	**Vranov**	**1.33**	**248**	*e*Pg	**Pg**	**00 03 03.9**	**-0.6**
VRAC				*e*Sg	**Sg**	**00 03 22.5**	**+0.8**
	24nm,0.3s						
VYHS	**Vyhne**	**1.35**	**170**	*e*PN	**Pn**	**00 03 04.1**	**-1.0**
VYHS				*e*SN	**Sn**	**00 03 22.5**	**-1.2**
SMOL	**Smolenice**	**1.48**	**208**	*e*PN	**Pn**	**00 03 06.5**	**-0.4**
SMOL				*e*SN	**Sn**	**00 03 26.3**	**-0.6**
DPC	**Dobruska-Polom**	**1.48**	**292**	*e*PG	**Pg**	**00 03 06.7**	**-0.7**
DPC				*e*SG	**Sg**	**00 03 27.3**	**+0.7**
	17nm,0.4s						
DPC	**Dobruska-Polom**	**1.48**	**292**	*e*Pn	**Pn**	**00 03 06.6**	**-0.3**
DPC	**Dobruska-Polom**	**1.48**	**292**	*e*Pg	**Pg**	**00 03 06.7**	**-0.7**
DPC				*e*Sg	**Sg**	**00 03 26.6**	**0.0**
KRUC	**Moravsky**	**1.56**	**241**	*e*Pn	**Pn**	**00 03 07.3**	**-0.6**
KRUC				*e*Sg	**Sg**	**00 03 29.4**	**+0.4**
	14nm,0.3s						
UPC	**Upice**	**1.73**	**294**	*e*PG	**Pg**	**00 03 10.9**	**-1.1**
UPC				*e*SG	**Sg**	**00 03 35.0**	**+0.6**
KSP	**Ksiaz**	**1.73**	**307**	*e*Pn	**Pn**	**00 03 09.5**	**-0.8**
KSP				*e*Pg	**Pg**	**00 03 11.7**	**-0.4**
KSP				*e*Sg	**Sg**	**00 03 35.0**	**+0.4**
KSP	**Ksiaz**	**1.73**	**307**	*e*Pg	**Pg**	**00 03 11.7**	**-0.4**
KSP				*e*Sg	**Sg**	**00 03 35.0**	**+0.4**
STHS	**Stebnicka Huta**	**1.85**	**102**	*e*PN	**Pn**	**00 03 13.8**	**+1.9**
STHS				*e*SN	**Sn**	**00 03 39.9**	**+3.9**
ZST	**Bratislava**	**1.86**	**210**	*e*PN	**Pn**	**00 03 11.8**	**-0.3**
ZST				*e*SN	**Sn**	**00 03 36.2**	**-0.1**
KECS	**Kecovo**	**1.88**	**135**	*e*PN	**Pn**	**00 03 11.3**	**-1.1**
KECS				*e*SN	**Sn**	**00 03 36.8**	**0.0**
TREC	**Trest**	**2.02**	**256**	*e*PG	**Pg**	**00 03 15.6**	**-2.0**
CRVS	**Cervenica-Dubn**	**2.16**	**114**	*e*PN	**Pn**	**00 03 18.0**	**+1.8**
CRVS				*e*SN	**Sn**	**00 03 48.0**	**+4.3**
PRU	**Pruhonice**	**2.55**	**275**	*e*PG	**Pg**	**00 03 26.3**	**-1.5**
PRU				*e*SG	**Sg**	**00 04 02.3**	**+1.5**
	15nm,0.9s						
BRG	**Berggiesshubel**	**3.09**	**292**	PG	**Pg**	**00 03 35.1**	**-3.0**
BRG				SG	**Sg**	**00 04 18.1**	**0.0**
	3.6nm,0.6s						
KHC	**Kasperske Hory**	**3.27**	**260**	*e*PN	**Pn**	**00 03 31.6**	**+0.2**
KHC				*e*PG	**Pg**	**00 03 38.5**	**-3.1**
KHC				*e*SG	**Sg**	**00 04 23.8**	**-0.2**
KHC	**Kasperske Hory**	**3.27**	**260**	*e*Pg	**Pg**	**00 03 38.5**	**-3.1**
KHC				*e*Sg	**Sg**	**00 04 23.8**	**-0.2**
DRGR		**4.15**	**135**	⇓P	**Pn**	**00 03 43.1**	**-0.4**
BURAR	**Bucovina Array**	**4.98**	**114**	⇓P	**Pn**	**00 03 56.6**	**+1.6**

MEX 31 00:10:32.5±0.7, 1560N×9599W, h13km±3km, MD3.7, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.20**	**326**	⇑*i* P	Pg	00 10 36.7	-0.3
HUIG				*i* S	Sg	00 10 39.5	-0.5
VHO	**Vista Hermosa**	**1.63**	**334**	*e*P	Pn	00 10 57.8	-3.1
VHO				*i* S	Sn	00 11 16.8	-5.0
OXX	**Oaxaca**	**1.64**	**335**	*i* S	Sn	00 11 17.5	-4.4
CMIG	**Matias Romero**	**1.82**	**35**	*e*P	Pn	00 10 59.6	-4.0
CMIG				*i* S	Sn	00 11 22.2	-4.3
UTMO	**Huajuapan**	**2.82**	**322**	*e*P	Pn	00 11 14.3	-2.9
UTMO				*i* S	Sn	00 11 48.6	-2.5

*IDC **31** 00:13:55.9±0.7, 3242N×9372E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.2/24, mbtmp4.2/19, ML3.8/2, MS3.6/10, Ms1 3.6/10, ms1mx3.3/31, Error ellipse: s-maj=22.1km s-min=16.2km az=53.0*
*ISCJB **31** 00:13:58.4±1.8, 3240N±003×9361E±004, h28km±13km, mb4.2/27, MS3.7/10, Error ellipse: s-maj=6.3km s-min=5.8km az=50.5*
*MOS **31** 00:13:59.4±1.2, 3251N×9368E, h33km, mb4.4/11, Error ellipse: s-maj=12.1km s-min=6.7km az=109.6*
*BJI **31** 00:14:00.6, 3243N×9363E, h32km, mB4.7, mb4.6, ML4.1, Ms4.1, Msz3.9*
*NEIC **31** 00:14:01.7±0.4, 3253N×9375E, h35km, mb4.1/6, Error ellipse: s-maj=9.4km s-min=7.7km az=94.0*

ISC 31 00:14:02.0±0.7, 3249N±004×9366E±005, h37km±8km, n76, σ1§10/83, mb4.2/27, MS3.7/10, 1C-7D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.52**	**218**	PG	**Pn**	**00 14 58.0**	**+3.9**
LSA				SG	**Sn**	**00 15 49.0**	**+15**
LSA				Smax			
	comp=N,320nm,1.1s						
LSA				Smax			
	comp=E,330nm,0.9s						
LSA	**Lhasa**	**3.52**	**218**	*e*Pn	**Pn**	**00 14 58.3**	**+4.2**
LSA				*e*S	**Sn**	**00 15 51.0**	**+17**
SHL	**Shillong**	**7.07**	**193**	*e*P	**Pn**	**00 15 43.5**	**+0.6**
SHL				*e*S	**Sn**	**00 16 59.0**	**-3.0**
GTA	**Gaotai**	**8.52**	**34**	*e*P	**Pn**	**00 16 04.0**	**+1.2**
GTA				AP		00 16 16.8	
GTA				XP		00 16 21.8	
GTA				S	**Sn**	**00 17 47.5**	**+10**
GTA				LG1		00 18 30.0	
GTA				LG2		00 18 44.3	
GTA				AMB	AMB		
	comp=Z,9.0nm,1.5s						
GTA				LR	LR		
	comp=N,693nm,13.4s						
GTA				LR	LR		
	comp=E,899nm,11.8s						
GTA				LR	LR		
	comp=Z,643nm,9.2s						
CD2	**Chengdu**	**8.75**	**98**	P	**Pn**	**00 16 11.3**	**+5.3**
CD2				AP		00 16 16.5	
CD2				XP		00 16 20.3	
CD2				S	**Sn**	**00 17 48.8**	**+5.5**
CD2				XS		00 17 55.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,70nm,6.0s						
CD2				LR	LR		
	comp=N,760nm,6.4s						
CD2				LR	LR		
	comp=Z,840nm,6.6s						
LZH	**Lanzhou**	**9.16**	**64**	*e*P	**Pn**	**00 16 12.0**	**+0.4**
LZH				AP		00 16 18.0	
LZH				XP		00 16 23.0	
LZH				*e*S	**Sn**	**00 17 52.0**	**-1.4**
LZH				*e*SS		00 18 11.0	
LZH				AMB	AMB		
	comp=Z,28nm,1.5s						
LZH				AMB	AMB		
	comp=Z,98nm,4.0s						
LZH				LR	LR		
	comp=N,236nm,8.9s						
LZH				LR	LR		
	comp=Z,452nm,10.5s						
KMI	**Kunming**	**10.83**	**130**	P	**Pn**	**00 16 36.8**	**+2.4**
KMI				AP		00 16 39.3	
KMI				PP		00 16 45.4	
KMI				AMB	AMB		
	comp=Z,14nm,0.8s						
KMI				AMB	AMB		
	comp=Z,95nm,3.4s						
KMI				LR	LR		
	comp=N,815nm,13.1s						
KMI				LR	LR		
	comp=E,676nm,12.5s						
KMI				LR	LR		
	comp=Z,283nm,19.6s						
BOK	**Bokaro**	**11.04**	**220**	*e*P	**Pn**	**00 16 35.7**	**-1.6**
BOK				*e*S	**Sn**	**00 18 37.6**	**-1.9**
GYA	**Guiyang**	**12.82**	**115**	P	**Pn**	**00 17 02.0**	**+0.3**
GYA				S	**Sn**	**00 19 22.3**	**-0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				LR	LR		
	comp=N,410nm,8.7s						
GYA				LR	LR		
	comp=E,300nm,8.1s						
GYA				LR	LR		
	comp=Z,430nm,9.5s						
XAN	**Xi'an**	**12.87**	**79**	P	**Pn**	**00 17 03.5**	**+1.1**
XAN				AMB	AMB		
	comp=Z,18nm,1.5s						
HHC	**Hu-ho-hao-te**	**16.59**	**55**	*e*P	**Pn**	**00 17 53.0**	**+1.3**
HHC				AMB	AMB		
	comp=Z,14nm,0.4s						
HHC				AMB	AMB		
	comp=Z,163nm,4.6s						
MKAR	**Makanchi Array**	**16.73**	**332**	Pn	**Pn**	**00 17 51.6**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=139,slow=13,SNR=12						
MKAR				LR	LR	00 25 14.2	
	comp=Z,141nm,18.6s,baz=282,slow=40						
BHPL	**Bhopal**	**17.04**	**241**	*e*P	**Pn**	**00 17 53.7**	**-3.6**
BHPL				AMb	AMB	00 17 57.8	
	comp=Z,17nm,1.3s						
BHPL				*e*S	**S**	**00 20 55.1**	**-19**
AJM	**Ajmer**	**17.59**	**255**	*e*P	**Pn**	**00 18 05.7**	**+1.5**
AJM				AMb	AMB	00 18 11.5	
	comp=Z,16nm,0.6s						
AJM				*ex*	x	00 23 05.0	
WHN	**Wuhan**	**17.75**	**91**	P	**Pn**	**00 18 10.8**	**+4.6**
SONM	**Songino Array**	**18.12**	**29**	P	**Pn**	**00 18 09.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=214,slow=12,SNR=29						
SONM				LR	LR	00 25 54.1	
	comp=Z,148nm,20.0s,baz=214,slow=40						
ULN	**Ulaanbaatar**	**18.41**	**30**	*e*Pn	**Pn**	**00 18 13.4**	**-0.8**
ZAK	**Zakamensk**	**19.25**	**19**	*e*P	**Pn**	**00 18 22.4**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,12nm,1.1s						
MOY	**Mondy**	**19.90**	**14**	*e*P	**Pn**	**00 18 24.7**	**-7.4**
HYB	**Hyderabad**	**20.28**	**226**	*i* P	**P**	**00 18 34.0**	**-0.3**
HYB	**Hyderabad**	**20.28**	**226**	*e*P	**P**	**00 18 34.0**	**-0.3**
KURK	**Kurchatov**	**21.33**	**333**	*e*P	**P**	**00 18 45.2**	**-0.5**
	comp=Z,26nm,0.8s,mb4.6						
KURK	**Kurchatov**	**21.33**	**333**	*e*P	**P**	**00 18 45.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**22.35**	**346**	P	**P**	**00 18 56.3**	**-0.3**
	comp=Z,2.7nm,0.7s,mb3.8,baz=312,slow=12,SNR=9.1						
ZAL				LR	LR	00 29 04.1	
	comp=Z,66nm,18.7s,MS3.1,baz=91,slow=40						
NVS	**Novosibirsk**	**23.53**	**345**	*e*P	**P**	**00 19 07.2**	**-1.6**
NVS				*e*		00 23 22.9	
NVS				pmax	pmax		
	comp=N,15nm,1.7s						
NVS				pmax	pmax		
	comp=E,14nm,1.7s						
NVS				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.2						
HIA	**Hailar**	**25.69**	**42**	*e*P	**P**	**00 19 29.2**	**+0.7**
	comp=Z,2.7nm,0.5s,mb4.0						
HIA	**Hailar**	**25.69**	**42**	*e*P	**P**	**00 19 29.3**	**+0.8**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BVAR	**Borovoye Array**	**26.49**	**328**	P	**P**	**00 19 36.3**	**+0.6**
	comp=Z,1.7nm,0.7s,mb3.7,baz=145,slow=12,SNR=9.8						
BVAR				PcP	PcP	00 22 59.8	-0.2
	comp=Z,0.6nm,0.5s,baz=154,slow=2.0,SNR=5.1						
BRVK	**Borovoye**	**26.56**	**328**	*e*P	**P**	**00 19 37.1**	**+0.7**
CHKZ	**Chkalovo**	**26.83**	**329**	*e*P	**P**	**00 19 39.0**	**+0.3**
	comp=Z,3.2nm,0.8s,mb3.9						
CHKZ	**Chkalovo**	**26.83**	**329**	*e*P	**P**	**00 19 39.1**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**27.08**	**326**	*e*P	**P**	**00 19 41.8**	**+0.8**
	comp=Z,2.0nm,0.9s,mb3.6						
ZRNK	**Zerenda**	**27.08**	**326**	*e*P	**P**	**00 19 41.8**	**+0.8**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
CN2	**Changchun**	**27.27**	**56**	*e*P	**P**	**00 19 44.5**	**+1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.2						
CN2				LR	LR		
	comp=N,300nm,10.0s,MS4.2						
CN2				LR	LR		
	comp=E,200nm,10.0s,MS4.2						
CN2				LR	LR		
	comp=Z,300nm,15.0s,MS4.0						
JOW	**Kunigami**	**30.52**	**92**	LR	LR	00 33 28.0	
	comp=Z,113nm,19.1s,MS3.5,baz=301,slow=38						
AKTK	**Aktyubinsk**	**31.77**	**315**	P	**P**	**00 20 23.3**	**+0.7**
AKTK				LR	LR	00 34 39.5	
AKTO	**Aktyubinsk**	**31.77**	**315**	P	**P**	**00 20 23.3**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.8,baz=132,slow=10,SNR=4.0						
AKTO				LR	LR	00 34 39.5	
	comp=Z,180nm,18.2s,MS3.8,baz=0.0,slow=39						
AKTO	**Aktyubinsk**	**31.77**	**315**	P	**P**	**00 20 23.3**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
AKTO				MLR	MLR		
	comp=Z,180nm,18.2s,MS3.8						
MJAR	**Matsushiro Arr**	**36.69**	**71**	LR	LR	00 36 30.0	
	comp=Z,129nm,18.3s,MS3.8,baz=240,slow=37						
GNI	**Garni**	**39.73**	**295**	P	**P**	**00 21 32.9**	**+2.0**
	comp=Z,8.7nm,0.9s,mb4.5,baz=291,slow=0.8,SNR=8.2						
GNI				LR	LR	00 40 36.4	
	comp=Z,63nm,19.2s,MS3.5,baz=154,slow=40						
GNI	**Garni**	**39.73**	**295**	P	**P**	**00 21 32.9**	**+2.0**
GNI				LR	LR	00 40 36.5	
KIV	**Kislovodsk**	**41.05**	**301**	*e*P	**P**	**00 21 38.6**	**-3.2**
KIV				*e*		00 23 34.7	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
TIXI	**Tiksi**	**43.47**	**15**	*e*P	**P**	**00 21 57.9**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
MALT	**Malatya**	**44.83**	**294**	⇑P	**P**	**00 22 14.3**	**+2.0**
OBN	**Obninsk**	**45.46**	**317**	*e*P	**P**	**00 22 15.8**	**-1.6**
OBN				*e*S	**S**	**00 28 56.2**	**-0.2**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
BR131	**Keskin Array S**	**48.24**	**296**	*e*P	**P**	**00 22 39.1**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**48.24**	**296**	P	**P**	**00 22 39.5**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.3,baz=95,slow=7.5,SNR=18						
JOF	**Joensuu**	**49.09**	**328**	*e*p	**P**	**00 22 45.5**	**-0.1**
AKASG	**Malin Array Be**	**49.87**	**311**	P	**P**	**00 22 51.0**	**-0.6**
	comp=Z,2.8nm,0.7s,mb4.4,baz=75,slow=6.8,SNR=11						
CFR	**Carcaliu**	**51.27**	**304**	⇓P	**P**	**00 23 02.5**	**+0.4**
KAF	**Kangasniemi**	**51.33**	**326**	*e*p	**P**	**00 23 02.2**	**-0.4**
FINES	**FINESS Array B**	**51.41**	**325**	P	**P**	**00 23 02.9**	**-0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=96,slow=9.8,SNR=11						
FINES				LR	LR	00 45 45.9	
	comp=Z,68nm,21.7s,MS3.6,baz=49,slow=37						
FINES	**FINESS Array B**	**51.41**	**325**	P	**P**	**00 23 02.9**	**-0.3**
FINES				LR	LR	00 45 45.9	
VRI	**Vrincioaia**	**52.13**	**305**	⇓P	**P**	**00 23 09.1**	**+0.6**
PLOR	**Plostina**	**52.19**	**305**	⇓P	**P**	**00 23 10.4**	**+1.4**
ARCES	**ARCESS Array B**	**52.33**	**336**	P	**P**	**00 23 10.1**	**0.0**
	comp=Z,5.1nm,0.9s,mb4.4,baz=96,slow=7.3,SNR=10						
ARCES				LR	LR	00 47 19.1	
	comp=Z,62nm,21.1s,MS3.6,baz=352,slow=38						
MLR	**Muntele Rosu**	**52.74**	**305**	⇓P	**P**	**00 23 14.4**	**+1.4**
BURAR	**Bucovina Array**	**52.86**	**308**	⇓P	**P**	**00 23 14.1**	**+0.2**
BILL	**Bilibino**	**53.82**	**26**	*e*P	**P**	**00 23 20.5**	**-0.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
DRGR		**54.69**	**307**	⇓P	**P**	**00 23 28.0**	**+0.7**
PKSM	**Moragy**	**57.56**	**307**	⇓P	**P**	**00 23 47.5**	**-0.3**
NB2	**NORSAR Subarra**	**58.59**	**326**	P	**P**	**00 23 54.4**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=78,slow=7.4						
NB2	**NORSAR Subarra**	**58.59**	**326**	P	**P**	**00 23 54.4**	**-0.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**58.59**	**326**	P	**P**	**00 23 54.7**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.3,baz=79,slow=7.0,SNR=8.7						
NOA				LR	LR	00 51 32.0	
	comp=Z,51nm,19.3s,MS3.7,baz=260,slow=38						
GERES	**GERESS Array B**	**60.09**	**311**	P	**P**	**00 24 04.4**	**-0.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=76,slow=5.6,SNR=6.8						
KMBO	**Kilima Mbogo**	**62.80**	**249**	P	**P**	**00 24 22.8**	**-0.9**
	comp=Z,2.4nm,0.9s,mb4.3,baz=42,slow=12,SNR=10						
WRAB	**Tennant Creek**	**65.06**	**137**	P	**P**	**00 24 37.6**	**-1.0**
ASAR	**Alice Springs**	**67.79**	**140**	P	**P**	**00 24 56.5**	**+0.5**
	comp=Z,3.0nm,0.6s,mb4.5,baz=326,slow=6.8,SNR=15						
NWAO	**Narrogin (SRO)**	**68.76**	**159**	*e*P	**P**	**00 25 02.4**	**+0.3**
ILAR	**Eielson Array**	**72.25**	**23**	P	**P**	**00 25 22.6**	**-0.8**
	comp=Z,1.5nm,0.9s,mb3.9,baz=297,slow=4.8,SNR=15						
SML	**Sawmill**	**73.62**	**26**	*e*P	**P**	**00 25 32.3**	**+0.8**
STKA	**Stephens Creek**	**78.42**	**140**	P	**P**	**00 25 57.6**	**-1.3**
	comp=Z,2.7nm,0.8s,mb4.2,baz=326,slow=3.6,SNR=4.4						
YKA	**Yellowknife Ar**	**

comp=Z,165nm,18.5s,baz=28,slow=37
ASAR Alice Springs 29.66 237 P **P 00 22 50.1 -0.9**
comp=Z,5.8nm,0.4s,mb4.5,baz=61,slow=10,SNR=164
FITZ Fitzroy Crossi 35.41 251 *eP* **P 00 23 40.3 -0.9**
comp=Z,12nm,0.4s,mb5.1
FITZ Fitzroy Crossi 35.41 251 P **P 00 23 40.0 -1.2**
comp=Z,7.6nm,0.6s,mb4.7,baz=73,slow=9.3,SNR=36
FORT Forrest 37.51 230 *eP* **P 00 23 58.6 -0.4**
comp=Z,15nm,0.9s,mb4.8
KLBR Kellerberrin 45.90 234 *eP* **P 00 25 07.8 +0.3**
comp=Z,12nm,0.9s,mb4.6
NWAO Narrogin (SRO) 46.78 233 *eP* **P 00 25 14.1 -0.2**
VNDA Vanda 68.51 180 P **P 00 27 46.5 -0.3**
comp=Z,1.3nm,0.8s,mb3.8,baz=151,slow=2.0,SNR=5.5
ULN Ulaanbaatar 73.88 326 *eP* **P 00 28 19.6 +0.4**
comp=Z,8.4nm,1.1s,mb4.4
ULN Ulaanbaatar 73.88 326 *eP* **P 00 28 19.6 +0.4**
ULN pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
GTA Gaotai 74.23 315 *eP* **P 00 28 22.5 +1.2**
GTA AMB AMB
comp=Z,11nm,0.7s,mb4.7
SONM Songino Array 74.23 325 P **P 00 28 21.8 +0.5**
comp=Z,2.6nm,0.6s,mb4.2,baz=135,slow=5.1,SNR=22
LSA Lhasa 77.24 303 P **P 00 28 39.0 +0.5**
ZAK Zakamensk 77.32 326 *eP* **P 00 28 34.5 -4.4**
ZAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.1
JIRN Jiri 80.83 300 *eP* **P 00 28 58.9 +0.8**
comp=Z,3.6nm,0.5s,mb4.5
GUN Gumba 81.17 300 *eP* **P 00 29 00.3 +0.5**
PKI Pulchoki 81.48 300 *eP* **P 00 29 02.3 +0.8**
KKN Kakani 81.65 300 *eP* **P 00 29 03.2 +0.8**
DMN Daman 81.75 300 *eP* **P 00 29 04.1 +1.2**
GKN Gorkha 82.25 300 *eP* **P 00 29 06.3 +0.8**
comp=Z,16nm,0.8s,mb4.9
KOLN Koldanda 83.08 299 *eP* **P 00 29 10.3 +0.4**
comp=Z,17nm,1.1s,mb4.8
ILAR Eielson Array 83.15 20 P **P 00 29 08.2 -2.0**
comp=Z,1.9nm,0.6s,mb4.1,baz=250,slow=5.0,SNR=49
NVAR Mina Array Bea 88.39 51 P **P 00 29 37.0 +0.9**
comp=Z,0.9nm,0.8s,mb3.9,baz=250,slow=3.5,SNR=4.2
NVAR Mina Array Bea 88.39 51 P **P 00 29 37.0 +0.9**
MKAR Makanchi Array 88.78 318 P **P 00 29 38.1 +0.1**
comp=Z,2.9nm,0.7s,mb4.4,baz=98,slow=6.2,SNR=31
ZAL Zalesovo 89.14 325 P **P 00 29 38.0 -1.5**
comp=Z,0.5nm,0.3s,mb4.0,baz=156,slow=16,SNR=3.3
KURK Kurchatov 92.03 321 P **P 00 29 52.0 -1.1**
YKA Yellowknife Ar 95.36 28 P **P 00 30 07.0 -1.3**
comp=Z,0.6nm,0.8s,mb4.1,baz=258,slow=4.6,SNR=13
PDAR Pinedale Array 95.68 48 P **P 00 30 10.2 +0.3**
comp=Z,1.2nm,0.9s,mb4.3,baz=225,slow=1.9,SNR=8.2
BVAR Borovoye Array 97.42 322 P **P 00 30 16.6 -1.1**
comp=Z,0.5nm,0.5s,mb4.2,baz=57,slow=6.2,SNR=4.1
SDV Santo Domingo 129.12 86 PKP PKPdf 00 35 52.8 +1.0
comp=Z,1.5nm,0.4s,baz=265,slow=3.6,SNR=4.2
TORD Torodi Ar. Bea 159.19 283 PKP PKPdf 00 36 42.8 +0.9
comp=Z,0.6nm,0.8s,baz=2.8,slow=0.5,SNR=5.3
TORD PKPab PKPab 00 37 20.0 +0.7
comp=Z,1.4nm,0.9s,baz=86,slow=4.7,SNR=8.9

PRE 31 00:21:35.9±0.8, 2090S×3306E, h5km, ML4.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**5.51**	**210**	*eP*	Pn	00 23 00.0	+1.5
BFT				*eS*	Sn	00 24 00.1	-2.2
BFT				AML	AML	00 24 49.4	
comp=Z,76nm,0.5s							
POGA	**Pongola**	**6.57**	**191**	*eP*	Pn	00 23 13.5	+0.3
POGA				*eS*	Sn	00 24 24.9	-3.5
POGA				AML	AML	00 25 16.6	
comp=Z,64nm,0.5s							
SWZ	**Schweizer**	**9.43**	**227**	*eP*	Pn	00 23 53.9	+1.5
SWZ				*eS*	Sn	00 25 34.5	-4.3
BOSA	**Boshof**	**10.45**	**221**	*eP*	Pn	00 24 08.0	+1.7
BOSA				*eS*	Sn	00 25 58.7	-5.1
BOSA				AML	AML	00 26 25.4	
comp=Z,5.6nm,0.7s							
SUR	**Sutherland**	**15.81**	**221**	*eP*	Pn	00 25 21.7	+2.4
SUR				*eS*	Sn	00 28 07.1	-7.7
CVNA	**Calvinia**	**15.91**	**226**	*eP*	Pn	00 25 22.9	+2.5
CVNA				*eS*	Sn	00 28 09.8	-7.2
CVNA				AML	AML	00 28 36.6	
comp=Z,6.3nm,0.6s							

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*ISCJB **31** 00:27:34.4±0.9, 447N±02×279W±0.1, h10km, mb4.1/14, MS3.5/9, Error ellipse: s-maj=24.5km s-min=10.0km az=37.4*
*IDC **31** 00:27:34.8±1.0, 4455N×2808W, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.8/28, mbtmp4.0/11, MS3.5/9, Ms1 3.5/9, ms1mx3.2/37, Error ellipse: s-maj=29.8km s-min=18.1km az=29.0*
*NEIC **31** 00:27:36.2±1.1, 4465N×2797W, h10km, mb4.5/3, Error ellipse: s-maj=30.0km s-min=11.7km az=193.0*
ISC 31 00:27:36.1±0.9, 447N±02×279W±01, h10km, n30, σ1°08/22, mb4.1/14, MS3.5/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**17.32**	**69**	*eP*	**Pn**	**00 31 46.5**	**+8.6**
ESLA	**Sonseca Array**	**18.43**	**98**	*e*Pn	**Pn**	**00 31 51.4**	**-0.2**
0.1nm,0.6s							
GRR	**Gorron**	**18.93**	**69**	*eP*	**Pn**	**00 32 02.6**	**+4.9**
EKA	**Eskdalemuir Ar**	**19.02**	**47**	P	**Pn**	**00 31 58.2**	**-0.6**
0.1nm,0.3s,baz=248,slow=10,SNR=2.8							
BGF	**Bois d'Agland**	**21.53**	**74**	*eP*	**P**	**00 32 23.9**	**-1.4**
MDT	**Midelt**	**21.63**	**115**	LR	LR	00 38 54.3	
comp=Z,54nm,21.5s,MS2.9,baz=118,slow=31							
AVF	**Avril sur Loir**	**21.85**	**73**	*eP*	**P**	**00 32 28.3**	**-0.5**
61nm,1.6s,mb4.5							
AVF	**Avril sur Loir**	**21.85**	**73**	*eP*	**P**	**00 32 28.3**	**-0.5**
30nm,1.6s,mb4.5							
SSF	**Saint Saulge**	**21.93**	**73**	*eP*	**P**	**00 32 29.8**	**+0.2**
48nm,1.3s,mb4.5							
SSF	**Saint Saulge**	**21.93**	**73**	*eP*	**P**	**00 32 29.8**	**+0.2**
24nm,1.3s,mb4.5							
LOR	**Lormes**	**22.15**	**72**	*eP*	**P**	**00 32 31.9**	**-0.1**
72nm,1.7s,mb4.5							
LOR	**Lormes**	**22.15**	**72**	*eP*	**P**	**00 32 31.9**	**-0.1**
36nm,1.7s,mb4.5							
SFJD	**Kangerlussuaq**	**25.40**	**339**	P	**P**	**00 33 01.6**	**-2.1**
9.6nm,0.9s,mb4.3,baz=117,slow=4.5,SNR=3.4							
DAVOX	**Davos**	**26.29**	**72**	LR	LR	00 42 18.4	
comp=Z,138nm,21.4s,MS3.5,baz=74,slow=33							
SCHQ	**Schefferville**	**26.76**	**306**	P	**P**	**00 33 14.9**	**-1.0**
1.4nm,0.8s,mb3.6,baz=101,slow=16,SNR=3.9							
SCHQ				LR	LR	00 41 56.1	
comp=Z,122nm,18.8s,MS3.5,baz=200,slow=32							
NOA	**NORSAR Array B**	**28.15**	**41**	LR	LR	00 43 11.1	
comp=Z,37nm,21.0s,MS3.0,baz=265,slow=33							
FRB	**Frobisher Bay**	**29.69**	**324**	P	**P**	**00 33 42.1**	**0.0**
1.9nm,0.8s,mb3.9,baz=117,slow=6.8,SNR=3.4							
TORD	**Torodi Ar. Bea**	**40.34**	**132**	P	**P**	**00 35 13.5**	**-0.3**
5.8nm,0.8s,mb4.3,baz=325,slow=8.1,SNR=38							
DBIC	**Dimbokro**	**42.91**	**145**	LR	LR	00 50 49.9	
comp=Z,57nm,18.9s,MS3.5,baz=154,slow=33							
ULM	**Lac du Bonnet**	**44.81**	**302**	LR	LR	00 53 01.2	
comp=Z,99nm,18.9s,MS3.8,baz=324,slow=34							
BRTR	**Keskin Array B**	**44.91**	**74**	P	**P**	**00 35 51.7**	**+0.8**
1.2nm,0.9s,mb3.7,baz=303,slow=5.7,SNR=7.2							
YKA	**Yellowknife Ar**	**50.19**	**323**	P	**P**	**00 36 32.3**	**+0.4**
0.4nm,0.8s,mb3.5,baz=67,slow=7.3,SNR=7.3							
YKA				PcP	PcP	00 37 49.9	-1.2
0.1nm,0.6s,baz=64,slow=3.7,SNR=4.0							
YKA				LR	LR	00 55 12.5	
comp=Z,40nm,20.4s,MS3.4,baz=5.0,slow=33							
INK	**Inuvik**	**54.57**	**334**	P	**P**	**00 37 05.8**	**+1.3**
1.5nm,0.7s,mb4.1,baz=140,slow=7.9,SNR=15							
NEW	**Newport**	**58.10**	**308**	P	**P**	**00 37 29.5**	**-0.1**
1.0nm,0.4s,mb4.2,baz=73,slow=11,SNR=2.7							
BVAR	**Borovoye Array**	**60.22**	**44**	P	**P**	**00 37 47.4**	**+3.1**
1.3nm,0.9s,mb4.0,baz=242,slow=3.2,SNR=5.1							
BDFB	**Brasilia**	**62.80**	**202**	LR	LR	01 03 08.8	
comp=Z,87nm,18.1s,MS4.0,baz=119,slow=34							
YBH	**Yreka Blue Hor**	**65.13**	**305**	LR	LR	01 04 41.5	
comp=Z,69nm,18.6s,MS3.9,baz=346,slow=34							
ZAL	**Zalesovo**	**66.25**	**37**	P	**P**	**00 38 26.9**	**+2.6**
0.5nm,0.5s,mb3.8,baz=317,slow=19,SNR=3.3							
MKAR	**Makanchi Array**	**70.11**	**43**	P	**P**	**00 38 48.8**	**+0.2**
1.3nm,0.8s,mb3.9,baz=332,slow=6.9,SNR=9.1							
VNDA	**Vanda**	**146.86**	**184**	PKPbc	PKPbc	00 47 16.9	-1.7
2.7nm,1.0s,baz=295,slow=2.6,SNR=7.6							

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*IDC **31** 00:30:15.0±6.0, 3706N×7233E, h199km±54km, mb3.3/6, mb1 3.4/9, mb1mx3.2/23, mbtmp3.9/9, Error ellipse: s-maj=43.1km s-min=30.3km az=146.0*
*ISCJB **31** 00:30:18.1±0.8, 3738N±005×723E±0.1, h232km±10km, mb3.3/6, Error ellipse: s-maj=17.2km s-min=5.2km az=131.5*
*NEIC **31** 00:30:18.6±1.8, 3732N×7232E, h220km±22km, mb3.5/5, Error ellipse: s-maj=19.8km s-min=6.2km az=67.0*
*NNC **31** 00:30:25.8±2.4, 3781N×7130E, h194km±56km, mb2.6, mpv4.1, Error ellipse: s-maj=82.4km s-min=16.3km az=61.0*
ISC 31 00:30:19.1±0.8, 3739N±005×723E±01, h227km±9km, n38, σ0°76/43, mb3.3/6, 6C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.86**	**12**	P	**Pn**	**00 31 31.7**	**-0.7**
SNR=256							
UCH	**Uchtor**	**5.13**	**19**	P	**Pn**	**00 31 35.8**	**0.0**
SNR=62							
KZA	**Kyzart**	**5.21**	**25**	P	**Pn**	**00 31 36.4**	**-0.4**
SNR=18							
EKS2	**Erkin-Say**	**5.39**	**12**	P	**Pn**	**00 31 38.8**	**-0.3**
SNR=56							
AAK	**Ala-Archa**	**5.50**	**17**	P	**Pn**	**00 31 40.7**	**+0.2**
SNR=69							
KBK	**Karagaybulak**	**5.64**	**20**	P	**Pn**	**00 31 42.8**	**+0.5**
SNR=22							
DLH	**Dalhousie**	**5.69**	**147**	*eP*	**Pn**	**00 31 45.0**	**+2.1**
DLH				*eS*	**S**	**00 32 50.0**	**+0.5**
ULHL	**Ulahol**	**5.72**	**31**	P	**Pn**	**00 31 43.2**	**-0.1**
SNR=15							
KK31	**Karatay Array**	**5.87**	**347**	⇑P	**Pn**	**00 31 44.1**	**-1.1**
13nm,0.5s,baz=160,slow=11,SNR=296							
KK31				⇑S	**S**	**00 32 46.9**	**-6.8**
34nm,0.3s,baz=172,slow=21,SNR=30							
CHMS	**Chumysh**	**5.91**	**18**	P	**Pn**	**00 31 46.2**	**+0.6**
SNR=10							
TKM2	**Tokmak 2**	**6.08**	**24**	P	**Pn**	**00 31 48.1**	**+0.3**
SNR=6.0							
USP	**Ospenovka**	**6.11**	**15**	P	**Pn**	**00 31 48.6**	**+0.4**
SNR=6.0							
SDNR	**Sundarnagar**	**7.02**	**145**	*eP*	**Pn**	**00 32 00.0**	**+0.2**
SDNR				*eS*	**S**	**00 33 14.0**	**-6.3**
MKAR	**Makanchi Array**	**11.96**	**35**	P	**Pn**	**00 33 02.5**	**-0.2**
0.1nm,0.3s,baz=212,slow=16,SNR=4.1							
KOLN	**Koldanda**	**13.51**	**132**	*eP*	**Pn**	**00 33 21.6**	**-0.3**
7.3nm,0.3s							
GKN	**Gorkha**	**13.97**	**128**	*eP*	**Pn**	**00 33 26.5**	**-1.1**
42nm,0.4s							
KKN	**Kakani**	**14.52**	**127**	*eP*	**Pn**	**00 33 33.8**	**-0.5**
19nm,0.4s							
DMN	**Daman**	**14.54**	**128**	*eP*	**Pn**	**00 33 33.9**	**-0.6**
22nm,0.6s							
PKI	**Pulchoki**	**14.76**	**128**	*eP*	**Pn**	**00 33 36.9**	**-0.3**
11nm,0.3s							
GUN	**Gumba**	**14.82**	**126**	*eP*	**Pn**	**00 33 37.5**	**-0.5**
19nm,0.4s							
AB31	**Akbulak array**	**14.86**	**327**	⇑P	**Pn**	**00 33 36.9**	**-1.6**
1.4nm,0.5s,baz=141,slow=13,SNR=41							
AB31				⇑S	**S**	**00 36 13.0**	**-10**
2.2nm,0.6s,baz=146,slow=22,SNR=6.5							
JIRN	**Jiri**	**15.19**	**126**	*eP*	**Pn**	**00 33 42.6**	**+0.1**
24nm,0.3s							
BVAR	**Borovoye Array**	**15.70**	**356**	P	**Pn**	**00 33 49.2**	**+0.7**
0.4nm,0.3s,baz=165,slow=9.6,SNR=9.0							
ZRNK	**Zerenda**	**15.73**	**353**	*eP*	**Pn**	**00 33 49.1**	**+0.1**
2.2nm,0.7s							
BRVK	**Borovoye**	**15.73**	**356**	*eP*	**Pn**	**00 33 47.0**	**-2.0**
1.2nm,0.7s							
CHKZ	**Chkalovo**	**16.33**	**356**	*eP*	**P**	**00 33 56.3**	**+1.4**
0.9nm,0.4s							
AKTK	**Aktyubinsk**	**16.58**	**326**	P	**P**	**00 33 58.5**	**+0.9**
AKTO	**Aktyubinsk**	**16.58**	**326**	⇑P	**P**	**00 33 57.5**	**0.0**
0.1nm,0.7s							
AKTO				⇑S	**S**	**00 36 55.3**	**-3.8**
0.3nm,1.3s							
AKTO	**Aktyubinsk**	**16.58**	**326**	P	**P**	**00 33 58.5**	**+0.9**
1.1nm,0.3s,baz=133,slow=9.7,SNR=36							
ZAL	**Zalesovo**	**18.67**	**24**	P	**P**	**00 34 20.9**	**+0.6**
1.2nm,0.3s,baz=259,slow=6.2,SNR=7.0							
FINES	**FINESS Array B**	**37.34**	**325**	P	**P**	**00 37 10.3**	**+0.5**
0.6nm,0.5s,mb3.4,baz=125,slow=7.5,SNR=5.9							
ARCES	**ARCESS Array B**	**40.73**	**337**	P	**P**	**00 37 38.1**	**+0.3**
2.8nm,1.0s,mb3.7,baz=111,slow=6.9,SNR=9.2							
HFS	**Hagfors**	**43.02**	**321**	P	**P**	**00 37 56.6**	**+0.3**
2.2nm,0.6s,mb3.8,baz=131,slow=7.9,SNR=9.4							
NB2	**NORSAR Subarra**	**44.31**	**322**	P	**P**	**00 38 06.5**	**0.0**
comp=Z,0.6nm,0.5s,mb3.2,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**44.31**	**322**	P	**P**	**00 38 06.6**	**+0.1**
comp=Z,0.7nm,0.5s,mb3.3,baz=93,slow=7.6,SNR=4.2							
TORD	**Torodi Ar. Bea**	**66.78**	**269**	P	**P**	**00 40 45.4**	**-0.7**
comp=Z,0.2nm,0.3s,mb3.2,baz=47,slow=5.9,SNR=19							
YKA	**Yellowknife Ar**	**80.31**	**3**	P	**P**	**00 42 05.2**	**+0.4**
comp=Z,0.1nm,0.5s,mb2.8,baz=349,slow=5.7,SNR=4.7							
YKA	**Yellowknife Ar**	**80.31**	**3**	P	**P**	**00 42 05.2**	**+0.4**

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*NEIC **31** 00:44:07.9, 4421S×16873E, h5km, ML3.9(WEL), After WEL.*
WEL 31 00:44:08.3±0.1, 4420S×16867E, h5km, ML3.9/8, 3C, Error ellipse: s-maj=1.8km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.14**	**28**	⇑PG	Pg	00 44 11.4	+0.4
JCZ				SG	Sg	00 44 13.5	+0.5
JCZ	**Jackson Bay**	**0.14**	**28**	P	Pg	00 44 10.4	-0.7
JCZ				S	Sg	00 44 12.6	-0.3
WKZ	**Wanaka**	**0.68**	**158**	⇑P*	Pb	00 44 21.6	-1.0
WKZ				SG	Sg	00 44 30.2	0.0
WKZ	**Wanaka**	**0.68**	**158**	P	Pg	00 44 20.7	-0.6
WKZ				S	Sg	00 44 29.2	-1.0
MSZ	**Milford Sound**	**0.71**	**228**	P*	Pb	00 44 22.3	-0.9
MSZ				S*	Sb	00 44 31.7	-1.6
MSZ	**Milford Sound**	**0.71**	**228**	P	Pg	00 44 21.3	-0.7
FOZ	**Fox Glacier**	**0.97**	**50**	P*	Pb	00 44 27.6	0.0
FOZ	**Fox Glacier**	**0.97**	**50**	P	Pg	00 44 26.7	-0.2
LBZ	**Lake Benmore**	**1.11**	**100**	P*	Pb	00 44 29.5	-0.4
LBZ	**Lake Benmore**	**1.11**	**100**	P	Pg	00 44 28.5	-1.0
EAZ	**Earnscleugh**	**1.13**	**156**	P*	Pb	00 44 29.7	-0.6
EAZ	**Earnscleugh**	**1.13**	**156**	P	Pg	00 44 28.8	-1.2
MLZ	**Mavora Lakes**	**1.20**	**197**	⇑P*	Pb	00 44 31.2	-0.3
MLZ				S*	Sb	00 44 48.4	+1.0
MLZ	**Mavora Lakes**	**1.20**	**197**	P	Pg	00 44 31.2	-0.2
DCZ	**Deep Cove**	**1.67**	**219**	PN	Pn	00 44 37.7	-0.5
DCZ	**Deep Cove**	**1.67**	**219**	P	Pn	00 44 37.1	-1.1
TUZ	**Tuapeka**	**1.89**	**159**	PN	Pn	00 44 41.1	-0.1
TUZ	**Tuapeka**	**1.89**	**159**	*eP*	Pn	00 44 41.8	+0.6
QRZ	**Quartz Range**	**4.41**	**42**	*e*PN	Pn	00 45 15.6	-0.3
QRZ	**Quartz Range**	**4.41**	**42**	*eP*	Pn	00 45 15.7	-0.2

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*NEIC **31** 00:55:16.8, 3495S×7074W, h124km, MD3.5(GUC), After GUC.*
GUC 31 00:55:16.8±0.7, 3495S×7074W, h124km±3km, MD3.5, ML3.4, 13C-14D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.40**	**263**	⇑*i*P	Pn	00 55 34.9	+0.3
NICH				*i* S	Sn	00 55 48.3	+0.3
SFDO	**San Fernando**	**0.41**	**327**	⇑*i*P	Pn	00 55 34.9	+0.3
SFDO				*i* S	Sn	00 55 48.3	+0.3
CICH	**Cipreses**	**0.69**	**23**	⇑*i*P	Pn	00 55 36.6	+0.3
CICH				*i* S	Sn	00 55 51.8	+0.6
CACH	**El Canelo**	**0.84**	**8**	⇓*i*P	Pn	00 55 38.2	+0.5
CACH				*i* S	Sn	00 55 54.3	+0.9
TALC	**Talca**	**0.85**	**238**	⇑*i*P	Pn	00 55 38.0	+0.2
TALC				*i* S	Sn	00 55 53.8	+0.2
TALC				AMP		00 55 55.0	
comp=N,3μm,0.1s							
TALC	**Talca**	**0.85**	**238**	⇑*i*P	Pn	00 55 38.0	+0.2
TALC				*i* S	Sn	00 55 53.8	+0.2
CHCH	**Chadas Angostu**	**1.02**	**4**	⇑*i*P	Pn	00 55 39.6	+0.3
CHCH				*i* S	Sn	00 55 57.1	+0.7
LNCH	**Linares**	**1.14**	**218**	⇓*i*P	Pn	00 55 40.8	+0.3
LNCH				*i* S	Sn	00 55 59.0	+0.6
LNCH				AMP		00 56 00.0	
comp=N,1μm,0.6s							
LNCH	**Linares**	**1.14**	**218**	⇓*i*P	Pn	00 55 40.8	+0.3
LNCH				*i* S	Sn	00 55 59.0	+0.6
LNV	**Longovilo**	**1.14**	**331**	⇓*i*P	Pn	00 55 40.8	+0.3
LNV				*i* S	Sn	00 55 58.4	0.0
LMEL	**Las Melosas**	**1.19**	**22**	⇓*i*P	Pn	00 55 41.8	+0.8
LMEL				*i* S	Sn	00 56 02.3	+2.9
LMEL				AMP		00 56 06.8	
comp=N,983nm,0.1s							
LMEL	**Las Melosas**	**1.19**	**22**	⇓*i*P	Pn	00 55 41.8	+0.8
LMEL				S	Sn	00 56 02.3	+2.9
TACH	**Talagante**	**1.31**	**353**	⇑*i*P	Pn	00 55 42.7	+0.4
TACH				*i* S	Sn	00 56 02.0	+0.3
PCH	**Pirque**	**1.34**	**8**	⇑*i*P	Pn	00 55 43.2	+0.6
PCH				*i* S	Sn	00 56 03.5	+1.2
SJCH	**San Jose de Ma**	**1.35**	**14**	*i* S	Sn	00 56 03.2	+0.8
SJCH				AMP		00 56 06.6	
comp=N,264nm,0.1s							
ANTU	**Antumapu**	**1.38**	**4**	⇑*i*P	Pn	00 55 44.0	+0.9
ANTU				*i* S	Sn	00 56 03.6	+0.5
ANTU				AMP		00 56 07.8	
comp=N,486nm,0.3s							
ANTU	**Antumapu**	**1.38**	**4**	⇑*i*P	Pn	00 55 44.0	+0.9
ANTU				*i* S	Sn	00 56 03.6	+0.5
RCDM	**Rinconada Maip**	**1.46**	**358**	*eP*	Pn	00 55 44.4	+0.4
RCDM				*i* S	Sn	00 56 05.3	+0.7
RCDM				AMP		00 56 06.2	
comp=E,1μm,0.1s							
RCDM	**Rinconada Maip**	**1.46**	**358**	*eP*	Pn	00 55 44.4	+0.4
RCDM				*i* S	Sn	00 56 05.3	+0.7
SAN	**Santiago**	**1.50**	**3**	AMP		00 56 07.5	
comp=E,285nm,0.2s							
STL	**Santa Lucia**	**1.52**	**3**	⇑*i*P	Pn	00 55 44.5	-0.1
STL				*i* S	Sn	00 56 06.0	+0.2
STL				AMP		00 56 06.9	
comp=N,205nm,0.2s							
CLCH	**Cerro Calan**	**1.56**	**6**	⇓*i*P	Pn	00 55 45.7	+0.6
CLCH				*i* S	Sn	00 56 07.9	+1.1
CLCH				AMP		00 56 09.2	
comp=N,566nm,0.6s							
CLCH				AMP		00 56 10.1	
comp=E,778nm,0.2s							
LCCH	**Las Cruces**	**1.62**	**335**	⇑*i*P	Pn	00 55 46.7	+0.8
LCCH				*i* S	Sn	00 56 08.1	0.0
FCH	**Farellones**	**1.66**	**13**	⇓*i*P	Pn	00 55 47.1	+0.8
FCH				*i* S	Sn	00 56 10.7	+1.8
FCH				AMP		00 56 12.2	
comp=N,398nm,0.2s							
PEL	**Peldehue**	**1.81**	**2**	⇓*i*P	Pn	00 55 48.1	+0.1
PEL				*i* S	Sn	00 56 12.8	+0.9
PEL				AMP		00 56 15.1	
comp=N,726nm,0.2s							
PEL	**Peldehue**	**1.81**	**2**	⇓*i*P	Pn	00 55 48.1	+0.1
PEL				*i* S	Sn	00 56 12.8	+0.9
CCHI	**Chillan**	**1.97**	**213**	⇓*i*P	Pn	00 55 50.2	+0.1
CCHI				*i* S	Sn	00 56 15.6	+0.1
CCHI				AMP		00 56 16.6	
comp=E,188nm,0.6s							
CCHI				AMP		00 56 16.7	
comp=N,334nm,0.4s							
CCHI	**Chillan**	**1.97**	**213**	⇓*i*P	Pn	00 55 50.2	+0.1
CCHI				*i* S	Sn	00 56 15.6	+0.1
ROCH	**El Roble**	**1.99**	**353**	⇓*i*P	Pn	00 55 51.0	+0.7
ROCH				*i* S	Sn	00 56 16.5	+0.7
JACH	**Jahuel**	**2.27**	**3**	*eP*	Pn	00 55 54.1	+0.3
JACH				*i* S	Sn	00 56 23.3	+1.2
PACH	**Papudo**	**2.48**	**346**	⇑*i*P	Pn	00 55 57.0	+0.6
CHNG	**Los Chungos**	**3.13**	**348**	⇓*i*P	Pn	00 56 05.3	+0.4
CHNG				*i* S	Sn	00 56 39.9	-2.0
CHNG				AMP		00 56 43.8	
comp=N,89nm,0.4s							

IDC 31 01:08:33.4±1.3, 049S×12357E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.4/4, Error ellipse: s-maj=163.4km s-min=22.1km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.02**	**152**	P	P	01 13 30.8	+1.4
1.2nm,0.7s,baz=329,slow=12,SNR=5.7							
ASAR	**Alice Springs**	**25.13**	**157**	P	P	01 13 59.4	-0.6
0.4nm,0.6s,baz=324,slow=6.1,SNR=5.5							
SONM	**Songino Array**	**50.40**	**345**	P	P	01 17 32.3	-0.1
0.4nm,0.7s,baz=156,slow=8.9,SNR=4.1							
MKAR	**Makanchi Array**	**59.33**	**328**	P	P	01 18 37.4	+0.3
0.3nm,0.4s,baz=140,slow=7.0,SNR=9.5							

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*BGS **31** 01:16:52.9, 3268N×4948E, h10km, mb5.8*
*BJI **31** 01:16:58.9, 3350N×4880E, h7km, mB5.8, mb5.4, Ms6.2, Msz5.7*
*CSEM **31** 01:16:59.3±0.0, 3350N×4873E, h9km, mb5.8/99, Ms5.9, Mw6.1*
*ISCJB **31** 01:17:00.4±0.1, 3351N±002×4877E±001, h14km, mb5.7/323, MS5.9/206, Error ellipse: s-maj=2.4km s-min=1.3km az=21.5*
*OMAN **31** 01:17:00.5±2.6, 3364N×4879E, h75km±20km, Error ellipse: s-maj=27.1km s-min=20.0km az=168.0*
*NEIC **31** 01:17:01.0±0.1, 3350N×4878E, h7km, mb5.7/187, ME5.9, MS6.0/151, MW5.9, ML6.1(THR), MN5.9(TEH), Error ellipse: s-maj=3.9km s-min=1.8km az=190.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.22**	**299**	*e*Pg	**Pn**	**01 17 23.4**	**-1.6**
IKOM	**Komasi**	**1.22**	**299**	Pg	**Pn**	**01 17 23.3**	**-1.7**
ASAO	**Ashtian**	**1.40**	**46**	*e*Pg	**Pn**	**01 17 25.2**	**-2.4**
ASAO				*e*SG	**Sn**	**01 17 43.7**	**-2.0**
ASAO				AML	AML	01 17 48.5	
	comp=E,252μm,0.7s						
ASAO	**Ashtian**	**1.40**	**46**	*e*Pg	**Pn**	**01 17 25.2**	**-2.4**
	SNR=90						
ASAO				*e*Sg	**Sn**	**01 17 43.7**	**-2.1**
	SNR=90						
SNGE	**Sanandaj**	**1.93**	**322**	*e*Pg	**Pn**	**01 17 37.1**	**+2.3**
SNGE				*e*SG	**Sg**	**01 18 03.7**	**-0.8**
SNGE				AML	AML	01 18 09.4	
	comp=N,238μm,0.6s						
SNGE				AML	AML	01 18 10.1	
	comp=E,159μm,0.7s						
SNGE	**Sanandaj**	**1.93**	**322**	*e*Pg	**Pn**	**01 17 37.1**	**+2.4**
	SNR=90						
SNGE				*e*Sg	**Sg**	**01 18 03.7**	**-0.8**
	SNR=90						
IPIR	**Pirpir**	**1.97**	**116**	*e*Pn	**Pn**	**01 17 35.1**	**-0.3**
IPIR	**Pirpir**	**1.97**	**116**	Pn	**Pn**	**01 17 35.0**	**-0.4**
IGHG	**Ghaleghazi**	**2.00**	**293**	*e*Pn	**Pn**	**01 17 38.6**	**+2.9**
IGHG	**Ghaleghazi**	**2.00**	**293**	Pn	**Pn**	**01 17 38.5**	**+2.8**
IDHR	**Dehrash**	**2.29**	**300**	*e*Pn	**Pn**	**01 17 42.2**	**+2.5**
IDHR	**Dehrash**	**2.29**	**300**	Pn	**Pn**	**01 17 42.1**	**+2.4**
IKLH	**Kalahroud**	**2.34**	**96**	*e*Pn	**Pn**	**01 17 40.7**	**+0.2**
IMHD	**Mahdasht**	**2.60**	**36**	*e*Pn	**Pn**	**01 17 45.7**	**+1.6**
IVRN	**Varamin**	**2.81**	**59**	*e*Pn	**Pn**	**01 17 47.9**	**+1.0**
IVRN	**Varamin**	**2.81**	**59**	Pn	**Pn**	**01 17 47.8**	**+0.9**
CHTH	**Charan**	**3.01**	**39**	*e*Pn	**Pn**	**01 17 50.9**	**+1.2**
IZEF	**Zefreh**	**3.04**	**102**	*e*Pn	**Pn**	**01 17 50.5**	**+0.5**
IAFJ	**Afjeh**	**3.30**	**46**	*e*Pn	**Pn**	**01 17 55.0**	**+1.3**
DAMV	**Damavand**	**3.32**	**51**	*e*Pn	**Pn**	**01 17 55.0**	**+1.1**
DAMV	**Damavand**	**3.32**	**51**	*e*Pn	**Pn**	**01 17 55.0**	**+1.1**
	SNR=52						
NASN	**Na'in**	**3.45**	**102**	*e*Pn	**Pn**	**01 17 56.8**	**+1.1**
NASN				*e*SG	**Sg**	**01 18 47.7**	**-5.8**
BHD	**Baghdad**	**3.71**	**266**	*i* Pn	x	01 17 50.5	
BHD				*i* Sn	x	01 18 35.0	
IFIR	**Firoozkooh**	**3.86**	**57**	*e*Pn	**Pn**	**01 18 02.4**	**+1.1**
IFIR	**Firoozkooh**	**3.86**	**57**	Pn	**Pn**	**01 18 02.3**	**+1.0**
ILAS	**Lasjerd**	**3.88**	**61**	*e*Pn	**Pn**	**01 18 02.3**	**+0.7**
ILAS	**Lasjerd**	**3.88**	**61**	Pn	**Pn**	**01 18 02.2**	**+0.6**
IPRN	**Paran-Amol**	**3.88**	**46**	*e*Pn	**Pn**	**01 18 03.6**	**+2.0**
IPRN	**Paran-Amol**	**3.88**	**46**	Pn	**Pn**	**01 18 03.5**	**+1.9**
MIB	**Mutribah**	**3.97**	**199**	*e*P	**Pn**	**01 18 05.3**	**+2.5**
MIB				AML	AML	01 18 59.2	
	comp=Z,6μm,0.6s						
MIB	**Mutribah**	**3.97**	**199**	*e*P	**Pn**	**01 18 05.1**	**+2.3**
UMR	**Umm Al-Rimmam**	**4.12**	**193**	*e*P	**Pn**	**01 18 07.2**	**+2.3**
UMR	**Umm Al-Rimmam**	**4.12**	**193**	*e*P	**Pn**	**01 18 06.8**	**+1.9**
ISHM	**Shahmirzad**	**4.32**	**58**	*e*Pn	**Pn**	**01 18 08.5**	**+0.9**
IBST	**Bostanabad**	**4.39**	**340**	*e*Pn	**Pn**	**01 18 11.1**	**+2.5**
IBST	**Bostanabad**	**4.39**	**340**	Pn	**Pn**	**01 18 11.0**	**+2.4**
KBD	**Kabd**	**4.49**	**192**	*e*P	**Pn**	**01 18 12.2**	**+2.2**
KBD				AML	AML	01 19 10.6	
	comp=Z,9μm,0.7s						
KBD	**Kabd**	**4.49**	**192**	*e*P	**Pn**	**01 18 12.1**	**+2.1**
NAY	**Al-Naaiem**	**4.52**	**197**	*e*P	**Pn**	**01 18 13.1**	**+2.7**
NAY				AML	AML	01 19 06.0	
	comp=Z,1μm,0.6s						
NAY	**Al-Naaiem**	**4.52**	**197**	*e*P	**Pn**	**01 18 12.8**	**+2.4**
IANJ	**Anjiloo**	**4.62**	**65**	*e*Pn	**Pn**	**01 18 11.8**	**0.0**
IANJ	**Anjiloo**	**4.62**	**65**	Pn	**Pn**	**01 18 11.7**	**-0.1**
IAZR	**Azarshahr**	**4.69**	**332**	*e*Pn	**Pn**	**01 18 15.1**	**+2.4**
IAZR	**Azarshahr**	**4.69**	**332**	Pn	**Pn**	**01 18 15.0**	**+2.3**
IGLO	**Galoogah**	**4.72**	**54**	*e*Pn	**Pn**	**01 18 18.9**	**+5.7**
IGLO	**Galoogah**	**4.72**	**54**	Pn	**Pn**	**01 18 18.8**	**+5.6**
RDF	**Al-Radifah**	**4.76**	**193**	*e*P	**Pn**	**01 18 16.4**	**+2.7**
RDF	**Al-Radifah**	**4.76**	**193**	*e*P	**Pn**	**01 18 15.6**	**+1.9**
IKIA	**Kiasar**	**4.79**	**56**	*e*Pn	**Pn**	**01 18 15.3**	**+1.1**
QRN	**Al-Qurain**	**4.88**	**189**	*e*P	**Pn**	**01 18 17.6**	**+2.2**
ICHK	**Chekchek**	**4.91**	**104**	*e*Pn	**Pn**	**01 18 15.4**	**-0.3**
ICHK	**Chekchek**	**4.91**	**104**	Pn	**Pn**	**01 18 15.3**	**-0.4**
ITBZ	**Tabriz**	**5.12**	**336**	*e*Pn	**Pn**	**01 18 21.2**	**+2.6**
GRMI	**Germi**	**5.27**	**352**	*e*Pn	**Pn**	**01 18 22.5**	**+1.8**
IMEH	**Mehriz**	**5.38**	**112**	*e*Pn	**Pn**	**01 18 22.0**	**-0.2**
IMEH	**Mehriz**	**5.38**	**112**	Pn	**Pn**	**01 18 21.9**	**-0.3**
MSL	**Mosul**	**5.41**	**302**	*i* x	x	01 18 25.5	
MSL				*i* x	x	01 18 50.0	
MSL				*i* x	x	01 19 28.0	
MSL				*i* x	x	01 19 43.0	
MSL				*i* x	x	01 19 55.0	
CUKT	**Cukurca**	**5.60**	**312**	PN	**Pn**	**01 18 26.1**	**+1.0**
IMRD	**Marand**	**5.70**	**335**	*e*Pn	**Pn**	**01 18 29.0**	**+2.4**
IMRD	**Marand**	**5.70**	**335**	Pn	**Pn**	**01 18 28.9**	**+2.3**
HKR	**Hakkari**	**5.73**	**316**	PN	**Pn**	**01 18 27.9**	**+0.9**
IBAF	**Bafgh**	**6.05**	**107**	*e*Pn	**Pn**	**01 18 31.4**	**0.0**
IBAF	**Bafgh**	**6.05**	**107**	Pn	**Pn**	**01 18 31.3**	**-0.1**
VANT	**Van**	**6.54**	**319**	PN	**Pn**	**01 18 42.6**	**+4.5**
VANT	**Van**	**6.54**	**319**	P	**Pn**	**01 18 42.5**	**+4.4**
TVAN	**Van**	**6.59**	**320**	*i* P	**Pn**	**01 18 42.0**	**+3.2**
CLDR	**Caldiran**	**6.80**	**326**	PN	**Pn**	**01 18 46.3**	**+4.6**
GNI	**Garni**	**7.31**	**335**	PN	**Pn**	**01 18 53.2**	**+4.5**
GNI	**Garni**	**7.31**	**335**	Pn	**Pn**	**01 18 52.6**	**+3.9**
	comp=Z,3.9nm,0.3s,baz=158,slow=1.8,SNR=94						
GNI				Lg		01 20 53.1	
	baz=143,slow=18,SNR=1.7						
GNI				LR	LR	01 21 58.9	
	comp=Z,241μm,21.7s,baz=151,slow=41						
GNI	**Garni**	**7.31**	**335**	⇑*i*Pn	**Pn**	**01 18 52.6**	**+3.8**
	comp=Z,4μm,1.0s						
GNI				*e*Sn	**Sn**	**01 20 24.2**	**+13**
GNI	**Garni**	**7.31**	**335**	⇑*i*Pn	**Pn**	**01 18 52.6**	**+3.8**
	comp=Z,4μm,1.0s						
GNI				*e*Sn	**Sn**	**01 20 24.2**	**+13**
BTMT	**Batman**	**7.50**	**310**	PN	**Pn**	**01 18 52.0**	**+0.6**
MARD	**Mardin**	**7.53**	**302**	*i* P	**Pn**	**01 18 51.0**	**-0.7**
DIGO	**Kars**	**8.08**	**329**	*i* P	**Pn**	**01 19 02.5**	**+3.2**
BNGL	**BINGOL**	**8.17**	**313**	*i* P	**Pn**	**01 19 05.4**	**+4.8**
DIY	**Diyarbakir**	**8.19**	**304**	PN	**Pn**	**01 19 01.4**	**+0.6**
DIY	**Diyarbakir**	**8.19**	**304**	P	**Pn**	**01 19 01.3**	**+0.5**
ISHV	**Shirvan**	**8.25**	**59**	*e*Pn	**Pn**	**01 19 04.7**	**+3.0**
ISHV	**Shirvan**	**8.25**	**59**	Pn	**Pn**	**01 19 04.6**	**+2.9**
ISFR	**Esferayen**	**8.28**	**63**	*e*Pn	**Pn**	**01 19 05.5**	**+3.5**
DGRG	**David-gareji**	**8.31**	**342**	P	**Pn**	**01 19 07.3**	**+4.9**
KARS	**Kars**	**8.36**	**329**	PN	**Pn**	**01 19 06.0**	**+2.8**
KARS	**Kars**	**8.36**	**329**	P	**Pn**	**01 19 05.9**	**+2.7**
KZR	**Kazreti**	**8.53**	**337**	P	**Pn**	**01 19 10.3**	**+4.9**
ERZM	**Erzurum**	**8.68**	**319**	*i* P	**Pn**	**01 19 12.1**	**+4.6**
EZM	**Erzurum**	**8.68**	**319**	PN	**Pn**	**01 19 10.9**	**+3.4**
IQHU	**Quchan**	**8.69**	**64**	*e*Pn	**Pn**	**01 19 10.0**	**+2.3**
IQHU	**Quchan**	**8.69**	**64**	Pn	**Pn**	**01 19 09.9**	**+2.2**
MTA	**Mtatsminda**	**8.70**	**340**	P	**Pn**	**01 19 12.0**	**+4.3**
MTA	**Mtatsminda**	**8.70**	**340**	P	Px	01 19 18.0	
ABKT	**Ailbek**	**8.73**	**58**	Pn	**Pn**	**01 19 10.8**	**+2.6**
	comp=Z,1μm,1.0s,SNR=40						
VAN	**Vannovskaya**	**8.73**	**57**	*e*P	**Pn**	**01 19 10.6**	**+2.4**
TBLG	**Delisi**	**8.75**	**340**	P	**Pn**	**01 19 13.1**	**+4.7**
AKH	**Akhalkalaki**	**8.88**	**333**	P	**Pn**	**01 19 15.0**	**+4.8**
IEMG	**Emamqoli**	**8.90**	**62**	*e*Pn	**Pn**	**01 19 11.8**	**+1.3**
URFA	**Urfa**	**9.00**	**298**	PN	**Pn**	**01 19 11.4**	**-0.4**
URFA	**Urfa**	**9.00**	**298**	P	**Pn**	**01 19 11.4**	**-0.4**
IMOG	**Moghan**	**9.03**	**71**	*e*Pn	**Pn**	**01 19 12.2**	**-0.1**
IMOG	**Moghan**	**9.03**	**71**	Pn	**Pn**	**01 19 12.1**	**-0.2**
BKR	**Bakuriani**	**9.15**	**334**	P	**Pn**	**01 19 19.4**	**+5.4**
GOR	**Gori**	**9.17**	**338**	P	Px	01 19 38.3	
MHI	**Mashhad**	**9.18**	**70**	*e*Pn	**Pn**	**01 19 14.8**	**+0.5**
ELZG	**Elazig**	**9.34**	**304**	*i* P	**Pn**	**01 19 14.9**	**-1.5**
ELZG	**Elazig**	**9.34**	**304**	*i* P	**Pn**	**01 19 14.9**	**-1.6**
ARTV	**Artvin**	**9.35**	**326**	*i* P	**Pn**	**01 19 19.7**	**+3.1**
ATAB	**Bozova**	**9.39**	**297**	*i* P	Px	01 19 29.3	
MAK	**Makhachkala**	**9.42**	**354**	⇑*i*P	**Pn**	**01 19 20.0**	**+2.4**
MAK	**Makhachkala**	**9.42**	**354**	*c i*P	**Pn**	**01 19 21.6**	**+4.0**
MAK				*i* S	**Sn**	**01 21 08.6**	**+5.4**
MAK				MLR	MLR		
	comp=Z,144μm,10.0s						
MALT	**Malatya**	**9.64**	**302**	PN	**Pn**	**01 19 19.9**	**-0.7**
MALT	**Malatya**	**9.64**	**302**	⇑P	**Pn**	**01 19 20.7**	**0.0**
MALT	**Malatya**	**9.64**	**302**	*i* P	**Pn**	**01 19 20.6**	**-0.1**
MALT				*e*S	**Sn**	**01 21 09.6**	**+1.0**
MALT	**Malatya**	**9.64**	**302**	⇑P	**Pn**	**01 19 20.7**	**+0.1**
MYA	**Malataya**	**9.64**	**302**	PN	**Pn**	**01 19 20.9**	**+0.1**
IMYA	**Miamay**	**9.68**	**70**	*e*Pn	**Pn**	**01 19 21.3**	**+0.1**
IMYA	**Miamay**	**9.68**	**70**	Pn	**Pn**	**01 19 21.2**	**0.0**
GZT	**Gaziantep**	**9.90**	**296**	*i* P	**Pn**	**01 19 23.5**	**-0.8**
ZEI	**Tsey**	**9.95**	**339**	*e*P	**Pn**	**01 19 30.3**	**+5.4**
BANOM	**Banah**	**10.04**	**138**	⇓P	**Pn**	**01 19 23.2**	**-2.9**
	SNR=482						
BANOM				⇓S	**Sn**	**01 21 11.7**	**-6.6**
GAZ	**Gaziantep**	**10.11**	**294**	PN	**Pn**	**01 19 26.7**	**-0.5**
GAZ	**Gaziantep**	**10.11**	**294**	P	**Pn**	**01 19 26.6**	**-0.6**
GUMT	**Gumushane**	**10.12**	**315**	PN	**Pn**	**01 19 28.4**	**+1.1**
GUMT	**Gumushane**	**10.12**	**315**	P	**Pn**	**01 19 28.3**	**+1.0**
MACK	**Trabzon**	**10.28**	**318**	*i* P	**Pn**	**01 19 32.2**	**+2.8**
FKH	**Fakeheh**	**10.32**	**277**	*e*Pn	**Pn**	**01 19 30.6**	**+0.6**
COBT	**Iskenderun**	**10.69**	**289**	*i* P	**Pn**	**01 19 34.1**	**-0.9**
HWQ	**Hawqa**	**10.70**	**277**	*e*Pn	**Pn**	**01 19 37.5**	**+2.3**
HTY	**Hatay**	**10.71**	**287**	PN	**Pn**	**01 19 33.6**	**-1.6**
ASHO	**Ashiyiah**	**10.90**	**143**	P	**Pn**	**01 19 35.3**	**-2.7**
	SNR=877						
ASHO				⇑S	**Sn**	**01 21 36.7**	**-2.9**
BHL	**Bhannes**	**10.95**	**275**	*e*Pn	**Pn**	**01 19 40.3**	**+1.7**
ZHSF	**Zahedan**	**10.95**	**108**	*e*Pn	**Pn**	**01 19 40.1**	**+1.5**
GRSN	**GIRESUNGRSN**	**11.13**	**314**	*i* P	**Pn**	**01 19 45.4**	**+4.3**
CEYT	**Ceyhan**	**11.20**	**291**	PN	**Pn**	**01 19 42.0**	**0.0**
MATL	**Matirih**	**11.24**	**273**	*e*Pn	**Pn**	**01 19 45.1**	**+2.5**
KOZT	**Kozan**	**11.26**	**294**	PN	**Pn**	**01 19 42.9**	**+0.1**
SVST	**Sivas**	**11.33**	**306**	*i* P	**Pn**	**01 19 46.9**	**+3.0**
KRTS	**Karatas**	**11.39**	**289**	PN	**Pn**	**01 19 43.9**	**-0.8**
KIV	**Kislovodsk**	**11.40**	**337**	Pn	**Pn**	**01 19 50.9**	**+6.2**
	comp=Z,2μm,1.4s,SNR=80						
KIV	**Kislovodsk**	**11.40**	**337**	⇑*i*Pn	**Pn**	**01 19 48.5**	**+3.8**
KIV				*e*S	**Sn**	**01 22 06.4**	**+15**
KIV	**Kislovodsk**	**11.40**	**337**	⇑*i*Pn	**Pn**	**01 19 48.5**	**+3.8**
KIV				*e*S	**Sn**	**01 22 06.5**	**+15**
KARA	**Karaisali**	**11.79**	**292**	*e*PN	**Pn**	**01 19 49.7**	**-0.5**
TOKT	**Tokat**	**11.88**	**308**	*e*PN	**Pn**	**01 19 52.2**	**+0.9**
TOKT	**Tokat**	**11.88**	**308**	P	**Pn**	**01 19 52.1**	**+0.8**
MERS	**Mersin**	**12.12**	**290**	*e*PN	**Pn**	**01 19 54.5**	**-0.2**
SOC	**Sochi**	**12.24**	**327**	*i* P	**Pn**	**01 20 00.2**	**+3.9**
SOC	**Sochi**	**12.24**	**327**	*c i*P	**Pn**	**01 19 59.6**	**+3.3**
SOC				*i*		01 22 19.2	
SOC				pmax	pmax		
	comp=Z,408nm,1.1s						
SOC				MLR	MLR		
	comp=Z,111μm,12.0s						
ARQ	**Araqi**	**12.26**	**144**	P	**Pn**	**01 19 53.3**	**-3.2**
	SNR=135						
GOF	**Gofitskoye**	**12.29**	**340**	*i* P	**Pn**	**01 19 59.9**	**+2.9**
	comp=Z,640nm,2.2s						
GOF	**Gofitskoye**	**12.29**	**340**	⇑*i*P	**Pn**	**01 19 59.9**	**+2.9**
GOF				*i* S	**Sn**	**01 22 08.3**	**-5.4**
GOF				pmax	pmax		
	comp=Z,640nm,2.2s						
GOF				smax			
	comp=N,740nm,1.5s						
GOF				smax			
	comp=E,550nm,1.5s						
PHNC	**Paralimni**	**12.29**	**281**	⇑P	**Pn**	**01 19 57.4**	**+0.4**
	comp=E,6.7nm,0.9s						
NIG	**Nigde**	**12.36**	**295**	*e*PN	**Pn**	**01 19 57.1**	**-0.8**
AVNT	**Avonos**	**12.40**	**299**	*i* P	**Pn**	**01 20 01.4**	**+3.0**
EIL	**Elat**	**12.43**	**255**	Pn	**Pn**	**01 19 57.8**	**-1.0**
EIL	**Elat**	**12.43**	**255**	Pn	**Pn**	**01 19 57.8**	**-1.0**
HOQ	**Hoqain**	**12.45**	**141**	P	**Pn**	**01 19 54.5**	**-4.6**
	SNR=87						
KVT	**Kavak**	**12.60**	**310**	*e*PN	**Pn**	**01 20 01.3**	**+0.2**
BSTP	**Nigde**	**12.70**	**294**	*i* P	**Pn**	**01 20 06.2**	**+3.7**
CSS	**Prodhromos**	**12.87**	**280**	P	**Pn**	**01 20 07.0**	**+2.2**
	comp=E,20nm,1.3s						
BIDO	**Bidbid**	**12.94**	**138**	⇑P	**Pn**	**01 20 01.6**	**-4.3**
	SNR=29						
MAMC	**Mammari**	**12.97**	**281**	⇑P	**Pn**	**01 20 10.3**	**+4.1**
CDAG	**Cicekdag**	**13.06**	**302**	*i* P	**Pn**	**01 20 09.6**	**+2.2**
CTKT	**Corum**	**13.20**	**306**	*i* P	**Pn**	**01 20 13.0**	**+3.6**
SZAC	**Souni-Zanaja**	**13.23**	**280**	P	**Pn**	**01 20 12.8**	**+3.0**
	comp=E,16nm,0.9s						
SMDO	**Samad**	**13.27**	**140**	P	**Pn**	**01 20 06.9**	**-3.4**
	SNR=259						
KAMT	**Kaman**	**13.44**	**300**	*e*PN	**Pn**	**01 20 11.9**	**-0.7**
KAMT	**Kaman**	**13.44**	**300**	P	**Pn**	**01 20 11.9**	**-0.7**
ALFC	**Alevga**	**13.47**	**281**	P	**Pn**	**01 20 15.9**	**+2.8**
	comp=E,15nm,0.8s						
BOYT	**Boyabat**	**13.51**	**309**	*i* P	**Pn**	**01 20 15.3**	**+1.7**
BR131	**Keskin Array S**	**13.62**	**301**	⇑*i*Pn	**Pn**	**01 20 17.2**	**+2.1**
	comp=E,0.6nm,0.4s						
BR131				*e*S	**Sn**	**01 23 02.1**	**+16**
BR131	**Keskin Array S**	**13.62**	**301**	⇑*i*Pn	**Pn**	**01 20 17.2**	**+2.1**
	comp=E,0.6nm,0.4s						
BR131				*e*S	**Sn**	**01 23 02.1**	**+16**
BRTR	**Keskin Array B**	**13.62**	**301**	Pn	**Pn**	**01 20 16.0**	**+0.9**
	comp=E,2.3nm,0.3s,baz=121,slow=11,SNR=212						
BRTR				ScP	ScP	01 29 12.8	-0.5
	comp=E,0.2nm,0.3s,baz=143,slow=4.6,SNR=8.6						
BRTR	**Keskin Array B**	**13.62**	**301**	*i* P	**Pn**	**01 20 17.2**	**+2.1**
	comp=E,171nm,1.0s						
BRTR	**Keskin Array B**	**13.62**	**301**	*i* P	**Pn**	**01 20 17.2**	**+2.1**
BRTR				pmax	pmax		
	comp=Z,171nm,1.0s						
BYBT	**Boyabat**	**13.62**	**309**	*e*PN	**Pn**	**01 20 15.0**	**-0.2**
BYBT	**Boyabat**	**13.62**	**309**	P	**Pn**	**01 20 14.9**	**-0.3**
PPCY	**Paphos**	**13.68**	**280**	P	**Pn**	**01 20 18.5**	**+2.6**
AKMC	**Akamas**	**13.69**	**281**	P	**Pn**	**01 20 19.1**	**+3.0**
JMDO	**Jabal Madar**	**13.86**	**141**	P	**Pn**	**01 20 14.6**	**-3.8**
	SNR=202						
TOS	**Tosya**	**13.90**	**307**	*e*PN	**Pn**	**01 20 18.3**	**-0.7**
CANT	**Cankiri**	**13.98**	**304**	*e*PN	**Pn**	**01 20 19.6**	**-0.5**
CANT	**Cankiri**	**13.98**	**304**	P	**Pn**	**01 20 19.6**	**-0.5**
KONT	**Konya--Tatoy**	**14.04**	**293**	*e*PN	**Pn**	**01 20 19.6**	**-1.2**
ELDT	**Eldivan**	**14.07**	**304**	*i* P	**Pn**	**01 20 22.0**	**+0.8**
WBK	**Wadi Bani Khal**	**14.13**	**138**	P	**Pn**	**01 20 18.4**	**-3.8**
	SNR=139						
ANN	**Anapa**	**14.23**	**325**	*c i*P	**Pn**	**01 20 26.6**	**+3.1**
ANN				*i* S	**Sn**	**01 23 09.9**	**+8.8**
ANN				pmax	pmax		
	comp=Z,768nm,1.5s						
ANN				pmax	pmax		
	comp=Z,10μm,7.0s						
ANN				MLR	MLR		
	comp=N,116μm,18.0s						
ANN				MLR	MLR		
	comp=E,106μm,18.0s						
ANN				MLR	MLR		
	comp=Z,120μm,18.0s						
ANTO	**Ankara**	**14.28**	**301**	*e*PN	**Pn**	**01 20 23.3**	**-0.8**
ANTO	**Ankara**	**14.28**	**301**	⇑P	**Pn**	**01 20 26.5**	**+2.4**
ANTO	**Ankara**	**14.28**	**301**	P	**Pn**	**01 20 26.3**	**+2.2**
	comp=Z,380nm,1.1s						
ANTO	**Ankara**	**14.28**	**301**	⇑P	**Pn**	**01 20 26.5**	**+2.4**
ANTO	**Ankara**	**14.28**	**301**	P	**Pn**	**01 20 26.3**	**+2.2**
ANTO				pmax	pmax		
	comp=Z,380nm,1.1s						
LOD	**Lodumlu**	**14.30**	**301**	*e*PN	**Pn**	**01 20 23.7**	**-0.8**
LOD	**Lodumlu**	**14.30**	**301**	P	**Pn**	**01 20 23.6**	**-0.9**
KIZT	**Kizilcal**	**14.63**	**296**	*e*PN	**Pn**	**01 20 30.3**	**+1.3**
KIZT	**Kizilcal**	**14.63**	**296**	P	**Pn**	**01 20 30.2**	**+1.2**
SAFT	**Safranbolu**	**14.90**	**306**	*e*PN	**Pn**	**01 20 33.4**	**+0.9**
SGKT	**Sivrigoynuk**	**15.06**	**302**	*i* P	**Pn**	**01 20 36.4**	**+1.6**
ANTB	**Antalya**	**15.19**	**288**	*e*PN	**Pn**	**01 20 36.5**	**+0.1**
BCK	**Bucak**	**15.32**	**290**	*e*PN	**Pn**	**01 20 37.4**	**-0.8**
BCK	**Bucak**	**15.32**	**290**	P	**Pn**	**01 20 37.3**	**-0.8**
ISP	**Isparta**	**15.45**	**291**	*e*PN	**Pn**	**01 20 38.2**	**-1.6**
ISP	**Isparta**	**15.45**	**291**	⇑*i*Pn	**Pn**	**01 20 40.5**	**+0.7**
ISP				*e*S	**Sn**	**01 23 45.7**	**+15**
ESKT	**Eskisehir**	**15.58**	**297**	*i* P	**Pn**	**01 20 42.2**	**+0.6**
SEYT	**Eskypehyr**	**15.58**	**297**	*i* P	**Pn**	**01 20 42.2**	**+0.6**
MDU	**Mudurnu**	**15.62**	**301**	*e*PN	**Pn**	**01 20 42.4**	**+0.3**
MDU	**Mudurnu**	**15.62**	**301**	P	**Pn**	**01 20 42.3**	**+0.2**
TKTP	**Tekketepe**	**15.63**	**292**	*i* P	**Pn**	**01 20 43.0**	**+0.8**
ELL	**Elmali**	**15.77**	**287**	*e*PN	**Pn**	**01 20 43.2**	**-0.7**
ELL	**Elmali**	**15.77**	**287**	P	**Pn**	**01 20 43.2**	**-0.8**
HENT	**Hendek**	**15.97**	**302**	*i* P	**Pn**	**01 20 46.0**	**-0.6**
KSL	**Kastellorizon**	**15.98**	**285**	*e*P	**Pn**	**01 20 48.0**	**+1.3**
BORA	**Eskisehir**	**15.98**	**298**	*i* P	**Pn**	**01 20 44.1**	**-2.6**
ALT	**Altintas**	**16.01**	**295**	*e*PN	**Pn**	**01 20 47.3**	**+0.2**
ALT	**Altintas**	**16.01**	**295**	P	**Pn**	**01 20 46.2**	**-0.9**
SIM	**Simferopol'**	**16.04**	**319**	*e*P	**Pn**	**01 20 47.3**	**-0.1**
SIM	**Simferopol'**	**16.04**	**319**	*c e*P	**Pn**	**01 20 47.3**	**-0.1**
SIM				*e*S	**Sn**	**01 23 48.0**	**+3.1**
GOLH	**Golhisar**	**16.10**	**289**	*i* P	**Pn**	**01 20 47.9**	**-0.3**
GPA	**Golpazari**	**16.21**	**300**	*e*PN	**Pn**	**01 20 50.8**	**+1.0**
GPA	**Golpazari**	**16.21**	**300**	P	**Pn**	**01 20 50.7**	**+1.0**
WHFO	**Wadi Hawf**	**16.22**	**163**	P	**Pn**	**01 20 45.4**	**-4.5**
	SNR=402						
KHL	**Karahalli**	**16.30**	**292**	*e*PN	**Pn**	**01 20 50.2**	**-0.7**
KHL	**Karahalli**	**16.30**	**292**	P	**Pn**	**01 20 50.1**	**-0.8**
GDZ	**Gediz**	**16.50**	**295**	*i* P	**Pn**	**01 20 52.7**	**-0.6**
DNZL	**Cakiroluk**	**16.57**	**290**	*i* P	**Pn**	**01 20 53.5**	**-0.7**
DENT	**Denizli**	**16.59**	**290**	*e*PN	**Pn**	**01 20 55.0**	**+0.5**
DENT	**Denizli**	**16.59**	**290**	P	**Pn**	**01 20 54.9**	**+0.4**
ABTO	**Aybut**	**16.66**	**165**	P	**Pn**	**01 20 50.9**	**-4.5**
	SNR=328						
SHAO	**Shalim**	**16.66**	**157**	⇓P	**Pn**	**01 20 49.7**	**-5.7**
	SNR=65						
RBK	**Rabkut**	**16.73**	**162**	P	**Pn**	**01 20 51.5**	**-4.9**
	SNR=508						
IZI	**Iznik**	**16.84**	**299**	*e*PN	**Pn**	**01 20 58.6**	**+1.0**
IZI	**Iznik**	**16.84**	**299**	P	**Pn**	**01 20 58.6**	**+1.0**
HRT	**Hereke**	**16.85**	**301**	*e*PN	**Pn**	**01 20 58.5**	**+0.8**
HRT	**Hereke**	**16.85**	**301**	P	**Pn**	**01 20 57.3**	**-0.5**
YLV	**Yalova**	**16.98**	**300**	*e*PN	**Pn**	**01 20 59.6**	**+0.1**
YLV	**Yalova**	**16.98**	**300**	P	**Pn**	**01 20 59.5**	**+0.1**
ULDT	**Uludag**	**17.02**	**298**	*i* P	**Pn**	**01 21 00.6**	**+0.6**
MANT	**Manisa**	**17.08**	**292**	*i* P	**Pn**	**01 21 00.7**	**0.0**
YER	**Yerkesik**	**17.10**	**288**	*e*PN	**Pn**	**01 21 00.5**	**-0.5**
YER	**Yerkesik**	**17.10**	**288**	P	**Pn**	**01 21 00.4**	**-0.6**
ARG	**Arkhangelos**	**17.16**	**285**	*e*P	**Pn**	**01 21 01.0**	**-0.7**
ORLT	**Orhaneli**	**17.18**	**298**	*e*PN	**Pn**	**01 21 02.6**	**+0.7**
BADT	**Buyukada**	**17.25**	**301**	*e*PN	**Pn**	**01 21 03.1**	**+0.3**
BADT	**Buyukada**	**17.25**	**301**	P	**Pn**	**01 21 03.1**	**+0.2**
DST	**Dursunbey**	**17.26**	**296**	*e*PN	**Pn**	**01 21 03.6**	**+0.7**
DST	**Dursunbey**	**17.26**	**296**	P	**Pn**	**01 21 03.6**	**+0.6**
ISK	**Istanbul-Kandi**	**17.36**	**301**	*e*PN	**Pn**	**01 21 04.3**	**+0.1**
ISK	**Istanbul-Kandi**	**17.36**	**301**	P	**

BDHA AMb AMB 01 21 35.0
comp=Z,1μm,1.5s
BDHA *i* S **Sn** **01 25 14.3 -0.2**
BDHA Al Bayda' 19.74 189⇑*e*P Pn 01 21 32.5 -0.6
comp=Z,510nm,1.5s
IDI Anoyia 19.78 282 P **Pn 01 21 32.3 -1.4**
comp=Z,50nm,0.3s,baz=69,slow=12,SNR=279
IDI S **Sn** **01 25 15.2 -0.5**
comp=Z,0.7nm,0.3s,baz=354,slow=21,SNR=1.9
IDI ScP ScP 01 29 25.2 -0.3
comp=Z,1.3nm,0.3s,baz=100,slow=5.1,SNR=5.9
IDI ScS ScS 01 33 05.4 -2.4
comp=Z,0.2nm,0.3s,baz=77,slow=23,SNR=10
SIVA Sivas 19.86 281 *e*P **Pn 01 21 33.8 -0.8**
LBOS 19.89 190⇓*e*P Pn 01 21 33.7 -1.2
LBOS *i* S **Sn** **01 25 17.9 -0.2**
RDO Rodhopi 19.93 299 *e*P **Pn 01 21 34.5 -0.9**
LOS Limnos 20.00 295 *e*P **P 01 21 36.1 +1.7**
UDYN Al 'Udayn 20.01 194⇑*e*P P 01 21 34.6 -0.1
UDYN *i* S **S** **01 25 20.1 +1.0**
ANR Andizhan 20.06 62 *e*P **P 01 21 37.0 +1.8**
SARP Sargodha 20.14 88 P **P 01 21 35.6 -0.5**
KDZ Kurdzhali 20.15 300 *i* P **P 01 21 37.3 +1.1**
DIM Dimitrovgrad 20.18 302 *e*P **P 01 21 37.0 +0.5**
KIS Kishinev 20.22 317 *i* P **P 01 21 35.0 -1.8**
comp=Z,7μm,7.0s
KIS *i* S **S** **01 25 20.0 -3.2**
comp=Z,30μm,15.0s
KIS Kishinev 20.22 317 *i* P **P 01 21 35.0 -1.8**
KIS *i* S **S** **01 25 20.0 -3.2**
KIS pmax pmax
comp=Z,7μm,7.0s
KIS smax
comp=E,26μm,12.0s
KIS smax
comp=N,16μm,16.0s
KIS MLR MLR
comp=Z,30μm,15.0s,MS5.8
SZH Strazhica 20.30 305 *i* P **P 01 21 38.5 +0.8**
VAM Vamos 20.34 282 *e*P **P 01 21 39.0 +0.8**
NIL Nilore 20.36 83 Pn **P 01 21 39.4 +1.0**
comp=Z,1μm,1.0s,SNR=15
CHCP Chirah Chowk 20.37 83 ⇓P **P 01 21 37.1 -1.4**
GVD Gavdhos 20.46 280 *e*P **P 01 21 39.9 +0.4**
GVD Gavdhos 20.46 280 *e*P **P 01 21 39.1 -0.4**
GVD Gavdhos 20.46 280⇑*i*P **P 01 21 39.2 -0.3**
GVD *e*S **S** **01 25 27.4 -0.7**
BUC1 Bucharest 20.64 308 ⇑P **P 01 21 42.5 +1.0**
BUC1 Bucharest 20.64 308 P **P 01 21 43.1 +1.6**
BUC1 Bucharest 20.64 308 ⇑P **P 01 21 42.5 +1.0**
RZN Rozhen 20.67 300 *i* P **P 01 21 42.4 +0.6**
PTL Penteli 20.68 290 *e*P **P 01 21 42.9 +1.0**
PVL Pavlikeni 20.69 305 *i* P **P 01 21 43.6 +1.6**
TRBA At Turbah 20.70 193⇓*e*P P 01 21 42.0 -0.1
TRBA AMb AMB 01 21 45.9
comp=Z,906nm,1.4s
KVR Kavouri 20.74 289 *e*P **P 01 21 43.0 +0.5**
ATH Athens Observa 20.79 289 *e*P **P 01 21 44.5 +1.4**
PLD Plovdiv 20.79 301 *e*P **P 01 21 43.4 +0.3**
AOS Alonnisos 20.79 293 *e*P **P 01 21 45.2 +2.1**
ZIMR 20.83 306 ⇑P **P 01 21 48.8 +5.4**
VRI Vrincioaia 20.86 313 ⇑P **P 01 21 44.5 +0.6**
VRI Vrincioaia 20.86 313 P **P 01 21 45.0 +1.1**
VRI Vrincioaia 20.86 313 ⇑P **P 01 21 44.5 +0.6**
OUR Ouranopolis 20.91 296 *e*P **P 01 21 44.5 +0.2**
PLOR Plostina 20.91 312 ⇑P **P 01 21 45.2 +0.9**
BHJ Bhuj 21.00 114⇓*e*P P 01 21 43.4 -1.9
BHJ AMb AMB 01 21 51.3
comp=Z,622nm,0.7s
BHJ *e*S **S** **01 25 38.9 +0.3**
IAS Iasi 21.04 317 ⇑P **P 01 21 44.8 -1.0**
IAS Iasi 21.04 317 P **P 01 21 48.1 +2.3**
IAS Iasi 21.04 317 ⇑P **P 01 21 44.8 -1.0**
IAS P 01 21 48.1
PAIG Paliouri 21.06 295 *e*P **P 01 21 46.2 +0.2**
MGER Geranía Oros 21.15 289 *e*P **P 01 21 48.0 +1.0**
MLR Muntele Rosu 21.18 311 P **P 01 21 46.6 -0.7**
comp=Z,272nm,1.1s,mb5.5,baz=112,slow=5.9,SNR=74
MLR S **S** **01 25 43.1 +0.8**
comp=Z,25nm,0.9s,baz=329,slow=11,SNR=2.0
MLR ScP ScP 01 29 28.5 -0.3
comp=Z,27nm,0.9s,baz=92,slow=2.8,SNR=6.0
MLR ScS ScS 01 33 14.1 +1.5
comp=Z,9.0nm,0.8s,baz=270,slow=20,SNR=5.4
MLR Muntele Rosu 21.18 311 ⇓P **P 01 21 49.0 +1.7**
MLR Muntele Rosu 21.18 311 ⇓P **P 01 21 49.0 +1.7**
MLR Muntele Rosu 21.18 311 P **P 01 21 46.6 -0.7**
MLR S **S** **01 25 43.1 +0.8**
MLR 01 33 14.1
MLR pmax pmax
comp=Z,272nm,1.1s
MLR smax
comp=N,25nm,0.9s
PGB Panagyurishte 21.30 302 *i* P **P 01 21 49.6 +1.0**
PLG Polygyros 21.32 296 *e*P **P 01 21 49.5 +0.8**
NEO Neokhori 21.32 293 *e*P **P 01 21 50.1 +1.4**
XOR Xorichti 21.35 293 *e*P **P 01 21 49.1 0.0**
SRS Serrai 21.35 298 *e*P **P 01 21 49.2 +0.1**
VLI Veliai 21.35 286 *e*P **P 01 21 48.2 -0.9**
MMB Musomiste 21.36 299 *i* P **P 01 21 50.0 +0.8**
AML Almayashu 21.38 59 P **P 01 21 50.8 +1.4**
SNR=52
SOH Sokhos 21.47 297 *e*P **P 01 21 50.6 +0.2**
EKS2 Erkin-Say 21.58 58 P **P 01 21 52.4 +0.8**
SNR=83
MTUR Matau 21.63 310 ⇑P **P 01 21 53.7 +1.6**
THE Thessaloniki 21.72 296 *e*P **P 01 21 53.0 -0.1**
KNT Kendrikon 21.88 298 *e*P **P 01 21 54.2 -0.5**
KKB Krupnik 21.90 300 *e*P **P 01 21 54.5 -0.5**
SOF Sofiya 21.93 302 *e*P **P 01 21 58.0 +2.7**
AGG Agios Georgios 21.97 292 *e*P **P 01 21 55.9 +0.1**
UCH Uchtor 21.99 59 P **P 01 22 00.2 +4.2**
SNR=35
LIT Litokhoron 21.99 295 *e*P **P 01 21 55.6 -0.4**
VTS Vitosha 21.99 302 *e*P **P 01 21 56.0 0.0**
VTS Vitosha 21.99 302 *e*P **P 01 21 56.1 +0.2**
AAK Ala-Archa 22.08 58 P **P 01 21 58.8 +1.8**
SNR=22
CRAR CRAIOVA 22.12 306 P **P 01 21 58.7 +1.4**
VAY Valandovo 22.15 298⇑*i*P **P 01 21 56.3 -1.4**
comp=Z,470nm,1.2s,mb5.8
ITM Ithomi 22.17 287 *e*P **P 01 21 57.0 -0.9**
GRG Griva 22.20 297 *e*P **P 01 21 57.2 -1.0**
FRU Bishkek 22.22 58 *e*P **P 01 22 01.0 +2.5**
comp=Z,2μm,8.0s
FRU Bishkek 22.22 58 *e*P **P 01 22 01.0 +2.5**
FRU pmax pmax
comp=Z,2μm,8.0s
USP Ospenovka 22.26 57 P **P 01 21 59.4 +0.5**
SNR=67
AKASG Malin Array Be 22.32 326 P **P 01 21 57.7 -1.8**
comp=Z,93nm,0.7s,mb5.4,baz=135,slow=9.9,SNR=93
AKASG S **S** **01 26 01.6 -2.9**
comp=Z,26nm,1.1s,baz=124,slow=18,SNR=4.9
AKASG ScP ScP 01 29 30.3 -1.4
comp=Z,23nm,0.8s,baz=105,slow=2.2,SNR=16
AKASG Malin Array Be 22.32 326 P **P 01 21 57.7 -1.8**
AKASG S **S** **01 26 01.6 -2.9**
AKASG ScP ScP 01 29 30.3 -1.4
AKASG Malin Array Be 22.32 326 P **P 01 21 57.7 -1.8**
AKASG S **S** **01 26 01.6 -2.9**
KIEV Kiev 22.32 326 P **P 01 22 00.0 +0.5**
CHMS Chumysh 22.36 58 P **P 01 22 03.2 +3.2**
SNR=55
EVR Evrytania 22.37 292 *e*P **P 01 21 59.9 -0.1**
KBK Karagaybulak 22.41 59 P **P 01 22 05.1 +4.7**
SNR=48
KMPD K-Podol'skiy 22.41 319 P **P 01 21 58.0 -2.5**
KZA Kyzart 22.48 60 P **P 01 22 01.8 +0.6**
SNR=83
STIP Stip 22.51 299 *i* P **P 01 22 00.7 -0.8**
comp=Z,62nm,0.8s,mb5.1
CRA Chernovtsy 22.55 317 P **P 01 21 58.7 -3.3**
KZN Kozani 22.57 295 *e*P **P 01 22 01.8 -0.3**
KSH Kashi 22.58 67 P **P 01 22 03.5 +1.3**
KSH AP 01 22 08.0
KSH XP sP 01 22 10.8 +2.2
KSH PP 01 22 31.0
KSH PPP 01 22 41.8
KSH PCP PcP 01 25 57.3 +2.0
KSH S **S** **01 26 07.0 -2.5**
KSH XS sS 01 26 14.5 -2.1
KSH SS 01 26 48.0
KSH AMB AMB
comp=Z,270nm,1.3s,mb5.5
KSH AMB AMB
comp=Z,3μm,6.0s
KSH LR LR
comp=N,21μm,6.9s
KSH LR LR
comp=E,25μm,8.9s
KSH LR LR
comp=Z,14μm,11.2s,MS5.6
BURAR Bucovina Array 22.62 315 ⇑P **P 01 22 02.8 +0.1**
BURAR Bucovina Array 22.62 315 ⇑P **P 01 22 02.8 +0.1**
PONG Pong 22.87 87 *ex* **P 01 22 06.0 +0.7**
FNA Florina 22.94 296 *e*P **P 01 22 05.0 -1.1**
TKM2 Tokmak 2 22.94 58 P **P 01 22 06.9 +0.9**
SNR=91
PECR Pechory 22.97 353 *i* P **P 01 22 04.0 -2.3**
comp=Z,16μm,12.0s
PECR *e*S **S** **01 26 10.0 -6.1**
comp=Z,29μm,12.0s
PECR Pechory 22.97 353⇓*i*P P 01 22 04.0 -2.3
PECR *e*S **S** **01 26 10.0 -6.1**
PECR pmax pmax
comp=Z,4μm,5.0s
PECR smax
comp=Z,16μm,12.0s
PECR MLR MLR
comp=Z,25μm,16.0s,MS5.8
PECR MLR MLR
comp=Z,29μm,12.0s
BIA Bitola 23.02 297 *i* P **P 01 22 05.9 -1.0**
comp=Z,162nm,1.1s,mb5.4
BIA Bitola 23.02 297 *i* P **P 01 22 05.8 -1.1**
comp=Z,162nm,1.1s,mb5.4
SKO Skopje 23.11 299 *i* P **P 01 22 07.4 -0.5**
comp=Z,707nm,1.3s,mb5.9
OBN Obninsk 23.17 342 P **P 01 22 08.8 +0.3**
comp=Z,6μm,0.8s,SNR=22
OBN Obninsk 23.17 342 *i* P **P 01 22 07.1 -1.4**
comp=Z,2μm,1.6s,mb6.4
OBN Obninsk 23.17 342 *e*PcP PcP 01 25 53.1 -3.4
OBN Obninsk 23.17 342⇑*e*P P 01 22 06.7 -1.8
OBN *e* 01 23 58.2
OBN *e*S **S** **01 26 21.6 +2.2**
OBN LR LR
comp=Z,68μm,21.0s,MS6.1
OBN Obninsk 23.17 342*c i*P P 01 22 07.1 -1.4
OBN *e* 01 22 31.8
OBN *e* 01 25 53.1
OBN *e*S **S** **01 26 19.9 +0.5**
OBN pmax pmax
comp=Z,2μm,1.6s,mb6.4
JAN Janina 23.18 293 *e*P **P 01 22 08.3 -0.3**
BOLS Boljevac 23.22 304⇓*i*P P 01 22 08.1 -0.9
ULHL Ulahol 23.24 60 P **P 01 22 10.7 +1.4**
SNR=78
VLS Valsamata 23.27 289 *e*P **P 01 22 07.5 -2.0**
BHK Bhakra 23.37 88 *ex* x 01 22 24.0
BHK *ex* x 01 26 36.0
OHR Ohrid 23.42 297⇑*i*P **P 01 22 09.2 -2.0**
comp=Z,1μm,0.9s,mb6.2
OHR Ohrid 23.42 297⇑*i*P **P 01 22 09.1 -2.1**
comp=Z,1μm,0.9s,mb6.2
AJM Ajmer 23.43 101⇓*i*P P 01 22 09.8 -1.5
AJM AMb AMB 01 22 17.1
comp=Z,191nm,0.7s,mb5.6
AJM *e*S **S** **01 26 22.6 -1.1**
IGT Igoumenitsa 23.57 293 *e*P **P 01 22 10.9 -1.6**
DRGR 23.77 311 ⇑P **P 01 22 15.0 +0.6**
DRGR 23.77 311 P **P 01 22 14.9 +0.5**
DRGR 23.77 311 ⇑P **P 01 22 15.0 +0.5**
ARU Arti 23.82 13 P **P 01 22 14.1 -0.8**
comp=Z,1μm,1.0s,mb6.2,SNR=31
ARU Arti 23.82 13 *i* P **P 01 22 13.6 -1.3**
comp=Z,158nm,1.7s,mb5.2
ARU *e*S **S** **01 26 28.9 -1.1**
ARU Arti 23.82 13⇑*e*P **P 01 22 14.0 -0.9**
ARU *e* 01 22 25.1
ARU *e*S **S** **01 26 27.3 -2.6**
ARU LR LR
comp=Z,28μm,19.0s,MS5.8
ARU Arti 23.82 13⇓*i*P P 01 22 13.6 -1.3
ARU *e*PPP 01 22 51.0
ARU *e*S **S** **01 26 28.9 -1.1**
ARU *e*SSS 01 27 27.2
ARU pmax pmax
comp=Z,158nm,1.7s,mb5.2
ARU MLR MLR
comp=Z,22μm,18.0s,MS5.7
ARU MLR MLR
comp=N,21μm,17.0s,MS5.8
ARU MLR MLR
comp=E,18μm,17.0s,MS5.8
SRN Sarande 23.86 294 *e*p **P 01 22 15.0 -0.2**
SVIS Svilajnac 23.86 305⇑*i*P **P 01 22 14.8 -0.5**
DESE Dese 23.88 203 *e*P **P 01 22 18.5 +3.1**
DESE *e*S **S** **01 26 37.9 +7.0**
AAA Alma-Ata 23.99 58 *e*P **P 01 22 18.0 +1.6**
comp=E,31μm,8.0s
AAA Alma-Ata 23.99 58 *e*P **P 01 22 18.0 +1.6**
AAA pmax pmax
comp=Z,5μm,2.5s,mb6.5
AAA MLR MLR
comp=Z,31μm,8.0s
KEK Kerkira 24.00 293 *e*P **P 01 22 15.5 -1.0**
BZS Buzias 24.02 308 ⇑P **P 01 22 16.6 -0.2**
GRUS Gruza 24.10 304 *i* P **P 01 22 18.0 +0.6**
TIR Tirane 24.16 297 *e*P **P 01 22 17.0 -1.0**
TIR Tirane 24.16 297 P **P 01 22 18.4 +0.4**
ZRNK Zerenda 24.17 31⇑*e*P **P 01 22 17.4 -0.7**
ZRNK *e* 01 26 01.1
ZRNK *e*S **S** **01 26 35.0 -0.6**
BCI Bajram Curri 24.20 300 *i* p **P 01 22 19.4 +1.1**
BCI Bajram Curri 24.20 300 *e*Pn **P 01 22 19.4 +1.1**
PVY Plav 24.31 300⇑*i*P **P 01 22 19.6 +0.2**
IVA Berane 24.42 301⇑*i*P **P 01 22 21.0 +0.6**
LVV L'vov 24.43 319 *i* P **P 01 22 20.5 0.0**
comp=Z,13μm,14.0s
LVV *i* S **S** **01 26 35.8 -4.1**
LVV L'vov 24.43 319 *i* P **P 01 22 22.0 +1.5**
LVV L'vov 24.43 319*c i*P **P 01 22 20.5 0.0**
LVV *i* S **S** **01 26 35.8 -4.1**
LVV MLR MLR
comp=Z,13μm,14.0s,MS5.6
SVE Sverdlovsk 24.62 16 *e*P **P 01 22 24.3 +2.1**
SVE *e*S **S** **01 26 47.0 +4.0**
SVE pmax pmax
comp=N,2μm,7.0s
SVE pmax pmax
comp=E,600nm,7.0s
SVE pmax pmax
comp=Z,2μm,7.0s
SVE smax
comp=N,22μm,14.0s
SVE smax
comp=E,20μm,14.0s
SVE MLR MLR
comp=N,6μm,15.0s,MS5.6
SVE MLR MLR
comp=E,13μm,15.0s,MS5.6
SVE MLR MLR
comp=Z,21μm,15.0s,MS5.8
DIVS Divcibare 24.66 304⇓*i*P P 01 22 22.3 -0.3
DIVS Divcibare 24.66 304 *e*P **P 01 22 22.1 -0.4**
ULC Ulcinj 24.72 298⇑*i*P **P 01 22 22.5 -0.6**
NDI New Delhi 24.77 94 *e*P **P 01 22 22.0 -1.6**
TTG Podgorica 24.79 300⇑*i*P **P 01 22 22.3 -1.4**
BRVK Borovoye 24.80 32 P **P 01 22 24.6 +0.8**
comp=Z,1μm,0.9s,mb6.4,SNR=28
BRVK Borovoye 24.80 32 *e*P **P 01 22 23.3 -0.5**
comp=Z,18μm,19.0s
BRVK Borovoye 24.80 32⇑*e*P **P 01 22 23.3 -0.5**
BRVK *e* 01 24 25.4
BRVK *e*S **S** **01 26 55.0 +9.3**
BRVK LR LR
comp=Z,18μm,19.0s,MS5.6
BVAR Borovoye Array 24.82 32 P **P 01 22 23.7 -0.3**
comp=Z,124nm,0.8s,mb5.5,baz=225,slow=7.9,SNR=106
BVAR PcP PcP 01 26 01.0 +0.9
comp=Z,13nm,0.6s,baz=222,slow=2.7,SNR=4.9
BVAR S **S** **01 26 46.2 +0.1**
comp=Z,5.1nm,0.8s,baz=236,slow=18,SNR=2.0
BVAR ScP ScP 01 29 35.7 -2.7
comp=Z,12nm,0.9s,baz=246,slow=2.6,SNR=5.0
BVAR P3KPbc 01 55 33.9
comp=Z,2.0nm,0.8s,baz=73,slow=3.5,SNR=13
BVAR Borovoye Array 24.82 32 P **P 01 22 23.7 -0.3**
BVAR PcP PcP 01 26 01.0 +0.9
BVAR S **S** **01 26 46.2 +0.1**
BVAR ScP ScP 01 29 35.7 -2.7
BVAR Borovoye Array 24.82 32 P **P 01 22 23.7 -0.3**
BVAR 01 26 01.0
BVAR S **S** **01 26 46.2 +0.1**
UZH Uzhgorod 24.83 315 *i* P **P 01 22 24.4 +0.3**
comp=Z,37μm,14.0s
UZH Uzhgorod 24.83 315 *i* P **P 01 22 25.0 +0.9**
UZH Uzhgorod 24.83 315*c i*P **P 01 22 24.4 +0.3**
UZH MLR MLR
comp=Z,37μm,14.0s,MS6.0
PLE Pljevlja 24.89 302⇑*i*P **P 01 22 26.0 +1.4**
DDI Dehra Dun 25.00 89 *e*P **P 01 22 24.4 -1.3**
DDI *ex* x 01 23 04.9
BUM Brajici-Budva 25.03 299⇓*i*P P 01 22 25.3 -0.6
NKY Niksic 25.06 300⇑*i*P **P 01 22 25.5 -0.7**
KWP Kalwaria 25.07 318 *e*P **P 01 22 26.6 +0.3**
comp=Z,8.0nm,5.7s
KWP *e*S **S** **01 26 54.5 +4.4**
KWP *es*S sS 01 27 01.2 +3.4
KWP L 01 35 29.2
comp=Z,30nm,18.8s
KWP Kalwaria 25.07 318 *e*P **P 01 22 26.6 +0.3**
KWP *e*S **S** **01 26 54.5 +4.4**
KWP *e*SS 01 27 01.2
UPM Unac-Piva 25.20 301⇑*i*P **P 01 22 28.3 +0.8**
LCI Lecce 25.34 294 P **P 01 22 27.7 -1.1**
HCY Herceg Novi 25.35 299⇑*i*P **P 01 22 29.1 +0.2**
CHKZ Chkalovo 25.37 31 *e*P **P 01 22 28.3 -0.7**
comp=Z,67nm,0.6s,mb5.3
CHKZ Chkalovo 25.37 31 *e*P **P 01 22 28.3 -0.7**
comp=Z,67nm,0.6s,mb5.3
CHKZ *e*S **S** **01 27 08.4 +14**
CHKZ Chkalovo 25.37 31 *e*P **P 01 22 28.3 -0.7**
CHKZ pmax pmax
comp=Z,67nm,0.6s,mb5.3
BRY Bratogost 25.40 300⇑*i*P **P 01 22 29.1 -0.2**
CRVS Cervenica-Dubn 25.44 315 *e*P **P 01 22 33.1 +3.4**
CRVS *e* 01 22 54.5
CRVS *e*S **S** **01 27 07.2 +11**
CRVS Cervenica-Dubn 25.44 315 *e*P **P 01 22 33.1 +3.4**
comp=Z,167nm,1.3s,mb5.4
CRVS *e* 01 22 54.5
CRVS *e*S **S** **01 27 07.2 +11**
CRVS *e* 01 33 00.0
CRVS LR LR
comp=Z,24μm,22.7s,MS5.7
CRVS Cervenica-Dubn 25.44 315 *e*P **P 01 22 33.1 +3.4**
CRVS pmax pmax
comp=Z,167nm,1.3s,mb5.4
CRVS MLR MLR
comp=Z,24μm,22.7s,MS5.7
TREB Trebinje 25.51 300 P **P 01 22 30.1 -0.2**
MNK Minsk 25.59 331 *i* P **P 01 22 28.0 -3.0**
MNK *e* 01 23 06.0
MNK *e*S **S** **01 26 50.0 -8.4**
MNK *e*SS 01 28 10.0
MNK MLR MLR
comp=Z,113μm,14.0s,MS6.5
MNK MLR MLR
comp=N,55μm,14.0s,MS6.4
MNK MLR MLR
comp=E,68μm,14.0s,MS6.4
PKS6 Bocsa 25.70 309 *e*P **P 01 22 36.0 +4.0**
STHS Stebnicka Huta 25.80 316 *e*P **P 01 22 35.0 +2.0**
comp=E,88nm,1.0s,mb5.2
STHS *e* 01 22 41.7
STHS *e* 01 29 42.4
STHS Stebnicka Huta 25.80 316 *e*P **P 01 22 35.0 +2.0**
STHS *e* 01 22 41.7
STHS pmax pmax
comp=Z,88nm,1.0s,mb5.2
KECS Kecovo 25.84 314 *e*P **P 01 22 33.8 +0.5**
comp=Z,93nm,1.0s,mb5.3
KECS *e* 01 29 44.4
KECS Kecovo 25.84 314 *e*P **P 01 22 33.8 +0.5**
KECS pmax pmax
comp=Z,93nm,1.0s,mb5.3
BOM Bombay 25.95 118 *e*P **P 01 22 35.0 +0.7**
BOM *ex* x 01 22 40.9
comp=Z,1μm,1.1s
BOM *e*S **S** **01 27 07.7 +3.6**
PSZ Piszkesteto 25.98 312⇑*i*P **P 01 22 35.1 +0.6**
PSZ *i* sS sS 01 27 14.0 +1.8
STON Ston 26.01 300 *i* P **P 01 22 33.5 -1.3**
BRT Bari-Castellan 26.09 295 P **P 01 22 34.9 -0.6**
PKS7 Kunszentmiklos 26.12 310 *e*P **P 01 22 39.5 +3.7**
PKSM Moragy 26.18 308 ⇑P **P 01 22 36.5 +0.1**
FURI Furi 26.28 203 *e*P **P 01 22 40.2 +3.0**
FURI *e*S **S** **01 27 04.5 -4.7**
FURI Furi 26.28 203 *e*P **P 01 22 40.2 +3.0**
FURI *e*S **S** **01 27 04.5 -4.7**
TIP Timpagrande 26.31 292 *e*P **P 01 22 37.0 -0.5**
TIP *e*S **S** **01 27 08.1 -1.6**
PENC Penc 26.31 311 *e*P **P 01 22 39.3 +1.8**
NIE Niedzica 26.35 315 *e*P **P 01 22 40.7 +2.8**
NIE *e*S **S** **01 27 21.0 +11**
BAI Bari 26.36 296 *e*Pn **P 01 22 37.6 -0.4**
BUD Budapest 26.36 311 *e*P **P 01 22 39.7 +1.7**
PKS8 Sarbogard 26.37 309 *e*P **P 01 22 40.6 +2.5**
SG1 Sgolgore (BA) 26.48 295 *e*Pn **P 01 22 38.5 -0.6**
SOKR Solikamsk 26.53 9 *i* P **P 01 22 39.4 -0.1**
comp=Z,32μm,21.0s
SOKR Solikamsk 26.53 9⇑*i*P **P 01 22 39.4 -0.1**
SOKR pmax pmax
comp=Z,300nm,0.8s,mb5.9
SOKR MLR MLR
comp=Z,32μm,21.0s,MS5.8
PKS9 Tamasi 26.54 308 *e*P **P 01 22 40.9 +1.3**
IDID Didziasalis 26.62 331 *e*P **P 01 22 39.8 -0.5**
IDID AMb AMB 01 22 49.1
comp=Z,210nm,1.1s,mb5.6
IDID Didziasalis 26.62 331 *e*P **P 01 22 39.8 -0.5**
comp=Z,210nm,1.1s,mb5.6,SNR=54
PKSG 26.73 310⇓*e*P P 01 22 42.5 +1.2
BLY Banja Luka 26.77 304 P **P 01 22 42.4 +0.7**
CDT Castel del Mon 26.81 296 *e*Pn **P 01 22 41.5 -0.5**
SOI Samo 26.84 289 P **P 01 22 42.8 +0.5**
IIGN Ignalina 26.85 331 *e*P **P 01 22 41.8 -0.7**
IIGN AMb AMB 01 22 52.8
comp=Z,285nm,1.2s,mb5.7
IIGN Ignalina 26.85 331 *e*P **P 01 22 41.8 -0.6**
comp=Z,285nm,1.2s,mb5.7,SNR=54
VYHS Vyhne 26.85 313 *e*P **P 01 22 42.9 +0.5**
VYHS *e* 01 22 51.1
VYHS *e* 01 23 00.8
VYHS *e*S **S** **01 27 17.4 -0.9**
VYHS *e* 01 29 44.1
VYHS Vyhne 26.85 313 *e*P **P 01 22 42.9 +0.5**
VYHS *e*S **S** **01 27 17.4 -0.9**
VYHS Vyhne 26.85 313 *e*P **P 01 22 42.9 +0.5**
comp=Z,146nm,1.4s,mb5.3
VYHS *e* 01 22 51.1
VYHS *e* 01 23 00.8
VYHS *e*S **S** **01 27 17.4 -0.9**
VYHS *e* 01 29 44.1
VYHS *e* 01 33 10.0
VYHS LR LR
comp=Z,18μm,24.7s,MS5.5
VYHS Vyhne 26.85 313 *e*P **P 01 22 42.9 +0.5**
VYHS *e* 01 22 51.1
VYHS *e*S **S** **01 27 17.4 -0.9**
VYHS pmax pmax
comp=Z,147nm,1.4s,mb5.3
VYHS MLR MLR
comp=Z,18μm,24.7s,MS5.5
SRO2 Moca 26.86 311 *e*P **P 01 22 42.9 +0.4**
SRO2 *e* 01 23 05.2
SRO2 *e* 01 29 45.3
SRO2 *e* 01 29 52.7
LIKS Likavka 26.91 314 *e*P **P 01 22 44.2 +1.3**
comp=Z,251nm,1.0s,mb5.7
LIKS Likavka 26.91 314 *e*P **P 01 22 44.2 +1.3**
LIKS pmax pmax
comp=Z,251nm,1.0s,mb5.7
PTRP Pietrapertosa 26.92 294 P **P 01 22 44.4 +1.4**
SRO Srobarova 26.92 311 *e*P **P 01 22 43.6 +0.5**
comp=Z,314nm,0.9s,mb5.8
SRO *e* 01 23 11.6
SRO *e* 01 29 44.8

SRO e 01 29 57.2
SRO Srobarova 26.92 311 eP **P 01 22 43.6 +0.5**
SRO pmax pmax
comp=Z,314nm,0.9s,mb5.8
POO Poona 26.95 118⇓ iP **P 01 22 44.0 +0.7**
comp=Z,220nm,1.0s,mb5.6
POO i x x 01 27 28.0
POO ex x 01 28 48.0
POO ex x 01 29 40.0
POO ex x 01 29 46.0
SRO1 Iza 26.96 311 eP **P 01 22 45.1 +1.7**
SRO1 e 01 23 09.6
CEL Celeste 26.97 289 P **P 01 22 44.2 +0.7**
OJC Ojcow 27.00 317 i Pc 01 22 43.8
OJC ePcP PcP 01 26 07.7 +2.6
OJC eS **S 01 27 21.3 +0.6**
OJC L 01 35 18.1
comp=Z,191nm,20.7s
OJC Ojcow 27.00 317⇑ iP **P 01 22 43.8 0.0**
OJC eS **S 01 27 21.3 +0.6**
PTH Pithoragarh 27.02 90 eP **P 01 22 43.0 -0.9**
ISAL Salakas 27.05 331 eP **P 01 22 43.3 -0.8**
ISAL AMb AMB 01 22 54.6
comp=Z,232nm,1.3s,mb5.5
ISAL Salakas 27.05 331 eP **P 01 22 43.3 -0.9**
comp=Z,232nm,1.3s,mb5.5,SNR=54
SCLL Scilla 27.11 289 P **P 01 22 45.7 +1.0**
FGMS Monte San'Ang 27.12 297 P **P 01 22 45.1 +0.3**
MS1 Monte San'Ang 27.12 297 ePn **P 01 22 44.5 -0.4**
IZAR Zarasai 27.12 332 eP **P 01 22 44.1 -0.8**
IZAR AMb AMB 01 22 53.4
comp=Z,363nm,1.4s,mb5.7
IZAR Zarasai 27.12 332 eP **P 01 22 44.1 -0.8**
comp=Z,363nm,1.4s,mb5.7,SNR=54
MTTG Motta San Giov 27.13 289 P **P 01 22 46.1 +1.2**
BHPL Bhopal 27.13 105 eP **P 01 22 44.6 -0.3**
BHPL AMb AMB 01 22 49.3
comp=Z,242nm,1.2s,mb5.6
MGR Morigerati 27.28 294 P **P 01 22 46.6 +0.3**
SUW Suwalki 27.29 326 eP **P 01 22 45.4 -1.0**
comp=Z,0.4nm,1.5s
SUW epP pP 01 22 47.8 -3.2
SUW eS **S 01 27 26.0 +0.8**
SUW esS sS 01 27 41.3 +8.4
SUW L 01 31 41.4
comp=N,59nm,32.2s
SUW L 01 31 44.3
comp=E,44nm,31.4s
SUW L 01 33 54.0
comp=Z,41nm,21.8s
SUW Suwalki 27.29 326 eP **P 01 22 45.4 -1.0**
comp=Z,0.2nm,1.5s
SUW epP pP 01 22 47.8 -3.2
SUW eS **S 01 27 26.0 +0.8**
SUW Suwalki 27.29 326 eP **P 01 22 45.4 -1.0**
SUW epP pP 01 22 47.8 -3.2
SUW eS **S 01 27 26.0 +0.8**
SUW eSS 01 27 41.3
WAR Warsaw 27.33 321 eP **P 01 22 47.1 +0.3**
WAR epP pP 01 22 49.0 -2.4
WAR eS **S 01 27 30.4 +4.5**
WAR e 01 27 45.1
WAR L 01 34 25.8
comp=Z,55nm,18.4s
WAR Warsaw 27.33 321 eP **P 01 22 47.1 +0.3**
WAR epP pP 01 22 49.0 -2.4
MRLC Muro Lucano 27.37 295 P **P 01 22 47.3 +0.2**
FG4 Candela 27.38 296 P **P 01 22 48.3 +1.1**
RGNG Rignano Grg 27.39 297 P **P 01 22 47.5 +0.3**
SISC Sisak 27.50 305⇑ iP **P 01 22 48.7 +0.5**
FG5 Orsara di Pugl 27.58 296 P **P 01 22 49.8 +0.8**
SSY Sortino 27.65 287 P **P 01 22 49.9 +0.3**
KURK Kurchatov 27.70 43 P **P 01 22 51.0 +0.9**
comp=Z,500nm,0.9s,mb6.2,SNR=15
KURK Kurchatov 27.70 43 eP **P 01 22 50.7 +0.6**
comp=Z,17μm,21.0s
KURK Kurchatov 27.70 43 eP **P 01 22 50.7 +0.7**
comp=Z,92nm,0.9s,mb5.4
KURK eS S 01 28 05.1 +33
KURK LR LR
comp=Z,17μm,21.0s,MS5.6
KURK Kurchatov 27.70 43 eP **P 01 22 50.7 +0.6**
KURK pmax pmax
comp=Z,92nm,0.9s,mb5.4
KURK MLR MLR
comp=Z,17μm,21.0s,MS5.6
JAVC Velka Javorina 27.70 313 P **P 01 22 52.3 +2.2**
FG2 Serracapriola 27.72 297 P **P 01 22 51.1 +0.9**
SMOL Smolenice 27.73 312 eP **P 01 22 50.7 +0.4**
SMOL e 01 23 24.1
SMOL e 01 29 46.8
SMOL Smolenice 27.73 312 eP **P 01 22 50.7 +0.4**
SMOL e 01 23 24.2
SMOL e 01 29 46.8
SLNA Salina 27.80 290 P **P 01 22 51.5 +0.6**
OKC Ostrava-Krasne 27.80 315 eP **P 01 22 50.6 -0.3**
OKC ex x 01 27 47.2
OKC AMS AMS 01 36 30.0
comp=Z,44μm,11.9s
OKC Ostrava-Krasne 27.80 315 eP **P 01 22 50.6 -0.3**
OKC eS **S 01 27 47.2 +14**
ZST Bratislava 27.82 311 eP **P 01 22 51.1 0.0**
ZST e 01 23 18.4
ZST e 01 23 28.2
ZST e 01 27 58.1
ZST e 01 29 47.3
ZST Bratislava 27.82 311 eP **P 01 22 51.1 0.0**
comp=Z,110nm,1.0s,mb5.4
ZST e 01 23 18.4
ZST e 01 23 28.2
ZST eS S 01 27 58.1 +25
ZST e 01 29 47.3
ZST e 01 36 50.0
ZST LR LR
comp=Z,33μm,12.6s,MS6.1
ZST Bratislava 27.82 311 eP **P 01 22 51.1 0.0**
ZST pmax pmax
comp=Z,110nm,1.0s,mb5.4
ZST MLR MLR
comp=Z,33μm,12.6s,MS6.1
KOGS Kog 27.83 307⇑ eP **P 01 22 51.4 +0.2**
KOGS eS **S 01 27 41.7 +8.0**
RAC Raciborz 27.87 315 eP **P 01 22 50.4 -1.2**
RAC eS **S 01 27 38.9 +4.5**
RAC LR LR
comp=Z,25μm,17.9s,MS5.8
PSB1 Pescosannita 27.92 296 P **P 01 22 52.8 +0.8**
KLMR Klimovskoe 27.95 350 i P **P 01 22 50.6 -1.6**
comp=Z,55μm,18.0s
KLMR Klimovskoe 27.95 350 c iP **P 01 22 50.6 -1.6**
KLMR eS **S 01 27 41.0 +5.5**
KLMR pmax pmax
comp=Z,380nm,5.3s
KLMR pmax pmax
comp=Z,710nm,1.3s,mb6.1
KLMR MLR MLR
comp=Z,55μm,18.0s,MS6.2
SOP Sopron 28.00 310⇓ iP **P 01 22 54.7 +2.0**
SOP i sS sS 01 27 44.4 +0.3
AKL Akola 28.10 110 ex x 01 22 17.9
comp=Z,165nm,1.5s
AKL i x x 01 26 50.3
GCIS Gornji Cirnik 28.10 306 eP **P 01 22 53.8 +0.1**
MORC Moravsky Berou 28.13 314⇑ P **P 01 22 53.0 -0.9**
MORC Moravsky Berou 28.13 314 eP **P 01 22 53.6 -0.3**
MORC Moravsky Berou 28.13 314⇑ P **P 01 22 53.0 -0.9**
MORC Moravsky Berou 28.13 314 P **P 01 22 54.6 +0.7**
CRES Cresnjev 28.21 306 P **P 01 22 55.5 +0.9**
BOJS Bojanci 28.27 305⇑ eP **P 01 22 55.3 +0.2**
BOJS eS **S 01 27 38.9 -1.8**
NVLJ Novalja 28.34 303⇑ iPn **P 01 22 54.8 -1.0**
CII Carovilli 28.34 297 P **P 01 22 56.8 +1.0**
MIDA Miranda 28.38 297 P **P 01 22 56.8 +0.7**
CSLB Castelbuono 28.42 289 P **P 01 22 57.6 +1.1**
GIB Gibilmanna 28.44 289 P **P 01 22 58.6 +1.9**
RNI2 Rionero Sannit 28.46 297 P **P 01 22 57.9 +1.1**
VRAC Vranov 28.53 313 P **P 01 22 57.1 -0.4**
comp=Z,23nm,0.9s,mb4.9,baz=97,slow=8.5,SNR=16
VRAC LR LR 01 36 06.5
comp=Z,42μm,19.4s,MS6.0,baz=113,slow=40
VRAC Vranov 28.53 313⇑ P **P 01 22 57.4 0.0**
VRAC Vranov 28.53 313 P **P 01 22 57.1 -0.3**
comp=Z,42μm,19.4s
VRAC eS **S 01 27 45.8 +1.1**
VRAC Vranov 28.53 313⇑ P **P 01 22 57.4 0.0**
VRAC Vranov 28.53 313 P **P 01 22 57.1 -0.3**
VRAC pmax pmax
comp=Z,23nm,0.9s
VRAC MLR MLR
comp=Z,42μm,19.4s
ARSA Arzberg 28.54 309⇑ eP **P 01 22 57.7 +0.2**
comp=Z,736nm,3.1s,SNR=13
ARSA Arzberg 28.54 309 P **P 01 22 58.3 +0.8**
RFI Roccamonfina 28.55 296 P **P 01 22 58.2 +0.6**
MK31 Makanchi Array 28.56 52 i P **P 01 22 58.1 +0.4**
MKAR Makanchi Array 28.56 52 P **P 01 22 58.0 +0.3**
comp=Z,18nm,0.8s,mb4.8,baz=249,slow=8.0,SNR=74
MKAR ScP ScP 01 29 46.2 -3.3
comp=Z,12nm,0.9s,baz=264,slow=4.5,SNR=5.0
MKAR LR LR 01 36 21.7
comp=Z,12μm,19.0s,MS5.5,baz=258,slow=41
MKAR P3KPbc 01 55 18.1
comp=Z,1.0nm,0.8s,baz=55,slow=5.0,SNR=8.7
MKAR Makanchi Array 28.56 52 P **P 01 22 58.0 +0.3**
MKAR ScP ScP 01 29 46.2 -3.3
MKAR LR LR 01 36 21.7
MKAR e 01 55 18.1
PERS Pernice 28.64 307⇑ eP **P 01 22 58.2 -0.2**
PERS Pernice 28.64 307⇑ eP **P 01 22 58.2 -0.2**
INTR Introdacqua 28.67 297 P **P 01 22 57.9 -0.8**
VVLD Villa Vallelon 28.87 297 P **P 01 23 00.7 +0.3**
KNDS Knezji Dol 28.87 305⇑ eP **P 01 22 60.0 -0.5**
CEY Cerknica 28.89 305 P **P 01 23 01.8 +1.2**
LJU Ljubljana 28.89 306⇑ eP **P 01 23 01.1 +0.4**
LJU e 01 23 12.0
LJU eS **S 01 27 51.3 +0.9**
LJU e 01 28 21.5
LJU Ljubljana 28.89 306 eP **P 01 23 01.1 +0.5**
LJU eS **S 01 27 51.3 +0.9**
PUL Pulkovo 28.89 341 eP **P 01 23 02.4 +1.7**
comp=Z,8μm,8.8s
PUL Pulkovo 28.89 341 eP **P 01 23 00.8 +0.1**
PUL Pulkovo 28.89 341 eP **P 01 23 02.4 +1.7**
PUL eS **S 01 27 53.1 +2.7**
PUL i SS SS 01 29 14.2 -39
PUL pmax pmax
comp=E,1μm,1.0s
PUL pmax pmax
comp=Z,513nm,1.0s,mb6.2
PUL pmax pmax
comp=N,1μm,1.1s
PUL pmax pmax
comp=Z,714nm,1.3s,mb6.2
PUL pmax pmax
comp=N,2μm,1.4s
PUL pmax pmax
comp=E,1μm,1.1s
PUL smax
comp=Z,8μm,8.8s
PUL smax
comp=N,12μm,16.4s
PUL smax
comp=Z,10μm,14.3s
PUL smax
comp=E,13μm,19.4s
PUL MLR MLR
comp=N,39μm,15.0s,MS6.2
PUL MLR MLR
comp=E,24μm,15.0s,MS6.2
PUL MLR MLR
comp=Z,54μm,15.0s,MS6.3
VSU Vasula 28.95 336 eP **P 01 23 00.8 -0.4**
TERO Teramo 28.95 299 P **P 01 23 01.7 +0.5**
OBKA Obir 28.98 307⇑ iP **P 01 23 01.8 +0.3**
comp=Z,672nm,3.0s,mb5.8,SNR=25
OBKA Obir 28.98 307 P **P 01 23 02.6 +1.1**
PTQR Pietraquaria 29.05 297 P **P 01 23 02.8 +0.8**
LATR Latur 29.05 114 eP **P 01 23 01.0 -1.1**
AOI Ancona 29.07 300 P **P 01 23 00.7 -1.6**
AQU L'Aquila 29.07 298 eP **P 01 23 03.2 +0.9**
comp=Z,227nm,0.9s,mb5.9
AQU L'Aquila 29.07 298 eP **P 01 23 03.1 +0.9**
comp=Z,227nm,0.9s,mb5.9
AQU e pP 01 23 09.3 +2.4
AQU eS **S 01 27 55.2 +1.9**
AQU L'Aquila 29.07 298 eP **P 01 23 03.2 +0.9**
AQU e pP 01 23 09.4 +2.4
AQU eS **S 01 27 55.2 +1.9**
AQU pmax pmax
comp=Z,227nm,0.9s,mb5.9
DPC Dobruska-Polom 29.08 315 eP **P 01 23 02.5 +0.1**
DPC eS **S 01 27 53.1 -0.3**
DPC AMS AMS 01 34 30.0
comp=Z,36μm,22.2s
DPC Dobruska-Polom 29.08 315 eP **P 01 23 02.5 +0.1**
DPC eS **S 01 27 53.1 -0.3**
USI Ustica 29.09 290 P **P 01 23 03.5 +1.1**
CLTB Caltabellotta 29.10 288 P **P 01 23 04.3 +1.8**
TREC Trest 29.20 313 eP **P 01 23 03.8 +0.4**
JBP Jabalpur 29.24 103⇓ eP **P 01 23 02.6 -1.1**
JBP ex x 01 23 19.2
comp=Z,170nm,2.1s
JBP eS **S 01 27 56.8 +0.9**
FIAM Fiamignano 29.28 298 P **P 01 23 05.1 +1.0**
KSP Ksiaz 29.29 316 eP **P 01 23 04.1 -0.1**
comp=Z,1.3nm,3.4s
KSP eS S 01 28 19.7 +23
KSP L 01 35 14.8
comp=Z,60nm,24.1s
KSP Ksiaz 29.29 316⇑ eP **P 01 23 03.4 -0.8**
KSP eS **S 01 27 43.0 -14**
KSP LR LR
comp=Z,70μm,24.1s,MS6.2
VOY Vojsko 29.32 305 eP **P 01 23 04.3 -0.1**
VOY e pP 01 23 07.0 -2.1
UPC Upice 29.33 315 eP **P 01 23 03.9 -0.6**
NRCA Norcia 29.34 299 P **P 01 23 04.3 -0.3**
CING Cingoli 29.34 300 P **P 01 23 05.1 +0.4**
CERT Cerreto 29.35 297 P **P 01 23 04.6 -0.1**
CADS Cadrg 29.47 306⇑ eP **P 01 23 05.2 -0.5**
NGP Nagpur 29.47 107 eP **P 01 23 03.7 -2.2**
NGP ex x 01 23 12.3
comp=Z,81nm,1.4s
NGP ex x 01 27 49.6
SNTG Esanatoglia 29.51 300 P **P 01 23 06.4 +0.2**
MOA Molln 29.52 309⇑ iP **P 01 23 06.2 -0.1**
comp=Z,3μm,5.8s,SNR=26
MOA Molln 29.52 309 P **P 01 23 06.5 +0.2**
MTCE Montecelio 29.53 297 P **P 01 23 06.0 -0.4**
LAV9 Lanuvio 29.54 296 P **P 01 23 07.4 +1.0**
ARV Arcevia 29.54 300 P **P 01 23 06.9 +0.5**
ERC Erice 29.58 289 P **P 01 23 09.0 +2.3**
MNS Montasola 29.61 298 P **P 01 23 07.5 +0.5**
ROM9 Roma 29.69 297 P **P 01 23 08.2 +0.5**
COLI Coloredo 29.69 306⇓ eP **P 01 23 08.0 +0.3**
PTCC Patocco-Chiusa 29.76 306 P **P 01 23 08.4 0.0**
LVI Isola Levanzo 29.78 289 P **P 01 23 10.0 +1.5**
GMNA Gemona 29.81 306 P **P 01 23 09.9 +1.1**
MURB Monte Urbino 29.82 300 P **P 01 23 09.7 +0.8**
GKP Gorka Klasztor 29.84 321 eP **P 01 23 08.8 -0.3**
comp=Z,0.2nm,1.1s
GKP epP pP 01 23 12.2 -1.6
GKP eS **S 01 28 06.0 +0.7**
GKP L 01 36 17.4
comp=Z,50nm,18.5s
GKP Gorka Klasztor 29.84 321 eP **P 01 23 08.8 -0.3**
comp=Z,0.1nm,1.1s
GKP epP pP 01 23 12.2 -1.6
GKP eS **S 01 28 06.0 +0.7**
BOO Bordano 29.92 306⇑ eP **P 01 23 11.0 +1.2**
KBA Koelnbreinsper 29.93 307⇑ iP **P 01 23 10.1 +0.3**
comp=Z,548nm,3.0s,mb5.8,SNR=102
KBA Koelnbreinsper 29.93 307 P **P 01 23 09.8 0.0**
PRU Pruhonice 30.02 313 eP **P 01 23 10.2 -0.4**
PRU AMS AMS 01 36 40.0
comp=Z,30μm,17.3s
BADI Badiali 30.05 300 P **P 01 23 11.8 +0.9**
TOLF Tolfa 30.09 297 P **P 01 23 11.1 -0.2**
PRA Prague 30.11 314 P **P 01 23 11.0 -0.5**
GEC2 GERESS Array S 30.17 311 eP **P 01 23 11.4 -0.6**
comp=Z,56nm,1.1s,mb5.2
GEC2 GERESS Array S 30.17 311 eP **P 01 23 11.4 -0.6**
GEC2 pmax pmax
comp=Z,56nm,1.1s,mb5.2
GERES GERESS Array B 30.17 311 P **P 01 23 10.7 -1.3**
comp=Z,10nm,0.5s,mb4.8,baz=112,slow=8.4,SNR=51
GERES PcP PcP 01 26 12.6 -0.3
comp=Z,11nm,0.8s,baz=97,slow=3.1,SNR=5.0
GERES ScP ScP 01 29 54.1 -0.5
comp=Z,11nm,0.8s,baz=134,slow=3.9,SNR=11
GERES LR LR 01 36 47.4
comp=Z,18μm,18.7s,MS5.7,baz=301,slow=39
GERES GERESS Array B 30.17 311 PcP PcP 01 26 12.6 -0.4
GERES GERESS Array B 30.17 311 P **P 01 23 10.7 -1.3**
GERES 01 26 12.6
GERES 01 29 54.1
MLNI Malnisio 30.21 305⇓ eP **P 01 23 13.0 +0.6**
CAE Caneva 30.30 305⇓ eP **P 01 23 15.0 +1.8**
KHC Kasperske Hory 30.33 311 eP **P 01 23 13.2 -0.2**
KHC ex x 01 23 24.0
KHC x x 01 23 30.0
KHC eS **S 01 28 11.7 -1.4**
KHC AMS AMS 01 37 30.0
comp=Z,37μm,13.7s
KHC Kasperske Hory 30.33 311 eP **P 01 23 13.2 -0.2**
KHC eS **S 01 28 11.7 -1.4**
KHC Kasperske Hory 30.33 311 eP **P 01 23 13.2 -0.2**
KHC e 01 23 24.0
KHC e 01 23 30.0
KHC eS **S 01 28 11.7 -1.4**
KHC LR LR
comp=Z,37μm,13.7s,MS6.2
KHC Kasperske Hory 30.33 311 eP **P 01 23 13.2 -0.2**
KHC e 01 23 24.0
KHC eS **S 01 28 11.7 -1.4**
KHC MLR MLR
comp=Z,37μm,13.7s,MS6.2
DANN Dangsing 30.34 90 eP **P 01 23 13.6 +0.1**
KOLN Koldanda 30.39 92 eP **P 01 23 13.4 -0.6**
CSO Casso 30.43 306⇑ iP **P 01 23 14.0 -0.3**
MTLO Montello 30.50 305⇑ iP **P 01 23 17.0 +2.1**
SEST Monte Rota 30.60 306 P **P 01 23 16.0 +0.2**
FAU Forcella Aurin 30.66 305⇓ eP **P 01 23 17.0 +0.7**
BRG Berggiesshubel 30.68 315 eP **P 01 23 15.5 -1.0**
comp=Z,48nm,1.0s,mb5.3
BRG Berggiesshubel 30.68 315 eP **P 01 23 16.4 -0.1**
comp=Z,18nm,1.0s,mb4.8
BRG i PP PP 01 23 47.2 -39
BRG S **S 01 28 22.0 +3.4**
BRG LR LR
comp=Z,21μm,26.1s,MS5.7
BRG Berggiesshubel 30.68 315 eP **P 01 23 16.4 -0.1**
comp=Z,18nm,1.0s,mb4.9
BRG i PP PP 01 23 47.2 -39
comp=Z,26nm,1.1s
BRG S **S 01 28 22.0 +3.4**
BRG
comp=N,22μm,22.6s
BRG
comp=E,27μm,22.4s
BRG
comp=Z,21μm,26.1s
MAON Monte Argentar 30.76 298 P **P 01 23 17.3 +0.1**
WET Wettzell 30.78 311 eP **P 01 23 16.0 -1.3**
comp=Z,72nm,0.9s,mb5.5
WET Wettzell 30.78 311 eP **P 01 23 16.0 -1.3**
WET pmax pmax
comp=Z,72nm,0.9s,mb5.5
GRFL Gerfalco 30.93 299 P **P 01 23 19.3 +0.6**
WTTA Wattenberg 31.10 307 i P **P 01 23 19.8 -0.4**
comp=Z,1μm,3.6s,SNR=48
WATA Walderalm 31.16 307⇑ iP **P 01 23 20.0 -0.7**
comp=Z,366nm,1.1s,mb6.1,SNR=41
WATA Walderalm 31.16 307 P **P 01 23 20.3 -0.4**
HYB Hyderabad 31.16 114⇓ iP **P 01 23 20.0 -0.8**
comp=Z,140nm,1.0s,mb5.8
HYB eS **S 01 28 26.0 -0.1**
HYB LR LR 01 38 12.0
comp=Z,20nm,18.0s
HYB Hyderabad 31.16 114 eP **P 01 23 20.0 -0.8**
comp=Z,140nm,1.0s,mb5.8
HYB eS **S 01 28 26.0 -0.1**
HYB Hyderabad 31.16 114⇓ eP **P 01 23 20.0 -0.8**
HYB eS **S 01 28 26.0 -0.1**
HYB pmax pmax
comp=Z,140nm,1.0s,mb5.8
GKN Gorkha 31.18 91 eP **P 01 23 20.4 -0.5**
comp=Z,506nm,1.1s,mb6.3
APPI Appiano 31.22 306 P **P 01 23 20.7 -0.5**
BDI Bagni Di Lucca 31.30 301 P **P 01 23 20.8 -1.1**
PII Pisa 31.31 300 P **P 01 23 22.0 -0.1**
BERN Bernov 31.33 313⇑ P **P 01 23 28.7 +6.5**
GSCL Gusciola 31.34 301 P **P 01 23 23.5 +1.2**
MAIM 31.36 301 P **P 01 23 23.2 +0.7**
JOF Joensuu 31.36 345 ep **P 01 23 22.5 0.0**
comp=Z,297nm,0.8s,mb6.2
MNGI Mangalore 31.37 125 eP **P 01 23 23.0 +0.4**
NKC Novy Kostel 31.37 313 eP **P 01 23 21.2 -1.4**
NKC AMS AMS 01 39 00.0
comp=Z,34μm,13.7s
SQTA Sankt Quirin 31.38 307⇑ iP **P 01 23 21.7 -0.9**
comp=Z,156nm,1.0s,mb5.8,SNR=120
SQTA Sankt Quirin 31.38 307 P **P 01 23 22.0 -0.7**
RUE Ruedersdorf 31.38 318 eP **P 01 23 21.8 -0.9**
comp=Z,112nm,0.9s,mb5.7
RUE Ruedersdorf 31.38 318⇑ eP **P 01 23 21.8 -0.9**
comp=Z,201nm,1.1s,mb5.9
RUE eS **S 01 28 31.5 +2.1**
CLL Collm 31.39 315 eP **P 01 23 22.7 -0.1**
comp=Z,60nm,0.8s,mb5.5
CLL ePP PP 01 24 34.5 +0.8
CLL ePcP PcP 01 26 14.4 -1.8
CLL eS **S 01 28 32.4 +2.8**
CLL eScP ScP 01 29 58.8 +0.1
CLL eSS SS 01 30 51.8 +7.8
CLL eL 01 37 40.6
comp=Z,39μm,20.0s
CLL Collm 31.39 315 i P **P 01 23 22.9 +0.1**
comp=Z,64nm,1.1s,mb5.4
CLL ePPP 01 24 32.0
CLL eS **S 01 28 29.0 -0.6**
comp=N,4μm,19.0s
CLL eS **S 01 28 29.0 -0.6**
comp=E,5μm,19.5s
CLL eScP ScP 01 30 00.0 +1.3
comp=Z,95nm,1.9s
CLL ex x 01 30 10.0
CLL eSSS 01 30 30.0
CLL LmV 01 37 00.0
comp=Z,39μm,19.7s
CLL Collm 31.39 315 i P **P 01 23 22.9 +0.1**
comp=Z,64nm,1.1s,mb5.4
CLL eS **S 01 28 29.0 -0.6**
comp=Z,39μm,19.7s
CLL Collm 31.39 315 i P **P 01 23 22.9 +0.1**
comp=Z,64nm,1.1s,mb5.4
CLL eS **S 01 28 29.0 -0.6**
CLL LR LR
comp=Z,39μm,19.7s,MS6.1
CLL Collm 31.39 315 i P **P 01 23 22.9 +0.1**
CLL eS **S 01 28 29.0 -0.6**
CLL pmax pmax
comp=Z,64nm,1.1s,mb5.4
CLL MLR MLR
comp=Z,39μm,19.7s,MS6.1
SARO Sassorosso 31.45 301 P **P 01 23 24.2 +0.9**
VLC Villacollemand 31.46 301 eP **P 01 23 23.2 -0.1**
comp=Z,305nm,0.8s,mb6.2
VLC Villacollemand 31.46 301 ePP PP 01 24 31.4 -3.0
VLC Villacollemand 31.46 301 eP **P 01 23 23.2 -0.1**
comp=Z,305nm,0.8s,mb6.2
VLC ePP PP 01 24 31.4 -3.0
VLC eS **S 01 28 41.4 +11**
MOTA Moosalm 31.47 307⇑ iP **P 01 23 22.5 -1.0**
comp=Z,300nm,1.0s,mb6.1,SNR=57
MOTA Moosalm 31.47 307 P **P 01 23 22.8 -0.7**
BLSP Bilaspur 31.48 103 ex x 01 23 28.0
FINES FINESS Array B 31.48 339 P **P 01 23 22.9 -0.6**
comp=Z,74nm,0.7s,mb5.6,baz=134,slow=8.2,SNR=162
FINES LR LR 01 37 44.2
comp=Z,32μm,20.3s,MS6.0,baz=140,slow=40
MANZ Manzenberg 31.50 312 eP **P 01 23 23.1 -0.7**
comp=Z,71nm,1.4s,mb5.3
WERD Werda 31.52 313 eP **P 01 23 23.3 -0.6**
FUR Furstenfeldbru 31.54 309 eP **P 01 23 22.9 -1.2**
comp=Z,380nm,1.0s,mb6.2
FUR Furstenfeldbru 31.54 309 eP **P 01 23 22.9 -1.2**
FUR pmax pmax
comp=Z,380nm,1.0s,mb6.2
VALM 31.58 301 P **P 01 23 25.0 +0.6**
VINC Vinca 31.62 301 P **P 01 23 25.5 +0.7**
DMN Daman 31.71 91 eP **P 01 23 25.7 +0.2**

comp=Z,596nm,1.1s,mb6.3
GRAM 31.72 302 P **P** 01 23 26.5 +0.8
WMQ Urumqi 31.77 60 P **P** 01 23 27.0 +0.9
WMQ AP pP 01 23 31.5 +0.6
WMQ XP sP 01 23 34.0 +1.2
WMQ PP PP 01 24 32.5 -5.4
WMQ PPP 01 24 47.5
WMQ PCP PcP 01 26 18.0 +0.8
WMQ S **S** 01 28 35.5 -0.1
WMQ SS SS 01 30 26.3 -26
WMQ SCS ScS 01 33 56.5 -1.6
WMQ AMB AMB
comp=Z,142nm,0.8s,mb5.8
WMQ AMB AMB
comp=Z,1μm,4.6s
WMQ LR LR
comp=N,20μm,21.2s,MS5.8
WMQ LR LR
comp=E,10μm,20.0s,MS5.8
WMQ LR LR
comp=Z,7μm,19.2s,MS5.4
KKN Kakani 31.79 91 *e*P **P** 01 23 25.0 -1.3
comp=Z,390nm,1.0s,mb6.2
CODM 31.87 301 P **P** 01 23 27.5 +0.6
BSD Bornholm Skovb 31.92 323⇑ *i*P **P** 01 23 25.9 -1.5
comp=Z,609nm,0.9s,mb6.4
BSD *i* S **S** 01 28 20.0 -18
BSD Bornholm Skovb 31.92 323⇑ *i*P **P** 01 23 25.9 -1.5
BSD pmax pmax
comp=Z,609nm,0.9s,mb6.4
KAF Kangasniemi 31.94 340 *e*p **P** 01 23 28.0 +0.4
comp=Z,79nm,0.6s,mb5.7,baz=141,slow=9.1
KAF Kangasniemi 31.94 340 *e*P **P** 01 23 28.0 +0.4
KAF pmax pmax
comp=Z,79nm,0.6s,mb5.7
GRA1 Grafenberg Arr 31.97 312 *e*P **P** 01 23 27.2 -0.7
comp=Z,184nm,1.4s,mb5.7
GRA1 *e*ScP ScP 01 30 00.4 -0.2
GRA1 LR LR
comp=Z,18μm,20.4s,MS5.7
GRF Grafenberg Arr 31.97 312 *e*P **P** 01 23 27.2 -0.7
comp=Z,184nm,1.4s,mb5.7
GRF *e*ScP ScP 01 30 00.4 -0.2
GRF *e*L 01 41 00.6
comp=Z,18μm,20.4s
GRF Grafenberg Arr 31.97 312 *e*P **P** 01 23 27.2 -0.7
GRF pmax pmax
comp=Z,184nm,1.4s,mb5.7
GRF MLR MLR
comp=Z,18μm,20.4s,MS5.7
GRF Grafenberg Arr 31.97 312 *e*P **P** 01 23 27.2 -0.7
GRF pmax pmax
comp=Z,184nm,1.4s,mb5.7
GRF MLR MLR
comp=Z,18μm,20.4s,MS5.7
PKI Pulchoki 31.97 91 *e*P **P** 01 23 27.6 -0.3
comp=Z,720nm,1.2s,mb6.4
MOX Moxa 32.00 313 *e*P **P** 01 23 27.1 -1.1
comp=Z,30nm,1.1s,mb5.0
MOX Moxa 32.00 313 *e*P **P** 01 23 28.9 +0.7
comp=Z,65nm,1.7s,mb5.2
MOX *e* 01 24 03.8
MOX
comp=Z,21μm,19.0s
MOX Moxa 32.00 313 *e*P **P** 01 23 28.9 +0.7
MOX pmax pmax
comp=Z,65nm,1.7s,mb5.2
MOX MLR MLR
comp=Z,21μm,19.0s,MS5.8
VSL Villasalto 32.03 292 *e*P **P** 01 23 29.1 +0.8
comp=Z,248nm,0.6s,mb6.2
VSL *e*S **S** 01 28 41.9 +2.3
NVS Novosibirsk 32.08 38 *i* P **P** 01 23 29.2 +0.4
NVS *e*S **S** 01 28 41.7 +1.4
comp=Z,98nm,1.8s
NVS Novosibirsk 32.08 38⇑ *i*P **P** 01 23 29.2 +0.4
NVS *e*S **S** 01 28 41.7 +1.4
NVS *e* 01 33 54.4
NVS pmax pmax
comp=N,86nm,1.4s
NVS pmax pmax
comp=E,99nm,1.4s
NVS pmax pmax
comp=Z,146nm,1.4s,mb5.6
NVS smax
comp=N,98nm,1.8s
NVS smax
comp=E,42nm,1.6s
SC2M Scurtabr 32.09 301 P **P** 01 23 29.3 +0.4
OSPF L'Ospedale 32.16 296 *e*P **P** 01 23 30.5 +0.9
BOB Bobbio (Coli) 32.19 302 P **P** 01 23 30.1 +0.3
UBR Uberruh 32.20 308 P **P** 01 23 29.1 -0.8
CORF Corte 32.21 297 *e*P **P** 01 23 29.5 -0.5
GUN Gumba 32.25 90 *e*P **P** 01 23 30.2 -0.1
comp=E,1μm,1.0s,mb6.6
DAVA Damuels 32.28 307 *i* P **P** 01 23 29.6 -1.0
comp=E,835nm,2.4s,mb6.2,SNR=114
PGF Pioggiola 32.34 298 *e*P **P** 01 23 28.9 -2.2
comp=E,331nm,0.9s,mb5.9
PGF Pioggiola 32.34 298 *e*P **P** 01 23 28.9 -2.2
comp=E,166nm,0.9s,mb5.9
PGF Pioggiola 32.34 298 *e*P **P** 01 23 28.9 -2.2
PGF pmax pmax
comp=Z,166nm,0.9s,mb5.9
VDL Val di Lei 32.41 305 P **P** 01 23 31.9 +0.1
RGN Rugen 32.48 321 *e*P **P** 01 23 32.5 +0.1
comp=Z,1μm,1.1s,mb6.6
RGN *e*S **S** 01 28 47.2 +0.5
GENL Genova Univers 32.49 301 P **P** 01 23 32.0 -0.5
ZAL Zalesovo 32.51 40 P **P** 01 23 32.8 +0.2
comp=Z,20nm,0.6s,mb5.2,baz=221,slow=8.8,SNR=57
ZAL P3KPbc 01 55 00.2
comp=Z,1.1nm,0.3s,baz=77,slow=4.2,SNR=7.2
ZAL Zalesovo 32.51 40 P **P** 01 23 32.8 +0.2
ZAL *e* 01 55 00.2
JIRN Jiri 32.59 90 *e*P **P** 01 23 33.3 0.0
comp=Z,267nm,0.8s,mb6.2
LLS Linth-Limmern 32.79 306 ⇑P **P** 01 23 34.0 -1.0
VAI Varese 32.81 304 P **P** 01 23 34.4 -0.8
PCP Pian Castagno 32.81 301 P **P** 01 23 35.1 -0.1
SIND Sindeldorf 32.90 310 P **P** 01 23 36.7 +0.7
GUT Gutenstein 32.94 308 P **P** 01 23 35.2 -1.1
WILA Wila 32.95 307 ⇑P **P** 01 23 35.7 -0.8
SISB Singen-Sch Ber 32.96 307 P **P** 01 23 37.2 +0.6
FIN Finale Ligure 33.02 301 P **P** 01 23 36.6 -0.5
FIN Finale Ligure 33.02 301 P **P** 01 23 37.7 +0.6
STU Stuttgart 33.03 309 *e*P **P** 01 23 36.8 -0.4
comp=Z,30nm,1.0s,mb5.2
STU Stuttgart 33.03 309 *e*P **P** 01 23 36.2 -1.0
comp=Z,76nm,1.2s,mb5.5
STU Stuttgart 33.03 309 *e*P **P** 01 23 36.2 -1.0
comp=Z,76nm,1.2s,mb5.5
STU Stuttgart 33.03 309 *e*P **P** 01 23 36.2 -1.0
STU pmax pmax
comp=Z,76nm,1.2s,mb5.5
UBBA Unterbreizbach 33.04 313 *e*P **P** 01 23 36.4 -0.8
comp=Z,30nm,1.0s,mb5.2
MUO Muotathal 33.06 306 ⇑P **P** 01 23 36.7 -0.7
RORO 33.12 301 P **P** 01 23 37.7 -0.2
CLZ Clausthal 33.12 315 *e*P **P** 01 23 37.5 -0.4
comp=Z,200nm,1.3s,mb5.9
CLZ Clausthal 33.12 315 *e*P **P** 01 23 37.5 -0.4
CLZ pmax pmax
comp=Z,200nm,1.3s,mb5.9
SPAK Spaichingen 33.16 308 P **P** 01 23 39.8 +1.5
ZUR Zurich 33.16 307 P **P** 01 23 37.6 -0.7
IMI Imperia 33.23 300 P **P** 01 23 39.2 +0.3
IMI Imperia 33.23 300 P **P** 01 23 39.6 +0.7
LBG Lerchenberg 33.27 309 P **P** 01 23 39.4 +0.2
ROB Roburent 33.27 301 P **P** 01 23 38.5 -0.8
SLE Schleitheim 33.29 307 P **P** 01 23 38.7 -0.7
ORO Oropa 33.32 303 P **P** 01 23 39.1 -0.6
ORX Oropa 33.32 303 P **P** 01 23 38.5 -1.2
MONE Monesi 33.34 301 P **P** 01 23 39.8 0.0
NEGI Negi 33.36 300 P **P** 01 23 40.1 +0.1
MMK Mattmark 33.38 304 P **P** 01 23 40.2 -0.1
COP Copenhagen 33.44 322⇑ *i*P **P** 01 23 41.5 +0.8
comp=Z,412nm,1.1s,mb6.3
COP *i* S **S** 01 29 00.7 -0.8
COP *i* S **S** 01 29 02.6 +1.1
COP
comp=Z,9μm,18.0s
COP Copenhagen 33.44 322⇑ *i*P **P** 01 23 41.5 +0.8
comp=Z,412nm,1.1s,mb6.3
COP *i* S **S** 01 29 00.7 -0.8
COP Copenhagen 33.44 322⇑ *i*P **P** 01 23 41.5 +0.8
COP *i* S **S** 01 29 00.7 -0.8
COP pmax pmax
comp=Z,412nm,1.1s,mb6.3
COP MLR MLR
comp=Z,9μm,18.0s,MS5.5
TOD Tromm 33.47 311 *e*P **P** 01 23 39.7 -1.3
TRAV 33.47 303 P **P** 01 23 39.6 -1.4
SAOF Saorge 33.47 300 *e*P **P** 01 23 40.8 -0.2
SULZ Sulz-Cheisache 33.50 307 ⇓P **P** 01 23 40.2 -1.1
BFO Black Forest 33.50 308 *e*P **P** 01 23 40.6 -0.7
comp=Z,28nm,1.0s,mb5.2
BFO Black Forest 33.50 308 *e*P **P** 01 23 40.6 -0.7
BFO pmax pmax
comp=Z,28nm,1.0s,mb5.2
SWS Schriesheim 33.51 310 P **P** 01 23 42.7 +1.4
SBF Sospel 33.55 300 *e*P **P** 01 23 41.4 -0.3
comp=Z,796nm,0.9s,mb6.4
SBF Sospel 33.55 300 *e*P **P** 01 23 41.4 -0.3
comp=Z,398nm,0.9s,mb6.4
SBF Sospel 33.55 300 *e*P **P** 01 23 41.4 -0.3
SBF pmax pmax
comp=Z,398nm,0.9s,mb6.3
AUTN L'Aution 33.57 300 *e*P **P** 01 23 42.3 +0.5
AUTN L'Aution 33.57 300 *e*P **P** 01 23 41.5 -0.3
AUTN L'Aution 33.57 300 *e*P **P** 01 23 41.5 -0.3
ENR Entracque 33.59 301 P **P** 01 23 41.3 -0.7
REVF Revere 33.59 300 *e*P **P** 01 23 40.8 -1.3
FELD Feldberg 33.63 307 P **P** 01 23 44.6 +2.2
STV2 Anna di Valdie 33.66 301 P **P** 01 23 42.3 -0.3
STV Sta Anna Valdi 33.66 301 P **P** 01 23 42.0 -0.6
LKBD Leukerbad 33.66 305 ⇓P **P** 01 23 41.9 -0.8
LKBD ⇑P 01 23 42.2
KIZ Kirchzarten 33.70 308 P **P** 01 23 43.6 +0.6
MVIF Mont Vial 33.76 300 *e*P **P** 01 23 43.0 -0.5
DIX Grande Dixence 33.77 304 P **P** 01 23 43.1 -0.5
RSP Reno Superiore 33.78 302 P **P** 01 23 41.8 -1.9
ABSA Djebel Ababsia 33.80 286 P **P** 01 23 47.0 +3.1
CMAH Djebel Manchou 33.80 287 P **P** 01 23 46.0 +2.1
BOK Bokaro 33.81 97 *e*P **P** 01 23 43.0 -1.0
BOK AMb AMB 01 23 47.1
comp=Z,82nm,1.1s,mb5.6
PZZ Prazzo 33.84 301 P **P** 01 23 43.2 -1.0
TNS Taunus Mts 33.84 312 *e*P **P** 01 23 43.6 -0.6
comp=Z,187nm,1.3s,mb5.9
TNS Taunus Mts 33.84 312 *e*P **P** 01 23 43.6 -0.6
TNS pmax pmax
comp=Z,187nm,1.3s,mb5.9
BSEG Bad Segeberg 33.86 319 *e*P **P** 01 23 44.2 -0.2
comp=Z,198nm,1.4s,mb5.8
BBS Basel-Blauen 33.90 307 *e*P **P** 01 23 44.0 -0.7
FENE Fenestrelle 33.91 302 P **P** 01 23 43.6 -1.2
STR Strasbourg 33.92 309 *e*P **P** 01 23 43.9 -1.0
LANF Langenberg 33.97 309 *e*P **P** 01 23 43.8 -1.6
OG22 Abries 33.97 302 *e*P **P** 01 23 46.1 +0.7
SURF Saint Ours 34.04 301 *e*P **P** 01 23 46.2 +0.2
MBDF Montbardon 34.09 302 *e*P **P** 01 23 45.9 -0.5
comp=Z,495nm,0.8s,mb6.2
MBDF Montbardon 34.09 302 *e*P **P** 01 23 45.9 -0.5
comp=Z,248nm,0.8s,mb6.2
MBDF Montbardon 34.09 302 *e*P **P** 01 23 45.9 -0.5
MBDF pmax pmax
comp=Z,248nm,0.8s,mb6.2
RRL Cesana Torines 34.09 302 P **P** 01 23 45.4 -1.0
FRF La Foret Royal 34.11 300 *e*P **P** 01 23 45.7 -0.8
comp=Z,576nm,1.5s,mb6.0
FRF La Foret Royal 34.11 300 *e*P **P** 01 23 45.7 -0.8
comp=Z,288nm,1.5s,mb6.0
FRF La Foret Royal 34.11 300 *e*P **P** 01 23 45.7 -0.8
FRF pmax pmax
comp=Z,288nm,1.5s,mb6.0
EMV Vieux Emosson 34.12 304 ⇑P **P** 01 23 46.0 -0.7
WLS Welschbruch 34.16 308 *e*P **P** 01 23 46.0 -1.0
BNI Bardonecchia 34.18 302 *e*P **P** 01 23 46.4 -0.8
comp=Z,679nm,0.9s,mb6.6
BNI *e*S **S** 01 29 11.2 -1.8
BNI Bardonecchia 34.18 302⇑ *e*P **P** 01 23 46.4 -0.8
comp=Z,679nm,0.9s,mb6.6
BNI *e*S **S** 01 29 11.2 -1.8
BNI Bardonecchia 34.18 302⇑ *e*P **P** 01 23 46.4 -0.8
BNI *e*S **S** 01 29 11.2 -1.8
BNI pmax pmax
comp=Z,679nm,0.9s,mb6.6
LMR La Mourre 34.20 299 *e*P **P** 01 23 46.4 -0.9
MOF Molkenrain 34.21 307 *e*P **P** 01 23 45.9 -1.5
CDF Champ du Feu 34.21 308 *e*P **P** 01 23 45.4 -2.0
comp=Z,64nm,0.9s,mb5.2
CDF Champ du Feu 34.21 308 *e*P **P** 01 23 45.4 -2.0
comp=Z,32nm,0.9s,mb5.2
CDF Champ du Feu 34.21 308 *e*P **P** 01 23 45.4 -2.0
CDF pmax pmax
comp=Z,32nm,0.9s,mb5.2
CAEH 'Ain El Ouahch 34.24 287 P **P** 01 23 50.0 +2.3
ECH Echery 34.25 308 *e*P **P** 01 23 46.9 -0.9
RSL Roselend 34.27 303 *e*P **P** 01 23 47.0 -1.0
OG01 Vacheresse 34.30 304 *e*P **P** 01 23 48.5 +0.3
ABH Alteburg 34.32 311 *e*P **P** 01 23 47.6 -0.8
LOMF Lomont 34.34 306 *e*P **P** 01 23 47.5 -1.0
HINF Hinteralfeld 34.39 307 *e*P **P** 01 23 47.5 -1.5
comp=Z,176nm,1.0s,mb5.6
HINF Hinteralfeld 34.39 307 *e*P **P** 01 23 47.5 -1.5
comp=Z,88nm,1.0s,mb5.6
HINF Hinteralfeld 34.39 307 *e*P **P** 01 23 47.5 -1.5
HINF pmax pmax
comp=Z,88nm,1.0s,mb5.6
CKFL Kef-Lekhel 34.39 287 P **P** 01 23 52.0 +3.0
TAVF Tavernes 34.54 300 *e*P **P** 01 23 47.9 -2.4
OG25 Le Caire 34.56 301 *e*P **P** 01 23 50.3 -0.2
GDM Grand'Maison 34.59 302 *e*P **P** 01 23 49.4 -1.3
CASM Ain Smara 34.59 287 P **P** 01 23 54.0 +3.2
RUP Ruppelstein 34.59 310 *e*P **P** 01 23 49.9 -0.9
SALM Salem 34.62 122 *e*P **P** 01 23 50.0 -1.0
CTEI Djebel Teioual 34.69 286 P pP 01 24 03.0 +6.7
VIS Vishakhapatnam 34.71 108 *e*P **P** 01 23 50.1 -1.7
GTK Gangtok 34.73 89 *e*x x 01 22 16.0
ORIF Oris-en-Rattie 34.73 302 *e*P **P** 01 23 50.1 -1.9
comp=Z,281nm,0.9s,mb5.9
ORIF *e*R
comp=Z,44μm,21.0s
ORIF Oris-en-Rattie 34.73 302 *e*P **P** 01 23 50.1 -1.9
comp=Z,141nm,0.9s,mb5.9
ORIF Oris-en-Rattie 34.73 302 *e*P **P** 01 23 50.1 -1.9
ORIF pmax pmax
comp=Z,141nm,0.9s,mb5.9
CABF La Chapelle 34.74 305 *e*P **P** 01 23 51.4 -0.7
comp=Z,1μm,1.0s,mb6.4
CABF La Chapelle 34.74 305 *e*P **P** 01 23 51.4 -0.7
comp=Z,507nm,1.0s,mb6.4
CABF La Chapelle 34.74 305 *e*P **P** 01 23 51.4 -0.7
CABF pmax pmax
comp=Z,507nm,1.0s,mb6.4
HAU Haudompre 34.75 307 *e*P **P** 01 23 51.5 -0.6
comp=Z,186nm,1.1s,mb5.6
HAU *e*R
comp=Z,34μm,22.0s
HAU Haudompre 34.75 307 *e*P **P** 01 23 51.5 -0.6
comp=Z,93nm,1.1s,mb5.6
HAU LR LR
comp=Z,34μm,22.0s,MS6.0
HAU Haudompre 34.75 307 *e*P **P** 01 23 51.5 -0.6
HAU pmax pmax
comp=Z,93nm,1.1s,mb5.6
HAU MLR MLR
comp=Z,34μm,22.0s,MS6.0
PUYF Puyloubier 34.79 299 *e*P **P** 01 23 51.0 -1.5
BERF Bertagne 34.80 299 *e*P **P** 01 23 52.0 -0.5
VILF Villemus 34.80 300 *e*P **P** 01 23 52.2 -0.3
IBBN Ibbenburen 34.80 315 *e*P **P** 01 23 52.7 +0.2
comp=Z,271nm,1.4s,mb6.0
GRN Grenoble 34.85 302 *e*P **P** 01 23 51.1 -1.9
BUG Bochum–Univer 34.86 313 *e*P **P** 01 23 52.9 -0.2
comp=Z,230nm,1.5s,mb5.9
SMRF Simiane la Rot 34.90 300 *e*P **P** 01 23 52.7 -0.7
THEF They Montfort 35.03 308 *e*P **P** 01 23 51.9 -2.6
TREF Trevaresse 35.03 300 *e*P **P** 01 23 51.8 -2.7
DFRA Djebel Bou Aff 35.04 287 P **P** 01 24 01.0 +6.4
HFS Hagfors 35.07 330 P **P** 01 23 54.1 -0.8
comp=Z,101nm,0.4s,mb6.1,baz=120,slow=8.8,SNR=115
HFS LR LR 01 38 58.9
comp=Z,56μm,20.9s,MS6.3,baz=126,slow=38
HFA0 Hagfors New Ar 35.08 330 P **P** 01 23 53.4 -1.5
OG05 Jujurieux 35.12 304 *e*P **P** 01 23 55.5 +0.2
OCF Saint Nazaire 35.12 301 *e*P **P** 01 23 54.0 -1.3
OG26 St.-Nazaire-De 35.12 301 *e*P **P** 01 23 54.0 -1.3
WLF Walferdange 35.16 310 *e*P **P** 01 23 54.2 -1.5
comp=Z,110nm,0.9s,mb5.8
WLF Walferdange 35.16 310 P **P** 01 23 54.6 -1.1
comp=Z,62nm,1.1s,mb5.5
WLF E 01 24 03.0
WLF AP pP 01 24 14.4 +14
WLF XP sP 01 24 21.3 +19
WLF E 01 24 24.6
WLF E 01 24 54.0
WLF Walferdange 35.16 310 P **P** 01 23 54.5 -1.2
comp=Z,62nm,1.1s,mb5.5
WLF Walferdange 35.16 310 P **P** 01 23 55.6 -0.1
comp=Z,71nm,0.8s,mb5.7
WLF *e*S **S** 01 29 35.3 +7.1
WLF Walferdange 35.16 310 P **P** 01 23 55.6 -0.1
WLF *e*S **S** 01 29 35.3 +7.1
WLF pmax pmax
comp=Z,71nm,0.8s,mb5.7
APA Apatity 35.19 350 *i* P **P** 01 23 55.6 -0.3
comp=Z,2μm,6.0s
APA Apatity 35.19 350⇑ *i*P **P** 01 23 55.6 -0.3
APA *i* 01 24 03.0
APA *i* 01 25 15.0
APA *i* S **S** 01 29 25.0 -3.5
APA *i* SS SS 01 31 41.0 -20
APA pmax pmax
comp=Z,75nm,1.1s,mb5.5
APA pmax pmax
comp=Z,2μm,6.0s
APA MLR MLR
comp=N,27μm,17.0s,MS6.1
APA MLR MLR
comp=Z,4μm,17.0s,MS5.2
APA MLR MLR
comp=E,8μm,16.0s,MS6.1
PRAF Pradon 35.19 300 *e*P **P** 01 23 55.1 -0.8
WTSB Winterswijk 35.28 314⇑ *e*P **P** 01 23 56.9 +0.3
comp=E,284nm,2.6s,mb5.7
LVZ Lovozero 35.32 351 P **P** 01 23 56.1 -0.9
comp=E,616nm,1.4s,mb6.3,SNR=10
LVZ Lovozero 35.32 351 *e*P **P** 01 23 59.6 +2.6
comp=E,91nm,1.1s,mb5.6
LVZ *e*S **S** 01 29 30.7 +0.2
comp=E,29μm,18.0s
LVZ Lovozero 35.32 351 PFAKE 01 24 10.0 +13
LVZ LR LR
comp=Z,12μm,20.0s,MS5.7
LVZ Lovozero 35.32 351 *e*P **P** 01 23 59.6 +2.6
LVZ *i* 01 25 15.2
LVZ *e*S **S** 01 29 30.7 +0.2
LVZ *e*SS SS 01 31 44.6 -20
LVZ pmax pmax
comp=Z,1μm,3.5s
LVZ pmax pmax
comp=N,565nm,3.3s
LVZ pmax pmax
comp=E,253nm,3.0s
LVZ pmax pmax
comp=Z,267nm,1.4s,mb6.0
LVZ pmax pmax
comp=N,91nm,1.1s
LVZ pmax pmax
comp=E,47nm,1.3s
LVZ smax
comp=N,3μm,5.8s
LVZ smax
comp=Z,578nm,2.7s
LVZ smax
comp=E,680nm,2.8s
LVZ smax
comp=N,6μm,19.5s
LVZ smax
comp=Z,2μm,20.5s
LVZ smax
comp=E,565nm,7.3s
LVZ MLR MLR
comp=Z,29μm,18.0s,MS6.1
LVZ MLR MLR
comp=N,20μm,17.0s,MS6.0
LVZ MLR MLR
comp=E,9μm,13.0s,MS6.0
CKHR Kef el Ahmar 35.41 286 P **P** 01 24 03.0 +5.2
MUD Monsted U'grnd 35.42 322⇑ *i*P **P** 01 23 58.3 +0.4
comp=E,367nm,0.9s,mb6.3
MUD *i* S **S** 01 29 29.4 -2.7
MUD Monsted U'grnd 35.42 322⇑ *i*P **P** 01 23 58.3 +0.4
MUD *i* S **S** 01 29 29.4 -2.7
MUD pmax pmax
comp=Z,367nm,0.9s,mb6.3
MEM Membach 35.45 312 P **P** 01 23 57.9 -0.2
comp=Z,28nm,1.0s,mb5.1
MEM AP pP 01 23 59.5 -3.3
MEM XP sP 01 24 00.4 -4.3
MEM E 01 24 06.8
MEM E 01 25 00.7
MEM Membach 35.45 312 P **P** 01 23 57.8 -0.3
SET Setif 35.48 287 P **P** 01 24 02.0 +3.7
HGN Heimansgroeve 35.52 312⇑ *e*P **P** 01 23 59.3 +0.5
comp=Z,132nm,2.0s,mb5.5
HGN *e*PP PP 01 25 28.6 +9.1
HGN *e*x x 01 28 34.7
HGN *e*S **S** 01 29 38.6 +4.9
WIT Witteveen 35.58 316 *e*P **P** 01 24 01.3 +2.1
comp=Z,413nm,1.1s,mb6.3
VIVF Saint-Julien-I 35.59 302 *e*P **P** 01 23 57.9 -1.4
comp=Z,814nm,1.5s,mb6.1
VIVF Saint-Julien-I 35.59 302 *e*P **P** 01 23 57.9 -1.4
comp=Z,407nm,1.5s,mb6.1
VIVF Saint-Julien-I 35.59 302 *e*P **P** 01 23 57.9 -1.4
VIVF pmax pmax
comp=Z,407nm,1.5s,mb6.1
MEZF Maizieres J'vi 35.68 308 *e*P **P** 01 23 58.9 -1.2
comp=Z,524nm,1.2s,mb6.0
MEZF Maizieres J'vi 35.68 308 *e*P **P** 01 23 58.9 -1.2
comp=Z,262nm,1.2s,mb6.0
BEBN Eben Emael 35.69 312 AP pP 01 24 01.2 -3.8
comp=Z,16nm,1.0s
BEBN XP sP 01 24 02.8 -4.0
BEBN E 01 24 54.7
BEBN E 01 25 33.7
SSB Saint Sauveur 35.70 302 *e*P **P** 01 23 59.0 -1.3
TRD Trivandrum 36.01 127 *e*P **P** 01 24 03.2 +0.2
TRD AMb AMB 01 24 04.8
comp=Z,211nm,0.9s,mb6.1
LSA Lhasa 36.09 84 P **P** 01 24 04.0 +0.4
LSA AP pP 01 24 12.0 +3.7
LSA XP sP 01 24 16.5 +6.3
LSA PP PP 01 25 27.3 +1.6
LSA PCP PcP 01 26 27.0 -2.5
LSA S **S** 01 29 40.5 -1.8
LSA AMB AMB
comp=Z,50nm,1.5s,mb5.2
LSA LR LR
comp=N,16μm,22.6s,MS6.0
LSA LR LR
comp=E,26μm,26.6s,MS6.0
LSA LR LR
comp=Z,14μm,30.5s,MS5.5
LSA Lhasa 36.09 84 *e*P **P** 01 24 04.0 +0.4
comp=Z,395nm,1.4s,mb6.2
LSA *e*S **S** 01 29 43.9 +1.6
LSA Lhasa 36.09 84⇓ *e*P **P** 01 24 04.0 +0.4
comp=Z,395nm,1.4s,mb6.2
LSA *e*PP PP 01 25 19.8 -5.9
LSA *e*S **S** 01 29 43.9 +1.6
LSA LR LR
comp=Z,23μm,21.0s,MS5.9
LSA Lhasa 36.09 84⇓ *e*P **P** 01 24 04.0 +0.4
LSA *e* 01 25 19.8
LSA *e*S **S** 01 29 43.9 +1.6
LSA pmax pmax
comp=Z,395nm,1.4s,mb6.2
LSA MLR MLR
comp=Z,23μm,21.0s,MS5.9
GIVF Givet 36.09 311 *e*P **P** 01 24 03.0 -0.6
comp=Z,339nm,1.1s,mb5.9
GIVF Givet 36.09 311 *e*P **P** 01 24 03.0 -0.6
comp=Z,170nm,1.1s,mb5.9
GIVF Givet 36.09 311 *e*P **P** 01 24 03.0 -0.6
GIVF pmax pmax
comp=Z,170nm,1.1s,mb5.9
LASF Ste Croix 36.14 300 *e*P **P** 01 24 02.8 -1.3
comp=Z,200nm,1.0s,mb5.7
LASF Ste Croix 36.14 300 *e*P **P** 01 24 02.8 -1.3
comp=Z,100nm,1.0s,mb5.7

KMBO Kilima Mbogo 36.20 200 P **P** **01 24 06.2 +1.7**
comp=Z,16nm,1.0s,mb4.9,baz=14,slow=9.4,SNR=15
KMBO LR LR 01 40 04.0
comp=Z,7μm,19.9s,MS5.5,baz=17,slow=38
KMBO Kilima Mbogo 36.20 200 *e*P **P** **01 24 06.7 +2.2**
comp=Z,31nm,1.2s,mb5.1
KMBO *e*S **S** **01 29 34.1 -10**
KMBO *e*ScP ScP 01 30 24.8 +9.3
KMBO LR LR
comp=Z,5μm,19.0s,MS5.3
KMBO Kilima Mbogo 36.20 200 *e*P **P** **01 24 06.7 +2.2**
KMBO *e*S **S** **01 29 34.1 -10**
KMBO pmax pmax
comp=Z,31nm,1.2s
KMBO MLR MLR
comp=Z,5μm,19.0s
DOU Dourbes 36.23 311 ⇑P **P** **01 24 02.6 -2.2**
comp=Z,43nm,1.1s,mb5.3
DOU AP pP 01 24 06.1 -3.5
DOU XP sP 01 24 13.2 +1.7
DOU E 01 24 27.2
DOU E 01 24 35.3
DOU S **S** **01 29 49.3 +4.7**
OSL Oslo 36.24 328 *e*P **P** **01 24 04.3 -0.6**
OSL AMb AMB 01 24 11.4
comp=Z,1μm,1.2s,mb6.7
OSL Oslo 36.24 328 *e*P **P** **01 24 04.3 -0.6**
comp=Z,1μm,1.2s,mb6.7,SNR=26
OSL Oslo 36.24 328 *e*P **P** **01 24 04.3 -0.6**
comp=Z,1μm,1.2s,mb6.7
SMF Signal de Mont 36.29 305 *e*P **P** **01 24 04.0 -1.3**
comp=Z,652nm,1.0s,mb6.2
SMF Signal de Mont 36.29 305 *e*P **P** **01 24 04.0 -1.3**
comp=Z,326nm,1.0s,mb6.2
SMF Signal de Mont 36.29 305 *e*P **P** **01 24 04.0 -1.3**
SMF pmax pmax
comp=Z,326nm,1.0s,mb6.2
COLF Collangettes 36.31 303 *e*P **P** **01 24 04.4 -1.1**
LOR Lormes 36.33 306 *e*P **P** **01 24 04.1 -1.6**
comp=Z,261nm,1.2s,mb5.8
LOR *e*R
comp=Z,24μm,20.0s
LOR Lormes 36.33 306 *e*P **P** **01 24 04.1 -1.6**
comp=Z,130nm,1.2s,mb5.7
LOR LR LR
comp=Z,24μm,20.0s,MS6.0
LOR Lormes 36.33 306 *e*P **P** **01 24 04.1 -1.6**
LOR pmax pmax
comp=Z,130nm,1.2s,mb5.7
LOR MLR MLR
comp=Z,24μm,20.0s,MS6.0
CAL Calcutta 36.38 97 *e*P **P** **01 24 08.3 +2.1**
CAL *e*x x 01 26 24.4
CAL *e*x x 01 26 26.1
comp=N,7μm,0.2s
CAL *e*S **S** **01 29 48.3 +1.5**
PLDF La Plantade 36.39 304 *e*P **P** **01 24 05.3 -0.9**
BAIF Baives 36.47 310 *e*P **P** **01 24 06.4 -0.5**
comp=N,338nm,1.2s,mb5.9
BAIF Baives 36.47 310 *e*P **P** **01 24 06.4 -0.5**
comp=N,169nm,1.2s,mb5.9
BAIF Baives 36.47 310 *e*P **P** **01 24 06.4 -0.5**
BAIF pmax pmax
comp=Z,169nm,1.2s,mb5.8
SNF Seneffe 36.50 311 P **P** **01 24 07.9 +0.7**
comp=Z,28nm,1.0s,mb5.0
SNF AP pP 01 24 09.8 -2.1
SNF E 01 24 40.4
SNF PNPN 01 25 12.5
SNF Seneffe 36.50 311 P **P** **01 24 07.8 +0.6**
UCC Uccle 36.51 312 ⇑P **P** **01 24 06.5 -0.7**
UCC E 01 24 08.1
UCC AP pP 01 24 18.8 +6.8
UCC XP sP 01 24 31.8 +18
UCC E 01 24 43.3
UCC E 01 25 01.0
UCC PP PP 01 25 33.9 +3.5
UCC S **S** **01 29 49.8 +1.0**
UCC Uccle 36.51 312 P **P** **01 24 06.5 -0.7**
UCC S **S** **01 29 49.7 +0.9**
SSF Saint Saulge 36.55 305 *e*P **P** **01 24 06.3 -1.3**
comp=Z,361nm,1.0s,mb5.9
SSF Saint Saulge 36.55 305 *e*P **P** **01 24 06.3 -1.3**
comp=Z,180nm,1.0s,mb5.9
SSF Saint Saulge 36.55 305 *e*P **P** **01 24 06.3 -1.3**
SSF pmax pmax
comp=Z,180nm,1.0s,mb5.9
NB2 NORSAR Subarra 36.59 330 P **P** **01 24 06.3 -1.6**
comp=Z,152nm,0.9s,mb5.8,baz=123,slow=8.6
NB2 NORSAR Subarra 36.59 330 P **P** **01 24 06.3 -1.6**
comp=Z,152nm,0.9s,mb5.8
NB2 P pP 01 24 10.3 -2.3
NB2 NORSAR Subarra 36.59 330 P **P** **01 24 06.3 -1.6**
NB2 pP 01 24 10.3 -2.3
NB2 pmax pmax
comp=Z,152nm,0.9s,mb5.8
NOA NORSAR Array B 36.59 330 P **P** **01 24 06.5 -1.4**
comp=Z,34nm,0.6s,mb5.3,baz=122,slow=8.4,SNR=120
NOA PP PP 01 25 31.9 +0.7
comp=Z,61nm,0.9s,baz=119,slow=11,SNR=4.9
NOA LR LR 01 39 55.5
comp=Z,44μm,21.1s,MS6.2,baz=125,slow=38
NOA NORSAR Array B 36.59 330 P **P** **01 24 06.5 -1.4**
NOA PP PP 01 25 31.9 +0.7
NOA LR LR 01 39 55.5
NOA NORSAR Array B 36.59 330 P **P** **01 24 06.5 -1.4**
NOA 01 25 31.9
KONO Kongsberg 36.60 327 *e*P **P** **01 24 06.7 -1.3**
KONO *e*S **S** **01 29 52.5 +2.3**
KONO *e*SS SS 01 32 29.9 -0.3
KONO Kongsberg 36.60 327 P **P** **01 24 07.5 -0.5**
KONO pmax pmax
comp=Z,11nm,0.6s,mb4.9
LBL Lubilhac 36.62 302 *e*P **P** **01 24 06.2 -1.9**
NAO01 NORSAR Array S 36.62 330 P **P** **01 24 07.6 -0.6**
comp=Z,242nm,1.1s,mb5.9
NAO01 *e*S **S** **01 29 50.1 -0.4**
NAO01 LR LR
comp=Z,59μm,22.0s,MS6.3
AVF Avril sur Loir 36.63 305 *e*P **P** **01 24 06.9 -1.4**
comp=Z,415nm,1.1s,mb5.9
AVF Avril sur Loir 36.63 305 *e*P **P** **01 24 06.9 -1.4**
comp=Z,207nm,1.1s,mb5.9
AVF Avril sur Loir 36.63 305 *e*P **P** **01 24 06.9 -1.4**
AVF pmax pmax
comp=Z,207nm,1.1s,mb5.9
AGO Saint Agoulin 36.74 304 *e*P **P** **01 24 08.3 -0.8**
PYM Petit Puy Mans 36.81 303 *e*P **P** **01 24 08.5 -1.2**
EJON La Jonquera 36.86 298 P **P** **01 24 10.6 +0.4**
comp=Z,58nm,1.6s,mb5.2
BGF Bois d'Agland 36.97 304 *e*P **P** **01 24 09.7 -1.4**
comp=Z,161nm,1.0s,mb5.5
BGF Bois d'Agland 36.97 304 *e*P **P** **01 24 09.7 -1.4**
comp=Z,80nm,1.0s,mb5.5
BGF Bois d'Agland 36.97 304 *e*P **P** **01 24 09.7 -1.4**
BGF pmax pmax
comp=Z,81nm,1.0s,mb5.5
ETOS Mallorca 37.07 293 P **P** **01 24 12.7 +0.7**
comp=Z,643nm,1.4s,mb6.3
FRNF Fournols 37.10 302 *e*P **P** **01 24 12.2 -0.1**
SNART Snartemo 37.15 325 *e*P **P** **01 24 12.5 -0.1**
SNART AMb AMB 01 24 17.2
comp=Z,125nm,1.1s,mb5.7
SNART Snartemo 37.15 325 *e*P **P** **01 24 12.5 -0.1**
comp=Z,125nm,1.1s,mb5.7
HYF Humbligny 37.16 306 *e*P **P** **01 24 12.1 -0.6**
VERF Verneugheol 37.17 303 *e*P **P** **01 24 13.3 +0.4**
ABA Alger-Bouzarea 37.27 288 P **P** **01 24 15.0 +1.4**
MTLF Montolieu 37.33 299 *e*P **P** **01 24 12.6 -1.6**
comp=Z,56nm,0.9s,mb5.1
MTLF Montolieu 37.33 299 *e*P **P** **01 24 12.6 -1.6**
comp=Z,28nm,0.9s,mb5.1
MTLF Montolieu 37.33 299 *e*P **P** **01 24 12.6 -1.6**
MTLF pmax pmax
comp=Z,28nm,0.9s,mb5.1
TCF Toulx Ste Croi 37.39 304 *e*P **P** **01 24 13.7 -1.0**
comp=Z,369nm,1.2s,mb5.8
TCF Toulx Ste Croi 37.39 304 *e*P **P** **01 24 13.7 -1.0**
comp=Z,185nm,1.2s,mb5.8
TCF Toulx Ste Croi 37.39 304 *e*P **P** **01 24 13.7 -1.0**
TCF pmax pmax
comp=Z,185nm,1.2s,mb5.8
EMHD Djebel Mahouad 37.43 287 P **P** **01 24 16.0 +1.0**
CAF Calviac 37.44 302 *e*P **P** **01 24 14.0 -1.1**
comp=Z,134nm,1.2s,mb5.3
CAF Calviac 37.44 302 *e*P **P** **01 24 14.0 -1.1**
comp=Z,67nm,1.2s,mb5.3
CAF Calviac 37.44 302 *e*P **P** **01 24 14.0 -1.1**
CAF pmax pmax
comp=Z,67nm,1.2s,mb5.3
VALF Valcebollere 37.50 298 *e*P **P** **01 24 16.0 +0.4**
KRAR Krasnoyarsk 37.60 40 *i*P **P** **01 24 15.1 -1.3**
KRAR *i* *PP pP 01 24 18.9 -2.3
KRAR *i* *SP sP 01 24 20.8 -2.3
KRAR *i* 01 25 39.7
KRAR *e*S **S** **01 30 04.3 -1.0**
RJF Les Rejaudoux 37.84 302 *e*P **P** **01 24 17.7 -0.8**
comp=Z,412nm,1.4s,mb5.7
RJF *e*R
comp=Z,24μm,20.5s
RJF Les Rejaudoux 37.84 302 *e*P **P** **01 24 17.7 -0.8**
comp=Z,206nm,1.4s,mb5.7
RJF LR LR
comp=Z,24μm,20.5s,MS6.0
RJF Les Rejaudoux 37.84 302 *e*P **P** **01 24 17.7 -0.8**
RJF pmax pmax
comp=Z,206nm,1.4s,mb5.7
RJF MLR MLR
comp=Z,24μm,20.5s,MS6.0
MENF Mencas 37.85 311 *e*P **P** **01 24 17.2 -1.4**
BLS5 Blasjo 37.94 326 *e*P **P** **01 24 21.5 +2.2**
BLS5 AMb AMB 01 24 28.2
comp=Z,344nm,0.9s,mb6.1
BLS5 Blasjo 37.94 326 *e*P **P** **01 24 21.5 +2.1**
comp=Z,344nm,0.9s,mb6.1,SNR=26
BLS5 Blasjo 37.94 326 *e*P **P** **01 24 21.5 +2.2**
comp=Z,344nm,0.9s,mb6.1
DOMB Dombas 37.99 331 ⇑*i*P **P** **01 24 21.7 +1.9**
DOMB AMb AMB 01 24 30.3
comp=Z,349nm,1.5s,mb5.9
DOMB Dombas 37.99 331 ⇑*i*P **P** **01 24 21.7 +1.9**
comp=Z,349nm,1.5s,mb5.9,SNR=26
DOMB Dombas 37.99 331 *e*P **P** **01 24 21.7 +1.9**
comp=Z,349nm,1.5s,mb5.9
ODD1 Odda 38.06 327 *e*P **P** **01 24 20.5 +0.1**
ODD1 AMb AMB 01 24 27.6
comp=Z,967nm,1.3s,mb6.4
ODD1 Odda 38.06 327 *e*P **P** **01 24 20.5 +0.1**
comp=Z,967nm,1.3s,mb6.4,SNR=26
ODD1 Odda 38.06 327 *e*P **P** **01 24 20.5 +0.1**
comp=Z,967nm,1.3s,mb6.4
SALF Salau 38.10 298 *e*P **P** **01 24 20.0 -0.7**
SHL Shillong 38.10 90 *e*P **P** **01 24 20.0 -0.7**
SHL *e*S **S** **01 30 16.0 +3.1**
STAV Stavanger 38.11 325 *e*P **P** **01 24 20.7 0.0**
STAV AMb AMB 01 24 31.3
comp=Z,337nm,1.1s,mb6.0
STAV Stavanger 38.11 325 *e*P **P** **01 24 20.7 -0.1**
comp=Z,337nm,1.1s,mb6.0,SNR=26
STAV Stavanger 38.11 325 *e*P **P** **01 24 20.7 0.0**
comp=Z,337nm,1.1s,mb6.0
MLS Moulis 38.16 298 *e*P **P** **01 24 20.2 -1.0**
KEV Kevo 38.19 348 *e*p **P** **01 24 20.5 -1.0**
comp=Z,77nm,0.7s,mb5.5
KEV Kevo 38.19 348 *e*P **P** **01 24 21.8 +0.3**
comp=Z,190nm,1.1s,mb5.7
KEV *e*PP PP 01 25 51.8 +3.0
KEV *e*S **S** **01 30 18.8 +4.4**
KEV Kevo 38.19 348 *e*P **P** **01 24 21.8 +0.3**
KEV *e* 01 25 51.8
KEV *e*S **S** **01 30 18.8 +4.4**
KEV pmax pmax
comp=Z,190nm,1.1s,mb5.7
NSS Namsos 38.25 335 *e*P **P** **01 24 21.3 -0.6**
NSS AMb AMB 01 24 31.8
comp=Z,321nm,2.0s,mb5.7
NSS *e*PP PP 01 25 46.6 -2.8
NSS *e*S **S** **01 30 17.9 +2.7**
NSS AMS AMS 01 41 39.9
comp=Z,23μm,18.0s,MS6.0
NSS Namsos 38.25 335 *e*P **P** **01 24 21.3 -0.6**
comp=Z,321nm,2.0s,mb5.7,SNR=26
NSS Namsos 38.25 335 *e*PP PP 01 25 46.6 -2.8
SNR=35
NSS Namsos 38.25 335 *e*P **P** **01 24 21.3 -0.6**
comp=Z,321nm,2.0s,mb5.7
EPOB Poblet 38.26 296 P **P** **01 24 21.2 -0.8**
comp=Z,1μm,3.9s
ARCES ARCESS Array B 38.27 347 P **P** **01 24 21.7 -0.4**
comp=Z,23nm,0.6s,mb5.1,baz=139,slow=7.6,SNR=45
ARCES PP PP 01 25 47.9 -1.8
comp=Z,56nm,1.0s,baz=138,slow=9.7,SNR=2.9
ARCES LR LR 01 41 41.7
comp=Z,27μm,20.0s,MS6.1,baz=262,slow=39
ARCES ARCESS Array B 38.27 347 P **P** **01 24 21.7 -0.5**
ARCES 01 25 47.9
ARE0 ARCESS Array S 38.27 347 P **P** **01 24 23.3 +1.1**
EIBI Ibiza 38.28 292 P **P** **01 24 22.9 +0.6**
comp=Z,2μm,3.1s
KTK1 Kautokeino 38.29 345 *e*P **P** **01 24 22.5 +0.2**
KTK1 AMb AMB 01 24 28.7
comp=Z,318nm,1.5s,mb5.8
KTK1 Kautokeino 38.29 345 *e*P **P** **01 24 22.5 +0.2**
comp=Z,318nm,1.5s,mb5.8,SNR=26
KTK1 Kautokeino 38.29 345 *e*P **P** **01 24 22.5 +0.2**
comp=Z,318nm,1.5s,mb5.8
LFF La Frestale 38.38 302 *e*P **P** **01 24 22.0 -1.1**
comp=Z,85nm,0.6s,mb5.3
LFF La Frestale 38.38 302 *e*P **P** **01 24 22.0 -1.1**
comp=Z,42nm,0.6s,mb5.3
LFF La Frestale 38.38 302 *e*P **P** **01 24 22.0 -1.1**
LFF pmax pmax
comp=Z,42nm,0.6s,mb5.3
KMY Karmoy 38.43 325 *e*P **P** **01 24 23.8 +0.3**
KMY AMb AMB 01 24 33.6
comp=Z,293nm,1.1s,mb5.9
KMY Karmoy 38.43 325 *e*P **P** **01 24 23.8 +0.3**
comp=Z,293nm,1.1s,mb5.9,SNR=26
KMY Karmoy 38.43 325 *e*P **P** **01 24 23.8 +0.3**
comp=Z,293nm,1.1s,mb5.9
MOR8 Moi Rana 38.46 338 *e*P **P** **01 24 23.8 +0.1**
MOR8 AMb AMB 01 24 33.8
comp=Z,248nm,1.4s,mb5.8
MOR8 Moi Rana 38.46 338 *e*P **P** **01 24 23.8 +0.1**
comp=Z,248nm,1.4s,mb5.8,SNR=26
MOR8 Moi Rana 38.46 338 *e*P **P** **01 24 23.8 +0.1**
comp=Z,248nm,1.4s,mb5.8
EBNR Beni Rached 38.55 288 P **P** **01 24 26.5 +2.1**
ECHA Ech Chlef 38.70 288 P **P** **01 24 27.0 +1.3**
EPF Esparros 38.71 299 *e*P **P** **01 24 23.4 -2.4**
comp=Z,21nm,0.7s,mb4.7
EPF Esparros 38.71 299 *e*P **P** **01 24 23.4 -2.4**
comp=Z,10nm,0.7s,mb4.7
EPF Esparros 38.71 299 *e*P **P** **01 24 23.4 -2.4**
EPF pmax pmax
comp=Z,11nm,0.7s,mb4.7
RESF Ens 38.72 298 *e*P **P** **01 24 24.8 -1.1**
EBR Ebro Roquetas 38.74 295 *e*P **P** **01 24 26.4 +0.3**
EGRA Graus 38.77 297 P **P** **01 24 26.9 +0.5**
comp=Z,90nm,1.4s,mb5.3
HYA Hoyanger 38.80 328 *e*P **P** **01 24 29.2 +2.6**
HYA AMb AMB 01 24 35.6
comp=Z,390nm,1.5s,mb5.9
HYA Hoyanger 38.80 328 *e*P **P** **01 24 29.2 +2.6**
comp=Z,390nm,1.5s,mb5.9
BER Bergen 38.85 327 *e*P **P** **01 24 27.0 0.0**
BER *e*P 01 24 29.1
BER AMb AMB 01 24 37.2
comp=Z,654nm,1.2s,mb6.2
BER AMb AMB 01 24 38.2
comp=Z,442nm,0.5s,mb6.4
BER *e*PP PP 01 25 57.4 +1.4
BER *e*ScP ScP 01 30 24.9 -0.7
BER AMS AMS 01 42 03.9
comp=Z,10μm,17.8s,MS5.7
BER Bergen 38.85 327 *e*P **P** **01 24 27.0 0.0**
SNR=26
BER *e*ScP ScP 01 30 24.9 -0.7
SNR=7.0
BER Bergen 38.85 327 *e*P **P** **01 24 27.0 0.0**
comp=Z,654nm,1.2s,mb6.2
BER *e*P 01 24 29.1
BER Bergen 38.85 327 *e*P **P** **01 24 27.0 0.0**
BER *e* 01 24 29.1
BER pmax pmax
comp=Z,655nm,1.2s,mb6.2
EGD Espegrend 38.85 327 *e*P **P** **01 24 26.9 -0.1**
EGD AMb AMB 01 24 34.8
comp=Z,578nm,1.8s,mb6.0
EGD Espegrend 38.85 327 *e*P **P** **01 24 26.9 -0.1**
comp=Z,578nm,1.8s,mb6.0,SNR=26
EGD Espegrend 38.85 327 *e*P **P** **01 24 26.9 -0.1**
comp=Z,578nm,1.8s,mb6.0
ERTA Horta de San J 38.85 295 P **P** **01 24 27.2 +0.2**
comp=Z,2μm,3.4s
MOL Molde 38.87 331 *e*P **P** **01 24 28.7 +1.5**
MOL AMb AMB 01 24 38.6
comp=Z,450nm,1.2s,mb6.1
MOL Molde 38.87 331 *e*P **P** **01 24 28.7 +1.6**
comp=Z,450nm,1.2s,mb6.1,SNR=26
MOL Molde 38.87 331 *e*P **P** **01 24 28.7 +1.5**
comp=Z,450nm,1.2s,mb6.1
EBIE Bielsa 38.87 298 P **P** **01 24 27.1 -0.1**
comp=Z,52nm,1.4s,mb5.1
ETRT Tiaret 38.90 286 P **P** **01 24 28.0 +0.6**
EANR 'Ain N'Sour 38.95 287 P **P** **01 24 29.0 +1.2**
ASK Askoy 38.95 327 *e*P **P** **01 24 27.7 -0.2**
ASK AMb AMB 01 24 38.8
comp=Z,553nm,1.3s,mb6.1
ASK Askoy 38.95 327 *e*P **P** **01 24 27.7 -0.2**
comp=Z,553nm,1.3s,mb6.1,SNR=26
ASK Askoy 38.95 327 *e*P **P** **01 24 27.7 -0.2**
comp=Z,553nm,1.3s,mb6.1
STOK Stokkvaagen 39.00 338 ⇑*i*P **P** **01 24 29.8 +1.5**
STOK AMb AMB 01 24 40.1
comp=Z,838nm,1.3s,mb6.3
STOK Stokkvaagen 39.00 338 ⇑*i*P **P** **01 24 29.8 +1.5**
comp=Z,838nm,1.3s,mb6.3,SNR=26
STOK Stokkvaagen 39.00 338 *e*P **P** **01 24 29.8 +1.5**
comp=Z,838nm,1.3s,mb6.3
MFF Saint Martin d 39.03 304 *e*P **P** **01 24 27.0 -1.5**
comp=Z,214nm,0.9s,mb5.6
MFF Saint Martin d 39.03 304 *e*P **P** **01 24 27.0 -1.5**
comp=Z,107nm,0.9s,mb5.6
MFF Saint Martin d 39.03 304 *e*P **P** **01 24 27.0 -1.5**
MFF pmax pmax
comp=Z,107nm,0.9s,mb5.6
LDF La Druitiere 39.11 308 *e*P **P** **01 24 27.2 -2.0**
comp=Z,81nm,0.6s,mb5.3
LDF La Druitiere 39.11 308 *e*P **P** **01 24 27.2 -2.0**
comp=Z,40nm,0.6s,mb5.3
LDF La Druitiere 39.11 308 *e*P **P** **01 24 27.2 -2.0**
LDF pmax pmax
comp=Z,40nm,0.6s,mb5.3
OKGL Djebel Kef Gue 39.30 288 P **P** **01 24 32.0 +1.3**
OJGS Djebel Guires 39.31 287 P **P** **01 24 33.0 +2.1**
FLN La Foliniere 39.36 308 *e*P **P** **01 24 29.5 -1.8**
comp=Z,154nm,0.6s,mb5.6
FLN *e*R
comp=Z,39μm,22.0s
FLN La Foliniere 39.36 308 *e*P **P** **01 24 29.5 -1.8**
comp=Z,77nm,0.6s,mb5.6
FLN LR LR
comp=Z,39μm,22.0s,MS6.2
FLN La Foliniere 39.36 308 *e*P **P** **01 24 29.5 -1.8**
FLN pmax pmax
comp=Z,77nm,0.6s,mb5.6
FLN MLR MLR
comp=Z,39μm,22.0s,MS6.2
ETSF Etsaut 39.38 298 *e*P **P** **01 24 30.5 -0.9**
comp=Z,106nm,1.0s,mb5.2
ETSF Etsaut 39.38 298 *e*P **P** **01 24 30.5 -0.9**
comp=Z,53nm,1.0s,mb5.2
ETSF Etsaut 39.38 298 *e*P **P** **01 24 30.5 -0.9**
ETSF pmax pmax
comp=Z,53nm,1.0s,mb5.2
SUE Sulen 39.38 328 *e*P **P** **01 24 34.0 +2.6**
SUE AMb AMB 01 24 38.7
comp=Z,365nm,1.3s,mb5.9
SUE Sulen 39.38 328 *e*P **P** **01 24 34.0 +2.6**
comp=Z,365nm,1.3s,mb6.0
ESAC San Caprasio 39.39 297 P **P** **01 24 30.6 -0.9**
comp=Z,1μm,3.7s
PALK Pallekele 39.44 124 P **P** **01 24 32.4 +0.5**
comp=Z,476nm,1.4s,mb6.0,SNR=25
PALK Pallekele 39.44 124 P **P** **01 24 32.1 +0.1**
comp=Z,160nm,1.3s,mb5.6
PALK LR LR
comp=Z,8μm,21.0s,MS5.5
ATE Arette 39.47 299 *e*P **P** **01 24 32.5 +0.3**
FOO Floro 39.48 329 *e*P **P** **01 24 32.9 +0.6**
FOO AMb AMB 01 24 46.4
comp=Z,527nm,1.5s,mb6.0
FOO Floro 39.48 329 *e*P **P** **01 24 32.9 +0.6**
comp=Z,527nm,1.5s,mb6.0,SNR=26
FOO Floro 39.48 329 *e*P **P** **01 24 32.9 +0.6**
comp=Z,527nm,1.5s,mb6.0
EMOS Mosqueruela 39.52 295 P **P** **01 24 33.8 +1.2**
comp=Z,1μm,1.7s,mb6.3
EBEN Beniarda 39.54 292 P **P** **01 24 33.6 +0.9**
comp=Z,452nm,1.0s,mb6.2
GRR Gorron 39.59 307 *e*P **P** **01 24 31.6 -1.6**
comp=Z,689nm,1.1s,mb6.0
GRR Gorron 39.59 307 *e*P **P** **01 24 31.6 -1.6**
comp=Z,345nm,1.1s,mb6.0
GRR Gorron 39.59 307 *e*P **P** **01 24 31.6 -1.6**
GRR pmax pmax
comp=Z,345nm,1.1s,mb6.0
OJBR Djebel Berber 39.62 287 P **P** **01 24 37.0 +3.5**
LARF Larrau 39.68 299 *e*P **P** **01 24 33.3 -0.7**
TRO Tromso 39.72 344 *e*P **P** **01 24 32.3 -2.0**
TRO AMb AMB 01 24 45.2
comp=Z,308nm,1.7s,mb5.8
TRO *e*PP PP 01 26 06.0 +0.4
TRO *e*ScP ScP 01 30 27.9 -1.0
TRO AMS AMS 01 42 20.8
comp=Z,19μm,20.2s,MS5.9
TRO Tromso 39.72 344 *e*P **P** **01 24 32.3 -2.0**
comp=Z,308nm,1.7s,mb5.8,SNR=26
TRO *e*ScP ScP 01 30 28.0 -0.9
SNR=7.0
TRO Tromso 39.72 344 *e*P **P** **01 24 32.3 -2.0**
comp=Z,308nm,1.7s
TRO LR LR
comp=Z,19194μm,20.2s
SJPF Ste Jean 39.85 299 *e*P **P** **01 24 34.2 -1.2**
comp=Z,45nm,0.7s,mb5.0
SJPF Ste Jean 39.85 299 *e*P **P** **01 24 34.2 -1.2**
comp=Z,22nm,0.7s,mb5.0
SJPF Ste Jean 39.85 299 *e*P **P** **01 24 34.2 -1.2**
SJPF pmax pmax
comp=Z,23nm,0.7s,mb5.0
SKP1 Kophill 39.86 312 ⇑*e*P **P** **01 24 34.6 -0.8**
SKP1 Kophill 39.86 312 ⇑*e*P **P** **01 24 34.6 -0.8**
ECHE Chera 39.99 293 P **P** **01 24 37.9 +1.4**
comp=Z,220nm,0.7s,mb6.0
ECHE Chera 39.99 293 P **P** **01 24 37.9 +1.4**
ECHE pmax pmax
comp=Z,220nm,0.7s,mb6.0
LOF Lofoten 40.02 340 *e*P **P** **01 24 37.7 +1.0**
EALK Alkurruntz 40.05 299 P **P** **01 24 35.1 -1.9**
comp=Z,1μm,6.0s
ODJA Bouhanifia 40.07 287 P **P** **01 24 40.0 +2.8**
ELIZ Elizondo 40.07 299 P **P** **01 24 38.3 +1.1**
ELIZ Elizondo 40.07 299 P **P** **01 24 38.3 +1.1**
comp=Z,5.1nm,0.7s
USTO Oran 40.31 287 P **P** **01 24 43.0 +3.9**
CART Cartagena 40.32 290 *i*P **P** **01 24 40.3 +1.1**
CART *i*S **S** **01 30 46.2 -0.1**
CART Cartagena 40.32 290 *e*P **P** **01 24 38.5 -0.7**
comp=Z,59nm,0.8s,mb5.4
CART *e*PP PP 01 26 11.1 -0.9
CART *e*S **S** **01 30 49.1 +2.8**
JRS Jersey 40.45 308 *e*P **P** **01 24 39.3 -1.0**
JRS Jersey 40.45 308 *e*P **P** **01 24 39.3 -1.0**
SWN1 Swindon 40.45 312 ⇑*e*P **P** **01 24 39.9 -0.4**
SWN1 AMb AMB 01 24 44.4
comp=Z,434nm,1.6s,mb5.9
SWN1 Swindon 40.45 312 ⇑*e*P **P** **01 24 39.9 -0.4**
SWN1 AMb AMB 01 24 44.4
comp=Z,434nm,1.6s,mb5.9
JLP Les Platons 40.46 308 *e*P **P** **01 24 39.5 -0.9**
JLP Les Platons 40.46 308 *e*P **P** **01 24 39.5 -0.9**
EMUR La Murta 40.46 291 P **P** **01 24 40.1 -0.3**
comp=Z,315nm,1.4s,mb5.8
JSA Saint Aubin 40.50 308 *e*P **P** **01 24 39.7 -1.0**
JSA Saint Aubin 40.50 308 *e*P **P** **01 24 39.7 -1.0**
KBI1 Birley Grange 40.51 315 ⇑*e*P **P** **01 24 41.1 +0.4**
KBI1 Birley Grange 40.51 315 ⇑*e*P **P** **01 24 41.1 +0.4**
JVM Valle D.L. Mar 40.52 308 *e*P **P** **01 24 40.0 -1.0**
JVM Valle D.L. Mar 40.52 308 *e*P **P** **01 24 40.0 -1.0**
SSW Stow on the Wo 40.53 313 ⇑*e*P **P** **01 24 41.0 0.0**
SSW AMb AMB 01 24 47.8
comp=Z,602nm,1.9s,mb5.9
SSW Stow on the Wo 40.53 313 ⇑*e*P **P** **01 24 41.0 0.0**
SSW AMb AMB 01 24 47.8
comp=Z,602nm,1.9s,mb5.9

ETOB Tobarra 40.57 292 P **P 01 24 42.3 +0.9**
comp=Z,291nm,1.0s,mb5.9
KWE Weaver Farm 40.66 314⇑ *e*P **P 01 24 41.5 -0.5**
KWE Weaver Farm 40.66 314⇑ *e*P **P 01 24 41.5 -0.5**
SWK Warminster 40.69 311⇑ *e*P **P 01 24 42.2 -0.1**
SWK Warminster 40.69 311⇑ *e*P **P 01 24 42.2 -0.1**
LHO Holmfirth 40.74 315⇑ *e*P **P 01 24 43.2 +0.4**
LHO Holmfirth 40.74 315⇑ *e*P **P 01 24 43.2 +0.4**
ECRI Cripan 40.83 298 P **P 01 24 44.2 +0.7**
comp=Z,21nm,0.9s,mb4.8
ECRI Cripan 40.83 298 P **P 01 24 44.2 +0.7**
comp=Z,21nm,0.9s,mb4.8
ECRI Cripan 40.83 298 P **P 01 24 44.2 +0.7**
ECRI pmax pmax
comp=Z,21nm,0.9s,mb4.8
ODZI Dziouia 40.94 287 P **P 01 24 50.0 +5.6**
GTA Gaotai 40.98 67 ⇑P **P 01 24 45.5 +0.8**
GTA AP pP 01 24 49.8 +0.3
GTA XP sP 01 24 52.0 +0.6
GTA PP PP 01 26 26.0 +6.8
GTA PCP PcP 01 26 40.8 -3.9
GTA SCP ScP 01 30 32.5 -1.3
GTA S **S 01 31 00.0 +3.8**
GTA XS sS 01 31 10.0 +6.0
GTA SCS ScS 01 34 45.0 -4.0
GTA AMB AMB
comp=Z,49nm,0.8s,mb5.2
GTA AMB AMB
comp=Z,1μm,5.0s
GTA LR LR
comp=N,19μm,22.8s,MS6.0
GTA LR LR
comp=E,9μm,19.8s,MS6.0
GTA LR LR
comp=Z,14μm,22.9s,MS5.8
HGH Gray Hill 41.09 312⇑ *e*P **P 01 24 44.4 -1.2**
HGH AMb AMB 01 24 49.4
comp=Z,272nm,1.5s,mb5.7
HGH Gray Hill 41.09 312⇑ *e*P **P 01 24 44.4 -1.2**
HGH AMb AMB 01 24 49.4
comp=Z,272nm,1.5s,mb5.7
OLHC Oulhaca 41.10 287 P pP 01 24 55.0 +4.5
QUIF Quistinic 41.11 306 *e*P **P 01 24 43.9 -1.9**
comp=Z,298nm,0.8s,mb5.7
QUIF Quistinic 41.11 306 *e*P **P 01 24 43.9 -1.9**
comp=Z,149nm,0.8s,mb5.7
QUIF Quistinic 41.11 306 *e*P **P 01 24 43.9 -1.9**
QUIF pmax pmax
comp=Z,149nm,0.8s,mb5.7
ROSF Rostrenen 41.20 307 *e*P **P 01 24 44.8 -1.7**
comp=Z,339nm,1.0s,mb5.6
ROSF Rostrenen 41.20 307 *e*P **P 01 24 44.8 -1.7**
comp=Z,169nm,1.0s,mb5.6
ROSF Rostrenen 41.20 307 *e*P **P 01 24 44.8 -1.7**
ROSF pmax pmax
comp=Z,169nm,1.0s,mb5.6
HLM1 Long Mynd 41.23 313 *e*P **P 01 24 46.1 -0.6**
HLM1 AMb AMB 01 24 50.3
comp=Z,187nm,1.2s,mb5.6
HLM1 Long Mynd 41.23 313 *e*P **P 01 24 46.1 -0.6**
HLM1 AMb AMB 01 24 50.3
comp=Z,187nm,1.2s,mb5.6
MCH1 Michaelchurch 41.24 313⇑ *e*P **P 01 24 45.6 -1.2**
MCH1 Michaelchurch 41.24 313⇑ *e*P **P 01 24 45.6 -1.2**
SSP1 Stoney Pound 41.35 313 *e*P **P 01 24 47.0 -0.8**
SSP1 AMb AMB 01 24 51.4
comp=Z,252nm,1.6s,mb5.6
SSP1 Stoney Pound 41.35 313 *e*P **P 01 24 47.0 -0.8**
SSP1 AMb AMB 01 24 51.4
comp=Z,252nm,1.6s,mb5.6
ENIJ Nijar 41.37 290 P **P 01 24 47.9 0.0**
comp=Z,52nm,0.6s,mb5.3
ENIJ Nijar 41.37 290 P **P 01 24 47.9 0.0**
comp=Z,52nm,0.6s,mb5.3
ENIJ Nijar 41.37 290 P **P 01 24 47.9 0.0**
ENIJ pmax pmax
comp=Z,52nm,0.6s,mb5.3
HTR Trewern Hill 41.42 313⇑ *e*P **P 01 24 46.9 -1.4**
HTR AMb AMB 01 24 54.5
comp=Z,198nm,1.7s,mb5.5
HTR Trewern Hill 41.42 313⇑ *e*P **P 01 24 46.9 -1.4**
HTR AMb AMB 01 24 54.5
comp=Z,198nm,1.7s,mb5.5
ELAN Lanestosa 41.46 299 P **P 01 24 48.5 -0.1**
comp=Z,49nm,1.0s,mb5.1
MOY Mondy 41.46 48 *e*P **P 01 24 51.5 +2.8**
comp=Z,134nm,2.5s,mb5.1
MOY Mondy 41.46 48 *e*P **P 01 24 51.5 +2.8**
MOY pmax pmax
comp=Z,134nm,2.5s,mb5.1
SBD1 Bryn Du 41.50 314⇑ *e*P **P 01 24 48.9 -0.1**
SBD1 Bryn Du 41.50 314⇑ *e*P **P 01 24 48.9 -0.1**
EHUE Huescar 41.52 291 P **P 01 24 49.6 +0.5**
BDL Dobcross Hall 41.56 317 *e*P **P 01 24 49.7 +0.2**
BDL Dobcross Hall 41.56 317 *e*P **P 01 24 49.7 +0.2**
ESY Stoneypath 41.57 318⇑ *e*P **P 01 24 48.8 -0.8**
ESY AMb AMB 01 24 53.2
comp=Z,352nm,1.2s,mb5.9
ESY Stoneypath 41.57 318⇑ *e*P **P 01 24 48.8 -0.8**
ESY AMb AMB 01 24 53.2
comp=Z,352nm,1.2s,mb5.9
CKE Keswick 41.63 316⇑ *e*P **P 01 24 49.9 -0.2**
CKE Keswick 41.63 316⇑ *e*P **P 01 24 49.9 -0.2**
HEX Exmoor 41.66 311 *e*P **P 01 24 49.7 -0.6**
HEX Exmoor 41.66 311 *e*P **P 01 24 49.7 -0.6**
DYA Yadsworthy 41.71 310 *e*P **P 01 24 49.5 -1.1**
DYA Yadsworthy 41.71 310 *e*P **P 01 24 49.5 -1.1**
BHH Howats Hill 41.77 317 *e*P **P 01 24 50.7 -0.5**
BHH Howats Hill 41.77 317 *e*P **P 01 24 50.7 -0.5**
EBL Broad Law 41.78 318⇑ *e*P **P 01 24 50.6 -0.7**
EBL AMb AMB 01 24 58.1
comp=Z,453nm,1.3s,mb5.9
EBL Broad Law 41.78 318⇑ *e*P **P 01 24 50.6 -0.7**
EBL AMb AMB 01 24 58.1
comp=Z,453nm,1.3s,mb5.9
ESK Eskdalemuir 41.80 317 P **P 01 24 51.4 0.0**
comp=Z,494nm,1.0s,mb6.1,SNR=6.8
ESK Eskdalemuir 41.80 317 *e*P **P 01 24 50.3 -1.1**
ESK Eskdalemuir 41.80 317 *e*P **P 01 24 50.3 -1.1**
ESK Eskdalemuir 41.80 317 P **P 01 24 50.6 -0.8**
comp=Z,31μm,21.0s
ESK Eskdalemuir 41.80 317 P **P 01 24 50.6 -0.8**
comp=Z,86nm,1.0s,mb5.3
ESK LR LR
comp=Z,31μm,21.0s,MS6.2
ESK Eskdalemuir 41.80 317 P **P 01 24 50.6 -0.8**
ESK pmax pmax
comp=Z,86nm,1.0s,mb5.3
ESK MLR MLR
comp=Z,31μm,21.0s,MS6.2
LRW Lerwick 41.81 325 *e*P **P 01 24 50.6 -0.9**
LRW Lerwick 41.81 325 *e*P **P 01 24 50.6 -0.9**
XDE Dent Fell 41.84 316 *e*P **P 01 24 51.8 +0.1**
XDE Dent Fell 41.84 316 *e*P **P 01 24 51.8 +0.1**
EDI Edinburgh 41.89 318 *e*P **P 01 24 52.3 +0.2**
EDI AMb AMB 01 24 59.1
comp=Z,312nm,1.5s,mb5.7
EDI Edinburgh 41.89 318 *e*P **P 01 24 52.3 +0.2**
EDI AMb AMB 01 24 59.1
comp=Z,312nm,1.5s,mb5.7
EQES Quesada 41.90 291 P **P 01 24 52.2 0.0**
comp=Z,569nm,1.1s,mb6.1
EBER Berja 41.92 290 P **P 01 24 52.8 +0.4**
comp=Z,342nm,1.0s,mb5.9
EAU Auchinoon 42.02 318 *e*P **P 01 24 52.8 -0.4**
EAU AMb AMB 01 25 00.0
comp=Z,235nm,2.0s,mb5.5
EAU Auchinoon 42.02 318 *e*P **P 01 24 52.8 -0.4**
EAU AMb AMB 01 25 00.0
comp=Z,235nm,2.0s,mb5.5
MME1 Meikle Cairn 42.03 320⇑ *e*P **P 01 24 52.4 -0.9**
MME1 AMb AMB 01 25 00.4
comp=Z,244nm,2.1s,mb5.5
MME1 Meikle Cairn 42.03 320⇑ *e*P **P 01 24 52.4 -0.9**
MME1 AMb AMB 01 25 00.4
comp=Z,244nm,2.1s,mb5.5
BWH Wardlaw 42.03 317 *e*P **P 01 24 52.6 -0.7**
BWH Wardlaw 42.03 317 *e*P **P 01 24 52.6 -0.7**
WAL1 Walls 42.06 325 *e*P **P 01 24 52.6 -0.9**
WAL1 Walls 42.06 325 *e*P **P 01 24 52.6 -0.9**
YRE Yr Eifl 42.21 314 *e*P **P 01 24 54.1 -0.7**
YRE Yr Eifl 42.21 314 *e*P **P 01 24 54.1 -0.7**
WLF1 Llynfaes 42.22 314 *e*P **P 01 24 54.3 -0.6**
WLF1 Llynfaes 42.22 314 *e*P **P 01 24 54.3 -0.6**

MCD Coleburn Disti 42.24 321⇑ *e*P **P 01 24 54.1 -0.8**
MCD AMb AMB 01 25 00.9
comp=Z,229nm,1.0s,mb5.8
MCD Coleburn Disti 42.24 321⇑ *e*P **P 01 24 54.1 -0.8**
MCD AMb AMB 01 25 00.9
comp=Z,229nm,1.0s,mb5.8
ESDC Sonseca Array 42.27 294 P **P 01 24 55.1 -0.2**
comp=Z,52nm,0.9s,mb5.2,baz=66,slow=7.4,SNR=58
ESDC PcP PcP 01 26 48.9 -0.1
comp=Z,7.7nm,0.7s,baz=75,slow=5.6,SNR=2.5
ESDC ScP ScP 01 30 38.2 -0.7
comp=Z,11nm,0.8s,baz=51,slow=4.1,SNR=12
ESDC Sonseca Array 42.27 294 P **P 01 24 55.1 -0.1**
comp=Z,54nm,1.0s,mb5.1
ESLA Sonseca Array 42.27 294 P **P 01 24 55.2 -0.1**
ESLA LR LR
comp=Z,100μm,20.0s,MS6.7
GUD Guadarrama 42.27 295 P **P 01 24 55.2 -0.1**
comp=Z,125nm,1.1s,mb5.5
GUD Guadarrama 42.27 295 P **P 01 24 55.2 -0.1**
comp=Z,125nm,1.1s,mb5.5
GUD Guadarrama 42.27 295 P **P 01 24 55.2 -0.1**
GUD pmax pmax
comp=Z,125nm,1.1s,mb5.5
MELI Melilla 42.30 287 *i* P **P 01 24 55.7 +0.2**
CSA1 St Austell 42.32 310⇑ *e*P **P 01 24 54.8 -0.8**
CSA1 St Austell 42.32 310⇑ *e*P **P 01 24 54.8 -0.8**
WCB1 Church Bay 42.32 314 *e*P **P 01 24 54.9 -0.7**
WCB1 AMb AMB 01 24 59.5
comp=Z,310nm,1.2s,mb5.8
WCB1 Church Bay 42.32 314 *e*P **P 01 24 54.9 -0.7**
WCB1 AMb AMB 01 24 59.5
comp=Z,310nm,1.2s,mb5.8
YRC Rhoscolyn 42.32 314 *e*P **P 01 24 54.8 -0.9**
YRC AMb AMB 01 25 00.1
comp=Z,215nm,1.3s,mb5.6
YRC Rhoscolyn 42.32 314 *e*P **P 01 24 54.8 -0.9**
YRC AMb AMB 01 25 00.1
comp=Z,215nm,1.3s,mb5.6
ECOG Cogollos-Vega 42.38 290 P **P 01 24 56.2 0.0**
comp=Z,136nm,0.8s,mb5.6
ECOG Cogollos-Vega 42.38 290 P **P 01 24 56.2 0.0**
comp=Z,136nm,0.8s,mb5.6
ECOG Cogollos-Vega 42.38 290 P **P 01 24 56.2 0.0**
ECOG pmax pmax
comp=Z,136nm,0.8s,mb5.6
EGUA Guajares 42.47 290 P **P 01 24 57.4 +0.5**
comp=Z,12nm,0.8s,mb4.6
EGUA Guajares 42.47 290 P **P 01 24 57.4 +0.5**
comp=Z,12nm,0.8s,mb4.6
EGUA Guajares 42.47 290 P **P 01 24 57.4 +0.5**
EGUA pmax pmax
comp=Z,12nm,0.8s,mb4.6
WIM Isle of Man 42.48 316 *e*P **P 01 24 57.2 +0.3**
WIM AMb AMB 01 25 04.7
comp=Z,238nm,1.4s,mb5.6
WIM Isle of Man 42.48 316 *e*P **P 01 24 57.2 +0.3**
WIM AMb AMB 01 25 04.7
comp=Z,238nm,1.4s,mb5.6
CGH1 Goonhilly 42.48 309 *e*P **P 01 24 57.0 0.0**
CGH1 Goonhilly 42.48 309 *e*P **P 01 24 57.0 0.0**
CCA1 Carnmenellis 42.53 310 *e*P **P 01 24 56.7 -0.6**
CCA1 Carnmenellis 42.53 310 *e*P **P 01 24 56.7 -0.6**
EAB Aberfoyle 42.57 319 *e*P **P 01 24 56.6 -1.1**
EAB AMb AMB 01 25 03.4
comp=Z,213nm,0.9s,mb5.9
EAB Aberfoyle 42.57 319 *e*P **P 01 24 56.6 -1.1**
EAB AMb AMB 01 25 03.4
comp=Z,213nm,0.9s,mb5.9
PAB San Pablo 42.58 294 P **P 01 24 57.8 0.0**
ERON Agron 42.62 290 P **P 01 24 58.1 0.0**
comp=Z,67nm,0.8s,mb5.4
EARI Arriondas 42.74 300 P **P 01 24 59.0 -0.1**
comp=Z,68nm,0.7s,mb5.5
MVH1 Achvaich 42.79 321 *e*P **P 01 24 58.7 -0.9**
MVH1 Achvaich 42.79 321 *e*P **P 01 24 58.7 -0.9**
ZAK Zakamensk 42.83 50 *e*P **P 01 24 59.9 +0.1**
comp=Z,94nm,1.8s,mb5.2
ZAK Zakamensk 42.83 50 *e*P **P 01 24 59.9 +0.1**
ZAK *e* 01 34 33.3
ZAK pmax pmax
comp=Z,94nm,1.8s,mb5.2
ELOJ Sierra Loja 42.87 290 P **P 01 24 59.7 -0.4**
comp=Z,49nm,0.8s,mb5.3
ELOJ Sierra Loja 42.87 290 P **P 01 24 59.7 -0.4**
comp=Z,49nm,0.8s,mb5.3
ELOJ Sierra Loja 42.87 290 P **P 01 24 59.7 -0.4**
ELOJ pmax pmax
comp=Z,49nm,0.8s,mb5.3
ELUQ Luque 42.87 291 P **P 01 24 59.7 -0.5**
comp=Z,40nm,0.6s,mb5.3
ELUQ Luque 42.87 291 P **P 01 24 59.7 -0.4**
comp=Z,40nm,0.6s,mb5.3
ELUQ Luque 42.87 291 P **P 01 24 59.7 -0.5**
ELUQ pmax pmax
comp=Z,40nm,0.6s,mb5.3
EADA Adamuz 43.00 292 P **P 01 25 01.3 +0.1**
comp=Z,2μm,3.5s
TLY Talaya 43.11 48 *i* P **P 01 25 02.8 +0.7**
TLY Talaya 43.11 48 ⇑*i*P **P 01 25 02.9 +0.8**
TLY Talaya 43.11 48*c* *i*P **P 01 25 02.8 +0.7**
MAL Malaga 43.16 290 *i* P **P 01 25 01.2 -1.3**
MAL *i* S **S 01 31 28.4 +0.1**
KAC Achnashellach 43.30 320⇑ *e*P **P 01 25 02.5 -1.1**
KAC Achnashellach 43.30 320⇑ *e*P **P 01 25 02.5 -1.1**
KSB Sheil Bridge 43.32 320 *e*P **P 01 25 03.8 -0.1**
KSB Sheil Bridge 43.32 320 *e*P **P 01 25 03.8 -0.1**
RSC Scourie 43.38 322⇑ *e*P **P 01 25 04.2 -0.1**
RSC AMb AMB 01 25 08.4
comp=Z,221nm,2.1s,mb5.5
RSC Scourie 43.38 322⇑ *e*P **P 01 25 04.2 -0.1**
RSC AMb AMB 01 25 08.4
comp=Z,221nm,2.1s,mb5.5
DSB Dublin 43.40 314 *e*P **P 01 25 03.6 -0.8**
comp=Z,87nm,0.8s,mb5.5
REB Eisgbhrachaidh 43.40 321⇑ *e*P **P 01 25 04.3 -0.1**
REB AMb AMB 01 25 07.8
comp=Z,192nm,1.0s,mb5.8
REB Eisgbhrachaidh 43.40 321⇑ *e*P **P 01 25 04.3 -0.1**
REB AMb AMB 01 25 07.8
comp=Z,192nm,1.0s,mb5.8
KPL Plockton 43.47 320⇑ *e*P **P 01 25 03.9 -1.0**
KPL Plockton 43.47 320⇑ *e*P **P 01 25 03.9 -1.0**
EMIJ Mijas 43.47 290 P **P 01 25 03.6 -1.4**
comp=Z,522nm,1.7s,mb6.0
KAR1 Arisaig 43.50 319⇑ *e*P **P 01 25 04.2 -1.0**
KAR1 Arisaig 43.50 319⇑ *e*P **P 01 25 04.2 -1.0**
DLF Lyons Farm 43.50 314 *e*P **P 01 25 05.1 -0.1**
BJO Bjornoya 43.50 349 *e*P **P 01 25 06.4 +1.2**
BJO *e*S **S 01 31 34.7 +1.4**
BJO *e*SS SS 01 34 51.1 +3.2
BJO AMS AMS 01 48 02.6
comp=Z,10μm,18.8s,MS5.8
BJO Bjornoya 43.50 349 *e*P **P 01 25 06.4 +1.2**
SNR=25
BJO *e*S **S 01 31 34.7 +1.4**
SNR=26
BJO *e*SS SS 01 34 51.1 +3.3
SNR=36
IRK Irkutsk 43.52 47 *e*P **P 01 25 07.1 +1.7**
comp=Z,133nm,2.8s,mb5.2
IRK *e*S **S 01 31 33.4 -0.3**
IRK Irkutsk 43.52 47 *e*P **P 01 25 07.1 +1.7**
IRK *e*S **S 01 31 33.4 -0.3**
IRK *e* 01 34 47.1
IRK pmax pmax
comp=Z,133nm,2.8s,mb5.2
BJO1 Bjornoya 43.53 349 *e*P **P 01 25 06.4 +1.0**
BJO1 LR LR
comp=Z,10160μm,18.8s
RRR Rubha Reidh 43.63 321⇑ *e*P **P 01 25 05.1 -1.2**
RRR AMb AMB 01 25 09.7
comp=Z,146nm,1.2s,mb5.6
RRR Rubha Reidh 43.63 321⇑ *e*P **P 01 25 05.1 -1.2**
RRR AMb AMB 01 25 09.7
comp=Z,146nm,1.2s,mb5.6
REAL Reales 43.83 290 *e*P **P 01 25 07.2 -0.7**
LIJA Lijar 43.90 290 *e*P **P 01 25 07.0 -1.4**
DCN Croghan 43.95 314 *e*P **P 01 25 08.8 0.0**
ECAL Calabor 44.02 298 P **P 01 25 10.7 +1.3**
comp=Z,225nm,1.1s,mb5.8
PBRG Braganca 44.04 298 *e*P **P 01 25 09.4 -0.2**
comp=Z,210nm,1.1s,mb5.8
EJIF Jimena Fronter 44.05 290 P **P 01 25 08.6 -1.0**
comp=Z,26nm,0.6s,mb5.1

EJIF Jimena Fronter 44.05 290 P **P 01 25 08.6 -1.0**
comp=Z,26nm,0.6s,mb5.1
EJIF Jimena Fronter 44.05 290 P **P 01 25 08.6 -1.0**
EJIF pmax pmax
comp=Z,26nm,0.6s,mb5.1
KSK Scoval 44.05 320 *e*P **P 01 25 09.5 -0.1**
KSK Scoval 44.05 320 *e*P **P 01 25 09.5 -0.1**
RRH Rhenigidale 44.11 321 *e*P **P 01 25 10.1 -0.1**
RRH Rhenigidale 44.11 321 *e*P **P 01 25 10.1 -0.1**
EPON Pontenova 44.15 300 P **P 01 25 09.7 -0.8**
comp=Z,1μm,3.4s
ESPR Espera 44.26 290 P **P 01 25 10.3 -1.0**
comp=Z,452nm,1.7s,mb5.9
ERUA La Rua 44.26 298 P **P 01 25 12.4 +1.1**
comp=Z,48nm,0.8s,mb5.3
ERUA La Rua 44.26 298 P **P 01 25 12.4 +1.1**
comp=Z,48nm,0.8s,mb5.3
ERUA La Rua 44.26 298 P **P 01 25 12.4 +1.1**
ERUA pmax pmax
comp=Z,48nm,0.8s,mb5.3
MDT Midelt 44.28 284 P **P 01 25 12.4 +0.9**
comp=Z,39nm,0.8s,mb5.2,baz=84,slow=10,SNR=53
MDT LR LR 01 46 55.9
comp=Z,4μm,21.9s,MS5.3,baz=68,slow=40
ZFT Errachidia 44.29 283 *i* P **P 01 25 13.0 +1.4**
CNIL Conil 44.52 290 *e*P **P 01 25 13.0 -0.5**
SCRT Cerro San Cris 44.56 290 *e*P **P 01 25 15.0 +1.3**
MIF Mishlifen 44.61 285 *i* P **P 01 25 15.0 +0.9**
SFS San Fernando 44.62 290 *i* P **P 01 25 12.8 -1.4**
SFS San Fernando 44.62 290 P **P 01 25 14.2 0.0**
comp=Z,229nm,0.7s,mb6.1
SFS San Fernando 44.62 290 P **P 01 25 14.2 0.0**
SFS pmax pmax
comp=Z,229nm,0.7s,mb6.1
TSY Tnine Yamani 44.69 288 *i* P **P 01 25 15.5 +0.7**
EMIN Mina Concepcio 44.70 292 P **P 01 25 14.7 -0.2**
comp=Z,1μm,3.1s
LZH Lanzhou 44.75 71 *e*P **P 01 25 16.0 +0.8**
LZH AP pP 01 25 19.0 -1.1
LZH PP PP 01 27 01.3 +1.6
LZH S **S 01 31 55.0 +3.5**
LZH XS sS 01 32 01.0 +1.5
LZH SS SS 01 34 59.5 -13
LZH AMB AMB
comp=Z,280nm,1.6s,mb5.8
LZH AMB AMB
comp=Z,815nm,4.8s
LZH LR LR
comp=N,16μm,14.9s
LZH LR LR
comp=Z,21μm,16.1s,MS6.2
EBAD Badajoz 44.76 293 P **P 01 25 14.6 -0.8**
comp=Z,123nm,1.2s,mb5.6
PVRL Vila Real 44.85 297 *e*P **P 01 25 16.0 0.0**
comp=Z,350nm,1.1s,mb6.1
MTE Manteigas 44.86 296 *e*P **P 01 25 16.4 +0.2**
comp=Z,378nm,1.1s,mb6.1
MTE *e*S **S 01 31 54.3 +1.1**
MTE *e*SS SS 01 35 23.2 +8.8
MTE *e*LR LR 01 37 44.0
comp=Z,16μm,18.0s
MTE Manteigas 44.86 296 *e*P **P 01 25 16.4 +0.2**
comp=Z,378nm,1.1s,mb6.1
MTE *e*S **S 01 31 54.3 +1.1**
MTE Manteigas 44.86 296 *e*P **P 01 25 16.4 +0.2**
comp=Z,210nm,0.9s,mb6.0
MTE *e*PP PP 01 27 01.5 +0.5
MTE *e*ScP ScP 01 30 50.7 +1.1
SONM Songino Array 44.91 54 P **P 01 25 17.4 +0.8**
comp=Z,8.7nm,0.7s,mb4.7,baz=279,slow=7.7,SNR=78
SONM ScP ScP 01 30 47.3 -2.4
comp=Z,5.2nm,1.0s,baz=242,slow=3.2,SNR=4.7
SONM LR LR 01 47 40.0
comp=Z,9μm,18.0s,MS5.8,baz=272,slow=41
PCBR Castelo Branco 44.91 295 *e*P **P 01 25 16.5 -0.1**
comp=Z,410nm,0.9s,mb6.3
PCAB Cabril 45.01 298 *e*P **P 01 25 17.5 +0.2**
comp=Z,139nm,1.1s,mb5.7
ELOB Lobios 45.01 298 P **P 01 25 18.0 +0.7**
comp=Z,260nm,1.1s,mb6.0
PVIS Viseu 45.07 296 *e*P **P 01 25 18.1 +0.3**
comp=Z,274nm,1.4s,mb5.9
STS Santiago 45.22 299 P **P 01 25 19.5 +0.5**
comp=Z,111nm,0.9s,mb5.7
STS Santiago 45.22 299 P **P 01 25 19.5 +0.4**
comp=Z,111nm,0.9s,mb5.7
STS Santiago 45.22 299 P **P 01 25 19.5 +0.5**
STS pmax pmax
comp=Z,111nm,0.9s,mb5.7
ULN Ulaanbaatar 45.35 54 *e*P **P 01 25 20.9 +0.9**
comp=Z,81nm,1.0s,mb5.5
ULN Ulaanbaatar 45.35 54 *e*P **P 01 25 20.9 +0.8**
comp=Z,81nm,1.0s,mb5.5
ULN *e*PP PP 01 27 05.3 -0.8
ULN LR LR
comp=Z,10μm,19.0s,MS5.8
ULN Ulaanbaatar 45.35 54 *e*P **P 01 25 20.9 +0.9**
ULN *e* 01 27 05.4
ULN pmax pmax
comp=Z,81nm,1.0s,mb5.5
ULN MLR MLR
comp=Z,10μm,19.0s,MS5.8
EGRO El Granado 45.38 292 P **P 01 25 19.3 -0.9**
comp=Z,709nm,2.5s,mb6.0
EZAM Zamans 45.44 298 P **P 01 25 21.6 +0.9**
comp=Z,74nm,0.8s,mb5.6
EZAM Zamans 45.44 298 P **P 01 25 21.6 +0.9**
EZAM pmax pmax
comp=Z,74nm,0.8s,mb5.6
EMAZ Mazaricos 45.52 299 P **P 01 25 22.1 +0.7**
comp=Z,348nm,1.1s,mb6.2
PTO Porto 45.53 297 *e*P **P 01 25 23.0 +1.5**
comp=Z,194nm,1.3s,mb5.9
PBEJ Beja 45.57 292 *e*P **P 01 25 21.9 +0.1**
comp=Z,293nm,0.8s,mb6.3
EVO Evora 45.58 293 *e*P **P 01 25 22.2 +0.4**
comp=Z,134nm,1.1s,mb5.5
EVO *e*R
comp=Z,27μm,22.0s
PTOM Tomar 45.66 295 *e*P **P 01 25 22.9 +0.4**
comp=Z,512nm,1.2s,mb6.3
VAL Valentia 45.72 312 *e*P **P 01 25 20.8 -2.1**
TZC Tazercounte 45.99 284 *i* P **P 01 25 25.0 -0.1**
HSP Hornsund 46.03 350 *e*P **P 01 25 25.7 +0.2**
HSP *e*S PP 01 27 12.4 -1.0
CD2 Chengdu 46.10 78 P **P 01 25 25.5 -0.5**
CD2 XP sP 01 25 31.5 -1.2
CD2 PP PP 01 27 13.3 -0.9
CD2 PPP 01 27 57.3
CD2 S **S 01 32 09.3 -1.8**
CD2 XS sS 01 32 20.0 +0.9
CD2 SS SS 01 35 26.3 -10
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,450nm,5.5s
CD2 LR LR
comp=N,8μm,17.2s
CD2 LR LR
comp=Z,11μm,22.0s,MS5.8
MORF Marmelete 46.34 292 *e*P **P 01 25 26.3 -1.6**
MORF *e*S **S 01 32 11.6 -2.8**
MORF *e*S **S 01 32 11.7 -2.8**
MORF AMS AMS 01 48 22.7
comp=N,10μm,25.6s
MORF Marmelete 46.34 292 *e*P **P 01 25 26.3 -1.5**
MORF *e*S **S 01 32 11.6 -2.9**
PTEO Sao Teotonio 46.34 292 *e*P **P 01 25 28.1 +0.3**
comp=N,316nm,1.2s,mb6.1
PLOU Loures 46.37 294 *e*P **P 01 25 28.7 +0.6**
comp=N,423nm,1.2s,mb6.2
LIS Lisbon 46.41 294 *e*P **P 01 25 26.4 -2.0**
LIS *e*S **S 01 32 12.8 -2.6**
LIS *e*S **S 01 32 12.8 -2.6**
LIS AMS AMS 01 47 38.7
comp=N,22μm,15.0s
LIS Lisbon 46.41 294 *e*P **P 01 25 26.4 -2.0**
LIS *e*S **S 01 32 12.8 -2.7**
DGAR Diego Garcia 46.54 147 P **P 01 25 28.9 -0.6**
comp=N,4μm,21.0s
DGAR Diego Garcia 46.54 147 P **P 01 25 28.9 -0.6**
DGAR MLR MLR
comp=Z,4μm,21.0s,MS5.3
CHRT Chiangrai 47.11 93 ⇑P **P 01 25 33.0 -0.9**
TORD Torodi Ar. Bea 47.31 256 P **P 01 25 35.7 +0.3**

comp=Z,93nm,1.0s,mb5.7,baz=65,slow=5.5,SNR=209
TORD ScP ScP 01 30 59.4 -0.3
comp=Z,9.0nm,0.9s,baz=49,slow=3.2,SNR=3.8
KMI Kunming 47.33 85 P P 01 25 35.3 -0.3
KMI AP pP 01 25 42.9 +2.5
KMI XP sP 01 25 47.4 +5.1
KMI PP PP 01 27 27.4 +0.7
KMI S **S 01 32 23.8 -4.8**
KMI XS sS 01 32 38.4 +1.9
KMI SCS ScS 01 35 28.6 -0.5
KMI AMB AMB
comp=Z,63nm,1.2s,mb5.4
KMI AMB AMB
comp=Z,795nm,5.0s
KMI LR LR
comp=N,10μm,18.8s,MS6.0
KMI LR LR
comp=E,10μm,18.8s,MS6.0
BDT Bhumibol Dam 47.72 97 P P 01 25 36.5 -2.1
KBS Kingsbay 47.99 351 *e*P **P 01 25 39.1 -1.6**
KBS AMb AMB 01 25 51.5
comp=Z,104nm,1.1s,mb5.8
KBS *e*PP PP 01 27 32.6 -0.2
KBS *e*S **S 01 32 33.8 -4.2**
KBS *e*SS SS 01 36 13.0 +6.2
KBS AMS AMS 01 48 30.1
comp=Z,11μm,17.1s,MS5.9
KBS Kingsbay 47.99 351 *e*P **P 01 25 39.1 -1.6**
comp=Z,104nm,1.1s,mb5.8,SNR=24
KBS Kingsbay 47.99 351 *e*PP PP 01 27 32.6 -0.1
SNR=28
KBS Kingsbay 47.99 351 *e*P **P 01 25 39.1 -1.6**
comp=Z,104nm,1.1s,mb5.8
KBS LR LR
comp=Z,10967μm,17.1s
KBS Kingsbay 47.99 351 P **P 01 25 40.1 -0.6**
KBS pmax pmax
comp=Z,100nm,1.3s,mb5.7
JMIC Jan Mayen 48.09 338 AMS AMS 01 47 24.9
comp=Z,10μm,18.2s,MS5.8
BTO Baotou 48.48 63 *e*P **P 01 25 44.5 0.0**
BTO PP PP 01 27 37.3 +0.1
BTO S **S 01 32 54.5 +10**
CIT Chita 49.24 48 *e*P **P 01 25 51.6 +1.2**
CIT *e*S **S 01 32 58.6 +2.9**
BOD Bodaibo 49.28 40 *e*P **P 01 25 49.6 -1.0**
XAN Xi'an 49.30 72 P **P 01 25 50.0 -0.8**
XAN S **S 01 32 58.5 +1.9**
XAN AMB AMB
comp=Z,821nm,7.4s
XAN LR LR
comp=N,16μm,30.0s,MS6.0
XAN LR LR
comp=E,14μm,30.0s,MS6.0
XAN LR LR
comp=Z,10μm,26.8s,MS5.7
NST Nakhon Sawan 49.45 98 P **P 01 25 50.2 -1.7**
HHC Hu-ho-hao-te 49.57 62 *e*P **P 01 25 54.0 +1.1**
HHC AP pP 01 25 58.5 +0.8
HHC XP sP 01 26 00.8 +1.2
HHC PCP PcP 01 27 15.0 +0.6
HHC PP PP 01 27 49.0 +1.8
HHC SCP ScP 01 31 09.0 -0.3
HHC PCS PcS 01 31 11.3 +0.2
HHC S **S 01 33 00.0 -0.3**
HHC XS sS 01 33 08.3 0.0
HHC SCS ScS 01 35 42.5 -1.6
HHC SS SS 01 36 29.0 -3.4
HHC AMB AMB
comp=Z,27nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,980nm,3.4s
HHC LR LR
comp=N,22μm,24.5s,MS6.1
HHC LR LR
comp=E,6μm,20.1s,MS6.1
HHC LR LR
comp=Z,7μm,25.0s,MS5.6
GYA Guiyang 50.06 82⇓ *i*P **P 01 25 55.3 -1.3**
GYA AP pP 01 26 01.5 +0.1
GYA XP sP 01 26 03.3 0.0
GYA PP PP 01 27 50.8 -0.8
GYA S **S 01 33 04.5 -2.6**
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,870nm,7.2s
GYA LR LR
comp=N,17μm,24.8s,MS6.0
GYA LR LR
comp=E,9μm,24.6s,MS6.0
GYA LR LR
comp=Z,13μm,25.1s,MS5.8
NNT Nongplab 50.74 102 P **P 01 26 02.0 +0.2**
ENH Enshi 50.98 76 *e*P **P 01 26 02.9 -0.6**
comp=Z,165nm,1.1s,mb5.9
ENH *e*S **S 01 33 26.1 +6.2**
ENH LR LR
comp=Z,8μm,21.0s,MS5.7
KKTK Khon Kaen 51.34 96 P sP 01 26 19.5 +6.5
BORG Borgarnes 51.75 329 P **P 01 26 12.8 +3.5**
comp=Z,34nm,0.9s,mb5.3,baz=91,slow=8.3,SNR=3.9
BORG Borgarnes 51.75 329 P **P 01 26 12.8 +3.5**
BORG LR LR
comp=Z,17μm,21.0s,MS6.0
OPO Ambohidratompo 51.88 182 P **P 01 26 11.7 +1.5**
comp=Z,65nm,1.0s,mb5.5,baz=4.8,slow=7.1,SNR=36
SCO Scoresbysund 52.34 336 *i* P **P 01 26 13.4 -0.3**
comp=Z,16nm,1.0s,mb4.9
SCO *i* S **S 01 33 48.1 +10**
SCO Scoresbysund 52.34 336 *i* P **P 01 26 13.4 -0.3**
SCO *i* S **S 01 33 48.1 +10**
SCO pmax pmax
comp=Z,16nm,1.0s,mb4.9
LSZ Lusaka 52.41 205 P **P 01 26 16.4 +2.1**
comp=Z,48nm,0.9s,mb5.5,baz=36,slow=6.0,SNR=34
LSZ LR LR 01 50 28.5
comp=Z,8μm,18.6s,MS5.8,baz=21,slow=38
LSZ Lusaka 52.41 205 P **P 01 26 15.7 +1.5**
comp=Z,9μm,22.0s
LSZ Lusaka 52.41 205 P **P 01 26 15.7 +1.5**
LSZ MLR MLR
comp=Z,9μm,22.0s,MS5.8
DAG Danmarks Havn 52.45 344⇓ *i*P **P 01 26 13.4 -1.1**
comp=Z,30nm,0.7s,mb5.3
DAG
comp=Z,20μm,22.0s
DAG Danmarks Havn 52.45 344⇓ *e*P **P 01 26 13.4 -1.1**
comp=Z,30nm,0.7s,mb5.3
DAG LR LR
comp=Z,20μm,22.0s,MS6.1
DAG Danmarks Havn 52.45 344⇓ *e*P **P 01 26 13.4 -1.1**
DAG pmax pmax
comp=Z,30nm,0.7s,mb5.3
DAG MLR MLR
comp=Z,20μm,22.0s,MS6.1
EFAM Famara 52.71 283 P **P 01 26 14.8 -1.6**
comp=Z,168nm,0.9s,mb6.0
BJI Beijing 53.18 62 P **P 01 26 21.0 +1.1**
BJI PCP PcP 01 27 28.3 +0.4
BJI SCP ScP 01 31 23.0 -1.9
BJI S **S 01 33 48.3 -1.8**
BJI AMB AMB
comp=Z,83nm,1.0s,mb5.6
BJI AMB AMB
comp=Z,853nm,7.2s
BJI LR LR
comp=N,73μm,21.1s,MS6.7
BJI LR LR
comp=E,25μm,21.1s,MS6.7
BJI LR LR
comp=Z,10μm,21.8s,MS5.8
BJT Baijiatuau 53.18 62 *e*P **P 01 26 20.5 +0.6**
comp=Z,87nm,0.9s,mb5.7
BJT Baijiatuau 53.18 62 *e*P **P 01 26 20.5 +0.6**
comp=Z,87nm,0.9s,mb5.7
BJT *e*PP PP 01 28 16.0 -4.0
BJT LR LR
comp=Z,13μm,19.0s,MS6.0
BJT Baijiatuau 53.18 62 *e*P **P 01 26 20.5 +0.6**
BJT *e* 01 28 16.0
BJT pmax pmax
comp=Z,87nm,0.9s
BJT MLR MLR
comp=Z,13μm,19.0s

CFTV Fuerteventura 53.43 283 P **P 01 26 23.4 +1.6**
comp=Z,36nm,0.8s,mb5.4
HIA Hailar 53.52 50 *e*P **P 01 26 23.4 +1.0**
comp=Z,72nm,0.9s,mb5.6
HIA Hailar 53.52 50 *e*P **P 01 26 23.4 +0.9**
comp=Z,72nm,0.9s,mb5.6
HIA *e* 01 26 35.4
HIA LR LR
comp=Z,19μm,20.0s,MS6.2
HIA Hailar 53.52 50 *e*P **P 01 26 23.4 +1.0**
HIA *e* 01 26 35.4
HIA pmax pmax
comp=Z,72nm,0.9s
HIA MLR MLR
comp=Z,19μm,20.0s
SNG Songkhla 54.53 107 P **P 01 26 32.0 +2.2**
WHN Wuhan 54.80 74⇓ P **P 01 26 32.0 +0.2**
WHN S **S 01 34 12.0 0.0**
WHN LR LR
comp=Z,16μm,26.0s,MS6.0
TIA Tai'an 55.03 67 *e*P **P 01 26 33.0 -0.4**
TIA *e*S **S 01 34 17.5 +2.4**
TIA LR LR
comp=N,21μm,17.0s,MS6.3
TIA LR LR
comp=E,8μm,19.0s,MS6.3
CLNS Chul'man 55.24 40 *e*P **P 01 26 34.5 -0.4**
comp=E,13nm,0.8s,mb5.0
CLNS Chul'man 55.24 40 *e*P **P 01 26 34.5 -0.4**
CLNS *e**PP pP 01 26 43.3 +3.5
CLNS *e* 01 27 36.6
CLNS *e* 01 28 34.3
CLNS *e*S **S 01 34 15.2 -2.7**
CLNS pmax pmax
comp=Z,19nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=Z,21nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,21nm,1.1s
CLNS pmax pmax
comp=E,19nm,0.8s
CLNS smax
comp=N,540nm,11.7s
CLNS smax
comp=E,722nm,11.7s
CLNS smax
comp=Z,613nm,12.1s
CLNS MLR MLR
comp=Z,8μm,14.0s,MS6.0
CLNS MLR MLR
comp=N,2μm,11.0s,MS6.0
CLNS MLR MLR
comp=E,7μm,13.0s,MS6.0
TIXI Tiksi 55.40 22⇑ *i*P **P 01 26 34.0 -2.1**
TIXI LR LR
comp=Z,13μm,19.0s,MS6.0
TIXI Tiksi 55.40 22 *e*P **P 01 26 33.3 -2.8**
TIXI *e* 01 28 36.2
TIXI *e*S **S 01 34 14.0 -6.1**
TIXI *e* 01 36 15.9
TIXI *e*SS SS 01 38 03.9 -0.8
TIXI pmax pmax
comp=Z,389nm,3.6s
TIXI pmax pmax
comp=Z,74nm,1.1s,mb5.6
TIXI pmax pmax
comp=N,16nm,1.0s
TIXI pmax pmax
comp=E,21nm,1.2s
TIXI smax
comp=N,2μm,10.6s
TIXI smax
comp=E,583nm,10.9s
TIXI MLR MLR
comp=Z,13μm,18.0s,MS6.0
TIXI MLR MLR
comp=N,8μm,17.0s,MS6.1
TIXI MLR MLR
comp=E,9μm,17.0s,MS6.1
PSI Prapat 55.86 112 P **P 01 26 39.5 +0.1**
comp=E,48nm,1.2s,mb5.4,baz=288,slow=8.0,SNR=10.0
PSI LR LR 01 54 05.0
comp=E,5μm,20.3s,MS5.5,baz=293,slow=40
QIZ Qiongzhong 55.89 89 P **P 01 26 40.0 +0.4**
QIZ XP sP 01 26 46.3 -0.1
QIZ S **S 01 34 28.5 +1.9**
QIZ SS SS 01 38 13.8 +1.4
QIZ AMB AMB
comp=Z,697nm,7.7s
QIZ LR LR
comp=N,8μm,22.7s,MS5.9
QIZ LR LR
comp=E,9μm,20.9s,MS5.9
QIZ LR LR
comp=Z,6μm,23.8s,MS5.6
QIZ Qiongzhong 55.89 89 *e*P **P 01 26 45.9 +6.3**
comp=Z,114nm,1.2s,mb5.8
QIZ LR LR
comp=Z,6μm,20.0s,MS5.7
EGOM La Gomera 56.07 284 P **P 01 26 43.6 +2.7**
comp=Z,178nm,1.6s,mb5.8
DBIC Dimbokro 56.29 254 P **P 01 26 42.6 +0.1**
comp=Z,37nm,0.8s,mb5.5,baz=33,slow=8.2,SNR=36
DBIC LR LR 01 54 14.0
comp=Z,15μm,18.7s,MS6.1,baz=30,slow=40
DBIC Dimbokro 56.29 254 P **P 01 26 42.8 +0.3**
comp=Z,70nm,1.0s,mb5.7
DBIC LR LR
comp=Z,17μm,19.0s,MS6.2
DBIC Dimbokro 56.29 254 P **P 01 26 42.6 +0.1**
DBIC pmax pmax
comp=Z,37nm,0.8s
DBIC MLR MLR
comp=Z,15μm,18.7s
EHIG Higuera 56.40 284 P **P 01 26 46.5 +3.3**
comp=Z,180nm,0.7s,mb6.2
IPM Ipoh 56.46 109 P **P 01 26 40.9 -2.8**
LIC Lamto 56.69 254 *e*P **P 01 26 45.0 -0.3**
comp=Z,176nm,0.9s,mb5.8
LIC *e*R
comp=Z,30μm,19.2s
LIC Lamto 56.69 254 *e*P **P 01 26 45.0 -0.3**
comp=Z,88nm,0.9s,mb5.8
LIC LR LR
comp=Z,15μm,19.3s,MS6.1
YAK Yakutsk 56.78 34 *e*P **P 01 26 47.4 +1.5**
comp=Z,18nm,1.2s,mb5.0
YAK Yakutsk 56.78 34 *e*PcP PcP 01 27 38.3 -3.4
comp=Z,18nm,1.5s
YAK *e*S **S 01 34 37.3 -1.1**
comp=Z,6.0nm,0.8s
YAK *e*ScS ScS 01 36 34.3 -0.4
comp=Z,4μm,12.0s
YAK Yakutsk 56.78 34 *e*P **P 01 26 46.1 +0.2**
comp=Z,47nm,0.6s,mb5.7
YAK LR LR
comp=Z,9μm,19.0s,MS5.9
YAK Yakutsk 56.78 34 *e*P **P 01 26 47.4 +1.5**
YAK *e**PP pP 01 26 58.5 +7.6
YAK *e* 01 27 38.3
YAK *e*S **S 01 34 37.3 -1.1**
YAK *e**SS sS 01 34 52.5 +6.0
YAK *e* 01 36 34.3
YAK *e*SS SS 01 38 21.2 -5.2
YAK pmax pmax
comp=Z,46nm,1.0s,mb5.5
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,36nm,1.4s
YAK smax
comp=N,18nm,1.5s
YAK smax
comp=Z,6.0nm,0.8s
YAK smax
comp=E,6.0nm,1.4s
YAK MLR MLR
comp=Z,4μm,12.0s,MS5.8
YAK MLR MLR
comp=N,3μm,14.0s
YAK MLR MLR
comp=E,5μm,20.0s
CHIE El Hierro 56.85 283 P **P 01 26 49.7 +3.3**

comp=E,41nm,0.8s,mb5.5
MATP Matopo 57.09 203 P **P 01 26 49.1 +1.0**
comp=E,214nm,1.1s,mb6.1,baz=18,slow=8.1,SNR=95
SUMG Summit 57.52 339 P **P 01 26 51.1 0.0**
DL2 Dalian 57.55 62 P **P 01 26 51.5 +0.1**
DL2 S **S 01 34 50.8 +2.3**
DL2 AMB AMB
comp=Z,120nm,0.9s,mb5.9
DL2 AMB AMB
comp=Z,310nm,4.8s
DL2 LR LR
comp=N,7μm,19.4s,MS5.8
DL2 LR LR
comp=E,2μm,19.9s,MS5.8
DL2 LR LR
comp=Z,4μm,17.7s,MS5.6
NJ2 Nanjing 57.82 71 *e*P **P 01 26 53.3 0.0**
NJ2 AP pP 01 26 57.8 -0.5
NJ2 XP sP 01 27 00.3 +0.2
NJ2 PP PP 01 29 03.0 +1.5
NJ2 S **S 01 34 48.0 -4.1**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,460nm,6.4s
NJ2 LR LR
comp=N,41μm,26.5s,MS6.5
NJ2 LR LR
comp=E,27μm,26.0s,MS6.5
NJ2 LR LR
comp=Z,4μm,35.8s
SNY Shenyang 58.03 58⇑ P **P 01 26 55.0 +0.3**
SNY AP pP 01 26 59.5 -0.2
SNY XP sP 01 27 02.8 +1.3
SNY S **S 01 34 51.8 -3.0**
SNY SS SS 01 38 52.0 +6.0
SNY AMB AMB
comp=Z,28nm,0.8s,mb5.3
SNY AMB AMB
comp=Z,942nm,6.4s
SNY LR LR
comp=N,15μm,21.8s,MS6.1
SNY LR LR
comp=E,5μm,22.4s,MS6.1
SNY LR LR
comp=Z,7μm,16.1s
CN2 Changchun 58.72 56⇑ P **P 01 27 00.0 +0.4**
CN2 *e*AP pP 01 27 04.5 0.0
CN2 *e*XP sP 01 27 07.0 +0.6
CN2 PCP PcP 01 27 48.3 -1.0
CN2 PCS PcS 01 31 50.3 -0.7
CN2 *e*S **S 01 35 00.5 -3.3**
CN2 SS SS 01 38 56.8 0.0
CN2 AMB AMB
comp=Z,70nm,0.7s,mb5.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,7μm,15.0s,MS6.1
CN2 LR LR
comp=E,8μm,15.0s,MS6.1
CN2 LR LR
comp=Z,14μm,17.0s,MS6.1
PDA Ponta Delgada 59.14 297 *e*LR LR 01 46 22.0
PDA *e* 01 48 17.0
ALE Alert 59.59 352 P **P 01 27 04.7 -0.9**
comp=Z,245nm,1.3s,mb6.1,SNR=8.0
KGM Kluang 59.77 110 P **P 01 27 07.1 +0.2**
ADH Angra Heroismo 59.98 299 *i* LR LR 01 46 00.0
SSE Sheshan 60.03 71 P **P 01 27 05.5 -3.1**
SSE AP pP 01 27 14.5 +0.9
SSE XP sP 01 27 18.3 +2.9
SSE PCP PcP 01 27 52.0 -2.5
SSE PP PP 01 29 19.0 -2.0
SSE S **S 01 35 15.0 -5.7**
SSE XS sS 01 35 30.0 +1.1
SSE SCS ScS 01 36 54.0 -4.6
SSE AMB AMB
comp=Z,47nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,145nm,4.5s
SSE LR LR
comp=N,1μm,24.5s,MS5.7
SSE LR LR
comp=E,7μm,24.4s,MS5.7
SSE LR LR
comp=Z,5μm,19.0s
TSUM Tsumeb 60.35 214 P **P 01 27 13.4 +2.6**
comp=Z,8.4nm,0.6s,mb4.9,baz=0.5,slow=7.1,SNR=9.5
TSUM Tsumeb 60.35 214 *e*P **P 01 27 11.7 +0.9**
comp=Z,20nm,0.9s,mb5.1
TSUM LR LR
comp=Z,8μm,22.0s,MS5.8
QZH Quanzhou 60.49 78 *i* PR **P 01 27 10.8 -1.0**
QZH S **S 01 35 25.0 -1.6**
QZH AMB AMB
comp=Z,1μm,8.1s
QZH LR LR
comp=N,20μm,20.0s,MS6.3
QZH LR LR
comp=E,19μm,24.0s,MS6.3
QZH LR LR
comp=Z,14μm,20.0s,MS6.1
KLR Kul'dur 61.13 48 *e*P **P 01 27 13.8 -2.3**
KLR *e*S **S 01 35 30.0 -4.8**
KLR *e* 01 37 00.0
KLR MLR MLR
comp=N,8μm,15.0s,MS6.1
KLR MLR MLR
comp=E,6μm,15.0s,MS6.1
MDJ Mudanjiang 61.27 54 P **P 01 27 16.5 -0.6**
MDJ XP sP 01 27 23.0 -0.9
MDJ PP PP 01 29 33.0 +1.0
MDJ SCP ScP 01 31 57.0 -3.5
MDJ S **S 01 35 35.0 -1.6**
MDJ PS 01 35 51.3
MDJ SS SS 01 39 38.3 +1.4
MDJ AMB AMB
comp=Z,25nm,1.0s,mb5.3
MDJ AMB AMB
comp=Z,226nm,4.4s
MDJ LR LR
comp=N,19μm,23.6s,MS6.2
MDJ LR LR
comp=E,7μm,21.8s,MS6.2
MDJ LR LR
comp=Z,9μm,19.9s,MS5.9
MDJ Mudanjiang 61.27 54 *e*P **P 01 27 17.8 +0.7**
comp=Z,21nm,0.9s,mb5.3
MDJ LR LR
comp=Z,9μm,21.0s,MS5.9
INCN Inchon 61.74 62 P **P 01 27 21.7 +1.4**
comp=Z,57nm,0.8s,mb5.8
INCN LR LR
comp=Z,8μm,20.0s,MS5.9
LBTB Lobatse 62.31 204 P **P 01 27 25.2 +1.1**
LBTB S **S 01 35 52.9 +3.1**
LBTB Lobatse 62.31 204 P **P 01 27 25.8 +1.6**
comp=Z,122nm,0.8s,mb6.1,baz=27,slow=6.4,SNR=89
LBTB Lobatse 62.31 204 *e*P **P 01 27 25.4 +1.3**
comp=Z,331nm,1.3s,mb6.3
LBTB LR LR
comp=Z,9μm,19.0s,MS6.0
LBTB Lobatse 62.31 204 *e*P **P 01 27 25.4 +1.3**
LBTB pmax pmax
comp=Z,331nm,1.3s,mb6.3
LBTB MLR MLR
comp=Z,9μm,19.0s,MS6.0
KS15 Wonju Array Si 62.67 62 P **P 01 27 27.6 +1.1**
TATO Taipei 62.83 77 *e*P **P 01 27 29.1 +1.5**
comp=Z,168nm,0.9s,mb6.2
TATO LR LR
comp=Z,5μm,20.0s,MS5.7
YHNB Yeheng 62.88 77 *e*P **P 01 27 29.2 +1.3**
SFJD Kangerlussuaq 63.09 334 P **P 01 27 28.4 -1.0**
comp=Z,23nm,0.6s,mb5.5,baz=5.5,slow=5.6,SNR=11
SFJD Kangerlussuaq 63.09 334⇑ *i*P **P 01 27 28.2 -1.1**
comp=Z,47nm,1.0s,mb5.6
SFJD *i* S **S 01 35 54.1 -5.5**
SFJD
comp=Z,13μm,20.0s
SFJD Kangerlussuaq 63.09 334⇑ *i*P **P 01 27 28.2 -1.1**
SFJD *i* S **S 01 35 54.1 -5.5**
SFJD pmax pmax
comp=Z,47nm,1.0s,mb5.6

SFJD MLR MLR
comp=Z,13μm,20.0s,MS6.1
VLA Vladivostok 63.36 54 *i* P **P 01 27 30.3 -0.8**
comp=Z,124nm,1.0s,mb6.0
VLA Vladivostok 63.36 54 *e*PcP PcP 01 28 07.7 -0.3
VLA Vladivostok 63.36 54 *e*P **P 01 27 30.4 -0.7**
VLA Vladivostok 63.36 54 *i* P **P 01 27 30.3 -0.8**
VLA *i* *PP pP 01 27 34.5 -1.5
VLA *e* 01 28 07.7
VLA *e*S **S 01 35 59.6 -3.3**
VLA pmax pmax
comp=Z,124nm,1.0s,mb6.0
HABR Khabarovsk 63.44 48 *e*P **P 01 27 33.1 +1.5**
comp=Z,5μm,15.8s
HABR *e*S **S 01 36 06.6 +2.7**
HABR Khabarovsk 63.44 48 *e*P **P 01 27 33.1 +1.5**
HABR *e*S **S 01 36 06.6 +2.7**
HABR pmax pmax
comp=Z,118nm,1.2s,mb5.9
HABR pmax pmax
comp=Z,780nm,5.3s
HABR MLR MLR
comp=Z,5μm,15.8s,MS5.8
COCO West Island 64.52 126 *e*P **P 01 27 41.0 +2.3**
comp=Z,288nm,1.3s,mb6.2
COCO LR LR
comp=Z,4μm,20.0s,MS5.5
SEY Seymchan 66.43 29 *e*P **P 01 27 51.5 +0.4**
comp=Z,20nm,0.6s,mb5.3
SEY Seymchan 66.43 29 PcP PcP 01 28 18.6 -2.1
SEY Seymchan 66.43 29 *e*P **P 01 27 51.5 +0.4**
SEY 01 28 18.6
SEY 01 30 18.0
SEY PPP 01 31 53.4
SEY *e*S S 01 36 44.6 +3.8
SEY *e*PS 01 37 14.1
SEY 01 37 39.8
SEY SS SS 01 41 01.6 +4.2
SEY SSS 01 43 51.3
SEY pmax pmax
comp=E,79nm,0.8s
SEY pmax pmax
comp=Z,116nm,0.8s,mb6.0
SEY pmax pmax
comp=N,20nm,0.6s
SEY smax
comp=N,820nm,6.1s
SEY smax
comp=E,2μm,13.0s
SEY MLR MLR
comp=Z,10μm,17.0s,MS6.1
SEY MLR MLR
comp=N,21μm,18.0s
JNU Nakatsue 66.68 65 P **P 01 27 53.3 +0.6**
comp=N,47nm,0.9s,mb5.5,baz=261,slow=9.9,SNR=9.6
MA2 Magadan 67.31 33 *i* P **P 01 27 56.3 -0.4**
comp=N,30nm,0.9s,mb5.3
MA2 Magadan 67.31 33 *e*P **P 01 27 56.5 -0.2**
comp=N,94nm,0.9s,mb5.8
MA2 *e*PP PP 01 30 21.9 -3.1
MA2 Magadan 67.31 33 *i* P **P 01 27 56.3 -0.4**
MA2 *e* 01 30 20.6
MA2 *e*S S 01 36 48.9 -2.4
MA2 *e*PS 01 37 10.9
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.3
MA2 MLR MLR
comp=Z,27μm,23.5s,MS6.4
JOW Kunigami 67.46 72 P **P 01 27 57.5 -0.2**
comp=Z,79nm,1.0s,mb5.7,baz=299,slow=8.5,SNR=19
KKM Kota Kinabalu 67.89 98 P **P 01 28 00.2 -0.2**
BILL Bilibino 68.58 21 *i* P **P 01 28 04.0 -0.7**
comp=Z,161nm,1.6s,mb5.7
BILL Bilibino 68.58 21 *e*PcP PcP 01 28 25.6 -4.1
BILL *e*S S 01 37 06.0 -0.5
BILL Bilibino 68.58 21 *e*P **P 01 28 03.9 -0.8**
comp=Z,146nm,1.1s,mb5.8
BILL LR LR
comp=Z,8μm,20.0s,MS6.0
BILL Bilibino 68.58 21 *c i*P **P 01 28 04.0 -0.7**
BILL *e* 01 28 25.6
BILL *e*S S 01 37 06.0 -0.5
BILL *e*SS SS 01 41 31.1 +0.4
BILL pmax pmax
comp=Z,161nm,1.6s,mb5.7
BILL MLR MLR
comp=Z,6μm,18.0s,MS5.9
YSS Yuzh-Sakhalins 68.80 47 *e*P **P 01 28 06.8 +0.8**
comp=Z,147nm,1.0s,mb5.9
YSS LR LR
comp=Z,8μm,20.0s,MS6.0
YSS Yuzh-Sakhalins 68.80 47⇑ *i*P **P 01 28 08.0 +1.9**
YSS *i* *SP sP 01 28 12.0 -0.9
YSS *e* 01 28 34.0
YSS *e*S S 01 37 03.0 -6.2
YSS *e*PPS 01 37 36.0
YSS *e* 01 37 51.0
YSS pmax pmax
comp=E,50nm,0.9s
YSS pmax pmax
comp=Z,140nm,0.9s,mb5.9
YSS smax
comp=N,3μm,7.0s
YSS smax
comp=E,1μm,7.0s
YSS MLR MLR
comp=E,6μm,19.0s,MS5.9
YSS MLR MLR
comp=Z,6μm,19.0s,MS5.9
YSS MLR MLR
comp=N,3μm,21.0s,MS5.9
RES Resolute Bay 69.39 350 P **P 01 28 09.0 -0.7**
ASAJ Asahikawa 70.00 50 P **P 01 28 13.1 -0.4**
comp=N,34nm,0.7s,mb5.4,baz=300,slow=7.1,SNR=5.5
ASAJ Asahikawa 70.00 50 P **P 01 28 13.1 -0.4**
ASAJ pmax pmax
comp=Z,35nm,0.7s
TSM Tawau 70.23 98 P **P 01 28 21.7 +6.8**
MAJO Matsushiro 70.53 59 *e*P **P 01 28 17.3 +0.6**
comp=Z,4μm,20.0s
MAJO Matsushiro 70.53 59 *e*P **P 01 28 17.2 +0.5**
comp=Z,72nm,1.0s,mb5.6
MAJO LR LR
comp=Z,4μm,20.0s,MS5.7
MAJO Matsushiro 70.53 59 *e*P **P 01 28 17.3 +0.6**
MAJO pmax pmax
comp=Z,72nm,1.0s,mb5.6
MAJO MLR MLR
comp=Z,4μm,20.0s,MS5.7
MAT Matsushiro 70.53 59 P **P 01 28 16.5 -0.2**
MAT S S 01 37 33.0 +3.5
MAT Matsushiro 70.53 59 *e*P **P 01 28 17.0 +0.3**
comp=Z,50nm,1.0s,mb5.4
MAT *e*S S 01 37 33.0 +3.5
MAT LR LR
comp=Z,4μm,20.0s,MS5.6
MAT Matsushiro 70.53 59 *e*P **P 01 28 17.0 +0.3**
MAT *e*S S 01 37 33.0 +3.5
MAT pmax pmax
comp=Z,50nm,1.0s,mb5.4
MAT MLR MLR
comp=Z,4μm,20.0s,MS5.6
MJAR Matsushiro Arr 70.53 59 P **P 01 28 17.5 +0.7**
comp=Z,24nm,1.0s,mb5.1,baz=300,slow=10.0,SNR=29
MJAR LR LR 02 01 50.0
comp=Z,3μm,21.1s,MS5.6,baz=300,slow=38
SUR Sutherland 70.71 205 P **P 01 28 20.1 +2.3**
comp=Z,331nm,1.1s,mb6.2,SNR=8.8
SUR Sutherland 70.71 205 P **P 01 28 20.3 +2.5**
comp=Z,24nm,0.9s,mb5.1,baz=25,slow=6.2,SNR=15
SUR Sutherland 70.71 205 *e*P **P 01 28 19.3 +1.5**
comp=Z,89nm,1.1s,mb5.6
SUR *e*PcP PcP 01 28 37.2 -1.4
SUR LR LR
comp=Z,8μm,19.0s,MS6.0
FRB Frobisher Bay 71.18 335 P **P 01 28 19.3 -1.3**
comp=Z,52nm,0.7s,mb5.6,baz=52,slow=6.2,SNR=115
SHEL Horse Pasture 71.61 236 PFAKE 01 28 40.0 +17
SHEL LR LR
comp=Z,7μm,20.0s,MS5.9
ASCN Ascension 72.67 248 PFAKE 01 28 40.0 +10
ASCN LR LR
comp=Z,5μm,20.0s,MS5.8
PET Petropavlovsk 74.49 36 *e*P **P 01 28 41.3 +1.0**
PET LR LR
comp=Z,4μm,19.0s,MS5.8
PET Petropavlovsk 74.49 36 *e*P pP 01 28 48.4 +3.1
PET *e*PPS 01 38 44.3
PET pmax pmax
comp=Z,30nm,1.3s,mb5.1
DAV Davao City (W) 75.12 91 PFAKE 01 29 00.0 +16
DAV LR LR
comp=Z,3μm,20.0s,MS5.5
SCHQ Schefferville 76.11 327 P **P 01 28 49.1 -0.5**
comp=Z,23nm,0.7s,mb5.2,baz=54,slow=6.8,SNR=29
SCHQ LR LR 02 04 49.8
comp=Z,6μm,19.3s,MS6.0,baz=55,slow=38
TNA Tin City 77.16 15 *e*P **P 01 28 55.4 -0.1**
comp=Z,25nm,0.9s,mb5.1
TNA LR LR
comp=Z,779nm,20.0s,MS5.0
INK Inuvik 78.41 1 P **P 01 29 00.7 -1.8**
comp=Z,36nm,1.1s,mb5.2,baz=16,slow=7.6,SNR=33
INK Inuvik 78.41 1 *e*P **P 01 29 01.0 -1.5**
comp=Z,63nm,1.1s,mb5.5
INK *e*PP PP 01 31 57.9 -1.9
INK Inuvik 78.41 1 *e*P **P 01 29 01.0 -1.5**
INK *e* 01 31 57.9
INK pmax pmax
comp=Z,63nm,1.1s
COLA College 81.01 7 *e*P **P 01 29 15.8 -0.8**
comp=Z,5μm,19.0s
COLA College 81.01 7 *e*P **P 01 29 15.8 -0.8**
comp=Z,133nm,1.1s,mb5.8
COLA LR LR
comp=Z,5μm,19.0s,MS5.9
COLA College 81.01 7 *e*P **P 01 29 15.8 -0.8**
COLA pmax pmax
comp=Z,133nm,1.1s,mb5.8
COLA MLR MLR
comp=Z,5μm,19.0s,MS5.9
ILAR Eielson Array 81.20 7 P **P 01 29 16.4 -1.3**
comp=Z,25nm,1.0s,mb5.1,baz=331,slow=3.9,SNR=68
ILAR PKKPbc PKKPbc 01 47 51.3 -1.8
comp=Z,2.1nm,0.7s,baz=193,slow=2.0,SNR=16
ILAR PKP2bc 01 55 49.1
comp=Z,0.6nm,0.9s,baz=284,slow=2.5,SNR=5.3
ILAR LR LR 02 08 53.1
comp=Z,3μm,20.4s,MS5.7,baz=238,slow=38
ILAR Eielson Array 81.20 7 P **P 01 29 16.4 -1.3**
ILAR PKKPbc PKKPbc 01 47 51.3 -1.8
ILAR ⇑*e* 01 55 49.1
ILAR LR LR 02 08 53.1
ATTU Attu Island--F 81.24 30 P **P 01 29 17.2 -0.7**
comp=Z,44nm,0.7s,mb5.5
FX1 Attu Island--F 81.24 30 P **P 01 29 17.2 -0.6**
comp=Z,44nm,0.7s,mb5.5,baz=232,slow=1.4,SNR=5.9
FX1 Attu Island--F 81.24 30 *e*P **P 01 29 20.1 +2.2**
FX1 Attu Island--F 81.24 30 P **P 01 29 17.2 -0.7**
FX1 pmax pmax
comp=Z,44nm,0.7s
SMY Shemya 81.74 30 PFAKE 01 29 30.0 +9.5
SMY LR LR
comp=Z,8μm,22.0s,MS6.1
TTA Tatalina 81.79 11 *e*P **P 01 29 19.6 -1.2**
comp=Z,318nm,1.8s,mb6.0
TTA Tatalina 81.79 11 *e*P **P 01 29 19.6 -1.1**
comp=Z,318nm,1.8s,mb6.0
TTA Tatalina 81.79 11 *e*P **P 01 29 19.6 -1.2**
TTA pmax pmax
comp=Z,318nm,1.8s,mb6.0
MCK McKinley 82.00 8 *e*P **P 01 29 20.8 -1.1**
comp=Z,69nm,1.2s,mb5.5
MCK McKinley 82.00 8 *e*P **P 01 29 20.8 -1.0**
comp=Z,69nm,1.2s,mb5.5
MCK *e*PP PP 01 32 22.7 -6.8
MCK McKinley 82.00 8 *e*P **P 01 29 20.8 -1.1**
MCK pmax pmax
comp=Z,69nm,1.2s,mb5.5
DAWY Dawson 82.47 4 *e*P **P 01 29 23.4 -1.0**
FCC Fort Churchill 82.94 342 P **P 01 29 26.2 -0.6**
comp=Z,65nm,1.2s,mb5.5
FCC Fort Churchill 82.94 342 *e*P **P 01 29 26.0 -0.8**
comp=Z,65nm,1.2s,mb5.5
FCC Fort Churchill 82.94 342 P **P 01 29 26.2 -0.6**
FCC pmax pmax
comp=Z,65nm,1.2s,mb5.5
YKW3 Yellowknife Ar 83.27 352 *e*P **P 01 29 26.9 -1.6**
YKW3 *e*PP PP 01 32 30.1 -10
YKA Yellowknife Ar 83.33 352 P **P 01 29 27.0 -1.8**
comp=Z,25nm,1.1s,mb5.2,baz=14,slow=5.5,SNR=95
YKA PKKPbc PKKPbc 01 47 48.6 +0.4
comp=Z,0.5nm,0.8s,baz=192,slow=2.2,SNR=5.8
YKA PKP2bc 01 55 35.8
comp=Z,0.2nm,0.9s,baz=142,slow=1.9,SNR=4.0
YKA LR LR 02 11 03.1
comp=Z,5μm,20.8s,MS5.9,baz=30,slow=39
YKA Yellowknife Ar 83.33 352 P **P 01 29 27.0 -1.8**
comp=Z,5μm,20.8s
YKA Yellowknife Ar 83.33 352 P **P 01 29 27.1 -1.7**
YKA PKKPbc PKKPbc 01 47 48.6 +0.4
YKA ⇑*e* 01 55 35.8
YKA LR LR 02 11 03.1
YKA Yellowknife Ar 83.33 352 P **P 01 29 27.0 -1.8**
YKA pmax pmax
comp=Z,25nm,1.1s
YKA MLR MLR
comp=Z,5μm,20.8s
SML Sawmill 83.94 8 *e*P **P 01 29 31.3 -0.6**
PMR Palmer 84.05 9 *e*P **P 01 29 31.9 -0.6**
comp=Z,8.4nm,0.6s,mb5.0
PMR Palmer 84.05 9 P **P 01 29 34.8 +2.3**
PMR pmax pmax
comp=Z,150nm,1.4s,mb5.9
DIV Divide 84.88 7 *e*P **P 01 29 36.0 -0.7**
comp=Z,272nm,1.0s,mb6.3
DIV LR LR
comp=Z,2μm,21.0s,MS5.4
SLKM Skilak Lake 84.96 9 P **P 01 29 38.3 +1.2**
SLKM Skilak Lake 84.96 9 *e*P **P 01 29 38.0 +0.9**
EYAK Cordova Ski Ar 85.45 7 *e*P **P 01 29 39.3 -0.2**
EYAK *e*PP PP 01 32 59.1 +1.3
LBNH Lisbon 85.63 322 *e*P **P 01 29 40.7 +0.3**
comp=Z,37nm,0.9s,mb5.6
LBNH *e*PP PP 01 32 57.3 -1.9
LBNH LR LR
comp=Z,5μm,20.0s,MS5.9
LBNH Lisbon 85.63 322 *e*P **P 01 29 40.7 +0.3**
LBNH *e* 01 32 57.3
LBNH pmax pmax
comp=Z,37nm,0.9s,mb5.6
LBNH MLR MLR
comp=Z,5μm,20.0s,MS5.9
FFD Franklin Falls 86.02 321 *e*P **P 01 29 43.1 +0.7**
comp=Z,19nm,0.7s,mb5.4
FFD *e*PP PP 01 33 01.4 -1.0
ADK Adak 86.03 26 PFAKE 01 29 50.0 +7.6
ADK LR LR
comp=Z,6μm,22.0s,MS6.0
HNH Hanover 86.19 322 *e*P **P 01 29 42.3 -0.9**
comp=Z,3.1nm,0.9s
HNH *e*PP PP 01 32 59.0 -4.7
WES Weston 86.59 320 PFAKE 01 30 00.0 +15
WES LR LR
comp=Z,6μm,19.0s,MS6.0
HRV Harvard--Oak R 86.64 320 PFAKE 01 30 00.0 +15
HRV LR LR
comp=Z,8μm,19.0s,MS6.1
LONY Lake Ozonia 86.71 323 *e*P **P 01 29 44.8 -0.9**
MBWA Marble Bar 86.73 118 *e*P **P 01 29 45.7 -0.2**
comp=Z,167nm,1.5s,mb6.0
MBWA LR LR
comp=Z,5μm,21.0s,MS5.9
NCB Newcomb 86.99 323 *e*P **P 01 29 47.2 0.0**
comp=Z,12nm,0.8s,mb5.2
NCB *e*PP PP 01 33 04.4 -5.9
NCB LR LR
comp=Z,6μm,19.0s,MS6.0
ACCN Adirondack Com 87.13 322 *e*P **P 01 29 48.2 +0.4**
ACCN *e*PP PP 01 33 08.8 -2.5
QUA2 Belchertown 87.22 321 *e*P **P 01 29 48.6 +0.4**
comp=Z,15nm,1.2s,mb5.1
KDAK Kodiak Island 87.22 11 P **P 01 29 51.0 +2.7**
comp=Z,974nm,0.8s,SNR=11
KDAK Kodiak Island 87.22 11 P **P 01 29 48.7 +0.5**
comp=Z,144nm,0.9s,mb6.2,baz=16,slow=2.7,SNR=30
GUMO Guam 87.56 75 PFAKE 01 30 00.0 +10
GUMO LR LR
comp=Z,2μm,21.0s,MS5.4
DLBC Dease Lake 88.33 359 P **P 01 29 53.8 +0.3**
comp=Z,51nm,1.0s,mb5.7,baz=332,slow=4.7,SNR=33
DLBC Dease Lake 88.33 359 *e*P **P 01 29 53.9 +0.3**
DLBC *e* 01 30 09.0
DLBC *e*PP PP 01 33 21.6 +0.6
FFC Flin Flon 88.52 344 P **P 01 29 53.0 -1.5**
comp=Z,178nm,0.7s,mb6.5,SNR=13
FFC Flin Flon 88.52 344 *e*P **P 01 29 53.5 -1.0**
comp=Z,17nm,0.6s,mb5.5
FFC Flin Flon 88.52 344 *e*P **P 01 29 53.5 -1.0**
comp=Z,18nm,0.6s,mb5.6
FFC *e*PP PP 01 33 27.1 +4.5
FFC LR LR
comp=Z,7μm,21.0s,MS6.0
FFC Flin Flon 88.52 344 *e*P **P 01 29 53.5 -1.0**
FFC *e* 01 33 27.1
FFC pmax pmax
comp=Z,17nm,0.6s,mb5.5
FFC MLR MLR
comp=Z,7μm,21.0s,MS6.0
RCBR Riachuelo 88.78 262 *e*P **P 01 30 00.9 +5.2**
comp=Z,17nm,0.8s,mb5.4
RCBR *e*PP PP 01 33 25.8 +1.2
RCBR LR LR
comp=Z,8μm,19.0s,MS6.2
SADO Sadowa 88.81 326 P **P 01 29 54.6 -1.2**
comp=Z,5.3nm,0.9s,mb4.9,baz=50,slow=7.9,SNR=4.8
PAL Palisades 88.94 320 *e*P **P 01 29 57.2 +0.8**
comp=Z,8.0nm,0.7s,mb5.2
PAL Palisades 88.94 320 *e*P **P 01 29 57.2 +0.8**
comp=Z,8.4nm,0.7s,mb5.2
PAL Palisades 88.94 320 *e*P **P 01 29 57.2 +0.8**
PAL pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
BINY Binghamton 89.17 322 *e*P **P 01 29 56.5 -1.0**
comp=Z,12nm,0.8s,mb5.3
BINY LR LR
comp=Z,7μm,19.0s,MS6.1
BBSR BB Station 89.33 309 PFAKE 01 30 10.0 +12
BBSR LR LR
comp=Z,3μm,20.0s,MS5.8
FITZ Fitzroy Crossi 89.39 112 P **P 01 29 56.6 -2.0**
comp=Z,22nm,0.8s,mb5.5,baz=264,slow=4.2,SNR=21
FITZ Fitzroy Crossi 89.39 112 *e*P **P 01 29 56.3 -2.2**
comp=Z,40nm,0.9s,mb5.7
FITZ *e*S 01 40 24.0
SIT Sitka 89.65 2 *e*P **P 01 30 00.1 +0.3**
comp=Z,40nm,1.1s,mb5.7
SIT Sitka 89.65 2 *e*P **P 01 30 00.1 +0.3**
comp=Z,40nm,1.1s,mb5.7
SIT *e*PP PP 01 33 32.1 +0.5
SIT LR LR
comp=Z,10μm,20.0s,MS6.2
SIT Sitka 89.65 2 *e*P **P 01 30 00.1 +0.3**
SIT *e* 01 33 32.1
SIT pmax pmax
comp=Z,40nm,1.1s,mb5.7
SIT MLR MLR
comp=Z,10μm,20.0s,MS6.2
TRIS Tristan da Cun 90.45 224 PFAKE 01 30 10.0 +6.5
TRIS LR LR
comp=Z,7μm,21.0s,MS6.1
ULM Lac du Bonnet 90.87 338 P **P 01 30 03.9 -1.5**
comp=Z,12nm,0.9s,mb5.2,baz=45,slow=4.9,SNR=11
ULM LR LR 02 11 57.9
comp=Z,6μm,20.0s,MS6.1,baz=37,slow=36
MUN Mundaring 91.01 128 *e*P **P 01 30 04.7 -1.4**
MUN *e*S 01 40 34.2
ERPA Erie 91.22 325 *e*P **P 01 30 09.0 +2.0**
comp=Z,24nm,0.7s,mb5.6
ERPA LR LR
comp=Z,4μm,19.0s,MS5.9
EYMN Ely 91.39 335 *e*P **P 01 30 07.3 -0.5**
comp=Z,38nm,1.2s,mb5.6
EYMN LR LR
comp=Z,13μm,21.0s,MS6.3
ALLY Alegheny Colle 91.65 324 *e*P **P 01 30 10.2 +1.2**
KAKA Kakadu 91.73 104 *e*P **P 01 30 07.8 -1.6**
comp=Z,44nm,0.9s,mb5.8
KLBR Kellerberrin 91.79 127 *e*P **P 01 30 09.2 -0.5**
comp=Z,98nm,1.6s,mb5.9
EDM Edmonton 92.17 349 P **P 01 30 11.7 +0.2**
EDM Edmonton 92.17 349 *e*P **P 01 30 11.3 -0.1**
NWAO Narrogin (SRO) 92.28 128 P **P 01 30 11.3 -0.7**
comp=Z,22nm,0.9s,mb5.5,baz=281,slow=4.1,SNR=5.3
NWAO Narrogin (SRO) 92.28 128 P **P 01 30 11.3 -0.7**
NWAO MLR MLR
comp=Z,1μm,21.0s
CBN Corbin 92.81 320 PFAKE 01 30 30.0 +16
CBN LR LR
comp=Z,8μm,19.0s,MS6.2
MCWV Mont Chateau 93.01 323 *e*P **P 01 30 15.5 +0.1**
comp=Z,37nm,0.9s,mb5.8
MCWV LR LR
comp=Z,7μm,19.0s,MS6.2
ACSO Alum Creek Sta 94.11 325 *e*P **P 01 30 19.7 -0.7**
comp=Z,16nm,1.0s,mb5.4
ACSO LR LR
comp=Z,5μm,19.0s,MS6.0
DGMT Dagmar 94.82 342 *e*P **P 01 30 26.5 +2.8**
comp=Z,32nm,1.1s,mb5.7
DGMT LR LR
comp=Z,7μm,21.0s,MS6.1
BLA Blacksburg 95.16 322 PFAKE 01 30 40.0 +15
BLA LR LR
comp=Z,576nm,22.0s,MS5.0
ELN Prospectdale 95.31 322 *e*P **P 01 30 26.3 +0.4**
LAO LASA Array 96.98 343 *e*P **P 01 30 33.7 +0.2**
comp=Z,19nm,0.9s,mb5.5
LAO LR LR
comp=Z,8μm,19.0s,MS6.2
WRA Warramunga Arr 97.22 109 P **P 01 30 33.9 -0.7**
comp=Z,2.0nm,0.5s,mb4.8,baz=316,slow=4.0,SNR=7.9
WRA Warramunga Arr 97.22 109 *i* P **P 01 30 34.9 +0.3**
comp=Z,2.0nm,0.5s,mb4.8
WRA Warramunga Arr 97.22 109 *i* P **P 01 30 34.9 +0.3**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRAB Tennant Creek 97.22 109 *e*P **P 01 30 35.7 +1.1**
comp=Z,2μm,21.0s
WRAB Tennant Creek 97.22 109 *e*P **P 01 30 35.7 +1.1**
comp=Z,15nm,1.0s,mb5.4
WRAB LR LR
comp=Z,2μm,21.0s,MS5.5
WRAB Tennant Creek 97.22 109 *e*P **P 01 30 35.7 +1.1**
WRAB pmax pmax
comp=Z,15nm,1.0s,mb5.4
WRAB MLR MLR
comp=Z,2μm,21.0s,MS5.5
WCI Wyandotte Cave 97.26 326 PFAKE 01 30 50.0 +15
WCI LR LR
comp=Z,2μm,20.0s,MS5.6
NEW Newport 97.55 351 P **P 01 30 35.9 -0.2**
comp=Z,13nm,1.1s,mb5.4,baz=316,slow=3.8,SNR=10
NEW Newport 97.55 351 *e*P **P 01 30 36.2 +0.1**
comp=Z,12nm,1.0s,mb5.4
NEW Newport 97.55 351 *e*P **P 01 30 36.2 +0.1**
comp=Z,12nm,1.0s,mb5.4
NEW Newport 97.55 351 *e*P **P 01 30 36.2 +0.1**
NEW pmax pmax
comp=Z,12nm,1.0s
HRY Holter Researc 98.19 347 *e*P **P 01 30 40.6 +1.6**
CHMT Chamberlain Mo 98.26 348 *e*P **P 01 30 40.1 +0.8**
FORT Forrest 98.42 121 *e*P **P 01 30 38.9 -1.1**
comp=Z,14nm,0.8s,mb5.5
MSO Missoula 98.46 348 PFAKE 01 30 50.0 +10
MSO LR LR
comp=Z,5μm,21.0s,MS6.0
GCMT Greycliff 98.63 345 *e*P **P 01 30 39.9 -1.0**
OCWA Octopus Mounta 98.79 355 PFAKE 01 30 50.0 +8.3
OCWA LR LR
comp=Z,8μm,21.0s,MS6.2
RSSD Black Hills 98.80 341 PFAKE 01 30 50.0 +8.3
RSSD LR LR
comp=Z,375nm,19.0s,MS4.9
ASAR Alice Springs 98.89 112 P **P 01 30 40.7 -1.4**
comp=Z,1.9nm,0.7s,mb4.7,baz=305,slow=4.6,SNR=16
ASAR PKKPbc PKKPbc 01 47 10.4 +1.6
comp=Z,3.5nm,1.0s,baz=122,slow=3.8,SNR=9.3
CPD Cerro la Pandu 99.36 299 *e*P **P 01 30 45.2 +1.0**
SJG San Juan 99.48 299 PFAKE 01 31 00.0 +15
SJG LR LR
comp=Z,2μm,22.0s,MS5.7
WVT Waverly 99.68 326 PFAKE 01 31 00.0 +14
WVT LR LR
comp=Z,8μm,20.0s,MS6.2
HAWA Hanford 99.70 352 PFAKE 01 31 00.0 +14
HAWA LR LR
comp=Z,654nm,20.0s,MS5.1

LKWY Lake 99.95 345 PFAKE 01 31 00.0 +13
LKWY LR LR
comp=Z,15μm,20.0s,MS6.5
YMR Madison River 99.97 345 PFAKE 01 31 00.0 +13
YMR LR LR
comp=Z,11μm,21.0s,MS6.3
PLAL Pickwick Lake 100.72 325 PFAKE 01 31 00.0 +10
PLAL LR LR
comp=Z,7μm,21.0s,MS6.1
WAKE Wake Island 100.82 58 PFAKE 01 31 00.0 +9.3
WAKE LR LR
comp=Z,2μm,20.0s,MS5.6
BMO Blue Mountains 100.92 350 PFAKE 01 31 00.0 +8.9
BMO LR LR
comp=Z,8μm,22.0s,MS6.2
MAW Mawson 101.43 175 PFAKE 01 31 00.0 +6.6
MAW LR LR
comp=Z,4μm,19.0s,MS5.9
BW06 Boulder Array 101.47 344 PFAKE 01 31 10.0 +16
BW06 LR LR
comp=Z,6μm,21.0s,MS6.1
PDAR Pinedale Array 101.47 344 P Pdif 01 30 55.0 +1.4
comp=Z,0.4nm,0.9s,baz=54,slow=4.6,SNR=2.6
PDAR PP PP 01 34 57.6 -5.7
comp=Z,2.2nm,1.0s,baz=46,slow=8.5,SNR=3.6
PDAR PKKP PKKPbc 01 47 02.7 +1.3
comp=Z,0.7nm,0.7s,baz=153,slow=3.1,SNR=7.1
HLID Hailey 101.71 348 *e*Pdif Pdif 01 30 58.5 +3.8
comp=Z,2.3nm,1.3s
HLID LR LR
comp=Z,7μm,22.0s,MS6.1
OXF Oxford 101.74 326 PFAKE 01 31 10.0 +15
OXF LR LR
comp=Z,7μm,20.0s,MS6.2
LRAL Lakeview Retre 101.77 323 PFAKE 01 31 10.0 +15
LRAL LR LR
comp=Z,7μm,19.0s,MS6.2
AHID Auburn Hatcher 101.82 345 PFAKE 01 31 10.0 +15
AHID LR LR
comp=Z,8μm,22.0s,MS6.2
COR Corvallis 101.87 354 PFAKE 01 31 10.0 +15
COR LR LR
comp=Z,1μm,20.0s,MS5.4
PMG Port Moresby 102.08 93 PFAKE 01 31 10.0 +14
PMG LR LR
comp=Z,749nm,20.0s,MS5.2
CBKS Cedar Bluff 102.28 335 PFAKE 01 31 10.0 +13
CBKS LR LR
comp=Z,9μm,19.0s,MS6.3
SYO Syowa Base 102.51 183⇑ *e*PP PP 01 35 13.3 +2.2
DWPF Disney 102.60 316 PFAKE 01 31 10.0 +11
DWPF LR LR
comp=Z,970nm,20.0s,MS5.3
HWUT Hardware Ranch 103.03 345 PFAKE 01 31 10.0 +10
HWUT LR LR
comp=Z,9μm,22.0s,MS6.2
WVOR Wild Horse Val 103.48 350 PFAKE 01 31 10.0 +7.5
WVOR LR LR
comp=Z,8μm,21.0s,MS6.2
MIAR Mount Ida 103.59 329 PFAKE 01 31 10.0 +7.0
MIAR LR LR
comp=Z,6μm,22.0s,MS6.1
HUMO Hull Mountain 103.81 354 PFAKE 01 31 20.0 +16
HUMO LR LR
comp=Z,5μm,22.0s,MS6.0
BDFB Brasilia 104.06 260 PKiKP PKiKP 01 35 24.2 +1.9
comp=Z,9.6nm,0.9s,baz=74,slow=3.6,SNR=6.5
DAU Daniels Canyon 104.10 344 *e*Pdif Pdif 01 31 08.5 +3.3
MOD Modoc 104.22 352 PFAKE 01 31 20.0 +14
MOD LR LR
comp=Z,6μm,22.0s,MS6.1
MIDW Midway 104.56 41 PFAKE 01 31 20.0 +13
MIDW LR LR
comp=Z,3μm,22.0s,MS5.7
MPU Maple Canyon 104.57 345 PFAKE 01 31 20.0 +13
MPU LR LR
comp=Z,8μm,21.0s,MS6.3
ELK Elko 104.59 348 PFAKE 01 31 20.0 +13
ELK LR LR
comp=Z,7μm,22.0s,MS6.2
DUG Dugway 104.65 346 PFAKE 01 31 20.0 +12
DUG LR LR
comp=Z,8μm,22.0s,MS6.2
YBH Yreka Blue Hor 104.65 353 PFAKE 01 31 20.0 +12
YBH LR LR
comp=Z,5μm,20.0s,MS6.0
SDCO Great Sand Dun 105.11 339 PFAKE 01 35 40.0 +16
SDCO LR LR
comp=Z,13μm,20.0s,MS6.5
BMN Battle Mountai 105.23 349 PFAKE 01 35 40.0 +16
BMN LR LR
comp=Z,8μm,22.0s,MS6.2
WDC Whiskeytown Da 105.77 353 PFAKE 01 35 40.0 +15
WDC LR LR
comp=Z,4μm,20.0s,MS6.0
NATX Nacogdoches 106.44 328 PFAKE 01 35 40.0 +13
NATX LR LR
comp=Z,6μm,19.0s,MS6.2
MNV Mina 107.33 349 PFAKE 01 35 40.0 +12
MNV LR LR
comp=Z,6μm,20.0s,MS6.2
NVAR Mina Array Bea 107.36 349 PKiKP PKiKP 01 35 27.6 -0.8
comp=Z,1.5nm,0.8s,baz=56,slow=2.8,SNR=5.4
NVAR PKKPbc PKKPbc 01 46 43.4 -0.3
comp=Z,0.9nm,0.8s,baz=210,slow=8.3,SNR=4.4
HOPS Hopland 107.40 353 PFAKE 01 35 40.0 +12
HOPS LR LR
comp=Z,6μm,21.0s,MS6.1
ANMO Albuquerque 107.99 339 PFAKE 01 35 40.0 +10
ANMO LR LR
comp=Z,9μm,21.0s,MS6.3
CMB Columbia Colle 108.04 351 PFAKE 01 35 40.0 +10
CMB LR LR
comp=Z,4μm,20.0s,MS6.0
MTUM Tungsten Hills 108.45 349 *e*PKiKP PKiKP 01 35 29.3 -1.1
TPNV Topopah Spring 108.46 347 PFAKE 01 35 40.0 +10
TPNV LR LR
comp=Z,7μm,19.0s,MS6.2
HKT Hockley 108.50 328 PFAKE 01 35 40.0 +9.5
HKT LR LR
comp=Z,1μm,21.0s,MS5.4
SDV Santo Domingo 108.71 295 PFAKE 01 35 40.0 +9.1
SDV LR LR
comp=Z,2μm,20.0s,MS5.6
WUAZ Wupatki 108.80 343 PFAKE 01 35 40.0 +8.9
WUAZ LR LR
comp=Z,9μm,22.0s,MS6.3
STKA Stephens Creek 108.91 116 PKiKP PKiKP 01 35 30.8 -0.5
comp=Z,3.7nm,1.0s,baz=253,slow=3.0,SNR=3.0
STKA Stephens Creek 108.91 116 PKPdf PKiKP 01 35 30.8 -0.5
SAO San Andreas Ge 109.43 352 PFAKE 01 35 40.0 +7.8
SAO LR LR
comp=Z,6μm,20.0s,MS6.2
ISA Isabella 110.09 349 PFAKE 01 35 50.0 +16
ISA LR LR
comp=Z,2μm,22.0s,MS5.6
CASY Casey 110.09 158 PFAKE 01 35 40.0 +6.5
CASY LR LR
comp=Z,3μm,20.0s,MS5.9
MNTX Cornudas Mount 110.65 337 PFAKE 01 35 50.0 +15
MNTX LR LR
comp=Z,11μm,22.0s,MS6.4
TUC Tucson 111.69 341 PFAKE 01 35 50.0 +13
TUC LR LR
comp=Z,6μm,19.0s,MS6.2
PFO Pinyon Flat Ob 111.74 347 PFAKE 01 35 50.0 +13
PFO LR LR
comp=Z,5μm,21.0s,MS6.1
LTX Lajitas 112.21 334 PFAKE 01 35 50.0 +12
LTX LR LR
comp=Z,9μm,22.0s,MS6.3
SNCC San Nicolas Is 112.62 349 PFAKE 01 35 50.0 +12
SNCC LR LR
comp=Z,5μm,19.0s,MS6.1
TEIG Tepich 112.63 316 PFAKE 01 35 50.0 +12
TEIG LR LR
comp=Z,423nm,19.0s,MS5.0
HNR Honiara 112.76 86 PFAKE 01 35 50.0 +11
HNR LR LR
comp=Z,1μm,22.0s,MS5.4
SAML Samuel 113.19 275 PFAKE 01 35 50.0 +11
SAML LR LR
comp=Z,4μm,20.0s,MS6.0
HOPE Hope Point 113.94 220 PFAKE 01 35 50.0 +9.2
HOPE LR LR
comp=Z,4μm,20.0s,MS6.1
ROSC El Rosal 114.10 294 PKiKP PKiKP 01 35 41.4 +0.3
comp=Z,1.8nm,0.4s,baz=90,slow=20,SNR=2.9
SIV San Ignacio 115.06 267 PKiKP PKiKP 01 35 42.8 -0.2
comp=Z,3.1nm,0.9s,baz=136,slow=3.4,SNR=8.9
SIV PKKPbc PKKPbc 01 46 20.6 +2.2
comp=Z,1.2nm,0.8s,baz=347,slow=4.4,SNR=4.2
CPUP Villa Florida 116.80 255 PKP PKPdf 01 35 44.8 -1.5
comp=Z,2.0nm,0.5s,baz=72,slow=4.6,SNR=6.5
CPUP SKP 01 39 19.9
comp=Z,3.7nm,0.9s,baz=32,slow=6.3,SNR=3.6
CPUP PKKPbc PKKPbc 01 46 15.4 +3.1
comp=Z,0.3nm,0.4s,baz=316,slow=14,SNR=2.6
CPUP Villa Florida 116.80 255 *e*PKIKP PKPdf 01 35 44.6 -1.7
CPUP MLR MLR
comp=Z,952nm,19.0s
TAU Tasmania Unive 117.67 125 PFAKE 01 36 00.0 +12
TAU LR LR
comp=Z,3μm,20.0s,MS5.9
JTS JuntasAbangare 118.06 306 PFAKE 01 36 00.0 +11
JTS LR LR
comp=Z,4μm,22.0s,MS6.0
KIP Kipapa 119.62 29 PFAKE 01 36 00.0 +8.3
KIP LR LR
comp=Z,4μm,19.0s,MS6.0
OTAV Otavalo 120.20 293 *e*PKPdf PKPdf 01 35 54.1 +1.2
OTAV LR LR
comp=Z,2μm,21.0s,MS5.7
DRV Dumont d'Urvil 120.80 152 PP PP 01 37 18.0 -4.2
DRV SP SP 01 47 04.0 -7.7
DRV SS SS 01 53 55.0 +2.5
LPAZ La Paz 121.10 270 PKP PKPdf 01 35 55.4 +0.9
comp=Z,4.1nm,0.8s,baz=20,slow=5.7,SNR=8.8
LPAZ La Paz 121.10 270 *e*P PKPdf 01 35 55.7 +1.1
LPAZ La Paz 121.10 270 *e*P PKPdf 01 35 55.7 +1.1
LPAZ *e*PP PP 01 37 27.7 +3.4
LPAZ LR LR
comp=Z,5μm,21.0s,MS6.2
LPAZ La Paz 121.10 270 PKIKP PKPdf 01 35 55.4 +0.8
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
POHA Pohakuloa 122.10 27 PFAKE 01 36 10.0 +13
POHA LR LR
comp=Z,4μm,20.0s,MS6.0
QSPA South Pole Qui 123.41 180 *e*P PKPdf 01 35 57.6 -1.4
LVC Limon Verde 124.69 264 PKP PKPdf 01 36 02.8 +1.3
comp=Z,7.1nm,1.0s,baz=63,slow=2.6,SNR=3.9
LVC Limon Verde 124.69 264 *e*PKPdf PKPdf 01 36 02.9 +1.4
LVC *e*PP PP 01 37 48.3 -0.3
LVC LR LR
comp=Z,4μm,20.0s,MS6.1
TRQA Tornquist 124.87 244 *e*PKPdf PKPdf 01 36 01.8 0.0
TRQA *e*SKPdf SKPdf 01 39 36.7 +0.1
TRQA LR LR
comp=Z,4μm,22.0s,MS6.1
EFI East Falkland 125.56 227 PFAKE 01 36 10.0 +6.9
EFI LR LR
comp=Z,4μm,22.0s,MS6.0
VNDA Vanda 127.48 165 PKP PKPdf 01 36 05.8 -1.0
comp=Z,2.0nm,0.8s,baz=321,slow=3.8,SNR=5.7
VNDA Vanda 127.48 165 PKIKP PKPdf 01 36 05.8 -1.0
VNDA MLR MLR
comp=Z,4μm,20.0s
CFAA Coronel Fontan 127.65 254 PKP PKPdf 01 36 07.1 0.0
comp=Z,1.0nm,0.8s,baz=299,slow=1.2,SNR=11
CFAA SKPbc 01 39 24.5
comp=Z,1.1nm,0.9s,baz=56,slow=3.8,SNR=5.2
CFAA Coronel Fontan 127.65 254 PKP PKPdf 01 36 07.1 -0.1
CFAA SKPbc 01 39 24.5
FUNA Funafuti 128.04 73 PFAKE 01 36 20.0 +12
FUNA LR LR
comp=Z,6μm,21.0s,MS6.2
SBA Scott Base 128.39 166 PFAKE 01 36 20.0 +11
SBA LR LR
comp=Z,3μm,20.0s,MS5.9
PAYG Puerto Ayora 129.58 302 PFAKE 01 36 20.0 +9.2
PAYG LR LR
comp=Z,2μm,20.0s,MS5.8
PLCA Paso Flores 131.97 243 PKP PKPdf 01 36 15.4 +0.1
comp=Z,3.9nm,0.7s,baz=219,slow=2.9,SNR=4.1
PLCA SKPbc SKPbc 01 39 40.4 -0.4
comp=Z,13nm,0.9s,baz=109,slow=6.3,SNR=10
USHA Ushuaia 132.07 224 SKPbc SKPbc 01 39 41.0 -0.1
comp=Z,64nm,1.0s,baz=352,slow=1.8,SNR=11
RPZ Rata Peaks 134.60 121 SKPbc SKPbc 01 39 48.2 -1.5
comp=Z,54nm,1.0s,baz=128,slow=3.3,SNR=15
SNZO South Karori 136.96 117 PFAKE 01 36 40.0 +15
SNZO LR LR
comp=Z,2μm,22.0s,MS5.7
URZ Urewera 138.33 112 SKPbc SKPbc 01 39 56.9 -4.1
comp=Z,14nm,0.8s,baz=344,slow=4.7,SNR=7.0
AFI Afiamalu 138.35 72 PFAKE 01 36 40.0 +13
AFI LR LR
comp=Z,1μm,22.0s,MS5.7
RAO Raoul Island 140.16 97 PFAKE 01 36 40.0 +9.5
RAO LR LR
comp=Z,3μm,19.0s,MS6.1
RAR Rarotonga 151.90 71 PKPbc PKPbc 01 36 59.0 +2.2
comp=Z,8.4nm,0.6s,baz=270,slow=4.0,SNR=3.0
RAR Rarotonga 151.90 71 PKIKP PKPbc 01 36 59.0 +2.2
RAR pmax pmax
comp=Z,8.0nm,0.6s
TAOE Nuku Hiva Isla 154.05 21 *e*LR LR 02 28 26.4
comp=Z,11μm,25.2s
PPT Papeete 157.06 50 *e*SS SS 02 00 50.3 -9.4
comp=Z,1μm,27.0s
PPT *e*LR LR 02 29 54.1
comp=Z,4μm,24.8s
RPN Rapa Nui 160.08 283 PFAKE 01 37 10.0 +8.9
RPN LR LR
comp=Z,3μm,21.0s
TBI Tubuai 161.01 62 *e*SS SS 02 01 25.6 -16
comp=Z,723nm,27.8s
TBI *e*LR LR 02 30 44.8
comp=Z,5μm,28.0s
RKT Rikitea 169.06 19 *e*SS SS 02 02 42.5 -21
comp=Z,670nm,32.8s
RKT *e*LR LR 02 35 11.9
comp=Z,6μm,46.0s
PTCN Pitcairn Islan 171.46 353 PFAKE 01 37 20.0 +10
PTCN LR LR
comp=Z,4μm,19.0s

BJI ***31*** *01:31:21.9, 3370N×4860E, h10km, mB5.4, mb4.8, Ms5.3, Msz5.1*
ISCJB ***31*** *01:31:22.8±0.1, 3374N±002×4863E±002, h14km, mb4.7/110, MS5.2/6, Error ellipse: s-maj=3.1km s-min=1.9km az=11.4*
NEIC ***31*** *01:31:23.8±0.2, 3371N×4865E, h10km, mb4.7/55, ML4.9(THR), MN5.0(TEH), Error ellipse: s-maj=6.3km s-min=3.2km az=190.0*
CSEM ***31*** *01:31:23.9, 3357N×4864E, h25km, mb5.1*
THR ***31*** *01:31:24.0±0.8, 3390N×4880E, h14km±12km, ML4.9*
MOS ***31*** *01:31:25.1±1.4, 3360N×4853E, h33km, mb4.8/45, Error ellipse: s-maj=7.0km s-min=3.3km az=126.8*
TEH ***31*** *01:31:25.1, 3371N×4875E, h1km, Mn4.9*
IDC ***31*** *01:31:27.7±2.0, 3383N×4858E, h34km±14km, mb4.2/23, mb1 4.4/27, mb1mx4.3/31, mbtmp4.5/27, ML4.1/2, Error ellipse: s-maj=13.3km s-min=12.3km az=113.0*
SZGRF ***31*** *01:31:31.8, 3393N×4783E, h33km, mb4.5, Western Iran*
OMAN ***31*** *01:33:30.6±3.0, 2646N×5563E, h92km±17km, Error ellipse: s-maj=32.7km s-min=17.1km az=136.0*
ISC 31 01:31:24.7±0.1, 3375N±002×4865E±002, h15km, h15km±1.0km:pP-P, n453, σ1§25/496, mb4.7/110, MS5.2/6, 18C-9D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.04**	**295**	*e*Pg	**Pn**	**01 31 42.8**	**-1.9**
ASAO	**Ashtian**	**1.39**	**55**	*e*Pg	**Pn**	**01 31 46.1**	**-3.5**
ASAO				*e*Sg	**Sn**	**01 32 03.3**	**-4.3**
ASAO				AML	AML	01 32 08.3	
comp=E,28μm,0.7s							
SNGE	**Sanandaj**	**1.72**	**322**	*e*PG	**Pn**	**01 31 54.8**	**+0.8**
SNGE				*e*SG	**Sn**	**01 32 18.0**	**+2.2**
SNGE				AML	AML	01 32 25.9	
comp=N,10μm,0.5s							
SNGE				AML	AML	01 32 27.7	
comp=E,10μm,0.6s							
SNGE	**Sanandaj**	**1.72**	**322**	*e*Pg	**Pn**	**01 31 54.8**	**+0.7**
SNGE				*e*Sg	**Sn**	**01 32 18.0**	**+2.2**
SNR=90							
IGHG	**Ghaleghazi**	**1.82**	**289**	*e*Pn	**Pn**	**01 31 58.5**	**+3.0**
IRAZ	**Razeghan**	**1.96**	**32**	*e*Pn	**Pn**	**01 31 56.4**	**-1.0**
IRAZ	**Razeghan**	**1.96**	**32**	Pn	**Pn**	**01 31 56.3**	**-1.1**
IDHR	**Dehrash**	**2.10**	**297**	*e*Pn	**Pn**	**01 32 02.0**	**+2.6**
IPIR	**Pirpir**	**2.16**	**119**	*e*Pn	**Pn**	**01 32 00.0**	**-0.1**
IPIR				*e*Sn	**Sn**	**01 32 26.7**	**+0.1**
IPIR				*e*Sn	**Sn**	**01 32 26.8**	**+0.2**
IPIR	**Pirpir**	**2.16**	**119**	*e*Pn	**Pn**	**01 32 00.0**	**-0.1**
IPIR				*e*Sn	**Sn**	**01 32 26.8**	**+0.2**
IPIR	**Pirpir**	**2.16**	**119**	Pn	**Pn**	**01 31 59.9**	**-0.2**
IKLH	**Kalahroud**	**2.48**	**99**	*e*Pn	**Pn**	**01 32 04.5**	**-0.1**
IKLH				*e*Sn	**Sn**	**01 32 33.7**	**-0.9**
IKLH				*e*Sn	**Sn**	**01 32 34.7**	**+0.1**
IKLH	**Kalahroud**	**2.48**	**99**	Pn	**Pn**	**01 32 04.4**	**-0.2**
IMHD	**Mahdasht**	**2.55**	**40**	*e*Pn	**Pn**	**01 32 06.1**	**+0.6**
IMHD				*e*Sn	**Sn**	**01 32 37.5**	**+1.3**
IVRN	**Varamin**	**2.83**	**63**	*e*Pn	**Pn**	**01 32 10.1**	**+0.7**
IVRN				*e*Sn	**Sn**	**01 32 43.8**	**+0.6**
IVRN				*e*Sn	**Sn**	**01 32 44.0**	**+0.8**
IVRN	**Varamin**	**2.83**	**63**	*e*Pn	**Pn**	**01 32 10.1**	**+0.7**
IVRN				*e*Sn	**Sn**	**01 32 43.8**	**+0.6**
IVRN	**Varamin**	**2.83**	**63**	Pn	**Pn**	**01 32 10.1**	**+0.7**
IVRN				Sn	**Sn**	**01 32 43.9**	**+0.7**
IZEF	**Zefreh**	**3.19**	**104**	*e*Pn	**Pn**	**01 32 15.4**	**+1.0**
IZEF				*e*Sn	**Sn**	**01 32 51.6**	**-0.6**
IZEF				*e*Sn	**Sn**	**01 32 51.6**	**-0.6**
IAFJ	**Afjeh**	**3.28**	**49**	*e*Pn	**Pn**	**01 32 16.2**	**+0.7**
IAFJ				*e*Sn	**Sn**	**01 32 54.8**	**+0.5**
IAFJ				*e*Sn	**Sn**	**01 32 54.9**	**+0.6**
IAFJ	**Afjeh**	**3.28**	**49**	Pn	**Pn**	**01 32 16.1**	**+0.6**
NASN	**Na'in**	**3.61**	**104**	*e*Pn	**Pn**	**01 32 20.9**	**+0.8**
NASN				*e*Sg	**Sg**	**01 33 14.3**	**-6.2**
IPRN	**Paran-Amol**	**3.85**	**49**	*e*Pn	**Pn**	**01 32 24.5**	**+1.0**
IPRN	**Paran-Amol**	**3.85**	**49**	Pn	**Pn**	**01 32 24.4**	**+0.9**
IFIR	**Firoozkooh**	**3.87**	**60**	*e*Pn	**Pn**	**01 32 24.3**	**+0.6**
IFIR				*e*Sn	**Sn**	**01 33 07.9**	**-1.0**
IFIR				*e*Sn	**Sn**	**01 33 08.8**	**-0.1**
IFIR	**Firoozkooh**	**3.87**	**60**	Pn	**Pn**	**01 32 24.2**	**+0.5**
ILAS	**Lasjerd**	**3.91**	**64**	*e*Pn	**Pn**	**01 32 24.3**	**+0.1**
ILAS				*e*Sn	**Sn**	**01 33 09.0**	**-0.8**
ILAS				*e*Sn	**Sn**	**01 33 09.4**	**-0.4**
ILAS	**Lasjerd**	**3.91**	**64**	*e*Pn	**Pn**	**01 32 24.3**	**+0.1**
ILAS				*e*Sn	**Sn**	**01 33 09.4**	**-0.4**
ILAS	**Lasjerd**	**3.91**	**64**	Pn	**Pn**	**01 32 24.2**	**0.0**
MIB	**Mutribah**	**4.09**	**196**	*e*P	**Pn**	**01 32 29.1**	**+2.4**
MIB				AML	AML	01 33 17.9	
comp=Z,459nm,0.5s							
IBST	**Bostanabad**	**4.19**	**341**	*e*Pn	**Pn**	**01 32 30.4**	**+2.3**
IBST				*e*Sn	**Sn**	**01 33 18.3**	**+1.5**
IBST				*e*Sn	**Sn**	**01 33 18.8**	**+2.0**
UMR	**Umm Al-Rimmam**	**4.26**	**191**	*e*P	**Pn**	**01 32 30.9**	**+1.8**
UMR				AML	AML	01 33 36.1	
comp=Z,725nm,0.5s							
ISHM	**Shahmirzad**	**4.33**	**60**	*e*Pn	**Pn**	**01 32 31.5**	**+1.4**
ISHM				*e*Sn	**Sn**	**01 33 19.5**	**-0.8**
ISHM				*e*Sn	**Sn**	**01 33 19.7**	**-0.6**
IAZR	**Azarshahr**	**4.48**	**332**	*e*Pn	**Pn**	**01 32 34.9**	**+2.8**
IAZR				*e*Sn	**Sn**	**01 33 26.0**	**+2.1**
IAZR				*e*Sn	**Sn**	**01 33 26.2**	**+2.3**
IAZR	**Azarshahr**	**4.48**	**332**	Pn	**Pn**	**01 32 34.8**	**+2.7**
KBD	**Kabd**	**4.63**	**190**	*e*P	**Pn**	**01 32 36.4**	**+2.2**
KBD	**Kabd**	**4.63**	**190**	*e*P	**Pn**	**01 32 36.3**	**+2.1**
NAY	**Al-Naaiem**	**4.65**	**195**	*e*P	**Pn**	**01 32 36.2**	**+1.9**
NAY				AML	AML	01 33 33.3	
comp=Z,243nm,0.5s							
NAY	**Al-Naaiem**	**4.65**	**195**	*e*P	**Pn**	**01 32 36.2**	**+1.9**
NAY				*e*S	**Sn**	**01 33 31.5**	**+3.5**
IANJ	**Anjiloo**	**4.67**	**67**	*e*Pn	**Pn**	**01 32 35.1**	**+0.5**
IANJ				*e*Sn	**Sn**	**01 33 26.9**	**-1.6**
IANJ	**Anjiloo**	**4.67**	**67**	Pn	**Pn**	**01 32 35.0**	**+0.4**
IGLO	**Galoogah**	**4.72**	**56**	*e*Pn	**Pn**	**01 32 40.9**	**+5.5**
IGLO				*e*Sn	**Sn**	**01 33 36.8**	**+6.9**
IGLO				*e*Sn	**Sn**	**01 33 37.1**	**+7.2**
IGLO	**Galoogah**	**4.72**	**56**	Pn	**Pn**	**01 32 40.8**	**+5.4**
IKIA	**Kiasar**	**4.80**	**58**	*e*Pn	**Pn**	**01 32 38.1**	**+1.6**
IKIA				*e*Sn	**Sn**	**01 33 30.5**	**-1.4**
IKIA				*e*Sn	**Sn**	**01 33 30.6**	**-1.3**
IKIA	**Kiasar**	**4.80**	**58**	*e*Pn	**Pn**	**01 32 38.1**	**+1.6**
IKIA				*e*Sn	**Sn**	**01 33 30.6**	**-1.3**
IKIA	**Kiasar**	**4.80**	**58**	Pn	**Pn**	**01 32 38.0**	**+1.5**
RDF	**Al-Radifah**	**4.90**	**191**	*e*P	**Pn**	**01 32 40.0**	**+2.1**
RDF				AML	AML	01 33 38.4	
comp=Z,843nm,0.6s							
RDF	**Al-Radifah**	**4.90**	**191**	*e*P	**Pn**	**01 32 40.0**	**+2.2**
RDF				*e*S	**Sn**	**01 33 35.0**	**+0.7**
ITBZ	**Tabriz**	**4.91**	**336**	*e*Pn	**Pn**	**01 32 40.2**	**+2.2**
QRN	**Al-Qurain**	**5.03**	**187**	*e*P	**Pn**	**01 32 41.4**	**+1.7**
QRN				AML	AML	01 33 40.4	
comp=Z,328nm,0.5s							
ICHK	**Chekchek**	**5.06**	**106**	*e*Pn	**Pn**	**01 32 39.8**	**-0.3**
ICHK				*e*Sn	**Sn**	**01 33 35.4**	**-2.9**
ICHK				*e*Sn	**Sn**	**01 33 36.1**	**-2.2**
MSL	**Mosul**	**5.22**	**301**	*i* x	x	01 32 48.0	
MSL				*i* x	x	01 33 51.0	
MSL				*i* x	x	01 34 21.0	
SHI	**Shiraz**	**5.25**	**140**	*e*Pn	**Pn**	**01 32 43.1**	**+0.4**
SHI	**Shiraz**	**5.25**	**140**	P	**Pn**	**01 32 43.0**	**+0.3**
IPAR	**Pars**	**5.40**	**135**	*e*Pn	**Pn**	**01 32 45.3**	**+0.6**
IPAR	**Pars**	**5.40**	**135**	Pn	**Pn**	**01 32 45.2**	**+0.5**
IMRD	**Marand**	**5.50**	**335**	*e*Pn	**Pn**	**01 32 48.3**	**+2.3**
IMEH	**Mehriz**	**5.56**	**113**	*e*Pn	**Pn**	**01 32 46.6**	**-0.2**
IBAF	**Bafgh**	**6.22**	**108**	*e*Pn	**Pn**	**01 32 55.9**	**0.0**
IBAF	**Bafgh**	**6.22**	**108**	Pn	**Pn**	**01 32 55.8**	**-0.1**
TVAN	**Van**	**6.38**	**320**	*i* P	**Pn**	**01 32 56.4**	**-1.8**
GNI	**Garni**	**7.11**	**335**	Pn	**Pn**	**01 33 12.2**	**+4.1**
comp=Z,0.4nm,0.3s,baz=146,slow=11,SNR=4.3							
GNI				Lg		01 35 11.9	
baz=205,slow=23,SNR=3.0							
GNI	**Garni**	**7.11**	**335**	Pn	**Pn**	**01 33 13.9**	**+5.7**
comp=Z,205nm,1.0s							
GNI	**Garni**	**7.11**	**335**	P	**Pn**	**01 33 13.9**	**+5.7**
GNI				pmax	pmax		
comp=Z,205nm,1.0s							
BEST	**Besiri**	**7.28**	**307**	*i* P	**Pn**	**01 33 05.9**	**-4.6**
ERZM	**Erzurum**	**8.47**	**319**	*i* P	**Pn**	**01 33 28.9**	**+2.1**
ELZG	**Elazig**	**9.14**	**304**	*i* P	**Pn**	**01 33 28.9**	**-7.1**
MAK	**Makhachkala**	**9.24**	**355**	*e*P	**Pn**	**01 33 43.5**	**+6.1**
MAK	**Makhachkala**	**9.24**	**355**	*e*P	**Pn**	**01 33 42.3**	**+4.9**
MAK				*e*S	**Sn**	**01 35 30.6**	**+10**
MAK				pmax	pmax		
comp=Z,345nm,1.0s							
MALT	**Malatya**	**9.45**	**302**	*e*P	**Pn**	**01 33 40.3**	**+0.1**
comp=Z,77nm,1.0s							
MALT	**Malatya**	**9.45**	**302**	*e*Pn	**Pn**	**01 33 40.3**	**0.0**
comp=Z,77nm,1.0s							
MALT	**Malatya**	**9.45**	**302**	*e*P	**Pn**	**01 33 40.3**	**+0.1**
MALT				pmax	pmax		
comp=Z,77nm,1.0s							
GZT	**Gaziantep**	**9.72**	**295**	*i* P	**Pn**	**01 33 39.5**	**-4.5**
ZEI	**Tsey**	**9.75**	**339**	*e*P	**Pn**	**01 33 50.8**	**+6.5**
BANOM	**Banah**	**10.24**	**138**	P	**Pn**	**01 33 48.4**	**-2.7**
SNR=118							
ASHO	**Ashiyiah**	**11.11**	**143**	P	**Pn**	**01 34 00.5**	**-2.5**
SNR=17							
ZHSF	**Zahedan**	**11.12**	**109**	*e*Pn	**Pn**	**01 34 04.8**	**+1.6**
KIV	**Kislovodsk**	**11.20**	**337**	*e*Pn	**Pn**	**01 34 11.7**	**+7.5**
comp=Z,44nm,1.1s							
KIV	**Kislovodsk**	**11.20**	**337**	*e*P	**Pn**	**01 34 10.2**	**+6.0**
KIV				*e*S	**Sn**	**01 36 19.3**	**+10**
KIV				pmax	pmax		
comp=Z,59nm,1.3s							
EIL	**Elat**	**12.35**	**254**	*e*Pn	**Pn**	**01 34 19.4**	**-0.6**
ARQ	**Araqi**	**12.46**	**144**	⇑P	**Pn**	**01 34 19.3**	**-2.3**
SNR=10							
HOQ	**Hoqain**	**12.66**	**141**	⇑P	**Pn**	**01 34 20.0**	**-4.2**
SNR=10							
BIDO	**Bidbid**	**13.15**	**138**	⇓P	**Pn**	**01 34 24.9**	**-5.9**
SNR=35							
BOYT	**Boyabat**	**13.31**	**309**	*i* P	**Pn**	**01 34 33.2**	**+0.1**
BR131	**Keskin Array S**	**13.43**	**301**	*e*Pn	**Pn**	**01 34 37.3**	**+2.6**
comp=Z,1nm,0.8s							
BRTR	**Keskin Array B**	**13.43**	**301**	Pn	**Pn**	**01 34 35.3**	**+0.6**
comp=Z,0.5nm,0.3s,baz=116,slow=12,SNR=16							
BRTR				ScP	ScP	01 43 33.8	-1.5
comp=Z,0.0nm,0.3s,baz=134,slow=3.6,SNR=5.9							
SMDO	**Samad**	**13.48**	**140**	⇑P	**Pn**	**01 34 31.0**	**-4.4**
SNR=16							
ELDT	**Eldivan**	**13.88**	**303**	*i* P	**Pn**	**01 34 46.6**	**+5.8**
ANN	**Anapa**	**14.03**	**325**	*e*P	**Pn**	**01 34 51.6**	**+8.7**
ANN				pmax	pmax		
comp=Z,137nm,1.2s							

JMDO Jabal Madar 14.07 141 ⇑P Pn 01 34 39.0 -4.4
SNR=12
ANTO Ankara 14.09 300 *e*Pn **Pn 01 34 46.7 +3.0**
SGKT Sivrigoynuk 14.87 302 *i* P **Pn 01 34 51.4 -3.0**
ISP Isparta 15.28 291 *e*Pn **Pn 01 35 01.2 +1.5**
comp=Z,68nm,0.9s
ISP Isparta 15.28 291 *e*P **Pn 01 35 01.5 +1.7**
ESKT Eskisehir 15.40 297 *i* P **Pn 01 35 02.9 +1.5**
SEYT Eskypehyr 15.40 297 *i* P **Pn 01 35 02.9 +1.5**
TKTP Tekketepe 15.46 291 *i* P **Pn 01 35 03.8 +1.7**
HENT Hendek 15.78 302 *i* P **Pn 01 35 04.8 -1.6**
SIM Simferopol' 15.83 319 *e*P **Pn 01 35 11.8 +4.8**
SIM pmax pmax
comp=Z,19nm,0.9s
DNZL Cakiroluk 16.40 289 *i* P **Pn 01 35 11.5 -2.8**
ULDT Uludag 16.84 298 *i* P **Pn 01 35 19.2 -0.7**
MANT Manisa 16.90 292 *i* P **Pn 01 35 18.2 -2.5**
BTOK Tokmak 17.57 296 *i* P **Pn 01 35 27.8 -1.1**
KARP Karpathos 17.77 282 *e*P **Pn 01 35 34.5 +3.0**
KDAG Bornova 17.89 291 *i* P **Pn 01 35 29.7 -3.3**
AKTK Aktyubinsk 18.04 20 P **Pn 01 35 33.9 -0.9**
comp=Z,1.0nm,0.3s
AKTK Aktyubinsk 18.04 20 P **Pn 01 35 33.9 -0.9**
AKTO Aktyubinsk 18.04 20 P **Pn 01 35 33.9 -0.9**
comp=Z,1.2nm,0.3s,baz=213,slow=12,SNR=8.3
AKTO Aktyubinsk 18.04 20 P **Pn 01 35 33.9 -0.9**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
SMG Samos 18.14 289 *e*P **Pn 01 35 35.0 -1.0**
AYVA Ayvalik 18.48 294 *i* P **Pn 01 35 34.5 -5.7**
VRSR Storozhevoye 18.77 341 *e*P **Pn 01 35 43.6 -0.1**
comp=Z,9.0nm,1.0s
VRSR Storozhevoye 18.77 341 *e*P **Pn 01 35 43.6 -0.1**
VRSR pmax pmax
comp=Z,3.0nm,0.8s
VRSR pmax pmax
comp=N,9.0nm,1.0s
VRSR pmax pmax
comp=E,6.0nm,0.9s
PRK Paraskevi 18.79 293 *e*P **Pn 01 35 44.5 +0.5**
TIRR Tirgusor 18.95 310 ⇓P **Pn 01 35 45.7 -0.2**
XRY Khrisi 18.99 280 *e*P **Pn 01 35 46.5 +0.1**
NPS Neapolis 19.04 281 *e*P **Pn 01 35 47.5 +0.5**
PRD Provadia 19.08 306 *e*P **Pn 01 35 48.0 +0.5**
APE Apeiranthos 19.13 287 *e*P **Pn 01 35 48.0 0.0**
APE Apeiranthos 19.13 287 *e*P **Pn 01 35 47.4 -0.6**
APE P 01 35 49.8
LAST Lasithi 19.16 281 *e*P **Pn 01 35 49.0 +0.6**
SANT Santorini 19.16 284 *e*P **Pn 01 35 48.5 +0.1**
comp=E,51nm,0.6s
VOR Voronezh 19.23 342 *e*P **Pn 01 35 49.5 +0.2**
comp=E,80nm,1.8s
VOR Voronezh 19.23 342 *e*P **Pn 01 35 49.5 +0.2**
VOR pmax pmax
comp=Z,80nm,1.8s
ALN Alexandroupoli 19.31 298 *e*P **Pn 01 35 50.1 -0.1**
CFR Carcaliu 19.46 312 ⇑P **Pn 01 35 49.6 -2.5**
IDI Anoyia 19.63 281 P **Pn 01 35 53.6 -0.5**
comp=Z,9.2nm,0.3s,baz=70,slow=11,SNR=44
SIVA Sivas 19.71 280 *e*P **Pn 01 35 54.4 -0.6**
RDO Rodhopi 19.75 299 *e*P **Pn 01 35 55.0 -0.4**
DIM Dimitrovgrad 19.99 301 *e*P **Pn 01 35 57.0 -1.4**
KIS Kishinev 20.01 317 *e*P **P 01 36 01.0 +4.2**
SZH Strazhica 20.11 305 *e*P **P 01 35 58.0 +0.2**
VAM Vamos 20.19 282 *e*P **P 01 35 59.0 +0.2**
GVD Gavdhos 20.32 280 *e*P **P 01 36 00.5 +0.4**
GVD Gavdhos 20.32 280 *e*P **P 01 36 00.3 +0.2**
RZN Rozhen 20.48 300 *e*P **P 01 36 02.0 +0.1**
PTL Penteli 20.51 289 *e*P **P 01 36 03.5 +1.2**
KVR Kavouri 20.57 289 *e*P **P 01 36 05.0 +2.1**
PLD Plovdiv 20.60 301 *e*P **P 01 36 03.0 -0.2**
ATH Athens Observa 20.62 289 *e*P **P 01 36 04.9 +1.4**
VRI Vrincioaia 20.66 312 ⇑P **P 01 36 06.1 +2.2**
PLOR Plostina 20.70 312 ⇓P **P 01 36 04.9 +0.6**
OUR Ouranopolis 20.72 296 *e*P **P 01 36 04.7 +0.1**
PAIG Paliouri 20.88 294 *e*P **P 01 36 06.4 +0.1**
MLR Muntele Rosu 20.98 311 P **P 01 36 08.3 +0.9**
comp=Z,16nm,0.7s,baz=81,slow=3.9,SNR=12
MLR Muntele Rosu 20.98 311 P **P 01 36 09.6 +2.3**
MGER Gerania Oros 20.98 289 *e*P **P 01 36 08.7 +1.3**
PGB Panagyurishte 21.11 302 *e*P **P 01 36 08.0 -0.7**
KYTH Kithira 21.11 284 *e*P **P 01 36 07.5 -1.3**
SRS Serrai 21.17 298 *e*P **P 01 36 09.3 -0.1**
XOR Xorichti 21.17 293 *e*P **P 01 36 09.6 +0.1**
MMB Musomiste 21.18 299 *e*P **P 01 36 10.0 +0.6**
VLI Veliai 21.19 285 *e*P **P 01 36 08.0 -1.6**
KNT Kendrikon 21.69 297 *e*P **P 01 36 14.7 -0.3**
KKB Krupnik 21.71 299 *e*P **P 01 36 14.0 -1.2**
AGG Agios Georgios 21.80 292 *e*P **P 01 36 16.0 -0.1**
VTS Vitosha 21.80 301 ⇑P **P 01 36 18.9 +2.7**
VTS Vitosha 21.80 301 *e*P **P 01 36 15.5 -0.7**
VTS ⇑P 01 36 18.9
VAY Valandovo 21.97 298 *e*P **P 01 36 18.2 +0.3**
VAY Valandovo 21.97 298 P **P 01 36 20.0 +2.1**
ITM Ithomi 22.01 287 *e*P **P 01 36 17.5 -0.9**
ITM Ithomi 22.01 287 P **P 01 36 17.8 -0.6**
GRG Griva 22.02 297 *e*P **P 01 36 17.8 -0.7**
AKASG Malin Array Be 22.11 326 P **P 01 36 19.2 -0.3**
comp=Z,13nm,0.7s,mb4.4,baz=133,slow=11,SNR=36
AKASG ScP ScP 01 43 49.7 -3.8
comp=Z,0.6nm,0.5s,baz=104,slow=2.4,SNR=4.8
AKASG Malin Array Be 22.11 326 P **P 01 36 19.2 -0.3**
AKASG ScP ScP 01 43 49.7 -3.8
EVR Evrytania 22.19 291 *e*P **P 01 36 21.5 +1.1**
STIP Stip 22.32 299 *i* P **P 01 36 22.6 +0.9**
comp=Z,7.2nm,0.8s,mb4.2
KZN Kozani 22.39 295 *e*P **P 01 36 24.1 +1.7**
BURAR Bucovina Array 22.42 315 ⇓P **P 01 36 22.2 -0.5**
BURAR Bucovina Array 22.42 315 ⇓P **P 01 36 22.2 -0.6**
KSH Kashi 22.62 67 P **P 01 36 27.8 +2.9**
KSH PP 01 36 57.0
KSH PCP PcP 01 40 20.8 +3.2
KSH S **S 01 40 24.3 -8.4**
KSH SS 01 41 10.5
KSH SCP ScP 01 43 51.5 -3.3
KSH PCS PcS 01 43 59.5 +3.0
KSH AMB AMB
comp=Z,41nm,1.0s,mb4.8
KSH AMB AMB
comp=Z,9μm,10.3s
KSH LR LR
comp=N,7μm,11.5s,MS5.4
KSH LR LR
comp=E,6μm,13.3s,MS5.4
KSH LR LR
comp=Z,6μm,14.1s,MS5.2
FNA Florina 22.76 296 *e*P **P 01 36 25.6 -0.8**
BIA Bitola 22.83 296 *i* P **P 01 36 26.0 -1.1**
comp=Z,11nm,0.7s,mb4.4
BIA Bitola 22.83 296 P **P 01 36 28.4 +1.2**
SKO Skopje 22.93 299 *e*P **P 01 36 29.1 +0.9**
SKO Skopje 22.93 299 *e*P **P 01 36 29.0 +0.8**
OBN Obninsk 22.97 342 *e*P **P 01 36 28.4 -0.2**
comp=Z,20nm,0.5s,mb4.8
OBN Obninsk 22.97 342 *e*P **P 01 36 30.2 +1.6**
OBN *e* 01 36 56.3
OBN *e*S **S 01 40 41.9 +3.5**
OBN pmax pmax
comp=Z,77nm,1.7s,mb4.9
JAN Janina 23.00 293 *e*P **P 01 36 28.5 -0.5**
VLS Valsamata 23.10 289 *e*P **P 01 36 29.0 -0.9**
OHR Ohrid 23.24 297 *e*P **P 01 36 31.6 +0.1**
OHR Ohrid 23.24 297 *e*P **P 01 36 31.5 0.0**
IGT Igoumenitsa 23.39 292 *e*P **P 01 36 30.8 -2.2**
DRGR 23.57 311 ⇑P **P 01 36 34.2 -0.6**
SRN Sarande 23.68 293 *e*Pn **P 01 36 35.0 -0.8**
ARU Arti 23.68 14 P **P 01 36 35.0 -0.9**
ARU Arti 23.68 14 ⇓*i*P **P 01 36 37.7 +1.8**
ARU *e*PPP 01 37 14.8
ARU *e*S **S 01 40 53.7 +3.7**
ARU *e*SS 01 41 33.9
ARU pmax pmax
comp=Z,12nm,0.7s,mb4.4
KEK Kerkira 23.82 293 *e*P **P 01 36 36.0 -1.1**
BZS Buzias 23.82 308 ⇓P **P 01 36 35.4 -1.8**
GRUS Gruza 23.90 303 P **P 01 36 37.5 -0.4**
ZRNK Zerenda 24.08 31 *e*P **P 01 36 39.8 +0.3**
comp=Z,19nm,1.1s,mb4.4
ZRNK Zerenda 24.08 31 *e*P **P 01 36 39.8 +0.3**
comp=Z,19nm,1.1s,mb4.4
ZRNK Zerenda 24.08 31 *e*P **P 01 36 39.8 +0.3**
ZRNK pmax pmax
comp=Z,19nm,1.1s,mb4.4
BRVK Borovoye 24.72 32 *e*P **P 01 36 47.7 +2.4**
BRVK *e* 01 37 05.9
BVAR Borovoye Array 24.74 32 P **P 01 36 45.4 -0.1**
comp=Z,12nm,0.7s,mb4.5,baz=226,slow=7.6,SNR=22
BVAR PcP PcP 01 40 21.9 -0.2
comp=Z,1.7nm,0.6s,baz=195,slow=2.6,SNR=4.5
BVAR ScP ScP 01 43 56.5 -3.9
comp=Z,1.7nm,0.8s,baz=267,slow=3.0,SNR=6.8
BVAR Borovoye Array 24.74 32 PcP PcP 01 40 21.9 -0.2
BVAR Borovoye Array 24.74 32 P **P 01 36 45.4 -0.1**
BVAR 01 40 21.9
KWP Kalwaria 24.87 317 *e*P **P 01 36 47.1 +0.4**
comp=Z,9.0nm,0.5s,mb4.6
KWP Kalwaria 24.87 317 *e*P **P 01 36 47.1 +0.4**
comp=Z,8.9nm,0.5s,mb4.5
KWP Kalwaria 24.87 317 *e*P **P 01 36 47.1 +0.4**
KWP pmax pmax
comp=Z,9.0nm,0.5s,mb4.6
LCI Lecce 25.17 294 P **P 01 36 48.3 -1.1**
CHKZ Chkalovo 25.29 31 *e*P **P 01 36 51.5 +1.0**
comp=Z,8.0nm,0.8s,mb4.3
CHKZ Chkalovo 25.29 31 *e*P **P 01 36 51.5 +1.0**
comp=Z,8.3nm,0.8s,mb4.3
CHKZ Chkalovo 25.29 31 *e*P **P 01 36 51.5 +1.0**
CHKZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
MNK Minsk 25.39 331 *e*P **P 01 36 57.0 +5.6**
STHS Stebnicka Huta 25.60 316 *e*P **P 01 36 55.7 +2.4**
comp=Z,5.5nm,0.7s,mb4.2
STHS Stebnicka Huta 25.60 316 *e*P **P 01 36 55.7 +2.4**
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
KECS Kecovo 25.64 313 *i* P **P 01 36 55.2 +1.5**
comp=Z,7.3nm,0.8s,mb4.3
KECS Kecovo 25.64 313 *i* P **P 01 36 55.2 +1.5**
KECS pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
PSZ Piszkesteto 25.77 312 *e*P **P 01 36 56.5 +1.6**
comp=Z,13nm,0.8s,mb4.5
PSZ Piszkesteto 25.77 312 *e*P **P 01 36 56.5 +1.6**
comp=Z,13nm,0.8s,mb4.5
PSZ Piszkesteto 25.77 312 *e*P **P 01 36 56.5 +1.6**
PSZ pmax pmax
comp=Z,13nm,0.8s,mb4.5
BRT Bari-Castellan 25.91 295 P **P 01 36 55.5 -0.6**
PKSM Moragy 25.98 308 ⇓P **P 01 36 56.9 +0.1**
TIP Timpagrande 26.13 291 *e*P **P 01 36 58.3 +0.1**
GRI Girifalco 26.39 290 P **P 01 37 01.2 +0.7**
IDID Didziasalis 26.41 331 *e*P **P 01 37 01.1 +0.4**
IDID AMb AMB 01 37 06.2
comp=Z,19nm,1.3s,mb4.5
IDID Didziasalis 26.41 331 *e*P **P 01 37 01.1 +0.4**
comp=Z,19nm,1.3s,mb4.5,SNR=28
IIGN Ignalina 26.65 331 *e*P **P 01 37 03.3 +0.5**
IIGN AMb AMB 01 37 09.3
comp=Z,16nm,1.2s,mb4.4
IIGN Ignalina 26.65 331 *e*P **P 01 37 03.3 +0.5**
comp=Z,16nm,1.2s,mb4.4,SNR=28
SRO2 Moca 26.66 311 *e*P **P 01 37 04.2 +1.3**
SOI Samo 26.67 289 P **P 01 37 04.4 +1.4**
SRO Srobarova 26.72 311 *e*P **P 01 37 03.4 -0.1**
comp=Z,18nm,0.9s,mb4.6
SRO Srobarova 26.72 311 *e*P **P 01 37 04.2 +0.7**
SRO pmax pmax
comp=Z,13nm,0.9s,mb4.5
CEL Celeste 26.80 289 P **P 01 37 05.1 +0.9**
OJC Ojcow 26.80 317 *e*P **P 01 37 05.8 +1.6**
ISAL Salakas 26.84 331 *e*P **P 01 37 05.0 +0.4**
ISAL AMb AMB 01 37 10.7
comp=Z,9.3nm,1.6s,mb4.1
ISAL Salakas 26.84 331 *e*P **P 01 37 05.0 +0.4**
comp=Z,9.3nm,1.6s,mb4.1,SNR=28
IZAR Zarasai 26.92 332 *e*P **P 01 37 05.7 +0.4**
IZAR AMb AMB 01 37 10.1
comp=Z,16nm,1.4s,mb4.4
IZAR Zarasai 26.92 332 *e*P **P 01 37 05.7 +0.4**
comp=Z,16nm,1.4s,mb4.4,SNR=28
SCLL Scilla 26.94 289 P **P 01 37 06.5 +1.1**
MTTG Motta San Giov 26.96 289 P **P 01 37 08.2 +2.6**
SUW Suwalki 27.08 326 *e*P **P 01 37 06.4 -0.3**
MGR Morigerati 27.11 293 P **P 01 37 07.1 +0.2**
SGO Sicignano 27.32 294 P **P 01 37 10.5 +1.7**
SMOL Smolenice 27.53 312 *e*P **P 01 37 11.4 +0.7**
OKC Ostrava-Krasne 27.60 315 *e*P **P 01 37 10.7 -0.6**
ZST Bratislava 27.62 311 *e*P **P 01 37 08.8 -2.7**
comp=Z,13nm,0.9s,mb4.6
ZST Bratislava 27.62 311 *e*P **P 01 37 08.8 -2.7**
ZST pmax pmax
comp=Z,13nm,0.9s,mb4.6
SLNA Salina 27.63 290 P **P 01 37 12.9 +1.3**
KOGS Kog 27.64 307 P **P 01 37 12.2 +0.5**
KURK Kurchatov 27.66 43 *e*P **P 01 37 12.9 +1.0**
comp=Z,3.0nm,0.6s,mb4.1
KURK Kurchatov 27.66 43 *e*P **P 01 37 12.9 +1.0**
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
KLMR Klimovskoe 27.76 350 *e*P **P 01 37 08.3 -4.5**
KLMR pmax pmax
comp=Z,40nm,1.2s,mb4.9
MORC Moravsky Berou 27.93 314 *e*P **P 01 37 14.6 +0.3**
comp=Z,3.0nm,0.9s,mb3.9
MORC Moravsky Berou 27.93 314 *e*P **P 01 37 14.6 +0.2**
comp=Z,3.5nm,0.9s,mb4.0
MORC Moravsky Berou 27.93 314 *e*P **P 01 37 14.6 +0.3**
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
CII Carovilli 28.16 297 P **P 01 37 18.9 +2.5**
VRAC Vranov 28.33 313 P **P 01 37 18.3 +0.4**
comp=Z,1.0nm,0.3s,mb3.9,baz=124,slow=11,SNR=2.6
MKAR Makanchi Array 28.55 53 P **P 01 37 21.9 +2.0**
comp=Z,3.4nm,0.8s,mb4.1,baz=245,slow=9.4,SNR=8.2
VSU Vasula 28.75 336 *e*P **P 01 37 22.8 +1.2**
DPC Dobruska-Polom 28.88 315 *e*P **P 01 37 25.7 +2.9**
AQU L'Aquila 28.89 298 *e*P **P 01 37 22.4 -0.5**
comp=Z,20nm,0.9s,mb4.8
AQU L'Aquila 28.89 298 *e*P **P 01 37 22.4 -0.5**
comp=Z,20nm,0.9s,mb4.8
AQU L'Aquila 28.89 298 *e*P **P 01 37 22.4 -0.5**
AQU pmax pmax
comp=Z,20nm,0.9s,mb4.8
UPC Upice 29.12 315 *e*P **P 01 37 24.4 -0.5**
NRCA Norcia 29.15 299 P **P 01 37 27.4 +2.2**
MOA Molln 29.32 309 P **P 01 37 26.8 +0.1**
SNTG Esanatoglia 29.32 299 P **P 01 37 28.0 +1.3**
ARV Arcevia 29.35 300 P **P 01 37 29.4 +2.4**
KBA Koelnbreinsper 29.73 307 ⇑*i*P **P 01 37 30.1 -0.2**
comp=Z,20nm,0.7s,mb5.0,SNR=15
KBA Koelnbreinsper 29.73 307 P **P 01 37 30.1 -0.2**
comp=Z,20nm,0.7s,mb5.0,SNR=15
PRU Pruhonice 29.81 313 *e*P **P 01 37 27.0 -4.1**
GERES GERESS Array B 29.97 311 P **P 01 37 31.3 -1.1**
comp=Z,1.4nm,0.5s,mb4.0,baz=118,slow=7.8,SNR=6.5
GERES PcP PcP 01 40 32.7 -2.0
comp=Z,0.4nm,0.5s,baz=25,slow=5.5,SNR=2.7
GERES ScP ScP 01 44 14.4 -1.9
comp=Z,1.1nm,0.8s,baz=134,slow=3.9,SNR=4.6
GERES GERESS Array B 29.97 311 PcP PcP 01 40 32.7 -2.0
GERES GERESS Array B 29.97 311 P **P 01 37 31.3 -1.1**
GERES 01 40 32.7
KHC Kasperske Hory 30.13 311 *e*P **P 01 37 33.1 -0.8**
KHC Kasperske Hory 30.13 311 *e*P **P 01 37 34.8 +0.9**
SFI Santa Sofia 30.19 301 P **P 01 37 35.7 +1.3**
KOLN Koldanda 30.52 92 *e*P **P 01 37 34.7 -2.6**
comp=Z,18nm,1.0s,mb4.9
WTTA Wattenberg 30.91 307 ⇑*i*P **P 01 37 40.0 -0.7**
comp=Z,14nm,1.0s,mb4.8
WATA Walderalm 30.96 307 ⇑*i*P **P 01 37 40.2 -1.0**
comp=Z,13nm,1.0s,mb4.7
JOF Joensuu 31.16 345 *ep* **P 01 37 43.0 0.0**
comp=Z,12nm,0.6s,mb4.9
SQTA Sankt Quirin 31.18 307 ⇑*i*P **P 01 37 42.1 -1.0**
comp=Z,7.6nm,0.7s,mb4.6,SNR=22
CLL Collm 31.19 315 *e*(sP) sP 01 37 47.0 -2.6
MOTA Moosalm 31.28 307 ⇓*i*P **P 01 37 43.0 -0.9**
comp=Z,10nm,0.9s,mb4.6,SNR=9.1
FINES FINESS Array B 31.28 339 P **P 01 37 43.2 -0.8**
comp=Z,2.7nm,0.5s,mb4.3,baz=139,slow=9.0,SNR=17
GKN Gorkha 31.30 91 *e*P **P 01 37 43.3 -0.9**
BSD Bornholm Skovb 31.71 323 ⇑*i*P **P 01 37 46.4 -1.4**
comp=Z,58nm,0.6s,mb5.6
BSD Bornholm Skovb 31.71 323 ⇑*i*P **P 01 37 46.4 -1.4**
BSD pmax pmax
comp=Z,58nm,0.6s,mb5.6
KAF Kangasniemi 31.75 340 *ep* **P 01 37 47.9 -0.2**
comp=Z,4.2nm,0.7s,mb4.4,baz=141,slow=9.2
KAF Kangasniemi 31.75 340 *e*P **P 01 37 47.9 -0.2**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
GRA1 Grafenberg Arr 31.77 311 *e*P **P 01 37 47.2 -1.1**
comp=Z,7.0nm,1.1s,mb4.4
GRF Grafenberg Arr 31.77 311 *e*P **P 01 37 47.2 -1.1**
comp=Z,7.0nm,1.1s,mb4.4
GRF Grafenberg Arr 31.77 311 *e*P **P 01 37 47.2 -1.1**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
GRF Grafenberg Arr 31.77 311 *e*P **P 01 37 47.2 -1.1**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
WMQ Urumqi 31.79 60 *e*P **P 01 37 49.3 +0.8**
WMQ AP pP 01 37 53.5 +0.5
WMQ XP sP 01 37 56.3 +1.4
WMQ PP PP 01 38 54.5 -5.9
WMQ AMB AMB
comp=Z,14nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,121nm,4.6s
WMQ LR LR
comp=N,2μm,21.2s,MS4.9
WMQ LR LR
comp=E,2μm,20.0s,MS4.9
WMQ LR LR
comp=Z,2μm,19.2s,MS4.7
DMN Daman 31.83 91 *e*P **P 01 37 47.9 -0.9**
VSL Villasalto 31.86 292 *e*P **P 01 37 50.2 +1.1**
comp=Z,43nm,0.8s,mb5.3
KKN Kakani 31.91 91 *e*P **P 01 37 49.1 -0.5**
comp=Z,33nm,0.7s,mb5.3
DAVOX Davos 31.99 306 P **P 01 37 48.0 -2.3**
comp=Z,6.9nm,0.5s,mb4.8,baz=114,slow=7.8,SNR=15
DAVA Damuels 32.08 307 ⇑*i*P **P 01 37 50.0 -1.1**
comp=Z,19nm,0.5s,mb5.2,SNR=15
PKI Pulchoki 32.09 91 *e*P **P 01 37 51.0 -0.2**
PGF Pioggiola 32.15 298 *e*P **P 01 37 49.2 -2.5**
GUN Gumba 32.37 90 *e*P **P 01 37 53.6 0.0**
comp=Z,112nm,0.9s,mb5.7
ZAL Zalesovo 32.46 41 P **P 01 37 52.8 -1.5**
comp=Z,2.0nm,0.5s,mb4.2,baz=180,slow=6.3,SNR=4.0
ZAL Zalesovo 32.46 41 *i* P **P 01 37 56.4 +2.0**
comp=Z,2.0nm,0.5s,mb4.2
ZAL Zalesovo 32.46 41 P **P 01 37 52.8 -1.5**
ZAL *i* P pP 01 37 56.4 -2.5
ZAL Zalesovo 32.46 41 *i* P **P 01 37 56.4 +2.0**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
JIRN Jiri 32.72 90 *e*P **P 01 37 56.8 +0.2**
comp=Z,33nm,0.6s,mb5.4
SBF Sospel 33.37 300 *e*P **P 01 38 01.9 -0.4**
comp=Z,65nm,0.7s,mb5.3
SBF Sospel 33.37 300 *e*P **P 01 38 01.9 -0.4**
comp=Z,33nm,0.7s,mb5.3
SBF Sospel 33.37 300 *e*P **P 01 38 01.9 -0.4**
SBF pmax pmax
comp=Z,33nm,0.7s,mb5.4
MBDF Montbardon 33.90 301 *e*P **P 01 38 06.2 -0.7**
comp=Z,33nm,0.7s,mb5.2
MBDF Montbardon 33.90 301 *e*P **P 01 38 06.2 -0.7**
comp=Z,20nm,0.7s,mb5.2
MBDF Montbardon 33.90 301 *e*P **P 01 38 06.2 -0.7**
MBDF pmax pmax
comp=Z,19nm,0.7s,mb5.1
FRF La Foret Royal 33.92 299 *e*P **P 01 38 06.2 -0.9**
LPG La Plagne 33.98 303 *e*P **P 01 38 07.5 -0.1**
comp=Z,38nm,0.9s,mb5.0
LPG La Plagne 33.98 303 *e*P **P 01 38 07.5 -0.1**
comp=Z,19nm,0.9s,mb5.0
LPG La Plagne 33.98 303 *e*P **P 01 38 07.5 -0.1**
LPG pmax pmax
comp=Z,19nm,0.9s,mb5.0
BNI Bardonecchia 33.99 302 *e*P **P 01 38 07.0 -0.7**
comp=Z,36nm,0.8s,mb5.3
BNI Bardonecchia 33.99 302 *e*P **P 01 38 07.0 -0.7**
comp=Z,36nm,0.8s,mb5.3
BNI Bardonecchia 33.99 302 *e*P **P 01 38 07.0 -0.7**
BNI pmax pmax
comp=Z,36nm,0.8s,mb5.3
CDF Champ du Feu 34.01 308 *e*P **P 01 38 05.7 -2.2**
LMR La Mourre 34.01 299 *e*P **P 01 38 06.7 -1.2**
HINF Hinteralfeld 34.19 307 *e*P **P 01 38 07.7 -1.8**
OUL Oulu 34.27 343 P **P 01 38 09.5 -0.7**
ORIF Oris-en-Rattie 34.54 302 *e*P **P 01 38 10.4 -2.1**
comp=Z,24nm,0.9s,mb4.8
ORIF Oris-en-Rattie 34.54 302 *e*P **P 01 38 10.4 -2.1**
comp=Z,12nm,0.9s,mb4.8
ORIF Oris-en-Rattie 34.54 302 *e*P **P 01 38 10.4 -2.1**
ORIF pmax pmax
comp=Z,12nm,0.9s,mb4.8
CABF La Chapelle 34.55 305 *e*P **P 01 38 11.7 -0.9**
comp=Z,50nm,0.8s,mb5.2
CABF La Chapelle 34.55 305 *e*P **P 01 38 11.7 -0.9**
comp=Z,25nm,0.8s,mb5.2
CABF La Chapelle 34.55 305 *e*P **P 01 38 11.7 -0.9**
CABF pmax pmax
comp=Z,25nm,0.8s,mb5.2
SMRF Simiane la Rot 34.71 300 *e*P **P 01 38 13.1 -0.9**
comp=Z,8.3nm,0.8s,mb4.4
SMRF Simiane la Rot 34.71 300 *e*P **P 01 38 13.1 -0.9**
comp=Z,4.2nm,0.8s,mb4.4
HFS Hagfors 34.86 330 P **P 01 38 14.6 -0.7**
comp=Z,17nm,0.4s,mb5.4,baz=122,slow=8.9,SNR=52
WLF Walferdange 34.97 310 *e*P **P 01 38 15.4 -0.8**
APA Apatity 35.00 350 *i* P **P 01 38 16.4 -0.1**
comp=Z,5μm,15.0s
APA Apatity 35.00 350 ⇑*i*P **P 01 38 16.4 -0.1**
APA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
APA MLR MLR
comp=Z,5μm,15.0s,MS5.4
MUD Monsted U'grnd 35.22 322 *i* P **P 01 38 19.0 +0.7**
comp=Z,28nm,0.9s,mb5.2
MUD
comp=Z,11μm,21.0s
VIVF Saint-Julien-l 35.40 301 *e*P **P 01 38 18.4 -1.5**
comp=Z,32nm,1.1s,mb4.9
VIVF Saint-Julien-l 35.40 301 *e*P **P 01 38 18.4 -1.5**
comp=Z,16nm,1.1s,mb4.9
VIVF Saint-Julien-l 35.40 301 *e*P **P 01 38 18.4 -1.5**
VIVF pmax pmax
comp=Z,16nm,1.1s,mb4.9
LASF Ste Croix 35.95 300 *e*P **P 01 38 23.1 -1.6**
comp=Z,22nm,0.9s,mb4.8
LASF Ste Croix 35.95 300 *e*P **P 01 38 23.1 -1.6**
comp=Z,11nm,0.9s,mb4.8
SMF Signal de Mont 36.09 304 *e*P **P 01 38 24.4 -1.5**
comp=Z,23nm,0.7s,mb4.9
SMF Signal de Mont 36.09 304 *e*P **P 01 38 24.4 -1.5**
comp=Z,12nm,0.7s,mb4.9
SMF Signal de Mont 36.09 304 *e*P **P 01 38 24.4 -1.5**
SMF pmax pmax
comp=Z,12nm,0.7s,mb4.9
LOR Lormes 36.14 306 *e*P **P 01 38 24.3 -1.9**
LSA Lhasa 36.19 85 *e*P **P 01 38 27.3 +0.6**
comp=Z,11nm,0.8s,mb4.8
LSA Lhasa 36.19 85 *e*P **P 01 38 27.3 +0.6**
comp=Z,11nm,0.8s,mb4.8
LSA Lhasa 36.19 85 *e*P **P 01 38 27.3 +0.6**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
BAIF Baives 36.27 310 *e*P **P 01 38 26.8 -0.6**
comp=Z,14nm,0.8s,mb4.6
BAIF Baives 36.27 310 *e*P **P 01 38 26.8 -0.6**
comp=Z,6.8nm,0.8s,mb4.6
BAIF Baives 36.27 310 *e*P **P 01 38 26.8 -0.6**
BAIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KMBO Kilima Mbogo 36.31 199 P **P 01 38 28.0 +0.3**
comp=Z,1.0nm,0.8s,mb3.8,baz=51,slow=14,SNR=3.3
KMBO Kilima Mbogo 36.31 199 P **P 01 38 28.0 +0.2**
KMBO pmax pmax
comp=Z,1.0nm,0.8s
SSF Saint Saulge 36.36 305 *e*P **P 01 38 26.6 -1.5**
comp=Z,18nm,1.0s,mb4.7
SSF Saint Saulge 36.36 305 *e*P **P 01 38 26.6 -1.5**
comp=Z,9.2nm,1.0s,mb4.7
SSF Saint Saulge 36.36 305 *e*P **P 01 38 26.6 -1.5**
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 36.38 330 P **P 01 38 26.9 -1.5**
comp=Z,4.7nm,0.6s,mb4.6,baz=124,slow=8.6
NB2 NORSAR Subarra 36.38 330 P **P 01 38 26.9 -1.5**
comp=Z,4.7nm,0.6s,mb4.6
NB2 P pP 01 38 30.4 -2.5

NB2	NORSAR Subarra	36.38 330	P	P	01 38 26.9	-1.5
NB2			pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6						
NOA	NORSAR Array B	36.38 330	P	P	01 38 27.6	-0.7
comp=Z,4.8nm,0.6s,mb4.6,baz=122,slow=8.4,SNR=16						
KONO	Kongsberg	36.39 327	eP	P	01 38 29.7	+1.3
KONO	Kongsberg	36.39 327	eP	P	01 38 28.5	0.0
comp=Z,14nm,0.6s,mb5.0						
NAO01	NORSAR Array S	36.42 330	eP	P	01 38 28.4	-0.3
comp=Z,1.6nm,0.3s,mb4.4						
AVF	Avril sur Loir	36.44 305	eP	P	01 38 27.3	-1.5
comp=Z,14nm,0.9s,mb4.6						
AVF	Avril sur Loir	36.44 305	eP	P	01 38 27.3	-1.5
comp=Z,6.8nm,0.9s,mb4.6						
AVF	Avril sur Loir	36.44 305	eP	P	01 38 27.3	-1.5
AVF			pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.6						
TCF	Toulx Ste Croi	37.20 304	eP	P	01 38 34.1	-1.2
comp=Z,31nm,1.1s,mb4.7						
TCF	Toulx Ste Croi	37.20 304	eP	P	01 38 34.1	-1.2
comp=Z,15nm,1.1s,mb4.7						
TCF	Toulx Ste Croi	37.20 304	eP	P	01 38 34.1	-1.2
TCF			pmax	pmax		
comp=Z,15nm,1.1s,mb4.7						
CAF	Calviac	37.25 302	eP	P	01 38 34.5	-1.3
KEV	Kevo	38.00 348	ep	P	01 38 41.5	-0.6
ARCES	ARCESS Array B	38.08 347	P	P	01 38 42.0	-0.8
comp=Z,6.8nm,0.9s,mb4.4,baz=154,slow=7.3,SNR=18						
LFF	La Frestale	38.19 302	eP	P	01 38 42.4	-1.3
MFF	Saint Martin d	38.84 304	eP	P	01 38 47.2	-1.9
LDF	La Druitiere	38.91 307	eP	P	01 38 47.6	-2.2
comp=Z,15nm,0.7s,mb4.6						
LDF	La Druitiere	38.91 307	eP	P	01 38 47.6	-2.2
comp=Z,7.7nm,0.7s,mb4.6						
LDF	La Druitiere	38.91 307	eP	P	01 38 47.6	-2.2
LDF			pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.6						
FLN	La Foliniere	39.16 308	eP	P	01 38 49.9	-2.0
comp=Z,23nm,0.6s,mb4.8						
FLN	La Foliniere	39.16 308	eP	P	01 38 49.9	-2.0
comp=Z,11nm,0.6s,mb4.8						
FLN	La Foliniere	39.16 308	eP	P	01 38 49.9	-2.0
FLN			pmax	pmax		
comp=Z,11nm,0.6s,mb4.8						
GRR	Gorron	39.39 307	eP	P	01 38 52.1	-1.6
comp=Z,76nm,1.1s,mb5.0						
GRR	Gorron	39.39 307	eP	P	01 38 52.1	-1.6
comp=Z,38nm,1.1s,mb5.0						
GRR	Gorron	39.39 307	eP	P	01 38 52.1	-1.6
GRR			pmax	pmax		
comp=Z,38nm,1.1s,mb5.0						
SJPF	Ste Jean	39.67 299	eP	P	01 38 54.6	-1.4
comp=Z,19nm,1.0s,mb4.5						
SJPF	Ste Jean	39.67 299	eP	P	01 38 54.6	-1.4
comp=Z,9.6nm,1.0s,mb4.5						
SJPF	Ste Jean	39.67 299	eP	P	01 38 54.6	-1.4
SJPF			pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.5						
QUIF	Quistinic	40.92 306	eP	P	01 39 04.5	-1.9
GTA	Gaotai	41.02 67	eP	P	01 39 07.8	+0.5
GTA			SCP	ScP	01 44 54.3	-2.0
GTA			AMB	AMB		
comp=Z,6.0nm,0.8s,mb4.3						
ESK	Eskdalemuir	41.59 317	eP	P	01 39 11.1	-0.9
comp=Z,7.0nm,0.8s,mb4.3						
ESK	Eskdalemuir	41.59 317	eP	P	01 39 11.1	-0.9
ESK			pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.3						
ESDC	Sonseca Array	42.09 294	P	P	01 39 15.2	-0.8
comp=Z,6.5nm,0.9s,mb4.3,baz=70,slow=7.6,SNR=16						
ESLA	Sonseca Array	42.09 294	eP	P	01 39 15.6	-0.4
comp=Z,1.7nm,0.8s,mb3.7						
PBRG	Braganca	43.86 297	eP	P	01 39 30.4	0.0
comp=Z,15nm,1.3s,mb4.6						
MDT	Midelt	44.12 284	P	P	01 39 33.2	+0.7
comp=Z,2.7nm,0.6s,mb4.1,baz=69,slow=12,SNR=11						
PVRL	Vila Real	44.66 297	eP	P	01 39 36.9	+0.1
comp=Z,40nm,1.8s,mb5.0						
MTE	Manteigas	44.68 296	eP	P	01 39 37.3	+0.3
comp=Z,33nm,1.2s,mb5.0						
PCBR	Castelo Branco	44.73 295	eP	P	01 39 36.5	-0.9
comp=Z,21nm,1.3s,mb4.8						
PCBR	Castelo Branco	44.73 295	eP	P	01 39 37.3	-0.1
LZH	Lanzhou	44.80 71	eP	P	01 39 39.0	+1.1
LZH			AP	pP	01 39 42.3	-0.2
LZH			XP	sP	01 39 44.0	-0.4
LZH			AMB	AMB		
comp=Z,22nm,1.0s,mb4.9						
LZH			AMB	AMB		
comp=Z,110nm,4.5s						
SONM	Songino Array	44.91 54	P	P	01 39 39.5	+0.7
comp=Z,0.6nm,0.7s,baz=282,slow=8.8,SNR=3.6						
PBEJ	Beja	45.39 292	eP	P	01 39 42.8	+0.2
comp=Z,19nm,1.1s,mb4.8						
EVO	Evora	45.40 293	eP	P	01 39 42.4	-0.2
PTOM	Tomar	45.48 295	eP	P	01 39 43.7	+0.4
comp=Z,44nm,1.3s,mb5.1						
PTOM	Tomar	45.48 295	eP	P	01 39 43.6	+0.3
CD2	Chengdu	46.19 78	eP	P	01 39 45.5	-3.4
CD2			AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8						
TORD	Torodi Ar. Bea	47.24 256	P	P	01 39 56.9	-0.2
comp=Z,9.3nm,0.9s,mb4.7,baz=55,slow=7.0,SNR=41						
KMI	Kunming	47.43 86	P	P	01 40 01.8	+3.2
KMI			AMB	AMB		
comp=Z,14nm,0.6s,mb5.1						
KBS	Kingsbay	47.80 351	eP	P	01 40 04.8	+3.3
BOD	Bodaibo	49.23 40	eP	P	01 40 09.5	-3.0
BOD			pmax	pmax		
comp=Z,7.0nm,1.9s,mb4.4						
HHC	Hu-ho-hao-te	49.60 62	eP	P	01 40 15.0	-0.3
HHC			AP	pP	01 40 19.5	-0.5
HHC			XP	sP	01 40 22.0	+0.2
HHC			PCP	PcP	01 41 37.0	+0.2
HHC			PP	PP	01 42 10.3	+0.6
HHC			SCP	ScP	01 45 30.5	-1.2
HHC			S	S	01 47 21.0	-2.0
HHC			SCS	ScS	01 50 03.5	-3.1
HHC			SS	SS	01 50 49.3	-5.8
HHC			AMB	AMB		
comp=Z,12nm,0.5s,mb5.2						
HHC			AMB	AMB		
comp=Z,762nm,6.1s						
HHC			LR	LR		
comp=N,979nm,14.2s						
HHC			LR	LR		
comp=E,1μm,8.3s						
HHC			LR	LR		
comp=Z,1μm,12.3s,MS5.2						
GYA	Guiyang	50.15 82	P	P	01 40 18.0	-1.5
GYA			AP	pP	01 40 23.5	-0.7
GYA			XP	sP	01 40 25.8	-0.2
GYA			PP	PP	01 42 13.5	-1.2
GYA			S	S	01 47 25.8	-4.9
GYA			AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0						
GYA			AMB	AMB		
comp=Z,90nm,3.4s						
GYA			LR	LR		
comp=N,430nm,18.9s,MS4.6						
GYA			LR	LR		
comp=E,420nm,17.4s,MS4.6						
GYA			LR	LR		
comp=Z,480nm,17.6s,MS4.6						
OPO	Ambohidratompo	52.05 182	P	P	01 40 35.5	+1.8
comp=Z,6.0nm,0.8s,mb4.6,baz=358,slow=6.0,SNR=10						
LSZ	Lusaka	52.51 205	P	P	01 40 38.3	+1.1
comp=Z,3.5nm,0.6s,mb4.5,baz=18,slow=6.7,SNR=8.0						
LSZ	Lusaka	52.51 205	eP	P	01 40 38.4	+1.2
comp=Z,3.0nm,0.6s,mb4.4						
LSZ	Lusaka	52.51 205	eP	P	01 40 38.4	+1.1
comp=Z,2.9nm,0.6s,mb4.4						
LSZ	Lusaka	52.51 205	eP	P	01 40 38.4	+1.2
LSZ			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4						
TIXI	Tiksi	55.29 22	eP	P	01 40 59.2	+1.7
PSI	Prapat	56.03 112	P	P	01 41 04.7	+1.9
comp=Z,2.7nm,0.5s,mb4.5,baz=339,slow=3.5,SNR=3.6						
DBIC	Dimbokro	56.22 254	P	P	01 41 03.9	-0.3
comp=Z,3.5nm,0.6s,mb4.6,baz=34,slow=5.0,SNR=9.1						
DBIC	Dimbokro	56.22 254	eP	P	01 41 04.1	-0.1
comp=Z,3.8nm,0.6s,mb4.6						
DBIC	Dimbokro	56.22 254	P	P	01 41 03.9	-0.3
DBIC			pmax	pmax		
comp=Z,4.0nm,0.6s						
LIC	Lamto	56.62 254	eP	P	01 41 05.9	-1.1
comp=Z,15nm,0.6s,mb4.9						
LIC	Lamto	56.62 254	eP	P	01 41 05.9	-1.1
comp=Z,7.6nm,0.6s,mb4.9						
SUMG	Summit	57.32 339	eP	P	01 41 11.7	-0.2
comp=Z,23nm,1.3s,mb5.0						
NJ2	Nanjing	57.88 71	eP	P	01 41 17.8	+1.9
NJ2			AP	pP	01 41 22.5	+1.8
NJ2			XP	sP	01 41 24.8	+2.3
NJ2			PP	PP	01 43 27.8	+3.6
NJ2			S	S	01 49 15.0	-0.2
NJ2			XS	sS	01 49 23.0	0.0
NJ2			AMB	AMB		
comp=Z,20nm,0.5s,mb5.4						
NJ2			AMB	AMB		
comp=Z,460nm,6.5s						
NJ2			LR	LR		
comp=N,10μm,15.9s,MS6.0						
NJ2			LR	LR		
comp=E,5μm,18.8s,MS6.0						
NJ2			LR	LR		
comp=Z,3μm,23.2s,MS5.3						
SNY	Shenyang	58.04 58	⇑P	P	01 41 18.3	+1.2
SNY			AMB	AMB		
comp=Z,7.0nm,0.2s,mb5.3						
CN2	Changchun	58.72 56	eP	P	01 41 20.3	-1.5
CN2			AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0						
SSE	Sheshan	60.09 71	eP	P	01 41 30.5	-0.8
SSE			AMB	AMB		
comp=Z,51nm,0.7s,mb5.7						
SSE			AMB	AMB		
comp=Z,630nm,12.0s						
LBTB	Lobatse	62.42 204	eP	P	01 41 47.6	+0.6
comp=Z,6.0nm,0.6s,mb4.9						
LBTB	Lobatse	62.42 204	eP	P	01 41 47.6	+0.6
comp=Z,5.9nm,0.6s,mb4.9						
LBTB	Lobatse	62.42 204	eP	P	01 41 47.6	+0.6
LBTB			pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.9						
YHNB	Yeheng	62.96 77	eP	P	01 41 52.1	+1.5
MA2	Magadan	67.23 33	eP	P	01 42 18.3	-0.1
comp=Z,9.0nm,0.8s,mb4.8						
MA2	Magadan	67.23 33	eP	P	01 42 18.3	-0.1
comp=Z,9.2nm,0.8s,mb4.9						
MA2	Magadan	67.23 33	eP	P	01 42 18.3	-0.1
MA2			pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8						
BILL	Bilibino	68.46 21	eP	P	01 42 27.0	+0.8
comp=Z,13nm,1.2s,mb4.8						
BILL	Bilibino	68.46 21	eP	P	01 42 25.3	-0.9
comp=Z,6.8nm,0.8s,mb4.7						
BILL	Bilibino	68.46 21	eP	P	01 42 27.0	+0.8
BILL			pmax	pmax		
comp=Z,13nm,1.2s,mb4.8						
RES	Resolute Bay	69.21 350	eP	P	01 42 30.2	-0.6
comp=Z,3.0nm,1.1s,mb4.1						
RES	Resolute Bay	69.21 350	eP	P	01 42 30.2	-0.6
comp=Z,2.5nm,1.1s,mb4.1						
RES	Resolute Bay	69.21 350	eP	P	01 42 30.2	-0.6
RES			pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.1						
SCHQ	Schefferville	75.90 327	P	P	01 43 09.2	-1.5
comp=Z,1.6nm,0.6s,mb4.1,baz=89,slow=8.3,SNR=3.8						
SCHQ	Schefferville	75.90 327	eP	P	01 43 09.7	-0.9
INK	Inuvik	78.24 1	eP	P	01 43 24.4	+0.6
comp=Z,7.0nm,1.2s,mb4.5						
INK	Inuvik	78.24 1	eP	P	01 43 24.4	+0.6
comp=Z,6.9nm,1.2s,mb4.5						
INK	Inuvik	78.24 1	eP	P	01 43 24.4	+0.6
INK			pmax	pmax		
comp=Z,7.0nm,1.2s						
COLA	College	80.85 7	eP	P	01 43 38.6	+0.6
COLA	College	80.85 7	eP	P	01 43 40.3	+2.3
comp=Z,6.7nm,0.8s,mb4.6						
ILAR	Eielson Array	81.05 7	P	P	01 43 37.9	-1.2
comp=Z,2.6nm,0.8s,mb4.2,baz=330,slow=3.9,SNR=16						
MCK	McKinley	81.85 8	eP	P	01 43 44.6	+1.3
FCC	Fort Churchill	82.74 341	eP	P	01 43 47.2	-0.8
comp=Z,4.0nm,1.0s,mb4.4						
FCC	Fort Churchill	82.74 341	eP	P	01 43 47.2	-0.8
comp=Z,3.7nm,1.0s,mb4.4						
FCC	Fort Churchill	82.74 341	eP	P	01 43 47.2	-0.8
FCC			pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4						
YKW3	Yellowknife Ar	83.08 352	eP	P	01 43 48.3	-1.4
YKA	Yellowknife Ar	83.15 352	P	P	01 43 48.2	-1.9
comp=Z,1.0nm,0.7s,mb3.9,baz=7.9,slow=5.1,SNR=19						
YKA	Yellowknife Ar	83.15 352	eP	P	01 43 51.0	+0.9
YKA	Yellowknife Ar	83.15 352	P	P	01 43 48.2	-1.9
SML	Sawmill	83.79 8	eP	P	01 43 52.2	-1.2
DLBC	Dease Lake	88.16 359	eP	P	01 44 12.9	-2.1
ACSO	Alum Creek Sta	93.90 325	P	P	01 44 41.6	0.0

WEL 31 02:01:43.7±0.4,3857S×17870E,h33km,ML3.1/4,Error ellipse: s-maj=4.2km s-min=1.9km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	Matawai	0.95	284	PN	Pn	02 01 59.6	-1.0
MWZ				SN	Sn	02 02 11.4	-1.6
MXZ	Matakaoa Point	1.05	343	PN	Pn	02 02 01.4	-0.6
MXZ				SN	Sn	02 02 15.0	-0.5
URZ	Urewera	1.28	283	PN	Pn	02 02 05.2	0.0
URZ				SN	Sn	02 02 21.2	-0.1
PXZ	Pawanui	2.04	224	PN	Pn	02 02 14.8	-0.9
PXZ				SN	Sn	02 02 38.7	-1.2
WNVZ	Wahianoa	2.53	252	PN	Pn	02 02 22.4	0.0
MRZ	Mangatainoka R	3.19	228	PN	Pn	02 02 29.7	-1.8
MRZ				SN	Sn	02 03 05.9	-2.5
TCW	Tory Channel	4.30	231	SN	Sn	02 03 31.5	-4.3

*ISCJB **31** 02:02:44.9±4.9,3211S×009×1769W±07,h33km,mb4.0/4, Error ellipse: s-maj=91.4km s-min=10.0km az=10.7*
*IDC **31** 02:02:45.1±1.5,3200S×17736W,h0km,mb4.0/3, mb1 4.2/5,mb1mx4.0/15,mbtmp4.0/5,ML3.7/2,Error ellipse: s-maj=43.4km s-min=25.4km az=119.0*
*NEIC **31** 02:02:46.3±0.9,3204S×17731W,h10km,mb4.1/1,Error ellipse: s-maj=24.3km s-min=11.1km az=111.0*

ISC 31 02:02:46.6±5.0,3207S±008×1768W±07,h35km,n13, σ0673/9,mb4.0/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.96	341	Pn	Pn	02 03 31.0	-0.1
35nm,0.3s,baz=74,slow=23,SNR=4.0							
RAO				Sn	Sn	02 04 04.8	-0.6
108nm,0.3s,baz=135,slow=23,SNR=4.9							
URZ	Urewera	7.92	217	Pn	Pn	02 04 37.9	-1.2
0.5nm,0.3s,baz=146,slow=2.6,SNR=2.6							
URZ				Sn	Sn	02 06 01.4	-6.0
3.0nm,0.3s,baz=200,slow=20,SNR=14							
STKA	Stephens Creek	35.11	259	P	P	02 09 36.0	-0.5
1.5nm,0.6s,mb4.1,baz=94,slow=13,SNR=5.5							
STKA	Stephens Creek	35.11	259	eP	P	02 09 36.3	-0.2
ASAR	Alice Springs	44.04	268	P	P	02 10 51.6	+0.8
2.3nm,0.8s,mb3.9,baz=115,slow=7.7,SNR=21							
WRAB	Tennant Creek	45.17	273	P	P	02 11 00.7	+0.9
1.2nm,0.4s,mb4.1							
WRA	Warramunga Arr	45.17	273	P	P	02 11 00.4	+0.6
2.0nm,0.8s,mb4.0,baz=112,slow=7.9,SNR=6.7							
KAF	Kangasniemi	146.46	340	ep	PKPdf	02 22 21.4	-1.1
FINES	FINESS Array B	147.06	340	PKPbc	PKPbc	02 22 28.4	+2.7
1.6nm,0.7s,baz=46,slow=5.5,SNR=8.6							
NB2	NORSAR Subarra	150.55	352	PKPa	PKPbc	02 22 37.6	+3.0
comp=Z,0.7nm,0.6s,baz=18,slow=2.6							
NOA	NORSAR Array B	150.55	352	PKPbc	PKPbc	02 22 37.5	+3.0
comp=Z,0.9nm,0.7s,baz=13,slow=4.1,SNR=4.6							
AKASG	Malin Array Be	153.23	322	PKPbc	PKPbc	02 22 43.0	+2.3
comp=Z,0.3nm,0.4s,baz=42,slow=2.8,SNR=3.5							
AKASG				PKPab	PKPab	02 22 54.2	+1.7
comp=Z,0.2nm,0.3s,baz=56,slow=4.8,SNR=4.2							
BRTR	Keskin Array B	154.25	296	PKPbc	PKPbc	02 22 46.8	+3.9
comp=Z,0.3nm,0.6s,baz=144,slow=5.1,SNR=2.8							
BRTR				PKPab	PKPab	02 22 59.1	+2.2
comp=Z,0.8nm,0.8s,baz=96,slow=5.0,SNR=5.9							

*IDC **31** 02:10:05.3±1.1,3238S×177.17W,h0km,mb4.4/4, mb1 4.5/7,mb1mx4.2/17,mbtmp4.4/7,ML4.0/3,Error ellipse: s-maj=32.7km s-min=24.9km az=139.0*
*ISCJB **31** 02:10:06.9±3.0,325S±01×1770W±04,h33km,mb4.4/5, Error ellipse: s-maj=48.5km s-min=11.7km az=20.6*
*NEIC **31** 02:10:11.8±2.6,3251S×17729W,h45km±20km,mb4.4/1, Error ellipse: s-maj=23.0km s-min=14.0km az=56.0*

ISC 31 02:10:07.9±3.0,325S±01×1768W±04,h35km,n24, σ0666/13,mb4.4/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.33	343	Pn	Pn	02 10 50.5	-6.9
37nm,0.3s,baz=78,slow=23,SNR=2.7							
RAO				Sn	Sn	02 11 27.1	-8.7
206nm,0.3s,baz=80,slow=20,SNR=6.2							
URZ	Urewera	7.61	219	Pn	Pn	02 11 57.0	+0.7
1.6nm,0.3s,baz=64,slow=2.5,SNR=9.2							
URZ				Sn	Sn	02 13 21.3	0.0
5.1nm,0.3s,baz=172,slow=18,SNR=12							
RPZ	Rata Peaks	14.72	217	Pn	Pn	02 13 32.8	-0.8
0.8nm,0.3s,baz=347,slow=2.6,SNR=4.3							
RPZ				Sn	Sn	02 16 06.7	-8.6
0.6nm,0.3s,baz=345,slow=18,SNR=5.1							
DZM	Mont Dzumac	18.09	301	P	Pn	02 14 15.9	-0.4
0.5nm,0.3s,baz=97,slow=20,SNR=8.4							
STKA	Stephens Creek	35.04	260	P	P	02 16 57.3	+0.1
3.3nm,0.6s,mb4.4,baz=104,slow=9.5,SNR=11							
STKA	Stephens Creek	35.04	260	eP	P	02 16 56.9	-0.3
CTA	Charters Tower	35.15	281	P	P	02 16 59.6	+1.5
3.5nm,0.6s,mb4.5,baz=108,slow=9.6,SNR=8.3							
ASAR	Alice Springs	44.03	269	P	P	02 18 12.2	+0.2
4.1nm,0.8s,mb4.2,baz=110,slow=7.7,SNR=39							
WRAB	Tennant Creek	45.19	274	eP	P	02 18 20.8	-0.5
4.1nm,0.6s,mb4.4							
WRA	Warramunga Arr	45.20	274	P	P	02 18 20.9	-0.5
2.6nm,0.5s,mb4.3,baz=114,slow=7.8,SNR=11							
CHKZ	Chkalovo	128.48	315	ePKPdf	PKPdf	02 29 12.2	+1.2
ZRNK	Zerenda	129.39	314	ePKPdf	PKPdf	02 29 14.7	+2.0
GNI	Garni	145.87	295	ePKPdf	PKPdf	02 29 45.0	+2.1
KAF	Kangasniemi	146.82	340	ep	PKPdf	02 29 46.6	+2.2
FINES	FINESS Array B	147.42	340	PKPbc	PKPbc	02 29 49.0	+1.0
5.0nm,0.8s,baz=48,slow=3.7,SNR=19							
MALT	Malatya	150.79	291	ePKPdf	PKPdf	02 29 53.0	+2.1
MALT				ePKPbc	PKPbc	02 29 59.0	+2.5
NB2	NORSAR Subarra	150.93	352	PKPa	PKPbc	02 29 58.3	+1.5
comp=Z,1.6nm,0.7s,baz=13,slow=2.6							
NOA	NORSAR Array B	150.93	352	PKPbc	PKPbc	02 29 58.6	+1.8
comp=Z,3.4nm,0.9s,baz=14,slow=4.2,SNR=8.0							
EIL	Elat	152.68	273	ePKPbc	PKPbc	02 30 03.3	+2.5
AKASG	Malin Array Be	153.53	321	PKPbc	PKPbc	02 30 04.2	+1.5
comp=Z,0.2nm,0.3s,baz=58,slow=2.8,SNR=4.9							
AKASG				PKPab	PKPab	02 30 16.2	+1.0
comp=Z,0.8nm,0.4s,baz=50,slow=4.4,SNR=11							
AKASG	Malin Array Be	153.53	321	PKPbc	PKPbc	02 30 04.2	+1.5
AKASG				PKPab	PKPab	02 30 16.2	+1.0
BR131	Keskin Array S	154.42	295	ePKPbc	PKPbc	02 30 07.1	+2.5
BR131				ePKPab	PKPab	02 30 20.1	+1.2
BRTR	Keskin Array B	154.42	295	PKPbc	PKPbc	02 30 07.2	+2.6
comp=Z,0.4nm,0.6s,baz=66,slow=1.7,SNR=3.5							
BRTR				PKPab	PKPab	02 30 20.8	+1.9
comp=Z,1.3nm,0.7s,baz=112,slow=3.6,SNR=8.4							
TORD	Torodi Ar. Bea	160.73	176	PKPab	PKPab	02 30 50.4	+4.3
comp=Z,0.6nm,0.8s,baz=175,slow=2.8,SNR=5.9							

IDC 31 02:21:49.8±2.2,164N×12707E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.4/15,mbtmp3.5/3,Error ellipse: s-maj=180.7km s-min=26.0km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.60	162	P	P	02 26 52.5	+0.5
1.2nm,0.5s,baz=340,slow=10,SNR=5.1							
ASAR	Alice Springs	26.02	166	P	P	02 27 24.4	-0.1
0.4nm,0.5s,baz=348,slow=7.2,SNR=5.4							
MKAR	Makanchi Array	59.46	326	P	P	02 31 54.8	+0.3
0.2nm,0.5s,baz=112,slow=8.0,SNR=5.9							

*NEIC **31** 02:47:06.1,1601N×6073W,h27km,MD3.5(FDF),After FDF.*

TRN 31 02:47:04.6,1604N×6075W,h33km,MD3.4,M3.4(FDF), 2C-11D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	La Desirade	0.40	313	⇓iP	Pb	02 47 14.8	+1.1
SFG	Saint Francois	0.48	297	⇑eP	Pb	02 47 16.2	+1.4
MGG	Marie-Galante	0.56	258	⇓eP	Pb	02 47 17.8	+1.7
DWS	Wesley	0.71	229	⇑iP	Pn	02 47 20.2	+1.9
DWS				eS	Sb	02 47 30.8	+2.6
SEG	Port Louis	0.81	297	⇓iP	Pn	02 47 21.2	+1.5
SEG				eS	Sn	02 47 32.3	+1.7
DOG	Dongo Capester	0.83	270	⇓eP	Pn	02 47 21.9	+1.8
BCG	Bois Riant Cap	0.83	273	⇓eP	Pn	02 47 22.0	+1.9
BBL	Barber's Block	0.86	234	⇓eP	Pn	02 47 21.6	+1.2
TBG	Guadaloupe-3	0.88	258	⇓iP	Pn	02 47 22.3	+1.6
SCG	Saint Claude	0.89	270	⇓eP	Pn	02 47 22.7	+1.8
SCG				eS	Sn	02 47 35.7	+3.0
HMG	Houelmont	0.91	267	⇓eP	Pn	02 47 22.9	+1.8
LZG	Guadaloupe-1	0.99	276	⇓eP	Pn	02 47 23.8	+1.6
CRM	Caravelle	1.29	187	eP	Pn	02 47 27.8	+1.5
FDF	Fort de France	1.35	197	⇓eP	Pn	02 47 28.6	+1.4
FDF				eS	Sn	02 47 45.4	+1.4
BPA	Boggy Peak	1.46	314	eP	Pn	02 47 30.1	+1.5
BPA				eS	Sn	02 47 49.0	+2.4
MVM	Montagne Vaucl	1.48	185	eP	Pn	02 47 30.9	+2.0
CPB	Codrington	1.90	327	eP	Pn	02 47 36.5	+1.8
CPB				eS	Sn	02 48 02.0	+4.6

*IDC **31** 02:47:18.3±1.0,1131N×8625W,h0km,mb4.1/9,mb1 4.3/9, mb1mx4.0/21,mbtmp4.1/9,Error ellipse: s-maj=41.4km s-min=10.9km az=46.0*
*CASC **31** 02:47:19.8±1.9,1076N×8666W,h18km±6km,MD4.1, ML3.6,mb4.1(NEIC)*
*ISCJB **31** 02:47:20.9±0.9,1078N±006×8666W±007,h53km±6km, mb4.1/31,MS5.2/1,Error ellipse: s-maj=14.6km s-min=5.5km az=104.9*
*BJI **31** 02:47:21.1,1080N×8660W,h47km,mb4.9,Ms5.0,Msz5.0*
*NEIC **31** 02:47:22.1±1.4,1081N×8659W,h47km±18km,mb4.1/24, Error ellipse: s-maj=18.8km s-min=13.6km az=221.0*

**ISC 31 02:47:22.0±0.9,

LCR2	La Lucha 2	2.81	112	eP	Pn	02 48 04.4 +0.1
ICR	Volcan Irazu	2.88	106	eP	Pn	02 48 07.0 +1.6
ICR	Volcan Irazu	2.88	106	eP	Pn	02 48 08.4 +3.0
URSC	Urasca	2.98	109	eP	Pn	02 48 07.4 +0.7
URSC	Urasca	2.98	109	eP	Pn	02 48 07.5 +0.9
BLLM	Bellamira	3.05	329⇓	eP	Px	02 48 40.2
BLLM				eS	Sx	02 49 18.6
BUS	Buena Vista	3.10	113	eP	Pn	02 48 09.8 +1.4
LCBS	La Ceiba	3.64	321⇑	eP	Px	02 48 47.4
LCBS				eS	Sx	02 49 31.3
LFRS	El Faro	3.66	320⇑	eP	Px	02 48 48.1
LFRS				eS	Sx	02 49 32.5
LBRS	Las Brisas	3.74	321⇓	eP	Px	02 48 49.4
LBRS				eS	Sx	02 49 34.1
RBDL	Robledal	4.43	318	eP	Px	02 48 59.3
RBDL				eS	Sx	02 49 51.8
HKT	Hockley	20.88	337	eP	P	02 52 01.1 +0.6
	comp=E,35nm,1.6s					
LRAL	Lakeview Retre	22.12	359	eP	P	02 52 13.6 -0.1
	comp=E,4.9nm,0.8s,mb4.0					
COW	Cow Castle Cre	23.12	13	eP	P	02 52 25.6 +1.4
OXF	Oxford	23.73	354	eP	P	02 52 29.0 -1.1
	comp=E,13nm,0.8s,mb4.4					
JSC	Jenkinsville	23.88	11	eP	P	02 52 32.2 +0.7
PLAL	Pickwick Lake	24.10	357	eP	P	02 52 33.5 0.0
	comp=E,10nm,1.0s,mb4.2					
SWET	Sewanee	24.30	1	eP	P	02 52 35.3 -0.1
LTX	Lajitas	24.34	322	eP	P	02 52 36.8 +1.2
	comp=E,4.7nm,0.9s,mb3.9					
MIAR	Mount Ida	24.46	346	eP	P	02 52 37.2 +0.4
	comp=E,6.0nm,0.8s,mb4.1					
CPCT	Cooper Cave	24.61	4	eP	P	02 52 38.7 +0.6
WVT	Waverly	25.23	358	eP	P	02 52 44.7 +0.9
	comp=E,4.0nm,0.9s,mb4.0					
ELN	Prospectdale	26.84	10	eP	P	02 52 58.7 +0.4
BLA	Blacksburg	26.88	11	eP	P	02 52 59.2 +0.5
	comp=E,0.8nm,0.9s,mb3.2					
MNTX	Cornudas Mount	27.06	323	eP	P	02 53 00.8 +0.5
	comp=E,2.1nm,0.9s,mb3.7					
WCI	Wyandotte Cave	27.30	1	eP	P	02 53 01.6 -0.9
	comp=E,11nm,0.8s,mb4.4					
ACSO	Alum Creek Sta	29.48	6	eP	P	02 53 21.4 -0.5
	comp=E,5.2nm,0.7s,mb4.4					
ANMO	Albuquerque	30.06	326	eP	P	02 53 27.4 +0.4
	comp=E,0.8nm,0.3s,mb3.9					
ERPA	Erie	31.73	9	eP	P	02 53 41.3 -0.4
	comp=E,18nm,0.6s,mb5.1					
BINY	Binghamton	32.63	15	eP	P	02 53 49.5 -0.1
	comp=E,18nm,0.8s,mb5.1					
SMCO	Snowmass	33.56	331	eP	P	02 53 58.0 +0.3
	comp=E,3.5nm,1.2s,mb4.2					
SADO	Sadowa	34.45	9	P	P	02 54 04.7 -0.7
	comp=E,7.0nm,0.8s,mb4.7,baz=198,slow=8.6,SNR=13					
LONY	Lake Ozonia	35.26	15	eP	P	02 54 12.0 -0.4
BW06	Boulder Array	37.58	332	eP	P	02 54 31.9 -0.4
	comp=E,1.3nm,0.9s,mb3.7					
PDAR	Pinedale Array	37.58	332	P	P	02 54 32.7 +0.5
	comp=E,1.0nm,0.9s,mb3.5,baz=126,slow=10,SNR=8.3					
PDAR				PcP	PcP	02 56 51.4 +2.0
	comp=E,0.3nm,0.5s,baz=130,slow=6.0,SNR=6.3					
HWUT	Hardware Ranch	37.68	329	eP	P	02 54 33.6 +0.6
	comp=E,2.7nm,0.8s,mb4.0					
SNOW	Snow King Moun	38.68	332	eP	P	02 54 42.0 +0.6
	comp=E,3.3nm,0.6s,mb4.2					
TPAW	Teton Pass	38.79	331	eP	P	02 54 44.0 +1.6
	comp=E,2.9nm,0.9s,mb4.0					
MOOW	Moose Ponds	38.89	332	eP	P	02 54 44.1 +0.8
	comp=E,1.7nm,0.9s,mb3.8					
NVAR	Mina Array Bea	39.45	320	P	P	02 54 50.0 +2.0
	comp=E,1.6nm,0.9s,mb3.8,baz=126,slow=9.0,SNR=9.8					
NVAR				PcP	PcP	02 57 00.2 +5.0
	comp=E,2.7nm,0.7s,baz=125,slow=5.1,SNR=16					
NVAR	Mina Array Bea	39.45	320	P	P	02 54 50.0 +2.0
NVAR				PcP	PcP	02 57 00.2 +5.0
ULM	Lac du Bonnet	40.05	351	P	P	02 54 50.5 -2.4
	comp=E,3.0nm,0.8s,mb4.0,baz=172,slow=9.0,SNR=8.0					
BOZ	Bozeman (W)	40.76	333	eP	P	02 54 58.7 -0.1
	comp=E,1.9nm,0.9s,mb3.7					
BDFB	Brasilia	46.41	124	P	P	02 55 46.0 +1.8
	comp=E,5.5nm,0.9s,mb4.5,baz=297,slow=9.7,SNR=5.9					
SCHQ	Schefferville	46.62	16	P	P	02 55 44.0 -1.9
	comp=E,4.0nm,0.7s,mb4.5,baz=210,slow=6.6,SNR=15					
SCHQ				PcP	PcP	02 57 18.6 -0.7
	comp=E,0.6nm,0.4s,baz=277,slow=3.3,SNR=5.3					
FCC	Fort Churchill	48.19	355	eP	P	02 55 56.0 -2.0
	comp=E,1.6nm,0.8s,mb4.1					
YKA	Yellowknife Ar	55.39	345	P	P	02 56 50.4 -1.3
	comp=E,1.3nm,0.9s,mb3.9,baz=137,slow=7.3,SNR=18					
YKA				PcP	PcP	02 57 52.5 +0.8
	comp=E,0.4nm,0.6s,baz=143,slow=3.7,SNR=5.3					
YKA	Yellowknife Ar	55.39	345	P	P	02 56 50.4 -1.3
YKA				PcP	PcP	02 57 52.5 +0.8
RES	Resolute Bay	64.02	358	eP	P	02 57 49.0 -2.1
	comp=E,1.2nm,0.6s,mb4.1					
INK	Inuvik	65.00	343	P	P	02 57 56.8 -0.7
	comp=E,1.9nm,0.9s,mb4.1,baz=138,slow=7.9,SNR=7.5					
INK	Inuvik	65.00	343	eP	P	02 57 57.1 -0.4
	comp=E,3.1nm,1.0s,mb4.3					
ILAR	Eielson Array	67.83	336	P	P	02 58 14.7 -0.9
	comp=E,1.2nm,0.9s,mb3.9,baz=116,slow=6.1,SNR=5.4					
CN2	Changchun	118.31	334	ePKP	PKPdf	03 06 04.0 -0.5
WMQ	Urumqi	125.39	5	ePKP	PKPdf	03 06 16.8 -1.3
HHC	Hu-ho-hao-te	125.92	343	ePKP	PKPdf	03 06 19.5 +0.4
HHC				PP	PP	03 08 16.8 +4.4
HHC				PKS		03 09 54.5
HHC				SKS	SKSdf	03 13 26.3 -1.2
HHC				SKKS	SKKSac	03 15 04.8 -2.2
HHC				SS	SS	03 25 11.5 +1.0
HHC				LR	LR	
	comp=E,180nm,5.9s					
HHC				LR	LR	
	comp=Z,306nm,11.8s,MS5.2					
SSE	Sheshan	130.51	328	ePKP	PKPdf	03 06 29.0 +1.1
NJ2	Nanjing	130.89	331	ePKP	PKPdf	03 06 22.8 -5.8
LZH	Lanzhou	132.32	348	ePKP	PKPdf	03 06 34.0 +2.7
LZH				XPKP		03 06 53.5
ASAR	Alice Springs	139.37	246	PKP	PKPdf	03 06 51.2 +6.8
	comp=Z,0.8nm,0.6s,baz=105,slow=2.1,SNR=11					
WRA	Warramunga Arr	139.55	252	PKP	PKPdf	03 06 51.0 +6.2
	comp=Z,0.7nm,0.5s,baz=95,slow=2.4,SNR=9.2					

*THR **31** 02:48:28.3±0.3,3392N×4875E,h14km±4km,ML3.3*
*CSEM **31** 02:48:29.8±0.1,3378N×4870E,h14km,ML3.5,Error ellipse: s-maj=1.8km s-min=1.3km az=128.0*
*KISR **31** 02:48:29.9±0.9,3358N×4906E,h18km,ML2.9*
*ISCJB **31** 02:48:30.9±1.9,3377N±003×4869E±004,h17km±18km, Error ellipse: s-maj=5.8km s-min=4.2km az=81.4*
*TEH **31** 02:48:31.6,3378N×4869E,h9km,Mn3.5*

ISC 31 02:48:31.2±1.7,3379N±003×4870E±004,h10km±11km, n22,σ0°65/35,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	Ashtian	1.34	55	ePG	Pn	02 48 51.3	-4.5
ASAO				AML	AML	02 49 16.8	
	comp=N,644nm,0.5s						
ASAO				AML	AML	02 49 17.0	
	comp=E,650nm,0.6s						
SHGR	Shooshtar-Gavs	1.68	177	ePG	Pn	02 49 01.3	+0.8
SHGR				AML	AML	02 49 30.7	
	comp=E,389nm,0.4s						
SHGR				AML	AML	02 49 34.7	
	comp=N,427nm,0.6s						
SNGE	Sanandaj	1.71	320	ePG	Pn	02 48 58.5	-2.4
SNGE				AML	AML	02 49 30.0	
	comp=E,193nm,0.4s						
SNGE				AML	AML	02 49 33.8	
	comp=N,319nm,0.6s						
SNGE	Sanandaj	1.71	320	ePg	Pn	02 48 58.5	-2.4
	SNR=90						
IGHG	Ghaleghazi	1.84	287	ePn	Pn	02 49 03.0	+0.2
IRAZ	Razeghan	1.90	32	ePn	Pn	02 49 02.5	-1.1
IDHR	Dehrash	2.12	296	ePn	Pn	02 49 07.3	+0.8
IDHR				eSn	Sn	02 49 33.3	+0.5
IPIR	Pirpir	2.15	120	ePn	Pn	02 49 07.1	+0.1
IPIR				eSn	Sn	02 49 34.0	+0.4
IKLH	Kalahroud	2.45	100	ePn	Pn	02 49 11.8	+0.6
IKLH				eSn	Sn	02 49 41.2	0.0
IMHD	Mahdasht	2.49	40	ePn	Pn	02 49 11.2	-0.5
IMHD				eSn	Sn	02 49 42.7	+0.6
IVRN	Varamin	2.78	64	ePn	Pn	02 49 15.9	+0.2
IVRN				eSn	Sn	02 49 49.1	-0.2
IZEF	Zefreh	3.17	105	ePn	Pn	02 49 21.6	+0.6
IZEF				eSn	Sn	02 49 58.2	-0.7
IAFJ	Afjeh	3.22	49	ePn	Pn	02 49 22.1	+0.3
IAFJ				eSn	Sn	02 50 00.4	+0.2
NASN	Na'in	3.58	105	ePN	Pn	02 49 25.8	-0.9
IFIR	Firoozkooh	3.82	60	ePn	Pn	02 49 30.4	+0.5
MIB	Mutribah	4.14	197	eP	Pn	02 49 34.6	+0.2
MIB				eS	Sn	02 50 23.4	+0.6
MIB				AML	AML	02 50 23.9	
	comp=Z,15nm,0.5s						
UMR	Umm Al-Rimmam	4.31	191	eP	Pn	02 49 36.5	-0.2
KBD	Kabd	4.68	191	eP	Pn	02 49 41.8	-0.1
KBD				eS	Sn	02 50 35.0	-1.2
NAY	Al-Naaiem	4.70	196	eP	Pn	02 49 42.0	-0.1
NAY				eS	Sn	02 50 36.3	-0.3
NAY				AML	AML	02 50 37.9	
	comp=Z,7.4nm,0.5s						
NAY	Al-Naaiem	4.70	196	eP	Pn	02 49 42.0	0.0
NAY				eS	Sn	02 50 36.3	-0.2
RDF	Al-Radifah	4.95	192	eP	Pn	02 49 45.8	+0.2
RDF				AML	AML	02 50 42.4	
	comp=Z,12nm,0.4s						
RDF				eS	Sn	02 50 42.9	+0.1
RDF	Al-Radifah	4.95	192	eP	Pn	02 49 45.8	+0.3
RDF				eS	Sn	02 50 42.8	0.0

IDC 31 02:50:11.3±0.8,676N×7301W,h160km±16km,mb2.8/1, mb1 3.1/3,mb1mx2.9/22,mbtmp3.4/3,MS3.1/1,Ms1 3.1/1, ms1mx2.8/4,Error ellipse: s-maj=73.0km s-min=7.8km az=132.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.31	215	P	Pn	02 50 52.8	+2.2
	9.7nm,0.3s,baz=82,slow=24,SNR=50						
ROSC				S	Sn	02 51 21.8	+1.0
	13nm,0.3s,baz=72,slow=19,SNR=9.7						
SDV	Santo Domingo	3.16	48	P	Pn	02 51 02.3	+1.3
	5.0nm,0.3s,baz=250,slow=9.1,SNR=35						
SDV				S	Sn	02 51 40.0	+0.5
	13nm,0.3s,baz=264,slow=22,SNR=36						
SDV				LR	LR	02 52 17.3	
	comp=Z,326nm,19.7s,baz=9.7,slow=40						
YKA	Yellowknife Ar	63.36	340	P	P	03 00 23.1	-0.3
	0.2nm,0.6s,baz=130,slow=6.9,SNR=4.1						
WRA	Warramunga Arr	150.41	241	PKPbc	PKPbc	03 09 44.4	+0.6
	0.2nm,0.4s,baz=110,slow=2.6,SNR=3.9						

*CSEM **31** 02:54:26.5±0.1,3893N×4448E,h2km,MD3.6,Error ellipse: s-maj=2.3km s-min=1.6km az=147.0*
*ISK **31** 02:54:26.4,3895N×4447E,h5km,MD3.6*
*ISCJB **31** 02:54:28.8±0.5,3900N±004×4445E±004,h10km,Error ellipse: s-maj=5.5km s-min=4.2km az=125.3*
*NSSP **31** 02:54:29.6,3892N×4435E,h10km,ML3.3*

ISC 31 02:54:29.3±0.5,3898N±004×4447E±004,h10km,n24, σ1°24/31,1D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	Caldiran	0.46	291	PG	Pg	02 54 36.1	-2.1
CLDR				SG	Sg	02 54 44.4	+0.1
NAX	Nakhchivan	0.82	76	P	Pg	02 54 44.1	-1.1
NAX				S	Sg	02 54 57.5	+1.6
TVAN	Van	0.94	242	iP	Pg	02 54 45.7	-1.7
TVAN				iS	Sg	02 55 00.1	+0.4
VANT	Van	1.00	238	PG	Pg	02 54 48.0	-0.4
GNI	Garni	1.19	10	PN	Pb	02 54 50.6	-1.3
GNI	Garni	1.19	10	⇓P	Pb	02 54 51.1	-0.8
HKR	Hakkari	1.51	202	PN	Pn	02 54 54.9	-1.5
HKR				SN	Sn	02 55 17.0	+0.9
DIGO	Kars	1.66	330	iP	Pn	02 55 01.0	+2.6
DIGO				iS	Sx	02 55 28.8	
CUKT	Cukurca	1.85	202	PN	Pn	02 55 00.2	-0.9
KARS	Kars	1.94	328	PN	Pn	02 55 02.8	+0.4
BTMT	Batman	2.46	252	PN	Pn	02 55 11.5	+2.1
ERZM	Erzurum	2.57	292	iP	Pb	02 55 15.5	0.0
ERZM				iS	Sx	02 55 57.2	
EZM	Erzurum	2.58	292	PN	Pn	02 55 11.2	+0.2
BNGL	BINGOL	2.58	270	iP	Pb	02 55 15.9	+0.2
BNGL				iS	Sg	02 55 54.2	+1.9
BEST	Besiri	2.73	248	iP	Pb	02 55 17.2	-1.0
BEST				iS	Sb	02 55 54.9	+3.1
BKR	Bakuriani	2.85	345	P	Pg	02 55 23.2	-0.7
MSL	Mosul	2.90	203	ex	x	02 55 17.5	
MSL				ex	x	02 55 53.0	
ARTV	Artvin	2.94	319	iP	Pg	02 55 24.7	-0.9
ARTV				iS	Sx	02 56 11.7	
MARD	Mardin	3.35	241	iP	Pn	02 55 22.2	+0.5
MARD				iS	Sn	02 56 02.1	+0.7
DIY	Diyarbakir	3.50	253	ePN	Pn	02 55 23.9	+0.2
GUMT	Gumushane	4.12	293	ePN	Pn	02 55 33.4	+1.1
MALT	Malatya	4.77	264	ePN	Pn	02 55 42.0	+0.8
MYA	Malataya	4.77	264	ePN	Pn	02 55 42.3	+1.1
GZT	Gaziantep	5.67	256	iP	Pb	02 56 06.5	-1.9
GZT				iS	Sg	02 57 29.2	-2.3

JMA 31 02:57:49.1±0.5,3334N×14221E,h0km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.66	322	P	Pn	02 58 20.1	+0.6
BSO1				S	Sn	02 58 42.5	+1.0
JHJ2	Mitsune	2.02	264	P	Pn	02 58 25.1	+0.7
JHJ2				eS	Sn	02 58 52.0	+1.7
BSO3	Boso 3	2.03	316	P	Pn	02 58 25.3	+0.8
BSO4	Boso 4	2.26	317	P	Pn	02 58 29.2	+1.5
BSO4				S	Sn	02 58 58.8	+2.5

*ISCJB **31** 02:58:27.1±0.8,3385N±004×4845E±009,h10km,Error ellipse: s-maj=11.5km s-min=4.7km az=147.5*
*CSEM **31** 02:58:28.1±0.1,3392N×4861E,h16km,ML4.2/2,Error ellipse: s-maj=3.1km s-min=2.2km az=83.0*
*THR **31** 02:58:28.4±0.5,3394N×4864E,h16km±7km,ML3.2*
*KISR **31** 02:58:32.2±1.0,3345N×4804E,h5km±999km,ML2.6*

ISC 31 02:58:28.0±0.8,3389N±004×4856E±008,h8km±8km,n11, σ1°40/19,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	Ashtian	1.38	61	ePG	Pg	02 58 52.6	-1.9
ASAO				AML	AML	02 59 15.2	
	comp=N,254nm,0.4s						
ASAO				AML	AML	02 59 15.7	
	comp=E,437nm,0.4s						
SNGE	Sanandaj	1.56	321	ePG	Pg	02 58 57.1	-0.9
SNGE				eSG	Sg	02 59 18.5	+0.3
SNGE				AML	AML	02 59 27.2	
	comp=N,368nm,0.5s						
SNGE				AML	AML	02 59 27.2	
	comp=E,174nm,0.4s						
SNGE	Sanandaj	1.56	321	ePg	Pg	02 58 57.1	-0.8
	SNR=91						
SNGE				eSg	Sg	02 59 18.5	+0.3
	comp=E,174nm,0.4s,SNR=91						
SHGR	Shooshtar-Gavs	1.79	173	ePG	Pg	02 59 01.5	-0.8
SHGR				eSG	Sg	02 59 26.2	+0.7
SHGR				AML	AML	02 59 32.9	
	comp=N,353nm,0.4s						
SHGR	Shooshtar-Gavs	1.79	173	ePg	Pg	02 59 01.5	-0.8
	SNR=91						
SHGR				eSg	Sg	02 59 26.2	+0.7
	comp=N,353nm,0.4s,SNR=91						
NASN	Na'in	3.72	106	ePN	Pn	02 59 26.9	+1.1
MIB	Mutribah	4.21	195	eP	Pn	02 59 34.0	+1.6
MIB				AML	AML	03 00 17.2	
	comp=Z,17nm,0.6s						
MIB				eS	Sn	03 00 19.1	-2.6
MIB	Mutribah	4.21	195	eP	Pn	02 59 34.0	+1.6
MIB				eS	Sn	03 00 19.1	-2.6
UMR	Umm Al-Rimmam	4.38	190	eP	Pn	02 59 36.2	+1.3
UMR				AML	AML	03 00 26.4	
	comp=Z,9.1nm,0.4s						
NAY	Al-Naaiem	4.76	194	eP	Pn	02 59 41.4	+1.3
NAY				AML	AML	03 00 28.8	
	comp=Z,4.6nm,0.4s						
NAY				eS	Sn	03 00 33.6	-1.8
RDF	Al-Radifah	5.02	190	eP	Pn	02 59 45.6	+1.9
RDF				AML	AML	03 00 37.6	
	comp=Z,5.9nm,0.3s						
RDF				eS	Sn	03 00 40.8	-1.1

*ISCJB **31** 03:30:34.1±2.4,66S×02×1283E±03,h362km±28km, mb3.6/7,Error ellipse: s-maj=47.5km s-min=9.9km az=123.8*
*IDC **31** 03:30:37.4±3.9,660S×12837E,h376km±46km,mb3.4/4, mb1 3.5/7,mb1mx3.3/15,mbtmp4.2/7,Error ellipse: s-maj=41.0km s-min=13.8km az=64.0*
*NEIC **31** 03:30:39.5±4.4,676S×12821E,h408km±55km,mb3.6/3, Error ellipse: s-maj=40.9km s-min=19.3km az=217.0*

ISC 31 03:30:38.9±2.2,68S±01×1281E±03,h399km±26km,n14, σ0°61/18,mb3.6/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.52	192	P	Pn	03 33 14.5	+0.1
	0.3nm,0.3s,baz=27,slow=15,SNR=7.5						
WRAB	Tennant Creek	14.42	156	eP	P	03 33 44.6	-0.4
	29nm,0.9s						
WRAB				eS	S	03 36 18.9	-0.2
WRA	Warramunga Arr	14.43	156	P	P	03 33 44.7	-0.3
	1.9nm,0.3s,baz=338,slow=12,SNR=52						
WRA				S	S	03 36 19.0	-0.2
	0.2nm,0.3s,baz=334,slow=20,SNR=5.7						
WB2	Warramunga Arr	14.43	156	eP	P	03 33 44.7	-0.4
WB2				eS	S	03 36 19.5	+0.2
ASAR	Alice Springs	17.70	162	P	P	03 34 21.4	+1.2
	1.5nm,0.3s,baz=344,slow=11,SNR=122						
ASAR				S	S	03 37 27.4	+4.1
	0.1nm,0.3s,baz=342,slow=20,SNR=26						
CTA	Charters Tower	22.03	129	P	P	03 35 02.4	+0.7
	5.2nm,0.8s,mb4.0,baz=301,slow=11,SNR=6.3						
CTA	Charters Tower	22.03	129	P	P	03 35 02.4	+0.7
STKA	Stephens Creek	27.98	155	P	P	03 35 53.9	-0.9
	1.7nm,0.5s,mb3.7,baz=335,slow=14,SNR=6.0						
STKA	Stephens Creek	27.98	155	eP	P	03 35 53.9	-0.9
SONM	Songino Array	57.65	343	P	P	03 39 49.0	-0.1
	0.8nm,0.6s,mb3.2,baz=159,slow=5.5,SNR=7.7						
MKAR	Makanchi Array	67.01	328	P	P	03 40 51.3	+1.0
	1.6nm,0.6s,mb3.9,baz=125,slow=8.1,SNR=22						
KURK	Kurchatov	71.35	329	eP	P	03 41 16.8	+0.1
	1.8nm,0.7s,mb3.7						
CHKZ	Chkalovo	77.09	329	eP	P	03 41 48.8	-0.5
	1.2nm,0.8s,mb3.6						
ZRNK	Zerenda	77.56	328	eP	P	03 41 51.5	-0.5
	0.6nm,0.8s,mb3.3						

*ISCJB **31** 03:41:50.3±0.6,22.12S±006×6822W±007,h117km±6km, mb4.0/14,Error ellipse: s-maj=10.8km s-min=8.5km az=74.1*
*NEIC **31** 03:41:50.9±0.6,2206S×6824W,h106km±6km,mb4.0/12, Error ellipse: s-maj=9.7km s-min=7.6km az=106.0*
*IDC **31** 03:41:50.9±0.7,2205S×6826W,h104km±8km,mb3.7/6, mb1 3.8/10,mb1mx3.7/17,mbtmp4.0/10,Error ellipse: s-maj=21.0km s-min=15.8km az=126.0*
*GUC **31** 03:41:51.3±0.6,2237S×6851W,h150km,ML4.3*

ISC 31 03:41:51.5±0.5,2212S±006×6823W±006,h111km±5km, n38,σ1°10/45,mb4.0/14,5C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.80	232	P	Pn	03 42 11.5	+0.8
	297nm,0.3s,baz=38,slow=9.1,SNR=2734						
LVC				S	Sn	03 42 25.3	-0.1
LVC	Limon Verde	0.80	232	ePn	Pn	03 42 10.9	+0.1
LVC				eSn	Sn	03 42 25.3	0.0
CEN1	Los Morros	2.21	235⇓	iP	Pn	03 42 28.2	+1.1
CEN1				iS	Sn	03 42 56.1	+1.5
CEN1				AMP		03 43 05.4	
	comp=N,1μm,0.2s						
ANCH	Antofagasta	2.54	232⇑	iP	Pn	03 42 32.4	+1.0
ANCH				iS	Sn	03 43 01.9	-0.3
CPN1	Cerro Paranal	3.20	218	eP	Pn	03 42 39.9	-0.1
CPN1				iS	Sn	03 43 15.6	-2.0
CPN1				AMP		03 43 27.6	
	comp=E,946nm,0.8s						
CRCH	Chaqaral	4.74	207⇑	iP	Pn	03 42 58.9	-1.9
CRCH				iS	Sn	03 43 50.4	-4.2
CDCH	Caldera	5.47	205	eP	Pn	03 43 05.9	-4.7
CDCH				iS	Sn	03 44 04.8	-7.4
LPAZ	La Paz	5.80	1	P	Pn	03 43 16.3	+1.2
	comp=E,1.0nm,0.3s,baz=175,slow=8.7,SNR=21						
LPAZ				S	Sn	03 44 08.4	-12
	comp=E,0.4nm,0.3s,baz=206,slow=9.4,SNR=6.7						
LPAZ	La Paz	5.80	1	ePn	Pn	03 43 16.1	+1.0
	comp=E,11nm,0.9s						
SIV	San Ignacio	9.11	49	P	Pn	03 43 58.3	-1.7
	comp=E,4.9nm,0.3s,baz=240,slow=12,SNR=138						
SIV				S	Sn	03 45 33.8	-6.8
	baz=291,slow=22,SNR=2.7						
CFAA	Coronel Fontan	9.45	180	P	Pn	03 44 03.4	-1.2
	comp=E,0.1nm,0.3s,baz=356,slow=11,SNR=11						
CFAA				S	Sn	03 45 43.5	-5.4
	comp=E,0.1nm,0.3s,baz=270,slow=14,SNR=3.8						
CFAA	Coronel Fontan	9.45	180	P	Pn	03 44 03.4	-1.2
CFAA				S	Sn	03 45 43.5	-5.4
CPUP	Villa Florida	10.80	115	P	Pn	03 44 21.7	-1.1
	comp=E,0.1nm,0.3s,baz=301,slow=5.3,SNR=3.0						
TRQA	Tornquist	16.77	163	eP	Pn	03 45 41.6	+2.0
	comp=E,3.0nm,0.6s						
PLCA	Paso Flores	18.66	186	P	P	03 46 01.9	+1.2
	comp=E,0.4nm,0.3s,baz=354,slow=10,SNR=12						
PLCA	Paso Flores	18.66	186	eP	P	03 46 02.2	+1.6
	comp=E,2.5nm,0.6s						
BDFB	Brasilia	20.18	75	P	P	03 46 17.6	+0.5
	comp=E,2.9nm,0.5s,baz=211,slow=7.2,SNR=6.0						
RCBR	Riachuelo	35.19	67	eP	P	03 48 35.8	+1.1
	comp=E,7.8nm,0.9s,mb4.5						
ANMO	Albuquerque	67.36	327	eP	P	03 52 34.3	-0.3
	comp=E,1.2nm,0.8s,mb3.8						
QSPA	South Pole Qui	68.08	180	eP	P	03 52 40.0	+0.9
	comp=E,6.4nm,0.5s,mb4.7						
DBIC	Dimbokro	68.31	73	P	P	03 52 41.6	+1.1
	comp=E,2.0nm,0.4s,mb4.3,baz=230,slow=7.8,SNR=14						
SMCO	Snowmass	70.93	329	eP	P	03 52 57.2	+0.5
	comp=E,1.4nm,0.6s,mb4.0						
PDAR	Pinedale Array	74.96	330	P	P	03 53 19.4	-1.0
	comp=E,0.3nm,0.6s,mb3.2,baz=123,slow=5.5,SNR=4.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.00**	**352**	*e*P	Pb	03 57 26.7	-1.2
MORF				*e*S	Sb	03 57 40.2	-0.7
MORF				*e*S	Sb	03 57 40.3	-0.7
MORF				AML	AML	03 57 41.0	
	comp=E,52nm,0.1s						
PTEO	**Sao Teotonio**	**1.25**	**351**	*e*P	Pn	03 57 30.2	-1.6
PTEO				*e*S	Sb	03 57 46.5	-1.5
PTEO							
	comp=E,11nm,0.1s						
EGRO	**El Granado**	**1.46**	**33**	P	Pn	03 57 34.0	-0.7
	comp=E,2.3nm,0.3s,SNR=38						
EGRO				S	Sn	03 57 52.1	-1.6
	comp=E,38nm,0.1s,SNR=26						
EGRO	**El Granado**	**1.46**	**33**	P	Pn	03 57 34.0	-0.7
	comp=E,2.3nm,0.3s,SNR=38						
EGRO				S	Sn	03 57 52.1	-1.6
	comp=E,38nm,0.1s,SNR=26						
PBEJ	**Beja**	**1.78**	**16**	*e*Pn	Pn	03 57 38.0	-1.1
PBEJ				*e*Sn	Sn	03 57 59.7	-1.9
PBEJ							
	comp=E,10.0nm,0.1s						
PBEJ	**Beja**	**1.78**	**16**	*e*Pn	Pn	03 57 38.0	-1.1
PBEJ				*e*Sn	Sn	03 57 59.7	-1.9
	comp=E,10.0nm,0.1s						
EMIN	**Mina Concepcio**	**2.05**	**44**	⇑P	Pn	03 57 41.7	-1.2
	comp=E,1.3nm,0.1s,SNR=18						
EMIN				S	Sn	03 58 05.1	-3.2
	comp=E,6.8nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**2.05**	**44**	P	Pn	03 57 41.7	-1.1
	comp=E,1.3nm,0.1s,SNR=18						
EMIN				S	Sn	03 58 05.1	-3.2
	comp=E,6.8nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**2.05**	**44**	⇑P	Pn	03 57 41.7	-1.2
EMIN				S	Sn	03 58 05.2	-3.1
ESPR	**Espera**	**2.19**	**74**	P	Pn	03 57 43.6	-1.1
	comp=E,8.6nm,0.2s,SNR=21						
ESPR				S	Sn	03 58 09.4	-2.2
	comp=E,19nm,0.2s						
ESPR	**Espera**	**2.19**	**74**	P	Pn	03 57 43.6	-1.1
	comp=E,8.6nm,0.2s,SNR=21						
ESPR				S	Sn	03 58 09.4	-2.2
	comp=E,19nm,0.2s						
MOE	**Montemor**	**2.21**	**3**	*e*Pn	Pn	03 57 44.0	-1.0
MOE				*e*Sn	Sn	03 58 10.1	-2.1
EJIF	**Jimena Fronter**	**2.44**	**86**	P	Pn	03 57 47.4	-0.8
	comp=E,2.1nm,0.2s,SNR=14						
EJIF				S	Sn	03 58 15.4	-2.4
	comp=E,0.5nm,0.2s						
EJIF	**Jimena Fronter**	**2.44**	**86**	P	Pn	03 57 47.4	-0.8
EJIF				S	Sn	03 58 15.2	-2.6
PLOU	**Loures**	**2.62**	**349**	*e*Pn	Pn	03 57 49.9	-0.8
PLOU				*e*Sn	Sn	03 58 20.7	-1.7
PLOU							
	comp=E,5.5nm,0.2s						
PLOU	**Loures**	**2.62**	**349**	*e*Pn	Pn	03 57 49.9	-0.8
PLOU				*e*Sn	Sn	03 58 20.7	-1.7
	comp=E,5.5nm,0.2s						
EBAD	**Badajoz**	**2.71**	**25**	P	Pn	03 57 50.6	-1.3
	comp=E,1.7nm,0.1s,SNR=17						
EBAD				S	Sn	03 58 21.9	-2.5
	comp=E,10nm,0.1s,SNR=9.7						
EBAD	**Badajoz**	**2.71**	**25**	P	Pn	03 57 50.6	-1.2
	comp=E,1.7nm,0.1s,SNR=17						
EBAD				S	Sn	03 58 21.9	-2.5
	comp=E,10nm,0.1s,SNR=9.7						
EBAD	**Badajoz**	**2.71**	**25**	P	Pn	03 57 50.6	-1.3
EBAD				S	Sn	03 58 21.8	-2.7
EMIJ	**Mijas**	**3.00**	**84**	P	Pn	03 57 53.8	-2.1
	comp=E,1.3nm,0.2s,SNR=4.5						
EMIJ				S	Sn	03 58 28.5	-3.2
	comp=E,1.3nm,0.2s						
EMIJ	**Mijas**	**3.00**	**84**	P	Pn	03 57 53.8	-2.1
EMIJ				S	Sn	03 58 28.1	-3.6
PTOM	**Tomar**	**3.30**	**1**	*e*Pn	Pn	03 57 58.8	-1.2
PTOM				*e*Sn	Sn	03 58 36.3	-2.8
PTOM							
	comp=E,9.1nm,0.2s						
PTOM	**Tomar**	**3.30**	**1**	*e*Pn	Pn	03 57 58.8	-1.2
PTOM				*e*Sn	Sn	03 58 36.3	-2.8
	comp=E,9.1nm,0.2s						
ELOJ	**Sierra Loja**	**3.58**	**75**	S	Sn	03 58 43.8	-2.2
	comp=E,1.1nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.61**	**12**	*e*Pn	Pn	03 58 03.1	-1.2
PCBR				*e*Sn	Sn	03 58 43.3	-3.5
PCBR							
	comp=E,11nm,0.3s						
PCBR	**Castelo Branco**	**3.61**	**12**	*e*Pn	Pn	03 58 03.1	-1.2
PCBR				*e*Sn	Sn	03 58 43.3	-3.5
	comp=E,11nm,0.3s						
EADA	**Adamuz**	**3.63**	**58**	P	Pn	03 58 03.3	-1.1
	comp=E,2.0nm,0.1s,SNR=24						
EADA				S	Sn	03 58 43.6	-3.6
	comp=E,4.8nm,0.1s						
EADA	**Adamuz**	**3.63**	**58**	P	Pn	03 58 03.3	-1.2
	comp=E,2.0nm,0.1s,SNR=24						
EADA				S	Sn	03 58 43.6	-3.5
	comp=E,4.8nm,0.1s						
EADA	**Adamuz**	**3.63**	**58**	P	Pn	03 58 03.3	-1.1
EADA				S	Sn	03 58 43.1	-4.1
ECOG	**Cogollos-Vega**	**4.06**	**75**	P	Pn	03 58 10.5	+0.1
	comp=E,0.7nm,0.2s,SNR=7.9						
ECOG				S	Sn	03 58 54.6	-3.3
	comp=E,1.1nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**4.06**	**75**	P	Pn	03 58 10.5	+0.1
ECOG				S	Sn	03 58 54.5	-3.4
MTE	**Manteigas**	**4.15**	**10**	*e*Pn	Pn	03 58 10.4	-1.3
MTE				*e*Sn	Sn	03 58 57.4	-2.6
MTE							
	comp=E,5.2nm,0.3s						
MTE	**Manteigas**	**4.15**	**10**	*e*Pn	Pn	03 58 10.4	-1.3
MTE				*e*Sn	Sn	03 58 57.4	-2.6
	comp=E,5.2nm,0.3s						
PVIS	**Viseu**	**4.42**	**6**	*e*Pn	Pn	03 58 14.2	-1.2
PVIS				*e*Sn	Sn	03 59 03.4	-3.4
PVIS							
	comp=E,2.6nm,0.1s						
EBER	**Berja**	**4.54**	**81**	P	Pn	03 58 16.4	-0.7
	comp=E,0.3nm,0.2s,SNR=7.9						
EBER				S	Sn	03 59 07.2	-2.4
	comp=E,1.2nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.54**	**81**	P	Pn	03 58 16.4	-0.6
	comp=E,0.3nm,0.2s,SNR=7.9						
EBER				S	Sn	03 59 07.2	-2.4
	comp=E,1.2nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.54**	**81**	P	Pn	03 58 16.1	-0.9
EBER				S	Sn	03 59 04.2	-5.4
EQES	**Quesada**	**4.58**	**69**	P	Pn	03 58 16.0	-1.6
	comp=E,0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	03 59 07.9	-2.8
	comp=E,1.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.58**	**69**	P	Pn	03 58 16.0	-1.6
	comp=E,0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	03 59 07.9	-2.7
	comp=E,1.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.58**	**69**	P	Pn	03 58 16.0	-1.6
EQES				S	Sn	03 59 07.3	-3.3
ESDC	**Sonseca Array**	**4.90**	**45**	P	Pn	03 58 21.0	-1.0
	comp=E,3.8nm,0.1s,baz=230,slow=13,SNR=3.9						
ESDC				S	Sn	03 59 13.9	-4.6
	comp=E,1.9nm,0.2s,baz=231,slow=23,SNR=5.4						
ESDC	**Sonseca Array**	**4.90**	**45**	P	Pn	03 58 21.0	-1.0
	comp=E,3.8nm,0.1s,SNR=3.9						
ESDC				S	Sn	03 59 13.9	-4.7
	comp=E,1.9nm,0.2s,SNR=5.4						
ESDC	**Sonseca Array**	**4.90**	**45**	P	Pn	03 58 21.0	-1.0
ESDC				S	Sn	03 59 14.3	-4.3
PVRL	**Vila Real**	**4.99**	**7**	*e*Sn	Sn	03 59 16.4	-4.5
PVRL							
	comp=E,4.1nm,0.1s						
PVRL	**Vila Real**	**4.99**	**7**	Sn	Sn	03 59 16.4	-4.5
	comp=E,2.0nm,0.1s						
PCAB	**Cabril**	**5.40**	**4**	*e*Sn	Sn	03 59 25.7	-5.3
ELOB	**Lobios**	**5.56**	**3**	P	Pn	03 58 29.7	-1.3
	comp=E,0.6nm,0.1s,SNR=7.2						
ELOB				S	Sn	03 59 30.2	-4.6
	comp=E,2.2nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.56**	**3**	P	Pn	03 58 29.7	-1.3
ELOB				S	Sn	03 59 29.9	-4.9
PBRG	**Braganca**	**5.65**	**13**	*e*Sn	Sn	03 59 32.3	-4.8
ECAL	**Calabor**	**5.78**	**13**	S	Sn	03 59 36.6	-3.7
	comp=E,2.6nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**5.99**	**65**	P	Pn	03 58 35.0	-2.0
	comp=E,0.6nm,0.2s,SNR=6.8						
ETOB				S	Sn	03 59 39.5	-5.9
	comp=E,0.5nm,0.1s,SNR=4.0						
ETOB	**Tobarra**	**5.99**	**65**	P	Pn	03 58 35.0	-1.9
	comp=E,0.6nm,0.2s,SNR=6.8						
ETOB	**Tobarra**	**5.99**	**65**	P	Pn	03 58 35.0	-2.0
ETOB				S	Sn	03 59 36.9	-8.5

*ISCJB **31** 03:57:49.2±1.1, 65N±02×726W±02, h197km±11km, mb3.4/12, Error ellipse: s-maj=35.9km s-min=10.6km az=85.0*
*NEIC **31** 03:57:50.4±0.8, 653N×7266W, h186km±8km, mb3.6/10, Error ellipse: s-maj=17.6km s-min=10.5km az=126.0*
*IDC **31** 03:57:50.2±1.2, 659N×7273W, h176km±11km, mb3.5/4, mb1 3.7/7, mb1mx3.3/23, mbtmp4.1/7, Error ellipse: s-maj=31.2km s-min=13.1km az=129.0*

ISC 31 03:57:50.3±1.1, 65N±02×726W±02, h188km±10km, n22, σ0°66/23, mb3.7/12, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.38**	**226**	P	Pn	**03 58 31.2**	**-0.9**
	130nm,0.3s,baz=293,slow=20,SNR=415						
ROSC				S	Sn	**03 58 58.4**	**-6.1**
	72nm,0.3s,baz=103,slow=19,SNR=10						
SDV	**Santo Domingo**	**3.06**	**39**	P	Pn	**03 58 41.2**	**+1.1**
	9.8nm,0.3s,baz=249,slow=8.1,SNR=143						
SDV				S	Sn	**03 59 18.5**	**-0.4**
	70nm,0.3s,baz=104,slow=22,SNR=40						
SDV	**Santo Domingo**	**3.06**	**39**	*e*Pn	Pn	**03 58 40.9**	**+0.8**
SDV				*e*Sn	Sn	**03 59 18.2**	**-0.7**
OTAV	**Otavalo**	**8.54**	**223**	*e*Pn	Pn	**03 59 51.0**	**+0.5**
	4.7nm,0.8s						
JTS	**JuntasAbangare**	**12.78**	**288**	P	Pn	**04 00 45.6**	**+0.2**
	1.1nm,0.3s,baz=21,slow=5.4,SNR=5.9						
JTS	**JuntasAbangare**	**12.78**	**288**	*e*Pn	Pn	**04 00 46.9**	**+1.5**
TEIG	**Tepich**	**20.43**	**313**	*e*P	P	**04 02 13.6**	**+0.6**
	1.1nm,0.6s						
WVT	**Waverly**	**32.62**	**337**	*e*P	P	**04 04 03.4**	**-0.7**
	1.3nm,0.3s,mb4.1						
MNTX	**Cornudas Mount**	**39.56**	**314**	*e*P	P	**04 05 02.2**	**-0.8**
	1.6nm,0.6s,mb3.8						
ULM	**Lac du Bonnet**	**47.76**	**340**	P	P	**04 06 07.5**	**-0.8**
	0.7nm,0.3s,mb3.7,baz=121,slow=6.6,SNR=3.1						
SCHQ	**Schefferville**	**48.41**	**4**	P	P	**04 06 14.8**	**+1.4**
	1.9nm,0.5s,mb4.0,baz=190,slow=7.5,SNR=8.4						
SCHQ	**Schefferville**	**48.41**	**4**	P	P	**04 06 14.8**	**+1.4**
PDAR	**Pinedale Array**	**48.63**	**324**	P	P	**04 06 14.8**	**-0.3**
	0.4nm,0.5s,mb3.3,baz=124,slow=8.2,SNR=4.9						
DUG	**Dugway**	**49.19**	**319**	*e*P	P	**04 06 19.0**	**-0.2**
	1.4nm,0.7s,mb3.7						
LOHW	**Long Hollow**	**49.75**	**324**	*e*P	P	**04 06 23.7**	**+0.2**
	1.0nm,0.6s,mb3.6						
TPAW	**Teton Pass**	**49.88**	**324**	*e*P	P	**04 06 24.5**	**0.0**
	1.5nm,0.6s,mb3.8						
MOOW	**Moose Ponds**	**49.92**	**324**	*e*P	P	**04 06 24.4**	**-0.4**
	0.6nm,0.7s,mb3.3						
BOZ	**Bozeman (W)**	**51.56**	**326**	*e*P	P	**04 06 37.0**	**0.0**
	1.0nm,0.6s,mb3.6						
HLID	**Hailey**	**52.00**	**322**	*e*P	P	**04 06 40.5**	**+0.2**
	0.6nm,0.6s,mb3.4						
YKA	**Yellowknife Ar**	**63.73**	**340**	P	P	**04 08 01.9**	**+0.1**
	0.9nm,0.6s,mb3.8,baz=133,slow=6.6,SNR=44						
ASAR	**Alice Springs**	**149.34**	**233**	PKPbc	PKPbc	04 17 19.6	+2.8
	0.6nm,0.5s,baz=115,slow=3.5,SNR=7.9						
WRA	**Warramunga Arr**	**150.63**	**240**	PKPbc	PKPbc	04 17 21.1	+1.2
	0.7nm,0.5s,baz=107,slow=2.3,SNR=17						

*NEIC **31** 04:19:34.9, 19.15N×6484W, h5km, MD3.5(RSPR), After RSPR.*

RSPR 31 04:19:34.9, 1915N×6484W, h5km±3km, MD3.5/16, MD3.5/16, 13C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.77**	**164**	*e*S	Sg	04 20 00.5	+0.9
TBVI	**Tortola**	**0.77**	**164**	⇑*e*P	Pg	04 19 48.4	-1.2
TBVI				*e*S	Sg	04 20 00.5	+0.9
STVI	**Saint Thomas**	**0.80**	**188**	*e*S	Sg	04 20 00.4	-0.2
STVI	**Saint Thomas**	**0.80**	**188**	⇓*e*P	Pg	04 19 49.0	-1.2
STVI				*e*S	Sg	04 20 00.4	-0.2
MTP	**Monte Pirata**	**1.25**	**213**	*e*S	Sg	04 20 12.5	-2.6
MTP	**Monte Pirata**	**1.25**	**213**	⇑*e*P	Pg	04 19 56.0	-2.9
MTP				*e*S	Sg	04 20 12.5	-2.6
CBYP	**Canovanas**	**1.30**	**228**	*e*S	Sg	04 20 13.2	-3.5
CBYP	**Canovanas**	**1.30**	**228**	⇓*e*P	Pn	04 19 56.2	-3.5
CBYP				*e*S	Sg	04 20 13.2	-3.5
HUMP	**Col San Antoni**	**1.39**	**224**	*e*S	Sb	04 20 15.3	-3.9
HUMP	**Col San Antoni**	**1.39**	**224**	⇑*e*P	Pn	04 19 57.7	-3.2
HUMP				*e*S	Sb	04 20 15.3	-3.9
CDVI	**St. Croix**	**1.39**	**177**	*e*S	Sb	04 20 15.9	-3.4
CDVI	**St. Croix**	**1.39**	**177**	⇑*e*P	Pn	04 19 59.2	-1.7
CDVI				*e*S	Sb	04 20 15.9	-3.4
CPD	**Cerro la Pandu**	**1.50**	**223**	*e*S	Sn	04 20 19.2	-3.2
CPD	**Cerro la Pandu**	**1.50**	**223**	⇓*e*P	Pn	04 19 59.2	-3.2
CPD				*e*S	Sn	04 20 19.2	-3.2
SJG	**San Juan**	**1.62**	**231**	*e*S	Sn	04 20 20.8	-4.4
SJG	**San Juan**	**1.62**	**231**	⇑*e*P	Pn	04 20 00.9	-3.1
SJG				*e*S	Sn	04 20 21.3	-3.9
SJG	**San Juan**	**1.62**	**231**	⇑*e*P	Pn	04 20 01.0	-3.0
SJG				*e*S	Sn	04 20 20.8	-4.4
CELP	**Cerrillos**	**1.97**	**237**	⇓*e*P	Pn	04 20 06.1	-2.7
CELP				*e*S	Sn	04 20 30.9	-3.0
AOPR	**Arecibo Observ**	**1.98**	**247**	*e*S	Sn	04 20 30.6	-3.6
AOPR	**Arecibo Observ**	**1.98**	**247**	⇑*e*P	Pn	04 20 05.6	-3.4
AOPR				*e*S	Sn	04 20 30.6	-3.6
OBIP	**Obispado Ponce**	**2.00**	**237**	⇑*e*P	Pn	04 20 07.2	-2.2
ICM	**Isla Caja Muer**	**2.03**	**232**	*e*S	Sn	04 20 31.5	-3.9
ICM	**Isla Caja Muer**	**2.03**	**232**	⇑*e*P	Pn	04 20 06.0	-3.7
ICM				*e*S	Sn	04 20 31.5	-3.9
LRS	**Lares**	**2.08**	**246**	⇑*e*P	Pn	04 20 08.0	-2.4
LRS				*e*S	Sn	04 20 33.4	-3.4
LSP	**Las Mesas**	**2.34**	**246**	⇑*e*P	Pn	04 20 11.9	-2.0
LSP				*e*S	Sn	04 20 39.1	-3.9
MGP	**Maguayo**	**2.42**	**242**	⇑*e*P	Pn	04 20 12.6	-2.5
MGP				*e*S	Sn	04 20 40.8	-4.2
CRPR	**Cabo Rojo, PR**	**2.44**	**243**	*e*S	Sn	04 20 41.9	-3.6
CRPR	**Cabo Rojo, PR**	**2.44**	**243**	⇑*e*P	Pn	04 20 12.6	-2.7
CRPR				*e*S	Sn	04 20 41.9	-3.6

*ISCJB **31** 04:26:25.0±0.9, 3168S±006×1786W±03, h244km±12km, mb4.5/5, Error ellipse: s-maj=36.3km s-min=6.0km az=25.5*
*NEIC **31** 04:26:27.5±1.1, 3168S×17894W, h220km±13km, mb4.6/2, Error ellipse: s-maj=31.5km s-min=10.7km az=103.0*
*IDC **31** 04:26:28.7±1.1, 3148S×17925W, h204km±13km, mb4.3/3, mb1 4.3/7, mb1mx3.9/16, mbtmp4.7/7, Error ellipse: s-maj=34.2km s-min=12.5km az=116.0*

ISC 31 04:26:27.6±0.7, 3167S±006×1792W±02, h195km±13km, n51, σ1°16/63, mb4.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.65**	**25**	P	Pn	**04 27 12.8**	**-0.1**
	183nm,0.3s,baz=279,slow=22,SNR=12						
RAO				S	Sn	**04 27 47.7**	**-0.5**
	349nm,0.3s,baz=65,slow=22,SNR=6.0						
MXZ	**Matakaoa Point**	**6.23**	**198**	PN	Pn	**04 28 01.5**	**+3.9**
MXZ				SN	Sn	**04 29 19.6**	**+11**
MXZ	**Matakaoa Point**	**6.23**	**198**	*e*P	Pn	**04 28 01.1**	**+3.4**
MXZ				S	Sn	**04 29 18.6**	**+10**
MWZ	**Matawai**	**7.17**	**201**	PN	Pn	**04 28 13.2**	**+3.3**
MWZ				SN	Sn	**04 29 36.0**	**+4.9**
MWZ	**Matawai**	**7.17**	**201**	P	Pn	**04 28 12.6**	**+2.7**
MWZ				S	Sn	**04 29 35.8**	**+4.7**
URZ	**Urewera**	**7.24**	**204**	P	Pn	**04 28 14.4**	**+3.6**
	3.8nm,0.3s,baz=27,slow=2.0,SNR=21						
URZ				S	Sn	**04 29 38.6**	**+5.9**
	14nm,0.3s,baz=92,slow=23,SNR=11						
URZ	**Urewera**	**7.24**	**204**	*e*PN	Pn	**04 28 13.6**	**+2.8**
URZ				SN	Sn	**04 29 36.9**	**+4.2**
URZ	**Urewera**	**7.24**	**204**	*e*P	Pn	**04 28 14.4**	**+3.6**
FWVZ	**Far West T-bar**	**8.69**	**208**	*e*PN	Pn	**04 28 34.7**	**+4.9**
WNVZ	**Wahianoa**	**8.73**	**207**	*e*PN	Pn	**04 28 32.4**	**+2.1**
WNVZ	**Wahianoa**	**8.73**	**207**	P	Pn	**04 28 34.2**	**+3.9**
MOVZ	**Moawhango**	**8.74**	**207**	*e*PN	Pn	**04 28 32.8**	**+2.4**
MOVZ	**Moawhango**	**8.74**	**207**	P	Pn	**04 28 32.2**	**+1.7**
PXZ	**Pawanui**	**8.93**	**200**	*e*PN	Pn	**04 28 31.9**	**-1.0**
PXZ				SN	Sn	**04 30 14.6**	**+1.6**
MRZ	**Mangatainoka R**	**9.91**	**204**	*e*PN	Pn	**04 28 45.2**	**-0.5**
MRZ				SN	Sn	**04 30 34.5**	**-1.8**
KIW	**Kapiti Island**	**10.33**	**206**	PN	Pn	**04 28 50.4**	**-0.7**
KIW				SN	Sn	**04 30 44.9**	**-1.3**
KIW	**Kapiti Island**	**10.33**	**206**	P	Pn	**04 28 49.6**	**-1.4**
MTW	**Mount Morrison**	**10.38**	**203**	*e*PN	Pn	**04 28 51.9**	**+0.1**
MTW	**Mount Morrison**	**10.38**	**203**	P	Pn	**04 28 51.1**	**-0.7**
CAW	**Cannon Point**	**10.49**	**204**	*e*PN	Pn	**04 28 52.0**	**-1.1**
CAW	**Cannon Point**	**10.49**	**204**	P	Pn	**04 28 51.2**	**-1.9**
TRWZ	**Traveller**	**10.54**	**201**	*e*PN	Pn	**04 28 52.4**	**-1.4**
PAWZ	**Paruwai Farm**	**10.61**	**202**	*e*PN	Pn	**04 28 55.9**	**+1.2**
PAWZ	**Paruwai Farm**	**10.61**	**202**	P	Pn	**04 28 55.0**	**+0.3**
DUWZ	**D'Urville Isla**	**10.67**	**209**	*e*PN	Pn	**04 28 56.2**	**+0.8**
MSWZ	**Moikau Station**	**10.70**	**203**	*e*PN	Pn	**04 28 56.6**	**+0.8**
MSWZ	**Moikau Station**	**10.70**	**203**	P	Pn	**04 28 55.8**	**0.0**
MRW	**Makara Radio**	**10.72**	**205**	P	Pn	**04 28 55.5**	**-0.7**
SNZO	**South Karori**	**10.79**	**205**	*e*Pn	Pn	**04 28 57.9**	**+0.8**
SNZO				*e*S	Sn	**04 30 56.9**	**-0.4**
BHW	**Baring Head**	**10.82**	**204**	*e*PN	Pn	**04 28 56.9**	**-0.5**
BHW	**Baring Head**	**10.82**	**204**	P	Pn	**04 28 56.0**	**-1.4**
TCW	**Tory Channel**	**10.87**	**207**	*e*PN	Pn	**04 28 56.6**	**-1.5**
TCW				SN	Sn	**04 31 00.1**	**+0.9**
TCW	**Tory Channel**	**10.87**	**207**	P	Pn	**04 28 57.1**	**-1.0**
TUWZ	**Tuamarina**	**11.19**	**207**	*e*PN	Pn	**04 29 01.0**	**-1.1**
BSWZ	**Blackbirch Sta**	**11.46**	**207**	*e*PN	Pn	**04 29 07.3**	**+1.7**
BSWZ	**Blackbirch Sta**	**11.46**	**207**	P	Pn	**04 29 06.4**	**+0.8**
THZ	**Tophouse**	**11.89**	**210**	*e*PN	Pn	**04 29 10.6**	**-0.5**
THZ				SN	Sn	**04 31 22.6**	**-0.9**
THZ	**Tophouse**	**11.89**	**210**	P	Pn	**04 29 11.5**	**+0.4**
LTZ	**Lake Taylor**	**13.00**	**209**	*e*PN	Pn	**04 29 25.0**	**-0.1**
LTZ	**Lake Taylor**	**13.00**	**209**	*e*P	Pn	**04 29 24.7**	**-0.4**
RPZ	**Rata Peaks**	**14.27**	**210**	P	Pn	**04 29 42.3**	**+1.3**
	2.3nm,0.3s,baz=333,slow=1.7,SNR=10						
RPZ				S	Sn	**04 32 12.6**	**-7.8**
	0.8nm,0.3s,baz=34,slow=11,SNR=6.7						
FOZ	**Fox Glacier**	**14.76**	**213**	*e*PN	Pn	**04 29 46.8**	**-0.2**
DZM	**Mont Dzumac**	**15.95**	**303**	P	Pn	**04 30 01.8**	**+0.3**
	0.7nm,0.3s,baz=133,slow=14,SNR=9.0						
STKA	**Stephens Creek**	**33.19**	**259**	P	P	**04 32 45.9**	**+0.1**
	16nm,0.8s,mb4.6,baz=91,slow=9.2,SNR=14						
STKA	**Stephens Creek**	**33.19**	**259**	*e*P	P	**04 32 45.3**	**-0.5**
ASAR	**Alice Springs**	**42.02**	**269**	P	P	**04 34 00.2**	**+0.5**
	6.1nm,0.6s,mb4.2,baz=106,slow=7.4,SNR=96						
WRAB	**Tennant Creek**	**43.12**	**274**	*e*P	P	**04 34 08.2**	**-0.4**
	9.3nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**43.12**	**274**	P	P	**04 34 08.6**	**0.0**
	7.4nm,0.3s,mb4.5,baz=112,slow=7.8,SNR=67						
QSPA	**South Pole Qui**	**58.45**	**180**	*e*P	P	**04 36 08.4**	**+5.5**
	17nm,0.8s,mb4.7						
KAF	**Kangasniemi**	**145.37**	**339**	*e*p	PKPdf	04 45 38.2	-3.9
FINES	**FINESS Array B**	**145.95**	**338**	PKPbc	PKPbc	04 45 42.1	-2.1
	1.2nm,0.4s,baz=53,slow=4.5,SNR=17						

*MOS **31** 04:33:16.3±0.6, 5130N×15780E, h117km, mb4.1/1, Error ellipse: s-maj=99.9km s-min=13.7km az=72.8*

KRSC 31 04:33:05.0±1.3, 5051N×15706E, h97km±9km, ML4.1, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.62**	**286**	*i* P	Pn	04 33 20.9	-0.5
SKR				*i* S	Sn	04 33 33.9	+0.2
PAU	**Pauzhetka**	**0.97**	**351**	*i* P	Pn	04 33 27.8	+2.9
PAU				*e*S	Sn	04 33 43.8	+4.0
MIPR	**Malaya Ipel'ka**	**1.78**	**354**	*i* P	Pn	04 33 36.4	+1.8
MIPR				*e*S	Sn	04 33 58.6	+1.5
RUS	**Russkaya**	**2.13**	**25**	P	Pn	04 33 40.5	+1.4
RUS				S	Sn	04 34 05.5	+0.3
RUS	**Russkaya**	**2.13**	**25**	*i* P	Pn	04 33 40.5	+1.4
RUS				*e*S	Sn	04 34 05.7	+0.5
GRL	**Gorelyy**	**2.14**	**17**	*i* P	Pn	04 33 41.6	+2.3
GRL				*e*S	Sn	04 34 08.2	+2.8
KRMR	**Karymshinskiy**	**2.42**	**16**	*i* P	Pn	04 33 43.9	+1.0
PET	**Petropavlovsk**	**2.71**	**21**	P	Pn	04 33 48.4	+1.7
PET				S	Sn	04 34 18.7	-0.1
PET	**Petropavlovsk**	**2.71**	**21**	*e*P	Pn	04 33 48.3	+1.6
PET				*e*S	Sn	04 34 18.8	0.0
PET	**Petropavlovsk**	**2.71**	**21**	⇑*i*PN	Pn	04 33 48.3

ZRNK	**Zerenda**	**10.08**	**355**	⇓Pn	**Pn**	**05 20 35.4 +0.7**
	0.5nm,0.3s					
ZRNK				⇑Sn	**Sn**	**05 22 27.9 +1.2**
	1.7nm,0.4s					
BVA0	**Borovoye Array**	**10.12**	**0**	⇑Pn	**Pn**	**05 20 36.5 +1.3**
	0.2nm,0.7s,baz=173,slow=14,SNR=6.8					
BVA0				⇓Sn	**Sn**	**05 22 27.7 +0.1**
	0.5nm,0.8s,baz=162,slow=22,SNR=5.3					
BVA0				⇓Lg		05 23 39.5
	0.8nm,0.7s,baz=165,slow=24,SNR=4.3					
CHKZ	**Chkalovo**	**10.77**	**1**	⇑Pn	**Pn**	**05 20 45.3 +1.1**
	8.5nm,2.5s					
CHKZ				⇑Sn	**Sn**	**05 22 41.9 -1.8**
	1.9nm,0.7s					
CHKZ				⇑Lg		05 23 54.8
	3.6nm,0.8s					
AKTO	**Aktyubinsk**	**11.30**	**316**	⇑Pn	**Pn**	**05 20 52.2 +0.8**
	0.3nm,1.6s					
AKTO				⇓Sn	**Sn**	**05 22 55.9 -0.7**
	0.1nm,0.8s					

*CSEM **31** 05:35:47.7±0.1,4581N×2681E,h80km,MD4.1/5,Error ellipse: s-maj=1.6km s-min=1.4km az=53.0*
*ISCJB **31** 05:35:47.2±0.2,4588N±002×2688E±003,h93km±2km, mb3.7/6,Error ellipse: s-maj=3.1km s-min=2.7km az=123.3*
*MOS **31** 05:35:47.0±1.2,4588N×2694E,h98km,mb3.9/1,Error ellipse: s-maj=7.5km s-min=4.7km az=94.7*
*NEIC **31** 05:35:47.8,4601N×2706E,h80km,MD4.0(BUC),After BUC.*
*BUC **31** 05:35:48.6±0.4,4585N×2688E,h79km±5km,MD4.1/5, Error ellipse: s-maj=4.2km s-min=3.2km az=37.0*
*IDC **31** 05:35:48.9±0.7,4606N×2647E,h74km±7km,mb3.5/6, mb1 3.6/9,mb1mx3.4/20,mbtmp3.8/9,Error ellipse: s-maj=27.7km s-min=10.9km az=118.0*
*SOF **31** 05:35:50.8,4514N×2672E,h2km,MD3.1*
*SKO **31** 05:36:09.8,4412N×2584E,h0km*
*ATH **31** 05:36:47.3,4141N×2485E,h10km,MD3.0/3*
ISC 31 05:35:48.6±0.2,4588N±002×2688E±002,h84km±2km, n127,σ1§03/164,mb3.7/6,16C-14D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.11**	**261**	⇑*i*P	**Pn**	**05 36 00.4**	**-0.2**
VRI				*i*S	**Sn**	**05 36 08.9**	**-0.6**
VRI	**Vrincioaia**	**0.11**	**261**	⇑*i*P	**Pn**	**05 36 00.3**	**-0.3**
VRI	**Vrincioaia**	**0.11**	**261**	S	**Sn**	**05 36 08.1**	**-1.4**
PLOR	**Plostina**	**0.17**	**259**	⇑*i*P	**Pn**	**05 36 00.3**	**-0.5**
PLOR				*i*S	**Sn**	**05 36 09.1**	**-0.7**
PETR		**0.29**	**123**	⇑*i*P	**Pn**	**05 36 01.8**	**+0.4**
PETR				S	**Sn**	**05 36 11.4**	**+0.6**
BRD	**Bordesti**	**0.35**	**163**	P	**Pn**	**05 36 00.6**	**-1.1**
GHRR		**0.41**	**64**	S	**Sn**	**05 36 12.8**	**+0.8**
GHRR		**0.41**	**64**	⇑*i*P	**Pn**	**05 36 02.6**	**+0.5**
TUDR		**0.62**	**117**	S	**Sn**	**05 36 15.2**	**0.0**
TUDR		**0.62**	**117**	⇑*i*P	**Pn**	**05 36 04.1**	**+0.2**
ONCR	**Oncesti**	**0.64**	**25**	⇑*i*P	**Pn**	**05 36 04.3**	**+0.3**
ONCR	**Oncesti**	**0.64**	**25**	S	**Sn**	**05 36 15.3**	**-0.2**
TESR		**0.65**	**346**	S	**Sn**	**05 36 14.2**	**-1.4**
TESR		**0.65**	**346**	⇓*i*P	**Pn**	**05 36 03.9**	**-0.2**
VARR		**0.68**	**90**	S	**Sn**	**05 36 16.9**	**+0.7**
VARR		**0.68**	**90**	⇑*i*P	**Pn**	**05 36 05.3**	**+0.8**
MLR	**Muntele Rosu**	**0.77**	**239**	P	**Pn**	**05 36 05.3**	**0.0**
	59nm,0.3s,baz=342,slow=13,SNR=719						
MLR				S	**Sn**	**05 36 16.6**	**-1.1**
	386nm,0.3s,baz=240,slow=20,SNR=80						
MLR	**Muntele Rosu**	**0.77**	**239**	⇑*i*P	**Pn**	**05 36 05.3**	**0.0**
MLR				*i*S	**Sn**	**05 36 17.2**	**-0.5**
OZUR		**0.79**	**286**	S	**Sn**	**05 36 16.3**	**-1.9**
OZUR		**0.79**	**286**	⇑*i*P	**Pn**	**05 36 05.0**	**-0.6**
KGL	**Cahul**	**0.92**	**88**	*e*P	**Pn**	**05 36 09.0**	**+2.0**
KGL				*i*S	**Sn**	**05 36 23.0**	**+2.2**
	2μm,1.4s						
SECR		**1.02**	**214**	S	**Sn**	**05 36 23.9**	**+1.0**
SECR		**1.02**	**214**	⇓*i*P	**Pn**	**05 36 08.9**	**+0.7**
FULR		**1.04**	**197**	S	**Sn**	**05 36 24.6**	**+1.3**
FULR		**1.04**	**197**	⇓*i*P	**Pn**	**05 36 09.2**	**+0.8**
SNX	**Sinaia**	**1.09**	**242**	⇑*i*P	**Pn**	**05 36 09.6**	**+0.6**
SNX				*i*S	**Sn**	**05 36 24.7**	**+0.3**
LEOM	**Leova**	**1.12**	**58**	*e*P	**Pn**	**05 36 10.0**	**+0.7**
	320nm,0.7s						
LEOM				*i*S	**Sn**	**05 36 25.0**	**+0.1**
	6μm,0.3s						
CFR	**Carcaliu**	**1.13**	**128**	⇑*i*P	**Pn**	**05 36 09.6**	**+0.1**
CFR				*i*S	**Sn**	**05 36 24.4**	**-0.7**
CFR	**Carcaliu**	**1.13**	**128**	S	**Sn**	**05 36 24.1**	**-1.0**
CFR	**Carcaliu**	**1.13**	**128**	⇑*i*P	**Pn**	**05 36 09.3**	**-0.2**
VOIR		**1.36**	**251**	⇑*i*P	**Pn**	**05 36 12.0**	**-0.3**
VOIR				*i*S	**Sn**	**05 36 29.3**	**-0.9**
IAS	**Iasi**	**1.39**	**19**	⇓*i*P	**Pn**	**05 36 13.3**	**+0.6**
IAS				*i*S	**Sn**	**05 36 30.6**	**-0.3**
HARR	**Harsova**	**1.41**	**148**	⇓*i*P	**Pn**	**05 36 12.9**	**0.0**
HARR				*i*S	**Sn**	**05 36 30.4**	**-0.8**
HARR	**Harsova**	**1.41**	**148**	⇓*i*P	**Pn**	**05 36 12.9**	**0.0**
HARR				*i*S	**Sn**	**05 36 30.4**	**-0.8**
HARR	**Harsova**	**1.41**	**148**	⇓P	**Pn**	**05 36 13.0**	**+0.1**
HARR				S	**Sn**	**05 36 30.4**	**-0.8**
MTUR	**Matau**	**1.44**	**243**	⇑*i*P	**Pn**	**05 36 14.8**	**+1.5**
MTUR				*i*S	**Sn**	**05 36 33.7**	**+1.8**
BUC1	**Bucharest**	**1.65**	**202**	⇑*i*P	**Pn**	**05 36 16.2**	**+0.2**
BUC1				*i*S	**Sn**	**05 36 36.1**	**-0.7**
KIS	**Kishinev**	**1.74**	**50**	*e*P	**Pn**	**05 36 17.0**	**-0.2**
KIS				*i*S	**Sn**	**05 36 38.0**	**-1.0**
	1μm,0.5s						
KIS	**Kishinev**	**1.74**	**50**	*e*P	**Pn**	**05 36 17.0**	**-0.2**
KIS				*i*S	**Sn**	**05 36 38.0**	**-1.0**
KIS				smax			
	comp=E,720nm,0.8s						
KIS				smax			
	comp=E,1μm,0.5s						
TIRR	**Tirgusor**	**1.79**	**142**	⇓*i*P	**Pn**	**05 36 18.1**	**+0.2**
TIRR				*i*S	**Sn**	**05 36 39.0**	**-1.1**
BURAR	**Bucovina Array**	**2.08**	**327**	⇓*i*P	**Pn**	**05 36 22.9**	**+1.3**
BURAR	**Bucovina Array**	**2.08**	**327**	⇓*i*P	**Pn**	**05 36 22.9**	**+1.3**
PSN	**Preselentsi**	**2.39**	**157**	*i*Pg	**Pn**	**05 36 26.9**	**+1.1**
ZIMR		**2.47**	**206**	⇓P	**Pn**	**05 36 26.4**	**-0.5**
SZH	**Strazhica**	**2.70**	**195**	*i*Pg	**Pn**	**05 36 29.3**	**-0.7**
PRD	**Provadia**	**2.71**	**172**	*i*Pg	**Pn**	**05 36 31.0**	**+0.9**
PVL	**Pavlikeni**	**2.89**	**203**	*i*P	**Pn**	**05 36 33.5**	**+1.0**
DRGR		**3.03**	**289**	⇓*i*P	**Pn**	**05 36 34.8**	**+0.4**
DRGR				*i*S	**Sn**	**05 37 11.8**	**+2.1**
JMB	**Yambol**	**3.42**	**184**	*i*P	**Pn**	**05 36 39.0**	**-0.7**
JMB	**Yambol**	**3.42**	**184**	*e*P	**Pn**	**05 36 38.7**	**-1.0**
BZS	**Buzias**	**3.69**	**268**	⇓*i*P	**Pn**	**05 36 44.3**	**+0.9**
PGB	**Panagyurishte**	**3.86**	**211**	*i*P	**Pn**	**05 36 45.8**	**+0.1**
EDRB	**Edirne**	**4.04**	**181**	P	**Pn**	**05 36 48.0**	**0.0**
UZH	**Uzhgorod**	**4.16**	**313**	*e*P	**Pn**	**05 36 49.0**	**-0.7**
UZH				*i*S	**Sn**	**05 37 38.0**	**+0.8**
VTS	**Vitosha**	**4.22**	**220**	*i*P	**Pn**	**05 36 49.7**	**-0.8**
VTS	**Vitosha**	**4.22**	**220**	*e*P	**Pn**	**05 36 49.9**	**-0.7**
VTS	**Vitosha**	**4.22**	**220**	⇓*i*P	**Pn**	**05 36 50.2**	**-0.3**
VTS				S	**Sn**	**05 37 33.5**	**-5.1**
LVV	**L'vov**	**4.38**	**335**	*e*P	**Pn**	**05 36 53.4**	**+0.7**
LVV				*e*S	**Sn**	**05 37 44.0**	**+1.5**
RZN	**Rozhen**	**4.48**	**201**	*i*P	**Pn**	**05 36 54.0**	**0.0**
CRVS	**Cervenica-Dubn**	**4.76**	**311**	*e*PN	**Pn**	**05 37 00.3**	**+2.4**
CRVS				*e*SG	**Sn**	**05 37 50.9**	**-0.9**
CRVS	**Cervenica-Dubn**	**4.76**	**311**	*e*Pn	**Pn**	**05 37 00.3**	**+2.4**
CRVS				*e*Sg	**Sn**	**05 37 51.0**	**-0.8**
RDO	**Rodhopi**	**4.84**	**192**	*e*PB	**Pn**	**05 36 58.4**	**-0.5**
MMB	**Musomiste**	**4.86**	**209**	*i*P	**Pn**	**05 36 59.6**	**+0.3**
KKB	**Krupnik**	**4.86**	**216**	*i*P	**Pn**	**05 36 59.0**	**-0.3**
CTT	**Catalca**	**4.87**	**166**	P	**Pn**	**05 36 59.2**	**-0.1**
SEV	**Sevastopol'**	**4.98**	**103**	*e*P	**Pn**	**05 37 02.3**	**+1.4**
SEV				*e*S	**Sn**	**05 37 58.8**	**+1.7**
SEV	**Sevastopol'**	**4.98**	**103**	*e*P	**Pn**	**05 37 02.3**	**+1.4**
SEV				*e*S	**Sn**	**05 37 58.8**	**+1.7**
SEV				pmax	pmax		
	comp=Z,20nm,0.3s						
SEV				smax			
	comp=N,70nm,0.6s						
SEV				smax			
	comp=E,30nm,0.6s						
ALN	**Alexandroupoli**	**5.02**	**187**	*e*P	**Pn**	**05 37 01.0**	**-0.4**
NVR	**Nevrokopi**	**5.03**	**207**	*e*PB	**Pn**	**05 37 01.4**	**-0.2**
AKASG	**Malin Array Be**	**5.07**	**17**	P	**Pn**	**05 37 01.9**	**-0.2**
	comp=E,8.2nm,0.3s,baz=204,slow=13,SNR=32						
AKASG				S	**Sn**	**05 37 56.0**	**-3.3**
	comp=E,23nm,0.3s,baz=200,slow=22,SNR=4.9						
KECS	**Kecovo**	**5.08**	**303**	*e*PN	**Pn**	**05 37 03.5**	**+1.3**
KECS				*e*SG	**Sn**	**05 37 57.3**	**-2.2**
KECS	**Kecovo**	**5.08**	**303**	*e*Pn	**Pn**	**05 37 03.5**	**+1.3**
	comp=E,3.9nm,0.4s						
KECS				*e*Sg	**Sn**	**05 37 57.3**	**-2.2**
KECS				*e*Lg		05 38 00.0	
KECS	**Kecovo**	**5.08**	**303**	*e*P	**Pn**	**05 37 03.5**	**+1.3**
KECS				*e*		05 38 00.0	
KECS				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MFT	**Murefte**	**5.10**	**177**	*e*P	**Pn**	**05 37 01.5**	**-1.0**
SIM	**Simferopol'**	**5.18**	**98**	P	**Pn**	**05 37 00.9**	**-2.7**
	comp=Z,8.0nm,0.7s						
SIM				*e*S	**Sn**	**05 37 59.7**	**-2.3**
SIM	**Simferopol'**	**5.18**	**98**	P	**Pn**	**05 37 00.9**	**-2.7**
SIM				*e*S	**Sn**	**05 37 59.7**	**-2.3**
SIM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
STHS	**Stebnicka Huta**	**5.20**	**315**	*i*PN	**Pn**	**05 37 04.9**	**+1.1**
STHS				*e*SG	**Sn**	**05 38 00.6**	**-1.8**
STHS	**Stebnicka Huta**	**5.20**	**315**	*i*Pn	**Pn**	**05 37 04.9**	**+1.1**
	comp=Z,6.4nm,0.9s						
STHS				*e*Sg	**Sn**	**05 38 00.6**	**-1.8**
STHS				*e*Lg		05 38 20.0	
STHS	**Stebnicka Huta**	**5.20**	**315**	*i*P	**Pn**	**05 37 04.9**	**+1.1**
STHS				*e*		05 38 00.6	
STHS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PSZ	**Piszkesteto**	**5.20**	**296**	*e*P	**Pn**	**05 36 58.4**	**-5.5**
BADT	**Buyukada**	**5.29**	**161**	P	**Pn**	**05 37 05.0**	**-0.1**
MRMT	**Marmara Adasi**	**5.30**	**174**	*e*P	**Pn**	**05 37 03.7**	**-1.6**
SRS	**Serrai**	**5.33**	**208**	*e*P	**Pn**	**05 37 04.9**	**-0.8**
HRT	**Hereke**	**5.45**	**157**	P	**Pn**	**05 37 07.7**	**+0.4**
LPK	**Lapseki**	**5.51**	**181**	P	**Pn**	**05 37 08.3**	**+0.2**
VAY	**Valandovo**	**5.53**	**216**	*i*Pn	**Pn**	**05 37 07.6**	**-0.8**
VAY				*e*Sg	**Sn**	**05 38 05.1**	**-5.5**
KNT	**Kendrikon**	**5.54**	**213**	*e*P	**Pn**	**05 37 07.8**	**-0.7**
EDC	**Edincik**	**5.58**	**172**	P	**Pn**	**05 37 09.4**	**+0.3**
YLV	**Yalova**	**5.62**	**160**	P	**Pn**	**05 37 09.0**	**-0.5**
NIE	**Niedzica**	**5.67**	**311**	*e*P	**Pn**	**05 37 11.8**	**+1.5**
SOH	**Sokhos**	**5.67**	**208**	*e*P	**Pn**	**05 37 09.9**	**-0.4**
SOH	**Sokhos**	**5.67**	**208**	*e*P	**Pn**	**05 37 09.9**	**-0.5**
SUDU	**Sudak**	**5.80**	**97**	*e*P	**Pn**	**05 37 13.7**	**+1.6**
SUDU				*e*S	**Sn**	**05 38 15.7**	**-1.6**
IZI	**Iznik**	**5.86**	**160**	*e*P	**Pn**	**05 37 12.6**	**-0.2**
OUR	**Ouranopolis**	**5.94**	**202**	*e*P	**Pn**	**05 37 13.6**	**-0.4**
ORLT	**Orhaneli**	**6.02**	**165**	*e*P	**Pn**	**05 37 15.4**	**+0.4**
LIA	**Limnos Island**	**6.11**	**192**	*e*PB	**Pn**	**05 37 16.0**	**-0.3**
GPA	**Golpazari**	**6.13**	**155**	*e*P	**Pn**	**05 37 17.2**	**+0.7**
SAFT	**Safranbolu**	**6.27**	**136**	*e*P	**Pn**	**05 37 17.9**	**-0.6**
MDU	**Mudurnu**	**6.27**	**148**	*e*P	**Pn**	**05 37 19.5**	**+1.0**
PAIG	**Paliouri**	**6.40**	**203**	*e*P	**Pn**	**05 37 19.7**	**-0.6**
DST	**Dursunbey**	**6.41**	**168**	*e*P	**Pn**	**05 37 20.2**	**-0.1**
OJC	**Ojcow**	**6.43**	**315**	*e*P	**Pn**	**05 37 21.4**	**+0.8**
LIT	**Litokhoron**	**6.62**	**211**	*e*P	**Pn**	**05 37 22.9**	**-0.3**
XOR	**Xorichti**	**7.06**	**204**	*e*P	**Pn**	**05 37 29.1**	**-0.1**
ANN	**Anapa**	**7.51**	**95**	*e*P	**Pn**	**05 37 30.3**	**-5.1**
ANN				*e*S	**Sn**	**05 38 51.6**	**-7.5**
ANN				pmax	pmax		
	comp=Z,33nm,0.7s						
KHL	**Karahalli**	**7.81**	**165**	*e*P	**Pn**	**05 37 39.5**	**+0.1**
BR131	**Keskin Array S**	**7.91**	**139**	*e*Pn	**Pn**	**05 37 39.9**	**-0.9**
	comp=Z,1.9nm,0.4s						
BRTR	**Keskin Array B**	**7.91**	**139**	P	**Pn**	**05 37 40.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=330,slow=11,SNR=18						
KIZT	**Kizilcal**	**7.92**	**150**	*e*P	**Pn**	**05 37 41.6**	**+0.7**
KONT	**Konya--Tatoy**	**8.92**	**151**	*e*P	**Pn**	**05 37 55.3**	**+0.7**
SOC	**Sochi**	**9.42**	**100**	*i*P	**Pn**	**05 37 59.9**	**-1.5**
KIV	**Kislovodsk**	**11.37**	**94**	*e*P	**Pn**	**05 38 20.0**	**-8.0**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VSU	**Vasula**	**12.60**	**360**	*i*P	**Pn**	**05 38 41.9**	**-2.7**
FINES	**FINESS Array B**	**15.60**	**359**	P	**Pn**	**05 39 17.1**	**-6.4**
	comp=Z,0.7nm,0.3s,baz=166,slow=13,SNR=14						
FINES				S	S	05 42 00.1	-26
	comp=Z,0.2nm,0.3s,baz=176,slow=20,SNR=4.2						
HFS	**Hagfors**	**16.28**	**336**	P	**Pn**	**05 39 28.6**	**-3.4**
	comp=Z,0.7nm,0.3s,baz=142,slow=15,SNR=12						
KLMR	**Klimovskoe**	**16.73**	**22**	*e*P	**Pn**	**05 39 31.8**	**-5.9**
KLMR				pmax	pmax		
	comp=Z,20nm,2.0s						
JOF	**Joensuu**	**17.26**	**7**	*e*p	**Pn**	**05 39 41.2**	**-2.9**
NB2	**NORSAR Subarra**	**17.74**	**334**	P	**Pn**	**05 39 46.6**	**-3.4**
	comp=Z,1.6nm,0.5s,baz=138,slow=11						
NB2	**NORSAR Subarra**	**17.74**	**334**	P	**Pn**	**05 39 46.6**	**-3.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**17.74**	**334**	P	**Pn**	**05 39 46.9**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=148,slow=12,SNR=6.7						
ARCES	**ARCESS Array B**	**23.73**	**359**	P	**P**	**05 40 52.8**	**-0.1**
	comp=Z,2.6nm,1.0s,mb3.5,baz=168,slow=7.4,SNR=5.0						
ZAL	**Zalesovo**	**37.21**	**56**	P	**P**	**05 42 53.7**	**+2.0**
	comp=Z,1.3nm,0.4s,mb4.2,baz=134,slow=9.1,SNR=5.1						
MKAR	**Makanchi Array**	**37.59**	**68**	P	**P**	**05 42 57.8**	**+2.9**
	comp=Z,0.4nm,0.4s,mb3.6,baz=270,slow=8.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**38.97**	**221**	P	**P**	**05 43 06.8**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=27,slow=8.6,SNR=8.6						
TORD				pP	pP	05 43 26.9	+0.5
	comp=Z,0.6nm,0.5s,baz=28,slow=8.7,SNR=4.9						
DBIC	**Dimbokro**	**47.73**	**225**	P	**P**	**05 44 16.2**	**-0.7**
	comp=Z,0.9nm,0.4s,mb3.9,baz=205,slow=3.8,SNR=9.1						
YKA	**Yellowknife Ar**	**67.67**	**342**	P	**P**	**05 46 37.1**	**+0.5**
	comp=Z,0.2nm,0.6s,mb3.1,baz=24,slow=6.2,SNR=6.5						

*CSEM **31** 06:13:32.6±0.6,3662N×539E,h40km,ML3.3/9,Error ellipse: s-maj=11.8km s-min=6.7km az=146.0*
*NEIC **31** 06:13:35.9,3696N×526E,h0km,MG3.8(MDD),After MDD.*
*LDG **31** 06:13:35.3±0.6,3674N×556E,h20km,Ml3.2/11,Error ellipse: s-maj=11.2km s-min=8.4km az=166.0*
MDD 31 06:13:32.9±2.1,3683N×543E,h0km,mb3.9/5,2C,Error ellipse: s-maj=20.1km s-min=11.9km az=155.0,PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**3.58**	**326**	⇑P	Pn	06 14 28.9	-0.8
	SNR=18						
ETOS				S	Sn	06 15 08.9	-3.8
	2.9nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.58**	**326**	P	Pn	06 14 28.9	-0.8
	18nm,0.3s,SNR=18						
ETOS	**Mallorca**	**3.58**	**326**	⇑P	Pn	06 14 28.9	-0.8
ETOS				S	Sn	06 15 06.9	-5.8
EIBI	**Ibiza**	**3.90**	**305**	P	Pn	06 14 32.7	-1.4
	5.7nm,0.3s,SNR=12						
EIBI				S	Sn	06 15 15.3	-5.3
	5.8nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.90**	**305**	P	Pn	06 14 32.7	-1.4
	5.7nm,0.3s,SNR=12						
VSL	**Villasalto**	**4.10**	**48**	*e*Pn	Pn	06 14 34.0	-2.8
VSL				*e*Sn	Sn	06 15 20.1	-5.3
EBEN	**Beniarda**	**4.85**	**294**	P	Pn	06 14 46.2	-1.0
	1.5nm,0.3s,SNR=7.9						
EBEN				S	Sn	06 15 40.6	-3.4
	0.3nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.85**	**294**	P	Pn	06 14 46.2	-1.0
	1.5nm,0.3s,SNR=7.9						
EBEN				S	Sn	06 15 40.6	-3.4
	0.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.64**	**325**	P	Pn	06 14 56.9	-1.1
	1.2nm,0.2s,SNR=7.9						
EPOB				S	Sn	06 15 57.1	-6.4
	0.1nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**5.64**	**325**	P	Pn	06 14 56.9	-1.1
	1.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.81**	**309**	P	Pn	06 14 58.6	-1.8
	2.2nm,0.4s,SNR=7.9						
EMOS				S	Sn	06 16 01.5	-6.2
	0.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.81**	**309**	P	Pn	06 14 58.6	-1.8
	2.2nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**5.82**	**290**	P	Pn	06 14 59.5	-0.9
	2.9nm,0.4s,SNR=7.9						
ETOB				S	Sn	06 16 00.6	-7.2
	3.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.82**	**290**	P	Pn	06 15 01.9	+1.4
ETOB				S	Sn	06 16 00.6	-7.2
EJON	**La Jonquera**	**5.94**	**342**	S	Sn	06 16 06.7	-4.2
	4.0nm,0.3s,SNR=4.0						
PGF	**Pioggiola**	**6.34**	**25**	*e*Pn	Pn	06 15 05.3	-2.3
PGF				*e*Sn	Sn	06 16 13.7	-7.0
	1.6nm,0.2s						
PGF	**Pioggiola**	**6.34**	**25**	*e*Pn	Pn	06 15 05.3	-2.3
PGF				*e*Sn	Sn	06 16 13.7	-7.0
	0.8nm,0.2s						
LMR	**La Mourre**	**6.55**	**7**	*e*Pn	Pn	06 15 08.4	-2.1
LMR				*e*Sn	Sn	06 16 20.4	-5.4
	3.6nm,0.2s						
LMR	**La Mourre**	**6.55**	**7**	*e*Pn	Pn	06 15 08.4	-2.1
LMR				*e*Sn	Sn	06 16 20.4	-5.4
	1.8nm,0.2s						
FRF	**La Foret Royal**	**6.79**	**8**	*e*Sn	Sn	06 16 25.4	-6.3
MTLF	**Montolieu**	**6.95**	**340**	*e*Pn	Pn	06 15 13.8	-2.2
MTLF				*e*Sn	Sn	06 16 29.7	-6.1
	3.3nm,0.3s						
MTLF	**Montolieu**	**6.95**	**340**	*e*Pn	Pn	06 15 13.8	-2.2
MTLF				*e*Sn	Sn	06 16 29.7	-6.1
	1.6nm,0.3s						
EBIE	**Bielsa**	**7.12**	**327**	P	Pn	06 15 19.3	+0.9
	0.3nm,0.1s,SNR=4.0						
EBIE				S	Sn	06 16 34.3	-5.7
	0.5nm,0.3s,SNR=4.0						
EBIE	**Bielsa**	**7.12**	**327**	P	Pn	06 15 19.3	+0.9
	0.3nm,0.1s,SNR=4.0						
SMRF	**Simiane la Rot**	**7.14**	**1**	*e*Pn	Pn	06 15 17.8	-0.8
SMRF				*e*Sn	Sn	06 16 35.1	-5.3
	1.2nm,0.3s						
SMRF	**Simiane la Rot**	**7.14**	**1**	*e*Pn	Pn	06 15 17.8	-0.8
SMRF				*e*Sn	Sn	06 16 35.1	-5.3
	0.6nm,0.3s						
SBF	**Sospel**	**7.19**	**12**	*e*Sn	Sn	06 16 35.6	-6.0
	2.8nm,0.2s						
SBF	**Sospel**	**7.19**	**12**	*e*Sn	Sn	06 16 35.6	-6.0
	1.4nm,0.2s						
EPF	**Esparros**	**7.32**	**329**	*e*Pn	Pn	06 15 21.5	+0.4
EPF				*e*Sn	Sn	06 16 39.4	-5.5
	1.5nm,0.2s						
EPF	**Esparros**	**7.32**	**329**	*e*Pn	Pn	06 15 21.5	+0.4
EPF				*e*Sn	Sn	06 16 39.4	-5.5
	0.8nm,0.2s						
LASF	**Ste Croix**	**7.33**	**351**	*e*Pn	Pn	06 15 19.1	-2.2
LASF				*e*Sn	Sn	06 16 39.1	-6.1
	3.2nm,0.3s						
LASF	**Ste Croix**	**7.33**	**351**	*e*Pn	Pn	06 15 19.1	-2.2
LASF				*e*Sn	Sn	06 16 39.1	-6.1
	1.6nm,0.3s						
ETSF	**Etsaut**	**7.61**	**325**	*e*Pn	Pn	06 15 24.7	-0.3
ETSF				*e*Sn	Sn	06 16 46.9	-5.0
	1.0nm,0.2s						
ETSF	**Etsaut**	**7.61**	**325**	*e*Pn	Pn	06 15 24.7	-0.3
ETSF				*e*Sn	Sn	06 16 46.9	-5.0
	0.5nm,0.2s						
MBDF	**Montbardon**	**7.95**	**7**	*e*Pn	Pn	06 15 29.2	-0.6
VIVF	**Saint-Julien-l**	**8.04**	**356**	*e*Pn	Pn	06 15 28.3	-2.6
VIVF				*e*Sn	Sn	06 16 54.9	-7.6
	2.9nm,0.3s						
VIVF	**Saint-Julien-l**	**8.04**	**356**	*e*Pn	Pn	06 15 28.3	-2.6
VIVF				*e*Sn	Sn	06 16 54.9	-7.6
	1.5nm,0.3s						
SJPF	**Ste Jean**	**8.09**	**323**	*e*Pn	Pn	06 15 30.4	-1.2
SJPF				*e*Sn	Sn	06 16 57.7	-6.0
	0.8nm,0.2s						
SJPF	**Ste Jean**	**8.09**	**323**	Pn	Pn	06 15 30.4	-1.2
SJPF				Sn	Sn	06 16 57.7	-6.0
	0.4nm,0.2s						
LPL	**La Plagne**	**8.73**	**6**	*e*Pn	Pn	06 15 40.6	+0.1
LPL				*e*Sn	Sn	06 17 09.9	-10
	1.2nm,0.3s						
LPL	**La Plagne**	**8.73**	**6**	Pn	Pn	06 15 40.6	+0.1
LPL				Sn	Sn	06 17 09.9	-10
	0.6nm,0.3s						
**G

BGS **31** *07:25:09.3*$_{\pm}$*4.4,2260S*$_{\times}$*17769W,h276*^{km}*,mb5.0(NEIC)*
ISC 31 07:25:05.6$_{\pm}$0.1,**2261S**$_{\pm}$003$_{\times}$**17764W**$_{\pm}$004,**h278**^{km},
h278^{km}$_{\pm}$1.3^{km};**pP-P,n494,**$_{\sigma}$**1**^{s}**19**/260,**mb4.9**/96,**49C-34D,**
South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.62**	**182**	P	**Pn**	**07 26 39.5**	**-2.3**
	48nm,0.3s,baz=135,slow=19,SNR=3.8						
RAO				S	**S**	**07 27 57.6**	**-1.7**
	250nm,0.3s,baz=281,slow=22,SNR=12						
AFI	**Afiamalu**	**10.29**	**34**	P	**Pn**	**07 27 16.9**	**-11**
	44nm,0.3s,baz=91,slow=2.8,SNR=52						
AFI				S	S	07 28 56.6	-26
	18nm,0.3s,baz=30,slow=20,SNR=3.5						
AFI	**Afiamalu**	**10.29**	**34**	*e*P	**Pn**	**07 27 16.2**	**-11**
NOU	**Noumea**	**14.71**	**268**⇑	*e*P	**Pn**	**07 28 26.7**	**+5.4**
DZM	**Mont Dzumac**	**14.74**	**269**	P	**Pn**	**07 28 26.0**	**+4.4**
	4.8nm,0.3s,baz=79,slow=18,SNR=103						
WCZ	**Waipu Caves**	**15.00**	**206**	*e*PN	**Pn**	**07 28 27.9**	**+3.2**
WCZ	**Waipu Caves**	**15.00**	**206**	*e*P	**Pn**	**07 28 28.1**	**+3.4**
MXZ	**Matakaoa Point**	**15.31**	**192**	PN	**Pn**	**07 28 26.9**	**-1.4**
MXZ				SN	**S**	**07 31 08.2**	**-6.3**
MXZ	**Matakaoa Point**	**15.31**	**192**	*e*P	**Pn**	**07 28 26.6**	**-1.7**
MXZ				S	**S**	**07 31 07.2**	**-7.3**
KAAZ	**Kauri Point**	**15.64**	**203**	PN	**Pn**	**07 28 34.7**	**+2.5**
KAAZ	**Kauri Point**	**15.64**	**203**	P	**Pn**	**07 28 35.0**	**+2.8**
OTAZ	**Otara**	**15.67**	**203**	PN	**Pn**	**07 28 35.5**	**+2.9**
MKAZ	**Moumakai**	**15.73**	**202**	PN	**Pn**	**07 28 35.7**	**+2.4**
MKAZ	**Moumakai**	**15.73**	**202**	P	**Pn**	**07 28 35.4**	**+2.1**
WTAZ	**Waiatarua**	**15.78**	**204**	PN	**Pn**	**07 28 36.3**	**+2.4**
WTAZ	**Waiatarua**	**15.78**	**204**	P	**Pn**	**07 28 36.5**	**+2.6**
MWZ	**Matawai**	**16.21**	**194**	*e*PN	**Pn**	**07 28 34.9**	**-4.0**
MWZ				SN	**S**	**07 31 28.6**	**-4.1**
MWZ	**Matawai**	**16.21**	**194**	*e*P	**P**	**07 28 34.9**	**-2.2**
MWZ				S	**S**	**07 31 27.8**	**-4.9**
URZ	**Urewera**	**16.23**	**195**	P	**P**	**07 28 38.1**	**+0.7**
	32nm,0.3s,baz=8.9,slow=3.8,SNR=150						
URZ	**Urewera**	**16.23**	**195**	PN	**Pn**	**07 28 35.1**	**-4.2**
URZ				SN	**S**	**07 31 26.0**	**-7.2**
URZ	**Urewera**	**16.23**	**195**	*e*P	**P**	**07 28 37.1**	**-0.2**
RAR	**Rarotonga**	**16.64**	**89**	P	**P**	**07 28 40.8**	**-0.9**
	3.5nm,0.3s,baz=255,slow=7.9,SNR=16						
PXZ	**Pawanui**	**17.98**	**194**	PN	**P**	**07 28 54.2**	**-2.0**
PXZ				SN	**S**	**07 32 02.2**	**-5.6**
MRZ	**Mangatainoka R**	**18.89**	**196**	*e*PN	**P**	**07 29 03.4**	**-2.6**
MRZ				SN	**S**	**07 32 21.1**	**-4.4**
MRZ	**Mangatainoka R**	**18.89**	**196**	*e*P	**P**	**07 29 03.5**	**-2.5**
KIW	**Kapiti Island**	**19.25**	**197**	PN	**P**	**07 29 08.5**	**-1.3**
KIW				SN	**S**	**07 32 33.9**	**+1.3**
KIW	**Kapiti Island**	**19.25**	**197**	P	**P**	**07 29 07.6**	**-2.3**
CAW	**Cannon Point**	**19.44**	**197**	PN	**P**	**07 29 11.6**	**-0.2**
CAW	**Cannon Point**	**19.44**	**197**	P	**P**	**07 29 10.9**	**-0.9**
TRWZ	**Traveller**	**19.55**	**195**	SN	**S**	**07 32 37.6**	**-0.8**
MSWZ	**Moikau Station**	**19.68**	**196**	SN	**S**	**07 32 40.9**	**+0.1**
SNZO	**South Karori**	**19.73**	**197**	PN	**P**	**07 29 13.5**	**-1.3**
SNZO	**South Karori**	**19.73**	**197**	*e*P	**P**	**07 29 13.8**	**-1.1**
TCW	**Tory Channel**	**19.76**	**198**	PN	**P**	**07 29 13.1**	**-2.1**
TCW				SN	**S**	**07 32 39.4**	**-2.9**
TCW	**Tory Channel**	**19.76**	**198**	P	**P**	**07 29 12.3**	**-2.9**
QRZ	**Quartz Range**	**19.97**	**202**	PN	**P**	**07 29 17.1**	**-0.3**
QRZ				SN	**S**	**07 32 48.8**	**+2.5**
QRZ	**Quartz Range**	**19.97**	**202**	P	**P**	**07 29 17.8**	**+0.4**
TUWZ	**Tuamarina**	**20.05**	**199**	PN	**P**	**07 29 16.6**	**-1.8**
THZ	**Tophouse**	**20.68**	**200**	*e*PN	**P**	**07 29 23.4**	**-1.5**
THZ				SN	**S**	**07 32 59.8**	**+1.7**
THZ	**Tophouse**	**20.68**	**200**	*e*P	**P**	**07 29 24.2**	**-0.7**
LTZ	**Lake Taylor**	**21.80**	**200**	PN	**P**	**07 29 34.6**	**-0.9**
LTZ	**Lake Taylor**	**21.80**	**200**	*e*P	**P**	**07 29 35.8**	**+0.4**
RPZ	**Rata Peaks**	**23.03**	**201**	P	**P**	**07 29 47.6**	**+0.9**
	96nm,0.7s,mb5.2,baz=246,slow=2.0,SNR=43						
FOZ	**Fox Glacier**	**23.38**	**204**	PN	**P**	**07 29 48.9**	**-1.0**
FOZ	**Fox Glacier**	**23.38**	**204**	*e*P	**P**	**07 29 48.8**	**-1.0**
WKZ	**Wanaka**	**24.72**	**203**	*e*PN	**P**	**07 30 01.2**	**-0.7**
WKZ	**Wanaka**	**24.72**	**203**	*e*P	**P**	**07 30 01.5**	**-0.4**
ARMA	**Armidale**	**28.51**	**248**	*e*P	**P**	**07 30 39.1**	**+3.4**
CNB	**Canberra Magne**	**31.37**	**239**	*e*P	**P**	**07 31 04.4**	**+3.6**
	19nm,0.6s,mb4.8						
CTA	**Charters Tower**	**33.67**	**267**	*e*P	**P**	**07 31 21.8**	**+1.1**
	58nm,0.5s,mb5.4						
CTA				*e*S	**S**	**07 36 23.6**	**+1.0**
CTA				*e*SCP	ScP	07 37 22.3	+11
CTA	**Charters Tower**	**33.67**	**267**	P	**P**	**07 31 22.8**	**+2.1**
	83nm,0.6s,mb5.4,baz=96,slow=10,SNR=146						
CTA	**Charters Tower**	**33.67**	**267**	*e*P	**P**	**07 31 21.8**	**+1.1**
CTA				*e*S	**S**	**07 36 23.6**	**+1.0**
CTA				pmax	pmax		
	comp=Z,59nm,0.5s						
TOO	**Toolangi**	**34.97**	**236**	*e*P	**P**	**07 31 34.0**	**+2.3**
	comp=Z,11nm,0.7s,mb4.5						
TOO				*i*S	S	07 36 17.4	-25
TOO	**Toolangi**	**34.97**	**236**	*e*P	**P**	**07 31 34.0**	**+2.3**
TOO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.5						
PMG	**Port Moresby**	**36.19**	**286**	P	**P**	**07 31 43.6**	**+1.5**
	comp=Z,104nm,0.8s,mb5.4,baz=95,slow=7.2,SNR=29						
PMG	**Port Moresby**	**36.19**	**286**	*e*P	**P**	**07 31 42.7**	**+0.6**
	comp=Z,141nm,0.9s,mb5.5						
PMG	**Port Moresby**	**36.19**	**286**	*d i*P	**P**	**07 31 43.2**	**+1.1**
STKA	**Stephens Creek**	**37.22**	**247**	⇓*i*P	**P**	**07 31 51.0**	**+0.3**
	comp=Z,30nm,0.5s,mb5.0						
STKA				*e*PCP	PcP	07 34 07.6	+3.5
STKA				*e*S	**S**	**07 37 15.9**	**-0.6**
STKA	**Stephens Creek**	**37.22**	**247**	P	**P**	**07 31 51.0**	**+0.3**
	comp=Z,40nm,0.6s,mb5.0,baz=94,slow=9.8,SNR=141						
STKA				ScP	ScP	07 37 27.0	+2.8
	comp=Z,3.2nm,0.9s,baz=188,slow=6.1,SNR=3.7						
WAKE	**Wake Island**	**44.38**	**339**	*e*P	**P**	**07 32 46.8**	**-2.1**
	comp=Z,264nm,1.3s,mb5.3						
ASAR	**Alice Springs**	**44.40**	**259**	P	**P**	**07 32 50.4**	**+1.3**
	comp=Z,59nm,0.7s,mb5.0,baz=98,slow=7.5,SNR=723						
ASAR				PcP	PcP	07 34 28.4	+0.8
	comp=Z,7.4nm,0.6s,baz=105,slow=4.4,SNR=4.2						
ASAR				ScP	ScP	07 37 55.9	+3.3
	comp=Z,3.8nm,1.1s,baz=112,slow=4.7,SNR=5.4						
ASAR				S	**S**	**07 39 01.3**	**-0.9**
	comp=Z,4.1nm,0.8s,baz=97,slow=15,SNR=11						
ASAR				PKiKP	PKiKP	07 41 26.1	-0.6
	comp=Z,0.8nm,0.6s,baz=92,slow=1.4,SNR=7.0						
ASAR	**Alice Springs**	**44.40**	**259**	P	**P**	**07 32 50.4**	**+1.3**
ASAR				PcP	PcP	07 34 28.4	+0.8
ASAR				ScP	ScP	07 37 55.9	+3.3
ASAR				S	**S**	**07 39 01.3**	**-0.9**
ASAR	**Alice Springs**	**44.40**	**259**	P	**P**	**07 32 50.4**	**+1.3**
ASAR						07 34 28.4	
ASAR				S	**S**	**07 39 01.3**	**-0.9**
WRAB	**Tennant Creek**	**44.67**	**264**	P	**P**	**07 32 51.3**	**+0.1**
	comp=Z,497nm,0.8s,mb5.8,SNR=28						
WRAB	**Tennant Creek**	**44.67**	**264**	*e*P	**P**	**07 32 51.7**	**+0.5**
	comp=Z,75nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**44.67**	**264**	*e*P	**P**	**07 32 51.7**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,75nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**44.68**	**264**	P	**P**	**07 32 51.8**	**+0.6**
	comp=Z,53nm,0.7s,mb4.9,baz=97,slow=8.2,SNR=293						
WRA				ScP	ScP	07 37 56.9	+3.1
	comp=Z,2.1nm,0.9s,baz=100,slow=3.7,SNR=5.8						
WRA				S	**S**	**07 39 02.8**	**-3.3**
	comp=Z,6.3nm,0.9s,baz=100,slow=14,SNR=8.5						
WRA				PKiKP	PKiKP	07 41 26.5	-0.4
	comp=Z,1.0nm,0.6s,baz=85,slow=0.5,SNR=7.8						
WRA	**Warramunga Arr**	**44.68**	**264**	P	**P**	**07 32 51.8**	**+0.6**
WRA				ScP	ScP	07 37 56.9	+3.1
WRA				S	**S**	**07 39 02.8**	**-3.3**
KAKA	**Kakadu**	**48.38**	**273**	⇓*i*P	**P**	**07 33 20.2**	**+0.3**
	comp=Z,61nm,0.6s,mb5.1						
FORT	**Forrest**	**48.80**	**248**	⇓*i*P	**P**	**07 33 23.8**	**+0.8**
	comp=Z,295nm,0.6s,mb5.8						
FORT				*e*S	**S**	**07 40 02.8**	**-1.5**
FORT				*i*SS	SS	07 43 54.3	+16
GUMO	**Guam**	**51.42**	**311**	P	**P**	**07 33 42.4**	**-0.2**
	comp=Z,163nm,0.9s,mb5.4,baz=176,slow=8.8,SNR=7.6						
GUMO	**Guam**	**51.42**	**311**	*e*P	**P**	**07 33 41.7**	**-0.9**
	comp=Z,166nm,1.1s,mb5.3						
GUMO	**Guam**	**51.42**	**311**	*e*P	**P**	**07 33 41.7**	**-0.8**
GUMO				pmax	pmax		
	comp=Z,166nm,1.1s,mb5.3						
FITZ	**Fitzroy Crossi**	**53.11**	**264**	⇓*i*P	**P**	**07 33 56.1**	**+1.2**
	comp=Z,52nm,0.4s,mb5.2						
FITZ				*e*S	**S**	**07 41 04.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**53.11**	**264**	P	**P**	**07 33 56.1**	**+1.2**
	comp=Z,28nm,0.5s,mb4.9,baz=110,slow=6.8,SNR=111						
VNDA	**Vanda**	**55.85**	**185**	P	**P**	**07 34 17.8**	**+3.3**
	comp=Z,1.8nm,0.7s,baz=358,slow=7.0,SNR=3.2						
KLBR	**Kellerberrin**	**57.49**	**246**	⇓*i*P	**P**	**07 34 26.8**	**+0.8**
	comp=Z,28nm,0.7s,mb4.8						
MBWA	**Marble Bar**	**57.74**	**259**	*e*P	**P**	**07 34 28.2**	**+0.5**
	comp=Z,35nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**57.74**	**244**	P	**P**	**07 34 28.8**	**+1.0**
	comp=Z,6.2nm,0.3s,mb4.5,baz=101,slow=7.6,SNR=20						
MUN	**Mundaring**	**58.74**	**245**	*e*P	**P**	**07 34 35.9**	**+1.3**
QSPA	**South Pole Qui**	**67.47**	**180**	*e*P	**P**	**07 35 31.8**	**+0.1**
	comp=Z,28nm,0.8s,mb5.0						
QSPA				*e*pP	pP	07 36 33.6	-0.9
JOW	**Kunigami**	**71.78**	**310**	P	**P**	**07 35 57.6**	**-0.3**
	comp=Z,20nm,0.9s,mb4.8,baz=156,slow=9.9,SNR=9.7						
MJAR	**Matsushiro Arr**	**72.10**	**324**	P	**P**	**07 35 58.6**	**-1.2**
	comp=Z,9.4nm,0.6s,mb4.6,baz=156,slow=6.1,SNR=20						
MAT	**Matsushiro**	**72.11**	**324**	P	**P**	**07 35 58.4**	**-1.5**
MAT	**Matsushiro**	**72.11**	**324**	*e*P	**P**	**07 35 58.0**	**-1.9**
JNU	**Nakatsue**	**74.04**	**317**	P	**P**	**07 36 10.4**	**-0.8**
	comp=Z,34nm,0.8s,mb5.0,baz=86,slow=7.8,SNR=8.6						
YHNB	**Yeheng**	**75.58**	**305**	*e*P	**P**	**07 36 20.4**	**+0.5**
ASAJ	**Asahikawa**	**75.73**	**332**	P	**P**	**07 36 20.8**	**-0.1**
	comp=Z,28nm,0.6s,mb5.0,baz=204,slow=9.4,SNR=14						
YSS	**Yuzh-Sakhalins**	**77.92**	**333**	*e*P	**P**	**07 36 32.2**	**-0.8**
	comp=Z,11nm,0.6s,mb4.8						
YSS	**Yuzh-Sakhalins**	**77.92**	**333**⇑	*e*P	**P**	**07 36 33.2**	**+0.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
SSE	**Sheshan**	**79.30**	**310**	*e*P	**P**	**07 36 38.8**	**-1.7**
SSE				AMB	AMB		
	comp=Z,35nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,79nm,5.7s						
MAW	**Mawson**	**79.70**	**200**	⇓*i*P	**P**	**07 36 44.8**	**+2.2**
	comp=Z,8.8nm,0.6s,mb4.7						
MAW	**Mawson**	**79.70**	**200**	P	**P**	**07 36 45.0**	**+2.4**
	comp=Z,9.6nm,0.6s,mb4.7,baz=126,slow=7.5,SNR=20						
MAW	**Mawson**	**79.70**	**200**	⇓*i*P	**P**	**07 36 44.8**	**+2.2**
MAW				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CMB	**Columbia Colle**	**80.78**	**42**	*e*P	**P**	**07 36 48.4**	**0.0**
	comp=Z,18nm,1.2s,mb4.7						
CMB	**Columbia Colle**	**80.78**	**42**	*e*P	**P**	**07 36 48.4**	**0.0**
CMB				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.7						
OHCM	**Honcut**	**80.92**	**41**	*e*P	**P**	**07 36 49.0**	**-0.1**
WDC	**Whiskeytown Da**	**81.08**	**39**	*e*P	**P**	**07 36 49.9**	**-0.1**
	comp=Z,41nm,1.3s,mb5.0						
WDC	**Whiskeytown Da**	**81.08**	**39**	*e*P	**P**	**07 36 49.9**	**-0.1**
WDC				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.0						
NJ2	**Nanjing**	**81.48**	**310**	*e*P	**P**	**07 36 53.0**	**+1.0**
NJ2				AP	pP	07 38 00.8	+3.5
NJ2				XP	sP	07 38 30.5	+3.9
NJ2				PP	PP	07 40 06.0	+3.6
NJ2				S	S	07 46 38.0	-1.8
NJ2				XS	sS	07 48 37.0	+2.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,120nm,9.7s						
NJ2				LR	LR		
	comp=N,470nm,21.2s						
NJ2				LR	LR		
	comp=E,280nm,36.5s						
NJ2				LR	LR		
	comp=Z,130nm,25.4s						
DAC	**Darwin (Calif)**	**81.51**	**45**	*e*P	**P**	**07 36 52.6**	**+0.4**
	comp=Z,4.9nm,0.8s,mb4.3						
DAC				*e*pP	pP	07 37 59.1	+1.6
DAC	**Darwin (Calif)**	**81.51**	**45**	*e*P	**P**	**07 36 52.6**	**+0.4**
DAC				*e**PP	pP	07 37 59.1	+1.6
DAC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
MTUM	**Tungsten Hills**	**81.52**	**44**	*e*P	**P**	**07 36 52.9**	**+0.6**
MTUM				*e*pP	pP	07 37 59.5	+2.0
YBH	**Yreka Blue Hor**	**81.73**	**38**	P	**P**	**07 36 54.0**	**+0.7**
	comp=Z,25nm,0.8s,mb5.0,baz=231,slow=0.6,SNR=45						
YBH	**Yreka Blue Hor**	**81.73**	**38**	*e*P	**P**	**07 36 53.6**	**+0.3**
	comp=Z,25nm,0.9s,mb4.9						
YBH				*e*pP	pP	07 37 60.0	+1.3
YBH	**Yreka Blue Hor**	**81.73**	**38**	*e*P	**P**	**07 36 53.6**	**+0.3**
YBH				*e**PP	pP	07 38 00.0	+1.4
YBH				pmax	pmax		
	comp=Z,25nm,0.9s						
QIZ	**Qiongzhong**	**82.03**	**294**	P	**P**	**07 36 57.0**	**+2.1**
QIZ				S	S	07 46 43.0	-2.3
HUMO	**Hull Mountain**	**82.15**	**37**	*e*P	**P**	**07 36 55.9**	**+0.4**
	comp=Z,36nm,1.1s,mb5.0						
NVAR	**Mina Array Bea**	**82.33**	**43**	P	**P**	**07 36 56.7**	**+0.3**
	comp=Z,13nm,0.9s,mb4.7,baz=230,slow=11,SNR=66						
NVAR				pP	pP	07 38 02.6	+0.8
	comp=Z,3.2nm,1.1s,baz=207,slow=7.1,SNR=2.2						
NVAR				PKPPKP		08 03 30.9	
	comp=Z,1.2nm,1.0s,baz=96,slow=3.8,SNR=4.9						
NVAR	**Mina Array Bea**	**82.33**	**43**	P	**P**	**07 36 56.7**	**+0.3**
NVAR				pP	pP	07 38 02.6	+0.8
NVAR				P'P'		08 03 30.9	
MNV	**Mina**	**82.42**	**43**	*e*P	**P**	**07 36 57.0**	**+0.1**
	comp=Z,21nm,1.0s,mb4.8						
MNV	**Mina**	**82.42**	**43**	*e*P	**P**	**07 36 57.0**	**+0.1**
MNV				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
MDJ	**Mudanjiang**	**82.43**	**325**	P	**P**	**07 36 56.5**	**-0.5**
MDJ				AP	pP	07 38 01.3	-1.1
MDJ				XP	sP	07 38 30.3	-1.3
MDJ				PP	PP	07 40 10.8	+0.6
MDJ				S	S	07 46 45.8	-3.6
MDJ				SS	SS	07 52 20.3	+3.2
MDJ				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,193nm,4.2s						
MDJ	**Mudanjiang**	**82.43**	**325**	*e*P	**P**	**07 36 56.4**	**-0.5**
	comp=Z,13nm,0.7s,mb4.8						
LDFC	**Landfair**	**82.48**	**47**	*e*P	**P**	**07 36 58.4**	**+1.2**
LDFC				*e*pP	pP	07 38 01.3	-1.3
TPNV	**Topopah Spring**	**82.78**	**45**	*e*P	**P**	**07 36 59.1**	**+0.4**
	comp=Z,9.8nm,0.9s,mb4.6						
TPNV				*e*pP	pP	07 38 04.5	+0.2
TPNV	**Topopah Spring**	**82.78**	**45**	*e*P	**P**	**07 36 59.1**	**+0.3**
TPNV				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
NEN	**Nelson**	**82.98**	**47**	*e*P	**P**	**07 37 00.2**	**+0.5**
MOD	**Modoc**	**83.23**	**39**	*e*P	**P**	**07 37 00.8**	**-0.3**
	comp=Z,50nm,1.1s,mb5.3						
IRO	**Indian Ridge**	**83.45**	**37**	P	**P**	**07 37 02.4**	**+0.3**
TUC	**Tucson**	**84.02**	**52**	*e*P	**P**	**07 37 06.3**	**+1.3**
	comp=Z,21nm,0.9s,mb5.0						
TUC	**Tucson**	**84.02**	**52**	*e*P	**P**	**07 37 06.3**	**+1.3**
TUC				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.0						
SNY	**Shenyang**	**84.03**	**320**	⇓P	**P**	**07 37 04.5**	**-0.6**
SNY				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.8						
CN2	**Changchun**	**84.17**	**322**	*e*P	**P**	**07 37 09.0**	**+3.2**
CN2				*e*AP	pP	07 38 13.0	+1.5
CN2				*e*S		07 47 08.0	
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
BMN	**Battle Mountai**	**84.19**	**42**	*e*P	**P**	**07 37 05.8**	**-0.1**
	comp=Z,40nm,1.2s,mb5.1						
BMN	**Battle Mountai**	**84.19**	**42**	*e*P	**P**	**07 37 05.8**	**-0.1**
BMN				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.1						
KLR	**Kul'dur**	**84.51**	**329**	*e*P	**P**	**07 37 04.2**	**-3.3**
WVOR	**Wild Horse Val**	**84.53**	**40**	*e*P	**P**	**07 37 07.8**	**+0.2**
	comp=Z,30nm,0.9s,mb5.1						
WVOR	**Wild Horse Val**	**84.53**	**40**	*e*P	**P**	**07 37 07.8**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.1						
LVP	**Lakeview Peak**	**84.69**	**35**	P	**P**	**07 37 08.8**	**+0.4**
SYO	**Syowa Base**	**84.75**	**193**	⇑*e*P	**P**	**07 37 09.8**	**+1.1**
OOW	**Octopus West**	**84.87**	**33**	P	**P**	**07 37 10.2**	**+1.0**
OCWA	**Octopus Mounta**	**84.89**	**33**	P	**P**	**07 37 10.2**	**+0.9**
STD	**Studebaker Rid**	**84.90**	**35**	P	**P**	**07 37 10.2**	**+0.7**
PSI	**Prapat**	**85.01**	**275**	P	**P**	**07 37 09.6**	**-0.4**
	comp=Z,17nm,0.8s,mb4.9,baz=166,slow=5.7,SNR=11						
CCUT	**Cedar City**	**85.02**	**46**	*e*P	**P**	**07 37 10.5**	**+0.5**
CCUT				*e*pP	pP	07 38 15.5	-0.4
ARUT	**Antelope Range**	**85.10**	**46**	*e*P	**P**	**07 37 10.9**	**+0.5**
WUAZ	**Wupatki**	**85.28**	**49**	*e*P	**P**	**07 37 12.2**	**+0.9**
	comp=Z,14nm,1.1s,mb4.7						
WUAZ				*e*pP	pP	07 38 19.4	+2.2
ELK	**Elko**	**85.60**	**42**	*e*P	**P**	**07 37 12.9**	**+0.1**
	comp=Z,16nm,1.4s,mb4.7						
ELK				*e*pP	pP	07 38 19.1	+0.3
ELK	**Elko**	**85.60**	**42**	*e*P	**P**	**07 37 12.9**	**0.0**
ELK				pmax	pmax		
	comp=Z,16nm,1.4s						
PGC	**Sidney**	**85.85**	**33**	*e*P	**P**	**07 37 13.9**	**-0.2**
	comp=Z,109nm,1.3s,mb5.5						
MA2	**Magadan**	**85.90**	**344**	*e*P	**P**	**07 37 11.8**	**-2.6**
	comp=Z,11nm,1.0s,mb4.6						
MA2	**Magadan**	**85.90**	**344**	*e*P	**P**	**07 37 11.8**	**-2.5**
MA2				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
SNAA	**Sanae**	**85.90**	**178**	P	**P**	**07 37 15.6**	**+1.3**
	comp=Z,2.0nm,0.7s,mb4.1,baz=214,slow=12,SNR=5.9						
RMW	**Rattlesnake Mo**	**85.91**	**34**	P	**P**	**07 37 14.5**	**+0.1**
VNA3	**Neumayer Olymp**	**86.02**	**176**	*e*P	**P**	**07 37 16.6**	**+1.7**
VNA3				*e*		07 37 25.0	
VNA3				*e*		07 38 43.6	
MSU	**Marysvale**	**86.33**	**46**	*e*P	**P**	**07 37 17.3**	**+0.9**
MSU				*e*pP	pP	07 38 22.2	-0.3
HAWA	**Hanford**	**86.45**	**36**	*e*P	**P**	**07 37 17.1**	**+0.1**
	comp=Z,2.8nm,1.0s,mb4.0						
VNA2	**Neumayer--Watz**	**86.47**	**177**	*e*P	**P**	**07 37 18.9**	**+1.8**
	baz=228,slow=5.1						
VNA2				*e*		07 37 27.2	
VNA2				*e*		07 38 49.0	
BMO	**Blue Mountains**	**86.75**	**38**	*e*P	**P**	**07 37 18.1**	**-0.4**
	comp=Z,9.1nm,0.8s,mb4.7						
BMO				*e*pP	pP	07 38 23.5	-1.1
TTA	**Tatalina**	**86.96**	**10**	*e*P	**P**	**07 37 17.9**	**-1.6**
	comp=Z,19nm,0.9s,mb4.9						
TTA	**Tatalina**	**86.96**	**10**	*e*P	**P**	**07 37 17.9**	**-1.6**
TTA				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.9						
PMR	**Palmer**	**86.99**	**13**	*e*P	**P**	**07 37 17.5**	**-2.0**
	comp=Z,80nm,1.6s,mb5.3						
PMR	**Palmer**	**86.99**	**13**	*e*P	**P**	**07 37 17.5**	**-2.1**
PMR				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.3						
WTV	**Waterville**	**87.03**	**35**	P	**P**	**07 37 19.7**	**-0.1**
DIV	**Divide**	**87.33**	**15**	*e*P	**P**	**07 37 19.3**	**-1.9**
	comp=Z,116nm,1.0s,mb5.7						
TMUT	**Trail Mountain**	**87.39**	**45**	*e*P	**P**	**07 37 22.6**	**+1.1**
ENH	**Enshi**	**87.50**	**304**	*e*P	**P**	**07 37 22.3**	**+0.3**
	comp=Z,28nm,0.9s,mb5.1						
PLCA	**Paso Flores**	**87.58**	**133**	P	**P**	**07 37 24.0**	**+1.6**
	comp=Z,2.0nm,0.7s,mb4.1,baz=234,slow=4.9,SNR=12						
BJI	**Beijing**	**87.62**	**315**	P	**P**	**07 37 22.3**	**-0.3**
BJI				S		07 47 39.5	
BJI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
MNTX	**Cornudas Mount**	**87.70**	**54**	*e*P	**P**	**07 37 23.8**	**+0.8**
	comp=Z,19nm,0.9s,mb4.9						
HLID	**Hailey**	**87.70**	**41**	*e*P	**P**	**07 37 23.3**	**+0.4**
	comp=Z,10nm,1.0s,mb4.6						
LAZ	**Ladron**	**87.70**	**51**	*e*P	**P**	**07 37 23.9**	**+0.9**
LAZ				*e*pP	pP	07 38 30.8	+1.5
LENM	**Lemitar**	**87.71**	**52**	*e*P	**P**	**07 37 23.4**	**+0.3**
HVU	**Hansel Valley**	**87.72**	**43**	*e*P	**P**

LKWY Lake 90.68 41 *eP* **P 07 37 38.7 +1.8**
comp=Z,28nm,1.1s,mb5.0
LKWY Lake 90.68 41 *eP* **P 07 37 38.7 +1.8**
LKWY pmax pmax
comp=Z,28nm,1.1s,mb5.0
HRY Holter Researc 90.96 39 *eP* **P 07 37 37.9 -0.3**
HHC Hu-ho-hao-te 91.06 314 *eP* **P 07 37 39.0 +0.4**
HHC AP pP 07 38 47.5 +2.3
HHC XP sP 07 39 17.5 +3.4
HHC PP PP 07 41 22.3 +3.0
HHC SKS 07 47 41.5
HHC S 07 48 09.5
HHC XS sS 07 50 11.0 +1.4
HHC SS SS 07 54 24.5 +1.8
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,91nm,4.3s
HHC LR LR
comp=N,161nm,5.6s
HHC LR LR
comp=E,96nm,4.1s
HHC LR LR
comp=Z,114nm,5.7s
WALA Waterton Lakes 91.08 36 *eP* **P 07 37 38.3 -0.4**
comp=Z,11nm,0.9s,mb4.7
BILL Bilibino 91.16 354 *eP* **P 07 37 36.7 -2.4**
comp=Z,6.8nm,0.9s,mb4.5
BILL *e*pP pP 07 38 43.1 -2.6
BILL Bilibino 91.16 354 *d i*P **P 07 37 37.0 -2.1**
BILL *e* 07 41 17.2
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
DAWY Dawson 91.39 16 *eP* **P 07 37 39.1 -1.0**
GCMT Greycliff 91.76 40 *eP* **P 07 37 42.5 +0.7**
CD2 Chengdu 92.20 303 *eP* **P 07 37 42.3 -1.6**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
EGMT Eagleton 92.86 39 *eP* **P 07 37 46.8 -0.1**
comp=Z,5.6nm,0.8s,mb4.5
CFAA Coronel Fontan 93.59 126 P **P 07 37 51.6 +1.3**
comp=Z,0.6nm,0.6s,mb3.8,baz=245,slow=4.5,SNR=16
EDM Edmonton 93.69 33 *eP* **P 07 37 49.7 -1.0**
LAO LASA Array 94.28 41 *eP* **P 07 37 53.8 +0.3**
comp=Z,14nm,0.9s,mb5.0
LAO *e*PP PP 07 41 44.4 +0.1
LZH Lanzhou 94.31 307 *eP* **P 07 37 54.5 +0.9**
LZH AP pP 07 39 07.5 +7.2
LZH XP sP 07 39 32.3 +3.1
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,130nm,5.5s
LZH LR LR
comp=E,340nm,17.9s
LZH LR LR
comp=Z,553nm,19.5s
RSSD Black Hills 94.44 44 *eP* **P 07 37 53.5 -0.7**
comp=Z,17nm,1.0s,mb5.0
RSSD Black Hills 94.44 44 *eP* **P 07 37 53.5 -0.7**
RSSD pmax pmax
comp=Z,17nm,1.0s,mb5.0
INK Inuvik 96.22 15 P **P 07 38 00.2 -2.0**
comp=Z,7.5nm,0.9s,mb4.8,baz=216,slow=4.8,SNR=26
INK Inuvik 96.22 15 *eP* **P 07 37 59.9 -2.3**
comp=Z,13nm,1.1s,mb5.0
INK Inuvik 96.22 15 *eP* **P 07 37 59.9 -2.3**
INK pmax pmax
comp=Z,13nm,1.1s
DGMT Dagmar 96.32 40 *eP* **P 07 38 02.5 -0.3**
comp=Z,17nm,0.9s,mb5.2
ULN Ulaanbaatar 97.17 319 P **P 07 38 03.9 -2.7**
comp=Z,1.9nm,0.7s,mb4.4
ULN Ulaanbaatar 97.17 319 P **P 07 38 03.9 -2.7**
ULN pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
SONM Songino Array 97.56 319 P **P 07 38 06.7 -1.6**
comp=Z,0.8nm,0.7s,mb4.2,baz=96,slow=3.0,SNR=3.6
SONM PP PP 07 42 05.8 -3.7
comp=Z,0.5nm,0.7s,baz=114,slow=7.1,SNR=2.4
SONM PKKPbc PKKPbc 07 54 45.0 +1.5
comp=Z,0.3nm,0.5s,baz=300,slow=3.7,SNR=3.8
SONM Songino Array 97.56 319 P **P 07 38 06.7 -1.6**
SONM 07 42 05.8
YKA Yellowknife Ar 98.28 25 P **P 07 38 09.9 -1.6**
comp=Z,2.2nm,0.7s,mb4.6,baz=242,slow=4.5,SNR=65
YKA PP PP 07 42 06.8 -8.2
comp=Z,0.5nm,0.9s,baz=236,slow=7.5,SNR=6.0
YKA PKiKP PKiKP 07 42 40.9 -1.5
comp=Z,0.3nm,0.6s,baz=252,slow=1.4,SNR=15
YKA PKKPbc PKKPbc 07 54 41.6 +0.1
comp=Z,0.4nm,0.5s,baz=38,slow=2.5,SNR=8.5
YKA Yellowknife Ar 98.28 25 P **P 07 38 09.9 -1.6**
YKA PP PP 07 42 06.8 -8.2
YKW3 Yellowknife Ar 98.31 25 *eP* **P 07 38 10.2 -1.4**
RES Resolute Bay 109.72 16 *e*PKPdf PKiKP 07 43 01.0 -2.4
MKAR Makanchi Array 112.88 313 PKiKP PKiKP 07 43 08.2 -1.3
comp=Z,1.1nm,0.4s,baz=152,slow=1.1,SNR=9.1
MKAR PKKPbc PKKPbc 07 53 58.1 +0.9
comp=Z,0.8nm,0.7s,baz=277,slow=5.4,SNR=3.9
OPO Ambohidratompo120.04 231 PKP PKPdf 07 43 24.7 +1.5
comp=Z,4.6nm,0.6s,baz=182,slow=23,SNR=11
SCHQ Schefferville 120.11 39 PKP PKPdf 07 43 21.9 -1.4
comp=Z,2.0nm,0.6s,baz=14,slow=4.0,SNR=10
SCHQ Schefferville 120.11 39 PKP PKPdf 07 43 21.9 -1.4
BVAR Borovoye Array 120.90 319 PKP PKPdf 07 43 23.6 -1.3
comp=Z,6.0nm,0.4s,baz=137,slow=2.3,SNR=23
ZRNK Zerenda 121.74 319 *e*PKPdf PKPdf 07 43 25.3 -1.2
DAG Danmarks Havn 124.80 6 ⇓*i*P PKPdf 07 43 30.0 -2.3
comp=Z,9.6nm,0.7s
SUMG Summit 125.11 14 *e*PKPdf PKPdf 07 43 32.3 -0.7
ARU Arti 127.12 325 *i* PKIKP PKPdf 07 43 36.1 -0.6
ARU *e* 07 45 33.8
ARU *e* 07 50 14.1
AKTK Aktyubinsk 128.85 317 PKP PKPdf 07 43 39.9 -0.2
AKTO Aktyubinsk 128.85 317 PKP PKPdf 07 43 39.9 -0.2
comp=Z,7.8nm,0.8s,baz=102,slow=3.6,SNR=7.5
SCO Scoresbysund 130.02 10 *i* P PKPdf 07 43 40.7 -1.6
comp=Z,10nm,0.7s
ARCES ARCESS Array B 131.05 349 PKP PKPdf 07 43 42.8 -1.5
comp=Z,17nm,0.6s,baz=349,slow=0.5,SNR=49
ARCES SKPbc SKPbc 07 46 42.7 +0.4
comp=Z,5.8nm,0.9s,baz=28,slow=2.9,SNR=5.5
ARCES ARCESS Array B 131.05 349 PKP PKPdf 07 43 42.8 -1.5
ARCES SKPbc SKPbc 07 46 42.7 +0.4
LSZ Lusaka 134.64 216 *e*PKPdf PKPdf 07 43 53.1 +2.2
BORG Borgarnes 135.10 14 PKP PKPdf 07 43 49.7 -2.1
comp=Z,28nm,1.1s,baz=346,slow=8.3,SNR=1.8
JOF Joensuu 135.23 342 *ep* 07 43 41.8
TSUM Tsumeb 135.86 201 *e*PKPdf PKPdf 07 43 53.8 +0.5
KAF Kangasniemi 137.26 344 *ep* 07 43 45.6
FINES FINESS Array B 137.88 343 PKhKP 07 43 46.0
comp=Z,1.6nm,0.5s,baz=52,slow=4.6,SNR=11
FINES PKP PKPdf 07 43 55.8 -1.2
comp=Z,7.2nm,0.8s,baz=125,slow=7.3,SNR=12
KMBO Kilima Mbogo 138.62 240 PKP PKPdf 07 44 00.4 +2.1
comp=Z,6.5nm,0.8s,baz=74,slow=2.6,SNR=14
KMBO SKPbc SKPbc 07 47 09.8 +3.4
comp=Z,6.6nm,1.0s,baz=87,slow=2.4,SNR=9.7
KMBO Kilima Mbogo 138.62 240 *e*PKPdf PKPdf 07 44 00.9 +2.5
KMBO Kilima Mbogo 138.62 240 *i* PKIKP PKPdf 07 44 00.1 +1.8
KMBO pmax pmax
comp=Z,7.0nm,0.8s
OBN Obninsk 138.76 331 *i* PKIKP PKPdf 07 44 00.2 +1.6
OBN *e* 07 50 40.0
OBN pmax pmax
comp=Z,14nm,0.9s
GNI Garni 140.24 306 *i* PKIKP PKPdf 07 44 02.5 +1.2
NB2 NORSAR Subarra141.11 353 PKPa 07 43 54.7
comp=Z,4.0nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 141.11 353 PKhKP 07 43 54.6
comp=Z,2.5nm,0.6s,baz=16,slow=4.6,SNR=11
NOA PKP PKPdf 07 44 03.8 +0.9
comp=Z,7.3nm,0.7s,baz=13,slow=4.1,SNR=19
MBAR Mbarara 144.00 234 *d i*PKIKP PKPdf 07 44 08.1 +0.1
SUW Suwalki 144.92 339 *e*PKP PKPdf 07 44 08.3 -1.3
AKASG Malin Array Be 145.01 330 PKP PKPdf 07 44 07.9 -1.8
comp=Z,40nm,0.4s,baz=43,slow=4.2,SNR=186
MALT Malatya 145.45 305 ⇓P PKPdf 07 44 11.8 +1.3
MALT Malatya 145.45 305 *e*PKPdf PKPdf 07 44 11.0 +0.5
SIM Simferopol' 145.80 318 *c i*PKP2 PKPab 07 44 14.6 +1.5
SIM pmax pmax
comp=Z,120µm,0.7s
MUD Monsted U'grnd 145.83 353 *i* P PKPdf 07 44 11.1 0.0
comp=Z,100nm,1.0s

EAB Aberfoyle 146.10 7 *eP* PKPdf 07 44 12.4 +0.8
EAB AMb AMB 07 44 15.0
comp=Z,67nm,1.4s
EAB Aberfoyle 146.10 7 *eP* PKPdf 07 44 12.4 +0.8
EAB AMb AMB 07 44 15.0
comp=Z,67nm,1.4s
COP Copenhagen 146.13 350 *i* P PKPdf 07 44 14.2 +2.6
comp=Z,45nm,0.9s
COP Copenhagen 146.13 350 *e*PKP2 PKPab 07 44 14.2 -0.1
BSD Bornholm Skovb 146.21 347 *i* P PKPdf 07 44 11.7 -0.1
comp=Z,44nm,0.7s
BSD *i* 07 44 14.9
EAU Auchinoon 146.53 6 *eP* PKPdf 07 44 13.8 +1.5
EAU AMb AMB 07 44 15.2
comp=Z,215nm,1.4s
EAU Auchinoon 146.53 6 *eP* PKPdf 07 44 13.8 +1.5
EAU AMb AMB 07 44 15.2
comp=Z,215nm,1.4s
ESY Stoneypath 146.53 5 *eP* PKPdf 07 44 13.2 +0.9
ESY AMb AMB 07 44 14.3
comp=Z,156nm,1.6s
ESY Stoneypath 146.53 5 *eP* PKPdf 07 44 13.2 +0.9
ESY AMb AMB 07 44 14.3
comp=Z,156nm,1.6s
EBL Broad Law 146.64 6 *eP* PKPdf 07 44 14.1 +1.6
EBL AMb AMB 07 44 15.4
comp=Z,129nm,1.4s
EBL Broad Law 146.64 6 *eP* PKPdf 07 44 14.1 +1.6
EBL AMb AMB 07 44 15.4
comp=Z,129nm,1.4s
EKA Eskdalemuir Ar 147.06 6 PKPbc PKPbc 07 44 14.5 -1.2
comp=Z,33nm,0.8s,baz=337,slow=2.6,SNR=58
ESK Eskdalemuir 147.08 6 *eP* PKPdf 07 44 13.7 +0.5
ESK AMb AMB 07 44 20.0
comp=Z,76nm,1.6s
ESK Eskdalemuir 147.08 6 *eP* PKPdf 07 44 13.7 +0.5
ESK AMb AMB 07 44 20.0
comp=Z,76nm,1.6s
ESK Eskdalemuir 147.08 6 *e*PKPdf PKPdf 07 44 12.1 -1.1
ESK *e*PKPbc PKPbc 07 44 14.8 -1.0
ESK *e*PKPab PKPab 07 44 16.8 -1.3
ESK Eskdalemuir 147.08 6 *e*PKIKP PKPdf 07 44 12.1 -1.1
ESK *e* 07 44 14.8
BWH Wardlaw 147.17 6 *eP* PKPdf 07 44 14.7 +1.4
BWH Wardlaw 147.17 6 *eP* PKPdf 07 44 14.7 +1.4
BHH Howats Hill 147.30 6 *eP* PKPdf 07 44 15.3 +1.7
BHH Howats Hill 147.30 6 *eP* PKPdf 07 44 15.3 +1.7
GKP Gorka Klasztor 147.36 343 *e*PKP PKPbc 07 44 18.2 +1.7
BDL Dobcross Hall 147.61 6 *eP* PKPdf 07 44 16.7 +2.6
BDL Dobcross Hall 147.61 6 *eP* PKPdf 07 44 16.7 +2.6
KIS Kishinev 147.67 325 *e*PKIKP PKPdf 07 44 15.0 +0.8
KIS *i* 07 44 18.0
CKE Keswick 147.81 6 *eP* PKPdf 07 44 16.9 +2.5
CKE Keswick 147.81 6 *eP* PKPdf 07 44 16.9 +2.5
XDE Dent Fell 147.85 6 *eP* PKPdf 07 44 16.9 +2.4
XDE AMb AMB 07 44 18.8
comp=Z,193nm,1.0s
XDE Dent Fell 147.85 6 *eP* PKPdf 07 44 16.9 +2.4
XDE AMb AMB 07 44 18.8
comp=Z,193nm,1.0s
LVV L'vov 147.94 333 *e*PKP2 PKPab 07 44 17.2 -4.3
GIM North Isle of 147.95 8 *eP* PKPdf 07 44 17.3 +2.6
GIM North Isle of 147.95 8 *eP* PKPdf 07 44 17.3 +2.6
CDU1 Dunnerdale 148.05 6 *eP* PKPdf 07 44 17.4 +2.6
CDU1 Dunnerdale 148.05 6 *eP* PKPdf 07 44 17.4 +2.6
WIM Isle of Man 148.07 8 *eP* PKPdf 07 44 17.7 +2.9
WIM AMb AMB 07 44 18.4
comp=Z,245nm,0.7s
WIM Isle of Man 148.07 8 *eP* PKPdf 07 44 17.7 +2.9
WIM AMb AMB 07 44 18.4
comp=Z,245nm,0.7s
BSEG Bad Segeberg 148.15 351 *e*PKPbc PKPbc 07 44 18.2 -0.4
LWH Whinny Nab 148.24 3 *eP* PKPdf 07 44 18.4 +3.2
LWH Whinny Nab 148.24 3 *eP* PKPdf 07 44 18.4 +3.2
DCN Croghan 148.45 11 *eP* PKPdf 07 44 18.4 +2.9
BR131 Keskin Array S 148.48 310 *e*PKPbc PKPbc 07 44 19.1 -0.4
BRTR Keskin Array B 148.48 310 PKP PKPdf 07 44 14.8 -0.7
comp=Z,6.6nm,0.7s,baz=108,slow=4.0,SNR=19
BRTR PKPbc PKPbc 07 44 18.9 -0.5
comp=Z,20nm,0.7s,baz=136,slow=4.1,SNR=53
DLF Lyons Farm 148.62 10 *eP* PKPdf 07 44 18.7 +2.9
KWP Kalwaria 148.63 334 *e*PKP PKPdf 07 44 19.6 +3.8
WCB1 Church Bay 148.84 8 *eP* PKPdf 07 44 19.3 +3.2
WCB1 AMb AMB 07 44 20.0
comp=Z,104nm,0.7s
WCB1 Church Bay 148.84 8 *eP* PKPdf 07 44 19.3 +3.2
WCB1 AMb AMB 07 44 20.0
comp=Z,104nm,0.7s
WME Myndd Eilian 148.85 8 *eP* PKPdf 07 44 19.4 +3.3
WME Myndd Eilian 148.85 8 *eP* PKPdf 07 44 19.4 +3.3
RUE Ruedersdorf 148.92 346 *e*PKPbc PKPbc 07 44 19.9 -0.6
WLF1 Llynfaes 148.94 8 *eP* PKPdf 07 44 19.6 +3.3
WLF1 AMb AMB 07 44 20.3
comp=Z,94nm,0.7s
WLF1 Llynfaes 148.94 8 *eP* PKPdf 07 44 19.6 +3.3
WLF1 AMb AMB 07 44 20.3
comp=Z,94nm,0.7s
LHO Holmfirth 148.95 5 *eP* PKPdf 07 44 19.7 +3.4
LHO Holmfirth 148.95 5 *eP* PKPdf 07 44 19.7 +3.4
ANTO Ankara 149.01 311 ⇓P PKPbc 07 44 20.9 +0.1
ANTO Ankara 149.01 311 *e*PKPbc PKPbc 07 44 20.6 -0.1
ANTO *e*PKPab PKPab 07 44 23.9 -2.0
BURAR Bucovina Array 149.05 329 ⇑P PKPbc 07 44 20.8 -0.1
BURAR Bucovina Array 149.05 329 ⇑P PKPbc 07 44 20.8 0.0
CFR Carcaliu 149.18 323 ⇑P PKPbc 07 44 20.8 -0.4
OJC Ojcow 149.24 338 *e*PKP PKPdf 07 44 20.1 +3.4
KBI1 Birley Grange 149.26 5 *eP* PKPdf 07 44 19.7 +2.9
KBI1 Birley Grange 149.26 5 *eP* PKPdf 07 44 19.7 +2.9
STHS Stebnicka Huta 149.37 335 *e*PKP PKPbc 07 44 21.9 +0.2
STHS *e* 07 44 30.3
SBD1 Bryn Du 149.45 7 *eP* PKPbc 07 44 21.2 -0.6
SBD1 Bryn Du 149.45 7 *eP* PKPbc 07 44 21.2 -0.6
TIRR Tirgusor 149.47 322 ⇓P PKPbc 07 44 21.4 -0.5
TIRR Tirgusor 149.47 322 *e*PKPbc PKPbc 07 44 21.3 -0.6
TIRR Tirgusor 149.47 322 PKP2 PKPbc 07 44 21.6 -0.3
KWE Weaver Farm 149.47 5 *eP* PKPdf 07 44 21.2 +4.1
KWE Weaver Farm 149.47 5 *eP* PKPdf 07 44 21.2 +4.1
VRI Vrincioaia 149.50 325 ⇑P PKPdf 07 44 21.2 +4.0
VRI Vrincioaia 149.50 325 ⇑P PKPdf 07 44 21.2 +4.0
VRI Vrincioaia 149.50 325 PKP2 PKPbc 07 44 21.8 -0.2
HARR Harsova 149.60 323 ⇓P PKPbc 07 44 25.0 +2.8
CRVS Cervenica-Dubn 149.70 335 *e*PKP PKPbc 07 44 23.3 +0.8
CRVS *e* 07 44 27.0
NIE Niedzica 149.72 336 *e*PKP PKPbc 07 44 22.8 +0.3
KSP Ksiaz 149.80 342 *e*PKP PKPbc 07 44 22.8 +0.1
KSP Ksiaz 149.80 342 *e*PKPdf PKPdf 07 44 17.9 +0.3
KSP *e*PKPdf PKPdf 07 44 22.7 +5.1
HLM1 Long Mynd 149.87 6 *eP* PKPbc 07 44 22.2 -0.7
HLM1 AMb AMB 07 44 23.4
comp=Z,150nm,1.5s
HLM1 Long Mynd 149.87 6 *eP* PKPbc 07 44 22.2 -0.7
HLM1 AMb AMB 07 44 23.4
comp=Z,150nm,1.5s
SSP1 Stoney Pound 149.95 7 *eP* PKPbc 07 44 22.4 -0.6
SSP1 Stoney Pound 149.95 7 *eP* PKPbc 07 44 22.4 -0.6
EIL Elat 149.98 290 *e*PKPdf PKPdf 07 44 18.3 +0.4
EIL *e*PKPbc PKPbc 07 44 23.9 +0.8
IBBN Ibbenburen 150.07 353 *e*PKPbc PKPbc 07 44 23.1 -0.2
ISR Istrita 150.09 324 ⇓P PKPdf 07 44 20.3 +2.2
OKC Ostrava-Krasne 150.12 339 ⇑*e*PKPB PKPbc 07 44 23.2 -0.3
OKC *e*PKPAB PKPab 07 44 30.7 +0.2
MLR Muntele Rosu 150.16 326 PKPbc PKPbc 07 44 22.9 -0.6
comp=Z,60nm,1.0s,baz=354,slow=2.8,SNR=20
MLR Muntele Rosu 150.16 326 ⇓P PKPbc 07 44 23.0 -0.6
MLR Muntele Rosu 150.16 326 PKHKP 07 44 23.1
CLZ Clausthal 150.17 350 *e*PKPdf PKPdf 07 44 18.5 +0.3
CLZ *e*PKPbc PKPbc 07 44 23.5 -0.1
CLZ *e*pPKPbc pPKPbc 07 45 38.3 +5.1
UPC Upice 150.18 342 ⇑*e*PKPB PKPbc 07 44 23.6 0.0
CLL Collm 150.19 347 *e*PKPdf PKPdf 07 44 18.1 -0.1
CLL ⇓*i*PKPbc PKPbc 07 44 23.3 -0.3
comp=Z,74nm,0.9s
CLL *e*PKPab PKPab 07 44 29.0 -1.7
CLL *e*pPKPbc pPKPbc 07 45 37.9 +4.6
CLL *e*PP PP 07 47 59.0 -2.0
CLL Collm 150.19 347 *i* PKPbc PKPbc 07 44 23.3 -0.3
comp=Z,120nm,1.3s
CLL *e*PKPab PKPab 07 44 29.0 -1.7
comp=Z,27nm,0.8s
CLL *e*pPKPab pPKPab 07 45 38.0 -0.2
CLL *e*PP PP 07 48 06.0 +5.0
CLL Collm 150.19 347 *i* PKP PKPbc 07 44 23.3 -0.3

CLL *e*pPKP pPKPdf 07 45 38.0 +9.5
DPC Dobruska-Polom 150.23 342 *e*PKPDF PKPdf 07 44 18.7 +0.4
DPC ⇑*e*PKPB PKPbc 07 44 23.9 +0.2
HTR Trewern Hill 150.26 7 *eP* PKPbc 07 44 22.9 -0.9
HTR AMb AMB 07 44 24.9
comp=Z,91nm,1.4s
HTR Trewern Hill 150.26 7 *eP* PKPbc 07 44 22.9 -0.9
HTR AMb AMB 07 44 24.9
comp=Z,91nm,1.4s
CSS Prodhromos 150.32 301 *e*PKPbc PKPbc 07 44 23.5 -0.4
MORC Moravsky Berou 150.37 340 ⇓P PKPdf 07 44 20.4 +1.9
MORC Moravsky Berou 150.37 340 *e*PKPdf PKPdf 07 44 18.4 -0.2
MORC *e*PKPbc PKPbc 07 44 23.8 -0.3
MORC *e*PKPab PKPab 07 44 32.6 +1.1
MCH1 Michaelchurch 150.38 7 *eP* PKPbc 07 44 23.2 -0.9
MCH1 Michaelchurch 150.38 7 *eP* PKPbc 07 44 23.2 -0.9
BRG Berggiesshubel 150.38 345 *e*PKPdf PKPdf 07 44 18.7 +0.2
BRG *e*PKPbc PKPbc 07 44 23.9 -0.2
BRG *e*pPKPbc pPKPbc 07 45 38.6 +4.9
BRG Berggiesshubel 150.38 345 *e*PKHKP 07 44 18.7
BRG *i* 07 44 30.2
BRG Berggiesshubel 150.38 345 *e*PKP PKPdf 07 44 18.7 +0.2
comp=Z,12nm,1.4s
BRG *i* 07 44 24.0
comp=Z,89nm,1.6s
BRG *i* 07 44 30.2
comp=Z,20nm,0.9s
BRG *e*pPKP pPKPdf 07 45 38.2 +9.4
comp=Z,20nm,2.2s
HAE Alders End 150.38 6 *eP* PKPbc 07 44 23.2 -0.8
HAE AMb AMB 07 44 24.7
comp=Z,138nm,1.1s
HAE Alders End 150.38 6 *eP* PKPbc 07 44 23.2 -0.8
HAE AMb AMB 07 44 24.7
comp=Z,138nm,1.1s
HSA Swansea 150.48 8 *eP* PKPbc 07 44 23.3 -1.0
HSA Swansea 150.48 8 *eP* PKPbc 07 44 23.3 -1.0
WTSB Winterswijk 150.50 354 *e*PKP PKPbc 07 44 23.8 -0.5
comp=Z,143nm,1.0s
HGH Gray Hill 150.75 7 *eP* PKPbc 07 44 24.1 -0.9
HGH AMb AMB 07 44 25.3
comp=Z,210nm,1.4s
HGH Gray Hill 150.75 7 *eP* PKPbc 07 44 24.1 -0.9
HGH AMb AMB 07 44 25.3
comp=Z,210nm,1.4s
DRGR 150.81 331 ⇑P PKPbc 07 44 24.8 -0.3
DRGR 150.81 331 ⇑P PKPbc 07 44 24.8 -0.3
DRGR 150.81 331 PKIKP PKPbc 07 44 24.9 -0.2
BUG Bochum--Univer 150.97 354 *e*PKPbc PKPbc 07 44 24.9 -0.6
VYHS Vyhne 151.03 337 *i* PKP PKPbc 07 44 25.5 -0.1
VYHS *e* 07 44 35.3
PRU Pruhonice 151.05 344 ⇑*e*PKPB PKPbc 07 44 25.0 -0.6
VRAC Vranov 151.08 341 ⇑P PKPbc 07 44 25.2 -0.5
VRAC Vranov 151.08 341 ⇑P PKPbc 07 44 25.2 -0.5
VRAC Vranov 151.08 341 PKIKP PKPbc 07 44 25.9 +0.2
MOX Moxa 151.10 348 *e*PKPdf PKPdf 07 44 19.5 -0.1
MOX *e*PKPbc PKPbc 07 44 25.5 -0.2
MOX *e*pPKPbc pPKPbc 07 45 40.1 +4.6
MOX Moxa 151.10 348 *e*PKP PKPdf 07 44 19.3 -0.3
MOX *e* 07 44 25.4
comp=Z,94nm,1.7s
PSZ Piszkesteto 151.11 335 ⇓*i*PKP/F PKPbc 07 44 25.4 -0.4
PSZ Piszkesteto 151.11 335 PKIKP PKPbc 07 44 25.6 -0.2
WERD Werda 151.15 347 *e*PKPbc PKPbc 07 44 25.8 -0.1
HEX Exmoor 151.19 8 *eP* PKPbc 07 44 25.3 -0.7
HEX Exmoor 151.19 8 *eP* PKPbc 07 44 25.3 -0.7
UBBA Unterbreizbach 151.22 350 *e*PKPdf PKPdf 07 44 20.0 +0.2
UBBA *e*PKPbc PKPbc 07 44 25.4 -0.6
NKC Novy Kostel 151.32 346 *e*PKPDF PKPdf 07 44 20.0 0.0
NKC ⇑*e*PKPB PKPbc 07 44 26.0 -0.2
TSA1 Sevenoaks 151.37 3 *eP* PKPbc 07 44 26.2 -0.1
TSA1 Sevenoaks 151.37 3 *eP* PKPbc 07 44 26.2 -0.1
TREC Trest 151.42 342 ⇑*e*PKPB PKPbc 07 44 26.3 -0.2
SMOL Smolenice 151.50 339 *e*PKP PKPbc 07 44 27.2 +0.5
MANZ Manzenberg 151.62 347 *e*PKPdf PKPdf 07 44 20.6 +0.2
MANZ *e*PKPbc PKPbc 07 44 27.0 +0.1
BEBN Eben Emael 151.75 356 PKPbc PKPbc 07 44 27.1 -0.2
BEBN PKPab PKPab 07 44 35.7 -1.6
HGN Heimansgroeve 151.76 355 *e*PKP PKPbc 07 44 26.8 -0.4
comp=Z,52nm,1.0s
DYA Yadsworthy 151.80 9 *eP* PKPbc 07 44 26.4 -0.9
DYA Yadsworthy 151.80 9 *eP* PKPbc 07 44 26.4 -0.9
UCC Uccle 151.82 357 PKPbc PKPbc 07 44 27.1 -0.3
UCC PKPab PKPab 07 44 38.1 +0.5
ZST Bratislava 151.89 339 *e*PKP PKPbc 07 44 27.6 +0.1
MEM Membach 151.91 355 PKPbc PKPbc 07 44 27.3 -0.3
TNS Taunus Mts 152.03 352 *e*PKPdf PKPdf 07 44 21.0 0.0
TNS *e*PKPbc PKPbc 07 44 27.8 -0.1
KHC Kasperske Hory 152.08 344 *e*PKPDF PKPdf 07 44 21.6 +0.5
KHC ⇑*e*PKPB PKPbc 07 44 27.7 -0.3
KHC *e*PKPAB PKPab 07 44 37.0 -1.7
GRA1 Grafenberg Arr 152.09 348 *e*PKPbc PKPbc 07 44 27.7 -0.3
GRF Grafenberg Arr 152.09 348 *e*PKPbc PKPbc 07 44 27.7 -0.3
SNF Seneffe 152.12 357 PKPbc PKPbc 07 44 27.9 -0.2
SNF APKP 07 44 31.6
SNF PKPab PKPab 07 44 37.1 -1.7
BZS Buzias 152.20 330 ⇓P PKPbc 07 44 27.8 -0.4
BZS Buzias 152.20 330 ⇓P PKPbc 07 44 27.8 -0.5
BZS Buzias 152.20 330 PKIKP PKPbc 07 44 27.9 -0.3
WET Wettzell 152.24 345 *e*PKPbc PKPbc 07 44 28.1 -0.2
GEC2 GERESS Array S 152.31 344 *e*PKPdf PKPdf 07 44 21.4 -0.1
GEC2 *e*PKPbc PKPbc 07 44 28.2 -0.3
GERES GERESS Array B 152.31 344 PKP PKPdf 07 44 20.7 -0.8
comp=Z,2.9nm,0.8s,baz=104,slow=0.6,SNR=11
GERES PKPbc PKPbc 07 44 28.2 -0.3
comp=Z,20nm,0.9s,baz=48,slow=2.0,SNR=39
DOU Dourbes 152.51 357 PKPbc PKPbc 07 44 28.8 -0.2
WLF Walferdange 152.84 355 *e*PKPbc PKPbc 07 44 29.8 +0.2
WLF Walferdange 152.84 355 PKPbc PKPbc 07 44 29.7 +0.1
PKSM Moragy 153.00 335 ⇓P PKPdf 07 44 21.6 -0.9
PKSM Moragy 153.00 335 ⇑*e*P PKPdf 07 44 21.9 -0.6
PKSM *i* 07 44 29.3
MOA Molln 153.07 342 ⇑*i* PKPbc 07 44 29.9 -0.2
comp=Z,13nm,0.7s
MOA Molln 153.07 342 ⇓*i* PKPab 07 44 44.1 +1.3
comp=Z,17nm,1.2s
MOA Molln 153.07 342 ⇑*i*PKPdf PKPdf 07 44 22.3 -0.3
comp=Z,3.8nm,0.7s
MOA ⇑*i*PKiKP PKiKP 07 44 29.9 -0.4
comp=Z,13nm,0.7s
MOA ⇓*i*PKPab PKPab 07 44 44.1 +1.3
comp=Z,17nm,1.2s
ARSA Arzberg 153.23 340 ⇑*i* PKPbc 07 44 30.2 -0.3
comp=Z,13nm,1.2s
ARSA Arzberg 153.23 340 ⇓*i* PKPab 07 44 44.7 +1.2
comp=Z,17nm,1.3s
ARSA Arzberg 153.23 340 ⇓*i*PKPdf PKPdf 07 44 23.0 +0.2
comp=Z,3.3nm,0.7s
ARSA ⇑*i*PKiKP PKiKP 07 44 30.2 -0.4
comp=Z,13nm,1.2s
ARSA ⇓*i*PKPab PKPab 07 44 44.7 +1.2
comp=Z,17nm,1.3s
STU Stuttgart 153.34 350 *e*PKPbc PKPbc 07 44 30.5 -0.2
FUR Furstenfeldbru 153.53 347 *e*PKPbc PKPbc 07 44 30.8 -0.3
BFO Black Forest 153.90 351 *e*PKPbc PKPbc 07 44 31.5 -0.4
LDF La Druitiere 154.00 4 *e*PKIKP PKPdf 07 44 23.3 -0.6
comp=Z,53nm,1.1s
KBA Koelnbreinsper 154.03 343 ⇑*i* PKPbc 07 44 31.7 -0.5
comp=Z,18nm,1.1s
KBA Koelnbreinsper 154.03 343 ⇑*i*PKPdf PKPdf 07 44 23.2 -0.7
comp=Z,9.7nm,1.2s
KBA ⇑*i*PKPbc PKPbc 07 44 31.7 -0.5
comp=Z,18nm,1.1s
OBKA Obir 154.20 340 ⇑*i* PKPbc 07 44 31.9 -0.7
comp=Z,8.4nm,1.1s
OBKA Obir 154.20 340 ⇑*i* PKPab 07 44 48.6 +1.0
comp=Z,7.6nm,0.8s
OBKA Obir 154.20 340 ⇓*i*PKPdf PKPdf 07 44 24.4 +0.3
comp=Z,3.3nm,0.6s
OBKA ⇑*i*PKPbc PKPbc 07 44 31.9 -0.7
comp=Z,8.4nm,1.1s
OBKA ⇑*i*PKPab PKPab 07 44 48.6 +1.0
comp=Z,7.6nm,0.8s
WATA Walderalm 154.24 345 ⇑*i* PKPbc 07 44 32.2 -0.5
comp=Z,14nm,1.1s
WATA Walderalm 154.24 345 ⇑*i*PKPdf PKPdf 07 44 25.7 +1.5
comp=Z,4.1nm,0.8s
WATA ⇑*i*PKPbc PKPbc 07 44 32.2 -0.5
comp=Z,14nm,1.1s
WTTA Wattenberg 154.29 345 ⇑*i* PKPbc 07 44 32.8 0.0
comp=Z,36nm,1.1s
WTTA Wattenberg 154.29 345 ⇑*i* PKPab 07 44 47.2 -0.8
comp=Z,15nm,0.6s

WTTA	**Wattenberg**	**154.29**	**345**	⇑*i*	PKPdf	PKPdf	07 44 24.4	+0.1
	comp=Z,11nm,0.6s							
WTTA				⇑*i*	PKiKP	PKiKP	07 44 32.8	0.0
	comp=Z,36nm,1.1s							
WTTA				⇑*i*	PKPab	PKPab	07 44 47.2	-0.8
	comp=Z,15nm,0.6s							
MOTA	**Moosalm**	**154.34**	**346**	⇓*i*		PKPbc	07 44 33.1	+0.2
	comp=Z,16nm,1.1s							
MOTA	**Moosalm**	**154.34**	**346**	⇑*i*	PKPdf	PKPdf	07 44 24.1	-0.2
	comp=Z,8.5nm,1.0s							
MOTA				⇓*i*	PKiKP	PKiKP	07 44 33.1	+0.2
	comp=Z,16nm,1.1s							
SQTA	**Sankt Quirin**	**154.43**	**346**	⇑*i*		PKPbc	07 44 32.7	-0.4
	comp=Z,10.0nm,1.0s							
SQTA	**Sankt Quirin**	**154.43**	**346**	⇑*i*	PKPdf	PKPdf	07 44 24.4	-0.1
	comp=Z,10nm,1.0s							
SQTA				⇑*i*	PKiKP	PKiKP	07 44 32.7	-0.4
	comp=Z,10.0nm,1.0s							
LJU	**Ljubljana**	**154.62**	**340**	*e*PKPdf		PKPdf	07 44 24.3	-0.4
LJU				*i* PKPbc		PKPbc	07 44 32.9	-0.5
DAVA	**Damuels**	**154.65**	**348**	⇑*i*		PKPbc	07 44 33.6	0.0
	comp=Z,24nm,1.2s							
DAVA	**Damuels**	**154.65**	**348**	⇑*i*	PKPdf	PKPdf	07 44 25.7	+0.9
	comp=Z,11nm,1.3s							
DAVA				⇑*i*	PKiKP	PKiKP	07 44 33.6	0.0
	comp=Z,24nm,1.2s							
VOY	**Vojsko**	**154.82**	**341**	*e*PKPdf		PKPdf	07 44 24.7	-0.3
VOJS	**Vojsko**	**154.83**	**341**	*e*PKPdf		PKPdf	07 44 24.3	-0.8
BOJS	**Bojanci**	**154.86**	**338**	*e*PKPdf		PKPdf	07 44 25.1	0.0
BOJS				*e*PKPbc		PKPbc	07 44 33.9	-0.1
BOJS				*e*PKPab		PKPab	07 44 48.2	-2.2
LOR	**Lormes**	**155.37**	**358**	*e*PKIKP		PKPdf	07 44 24.8	-1.0
SSF	**Saint Saulge**	**155.59**	**358**	*e*PKIKP		PKPdf	07 44 25.2	-0.9
	comp=Z,32nm,1.1s							
AVF	**Avril sur Loir**	**155.87**	**358**	*e*PKIKP		PKPdf	07 44 25.1	-1.3
CABF	**La Chapelle**	**155.87**	**354**	*e*PKIKP		PKPdf	07 44 26.1	-0.3
	comp=Z,56nm,1.1s							
SMF	**Signal de Mont**	**155.99**	**357**	*e*PKIKP		PKPdf	07 44 25.3	-1.3
TCF	**Toulx Ste Croi**	**156.38**	**0**	*e*PKIKP		PKPdf	07 44 26.2	-0.9
	comp=Z,58nm,1.3s							
LPG	**La Plagne**	**156.89**	**352**	*e*PKIKP		PKPdf	07 44 27.5	-0.2
	comp=Z,9.7nm,0.8s							
RJF	**Les Rejaudoux**	**157.35**	**2**	*e*PKIKP		PKPdf	07 44 27.7	-0.6
ORIF	**Oris-en-Rattie**	**157.56**	**353**	*e*PKIKP		PKPdf	07 44 27.9	-0.7
MBDF	**Montbardon**	**157.65**	**352**	*e*PKIKP		PKPdf	07 44 28.0	-0.7
	comp=Z,20nm,0.9s							
VIVF	**Saint-Julien-l**	**157.73**	**356**	*e*PKIKP		PKPdf	07 44 28.4	-0.4
	comp=Z,26nm,1.0s							
CAF	**Calviac**	**157.74**	**1**	*e*PKIKP		PKPdf	07 44 28.2	-0.6
	comp=Z,23nm,1.1s							
LASF	**Ste Croix**	**158.56**	**357**	*e*PKIKP		PKPdf	07 44 29.4	-0.4
	comp=Z,22nm,1.0s							
FRF	**La Foret Royal**	**158.81**	**351**	*e*PKIKP		PKPdf	07 44 29.0	-1.1
PCAB	**Cabril**	**159.06**	**22**	*e*PKPab		PKPab	07 45 08.3	-0.3
MTLF	**Montolieu**	**159.33**	**0**	*e*PKIKP		PKPdf	07 44 30.0	-0.7
	comp=Z,12nm,0.8s							
SJPF	**Ste Jean**	**159.34**	**7**	*e*PKIKP		PKPdf	07 44 30.6	-0.1
PGF	**Pioggiola**	**159.36**	**346**	*e*PKIKP		PKPdf	07 44 29.7	-1.0
	comp=Z,31nm,0.9s							
PBRG	**Braganca**	**159.40**	**20**	*e*PKPab		PKPab	07 45 09.2	-0.9
PVRL	**Vila Real**	**159.55**	**22**	*e*PKPab		PKPab	07 45 10.2	-0.6
EPF	**Esparros**	**159.57**	**4**	*e*PKIKP		PKPdf	07 44 30.6	-0.4
	comp=Z,21nm,1.0s							
ETSF	**Etsaut**	**159.62**	**6**	*e*PKIKP		PKPdf	07 44 30.0	-1.0
	comp=Z,19nm,0.8s							
PVIS	**Viseu**	**159.98**	**23**	*e*PKPab		PKPab	07 45 11.9	-0.7
MTE	**Manteigas**	**160.38**	**23**	*e*PKPdf		PKPdf	07 44 32.9	+1.0
MTE	**Manteigas**	**160.38**	**23**	*e*PKPab		PKPab	07 45 13.7	-0.7
PTOM	**Tomar**	**160.73**	**26**	*e*PKPdf		PKPdf	07 44 33.3	+1.0
PTOM	**Tomar**	**160.73**	**26**	*e*PKPab		PKPab	07 45 15.2	-0.7
PCBR	**Castelo Branco**	**160.90**	**24**	*e*PKPdf		PKPdf	07 44 33.6	+1.2
PCBR	**Castelo Branco**	**160.90**	**24**	*e*PKPab		PKPab	07 45 15.7	-0.9
EVO	**Evora**	**161.81**	**27**	*e*PKIKP		PKPdf	07 44 31.9	-1.5
	comp=Z,18nm,0.8s							
ESDC	**Sonseca Array**	**162.16**	**16**	PKP		PKPdf	07 44 33.7	0.0
	comp=Z,2.5nm,0.8s,baz=360,slow=2.7,SNR=7.3							
ESDC				PKPab		PKPab	07 45 21.3	-0.9
	comp=Z,2.3nm,0.6s,baz=350,slow=4.0,SNR=8.5							
LIC	**Lamto**	**162.22**	**155**	*e*PKIKP		PKPdf	07 44 34.1	+0.3
	comp=Z,18nm,0.9s							
PBEJ	**Beja**	**162.30**	**27**	*e*PKPdf		PKPdf	07 44 35.5	+1.6
DBIC	**Dimbokro**	**162.69**	**155**	PKP		PKPdf	07 44 35.3	+1.0
	comp=Z,4.4nm,0.6s,baz=114,slow=2.6,SNR=10							
DBIC				PKPab		PKPab	07 45 26.8	+2.3
	comp=Z,6.7nm,0.8s,baz=180,slow=4.6,SNR=7.9							
TORD	**Torodi Ar. Bea**	**170.56**	**176**	PKP		PKPdf	07 44 40.6	+0.4
	comp=Z,7.4nm,0.8s,baz=317,slow=0.7,SNR=44							
TORD				pPKP		pPKPdf	07 45 52.3	+1.4
	comp=Z,2.1nm,1.1s,baz=27,slow=0.3,SNR=2.2							
TORD				PKPab		PKPab	07 46 01.8	+2.5
	comp=Z,5.5nm,0.8s,baz=180,slow=4.0,SNR=13							

*IDC **31** 07:30:55.1±1.0, 1050N×9400E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, MS3.6/2, Ms1 3.6/2, ms1mx2.9/35, Error ellipse: s-maj=66.5km s-min=18.3km az=54.0*
*NEIC **31** 07:30:56.5±0.6, 1050N×9400E, h10km, mb4.1/1, Error ellipse: s-maj=40.0km s-min=10.8km az=55.0*
*ISCJB **31** 07:30:58.6±0.8, 105N±0.1×943E±0.1, h33km, mb4.0/9, MS3.9/2, Error ellipse: s-maj=23.5km s-min=9.8km az=81.0*
*BJI **31** 07:30:59.4, 1092N×9424E, h10km, mB4.3, mb4.0, Ms4.0*

ISC 31 07:31:01.0±0.8, 106N±01×943E±01, h35km, n14, σ1§15/12, mb4.0/9, MS3.9/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.84**	**306**	*e*P	**Pn**	**07 31 40.4**	**+10**
PBA				*e*S	**Sn**	**07 31 54.1**	**+1.9**
PBA				*e*x	x	07 32 08.1	
	comp=N,314nm,0.9s						
PBA				*e*x	x	07 32 10.0	
	comp=E,272nm,0.6s						
PSI	**Prapat**	**9.00**	**149**	LR	LR	07 37 09.1	
	comp=E,186nm,18.9s,baz=168,slow=41						
GYA	**Guiyang**	**19.66**	**35**	P	**Pn**	**07 35 29.0**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s						
GTA	**Gaotai**	**29.14**	**9**	*e*P	**P**	**07 37 00.0**	**+1.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
GTA				AMB	AMB		
	comp=Z,36nm,6.1s						
GTA				LR	LR		
	comp=N,165nm,21.8s,MS3.9						
GTA				LR	LR		
	comp=E,256nm,22.9s,MS3.9						
MKAR	**Makanchi Array**	**37.50**	**346**	P	**P**	**07 38 11.1**	**-0.3**
	comp=E,1.9nm,0.9s,mb3.8,baz=163,slow=8.6,SNR=10						
BVAR	**Borovoye Array**	**46.49**	**340**	P	**P**	**07 39 24.0**	**-0.8**
	comp=E,0.9nm,0.8s,mb3.7,baz=141,slow=9.3,SNR=3.5						
ZRNK	**Zerenda**	**46.90**	**339**	*e*P	**P**	**07 39 26.5**	**-1.5**
	comp=E,1.6nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**49.76**	**127**	P	**P**	**07 39 50.5**	**+0.5**
	comp=E,1.8nm,0.7s,mb4.2,baz=306,slow=8.9,SNR=7.6						
ASAR	**Alice Springs**	**51.58**	**132**	P	**P**	**07 40 04.0**	**+0.3**
	comp=E,1.6nm,0.9s,mb3.9,baz=301,slow=7.2,SNR=4.0						
CTA	**Charters Tower**	**59.54**	**121**	LR	LR	08 11 56.2	
	comp=E,77nm,18.6s,MS3.9,baz=45,slow=41						
BRTR	**Keskin Array B**	**60.79**	**310**	P	**P**	**07 41 07.7**	**-1.8**
	comp=E,1.0nm,0.8s,mb4.0,baz=128,slow=8.0,SNR=6.3						
STKA	**Stephens Creek**	**61.89**	**135**	P	**P**	**07 41 17.9**	**+1.0**
	comp=E,2.6nm,0.9s,mb4.4,baz=330,slow=2.8,SNR=3.1						
FINES	**FINESS Array B**	**70.40**	**332**	P	**P**	**07 42 10.1**	**-1.4**
	comp=E,0.9nm,0.7s,mb3.8,baz=91,slow=5.7,SNR=3.2						
PLCA	**Paso Flores**	**147.10**	**201**	PKPbc	PKPbc	07 50 40.2	0.0
	comp=E,2.7nm,1.0s,baz=192,slow=20,SNR=3.7						

NDI 31 07:31:46.9±3.2, 1746N×7381E, h5km, ML3.6, MW3.5, 1D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	**Karad**	**0.39**	**113**	*e*P	Pg	07 31 53.5	-0.9
KAD				*e*S	Sg	07 31 59.2	-0.3
KAD				AML	AML	07 32 02.8	
	comp=N,940nm,0.6s						
KAD				AML	AML	07 32 04.8	
	comp=E,675nm,0.4s						
POO	**Poona**	**1.07**	**2**	*e*P	Pg	07 32 17.1	+10
POO				*e*S	Sg	07 32 32.2	+11
POO				AML	AML	07 32 35.0	
	comp=N,846nm,0.4s						
POO				AML	AML	07 32 35.2	
	comp=E,1μm,0.3s						
BOM	**Bombay**	**1.71**	**327**	*e*P	Pn	07 32 17.0	-0.4
BOM				*e*S	Sn	07 32 40.6	+0.9
BOM				*e*x	x	07 32 43.2	
	comp=E,7μm,0.3s						
BOM				*e*x	x	07 32 43.3	
	comp=N,7μm,0.3s						
LATR	**Latur**	**2.79**	**70**	*e*P	Pn	07 32 34.0	+1.8
LATR				*e*x	x	07 33 28.1	
AKL	**Akola**	**4.43**	**43**	*e*x	x	07 32 30.9	
AKL				*e*x	x	07 33 08.2	
AKL				AML	AML	07 33 31.9	
	comp=N,297nm,0.4s						
AKL				AML	AML	07 33 33.0	
	comp=E,328nm,0.3s						
MNGI	**Mangalore**	**4.60**	**168**	*e*S	Sn	07 33 48.7	-2.0
NGP	**Nagpur**	**6.17**	**53**	*e*x	x	07 33 34.3	
NGP				*e*x	x	07 34 38.1	
NGP				*e*x	x	07 34 58.6	
	comp=E,116nm,0.5s						
BHPL	**Bhopal**	**6.68**	**30**	*e*x	x	07 33 27.1	
BHPL				*e*x	x	07 34 39.6	
BHPL				AML	AML	07 35 18.8	
	comp=N,47nm,0.5s						
BHPL				AML	AML	07 35 22.1	
	comp=E,96nm,0.5s						
JBP	**Jabalpur**	**8.11**	**45**	⇓*i*	Pn	07 33 44.2	-1.2
JBP				*e*x	x	07 33 47.2	
	comp=Z,14nm,0.7s						
JBP				*e*x	x	07 35 13.2	
VIS	**Vishakhapatnam**	**9.09**	**87**	*e*S	Sn	07 35 34.4	-6.9
NDI	**New Delhi**	**11.60**	**15**	*e*x	x	07 36 12.5	

*IDC **31** 07:36:24.1±3.1, 4103N×14094E, h104km±33km, mb3.2/4, mb1 3.4/5, mb1mx3.1/21, mbtmp3.5/5, Error ellipse: s-maj=322.3km s-min=20.7km az=110.0*
*ISCJB **31** 07:36:25.2±0.5, 4099N±004×14143E±008, h126km±4km, mb3.5/4, Error ellipse: s-maj=10.6km s-min=5.8km az=11.1*
*JMA **31** 07:36:26.6±0.1, 4101N×14146E, h117km±1km, M3.4*
JMA Felt I J1.

ISC 31 07:36:26.2±0.5, 4099N±004×14142E±008, h121km±4km, n17, σ0§47/27, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.33**	**233**	P	**Pn**	**07 36 43.4**	**0.0**
JTM				S	**Sn**	**07 36 56.2**	**-0.1**
JOT	**Ohata**	**0.48**	**325**	P	**Pn**	**07 36 44.3**	**+0.2**
JOT				S	**Sn**	**07 36 57.6**	**0.0**
JANG	**Nango**	**0.62**	**173**	P	**Pn**	**07 36 45.0**	**0.0**
JANG				S	**Sn**	**07 36 58.4**	**-0.8**
JSR	**Shiriuchi**	**0.93**	**306**	P	**Pn**	**07 36 47.7**	**+0.1**
JSR				S	**Sn**	**07 37 03.0**	**-0.8**
JKB	**Kayabe**	**0.94**	**342**	P	**Pn**	**07 36 48.0**	**+0.3**
JKB				S	**Sn**	**07 37 03.9**	**-0.1**
JAH	**Hinai**	**1.00**	**217**	P	**Pn**	**07 36 48.8**	**+0.5**
JAH				S	**Sn**	**07 37 05.6**	**+0.6**
JIW	**Iwasaki**	**1.14**	**250**	P	**Pn**	**07 36 50.3**	**+0.6**
JYM2	**Yakumo 2**	**1.37**	**325**	P	**Pn**	**07 36 53.0**	**+0.8**
JOM	**Ohasama**	**1.52**	**184**	P	**Pn**	**07 36 54.1**	**+0.2**
JOM				S	**Sn**	**07 37 14.7**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.63**	**37**	P	**Pn**	**07 36 55.4**	**+0.2**
JNBK				S	**Sn**	**07 37 18.0**	**+0.7**
JOSM	**Okushiri--Mats**	**1.82**	**307**	P	**Pn**	**07 36 57.2**	**-0.3**
JOSM				S	**Sn**	**07 37 21.3**	**-0.1**
JMK	**Ichinoseki**	**2.04**	**184**	P	**Pn**	**07 37 00.1**	**-0.1**
ASAJ	**Asahikawa**	**3.24**	**15**	P	**Pn**	**07 37 15.5**	**-0.2**
	1.6nm,0.3s,baz=254,slow=8.6,SNR=7.2						
ASAJ				S	**Sn**	**07 37 52.9**	**-1.0**
	1.5nm,0.3s,baz=61,slow=19,SNR=4.4						
ILAR	**Eielson Array**	**46.19**	**34**	P	**P**	**07 44 39.6**	**+0.7**
	0.3nm,0.6s,mb3.2,baz=271,slow=5.6,SNR=4.4						
INK	**Inuvik**	**50.89**	**29**	P	**P**	**07 45 14.8**	**0.0**
	0.3nm,0.5s,mb3.6,baz=279,slow=8.9,SNR=3.4						
WRA	**Warramunga Arr**	**60.98**	**188**	P	**P**	**07 46 25.8**	**-0.9**
	0.9nm,0.8s,mb3.8,baz=4.6,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**64.70**	**188**	P	**P**	**07 46 51.1**	**-0.2**
	0.8nm,0.8s,mb3.6,baz=4.6,slow=7.1,SNR=7.6						

*CSEM **31** 07:38:11.6±0.8, 3870N×2896W, h5km, ML2.1, Error ellipse: s-maj=7.7km s-min=5.1km az=65.0, After PDA*
*PDA **31** 07:38:11.6±0.8, 3870N×2896W, h5km, MD2.9, ML2.1, Error ellipse: s-maj=7.7km s-min=5.1km az=65.0*

SVSA 31 07:38:11.6±0.8, 3870N×2896W, h5km, MD2.9, ML2.1, Error ellipse: s-maj=7.7km s-min=5.1km az=65.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.21**	**109**	*e*P	Pg	07 38 15.4	-0.4
PCED				*e*S	Sg	07 38 18.2	-0.4
PCED							
	76nm,0.3s						
PCED	**Cedros**	**0.21**	**109**	*e*P	Pg	07 38 15.4	-0.4
PCED				*e*S	Sg	07 38 18.2	-0.4
CALA	**Caldeira**	**0.23**	**120**	*e*S	Sg	07 38 19.3	+0.1
HOR	**Horta**	**0.31**	**124**	*e*rx		07 38 20.0	
PICO	**Pico**	**0.46**	**115**	*e*P	Pg	07 38 19.8	-0.7
PICO				*e*S	Sg	07 38 26.1	-0.4
ROSA	**Rosais**	**0.56**	**88**	*e*P	Pg	07 38 21.0	-1.4
ROSA				*e*S	Sg	07 38 28.4	-1.3
PMAN	**Manadas**	**0.68**	**95**	*e*S	Sg	07 38 31.4	-2.2
PMAN							
	92nm,0.1s						

*ISCJB **31** 07:49:34.4±2.6, 60S±02×1279E±04, h367km±29km, mb3.5/5, Error ellipse: s-maj=63.6km s-min=11.0km az=134.0*
*IDC **31** 07:49:40.7±3.0, 6.18S×12787E, h428km±35km, mb3.2/4, mb1 3.2/7, mb1mx3.1/14, mbtmp4.0/7, Error ellipse: s-maj=87.3km s-min=12.1km az=69.0*
*NEIC **31** 07:49:41.8±3.2, 630S×12770E, h443km±47km, mb3.9/2, Error ellipse: s-maj=50.3km s-min=21.0km az=50.0*

ISC 31 07:49:40.4±1.8, 62S±02×1278E±03, h423km±22km, n10, σ0§49/12, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.02**	**190**	P	**P**	**07 52 19.5**	**-0.3**
	0.1nm,0.3s,baz=45,slow=16,SNR=4.2						
WRAB	**Tennant Creek**	**15.08**	**156**	*e*P	**P**	**07 52 53.4**	**+0.4**
	2.1nm,0.4s						
WRA	**Warramunga Arr**	**15.08**	**156**	P	**P**	**07 52 53.6**	**+0.6**
	1.3nm,0.3s,baz=332,slow=11,SNR=97						
WRA				S	**S**	**07 55 31.5**	**-0.7**
	0.4nm,0.3s,baz=325,slow=22,SNR=10						
ASAR	**Alice Springs**	**18.35**	**162**	P	**P**	**07 53 27.9**	**+0.3**
	0.7nm,0.3s,baz=345,slow=12,SNR=61						
ASAR				S	**S**	**07 56 35.0**	**+0.5**
	0.2nm,0.3s,baz=323,slow=16,SNR=6.2						
STKA	**Stephens Creek**	**28.63**	**155**	P	**P**	**07 54 59.9**	**-0.6**
	2.2nm,0.9s,mb3.5,baz=318,slow=12,SNR=4.7						
SONM	**Songino Array**	**57.00**	**343**	P	**P**	**07 58 44.0**	**-0.1**
	0.5nm,0.5s,mb3.1,baz=168,slow=5.9,SNR=4.5						
MKAR	**Makanchi Array**	**66.36**	**328**	P	**P**	**07 59 46.1**	**+0.5**
	0.6nm,0.4s,mb3.5,baz=121,slow=8.4,SNR=14						
ZAL	**Zalesovo**	**69.90**	**335**	P	**P**	**08 00 06.7**	**-0.6**
	0.8nm,0.4s,mb3.6,baz=76,slow=7.1,SNR=3.2						
ZAL	**Zalesovo**	**69.90**	**335**	P	**P**	**08 00 06.7**	**-0.7**
KURK	**Kurchatov**	**70.69**	**329**	P	**P**	**08 00 12.2**	**+0.1**
	0.6nm,0.3s,mb3.6						

ISC 31 07:55:41.1±0.6, 3938N±004×3306E±004, h10km, n9, σ1§31/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.53**	**337**	PG	**Pg**	**07 55 49.6**	**-1.8**
CDAG	**Cicekdag**	**1.04**	**76**	*i* P	**Pg**	**07 55 58.9**	**-2.3**
CDAG				*i* S	**Sg**	**07 56 14.0**	**-0.8**
KIZT	**Kizilcal**	**1.04**	**242**	PG	**Pg**	**07 56 00.8**	**-0.4**
KIZT				SG	**Sg**	**07 56 15.3**	**+0.5**
ELDT	**Eldivan**	**1.14**	**14**	*i* P	**Pb**	**07 56 01.2**	**-1.7**
ELDT				*i* S	**Sb**	**07 56 17.3**	**-0.5**
SGKT	**Sivrigoynuk**	**1.42**	**327**	*i* P	**Pn**	**07 56 07.1**	**+0.2**
SGKT				*i* S	**Sn**	**07 56 27.3**	**+1.7**
AVNT	**Avonos**	**1.52**	**113**	*i* P	**Pn**	**07 56 08.6**	**+0.3**
AVNT				*i* S	**Sn**	**07 56 29.6**	**+1.4**
KONT	**Konya--Tatoy**	**1.54**	**201**	*e*PG	**Pg**	**07 56 09.6**	**-0.9**
CTKT	**Corum**	**1.82**	**46**	*i* P	**Pn**	**07 56 12.9**	**+0.5**
CTKT				*i* S	**Sn**	**07 56 38.5**	**+3.0**
BOYT	**Boyabat**	**2.48**	**34**	*i* P	**Pn**	**07 56 23.3**	**+1.8**
BOYT				*i* S	**Sn**	**07 56 58.3**	**+6.6**

*ISCJB **31** 07:58:18.1±0.6, 3390N±004×4869E±005, h10km, Error ellipse: s-maj=6.4km s-min=4.9km az=30.1*
*CSEM **31** 07:58:20.5±0.2, 3392N×4875E, h30km, ML3.0, Error ellipse: s-maj=5.9km s-min=4.1km az=101.0*
*THR **31** 07:58:20.0±0.4, 3392N×4873E, h14km±5km, ML3.0*
*KISR **31** 07:58:22.5±1.0, 3331N×4950E, h18km±999km, ML2.4*

ISC 31 07:58:19.7±0.6, 3391N±003×4870E±005, h10km, n11, σ1§21/20, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**1.27**	**59**	*e*PG	**Pg**	**07 58 43.0**	**-1.1**
ASAO				*e*SG	**Sg**	**07 59 00.2**	**-0.4**
ASAO				AML	AML	07 59 01.7	
	comp=E,266nm,0.5s						
ASAO				AML	AML	07 59 02.7	
	comp=N,311nm,0.3s						
ASAO	**Ashtian**	**1.27**	**59**	*e*Pg	**Pg**	**07 58 43.0**	**-1.1**
	SNR=90						
ASAO				*e*Sg	**Sg**	**07 59 00.2**	**-0.3**
	SNR=90						
SNGE	**Sanandaj**	**1.63**	**317**	*e*PG	**Pg**	**07 58 50.2**	**-0.7**
SNGE				*e*SG	**Sg**	**07 59 12.1**	**+0.1**
SNGE				AML	AML	07 59 20.2	
	comp=N,154nm,0.5s						
SNGE	**Sanandaj**	**1.63**	**317**	*e*Pg	**Pg**	**07 58 50.2**	**-0.7**
	SNR=90						
SNGE				*e*Sg	**Sg**	**07 59 12.1**	**+0.1**
	SNR=90						
SHGR	**Shooshtar-Gavs**	**1.80**	**177**	*e*Pg	**Pg**	**07 58 52.9**	**-1.3**
NASN	**Na'in**	**3.61**	**107**	*e*PN	**Pn**	**07 59 17.7**	**+2.0**
MIB	**Mutribah**	**4.25**	**196**	*e*P	**Pn**	**07 59 25.9**	**+1.4**
MIB				*e*S	**Sn**	**08 00 13.8**	**-0.4**
MIB				AML	AML	08 00 18.3	
	comp=Z,8.4nm,0.4s						
MIB	**Mutribah**	**4.25**	**196**	*e*P	**Pn**	**07 59 25.9**	**+1.4**
MIB				*e*S	**Sn**	**08 00 13.8**	**-0.4**
NAY	**Al-Naaiem**	**4.81**	**195**	*e*P	**Pn**	**07 59 33.5**	**+1.4**
NAY				AML	AML	08 00 26.2	
	comp=Z,2.0nm,0.6s						
NAY				*e*S	**Sn**	**08 00 27.5**	**-0.4**
RDF	**Al-Radifah**	**5.06**	**192**	*e*P	**Pn**	**07 59 36.9**	**+1.3**
RDF				AML	AML	08 00 28.1	
	comp=Z,4.3nm,0.4s						
RDF				*e*S	**Sn**	**08 00 31.6**	**-2.6**
RDF	**Al-Radifah**	**5.06**	**192**	*e*P	**Pn**	**07 59 36.9**	**+1.3**
RDF				*e*S	**Sn**	**08 00 31.5**	**-2.7**

GUC 31 08:00:04.9±0.9, 3102S×6955W, h173km±15km, MD3.8, ML3.8, 8C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.26**	**263**	⇓*i* P	Pn	08 00 34.4	+0.4
CMCH				*i* S	Sn	08 00 56.9	+0.4
CMCH				AMP		08 00 57.9	
	comp=E,3μm,0.7s						
OVCH	**Ovalle**	**1.48**	**286**	⇑*i* P	Pn	08 00 36.5	+0.4
OVCH				*i* S	Sn	08 01 00.0	-0.1
OVCH				AMP		08 01 03.6	
	comp=N,646nm,0.3s						
LSCH	**La Serena**	**1.84**	**307**	⇑*i* P	Pn	08 00 40.4	+0.7
LSCH				*i* S	Sn	08 01 06.3	-0.3
LSCH				AMP		08 01 10.9	
	comp=N,543nm,0.3s						
CHNG	**Los Chungos**	**1.88**	**242**	⇑*i* P	Pn	08 00 42.9	+2.7
CHNG				*i* S	Sn	08 01 10.0	+2.6
CHNG				AMP		08 01 18.5	
	comp=N,232nm,0.6s						
JACH	**Jahuel**	**1.88**	**208**	*e*P	Pn	08 00 40.6	+0.4
JACH				*i* S	Sn	08 01 08.7	+1.2
PACH	**Papudo**	**2.21**	**226**	⇑*i* P	Pn	08 00 45.1	+1.3
ROCH	**El Roble**	**2.31**	**212**	⇑*i* P	Pn	08 00 45.8	+0.8
PEL	**Peldehue**	**2.33**	**204**	⇓*i* P	Pn	08 00 45.7	+0.5
PEL				*i* S	Sn	08 01 16.7	+0.3
PEL				AMP		08 01 18.8	
	comp=N,381nm,0.4s						
FCH	**Farellones**	**2.39**	**195**	*e*P	Pn	08 00 46.6	+0.8
FCH				*i* S	Sn	08 01 18.9	+1.3
CLCH	**Cerro Calan**	**2.52**	**199**	AMP		08 01 32.1	
	comp=E,547nm,0.5s						
STL	**Santa Lucia**	**2.58**	**201**	⇑*i* P	Pn	08 00 48.7	+0.5
STL				*e*S	Sn	08 01 22.2	+0.5
STL				AMP		08 01 26.6	
	comp=E,89nm,0.4s						
FSR	**Penalolen**	**2.59**	**198**	⇓*i* P	Pn	08 00 49.4	+1.1
FSR				*i* S	Sn	08 01 22.8	+0.9
FSR				AMP		08 01 24.0	
	comp=N,264nm,0.3s						
SAN	**Santiago**	**2.61**	**201**	AMP		08 01 28.6	
	comp=N,205nm,

MKAR Makanchi Array 58.38 326 P P 08 26 50.9 +1.4
0.1nm,0.3s,baz=112,slow=7.7,SNR=5.6

*IDC **31** 08:23:49.9±4.2,2903N×7054E,h0km,mb3.7/6,mb1 3.8/7, mb1mx3.5/23,mbtmp3.6/7,ML1.7/1,MS3.4/1,Ms1 3.5/1, ms1mx2.6/26,Error ellipse: s-maj=82.8km s-min=36.7km az=159.0*
*NEIC **31** 08:23:51.0±3.2,2900N×7057E,h10km,mb3.5/2,Error ellipse: s-maj=59.2km s-min=25.2km az=156.0*
ISC 31 08:23:54.1±3.1,290N±04×708E±02,h35km,n13,σ1§05/12, mb3.6/8,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.94**	**24**	P	**Pn**	**08 28 24.0**	**-0.7**
	0.0nm,0.3s,baz=214,slow=15,SNR=2.8						
MKAR	**Makanchi Array**	**19.94**	**24**	P	**Pn**	**08 28 24.0**	**-0.7**
KURK	**Kurchatov**	**22.50**	**13**	*e*P	**P**	**08 28 50.6**	**+0.1**
	1.5nm,0.8s,mb3.5						
AKTK	**Aktyubinsk**	**23.49**	**339**	P	**P**	**08 29 02.1**	**+1.4**
AKTO	**Aktyubinsk**	**23.49**	**339**	P	**P**	**08 29 02.1**	**+1.4**
	0.7nm,0.4s,mb3.4,baz=138,slow=12,SNR=4.8						
ZRNK	**Zerenda**	**23.98**	**357**	*e*P	**P**	**08 29 04.3**	**-0.9**
	1.4nm,0.9s,mb3.4						
BVAR	**Borovoye Array**	**24.02**	**359**	P	**P**	**08 29 05.0**	**-0.6**
	0.3nm,0.5s,mb3.0,baz=168,slow=10,SNR=3.0						
ZAL	**Zalesovo**	**26.96**	**18**	P	**P**	**08 29 32.0**	**-0.3**
	2.2nm,0.5s,mb4.0,baz=56,slow=24,SNR=8.0						
BRTR	**Keskin Array B**	**32.25**	**299**	P	**P**	**08 30 17.7**	**-1.5**
	0.2nm,0.3s,mb3.4,baz=82,slow=12,SNR=2.9						
ARCES	**ARCESS Array B**	**48.07**	**340**	P	**P**	**08 32 29.6**	**-0.4**
	1.6nm,0.5s,mb4.3,baz=128,slow=7.9,SNR=16						
NOA	**NORSAR Array B**	**50.41**	**327**	LR	LR	08 54 42.0	
	comp=Z,34nm,19.0s,baz=350,slow=37						
YKA	**Yellowknife Ar**	**88.74**	**2**	P	**P**	**08 36 45.9**	**+1.9**
	0.3nm,0.7s,mb3.7,baz=346,slow=4.9,SNR=8.5						
YKA	**Yellowknife Ar**	**88.74**	**2**	P	**P**	**08 36 45.9**	**+1.9**

IDC 31 08:24:31.4±2.0,896S×11281E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/15,mbtmp3.4/3,Error ellipse: s-maj=130.3km s-min=25.4km az=47.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**120**	P	P	08 29 42.9	-0.2
	0.9nm,0.5s,baz=294,slow=12,SNR=12						
ASAR	**Alice Springs**	**24.92**	**128**	P	P	08 29 56.9	+0.7
	0.6nm,0.6s,baz=302,slow=9.1,SNR=9.3						
ASAR				PcP	PcP	08 33 32.1	+0.3
	0.2nm,0.9s,baz=308,slow=1.5,SNR=5.5						
MKAR	**Makanchi Array**	**61.81**	**337**	P	P	08 34 52.2	+0.1
	0.1nm,0.3s,baz=152,slow=9.1,SNR=3.2						

*IDC **31** 08:37:42.8±1.7,3489N×2549E,h0km,mb3.7/3,mb1 3.8/3, mb1mx3.4/20,mbtmp3.7/3,Error ellipse: s-maj=63.6km s-min=29.1km az=134.0*
*ISCJB **31** 08:37:44.9±0.4,3444N±003×2596E±005,h10km,mb3.7/3, Error ellipse: s-maj=7.0km s-min=3.4km az=126.5*
*HLW **31** 08:37:44.8,3476N×2587E,h33km,Mb3.5*
*CSEM **31** 08:37:45.1±0.1,3444N×2608E,h10km,ML3.5,Error ellipse: s-maj=4.9km s-min=2.3km az=59.0*
*ATH **31** 08:37:47.1,3454N×2598E,h17km±5km,MD3.4/5*
*NEIC **31** 08:37:47.0,3449N×2587E,h10km,MD3.4(ATH),After ATH.*
ISC 31 08:37:46.4±1.0,3447N±004×2596E±006,h9km±10km,n22, σ0§92/29,mb3.7/3,7C-4D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.46**	**332**	*e*PB	**Pg**	**08 37 55.0**	**-0.4**
XRY				*e*SB	**Sg**	**08 38 01.0**	**-0.5**
NPS	**Neapolis**	**0.84**	**340**	*e*PN	**Pg**	**08 38 02.0**	**-0.6**
NPS				*e*SN	**Sg**	**08 38 13.4**	**-0.2**
KARP	**Karpathos**	**1.46**	**42**	*e*PN	**Pn**	**08 38 14.1**	**+1.2**
KARP				*e*SN	**Sn**	**08 38 32.0**	**-0.1**
KARP	**Karpathos**	**1.46**	**42**	*e*Pb	**Pb**	**08 38 15.2**	**+1.5**
GVD	**Gavdhos**	**1.59**	**284**	*e*PN	**Pn**	**08 38 16.0**	**+1.4**
VAM	**Vamos**	**1.72**	**303**	*e*PN	**Pn**	**08 38 17.5**	**+1.0**
VAM				*e*SN	**Sg**	**08 38 41.5**	**-0.3**
SLUM		**3.03**	**192**	⇑P	**Pn**	**08 38 34.5**	**0.0**
HMAT	**Matruh**	**3.50**	**164**	⇑P	**Pn**	**08 38 40.8**	**0.0**
HMAT				S	**Sn**	**08 39 22.3**	**-0.1**
SWA1		**5.19**	**182**	⇑P	**Pn**	**08 39 04.5**	**+0.3**
SWA2		**5.23**	**185**	⇓P	**Pn**	**08 39 05.0**	**+0.3**
KOT	**Kottamia**	**6.72**	**131**	⇑P	**Pn**	**08 39 25.6**	**+0.4**
KOT				S	**Sn**	**08 40 38.5**	**-3.4**
HSAF	**As Saff**	**6.77**	**134**	⇓P	**Pn**	**08 39 25.9**	**0.0**
HHAG	**Hagoal**	**6.88**	**129**	⇑P	**Pn**	**08 39 27.4**	**0.0**
HHAG				S	**Sn**	**08 40 42.7**	**-3.0**
GLL	**Jalalah**	**6.90**	**133**	⇑P	**Pn**	**08 39 27.6**	**0.0**
HFRF	**Wahat Farafira**	**7.57**	**164**	P	**Pn**	**08 39 37.0**	**+0.2**
ZAF		**7.62**	**131**	⇑P	**Pn**	**08 39 37.6**	**+0.1**
ASUT		**8.53**	**144**	⇓P	**Pn**	**08 39 50.4**	**+0.4**
HDK1	**Dakhla**	**9.38**	**161**	⇓P	**Pn**	**08 40 02.7**	**+1.0**
TORD	**Torodi Ar. Bea**	**30.56**	**232**	P	**P**	**08 43 57.9**	**-2.3**
	0.2nm,0.3s,mb3.4,baz=32,slow=8.6,SNR=4.2						
ARCES	**ARCESS Array B**	**35.12**	**360**	P	**P**	**08 44 33.9**	**-6.2**
	2.5nm,1.0s,mb4.1,baz=163,slow=8.7,SNR=5.5						
MKAR	**Makanchi Array**	**43.61**	**56**	P	**P**	**08 45 49.4**	**-1.5**
	0.5nm,0.4s,mb3.6,baz=269,slow=8.8,SNR=9.9						
MKAR	**Makanchi Array**	**43.61**	**56**	P	**P**	**08 45 49.4**	**-1.5**

*BJI **31** 09:06:15.4,188N×9724E,h47km,mB5.2,mb4.8,Ms4.6, Msz4.2*
*ISCJB **31** 09:06:16.9±0.4,231N±005×9721E±005,h33km,mb4.7/52, MS3.9/12,Error ellipse: s-maj=7.9km s-min=6.7km az=50.1*
*MOS **31** 09:06:17.5±0.9,250N×9735E,h33km,mb5.0/16,Error ellipse: s-maj=17.5km s-min=7.2km az=107.1*
*NEIC **31** 09:06:18.1±0.3,223N×9711E,h30km,mb4.7/12,Error ellipse: s-maj=9.8km s-min=5.6km az=39.0*
*IDC **31** 09:06:20.7±3.9,229N×9720E,h49km±34km,mb4.2/14, mb1 4.2/14,mb1mx4.1/21,mbtmp4.4/14,MS3.8/7, Ms1 3.8/7,ms1mx3.5/21,Error ellipse: s-maj=35.7km s-min=13.7km az=55.0*
ISC 31 09:06:19.5±0.4,234N±006×9723E±005,h35km,n94, σ1§06/93,mb4.7/52,MS3.9/12,9C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.75**	**75**	P	**Pn**	**09 06 49.8**	**+2.5**
	16nm,0.3s,baz=268,slow=6.0,SNR=88						
PSI				LR	LR	09 07 38.9	
	comp=Z,1μm,21.7s,baz=241,slow=44						
KULM	**Kulim**	**4.50**	**49**	⇑*i*Pn	**Pn**	**09 07 27.4**	**+2.3**
KULM				*e*Sn	**Sn**	**09 08 19.2**	**+3.0**
KKM	**Kota Kinabalu**	**19.29**	**78**	*e*P	**Pn**	**09 10 41.8**	**-0.6**
QIZ	**Qiongzhong**	**20.68**	**36**	P	**P**	**09 10 57.5**	**+1.2**
QIZ				S	**S**	**09 14 41.5**	**-3.9**
QIZ				LR	LR		
	comp=E,186nm,17.7s						
QIZ				LR	LR		
	comp=Z,258nm,18.3s,MS3.6						
SHL	**Shillong**	**23.66**	**348**	*e*P	**P**	**09 11 25.0**	**-2.7**
SHL				*e*S	**S**	**09 15 36.0**	**-3.9**
HYB	**Hyderabad**	**23.68**	**310**	*i*P	**P**	**09 11 31.0**	**+3.1**
HYB	**Hyderabad**	**23.68**	**310**	*e*P	**P**	**09 11 31.0**	**+3.1**
JIRN	**Jiri**	**27.30**	**338**	*e*P	**P**	**09 12 01.5**	**+0.8**
	comp=Z,48nm,0.9s,mb5.0						
PKI	**Pulchoki**	**27.52**	**337**	*e*P	**P**	**09 12 02.8**	**+0.1**
GUN	**Gumba**	**27.65**	**338**	*e*P	**P**	**09 12 04.6**	**+0.8**
	comp=Z,43nm,0.6s,mb5.3						
DMN	**Daman**	**27.68**	**336**	*e*P	**P**	**09 12 04.4**	**+0.4**
	comp=Z,28nm,1.0s,mb4.8						
KKN	**Kakani**	**27.77**	**337**	*e*P	**P**	**09 12 05.1**	**+0.2**
	comp=Z,42nm,0.9s,mb5.1						
LSA	**Lhasa**	**27.82**	**349**	*e*P	**P**	**09 12 06.0**	**+0.7**
	comp=Z,4.1nm,0.4s,mb4.4						
LSA	**Lhasa**	**27.82**	**349**	*e*P	**P**	**09 12 06.0**	**+0.7**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
GKN	**Gorkha**	**28.21**	**336**	*e*P	**P**	**09 12 08.7**	**-0.1**
	comp=Z,45nm,0.9s,mb5.1						
KOLN	**Koldanda**	**28.45**	**334**	*e*P	**P**	**09 12 11.5**	**+0.6**
	comp=Z,47nm,0.9s,mb5.1						
LZH	**Lanzhou**	**34.13**	**10**	*e*P	**P**	**09 12 59.5**	**-1.5**
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.58**	**127**	*e*P	**P**	**09 13 03.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**34.58**	**127**	P	**P**	**09 13 04.2**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=206,slow=10,SNR=4.0						
NJ2	**Nanjing**	**35.89**	**32**	*e*P	**P**	**09 13 16.5**	**+0.4**
NJ2				AP	pP	09 13 26.0	-0.2
NJ2				XP	sP	09 13 30.0	-0.4
NJ2				PP	PP	09 14 38.5	+0.5
NJ2				S	**S**	**09 18 52.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				LR	LR		
	comp=N,110nm,20.0s,MS3.8						
NJ2				LR	LR		
	comp=E,120nm,24.0s,MS3.8						
SSE	**Sheshan**	**36.48**	**36**	*e*P	**P**	**09 13 20.0**	**-1.1**
SSE				AP	pP	09 13 29.0	-2.3
SSE				PP	PP	09 14 43.3	-1.1
SSE				PCP	PcP	09 15 45.8	+1.3
SSE				S	**S**	**09 18 59.0**	**-1.7**
SSE				SCS	ScS	09 23 33.0	-1.7
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,35nm,6.5s						
SSE				LR	LR		
	comp=N,172nm,16.5s,MS4.0						
SSE				LR	LR		
	comp=E,96nm,16.5s,MS4.0						
SSE				LR	LR		
	comp=Z,316nm,15.4s,MS4.2						
GTA	**Gaotai**	**36.97**	**3**	*e*P	**P**	**09 13 24.8**	**-0.5**
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.7						
JOW	**Kunigami**	**38.45**	**48**	P	**P**	**09 13 38.2**	**+0.4**
	comp=Z,9.7nm,0.5s,mb4.8,baz=226,slow=7.9,SNR=12						
JOW				LR	LR	09 28 42.7	
	comp=Z,81nm,19.2s,MS3.6,baz=61,slow=35						
HHC	**Hu-ho-hao-te**	**40.47**	**17**	*e*P	**P**	**09 13 53.3**	**-1.3**
HHC				AMB	AMB		
	comp=Z,8.0nm,0.3s,mb4.9						
HHC				AMB	AMB		
	comp=Z,64nm,4.0s						
BJI	**Beijing**	**41.28**	**22**	P	**P**	**09 14 02.0**	**+0.7**
BJI				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.0						
BJI				LR	LR		
	comp=Z,65nm,25.4s,MS3.4						
WRA	**Warramunga Arr**	**42.62**	**123**	P	**P**	**09 14 12.3**	**0.0**
	comp=Z,4.2nm,0.6s,mb4.3,baz=302,slow=9.2,SNR=49						
WRAB	**Tennant Creek**	**42.62**	**123**	*e*P	**P**	**09 14 12.0**	**-0.3**
	comp=Z,11nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**42.62**	**123**	*e*P	**P**	**09 14 12.0**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
ULHL	**Ulahol**	**43.96**	**337**	P	**P**	**09 14 24.0**	**+1.0**
	SNR=5.6						
ASAR	**Alice Springs**	**44.06**	**128**	P	**P**	**09 14 24.1**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.7,baz=299,slow=8.0,SNR=14						
FORT	**Forrest**	**44.13**	**141**	*e*P	**P**	**09 14 26.2**	**+1.8**
	comp=Z,2.2nm,0.4s,mb4.2						
KZA	**Kyzart**	**44.20**	**336**	P	**P**	**09 14 26.1**	**+1.1**
	SNR=9.9						
UCH	**Uchtor**	**44.63**	**336**	P	**P**	**09 14 29.5**	**+1.1**
	SNR=17						
TKM2	**Tokmak 2**	**44.78**	**337**	P	**P**	**09 14 30.6**	**+1.0**
	SNR=10						
KBK	**Karagaybulak**	**44.81**	**337**	P	**P**	**09 14 31.8**	**+1.9**
	SNR=12						
AML	**Almayashu**	**44.89**	**335**	P	**P**	**09 14 31.7**	**+1.2**
	SNR=16						
EKS2	**Erkin-Say**	**45.29**	**336**	P	**P**	**09 14 35.0**	**+1.3**
	SNR=11						
USP	**Ospenovka**	**45.50**	**337**	P	**P**	**09 14 36.0**	**+0.7**
	SNR=13						
SONM	**Songino Array**	**46.01**	**9**	P	**P**	**09 14 39.3**	**0.0**
	comp=Z,5.5nm,0.5s,mb4.8,baz=191,slow=9.2,SNR=58						
SONM				PcP	PcP	09 16 16.1	+0.6
	comp=Z,2.8nm,0.7s,baz=191,slow=3.7,SNR=9.3						
SONM				LR	LR	09 36 19.6	
	comp=Z,143nm,19.8s,MS3.9,baz=63,slow=39						
SONM	**Songino Array**	**46.01**	**9**	P	**P**	**09 14 39.3**	**-0.1**
SONM						09 16 16.1	
ULN	**Ulaanbaatar**	**46.14**	**9**	*e*P	**P**	**09 14 38.3**	**-2.0**
	comp=Z,3.8nm,0.6s,mb4.5						
ULN				*e*PcP	PcP	09 16 16.4	+0.4
ULN	**Ulaanbaatar**	**46.14**	**9**	*e*P	**P**	**09 14 38.3**	**-2.1**
ULN				*e*		09 16 16.4	
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MK31	**Makanchi Array**	**46.15**	**346**	*i*P	**P**	**09 14 40.1**	**-0.4**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
MKAR	**Makanchi Array**	**46.15**	**346**	P	**P**	**09 14 40.3**	**-0.2**
	comp=Z,12nm,0.7s,mb4.9,baz=156,slow=9.1,SNR=111						
MKAR				LR	LR	09 35 52.5	
	comp=Z,62nm,21.1s,MS3.5,baz=279,slow=38						
KK31	**Karatay Array**	**47.06**	**333**	*i*P	**P**	**09 14 48.4**	**+0.8**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KURK	**Kurchatov**	**50.71**	**345**	*e*P	**P**	**09 15 15.5**	**-0.1**
	comp=Z,16nm,1.0s,mb4.9						
KURK	**Kurchatov**	**50.71**	**345**	*c*P	**P**	**09 15 15.7**	**+0.1**
MJAR	**Matsushiro Arr**	**50.84**	**43**	LR	LR	09 37 55.0	
	comp=Z,85nm,18.2s,MS3.8,baz=235,slow=37						
ZAL	**Zalesovo**	**52.44**	**351**	P	**P**	**09 15 28.6**	**+0.1**
	comp=Z,12nm,0.7s,mb5.0,baz=308,slow=6.2,SNR=38						
NVS	**Novosibirsk**	**53.57**	**350**	*e*P	**P**	**09 15 35.1**	**-1.7**
NVS				pmax	pmax		
	comp=N,9.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
KRAR	**Krasnoyarsk**	**53.62**	**357**	⇑*e*P	**P**	**09 15 34.5**	**-2.7**
KRAR				MLR	MLR		
	comp=Z,700nm,25.0s,MS4.6						
STKA	**Stephens Creek**	**54.10**	**133**	P	**P**	**09 15 39.7**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.2,baz=310,slow=15,SNR=4.0						
KLR	**Kul'dur**	**55.23**	**27**	*e*P	**P**	**09 15 46.3**	**-2.6**
BRVK	**Borovoye**	**55.25**	**341**	*e*P	**P**	**09 15 48.4**	**-0.7**
	comp=Z,6.5nm,0.9s,mb4.7						
BRVK	**Borovoye**	**55.25**	**341**	*e*P	**P**	**09 15 48.4**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**55.60**	**340**	*e*P	**P**	**09 15 50.8**	**-0.7**
	comp=Z,5.6nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**55.60**	**340**	*e*P	**P**	**09 15 50.8**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**55.66**	**341**	⇑*e*P	**P**	**09 15 51.8**	**-0.3**
	comp=Z,13nm,0.7s,mb5.1						
CHKZ	**Chkalovo**	**55.66**	**341**	⇑*e*P	**P**	**09 15 51.8**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
HABR	**Khabarovsk**	**56.26**	**29**	*e*P	**P**	**09 15 56.4**	**+0.1**
HABR				*e*S	**S**	**09 23 44.5**	**+0.8**
BOD	**Bodaibo**	**56.89**	**11**	*e*P	**P**	**09 16 00.0**	**-0.8**
BOD				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
AKTO	**Aktyubinsk**	**58.25**	**332**	*i*P	**P**	**09 16 09.6**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
YSS	**Yuzh-Sakhalins**	**59.40**	**35**	*e*P	**P**	**09 16 18.4**	**+0.1**
	comp=Z,28nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**59.40**	**35**	*e*P	**P**	**09 16 19.9**	**+1.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
KMBO	**Kilima Mbogo**	**60.06**	**267**	LR	LR	09 38 05.6	
	comp=Z,72nm,18.9s,MS3.8,baz=65,slow=32						
SVE	**Sverdlovsk**	**61.65**	**338**	*e*P	**P**	**09 16 34.0**	**+0.3**
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
ARU	**Arti**	**62.15**	**337**	⇑*i*P	**P**	**09 16 36.2**	**-0.9**
ARU				*e*		09 18 54.9	
ARU				*e*PPP		09 20 22.2	
ARU				*e*S	**S**	**09 25 00.8**	**+0.8**
ARU				*e*SS	SS	09 29 04.5	+1.3
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.7						
KIV	**Kislovodsk**	**63.47**	**319**	*i*P	**P**	**09 16 46.4**	**+0.6**
KIV				*e*SS	SS	09 29 24.7	+0.9
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
YAK	**Yakutsk**	**64.33**	**16**	⇑*e*P	**P**	**09 16 50.8**	**-0.7**
YAK				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.4						
ANN	**Anapa**	**67.27**	**318**	*e*P	**P**	**09 17 11.5**	**+1.1**
ANN				*e*S	S	09 26 06.6	+3.6
ANN				pmax	pmax		
	comp=Z,98nm,1.2s,mb5.7						
BRTR	**Keskin Array B**	**68.37**	**312**	P	**P**	**09 17 17.6**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=128,slow=8.0,SNR=4.3						
MA2	**Magadan**	**70.30**	**26**	*e*P	**P**	**09 17 29.2**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.6						
MA2	**Magadan**	**70.30**	**26**	*e*P	**P**	**09 17 29.1**	**-0.2**
MA2				*e*		09 20 01.6	
MA2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
OBN	**Obninsk**	**71.67**	**328**	⇑*e*P	**P**	**09 17 36.8**	**-0.8**
OBN				*e*		09 17 51.9	
OBN				*e*SS	SS	09 31 32.8	+2.1
OBN				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
TIXI	**Tiksi**	**72.07**	**10**	⇑*e*P	**P**	**09 17 38.5**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KLMR	**Klimovskoe**	**72.74**	**334**	*e*P	**P**	**09 17 42.3**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,30nm,2.1s,mb4.8						
AKASG	**Malin Array Be**	**74.38**	**322**	P	**P**	**09 17 53.1**	**-0.5**
	comp=Z,5.0nm,0.7s,mb4.5,baz=90,slow=5.1,SNR=19						
JOF	**Joensuu**	**77.14**	**335**	*ep*	**P**	**09 18 09.5**	**+0.1**
	comp=Z,2.9nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**79.01**	**332**	P	**P**	**09 18 19.4**	**-0.3**
	comp=Z,4.2nm,0.7s,mb4.5,baz=97,slow=6.0,SNR=28						
KAF	**Kangasniemi**	**79.09**	**333**	*ep*	**P**	**09 18 19.6**	**-0.6**
	comp=Z,5.3nm,0.6s,mb4.7,baz=102,slow=5.1						
KAF	**Kangasniemi**	**79.09**	**333**	*e*P	**P**	**09 18 19.6**	**-0.6**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BILL	**Bilibino**	**80.10**	**21**	*e*P	**P**	**09 18 24.8**	**-0.9**
BILL				*e*		09 21 24.4	
BILL				*e*S	S	09 28 24.4	-3.3
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
SYO	**Syowa Base**	**81.09**	**198**	⇓*e*P	**P**	**09 18 32.5**	**+1.5**
ARCES	**ARCESS Array B**	**81.48**	**340**	P	**P**	**09 18 33.0**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.4,baz=102,slow=4.9,SNR=36						
URZ	**Urewera**	**83.50**	**129**	LR	LR	09 58 01.1	
	comp=Z,84nm,18.2s,MS4.2,baz=21,slow=37						
GERES	**GERESS Array B**	**83.98**	**319**	P	**P**	**09 18 45.4**	**-0.6**
	comp=Z,1.3nm,0.8s,mb4.1,baz=60,slow=5.3,SNR=5.3						
NB2	**NORSAR Subarra**	**86.03**	**331**	P	**P**	**09 18 55.8**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.3,baz=91,slow=5.1						
NB2	**NORSAR Subarra**	**86.03**	**331**	P	**P**	**09 18 55.8**	**-0.5**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**86.03**	**331**	P	**P**	**09 18 56.1**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.5,baz=93,slow=5.0,SNR=8.0						
ILAR	**Eielson Array**	**98.65**	**23**	LR	LR	10 09 01.3	
	comp=Z,44nm,18.3s,MS4.0,baz=0.0,slow=38						
ULM	**Lac du Bonnet**	**126.42**	**10**	PKP	PKPdf	09 25 18.1	-0.5
	comp=Z,1.6nm,0.8s,baz=319,slow=3.6,SNR=4.9						
NVAR	**Mina Array Bea**	**127.85**	**35**	PKP	PKPdf	09 25 23.4	+2.1
	comp=Z,0.9nm,0.8s,baz=9.4,slow=1.5,SNR=4.4						
PDAR	**Pinedale Array**	**129.01**	**25**	PKP	PKPdf	09 25 23.7	+0.2
	comp=Z,0.2nm,0.5s,baz=116,slow=0.8,SNR=4.5						
CPUP	**Villa Florida**	**145.85**	**223**	PKPbc	PKPbc	09 25 56.2	+1.2
	comp=Z,0.4nm,0.4s,baz=170,slow=1.9,SNR=3.2						

IDC 31 09:12:40.9±4.4,2085N×14350E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.5/20,mbtmp3.5/4,ML4.0/1,Error ellipse: s-maj=110.9km s-min=47.5km az=9.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.30**	**345**	Pn	Pn	09 16 31.4	+0.3
	0.6nm,0.3s,baz=173,slow=9.3,SNR=6.0						
SONM	**Songino Array**	**40.17**	**321**	P	P	09 20 18.8	0.0
	0.6nm,0.5s,baz=134,slow=6.9,SNR=7.3						
MKAR	**Makanchi Array**	**55.48**	**313**	P	P	09 22 17.4	-0.1
	0.1nm,0.5s,baz=76,slow=7.8,SNR=4.3						
YKA	**Yellowknife Ar**	**77.06**	**28**	P	P	09 24 35.7	-0.1
	0.1nm,0.3s,baz=292,slow=5.9,SNR=8.4						

*HLW **31** 10:33:12.6,3138N×3531E,h15km,Mb3.0*
*ISCJB **31** 10:33:14.8±0.4,3106N±002×35.14E±004,h0km,Error ellipse: s-maj=5.5km s-min=2.5km az=50.5*
*CSEM **31** 10:33:14.9±0.2,3106N×35.13E,h2km,ML2.8,Error ellipse: s-maj=5.5km s-min=3.0km az=116.0,Mining explosion.*
*GII **31** 10:33:14.2±0.9,3107N×35.14E,h0km±4km,ML2.8/6*
ISC 31 10:33:15.3±0.4,3106N±002×3515E±004,h0km,n21, σ0§99/36,6C-2D,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.31**	**36**	Pg	**Pg**	**10 33 20.9**	**-0.3**
MZDA				Sg	**Sg**	**10 33 26.9**	**+1.7**
SVTA	**Shivta**	**0.47**	**255**	Pg	**Pg**	**10 33 24.7**	**+0.3**
SVTA				Sg	**Sg**	**10 33 32.5**	**+2.0**
ZFRI	**Zfri**	**0.50**	**177**	Pg	**Pg**	**10 33 25.4**	**+0.5**
**M

PMAT	**Coroa da Mata**	**0.58**	**103**	*e*P	Pg	10 34 41.1	-1.5
PMAT				*e*S	Sg	10 34 48.5	-1.6
PMAT							
	36nm,0.2s						
PMAT	**Coroa da Mata**	**0.58**	**103**	*e*P	Pg	10 34 41.1	-1.5
PMAT				*e*S	Sg	10 34 48.5	-1.6
LFA	**Lagoa do Fogo**	**0.58**	**107**	*i* P	Pg	10 34 41.0	-1.6
PRCH	**Ribeira Ch**	**0.60**	**111**	*e*P	Pg	10 34 41.3	-1.6
PRCH				*e*S	Sg	10 34 49.0	-1.7
PRCH							
	867nm,0.3s						
PRCH	**Ribeira Ch**	**0.60**	**111**	*e*P	Pg	10 34 41.3	-1.6
PRCH				*e*S	Sg	10 34 49.0	-1.7
MESC	**Monte Escuro**	**0.60**	**105**	*e*P	Pg	10 34 41.5	-1.5
MESC				*e*S	Sg	10 34 48.3	-2.6
VIF	**Vila Franca**	**0.62**	**109**	*e*P	Pg	10 34 42.2	-1.2
VIF				*e*S	Sg	10 34 49.8	-1.7
VIF							
	242nm,0.3s						
VIF	**Vila Franca**	**0.62**	**109**	*e*P	Pg	10 34 42.2	-1.2
VIF				*e*S	Sg	10 34 49.8	-1.7
PCNG	**Congro**	**0.65**	**106**	*e*P	Pg	10 34 41.9	-2.0
PCNG				*e*S	Sg	10 34 50.5	-1.8
PCNG							
	392nm,0.3s						
PCNG	**Congro**	**0.65**	**106**	*e*P	Pg	10 34 41.9	-2.0
PCNG				*e*S	Sg	10 34 50.5	-1.8
FRA1	**Furnas**	**0.69**	**107**	*e*P	Pg	10 34 42.6	-2.0
PFAD	**Fenais da Ajud**	**0.69**	**99**	*i* P	Pg	10 34 42.3	-2.4
MIRA	**Miradouro**	**0.73**	**102**	*i* P	Pg	10 34 43.1	-2.4
PFAV	**Pico das Favas**	**1.04**	**317**	*e*P	Pg	10 34 47.6	-3.8
PFAV				*e*S	Sg	10 34 59.8	-5.1
PFAV							
	118nm,0.2s						
PFAV	**Pico das Favas**	**1.04**	**317**	*e*P	Pg	10 34 47.6	-3.8
PFAV				*e*S	Sg	10 34 59.8	-5.1
RIB2	**Ribeirinha**	**1.06**	**313**	*e*S	Sg	10 35 00.7	-4.9
RIB2							
	271nm,0.1s						
ADH	**Angra Heroismo**	**1.09**	**311**	*e*S	Sg	10 35 00.3	-6.1
PVNV	**Vila Nova**	**1.12**	**317**	*e*P	Pg	10 34 48.8	-4.0
PVNV				*e*S	Sg	10 35 01.8	-5.5
PVNV							
	166nm,0.2s						
PVNV	**Vila Nova**	**1.12**	**317**	*e*P	Pg	10 34 48.8	-4.0
PVNV				*e*S	Sg	10 35 01.8	-5.5
PPAD	**Pico dos Padre**	**1.15**	**311**	*e*P	Pg	10 34 49.4	-4.0
PPAD				*e*S	Sg	10 35 03.3	-5.0
PPAD							
	98nm,0.2s						
PPAD	**Pico dos Padre**	**1.15**	**311**	*e*P	Pg	10 34 49.4	-4.0
PPAD				*e*S	Sg	10 35 03.3	-5.0
PBIS	**Biscoitos**	**1.17**	**314**	*e*S	Sg	10 35 02.8	-6.2
PBIS							
	48nm,0.2s						
ASBA	**Santa Barbara**	**1.18**	**311**	*e*S	Sg	10 35 04.0	-5.5
ASBA							
	162nm,0.1s						
PSBA	**Serra de Santa**	**1.21**	**313**	*e*P	Pg	10 34 49.4	-5.3
PSBA				*e*S	Sg	10 35 03.6	-6.9
PSBA							
	150nm,0.4s						
PSBA	**Serra de Santa**	**1.21**	**313**	*e*P	Pg	10 34 49.4	-5.3
PSBA				*e*S	Sg	10 35 03.6	-6.9
PSMA	**Santa Maria**	**1.27**	**138**	*e*S	Sn	10 35 16.2	+4.0
PSMN	**Pico do Norte,**	**1.30**	**136**	*e*P	Pn	10 34 51.7	-4.3
PSMN				*e*S	Sb	10 35 05.4	-7.6
PID	**Ribeirinha**	**1.60**	**289**	*e*rx	Sn	10 35 13.1	-8.0
PMAN	**Manadas**	**1.65**	**295**	*e*S	Sn	10 35 13.1	-9.2
PMAN							
	77nm,0.2s						
PAMA	**Santo Amaro**	**1.73**	**296**	*e*S	Sn	10 35 16.2	-8.1
PAMA							
	33nm,0.3s						
ROSA	**Rosais**	**1.79**	**296**	*e*P	Pn	10 34 58.0	-4.8
ROSA				*e*S	Sn	10 35 17.6	-8.2
PBOI	**Pico dos Bois**	**1.79**	**286**	*e*S	Sn	10 35 18.9	-7.0
PBOI							
	43nm,0.2s						
PTEI	**Pico do Teixo**	**1.80**	**288**	*e*S	Sn	10 35 18.5	-7.4
STGR	**Santa Cruz**	**1.82**	**309**	*e*S	Sn	10 35 18.2	-8.3
STGR							
	37nm,0.2s						
PICO	**Pico**	**1.85**	**288**	*e*P	Pn	10 34 58.3	-5.3
PICO				*e*S	Sn	10 35 18.6	-8.6
PCND	**Candelaria**	**1.87**	**287**	*e*S	Sn	10 35 19.7	-8.0
PCND							
	39nm,0.2s						
HOR	**Horta**	**2.01**	**287**	*e*rx	Sn	10 35 23.5	-7.7
CALA	**Caldeira**	**2.08**	**288**	*e*P	Pn	10 35 01.8	-5.0
CALA				*e*S	Sn	10 35 24.5	-8.4
PCED	**Cedros**	**2.10**	**290**	*e*S	Sn	10 35 21.8	-11
PCED							
	54nm,0.3s						

MOS 31 10:56:50.6±2.0, 4390N×4305E, h10km, mb3.8/1, Error ellipse: s-maj=15.4km s-min=8.5km az=127.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYA	**Pyatigorsk**	**0.14**	**2**	*i* PG	Pg	10 56 54.5	+0.7
BEYR	**Belyy Ugol+**	**0.21**	**305**	*e*PG	Pg	10 56 56.7	+1.8
BEYR				*i* S	Sg	10 57 00.3	+2.5
KIV	**Kislovodsk**	**0.27**	**283**	*i* PG	Pg	10 56 58.2	+2.1
KIV				*i* S	Sg	10 57 02.7	+2.9
SHAR	**Shatzhatmas**	**0.32**	**241**	*i* PG	Pg	10 56 59.7	+2.8
SHAR				*i* S	Sg	10 57 05.6	+4.4
PRTR	**Priterechnaya**	**0.90**	**99**	*i* PG	Pg	10 57 09.1	+1.1
PRTR				*i* S	Sg	10 57 22.8	+3.1
DIGR	**Digorskoe uzhe**	**1.07**	**159**	*i* PG	Pg	10 57 05.7	-5.4
KORR	**Kora**	**1.09**	**137**	*i* PG	Pg	10 57 12.4	+0.8
KORR				*i* S	Sg	10 57 28.6	+2.7
ARNR	**Ardon**	**1.14**	**128**	*i* PG	Pg	10 57 12.9	+0.5
ARNR				*e*S	Sb	10 57 29.5	+2.3
BTKR	**Batakoyurt**	**1.20**	**115**	*i* PG	Pg	10 57 13.5	-0.2
BTKR				*e*S	Sb	10 57 30.7	+1.7
TRKR	**Terskaya**	**1.23**	**97**	*i* PG	Pg	10 57 13.5	-0.7
TRKR				*i* S	Sb	10 57 30.5	+0.7
ZEI	**Tsey**	**1.28**	**151**	*e*PG	Pg	10 57 15.7	+0.5
ZEI				*e*		10 57 32.7	
LACR	**Lac**	**1.40**	**139**	*i* PG	Pg	10 57 16.6	-0.9
LACR				*i* S	Sn	10 57 35.9	+1.2

ISCJB ***31*** *11:25:32.8±1.1, 2879N±004×7639E±004, h8km±7km, mb3.6/10, Error ellipse: s-maj=7.1km s-min=4.5km az=92.0*
IDC ***31*** *11:25:33.0±0.9, 2882N×7651E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.6/23, mbtmp3.6/10, ML3.4/1, Error ellipse: s-maj=29.4km s-min=19.7km az=61.0*
NEIC ***31*** *11:25:35.6±0.8, 2898N×7661E, h10km, mb3.9/1, Error ellipse: s-maj=30.7km s-min=11.5km az=80.0*
NDI ***31*** *11:25:37.7±2.5, 2883N×7676E, h12km±11km, ML3.4, mb3.9(NEIC)*
ISC 31 11:25:33.8±0.8, 2883N±003×7650E±005, h2km±5km, n37, σ1§32/55, mb3.6/10, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHGR	**Bahadurgarh**	**0.41**	**110**	*e*P	**Pg**	**11 25 42.9**	**+1.1**
NDI	**New Delhi**	**0.65**	**103**	*e*P	**Pg**	**11 25 46.0**	**-0.3**
NDI				*e*S	**Sg**	**11 25 52.5**	**-2.2**
AYAN	**Aya Nagar**	**0.65**	**122**	*e*P	**Pg**	**11 25 47.1**	**+0.8**
AYAN				*e*S	**Sg**	**11 25 53.1**	**-1.7**
SONA	**Sohna**	**0.77**	**138**	*e*P	**Pg**	**11 25 50.1**	**+1.5**
SONA				*e*S	**Sg**	**11 25 59.6**	**+0.9**
SONA				AML	AML	11 26 03.1	
	comp=E,869nm,0.4s						
SONA				AML	AML	11 26 03.6	
	comp=N,784nm,0.2s						
DDI	**Dehra Dun**	**2.02**	**42**	*e*P	**Pn**	**11 26 13.0**	**+4.2**
DDI				*e*S	**Sn**	**11 26 36.0**	**+1.5**
AGRA	**Agra**	**2.04**	**141**	*e*P	**Pn**	**11 26 10.6**	**+1.4**
AGRA				*ex*	**Sn**	**11 26 32.9**	**-2.3**
AGRA				AML	AML	11 26 42.3	
	comp=E,602nm,0.4s						
AGRA				AML	AML	11 26 42.6	
	comp=N,330nm,0.4s						
KALG	**Kalgarh**	**2.09**	**71**	*e*P	**Pn**	**11 25 59.9**	**-10**
KALG				*e*S	**Sn**	**11 26 22.8**	**-13**
KALG				AML	AML	11 26 29.6	
	comp=E,2μm,0.4s						
SMLA	**Simla**	**2.36**	**14**	*e*P	**Pn**	**11 26 09.9**	**-3.7**
SMLA				*e*S	**Sn**	**11 26 38.0**	**-5.1**
BHK	**Bhakra**	**2.58**	**358**	*ex*	**Pg**	**11 26 33.5**	**+10**
BHK				*ex*	**Sg**	**11 26 56.9**	**+0.2**
SDNR	**Sundarnagar**	**2.69**	**9**	*e*P	**Pn**	**11 26 19.1**	**+1.0**
SDNR				*e*S	**Sn**	**11 26 53.1**	**+1.8**
AJM	**Ajmer**	**2.86**	**216**	*e*P	**Pn**	**11 26 25.0**	**+4.6**
AJM				*i* x	**Sn**	**11 27 09.0**	**+14**
KLP	**Kalpa**	**3.09**	**29**	*e*P	**Pn**	**11 26 28.5**	**+4.9**
KLP				*e*S	**Sn**	**11 27 03.5**	**+2.4**
PONG	**Pong**	**3.15**	**352**	*ex*	**Pn**	**11 26 30.0**	**+5.6**
PONG				*ex*	**Sn**	**11 27 11.0**	**+8.5**
PTH	**Pithoragarh**	**3.33**	**77**	*e*P	**Pn**	**11 26 28.2**	**+1.3**
PTH				*ex*	**Sn**	**11 27 10.1**	**+3.1**
LGTI	**Lohaghat**	**3.34**	**78**	*e*P	**Pn**	**11 26 24.8**	**-2.2**
LGTI				*ex*	**Sn**	**11 27 10.2**	**+3.0**
DLH	**Dalhousie**	**3.73**	**353**	*ex*	**Pg**	**11 26 44.0**	**-1.3**
DLH				*ex*	**Sg**	**11 27 43.0**	**+9.4**
SARP	**Sargodha**	**4.52**	**314**	P	**Pn**	**11 26 42.5**	**-0.7**
CHCP	**Chirah Chowk**	**5.55**	**331**	P	**Pn**	**11 26 57.5**	**+0.1**
THW	**Thamme Wali**	**5.69**	**315**	P	**Pn**	**11 27 00.0**	**+0.7**
DRP	**Derazinda**	**6.17**	**300**	P	**Pn**	**11 27 06.6**	**+0.7**
CEP	**Cherat**	**6.34**	**323**	P	**Pn**	**11 27 08.8**	**+0.6**
CEP				S	**Sn**	**11 28 18.0**	**-3.2**
NGP	**Nagpur**	**7.99**	**163**	*ex*	**Pn**	**11 27 33.5**	**+2.6**
HYB	**Hyderabad**	**11.52**	**170**	*i* P	**Pn**	**11 28 23.5**	**+4.3**
HYB				*e*S	**Sn**	**11 30 21.0**	**-7.4**
HYB	**Hyderabad**	**11.52**	**170**	*e*P	**Pn**	**11 28 23.5**	**+4.3**
HYB				*e*S	**Sn**	**11 30 21.0**	**-7.4**
MKAR	**Makanchi Array**	**18.50**	**13**	P	**Pn**	**11 29 49.4**	**-1.9**
	comp=E,0.1nm,0.3s,baz=196,slow=11,SNR=4.0						
KURK	**Kurchatov**	**21.92**	**4**	*e*P	**P**	**11 30 28.7**	**+0.3**
	comp=E,4.9nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**24.59**	**351**	P	**P**	**11 30 55.8**	**+0.6**
	comp=E,0.4nm,0.4s,mb3.3,baz=170,slow=9.8,SNR=2.4						
AKTK	**Aktyubinsk**	**25.71**	**332**	P	**P**	**11 31 04.3**	**-1.0**
AKTO	**Aktyubinsk**	**25.71**	**332**	P	**P**	**11 31 04.3**	**-1.0**
	comp=E,1.3nm,0.6s,mb3.6,baz=121,slow=12,SNR=5.8						
ZAL	**Zalesovo**	**25.81**	**11**	P	**P**	**11 31 05.8**	**-0.5**
	comp=E,0.5nm,0.3s,mb3.5,baz=317,slow=20,SNR=1.9						
SONM	**Songino Array**	**29.89**	**42**	P	**P**	**11 31 42.9**	**+0.1**
	comp=E,0.2nm,0.5s,mb3.1,baz=234,slow=9.0,SNR=1.7						
ARCES	**ARCESS Array B**	**49.96**	**339**	P	**P**	**11 34 28.2**	**-0.9**
	comp=E,0.8nm,0.5s,mb4.0,baz=111,slow=6.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**70.58**	**275**	P	**P**	**11 36 50.8**	**+0.4**
	comp=E,0.6nm,0.6s,mb3.7,baz=56,slow=5.1,SNR=8.0						
WRA	**Warramunga Arr**	**73.94**	**124**	P	**P**	**11 37 10.2**	**-0.3**
	comp=E,0.4nm,0.4s,mb3.7,baz=321,slow=6.0,SNR=15						
ASAR	**Alice Springs**	**76.00**	**127**	P	**P**	**11 37 22.2**	**-0.2**
	comp=E,0.5nm,0.8s,mb3.5,baz=312,slow=5.4,SNR=7.8						
YKA	**Yellowknife Ar**	**88.56**	**5**	P	**P**	**11 38 26.6**	**-1.5**
	comp=E,0.1nm,0.7s,mb3.3,baz=342,slow=5.0,SNR=4.1						
YKA	**Yellowknife Ar**	**88.56**	**5**	P	**P**	**11 38 26.6**	**-1.5**

TEH ***31*** *11:43:46.6, 3343N×4727E, h18km, Mn3.6*
ISCJB ***31*** *11:44:10.7±0.6, 3384N±003×4883E±005, h10km, Error ellipse: s-maj=6.4km s-min=4.6km az=32.8*
THR ***31*** *11:44:12.5±0.8, 3385N×4889E, h15km±10km, ML3.2*
CSEM ***31*** *11:44:13.1±0.2, 3384N×4890E, h30km, ML3.2, Error ellipse: s-maj=6.3km s-min=4.6km az=106.0*
KISR ***31*** *11:44:14.8±0.6, 3339N×4913E, h10km, ML2.7*
ISC 31 11:44:12.3±0.6, 3385N±003×4885E±005, h10km, n18, σ1§01/27, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**1.20**	**54**	*e*PG	**Pg**	**11 44 34.2**	**-1.1**
ASAO				*e*SG	**Sg**	**11 44 50.8**	**-0.1**
ASAO				AML	AML	11 44 57.1	
	comp=E,624nm,0.5s						
ASAO				AML	AML	11 44 58.0	
	comp=N,566nm,0.6s						
ASAO	**Ashtian**	**1.20**	**54**	*e*Pg	**Pg**	**11 44 34.2**	**-1.1**
	SNR=95						
ASAO				*e*Sg	**Sg**	**11 44 50.8**	**-0.1**
	SNR=95						
SHGR	**Shooshtar-Gavs**	**1.74**	**181**	*e*PG	**Pg**	**11 44 44.4**	**-1.2**
SNGE	**Sanandaj**	**1.76**	**315**	*e*PG	**Pg**	**11 44 45.3**	**-0.8**
SNGE				*e*SG	**Sg**	**11 45 09.1**	**+0.2**
SNGE				AML	AML	11 45 16.2	
	comp=N,294nm,0.4s						
SNGE				AML	AML	11 45 18.5	
	comp=E,191nm,0.4s						
SNGE	**Sanandaj**	**1.76**	**315**	*e*Pg	**Pg**	**11 44 45.3**	**-0.7**
	SNR=93						
SNGE				*e*Sg	**Sg**	**11 45 09.1**	**+0.3**
	SNR=93						
IMHD	**Mahdasht**	**2.36**	**39**	*e*Pn	**Pn**	**11 44 41.5**	**-10**
IVRN	**Varamin**	**2.64**	**63**	*e*Pn	**Pn**	**11 44 46.6**	**-8.3**
ISFB	**Sefidab**	**2.85**	**79**	*e*Pn	**Pn**	**11 44 48.8**	**-9.1**
IZEF	**Zefreh**	**3.06**	**107**	*e*Pn	**Pn**	**11 44 51.7**	**-9.0**
IAFJ	**Afjeh**	**3.09**	**49**	*e*Pn	**Pn**	**11 44 51.8**	**-9.3**
NASN	**Na'in**	**3.47**	**106**	*e*PN	**Pn**	**11 45 07.5**	**+1.1**
ISHM	**Shahmirzad**	**4.14**	**61**	*e*Pn	**Pn**	**11 45 06.9**	**-8.7**
MIB	**Mutribah**	**4.23**	**198**	*e*P	**Pn**	**11 45 18.6**	**+1.8**
MIB				*e*S	**Sn**	**11 46 05.9**	**-0.4**
MIB				AML	AML	11 46 18.5	
	comp=Z,15nm,0.5s						
MIB	**Mutribah**	**4.23**	**198**	*e*P	**Pn**	**11 45 18.6**	**+1.7**
MIB				*e*S	**Sn**	**11 46 05.9**	**-0.5**
IANJ	**Anjiloo**	**4.47**	**67**	*e*Pn	**Pn**	**11 45 09.8**	**-10**
NAY	**Al-Naaiem**	**4.79**	**197**	*e*P	**Pn**	**11 45 25.7**	**+1.2**
NAY				AML	AML	11 46 16.5	
	comp=Z,3.2nm,0.5s						
NAY				*e*S	**Sn**	**11 46 19.3**	**-0.7**
RDF	**Al-Radifah**	**5.03**	**193**	*e*P	**Pn**	**11 45 29.1**	**+1.2**
RDF				*e*S	**Sn**	**11 46 25.0**	**-1.1**
RDF				AML	AML	11 46 26.4	
	comp=Z,9.8nm,0.4s						
RDF	**Al-Radifah**	**5.03**	**193**	*e*P	**Pn**	**11 45 29.1**	**+1.2**
RDF				*e*S	**Sn**	**11 46 25.0**	**-1.0**

TEH ***31*** *11:53:24.2, 3368N×4879E, h9km, ML5.5*
CSEM ***31*** *11:54:00.9, 3373N×4871E, h10km, mb4.8*
ISCJB ***31*** *11:54:00.8±0.1, 3356N±002×4866E±001, h15km, mb4.8/133, MS4.4/45, Error ellipse: s-maj=2.7km s-min=1.6km az=21.6*
BJI ***31*** *11:54:01.2, 3370N×4870E, h10km, mB5.2, mb4.9, Ms5.0, Msz4.4*
IDC ***31*** *11:54:02.6±2.1, 3373N×4862E, h12km±12km, mb4.4/32, mb1 4.5/34, mb1mx4.5/35, mbtmp4.5/34, ML4.9/2, MS4.3/21, Ms1 4.3/21, ms1mx4.1/37, Error ellipse: s-maj=10.5km s-min=8.1km az=138.0*
NEIC ***31*** *11:54:02.3±0.2, 3372N×4867E, h10km, mb4.9/73, MS4.3/3, ML5.3(THR), MN5.1(TEH), Error ellipse: s-maj=5.4km s-min=3.0km az=195.0*
HRVD ***31*** *11:54:02.3±0.3, 3373N×4875E, h26km±1km, MW5.1/79, Centroid moment Tensor Solution. LP body waves: s47,c60;Mantle waves: s79,c133; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.39±.17; $M_{\theta\theta}$-4.59±.17; $M_{\phi\phi}$4.98±.15; $M_{r\theta}$2.39±.39; $M_{\theta\phi}$0.25±.15; $M_{\phi r}$0.67±.32; Best double couple: $M_0$5.38400×10^16 NP1:ϕ_s319.00000°, δ67.00000°, λ-168.00000°. NP2: ϕ_s224.00000°, δ79.00000°, λ-24.00000°. Principal axes: T 5.0960, Plg8.0000°, Azm274.0000°; N 0.5750, Plg64.0000°, Azm21.0000°; P -5.6720, Plg24.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
THR ***31*** *11:54:02.6±1.0, 3389N×4879E, h18km, ML5.2, Fault plane solution: NP1:ϕ_s50.00000°, δ30.00000°, λ0.00000°.*
MOS ***31*** *11:54:03.5±1.3, 3366N×4858E, h33km, mb5.1/49, MS4.2/19, Error ellipse: s-maj=5.8km s-min=3.7km az=119.4*
OMAN ***31*** *11:54:12.3±3.1, 3323N×4921E, h124km±25km, Error ellipse: s-maj=31.3km s-min=19.6km az=158.0*
SZGRF ***31*** *11:54:14.0, 3370N×4705E, h33km, mb4.6, Western Iran*
ISC 31 11:54:03.0±0.1, 3363N±002×4868E±001, h16km, h16km±1.9km:pP-P, n597, σ1§30/645, mb4.8/133, MS4.4/45, 21C-12D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.11**	**300**	*e*Pg	**Pn**	**11 54 21.6**	**-2.3**
IKOM	**Komasi**	**1.11**	**300**	Pg	**Pn**	**11 54 22.1**	**-1.8**
IKOM	**Komasi**	**1.11**	**300**	*e*Pg	**Pn**	**11 54 21.5**	**-2.4**
ASAO	**Ashtian**	**1.45**	**50**	*e*PG	**Pn**	**11 54 25.1**	**-3.4**
ASAO				*e*SG	**Sn**	**11 54 41.9**	**-5.2**
ASAO				AML	AML	11 54 46.8	
	comp=E,71μm,0.6s						
ASAO				AML	AML	11 54 47.3	
	comp=N,81μm,0.7s						
ASAO	**Ashtian**	**1.45**	**50**	*e*Pg	**Pn**	**11 54 25.0**	**-3.5**
ASAO				*e*Sg	**Sn**	**11 54 41.0**	**-6.1**
SHGR	**Shooshtar-Gavs**	**1.52**	**176**	*e*PG	**Pg**	**11 54 35.1**	**+2.9**
SHGR	**Shooshtar-Gavs**	**1.52**	**176**	*e*Pg	**Pg**	**11 54 35.1**	**+2.8**
SNGE	**Sanandaj**	**1.83**	**323**	*e*PG	**Pn**	**11 54 33.7**	**0.0**
SNGE				*e*SG	**Sn**	**11 54 56.5**	**-0.1**
SNGE	**Sanandaj**	**1.83**	**323**	*e*Pg	**Pn**	**11 54 33.0**	**-0.7**
SNGE				*e*Sn	**Sn**	**11 54 56.0**	**-0.5**
IRAZ	**Razeghan**	**2.05**	**30**	*e*Pn	**Pg**	**11 54 49.8**	**+7.5**
IRAZ	**Razeghan**	**2.05**	**30**	*e*Pn	**Pg**	**11 54 49.8**	**+7.5**
IPIR	**Pirpir**	**2.08**	**116**	*e*Pn	**Pn**	**11 54 38.4**	**+1.2**
IPIR	**Pirpir**	**2.08**	**116**	*e*Pn	**Pn**	**11 54 38.7**	**+1.5**
IPIR	**Pirpir**	**2.08**	**116**	*e*Pn	**Pn**	**11 54 38.7**	**+1.5**
IDHR	**Dehrash**	**2.18**	**300**	*e*Pn	**Pn**	**11 54 40.7**	**+2.2**
IDHR	**Dehrash**	**2.18**	**300**	*e*Pn	**Pn**	**11 54 40.8**	**+2.3**
IDHR	**Dehrash**	**2.18**	**300**	*e*Pn	**Pn**	**11 54 40.8**	**+2.3**
IDHR	**Dehrash**	**2.18**	**300**	Pn	**Pn**	**11 54 40.6**	**+2.1**
IKLH	**Kalahroud**	**2.44**	**97**	*e*Pn	**Pn**	**11 54 42.4**	**+0.2**
IKLH	**Kalahroud**	**2.44**	**97**	*e*Pn	**Pn**	**11 54 42.9**	**+0.7**
IKLH				*e*Sn	**Sn**	**11 55 11.1**	**-0.7**
IKLH				*e*Sn	**Sn**	**11 55 11.4**	**-0.4**
IKLH	**Kalahroud**	**2.44**	**97**	*e*Pn	**Pn**	**11 54 42.9**	**+0.7**
IKLH				*e*Sn	**Sn**	**11 55 11.4**	**-0.4**
IMHD	**Mahdasht**	**2.62**	**38**	*e*Pn	**Pn**	**11 54 44.8**	**+0.1**
IMHD	**Mahdasht**	**2.62**	**38**	*e*Pn	**Pn**	**11 54 45.0**	**+0.3**
IMHD				*e*Sn	**Sn**	**11 55 16.4**	**+0.2**
IMHD				*e*Sn	**Sn**	**11 55 16.6**	**+0.4**
IMHD	**Mahdasht**	**2.62**	**38**	*e*Pn	**Pn**	**11 54 45.0**	**+0.3**
IMHD				*e*Sn	**Sn**	**11 55 16.4**	**+0.2**
IVRN	**Varamin**	**2.87**	**61**	*e*Pn	**Pn**	**11 54 48.5**	**+0.5**
IVRN				*e*Sn	**Sn**	**11 55 21.2**	**-1.0**
IVRN	**Varamin**	**2.87**	**61**	*e*Pn	**Pn**	**11 54 48.7**	**+0.7**
IVRN				*e*Sn	**Sn**	**11 55 21.9**	**-0.3**
IVRN				*e*Sn	**Sn**	**11 55 22.1**	**-0.1**
IVRN	**Varamin**	**2.87**	**61**	*e*Pn	**Pn**	**11 54 48.7**	**+0.7**
IVRN				*e*Sn	**Sn**	**11 55 21.9**	**-0.3**
ISFB	**Sefidab**	**3.04**	**75**	*e*Pn	**Pn**	**11 54 50.9**	**+0.5**
ISFB	**Sefidab**	**3.04**	**75**	*e*Pn	**Pn**	**11 54 50.8**	**+0.4**
ISFB				*e*Sn	**Sn**	**11 55 25.8**	**-0.7**
ISFB				*e*Sn	**Sn**	**11 55 26.1**	**-0.4**
ISFB	**Sefidab**	**3.04**	**75**	*e*Pn	**Pn**	**11 54 50.8**	**+0.4**
ISFB				*e*Sn	**Sn**	**11 55 25.8**	**-0.7**
IZEF	**Zefreh**	**3.15**	**102**	*e*Pn	**Pn**	**11 54 53.9**	**+2.1**
IZEF	**Zefreh**	**3.15**	**102**	*e*Pn	**Pn**	**11 54 53.6**	**+1.8**
IZEF				*e*Sn	**Sn**	**11 55 28.3**	**-0.8**
IZEF				*e*Sn	**Sn**	**11 55 28.4**	**-0.7**
IZEF	**Zefreh**	**3.15**	**102**	*e*Pn	**Pn**	**11 54 53.6**	**+1.8**
IZEF				*e*Sn	**Sn**	**11 55 28.3**	**-0.8**
IZEF	**Zefreh**	**3.15**	**102**	Pn	**Pn**	**11 54 53.8**	**+2.0**
IAFJ	**Afjeh**	**3.34**	**48**	*e*Pn	**Pn**	**11 54 55.1**	**+0.5**
IAFJ	**Afjeh**	**3.34**	**48**	*e*Pn	**Pn**	**11 54 55.3**	**+0.7**
IAFJ	**Afjeh**	**3.34**	**48**	*e*Pn	**Pn**	**11 54 55.3**	**+0.7**
IAFJ	**Afjeh**	**3.34**	**48**	Pn	**Pn**	**11 54 55.0**	**+0.4**
NASN	**Na'in**	**3.56**	**102**	*e*Pn	**Pn**	**11 54 59.6**	**+2.1**
NASN				AML	AML	11 56 00.0	
	comp=N,2μm,0.6s						
NASN				AML	AML	11 56 09.0	
	comp=E,2μm,0.6s						
NASN	**Na'in**	**3.56**	**102**	*e*Pn	**Pn**	**11 54 59.0**	**+1.5**
BHD	**Baghdad**	**3.61**	**265**	*ex*	x	11 54 50.5	
BHD				*i* x	x	11 54 56.5	
BHD				*i* x	x	11 55 04.0	
BHD				*i* x	x	11 55 35.0	
BHD				*i* x	x	11 55 45.0	
BHD				*i* x	x	11 55 54.0	
BHD	**Baghdad**	**3.61**	**265**	*i* Sn	x	11 55 35.0	
IFIR	**Firoozkooh**	**3.91**	**58**	*e*Pn	**Pn**	**11 55 03.0**	**+0.6**
IFIR	**Firoozkooh**	**3.91**	**58**	*e*Pn	**Pn**	**11 55 02.9**	**+0.5**
IFIR				*e*Sn	**Sn**	**11 55 46.1**	**-1.9**
IFIR				*e*Sn	**Sn**	**11 55 46.6**	**-1.4**
IFIR	**Firoozkooh**	**3.91**	**58**	*e*Pn	**Pn**	**11 55 02.9**	**+0.5**
IFIR				*e*Sn	**Sn**	**11 55 46.1**	**-1.9**
IPRN	**Paran-Amol**	**3.92**	**47**	*e*Pn	**Pn**	**11 55 04.7**	**+2.2**
IPRN				*e*Sn	**Sn**	**11 55 46.1**	**-2.0**
IPRN				*e*Sn	**Sn**	**11 55 46.9**	**-1.2**
ILAS	**Lasjerd**	**3.94**	**63**	*e*Pn	**Pn**	**11 55 02.6**	**-0.2**
ILAS	**Lasjerd**	**3.94**	**63**	*e*Pn	**Pn

GNI	Garni	7.23 335	eP	Pn	11 55 54.4	+6.5	
GNI			pmax	pmax			
	comp=Z,14nm,0.7s						
BEST	Besiri	7.37 307	i P	Pn	11 55 49.8	-0.1	
MARD	Mardin	7.42 302	i P	Pn	11 55 50.5	-0.1	
KRBR	Kerman	7.78 116	ePn	Pn	11 55 56.8	+1.2	
DGRG	David-gareji	8.23 342	P	Pn	11 56 05.6	+3.8	
ISHV	Shirvan	8.31 60	ePn	Pn	11 56 06.2	+3.4	
ISFR	Esferayen	8.34 63	ePn	Pn	11 56 10.8	+7.6	
ERZM	Erzurum	8.58 319	i P	Pn	11 56 11.0	+4.5	
EZM	Erzurum	8.58 319	P	Pn	11 56 13.6	+7.1	
MTA	Mtatsminda	8.62 340	P	Pn	11 56 11.2	+4.2	
IKRD	Kardeh	8.64 66	ePn	Pn	11 56 18.3	+11	
TBLG	Delisi	8.67 340	P	Pn	11 56 14.0	+6.3	
IQHU	Quchan	8.76 64	ePn	Pn	11 56 10.2	+1.3	
VAN	Vannovskaya	8.79 58	P	Pn	11 56 11.2	+1.9	
VAN			S	Sn	11 57 51.4	+3.4	
URFA	Urfa	8.89 298	P	Pn	11 56 11.2	+0.5	
IEMG	Emamqoli	8.96 62	ePn	Pn	11 56 13.5	+1.8	
IMOG	Moghan	9.10 71	ePn	Pn	11 56 14.2	+0.5	
ELZG	Elazig	9.23 305	i P	Pn	11 56 16.5	+1.2	
ARTV	Artvin	9.25 327	i P	Pn	11 56 19.9	+4.1	
MAK	Makhachkala	9.36 355	eP	Pn	11 56 21.5	+4.3	
	comp=Z,389nm,1.3s						
MAK	Makhachkala	9.36 355	eP	Pn	11 56 21.5	+4.3	
MAK			eS	Sn	11 58 12.7	+11	
MAK			pmax	pmax			
	comp=Z,389nm,1.3s						
MAK			MLR	MLR			
	comp=Z,3μm,10.0s						
MALT	Malatya	9.53 302	P	Pn	11 56 20.4	+0.8	
MALT	Malatya	9.53 302	ePn	Pn	11 56 19.3	-0.2	
	comp=Z,8.1nm,0.6s						
MALT	Malatya	9.53 302	eP	Pn	11 56 19.3	-0.2	
MALT			pmax	pmax			
	comp=Z,8.0nm,0.6s						
MYA	Malataya	9.54 302	P	Pn	11 56 21.0	+1.4	
IMYA	Miamay	9.76 71	ePn	Pn	11 56 23.8	+1.2	
GZT	Gaziantep	9.79 295	i P	Pn	11 56 21.7	-1.4	
ZEI	Tsey	9.87 339	eP	Pn	11 56 29.0	+4.9	
BANOM	Banah	10.14 137	⇓P	Pn	11 56 26.9	-0.9	
	SNR=241						
BANOM			⇓S	Sn	11 58 11.8	-9.4	
COBT	Iskenderun	10.58 289	i P	Pn	11 56 34.0	+0.1	
BHL	Bhannes	10.85 275	ePn	Pn	11 56 43.0	+5.5	
ASHO	Ashiyiah	11.00 142	⇓P	Pn	11 56 38.9	-0.7	
	SNR=103						
ASHO			⇓S	Sn	11 58 35.2	-7.1	
GRSN	GIRESUNGRSN	11.03 314	i P	Pn	11 56 37.7	-2.4	
KOZT	Kozan	11.15 294	P	Pn	11 56 44.5	+2.8	
KIV	Kislovodsk	11.31 337	ePn	Pn	11 56 49.4	+5.4	
	comp=Z,22nm,0.9s						
KIV	Kislovodsk	11.31 337	i P	Pn	11 56 50.2	+6.2	
KIV			eS	Sn	11 58 56.8	+6.7	
KIV			pmax	pmax			
	comp=Z,18nm,0.8s						
KIV			MLR	MLR			
	comp=Z,2μm,14.0s						
MERS	Mersin	12.02 290	P	Pn	11 56 51.4	-2.1	
SOC	Sochi	12.15 327	eP	Pn	11 56 58.0	+2.6	
SOC			eSN	Sn	11 59 19.6	+9.1	
GOF	Gofitskoye	12.21 341	eP	Pn	11 56 59.1	+2.8	
	comp=Z,50nm,0.6s						
GOF	Gofitskoye	12.21 341	eP	Pn	11 56 59.1	+2.8	
GOF			pmax	pmax			
	comp=Z,50nm,0.6s						
EIL	Elat	12.34 255	ePn	Pn	11 56 58.6	+0.6	
	comp=Z,143nm,0.4s						
ARQ	Araqi	12.35 144	P	Pn	11 56 56.6	-1.6	
	SNR=90						
HOQ	Hoqain	12.55 141	⇑P	Pn	11 56 57.7	-3.2	
	SNR=25						
CSS	Prodhromos	12.76 280	eP	Pn	11 57 06.2	+2.5	
	comp=Z,23nm,0.9s						
CDAG	Cicekdag	12.95 302	i P	Pn	11 57 08.7	+2.4	
CDAG	Cicekdag	12.95 302	i P	Pn	11 57 08.6	+2.3	
BIDO	Bidbid	13.04 138	⇓P	Pn	11 57 05.1	-2.5	
	SNR=42						
CTKT	Corum	13.09 306	i P	Pn	11 57 11.5	+3.3	
BSY	Bisya	13.19 143	P	Pn	11 57 08.1	-1.4	
	SNR=60						
BOYT	Boyabat	13.40 309	i P	Pn	11 57 15.4	+2.9	
JMDO	Jabal Madar	13.96 141	P	Pn	11 57 17.4	-2.6	
	SNR=95						
ELDT	Eldivan	13.96 304	i P	Pn	11 57 22.1	+1.9	
ELDT	Eldivan	13.96 304	i P	Pn	11 57 22.0	+1.9	
ANN	Anapa	14.14 325	eS	Sn	11 59 58.0	-1.1	
ANN	Anapa	14.14 325	eP	Pn	11 57 19.3	-3.2	
ANN			eS	Sn	11 59 58.0	-1.1	
ANN			pmax	pmax			
	comp=Z,115nm,1.2s						
ANN			MLR	MLR			
	comp=N,1μm,16.0s						
ANN			MLR	MLR			
	comp=E,2μm,16.0s						
ANN			MLR	MLR			
	comp=Z,2μm,16.0s						
ANTO	Ankara	14.17 301	P	Pn	11 57 22.5	-0.5	
ANTO	Ankara	14.17 301	⇓P	Px	11 57 34.2		
WBK	Wadi Bani Khal	14.24 138	⇓P	Pn	11 57 21.0	-2.9	
	SNR=49						
SGKT	Sivrigoynuk	14.95 302	i P	Pn	11 57 33.4	-0.2	
ISP	Isparta	15.34 291	P	Pn	11 57 32.8	-5.9	
ISP	Isparta	15.34 291	eP	Pn	11 57 41.6	+2.8	
	comp=Z,57nm,1.0s						
ISP	Isparta	15.34 291	c i P	Pn	11 57 41.9	+3.2	
ESKT	Eskisehir	15.47 297	i P	Pn	11 57 41.7	+1.2	
SEYT	Eskypehyr	15.47 297	i P	Pn	11 57 41.7	+1.2	
TKTP	Tekketepe	15.52 292	i P	Pn	11 57 44.0	+2.9	
ELL	Elmali	15.66 287	eP	Pn	11 57 46.6	+3.7	
HENT	Hendek	15.86 302	i P	Pn	11 57 46.6	+1.1	
BORA	Eskisehir	15.87 298	i P	Pn	11 57 44.8	-0.9	
SIM	Simferopol'	15.94 319	eP	Pn	11 57 53.3	+6.8	
SIM			pmax	pmax			
	comp=Z,20nm,1.2s						
SIM			MLR	MLR			
	comp=Z,700nm,17.0s						
GOLH	Golhisar	15.99 288	i P	Pn	11 57 50.3	+3.1	
WHFO	Wadi Hawf	16.30 162	P	Pn	11 57 48.2	-2.9	
	SNR=109						
GDZ	Gediz	16.39 295	i P	Pn	11 57 51.9	-0.3	
DNZL	Cakiroluk	16.46 290	i P	Pn	11 57 55.8	+2.7	
IZI	Iznik	16.73 299	P	Pn	11 57 58.6	+2.0	
ABTO	Aybut	16.73 165	P	Pn	11 57 54.3	-2.4	
	SNR=296						
SHAO	Shalim	16.74 156	⇑P	Pn	11 57 53.9	-2.9	
	SNR=52						
RBK	Rabkut	16.81 161	P	Pn	11 57 54.6	-3.1	
	SNR=338						
YLV	Yalova	16.87 300	P	Pn	11 57 56.3	-2.1	
MANT	Manisa	16.97 292	i P	Pn	11 58 02.0	+2.4	
DAT	Datca	17.52 286	eP	Pn	11 58 07.5	+0.9	
BTOK	Tokmak	17.64 296	i P	Pn	11 58 08.3	+0.3	
BDRM	Kayabasi	17.65 287	i P	Pn	11 58 07.0	-1.2	
ELBA	Catalca	17.73 301	i P	Pn	11 58 08.2	-0.9	
BNT	Bandirma	17.87 298	eP	Pn	11 58 11.2	+0.3	
AKTK	Aktyubinsk	18.14 19	P	Pn	11 58 12.9	-1.3	
	comp=Z,2.0nm,0.3s						
AKTK	Aktyubinsk	18.14 19	P	Pn	11 58 12.8	-1.3	
AKTK			S	Sn	12 01 35.9	-0.4	
AKTK			LR	LR	12 06 58.0		
AKTO	Aktyubinsk	18.14 19	P	Pn	11 58 12.8	-1.3	
	comp=Z,1.8nm,0.3s,baz=206,slow=13,SNR=25						
AKTO			S	Sn	12 01 35.9	-0.4	
	comp=Z,0.2nm,0.3s,baz=323,slow=22,SNR=1.9						
AKTO			LR	LR	12 06 58.0		
	comp=Z,626nm,19.1s,baz=0.0,slow=43						
AKTO	Aktyubinsk	18.14 19	P	Pn	11 58 12.9	-1.3	
AKTO			S	Sn	12 01 35.9	-0.4	
AKTO			pmax	pmax			
	comp=Z,2.0nm,0.3s						
AKTO			MLR	MLR			
	comp=Z,626nm,19.1s						
VRHR	Novokhopersk	18.20 346	eP	Pn	11 58 13.8	-1.1	
	comp=Z,70nm,0.7s						
VRHR	Novokhopersk	18.20 346	eP	Pn	11 58 13.8	-1.1	
VRHR			pmax	pmax			
	comp=Z,30nm,0.4s						
VRHR			pmax	pmax			
	comp=N,70nm,0.7s						
VRHR			pmax	pmax			
	comp=E,20nm,0.6s						
HAJJ	Hajjah	18.43 196	eP	Pn	11 58 17.6	-0.2	
HAJJ			AMb	AMB	11 58 18.8		
	comp=Z,75nm,1.5s						
HAJJ	Hajjah	18.43 196	eP	Pn	11 58 17.4	-0.4	
	comp=Z,37nm,1.5s						
URLA	Izmir	18.47 291	i P	Pn	11 58 18.0	-0.2	
SART	Tekirdag	18.50 299	i P	Pn	11 58 18.1	-0.5	
AYVA	Ayvalik	18.55 294	i P	Pn	11 58 19.8	+0.6	
VORD	Divnogorie	18.64 341	eP	Pn	11 58 23.7	+3.5	
VORD			pmax	pmax			
	comp=Z,9.0nm,0.4s						
VORD			pmax	pmax			
	comp=N,10.0nm,0.9s						
VORD			pmax	pmax			
	comp=E,30nm,0.8s						
VRSR	Storozhevoye	18.89 341	eP	Pn	11 58 23.3	0.0	
VRSR			pmax	pmax			
	comp=N,5.0nm,0.9s						
VRSR			pmax	pmax			
	comp=E,4.0nm,0.9s						
VRSR			pmax	pmax			
	comp=Z,2.0nm,0.9s						
CHOS	Chios island	18.89 291	eP	Pn	11 58 22.8	-0.6	
TIRR	Tirgusor	19.05 311	⇓P	Pn	11 58 24.8	-0.4	
TIRR	Tirgusor	19.05 311	eP	Pn	11 58 20.2	-5.0	
TIRR			⇓P		11 58 24.8		
MUKL	Al Mukalla	19.07 179	eP	Pn	11 58 24.1	-1.4	
MUKL			AMb	AMB	11 58 25.1		
	comp=Z,176nm,0.7s						
EDRB	Edirne	19.15 302	eP	Pn	11 58 25.6	-0.8	
PRD	Provadia	19.17 306	eP	Pn	11 58 27.0	+0.3	
APE	Apeiranthos	19.18 287	⇑P	Pn	11 58 27.1	+0.3	
APE	Apeiranthos	19.18 287	i P	Pn	11 58 28.8	+2.0	
APE	Apeiranthos	19.18 287	⇑P	Pn	11 58 27.1	+0.3	
LAST	Lasithi	19.20 281	eP	Pn	11 58 27.1	+0.1	
THW	Thamme Wali	19.31 86	P	Pn	11 58 26.3	-2.1	
CEP	Cherat	19.32 83	P	Pn	11 58 28.4	-0.1	
VOR	Voronezh	19.36 342	eP	Pn	11 58 29.0	+0.1	
	comp=Z,100nm,2.0s						
VOR	Voronezh	19.36 342	eP	Pn	11 58 29.0	+0.1	
VOR			pmax	pmax			
	comp=Z,100nm,2.0s						
DHBB	Dhamar BB	19.37 193	eP	Pn	11 58 27.6	-1.5	
ALN	Alexandroupoli	19.39 299	eP	Pn	11 58 29.2	-0.1	
KK31	Karatay Array	19.51 55	i P	Pn	11 58 28.6	-2.2	
	comp=Z,50nm,1.0s						
KK31	Karatay Array	19.51 55	i P	Pn	11 58 28.6	-2.2	
KK31			pmax	pmax			
	comp=Z,50nm,1.0s						
CFR	Carcaliu	19.56 312	⇑P	Pn	11 58 29.5	-1.8	
IDI	Anoyia	19.68 282	P	Pn	11 58 32.5	-0.3	
	comp=Z,7.7nm,0.3s,baz=63,slow=12,SNR=22						
IDI			S	Sn	12 02 11.6	-1.8	
	comp=Z,0.1nm,0.3s,baz=348,slow=4.4,SNR=1.8						
BDHA	Al Bayda'	19.77 189	eP	Pn	11 58 32.1	-1.7	
BDHA			AMb	AMB	11 58 34.9		
	comp=Z,86nm,0.8s						
RDO	Rodhopi	19.82 299	eP	Pn	11 58 34.0	-0.5	
LOS	Limnos	19.89 295	eP	Pn	11 58 43.4	+8.1	
LBOS		19.92 190	eP	Pn	11 58 33.9	-1.7	
KIS	Kishinev	20.11 317	eP	P	11 58 36.0	-0.1	
KIS			e		12 02 20.0		
KIS			e		12 02 40.0		
KIS			MLR	MLR			
	comp=Z,500nm,15.0s,MS4.0						
KIS			MLR	MLR			
	comp=Z,500nm,14.0s						
SZH	Strazhica	20.19 305	eP	P	11 58 38.0	+1.1	
VAM	Vamos	20.24 282	eP	P	11 58 38.5	+1.1	
SARP	Sargodha	20.24 88	P	P	11 58 37.8	+0.4	
GVD	Gavdhos	20.36 280	P	P	11 58 38.3	-0.4	
	comp=Z,114nm,1.2s						
CHCP	Chirah Chowk	20.46 83	P	P	11 58 38.9	-0.9	
RZN	Rozhen	20.56 300	eP	P	11 58 41.0	+0.1	
PTL	Penteli	20.57 289	eP	P	11 58 41.5	+0.5	
KVR	Kavouri	20.63 289	eP	P	11 58 41.1	-0.6	
PLD	Plovdiv	20.68 301	eP	P	11 58 45.0	+2.8	
AOS	Alonnisos	20.68 293	eP	P	11 58 43.4	+1.1	
TRBA	At Turbah	20.73 193	eP	P	11 58 42.7	0.0	
TRBA			AMb	AMB	11 58 44.0		
	comp=Z,11nm,1.3s						
VRI	Vrincioaia	20.76 313	⇑P	P	11 58 42.8	-0.3	
OUR	Ouranopolis	20.80 296	eP	P	11 58 43.9	+0.4	
OUR	Ouranopolis	20.80 296	eP	P	11 58 43.8	+0.4	
PAIG	Paliouri	20.95 295	eP	P	11 58 45.3	+0.2	
MLR	Muntele Rosu	21.07 311	P	P	11 58 47.0	+0.5	
	comp=Z,8.2nm,0.6s,mb4.2,baz=54,slow=3.6,SNR=8.9						
MLR	Muntele Rosu	21.07 311	P	P	11 58 48.3	+1.8	
BHJ	Bhuj	21.11 114	eP	P	11 58 47.5	+0.7	
BHJ			AMb	AMB	11 58 54.0		
	comp=Z,121nm,1.2s,mb5.1						
PGB	Panagyurishte	21.19 302	eP	P	11 58 48.0	+0.3	
NEO	Neokhori	21.21 293	eP	P	11 58 48.1	+0.2	
XOR	Xorichti	21.24 293	eP	P	11 58 48.3	0.0	
SRS	Serrai	21.24 298	eP	P	11 58 49.0	+0.7	
VLI	Veliai	21.25 286	eP	P	11 58 47.1	-1.2	
MMB	Musomiste	21.25 299	eP	P	11 58 50.0	+1.6	
SOH	Sokhos	21.36 297	eP	P	11 58 49.8	+0.3	
AML	Almayashu	21.44 59	P	P	11 58 51.4	+1.1	
	SNR=16						
VOIR		21.62 310	⇑P	P	11 58 52.8	+0.5	
VOIR		21.62 310	P	P	11 58 52.9	+0.6	
EKS2	Erkin-Say	21.64 58	P	P	11 58 53.3	+0.8	
	SNR=15						
KNT	Kendrikon	21.77 298	eP	P	11 58 55.4	+1.5	
KKB	Krupnik	21.79 300	eP	P	11 58 53.0	-1.1	
AGG	Agios Georgios	21.86 292	eP	P	11 58 54.7	-0.2	
LIT	Litokhoron	21.88 295	eP	P	11 58 54.7	-0.5	
VTS	Vitosha	21.88 302	eP	P	11 58 55.0	-0.1	
VTS	Vitosha	21.88 302	eP	P	11 58 55.2	+0.1	
VAY	Valandovo	22.04 298	i P	P	11 58 58.4	+1.6	
UCH	Uchtor	22.05 60	P	P	11 58 57.0	+0.1	
	SNR=13						
ITM	Ithomi	22.06 287	eP	P	11 58 56.8	-0.3	
AAK	Ala-Archa	22.14 59	P	P	11 58 58.8	+0.9	
	SNR=9.2						
AKASG	Malin Array Be	22.22 326	P	P	11 58 57.4	-1.4	
	comp=Z,12nm,0.7s,mb4.4,baz=132,slow=9.3,SNR=30						
AKASG			ScP	ScP	12 06 29.4	-2.2	
	comp=Z,1.7nm,0.6s,baz=111,slow=2.1,SNR=9.9						
AKASG	Malin Array Be	22.22 326	P	P	11 58 57.4	-1.4	
AKASG			ScP	ScP	12 06 29.4	-2.2	
EVR	Evrytania	22.26 291	eP	P	11 58 59.0	-0.1	
FRU	Bishkek	22.28 58	eP	P	11 59 03.0	+3.6	
FRU			pmax	pmax			
	comp=Z,80nm,2.0s,mb4.8						
USP	Ospenovka	22.32 57	P	P	11 59 00.1	+0.3	
	SNR=20						
BURAR	Bucovina Array	22.52 315	⇑P	P	11 59 01.2	-0.7	
BURAR	Bucovina Array	22.52 315	⇑P	P	11 59 01.2	-0.7	
KZA	Kyzart	22.55 60	P	P	11 59 03.1	+0.9	
	SNR=41						
KSH	Kashi	22.65 67	P	P	11 59 05.0	+1.7	
KSH			AP		11 59 08.5		
KSH			XP	sP	11 59 11.3	+1.4	
KSH			PP		11 59 32.3		
KSH			PPP		11 59 42.3		
KSH			PCP	PcP	12 02 58.5	+2.7	
KSH			S	S	12 03 06.8	-4.4	
KSH			XS	sS	12 03 13.5	-5.0	
KSH			SS		12 03 49.0		
KSH			SCP	ScP	12 06 34.5	+1.7	
KSH			PCS	PcS	12 06 36.3	+1.7	
KSH			SCS	ScS	12 10 18.5	+0.3	
KSH			AMB	AMB			
	comp=Z,33nm,0.8s,mb4.8						
KSH			LR	LR			
	comp=N,4μm,13.3s						
KSH			LR	LR			
	comp=E,1μm,8.8s						
KSH			LR	LR			
	comp=Z,2μm,11.7s,MS4.8						
PECR	Pechory	22.91 353	eP	P	11 59 04.6	-1.4	
	comp=Z,500nm,4.8s						
PECR	Pechory	22.91 353	eP	P	11 59 04.6	-1.4	
PECR			eS	S	12 03 03.0	-12	
PECR			eSS		12 03 48.8		
PECR			pmax	pmax			
	comp=Z,220nm,2.0s,mb5.2						
PECR			pmax	pmax			
	comp=Z,400nm,4.0s						
PECR			smax				
	comp=N,500nm,4.8s						
PONG	Pong	22.97 87	ex	x	11 59 13.0		
TKM2	Tokmak 2	23.00 58	P	P	11 59 09.2	+2.2	
	SNR=12						
SKO	Skopje	23.01 299	eP	P	11 59 08.1	+1.0	
JAN	Janina	23.07 293	eP	P	11 59 06.0	-1.8	
OBN	Obninsk	23.09 342	eP	P	11 59 08.6	+0.6	
	comp=N,96nm,1.7s,mb5.0						
OBN	Obninsk	23.09 342	eP	P	11 59 08.3	+0.3	
	comp=N,32nm,0.8s,mb4.8						
OBN	Obninsk	23.09 342 ⇓	eP	P	11 59 08.6	+0.6	
OBN			eS	S	12 03 17.9	-0.5	
OBN			pmax	pmax			
	comp=Z,96nm,1.7s,mb5.0						
OBN			MLR	MLR			
	comp=Z,1μm,23.0s,MS4.3						
VLS	Valsamata	23.16 289	eP	P	11 59 07.5	-1.2	
ULHL	Ulahol	23.30 60	P	P	11 59 10.8	+0.6	
	SNR=21						
OHR	Ohrid	23.31 297 ⇑	i P	P	11 59 10.7	+0.3	
OHR	Ohrid	23.31 297 ⇑	i P	P	11 59 10.6	+0.3	
AJM	Ajmer	23.54 101	eP	P	11 59 12.9	+0.2	
AJM			i P		11 59 13.0		
AJM			AMb	AMB	11 59 17.4		
	comp=Z,61nm,0.9s,mb5.0						
DRGR		23.66 311	⇑P	P	11 59 15.2	+1.4	
ARU	Arti	23.80 14	i P	P	11 59 16.2	+1.2	
	comp=Z,26nm,0.9s,mb4.7						
ARU	Arti	23.80 14	eP	P	11 59 13.0	-2.0	
	comp=Z,13nm,0.6s,mb4.5						
ARU	Arti	23.80 14 ⇓	i P	P	11 59 16.2	+1.2	
ARU			ePPP		11 59 49.9		
ARU			eSS		12 04 15.2		
ARU			eSSS		12 04 29.8		
ARU			pmax	pmax			
	comp=Z,26nm,0.9s,mb4.7						
KEK	Kerkira	23.89 293	eP	P	11 59 15.1	-0.7	
TIR	Tirane	24.05 297	eP	P	11 59 16.7	-0.6	
ZRNK	Zerenda	24.18 31	eP	P	11 59 18.3	-0.2	
	comp=Z,25nm,0.9s,mb4.6						
ZRNK	Zerenda	24.18 31	eP	P	11 59 18.3	-0.2	
	comp=Z,25nm,0.9s,mb4.6						
ZRNK	Zerenda	24.18 31	eP	P	11 59 18.3	-0.2	
ZRNK			pmax	pmax			
	comp=Z,25nm,0.9s,mb4.6						
LVV	L'vov	24.33 319	eP	P	11 59 18.2	-1.7	
SVE	Sverdlovsk	24.61 16	eP	P	11 59 23.6	+1.2	
SVE			e		11 59 52.0		
SVE			e		12 00 04.0		
SVE			e		12 04 48.0		
SVE			MLR	MLR			
	comp=N,500nm,14.0s,MS4.3						
SVE			MLR	MLR			
	comp=E,500nm,14.0s,MS4.3						
SVE			MLR	MLR			
	comp=Z,700nm,14.0s,MS4.3						
BRVK	Borovoye	24.81 32	eP	P	11 59 24.0	-0.2	
	comp=Z,40nm,1.1s,mb4.9						
BRVK	Borovoye	24.81 32	eP	P	11 59 24.0	-0.2	
	comp=Z,40nm,1.1s,mb4.9						
BRVK	Borovoye	24.81 32	eP	P	11 59 24.0	-0.2	
BRVK			pmax	pmax			
	comp=Z,40nm,1.1s,mb4.9						
BVAR	Borovoye Array	24.83 32	P	P	11 59 24.5	+0.1	
	comp=Z,34nm,1.0s,mb4.8,baz=224,slow=8.3,SNR=49						
BVAR			S	S	12 03 51.1	+4.5	
	comp=Z,1.0nm,0.8s,baz=200,slow=30,SNR=2.0						
BVAR			ScP	ScP	12 06 35.8	-2.9	
	comp=Z,4.0nm,0.9s,baz=222,slow=2.0,SNR=10						
BVAR	Borovoye Array	24.83 32	P	P	11 59 24.5	+0.1	
BVAR			S	S	12 03 51.1	+4.5	
NDI	New Delhi	24.88 94	eP	P	11 59 24.0	-0.9	
DDI	Dehra Dun	25.10 89	ex	x	11 59 31.0		
DDI			ex	x	11 59 52.0		
CRVS	Cervenica-Dubn	25.34 315	epP	pP	11 59 35.7	+1.8	
CHKZ	Chkalovo	25.38 31	i P	P	11 59 30.3	+0.9	
	comp=Z,18nm,0.9s,mb4.6						
CHKZ	Chkalovo	25.38 31	eP	P	11 59 29.0	-0.4	
	comp=Z,20nm,0.9s,mb4.7						
CHKZ	Chkalovo	25.38 31	i P	P	11 59 30.3	+0.9	
CHKZ			pmax	pmax			
	comp=Z,18nm,0.9s,mb4.6						
MNK	Minsk	25.50 331	eP	P	11 59 27.0	-3.5	
STHS	Stebnicka Huta	25.70 316	e	pP	11 59 43.0	+5.8	
STHS			e		12 00 21.1		
PSZ	Piszkesteto	25.87 312 ⇑	i P	P	11 59 35.4	+1.5	
PKSM	Moragy	26.07 308	⇑P	P	11 59 35.6	-0.1	
TIP	Timpagrande	26.20 291	eP	P	11 59 36.6	-0.3	
NE53	Naroch'	26.21 331	eP	P	11 59 35.0	-2.0	
SOKR	Solikamsk	26.50 9 ⇑	i P	P	11 59 49.0	+9.4	
SOKR			pmax	pmax			
	comp=Z,40nm,1.0s,mb4.9						
SOKR			MLR	MLR			
	comp=Z,420nm,14.0s,MS4.1						
VYHS	Vyhne	26.75 313	eP	P	11 59 46.8	+5.0	
VYHS			e		12 00 02.9		
VYHS	Vyhne	26.75 313	eP	P	11 59 46.8	+5.0	
	comp=Z,9.0nm,1.2s,mb4.2						
VYHS			e		12 00 02.9		
VYHS			e		12 10 10.0		
VYHS			LR	LR			
	comp=Z,400nm,25.4s,MS3.9						
VYHS	Vyhne	26.75 313	eP	P	11 59 46.8	+5.0	
VYHS			pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.2						
VYHS			MLR	MLR			
	comp=Z,400nm,25.4s,MS3.9						
OJC	Ojcow	26.90 317	eP	P	11 59 43.2	0.0	
POO	Poona	27.05 117	eP	P	11 59 48.0	+3.4	
SUW	Suwalki	27.19 326	eP	P	11 59 44.6	-1.2	
BHPL	Bhopal	27.23 105	eP	P	11 59 48.2	+2.0	
BHPL			AMb	AMB	11 59 56.8		
	comp=Z,50nm,1.3s,mb4.9						
OKC	Ostrava-Krasne	27.70 315	eP	P	11 59 50.8	+0.5	
KURK	Kurchatov	27.73 43	eP	P	11 59 51.0	+0.3	
KURK	Kurchatov	27.73 43	eP	P	11 59 50.2	-0.4	
	comp=Z,31nm,1.2s,mb4.8						
KLMR	Klimovskoe	27.88 350	i P	P	11 59 51.3	-0.7	
	comp=Z,40nm,1.4s,mb4.9						
KLMR	Klimovskoe	27.88 350	c i P	P	11 59 51.3	-0.7	
KLMR			e		12 00 42.3		
KLMR			pmax	pmax			
	comp=Z,40nm,1.4s,mb4.9						
KLMR			MLR	MLR			
	comp=Z,890nm,18.0s,MS4.4						
KAD	Karad	28.07 119	eP	P	11 59 54.5	+0.8	
KAD			AMb	AMB	12 00 01.6		
	comp=Z,27nm,1.6s,mb4.6						
BOJS	Bojanci	28.16 305	eP	P	11 59 54.0	-0.5	
LEGS	Legarje	28.22 306	eP	P	11 59 54.8	-0.2	
VRAC	Vranov	28.42 313	LR	LR	12 13 01.2		
	comp=Z,896nm,18.8s,MS4.4,baz=112,slow=40						
MKAR	Makanchi Array	28.61 53	P	P	11 59 58.9	+0.4

comp=Z,43nm,0.6s,mb5.4
JOF Joensuu 31.29 345 *ep* **P 12 00 21.8 -0.4**
CLL Collm 31.29 315 *ep*P pP 12 00 25.0 -2.0
CLL *ex* x 12 00 59.0
CLL *ex* x 12 01 10.0
CLL LmV 12 14 00.0
comp=Z,900nm,19.0s
FINES FINESS Array B 31.40 339 P **P 12 00 22.0 -1.1**
comp=Z,2.1nm,0.4s,mb4.3,baz=144,slow=10,SNR=20
FINES LR LR 12 14 27.7
comp=Z,731nm,19.6s,MS4.4,baz=305,slow=39
FINES FINESS Array B 31.40 339 P **P 12 00 22.0 -1.1**
FINES LR LR 12 14 27.7
DMN Daman 31.80 91 *e*P **P 12 00 26.1 -0.6**
comp=Z,62nm,0.8s,mb5.5
BSD Bornholm Skovb 31.82 323 *i* P **P 12 00 25.7 -1.2**
comp=Z,27nm,0.8s,mb5.1
BSD Bornholm Skovb 31.82 323 *i* P **P 12 00 25.7 -1.2**
BSD pmax pmax
comp=Z,27nm,0.8s,mb5.1
WMQ Urumqi 31.84 60 P **P 12 00 28.0 +1.0**
WMQ AP pP 12 00 32.5 +0.6
WMQ XP sP 12 00 35.0 +1.2
WMQ PP PP 12 01 33.5 -5.4
WMQ PPP 12 01 48.5
WMQ PCP PcP 12 03 19.0 +1.3
WMQ S **S 12 05 36.5 -0.3**
WMQ SS SS 12 07 27.3 -26
WMQ SCS ScS 12 10 57.5 -1.2
WMQ AMB AMB
comp=Z,21nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,162nm,4.4s
WMQ LR LR
comp=N,669nm,21.2s,MS4.3
WMQ LR LR
comp=E,303nm,20.0s,MS4.3
WMQ LR LR
comp=Z,253nm,19.2s,MS3.9
GRA1 Grafenberg Arr 31.86 312 *e*P **P 12 00 26.6 -0.7**
comp=Z,8.0nm,0.9s,mb4.5
GRF Grafenberg Arr 31.86 312 *e*P **P 12 00 26.6 -0.7**
comp=Z,8.0nm,0.9s,mb4.5
GRF Grafenberg Arr 31.86 312 *e*P **P 12 00 26.6 -0.7**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
GRF Grafenberg Arr 31.86 312 *e*P **P 12 00 26.6 -0.7**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
KAF Kangasniemi 31.87 340 *ep* **P 12 00 25.8 -1.5**
KKN Kakani 31.89 91 *e*P **P 12 00 28.4 +0.9**
comp=Z,60nm,0.7s,mb5.5
VSL Villasalto 31.92 292 *e*P **P 12 00 28.5 +0.8**
comp=Z,16nm,0.6s,mb5.0
PKI Pulchoki 32.07 91 *e*P **P 12 00 29.3 +0.2**
DAVOX Davos 32.08 306 P **P 12 00 28.9 -0.3**
comp=Z,7.2nm,0.4s,mb4.8,baz=116,slow=7.5,SNR=12
DAVOX LR LR 12 14 36.2
comp=Z,578nm,20.6s,MS4.2,baz=84,slow=39
NVS Novosibirsk 32.10 38 *e*P **P 12 00 28.6 -0.7**
comp=Z,18nm,1.6s,mb4.7
NVS Novosibirsk 32.10 38 *e*P **P 12 00 28.6 -0.7**
NVS pmax pmax
comp=Z,26nm,1.7s,mb4.8
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,7.0nm,1.4s
PGF Pioggiola 32.23 298 *e*P **P 12 00 29.3 -1.2**
comp=E,73nm,1.2s,mb5.1
PGF Pioggiola 32.23 298 *e*P **P 12 00 29.3 -1.2**
comp=E,36nm,1.2s,mb5.1
PGF Pioggiola 32.23 298 *e*P **P 12 00 29.3 -1.2**
PGF pmax pmax
comp=Z,36nm,1.2s,mb5.1
GUN Gumba 32.35 90 *e*P **P 12 00 32.2 +0.7**
comp=Z,204nm,1.0s
ZAL Zalesovo 32.53 40 P **P 12 00 33.0 -0.2**
comp=Z,4.0nm,0.7s,mb4.4,baz=226,slow=8.0,SNR=9.8
ZAL LR LR 12 15 43.3
comp=Z,719nm,19.0s,MS4.4,baz=228,slow=40
ZAL Zalesovo 32.53 40 P **P 12 00 33.0 -0.2**
ZAL LR LR 12 15 43.3
JIRN Jiri 32.69 90 *e*P **P 12 00 35.0 +0.5**
comp=Z,32nm,0.5s,mb5.5
SBF Sospel 33.44 300 *e*P **P 12 00 40.0 -1.1**
comp=Z,106nm,1.1s,mb5.4
SBF Sospel 33.44 300 *e*P **P 12 00 40.0 -1.1**
comp=Z,53nm,1.1s,mb5.4
SBF Sospel 33.44 300 *e*P **P 12 00 40.0 -1.1**
SBF pmax pmax
comp=Z,53nm,1.1s,mb5.4
MVIF Mont Vial 33.65 300 *e*P **P 12 00 47.7 +4.8**
SURF Saint Ours 33.93 301 *e*P **P 12 00 45.4 +0.1**
SURF Saint Ours 33.93 301 *e*P **P 12 00 42.3 -3.0**
MBDF Montbardon 33.98 302 *e*P **P 12 00 45.0 -0.7**
comp=Z,34nm,0.7s,mb5.1
MBDF Montbardon 33.98 302 *e*P **P 12 00 45.0 -0.7**
comp=Z,17nm,0.7s,mb5.1
MBDF Montbardon 33.98 302 *e*P **P 12 00 45.0 -0.7**
MBDF pmax pmax
comp=Z,17nm,0.7s,mb5.1
FRF La Foret Royal 34.00 299 *e*P **P 12 00 44.3 -1.6**
LPG La Plagne 34.06 303 *e*P **P 12 00 45.9 -0.5**
comp=Z,65nm,1.0s,mb5.2
LPG La Plagne 34.06 303 *e*P **P 12 00 45.9 -0.5**
comp=Z,32nm,1.0s,mb5.2
LPG La Plagne 34.06 303 *e*P **P 12 00 45.9 -0.5**
LPG pmax pmax
comp=Z,32nm,1.0s,mb5.2
BNI Bardonecchia 34.07 302 *e*P **P 12 00 45.9 -0.6**
comp=Z,20nm,0.8s,mb5.1
BNI Bardonecchia 34.07 302 *e*P **P 12 00 45.9 -0.6**
comp=Z,20nm,0.8s,mb5.1
BNI Bardonecchia 34.07 302 *e*P **P 12 00 45.9 -0.6**
BNI pmax pmax
comp=Z,20nm,0.8s,mb5.1
LPL La Plagne 34.08 303 *e*P **P 12 00 45.9 -0.7**
comp=Z,127nm,1.3s,mb5.4
LPL La Plagne 34.08 303 *e*P **P 12 00 45.9 -0.7**
comp=Z,64nm,1.3s,mb5.4
LPL La Plagne 34.08 303 *e*P **P 12 00 45.9 -0.7**
LPL pmax pmax
comp=Z,64nm,1.3s,mb5.4
LMR La Mourre 34.09 299 *e*P **P 12 00 44.5 -2.2**
LOMF Lomont 34.23 306 *e*P **P 12 00 51.0 +3.1**
HINF Hinteralfeld 34.28 307 *e*P **P 12 00 46.5 -1.9**
CABF La Chapelle 34.64 305 *e*P **P 12 00 49.8 -1.6**
comp=Z,48nm,0.9s,mb5.1
CABF La Chapelle 34.64 305 *e*P **P 12 00 49.8 -1.6**
comp=Z,24nm,0.9s,mb5.1
CABF La Chapelle 34.64 305 *e*P **P 12 00 49.8 -1.6**
CABF pmax pmax
comp=Z,24nm,0.9s,mb5.1
HAU Haudompre 34.65 307 *e*P **P 12 00 49.6 -1.9**
HAU *e*R
comp=Z,604nm,21.8s
HAU Haudompre 34.65 307 *e*P **P 12 00 49.6 -1.9**
HAU MLR MLR
comp=Z,600nm,21.8s,MS4.3
SMRF Simiane la Rot 34.79 300 *e*P **P 12 00 50.8 -2.0**
HFS Hagfors 34.98 330 P **P 12 00 53.3 -1.0**
comp=Z,18nm,0.7s,mb5.1,baz=116,slow=10,SNR=60
HFS LR LR 12 15 52.5
comp=Z,849nm,19.8s,MS4.5,baz=124,slow=38
APA Apatity 35.12 350 *i* P **P 12 00 56.0 +0.4**
comp=Z,13nm,1.0s,mb4.8
APA Apatity 35.12 350⇑ *i*P **P 12 00 56.0 +0.4**
APA *i* 12 02 19.0
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
APA MLR MLR
comp=Z,800nm,17.0s,MS4.5
MUD Monsted U'grnd 35.32 322 *i* P **P 12 00 57.8 +0.4**
MUD Monsted U'grnd 35.32 322 *e*P **P 12 00 57.8 +0.4**
VIVF Saint-Julien-l 35.48 302 *e*P **P 12 00 56.2 -2.5**
comp=Z,79nm,1.6s,mb5.1
VIVF Saint-Julien-l 35.48 302 *e*P **P 12 00 56.2 -2.5**
comp=Z,40nm,1.6s,mb5.1
VIVF Saint-Julien-l 35.48 302 *e*P **P 12 00 56.2 -2.5**
VIVF pmax pmax
comp=Z,40nm,1.6s,mb5.1
MEZF Maizieres J'vi 35.58 308 *e*P **P 12 00 57.4 -2.2**
LASF Ste Croix 36.03 300 *e*P **P 12 01 01.0 -2.5**
LSA Lhasa 36.18 84 P **P 12 01 06.0 +1.3**
LSA Lhasa 36.18 84 *e*P **P 12 01 05.6 +0.9**
comp=Z,43nm,0.9s,mb5.4
LSA Lhasa 36.18 84 *e*P **P 12 01 05.6 +0.9**
comp=Z,43nm,0.9s,mb5.4
LSA Lhasa 36.18 84 *e*P **P 12 01 05.6 +0.9**
LSA pmax pmax
comp=Z,43nm,0.9s,mb5.4
SMF Signal de Mont 36.18 305 *e*P **P 12 01 03.1 -1.6**
comp=Z,52nm,0.9s,mb5.2
SMF Signal de Mont 36.18 305 *e*P **P 12 01 03.1 -1.6**
comp=Z,26nm,0.9s,mb5.2
SMF Signal de Mont 36.18 305 *e*P **P 12 01 03.1 -1.6**
SMF pmax pmax
comp=Z,26nm,0.9s,mb5.2
KMBO Kilima Mbogo 36.21 200 P **P 12 01 05.2 +0.2**
comp=Z,1.9nm,1.0s,mb4.0,baz=17,slow=15,SNR=2.7
KMBO LR LR 12 15 02.1
comp=Z,506nm,19.9s,MS4.3,baz=291,slow=35
LOR Lormes 36.22 306 *e*P **P 12 01 02.2 -2.9**
LOR *e*R
comp=Z,384nm,17.2s
LOR Lormes 36.22 306 *e*P **P 12 01 02.2 -2.9**
LOR MLR MLR
comp=Z,380nm,17.3s,MS4.2
PLDF La Plantade 36.28 303 *e*P **P 12 01 05.6 0.0**
BAIF Baives 36.37 310 *e*P **P 12 01 04.6 -1.7**
SSF Saint Saulge 36.45 305 *e*P **P 12 01 05.4 -1.6**
comp=Z,23nm,0.9s,mb4.8
SSF Saint Saulge 36.45 305 *e*P **P 12 01 05.4 -1.6**
comp=Z,12nm,0.9s,mb4.8
SSF Saint Saulge 36.45 305 *e*P **P 12 01 05.4 -1.6**
SSF pmax pmax
comp=Z,12nm,0.9s,mb4.8
CAL Calcutta 36.49 97 *ex* x 12 09 08.1
NB2 NORSAR Subarra 36.50 330 P **P 12 01 05.5 -1.9**
comp=Z,4.6nm,0.6s,mb4.6,baz=123,slow=8.6
NB2 NORSAR Subarra 36.50 330 P **P 12 01 05.5 -1.9**
NB2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
NOA NORSAR Array B 36.50 330 P **P 12 01 05.7 -1.8**
comp=Z,4.7nm,0.7s,mb4.5,baz=122,slow=8.4,SNR=14
NOA PP PP 12 02 27.8 -2.7
comp=Z,4.3nm,0.8s,baz=129,slow=11,SNR=4.6
NOA LR LR 12 16 49.0
comp=Z,646nm,20.3s,MS4.4,baz=135,slow=38
NOA NORSAR Array B 36.50 330 P **P 12 01 05.7 -1.7**
NOA 12 02 27.8
KONO Kongsberg 36.51 327 *i* P **P 12 01 08.9 +1.4**
AVF Avril sur Loir 36.53 305 *e*P **P 12 01 05.2 -2.5**
comp=Z,40nm,1.1s,mb4.9
AVF Avril sur Loir 36.53 305 *e*P **P 12 01 05.2 -2.5**
comp=Z,20nm,1.1s,mb4.9
AVF Avril sur Loir 36.53 305 *e*P **P 12 01 05.2 -2.5**
AVF pmax pmax
comp=Z,20nm,1.1s,mb4.9
NAO01 NORSAR Array S 36.53 330 *e*P **P 12 01 07.8 0.0**
comp=Z,13nm,0.9s,mb4.8
AGO Saint Agoulin 36.63 304 *e*P **P 12 01 08.3 -0.2**
ETOS Mallorca 36.96 293 P **P 12 01 14.7 +3.3**
comp=Z,36nm,1.1s,mb5.1
TCF Toulx Ste Croi 37.28 304 *e*P **P 12 01 12.1 -2.0**
CAF Calviac 37.33 302 *e*P **P 12 01 12.6 -1.9**
RJF Les Rejaudoux 37.73 302 *e*P **P 12 01 15.9 -2.0**
RJF *e*R
comp=Z,466nm,20.5s
RJF Les Rejaudoux 37.73 302 *e*P **P 12 01 15.9 -2.0**
RJF MLR MLR
comp=Z,470nm,20.5s,MS4.3
EIBI Ibiza 38.17 292 P **P 12 01 24.8 +3.1**
comp=Z,58nm,1.4s,mb5.1
SHL Shillong 38.20 90 *e*P **P 12 01 21.0 -0.8**
SHL *e*S **S 12 07 14.0 -0.7**
ARCES ARCESS Array B 38.20 347 P **P 12 01 20.9 -1.1**
comp=Z,3.6nm,0.6s,mb4.3,baz=148,slow=9.4,SNR=14
ARCES LR LR 12 18 13.3
comp=Z,638nm,21.5s,MS4.4,baz=245,slow=38
LFF La Frestale 38.27 302 *e*P **P 12 01 20.3 -2.2**
ERTA Horta de San J 38.74 295 P **P 12 01 30.1 +3.7**
comp=Z,43nm,1.5s,mb5.0
MFF Saint Martin d 38.92 304 *e*P **P 12 01 25.3 -2.6**
LDF La Druitiere 39.01 307 *e*P **P 12 01 26.1 -2.5**
EMOS Mosqueruela 39.41 294 P **P 12 01 35.3 +3.3**
comp=Z,22nm,0.7s,mb5.0
EBEN Beniarda 39.43 292 P **P 12 01 33.4 +1.2**
comp=Z,17nm,0.6s,mb5.0
GRR Gorron 39.48 307 *e*P **P 12 01 29.9 -2.7**
SJPF Ste Jean 39.74 299 *e*P **P 12 01 32.3 -2.5**
comp=Z,23nm,1.1s,mb4.5
SJPF Ste Jean 39.74 299 *e*P **P 12 01 32.3 -2.5**
comp=Z,12nm,1.1s,mb4.5
SJPF Ste Jean 39.74 299 *e*P **P 12 01 32.3 -2.5**
SJPF pmax pmax
comp=Z,12nm,1.1s,mb4.5
ECHE Chera 39.88 293 P **P 12 01 38.2 +2.3**
comp=Z,9.4nm,0.6s,mb4.7
ECHE Chera 39.88 293 P **P 12 01 38.2 +2.3**
ECHE pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
ETOB Tobarra 40.46 292 P **P 12 01 43.0 +2.3**
comp=Z,11nm,0.7s,mb4.7
GTA Gaotai 41.05 67 *e*P **P 12 01 46.5 +0.9**
GTA AP pP 12 01 58.0 +7.5
GTA XP sP 12 02 01.0 +8.5
GTA PP PP 12 03 23.0 +2.7
GTA PCP PcP 12 03 47.0 +1.7
GTA SCP ScP 12 07 32.5 -1.9
GTA PCS PcS 12 07 37.5 +1.2
GTA S **S 12 07 57.5 0.0**
GTA XS sS 12 08 13.0 +7.4
GTA SS SS 12 10 55.8 -4.0
GTA SCS ScS 12 11 48.5 -1.2
GTA AMB AMB
comp=Z,15nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,109nm,4.6s
GTA LR LR
comp=N,544nm,15.3s,MS4.6
GTA LR LR
comp=E,342nm,13.4s,MS4.6
GTA LR LR
comp=Z,327nm,15.7s,MS4.3
EVIA Vianos 41.20 292 P **P 12 01 48.9 +2.0**
comp=Z,6.0nm,1.0s,mb4.2
EVIA Vianos 41.20 292 P **P 12 01 48.9 +2.0**
comp=Z,5.6nm,1.0s,mb4.2
EVIA Vianos 41.20 292 P **P 12 01 48.9 +2.0**
EVIA pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
ENIJ Nijar 41.27 290 P **P 12 01 48.8 +1.4**
comp=Z,6.0nm,0.6s,mb4.4
ENIJ Nijar 41.27 290 P **P 12 01 48.8 +1.4**
comp=Z,6.3nm,0.6s,mb4.4
ENIJ Nijar 41.27 290 P **P 12 01 48.8 +1.4**
ENIJ pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
EHUE Huescar 41.41 291 P **P 12 01 50.5 +1.9**
comp=Z,26nm,1.5s,mb4.6
EHUE Huescar 41.41 291 P **P 12 01 50.5 +1.9**
comp=Z,26nm,1.5s,mb4.6
EHUE Huescar 41.41 291 P **P 12 01 50.5 +1.9**
EHUE pmax pmax
comp=Z,26nm,1.5s,mb4.6
MOY Mondy 41.50 48 *e*P **P 12 01 50.2 +0.9**
EKA Eskdalemuir Ar 41.67 317 P **P 12 01 49.8 -0.9**
comp=Z,3.2nm,0.6s,mb4.1,baz=111,slow=7.9,SNR=12
EQES Quesada 41.79 291 P **P 12 01 52.6 +0.9**
comp=Z,13nm,0.6s,mb4.7
EBER Berja 41.82 290 P **P 12 01 52.9 +1.0**
comp=Z,18nm,0.8s,mb4.7
ESDC Sonseca Array 42.16 294 P **P 12 01 54.9 +0.2**
comp=Z,1.9nm,0.7s,mb3.9,baz=72,slow=8.7,SNR=8.9
ESDC Sonseca Array 42.16 294 P **P 12 01 57.1 +2.4**
comp=Z,3.3nm,0.7s,mb4.1
ESLA Sonseca Array 42.16 294 *e*P **P 12 01 55.2 +0.5**
comp=Z,2.3nm,0.9s,mb3.8
ECOG Cogollos-Vega 42.27 290 P **P 12 01 56.6 +1.0**
comp=Z,12nm,1.0s,mb4.5
ECOG Cogollos-Vega 42.27 290 P **P 12 01 56.6 +0.9**
comp=Z,12nm,1.0s,mb4.5
ECOG Cogollos-Vega 42.27 290 P **P 12 01 56.6 +1.0**
ECOG pmax pmax
comp=Z,12nm,1.0s,mb4.5
EBAN Banos Encina 42.28 292 P **P 12 01 56.2 +0.6**
comp=Z,20nm,1.0s,mb4.7
EBAN Banos Encina 42.28 292 P **P 12 01 56.2 +0.6**
comp=Z,20nm,1.0s,mb4.7
EBAN Banos Encina 42.28 292 P **P 12 01 56.2 +0.6**
EBAN pmax pmax
comp=Z,20nm,1.0s,mb4.7
ERON Agron 42.51 290 P **P 12 01 58.0 +0.4**
comp=Z,4.0nm,0.5s,mb4.4
EARI Arriondas 42.63 299 P **P 12 02 01.5 +3.0**
comp=Z,6.3nm,0.7s,mb4.5
ZAK Zakamensk 42.87 50 *e*P **P 12 01 59.7 -0.8**
comp=Z,13nm,1.7s,mb4.4
ZAK Zakamensk 42.87 50 *e*PcP PcP 12 03 49.8 -1.5
comp=Z,7.0nm,1.9s
ZAK Zakamensk 42.87 50 *e*P **P 12 01 59.7 -0.8**
ZAK *e* 12 03 49.8
ZAK pmax pmax
comp=Z,13nm,1.7s,mb4.4
ZAK pmax pmax
comp=Z,11nm,1.8s,mb4.3
ZAK pmax pmax
comp=Z,7.0nm,1.9s,mb4.1
EADA Adamuz 42.89 292 P **P 12 02 00.9 +0.3**
comp=Z,55nm,1.5s,mb5.1
EMIJ Mijas 43.37 290 P **P 12 02 04.1 -0.4**
comp=Z,15nm,0.9s,mb4.7
ECAB El Cabril 43.56 292 P **P 12 02 06.5 +0.5**
comp=Z,11nm,1.0s,mb4.6
IRK Irkutsk 43.56 47 *e*P **P 12 02 04.4 -1.7**
comp=Z,28nm,2.2s,mb4.6
IRK Irkutsk 43.56 47 *e*P **P 12 02 04.4 -1.7**
IRK *e* 12 03 50.1
IRK pmax pmax
comp=Z,28nm,2.2s,mb4.6
EJIF Jimena Fronter 43.94 290 P **P 12 02 09.6 +0.5**
comp=Z,12nm,1.2s,mb4.5
EJIF Jimena Fronter 43.94 290 P **P 12 02 09.6 +0.5**
EJIF pmax pmax
comp=Z,12nm,1.2s,mb4.5
ESPR Espera 44.15 290 P **P 12 02 11.3 +0.5**
comp=Z,6.4nm,0.7s,mb4.5
MDT Midelt 44.17 284 P **P 12 02 12.5 +1.5**
comp=Z,5.2nm,0.9s,mb4.2,baz=90,slow=8.1,SNR=13
MDT LR LR 12 22 48.5
comp=Z,294nm,18.9s,MS4.2,baz=68,slow=39
EMIN Mina Concepcio 44.59 292 P **P 12 02 14.5 +0.2**
comp=Z,14nm,1.1s,mb4.7
EBAD Badajoz 44.65 293 P **P 12 02 16.2 +1.3**
comp=Z,7.0nm,0.9s,mb4.5
PCBR Castelo Branco 44.80 295 *e*P **P 12 02 16.5 +0.5**
comp=Z,44nm,1.6s,mb5.0
LZH Lanzhou 44.82 71 *e*P **P 12 02 19.0 +2.8**
LZH AP pP 12 02 22.0 +0.9
LZH XP sP 12 02 23.5 +0.4
LZH PP PP 12 04 04.5 +3.6
LZH *e*S **S 12 08 55.0 +2.1**
LZH XS sS 12 09 01.0 -0.1
LZH AMB AMB
comp=Z,54nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,140nm,4.3s
LZH LR LR
comp=N,1μm,16.5s
LZH LR LR
comp=Z,2μm,18.0s,MS5.0
ELOB Lobios 44.90 298 P **P 12 02 18.7 +1.9**
comp=Z,38nm,1.4s,mb5.0
SONM Songino Array 44.96 54 P **P 12 02 18.0 +0.7**
comp=Z,0.6nm,0.5s,mb3.7,baz=280,slow=7.2,SNR=7.9
EGRO El Granado 45.27 292 P **P 12 02 19.4 -0.3**
comp=Z,42nm,1.6s,mb5.0
ULN Ulaanbaatar 45.40 54 *e*P **P 12 02 21.3 +0.5**
PBEJ Beja 45.46 292 *e*P **P 12 02 21.6 +0.4**
comp=Z,43nm,1.6s,mb5.0
EVO Evora 45.47 293 *e*P **P 12 02 20.0 -1.3**
comp=Z,28nm,1.2s,mb4.7
EVO *e*R
comp=Z,538nm,23.0s
CD2 Chengdu 46.19 78 *e*P **P 12 02 26.5 -0.5**
CD2 AP pP 12 02 31.0 -1.0
CD2 XP sP 12 02 33.5 -0.4
CD2 PP PP 12 04 14.8 -0.6
CD2 S **S 12 09 14.8 +2.2**
CD2 SS SS 12 12 27.3 -11
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CD2 AMB AMB
comp=Z,50nm,5.2s
CD2 LR LR
comp=N,380nm,18.0s
CD2 LR LR
comp=Z,240nm,18.0s,MS4.2
TORD Torodi Ar. Bea 47.23 256 P **P 12 02 35.7 +0.6**
comp=Z,3.7nm,0.7s,mb4.5,baz=59,slow=7.3,SNR=30
KMI Kunming 47.42 85 P **P 12 02 36.2 -0.4**
KMI AP pP 12 02 39.0 -2.6
KMI PP PP 12 04 30.0 +2.1
KMI S **S 12 09 30.0 -0.2**
KMI XS sS 12 09 36.1 -2.3
KMI SS SS 12 12 51.1 -6.8
KMI AMB AMB
comp=Z,15nm,0.7s,mb5.0
KMI AMB AMB
comp=Z,68nm,3.1s
KMI LR LR
comp=N,390nm,18.2s,MS4.5
KMI LR LR
comp=E,342nm,21.9s,MS4.5
KMI LR LR
comp=Z,181nm,21.3s,MS4.0
BTO Baotou 48.55 63 *e*P **P 12 02 45.3 0.0**
CIT Chita 49.28 48 *e*P **P 12 02 53.0 +2.0**
XAN Xi'an 49.38 72 P **P 12 02 54.5 +2.7**
XAN AMB AMB
comp=Z,27nm,1.1s,mb5.2
XAN AMB AMB
comp=Z,103nm,9.0s
XAN LR LR
comp=N,571nm,22.8s,MS4.6
XAN LR LR
comp=E,432nm,26.0s,MS4.6
XAN LR LR
comp=Z,155nm,27.6s,MS3.9
HHC Hu-ho-hao-te 49.64 62 *e*P **P 12 02 54.3 +0.6**
HHC AP pP 12 02 59.0 +0.3
HHC XP sP 12 03 01.3 +0.7
HHC PCP PcP 12 04 16.5 +1.5
HHC PP PP 12 04 49.3 +1.2
HHC SCP ScP 12 08 10.3 +0.5
HHC S **S 12 10 00.0 -1.5**
HHC XS sS 12 10 08.0 -1.7
HHC SCS ScS 12 12 42.5 -2.3
HHC SS SS 12 13 27.5 -6.2
HHC AMB AMB
comp=Z,6.0nm,0.9s,mb4.6
HHC AMB AMB
comp=Z,173nm,3.2s
HHC LR LR
comp=N,713nm,22.6s
HHC LR LR
comp=E,656nm,16.7s
HHC LR LR
comp=Z,286nm,25.8s,MS4.2
GYA Guiyang 50.15 82⇑ *i*P **P 12 02 56.8 -0.8**
GYA AP pP 12 03 01.5 -1.1
GYA XP sP 12 03 04.8 +0.3
GYA PP PP 12 04 52.5 -0.3
GYA S **S 12 10 04.5 -4.2**
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,110nm,3.9s
GYA LR LR
comp=N,690nm,17.8s,MS4.9
GYA LR LR
comp=E,840nm,18.4s,MS4.9
GYA LR LR
comp=Z,740nm,18.0s,MS4.7
ENH Enshi 51.06 76 *e*P **P 12 03 04.2 -0.3**
comp=Z,28nm,0.9s,mb5.2
BORG Borgarnes 51.66 329 LR LR 12 24 25.1
comp=Z,403nm,21.0s,MS4.4,baz=254,slow=35
DAG Danmarks Havn 52.38 344 *i* P **P 12 03 14.0 -0.3**
DAG Danmarks Havn 52.38 344 *e*P **P 12 03 14.0 -0.3**
LSZ Lusaka 52.41 205 P **P 12 03 17.1 +2.5**
comp=Z,7.7nm,0.8s,mb4.7,baz=21,slow=6.3,SNR=14
LSZ Lusaka 52.41 205 *e*P **P 12 03 17.0 +2.5**
comp=Z,7.6nm,0.8s,mb4.7
LSZ Lusaka 52.41 205 P **P 12 03 17.1 +2.5**
LSZ pmax pmax

comp=Z,8.0nm,0.8s,mb4.7
BJI Beijing 53.25 62 P **P 12 03 20.5 -0.2**
BJI AMB AMB
comp=Z,13nm,1.0s,mb4.8
BJI AMB AMB
comp=Z,109nm,4.7s
BJI LR LR
comp=N,247nm,20.2s,MS4.8
BJI LR LR
comp=E,743nm,20.2s,MS4.8
BJI LR LR
comp=Z,217nm,26.2s
HIA Hailar 53.57 50 P **P 12 03 24.8 +1.7**
comp=Z,14nm,1.1s,mb4.8
HIA Hailar 53.57 50 P **P 12 03 24.8 +1.7**
comp=Z,14nm,1.1s,mb4.8
HIA Hailar 53.57 50 P **P 12 03 24.8 +1.7**
HIA pmax pmax
comp=Z,14nm,1.1s
WHN Wuhan 54.88 74 P **P 12 03 35.5 +2.8**
TIXI Tiksi 55.40 22 *e*P **P 12 03 35.1 -1.3**
comp=Z,7.0nm,0.9s,mb4.7
TIXI *e*S **S 12 11 12.8 -7.5**
comp=Z,541nm,17.0s
TIXI Tiksi 55.40 22 *e*P **P 12 03 35.1 -1.3**
TIXI *e*S **S 12 11 12.8 -7.5**
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TIXI MLR MLR
comp=Z,541nm,17.0s,MS4.7
PSI Prapat 55.97 112 LR LR 12 31 22.3
comp=Z,192nm,18.8s,MS4.2,baz=292,slow=40
QIZ Qiongzhong 55.99 89 P **P 12 03 40.5 -0.1**
QIZ S **S 12 11 28.3 +0.1**
QIZ LR LR
comp=N,310nm,22.7s,MS4.5
QIZ LR LR
comp=E,333nm,18.3s,MS4.5
QIZ LR LR
comp=Z,228nm,20.6s,MS4.2
DBIC Dimbokro 56.21 254 P **P 12 03 42.7 +0.5**
comp=Z,3.8nm,0.7s,mb4.5,baz=31,slow=8.8,SNR=10
DBIC LR LR 12 27 21.1
comp=Z,255nm,18.5s,MS4.3,baz=220,slow=36
DBIC Dimbokro 56.21 254 *e*P **P 12 03 43.4 +1.2**
comp=Z,26nm,1.4s,mb5.1
DBIC Dimbokro 56.21 254 P **P 12 03 42.7 +0.5**
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC MLR MLR
comp=Z,255nm,18.5s
LIC Lamto 56.61 254 *e*P **P 12 03 45.4 +0.4**
comp=Z,34nm,1.0s,mb5.0
LIC *e*R
comp=Z,582nm,18.8s
LIC Lamto 56.61 254 *e*P **P 12 03 45.4 +0.4**
comp=Z,17nm,1.0s,mb5.0
LIC LR LR
comp=Z,290nm,18.8s,MS4.4
YAK Yakutsk 56.79 34 *i* P **P 12 03 46.4 0.0**
comp=Z,25nm,1.1s,mb5.2
YAK Yakutsk 56.79 34 *i* P **P 12 03 46.4 0.0**
YAK pmax pmax
comp=Z,25nm,1.1s,mb5.2
MATP Matopo 57.09 203 P **P 12 03 50.1 +1.6**
comp=Z,26nm,0.8s,mb5.3,baz=22,slow=8.6,SNR=26
SUMG Summit 57.44 339 *e*P **P 12 03 50.1 -0.8**
comp=Z,22nm,1.1s,mb5.1
NJ2 Nanjing 57.90 71 *e*P **P 12 03 56.5 +2.3**
NJ2 AP pP 12 04 01.0 +1.7
NJ2 XP sP 12 04 03.5 +2.3
NJ2 PP PP 12 06 06.5 +4.0
NJ2 S **S 12 11 54.0 +0.6**
NJ2 XS sS 12 12 05.0 +3.2
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,50nm,10.4s
SNY Shenyang 58.08 58 *e*P **P 12 03 54.3 -1.2**
SNY AMB AMB
comp=Z,8.0nm,0.3s,mb5.2
CN2 Changchun 58.77 56 *e*P **P 12 03 59.5 -0.8**
CN2 *e*XP sP 12 04 06.0 -1.3
CN2 *e*S **S 12 12 01.0 -3.8**
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,15.0s,MS4.8
CN2 LR LR
comp=E,400nm,15.0s,MS4.8
CN2 LR LR
comp=Z,500nm,16.0s,MS4.7
KLR Kul'dur 61.17 48 *e*P **P 12 04 10.0 -6.7**
MDJ Mudanjiang 61.32 54 P **P 12 04 16.0 -1.7**
MDJ PP PP 12 06 30.5 -2.2
MDJ S **S 12 12 36.0 -1.5**
MDJ SCS ScS 12 14 07.0 -1.5
MDJ SS SS 12 16 35.0 -2.9
MDJ AMB AMB
comp=Z,4.0nm,0.7s,mb4.7
MDJ AMB AMB
comp=Z,28nm,3.7s
LBTB Lobatse 62.32 204 P **P 12 04 26.7 +2.2**
comp=Z,20nm,0.8s,mb5.3,baz=26,slow=5.7,SNR=22
LBTB Lobatse 62.32 204 *e*P **P 12 04 26.0 +1.5**
comp=Z,8.0nm,0.8s,mb4.9
LBTB Lobatse 62.32 204 *e*P **P 12 04 26.0 +1.5**
comp=Z,8.1nm,0.8s,mb4.9
LBTB Lobatse 62.32 204 *e*P **P 12 04 26.0 +1.5**
LBTB pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
HABR Khabarovsk 63.48 48 *i* P **P 12 04 33.4 +1.2**
comp=Z,29nm,1.6s,mb5.2
HABR Khabarovsk 63.48 48 ||*i*P **P 12 04 33.4 +1.2**
HABR *e*S **S 12 13 06.3 +1.6**
HABR pmax pmax
comp=Z,29nm,1.6s,mb5.2
BOSA Boshof 65.76 203 *e*P **P 12 04 47.5 +0.4**
comp=Z,18nm,0.9s,mb5.1
BOSA Boshof 65.76 203 *e*P **P 12 04 47.5 +0.4**
comp=Z,18nm,0.9s,mb5.1
BOSA Boshof 65.76 203 *e*P **P 12 04 47.5 +0.4**
BOSA pmax pmax
comp=Z,18nm,0.9s,mb5.1
SEY Seymchan 66.44 29 PcP PcP 12 05 20.6 -0.4
SEY Seymchan 66.44 29 *e*P **P 12 04 52.0 +0.6**
SEY 12 05 20.6
SEY *e* 12 07 14.2
SEY *e*PPP 12 08 56.2
SEY *e*S S 12 13 42.5 +1.4
SEY *e* 12 14 47.7
SEY pmax pmax
comp=N,8.0nm,1.0s
SEY pmax pmax
comp=Z,40nm,1.0s,mb5.4
SEY pmax pmax
comp=E,15nm,1.1s
SEY smax
comp=N,179nm,25.5s
SEY smax
comp=E,80nm,22.7s
MA2 Magadan 67.32 33 *e*P **P 12 04 56.9 -0.2**
comp=E,9.0nm,1.5s,mb4.6
MA2 *e*S S 12 13 48.2 -3.6
MA2 Magadan 67.32 33 *e*P **P 12 04 56.4 -0.6**
comp=E,16nm,1.1s,mb5.0
MA2 Magadan 67.32 33 *e*P **P 12 04 56.9 -0.2**
MA2 *e*S S 12 13 48.2 -3.6
MA2 *e*SS SS 12 18 18.0 +6.5
MA2 *e*SSS 12 21 12.1
MA2 pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
MA2 MLR MLR
comp=Z,600nm,22.0s,MS4.8
JOW Kunigami 67.54 72 P **P 12 04 58.0 -0.4**
comp=Z,8.8nm,0.4s,mb5.1,baz=293,slow=11,SNR=4.5
JOW LR LR 12 38 08.4
comp=Z,406nm,19.2s,MS4.7,baz=319,slow=39
BILL Bilibino 68.57 21 *i* P **P 12 05 04.8 -0.1**
comp=Z,15nm,1.2s,mb4.8
BILL *e*S S 12 14 02.2 -4.5
BILL Bilibino 68.57 21 *e*P **P 12 05 04.2 -0.7**
comp=Z,4.9nm,0.6s,mb4.6
BILL Bilibino 68.57 21 *i* P **P 12 05 04.8 -0.1**
BILL *e* 12 07 36.1
BILL *e*S S 12 14 02.2 -4.5
BILL pmax pmax
comp=Z,15nm,1.2s,mb4.8
YSS Yuzh-Sakhalins 68.84 47 ⇑*e*P **P 12 05 09.2 +2.6**
YSS *e* 12 05 24.2
YSS pmax pmax
comp=Z,30nm,1.2s,mb5.1
MJAR Matsushiro Arr 70.59 59 P **P 12 05 16.7 -0.7**
comp=Z,4.5nm,1.0s,mb4.3,baz=292,slow=11,SNR=6.6
SCHQ Schefferville 76.01 327 P **P 12 05 48.6 -0.8**
comp=Z,2.2nm,0.6s,mb4.3,baz=69,slow=6.0,SNR=6.9
SCHQ LR LR 12 41 35.5
comp=Z,88nm,18.2s,MS4.1,baz=42,slow=38
INK Inuvik 78.36 1 P **P 12 06 00.3 -2.3**
comp=Z,2.7nm,0.8s,mb4.2,baz=295,slow=4.9,SNR=14
INK Inuvik 78.36 1 *e*P **P 12 06 01.1 -1.5**
comp=Z,5.0nm,1.0s,mb4.4
INK Inuvik 78.36 1 *e*P **P 12 06 01.1 -1.4**
comp=Z,5.4nm,1.0s,mb4.4
INK Inuvik 78.36 1 *e*P **P 12 06 01.1 -1.5**
INK pmax pmax
comp=Z,5.0nm,1.0s
COLA College 80.97 7 *i* P **P 12 06 16.0 -0.7**
COLA College 80.97 7 *e*P **P 12 06 15.3 -1.5**
comp=Z,13nm,0.9s,mb4.9
ILAR Eielson Array 81.17 7 P **P 12 06 16.4 -1.4**
comp=Z,3.7nm,0.9s,mb4.3,baz=322,slow=3.6,SNR=17
ILAR PKKPbc PKKPbc 12 24 58.2 +4.7
comp=Z,0.4nm,0.6s,baz=199,slow=2.3,SNR=5.6
MCK McKinley 81.96 8 *e*P **P 12 06 21.4 -0.6**
comp=Z,5.0nm,1.0s,mb4.4
MCK McKinley 81.96 8 *e*P **P 12 06 21.4 -0.6**
comp=Z,4.7nm,1.0s,mb4.4
MCK McKinley 81.96 8 *e*P **P 12 06 21.4 -0.6**
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
DAWY Dawson 82.42 4 *e*P **P 12 06 24.4 -0.1**
YKW3 Yellowknife Ar 83.20 352 P **P 12 06 27.4 -1.1**
YKA Yellowknife Ar 83.27 352 P **P 12 06 27.1 -1.7**
comp=Z,1.9nm,0.9s,mb4.1,baz=12,slow=5.3,SNR=18
YKA PKPPKP 12 32 54.2
comp=Z,0.1nm,0.5s,baz=155,slow=1.9,SNR=4.1
YKA LR LR 12 44 27.2
comp=Z,167nm,21.3s,MS4.4,baz=75,slow=36
YKA Yellowknife Ar 83.27 352 P **P 12 06 27.1 -1.7**
YKA P'P' 12 32 54.2
YKA LR LR 12 44 27.2
SML Sawmill 83.90 8 *e*P **P 12 06 31.7 -0.3**
PMR Palmer 84.02 8 *e*P **P 12 06 32.0 -0.6**
comp=Z,17nm,1.3s,mb5.0
PMR Palmer 84.02 8 *e*P **P 12 06 32.0 -0.6**
PMR pmax pmax
comp=Z,17nm,1.3s,mb5.0
KDAK Kodiak Island 87.19 11 P **P 12 06 48.0 -0.4**
comp=Z,34nm,1.0s,mb5.5,baz=319,slow=9.9,SNR=7.1
DLBC Dease Lake 88.28 359 P **P 12 06 54.4 +0.8**
comp=Z,2.2nm,0.8s,mb4.4,baz=319,slow=4.5,SNR=6.4
DLBC Dease Lake 88.28 359 *e*P **P 12 06 53.6 0.0**
DLBC *e*pP pP 12 07 02.3 +3.4
SADO Sadowa 88.71 326 LR LR 12 47 21.9
comp=Z,179nm,20.5s,MS4.5,baz=208,slow=36
FITZ Fitzroy Crossi 89.50 112 ⇑*i*P **P 12 07 00.4 +1.0**
comp=Z,7.7nm,0.9s,mb5.0
FITZ Fitzroy Crossi 89.50 112 P **P 12 07 00.3 +0.9**
comp=Z,4.1nm,0.9s,mb4.8,baz=233,slow=5.2,SNR=7.8
ULM Lac du Bonnet 90.79 338 LR LR 12 49 52.1
comp=Z,128nm,18.1s,MS4.4,baz=357,slow=37
KAKA Kakadu 91.84 104 *e*P **P 12 07 10.4 +0.2**
comp=Z,3.3nm,0.6s,mb4.8
WRA Warramunga Arr 97.33 109 P **P 12 07 34.8 -0.6**
comp=Z,0.4nm,0.6s,mb4.0,baz=315,slow=4.3,SNR=8.9
WRA PKKPbc PKKPbc 12 24 15.8 +2.4
comp=Z,0.4nm,0.8s,baz=118,slow=3.3,SNR=7.1
ASAR Alice Springs 99.00 112 P **P 12 07 43.1 +0.3**
comp=Z,0.6nm,0.7s,mb4.2,baz=307,slow=5.1,SNR=11
ASAR PKKPbc PKKPbc 12 24 13.1 +4.3
comp=Z,0.2nm,0.4s,baz=125,slow=3.7,SNR=7.2
SJG San Juan 99.37 299 LR LR 12 49 06.2
comp=Z,134nm,19.4s,MS4.5,baz=40,slow=33
QSPA South Pole Qui 123.46 180 P PKPdf 12 13 00.0 +0.6

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*ISCJB **31** 12:06:26.0±0.9, 27N±02×1289E±05, h200km, mb3.8/6, Error ellipse: s-maj=72.0km s-min=11.6km az=146.1*
*IDC **31** 12:06:26.1±7.7, 265N×12890E, h182km±71km, mb3.5/7, mb1 3.7/7, mb1mx3.5/17, mbtmp4.0/7, Error ellipse: s-maj=89.3km s-min=14.9km az=68.0*
*NEIC **31** 12:06:29.3±7.6, 258N×12877E, h216km±72km, Error ellipse: s-maj=77.3km s-min=13.7km az=65.0*
ISC 31 12:06:27.7±0.9, 27N±02×1289E±05, h200km, n12, σ0.97/6/11, mb3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.86**	**189**	P	**P**	**12 10 53.7**	**-0.4**
	2.0nm,0.7s,baz=342,slow=20,SNR=4.7						
WRAB	**Tennant Creek**	**23.07**	**167**	*e*P	**P**	**12 11 15.2**	**-0.3**
WRA	**Warramunga Arr**	**23.08**	**167**	P	**P**	**12 11 16.6**	**+1.0**
	2.0nm,0.4s,mb4.0,baz=344,slow=10,SNR=22						
ASAR	**Alice Springs**	**26.61**	**170**	P	**P**	**12 11 48.4**	**+0.9**
	1.5nm,0.5s,mb3.9,baz=353,slow=7.5,SNR=33						
ASAR				PcP	PcP	12 15 07.2	+1.0
	0.6nm,0.4s,baz=354,slow=2.1,SNR=15						
STKA	**Stephens Creek**	**36.40**	**162**	P	**P**	**12 13 12.1**	**-0.8**
	1.9nm,0.4s,mb4.0,baz=341,slow=10,SNR=12						
STKA	**Stephens Creek**	**36.40**	**162**	*e*P	**P**	**12 13 11.8**	**-1.0**
SONM	**Songino Array**	**49.02**	**340**	P	**P**	**12 14 55.1**	**+0.9**
	0.3nm,0.6s,mb2.8,baz=158,slow=5.5,SNR=3.9						
MKAR	**Makanchi Array**	**59.67**	**325**	P	**P**	**12 16 11.4**	**+0.5**
	0.7nm,0.4s,mb3.6,baz=119,slow=7.8,SNR=10.0						
KURK	**Kurchatov**	**63.80**	**327**	*e*P	**P**	**12 16 38.5**	**+0.1**
ZRNK	**Zerenda**	**70.13**	**326**	*e*P	**P**	**12 17 17.7**	**-0.6**
ARCES	**ARCESS Array B**	**92.19**	**340**	P	**P**	**12 19 13.3**	**-1.2**
	3.0nm,1.0s,mb4.2,baz=80,slow=5.3,SNR=6.9						
CFAA	**Coronel Fontan**	**146.99**	**153**	PKPbc	PKPbc	12 25 47.8	+1.2
	0.4nm,0.4s,baz=164,slow=4.0,SNR=6.0						

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*IDC **31** 12:23:15.5±0.4, 4459N×12420E, h0km, mb4.6/21, mb1 4.7/22, mb1mx4.7/23, mbtmp4.6/22, ML3.4/1, MS4.3/16, Ms1 4.3/16, ms1mx3.9/38, Error ellipse: s-maj=16.5km s-min=11.9km az=75.0*
*BJI **31** 12:23:15.3, 4469N×12421E, h8km, mB4.9, mb4.8, ML5.3, Ms5.1, Msz4.8*
*ISCJB **31** 12:23:16.2±0.1, 4461N±002×124.14E±003, h10km, mb4.8/125, MS4.4/29, Error ellipse: s-maj=2.9km s-min=2.7km az=110.1*
*NEIC **31** 12:23:17.9±0.1, 4462N×124.12E, h10km, mb4.9/72, Error ellipse: s-maj=4.0km s-min=3.9km az=187.0*
NEIC Some buildings destroyed and many damaged in the Songyuan area. Felt in much of Jilin and in parts of Liaoning, Heilongjiang and Nei Mongol.
*HRVD **31** 12:23:17.9±0.4, 4465N×124.08E, h12km, MW4.8/49, Centroid moment Tensor Solution. LP body waves: s7,c7;Mantle waves: s49,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.18±.09; $M_{\theta\theta}$0.72±.08; $M_{\phi\phi}$-1.90±.07; $M_{r\theta}$0.13±.33; $M_{\theta\phi}$-0.07±.07; $M_{r\phi}$0.44±.24; Best double couple: $M_0$1.61600×10^{16} NP1:ϕ_s168.00000°, δ39.00000°, λ70.00000°. NP2:ϕ_s13.00000°, δ54.00000°, λ105.00000°. Principal axes: T 1.2680, Plg75.0000°, Azm330.0000°; N 0.7010, Plg12.0000°, Azm184.0000°; P -1.9640, Plg8.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **31** 12:23:19.4±0.9, 4457N×124.14E, h33km, mb5.0/52, MS4.5/17 Error ellipse: s-maj=9.4km s-min=4.8km az=116.6*
*SZGRF **31** 12:23:22.2, 4456N×12358E, h33km, mb5.2, Northeastern China*
ISC 31 12:23:17.9±0.1, 4464N±002×12415E±003, h10km, n339, σ0.97/343, mb4.8/125, MS4.4/29, 21C-12D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.26**	**132**	*e*PG	**Pg**	**12 23 40.8**	**-1.3**
CN2				*e*SG	**Sg**	**12 23 59.0**	**+0.6**
SNY	**Shenyang**	**2.85**	**189**	⇑P	**Pn**	**12 24 02.5**	**-0.9**
SNY				PG	**Pg**	**12 24 09.0**	**-3.5**
SNY				S	**Sn**	**12 24 35.8**	**-1.9**
SNY				SG	**Sg**	**12 24 45.5**	**-3.9**
SNY				Smax			
SNY	comp=N,2μm,1.3s			Smax			
	comp=E,3μm,1.3s						
MDJ	**Mudanjiang**	**3.89**	**89**	P	**Pn**	**12 24 18.5**	**+0.8**
MDJ				SG	**Sg**	**12 25 23.8**	**+1.1**
MDJ				Smax			
MDJ	comp=N,6μm,1.0s			Smax			
	comp=E,4μm,0.8s						
MDJ	**Mudanjiang**	**3.89**	**89**	*e*Pn	**Pn**	**12 24 17.8**	**+0.1**
MDJ				*e*S	**Sb**	**12 25 14.4**	**+0.8**
HIA	**Hailar**	**5.52**	**328**	*e*Pn	**Pn**	**12 24 37.9**	**-2.2**
HIA				*e*Pg	**Pg**	**12 24 58.6**	**-5.1**
HIA				*e*Sg	**Sg**	**12 26 11.0**	**-4.1**
DL2	**Dalian**	**6.04**	**199**	P	**Pn**	**12 24 46.5**	**-0.7**
DL2				S	**Sn**	**12 25 55.0**	**-1.4**
DL2				Smax			
	comp=N,671nm,1.3s						
DL2				Smax			
	comp=E,2μm,1.3s						
KLR	**Kul'dur**	**6.94**	**46**	*e*P	**Pb**	**12 25 15.0**	**-3.5**
KLR				*e*		12 26 23.5	
KLR				MLR	MLR		
	comp=N,11μm,12.0s						
KLR				MLR	MLR		
	comp=E,11μm,12.0s						
KLR				MLR	MLR		
	comp=Z,17μm,12.0s						
INCN	**Inchon**	**7.40**	**164**	*e*Pg	**Pg**	**12 25 35.0**	**-4.5**
	comp=Z,112nm,0.9s						
BJT	**Baijiatuau**	**7.50**	**235**	*e*Pg	**Pg**	**12 25 36.7**	**-4.9**
KS15	**Wonju Array Si**	**7.73**	**157**	*e*Pn	**Pn**	**12 25 11.6**	**+1.1**
TIA	**Tai'an**	**9.98**	**215**	*e*P	**Pn**	**12 25 41.8**	**+0.5**
HHC	**Hu-ho-hao-te**	**10.00**	**252**	*e*P	**Pn**	**12 25 43.0**	**+1.3**
HHC				AP		12 25 46.5	
HHC				XP		12 25 49.3	
HHC				PP		12 25 51.5	
HHC				S	**Sn**	**12 27 36.5**	**+2.6**
HHC				XS		12 27 41.5	
HHC				SS		12 27 49.5	
HHC				AMB	AMB		
	comp=Z,8.0nm,0.3s						
HHC				AMB	AMB		
	comp=Z,295nm,6.4s						
HHC				LR	LR		
	comp=N,7μm,7.3s						
HHC				LR	LR		
	comp=E,8μm,5.3s						
HHC				LR	LR		
	comp=Z,4μm,6.3s						
CIT	**Chita**	**10.20**	**320**	*e*P	**Pn**	**12 25 42.8**	**-1.6**
CIT				pmax	pmax		
	comp=Z,42nm,2.6s						
BTO	**Baotou**	**11.16**	**254**	*e*P	**Pn**	**12 25 59.5**	**+2.0**
BTO				LR	LR		
	comp=N,9μm,6.5s						
BTO				LR	LR		
	comp=E,5μm,5.4s						
CLNS	**Chul'man**	**12.22**	**2**	*e*P	Px	12 26 28.0	
CLNS				pmax	pmax		
	comp=Z,13nm,1.0s						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,14nm,0.9s						
CLNS				pmax	pmax		
	comp=N,14nm,0.8s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
CLNS				MLR	MLR		
	comp=N,3μm,11.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,11.0s						
CLNS				MLR	MLR		
	comp=E,4μm,10.0s						
ULN	**Ulaanbaatar**	**12.26**	**291**	*e*Pn	**Pn**	**12 26 08.1**	**-4.5**
	comp=E,106nm,1.3s						
ULN				*e*Sn	**Sn**	**12 28 20.5**	**-8.8**
ULN	**Ulaanbaatar**	**12.26**	**291**	*e*P	**Pn**	**12 26 08.1**	**-4.5**
ULN				pmax	pmax		
	comp=Z,106nm,1.3s						
JNU	**Nakatsue**	**12.64**	**153**	Lg		12 29 55.6	
	comp=Z,0.7nm,0.3s,baz=311,slow=20,SNR=4.3						
JNU				LR	LR	12 30 43.7	
	comp=Z,2μm,20.2s,baz=179,slow=36						
SONM	**Songino Array**	**12.70**	**291**	Pn	**Pn**	**12 26 14.3**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=95,slow=13,SNR=18						
SONM				Sn	**Sn**	**12 28 29.6**	**-10**
	comp=Z,1.2nm,0.3s,baz=94,slow=21,SNR=9.4						
SONM				Lg		12 29 53.8	
	comp=Z,2.1nm,0.3s,baz=90,slow=28,SNR=3.6						
SONM				LR	LR	12 31 36.1	
	comp=Z,4μm,18.4s,baz=101,slow=39						
ASAJ	**Asahikawa**	**13.21**	**86**	Pn	**Pn**	**12 26 27.1**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=311,slow=18,SNR=2.3						
ASAJ				LR	LR	12 31 30.0	
	comp=Z,2μm,22.0s,baz=325,slow=38						
NJ2	**Nanjing**	**13.24**	**200**	*e*P	**Pn**	**12 26 27.5**	**+1.6**
NJ2				AP		12 26 31.0	
NJ2				XP		12 26 34.3	
NJ2				PP		12 26 38.3	
NJ2				S	**Sn**	**12 28 55.0**	**+1.9**
NJ2				XS		12 29 03.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,220nm,6.9s						
NJ2				LR	LR		
	comp=N,2μm,13.4s						
NJ2				LR	LR		
	comp=E,4μm,12.7s						
NJ2				LR	LR		
	comp=Z,830nm,15.7s						
MAJO	**Matsushiro**	**13.39**	**122**	*e*P	**Pn**	**12 26 39.1**	**+11**
MAT	**Matsushiro**	**13.39**	**122**	P	**Pn**	**12 26 31.8**	**+3.8**
MAT	**Matsushiro**	**13.39**	**122**	P	**Pn**	**12 26 32.0**	**+4.0**
	comp=Z,55nm,1.2s						
MAT	**Matsushiro**	**13.39**	**122**	P	**Pn**	**12 26 32.0**	**+4.0**
MAT				pmax	pmax		
	comp=Z,55nm,1.2s						
MJAR	**Matsushiro Arr**	**13.39**	**122**	Pn	**Pn**	**12 26 28.5**	**+0.5**
	baz=310,slow=9.8,SNR=2.5						
MJAR				LR	LR	12 31 08.8	
	comp=Z,916nm,20.1s,baz=325,slow=35						
SSE	**Sheshan**	**13.72**	**191**	⇑P	**Pn**	**12 26 34.3**	**+1.7**
SSE				AP		12 26 38.0	
SSE				XP		12 26 41.3	
SSE				S	**Sn**	**12 28 59.3**	**-5.8**
SSE				AMB	AMB		
	comp=Z,72nm,1.3s						
SSE				AMB	AMB		
	comp=Z,78nm,3.5s						
SSE				LR	LR		
	comp=N,1μm,12.9s						
SSE				LR	LR		
	comp=E,943nm,12.9s						
SSE				LR	LR		
	comp=Z,2μm,11.6s						
IRK	**Irkutsk**	**15.19**	**307**	*e*P	**Pn**	**12 26 47.2**	**-5.3**
IRK				pmax	pmax		
	comp=Z,102nm,0.1s						
ZAK	**Zakamensk**	**15.20**	**300**	*e*P	**Pn**	**12 26 52.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,51nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,26nm,1.5s						
XAN	**Xi'an**	**15.81**	**233**	P	**Pn**	**12 27 04.8**	**+4.2**
XAN				AMB	AMB		
	comp=Z,19nm,1.8s						
XAN				LR	LR		
	comp=N,2μm,16.0s						
XAN				LR	LR		
	comp=E,3μm,10.0s						
XAN				LR	LR		
	comp=Z,2μm,16.8s						
WHN	**Wuhan**	**16.06**	**212**	⇑P	**Pn**	**12 27 05.5**	**+1.7**
WHN				S	**Sn**	**12 30 10.0**	**+8.2**
WHN				LR	LR		
	comp=Z,3μm,10.3s						
JHJ	**Hachijo jima 2**	**16.72**	**128**	LR	LR	12 33 59.3	
	comp=Z,429nm,18.5s,baz=66,slow=39						

MOY Mondy 16.93 303 *e*P **Pn** **12 27 16.3 +1.5**
MOY pmax pmax
comp=Z,100nm,2.1s
LZH Lanzhou 17.64 248 ⇑P **Pn** **12 27 25.3 +1.5**
LZH AP pP 12 27 28.8 +1.2
LZH XP sP 12 27 31.3 +2.4
LZH PP 12 27 40.0
LZH S **Sn** **12 30 40.0 -0.3**
LZH XS sS 12 30 44.5 -7.9
LZH SS 12 31 01.0
LZH AMB AMB
comp=Z,69nm,1.5s
LZH AMB AMB
comp=Z,230nm,4.4s
LZH LR LR
comp=N,2μm,6.3s
LZH LR LR
comp=Z,4μm,9.7s
YAK Yakutsk 17.72 9 *e*P **Pn** **12 27 23.9 -0.8**
comp=Z,22nm,0.7s
YAK Yakutsk 17.72 9 *e*P **Pn** **12 27 26.2 +1.5**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,19nm,1.3s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK MLR MLR
comp=Z,1μm,10.0s
YAK MLR MLR
comp=N,1μm,12.0s
YAK MLR MLR
comp=E,630nm,10.0s
JOW Kunigami 18.08 168 P **Pn** **12 27 25.9 -3.3**
comp=E,0.2nm,0.3s,baz=291,slow=14,SNR=2.7
ENH Enshi 18.43 224 *e*P **Pn** **12 27 32.8 -0.6**
comp=E,20nm,0.8s
GTA Gaotai 18.79 262 *e*P **Pn** **12 27 38.0 +0.2**
GTA AP pP 12 27 46.5 +6.3
GTA XP sP 12 27 49.0 +7.5
GTA PP 12 27 53.3
GTA S **Sn** **12 30 55.5 -13**
GTA XS sS 12 31 08.0 -7.6
GTA AMB AMB
comp=Z,22nm,1.0s
GTA AMB AMB
comp=Z,119nm,4.2s
GTA LR LR
comp=N,3μm,8.8s
GTA LR LR
comp=E,5μm,6.8s
GTA LR LR
comp=Z,5μm,13.8s
YHNB Yeheng 20.05 187 *e*P **P** **12 27 52.2 +1.0**
QZH Quanzhou 20.17 195 ⇓*i*P **P** **12 27 51.8 -0.6**
QZH S **S** **12 31 33.8 -5.0**
QZH AMB AMB
comp=Z,210nm,1.4s
QZH LR LR
comp=N,2μm,10.8s,MS4.8
QZH LR LR
comp=E,2μm,10.4s,MS4.8
QZH LR LR
comp=Z,2μm,12.3s,MS4.7
NACB Ninganchiao 20.53 187 P **P** **12 27 57.7 +1.3**
CD2 Chengdu 21.08 236 P **P** **12 28 01.3 -1.1**
CD2 XP sP 12 28 08.3 +1.8
CD2 PP 12 28 24.8
CD2 PPP 12 28 33.8
CD2 S **S** **12 31 52.0 -5.0**
CD2 XS sS 12 31 59.5 -2.0
CD2 SS 12 32 27.3
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
CD2 AMB AMB
comp=Z,170nm,4.4s
CD2 LR LR
comp=E,1μm,10.8s
CD2 LR LR
comp=Z,1μm,8.5s
MA2 Magadan 21.93 38 *e*P **P** **12 28 11.1 -0.4**
MA2 *e* 12 28 41.7
MA2 *e*S **S** **12 32 07.2 -6.4**
MA2 pmax pmax
comp=Z,7.0nm,1.2s,mb4.0
MA2 MLR MLR
comp=Z,300nm,20.0s,MS3.7
CBIJ Chichi jima 22.72 134 LR LR 12 36 53.5
comp=Z,552nm,18.6s,MS4.0,baz=135,slow=36
KRAR Krasnoyarsk 22.77 311 *i*P **P** **12 28 19.4 -1.0**
GYA Guiyang 22.97 224 ⇑*i*P **P** **12 28 20.8 -1.7**
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.5
GYA LR LR
comp=N,1μm,11.7s,MS4.7
GYA LR LR
comp=E,1μm,11.7s,MS4.7
GYA LR LR
comp=Z,1μm,13.2s,MS4.5
WMQ Urumqi 26.00 281 P **P** **12 28 51.5 +0.6**
WMQ AP pP 12 28 55.8 +1.9
WMQ XP sP 12 28 58.5 +3.3
WMQ PP 12 29 32.8
WMQ PPP 12 29 44.8
WMQ PCP PcP 12 32 20.0 +1.0
WMQ S **S** **12 33 19.5 -2.0**
WMQ SS 12 34 25.8
WMQ AMB AMB
comp=Z,26nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,206nm,3.4s
WMQ LR LR
comp=N,3μm,11.2s,MS5.4
WMQ LR LR
comp=E,5μm,10.4s,MS5.4
WMQ LR LR
comp=Z,5μm,11.6s,MS5.3
KMI Kunming 26.09 229 P **P** **12 28 51.4 -0.3**
KMI AP pP 12 28 57.6 +2.9
KMI XP sP 12 29 01.2 +5.2
KMI PP 12 29 34.5
KMI S **S** **12 33 22.2 -0.7**
KMI XS sS 12 33 33.3 +5.4
KMI SS 12 34 30.4
KMI AMB AMB
comp=Z,25nm,0.9s,mb4.7
KMI AMB AMB
comp=Z,80nm,4.1s
KMI LR LR
comp=N,2μm,15.3s,MS4.9
KMI LR LR
comp=E,2μm,12.8s,MS4.9
KMI LR LR
comp=Z,2μm,13.5s,MS4.7
ZAL Zalesovo 26.98 304 P **P** **12 28 59.3 -0.5**
comp=Z,2.3nm,0.8s,mb3.8,baz=37,slow=5.1,SNR=14
ZAL PcP PcP 12 32 20.0 -1.3
comp=Z,1.4nm,0.7s,baz=266,slow=7.8,SNR=4.2
ZAL Lg 12 37 37.4
comp=Z,1.0nm,0.7s,baz=74,slow=24,SNR=3.2
ZAL LR LR 12 41 06.1
comp=Z,1μm,18.5s,MS4.4,baz=18,slow=40
ZAL Zalesovo 26.98 304 P **P** **12 28 59.3 -0.5**
ZAL PcP PcP 12 32 20.0 -1.3
ZAL Lg 12 37 37.4
ZAL LR LR 12 41 06.1
ZAL Zalesovo 26.98 304 P **P** **12 28 59.3 -0.5**
ZAL 12 32 20.0
TIXI Tiksi 27.18 3*c i*P **P** **12 29 01.0 -0.6**
TIXI pmax pmax
comp=Z,40nm,1.1s,mb4.9
TIXI MLR MLR
comp=Z,900nm,17.0s,MS4.4
NVS Novosibirsk 27.96 306 *e*P **P** **12 29 07.5 -1.0**
NVS pmax pmax
comp=E,18nm,1.8s
NVS pmax pmax
comp=Z,22nm,1.8s,mb4.5
QIZ Qiongzhong 28.20 210 P **P** **12 29 13.5 +2.8**

QIZ S **S** **12 33 58.3 +2.1**
QIZ LR LR
comp=N,674nm,14.1s,MS4.7
QIZ LR LR
comp=E,1μm,12.6s,MS4.7
QIZ LR LR
comp=Z,808nm,15.0s,MS4.4
MK31 Makanchi Array 29.06 289 *i*P **P** **12 29 18.2 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
MKAR Makanchi Array 29.06 289 P **P** **12 29 18.5 +0.2**
comp=Z,6.8nm,0.9s,mb4.4,baz=89,slow=9.9,SNR=39
MKAR PcP PcP 12 32 25.6 -0.8
comp=Z,3.7nm,0.8s,baz=69,slow=2.6,SNR=6.3
MKAR Lg 12 38 39.1
comp=Z,1.2nm,1.1s,baz=186,slow=32,SNR=6.3
MKAR LR LR 12 41 43.8
comp=Z,1μm,18.4s,MS4.5,baz=7.8,slow=38
MKAR Makanchi Array 29.06 289 P **P** **12 29 18.5 +0.2**
MKAR PcP PcP 12 32 25.6 -0.8
MKAR Lg 12 38 39.1
MKAR LR LR 12 41 43.8
MKAR Makanchi Array 29.06 289 P **P** **12 29 18.5 +0.2**
MKAR 12 32 25.6
TGY Tagaytay City 30.56 186 P **P** **12 29 31.9 +0.3**
comp=Z,71nm,0.3s,baz=260,slow=7.5,SNR=3.8
KURK Kurchatov 30.85 298 *e*P **P** **12 29 33.8 -0.4**
comp=Z,14nm,0.8s,mb4.8
KURK Kurchatov 30.85 298 *e*P **P** **12 29 33.8 -0.4**
KURK pmax pmax
comp=Z,14nm,0.8s,mb4.8
BILL Bilibino 32.00 28 *e*P **P** **12 29 42.9 -1.4**
comp=Z,7.3nm,1.3s,mb4.3
BILL *e*PcP PcP 12 32 33.6 -0.5
BILL Bilibino 32.00 28 *i*P **P** **12 29 43.5 -0.8**
BILL *e* 12 32 34.2
BILL pmax pmax
comp=Z,9.0nm,1.6s,mb4.3
BILL MLR MLR
comp=Z,700nm,22.0s,MS4.3
SHL Shillong 32.25 245 *e*P **P** **12 29 46.0 -0.5**
FX1 Attu Island--F 32.78 58 LR LR 12 43 30.3
comp=Z,14nm,21.2s,baz=289,slow=37
ULHL Ulahol 34.47 283 P **P** **12 30 07.0 +1.1**
SNR=10
JIRN Jiri 34.65 254 *e*P **P** **12 30 06.8 -0.6**
comp=Z,26nm,0.9s,mb5.2
TKM2 Tokmak 2 34.69 285 P **P** **12 30 09.2 +1.4**
SNR=39
GUN Gumba 34.71 254 *e*P **P** **12 30 07.6 -0.3**
comp=Z,32nm,0.8s,mb5.3
KKN Kakani 35.20 255 *e*P **P** **12 30 11.6 -0.5**
comp=Z,14nm,0.5s,mb5.2
KZA Kyzart 35.22 283 P **P** **12 30 14.9 +2.5**
SNR=20
KBK Karagaybulak 35.23 284 P **P** **12 30 14.1 +1.7**
SNR=15
CHMS Chumysh 35.24 285 P **P** **12 30 13.3 +0.8**
SNR=5.1
PKI Pulchoki 35.24 254 *e*P **P** **12 30 11.8 -0.8**
USP Ospenovka 35.33 286 P **P** **12 30 14.2 +0.9**
SNR=12
CHKZ Chkalovo 35.38 304 *e*P **P** **12 30 13.3 -0.4**
comp=Z,24nm,1.1s,mb5.0
CHKZ *e*PcP PcP 12 32 42.3 -1.4
CHKZ Chkalovo 35.38 304 *e*P **P** **12 30 13.3 -0.4**
CHKZ *e* 12 32 42.3
CHKZ pmax pmax
comp=Z,24nm,1.1s,mb5.0
FRU Bishkek 35.39 285 *e*P **P** **12 30 14.0 +0.2**
FRU *e* 12 30 26.0
FRU pmax pmax
comp=Z,60nm,1.4s,mb5.3
DMN Daman 35.43 255 *e*P **P** **12 30 13.3 -0.8**
GKN Gorkha 35.51 256 *e*P **P** **12 30 13.8 -1.0**
AAK Ala-Archa 35.55 285 P **P** **12 30 16.4 +1.3**
SNR=26
GUMO Guam 35.64 144 LR LR 12 45 33.4
comp=Z,174nm,18.1s,MS3.9,baz=297,slow=38
BRVK Borovoye 35.67 303 *e*P **P** **12 30 15.8 -0.4**
comp=Z,9.1nm,0.9s,mb4.7
BRVK *e*PcP PcP 12 32 43.7 -0.8
BRVK Borovoye 35.67 303 *e*P **P** **12 30 15.8 -0.4**
BRVK *e* 12 32 43.7
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
UCH Uchtor 35.68 284 P **P** **12 30 18.2 +1.9**
SNR=14
EKS2 Erkin-Say 36.03 285 P **P** **12 30 20.1 +0.8**
SNR=7.5
AML Almayashu 36.28 284 P **P** **12 30 23.2 +1.7**
SNR=17
KOLN Koldanda 36.37 256 *e*P **P** **12 30 20.9 -1.3**
comp=Z,17nm,0.8s,mb5.0
ZRNK Zerenda 36.45 303 *e*P **P** **12 30 22.7 -0.1**
comp=Z,14nm,0.9s,mb4.9
ZRNK *e*PcP PcP 12 32 45.7 -1.2
ZRNK Zerenda 36.45 303 *e*P **P** **12 30 22.7 -0.2**
ZRNK *e* 12 32 45.7
ZRNK pmax pmax
comp=Z,14nm,0.9s,mb4.9
BOK Bokaro 37.40 249 *e*P **P** **12 30 32.1 +1.1**
BOK AMb AMB 12 30 33.1
comp=Z,11nm,0.8s,mb4.7
KKM Kota Kinabalu 39.07 193 *e*P **P** **12 30 44.8 -0.3**
SVE Sverdlovsk 40.53 311 *e*P **P** **12 30 58.0 +0.8**
SVE MLR MLR
comp=N,300nm,12.0s,MS4.5
SVE MLR MLR
comp=E,300nm,12.0s,MS4.5
SVE MLR MLR
comp=Z,500nm,12.0s,MS4.6
TNA Tin City 41.55 36 *e*P **P** **12 31 04.5 -1.1**
comp=Z,8.2nm,0.9s,mb4.4
ARU Arti 41.74 311 *e*P **P** **12 31 03.7 -3.4**
comp=Z,12nm,0.8s,mb4.6
ARU Arti 41.74 311 ⇓*i*P **P** **12 31 07.1 0.0**
ARU *e* 12 32 40.8
ARU *e* 12 33 01.9
ARU *e*S **S** **12 37 25.5 +1.3**
ARU *e*SSS 12 41 01.4
ARU pmax pmax
comp=Z,12nm,0.8s,mb4.6
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.3
ARU MLR MLR
comp=N,100nm,18.0s,MS4.0
ARU MLR MLR
comp=E,200nm,22.0s,MS4.0
BHPL Bhopal 43.54 256 *e*P **P** **12 31 20.4 -1.4**
BHPL AMb AMB 12 31 21.5
comp=Z,24nm,1.2s,mb4.8
AKTO Aktyubinsk 43.69 302 LR LR 12 50 50.2
comp=Z,416nm,18.9s,MS4.4,baz=196,slow=38
POO Poona 49.17 255 *ex* x 12 32 04.0
KAD Karad 49.78 253 *e*P **P** **12 32 09.4 -1.3**
KAD AMb AMB 12 32 10.3
comp=Z,16nm,0.7s,mb5.2
MCK McKinley 49.89 36 *e*P **P** **12 32 12.2 +0.7**
comp=Z,3.5nm,0.9s,mb4.4
MCK McKinley 49.89 36 *e*P **P** **12 32 12.3 +0.8**
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
COLA College 49.92 34 *e*P **P** **12 32 11.2 -0.5**
comp=Z,9.3nm,1.0s,mb4.8
COLA College 49.92 34 *e*P **P** **12 32 11.2 -0.5**
COLA pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KLMR Klimovskoe 49.96 320*d i*P **P** **12 32 11.6 -0.4**
KLMR pmax pmax
comp=Z,40nm,1.5s,mb5.2
KLMR MLR MLR
comp=Z,300nm,12.0s,MS4.5
APA Apatity 49.98 330 ⇑*i*P **P** **12 32 11.6 -0.6**
APA pmax pmax
comp=Z,32nm,1.2s,mb5.2
APA MLR MLR
comp=Z,600nm,17.0s,MS4.7
ILAR Eielson Array 50.34 34 P **P** **12 32 13.7 -1.3**
comp=Z,4.6nm,0.9s,mb4.5,baz=284,slow=7.4,SNR=35
ILAR LR LR 12 56 16.7
comp=Z,169nm,19.8s,MS4.1,baz=352,slow=39
KDAK Kodiak Island 50.49 44 P **P** **12 32 15.6 -0.5**
comp=Z,34nm,0.9s,mb5.4,baz=287,slow=4.9,SNR=6.0
PMR Palmer 50.61 38 *e*P **P** **12 32 15.9 -1.1**
comp=Z,20nm,1.0s,mb5.0

PMR Palmer 50.61 38 *e*P **P** **12 32 15.9 -1.1**
PMR pmax pmax
comp=Z,20nm,1.0s,mb5.0
SML Sawmill 50.88 38 *e*P **P** **12 32 18.2 -0.8**
ARCES ARCESS Array B 51.84 334 P **P** **12 32 25.2 -1.0**
comp=Z,1.6nm,0.6s,mb4.2,baz=72,slow=9.0,SNR=14
ARCES PcP PcP 12 33 37.2 -1.9
comp=Z,2.7nm,0.8s,baz=90,slow=4.9,SNR=5.3
ARCES LR LR 12 58 20.7
comp=Z,161nm,18.5s,MS4.1,baz=239,slow=41
ARCES ARCESS Array B 51.84 334 P **P** **12 32 25.2 -1.0**
ARCES PcP PcP 12 33 37.2 -1.9
ARCES LR LR 12 58 20.7
ARCES ARCESS Array B 51.84 334 P **P** **12 32 25.2 -1.0**
ARCES 12 33 37.2
JOF Joensuu 52.66 325 *ep* **P** **12 32 31.9 -0.4**
comp=Z,29nm,1.0s,mb5.2
PALK Pallekele 52.97 239 *e*P **P** **12 32 34.1 -0.4**
comp=Z,46nm,1.4s,mb5.2
DAWY Dawson 53.58 33 *e*P **P** **12 32 37.8 -1.3**
INK Inuvik 53.60 27 P **P** **12 32 38.7 -0.5**
comp=Z,13nm,0.9s,mb4.9,baz=308,slow=7.5,SNR=71
INK Inuvik 53.60 27 *e*P **P** **12 32 38.6 -0.6**
comp=Z,20nm,1.0s,mb5.0
INK Inuvik 53.60 27 P **P** **12 32 38.7 -0.5**
INK pmax pmax
comp=Z,13nm,0.9s
OBN Obninsk 53.81 315 ⇑*e*P **P** **12 32 39.9 -0.8**
OBN *e* 12 34 38.1
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
OBN MLR MLR
comp=Z,800nm,23.0s,MS4.7
VRSR Storozhevoye 54.27 309 *e*P **P** **12 32 44.0 -0.2**
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=E,4.0nm,0.8s
KAF Kangasniemi 55.09 325 *ep* **P** **12 32 48.4 -1.7**
comp=E,28nm,1.1s,mb5.2,baz=59,slow=6.9
KAF Kangasniemi 55.09 325 *e*P **P** **12 32 48.4 -1.7**
KAF pmax pmax
comp=Z,28nm,1.1s,mb5.2
GOF Gofitskoye 55.10 301 *e*P **P** **12 32 49.6 -0.5**
FINES FINESS Array B 55.53 325 P **P** **12 32 52.8 -0.4**
comp=Z,26nm,0.9s,mb5.3,baz=70,slow=8.3,SNR=39
FINES LR LR 12 57 32.4
comp=Z,120nm,18.1s,MS4.0,baz=83,slow=37
KIV Kislovodsk 55.88 300 *e*P **P** **12 32 56.8 +1.1**
comp=Z,14nm,0.8s,mb5.0
KIV Kislovodsk 55.88 300 ⇑*e*P **P** **12 32 56.5 +0.7**
KIV *e* 12 34 59.1
KIV *e*SS SS 12 44 31.5 +2.6
KIV pmax pmax
comp=Z,37nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,400nm,16.0s,MS4.6
DAG Danmarks Havn 56.60 350 ⇑*i*P **P** **12 33 02.7 +1.8**
comp=Z,3.0nm,1.0s,mb4.3
DAG Danmarks Havn 56.60 350 ⇑*e*P **P** **12 33 02.7 +1.8**
comp=Z,3.0nm,1.0s,mb4.3
DAG Danmarks Havn 56.60 350 ⇑*e*P **P** **12 33 02.7 +1.8**
DAG pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
GNI Garni 56.61 296 *e*P **P** **12 33 02.1 +1.1**
comp=Z,19nm,1.2s,mb5.0
GNI Garni 56.61 296 *e*P **P** **12 33 02.1 +1.1**
GNI pmax pmax
comp=Z,19nm,1.2s
VSU Vasula 56.81 321 *i*P **P** **12 33 02.5 +0.1**
KAKA Kakadu 57.58 170 ⇓*i*P **P** **12 33 06.7 -1.1**
comp=Z,13nm,0.7s,mb5.1
SOC Sochi 57.90 301 *e*P **P** **12 33 07.3 -2.8**
SOC *e* 12 34 09.8
SOC *e* 12 35 20.2
SOC *e*S **S** **12 41 07.0 -2.9**
SOC pmax pmax
comp=Z,26nm,0.9s,mb5.3
SOC MLR MLR
comp=Z,418nm,16.0s,MS4.6
RES Resolute Bay 58.14 11 *e*P **P** **12 33 10.2 -1.6**
comp=Z,13nm,1.1s,mb4.9
RES Resolute Bay 58.14 11 *e*P **P** **12 33 10.2 -1.6**
RES pmax pmax
comp=Z,13nm,1.1s,mb4.9
IDID Didziasalis 58.54 318 *e*P **P** **12 33 14.3 -0.2**
IDID AMb AMB 12 33 16.0
comp=Z,12nm,1.0s,mb4.9
ISAL Salakas 58.68 319 *e*P **P** **12 33 15.4 -0.1**
ISAL AMb AMB 12 33 17.2
comp=Z,16nm,1.0s,mb5.0
IIGN Ignalina 58.76 319 *e*P **P** **12 33 16.2 +0.2**
IIGN AMb AMB 12 33 17.7
comp=Z,18nm,1.0s,mb5.1
AKASG Malin Array Be 59.90 313 P **P** **12 33 22.8 -1.2**
comp=Z,27nm,0.8s,mb5.3,baz=48,slow=7.2,SNR=92
DLBC Dease Lake 60.45 36 *e*P **P** **12 33 28.1 +0.4**
UMR Umm Al-Rimmam 60.69 284 *e*P **P** **12 33 28.9 -0.4**
UMR AMb AMB 12 33 31.1
comp=Z,35nm,0.9s,mb5.5
MIB Mutribah 60.80 284 *e*P **P** **12 33 29.5 -0.6**
MIB AMb AMB 12 33 31.8
comp=Z,40nm,0.7s,mb5.7
QRN Al-Qurain 61.04 283 *e*P **P** **12 33 31.3 -0.5**
RDF Al-Radifah 61.18 283 *e*P **P** **12 33 32.2 -0.6**
RDF AMb AMB 12 33 33.2
comp=Z,32nm,1.1s,mb5.3
NAY Al-Naaiem 61.20 284 *e*P **P** **12 33 32.1 -0.8**
NAY AMb AMB 12 33 34.5
comp=Z,14nm,0.8s,mb5.1
NB2 NORSAR Subarra 61.55 329 P **P** **12 33 33.9 -1.3**
comp=Z,8.6nm,0.8s,mb4.9,baz=51,slow=6.9
NB2 NORSAR Subarra 61.55 329 P **P** **12 33 33.9 -1.3**
NB2 pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
NOA NORSAR Array B 61.55 329 P **P** **12 33 34.3 -0.9**
comp=Z,8.1nm,0.9s,mb4.9,baz=47,slow=6.6,SNR=15
NOA LR LR 13 01 31.3
comp=Z,94nm,19.0s,MS4.0,baz=295,slow=37
MALT Malatya 61.69 297 *e*P **P** **12 33 36.7 +0.5**
comp=Z,6.7nm,1.1s,mb4.7
MALT Malatya 61.69 297 *e*P **P** **12 33 36.7 +0.5**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
FITZ Fitzroy Crossi 62.45 178 *e*P **P** **12 33 40.1 -1.2**
comp=Z,17nm,0.8s,mb5.2
LVV L'vov 63.11 314 *e*P **P** **12 33 46.0 +0.3**
YKW3 Yellowknife Ar 63.31 26 *e*P **P** **12 33 45.1 -1.9**
YKA Yellowknife Ar 63.37 26 P **P** **12 33 45.9 -1.5**
comp=Z,3.3nm,0.8s,mb4.5,baz=318,slow=6.5,SNR=66
BURAR Bucovina Array 63.85 312 ⇓P **P** **12 33 51.0 +0.4**
KWP Kalwaria 63.90 315 *e*P **P** **12 33 50.9 0.0**
comp=Z,40nm,0.9s,mb5.5
KWP Kalwaria 63.90 315 *e*P **P** **12 33 50.9 0.0**
KWP pmax pmax
comp=Z,40nm,0.9s,mb5.5
STHS Stebnicka Huta 64.77 315 *e*P **P** **12 33 56.4 -0.2**
STHS *e* 12 34 22.6
STHS Stebnicka Huta 64.77 315 *e*P **P** **12 33 56.4 -0.2**
comp=Z,7.2nm,1.1s,mb4.6
STHS *e* 12 34 22.7
STHS Stebnicka Huta 64.77 315 *e*P **P** **12 33 56.4 -0.2**
STHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MLR Muntele Rosu 64.78 310 ⇓P **P** **12 33 57.5 +0.9**
WRAB Tennant Creek 64.93 169 ⇓*e*P **P** **12 33 56.8 -0.9**
WRA Warramunga Arr 64.94 169 P **P** **12 33 56.3 -1.5**
comp=Z,18nm,0.9s,mb5.1,baz=352,slow=7.2,SNR=96
OJC Ojcow 64.97 317 *e*P **P** **12 33 57.9 0.0**
CRVS Cervenica-Dubn 64.99 315 *e*P **P** **12 34 01.1 +3.1**
CRVS Cervenica-Dubn 64.99 315 *e*P **P** **12 34 01.2 +3.2**
VOIR 65.30 310 ⇑P **P** **12 34 00.5 +0.4**
DRGR 65.70 312 ⇓P **P** **12 34 03.5 +0.9**
KECS Kecovo 65.76 315 *e*P **P** **12 34 02.8 -0.2**
comp=Z,3.8nm,1.3s,mb4.3
KECS *e*PP PP 12 36 27.8 +0.2
KECS Kecovo 65.76 315 *e*P **P** **12 34 02.8 -0.2**
KECS *e* 12 36 27.8
KECS pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
OKC Ostrava-Krasne 66.03 317 *e*P **P** **12 34 05.3 +0.6**
OKC AMS AMS 13 05 30.0
comp=Z,2μm,14.3s

KSP Ksiaz 66.25 319 *eP* **P 12 34 06.4 +0.3**
MORC Moravsky Berou 66.36 317 ⇓*P* **P 12 34 07.5 +0.6**
PSZ Piszkesteto 66.42 315 *eP* **P 12 34 07.8 +0.5**
comp=Z,36nm,1.3s,mb5.2
PSZ Piszkesteto 66.42 315 *eP* **P 12 34 07.8 +0.5**
PSZ pmax pmax
comp=Z,36nm,1.3s,mb5.2
DPC Dobruska-Polom 66.56 318 *eP* **P 12 34 09.0 +0.8**
VYHS Vyhne 66.58 316 *eP* **P 12 34 09.1 +0.8**
comp=Z,11nm,1.3s,mb4.7
VYHS Vyhne 66.58 316 *eP* **P 12 34 09.1 +0.8**
VYHS pmax pmax
comp=Z,11nm,1.3s,mb4.7
UPC Upice 66.61 319 *eP* **P 12 34 08.9 +0.5**
BSEG Bad Segeberg 66.78 324 *eP* **P 12 34 10.0 +0.4**
comp=Z,12nm,0.8s,mb5.0
BZS Buzias 67.04 312 ⇓*P* **P 12 34 11.4 +0.2**
BRG Berggiesshubel 67.32 320 *eP* **P 12 34 12.6 -0.4**
comp=Z,15nm,1.1s,mb4.9
BRG Berggiesshubel 67.32 320 *eP* **P 12 34 13.2 +0.2**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BRG Berggiesshubel 67.32 320 *eP* **P 12 34 13.2 +0.2**
comp=Z,5.6nm,0.9s,mb4.6
CLL Collm 67.45 321 *eP* **P 12 34 13.3 -0.5**
comp=Z,18nm,0.8s,mb5.2
CLL Collm 67.45 321 ⇑*iP* **P 12 34 13.6 -0.2**
comp=Z,18nm,0.8s,mb5.2
CLL L 13 04 00.0
comp=Z,200nm,18.3s
CTA Charters Tower 67.51 157 *eP* **P 12 34 13.0 -1.2**
comp=Z,2.7nm,0.7s,mb4.4
CTA Charters Tower 67.51 157 *P* **P 12 34 12.8 -1.4**
comp=Z,3.8nm,0.7s,mb4.5,baz=327,slow=5.9,SNR=6.4
CTA Charters Tower 67.51 157 *eP* **P 12 34 13.0 -1.2**
CTA pmax pmax
comp=Z,3.0nm,0.7s
ZST Bratislava 67.64 316 *eP* **P 12 34 15.5 +0.5**
ZST Bratislava 67.64 316 *eP* **P 12 34 15.6 +0.6**
PRU Pruhonice 67.65 319 *eP* **P 12 34 15.5 +0.4**
PRU AMS AMS 13 06 40.0
comp=Z,600nm,13.0s
TREC Trest 67.68 318 *eP* **P 12 34 15.7 +0.5**
VTS Vitosha 68.15 309 ⇓*P* **P 12 34 19.0 +0.8**
PKSM Moragy 68.20 314 ⇓*P* **P 12 34 18.4 -0.1**
CLZ Clausthal 68.24 322 *eP* **P 12 34 16.2 -2.6**
WERD Werda 68.36 320 *eP* **P 12 34 19.6 0.0**
comp=Z,16nm,1.1s,mb5.0
NKC Novy Kostel 68.45 320 *eP* **P 12 34 20.8 +0.7**
MOX Moxa 68.54 321 *eP* **P 12 34 20.6 -0.1**
comp=Z,22nm,1.4s,mb4.9
MOX Moxa 68.54 321 *eP* **P 12 34 21.3 +0.6**
MOX
comp=Z,24nm,1.5s,mb4.9
MOX
comp=Z,300nm,19.0s
MOX Moxa 68.54 321 *eP* **P 12 34 21.3 +0.6**
MOX pmax pmax
comp=Z,24nm,1.5s,mb4.9
MOX MLR MLR
comp=Z,300nm,19.0s,MS4.5
ASAR Alice Springs 68.56 170 *P* **P 12 34 19.7 -1.1**
comp=Z,7.2nm,0.9s,mb4.6,baz=355,slow=6.0,SNR=44
KHC Kasperske Hory 68.70 319 *eP* **P 12 34 22.3 +0.7**
KHC Kasperske Hory 68.70 319 ⇑*eP* **P 12 34 21.8 +0.2**
MANZ Manzenberg 68.78 320 *eP* **P 12 34 22.7 +0.5**
comp=Z,7.0nm,1.0s,mb4.5
GEC2 GERESS Array S 68.84 318 *eP* **P 12 34 22.0 -0.5**
comp=Z,18nm,1.4s,mb4.8
GEC2 GERESS Array S 68.84 318 *eP* **P 12 34 22.0 -0.5**
GEC2 pmax pmax
comp=Z,18nm,1.4s,mb4.8
GERES GERESS Array B 68.84 318 *P* **P 12 34 22.1 -0.4**
comp=Z,3.0nm,0.7s,mb4.3,baz=54,slow=5.3,SNR=22
GERES LR LR 13 07 52.4
comp=Z,340nm,18.1s,MS4.6,baz=67,slow=39
WET Wettzell 69.02 319 *eP* **P 12 34 23.7 +0.1**
comp=Z,13nm,1.1s,mb4.8
WET Wettzell 69.02 319 *eP* **P 12 34 23.7 +0.1**
WET pmax pmax
comp=Z,13nm,1.1s,mb4.8
UBBA Unterbreizbach 69.14 322 *eP* **P 12 34 25.0 +0.6**
GRA1 Grafenberg Arr 69.39 320 *eP* **P 12 34 26.4 +0.4**
comp=Z,30nm,0.9s,mb5.2
GRF Grafenberg Arr 69.39 320 *eP* **P 12 34 26.4 +0.4**
comp=Z,30nm,0.9s,mb5.2
GRF Grafenberg Arr 69.39 320 *eP* **P 12 34 26.4 +0.4**
GRF pmax pmax
comp=Z,30nm,0.9s,mb5.2
GRF Grafenberg Arr 69.39 320 *eP* **P 12 34 26.4 +0.4**
GRF pmax pmax
comp=Z,30nm,0.9s,mb5.2
GROS Grobnik 69.62 316 *eP* **P 12 34 27.1 -0.3**
BUG Bochum--Univer 69.87 324 *eP* **P 12 34 28.4 -0.5**
OBKA Obir 70.06 316 ⇑*iP* **P 12 34 30.3 +0.2**
comp=Z,19nm,0.9s,mb5.0,SNR=7.2
KBA Koelnbreinsper 70.25 317 ⇑*iP* **P 12 34 32.0 +0.8**
comp=Z,26nm,1.0s,mb5.1,SNR=10
BOJS Bojanci 70.41 315 *eP* **P 12 34 31.8 -0.4**
CADS Cadrg 70.66 316 *eP* **P 12 34 32.6 -1.1**
JAVS Javornik 70.73 316 *eP* **P 12 34 33.5 -0.7**
EDM Edmonton 70.80 32 *eP* **P 12 34 34.3 -0.3**
WTTA Wattenberg 70.94 318 ⇑*iP* **P 12 34 35.8 +0.4**
comp=Z,12nm,0.7s,mb4.9
STU Stuttgart 70.98 321 *eP* **P 12 34 36.3 +0.6**
comp=Z,17nm,0.4s,mb5.3
MOTA Moosalm 71.13 319 ⇑*iP* **P 12 34 36.8 +0.2**
comp=Z,12nm,1.0s,mb4.8
SQTA Sankt Quirin 71.17 318 ⇑*iP* **P 12 34 37.1 +0.3**
comp=Z,8.0nm,1.0s,mb4.6
WLF Walferdange 71.67 323 *eP* **P 12 34 39.9 +0.1**
comp=Z,9.0nm,0.6s,mb4.9
BFO Black Forest 71.69 321 *eP* **P 12 34 39.6 -0.4**
comp=Z,20nm,1.1s,mb5.0
BFO Black Forest 71.69 321 *eP* **P 12 34 39.6 -0.4**
BFO pmax pmax
comp=Z,20nm,1.1s,mb5.0
DAVA Damuels 71.75 319 ⇑*iP* **P 12 34 41.0 +0.7**
comp=Z,34nm,1.1s,mb5.2
GIVF Givet 71.90 324 *eP* **P 12 34 40.8 -0.5**
CDF Champ du Feu 72.11 321 *eP* **P 12 34 42.7 +0.2**
comp=Z,19nm,1.1s,mb4.7
CDF Champ du Feu 72.11 321 *eP* **P 12 34 42.7 +0.2**
comp=Z,9.6nm,1.1s,mb4.6
CDF Champ du Feu 72.11 321 *eP* **P 12 34 42.7 +0.2**
CDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
FCC Fort Churchill 72.21 20 *eP* **P 12 34 41.3 -1.8**
comp=Z,9.8nm,1.2s,mb4.6
FCC Fort Churchill 72.21 20 *eP* **P 12 34 41.3 -1.8**
FCC pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
HINF Hinteralfeld 72.74 321 *eP* **P 12 34 46.0 -0.3**
HAU Haudompre 72.82 322 *eP* **P 12 34 47.5 +0.7**
comp=Z,16nm,0.7s,mb4.8
HAU *eR*
comp=Z,204nm,18.6s
HAU Haudompre 72.82 322 *eP* **P 12 34 47.5 +0.7**
comp=Z,7.9nm,0.7s,mb4.8
HAU LR LR
comp=Z,200nm,18.6s,MS4.4
HAU Haudompre 72.82 322 *eP* **P 12 34 47.5 +0.7**
HAU pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
HAU MLR MLR
comp=Z,200nm,18.6s,MS4.4
NEW Newport 73.04 38 *eP* **P 12 34 47.8 -0.3**
comp=Z,10nm,1.2s,mb4.6
NEW Newport 73.04 38 *eP* **P 12 34 47.8 -0.2**
NEW pmax pmax
comp=Z,10.0nm,1.2s
CABF La Chapelle 73.99 321 *eP* **P 12 34 53.9 +0.3**
comp=Z,22nm,0.9s,mb4.8
CABF La Chapelle 73.99 321 *eP* **P 12 34 53.9 +0.3**
comp=Z,11nm,0.9s,mb4.8
CABF La Chapelle 73.99 321 *eP* **P 12 34 53.9 +0.3**
CABF pmax pmax
comp=Z,11nm,0.9s,mb4.8
LOR Lormes 74.48 322 *eP* **P 12 34 55.9 -0.6**
comp=Z,26nm,0.8s,mb4.9
LOR *eR*
comp=Z,253nm,18.5s
LOR Lormes 74.48 322 *eP* **P 12 34 55.9 -0.6**
comp=Z,13nm,0.8s,mb4.9
LOR LR LR
comp=Z,250nm,18.5s,MS4.5
LOR Lormes 74.48 322 *eP* **P 12 34 55.9 -0.6**
LOR pmax pmax
comp=Z,13nm,0.8s,mb4.9
LOR MLR MLR
comp=Z,250nm,18.5s,MS4.5
LPL La Plagne 74.52 320 *eP* **P 12 34 57.1 +0.4**
comp=Z,20nm,0.8s,mb4.8
LPL La Plagne 74.52 320 *eP* **P 12 34 57.1 +0.4**
comp=Z,10nm,0.8s,mb4.8
LPL La Plagne 74.52 320 *eP* **P 12 34 57.1 +0.4**
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LPG La Plagne 74.53 320 *eP* **P 12 34 57.2 +0.4**
comp=Z,22nm,0.8s,mb4.8
LPG La Plagne 74.53 320 *eP* **P 12 34 57.2 +0.4**
comp=Z,11nm,0.8s,mb4.8
LPG La Plagne 74.53 320 *eP* **P 12 34 57.2 +0.4**
LPG pmax pmax
comp=Z,11nm,0.8s,mb4.8
SSF Saint Saulge 74.79 322 *eP* **P 12 34 57.7 -0.6**
comp=Z,9.8nm,0.7s,mb4.6
SSF Saint Saulge 74.79 322 *eP* **P 12 34 57.7 -0.6**
comp=Z,4.9nm,0.7s,mb4.5
SSF Saint Saulge 74.79 322 *eP* **P 12 34 57.7 -0.6**
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SMF Signal de Mont 74.97 322 *eP* **P 12 34 58.8 -0.5**
comp=Z,47nm,1.3s,mb5.0
SMF Signal de Mont 74.97 322 *eP* **P 12 34 58.8 -0.5**
comp=Z,24nm,1.3s,mb5.0
SMF Signal de Mont 74.97 322 *eP* **P 12 34 58.8 -0.5**
SMF pmax pmax
comp=Z,23nm,1.3s,mb5.0
AVF Avril sur Loir 75.07 322 *eP* **P 12 34 59.4 -0.5**
comp=Z,13nm,0.8s,mb4.6
AVF Avril sur Loir 75.07 322 *eP* **P 12 34 59.4 -0.5**
comp=Z,6.4nm,0.8s,mb4.6
AVF Avril sur Loir 75.07 322 *eP* **P 12 34 59.4 -0.5**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MBDF Montbardon 75.10 319 *eP* **P 12 34 59.5 -0.6**
comp=Z,16nm,0.7s,mb4.8
MBDF Montbardon 75.10 319 *eP* **P 12 34 59.5 -0.6**
comp=Z,8.3nm,0.7s,mb4.8
MBDF Montbardon 75.10 319 *eP* **P 12 34 59.5 -0.6**
MBDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
FORT Forrest 75.14 177 *eP* **P 12 34 59.1 -1.2**
comp=Z,22nm,0.8s,mb5.1
ORIF Oris-en-Rattie 75.37 320 *eP* **P 12 35 01.6 0.0**
ORIF *eR*
comp=Z,404nm,17.8s
SBF Sospel 75.44 318 *eP* **P 12 35 02.6 +0.6**
MSO Missoula 75.52 37 *eP* **P 12 35 02.8 +0.3**
comp=Z,5.7nm,1.1s,mb4.4
BMO Blue Mountains 75.55 40 *eP* **P 12 35 02.9 +0.2**
comp=Z,8.0nm,1.1s,mb4.6
CHMT Chamberlain Mo 75.75 37 *eP* **P 12 35 04.1 +0.3**
TCF Toulx Ste Croi 75.95 323 *eP* **P 12 35 04.8 -0.2**
comp=Z,24nm,0.8s,mb4.9
TCF Toulx Ste Croi 75.95 323 *eP* **P 12 35 04.8 -0.2**
comp=Z,12nm,0.8s,mb4.9
TCF Toulx Ste Croi 75.95 323 *eP* **P 12 35 04.8 -0.2**
TCF pmax pmax
comp=Z,12nm,0.8s,mb4.9
SMRF Simiane la Rot 76.23 319 *eP* **P 12 35 06.4 -0.1**
EGMT Eagleton 76.31 34 *eP* **P 12 35 06.8 -0.2**
comp=Z,12nm,1.1s,mb4.8
HRY Holter Researc 76.51 36 *eP* **P 12 35 07.8 -0.3**
MFF Saint Martin d 76.71 324 *eP* **P 12 35 09.1 -0.2**
WVOR Wild Horse Val 76.76 43 *eP* **P 12 35 10.2 +0.7**
comp=Z,11nm,1.1s,mb4.7
WVOR Wild Horse Val 76.76 43 *eP* **P 12 35 10.2 +0.7**
WVOR pmax pmax
comp=Z,11nm,1.1s,mb4.7
LASF Ste Croix 76.94 320 *eP* **P 12 35 10.7 +0.1**
comp=Z,31nm,1.0s,mb4.9
CAF Calviac 77.08 322 *eP* **P 12 35 11.9 +0.5**
DLMT Dillon 77.25 37 *eP* **P 12 35 12.6 +0.3**
comp=Z,28nm,1.4s,mb5.0
MCMT McKenzie Canyo 77.56 38 *eP* **P 12 35 14.4 +0.3**
LFF La Frestale 77.65 323 *eP* **P 12 35 14.8 +0.2**
STKA Stephens Creek 77.80 165 *eP* **P 12 35 12.8 -2.6**
comp=Z,4.6nm,1.3s,mb4.2
STKA Stephens Creek 77.80 165 *P* **P 12 35 13.2 -2.2**
comp=Z,4.8nm,0.9s,mb4.4,baz=320,slow=11,SNR=6.4
HLID Hailey 77.86 39 *eP* **P 12 35 16.5 +0.7**
comp=Z,8.5nm,1.0s,mb4.6
DGMT Dagmar 78.06 31 *eP* **P 12 35 15.9 -1.0**
comp=Z,15nm,0.9s,mb4.9
GCMT Greycliff 78.14 35 *eP* **P 12 35 17.8 +0.5**
QLMT Earthquake Lak 78.18 37 *eP* **P 12 35 18.1 +0.6**
MTLF Montolieu 78.26 321 *eP* **P 12 35 18.0 +0.1**
comp=Z,4.5nm,0.8s,mb4.2
MTLF Montolieu 78.26 321 *eP* **P 12 35 18.0 +0.1**
comp=Z,2.3nm,0.8s,mb4.2
MTLF Montolieu 78.26 321 *eP* **P 12 35 18.0 +0.1**
MTLF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
PAHR Pah Rah Range 78.45 45 *eP* **P 12 35 19.9 +0.9**
comp=Z,14nm,1.0s,mb4.8
ARMA Armidale 78.80 156 *eP* **P 12 35 21.9 +1.0**
BMN Battle Mountai 78.97 43 *eP* **P 12 35 23.0 +1.1**
comp=Z,16nm,1.1s,mb4.9
BMN Battle Mountai 78.97 43 *eP* **P 12 35 23.0 +1.1**
BMN pmax pmax
comp=Z,16nm,1.1s,mb4.9
FLWY Flagg Ranch 79.09 37 *eP* **P 12 35 23.6 +1.1**
comp=Z,7.0nm,1.1s,mb4.5
IMW Indian Meadow 79.13 37 *eP* **P 12 35 23.6 +0.8**
comp=Z,7.5nm,1.1s,mb4.5
ULM Lac du Bonnet 79.28 25 *P* **P 12 35 21.1 -2.5**
comp=Z,6.2nm,1.0s,mb4.5,baz=351,slow=5.3,SNR=11
LOHW Long Hollow 79.51 37 *eP* **P 12 35 25.5 +0.7**
comp=Z,17nm,1.7s,mb4.7
ELK Elko 79.68 42 *eP* **P 12 35 27.0 +1.3**
comp=Z,7.0nm,1.3s,mb4.4
ELK Elko 79.68 42 *eP* **P 12 35 27.0 +1.3**
ELK pmax pmax
comp=Z,7.0nm,1.3s
NVAR Mina Array Bea 79.97 45 *P* **P 12 35 28.1 +0.8**
comp=Z,4.3nm,0.9s,mb4.4,baz=289,slow=5.9,SNR=25
SCHQ Schefferville 80.46 6 *P* **P 12 35 29.2 -0.8**
comp=Z,5.3nm,0.9s,mb4.5,baz=308,slow=3.7,SNR=8.3
SCHQ LR LR 13 16 32.9
comp=Z,92nm,18.9s,MS4.2,baz=13,slow=40
PDAR Pinedale Array 80.64 37 *P* **P 12 35 30.6 -0.4**
comp=Z,1.9nm,1.1s,mb4.0,baz=318,slow=2.0,SNR=12
HWUT Hardware Ranch 80.70 39 *eP* **P 12 35 31.9 +0.7**
comp=Z,1.9nm,1.1s,mb4.8
RSSD Black Hills 81.78 33 *eP* **P 12 35 36.5 -0.5**
comp=Z,16nm,1.1s,mb4.8
RSSD Black Hills 81.78 33 *eP* **P 12 35 36.5 -0.5**
RSSD pmax pmax
comp=Z,16nm,1.1s,mb4.9
TMUT Trail Mountain 82.71 40 *eP* **P 12 35 42.6 +0.7**
ARUT Antelope Range 82.87 42 *eP* **P 12 35 43.8 +1.1**
MSU Marysvale 82.89 41 *eP* **P 12 35 44.1 +1.3**
SRU San Rafael 83.18 40 *eP* **P 12 35 45.0 +0.8**
comp=Z,2.5nm,0.8s,mb4.3
SRU San Rafael 83.18 40 *eP* **P 12 35 45.0 +0.7**
SRU pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
NEN Nelson 83.87 45 *eP* **P 12 35 48.5 +0.7**
ESDC Sonseca Array 83.96 322 *P* **P 12 35 47.3 -1.0**
comp=Z,1.0nm,0.6s,mb4.2,baz=34,slow=4.9,SNR=7.5
SMCO Snowmass 84.70 37 *eP* **P 12 35 52.8 +0.7**
comp=Z,15nm,1.1s,mb5.0
WUAZ Wupatki 85.68 42 *eP* **P 12 35 58.3 +1.4**
comp=Z,19nm,1.0s,mb5.3
KMBO Kilima Mbogo 86.57 267 *P* **P 12 36 11.2 +0.2**
comp=Z,2.2nm,0.2s,mb5.1,baz=72,slow=14,SNR=12
TORD Torodi Ar. Bea 102.41 303 *PP* *PP* 12 41 22.4 -4.1
comp=Z,1.1nm,1.1s,baz=41,slow=5.3,SNR=3.5
VNDA Vanda 124.10 171 *PKP* *PKPdf* 12 42 14.2 -2.4
comp=Z,2.3nm,0.7s,baz=298,slow=4.3,SNR=14
VNDA Vanda 124.10 171 *ePKIKP* *PKPdf* 12 42 13.8 -2.8
SDV Santo Domingo 125.07 18 *PKP* *PKPdf* 12 42 18.0 -0.4
comp=Z,7.1nm,0.9s,baz=353,slow=6.4,SNR=7.2
SDV Santo Domingo 125.07 18 *ePKPdf* *PKPdf* 12 42 18.0 -0.5
VNA2 Neumayer--Watz 144.79 205 *ePKPdf* *PKPdf* 12 42 52.1 -2.9
baz=85,slow=2.6
VNA2 *e* 12 42 57.2
VNA2 *e* 12 43 01.0
VNA3 Neumayer Olymp 145.34 204 *ePKPdf* *PKPdf* 12 42 53.4 -2.6
VNA3 *e* 12 42 57.7
LPAZ La Paz 149.89 24 *PKPbc* *PKPbc* 12 43 07.8 -0.5
comp=Z,11nm,1.1s,baz=18,slow=5.2,SNR=15
LPAZ La Paz 149.89 24 *PKP2* *PKPbc* 12 43 07.8 -0.6
LPAZ pmax pmax
comp=Z,11nm,1.1s
BDFB Brasilia 150.34 345 *PKPbc* *PKPbc* 12 43 08.7 -0.8
comp=Z,4.8nm,0.8s,baz=198,slow=5.2,SNR=4.9
BDFB Brasilia 150.34 345 *PKIKP* *PKPbc* 12 43 08.7 -0.7
BDFB pmax pmax
comp=Z,5.0nm,0.8s
CPUP Villa Florida 161.69 4 *PKPab* *PKPab* 12 44 01.9 -2.3
comp=Z,1.6nm,0.7s,baz=215,slow=1.5,SNR=3.5
CPUP Villa Florida 161.69 4 *PKP2* *PKPab* 12 44 02.0 -2.3
CPUP pmax pmax
comp=Z,2.0nm,0.7s

IDC ***31*** *12:30:57.0±2.3, 1470N×94.10W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/22, mbtmp4.0/9, Error ellipse: s-maj=75.2km s-min=23.9km az=36.0*
NEIC ***31*** *12:30:59.2±1.2, 1486N×9391W, h10km, mb4.2/8, Error ellipse: s-maj=23.6km s-min=10.6km az=201.0*
ISCJB ***31*** *12:31:00.7±1.2, 1477N±007×9438W±003, h33km±8km, mb4.1/15, Error ellipse: s-maj=12.2km s-min=5.6km az=1.0*
MEX ***31*** *12:31:02.0±0.4, 1474N×9438W, h13km±7km, MD4.5*
ISC 31 12:31:01.7±2.0, 1477N±006×9436W±004, h27km±15km, n42, σ1°40/52, mb4.1/15, 1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.96**	**301**	*i* P	**Pn**	**12 31 31.8**	**-1.3**
HUIG				*i* S	**Sn**	**12 31 54.5**	**-2.4**
CMIG	**Matias Romero**	**2.36**	**348**	*i* P	**Pn**	**12 31 37.7**	**-1.0**
CMIG				*i* S	**Sn**	**12 32 05.7**	**-1.1**
SCX	**San Cristobal**	**2.56**	**40**	*i* P	**Pn**	**12 31 41.5**	**+0.1**
SCX				*i* S	**Sn**	**12 32 12.5**	**+0.8**
CCIG	**Comitan**	**2.62**	**55**	*e*P	**Pn**	**12 31 41.5**	**-0.6**
CCIG				*i* S	**Sn**	**12 32 12.8**	**-0.1**
OXX	**Oaxaca**	**3.24**	**316**	*i* P	**Pn**	**12 31 52.7**	**+2.0**
VHO	**Vista Hermosa**	**3.24**	**315**	*e*P	**Pn**	**12 31 51.0**	**+0.3**
VHO				*i* S	**Sn**	**12 32 28.6**	**+0.3**
TUIG	**Tuzandepetl**	**3.25**	**359**	*i* P	**Pn**	**12 31 50.4**	**-0.4**
TUIG				*i* S	**Sn**	**12 32 28.5**	**-0.1**
PNIG	**Pinotepa**	**3.98**	**294**	*i* P	**Pn**	**12 31 59.2**	**-1.6**
PNIG				*i* S	**Sn**	**12 32 45.0**	**-1.6**
UTMO	**Huajuapan**	**4.50**	**313**	*e*P	**Pn**	**12 32 08.8**	**+0.8**
UTMO				*i* S	**Sn**	**12 32 59.0**	**-0.4**
PPM	**Popocatepetl**	**5.91**	**317**	*e*P	**Pn**	**12 32 28.1**	**+0.7**
PPM				*e*P		12 32 32.0	
PPM				*i* S	**Sn**	**12 33 33.4**	**-0.9**
MEIG	**Mezcala**	**5.95**	**303**	*i* P	**Pn**	**12 32 24.9**	**-3.1**
MEIG				*i* S	**Sn**	**12 33 36.2**	**+1.0**
TEIG	**Tepich**	**7.94**	**46**	*e*P	**Pn**	**12 32 51.2**	**-4.1**
8.0nm,0.7s							
TEIG				*e*S	**Sn**	**12 34 15.6**	**-8.7**
LTX	**Lajitas**	**16.86**	**331**	*e*P	**Pn**	**12 34 57.3**	**+1.7**
17nm,1.5s							
GDL2	**Guadalupe Moun**	**19.61**	**334**	*e*P	**Pn**	**12 35 28.1**	**-1.2**
MNTX	**Cornudas Mount**	**19.64**	**331**	*e*P	**Pn**	**12 35 29.3**	**-0.4**
4.9nm,1.1s							
MIAR	**Mount Ida**	**19.70**	**2**	*e*P	**Pn**	**12 35 27.4**	**-3.0**
10nm,0.7s							
CPRX	**Cap Rock**	**20.13**	**336**	*e*P	**P**	**12 35 35.1**	**+1.6**
WMOK	**Wichita Mounta**	**20.28**	**349**	*e*P	**P**	**12 35 34.8**	**-0.4**
3.9nm,0.7s							
BNM	**Barren Site**	**22.26**	**332**	*e*P	**P**	**12 35 58.7**	**+2.3**
LPM	**Los Pinos Moun**	**22.40**	**332**	*e*P	**P**	**12 36 00.5**	**+2.6**
LAZ	**Ladron**	**22.70**	**332**	*e*P	**P**	**12 36 03.8**	**+2.7**
ANMO	**Albuquerque**	**22.86**	**334**	*P*	**P**	**12 36 04.2**	**+1.4**
2.0nm,0.6s,mb3.7,baz=157,slow=12,SNR=6.3							
ANMO	**Albuquerque**	**22.87**	**334**	*e*P	**P**	**12 36 04.4**	**+1.6**
SDV	**Santo Domingo**	**23.93**	**101**	*P*	**P**	**12 36 10.6**	**-2.8**
1.7nm,0.5s,mb3.7,baz=10.0,slow=17,SNR=3.3							
WCI	**Wyandotte Cave**	**24.43**	**15**	*e*P	**P**	**12 36 15.3**	**-2.6**
9.1nm,0.6s,mb4.4							
PDAR	**Pinedale Array**	**30.81**	**338**	*P*	**P**	**12 37 16.1**	**+1.0**
0.6nm,0.8s,mb3.5,baz=140,slow=7.8,SNR=4.0							
ELK	**Elko**	**31.63**	**329**	*e*P	**P**	**12 37 24.6**	**+2.3**
2.6nm,0.9s,mb4.1							
NVAR	**Mina Array Bea**	**31.66**	**323**	*P*	**P**	**12 37 25.1**	**+2.5**
3.3nm,1.1s,mb4.1,baz=121,slow=8.7,SNR=7.7							
SNOW	**Snow King Moun**	**31.86**	**337**	*e*P	**P**	**12 37 26.0**	**+1.7**
5.5nm,0.8s,mb4.4							
DLMT	**Dillon**	**34.17**	**337**	*P*	**P**	**12 37 45.7**	**+1.2**
WVOR	**Wild Horse Val**	**34.60**	**328**	*e*P	**P**	**12 37 49.8**	**+1.5**
ULM	**Lac du Bonnet**	**35.41**	**358**	*P*	**P**	**12 37 52.1**	**-3.1**
2.1nm,0.7s,mb4.2,baz=173,slow=8.6,SNR=6.5							
EDM	**Edmonton**	**41.20**	**343**	*e*P	**P**	**12 38 43.8**	**-0.1**
YKA	**Yellowknife Ar**	**49.78**	**348**	*P*	**P**	**12 39 51.2**	**-0.7**
1.4nm,0.7s,mb4.1,baz=152,slow=7.3,SNR=27							
INK	**Inuvik**	**59.07**	**344**	*P*	**P**	**12 40 59.1**	**-0.2**
1.4nm,0.8s,mb4.1,baz=142,slow=5.1,SNR=10							
RES	**Resolute Bay**	**59.91**	**360**	*e*P	**P**	**12 41 03.3**	**-1.9**
1.9nm,0.6s,mb4.3							
ILAR	**Eielson Array**	**61.24**	**337**	*P*	**P**	**12 41 14.5**	**+0.2**
1.4nm,0.9s,mb4.1,baz=170,slow=4.3,SNR=15							
DAG	**Danmarks Havn**	**72.45**	**14**	⇑*iP*	**P**	**12 42 24.2**	**-1.4**
2.5nm,0.4s,mb4.5							
NB2	**NORSAR Subarra**	**84.55**	**28**	*P*	**P**	**12 43 32.2**	**-0.1**
comp=Z,0.9nm,0.6s,mb4.1,baz=292,slow=5.3							
NOA	**NORSAR Array B**	**84.55**	**28**	*P*	**P**	**12 43 32.0**	**-0.3**
comp=Z,1.1nm,0.6s,mb4.1,baz=292,slow=5.1,SNR=6.9							
ARCES	**ARCESS Array B**	**86.12**	**18**	*P*	**P**	**12 43 40.3**	**+0.2**
comp=Z,3.1nm,1.0s,mb4.5,baz=278,slow=4.3,SNR=5.4							
WRA	**Warramunga Arr**	**133.36**	**256**	*PKP*	*PKPdf*	12 50 15.5	+0.4
comp=Z,0.5nm,1.0s,baz=69,slow=1.7,SNR=4.9							

IDC 31 12:40:45.5±8.5, 590S×12726E, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.3/14, mbtmp3.2/3, ML2.9/1, MS4.2/1, Ms1 4.2/1, ms1mx3.0/26, Error ellipse: s-maj=464.3km s-min=38.3km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.56**	**154**	Pn	Pn	12 44 28.0	+1.8
0.1nm,0.3s,baz=340,slow=12,SNR=6.8							
ASAR	**Alice Springs**	**18.78**	**161**	*P*	Pn	12 45 05.8	-0.9
0.0nm,0.3s,baz=346,slow=11,SNR=8.5							
CBIJ	**Chichi jima**	**35.84**	**23**	LR	LR	12 59 48.8	
comp=Z,407nm,21.5s,baz=161,slow=32							
ILAR	**Eielson Array**	**93.53**	**25**	*P*	*P*	12 54 03.0	-0.2
0.4nm,1.0s,baz=255,slow=4.8,SNR=5.4							

GUC 31 12:55:08.1±0.3, 3071S×7168W, h27km±11km, MD3.6, ML3.1, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.42**	**77**	⇓*iP*	Pb	12 55 17.0	-0.1
OVCH				*i* S	Sb	12 55 23.6	+0.4
OVCH				AMP		12 55 24.0	
comp=N,6μm,0.2s							
CMCH	**Combarbala**	**0.74**	**129**	⇓*iP*	Pb	12 55 22.0	-0.4
CMCH				*i* S	Sb	12 55 32.6	+0.4
CMCH				AMP		12 55 33.0	
comp=N,4μm,0.2s							
LSCH	**La Serena**	**0.88**	**25**	⇑*iP*	Pn	12 55 23.9	-0.7
LSCH				*i* S	Sb	12 55 35.8	-0.3
LSCH				AMP		12 55 39.3	
comp=N,635nm,0.3s							
CHNG	**Los Chungos**	**1.18**	**173**	⇑*iP*	Pn	12 55 28.7	-0.2
CHNG				*i* S	Sn	12 55 44.3	+0.3
CHNG				AMP		12 55 45.3	
comp=E,415nm,0.6s							

ISCJB ***31*** *12:56:29.3±1.3, 148N±0.1×9447W±006, h10km, mb3.7/5, Error ellipse: s-maj=15.0km s-min=7.5km az=29.1*
MEX ***31*** *12:56:31.6±0.3, 1455N×9446W, h39km±999km, MD4.4*
IDC ***31*** *12:56:34.5±8.5, 1570N×9366W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.7/5, Error ellipse: s-maj=227.0km s-min=54.1km az=19.0*
ISC 31 12:56:30.8±3.6, 148N±01×9445W±006, h13km±24km, n10, σ0°66/13, mb3.7/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**2.34**	**350**	*i* P	**Pn**	**12 57 09.3**	**+0.3**
CMIG				*i* S	**Sn**	**12 57 38.5**	**+0.9**
SCX	**San Cristobal**	**2.62**	**42**	*i* P	**Pn**	**12 57 13.5**	**+0.7**
CCIG	**Comitan**	**2.68**	**56**	*e*P	**Pn**	**12 57 13.0**	**-0.7**

CCIG				*i* S	Sn	12 57 45.2	-0.8
VHO	**Vista Hermosa**	**3.17**	**316**	*i* P	Pn	12 57 19.6	-0.8
VHO				*i* S	Sn	12 57 57.7	-0.4
UTMO	**Huajuapan**	**4.43**	**314**	*i* S	Sn	12 58 28.6	-0.5
NVAR	**Mina Array Bea**	**31.60**	**323**	P	P	13 02 57.4	+4.2
	0.5nm,0.8s,mb3.4,baz=127,slow=9.7,SNR=5.4						
YKA	**Yellowknife Ar**	**49.75**	**348**	P	P	13 05 22.7	-0.2
	0.3nm,0.6s,mb3.5,baz=152,slow=7.2,SNR=7.7						
ILAR	**Eielson Array**	**61.20**	**337**	P	P	13 06 46.4	+1.1
	0.4nm,0.8s,mb3.6,baz=130,slow=5.2,SNR=5.3						
NOA	**NORSAR Array B**	**84.59**	**28**	P	P	13 09 04.1	+0.2
	0.5nm,0.7s,mb3.7,baz=278,slow=10,SNR=3.5						
ARCES	**ARCESS Array B**	**86.14**	**18**	P	P	13 09 11.7	+0.1
	2.5nm,1.0s,mb4.4,baz=317,slow=3.8,SNR=3.8						

*ISCJB **31** 13:07:01.3±0.5,4332N±002×1991E±004,h11km±13km,*
Error ellipse: s-maj=5.4km s-min=3.2km az=62.7
*BEO **31** 13:07:02.4±0.2,4332N×1992E,h5km±1km*
*NEIC **31** 13:07:03.5,4325N×1983E,h11km,ML2.5(PDG),After PDG.*
*PDG **31** 13:07:03.5±0.1,4325N×1983E,h11km±2km*
ISC 31 13:07:02.1±0.5,4333N±002×1991E±004,h13km±12km,
n14,σ0°76/27,4C-1D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLE	**Pljevlja**	**0.37**	**271**	⇑*i*Pg	**Pg**	**13 07 10.1**	**+0.5**
PLE				*e*Sg	**Sg**	**13 07 14.8**	**+0.2**
IVA	**Berane**	**0.45**	**181**	⇑*i*Pg	**Pg**	**13 07 10.7**	**-0.3**
IVA				*e*Sg	**Sg**	**13 07 17.0**	**-0.1**
BBLS	**Bajina Basta -**	**0.65**	**327**	*i* Pg	**Pg**	**13 07 14.3**	**-0.4**
PVY	**Plav**	**0.73**	**176**	*e*Pg	**Pg**	**13 07 15.9**	**-0.3**
PVY				*e*Sg	**Sg**	**13 07 26.3**	**+0.5**
UPM	**Unac-Piva**	**0.74**	**261**	⇓*i*Pg	**Pg**	**13 07 16.0**	**-0.4**
UPM				*e*Sg	**Sg**	**13 07 26.6**	**+0.5**
DIVS	**Divcibare**	**0.78**	**5**	*i* Pg	**Pg**	**13 07 16.1**	**-1.1**
DIVS				Sg	**Sg**	**13 07 27.8**	**+0.5**
GRUS	**Gruza**	**0.81**	**46**	*i* Pg	**Pg**	**13 07 17.5**	**-0.3**
GRUS				Sg	**Sg**	**13 07 28.8**	**+0.3**
NKY	**Niksic**	**0.84**	**233**	⇑*i*Pg	**Pg**	**13 07 17.8**	**-0.6**
NKY				*e*Sg	**Sg**	**13 07 29.4**	**+0.1**
TTG	**Podgorica**	**1.01**	**208**	*e*Pg	**Pg**	**13 07 20.5**	**-1.1**
TTG				*e*Sg	**Sg**	**13 07 35.3**	**+0.5**
BRY	**Bratogost**	**1.08**	**247**	*e*Pg	**Pg**	**13 07 21.8**	**-1.2**
BRY				*e*Sg	**Sg**	**13 07 37.9**	**+0.8**
BUM	**Brajici-Budva**	**1.26**	**216**	*e*Pg	**Pg**	**13 07 25.7**	**-0.7**
BUM				*e*Sg	**Sg**	**13 07 43.9**	**+1.0**
HCY	**Herceg Novi**	**1.36**	**230**	*e*Pg	**Pg**	**13 07 27.1**	**-1.1**
HCY				*e*Sg	**Sg**	**13 07 46.7**	**+0.9**
SVIS	**Svilajnac**	**1.36**	**44**	⇑*i*Pn	**Pn**	**13 07 27.5**	**+0.7**
SVIS				Sg	**Sg**	**13 07 47.2**	**+1.3**
ULC	**Ulcinj**	**1.44**	**200**	*e*Pg	**Pg**	**13 07 28.5**	**-1.4**
ULC				*e*Sg	**Sg**	**13 07 49.8**	**+1.2**

*ISCJB **31** 13:11:00.2±0.7,3387N±004×4872E±006,h15km±8km,*
Error ellipse: s-maj=8.6km s-min=6.8km az=156.5
*CSEM **31** 13:11:01.5±0.1,3388N×4873E,h14km,ML3.6/3,Error ellipse: s-maj=3.5km s-min=2.5km az=95.0*
*KISR **31** 13:11:04.4±0.8,3333N×4924E,h10km,ML2.2*
ISC 31 13:11:01.8±0.8,3388N±004×4873E±006,h12km±9km,n6,
σ0°94/12,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**1.27**	**58**	*e*Pg	**Pg**	**13 11 25.7**	**-0.4**
	SNR=90						
ASAO				*e*Sg	**Sg**	**13 11 42.5**	**-0.1**
	174nm,0.6s,SNR=90						
SNGE	**Sanandaj**	**1.66**	**317**	*e*Pg	**Pg**	**13 11 33.0**	**-0.7**
	SNR=90						
SNGE				*e*Sg	**Sg**	**13 11 55.4**	**+0.1**
	59nm,0.4s,SNR=90						
SHGR	**Shooshtar-Gavs**	**1.77**	**178**	*e*Pg	**Pg**	**13 11 35.1**	**-0.5**
	SNR=90						
SHGR				*e*Sg	**Sg**	**13 11 58.8**	**+0.3**
	102nm,0.4s,SNR=90						
MIB	**Mutribah**	**4.23**	**197**	*e*P	**Pn**	**13 12 07.7**	**+1.6**
MIB				*e*S	**Sn**	**13 12 55.3**	**-0.1**
MIB				AML	AML	13 12 57.8	
	comp=Z,4.3nm,0.5s						
NAY	**Al-Naaiem**	**4.79**	**196**	*e*P	**Pn**	**13 12 14.8**	**+1.1**
NAY				*e*S	**Sn**	**13 13 08.1**	**-1.0**
NAY				AML	AML	13 13 10.0	
	comp=Z,1.6nm,0.5s						
RDF	**Al-Radifah**	**5.04**	**192**	*e*P	**Pn**	**13 12 18.6**	**+1.4**
RDF				*e*S	**Sn**	**13 13 13.6**	**-1.7**
RDF				AML	AML	13 13 16.3	
	comp=Z,3.1nm,0.4s						

CASC 31 13:12:59.5±1.9,1240N×8767W,h48km±56km,MD3.5,
ML3.4,11C-5D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.68**	**64**	⇑*e*P	Pn	13 13 13.9	+1.1
CRIN				*e*S	Sn	13 13 24.1	+1.5
LEON	**Leon**	**0.76**	**89**	⇑*e*P	Pn	13 13 13.9	-0.1
LEON				*e*S	Sn	13 13 24.3	-0.2
TEL3	**Telica 3**	**0.83**	**78**	⇑*e*P	Pn	13 13 15.0	+0.2
TEL3				*e*S	Sn	13 13 26.9	+0.9
TELN	**Telica**	**0.85**	**76**	⇓*e*P	Pn	13 13 15.2	+0.1
TELN				*e*S	Sn	13 13 27.8	+1.3
CNCH	**Conchagua**	**0.89**	**350**	⇑*e*P	Pn	13 13 52.6	+37
CNCH				*e*S	Sn	13 14 04.9	+37
MIRN	**Miramar**	**0.94**	**87**	⇑*e*P	Pn	13 13 16.5	+0.2
MIRN				*e*S	Sn	13 13 29.4	+0.7
CNGN	**Cerro Negro**	**0.96**	**84**	⇓*e*P	Pn	13 13 16.7	+0.1
CNGN				*e*S	Sn	13 13 31.4	+2.3
COPN	**Copaltepe**	**1.08**	**101**	⇓*e*P	Pn	13 13 18.1	-0.1
COPN				*e*S	Sn	13 13 31.7	-0.3
MOMJ	**Momotombo**	**1.11**	**89**	⇑*e*P	Pn	13 13 18.8	+0.2
MOMJ				*e*S	Sn	13 13 32.8	0.0
BLLM	**Bellamira**	**1.18**	**332**	⇓*e*P	Pn	13 13 56.1	+37
BLLM				*e*S	Sn	13 14 12.0	+38
BLLM				*e*S	Sn	13 14 12.0	+38
VSM	**San Miguel**	**1.18**	**330**	⇑*e*P	Pn	13 13 57.6	+38
VSM				*e*S	Sn	13 14 14.4	+40
APYN	**Apoyeque**	**1.30**	**97**	*e*P	Pn	13 13 20.7	-0.5
XAVN	**Gruta Xavier**	**1.34**	**101**	*e*S	Sn	13 13 39.1	+0.7
MGAN	**Managua**	**1.42**	**100**	⇑*e*P	Pn	13 13 22.8	0.0
MGAN				*e*S	Sn	13 13 40.6	+0.3
MGAN				*i*		13 13 41.9	
	comp=E,624nm,0.2s						
TICN	**Ticuantepe**	**1.46**	**104**	⇑*e*P	Pn	13 13 23.6	+0.3
WILN	**Americas 2**	**1.47**	**99**	*e*S	Sn	13 13 42.3	+0.6
APON	**Apoyo**	**1.64**	**107**	⇑*e*P	Pn	13 13 27.3	+1.4
SNVI	**San Vicente**	**1.66**	**317**	*e*P	Pn	13 14 03.1	+37
SNVI				*e*S	Sn	13 14 23.8	+38
LCBS	**La Ceiba**	**1.78**	**315**	⇑*e*P	Pn	13 14 04.9	+37
LCBS				*e*S	Sn	13 14 26.1	+37
LFRS	**El Faro**	**1.82**	**312**	⇓*e*P	Pn	13 14 05.2	+37
LFRS				*e*S	Sn	13 14 26.8	+37

*CSEM **31** 13:14:44.5±1.6,3845N×2852W,h2km±4km,ML2.0,Error ellipse: s-maj=5.1km s-min=3.4km az=22.0,After PDA*
*PDA **31** 13:14:44.5±1.6,3845N×2852W,h2km±4km,MD3.0,ML2.0,Error ellipse: s-maj=5.1km s-min=3.4km az=22.0*
SVSA 31 13:14:44.5±1.6,3845N×2852W,h2km±4km,MD3.0,ML2.0,
Error ellipse: s-maj=5.1km s-min=3.4km az=22.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCND	**Candelaria**	**0.05**	**68**	*i* P	Pg	13 14 47.2	+1.8
PCND				*i* S	Sg	13 14 48.3	+2.2
PCND							
	383nm,0.1s						
PICO	**Pico**	**0.09**	**56**	*i* P	Pg	13 14 46.6	+0.4
PICO				*e*S	Sg	13 14 47.2	-0.1
PICO	**Pico**	**0.09**	**56**	*e*S	Sg	13 14 47.2	-0.1
PBOI	**Pico dos Bois**	**0.11**	**98**	*i* P	Pg	13 14 47.0	+0.3
PBOI				*e*S	Sg	13 14 48.0	-0.2
PBOI							
	870nm,0.1s						
HOR	**Horta**	**0.12**	**310**	*e*S	Sg	13 14 48.7	+0.4
PTEI	**Pico do Teixo**	**0.13**	**71**	*i* P	Pg	13 14 47.5	+0.4
PTEI				*i* S	Sg	13 14 48.9	+0.1

CALA	**Caldeira**	**0.19**	**312**	*e*P	Pg	13 14 47.8	-0.4
PCED	**Cedros**	**0.23**	**321**	*erx*		13 14 46.2	
PID	**Ribeirinha**	**0.31**	**92**	*e*P	Pg	13 14 50.5	0.0
PID				*e*S	Sg	13 14 54.7	+0.1
ROSA	**Rosais**	**0.34**	**39**	*e*P	Pg	13 14 51.2	+0.1
ROSA				*e*S	Sg	13 14 55.4	-0.2
PAMA	**Santo Amaro**	**0.35**	**49**	*e*S	Sg	13 14 56.1	+0.4
PAMA							
	47nm,0.2s						
PIED	**Piedade**	**0.36**	**95**	*e*S	Sg	13 14 54.6	-1.7
PMAN	**Manadas**	**0.38**	**62**	*e*S	Sg	13 14 56.6	-0.2
PMAN							
	45nm,0.1s						
PLUZ	**Luz**	**0.67**	**328**	*e*S	Sg	13 15 05.6	-0.4
PLUZ							
	23nm,0.2s						
PVIA	**Vitoria**	**0.71**	**31**	*e*S	Sg	13 15 05.7	-1.8
PVIA							
	16nm,0.2s						
STGR	**Santa Cruz**	**0.74**	**32**	*e*S	Sg	13 15 06.1	-2.3
STGR							
	19nm,0.2s						

*PRU **31** 13:18:11.8,4392N×2024E,h0km*
*ISCJB **31** 13:18:12.5±0.3,4408N±001×2015E±002,h6km±2km,*
mb3.5/6,Error ellipse: s-maj=2.4km s-min=2.0km az=166.7
*CSEM **31** 13:18:12.9±0.0,4403N×2015E,h10km,mb3.8,Error ellipse: s-maj=1.0km s-min=1.0km az=29.0*
*MOS **31** 13:18:12.2±2.1,4404N×2001E,h10km,mb3.8/1,Error ellipse: s-maj=6.4km s-min=3.8km az=91.8*
*IDC **31** 13:18:13.6±1.1,4410N×2010E,h0km,mb3.5/6,*
mb1 3.7/13,mb1mx3.6/26,mbtmp3.6/13,ML3.7/7,Error ellipse: s-maj=17.7km s-min=9.6km az=26.0
*PDG **31** 13:18:13.6±0.8,4403N×2016E,h11km±1km*
*NEIC **31** 13:18:13.6,4403N×2016E,h11km,ML3.8(PDG),*
ML4.2(BUC),After PDG.
*LDG **31** 13:18:13.0±0.1,4405N×2017E,h10km,Ml3.7/3,Error ellipse: s-maj=4.0km s-min=2.5km az=103.0*
*BEO **31** 13:18:13.2±0.3,4408N×2012E,h14km*
*SZGRF **31** 13:18:14.6,4408N×2036E,h10km,mb4.0,Northwestern Balkan Peninsula*
ISC 31 13:18:13.7±0.4,4406N±001×2015E±002,h3km±2km,n159,
σ1°10/218,mb3.5/6,24C-27D,Northwestern Balkan
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divcibare**	**0.12**	**288**	*i* Pg	**Pg**	**13 18 16.3**	**+0.3**
DIVS				Sg	**Sg**	**13 18 18.3**	**+0.7**
GRUS	**Gruza**	**0.45**	**113**	*i* Pg	**Pg**	**13 18 22.2**	**0.0**
GRUS				Sg	**Sg**	**13 18 29.5**	**+1.5**
GRUS	**Gruza**	**0.45**	**113**	Pg	**Pg**	**13 18 22.2**	**-0.1**
GRUS				Sg	**Sg**	**13 18 29.5**	**+1.4**
BBLS	**Bajina Basta -**	**0.56**	**250**	*i* Pg	**Pg**	**13 18 24.5**	**-0.1**
BBLS				Sg	**Sg**	**13 18 31.9**	**0.0**
SVIS	**Svilajnac**	**0.81**	**73**	⇓*i*Pg	**Pg**	**13 18 28.5**	**-0.7**
SVIS				Sg	**Sg**	**13 18 40.1**	**+0.4**
PLE	**Pljevlja**	**0.91**	**217**	⇓*i*Pg	**Pg**	**13 18 30.0**	**-1.2**
PLE				*e*Sg	**Sg**	**13 18 43.4**	**+0.4**
IVA	**Berane**	**1.20**	**189**	⇓*i*Pg	**Pg**	**13 18 35.2**	**-1.6**
IVA				*e*Sg	**Sg**	**13 18 53.9**	**+1.5**
IVA	**Berane**	**1.20**	**189**	⇓*i*Pg	**Pg**	**13 18 35.2**	**-1.6**
IVA				*e*Sg	**Sg**	**13 18 53.8**	**+1.4**
UPM	**Unac-Piva**	**1.24**	**227**	⇓*i*Pg	**Pg**	**13 18 36.0**	**-1.5**
UPM				*e*Sg	**Sg**	**13 18 55.3**	**+1.7**
BOLS	**Boljevac**	**1.33**	**99**	⇓*i*Pg	**Pg**	**13 18 38.8**	**-0.4**
BOLS				Sg	**Sg**	**13 18 56.6**	**+0.2**
PVY	**Plav**	**1.47**	**185**	⇓*i*Pg	**Pg**	**13 18 40.3**	**-1.6**
PVY				*e*Sg	**Sg**	**13 19 01.8**	**+0.8**
NKY	**Niksic**	**1.50**	**214**	⇓*i*Pg	**Pg**	**13 18 40.5**	**-1.9**
NKY				*e*Sg	**Sg**	**13 19 03.0**	**+1.0**
NKY	**Niksic**	**1.50**	**214**	⇓*i*Pg	**Pg**	**13 18 40.5**	**-2.0**
NKY				*e*Sg	**Sg**	**13 19 03.0**	**+1.0**
BRY	**Bratogost**	**1.65**	**226**	⇓*i*Pn	**Pn**	**13 18 42.6**	**-0.8**
BRY				*e*Sn	**Sn**	**13 19 06.2**	**+1.2**
BCI	**Bajram Curri**	**1.70**	**182**	*i* Pn	**Pn**	**13 18 43.2**	**-0.9**
BCI				*i* Sn	**Sn**	**13 19 06.2**	**-0.1**
BCI	**Bajram Curri**	**1.70**	**182**	*e*Pn	**Pn**	**13 18 43.2**	**-0.9**
BCI				*i* Sn	**Sn**	**13 19 06.2**	**-0.1**
TTG	**Podgorica**	**1.76**	**202**	⇑*i*Pn	**Pn**	**13 18 44.0**	**-1.0**
TTG				*e*Sn	**Sn**	**13 19 09.1**	**+1.3**
BZS	**Buzias**	**1.87**	**33**	⇓P	**Pn**	**13 18 46.1**	**-0.5**
TREB	**Trebinje**	**1.88**	**225**	P	**Pn**	**13 18 46.5**	**-0.1**
TREB				S	**Sn**	**13 19 11.3**	**+0.5**
BUM	**Brajici-Budva**	**1.98**	**208**	⇑*i*Pn	**Pn**	**13 18 48.3**	**+0.2**
BUM				*e*Sn	**Sn**	**13 19 14.9**	**+1.5**
HCY	**Herceg Novi**	**2.01**	**217**	⇑*i*Pn	**Pn**	**13 18 48.6**	**+0.1**
HCY				*e*Sn	**Sn**	**13 19 15.7**	**+1.5**
PUK	**Puka**	**2.03**	**185**	*i* Pn	**Pn**	**13 18 48.4**	**-0.3**
PUK				*i* Sn	**Sn**	**13 19 16.1**	**+1.6**
PUK	**Puka**	**2.03**	**185**	*e*Pn	**Pn**	**13 18 48.4**	**-0.3**
PUK				*i* Sn	**Sn**	**13 19 16.1**	**+1.6**
STON	**Ston**	**2.14**	**237**	*i* Pn	**Pn**	**13 18 50.4**	**+0.1**
STON				*i* Sn	**Sn**	**13 19 16.5**	**-0.8**
STON	**Ston**	**2.14**	**237**	*i* Pn	**Pn**	**13 18 50.3**	**0.0**
STON				*i* Sn	**Sn**	**13 19 16.4**	**-0.9**
ULC	**Ulcinj**	**2.20**	**198**	*e*Pn	**Pn**	**13 18 51.3**	**+0.3**
ULC				*e*Sn	**Sn**	**13 19 19.6**	**+0.9**
BLY	**Banja Luka**	**2.23**	**289**	P	**Pn**	**13 18 51.9**	**+0.4**
BLY				S	**Sn**	**13 19 21.1**	**+1.6**
RHK3	**Tenkes**	**2.27**	**324**	⇑*i*P	**Pn**	**13 18 51.4**	**-0.6**
RHK3				*e*S	**Sn**	**13 19 26.3**	**+5.9**
SKO	**Skopje**	**2.29**	**155**	*i* Pn	**Pn**	**13 18 51.9**	**-0.5**
SKO	**Skopje**	**2.29**	**155**	*i* Pn	**Pn**	**13 18 51.8**	**-0.6**
KOZJ	**Kozjak Brana**	**2.32**	**160**	⇑*i*Pn	**Pn**	**13 18 51.9**	**-0.8**
KOZJ				*i*		13 18 56.5	
PKSM	**Moragy**	**2.40**	**334**	⇑P	**Pn**	**13 18 53.2**	**-0.6**
SAMO	**Samokov**	**2.48**	**163**	*i* Pn	**Pn**	**13 18 55.1**	**+0.2**
SAMO				*i*		13 18 56.2	
SAMO				*i* Sn	**Sg**	**13 19 33.5**	**+0.2**
VTS	**Vitosha**	**2.68**	**122**	*e*P	**Pn**	**13 18 55.8**	**-1.8**
VTS	**Vitosha**	**2.68**	**122**	⇑P	**Pn**	**13 18 56.9**	**-0.7**
VTS	**Vitosha**	**2.68**	**122**	P	**Pn**	**13 18 57.2**	**-0.4**
VTS	**Vitosha**	**2.68**	**122**	⇑P	**Pn**	**13 18 56.9**	**-0.7**
STIP	**Stip**	**2.80**	**147**	*i* Pn	**Pn**	**13 18 57.5**	**-1.8**
PKS9	**Tamasi**	**2.85**	**333**	⇓*e*P	**Pn**	**13 18 59.8**	**-0.2**
OHR	**Ohrid**	**2.99**	**170**	*i* Pn	**Pn**	**13 19 01.8**	**-0.2**
OHR	**Ohrid**	**2.99**	**170**	*i* Pn	**Pn**	**13 19 01.7**	**-0.2**
SISC	**Sisak**	**3.03**	**299**	*i* Pn	**Pg**	**13 19 11.7**	**-0.1**
SISC				*i* Sn	**Sg**	**13 19 42.9**	**+3.6**
SISC				*i* Sg	**Sg**	**13 19 50.5**	**-0.7**
SISC	**Sisak**	**3.03**	**299**	*i* Sg	**Sg**	**13 19 50.4**	**-0.7**
PKS7	**Kunszentmiklos**	**3.06**	**347**	*e*P	**Pn**	**13 19 03.5**	**+0.6**
BIA	**Bitola**	**3.16**	**164**	*i* Pn	**Pn**	**13 19 04.5**	**+0.1**
BIA	**Bitola**	**3.16**	**164**	*i* Pn	**Pn**	**13 19 04.4**	**+0.1**
VAY	**Valandovo**	**3.27**	**146**	*i* Pn	**Pn**	**13 19 04.4**	**-1.4**
VAY	**Valandovo**	**3.27**	**146**	*i* Pn	**Pn**	**13 19 04.3**	**-1.5**
DRGR		**3.27**	**33**	⇓P	**Pn**	**13 19 05.5**	**-0.3**
DRGR		**3.27**	**33**	P	**Pn**	**13 19 05.6**	**-0.2**
DRGR		**3.27**	**33**	⇓P	**Pn**	**13 19 05.5**	**-0.3**
BUD	**Budapest**	**3.51**	**347**	⇑*e*Pn	**Pn**	**13 19 08.9**	**-0.2**
BUD				*e*Sn	**Sn**	**13 19 51.7**	**+0.6**
GRG	**Griva**	**3.52**	**151**	*e*P	**Pn**	**13 19 08.8**	**-0.4**
KNT	**Kendrikon**	**3.54**	**144**	*e*P	**Pn**	**13 19 08.6**	**-0.9**
PKSG		**3.55**	**340**	⇓*e*P	**Pn**	**13 19 09.6**	**0.0**
PKSG				*e*S	**Sn**	**13 19 51.0**	**-1.0**
VOIR		**3.75**	**67**	⇓P	**Pn**	**13 19 14.4**	**+2.0**
NVLJ	**Novalja**	**3.82**	**279**	*e*Pn	**Pn**	**13 19 14.3**	**+1.0**
NVLJ				*i* Sn	**Sn**	**13 19 58.9**	**+0.2**
PE1	**Pezze di Greco**	**3.83**	**213**	*e*Pn	**Pn**	**13 19 12.0**	**-1.5**
NVR	**Nevrokopi**	**3.85**	**133**	*e*P	**Pn**	**13 19 13.3**	**-0.5**
PSZ	**Piszkesteto**	**3.86**	**357**	⇑*i*Pn	**Pn**	**13 19 13.7**	**-0.2**
PSZ				*e*Sn	**Sn**	**13 19 57.5**	**-2.2**
SRS	**Serrai**	**3.89**	**138**	*e*P	**Pn**	**13 19 13.3**	**-1.1**
SRO2	**Moca**	**3.90**	**342**	*e*PN	**Pn**	**13 19 15.6**	**+1.2**
SRO2				*e*SN	**Sn**	**13 20 02.0**	**+1.4**
SRO1	**Iza**	**3.93**	**341**	*e*PN	**Pn**	**13 19 15.9**	**+1.0**
SRO1				*e*SN	**Sn**	**13 20 01.9**	**+0.4**
KZN	**Kozani**	**3.94**	**162**	*e*P	**Pn**	**13 19 15.6**	**+0.6**
SRO	**Srobarova**	**3.96**	**342**	*e*PN	**Pn**	**13 19 16.4**	**+1.1**
SRO				*e*SN	**Sn**	**13 20 03.7**	**+1.5**
SRO	**Srobarova**	**3.96**	**342**	*e*P	**Pn**	**13 19 15.6**	**+0.3**
SRO				*e*S	**Sn**	**13 20 02.0**	**-0.2**
SOH	**Sokhos**	**4.02**	**143**	*e*P	**Pn**	**13 19 15.3**	**-0.7**
SG1	**Sgolgore (BA)**	**4.12**	**220**	*e*Pn	**Pn**	**13 19 17.0**	**-0.4**
CDT	**Castel del Mon**	**4.13**	**225**	*e*Pn	**Pn**	**13 19 16.7**	**-0.9**

LIT	**Litokhoron**	**4.33**	**155**	*e*P	**Pn**	**13 19 19.7**	**-0.6**
MLR	**Muntele Rosu**	**4.37**	**69**	Pn	**Pn**	**13 19 22.3**	**+1.4**
	3.7nm,0.3s,baz=298,slow=16,SNR=11						
MLR				Lg		13 20 34.3	
	4.4nm,0.3s,baz=180,slow=23,SNR=3.2						
MLR	**Muntele Rosu**	**4.37**	**69**	⇓P	**Pn**	**13 19 23.0**	**+2.1**
MLR	**Muntele Rosu**	**4.37**	**69**	⇓P	**Pn**	**13 19 23.0**	**+2.1**
MLR	**Muntele Rosu**	**4.37**	**69**	P	**Pn**	**13 19 22.3**	**+1.4**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,4.0nm,0.3s						
SOP	**Sopron**	**4.40**	**327**	⇑*i*Pn	**Pn**	**13 19 20.9**	**-0.4**
SOP				*e*Sn	**Sn**	**13 20 11.9**	**-1.2**
PLG	**Polygyros**	**4.43**	**145**	*e*P	**Pn**	**13 19 21.0**	**-0.7**
KECS	**Kecovo**	**4.43**	**3**	*e*PN	**Pn**	**13 19 22.2**	**+0.5**
KECS				*e*SN	**Sn**	**13 20 13.5**	**-0.2**
JAN	**Janina**	**4.43**	**173**	*e*P	**Pn**	**13 19 23.2**	**+1.4**
LJU	**Ljubljana**	**4.45**	**298**	*e*Pn	**Pn**	**13 19 30.1**	**+8.2**
LJU				*e*		13 19 38.5	
LJU				*e*		13 19 43.0	
LJU				*e*		13 20 13.0	
VYHS	**Vyhne**	**4.52**	**349**	*e*PN	**Pn**	**13 19 23.2**	**+0.2**
VYHS				*e*SN	**Sn**	**13 20 15.0**	**-1.1**
ARSA	**Arzberg**	**4.54**	**316**	⇑*i*Sn	**Sn**	**13 20 13.5**	**-3.1**
ARSA	**Arzberg**	**4.54**	**316**	*i* Pn	**Pn**	**13 19 23.2**	**-0.1**
ARSA	SNR=76						
ARSA				⇑*i*Sn	**Sn**	**13 20 13.5**	**-3.1**
ARSA	**Arzberg**	**4.54**	**316**	*e*Pn	**Pn**	**13 19 23.0**	**-0.3**
ARSA				*e*Sn	**Sn**	**13 20 14.6**	**-2.0**
ZST	**Bratislava**	**4.64**	**334**	*i* PN	**Pn**	**13 19 24.9**	**+0.2**
ZST				*e*		13 20 14.3	
ZST	**Bratislava**	**4.64**	**334**	*i* P	**Pn**	**13 19 24.9**	**+0.2**
ZST				*e*		13 20 14.3	
OBKA	**Obir**	**4.64**	**304**	⇑*i*Sn	**Sn**	**13 20 16.0**	**-3.0**
OBKA	**Obir**	**4.64**	**304**	⇓*i*Pn	**Pn**	**13 19 24.7**	**0.0**
OBKA	SNR=13						
OBKA				⇑*i*Sn	**Sn**	**13 20 16.0**	**-3.0**
OBKA	**Obir**	**4.64**	**304**	*e*Pn	**Pn**	**13 19 24.4**	**-0.3**
OUR	**Ouranopolis**	**4.69**	**141**	*e*P	**Pn**	**13 19 24.6**	**-0.7**
UZH	**Uzhgorod**	**4.80**	**17**	*e*P	**Pn**	**13 19 26.0**	**-0.9**
UZH				*e*S	**Sn**	**13 20 22.0**	**-1.0**
SMOL	**Smolenice**	**4.83**	**338**	*e*PN	**Pn**	**13 19 27.4**	**+0.1**
SMOL				*e*SN	**Sn**	**13 20 20.8**	**-2.9**
VOY	**Vojsko**	**4.85**	**296**	*e*Pn	**Pn**	**13 19 28.0**	**+0.5**
VOY				*e*Sn	**Sn**	**13 20 22.4**	**-1.7**
PAIG	**Paliouri**	**4.90**	**146**	*e*P	**Pn**	**13 19 27.5**	**-0.7**
CRVS	**Cervenica-Dubn**	**4.92**	**10**	*e*PN	**Pn**	**13 19 29.1**	**+0.6**
RDO	**Rodhopi**	**4.93**	**124**	*e*P	**Pn**	**13 19 28.0**	**-0.6**
PLOR	**Plostina**	**4.95**	**67**	⇑P	**Pn**	**13 19 32.1**	**+3.2**
VRI	**Vrincioaia**	**5.01**	**67**	⇑P	**Pn**	**13 19 31.8**	**+2.1**
BURAR	**Bucovina Array**	**5.02**	**43**	⇑P	**Pn**	**13 19 30.8**	**+1.0**
BURAR	**Bucovina Array**	**5.02**	**43**	⇑P	**Pn**	**13 19 30.8**	**+1.0**
XOR	**Xorichti**	**5.22**	**153**	*e*P	**Pn**	**13 19 31.8**	**-0.7**
EVR	**Evrytania**	**5.29**	**166**	*e*P	**Pn**	**13 19 35.0**	**+1.4**
AGG	**Agios Georgios**	**5.30**	**161**	*e*P	**Pn**	**13 19 33.1**	**-0.5**
NIE	**Niedzica**	**5.36**	**1**	*e*P	**Pn**	**13 19 36.5**	**+2.0**
ALN	**Alexandroupoli**	**5.39**	**124**	*e*P	**Pn**	**13 19 34.2**	**-0.7**
STHS	**Stebnicka Huta**	**5.41**	**8**	*e*PN	**Pn**	**13 19 36.3**	**+1.1**
TIP	**Timpagrande**	**5.50**	**209**	*e*P	**Pn**	**13 19 34.7**	**-1.7**
MOA	**Molln**	**5.58**	**315**	⇓*i*Sn	**Sn**	**13 20 38.3**	**-3.8**
MOA	**Molln**	**5.58

CRAAG ***31*** *13:20:59.2,2952S×17663W,Mb6.3*
ISCJB ***31*** *13:20:59.5±0.1,2978S±003×17682W±004,h23km, mb5.7/128,MS6.6/194,Error ellipse: s-maj=5.7km s-min=2.8km az=76.6*
HRVD ***31*** *13:21:00.4±0.1,2949S×17641W,h12km,MW6.5/99, Centroid moment Tensor Solution. LP body waves: s97,c240;Mantle waves: s99,c450; Half duration: 4s5 Moment tensor: Scale 10^18Nm; Mrr4.92±.02; Mθθ-0.25±.02; Mφφ-4.67±.02; Mrθ1.24±.07; Mθφ-1.69±.02; Mφr5.97±.07; Best double couple: M0:7.93800×10^18 NP1:φs205.00000°,δ20.00000°,λ101.00000°. NP2: φs13.00000°,δ70.00000°,λ86.00000°. Principal axes: T 7.8020, Plg65.0000°, Azm277.0000°; N 0.2700, Plg4.0000°, Azm15.0000°; P -8.0750, Plg25.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***31*** *13:21:00.2±0.1,2944S×17677W,h13km,mb5.9/101, ME6.5,MS6.7/156,MW6.5 Error ellipse: s-maj=7.2km s-min=4.3km az=144.0,Moment Tensor Solution. s23 Moment tensor: Scale 10^18Nm; Mrr4.03; Mθθ-2.07; Mφφ-1.97; Mrθ3.75; Mθφ-3.05; Mφr2.96; Best double couple: M0:6.60000×10^18 NP1:φs51.00000°,δ68.00000°, λ95.00000°. NP2:φs218.00000°,δ22.00000°,λ78.00000°. Principal axes: T 6.1000, Plg66.0000°, Azm329.0000°; N 0.9900, Plg4.0000°, Azm229.0000°; P -7.1000, Plg23.0000°, Azm137.0000°; Broadband fault plane solution: P waves. NP1:φs205.00000°,δ5.00000°, λ90.00000°. NP2:φs25.00000°,δ85.00000°,λ90.00000°. Principal axes: T Plg50.0000°, Azm295.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm115.0000°; Depth from synthetics of broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
BJI ***31*** *13:21:01.3,2960S×17680W,h17km,mB6.9,mb5.7,Ms6.6, Msz6.4*
MOS ***31*** *13:21:04.7±2.6,2916S×17673W,h33km,mb6.0/53, MS6.6/58,Error ellipse: s-maj=9.3km s-min=7.1km az=68.2*

ISC 31 13:21:01.4±0.1,2968S±003×17682W±004,h25km, h25km±1.7km:pP-P,n931,σ1§15/370,mb5.7/128,MS6.6/194, 38C-21D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**294**	Pn	**Pn**	**13 21 21.1**	**+0.5**
	1μm,0.3s,baz=148,slow=3.9,SNR=37						
RAO	**Raoul Island**	**1.05**	**294**	*e*P	**Pn**	**13 21 21.6**	**+1.0**
MXZ	**Matakaoa Point**	**8.85**	**206**	*e*PN	**Pn**	**13 23 05.3**	**-2.4**
MXZ				SN	**Sn**	**13 24 48.7**	**+2.1**
MXZ				T		13 31 39.8	
MXZ	**Matakaoa Point**	**8.85**	**206**	P	**Pn**	**13 23 06.7**	**-1.0**
MXZ				S	**Sn**	**13 24 48.7**	**+2.1**
KUZ	**Kuaotunu**	**9.41**	**220**	*e*PN	**Pn**	**13 23 20.0**	**+4.6**
KUZ	**Kuaotunu**	**9.41**	**220**	P	**Pn**	**13 23 19.6**	**+4.1**
WCZ	**Waipu Caves**	**9.71**	**228**	*e*PN	**Pn**	**13 23 24.0**	**+4.5**
WCZ	**Waipu Caves**	**9.71**	**228**	*e*P	**Pn**	**13 23 21.5**	**+2.0**
OUZ	**Omahuta**	**9.80**	**233**	*e*PN	**Pn**	**13 23 26.2**	**+5.4**
OUZ	**Omahuta**	**9.80**	**233**	*e*P	**Pn**	**13 23 26.4**	**+5.6**
MWZ	**Matawai**	**9.82**	**207**	*e*PN	**Pn**	**13 23 16.2**	**-4.8**
MWZ				SN	**Sn**	**13 25 10.2**	**-0.2**
MWZ	**Matawai**	**9.82**	**207**	*e*P	**Pn**	**13 23 16.6**	**-4.4**
URZ	**Urewera**	**9.93**	**209**	Pn	**Pn**	**13 23 22.3**	**-0.2**
	5.5nm,0.3s,baz=59,slow=4.2,SNR=25						
URZ				Sn	**Sn**	**13 25 14.5**	**+1.5**
	20nm,0.3s,baz=83,slow=21,SNR=2.6						
URZ	**Urewera**	**9.93**	**209**	*e*PN	**Pn**	**13 23 18.4**	**-4.1**
URZ	**Urewera**	**9.93**	**209**	*e*P	**Pn**	**13 23 18.3**	**-4.2**
URZ				Pn	**Pn**	**13 23 22.3**	**-0.2**
URZ				Sn	**Sn**	**13 25 14.5**	**+1.5**
OTVZ	**Oturere**	**11.31**	**211**	*e*PN	**Pn**	**13 23 41.7**	**+0.4**
MOVZ	**Moawhango**	**11.47**	**210**	*e*PN	**Pn**	**13 23 43.4**	**-0.2**
WNVZ	**Wahianoa**	**11.47**	**211**	*e*PN	**Pn**	**13 23 43.3**	**-0.3**
WNVZ	**Wahianoa**	**11.47**	**211**	P	**Pn**	**13 23 42.8**	**-0.8**
PXZ	**Pawanui**	**11.55**	**205**	*e*PN	**Pn**	**13 23 39.3**	**-5.4**
PXZ				SN	**Sn**	**13 25 48.0**	**-4.9**
MTVZ	**Mangateitei**	**11.57**	**211**	*e*PN	**Pn**	**13 23 41.3**	**-3.7**
TSZ	**Takapari Road**	**11.92**	**208**	*e*PN	**Pn**	**13 23 47.6**	**-2.2**
TSZ				SN	**Sn**	**13 25 58.7**	**-3.3**
TSZ	**Takapari Road**	**11.92**	**208**	P	**Pn**	**13 23 45.7**	**-4.1**
WAZ	**Wanganui**	**12.10**	**212**	*e*PN	**Pn**	**13 23 48.5**	**-3.7**
WAZ	**Wanganui**	**12.10**	**212**	*e*P	**Pn**	**13 23 51.4**	**-0.7**
MRZ	**Mangatainoka R**	**12.59**	**208**	*e*PN	**Pn**	**13 23 51.6**	**-7.3**
MRZ				SN	**Sn**	**13 26 12.8**	**-5.5**
MRZ	**Mangatainoka R**	**12.59**	**208**	*e*P	**Pn**	**13 23 54.2**	**-4.7**
DUWZ	**D'Urville Isla**	**13.42**	**212**	*e*PN	**Pn**	**13 24 17.7**	**+7.5**
MRW	**Makara Radio**	**13.43**	**209**	*e*PN	**Pn**	**13 24 15.1**	**+4.7**
SNZO	**South Karori**	**13.49**	**208**	SN	**Sn**	**13 26 32.3**	**-8.0**
SNZO	**South Karori**	**13.49**	**208**	*e*Pn	**Pn**	**13 24 16.7**	**+5.4**
	185nm,0.8s						
SNZO				*e*Sn	**Sn**	**13 26 38.7**	**-1.6**
BHW	**Baring Head**	**13.51**	**208**	*e*PN	**Pn**	**13 24 13.0**	**+1.6**
CMWZ	**Cape Campbell**	**14.06**	**209**	SN	**Sn**	**13 26 51.5**	**-2.7**
QRZ	**Quartz Range**	**14.11**	**215**	SN	**Sn**	**13 26 53.5**	**-1.9**
BSWZ	**Blackbirch Sta**	**14.18**	**210**	SN	**Sn**	**13 26 53.0**	**-4.0**
THZ	**Tophouse**	**14.65**	**212**	*e*PN	**Pn**	**13 24 27.4**	**+0.4**
THZ				SN	**Sn**	**13 27 00.2**	**-8.3**
LTZ	**Lake Taylor**	**15.74**	**211**	PN	**Pn**	**13 24 39.9**	**-1.5**
LTZ				SN	**Sn**	**13 27 24.6**	**-10**
CRLZ	**Canterbury Las**	**16.23**	**208**	*e*PN	**Pn**	**13 24 43.6**	**-4.1**
AFI	**Afiamalu**	**16.38**	**18**	Pn	**Pn**	**13 24 43.8**	**-5.8**
	10nm,0.3s,baz=241,slow=16,SNR=11						
AFI				Sn	**Sn**	**13 27 32.6**	**-18**
	5.2nm,0.3s,baz=107,slow=23,SNR=2.1						
AFI	**Afiamalu**	**16.38**	**18**	*e*P	**Pn**	**13 24 43.0**	**-6.6**
	325nm,1.0s						
AFI				*e*S	**Sn**	**13 27 36.9**	**-14**
AFI	**Afiamalu**	**16.38**	**18**	*e*P	**Pn**	**13 24 43.0**	**-6.6**
AFI				*e*S	**Sn**	**13 27 36.9**	**-14**
AFI				pmax	pmax		
	comp=Z,325nm,1.0s						
DZM	**Mont Dzumac**	**16.85**	**293**	LR	LR	13 30 02.0	
	comp=Z,333μm,20.3s,baz=110,slow=32						
RPZ	**Rata Peaks**	**17.02**	**211**	P	**Pn**	**13 24 57.2**	**-0.6**
	comp=Z,7.6nm,0.3s,baz=15,slow=18,SNR=22						
RPZ				S	**Sn**	**13 27 55.5**	**-11**
	comp=Z,5.1nm,0.3s,baz=37,slow=14,SNR=1.6						
RPZ				LR	LR	13 31 57.5	
	comp=Z,126μm,18.5s,baz=31,slow=38						
RAR	**Rarotonga**	**17.54**	**65**	P	**Pn**	**13 24 58.1**	**-6.0**
	comp=Z,6.4nm,0.3s,baz=237,slow=10,SNR=15						
RAR				S	Sn	13 27 55.7	-23
	comp=Z,2.9nm,0.3s,baz=58,slow=16,SNR=7.0						
FOZ	**Fox Glacier**	**17.55**	**214**	*e*PN	**Pn**	**13 24 59.1**	**-5.3**
FOZ	**Fox Glacier**	**17.55**	**214**	*e*P	**Pn**	**13 24 59.2**	**-5.1**
LBZ	**Lake Benmore**	**17.94**	**212**	*e*PN	**Pn**	**13 25 06.1**	**-3.0**
LBZ	**Lake Benmore**	**17.94**	**212**	*e*P	**Pn**	**13 25 04.9**	**-4.2**
JCZ	**Jackson Bay**	**18.38**	**215**	*e*PN	**Pn**	**13 25 11.6**	**-3.0**
JCZ	**Jackson Bay**	**18.38**	**215**	P	**Pn**	**13 25 10.7**	**-3.9**
WKZ	**Wanaka**	**18.82**	**213**	*e*PN	**Pn**	**13 25 14.7**	**-5.1**
WKZ	**Wanaka**	**18.82**	**213**	*e*P	**Pn**	**13 25 13.9**	**-5.9**
TUZ	**Tuapeka**	**19.41**	**209**	*e*PN	**Pn**	**13 25 26.4**	**-0.6**
TUZ	**Tuapeka**	**19.41**	**209**	*e*P	**Pn**	**13 25 27.6**	**+0.7**
MLZ	**Mavora Lakes**	**19.60**	**213**	*e*PN	**Pn**	**13 25 27.7**	**-1.5**
MLZ	**Mavora Lakes**	**19.60**	**213**	*e*P	**Pn**	**13 25 32.3**	**+3.1**
DCZ	**Deep Cove**	**20.19**	**214**	*e*PN	**P**	**13 25 35.1**	**+0.9**
DCZ	**Deep Cove**	**20.19**	**214**	*e*P	**P**	**13 25 34.4**	**+0.2**
FUNA	**Funafuti**	**21.38**	**349**	*e*P	**P**	**13 25 44.0**	**-3.0**
	comp=Z,457nm,1.2s,mb5.7						
FUNA				LR	LR		
	comp=Z,84μm,19.0s,MS6.2						
ARMA	**Armidale**	**27.28**	**260**	*e*P	**P**	**13 26 48.0**	**+4.2**
ARMA				*e*S	**S**	**13 31 21.3**	**-0.5**
RIV	**Riverview**	**27.48**	**253**	*e*P	**P**	**13 26 51.7**	**+6.1**
PAE	**Paea**	**27.59**	**70**	*e*P	**P**	**13 26 45.9**	**-0.7**
	comp=Z,308nm,1.1s,mb5.8						
PPT	**Papeete**	**27.64**	**70**	*e*P	**P**	**13 26 46.5**	**-0.6**
	comp=Z,151nm,1.4s,mb5.4						
PPT	**Papeete**	**27.64**	**70**	*e*LQ		13 32 08.8	
	comp=Z,235μm,24.8s						
PPT				*e*LR	LR	13 33 18.3	
	comp=Z,251μm,31.8s,baz=237						
PPT	**Papeete**	**27.64**	**70**	P	**P**	**13 26 48.0**	**+1.0**
	comp=Z,36nm,0.8s,mb5.1,baz=90,slow=19,SNR=4.4						
PPT				LR	LR	13 35 50.8	
	comp=Z,73μm,19.4s,MS6.3,baz=249,slow=32						
TVO	**Taravao**	**27.80**	**71**	*e*P	**P**	**13 26 47.8**	**-0.7**
	comp=Z,129nm,0.8s,mb5.6						
CNB	**Canberra Magne**	**28.98**	**250**	*e*P	**P**	**13 27 04.1**	**+5.1**
	comp=Z,95nm,1.1s,mb5.4						
HNR	**Honiara**	**29.64**	**308**	P	**P**	**13 27 04.6**	**-0.3**
	comp=Z,91nm,0.6s,mb5.7,baz=254,slow=1.4,SNR=4.6						
HNR	**Honiara**	**29.64**	**308**	*e*P	**P**	**13 27 07.0**	**+2.2**
	comp=Z,437nm,1.2s,mb6.1						
HNR				LR	LR		
	comp=Z,64μm,20.0s,MS6.2						
HNR	**Honiara**	**29.64**	**308**	*e*P	**P**	**13 27 07.0**	**+2.2**
HNR				pmax	pmax		
	comp=Z,375nm,1.2s,mb6.0						
HNR				MLR	MLR		
	comp=Z,64μm,20.0s,MS6.2						
VAH	**Vaihoa**	**30.46**	**68**	*e*P	**P**	**13 27 11.6**	**-0.5**
	comp=Z,249nm,1.2s,mb5.8						
TAU	**Tasmania Unive**	**31.53**	**235**	*e*P	**P**	**13 27 23.0**	**+1.4**
	comp=Z,193nm,1.3s,mb5.8						
TAU				LR	LR		
	comp=Z,97μm,22.0s,MS6.4						
TAU	**Tasmania Unive**	**31.53**	**235**	P	pP	13 27 30.3	+1.4
TAU				*e*		13 27 39.0	
TAU				pmax	pmax		
	comp=Z,310nm,1.4s,mb6.0						
TOO	**Toolangi**	**32.19**	**246**	*e*P	**P**	**13 27 31.9**	**+4.6**
	comp=Z,74nm,1.0s,mb5.5						
TOO				*i* S	Sx	13 33 15.6	
TOO	**Toolangi**	**32.19**	**246**	*e*P	**P**	**13 27 31.9**	**+4.6**
TOO				pmax	pmax		
	comp=Z,75nm,1.0s,mb5.5						
CTA	**Charters Tower**	**34.71**	**277**	*e*P	**P**	**13 27 50.7**	**+1.4**
	comp=Z,72nm,0.7s,mb5.7						
CTA				*e*PP	PP	13 29 15.0	+6.9
CTA				*i* S	**S**	**13 33 29.9**	**+12**
CTA				*e*SCP	ScP	13 34 20.8	+14
CTA	**Charters Tower**	**34.71**	**277**	P	**P**	**13 27 49.8**	**+0.5**
	comp=Z,28nm,0.8s,mb5.3,baz=104,slow=11,SNR=22						
CTA				S	**S**	**13 33 22.5**	**+4.6**
	comp=Z,4.1nm,0.8s,baz=77,slow=21,SNR=1.6						
CTA				LR	LR	13 41 03.6	
	comp=Z,192μm,18.0s,MS6.9,baz=110,slow=35						
CTA	**Charters Tower**	**34.71**	**277**	*e*P	**P**	**13 27 50.7**	**+1.4**
CTA				*e*		13 29 15.0	
CTA				*i* S	**S**	**13 33 29.9**	**+12**
CTA				pmax	pmax		
	comp=Z,72nm,0.7s						
STKA	**Stephens Creek**	**35.65**	**256**	*e*P	**P**	**13 27 57.2**	**-0.1**
	comp=Z,175nm,0.8s,mb6.0						
STKA				*e*PP	PP	13 29 27.6	+9.2
STKA				*e*S	**S**	**13 33 38.7**	**+6.5**
STKA				*e*SS	SS	13 36 14.3	+6.6
STKA	**Stephens Creek**	**35.65**	**256**	P	**P**	**13 27 57.3**	**-0.1**
	comp=Z,176nm,0.9s,mb6.0,baz=90,slow=8.8,SNR=34						
STKA				S	**S**	**13 33 36.7**	**+4.5**
	comp=Z,7.2nm,1.1s,baz=329,slow=15,SNR=1.4						
STKA				LR	LR	13 42 30.2	
	comp=Z,205μm,18.0s,MS6.9,baz=93,slow=36						
ADE	**Adelaide**	**37.72**	**250**	P	**P**	**13 28 19.6**	**+4.6**
RKT	**Rikitea**	**37.89**	**90**	*e*S	**S**	**13 34 04.2**	**-2.2**
	comp=Z,23μm,31.5s						
RKT				*e*LR	LR	13 38 06.1	
	comp=Z,147μm,34.2s,baz=252						
PMG	**Port Moresby**	**39.25**	**293**	P	**P**	**13 28 29.5**	**+1.7**
	comp=Z,16nm,0.9s,mb4.7,baz=215,slow=5.7,SNR=2.6						
PMG				S	**S**	**13 34 25.2**	**-1.7**
	comp=Z,5.6nm,0.8s,baz=161,slow=20,SNR=1.3						
PMG				LR	LR	13 42 04.8	
	comp=Z,62μm,20.4s,MS6.4,baz=114,slow=32						
PMG	**Port Moresby**	**39.25**	**293**	P	**P**	**13 28 29.5**	**+1.7**
PMG				S	**S**	**13 34 25.2**	**-1.7**
TAOE	**Nuku Hiva Isla**	**40.08**	**66**	*e*S	**S**	**13 34 39.7**	**+0.3**
	comp=Z,40μm,25.1s						
TAOE				*e*LR	LR	13 39 01.7	
	comp=Z,260μm,33.2s,baz=244						
PTCN	**Pitcairn Islan**	**41.53**	**95**	PFAKE		13 29 00.0	+13
PTCN				LR	LR		
	comp=Z,101μm,19.0s,MS6.7						
ASAR	**Alice Springs**	**44.18**	**266**	P	**P**	**13 29 07.7**	**-0.6**
	comp=Z,16nm,0.9s,mb4.8,baz=98,slow=7.1,SNR=86						
ASAR				S	**S**	**13 35 42.6**	**+2.7**
	comp=Z,1.5nm,0.8s,baz=115,slow=13,SNR=2.2						
ASAR				PKPPKP		14 00 56.0	
	comp=Z,1.4nm,1.0s,baz=299,slow=1.9,SNR=4.5						
ASAR	**Alice Springs**	**44.18**	**266**	P	**P**	**13 29 07.7**	**-0.5**
ASAR				S	**S**	**13 35 42.6**	**+2.7**
WRAB	**Tennant Creek**	**45.10**	**271**	P	**P**	**13 29 15.1**	**-0.4**
	comp=Z,693nm,1.0s,mb6.4,SNR=11						
WRAB	**Tennant Creek**	**45.10**	**271**	*e*P	**P**	**13 29 15.1**	**-0.5**
	comp=Z,141nm,0.8s,mb5.8						
WRAB				LR	LR		
	comp=Z,106μm,20.0s,MS6.8						
WRAB	**Tennant Creek**	**45.10**	**271**	*e*P	**P**	**13 29 15.1**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,207nm,0.8s,mb6.0						
WRAB				MLR	MLR		
	comp=Z,106μm,20.0s,MS6.8						
WRA	**Warramunga Arr**	**45.11**	**271**	P	**P**	**13 29 15.4**	**-0.2**
	comp=Z,81nm,0.9s,mb5.5,baz=110,slow=6.6,SNR=70						
WRA				S	**S**	**13 36 00.5**	**+7.2**
	comp=Z,9.0nm,0.9s,baz=108,slow=15,SNR=7.2						
DRV	**Dumont d'Urvil**	**45.19**	**203**	P	**P**	**13 29 26.0**	**+10**
DRV	**Dumont d'Urvil**	**45.19**	**203**	PP	PP	13 31 06.0	+3.9
DRV				S	**S**	**13 36 01.0**	**+6.4**
DRV				SS	SS	13 39 25.0	+7.3
DRV				R		13 42 00.0	
FORT	**Forrest**	**47.23**	**254**	*e*P	**P**	**13 29 30.7**	**-1.6**
	comp=Z,190nm,0.7s,mb6.1						
FORT				*e*S	**S**	**13 36 15.9**	**-7.9**
FORT				*e*SS	SS	13 40 17.0	+26
SBA	**Scott Base**	**48.83**	**185**	*e*P	**P**	**13 29 48.9**	**+4.2**
	comp=Z,270nm,1.2s,mb6.2						
SBA				LR	LR		
	comp=Z,42μm,20.0s,MS6.4						
SBA	**Scott Base**	**48.83**	**185**	*e*P	**P**	**13 29 48.9**	**+4.2**
SBA				pmax	pmax		
	comp=Z,270nm,1.2s,mb6.2						
SBA				MLR	MLR		
	comp=Z,42μm,20.0s,MS6.4						
VNDA	**Vanda**	**48.91**	**186**	P	**P**	**13 29 48.0**	**+2.8**
	comp=Z,9.6nm,1.2s,mb4.7,baz=7.0,slow=7.5,SNR=19						
VNDA				S	**S**	**13 36 56.8**	**+9.2**
	comp=Z,1.2nm,0.9s,baz=222,slow=15,SNR=1.0						
VNDA				LR	LR	13 46 46.9	
	comp=Z,46μm,20.6s,MS6.5,baz=33,slow=32						
VNDA				PKKP		13 52 19.0	
	comp=Z,1.5nm,0.3s,baz=39,slow=0.1,SNR=29						
VNDA	**Vanda**	**48.91**	**186**	*e*P	**P**	**13 29 48.4**	**+3.1**
	comp=Z,375nm,1.9s,mb6.1						
VNDA				LR	LR		
	comp=Z,46μm,21.0s,MS6.5						
VNDA	**Vanda**	**48.91**	**186**	*e*P	**P**	**13 29 48.4**	**+3.1**
VNDA				pmax	pmax		
	comp=Z,375nm,1.9s						
VNDA				MLR	MLR		
	comp=Z,46μm,21.0s						
KAKA	**Kakadu**	**49.83**	**279**	*e*P	**P**	**13 29 50.9**	**-1.4**
	comp=Z,44nm,0.6s,mb5.7						
WAKE	**Wake Island**	**51.23**	**340**	*e*P	**P**	**13 30 04.0**	**+1.2**
	comp=Z,483nm,1.3s,mb6.3						
WAKE				LR	LR		
	comp=Z,78μm,20.0s,MS6.7						
POHA	**Pohakuloa**	**53.26**	**25**	PFAKE		13 30 30.0	+12
POHA				LR	LR		
	comp=Z,41μm,19.0s,MS6.5						
FITZ	**Fitzroy Crossi**	**53.40**	**269**	⇓*i*P	**P**	**13 30 18.8**	**-0.2**
	comp=Z,119nm,1.0s,mb5.8						
FITZ				*i* S	**S**	**13 37 43.2**	**-6.4**
FITZ	**Fitzroy Crossi**	**53.40**	**269**	P	**P**	**13 30 18.8**	**-0.1**
	comp=Z,49nm,0.9s,mb5.4,baz=133,slow=7.2,SNR=14						
FITZ				S	**S**	**13 37 47.4**	**-2.2**
	comp=Z,3.5nm,1.0s,baz=218,slow=17,SNR=2.3						
FITZ				LR	LR	13 53 06.4	
	comp=Z,48μm,18.2s,MS6.6,baz=126,slow=36						
KIP	**Kipapa**	**53.94**	**22**	*e*P	**P**	**13 30 22.0**	**-1.0**
	comp=Z,302nm,1.1s,mb6.1						
KIP				LR	LR		
	comp=Z,29μm,20.0s,MS6.3						
KIP	**Kipapa**	**53.94**	**22**	*e*P	**P**	**13 30 22.0**	**-1.0**
KIP				pmax	pmax		
	comp=Z,301nm,1.1s,mb6.1						
KIP				MLR	MLR		
	comp=Z,29μm,20.0s,MS6.3						
KLBR	**Kellerberrin**	**55.55**	**250**	*e*P	**P**	**13 30 33.5**	**-1.2**
	comp=Z,166nm,1.0s,mb6.0						
NWAO	**Narrogin (SRO)**	**55.61**	**249**	P	**P**	**13 30 34.6**	**-0.4**
	comp=Z,8.1nm,0.9s,mb4.8,baz=90,slow=16,SNR=2.8						
NWAO				S	**S**	**13 38 18.3**	**-1.1**
	comp=Z,5.3nm,1.0s,baz=111,slow=13,SNR=1.3						
NWAO				LR	LR	13 54 52.6	
	comp=Z,60μm,18.8s,MS6.7,baz=250,slow=36						
NWAO	**Narrogin (SRO)**	**55.61**	**249**	P	**P**	**13 30 34.7**	**-0.4**
NWAO				S	**S**	**13 38 18.3**	**-1.1**
CASY	**Casey**	**56.25**	**208**	*e*P	**P**	**13 30 37.8**	**-1.8**
CASY				*i* S	**S**	**13 38 32.2**	**+4.3**
CASY				*e*SCS	ScS	13 40 30.8	+3.5
CASY	**Casey**	**56.25**	**208**	*e*P	**P**	**13 30 37.8**	**-1.8**
CASY				*i* S	**S**	**13 38 32.2**	**+4.3**
CASY				*e*ScS	ScS	13 40 30.8	+3.5
CASY				LR	LR		
	comp=Z,34μm,19.0s,MS6.5						
MUN	**Mundaring**	**56.71**	**249**	*e*P	**P**	**13 30 42.4**	**-0.5**
MUN				*i* S	**S**	**13 38 43.8**	**+10**
GUMO	**Guam**	**56.71**	**314**	P	**P**	**13 30 45.2**	**+2.2**
	comp=Z,102nm,0.7s,mb6.0,baz=190,slow=14,SNR=6.4						
GUMO				LR	LR	13 54 02.3	
	comp=Z,24μm,18.6s,MS6.3,baz=134,slow=35						
GUMO	**Guam**	**56.71**	**314**	*e*P	**P**	**13 30 44.6**	**+1.7**
	comp=Z,276nm,1.1s,mb6.2						
GUMO				LR	LR		
	comp=Z,23μm,19.0s,MS6.3						
GUMO	**Guam**	**56.71**	**314**	*e*P	**P**	**13 30 44.6**	**+1.7**
GUMO				pmax	pmax		
	comp=Z,252nm,1.1s,mb6.2						
GUMO				MLR	MLR		
	comp=Z,21μm,19.0s,MS6.3						
MBWA	**Marble Bar**	**57.33**	**263**	*e*P	**P**	**13 30 49.2**	**+1.9**
	comp=Z,111nm,1.2s,mb5.8						
MBWA				LR	LR		
	comp=Z,49μm,20.0s,MS6.6						
MIDW	**Midway**	**57.58**	**359**	PFAKE		13 31 00.0	+11
MIDW				LR	LR		
	comp=Z,50μm,20.0s,MS6.6						
RPN	**Rapa Nui**	**58.63**	**105**	LR	LR	13 52 22.3	
	comp=Z,43μm,18.2s,MS6.6,baz=321,slow=32						
RPN	**Rapa Nui**	**58.63**	**105**	PFAKE		13 31 10.0	+14
RPN				LR	LR		
	comp=Z,37μm,19.0s,MS6.5						
QSPA	**South Pole Qui**	**60.42**	**180**	*e*P	**P**	**13 31 11.5**	**+2.7**
	comp=Z,340nm,1.2s,mb6.2						
MIR	**Mirnyy**	**63.22**	**207**	⇓*i*P	**P**	**13 31 31.0**	**+3.4**
DAV	**Davao City (W)**	**66.27**	**294**	PFAKE		13 32 00.0	+13
DAV				LR	LR		
	comp=Z,15μm,19.0s,MS6.2						
CGP	**Cagayan de Oro**	**67.79**	**294**	⇓*e*P	**P**	**13 32 02.8**	**+5.6**
CBIJ	**Chichi jima**	**68.76**	**321**	P	**P**	**13 32 01.8**	**-1.4**
	comp=Z,85nm,0.6s,mb5.9,baz=279,slow=0.0,SNR=2.8						
TBP	**Tagbilaran**	**69.19**	**295**	*e*P	**P**	**13 32 06.2**	**+0.3**
PVCP	**Virac**	**71.32**	**298**	*e*P	**P**	**13 32 23.3**	**+4.4**
KKM	**Kota Kinabalu**	**73.32**	**287**	*e*P	**P**	**13 32 30.8**	**0.0**
MAW	**Mawson**	**73.33**	**200**	*e*P	**P**	**13 32 32.5**	**+1.5**
	comp=Z,54nm,1.0s,mb5.4						
MAW				*i* S	S	13 42 14.1	+16
MAW	**Mawson**	**73.33**	**200**	P	**P**	**13 32 32.6**	**+1.7**
	comp=Z,39nm,0.9s,mb5.3,baz=122,slow=7.4,SNR=22						
MAW				S	S	13 42 07.9	+10
	comp=Z,1.8nm,0.9s,baz=191,slow=20,SNR=1.4						
MAW				LR	LR	14 05 35.3	
	comp=Z,72μm,18.2s,MS7.0,baz=117,slow=36						
MAW	**Mawson**	**73.33**	**200**	*e*P	**P**	**13 32 32.5**	**+1.5**
MAW				*i* S	S	13 42 14.1	+16
MAW				pmax	pmax		
	comp=Z,54nm,1.0s						
TGY	**Tagaytay City**	**74.11**	**297**	P	**P**	**13 32 40.3**	**+4.8**
	comp=Z,58nm,0.4s,baz=99,slow=19,SNR=2.8						
CAUP	**Cauayan**	**75.14**	**300**	*e*P	**P**	**13 32 48.0**	**+6.5**
BCPH	**Baguio City Da**	**75.74**	**298**	*e*P	**P**	**13 32 43.5**	**-1.4**
KSM	**Kuching**	**75.90**	**280**	*e*P	**P**	**13 32 45.0**	**-0.8**
USHA	**Ushuaia**	**75.93**	**146**	P	**P**	**13 32 47.6**	**+1.6**
	comp=Z,24nm,1.0s,mb5.1,baz=120,slow=8.1,SNR=2.9						
APYP	**Conner**	**76.14**	**300**	*e*P	**P**	**13 32 45.9**	**-1.3**
JOW	**Kunigami**	**76.95**	**311**	P	**P**	**13 32 51.9**	**+0.1**
	comp=Z,24nm,0.8s,mb5.2,baz=144,slow=11,SNR=13						
JOW				S	S	13 42 45.6	+7.2
	comp=Z,8.0nm,0.9s,baz=110,slow=24,SNR=3.1						
SYO	**Syowa Base**	**78.04**	**193**	⇑*e*pP	pP	13 33 01.7	-4.2
SYO	**Syowa Base**	**78.04**	**193**	⇑*e*P	**P**	**13 32 59.0**	**+1.1**
SYO				⇑*e*pP	pP	13 33 01.7	-4.2
MJAR	**Matsushiro Arr**	**78.25**	**324**	P	**P**	**13 32 58.1**	**-0.9**
	comp=Z,41nm,0.8s,mb5.4,baz=159,slow=5.5,SNR=38						
MJAR				S

PLCA LR LR 14 04 28.5
comp=Z,22µm,18.3s,MS6.6,baz=251,slow=32
PLCA Paso Flores 82.24 133 *e*P **P 13 33 21.2 +0.7**
comp=Z,89nm,1.3s,mb5.5
PLCA LR LR
comp=Z,23µm,19.0s,MS6.6
PLCA Paso Flores 82.24 133 *e*P **P 13 33 21.2 +0.7**
PLCA pmax pmax
comp=Z,89nm,1.3s
PLCA MLR MLR
comp=Z,23µm,19.0s
ASAJ Asahikawa 82.29 332 P **P 13 33 19.9 -0.9**
comp=Z,33nm,0.8s,mb5.3,baz=240,slow=14,SNR=5.3
QZH Quanzhou 82.40 304⇑*i*P **P 13 33 26.5 +5.1**
QZH SKS 13 43 34.0
QZH S S 13 43 46.0 +10
QZH AMB AMB
comp=Z,120nm,1.2s,mb5.7
QZH AMB AMB
comp=Z,16µm,8.7s
QZH LR LR
comp=N,15µm,18.2s,MS6.5
QZH LR LR
comp=E,7µm,13.6s,MS6.5
QZH LR LR
comp=Z,34µm,25.3s
SMY Shemya 82.44 354 PFAKE 13 33 30.0 +8.4
SMY LR LR
comp=Z,36µm,19.0s,MS6.8
SNCC San Nicolas Is 82.81 45 PFAKE 13 33 30.0 +6.5
SNCC LR LR
comp=Z,40µm,19.0s,MS6.8
UNV Unalaska Valle 83.66 6 PFAKE 13 33 40.0 +12
UNV LR LR
comp=Z,63µm,19.0s,MS7.0
PTRM Twissleman Ran 84.02 43 P **P 13 33 29.3 -0.5**
SAO San Andreas Ge 84.06 42 *e*P **P 13 33 30.4 +0.5**
comp=Z,181nm,1.6s,mb6.0
SAO LR LR
comp=Z,53µm,20.0s,MS6.9
SAO San Andreas Ge 84.06 42 *e*P **P 13 33 30.4 +0.5**
SAO pmax pmax
comp=Z,179nm,1.6s,mb6.0
SAO MLR MLR
comp=Z,53µm,20.0s,MS6.9
HKC Hong Kong 84.10 300⇑*i*P **P 13 33 38.0 +7.8**
HKC *i* S 13 44 08.0
BAR Barrett 84.23 47 *e*P **P 13 33 30.4 -0.3**
comp=Z,112nm,1.4s,mb5.8
BAR *e* pP 13 33 37.3 -1.5
MWC Mount Wilson 84.37 45 *e*P **P 13 33 31.8 +0.3**
comp=Z,98nm,1.3s,mb5.8
MWC *e* pP 13 33 38.3 -1.2
SSE Sheshan 84.42 310 *e*P **P 13 33 36.0 +4.3**
SSE AP pP 13 33 44.8 +5.0
SSE XP sP 13 33 50.3 +7.6
SSE PP PP 13 36 52.0 +5.1
SSE S 13 44 00.5
SSE XS sS 13 44 17.5 +7.8
SSE SS SS 13 49 31.5 +4.7
SSE AMB AMB
comp=Z,47nm,0.8s,mb5.7
SSE AMB AMB
comp=Z,6µm,11.6s
SSE LR LR
comp=N,9µm,22.3s,MS6.2
SSE LR LR
comp=E,9µm,22.3s,MS6.2
SSE LR LR
comp=Z,15µm,22.5s,MS6.3
SSE Sheshan 84.42 310 *e*P **P 13 33 35.9 +4.2**
comp=Z,47nm,0.8s,mb5.7
SSE PcP PcP 13 33 39.6 +4.2
SSE pP pP 13 33 44.7 +4.9
SSE sP sP 13 33 50.2 +7.5
SSE PP PP 13 36 52.1 +5.2
SSE S 13 44 00.5
SSE ScS ScS 13 44 11.7 +3.6
SSE sS sS 13 44 17.4 +7.7
SSE SS SS 13 49 31.5 +4.7
SSE LR LR
comp=Z,15µm,22.5s,MS6.3
KS15 Wonju Array Si 84.49 319 *e*P **P 13 33 31.9 -0.2**
YSS Yuzh-Sakhalins 84.56 333 *e*Pcu **P 13 33 33.0 +0.5**
comp=Z,40nm,1.1s,mb5.5
YSS *i* sP sP 13 33 43.2 -0.2
YSS *e* 13 33 51.9
YSS *e* 13 36 50.0
YSS *e*S 13 43 56.0
YSS *e*PS 13 44 56.0
YSS *e*PPS 13 45 12.0
YSS LR LR
comp=Z,15µm,18.0s,MS6.4
YSS Yuzh-Sakhalins 84.56 333 *αe*P **P 13 33 33.0 +0.5**
YSS *i* *SP sP 13 33 43.2 -0.2
YSS *e* 13 33 51.9
YSS *e* 13 36 50.0
YSS *e*S 13 43 56.0
YSS *e*PS 13 44 56.0
YSS *e*PPS 13 45 12.0
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.5
YSS smax
comp=N,34µm,13.0s
YSS smax
comp=E,3µm,13.0s
YSS MLR MLR
comp=Z,15µm,18.0s,MS6.4
YSS MLR MLR
comp=N,7µm,17.0s,MS6.3
YSS MLR MLR
comp=E,8µm,17.0s,MS6.3
HOPS Hopland 84.70 39 *e*P **P 13 33 38.9 +5.7**
comp=E,113nm,1.3s,mb5.8
HOPS LR LR
comp=Z,75µm,20.0s,MS7.1
PFO Pinyon Flat Ob 84.97 47 P **P 13 33 35.5 +1.0**
comp=Z,345nm,1.3s,mb6.3,SNR=14
PFO Pinyon Flat Ob 84.97 47 *e*P **P 13 33 34.6 +0.1**
comp=Z,123nm,1.4s,mb5.8
PFO LR LR
comp=Z,54µm,19.0s,MS7.0
PFO Pinyon Flat Ob 84.97 47 *e*P **P 13 33 34.6 +0.1**
PFO pmax pmax
comp=Z,125nm,1.4s,mb5.8
PFO MLR MLR
comp=Z,55µm,19.0s,MS7.0
KIPM Iron Peak 85.06 38 *e*P **P 13 33 34.4 -0.5**
ISA Isabella 85.07 44 PFAKE 13 33 40.0 +5.0
ISA LR LR
comp=Z,38µm,19.0s,MS6.8
PET Petropavlovsk 85.09 345⇑*i*P **P 13 33 34.8 -0.3**
comp=Z,51nm,1.5s,mb5.4
PET *e* 13 36 54.8
PET *e*S 13 44 05.5
PET *e*PS 13 44 51.5
PET *e*SSS 13 53 04.7
PET Petropavlovsk 85.09 345 *c i*P **P 13 33 34.8 -0.3**
PET *e* 13 36 54.8
PET *e*S 13 44 05.5
PET *e*PS 13 44 51.5
PET *e*SSS 13 53 04.7
PET pmax pmax
comp=Z,6µm,11.8s
PET pmax pmax
comp=N,2µm,12.9s
PET pmax pmax
comp=E,2µm,12.8s
PET pmax pmax
comp=Z,51nm,1.5s,mb5.4
PET smax
comp=N,17µm,14.2s
PET smax
comp=N,17µm,13.2s
PET smax
comp=E,13µm,12.2s
PET smax
comp=E,14µm,15.0s
GZH Guangzhou 85.18 300 P **P 13 33 38.5 +2.9**
GZH S 13 44 07.5
GZH LR LR
comp=N,4µm,17.7s,MS6.2
GZH LR LR
comp=E,7µm,18.6s,MS6.2
GZH LR LR
comp=Z,12µm,19.0s,MS6.3
INCN Inchon 85.24 318 *e*P **P 13 33 36.9 +1.0**
comp=Z,706nm,1.9s,mb6.5
INCN LR LR
comp=Z,12µm,19.0s,MS6.3
CMB Columbia Colle 85.55 41 *e*P **P 13 33 36.7 -0.7**
comp=Z,85nm,1.2s,mb5.8
CMB LR LR
comp=Z,36µm,20.0s,MS6.8
CMB Columbia Colle 85.55 41 *e*P **P 13 33 36.7 -0.7**
CMB pmax pmax
comp=Z,87nm,1.2s,mb5.9
CMB MLR MLR
comp=Z,38µm,20.0s,MS6.8
QIZ Qiongzhong 85.62 295 P **P 13 33 41.0 +3.2**
QIZ S 13 44 11.0
QIZ SS SS 13 49 48.8 +4.2
QIZ LR LR
comp=E,7µm,17.5s
QIZ LR LR
comp=Z,17µm,40.5s
QIZ Qiongzhong 85.62 295 *e*P **P 13 33 40.5 +2.7**
comp=Z,74nm,1.4s,mb5.7
QIZ LR LR
comp=Z,8µm,19.0s,MS6.1
GLA Glamis 85.65 48 *e*P **P 13 33 38.4 +0.5**
OHCM Honcut 85.82 40 *e*P **P 13 33 37.6 -1.2**
GSC Goldstone 85.85 45 *e*P **P 13 33 39.5 +0.6**
comp=Z,30nm,1.1s,mb5.4
GSC *e*pP pP 13 33 48.0 +1.1
DAC Darwin (Calif) 86.01 44 *e*P **P 13 33 39.6 -0.1**
comp=Z,81nm,1.4s,mb5.8
DAC LR LR
comp=Z,45µm,20.0s,MS6.9
DAC Darwin (Calif) 86.01 44 *e*P **P 13 33 39.6 -0.1**
DAC pmax pmax
comp=Z,81nm,1.4s,mb5.8
DAC MLR MLR
comp=Z,45µm,20.0s,MS6.9
WDC Whiskeytown Da 86.11 38 *e*P **P 13 33 39.3 -1.0**
comp=Z,187nm,1.4s,mb6.1
WDC LR LR
comp=Z,50µm,20.0s,MS6.9
WDC Whiskeytown Da 86.11 38 *e*P **P 13 33 39.3 -0.9**
WDC pmax pmax
comp=Z,185nm,1.4s,mb6.1
WDC MLR MLR
comp=Z,50µm,20.0s,MS6.9
KULM Kulim 86.13 278 *e*P **P 13 33 40.9 +0.5**
MTUM Tungsten Hills 86.14 43 *e*P **P 13 33 40.5 +0.1**
NJ2 Nanjing 86.57 310 *e*P **P 13 33 46.3 +3.8**
NJ2 AP pP 13 33 51.0 +0.5
NJ2 XP sP 13 33 53.3 -0.1
NJ2 PP PP 13 37 09.5 +5.2
NJ2 S 13 44 21.0
NJ2 XS sS 13 44 28.0 -2.9
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,8µm,10.6s
NJ2 LR LR
comp=N,29µm,20.5s,MS6.8
NJ2 LR LR
comp=E,32µm,24.2s,MS6.8
NJ2 LR LR
comp=Z,28µm,21.0s,MS6.6
PAYG Puerto Ayora 86.65 89 PFAKE 13 33 50.0 +7.1
PAYG LR LR
comp=Z,28µm,19.0s,MS6.7
LDFC Landfair 86.76 46 *e*P **P 13 33 43.8 +0.4**
comp=Z,381nm,1.4s,mb6.4
YBH Yreka Blue Hor 86.84 37 P **P 13 33 43.7 -0.1**
comp=Z,16nm,0.9s,mb5.2,baz=190,slow=6.3,SNR=9.9
YBH S 13 44 16.7
comp=Z,1.2nm,0.7s,baz=341,slow=9.5,SNR=1.6
YBH Yreka Blue Hor 86.84 37 *e*P **P 13 33 43.4 -0.4**
comp=Z,50nm,1.1s,mb5.7
YBH LR LR
comp=Z,29µm,19.0s,MS6.7
YBH Yreka Blue Hor 86.84 37 *e*P **P 13 33 43.4 -0.4**
YBH pmax pmax
comp=Z,49nm,1.1s
YBH MLR MLR
comp=Z,29µm,19.0s
NVAR Mina Array Bea 87.02 42 P **P 13 33 45.0 +0.4**
comp=Z,6.2nm,0.9s,mb4.8,baz=201,slow=5.3,SNR=40
NVAR S 13 44 20.4
comp=Z,0.1nm,0.3s,baz=201,slow=16,SNR=1.7
NVAR PKPPKP 13 59 42.6
comp=Z,0.7nm,0.8s,baz=88,slow=5.1,SNR=4.0
LHEM Herd Peak 87.03 38 P **P 13 33 47.7 +3.0**
SNG Songkhla 87.10 280 P **P 13 33 48.0 +2.9**
MNV Mina 87.11 42 *e*P **P 13 33 44.6 -0.5**
comp=Z,102nm,1.3s,mb5.9
MNV LR LR
comp=Z,49µm,20.0s,MS6.9
MNV Mina 87.11 42 *e*P **P 13 33 44.6 -0.5**
MNV pmax pmax
comp=Z,102nm,1.3s,mb5.9
MNV MLR MLR
comp=Z,50µm,20.0s,MS6.9
PAHR Pah Rah Range 87.26 41 *e*P **P 13 33 46.1 +0.3**
comp=Z,96nm,1.4s,mb5.8
TPNV Topopah Spring 87.27 44 *e*P **P 13 33 45.7 -0.2**
comp=Z,107nm,1.1s,mb6.0
TPNV LR LR
comp=Z,41µm,19.0s,MS6.9
TPNV Topopah Spring 87.27 44 *e*P **P 13 33 45.7 -0.2**
TPNV pmax pmax
comp=Z,109nm,1.1s,mb6.0
TPNV MLR MLR
comp=Z,49µm,19.0s,MS6.9
NEN Nelson 87.30 46 *e*P **P 13 33 45.9 -0.1**
HUMO Hull Mountain 87.33 37 *e*P **P 13 33 45.6 -0.5**
comp=Z,166nm,1.6s,mb6.0
HUMO LR LR
comp=Z,24µm,20.0s,MS6.6
TUC Tucson 87.86 51 *e*P **P 13 33 48.8 0.0**
comp=Z,184nm,1.6s,mb6.1
TUC LR LR
comp=Z,20µm,20.0s,MS6.5
TUC Tucson 87.86 51 *e*P **P 13 33 48.8 +0.1**
TUC pmax pmax
comp=Z,184nm,1.6s,mb6.1
TUC MLR MLR
comp=Z,20µm,20.0s,MS6.5
MOD Modoc 88.25 39 *e*P **P 13 33 50.1 -0.4**
comp=Z,102nm,1.2s,mb5.9
MOD LR LR
comp=Z,95µm,19.0s,MS7.2
COR Corvallis 88.56 35 PFAKE 13 34 00.0 +8.0
COR LR LR
comp=Z,17µm,19.0s,MS6.5
MDJ Mudanjiang 88.62 325 P **P 13 33 52.8 +0.5**
MDJ AP pP 13 33 57.8 -2.6
MDJ XP sP 13 34 01.3 -2.0
MDJ PP PP 13 37 21.8 +0.9
MDJ SKS 13 44 17.8
MDJ S 13 44 34.8
MDJ PS 13 45 40.5
MDJ SS SS 13 50 33.0 +4.6
MDJ AMB AMB
comp=Z,64nm,1.1s,mb5.9
MDJ AMB AMB
comp=Z,6µm,5.3s
MDJ LR LR
comp=N,12µm,18.9s,MS6.5
MDJ LR LR
comp=E,11µm,18.9s,MS6.5
MDJ LR LR
comp=Z,24µm,20.6s,MS6.6
MDJ Mudanjiang 88.62 325 *e*P **P 13 33 52.5 +0.1**
comp=Z,353nm,1.5s,mb6.5
MDJ LR LR
comp=Z,25µm,20.0s,MS6.6
WHN Wuhan 88.74 306 P **P 13 33 57.0 +4.1**
WHN AMB AMB
comp=Z,11µm,10.1s
WHN LR LR
comp=Z,29µm,19.6s,MS6.7
CFAA Coronel Fontan 88.83 126 P **P 13 33 53.8 +0.5**
comp=Z,1.2nm,0.8s,baz=214,slow=3.6,SNR=14
CFAA S 13 44 29.9
comp=Z,0.1nm,0.3s,baz=325,slow=15,SNR=1.1
HABR Khabarovsk 88.93 330⇑*i*P **P 13 33 59.7 +5.9**
HABR *e*S 13 44 26.3
HABR pmax pmax
comp=Z,217nm,1.6s,mb6.2
HABR MLR MLR
comp=Z,27µm,18.4s,MS6.7
BMN Battle Mountai 88.97 41 *e*P **P 13 33 53.1 -0.9**
comp=Z,198nm,1.8s,mb6.1
BMN LR LR
comp=Z,52µm,20.0s,MS7.0
BMN Battle Mountai 88.97 41 *e*P **P 13 33 53.1 -0.9**
BMN pmax pmax
comp=Z,198nm,1.8s,mb6.1
BMN MLR MLR
comp=Z,52µm,20.0s,MS7.0
DL2 Dalian 89.13 317⇑*i*P **P 13 34 00.8 +6.1**
DL2 XP sP 13 34 13.0 +7.3
DL2 AMB AMB
comp=Z,120nm,1.4s,mb6.0
DL2 AMB AMB
comp=Z,4µm,6.5s
DL2 LR LR
comp=N,3µm,15.6s,MS6.0
DL2 LR LR
comp=E,5µm,19.0s,MS6.0
DL2 LR LR
comp=Z,8µm,19.7s,MS6.1
TRQA Tornquist 89.20 134 *e*P **P 13 33 55.6 +0.5**
comp=Z,80nm,1.3s,mb5.9
TRQA LR LR
comp=Z,22µm,20.0s,MS6.6
CCUT Cedar City 89.42 45 *e*P **P 13 33 56.5 +0.5**
CCUT *e*pP pP 13 34 05.9 +1.8
WUAZ Wupatki 89.42 48 *e*P **P 13 33 56.5 +0.5**
comp=Z,152nm,1.1s,mb6.2
WUAZ LR LR
comp=Z,39µm,19.0s,MS6.8
WVOR Wild Horse Val 89.52 39 *e*P **P 13 33 55.9 -0.6**
comp=Z,143nm,1.7s,mb6.0
WVOR LR LR
comp=Z,71µm,20.0s,MS7.1
WVOR Wild Horse Val 89.52 39 *e*P **P 13 33 55.9 -0.6**
WVOR pmax pmax
comp=Z,154nm,1.7s,mb6.1
WVOR MLR MLR
comp=Z,91µm,20.0s,MS7.2
ARUT Antelope Range 89.52 45 *e*P **P 13 33 56.7 +0.2**
HOPE Hope Point 89.64 158 PFAKE 13 34 10.0 +13
HOPE LR LR
comp=Z,30µm,20.0s,MS6.7
KKTK Khon Kaen 89.88 289 P **P 13 34 03.0 +4.8**
SNY Shenyang 89.90 320⇓P **P 13 33 58.8 +0.5**
SNY PP PP 13 37 32.8 +1.7
SNY SS SS 13 50 55.0 +8.0
SNY AMB AMB
comp=Z,30nm,1.6s,mb5.4
SNY LR LR
comp=N,9µm,17.4s,MS6.3
SNY LR LR
comp=E,4µm,17.3s,MS6.3
SNY LR LR
comp=Z,12µm,18.8s,MS6.3
VFP Flag Point 90.00 35 P **P 13 33 58.6 -0.2**
CN2 Changchun 90.20 322⇑P **P 13 33 59.3 -0.4**
CN2 PP PP 13 37 35.5 +2.1
CN2 AMB AMB
comp=Z,20nm,1.3s,mb5.3
CN2 LR LR
comp=N,10µm,18.0s,MS6.5
CN2 LR LR
comp=E,14µm,18.0s,MS6.5
CN2 LR LR
comp=Z,18µm,18.0s,MS6.5
ELK Elko 90.32 42 *e*P **P 13 33 59.4 -0.8**
comp=Z,69nm,1.5s,mb5.8
ELK LR LR
comp=Z,58µm,20.0s,MS7.0
ELK Elko 90.32 42 *e*P **P 13 33 59.4 -0.9**
ELK pmax pmax
comp=Z,69nm,1.5s
ELK MLR MLR
comp=Z,57µm,20.0s
NNT Nongplab 90.56 284 P **P 13 34 07.0 +5.6**
MVU Marysvale 90.72 45 PFAKE 13 34 10.0 +7.8
MVU LR LR
comp=Z,31µm,20.0s,MS6.7
MSU Marysvale 90.75 45 *e*P **P 13 34 03.2 +0.9**
LTX Lajitas 91.14 57 *e*P **P 13 34 04.8 +0.7**
comp=Z,116nm,1.5s,mb6.0
LTX *e* pP 13 34 13.4 +1.2
LTX LR LR
comp=Z,24µm,20.0s,MS6.6
LTX Lajitas 91.14 57 *e*P **P 13 34 04.8 +0.7**
LTX *e* pP 13 34 13.4 +1.2
LTX pmax pmax
comp=Z,116nm,1.5s,mb6.0
LTX MLR MLR
comp=Z,22µm,20.0s,MS6.6
MNTX Cornudas Mount 91.23 54 *e*P **P 13 34 03.9 -0.6**
comp=Z,59nm,1.4s,mb5.7
MNTX LR LR
comp=Z,14µm,19.0s,MS6.4
PGC Sidney 91.40 32 *e*P **P 13 34 05.5 +0.2**
comp=Z,107nm,1.1s,mb6.1
DUG Dugway 91.41 44 *e*P **P 13 34 07.4 +2.1**
comp=Z,15nm,1.1s,mb5.2
DUG Dugway 91.41 44 *e*P **P 13 34 07.4 +2.1**
DUG pmax pmax
comp=Z,15nm,1.1s,mb5.2
LENM Lemitar 91.53 51 P **P 13 34 06.7 +0.8**
NLU North Lily Min 91.70 44 *e*P **P 13 34 06.4 -0.3**
BGU Big Grassy Mou 91.73 43 *e*P **P 13 34 09.0 +2.2**
MDW Midway 91.76 35 P **P 13 34 07.5 +0.5**
BNM Barren Site 91.76 51 *e*P **P 13 34 07.3 +0.4**
NST Nakhon Sawan 91.77 287 P **P 13 34 09.0 +2.0**
TMUT Trail Mountain 91.83 45 *e*P **P 13 34 08.3 +1.0**
BMO Blue Mountains 91.85 38 *e*P **P 13 34 06.4 -0.9**
comp=Z,94nm,1.6s,mb5.9
BMO LR LR
comp=Z,40µm,19.0s,MS6.9
LPM Los Pinos Moun 91.85 51 *e*P **P 13 34 07.4 +0.1**
BBB Bella Bella 91.98 28 P **P 13 34 07.7 -0.3**
comp=Z,12nm,0.9s,mb5.2,baz=172,slow=7.1,SNR=3.4
MPU Maple Canyon 92.01 44 PFAKE 13 34 20.0 +12
MPU LR LR
comp=Z,42µm,19.0s,MS6.9
ENH Enshi 92.05 304 *e*P **P 13 34 09.3 +1.0**
comp=Z,820nm,1.6s,mb6.8
ENH LR LR
comp=Z,11µm,20.0s,MS6.3
GYA Guiyang 92.09 299⇓*i*P **P 13 34 08.8 +0.3**
GYA AMB AMB
comp=Z,80nm,1.4s,mb5.9
GYA AMB AMB
comp=Z,5µm,13.8s
GYA LR LR
comp=N,3µm,18.5s,MS6.0
GYA LR LR
comp=E,3µm,18.5s,MS6.0
GYA LR LR
comp=Z,5µm,18.9s,MS6.0
SRU San Rafael 92.14 45 *e*P **P 13 34 08.5 -0.2**
comp=Z,94nm,1.4s,mb5.9
SRU San Rafael 92.14 45 *e*P **P 13 34 08.5 -0.2**
SRU pmax pmax
comp=Z,94nm,1.4s,mb5.9
GDL2 Guadalupe Moun 92.22 54 *e*P **P 13 34 08.6 -0.5**
SPUT South Promonto 92.31 43 *e*P **P 13 34 08.8 -0.7**
SPUT *e* pP 13 34 15.7 -1.9
ANMO Albuquerque 92.33 51 P **P 13 34 09.9 +0.3**
comp=Z,5.1nm,1.0s,mb4.8,baz=174,slow=4.0,SNR=9.9
ANMO Albuquerque 92.33 51 *e*P **P 13 34 09.5 -0.1**
comp=Z,55nm,1.3s,mb5.7
ANMO LR LR
comp=Z,34µm,19.0s,MS6.8
ANMO Albuquerque 92.33 51⇓*e*P **P 13 34 09.2 -0.4**
WTV Waterville 92.40 34 P **P 13 34 10.0 +0.1**
HVU Hansel Valley 92.41 42 *e*P **P 13 34 09.1 -0.9**
comp=Z,91nm,1.3s,mb6.0
HVU Hansel Valley 92.41 42 *e*P **P 13 34 09.1 -0.9**
HVU pmax pmax
comp=Z,91nm,1.3s,mb6.0
SLKM Skilak Lake 92.47 13 *e*P **P 13 34 09.6 -0.6**
HLID Hailey 92.59 40 *e*P **P 13 34 10.4 -0.4**
comp=Z,43nm,1.1s,mb5.8
HLID LR LR
comp=Z,32µm,20.0s,MS6.8
TCUT Toone Canyon 92.82 43 *e*P **P 13 34 12.5 +0.6**

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TCUT                                    epP     pP      13 34 20.5 +0.6
MA2  Magadan          92.88 344 eP      P       13 34 11.4 -0.7
MA2                               e                     13 37 56.3
MA2                               S                     13 45 12.1
MA2                               ePS     PS      13 46 25.7 -5.3
MA2                               LR      LR
     comp=Z,55µm,20.0s,MS7.0
MA2  Magadan          92.88 344 eP      P       13 34 11.4 -0.7
MA2                               e                     13 37 56.3
MA2                               S                     13 45 12.1
MA2                               ePS     PS      13 46 25.7 -5.3
MA2                               pmax    pmax
     comp=Z,40nm,1.9s,mb5.5
MA2                               MLR     MLR
     comp=Z,55µm,20.0s,MS7.0
HWUT Hardware Ranch   93.02  43 eP      P       13 34 12.6 -0.2
     comp=Z,60nm,1.7s,mb5.8
HWUT                              LR      LR
     comp=Z,41µm,19.0s,MS6.9
CPRX Cap Rock         93.03  54 eP      P       13 34 12.3 -0.6
CPRX                              e       pP      13 34 19.8 -1.1
FIB  Fire Island      93.09  13 PFAKE                13 34 20.0 +6.9
FIB                               LR      LR
     comp=Z,13µm,21.0s,MS6.4
BJT  Baijiatuau       93.13 315 eP      P       13 34 13.2 -0.1
     comp=Z,501nm,1.7s,mb6.7
BJT                               LR      LR
     comp=Z,15µm,22.0s,MS6.4
BJT  Baijiatuau       93.13 315 eP      P       13 34 13.2 -0.1
BJT                               pmax    pmax
     comp=Z,501nm,1.7s
BJT                               MLR     MLR
     comp=Z,15µm,22.0s
BJI  Beijing          93.14 315 P       P       13 34 14.0 +0.7
BJI                               SS      SS      13 51 38.5 +4.9
BJI                               AMB     AMB
     comp=Z,90nm,2.0s,mb5.8
BJI                               AMB     AMB
     comp=Z,7µm,4.7s
BJI                               LR      LR
     comp=N,10µm,21.9s,MS6.4
BJI                               LR      LR
     comp=E,9µm,21.9s,MS6.4
BJI                               LR      LR
     comp=Z,14µm,30.2s
BJI  Beijing          93.14 315 P       P       13 34 14.1 +0.8
     comp=Z,90nm,2.0s,mb5.8
BJI                               sP      sP      13 34 18.7 -5.6
BJI                               PP      PP      13 37 40.4 -16
BJI                               S               13 44 49.8
BJI                               sS      sS      13 45 27.0 -5.0
BJI                               SS      SS      13 51 38.4 +4.8
BJI                               LR      LR
     comp=Z,14µm,30.2s,MS6.2
SIT  Sitka            93.24  21 PFAKE                13 34 20.0 +6.2
SIT                               LR      LR
     comp=Z,23µm,19.0s,MS6.7
LVC  Limon Verde      93.37 118 P       P       13 34 16.8 +2.4
     comp=Z,18nm,0.8s,mb5.5,baz=247,slow=7.5,SNR=12
LVC  Limon Verde      93.37 118 eP      P       13 34 16.7 +2.3
     comp=Z,98nm,1.4s,mb6.0
LVC                               LR      LR
     comp=Z,40µm,19.0s,MS6.9
PMR  Palmer           93.68  13 eP      P       13 34 16.5 +0.6
     comp=Z,23nm,1.2s,mb5.5
PMR                               LR      LR
     comp=Z,20µm,19.0s,MS6.6
PMR  Palmer           93.68  13 eP      P       13 34 16.5 +0.7
PMR                               pmax    pmax
     comp=Z,23nm,1.2s,mb5.5
PMR                               MLR     MLR
     comp=Z,20µm,19.0s,MS6.6
LPA  La Plata         93.71 134 deP     P       13 34 14.0 -2.0
LPA                               ePP     PP      13 38 02.0 +0.9
LPA                               PKIKP   PKiKP   13 39 02.0 +0.8
LPA                               epSKS           13 44 57.0
LPA                               eSP     SP      13 46 39.0 +2.0
LPA
     comp=Z,51µm,18.0s
LPA  La Plata         93.71 134 ePr     P       13 34 14.0 -2.0
LPA                               ePP     PP      13 38 02.0 +0.9
TTA  Tatalina         93.78   9 eP      P       13 34 13.4 -2.9
     comp=Z,32nm,1.2s,mb5.6
TTA  Tatalina         93.78   9 eP      P       13 34 15.7 -0.6
TTA                               pmax    pmax
     comp=Z,32nm,1.2s,mb5.6
DIV  Divide           93.95  15 PFAKE                13 34 30.0 +13
DIV                               LR      LR
     comp=Z,61µm,19.0s,MS7.1
AHID Auburn Hatcher   94.00  42 eP      P       13 34 16.2 -1.1
     comp=Z,69nm,1.2s,mb6.0
AHID                              LR      LR
     comp=Z,34µm,20.0s,MS6.8
CHRT Chiangrai        94.15 290 ⇑P      P       13 34 24.0 +6.0
     comp=Z,105nm,1.0s,mb6.2
NEW  Newport          94.19  35 P       P       13 34 19.3 +1.1
     comp=Z,2.4nm,0.8s,mb4.7,baz=154,slow=5.0,SNR=3.0
NEW  Newport          94.19  35 eP      P       13 34 19.6 +1.4
     comp=Z,26nm,1.5s,mb5.4
NEW                               LR      LR
     comp=Z,74µm,19.0s,MS7.2
NEW  Newport          94.19  35 eP      P       13 34 19.6 +1.4
NEW                               pmax    pmax
     comp=Z,26nm,1.5s
NEW                               MLR     MLR
     comp=Z,89µm,19.0s
MCMT McKenzie Canyo   94.27  40 eP      P       13 34 18.1 -0.4
SMCO Snowmass         94.41  47 eP      P       13 34 18.9 -0.2
     comp=Z,37nm,1.2s,mb5.7
KMI  Kunming          94.42 296 P       P       13 34 26.0 +6.8
KMI                               PP      PP      13 38 15.2 +8.5
KMI                               SKS             13 44 56.4
KMI                               S               13 45 33.3
KMI                               SS      SS      13 51 55.4 +3.5
KMI                               AMB     AMB
     comp=Z,21nm,2.0s,mb5.2
KMI                               AMB     AMB
     comp=Z,4µm,11.5s
KMI                               LR      LR
     comp=N,6µm,17.5s,MS6.4
KMI                               LR      LR
     comp=E,11µm,18.2s,MS6.4
KMI                               LR      LR
     comp=Z,14µm,18.2s,MS6.5
KMI  Kunming          94.42 296 P       P       13 34 26.0 +6.8
KMI                               PP      PP      13 38 14.7 +8.0
KMI                               SKSac   SKSac   13 45 02.4 +10
XAN  Xi'an            94.50 307 P       P       13 34 20.8 +1.2
XAN                               AMB     AMB
     comp=Z,69nm,1.6s,mb5.8
XAN                               LR      LR
     comp=N,5µm,18.6s,MS6.3
XAN                               LR      LR
     comp=E,8µm,21.3s,MS6.3
XAN                               LR      LR
     comp=Z,16µm,18.6s,MS6.5
REDW Red Top Meadow   94.51  42 eP      P       13 34 19.0 -0.6
     comp=Z,188nm,1.6s,mb6.3
TPAW Teton Pass       94.53  42 eP      P       13 34 19.1 -0.6
     comp=Z,58nm,1.3s,mb5.8
SDCO Great Sand Dun   94.55  49 PFAKE                13 34 30.0 +10
SDCO                              LR      LR
     comp=Z,31µm,19.0s,MS6.8
JCT  Junction City    94.58  58 eP      P       13 34 19.7 -0.2
     comp=Z,39nm,1.3s,mb5.7
JCT  Junction City    94.58  58 eP      P       13 34 19.7 -0.2
JCT                               pmax    pmax
     comp=Z,39nm,1.3s,mb5.7
SNOW Snow King Moun   94.62  42 eP      P       13 34 18.5 -1.6
     comp=Z,62nm,1.0s,mb6.0
DLMT Dillon           94.74  40 eP      P       13 34 19.7 -1.0
     comp=Z,74nm,1.4s,mb5.9
IMW  Indian Meadow    94.78  41 eP      P       13 34 20.2 -0.7
     comp=Z,48nm,1.3s,mb5.8
LOHW Long Hollow      94.80  42 eP      P       13 34 20.4 -0.5
     comp=Z,42nm,1.3s,mb5.7
MOOW Moose Ponds      94.80  42 eP      P       13 34 20.0 -1.0
     comp=Z,38nm,1.4s,mb5.6
BW06 Boulder Array    94.91  43 PFAKE                13 34 30.0 +8.5
BW06                              LR      LR
     comp=Z,44µm,19.0s,MS7.0
PDAR Pinedale Array   94.91  43 P       P       13 34 21.4  0.0
     comp=Z,4.8nm,0.9s,mb4.9,baz=333,slow=0.3,SNR=18
PDAR                              PP      PP      13 38 11.3 +0.8
     comp=Z,2.6nm,1.1s,baz=258,slow=4.2,SNR=4.2
PDAR                              PKKPbc  PKKPbc  13 51 19.6 +2.6
     comp=Z,2.2nm,1.0s,baz=116,slow=3.4,SNR=6.4
PDAR                              PKPPKP          13 59 33.7
     comp=Z,0.1nm,0.4s,baz=64,slow=2.1,SNR=3.1
PDAR                              LR      LR      14 13 41.3
     comp=Z,37µm,18.5s,MS6.9,baz=252,slow=33
MSO  Missoula         94.92  38 PFAKE                13 34 30.0 +8.5
MSO                               LR      LR
     comp=Z,31µm,19.0s,MS6.8
FLWY Flagg Ranch      95.03  41 eP      P       13 34 21.9 -0.1
     comp=Z,81nm,1.2s,mb6.0
QLMT Earthquake Lak   95.06  40 eP      P       13 34 22.2  0.0
YFT  Old Faithful     95.17  41 eP      P       13 34 23.8 +1.1
TNA  Tin City         95.18   4 eP      P       13 34 22.3 -0.4
     comp=Z,40nm,1.0s,mb5.8
TNA                               LR      LR
     comp=Z,19µm,20.0s,MS6.6
YMR  Madison River    95.23  41 eP      P       13 34 22.2 -0.7
     comp=Z,77nm,1.3s,mb6.0
YMR                               LR      LR
     comp=Z,36µm,20.0s,MS6.8
CHMT Chamberlain Mo   95.34  38 eP      P       13 34 22.2 -1.2
BOZ  Bozeman (W)      95.45  40 eP      P       13 34 23.2 -0.8
     comp=Z,47nm,1.2s,mb5.8
BOZ                               LR      LR
     comp=Z,36µm,20.0s,MS6.8
BOZ  Bozeman (W)      95.45  40 eP      P       13 34 23.2 -0.7
BOZ                               pmax    pmax
     comp=Z,47nm,1.2s,mb5.8
BOZ                               MLR     MLR
     comp=Z,35µm,20.0s,MS6.8
LKWY Lake             95.49  41 eP      P       13 34 25.1 +1.0
     comp=Z,30nm,1.1s,mb5.6
LKWY                              LR      LR
     comp=Z,59µm,19.0s,MS7.1
LKWY Lake             95.49  41 eP      P       13 34 25.2 +1.1
LKWY                              pmax    pmax
     comp=Z,40nm,1.1s,mb5.8
LKWY                              MLR     MLR
     comp=Z,72µm,19.0s,MS7.2
SEY  Seymchan         95.52 346 eP      P       13 34 23.8 -0.4
SEY                               eS              13 45 42.2
SEY                               LR      LR
     comp=Z,22µm,19.0s,MS6.7
SEY  Seymchan         95.52 346 eP      P       13 34 23.8 -0.4
SEY                               eS              13 45 42.2
SEY                               pmax    pmax
     comp=E,6.0nm,0.9s
SEY                               pmax    pmax
     comp=Z,37nm,0.9s,mb5.8
SEY                               pmax    pmax
     comp=N,14nm,1.2s
SEY                               smax
     comp=N,13µm,16.2s
SEY                               smax
     comp=E,23µm,21.1s
SEY                               MLR     MLR
     comp=Z,22µm,19.0s,MS6.7
SEY                               MLR     MLR
     comp=N,5µm,18.0s,MS6.1
SEY                               MLR     MLR
     comp=E,911nm,13.0s,MS6.1
MCK  McKinley         95.68  12 eP      P       13 34 24.2 -0.7
     comp=E,60nm,1.3s,mb5.9
MCK                               LR      LR
     comp=Z,17µm,19.0s,MS6.5
MCK  McKinley         95.68  12 eP      P       13 34 24.2 -0.8
MCK                               pmax    pmax
     comp=Z,29nm,1.3s,mb5.5
MCK                               MLR     MLR
     comp=Z,17µm,19.0s,MS6.5
RWWY Rawlins          95.70  45 eP      P       13 34 25.2 +0.2
     comp=Z,46nm,1.3s,mb5.8
HRY  Holter Researc   95.99  39 eP      P       13 34 26.0 -0.4
HRY                               e       pP      13 34 32.7 -1.8
DLBC Dease Lake       96.06  23 LR      LR      14 08 14.7
     comp=Z,9µm,19.9s,MS6.2,baz=226,slow=30
DLBC Dease Lake       96.06  23 P       P       13 34 26.4 -0.3
WALA Waterton Lakes   96.34  36 eP      P       13 34 28.8 +0.9
     comp=Z,9.1nm,0.9s,mb5.2
HHC  Hu-ho-hao-te     96.48 314 eP      P       13 34 33.8 +5.2
HHC                               AP      pP      13 34 42.0 +5.3
HHC                               XP      sP      13 34 45.3 +5.7
HHC                               PP      PP      13 38 31.0 +8.3
HHC                               SKS             13 45 07.8
HHC                               S               13 45 49.8
HHC                               XS      sS      13 46 03.8 +2.6
HHC                               SS      SS      13 52 28.0 +6.8
HHC                               AMB     AMB
     comp=Z,21nm,0.5s,mb5.8
HHC                               AMB     AMB
     comp=Z,4µm,10.1s
HHC                               LR      LR
     comp=N,10µm,20.6s,MS6.4
HHC                               LR      LR
     comp=E,11µm,24.0s,MS6.4
HHC                               LR      LR
     comp=Z,22µm,22.1s,MS6.6
CD2  Chengdu          96.58 302 eP      P       13 34 32.5 +3.4
CD2                               AP      pP      13 34 40.5 +3.3
CD2                               XP      sP      13 34 43.8 +3.7
CD2                               PP      PP      13 38 29.5 +6.1
CD2                               PPP             13 40 35.5
CD2                               SKS             13 45 06.3
CD2                               S               13 45 48.5
CD2                               SS      SS      13 52 27.0 +4.4
CD2                               AMB     AMB
     comp=Z,20nm,0.6s,mb5.7
CD2                               AMB     AMB
     comp=Z,3µm,7.1s
CD2                               LR      LR
     comp=E,6µm,16.7s
CD2                               LR      LR
     comp=Z,3µm,14.3s,MS6.0
JTS  JuntasAbangare   96.62  82 PFAKE                13 34 40.0 +11
JTS                               LR      LR
     comp=Z,21µm,20.0s,MS6.6
GCMT Greycliff        96.64  40 eP      P       13 34 29.3  0.0
GCMT                              e               13 34 33.8
HIA  Hailar           96.74 324 PFAKE                13 34 40.0 +10
HIA                               LR      LR
     comp=Z,37µm,20.0s,MS6.9
COLA College          96.92  12 iP      P       13 34 33.5 +2.9
COLA                              LR      LR
     comp=Z,31µm,19.0s,MS6.8
COLA College          96.92  12 eP      P       13 34 29.2 -1.4
COLA                              pmax    pmax
     comp=Z,12nm,0.8s,mb5.4
ILAR Eielson Array    97.00  12 P       P       13 34 29.6 -1.4
     comp=Z,5.6nm,0.9s,mb5.0,baz=229,slow=5.5,SNR=11
ILAR                              PP      PP      13 38 26.8 +0.1
     comp=Z,3.0nm,1.0s,baz=216,slow=7.2,SNR=4.2
ILAR                              PKKPbc  PKKPbc  13 51 17.4 +6.0
     comp=Z,0.6nm,0.8s,baz=307,slow=2.7,SNR=4.2
ILAR                              PKPPKP          13 59 32.5
     comp=Z,0.3nm,1.0s,baz=187,slow=10,SNR=3.2
ILAR                              LR      LR      14 17 45.4
     comp=Z,12µm,18.9s,MS6.4,baz=222,slow=35
ILAR Eielson Array    97.00  12 P       P       13 34 29.6 -1.4
ILAR                              PP              13 38 26.8
HKT  Hockley          97.26  60 PFAKE                13 34 40.0 +7.9
HKT                               LR      LR
     comp=Z,6µm,19.0s,MS6.1
BTO  Baotou           97.33 313 eP      P       13 34 36.8 +4.4
OTAV Otavalo          97.39  94 PFAKE                13 34 40.0 +7.3
OTAV                              LR      LR
     comp=Z,20µm,19.0s,MS6.6
LPAZ La Paz           97.49 113 P       P       13 34 35.2 +2.0
     comp=Z,4.8nm,0.8s,mb5.0,baz=196,slow=3.8,SNR=14
LPAZ                              PKKPbc  PKKPbc  13 51 13.2 +3.2
     comp=Z,0.8nm,0.8s,baz=58,slow=12,SNR=2.4
LPAZ                              LR      LR      14 12 59.9
     comp=Z,19µm,18.2s,MS6.6,baz=160,slow=32
LPAZ La Paz           97.49 113 eP      P       13 34 34.5 +1.3
     comp=Z,7.9nm,0.9s,mb5.1
LPAZ                              LR      LR
     comp=Z,17µm,19.0s,MS6.6
LPAZ La Paz           97.49 113 eP      P       13 34 34.5 +1.3
LPAZ                              pmax    pmax
     comp=Z,8.0nm,0.9s
LPAZ                              MLR     MLR
     comp=Z,17µm,19.0s
EGMT Eagleton         97.90  39 P       P       13 34 36.4 +1.3
     comp=Z,17nm,1.3s,mb5.4
EGMT                              LR      LR
     comp=Z,53µm,20.0s,MS7.0
DAWY Dawson           97.97  16 eP      P       13 34 35.4  0.0
BILL Bilibino         98.24 354 eP      P       13 34 35.9 -0.7
     comp=Z,15nm,1.1s,mb5.4
BILL                              LR      LR
     comp=Z,32µm,21.0s,MS6.8
TEIG Tepich           98.54  72 PFAKE                13 34 50.0 +12
TEIG                              LR      LR
     comp=Z,2µm,20.0s,MS5.6
CBKS Cedar Bluff      98.95  50 PFAKE                13 34 50.0 +10
CBKS                              LR      LR
     comp=Z,29µm,20.0s,MS6.8
RSSD Black Hills      98.99  44 eP      P       13 34 38.3 -1.6
     comp=Z,56nm,1.4s,mb5.9
RSSD                              LR      LR
     comp=Z,11µm,20.0s,MS6.4
RSSD Black Hills      98.99  44 eP      P       13 34 38.3 -1.6
RSSD                              pmax    pmax
     comp=Z,62nm,1.4s,mb6.0
RSSD                              MLR     MLR
     comp=Z,12µm,20.0s,MS6.4
NATX Nacogdoches      99.03  59 PFAKE                13 34 50.0 +10
NATX                              LR      LR
     comp=Z,46µm,19.0s,MS7.0
LAO  LASA Array       99.11  41 eP      P       13 34 41.4 +1.0
     comp=Z,187nm,2.2s,mb6.2
LAO                               LR      LR
     comp=Z,26µm,20.0s,MS6.7
LZH  Lanzhou          99.12 306 eP      P       13 34 43.5 +3.0
LZH                               AP      pP      13 34 47.3 -1.3
LZH                               XP      sP      13 34 51.0 -0.5
LZH                               PP      PP      13 38 48.0 +5.1
LZH                               SKS             13 45 18.3
LZH                               S               13 46 11.3
LZH                               SS      SS      13 53 02.0 +3.6
LZH                               AMB     AMB
     comp=Z,86nm,1.6s,mb6.0
LZH                               AMB     AMB
     comp=Z,520nm,7.1s
LZH                               LR      LR
     comp=E,9µm,16.6s
LZH                               LR      LR
     comp=Z,14µm,18.4s,MS6.5
LZH  Lanzhou          99.12 306 eP      P       13 34 43.5 +3.0
     comp=Z,86nm,1.6s,mb6.0
LZH                               pP      pP      13 34 47.3 -1.3
LZH                               sP      sP      13 34 51.0 -0.5
LZH                               PP      PP      13 38 48.0 +5.1
LZH                               SKS             13 45 18.2
LZH                               S               13 46 11.2
LZH                               sS      sS      13 46 16.0 -7.7
LZH                               SS      SS      13 53 02.0 +3.6
LZH                               LR      LR
     comp=Z,14µm,18.4s,MS6.5
EDM  Edmonton         99.20  33 eP      P       13 34 39.9 -0.9
CLNS Chul'man         99.22 332 eP      P       13 34 38.8 -2.1
CLNS                              epP     pP      13 34 50.2 +1.1
CLNS                              e               13 38 40.1
CLNS                              eS              13 46 00.9
CLNS                              ePPS            13 47 44.0
CLNS Chul'man         99.22 332 eP      P       13 34 38.8 -2.1
CLNS                              e*PP    pP      13 34 50.2 +1.1
CLNS                              e               13 38 40.1
CLNS                              eS              13 46 00.9
CLNS                              ePPS            13 47 44.0
CLNS                              pmax    pmax
     comp=Z,9.0nm,1.1s,mb5.2
CLNS                              pmax    pmax
     comp=N,4.0nm,0.9s
CLNS                              pmax    pmax
     comp=E,3.0nm,1.0s
CLNS                              pmax    pmax
     comp=Z,7.0nm,0.8s,mb5.2
CLNS                              pmax    pmax
     comp=N,10.0nm,1.1s
CLNS                              pmax    pmax
     comp=E,6.0nm,1.1s
CLNS                              smax
     comp=E,9µm,13.1s
CLNS                              smax
     comp=Z,2µm,12.1s
CLNS                              smax
     comp=N,2µm,12.0s
CLNS                              MLR     MLR
     comp=Z,24µm,18.0s,MS6.7
CLNS                              MLR     MLR
     comp=N,3µm,17.0s,MS6.5
CLNS                              MLR     MLR
     comp=E,13µm,17.0s,MS6.5
CPUP Villa Florida    99.61 128 PKKPbc  PKKPbc  13 51 05.9 +1.8
     comp=E,0.4nm,0.3s,baz=292,slow=2.9,SNR=2.6
CPUP                              LR      LR      14 15 11.0
     comp=E,16µm,18.4s,MS6.5,baz=223,slow=33
CPUP Villa Florida    99.61 128 PFAKE                13 34 50.0 +7.3
CPUP                              LR      LR
     comp=Z,3µm,19.0s,MS5.8
YAK  Yakutsk          100.98 337 ePdif  Pdif    13 34 49.7 +0.9
     comp=Z,16nm,0.9s
YAK                               eP              13 34 53.5
YAK                               e               13 39 06.6
YAK                               eS      SKSac   13 45 30.3 +4.0
YAK                               eSS     SS      13 53 25.2 +0.9
YAK                               LR      LR
     comp=Z,12µm,21.0s,MS6.4
YAK  Yakutsk          100.98 337 eP      Pdif    13 34 53.5 +4.7
YAK                               e               13 39 06.6
YAK                               eS      SKSac   13 45 30.3 +4.0
YAK                               eSS     SS      13 53 25.2 +0.9
YAK                               pmax    pmax
     comp=Z,8.0nm,0.9s
YAK                               pmax    pmax
     comp=N,2.0nm,1.4s
YAK                               pmax    pmax
     comp=E,2.0nm,1.1s
YAK                               pmax    pmax
     comp=E,6.0nm,1.0s
YAK                               pmax    pmax
     comp=Z,11nm,1.0s
YAK                               pmax    pmax
     comp=N,7.0nm,1.9s
MIAR Mount Ida        101.16  57 PFAKE                13 35 00.0 +10
MIAR                              LR      LR
     comp=Z,30µm,19.0s,MS6.8
DGMT Dagmar           101.23  40 PFAKE                13 35 00.0 +10
DGMT                              LR      LR
     comp=Z,32µm,20.0s,MS6.8
CIT  Chita            101.55 324 eP      Pdif    13 34 50.9 -0.4
     comp=Z,75nm,2.4s
CIT                               eS      SKSac   13 45 31.0 +1.9
CIT  Chita            101.55 324 eP      Pdif    13 34 50.9 -0.4
CIT                               eS      SKSac   13 45 31.0 +1.9
CIT                               pmax    pmax
     comp=Z,75nm,2.4s
INK  Inuvik           102.82  15 P       Pdif    13 34 59.7 +2.7
     comp=Z,1.3nm,0.9s,baz=259,slow=14,SNR=3.7
INK                               PP      PP      13 39 10.3 -0.6
     comp=Z,2.6nm,0.8s,baz=210,slow=10,SNR=3.5
INK  Inuvik           102.82  15 P       Pdif    13 34 59.7 +2.7
INK                               PP      PP      13 39 10.3 -0.6
ULN  Ulaanbaatar      102.93 318 iP      Pdif    13 35 00.6 +3.1
ULN                               LR      LR
     comp=Z,12µm,20.0s,MS6.4
ULN  Ulaanbaatar      102.93 318 eP      Pdif    13 34 56.2 -1.3
ULN                               pmax    pmax
     comp=Z,17nm,1.1s
SIV  San Ignacio      103.22 117 PKKP    PKKPbc  13 50 58.0 +4.3
     comp=Z,2.5nm,0.8s,baz=54,slow=7.2,SNR=5.5
SHL  Shillong         103.26 292 eP      Pdif    13 35 04.0 +5.1
SHL                               ex      x       13 39 10.0
SHL                               ex      x       13 48 26.0
SONM Songino Array    103.30 318 Pdiff   Pdif    13 35 01.0 +1.9
     comp=Z,1.6nm,0.9s,baz=123,slow=2.6,SNR=9.4
SONM                              PKKPbc  PKKPbc  13 50 56.0 +2.6
     comp=Z,2.7nm,1.0s,baz=250,slow=1.9,SNR=9.0
DGAR Diego Garcia     104.03 253 PFAKE                13 35 10.0 +7.7
DGAR                              LR      LR
     comp=Z,33µm,19.0s,MS6.9
OXF  Oxford           104.20  58 PFAKE                13 35 10.0 +6.9
OXF                               LR      LR
     comp=Z,38µm,19.0s,MS7.0
YKA  Yellowknife Ar   104.36  25 Pdiff   Pdif    13 35 05.5 +1.7
     comp=Z,1.2nm,0.9s,baz=237,slow=4.1,SNR=13
YKA                               PP      PP      13 39 16.7 -5.7
     comp=Z,1.5nm,1.1s,baz=235,slow=6.5,SNR=3.8
YKA                               PKKPbc  PKKPbc  13 50 52.3 +2.1
     comp=Z,1.2nm,0.8s,baz=35,slow=2.9,SNR=9.8
YKA  Yellowknife Ar   104.36  25 Pdif    Pdif    13 35 05.5 +1.7
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YKA PP PP 13 39 16.7 -5.7
YKA PKKPbc PKKPbc 13 50 52.4 +2.1
PALK Pallekele 104.39 270 PFAKE 13 35 20.0 +16
PALK LR LR
comp=Z,35µm,19.0s,MS6.9
CAL Calcutta 104.83 288 *e*P Pdif 13 35 11.7 +5.9
CAL *i* x x 13 38 24.7
CAL *e*x x 13 39 25.8
CAL *e*x x 13 45 51.0
CAL AMP 13 49 41.5
comp=Z,6µm,17.7s
LRAL Lakeview Retre 105.37 61 PFAKE 13 39 30.0 +8.0
LRAL LR LR
comp=Z,24µm,19.0s,MS6.8
PLAL Pickwick Lake 105.39 58 PFAKE 13 39 30.0 +7.9
PLAL LR LR
comp=Z,45µm,19.0s,MS7.0
SAML Samuel 105.58 110 PFAKE 13 39 30.0 +7.6
SAML LR LR
comp=Z,35µm,19.0s,MS6.9
FFC Flin Flon 105.62 36 PFAKE 13 39 30.0 +7.5
FFC LR LR
comp=Z,35µm,20.0s,MS6.9
LSA Lhasa 105.65 295 PFAKE 13 39 30.0 +7.4
LSA LR LR
comp=Z,8µm,20.0s,MS6.2
WVT Waverly 106.07 57 PKiKP PKiKP 13 39 22.2 -1.1
WVT LR LR
comp=Z,23µm,19.0s,MS6.8
ULM Lac du Bonnet 106.84 41 PP PP 13 39 39.3 -1.4
comp=Z,3.4nm,0.9s,baz=303,slow=3.3,SNR=4.4
VIS Vishakhapatnam 106.92 281 *e*x x 13 39 21.2
BOK Bokaro 107.39 288 *e*x x 13 38 34.2
DWPF Disney 107.64 67 PFAKE 13 39 40.0 +14
DWPF LR LR
comp=Z,2µm,19.0s,MS5.7
TIXI Tiksi 107.85 344 *e*P Pdif 13 35 19.9 +0.6
comp=Z,3.0nm,1.1s
TIXI *e* 13 39 43.9
TIXI *e*PPP 13 42 04.8
TIXI *e* 13 45 56.0
TIXI *e*SP SP 13 49 00.6 -7.3
TIXI *e*SS SS 13 54 53.4 -5.1
TIXI *e*SSS 13 59 00.7
TIXI LR LR
comp=Z,15µm,20.0s,MS6.6
WCI Wyandotte Cave 108.05 56 PFAKE 13 39 40.0 +13
WCI LR LR
comp=Z,8µm,19.0s,MS6.3
MOY Mondy 108.17 320 *e*P Pdif 13 35 25.9 +5.2
TRD Trivandrum 108.24 270 *e*x x 13 39 58.5
SDV Santo Domingo 108.38 90 PKKPab PKKPab 13 50 46.9 -4.3
comp=Z,2.5nm,0.5s,baz=32,slow=1.8,SNR=4.3
SDV Santo Domingo 108.38 90 PFAKE 13 39 40.0 +12
SDV LR LR
comp=Z,8µm,19.0s,MS6.3
EYMN Ely 108.48 45 PFAKE 13 39 40.0 +12
EYMN LR LR
comp=Z,373µm,19.0s
NHSC New Hope 110.62 63 PFAKE 13 39 40.0 +8.2
NHSC LR LR
comp=Z,24µm,19.0s,MS6.8
HYB Hyderabad 110.88 279 *i* Pdiff Pdif 13 35 40.0 +7.2
HYB *e*PKP PKiKP 13 39 32.5 +0.2
HYB *e*PP PP 13 40 12.0 +1.9
HYB *e*PPP 13 42 40.0
HYB *e*SKS SKSdf 13 46 18.0 -25
HYB *e*SKKS SKKSac 13 47 20.0 +8.6
HYB *e*SP SP 13 49 50.0 +12
HYB *e*SS SS 13 55 44.0 +4.8
HYB LR LR 14 30 40.0
comp=Z,24nm,20.0s
HYB Hyderabad 110.88 279 *e*Pdif Pdif 13 35 40.0 +7.2
HYB *e*PKPdf PKiKP 13 39 32.5 +0.2
HYB *e*PP PP 13 40 12.0 +1.9
HYB *e*SKS SKSdf 13 46 18.0 -25
HYB Hyderabad 110.88 279 *e*PKIKP PKiKP 13 39 32.5 +0.2
HYB *e* 13 40 12.0
HYB *e* 13 46 18.0
ACSO Alum Creek Sta 111.19 55 PFAKE 13 39 40.0 +7.1
ACSO LR LR
comp=Z,28µm,20.0s,MS6.8
FCC Fort Churchill 111.29 34 *e*PKiKP PKiKP 13 39 35.2 +2.1
BLA Blacksburg 111.97 59 PFAKE 13 39 40.0 +5.6
BLA LR LR
comp=Z,25µm,19.0s,MS6.8
TRIS Tristan da Cun 112.03 167 PFAKE 13 39 50.0 +16
TRIS LR LR
comp=Z,9µm,19.0s,MS6.4
NGP Nagpur 112.03 282 *e*x x 13 40 08.1
NGP *e*x x 13 56 04.3
JBP Jabalpur 112.06 285 ⇓*i*P Pdif 13 35 46.5 +8.4
JBP *e*x x 13 35 50.2
comp=Z,7.4nm,1.8s
JBP *e*S SKSac 13 46 26.6 +11
MNGI Mangalore 112.14 273 *e*x x 13 38 53.1
MNGI *e*x x 13 46 28.5
BDFB Brasilia 113.16 125 PKKPab PKKPab 13 50 33.0 +2.9
comp=Z,7.1nm,0.9s,baz=57,slow=0.7,SNR=8.0
MCWV Mont Chateau 113.25 57 PFAKE 13 39 50.0 +13
MCWV LR LR
comp=Z,43µm,19.0s,MS7.1
WMQ Urumqi 113.59 308 PDIF Pdif 13 35 45.5 +0.7
WMQ PP PP 13 40 34.3 +4.8
WMQ PPP 13 42 57.8
WMQ SKS SKSdf 13 46 44.5 -3.5
WMQ PS PS 13 50 05.3 -0.5
WMQ SS SS 13 56 15.0 -0.3
WMQ PP PP
comp=Z,2µm,12.0s
WMQ LR LR
comp=N,5µm,21.0s,MS6.3
WMQ LR LR
comp=E,7µm,22.8s,MS6.3
WMQ LR LR
comp=Z,11µm,22.0s,MS6.4
WMQ Urumqi 113.59 308 Pdiff Pdif 13 35 50.5 +5.6
WMQ PP PP 13 40 31.0 +1.5
WMQ SKSac SKSac 13 46 30.9 +10
WMQ SKKSac SKKSac 13 47 37.0 +7.1
ERPA Erie 113.96 54 PFAKE 13 39 50.0 +12
ERPA LR LR
comp=Z,18µm,21.0s,MS6.7
BHPL Bhopal 114.25 284 *e*x x 13 40 32.1
BHPL *e*S SKSac 13 46 24.4 +0.5
CBN Corbin 114.58 59 PFAKE 13 39 50.0 +11
CBN LR LR
comp=Z,24µm,19.0s,MS6.8
POO Poona 115.41 278 *e*x x 13 36 04.0
POO *e*x x 13 40 23.5
POO *i* x x 13 46 40.0
POO *e*x x 13 55 52.0
OPO Ambohidratompo 115.96 227 PKP PKPdf 13 39 44.0 +2.0
comp=Z,1.1nm,0.7s,baz=70,slow=12,SNR=2.8
SUR Sutherland 116.05 197 PKP PKPdf 13 39 45.4 +3.2
comp=Z,9.1nm,0.8s,baz=186,slow=3.3,SNR=4.5
SUR Sutherland 116.05 197 *e*PKPdf PKPdf 13 39 43.2 +1.0
SUR LR LR
comp=Z,41µm,20.0s,MS7.0
RES Resolute Bay 116.26 17 *e*PKPdf PKPdf 13 39 40.7 -1.9
SJG San Juan 116.38 83 PFAKE 13 39 50.0 +7.2
SJG LR LR
comp=Z,7µm,20.0s,MS6.3
BOM Bombay 116.45 278 *e*x x 13 40 40.4
BOM *e*x x 13 46 21.1
NDI New Delhi 116.46 289 *e*x x 13 36 06.0
BINY Binghamton 116.82 55 PFAKE 13 39 50.0 +6.3
BINY LR LR
comp=Z,26µm,19.0s,MS6.9
AJM Ajmer 117.81 286 *e*P PKPdf 13 39 43.8 -1.7
AJM *e*S SKSac 13 46 38.6 +1.4
MK31 Makanchi Array 118.10 310 *i* PKPdf PKPdf 13 39 45.1 -1.0
MKAR Makanchi Array 118.10 310 PKP PKPdf 13 39 45.1 -1.1
comp=Z,3.4nm,0.6s,baz=116,slow=0.5,SNR=14
MKAR PKKPbc PKKPbc 13 50 08.1 +3.0
comp=Z,2.3nm,0.9s,baz=284,slow=4.9,SNR=8.0
ZAL Zalesovo 118.19 318 PKP PKPdf 13 39 45.1 -1.2
comp=Z,0.5nm,0.3s,baz=308,slow=19,SNR=2.6
BOSA Boshof 118.31 202 *e*PKPdf PKPdf 13 39 51.0 +4.4
NCB Newcomb 118.55 53 PFAKE 13 40 00.0 +13
NCB LR LR
comp=Z,25µm,19.0s,MS6.8
NVS Novosibirsk 119.27 319 *e*PKPdf PKPdf 13 39 46.1 -2.3
NVS *e* 13 41 09.3
NVS Novosibirsk 119.27 319 *e*PKIKP PKPdf 13 39 46.1 -2.3
NVS *e* 13 41 09.3
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,39nm,1.4s
NVS pmax pmax
comp=Z,81nm,2.2s
NVS pmax pmax
comp=N,24nm,1.9s
NVS pmax pmax
comp=E,60nm,2.1s
HRV Harvard--Oak R 120.07 56 PFAKE 13 40 00.0 +10
HRV LR LR
comp=Z,18µm,20.0s,MS6.7
WES Weston 120.21 56 PFAKE 13 40 00.0 +10
WES LR LR
comp=Z,26µm,19.0s,MS6.9
LBNH Lisbon 120.22 54 PFAKE 13 40 00.0 +10
LBNH LR LR
comp=Z,34µm,19.0s,MS7.0
KSH Kashi 120.76 301 PKP PKPdf 13 39 53.0 +1.7
KSH PP PP 13 41 29.0 +10
KSH PKS 13 43 28.5
KSH SKS SKSdf 13 47 00.5 -1.2
KSH SKKS SKKSac 13 48 16.8 -0.8
KSH PP PP
comp=Z,2µm,7.7s
KSH LR LR
comp=N,5µm,16.6s,MS6.7
KSH LR LR
comp=E,13µm,17.1s,MS6.7
KSH LR LR
comp=Z,7µm,20.6s,MS6.3
BHJ Bhuj 120.86 281 *e*P PKPdf 13 39 50.3 -1.1
BHJ ⇑*e*x x 13 41 19.4
BHJ *e*x x 13 47 00.8
BHJ *e*x x 14 37 05.7
comp=Z,21µm,19.1s
AAA Alma-Ata 120.95 305 *e*P Pdif 13 36 23.0 +5.5
AAA pmax pmax
comp=Z,800nm,6.0s
AAA MLR MLR
comp=Z,7µm,10.5s,MS6.6
ULHL Ulahol 121.22 304 P PKPdf 13 39 52.5 +0.4
SNR=12
KURK Kurchatov 121.30 314 *e*PKIKP PKPdf 13 39 51.0 -1.3
KURK MLR MLR
comp=Z,13µm,19.0s,MS6.6
LBTB Lobatse 121.51 204 PKP PKPdf 13 39 54.1 +1.4
comp=Z,6.1nm,0.9s,baz=153,slow=2.9,SNR=4.3
LBTB Lobatse 121.51 204 *e*PKIKP PKPdf 13 39 54.6 +1.9
LBTB MLR MLR
comp=Z,14µm,20.0s,MS6.6
TKM2 Tokmak 2 121.83 304 P PKPdf 13 39 54.0 +0.7
SNR=9.2
KZA Kyzart 121.90 303 P PKPdf 13 39 55.1 +1.7
SNR=14
UCH Uchtor 122.47 303 P PKPdf 13 39 55.6 +1.1
SNR=13
FRU Bishkek 122.52 304 *e*PKIKP PKPdf 13 39 54.0 -0.6
FRU pmax pmax
comp=Z,100nm,1.4s
AAK Ala-Archa 122.57 304 P PKPdf 13 39 55.7 +1.0
SNR=5.1
BBSR BB Station 122.67 69 PFAKE 13 40 10.0 +15
BBSR LR LR
comp=Z,8µm,19.0s,MS6.4
USP Ospenovka 122.69 305 P PKPdf 13 39 55.7 +0.7
SNR=10
AML Almayashu 123.04 303 P PKPdf 13 39 56.1 +0.4
SNR=17
EKS2 Erkin-Say 123.09 304 P PKPdf 13 39 56.1 +0.4
SNR=9.1
MATP Matopo 124.53 209 PKP PKPdf 13 40 00.6 +2.1
comp=Z,28nm,1.0s,baz=108,slow=2.9,SNR=10
SCHQ Schefferville 125.02 42 PKP PKPdf 13 40 00.1 +0.7
comp=Z,6.3nm,0.9s,baz=225,slow=2.9,SNR=2.8
KK31 Karatay Array 125.53 304 *i* PKPdf PKPdf 13 40 00.9 +0.5
CHKZ Chkalovo 126.49 317 *e*PKPdf PKPdf 13 40 00.9 -1.4
BRVK Borovoye 126.67 316 *e*PKPdf PKPdf 13 40 02.0 -0.6
BRVK LR LR
comp=Z,10µm,20.0s,MS6.5
ZRNK Zerenda 127.44 316 *e*PKPdf PKPdf 13 40 03.4 -0.7
RCBR Riachuelo 128.49 127 *e*PKPdf PKPdf 13 40 08.1 +2.1
RCBR LR LR
comp=Z,31µm,19.0s,MS7.0
LSZ Lusaka 129.21 212 PKP PKPdf 13 40 10.1 +2.7
comp=Z,2.8nm,0.5s,baz=94,slow=4.1,SNR=4.6
LSZ Lusaka 129.21 212 *e*PKIKP PKPdf 13 40 10.0 +2.6
LSZ MLR MLR
comp=Z,23µm,19.0s,MS6.9
TSUM Tsumeb 129.46 198 PKP PKPdf 13 40 10.7 +2.8
comp=Z,3.3nm,0.8s,baz=176,slow=0.9,SNR=6.2
TSUM PP PP 13 42 20.0 +2.5
comp=Z,8.8nm,1.0s,baz=135,slow=5.8,SNR=4.5
TSUM Tsumeb 129.46 198 *e*PKPdf PKPdf 13 40 10.3 +2.4
TSUM LR LR
comp=Z,55µm,19.0s,MS7.3
KBS Kingsbay 130.52 358 *e*P PKPdf 13 40 16.6 +6.7
KBS *e*PP PP 13 42 23.6 -0.9
KBS AMS AMS 14 37 31.0
comp=Z,7µm,18.8s,MS6.3
SFJD Kangerlussuaq 130.92 25 *i* P PKPdf 13 40 09.4 -1.3
SFJD *i* 13 42 34.9
SFJD *i* 13 50 37.4
DAG Danmarks Havn 131.72 7 ⇑*i*P PKPdf 13 40 08.4 -3.8
comp=Z,3.0nm,1.0s
DAG
comp=Z,10µm,19.0s
DAG Danmarks Havn 131.72 7 ⇑*e*PKIKP PKPdf 13 40 08.4 -3.8
DAG MLR MLR
comp=Z,10µm,19.0s,MS6.5
SUMG Summit 131.74 16 *e*PKPdf PKPdf 13 40 11.9 -0.3
SVE Sverdlovsk 131.99 321 *i* PKPdf PKPdf 13 40 12.8 +0.1
SVE *e* 13 40 26.5
SVE LR LR
comp=Z,17µm,18.0s,MS6.8
SVE Sverdlovsk 131.99 321 *i* PKIKP PKPdf 13 40 12.8 +0.1
SVE *e* 13 40 26.5
SVE pmax pmax
comp=Z,160nm,2.5s
SVE MLR MLR
comp=N,8µm,18.0s,MS6.7
SVE MLR MLR
comp=E,10µm,18.0s,MS6.7
SVE MLR MLR
comp=Z,17µm,18.0s,MS6.8
ARU Arti 133.18 321 *i* PKPdf PKPdf 13 40 13.8 -1.2
ARU *e* 13 42 39.6
ARU LR LR
comp=Z,26µm,20.0s,MS6.9
ARU Arti 133.18 321 *i* PKIKP PKPdf 13 40 13.8 -1.2
ARU *e* 13 42 39.6
ARU MLR MLR
comp=N,8µm,20.0s,MS6.8
ARU MLR MLR
comp=Z,26µm,20.0s,MS6.9
ARU MLR MLR
comp=E,20µm,20.5s,MS6.8
SOKR Solikamsk 133.39 326 ⇑*i*PKPdf PKPdf 13 40 19.6 +4.3
SOKR *e* 13 42 41.3
SOKR *e* 13 47 23.2
SOKR PS PS 13 53 00.4 -0.7
SOKR SS SS 14 00 28.6 +2.7
SOKR pmax pmax
comp=Z,60nm,1.2s
SOKR Solikamsk 133.39 326*c* *i*PKIKP PKPdf 13 40 19.6 +4.3
SOKR 13 42 41.3
SOKR 13 47 23.2
SOKR PS PS 13 53 00.4 -0.7
SOKR SS SS 14 00 28.6 +2.7
SOKR pmax pmax
comp=Z,60nm,1.2s
SHEL Horse Pasture 133.81 168 PFAKE 13 40 30.0 +14
SHEL LR LR
comp=Z,19µm,19.0s,MS6.8
VAN Vannovskaya 134.19 296 *e*PKP PKPdf 13 40 08.4 -8.4
VAN *e*S PP 13 42 53.8 +5.8
AKTK Aktyubinsk 134.37 313 PKP PKPdf 13 40 07.7 -10
AKTK PKP PKPdf 13 40 18.4 +1.2
AKTO Aktyubinsk 134.37 313 PKhKP 13 40 07.7
comp=Z,3.5nm,0.7s,baz=98,slow=1.0,SNR=11
AKTO PKP PKPdf 13 40 18.4 +1.2
comp=Z,10nm,0.8s,baz=72,slow=3.5,SNR=13
BJO Bjornoya 134.38 354 *e*P PKPdf 13 40 20.5 +3.3
BJO *e*SS SS 14 00 39.1 +1.3
BJO AMS AMS 14 44 05.6
comp=Z,8µm,22.5s,MS6.4
KMBO Kilima Mbogo 135.32 233 PKP PKPdf 13 40 21.0 +2.1
comp=Z,0.7nm,0.3s,baz=47,slow=11,SNR=4.1
KMBO Kilima Mbogo 135.32 233 *e*PKPdf PKPdf 13 40 23.2 +4.2
KMBO *e*SKP 13 43 57.2
KMBO LR LR
comp=Z,10µm,19.0s,MS6.5
SCO Scoresbysund 136.79 12 *i* P PKPdf 13 40 26.9 +5.2
comp=Z,7.6nm,0.8s
SCO Scoresbysund 136.79 12 *e*P PKPdf 13 40 26.9 +5.2
LVZ Lovozero 137.47 343 PFAKE 13 40 30.0 +7.0
LVZ LR LR
comp=Z,12µm,19.0s,MS6.7
KEV Kevo 137.65 348 PFAKE 13 40 30.0 +6.7
KEV LR LR
comp=Z,11µm,20.0s,MS6.6
APA Apatity 138.03 343 ⇑*i*PKPdf PKPdf 13 40 26.6 +2.6
APA *i* 13 40 31.4
APA *e* 13 47 30.0
APA Apatity 138.03 343 ⇑*i*PKIKP PKPdf 13 40 26.6 +2.6
APA *i* 13 40 31.4
APA *e* 13 47 30.0
APA pmax pmax
comp=Z,30nm,1.3s
ARCES ARCESS Array B 138.10 348 PKhKP 13 40 18.9
comp=Z,3.2nm,0.8s,baz=30,slow=2.6,SNR=11
ARCES PKP PKPdf 13 40 24.3 +0.2
comp=Z,12nm,0.8s,baz=30,slow=2.2,SNR=19
ARE0 ARCESS Array S 138.10 348 *e*PKPdf PKPdf 13 40 24.5 +0.4
JMIC Jan Mayen 138.14 6 *e*P PKPdf 13 40 30.2 +6.1
JMIC *e*SS SS 14 01 26.8 +4.1
KTK1 Kautokeino 138.95 349 *e*P PKPdf 13 40 29.0 +3.3
ASCN Ascension 138.97 153 PFAKE 13 40 40.0 +14
ASCN LR LR
comp=Z,9µm,19.0s,MS6.5
ATD Arta Tunnel 138.97 252 PKP PKPdf 13 40 28.1 +2.4
comp=Z,2.7nm,0.4s,baz=90,slow=20,SNR=1.9
TRO Tromso 139.00 352 *e*P PKPdf 13 40 24.4 -1.3
TRO AMS AMS 14 49 54.1
comp=Z,10µm,18.8s,MS6.6
KLMR Klimovskoe 140.61 333*d* *i*PKIKP PKPdf 13 40 25.4 -3.3
KLMR *e* 13 43 28.7
KLMR *e* 13 55 50.4
KLMR pmax pmax
comp=Z,120nm,1.6s
KLMR MLR MLR
comp=Z,15µm,20.0s,MS6.7
PECR Pechory 140.86 325 ⇑*e*PKPdf PKPdf 13 40 26.6 -2.5
PECR *e* 13 56 00.0
PECR Pechory 140.86 325*ce*PKIKP PKPdf 13 40 26.6 -2.5
PECR *e* 13 56 00.0
PECR pmax pmax
comp=Z,3µm,9.0s
DESE Dese 141.39 249 *e*P PKPdf 13 40 39.2 +9.2
BORG Borgarnes 141.69 17 PFAKE 13 40 40.0 +9.4
BORG LR LR
comp=Z,13µm,19.0s,MS6.7
JOF Joensuu 142.12 339 *e*pkp PKPdf 13 40 26.6 -4.8
MAK Makhachkala 142.34 303 ⇑*i*PKP PKPdf 13 40 23.4 -8.4
MAK *e* 13 43 37.5
MAK *i* 13 47 39.3
MAK *e*SS SS 14 02 44.6 +33
MAK Makhachkala 142.34 303*c* *i*PKHKP 13 40 23.4
MAK *e* 13 43 37.5
MAK *i* 13 47 39.3
MAK *e*SS SS 14 02 44.6 +33
MAK pmax pmax
comp=Z,385nm,1.8s
MOR8 Moi Rana 142.84 352 *e*P PKPdf 13 40 33.5 +0.8
MOR8 AMb AMB 13 40 38.4
comp=Z,41nm,1.6s
DGRG David-gareji 144.06 301 P PKPdf 13 40 38.2 +3.4
DGRG David-gareji 144.06 301 P PKPdf 13 40 32.9 -1.9
KAF Kangasniemi 144.21 342 *e*pkp PKPdf 13 40 31.0 -4.1
VRHR Novokhopersk 144.31 318 *e*PKIKP PKPdf 13 40 38.4 +3.1
VRHR pmax pmax
comp=Z,130nm,1.9s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR MLR MLR
comp=N,10µm,21.0s,MS6.6
VRHR MLR MLR
comp=Z,14µm,21.0s,MS6.7
VRHR MLR MLR
comp=E,5µm,20.0s,MS6.6
SAMG Sameba 144.45 301 P PKPdf 13 40 39.4 +3.9
MTA Mtatsminda 144.47 301 P PKPdf 13 40 39.1 +3.6
MTA Mtatsminda 144.47 301 P PKPdf 13 40 34.9 -0.6
DUS Dusheti 144.49 302 P PKPdf 13 40 35.1 -0.5
TBLG Delisi 144.50 301 P PKPdf 13 40 40.8 +5.2
TBLG Delisi 144.50 301 P PKPdf 13 40 35.8 +0.2
TBLG Delisi 144.50 301 *e*PKIKP PKPdf 13 40 40.8 +5.2
GNI Garni 144.64 299 *e*P PKPdf 13 40 39.2 +3.4
GNI Garni 144.64 299 *e*PKPdf PKPdf 13 40 36.0 +0.2
GNI *e*P 13 40 39.2
GNI LR LR
comp=Z,9µm,20.0s,MS6.5
NSS Namsos 144.70 353 *e*P PKPdf 13 40 34.8 -1.1
NSS AMb AMB 13 42 15.7
comp=Z,3µm,19.4s
NSS *e*SS SS 14 02 42.5 +3.4
NSS AMS AMS 14 49 07.7
comp=Z,10µm,20.0s,MS6.6
PUL Pulkovo 144.77 336 *i* PKIKP PKPdf 13 40 36.2 +0.1
PUL pmax pmax
comp=Z,799nm,1.6s
PUL pmax pmax
comp=N,299nm,0.8s
PUL pmax pmax
comp=E,444nm,1.1s
KZR Kazreti 144.78 301 P PKPdf 13 40 42.4 +6.3
FINES FINESS Array B 144.82 341 PKP PKPdf 13 40 33.5 -2.7
comp=E,58nm,0.9s,baz=60,slow=3.3,SNR=80
BHD Baghdad 144.84 287 *ex* x 13 40 09.5
BHD *ex* x 13 43 22.0
BHD *ex* x 13 47 23.0
ZEI Tsey 144.99 303 *i* PKP PKPdf 13 40 35.5 -0.9
OBN Obninsk 145.16 326 *i* PKPdf PKPdf 13 40 35.6 -1.1
OBN *e*SS SS 14 02 45.7 +1.3
OBN LR LR
comp=Z,11µm,24.0s,MS6.5
OBN Obninsk 145.16 326 *i* PKIKP PKPdf 13 40 35.6 -1.1
OBN *e*SS SS 14 02 45.7 +1.3
OBN pmax pmax
comp=Z,108nm,0.8s
OBN MLR MLR
comp=Z,11µm,24.0s,MS6.5
GOF Gofitskoye 145.19 307 *e*PKHKP 13 40 36.0
GOF pmax pmax
comp=Z,680nm,1.3s
CLDR Caldiran 145.34 297 *e*P PKPbc 13 40 38.1 +1.2
BKR Bakuriani 145.42 301 P PKPdf 13 40 38.4 +1.3
VOR Voronezh 145.44 320 ⇓PKHKP 13 40 35.0
VOR pmax pmax
comp=Z,250nm,2.0s
AKH Akhalkalaki 145.47 301 P PKPdf 13 40 38.6 +1.3
HKR Hakkari 145.54 294 *e*P PKPdf 13 40 39.1 +1.8
CUKT Cukurca 145.65 294 *e*P PKPdf 13 40 37.8 +0.2
KIV Kislovodsk 145.66 305 *i* PKPab PKPab 13 40 38.4 +0.2
KIV *e* 13 47 42.9
KIV Kislovodsk 145.66 305 *i* PKP2 PKPab 13 40 38.4 +0.2
KIV *e* 13 47 42.9
KIV pmax pmax
comp=Z,20nm,1.0s
DIGO Kars 145.66 299 *i* P PKPdf 13 40 43.6 +6.0
VRSR Storozhevoye 145.67 319 *i* PKP2 PKPab 13 40 36.6 -1.7
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=Z,30nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VORD Divnogorie 145.72 319 *e*PKHKP 13 40 36.3
VORD pmax pmax
comp=Z,40nm,1.3s
VORD pmax pmax
comp=N,7.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,0.6s
TVAN Van 145.77 296 *i* P PKPdf 13 40 40.7 +2.9

KARS	Kars	145.86	300	eP	PKPdf	13 40 41.7 +3.8
MSL	Mosul	146.06	292	ex	x	13 40 41.0
MSL				ex	x	13 44 19.0
MSL				ex	x	13 51 03.0
ARTV	Artvin	146.67	301	i P	PKPab	13 40 47.8 +5.7
MOL	Molde	146.98	356	eP	PKPab	13 40 44.9 +1.6
MOL				AMb	AMB	13 40 52.2
	comp=Z,137nm,1.3s					
ERZM	Erzurum	147.25	298	i P	PKPdf	13 40 44.2 +3.9
EZM	Erzurum	147.25	298	eP	PKPdf	13 40 43.4 +3.1
BTMT	Batman	147.29	295	eP	PKPab	13 40 46.2 +1.6
DOMB	Dombas	147.41	355	eP	PKPdf	13 40 43.1 +2.6
DOMB				AMb	AMB	13 40 52.9
	comp=Z,146nm,1.4s					
DOMB	Dombas	147.41	355	eP	PKPdf	13 40 43.7 +3.2
BEST	Besiri	147.48	295	i P	PKPab	13 40 45.9 +0.7
BNGL	BINGOL	147.50	297	i P	PKPab	13 40 48.8 +3.4
SOC	Sochi	147.84	306	i PKPab	PKPab	13 40 47.4 +0.7
SOC				e		13 44 10.6
SOC				ePPP		13 47 28.5
SOC				e		13 47 45.2
SOC				eSSS		14 08 52.1
SOC				pmax	pmax	
	comp=Z,124nm,0.9s					
MARD	Mardin	147.90	294	i P	PKPab	13 40 50.7 +3.8
NB2	NORSAR Subarra	148.19	353	PKPa	PKPdf	13 40 43.5 +1.7
	comp=Z,522nm,2.0s,baz=16,slow=3.2					
NB2	NORSAR Subarra	148.19	353	PKPa	PKPdf	13 40 43.5 +1.7
	baz=16,slow=3.2					
NOA	NORSAR Array B	148.19	353	PKPbc	PKPbc	13 40 43.9 -1.2
	comp=Z,14nm,0.9s,baz=18,slow=4.3,SNR=22					
MACK	Trabzon	148.32	301	i P	PKPab	13 40 48.4 -0.2
NAO01	NORSAR Array S	148.42	353	ePKPdf	PKPdf	13 40 42.8 +0.6
NAO01				LR	LR	
	comp=Z,10μm,19.0s,MS6.6					
GUMT	Gumushane	148.61	300	eP	PKPbc	13 40 48.2 +2.0
HFS	Hagfors	148.74	350	PKPbc	PKPbc	13 40 45.1 -1.4
	comp=Z,42nm,1.0s,baz=96,slow=1.5,SNR=16					
ANN	Anapa	149.10	309	i PKPdf	PKPdf	13 40 47.0 +3.7
ANN				e		13 44 21.7
ANN	Anapa	149.10	309	i PKIKP	PKPdf	13 40 47.0 +3.7
ANN				e		13 44 21.7
ANN				pmax	pmax	
	comp=Z,9μm,10.7s					
IZAR	Zarasai	149.21	334	eP	PKPdf	13 40 47.3 +3.8
IZAR				AMb	AMB	13 40 56.9
	comp=Z,61nm,1.9s					
ELZG	Elazig	149.23	296	i P	PKPbc	13 40 49.7 +1.9
BER	Bergen	149.27	358	eP	PKPbc	13 40 49.4 +1.5
BER				AMb	AMB	13 40 55.4
	comp=Z,141nm,1.7s					
BER				eSS	SS	14 03 30.3 -0.5
BER				AMS	AMS	14 48 43.6
	comp=Z,10μm,18.6s,MS6.6					
IDID	Didziasalis	149.35	333	eP	PKPdf	13 40 47.6 +3.9
IDID				AMb	AMB	13 40 57.2
	comp=Z,49nm,2.0s					
ISAL	Salakas	149.39	334	eP	PKPdf	13 40 47.5 +3.7
ISAL				AMb	AMB	13 40 57.4
	comp=Z,56nm,1.9s					
GRSN	GIRESUNGRSN	149.44	301	i P	PKPbc	13 40 48.9 +0.6
URFA	Urfa	149.45	294	eP	PKPdf	13 40 48.4 +4.5
MNK	Minsk	149.49	331	ePKHKP		13 40 44.0
MNK				pmax	pmax	
	comp=Z,1μm,1.0s					
MNK				pmax	pmax	
	comp=Z,16μm,12.0s					
IIGN	Ignalina	149.52	334	eP	PKPdf	13 40 47.9 +3.9
IIGN				AMb	AMB	13 40 57.8
	comp=Z,60nm,2.3s					
ODD1	Odda	149.68	357	eP	PKPdf	13 40 49.0 +4.8
ODD1				AMb	AMB	13 40 55.5
	comp=Z,210nm,1.9s					
MALT	Malatya	149.69	296	eP	PKPdf	13 40 48.1 +3.8
MALT	Malatya	149.69	296	⇑P	PKPbc	13 40 50.7 +1.8
MALT	Malatya	149.69	296	ePKHKP		13 40 49.7
MYA	Malataya	149.69	296	eP	PKPbc	13 40 50.0 +1.1
KONO	Kongsberg	149.72	354	eP	PKPdf	13 40 47.4 +3.1
KONO				eSS	SS	14 03 38.2 +2.3
KONO	Kongsberg	149.72	354	i PKHKP		13 40 48.7
ATAB	Bozova	149.87	294	i P	PKPbc	13 40 50.9 +1.5
ATAB	Bozova	149.87	294	i P	PKPab	13 40 56.5 +1.6
BLS5	Blasjo	150.18	357	eP	PKPdf	13 40 49.1 +4.1
BLS5				AMb	AMB	13 40 60.0
	comp=Z,64nm,1.4s					
GZT	Gaziantep	150.46	294	i P	PKPbc	13 40 51.9 +1.1
SVST	Sivas	150.63	299	i P	PKPbc	13 40 53.5 +2.4
GAZ	Gaziantep	150.75	294	eP	PKPbc	13 40 53.4 +1.9
MLA1	Latheron	151.03	7	eP	PKPbc	13 40 54.6 +2.5
MLA1	Latheron	151.03	7	eP	PKPbc	13 40 54.6 +2.5
KVT	Kavak	151.06	302	eP	PKPbc	13 40 53.0 +0.8
SIM	Simferopol'	151.28	311⇑	ePKPdf	PKPdf	13 40 51.6 +4.9
SIM				e		13 44 29.4
SIM				ePPS		13 57 21.0
SIM	Simferopol'	151.28	311	cePKIKP	PKPdf	13 40 51.6 +4.9
SIM				e		13 44 29.4
SIM				ePPS		13 57 21.0
SIM				pmax	pmax	
	comp=Z,3μm,12.4s					
SIM				pmax	pmax	
	comp=Z,2μm,17.4s					
MVH1	Achvaich	151.31	8	eP	PKPbc	13 40 52.6 -0.1
MVH1	Achvaich	151.31	8	eP	PKPbc	13 40 52.6 -0.1
AKASG	Malin Array Be	151.34	324	PKPbc	PKPbc	13 40 52.2 -0.6
	comp=Z,69nm,0.8s,baz=46,slow=2.7,SNR=51					
AKASG	Malin Array Be	151.34	324	PKPbc	PKPbc	13 40 52.2 -0.6
KSK	Scoval	151.38	11	eP	PKPbc	13 40 55.7 +2.7
KSK	Scoval	151.38	11	eP	PKPbc	13 40 55.7 +2.7
FKH	Fakeheh	151.53	288	eP	PKPbc	13 40 53.4 +0.1
COBT	Iskenderun	151.57	293	i P	PKPbc	13 40 53.6 +0.3
KAC	Achnashellach	151.57	10	eP	PKPbc	13 40 52.8 -0.6
KAC	Achnashellach	151.57	10	eP	PKPbc	13 40 52.8 -0.6
KPL	Plockton	151.67	10	eP	PKPbc	13 40 52.7 -0.9
KPL	Plockton	151.67	10	eP	PKPbc	13 40 52.7 -0.9
SUW	Suwalki	151.69	335	ePKP	PKPdf	13 40 51.0 +3.7
SUW				ePKPbc	PKPbc	13 40 53.9 +0.3
SUW				ePKPab	PKPab	13 41 02.0 -0.4
HTY	Hatay	151.69	292	eP	PKPbc	13 40 54.2 +0.6
MCD	Coleburn Disti	151.75	7	eP	PKPbc	13 40 53.0 -0.8
MCD	Coleburn Disti	151.75	7	eP	PKPbc	13 40 53.0 -0.8
BOYT	Boyabat	151.82	303	i P	PKPbc	13 40 53.9 0.0
KOZT	Kozan	151.82	295	eP	PKPdf	13 40 53.0 +5.4
KSB	Sheil Bridge	151.83	10	eP	PKPbc	13 40 55.9 +1.9
KSB	Sheil Bridge	151.83	10	eP	PKPbc	13 40 55.9 +1.9
BYBT	Boyabat	151.90	303	eP	PKPab	13 41 00.6 -2.7
CEYT	Ceyhan	151.93	294	eP	PKPbc	13 40 54.2 0.0
MME1	Meikle Cairn	152.04	7	eP	PKPdf	13 40 53.0 +5.1
MME1	Meikle Cairn	152.04	7	eP	PKPdf	13 40 53.0 +5.1
KAR1	Arisaig	152.05	11	eP	PKPbc	13 40 54.0 -0.4
KAR1	Arisaig	152.05	11	eP	PKPbc	13 40 54.0 -0.4
CTKT	Corum	152.09	302	i P	PKPbc	13 40 53.5 -1.0
BHL	Bhannes	152.15	287	eP	PKPdf	13 40 52.9 +4.9
KRTS	Karatas	152.27	293	eP	PKPbc	13 40 54.6 -0.4
AVNT	Avonos	152.40	298	i P	PKPbc	13 40 54.9 -0.3
KARA	Karaisali	152.46	294	eP	PKPdf	13 40 50.6 +2.1
TOS	Tosya	152.56	303	eP	PKPbc	13 40 55.1 -0.5
CDAG	Cicekdag	152.62	300	i P	PKPdf	13 40 53.7 +5.0
MUD	Monsted U'grnd	152.91	353⇓	iP	PKPbc	13 40 56.0 -0.4
	comp=Z,129nm,1.4s					
MUD				e		13 44 18.7
MUD				i		13 51 46.2
MUD	Monsted U'grnd	152.91	353⇓	eP	PKPbc	13 40 56.0 -0.4
MUD				e		13 44 18.7
MUD				i		13 51 46.2
MUD				i		14 04 06.7
MUD				i		14 10 01.6
MUD	Monsted U'grnd	152.91	353⇓	ePKIKP	PKPbc	13 40 56.0 -0.4
MUD				i		14 04 06.7
MUD				i		14 10 01.6
MUD				pmax	pmax	
	comp=Z,130nm,1.4s					
MUD				MLR	MLR	
	comp=Z,10μm,18.0s,MS6.7					
MERS	Mersin	152.92	294	eP	PKPdf	13 40 50.6 +1.4
CANT	Cankiri	152.96	302	eP	PKPbc	13 40 56.9 +0.4
BSTP	Nigde	153.11	296	i P	pPKPdf	13 41 01.1 +3.3
ELDT	Eldivan	153.13	302	i P	PKPdf	13 40 54.4 +4.9
BR131	Keskin Array S	153.15	300	PFAKE		13 41 00.0 +10
BR131				LR	LR	
	comp=Z,5μm,19.0s,MS6.3					
BRTR	Keskin Array B	153.15	300	PKP	PKPdf	13 40 49.3 -0.2
	comp=Z,2.5nm,0.7s,baz=146,slow=0.9,SNR=7.1					
BRTR				PKPbc	PKPbc	13 40 57.4 +0.5
	comp=Z,9.9nm,0.8s,baz=127,slow=3.4,SNR=17					
COP	Copenhagen	153.19	348	i P	PKPbc	13 40 55.5 -1.5
	comp=Z,91nm,1.2s					
COP				i		13 44 46.6
COP				i S		13 51 42.5
COP	Copenhagen	153.19	348	eP	PKPbc	13 40 55.5 -1.5
COP				i		13 44 46.6
COP				i S		13 51 42.5
COP				i		14 04 20.7
COP				LR	LR	
	comp=Z,7μm,18.0s,MS6.5					
COP	Copenhagen	153.19	348	ePKIKP	PKPbc	13 40 55.5 -1.5
COP				i		13 44 46.6
COP				pmax	pmax	
	comp=Z,91nm,1.2s					
COP				MLR	MLR	
	comp=Z,7μm,18.0s,MS6.5					
BSD	Bornholm Skovb	153.23	345⇑	iP	PKPdf	13 40 53.8 +4.2
	comp=Z,91nm,1.1s					
BSD				i		13 44 41.9
BSD						
	comp=Z,13μm,21.0s					
BSD	Bornholm Skovb	153.23	345⇑	ePKIKP	PKPdf	13 40 53.8 +4.2
BSD				i		13 44 41.9
ADH	Angra Heroismo	153.38	62	e		13 55 27.5
ADH	Angra Heroismo	153.38	62	i LR	LR	14 32 25.0
EAU	Auchinoon	153.43	8	eP	PKPbc	13 40 57.2 -0.3
EAU				AMb	AMB	13 41 07.5
	comp=Z,148nm,1.5s					
EAU	Auchinoon	153.43	8	eP	PKPbc	13 40 57.2 -0.3
EAU				AMb	AMB	13 41 07.5
	comp=Z,148nm,1.5s					
ESY	Stoneypath	153.46	7	eP	PKPbc	13 40 57.1 -0.5
ESY				AMb	AMB	13 41 07.2
	comp=Z,121nm,1.7s					
ESY	Stoneypath	153.46	7	eP	PKPbc	13 40 57.1 -0.5
ESY				AMb	AMB	13 41 07.2
	comp=Z,121nm,1.7s					
SAFT	Safranbolu	153.47	304	eP	PKPdf	13 40 55.0 +5.0
IKL	Isikli	153.66	292	eP	PKPdf	13 40 56.4 +6.2
KIS	Kishinev	153.66	318	ePKPdf	PKPdf	13 40 52.0 +1.8
KIS				i		13 41 02.0
KIS				i		13 41 15.0
KIS				ePPP		13 48 26.0
ANTO	Ankara	153.75	301	eP	PKPdf	13 40 54.8 +4.4
ANTO	Ankara	153.75	301	PKPdf	PKPdf	13 40 55.0 +4.6
ANTO	Ankara	153.75	301	⇑P	pPKPdf	13 41 03.7 +5.0
ANTO	Ankara	153.75	301	ePKPdf	PKPdf	13 40 49.4 -1.0
ANTO				eP		13 40 54.8
ANTO				⇑P		13 41 03.7
ANTO				LR	LR	
	comp=Z,10μm,19.0s,MS6.7					
WAR	Warsaw	153.88	335	ePKP	PKPdf	13 40 57.0 +6.4
WAR				e		13 41 04.8
WAR				L		14 08 40.6
	comp=Z,3.4nm,28.2s					
EKA	Eskdalemuir Ar	153.97	8	PKPbc	PKPbc	13 40 58.4 -0.3
	comp=Z,2.1nm,0.7s,baz=306,slow=0.7,SNR=5.9					
ESK	Eskdalemuir	153.98	8	PFAKE		13 41 00.0 +9.3
ESK				LR	LR	
	comp=Z,14μm,20.0s,MS6.8					
BBH	Bruntsheil	154.19	8	eP	PKPbc	13 41 00.8 +1.6
BBH	Bruntsheil	154.19	8	eP	PKPbc	13 41 00.8 +1.6
GKP	Gorka Klasztor	154.28	340	ePKP	PKPdf	13 40 55.5 +4.4
LVV	L'vov	154.44	328	ePKPdf	PKPdf	13 40 55.4 +4.1
LVV				i		13 41 16.6
LVV				e		13 47 53.2
LVV				ePPP		13 48 22.0
KONT	Konya--Tatoy	154.47	297	eP	pPKPdf	13 41 06.6 +6.9
KIZT	Kizilcal	154.66	299	eP	PKPdf	13 40 56.4 +4.8
MDU	Mudurnu	154.76	303	eP	pPKPdf	13 41 03.0 +2.9
PDA	Ponta Delgada	154.76	64	ePP	PP	13 44 42.0 -9.0
PDA	Ponta Delgada	154.76	64	eSS	SS	14 04 26.0 -5.4
HENT	Hendek	154.89	304	i P	PKPdf	13 40 56.6 +4.7
CFR	Carcaliu	155.00	315	⇓P	pPKPdf	13 41 03.6 +3.1
CFR	Carcaliu	155.00	315	⇓P	pPKPdf	13 41 03.6 +3.1
KWP	Kalwaria	155.18	329	ePKP	PKPdf	13 40 56.9 +4.5
KWP				ePKPab	PKPab	13 41 18.9 +1.7
TIRR	Tirgusor	155.18	313	⇑P	PKPdf	13 41 00.6 +8.2
TIRR	Tirgusor	155.18	313	⇑P	PKPdf	13 41 00.6 +8.3
TIRR	Tirgusor	155.18	313	PKP2	PKPab	13 41 23.1 +5.9
BSEG	Bad Segeberg	155.22	350	ePKPdf	PKPdf	13 40 57.0 +4.6
BSEG				ePP	PP	13 44 55.4 +1.9
ESKT	Eskisehir	155.29	301	i P	PKPdf	13 40 53.3 +0.8
BURAR	Bucovina Array	155.31	323	⇑P	pPKPdf	13 41 05.6 +4.7
BURAR	Bucovina Array	155.31	323	⇑P	pPKPdf	13 41 05.6 +4.7
LIC	Lamto	155.41	160	ePKIKP	PKPdf	13 40 57.0 +4.3
	comp=Z,238nm,1.5s					
LIC				eR		
	comp=Z,24μm,20.0s					
LIC	Lamto	155.41	160	ePKPdf	PKPdf	13 40 57.0 +4.3
LIC				LR	LR	
	comp=Z,12μm,20.0s,MS6.7					
BORA	Eskisehir	155.49	302	i P	PKPdf	13 41 01.3 +8.6
VRI	Vrincioaia	155.49	318	⇓P		13 41 08.3
VRI	Vrincioaia	155.49	318	⇓P		13 41 08.3
VRI	Vrincioaia	155.49	318	PKP2	PKPab	13 41 24.2 +5.7
HRT	Hereke	155.78	304	eP	PKPab	13 41 20.2 +0.5
DBIC	Dimbokro	155.89	160	PKP	PKPdf	13 40 54.9 +1.6
	comp=Z,9.0nm,1.0s,baz=191,slow=1.6,SNR=7.6					
DBIC	Dimbokro	155.89	160	ePKIKP	PKPdf	13 40 54.5 +1.2
DBIC				MLR	MLR	
	comp=Z,14μm,19.0s					
RUE	Ruedersdorf	155.92	344	ePKPdf	PKPdf	13 40 58.9 +5.5
ISP	Isparta	155.93	297	eP	PKPdf	13 40 54.0 +0.6
ISP				P		13 41 11.9
ISP				ePKPab	PKPab	13 41 20.5 +0.1
ISP	Isparta	155.93	297	ePKP2	PKPab	13 41 20.5 +0.1
OJC	Ojcow	155.96	333	ePKPdf	PKPdf	13 40 53.4 0.0
OJC				ePP	PP	13 44 59.4 +1.7
OJC				eSKSdf	SKSdf	13 47 58.9 +0.8
OJC				eSS	SS	14 04 46.2 +1.9
OJC				L		14 53 32.5
	comp=Z,70nm,19.0s					
STHS	Stebnicka Huta	155.98	330	ePKP	PKPdf	13 40 59.4 +6.0
STHS				e		13 41 24.5
STHS				e		13 41 24.5
STHS	Stebnicka Huta	155.98	330	e	PKPdf	13 40 59.4 +6.0
TKTP	Tekketepe	156.04	298	i P	PKPdf	13 41 01.8 +8.3
YLV	Yalova	156.07	304	eP	PKPdf	13 40 57.7 +4.1
IZI	Iznik	156.07	303	eP	PKPab	13 41 23.5 +2.5
UZH	Uzhgorod	156.09	328	i PKPdf	PKPdf	13 40 52.0 -1.6
UZH				e		13 40 58.0
UZH				e		13 45 05.0
MLR	Muntele Rosu	156.16	318	PKP	PKPdf	13 40 53.0 -0.7
	comp=Z,2.2nm,0.4s,baz=349,slow=5.2,SNR=3.0					
MLR				PKPab	PKPab	13 41 22.1 +0.7
	comp=Z,10nm,0.9s,baz=311,slow=5.0,SNR=3.4					
MLR	Muntele Rosu	156.16	318	⇓P	PKPdf	13 41 02.8 +9.1
MLR	Muntele Rosu	156.16	318	PKP	PKPdf	13 40 53.0 -0.7
MLR				⇓P		13 41 02.8
MLR				PKPab	PKPab	13 41 22.1 +0.7
MLR	Muntele Rosu	156.16	318	PKIKP	PKPdf	13 40 53.0 -0.7
MLR						13 41 22.1
CRVS	Cervenica-Dubn	156.27	329	ePKP2	PKPab	13 41 26.7 +4.8
CRVS	Cervenica-Dubn	156.27	329	e	PKPdf	13 41 26.7 +33
ULDT	Uludag	156.38	303	i P	PKPdf	13 40 57.8 +3.9
GDZ	Gediz	156.43	300	i P		13 41 15.7
ELBA	Catalca	156.54	306	i P	PKPab	13 41 27.3 +4.3
KSP	Ksiaz	156.69	339	ePKP	PKPdf	13 40 56.8 +2.4
KSP				ePKPab	PKPab	13 41 25.1 +1.4
KSP	Ksiaz	156.69	339	ePKPdf	PKPdf	13 40 51.5 -2.9
KSP				ePKP	PKPdf	13 40 59.4 +5.0
KSP				e		13 41 27.4
KSP				eSKKS	SKKSac	13 51 58.4 +8.7
KSP				e		13 55 19.1
KSP				eSS	SS	14 04 50.0 -2.1
KSP				LR	LR	
	comp=Z,25μm,21.4s,MS7.0					
KSP	Ksiaz	156.69	339	ePKIKP	PKPdf	13 40 59.4 +5.0
KSP				eSS	SS	14 04 50.0 -2.1
HLM1	Long Mynd	156.75	9	eP	PKPdf	13 41 01.6 +7.1
HLM1				AMb	AMB	13 41 02.8
	comp=Z,47nm,1.7s					
HLM1	Long Mynd	156.75	9	eP	PKPdf	13 41 01.6 +7.1
HLM1				AMb	AMB	13 41 02.8
	comp=Z,47nm,1.7s					
GOLH	Golhisar	156.79	296	i P	pPKPdf	13 41 05.8 +2.9
OKC	Ostrava-Krasne	156.90	335	ePKPDF	PKPdf	13 40 58.6 +4.0
OKC				ePKPAB	PKPab	13 41 28.0 +3.4
OKC				ePP	PP	13 45 01.4 -1.5
OKC				ex	x	13 51 57.7
OKC				AMS	AMS	14 56 00.0
	comp=Z,27μm,19.6s					
OKC	Ostrava-Krasne	156.90	335	ePKP	PKPdf	13 40 58.6 +4.0
OKC				e		13 41 28.0
OKC				e		13 45 01.4
OKC				e		13 51 57.7
OKC	Ostrava-Krasne	156.90	335	ePKIKP	PKPdf	13 40 58.6 +4.0
OKC				e		13 45 01.4
KECS	Kecovo	157.01	330	e	PKPdf	13 41 00.1 +5.3
KECS				e		13 41 28.3
UPC	Upice	157.07	339	ePKPDF	PKPdf	13 40 55.2 +0.4
UPC				ePKPAB	PKPab	13 41 24.6 -0.7
DNZL	Cakiroluk	157.10	297	i P	PKPdf	13 41 00.6 +5.7
DPC	Dobruska-Polom	157.10	338	ePKPDF	PKPdf	13 40 54.6 -0.3
DPC				ePKPAB	PKPab	13 41 24.7 -0.8
DPC				ePP	PP	13 45 02.0 -2.0
DPC				ex	x	13 51 59.2
DPC				AMS	AMS	15 01 20.0
	comp=Z,14μm,18.3s					
DPC	Dobruska-Polom	157.10	338	ePKIKP	PKPdf	13 40 54.6 -0.3
DPC				e		13 41 24.7
DPC				e		13 45 02.0
DPC				MLR	MLR	
	comp=Z,14μm,18.3s,MS6.8					
MORC	Moravsky Berou	157.17	336	⇓P	pPKPdf	13 41 04.7 +1.4
MORC	Moravsky Berou	157.17	336	ePKPdf	PKPdf	13 40 54.6 -0.3
MORC				epPKPdf	pPKPdf	13 41 03.6 +0.3
MORC				⇓P		13 41 04.7
MORC	Moravsky Berou	157.17	336	ePKIKP	PKPdf	13 40 54.7 -0.3
MORC				e		13 41 03.6
CLL	Collm	157.19	344	ePKPdf	PKPdf	13 40 59.4 +4.4
	comp=Z,193nm,2.5s					
CLL				ePKPdif		13 41 10.3
	comp=Z,177nm,2.3s					
CLL				ePKPab	PKPab	13 41 26.9 +1.1
	comp=Z,309nm,2.4s					
CLL				ePP	PP	13 45 05.2 +0.8
CLL				ePPP		13 48 39.3
CLL				eSKKSac	SKKSac	13 51 57.4 +5.1
CLL				eSKSP		13 55 30.1
CLL				ePPS		13 58 15.5
CLL				eSS	SS	14 04 52.0 -5.5
CLL				eSSS		14 11 03.7
CLL				eLR	LR	14 36 34.9
CLL				eL		15 01 38.2
	comp=Z,18μm,20.0s					
CLL	Collm	157.19	344	ePKPdf	PKPdf	13 40 59.0 +4.0
	comp=Z,190nm,2.5s					
CLL				ePKPdif		13 41 10.0
	comp=Z,177nm,2.3s					
CLL				ePKPab	PKPab	13 41 28.0 +2.2
	comp=Z,309nm,2.4s					
CLL				ePP	PP	13 45 05.0 +0.6
CLL				ePPP		13 48 40.0
CLL				eSKKSac	SKKSac	13 51 51.0 -1.3
CLL				ePSKS		13 55 33.0
CLL				eSKKSdf	SKKSdf	13 56 32.0 +2.6
CLL				ePPS		13 58 16.0
CLL				ex	x	13 59 57.0
CLL				eSS	SS	14 04 53.0 -4.5
CLL				eSSS		14 11 00.0
CLL				eSSSS		14 15 12.0
CLL				LmV		15 01 00.0
	comp=Z,18μm,19.7s					
MANT	Manisa	157.28	299	i P	PKPdf	13 40 59.7 +4.6
BTOK	Tokmak	157.30	303	i P	PKPdf	13 41 00.2 +5.1
MRMT	Marmara Adasi	157.33	305	eP	PKPdf	13 40 59.1 +3.9
BRG	Berggiesshubel	157.35	342	ePKPdf	PKPdf	13 40 59.7 +4.5
BRG				ePKPab	PKPab	13 41 25.6 -0.9
BRG	Berggiesshubel	157.35	342	ePKP	PKPdf	13 40 55.5 +0.3
BRG				i		13 40 59.6
BRG				i		13 41 25.6
BRG				PP	PP	13 45 03.0 -2.3
BRG				i		13 51 59.0
BRG				i		13 55 37.0
BRG				SS	SS	14 05 02.0 +2.8
BRG				LR	LR	
	comp=Z,9μm,21.4s,MS6.6					
BRG	Berggiesshubel	157.35	342	ePKIKP	PKPdf	13 40 55.5 +0.3
BRG				i		13 41 25.6
BRG						13 45 03.0
BRG				SS	SS	14 05 02.0 +2.8
BRG				MLR	MLR	
	comp=Z,9μm,21.4s,MS6.6					
BRG	Berggiesshubel	157.35	342	ePKP	PKPdf	13 40 55.5 +0.3
	comp=Z,14nm,1.8s					
BRG				i		13 40 59.6
	comp=Z,39nm,1.6s					
BRG				i		13 41 25.6
	comp=Z,43nm,1.5s					
BRG				PP	PP	13 45 03.0 -2.3
BRG				i		13 51 59.0
BRG				i		13 55 37.0
BRG				SS	SS	14 05 02.0 +2.8
BRG						
	comp=N,8μm,19.1s					
BRG						
	comp=E,5μm,21.3s					
BRG						
	comp=Z,9μm,21.4s					
EDRB	Edirne	157.44	309	eP	PKPdf	13 41 00.0 +4.7
BALB	Balikesir	157.45	303	eP	PKPdf	13 41 00.0 +4.7
MFT	Murefte	157.49	306	eP	PKPdf	13 41 00.0 +4.7
SART	Tekirdag	157.59	306	i P	PKPab	13 41 31.9 +4.3
HGH	Gray Hill	157.62	10	eP	PKPdf	13 41 03.7 +8.2
HGH				AMb	AMB	13 41 08.9
	comp=Z,80nm,1.5s					
HGH	Gray Hill	157.62	10	eP	PKPdf	13 41 03.7 +8.2
HGH				AMb	AMB	13 41 08.9
	comp=Z,80nm,1.5s					
PSZ	Piszkesteto	157.70	329	epPKP/F	PKPdf	13 41 00.1 +4.5
PSZ				i PKP/p	PKPab	13 41 28.2 +0.2
VYHS	Vyhne	157.71	332	e	PKPdf	13 41 00.3 +4.6
VYHS				e		13 41 34.3
VYHS	Vyhne	157.71	332	ePKP	PKPdf	13 41 00.3 +4.6
VYHS				e		13 41 34.3
VYHS				e		13 46 30.0
VYHS				LR	LR	
	comp=Z,7μm,25.5s,MS6.4					
YER	Yerkesik	157.81	296	eP	PKPab	13 41 31.8 +3.2
PRA	Prague	157.93	340	PKPAB	PKPab	13 41 26.0 -3.0
PRU	Pruhonice	157.97	340	ePKPDF	PKPdf	13 40 56.8 +0.8
PRU				ePKPAB	PKPab	13 41 25.3 -3.9
PRU				ePP	PP	13 45 10

NKC	Novy Kostel	158.32	344	*e*PKP	PKPdf	13 41 01.8 +5.4
NKC				*e*		13 41 30.6
NKC				*e*		13 45 10.1
KDZ	Kurdzhali	158.42	310	*e*P	PKPdf	13 40 57.0 +0.5
DAT	Datca	158.45	295	*e*P	PKPdf	13 40 57.4 +0.8
BZS	Buzias	158.50	323	PKIKP	PKPdf	13 40 56.6 0.0
RDO	Rodhopi	158.55	308	*e*P	PKPdf	13 41 02.0 +5.3
BODT	Bodrum	158.59	296	*e*P	PKPdf	13 41 00.0 +3.3
MANZ	Manzenberg	158.63	344	*e*PKPdf	PKPdf	13 41 02.3 +5.5
MANZ				*e*PKPab	PKPab	13 41 31.7 -0.4
MANZ				*e*PP	PP	13 45 15.2 +2.9
ZST	Bratislava	158.64	334	*e*PKP	PKPdf	13 41 02.0 +5.2
ZST				*e*		13 41 41.5
ZST				*e*		13 57 00.0
ZST				LR	LR	
	comp=Z,4μm,19.2s,MS6.3					
ZST				*e*		13 41 41.5
ZST	Bratislava	158.64	334	*e*	PKPdf	13 41 02.0 +5.2
PRK	Paraskevi	158.76	303	*e*P	pPKPdf	13 41 05.5 +0.2
URLA	Izmir	158.80	300	*i* P		13 41 46.2
PGB	Panagyurishte	158.81	313	*e*P	PKPdf	13 41 00.0 +3.0
HGN	Heimansgroeve	158.84	355	*e*PKP	PKPab	13 41 37.3 +4.3
	comp=Z,82nm,1.7s					
RZN	Rozhen	158.87	310	*e*P	PKPdf	13 41 00.0 +2.9
KARP	Karpathos	159.00	292	*e*P	PKPab	13 41 37.0 +3.3
KHC	Kasperske Hory	159.02	341	*e*PKPDF	PKPdf	13 40 57.9 +0.7
KHC				*e*PKPAB	PKPab	13 41 34.1 +0.3
KHC				*x*	*x*	13 41 50.0
KHC				*ex*	*x*	13 45 24.3
KHC				*ex*	*x*	13 52 11.7
KHC				AMS	AMS	15 01 10.0
	comp=Z,21μm,19.1s					
KHC	Kasperske Hory	159.02	341	*e*PKP	PKPdf	13 40 57.9 +0.7
KHC				*e*		13 41 34.1
KHC				*e*		13 41 50.0
KHC				*e*		13 45 24.3
KHC				*e*		13 52 11.7
KHC				LR	LR	
	comp=Z,21μm,19.1s,MS7.0					
KHC	Kasperske Hory	159.02	341	*e*PKIKP	PKPdf	13 40 57.9 +0.7
KHC				*e*		13 41 34.1
KHC				*e*		13 45 24.3
KHC				MLR	MLR	
	comp=Z,21μm,19.1s,MS7.0					
TNS	Taunus Mts	159.10	350	*e*PKPab	PKPab	13 41 33.4 -0.7
GRA1	Grafenberg Arr	159.11	345	*e*PKPdf	PKPdf	13 41 02.5 +5.2
GRA1				*e*PP	PP	13 45 16.9 +1.9
GRA1				LR	LR	
	comp=Z,18μm,21.6s,MS6.9					
GRF	Grafenberg Arr	159.11	345	*e*PKPdf	PKPdf	13 41 02.5 +5.2
GRF				*e*PP	PP	13 45 16.9 +1.9
GRF				*e*L		14 54 08.0
	comp=Z,18μm,21.6s					
GRF	Grafenberg Arr	159.11	345	*e*PKIKP	PKPdf	13 41 02.5 +5.2
GRF				*e*		13 45 16.9
SNF	Seneffe	159.18	358	APKP		13 41 04.7
WET	Wettzell	159.21	342	*e*PKPdf	PKPdf	13 41 02.5 +5.0
WET				*e*PP	PP	13 45 16.7 +1.2
GEC2	GERESS Array S	159.24	340	*e*PKPdf	PKPdf	13 41 02.4 +4.9
GEC2				*e*PP	PP	13 45 17.1 +1.4
GERES	GERESS Array B	159.24	340	PKP	PKPdf	13 40 58.3 +0.8
	comp=Z,0.6nm,0.7s,baz=46,slow=2.8,SNR=3.4					
GERES				PKPab	PKPab	13 41 35.6 +0.9
	comp=Z,6.2nm,0.8s,baz=35,slow=4.9,SNR=7.2					
VTS	Vitosha	159.39	314	*e*P	PKPdf	13 41 01.0 +3.3
BOLS	Boljevac	159.44	318	⇑*i*PKP	PKPdf	13 41 01.5 +3.8
PKSM	Moragy	159.55	328	*e*P	PKPdf	13 40 57.8 0.0
PKSM	Moragy	159.55	328	PKIKP	PKPdf	13 40 57.6 -0.2
ABH	Altenburg	159.56	352	PKP	PKPdf	13 41 03.4 +5.5
GIVF	Givet	159.57	357	*e*PKIKP	PKPdf	13 41 01.6 +3.7
	comp=Z,242nm,1.7s					
DOU	Dourbes	159.59	357	APKP		13 41 03.2
BAIF	Baives	159.63	358	*e*PKIKP	PKPdf	13 41 01.9 +4.0
	comp=Z,64nm,1.3s					
TOD	Tromm	159.65	349	PKP	PKPdf	13 41 02.0 +4.0
RUP	Ruppelstein	159.79	353	PKP	PKPdf	13 41 03.2 +5.1
SRS	Serrai	159.88	310	*e*P	PKPab	13 41 37.5 0.0
WLF	Walferdange	159.92	354	*e*PKPdf	PKPdf	13 41 04.2 +5.9
WLF				*e*PP	PP	13 45 20.3 +0.9
WLF	Walferdange	159.92	354	APKP		13 41 07.8
WLF				APKPbc		13 41 43.6
APE	Apeiranthos	159.97	297	*e*P	PKPdf	13 40 59.8 +1.4
ARSA	Arzberg	160.02	335	⇑*i*P	PKPdf	13 40 58.0 -0.4
	comp=Z,13nm,1.2s					
SOH	Sokhos	160.18	309	*e*P	PKPab	13 41 42.5 +3.7
NPS	Neapolis	160.29	292	*e*P	PKPdf	13 41 05.0 +6.3
KNT	Kendrikon	160.32	311	*e*P	PKPab	13 41 39.4 0.0
PLG	Polygyros	160.32	308	*e*P	PKPab	13 41 38.0 -1.4
PAIG	Paliouri	160.35	307	*e*P	PKPab	13 41 39.6 0.0
DIVS	Divcibare	160.37	322	*i* PKP	PKPdf	13 40 57.1 -1.6
STU	Stuttgart	160.39	348	*e*PKPdf	PKPdf	13 41 04.3 +5.5
STU	Stuttgart	160.39	348	*e*PKIKP	PKPdf	13 40 59.2 +0.4
VAY	Valandovo	160.46	312	*i* PKP	PKPdf	13 40 53.9 -5.0
VAY				*i*		13 41 44.2
FUR	Furstenfeldbru	160.52	344	*e*PKPdf	PKPdf	13 41 03.8 +4.9
THE	Thessaloniki	160.53	309	*e*P	PKPab	13 41 45.2 +4.9
PERS	Pernice	160.69	334	*e*PKPdf	PKPdf	13 40 59.3 +0.2
PERS				*e*PKPab	PKPab	13 41 46.3 +5.3
ROSF	Rostrenen	160.72	13	*e*PKIKP	PKPdf	13 41 02.7 +3.5
	comp=Z,239nm,1.6s					
FLN	La Foliniere	160.74	7	*e*PKIKP	PKPdf	13 41 02.9 +3.7
	comp=Z,194nm,1.5s					
FLN				*e*R		
	comp=Z,30μm,18.2s					
FLN	La Foliniere	160.74	7	*e*PKIKP	PKPdf	13 41 02.9 +3.7
FLN				MLR	MLR	
	comp=Z,30μm,18.3s					
SKO	Skopje	160.83	315	*i* PKP	PKPdf	13 41 02.6 +3.3
SKO				*i*		13 41 47.7
LDF	La Druitiere	160.95	7	*e*PKIKP	PKPdf	13 41 02.9 +3.5
	comp=Z,143nm,1.5s					
CDF	Champ du Feu	161.04	352	*e*PKIKP	PKPdf	13 41 03.1 +3.6
GRR	Gorron	161.06	8	*e*PKIKP	PKPdf	13 41 03.4 +3.9
	comp=Z,63nm,1.2s					
MEZF	Maizieres J`vi	161.15	356	*e*PKIKP	PKPdf	13 41 03.8 +4.2
ECH	Echery	161.24	352	PKP	PKPdf	13 41 04.3 +4.6
VAM	Vamos	161.40	293	*e*P	PKPdf	13 40 52.0 -7.9
LJU	Ljubljana	161.41	335	*e*PKPdf	PKPdf	13 41 00.3 +0.4
LJU				*e*PKPab	PKPab	13 41 48.8 +4.6
LJU				*e*		13 44 42.3
LJU				*e*PP	PP	13 45 30.3 +2.9
LJU				*e*		13 49 12.7
LJU				*e*		13 53 02.0
LJU				*e*		13 55 56.0
LJU				*e*		13 59 04.6
LJU	Ljubljana	161.41	335	*e*PKIKP	PKPdf	13 41 00.3 +0.4
LJU				*e*		13 45 30.3
LJU				*e*		13 49 12.7
HAU	Haudompre	161.54	353	*e*PKIKP	PKPdf	13 41 04.9 +4.9
HAU				*e*R		
	comp=Z,26μm,20.5s					
HAU	Haudompre	161.54	353	*e*PKIKP	PKPdf	13 41 04.9 +4.9
HAU				MLR	MLR	
	comp=Z,26μm,20.5s					
BOJS	Bojanci	161.57	332	*e*PKPdf	PKPdf	13 41 00.5 +0.5
MOF	Molkenrain	161.60	352	PKP	PKPdf	13 40 58.2 -1.9
EHIG	Higuera	161.62	88	PKP	pPKPdf	13 41 09.4 +0.9
DAVA	Damuels	161.67	345	⇑*i*P	PKPdf	13 41 04.5 +4.3
	comp=Z,27nm,1.2s					
HINF	Hinteralfeld	161.67	352	*e*PKIKP	PKPdf	13 41 03.8 +3.6
OHR	Ohrid	161.70	313	*i* PKP	PKPdf	13 41 02.1 +2.0
OHR				*i*		13 41 49.5
JAVS	Javornik	161.71	335	*e*PKPdf	PKPdf	13 41 00.5 +0.3
JAVS				*e*		13 44 41.4
JAVS				*e*PP	PP	13 45 31.7 +2.8
JAVS				*e*		13 59 05.5
BBS	Basel-Blauen	161.93	351	PKP	PKPdf	13 41 00.1 -0.3
EGOM	La Gomera	162.08	90	PKP	PKPdf	13 41 08.5 +7.9
EVR	Evrytania	162.09	306	*e*P	PKPdf	13 41 01.0 +0.4
LOMF	Lomont	162.14	352	PKP	PKPdf	13 41 06.9 +6.3
TIR	Tirane	162.15	315	*e*P	PKPab	13 41 52.6 +5.2
JAN	Janina	162.42	309	*e*P	pPKPdf	13 41 10.5 +1.2
STON	Ston	162.42	322	*i* PKP	PKPdf	13 41 04.6 +3.6
LOR	Lormes	162.44	358	*e*PKIKP	PKPdf	13 41 05.0 +4.1
	comp=Z,120nm,1.4s					
LOR				*e*R		
	comp=Z,22μm,22.0s					
LOR	Lormes	162.44	358	*e*PKIKP	PKPdf	13 41 05.0 +4.1
LOR				MLR	MLR	
	comp=Z,22μm,22.0s					
HYF	Humbligny	162.44	1	*e*PKIKP	PKPdf	13 41 05.3 +4.4
NVLJ	Novalja	162.50	331	PKP	PKPdf	13 41 04.8 +3.8
CCAN	Las Canadas	162.62	90	PKP	PKPdf	13 41 07.8 +6.7
SSF	Saint Saulge	162.65	359	*e*PKIKP	PKPdf	13 41 05.2 +4.0
	comp=Z,177nm,1.6s					
IGT	Igoumenitsa	162.83	309	*e*P	PKPab	13 41 49.9 -0.4
MFF	Saint Martin d	162.91	8	*e*PKIKP	PKPdf	13 41 05.5 +4.1
	comp=Z,168nm,1.7s					
AVF	Avril sur Loir	162.92	360	*e*PKIKP	PKPdf	13 41 05.1 +3.7
	comp=Z,64nm,1.6s					
CABF	La Chapelle	162.95	353	*e*PKIKP	PKPdf	13 41 05.9 +4.5
	comp=Z,208nm,1.6s					
SMF	Signal de Mont	163.06	358	*e*PKIKP	PKPdf	13 41 05.3 +3.7
KEK	Kerkira	163.09	311	*e*P	PKPdf	13 41 06.0 +4.4
BGF	Bois d'Agland	163.15	1	*e*PKIKP	PKPdf	13 41 05.9 +4.3
	comp=Z,175nm,1.5s					
TCF	Toulx Ste Croi	163.41	2	*e*PKIKP	PKPdf	13 41 06.0 +4.1
	comp=Z,113nm,1.5s					
TORD	Torodi Ar. Bea	163.49	175	PKP	PKPdf	13 41 03.2 +1.2
	comp=Z,9.0nm,1.1s,baz=273,slow=0.6,SNR=17					
TORD				PKPab	PKPab	13 41 56.4 +3.1
	comp=Z,10nm,0.7s,baz=181,slow=3.4,SNR=9.5					
PLDF	La Plantade	163.74	359	PKP	PKPdf	13 41 06.5 +4.3
LPL	La Plagne	163.95	351	*e*PKIKP	PKPdf	13 41 07.0 +4.6
PYM	Petit Puy Mans	163.96	0	PKP	PKPdf	13 41 06.7 +4.3
LPG	La Plagne	163.97	351	*e*PKIKP	PKPdf	13 41 07.1 +4.7
	comp=Z,81nm,1.5s					
RJF	Les Rejaudoux	164.35	4	*e*PKIKP	PKPdf	13 41 06.9 +4.2
	comp=Z,119nm,1.5s					
RJF				*e*R		
	comp=Z,27μm,21.0s					
RJF	Les Rejaudoux	164.35	4	*e*PKIKP	PKPdf	13 41 06.9 +4.2
RJF				MLR	MLR	
	comp=Z,27μm,21.0s					
LBL	Lubilhac	164.48	360	PKP	PKPdf	13 41 08.6 +5.7
ORIF	Oris-en-Rattie	164.65	353	*e*PKIKP	PKPdf	13 41 07.4 +4.4
	comp=Z,108nm,1.6s					
ORIF				*e*R		
	comp=Z,26μm,20.2s					
MBDF	Montbardon	164.72	350	*e*PKIKP	PKPdf	13 41 07.3 +4.2
	comp=Z,103nm,1.4s					
CAF	Calviac	164.76	3	*e*PKIKP	PKPdf	13 41 07.7 +4.6
	comp=Z,92nm,1.5s					
VIVF	Saint-Julien-l	164.81	356	*e*PKIKP	PKPdf	13 41 07.6 +4.4
	comp=Z,140nm,1.6s					
ELOB	Lobios	164.82	34	PKP	PKPdf	13 41 09.8 +6.7
EARI	Arriondas	164.84	24	PKP	PKPdf	13 41 10.5 +7.3
CFTV	Fuerteventura	164.84	91	PKP	PKPdf	13 41 10.9 +7.7
PCAB	Cabril	164.95	34	*e*PKP	PKPdf	13 41 02.7 -0.6
SAOF	Saorge	165.31	347	PKP	PKPdf	13 41 09.3 +5.7
AUTN	L'Aution	165.32	348	PKP	PKPdf	13 41 09.2 +5.6
PVRL	Vila Real	165.43	35	*e*PKP	PKPdf	13 41 10.8 +7.1
SBF	Sospel	165.45	348	*e*PKIKP	PKPdf	13 41 07.3 +3.6
	comp=Z,297nm,1.6s					
MVIF	Mont Vial	165.47	349	PKP	PKPdf	13 41 07.1 +3.4
ELAN	Lanestosa	165.48	20	PKP	PKPdf	13 41 09.7 +5.9
PBRG	Braganca	165.48	31	*e*PKP	PKPdf	13 41 08.4 +4.7
SMRF	Simiane la Rot	165.61	353	*e*PKIKP	PKPdf	13 41 08.6 +4.8
	comp=Z,178nm,1.7s					
LASF	Ste Croix	165.62	358	*e*PKIKP	PKPdf	13 41 08.4 +4.6
	comp=Z,190nm,1.7s					
PVIS	Viseu	165.76	36	*e*PKP	PKPdf	13 41 03.1 -0.9
FRF	La Foret Royal	165.88	350	*e*PKIKP	PKPdf	13 41 08.0 +4.0
	comp=Z,186nm,1.7s					
EALK	Alkurruntz	165.98	14	PKP	PKPdf	13 41 10.3 +6.2
LMR	La Mourre	166.12	350	*e*PKIKP	PKPdf	13 41 08.2 +4.0
	comp=Z,124nm,1.6s					
SJPF	Ste Jean	166.14	14	*e*PKIKP	PKPdf	13 41 09.3 +5.0
MTE	Manteigas	166.17	37	*e*PKP	PKPdf	13 41 06.5 +2.2
MTE	Manteigas	166.17	37	*e*SS	SS	14 06 38.0 +6.7
MTE	Manteigas	166.17	37	*e-*		14 43 28.9
MTE	Manteigas	166.17	37	*e*PKPdf	PKPdf	13 41 06.8 +2.6
GELF	Grande-Etoile	166.21	353	PKP	PKPdf	13 41 13.3 +9.0
BERF	Bertagne	166.25	352	PKP	PKPdf	13 41 09.5 +5.2
PTOM	Tomar	166.25	41	*e*PKP	PKPdf	13 41 06.9 +2.6
PLOU	Loures	166.29	45	*e*PKP	PKPdf	13 41 09.1 +4.7
ECRI	Cripan	166.31	18	PKP	PKPdf	13 41 10.5 +6.1
PGF	Pioggiola	166.34	342	*e*PKIKP	PKPdf	13 41 08.1 +3.7
	comp=Z,176nm,1.6s					
MTLF	Montolieu	166.35	3	*e*PKIKP	PKPdf	13 41 08.7 +4.3
	comp=Z,88nm,1.6s					
ETSF	Etsaut	166.47	12	*e*PKIKP	PKPdf	13 41 09.7 +5.2
EPF	Esparros	166.49	9	*e*PKIKP	PKPdf	13 41 09.4 +4.9
	comp=Z,141nm,1.7s					
PCBR	Castelo Branco	166.62	38	*e*PKP	PKPdf	13 41 03.1 -1.5
EBIE	Bielsa	166.80	10	PKP	PKPdf	13 41 10.5 +5.7
EVO	Evora	167.20	43	*e*PKIKP	PKPdf	13 41 10.1 +5.0
	comp=Z,155nm,1.4s					
EVO				*e*R		
	comp=Z,30μm,19.0s					
EJON	La Jonquera	167.26	1	PKP	PKPdf	13 41 11.2 +6.1
EGRA	Graus	167.30	10	PKP	PKPdf	13 41 10.9 +5.8
PTEO	Sao Teotonio	167.36	49	*e*PKP	PKPdf	13 41 09.3 +4.1
GUD	Guadarrama	167.53	27	PKP	PKPdf	13 41 11.7 +6.4
PBEJ	Beja	167.62	45	*e*PKP	PKPdf	13 41 09.9 +4.5
ESAC	San Caprasio	167.63	13	PKP	PKPdf	13 41 10.7 +5.3
EBAD	Badajoz	167.63	40	PKP	PKPdf	13 41 11.4 +6.0
EMIR	Miracle	167.72	6	PKP	PKPdf	13 41 10.4 +5.0
EGRO	El Granado	168.16	46	PKP	PKPdf	13 41 12.4 +6.6
ESDC	Sonseca Array	168.43	29	PKP	PKPdf	13 41 06.7 +0.8
	comp=Z,0.4nm,0.3s,baz=12,slow=3.3,SNR=6.1					
ESDC				PKPab	PKPab	13 42 15.3 +0.2
	comp=Z,3.9nm,0.9s,baz=316,slow=4.8,SNR=2.3					
ESDC	Sonseca Array	168.43	29	PKP	PKPdf	13 41 06.7 +0.8
ESDC				PKP	PKPdf	13 41 12.6 +6.7
ESDC				PKPab	PKPab	13 42 15.3 +0.2
ESLA	Sonseca Array	168.43	29	*e*PKPdf	PKPdf	13 41 05.9 0.0
ESLA				LR	LR	
	comp=Z,123μm,19.0s					
EMIN	Mina Concepcio	168.50	43	PKP	PKPdf	13 41 12.3 +6.3
ERTA	Horta de San J	168.51	11	PKP	PKPdf	13 41 11.2 +5.2
EBR	Ebro Roquetas	168.67	10	*e*PKPDF	PKPdf	13 41 10.3 +4.2
EMOS	Mosqueruela	168.93	15	PKP	PKPdf	13 41 12.8 +6.6
ECAB	El Cabril	169.00	38	PKP	PKPdf	13 41 12.6 +6.3
EADA	Adamuz	169.37	35	PKP	PKPdf	13 41 13.9 +7.4
ECHE	Chera	169.54	18	PKP	PKPdf	13 41 11.7 +5.1
ESPR	Espera	169.58	44	PKP	PKPdf	13 41 12.3 +5.6
EBAN	Banos Encina	169.75	33	PKP	PKPdf	13 41 13.7 +7.0
ETOS	Mallorca	169.94	2	PKP	PKPdf	13 41 12.6 +5.8
ELUQ	Luque	169.99	36	PKP	PKPdf	13 41 13.3 +6.4
EJIF	Jimena Fronter	170.09	45	PKP	PKPdf	13 41 13.8 +6.9
ETOB	Tobarra	170.24	22	PKP	PKPdf	13 41 09.3 +2.3
EMIJ	Mijas	170.43	42	PKP	PKPdf	13 41 12.4 +5.2
EIBI	Ibiza	170.56	9	PKP	PKPdf	13 41 12.5 +5.3
ECOG	Cogollos-Vega	170.56	35	PKP	PKPdf	13 41 13.0 +5.8
EBEN	Beniarda	170.57	17	PKP	PKPdf	13 41 12.4 +5.2
EHUE	Huescar	170.57	29	PKP	PKPdf	13 41 13.0 +5.8
EMUR	La Murta	171.07	23	PKP	PKPdf	13 41 12.1 +4.6
EBER	Berja	171.19	34	PKP	PKPdf	13 41 13.2 +5.6
ENIJ	Nijar	171.45	30	PKP	PKPdf	13 41 12.4 +4.8
MDT	Midelt	172.63	63	PKP	PKPdf	13 41 09.3 +1.1
	comp=Z,4.4nm,1.0s,baz=278,slow=0.6,SNR=12					

IDC 31 13:26:11.6±0.7, 679N×7301W, h164km±11km, mb3.7/2, mb1 3.8/4, mb1mx3.3/22, mbtmp4.1/4, Error ellipse: s-maj=42.8km s-min=7.9km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.33	214	P	Pn	13 26 53.1	+1.7
	32nm,0.3s,baz=89,slow=21,SNR=36						
ROSC				S	Sn	13 27 23.1	+1.0
	106nm,0.3s,baz=105,slow=20,SNR=19						
SDV	Santo Domingo	3.14	48	P	Pn	13 27 02.5	+1.2
	11nm,0.3s,baz=240,slow=4.6,SNR=43						
SDV				S	Sn	13 27 40.3	+0.5
	28nm,0.3s,baz=86,slow=23,SNR=29						
ULM	Lac du Bonnet	47.35	340	P	P	13 34 28.5	-0.5
	1.1nm,0.3s,baz=145,slow=7.5,SNR=4.6						
YKA	Yellowknife Ar	63.33	340	P	P	13 36 23.1	-0.1
	1.1nm,0.6s,baz=133,slow=6.6,SNR=26						
ASAR	Alice Springs	149.19	234	PKPbc	PKPbc	13 45 41.0	+0.4
	0.4nm,0.6s,baz=118,slow=3.8,SNR=5.1						
WRA	Warramunga Arr	150.42	241	PKPbc	PKPbc	13 45 44.4	+0.7
	0.5nm,0.5s,baz=107,slow=2.7,SNR=11						

IDC 31 13:26:35.3±2.4, 1857S×6970W, h117km±16km, mb3.5/2, mb1 3.4/5, mb1mx3.3/18, mbtmp3.7/5, Error ellipse: s-maj=44.9km s-min=9.7km az=100.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.71	34	P	Pn	13 27 19.4	+1.6
	2.1nm,0.3s,baz=226,slow=8.5,SNR=56						
LPAZ				S	Sn	13 27 52.0	+1.6
	0.7nm,0.3s,baz=81,slow=24,SNR=6.6						
LVC	Limon Verde	4.09	170	P	Pn	13 27 37.5	+1.5
	2.6nm,0.3s,baz=334,slow=9.9,SNR=3.4						
LVC				S	Sn	13 28 23.8	+0.7
	7.3nm,0.3s,baz=125,slow=20,SNR=16						
SIV	San Ignacio	8.63	74	P	Pn	13 28 35.4	-1.8
	0.3nm,0.3s,baz=264,slow=11,SNR=4.1						
TORD	Torodi Ar. Bea	77.09	71	P	P	13 38 16.9	+1.2
	0.9nm,0.5s,baz=258,slow=5.8,SNR=11						
YKA	Yellowknife Ar	88.19	341	P	P	13 39 11.9	-1.2
	0.2nm,0.4s,baz=133,slow=4.6,SNR=5.8						

*IDC **31** 13:33:19.2±1.4, 2997S×17677W, h0km, mb4.2/4, mb1 4.4/6, mb1mx4.2/16, mbtmp4.3/6, ML3.9/1, Error ellipse: s-maj=28.3km s-min=24.4km az=68.0*
*ISCJB **31** 13:33:22.1±1.3, 3005S±007×1767W±0.1, h33km, mb4.4/7, Error ellipse: s-maj=19.1km s-min=8.2km az=143.6*
*NEIC **31** 13:33:23.2±7.0, 3002S×17676W, h26km±44km, mb4.6/3, Error ellipse: s-maj=38.8km s-min=14.6km az=71.0*

ISC 31 13:33:23.5±1.3, 2994S±008×1767W±02, h35km, n20, σ1°21/19, mb4.4/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.30	302	Pn	Pn	13 33 43.7	-1.4
	257nm,0.3s,baz=129,slow=22,SNR=8.2						
RAO				Sn	Sn	13 34 01.3	+0.1
	880nm,0.3s,baz=101,slow=24,SNR=12						
RAO				LR	LR	13 34 04.0	
	comp=Z,34μm,18.0s,baz=1.6,slow=36						
URZ	Urewera	9.78	210	Pn	Pn	13 35 40.1	-1.5
	baz=329,slow=19,SNR=3.5						
URZ				Sn	Sn	13 37 31.2	+1.1
	3.0nm,0.3s,baz=160,slow=24,SNR=6.9						
RPZ	Rata Peaks	16.88	212	Pn	Pn	13 37 15.7	-1.3
	0.5nm,0.3s,baz=135,slow=10.0,SNR=2.9						
RPZ				Sn	Sn	13 40 15.8	-7.7
	0.4nm,0.3s,baz=23,slow=15,SNR=2.7						
RPZ	Rata Peaks	16.88	212	Pn	Pn	13 37 15.7	-1.3
RPZ				Sn	Sn	13 40 15.8	-7.7
DZM	Mont Dzumac	17.09	293	P	Pn	13 37 22.6	+3.0
	0.5nm,0.3s,baz=256,slow=22,SNR=6.8						
CTA	Charters Tower	34.89	278	P	P	13 40 13.3	+1.8
	2.2nm,0.5s,mb4.3,baz=127,slow=5.1,SNR=4.1						
CTA	Charters Tower	34.89	278	P	P	13 40 13.3	+1.8
STKA	Stephens Creek	35.72	256	*e*P	P	13 40 19.1	+0.4
	7.2nm,1.1s,mb4.5						
STKA	Stephens Creek	35.72	256	P	P	13 40 18.9	+0.2
	5.1nm,0.8s,mb4.5,baz=82,slow=10,SNR=8.8						
STKA	Stephens Creek	35.72	256	*e*P	P	13 40 18.6	-0.1
ASAR	Alice Springs	44.30	266	P	P	13 41 29.8	-0.1
	1.4nm,0.8s,mb3.8,baz=104,slow=6.6,SNR=28						
WRAB	Tennant Creek	45.25	271	*e*P	P	13 41 36.5	-0.9
	7.4nm,0.9s,mb4.5						
WRA	Warramunga Arr	45.25	271	P	P	13 41 36.9	-0.6
	3.2nm,0.6s,mb4.3,baz=112,slow=7.1,SNR=33						
VNDA	Vanda	48.67	186	P	P	13 42 05.3	+1.2
	9.8nm,1.7s,mb4.6						
QSPA	South Pole Qui	60.17	180	*e*P	P	13 43 27.8	+0.2
	6.4nm,0.9s,mb4.7						
FINES	FINESS Array B	145.10	341	PKPbc	PKPbc	13 52 55.9	-0.8
	1.9nm,0.6s,baz=61,slow=2.8,SNR=12						
NB2	NORSAR Subarra	148.46	353	PKPa		13 53 06.6	
	comp=Z,3.9nm,1.2s,baz=10,slow=3.2						
AKASG	Malin Array Be	151.63	324	PKPbc	PKPbc	13 53 14.8	+0.8
	comp=Z,1.1nm,0.5s,baz=44,slow=2.0,SNR=9.4						
AKASG	Malin Array Be	151.63	324	PKPbc	PKPbc	13 53 14.8	+0.8
BRTR	Keskin Array B	153.40	300	PKPbc	PKPbc	13 53 19.9	+1.9
	comp=Z,0.6nm,0.8s,baz=98,slow=4.4,SNR=3.5						
BRTR				PKPab	PKPab	13 53 31.6	+1.5
	comp=Z,1.0nm,0.8s,baz=127,slow=3.8,SNR=3.8						

*ISCJB **31** 13:38:49.3±0.4, 354N±009×3137W±008, h10km, mb4.2/25, Error ellipse: s-maj=14.0km s-min=9.9km az=126.7*
*IDC **31** 13:38:49.5±0.6, 351N×3141W, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.2/29, mbtmp4.2/20, Error ellipse: s-maj=19.2km s-min=13.1km az=150.0*
*NEIC **31** 13:38:51.0±0

ellipse: s-maj=13.6km s-min=11.1km az=88.7
*BJI **31** 14:05:45.7,2890S×17736W,h16km,mB6.0,mb5.3,Ms6.0,*
Msz5.9
*NEIC **31** 14:05:46.5±1.4,2943S×17684W,h40km±11km,mb5.1/27,*
Error ellipse: s-maj=10.3km s-min=6.8km az=144.0
ISC 31 14:05:42.9±0.2,2955S±006×17675W±006,h16km,
h16km±2.0km:pP-P,n207,σ1§16/111,mb5.1/49,MS5.8/8,
7C-2D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.06**	**286**	Pn	**Pn**	**14 06 04.2**	**+1.2**
	320nm,0.3s,baz=116,slow=9.0,SNR=37						
RAO	**Raoul Island**	**1.06**	**286⇑**	*i*P	**Pb**	**14 06 04.2**	**+1.4**
URZ	**Urewera**	**10.07**	**209**	Pn	**Pn**	**14 08 00.1**	**-6.8**
	0.2nm,0.3s,baz=137,slow=23,SNR=3.8						
URZ				Sn	**Sn**	**14 09 53.5**	**-6.0**
	1.6nm,0.3s,baz=168,slow=23,SNR=4.8						
SNZO	**South Karori**	**13.64**	**208**	*e*Pn	**Pn**	**14 08 50.2**	**-5.5**
SNZO				*e*Sn	**Sn**	**14 11 13.9**	**-13**
AFI	**Afiamalu**	**16.23**	**18**	Pn	**Pn**	**14 09 30.5**	**+0.3**
DZM	**Mont Dzumac**	**16.85**	**292**	Pn	**Pn**	**14 09 43.6**	**+5.5**
	0.3nm,0.3s,baz=96,slow=13,SNR=10						
RPZ	**Rata Peaks**	**17.17**	**211**	P	**Pn**	**14 09 37.4**	**-4.7**
	2.6nm,0.3s,baz=96,slow=0.7,SNR=18						
RPZ				S	**Sn**	**14 12 33.3**	**-19**
	0.5nm,0.3s,baz=282,slow=19,SNR=2.7						
RPZ				LR	LR	14 15 54.9	
	comp=Z,5μm,20.1s,baz=219,slow=36						
RAR	**Rarotonga**	**17.43**	**65**	P	**Pn**	**14 09 35.4**	**-10**
	0.5nm,0.3s,baz=244,slow=12,SNR=4.9						
RAR				S	Sn	14 12 27.2	-32
	0.3nm,0.3s,baz=175,slow=5.6,SNR=2.3						
ARMA	**Armidale**	**27.36**	**260**	*e*P	**P**	**14 11 30.8**	**+3.6**
CTA	**Charters Tower**	**34.75**	**277**	*e*P	**P**	**14 12 33.6**	**+1.3**
	9.2nm,0.9s,mb4.7						
CTA	**Charters Tower**	**34.75**	**277**	P	**P**	**14 12 34.1**	**+1.8**
	13nm,0.8s,mb4.9,baz=103,slow=11,SNR=7.7						
CTA	**Charters Tower**	**34.75**	**277**	P	**P**	**14 12 34.2**	**+1.9**
CTA				pmax	pmax		
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**35.73**	**256**	*e*P	**P**	**14 12 40.5**	**-0.3**
	comp=Z,22nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**35.73**	**256**	P	**P**	**14 12 40.5**	**-0.3**
	comp=Z,28nm,1.0s,mb5.2,baz=99,slow=8.2,SNR=20						
ASAR	**Alice Springs**	**44.24**	**266**	P	**P**	**14 13 50.8**	**-0.7**
	comp=Z,3.7nm,0.6s,mb4.3,baz=101,slow=6.5,SNR=52						
ASAR				PcP	PcP	14 15 37.6	+1.8
	comp=Z,9.0nm,1.1s,baz=120,slow=4.7,SNR=8.0						
WRAB	**Tennant Creek**	**45.15**	**271**	P	**P**	**14 13 58.9**	**+0.2**
	comp=Z,168nm,1.0s,mb5.8,SNR=10						
WRAB	**Tennant Creek**	**45.15**	**271**	*e*P	**P**	**14 13 57.7**	**-1.0**
	comp=Z,40nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**45.15**	**271**	*i*P	**P**	**14 13 59.5**	**+0.8**
WRA	**Warramunga Arr**	**45.16**	**271**	P	**P**	**14 13 57.7**	**-1.1**
	comp=Z,11nm,0.8s,mb4.8,baz=110,slow=6.3,SNR=82						
WRA				PcP	PcP	14 15 41.0	+2.0
	comp=Z,12nm,1.1s,baz=127,slow=3.1,SNR=3.7						
FORT	**Forrest**	**47.31**	**254**	*e*P	**P**	**14 14 15.1**	**-0.6**
	comp=Z,15nm,0.9s,mb4.9						
SBA	**Scott Base**	**48.97**	**185**	*e*P	**P**	**14 14 31.8**	**+3.3**
	comp=Z,32nm,1.1s,mb5.3						
SBA				*e*		14 14 42.1	
SBA	**Scott Base**	**48.97**	**185**	*e*P	**P**	**14 14 31.8**	**+3.3**
SBA				*e*		14 14 42.1	
SBA				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.3						
VNDA	**Vanda**	**49.05**	**186**	P	**P**	**14 14 31.1**	**+1.9**
	comp=Z,8.1nm,1.0s,mb4.7,baz=0.8,slow=8.1,SNR=17						
VNDA	**Vanda**	**49.05**	**186**	*e*P	**P**	**14 14 31.0**	**+1.9**
	comp=Z,10.0nm,1.1s,mb4.8						
VNDA	**Vanda**	**49.05**	**186**	P	**P**	**14 14 31.1**	**+1.9**
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.45**	**269**	*e*P	**P**	**14 15 01.6**	**-0.6**
	comp=Z,18nm,1.1s,mb4.9						
FITZ	**Fitzroy Crossi**	**53.45**	**269**	P	**P**	**14 15 02.2**	**0.0**
	comp=Z,9.7nm,1.0s,mb4.7,baz=179,slow=7.6,SNR=9.0						
KLBR	**Kellerberrin**	**55.65**	**250**	*e*P	**P**	**14 15 19.8**	**+1.7**
	comp=Z,37nm,1.2s,mb5.3						
CASY	**Casey**	**56.40**	**208**	*e*P	**P**	**14 15 20.4**	**-3.0**
	comp=Z,51nm,1.0s,mb5.5						
GUMO	**Guam**	**56.66**	**314**	LR	LR	14 34 51.3	
	comp=Z,4μm,19.7s,MS5.5,baz=53,slow=31						
MUN	**Mundaring**	**56.81**	**249**	*e*P	**P**	**14 15 25.6**	**-0.8**
MBWA	**Marble Bar**	**57.40**	**263**	*e*P	**P**	**14 15 29.8**	**-0.8**
	comp=Z,27nm,1.1s,mb5.2						
QSPA	**South Pole Qui**	**60.56**	**180**	*e*P	**P**	**14 15 54.2**	**+1.7**
	comp=Z,47nm,0.9s,mb5.6						
MAW	**Mawson**	**73.48**	**200**	*e*P	**P**	**14 17 16.2**	**+1.5**
	comp=Z,24nm,1.1s,mb5.0						
MAW	**Mawson**	**73.48**	**200**	P	**P**	**14 17 16.1**	**+1.5**
	comp=Z,37nm,1.1s,mb5.2,baz=110,slow=6.0,SNR=20						
MAW	**Mawson**	**73.48**	**200**	*e*P	**P**	**14 17 16.2**	**+1.5**
MAW				pmax	pmax		
	comp=Z,25nm,1.1s						
KSM	**Kuching**	**75.93**	**280**	P	**P**	**14 17 26.4**	**-2.5**
USHA	**Ushuaia**	**76.01**	**146**	P	**P**	**14 17 29.5**	**+0.1**
	comp=Z,16nm,0.9s,mb4.9,baz=239,slow=5.9,SNR=3.4						
MJAR	**Matsushiro Arr**	**78.17**	**324**	P	**P**	**14 17 40.7**	**-0.7**
	comp=Z,13nm,1.1s,mb4.8,baz=159,slow=5.1,SNR=13						
MAJO	**Matsushiro**	**78.17**	**324**	*e*P	**P**	**14 17 41.3**	**-0.1**
	comp=Z,23nm,1.0s,mb5.1						
MAJO	**Matsushiro**	**78.17**	**324**	*e*P	**P**	**14 17 41.3**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
MAT	**Matsushiro**	**78.17**	**324**	P	**P**	**14 17 40.9**	**-0.5**
MAT	**Matsushiro**	**78.17**	**324**	P	**P**	**14 17 41.0**	**-0.4**
	comp=Z,15nm,1.0s,mb4.9						
MAT	**Matsushiro**	**78.17**	**324**	P	**P**	**14 17 41.0**	**-0.4**
MAT				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
SYO	**Syowa Base**	**78.18**	**193⇑**	*e*P	**P**	**14 17 41.0**	**-0.5**
SNAA	**Sanae**	**78.97**	**178**	P	**P**	**14 17 46.1**	**+0.2**
	comp=Z,7.1nm,1.0s,mb4.6,baz=189,slow=7.3,SNR=9.3						
SNAA	**Sanae**	**78.97**	**178**	*e*P	**P**	**14 17 46.4**	**+0.5**
SNAA				*e*	pP	14 17 51.0	-0.1
SNAA				*e*		14 17 54.0	
SNAA	**Sanae**	**78.97**	**178**	*e*P	**P**	**14 17 45.8**	**-0.1**
	comp=Z,36nm,1.2s,mb5.2						
SNAA	**Sanae**	**78.97**	**178**	*e*P	**P**	**14 17 45.8**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,36nm,1.2s						
VNA3	**Neumayer Olymp**	**79.08**	**176**	*e*P	**P**	**14 17 46.6**	**+0.2**
VNA3				*e*	pP	14 17 49.9	-1.8
VNA3				*e*	pP	14 17 51.6	-0.1
VNA3				*e*		14 17 56.0	
VNA2	**Neumayer--Watz**	**79.53**	**176**	*e*P	**P**	**14 17 49.5**	**+0.6**
VNA2				*e*	pP	14 17 54.4	+0.2
VNA2				*e*		14 17 57.4	
PLCA	**Paso Flores**	**82.29**	**133**	P	**P**	**14 18 03.9**	**+0.3**
	comp=Z,5.3nm,1.0s,mb4.4,baz=223,slow=6.9,SNR=8.4						
PLCA	**Paso Flores**	**82.29**	**133**	*e*P	**P**	**14 18 03.7**	**0.0**
	comp=Z,16nm,1.3s,mb4.8						
PLCA	**Paso Flores**	**82.29**	**133**	P	**P**	**14 18 03.9**	**+0.2**
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PTRM	**Twissleman Ran**	**83.89**	**43**	*e*P	**P**	**14 18 11.3**	**-0.6**
SSE	**Sheshan**	**84.37**	**310**	*e*P	**P**	**14 18 14.8**	**+0.4**
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,2μm,12.0s						
KS15	**Wonju Array Si**	**84.42**	**319**	P	**P**	**14 18 11.8**	**-2.8**
YSS	**Yuzh-Sakhalins**	**84.46**	**333**	*e*P	**P**	**14 18 15.3**	**+0.5**
	comp=Z,67nm,1.2s,mb5.6						
YSS	**Yuzh-Sakhalins**	**84.46**	**333⇑**	*e*P	**P**	**14 18 17.3**	**+2.5**
YSS				*e*		14 18 32.1	
YSS				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.6						
PFO	**Pinyon Flat Ob**	**84.84**	**47**	P	**P**	**14 18 17.1**	**+0.4**
	comp=Z,68nm,1.1s,mb5.7,SNR=5.1						
CMB	**Columbia Colle**	**85.41**	**41**	*e*P	**P**	**14 18 19.5**	**-0.1**
	comp=Z,16nm,1.0s,mb5.1						
CMB				*e*		14 18 32.9	
CMB	**Columbia Colle**	**85.41**	**41**	*e*P	**P**	**14 18 19.5**	**-0.1**
CMB				*e*		14 18 32.9	
CMB				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
OHCM	**Honcut**	**85.68**	**40**	*e*P	**P**	**14 18 19.0**	**-1.9**
MTUM	**Tungsten Hills**	**86.01**	**43**	*e*P	**P**	**14 18 23.1**	**+0.5**
KULM	**Kulim**	**86.17**	**278**	*e*P	**P**	**14 18 22.7**	**-0.7**
NJ2	**Nanjing**	**86.52**	**310**	*e*P	**P**	**14 18 24.5**	**-0.6**
NJ2				AP	pP	14 18 29.3	-1.1
NJ2				XP	sP	14 18 31.5	-0.8
NJ2				PP	PP	14 21 47.5	+0.8
NJ2				S		14 28 57.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,4μm,4.8s						
NJ2				LR	LR		
	comp=N,5μm,17.3s,MS6.2						
NJ2				LR	LR		
	comp=E,6μm,16.3s,MS6.2						
NJ2				LR	LR		
	comp=Z,4μm,16.6s,MS5.9						
LDFC	**Landfair**	**86.63**	**46**	*e*P	**P**	**14 18 26.7**	**+1.1**
NVAR	**Mina Array Bea**	**86.88**	**42**	P	**P**	**14 18 27.6**	**+0.7**
	comp=Z,13nm,1.0s,mb5.1,baz=202,slow=5.6,SNR=53						
MNV	**Mina**	**86.97**	**42**	*e*P	**P**	**14 18 27.6**	**+0.3**
	comp=Z,13nm,1.0s,mb5.1						
MNV				*e*		14 18 39.4	
MNV	**Mina**	**86.97**	**42**	*e*P	**P**	**14 18 27.6**	**+0.3**
MNV				*e*		14 18 39.4	
MNV				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.1						
NEN	**Nelson**	**87.16**	**46**	*e*P	**P**	**14 18 29.1**	**+0.9**
MDJ	**Mudanjiang**	**88.54**	**325**	P	**P**	**14 18 35.3**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,10μm,9.5s						
HABR	**Khabarovsk**	**88.83**	**330**	*e*P	**P**	**14 18 37.1**	**+0.9**
HABR				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.7						
TRQA	**Tornquist**	**89.26**	**134**	*e*P	**P**	**14 18 38.0**	**-0.2**
	comp=Z,17nm,1.3s,mb5.2						
WUAZ	**Wupatki**	**89.29**	**48**	*e*P	**P**	**14 18 38.7**	**+0.4**
	comp=Z,24nm,1.0s,mb5.5						
WVOR	**Wild Horse Val**	**89.38**	**39**	*e*P	**P**	**14 18 38.9**	**+0.2**
	comp=Z,6.5nm,1.1s,mb4.9						
WVOR				*e*		14 18 49.7	
WVOR	**Wild Horse Val**	**89.38**	**39**	*e*P	**P**	**14 18 38.9**	**+0.2**
WVOR				*e*		14 18 49.7	
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.8						
ARUT	**Antelope Range**	**89.39**	**45**	*e*P	**P**	**14 18 39.6**	**+0.8**
CN2	**Changchun**	**90.12**	**322**	*e*P	**P**	**14 18 42.8**	**+0.6**
CN2				*e*XP	sP	14 18 49.8	+0.3
CN2				*e*S		14 29 34.0	
CN2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,16.0s,MS5.9						
CN2				LR	LR		
	comp=E,2μm,16.0s,MS5.9						
CN2				LR	LR		
	comp=Z,4μm,18.0s,MS5.9						
ELK	**Elko**	**90.19**	**42**	*e*P	**P**	**14 18 42.5**	**0.0**
	comp=Z,4.6nm,1.0s,mb4.8						
ELK	**Elko**	**90.19**	**42**	*e*P	**P**	**14 18 42.6**	**+0.1**
ELK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MSU	**Marysvale**	**90.62**	**45**	*e*P	**P**	**14 18 45.9**	**+1.4**
LPM	**Los Pinos Moun**	**91.72**	**51**	*e*P	**P**	**14 18 48.7**	**-0.9**
GYA	**Guiyang**	**92.07**	**299**	P	**P**	**14 18 52.3**	**+1.0**
GYA				AP	pP	14 18 57.0	+0.4
GYA				XP	sP	14 18 59.8	+1.3
GYA				SKS		14 29 23.3	
GYA				S		14 29 50.8	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.5						
GYA				AMB	AMB		
	comp=Z,120nm,3.9s						
GYA				LR	LR		
	comp=N,570nm,18.9s,MS5.2						
GYA				LR	LR		
	comp=E,670nm,19.0s,MS5.2						
GYA				LR	LR		
	comp=Z,870nm,20.4s,MS5.2						
GDL2	**Guadalupe Moun**	**92.10**	**54**	*e*P	**P**	**14 18 51.5**	**+0.1**
ANMO	**Albuquerque**	**92.20**	**51**	*e*P	**P**	**14 18 52.3**	**+0.5**
	comp=Z,3.9nm,0.9s,mb4.7						
ANMO	**Albuquerque**	**92.20**	**51⇑**	*e*P	**P**	**14 18 52.5**	**+0.6**
HLID	**Hailey**	**92.46**	**40**	*e*P	**P**	**14 18 53.4**	**+0.3**
	comp=Z,9.2nm,1.0s,mb5.1						
MA2	**Magadan**	**92.76**	**344**	P	**P**	**14 18 53.3**	**-1.2**
MA2	**Magadan**	**92.76**	**344⇑**	*e*P	**P**	**14 18 54.4**	**-0.1**
MA2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
BJI	**Beijing**	**93.08**	**315**	P	**P**	**14 18 56.5**	**+0.6**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb5.0						
PMR	**Palmer**	**93.54**	**13**	P	**P**	**14 18 56.7**	**-1.4**
MCMT	**McKenzie Canyo**	**94.13**	**40**	*e*P	**P**	**14 19 01.1**	**+0.4**
KMI	**Kunming**	**94.41**	**296**	P	**P**	**14 19 04.2**	**+2.2**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.9s,mb4.8						
PDAR	**Pinedale Array**	**94.77**	**43**	P	**P**	**14 19 03.5**	**-0.3**
	comp=Z,2.4nm,1.0s,mb4.6,baz=217,slow=2.9,SNR=16						
QLMT	**Earthquake Lak**	**94.93**	**40**	*e*P	**P**	**14 19 04.7**	**+0.3**
CHMT	**Chamberlain Mo**	**95.20**	**38**	*e*P	**P**	**14 19 05.0**	**-0.7**
MCK	**McKinley**	**95.53**	**12**	P	**P**	**14 19 06.5**	**-0.6**
	comp=Z,5.2nm,1.1s,mb4.9						
MCK	**McKinley**	**95.53**	**12**	P	**P**	**14 19 06.6**	**-0.6**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.9						
WALA	**Waterton Lakes**	**96.19**	**36**	*e*P	**P**	**14 19 07.9**	**-2.3**
WALA				*e*		14 19 24.3	
HHC	**Hu-ho-hao-te**	**96.42**	**314**	*e*P	**P**	**14 19 11.3**	**+0.1**
HHC				AP	pP	14 19 19.5	+2.9
HHC				XP	sP	14 19 22.5	+4.0
HHC				PP	PP	14 23 08.3	+3.3
HHC				SKS		14 29 44.8	
HHC				S		14 30 26.5	
HHC				XS	sS	14 30 40.8	+0.9
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb5.5						
HHC				LR	LR		
	comp=N,2μm,14.7s,MS5.9						
HHC				LR	LR		
	comp=E,2μm,17.7s,MS5.9						
HHC				LR	LR		
	comp=Z,2μm,13.7s,MS5.7						
GCMT	**Greycliff**	**96.50**	**40**	*e*P	**P**	**14 19 10.0**	**-1.5**
CD2	**Chengdu**	**96.55**	**302**	*e*P	**P**	**14 19 09.5**	**-2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.4						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
COLA	**College**	**96.77**	**12**	*e*P	**P**	**14 19 11.7**	**-1.1**
	comp=Z,11nm,1.3s,mb5.1						
COLA	**College**	**96.77**	**12**	*e*P	**P**	**14 19 11.7**	**-1.1**
COLA				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.1						
ILAR	**Eielson Array**	**96.86**	**12**	P	**P**	**14 19 12.6**	**-0.7**
	comp=Z,2.3nm,1.1s,mb4.5,baz=222,slow=5.2,SNR=9.1						
LPAZ	**La Paz**	**97.50**	**113**	P	**P**	**14 19 17.8**	**+1.7**
	comp=Z,2.3nm,1.0s,mb4.5,baz=246,slow=3.0,SNR=5.7						
BILL	**Bilibino**	**98.11**	**354**	*e*P	**P**	**14 19 16.3**	**-2.6**
BILL				*e*SS	SS	14 37 25.0	-2.8
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.4						
LZH	**Lanzhou**	**99.08**	**306**	*e*P	**P**	**14 19 26.0**	**+2.8**
LZH				AP	pP	14 19 29.0	+0.4
LZH				XP	sP	14 19 31.3	+0.8
LZH				PP	PP	14 23 31.0	+5.6
LZH				*e*SKS		14 30 01.0	
LZH				*e*S		14 30 52.0	
LZH				XS	sS	14 30 57.3	-5.3
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,83nm,5.9s						
LZH				LR	LR		
	comp=N,470nm,16.8s						
LZH				LR	LR		
	comp=Z,669nm,18.5s,MS5.2						
ULN	**Ulaanbaatar**	**102.87**	**318**	*i*P	Pdif	14 19 42.2	+2.2
SONM	**Songino Array**	**103.24**	**318**	Pdiff	Pdif	14 19 45.2	+3.6
	comp=Z,0.8nm,1.0s,baz=127,slow=3.9,SNR=4.0						
SONM				PKKPbc	PKKPbc	14 35 37.8	+1.3
	comp=Z,0.8nm,1.0s,baz=319,slow=4.2,SNR=4.1						
YKA	**Yellowknife Ar**	**104.21**	**25**	Pdiff	Pdif	14 19 46.3	+0.3
	comp=Z,0.3nm,1.0s,baz=226,slow=6.0,SNR=5.0						
YKA				PP	PP	14 23 53.8	-10
	comp=Z,0.3nm,1.0s,baz=241,slow=6.3,SNR=3.8						
YKA				PKKPbc	PKKPbc	14 35 34.5	+0.9
	comp=Z,0.7nm,0.9s,baz=39,slow=2.9,SNR=11						
YKA	**Yellowknife Ar**	**104.21**	**25**	Pdif	Pdif	14 19 46.3	+0.3
YKA				PP	PP	14 23 53.8	-10
YKA				PKKPbc	PKKPbc	14 35 34.5	+0.9
RES	**Resolute Bay**	**116.11**	**17**	*e*PKPdf	PKPdf	14 24 22.6	-2.6
MK31	**Makanchi Array**	**118.05**	**310**	*i*PKP	PKPdf	14 24 28.8	-0.2
MKAR	**Makanchi Array**	**118.05**	**310**	PKP	PKPdf	14 24 29.0	0.0
	comp=Z,7.9nm,1.0s,baz=64,slow=2.8,SNR=22						
MKAR				PKKPbc	PKKPbc	14 34 49.7	+1.5
	comp=Z,1.4nm,0.9s,baz=300,slow=3.6,SNR=6.7						
MKAR	**Makanchi Array**	**118.05**	**310**	PKP	PKPdf	14 24 29.0	0.0
MKAR				PKKPbc	PKKPbc	14 34 49.7	+1.5
ZAL	**Zalesovo**	**118.12**	**318**	PKP	PKPdf	14 24 28.5	-0.6
	comp=Z,1.1nm,0.8s,baz=296,slow=4.9,SNR=8.8						
NVS	**Novosibirsk**	**119.20**	**319**	*e*PKIKP	PKPdf	14 24 29.4	-1.8
NVS				pmax	pmax		
	comp=E,4.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,14nm,1.2s						
KSH	**Kashi**	**120.73**	**301**	*e*PKP	PKPdf	14 24 37.3	+3.2
KSH				PKS		14 28 13.0	
KSH				PPP		14 28 46.5	
KSH				SKS	SKSdf	14 31 48.3	+2.8
KSH				PP	PP		
	comp=Z,1μm,10.9s						
KSH				LR	LR		
	comp=Z,7μm,17.6s,MS6.4						
ULHL	**Ulahol**	**121.19**	**304**	P	PKPdf	14 24 36.0	+1.0
	SNR=14						
KURK	**Kurchatov**	**121.24**	**314⇓**	*e*PKP	PKPdf	14 24 35.3	+0.2
TKM2	**Tokmak 2**	**121.80**	**305**	P	PKPdf	14 24 37.1	+1.0
	SNR=7.5						
KZA	**Kyzart**	**121.87**	**304**	P	PKPdf	14 24 37.6	+1.3
	SNR=19						
KBK	**Karagaybulak**	**122.21**	**304**	P	PKPdf	14 24 38.2	+1.2
	SNR=6.2						
CHMS	**Chumysh**	**122.42**	**304**	P	PKPdf	14 24 38.2	+0.9
	SNR=5.6						
UCH	**Uchtor**	**122.44**	**304**	P	PKPdf	14 24 39.5	+2.1
	SNR=17						
USP	**Ospenovka**	**122.66**	**305**	P	PKPdf	14 24 38.4	+0.5
	SNR=7.0						
AML	**Almayashu**	**123.01**	**303**	P	PKPdf	14 24 40.4	+1.9
	SNR=20						
EKS2	**Erkin-Say**	**123.06**	**304**	P	PKPdf	14 24 40.0	+1.5
	SNR=6.6						
SCHQ	**Schefferville**	**124.89**	**42**	PKP	PKPdf	14 24 40.5	-1.6
	comp=Z,1.7nm,0.7s,baz=232,slow=11,SNR=3.4						
KK31	**Karatay Array**	**125.50**	**304**	*i*PKP	PKPdf	14 24 43.9	+0.6
BVAR	**Borovoye Array**	**126.55**	**316**	PKHKP		14 24 37.1	
	comp=Z,0.2nm,0.6s,baz=90,slow=3.2,SNR=3.6						
BVAR				PKP	PKPdf	14 24 44.5	-0.8
	comp=Z,14nm,1.0s,baz=108,slow=3.3,SNR=52						
BRVK	**Borovoye**	**126.61**	**316**	*e*PKPdf	PKPdf	14 24 44.9	-0.5
ARU	**Arti**	**133.11**	**321⇑**	*e*PKP	PKPdf	14 24 57.0	-0.7
ARU	**Arti**	**133.11**	**321**	*i*PKIKP	PKPdf	14 24 58.1	+0.4
ARU				*e*		14 27 23.7	
ARU				*e*SS	SS	14 45 07.8	+1.6
AB31	**Akbulak array**	**133.17**	**311**	*i*PKP	PKPdf	14 24 58.4	+0.6
AKTK	**Aktyubinsk**	**134.32**	**313**	PKP	PKPdf	14 25 00.3	+0.3
AKTO	**Aktyubinsk**	**134.32**	**313**	PKP	PKPdf	14 25 00.3	+0.3
	comp=Z,8.0nm,0.9s,baz=112,slow=2.2,SNR=19						
AKTO	**Aktyubinsk**	**134.32**	**313**	PKIKP	PKPdf	14 25 00.3	+0.3
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KMBO	**Kilima Mbogo**	**135.45**	**233**	PKP	PKPdf	14 25 03.8	+1.6
	comp=Z,0.4nm,0.3s,baz=131,slow=3.2,SNR=3.3						
ARCES	**ARCESS Array B**	**137.98**	**349**	PKP	PKPdf	14 25 04.6	-2.2
	comp=Z,4.6nm,0.9s,baz=14,slow=1.5,SNR=6.9						
KLMR	**Klimovskoe**	**140.51**	**333**	*i*PKHKP		14 25 04.0	
KLMR				pmax	pmax		
	comp=Z,30nm,2.3s						
JOF	**Joensuu**	**142.01**	**340**	*e*p	PKPdf	14 25 09.4	-4.7
KAF	**Kangasniemi**	**144.09**	**342**	*e*p	PKPdf	14 25 13.9	-3.9
MOS	**Moscow**	**144.23**	**327**	*e*PKIKP	PKPdf	14 25 15.3	-2.7
MOS				*e*		14 28 31.7	
MOS				*e*PPP		14 31 43.7	
GNI	**Garni**	**144.62**	**299**	*e*PKPdf	PKPdf	14 25 18.9	+0.2
FINES	**FINESS Array B**	**144.70**	**341**	PKP	PKPdf	14 25 15.8	-3.1
	comp=Z,23nm,1.0s,baz=56,slow=4.8,SNR=44						
FINES	**FINESS Array B**	**144.70**	**341**	PKP	PKPdf	14 25 15.8	-3.1
FINES	**FINESS Array B**	**144.70**	**341**	*i*PKIKP	PKPdf	14 25 17.5	-1.4
FINES				pmax	pmax		
	comp=Z,23nm,1.0s						
ZEI	**Tsey**	**144.96**	**303**	*e*PKIKP	PKPdf	14 25 19.3	0.0
OBN	**Obninsk**	**145.07**	**327**	*e*PKPdf	PKPdf	14 25 18.2

MLR	**Muntele Rosu**	**156.09 318**	PKPab	PKPab	14 26 04.8	+0.8
	comp=Z,3.5nm,0.6s,baz=141,slow=5.7,SNR=4.5					
KSP	**Ksiaz**	**156.58 339**	*e*PKP	PKPab	14 26 05.4	-0.7
KECS	**Kecovo**	**156.92 330**	*e*PKP	PKPab	14 26 08.3	+0.7
UPC	**Upice**	**156.96 339**	*e*PKPAB	PKPab	14 26 07.8	+0.1
DPC	**Dobruska-Polom**	**157.00 338**	*e*PKPDF	PKPdf	14 25 38.2	+0.5
DPC			*e*PKPAB	PKPab	14 26 07.8	-0.1
CLL	**Collm**	**157.07 344**	*i* PKPab	PKPab	14 26 08.7	+0.5
	comp=Z,18nm,1.3s					
CLL	**Collm**	**157.07 344**	*i* PKP2	PKPab	14 26 08.7	+0.5
CLL			pmax	pmax		
	comp=Z,18nm,1.3s					
BRG	**Berggiesshubel**	**157.23 342**	*e*P		14 25 59.0	
BRG			*e*		14 26 08.2	
BRG			*e*		14 26 26.1	
BRG	**Berggiesshubel**	**157.23 342**	*e*P		14 25 59.0	
	comp=Z,3.9nm,1.1s					
BRG			*e*		14 26 08.2	
	comp=Z,5.4nm,1.2s					
BRG			*e*		14 26 26.1	
	comp=Z,17nm,1.7s					
VYHS	**Vyhne**	**157.62 332**	*e*PKP	PKPdf	14 25 39.5	+1.0
VYHS			*e*		14 26 10.6	
PRU	**Pruhonice**	**157.86 340**	*e*PKPAB	PKPab	14 26 11.0	-0.6
NKC	**Novy Kostel**	**158.20 344**	*e*PKPAB	PKPab	14 26 11.8	-1.3
ZST	**Bratislava**	**158.54 334**	*e*PKP	PKPab	14 26 16.2	+1.6
KHC	**Kasperske Hory**	**158.91 341**	*e*PKPAB	PKPab	14 26 16.5	+0.3
KHC			pPKP	pPKPab	14 26 28.5	+7.0
VAY	**Valandovo**	**160.40 312**	*i*	PKPab	14 26 21.1	-1.6
SKO	**Skopje**	**160.77 315**	*i*	PKPab	14 26 26.3	+2.1
GCIS	**Gornji Cirnik**	**161.03 333**	*e*PKPdf	PKPdf	14 25 44.2	+1.8
VISS	**Visnje**	**161.39 334**	*e*PKPdf	PKPdf	14 25 44.0	+1.2
VISS			*e*PKPab	PKPab	14 26 27.0	+0.1
TORD	**Torodi Ar. Bea**	**163.62 175**	PKP	PKPdf	14 25 45.6	+0.6
	comp=Z,7.0nm,1.0s,baz=298,slow=0.5,SNR=26					
TORD			PKPab	PKPab	14 26 37.5	+0.8
	comp=Z,12nm,1.0s,baz=204,slow=3.0,SNR=13					
TORD			PP	PP	14 30 21.0	-1.0
	comp=Z,1.7nm,1.1s,baz=151,slow=3.3,SNR=4.8					
ESDC	**Sonseca Array**	**168.29 28**	PKP	PKPdf	14 25 49.0	+0.3
	comp=Z,1.2nm,0.8s,baz=345,slow=3.5,SNR=5.9					
ESDC			PKPab	PKPab	14 26 56.9	-0.4
	comp=Z,0.5nm,0.4s,baz=305,slow=4.2,SNR=6.7					

IDC 31 14:12:19.6±2.1,592S×13056E,h0km,mb3.8/1,mb1 3.7/3, mb1mx3.5/13,mbtmp3.5/3,ML3.1/2,Error ellipse: s-maj=82.7km s-min=27.4km az=78.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.03**	**201**	Pn	Pn	14 15 24.8	-1.1
	baz=56,slow=17						
WRA	**Warramunga Arr**	**14.41**	**166**	Pn	Pn	14 15 46.2	+1.4
	0.1nm,0.3s,baz=346,slow=11,SNR=3.7						
WRA				Sn	Sn	14 18 12.1	-13
	0.4nm,0.3s,baz=341,slow=26,SNR=6.8						
ASAR	**Alice Springs**	**17.93**	**170**	P	Pn	14 16 30.6	+0.3
	0.1nm,0.3s,baz=349,slow=11,SNR=4.3						
ASAR				S	Sn	14 19 35.5	-15
	0.1nm,0.3s,baz=143,slow=4.4,SNR=4.1						
MKAR	**Makanchi Array**	**67.64**	**326**	P	P	14 23 18.5	+0.2
	0.6nm,0.5s,baz=122,slow=7.9,SNR=13						

*IDC **31** 14:13:15.2±1.4,3858N×3176E,h0km,mb3.5/4,mb1 3.6/6, mb1mx3.5/21,mbtmp3.5/6,ML3.3/2,Error ellipse: s-maj=28.5km s-min=13.1km az=147.0*
*CSEM **31** 14:13:16.7±0.1,3858N×3179E,h10km,MD3.6,Error ellipse: s-maj=2.9km s-min=1.6km az=146.0*
*ISCJB **31** 14:13:17.4±0.3,3856N±003×3181E±003,h14km,mb3.6/7, Error ellipse: s-maj=4.2km s-min=3.2km az=132.7*
*ISK **31** 14:13:17.1,3860N×3181E,h14km,MD3.6*
*NEIC **31** 14:13:18.5±3.7,3850N×3182E,h27km±33km,mb4.1/2, ML3.6(ISK),Error ellipse: s-maj=17.8km s-min=9.5km az=142.0*

ISC 31 14:13:17.2±0.8,3855N±003×3181E±003,h7km±5km,n56, σ1§06/74,mb3.6/7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.34**	**10**	*e*PG	**Pg**	**14 13 23.8**	**+0.1**
ESKT	**Eskisehir**	**1.22**	**323**	*i* P	**Pg**	**14 13 39.7**	**-0.9**
ESKT				*i* S	**Sg**	**14 13 58.1**	**+1.6**
SEYT	**Eskypehyr**	**1.22**	**323**	*i* P	**Pg**	**14 13 39.7**	**-1.0**
SEYT				*i* S	**Sg**	**14 13 58.1**	**+1.6**
ISP	**Isparta**	**1.24**	**236**	*e*Pn	**Pn**	**14 13 38.7**	**-2.2**
ISP				*e*Sn	**Sn**	**14 13 56.9**	**-1.1**
TKTP	**Tekketepe**	**1.28**	**247**	*i* P	**Pg**	**14 13 40.2**	**-1.5**
TKTP				*i* S	**Sg**	**14 13 59.3**	**+1.1**
ALT	**Altintas**	**1.42**	**291**	*e*PN	**Pn**	**14 13 43.2**	**-0.2**
ALT				*e*SN	**Sn**	**14 14 01.8**	**-0.5**
BCK	**Bucak**	**1.45**	**222**	*e*PN	**Pn**	**14 13 43.2**	**-0.7**
ANTO	**Ankara**	**1.52**	**30**	*e*PN	**Pn**	**14 13 43.1**	**-1.7**
ANTO	**Ankara**	**1.52**	**30**	*e*Pn	**Pn**	**14 13 44.7**	**-0.2**
ANTO				*e*S	**Sn**	**14 14 09.2**	**+4.3**
LOD	**Lodumlu**	**1.53**	**29**	*e*PN	**Pn**	**14 13 44.8**	**-0.1**
BORA	**Eskisehir**	**1.69**	**322**	*i* P	**Pn**	**14 13 49.5**	**+2.3**
BORA				*i* S	**Sn**	**14 14 12.6**	**+3.4**
KHL	**Karahalli**	**1.81**	**264**	*e*PN	**Pn**	**14 13 48.5**	**-0.3**
BRTR	**Keskin Array B**	**1.84**	**50**	Pg	**Pg**	**14 13 49.1**	**-3.4**
	7.0nm,0.3s,baz=222,slow=16,SNR=112						
BRTR				Lg		14 14 14.2	
	17nm,0.3s,baz=215,slow=30,SNR=12						
BRTR	**Keskin Array B**	**1.84**	**50**	Pg	**Pg**	**14 13 49.1**	**-3.4**
BRTR				Lg		14 14 14.2	
BR131	**Keskin Array S**	**1.85**	**50**	*e*Pn	**Pn**	**14 13 48.9**	**-0.3**
ANTB	**Antalya**	**1.88**	**209**	*e*PN	**Pn**	**14 13 50.8**	**+1.0**
GDZ	**Gediz**	**1.90**	**287**	*i* P	**Pn**	**14 13 50.0**	**+0.1**
GDZ				*i* S	**Sn**	**14 14 12.9**	**-1.2**
MDU	**Mudurnu**	**1.97**	**347**	*e*PN	**Pn**	**14 13 50.4**	**-0.5**
SGKT	**Sivrigoynuk**	**2.03**	**5**	*i* P	**Pn**	**14 13 52.1**	**+0.3**
SGKT				*i* S	**Sn**	**14 14 21.0**	**+3.6**
GOLH	**Golhisar**	**2.21**	**234**	*i* P	**Pn**	**14 13 54.2**	**0.0**
GOLH				*i* S	**Sn**	**14 14 22.5**	**+0.7**
GOLH	**Golhisar**	**2.21**	**234**	*i* P	**Pn**	**14 13 54.2**	**-0.1**
GOLH				*i* S	**Sn**	**14 14 22.5**	**+0.7**
CDAG	**Cicekdag**	**2.27**	**61**	*i* P	**Pn**	**14 13 54.8**	**-0.2**
CDAG				*i* S	**Sn**	**14 14 22.7**	**-0.5**
ELDT	**Eldivan**	**2.31**	**32**	*i* P	**Pn**	**14 13 55.4**	**-0.2**
ELDT				*i* S	**Sn**	**14 14 29.9**	**+5.6**
DENT	**Denizli**	**2.33**	**251**	*e*PN	**Pn**	**14 13 56.6**	**+0.7**
DNZL	**Cakiroluk**	**2.34**	**249**	*i* P	**Pn**	**14 13 55.7**	**-0.4**
DNZL				*i* S	**Sn**	**14 14 30.9**	**+5.8**
ELL	**Elmali**	**2.35**	**221**	*e*PN	**Pn**	**14 13 57.1**	**+0.9**
HENT	**Hendek**	**2.38**	**343**	*i* P	**Pn**	**14 13 56.4**	**-0.2**
HENT				*i* S	**Sn**	**14 14 37.6**	**+12**
AVNT	**Avonos**	**2.40**	**84**	*i* P	**Pn**	**14 13 57.1**	**+0.3**
AVNT				*i* S	**Sn**	**14 14 34.2**	**+7.7**
IZI	**Iznik**	**2.54**	**315**	*e*PN	**Pn**	**14 13 58.2**	**-0.6**
MANT	**Manisa**	**2.55**	**270**	*i* P	**Pn**	**14 13 58.9**	**-0.1**
MANT				*i* S	**Sn**	**14 14 40.1**	**+10**
MANT	**Manisa**	**2.55**	**270**	*i* P	**Pn**	**14 13 58.8**	**-0.2**
ULDT	**Uludag**	**2.61**	**308**	*i* P	**Pn**	**14 14 00.0**	**+0.2**
ULDT				*i* S	**Sn**	**14 14 32.9**	**+1.1**
ORLT	**Orhaneli**	**2.71**	**304**	*e*PN	**Pn**	**14 14 00.4**	**-0.7**
IKL	**Isikli**	**2.75**	**146**	*e*PN	**Pn**	**14 14 02.0**	**+0.3**
YLV	**Yalova**	**2.76**	**318**	*e*PN	**Pn**	**14 14 01.1**	**-0.7**
KARA	**Karaisali**	**2.87**	**116**	*e*PN	**Pn**	**14 14 04.8**	**+1.4**
CTKT	**Corum**	**3.10**	**47**	*i* P	**Pn**	**14 14 07.1**	**+0.6**
AKS	**Akhisar**	**3.14**	**277**	*e*PN	**Pn**	**14 14 07.1**	**0.0**
KCT	**Karacabey**	**3.17**	**304**	*e*PN	**Pn**	**14 14 08.4**	**+0.8**
BTOK	**Tokmak**	**3.18**	**294**	*i* P	**Pn**	**14 14 08.9**	**+1.3**
BNT	**Bandirma**	**3.51**	**302**	*e*PN	**Pn**	**14 14 12.6**	**+0.5**
CSS	**Prodhromos**	**3.78**	**161**	Pn	**Pn**	**14 14 18.1**	**+2.2**
COBT	**Iskenderun**	**4.07**	**118**	*i* P	**Pn**	**14 14 20.8**	**+0.9**
MALT	**Malatya**	**5.20**	**91**	Pn	**Pn**	**14 14 41.3**	**+5.9**
IDI	**Anoyia**	**6.43**	**242**	Pn	**Pn**	**14 14 52.6**	**+0.4**
	0.2nm,0.3s,baz=56,slow=18,SNR=2.6						
TIRR	**Tirgusor**	**6.43**	**338**	*e*Pn	**Pn**	**14 14 51.8**	**-0.5**
MLR	**Muntele Rosu**	**8.19**	**330**	Pn	**Pn**	**14 15 15.7**	**-0.8**
	0.2nm,0.3s,baz=178,slow=18,SNR=1.7						
AKTK	**Aktyubinsk**	**22.03**	**49**	P	**P**	**14 18 16.1**	**+3.9**
AKTO	**Aktyubinsk**	**22.03**	**49**	P	**P**	**14 18 16.1**	**+3.9**
	1.0nm,0.8s,mb3.3,baz=262,slow=14,SNR=5.0						
FINES	**FINESS Array B**	**23.20**	**353**	P	**P**	**14 18 24.3**	**-0.3**
	0.5nm,0.7s,mb3.1,baz=153,slow=10,SNR=3.0						
ARU	**Arti**	**25.18**	**36**	*e*P	**P**	**14 18 42.4**	**-0.7**
	4.5nm,0.9s,mb4.0						
KURK	**Kurchatov**	**34.89**	**54**	*e*P	**P**	**14 20 05.7**	**-3.6**
	2.5nm,1.0s,mb4.1						
TORD	**Torodi Ar. Bea**	**36.77**	**235**	P	**P**	**14 20 24.1**	**-1.3**
	0.9nm,0.9s,mb3.6,baz=30,slow=8.6,SNR=7.0						
MKAR	**Makanchi Array**	**37.46**	**61**	P	**P**	**14 20 30.4**	**-0.8**
	0.9nm,0.7s,mb3.7,baz=281,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**37.46**	**61**	P	**P**	**14 20 30.4**	**-0.8**
YKA	**Yellowknife Ar**	**75.74**	**345**	P	**P**	**14 25 01.4**	**-2.1**
	0.4nm,0.9s,mb3.4,baz=26,slow=5.2,SNR=5.9						

IDC 31 14:15:00.3±2.8,3064S×17631W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.7/13,mbtmp3.6/2,Error ellipse: s-maj=64.8km s-min=56.2km az=33.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.96**	**314**	Pn	Pn	14 15 35.3	+0.5
	59nm,0.3s,baz=75,slow=23,SNR=2.1						
ASAR	**Alice Springs**	**44.55**	**266**	P	P	14 23 14.1	+0.3
	0.6nm,1.0s,baz=96,slow=7.1,SNR=4.5						
WRA	**Warramunga Arr**	**45.56**	**271**	P	P	14 23 21.8	-0.1
	0.8nm,0.8s,baz=111,slow=7.6,SNR=5.5						
AKASG	**Malin Array Be**	**152.36**	**324**	PKPbc	PKPbc	14 34 57.8	-0.4
	0.3nm,0.3s,baz=44,slow=2.8,SNR=6.0						

*IDC **31** 14:18:07.5±1.8,2991S×17669W,h0km,mb4.0/4, mb1 4.2/6,mb1mx4.0/16,mbtmp4.1/6,ML4.0/2,Error ellipse: s-maj=36.5km s-min=32.1km az=102.0*
*NEIC **31** 14:18:08.8±1.1,2988S×17671W,h10km,mb4.3/2,Error ellipse: s-maj=20.4km s-min=12.3km az=73.0*
*ISCJB **31** 14:18:15.3±2.4,3011S±009×1776W±03,h24km±17km, mb4.0/6,Error ellipse: s-maj=45.4km s-min=15.3km az=172.9*

ISC 31 14:18:15.2±3.0,300S±01×1774W±03,h16km±15km,n13, σ0§69/11,mb4.1/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.87**	**331**	Pn	**Pn**	**14 18 32.6**	**-0.1**
	151nm,0.3s,baz=66,slow=24,SNR=7.2						
RAO	**Raoul Island**	**0.87**	**331**	*e*Pg	**Pg**	**14 18 32.1**	**0.0**
RAO				Pn	**Pn**	**14 18 32.6**	**-0.1**
URZ	**Urewera**	**9.38**	**207**	Pn	**Pn**	**14 20 29.5**	**-0.3**
	0.6nm,0.3s,baz=72,slow=18,SNR=3.0						
RPZ	**Rata Peaks**	**16.46**	**211**	Pn	**Pn**	**14 22 05.7**	**+0.2**
	1.1nm,0.3s,baz=31,slow=18,SNR=6.3						
CTA	**Charters Tower**	**34.22**	**278**	P	**P**	**14 25 02.0**	**+1.9**
	1.8nm,0.6s,mb4.2,baz=102,slow=8.7,SNR=3.3						
STKA	**Stephens Creek**	**35.04**	**256**	P	**P**	**14 25 07.5**	**+0.2**
	2.5nm,0.6s,mb4.3,baz=100,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**43.62**	**266**	P	**P**	**14 26 18.3**	**-0.5**
	0.6nm,0.5s,mb3.6,baz=105,slow=7.1,SNR=14						
WRAB	**Tennant Creek**	**44.57**	**271**	*e*P	**P**	**14 26 25.8**	**-0.6**
	7.4nm,1.2s,mb4.4						
WRA	**Warramunga Arr**	**44.57**	**271**	P	**P**	**14 26 25.6**	**-0.8**
	1.3nm,0.6s,mb3.9,baz=110,slow=7.9,SNR=18						
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**14 28 21.9**	**+0.2**
	1.2nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**144.95**	**340**	PKPbc	PKPdf	14 37 44.6	-7.0
	1.0nm,0.6s,baz=32,slow=3.4,SNR=9.5						
AKASG	**Malin Array Be**	**151.28**	**324**	PKPbc	PKPbc	14 38 03.2	-4.7
	0.6nm,0.5s,baz=45,slow=2.7,SNR=3.4						
AKASG	**Malin Array Be**	**151.28**	**324**	PKPbc	PKPbc	14 38 03.2	-4.7

ISC 31 14:18:19.0±3.2,464N±02×143E±01,h0km,n5,σ0§11/8,1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GORS	**Gorjuse**	**0.21**	**259**	*i* Pg	**Pg**	**14 18 23.1**	**+0.1**
GORS				*i* Sg	**Sg**	**14 18 25.7**	**0.0**
GORS							
	comp=Z,37nm,0.2s						
CADS	**Cadrg**	**0.41**	**252**	*i* Pg	**Pg**	**14 18 26.8**	**0.0**
CADS				*e*Sg	**Sg**	**14 18 31.9**	**-0.1**
VOJS	**Vojsko**	**0.43**	**221**	*e*Pg	**Pg**	**14 18 27.2**	**-0.1**
DRE	**Drenchia**	**0.49**	**248**	↑*i* Pg	**Pg**	**14 18 28.3**	**0.0**
DRE				*i* Sg	**Sg**	**14 18 34.9**	**+0.2**
JAVS	**Javornik**	**0.49**	**199**	*i* Pg	**Pg**	**14 18 28.5**	**+0.1**

*IDC **31** 14:19:38.9±1.2,2992S×17676W,h0km,mb3.9/5, mb1 4.1/5,mb1mx4.0/14,mbtmp3.9/5,Error ellipse: s-maj=50.1km s-min=23.0km az=171.0*
*NEIC **31** 14:19:40.7±0.6,2993S×17684W,h10km,mb4.8/2,Error ellipse: s-maj=16.5km s-min=12.8km az=142.0*
*ISCJB **31** 14:19:44.0±3.0,299S±02×1769W±02,h42km±23km, mb4.0/6,Error ellipse: s-maj=33.1km s-min=18.9km az=105.4*

ISC 31 14:19:43.5±7.3,299S±02×1769W±02,h24km±51km,n20, σ0§48/13,mb4.0/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.11**	**307**	Pn	**Pn**	**14 20 02.9**	**-0.5**
	baz=77,slow=20,SNR=1.5						
AFI	**Afiamalu**	**16.62**	**18**	*e*Pn	**Pn**	**14 23 35.3**	**+0.5**
	39nm,0.4s						
DZM	**Mont Dzumac**	**16.88**	**294**	Pn	**Pn**	**14 23 44.1**	**+6.0**
	0.2nm,0.3s,baz=79,slow=19,SNR=5.1						
CTA	**Charters Tower**	**34.67**	**278**	P	**P**	**14 26 32.0**	**+0.9**
	0.8nm,0.5s,mb3.9,baz=262,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**35.51**	**256**	P	**P**	**14 26 37.9**	**-0.5**
	2.1nm,0.6s,mb4.3,baz=115,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**35.51**	**256**	P	**P**	**14 26 37.9**	**-0.5**
STKA				*e*		14 26 49.2	
ASAR	**Alice Springs**	**44.09**	**266**	P	**P**	**14 27 49.8**	**+0.2**
	0.5nm,0.5s,mb3.5,baz=100,slow=6.4,SNR=8.7						
WRAB	**Tennant Creek**	**45.03**	**271**	*e*P	**P**	**14 27 56.8**	**-0.3**
	5.5nm,0.6s,mb4.6						
WRAB				*e*		14 28 07.7	
WRA	**Warramunga Arr**	**45.03**	**271**	P	**P**	**14 27 57.5**	**+0.3**
	2.2nm,0.6s,mb4.2,baz=110,slow=7.7,SNR=14						
VNDA	**Vanda**	**48.67**	**186**	P	**P**	**14 28 25.7**	**+0.1**
MAJO	**Matsushiro**	**78.40**	**325**	P	**P**	**14 31 42.1**	**0.0**
NVAR	**Mina Array Bea**	**87.24**	**42**	P	**P**	**14 32 27.3**	**-0.7**
	0.3nm,0.8s,mb3.6,baz=232,slow=6.7,SNR=2.6						
NVAR	**Mina Array Bea**	**87.24**	**42**	P	**P**	**14 32 27.3**	**-0.7**
BVAR	**Borovoye Array**	**126.72**	**316**	PKP	PKPdf	14 38 45.3	+0.4
	0.4nm,0.5s,baz=114,slow=1.7,SNR=3.9						
FINES	**FINESS Array B**	**145.01**	**341**	PKPbc	PKPbc	14 39 15.8	-2.2
	1.6nm,0.6s,baz=54,slow=3.6,SNR=9.5						
FINES	**FINESS Array B**	**145.01**	**341**	PKPbc	PKPbc	14 39 15.8	-2.2
NOA	**NORSAR Array B**	**148.41**	**352**	PKPbc	PKPbc	14 39 25.1	-2.8
	0.9nm,0.9s,baz=212,slow=17,SNR=3.0						
HFS	**Hagfors**	**148.95**	**350**	PKPbc	PKPbc	14 39 27.4	-1.9
	1.5nm,0.8s,baz=186,slow=40,SNR=2.6						
AKASG	**Malin Array Be**	**151.48**	**324**	PKPbc	PKPbc	14 39 34.2	-1.2
	1.4nm,0.5s,baz=46,slow=2.9,SNR=7.2						
BRTR	**Keskin Array B**	**153.20**	**300**	PKPab	PKPab	14 39 50.9	-0.1
	0.8nm,0.8s,baz=104,slow=4.6,SNR=4.1						

*IDC **31** 14:24:16.4±1.2,2988S×17658W,h0km,mb4.1/4, mb1 4.2/7,mb1mx4.1/17,mbtmp4.1/7,ML3.7/2,Error ellipse: s-maj=27.1km s-min=26.5km az=68.0*
*NEIC **31** 14:24:17.3±1.1,2979S×17664W,h10km,mb4.9/2,Error ellipse: s-maj=21.5km s-min=15.3km az=83.0*
*ISCJB **31** 14:24:25.2±4.0,3013S±008×1774W±02,h33km±31km, mb4.3/5,Error ellipse: s-maj=34.4km s-min=13.7km az=177.3*

ISC 31 14:24:24.3±8.6,300S±01×1772W±04,h19km±49km,n17, σ0§33/13,mb4.3/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**323**	Pn	**Pn**	**14 24 42.5**	**-0.2**
	242nm,0.3s,baz=78,slow=23,SNR=15						
RAO	**Raoul Island**	**0.97**	**323**	*e*Pn	**Pn**	**14 24 38.3**	**-4.5**
URZ	**Urewera**	**9.45**	**208**	Pn	**Pn**	**14 26 39.1**	**-0.2**
	0.3nm,0.3s,baz=168,slow=23,SNR=2.8						
URZ				Sn	**Sn**	**14 28 30.9**	**+5.9**
	3.8nm,0.3s,baz=118,slow=22,SNR=10.0						
RPZ	**Rata Peaks**	**16.54**	**211**	Pn	**Pn**	**14 28 15.4**	**+0.3**
	0.8nm,0.3s,baz=140,slow=5.3,SNR=4.8						
RPZ				Sn	**Sn**	**14 31 13.9**	**-4.3**
	0.7nm,0.3s,baz=240,slow=22,SNR=3.8						
DZM	**Mont Dzumac**	**16.65**	**295**	P	**Pn**	**14 28 16.6**	**+0.2**
	0.1nm,0.3s,baz=72,slow=20,SNR=2.6						
CTA	**Charters Tower**	**34.39**	**278**	P	**P**	**14 31 10.5**	**+0.4**
	1.8nm,0.4s,mb4.3,baz=110,slow=8.6,SNR=5.6						
STKA	**Stephens Creek**	**35.20**	**256**	P	**P**	**14 31 17.5**	**+0.4**
	3.8nm,0.8s,mb4.4,baz=79,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**35.20**	**256**	*e*P	**P**	**14 31 16.8**	**-0.3**
PMG	**Port Moresby**	**39.04**	**294**	*e*P	pP	14 31 57.2	+1.5
	23nm,1.0s						
ASAR	**Alice Springs**	**43.78**	**266**	P	**P**	**14 32 28.3**	**-0.3**
	1.0nm,0.6s,mb3.7,baz=97,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**44.74**	**271**	P	**P**	**14 32 36.1**	**-0.2**
	1.5nm,0.6s,mb4.0,baz=109,slow=6.1,SNR=12						
QSPA	**South Pole Qui**	**60.09**	**180**	*e*P	**P**	**14 34 30.2**	**+0.1**
	15nm,1.4s,mb4.8						
BVAR	**Borovoye Array**	**126.59**	**316**	PKP	PKPdf	14 43 21.0	-5.1
	0.3nm,0.5s,baz=80,slow=1.8,SNR=3.9						
FINES	**FINESS Array B**	**145.01**	**341**	PKPbc	PKPbc	14 43 52.6	-6.9
	1.1nm,0.7s,baz=31,slow=4.4,SNR=5.6						
AKASG	**Malin Array Be**	**151.39**	**324**	PKPbc	PKPbc	14 44 11.2	-5.4
	1.3nm,0.5s,baz=46,slow=2.7,SNR=6.6						
AKASG				PKPab	PKPab	14 44 21.9	-3.0
	2.0nm,0.5s,baz=46,slow=2.9,SNR=6.9						
BRTR	**Keskin Array B**	**152.99**	**299**	PKPab	PKPab	14 44 28.6	-3.0
	1.3nm,0.8s,baz=110,slow=3.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**163.18**	**176**	PKPab	PKPab	14 45 12.5	-3.1
	0.9nm,0.9s,baz=204,slow=3.4,SNR=5.0						

IDC 31 14:28:47.0±15.0,554N×12720E,h437km±204km,mb2.8/6, mb1 2.9/6,mb1mx2.8/19,mbtmp3.6/6,Error ellipse: s-maj=135.5km s-min=30.2km az=71.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.28**	**165**	P	P	14 33 47.6	+2.1
	0.7nm,0.4s,baz=346,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**29.76**	**168**	P	P	14 34 15.5	-0.6
	0.2nm,0.3s,baz=340,slow=6.9,SNR=5.6						
STKA	**Stephens Creek**	**39.66**	**161**	P	P	14 35 38.5	-0.9
	0.7nm,0.4s,baz=353,slow=8.1,SNR=3.9						
SONM	**Songino Array**	**45.75**	**340**	P	P	14 36 27.5	0.0
	0.1nm,0.4s,baz=156,slow=9.5,SNR=2.5						
MKAR	**Makanchi Array**	**56.35**	**324**	P	P	14 37 44.5	-0.5
	0.9nm,0.5s,baz=117,slow=7.9,SNR=18						
BVAR	**Borovoye Array**	**66.07**	**326**	P	P	14 38 50.4	+1.2
	0.5nm,0.5s,baz=96,slow=4.8,SNR=4.3						

MAN 31 14:40:18.4,1236N×12370E,h6km,mb2.9,ML4.3,MS1.6, 2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.07**	**272**	⇓*i* P	Pg	14 40 20.4	+0.3
MMPH				*i* S	Sg	14 40 22.1	+0.7
CNP	**Catarman**	**0.95**	**81**	*e*P	Pg	14 40 37.0	+0.2
RCP	**Roxas**	**1.22**	**230**	⇑*e*P	Pg	14 40 41.3	-0.5
RCP				*e*S	Sg	14 40 57.5	-0.2
PVCP	**Virac**	**1.31**	**20**	*e*P	Pn	14 40 41.9	-1.4
AUQP	**San Andres**	**1.39**	**314**	*e*P	Pn	14 40 44.2	-0.1
KALP	**Kalibo**	**1.49**	**243**	*e*P	Sn	14 41 02.3	-3.2
OCLP	**Ormoc**	**1.57**	**145**	*e*P	Pn	14 40 47.0	+0.1
PLP	**Palo**	**1.72**	**133**	*e*P	Pn	14 40 48.7	-0.2
PLP				*e*S	Sn	14 41 11.2	0.0
GUIM	**Jordan**	**2.03**	**212**	*e*P	Pn	14 40 53.1	-0.1
LLP	**Lapu-Lapu**	**2.04**	**173**	⇑*e*P	Pn	14 40 53.1	-0.2
LLP				*e*S	Sn	14 41 20.4	+1.3
MSLP	**Maasin**	**2.48**	**153**	*e*P	Pn	14 40 53.2	-6.1
POLP	**Polilio Island**	**2.91**	**324**	*e*P	Pn	14 41 09.7	+4.4
CUYO	**Cuyo Island**	**3.02**	**241**	*e*P	Pn	14 41 10.1	+3.3
LUBP	**Lubang**	**3.63**	**293**	*e*P	Sg	14 42 16.0	+0.9

*IDC **31** 14:46:11.2±1.5,2987S×17667W,h0km,mb4.2/3, mb1 4.4/4,mb1mx4.1/14,mbtmp4.2/4,ML4.2/1,Error ellipse: s-maj=41.4km s-min=32.1km az=169.0*
*N

LSCH *i* S Sn 14 48 24.6 -0.2
RCDM Rinconada Maip 2.39 207⇑ *i*P Pn 14 48 01.7 +0.6
RCDM *i* S Sn 14 48 32.2 +0.7
RCDM AMP 14 48 33.1
comp=E,210nm,0.2s
RCDM Rinconada Maip 2.39 207⇑ *i*P Pn 14 48 01.7 +0.6
RCDM *i* S Sn 14 48 32.2 +0.7
PCH Pirque 2.41 200 *e*P Pn 14 48 02.0 +0.7
PCH *i* S Sn 14 48 34.1 +2.2
LCCH Las Cruces 2.73 219 *e*P Pn 14 48 05.8 +0.5
CHCH Chadas Angostu 2.74 200⇓ *i*P Pn 14 48 06.1 +0.6
CHCH *i* S Sn 14 48 39.9 +0.6
CACH El Canelo 2.90 198⇓ *i*P Pn 14 48 08.4 +0.9
LNV Longovilo 3.04 211⇑ *i*P Pn 14 48 08.6 -0.8
LNV *i* S Sn 14 48 45.4 -0.8
CICH Cipreses 3.05 194 *e*P Pn 14 48 09.9 +0.5

IDC 31 14:57:39.8±2.7, 3000S×17675W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=50.6km s-min=47.1km az=70.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**306**	Pn	Pn	14 58 04.5	-0.1
39nm,0.3s,baz=84,slow=22,SNR=2.6							
DZM	**Mont Dzumac**	**17.03**	**294**	Pn	Pn	15 01 44.3	+5.0
0.2nm,0.3s,baz=144,slow=18,SNR=3.9							
STKA	**Stephens Creek**	**35.62**	**256**	P	P	15 04 39.5	+0.3
2.8nm,0.8s,baz=120,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**44.21**	**266**	P	P	15 05 50.6	0.0
0.4nm,0.6s,baz=99,slow=6.4,SNR=15							
WRA	**Warramunga Arr**	**45.16**	**271**	P	P	15 05 58.3	+0.1
1.8nm,0.8s,baz=113,slow=7.0,SNR=20							
FINES	**FINESS Array B**	**145.13**	**341**	PKPbc	PKPbc	15 17 17.4	-1.3
1.9nm,0.8s,baz=74,slow=5.9,SNR=7.0							

IDC 31 14:58:28.2±2.8, 2979S×17649W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.9/13, mbtmp3.9/3, Error ellipse: s-maj=66.2km s-min=49.1km az=175.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.35**	**293**	Pn	Pn	14 58 54.5	+0.1
38nm,0.3s,baz=270,slow=21,SNR=3.8							
STKA	**Stephens Creek**	**35.89**	**256**	P	P	15 05 30.4	+0.5
3.9nm,1.1s,baz=75,slow=15,SNR=2.8							
ASAR	**Alice Springs**	**44.45**	**266**	P	P	15 06 40.9	0.0
0.8nm,0.8s,baz=100,slow=7.6,SNR=8.2							
WRA	**Warramunga Arr**	**45.39**	**271**	P	P	15 06 48.6	+0.2
1.2nm,0.7s,baz=110,slow=8.0,SNR=9.7							
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	15 18 05.3	-1.4
1.7nm,0.8s,baz=38,slow=5.3,SNR=4.7							

*TEH **31** 15:08:26.7, 2751N×5666E, h18km, Mn3.6*
*CSEM **31** 15:08:27.4±0.4, 2752N×5578E, h20km, ML3.1, Error ellipse: s-maj=12.3km s-min=5.1km az=36.0*
*ISCJB **31** 15:08:28.0±0.8, 2769N±005×5592E±009, h10km, Error ellipse: s-maj=12.0km s-min=5.5km az=128.0*
*THR **31** 15:08:30.2±0.5, 2763N×5608E, h14km±4km, ML3.1*
ISC 31 15:08:29.4±0.8, 2762N±006×**5591E**±009, **h14**km, **n12**, σ1§**30**/16, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.32**	**133**	*e*PG	**Pg**	**15 08 35.6**	**-0.4**
BNDS				*e*SG	**Sg**	**15 08 39.7**	**-0.8**
BNDS				AML	AML	15 08 44.1	
comp=N,2μm,0.2s							
BNDS				AML	AML	15 08 44.5	
comp=E,3μm,0.2s							
BNDS	**Bandar-Abbas**	**0.32**	**133**	*e*Pg	**Pg**	**15 08 35.6**	**-0.4**
SNR=107							
BNDS				*e*Sg	**Sg**	**15 08 39.7**	**-0.8**
comp=E,3μm,0.2s,SNR=107							
KRBR	**Kerman**	**2.47**	**17**	*e*PN	**Pn**	**15 09 11.6**	**+2.4**
KRBR				*e*SG	**Sg**	**15 09 46.2**	**-2.5**
KRBR				AML	AML	15 09 48.0	
comp=N,142nm,0.6s							
KRBR				AML	AML	15 09 49.0	
comp=E,112nm,0.6s							
KRBR	**Kerman**	**2.47**	**17**	*e*Pn	**Pn**	**15 09 11.6**	**+2.4**
SNR=52							
KRBR				*e*Sg	**Sg**	**15 09 46.2**	**-2.5**
SNR=90							
GHIR	**Ghir-Karzin**	**2.67**	**285**	*e*PN	**Pn**	**15 09 16.8**	**+4.9**
IPAR	**Pars**	**3.35**	**312**	*e*Pn	**Pn**	**15 09 20.2**	**-1.0**
IMEH	**Mehriz**	**3.92**	**344**	*e*Pn	**Pn**	**15 09 30.1**	**+1.0**
IBAF	**Bafgh**	**3.97**	**356**	*e*Pn	**Pn**	**15 09 31.0**	**+1.2**
ISAD	**Sadrabad**	**4.69**	**336**	*e*Pn	**Pn**	**15 09 39.8**	**+0.1**
ZHSF	**Zahedan**	**4.72**	**64**	*e*Pn	**Pn**	**15 09 41.6**	**+1.5**
ICHK	**Chekchek**	**4.79**	**345**	*e*Pn	**Pn**	**15 09 41.1**	**+0.1**
IZEF	**Zefreh**	**6.10**	**330**	*e*Pn	**Pn**	**15 09 57.6**	**-1.5**

IDC 31 15:22:22.1±2.1, 2984S×17632W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/13, mbtmp4.0/3, Error ellipse: s-maj=61.2km s-min=35.6km az=15.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.51**	**292**	Pn	Pn	15 22 51.2	+0.8
baz=85,slow=20,SNR=1.3							
RAO				Sn	Sn	15 23 11.3	+0.5
434nm,0.3s,baz=91,slow=24,SNR=4.1							
STKA	**Stephens Creek**	**36.03**	**256**	P	P	15 29 25.8	+0.7
3.0nm,0.8s,baz=76,slow=9.8,SNR=4.1							
ASAR	**Alice Springs**	**44.60**	**266**	P	P	15 30 36.5	+0.5
1.0nm,0.7s,baz=101,slow=7.4,SNR=20							
WRA	**Warramunga Arr**	**45.54**	**271**	P	P	15 30 42.4	-1.1
0.8nm,0.5s,baz=111,slow=6.1,SNR=19							
FINES	**FINESS Array B**	**145.10**	**341**	PKPbc	PKPbc	15 41 59.6	-1.3
1.5nm,1.1s,baz=83,slow=5.7,SNR=2.7							
BRTR	**Keskin Array B**	**153.60**	**300**	PKPab	PKPab	15 42 35.6	+0.4
0.7nm,0.8s,baz=48,slow=2.1,SNR=3.7							

IDC 31 15:25:35.8±2.3, 2984S×17667W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/13, mbtmp3.6/2, Error ellipse: s-maj=65.3km s-min=33.3km az=27.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**298**	Pn	Pn	15 25 60.0	-0.3
213nm,0.3s,baz=88,slow=18,SNR=7.3							
RAO				Sn	Sn	15 26 16.7	-0.9
831nm,0.3s,baz=89,slow=21,SNR=9.2							
ASAR	**Alice Springs**	**44.29**	**266**	P	P	15 33 47.0	-0.2
0.4nm,0.7s,baz=102,slow=7.5,SNR=6.4							
WRA	**Warramunga Arr**	**45.23**	**271**	P	P	15 33 54.8	0.0
0.5nm,0.4s,baz=110,slow=6.1,SNR=14							
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPdf	15 45 13.6	-1.4
0.8nm,0.6s,baz=11,slow=3.9,SNR=6.4							

*ISCJB **31** 15:30:09.6±0.6, 3368N±005×4881E±005, h10km, Error ellipse: s-maj=7.4km s-min=5.7km az=6.3*
*CSEM **31** 15:30:09.0±0.2, 3363N×4873E, h20km, ML3.3, Error ellipse: s-maj=4.3km s-min=2.6km az=22.0*
*THR **31** 15:30:09.1±0.3, 3385N×4889E, h18km±3km, ML3.3*
*TEH **31** 15:30:11.5, 3363N×4885E, h12km, Mn3.5*
ISC 31 15:30:10.3±0.7, 3367N±005×**4878E**±005, **h10**km, **n15**, σ0§**96**/21, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.17**	**296**	*e*Pg	**Pn**	**15 30 30.4**	**-2.3**
ASAO	**Ashtian**	**1.36**	**49**	*e*PG	**Pn**	**15 30 31.2**	**-4.1**
ASAO				*e*SG	**Sn**	**15 30 47.1**	**-6.2**
ASAO				AML	AML	15 30 53.3	
comp=N,534nm,0.5s							
ASAO				AML	AML	15 30 54.2	
comp=E,528nm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.56**	**179**	*e*PG	**Pg**	**15 30 40.9**	**+0.6**
SNGE	**Sanandaj**	**1.85**	**321**	*e*PG	**Pn**	**15 30 41.7**	**-0.4**
SNGE				*e*SG	**Sn**	**15 31 05.5**	**0.0**
SNGE				AML	AML	15 31 18.4	
comp=N,324nm,0.5s							
SNGE				AML	AML	15 31 19.0	
comp=E,251nm,0.8s							
SNGE	**Sanandaj**	**1.85**	**321**	*e*Pg	**Pn**	**15 30 41.7**	**-0.4**
SNR=91							
SNGE				*e*Sg	**Sn**	**15 31 05.5**	**0.0**
SNR=91							
IRAZ	**Razeghan**	**1.98**	**28**	*e*Pn	**Pn**	**15 30 44.9**	**+1.1**
IPIR	**Pirpir**	**2.03**	**118**	*e*Pn	**Pn**	**15 30 44.3**	**-0.3**
IDHR	**Dehrash**	**2.23**	**298**	*e*Pn	**Pn**	**15 30 48.7**	**+1.3**
IKLH	**Kalaborvud**	**2.37**	**98**	*e*Pn	**Pn**	**15 30 48.8**	**-0.4**
IMHD	**Mahdasht**	**2.54**	**37**	*e*Pn	**Pn**	**15 30 52.2**	**+0.5**
IVRN	**Varamin**	**2.78**	**61**	*e*Pn	**Pn**	**15 30 55.2**	**+0.3**
IVRN				*e*Sn	**Sn**	**15 31 28.6**	**+0.2**
IZEF	**Zefreh**	**3.07**	**104**	*e*Pn	**Pn**	**15 30 58.5**	**-0.4**
IAFJ	**Afjeh**	**3.25**	**47**	*e*Pn	**Pn**	**15 31 02.3**	**+0.9**
IAFJ				*e*Sn	**Sn**	**15 31 40.5**	**+0.3**
DAMV	**Damavand**	**3.28**	**52**	*e*PN	**Pn**	**15 30 59.5**	**-2.3**
IFIR	**Firoozkooh**	**3.82**	**58**	*e*Pn	**Pn**	**15 31 10.1**	**+0.9**
IFIR				*e*Sn	**Sn**	**15 31 53.4**	**-0.8**

*IDC **31** 15:34:11.5±1.4, 3700N×14139E, h0km, mb3.3/3, mb1 3.5/6, mb1mx3.3/23, mbtmp3.4/6, ML3.0/3, Error ellipse: s-maj=31.9km s-min=22.9km az=125.0*
*ISCJB **31** 15:34:12.5±1.3, 3705N±005×14142E±008, h20km±10km, mb3.2/3, Error ellipse: s-maj=11.4km s-min=7.0km az=47.0*
*JMA **31** 15:34:14.3±0.1, 3706N×14128E, h31km±1km, M3.1*
ISC 31 15:34:12.9±1.2, 3706N±004×**14137E**±007, **h11**km±6km, **n13**, σ0§**64**/20, **mb3.2**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**275**	P	**Pg**	**15 34 22.9**	**+0.9**
ONAJ				S	**Sg**	**15 34 28.8**	**+0.7**
JFK	**Kawauchi**	**0.50**	**308**	P	**Pg**	**15 34 23.6**	**+0.9**
JFK				S	**Sg**	**15 34 30.0**	**+0.6**
JHO	**Hitachi**	**0.79**	**235**	P	**Pg**	**15 34 27.5**	**-0.6**
JHO				*e*S	**Sg**	**15 34 37.9**	**-0.5**
JMM	**Marumori**	**0.93**	**330**	P	**Pg**	**15 34 30.4**	**-0.4**
JMM				*e*S	**Sg**	**15 34 42.1**	**-0.7**
JFT	**Otama**	**0.94**	**299**	P	**Pg**	**15 34 31.1**	**0.0**
JFT				S	**Sg**	**15 34 42.5**	**-0.9**
JSB	**Shiboa**	**1.17**	**266**	P	**Pb**	**15 34 35.1**	**0.0**
JSB				*e*S	**Sb**	**15 34 49.5**	**-0.7**
JIO	**Ouri**	**1.39**	**359**	P	**Pn**	**15 34 37.7**	**-0.5**
MJAR	**Matsushiro Arr**	**2.59**	**259**	Pn	**Pn**	**15 34 55.8**	**+1.0**
1.4nm,0.3s,baz=86,slow=15,SNR=13							
MJAR				Sn	**Sn**	**15 35 26.5**	**+0.3**
1.7nm,0.3s,baz=55,slow=38,SNR=4.8							
JHJ	**Hachijo jima 2**	**4.14**	**199**	Pn	**Pn**	**15 35 16.1**	**0.0**
9.9nm,0.3s,baz=280,slow=24,SNR=3.1							
ASAJ	**Asahikawa**	**7.11**	**7**	Pn	**Pn**	**15 35 56.6**	**-0.2**
0.2nm,0.3s,baz=222,slow=25,SNR=2.7							
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**15 42 20.9**	**0.0**
0.3nm,0.6s,mb3.2,baz=86,slow=10,SNR=3.4							
ILAR	**Eielson Array**	**49.49**	**32**	P	**P**	**15 43 04.2**	**+1.0**
0.1nm,0.7s,mb3.0,baz=280,slow=5.8,SNR=4.2							
WRA	**Warrmunga Arr**	**57.08**	**188**	P	**P**	**15 43 58.3**	**-0.8**
0.7nm,1.2s,mb3.6,baz=5.1,slow=7.6,SNR=4.2							

*BJI **31** 15:39:34.4, 221N×12873E, h167km, mB5.2, mb4.6*
*ISCJB **31** 15:39:41.5±2.2, 294N±006×12825E±009, h176km±21km, mb4.2/35, Error ellipse: s-maj=15.5km s-min=7.9km az=139.9*
*IDC **31** 15:39:41.2±1.9, 292N×12833E, h162km±16km, mb3.8/15, mb1 3.9/15, mb1mx3.9/21, mbtmp4.2/15, MS4.9/1, Ms1 4.9/1, ms1mx3.5/30, Error ellipse: s-maj=29.9km s-min=8.8km az=80.0*
*NEIC **31** 15:39:42.0±2.2, 2995N×12826E, h168km±22km, mb4.3/15, Error ellipse: s-maj=12.8km s-min=6.9km az=64.0*
ISC 31 15:39:44.0±2.1, 1289N±006×**12829E**±009, **h187**km±20km, **h162**km±1.6km; **pP-P, n54**, σ1§**03**/50, **mb4.2**/34, **1C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.04**	**165**	*e*P	**Pn**	**15 43 19.4**	**+0.1**
6.6nm,0.6s							
KSM	**Kuching**	**18.02**	**266**	*e*Pn	**Pn**	**15 43 41.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**21.02**	**187**	*e*P	**P**	**15 44 15.0**	**+1.9**
5.3nm,0.9s,mb3.9							
FITZ	**Fitzroy Crossi**	**21.02**	**187**	P	**P**	**15 44 12.3**	**-0.7**
1.2nm,0.4s,mb3.6,baz=183,slow=13,SNR=8.7							
WRAB	**Tennant Creek**	**23.45**	**166**	*e*P	**P**	**15 44 36.8**	**+0.3**
33nm,0.5s,mb5.0							
WRA	**Warramunga Arr**	**23.45**	**166**	P	**P**	**15 44 36.7**	**+0.2**
16nm,0.4s,mb4.8,baz=344,slow=10,SNR=197							
WRA				S	**S**	**15 48 35.1**	**-0.7**
0.8nm,0.9s,baz=345,slow=16,SNR=3.1							
WRA				ScP	ScP	15 51 41.1	+3.9
0.6nm,0.7s,baz=343,slow=3.1,SNR=6.3							
WRA	**Warramunga Arr**	**23.45**	**166**	P	**P**	**15 44 36.7**	**+0.2**
WRA				S	**S**	**15 48 35.1**	**-0.7**
WRA				ScP	ScP	15 51 41.1	+3.9
JOW	**Kunigami**	**23.81**	**360**	P	**P**	**15 44 39.7**	**0.0**
7.0nm,0.7s,mb4.3,baz=177,slow=18,SNR=4.5							
QIZ	**Qiongzhong**	**24.14**	**313**	*e*P	**P**	**15 44 43.4**	**+0.7**
12nm,0.9s,mb4.4							
ASAR	**Alice Springs**	**26.96**	**169**	P	**P**	**15 45 08.8**	**+0.7**
1.7nm,0.4s,mb4.0,baz=349,slow=7.5,SNR=70							
ASAR				PcP	PcP	15 48 26.6	+1.8
2.0nm,0.5s,baz=354,slow=2.1,SNR=19							
ASAR				ScP	ScP	15 51 51.1	+3.9
0.6nm,0.8s,baz=349,slow=2.8,SNR=7.5							
KULM	**Kulim**	**27.67**	**276**	P	**P**	**15 45 12.1**	**-2.3**
CTA	**Charters Tower**	**28.85**	**143**	*e*P	**P**	**15 45 29.6**	**+4.7**
1.1nm,0.4s,mb3.9							
PSI	**Prapat**	**29.33**	**271**	LR	LR	15 57 35.3	
comp=Z,2μm,18.2s,baz=296,slow=37							
NJ2	**Nanjing**	**30.34**	**344**	*e*P	**P**	**15 45 39.0**	**+1.0**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.8							
MJAR	**Matsushiro Arr**	**34.71**	**14**	P	**P**	**15 46 14.0**	**-2.1**
comp=Z,1.2nm,0.4s,mb3.9,baz=180,slow=9.6,SNR=11							
CD2	**Chengdu**	**36.24**	**323**	*e*P	**P**	**15 46 28.5**	**-0.5**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**36.81**	**161**	*e*P	**P**	**15 46 32.7**	**-1.2**
comp=Z,6.0nm,0.3s,mb4.7							
STKA	**Stephens Creek**	**36.81**	**161**	P	**P**	**15 46 32.9**	**-1.0**
comp=Z,7.2nm,0.3s,mb4.7,baz=341,slow=7.8,SNR=45							
STKA				PcP	PcP	15 48 51.3	-0.4
comp=Z,2.0nm,0.6s,baz=272,slow=14,SNR=3.2							
LZH	**Lanzhou**	**40.02**	**329**	*e*P	**P**	**15 47 04.0**	**+3.4**
LZH				AP	pP	15 47 38.5	-2.0
LZH				XP	sP	15 47 57.0	-4.8
LZH				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.4							
HHC	**Hu-ho-hao-te**	**40.69**	**340**	*e*P	**P**	**15 47 08.0**	**+1.9**
HHC				AP	pP	15 47 43.8	-2.4
HHC				XP	sP	15 48 01.5	-5.9
HHC				PP	PP	15 48 47.5	+3.7
HHC				PCP	PcP	15 49 06.0	+2.1
HHC				S	**S**	**15 53 06.0**	**+4.0**
HHC				XS	sS	15 54 09.8	-2.6
HHC				SCS	ScS	15 56 53.5	+2.7
HHC				AMB	AMB		
comp=Z,16nm,0.4s,mb5.0							
HHC				AMB	AMB		
comp=Z,994nm,6.9s							
HHC				LR	LR		
comp=N,899nm,16.7s							
HHC				LR	LR		
comp=E,1μm,17.7s							
HHC				LR	LR		
comp=Z,1μm,17.8s							
MDJ	**Mudanjiang**	**41.57**	**1**	P	**P**	**15 47 13.0**	**-0.2**
MDJ				AMB	AMB		
comp=Z,8.0nm,1.3s,mb4.2							
MDJ				AMB	AMB		
comp=Z,942nm,8.3s							
MDJ	**Mudanjiang**	**41.57**	**1**	*e*P	**P**	**15 47 12.7**	**-0.5**
comp=Z,10nm,1.1s,mb4.4							
ASAJ	**Asahikawa**	**42.96**	**15**	P	**P**	**15 47 24.9**	**+0.4**
comp=Z,4.8nm,0.4s,mb4.5,baz=280,slow=30,SNR=16							
JIRN	**Jiri**	**47.12**	**306**	*e*P	**P**	**15 47 58.4**	**+1.2**
comp=Z,9.9nm,0.7s,mb4.6							
GUN	**Gumba**	**47.48**	**306**	*e*P	**P**	**15 48 01.1**	**+1.1**
comp=Z,13nm,0.5s,mb4.8							
PKI	**Pulchoki**	**47.72**	**305**	*e*P	**P**	**15 48 02.4**	**+0.5**
KKN	**Kakani**	**47.91**	**305**	*e*P	**P**	**15 48 03.9**	**+0.6**
comp=Z,5.1nm,0.4s,mb4.5							
DMN	**Daman**	**47.98**	**305**	*e*P	**P**	**15 48 04.6**	**+0.7**
ULN	**Ulaanbaatar**	**48.40**	**341**	*e*P	**P**	**15 48 06.4**	**-0.7**
comp=Z,1.8nm,0.7s,mb3.8							
GKN	**Gorkha**	**48.52**	**305**	*e*P	**P**	**15 48 08.5**	**+0.5**
SONM	**Songino Array**	**48.59**	**340**	P	**P**	**15 48 08.1**	**-0.5**
comp=Z,0.7nm,0.5s,mb3.5,baz=149,slow=8.4,SNR=7.7							
SONM				PcP	PcP	15 49 32.2	+1.0
comp=Z,0.7nm,0.6s,baz=155,slow=4.1,SNR=5.3							
SONM				ScP	ScP	15 53 11.8	+3.8
comp=Z,0.5nm,0.9s,baz=106,slow=3.1,SNR=2.9							
KOLN	**Koldanda**	**49.28**	**305**	*e*P	**P**	**15 48 14.6**	**+0.9**
comp=Z,13nm,0.5s,mb4.9							
WMQ	**Urumqi**	**54.30**	**325**	*e*P	**P**	**15 48 52.0**	**+1.1**
WMQ				AP	pP	15 49 29.0	-4.2
WMQ				XP	sP	15 49 46.8	-7.0
WMQ				AMB	AMB		
comp=Z,6.0nm,1.0s,mb4.3							
WMQ				AMB	AMB		
comp=Z,45nm,4.2s							
MKAR	**Makanchi Array**	**59.13**	**325**	P	**P**	**15 49 25.2**	**+0.4**
comp=Z,1.2nm,0.6s,mb3.9,baz=115,slow=8.5,SNR=17							
MA2	**Magadan**	**59.15**	**13**	*e*P	**P**	**15 49 25.0**	**0.0**
comp=Z,6.3nm,0.8s,mb4.5							
ZAL	**Zalesovo**	**62.04**	**333**	P	**P**	**15 49 42.4**	**-2.1**
comp=Z,0.8nm,0.4s,mb3.9,baz=161,slow=13,SNR=3.6							
ZAL	**Zalesovo**	**62.04**	**333**	P	**P**	**15 49 42.4**	**-2.1**
KURK	**Kurchatov**	**63.28**	**327**	*e*P	**P**	**15 49 52.0**	**-0.7**
comp=Z,1.5nm,0.5s,mb4.1							
BVAR	**Borovoye Array**	**68.87**	**327**	P	**P**	**15 50 27.4**	**-0.9**
comp=Z,0.4nm,0.5s,mb3.4,baz=134,slow=6.4,SNR=3.8							
BRVK	**Borovoye**	**68.94**	**327**	P	**P**	**15 50 28.4**	**-0.3**
ZRNK	**Zerenda**	**69.60**	**326**	*e*P	**P**	**15 50 31.4**	**-1.4**
comp=Z,0.8nm,0.4s,mb3.8							
VNDA	**Vanda**	**82.41**	**173**	P	**P**	**15 51 46.0**	**+0.9**
comp=Z,1.0nm,0.4s,mb3.8,baz=324,slow=5.5,SNR=16							
VNDA	**Vanda**	**82.41**	**173**	*e*P	**P**	**15 51 45.5**	**+0.4**
comp=Z,1.7nm,0.6s,mb3.9							
MAW	**Mawson**	**83.52**	**201**	P	**P**	**15 51 51.0**	**+0.2**
comp=Z,10nm,1.2s,mb4.4							
PMR	**Palmer**	**83.93**	**28**	*e*P	**P**	**15 51 54.3**	**+1.3**
comp=Z,7.7nm,1.0s,mb4.4							
MCK	**McKinley**	**84.22**	**26**	*e*P	**P**	**15 51 54.6**	**+0.2**
comp=Z,2.2nm,0.9s,mb3.9							
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**15 51 58.2**	**-0.9**
comp=Z,0.4nm,0.4s,mb3.5,baz=251,slow=4.9,SNR=13							
ARCES	**ARCESS Array B**	**91.77**	**340**	P	**P**	**15 52 28.9**	**-1.5**
comp=Z,0.9nm,0.6s,mb4.0,baz=84,slow=5.4,SNR=8.3							
SYO	**Syowa Base**	**92.21**	**201⇓**	*e*PP	PP	15 56 18.8	+3.6
SYO	**Syowa Base**	**92.21**	**201⇑**	*e*PKiKP	PKiKP	15 57 21.7	+0.7
YKA	**Yellowknife Ar**	**99.61**	**25**	P	Pdif	15 53 06.4	+0.4
comp=Z,0.3nm,0.5s,baz=295,slow=4.5,SNR=7.0							
YKA	**Yellowknife Ar**	**99.61**	**25**	P	Pdif	15 53 06.4	+0.4
TORD	**Torodi Ar. Bea**	**124.66**	**288**	PKP	PKPdf	15 58 22.6	+1.5
comp=Z,0.8nm,0.7s,baz=56,slow=1.4,SNR=4.8							
CFAA	**Coronel Fontan**	**147.47**	**153**	PKPbc	PKPbc	15 59 07.8	+2.0

*IDC **31** 15:43:51.8±0.8, 2986S×17672W, h0km, mb4.5/7, mb1 4.6/10, mb1mx4.4/17, mbtmp4.5/10, ML4.1/3, Error ellipse: s-maj=27.7km s-min=17.8km az=156.0*
*NEIC **31** 15:43:53.2±0.5, 2984S×17675W, h10km, mb5.0/12, Error ellipse: s-maj=12.2km s-min=8.9km az=155.0*
*BJI **31** 15:43:53.2, 2980S×17670W, h10km, mB5.9, mb5.0, Ms5.2, Msz4.9*
*HRVD **31** 15:43:53.2±0.7, 3001S×17643W, h36km±1km, MW5.5/33, Centroid moment Tensor Solution. LP body waves: s27,c28;Mantle waves: s33,c36; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.92±.17; $M_{\theta\theta}$-0.16±.11; $M_{\phi\phi}$-1.76±.13; $M_{r\theta}$-0.32±.17; $M_{\theta\phi}$0.19±.12; $M_{\phi r}$-0.12±.14; Best double couple: $M_0$1.87800×10^{17} NP1:ϕ_s345.00000°, δ44.00000°, λ77.00000°. NP2: ϕ_s182.00000°, δ47.00000°, λ102.00000°. Principal axes: T 1.9730, Plg81.0000°, Azm165.0000°; N -0.1900, Plg9.0000°, Azm354.0000°; P -1.7830, Plg1.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **31** 15:43:55.1±3.6, 2990S±006×17686W±009, h26km±25km, mb4.9/23, MS5.2/2 Error ellipse: s-maj=12.7km s-min=10.6km az=31.8*
*MOS **31** 15:43:56.6±1.3, 2952S×17684W, h33km, mb5.0/6, Error ellipse: s-maj=24.5km s-min=14.9km az=4.7*
ISC 31 15:43:54.0±2.8, 2980S±006×**17682W**±007, **h8**km±17km, **n66**, σ1§**09**/44, **mb4.9**/23, **MS5.2**/2, **5C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**299**	Pn	**Pn**	**15 44 16.4**	**+0.8**
339nm,0.3s,baz=70,slow=18,SNR=38							
RAO	**Raoul Island**	**1.10**	**299**	*e*P	**Pb**	**15 44 15.5**	**+0.3**
URZ	**Urewera**	**9.82**	**209**	Pn	**Pn**	**15 46 13.1**	**-2.3**
0.3nm,0.3s,baz=294,slow=11,SNR=4.3							
URZ				Sn	**Sn**	**15 48 05.2**	**-0.7**
3.5nm,0.3s,baz=220,slow=14,SNR=7.0							
DZM	**Mont Dzumac**	**16.89**	**293**	Pn	**Pn**	**15 47 55.9**	**+5.3**
1.1nm,0.3s,baz=93,slow=19,SNR=14							
DZM				Sn	**Sn**	**15 50 57.5**	**-1.0**
0.1nm,0.3s,baz=320,slow=20,SNR=2.3							
RPZ	**Rata Peaks**	**16.92**	**212**	Pn	**Pn**	**15 47 51.8**	**+0.8**
1.5nm,0.3s,baz=33,slow=1.6,SNR=12							
RPZ				Sn	**Sn**	**15 50 44.6**	**-15**
0.2nm,0.3s,baz=10,slow=18,SNR=2.6							
RAR

NJ2			AP	pP	15 56 48.0	+7.2
NJ2			XP	sP	15 56 51.8	+10
NJ2			PP	PP	16 00 00.8	+0.9
NJ2			S		16 07 09.0	
NJ2			XS	sS	16 07 26.0	+6.2
NJ2			AMB	AMB		
comp=Z,20nm,0.5s,mb5.6						
NJ2			AMB	AMB		
comp=Z,210nm,10.3s						
NJ2			LR	LR		
comp=N,140nm,22.3s						
NJ2			LR	LR		
comp=E,288nm,28.1s						
NJ2			LR	LR		
comp=Z,160nm,16.1s						
NVAR	**Mina Array Bea**	**87.11 42**	P	**P**	**15 56 40.3**	**0.0**
comp=Z,1.5nm,0.9s,mb4.2,baz=205,slow=4.2,SNR=7.7						
MOD	**Modoc**	**88.34 39**	P	**P**	**15 56 44.5**	**-1.7**
comp=Z,7.8nm,0.7s,mb5.0						
MDJ	**Mudanjiang**	**88.72 325**	P	**P**	**15 56 48.0**	**+0.1**
MDJ			AMB	AMB		
comp=Z,10.0nm,0.9s,mb5.2						
MDJ			AMB	AMB		
comp=Z,1μm,11.4s						
MDJ	**Mudanjiang**	**88.72 325**	P	**P**	**15 56 48.1**	**+0.1**
comp=Z,21nm,1.3s,mb5.3						
HABR	**Khabarovsk**	**89.02 330**	*e*P	**P**	**15 56 49.3**	**-0.1**
HABR			pmax	pmax		
comp=Z,15nm,1.2s,mb5.2						
ENH	**Enshi**	**92.11 304**	*e*P	**P**	**15 57 04.1**	**+0.3**
comp=Z,11nm,0.9s,mb5.2						
ENH			*e*		15 57 13.2	
KMI	**Kunming**	**94.47 296**	P	**P**	**15 57 15.5**	**+0.9**
KMI			AP	pP	15 57 25.8	+8.4
KMI			XP	sP	15 57 29.8	+11
KMI			AMB	AMB		
comp=Z,6.0nm,1.2s,mb4.9						
HHC	**Hu-ho-hao-te**	**96.56 314**	*e*P	**P**	**15 57 25.3**	**+1.1**
HHC			PP	PP	16 01 21.5	+3.2
HHC			SKS		16 07 57.0	
HHC			S		16 08 38.3	
HHC			SS	SS	16 15 16.8	-2.1
HHC			AMB	AMB		
comp=Z,12nm,0.4s,mb5.7						
HHC			LR	LR		
comp=N,315nm,17.2s,MS5.2						
HHC			LR	LR		
comp=E,509nm,12.3s,MS5.2						
HHC			LR	LR		
comp=Z,337nm,16.7s,MS4.9						
LZH	**Lanzhou**	**99.19 306**	*e*P	**P**	**15 57 39.0**	**+3.0**
LZH			PP	PP	16 01 43.5	+5.0
LZH			*e*SKS		16 08 15.0	
LZH			*e*S		16 09 06.0	
LZH			XS	sS	16 09 22.0	+10
LZH			SS	SS	16 15 58.0	+2.1
LZH			AMB	AMB		
comp=Z,13nm,1.0s,mb5.4						
LZH			LR	LR		
comp=N,570nm,16.8s						
LZH			LR	LR		
comp=Z,860nm,18.5s,MS5.3						
MKAR	**Makanchi Array**	**118.17 310**	PKP	PKPdf	16 02 39.2	-2.3
comp=Z,0.3nm,0.6s,baz=166,slow=1.9,SNR=4.7						
NVS	**Novosibirsk**	**119.35 319**	*e*PKIKP	PKPdf	16 02 51.9	+8.1
KURK	**Kurchatov**	**121.37 314**	⇑*i*PKIKP	PKPdf	16 02 46.8	-0.9
BVAR	**Borovoye Array**	**126.69 316**	PKP	PKPdf	16 02 56.3	-1.6
comp=Z,1.1nm,0.6s,baz=64,slow=3.4,SNR=6.8						
KAF	**Kangasniemi**	**144.31 342**	*e*pkp	PKPdf	16 03 25.3	-5.2
GNI	**Garni**	**144.69 298**	⇑*i*PKIKP	PKPdf	16 03 31.6	+0.4
FINES	**FINESS Array B**	**144.92 341**	PKPbc	PKPdf	16 03 28.8	-2.8
comp=Z,5.3nm,0.6s,baz=71,slow=3.4,SNR=30						
FINES	**FINESS Array B**	**144.92 341**	*i* PKIKP	PKPdf	16 03 28.7	-2.9
FINES			pmax	pmax		
comp=Z,5.0nm,0.6s						
ZEI	**Tsey**	**145.05 303**	*i* PKIKP	PKPdf	16 03 30.8	-1.0
OBN	**Obninsk**	**145.25 326**	⇑*i*PKIKP	PKPdf	16 03 30.9	-1.3
OBN			*e*		16 06 49.7	
OBN			*e*		16 10 38.3	
OBN			pmax	pmax		
comp=Z,15nm,1.1s						
GOF	**Gofitskoye**	**145.26 307**	*e*PKP2	PKPab	16 03 29.5	-2.5
KIV	**Kislovodsk**	**145.72 305**	⇑*i*PKIKP	PKPdf	16 03 31.1	-1.9
KIV			*e*		16 06 53.8	
KIV			*e*		16 10 37.6	
KIV			pmax	pmax		
comp=Z,10.0nm,1.1s						
VRSR	**Storozhevoye**	**145.75 319**	*e*PKP2	PKPab	16 03 32.0	-1.8
VRSR			pmax	pmax		
comp=Z,3.0nm,0.9s						
VRSR			pmax	pmax		
comp=N,2.0nm,1.6s						
VRSR			pmax	pmax		
comp=E,2.0nm,1.8s						
NB2	**NORSAR Subarra**	**148.30 353**	PKPa		16 03 38.8	
comp=Z,12nm,1.4s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**148.30 353**	PKPbc	PKPbc	16 03 39.1	-1.6
comp=Z,3.6nm,1.0s,baz=16,slow=4.6,SNR=5.3						
HFS	**Hagfors**	**148.85 350**	PKPbc	PKPbc	16 03 40.7	-1.4
comp=Z,3.5nm,0.8s,baz=56,slow=5.6,SNR=5.8						
GZT	**Gaziantep**	**150.50 294**	*i* P	PKPbc	16 03 47.1	+1.0
AKASG	**Malin Array Be**	**151.43 324**	PKPbc	PKPbc	16 03 47.1	-1.2
comp=Z,4.4nm,0.6s,baz=47,slow=2.1,SNR=19						
AKASG	**Malin Array Be**	**151.43 324**	*i* PKIKP	PKPbc	16 03 47.2	-1.1
AKASG			pmax	pmax		
comp=Z,4.0nm,0.6s						
COBT	**Iskenderun**	**151.60 292**	*i* P	PKPbc	16 03 48.2	-0.5
BOYT	**Boyabat**	**151.87 303**	*i* P	PKPab	16 03 56.9	-1.6
CTKT	**Corum**	**152.14 301**	*i* P	PKPdf	16 03 45.0	+1.7
BRTR	**Keskin Array B**	**153.20 300**	PKPbc	PKPbc	16 03 51.9	-0.4
comp=Z,2.0nm,1.0s,baz=143,slow=2.5,SNR=9.3						
BRTR			PKPab	PKPab	16 04 05.0	+1.1
comp=Z,2.5nm,0.7s,baz=116,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**153.20 300**	*i* PKIKP	PKPdf	16 03 50.5	+5.6
BRTR			pmax	pmax		
comp=Z,2.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**163.37 175**	PKP	PKPdf	16 03 58.1	+0.9
comp=Z,0.9nm,1.1s,baz=323,slow=3.7,SNR=4.3						
TORD			PKPab	PKPab	16 04 50.9	+2.9
comp=Z,1.2nm,0.9s,baz=181,slow=3.1,SNR=4.1						

IDC 31 15:54:42.0±3.0, 2945S×17677W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.7/13, mbtmp3.6/3, Error ellipse: s-maj=101.7km s-min=48.4km az=8.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.02 281**		Pn	Pn	15 55 03.2	-0.3
64nm,0.3s,baz=265,slow=23,SNR=2.7							
STKA	**Stephens Creek**	**35.74 255**		P	P	16 01 41.6	-0.8
2.3nm,0.9s,baz=105,slow=12,SNR=3.3							
ASAR	**Alice Springs**	**44.24 265**		P	P	16 02 53.7	+0.7
0.2nm,0.4s,baz=106,slow=6.8,SNR=6.8							
WRA	**Warramunga Arr**	**45.14 271**		P	P	16 03 00.9	+0.7
0.4nm,0.5s,baz=111,slow=7.4,SNR=14							
FINES	**FINESS Array B**	**144.61 341**		PKP	PKPdf	16 14 18.9	-1.6
0.5nm,0.7s,baz=36,slow=5.2,SNR=5.5							

*IDC **31** 16:03:56.1±0.8, 936N×12554E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, Error ellipse: s-maj=45.5km s-min=15.5km az=74.0*
*MAN **31** 16:03:58.0, 930N×12546E, h1km, mb4.2, ML5.1, MS1.4*
*ISCJB **31** 16:03:58.3±0.8, 933N×003×12560E±004, h24km±6km, mb4.0/16, Error ellipse: s-maj=6.4km s-min=5.3km az=9.0*
*NEIC **31** 16:04:02.3±2.3, 935N×12552E, h46km±21km, mb4.3/7, Error ellipse: s-maj=28.1km s-min=10.9km az=72.0*
ISC 31 16:03:58.7±0.8, 935N×003×12557E±004, h14km±5km, n40, σ1§17/47, mb4.0/16, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.38 172**		*e*P	**Pg**	**16 04 05.0**	**-1.3**
SCPH	**Surigao**	**0.44 350**		*e*P	**Pg**	**16 04 07.2**	**-0.2**
SCPH				*e*S	**Sg**	**16 04 14.4**	**+1.1**
MSLP	**Maasin**	**1.05 318**		*e*P	**Pb**	**16 04 17.7**	**-0.8**
CGP	**Cagayan de Oro**	**1.23 224**		‖*e*P	**Pn**	**16 04 20.0**	**-1.5**
CGP				*i* S	**Sb**	**16 04 37.3**	**-0.2**
BUKP	**Musuan**	**1.54 199**		*e*P	**Pn**	**16 04 25.4**	**-0.3**
BUKP				*e*S	**Sn**	**16 04 48.0**	**+2.5**
TBP	**Tagbilaran**	**1.71 282**		*e*P	**Pn**	**16 04 27.0**	**-1.1**
TBP				*e*S	**Sn**	**16 04 49.2**	**-0.6**
LLP	**Lapu-Lapu**	**1.85 302**		‖*e*P	**Pn**	**16 04 29.4**	**-0.5**
LLP				*e*S	**Sn**	**16 04 51.2**	**-1.8**
PLP	**Palo**	**1.90 342**		*e*P	**Pn**	**16 04 32.2**	**+1.6**
PLP				*e*S	**Sn**	**16 04 58.0**	**+3.7**
BESP	**Borongan**	**2.25 357**		*e*P	**Pn**	**16 04 37.7**	**+2.4**
DAV	**Davao City (W)**	**2.26 180**		*e*Pn	**Pn**	**16 04 37.6**	**+2.0**
SNPH	**Sibulan**	**2.30 270**		*e*P	**Pn**	**16 04 37.0**	**+0.9**
DCPH	**Dipolog City**	**2.31 251**		‖*e*P	**Pn**	**16 04 36.6**	**+0.3**
DCPH				*i* S	**Sn**	**16 05 04.9**	**+0.4**
CTBH	**Cotabato--PC H**	**2.48 212**		⇑*e*P	**Pn**	**16 04 37.9**	**-0.7**
CTBH				*i* S	**Sn**	**16 05 00.6**	**-8.1**
PAGZ	**Pagadian**	**2.62 236**		*e*P	**Pn**	**16 04 41.1**	**+0.5**
GUIM	**Jordan**	**3.20 294**		*e*P	**Pn**	**16 04 48.9**	**+0.5**
CNP	**Catarman**	**3.27 344**		*e*P	**Pn**	**16 04 50.4**	**+1.0**
IPIL	**Ipil**	**3.34 243**		*e*P	**Sn**	**16 05 31.4**	**+1.5**
PVCP	**Virac**	**4.45 342**		*e*P	**Pn**	**16 05 09.9**	**+4.3**
ENPP	**El Nido**	**6.32 288**		*e*P	**Pn**	**16 05 31.8**	**+0.4**
CAUP	**Cauayan**	**8.38 335**		*e*P	**Pn**	**16 06 04.9**	**+5.2**
FITZ	**Fitzroy Crossi**	**27.27 180**		P	**P**	**16 09 43.7**	**+1.2**
1.7nm,0.7s,mb3.7,baz=338,slow=19,SNR=4.2							
WRAB	**Tennant Creek**	**30.35 163**		P	**P**	**16 10 10.1**	**+0.2**
9.2nm,1.2s,mb4.4							
WRA	**Warramunga Arr**	**30.36 164**		P	**P**	**16 10 08.2**	**-1.7**
0.3nm,0.5s,mb3.3,baz=341,slow=9.9,SNR=6.2							
MBWA	**Marble Bar**	**30.85 191**		*e*P	**P**	**16 10 15.6**	**+1.3**
4.3nm,0.7s,mb4.4							
ASAR	**Alice Springs**	**33.81 166**		P	**P**	**16 10 38.9**	**-1.3**
0.4nm,0.5s,mb3.6,baz=349,slow=7.0,SNR=16							
SONM	**Songino Array**	**41.65 341**		P	**P**	**16 11 45.9**	**-0.6**
0.3nm,1.1s,baz=145,slow=8.6,SNR=2.3							
STKA	**Stephens Creek**	**43.76 160**		P	**P**	**16 12 04.4**	**+0.7**
1.4nm,0.7s,mb3.8,baz=302,slow=15,SNR=3.0							
STKA	**Stephens Creek**	**43.76 160**		*e*P	**P**	**16 12 02.3**	**-1.4**
DZM	**Mont Dzumac**	**50.81 128**		P	**P**	**16 12 59.9**	**+1.4**
3.1nm,0.9s,mb4.2,baz=290,slow=17,SNR=4.2							
MKAR	**Makanchi Array**	**52.34 323**		P	**P**	**16 13 09.9**	**-0.1**
0.8nm,0.6s,mb3.8,baz=124,slow=8.4,SNR=9.0							
KURK	**Kurchatov**	**56.44 326**		*e*P	**P**	**16 13 38.6**	**-1.2**
4.5nm,1.1s,mb4.4							
ZRNK	**Zerenda**	**62.77 325**		*e*P	**P**	**16 14 21.7**	**-1.8**
1.3nm,0.7s,mb4.2							
OUZ	**Omahuta**	**63.40 137**		*e*PN	**P**	**16 14 23.0**	**-4.6**
PMR	**Palmer**	**79.61 29**		P	**P**	**16 16 05.7**	**+0.3**
5.2nm,0.6s,mb4.6							
MCK	**McKinley**	**79.69 27**		P	**P**	**16 16 04.1**	**-1.7**
2.2nm,0.9s,mb4.1							
ILAR	**Eielson Array**	**80.57 26**		P	**P**	**16 16 09.5**	**-1.1**
0.4nm,0.7s,mb3.5,baz=256,slow=4.4,SNR=11							
ARCES	**ARCESS Array B**	**84.81 340**		P	**P**	**16 16 31.6**	**-1.0**
3.7nm,1.1s,mb4.4,baz=104,slow=3.9,SNR=3.9							
RES	**Resolute Bay**	**92.52 10**		P	**P**	**16 17 10.6**	**+1.1**
0.8nm,0.7s,mb4.3							
YKA	**Yellowknife Ar**	**94.88 24**		P	**P**	**16 17 20.2**	**0.0**
0.4nm,0.7s,mb4.0,baz=299,slow=4.6,SNR=11							
PLCA	**Paso Flores**	**145.63 158**		PKPbc	PKPbc	16 23 37.4	+0.6
1.3nm,0.7s,baz=85,slow=15,SNR=4.4							

*ISCJB **31** 16:11:52.4±2.2, 2999S×004×17671W±007, h7km±13km, mb5.0/27, MS4.8/4, Error ellipse: s-maj=9.8km s-min=6.5km az=23.3*
*IDC **31** 16:11:52.3±0.7, 2986S×17668W, h0km, mb4.5/8, mb1 4.7/12, mb1mx4.6/17, mbtmp4.6/12, ML4.3/3, Error ellipse: s-maj=19.9km s-min=16.6km az=153.0*
*BJI **31** 16:11:53.7, 2959S×17651W, h13km, mB5.7, mb5.1, Ms5.3, Msz5.0*
*NEIC **31** 16:11:54.1±0.4, 2983S×17672W, h10km, mb5.1/14, Error ellipse: s-maj=12.3km s-min=9.1km az=136.0*
*MOS **31** 16:11:58.3±1.4, 2962S×17692W, h33km, mb4.9/4, Error ellipse: s-maj=17.3km s-min=14.7km az=122.1*
ISC 31 16:11:53.4±1.8, 2991S±004×17674W±007, h1km±10km, n98, σ1§20/63, mb5.1/27, MS4.8/4, 5C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.22 302**		Pn	**Pn**	**16 12 17.4**	**-0.2**
651nm,0.3s,baz=218,slow=23,SNR=52							
RAO				Sn	**Sn**	**16 12 34.1**	**-0.5**
2μm,0.3s,baz=83,slow=23,SNR=18							
RAO	**Raoul Island**	**1.22 302**		*e*P	**Pg**	**16 12 16.8**	**0.0**
URZ	**Urewera**	**9.77 210**		Pn	**Pn**	**16 14 15.4**	**+0.5**
1.0nm,0.3s,baz=28,slow=7.6,SNR=8.0							
URZ				Sn	**Sn**	**16 16 06.9**	**+1.7**
3.4nm,0.3s,baz=254,slow=17,SNR=7.2							
PXZ	**Pawanui**	**11.38 206**		SN	**Sn**	**16 16 44.0**	**-0.8**
TSZ	**Takapari Road**	**11.76 209**		SN	**Sn**	**16 16 52.1**	**-2.1**
WAZ	**Wanganui**	**11.94 212**		SN	**Sn**	**16 17 01.4**	**+2.8**
MRZ	**Mangatainoka R**	**12.43 208**		SN	**Sn**	**16 17 05.0**	**-5.4**
SNZO	**South Karori**	**13.33 209**		Pn	Px	16 15 16.9	
SNZO				*e*Sn	**Sn**	**16 17 27.3**	**-5.2**
TCW	**Tory Channel**	**13.44 210**		SN	**Sn**	**16 17 30.5**	**-4.6**
TUWZ	**Tuamarina**	**13.76 211**		SN	**Sn**	**16 17 37.2**	**-5.8**
QRZ	**Quartz Range**	**13.97 216**		*e*PN	**Pn**	**16 15 19.6**	**+7.2**
THZ	**Tophouse**	**14.50 213**		*e*PN	**Pn**	**16 15 17.8**	**-1.8**
THZ				SN	**Sn**	**16 17 53.1**	**-7.9**
AFI	**Afiamalu**	**16.57 17**		Pn	**Pn**	**16 15 47.0**	**+0.1**
1.2nm,0.3s,baz=38,slow=16,SNR=3.3							
RPZ	**Rata Peaks**	**16.87 212**		Pn	**Pn**	**16 15 50.7**	**-0.1**
2.7nm,0.3s,baz=252,slow=0.5,SNR=16							
RPZ				Sn	**Sn**	**16 18 48.2**	**-11**
0.3nm,0.3s,baz=322,slow=23,SNR=3.6							
DZM	**Mont Dzumac**	**17.00 293**		P	**Pn**	**16 15 54.6**	**+2.1**
0.9nm,0.3s,baz=110,slow=15,SNR=18							
RAR	**Rarotonga**	**17.57 64**		P	**Pn**	**16 15 57.1**	**-2.3**
0.9nm,0.3s,baz=244,slow=5.7,SNR=8.2							
RAR				S	Sn	16 18 48.4	-27
0.5nm,0.3s,baz=52,slow=12,SNR=2.3							
ARMA	**Armidale**	**27.32 261**		*e*P	**P**	**16 17 42.8**	**+3.2**
ARMA				*e*S	S	16 21 41.5	-39
CTA	**Charters Tower**	**34.81 278**		*e*P	**P**	**16 18 46.7**	**+1.1**
6.8nm,0.8s,mb4.6							
CTA	**Charters Tower**	**34.81 278**		*e*P	**P**	**16 18 46.7**	**+1.1**
CTA				pmax	pmax		
comp=Z,7.0nm,0.8s							
STKA	**Stephens Creek**	**35.66 256**		*e*P	**P**	**16 18 52.3**	**-0.6**
comp=Z,19nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**35.66 256**		P	**P**	**16 18 52.6**	**-0.3**
comp=Z,22nm,0.7s,mb5.1,baz=93,slow=8.4,SNR=37							
ASAR	**Alice Springs**	**44.23 266**		P	**P**	**16 20 04.0**	**-0.2**
comp=Z,6.2nm,0.7s,mb4.4,baz=106,slow=7.8,SNR=59							
WRAB	**Tennant Creek**	**45.17 271**		P	**P**	**16 20 11.0**	**-0.7**
comp=Z,120nm,0.8s,mb5.9,SNR=7.3							
WRAB	**Tennant Creek**	**45.17 271**		*e*P	**P**	**16 20 11.0**	**-0.7**
comp=Z,28nm,0.9s,mb5.2							
WRAB	**Tennant Creek**	**45.17 271**		*d*P	**P**	**16 20 11.8**	**+0.1**
WRA	**Warramunga Arr**	**45.18 271**		P	**P**	**16 20 11.3**	**-0.4**
comp=Z,16nm,0.8s,mb5.0,baz=109,slow=7.8,SNR=102							
FORT	**Forrest**	**47.23 254**		*e*P	**P**	**16 20 27.9**	**0.0**
comp=Z,19nm,0.7s,mb5.3							
SBA	**Scott Base**	**48.61 185**		*e*P	**P**	**16 20 43.4**	**+4.8**
comp=Z,13nm,1.0s,mb4.9							
SBA	**Scott Base**	**48.61 185**		*e*P	**P**	**16 20 43.4**	**+4.8**
SBA				pmax	pmax		
comp=Z,13nm,1.0s,mb4.9							
VNDA	**Vanda**	**48.70 186**		P	**P**	**16 20 38.4**	**-0.8**
comp=Z,1.0nm,1.1s,baz=9.5,slow=12,SNR=2.1							
FITZ	**Fitzroy Crossi**	**53.46 269**		*e*P	**P**	**16 21 15.2**	**+0.1**
comp=Z,17nm,0.9s,mb5.0							
FITZ	**Fitzroy Crossi**	**53.46 269**		P	**P**	**16 21 15.1**	**0.0**
comp=Z,9.8nm,0.9s,mb4.7,baz=134,slow=9.4,SNR=15							
CASY	**Casey**	**56.09 208**		P	**P**	**16 21 33.6**	**-0.5**
comp=Z,40nm,0.9s,mb5.5							
MBWA	**Marble Bar**	**57.37 263**		P	**P**	**16 21 41.9**	**-1.4**
comp=Z,36nm,1.3s,mb5.2							
QSPA	**South Pole Qui**	**60.20 180**		*e*P	**P**	**16 22 07.1**	**+4.2**
comp=Z,16nm,1.1s,mb5.0							
MAW	**Mawson**	**73.15 200**		*e*P	**P**	**16 23 28.6**	**+3.0**
comp=Z,12nm,1.0s,mb5.0							
MAW	**Mawson**	**73.15 200**		*e*P	**P**	**16 23 28.6**	**+3.0**
MAW				pmax	pmax		
comp=Z,12nm,1.0s							
SYO	**Syowa Base**	**77.84 193**		‖*e*P	**P**	**16 23 53.8**	**+1.3**
MJAR	**Matsushiro Arr**	**78.47 324**		P	**P**	**16 23 54.5**	**-1.6**
comp=Z,4.4nm,0.8s,mb4.6,baz=157,slow=5.7,SNR=8.1							
SNAA	**Sanae**	**78.61 178**		P	**P**	**16 23 59.6**	**+2.8**
PLCA	**Paso Flores**	**82.04 133**		P	**P**	**16 24 19.2**	**+4.0**
comp=Z,6.4nm,1.1s,mb4.7,baz=220,slow=7.3,SNR=4.9							
PLCA	**Paso Flores**	**82.04 133**		P	**P**	**16 24 16.7**	**+1.4**
comp=Z,9.9nm,1.2s,mb4.8							
PLCA	**Paso Flores**	**82.04 133**		P	**P**	**16 24 16.7**	**+1.4**
PLCA				pmax	pmax		
comp=Z,10.0nm,1.2s							
SSE	**Sheshan**	**84.61 310**		*e*P	**P**	**16 24 28.0**	**-0.5**
SSE				AMB	AMB		
comp=Z,36nm,0.8s,mb5.7							
SSE				AMB	AMB		
comp=Z,478nm,12.0s							
YSS	**Yuzh-Sakhalins**	**84.79 333**		*e*P	**P**	**16 24 30.0**	**+0.6**
YSS				*e*		16 24 39.6	
NJ2	**Nanjing**	**86.76 310**		*e*P	**P**	**16 24 38.5**	**-0.7**
NJ2				PP	PP	16 28 02.0	+0.5
NJ2				S		16 35 07.0	
NJ2				XS	sS	16 35 29.0	+11
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.3							
NJ2				AMB	AMB		
comp=Z,300nm,10.6s							
NJ2				LR	LR		
comp=N,620nm,17.0s							
NJ2				LR	LR		
comp=E,2μm,25.2s							
NJ2				LR	LR		
comp=Z,270nm,18.8s,MS4.7							
NVAR	**Mina Array Bea**	**87.14 42**		P	**P**	**16 24 40.5**	**-0.5**
comp=Z,0.6nm,0.4s,mb4.2,baz=199,slow=6.3,SNR=8.1							
MDJ	**Mudanjiang**	**88.85 325**		P	**P**	**16 24 49.0**	**-0.2**
MDJ				AMB	AMB		
comp=Z,10.0nm,1.1s,mb5.0							
MDJ				AMB	AMB		
comp=Z,423nm,8.3s							
MDJ	**Mudanjiang**	**88.85 325**		*e*P	**P**	**16 24 48.7**	**-0.5**
comp=Z,24nm,1.3s,mb5.3							
TRQA	**Tornquist**	**89.00 134**		P	**P**	**16 24 50.9**	**+1.0**
comp=Z,11nm,1.2s,mb5.0							
HABR	**Khabarovsk**	**89.15 330**		*e*P	**P**	**16 24 50.4**	**-0.2**
SNY	**Shenyang**	**90.12 320**		⇑P	**P**	**16 24 58.5**	**+3.4**
SNY				AMB	AMB		
comp=Z,7.0nm,0.5s,mb5.2							
CN2	**Changchun**	**90.42 322**		*e*P	**P**	**16 24 56.5**	**0.0**
CN2				AMB	AMB		
comp=Z,20nm,1.2s,mb5.2							
ENH	**Enshi**	**92.23 304**		*e*P	**P**	**16 25 05.7**	**+0.7**
comp=Z,33nm,1.4s,mb5.5							
ENH				*e*		16 25 14.6	
KMI	**Kunming**	**94.58 296**		*e*P	**P**	**16 25 17.8**	**+2.0**
KMI				AMB	AMB		
comp=Z,8.0nm,1.1s,mb5.1							
HHC	**Hu-ho-hao-te**	**96.68 314**		*e*P	**P**	**16 25 25.3**	**-0.1**
HHC				PP	PP	16 29 22.0	+2.2
HHC				SKS		16 35 56.5	
HHC				S		16 36 38.8	
HHC				SS	SS	16 43 16.5	-5.5
HHC				AMB	AMB		
comp=Z,4.0nm,0.3s,mb5.5							
HHC				AMB	AMB		
comp=Z,459nm,9.3s							
HHC				LR	LR		
comp=N,169nm,6.4s							
HHC				LR	LR		
comp=E,215nm,6.9s							
HHC				LR	LR		
comp=Z,185nm,10.8s,MS4.8							
CD2	**Chengdu**	**96.76 302**		*e*P	**P**	**16 25 26.3**	**+0.6**
CD2				PP	PP	16 29 23.5	+3.1
CD2				SKS		16 35 58.0	
CD2				S		16 36 40.3	
CD2				SS	SS	16 43 19.0	-4.0
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb5.5							
CD2				AMB	AMB		
comp=Z,40nm,5.2s							
CD2				LR	LR		
comp=E,210nm,16.8s							
CD2				LR	LR		
comp=Z,160nm,14.4s,MS4.6							
ILAR	**Eielson Array**	**97.21 12**		P	**P**	**16 25 25.8**	**-2.0**
comp=Z,0.8nm,1.0s,mb4.3,baz=202,slow=6.8,SNR=3.0							
LZH	**Lanzhou**	**99.31 306**		*e*P	**P**	**16 25 36.5**	**-0.7**
LZH				AP		16 25 50.0	
LZH				PP	PP	16 29 41.5	+1.5
LZH				*e*SKS		16 36 11.0	
LZH				*e*S		16 36 59.0	
LZH				SS	SS	16 43 53.0	-5.9
LZH				AMB	AMB		
comp=Z,14nm,1.0s,mb5.7							
LZH				AMB	AMB		
comp=Z,100nm,6.8s							
LZH				LR	LR		
comp=N,370nm,16.8s							
LZH				LR	LR		
comp=Z,660nm,18.5s,MS5.2							
MKAR	**Makanchi Array**	**118.29 310**		PKP	PKPdf	16 30 39.7	-2.7
comp=Z,1.0nm,0.8s,baz=84,slow=4.5,SNR=5.8							
NVS	**Novosibirsk**	**119.48 319**		*e*PKIKP	PKPdf	16 30 42.6	-2.1
KURK	**Kurchatov**	**121.50 314**		⇑*i*PKIKP	PKPdf	16 30 48.1	-0.5
ARU	**Arti**	**133.40 321**		*i* PKIKP	PKPdf	16 31 10.2	-1.1
ARCES	**ARCESS Array B**	**138.33 348**		PKP	PKPdf	16 31 17.4	-3.1
comp=Z,3.5nm,0.9s,baz=309,slow=20,SNR=4.1							
KLMR	**Klimovskoe**	**140.84 333**		*i* PKIKP	PKPdf	16 31 26.4	+1.4
KLMR				pmax	pmax		
comp=Z,10.0nm,1.4s							
JOF	**Joensuu**	**142.35 339**		*e*pkp	PKPdf	16 31 21.9	-5.8
KAF	**Kangasniemi**	**144.44 342**		*e*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.20**	**278**	P	Pn	16 14 58.9	+1.0
	19nm,0.3s,baz=99,slow=5.6,SNR=476						
LVC				S	S	16 15 31.4	+0.7
	12nm,0.3s,baz=265,slow=22,SNR=4.8						
LPAZ	**La Paz**	**6.78**	**347**	P	Pn	16 15 55.0	+1.5
	2.9nm,0.3s,baz=152,slow=7.4,SNR=40						
SIV	**San Ignacio**	**8.63**	**38**	P	Pn	16 16 16.2	-1.2
	0.3nm,0.3s,baz=214,slow=9.8,SNR=9.6						
PLCA	**Paso Flores**	**18.06**	**190**	P	P	16 18 11.2	-0.1
	0.1nm,0.3s,baz=6.0,slow=10,SNR=3.5						
TORD	**Torodi Ar. Bea**	**75.81**	**69**	P	P	16 25 39.4	+1.4
	0.3nm,0.3s,baz=247,slow=5.5,SNR=6.4						
MKAR	**Makanchi Array**	**145.44**	**39**	PKPbc	PKPbc	16 33 26.8	-1.6
	0.6nm,0.6s,baz=322,slow=3.4,SNR=6.3						

MAN 31 16:50:22.4, 15.14N×12002E, h1km, mb2.0, ML3.7, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.64**	**350**	*e*P	Pg	16 50 34.7	+0.1
BCPH	**Baguio City Da**	**1.34**	**23**	*e*P	Pg	16 50 48.5	+0.4
BCPH				*e*S	Sg	16 51 04.9	-0.7
BALP	**Baler**	**1.61**	**68**	*e*P	Pn	16 50 51.8	-0.2
POLP	**Polilio Island**	**1.90**	**102**	*e*P	Pn	16 50 56.3	+0.4
CAUP	**Cauayan**	**2.49**	**44**	*e*P	Pn	16 51 06.8	+2.8
APYP	**Conner**	**2.95**	**23**	*e*P	Pn	16 51 17.0	+6.7

NIED ***31*** *17:51:00, 20.10N×12170E, h41km, Mw4.5 Best double couple: M0=5.39000×10^15 NP1:φ=189.00000°, δ75.00000°, λ96.00000°. NP2:φ=348.00000°, δ16.00000°, λ70.00000°.*
MAN ***31*** *17:51:18.0, 2023N×12137E, h55km, mb3.6, ML4.7, MS5.9*
IDC ***31*** *17:51:19.9±3.3, 1965N×12153E, h16km±19km, mb4.2/16, mb1 4.4/17, mb1mx4.3/25, mbtmp4.4/17, ML4.8/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/30, Error ellipse: s-maj=24.0km s-min=11.5km az=78.0*
MOS ***31*** *17:51:20.9±0.9, 1966N×12158E, h33km, mb4.5/15, Error ellipse: s-maj=20.9km s-min=9.2km az=102.8*
ISCJB ***31*** *17:51:23.8±0.3, 1978N±002×12162E±004, h58km±4km, mb4.4/45, MS3.9/12, Error ellipse: s-maj=6.0km s-min=2.8km az=36.1*
NEIC ***31*** *17:51:23.8±0.8, 1966N×12154E, h46km±7km, mb4.4/26, Error ellipse: s-maj=9.4km s-min=4.9km az=83.0*
BJI ***31*** *17:51:25.5, 1988N×12120E, h46km, mB4.6, mb4.3, ML3.9, Ms3.9, Msz3.7*
ISC 31 17:51:25.4±0.3, 1977N±002×12155E±004, h57km±3km, h66km±4.4km:pP-P, n145, σ1§24/158, mb4.4/45, MS3.9/12, 10C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.59**	**163**	*e*P	Pn	17 51 51.5	+0.3
PIP	**Pasuquin**	**1.68**	**212**	⇓*i*P	Pn	17 51 50.3	-2.1
PIP				*e*S	Sn	17 52 11.0	-1.9
APYP	**Conner**	**1.92**	**189**	*e*P	Pn	17 51 54.5	-1.1
CVP	**Callao Caves**	**2.07**	**173**	*i* P	Pn	17 51 58.5	+0.8
CVP				*i* S	Sn	17 52 12.5	-10
ABRA	**Dolores**	**2.25**	**201**	*e*P	Pn	17 51 59.5	-0.7
PALP	**Palanan**	**2.82**	**163**	*e*P	Pn	17 52 08.9	+1.0
CAUP	**Cauayan**	**2.82**	**175**	*e*P	Pn	17 52 10.2	+2.3
BCPH	**Baguio City Da**	**3.49**	**195**	⇑*e*P	Pn	17 52 17.5	+0.3
BCPH				*i* S	Sn	17 53 01.3	+4.0
BOLP	**Bolinao**	**3.71**	**205**	*e*P	Pn	17 52 17.9	-2.3
SCZP	**Santa Cruz**	**4.26**	**202**	*e*P	Pn	17 52 28.1	+0.4
NACB	**Ninganchiao**	**4.38**	**1**	*e*Pn	Pn	17 52 28.9	-0.5
HATJ	**Hateruma jima**	**4.75**	**26**	P	Pn	17 52 34.8	+0.3
HATJ				*e*S	Sn	17 53 26.9	-1.4
YOJ	**Yonaguni jima**	**4.86**	**16**	P	Pn	17 52 36.4	+0.4
YOJ				*e*S	Sn	17 53 30.9	0.0
YHNB	**Yeheng**	**4.88**	**358**	*e*Pn	Pn	17 52 36.0	-0.2
IRIF	**Iriomote-Funau**	**4.97**	**24**	P	Pn	17 52 37.1	-0.4
IRIF				*e*S	Sn	17 53 33.4	-0.3
JKRS	**Kuro-shima**	**5.00**	**27**	P	Pn	17 52 38.0	+0.2
JKRS				*e*S	Sn	17 53 33.8	-0.5
POLP	**Polilio Island**	**5.03**	**176**	*e*P	Pn	17 52 41.6	+3.5
JIJ	**Ishigaki jima**	**5.17**	**27**	P	Pn	17 52 39.8	-0.3
JIJ				*e*S	Sn	17 53 36.0	-2.4
TATO	**Taipei**	**5.18**	**359**	*e*Pn	Pn	17 52 42.0	+1.7
	104nm,0.9s						
LQP	**Lukban**	**5.62**	**180**	*e*P	Pn	17 52 54.4	+8.1
JTJ	**Tarama**	**5.66**	**31**	P	Pn	17 52 47.5	+0.6
JTJ				*e*S	Sn	17 53 49.4	-1.1
TGY	**Tagaytay City**	**5.66**	**186**	Pn	Pn	17 52 50.1	+3.1
	17nm,0.3s,baz=115,slow=22,SNR=3.9						
TGY	**Tagaytay City**	**5.66**	**186**	P	Pn	17 52 50.1	+3.2
TGY				pmax	pmax		
	comp=Z,17nm,0.3s						
QZH	**Quanzhou**	**5.83**	**333**	P	Pn	17 52 44.8	-4.4
QZH				Smax			
	comp=N,100nm,0.7s						
QZH				Smax			
	comp=E,100nm,0.6s						
QZH				LR	LR		
	comp=N,1μm,12.2s						
QZH				LR	LR		
	comp=E,830nm,17.0s						
QZH				LR	LR		
	comp=Z,1μm,16.2s						
GQP	**Guinayangan**	**5.89**	**171**	⇑*e*P	Pn	17 52 50.8	+0.7
JMJ	**Miyako jima 2**	**6.10**	**34**	P	Pn	17 52 53.9	+1.0
JOGS	**Gusukube**	**6.12**	**35**	P	Pn	17 52 54.7	+1.5
JOGS				*e*S	Sn	17 54 02.6	+0.8
LUBP	**Lubang**	**6.13**	**192**	*e*P	Pn	17 52 57.0	+3.8
PVCP	**Virac**	**6.63**	**157**	*e*P	Pn	17 53 01.9	+1.8
SJMP	**San Jose**	**7.28**	**183**	*e*P	Pn	17 53 11.5	+2.5
BUSP	**Coron**	**7.83**	**190**	*e*P	Pn	17 53 17.5	+1.0
JKE	**Kume jima 2**	**8.12**	**35**	P	Pn	17 53 21.0	+0.5
GZH	**Guangzhou**	**8.32**	**295**	P	Pn	17 53 16.8	-6.5
JJT2	**Tamagusuku 2**	**8.53**	**41**	P	Pn	17 53 27.2	+1.0
JAGN	**Aguni-jima**	**8.57**	**37**	P	Pn	17 53 27.6	+0.8
JAGN				*e*S	Sn	17 55 01.9	-0.1
ENPP	**El Nido**	**8.75**	**194**	*e*P	Pn	17 53 29.6	+0.4
JIH	**Iheya**	**9.33**	**38**	P	Pn	17 53 37.1	0.0
JIH				*e*S	Sn	17 55 18.0	-2.5
JOW	**Kunigami**	**9.36**	**40**	Pn	Pn	17 53 37.5	0.0
	comp=Z,21nm,0.3s,baz=192,slow=13,SNR=89						
JOW				LR	LR	17 57 46.9	
	comp=Z,204nm,18.2s,baz=301,slow=41						
JOW	**Kunigami**	**9.36**	**40**	P	Pn	17 53 36.9	-0.6
JOW				*e*S	Sn	17 55 20.1	-1.2
JTK	**Tokunoshima**	**10.47**	**39**	P	Pn	17 53 51.6	-1.1
JMZ	**Minamidaito 2**	**10.76**	**54**	P	Pn	17 53 54.6	-2.1
JMZ				*e*S	Sn	17 55 49.9	-5.7
QIZ	**Qiongzhong**	**11.07**	**268**	P	Pn	17 53 55.3	-5.6
QIZ				S	Sn	17 55 50.5	-13
QIZ				LR	LR		
	comp=N,245nm,14.4s						
QIZ				LR	LR		
	comp=E,360nm,15.6s						
QIZ				LR	LR		
	comp=Z,413nm,15.6s						
QIZ	**Qiongzhong**	**11.07**	**268**	*e*Pn	Pn	17 53 55.9	-5.0
	comp=Z,42nm,0.8s						
QIZ				*e*Sn	Sn	17 55 48.2	-15
SSE	**Sheshan**	**11.28**	**358**	*e*P	Pn	17 54 03.0	-0.8
SSE				XP		17 54 21.0	
SSE				S	Sn	17 56 09.8	+1.5
SSE				AMB	AMB		
	comp=Z,58nm,8.5s						
SSE				LR	LR		
	comp=N,232nm,17.1s						
SSE				LR	LR		
	comp=E,105nm,17.1s						
SSE				LR	LR		
	comp=Z,300nm,15.7s						
JAM	**Amami Oshima**	**11.32**	**39**	P	Pn	17 54 03.4	-0.9
NJ2	**Nanjing**	**12.47**	**349**	*e*P	Pn	17 54 22.0	+2.0
NJ2				AP		17 54 30.3	
NJ2				PP		17 54 33.0	
NJ2				XP		17 54 37.0	
NJ2				S	Sn	17 56 43.0	+5.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,50nm,4.6s						
NJ2				LR	LR		
	comp=N,320nm,16.7s						
NJ2				LR	LR		
	comp=E,870nm,18.3s						
NJ2				LR	LR		
	comp=Z,350nm,23.7s						
KKM	**Kota Kinabalu**	**14.59**	**202**	P	Pn	17 54 46.2	-2.4
ENH	**Enshi**	**15.12**	**316**	*e*P	Pn	17 54 53.3	-2.1
	comp=Z,10.0nm,0.8s						
GYA	**Guiyang**	**15.22**	**299**	⇑*i*P	Pn	17 54 54.0	-2.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.8s						
XAN	**Xi'an**	**18.11**	**324**	P	Pn	17 55 32.0	-0.8
XAN				S	S	17 58 54.0	-3.0
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s						
XAN				AMB	AMB		
	comp=Z,93nm,9.0s						
XAN				LR	LR		
	comp=N,239nm,18.2s						
XAN				LR	LR		
	comp=E,181nm,16.6s						
XAN				LR	LR		
	comp=Z,239nm,17.4s						
KMI	**Kunming**	**18.18**	**290**	P	Pn	17 55 35.2	+1.6
KMI				AP	pP	17 55 41.2	-4.4
KMI				XP	sP	17 55 47.7	-5.1
KMI				S	S	17 58 54.6	-3.8
KMI				XS	sS	17 59 04.4	-14
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s						
KMI				LR	LR		
	comp=N,185nm,15.0s						
KMI				LR	LR		
	comp=E,335nm,15.0s						
KMI				LR	LR		
	comp=Z,422nm,16.9s						
KS15	**Wonju Array Si**	**18.46**	**16**	*e*P	Pn	17 55 37.0	0.0
CD2	**Chengdu**	**19.51**	**308**	⇑*i*P	Pn	17 55 47.5	-2.1
CD2				AP	pP	17 55 57.8	-2.5
CD2				XP	sP	17 56 04.0	-3.4
CD2				PP		17 56 06.8	
CD2				S	S	17 59 19.5	-5.6
CD2				XS	sS	17 59 35.0	-10
CD2				SS		17 59 47.5	
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
CD2				AMB	AMB		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=E,240nm,14.4s						
CD2				LR	LR		
	comp=Z,290nm,16.8s						
BJT	**Baijiatuau**	**20.70**	**348**	*e*P	P	17 56 03.1	+2.3
	comp=Z,22nm,0.8s						
BJI	**Beijing**	**20.73**	**348**	P	P	17 56 03.3	+2.2
BJI				AMB	AMB		
	comp=Z,30nm,0.8s						
BJI				AMB	AMB		
	comp=Z,93nm,6.6s						
BJI				LR	LR		
	comp=N,199nm,22.4s,MS3.6						
BJI				LR	LR		
	comp=E,195nm,22.4s,MS3.6						
BJI				LR	LR		
	comp=Z,208nm,22.5s,MS3.5						
KSM	**Kuching**	**21.25**	**213**	P	P	17 56 11.2	+4.5
SNY	**Shenyang**	**22.06**	**4**	⇑P	P	17 56 21.0	+5.6
SNY				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.3						
SNY				AMB	AMB		
	comp=Z,140nm,3.6s						
SNY				LR	LR		
	comp=N,343nm,15.3s						
SNY				LR	LR		
	comp=Z,189nm,16.3s,MS3.6						
MAJO	**Matsushiro**	**22.19**	**38**	P	P	17 56 16.4	-0.4
	comp=Z,11nm,1.0s,mb4.2						
MJAR	**Matsushiro Arr**	**22.19**	**38**	P	P	17 56 17.1	+0.3
	comp=Z,3.3nm,0.8s,mb3.8,baz=230,slow=7.1,SNR=8.5						
MJAR	**Matsushiro Arr**	**22.19**	**38**	P	P	17 56 17.1	+0.3
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LZH	**Lanzhou**	**22.50**	**320**	*e*P	P	17 56 20.0	0.0
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.4						
HHC	**Hu-ho-hao-te**	**22.68**	**340**	*e*P	P	17 56 23.3	+1.4
HHC				AP		17 56 34.5	
HHC				XP	sP	17 56 40.3	-1.4
HHC				PP		17 56 53.8	
HHC				PCP	PcP	18 00 14.8	+2.2
HHC				S	S	18 00 25.3	-0.9
HHC				XS	sS	18 00 43.8	-4.5
HHC				SCP	ScP	18 03 47.5	+2.1
HHC				PCS	PcS	18 03 52.8	+1.3
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.5						
HHC				LR	LR		
	comp=N,242nm,16.2s						
HHC				LR	LR		
	comp=Z,250nm,15.5s,MS3.8						
GUMO	**Guam**	**23.16**	**102**	LR	LR	18 03 51.4	
	comp=Z,151nm,19.0s,MS3.5,baz=262,slow=32						
MDJ	**Mudanjiang**	**25.67**	**13**	P	P	17 56 51.5	+1.6
MDJ				S	S	18 01 15.3	+1.0
MDJ				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,102nm,4.6s						
MDJ				LR	LR		
	comp=N,69nm,23.8s						
MDJ				LR	LR		
	comp=E,114nm,18.4s						
MDJ				LR	LR		
	comp=Z,75nm,15.2s						
MDJ	**Mudanjiang**	**25.67**	**13**	*e*P	P	17 56 51.6	+1.8
	comp=Z,8.5nm,0.9s,mb4.3						
ASAJ	**Asahikawa**	**29.97**	**31**	P	P	17 57 28.4	+0.1
	comp=Z,5.4nm,0.9s,mb4.3,baz=226,slow=6.7,SNR=4.6						
ASAJ	**Asahikawa**	**29.97**	**31**	P	P	17 57 28.4	+0.1
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ULN	**Ulaanbaatar**	**30.40**	**341**	*e*P	P	17 57 31.4	-0.7
	comp=Z,2.3nm,0.6s,mb4.1						
ULN	**Ulaanbaatar**	**30.40**	**341**	⇑*e*P	P	17 57 33.7	+1.6
SONM	**Songino Array**	**30.58**	**340**	P	P	17 57 34.4	+0.7
	comp=Z,1.3nm,0.8s,mb3.8,baz=158,slow=8.8,SNR=14						
SONM				PcP	PcP	18 00 32.0	+0.9
	comp=Z,0.2nm,0.3s,baz=142,slow=4.0,SNR=4.4						
SONM				ScP	ScP	18 04 14.9	+6.1
	comp=Z,0.4nm,0.8s,baz=155,slow=4.8,SNR=3.4						
SONM				LR	LR	18 11 21.0	
	comp=Z,84nm,21.4s,MS3.4,baz=301,slow=39						
SONM	**Songino Array**	**30.58**	**340**	P	P	17 57 34.4	+0.7
SONM						18 00 32.0	
SONM						18 04 14.9	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,84nm,21.4s						
YSS	**Yuzh-Sakhalins**	**32.18**	**28**	*e*P	P	17 57 49.6	+1.8
KAKA	**Kakadu**	**34.01**	**161**	*e*P	P	17 58 01.1	-2.6
	comp=Z,4.0nm,0.6s,mb4.5						
WMQ	**Urumqi**	**37.05**	**318**	*e*P	P	17 58 30.8	+1.0
WMQ				AP	pP	17 58 43.0	-1.2
WMQ				XP	sP	17 58 48.3	-2.5
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,85nm,4.6s						
WMQ				LR	LR		
	comp=N,556nm,22.0s						
WMQ				LR	LR		
	comp=Z,542nm,21.0s,MS4.3						
FITZ	**Fitzroy Crossi**	**37.85**	**174**	*e*P	P	17 58 34.6	-1.9
	comp=Z,3.9nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**37.85**	**174**	P	P	17 58 34.3	-2.3
	comp=Z,1.1nm,0.3s,mb4.0,baz=38,slow=9.3,SNR=10						
MBWA	**Marble Bar**	**40.71**	**183**	*e*P	P	17 58 59.1	-1.3
	comp=Z,23nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**41.40**	**162**	*e*P	P	17 59 04.7	-1.4
	comp=Z,18nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**41.40**	**162**	⇑*e*P	P	17 59 05.4	-0.7
WRA	**Warramunga Arr**	**41.41**	**162**	P	P	17 59 04.6	-1.5
	comp=Z,5.0nm,0.4s,mb4.5,baz=335,slow=10,SNR=171						
WRA				PcP	PcP	18 01 04.6	+1.3
	comp=Z,0.9nm,0.6s,baz=343,slow=3.7,SNR=5.2						
WRA	**Warramunga Arr**	**41.41**	**162**	P	P	17 59 04.6	-1.5
WRA						18 01 04.6	
WRA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**41.81**	**319**	P	P	17 59 10.5	+1.1
	comp=Z,4.0nm,0.7s,mb4.2,baz=114,slow=10,SNR=44						
MKAR				PcP	PcP	18 01 04.3	-0.3
	comp=Z,0.6nm,0.6s,baz=94,slow=4.3,SNR=3.8						
MKAR	**Makanchi Array**	**41.81**	**319**	P	P	17 59 10.5	+1.1
MKAR				PcP	PcP	18 01 04.3	-0.3
MKAR	**Makanchi Array**	**41.81**	**319**	*i* P	P	17 59 10.5	+1.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KRAR	**Krasnoyarsk**	**42.08**	**336**	*i* P	P	17 59 12.7	+1.1
YAK	**Yakutsk**	**42.60**	**6**	⇑*e*P	P	17 59 16.1	+0.2
YAK				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.6						
YAK				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.7						
ASAR	**Alice Springs**	**44.82**	**164**	P	P	17 59 33.0	-0.6
	comp=Z,8.6nm,0.3s,mb5.0,baz=342,slow=6.7,SNR=424						
ASAR				ScP	ScP	18 05 05.3	+3.1
	comp=Z,0.8nm,0.9s,baz=352,slow=4.5,SNR=5.4						
ASAR	**Alice Springs**	**44.82**	**164**	P	P	17 59 33.1	-0.6
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
MA2	**Magadan**	**44.95**	**21**	*e*P	P	17 59 34.0	-0.7
	comp=N,4.1nm,0.9s,mb4.3						
KURK	**Kurchatov**	**45.74**	**323**	*e*P	P	17 59 39.9	-1.1
	comp=N,3.3nm,0.7s,mb4.4						
KURK	**Kurchatov**	**45.74**	**323**	⇑*e*P	P	17 59 42.3	+1.3
CTA	**Charters Tower**	**46.42**	**147**	*e*P	PcP	18 01 21.5	+1.2
	comp=N,5.4nm,0.8s						
CTA	**Charters Tower**	**46.42**	**147**	LR	LR	18 19 07.7	
	comp=N,122nm,20.4s,MS3.8,baz=44,slow=36						
FORT	**Forrest**	**50.64**	**173**	*e*P	P	18 00 18.5	-0.3
	comp=N,30nm,0.7s,mb5.3						
KLBR	**Kellerberrin**	**51.19**	**184**	*e*P	P	18 00 22.3	-0.6
	comp=N,81nm,2.0s,mb5.3						
BVAR	**Borovoye Array**	**51.34**	**323**	P	P	18 00 24.0	0.0
	comp=N,1.0nm,0.8s,mb3.8,baz=112,slow=11,SNR=5.6						
BVAR				PcP	PcP	18 01 38.0	-0.1
	comp=N,1.9nm,0.6s,baz=129,slow=3.8,SNR=6.1						
BVAR	**Borovoye Array**	**51.34**	**323**	P	P	18 00 24.0	0.0
BVAR						18 01 38.0	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**51.41**	**323**	*e*P	P	18 00 24.9	+0.3
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**51.44**	**324**	*e*P	P	18 00 25.1	+0.4
	comp=Z,4.9nm,0.8s,mb4.5						
TIXI	**Tiksi**	**52.06**	**3**	⇑*e*P	P	18 00 28.9	-0.5
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**52.10**	**323**	*e*P	P	18 00 30.4	+0.7
	comp=Z,4.2nm,0.9s,mb4.4						
NWAO	**Narrogin (SRO)**	**52.56**	**185**	P	P	18 00 32.5	-0.6
	comp=Z,18nm,1.0s,mb5.0,baz=30,slow=7.1,SNR=7.9						
NWAO	**Narrogin (SRO)**	**52.56**	**185**	*e*P	P	18 00 32.7	-0.4
	comp=Z,28nm,1.2s,mb5.1						
NWAO	**Narrogin (SRO)**	**52.56**	**185**	P	P	18 00 32.5	-0.6
NWAO				pmax	pmax		
	comp=Z,18nm,1.0s						
STKA	**Stephens Creek**	**54.83**	**159**	*e*P	P	18 00 47.5	-2.2
	comp=Z,2.6nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**54.83**	**159**	P	P	18 00 47.5	-2.2
	comp=Z,3.1nm,0.5s,mb4.6,baz=343,slow=9.1,SNR=14						
SVE	**Sverdlovsk**	**57.82**	**325**	*e*P	P	18 01 16.5	+5.5
SVE				*e*	pP	18 01 34.2	+8.0
ARU	**Arti**	**58.86**	**325**	*e*P	P	18 01 17.8	-0.4
	comp=Z,3.8nm,0.5s,mb4.7						
ARU	**Arti**	**58.86**	**325**	*e*P	P	18 01 18.9	+0.7
ARU				*e*	pP	18 01 34.7	+1.3
ARU				*e*		18 03 34.0	
ARU				*e*PPP		18 04 53.6	
ARU				*e*S	S	18 09 23.3	+3.7
ARU				*e*SS	SS	18 13 18.7	+5.0
CNB	**Canberra Magne**	**60.81**	**154**	*e*P	P	18 01 32.4	+0.8
	comp=Z,20nm,0.9s,mb5.2						
TNA	**Tin City**	**64.13**	**26**	*e*P	P	18 01 56.3	+2.6
	comp=Z,2.5nm,0.8s,mb4.3						
TAU	**Tasmania Unive**	**66.73**	**160**	*e*P	P	18 02 11.9	+1.4
	comp=Z,94nm,1.3s,mb5.7						
KIV	**Kislovodsk**	**68.66**	**310**	*e*P	P	18 02 24.8	+2.1
	comp=Z,6.8nm,0.7s,mb4.7						
KIV	**Kislovodsk**	**68.66**	**310**	*e*P	P	18 02 25.9	+3.2
KIV				*e*	pP	18 02 43.4	+5.1
KIV				*e*SS	SS	18 15 52.5	+6.0
KIV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
KLMR	**Klimovskoe**	**69.08**	**329**	*e*P	P	18 02 29.8	+4.5
KLMR				pmax	pmax		
	comp=Z,20nm,2.5s,mb4.6						
OBN	**Obninsk**	**71.18**	**323**	*e*P	P	18 02 38.0	-0.2
OBN				*e*	pP	18 02 58.1	+4.3
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
MCK	**McKinley**	**72.27**	**28**	*e*P	P	18 02 45.0	+0.3
	comp=Z,2.4nm,0.8s,mb4.2						
JOF	**Joensuu**	**72.71**	**331**	*e*p	P	18 02 48.0	+0.7
ILAR	**Eielson Array**	**72.98**	**27**	P	P	18 02 48.5	-0.4
	comp=Z,0.9nm,0.5s,mb3.9,baz=267,slow=5.2,SNR=14						
ILAR	**Eielson Array**	**72.98**	**27**	P	P	18 02 48.5	-0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**73.75**	**339**	P	P	18 02 53.7	+0.2
	comp=Z,2.7nm,0.7s,mb4.3,baz=69,slow=6.6,SNR=8.2						
ARCES	**ARCESS Array B**	**73.75**	**339**	P	P	18 02 53.7	+0.2
ARCES	**ARCESS Array B**	**73.75**	**339**	P	P	18 02 53.7	+0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KAF	**Kangasniemi**	**75.15**	**331**	*e*p	P	18 03 01.1	-0.5
FINES	**FINESS Array B**	**75.42**	**330**	P	P	18 03 03.4	+0.2
	comp=Z,1.8nm,0.7s,mb4.1,baz=42,slow=5.9,SNR=9.4						
FINES	**FINESS Array B**	**75.42**	**330**	*i* P	P	18 03 03.4	+0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**76.40**	**319**	P	P	18 03 08.0	-0.7
	comp=Z,1.7nm,0.7s,mb4.1,baz=64,slow=5.5,SNR=5.2						
AKASG	**Malin Array Be**	**76.40**	**319**	*i* P	P	18 03 10.6	+1.9
A

comp=Z,2.1nm,0.7s,baz=226,slow=6.6,SNR=7.5
PLCA Paso Flores 156.68 156 PKP2 PKPab 18 11 44.9 +1.4
PLCA pmax pmax
comp=Z,2.0nm,0.7s
SIV San Ignacio 175.49 34 PKP PKPdf 18 11 29.4 +0.6
comp=Z,1.6nm,0.8s,baz=48,slow=1.9,SNR=8.7

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*IDC **31** 18:22:29.4±1.2, 267S×13908E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.9/12, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=53.6km s-min=20.3km az=91.0*
*NEIC **31** 18:22:30.9±0.9, 272S×13909E, h10km, mb3.9/2, Error ellipse: s-maj=33.6km s-min=11.5km az=100.0*
*ISCJB **31** 18:22:32.8±1.0, 275S±0.10×1388E±03, h33km, mb3.7/5, Error ellipse: s-maj=38.6km s-min=13.0km az=19.2*
ISC 31 18:22:34.6±1.0, 28S±01×1391E±03, h35km, n11, σ0°91/11, mb3.7/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.87**	**213**	*e*P	**Pn**	**18 25 21.2**	**0.0**
	7.4nm,0.4s						
WRAB	**Tennant Creek**	**17.68**	**195**	*e*P	**Pn**	**18 26 36.8**	**-1.1**
	7.2nm,0.8s						
WRA	**Warramunga Arr**	**17.69**	**195**	P	**Pn**	**18 26 37.7**	**-0.4**
	0.3nm,0.3s,baz=17,slow=13,SNR=35						
FITZ	**Fitzroy Crossi**	**20.14**	**220**	*e*P	**P**	**18 27 05.7**	**+0.1**
	3.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.14**	**220**	P	**P**	**18 27 04.8**	**-0.8**
	1.4nm,0.7s,baz=0.0,slow=9.1,SNR=4.5						
ASAR	**Alice Springs**	**21.38**	**193**	P	**P**	**18 27 20.1**	**+1.2**
	1.8nm,0.8s,mb3.5,baz=20,slow=10,SNR=35						
SONM	**Songino Array**	**57.92**	**335**	P	**P**	**18 32 23.9**	**+0.8**
	0.3nm,0.6s,mb3.5,baz=155,slow=5.2,SNR=3.4						
MKAR	**Makanchi Array**	**70.05**	**322**	P	**P**	**18 33 42.8**	**0.0**
	1.9nm,0.7s,mb4.1,baz=110,slow=7.9,SNR=14						
VNDA	**Vanda**	**75.70**	**175**	P	**P**	**18 34 17.7**	**+1.3**
	0.7nm,0.7s,mb3.7,baz=11,slow=7.6,SNR=5.2						
VNDA	**Vanda**	**75.70**	**175**	P	**P**	**18 34 17.7**	**+1.3**
ILAR	**Eielson Array**	**85.73**	**24**	P	**P**	**18 35 08.6**	**-1.4**
	0.6nm,0.9s,mb3.8,baz=280,slow=4.7,SNR=5.2						

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*ISCJB **31** 18:24:33.9±0.4, 1092N±003×6225W±002, h95km±4km, mb3.3/1, Error ellipse: s-maj=4.9km s-min=3.3km az=104.4*
*NEIC **31** 18:24:34.5, 1097N×6209W, h82km, MW4.2(CAR), After CAR.*
*FUNV **31** 18:24:34.8, 1099N×6212W, h81km, MW4.2*
*TRN **31** 18:24:35.6, 1091N×6213W, h95km, MD3.7, Md4.2(FDF)*
ISC 31 18:24:35.1±0.4, 1091N±003×6224W±002, h87km±5km, n43, σ0°91/70, mb3.3/1, 8C-5D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.27**	**176**	⇓*i*P	**Pn**	**18 24 48.0**	**+0.1**
GUIV				*e*S	**Sn**	**18 24 57.0**	**-0.5**
TRN	**Trinidad (W)**	**0.87**	**108**	⇑*i*P	**Pn**	**18 24 53.7**	**+0.6**
TRN	**Trinidad (W)**	**0.87**	**108**	*e*	**Pn**	**18 25 00.2**	**+7.1**
TRN				*e*S	**Sn**	**18 25 05.0**	**-1.5**
ITEV	**Isla Los Testi**	**0.98**	**297**	⇓*i*P	**Pn**	**18 24 53.7**	**-0.6**
ITEV				*e*S	**Sn**	**18 25 08.0**	**-0.7**
TPP	**Pointe-a-Pierr**	**0.98**	**127**	*e*P	**Pn**	**18 24 55.3**	**+1.0**
TPP				*e*S	**Sn**	**18 25 08.6**	**-0.1**
CRUV	**Carupano**	**1.00**	**256**	⇓*i*P	**Pn**	**18 24 55.1**	**+0.5**
CRUV				*e*S	**Sn**	**18 25 09.7**	**+0.5**
GUNV	**Guanoco**	**1.01**	**223**	⇑*i*P	**Pn**	**18 24 55.9**	**+1.2**
GUNV				*e*S	**Sn**	**18 25 11.0**	**+1.5**
TBH	**Brigand Hill**	**1.23**	**110**	⇑*e*P	**Pn**	**18 24 58.0**	**+0.6**
TBH				*e*S	**Sn**	**18 25 10.1**	**-4.0**
GRW	**Mount Saint Ca**	**1.36**	**25**	*e*P	**Pn**	**18 24 59.7**	**+0.7**
GRHS	**Sauteurs**	**1.43**	**24**	*e*P	**Pn**	**18 25 00.2**	**+0.5**
GRHS				*e*S	**Sn**	**18 25 18.2**	**-0.3**
TPR	**Prospect**	**1.47**	**79**	*e*P	**Pn**	**18 25 00.4**	**+0.2**
TPR				*e*S	**Sn**	**18 25 18.1**	**-1.1**
GRIC	**Isle de Caille**	**1.51**	**25**	*e*P	**Pn**	**18 25 01.5**	**+0.8**
GRIC				*e*S	**Sn**	**18 25 21.1**	**+0.9**
GRSS	**Sisters**	**1.51**	**24**	*e*P	**Pn**	**18 25 01.6**	**+0.8**
GRSS				*e*S	**Sn**	**18 25 21.2**	**+1.0**
BOT	**Bacolet**	**1.52**	**80**	*e*P	**Pn**	**18 25 01.0**	**+0.1**
BOT				*e*S	**Sn**	**18 25 19.0**	**-1.4**
GRCU	**Cariacou**	**1.73**	**26**	*e*P	**Pn**	**18 25 03.8**	**+0.2**
GRCU				*e*S	**Sn**	**18 25 25.4**	**0.0**
ORIV	**Oritupano**	**2.16**	**212**	⇑*i*P	**Pn**	**18 25 09.8**	**+0.5**
ORIV				*e*S	**Sn**	**18 25 36.4**	**+1.0**
IBAV	**Isla La Blanqu**	**2.46**	**292**	⇓*i*P	**Pn**	**18 25 13.7**	**+0.4**
IBAV				*e*S	**Sn**	**18 25 41.6**	**-0.9**
PCRV	**Puerto La Cruz**	**2.46**	**253**	⇑*i*P	**Pn**	**18 25 14.4**	**+1.0**
PCRV				*e*S	**Sn**	**18 25 43.1**	**+0.4**
SVB	**Belmont**	**2.54**	**22**	*e*P	**Pn**	**18 25 14.1**	**-0.2**
SVB				*e*S	**Sn**	**18 25 43.2**	**-1.2**
SSV	**Crater Summit**	**2.61**	**23**	*e*P	**Pn**	**18 25 15.1**	**-0.2**
SSV				*e*S	**Sn**	**18 25 46.1**	**-0.1**
GURV	**El Guri**	**3.24**	**195**	⇑*i*P	**Pn**	**18 25 23.2**	**-0.5**
CUPV	**Cœpira**	**3.59**	**257**	⇑*i*P	**Pn**	**18 25 29.2**	**+0.8**
FDF	**Fort de France**	**3.94**	**16**	⇓*e*P	**Pn**	**18 25 32.5**	**-0.8**
FDF				*e*S	**Sn**	**18 26 14.7**	**-3.8**
FDF	**Fort de France**	**3.94**	**16**	⇑*e*P	**Pn**	**18 25 32.5**	**-0.8**
FDF				*e*S	**Sn**	**18 26 14.7**	**-3.8**
ORCV	**Isla La Orchil**	**3.98**	**283**	*e*P	**Pn**	**18 25 34.2**	**+0.5**
ORCV				*e*S	**Sn**	**18 26 16.7**	**-2.5**
BIRV	**Birongo**	**3.98**	**264**	*e*P	**Pn**	**18 25 34.8**	**+1.0**
BIRV				*e*S	**Sn**	**18 26 18.2**	**-1.1**
BIRV	**Birongo**	**3.98**	**264**	*e*P	**Pn**	**18 25 35.1**	**+1.4**
BIRV				*e*S	**Sn**	**18 26 18.2**	**-1.1**
CRM	**Caravelle**	**4.03**	**19**	*e*P	**Pn**	**18 25 34.4**	**-0.1**
MERV	**Las Mercedes**	**4.32**	**248**	*e*P	**Pn**	**18 25 38.1**	**-0.3**
LUEV	**Luepa**	**5.10**	**171**	*e*P	**Pn**	**18 25 47.1**	**-1.8**
LUEV				*e*S	**Sn**	**18 26 42.5**	**-3.9**
LUEV	**Luepa**	**5.10**	**171**	*e*P	**Pn**	**18 25 47.1**	**-1.9**
LUEV				*e*S	**Sn**	**18 26 40.0**	**-6.5**
LZG	**Guadaloupe-1**	**5.22**	**5**	*e*P	**Pn**	**18 25 52.1**	**+1.5**
DEG	**La Desirade**	**5.49**	**12**	*e*P	**Pn**	**18 25 54.4**	**+0.1**
SEG	**Port Louis**	**5.50**	**7**	*e*P	**Pn**	**18 25 55.9**	**+1.4**
TURV	**Turiamo**	**5.52**	**266**	*e*P	**Pn**	**18 25 55.2**	**+0.5**
BAUV	**El Baul**	**6.04**	**252**	*e*P	**Pn**	**18 26 00.8**	**-1.0**
BAUV				*e*S	**Sn**	**18 27 05.4**	**-4.1**
TEPV	**Terepaima**	**6.90**	**263**	*e*P	**Pn**	**18 26 13.4**	**-0.1**
SANV	**Sanarito**	**7.31**	**260**	*e*P	**Pn**	**18 26 19.2**	**0.0**
CURV	**Curarigua**	**7.64**	**264**	*e*P	**Pn**	**18 26 23.0**	**-0.7**
MONV	**Montecano**	**7.65**	**279**	*e*P	**Pn**	**18 26 22.8**	**-0.9**
SDV	**Santo Domingo**	**8.51**	**257**	Pn	**Pn**	**18 26 33.7**	**-1.8**
SDV				*e*Sn	**Sn**	**18 28 05.9**	**-3.8**
SAML	**Samuel**	**19.75**	**183**	*e*P	**Pn**	**18 28 59.6**	**-0.6**
	1.5nm,0.9s						
LPAZ	**La Paz**	**27.65**	**192**	P	**P**	**18 30 15.6**	**+1.1**
	0.5nm,0.5s,mb3.3						

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*ISCJB **31** 18:24:53.9±3.7, 56S±02×1513E±03, h71km±31km, mb4.0/9, Error ellipse: s-maj=51.0km s-min=21.8km az=73.6*
*IDC **31** 18:24:53.3±5.1, 565S×15148E, h58km±41km, mb3.9/8, mb1 4.2/9, mb1mx4.0/15, mbtmp4.3/9, ML4.0/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/29, Error ellipse: s-maj=50.8km s-min=24.7km az=121.0*
*NEIC **31** 18:24:55.4±2.3, 567S×15145E, h77km±19km, mb4.8/3, Error ellipse: s-maj=32.1km s-min=14.3km az=125.0*
ISC 31 18:24:54.3±3.3, 57S±02×1515E±03, h67km±28km, n22, σ0°64/18, mb4.0/9, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.69**	**229**	P	**Pn**	**18 26 16.2**	**0.0**
	30nm,0.3s,baz=31,slow=4.6,SNR=87						
PMG				S	**Sn**	**18 27 19.8**	**-0.4**
	28nm,0.3s,baz=128,slow=20,SNR=16						
PMG				LR	LR	18 28 28.8	
	comp=Z,107nm,19.4s,baz=287,slow=38						
PMG	**Port Moresby**	**5.69**	**229**	*e*P	**Pn**	**18 26 16.7**	**+0.5**
	103nm,0.6s						
PMG				*e*S	**Sn**	**18 27 19.3**	**-0.8**
HNR	**Honiara**	**9.19**	**115**	LR	LR	18 30 19.6	
	comp=Z,108nm,18.0s,baz=358,slow=36						
KAKA	**Kakadu**	**20.06**	**248**	*e*P	**P**	**18 29 22.2**	**+0.1**
	13nm,0.5s						
GUMO	**Guam**	**20.21**	**341**	LR	LR	18 35 25.3	
	comp=Z,79nm,18.0s,baz=300,slow=31						
DZM	**Mont Dzumac**	**21.81**	**140**	LR	LR	18 36 43.4	
	comp=Z,164nm,20.2s,baz=226,slow=32						
WRAB	**Tennant Creek**	**21.89**	**228**	*e*P	**P**	**18 29 43.4**	**+1.6**
	26nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**21.91**	**228**	P	**P**	**18 29 41.5**	**-0.5**
	20nm,0.7s,mb4.6,baz=53,slow=9.9,SNR=70						
WRA				PcP	PcP	18 33 39.5	+0.7
	0.8nm,0.6s,baz=53,slow=2.0,SNR=5.3						
ASAR	**Alice Springs**	**24.65**	**222**	P	**P**	**18 30 08.9**	**+0.3**
	9.6nm,0.7s,mb4.3,baz=59,slow=8.5,SNR=46						
FITZ	**Fitzroy Crossi**	**28.11**	**242**	⇑*i*P	**P**	**18 30 39.5**	**-0.3**
	14nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**28.11**	**242**	P	**P**	**18 30 39.7**	**-0.2**
	7.2nm,0.3s,mb4.6,baz=78,slow=6.8,SNR=40						
MBWA	**Marble Bar**	**34.42**	**240**	*e*P	**P**	**18 31 34.7**	**-0.6**
SONM	**Songino Array**	**66.36**	**329**	P	**P**	**18 35 36.5**	**+0.5**
	0.6nm,0.6s,mb3.6,baz=144,slow=5.2,SNR=6.4						
MKAR	**Makanchi Array**	**80.11**	**319**	P	**P**	**18 36 57.5**	**+0.5**
	0.2nm,0.5s,mb3.2,baz=94,slow=7.5,SNR=4.3						
ILAR	**Eielson Array**	**83.43**	**22**	P	**P**	**18 37 13.6**	**-0.9**
	0.9nm,0.7s,mb3.7,baz=248,slow=5.4,SNR=11						
KURK	**Kurchatov**	**83.64**	**322**	*e*P	**P**	**18 37 15.7**	**+0.2**
BVAR	**Borovoye Array**	**89.14**	**323**	P	**P**	**18 37 41.7**	**-0.7**
	0.5nm,0.6s,mb3.7,baz=122,slow=5.2,SNR=4.4						
YKA	**Yellowknife Ar**	**96.78**	**28**	P	**P**	**18 38 17.8**	**+0.2**
	0.3nm,0.7s,mb3.8,baz=270,slow=4.5,SNR=8.2						
YKA	**Yellowknife Ar**	**96.78**	**28**	P	**P**	**18 38 17.8**	**+0.2**
GERES	**GERESS Array B**	**124.08**	**328**	PKP	PKPdf	18 43 44.9	-0.2
	0.9nm,0.6s,baz=58,slow=3.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**149.31**	**286**	PKPbc	PKPbc	18 44 36.7	+1.2
	6.6nm,0.6s,baz=77,slow=2.1,SNR=65						
DBIC	**Dimbokro**	**156.46**	**274**	PKPab	PKPab	18 45 11.3	+1.0
	2.5nm,0.8s,baz=162,slow=4.6,SNR=4.5						

IDC 31 18:38:45.0±0.9, 2251S×6375E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, MS3.5/1, Ms1 3.5/1, ms1mx2.8/26, Error ellipse: s-maj=37.7km s-min=23.6km az=53.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**39.55**	**327**	LR	LR	19 00 26.2	
	comp=Z,54nm,18.3s,baz=57,slow=33						
ASAR	**Alice Springs**	**63.91**	**106**	P	P	18 49 20.2	+0.5
	1.9nm,0.6s,baz=258,slow=5.2,SNR=6.5						
WRA	**Warramunga Arr**	**65.28**	**102**	P	P	18 49 28.9	+0.3
	2.7nm,0.8s,baz=259,slow=5.6,SNR=5.9						
VNDA	**Vanda**	**69.93**	**167**	P	P	18 49 57.6	-0.4
	0.9nm,1.0s,baz=257,slow=7.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**70.36**	**294**	P	P	18 50 01.5	+0.9
	0.4nm,0.7s,baz=99,slow=3.5,SNR=3.5						
MKAR	**Makanchi Array**	**70.99**	**13**	P	P	18 50 04.6	+0.2
	1.9nm,0.9s,baz=227,slow=4.8,SNR=5.1						
BVAR	**Borovoye Array**	**75.44**	**4**	P	P	18 50 29.9	-0.8
	1.9nm,0.6s,baz=134,slow=4.1,SNR=5.5						
AKASG	**Malin Array Be**	**79.01**	**338**	P	P	18 50 50.1	-0.6
	0.3nm,0.3s,baz=154,slow=4.9,SNR=6.5						
SONM	**Songino Array**	**79.81**	**28**	P	P	18 50 55.9	+0.8
	0.9nm,0.7s,baz=223,slow=5.9,SNR=7.8						
YKA	**Yellowknife Ar**	**140.03**	**359**	PKP	PKPdf	18 58 15.4	0.0
	0.7nm,1.2s,baz=2.2,slow=2.8,SNR=6.2						
ULM	**Lac du Bonnet**	**148.03**	**335**	PKPbc	PKPbc	18 58 31.5	-0.9
	3.4nm,0.8s,baz=21,slow=4.5,SNR=6.0						

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*NEIC **31** 18:39:57.3±0.3, 1963N×12150E, h10km, mb4.4/24, Error ellipse: s-maj=9.5km s-min=5.7km az=83.0*
*BJI **31** 18:40:00.2, 2003N×121.19E, h10km, mB4.6, mb4.4, ML4.0, Ms3.9, Msz3.7*
*MOS **31** 18:40:01.3±0.8, 1964N×12156E, h59km, mb4.5/20, Error ellipse: s-maj=17.1km s-min=7.8km az=97.4*
*ISCJB **31** 18:40:02.2±0.4, 1975N±002×12153E±005, h60km±5km, mb4.3/52, Error ellipse: s-maj=8.3km s-min=4.0km az=178.1*
*MAN **31** 18:40:02.4, 1967N×12141E, h14km, mb4.0, ML5.0, MS3.8*
*IDC **31** 18:40:02.2±2.5, 1965N×12154E, h48km±24km, mb4.0/20, mb1 4.2/22, mb1mx4.2/28, mbtmp4.4/22, ML4.8/2, MS3.7/7, Ms1 3.7/7, ms1mx3.2/38, Error ellipse: s-maj=20.0km s-min=9.8km az=75.0*
*CSEM **31** 18:40:07.2, 1968N×12179E, h114km, mb5.8*
ISC 31 18:40:03.8±0.4, 1974N±002×12147E±005, h59km±4km, n135, σ1°28/143, mb4.3/52, MS3.7/15, 12C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.59**	**160**	*e*P	**Pn**	**18 40 29.2**	**-0.3**
PIP	**Pasuquin**	**1.62**	**210**	⇑*i*P	**Pn**	**18 40 27.3**	**-2.8**
PIP				*e*S	**Sn**	**18 40 49.4**	**-0.5**
APYP	**Conner**	**1.88**	**187**	*e*P	**Pn**	**18 40 33.1**	**-0.5**
APYP				*e*S	**Sn**	**18 40 57.4**	**+1.2**
CVP	**Callao Caves**	**2.05**	**171**	⇑*i*P	**Pn**	**18 40 36.5**	**+0.6**
CVP				*i* S	**Sn**	**18 40 57.5**	**-2.9**
ABRA	**Dolores**	**2.20**	**199**	*e*P	**Pn**	**18 40 37.3**	**-0.6**
CAUP	**Cauayan**	**2.80**	**173**	*e*P	**Pn**	**18 40 48.3**	**+2.2**
PALP	**Palanan**	**2.81**	**161**	*e*P	**Pn**	**18 40 47.3**	**+1.1**
BCPH	**Baguio City Da**	**3.45**	**194**	⇑*e*P	**Pn**	**18 40 55.0**	**+0.1**
BCPH				*e*S	Px	18 41 09.4	
BOLP	**Bolinao**	**3.65**	**204**	*e*P	**Pn**	**18 40 59.0**	**+1.2**
BALP	**Baler**	**3.98**	**179**	*e*P	**Pn**	**18 41 03.1**	**+0.9**
SCZP	**Santa Cruz**	**4.21**	**201**	*e*P	**Pn**	**18 41 06.2**	**+0.7**
NACB	**Ninganchiao**	**4.41**	**1**	*e*P	**Pn**	**18 41 06.2**	**-2.0**
NACB				*e*S	**Sn**	**18 41 57.2**	**-1.0**
YHNB	**Yeheng**	**4.91**	**359**	*e*P	**Pn**	**18 41 14.3**	**-0.7**
YHNB				*e*S	**Sn**	**18 42 16.9**	**+6.5**
POLP	**Polilio Island**	**5.00**	**175**	*e*P	**Pn**	**18 41 17.0**	**+0.8**
TATO	**Taipei**	**5.21**	**0**	*e*P	**Pn**	**18 41 19.7**	**+0.5**
	62nm,0.6s						
LQP	**Lukban**	**5.60**	**179**	*e*P	**Pn**	**18 41 33.1**	**+8.7**
TGY	**Tagaytay City**	**5.63**	**185**	P	**Pn**	**18 41 23.1**	**-1.7**
	20nm,0.3s,baz=9.4,slow=21,SNR=2.5						
TGY	**Tagaytay City**	**5.63**	**185**	P	**Pn**	**18 41 23.1**	**-1.7**
TGY				pmax	pmax		
	comp=Z,20nm,0.3s						
QZH	**Quanzhou**	**5.82**	**333**	P	**Pn**	**18 41 22.5**	**-5.0**
QZH				S	**Sn**	**18 42 24.0**	**-8.9**
QZH				Smax			
	comp=N,120nm,0.8s						
QZH				Smax			
	comp=E,150nm,0.8s						
QZH				LR	LR		
	comp=N,2μm,17.3s						
QZH				LR	LR		
	comp=E,1μm,16.4s						
QZH				LR	LR		
	comp=Z,1μm,17.7s						
GQP	**Guinayangan**	**5.88**	**171**	⇓*e*P	**Pn**	**18 41 29.5**	**+1.3**
BOAC	**Boac**	**6.25**	**177**	*e*P	**Pn**	**18 41 33.3**	**-0.1**
PVCP	**Virac**	**6.63**	**157**	*e*P	**Pn**	**18 41 40.0**	**+1.5**
BUSP	**Coron**	**7.79**	**189**	*e*P	**Pn**	**18 41 56.2**	**+1.8**
GZH	**Guangzhou**	**8.27**	**295**	P	**Pn**	**18 41 54.3**	**-6.7**
JOW	**Kunigami**	**9.43**	**40**	P	**Pn**	**18 42 15.2**	**-1.6**
	comp=Z,27nm,0.3s,baz=246,slow=10.0,SNR=120						
JOW				S	**Sn**	**18 43 57.0**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=129,slow=29,SNR=2.6						
QIZ	**Qiongzhong**	**11.00**	**268**	P	**Pn**	**18 42 33.3**	**-5.0**
QIZ				S	**Sn**	**18 44 28.8**	**-11**
QIZ				LR	LR		
	comp=E,428nm,16.2s						
QIZ				LR	LR		
	comp=Z,546nm,17.4s						
QIZ	**Qiongzhong**	**11.00**	**268**	*e*P	**Pn**	**18 42 33.6**	**-4.7**
	comp=Z,46nm,0.8s						
SSE	**Sheshan**	**11.31**	**359**	*e*P	**Pn**	**18 42 40.0**	**-2.6**
SSE				AP		18 42 46.8	
SSE				XP		18 42 52.0	
SSE				S	**Sn**	**18 44 48.0**	**+0.7**
SSE				XS		18 44 57.8	
SSE				AMB	AMB		
	comp=Z,38nm,0.6s						
SSE				AMB	AMB		
	comp=Z,33nm,5.2s						
SSE				LR	LR		
	comp=N,220nm,17.5s						
SSE				LR	LR		
	comp=E,135nm,17.5s						
SSE				LR	LR		
	comp=Z,250nm,16.5s						
ENH	**Enshi**	**15.09**	**316**	*e*P	**Pn**	**18 43 31.4**	**-1.9**
	comp=Z,6.3nm,0.7s						
GYA	**Guiyang**	**15.17**	**299**	P	**Pn**	**18 43 31.0**	**-3.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
JNU	**Nakatsue**	**15.75**	**30**	P	**Pn**	**18 43 44.9**	**+3.0**
	comp=Z,3.6nm,0.3s,baz=266,slow=14,SNR=3.4						
KMI	**Kunming**	**18.12**	**291**	P	**Pn**	**18 44 13.1**	**+1.9**
KMI				AP	pP	18 44 18.9	-4.7
KMI				PP		18 44 25.8	
KMI				S	**S**	**18 47 32.8**	**-2.5**
KMI				XS	sS	18 47 36.2	-20
KMI				AMB	AMB		
	comp=Z,8.0nm,1.6s						
KMI				AMB	AMB		
	comp=Z,108nm,4.0s						
KMI				LR	LR		
	comp=N,225nm,18.9s						
KMI				LR	LR		
	comp=E,394nm,14.2s						
KMI				LR	LR		
	comp=Z,385nm,15.7s						
CD2	**Chengdu**	**19.47**	**308**	⇑*i*P	**Pn**	**18 44 26.0**	**-1.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
BJT	**Baijiatuau**	**20.72**	**348**	*e*P	**P**	**18 44 39.8**	**+0.6**
	comp=Z,11nm,0.4s						
BJI	**Beijing**	**20.74**	**348**	P	**P**	**18 44 39.8**	**+0.4**
BJI				AMB	AMB		
	comp=Z,14nm,0.7s						
BJI				LR	LR		
	comp=N,137nm,18.4s,MS3.7						
BJI				LR	LR		
	comp=E,245nm,17.8s,MS3.7						
BJI				LR	LR		
	comp=Z,232nm,22.9s						
KSM	**Kuching**	**21.19**	**212**	*e*P	**P**	**18 44 43.0**	**-1.3**
SNY	**Shenyang**	**22.09**	**4**	⇑P	**P**	**18 44 55.3**	**+1.4**
SNY				S	**S**	**18 48 53.8**	**-0.2**
SNY				SS		18 49 26.5	
SNY				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.6						
SNY				AMB	AMB		
	comp=Z,162nm,5.7s						
SNY				LR	LR		
	comp=N,223nm,13.7s						
SNY				LR	LR		
	comp=Z,265nm,16.9s,MS3.7						
MAT	**Matsushiro**	**22.26**	**38**	P	**P**	**18 44 56.8**	**+1.1**
MAT	**Matsushiro**	**22.26**	**38**	P	**P**	**18 44 57.0**	**+1.3**
	comp=Z,5.0nm,1.0s,mb3.9						
MJAR	**Matsushiro Arr**	**22.26**	**38**	P	**P**	**18 44 55.7**	**0.0**
	comp=Z,4.8nm,0.9s,mb3.9,baz=223,slow=7.3,SNR=11						
MJAR	**Matsushiro Arr**	**22.26**	**38**	P	**P**	**18 44 55.7**	**0.0**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LZH	**Lanzhou**	**22.48**	**320**	*e*P	**P**	**18 44 55.5**	**-2.5**
LZH				AP		18 45 02.0	
LZH				XP	sP	18 45 03.5	-15
LZH				PP		18 45 26.5	
LZH				*e*S	**S**	**18 49 02.0**	**+1.1**
LZH				XS	sS	18 49 11.3	-12
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
LZH				AMB	AMB		
	comp=Z,60nm,4.0s						
LZH				LR	LR		
	comp=N,251nm,13.5s						
LZH				LR	LR		
	comp=Z,493nm,15.4s,MS4.0						
GUMO	**Guam**	**23.22**	**102**	LR	LR	18 52 07.4	
	comp=Z,229nm,18.3s,MS3.7,baz=284,slow=31						
CN2	**Changchun**	**24.22**	**7**	*e*P	**P**	**18 45 15.8**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
MDJ	**Mudanjiang**	**25.71**	**13**	P	**P**	**18 45 29.5**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,146nm,4.2s						
MDJ	**Mudanjiang**	**25.71**	**13**	*e*P	**P**	**18 45 28.6**	**+0.2**
	comp=Z,12nm,1.0s,mb4.4						
GTA	**Gaotai**	**27.06**	**321**	*e*P	**P**	**18 45 43.8**	**+3.2**
GTA				AP	pP	18 45 49.3	-5.8
GTA				XP	sP	18 45 52.5	-10
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.7						
GTA				AMB	AMB		
	comp=Z,99nm,5.4s						
GTA				LR	LR		
	comp=N,158nm,18.0s,MS3.8						
GTA				LR	LR		
	comp=E,166nm,18.3s,MS3.8						
GTA				LR	LR		
	comp=Z,226nm,17.2s,MS3.8						
PSI	**Prapat**	**27.72**	**235**	LR	LR	18 56 10.7	
	comp=Z,130nm,18.6s,MS3.5,baz=313,slow=35						
LSA	**Lhasa**	**29.20**	**296**	*e*P	**P**	**18 46 01.8**	**+2.2**
	comp=Z,2.8nm,0.6s,mb4.2						
ASAJ	**Asahikawa**	**30.03**	**31**	P	**P**	**18 46 07.5**	**+0.5**
	comp=Z,10nm,1.0s,mb4.5,baz=240,slow=8.1,SNR=3.8						
ASAJ				LR	LR	18 59 46.8	
	comp=Z,72nm,19.5s,MS3.3,baz=341,slow=39						
ASAJ	**Asahikawa**	**30.03**	**31**	P	**P**	**18 46 07.5**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,72nm,19.5s						
ULN	**Ulaanbaatar**	**30.40**	**341**	*e*P	**P**	**18 46 12.8**	**+2.5**
	comp=Z,3.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**30.40**	**341**	⇑*e*P	**P**	**

MA2	**Magadan**	**45.00**	**21**	*eP*	**P**	**18 48 12.7**	**-0.6**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
NVS	**Novosibirsk**	**45.42**	**330**	*eP*	**P**	**18 48 13.1**	**-3.5**
KURK	**Kurchatov**	**45.72**	**323**	*eP*	**P**	**18 48 19.6**	**+0.6**
	comp=Z,5.8nm,0.9s,mb4.5						
KURK	**Kurchatov**	**45.72**	**323⇑**	*eP*	**P**	**18 48 20.2**	**+1.3**
CTA	**Charters Tower**	**46.43**	**147**	*eP*	**P**	**18 48 24.6**	**+0.1**
	comp=Z,2.8nm,1.0s,mb4.2						
CTA				*e*		18 50 00.2	
CTA	**Charters Tower**	**46.43**	**147**	P	**P**	**18 48 24.2**	**-0.3**
	comp=Z,2.6nm,0.7s,mb4.2,baz=344,slow=11,SNR=5.2						
CTA				PcP	PcP	18 49 59.0	+0.6
	comp=Z,7.5nm,0.7s,baz=342,slow=5.6,SNR=9.5						
CTA	**Charters Tower**	**46.43**	**147**	P	**P**	**18 48 24.2**	**-0.3**
CTA						18 49 59.0	
CTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
FORT	**Forrest**	**50.62**	**173**	*eP*	**P**	**18 48 56.4**	**-0.3**
	comp=Z,32nm,0.7s,mb5.4						
BVAR	**Borovoye Array**	**51.32**	**323**	P	**P**	**18 49 02.7**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=116,slow=10,SNR=7.2						
BVAR				PcP	PcP	18 50 15.7	-0.4
	comp=Z,1.8nm,0.6s,baz=113,slow=4.0,SNR=5.7						
BVAR	**Borovoye Array**	**51.32**	**323**	P	**P**	**18 49 02.7**	**+0.7**
BVAR						18 50 15.7	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**51.39**	**323**	*eP*	**P**	**18 49 03.5**	**+1.0**
	comp=Z,1.6nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**51.42**	**324**	*eP*	**P**	**18 49 03.1**	**+0.4**
	comp=Z,6.0nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**52.08**	**323**	*eP*	**P**	**18 49 08.6**	**+0.9**
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI	**Tiksi**	**52.10**	**3**	*i P*	**P**	**18 49 07.1**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,100nm,23.0s,MS3.8						
NWAO	**Narrogin (SRO)**	**52.52**	**184**	P	**P**	**18 49 10.0**	**-0.9**
	comp=Z,9.1nm,0.8s,mb4.8,baz=34,slow=7.1,SNR=8.3						
NWAO	**Narrogin (SRO)**	**52.52**	**184**	*eP*	**P**	**18 49 10.6**	**-0.4**
NWAO	**Narrogin (SRO)**	**52.52**	**184**	P	**P**	**18 49 10.0**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
STKA	**Stephens Creek**	**54.83**	**159**	*eP*	**P**	**18 49 25.1**	**-2.7**
	comp=Z,2.7nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**54.83**	**159**	P	**P**	**18 49 25.1**	**-2.7**
	comp=Z,4.6nm,0.6s,mb4.7,baz=347,slow=9.2,SNR=12						
BILL	**Bilibino**	**55.77**	**19**	*eP*	**P**	**18 49 33.5**	**-1.1**
	comp=Z,5.9nm,0.8s,mb4.7						
BILL	**Bilibino**	**55.77**	**19**	*i P*	**P**	**18 49 34.5**	**-0.1**
BILL				*e*		18 50 33.8	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,24.0s,MS3.8						
SVE	**Sverdlovsk**	**57.80**	**325**	*eP*	**P**	**18 49 57.0**	**+8.0**
SVE				*e*	pP	18 50 11.0	+6.2
AKTK	**Aktyubinsk**	**58.18**	**318**	P	**P**	**18 49 53.3**	**+1.8**
AKTO	**Aktyubinsk**	**58.18**	**318**	P	**P**	**18 49 53.3**	**+1.8**
	comp=Z,0.8nm,0.5s,mb4.0,baz=81,slow=13,SNR=4.7						
AKTO	**Aktyubinsk**	**58.18**	**318**	P	**P**	**18 49 53.3**	**+1.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ARU	**Arti**	**58.84**	**325**	*eP*	**P**	**18 49 56.4**	**+0.2**
	comp=Z,4.9nm,0.7s,mb4.7						
ARU	**Arti**	**58.84**	**325⇑**	*iP*	**P**	**18 49 57.7**	**+1.5**
ARU				*e*		18 52 07.0	
ARU				*eS*	**S**	**18 58 06.0**	**+8.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
DZM	**Mont Dzumac**	**60.48**	**131**	P	**P**	**18 50 08.0**	**+0.5**
	comp=Z,3.1nm,0.6s,mb4.5,baz=74,slow=22,SNR=9.8						
CNB	**Canberra Magne**	**60.81**	**154**	*eP*	**P**	**18 50 10.7**	**+1.0**
	comp=Z,29nm,1.3s,mb5.2						
KIV	**Kislovodsk**	**68.62**	**310**	*eP*	**P**	**18 51 02.9**	**+2.3**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KLMR	**Klimovskoe**	**69.07**	**329**	*eP*	**P**	**18 51 09.4**	**+6.1**
KLMR				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.8						
SOC	**Sochi**	**70.80**	**310**	*eP*	**P**	**18 51 14.2**	**+0.2**
SOC				*e*		18 51 35.9	
SOC				*eS*	S	19 00 28.3	+4.0
SOC				*e*		19 01 19.2	
SOC				*eSS*	SS	19 05 03.7	+6.2
SOC				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
OBN	**Obninsk**	**71.16**	**323**	*eP*	**P**	**18 51 16.5**	**+0.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MCK	**McKinley**	**72.32**	**28**	*eP*	**P**	**18 51 22.9**	**-0.2**
	comp=Z,4.6nm,1.0s,mb4.4						
JOF	**Joensuu**	**72.70**	**331**	*ep*	**P**	**18 51 25.3**	**-0.1**
MALT	**Malatya**	**72.72**	**305**	P	**P**	**18 51 27.9**	**+2.4**
	comp=Z,1.6nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**73.04**	**27**	P	**P**	**18 51 26.2**	**-1.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=264,slow=5.0,SNR=12						
ILAR	**Eielson Array**	**73.04**	**27**	P	**P**	**18 51 26.2**	**-1.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**73.75**	**339**	P	**P**	**18 51 31.6**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.3,baz=60,slow=7.2,SNR=7.2						
ARCES	**ARCESS Array B**	**73.75**	**339**	P	**P**	**18 51 31.7**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KAF	**Kangasniemi**	**75.14**	**331**	*ep*	**P**	**18 51 38.4**	**-1.2**
FINES	**FINESS Array B**	**75.41**	**330**	P	**P**	**18 51 41.6**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.1,baz=91,slow=7.8,SNR=8.4						
FINES	**FINESS Array B**	**75.41**	**330**	P	**P**	**18 51 41.6**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DAWY	**Dawson**	**76.36**	**27**	*eP*	**P**	**18 51 46.4**	**-0.2**
AKASG	**Malin Array Be**	**76.37**	**319**	P	**P**	**18 51 46.0**	**-0.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=63,slow=5.8,SNR=4.9						
AKASG	**Malin Array Be**	**76.37**	**319**	P	**P**	**18 51 46.0**	**-0.7**
AKASG	**Malin Array Be**	**76.37**	**319**	P	**P**	**18 51 46.0**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**77.23**	**22**	*eP*	**P**	**18 51 50.1**	**-1.4**
	comp=Z,1.9nm,0.6s,mb4.2						
DAG	**Danmarks Havn**	**80.78**	**351⇑**	*iP*	**P**	**18 52 10.0**	**-0.9**
	comp=Z,4.5nm,0.8s,mb4.5						
DAG	**Danmarks Havn**	**80.78**	**351⇑**	*iP*	**P**	**18 52 10.0**	**-0.9**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
NB2	**NORSAR Subarra**	**82.27**	**333**	P	**P**	**18 52 18.1**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=61,slow=5.1						
NOA	**NORSAR Array B**	**82.27**	**333**	P	**P**	**18 52 18.1**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=64,slow=4.9,SNR=7.2						
NOA				LR	LR	19 32 41.2	
	comp=Z,76nm,21.5s,MS4.0,baz=90,slow=38						
NOA	**NORSAR Array B**	**82.27**	**333**	P	**P**	**18 52 18.1**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,76nm,21.5s						
RES	**Resolute Bay**	**82.99**	**9**	*eP*	**P**	**18 52 21.2**	**-1.2**
	comp=Z,1.7nm,1.0s,mb4.0						
KMBO	**Kilima Mbogo**	**84.93**	**267**	P	**P**	**18 52 33.2**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.2,baz=57,slow=14,SNR=5.9						
KMBO	**Kilima Mbogo**	**84.93**	**267**	P	**P**	**18 52 33.2**	**+0.8**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKW3	**Yellowknife Ar**	**86.90**	**23**	*eP*	**P**	**18 52 41.8**	**-0.3**
YKA	**Yellowknife Ar**	**86.95**	**23**	P	**P**	**18 52 41.6**	**-0.7**
	comp=Z,2.5nm,0.6s,mb4.6,baz=310,slow=4.7,SNR=64						
YKA	**Yellowknife Ar**	**86.95**	**23**	P	**P**	**18 52 41.6**	**-0.7**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SDV	**Santo Domingo**	**149.16**	**24**	*e*PKPdf	PKPdf	18 59 42.6	+1.4
PLCA	**Paso Flores**	**156.69**	**156**	PKPab	PKPab	19 00 21.9	+0.3
	comp=Z,2.1nm,0.7s,baz=205,slow=4.8,SNR=8.1						
PLCA	**Paso Flores**	**156.69**	**156**	PKP2	PKPab	19 00 21.9	+0.3
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*IDC **31** 18:50:16.5±1.0, 3446N×7320E, h0km, mb3.7/5, mb1 3.7/8, mb1mx3.5/22, mbtmp3.6/8, ML3.4/3, Error ellipse: s-maj=30.2km s-min=21.7km az=55.0*
*ISCJB **31** 18:50:17.5±0.4, 3469N±004×7346E±006, h10km, mb3.5/5, Error ellipse: s-maj=7.4km s-min=4.3km az=110.5*
*NEIC **31** 18:50:18.1±0.7, 3446N×7323E, h10km, mb3.2/2, Error ellipse: s-maj=18.4km s-min=5.1km az=53.0*
*NNC **31** 18:50:28.4±1.5, 3523N×7279E, h14km±14km, mb3.3, mpv3.9, Error ellipse: s-maj=19.2km s-min=14.2km az=109.0*

ISC 31 18:50:19.0±0.4, 3465N±004×7335E±005, h10km, n32, σ1°18/36, mb3.5/5, 4C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.00**	**184**	P	**Pg**	**18 50 37.7**	**-0.5**
CEP	**Cherat**	**1.46**	**236**	P	**Pn**	**18 50 44.5**	**-0.8**
THW	**Thamme Wali**	**2.29**	**216**	P	**Pn**	**18 50 58.0**	**+1.2**
SARP	**Sargodha**	**2.78**	**192**	P	**Pn**	**18 51 04.2**	**+0.6**
SARP				S	**Sn**	**18 51 43.0**	**+5.7**
DLH	**Dalhousie**	**3.03**	**133**	*eP*	**Pb**	**18 51 12.0**	**-1.1**
DLH				*eS*	**Sg**	**18 51 58.0**	**+1.6**
SBDP	**Sheikh Budin**	**3.17**	**223**	P	**Pn**	**18 51 10.3**	**+1.4**
SDNR	**Sundarnagar**	**4.37**	**135**	*ex*	**Pn**	**18 51 27.5**	**+2.1**
SDNR				*ex*	**Sn**	**18 52 18.1**	**+1.7**
DDI	**Dehra Dun**	**5.87**	**136**	*ex*	**Sg**	**18 53 24.0**	**-3.4**
KK31	**Karatay Array**	**8.72**	**346**	⇑Pn	**Pn**	**18 52 27.6**	**+2.4**
	1.9nm,0.3s,baz=156,slow=9.9,SNR=123						
KK31				⇓Sn	**Sn**	**18 54 01.8**	**-1.7**
	2.1nm,0.5s,baz=169,slow=24,SNR=10						
KOLN	**Koldanda**	**11.13**	**125**	*eP*	**Pn**	**18 52 58.5**	**+0.3**
	4.1nm,0.2s						
GKN	**Gorkha**	**11.70**	**121**	*eP*	**Pn**	**18 53 05.5**	**-0.5**
	8.9nm,0.2s						
DMN	**Daman**	**12.27**	**122**	*eP*	**Pn**	**18 53 13.2**	**-0.6**
KKN	**Kakani**	**12.28**	**121**	*eP*	**Pn**	**18 53 12.5**	**-1.4**
	12nm,0.4s						
PKI	**Pulchoki**	**12.51**	**121**	*eP*	**Pn**	**18 53 15.8**	**-1.2**
GUN	**Gumba**	**12.64**	**119**	*eP*	**Pn**	**18 53 18.0**	**-0.8**
	9.5nm,0.4s						
JIRN	**Jiri**	**13.01**	**119**	*eP*	**Pn**	**18 53 23.0**	**-0.9**
	28nm,0.3s						
MKAR	**Makanchi Array**	**13.88**	**26**	Pn	**Pn**	**18 53 37.8**	**+2.1**
	0.1nm,0.3s,baz=193,slow=12,SNR=3.8						
AB31	**Akbulak array**	**17.63**	**330**	⇑P	**Pn**	**18 54 24.6**	**-0.2**
	0.3nm,0.4s,baz=132,slow=11,SNR=13						
BVAR	**Borovoye Array**	**18.49**	**354**	P	**Pn**	**18 54 35.1**	**-0.1**
	0.2nm,0.3s,baz=157,slow=8.2,SNR=6.3						
ZRNK	**Zerenda**	**18.55**	**352**	⇓P	**Pn**	**18 54 36.7**	**+0.7**
	1.3nm,0.8s						
ZRNK	**Zerenda**	**18.55**	**352**	*eP*	**Pn**	**18 54 36.8**	**+0.7**
	1.2nm,0.7s						
CHKZ	**Chkalovo**	**19.12**	**355**	⇑P	**Pn**	**18 54 44.1**	**+1.2**
	5.1nm,2.1s						
CHKZ	**Chkalovo**	**19.12**	**355**	*eP*	**Pn**	**18 54 43.6**	**+0.8**
	0.7nm,0.6s						
AKTK	**Aktyubinsk**	**19.34**	**329**	P	**Pn**	**18 54 45.0**	**-0.5**
AKTO	**Aktyubinsk**	**19.34**	**329**	⇑P	**Pn**	**18 54 44.9**	**-0.7**
	0.2nm,1.4s						
AKTO	**Aktyubinsk**	**19.34**	**329**	P	**Pn**	**18 54 45.0**	**-0.5**
	0.2nm,0.3s,baz=140,slow=11,SNR=8.5						
SONM	**Songino Array**	**27.89**	**52**	P	**P**	**18 56 10.5**	**+1.5**
	0.2nm,0.7s,mb2.9,baz=234,slow=12,SNR=2.3						
ARCES	**ARCESS Array B**	**43.58**	**338**	P	**P**	**18 58 22.7**	**-0.5**
	1.4nm,0.8s,mb3.8,baz=107,slow=8.1,SNR=6.0						
ARCES	**ARCESS Array B**	**43.58**	**338**	P	**P**	**18 58 22.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**67.63**	**271**	P	**P**	**19 01 14.8**	**-1.2**
	0.4nm,0.6s,mb3.7,baz=44,slow=6.0,SNR=4.2						
WRA	**Warramunga Arr**	**79.38**	**123**	P	**P**	**19 02 24.7**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=323,slow=5.0,SNR=20						
ASAR	**Alice Springs**	**81.62**	**126**	P	**P**	**19 02 36.3**	**-0.9**
	0.5nm,0.6s,mb3.6,baz=307,slow=5.0,SNR=15						

*ISCJB **31** 19:01:42.0±1.1, 4484N±009×1498E±01, h169km±9km, mb3.5/9, Error ellipse: s-maj=20.2km s-min=8.3km az=84.8*
*MOS **31** 19:01:41.4±1.4, 4546N×14990E, h140km, mb3.9/6, Error ellipse: s-maj=26.8km s-min=19.7km az=130.2*
*JMA **31** 19:01:42.4±0.6, 4483N×14986E, h99km, M3.7*
*IDC **31** 19:01:42.1±4.4, 4549N×14989E, h126km±38km, mb3.4/9, mb1 3.5/10, mb1mx3.4/20, mbtmp3.8/10, Error ellipse: s-maj=33.6km s-min=26.4km az=98.0*

ISC 31 19:01:42.8±1.2, 4481N±009×1498E±01, h166km±10km, n43, σ1°10/53, mb3.5/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.25**	**245**	P	**Pn**	**19 02 32.8**	**-1.1**
NEM2				*eS*	**Sn**	**19 03 12.3**	**-1.3**
JRA	**Rausu**	**3.45**	**257**	P	**Pn**	**19 02 36.6**	**+0.1**
JNK	**Nakash**	**3.84**	**253**	P	**Pn**	**19 02 41.7**	**+0.3**
JAK	**Akkeshi**	**4.10**	**246**	P	**Pn**	**19 02 44.1**	**-0.6**
JAK				*eS*	**Sn**	**19 03 32.2**	**-0.8**
JTKR	**Abashiri--Toko**	**4.29**	**261**	P	**Pn**	**19 02 47.4**	**+0.2**
JAR	**Ashorobuto**	**4.59**	**253**	P	**Pn**	**19 02 52.0**	**+0.9**
JMP	**Maruseppu**	**4.67**	**262**	P	**Pn**	**19 02 52.3**	**+0.1**
JOB	**Onbets**	**4.70**	**248**	P	**Pn**	**19 02 52.8**	**+0.2**
JOB				*eS*	**Sn**	**19 03 47.8**	**+0.7**
JKK2	**Kamakawa 2**	**5.13**	**262**	P	**Pn**	**19 02 59.0**	**+0.8**
JCH	**Churui**	**5.14**	**247**	P	**Pn**	**19 02 58.3**	**0.0**
JCH				*eS*	**Sn**	**19 03 56.9**	**-0.5**
ASAJ	**Asahikawa**	**5.19**	**265**	P	**Pn**	**19 02 59.6**	**+0.7**
	1.1nm,0.3s,baz=96,slow=25,SNR=9.4						
ASAJ	**Asahikawa**	**5.19**	**265**	PN	**Pn**	**19 02 59.6**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**5.36**	**296**	*e*PN	**Pn**	**19 02 58.9**	**-2.2**
JEM	**Erimo**	**5.57**	**242**	*eS*	**Sn**	**19 04 09.2**	**+1.6**
JNBK	**Urakawa-nobuka**	**5.70**	**246**	P	**Pn**	**19 03 05.5**	**-0.1**
JNBK				*eS*	**Sn**	**19 04 09.9**	**-0.7**
JBT2	**Biratori 2**	**5.74**	**252**	P	**Pn**	**19 03 07.2**	**+1.0**
JBT2				*eS*	**Sn**	**19 04 12.6**	**+1.1**
JNB	**Noboribetsu**	**6.76**	**253**	P	**Pn**	**19 03 20.6**	**+0.9**
JNB				*eS*	**Sn**	**19 04 36.5**	**+0.7**
JKB	**Kayabe**	**7.01**	**248**	P	**Pn**	**19 03 23.2**	**+0.2**
JKB				*eS*	**Sn**	**19 04 40.7**	**-1.2**
JYM2	**Yakumo 2**	**7.36**	**252**	P	**Pn**	**19 03 28.5**	**+1.0**
JANG	**Nango**	**7.54**	**237**	P	**Pn**	**19 03 29.6**	**-0.3**
JANG				*eS*	**Sn**	**19 04 52.0**	**-2.4**
JTM	**Tenmabayashi**	**7.56**	**241**	*eS*	**Sn**	**19 04 52.8**	**-2.2**
JSR	**Shiriuchi**	**7.59**	**248**	*eS*	**Sn**	**19 04 55.0**	**-0.6**
JOSM	**Okushiri--Mats**	**7.98**	**254**	P	**Pn**	**19 03 37.4**	**+1.6**
JRG	**Rokugo**	**8.68**	**235**	P	**Pn**	**19 03 46.7**	**+1.6**
JRG				*eS*	**Sn**	**19 05 23.6**	**+1.7**
JIO	**Ouri**	**8.95**	**228**	*eS*	**Sn**	**19 05 27.9**	**-0.3**
JFK	**Kawauchi**	**10.02**	**225**	*eS*	**Sn**	**19 05 52.8**	**-1.0**
SONM	**Songino Array**	**29.83**	**291**	P	**P**	**19 07 37.6**	**+3.4**
	comp=Z,0.2nm,0.4s,mb3.2,baz=59,slow=8.6,SNR=2.7						
MKAR	**Makanchi Array**	**45.77**	**298**	P	**P**	**19 09 48.7**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.5,baz=72,slow=6.8,SNR=9.1						
MKAR	**Makanchi Array**	**45.77**	**298**	P	**P**	**19 09 48.7**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**53.87**	**35**	P	**P**	**19 10 47.9**	**-0.7**
	comp=Z,0.2nm,0.6s,mb3.0,baz=302,slow=7.1,SNR=4.3						
YKA	**Yellowknife Ar**	**53.87**	**35**	P	**P**	**19 10 47.9**	**-0.7**
ARCES	**ARCESS Array B**	**58.91**	**340**	P	**P**	**19 11 22.6**	**-1.7**
	comp=Z,2.3nm,0.8s,mb4.0,baz=31,slow=12,SNR=3.7						
ARCES	**ARCESS Array B**	**58.91**	**340**	P	**P**	**19 11 22.6**	**-1.7**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**64.78**	**334**	P	**P**	**19 12 01.6**	**-1.9**
	comp=Z,0.9nm,0.5s,mb3.9,baz=30,slow=8.3,SNR=12						
FINES	**FINESS Array B**	**64.78**	**334**	P	**P**	**19 12 01.6**	**-1.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**69.28**	**340**	P	**P**	**19 12 31.0**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.6,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**69.28**	**340**	P	**P**	**19 12 31.4**	**-0.5**
	comp=Z,1.2nm,0.5s,mb3.9,baz=29,slow=6.3,SNR=5.5						
NOA	**NORSAR Array B**	**69.28**	**340**	P	**P**	**19 12 31.4**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**69.67**	**196**	P	**P**	**19 12 41.8**	**+7.6**
	comp=Z,0.2nm,0.7s,mb3.0,baz=5.8,slow=5.5,SNR=4.6						
AKASG	**Malin Array Be**	**71.83**	**325**	P	**P**	**19 12 47.1**	**-0.2**
	comp=Z,1.0nm,0.4s,mb3.9,baz=37,slow=6.1,SNR=5.5						
AKASG	**Malin Array Be**	**71.83**	**325**	P	**P**	**19 12 47.1**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**79.14**	**332**	P	**P**	**19 13 30.7**	**+1.8**
	comp=Z,0.5nm,0.5s,mb3.4,baz=29,slow=7.2,SNR=4.2						
GERES	**GERESS Array B**	**79.14**	**332**	P	**P**	**19 13 30.7**	**+1.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						

MAN 31 19:05:03.8, 877N×12310E, h1km, mb1.7, ML3.5, MS5.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.31**	**126⇓**	*eP*	Pg	19 05 09.7	-0.1
DCPH				*i S*	Sg	19 05 17.1	+3.4
SNPH	**Sibulan**	**0.59**	**13**	*i P*	Pg	19 05 15.0	-0.1
PAGZ	**Pagadian**	**0.95**	**163**	*eP*	Pg	19 05 22.0	-0.1
IPIL	**Ipil**	**1.10**	**208**	*eP*	Pg	19 05 25.7	+0.8
GUIM	**Jordan**	**1.92**	**345**	*eP*	Pn	19 05 28.8	-8.7

*IDC **31** 19:09:48.9±1.5, 905S×12060E, h0km, mb4.2/3, mb1 4.3/6, mb1mx4.0/14, mbtmp4.1/6, ML4.2/3, Error ellipse: s-maj=130.5km s-min=18.4km az=59.0*
*ISCJB **31** 19:09:55.3±2.5, 89S±01×1211E±01, h63km±23km, mb4.1/4, Error ellipse: s-maj=23.4km s-min=12.4km az=103.3*
*NEIC **31** 19:09:58.1±2.2, 921S×12057E, h80km±23km, mb4.4/3, Error ellipse: s-maj=21.9km s-min=18.0km az=224.0*

ISC 31 19:10:00.8±2.0, 90S±01×1211E±01, h99km±18km, n13, σ1°08/19, mb4.0/4, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.06**	**154**	*eP*	**Pn**	**19 12 21.2**	**-1.0**
	3.1nm,0.3s						
FITZ				*eS*	**Sn**	**19 14 05.9**	**-7.2**
FITZ	**Fitzroy Crossi**	**10.06**	**154**	Pn	**Pn**	**19 12 19.1**	**-3.1**
	0.3nm,0.3s,baz=343,slow=17,SNR=12						
FITZ				Sn	**Sn**	**19 14 04.7**	**-8.4**
	2.8nm,0.3s,baz=199,slow=20,SNR=13						
KAKA	**Kakadu**	**11.77**	**109**	*eP*	**Pn**	**19 12 48.0**	**+2.6**
	14nm,0.4s						
KAKA				*eS*	**Sn**	**19 14 53.9**	**-0.8**
MBWA	**Marble Bar**	**12.12**	**186**	*eP*	**Pn**	**19 12 44.5**	**-5.6**
WRA	**Warramunga Arr**	**16.81**	**132**	Pn	**Pn**	**19 13 50.4**	**+0.3**
	2.2nm,0.3s,baz=305,slow=14,SNR=132						
WRA				Sn	**Sn**	**19 16 47.8**	**-8.9**
	0.5nm,0.3s,baz=308,slow=24,SNR=5.1						
WRAB	**Tennant Creek**	**16.82**	**132**	*eP*	**Pn**	**19 13 51.4**	**+1.2**
	22nm,0.7s						
ASAR	**Alice Springs**	**19.05**	**141**	P	**Pn**	**19 14 17.6**	**+0.6**
	1.1nm,0.3s,baz=317,slow=11,SNR=188						
ASAR				S	**S**	**19 17 45.3**	**-0.8**
	0.2nm,0.3s,baz=316,slow=23,SNR=7.8						
FORT	**Forrest**	**22.60**	**164**	*eP*	**P**	**19 15 00.3**	**+7.0**
	8.5nm,0.7s,mb4.2						
MUN	**Mundaring**	**23.27**	**190**	*eP*	**P**	**19 15 12.8**	**+13**
MUN				*eS*	**S**	**19 19 05.2**	**+0.9**
STKA	**Stephens Creek**	**29.67**	**143**	*eP*	**P**	**19 15 57.0**	**-0.1**
	3.4nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**29.67**	**143**	P	**P**	**19 15 57.1**	**0.0**
	4.4nm,0.4s,mb4.4,baz=318,slow=7.6,SNR=20						
SONM	**Songino Array**	**58.09**	**348**	P	**P**	**19 19 43.3**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=160,slow=9.5,SNR=9.6						
MKAR	**Makanchi Array**	**65.42**	**332**	P	**P**	**19 20 32.5**	**-0.5**
	0.9nm,0.5s,mb3.9,baz=146,slow=7.9,SNR=28						

*IDC **31** 19:10:35.5±2.2, 4353N×10536W, h0km, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=48.6km s-min=9.1km az=152.0*
*ISCJB **31** 19:10:36.2±0.6, 4376N±003×105.19W±006, h0km, Error ellipse: s-maj=6.5km s-min=4.8km az=6.2*
*NEIC **31** 19:10:37.3±0.4, 4369N×10521W, h0km, ML3.1, Error ellipse: s-maj=5.6km s-min=4.2km az=140.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.

ISC 31 19:10:37.4±0.5, 4374N±003×10518W±006, h0km, n26, σ0°93/30, Wyoming

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

CTA Charters Tower 34.83 277 P **P 19 36 15.6 +0.2**
1.1nm,0.6s,mb4.0,baz=94,slow=9.7,SNR=4.4
CTA Charters Tower 34.83 277 P **P 19 36 15.6 +0.2**
STKA Stephens Creek 35.76 256 P **P 19 36 23.2 -0.2**
6.9nm,0.8s,mb4.6,baz=76,slow=8.4,SNR=8.6
STKA Stephens Creek 35.76 256 *e*P **P 19 36 22.8 -0.6**
ASAR Alice Springs 44.30 266 P **P 19 37 34.3 +0.1**
1.7nm,0.7s,mb3.9,baz=94,slow=7.9,SNR=40
WRAB Tennant Creek 45.22 271 *e*P **P 19 37 41.4 -0.1**
12nm,1.2s,mb4.6
WRA Warramunga Arr 45.22 271 P **P 19 37 41.0 -0.5**
3.1nm,0.8s,mb4.2,baz=111,slow=7.9,SNR=43
MJAR Matsushiro Arr 78.32 324 P **P 19 41 22.6 -1.6**
1.7nm,0.8s,mb4.0,baz=162,slow=4.9,SNR=4.7
NVAR Mina Array Bea 86.94 42 P **P 19 42 09.9 +0.9**
1.0nm,0.8s,mb4.1,baz=196,slow=5.5,SNR=5.4
ENH Enshi 92.15 304 *e*P **P 19 42 34.7 +1.1**
8.9nm,1.0s,mb5.0
FINES FINESS Array B 144.85 341 PKP PKPdf 19 48 58.0 -2.9
1.5nm,0.8s,baz=40,slow=3.2,SNR=4.8
FINES FINESS Array B 144.85 341 PKP PKPdf 19 48 58.0 -2.9
MALT Malatya 149.79 296 *e*PKPdf PKPbc 19 49 15.2 +1.4
AKASG Malin Array Be 151.40 325 PKPbc PKPbc 19 49 16.8 -0.9
0.2nm,0.3s,baz=42,slow=2.0,SNR=5.8
AKASG Malin Array Be 151.40 325 PKPbc PKPbc 19 49 16.8 -0.9
BRTR Keskin Array B 153.25 300 PKPbc PKPbc 19 49 23.6 +1.7
1.7nm,1.1s,baz=180,slow=7.0,SNR=4.5
TORD Torodi Ar. Bea 163.47 174 PKPab PKPab 19 50 21.2 +3.2
1.3nm,1.0s,baz=201,slow=3.3,SNR=5.9

MAN 31 19:32:44.7, 1209N×12136E, h9km, mb2.4, ML4.0, MS1.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.44**	**328**	*e*P	Pg	19 32 54.1	+0.9
OTRP	**Odiongan**	**0.70**	**67**	*e*P	Pg	19 32 58.0	-0.3
OTRP				*e*S	Sg	19 33 08.0	+0.6
KALP	**Kalibo**	**1.04**	**113**	*e*P	Pg	19 33 05.4	+0.6
BUSP	**Coron**	**1.14**	**266**	*e*P	Pb	19 33 06.3	-0.2
CUYO	**Cuyo Island**	**1.27**	**195**	*e*P	Pn	19 33 07.1	-1.5
BOAC	**Boac**	**1.44**	**19**	*e*P	Pn	19 33 08.0	-3.0
AUQP	**San Andres**	**1.78**	**46**	*e*P	Pn	19 33 15.8	+0.2
GUIM	**Jordan**	**1.89**	**140**	*e*P	Pn	19 33 17.2	+0.1
LUBP	**Lubang**	**1.96**	**327**	*e*P	Pn	19 33 17.9	-0.2
LQP	**Lukban**	**2.02**	**5**	*e*P	Pn	19 33 24.2	+5.4
ENPP	**El Nido**	**2.08**	**245**	*e*P	Pn	19 33 19.4	-0.4
GQP	**Guinayangan**	**2.09**	**30**	‖*e*P	Pn	19 33 20.5	+0.6
POLP	**Polillo Island**	**2.68**	**12**	*e*P	Pn	19 33 28.6	+0.5
PVCP	**Virac**	**3.11**	**61**	*e*P	Pn	19 33 33.9	0.0
SNPH	**Sibulan**	**3.29**	**146**	*e*P	Pn	19 33 37.5	+1.1
IPIL	**Ipil**	**4.44**	**164**	*e*P	Pn	19 33 51.4	-0.8
BATP	**Bataraza**	**4.79**	**227**	*e*P	Sn	19 34 49.3	-3.3

ISCJB ***31*** *19:42:34.4±3.3, 82S±02×1199E±02, h228km±35km, mb3.4/3, Error ellipse: s-maj=31.1km s-min=20.4km az=69.6*
NEIC ***31*** *19:42:34.5±3.3, 829S×11971E, h213km±35km, mb4.0/2, Error ellipse: s-maj=39.4km s-min=18.5km az=62.0*
IDC ***31*** *19:42:36.8±3.6, 856S×11944E, h244km±45km, mb3.1/4, mb1 3.2/6, mb1mx3.1/16, mbtmp3.7/6, Error ellipse: s-maj=89.2km s-min=11.7km az=50.0*
ISC 31 19:42:34.6±2.2, 83S±02×1197E±02, h211km±23km, n12, σ0°65/18, mb3.4/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.33**	**150**	*e*P	**Pn**	**19 45 10.6**	**+0.1**
FITZ				*e*S	**S**	**19 47 09.0**	**-8.1**
2.5nm,0.3s
FITZ	**Fitzroy Crossi**	**11.33**	**150**	P	**Pn**	**19 45 09.3**	**-1.3**
0.2nm,0.3s,baz=70,slow=6.9,SNR=11
FITZ				S	**S**	**19 47 09.2**	**-7.8**
0.7nm,0.3s,baz=185,slow=19,SNR=8.6
FITZ	**Fitzroy Crossi**	**11.33**	**150**	*e*P	**Pn**	**19 45 10.6**	**+0.1**
2.5nm,0.3s
FITZ				*e*S	**S**	**19 47 09.0**	**-8.1**
KAKA	**Kakadu**	**13.24**	**111**	*e*P	**Pn**	**19 45 34.1**	**-0.5**
KAKA				*e*S	**S**	**19 47 54.1**	**-8.0**
2.3nm,0.3s
KAKA	**Kakadu**	**13.24**	**111**	*e*P	**Pn**	**19 45 34.1**	**-0.5**
2.3nm,0.3s
KAKA				*e*S	**S**	**19 47 54.1**	**-8.0**
WRA	**Warramunga Arr**	**18.28**	**131**	P	**P**	**19 46 33.3**	**+0.6**
0.6nm,0.3s,baz=302,slow=12,SNR=53
WRA				S	**S**	**19 49 50.3**	**-0.2**
0.1nm,0.3s,baz=310,slow=21,SNR=3.8
WRAB	**Tennant Creek**	**18.28**	**131**	*e*P	**P**	**19 46 33.1**	**+0.5**
ASAR	**Alice Springs**	**20.45**	**140**	P	**P**	**19 46 56.9**	**+1.0**
1.8nm,0.4s,baz=315,slow=9.6,SNR=64
STKA	**Stephens Creek**	**31.05**	**142**	P	**P**	**19 48 31.9**	**-0.8**
1.2nm,0.4s,mb3.9,baz=305,slow=8.2,SNR=5.9
SONM	**Songino Array**	**57.10**	**349**	P	**P**	**19 51 59.5**	**+0.5**
0.2nm,0.4s,mb3.1,baz=164,slow=7.8,SNR=3.3
SONM	**Songino Array**	**57.10**	**349**	P	**P**	**19 51 59.5**	**+0.5**
MKAR	**Makanchi Array**	**64.16**	**332**	P	**P**	**19 52 45.9**	**-0.6**
0.3nm,0.4s,mb3.2,baz=156,slow=6.5,SNR=11

IDC 31 20:10:09.7±1.9, 050N×12575E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=167.1km s-min=25.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**158**	P	P	20 15 04.6	-0.8
0.5nm,0.4s,baz=336,slow=11,SNR=25
ASAR	**Alice Springs**	**25.30**	**162**	P	P	20 15 39.0	+1.1
0.6nm,0.3s,baz=347,slow=12,SNR=13
MKAR	**Makanchi Array**	**59.66**	**327**	P	P	20 20 15.8	0.0
0.2nm,0.4s,baz=124,slow=8.1,SNR=5.0

ISCJB ***31*** *20:18:43.3±0.3, 2975S±006×17657W±006, h10km, mb4.9/34, MS4.3/9, Error ellipse: s-maj=8.5km s-min=7.1km az=177.9*
BJI ***31*** *20:18:43.5, 2906S×17609W, h8km, mB5.6, mb5.1, Ms5.2, Msz4.9*
IDC ***31*** *20:18:43.0±0.6, 2941S×17667W, h0km, mb4.6/12, mb1 4.8/13, mb1mx4.7/17, mbtmp4.6/13, ML4.5/1, MS4.1/9, Ms1 4.1/9, ms1mx3.8/22, Error ellipse: s-maj=22.8km s-min=15.9km az=176.0*
NEIC ***31*** *20:18:44.6±0.3, 2962S×17664W, h10km, mb5.0/15, Error ellipse: s-maj=10.5km s-min=7.4km az=144.0*
HRVD ***31*** *20:18:44.6±0.9, 2977S×17629W, h24km±2km, MW4.9/34, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s34,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_r2.77±.40; $M_{\theta\theta}$-0.37±.27; $M_{\phi\phi}$-2.40±.27; $M_{r\theta}$1.42±.38; $M_{r\phi}$0.13±.18; $M_{\theta\phi}$0.67±.32; Best double couple: $M_0$2.94200×10^{16} NP1:ϕ_s160.00000°, δ41.00000°, λ58.00000°. NP2: ϕ_s19.00000°, δ56.00000°, λ115.00000°. Principal axes: T 3.3950, Plg68.0000°, Azm342.0000°; N -0.9080, Plg20.0000°, Azm185.0000°; P -2.4880, Plg8.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***31*** *20:18:47.9±1.2, 2953S×17675W, h33km, mb4.9/8 Error ellipse: s-maj=14.8km s-min=13.3km az=41.0*
ISC 31 20:18:43.5±1.8, 2974S±005×17659W±006, h3km±10km, h15km±2.1km; pP-P, n118, σ1§10/62, mb4.9/34, MS4.3/9, 2C-6D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**292**	Pn	**Pn**	**20 19 07.5**	**-0.5**
198nm,0.3s,baz=90,slow=22,SNR=26
RAO				Sn	**Sn**	**20 19 26.2**	**+0.8**
303nm,0.3s,baz=286,slow=23,SNR=12
RAO	**Raoul Island**	**1.26**	**292**	*e*P	**Pg**	**20 19 08.2**	**+0.6**
URZ	**Urewera**	**9.98**	**210**	Pn	**Pn**	**20 21 08.1**	**+0.3**
0.8nm,0.3s,baz=241,slow=3.0,SNR=6.1
URZ				Sn	**Sn**	**20 22 58.4**	**-1.9**
5.0nm,0.3s,baz=350,slow=20,SNR=10
AFI	**Afiamalu**	**16.37**	**17**	Pn	**Pn**	**20 22 33.5**	**-0.8**
2.2nm,0.3s,baz=210,slow=20,SNR=2.9
AFI				LR	LR	20 27 19.8	
comp=Z,223nm,18.3s,baz=158,slow=32
DZM	**Mont Dzumac**	**17.06**	**293**	Pn	**Pn**	**20 22 48.4**	**+5.4**
0.4nm,0.3s,baz=104,slow=16,SNR=17
DZM				LR	LR	20 27 56.9	
comp=Z,634nm,20.1s,baz=205,slow=33
RPZ	**Rata Peaks**	**17.08**	**212**	P	**Pn**	**20 22 42.7**	**-0.6**
1.7nm,0.3s,baz=64,slow=4.4,SNR=9.3
RAR	**Rarotonga**	**17.38**	**65**	P	**Pn**	**20 22 45.4**	**-1.6**
1.5nm,0.3s,baz=245,slow=7.5,SNR=7.2
RAR				LR	LR	20 28 17.0	
comp=Z,814nm,18.1s,baz=283,slow=33
ARMA	**Armidale**	**27.47**	**261**	*e*P	**P**	**20 24 34.7**	**+3.8**
PPT	**Papeete**	**27.47**	**70**	*e*LQ		20 29 46.1	
557nm,24.8s
PPT				*e*LR	LR	20 30 56.7	
279nm,21.0s
PPT	**Papeete**	**27.47**	**70**	LR	LR	20 33 05.8	
comp=Z,370nm,18.2s,MS4.0,baz=247,slow=32
HNR	**Honiara**	**29.83**	**308**	LR	LR	20 34 49.0	
comp=Z,127nm,18.8s,MS3.6,baz=180,slow=33
CTA	**Charters Tower**	**34.92**	**277**	*e*P	**P**	**20 25 38.4**	**+2.0**
7.1nm,1.0s,mb4.5
CTA	**Charters Tower**	**34.92**	**277**	P	**P**	**20 25 37.0**	**+0.6**
12nm,1.1s,mb4.8,baz=97,slow=9.8,SNR=8.7
CTA				LR	LR	20 38 24.4	
comp=Z,585nm,20.0s,MS4.3,baz=114,slow=34
CTA	**Charters Tower**	**34.92**	**277**	*e*P	**P**	**20 25 38.4**	**+2.0**
CTA				pmax	pmax		
comp=Z,7.0nm,1.0s
STKA	**Stephens Creek**	**35.82**	**256**	*e*P	**P**	**20 25 43.8**	**-0.4**
comp=Z,22nm,0.8s,mb5.1
STKA	**Stephens Creek**	**35.82**	**256**	P	**P**	**20 25 42.8**	**-1.4**
comp=Z,28nm,0.8s,mb5.2,baz=93,slow=8.1,SNR=33
STKA				LR	LR	20 39 33.6	
comp=Z,477nm,19.2s,MS4.3,baz=295,slow=35
RKT	**Rikitea**	**37.69**	**90**	*e*LR	LR	20 35 43.6	
comp=Z,347nm,30.2s
ASAR	**Alice Springs**	**44.37**	**266**	P	**P**	**20 26 54.4**	**-0.8**
comp=Z,4.0nm,0.7s,mb4.3,baz=96,slow=7.9,SNR=55
ASAR				PcP	PcP	20 28 39.7	+0.6
comp=Z,1.8nm,0.8s,baz=107,slow=4.0,SNR=7.3
WRAB	**Tennant Creek**	**45.30**	**271**	P	**P**	**20 27 01.6**	**-1.0**
comp=Z,114nm,1.0s,mb5.7,SNR=7.9
WRAB	**Tennant Creek**	**45.30**	**271**	*e*P	**P**	**20 27 01.0**	**-1.6**
comp=Z,25nm,0.9s,mb5.0
WRAB	**Tennant Creek**	**45.30**	**271**	*d i*P	**P**	**20 27 01.5**	**-1.1**
WRA	**Warramunga Arr**	**45.30**	**271**	P	**P**	**20 27 01.4**	**-1.2**
comp=Z,15nm,0.9s,mb4.8,baz=109,slow=7.8,SNR=41
WRA				PcP	PcP	20 28 42.7	+0.4
comp=Z,4.5nm,1.0s,baz=112,slow=4.6,SNR=6.0
FORT	**Forrest**	**47.40**	**254**	*e*P	**P**	**20 27 19.8**	**+0.7**
comp=Z,20nm,0.7s,mb5.2
VNDA	**Vanda**	**48.88**	**186**	P	**P**	**20 27 33.5**	**+3.0**
comp=Z,3.0nm,1.0s,mb4.3,baz=16,slow=6.0,SNR=7.4
FITZ	**Fitzroy Crossi**	**53.59**	**269**	*e*P	**P**	**20 28 05.6**	**-0.3**
comp=Z,17nm,1.0s,mb4.9
FITZ	**Fitzroy Crossi**	**53.59**	**269**	P	**P**	**20 28 05.4**	**-0.5**
comp=Z,8.9nm,0.9s,mb4.7,baz=182,slow=8.0,SNR=10
KLBR	**Kellerberrin**	**55.72**	**250**	*e*P	**P**	**20 28 20.6**	**-0.8**
comp=Z,14nm,0.9s,mb5.0
GUMO	**Guam**	**56.89**	**314**	LR	LR	20 47 56.7	
comp=Z,101nm,20.1s,MS3.9,baz=141,slow=31
RPN	**Rapa Nui**	**58.43**	**105**	LR	LR	20 46 27.8	
comp=Z,217nm,19.0s,MS4.3,baz=46,slow=28
QSPA	**South Pole Qui**	**60.37**	**180**	*e*P	**P**	**20 28 56.7**	**+2.7**
comp=Z,25nm,1.1s,mb5.2
MAW	**Mawson**	**73.35**	**200**	P	**P**	**20 30 18.5**	**+1.8**
comp=Z,10nm,1.1s,mb4.7,baz=109,slow=5.2,SNR=7.1
SYO	**Syowa Base**	**78.03**	**193**	‖*e*P	**P**	**20 30 42.2**	**-1.3**
SYO	**Syowa Base**	**78.03**	**193**	‖*e*PcP	PcP	20 30 53.9	+0.7
SYO	**Syowa Base**	**78.03**	**193**	‖*e*pP	pP	20 30 57.0	+13
MJAR	**Matsushiro Arr**	**78.41**	**324**	P	**P**	**20 30 43.8**	**-1.7**
comp=Z,6.5nm,0.8s,mb4.6,baz=160,slow=5.0,SNR=16
MAJO	**Matsushiro**	**78.41**	**324**	*e*P	**P**	**20 30 44.6**	**-0.9**
comp=Z,36nm,1.5s,mb5.1
MAJO	**Matsushiro**	**78.41**	**324**	*e*P	**P**	**20 30 44.6**	**-0.9**
MAJO				pmax	pmax		
comp=Z,36nm,1.5s,mb5.1
MAT	**Matsushiro**	**78.41**	**324**	P	**P**	**20 30 44.5**	**-1.0**
MAT	**Matsushiro**	**78.41**	**324**	*e*P	**P**	**20 30 45.0**	**-0.5**
comp=Z,6.7nm,0.9s,mb4.6
MAT	**Matsushiro**	**78.41**	**324**	*e*P	**P**	**20 30 45.0**	**-0.5**
MAT				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.6
VNA3	**Neumayer Olymp**	**78.88**	**176**	*e*P	**P**	**20 30 49.0**	**+0.9**
VNA3				*e*		20 30 56.1	
VNA3				*e*		20 30 59.4	
VNA3				*e*		20 31 03.3	
VNA2	**Neumayer--Watz**	**79.33**	**176**	*e*P	**P**	**20 30 51.2**	**+0.6**
VNA2				*e*		20 31 00.2	
VNA2				*e*		20 31 02.6	
VNA2				*e*		20 31 06.2	
PLCA	**Paso Flores**	**82.06**	**132**	P	**P**	**20 31 06.0**	**+0.8**
comp=Z,2.1nm,1.0s,mb4.0,baz=230,slow=9.9,SNR=3.0
SSE	**Sheshan**	**84.60**	**310**	*e*P	**P**	**20 31 18.0**	**-0.3**
SSE				AMB	AMB		
comp=Z,22nm,0.8s,mb5.3
SSE				AMB	AMB		
comp=Z,86nm,5.2s
YSS	**Yuzh-Sakhalins**	**84.69**	**333**	*e*P	**P**	**20 31 19.6**	**+0.8**
comp=Z,11nm,0.9s,mb5.0
YSS	**Yuzh-Sakhalins**	**84.69**	**333**	‖*e*P	**P**	**20 31 20.1**	**+1.3**
YSS				*e*		20 31 28.0	
YSS				pmax	pmax		
comp=Z,20nm,1.0s,mb5.2
CMB	**Columbia Colle**	**85.45**	**41**	*e*P	**P**	**20 31 23.1**	**+0.5**
comp=Z,3.1nm,1.0s,mb4.4
CMB	**Columbia Colle**	**85.45**	**41**	*e*P	**P**	**20 31 23.1**	**+0.5**
CMB				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.4
PSI	**Prapat**	**86.59**	**275**	P	**P**	**20 31 27.1**	**-1.1**
comp=Z,20nm,1.1s,mb5.3,baz=212,slow=6.3,SNR=7.0
NJ2	**Nanjing**	**86.75**	**310**	*e*P	**P**	**20 31 28.0**	**-1.0**
NJ2				AP	pP	20 31 33.0	+3.1
NJ2				XP	sP	20 31 35.0	+4.8
NJ2				PP	PP	20 34 53.0	+1.7
NJ2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb5.0
NJ2				AMB	AMB		
comp=Z,80nm,7.1s
NJ2				LR	LR		
comp=N,460nm,35.8s
NJ2				LR	LR		
comp=E,450nm,22.8s
NJ2				LR	LR		
comp=Z,220nm,30.1s
NVAR	**Mina Array Bea**	**86.92**	**42**	P	**P**	**20 31 29.6**	**-0.2**
comp=Z,4.7nm,1.0s,mb4.7,baz=198,slow=6.2,SNR=15
TPNV	**Topopah Spring**	**87.17**	**44**	*e*P	**P**	**20 31 31.6**	**+0.6**
comp=Z,6.5nm,1.0s,mb4.8
TPNV	**Topopah Spring**	**87.17**	**44**	*e*P	**P**	**20 31 31.6**	**+0.6**
TPNV				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.8
MDJ	**Mudanjiang**	**88.78**	**325**	P	**P**	**20 31 39.5**	**+0.7**
MDJ				PP	PP	20 35 10.0	+2.4
MDJ				AMB	AMB		
comp=Z,7.0nm,0.7s,mb5.1
MDJ				AMB	AMB		
comp=Z,77nm,3.8s
MDJ				LR	LR		
comp=N,174nm,13.2s,MS4.7
MDJ				LR	LR		
comp=E,103nm,17.5s,MS4.7
MDJ				LR	LR		
comp=Z,117nm,18.3s,MS4.3
HABR	**Khabarovsk**	**89.07**	**330**	*e*P	**P**	**20 31 41.0**	**+0.9**
HABR				*e*S		20 42 07.0	
SNY	**Shenyang**	**90.07**	**320**	‖P	**P**	**20 31 45.0**	**+0.2**
SNY				AMB	AMB		
comp=Z,9.0nm,0.4s,mb5.5
CN2	**Changchun**	**90.36**	**322**	*e*P	**P**	**20 31 46.8**	**+0.6**
CN2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb5.1
MSU	**Marysvale**	**90.65**	**45**	*e*P	**P**	**20 31 48.3**	**+0.8**
SRU	**San Rafael**	**92.03**	**45**	*e*P	**P**	**20 31 53.4**	**-0.5**
comp=Z,2.5nm,0.7s,mb4.7
SRU	**San Rafael**	**92.03**	**45**	*e*P	**P**	**20 31 53.4**	**-0.5**
SRU				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.6
ENH	**Enshi**	**92.25**	**304**	*e*P	**P**	**20 31 55.5**	**+0.6**
comp=Z,60nm,1.1s,mb5.8
KMI	**Kunming**	**94.62**	**296**	P	**P**	**20 32 08.3**	**+2.5**
KMI				AP	pP	20 32 13.7	+7.0
KMI				XP	sP	20 32 18.8	+12
KMI				S		20 43 20.0	
KMI				SS	SS	20 49 45.5	+3.0
KMI				AMB	AMB		
comp=Z,5.0nm,1.2s,mb4.8
KMI				AMB	AMB		
comp=Z,114nm,5.0s
KMI				LR	LR		
comp=N,96nm,18.4s,MS4.5
KMI				LR	LR		
comp=E,104nm,18.4s,MS4.5
KMI				LR	LR		
comp=Z,124nm,18.4s,MS4.4
PDAR	**Pinedale Array**	**94.81**	**43**	P	**P**	**20 32 05.8**	**-0.9**
comp=Z,0.8nm,1.0s,mb4.1,baz=216,slow=4.8,SNR=5.6
FLWY	**Flagg Ranch**	**94.94**	**41**	*e*P	**P**	**20 32 07.1**	**-0.2**
comp=Z,4.1nm,1.0s,mb4.8
HHC	**Hu-ho-hao-te**	**96.66**	**313**	*e*P	**P**	**20 32 16.8**	**+1.7**
HHC				PP	PP	20 36 15.0	+5.5
HHC				AMB	AMB		
comp=Z,6.0nm,0.3s,mb5.5
HHC				AMB	AMB		
comp=Z,100nm,6.1s
HHC				LR	LR		
comp=N,137nm,4.7s
HHC				LR	LR		
comp=E,174nm,4.8s
HHC				LR	LR		
comp=Z,166nm,5.3s
CD2	**Chengdu**	**96.78**	**302**	*e*P	**P**	**20 32 14.8**	**-0.9**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb5.3
BILL	**Bilibino**	**98.32**	**354**	*e*P	**P**	**20 32 21.3**	**-1.3**
BILL				*e*		20 36 20.7	
BILL				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.5
LZH	**Lanzhou**	**99.31**	**306**	*e*P	**P**	**20 32 28.0**	**+0.9**
LZH				AP	pP	20 32 31.0	+3.1
LZH				XP	sP	20 32 33.5	+5.3
LZH				PP	PP	20 36 32.0	+2.1
LZH				AMB	AMB		
comp=Z,11nm,1.0s,mb5.3
LZH				AMB	AMB		
comp=Z,70nm,6.0s
LZH				LR	LR		
comp=N,370nm,16.8s
LZH				LR	LR		
comp=Z,560nm,18.5s,MS5.1
YKA	**Yellowknife Ar**	**104.32**	**25**	PP	PP	20 36 55.0	-13
comp=Z,0.0nm,0.3s,baz=216,slow=10,SNR=3.9
MKAR	**Makanchi Array**	**118.28**	**310**	PKP	PKPdf	20 37 31.2	-1.1
comp=Z,2.1nm,1.0s,baz=66,slow=3.5,SNR=9.9
NVS	**Novosibirsk**	**119.44**	**319**	*e*PKIKP	PKPdf	20 37 32.2	-2.3
KURK	**Kurchatov**	**121.47**	**314**	*e*PKPdf	PKPdf	20 37 37.5	-0.9
CHKZ	**Chkalovo**	**126.67**	**317**	*e*PKPdf	PKPdf	20 37 47.2	-1.1
BVAR	**Borovoye Array**	**126.78**	**316**	PKP	PKPdf	20 37 47.1	-1.5
comp=Z,3.4nm,0.9s,baz=95,slow=1.8,SNR=20
BRVK	**Borovoye**	**126.85**	**316**	*e*PKPdf	PKPdf	20 37 48.2	-0.5
ZRNK	**Zerenda**	**127.62**	**316**	*e*PKPdf	PKPdf	20 37 49.6	-0.6
ARU	**Arti**	**133.35**	**321**	*i*PKIKP	PKPdf	20 38 00.3	-0.7
ARU				*e*		20 40 25.9	
ARU				*e*SS	SS	20 58 08.6	-4.7
AKTK	**Aktyubinsk**	**134.55**	**313**	PKP	PKPdf	20 38 02.5	-0.8
AKTO	**Aktyubinsk**	**134.55**	**313**	PKP	PKPdf	20 38 02.5	-0.8
comp=Z,1.4nm,0.6s,baz=108,slow=3.3,SNR=5.6
ARCES	**ARCESS Array B**	**138.19**	**349**	PKP	PKPdf	20 38 09.1	-1.0
comp=Z,3.6nm,0.8s,baz=347,slow=1.6,SNR=5.8
GNI	**Garni**	**144.84**	**298**	*e*PKPdf	PKPdf	20 38 21.4	-0.6
FINES	**FINESS Array B**	**144.93**	**341**	PKP	PKPdf	20 38 19.9	-2.2
comp=Z,4.5nm,0.8s,baz=54,slow=4.9,SNR=18
BHD	**Baghdad**	**145.05**	**286**	*ex*	x	20 38 13.5	
ZEI	**Tsey**	**145.19**	**303**	*i*PKIKP	PKPdf	20 38 22.8	+0.2
ZEI				*i*		20 41 37.1	
OBN	**Obninsk**	**145.31**	**326**	*e*PKPdf	PKPdf	20 38 22.0	-0.8
OBN	**Obninsk**	**145.31**	**326**	*d i*PKIKP	PKPdf	20 38 21.5	-1.3
OBN				pmax	pmax		
comp=Z,19nm,0.7s
GOF	**Gofitskoye**	**145.38**	**307**	*e*PKIKP	PKPdf	20 38 22.9	0.0
GOF				pmax	pmax		
comp=Z,50nm,1.3s
VOR	**Voronezh**	**145.61**	**320**	PKIKP	PKPdf	20 38 22.0	-1.3
VOR				pmax	pmax		
comp=Z,70nm,1.6s
VRSR	**Storozhevoye**	**145.84**	**319**	*e*PKP2	PKPab	20 38 23.6	-1.0
VRSR				pmax	pmax		
comp=N,5.0nm,0.9s
VRSR				pmax	pmax		
comp=Z,9.0nm,0.9s
VRSR				pmax	pmax		
comp=E,5.0nm,1.0s
KIV	**Kislovodsk**	**145.85**	**305**	*e*PKPdf	PKPdf	20 38 24.1	+0.4
KIV	**Kislovodsk**	**145.85**	**305**	*e*PKP2	PKPab	20 38 24.1	-0.6
MSL	**Mosul**	**146.27**	**292**	*ex*	x	20 38 29.0	
VSU	**Vasula**	**147.10**	**337**	*i*PKP2	PKPab	20 38 27.0	-2.5
ERZM	**Erzurum**	**147.44**	**298**	*i*P	PKPab	20 38 30.9	0.0
SOC	**Sochi**	**148.03**	**306**	*i*PKP2	PKPab	20 38 32.2	-1.0
SOC				*e*		20 41 53.9	
SOC				pmax	pmax		
comp=Z,27nm,1.3s
MARD	**Mardin**	**148.10**	**294**	*i*P	PKPbc	20 38 31.6	+0.9
NB2	**NORSAR Subarra**	**148.27**	**353**	PKPa	PKPdf	20 38 29.0	+1.3
comp=Z,2.1nm,0.8s,baz=9.8,slow=2.9
NOA	**NORSAR Array B**	**148.27**	**353**	PKPbc	PKPbc	20 38 29.7	-1.4
comp=Z,4.3nm,0.9s,baz=15,slow=4.4,SNR=11
ELZG	**Elazig**	**149.43**	**296**	*i*P	PKPbc	20 38 36.2	+2.2
GRSN	**GIRESUNGRSN**	**149.64**	**301**	*i*P	PKPbc	20 38 34.9	+0.3
MALT	**Malatya**	**149.89**	**296**	*e*PKPbc	PKPbc	20 38 36.1	+0.9
GZT	**Gaziantep**	**150.66**	**294**	*i*P	PKPbc	20 38 38.1	+1.1
SIM	**Simferopol'**	**151.46**	**311**	*ce*PKIKP	PKPbc	20 38 39.9	+1.0
SIM				pmax	pmax		
comp=Z,11nm,0.8s
AKASG	**Malin Array Be**	**151.49**	**325**	PKPbc	PKPbc	20 38 37.6	-1.4
comp=Z,9.1nm,0.7s,baz=47,slow=2.6,SNR=27
COBT	**Iskenderun**	**151.77**	**293**	*i*P	PKPbc	20 38 41.3	+1.7
SUW	**Suwalki**	**151.82**	**335**	*e*PKP	PKPbc	20 38 39.3	-0.4
BOYT	**Boyabat**	**152.01**	**303**	*i*P	PKPdf	20 38 37.5	+3.9
CTKT	**Corum**	**152.28**	**302**	*i*P	PKPdf	20 38 37.4	+3.4
ELDT	**Eldivan**	**153.32**	**302**	*i*P	PKPbc	20 38 43.5	+0.4
BR131	**Keskin Array S**	**153.34**	**300**	*e*PKPbc	PKPbc	20 38 42.2	-0.9
BRTR	**Keskin Array B**	**153.34**	**300**	PKPbc	PKPbc	20 38 42.7	-0.4
comp=Z,1.9nm,0.8s,baz=143,slow=2.5,SNR=14
KWP	**Kalwaria**	**155.33**	**329**	*e*PKP	PKPab	20 39 01.8	-1.7
STHS	**Stebnicka Huta**	**156.13**	**330**	*e*PKP	PKPab	20 39 07.6	+0.6
ULDT	**Uludag**	**156.57**	**303**	*i*P	PKPab	20 39 09.2	+0.4
KECS	**Kecovo**	**157.16**	**330**	*e*	PKPab	20 39 02.7	-8.7
KECS	**Kecovo**	**157.16**	**330**	*e*PKP	PKPab	20 39 11.0	-0.4
VYHS	**Vyhne**	**157.85**	**332**	*e*PKP	PKPab	20 39 14.0	-0.4
TORD	**Torodi Ar. Bea**	**163.41**	**174**	PKP	PKPdf	20 38 48.2	+0.5
comp=Z,2.2nm,1.0s,baz=263,slow=0.7,SNR=8.8
TORD				PKPab

SRDR			*i* S		Sn	20 21 12.6	+0.5
MKZ	**Mys Kozlova**	**1.38 173**	*i* P		Pn	20 21 00.1	+1.0
MKZ			*i* S		Sn	20 21 19.6	+1.1
ESO	**Esso**	**1.55 271**	*i* P		Pn	20 21 02.2	+1.1
ESO			*i* S		Sn	20 21 22.9	+0.8
ESO			Smax				
	410nm,0.8s						
BKI	**Bering**	**2.67 104**	*i* P		Pn	20 21 16.2	+0.9
BKI			*i* S		Sn	20 21 46.9	-0.4
BKI			Smax				
	210nm,0.3s						
SPN	**Mys Shipunski**	**2.95 197**	P		Pn	20 21 19.7	+0.7
SPN			S		Sn	20 21 52.7	-1.2
SPN	**Mys Shipunski**	**2.95 197**	*e*P		Pn	20 21 19.7	+0.7
SPN			*e*S		Sn	20 21 52.9	-1.0
GNL	**Ganaly**	**3.02 224**	*i* P		Pn	20 21 21.8	+1.9
NLC	**Nalytchevo**	**3.02 205**	P		Pn	20 21 21.6	+1.7
NLC			S		Sn	20 21 56.6	+1.1
NLC	**Nalytchevo**	**3.02 205**	*e*P		Pn	20 21 21.5	+1.6
NLC			*e*S		Sn	20 21 56.5	+1.0
SDLR	**Sedlovina**	**3.04 210**	*i* P		Pn	20 21 22.4	+2.2
SMAR	**Somma**	**3.08 211**	*e*P		Pn	20 21 23.4	+2.7
AVH	**Avacha**	**3.09 212**	*e*P		Pn	20 21 23.5	+2.6
KOK	**Koryaka**	**3.10 213**	*e*P		Pn	20 21 23.7	+2.7
UGLR	**Uglovaya**	**3.12 210**	*e*P		Pn	20 21 24.0	+2.8
PET	**Petropavlovsk**	**3.33 211**	P		Pn	20 21 26.8	+2.8
PET			S		Sn	20 22 06.2	+3.2
PET	**Petropavlovsk**	**3.33 211**	*e*P		Pn	20 21 26.9	+2.9
KRMR	**Karymshinskiy**	**3.65 213**	*e*P		Pn	20 21 29.8	+1.5
RUS	**Russkaya**	**3.90 207**	P		Pn	20 21 32.7	+1.1
RUS			S		Sn	20 22 16.7	+0.2
RUS	**Russkaya**	**3.90 207**	*i* P		Pn	20 21 32.7	+1.1
GRL	**Gorelyy**	**3.91 212**	*e*P		Pn	20 21 34.5	+2.7
MIPR	**Malaya Ipel'ka**	**4.58 219**	*e*P		Pn	20 21 43.0	+2.3
KAMR	**Kamenskoye**	**7.00 18**	P		Pn	20 22 13.0	-0.4

*IDC **31** 20:23:45.6±0.8,2939S×17671W,h0km,mb4.5/9,*
mb1 4.7/9,mb1mx4.5/15,mbtmp4.5/9,Error ellipse:
s-maj=32.2km s-min=19.2km az=166.0
*NEIC **31** 20:23:47.0±0.5,2944S×17672W,h10km,mb4.7/10,Error*
ellipse: s-maj=22.3km s-min=12.8km az=175.0
*BJI **31** 20:23:47.6,2909S×17643W,h15km,mB5.5,mb5.1,Ms5.3,*
Msz4.9
*ISCJB **31** 20:23:50.2±0.5,2962S±010×17680W±008,h37km,*
mb4.8/22,Error ellipse: s-maj=14.3km s-min=9.2km
az=44.6
*MOS **31** 20:23:50.0±1.4,2955S×17687W,h33km,mb4.7/5,Error*
ellipse: s-maj=24.0km s-min=15.6km az=14.8

ISC 31 20:23:52.0±0.5,2960S±010×17682W±008,h39km,
h39km±2.2km:pP-P,n82,σ1ŝ19/43,mb4.8/22,1C-1D,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.02 290**		Pn	**Pn**	**20 24 10.0**	**+0.2**
	125nm,0.3s,baz=255,slow=20,SNR=6.3						
RAO				Sn	**Sn**	**20 24 23.2**	**+0.3**
	342nm,0.3s,baz=229,slow=23,SNR=6.7						
RAO	**Raoul Island**	**1.02 290**		*e*P	**Pn**	**20 24 10.2**	**+0.4**
DZM	**Mont Dzumac**	**16.82 293**		Pn	**Pn**	**20 27 49.5**	**+5.0**
	0.5nm,0.3s,baz=121,slow=16,SNR=10.0						
ARMA	**Armidale**	**27.29 260**		*e*P	**P**	**20 29 36.3**	**+3.5**
CTA	**Charters Tower**	**34.70 277**		*e*P	**P**	**20 30 39.5**	**+1.5**
	5.5nm,0.8s,mb4.5						
CTA	**Charters Tower**	**34.70 277**		P	**P**	**20 30 39.1**	**+1.1**
	4.8nm,0.6s,mb4.6,baz=117,slow=12,SNR=14						
CTA	**Charters Tower**	**34.70 277**		*e*P	**P**	**20 30 39.5**	**+1.5**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
STKA	**Stephens Creek**	**35.66 256**		*e*P	**P**	**20 30 45.5**	**-0.8**
	comp=Z,11nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**35.66 256**		P	**P**	**20 30 46.1**	**-0.3**
	comp=Z,12nm,0.7s,mb4.9,baz=91,slow=9.9,SNR=20						
ASAR	**Alice Springs**	**44.18 266**		P	**P**	**20 31 56.4**	**-0.7**
	comp=Z,4.2nm,0.6s,mb4.3,baz=96,slow=7.9,SNR=50						
WRAB	**Tennant Creek**	**45.09 271**		*e*P	**P**	**20 32 03.1**	**-1.3**
	comp=Z,6.2nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**45.09 271**		*i* P	**P**	**20 32 04.2**	**-0.1**
WRA	**Warramunga Arr**	**45.10 271**		P	**P**	**20 32 03.5**	**-0.8**
	comp=Z,6.4nm,0.8s,mb4.5,baz=109,slow=7.7,SNR=27						
KAKA	**Kakadu**	**49.81 279**		*e*P	**P**	**20 32 39.9**	**-1.1**
	comp=Z,9.1nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.39 269**		*e*P	**P**	**20 33 07.9**	**+0.2**
	comp=Z,9.8nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.39 269**		P	**P**	**20 33 07.2**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=124,slow=11,SNR=6.1						
MUN	**Mundaring**	**56.73 249**		*e*P	**P**	**20 33 30.0**	**-1.9**
QSPA	**South Pole Qui**	**60.51 180**		*e*P	**P**	**20 34 00.4**	**+2.3**
	comp=Z,7.0nm,0.9s,mb4.8						
MAW	**Mawson**	**73.41 200**		*e*P	**P**	**20 35 21.4**	**+1.3**
	comp=Z,3.8nm,1.0s,mb4.3						
MAW	**Mawson**	**73.41 200**		P	**P**	**20 35 20.9**	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.3,baz=139,slow=9.2,SNR=3.8						
MAW	**Mawson**	**73.41 200**		*e*P	**P**	**20 35 21.4**	**+1.3**
MAW				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SYO	**Syowa Base**	**78.12 193**	‖	*e*P	**P**	**20 35 46.1**	**-0.9**
MJAR	**Matsushiro Arr**	**78.18 324**		P	**P**	**20 35 46.2**	**-1.2**
	comp=Z,7.3nm,0.8s,mb4.7,baz=159,slow=5.1,SNR=16						
MAT	**Matsushiro**	**78.18 324**		P	**P**	**20 35 45.8**	**-1.6**
MAT	**Matsushiro**	**78.18 324**		*e*P	**P**	**20 35 46.0**	**-1.4**
	comp=Z,10nm,0.7s,mb4.9						
MAT	**Matsushiro**	**78.18 324**		*e*P	**P**	**20 35 46.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
VNA3	**Neumayer Olymp**	**79.03 176**		*e*P	**P**	**20 35 51.4**	**-0.6**
VNA3				*e*	pP	20 36 01.9	-1.9
VNA2	**Neumayer--Watz**	**79.48 176**		*e*P	**P**	**20 35 54.3**	**-0.2**
VNA2				*e*	pP	20 36 05.9	-0.4
SSE	**Sheshan**	**84.36 310**		*e*P	**P**	**20 36 19.5**	**-0.6**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,39nm,3.5s						
YSS	**Yuzh-Sakhalins**	**84.48 333**		*e*P	**P**	**20 36 21.3**	**+0.5**
YSS				*e*	pP	20 36 33.2	+0.6
NJ2	**Nanjing**	**86.51 310**		*e*P	**P**	**20 36 31.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.3						
NVAR	**Mina Array Bea**	**86.96 42**		P	**P**	**20 36 32.6**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.2,baz=223,slow=4.9,SNR=5.4						
TPNV	**Topopah Spring**	**87.21 44**		*e*P	**P**	**20 36 35.4**	**+1.1**
	comp=Z,3.6nm,0.9s,mb4.6						
TPNV	**Topopah Spring**	**87.21 44**		*e*P	**P**	**20 36 35.4**	**+1.1**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
MDJ	**Mudanjiang**	**88.55 325**		P	**P**	**20 36 41.5**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,89nm,3.2s						
CN2	**Changchun**	**90.13 322**		*e*P	**P**	**20 36 48.8**	**+0.7**
ENH	**Enshi**	**92.00 304**		*e*P	**P**	**20 36 57.6**	**+0.8**
	comp=Z,8.6nm,0.7s,mb5.2						
HHC	**Hu-ho-hao-te**	**96.42 314**		*e*P	**P**	**20 37 18.5**	**+1.5**
HHC				AP	pP	20 37 23.0	-6.0
HHC				XP	sP	20 37 25.5	-7.9
HHC				PP	PP	20 41 16.5	+5.5
HHC				SKS		20 47 53.5	
HHC				S		20 48 37.0	
HHC				XS	sS	20 48 45.0	-10
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,53nm,4.7s						
HHC				LR	LR		
	comp=N,90nm,4.1s						
HHC				LR	LR		
	comp=E,91nm,4.5s						
HHC				LR	LR		
	comp=Z,109nm,5.5s						
CD2	**Chengdu**	**96.53 302**		*e*P	**P**	**20 37 18.8**	**+1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
ILAR	**Eielson Array**	**96.92 12**		P	**P**	**20 37 16.5**	**-2.8**
	comp=Z,0.4nm,0.9s,mb3.9,baz=213,slow=6.2,SNR=3.6						
BILL	**Bilibino**	**98.16 354**		*e*P	**P**	**20 37 22.2**	**-2.7**
BILL				*e*		20 41 26.8	
BILL				*e*SS	SS	20 55 42.5	+10
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb4.3						
LZH	**Lanzhou**	**99.07 306**		*e*P	**P**	**20 37 31.3**	**+2.4**
LZH				AP	pP	20 37 34.3	-6.6
LZH				XP	sP	20 37 36.3	-9.0
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,61nm,6.0s						
MKAR	**Makanchi Array**	**118.04 310**		PKP	PKPdf	20 42 32.9	-1.7
	comp=Z,1.2nm,0.8s,baz=66,slow=2.9,SNR=8.5						
KURK	**Kurchatov**	**121.23 314**		*e*PKPdf	PKPdf	20 42 39.3	-1.5
CHKZ	**Chkalovo**	**126.43 317**		*e*PKPdf	PKPdf	20 42 49.2	-1.5
BVAR	**Borovoye Array**	**126.54 316**		PKP	PKPdf	20 42 49.8	-1.1
	comp=Z,2.7nm,0.9s,baz=111,slow=1.7,SNR=14						
BRVK	**Borovoye**	**126.61 316**		*e*PKPdf	PKPdf	20 42 49.2	-1.9
AKTK	**Aktyubinsk**	**134.31 313**		PKP	PKPdf	20 43 05.8	+0.1
AKTO	**Aktyubinsk**	**134.31 313**		PKP	PKPdf	20 43 05.8	+0.2
	comp=Z,2.0nm,0.7s,baz=155,slow=1.0,SNR=7.3						
JOF	**Joensuu**	**142.04 339**		*e*p	PKPdf	20 43 14.1	-5.8
KAF	**Kangasniemi**	**144.13 342**		*e*p	PKPdf	20 43 17.8	-5.7
GNI	**Garni**	**144.60 299**		*e*PKPdf	PKPdf	20 43 23.4	-0.9
FINES	**FINESS Array B**	**144.74 341**		PKP	PKPdf	20 43 21.6	-3.0
	comp=Z,3.8nm,0.7s,baz=72,slow=6.2,SNR=16						
BHD	**Baghdad**	**144.81 287**		*ex*	x	20 43 15.0	
ZEI	**Tsey**	**144.94 303**		*i* PKIKP	PKPdf	20 43 24.4	-0.5
OBN	**Obninsk**	**145.09 326**		*e*PKPdf	PKPdf	20 43 23.3	-1.9
OBN	**Obninsk**	**145.09 326**	⇑	*i*PKIKP	PKPdf	20 43 23.6	-1.6
OBN				pmax	pmax		
	comp=Z,11nm,0.7s						
GOF	**Gofitskoye**	**145.14 307**		*e*PKIKP	PKPdf	20 43 24.9	-0.4
GOF				pmax	pmax		
	comp=Z,30nm,0.7s						
VRSR	**Storozhevoye**	**145.60 319**		*e*PKP2	PKPab	20 43 25.0	-1.7
VRSR				pmax	pmax		
	comp=N,1.0nm,0.8s						
VRSR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.9s						
KIV	**Kislovodsk**	**145.61 306**		*e*PKPdf	PKPdf	20 43 25.7	-0.4
KIV	**Kislovodsk**	**145.61 306**		*i* PKP2	PKPab	20 43 26.0	-0.7
KIV				*e*		20 46 47.6	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TVAN	**Van**	**145.73 296**		*i* P	PKPdf	20 43 25.2	-1.1
MSL	**Mosul**	**146.03 292**		*ex*	x	20 43 31.0	
VSU	**Vasula**	**146.90 337**		*i* PKP2	PKPab	20 43 29.4	-2.2
ERZM	**Erzurum**	**147.20 299**		*i* P	PKPdf	20 43 31.6	+2.8
MARD	**Mardin**	**147.86 294**		*i* P	PKPdf	20 43 33.1	+3.2
NB2	**NORSAR Subarra**	**148.10 353**		PKPa	PKPbc	20 43 31.6	-1.9
	comp=Z,1.1nm,0.7s,baz=12,slow=2.9						
NOA	**NORSAR Array B**	**148.10 353**		PKPbc	PKPbc	20 43 32.0	-1.5
	comp=Z,2.3nm,0.8s,baz=14,slow=4.4,SNR=7.2						
ELZG	**Elazig**	**149.19 296**		*i* P	PKPbc	20 43 37.9	+1.6
MALT	**Malatya**	**149.64 296**		*e*PKPbc	PKPbc	20 43 38.0	+0.6
GZT	**Gaziantep**	**150.41 294**		*i* P	PKPbc	20 43 40.0	+0.7
SIM	**Simferopol'**	**151.22 311**		*e*PKIKP	PKPbc	20 43 41.2	0.0
SIM				pmax	pmax		
	comp=Z,11nm,0.7s						
AKASG	**Malin Array Be**	**151.26 324**		PKPbc	PKPbc	20 43 40.0	-1.2
	comp=Z,7.6nm,0.7s,baz=47,slow=2.6,SNR=16						
AKASG	**Malin Array Be**	**151.26 324**		*i* PKIKP	PKPbc	20 43 40.0	-1.3
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
COBT	**Iskenderun**	**151.53 293**		*i* P	PKPbc	20 43 43.3	+1.4
BOYT	**Boyabat**	**151.76 303**		*i* P	PKPbc	20 43 41.9	-0.5
CTKT	**Corum**	**152.04 302**		*i* P	PKPdf	20 43 39.3	+2.8
AVNT	**Avonos**	**152.35 298**		*i* P	PKPab	20 43 53.6	-0.3
ELDT	**Eldivan**	**153.08 302**		*i* P	PKPbc	20 43 45.5	+0.1
BR131	**Keskin Array S**	**153.10 300**		*e*PKPbc	PKPbc	20 43 45.0	-0.5
BRTR	**Keskin Array B**	**153.10 300**		PKPbc	PKPbc	20 43 44.8	-0.6
	comp=Z,1.5nm,0.7s,baz=113,slow=2.9,SNR=8.5						
TORD	**Torodi Ar. Bea**	**163.57 175**		PKPab	PKPab	20 44 44.4	+2.1
	comp=Z,1.5nm,1.0s,baz=196,slow=2.4,SNR=5.0						

*ISCJB **31** 20:38:30.7±0.4,2966S±007×17661W±007,h10km,*
mb5.0/29,MS4.9/11,Error ellipse: s-maj=10.8km
s-min=8.0km az=39.6
*IDC **31** 20:38:30.3±0.6,2945S×17663W,h0km,mb4.6/10,*
mb1 4.8/11,mb1mx4.7/16,mbtmp4.6/11,ML4.6/1,MS4.6/5,
Ms1 4.6/5,ms1mx4.2/24,Error ellipse: s-maj=22.3km
s-min=15.4km az=174.0
*HRVD **31** 20:38:31.8±0.3,2945S×17620W,h12km,MW5.2/51,*
Centroid moment Tensor Solution. LP body waves:
s39,c66;Mantle waves: s51,c82; Half duration: 0
Moment tensor: Scale 10^{16}Nm; M_{rr}5.01±.18;
$M_{\theta\theta}$-0.47±.19; $M_{\phi\phi}$-4.53±.16; $M_{r\theta}$-0.10±.52; $M_{\theta\phi}$-1.21±.15;
$M_{\phi r}$4.88±.46; Best double couple: $M_0$6.93700×10^{16}
NP1:ϕ_s205.00000°,δ24.00000°,λ109.00000°. NP2:
ϕ_s4.00000°,δ68.00000°,λ82.00000°. Principal axes: T
7.1060, Plg66.0000°, Azm259.0000°; N -0.3300,
Plg8.0000°, Azm7.0000°; P -6.7690, Plg22.0000°,
Azm101.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
*BJI **31** 20:38:31.7,2950S×17670W,h10km,mB5.6,mb5.1,Ms5.6,*
Msz5.3
*NEIC **31** 20:38:31.8±0.4,2950S×17666W,h10km,mb5.0/12,Error*
ellipse: s-maj=13.5km s-min=10.4km az=158.0
*MOS **31** 20:38:35.1±1.1,2954S×17685W,h33km,mb5.3/5,Error*
ellipse: s-maj=18.4km s-min=14.0km az=41.8

ISC 31 20:38:31.6±1.9,2960S±007×17663W±007,h5km±11km,
h17km±1.6km:pP-P,n113,σ1ŝ29/54,mb5.0/29,MS4.9/11,
6C-3D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.17 287**		Pn	**Pn**	**20 38 54.7**	**+0.1**
	309nm,0.3s,baz=106,slow=9.1,SNR=16						
RAO				Sn	**Sn**	**20 39 12.0**	**+1.1**
	563nm,0.3s,baz=102,slow=20,SNR=17						
RAO	**Raoul Island**	**1.17 287**		*e*P	**Pg**	**20 38 55.0**	**+0.9**
URZ	**Urewera**	**10.08 209**		Pn	**Pn**	**20 40 52.4**	**-4.5**
	1.3nm,0.3s,baz=90,slow=3.6,SNR=13						
URZ				Sn	**Sn**	**20 42 43.9**	**-6.4**
	3.1nm,0.3s,baz=174,slow=14,SNR=3.9						
AFI	**Afiamalu**	**16.25 17**		LR	LR	20 47 00.7	
	comp=Z,927nm,19.3s,baz=192,slow=32						
DZM	**Mont Dzumac**	**16.97 292**		Pn	**Pn**	**20 42 35.2**	**+5.6**
	0.5nm,0.3s,baz=103,slow=14,SNR=8.9						
RPZ	**Rata Peaks**	**17.18 212**		P	**Pn**	**20 42 30.1**	**-2.1**
	2.5nm,0.3s,baz=76,slow=1.9,SNR=11						
RAR	**Rarotonga**	**17.36 65**		P	**Pn**	**20 42 33.3**	**-1.2**
	2.2nm,0.3s,baz=249,slow=11,SNR=5.9						
PPT	**Papeete**	**27.46 70**		*e*LQ		20 49 33.4	
	2μm,24.2s						
PPT				*e*LR	LR	20 50 58.2	
	2μm,20.5s						
PPT	**Papeete**	**27.46 70**		LR	LR	20 52 56.8	
	comp=Z,2μm,18.7s,MS4.7,baz=250,slow=32						
HNR	**Honiara**	**29.71 308**		LR	LR	20 54 58.1	
	comp=Z,484nm,19.6s,MS4.1,baz=179,slow=33						
CTA	**Charters Tower**	**34.86 277**		*e*P	**P**	**20 45 24.6**	**+1.0**
	6.9nm,1.0s,mb4.5						
CTA	**Charters Tower**	**34.86 277**		P	**P**	**20 45 24.6**	**+1.1**
	4.0nm,0.3s,mb4.8,baz=97,slow=10,SNR=11						
CTA	**Charters Tower**	**34.86 277**		*e*P	**P**	**20 45 24.6**	**+1.0**
CTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
STKA	**Stephens Creek**	**35.82 256**		*e*P	**P**	**20 45 30.9**	**-1.0**
	comp=Z,19nm,0.9s,mb5.0						
STKA				*e*S	**S**	**20 51 18.8**	**+9.0**
STKA	**Stephens Creek**	**35.82 256**		P	**P**	**20 45 30.6**	**-1.2**
	comp=Z,24nm,0.9s,mb5.1,baz=86,slow=9.2,SNR=19						
STKA				LR	LR	20 59 21.7	
	comp=Z,2μm,19.0s,MS5.0,baz=93,slow=35						
RKT	**Riyadh**	**37.73 90**		*e*LR	LR	20 55 32.4	
	comp=Z,2μm,21.0s						
TAOE	**Nuku Hiva Isla**	**39.90 66**		*e*LR	LR	20 56 24.9	
	comp=Z,4μm,20.7s						
ASAR	**Alice Springs**	**44.34 266**		P	**P**	**20 46 41.6**	**-1.0**
	comp=Z,1.8nm,0.6s,mb4.0,baz=104,slow=6.9,SNR=44						
ASAR				PcP	PcP	20 48 27.8	+1.1
	comp=Z,2.9nm,0.9s,baz=105,slow=4.5,SNR=5.7						
WRAB	**Tennant Creek**	**45.26 271**		P	**P**	**20 46 49.1**	**-0.8**
	comp=Z,137nm,1.1s,mb5.7,SNR=7.5						
WRAB	**Tennant Creek**	**45.26 271**		*e*P	**P**	**20 46 48.8**	**-1.1**
	comp=Z,35nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**45.26 271**		*e*P	**P**	**20 46 48.8**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.2						
WRA	**Warramunga Arr**	**45.26 271**		P	**P**	**20 46 49.0**	**-1.0**
	comp=Z,22nm,0.9s,mb5.0,baz=110,slow=7.7,SNR=81						
WRA				PcP	PcP	20 48 30.4	+0.6
	comp=Z,4.1nm,1.0s,baz=115,slow=3.8,SNR=4.9						
FORT	**Forrest**	**47.40 254**		*e*P	**P**	**20 47 05.0**	**-1.8**
	comp=Z,16nm,0.8s,mb5.0						
SBA	**Scott Base**	**48.92 185**		*e*P	**P**	**20 47 20.8**	**+2.2**
	comp=Z,166nm,2.4s,mb5.6						
SBA	**Scott Base**	**48.92 185**		*e*P	**P**	**20 47 20.8**	**+2.3**
SBA				pmax	pmax		
	comp=Z,166nm,2.4s,mb5.6						
VNDA	**Vanda**	**49.01 186**		P	**P**	**20 47 20.7**	**+1.5**
	comp=Z,1.8nm,0.8s,mb4.1,baz=6.1,slow=7.0,SNR=9.4						
VNDA				LR	LR	21 04 01.3	
	comp=Z,818nm,19.4s,MS4.7,baz=17,slow=31						
FITZ	**Fitzroy Crossi**	**53.55 269**		*e*P	**P**	**20 47 52.3**	**-1.0**
	comp=Z,14nm,1.0s,mb4.8						
MBWA	**Marble Bar**	**57.50 263**		*e*P	**P**	**20 48 21.1**	**-0.6**
	comp=Z,11nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**60.51 180**		*e*P	**P**	**20 48 43.8**	**+1.2**
	comp=Z,3nm,1.1s,mb5.0						
MAW	**Mawson**	**73.47 200**		P	**P**	**20 50 05.5**	**+0.5**
	comp=Z,5.5nm,0.7s,mb4.6,baz=111,slow=9.5,SNR=9.0						
SYO	**Syowa Base**	**78.16 193**	‖	*i* P	**P**	**20 50 28.2**	**-3.6**
SYO	**Syowa Base**	**78.16 193**	‖	*e*pP	pP	20 50 33.9	+0.3
SYO	**Syowa Base**	**78.16 193**	‖	*e*sP	sP	20 50 37.5	+3.3
MJAR	**Matsushiro Arr**	**78.27 324**		P	**P**	**20 50 31.8**	**-0.7**
	comp=Z,5.6nm,0.8s,mb4.5,baz=162,slow=5.6,SNR=11						
MAJO	**Matsushiro**	**78.27 324**		*e*P	**P**	**20 50 30.9**	**-1.6**
	comp=Z,8.3nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**78.27 324**		*e*P	**P**	**20 50 30.9**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MAT	**Matsushiro**	**78.27 324**		P	**P**	**20 50 30.8**	**-1.6**
MAT				S	S	21 00 28.8	+0.8
MAT	**Matsushiro**	**78.27 324**		*e*P	**P**	**20 50 31.0**	**-1.4**
	comp=Z,10.0nm,1.0s,mb4.7						
MAT				*e*S	S	21 00 29.0	+1.0
MAT	**Matsushiro**	**78.27 324**		*e*P	**P**	**20 50 31.0**	**-1.4**
MAT				*e*S	S	21 00 29.0	+1.0
MAT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
SNAA	**Sanae**	**78.92 178**	⇑	*e*P	**P**	**20 50 36.9**	**+0.9**
VNA3	**Neumayer Olymp**	**79.02 176**		*e*P	**P**	**20 50 36.8**	**+0.3**
VNA3				*e*		20 50 45.2	
VNA3				*e*		20 50 49.6	
VNA3				*e*		20 51 04.2	
VNA2	**Neumayer--Watz**	**79.47 176**		*e*P	**P**	**20 50 41.6**	**+2.6**
	baz=182,slow=1.6						
VNA2				*e*		20 50 50.9	
VNA2				*e*		20 50 55.0	
VNA2				*e*		20 51 07.3	
SSE	**Sheshan**	**84.48 310**		*e*P	**P**	**20 51 05.5**	**+0.1**
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,144nm,6.0s						
YSS	**Yuzh-Sakhalins**	**84.55 333**		*e*P	**P**	**20 51 06.7**	**+0.9**
	comp=Z,18nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**84.55 333**	⇑	*e*P	**P**	**20 51 07.7**	**+2.0**
YSS				*e*		21 01 36.0	
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
PET	**Petropavlovsk**	**85.05 345**		*e*P	**P**	**20 51 09.9**	**+1.7**
PET				*e*		20 54 27.5	
PET				*e*S		21 01 37.4	
PET				pmax	pmax		
	comp=Z,100nm,11.2s						
PET				smax			
	comp=N,300nm,14.6s						
PET				MLR	MLR		
	comp=E,800nm,18.0s,MS5.3						
PET				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.2						
PET				MLR	MLR		
	comp=N,600nm,17.0s,MS5.3						
QIZ	**Qiongzhong**	**85.73 295**		P	**P**	**20 51 12.3**	**+0.7**
QIZ				S		21 01 44.3	
QIZ				AMB	AMB		
	comp=Z,155nm,6.1s						
PSI	**Prapat**	**86.54 275**		P	**P**	**20 51 13.7**	**-1.9**
	comp=Z,9.4nm,1.0s,mb5.0,baz=177,slow=6.7,SNR=6.5						
NJ2	**Nanjing**	**86.63 310**		*e*P	**P**	**20 51 17.0**	**+0.9**
NJ2				AP	pP	20 51 22.0	+4.1
NJ2				XP	sP	20 51 24.0	+5.5
NJ2				PP	PP	20 54 42.0	+4.0
NJ2				S		21 01 53.0	
NJ2				XS	sS	21 02 00.0	+3.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.0				

comp=Z,1μm,18.6s,MS5.4
CD2 Chengdu 96.67 302 *e*P **P 20 52 01.8 -1.0**
CD2 AP pP 20 52 06.5 +1.9
CD2 XP sP 20 52 08.8 +3.5
CD2 PP PP 20 55 59.3 +2.1
CD2 SKS 21 02 36.8
CD2 S 21 03 19.8
CD2 XS sS 21 03 27.8 +0.1
CD2 SS SS 21 09 58.8 -0.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,50nm,5.9s
ILAR Eielson Array 96.89 12 P **P 20 52 03.6 -0.2**
comp=Z,1.0nm,1.1s,mb4.2,baz=206,slow=6.0,SNR=4.3
LZH Lanzhou 99.20 306 *e*P **P 20 52 12.3 -1.9**
LZH PP PP 20 56 17.0 +0.3
LZH *e*SKS 21 02 49.0
LZH *e*S 21 03 40.0
LZH SS SS 21 10 35.0 +0.5
LZH AMB AMB
comp=Z,14nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,70nm,5.0s
LZH LR LR
comp=N,570nm,16.7s
LZH LR LR
comp=Z,860nm,18.4s,MS5.3
YKA Yellowknife Ar 104.22 25 PKKPbc PKKPbc 21 08 24.3 +0.3
comp=Z,0.2nm,0.7s,baz=32,slow=2.9,SNR=6.0
MKAR Makanchi Array 118.17 310 PKP PKPdf 20 57 18.8 -0.8
comp=Z,3.0nm,1.1s,baz=98,slow=1.3,SNR=11
MKAR PKKPbc PKKPbc 21 07 39.1 +0.9
comp=Z,0.7nm,0.9s,baz=263,slow=6.8,SNR=4.0
NVS Novosibirsk 119.31 319 *e*PKIKP PKPdf 20 57 19.4 -2.5
KURK Kurchatov 121.35 314 *e*PKPdf PKPdf 20 57 24.0 -1.8
FRB Frobisher Bay 124.08 31 PKP PKPdf 20 57 28.6 -2.5
comp=Z,1.4nm,0.7s,baz=138,slow=4.9,SNR=3.6
CHKZ Chkalovo 126.54 317 *e*PKPdf PKPdf 20 57 34.0 -1.7
BVAR Borovoye Array 126.66 316 PKP PKPdf 20 57 34.2 -1.8
comp=Z,2.7nm,0.9s,baz=98,slow=3.0,SNR=14
BRVK Borovoye 126.72 316 *e*PKPdf PKPdf 20 57 35.1 -0.9
ZRNK Zerenda 127.49 316 *e*PKPdf PKPdf 20 57 36.1 -1.5
ARU Arti 133.22 321 *i*PKIKP PKPdf 20 57 48.0 -0.4
ARU *e* 21 00 10.5
AKTK Aktyubinsk 134.43 313 PKP PKPdf 20 57 50.4 -0.3
AKTO Aktyubinsk 134.43 313 PKP PKPdf 20 57 50.4 -0.3
comp=Z,1.7nm,0.7s,baz=116,slow=4.7,SNR=5.0
JOF Joensuu 142.10 340 *e*pkp PKPdf 20 58 04.1 -0.7
KAF Kangasniemi 144.18 342 *e*pkp PKPdf 20 58 05.3 -3.1
GNI Garni 144.74 299 *e*PKPdf PKPdf 20 58 07.8 -1.6
FINES FINESS Array B 144.79 341 PKP PKPdf 20 58 06.3 -3.2
comp=Z,5.2nm,0.8s,baz=48,slow=2.8,SNR=15
BHD Baghdad 144.97 287 *ex* x 20 58 00.0
ZEI Tsey 145.08 303 *i*PKIKP PKPdf 20 58 09.8 -0.2
OBN Obninsk 145.18 327⇑*i*PKP PKPdf 20 58 08.7 -1.5
OBN Obninsk 145.18 327*c i*PKIKP PKPdf 20 58 08.6 -1.6
OBN *e* 21 01 29.1
OBN pmax pmax
comp=Z,29nm,1.0s
GOF Gofitskoye 145.27 307 *e*PKIKP PKPdf 20 58 10.0 -0.3
GOF pmax pmax
comp=Z,50nm,1.3s
VOR Voronezh 145.48 320 PKP2 PKPab 20 58 09.0 -1.9
VOR pmax pmax
comp=Z,50nm,2.0s
VRSR Storozhevoye 145.71 319 *e*PKP2 PKPab 20 58 10.8 -1.0
VRSR pmax pmax
comp=Z,9.0nm,1.1s
VRSR pmax pmax
comp=N,3.0nm,1.0s
VRSR pmax pmax
comp=E,6.0nm,1.1s
KIV Kislovodsk 145.74 306 *e*PKPdf PKPdf 20 58 11.7 +0.6
KIV Kislovodsk 145.74 306⇓*i*PKP2 PKPab 20 58 10.5 -1.4
KIV *e* 21 01 28.4
KIV pmax pmax
comp=Z,12nm,0.8s
DIGO Kars 145.76 299 *i*P PKPdf 20 58 12.4 +1.3
MSL Mosul 146.18 292 *ex* x 20 58 17.5
VSU Vasula 146.96 338 *i*PKP2 PKPab 20 58 14.8 -1.8
BNGL BINGOL 147.61 297 *i*P PKPbc 20 58 18.8 +1.8
MARD Mardin 148.01 294 *i*P PKPbc 20 58 19.0 +1.0
NB2 NORSAR Subarra148.12 353 PKPa PKPdf 20 58 15.4 +0.3
comp=Z,5.0nm,0.8s,baz=12,slow=2.9
NOA NORSAR Array B 148.12 353 PKPbc PKPbc 20 58 15.2 -3.1
comp=Z,3.9nm,0.9s,baz=16,slow=4.4,SNR=8.9
HFS Hagfors 148.68 350 PKP PKPdf 20 58 14.4 -1.6
comp=Z,6.9nm,0.9s,baz=72,slow=4.8,SNR=7.9
HFS PKPbc PKPbc 20 58 18.4 -1.4
comp=Z,7.0nm,0.9s,baz=50,slow=2.3,SNR=7.8
ANN Anapa 149.17 309 *e*PKP2 PKPab 20 58 19.9 -5.5
ANN pmax pmax
comp=Z,68nm,1.0s
ELZG Elazig 149.34 296 *i*P PKPbc 20 58 23.4 +2.0
MALT Malatya 149.79 296 *e*PKPbc PKPbc 20 58 22.6 0.0
GZT Gaziantep 150.56 294 *i*P PKPbc 20 58 24.9 +0.5
SIM Simferopol' 151.34 311 *ce*PKIKP PKPbc 20 58 27.1 +0.9
SIM pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 151.36 325 PKPbc PKPbc 20 58 24.2 -2.1
comp=Z,5.8nm,0.6s,baz=47,slow=2.1,SNR=19
SUW Suwalki 151.68 335 *e*PKP PKPbc 20 58 25.2 -1.8
COBT Iskenderun 151.68 293 *i*P PKPbc 20 58 27.4 +0.4
BOYT Boyabat 151.90 303 *i*P PKPbc 20 58 27.5 -0.1
CTKT Corum 152.18 302 *i*P PKPbc 20 58 30.6 +2.5
AVNT Avonos 152.50 298 *i*P PKPab 20 58 38.5 -0.6
BR131 Keskin Array S 153.24 300 *e*PKPbc PKPbc 20 58 30.9 +0.4
BRTR Keskin Array B 153.24 300 PKPbc PKPbc 20 58 30.0 -0.5
comp=Z,2.8nm,0.9s,baz=113,slow=3.2,SNR=12
HENT Hendek 154.97 304 *i*P PKPab 20 58 47.8 -1.9
KWP Kalwaria 155.19 329 *e*PKP PKPab 20 58 50.2 -0.4
ESKT Eskisehir 155.38 301 *i*P PKPab 20 58 51.4 0.0
BORA Eskisehir 155.58 302 *i*P PKPab 20 58 51.4 -0.9
TKTP Tekketepe 156.14 298 *i*P PKPab 20 58 54.2 -0.5
ULDT Uludag 156.46 303 *i*P PKPab 20 58 55.4 -0.7
BTOK Tokmak 157.39 303 *i*P PKPab 20 59 00.2 +0.2
TORD Torodi Ar. Bea 163.56 174 PKP PKPdf 20 58 35.4 -0.1
comp=Z,1.5nm,1.0s,baz=212,slow=1.7,SNR=7.0
TORD PKPab PKPab 20 59 26.9 0.0
comp=Z,4.5nm,1.0s,baz=205,slow=4.1,SNR=11

MOS ***31*** *21:14:43.6±0.9, 388N×12636E, h33km, mb6.0/58, MS5.7/39, Error ellipse: s-maj=9.0km s-min=4.4km az=117.5*
ISCJB ***31*** *21:14:43.8±0.1, 376N±002×12645E±003, h42km, mb5.8/154, MS5.6/89, Error ellipse: s-maj=4.4km s-min=2.7km az=129.1*
BJI ***31*** *21:14:45.5, 4.16N×12639E, h31km, mB5.9, mb5.6, Ms5.7, Msz5.6*
NEIC ***31*** *21:14:45.2±0.1, 380N×12634E, h37km, mb5.8/95, ME5.8, MS5.8/24, MW6.2, Error ellipse: s-maj=5.2km s-min=3.3km az=63.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^18Nm; Mrr=0.29; Mθθ 1.90; Mφφ=-1.61; Mrθ 0.42; Mθφ 1.62; Mφr=0.73; Best double couple: M0 2.50000×10^18 NP1:φs 292.00000°, δ78.00000°, λ=17.00000°. NP2: φs 25.00000°, δ74.00000°, λ=167.00000°. Principal axes: T 2.5400, Plg3.0000°, Azm339.0000°; N 0.0100, Plg70.0000°, Azm76.0000°; P -2.5600, Plg20.0000°, Azm248.0000°; Broadband fault plane solution: P waves. NP1:φs 24.00000°, δ63.00000°, λ=152.00000°. NP2: φs 280.00000°, δ65.00000°, λ=30.00000°. Principal axes: T Plg1.0000°, Azm332.0000°; N Plg0.0000°, Azm0.0000°; P Plg38.0000°, Azm241.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Kalongan.
IDC ***31*** *21:14:47.9±1.1, 365N×12634E, h63km±8km, mb5.4/27, mb1 5.5/28, mb1mx5.5/29, mbtmp5.7/28, MS5.4/27, Ms1 5.4/27, ms1mx5.3/36 Error ellipse: s-maj=12.6km s-min=6.7km az=69.0*
HRVD ***31*** *21:14:47.2±0.1, 407N×12657E, h50km, MW6.1/101, Centroid moment Tensor Solution. LP body waves: s101, c227; Mantle waves: s98, c361; Half duration: 2s8 Moment tensor: Scale 10^18Nm; Mrr=0.88±.02; Mθθ 1.45±.01; Mφφ=-0.57±.01; Mrθ 0.73±.01; Mθφ 0.97±.01; Mφr=0.56±.02; Best double couple: M0 1.83400×10^18*

NP1:φs 32.00000°, δ52.00000°, λ=152.00000°. NP2: φs 283.00000°, δ68.00000°, λ=42.00000°. Principal axes: T 1.9230, Plg10.0000°, Azm341.0000°; N -0.1810, Plg44.0000°, Azm81.0000°; P -1.7440, Plg44.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
ISC 31 21:14:45.8±0.1, 380N±002×12649E±003, h44km, h44km±3.4km: pP-P, n844, σ1§12/635, mb5.8/152, MS5.6/89, 55C-68D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.38**	**344**	*e*P		**Pn**	**21 15 38.9**	**+2.9**
KCP	**Kidapawan**	**3.48**	**336**	⇑*i*P		**Pn**	**21 15 42.3**	**+4.8**
KCP				*i*S		**Sn**	**21 16 28.4**	**+11**
CTBH	**Cotabato--PC H**	**4.07**	**327**	⇓*i*P		**Pn**	**21 15 50.0**	**+4.4**
CTBH				*i*S		**Sn**	**21 16 30.0**	**-1.9**
DCPH	**Dipolog City**	**5.69**	**327**	⇑*e*P		**Pn**	**21 16 11.8**	**+4.1**
SCPH	**Surigao**	**6.03**	**351**	*e*P		**Pn**	**21 16 15.0**	**+2.6**
SNPH	**Sibulan**	**6.39**	**330**	⇑*e*P		**Pn**	**21 16 22.0**	**+4.6**
TBP	**Tagbilaran**	**6.41**	**336**	*e*P		**Pn**	**21 16 20.6**	**+2.9**
LLP	**Lapu-Lapu**	**6.95**	**339**	⇑*e*P		**Pn**	**21 16 28.4**	**+3.4**
TSM	**Tawau**	**8.61**	**274**	P		**Pn**	**21 16 52.4**	**+4.6**
KALP	**Kalibo**	**8.85**	**333**	⇑*e*P		Px	21 17 06.0	
OTRP	**Odiongan**	**9.59**	**333**	*e*P		**Pn**	**21 17 06.0**	**+4.7**
PPR	**Puerto Princes**	**9.73**	**308**	⇑*e*P		**Pn**	**21 17 04.3**	**+1.2**
BATP	**Bataraza**	**9.96**	**300**	*e*P		**Pn**	**21 17 14.1**	**+7.7**
PVCP	**Virac**	**10.01**	**347**	*e*P		**Pn**	**21 17 09.9**	**+3.0**
SJMP	**San Jose**	**10.12**	**329**	*e*P		**Pn**	**21 17 14.0**	**+5.5**
ENPP	**El Nido**	**10.16**	**317**	*e*P		**Pn**	**21 17 12.6**	**+3.5**
AUQP	**San Andres**	**10.19**	**339**	*e*P		**Pn**	**21 17 16.7**	**+7.3**
BUSP	**Coron**	**10.26**	**323**	*e*P		**Pn**	**21 17 13.8**	**+3.4**
KKM	**Kota Kinabalu**	**10.48**	**283**	P		**Pn**	**21 17 20.6**	**+7.1**
KKM	**Kota Kinabalu**	**10.48**	**283**	*e*P		**Pn**	**21 17 20.3**	**+6.9**
BOAC	**Boac**	**10.64**	**335**	*e*P		**Pn**	**21 17 23.1**	**+7.5**
GQP	**Guinayangan**	**10.81**	**339**	⇓*e*P		**Pn**	**21 17 22.3**	**+4.4**
LQP	**Lukban**	**11.36**	**335**	*e*P		**Pn**	**21 17 34.2**	**+8.8**
TGY	**Tagaytay City**	**11.62**	**332**	P		**Pn**	**21 17 31.9**	**+2.9**
	9.9nm,0.3s,baz=138,slow=16,SNR=3.3							
TGY				LR		LR	21 22 27.2	
	comp=Z,166nm,18.6s,baz=0.6,slow=39							
TGY	**Tagaytay City**	**11.62**	**332**	⇑*e*P		**Pn**	**21 17 34.2**	**+5.3**
LUBP	**Lubang**	**11.64**	**328**	*e*P		**Pn**	**21 17 32.9**	**+3.7**
POLP	**Polilio Island**	**11.75**	**338**	*e*P		**Pn**	**21 17 35.7**	**+4.9**
BALP	**Baler**	**12.82**	**338**	*e*P		**Pn**	**21 17 50.0**	**+4.7**
PCPH	**Palayan**	**12.84**	**336**	⇓*e*P		**Pn**	**21 17 48.4**	**+2.8**
SCZP	**Santa Cruz**	**13.55**	**332**	*e*P		**Pn**	**21 17 59.1**	**+3.8**
PALP	**Palanan**	**13.78**	**343**	*e*P		**Pn**	**21 18 02.7**	**+4.3**
BCPH	**Baguio City Da**	**13.79**	**335**	⇑*e*P		**Pn**	**21 18 04.3**	**+5.7**
CAUP	**Cauayan**	**13.85**	**341**	*e*P		**Pn**	**21 18 01.0**	**+1.6**
BOLP	**Bolinao**	**14.08**	**333**	*e*P		**Pn**	**21 18 06.5**	**+4.0**
CVP	**Callao Caves**	**14.56**	**342**	*e*P		**Pn**	**21 18 11.6**	**+2.6**
APYP	**Conner**	**14.89**	**340**	*e*P		**Pn**	**21 18 15.1**	**+1.7**
SGCP	**Mt. Cagua**	**15.00**	**343**	*e*P		**Pn**	**21 18 18.1**	**+3.2**
KSM	**Kuching**	**16.33**	**262**	*e*P		**Pn**	**21 18 36.1**	**+4.2**
KAKA	**Kakadu**	**17.43**	**160**	⇑*i*P		**Pn**	**21 18 43.0**	**-2.7**
	659nm,0.6s							
KAKA				*e*S		**S**	**21 22 00.7**	**-4.7**
MMPI	**Merauke**	**18.45**	**131**	P		**Pn**	**21 19 00.4**	**+2.3**
	2μm,1.5s							
GUMO	**Guam**	**20.59**	**61**	P		**P**	**21 19 22.2**	**+1.2**
	30nm,0.3s,baz=203,slow=18,SNR=3.4							
GUMO				LR		LR	21 25 54.4	
	comp=Z,13μm,20.5s,MS5.3,baz=232,slow=32							
GUMO	**Guam**	**20.59**	**61**	P		**P**	**21 19 22.2**	**+1.2**
GUMO				Pn			21 19 31.9	
GUMO				LR		LR	21 25 54.5	
GUMO	**Guam**	**20.59**	**61**	P		**P**	**21 19 22.2**	**+1.2**
GUMO				PN			21 19 31.9	
NACB	**Ninganchiao**	**20.80**	**347**	*e*P		**P**	**21 19 21.2**	**-2.1**
	280nm,0.9s							
JCJI	**Jatiwangi**	**20.87**	**241**	P		**P**	**21 19 27.0**	**+3.0**
	2μm,1.1s							
YHNB	**Yeheng**	**21.33**	**347**	*e*P		**P**	**21 19 27.0**	**-2.0**
	543nm,0.6s,mb6.1							
TATO	**Taipei**	**21.60**	**348**	P		**P**	**21 19 30.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.78**	**182**	*e*P		**P**	**21 19 32.9**	**-0.9**
	469nm,0.6s,mb6.1							
FITZ				*e*S		**S**	**21 23 24.8**	**-7.3**
FITZ	**Fitzroy Crossi**	**21.78**	**182**	P		**P**	**21 19 33.2**	**-0.6**
	297nm,1.0s,mb5.7,baz=14,slow=12,SNR=192							
FITZ				S		**S**	**21 23 27.4**	**-4.7**
	725nm,1.2s,baz=269,slow=19,SNR=17							
HKC	**Hong Kong**	**21.93**	**328**	⇑*i*P		**P**	**21 19 36.0**	**+0.5**
HKC				*i*S		**S**	**21 23 32.0**	**-3.2**
QIZ	**Qiongzhong**	**22.22**	**314**	P		**P**	**21 19 38.8**	**+0.2**
QIZ				AP			21 19 51.5	
QIZ				S		**S**	**21 23 34.5**	**-6.3**
QIZ				XS		sS	21 23 51.3	-6.8
QIZ				LR		LR		
	comp=N,37μm,18.1s,MS5.9							
QIZ				LR		LR		
	comp=E,24μm,19.4s,MS5.9							
QIZ				LR		LR		
	comp=Z,14μm,19.0s,MS5.4							
QIZ	**Qiongzhong**	**22.22**	**314**	*e*P		**P**	**21 19 38.2**	**-0.3**
	comp=Z,122nm,0.8s,mb5.4							
QZH	**Quanzhou**	**22.36**	**341**	⇑*i*P		**P**	**21 19 38.5**	**-1.5**
QZH				S		**S**	**21 23 32.5**	**-11**
QZH				AMB		AMB		
	comp=Z,710nm,1.4s,mb5.9							
QZH				AMB		AMB		
	comp=Z,4μm,3.0s							
QZH				LR		LR		
	comp=N,5μm,13.6s,MS5.7							
QZH				LR		LR		
	comp=E,24μm,17.9s,MS5.7							
QZH				LR		LR		
	comp=Z,69μm,24.7s							
JOW	**Kunigami**	**22.97**	**4**	P		**P**	**21 19 45.9**	**-0.6**
	comp=Z,19nm,0.3s,mb5.0,baz=76,slow=6.4,SNR=3.9							
JOW				ScP		ScP	21 27 08.8	-0.6
	comp=Z,44nm,1.2s,baz=230,slow=2.2,SNR=4.7							
GZH	**Guangzhou**	**23.01**	**328**	P		**P**	**21 19 42.5**	**-4.4**
GZH				S		**S**	**21 23 50.0**	**-4.3**
GZH				LR		LR		
	comp=N,11μm,20.7s,MS5.5							
GZH				LR		LR		
	comp=E,16μm,21.9s,MS5.5							
GZH				LR		LR		
	comp=Z,28μm,25.3s,MS5.6							
KGM	**Kluang**	**23.21**	**266**	P		**P**	**21 19 51.2**	**+2.2**
KLI	**Kotabumi**	**23.26**	**248**	P		**P**	**21 19 49.9**	**+0.3**
	comp=Z,1μm,1.0s,mb6.3							
UBT	**Ubonrachathani**	**24.01**	**300**	P		**P**	**21 19 58.5**	**+2.1**
PMG	**Port Moresby**	**24.42**	**123**	P		**P**	**21 19 58.6**	**-1.5**
	comp=Z,16nm,0.7s,baz=338,slow=9.1,SNR=6.9							
PMG	**Port Moresby**	**24.42**	**123**	*e*P		**P**	**21 19 58.7**	**-1.5**
	comp=Z,196nm,1.0s,mb5.5							
PMG				*e*			21 20 11.2	
PMG	**Port Moresby**	**24.42**	**123**	*e*P		**P**	**21 19 58.7**	**-1.4**
PMG				*e*			21 20 11.2	
PMG				pmax		pmax		
	comp=Z,196nm,1.0s							
WRAB	**Tennant Creek**	**24.81**	**162**	P		**P**	**21 20 04.7**	**+0.9**
	comp=Z,5μm,1.1s							
WRAB	**Tennant Creek**	**24.81**	**162**	P		**P**	**21 20 03.5**	**-0.3**
WRA	**Warramunga Arr**	**24.82**	**162**	P		**P**	**21 20 03.3**	**-0.5**
	comp=Z,488nm,0.9s,mb6.0,baz=343,slow=11,SNR=651							
WRA				S		**S**	**21 24 19.2**	**-4.2**
	comp=Z,80nm,1.0s,baz=340,slow=15,SNR=7.7							
WRA				P3KPbc			21 53 09.3	
	comp=Z,1.5nm,0.9s,baz=162,slow=4.0,SNR=8.4							
WRA	**Warramunga Arr**	**24.82**	**162**	P		**P**	**21 20 03.3**	**-0.5**
WRA				S		**S**	**21 24 19.2**	**-4.3**
KSI	**Kapahiang**	**25.00**	**253**	P		**P**	**21 20 05.4**	**-0.1**
	comp=Z,736nm,0.9s,mb6.2							
IPM	**Ipoh**	**25.41**	**272**	P		**P**	**21 20 09.7**	**+0.5**
MBWA	**Marble Bar**	**25.67**	**195**	P		**P**	**21 20 12.8**	**+1.3**
MBWA				*e*S		**S**	**21 24 38.0**	**+1.0**
KULM	**Kulim**	**25.80**	**274**	*e*P		**P**	**21 20 13.9**	**+1.2**
SNG	**Songkhla**	**25.97**	**279**	P		**P**	**21 20 16.0**	**+1.7**
	comp=Z,874nm,1.0s,mb6.2							
KKTK	**Khon Kaen**	**26.38**	**300**	P		**P**	**21 20 19.0**	**+1.0**
PSI	**Prapat**	**27.54**	**269**	P		**P**	**21 20 28.2**	**-0.2**
	comp=Z,183nm,0.9s,mb5.7,baz=94,slow=3.0,SNR=79							
PSI				S		**S**	**21 25 06.2**	**-0.4**
	comp=Z,3.1nm,0.4s,baz=275,slow=23,SNR=8.2							
PSI				ScP		ScP	21 27 22.2	-0.3
	comp=Z,36nm,1.0s,baz=174,slow=4.1,SNR=9.2							
PSI				LR		LR	21 32 20.4	
	comp=Z,8μm,21.4s,MS5.2,baz=85,slow=38							
PSI	**Prapat**	**27.54**	**269**	P		**P**	**21 20 28.2**	**-0.2**
PSI				S		**S**	**21 25 06.2**	**-0.3**
CBIJ	**Chichi jima**	**27.60**	**31**	P		**P**	**21 20 32.4**	**+3.4**
	comp=Z,86nm,0.4s,mb5.7,baz=289,slow=22,SNR=5.5							
CBIJ				LR		LR	21 29 09.6	
	comp=Z,14μm,21.6s,MS5.5,baz=213,slow=31							
SSE	**Sheshan**	**27.61**	**350**	⇑P		**P**	**21 20 29.5**	**+0.5**
SSE				AP		pP	21 20 42.5	+1.8
SSE				S		**S**	**21 25 10.3**	**+2.7**
SSE				SCS		ScS	21 31 13.0	-1.6
SSE				AMB		AMB		
	comp=Z,95nm,0.7s,mb5.5							
SSE				AMB		AMB		
	comp=Z,2μm,6.7s							
SSE				LR		LR		
	comp=N,9μm,22.0s,MS5.4							
SSE				LR		LR		
	comp=E,5μm,22.0s,MS5.4							
SSE				LR		LR		
	comp=Z,14μm,21.6s,MS5.5							
SSE	**Sheshan**	**27.61**	**350**	⇑P		**P**	**21 20 29.4**	**+0.4**
	comp=Z,95nm,0.7s,mb5.5							
SSE				pP		pP	21 20 42.4	+1.7
SSE				sP		sP	21 20 47.7	+1.8
SSE				PcP		PcP	21 23 42.7	-3.0
SSE				S		**S**	**21 25 10.2**	**+2.6**
SSE				sS		sS	21 25 31.9	+4.8
SSE				ScS		ScS	21 31 13.1	-1.5
SSE				LR		LR		
	comp=Z,14μm,21.6s,MS5.5							
NNT	**Nongplab**	**27.86**	**290**	P		**P**	**21 20 33.0**	**+1.7**
ASAR	**Alice Springs**	**28.24**	**166**	P		**P**	**21 20 33.5**	**-1.1**
	comp=Z,58nm,0.8s,mb5.3,baz=335,slow=5.9,SNR=204							
ASAR				S		**S**	**21 25 15.0**	**-2.4**
	comp=Z,29nm,0.9s,baz=352,slow=18,SNR=4.5							
ASAR				P3KPbc			21 52 56.4	
	comp=Z,1.0nm,0.9s,baz=164,slow=5.0,SNR=7.8							
ASAR	**Alice Springs**	**28.24**	**166**	P		**P**	**21 20 33.5**	**-1.1**
ASAR				S		**S**	**21 25 15.0**	**-2.4**
ASAR				*e*			21 52 56.4	
ASAR	**Alice Springs**	**28.24**	**166**	P		**P**	**21 20 33.5**	**-1.1**
ASAR				S		**S**	**21 25 15.0**	**-2.4**
NST	**Nakhon Sawan**	**28.49**	**296**	P		**P**	**21 20 37.5**	**+0.7**
WHN	**Wuhan**	**28.97**	**338**	P		**P**	**21 20 41.5**	**+0.4**
WHN				S		**S**	**21 25 24.5**	**-4.5**
WHN				AMB		AMB		
	comp=Z,107nm,1.0s,mb5.5							
WHN				LR		LR		
	comp=Z,83μm,26.7s,MS6.2							
NJ2	**Nanjing**	**29.01**	**347**	*e*P		**P**	**21 20 42.5**	**+1.0**
NJ2				PP		PP	21 21 38.3	-9.1
NJ2				S		**S**	**21 25 28.0**	**-1.6**
NJ2				AMB		AMB		
	comp=Z,90nm,0.8s,mb5.5							
NJ2				AMB		AMB		
	comp=Z,1μm,6.6s							
NJ2				LR		LR		
	comp=N,23μm,39.4s							
NJ2				LR		LR		
	comp=E,26μm,30.4s							
NJ2				LR		LR		
	comp=Z,9μm,29.3s							
JNU	**Nakatsue**	**29.46**	**7**	P		**P**	**21 20 43.1**	**-2.4**
	comp=Z,126nm,1.0s,mb5.6,baz=206,slow=7.3,SNR=5.1							
JNU				LR		LR	21 31 59.4	
	comp=Z,5μm,21.5s,MS5.1,baz=181,slow=35							
GYA	**Guiyang**	**29.47**	**322**	⇑*i*P		**P**	**21 20 46.5**	**+1.0**
GYA				PCP		PcP	21 23 52.0	+1.7
GYA				S		**S**	**21 25 35.5**	**-1.3**
GYA				SCP		ScP	21 27 30.5	+2.0
GYA				SCS		ScS	21 31 21.8	-1.3
GYA				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.1							
GYA				AMB		AMB		
	comp=Z,530nm,11.1s							
GYA				LR		LR		
	comp=N,5μm,21.6s,MS5.4							
GYA				LR		LR		
	comp=E,9μm,21.3s,MS5.4							
GYA				LR		LR		
	comp=Z,10μm,20.9s,MS5.4							
BDT	**Bhumibol Dam**	**30.09**	**298**	P		**P**	**21 20 51.5**	**+0.5**
	comp=Z,20nm,0.9s,mb4.8							
CHRT	**Chiangrai**	**30.55**	**304**	⇓P		**P**	**21 20 57.0**	**+1.9**
	comp=Z,2μm,0.8s							
CTA	**Charters Tower**	**30.66**	**141**	*e*P		**P**	**21 20 56.8**	**+0.7**
	comp=Z,50nm,0.9s,mb5.3							
CTA				*e*S		**S**	**21 25 54.1**	**-1.4**
CTA	**Charters Tower**	**30.66**	**141**	P		**P**	**21 20 55.4**	**-0.7**
	comp=Z,49nm,0.9s,mb5.3,baz=318,slow=10,SNR=50							
CTA				ScP		ScP	21 27 32.8	+0.4
	comp=Z,100nm,1.2s,baz=25,slow=7.1,SNR=6.6							
CTA	**Charters Tower**	**30.66**	**141**	*e*P		**P**	**21 20 56.8**	**+0.7**
CTA				*e*S		**S**	**21 25 54.1**	**-1.4**
CTA				pmax		pmax		
	comp=Z,50nm,0.9s							
ENH	**Enshi**	**30.85**	**330**	*e*P		**P**	**21 20 57.4**	**-0.4**
	comp=Z,168nm,0.9s,mb5.9							
KMI	**Kunming**	**31.17**	**315**	P		**P**	**21 21 03.7**	**+3.2**
KMI				PCP		PcP	21 23 56.8	+2.1
KMI				S		**S**	**21 26 01.8**	**-1.6**
KMI				SCP		ScP	21 27 34.7	+0.6
KMI				SCS		ScS	21 31 31.8	+0.5
KMI				AMB		AMB		
	comp=Z,17nm,1.4s,mb4.7							
KMI				AMB		AMB		
	comp=Z,104nm,3.1s							
KMI				LR		LR		
	comp=N,17μm,18.4s,MS5.8							
KMI				LR		LR		
	comp=E,13μm,20.5s,MS5.8							
KMI				LR		LR		
	comp=Z,14μm,27.0s							
JHJ	**Hachijo jima 2**	**31.71**	**22**	LR		LR	21 34 25.9	
	comp=Z,8μm,19.1s,MS5.4,baz=44,slow=37							
TIA	**Tai'an**	**33.39**	**346**	*e*P		**P**	**21 21 19.5**	**-0.6**
TIA				S		**S**	**21 26 27.5**	**-11**
TIA				AMB		AMB		
	comp=Z,490nm,1.0s,mb6.4							
TIA				LR		LR		
	comp=E,6μm,13.0s							
KS15	**Wonju Array Si**	**33.51**	**2**	P		**P**	**21 21 21.8**	**+0.7**
INCN	**Inchon**	**33.52**	**0**	*e*P		**P**	**21 21 21.2**	**0.0**
	comp=E,134nm,0.6s,mb6.0							
XAN	**Xi'an**	**34.25**	**334**	P		**P**	**21 21 27.0**	**-0.5**
XAN				PP		PP	21 22 43.3	-2.3
XAN				S		**S**	**21 26 41.0**	**-10**
XAN				AMB		AMB		
	comp=Z,102nm,1.1s,mb5.7							
XAN				LR		LR		
	comp=N,15μm,25.3s,MS5.7							
XAN			

MJAR			PcP	PcP	21 24 03.8	+0.3
MJAR			ScP	ScP	21 27 45.4	+0.4
MJAR			LR	LR	21 35 35.9	
MJAR			e		21 52 27.9	
MJAR	**Matsushiro Arr**	**34.33 17**	P	**P**	**21 21 25.1**	**-3.0**
MJAR					21 24 03.8	
FORT	**Forrest**	**34.41 178**	⇓ i P	**P**	**21 21 29.2**	**+0.3**
	comp=Z,324nm,0.6s,mb6.4					
FORT			eS	**S**	**21 26 48.7**	**-5.2**
CD2	**Chengdu**	**34.45 324**	P	**P**	**21 21 29.0**	**-0.2**
CD2			S	**S**	**21 26 44.0**	**-10**
CD2			AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0					
CD2			AMB	AMB		
	comp=Z,270nm,6.0s					
CD2			LR	LR		
	comp=E,7μm,20.2s					
CD2			LR	LR		
	comp=Z,6μm,29.1s					
DL2	**Dalian**	**35.23 353**	⇑ i P	**P**	**21 21 37.3**	**+1.4**
DL2			AP	pP	21 21 42.0	-5.7
DL2			PP	PP	21 22 54.8	-1.6
DL2			AMB	AMB		
	comp=Z,370nm,0.9s,mb6.3					
DL2			AMB	AMB		
	comp=Z,870nm,4.4s					
DL2			LR	LR		
	comp=N,3μm,20.1s,MS5.3					
DL2			LR	LR		
	comp=E,4μm,20.3s,MS5.3					
DL2			LR	LR		
	comp=Z,6μm,22.2s,MS5.3					
HNR	**Honiara**	**35.83 112**	P	**P**	**21 21 42.6**	**+1.5**
	comp=Z,35nm,0.5s,mb5.5,baz=254,slow=2.9,SNR=4.1					
HNR			LR	LR	21 35 07.6	
	comp=Z,3μm,19.8s,MS5.1,baz=356,slow=34					
HNR	**Honiara**	**35.83 112**	P	**P**	**21 21 42.6**	**+1.4**
HNR			LR	LR	21 35 07.6	
KLBR	**Kellerberrin**	**36.16 193**	⇓ i P	**P**	**21 21 44.7**	**+0.8**
	comp=Z,414nm,0.7s,mb6.5					
KLBR			eS	**S**	**21 27 17.3**	**-3.4**
MUN	**Mundaring**	**36.90 195**	eP	**P**	**21 21 51.1**	**+0.9**
MUN			ePP	PP	21 23 39.0	+24
MUN			i S	**S**	**21 27 31.5**	**-0.4**
BJT	**Baijiatuau**	**37.25 347**	eP	**P**	**21 21 53.3**	**+0.2**
	comp=Z,420nm,0.7s,mb6.4					
BJT	**Baijiatuau**	**37.25 347**	eP	**P**	**21 21 53.3**	**+0.1**
BJT			pmax	pmax		
	comp=Z,420nm,0.7s					
BJI	**Beijing**	**37.27 347**	P	**P**	**21 21 53.5**	**+0.2**
BJI			PP	PP	21 23 15.8	-3.1
BJI			S	**S**	**21 27 33.3**	**-4.3**
BJI			AMB	AMB		
	comp=Z,347nm,1.0s,mb6.1					
BJI			AMB	AMB		
	comp=Z,2μm,6.0s					
BJI			LR	LR		
	comp=N,7μm,26.2s,MS5.4					
BJI			LR	LR		
	comp=E,3μm,26.2s,MS5.4					
BJI			LR	LR		
	comp=Z,10μm,27.0s,MS5.5					
BJI	**Beijing**	**37.27 347**	P	**P**	**21 21 53.4**	**+0.1**
	comp=Z,347nm,1.0s,mb6.1					
BJI			PP	PP	21 23 15.8	-3.1
BJI			S	**S**	**21 27 33.3**	**-4.3**
BJI			SS	SS	21 30 14.6	-7.4
BJI			LR	LR		
	comp=Z,10μm,27.0s,MS5.5					
NWAO	**Narrogin (SRO)**	**37.56 193**	P	**P**	**21 21 57.1**	**+1.3**
SNY	**Shenyang**	**37.95 356**	⇑ P	**P**	**21 22 00.0**	**+0.8**
SNY			PP	PP	21 23 24.5	-1.9
SNY			S	**S**	**21 27 43.0**	**-5.0**
SNY			AMB	AMB		
	comp=Z,204nm,1.1s,mb5.8					
SNY			AMB	AMB		
	comp=Z,3μm,6.8s					
SNY			LR	LR		
	comp=N,6μm,24.5s,MS5.6					
SNY			LR	LR		
	comp=E,8μm,23.1s,MS5.6					
SNY			LR	LR		
	comp=Z,12μm,27.2s,MS5.6					
STKA	**Stephens Creek**	**38.27 159**	⇓ i P	**P**	**21 22 00.5**	**-1.3**
	comp=Z,187nm,0.7s,mb5.9					
STKA			eS	**S**	**21 27 49.6**	**-3.2**
STKA	**Stephens Creek**	**38.27 159**	P	**P**	**21 22 00.6**	**-1.2**
	comp=Z,242nm,0.9s,mb5.9,baz=331,slow=8.3,SNR=224					
STKA			PcP	PcP	21 24 14.3	-1.0
	comp=Z,100nm,0.9s,baz=343,slow=6.9,SNR=3.2					
STKA			LR	LR	21 40 15.5	
	comp=Z,7μm,19.0s,MS5.5,baz=328,slow=40					
LZH	**Lanzhou**	**38.33 330**	⇑ P	**P**	**21 22 03.0**	**+0.7**
LZH			AP	pP	21 22 13.3	-0.9
LZH			XP	sP	21 22 17.0	-2.3
LZH			PP	PP	21 23 34.5	+4.0
LZH			PcP	PcP	21 24 18.0	+2.6
LZH			S	**S**	**21 27 47.5**	**-6.1**
LZH			ScP	ScP	21 28 00.8	+1.1
LZH			sS	sS	21 28 04.0	-9.5
LZH			SS	SS	21 30 30.0	-13
LZH			SCS	ScS	21 32 10.5	+0.8
LZH			AMB	AMB		
	comp=Z,167nm,1.5s,mb5.5					
LZH			AMB	AMB		
	comp=Z,660nm,6.1s					
LZH			LR	LR		
	comp=E,13μm,17.4s					
LZH			LR	LR		
	comp=Z,17μm,18.6s,MS5.9					
LZH	**Lanzhou**	**38.33 330**	⇑ P	**P**	**21 22 03.0**	**+0.7**
	comp=Z,167nm,1.5s,mb5.5					
LZH			pP	pP	21 22 13.2	-1.0
LZH			sP	sP	21 22 17.0	-2.3
LZH			PP	PP	21 23 34.5	+4.0
LZH			PcP	PcP	21 24 18.1	+2.7
LZH			S	**S**	**21 27 47.5**	**-6.1**
LZH			ScP	ScP	21 28 00.7	+1.0
LZH			sS	sS	21 28 04.0	-9.5
LZH			SS	SS	21 30 30.0	-13
LZH			ScS	ScS	21 32 10.4	+0.7
LZH			LR	LR		
	comp=Z,17μm,18.6s,MS5.9					
HHC	**Hu-ho-hao-te**	**39.26 342**	eP	**P**	**21 22 10.3**	**+0.2**
HHC			AP	pP	21 22 25.3	+3.3
HHC			PP	PP	21 23 45.5	+4.8
HHC			SCP	ScP	21 28 00.0	-3.3
HHC			S	**S**	**21 28 05.3**	**-2.4**
HHC			SCS	ScS	21 32 10.3	-4.8
HHC			AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1					
HHC			AMB	AMB		
	comp=Z,1μm,4.4s					
HHC			LR	LR		
	comp=N,9μm,23.5s,MS5.6					
HHC			LR	LR		
	comp=E,6μm,21.1s,MS5.6					
HHC			LR	LR		
	comp=Z,11μm,28.5s					
BTO	**Baotou**	**39.54 340**	eP	**P**	**21 22 11.8**	**-0.6**
BTO			LR	LR		
	comp=N,1μm,18.6s,MS5.5					
BTO			LR	LR		
	comp=E,5μm,14.7s,MS5.5					
BTO			LR	LR		
	comp=Z,15μm,21.1s					
SHL	**Shillong**	**39.65 306**	i P	**P**	**21 22 15.0**	**+1.7**
SHL			ex	x	21 28 06.0	
SHL			ex	x	21 31 18.0	
SHL			ex	x	21 32 16.0	
CN2	**Changchun**	**39.85 359**	eP	**P**	**21 22 15.0**	**0.0**
CN2			PP	PP	21 23 48.8	+1.7
CN2			PCP	PcP	21 24 21.5	+1.3
CN2			SCP	ScP	21 28 05.5	-0.1
CN2			AMB	AMB		
	comp=Z,90nm,0.7s,mb5.6					
CN2			AMB	AMB		
	comp=Z,200nm,6.0s					
CN2			LR	LR		
	comp=N,5μm,19.0s,MS5.4					
CN2			LR	LR		
	comp=E,3μm,19.0s,MS5.4					
CN2			LR	LR		
	comp=Z,6μm,21.0s,MS5.4					
ADE	**Adelaide**	**40.23 164**	⇓ i P	**P**	**21 22 19.9**	**+1.7**
MDJ	**Mudanjiang**	**40.74 3**	P	**P**	**21 22 23.0**	**+0.6**
MDJ			AP	pP	21 22 35.8	+1.4
MDJ			PP	PP	21 23 59.0	+2.2
MDJ			SCP	ScP	21 28 08.5	-0.6
MDJ			S	**S**	**21 28 30.0**	**+0.1**
MDJ			AMB	AMB		
	comp=Z,378nm,0.7s,mb6.1					
MDJ			AMB	AMB		
	comp=Z,1μm,5.4s					
MDJ			LR	LR		
	comp=N,11μm,26.1s,MS5.6					
MDJ			LR	LR		
	comp=E,3μm,26.1s,MS5.6					
MDJ			LR	LR		
	comp=Z,14μm,26.1s,MS5.7					
MDJ	**Mudanjiang**	**40.74 3**	eP	**P**	**21 22 23.1**	**+0.7**
	comp=Z,344nm,0.9s,mb6.0					
CAL	**Calcutta**	**41.37 300**	eP	**P**	**21 22 27.3**	**-0.3**
CAL			eS	**S**	**21 28 40.4**	**+1.2**
CAL			AMP		21 41 47.7	
	comp=Z,4μm,20.6s					
ARMA	**Armidale**	**41.65 146**	eP	**P**	**21 22 31.3**	**+1.4**
ARMA			eS	**S**	**21 28 42.0**	**-1.3**
LSA	**Lhasa**	**42.22 311**	P	**P**	**21 22 36.3**	**+1.8**
LSA			AP	pP	21 22 47.0	+0.5
LSA			XP	sP	21 22 51.0	-0.6
LSA			PP	PP	21 24 12.0	-0.8
LSA			S	**S**	**21 28 46.0**	**-5.7**
LSA			SS	SS	21 31 47.5	-13
LSA			AMB	AMB		
	comp=Z,30nm,1.4s,mb4.7					
LSA			LR	LR		
	comp=N,4μm,22.8s					
LSA			LR	LR		
	comp=E,4μm,17.1s					
LSA			LR	LR		
	comp=Z,7μm,22.8s,MS5.5					
LSA	**Lhasa**	**42.22 311**	eP	**P**	**21 22 36.1**	**+1.7**
	comp=Z,113nm,0.6s,mb5.7					
LSA	**Lhasa**	**42.22 311**	eP	**P**	**21 22 36.2**	**+1.7**
LSA			pmax	pmax		
	comp=Z,113nm,0.6s,mb5.7					
ASAJ	**Asahikawa**	**42.60 17**	LR	LR	21 40 46.3	
	comp=Z,10μm,21.4s,MS5.7,baz=214,slow=36					
GTA	**Gaotai**	**42.92 329**	P	**P**	**21 22 40.3**	**+0.1**
GTA			AP	pP	21 22 50.3	-1.9
GTA			XP	sP	21 22 53.8	-3.5
GTA			PP	PP	21 24 22.3	+2.0
GTA			PCP	PcP	21 24 32.5	+2.2
GTA			SCP	ScP	21 28 17.8	0.0
GTA			S	**S**	**21 28 57.8**	**-4.2**
GTA			SCS	ScS	21 32 36.0	-1.2
GTA			AMB	AMB		
	comp=Z,25nm,1.1s,mb4.9					
GTA			AMB	AMB		
	comp=Z,451nm,5.7s					
GTA			LR	LR		
	comp=N,9μm,20.1s,MS5.8					
GTA			LR	LR		
	comp=E,7μm,19.4s,MS5.8					
GTA			LR	LR		
	comp=Z,27μm,25.2s					
GTK	**Gangtok**	**43.05 307**	EP		21 21 08.0	
BOK	**Bokaro**	**43.92 301**	⇑ i P	**P**	**21 22 47.9**	**-0.3**
BOK			eP		21 22 49.5	
BOK			AMb	AMB	21 22 53.0	
	comp=Z,82nm,1.0s,mb5.4					
BOK			i S	**S**	**21 29 12.9**	**-3.7**
RIV	**Riverview**	**44.08 150**	eP	**P**	**21 22 48.8**	**-0.7**
CNB	**Canberra Magne**	**44.44 153**	⇓ i P	**P**	**21 22 53.9**	**+1.5**
	comp=Z,151nm,1.0s,mb5.7					
VIS	**Vishakhapatnam**	**44.47 291**	i x	x	21 22 48.3	
VIS			i x	x	21 29 18.4	
TOO	**Toolangi**	**44.79 158**	eP	**P**	**21 22 57.2**	**+2.0**
	comp=Z,91nm,1.3s,mb5.5					
TOO			ePP	PP	21 25 16.8	+37
TOO			eS	**S**	**21 29 30.7**	**+1.5**
TOO			e		21 32 48.8	
TOO	**Toolangi**	**44.79 158**	eP	**P**	**21 22 57.2**	**+2.0**
TOO			e		21 25 16.8	
TOO			eS	**S**	**21 29 30.7**	**+1.5**
TOO			e		21 32 48.8	
TOO			pmax	pmax		
	comp=Z,91nm,1.3s,mb5.5					
HABR	**Khabarovsk**	**45.11 8**	⇑ i P	**P**	**21 22 58.3**	**+0.6**
HABR			eS	**S**	**21 29 35.8**	**+1.9**
HABR			pmax	pmax		
	comp=Z,122nm,1.0s,mb5.7					
HABR			MLR	MLR		
	comp=Z,5μm,18.4s,MS5.5					
JIRN	**Jiri**	**45.14 306**	eP	**P**	**21 22 58.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**45.24 16**	i Pcu		21 22 59.6	
YSS			e		21 23 12.0	
YSS			ePPP		21 25 28.0	
YSS			i S	**S**	**21 29 30.0**	**-5.8**
YSS			e		21 32 53.0	
YSS			LR	LR		
	comp=Z,4μm,19.0s,MS5.4					
YSS	**Yuzh-Sakhalins**	**45.24 16**	α i P	**P**	**21 22 59.6**	**+0.8**
YSS			e	pP	21 23 12.0	+1.1
YSS			ePPP		21 25 28.0	
YSS			i S	**S**	**21 29 30.0**	**-5.8**
YSS			e		21 32 53.0	
YSS			smax			
	comp=N,3μm,12.0s					
YSS			smax			
	comp=E,2μm,12.0s					
YSS			MLR	MLR		
	comp=N,4μm,19.0s,MS5.5					
YSS			MLR	MLR		
	comp=E,4μm,19.0s,MS5.5					
YSS			MLR	MLR		
	comp=Z,4μm,19.0s,MS5.4					
GUN	**Gumba**	**45.49 306**	eP	**P**	**21 23 01.3**	**+0.5**
HIA	**Hailar**	**45.67 354**	eP	**P**	**21 23 02.9**	**+0.7**
	comp=Z,148nm,0.9s,mb5.9					
HIA	**Hailar**	**45.67 354**	eP	**P**	**21 23 02.9**	**+0.7**
HIA			pmax	pmax		
	comp=Z,148nm,0.9s					
PALK	**Pallekele**	**45.69 276**	P	**P**	**21 23 03.4**	**+1.1**
	comp=Z,396nm,1.2s,mb6.2,SNR=22					
PALK	**Pallekele**	**45.69 276**	P	**P**	**21 23 02.4**	**+0.1**
	comp=Z,108nm,1.2s,mb5.7					
PKI	**Pulchoki**	**45.74 305**	eP	**P**	**21 23 02.6**	**-0.1**
PKI			⇓ i S	ScP	21 28 22.1	-7.2
	comp=Z,120nm,0.8s					
PKI	**Pulchoki**	**45.74 305**	eP	**P**	**21 23 02.6**	**-0.1**
	comp=Z,60nm,0.8s,mb5.6					
PKI			i S	ScP	21 28 22.1	-7.2
KKN	**Kakani**	**45.93 306**	eP	**P**	**21 23 04.2**	**0.0**
KKN			⇓ i S	ScP	21 28 25.9	-4.2
	comp=Z,89nm,0.8s					
DMN	**Daman**	**46.00 305**	eP	**P**	**21 23 05.0**	**+0.2**
DMN			⇓ i S	ScP	21 28 24.9	-5.5
	comp=Z,121nm,1.1s					
GKN	**Gorkha**	**46.54 306**	eP	**P**	**21 23 08.8**	**-0.2**
GKN			⇓ i S	ScP	21 28 34.8	+2.2
	comp=Z,113nm,0.9s					
BLSP	**Bilaspur**	**46.68 297**	ex	x	21 23 15.0	
DZM	**Mont Dzumac**	**46.77 125**	S	**S**	**21 29 58.4**	**+0.6**
	comp=Z,5.0nm,1.0s,baz=126,slow=20,SNR=3.2					
NOU	**Noumea**	**46.88 125**	⇑ eP	**P**	**21 23 10.6**	**-1.1**
ULN	**Ulaanbaatar**	**46.98 342**	P	**P**	**21 23 12.8**	**+0.4**
	comp=Z,49nm,0.7s,mb5.5					
ULN	**Ulaanbaatar**	**46.98 342**	P	**P**	**21 23 12.8**	**+0.3**
ULN			pmax	pmax		
	comp=Z,49nm,0.7s,mb5.5					
SONM	**Songino Array**	**47.16 342**	P	**P**	**21 23 13.9**	**+0.1**
	comp=Z,28nm,0.8s,mb5.2,baz=154,slow=7.6,SNR=82					
SONM			PcP	PcP	21 24 45.1	+0.2
	comp=Z,47nm,0.8s,baz=158,slow=5.2,SNR=5.7					
SONM			LR	LR	21 46 04.2	
	comp=Z,5μm,21.4s,MS5.5,baz=156,slow=40					
SONM	**Songino Array**	**47.16 342**	P	**P**	**21 23 13.9**	**0.0**
SONM					21 24 45.2	
KOLN	**Koldanda**	**47.29 305**	⇓ i P	**P**	**21 23 15.3**	**+0.4**
HYB	**Hyderabad**	**48.87 290**	⇓ i P	**P**	**21 23 27.5**	**+0.4**
	comp=Z,125nm,1.0s,mb5.9					
HYB			epP	pP	21 23 44.0	+4.7
HYB			esP	sP	21 23 52.0	+7.6
HYB			ePcP	PcP	21 24 56.0	+4.9
HYB			e		21 25 31.0	
HYB			eScP	ScP	21 28 45.0	+2.5
HYB			eS	**S**	**21 30 26.0**	**-1.6**
HYB			eScS	ScS	21 33 13.0	-2.7
HYB			eSS	SS	21 33 56.0	-2.5
HYB	**Hyderabad**	**48.87 290**	eP	**P**	**21 23 27.5**	**+0.4**
	comp=Z,125nm,1.0s,mb5.9					
HYB			eS	**S**	**21 30 26.0**	**-1.6**
HYB	**Hyderabad**	**48.87 290**	eP	**P**	**21 23 27.5**	**+0.4**
HYB			eS	**S**	**21 30 26.0**	**-1.6**
HYB			pmax	pmax		
	comp=Z,125nm,1.0s,mb5.9					
JBP	**Jabalpur**	**48.87 298**	⇓ i P	**P**	**21 23 27.6**	**+0.6**
JBP			ex	x	21 23 31.6	
	comp=Z,147nm,2.3s					
JBP			eS	**S**	**21 30 25.0**	**-2.5**
NGP	**Nagpur**	**49.19 295**	eP	**P**	**21 23 27.9**	**-1.6**
NGP			ex	x	21 23 31.0	
	comp=Z,125nm,1.4s					
NGP			ex	x	21 30 26.2	
CIT	**Chita**	**49.26 349**	⇑ i P	**P**	**21 23 31.5**	**+1.5**
	comp=Z,313nm,0.9s,mb6.3					
CIT			e		21 24 54.2	
CIT			e		21 30 27.1	
CIT			e		21 33 13.6	
CIT	**Chita**	**49.26 349**	⇑ i P	**P**	**21 23 31.5**	**+1.5**
CIT			e		21 24 54.2	
CIT			e		21 30 27.1	
CIT			e		21 33 13.6	
CIT			pmax	pmax		
	comp=Z,313nm,0.9s,mb6.3					
TRD	**Trivandrum**	**49.44 278**	eP	**P**	**21 23 31.7**	**+0.3**
TRD			AMb	AMB	21 23 33.9	
	comp=Z,360nm,0.9s,mb6.4					
TAU	**Tasmania Unive**	**50.16 160**	P	**P**	**21 23 39.0**	**+2.0**
	comp=Z,158nm,1.1s,mb6.0					
TAU	**Tasmania Unive**	**50.16 160**	P	**P**	**21 23 39.0**	**+2.1**
TAU			pmax	pmax		
	comp=Z,158nm,1.1s,mb6.0					
ZAK	**Zakamensk**	**50.38 341**	eP	**P**	**21 23 37.6**	**-1.0**
	comp=Z,75nm,1.8s,mb5.4					
ZAK			e		21 24 56.1	
ZAK			e		21 25 28.1	
ZAK			e		21 33 21.1	
ZAK	**Zakamensk**	**50.38 341**	eP	**P**	**21 23 37.6**	**-1.0**
ZAK			e		21 24 56.1	
ZAK			e		21 25 28.1	
ZAK			e		21 33 21.1	
ZAK			pmax	pmax		
	comp=Z,75nm,1.8s,mb5.4					
ZAK			pmax	pmax		
	comp=Z,90nm,1.4s,mb5.6					
ZAK			pmax	pmax		
	comp=Z,77nm,1.5s,mb5.5					
ZAK			pmax	pmax		
	comp=Z,43nm,1.7s,mb5.2					
ZAK			pmax	pmax		
	comp=Z,56nm,1.6s,mb5.3					
LGTI	**Lohaghat**	**50.65 305**	ex	x	21 24 41.0	
LGTI			ex	x	21 25 58.0	
PTH	**Pithoragarh**	**50.71 306**	eP	**P**	**21 23 39.9**	**-1.2**
PTH			ex	x	21 28 50.2	
LATR	**Latur**	**50.92 291**	eP	**P**	**21 23 43.0**	**+0.4**
BHPL	**Bhopal**	**51.16 297**	eP	**P**	**21 23 44.7**	**+0.2**
BHPL			AMb	AMB	21 23 48.6	
	comp=Z,154nm,1.4s,mb5.7					
TLY	**Talaya**	**51.39 342**	P	**P**	**21 23 47.2**	**+1.0**
	comp=Z,224nm,0.7s,mb6.2,SNR=6.4					
TLY	**Talaya**	**51.39 342**	c i P	**P**	**21 23 46.7**	**+0.5**
IRK	**Irkutsk**	**51.69 343**	⇑ i P	**P**	**21 23 48.1**	**-0.3**
	comp=Z,168nm,2.0s,mb5.6					
IRK			eS	**S**	**21 31 06.4**	**-0.4**
IRK			e		21 33 28.3	
IRK	**Irkutsk**	**51.69 343**	⇑ i P	**P**	**21 23 48.1**	**-0.3**
IRK			eS	**S**	**21 31 06.4**	**-0.4**
IRK			e		21 33 28.3	
IRK			pmax	pmax		
	comp=Z,168nm,2.0s,mb5.6					
MNGI	**Mangalore**	**51.83 283**	eP	**P**	**21 23 49.5**	**+0.1**
MNGI			eS	**S**	**21 31 05.7**	**-3.0**
MOY	**Mondy**	**52.24 340**	eP	**P**	**21 23 53.4**	**+0.9**
	comp=Z,155nm,3.4s					
MOY	**Mondy**	**52.24 340**	eP	**P**	**21 23 53.4**	**+0.9**
MOY			pmax	pmax		
	comp=Z,155nm,3.4s					
WMQ	**Urumqi**	**52.53 325**	P	**P**	**21 23 55.0**	**+0.3**
WMQ			PCP	PcP	21 25 06.5	+1.9
WMQ			PP	PP	21 25 54.5	+0.6
WMQ			PPP		21 26 58.0	
WMQ			S	**S**	**21 31 19.8**	**+1.5**
WMQ			SCS	ScS	21 33 43.0	+2.2
WMQ			SS	SS	21 34 55.0	-1.8
WMQ			AMB	AMB		
	comp=Z,105nm,1.0s,mb5.7					
WMQ			AMB	AMB		
	comp=Z,856nm,4.2s					
WMQ			LR	LR		
	comp=N,17μm,21.4s,MS6.1					
WMQ			LR	LR		
	comp=E,10μm,22.0s,MS6.1					
WMQ			LR	LR		
	comp=Z,17μm,22.0s,MS6.0					
DDI	**Dehra Dun**	**52.74 306**	eP	**P**	**21 23 56.5**	**+0.3**
DDI			ex	x	21 31 16.0	
NDI	**New Delhi**	**52.89 303**	eP	**P**	**21 23 55.5**	**-1.8**
NDI			ex	x	21 31 17.0	
CLNS	**Chul'man**	**52.90 359**	eP	**P**	**21 23 57.5**	**+0.1**
CLNS			epP	pP	21 24 04.3	-5.4
CLNS			e		21 25 03.2	
CLNS			e		21 25 51.8	
CLNS			eS	**S**	**21 31 22.5**	**-0.9**
CLNS			eSS	SS	21 35 01.3	-1.3
CLNS	**Chul'man**	**52.90 359**	eP	**P**	**21 23 57.5**	**+0.1**
CLNS			e*PP	pP	21 24 04.3	-5.4
CLNS			e		21 25 03.2	
CLNS			e		21 25 51.8	
CLNS			eS	**S**	**21 31 22.5**	**-0.9**
CLNS			eSS	SS	21 35 01.3	-1.3
CLNS			pmax	pmax		
	comp=N,42nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,73nm,0.8s,mb5.7					
CLNS			pmax	pmax		
	comp=E,23nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,96nm,2.0s,mb5.4					
CLNS			pmax	pmax		
	comp=N,76nm,1.1s					
CLNS			pmax	pmax		
	comp=E,54nm,1.3s					
CLNS			smax			
	comp=N,48nm,1.2s					
CLNS			smax			
	comp=E,64nm,1.0s					
CLNS			smax			
	comp=Z,15nm,1.0s					
CLNS			MLR	MLR		
	comp=Z,5μm,19.0s,MS5.5					
CLNS			MLR	MLR		
	comp=N,900nm,18.0s,MS5.2					
CLNS			MLR	MLR		
	comp=E,2μm,18.0s,MS5.2					
KAD	**Karad**	**52.97 289**	eP	**P**	**21 23 57.2**	**-0.6**
KAD			AMb	AMB	21 23 59.5	
	comp=Z,197nm,1.0s,mb6.0					
POO	**Poona**	**53.47 290**	⇑ i P	**P**	**21 24 00.5**	**-1.1**
	comp=Z,350nm,1.0s,mb6.2					
POO			ex	x	21 24 10.5	
POO			AMb	AMB	21 24 12.7	
	comp=Z,214nm,1.3s,mb5.9					
POO			i PCP	PcP	21 25 09.5	+1.4
POO			i PP	PP	21 26 01.0	-1.3
POO			i PPP		21 27 05.5	
POO			i S	**S**	**21 31 28.0**	**-3.1**
POO			eSCS	ScS	21 33 48.0	+0.6
POO			ex	x	21 35 06.0	
POO			ex	x	21 39 16.0	
SDNR	**Sundarnagar**	**54.02 307**	eP	**P**	**21 24 06.1**	**+0.5**
SDNR			eS	**S**	**21 31 36.7**	**-1.8**
AJM	**Ajmer**	**54.44 300**	eP	**P**	**21 24 07.2**	**-1.4**
AJM			AMb	AMB	21 24 12.1	
	comp=Z,167nm,1.3s,mb5.8					
BHK	**Bhakra**	**54.44 306**	ex	pP	21 24 21.6	+0.6
BOM	**Bombay**	**54.50 290**	ex	**P**	**21 24 12.9**	**+3.9**
	comp=Z,168nm,2.1s,mb5.6					
BOM			ex	x	21 31 29.4	
BOD	**Bodaibo**	**54.77 352**	eP	**P**	**21 24 11.5**	**+0.5**

comp=Z,19nm,0.9s,mb5.1
BOD Bodaibo 54.77 352 *e*P **P** **21 24 11.5 +0.5**
BOD pmax pmax
comp=Z,19nm,0.9s,mb5.1
PONG Pong 54.99 307 *e*P **P** **21 24 13.0 +0.4**
DGAR Diego Garcia 55.06 258 P **P** **21 24 12.5 -0.6**
DLH Dalhousie 55.18 307 *e*P **P** **21 24 16.0 +2.0**
DLH *e*x x 21 24 24.0
PET Petropavlovsk 55.76 23⇑ *e*P **P** **21 24 18.6 +0.4**
comp=Z,102nm,1.8s,mb5.5
PET LR LR
comp=Z,3μm,17.0s,MS5.4
PET Petropavlovsk 55.76 23⇑ *e*P **P** **21 24 18.6 +0.4**
PET pmax pmax
comp=Z,102nm,1.8s,mb5.5
PET MLR MLR
comp=Z,3μm,17.0s,MS5.4
MKAR Makanchi Array 57.37 325 P **P** **21 24 29.4 -0.2**
comp=Z,29nm,0.4s,mb5.6,baz=118,slow=7.5,SNR=314
MKAR ScP ScP 21 29 17.7 -1.7
comp=Z,4.1nm,0.8s,baz=186,slow=2.9,SNR=2.8
MKAR S **S** **21 32 19.6 -3.5**
comp=Z,10nm,1.0s,baz=113,slow=12,SNR=6.0
MKAR ScS ScS 21 34 12.5 -2.8
comp=Z,1.9nm,0.9s,baz=139,slow=14,SNR=12
MKAR LR LR 21 52 40.0
comp=Z,5μm,18.9s,MS5.6,baz=253,slow=40
MKAR P4KPbc 22 01 41.5
comp=Z,1.3nm,0.9s,baz=100,slow=5.0,SNR=7.4
MKAR Makanchi Array 57.37 325 P **P** **21 24 29.4 -0.2**
MKAR S **S** **21 32 19.6 -3.5**
MKAR *e* 21 34 12.5
NIL Nilore 57.70 308 P **P** **21 24 33.7 +1.8**
comp=Z,258nm,0.7s,mb6.4,SNR=9.2
NIL Nilore 57.70 308 P **P** **21 24 33.3 +1.3**
KSH Kashi 57.83 315 P **P** **21 24 35.0 +2.2**
KSH PCP PcP 21 25 29.3 +4.3
KSH PP PP 21 26 44.5 +3.2
KSH PPP 21 28 05.5
KSH S **S** **21 32 29.5 +0.4**
KSH SCS ScS 21 34 20.3 +1.6
KSH SS SS 21 36 21.5 +1.3
KSH AMB AMB
comp=Z,114nm,1.3s,mb5.7
KSH LR LR
comp=N,7μm,20.1s,MS6.0
KSH LR LR
comp=E,13μm,25.0s,MS6.0
KSH LR LR
comp=Z,9μm,22.6s,MS5.8
BHJ Bhuj 58.14 295 *e*P **P** **21 24 35.3 +0.2**
BHJ AMb AMB 21 24 37.6
comp=Z,358nm,1.1s,mb6.3
YAK Yakutsk 58.15 2 *e*P **P** **21 24 35.3 +0.2**
comp=Z,88nm,0.9s,mb5.8
YAK *e*pP pP 21 24 45.4 -2.1
YAK *e*S **S** **21 32 29.2 -4.1**
YAK *e*sS sS 21 32 43.4 -11
YAK *e* 21 34 18.1
YAK *e*SS SS 21 36 31.3 +6.1
YAK Yakutsk 58.15 2 *e*P **P** **21 24 35.3 +0.2**
YAK *e**PP pP 21 24 45.4 -2.1
YAK *e*S **S** **21 32 29.2 -4.1**
YAK *e**SS sS 21 32 43.4 -11
YAK *e* 21 34 18.1
YAK *e*SS SS 21 36 31.3 +6.1
YAK pmax pmax
comp=Z,88nm,0.9s,mb5.8
YAK pmax pmax
comp=N,43nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK smax
comp=N,54nm,1.2s
YAK smax
comp=Z,14nm,1.5s
YAK smax
comp=E,19nm,1.7s
KRAR Krasnoyarsk 58.59 339⇓ *e*P **P** **21 24 36.8 -1.4**
comp=E,26nm,1.2s,mb5.1
KRAR LR LR
comp=Z,8μm,21.0s,MS5.8
KRAR Krasnoyarsk 58.59 339⇓ *e*P **P** **21 24 36.8 -1.4**
KRAR pmax pmax
comp=Z,26nm,1.2s,mb5.1
KRAR MLR MLR
comp=Z,8μm,21.0s,MS5.8
MA2 Magadan 58.70 14⇑ *i*P **P** **21 24 39.1 +0.2**
MA2 *e*PPP 21 28 23.3
MA2 *i* S **S** **21 32 40.4 -0.1**
MA2 *e* 21 34 18.0
MA2 LR LR
comp=Z,21μm,24.0s,MS6.2
MA2 Magadan 58.70 14*c* *i*P **P** **21 24 39.1 +0.2**
MA2 *e*PPP 21 28 23.3
MA2 *i* S **S** **21 32 40.4 -0.1**
MA2 *e* 21 34 18.0
MA2 pmax pmax
comp=Z,50nm,1.2s,mb5.4
MA2 pmax pmax
comp=N,30nm,1.3s
MA2 MLR MLR
comp=Z,21μm,24.0s,MS6.2
AAA Alma-Ata 58.81 319 *e*P **P** **21 24 41.0 +1.3**
AAA *e*S **S** **21 32 40.0 -2.0**
AAA LR LR
comp=Z,6μm,11.0s,MS6.0
AAA Alma-Ata 58.81 319 *e*P **P** **21 24 41.0 +1.3**
AAA *e*S **S** **21 32 40.0 -2.0**
AAA pmax pmax
comp=Z,1μm,3.0s
AAA smax
comp=E,2μm,4.5s
AAA MLR MLR
comp=Z,6μm,11.0s,MS6.0
ULHL Ulahol 58.81 318 P **P** **21 24 41.5 +1.8**
SNR=15
KZA Kyzart 59.41 318 P **P** **21 24 45.3 +1.5**
SNR=6.1
TKM2 Tokmak 2 59.54 319 P **P** **21 24 45.3 +0.6**
SNR=51
KBK Karagaybulak 59.86 318 P **P** **21 24 49.1 +2.2**
SNR=49
UCH Uchtor 59.97 317 P **P** **21 24 49.4 +1.8**
SNR=94
CHMS Chumysh 60.13 318 P **P** **21 24 50.1 +1.3**
SNR=20
AAK Ala-Archa 60.15 318 P **P** **21 24 50.1 +1.2**
SNR=33
FRU Bishkek 60.15 318 *e*P **P** **21 24 49.0 +0.1**
comp=Z,80nm,1.8s,mb5.5
FRU *e* 21 32 56.0
FRU LR LR
comp=Z,12μm,24.0s,MS6.0
FRU Bishkek 60.15 318 *e*P **P** **21 24 49.0 +0.1**
FRU *e* 21 32 56.0
FRU pmax pmax
comp=Z,80nm,1.8s,mb5.5
FRU MLR MLR
comp=Z,12μm,24.0s,MS6.0
USP Ospenovka 60.41 319 P **P** **21 24 52.3 +1.6**
SNR=59
AML Almayashu 60.48 317 P **P** **21 24 52.0 +0.8**
SNR=106
EKS2 Erkin-Say 60.64 318 P **P** **21 24 53.0 +0.7**
SNR=86
MSZ Milford Sound 60.81 147 PN **P** **21 24 55.1 +1.7**
MSZ Milford Sound 60.81 147 P **P** **21 24 54.1 +0.7**
QRZ Quartz Range 61.13 141 PN **P** **21 24 56.8 +1.2**
QRZ Quartz Range 61.13 141 P **P** **21 24 56.6 +1.0**
KURK Kurchatov 61.56 328 P **P** **21 24 58.6 +0.1**
comp=Z,1μm,0.8s
KURK Kurchatov 61.56 328 P **P** **21 24 58.1 -0.4**
NVS Novosibirsk 61.70 333 *e*P **P** **21 24 58.7 -0.8**
comp=Z,85nm,1.3s,mb5.7
NVS *i* S **S** **21 33 11.9 -7.1**
NVS *i* PS 21 33 39.8
NVS *i* 21 34 39.7
NVS Novosibirsk 61.70 333 *e*P **P** **21 24 58.7 -0.8**
NVS *i* S **S** **21 33 11.9 -7.1**
NVS *i* PS 21 33 39.8
NVS *i* 21 34 39.7
NVS pmax pmax
comp=Z,85nm,1.3s,mb5.7
NVS pmax pmax
comp=N,56nm,1.4s
NVS pmax pmax
comp=E,69nm,1.2s
NVS smax
comp=N,265nm,1.8s
NVS smax
comp=E,300nm,1.7s
LBZ Lake Benmore 61.87 146 PN **P** **21 25 00.8 +0.2**
LBZ Lake Benmore 61.87 146 *e*P **P** **21 25 00.0 -0.6**
THZ Tophouse 61.90 142 PN **P** **21 25 00.8 0.0**
THZ Tophouse 61.90 142 P **P** **21 25 00.5 -0.3**
SEY Seymchan 62.02 13 *e*P **P** **21 25 02.6 +1.0**
comp=E,0.1nm,1.1s
SEY *e* 21 25 38.7
SEY *e* 21 27 17.3
SEY *e*S **S** **21 33 19.7 -3.3**
SEY *e* 21 34 49.9
SEY SS SS 21 37 26.2 +0.2
SEY SSS 21 40 06.1
SEY LR LR
comp=Z,7μm,18.0s,MS5.8
SEY Seymchan 62.02 13 *e*P **P** **21 25 02.6 +1.0**
SEY 21 25 38.7
SEY 21 27 17.3
SEY *e*S **S** **21 33 19.7 -3.3**
SEY 21 34 49.9
SEY SS SS 21 37 26.2 +0.2
SEY SSS 21 40 06.1
SEY pmax pmax
comp=Z,123nm,1.1s,mb6.0
SEY pmax pmax
comp=N,45nm,1.0s
SEY pmax pmax
comp=E,24nm,1.0s
SEY smax
comp=N,7μm,9.4s
SEY smax
comp=E,7μm,9.4s
SEY MLR MLR
comp=N,2μm,18.0s,MS5.6
SEY MLR MLR
comp=Z,7μm,18.0s,MS5.8
SEY MLR MLR
comp=E,4μm,20.0s,MS5.6
FX1 Attu Island--F 62.14 30 P **P** **21 25 03.5 +1.1**
URZ Urewera 62.75 137 LR LR 21 52 52.2
comp=E,6μm,19.8s,MS5.8,baz=147,slow=36
AFI Afiamalu 63.69 107 P **P** **21 25 11.6 -1.1**
comp=E,172nm,1.2s,mb6.0,baz=220,slow=6.1,SNR=8.8
AFI LR LR 21 47 35.6
comp=E,3μm,21.8s,MS5.4,baz=282,slow=31
AFI Afiamalu 63.69 107 *e*P **P** **21 25 12.2 -0.5**
comp=E,171nm,1.1s,mb6.0
AFI Afiamalu 63.69 107 *e*P **P** **21 25 12.2 -0.5**
AFI pmax pmax
comp=Z,171nm,1.1s,mb6.0
MCQ Macquarie Isla 64.04 160 *e*P **P** **21 25 16.9 +1.9**
BVAR Borovoye Array 67.14 327 P **P** **21 25 34.5 -0.5**
comp=Z,76nm,0.9s,mb5.7,baz=121,slow=5.7,SNR=148
BVAR PKPPKP 21 53 59.8
comp=Z,2.5nm,0.7s,baz=253,slow=7.5,SNR=3.6
BRVK Borovoye 67.21 327 P **P** **21 25 35.4 0.0**
comp=Z,747nm,0.9s,mb6.7
BRVK Borovoye 67.21 327 P **P** **21 25 34.5 -0.9**
CHKZ Chkalovo 67.30 328 *e*P **P** **21 25 35.6 -0.4**
CHKZ pmax pmax
comp=Z,822nm,1.5s,mb6.5
TIXI Tiksi 67.78 1 *e*P **P** **21 25 36.2 -2.8**
comp=Z,135nm,1.1s,mb5.9
TIXI *e*SS SS 21 38 50.1 -5.5
TIXI *e*SSS 21 42 00.5
TIXI LR LR
comp=Z,4μm,17.0s,MS5.7
TIXI Tiksi 67.78 1 *e*P **P** **21 25 36.2 -2.8**
TIXI *e*SS SS 21 38 50.1 -5.5
TIXI *e*SSS 21 42 00.5
TIXI pmax pmax
comp=Z,135nm,1.1s,mb5.9
TIXI pmax pmax
comp=N,57nm,1.0s
TIXI pmax pmax
comp=E,23nm,1.3s
TIXI MLR MLR
comp=Z,4μm,17.0s,MS5.7
WBK Wadi Bani Khal 67.81 293 P **P** **21 25 39.6 +0.3**
SNR=19
ZRNK Zerenda 67.86 327 *e*P **P** **21 25 38.7 -0.9**
ZRNK pmax pmax
comp=Z,822nm,1.5s,mb6.5
JMDO Jabal Madar 68.59 292 P **P** **21 25 44.0 -0.1**
SNR=29
BIDO Bidbid 68.67 294 P **P** **21 25 44.6 0.0**
SNR=33
HOQ Hoqain 69.42 294 P **P** **21 25 49.4 +0.1**
SNR=12
BSY Bisya 69.45 293 P **P** **21 25 49.7 +0.3**
SNR=8.4
BILL Bilibino 69.55 15⇑ *i*P **P** **21 25 49.6 -0.5**
comp=Z,26nm,1.6s,mb4.9
BILL *e* 21 28 22.3
BILL *e*S S 21 34 54.5 -0.3
BILL LR LR
comp=Z,3μm,22.0s,MS5.4
BILL Bilibino 69.55 15*c* *i*P **P** **21 25 49.6 -0.5**
BILL *e* 21 28 22.3
BILL *e*S S 21 34 54.5 -0.3
BILL pmax pmax
comp=Z,26nm,1.6s,mb4.9
BILL MLR MLR
comp=Z,3μm,22.0s,MS5.4
BANOM Banah 70.55 296 P **P** **21 25 57.0 +0.9**
SNR=5.5
SHAO Shalim 70.65 288 P **P** **21 25 57.3 +0.5**
SNR=9.6
SHAO P 21 25 57.6
SNR=7.8
ASHO Ashiyiah 70.65 295 P **P** **21 25 57.0 +0.1**
SNR=19
ASHO P 21 25 57.0
SNR=12
ABKT Ailbek 70.67 309 P **P** **21 25 57.2 +0.3**
comp=Z,265nm,1.4s,mb6.0,SNR=22
ABKT Ailbek 70.67 309 P **P** **21 25 57.6 +0.7**
CASY Casey 70.85 187 *e*P **P** **21 25 58.9 +0.8**
CASY *e*S S 21 35 10.9 +0.9
DRV Dumont d'Urvil 70.96 174 P **P** **21 25 59.0 +0.3**
DRV S S 21 35 11.0 -0.3
DRV SS SS 21 39 45.0 +0.3
RBK Rabkut 71.98 287 P **P** **21 26 04.9 +0.1**
SNR=12
WHFO Wadi Hawf 72.41 287 P **P** **21 26 06.7 -0.7**
SNR=48
ABTO Aybut 72.84 287 P **P** **21 26 10.0 0.0**
SNR=21
AKTK Aktyubinsk 73.46 322 P **P** **21 26 13.2 -0.4**
AKTK S S 21 35 37.1 -2.8
AKTK LR LR 22 04 07.0
AKTO Aktyubinsk 73.46 322 P **P** **21 26 13.2 -0.4**
comp=Z,51nm,0.8s,mb5.5,baz=102,slow=6.4,SNR=51
AKTO S S 21 35 37.1 -2.8
comp=Z,6.6nm,1.0s,baz=222,slow=22,SNR=6.7
AKTO LR LR 22 04 07.0
comp=Z,5μm,20.0s,MS5.8,baz=282,slow=40
AKTO Aktyubinsk 73.46 322 P **P** **21 26 13.2 -0.4**
AKTO S S 21 35 37.1 -2.8
AKTO pmax pmax
comp=Z,51nm,0.8s,mb5.5
AKTO smax
comp=N,7.0nm,1.0s
AKTO MLR MLR
comp=Z,5μm,20.0s,MS5.8
UNV Unalaska Valle 73.50 35 P **P** **21 26 17.2 +3.4**
comp=Z,71nm,0.8s,mb5.7
SVE Sverdlovsk 73.78 329⇓ *e*P **P** **21 26 15.2 -0.3**
comp=Z,100nm,1.8s,mb5.4
SVE *e* 21 26 23.0
SVE *e* 21 26 35.0
SVE *i* S S 21 35 36.0 -7.5
SVE *e* 21 36 14.0
SVE *e*SSS 21 43 46.0
SVE LR LR
comp=Z,3μm,18.0s,MS5.6
SVE Sverdlovsk 73.78 329⇓ *e*P **P** **21 26 15.2 -0.3**
SVE *e* 21 26 23.0
SVE *e* 21 26 35.0
SVE *i* S S 21 35 36.0 -7.5
SVE *e* 21 36 14.0
SVE *e*SSS 21 43 46.0
SVE pmax pmax
comp=Z,100nm,1.8s,mb5.4
SVE smax
comp=N,1μm,14.0s
SVE smax
comp=E,2μm,14.0s
SVE MLR MLR
comp=N,1μm,18.0s,MS5.6
SVE MLR MLR
comp=Z,3μm,18.0s,MS5.6
SVE MLR MLR
comp=E,2μm,14.0s,MS5.6
MIR Mirnyy 74.17 193⇓ *i*P **P** **21 26 19.0 +1.2**
MIR pmax pmax
comp=Z,6μm,1.5s
GAMB Gambell 74.43 24 P **P** **21 26 19.8 +0.4**
ARU Arti 74.75 328 P **P** **21 26 20.7 -0.5**
comp=Z,644nm,0.7s,mb6.7,SNR=42
ARU Arti 74.75 328⇓ *i*P **P** **21 26 20.0 -1.2**
comp=Z,47nm,0.6s,mb5.6
ARU *e* pP 21 26 34.5 +0.5
ARU *e*PPP 21 30 58.8
ARU *e*S S 21 35 50.6 -3.8
ARU *e* 21 36 22.1
ARU *e*SS SS 21 40 41.9 -0.7
ARU LR LR
comp=Z,5μm,21.0s,MS5.8
ARU Arti 74.75 328⇓ *i*P **P** **21 26 20.0 -1.2**
ARU *e* pP 21 26 34.5 +0.5
ARU *e*PPP 21 30 58.8
ARU *e*S S 21 35 50.6 -3.8
ARU *e* 21 36 22.1
ARU *e*SS SS 21 40 41.9 -0.7
ARU pmax pmax
comp=Z,47nm,0.6s,mb5.6
ARU MLR MLR
comp=Z,5μm,21.0s,MS5.8
ARU MLR MLR
comp=N,2μm,19.0s,MS5.7
ARU MLR MLR
comp=E,3μm,21.0s,MS5.7
RAR Rarotonga 76.28 113 P **P** **21 26 30.9 +0.9**
comp=E,7.5nm,0.5s,mb4.9,baz=244,slow=9.4,SNR=3.1
SOKR Solikamsk 76.54 331 *i* Pr **P** **21 26 30.8 -0.6**
comp=E,60nm,0.9s,mb5.5
SOKR S S 21 36 05.9 -8.2
SOKR SS SS 21 41 08.2 -1.4
SOKR LR LR
comp=Z,5μm,25.0s,MS5.8
SOKR Solikamsk 76.54 331*d* *i*P **P** **21 26 30.8 -0.6**
SOKR S S 21 36 05.9 -8.2
SOKR SS SS 21 41 08.2 -1.4
SOKR pmax pmax
comp=Z,60nm,0.9s,mb5.5
SOKR MLR MLR
comp=Z,5μm,25.0s,MS5.8
TNA Tin City 76.62 23 P **P** **21 26 32.4 +0.5**
MUKL Al Mukalla 76.92 284⇓ *e*P **P** **21 26 33.7 +0.1**
SDPT Sand Point 77.27 34 *e*P **P** **21 26 35.7 +0.2**
comp=Z,120nm,0.5s,mb6.1
QRN Al-Qurain 78.17 298 *e*P **P** **21 26 40.3 -0.2**
QRN AMb AMB 21 26 44.0
comp=Z,333nm,0.8s,mb6.3
UMR Umm Al-Rimmam 78.38 299 *e*P **P** **21 26 41.0 -0.7**
UMR AMb AMB 21 26 43.0
comp=Z,154nm,0.7s,mb6.0
KBD Kabd 78.38 299 *e*P **P** **21 26 40.9 -0.8**
KBD AMb AMB 21 26 45.3
comp=Z,694nm,1.1s,mb6.5
RDF Al-Radifah 78.50 299 *e*P **P** **21 26 41.4 -0.9**
RDF AMb AMB 21 26 45.8
comp=Z,258nm,0.9s,mb6.2
MIB Mutribah 78.71 299 *e*P **P** **21 26 42.6 -0.9**
MIB AMb AMB 21 26 47.0
comp=Z,306nm,0.7s,mb6.3
NAY Al-Naaiem 78.78 299 *e*P **P** **21 26 42.6 -1.3**
NAY AMb AMB 21 26 47.2
comp=Z,157nm,0.8s,mb6.0
MAK Makhachkala 79.36 313 *i* Pr **P** **21 26 42.7 -4.4**
comp=Z,190nm,1.7s,mb5.8
MAK *i* P 21 26 49.1
MAK *e* pP 21 26 57.0 -3.0
MAK *i* S S 21 36 35.8 -8.8
MAK *i* 21 36 57.1
MAK *i* SS SS 21 41 51.0 -1.2
MAK Makhachkala 79.36 313*d* *i*P **P** **21 26 42.7 -4.4**
MAK *e* pP 21 26 57.0 -3.0
MAK *i* S S 21 36 35.8 -8.8
MAK *i* 21 36 57.1
MAK *i* SS SS 21 41 51.0 -1.2
MAK pmax pmax
comp=Z,190nm,1.7s,mb5.8
DGRG David-gareji 80.84 311 P **P** **21 26 56.1 +1.0**
DGRG S S 21 36 56.2 -3.9
SVW2 Sparrevohn 80.86 29 *e*P **P** **21 26 56.0 +0.9**
TTA Tatalina 80.95 27 *e*P **P** **21 26 56.4 +0.8**
TTA Tatalina 80.95 27 P **P** **21 26 56.5 +0.9**
GNI Garni 81.26 310 P **P** **21 26 56.6 -0.6**
GNI Garni 81.26 310*d* *i*P **P** **21 26 58.1 +0.8**
GNI pmax pmax
comp=Z,59nm,1.6s
GNI MLR MLR
comp=Z,3μm,19.0s
SAMG Sameba 81.27 311 P **P** **21 26 58.7 +1.4**
MTA Mtatsminda 81.29 311 P **P** **21 26 57.6 +0.2**
MTA S S 21 36 58.6 -6.1
BHD Baghdad 81.34 303 *e*x x 21 26 47.0
DUS Dusheti 81.38 312 P **P** **21 26 58.1 +0.2**
DHBB Dhamar BB 81.42 284⇓ *e*P **P** **21 26 59.2 +1.1**
CLDR Caldiran 81.86 309 P **P** **21 27 01.4 +0.9**
KDAK Kodiak Island 81.96 32 P **P** **21 27 01.0 0.0**
comp=Z,622nm,0.8s,mb6.6,SNR=17
ZEI Tsey 82.00 312 *e*P **P** **21 27 01.2 0.0**
ZEI *e*S S 21 37 11.9 -0.2
ZEI Tsey 82.00 312 *e*P **P** **21 27 01.2 0.0**
ZEI *e*S S 21 37 11.9 -0.2
ZEI pmax pmax
comp=Z,62nm,1.0s,mb5.5
ZEI smax
comp=N,170nm,2.2s
CUKT Cukurca 82.05 307 P **P** **21 27 01.1 -0.4**
TVAN Van 82.24 308 *i* P **P** **21 27 04.0 +1.5**
DIGO Kars 82.31 310 *i* P **P** **21 27 03.8 +1.0**
MSL Mosul 82.45 306 *e*x x 21 27 05.0
PECR Pechory 82.64 326 *e*P **P** **21 27 04.0 -0.5**
PECR *e*S S 21 37 13.3 -5.4
PECR Pechory 82.64 326 *e*P **P** **21 27 04.0 -0.5**
PECR *e*S S 21 37 13.3 -5.4
PECR pmax pmax
comp=Z,2μm,1.6s
PECR pmax pmax
comp=Z,600nm,6.0s
PECR MLR MLR
comp=Z,2μm,19.0s,MS5.5
PECR MLR MLR
comp=Z,3μm,20.0s
GOF Gofitskoye 82.71 315 *e*P **P** **21 27 04.6 -0.3**
comp=Z,30nm,0.8s,mb5.4
GOF *i* S S 21 37 17.0 -2.3
GOF Gofitskoye 82.71 315 *e*P **P** **21 27 04.6 -0.3**
GOF *i* S S 21 37 17.0 -2.3
GOF pmax pmax
comp=Z,30nm,0.8s,mb5.4
GOF smax
comp=N,40nm,1.3s
GOF smax
comp=E,80nm,1.3s
KIV Kislovodsk 82.92 314 P **P** **21 27 06.6 +0.6**
comp=E,179nm,0.9s,mb6.1,SNR=7.0
KIV Kislovodsk 82.92 314 *i* Pr **P** **21 27 05.6 -0.4**
comp=E,22nm,0.9s,mb5.2
KIV *e*S S 21 37 22.5 +1.0
KIV LR LR
comp=Z,4μm,22.0s,MS5.7
KIV Kislovodsk 82.92 314*d* *i*P **P** **21 27 05.6 -0.4**
KIV *e*S S 21 37 22.5 +1.0
KIV pmax pmax
comp=Z,22nm,0.9s,mb5.2
KIV MLR MLR
comp=Z,4μm,22.0s,MS5.7
ATD Arta Tunnel 83.03 281 LR LR 22 03 21.2

comp=Z,528nm,20.7s,MS4.9,baz=250,slow=35
SLKM Skilak Lake 83.40 30 P **P 21 27 08.6 +0.1**
VNDA Vanda 83.52 173 P **P 21 27 08.4 -0.7**
comp=Z,68nm,1.0s,mb5.7,baz=318,slow=5.6,SNR=173
VNDA PKPPKP 21 53 29.8
comp=Z,1.1nm,0.9s,baz=262,slow=8.2,SNR=3.7
VNDA LR LR 22 06 25.6
comp=Z,2μm,18.2s,MS5.5,baz=328,slow=37
VNDA Vanda 83.52 173 P **P 21 27 09.1 0.0**
comp=Z,124nm,1.1s,mb6.0
VNDA Vanda 83.52 173 P **P 21 27 08.4 -0.7**
VNDA pmax pmax
comp=Z,68nm,1.0s
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA MLR MLR
comp=Z,2μm,18.2s
MAW Mawson 83.73 200 *e*S S 21 37 24.9 -4.8
MAW Mawson 83.73 200 P **P 21 27 10.5 +0.3**
comp=Z,148nm,1.2s,mb6.0,baz=61,slow=6.2,SNR=52
MAW LR LR 22 01 18.1
comp=Z,1μm,21.1s,MS5.3,baz=54,slow=33
MAW Mawson 83.73 200 *e*P **P 21 27 10.8 +0.6**
comp=Z,90nm,1.4s,mb5.7
MAW *e*S S 21 37 24.9 -4.8
MAW Mawson 83.73 200 *e*P **P 21 27 10.8 +0.6**
MAW *e*S S 21 37 24.9 -4.8
MAW pmax pmax
comp=Z,91nm,1.4s
BTMT Batman 83.75 308 P **P 21 27 11.5 +1.3**
VRHR Novokhopersk 83.84 321 *e*P **P 21 27 10.2 -0.5**
VRHR *e**PP pP 21 27 20.2 -3.5
VRHR *e*S S 21 37 23.8 -7.0
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,110nm,0.6s,mb6.2
VRHR pmax pmax
comp=E,50nm,1.3s
VRHR smax
comp=E,850nm,2.2s
VRHR smax
comp=Z,210nm,2.2s
VRHR smax
comp=N,460nm,2.3s
VRHR MLR MLR
comp=Z,4μm,32.0s,MS5.5
VRHR MLR MLR
comp=N,3μm,22.0s
VRHR MLR MLR
comp=E,1μm,22.0s
ERZM Erzurum 83.84 310 *i* P **P 21 27 12.2 +1.5**
EZM Erzurum 83.85 310 P **P 21 27 12.2 +1.4**
PMR Palmer 84.00 29 *e*P **P 21 27 11.5 0.0**
comp=E,128nm,1.0s,mb6.0
PMR Palmer 84.00 29 *e*P **P 21 27 11.5 0.0**
PMR pmax pmax
comp=Z,128nm,1.0s,mb6.0
BNGL BINGOL 84.01 309 *i* P **P 21 27 13.1 +1.6**
MCK McKinley 84.21 26 P **P 21 27 12.7 +0.1**
comp=Z,221nm,1.3s,mb6.1
MCK McKinley 84.21 26 P **P 21 27 12.7 +0.1**
MCK pmax pmax
comp=Z,108nm,1.3s,mb5.8
MARD Mardin 84.31 307 *i* P **P 21 27 13.5 +0.4**
SML Sawmill 84.39 28 *e*P **P 21 27 13.6 +0.1**
SBA Scott Base 84.43 172 P **P 21 27 14.8 +1.1**
comp=Z,180nm,1.4s,mb6.0
SBA Scott Base 84.43 172 P **P 21 27 14.8 +1.1**
SBA pmax pmax
comp=Z,180nm,1.4s,mb6.0
COLA College 84.74 25 *e*P **P 21 27 15.1 -0.1**
comp=Z,39nm,0.9s,mb5.5
COLA College 84.74 25 *e*P **P 21 27 15.1 -0.1**
COLA pmax pmax
comp=Z,39nm,0.9s,mb5.5
DIY Diyarbakir 84.74 308 P **P 21 27 16.4 +1.1**
MACK Trabzon 85.06 311 *i* P **P 21 27 17.2 +0.4**
SOC Sochi 85.07 313 *i* Pr **P 21 27 15.6 -1.3**
comp=Z,65nm,1.2s,mb5.6
SOC *e*pP pP 21 27 26.7 -3.3
SOC *e* 21 30 35.8
SOC *e*PPP 21 32 35.0
SOC *e*S 21 37 35.2
SOC *e*SS SS 21 43 21.9 +5.0
SOC *e*SSS 21 46 50.4
SOC LR LR
comp=Z,4μm,18.0s,MS5.9
SOC Sochi 85.07 313 *d i*P **P 21 27 15.6 -1.3**
SOC *e**PP pP 21 27 26.7 -3.3
SOC *e* 21 30 35.8
SOC *e*PPP 21 32 35.0
SOC *e*S 21 37 35.2
SOC *e*SS SS 21 43 21.9 +5.0
SOC *e*SSS 21 46 50.4
SOC pmax pmax
comp=Z,65nm,1.2s,mb5.6
SOC MLR MLR
comp=Z,4μm,18.0s,MS5.9
ILAR Eielson Array 85.14 25 P **P 21 27 16.6 -0.7**
comp=Z,6.2nm,0.7s,mb4.8,baz=272,slow=4.3,SNR=31
ILAR ScS ScS 21 37 52.2 -1.9
comp=Z,0.8nm,1.0s,baz=270,slow=2.6,SNR=4.1
ILAR PKKPbc PKKPbc 21 45 22.9 -0.2
comp=Z,2.5nm,0.9s,baz=79,slow=1.5,SNR=10
ILAR PKPPKP 21 53 20.8
comp=Z,2.1nm,1.2s,baz=13,slow=1.4,SNR=4.9
ILAR LR LR 22 01 56.8
comp=Z,716nm,21.2s,MS5.0,baz=137,slow=33
ILAR Eielson Array 85.14 25 P **P 21 27 16.6 -0.7**
ILAR 21 37 52.2
KLMR Klimovskoe 85.23 331 *d i*P **P 21 27 16.9 -0.8**
KLMR *e*S 21 37 33.8
KLMR pmax pmax
comp=Z,620nm,1.6s,mb6.5
KLMR pmax pmax
comp=Z,220nm,6.3s
KLMR MLR MLR
comp=Z,7μm,25.0s,MS6.0
GUMT Gumushane 85.29 310 P **P 21 27 19.0 +1.0**
VORD Divnogorie 85.31 321 *e*P **P 21 27 17.2 -0.9**
VORD pmax pmax
comp=Z,130nm,1.2s,mb5.9
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,90nm,1.0s
PPT Papeete 85.36 108 *e*S 21 37 49.8
comp=E,3μm,31.0s
PPT *e*SS SS 21 43 27.7 +6.5
comp=E,2μm,27.5s
PPT *e*LQ 21 50 41.5
comp=E,10μm,35.0s
PPT *e*LR LR 21 54 27.4
comp=E,5μm,27.5s
PAE Paea 85.36 108 *e*P **P 21 27 22.5 +4.1**
comp=E,91nm,1.2s,mb5.8
VOR Voronezh 85.36 321 ⇓P **P 21 27 17.0 -1.4**
VOR pmax pmax
comp=Z,300nm,2.0s,mb6.1
VRSR Storozhevoye 85.37 321 *e*P **P 21 27 17.8 -0.6**
VRSR *e*S 21 37 38.7
VRSR LR LR
comp=Z,670nm,21.0s,MS5.0
VRSR Storozhevoye 85.37 321 *e*P **P 21 27 17.8 -0.6**
VRSR *e*S 21 37 38.7
VRSR smax
comp=N,30nm,1.6s
VRSR smax
comp=Z,7.0nm,1.6s
VRSR smax
comp=E,10.0nm,1.5s
VRSR MLR MLR
comp=Z,670nm,21.0s,MS5.0
VRSR MLR MLR
comp=N,160nm,22.0s,MS4.7
VRSR MLR MLR
comp=E,330nm,21.0s,MS4.7
DIV Divide 85.60 29 P **P 21 27 20.3 +0.7**
EYAK Cordova Ski Ar 85.61 30 *e*P **P 21 27 21.3 +1.6**
comp=E,153nm,1.3s,mb6.1
ELZG Elazig 85.71 308 *i* P **P 21 27 22.0 +1.9**
URFA Urfa 85.87 307 *e*P **P 21 27 19.8 -1.1**
MALT Malatya 86.15 308 ⇓P **P 21 27 23.5 +1.2**
MALT Malatya 86.15 308 *e*P **P 21 27 19.2 -3.1**
MALT ⇓P 21 27 23.5
MALT Malatya 86.15 308 P **P 21 27 23.4 +1.1**
MALT pmax pmax
comp=Z,79nm,1.2s,mb5.8
MYA Malataya 86.15 308 *e*P **P 21 27 23.4 +1.1**
GRSN GIRESUNGRSN 86.20 311 *i* P **P 21 27 22.2 -0.3**
DESE Dese 86.20 281 *e*P **P 21 27 25.8 +3.2**
DESE *e*S 21 37 51.6
MOS Moscow 86.25 325 *i* Pdr **P 21 27 22.5 -0.3**
comp=Z,444nm,1.4s,mb6.5
MOS *e* 21 27 29.3
MOS *i* S 21 37 41.3
MOS *i* 21 37 52.8
MOS Moscow 86.25 325κ *i*P **P 21 27 22.5 -0.3**
MOS *e* 21 27 29.3
MOS *i* S 21 37 41.3
MOS *i* 21 37 52.8
MOS pmax pmax
comp=Z,900nm,1.9s,mb6.7
MOS pmax pmax
comp=Z,444nm,1.4s,mb6.5
MOS smax
comp=E,2μm,4.5s
ATAB Bozova 86.28 307 *i* P **P 21 27 23.7 +0.8**
ANN Anapa 86.68 315 *e*P **P 21 27 23.8 -1.1**
comp=E,236nm,1.0s,mb6.4
ANN *e* 21 37 47.3
ANN *e* 21 37 55.0
ANN Anapa 86.68 315 *e*P **P 21 27 23.8 -1.1**
ANN *e* 21 37 47.3
ANN *e* 21 37 55.0
ANN pmax pmax
comp=Z,236nm,1.0s,mb6.4
PMOR Pomariorio Ree 86.74 105 *e*P **P 21 27 29.6 +4.4**
comp=Z,142nm,1.3s,mb6.0
OBN Obninsk 86.87 325 P **P 21 27 25.9 +0.1**
comp=Z,1μm,1.1s,SNR=29
OBN Obninsk 86.87 325⇓ *e*P **P 21 27 25.4 -0.4**
comp=Z,333nm,1.1s,mb6.5
OBN *e* 21 30 48.9
OBN *e*S 21 37 46.8
OBN *e*SS SS 21 43 46.7 +3.3
OBN LR LR
comp=Z,3μm,18.0s,MS5.7
OBN Obninsk 86.87 325⇓ *e*P **P 21 27 25.4 -0.4**
OBN *e* 21 30 48.9
OBN *e*S 21 37 46.8
OBN *e*SS SS 21 43 46.7 +3.3
OBN pmax pmax
comp=Z,333nm,1.1s,mb6.5
OBN MLR MLR
comp=Z,3μm,18.0s,MS5.7
GAZ Gaziantep 87.16 307 *e*P **P 21 27 27.1 -0.1**
LVZ Lovozero 87.21 338 P **P 21 27 31.9 +4.5**
LVZ pmax pmax
comp=N,23nm,1.3s
LVZ pmax pmax
comp=Z,86nm,1.3s,mb5.8
LVZ pmax pmax
comp=E,23nm,1.0s
LVZ MLR MLR
comp=Z,7μm,23.0s,MS6.0
LVZ MLR MLR
comp=N,2μm,21.0s,MS6.0
LVZ MLR MLR
comp=E,6μm,24.0s,MS6.0
SVST Sivas 87.25 310 *i* P **P 21 27 29.4 +1.7**
APA Apatity 87.70 337⇑ *i*P **P 21 27 29.5 -0.3**
comp=E,54nm,1.2s,mb5.7
APA *i* pP 21 27 42.3 -0.6
APA *i* pP 21 27 43.0 +0.1
APA *i* 21 37 50.0
APA *i* S 21 38 03.0
APA LR LR
comp=Z,7μm,20.0s,MS6.1
APA Apatity 87.70 337⇑ *i*P **P 21 27 29.5 -0.3**
APA *i* pP 21 27 42.3 -0.6
APA *i* pP 21 27 43.0 +0.1
APA *i* 21 37 50.0
APA *i* S 21 38 03.0
APA pmax pmax
comp=Z,54nm,1.2s,mb5.7
APA MLR MLR
comp=Z,7μm,20.0s,MS6.1
KVT Kavak 87.87 311 *e*P **P 21 27 30.2 -0.5**
COBT Iskenderun 87.96 306 *i* P **P 21 27 31.9 +0.8**
FKH Fakeheh 87.97 304 *e*P **P 21 27 32.1 +1.0**
HTY Hatay 88.08 306 *e*P **P 21 27 31.7 +0.1**
KOZT Kozan 88.25 307 *e*P **P 21 27 31.2 -1.2**
CEYT Ceyhan 88.34 307 *e*P **P 21 27 32.8 0.0**
DAWY Dawson 88.42 26 P **P 21 27 33.8 +0.5**
BHL Bhannes 88.61 304 *e*P **P 21 27 34.3 +0.2**
KRTS Karatas 88.66 306 *e*P **P 21 27 35.2 +0.8**
BOYT Boyabat 88.71 311 *i* P **P 21 27 34.5 0.0**
BYBT Boyabat 88.81 311 *e*P **P 21 27 34.6 -0.5**
CTKT Corum 88.85 310 *i* P **P 21 27 35.7 +0.4**
KARA Karaisali 88.87 307 *e*P **P 21 27 34.9 -0.5**
AVNT Avonos 88.93 309 *i* P **P 21 27 45.4 +10**
JOF Joensuu 89.01 333 *e*p **P 21 27 35.9 -0.1**
comp=Z,43nm,0.9s,mb5.8
SIM Simferopol' 89.03 315 *e*Pr **P 21 27 35.7 -0.4**
SIM *e* 21 37 59.0
SIM *e*S 21 38 17.0
SIM Simferopol' 89.03 315 *de*P **P 21 27 35.7 -0.4**
SIM *e* 21 37 59.0
SIM *e*S 21 38 17.0
SIM pmax pmax
comp=Z,200nm,12.0s
NIG Nigde 89.17 308 *e*P **P 21 27 37.3 +0.6**
CDAG Cicekdag 89.24 309 *i* P **P 21 27 36.5 -0.6**
KMBO Kilima Mbogo 89.32 269 P **P 21 27 38.3 +0.9**
comp=Z,87nm,1.0s,mb6.0,baz=61,slow=5.7,SNR=140
KMBO LR LR 22 04 41.4
comp=Z,1μm,22.0s,MS5.3,baz=86,slow=34
KMBO Kilima Mbogo 89.32 269 *e*P **P 21 27 39.4 +1.9**
comp=Z,102nm,1.1s,mb6.1
KMBO Kilima Mbogo 89.32 269 *e*P **P 21 27 39.4 +2.0**
KMBO pmax pmax
comp=Z,102nm,1.1s
MERS Mersin 89.33 307 *e*P **P 21 27 35.8 -1.7**
KEV Kevo 89.75 340 *e*P **P 21 27 37.6 -1.9**
comp=Z,29nm,0.9s,mb5.6
KEV Kevo 89.75 340 *e*P **P 21 27 37.6 -1.9**
KEV pmax pmax
comp=Z,29nm,0.9s,mb5.6
BR131 Keskin Array S 89.80 310 P **P 21 27 39.5 -0.2**
BRTR Keskin Array B 89.80 310 P **P 21 27 39.0 -0.7**
comp=Z,40nm,0.9s,mb5.7,baz=119,slow=4.4,SNR=73
BRTR PP PP 21 31 07.5 -4.9
comp=Z,1.9nm,0.8s,baz=142,slow=6.3,SNR=3.8
BRTR PKKPbc PKKPbc 21 45 15.4 +3.6
comp=Z,0.7nm,0.8s,baz=222,slow=1.7,SNR=3.7
BRTR Keskin Array B 89.80 310 P **P 21 27 39.0 -0.7**
BRTR 21 31 07.5
PUL Pulkovo 89.86 330 *e*P **P 21 27 39.0 -1.0**
comp=Z,152nm,1.0s,mb6.3
PUL LR LR
comp=Z,9μm,31.0s,MS6.0
PUL Pulkovo 89.86 330 *e*P **P 21 27 39.0 -1.0**
PUL pmax pmax
comp=Z,152nm,1.0s,mb6.3
PUL pmax pmax
comp=N,47nm,0.8s
PUL pmax pmax
comp=E,226nm,1.5s
PUL MLR MLR
comp=Z,9μm,31.0s,MS6.0
PUL MLR MLR
comp=N,5μm,24.0s
PUL MLR MLR
comp=E,8μm,31.0s
ELDT Eldivan 89.89 310 *i* P **P 21 27 39.5 -0.7**
IKL Isikli 90.05 306 *e*P **P 21 27 40.4 -0.4**
INK Inuvik 90.19 21 S 21 38 07.5
comp=E,1.8nm,0.9s,baz=248,slow=28,SNR=5.5
INK PKKPbc PKKPbc 21 45 11.3 +0.4
comp=E,4.3nm,0.8s,baz=82,slow=5.0,SNR=9.9
INK LR LR 22 12 21.2
comp=E,2μm,20.7s,MS5.5,baz=277,slow=38
ARCES ARCESS Array B 90.31 340 P **P 21 27 41.4 -0.7**
comp=E,46nm,0.8s,mb5.8,baz=80,slow=6.3,SNR=54
ARCES LR LR 22 14 38.9
comp=E,2μm,20.8s,MS5.5,baz=81,slow=40
ARCES ARCESS Array B 90.31 340 P **P 21 27 41.4 -0.7**
ARCES LR LR 22 14 38.9
ARE0 ARCESS Array S 90.31 340 P **P 21 27 41.5 -0.6**
SAFT Safranbolu 90.39 311 *e*P **P 21 27 42.1 -0.3**
ANTO Ankara 90.43 310 *e*P **P 21 27 41.5 -1.2**
ANTO Ankara 90.43 310 ⇓P **P 21 27 42.5 -0.2**
ANTO Ankara 90.43 310 P **P 21 27 43.0 +0.3**
CSS Prodhromos 90.44 305 P **P 21 27 42.9 +0.2**
comp=E,0.7nm,1.0s
LOD Lodumlu 90.45 310 *e*P **P 21 27 42.3 -0.5**
MAMC Mammari 90.52 305 P **P 21 27 43.7 +0.7**
KBS Kingsbay 90.89 350 *e*P **P 21 27 48.5 +3.7**
KBS *e*PP PP 21 31 20.6 -0.5
KBS *e*SKSa 21 38 10.5
KBS *i* 21 39 46.8
KBS AMS AMS 22 09 21.0
comp=Z,1μm,25.4s,MS5.3
KBS Kingsbay 90.89 350 *e*P **P 21 27 48.5 +3.7**
KBS *i* 21 38 11.8
KBS *i* 21 39 46.8
KBS MLR MLR
comp=Z,1327μm,25.4s
SGKT Sivrigoynuk 90.93 311 *i* P **P 21 27 44.5 -0.5**
BJO Bjornoya 90.94 345 *e*SKSa SKSac 21 38 11.9 -1.5
BJO AMS AMS 22 10 15.9
comp=Z,5μm,22.5s,MS5.9
ALFC Alevga 91.02 305 P **P 21 27 44.8 -0.6**
KIZT Kizilcal 91.23 309 *e*P **P 21 27 45.1 -1.3**
PPCY Paphos 91.25 305 P **P 21 27 45.8 -0.7**
SIT Sitka 91.29 33 P **P 21 27 48.6 +1.9**
KAF Kangasniemi 91.43 332 *e*p **P 21 27 45.8 -1.5**
comp=Z,19nm,0.7s,mb5.5,baz=76,slow=4.2
KAF Kangasniemi 91.43 332 *e*P **P 21 27 45.8 -1.5**
KAF pmax pmax
comp=Z,19nm,0.7s,mb5.5
FINES FINESS Array B 91.66 332 P **P 21 27 47.7 -0.7**
comp=Z,14nm,1.0s,mb5.3,baz=66,slow=4.6,SNR=53
FINES S 21 38 15.5
comp=Z,3.7nm,1.0s,baz=90,slow=7.6,SNR=4.6
FINES LR LR 22 15 08.3
comp=Z,2μm,21.0s,MS5.6,baz=83,slow=40
FINES FINESS Array B 91.66 332 P **P 21 27 47.7 -0.7**
FINES S 21 38 15.5
AKASG Malin Array Be 91.69 321 P **P 21 27 47.4 -1.1**
comp=Z,33nm,0.8s,mb5.7,baz=74,slow=4.4,SNR=109
AKASG S 21 38 16.0
comp=Z,2.2nm,0.8s,baz=76,slow=6.0,SNR=4.4
HENT Hendek 91.78 311 *i* P **P 21 27 48.2 -0.7**
VSU Vasula 91.89 329 *i* P **P 21 27 48.2 -1.2**
ESKT Eskisehir 91.96 310 *i* P **P 21 27 48.7 -1.0**
MNK Minsk 91.96 325 *e*P **P 21 27 45.0 -4.7**
MNK *e*S 21 38 13.0
BORA Eskisehir 92.22 310 *i* P **P 21 27 50.1 -0.9**
SYO Syowa Base 92.40 201⇓ *i*PcP PcP 21 27 53.0 +0.5
SYO Syowa Base 92.40 201⇑ *e*pP pP 21 28 07.9 +3.0
SYO Syowa Base 92.40 201⇓ *i*P **P 21 27 51.8 0.0**
SYO ⇓ *i*PcP PcP 21 27 53.0 +0.5
SYO ⇑ *e*pP pP 21 28 07.9 +3.0
ISP Isparta 92.42 308 *e*P **P 21 27 49.3 -2.6**
ISP Isparta 92.42 308 P **P 21 27 51.5 -0.4**
KIS Kishinev 92.48 317 *e*P **P 21 27 49.0 -3.1**
KIS *e* 21 38 16.0
KIS *e*S 21 38 45.0
KIS LR LR
comp=Z,7μm,22.0s,MS6.0
KIS Kishinev 92.48 317 *e*P **P 21 27 49.0 -3.1**
KIS *e* 21 38 16.0
KIS *e*S 21 38 45.0
KIS MLR MLR
comp=E,6μm,22.0s
KIS MLR MLR
comp=Z,7μm,22.0s,MS6.0
KIS MLR MLR
comp=Z,7μm,23.0s
TRO Tromso 92.51 340 *e*P **P 21 27 50.9 -1.4**
TRO AMb AMB 21 28 01.6
comp=Z,112nm,1.6s,mb6.0
TRO *e*PP PP 21 31 32.7 -1.1
TRO *e*SKSa 21 38 17.4
TRO *e*SS SS 21 45 04.2 -1.0
TRO AMS AMS 22 12 51.0
comp=Z,3μm,22.0s,MS5.7
TRO Tromso 92.51 340 *e*P **P 21 27 50.9 -1.4**
comp=Z,112nm,1.6s,mb6.0
TRO *i* 21 38 16.0
TRO LR LR
comp=Z,3288μm,22.0s
TRO Tromso 92.51 340 *e*P **P 21 27 50.9 -1.4**
TRO *i* 21 38 16.0
TRO pmax pmax
comp=Z,112nm,1.6s,mb6.0
TRO MLR MLR
comp=Z,3288μm,22.0s
TKTP Tekketepe 92.54 308 *i* P **P 21 27 51.3 -1.1**
ALT Altintas 92.58 309 *e*P **P 21 27 51.6 -1.0**
HRT Hereke 92.70 311 *e*P **P 21 27 51.0 -2.2**
ELL Elmali 93.02 307 *e*P **P 21 27 54.1 -0.5**
TIRR Tirgusor 93.13 315 ⇓P **P 21 27 54.5 -0.6**
ISK Istanbul-Kandi 93.13 311 *e*P **P 21 27 54.1 -1.0**
ULDT Uludag 93.19 310 *i* P **P 21 27 55.0 -0.5**
CFR Carcaliu 93.22 316 ⇑P **P 21 27 56.2 +0.7**
GOLH Golhisar 93.24 307 *i* P **P 21 27 53.8 -1.8**
IAS Iasi 93.30 318 P **P 21 27 55.5 -0.4**
HARR Harsova 93.43 315 ⇓P **P 21 27 57.2 +0.7**
DNZL Cakiroluk 93.59 308 *i* P **P 21 27 56.8 -0.5**
ELBA Catalca 93.59 311 *i* P **P 21 27 56.2 -1.0**
QSPA South Pole Qui 93.70 180⇓ *i*P **P 21 27 58.5 +0.7**
comp=Z,146nm,1.1s,mb6.3
DLBC Dease Lake 93.81 31 LR LR 22 05 25.7
comp=Z,3μm,21.9s,MS5.7,baz=285,slow=32
DLBC Dease Lake 93.81 31 P **P 21 27 59.8 +1.5**
MANT Manisa 93.86 309 *i* P **P 21 27 58.1 -0.4**
TAOE Nuku Hiva Isla 93.89 99 *e*PS PS 21 40 12.7 -12
comp=Z,2μm,29.2s
TAOE Nuku Hiva Isla 93.89 99 *e*SS SS 21 45 34.1 +9.3
comp=Z,1μm,25.5s
TAOE *e*LR LR 21 58 11.4
comp=Z,12μm,23.4s
PRD Provadia 94.04 314 *e*P **P 21 27 59.0 -0.3**
VRI Vrincioaia 94.08 316 ⇓P **P 21 27 59.7 +0.2**
BNT Bandirma 94.09 311 *e*P **P 21 27 58.8 -0.7**
BALB Balikesir 94.22 310 *e*P **P 21 27 58.7 -1.4**
YER Yerkesik 94.26 308 *e*P **P 21 28 00.4 0.0**
AKS Akhisar 94.38 309 *e*P **P 21 28 00.5 -0.4**
MFT Murefte 94.50 311 *e*P **P 21 27 59.2 -2.2**
AYDN Tasoluk 94.51 308 *i* P **P 21 28 01.4 -0.1**
SART Tekirdag 94.59 311 *i* P **P 21 27 59.4 -2.5**
MLSB Milas 94.64 308 *e*P **P 21 27 58.5 -3.6**
MLR Muntele Rosu 94.69 316 P **P 21 28 02.2 -0.1**
comp=Z,68nm,0.8s,mb6.1,baz=48,slow=2.1,SNR=46
MLR S 21 38 33.4
comp=Z,2.0nm,0.7s,baz=190,slow=21,SNR=5.6
MLR Muntele Rosu 94.69 316 ⇓P **P 21 28 02.3 0.0**
MLR Muntele Rosu 94.69 316 ⇓P **P 21 28 02.3 0.0**
MLR Muntele Rosu 94.69 316 P **P 21 28 02.2 -0.1**
MLR S 21 38 33.4
MLR pmax pmax
comp=Z,68nm,0.8s
MLR smax
comp=N,2.0nm,0.7s
SUW Suwalki 94.73 325 *e*P **P 21 28 01.7 -0.8**
SUW *e*pP pP 21 28 10.0 -5.7
SUW *e*SKS 21 38 32.7
SUW *e*S 21 39 11.9
SUW L 22 10 18.5
comp=Z,4.1nm,27.7s
SUW Suwalki 94.73 325 *e*P **P 21 28 01.7 -0.8**
SUW *e**PP pP 21 28 10.0 -5.7
SUW *e* 21 38 32.7
SUW *e*S 21 39 11.9
EDRB Edirne 94.73 312 *e*P **P 21 28 00.7 -1.8**
JMB Yambol 94.75 313 *e*P **P 21 28 02.0 -0.6**
JMB Yambol 94.75 313 *e*P **P 21 28 02.2 -0.4**
BURAR Bucovina Array 94.80 318 ⇓P **P 21 28 03.1 +0.3**
BURAR Bucovina Array 94.80 318 ⇓P **P 21 28 03.1 +0.3**
BUC1 Bucharest 94.83 315 P **P 21 28 03.7 +0.7**
LOF Lofoten 94.86 340 *e*P **P 21 28 07.6 +4.5**
DAT Datca 94.88 307 *e*P **P 21 28 01.3 -1.9**
IZM Izmir 94.88 309 *e*P **P 21 28 01.6 -1.6**
BODT Bodrum 95.04 308 *e*P **P 21 28 01.4 -2.6**
SZH Strazhica 95.09 314 *e*P **P 21 28 04.0 -0.1**
LVV L'vov 95.13 321 *d i*P **P 21 28 03.8 -0.5**
LVV *e*PP PP 21 31 50.0 -4.3
LVV *e*PPP 21 34 05.0
LVV *i* SKS 21 38 35.0

LVV *i* S 21 39 12.0
MOR8 Moi Rana 95.28 338 *e*P **P** **21 28 03.9 -1.1**
VOIR 95.32 316 ⇑P **P** **21 28 04.9 -0.3**
URLA Izmir 95.41 309 *i* P **P** **21 28 04.3 -1.2**
KWP Kalwaria 96.01 321 *e*P **P** **21 28 08.3 0.0**
KWP *e*SKS 21 38 40.2
KWP *e*S 21 39 25.4
KWP L 22 15 43.7
comp=Z,4.8nm,24.6s
KWP Kalwaria 96.01 321 *e*P **P** **21 28 08.3 0.0**
KWP *e* 21 38 40.2
KWP *e*S 21 39 25.4
RZN Rozhen 96.26 312 *e*P **P** **21 28 09.0 -0.5**
CRAR CRAIOVA 96.41 315 P **P** **21 28 11.0 +0.9**
APE Apeiranthos 96.45 308 ⇑P **P** **21 28 08.9 -1.4**
APE Apeiranthos 96.45 308 *e*P **P** **21 28 05.1 -5.2**
APE ⇑P 21 28 08.9
SANT Santorini 96.62 307 P **P** **21 28 09.9 -1.3**
comp=Z,58nm,1.1s,mb5.9
DRGR 96.64 318 ⇑P **P** **21 28 11.2 0.0**
NSS Namsos 96.88 337 *e*SKSa 21 38 41.1
NSS AMS AMS 22 14 59.0
comp=Z,4μm,25.2s,MS5.8
CRVS Cervenica-Dubn 96.97 320 *e*P **P** **21 28 14.2 +1.5**
CRVS *e* pP 21 28 24.1 -1.8
CRVS *e*sP sP 21 28 33.4 +2.7
CRVS Cervenica-Dubn 96.97 320 *e*P **P** **21 28 14.2 +1.5**
comp=Z,34nm,1.0s,mb5.7
CRVS *e* pP 21 28 24.1 -1.8
CRVS *e* 21 28 33.4
CRVS LR LR
comp=Z,1μm,25.7s,MS5.3
CRVS Cervenica-Dubn 96.97 320 *e*P **P** **21 28 14.2 +1.5**
CRVS *e* pP 21 28 24.1 -1.8
CRVS pmax pmax
comp=Z,34nm,1.0s,mb5.7
CRVS MLR MLR
comp=Z,1μm,25.7s,MS5.3
STHS Stebnicka Huta 96.98 321 *e*P **P** **21 28 13.3 +0.5**
STHS *e* 21 28 21.8
STHS *e* pP 21 28 25.8 -0.1
STHS Stebnicka Huta 96.98 321 *e*P **P** **21 28 13.3 +0.5**
comp=Z,33nm,0.8s,mb5.8
STHS *e* 21 28 21.8
STHS *e* pP 21 28 25.8 -0.1
STHS Stebnicka Huta 96.98 321 *e*P **P** **21 28 13.3 +0.5**
STHS *e* 21 28 21.8
STHS *e* pP 21 28 25.8 -0.1
STHS pmax pmax
comp=Z,33nm,0.8s,mb5.8
MMB Musomiste 97.00 313 *e*P **P** **21 28 12.0 -0.8**
OUR Ouranopolis 97.06 311 *e*P **P** **21 28 12.2 -0.9**
DAG Danmarks Havn 97.16 352⇑*i*P **P** **21 28 12.2 -1.3**
comp=Z,23nm,0.6s,mb5.8
DAG
comp=Z,2μm,20.0s
DAG Danmarks Havn 97.16 352⇑*e*P **P** **21 28 12.2 -1.3**
comp=Z,23nm,0.6s,mb5.8
DAG LR LR
comp=Z,2μm,20.0s,MS5.7
DAG Danmarks Havn 97.16 352⇑*e*P **P** **21 28 12.2 -1.3**
DAG pmax pmax
comp=Z,23nm,0.6s,mb5.8
DAG MLR MLR
comp=Z,2μm,20.0s,MS5.7
VTS Vitosha 97.18 314 *e*P **P** **21 28 13.0 -0.6**
VTS Vitosha 97.18 314 *e*P **P** **21 28 13.2 -0.4**
VTS Vitosha 97.18 314 ⇓P **P** **21 28 13.4 -0.2**
VTS Vitosha 97.18 314 ⇓P **P** **21 28 13.4 -0.2**
VTS Vitosha 97.18 314 P **P** **21 28 13.5 -0.1**
SRS Serrai 97.19 312 *e*P **P** **21 28 11.9 -1.8**
IDI Anoyia 97.26 306 P **P** **21 28 13.5 -0.5**
comp=Z,25nm,0.8s,mb5.7,baz=359,slow=23,SNR=14
IDI S 21 38 42.8
comp=Z,4.8nm,0.9s,baz=162,slow=20,SNR=3.1
PAIG Paliouri 97.36 311 *e*P **P** **21 28 13.0 -1.5**
KKB Krupnik 97.42 313 *e*P **P** **21 28 13.0 -1.7**
SOH Sokhos 97.43 312 *e*P **P** **21 28 13.1 -1.6**
BZS Buzias 97.64 317 ⇑P **P** **21 28 15.3 -0.4**
OJC Ojcow 97.69 322 *e*P **P** **21 28 15.6 -0.3**
OJC *e*PP PP 21 32 18.0 +4.0
OJC *e*SKSac SKSac 21 38 55.1 +5.2
OJC *e*S 21 39 42.1
OJC *e*SP SP 21 41 05.6 +4.9
OJC *e*SS SS 21 46 22.2 +3.5
OJC L 22 19 07.8
comp=Z,13nm,23.8s
KNT Kendrikon 97.70 312 *e*P **P** **21 28 14.6 -1.4**
KECS Kecovo 97.70 320 *e*P **P** **21 28 15.8 -0.2**
KECS *e* 21 28 24.2
KECS *e*pP pP 21 28 33.9 +4.7
KECS Kecovo 97.70 320 *e*P **P** **21 28 15.8 -0.2**
comp=Z,20nm,0.8s,mb5.7
KECS *e* 21 28 24.2
KECS *e* 21 28 33.9
KECS Kecovo 97.70 320 *e*P **P** **21 28 15.8 -0.2**
KECS *e* 21 28 24.2
KECS *e* 21 28 33.9
KECS pmax pmax
comp=Z,20nm,0.8s,mb5.7
RES Resolute Bay 97.79 10 P **P** **21 28 16.3 -0.1**
HFS Hagfors 97.85 332 P **P** **21 28 15.5 -1.1**
comp=Z,11nm,0.8s,mb5.5,baz=64,slow=3.4,SNR=17
HFS PKKPbc PKKPbc 21 44 50.8 0.0
comp=Z,1.2nm,0.6s,baz=215,slow=1.8,SNR=5.7
HFS LR LR 22 14 56.7
comp=Z,2μm,21.8s,MS5.6,baz=64,slow=37
VAY Valandovo 97.91 312 *e*P **P** **21 28 14.8 -2.1**
VAY Valandovo 97.91 312 ⇓*i*P **P** **21 28 14.8 -2.1**
GRG Griva 98.11 312 *e*P **P** **21 28 16.0 -1.8**
STIP Stip 98.11 313 ⇑*i*P **P** **21 28 16.4 -1.4**
SVIS Svilajnac 98.22 316 ⇓*i*P **P** **21 28 17.7 -0.6**
LIT Litokhoron 98.22 311 *e*P **P** **21 28 16.4 -1.9**
PSZ Piszkesteto 98.23 319⇓*e*P **P** **21 28 18.2 -0.1**
PSZ Piszkesteto 98.23 319 P **P** **21 28 17.6 -0.7**
PSZ pmax pmax
comp=Z,45nm,1.3s,mb5.8
GKP Gorka Klasztor 98.34 325 *e*P **P** **21 28 18.8 -0.1**
GKP *e*SKS 21 38 51.7
GKP *e*S 21 39 39.5
GKP L 22 16 17.2
comp=Z,3.6nm,28.2s
SKO Skopje 98.59 313 *i* P **P** **21 28 19.4 -0.6**
NB2 NORSAR Subarra 98.62 334 P **P** **21 28 18.5 -1.6**
comp=Z,33nm,0.8s,mb5.9,baz=67,slow=4.6
NB2 NORSAR Subarra 98.62 334 PKPab **P** **21 28 18.5 -1.6**
comp=Z,33nm,0.8s,mb5.9
NOA NORSAR Array B 98.62 334 P **P** **21 28 18.9 -1.2**
comp=Z,27nm,0.8s,mb5.8,baz=66,slow=4.6,SNR=75
NOA PKKPbc PKKPbc 21 44 49.5 +0.8
comp=Z,1.8nm,0.8s,baz=69,slow=2.8,SNR=6.0
NOA LR LR 22 17 28.9
comp=Z,5μm,21.9s,MS5.9,baz=60,slow=38
RAC Raciborz 98.72 322 *e*P **P** **21 28 19.8 -0.7**
RAC LR LR
comp=Z,3μm,23.4s,MS5.7
VYHS Vyhne 98.76 320 PDIF **P** **21 28 20.1 -0.6**
VYHS Vyhne 98.76 320 *e*P **P** **21 28 20.1 -0.6**
comp=Z,30nm,1.9s,mb5.5
VYHS Vyhne 98.76 320 *e*P **P** **21 28 20.1 -0.6**
VYHS pmax pmax
comp=Z,30nm,1.9s,mb5.5
MATP Matopo 98.80 250 LR LR 22 08 22.8
comp=Z,1μm,21.2s,MS5.3,baz=84,slow=33
OKC Ostrava-Krasne 98.81 322 *e*P **P** **21 28 21.3 +0.3**
OKC AMS AMS 22 12 50.0
comp=Z,4μm,24.4s
NAO01 NORSAR Array S 98.85 333 P **P** **21 28 19.9 -1.2**
comp=Z,27nm,0.8s,mb5.8
FNA Florina 98.91 312 *e*P **P** **21 28 19.7 -1.7**
LSZ Lusaka 98.99 255 P **P** **21 28 24.4 +2.6**
comp=Z,43nm,0.9s,mb6.0
LSZ Lusaka 98.99 255 P **P** **21 28 24.4 +2.6**
LSZ pmax pmax
comp=Z,43nm,0.9s,mb6.0
BSD Bornholm Skovb 99.03 327 *i* P pP 21 28 42.0 +6.9
BSD Bornholm Skovb 99.03 327 *e*P pP 21 28 42.0 +6.9
BSD *i* S SKSac 21 38 52.5 -4.2
DIVS Divcibare 99.13 316 ⇓*i*P **P** **21 28 21.0 -1.4**
DIVS Divcibare 99.13 316 *e*P **P** **21 28 21.8 -0.6**
MORC Moravsky Berou 99.21 322 ⇑P **P** **21 28 23.2 +0.5**
MORC Moravsky Berou 99.21 322 ⇑P **P** **21 28 23.2 +0.4**
MORC Moravsky Berou 99.21 322 P **P** **21 28 23.0 +0.3**
MORC pmax pmax
comp=Z,36nm,1.3s,mb5.7
SRO Srobarova 99.28 320 *e*P **P** **21 28 23.1 0.0**
SRO pmax pmax
comp=Z,30nm,0.8s,mb5.9
RKT Rikitea 99.32 113 *e*LQ 21 56 36.3
comp=Z,3μm,37.5s
RKT Rikitea 99.32 113 *e*PS PS 21 41 24.5 +0.6
comp=Z,856nm,28.8s
RKT Rikitea 99.32 113 *e*SKSac SKSac 21 39 01.8 +3.7
comp=Z,840nm,36.0s
RKT *e*SS SS 21 47 01.4 +20
comp=Z,2μm,30.8s
RKT *e*LR LR 22 00 47.3
comp=Z,3μm,31.8s
SRO1 Iza 99.35 320 PDIF **P** **21 28 23.1 -0.3**
YKW3 Yellowknife Ar 99.50 24 P **P** **21 28 24.0 -0.1**
PKSM Moragy 99.50 318 ⇓P **P** **21 28 23.8 -0.3**
PKSM Moragy 99.50 318 ⇓P **P** **21 28 23.8 -0.3**
PKSM Moragy 99.50 318 P **P** **21 28 24.2 +0.1**
YKA Yellowknife Ar 99.53 24 P Pdif 21 28 24.2 0.0
comp=Z,5.0nm,0.8s,baz=301,slow=4.6,SNR=62
YKA PP PP 21 32 53.1 +25
comp=Z,2.4nm,0.9s,baz=302,slow=6.6,SNR=4.7
YKA PKKPbc PKKPbc 21 44 44.5 -1.6
comp=Z,1.4nm,0.8s,baz=116,slow=2.5,SNR=7.4
YKA LR LR 22 19 30.5
comp=Z,538nm,18.5s,MS5.1,baz=260,slow=39
YKA Yellowknife Ar 99.53 24 P Pdif 21 28 24.2 +0.1
YKA PP PP 21 32 53.1 +25
YKA PKKPbc PKKPbc 21 44 44.5 -1.6
YKA LR LR 22 19 30.4
KSP Ksiaz 99.65 323 *e*P Pdif 21 28 25.0 +0.3
KSP *e*SKS 21 38 58.8
KSP L 22 09 03.5
comp=Z,7.4nm,32.0s
KSP Ksiaz 99.65 323 *e*Pdif Pdif 21 28 25.0 +0.3
KSP *e*SKS 21 38 55.1
KSP *e*SS SS 21 46 21.5 -25
KSP LR LR
comp=Z,8μm,32.0s,MS6.0
KSP Ksiaz 99.65 323 *e*P Pdif 21 28 25.0 +0.3
KSP *e* 21 38 55.1
KSP MLR MLR
comp=Z,8μm,32.0s,MS6.0
JMIC Jan Mayen 99.74 346 *e*SKSa 21 39 02.2
JMIC AMS AMS 22 14 57.8
comp=Z,1μm,22.9s,MS5.3
DPC Dobruska-Polom 99.78 322 *e*PDIF Pdif 21 28 25.7 +0.4
DPC AMS AMS 22 17 50.0
comp=Z,4μm,20.8s
UPC Upice 99.92 323 *e*PDIF Pdif 21 28 26.5 +0.6
KONO Kongsberg 99.94 333 *e* PP 21 32 26.8 -4.4
KONO *e*SKSa 21 38 58.9
VRAC Vranov 99.94 321 P Pdif 21 28 25.9 -0.1
comp=Z,13nm,0.8s,baz=68,slow=3.5,SNR=21
VRAC PKKPbc PKKPbc 21 44 44.8 -0.2
comp=Z,2.9nm,0.4s,baz=216,slow=5.4,SNR=4.7
VRAC Vranov 99.94 321 ⇓P Pdif 21 28 26.4 +0.4
VRAC Vranov 99.94 321 ⇓P Pdif 21 28 26.4 +0.4
VRAC Vranov 99.94 321 P Pdif 21 28 25.9 -0.1
VRAC pmax pmax
comp=Z,13nm,0.9s
VRAC pmax pmax
comp=Z,3.0nm,0.4s
ZST Bratislava 99.95 320 PDIF Pdif 21 28 25.8 -0.2
ZST *e* 21 28 34.1
ZST Bratislava 99.95 320 *e*P Pdif 21 28 25.8 -0.2
comp=Z,7.2nm,0.6s
ZST *e* 21 28 34.1
ZST Bratislava 99.95 320 *e*P Pdif 21 28 25.8 -0.2
ZST *e* 21 28 34.1
ZST pmax pmax
comp=Z,7.0nm,0.6s,mb5.3
IGT Igoumenitsa 99.97 311 *e*P Pdif 21 28 24.5 -1.7
COP Copenhagen 100.15 328 *i* P Px 21 28 48.4
COP *e* 21 31 12.3
COP *i* S SKSac 21 38 56.8 -5.4
COP *i* 21 41 10.3
COP
comp=Z,2μm,21.0s
COP Copenhagen 100.15 328 *e*P Px 21 28 48.4
COP *e* 21 31 12.3
COP *i* S SKSac 21 38 56.8 -5.4
COP *i* 21 41 10.3
COP LR LR
comp=Z,2μm,21.0s,MS5.6
RUE Ruedersdorf 100.58 325 *e*Pdiff Pdif 21 28 29.7 +0.9
RUE *e*Sdiff Sdif 21 40 00.5 -1.9
RUE Ruedersdorf 100.58 325 *e*Pdif Pdif 21 28 29.5 +0.6
comp=Z,76nm,0.9s
TREC Trest 100.63 322 *e*PDIF Pdif 21 28 29.7 +0.6
TREC Trest 100.63 322 *i* P Pdif 21 28 29.7 +0.6
GNW Green Mountain 100.97 40 Pdif Pdif 21 28 34.8 +4.2
PRU Pruhonice 100.98 322 *e*PDIF Pdif 21 28 31.1 +0.5
PRU *e*SKS 21 39 04.1
PRU AMS AMS 22 18 50.0
comp=Z,3μm,19.3s
BRG Berggiesshubel 101.05 323 *e*Pdiff Pdif 21 28 31.2 +0.3
BRG *e*Sdiff Sdif 21 40 03.7 -2.6
BRG Berggiesshubel 101.05 323 *i* Pdif Pdif 21 28 31.5 +0.6
comp=Z,37nm,1.4s
BRG PP PP 21 33 04.0 +24
BRG *e* 21 33 15.3
BRG *i* SKS 21 39 04.0
BRG *i* Sdif Sdif 21 40 03.0 -3.3
BRG LR LR
comp=Z,3μm,23.2s,MS5.7
BRG Berggiesshubel 101.05 323 *i* P Pdif 21 28 31.5 +0.6
BRG *i* 21 39 04.0
BRG *i* S Sdif 21 40 03.0 -3.3
BRG pmax pmax
comp=Z,37nm,1.4s
BRG MLR MLR
comp=Z,3μm,23.2s,MS5.7
BRG Berggiesshubel 101.05 323 *i* PDIF Pdif 21 28 31.5 +0.6
comp=Z,37nm,1.4s
BRG PP PP 21 33 04.0 +24
BRG *e* 21 33 15.3
comp=Z,25nm,1.8s
BRG *i* SKS 21 39 04.0
BRG *i* SDIF Sdif 21 40 03.0 -3.3
BRG
comp=N,2μm,23.6s
BRG
comp=E,1μm,23.2s
BRG
comp=Z,3μm,23.2s
SISC Sisak 101.23 318 *i* PKP Pdif 21 28 31.4 -0.3
ARSA Arzberg 101.25 320 *i* P Pdif 21 28 32.2 +0.4
comp=Z,12nm,1.0s,SNR=6.8
CLL Collm 101.45 324 *e*Pdiff Pdif 21 28 32.2 -0.5
comp=Z,41nm,1.4s
CLL *e*SKSac SKSac 21 39 06.5 -2.0
CLL *e*Sdiff Sdif 21 40 06.4 -3.2
CLL *e*SP SP 21 41 37.1 -4.1
CLL *e*LR LR 22 05 20.4
CLL *e*L 22 20 09.9
comp=Z,4μm,22.0s
CLL Collm 101.45 324 *e*Pdif Pdif 21 28 32.0 -0.7
comp=Z,40nm,1.4s
CLL LmV 21 20 00.0
comp=Z,4μm,21.2s
CLL *e*sPdif 21 28 53.0
CLL *e*PP PP 21 32 51.0 +8.4
CLL *e*(sPP) 21 33 13.0
CLL *e*SKSac SKSac 21 39 07.0 -1.5
CLL *e*Sdif Sdif 21 40 06.0 -3.6
CLL *e*SP SP 21 41 37.0 -4.2
CLL *e*PPS 21 42 43.0
CLL Collm 101.45 324 *e*Pdif Pdif 21 28 32.0 -0.7
comp=Z,40nm,1.4s
CLL *e*SKS 21 39 07.0
CLL *e*Sdif Sdif 21 40 06.0 -3.6
CLL LR LR
comp=Z,4μm,21.2s,MS5.8
CLL Collm 101.45 324 *e*P Pdif 21 28 32.0 -0.7
CLL *e* 21 39 07.0
CLL *e*S Sdif 21 40 06.0 -3.6
CLL pmax pmax
comp=Z,40nm,1.4s
CLL MLR MLR
comp=Z,4μm,21.2s,MS5.8
LBTB Lobatse 101.47 245 Pdif Pdif 21 28 33.9 +1.1
BER Bergen 101.50 334 *e*SKSa SKSac 21 39 05.5 -3.3
MUD Monsted U'grnd 101.51 330 *i* P PKiKP 21 33 04.7 +7.9
MUD *i* S SKSac 21 39 04.7 -4.1
MUD *i* 21 41 28.3
PERS Pernice 101.71 319 *e*Pdiff Pdif 21 28 33.8 0.0
CRES Cresnjev 101.74 318 *e*Pdiff Pdif 21 28 34.3 +0.3
KHC Kasperske Hory 101.86 322 *e*PDIF Pdif 21 28 34.7 +0.1
KHC x x 21 28 42.0
KHC x x 21 29 18.5
KHC *e*SKS 21 39 08.2
KHC AMS AMS 22 16 10.0
comp=Z,6μm,22.6s
KHC Kasperske Hory 101.86 322 *e*Pdif Pdif 21 28 34.7 +0.1
KHC *e* 21 28 42.0
KHC *e* 21 29 18.5
KHC *e*SKS 21 39 08.2
KHC *e*SKS 21 39 09.6
KHC LR LR
comp=Z,6μm,22.6s,MS6.1
MOA Molln 101.87 320 *i* P Pdif 21 28 34.8 +0.3
comp=Z,31nm,0.9s,SNR=12
GEC2 GERESS Array S 101.89 322 *e*Pdiff Pdif 21 28 35.3 +0.7
GEC2 *e*Sdiff Sdif 21 40 12.8 -0.5
GERES GERESS Array B 101.89 322 P Pdif 21 28 34.7 0.0
comp=Z,7.7nm,0.9s,baz=69,slow=4.4,SNR=40
GERES PP PP 21 32 49.4 +3.4
comp=Z,2.7nm,0.9s,baz=54,slow=6.8,SNR=4.3
GERES PKKPbc PKKPbc 21 44 40.2 +0.9
comp=Z,0.7nm,0.7s,baz=42,slow=2.2,SNR=4.1
GERES GERESS Array B 101.89 322 P Pdif 21 28 34.7 +0.1
GERES 21 32 49.4
BSEG Bad Segeberg 101.96 327 *e*Pdiff Pdif 21 28 35.6 +0.6
BOJS Bojanci 101.97 318 *e*Pdif Pdif 21 28 35.5 +0.5
BOJS *e*SKSac SKSac 21 39 09.7 -1.3
BOJS *e*SKKSac SKKSac 21 39 45.2 -3.8
BOJS *e*Sdiff Sdif 21 40 10.2 -3.8
OBKA Obir 102.12 319⇓*i*P Pdif 21 28 35.7 0.0
comp=Z,12nm,0.9s
NKC Novy Kostel 102.16 323 *e*PDIF Pdif 21 28 36.5 +0.6
NKC AMS AMS 22 14 50.0
comp=Z,4μm,25.2s
WERD Werda 102.17 323 *e*Pdiff Pdif 21 28 36.2 +0.3
LJU Ljubljana 102.29 319 *e*Pdiff Pdif 21 28 36.6 +0.2
LJU *e*SKSac SKSac 21 39 10.6 -1.8
LJU *e*Sdiff Sdif 21 40 12.5 -4.2
WET Wettzell 102.29 322 *e*Pdiff Pdif 21 28 36.8 +0.3
WET *e*Sdiff Sdif 21 40 17.1 +0.4
MANZ Manzenberg 102.46 323 *e*Pdiff Pdif 21 28 37.4 +0.2
MANZ *e*Sdiff Sdif 21 40 18.2 +0.2
MOX Moxa 102.51 324 *e*Pdiff Pdif 21 28 37.1 -0.3
MOX *e*Sdiff Sdif 21 40 17.1 -1.4
MOX Moxa 102.51 324 *e*P Pdif 21 28 38.0 +0.6
comp=Z,71nm,1.8s
MOX *e*S SKSac 21 39 13.0 -0.5
MOX LR LR
comp=Z,2μm,20.0s,MS5.7
MOX Moxa 102.51 324 *e*P Pdif 21 28 38.0 +0.6
MOX pmax pmax
comp=Z,71nm,1.8s
MOX MLR MLR
comp=Z,2μm,20.0s,MS5.7
VOY Vojsko 102.71 319 *e*Pdiff Pdif 21 28 38.3 0.0
VOY *e* 21 28 48.7
KBA Koelnbreinsper 102.71 320⇑*i*P Pdif 21 28 38.3 0.0
comp=Z,15nm,0.8s
VOJS Vojsko 102.71 319 *e*Pdiff Pdif 21 28 37.9 -0.4
CADS Cadrg 102.75 319 *e*Pdiff Pdif 21 28 37.9 -0.6
CADS *e*SKSac SKSac 21 39 12.0 -2.7
CLZ Clausthal 102.77 325 *e*Pdiff Pdif 21 28 39.2 +0.6
CLZ *e*Sdiff Sdif 21 40 19.8 -0.8
SCO Scoresbysund 102.93 350 *i* S SKSac 21 39 17.2 +1.7
GRA1 Grafenberg Arr 103.10 323 *e*Pdif Pdif 21 28 40.7 +0.7
GRA1 LR LR
comp=Z,3μm,21.6s,MS5.8
GRF Grafenberg Arr 103.10 323 *e*Pdiff Pdif 21 28 40.7 +0.7
GRF *e*L 22 20 44.4
comp=Z,3μm,21.6s
SUMG Summit 103.16 355 *e*P Pdif 21 28 39.1 -1.2
comp=Z,7.9nm,0.9s
UBBA Unterbreizbach 103.39 324 *e*Pdiff Pdif 21 28 41.7 +0.4
FUR Furstenfeldbru 103.64 321 *e*Pdiff Pdif 21 28 43.4 +1.0
WTTA Wattenberg 103.74 320⇑*i*P Pdif 21 28 43.3 +0.4
comp=Z,33nm,1.1s
SQTA Sankt Quirin 104.03 321⇑*i*P Pdif 21 28 44.4 +0.2
comp=Z,24nm,1.3s
MOTA Moosalm 104.05 321⇓*i*P Pdif 21 28 43.9 -0.4
comp=Z,17nm,1.1s,SNR=12
AQU L'Aquila 104.24 315 Pdif Pdif 21 28 45.8 +0.7
NEW Newport 104.32 38 Pdif Pdif 21 28 46.9 +1.4
DAVOX Davos 105.04 320 Pdiff Pdif 21 28 48.8 +0.1
comp=Z,7.7nm,0.8s,baz=145,slow=4.5,SNR=7.1
SNAA Sanae 105.22 195 Pdiff Pdif 21 28 46.0 -3.5
comp=Z,1.0nm,0.8s,baz=12,slow=20,SNR=2.3
SNAA PKKP PKKPbc 21 44 45.8 +16
comp=Z,2.8nm,0.8s,baz=238,slow=6.5,SNR=6.5
SNAA Sanae 105.22 195 Pdif Pdif 21 28 46.0 -3.5
SNAA Pdif Pdif 21 28 56.7 +7.2
SNAA PKiKP PKiKP 21 33 10.1 +6.6
SNAA PKKP PKKPbc 21 44 45.8 +16
SNAA Sanae 105.22 195 P Pdif 21 28 46.0 -3.5
SNAA *i* 21 33 10.1
BSMT Bassoo Peak 105.92 38 Pdif Pdif 21 28 55.2 +2.6
WALA Waterton Lakes 105.94 37 Pdif Pdif 21 28 57.3 +4.7
CDF Champ du Feu 105.99 323 *e*P Pdif 21 28 52.0 -0.9
HINF Hinteralfeld 106.50 322 *e*P Pdif 21 28 53.8 -1.4
HAU Haudompre 106.72 323 *e*P Pdif 21 28 56.1 -0.1
DOU Dourbes 106.81 325 P Pdif 21 28 57.2 +0.6
VNA2 Neumayer--Watz 106.83 194 *e*PKiKP PP 21 33 22.8 +0.1
baz=134,slow=6.6
VNA2 *e* 21 33 27.7
NVAR Mina Array Bea 107.04 48 Pdiff Pdif 21 28 59.2 +1.7
comp=Z,1.6nm,0.8s,baz=265,slow=3.2,SNR=5.3
NVAR PP PP 21 33 09.6 -15
comp=Z,0.6nm,0.5s,baz=266,slow=6.0,SNR=3.6
NVAR PKKPbc PKKPbc 21 44 26.6 +2.7
comp=Z,2.6nm,0.8s,baz=117,slow=5.8,SNR=11
NVAR PKKPab PKKPab 21 44 39.4 +0.4
comp=Z,8.8nm,0.8s,baz=115,slow=6.8,SNR=18
NVAR Mina Array Bea 107.04 48 Pdif Pdif 21 28 59.2 +1.7
NVAR PP PP 21 33 09.6 -15
NVAR PKKPbc PKKPbc 21 44 26.6 +2.7
NVAR PKKPab PKKPab 21 44 39.4 +0.3
VNA3 Neumayer Olymp 107.16 194 *e*PKiKP PP 21 33 24.6 -0.5
VNA3 *e* 21 33 30.9
PGF Pioggiola 107.22 317 *e*P Pdif 21 28 57.6 -0.8
comp=Z,47nm,1.1s
PGF Pioggiola 107.22 317 *e*P Pdif 21 28 57.6 -0.8
comp=Z,24nm,1.1s
PGF Pioggiola 107.22 317 *e*P Pdif 21 28 57.6 -0.8
PGF pmax pmax
comp=Z,24nm,1.1s
LPG La Plagne 107.54 320 *e*P Pdif 21 28 59.6 -0.2
comp=Z,18nm,1.1s
LPG La Plagne 107.54 320 *e*P Pdif 21 28 59.6 -0.2
comp=Z,9.1nm,1.1s
LPG La Plagne 107.54 320 *e*P Pdif 21 28 59.6 -0.2
LPG pmax pmax
comp=Z,9.0nm,1.1s
LPL La Plagne 107.55 320 *e*P Pdif 21 28 59.5 -0.3
comp=Z,11nm,0.8s
LPL La Plagne 107.55 320 *e*P Pdif 21 28 59.5 -0.3
comp=Z,5.5nm,0.8s
LPL La Plagne 107.55 320 *e*P Pdif 21 28 59.5 -0.3
LPL pmax pmax
comp=Z,6.0nm,0.8s
MBDF Montbardon 107.85 319 *e*P Pdif 21 29 01.4 +0.2
HLID Hailey 107.91 42 PKiKP PKiKP 21 33 12.7 +4.2
DAC Darwin (Calif) 108.28 50 PKiKP PKiKP 21 33 11.8 +2.6
DLMT Dillon 108.34 40 *e*PKKPab PKKPab 21 44 34.2 +1.0
ORIF Oris-en-Rattie 108.35 320 *e*P Pdif 21 29 04.2 +0.8
comp=Z,17nm,1.0s
ORIF Oris-en-Rattie 108.35 320 *e*P Pdif 21 29 04.2 +0.8
comp=Z,8.4nm,1.0s
ORIF Oris-en-Rattie 108.35 320 *e*P Pdif 21 29 04.2 +0.8
ORIF pmax pmax
comp=Z,8.0nm,1.0s
LOR Lormes 108.56 323 *e*P Pdif 21 29 04.8 +0.5
comp=Z,35nm,1.5s
LOR Lormes 108.56 323 *e*P Pdif 21 29 04.8 +0.5
comp=Z,18nm,1.5s
LOR Lormes 108.56 323 *e*P Pdif 21 29 04.8 +0.5
LOR pmax pmax
comp=Z,18nm,1.5s
SMF Signal de Mont 108.86 322 *e*P Pdif 21 29 06.1 +0.5

SSF	**Saint Saulge**	**108.87**	**323**	*eP*	Pdif	21 29 06.2	+0.5
SFJD	**Kangerlussuaq**	**109.34**	**359**	*i* P	PP	21 33 46.2	+5.2
SFJD				*i*		21 39 41.4	
SFJD				*i*		21 42 58.5	
SFJD							
	comp=Z,2μm,22.0s						
SFJD	**Kangerlussuaq**	**109.34**	**359**	*eP*	PP	21 33 46.2	+5.2
SFJD				*i*		21 39 41.4	
SFJD				*i*		21 42 58.5	
SFJD							
	comp=Z,2μm,22.0s,MS5.6						
BGF	**Bois d'Agland**	**109.51**	**322**	*e*P	Pdif	21 29 09.2	+0.7
YMR	**Madison River**	**109.69**	**40**	*e*PKKPab	PKKPab	21 44 28.4	+1.1
HVU	**Hansel Valley**	**109.74**	**43**	*e*PKKPbc	PKKPbc	21 44 20.1	+4.7
HVU				*e*PKKPab	PKKPab	21 44 27.3	+0.2
YFT	**Old Faithful**	**109.87**	**40**	PKKPbc	PKKPbc	21 44 16.2	+1.3
YFT				*e*PKKPab	PKKPab	21 44 28.4	+1.9
IMW	**Indian Meadow**	**110.05**	**40**	*e*PKKPab	PKKPab	21 44 26.3	+0.6
TPAW	**Teton Pass**	**110.22**	**41**	PKiKP	PKiKP	21 33 16.9	+4.0
TPAW				*e*PKKPab	PKKPab	21 44 25.6	+0.7
MOOW	**Moose Ponds**	**110.24**	**41**	*e*PKKPab	PKKPab	21 44 25.3	+0.4
REDW	**Red Top Meadow**	**110.34**	**41**	*e*PKKPab	PKKPab	21 44 25.1	+0.8
DUG	**Dugway**	**110.36**	**45**	PKiKP	PKiKP	21 33 16.0	+2.9
DUG				*e*PKKPbc	PKKPbc	21 44 15.7	+2.4
DUG				*e*PKKPab	PKKPab	21 44 26.2	+1.8
SNOW	**Snow King Moun**	**110.36**	**41**	*e*PKKPab	PKKPab	21 44 24.2	-0.1
LOHW	**Long Hollow**	**110.39**	**41**	PKiKP	PKiKP	21 33 14.7	+1.5
LOHW				*e*PKKPbc	PKKPbc	21 44 14.5	+1.3
AHID	**Auburn Hatcher**	**110.44**	**42**	*e*PKKPbc	PKKPbc	21 44 14.3	+1.3
AHID				*e*PKKPab	PKKPab	21 44 24.0	0.0
HWUT	**Hardware Ranch**	**110.63**	**43**	*e*PKKPbc	PKKPbc	21 44 13.6	+1.1
HWUT				*e*PKKPab	PKKPab	21 44 23.6	+0.5
BW06	**Boulder Array**	**111.46**	**41**	PKiKP	PKiKP	21 33 17.1	+1.9
PDAR	**Pinedale Array**	**111.46**	**41**	Pdiff	Pdif	21 29 29.2	+12
	comp=Z,0.2nm,0.5s,baz=267,slow=7.4,SNR=4.0						
PDAR				PKiKP	PKiKP	21 33 16.3	+1.1
	comp=Z,1.3nm,0.7s,baz=236,slow=0.5,SNR=6.7						
PDAR				PP	PP	21 33 55.8	-0.5
	comp=Z,1.9nm,0.8s,baz=222,slow=2.0,SNR=4.3						
PDAR				SKiKP		21 36 47.0	
	comp=Z,3.8nm,1.1s,baz=222,slow=2.0,SNR=4.5						
PDAR				PKKPbc	PKKPbc	21 44 10.3	+0.6
	comp=Z,2.7nm,0.9s,baz=116,slow=3.4,SNR=12						
PDAR				PKKPab	PKKPab	21 44 19.6	+0.2
	comp=Z,15nm,0.9s,baz=151,slow=3.4,SNR=30						
PDAR	**Pinedale Array**	**111.46**	**41**	Pdif	Pdif	21 29 29.2	+12
PDAR				PKPdf	PKiKP	21 33 16.3	+1.1
PDAR				PP	PP	21 33 55.8	-0.5
PDAR				PKKPbc	PKKPbc	21 44 10.3	+0.6
PDAR				PKKPab	PKKPab	21 44 19.6	+0.2
MSU	**Marysvale**	**111.48**	**46**	*e*PKiKP	PKiKP	21 33 17.0	+1.8
SRU	**San Rafael**	**112.41**	**45**	*e*PKiKP	PKiKP	21 33 18.2	+1.2
SRU	**San Rafael**	**112.41**	**45**	PKiKP	PKiKP	21 33 19.5	+2.5
EPOB	**Poblet**	**113.08**	**318**	P	PKiKP	21 33 18.8	+0.6
WUAZ	**Wupatki**	**113.26**	**49**	PKiKP	PKiKP	21 33 22.9	+4.3
EBR	**Ebro Roquetas**	**113.72**	**318**	*e*Ts		21 33 52.0	
ERTA	**Horta de San J**	**113.76**	**318**	P	PKiKP	21 33 21.2	+1.6
EALK	**Alkurruntz**	**113.84**	**321**	P	PKiKP	21 33 21.6	+1.8
PV01	**Paradox Valley**	**114.22**	**45**	PKiKP	PKiKP	21 33 22.9	+2.4
RSSD	**Black Hills**	**114.28**	**38**	*e*PKiKP	PKiKP	21 33 20.9	+0.4
ECRI	**Cripan**	**114.79**	**321**	P	PKiKP	21 33 25.1	+3.6
ULM	**Lac du Bonnet**	**115.02**	**29**	PKP	PKiKP	21 33 21.1	-0.9
	comp=Z,2.4nm,0.6s,baz=254,slow=0.6,SNR=6.0						
ULM				PKKPbc	PKKPbc	21 44 02.2	+4.4
	comp=Z,4.7nm,0.9s,baz=124,slow=5.1,SNR=5.3						
ULM	**Lac du Bonnet**	**115.02**	**29**	PKP	PKiKP	21 33 21.1	-0.9
ULM				PKKPbc	PKKPbc	21 44 02.2	+4.4
ELAN	**Lanestosa**	**115.04**	**322**	P	PKiKP	21 33 24.0	+2.0
ISCO	**Idaho Springs**	**115.48**	**42**	PKiKP	PKiKP	21 33 25.0	+2.1
EVIA	**Vianos**	**116.80**	**317**	P	PKPdf	21 33 26.4	+1.0
GUD	**Guadarrama**	**116.87**	**320**	P	PKPdf	21 33 26.8	+1.2
LENM	**Lemitar**	**117.11**	**48**	PKPdf	PKPdf	21 33 29.4	+3.4
ANMO	**Albuquerque**	**117.15**	**47**	PKP	PKPdf	21 33 27.6	+1.6
	comp=Z,4.9nm,0.8s,baz=199,slow=1.8,SNR=13						
ANMO				SKiKP		21 36 59.3	
	comp=Z,8.5nm,1.1s,baz=180,slow=1.7,SNR=7.9						
ANMO				PKKPbc	PKKPbc	21 43 55.6	+5.3
	comp=Z,5.4nm,1.0s,baz=137,slow=8.7,SNR=12						
ANMO	**Albuquerque**	**117.15**	**47**	PKPdf	PKPdf	21 33 28.3	+2.2
ANMO	**Albuquerque**	**117.15**	**47**	PKiKP	PKPdf	21 33 27.7	+1.6
ANMO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ANMO				pmax	pmax		
	comp=N,9.0nm,1.1s						
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ESDC	**Sonseca Array**	**117.25**	**319**	PKP	PKPdf	21 33 26.0	-0.3
	comp=Z,2.2nm,0.8s,baz=56,slow=1.4,SNR=7.4						
ESDC				PP	PP	21 34 37.6	+0.4
	comp=Z,2.8nm,0.9s,baz=51,slow=7.8,SNR=4.8						
ESDC				PKKPbc	PKKPbc	21 43 53.0	+3.0
	comp=Z,1.5nm,0.7s,baz=249,slow=3.4,SNR=7.4						
ESDC	**Sonseca Array**	**117.25**	**319**	P	PKPdf	21 33 27.5	+1.2
LPM	**Los Pinos Moun**	**117.30**	**48**	PKPdf	PKPdf	21 33 28.5	+2.1
BNM	**Barren Site**	**117.38**	**48**	PKPdf	PKPdf	21 33 29.1	+2.6
ENIJ	**Nijar**	**117.41**	**315**	P	PKPdf	21 33 26.9	+0.3
EBER	**Berja**	**117.92**	**315**	P	PKPdf	21 33 27.8	+0.3
EGUA	**Guajares**	**118.42**	**316**	P	PKPdf	21 33 28.8	+0.3
EADA	**Adamuz**	**118.44**	**317**	P	PKPdf	21 33 29.1	+0.5
ERON	**Agron**	**118.50**	**316**	P	PKPdf	21 33 28.8	+0.1
ELUQ	**Luque**	**118.54**	**317**	P	PKPdf	21 33 29.0	+0.2
ELOB	**Lobios**	**118.63**	**323**	P	PKPdf	21 33 29.4	+0.4
ELOJ	**Sierra Loja**	**118.67**	**316**	P	PKPdf	21 33 28.9	-0.1
PVRL	**Vila Real**	**118.77**	**322**	*e*PKPdf	PKPdf	21 33 30.9	+1.7
MTE	**Manteigas**	**119.16**	**321**	*e*PKPdf	PKPdf	21 33 31.7	+1.8
MTE	**Manteigas**	**119.16**	**321**	*e*-		22 17 30.5	
PVIS	**Viseu**	**119.20**	**322**	*e*PKPdf	PKPdf	21 33 31.7	+1.7
MNTX	**Cornudas Mount**	**119.39**	**50**	PKPdf	PKPdf	21 33 32.1	+1.7
MNTX				*e*SKP		21 37 02.4	
EMIJ	**Mijas**	**119.40**	**316**	P	PKPdf	21 33 29.2	-1.2
PCBR	**Castelo Branco**	**119.44**	**320**	*e*PKPdf	PKPdf	21 33 32.0	+1.5
EBAD	**Badajoz**	**119.74**	**319**	P	PKPdf	21 33 33.9	+2.8
EJIF	**Jimena Fronter**	**119.94**	**316**	P	PKPdf	21 33 31.7	+0.3
CPRX	**Cap Rock**	**119.94**	**48**	*e*PKPdf	PKPdf	21 33 32.4	+0.9
GDL2	**Guadalupe Moun**	**119.94**	**49**	PKPdf	PKPdf	21 33 33.6	+2.1
ESPR	**Espera**	**119.98**	**317**	P	PKPdf	21 33 30.7	-0.9
EMIN	**Mina Concepcio**	**120.06**	**318**	P	PKPdf	21 33 32.3	+0.6
PTOM	**Tomar**	**120.15**	**321**	*e*PKPdf	PKPdf	21 33 33.6	+1.7
EVO	**Evora**	**120.52**	**320**	*e*PKIKP	PKPdf	21 33 32.9	+0.3
	comp=Z,62nm,1.3s						
SCHQ	**Schefferville**	**120.54**	**9**	PKP	PKPdf	21 33 32.7	+0.1
	comp=Z,10nm,0.9s,baz=269,slow=1.5,SNR=14						
SCHQ				PKKPbc	PKKPbc	21 43 39.1	+1.1
	comp=Z,2.7nm,0.8s,baz=200,slow=6.0,SNR=4.5						
PBEJ	**Beja**	**120.70**	**319**	*e*PKPdf	PKPdf	21 33 34.5	+1.6
EGRO	**El Granado**	**120.72**	**318**	P	PKPdf	21 33 33.1	+0.2
MOE	**Montemor**	**120.74**	**320**	*e*PKPdf	PKPdf	21 33 35.5	+2.5
MDT	**Midelt**	**121.13**	**312**	PKKPbc	PKKPbc	21 43 37.8	+2.0
	comp=Z,4.9nm,1.2s,baz=222,slow=1.8,SNR=4.4						
PTEO	**Sao Teotonio**	**121.54**	**319**	*e*PKPdf	PKPdf	21 33 36.4	+1.9
KSU1	**Kansas State U**	**121.71**	**39**	PKPdf	PKPdf	21 33 36.0	+1.2
LTX	**Lajitas**	**121.74**	**52**	PKPdf	PKPdf	21 33 36.9	+1.9
TORD	**Torodi Ar. Bea**	**122.67**	**288**	PKP	PKPdf	21 33 37.2	+0.6
	comp=Z,23nm,0.8s,baz=54,slow=1.8,SNR=49						
TORD				PP	PP	21 35 16.4	+2.0
	comp=Z,5.4nm,0.9s,baz=64,slow=4.4,SNR=3.7						
TORD				PKKPbc	PKKPbc	21 43 30.4	+0.5
	comp=Z,1.4nm,0.5s,baz=261,slow=2.6,SNR=20						
TORD				SKKPbc		21 46 48.9	
	comp=Z,2.4nm,1.1s,baz=255,slow=5.7,SNR=4.5						
JCT	**Junction City**	**124.19**	**49**	*e*PKPdf	PKPdf	21 33 40.4	+0.8
FVM	**French Village**	**126.16**	**36**	*e*PKPdf	PKPdf	21 33 44.3	+0.9
MIAR	**Mount Ida**	**126.39**	**41**	PKPdf	PKPdf	21 33 45.1	+1.3
SIUC	**Southern Illin**	**127.05**	**35**	PKPdf	PKPdf	21 33 47.1	+2.0
UALR	**University of**	**127.05**	**40**	PKPdf	PKPdf	21 33 46.6	+1.5
HKT	**Hockley**	**127.42**	**47**	*e*PKPdf	PKPdf	21 33 47.5	+1.7
USHA	**Ushuaia**	**127.70**	**169**	PKKPbc		21 43 08.8	
	comp=Z,4.4nm,0.7s,baz=349,slow=9.7,SNR=3.5						
WCI	**Wyandotte Cave**	**128.33**	**33**	PKPdf	PKPdf	21 33 48.8	+1.3
WCI				*e*SKPdf	SKPdf	21 37 04.3	-15
NCB	**Newcomb**	**128.93**	**19**	PKPdf	PKPdf	21 33 49.9	+1.3
NCB				*e*SKPdf	SKPdf	21 37 06.1	-14
WVT	**Waverly**	**128.94**	**36**	*e*PKPdf	PKPdf	21 33 49.6	+0.9
MIV	**Mineville/With**	**129.06**	**19**	PKPdf	PKPdf	21 33 50.0	+1.1
OXF	**Oxford**	**129.08**	**39**	*e*PKPdf	PKPdf	21 33 50.0	+1.1
OXF				*e*SKPdf	SKPdf	21 37 06.5	-14
PLAL	**Pickwick Lake**	**129.58**	**37**	PKPdf	PKPdf	21 33 49.3	-0.6
ACCN	**Adirondack Com**	**129.63**	**19**	*e*PKPdf	PKPdf	21 33 50.9	+0.9
ACCN				*e*SKPdf	SKPdf	21 37 08.5	-13
WVL	**Waterville**	**129.73**	**15**	PKPdf	PKPdf	21 33 51.8	+1.6
HNH	**Hanover**	**129.78**	**18**	*e*PKPdf	PKPdf	21 33 51.8	+1.6
HNH				*e*SKPdf	SKPdf	21 37 10.0	-12
BINY	**Binghamton**	**129.87**	**22**	*e*PKPdf	PKPdf	21 33 51.6	+1.2
BINY				*e*SKPdf	SKPdf	21 37 09.7	-12
DBIC	**Dimbokro**	**130.33**	**282**	PKhKP		21 33 45.2	
	comp=Z,1.8nm,0.8s,baz=77,slow=2.9,SNR=3.6						
DBIC				PKP	PKPdf	21 33 51.7	+0.4
	comp=Z,11nm,0.8s,baz=73,slow=2.5,SNR=16						
DBIC				PP	PP	21 36 08.7	+3.4
	comp=Z,6.0nm,0.9s,baz=92,slow=11,SNR=3.5						
DBIC				SKPbc	SKPbc	21 37 10.2	-0.7
	comp=Z,71nm,1.1s,baz=65,slow=3.8,SNR=18						
DBIC	**Dimbokro**	**130.33**	**282**	PKP	PKPdf	21 33 45.2	-6.1
DBIC				PKPdf	PKPdf	21 33 52.7	+1.3
DBIC				*e*SKPdf	SKPdf	21 37 10.8	-12
DBIC	**Dimbokro**	**130.33**	**282**	PKIKP	PKPdf	21 33 52.7	+1.4
CFTV	**Fuerteventura**	**130.38**	**313**	P	PKPdf	21 33 53.4	+2.0
LIC	**Lamto**	**130.58**	**281**	*e*PKIKP	PKPdf	21 33 52.6	+0.8
	comp=Z,71nm,1.0s						
SWET	**Sewanee**	**130.68**	**35**	PKPdf	PKPdf	21 33 53.8	+1.8
ADH	**Angra Heroismo**	**131.27**	**333**	*e*LR	LR	22 19 00.0	
CPCT	**Cooper Cave**	**131.32**	**34**	*e*PKPdf	PKPdf	21 33 54.6	+1.4
LRAL	**Lakeview Retre**	**131.56**	**38**	PKPdf	PKPdf	21 33 54.9	+1.3
MVL	**Millersville**	**131.63**	**24**	*e*PKPdf	PKPdf	21 33 55.2	+1.4
PAL	**Palisades**	**131.67**	**21**	PKPdf	PKPdf	21 33 56.9	+3.0
JSC	**Jenkinsville**	**133.97**	**32**	PKPdf	PKPdf	21 33 58.4	+0.2
PLCA	**Paso Flores**	**140.15**	**160**	PKhKP		21 34 02.7	
	comp=Z,6.9nm,0.9s,baz=214,slow=5.1,SNR=18						
PLCA				SKPbc	SKPbc	21 37 41.2	-0.9
	comp=Z,9.2nm,1.1s,baz=228,slow=4.5,SNR=3.0						
PLCA	**Paso Flores**	**140.15**	**160**	*e*PKPpre		21 34 02.1	
PLCA	**Paso Flores**	**140.15**	**160**	PKHKP		21 34 02.7	
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PLCA				pmax	pmax		
	comp=N,9.0nm,1.1s						
MGV	**Manicaragua**	**143.48**	**44**	*e*P	PKPdf	21 34 15.8	+0.2
TRQA	**Tornquist**	**145.03**	**168**	*e*PKPdf	PKPdf	21 34 18.5	+0.2
CCCC	**Cccc**	**145.61**	**43**	*e*P	PKPdf	21 34 22.1	+2.9
JTS	**JuntasAbangare**	**145.70**	**66**	PKPbc	PKPbc	21 34 21.0	+1.2
	comp=N,89nm,0.9s,baz=357,slow=3.9,SNR=24						
JTS	**JuntasAbangare**	**145.70**	**66**	*e*PKPdf	PKPdf	21 34 21.1	+1.7
JTS	**JuntasAbangare**	**145.70**	**66**	PKP2	PKPab	21 34 21.0	+0.8
JTS				pmax	pmax		
	comp=Z,89nm,0.9s						
LMEL	**Las Melosas**	**146.29**	**154**	⇓*i*P	PKPbc	21 34 23.6	+1.9
CLCH	**Cerro Calan**	**146.53**	**154**	⇓*i*P	PKPbc	21 34 23.9	+1.6
PEL	**Peldehue**	**146.68**	**153**	⇑*i*P	PKPdf	21 34 22.3	+1.2
FCH	**Farellones**	**146.70**	**154**	⇓*i*P	PKPbc	21 34 24.5	+1.7
LMGC	**Las Mercedes**	**146.91**	**43**	*e*P	PKPbc	21 34 24.6	+1.2
HLGC	**Holguin**	**146.97**	**41**	*e*P	PKPbc	21 34 25.9	+2.3
MDZ	**Mendoza**	**147.70**	**155**	*e*P	PKPbc	21 34 27.3	+1.7
MDZ				*e*		21 34 48.1	
RCC	**Rio Carpintero**	**147.84**	**42**	*e*P	PKPbc	21 34 26.0	0.0
MOAC	**Moa**	**147.85**	**40**	*e*P	PKPbc	21 34 28.2	+2.2
MASC	**Masc**	**148.67**	**40**	*e*P	PKPab	21 34 34.7	+2.9
CFAA	**Coronel Fontan**	**149.06**	**155**	PKP	PKPdf	21 34 26.2	+1.2
	comp=Z,6.9nm,1.0s,baz=238,slow=3.0,SNR=12						
CFAA				PKPbc	PKPbc	21 34 30.7	+1.6
	comp=Z,13nm,0.9s,baz=237,slow=3.6,SNR=44						
CFAA	**Coronel Fontan**	**149.06**	**155**	PKP	PKPdf	21 34 26.2	+1.2
CFAA				PKPbc	PKPbc	21 34 30.7	+1.6
TLL	**Tololo Astrono**	**149.09**	**150**	⇓*i*P	PKPdf	21 34 26.6	+1.6
OTAV	**Otavalo**	**154.75**	**81**	PKPdf	PKPdf	21 34 35.9	+2.4
HUMP	**Col San Antoni**	**155.03**	**29**	PKPdf	PKPdf	21 34 36.2	+2.2
CPD	**Cerro la Pandu**	**155.09**	**29**	PKIKP	PKPdf	21 34 35.5	+1.5
LVC	**Limon Verde**	**156.07**	**143**	PKP	PKPdf	21 34 37.9	+2.6
	comp=Z,6.0nm,0.9s,baz=234,slow=2.9,SNR=6.1						
LVC				PKPab	PKPab	21 35 04.8	+1.9
	comp=Z,29nm,1.0s,baz=240,slow=4.1,SNR=10						
LVC	**Limon Verde**	**156.07**	**143**	*e*PKPdf	PKPdf	21 34 38.6	+3.3
CPUP	**Villa Florida**	**157.30**	**171**	PKP	PKPdf	21 34 38.7	+1.8
	comp=Z,6.9nm,0.9s,baz=80,slow=0.4,SNR=9.8						
CPUP				PKPab	PKPab	21 35 09.2	+1.1
	comp=Z,57nm,0.9s,baz=168,slow=5.5,SNR=21						
CPUP	**Villa Florida**	**157.30**	**171**	*e*PKPdf	PKPdf	21 34 38.4	+1.6
CPUP	**Villa Florida**	**157.30**	**171**	PKIKP	PKPdf	21 34 38.7	+1.8
CPUP				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,57nm,0.9s						
ROSC	**El Rosal**	**157.49**	**68**	PKP	PKPdf	21 34 40.0	+2.9
	comp=Z,5.2nm,0.4s,baz=105,slow=12,SNR=11						
CAM4	**Nova Friburgo**	**158.72**	**209**	⇑*i*P	PKPab	21 35 16.0	+1.7
CAM4				*i*		21 35 26.6	
SDV	**Santo Domingo**	**158.78**	**54**	PKP	PKPdf	21 34 40.4	+1.7
	comp=Z,20nm,0.9s,baz=91,slow=2.9,SNR=23						
SDV				PKPab	PKPab	21 35 18.0	+3.4
	comp=Z,21nm,0.9s,baz=23,slow=1.0,SNR=4.5						
SDV	**Santo Domingo**	**158.78**	**54**	*e*PKPdf	PKPdf	21 34 40.5	+1.8
CAM3	**Guarapari**	**158.95**	**216**	⇑*i*P	PKPab	21 35 17.7	+2.4
CAM3				*i*		21 35 19.4	
CAM3				*i*		21 35 25.3	
BBL	**Barber's Block**	**159.25**	**22**	*e*P	PKPdf	21 34 41.1	+1.9
LPAZ	**La Paz**	**161.01**	**132**	PKPdf	PKPdf	21 34 44.0	+2.8
LPAZ	**La Paz**	**161.01**	**132**	PKP	PKPdf	21 34 43.7	+2.5
	comp=Z,34nm,1.2s,baz=28,slow=2.0,SNR=43						
LPAZ				PKPab	PKPab	21 35 26.9	+2.6
	comp=Z,19nm,1.1s,baz=68,slow=3.6,SNR=4.1						
LPAZ	**La Paz**	**161.01**	**132**	*e*PKPdf	PKPdf	21 34 44.1	+2.9
LPAZ	**La Paz**	**161.01**	**132**	PKIKP	PKPdf	21 34 43.7	+2.5
LPAZ						21 35 26.9	
LPAZ				pmax	pmax		
	comp=Z,34nm,1.2s						
LPAZ				pmax	pmax		
	comp=Z,19nm,1.1s						
RCBR	**Riachuelo**	**162.34**	**263**	*e*PKPdf	PKPdf	21 34 44.6	+2.0
RCBR				*e*PKPab	PKPab	21 35 31.7	+1.6
SIV	**San Ignacio**	**165.78**	**149**	PKP	PKPdf	21 34 47.6	+1.9
	comp=Z,16nm,1.1s,baz=236,slow=2.9,SNR=32						
SIV				PKPab	PKPab	21 35 46.3	+1.1
	comp=Z,47nm,1.2s,baz=229,slow=5.5,SNR=9.0						
SIV				PP	PP	21 39 41.9	+10
	comp=Z,9.0nm,1.0s,baz=203,slow=7.5,SNR=4.3						
BDFB	**Brasilia**	**167.05**	**204**	PKP	PKPdf	21 34 47.5	+0.8
	comp=Z,8.3nm,0.9s,baz=333,slow=1.9,SNR=8.6						
BDFB				PKPab	PKPab	21 35 52.5	+1.7
	comp=Z,47nm,1.1s,baz=109,slow=1.2,SNR=12						
BDFB				PP	PP	21 39 37.8	-1.0
	comp=Z,45nm,1.3s,baz=67,slow=4.0,SNR=5.4						
SAML	**Samuel**	**169.11**	**118**	*e*P	PKPdf	21 34 49.1	+1.0

IDC 31 21:27:13.3±1.8, 562S×14938E, h187km±14km, mb3.5/5, mb1 3.8/6, mb1mx3.5/15, mbtmp4.1/6, MS4.7/1, Ms1 4.7/1, ms1mx3.9/21, Error ellipse: s-maj=29.4km s-min=12.5km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.36**	**210**	P	Pn			21 28 17.5	-1.6
	19nm,0.3s,baz=30,slow=10,SNR=25								
PMG				S	Sn			21 29 10.9	+0.2
	6.7nm,0.3s,baz=23,slow=4.4,SNR=4.6								
PMG				LR	LR			21 30 22.8	
	comp=Z,8μm,19.0s,baz=150,slow=43								
WRA	**Warramunga Arr**	**20.41**	**224**	P	P			21 31 36.6	+0.7
	1.2nm,0.3s,baz=50,slow=10,SNR=22								
WRA				S	S			21 35 14.9	+0.9
	3.3nm,0.8s,baz=38,slow=19,SNR=6.2								
DZM	**Mont Dzumac**	**23.24**	**136**	P	P			21 32 04.5	+0.7
	2.8nm,0.5s,baz=286,slow=14,SNR=5.6								
ASAR	**Alice Springs**	**23.32**	**218**	P	P			21 32 06.4	+1.8
	1.9nm,0.3s,baz=51,slow=9.4,SNR=30								
ASAR				S	S			21 36 02.9	-0.1
	0.6nm,1.0s,baz=32,slow=21,SNR=3.1								
FITZ	**Fitzroy Crossi**	**26.29**	**240**	P	P			21 32 32.4	+1.0
	3.6nm,0.5s,baz=58,slow=14,SNR=16								
ILAR	**Eielson Array**	**84.21**	**23**	P	P			21 39 22.0	-1.6
	0.6nm,0.7s,baz=244,slow=5.0,SNR=9.6								
TORD	**Torodi Ar. Bea**	**147.28**	**286**	PKPbc	PKPbc			21 46 35.9	+1.3
	1.3nm,1.0s,baz=90,slow=2.6,SNR=7.2								

*GRAL **31** 21:46:10.3±0.8, 3426N×2653E, h15km, MD4.6*
*BJI **31** 21:46:10.8, 35.10N×2670E, h21km, mB5.3, mb4.9, Ms5.2, Msz4.9*
*HLW **31** 21:46:12.3, 35.13N×2688E, h13km, Mb4.4*
*ISCJB **31** 21:46:12.6±0.4, 3498N±001×2680E±001, h29km±3km, mb4.5/101, MS4.9/5, Error ellipse: s-maj=2.4km s-min=1.8km az=32.2*
*MOS **31** 21:46:13.6±1.4, 3508N×2672E, h33km, mb4.6/26, Error ellipse: s-maj=5.0km s-min=3.0km az=110.2*
*CSEM **31** 21:46:13.0±0.0, 3498N×2679E, h32km, mb4.7/28, Mw4.1, Error ellipse: s-maj=1.1km s-min=0.8km az=41.0*
*NEIC **31** 21:46:13.8, 35.10N×2674E, h31km, mb4.3/67, ML4.3(NIC), ML4.5(ATH), ML4.6(ISK), After ATH.*
*ATH **31** 21:46:13.6, 3508N×2675E, h31km±1km, MD4.3/17, ML4.5*
*NIC **31** 21:46:14.0±0.2, 3549N×2671E, h25km, mb4.7, ML4.3, MW4.0*
*THE **31** 21:46:15.2, 35.16N×2668E, h7km, ML4.3*
*IDC **31** 21:46:18.5±1.3, 3525N×2666E, h64km±11km, mb4.0/24, mb1 4.0/29, mb1mx4.0/34, mbtmp4.3/29, Error ellipse: s-maj=13.2km s-min=8.8km az=143.0*

ISC 31 21:46:13.7±0.4, 3499N±001×2674E±001, h19km±2km, n490, σ1°23/540, mb4.5/101, MS4.9/5, 23C-24D, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.45**	**286**	*e*Pg	**Pg**			**21 46 22.5**	**-0.4**
ZKR				*e*Sg	**Sg**			**21 46 28.9**	**-0.1**
KARP	**Karpathos**	**0.65**	**32**	⇓*i*PN	**Pg**			**21 46 25.3**	**-1.2**
KARP				*e*SN	**Sg**			**21 46 34.7**	**-0.5**
XRY	**Khrisi**	**0.87**	**262**	*e*PN	**Pg**			**21 46 30.5**	**-0.2**
NPS	**Neapolis**	**0.96**	**286**	⇑*i*PN	**Pg**			**21 46 31.8**	**-0.7**
NPS				*e*SN	**Sg**			**21 46 44.7**	**-0.5**
LAST	**Lasithi**	**1.05**	**279**	*e*Pg	**Pg**			**21 46 33.2**	**-0.9**
LAST				*e*Sg	**Sg**			**21 46 47.7**	**-0.2**
IDI	**Anoyia**	**1.55**	**281**	P	**Pn**			**21 46 41.1**	**+0.9**
	131nm,0.3s,baz=106,slow=16,SNR=522								
IDI				S	**Sn**			**21 47 01.2**	**+1.5**
	254nm,0.3s,baz=356,slow=17,SNR=11								
SIVA	**Sivas**	**1.59**	**271**	*e*Pg	**Pg**			**21 46 41.6**	**-2.7**
SIVA				*e*Sg	**Sg**			**21 47 01.7**	**-3.2**
NISR	**Nisiros**	**1.64**	**11**	*e*PN	**Pn**			**21 46 41.0**	**-0.5**
ARG	**Arkhangelos**	**1.66**	**42**	⇓*i*PN	**Pn**			**21 46 43.1**	**+1.3**
ARG				*e*SN	**Sn**			**21 47 02.1**	**-0.4**
ARG	**Arkhangelos**	**1.66**	**42**	⇓*i*Pn	**Pn**			**21 46 43.2**	**+1.4**
ARG				*e*Sn	**

ANTO Ankara 6.84 43 *e*PN **Pn 21 47 53.1 +0.2**
ANTO Ankara 6.84 43 P **Pn 21 47 53.8 +0.8**
GLL Jalalah 6.84 141 ⇓P **Pn 21 47 53.1 +0.1**
RZN Rozhen 6.87 347 *e*P **Pn 21 47 53.0 -0.4**
SGKT Sivrigoynuk 6.98 35 *i* P **Pn 21 47 56.3 +1.5**
MMB Musomiste 7.00 341 *e*P **Pn 21 47 56.0 +0.9**
KARA Karaisali 7.09 69 *e*PN **Pn 21 47 55.5 -0.9**
VAY Valandovo 7.12 334 *i* Pn **Pn 21 48 00.3 +3.5**
FNA Florina 7.17 325 *e*Pn **Pn 21 47 57.2 -0.3**
KRTS Karatas 7.19 75 *e*PN **Pn 21 47 58.3 +0.5**
BR131 Keskin Array S 7.24 47 *e*P **Pn 21 47 58.4 -0.1**
20nm,0.8s
BRTR Keskin Array B 7.24 47 P **Pn 21 47 58.6 +0.2**
1.0nm,0.3s,baz=234,slow=16,SNR=34
BRTR S **Sn 21 49 19.8 -0.4**
0.0nm,0.3s,baz=211,slow=24,SNR=2.5
SRN Sarande 7.25 314 *e*Pn **Pn 21 47 59.2 +0.6**
HNTI Hanita 7.25 103 Pn **Pn 21 47 59.1 +0.5**
OFRI 'Ofer 7.26 107 Pn **Pn 21 47 57.8 -0.9**
OFRI Sn **Sn 21 49 16.5 -4.0**
SUZ 7.27 133 ⇓P **Pn 21 47 58.9 +0.1**
KKB Krupnik 7.44 338 *e*P **Pn 21 48 02.0 +0.8**
BHL Bhannes 7.44 96 *e*Pn **Pn 21 47 59.6 -1.6**
BHL Sn **Sn 21 49 20.7 -4.3**
SLTI Sal'it 7.45 109 Pn **Pn 21 48 00.2 -1.1**
SLTI Sn **Sn 21 49 20.7 -4.5**
MMA0 Mount Meron ar 7.46 103 Pn **Pn 21 48 00.6 -0.8**
MMA0 Sn **Sn 21 49 20.3 -5.2**
AVNT Avonos 7.52 57 *i* P **Pn 21 48 03.7 +1.5**
ZAF 7.53 138 ⇓P **Pn 21 48 01.8 -0.6**
CEYT Ceyhan 7.57 72 *e*PN **Pn 21 48 03.1 +0.2**
KSDI Kefar Szold 7.61 101 Pn **Pn 21 48 03.0 -0.5**
HWQ Hawqa 7.62 93 *e*Pn **Pn 21 48 02.5 -1.2**
HWQ Sn **Sn 21 49 26.4 -3.0**
ELDT Eldivan 7.62 42 *i* P **Pn 21 48 04.3 +0.6**
CDAG Cicekdag 7.63 51 *i* P **Pn 21 48 03.9 +0.1**
ZNM 7.64 135 ⇑P **Pn 21 48 03.7 -0.2**
MMLI Mount Malkishu 7.67 107 Pn **Pn 21 48 03.5 -0.8**
KOZT Kozan 7.75 69 *e*PN **Pn 21 48 04.7 -0.7**
SVTA Shivta 7.76 119 Pn **Pn 21 48 05.0 -0.6**
SLNF Slenfeh 7.77 83 ⇓*i*P **Pn 21 48 04.8 -1.0**
BRBR Barbar 7.79 99 ⇑*i*P **Pn 21 48 05.0 -1.0**
CANT Cankiri 7.81 42 *e*PN **Pn 21 48 07.2 +1.0**
BIDA Albida 7.86 87 ⇑*i*P **Pn 21 48 05.3 -1.6**
COBT Iskenderun 7.88 76 *i* P **Pn 21 48 07.6 +0.4**
WRDH Warideh 7.93 84 ⇓*i*P **Pn 21 48 07.2 -0.7**
HNKL Nakhl 7.93 128 ⇑P **Pn 21 48 07.5 -0.4**
HFRF Wahat Farafira 7.94 170 ⇓P **Pn 21 48 08.8 +0.9**
HAWK Haweek 7.97 91 ⇑*i*P **Pn 21 48 07.1 -1.3**
BTCH Batrach 7.99 80 ⇑*i*P **Pn 21 48 07.7 -1.0**
FKH Fakeheh 8.00 93 *e*Pn **Pn 21 48 08.2 -0.6**
FKH Sn **Sn 21 49 34.3 -4.5**
QASN Qassioun 8.03 98 ⇑*i*P **Pn 21 48 07.8 -1.4**
VTS Vitosha 8.07 341 *e*P **Pn 21 48 11.5 +1.6**
VTS Vitosha 8.07 341 P **Pn 21 48 11.8 +1.9**
MZDA Masada 8.11 115 Pn **Pn 21 48 09.8 -0.5**
MZDA Sn **Sn 21 49 36.0 -5.4**
SKO Skopje 8.11 331 *i* Pn **Pn 21 48 16.7 +6.3**
PRD Provadia 8.21 3 *e*P **Pn 21 48 12.0 +0.2**
KFRA Kufra 8.24 86 ⇑*i*P **Pn 21 48 10.8 -1.4**
TOS Tosya 8.33 41 *e*PN **Pn 21 48 13.9 +0.6**
ZFRI Zfri 8.37 120 Pn **Pn 21 48 12.7 -1.2**
ZFRI Sn **Sn 21 49 42.2 -5.6**
CTKT Corum 8.49 46 *i* P **Pn 21 48 17.2 +1.6**
ROOS tl_alroos 8.74 92 ⇑*i*P **Pn 21 48 18.4 -0.6**
EIL Elat 8.74 125 Pn **Pn 21 48 19.3 +0.3**
EIL Sn **Sn 21 49 51.7 -5.3**
EIL Elat 8.74 125 *e*P **Pn 21 48 18.7 -0.3**
362nm,0.6s
EIL *e*S **Sn 21 49 45.4 -12**
GAZ Gaziantep 8.75 73 *e*P **Pn 21 48 18.0 -1.1**
HKAT Jabal Katrina 8.93 134 ⇓P **Pn 21 48 21.1 -0.5**
TIP Timpagrande 9.00 301 *e*P **Pn 21 48 20.8 -1.8**
GZT Gaziantep 9.06 72 *i* P **Pn 21 48 23.0 -0.4**
HDHB Dhahab 9.16 131 ⇓P **Pn 21 48 24.3 -0.5**
TIRR Tirgusor 9.54 7 ⇓P **Pn 21 48 32.7 +2.7**
HDK1 Dakhla 9.70 166 ⇓P **Pn 21 48 33.5 +1.4**
MALT Malatya 9.95 67 ⇑P **Pn 21 48 35.0 -0.7**
AKRG Al Kharijah 10.00 160 ⇑P **Pn 21 48 37.4 +1.1**
GTR Jabal at Tayr 10.01 160 ⇓P **Pn 21 48 37.4 +0.9**
CFR Carcaliu 10.23 6 ⇓P **Pn 21 48 39.7 +0.3**
ELZG Elazig 10.43 67 *i* P **Pn 21 48 43.0 +0.9**
DIVS Divcibare 10.48 332 ⇑*i*Pn **Pn 21 48 36.2 -6.6**
MLR Muntele Rosu 10.50 357 P **Pn 21 48 42.9 -0.3**
0.5nm,0.3s,baz=145,slow=11,SNR=8.2
MLR Muntele Rosu 10.50 357 ⇑P **Pn 21 48 45.6 +2.4**
MLR Muntele Rosu 10.50 357 ⇑P **Pn 21 48 45.6 +2.4**
MLR Muntele Rosu 10.50 357 P **Pn 21 48 42.9 -0.3**
MLR pmax pmax
comp=Z,1.0nm,0.3s
VRI Vrincioaia 10.86 360 ⇓P **Pn 21 48 54.9 +6.8**
BZS Buzias 11.31 341 ⇓P **Pn 21 48 54.8 +0.6**
BZS Buzias 11.31 341 P **Pn 21 48 54.9 +0.7**
SIM Simferopol' 11.43 27 *e*P **Pn 21 48 58.5 +2.6**
comp=Z,11nm,0.8s
SIM Simferopol' 11.43 27 *e*P **Pn 21 48 58.5 +2.6**
SIM pmax pmax
comp=Z,11nm,0.8s
KIS Kishinev 12.09 7 *e*P **Pn 21 49 10.0 +5.1**
BURAR Bucovina Array 12.66 355 ⇑P **Pn 21 49 15.8 +3.1**
BURAR Bucovina Array 12.66 355 ⇑P **Pn 21 49 15.8 +3.1**
ANN Anapa 12.77 37 *e*S **Sn 21 51 36.9 +1.2**
ANN Anapa 12.77 37 *e*P **Pn 21 49 11.7 -2.4**
ANN *e*S **Sn 21 51 36.9 +1.2**
ANN pmax pmax
comp=Z,97nm,1.2s
PKSM Moragy 12.78 334 ⇓P **Pn 21 49 17.4 +3.1**
PSZ Piszkesteto 13.89 340 *e*P **Pn 21 49 28.0 -1.4**
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 13.89 340 *e*P **Pn 21 49 28.0 -1.5**
comp=Z,8.4nm,1.0s
PSZ Piszkesteto 13.89 340 *e*P **Pn 21 49 28.0 -1.4**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
KECS Kecovo 14.26 343 *e*Pn **Pn 21 49 29.6 -4.9**
KECS *e* 21 49 51.1
KECS *e* 21 49 52.1
KECS Kecovo 14.26 343 *e* **Pn 21 49 29.6 -4.9**
VSL Villasalto 14.54 293 P **Pn 21 49 39.0 +0.7**
comp=Z,12nm,0.8s
VYHS Vyhne 14.71 339 *e*P **Pn 21 49 41.8 +1.1**
VOY Vojsko 14.71 322 Pn **Pn 21 49 43.7 +3.0**
VOY *e* 21 49 51.0
STHS Stebnicka Huta 14.97 346 *e*P **Pn 21 49 52.7 +8.5**
STHS Stebnicka Huta 14.97 346 *e* **Pn 21 49 52.7 +8.5**
GNI Garni 15.17 65 *e*P **Pn 21 49 48.8 +2.0**
comp=Z,16nm,0.8s
GNI Garni 15.17 65 *d i*P **Pn 21 49 48.9 +2.1**
KIV Kislovodsk 15.20 49 *e*P **Pn 21 49 49.2 +2.0**
comp=Z,24nm,0.8s
KIV Kislovodsk 15.20 49 *c i*P **Pn 21 49 51.1 +3.9**
KIV pmax pmax
comp=Z,16nm,0.7s
ZEI Tsey 15.43 55 *e*P **Pn 21 49 52.5 +2.2**
KBA Koelnbreinsper 15.72 324 ⇑*i*P **Pn 21 49 59.9 +5.9**
comp=Z,8.4nm,0.7s
PGF Pioggiola 15.74 304 *e*P **Pn 21 49 54.3 0.0**
comp=Z,45nm,1.0s
PGF Pioggiola 15.74 304 *e*P **Pn 21 49 54.3 0.0**
comp=Z,23nm,1.0s
PGF Pioggiola 15.74 304 *e*P **Pn 21 49 54.3 0.0**
PGF pmax pmax
comp=Z,23nm,1.0s
AKASG Malin Array Be 15.80 6 P **Pn 21 49 52.9 -2.2**
comp=Z,0.4nm,0.3s,baz=194,slow=11,SNR=8.5
AKASG Malin Array Be 15.80 6 P **Pn 21 49 52.9 -2.2**
MOA Molln 15.86 328 ⇑*i*P **Pn 21 50 03.4 +7.5**
comp=Z,11nm,1.1s
MOA Molln 15.86 328 ⇑*i*P **Pn 21 49 57.1 +1.3**
comp=Z,11nm,1.1s
MOA ⇓*i*S **Sn 21 52 55.5 +4.3**
comp=Z,4.5nm,1.1s
GOF Gofitskoye 15.99 46 *e*P **Pn 21 50 00.6 +3.0**
GOF pmax pmax
comp=Z,40nm,1.0s
OJC Ojcow 16.04 344 *e*P **Pn 21 50 00.5 +2.4**
OKC Ostrava-Krasne 16.12 340 *e*P **Pn 21 50 00.8 +1.7**
VRAC Vranov 16.14 335 P **Pn 21 49 59.5 +0.1**
baz=143,slow=10,SNR=2.7
MORC Moravsky Berou 16.24 338 ⇑P **Pn 21 50 02.5 +1.8**
TREC Trest 16.52 333 *e*P **Pn 21 50 07.4 +3.1**
GERES GERESS Array B 16.87 329 P **Pn 21 50 07.5 -1.2**
comp=Z,0.2nm,0.3s,baz=138,slow=10,SNR=13
DPC Dobruska-Polom 17.12 337 *e*P **Pn 21 50 11.9 0.0**
KHC Kasperske Hory 17.14 329 *e*P **Pn 21 50 10.9 -1.2**
KHC *e*x x 21 50 12.2
UPC Upice 17.36 337 *e*P **Pn 21 50 18.4 +3.5**
PRU Pruhonice 17.44 333 *e*P **Pn 21 50 14.6 -1.3**
KSP Ksiaz 17.56 338 *e*P **Pn 21 50 15.1 -2.2**
KSP *e*pP pP 21 50 22.9 -0.7
FRF La Foret Royal 17.72 305 *e*P **Pn 21 50 17.0 -2.4**
comp=Z,33nm,1.1s
FRF La Foret Royal 17.72 305 *e*P **Pn 21 50 17.0 -2.4**
comp=Z,17nm,1.1s
FRF La Foret Royal 17.72 305 *e*P **Pn 21 50 17.0 -2.4**
FRF pmax pmax
comp=Z,17nm,1.0s
LMR La Mourre 17.73 304 *e*P **Pn 21 50 17.7 -1.8**
comp=Z,28nm,1.2s
LMR La Mourre 17.73 304 *e*P **Pn 21 50 17.7 -1.8**
comp=Z,14nm,1.2s
LMR La Mourre 17.73 304 *e*P **Pn 21 50 17.7 -1.8**
LMR pmax pmax
comp=Z,14nm,1.2s
MAK Makhachkala 17.97 58 *e*P **Pn 21 50 24.9 +2.6**
MBDF Montbardon 18.11 308 *e*P **Pn 21 50 24.1 0.0**
comp=Z,31nm,0.8s
MBDF Montbardon 18.11 308 *e*P **Pn 21 50 24.1 0.0**
comp=Z,16nm,0.8s
MBDF Montbardon 18.11 308 *e*P **Pn 21 50 24.1 0.0**
MBDF pmax pmax
comp=Z,16nm,0.8s
BNI Bardonecchia 18.32 309 *e*P **Pn 21 50 25.9 -0.7**
comp=Z,10.0nm,0.8s
BNI Bardonecchia 18.32 309 *e*P **Pn 21 50 25.9 -0.7**
comp=Z,9.8nm,0.8s
BNI Bardonecchia 18.32 309 *e*P **Pn 21 50 25.9 -0.7**
BNI pmax pmax
comp=Z,10.0nm,0.8s
BRG Berggiesshubel 18.39 334 *e*P **Pn 21 50 25.5 -2.0**
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 18.39 334 *e*P **Pn 21 50 25.5 -2.0**
BRG pmax pmax
comp=Z,6.0nm,1.2s
NKC Novy Kostel 18.46 330 *e*P **Pn 21 50 21.4 -7.0**
LPG La Plagne 18.47 311 *e*P **Pn 21 50 26.8 -1.7**
comp=Z,26nm,0.6s
LPG La Plagne 18.47 311 *e*P **Pn 21 50 26.8 -1.7**
comp=Z,13nm,0.6s
LPG La Plagne 18.47 311 *e*P **Pn 21 50 26.8 -1.7**
LPG pmax pmax
comp=Z,13nm,0.6s
LPL La Plagne 18.49 311 *e*P **Pn 21 50 27.4 -1.4**
comp=Z,29nm,0.8s
LPL La Plagne 18.49 311 *e*P **Pn 21 50 27.4 -1.4**
comp=Z,15nm,0.8s
LPL La Plagne 18.49 311 *e*P **Pn 21 50 27.4 -1.4**
LPL pmax pmax
comp=Z,15nm,0.8s
VRSR Storozhevoye 18.54 25 *e*P **Pn 21 50 28.8 -0.6**
comp=Z,1.0nm,0.6s
VRSR Storozhevoye 18.54 25 *e*P **Pn 21 50 28.8 -0.6**
VRSR pmax pmax
comp=Z,1.0nm,0.7s
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=E,1.0nm,0.9s
GRA1 Grafenberg Arr 18.58 327 *e*P **Pn 21 50 29.5 -0.4**
GRF Grafenberg Arr 18.58 327 *e*P **Pn 21 50 29.5 -0.4**
RSL Roselend 18.64 311 *e*P **Pn 21 50 29.1 -1.4**
ORIF Oris-en-Rattie 18.77 308 *e*P **Pn 21 50 31.1 -1.0**
comp=E,8.8nm,0.6s
ORIF Oris-en-Rattie 18.77 308 *e*P **Pn 21 50 31.1 -1.0**
comp=E,4.4nm,0.6s
ORIF Oris-en-Rattie 18.77 308 *e*P **Pn 21 50 31.1 -1.0**
ORIF pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 19.09 333 *e*P **Pn 21 50 34.0 -2.0**
comp=Z,7.0nm,0.8s
CLL LmV 21 18 00.0
comp=Z,2μm,21.7s
CLL *e*PP 21 50 49.0
CLL Collm 19.09 333 *e*P **Pn 21 50 36.0 0.0**
comp=Z,7.0nm,0.8s
CLL *e*sP sP 21 50 49.0 +6.1
CLL Collm 19.09 333 *e*P **Pn 21 50 36.0 0.0**
CLL pmax pmax
comp=Z,7.0nm,0.8s
MOX Moxa 19.12 330 *e*P **Pn 21 50 37.2 +0.9**
comp=Z,12nm,1.3s
MOX Moxa 19.12 330 *e*P **Pn 21 50 37.2 +0.9**
MOX pmax pmax
comp=Z,12nm,1.3s
SUW Suwalki 19.18 354 *e*P **Pn 21 50 33.2 -3.9**
comp=Z,35nm,0.8s
SUW Suwalki 19.18 354 *e*P **Pn 21 50 33.2 -3.9**
SUW pmax pmax
comp=Z,35nm,0.8s
CABF La Chapelle 19.41 313 *e*P **Pn 21 50 37.3 -2.5**
comp=Z,40nm,0.7s
CABF La Chapelle 19.41 313 *e*P **Pn 21 50 37.3 -2.5**
comp=Z,20nm,0.7s
CABF La Chapelle 19.41 313 *e*P **Pn 21 50 37.3 -2.5**
CABF pmax pmax
comp=Z,20nm,0.7s
VIVF Saint-Julien-l 19.53 307 *e*P **Pn 21 50 39.3 -2.0**
comp=Z,31nm,0.9s
VIVF Saint-Julien-l 19.53 307 *e*P **Pn 21 50 39.3 -2.0**
comp=Z,15nm,0.9s
VIVF Saint-Julien-l 19.53 307 *e*P **Pn 21 50 39.3 -2.0**
VIVF pmax pmax
comp=Z,15nm,0.9s
HINF Hinteralfeld 19.59 317 *e*P **Pn 21 50 39.2 -2.8**
comp=Z,11nm,0.7s
HINF Hinteralfeld 19.59 317 *e*P **Pn 21 50 39.2 -2.8**
comp=Z,5.5nm,0.7s
HINF Hinteralfeld 19.59 317 *e*P **Pn 21 50 39.2 -2.8**
HINF pmax pmax
comp=Z,6.0nm,0.7s
ECH Echery 19.65 318 *e*P **Pn 21 50 45.5 +2.8**
WLS Welschbruch 19.66 319 *e*P **Pn 21 50 43.1 +0.3**
CDF Champ du Feu 19.70 319 *e*P **Pn 21 50 40.2 -3.1**
comp=Z,14nm,0.7s
CDF Champ du Feu 19.70 319 *e*P **Pn 21 50 40.2 -3.1**
comp=Z,7.2nm,0.7s
CDF Champ du Feu 19.70 319 *e*P **Pn 21 50 40.2 -3.1**
CDF pmax pmax
comp=Z,7.0nm,0.7s
LASF Ste Croix 19.80 304 *e*P **Pn 21 50 43.5 -0.9**
comp=Z,35nm,1.2s
LASF Ste Croix 19.80 304 *e*P **Pn 21 50 43.5 -0.9**
comp=Z,18nm,1.2s
HAU Haudompre 19.98 317 *e*P **Pn 21 50 44.5 -2.2**
comp=Z,33nm,1.0s
HAU Haudompre 19.98 317 *e*P **Pn 21 50 44.5 -2.2**
comp=Z,17nm,1.0s
HAU Haudompre 19.98 317 *e*P **Pn 21 50 44.5 -2.2**
HAU pmax pmax
comp=Z,17nm,1.0s
THEF They Montfort 20.31 317 *e*P **P 21 50 49.2 +0.8**
LBL Lubilhac 20.61 307 *e*P **P 21 50 56.9 +5.2**
PLDF La Plantade 20.65 309 *e*P **P 21 50 52.1 -0.1**
MTLF Montolieu 20.71 301 *e*P **P 21 50 53.0 +0.2**
comp=Z,63nm,1.7s
MTLF Montolieu 20.71 301 *e*P **P 21 50 53.0 +0.2**
comp=Z,31nm,1.7s
MTLF Montolieu 20.71 301 *e*P **P 21 50 53.0 +0.2**
MTLF pmax pmax
comp=Z,31nm,1.7s
SMF Signal de Mont 20.80 311 *e*P **P 21 50 51.9 -1.8**
comp=Z,27nm,0.6s
SMF Signal de Mont 20.80 311 *e*P **P 21 50 51.9 -1.8**
comp=Z,13nm,0.6s
SMF Signal de Mont 20.80 311 *e*P **P 21 50 51.9 -1.8**
SMF pmax pmax
comp=Z,13nm,0.6s
PYM Petit Puy Mans 20.96 308 *e*P **P 21 50 59.5 +4.0**
AGO Saint Agoulin 21.00 309 *e*P **P 21 51 00.1 +4.2**
WLF Walferdange 21.04 320 ⇑P **P 21 50 58.3 +2.0**
LOR Lormes 21.07 313 *e*P **P 21 50 54.3 -2.3**
comp=Z,54nm,1.0s,mb4.5
LOR Lormes 21.07 313 *e*P **P 21 50 54.3 -2.3**
comp=Z,27nm,1.0s,mb4.5
LOR Lormes 21.07 313 *e*P **P 21 50 54.3 -2.3**
LOR pmax pmax
comp=Z,27nm,1.0s,mb4.5
EPOB Poblet 21.11 295 P **P 21 50 57.4 +0.3**
comp=Z,8.7nm,0.7s,mb4.2
FRNF Fournols 21.11 307 *e*P **P 21 50 59.4 +2.2**
AVF Avril sur Loir 21.16 311 *e*P **P 21 50 55.3 -2.4**
comp=Z,94nm,1.1s,mb4.7
AVF Avril sur Loir 21.16 311 *e*P **P 21 50 55.3 -2.4**
comp=Z,47nm,1.1s,mb4.7
AVF Avril sur Loir 21.16 311 *e*P **P 21 50 55.3 -2.4**
AVF pmax pmax
comp=Z,47nm,1.1s,mb4.7
SSF Saint Saulge 21.19 312 *e*P **P 21 50 55.8 -2.1**
comp=Z,231nm,1.1s,mb5.1
SSF Saint Saulge 21.19 312 *e*P **P 21 50 55.8 -2.1**
comp=Z,116nm,1.1s,mb5.1
SSF Saint Saulge 21.19 312 *e*P **P 21 50 55.8 -2.1**
SSF pmax pmax
comp=Z,116nm,1.1s,mb5.1
OBN Obninsk 21.24 16 *e*P **P 21 50 59.3 +0.8**
comp=Z,11nm,0.9s,mb4.2
OBN Obninsk 21.24 16 ⇑*e*P **P 21 50 59.3 +0.8**
OBN *e* 21 51 22.8
OBN *e*S **S 21 54 54.0 +0.2**
OBN pmax pmax
comp=Z,11nm,0.9s,mb4.2
CAF Calviac 21.29 305 *e*P **P 21 50 59.3 +0.3**
BGF Bois d'Agland 21.38 310 *e*P **P 21 50 59.2 -0.8**
comp=Z,77nm,1.2s,mb4.6
BGF Bois d'Agland 21.38 310 *e*P **P 21 50 59.2 -0.8**
comp=Z,39nm,1.2s,mb4.6
BGF Bois d'Agland 21.38 310 *e*P **P 21 50 59.2 -0.8**
BGF pmax pmax
comp=Z,39nm,1.2s,mb4.6
EBR Ebro Roquetas 21.47 294 *e*P **P 21 51 05.5 +4.5**
ERTA Horta de San J 21.61 294 P **P 21 51 04.0 +1.5**
comp=Z,6.8nm,0.8s,mb4.1
TCF Toulx Ste Croi 21.68 309 *e*P **P 21 51 03.6 +0.4**
comp=Z,54nm,1.3s,mb4.5
TCF Toulx Ste Croi 21.68 309 *e*P **P 21 51 03.6 +0.4**
comp=Z,27nm,1.3s,mb4.5
TCF Toulx Ste Croi 21.68 309 *e*P **P 21 51 03.6 +0.4**
TCF pmax pmax
comp=Z,27nm,1.3s,mb4.5
MEM Membach 21.68 322 P **P 21 51 06.7 +3.4**
RJF Les Rejaudoux 21.78 306 *e*P **P 21 51 03.7 -0.6**
comp=Z,48nm,1.0s,mb4.6
RJF Les Rejaudoux 21.78 306 *e*P **P 21 51 03.7 -0.6**
comp=Z,24nm,1.0s,mb4.6
RJF Les Rejaudoux 21.78 306 *e*P **P 21 51 03.7 -0.6**
RJF pmax pmax
comp=Z,24nm,1.0s,mb4.6
HYF Humbligny 21.81 312 *e*P **P 21 51 03.9 -0.7**
EGRA Graus 21.82 297 P **P 21 51 07.3 +2.6**
comp=Z,2.6nm,0.6s,mb3.8
HGN Heimansgroeve 21.82 323 *e*P **P 21 51 09.9 +5.2**
EBEN Beniarda 21.87 288 P **P 21 51 05.6 +0.4**
comp=Z,8.9nm,0.8s,mb4.2
EPF Esparros 21.97 299 *e*P **P 21 51 06.6 +0.3**
comp=Z,17nm,1.0s,mb4.1
EPF Esparros 21.97 299 *e*P **P 21 51 06.6 +0.3**
comp=Z,8.5nm,1.0s,mb4.1
EPF Esparros 21.97 299 *e*P **P 21 51 06.6 +0.3**
EPF pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
GIVF Givet 21.99 320 *e*P **P 21 51 05.7 -0.9**
EBIE Bielsa 22.04 298 P **P 21 51 11.8 +4.7**
comp=Z,4.6nm,0.6s,mb4.1
DOU Dourbes 22.11 320 ⇑P **P 21 51 08.5 +0.7**
EMOS Mosqueruela 22.15 292 P **P 21 51 11.3 +3.0**
comp=Z,11nm,1.3s,mb4.1
LFF La Frestale 22.18 304 *e*P **P 21 51 07.6 -1.0**
BAIF Baives 22.29 319 *e*P **P 21 51 08.9 -0.9**
comp=Z,47nm,0.8s,mb4.7
BAIF Baives 22.29 319 *e*P **P 21 51 08.9 -0.9**
comp=Z,24nm,0.8s,mb4.7
BAIF Baives 22.29 319 *e*P **P 21 51 08.9 -0.9**
BAIF pmax pmax
comp=Z,24nm,0.8s,mb4.7
ESAC San Caprasio 22.32 296 P **P 21 51 11.6 +1.5**
comp=Z,13nm,0.5s,mb4.6
ECHE Chera 22.48 290 P **P 21 51 16.2 +4.4**
comp=Z,7.6nm,0.8s,mb4.2
ECHE Chera 22.48 290 P **P 21 51 16.2 +4.4**
ECHE pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
SNF Seneffe 22.51 320 P **P 21 51 15.3 +3.2**
ETSF Etsaut 22.59 299 *e*P **P 21 51 13.0 +0.1**
ETOB Tobarra 22.90 287 P **P 21 51 21.4 +5.1**
comp=Z,6.5nm,0.8s,mb4.1
SJPF Ste Jean 23.11 299 *e*P **P 21 51 18.1 -0.3**
comp=Z,92nm,1.4s,mb4.7
SJPF Ste Jean 23.11 299 *e*P **P 21 51 18.1 -0.3**
comp=Z,46nm,1.4s,mb4.7
SJPF Ste Jean 23.11 299 *e*P **P 21 51 18.1 -0.3**
SJPF pmax pmax
comp=Z,46nm,1.4s,mb4.7
MFF Saint Martin d 23.31 308 *e*P **P 21 51 19.5 -1.1**
comp=Z,23nm,0.8s,mb4.4
MFF Saint Martin d 23.31 308 *e*P **P 21 51 19.5 -1.1**
comp=Z,12nm,0.8s,mb4.4
MFF Saint Martin d 23.31 308 *e*P **P 21 51 19.5 -1.1**
MFF pmax pmax
comp=Z,12nm,0.8s,mb4.4
ENIJ Nijar 23.47 283 P **P 21 51 24.5 +2.2**
comp=Z,4.4nm,0.7s,mb4.0
ENIJ Nijar 23.47 283 P **P 21 51 24.5 +2.2**
ENIJ pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
EVIA Vianos 23.65 287 P **P 21 51 26.0 +2.1**
comp=Z,6.6nm,0.6s,mb4.2
EVIA Vianos 23.65 287 P **P 21 51 26.0 +2.1**
EVIA pmax pmax
comp=Z,7.0nm,0.6s,mb4.3
ECRI Cripan 23.95 297 P **P 21 51 28.5 +1.9**
comp=Z,0.8nm,1.0s
ECRI Cripan 23.95 297 P **P 21 51 28.5 +1.8**
ECRI pmax pmax
comp=Z,1.0nm,1.0s
EBER Berja 24.02 283 P **P 21 51 27.6 +0.3**
comp=Z,5.5nm,0.8s,mb4.0
LDF La Druitiere 24.05 313 *e*P **P 21 51 25.1 -2.5**
EQES Quesada 24.12 285 P **P 21 51 31.2 +3.1**
comp=Z,11nm,1.0s,mb4.2
FLN La Foliniere 24.34 313 *e*P **P 21 51 26.6 -3.6**
comp=Z,55nm,0.9s,mb4.7
FLN La Foliniere 24.34 313 *e*P **P 21 51 26.6 -3.6**
comp=Z,28nm,0.9s,mb4.7
FLN La Foliniere 24.34 313 *e*P **P 21 51 26.6 -3.6**
FLN pmax pmax
comp=Z,27nm,0.9s,mb4.7
GRR Gorron 24.42 312 *e*P **P 21 51 28.5 -2.4**
comp=Z,23nm,0.6s,mb4.5
GRR Gorron 24.42 312 *e*P **P 21 51 28.5 -2.4**
comp=Z,12nm,0.6s,mb4.5
GRR Gorron 24.42 312 *e*P **P 21 51 28.5 -2.4**
GRR pmax pmax
comp=Z,12nm,0.6s,mb4.5
ELAN Lanestosa 24.72 299 P **P 21 51 37.2 +3.6**
comp=Z,8.5nm,0.9s,mb4.3
ESDC Sonseca Array 24.79 290 P **P 21 51 32.6 -1.7**
comp=Z,2.7nm,0.7s,mb3.9,baz=81,slow=9.9,SNR=10
ESDC Sonseca Array 24.79 290 P **P 21 51 36.1 +1.8**
comp=Z,4.3nm,1.0s,mb3.9
ESLA Sonseca Array 24.79 290 *e*P **P 21 51 34.3 -0.1**
comp=Z,6.3nm,1.2s,mb4.0
ELOJ Sierra Loja 25.01 284 P **P 21 51 38.9 +2.5**
comp=Z,1.3nm,0.6s,mb3.6
ELOJ Sierra Loja 25.01 284 P **P 21 51 38.9 +2.5**
ELOJ pmax pmax
comp=Z,1.0nm,0.6s,mb3.5
ELUQ Luque 25.08 285 P **P 21 51 38.8 +1.9**
comp=Z,3.0nm,0.6s,mb4.0
ELUQ Luque 25.08 285 P **P 21 51 38.8 +1.9**
comp=Z,3.3nm,0.6s,mb4.0
ELUQ Luque 25.08 285 P **P 21 51 38.8 +1.9**
ELUQ pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
EADA Adamuz 25.29 286 P **P 21 51 41.0 +2.1**
comp=Z,2.9nm,0.7s,mb3.9
EMIJ Mijas 25.56 283 P **P 21 51 40.5 -0.8**
comp=Z,6.9nm,0.6s,mb4.4
QUIF Quistinic 25.69 309 *e*P **P 21 51 40.9 -1.6**
comp=Z,153nm,1.3s,mb5.1
QUIF Quistinic 25.69 309 *e*P **P 21 51 40.9 -1.6**
comp=Z,76nm,1.3s,mb5.1
QUIF Quistinic 25.69 309 *e*P **P 21 51 40.9 -1.6**
QUIF pmax pmax
comp=Z,76nm,1.3s,mb5.1
ROSF Rostrenen 25.90 310 *e*P **P 21 51 43.3 -1.1**

MDT Midelt 26.07 274 P P 21 51 44.9 -1.0
comp=Z,1.6nm,1.0s,mb3.5,baz=88,slow=12,SNR=3.6
EJIF Jimena Fronter 26.13 283 P P 21 51 48.0 +1.5
comp=Z,1.0nm,0.6s,mb3.5
EJIF Jimena Fronter 26.13 283 P P 21 51 48.0 +1.5
comp=Z,1.2nm,0.6s,mb3.6
EJIF Jimena Fronter 26.13 283 P P 21 51 48.0 +1.5
EJIF pmax pmax
comp=Z,1.0nm,0.6s,mb3.5
ESPR Espera 26.40 284 P P 21 51 48.6 -0.3
comp=Z,3.5nm,0.7s,mb4.0
FINES FINESS Array B 26.47 359 P P 21 51 46.4 -3.1
comp=Z,1.2nm,0.6s,mb3.6,baz=156,slow=10.0,SNR=7.7
HFS Hagfors 26.55 345 P P 21 51 46.6 -3.7
comp=Z,4.3nm,1.0s,mb3.9,baz=113,slow=13,SNR=6.1
EMIN Mina Concepcio 26.97 286 P P 21 51 55.1 +1.0
comp=Z,2.2nm,0.6s,mb3.9
PBRG Braganca 26.99 295 *eP* **P 21 51 52.1 -2.1**
ECAL Calabor 27.00 295 P P 21 51 58.2 +3.9
comp=Z,17nm,1.0s,mb4.5
KAF Kangasniemi 27.14 360 *ep* **P 21 51 52.1 -3.5**
KLMR Klimovskoe 27.15 14 *eP* **P 21 51 52.2 -3.5**
KLMR pmax pmax
comp=Z,10.0nm,1.5s,mb4.1
EBAD Badajoz 27.17 288 P P 21 51 56.4 +0.5
comp=Z,4.6nm,0.9s,mb4.0
AKTK Aktyubinsk 27.42 46 *i P* **P 21 51 57.2 -0.9**
comp=Z,3.0nm,0.7s,mb3.9
AKTK Aktyubinsk 27.42 46 P P 21 51 56.4 -1.7
AKTO Aktyubinsk 27.42 46 P P 21 51 56.4 -1.7
comp=Z,10nm,0.7s,mb4.5,baz=250,slow=8.0,SNR=3.5
AKTO Aktyubinsk 27.42 46 *i P* **P 21 51 57.2 -0.9**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
PCBR Castelo Branco 27.50 290 *eP* **P 21 52 00.3 +1.5**
comp=Z,12nm,1.5s,mb4.3
MTE Manteigas 27.55 292 *eP* **P 21 52 00.4 +1.1**
EGRO El Granado 27.63 285 P P 21 52 01.1 +1.1
comp=Z,4.9nm,0.8s,mb4.2
PVRL Vila Real 27.70 293 *eP* **P 21 52 04.7 +4.1**
comp=Z,28nm,1.6s,mb4.7
PVIS Viseu 27.82 292 *eP* **P 21 52 05.9 +4.2**
comp=Z,24nm,1.2s,mb4.7
PBEJ Beja 27.89 286 *eP* **P 21 52 04.5 +2.2**
comp=Z,15nm,1.6s,mb4.4
NB2 NORSAR Subarra 27.91 344 P P 21 51 58.3 -4.1
comp=Z,2.7nm,1.0s,mb3.8,baz=160,slow=9.3
NOA NORSAR Array B 27.91 344 P P 21 51 57.9 -4.5
comp=Z,0.4nm,0.7s,baz=146,slow=11,SNR=3.1
EVO Evora 27.97 288 *eP* **P 21 52 04.9 +1.9**
comp=Z,52nm,1.5s,mb4.6
JOF Joensuu 28.09 4 *ep* **P 21 52 01.8 -2.3**
EKA Eskdalemuir Ar 28.93 324 P P 21 52 10.7 -0.9
comp=Z,4.9nm,0.8s,mb4.3,baz=126,slow=9.9,SNR=8.1
ARU Arti 30.43 35 *i P* **P 21 52 22.9 -1.9**
comp=Z,5.0nm,0.8s,mb4.3
ARU *eS* **S 21 57 24.2 -0.6**
ARU Arti 30.43 35 *eP* **P 21 52 22.8 -2.0**
comp=Z,5.9nm,0.8s,mb4.4
ARU Arti 30.43 35⇑ *iP* **P 21 52 22.9 -1.9**
ARU *e* 21 53 21.6
ARU *e*PPP 21 53 32.1
ARU *eS* **S 21 57 24.2 -0.6**
ARU *e*SS SS 21 59 01.2 -33
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
TORD Torodi Ar. Bea 31.40 232 P P 21 52 33.9 +0.5
comp=Z,8.0nm,0.6s,mb4.7,baz=35,slow=8.7,SNR=212
SVE Sverdlovsk 31.62 36 *eP* **P 21 52 34.0 -1.3**
SVE *e* 21 53 55.5
SVE MLR MLR
comp=N,500nm,15.0s,MS4.7
SVE MLR MLR
comp=E,1μm,15.0s,MS4.7
SVE MLR MLR
comp=Z,1μm,15.0s,MS4.8
ARCES ARCESS Array B 34.60 359 P P 21 52 58.2 -3.1
comp=Z,2.0nm,0.7s,mb4.2,baz=171,slow=8.6,SNR=9.9
KK31 Karatay Array 34.62 63 *i P* **P 21 53 01.9 +0.4**
comp=Z,43nm,1.1s,mb5.3
KK31 Karatay Array 34.62 63 *i P* **P 21 53 01.9 +0.4**
KK31 pmax pmax
comp=Z,43nm,1.1s,mb5.3
ZRNK Zerenda 34.70 46 *eP* **P 21 53 01.8 -0.4**
comp=Z,27nm,0.7s,mb5.3
ZRNK Zerenda 34.70 46 *eP* **P 21 53 01.8 -0.4**
comp=Z,27nm,0.7s,mb5.3
ZRNK Zerenda 34.70 46 *eP* **P 21 53 01.8 -0.4**
ZRNK pmax pmax
comp=Z,27nm,0.7s,mb5.3
BRVK Borovoye 35.47 46 *eP* **P 21 53 08.2 -0.7**
comp=Z,6.0nm,0.8s,mb4.6
BRVK Borovoye 35.47 46 *eP* **P 21 53 08.2 -0.7**
comp=Z,6.1nm,0.8s,mb4.6
BRVK Borovoye 35.47 46 *eP* **P 21 53 08.2 -0.7**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BVAR Borovoye Array 35.53 46 P P 21 53 08.8 -0.5
comp=Z,10nm,0.9s,mb4.8,baz=248,slow=6.7,SNR=50
CHKZ Chkalovo 35.81 45 *eP* **P 21 53 11.3 -0.5**
comp=Z,15nm,0.6s,mb5.1
CHKZ Chkalovo 35.81 45 *eP* **P 21 53 11.3 -0.5**
comp=Z,15nm,0.6s,mb5.1
CHKZ Chkalovo 35.81 45 *eP* **P 21 53 11.3 -0.5**
CHKZ pmax pmax
comp=Z,15nm,0.6s,mb5.1
AML Almayashu 37.02 65 P P 21 53 21.2 -0.9
SNR=7.4
EKS2 Erkin-Say 37.04 64 P P 21 53 23.3 +1.1
SNR=34
USP Ospenovka 37.52 63 P P 21 53 26.6 +0.1
SNR=16
AAK Ala-Archa 37.57 64 P P 21 53 27.9 +1.2
SNR=28
UCH Uchtor 37.62 64 P P 21 53 28.4 +1.2
SNR=9.8
FRU Bishkek 37.64 63 *eP* **P 21 53 28.0 +0.6**
comp=Z,60nm,1.6s,mb5.1
FRU Bishkek 37.64 63 *eP* **P 21 53 28.0 +0.6**
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.1
CHMS Chumysh 37.73 63 P P 21 53 28.9 +0.8
SNR=16
KBK Karagaybulak 37.90 64 P P 21 53 30.9 +1.3
SNR=14
KZA Kyzart 38.17 64 P P 21 53 33.6 +1.7
SNR=18
TKM2 Tokmak 2 38.35 63 P P 21 53 34.1 +0.7
SNR=15
ULHL Ulahol 38.89 64 P P 21 53 39.4 +1.5
SNR=7.1
KURK Kurchatov 40.28 51 *eP* **P 21 53 48.9 -0.6**
comp=Z,32nm,0.6s,mb5.2
KURK Kurchatov 40.28 51 *eP* **P 21 53 48.9 -0.6**
comp=Z,32nm,0.6s,mb5.2
KURK Kurchatov 40.28 51 *eP* **P 21 53 48.9 -0.6**
KURK pmax pmax
comp=Z,32nm,0.6s,mb5.2
DBIC Dimbokro 40.49 233 P P 21 53 50.8 -0.4
comp=Z,2.4nm,0.6s,mb4.1,baz=36,slow=8.0,SNR=8.3
LIC Lamto 40.94 233 *eP* **P 21 53 54.2 -0.7**
comp=Z,17nm,0.9s,mb4.4
LIC Lamto 40.94 233 *eP* **P 21 53 54.2 -0.7**
comp=Z,8.5nm,0.9s,mb4.4
MK31 Makanchi Array 42.78 57 *i P* **P 21 54 10.1 +0.1**
comp=Z,21nm,0.5s,mb5.1
MK31 Makanchi Array 42.78 57 *i P* **P 21 54 10.1 +0.1**
MK31 pmax pmax
comp=Z,21nm,0.5s,mb5.1
MKAR Makanchi Array 42.78 57 P P 21 54 08.9 -1.0
comp=Z,18nm,0.5s,mb5.0,baz=276,slow=7.9,SNR=334
NVS Novosibirsk 43.29 45 *eP* **P 21 54 05.4 -8.7**
NVS *eS* **S 22 00 36.1 -4.4**
NVS pmax pmax
comp=Z,145nm,1.5s,mb5.5
NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=E,25nm,1.5s
NVS smax
comp=N,19nm,1.9s
WMQ Urumqi 46.96 60 *eP* **P 21 54 43.5 +0.2**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,85nm,4.4s
WMQ LR LR
comp=N,558nm,21.6s
WMQ LR LR
comp=Z,562nm,22.0s,MS4.5
KOLN Koldanda 48.52 82 *eP* **P 21 54 55.8 +0.4**
comp=Z,30nm,1.0s,mb5.3
HYB Hyderabad 49.12 97 *i P* **P 21 55 00.5 +0.5**
HYB Hyderabad 49.12 97 *eP* **P 21 55 00.5 +0.5**
GKN Gorkha 49.27 81 *eP* **P 21 55 01.3 +0.2**
comp=Z,32nm,0.8s,mb5.4
DMN Daman 49.81 82 *eP* **P 21 55 05.7 +0.5**
comp=Z,44nm,0.8s,mb5.5
KKN Kakani 49.88 81 *eP* **P 21 55 05.7 0.0**
comp=Z,18nm,0.6s,mb5.2
LSZ Lusaka 50.01 178 P P 21 55 09.9 +3.1
comp=Z,0.8nm,0.5s,mb4.0,baz=12,slow=5.5,SNR=5.4
PKI Pulchoki 50.07 81 *eP* **P 21 55 07.4 +0.2**
comp=Z,41nm,0.9s,mb5.5
GUN Gumba 50.31 81 *eP* **P 21 55 09.5 +0.4**
comp=Z,39nm,0.9s,mb5.4
JIRN Jiri 50.67 81 *eP* **P 21 55 11.5 -0.2**
comp=Z,55nm,1.2s,mb5.4
SFJD Kangerlussuaq 53.45 331 P P 21 55 29.9 -2.6
comp=Z,4.7nm,0.8s,mb4.5,baz=61,slow=13,SNR=2.7
TSUM Tsumeb 54.59 191 P P 21 55 41.5 +0.7
comp=Z,0.4nm,0.3s,mb3.9,baz=136,slow=13,SNR=3.2
MATP Matopo 55.14 178 P P 21 55 45.9 +1.2
comp=Z,3.9nm,0.7s,mb4.5,baz=358,slow=6.7,SNR=14
ZAK Zakamensk 55.88 49 *eP* **P 21 55 50.0 -0.1**
comp=Z,12nm,1.1s,mb4.8
ZAK Zakamensk 55.88 49 *eP* **P 21 55 50.0 -0.1**
ZAK pmax pmax
comp=Z,12nm,1.1s,mb4.8
GTA Gaotai 56.89 62 *eP* **P 21 55 57.8 +0.5**
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
SONM Songino Array 58.59 51 P P 21 56 08.9 -0.2
comp=Z,5.6nm,0.6s,mb4.8,baz=291,slow=7.5,SNR=34
ULN Ulaanbaatar 58.99 51 *eP* **P 21 56 12.0 0.0**
BOD Bodaibo 59.78 38 *eP* **P 21 56 15.2 -2.3**
comp=Z,5.0nm,0.8s,mb4.6
BOD Bodaibo 59.78 38 *eP* **P 21 56 15.2 -2.3**
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TIXI Tiksi 60.86 21 *i P* **P 21 56 22.4 -2.5**
comp=Z,4.0nm,0.9s,mb4.5
TIXI Tiksi 60.86 21 *i P* **P 21 56 22.4 -2.5**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LZH Lanzhou 61.10 64 *eP* **P 21 56 27.0 +0.5**
LZH AMB AMB
comp=Z,28nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,140nm,4.8s
FRB Frobisher Bay 61.47 330 P P 21 56 26.1 -2.9
comp=Z,3.3nm,0.6s,mb4.6,baz=70,slow=5.6,SNR=5.1
CD2 Chengdu 63.23 70 *eP* **P 21 56 38.3 -2.5**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,50nm,5.9s
SCHQ Schefferville 64.15 320 P P 21 56 44.9 -1.9
comp=Z,3.6nm,0.5s,mb4.6,baz=46,slow=5.5,SNR=15
HHC Hu-ho-hao-te 64.65 57 *eP* **P 21 56 50.3 +0.2**
HHC AP pP 21 57 03.3 +7.1
HHC PCP PcP 21 57 24.5 +0.7
HHC PP PP 21 59 15.0 +2.7
HHC SCP 22 01 21.8
HHC S **S 22 05 24.0 -5.1**
HHC SCS ScS 22 06 37.0 -6.7
HHC SS SS 22 09 36.5 -3.4
HHC AMB AMB
comp=Z,16nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,741nm,4.9s
HHC LR LR
comp=N,267nm,9.3s
HHC LR LR
comp=E,207nm,6.9s
HHC LR LR
comp=Z,452nm,13.2s,MS4.8
KMI Kunming 65.09 76 P P 21 56 52.9 -0.1
KMI AMB AMB
comp=Z,4.0nm,1.5s,mb4.2
CN2 Changchun 72.31 49 *eP* **P 21 57 37.5 -0.5**
CN2 AP pP 21 57 50.5 +6.3
CN2 *eS* S 22 06 55.0 -5.3
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,1μm,13.0s
CN2 LR LR
comp=N,300nm,12.0s,MS4.9
CN2 LR LR
comp=E,200nm,12.0s,MS4.9
CN2 LR LR
comp=Z,400nm,13.0s,MS4.9
BILL Bilibino 72.90 15 *eP* **P 21 57 36.6 -4.9**
BILL *e* 22 00 24.4
BILL pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
NJ2 Nanjing 73.99 62 *eP* **P 21 57 48.5 +0.6**
NJ2 PP PP 22 00 35.8 +2.8
NJ2 S S 22 07 16.0 -3.3
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,30nm,3.6s
NJ2 LR LR
comp=N,3μm,19.4s,MS5.6
NJ2 LR LR
comp=E,1μm,20.4s,MS5.6
NJ2 LR LR
comp=Z,2μm,19.3s,MS5.4
MDJ Mudanjiang 74.38 46 P P 21 57 51.5 +1.3
MDJ AMB AMB
comp=Z,5.0nm,1.3s,mb4.3
MDJ AMB AMB
comp=Z,286nm,6.1s
MA2 Magadan 75.07 26 *i P* **P 21 57 52.8 -1.4**
INK Inuvik 75.96 353 P P 21 57 56.0 -3.2
comp=Z,0.7nm,0.5s,mb3.9,baz=125,slow=2.4,SNR=3.0
SSE Sheshan 76.18 62 *eP* **P 21 57 57.0 -3.6**
SSE AMB AMB
comp=Z,12nm,1.0s,mb4.8
SSE AMB AMB
comp=Z,468nm,12.0s
YKW3 Yellowknife Ar 77.94 343 *eP* **P 21 58 07.5 -3.0**
YKA Yellowknife Ar 78.00 343 P P 21 58 08.1 -2.7
comp=Z,1.2nm,0.7s,mb3.9,baz=33,slow=5.3,SNR=25
YSS Yuzh-Sakhalins 80.26 39 P P 21 58 15.0 -8.1
ILAR Eielson Array 80.44 357 P P 21 58 21.6 -2.5
comp=Z,1.0nm,0.8s,mb3.8,baz=344,slow=3.6,SNR=14
ILAR Eielson Array 80.44 357 P P 21 58 21.6 -2.5
ILAR pmax pmax
comp=Z,1.0nm,0.9s
DAWY Dawson 80.66 354 *eP* **P 21 58 22.5 -2.8**
ULM Lac du Bonnet 81.17 327 P P 21 58 25.5 -2.5
comp=Z,1.9nm,0.5s,mb4.3,baz=68,slow=2.8,SNR=5.3
MJAR Matsushiro Arr 84.46 49 P P 21 58 43.9 -1.2
comp=Z,2.9nm,0.8s,mb4.5,baz=319,slow=4.1,SNR=7.1
MJAR Matsushiro Arr 84.46 49 P P 21 58 43.9 -1.2
comp=Z,3.0nm,0.8s,mb4.5
MJAR Matsushiro Arr 84.46 49 P P 21 58 43.9 -1.2
MJAR pmax pmax
comp=Z,3.0nm,0.8s

IDC 31 21:57:33.5±2.6, 2760N×5719E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/23, mbtmp3.5/6, Error ellipse: s-maj=56.8km s-min=25.9km az=148.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**22.81**	**1**	P	P	22 02 37.7	-0.2
	0.8nm,0.5s,baz=165,slow=12,SNR=2.8						
BRTR	**Keskin Array B**	**22.95**	**308**	P	P	22 02 41.0	+1.5
	0.3nm,0.5s,baz=129,slow=13,SNR=2.8						
BVAR	**Borovoye Array**	**27.23**	**18**	P	P	22 03 19.3	+0.2
	0.7nm,0.6s,baz=208,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**27.50**	**39**	P	P	22 03 21.9	+0.4
	0.3nm,0.8s,baz=240,slow=7.1,SNR=2.3						
FINES	**FINESS Array B**	**39.71**	**337**	P	P	22 05 05.9	-1.6
	2.4nm,1.1s,baz=141,slow=6.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**53.57**	**266**	P	P	22 06 56.4	+0.3
	0.3nm,0.5s,baz=63,slow=7.4,SNR=12						

IDC 31 22:00:28.5±3.5, 601N×9545E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=140.6km s-min=23.7km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.18**	**347**	P	P	22 08 22.9	-0.1
	0.7nm,0.4s,baz=160,slow=7.9,SNR=19						
SONM	**Songino Array**	**42.71**	**11**	P	P	22 08 27.4	+0.2
	0.1nm,0.5s,baz=198,slow=9.1,SNR=2.5						
WRA	**Warramunga Arr**	**46.13**	**125**	P	P	22 08 56.0	+1.4
	0.4nm,0.7s,baz=306,slow=9.2,SNR=6.8						
ASAR	**Alice Springs**	**47.73**	**130**	P	P	22 09 06.3	-0.8
	0.2nm,0.5s,baz=300,slow=7.7,SNR=4.6						

*IDC **31** 22:07:56.4±2.3, 491S×15173E, h126km±18km, mb4.0/9, mb1 4.1/11, mb1mx4.0/17, mbtmp4.4/11, MS4.0/2, Ms1 4.0/2, ms1mx3.2/27, Error ellipse: s-maj=21.4km s-min=15.3km az=103.0*
*ISCJB **31** 22:07:57.9±2.7, 50S±0.1×1516E±0.1, h151km±23km, mb4.4/25, Error ellipse: s-maj=20.1km s-min=16.2km az=137.6*
*NEIC **31** 22:07:58.6±0.4, 496S×15170E, h150km, mb4.4/14, Error ellipse: s-maj=12.4km s-min=7.2km az=98.0*

ISC 31 22:07:58.4±2.4, 499S±010×1517E±01, h142km±20km, n40, σ1§00/37, mb4.4/25, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.31**	**226**	P	**Pn**	**22 09 28.9**	**-0.1**
	1.5nm,0.3s,baz=36,slow=9.0,SNR=6.5						
PMG				S	**Sn**	**22 10 39.7**	**-0.2**
	38nm,0.3s,baz=30,slow=20,SNR=13						
CTA	**Charters Tower**	**15.92**	**199**	P	**Pn**	**22 11 35.3**	**+0.8**
	0.2nm,0.3s,baz=26,slow=15,SNR=3.0						
KAKA	**Kakadu**	**20.53**	**247**	*eP*	**P**	**22 12 25.4**	**-0.1**
	61nm,0.6s						
DZM	**Mont Dzumac**	**22.16**	**141**	P	**P**	**22 12 43.9**	**+1.1**
	6.5nm,0.6s,mb4.2,baz=338,slow=12,SNR=10						
WRAB	**Tennant Creek**	**22.51**	**227**⇑	*eP*	**P**	**22 12 46.2**	**-0.1**
	46nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**22.52**	**227**	P	**P**	**22 12 46.3**	**-0.1**
	30nm,0.6s,mb4.9,baz=50,slow=10,SNR=197						
WRA				PcP	PcP	22 16 36.1	+1.3
	2.2nm,0.7s,baz=46,slow=2.1,SNR=6.1						
WRA				ScP	ScP	22 20 01.5	+2.4
	0.4nm,0.6s,baz=50,slow=2.8,SNR=4.8						
ASAR	**Alice Springs**	**25.30**	**221**	P	**P**	**22 13 11.9**	**+0.3**
	14nm,0.6s,mb4.7,baz=53,slow=8.8,SNR=69						
ASAR				PcP	PcP	22 16 42.0	+1.2
	1.6nm,0.8s,baz=53,slow=3.2,SNR=6.1						
ASAR				ScP	ScP	22 20 08.9	+2.3
	0.4nm,0.7s,baz=38,slow=2.4,SNR=4.5						
STKA	**Stephens Creek**	**28.38**	**198**	*eP*	**P**	**22 13 37.3**	**-1.9**
	2.2nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**28.38**	**198**	P	**P**	**22 13 37.7**	**-1.5**
	2.5nm,0.7s,mb4.0,baz=2.6,slow=10,SNR=6.1						
FITZ	**Fitzroy Crossi**	**28.63**	**241**	*eP*	**P**	**22 13 41.2**	**-0.2**
	18nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**28.63**	**241**	P	**P**	**22 13 41.2**	**-0.2**
	12nm,0.5s,mb4.9,baz=68,slow=8.1,SNR=60						
FORT	**Forrest**	**33.97**	**218**	*eP*	**P**	**22 14 28.1**	**-0.1**
	15nm,0.5s,mb5.0						
MBWA	**Marble Bar**	**34.95**	**240**	*eP*	**P**	**22 14 36.6**	**-0.1**
	15nm,0.6s,mb4.8						
AFI	**Afiamalu**	**37.02**	**106**	LR	LR	22 28 07.3	
	comp=Z,220nm,18.9s,baz=73,slow=33						
KLBR	**Kellerberrin**	**41.40**	**226**	*eP*	**P**	**22 15 29.6**	**-1.0**
	25nm,1.3s,mb4.7						
NWAO	**Narrogin (SRO)**	**42.50**	**225**	LR	LR	22 32 19.2	
	comp=Z,224nm,21.3s,baz=199,slow=34						
ULN	**Ulaanbaatar**	**65.60**	**329**	*eP*	**P**	**22 18 25.6**	**-1.3**
	2.0nm,0.6s,mb4.1						
SONM	**Songino Array**	**65.92**	**328**	P	**P**	**22 18 29.5**	**+0.5**
	2.1nm,0.6s,mb4.1,baz=143,slow=5.0,SNR=26						
LSA	**Lhasa**	**67.47**	**305**	*eP*	**P**	**22 18 39.5**	**+0.7**
	2.6nm,0.6s,mb4.2						
JIRN	**Jiri**	**70.97**	**301**	*eP*	**P**	**22 19 01.2**	**+0.8**
	7.2nm,0.7s,mb4.5						
GUN	**Gumba**	**71.31**	**302**	*eP*	**P**	**22 19 03.1**	**+0.7**
	22nm,0.7s,mb5.0						
KKN	**Kakani**	**71.78**	**301**	*eP*	**P**	**22 19 05.6**	**+0.3**
	14nm,0.7s,mb4.8						
DMN	**Daman**	**71.88**	**301**	*eP*	**P**	**22 19 06.4**	**+0.5**
	24nm,0.8s,mb5.0						
GKN	**Gorkha**	**72.39**	**301**	*eP*	**P**	**22 19 09.1**	**+0.2**
	17nm,0.8s,mb4.8						
VNDA	**Vanda**	**72.68**	**178**	P	**P**	**22 19 11.1**	**+0.5**
	0.2nm,0.3s,mb3.3,baz=341,slow=7.3,SNR=4.2						
VNDA	**Vanda**	**72.68**	**178**	P	**P**	**22 19 11.1**	**+0.5**
KOLN	**Koldanda**	**73.21**	**301**	*eP*	**P**	**22 19 13.8**	**+0.1**
	16nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**79.77**	**319**	P	**P**	**22 19 50.4**	**-0.2**
	2.1nm,0.9s,mb3.8,baz=103,slow=5.5,SNR=16						
ILAR	**Eielson Array**	**82.74**	**22**	P	**P**	**22 20 04.3**	**-2.0**
	0.9nm,0.6s,mb3.6,baz=248,slow=5.0,SNR=17						
KURK	**Kurchatov**	**83.26**	**322**	*eP*	**P**	**22 20 08.0**	**-0.9**
	3.7nm,1.1s,mb4.0						
KZA	**Kyzart**	**83.36**	**313**	P	**P**	**22 20 11.1**	**+1.6**
	SNR=8.1						
UCH	**Uchtor**	**83.92**	**313**	P	**P**	**22 20 14.2**	**+1.9**
	SNR=5.4						
USP	**Ospenovka**	**84.16**	**314**	P	**P**	**22 20 14.0**	**+0.5**
	SNR=5.7						
AML	**Almayashu**	**84.50**	**313**	P	**P**	**22 20 16.6**	**+1.4**
	SNR=18						
EKS2	**Erkin-Say**	**84.55**	**314**	P	**P**	**22 20 16.5**	**+1.0**
	SNR=7.4						
CHKZ	**Chkalovo**	**88.73**	**324**	*eP*	**P**	**22 20 33.5**	**-2.3**
	1.2nm,0.5s,mb4.1						
BRVK	**Borovoye**	**88.82**	**323**	*eP*	**P**	**22 20 34.7**	**-1.5**
	0.9nm,0.7s,mb3.8						
ZRNK	**Zerenda**	**89.57**	**323**	*eP*	**P**	**22 20 37.2**	**-2.5**
	0.9nm,0.4s,mb4.0						
GERES	**GERESS Array B**	**123.66**	**328**	PKP	PKPdf	22 26 38.6	-0.5
	0.5nm,0.5s,baz=85,slow=2.9,SNR=6.7						
TORD	**Torodi Ar. Bea**	**149.35**	**287**	PKPbc	PKPbc	22 27 30.9	+0.5
	4.9nm,0.7s,baz=90,slow=2.3,SNR=78						

*IDC **31** 22:23:24.0±2.5, 564S×13082E, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.6/13, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=117.1km s-min=28.2km az=77.0*
*NEIC **31** 22:23:29.1±1.2, 579S×13087E, h35km, mb4.5/2, Error ellipse: s-maj=32.3km s-min=13.0km az=72.0*
*ISCJB **31** 22:23:33.2±3.6, 6.10S±009×1307E±0.1, h98km±39km, mb4.0/2, Error ellipse: s-maj=25.1km s-min=14.7km az=149.6*

ISC 31 22:23:32.8±3.5, 61S±01×1307E±01, h70km±38km, n8, σ1§08/11, mb4.0/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.95**	**202**	P	**Pn**	**22 26 34.4**	**+0.6**
	0.3nm,0.3s,baz=49,slow=15,SNR=11						
FITZ				Sn	**Sn**	**22 28 54.9**	**-1.1**
	0.1nm,0.3s,baz=198,slow=22,SNR=3.4						
WRAB	**Tennant Creek**	**14.23**	**166**	*e*Pn	**Pn**	**22 26 50.8**	**+0.1**
	2.8nm,0.4s						
WRAB				*e*Sn	**Sn**	**22 29 26.1**	**-1.0**
WRA	**Warramunga Arr**	**14.24**	**166**	Pn	**Pn**	**22 26 50.6**	**-0.2**
	0.4nm,0.3s,baz=351,slow=13,SNR=25						
WRA				Sn	**Sn**	**22 29 22.0**	**-5.2**
	0.1nm,0.3s,baz=350,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**17.77**	**170**	P	**Pn**	**22 27 39.4**	**+4.1**
	0.3nm,0.3s,baz=347,slow=9.4,SNR=18						
MBWA	**Marble Bar**	**18.40**	**214**	P	**Pn**	**22 27 45.0**	**+2.1**
	28nm,1.6s						
STKA	**Stephens Creek**	**27.62**	**160**	P	**P**	**22 29 15.0**	**+1.4**
QIZ	**Qiongzhong**	**32.33**	**321**	P	**P**	**22 29 54.7**	**-0.4**
	14nm,1.2s,mb4.6						
MKAR	**Makanchi Array**	**67.84**	**326**	P	**P**	**22 34 22.2**	**-1.3**
	0.4nm,0.5s,mb3.5,baz=117,slow=7.9,SNR=6.8						

IDC 31 22:40:22.4±1.4, 381N×12642E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=111.4km s-min=18.2km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.78**	**182**	P	P	22 45 16.7	+0.9
	3.5nm,0.8s,baz=8.1,slow=14,SNR=5.4						

WRA Warramunga Arr 24.85 162 P P 22 45 46.3 -0.2
2.7nm,0.5s,baz=339,slow=11,SNR=6.0
ASAR Alice Springs 28.26 165 P P 22 46 17.6 +0.2
0.8nm,0.7s,baz=328,slow=7.2,SNR=8.3
SONM Songino Array 47.13 342 P P 22 48 56.0 -0.3
0.2nm,0.4s,baz=186,slow=4.2,SNR=3.2
MKAR Makanchi Array 57.32 325 P P 22 50 11.3 -0.8
0.2nm,0.4s,baz=125,slow=7.1,SNR=9.1
BVAR Borovoye Array 67.09 327 P P 22 51 19.7 +2.0
0.1nm,0.2s,baz=104,slow=3.0,SNR=2.9

IDC 31 22:42:20.3±11.0, 750S×12967E, h170km±84km, mb3.9/1, mb1 3.3/4, mb1mx3.1/13, mbtmp3.7/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/30, Error ellipse: s-maj=90.7km s-min=53.7km az=179.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.25**	**200**	P	Pn	22 44 57.3	+1.1
	0.2nm,0.3s,baz=22,slow=16,SNR=12						
FITZ				S	Sn	22 47 03.8	+2.9
	0.3nm,0.3s,baz=97,slow=20,SNR=5.8						
WRA	**Warramunga Arr**	**13.17**	**160**	P	Pn	22 45 20.1	-0.9
	0.6nm,0.3s,baz=338,slow=13,SNR=12						
WRA				S	Sn	22 47 46.7	-0.4
	0.3nm,0.3s,baz=332,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**16.58**	**166**	P	Pn	22 46 03.5	+0.5
	0.2nm,0.3s,baz=337,slow=8.7,SNR=9.9						
STKA	**Stephens Creek**	**26.68**	**157**	P	P	22 47 43.2	-0.2
	3.7nm,0.7s,baz=334,slow=8.7,SNR=6.8						
HNR	**Honiara**	**30.00**	**96**	LR	LR	22 58 42.3	
	comp=Z,90nm,21.9s,baz=0.2,slow=33						

*ISCJB **31** 22:48:08.5±0.3, 4273N±002×1277E±003, h14km±3km, Error ellipse: s-maj=3.8km s-min=2.9km az=17.6*
*CSEM **31** 22:48:08.2±0.1, 4273N×1277E, h12km, ML3.6/3, Error ellipse: s-maj=1.1km s-min=0.8km az=82.0*
*NEIC **31** 22:48:08.0, 4274N×1277E, h4km, ML3.0(ROM), ML3.2(LDG), After ROM.*
*ROM **31** 22:48:10.2±0.8, 4273N×1278E, h6km±1km, Md3.1/20, Ml3.0/19, Error ellipse: s-maj=1.4km s-min=1.0km az=94.0*
*LDG **31** 22:48:10.2±0.8, 4263N×1290E, h10km, Ml3.2/5, Error ellipse: s-maj=17.6km s-min=9.4km az=108.0*
ISC 31 22:48:09.3±0.3, 4273N±002×1277E±003, h7km±3km, n54, σ1º02/79, 8C-7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.27**	**68**	Pg	**Pg**	**22 48 14.9**	**+0.2**
MNS	**Montasola**	**0.35**	**191**	Pg	**Pg**	**22 48 16.3**	**+0.1**
MNS				Sg	**Sg**	**22 48 22.6**	**+1.8**
	721nm,0.5s						
CAMP	**Campotosto**	**0.51**	**112**	Pg	**Pg**	**22 48 19.0**	**-0.1**
CAMP				Sg	**Sg**	**22 48 27.1**	**+1.3**
	824nm,0.7s						
FIAM	**Fiamignano**	**0.53**	**151**	Pg	**Pg**	**22 48 19.3**	**-0.2**
FIAM				Sg	**Sg**	**22 48 27.8**	**+1.4**
	893nm,0.5s						
SNTG	**Esanatoglia**	**0.54**	**13**	Pg	**Pg**	**22 48 19.1**	**-0.6**
SNTG				Sg	**Sg**	**22 48 28.4**	**+1.7**
MURB	**Monte Urbino**	**0.56**	**341**	Pg	**Pg**	**22 48 19.8**	**-0.3**
MURB				Sg	**Sg**	**22 48 28.8**	**+1.3**
	4μm,0.3s						
AQU	**L'Aquila**	**0.60**	**129**	Pg	**Pg**	**22 48 20.5**	**-0.4**
AQU	**L'Aquila**	**0.60**	**129**	*e*Pg	**Pg**	**22 48 20.3**	**-0.6**
TERO	**Teramo**	**0.62**	**100**	Pg	**Pg**	**22 48 20.8**	**-0.5**
TERO				Sg	**Sg**	**22 48 30.4**	**+1.0**
	611nm,0.6s						
SACS	**San Casciano d**	**0.65**	**281**	Pg	**Pg**	**22 48 21.4**	**-0.3**
	472nm,0.4s						
MTCE	**Montecelio**	**0.71**	**182**	Pg	**Pg**	**22 48 22.2**	**-0.7**
MTCE				Sg	**Sg**	**22 48 33.7**	**+1.6**
	631nm,0.8s						
CING	**Cingoli**	**0.71**	**26**	Pg	**Pg**	**22 48 22.4**	**-0.7**
CING				Sg	**Sg**	**22 48 33.5**	**+1.1**
	541nm,0.4s						
FAGN	**Fagnano**	**0.76**	**127**	Pg	**Pg**	**22 48 23.5**	**-0.4**
	1μm,0.5s						
ARV	**Arcevia**	**0.78**	**9**	↑*i*Pg	**Pg**	**22 48 23.3**	**-0.9**
ARVD	**Arcevia**	**0.78**	**9**	Pg	**Pg**	**22 48 23.2**	**-1.0**
ARVD				Sg	**Sg**	**22 48 35.4**	**+1.1**
	461nm,0.6s						
CERT	**Cerreto**	**0.80**	**169**	Pg	**Pg**	**22 48 23.6**	**-1.0**
	556nm,0.5s						
PTQR	**Pietraquaria**	**0.85**	**146**	Pg	**Pg**	**22 48 24.5**	**-1.1**
	379nm,0.9s						
BADI	**Badiali**	**0.87**	**334**	Pg	**Pg**	**22 48 25.3**	**-0.7**
	975nm,1.0s						
TOLF	**Tolfa**	**0.88**	**221**	Pg	**Pg**	**22 48 25.6**	**-0.6**
	426nm,0.4s						
ARCI	**Arcidosso**	**0.96**	**278**	Pg	**Pg**	**22 48 27.2**	**-0.6**
	99nm,0.5s						
RDP	**Rocca di Papa**	**0.97**	**182**	Pg	**Pg**	**22 48 27.3**	**-0.7**
	731nm,0.5s						
AOI	**Ancona**	**1.02**	**36**	Pg	**Pg**	**22 48 28.1**	**-0.8**
	297nm,0.4s						
CRE	**Caprese Michel**	**1.07**	**326**	Pg	**Pg**	**22 48 29.2**	**-0.7**
	370nm,0.5s						
INTR	**Introdacqua**	**1.10**	**130**	Pg	**Pg**	**22 48 28.4**	**-2.1**
	421nm,0.6s						
GIUL	**Giuliano Di Ro**	**1.23**	**163**	Pg	**Pg**	**22 48 30.7**	**-2.1**
	206nm,0.8s						
NVLJ	**Novalja**	**2.38**	**39**	*e*Pn	**Pn**	**22 48 48.8**	**0.0**
NVLJ				Sn	**Sn**	**22 49 18.6**	**+0.4**
NVLJ	**Novalja**	**2.38**	**39**	*e*Pn	**Pn**	**22 48 48.7**	**-0.1**
NVLJ				Sn	**Sn**	**22 49 18.6**	**+0.4**
PGF	**Pioggiola**	**2.79**	**268**	*e*Pn	**Pn**	**22 48 53.9**	**-0.4**
PGF				*e*Sn	**Sn**	**22 49 28.1**	**-0.1**
	3.1nm,0.4s						
VOY	**Vojsko**	**3.40**	**13**	*e*Pn	**Pn**	**22 49 03.0**	**+0.3**
VOY				*e*Sn	**Sn**	**22 49 43.4**	**+0.2**
OBKA	**Obir**	**3.98**	**18**	⇓*i*Pn	**Pn**	**22 49 11.0**	**+0.2**
OBKA				⇓*i*Sn	**Sn**	**22 49 56.0**	**-1.7**
SBF	**Sospel**	**4.06**	**288**	*e*Pn	**Pn**	**22 49 11.8**	**0.0**
KBA	**Koelnbreinsper**	**4.37**	**5**	⇑*i*Pn	**Pn**	**22 49 16.8**	**+0.8**
KBA				⇓*i*Sn	**Sn**	**22 50 06.3**	**-0.9**
FRF	**La Foret Royal**	**4.56**	**283**	*e*Pn	**Pn**	**22 49 17.8**	**-0.9**
WTTA	**Wattenberg**	**4.60**	**350**	⇓*i*Pn	**Pn**	**22 49 20.9**	**+1.7**
WTTA				⇑*i*Sn	**Sn**	**22 50 12.7**	**-0.3**
SQTA	**Sankt Quirin**	**4.62**	**347**	⇓*i*Pn	**Pn**	**22 49 21.3**	**+1.8**
SQTA				⇑*i*Sn	**Sn**	**22 50 13.6**	**+0.1**
SQTA	**Sankt Quirin**	**4.62**	**347**	Pn	**Pn**	**22 49 21.3**	**+1.7**
LMR	**La Mourre**	**4.63**	**280**	*e*Pn	**Pn**	**22 49 18.2**	**-1.5**
LMR	**La Mourre**	**4.63**	**280**	*e*P	**Pn**	**22 49 21.8**	**+2.1**
LMR	**La Mourre**	**4.63**	**280**	*e*P	**Pn**	**22 49 21.8**	**+2.1**
WATA	**Walderalm**	**4.68**	**350**	⇓*i*Pn	**Pn**	**22 49 21.9**	**+1.6**
WATA				⇑*i*Sn	**Sn**	**22 50 14.6**	**-0.4**
MOTA	**Moosalm**	**4.76**	**346**	⇑*i*Pn	**Pn**	**22 49 23.3**	**+1.9**
MOTA				⇑*i*Sn	**Sn**	**22 50 17.1**	**+0.2**
MBDF	**Montbardon**	**4.78**	**297**	*e*Pn	**Pn**	**22 49 22.6**	**+0.8**
LPG	**La Plagne**	**5.14**	**305**	*e*Pn	**Pn**	**22 49 27.0**	**+0.3**
LPL	**La Plagne**	**5.16**	**305**	*e*Pn	**Pn**	**22 49 28.2**	**+1.2**
MOA	**Molln**	**5.23**	**11**	⇓*i*Pn	**Pn**	**22 49 28.2**	**+0.3**
MOA				⇑*i*Sn	**Sn**	**22 50 27.0**	**-1.4**
SMRF	**Simiane la Rot**	**5.39**	**286**	*e*Pn	**Pn**	**22 49 30.9**	**+0.8**
ORIF	**Oris-en-Rattie**	**5.44**	**296**	*e*Pn	**Pn**	**22 49 31.5**	**+0.7**
KHC	**Kasperske Hory**	**6.43**	**5**	*e*PN	**Pn**	**22 49 44.1**	**-0.2**
KHC				*e*x	x	22 49 54.9	
KHC				*e*PG	**Pg**	**22 50 11.0**	**-1.4**
KHC				*e*x	x	22 50 32.5	
KHC				*e*SN	**Sn**	**22 50 54.3**	**-3.6**
HINF	**Hinteralfeld**	**6.58**	**323**	*e*Pn	**Pn**	**22 49 47.2**	**+0.8**
HINF				*e*Sn	**Sn**	**22 50 58.9**	**-2.8**
	7.1nm,0.5s						
LASF	**Ste Croix**	**6.63**	**285**	*e*Pn	**Pn**	**22 49 47.9**	**+0.7**
CDF	**Champ du Feu**	**6.87**	**328**	*e*Pn	**Pn**	**22 49 49.8**	**-0.6**
CDF				*e*Sn	**Sn**	**22 51 04.9**	**-3.8**
	3.6nm,0.4s						
HAU	**Haudompre**	**6.95**	**322**	*e*Pn	**Pn**	**22 49 51.9**	**+0.4**
HAU				*e*Sn	**Sn**	**22 51 06.9**	**-3.8**
	11nm,0.5s						
LOR	**Lormes**	**7.78**	**309**	*e*Sn	**Sn**	**22 51 26.5**	**-4.6**
	2.1nm,0.4s						
CAF	**Calviac**	**8.05**	**289**	*e*Pn	**Pn**	**22 50 06.0**	**-0.6**

*ISCJB **31** 22:48:09.1±0.8, 199S±02×684E±01, h10km, mb3.8/8, Error ellipse: s-maj=33.9km s-min=18.5km az=32.3*
*IDC **31** 22:48:09.4±1.0, 1987S×6839E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, Error ellipse: s-maj=38.5km s-min=20.7km az=21.0*
*NEIC **31** 22:48:10.8±0.8, 1992S×6833E, h10km, Error ellipse: s-maj=30.8km s-min=18.0km az=200.0*
ISC 31 22:48:11.6±0.8, 198S±02×684E±01, h10km, n9, σ0º94/8, mb3.8/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**37.40**	**262**	P	**P**	**22 55 24.0**	**-0.7**
	1.3nm,0.9s,mb3.8,baz=94,slow=11,SNR=4.9						
FITZ	**Fitzroy Crossi**	**53.94**	**98**	P	**P**	**22 57 36.3**	**+0.9**
	2.4nm,0.9s,mb4.1,baz=225,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**60.50**	**107**	P	**P**	**22 58 21.1**	**-0.6**
	1.4nm,0.9s,mb4.1,baz=258,slow=6.2,SNR=9.4						
WRA	**Warramunga Arr**	**61.62**	**102**	P	**P**	**22 58 29.0**	**-0.3**
	1.7nm,1.0s,mb4.1,baz=264,slow=8.5,SNR=5.4						
MKAR	**Makanchi Array**	**67.48**	**10**	P	**P**	**22 59 07.0**	**-0.6**
	0.6nm,0.9s,mb3.6,baz=242,slow=5.1,SNR=4.6						
BRTR	**Keskin Array B**	**67.54**	**332**	P	**P**	**22 59 06.8**	**-1.2**
	0.3nm,0.8s,mb3.4,baz=69,slow=4.8,SNR=2.6						
BVAR	**Borovoye Array**	**72.56**	**1**	P	**P**	**22 59 39.7**	**+0.9**
	0.6nm,0.9s,mb3.5,baz=148,slow=6.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**73.35**	**291**	P	**P**	**22 59 45.2**	**+1.7**
	0.9nm,1.0s,mb3.6,baz=126,slow=5.0,SNR=3.5						
YKA	**Yellowknife Ar**	**137.31**	**2**	PKP	PKPdf	23 07 33.0	-2.2
	0.1nm,0.6s,baz=7.6,slow=1.9,SNR=3.0						

MDD 31 22:54:01.7±4.9, 3684N×523E, h0km, mb3.7/1, Error ellipse: s-maj=63.3km s-min=42.1km az=50.0, PRXIMO SIN SOLUCIN, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**3.48**	**328**	Pn	Pn	22 54 56.0	-1.1
	2.0nm,0.2s,SNR=10						
ETOS				Sn	Sn	22 55 36.5	-2.5
	0.5nm,0.1s,SNR=5.1						
EIBI	**Ibiza**	**3.77**	**307**	Pn	Pn	22 54 59.9	-1.1
	0.6nm,0.2s,SNR=7.9						
EIBI				Sn	Sn	22 55 42.6	-3.4
	0.2nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**5.54**	**326**	Pn	Pn	22 55 24.0	-1.4
	0.4nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	22 56 24.1	-5.6
	0.2nm,0.2s,SNR=4.0						

*ISCJB **31** 23:10:16.2±4.5, 298S±06×1766W±06, h10km, mb3.8/4, Error ellipse: s-maj=112.3km s-min=17.0km az=81.5*
*IDC **31** 23:10:17.7±3.2, 2865S×17693W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.8/3, Error ellipse: s-maj=108.7km s-min=26.2km az=137.0*
*NEIC **31** 23:10:17.7±1.1, 2952S×17663W, h10km, mb4.0/1, Error ellipse: s-maj=52.1km s-min=20.7km az=178.0*
ISC 31 23:10:17.7±3.6, 295S±08×1766W±04, h10km, n8, σ0º53/6, mb3.8/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.20**	**284**	Pn	**Pn**	**23 10 39.9**	**-0.6**
	217nm,0.3s,baz=267,slow=23,SNR=11						
RAO				Sn	**Sn**	**23 10 57.0**	**+0.2**
	253nm,0.3s,baz=88,slow=23,SNR=11						
STKA	**Stephens Creek**	**35.87**	**255**	P	**P**	**23 17 17.4**	**-0.4**
	1.3nm,0.6s,mb4.1,baz=83,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**44.39**	**265**	P	**P**	**23 18 28.4**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=96,slow=7.5,SNR=10						
WRAB	**Tennant Creek**	**45.30**	**271**	*e*P	**P**	**23 18 35.9**	**+0.3**
	1.0nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**45.30**	**271**	P	**P**	**23 18 36.1**	**+0.4**
	1.0nm,0.5s,mb3.9,baz=110,slow=7.8,SNR=5.3						
FINES	**FINESS Array B**	**144.75**	**341**	PKP	PKPdf	23 29 54.5	-0.3
	1.2nm,0.6s,baz=82,slow=3.1,SNR=14						
FINES	**FINESS Array B**	**144.75**	**341**	PKP	PKPdf	23 29 54.5	-0.3
AKASG	**Malin Array Be**	**151.34**	**325**	PKPbc	PKPbc	23 30 10.6	-1.0
	0.6nm,0.4s,baz=49,slow=2.9,SNR=4.0						

*IDC **31** 23:13:47.0±0.9, 1219N×12384E, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.9/21, mbtmp4.1/9, ML3.8/2, Error ellipse: s-maj=50.4km s-min=15.9km az=67.0*
*ISCJB **31** 23:13:48.1±0.8, 1228N±003×12378E±003, h11km±5km, mb4.1/12, MS3.9/1, Error ellipse: s-maj=5.4km s-min=4.4km az=126.3*
*MAN **31** 23:13:48.5, 1235N×12376E, h15km, mb3.5, ML4.7, MS2.4*
MAN F Masbate Masbate - Intensity III.
*NEIC **31** 23:13:52.1±0.6, 1217N×12381E, h35km, mb4.2/4, Error ellipse: s-maj=21.6km s-min=9.8km az=67.0*
*BJI **31** 23:13:52.0, 1220N×12380E, h35km, mB4.7, mb4.3, Ms4.1, Msz3.7*
ISC 31 23:13:48.6±0.7, 1227N±003×12378E±003, h8km±5km, n41, σ1º20/49, mb4.1/12, MS3.9/1, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.17**	**300**	⇓*i*P	**Pg**	**23 13 52.1**	**-0.1**
MMPH				*i* S	**Sg**	**23 13 55.5**	**+0.9**
CNP	**Catarman**	**0.90**	**75**	*e*P	**Pg**	**23 14 04.8**	**-0.9**
CNP				*e*S	**Sg**	**23 14 18.6**	**+1.2**
RCP	**Roxas**	**1.23**	**235**	*e*P	**Pb**	**23 14 11.4**	**-0.8**
RCP				*e*S	**Sg**	**23 14 29.1**	**+0.8**
PVCP	**Virac**	**1.37**	**15**	*e*P	**Pn**	**23 14 11.8**	**-2.2**
OCLP	**Ormoc**	**1.46**	**146**	*e*P	**Pn**	**23 14 14.9**	**-0.3**
AUQP	**San Andres**	**1.50**	**314**	*e*P	**Pn**	**23 14 15.9**	**+0.1**
KALP	**Kalibo**	**1.53**	**247**	*e*P	**Pn**	**23 14 14.5**	**-1.7**
PLP	**Palo**	**1.61**	**133**	*i* P	**Pn**	**23 14 16.3**	**-1.0**
PLP				*e*S	**Sn**	**23 14 39.2**	**+0.9**
OTRP	**Odiongan**	**1.72**	**273**	*e*P	**Pn**	**23 14 17.4**	**-1.4**
LLP	**Lapu-Lapu**	**1.95**	**175**	⇑*e*P	**Pn**	**23 14 21.4**	**-0.6**
LLP				*e*S	**Sn**	**23 14 49.3**	**+2.6**
GUIM	**Jordan**	**2.01**	**216**	*e*P	**Pn**	**23 14 23.1**	**+0.3**
GQP	**Guinayangan**	**2.08**	**321**	⇓*e*P	**Pn**	**23 14 23.5**	**-0.3**
GQP				*i* S	**Sn**	**23 14 51.3**	**+1.4**
BOAC	**Boac**	**2.23**	**302**	*e*P	**Pn**	**23 14 23.7**	**-2.1**
MSLP	**Maasin**	**2.37**	**153**	*e*P	**Pn**	**23 14 27.8**	**0.0**
TBP	**Tagbilaran**	**2.57**	**178**	*e*P	**Pn**	**23 14 29.5**	**-1.0**
TBP				*e*S	**Sn**	**23 15 02.8**	**+1.0**
SJMP	**San Jose**	**2.61**	**274**	*e*P	**Pn**	**23 14 31.2**	**+0.2**
LQP	**Lukban**	**2.85**	**310**	⇑*e*P	**Pn**	**23 14 36.5**	**+2.1**
SNPH	**Sibulan**	**2.96**	**190**	*e*P	**Pn**	**23 14 35.0**	**-0.9**
SCPH	**Surigao**	**2.99**	**146**	*e*P	**Pn**	**23 14 39.1**	**+2.8**
POLP	**Polillo Island**	**3.03**	**324**	*e*P	**Pn**	**23 14 42.8**	**+6.0**
CUYO	**Cuyo Island**	**3.05**	**243**	*e*P	**Pn**	**23 14 38.2**	**+1.1**
TGY	**Tagaytay City**	**3.31**	**304**	Pn	**Pn**	**23 14 42.0**	**+1.3**
	74nm,0.3s,baz=188,slow=7.7,SNR=5.9						
BUSP	**Coron**	**3.51**	**266**	*e*P	**Pn**	**23 14 42.8**	**-0.7**
DCPH	**Dipolog City**	**3.69**	**187**	⇑*e*P	**Pn**	**23 14 45.1**	**-0.9**
DCPH				*e*S	**Sn**	**23 15 30.7**	**+1.1**
LUBP	**Lubang**	**3.74**	**293**	*e*P	**Pn**	**23 14 45.5**	**-1.1**
ENPP	**El Nido**	**4.39**	**257**	*e*P	**Pn**	**23 14 55.3**	**-0.3**
PAGZ	**Pagadian**	**4.41**	**185**	*e*P	**Pn**	**23 14 57.2**	**+1.3**
BUKP	**Musuan**	**4.54**	**164**	*e*P	**Pn**	**23 15 01.9**	**+4.3**
JOW	**Kunigami**	**15.09**	**16**	Pn	**Pn**	**23 17 24.6**	**+2.6**
	0.3nm,0.3s,baz=232,slow=7.5,SNR=2.0						
WRAB	**Tennant Creek**	**33.65**	**162**	*e*P	**P**	**23 20 28.4**	**-1.3**
	1.5nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**33.66**	**162**	P	**P**	**23 20 28.3**	**-1.6**
	2.0nm,0.7s,mb4.2,baz=339,slow=10.0,SNR=6.6						
GTA	**Gaotai**	**34.36**	**326**	*e*P	**P**	**23 20 38.8**	**+2.8**
GTA				AP	pP	23 20 43.5	+5.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
GTA				AMB	AMB		
	comp=Z,35nm,4.6s						
GTA				LR	LR		
	comp=N,251nm,19.9s,MS4.0						
GTA				LR	LR		
	comp=E,167nm,21.4s,MS4.0						
GTA				LR	LR		
	comp=Z,119nm,17.2s,MS3.7						
LSA	**Lhasa**	**34.88**	**305**	*e*P	**P**	**23 20 44.1**	**+3.6**
	comp=Z,2.5nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**37.06**	**164**	P	**P**	**23 20 58.8**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.3,baz=338,slow=6.3,SNR=30						
ULN	**Ulaanbaatar**	**38.15**	**342**	*e*P	**P**	**23 21 07.9**	**-0.4**
	comp=Z,4.3nm,1.1s,mb4.1						
SONM	**Songino Array**	**38.32**	**341**	P	**P**	**23 21 09.3**	**-0.5**
	comp=Z,1.8nm,1.0s,mb3.8,baz=158,slow=8.1,SNR=9.5						
STKA	**Stephens Creek**	**47.10**	**159**	P	**P**	**23 22 19.9**	**-1.1**
	comp=Z,1.8nm,0.5s,mb4.2,baz=304,slow=9.0,SNR=5.6						
MKAR	**Makanchi Array**	**48.97**	**323**	P	**P**	**23 22 36.0**	**+0.5**
	comp=Z,2.5nm,0.9s,mb4.2,baz=119,slow=8.6,SNR=16						

KURK Kurchatov 53.05 326 *e*P **P 23 23 05.2 -1.0**
comp=Z,4.1nm,0.9s,mb4.4
BVAR Borovoye Array 58.64 325 P **P 23 23 47.1 +0.8**
comp=Z,0.2nm,0.4s,mb3.5,baz=110,slow=11,SNR=3.2
YKA Yellowknife Ar 92.92 23 P **P 23 27 02.1 -0.1**
comp=Z,0.7nm,0.9s,mb4.1,baz=302,slow=4.4,SNR=9.2

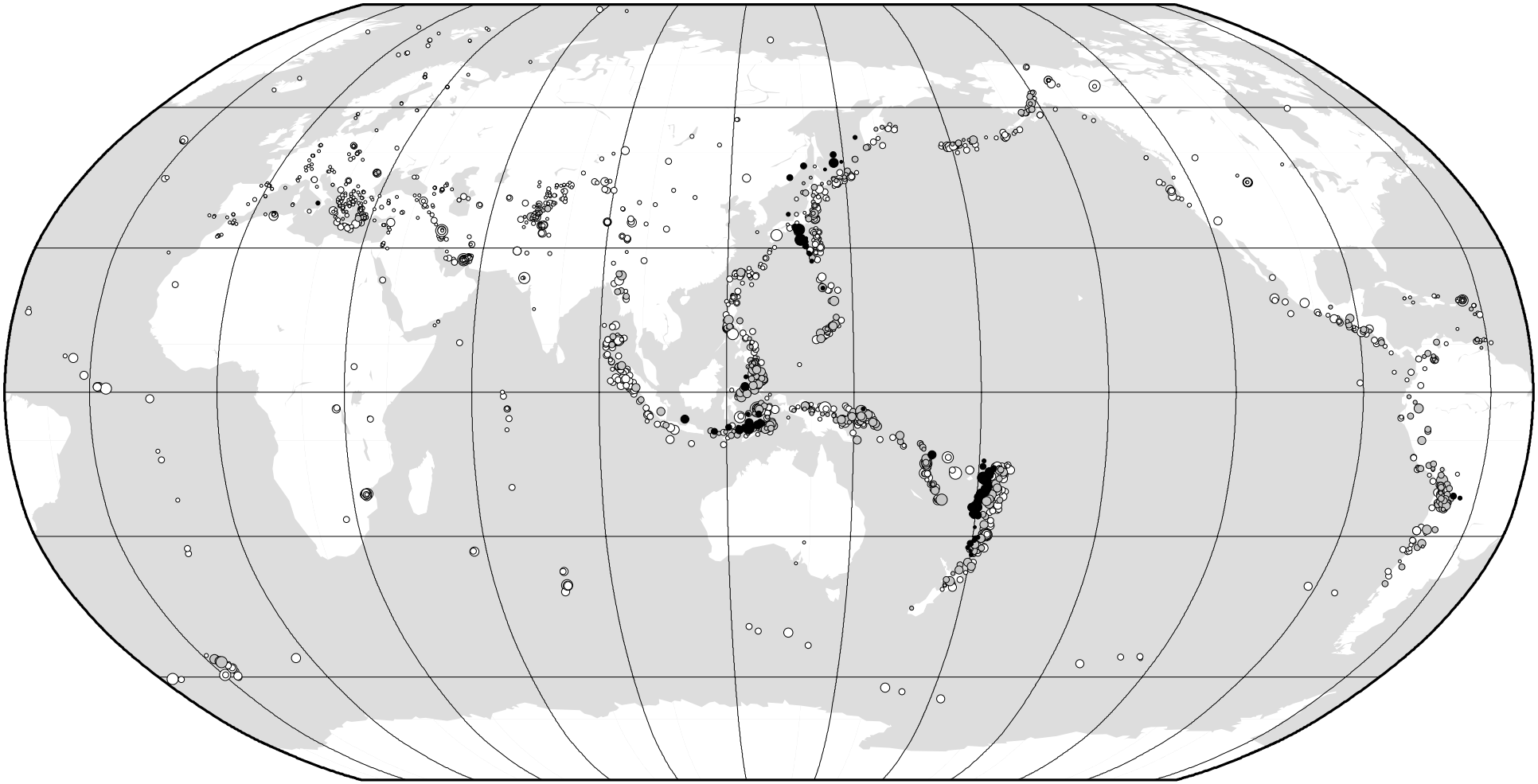
*NEIC **31** 23:16:53.1±2.2, 2834S×17696W, h10km, mb4.2/2, Error ellipse: s-maj=48.3km s-min=25.8km az=114.0*
IDC 31 23:16:52.7±5.3, 2784S×17707W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.8/2, Error ellipse: s-maj=103.0km s-min=42.3km az=88.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.59**	**208**	Pn	Pn	23 17 22.2	0.0
	249nm,0.3s,baz=95,slow=22,SNR=5.4						
RAO	**Raoul Island**	**1.59**	**208**	*e*Pn	Pn	23 17 15.9	-6.2
PMG	**Port Moresby**	**38.33**	**292**	*e*P	P	23 24 15.1	-0.1
	2.8nm,0.5s						
ASAR	**Alice Springs**	**44.12**	**264**	P	P	23 25 02.6	-0.2
	0.6nm,0.5s,baz=99,slow=7.4,SNR=7.6						
WRAB	**Tennant Creek**	**44.87**	**269**	P	P	23 25 09.9	+1.1
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**44.88**	**269**	P	P	23 25 09.6	+0.7
	1.6nm,0.9s,baz=109,slow=7.8,SNR=4.2						
FINES	**FINESS Array B**	**143.00**	**342**	PKP	PKPdf	23 36 27.3	-1.1
	0.9nm,0.6s,baz=47,slow=2.3,SNR=7.8						

*IDC **31** 23:30:02.1±1.4, 260N×9594E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/22, Error ellipse: s-maj=52.4km s-min=18.5km az=46.0*
*ISCJB **31** 23:30:09.8±3.0, 28N±02×963E±02, h67km±24km, mb4.2/19, Error ellipse: s-maj=37.4km s-min=12.1km az=96.4*
*NEIC **31** 23:30:09.5±0.6, 272N×96.19E, h50km, mb4.3/7, Error ellipse: s-maj=14.2km s-min=6.2km az=216.0*
ISC 31 23:30:11.3±3.0, 28N±02×963E±02, h62km±24km, n26, σ0º69/27, mb4.3/19, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.66**	**89**	Pn	**Pn**	**23 30 51.6**	**-0.2**
	3.5nm,0.3s,baz=287,slow=8.0,SNR=21						
PSI				LR	LR	23 32 19.4	
	comp=Z,316nm,19.4s,baz=264,slow=46						
KULM	**Kulim**	**5.04**	**60**	⇑*i*Pn	**Pn**	**23 31 23.8**	**-0.5**
KULM				*e*Sn	**Sn**	**23 32 31.1**	**+10**
KKM	**Kota Kinabalu**	**20.15**	**80**	*e*P	**P**	**23 34 40.9**	**+0.5**
JIRN	**Jiri**	**26.55**	**340**	*e*P	**P**	**23 35 43.6**	**+0.4**
	17nm,0.8s,mb4.6						
PKI	**Pulchoki**	**26.75**	**338**	*e*P	**P**	**23 35 46.7**	**+1.7**
GUN	**Gumba**	**26.89**	**339**	*e*P	**P**	**23 35 46.2**	**-0.1**
	17nm,0.6s,mb4.7						
DMN	**Daman**	**26.90**	**338**	*e*P	**P**	**23 35 48.0**	**+1.7**
KKN	**Kakani**	**26.99**	**338**	*e*P	**P**	**23 35 47.6**	**+0.4**
	13nm,0.7s,mb4.6						
LSA	**Lhasa**	**27.21**	**350**	*e*P	**P**	**23 35 49.2**	**+0.1**
	4.1nm,0.6s,mb4.1						
GKN	**Gorkha**	**27.43**	**337**	*e*P	**P**	**23 35 50.9**	**-0.2**
	16nm,0.6s,mb4.7						
KOLN	**Koldanda**	**27.64**	**335**	*e*P	**P**	**23 35 53.3**	**+0.3**
	21nm,0.7s,mb4.9						
MBWA	**Marble Bar**	**33.08**	**137**	P	**P**	**23 36 45.3**	**+4.3**
	32nm,1.4s,mb5.1						
BJT	**Baijiatuau**	**41.23**	**23**	*e*P	**P**	**23 37 50.7**	**+0.6**
	4.5nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**43.67**	**123**	P	**P**	**23 38 10.4**	**+0.6**
	0.6nm,0.4s,mb3.7,baz=300,slow=9.3,SNR=4.1						
WRAB	**Tennant Creek**	**43.67**	**123**	*e*P	**P**	**23 38 09.9**	**+0.1**
	1.1nm,0.4s,mb3.9						
ASAR	**Alice Springs**	**45.09**	**128**	P	**P**	**23 38 21.1**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=294,slow=7.8,SNR=5.4						
MKAR	**Makanchi Array**	**45.50**	**347**	P	**P**	**23 38 23.9**	**-0.4**
	6.3nm,0.8s,mb4.5,baz=156,slow=9.3,SNR=60						
SONM	**Songino Array**	**45.73**	**10**	P	**P**	**23 38 26.5**	**+0.3**
	3.9nm,0.8s,mb4.4,baz=190,slow=9.0,SNR=36						
SONM				PcP	PcP	23 40 04.3	+1.1
	0.7nm,0.6s,baz=198,slow=3.7,SNR=5.1						
ULN	**Ulaanbaatar**	**45.87**	**10**	*e*P	**P**	**23 38 26.3**	**-1.0**
	0.9nm,0.4s,mb4.0						
BVAR	**Borovoye Array**	**54.46**	**341**	P	**P**	**23 39 31.4

ISC Computed Locations for March 2006



Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2270 Events

IASPEI Standard Seismic Phase List

After numerous consultations with the seismological community this list was finalized in May 2002 by the IASPEI Working group on Phase names, chaired by D.A. Storchak. Other members of the WG were R.D. Adams, P.Bormann, E.R. Engdahl, J. Havskov, B.N.L. Kennett and J. Schweitzer. The list has finally been approved by the IASPEI Commission on Seismological Observation and Interpretation (CoSOI) and adopted by IASPEI in Sapporo on 9 July 2003

Storchak D.A., Schweitzer J., Bormann P. (2003) The IASPEI Standard Seismic Phase List, Seismological Research Letters 74, 6, 761-772

Storchak D.A., Schweitzer J., Bormann P. (2002) Standard Nomenclature of Seismic Phases. New Manual of Seismological Observatory Practice (NMSOP), GeoForschungZentrum Potsdam, volume 2, annex IS 2.1, 1-17.

Crustal Phases

Pg	At short distances, either an upgoing P wave from a source in the upper crust or a P wave bottoming in the upper crust. At larger distances also arrivals caused by multiple P-wave reverberations inside the whole crust with a group velocity around 5.8 km/s.
Pb	Either an upgoing P wave from a source in the lower crust or a P wave bottoming in the lower crust (alt: P*)
Pn	Any P wave bottoming in the uppermost mantle or an upgoing P wave from a source in the uppermost mantle
PnPn	Pn free-surface reflection
PgPg	Pg free-surface reflection
PmP	P reflection from the outer side of the Moho
PmP*N*	PmP multiple free surface reflection; *N* is a positive integer. For example, PmP2 is PmPPmP.
PmS	P to S reflection from the outer side of the Moho
Sg	At short distances, either an upgoing S wave from a source in the upper crust or an S wave bottoming in the upper crust. At larger distances also arrivals caused by superposition of multiple S-wave reverberations and SV to P and/or P to SV conversions inside the whole crust.
Sb	Either an upgoing S wave from a source in the lower crust or an S wave bottoming in the lower crust (alt: S*)
Sn	Any S wave bottoming in the uppermost mantle or an upgoing S wave from a source in the uppermost mantle
SnSn	Sn free-surface reflection
SgSg	Sg free-surface reflection
SmS	S reflection from the outer side of the Moho
SmS*N*	SmS multiple free-surface reflection; *N* is a positive integer. For example, SmS2 is SmSSmS.
SmP	S to P reflection from the outer side of the Moho
Lg	A wave group observed at larger regional distances and caused by superposition of multiple S-wave reverberations and SV to P and/or P to SV conversions inside the whole crust. Themaximum energy travels with a group velocity around 3.5 km/s.
Rg	Short-period crustal Rayleigh wave

Mantle Phases

P	A longitudinal wave, bottoming below the uppermost mantle; also an upgoing longitudinal wave from a source below the uppermost mantle
PP	Free-surface reflection of P wave leaving a source downward
PS	P, leaving a source downward, reflected as an S at the free surface. At shorter distances the first leg is represented by a crustal P wave.
PPP	Analogous to PP
PPS	PP to S converted reflection at the free surface; travel time matches that of PSP
PSS	PS reflected at the free surface
PcP	P reflection from the core-mantle boundary (CMB)
PcS	P to S converted reflection from the CMB
PcP*N*	PcP multiple free-surface reflection; *N* is a positive integer. For example PcP2 is PcPPcP.
P*z*+P	P reflection from outer side of a discontinuity at depth *z*; *z* may be a positive numerical value in km. For example, P660+P is a P reflection from the top of the 660 km discontinuity. (alt: P*z*P)
P*z*-P	P reflection from inner side of discontinuity at depth *z*. For example, P660-P is a P reflection from below the 660 km discontinuity, which means it is precursory to PP.
P*z*+S	P to S converted reflection from outer side of discontinuity at depth *z* (alt: P*z*S)
P*z*-S	P to S converted reflection from inner side of discontinuity at depth *z*
PScS	P (leaving a source downward) to ScS reflection at the free surface
Pdif	P diffracted along the CMB in the mantle (old: Pdiff)
S	Shear wave, bottoming below the uppermost mantle; also an upgoing shear wave from a source below the uppermost mantle
SS	Free-surface reflection of an S wave leaving a source downward
SP	S, leaving source downward, reflected as P at the free surface. At shorter distances the second leg is represented by a crustal P wave.
SSS	Analogous to SS
SSP	SS to P converted reflection at the free surface; travel time matches that of SPS.
SPP	SP reflected at the free surface
ScS	S reflection from the CMB
ScP	S to P converted reflection from the CMB
ScS*N*	ScS multiple free-surface reflection; *N* is a positive integer. For example ScS2 is ScSScS.
S*z*+S	S reflection from outer side of a discontinuity at depth *z*; *z* may be a positive numerical value in km. For example S660+S is an S reflection from the top of the 660 km discontinuity. (alt: S*z*S)
S*z*-S	S reflection from inner side of discontinuity at depth *z*. For example, S660-S is an S reflection from below the 660 km discontinuity, which means it is precursory to SS.
S*z*+P	S to P converted reflection from outer side of discontinuity at depth *z* (alt: S*z*P)
S*z*-P	S to P converted reflection from inner side of discontinuity at depth *z*
ScSP	ScS to P reflection at the free surface
Sdif	S diffracted along the CMB in the mantle (old: Sdiff)

Core Phases

PKP	Unspecified P wave bottoming in the core (alt: P')
PKPab	P wave bottoming in the upper outer core; ab indicates the retrograde branch of the PKP caustic (old: PKP2)
PKPbc	P wave bottoming in the lower outer core; bc indicates the prograde branch of the PKP caustic (old: PKP1)
PKPdf	P wave bottoming in the inner core (alt: PKIKP)
PKPpre	A precursor to PKPdf due to scattering near or at the CMB (old: PKhKP)
PKPdif	P wave diffracted at the inner core boundary (ICB) in the outer core
PKS	Unspecified P wave bottoming in the core and converting to S at the CMB
PKSab	PKS bottoming in the upper outer core
PKSbc	PKS bottoming in the lower outer core
PKSdf	PKS bottoming in the inner core
P'P'	Free-surface reflection of PKP (alt: PKPPKP)

P'*N*	PKP reflected at the free surface *N* - 1 times; *N* is a positive integer. For example, P'3 is P'P'P'. (alt: PKP*N*)
P'*z*-P'	PKP reflected from inner side of a discontinuity at depth *z* outside the core, which means it is precursory to P'P'; *z* may be a positive numerical value in km.
P'S'	PKP to SKS converted reflection at the free surface; other examples are P'PKS, P'SKP (alt: PKPSKS)
PS'	P (leaving a source downward) to SKS reflection at the free surface (alt: PSKS)
PKKP	Unspecified P wave reflected once from the inner side of the CMB
PKKPab	PKKP bottoming in the upper outer core
PKKPbc	PKKP bottoming in the lower outer core
PKKPdf	PKKP bottoming in the inner core
P*N*KP	P wave reflected *N* - 1 times from inner side of the CMB; *N* is a positive integer.
PKKPpre	A precursor to PKKP due to scattering near the CMB
PKiKP	P wave reflected from the inner core boundary (ICB)
PK*N*IKP	P wave reflected *N* - 1 times from the inner side of the ICB
PKJKP	P wave traversing the outer core as P and the inner core as S
PKKS	P wave reflected once from inner side of the CMB and converted to S at the CMB
PKKSab	PKKS bottoming in the upper outer core
PKKSbc	PKKS bottoming in the lower outer core
PKKSdf	PKKS bottoming in the inner core
PcPP'	PcP to PKP reflection at the free surface; other examples are PcPS', PcSP', PcSS', PcPSKP, PcSSKP. (alt: PcPPKP)
SKS	unspecified S wave traversing the core as P (alt: S')
SKSac	SKS bottoming in the outer core
SKSdf	SKS bottoming in the inner core (alt: SKIKS)
SPdifKS	SKS wave with a segment of mantleside Pdif at the source and/or the receiver side of the ray path (alt: SKPdifS)
SKP	Unspecified S wave traversing the core and then the mantle as P
SKPab	SKP bottoming in the upper outer core
SKPbc	SKP bottoming in the lower outer core
SKPdf	SKP bottoming in the inner core
S'S'	Free-surface reflection of SKS (alt: SKSSKS)
S'*N*	SKS reflected at the free surface *N* - 1 times; *N* is a positive integer
S'*z*-S'	SKS reflected from inner side of discontinuity at depth *z* outside the core, which means it is precursory to S'S'; *z* may be a positive numerical value in km.
S'P'	SKS to PKP converted reflection at the free surface; other examples are S'SKP, S'PKS. (alt: SKSPKP)
S'P	SKS to P reflection at the free surface (alt: SKSP)
SKKS	Unspecified S wave reflected once from inner side of the CMB
SKKSac	SKKS bottoming in the outer core
SKKSdf	SKKS bottoming in the inner core
S*N*KS	S wave reflected *N* - 1 times from inner side of the CMB; *N* is a positive integer.
SKiKS	S wave traversing the outer core as P and reflected from the ICB
SKJKS	S wave traversing the outer core as P and the inner core as S
SKKP	S wave traversing the core as P with one reflection from the inner side of the CMB and then continuing as P in the mantle
SKKPab	SKKP bottoming in the upper outer core
SKKPbc	SKKP bottoming in the lower outer core
SKKPdf	SKKP bottoming in the inner core
ScSS'	ScS to SKS reflection at the free surface; other examples are ScPS', ScSP', ScPP', ScSSKP, ScPSKP. (alt: ScSSKS)

Near-source Surface reflections (Depth Phases)

pP*y*	All P-type onsets (P*y*), as defined above, which resulted from reflection of an upgoing P wave at the free surface or an ocean bottom. WARNING: The character *y* is only a wild card for any seismic phase, which could be generated at the free surface. Examples are pP, pPKP, pPP, pPcP, etc.
sP*y*	All Py resulting from reflection of an upgoing S wave at the free surface or an ocean bottom; for example, sP, sPKP, sPP, sPcP, etc.
pS*y*	All S-type onsets (S*y*), as defined above, which resulted from reflection of an upgoing P wave at the free surface or an ocean bottom; for example, pS, pSKS, pSS, pScP, etc.
sS*y*	All Sy resulting from reflection of an upgoing S wave at the free surface or an ocean bottom; for example, sSn, sSS, sScS, sSdif, etc.
pwP*y*	All Py resulting from reflection of an upgoing P wave at the ocean's free surface
pmP*y*	All Py resulting from reflection of an upgoing P wave from the inner side of the Moho

Surface Waves

L	Unspecified long-period surface wave
LQ	Love wave
LR	Rayleigh wave
G	Mantle wave of Love type
G*N*	Mantle wave of Love type; *N* is integer and indicates wave packets traveling along the minor arcs (odd numbers) or major arc (even numbers) of the great circle
R	Mantle wave of Rayleigh type
R*N*	Mantle wave of Rayleigh type; *N* is integer and indicates wave packets traveling along the minor arcs (odd numbers) or major arc (even numbers) of the great circle
PL	Fundamental leaking mode following P onsets generated by coupling of P energy into the waveguide formed by the crust and upper mantle SPL S wave coupling into the PL waveguide; other examples are SSPL, SSSPL.

Acoustic Phases

H	A hydroacoustic wave from a source in the water, which couples in the ground
HPg	H phase converted to Pg at the receiver side
HSg	H phase converted to Sg at the receiver side
HRg	H phase converted to Rg at the receiver side
I	An atmospheric sound arrival which couples in the ground
IPg	I phase converted to Pg at the receiver side
ISg	I phase converted to Sg at the receiver side
IRg	I phase converted to Rg at the receiver side
T	A tertiary wave. This is an acoustic wave from a source in the solid earth, usually trapped in a low-velocity oceanic water layer called the SOFAR channel (SOund Fixing And Ranging).
TPg	T phase converted to Pg at the receiver side
TSg	T phase converted to Sg at the receiver side
TRg	T phase converted to Rg at the receiver side

Amplitude Measurement Phases

A	Unspecified amplitude measurement
AML	Amplitude measurement for local magnitude
AMB	Amplitude measurement for body-wave magnitude
AMS	Amplitude measurement for surface-wave magnitude
END	Time of visible end of record for duration magnitude

Unidentified Arrivals

x	unidentified arrival (old: i, e, NULL)
rx	unidentified regional arrival (old: i, e, NULL)
tx	unidentified teleseismic arrival (old: i, e, NULL)
Px	unidentified arrival of P type (old: i, e, NULL, (P), P?)
Sx	unidentified arrival of S type (old: i, e, NULL, (S), S?)